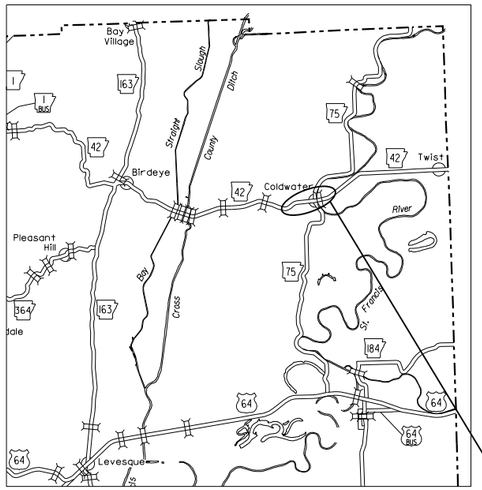
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	1	49
		ST. FRANCIS RIVER STR. & APPRS. (COLDWATER) (S)				

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

ST. FRANCIS RIVER STR. & APPRS. (COLDWATER) (S)

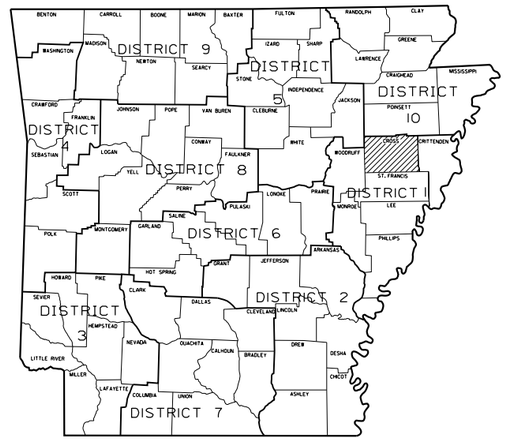
CROSS COUNTY
ROUTE 42 SECTION 3
JOB 110861
FED. AID PROJ. NHPP-0019(64)

NOT TO SCALE



VICINITY MAP

PROJECT LOCATION



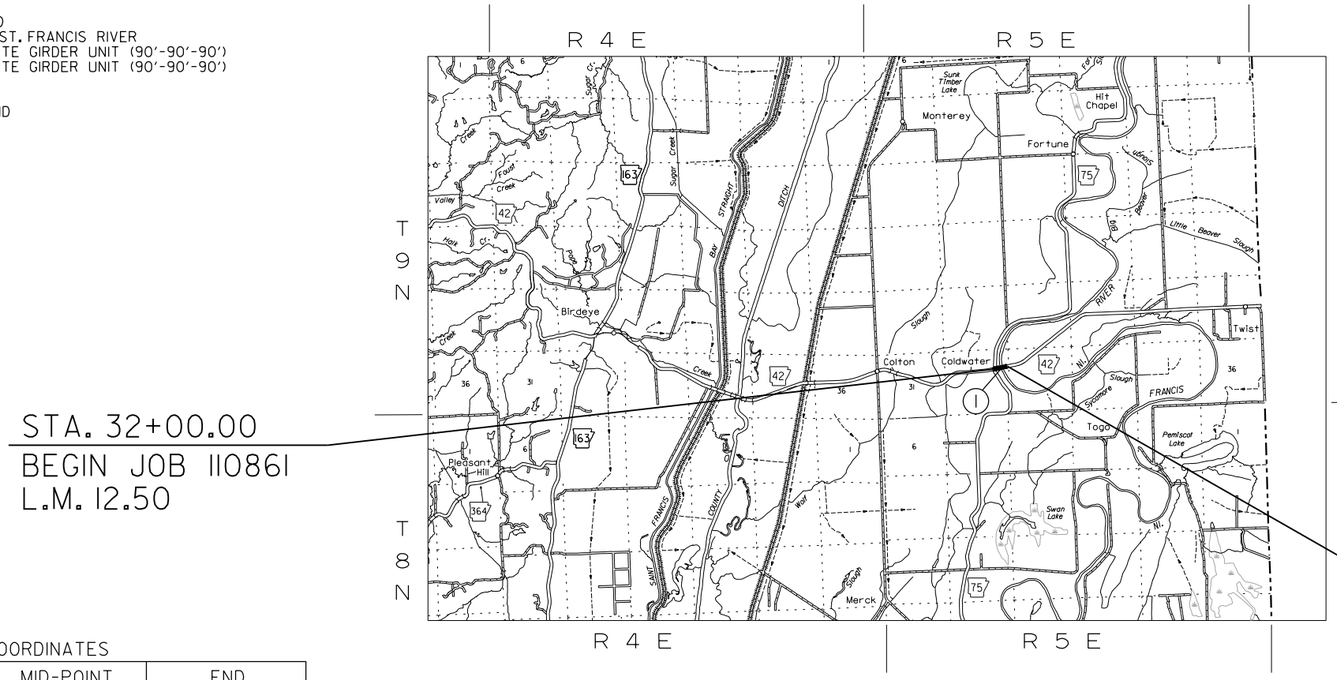
ARKANSAS HIGHWAY DISTRICT 1

BRIDGE CONSTRUCTION DATA

(1) STA. 35+17.42 BRIDGE END
BRIDGE NO. 07696 OVER ST. FRANCIS RIVER
270'-0" CONTINUOUS PLATE GIRDER UNIT (90'-90'-90')
270'-0" CONTINUOUS PLATE GIRDER UNIT (90'-90'-90')
26'-0" CLEAR ROADWAY
542'-2" BRIDGE LENGTH
STA. 40+59.58 BRIDGE END

DESIGN TRAFFIC DATA

DESIGN YEAR	2045
2025 ADT	160
2045 ADT	180
2045 DHV	20
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	10%
DESIGN SPEED	55 MPH



STA. 32+00.00
BEGIN JOB 110861
L.M. 12.50

STA. 44+10.00
END JOB 110861

PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 35°21'51"	N 35°21'52"	N 35°21'53"
LONGITUDE	W 90°34'44"	W 90°34'37"	W 90°34'29"
STATION	32+00.00	38+05.00	44+10.00

GROSS LENGTH OF PROJECT	1210.00 FEET	OR 0.229 MILES
NET LENGTH OF ROADWAY	667.84 FEET	OR 0.126 MILES
NET LENGTH OF BRIDGES	542.16 FEET	OR 0.103 MILES
NET LENGTH OF PROJECT	1210.00 FEET	OR 0.229 MILES

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS-ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14994
DUSTIN L. TACKETT
DIGITALLY SIGNED 2/28/2025

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	2	49
		INDEX OF SHEETS AND STANDARD DRAWINGS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13436
SHAUN A. ROBERSON

DIGITALLY SIGNED 2/28/2025

INDEX OF SHEETS

BRIDGE STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
55000	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS	02-27-14
55001	STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES	02-27-14
55005	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	03-24-16
55006	STANDARD GENERAL NOTES FOR STEEL BRIDGE STRUCTURES	09-02-15
55007	STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES	02-11-16
55008	STANDARD DETAILS FOR POURED SILICONE JOINTS	02-11-16
55009	STANDARD DETAILS FOR NEOPRENE STRIP SEAL JOINTS	02-11-16
55010	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE	01-28-25
55021	STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS	03-24-16
55030F	STANDARD DETAILS FOR TYPE F APPROACH GUTTERS	09-07-23
55040F1	STANDARD DETAILS FOR TYPE F APPROACH SLAB	09-07-23
55070	STANDARD DETAILS FOR BRIDGE TRAFFIC RAIL TYPE SSTR36	09-27-22

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
DR-2	DETAILS OF DRIVEWAYS & STREET TURNOUTS	05-19-22
GR-6	GUARDRAIL DETAILS	05-19-22
GR-8	GUARDRAIL DETAILS	11-07-19
GR-9	GUARDRAIL DETAILS	11-07-19
GR-10	GUARDRAIL DETAILS	11-07-19
GR-11	GUARDRAIL DETAILS	11-07-19
GR-12	GUARDRAIL DETAILS	05-14-20
PM-1	PAVEMENT MARKING DETAILS	02-27-20
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
04-28-2025		6	ARK.	110861	3	49
		GOVERNING SPECIFICATIONS AND GENERAL NOTES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13436
SHAUN A. ROBERSON

DIGITALLY SIGNED 4/28/2025

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER **TITLE**

ERRATA____ ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__ REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__ SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__ SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__ SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__ SUPPLEMENT - WAGE RATE DETERMINATION
100 3_____ CONTRACTOR'S LICENSE
100-4_____ DEPARTMENT NAME CHANGE
102-2_____ ISSUANCE OF PROPOSALS
102-3_____ PREQUALIFICATION OF BIDDERS
103-2_____ CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS
105-4_____ MAINTENANCE DURING CONSTRUCTION
107-2_____ RESTRAINING CONDITIONS
108-1_____ LIQUIDATED DAMAGES
108-2_____ WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____ PROTECTION OF WATER QUALITY AND WETLANDS
210-1_____ UNCLASSIFIED EXCAVATION
303-1_____ AGGREGATE BASE COURSE
306-1_____ QUALITY CONTROL AND ACCEPTANCE
307-2_____ CEMENT TREATED BASE COURSE
308-2_____ CEMENT STABILIZED CRUSHED STONE BASE COURSE
400-1_____ TACK COATS
400-4_____ DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____ PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____ LIQUID ANTI-STRIP ADDITIVE
400-7_____ TRACKLESS TACK
404-3_____ DESIGN OF ASPHALT MIXTURES
409-2_____ ASPHALT LABORATORY FACILITY
410-1_____ CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____ DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
410-4_____ EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
416-1_____ RECYCLED ASPHALT PAVEMENT
501-3_____ PORTLAND CEMENT CONCRETE PAVEMENT
600-2_____ INCIDENTAL CONSTRUCTION
603-1_____ LANE CLOSURE NOTIFICATION
604-1_____ RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3_____ TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
617-1_____ GUARDRAIL TERMINAL (TYPE 2)
617-2_____ GUARDRAIL DELINEATORS
620-1_____ MULCH COVER
734-1_____ BRIDGE END TERMINAL
800-1_____ STRUCTURES
802-3_____ CONCRETE FOR STRUCTURES
802-5_____ CONCRETE FOR STRUCTURES
804-2_____ REINFORCING STEEL FOR STRUCTURES
807-2_____ STEEL STRUCTURES
808-1_____ INSTALLATION OF ELASTOMERIC BEARINGS
808-2_____ ELASTOMERIC BEARINGS
JOB 110861__ BIDDING REQUIREMENTS AND CONDITIONS
JOB 110861__ BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 110861__ BUY AMERICA - CONSTRUCTION MATERIALS
JOB 110861__ CARGO PREFERENCE ACT REQUIREMENTS
JOB 110861__ CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 110861__ COLD MILLING – COUNTY PROPERTY
JOB 110861__ CONCRETE BRIDGE DECK CURING AND SURFACE TREATMENT RESTRICTIONS
JOB 110861__ CONCRETE FILL FOR LARGE DIA. STEEL SHELL PILES
JOB 110861__ CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 110861__ DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB 110861__ DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB 110861__ DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 110861__ GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 110861__ LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 110861__ MANDATORY ELECTRONIC CONTRACT
JOB 110861__ MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 110861__ PARTNERING REQUIREMENTS
JOB 110861__ PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 110861__ PRICE ADJUSTMENT FOR FUEL
JOB 110861__ PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 110861__ SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB 110861__ SOIL STABILIZATION
JOB 110861__ STORM WATER POLLUTION PREVENTION PLAN
JOB 110861__ SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 110861__ UTILITY ADJUSTMENTS
JOB 110861__ VALUE ENGINEERING
JOB 110861__ WARM MIX ASPHALT

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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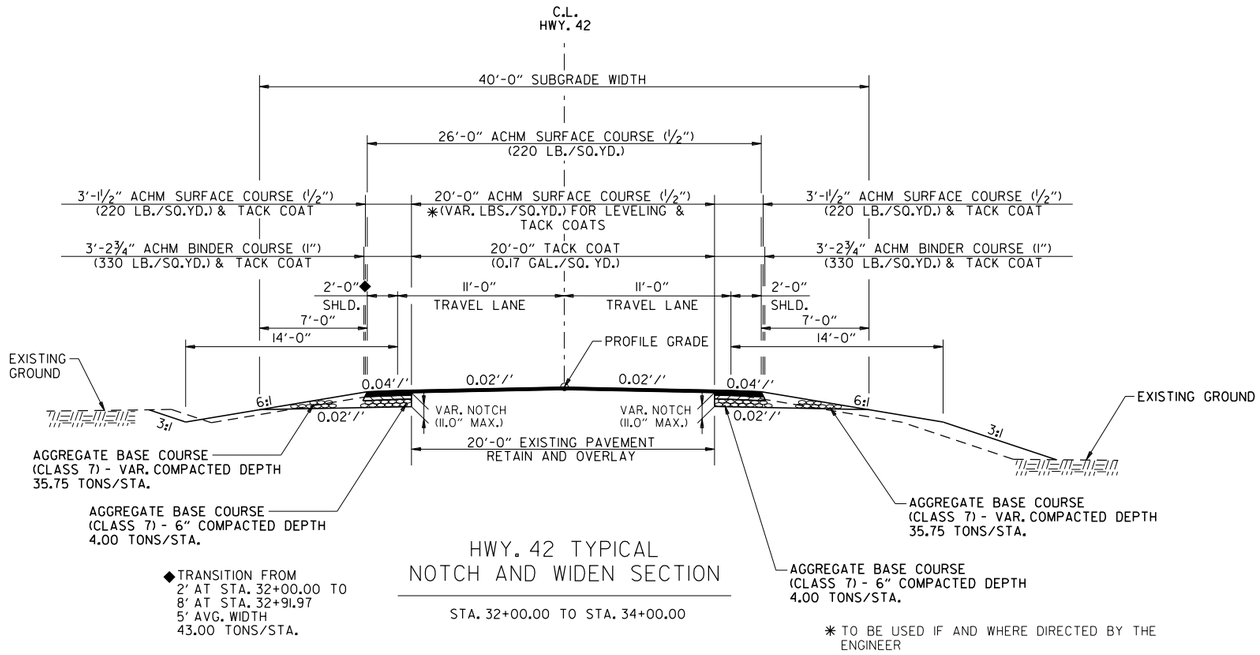
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	4	49
		TYPICAL SECTIONS OF IMPROVEMENT				

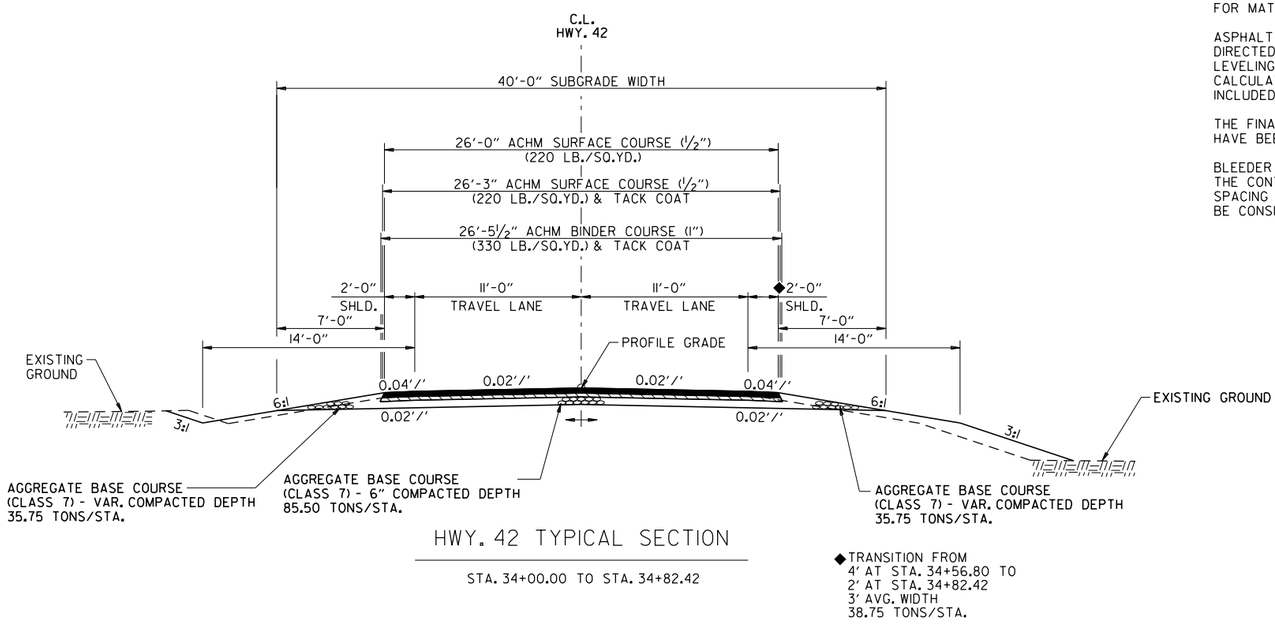
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 13436
SHAUN A. ROBERSON

DIGITALLY SIGNED 2/28/2025



HWY. 42 TYPICAL NOTCH AND WIDEN SECTION

STA. 32+00.00 TO STA. 34+00.00



HWY. 42 TYPICAL SECTION

STA. 34+00.00 TO STA. 34+82.42

NOTE: SEE BRIDGE LAYOUTS FOR APPROACH SLABS AND BRIDGE STRUCTURES FROM STA. 34+82.42 TO STA. 40+94.58

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATION FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

BLEEDER DITCHES - PRIOR TO AND DURING PLACEMENT OF PAVEMENT AT THE NOTCH, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES, THE METHOD(S) AND SPACING USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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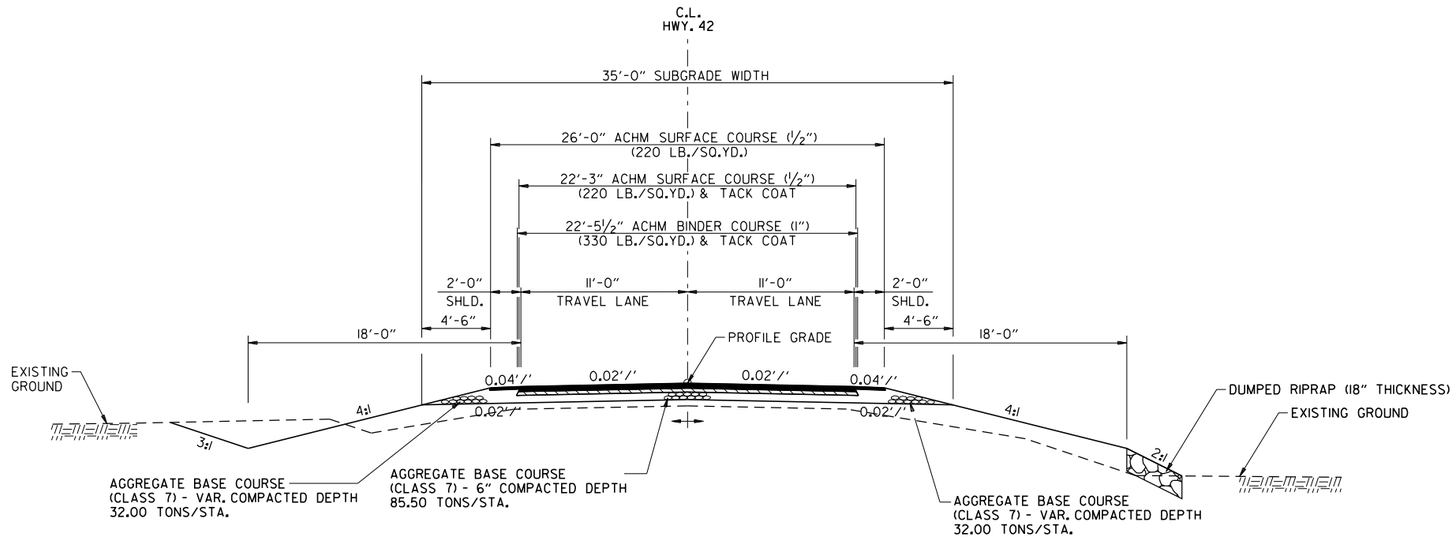
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	5	49
		TYPICAL SECTIONS OF IMPROVEMENT				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13436
SHAUN A. ROBERSON

DIGITALLY SIGNED 2/28/2025



HWY. 42 TYPICAL SECTION

STA. 40+94.58 TO STA. 44+10.00

NOTES:

REFER TO CROSS SECTIONS FOR DEVIATION FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	6	49
		SPECIAL DETAILS				

STATE OF ARKANSAS
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SHAUN A. ROBERSON

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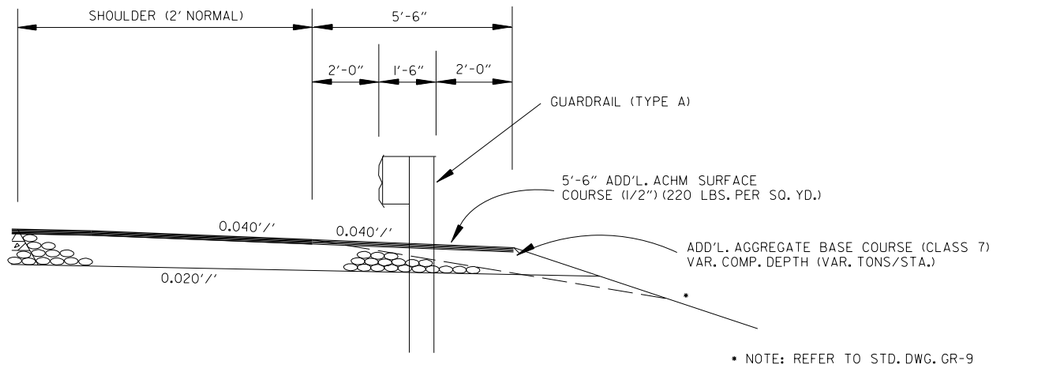
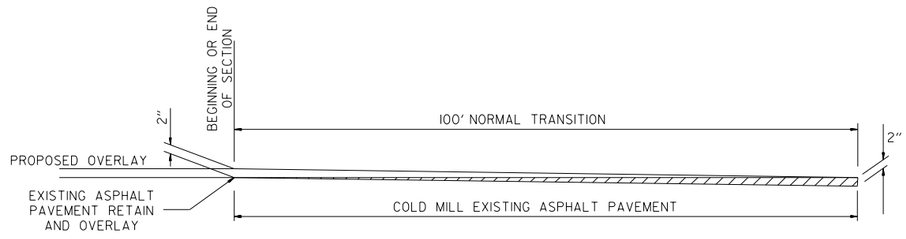
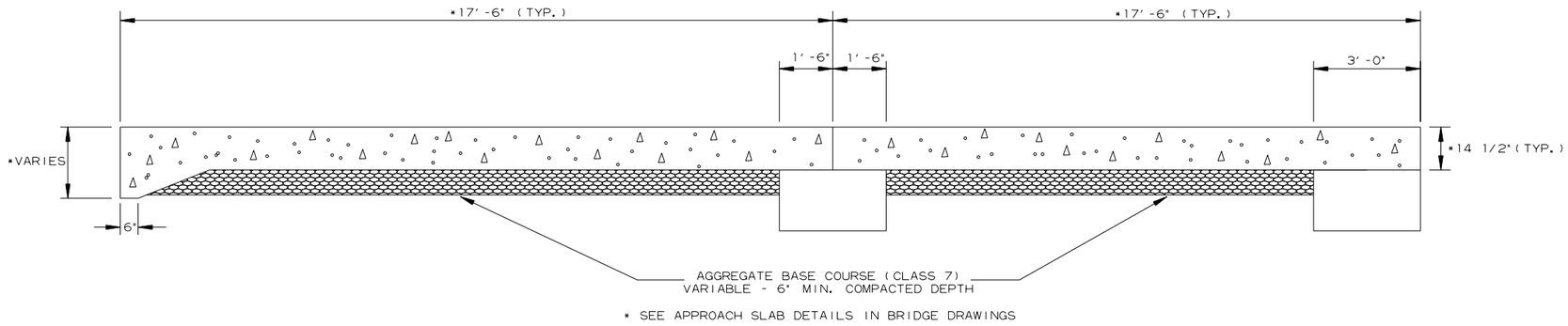


WIDENING FOR GUARDRAIL



DETAIL FOR TRANSITIONS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	7	49
		SPECIAL DETAILS				



* SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

SECTION OF APPROACH SLAB

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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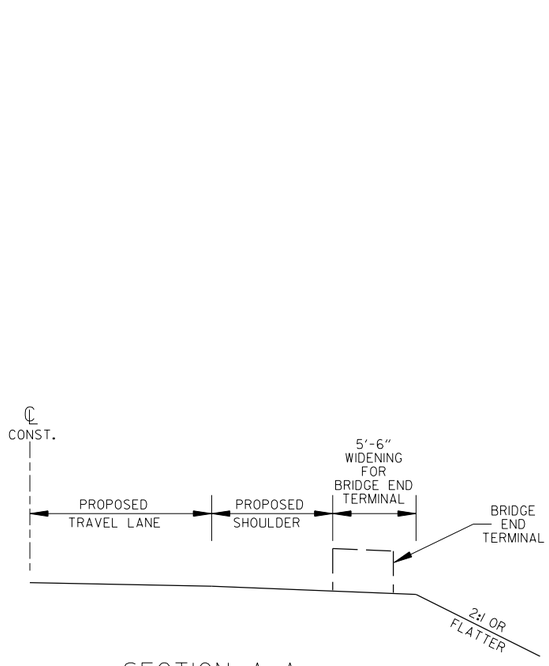
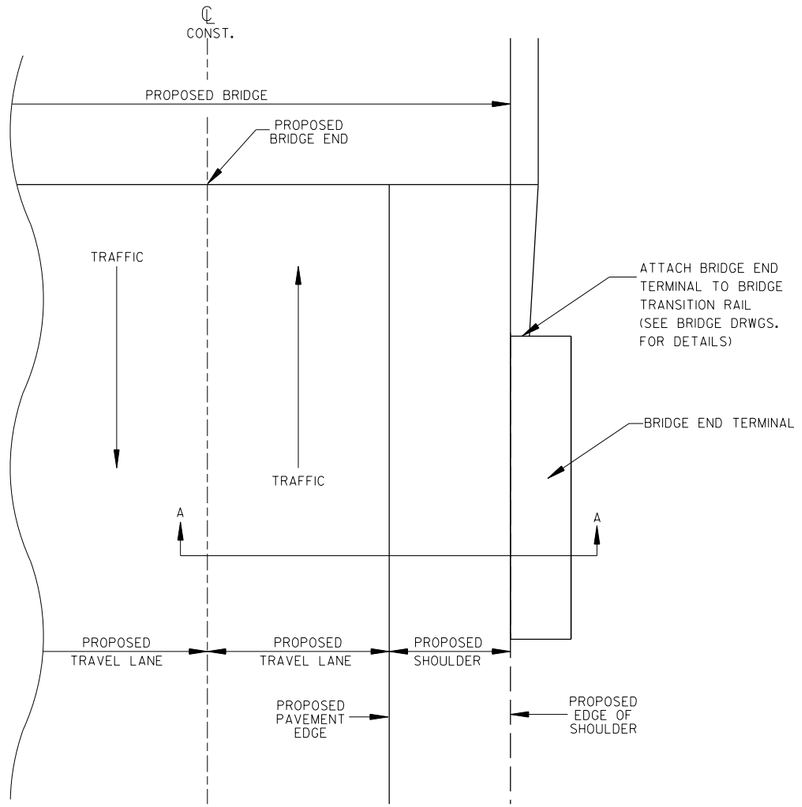


SECTION A-A

NOTE: ELIMINATE OR MODIFY APPROACH CURB SECTION TO FIT BRIDGE END TERMINAL. NO PAYMENT SHALL BE MADE FOR ELIMINATING OR MODIFYING THIS CURB, BUT SHALL BE CONSIDERED IN PAYMENT MADE FOR APPROACH GUTTERS OF THE TYPE SPECIFIED.

NOTE: BRIDGE END TERMINAL SHALL CONFORM TO THE FOLLOWING:
-MAXIMUM LENGTH: 20'
-MAXIMUM HEIGHT: 2.75'
-DESIGN SPEED: 60 MPH



PLAN VIEW

BRIDGE END TERMINAL DETAILS

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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	8	49

TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 13436
SHAUN A. ROBERSON

DIGITALLY SIGNED 2/28/2025

HWY. 42

SILT FENCE	E-11	LIN. FT.
STA. 31+00 TO 32+50	LT.	150
STA. 32+20 TO 32+90	RT.	115
STA. 33+20 TO 33+75	LT.	160
STA. 33+65 TO 35+40	RT.	280
STA. 34+50 TO 35+40	LT.	230

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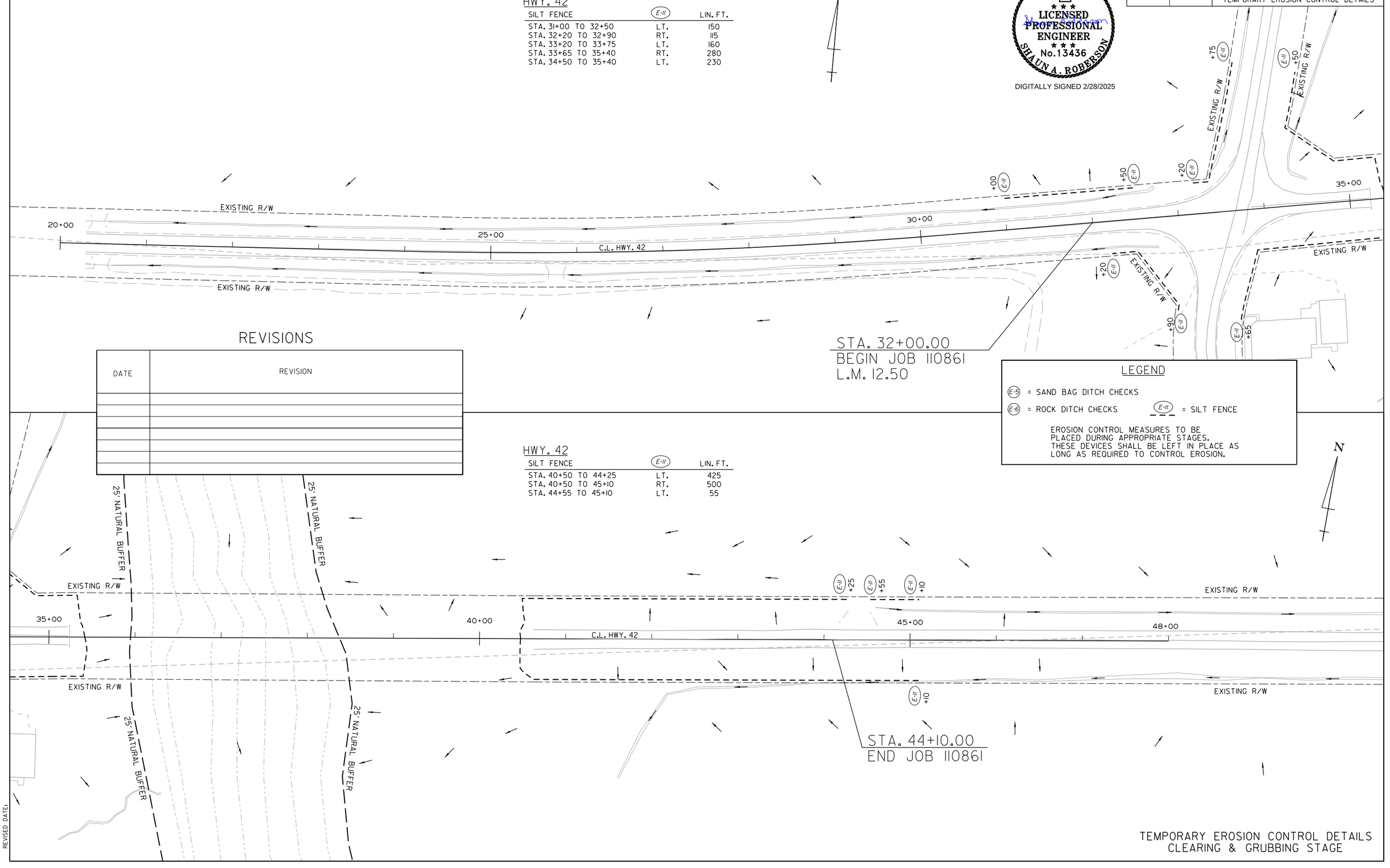

REVISIONS

DATE	REVISION

HWY. 42

SILT FENCE	E-11	LIN. FT.
STA. 40+50 TO 44+25	LT.	425
STA. 40+50 TO 45+10	RT.	500
STA. 44+55 TO 45+10	LT.	55

LEGEND

E-5 = SAND BAG DITCH CHECKS

E-6 = ROCK DITCH CHECKS

E-11 = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

N

TEMPORARY EROSION CONTROL DETAILS
CLEARING & GRUBBING STAGE

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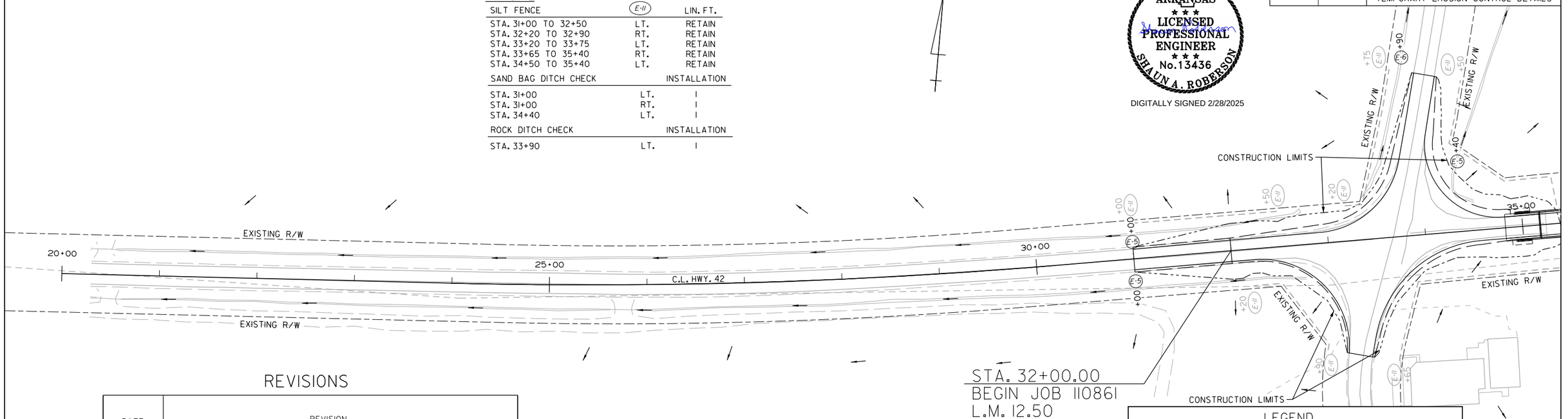
		6	ARK.	110861	9	49

TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 13436
SHAUN A. ROBERSON
DIGITALLY SIGNED 2/28/2025

HWY. 42

SILT FENCE (E-11)		LIN. FT.
STA. 31+00 TO 32+50	LT.	RETAIN
STA. 32+20 TO 32+90	RT.	RETAIN
STA. 33+20 TO 33+75	LT.	RETAIN
STA. 33+65 TO 35+40	RT.	RETAIN
STA. 34+50 TO 35+40	LT.	RETAIN
SAND BAG DITCH CHECK		INSTALLATION
STA. 31+00	LT.	1
STA. 31+00	RT.	1
STA. 34+40	LT.	1
ROCK DITCH CHECK		INSTALLATION
STA. 33+90	LT.	1

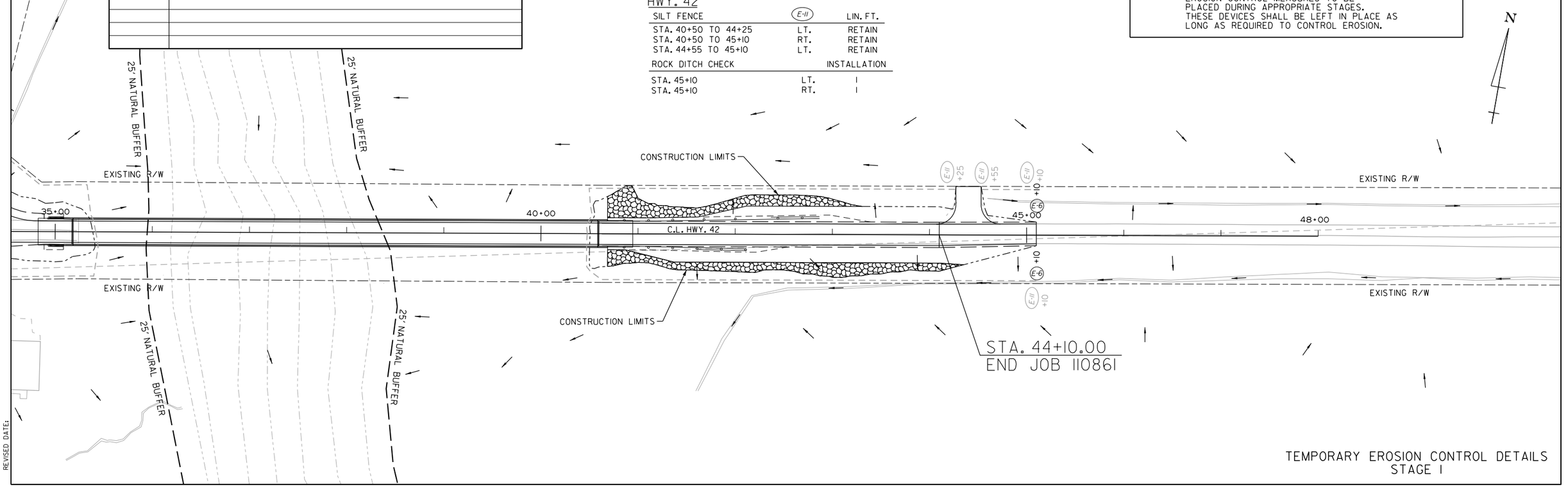


REVISIONS

DATE	REVISION

HWY. 42

SILT FENCE (E-11)		LIN. FT.
STA. 40+50 TO 44+25	LT.	RETAIN
STA. 40+50 TO 45+10	RT.	RETAIN
STA. 44+55 TO 45+10	LT.	RETAIN
ROCK DITCH CHECK		INSTALLATION
STA. 45+10	LT.	1
STA. 45+10	RT.	1



LEGEND

(E-5) = SAND BAG DITCH CHECKS

(E-6) = ROCK DITCH CHECKS (E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS
STAGE 1

CGervasini 2/28/2025 11:45:20 AM
WORKSPACE: AHTD
L:\2024\102-240790 - ARDOT 110861St Francis River Str-Appr\Drawings\r110861EC_STG 1_01.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	10	49
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE I
CONSTRUCTION SEQUENCE NOTES

1. MAINTAIN THE CURRENT ROAD CLOSURES ON EACH END OF THE BRIDGE.
2. INSTALL ADVANCE WARNING SIGNS AS SHOWN.
3. LEVEL AND OVERLAY HWY. 42 AND HWY. 75 UNDER TRAFFIC AND PERFORM NOTCH AND WIDEN OPERATIONS. NOTCH AND WIDEN OPERATIONS SHALL NOT OCCUR ON BOTH SIDES OF EITHER HIGHWAY SIMULTANEOUSLY.
4. CONSTRUCT HWY. 42 AS SHOWN.
5. CONSTRUCT THE FINAL 2" OF ACHM SURFACE COURSE.
6. PLACE FINAL PERMANENT PAVEMENT MARKINGS

STAGE I CONSTRUCTION

STAGE I OVERLAY UNDER TRAFFIC

STAGE I TRAFFIC

TRAFFIC DRUMS

BUMP (4) W8-1 (30" X 30")

RIGHT SHOULDER CLOSED (4) W21-5a (36" X 36")

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

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SHAUN A. ROBERSON
DIGITALLY SIGNED 2/28/2025

N

ROAD WORK 1500 FT. — (I) W20-1 (48" X 48")
ROAD WORK 1000 FT. — (I) W20-1 (48" X 48")
ROAD WORK 500 FT. — (I) W20-1 (48" X 48")
500' 500' 500'

(I) G20-2 (48" X 24") END ROAD WORK

ROAD CLOSED (I) R11-2 (48" X 30")

16' BARR. TYPE III LT.
16' BARR. TYPE III RT.

HWY. 75

CONST. LIMITS
35+00
40+00

21 TRAFFIC DRUMS AT 20' O.C.
CONSTRUCTION LIMITS

(I) G20-2 (48" X 24") END ROAD WORK

PT 30+19.69

30+00
25+00
C.L. HWY. 42

500' 500' 500'

ROAD WORK 1500 FT. — (I) W20-1 (48" X 48")
PI 27+09.64
ROAD WORK 1000 FT. — (I) W20-1 (48" X 48")
ROAD WORK 500 FT. — (I) W20-1 (48" X 48")

15 TRAFFIC DRUMS AT 20' O.C.
CONST. LIMITS

STA. 32+00.00
BEGIN JOB 110861
L.M. 12.50

(I) G20-2 (48" X 24") END ROAD WORK

CONST. LIMITS
16 TRAFFIC DRUMS AT 20' O.C.

HWY. 75

ROAD WORK 500 FT. — (I) W20-1 (48" X 48")
500'
ROAD WORK 1000 FT. — (I) W20-1 (48" X 48")
500'
ROAD WORK 1500 FT. — (I) W20-1 (48" X 48")

24" POOR
64" CMP POOR

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

CGervasini 2/21/2025 12:19:04 PM
WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	11	49
		MAINTENANCE OF TRAFFIC DETAILS				

N

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STAGE I CONSTRUCTION

STAGE I OVERLAY UNDER TRAFFIC

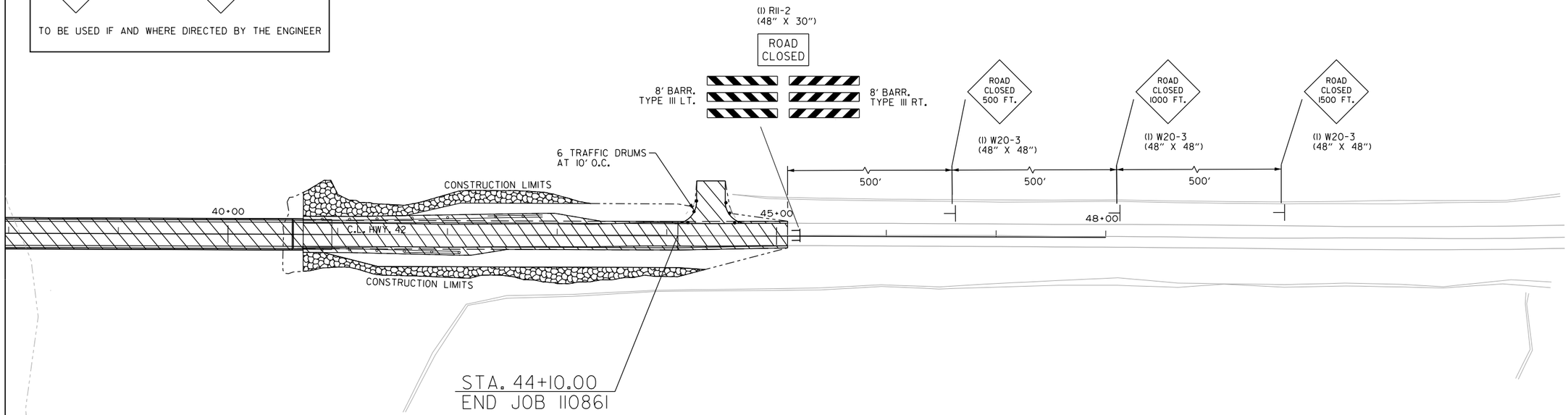
STAGE I TRAFFIC

TRAFFIC DRUMS

BUMP (4) W8-1 (30" X 30")

RIGHT SHOULDER CLOSED (4) W21-5a (36" X 36")

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



MAINTENANCE OF TRAFFIC DETAILS
STAGE I

CGervasini 2/21/2025 12:19:04 PM
WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	12	49
		PERMANENT PAVEMENT MARKING DETAILS				

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CGervasini 2/21/2025 12:9:05 PM
WORKSPACE: AHTD
L:\2024\T02-240790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\r110861_PM_01.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	13	49
		SOIL BORING LOG				

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SOIL LOG

BORING NO.	STATION	LOCATION	SAMPLE DEPTH FEET	WATER CONTENT (%)	ATTERBERG LIMITS			PERCENT PASSING #200	UNIFIED CLASS.	COLOR
					LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX			
1	34+57, 5' RT.	HWY. 42	2.6	20	36	19	17	83	CL	Gray
1	34+57, 5' RT.	HWY. 42	5	29	35	18	17	96	CL	Gray
1	34+57, 5' RT.	HWY. 42	7.5	32	52	16	36	95	CH	Gray
1	34+57, 5' RT.	HWY. 42	10	33	59	16	43	99	CH	Gray
1	34+57, 5' RT.	HWY. 42	15	39	82	20	62	95	CH	Gray
1	34+57, 5' RT.	HWY. 42	20	27	37	12	25	89	CL	Brown
2	38+80, 67' RT.	HWY. 42	6.25	26	30	16	14	66	CL	Brown to Dark Brown
2	38+80, 67' RT.	HWY. 42	8	25	---	---	---	44	SM	Brown
2	38+80, 67' RT.	HWY. 42	8.7	25	---	---	---	21	SM	Brown
2	38+80, 67' RT.	HWY. 42	10.3	23	---	---	---	15	SM	Brown
2	38+80, 67' RT.	HWY. 42	15	20	---	---	---	1	SP	Gray
3	40+97	HWY. 42	3	32	67	20	47	99	CH	Dark Gray
3	40+97	HWY. 42	5.5	30	41	18	23	99	CL	Dark Gray
3	40+97	HWY. 42	7.75	30	57	21	36	99	CH	Dark Gray
3	40+97	HWY. 42	10.4	30	41	17	24	97	CL	Dark Gray
3	40+97	HWY. 42	15.5	19	30	16	14	51	CL	Dark Brown
3	40+97	HWY. 42	17.25	28	30	16	14	58	CL	Dark Gray
3	40+97	HWY. 42	20.5	33	27	15	12	52	CL	Dark Brown
3	40+97	HWY. 42	22.4	30	32	14	18	69	CL	Dark Brown
3	40+97	HWY. 42	25.9	---	31	15	16	71	CL	Dark Brown

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	14	49
		QUANTITIES				

STATE OF ARKANSAS
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ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)	
								RIGHT	LEFT
			LIN. FT. - EACH		NO.	SQ. FT.	EACH	LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	3	3	3	48.0			
W20-1	ROAD WORK 1000 FT.	48"x48"	3	3	3	48.0			
W20-1	ROAD WORK 500 FT.	48"x48"	3	3	3	48.0			
W20-3	ROAD CLOSED 500 FT.	48"x48"	1	1	1	16.0			
W20-3	ROAD CLOSED 1000 FT.	48"x48"	1	1	1	16.0			
W20-3	ROAD CLOSED 1500 FT.	48"x48"	1	1	1	16.0			
G20-2	END ROAD WORK	48"x24"	3	3	3	24.0			
R11-2	ROAD CLOSED	48"x30"	2	2	2	20.0			
W21-5A	RIGHT SHOULDER CLOSED	36"x36"	4	4	4	36.0			
W8-1	BUMP	30"x30"	4	4	4	25.0			
	TRAFFIC DRUMS		58	58			58		
	TYPE III BARRICADE-RT. (16')		1	1				16	
	TYPE III BARRICADE-LT. (16')		1	1					16
	TYPE III BARRICADE-RT. (8')		1	1				8	
	TYPE III BARRICADE-LT. (8)		1	1					8
TOTALS:						**297.0**	**58**	**24**	**24**

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
31+00.00	32+00.00	HWY. 42	24.00	266.67
44+10.00	45+10.00	HWY. 42	20.00	222.22
TOTAL:				**488.89**

NOTE: COORDINATE COLD MILLING STOCKPILE LOCATIONS WITH DISTRICT ENGINEER. STOCKPILE LOCATIONS SHALL BE NO FURTHER THAN FIVE MILES FROM EACH SITE.

PERMANENT PAVEMENT MARKINGS

DESCRIPTION	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
	TYPE II	6"	
	(YELLOW/YELLOW)	WHITE	YELLOW
	EACH	LIN. FT.	
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	22		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")		3134	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")			3321
TOTALS:	**22**	**3134**	**3321**

DRIVEWAYS

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	STANDARD DRAWINGS
			FEET	SQ. YD.	TON	TON	
44+40	LT.	HWY. 42	26	64.85	7.13	55.01	DR-2
TOTALS:				**64.85**	**7.13**	**55.01**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2")...94.4% MIN. AGGR...5.6% ASPHALT BINDER

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
34+65	36+15	HWY. 42	2	2
38+25	40+45	HWY. 42	3	3
44+35	45+10	HWY. 42	1	1
TOTALS:			**6**	**6**

REMOVAL AND DISPOSAL OF GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL
			LIN. FT.
34+94	35+24	HWY. 42 LT.	30
34+94	35+24	HWY. 42 RT.	30
40+64	40+93	HWY. 42 LT.	30
40+64	40+93	HWY. 42 RT.	30
TOTAL:			**120**

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
31+00	45+10	HWY. 42	362	889
BRIDGE TOE CUT			98	
ENTIRE PROJECT		APPROACHES		18
TOTALS:			**460**	**907**

NOTE: EARTHWORK QUANTITIES SHALL BE PAID AS PLAN QUANTITY.

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTERS	APPROACH SLABS	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			TYPE F	TYPE F		
			CU.YD.		POUND	TON
34+82.42	35+17.42	HWY. 42 - LT.	4.20		210	
34+82.42	35+17.42	HWY. 42 - RT.	4.20		210	
40+59.58	40+94.58	HWY. 42 - LT.	4.20		210	
40+59.58	40+94.58	HWY. 42 - RT.	4.20		210	
34+82.42	35+17.42	HWY. 42		43.50	5340	24.40
40+59.58	40+94.58	HWY. 42		43.50	5340	24.40
TOTALS:			**16.80**	**87.00**	**11520**	**48.80**

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	15	49
		QUANTITIES				

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SOIL STABILIZATION

STATION	STATION	LOCATION / DESCRIPTION	SOIL STABILIZATION
			TON
ENTIRE	PROJECT	TO BE USED IF AND WHERE	50
		DIRECTED BY THE ENGINEER	
TOTAL:			**50**

QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			250	4
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			**250**	**4**

* NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	BRIDGE END TERMINAL
			LIN. FT.	EACH		
35+00.00		HWY. 42 LT.				1
35+00.00		HWY. 42 RT.				1
40+67.98	42+11.73	HWY. 42 RT.	75	1	1	
40+67.98	42+86.73	HWY. 42 LT.	150	1	1	
TOTALS:			**225**	**2**	**2**	**2**

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	3
DIRECTED BY THE ENGINEER	
TOTAL:	**3**

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	3	6
DIRECTED BY THE ENGINEER		
TOTALS:	**3**	**6**

BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC....25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
35+18	N.W. CORNER OF HWY. 42 BRIDGE	1
TOTAL:		**1**

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

DUMPED RIPRAP AND FILTER BLANKET

STATION		LOCATION	DUMPED RIPRAP	FILTER BLANKET
			CU. YD.	SQ. YD.
40+68.58	43+30.65	HWY. 42 - LT.	180	359
40+68.58	44+35.00	HWY. 42 - RT.	199	398
TOTALS:			**379**	**757**

NOTE: FILTER BLANKET SHALL BE GEOTEXTILE FABRIC (TYPE 5).

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL						
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING											1915	71
ENTIRE	PROJECT	STAGE 1	0.60	1.20	0.60	61.2	0.60	0.60	0.60	12.2	66	9		6
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.15	0.30	0.15	15.3	0.15	0.15	0.15	3.1	22	3	479	18
TOTALS:			**0.75**	**1.50**	**0.75**	**76.5**	**0.75**	**0.75**	**0.75**	**15.3**	**88**	**12**	**2394**	**95**

BASIS OF ESTIMATE:
LIME.....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	16	49
		QUANTITIES				

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BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
						(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)																
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLON	TOTAL WID.	SQ.YD.	GALLON	TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																									
31+00.00	32+00.00	HWY. 42 - TRANSITION	100.00	84.50	84.50				20.00	222.22	37.78	37.78									25.00	277.78	220.00	30.56	30.56
32+00.00	32+91.97	HWY. 42 - NOTCH AND WIDEN	91.97	86.75	79.78	38.71	395.57	19.78				19.78	9.46	96.67	330.00	15.95	9.25	94.52	220.00	10.40	23.00	296.35	220.00	32.60	43.00
32+91.97	34+00.00	HWY. 42 - NOTCH AND WIDEN	108.03	79.50	85.88	32.71	392.63	19.63				19.63	6.46	77.54	330.00	12.79	6.25	75.02	220.00	8.25	25.00	312.09	220.00	34.33	42.58
34+00.00	34+56.80	HWY. 42 - FULL DEPTH	56.80	157.00	89.18	52.71	332.66	16.63				16.63	26.46	166.99	330.00	27.55	26.25	165.67	220.00	18.22	25.00	164.09	220.00	18.05	36.27
34+56.80	34+82.42	HWY. 42 - FULL DEPTH	25.62	160.00	40.99	54.71	155.74	7.79				7.79	27.46	78.17	330.00	12.90	27.25	77.57	220.00	8.53	27.00	76.86	220.00	8.45	16.99
40+94.58	44+10.00	HWY. 42 - FULL DEPTH	315.42	149.50	471.55	44.71	1566.94	78.35				78.35	22.46	787.15	330.00	129.88	22.25	779.79	220.00	85.78	25.00	911.21	220.00	100.23	186.01
44+10.00	45+10.00	HWY. 42 - TRANSITION	100.00	64.00	64.00				20.00	222.22	37.78	37.78									25.00	277.78	220.00	30.56	30.56
ADDITIONAL FOR LEVELING																									
32+00.00	34+00.00	HWY. 42 - NOTCH AND WIDEN	200.00						20.00	444.44	75.56	75.56									20.00	444.44	VAR.	98.00	98.00
32+62.76	34+13.87	HWY 42 - RT., HWY. 75 TURN OUT	151.11						VAR.	619.09	105.25	105.25									VAR.	619.09	VAR.	72.24	72.24
32+91.97	34+40.45	HWY 42 - LT., HWY. 75 TURN OUT	148.48						VAR.	600.16	102.03	102.03									VAR.	600.16	VAR.	70.03	70.03
ADDITIONAL FOR TURNOUTS																									
32+23.08	34+56.80	HWY. 42 - RT., HWY. 75	233.72	VAR.	253.29	VAR.	1751.43	87.57				87.57	9.89	256.88	330.00	42.39	9.75	253.13	220.00	27.84	33.71	875.46	220.00	96.30	124.14
32+91.97	34+82.42	HWY. 42 - LT., HWY. 75	190.45	VAR.	362.38	VAR.	1973.59	98.68				98.68	18.46	390.61	330.00	64.45	18.30	387.27	220.00	42.60	45.44	982.83	220.00	108.11	150.71
ADDITIONAL FOR GUARDRAIL																									
34+88.58	35+08.58	HWY. 42 - LT.	20.00	39.21	7.84																5.50	12.22	220.00	1.34	1.34
34+88.58	35+08.58	HWY. 42 - RT.	20.00	39.21	7.84																5.50	12.22	220.00	1.34	1.34
40+68.58	43+39.85	HWY. 42 - LT.	271.27	VAR.	92.32																VAR.	143.88	220.00	15.83	15.83
40+68.58	42+54.73	HWY. 42 - RT.	186.15	VAR.	53.25																VAR.	82.98	220.00	9.13	9.13
TOTALS:					**1692.80**		**6568.56**	**328.43**		**2108.13**	**358.40**	**686.83**		**1854.01**		**305.91**		**1832.97**		**201.62**		**6089.44**		**727.10**	**928.73**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.4% MIN. AGGR.....5.6% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

CGervasini 2/21/2025 12:19:20 PM
WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	17	49
		07696		QUANTITIES		68710

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 110861

BRIDGE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	801	SP, SS & 802	SP, SS & 802	SP & 803	SS & 804	SS & 804	SS & 805	SP, SS & 805	SP, SS & 805	SS & 805	SS & 805	SP, SS & 807	SS & 807	SS & 808	SS & 809	SS & 809	812	SS & 816	SS & 816
		ITEM	UNCLASSIFIED EXCAVATION FOR STRUCTURES -BRIDGE	CLASS S CONCRETE -BRIDGE	CLASS S(AE) CONCRETE -BRIDGE	CLASS 2 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL- BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL SHELL PILING (18" DIA.) (1)	STEEL SHELL PILING (30" DIA.) (1)(2)	TEST PILE (30" DIA.) (1)(2)	PILE ENCASEMENT	DYNAMIC PILE LOAD TEST	STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)	PAINTING STRUCTURAL STEEL	ELASTOMERIC BEARINGS	SILICONE JOINT SEALANT	ARMORED JOINT WITH NEOPRENE STRIP SEAL	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP
		UNIT	CU. YD.	CU. YD.	CU. YD.	SQ. YD.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LB.	TON	CU. IN.	LIN. FT.	LIN. FT.	EACH	SQ. YD.	CU. YD.
07696 HIGHWAY 42 OVER ST. FRANCIS RIVER	BENT NO. 1		44	31.10		11.1	6,900	680	292					497		2,448.0	29		1	318	182
	BENT NO. 2			23.49			11,954			158	94	69	1			2,592.0					
	BENT NO. 3			23.49			11,954			309		84				2,592.0					
	BENT NO. 4			23.54			11,954			206	118	90	1			4,896.0		28			
	BENT NO. 5			23.49			11,954			276		48				2,592.0					
	BENT NO. 6			23.49			11,954			182	106	54	1			2,592.0					
	BENT NO. 7		44	31.10		11.1	6,900	680	316					497		2,448.0	29			(3) 340	(3) 213
	270'-0" CONTINUOUS PLATE GIRDER UNIT				261.20	1,001.3		71,195						219,358	51.3						
	270'-0" CONTINUOUS PLATE GIRDER UNIT				261.20	1,001.3		71,195						219,358	51.3						
TOTALS FOR JOB NO. 110861			88	179.70	522.40	2,024.8	73,570	143,750	608	1,131	318	345	3	439,710	102.6	20,160.0	58	28	1	658	395

(1) Steel shell piles shall conform to ASTM A252, Grade 3, Fy = 45,000 psi. 30" diameter piles shall have a wall thickness of ¾".

(2) Concrete used to fill 30" diameter steel shell piles shall be in accordance with Special Provision "CONCRETE FILL FOR LARGE DIA. STEEL SHELL PILES".

(3) Dumped Riprap and Filter Blanket quantities shown in table include quantities from end of wings toward bridge only. Additional quantities are required along the side slopes of the eastern roadway approach. See Roadway Plans for additional information.

TABLE OF APPROACH SLAB QUANTITIES

(For Information Only)

Bridge No.	Item	Reinforcing Steel	Concrete
	Unit	Lbs.	Cu. Yds.
07696	Begin Bridge	5,340	43.50
	End Bridge	5,340	43.50

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21243
COLTON S. WYLIE

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
ST. FRANCIS RIVER STR. & APPRS.
(COLDWATER) (S)
CROSS COUNTY
ROUTE 42 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JDW DATE: JAN. 2025 FILENAME: b110861_q1.dgn
CHECKED BY: CSW DATE: JAN. 2025 SCALE: No Scale
DESIGNED BY: JDW DATE: JAN. 2025

BRIDGE NO. 07696 DRAWING NO. 68710

CSWylie
2/28/2025 10:46:14 AM
WORKSPACE\ARDOT Bridge (2019)
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
04-28-2025		6	ARK.	110861	18	49
		SUMMARY OF QUANTITIES & REVISIONS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13436
SHAUN A. ROBBERSON

DIGITALLY SIGNED 4/28/2025

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	6	STATION
201	GRUBBING	6	STATION
202	REMOVAL AND DISPOSAL OF GUARDRAIL	120	LIN. FT.
SP, SS, & 210	UNCLASSIFIED EXCAVATION	460	CU. YD.
SP & 210	COMPACTED EMBANKMENT	907	CU. YD.
SP & 210	SOIL STABILIZATION	50	TON
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)	1797	TON
SS & 401	TACK COAT	693	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	292	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	14	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	883	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	52	TON
SP & 412	COLD MILLING ASPHALT PAVEMENT	489	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	3	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	3	TON
SP, SS, & 504	APPROACH SLABS	87.00	CU. YD.
SP, SS, & 504	APPROACH GUTTERS	16.80	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	297	SQ. FT.
SS & 604	BARRICADES	48	LIN. FT.
SS & 604	TRAFFIC DRUMS	58	EACH
SS & 611	4" PIPE UNDERDRAINS	250	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	4	EACH
SS & 617	GUARDRAIL (TYPE A)	225	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	2	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	2	EACH
620	LIME	2	TON
620	SEEDING	0.75	ACRE
SS & 620	MULCH COVER	1.50	ACRE
620	WATER	91.8	M. GAL.
621	TEMPORARY SEEDING	0.75	ACRE
621	SILT FENCE	2394	LIN. FT.
621	SAND BAG DITCH CHECKS	88	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	95	CU. YD.
621	ROCK DITCH CHECKS	12	CU. YD.
623	SECOND SEEDING APPLICATION	0.75	ACRE
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	3134	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	3321	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	22	EACH
SS & 734	BRIDGE END TERMINAL	2	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	11520	POUND
SS & 816	FILTER BLANKET	757	SQ. YD.
SS & 816	DUMPED RIPRAP	379	CU. YD.
	STRUCTURES OVER 20' SPAN		
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	88	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-BRIDGE	179.70	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE	522.40	CU. YD.
SP & 803	CLASS 2 PROTECTIVE SURFACE TREATMENT	2024.8	SQ. YD.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	73570	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	143750	POUND
SS & 805	STEEL SHELL PILING (18" DIAMETER)	608	LIN. FT.
SP, SS, & 805	STEEL SHELL PILING (30" DIAMETER)	1131	LIN. FT.
SP, SS, & 805	TEST PILE (30" DIAMETER)	318	LIN. FT.
SS & 805	PILE ENCASEMENT	345	LIN. FT.
SS & 805	DYNAMIC PILE LOAD TEST	3	EACH
SP, SS, & 807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)	439710	POUND
SS & 807	PAINTING STRUCTURAL STEEL	102.6	TON
SS & 808	ELASTOMERIC BEARINGS	20160.0	CU. N.
SS & 809	ARMORED JOINT WITH NEOPRENE STRIP SEAL	28	LIN. FT.
SS & 809	SILICONE JOINT SEALANT	58	LIN. FT.
812	BRIDGE NAME PLATE (TYPE D)	1	EACH
SS & 816	FILTER BLANKET	658	SQ. YD.
SS & 816	DUMPED RIPRAP	395	CU. YD.

REVISIONS

DATE	REVISION	SHEET NUMBER
04-28-25	ADDED SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS SPECIAL PROVISION	3, 18

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	19	49
		SURVEY CONTROL DETAILS				

SURVEY CONTROL COORDINATES

Project Name: s110861
Date: 9/10/2024
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, GRID FEET.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	378157.9990	1734473.1670	211.224	CTL	STD ARDOT MON STAMPED: PN: 1
2	378172.1930	1735254.8200	211.388	CTL	STD ARDOT MON STAMPED: PN: 2
3	378263.1800	1736142.3360	213.047	CTL	STD ARDOT MON STAMPED: PN: 3
4	378443.9230	1737017.9600	213.489	CTL	STD ARDOT MON STAMPED: PN: 4
5	378621.0200	1737869.4940	211.468	CTL	STD ARDOT MON STAMPED: PN: 5
6	377478.4040	1736543.7150	213.760	CTL	STD ARDOT MON STAMPED: PN: 6
7	379057.8480	1736277.3650	211.267	CTL	STD ARDOT MON STAMPED: PN: 7
8	378917.1750	1738715.6460	211.437	CTL	STD ARDOT MON STAMPED: PN: 8
900	378135.3490	1734058.8900	209.648	TBM	SQUARE CUT CNTR N HW
901	377939.9010	1736332.3210	214.303	TBM	X CUT ON BOLT OF FH
902	379501.4410	1739387.2960	210.078	TBM	SQUARE CUT ON CONC
998	344286.9110	1769851.3710	218.355	BM	STD ARDOT MON STAMPED: PN: 998
999	344185.8190	1769852.9450	217.340	BM	DISK SET IN CONC EARLE

Note - Rebar and Cap - Standard -" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT

GRID COORDINATES ARE STORED UNDER FILE NAME s110861gi.ctl
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 880088-880088A
CONVERGENCE ANGLE: 00 49 38 RIGHT AT LAT N35-21'51.01" LON W90-34'42.58"
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

ALIGNMENT NAME: HWY. 42

POINT	STATION	TYPE	NORTHING	EASTING
8000	20+00.00	POB	378161.9984	1734846.4342
8001	23+98.99	PC	378186.9259	1735244.6473
8002	30+19.69	PT	378259.1505	1735860.8198
8003	48+00.00	POE	378561.8365	1737615.2130

STATE OF ARKANSAS
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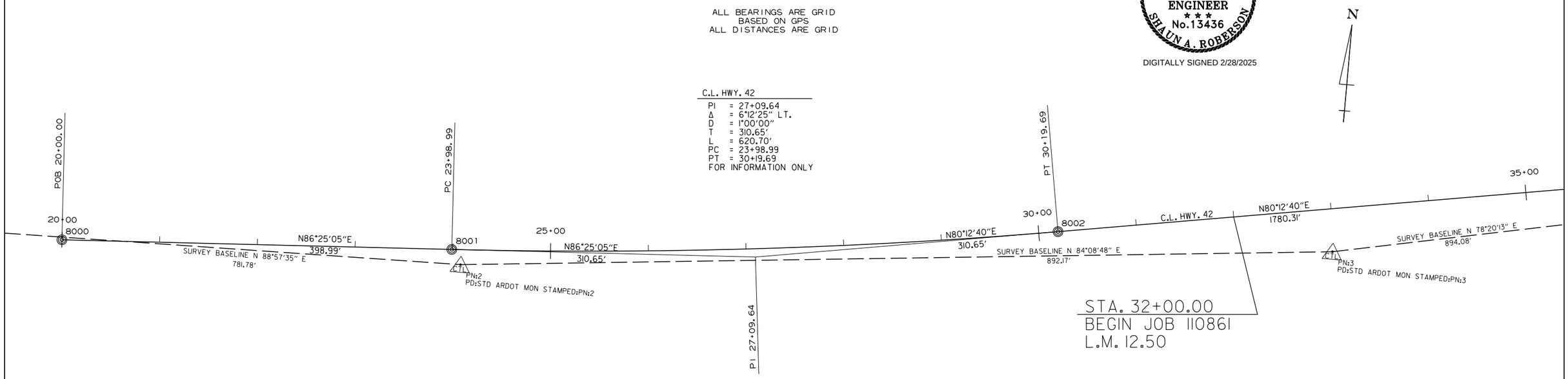
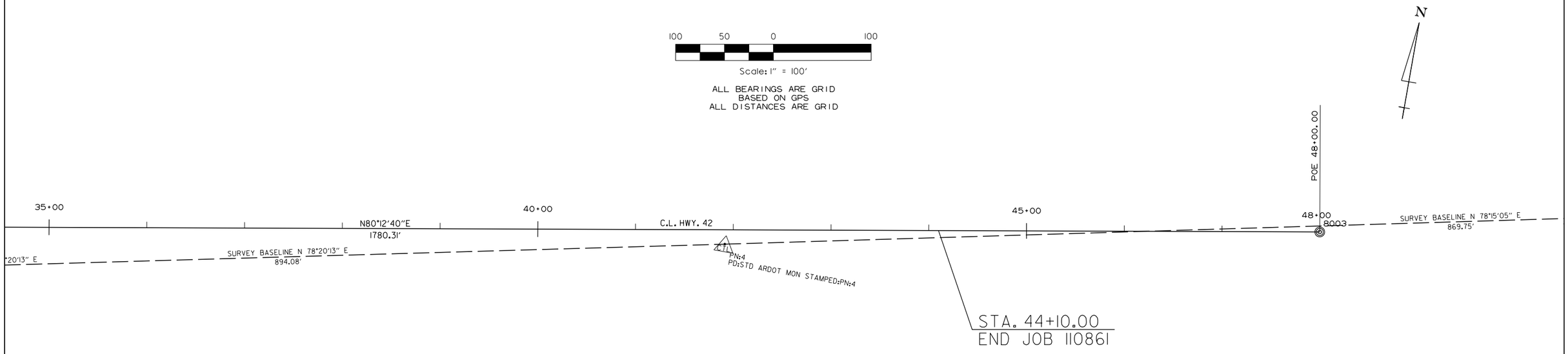
DIGITALLY SIGNED 2/28/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	20	49
		SURVEY CONTROL DETAILS				





SURVEY CONTROL DETAILS

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	21	49

PLAN AND PROFILE - HWY. 42

STATE OF ARKANSAS
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DIGITALLY SIGNED 2/28/2025

N

C.L. HWY. 42
PI = 27+09.64
Δ = 6°12'25" LT.
D = 1°00'00"
T = 310.65'
L = 620.70'
PC = 23+98.99
PT = 30+19.69
FOR INFORMATION ONLY

EXIST. R/W
EXIST. R/W
20+00
25+00
30+00
N 86°25'05" E
N 80°12'40" E
C.L. HWY. 42
PC 23+98.99
PT 30+19.69
PI 27+09.64
EXIST. R/W
EXIST. R/W
100' TRANSITION TO MATCH EXISTING
CONST. LIMITS
EXISTING 20'
2' 22' 2'
CONSTRUCTION LIMITS
+91.97 11.00'
+23.08 11.00'
90° R
75' R
8'
STA. 32+00.00
BEGIN JOB 110861
L.M. 12.50

EXIST. R/W
+01.77 166.09'
HWY. 75
APPROXIMATE FEMA 100 YR. FLOODPLAIN LIMITS
+78.92 77.79'
EXISTING 2' 22' 2'
+22.53 160.81'
+08.62 103.77'
8'
90° R
75' R
120' R
4'
2' 24' 12'
EXISTING
+12.04 114.61'
+40.56 101.20'
+35.57 120.64'
HWY. 75
EXIST. R/W
HWY. 42

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONATAL AND VERTICAL CONTROL POINTS

STA. 31+00 MATCH EXISTING SUPERELEVATION (0.020 FT./FT. LT. LANE, -0.0040 FT./FT. RT. LANE)
STA. 32+00 END SUPERELEVATION

250
240
230
220
210
200
190
180
170
160

PROFILE GRADE
100' VERTICAL TRANSITION TO MATCH EXISTING
PVI 32+00.00 ELEV. 214.07
PVC 33+00.00 ELEV. 214.57
VC=200.00'
K=333.33
e=0.15'
EXISTING GROUND
0.50%
PVI 34+00.00 ELEV. 215.07
STA. 32+00.00
BEGIN JOB 110861
ELEV. 214.07

20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	22	49
		PLAN AND PROFILE - HWY. 42				

C.L. HWY. 42 STATIONING	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE II)
STA. 40+67.98 TO STA. 42+86.73 LT.	= 150 LIN. FT.	1 EACH	1 EACH
STA. 40+67.98 TO STA. 42+11.73 RT.	= 75 LIN. FT.	1 EACH	1 EACH

STATE OF ARKANSAS
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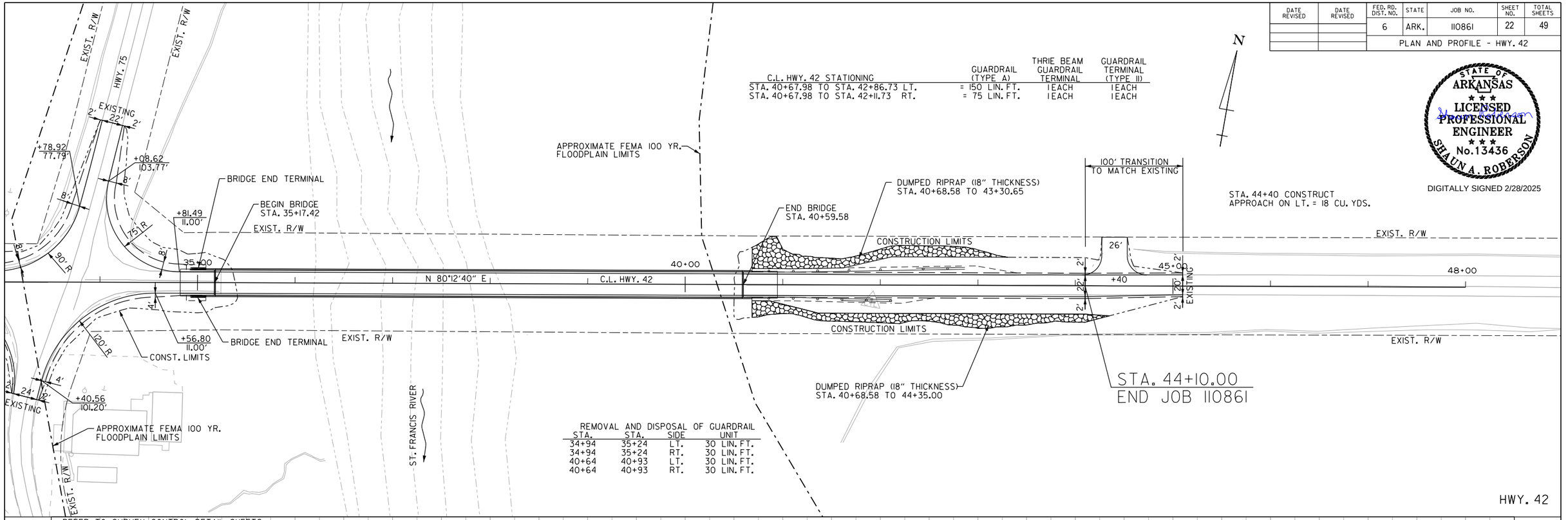
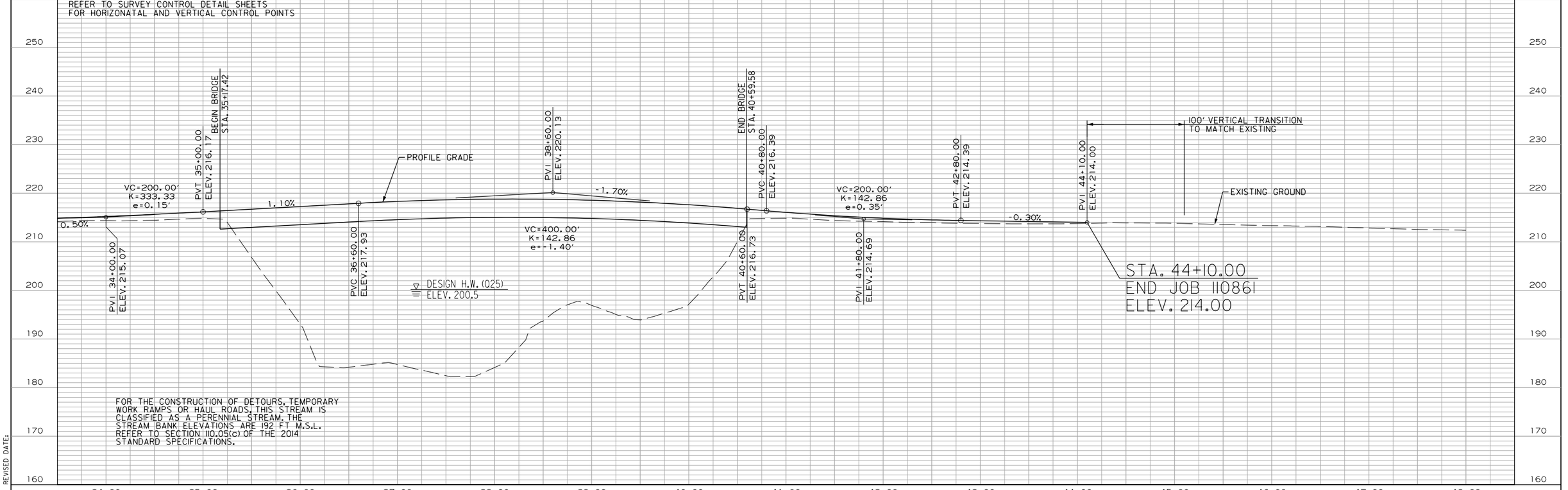
STA. 44+40 CONSTRUCT APPROACH ON LT. = 18 CU. YDS.



REMOVAL AND DISPOSAL OF GUARDRAIL			
STA.	STA.	SIDE	UNIT
34+94	35+24	LT.	30 LIN. FT.
34+94	35+24	RT.	30 LIN. FT.
40+64	40+93	LT.	30 LIN. FT.
40+64	40+93	RT.	30 LIN. FT.

HWY. 42

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONATAL AND VERTICAL CONTROL POINTS



FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATIONS ARE 192 FT M.S.L. REFER TO SECTION 110.05(c) OF THE 2014 STANDARD SPECIFICATIONS.

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	23	49
		07696		LAYOUT		68711

(1) Utilities shown are based on locations at time of survey and do not reflect any potential utility relocations prior to construction.

NOTES:
Use Type F Approach Gutters at each end of bridge. See Std. Dwg. No. 55030F.

Use Type F Approach Slab ("W" = 22'-0") at each end of bridge. See Std. Dwg. No. 55040F1.

Excavate existing embankment at each end of bridge as shown to Elev. 210.0. Approx. 98 cubic yards of excavation.

(3) Riprap extends to Sta. 43+30.65 and Sta. 44+35.00 on left and right sides of roadway, respectively. See Roadway Plans for additional details.

(4) Dumped riprap and filter blanket quantities transition from Bridge to Roadway pay item at end of wings (Bent 7 only).

Tangent Dist. = 497.73'
Bridge End Terminal, See Rdwy. Plans
1V:3H
45°00'00" (Typ.)
Place 1'-6" Dumped Riprap on top of Filter Blanket in the limits shown. See Std. Dwg. No. 55001. (Typ. both ends of bridge)
CL Bridge, CL Construction, & CL Hwy. 42
ST. FRANCIS RIVER
Existing Bridge No. M3057 previously removed In accordance with Section 205 under separate contract. Existing foundations removed to 2' minimum below existing ground.
90°00'00" (Typ.)
5'-0" (Typ.)
Toe of Fill Slope
Tangent Dist. Greater than 500'
1V:2H
2'-0" Shldr.
2 - 11'-0" Lanes
26'-0" Finished Crown
Toe of Cut Slope
Toe of Fill Slope & Top of Cut Slope
35+00
36+00
37+00
38+00
39+00
40+00
1'-2½" Rail
Clr. Rdwy. 28'-6"
Out-To-Out
2% Slope
N 80°12'40" E
10'-0" (Typ.)
Approx. 0.03 Miles To Jct. S.H. 75
Approx. 10.0 Miles To Jct. S.H. 149
Bridge Quantities
Rdwy. Quantities
UGW
(1) Existing Underground Water Line
Boring Test Hole (Typ.)

PLAN

BEGIN BRIDGE STA. 35+17.42
END BRIDGE STA. 40+59.58

Total Length of Bridge = 542'-2"
1'-1"
270'-0" Continuous Plate Girder Unit (90'-90'-90')
CL 2" Poured Silicone Joint
CL 2½" Strip Seal Joint
Proposed Grade Line Along CL Bridge
Slope Intercept Sta. 35+09.42
Slope Intercept Sta. 40+67.58
Guardrail, See Roadway Plans
Elev. 216.36
Elev. 216.74
CL Deck to Low Steel = 4'-1 13/16"
Bridge Traffic Rail (Type SSTR36), See Std. Dwg. No. 55070
CL Bent Sta. 36+08.50 Elev. 217.36
CL Bent Sta. 36+98.50 Elev. 218.30
CL Deck @ CL Bent To Low Side Top of Cap = 4'-8"
CL Bent Sta. 37+88.50 Elev. 218.77
CL Deck @ CL Bent To Low Side Top of Cap = 4'-6 15/16" (Typ. Bents 2, 3, 5 & 6)
CL Bent Sta. 38+78.50 Elev. 218.66
CL Bent Sta. 39+68.50 Elev. 217.99
Fix.
Exp.
Design H.W. To Low Steel = 11.7' (2)
Design H.W. (Q25) Elev. 200.5
Existing Ground Line Along CL Bridge
Pile Encasement (Typ. Bents 2-6)
(2) Proposed low bridge chord elev. = 212.23 at Station 35+19.50
73' Piles
79' Piles One 94' Test Pile with Dynamic Load Test
103' Piles
103' Piles One 118' Test Pile with Dynamic Load Test
92' Piles
91' Piles One 106' Test Pile with Dynamic Load Test
79' Piles
Bent No. 1 2 3 4 5 6 7
40+00

PVI Sta. 38+60.00
Elev. 220.13
V.C. = 400'
PVT Sta. 35+00.00 Elev. 216.17
PVC Sta. 36+60.00 Elev. 217.93
PVT Sta. 40+60.00 Elev. 216.73
PVC Sta. 40+80.00 Elev. 216.39
+1.10%
-1.70%
Structure Location

VERTICAL CURVE DATA

Highway 42
(Profile Grade Along CL Construction)
No Scale

ELEVATION

NOTES:
Stations shown are along CL Construction. Elevations shown are theoretical working point elevations at CL Bridge. Any vertical dimension referenced to CL Deck is based on theoretical working point elevation at CL Bridge. See "ROUNDING DETAIL" on Std. Dwg. No. 55007 for additional information.

For "ELEVATION OF SOIL BORINGS", "BORING LEGEND" AND "N-VALUES", see Dwg. No. 68712.

For "GENERAL NOTES" and "HYDRAULIC DATA", see Dwg. No. 68713.

FOR R/W DATA, SEE ROADWAY PLANS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER
DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 1 OF 3
LAYOUT OF BRIDGE
HWY. 42 OVER ST. FRANCIS RIVER
ST. FRANCIS RIVER STR. & APPRS. (COLDWATER) (S)
CROSS COUNTY

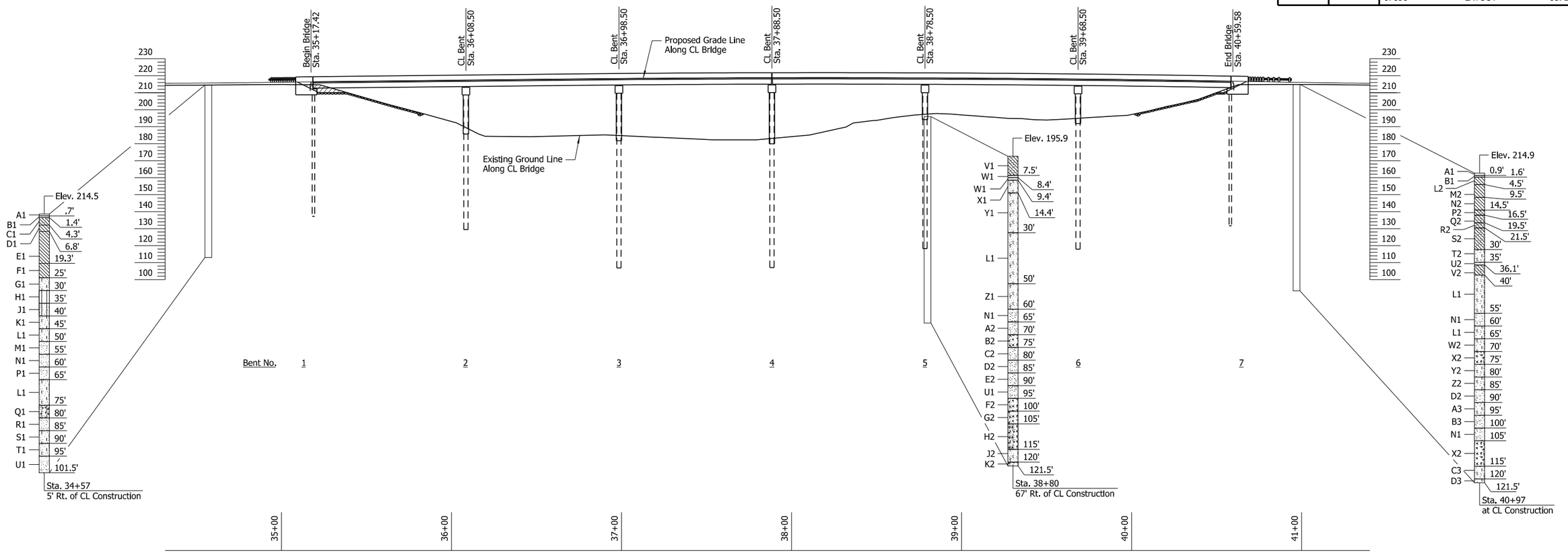
ROUTE 42 SEC. 3

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: OCT. 2024 FILENAME: b110861_l1.dgn
CHECKED BY: BHS DATE: NOV. 2024 SCALE: 1" = 20'-0"
DESIGNED BY: KWY DATE: OCT. 2024
BRIDGE NO. 07696 DRAWING NO. 68711

CSWylie
2/28/2025 10:46:14 AM
WORKSPACE\RDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S101_LO.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	24	49
		07696		LAYOUT		68712



ELEVATION OF SOIL BORINGS

BORING LEGEND

A1 - Asphalt
B1 - Base
C1 - Moist, Medium Stiff, Gray Lean Clay with Sand
D1 - Wet, Soft, Gray Lean Clay
E1 - Moist, Soft, Gray Fat Clay
F1 - Moist, Medium Stiff, Brown Lean Clay
G1 - Wet, Loose, Gray Silty Sand
H1 - Wet, Loose, Gray Silt
J1 - Wet, Loose, Gray Silt with Sand
K1 - Wet, Medium Dense, Gray Silty Sand
L1 - Wet, Medium Dense, Gray Poorly Graded Sand with Silt
M1 - Wet, Medium Dense, Gray Sand with Trace Organic Matter
N1 - Wet, Medium Dense, Gray Poorly Graded Sand
P1 - Wet, Dense, Gray Sand
Q1 - Wet, Dense, Gray Poorly Graded Sand with Silt and Gravel
R1 - Wet, Dense, Gray Sand with Trace Gravel
S1 - Wet, Very Dense, Gray Poorly Graded Sand with Silt and Trace Gravel
T1 - Wet, Dense, Gray Poorly Graded Sand with Silt and Trace Gravel
U1 - Wet, Dense, Gray Poorly Graded Sand with Trace Gravel
V1 - Moist, Soft, Brown to Dark Brown Sandy Lean Clay
W1 - Moist, Loose, Brown Silty Sand
X1 - Wet, Loose, Brown Silty Sand*
Y1 - Wet, Loose, Gray Poorly Graded Sand
Z1 - Wet, Medium Dense, Gray Sand with Silt and Trace Gravel and Trace Organic Matter
A2 - Wet, Medium Dense, Gray Sand with Trace Gravel and Trace Organic Matter
B2 - Wet, Medium Dense, Gray Well Graded Sand with Gravel and Trace Organic Matter
C2 - Wet, Medium Dense, Gray Sand with Some Gravel
D2 - Wet, Medium Dense, Gray Poorly Graded Sand with Some Gravel and Trace Organic Matter
E2 - Wet, Medium Dense, Gray Sand with Trace Gravel
F2 - Wet, Medium Dense, Gray Well Graded Sand with Gravel
G2 - Wet, Very Dense, Gray Gravel with Sand (No sample recovered)
H2 - Wet, Medium Dense, Gray Silty Gravel with Sand
J2 - Wet, Medium Dense, Gray Sand with Silt and Trace Gravel
K2 - Wet, Medium Dense, Gray Poorly Graded Sand with Silt and Gravel
L2 - Moist, Medium Stiff, Dark Gray Fat Clay

M2 - Moist, Medium Stiff, Dark Gray Lean Clay
N2 - Moist, Stiff, Dark Gray Lean Clay
P2 - Moist, Dark Brown Sandy Lean Clay
Q2 - Wet, Soft, Dark Gray Sandy Lean Clay
R2 - Wet, Dark Brown Sandy Lean Clay
S2 - Wet, Very Soft, Dark Brown Sandy Lean Clay
T2 - Wet, Loose, Brown Poorly Graded Sand with Silt
U2 - Wet, Very Loose, Brown Poorly Graded Sand with Silt
V2 - Wet, Soft, Dark Brown Sandy Clay
W2 - Wet, Medium Dense, Gray Poorly Graded Sand with Silt, Trace Gravel, and Trace Organic Matter
X2 - Wet, Medium Dense, Gray Poorly Graded Sand with Gravel
Y2 - Wet, Dense, Gray Poorly Graded Sand with Silt, Some Gravel, and Trace Organic Matter
Z2 - Wet, Dense, Gray Well Graded Sand with Silt and Some Gravel
A3 - Wet, Medium Dense, Gray Poorly Graded Sand with Silt and Some Gravel
B3 - Wet, Dense, Gray Poorly Graded Sand with Some Gravel
C3 - Wet, Dense, Gray Poorly Graded Sand with Silt
D3 - Wet, Very Dense, Gray Poorly Graded Sand with Silt

N-VALUES

Sta. 34+57 5' Rt. of CL Construction	Sta. 38+80 67' Rt. of CL Construction	Sta. 40+97 at CL Construction
2.3-3.3, N=6	3.4-4.4, N=4	2.5-3.5, N=6
4.8-5.8, N=2	5.9-6.9, N=4	5.0-6.0, N=8
7.3-8.3, N=2	8.0-9.0, N=5	7.5-8.5, N=7
9.8-10.8, N=4	9.9-10.9, N=6	10.0-11.0, N=13
14.8-15.8, N=4	14.9-15.9, N=9	17.0-18.0, N=2
19.8-20.8, N=5	20.5-21.5, N=13	22.0-23.0, N=0
25.5-26.5, N=6	25.5-26.5, N=18	25.5-26.5, N=0
30.5-31.5, N=9	30.5-31.5, N=16	30.5-31.5, N=10
35.5-36.5, N=10	35.5-36.5, N=24	35.5-36.5, N=2
40.5-41.5, N=15	40.5-41.5, N=21	40.5-41.5, N=13
45.5-46.5, N=26	45.5-46.5, N=20	45.5-46.5, N=26
50.5-51.5, N=25	50.5-51.5, N=18	50.5-51.5, N=21
55.5-56.5, N=26	55.5-56.5, N=28	55.5-56.5, N=19
60.5-61.5, N=41	60.5-61.5, N=17	60.5-61.5, N=17
65.5-66.5, N=26	65.5-66.5, N=20	65.5-66.5, N=23
70.5-71.5, N=28	70.5-71.5, N=13	70.5-71.5, N=27
75.5-76.5, N=33	75.5-76.5, N=25	75.5-76.5, N=31
80.5-81.5, N=43	80.5-81.5, N=17	80.5-81.5, N=36
85.5-86.5, N=53	85.5-86.5, N=21	85.5-86.5, N=17
90.5-91.5, N=31	90.5-91.5, N=31	90.5-91.5, N=27
95.5-96.5, N=41	95.5-96.5, N=29	95.5-96.5, N=36
100.5-101.5, N=31	100-100.2, N=40 (2")	100.5-101.5, N=25
	105.5-106.5, N=19	105.5-106.5, N=23
	110.5-111.5, N=19	110.5-111.5, N=19
	115.5-116.5, N=19	115.5-116.5, N=45
	120.5-121.5, N=26	120.5-121.5, N=63

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER
DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 2 OF 3
LAYOUT OF BRIDGE
HWY. 42 OVER ST. FRANCIS RIVER
ST. FRANCIS RIVER STR. & APPRS. (COLDWATER) (S)
CROSS COUNTY
ROUTE 42 SEC. 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: OCT. 2024 FILENAME: b110861_l2.dgn
CHECKED BY: BHS DATE: NOV. 2024 SCALE: 1" = 30'-0"
DESIGNED BY: KWY DATE: OCT. 2024
BRIDGE NO. 07696 DRAWING NO. 68712

CSWylie
WORKSPACE: ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S102_LO.dgn
REVISED DATE: 2/28/2025 10:46:15 AM

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	25	49
		07696		LAYOUT		68713

GENERAL NOTES:

BENCHMARK: Vertical Control Data are shown on the Survey Control Data Sheets.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Ninth Edition (2020)

LIVE LOADING: HL-93

SEISMIC ZONE: 4 S_{D1} = 0.736g Site Class = D

SEISMIC OPERATIONAL CLASSIFICATION: Other

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Reinforcing Steel (ASTM A706)	fy = 60,000 psi
Structural Steel (ASTM A709, Gr. 50 or 50W)	Fy = 50,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Development Section of the Program Management Division.

(2) STEEL SHELL PILING: All piling shall be driven with an approved air, steam, or diesel hammer to meet the requirements shown in "PILE BEARING TABLE". Piling in Bents 1 and 7 shall be 18" diameter concrete-filled steel shell piles. Piling in Bents 2 thru 6 shall be 30" diameter concrete-filled steel shell piles. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of test and production piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. No additional payment will be made for cut-off or build-up of the test or production piles.

Water Jetting or other methods as approved by the Engineer may be required to achieve minimum penetration. This work shall not be paid for directly, but shall be considered incidental to the items "STEEL SHELL PILING (18" DIA.)" and "STEEL SHELL PILING (30" DIA.)".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling at Bents 1 and 7 shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum rated hammer energy required to obtain the minimum ultimate bearing capacity will be as shown in "PILE BEARING TABLE".

The driving system approval and the ultimate bearing capacity determination for piling at Bents 2 thru 6 shall be based on the requirements of Subsection 805.09(c), "Method C - Dynamic Load Test". It is estimated that the minimum rated hammer energy required to obtain the minimum ultimate bearing capacity will be as shown in "PILE BEARING TABLE". The lengths of the test piles shown on the layout are the estimated lengths of the test piles to be left in place. Each test pile requires dynamic testing. The dynamic test at Bents 2, 4, and 6 shall be used to approve the proposed driving system before production piles are driven at Bents 2, 3 thru 5, and 6, respectively.

PILE ENCASEMENT: Pile encasement for Bents 2 thru 6 shall extend from bottom of cap to 3' below natural or finished ground. See Standard Drawing Number 55021 for additional information. Alternate galvanized corrugated steel pipe shall not be used to form pile encasement.

PAINTING: The following weathering steel surfaces shall be painted as specified in Subsection 807.75:

- All steel surfaces within 6 feet of bridge deck expansion joints, including diaphragms, cross-frames, connection bolts and bearings.
- All steel surfaces exposed to the outside face of the bridge, including outside faces & bottom of the exposed exterior girders, splice plates and bolts, stiffeners, drip plates and bearings.

ASTM F3125, Grade A325 Type 3 bolts shall be used within these painted zones and shall be painted. Galvanized members, the expansion device, and surfaces in contact with concrete shall not be painted. The color of paint shall be Brown equal or close to Fed. Std. 595 B, Color Chip No. 30070 and as approved by the Engineer. The finish system may be applied in the shop. Any damage to the paint system occurring during transport or installation shall be corrected according to the manufacturer's recommendations at no cost to the Department.

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

PROTECTIVE SURFACE TREATMENT: Class 2 Protective Surface Treatment shall be applied to the roadway surface and to the roadway face and top of the bridge traffic rail in accordance with Section 803.

MAINTENANCE OF TRAFFIC: The road will remain closed during the construction of this project.

DETAIL DRAWINGS:	DRAWING NO(S):
End Bents	68714-68716
Intermediate Bents	68717-68721
Elastomeric Bearings	68722
270'-0" Continuous Plate Girder Unit	68723-68731
General Notes For Steel Bridge Structures	55006
Details For Steel Bridge Structures	55007
Poured Silicone Joints	55008
Neoprene Strip Seal Joint	55009
Concrete Filled Steel Shell Piling	55021
Type F Approach Gutters	55030F
Type F Approach Slab	55040F1
Bridge Traffic Rail (Type SSTR36)	55070

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	(1) NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
DESIGN	25	6,006	200.3	200.5
BASE	100	7,100	201.7	202.0
EXTREME	500	8,249	203.1	203.4
OVERTOPPING	>500	N/A	N/A	N/A

(1) Unconstricted water surface elevation without structure or roadway approaches

Q100 Backwater Elevation For Existing Structure = 202.0

Proposed Low Bridge Chord Elev. = 212.23
Existing Low Bridge Chord Elev. = 212.10 (existing bridge plans)

Drainage Area = 597.8 Square Miles
Historical High Water Elev. = N/A

(2) The proposed bridge shall be constructed to avoid interference with the existing piling. The Contractor shall verify measurements before driving any piling. Any adjustments necessary to fit the proposed bridge to existing bridge location shall be submitted for the Engineer's approval.

PILE BEARING TABLE

BENT NO.	REQUIRED MINIMUM ULTIMATE BEARING CAPACITY PER PILE (TONS)	MINIMUM TIP ELEVATION	MINIMUM ENERGY (FT-LBS)
1	290	158.0	66,000
2	455	130.0	152,000
3	435	107.0	152,000
4	435	107.0	152,000
5	450	118.0	152,000
6	455	118.0	152,000
7	250	145.0	51,000

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 03/13/2025
BRIDGE ENGINEER

SHEET 3 OF 3
LAYOUT OF BRIDGE
HWY. 42 OVER ST. FRANCIS RIVER
ST. FRANCIS RIVER STR. & APPRS. (COLDWATER) (S)
CROSS COUNTY
ROUTE 42 SEC. 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: BHS DATE: NOV. 2024 SCALE: No Scale
DESIGNED BY: KWY DATE: OCT. 2024

BRIDGE NO. 07696 DRAWING NO. 68713

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WORKSPACE\ARDOT Bridge (2019)
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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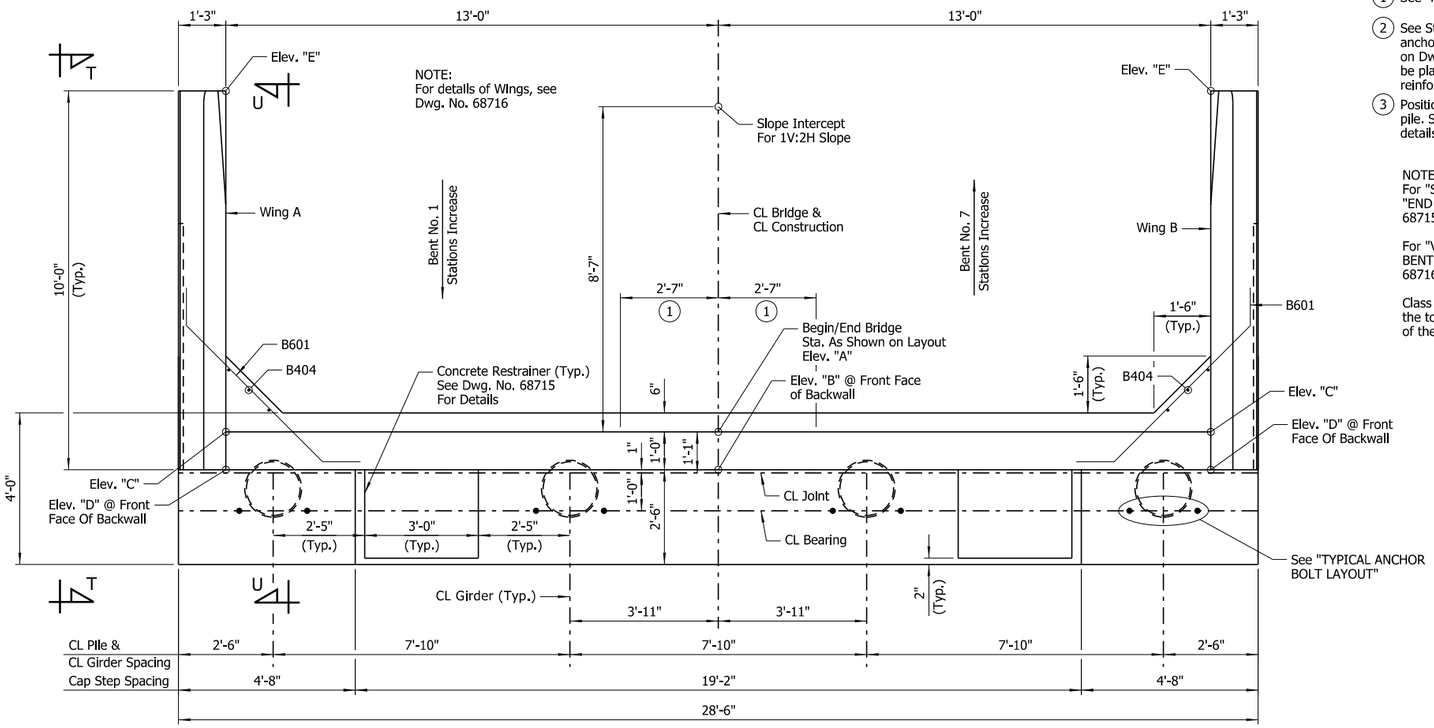
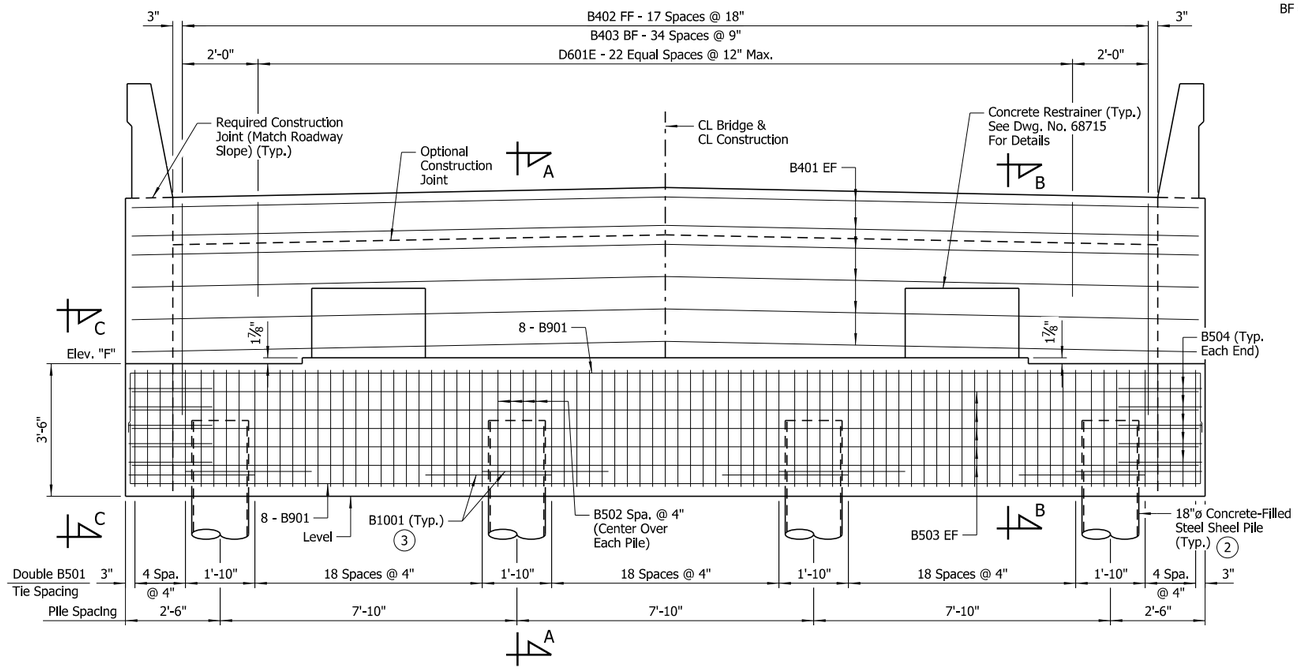


PLAN - END BENT NOS. 1 & 7

Scale: ½" = 1'-0"



ELEVATION - END BENT NOS. 1 & 7

(Bent No. 1 - Looking Back; Bent No. 7 - Looking Ahead)
Scale: ½" = 1'-0"

1. See "ROUNDING DETAIL" on Std. Dwg. No. 55007.
2. See Std. Dwg. No. 55021 for details of piles. Pile anchorage per "ALTERNATE PILE ANCHORAGE DETAIL" on Dwg. No. 68715 shall be required. Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap.
3. Position vertically pair of B1001 bars as shown at each pile. See "PLAN OF B1001 PLACEMENT" for additional details.

NOTES:
For "SECTION A-A", "SECTION B-B", "VIEW C-C" & "END BENT WALL ARMOR DETAIL", see Dwg. No. 68715.

For "VIEW T-T", "SECTION U-U", "BAR LIST (EACH END BENT)" & "BAR BENDING DIAGRAMS", see Dwg. No. 68716.

Class 2 Protective Surface Treatment shall be applied to the top of the backwall and to the roadway face and top of the wing rails.

GENERAL NOTES

Concrete shall be Class S except that the coarse aggregate size shall meet AASHTO M 43, Size 67 (¾" Max.). Concrete shall have a minimum 28-day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners shall be chamfered ¾" unless noted otherwise.

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

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

Finish top of backwall to match the bridge deck.

Structural steel in end bents shall be ASTM A709, Gr. 50W and shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)".

For additional information, see Layout.

NOTE:
No portion of the backwall shall be poured until the girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the adjacent deck pour has been made. See Std. Dwg. No. 55008, "EXPANSION DEVICE INSTALLATION AT END BENTS", for additional information.

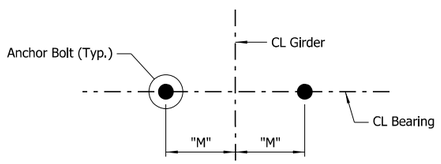
No heavy construction equipment shall be allowed within 10' of the backwall until the deck concrete placement for the adjacent span has been completed.

LEGEND

EF = Each Face
FF = Front Face
BF = Back Face

TABLE OF VARIABLES (END BENT NOS. 1 & 7)

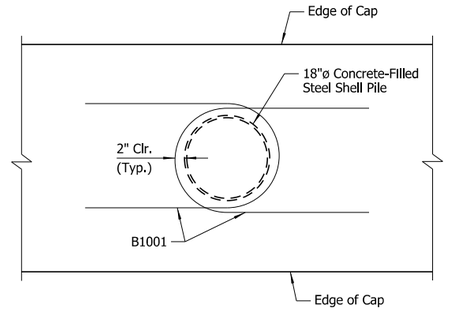
Location	"A"	"B"	"C"	"D"	"E"	"F"
End Bent No. 1	216.36	216.37	216.10	216.11	216.00	211.72
End Bent No. 7	216.74	216.75	216.48	216.49	216.32	212.11



TYPICAL ANCHOR BOLT LAYOUT

No Scale

NOTE:
For details of Elastomeric Bearings, see Dwg. No. 68722.



PLAN OF B1001 PLACEMENT

No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21243
COLTON S. WYLIE

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF END BENTS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: DEC. 2024 FILENAME: b110861_a1.dgn
CHECKED BY: CSW DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: CSW DATE: DEC. 2024

BRIDGE NO. 07696 DRAWING NO. 68714

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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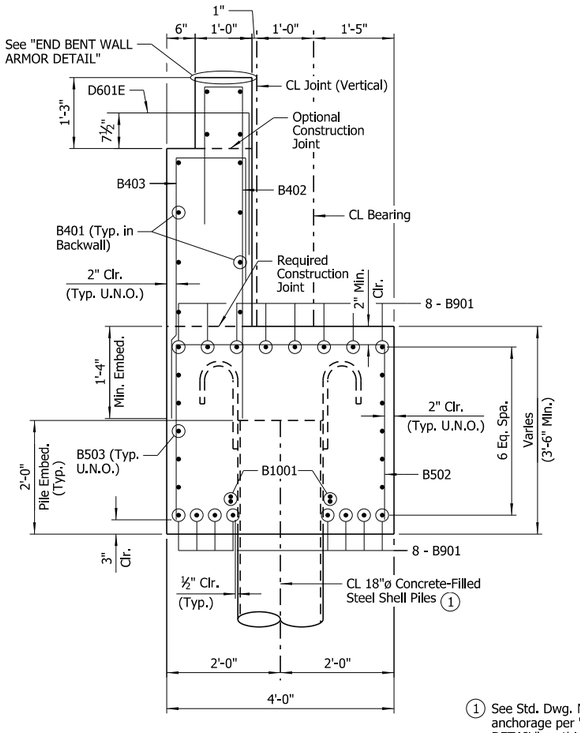
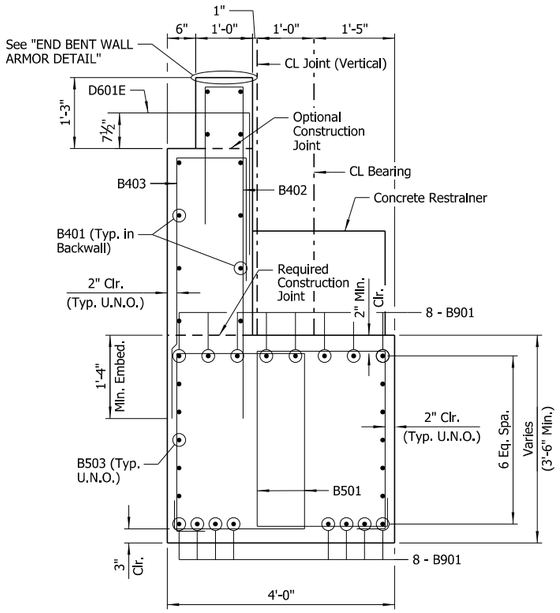
		07696		END BENTS		68715



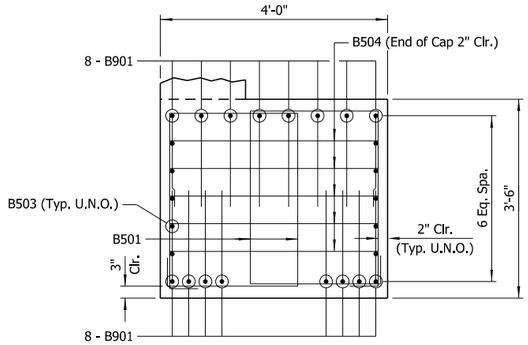
SECTION A-A

Scale: ¾" = 1'-0"



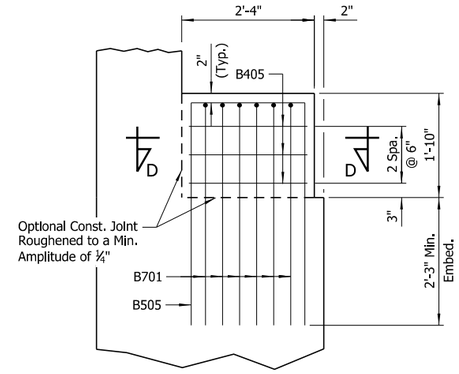
SECTION B-B

Scale: ¾" = 1'-0"



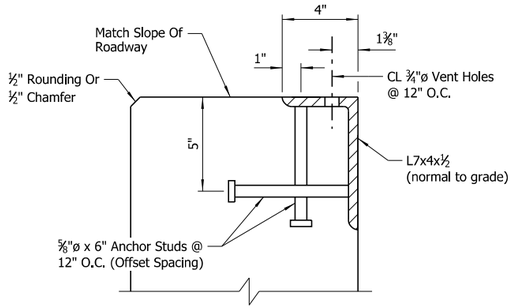
VIEW C-C

Scale: ¾" = 1'-0"



ELEVATION - CONCRETE RESTRAINER

Scale: ¾" = 1'-0"



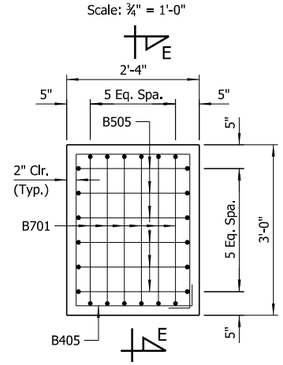
NOTES:
Transverse spacing between vertical anchor studs and vent holes shall be 6".

Concrete shall be hand packed under joint armor.

Special care shall be taken to properly and thoroughly consolidate the concrete in the vicinity of the expansion joint device in the backwall. See Section 802.09(a)(3).

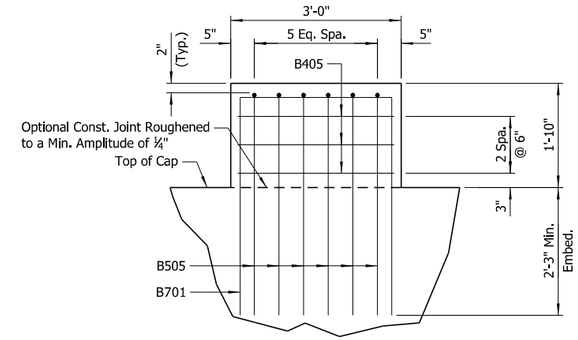
END BENT WALL ARMOR DETAIL

No Scale



SECTION D-D

Scale: ¾" = 1'-0"



SECTION E-E

Scale: ¾" = 1'-0"

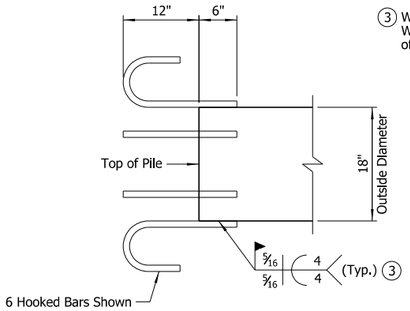
LEGEND

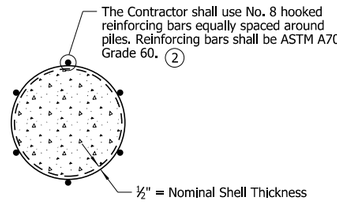
U.N.O. = Unless Noted Otherwise

(1) See Std. Dwg. No. 55021 for details of piles. Pile anchorage per "ALTERNATE PILE ANCHORAGE DETAIL" on this drawing shall be required. Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap.

(2) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap.

(3) Welding shall comply with ANSI/AWS D1.4 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D1.5 Bridge Welding Code.





6 HOOKED BARS

ALTERNATE PILE ANCHORAGE DETAIL

No Scale

NOTES:
Hooked bars shall be oriented to provide the required concrete clearances.

See Std. Dwg. No. 55021 for details of piles.

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SHEET 2 OF 3
DETAILS OF END BENTS
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: DEC. 2024 FILENAME: b110861_a2.dgn
CHECKED BY: CSW DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: CSW DATE: DEC. 2024
BRIDGE NO. 07696 DRAWING NO. 68715

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WORKSPACE\ARDOT Bridge (2019)
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REVISED DATE:

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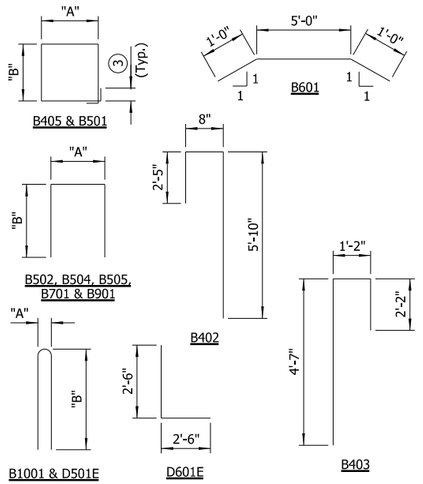
		6	ARK.	110861	28	49
		07696		END BENTS		68716

BAR LIST (EACH END BENT)

MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
B401	12	28'-2"			Str.
B402	18	8'-9"			2"
B403	35	7'-9"			2"
B404	6	6'-2"			Str.
B405	6	9'-8"	2'-0"	2'-8"	2"
B501	134	11'-2"	2'-3"	3'-1"	2½"
B502	16	9'-7"	3'-8"	3'-1"	2½"
B503	10	27'-10"			Str.
B504	10	7'-3"	3'-6"	2'-0"	2½"
B505	12	9'-7"	1'-11"	3'-11"	2½"
B601	26	7'-0"			4½"
B701	12	10'-1"	2'-7"	3'-11"	5¼"
B901	16	30'-9"	28'-0½"	1'-7¼"	9"
B1001	8	7'-8"	2'-0 9/16"	3'-4"	1'-10"
D501E	16	6'-4"	5"	3'-1"	3¾"
D601E	23	4'-10"			4½"
R401E	40	6'-4"			2½", 3"
R402E	8	5'-6"			Str.
R404E	16	9'-8"			Str.
W401E	40	3'-11"			3¾"
W402	80	7'-5"			Str.
W701	64	9'-8"			Str.

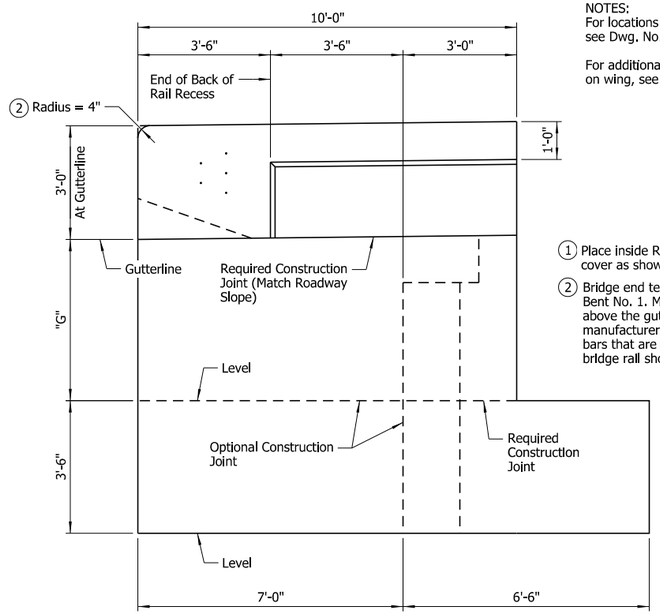
BAR BENDING DIAGRAMS



NOTES:
Dimensions of bars are out-to-out.

Bars designated with "E" suffix shall be epoxy coated.

For bar bending diagrams of R401E & W401E, see Std. Dwg. No. 55070.



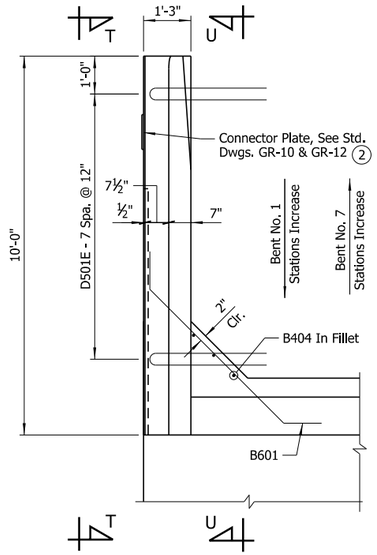
VIEW T-T
Scale: ½" = 1'-0"

NOTES:
For locations of "VIEW T-T" & "SECTION U-U", see Dwg. No. 68714.

For additional details of the bridge traffic rail on wing, see Std. Dwg. No. 55070.

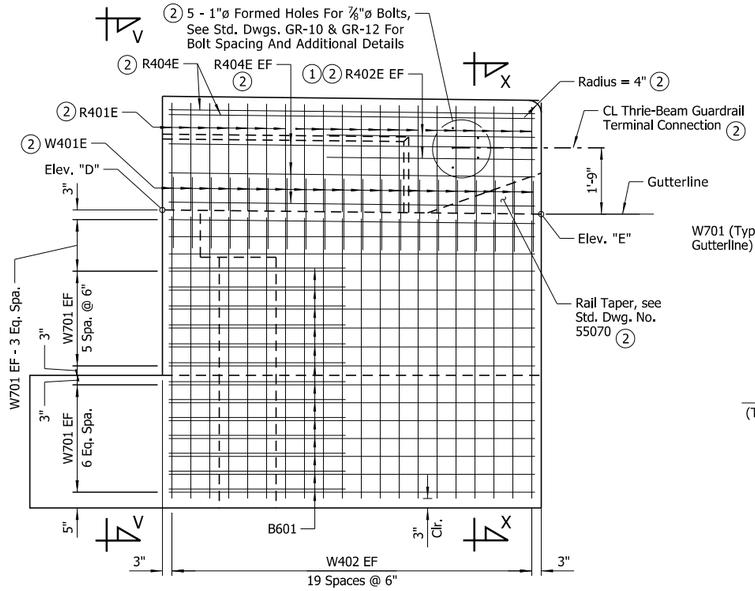
① Place inside R401E bars positioned with 2" end cover as shown.

② Bridge end terminal is required at end of bridge rail at Bent No. 1. Modify the bridge rail and connection detail above the gutterline at Bent No. 1 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.



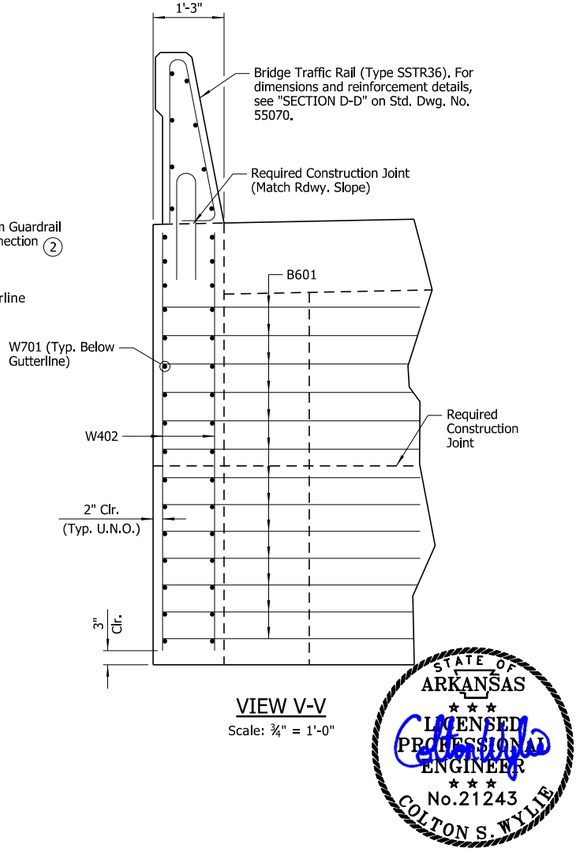
PLAN OF RAIL
Scale: ½" = 1'-0"

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

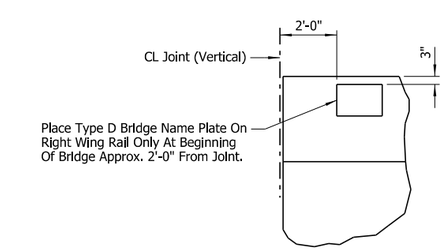


SECTION U-U
Scale: ½" = 1'-0"

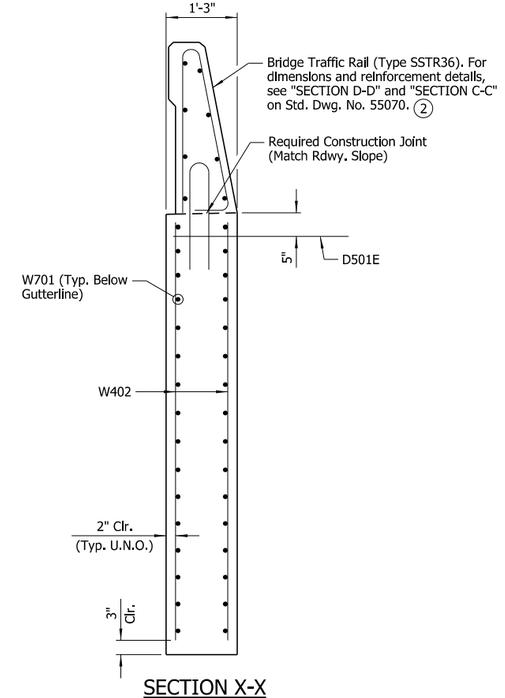
③ 4½" (B405) or 6" (B501)



VIEW V-V
Scale: ¾" = 1'-0"



VIEW SHOWING LOCATION OF NAME PLATE
No Scale



SECTION X-X
Scale: ¾" = 1'-0"

TABLE OF VARIABLES

Bent No.	"D"	"E"	"G"
1	216.11	216.00	4'-3⅜"
7	216.49	216.32	4'-2½"

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

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REVISED DATE:

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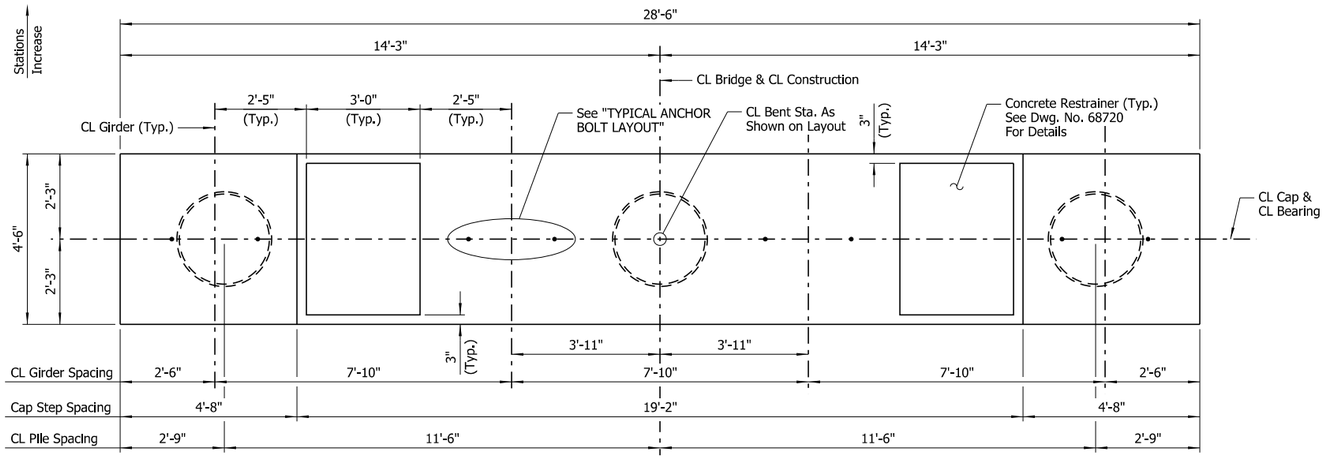


PLAN - BENT NOS. 2, 3, 5 & 6

Scale: ½" = 1'-0"

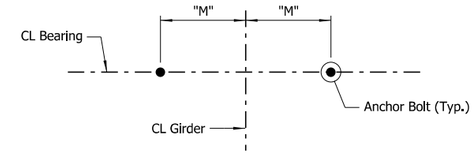
INTERMEDIATE BENT NOTES:
Concrete shall be Class S except that the coarse aggregate size shall meet AASHTO M 43, Size 67 (¾" Max.). Concrete shall have a minimum 28-day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners shall be chamfered ¾" unless noted otherwise.

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

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

For "VIEW A-A", "SECTION B-B" & "SECTION C-C", see Dwg. No. 68719.

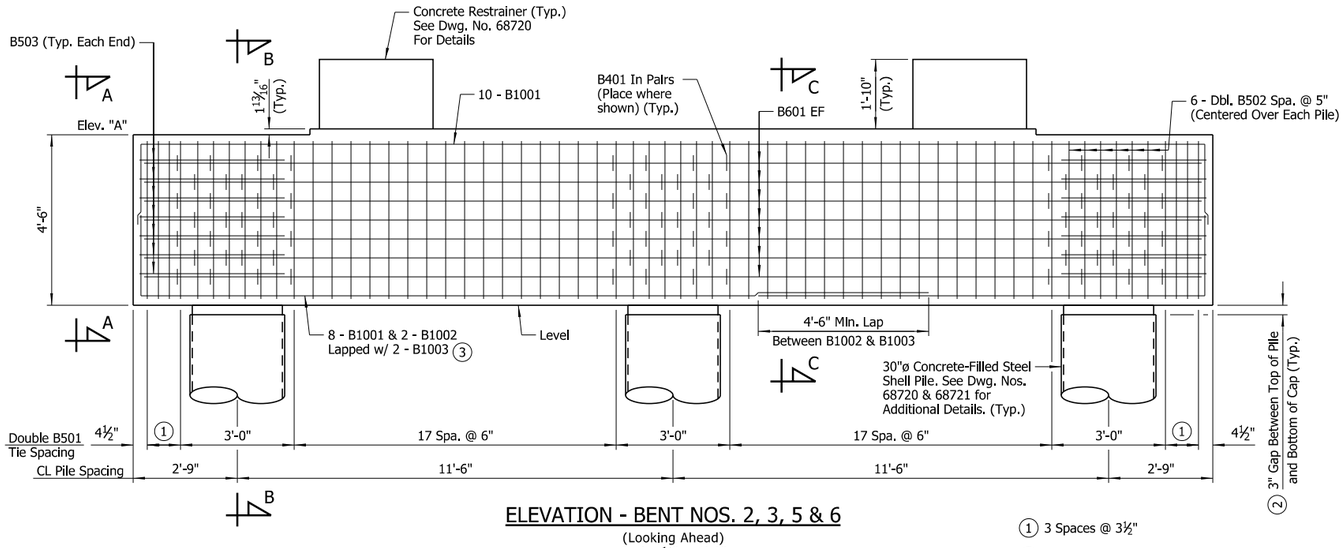
For additional information, see Layout on Dwg. No. 68711.



TYPICAL ANCHOR BOLT LAYOUT

No Scale

NOTE:
For details of Elastomeric Bearings, see Dwg. No. 68722.



ELEVATION - BENT NOS. 2, 3, 5 & 6

(Looking Ahead)
Scale: ½" = 1'-0"

TABLE OF VARIABLES	
BENT NO.	"A"
2	212.78
3	213.72
5	214.08
6	213.41

LEGEND

EF = Each Face

(1) 3 Spaces @ 3½"

(2) Gap between top of pile and bottom of cap shall be 3"±1".

(3) B1001 bars in 2-bar bundles. See Sections on Dwg. No. 68719.

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SHEET 1 OF 5
DETAILS OF INTERMEDIATE BENTS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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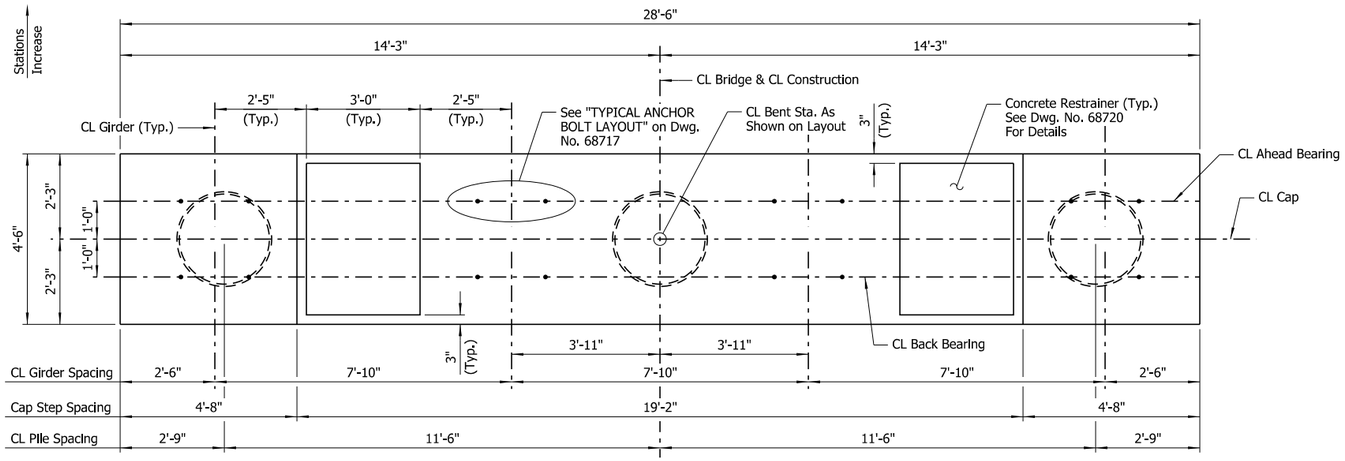
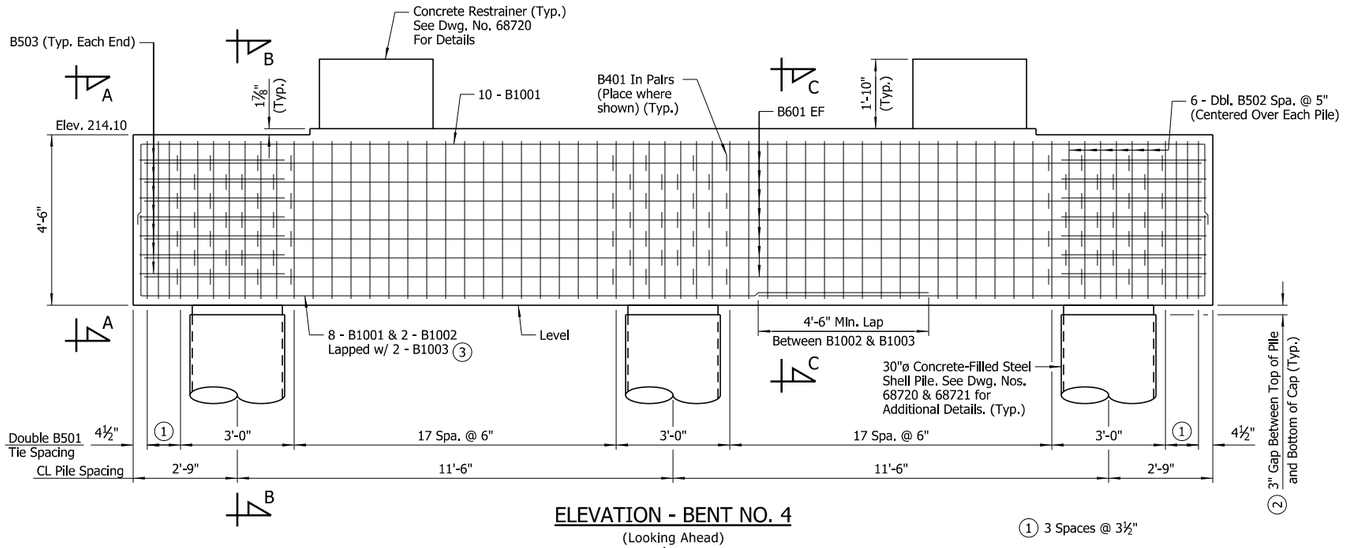


PLAN - BENT NO. 4

Scale: ½" = 1'-0"



ELEVATION - BENT NO. 4

(Looking Ahead)

Scale: ½" = 1'-0"

NOTE:
For "INTERMEDIATE BENT NOTES," see Dwg. No. 68717.

LEGEND

EF = Each Face

(1) 3 Spaces @ 3½"

(2) Gap between top of pile and bottom of cap shall be 3"±1".

(3) B1001 bars in 2-bar bundles. See Sections on Dwg. No. 68719.

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BRIDGE ENGINEER

SHEET 2 OF 5
DETAILS OF INTERMEDIATE BENTS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	CWT	DATE:	DEC. 2024	FILENAME:	b110861_b2.dgn
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DESIGNED BY:	CSW	DATE:	DEC. 2024		

BRIDGE NO. 07696 DRAWING NO. 68718

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REVISED DATE:

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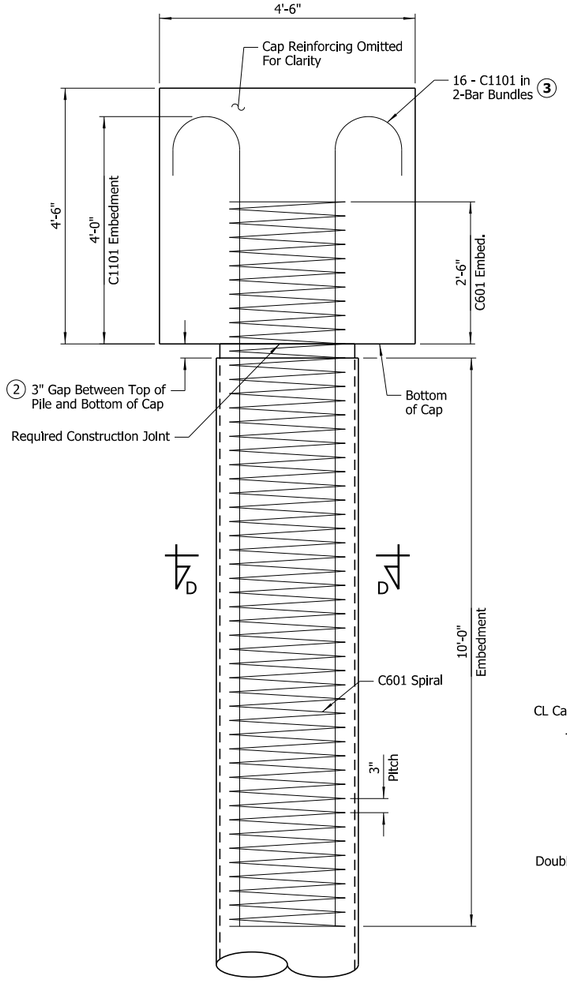
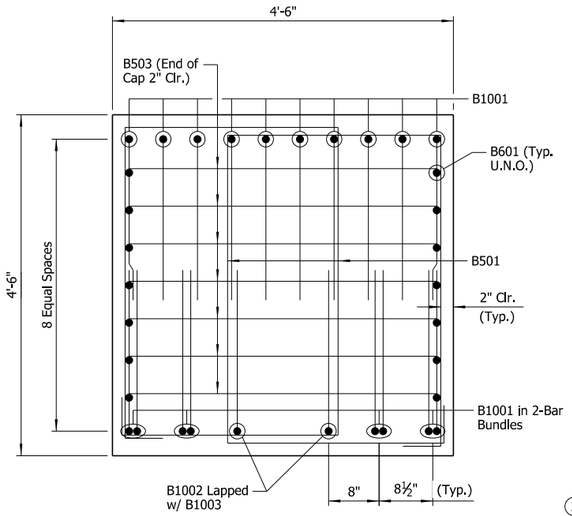
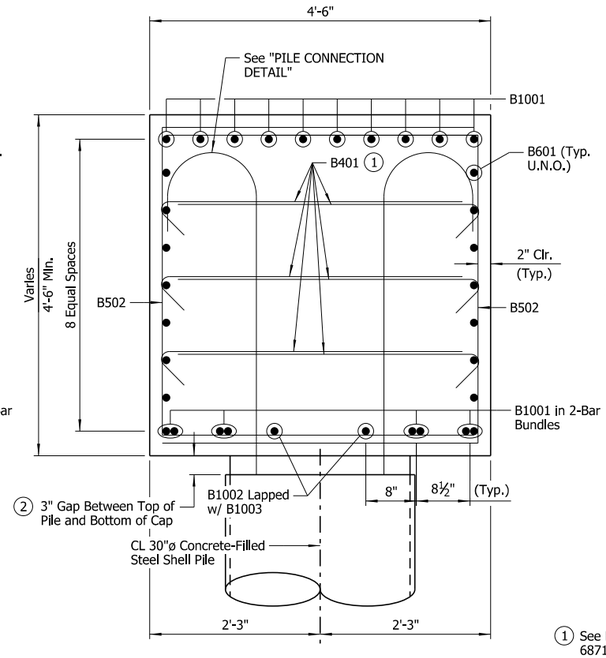


END VIEW
Scale: ¾" = 1'-0"

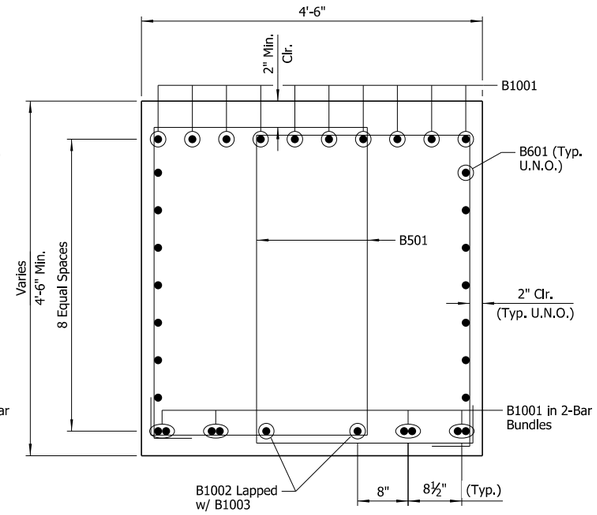


VIEW A-A
Scale: 1" = 1'-0"

(3) **ASTM A706, Grade 60 reinforcing steel required.**



SECTION B-B
Scale: 1" = 1'-0"



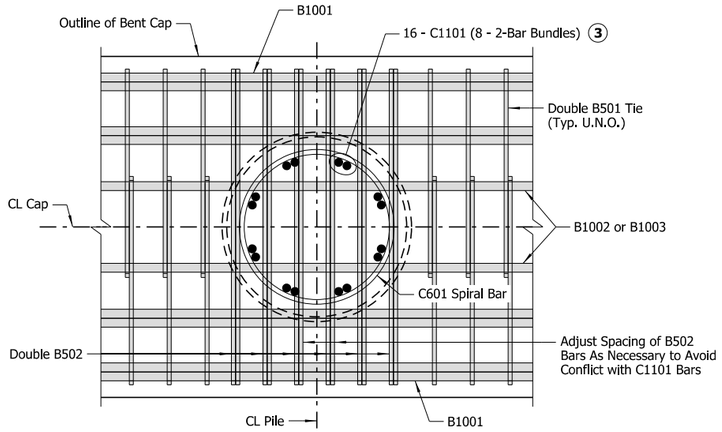
SECTION C-C
Scale: 1" = 1'-0"

(1) See Elevation views on Dwg. Nos. 68717 & 68718 for locations and spacing.

(2) Gap between top of pile and bottom of cap shall be 3"±1".

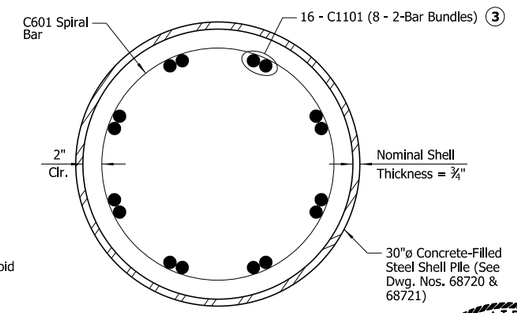
LEGEND

U.N.O. = Unless Noted Otherwise



NOTE:
Place C1101 Bars as shown to facilitate placement of cap reinforcement. Only bottom mat of cap reinforcement shown.

PLAN
Scale: 1" = 1'-0"



SECTION D-D
Scale: 1½" = 1'-0"

PILE CONNECTION DETAIL

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DETAILS OF INTERMEDIATE BENTS
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LITTLE ROCK, ARK.

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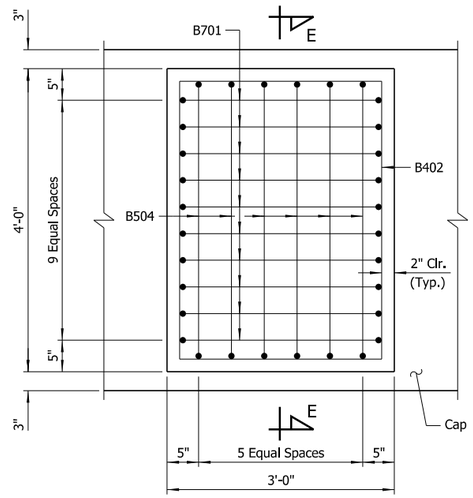
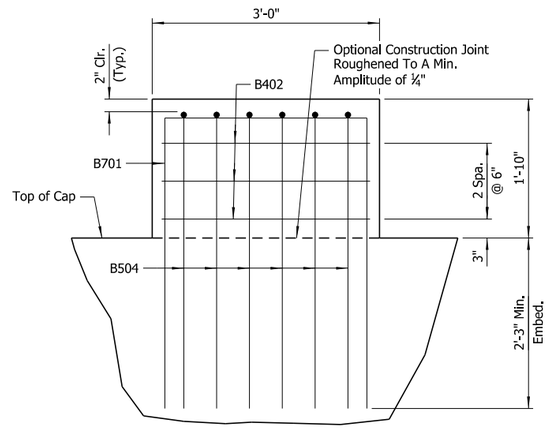
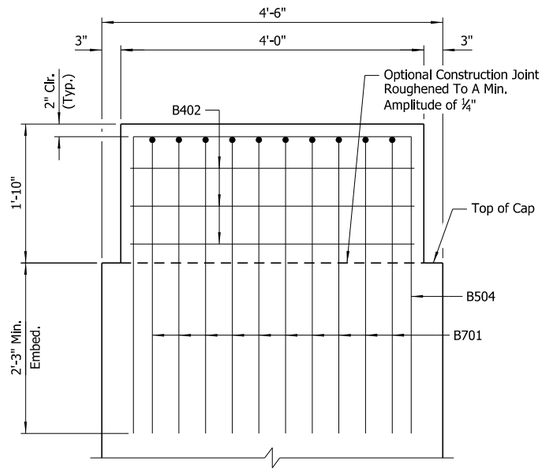


PLAN



ELEVATION
(Looking Ahead)



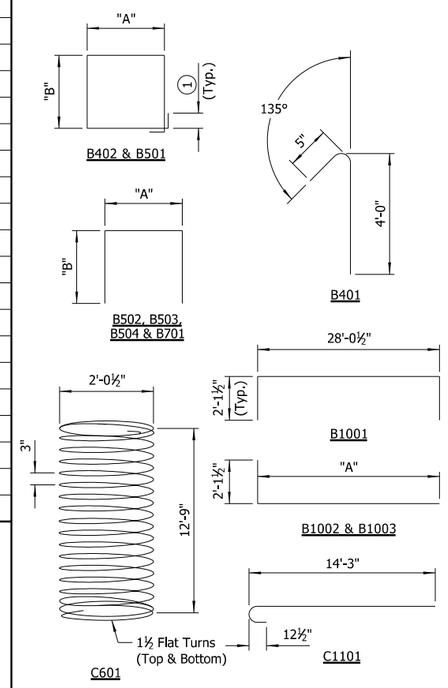
SECTION E-E
Scale: 1" = 1'-0"

CONCRETE RESTRAINER DETAIL
Scale: 1" = 1'-0"

BAR LIST (PER BENT)					
MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
B401	168	4'-6"			3"
B402	6	13'-0"	2'-8"	3'-8"	2"
B501	88	14'-7"	2'-10½"	4'-2"	2½"
B502	36	12'-3"	4'-2"	4'-2"	2½"
B503	14	11'-5"	4'-0"	3'-10"	2½"
B504	12	11'-3"	3'-7"	3'-11"	2½"
B601	14	27'-9"			Str.
B701	20	10'-1'	2'-7"	3'-11"	5¼"
B1001	18	31'-8"			10"
B1002	2	22'-8"	20'-10"		10"
B1003	2	13'-8"	11'-10"		10"
C601	3	335'-10"			23"
② C1101	48	15'-9"			11¼"

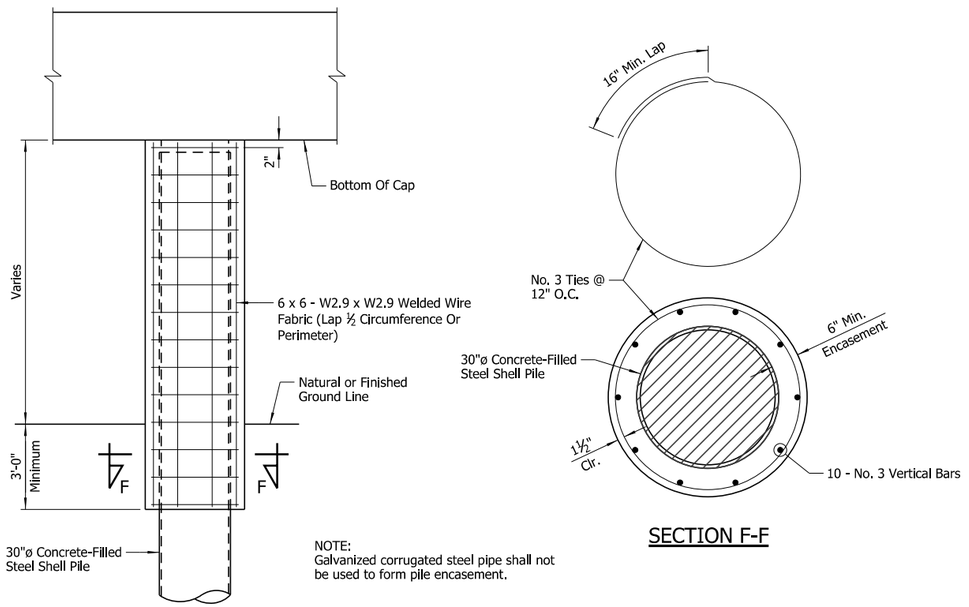
② **Bars C1101 shall be ASTM A706, Grade 60.**

BAR BENDING DIAGRAMS



NOTE:
Dimensions of bars are out-to-out.

① 4½" (B402) or 6" (B501)



SECTION F-F

NOTE:
Galvanized corrugated steel pipe shall not be used to form pile encasement.

PILE ENCASEMENT DETAIL FOR 30" STEEL SHELL PILES
No Scale

GENERAL NOTES FOR PILE ENCASEMENTS:

See Bridge Layout for additional notes and required locations of pile encasements.

Concrete shall be Class S with a minimum 28-day compressive strength f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

Welded wire fabric shall conform to AASHTO M 55 or M 221.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe shall not be paid for directly but shall be considered subsidiary to the item "PILE ENCASEMENT".

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SHEET 4 OF 5
DETAILS OF INTERMEDIATE BENTS
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BRIDGE NO. 07696 DRAWING NO. 68720

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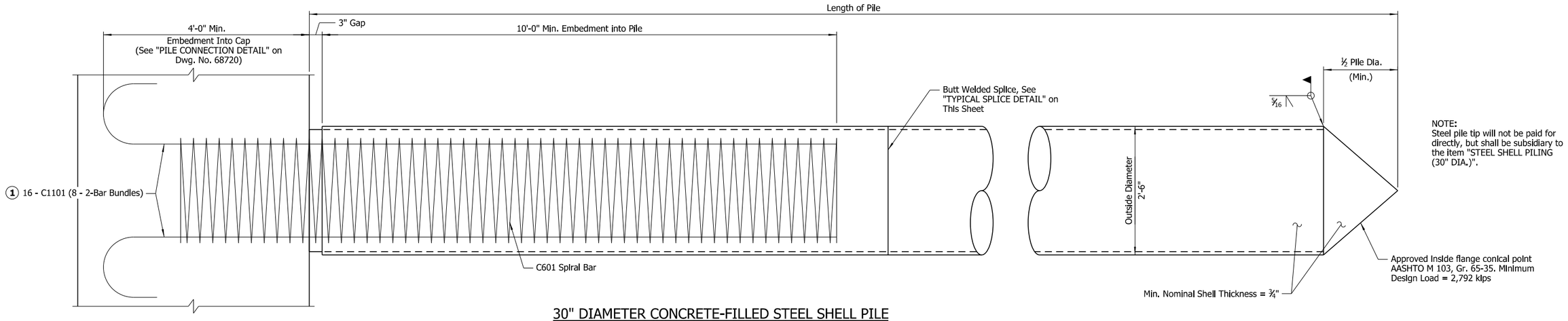
		07696		INT. BENTS		68721

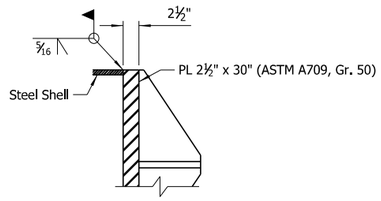


NOTE:
Steel pile tip will not be paid for directly, but shall be subsidiary to the item "STEEL SHELL PILING (30" DIA.)".

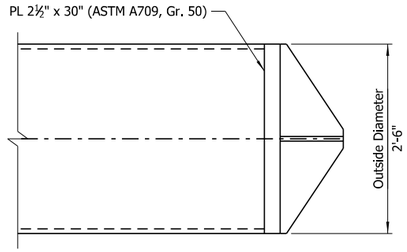
30" DIAMETER CONCRETE-FILLED STEEL SHELL PILE

Scale: 1" = 1'-0"

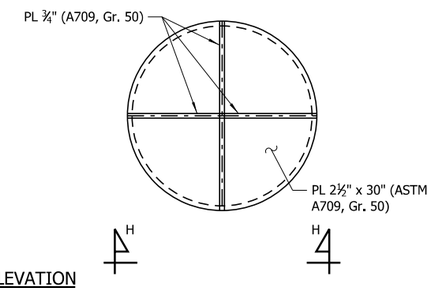
1 **ASTM A706, Grade 60 reinforcing steel required.**

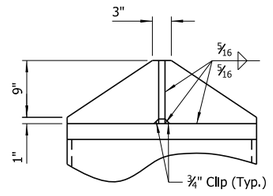


PART SECTION



ELEVATION

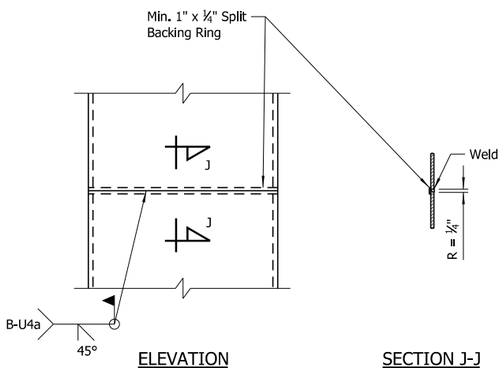




VIEW H-H

ALTERNATE VANED TIP DETAIL FOR 30" PIPE

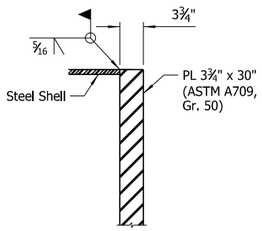
Scale: 1" = 1'-0"



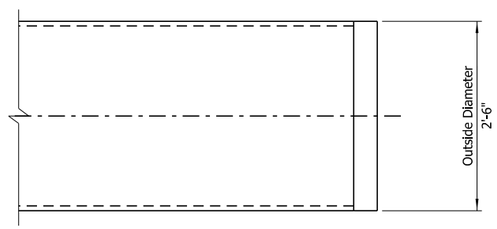
ELEVATION SECTION J-J

TYPICAL SPLICE DETAIL

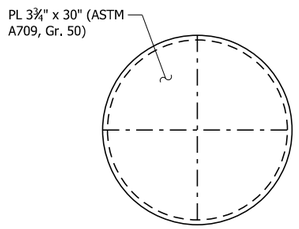
Scale: 1" = 1'-0"



PART SECTION



ELEVATION



ALTERNATE FLAT TIP DETAIL FOR 30" PIPE

Scale: 1" = 1'-0"

GENERAL NOTES - 30" CONCRETE-FILLED STEEL SHELL PILES

Steel shells shall conform to ASTM A252, Grade 3 (Fy = 45,000 psi), and shall have a wall thickness of ¾".

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi and shall be poured in the dry. Shrinkage at 28 days shall be less than 0.032 percent in accordance with AASHTO T160. Approved admixtures may be used to obtain desired workability, shrinkage and early strength gain. See SP "CONCRETE FILL FOR LARGE DIA. STEEL SHELL PILES" for additional information.

Unless noted otherwise, reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A with mill test reports.

Steel shell piling shall be encased with concrete in accordance with "PILE ENCASEMENT DETAIL FOR 30" STEEL SHELL PILES" on Dwg. No. 68720.

See Bridge Layout for size and estimated length of steel shell piles and for driving information.

Concrete and structural steel shall not be paid for directly, but shall be considered subsidiary to the item "STEEL SHELL PILING (30" DIA.)".

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21243
COLTON S. WYLIE

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 5 OF 5
DETAILS OF INTERMEDIATE BENTS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

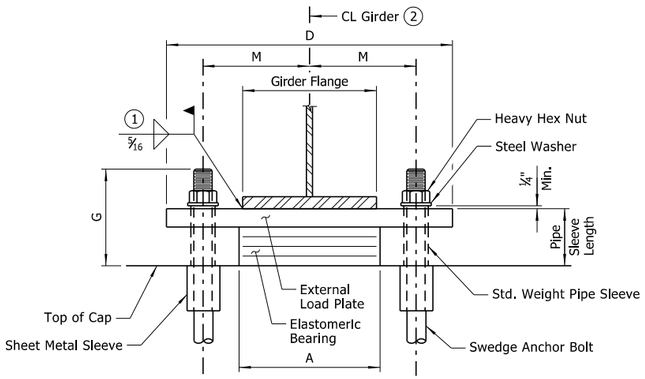
DRAWN BY: HEW DATE: DEC. 2024 FILENAME: b110861_b5.dgn
CHECKED BY: CSW DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: CSW DATE: DEC. 2024
BRIDGE NO. 07696 DRAWING NO. 68721

CSWylie
WORKSPACE(ARDOT Bridge (2019))
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S214_BE.dgn
2/28/2025 10:46:19 AM
REVISED DATE:

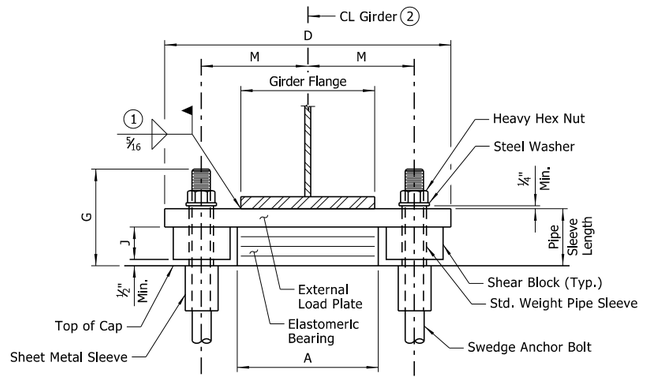
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	34	49
		07696	ELASTOMERIC BEARINGS			68722

TABLE OF FABRICATOR VARIABLES

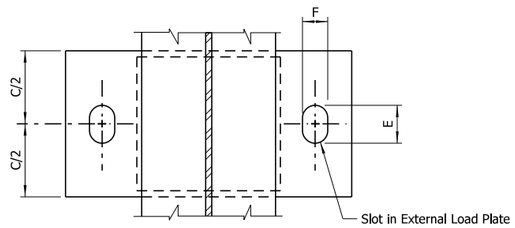
Location		Bearing Type	No. Of Bearings Each Bent	③ Maximum Design Load (Kips)	Elastomeric Pad						External Load Plate									Anchor Bolt				
Bent No.	Girder No.				G	H	A	B	N	t_i	t_e	No. & Thickness Of Steel Laminae	T	C	D	E	F	J	K	M	T_a	T_b	Anchor Bolt (Dia. x L)	Anchor Bolt Grade	Pipe Sleeve Size (Dia. x L)	Sheet Metal Sleeve Size (Dia. x L)	Steel Washer Size (O.D.)
1	All	Exp.	4	127	9 3/16"	6 3/16"	16"	9"	6	½"	¼"	7 @ 12 Ga.	4¼"	10"	27½"	4¾"	2⅝"	-	½"	10¾"	2.06"	1.95"	1¾" x 29"	55	2" x 6 7/16"	4" x 7"	3⅜"
2	All	Fixed	4	274	7 11/16"	4 15/16"	18"	12"	4	½"	¼"	5 @ 12 Ga.	3"	13"	35½"	2¼"	2¼"	2 7/16"	½"	13⅜"	2.07"	1.93"	1½" x 25"	55	1½" x 5 3/16"	3" x 7"	3"
3	All	Fixed	4	274	7 11/16"	4 15/16"	18"	12"	4	½"	¼"	5 @ 12 Ga.	3"	13"	35½"	2¼"	2¼"	2 7/16"	½"	13⅜"	2.05"	1.95"	1½" x 25"	55	1½" x 5 3/16"	3" x 7"	3"
4 Back	All	Exp.	4	127	9 3/16"	6 3/16"	16"	9"	6	½"	¼"	7 @ 12 Ga.	4¼"	10"	27½"	4¾"	2⅝"	-	½"	10¾"	2.01"	1.99"	1¾" x 29"	55	2" x 6 7/16"	4" x 7"	3⅜"
4 Ahead	All	Exp.	4	127	9¼"	6¼"	16"	9"	6	½"	¼"	7 @ 12 Ga.	4¼"	10"	27½"	4¾"	2⅝"	-	½"	10¾"	2.06"	2.04"	1¾" x 29"	55	2" x 6½"	4" x 7"	3⅜"
5	All	Fixed	4	274	7 11/16"	4 15/16"	18"	12"	4	½"	¼"	5 @ 12 Ga.	3"	13"	35½"	2¼"	2¼"	2 7/16"	½"	13⅜"	1.97"	2.03"	1½" x 25"	55	1½" x 5 3/16"	3" x 7"	3"
6	All	Fixed	4	274	7 11/16"	4 15/16"	18"	12"	4	½"	¼"	5 @ 12 Ga.	3"	13"	35½"	2¼"	2¼"	2 7/16"	½"	13⅜"	1.93"	2.07"	1½" x 25"	55	1½" x 5 3/16"	3" x 7"	3"
7	All	Exp.	4	127	9 3/16"	6 3/16"	16"	9"	6	½"	¼"	7 @ 12 Ga.	4¼"	10"	27½"	4¾"	2⅝"	-	½"	10¾"	1.92"	2.08"	1¾" x 29"	55	2" x 6 7/16"	4" x 7"	3⅜"



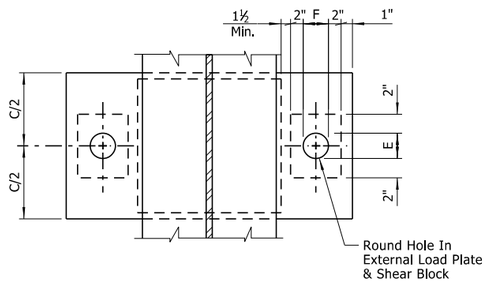
FRONT VIEW - AT BENT NOS. 1, 4 & 7



FRONT VIEW - AT BENT NOS. 2, 3, 5 & 6

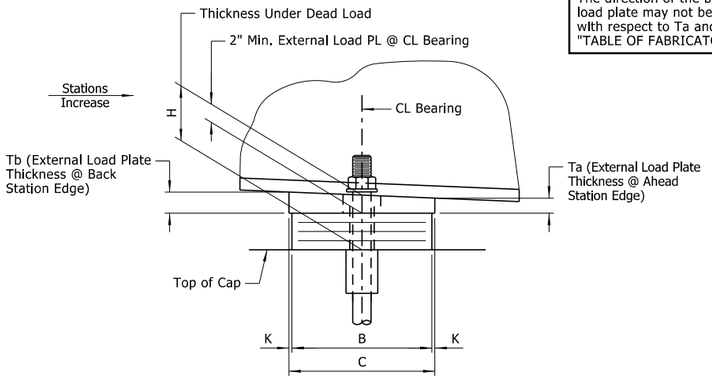


PLAN VIEW - AT BENT NOS. 1, 4 & 7

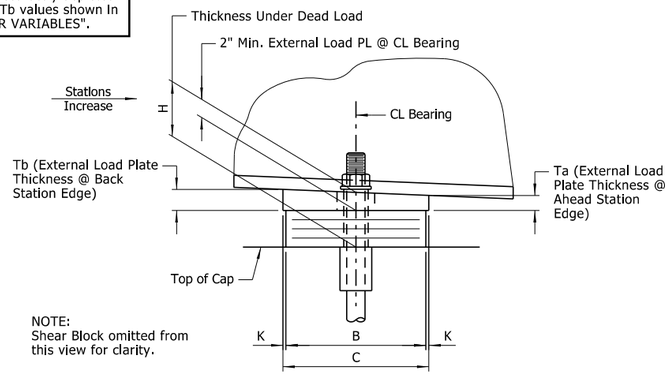


PLAN VIEW - AT BENT NOS. 2, 3, 5 & 6

The direction of the bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in "TABLE OF FABRICATOR VARIABLES".

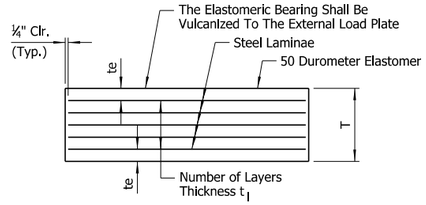


SIDE VIEW - AT BENT NOS. 1, 4 & 7



NOTE:
Shear Block omitted from this view for clarity.

SIDE VIEW - AT BENT NOS. 2, 3, 5 & 6



t_e = Thickness Of Elastomer Cover On Top And Bottom Of Pad
t_i = Thickness Of Elastomer Between Steel Laminae
N = Number Of Elastomer Layers Of Thickness t_i

ELASTOMERIC BEARING

① Care shall be taken to ensure that the external load plate is in full and complete contact with the girder flange before welding begins. Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder 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.

② CL elastomeric pad shall be aligned with CL girder.

③ Maximum Design Load (Kips) = LRFD Service I Limit State

GENERAL NOTES

Elastomeric bearings shall conform to Section 808 and shall be paid for at the unit price bid for "ELASTOMERIC BEARINGS".

External load plates and shear blocks shall conform to ASTM A709, Grade 50W. Pipe sleeves shall be ASTM A500, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or ASTM B695, Class 50.

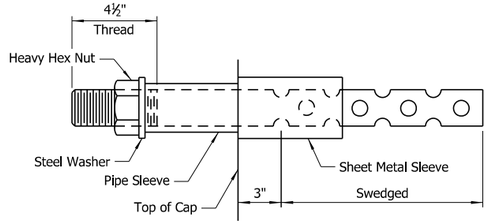
External load plates and shear blocks shall be completely fabricated (including bevel, bolt holes and all shop welding) and shall be cleaned before vulcanizing to the elastomeric bearing. The surfaces in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808.03. Other surfaces shall be blast cleaned in accordance with Subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor bolts, washers and nuts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "TABLE OF FABRICATOR VARIABLES". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe sleeves, anchor bolts, washers and nuts shall be paid for at the unit price bid for "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)". External load plates and shear blocks will not be measured or paid for separately but will be considered subsidiary to the unit price bid for "ELASTOMERIC BEARINGS".

Bearings shall be seated in accordance with Subsection 808.08. This work and materials are considered subsidiary to the Item "ELASTOMERIC BEARINGS" and will not be paid for directly.

Prior to erection of the girders, the Contractor shall verify the orientation of the bearings with respect to Ta and Tb.



ANCHOR BOLT DETAIL

NOTES:
Anchor bolts may be cast in place or drilled and grouted into place. If anchor bolts are to be cast in place, the galvanized sheet metal sleeves will not be required.

If anchor bolts are to be drilled and grouted in place, the galvanized sheet metal sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of structural steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the concrete. Bolts placed in drilled holes shall be accurately set and fixed using a QPL-approved epoxy or non-shrink grout that completely fills the holes. Galvanized sheet metal sleeves shall meet the requirements of ASTM A653, CS Type B or approved equivalent, be of minimum 16 gage thickness, and be galvanized according to ASTM B695, Class 50. Sheet metal sleeves will not be paid for directly but will be considered subsidiary to the item "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)".

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS

ROUTE SEC.

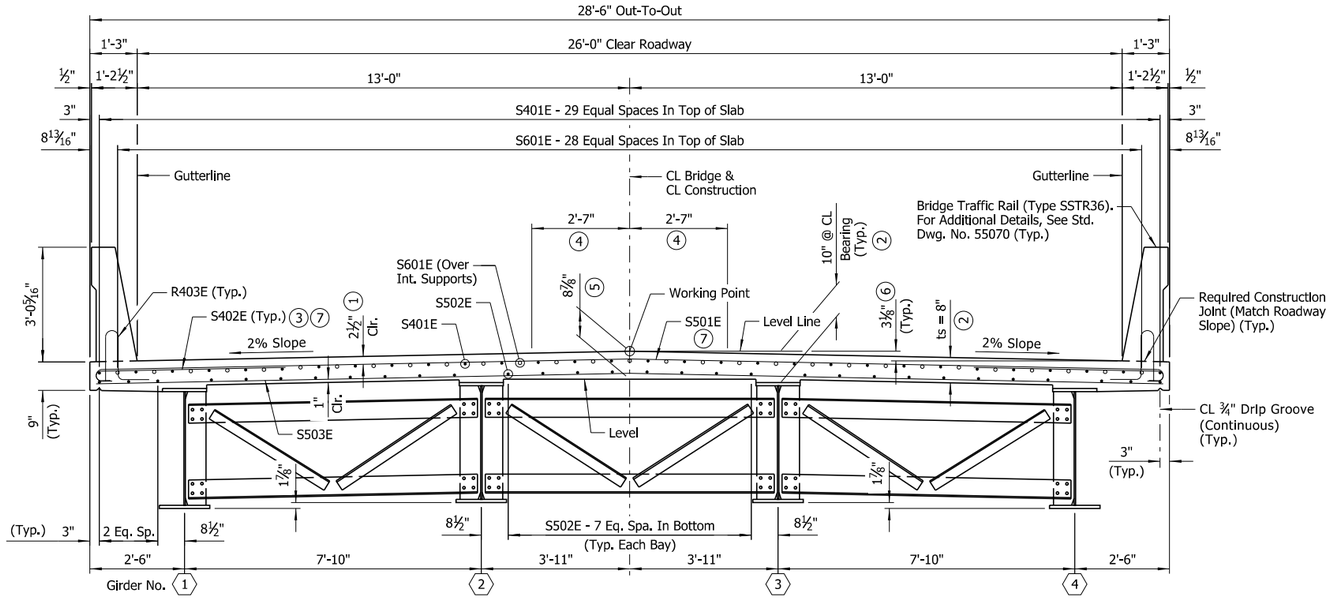
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: DEC. 2024 FILENAME: b110861_e1.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: No Scale
DESIGNED BY: SD DATE: DEC. 2024

BRIDGE NO. 07696 DRAWING NO. 68722

CSWylie
2/28/2025 10:46:20 AM
WORKSPACE\ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S301_BG.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	35	49
		07696		270'-0" UNIT		68723



TYPICAL ROADWAY SECTION

(Looking Ahead)
Scale: ½" = 1'-0"

SLAB REINFORCING;

Transverse: S501E @ 6" O.C. in Top
S503E @ 6" O.C. in Bottom
S402E @ 6" O.C. in Top of Overhangs
(Bundled With S501E Bars)

Longitudinal: S401E in Top (Placed as Shown)
S502E in Bottom (Placed as Shown)
S601E in Top (Placed as Shown over Int. Supports, see "PART REINFORCING PLAN & SLAB POURING SEQUENCE" on Dwg. No. 68730 for additional information)

NOTES:
For Standard General Notes and details, see Std. Dwg. Nos. 55006 & 55007.

Class 2 Protective Surface Treatment shall be applied to the roadway surface and 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 per Subsection 804.06. Placement of slab bolsters or high-chairs with full-length lower runners directly on removable deck forms will not be allowed.

All structural steel shall be ASTM A709, Gr. 50W unless noted otherwise, and all structural steel shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)".

For "BAR LIST" and "BAR BENDING DIAGRAMS", see Dwg. No. 68730.

(1) TOLERANCE:
Minus = ¼"
Plus = Amount of slab thickening used to meet slab thickness tolerance - See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.

(2) See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.

(3) Bundled with S501E bars in top.

(4) See "ROUNDING DETAIL" on Std. Dwg. No. 55007.

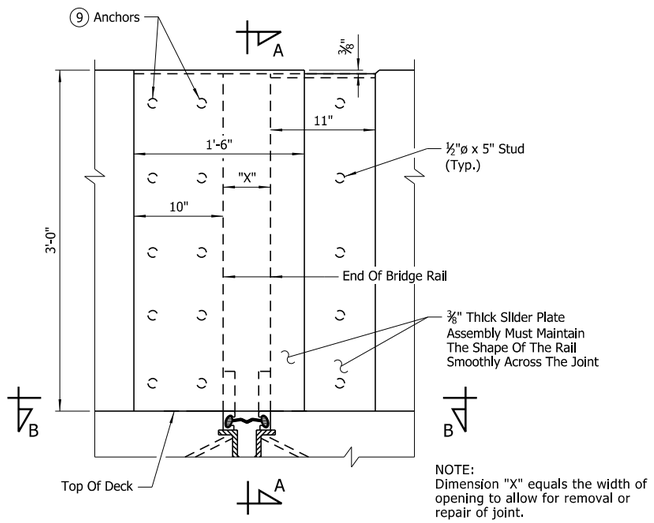
(5) Measured to Working Point, see "ROUNDING DETAIL" on Std. Dwg. No. 55007

(6) Measured from Working Point to Gutterline

(7) Rotate hook as needed to avoid interference with bottom mat of deck reinforcement.

(8) Slider plate details shown on this drawing shall be used in lieu of those shown on Std. Dwg. No. 55009.

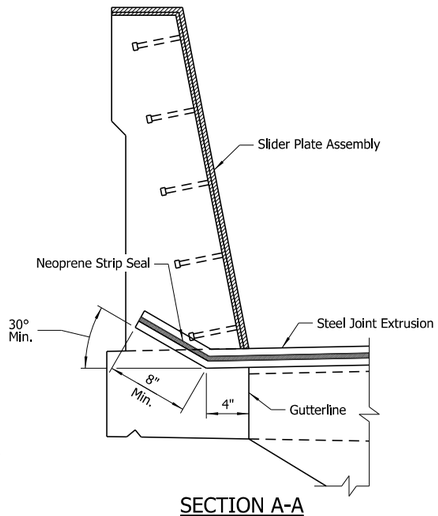
(9) The method of attachment of the slider plate assembly shall allow for removal to provide for future replacement of the neoprene seal. Anchors will not be paid for directly but will be considered subsidiary to "ARMORED JOINT WITH NEOPRENE STRIP SEAL". Method of installation and fabrication shall be determined by the manufacturer.



NOTE:
Dimension "X" equals the width of opening to allow for removal or repair of joint.

(8) DETAILS OF RAIL SLIDER PLATES AT BENT 4

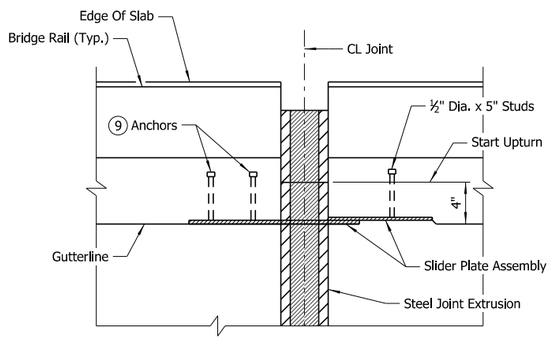
Scale: 1½" = 1'-0"



SECTION A-A

Scale: 1½" = 1'-0"

NOTE:
Details of joint turn-up in bridge rail are general and show basic design controls only. See Section 809. Method of installation and fabrication shall be determined by the manufacturer.



SECTION B-B

Scale: 1½" = 1'-0"

NOTE:
Symmetric about CL Bridge

NOTE:
For additional details of neoprene strip seal joint, see Std. Dwg. No. 55009.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 1 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

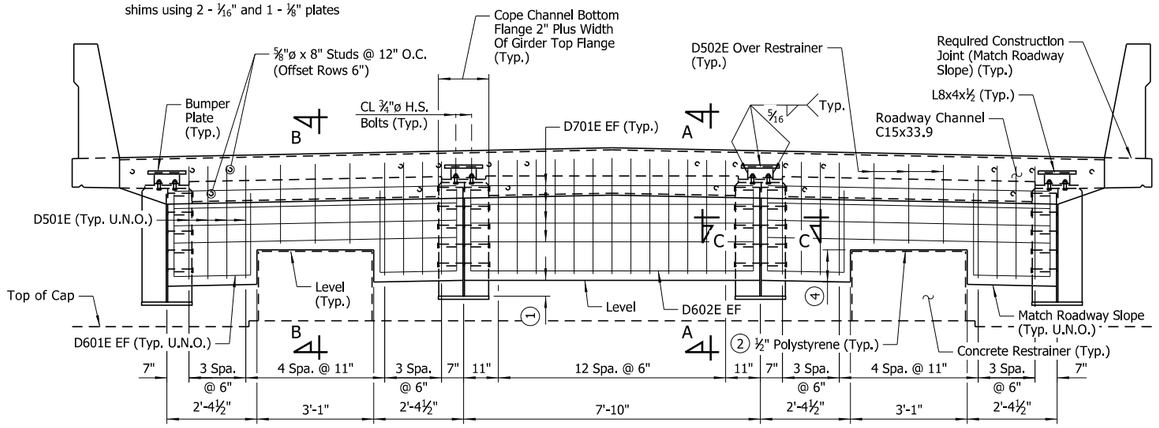
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: NOV. 2024 FILENAME: b110861_s1.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: NOV. 2024
BRIDGE NO. 07696 DRAWING NO. 68723

CSWylie
2/28/2025 10:46:21 AM
WORKSPACE\ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S401_SX.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	36	49
		07696		270'-0" UNIT		68724

EXPANSION DEVICE:
Rdwy. Channel: C15x33.9
Conn. Angles: L8x4x½
Detail device ⅛" high and provide ¼" shims using 2 - 1/16" and 1 - ⅛" plates

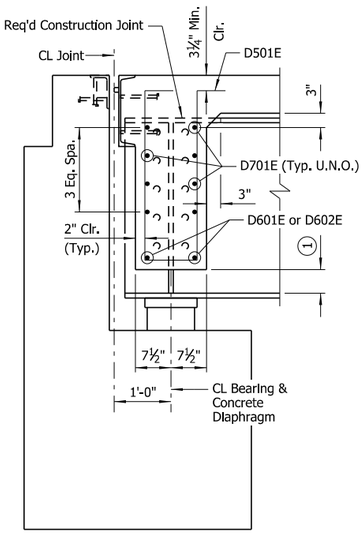


TYPICAL ROADWAY SECTION THRU JOINT

(Looking Ahead at End Bent No. 1, End Bent No. 7 Similar)
Scale: ½" = 1'-0"

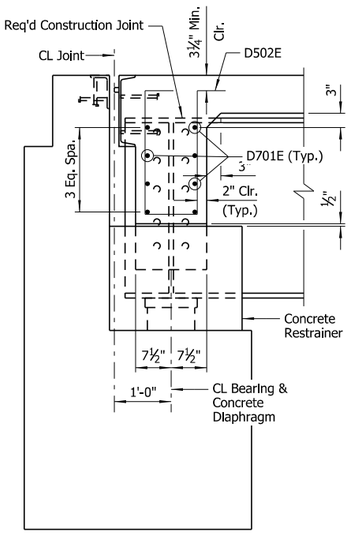
LEGEND

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



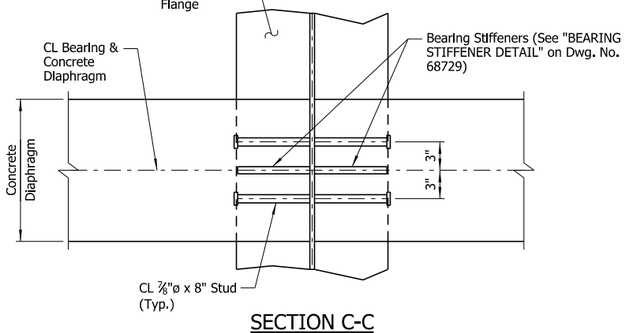
SECTION A-A

Scale: ¾" = 1'-0"



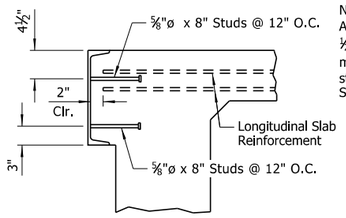
SECTION B-B

Scale: ¾" = 1'-0"



SECTION C-C

No Scale



NOTE:
As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced @ 8" O.C. may be used. Use weight of ⅝"ø stud as basis of measurement of Structural Steel in anchors.

DETAIL OF ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT

No Scale

NOTES:
Forms for concrete diaphragms shall be removable.

Prior to pouring concrete diaphragms, remove mill scale from steel surfaces to be in contact with concrete with a wire brush.

All concrete diaphragms shall be poured a minimum of 48 hours before the first deck pour.

All structural steel shall be ASTM A709, Gr. 50W unless noted otherwise, and all structural steel shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)".

For additional details of poured silicone joint, see Std. Dwg. No. 55008.

TABLE OF SILICONE JOINT DATA

Bent No(s).	"A" Width Perpendicular To Joint At 24-Hour Average Temperature ③ Of:			"B" Perpendicular To Joint At 60°F	Bumper Plate Size
	40°F	60°F	80°F		
1 & 7	2¼"	2"	1¾"	2¼"	1" x 1" x 12"

① 5" (Typ. @ Face of Web)

② ½" Polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place. Polystyrene will not be paid for directly but will be considered subsidiary to the item "CLASS S(AE) CONCRETE-BRIDGE".

③ The temperature used to set the joint opening shall be the approximate average air temperature during the 24-hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Interpolation of the table may be necessary.

④ 10½" Min. Overlap

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 2 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

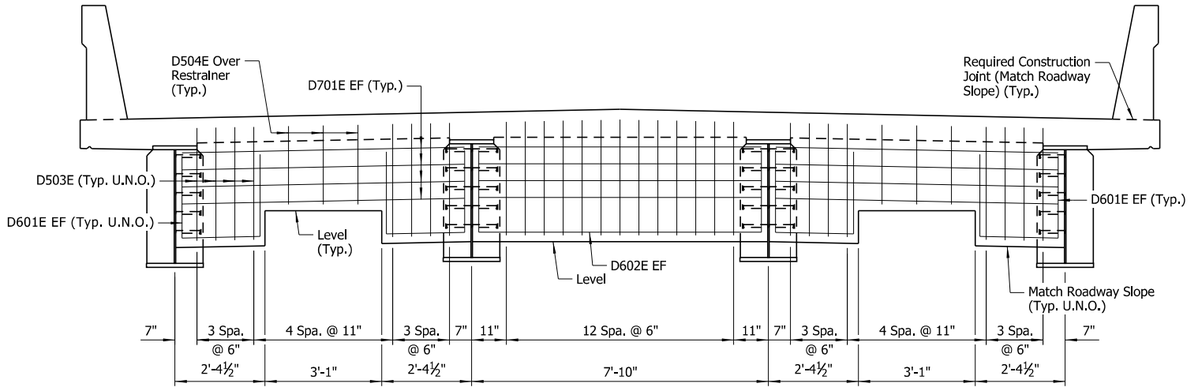
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: NOV. 2024 FILENAME: b110861_s2.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: NOV. 2024
BRIDGE NO. 07696 DRAWING NO. 68724

CSWylie 2/28/2025 10:46:21 AM
WORKSPACE\ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S402_SX.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	37	49
		07696		270'-0" UNIT		68725



TYPICAL SECTION AT BENT NOS. 2, 3, 5 & 6

(Looking Ahead)
Scale: ½" = 1'-0"

LEGEND

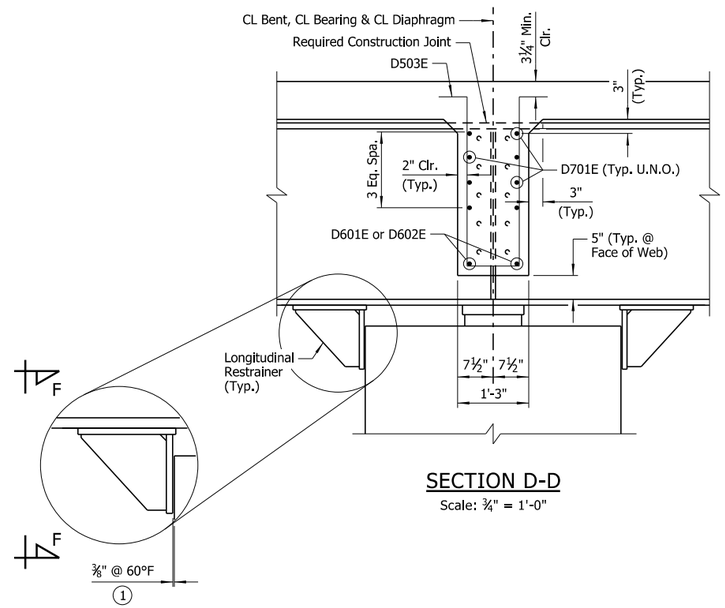
U.N.O. = Unless Noted Otherwise
EF = Each Face

NOTES:
Forms for concrete diaphragms shall be removable.

Prior to pouring concrete diaphragms, remove mill scale from steel surfaces to be in contact with concrete with a wire brush.

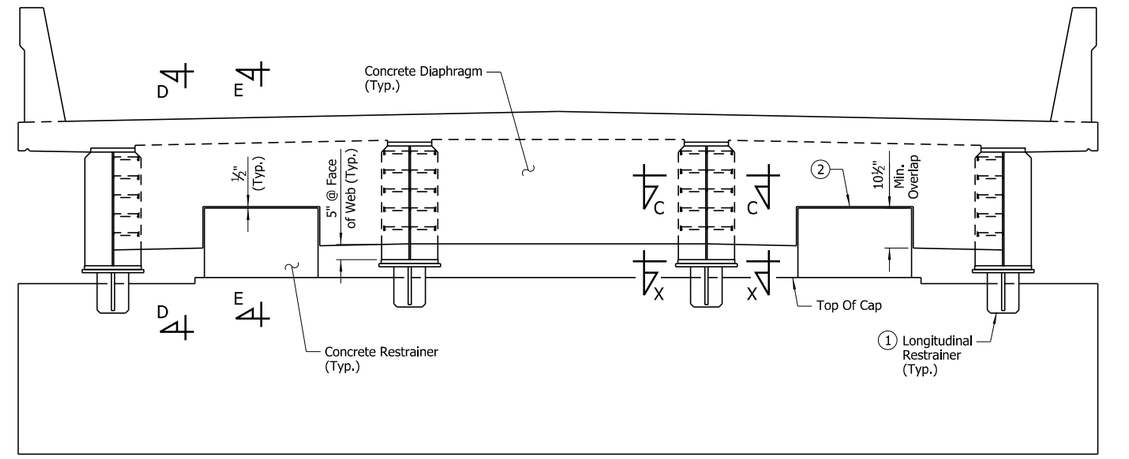
All concrete diaphragms shall be poured a minimum of 48 hours before the first deck pour.

For "SECTION C-C", see Dwg. No. 68724.



SECTION D-D

Scale: ¾" = 1'-0"

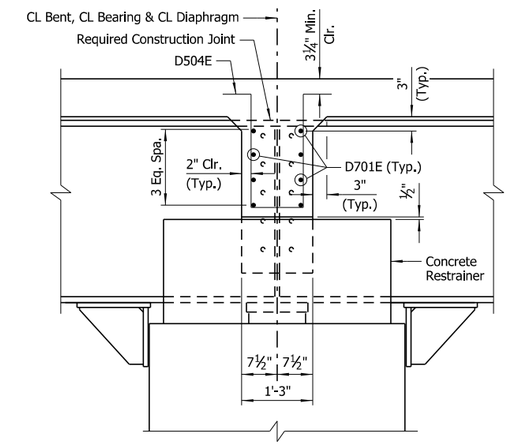


TYPICAL SECTION AT BENT NOS. 2, 3, 5 & 6 SHOWING RESTRAINERS

(Looking Ahead)
Scale: ½" = 1'-0"

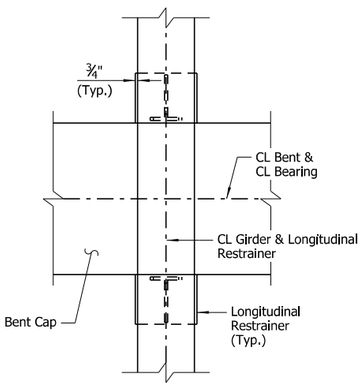
1 Field weld longitudinal restrainer after deck has been poured.

2 ½" Polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place. Polystyrene will not be paid for directly but will be considered subsidiary to the item "CLASS S(AE) CONCRETE-BRIDGE". (Typ.)



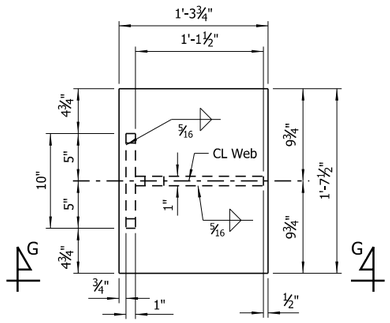
SECTION E-E

Scale: ¾" = 1'-0"



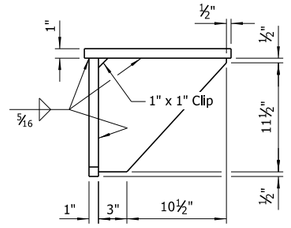
SECTION X-X

Scale: ½" = 1'-0"



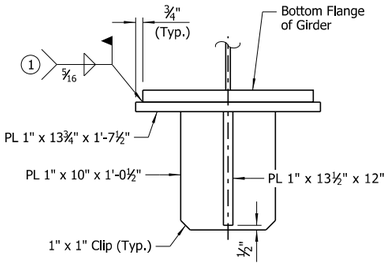
PLAN OF LONGITUDINAL RESTRAINER AT BENT NOS. 2, 3, 5 & 6

Scale: 1½" = 1'-0"



VIEW G-G

Scale: 1½" = 1'-0"



VIEW F-F

Scale: 1½" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 3 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

ROUTE SEC.

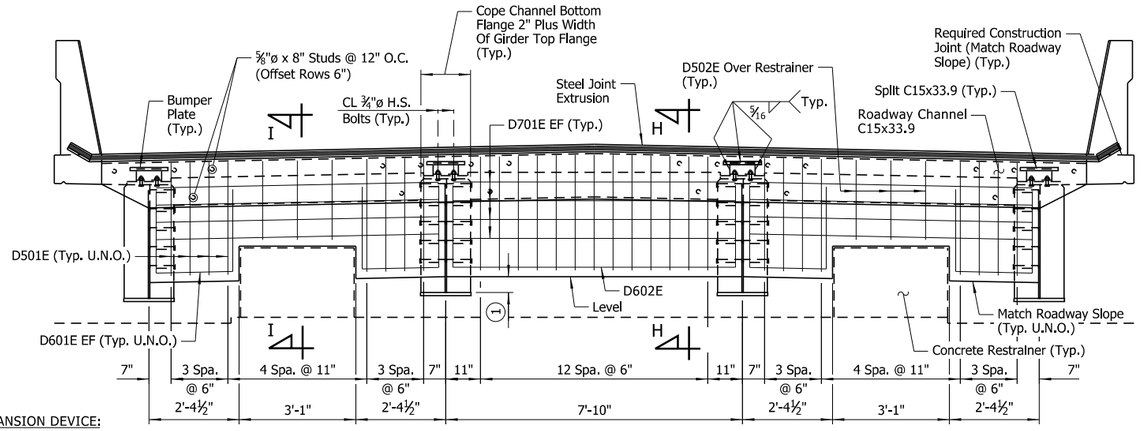
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	CWT	DATE:	NOV. 2024	FILENAME:	b110861_s3.dgn
CHECKED BY:	BHS	DATE:	JAN. 2025	SCALE:	As Shown
DESIGNED BY:	SD	DATE:	NOV. 2024		

BRIDGE NO. 07696 DRAWING NO. 68725

CSWylie
2/28/2025 10:46:22 AM
WORKSPACE\ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S403_SX.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	38	49
		07696		270'-0" UNIT		68726



EXPANSION DEVICE:
Rdwy. Channel: C15x33.9
Conn. Angles: Split C15x33.9
Detail device ⅛" high and provide ¼" shims using 2 - 1/16" and 1 - ⅛" plates

TYPICAL SECTION THRU JOINT AT BENT NO. 4

(Looking Ahead)
Scale: ½" = 1'-0"

1. 5" (Typ. @ Face of Web)
2. Field weld longitudinal restrainer after deck has been poured.
3. The temperature used to set the joint opening shall be the approximate average air temperature during the 24-hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Interpolation of the table may be necessary. Installation is limited to 40°F min. and 80°F max. The temperature limitations of the lubricant-adhesive manufacturer shall be observed.
4. ½" Polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place. Polystyrene will not be paid for directly but will be considered subsidiary to the Item "CLASS S(AE) CONCRETE-BRIDGE".
5. 10½" Min. Overlap

NOTES:
Forms for concrete diaphragms shall be removable.

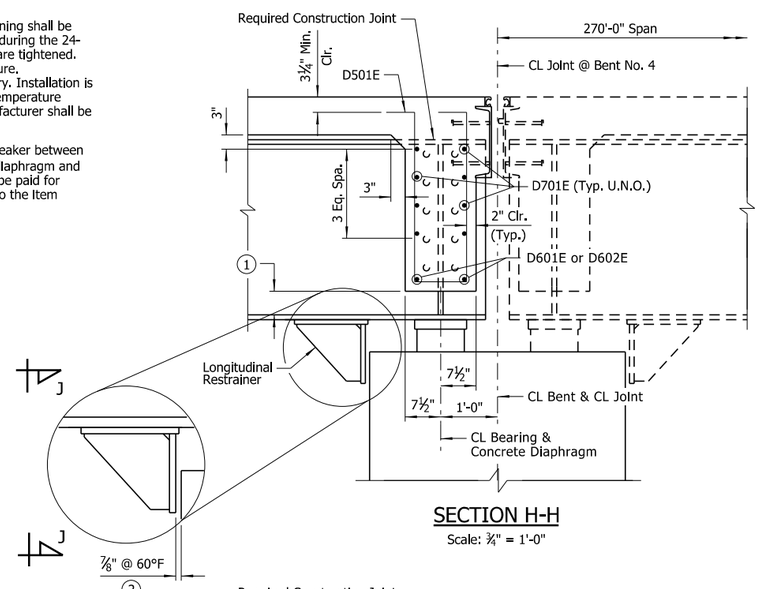
Prior to pouring concrete diaphragms, remove mill scale from steel surfaces to be in contact with concrete with a wire brush.

All concrete diaphragms shall be poured a minimum of 48 hours before the first deck pour.

All structural steel shall be ASTM A709, Gr. 50W unless noted otherwise, and all structural steel shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)".

For additional details of neoprene strip seal joint, see Std. Dwg. No. 55009 and Dwg. No. 68723.

For "SECTION C-C", see Dwg. No. 68724.

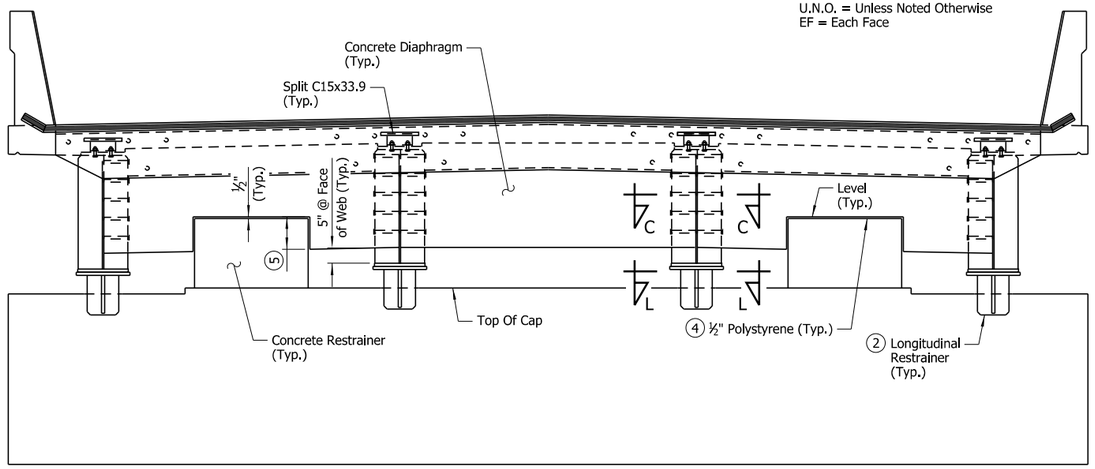


SECTION H-H

Scale: ¾" = 1'-0"

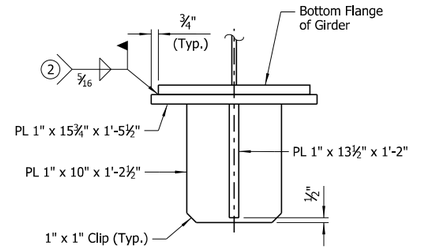
LEGEND

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



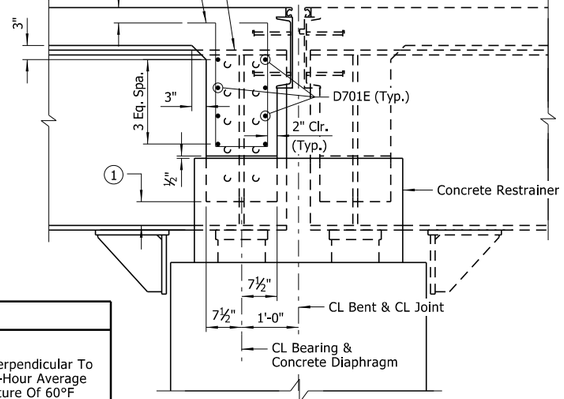
TYPICAL SECTION AT BENT NO. 4 SHOWING RESTRAINERS

(Looking Ahead)
Scale: ½" = 1'-0"



VIEW J-J

Scale: 1½" = 1'-0"

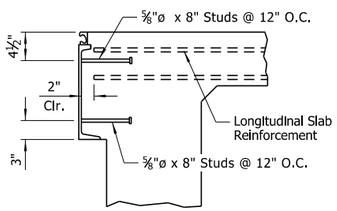


SECTION I-I

Scale: ¾" = 1'-0"

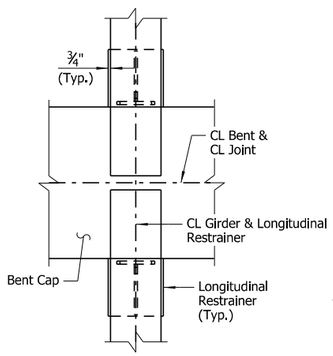
STRIP SEAL JOINT DATA								
Bent No.	Movement Rating	"A" Width Perpendicular To Joint At 24-Hour Average Temperature (3) Of:			"B" Width Perpendicular To Joint At 24-Hour Average Temperature (3) Of:			"C" Width Perpendicular To Joint At 24-Hour Average Temperature Of 60°F
		40°F	60°F	80°F	40°F	60°F	80°F	
4	4"	2 15/16"	2½"	2 1/16"	3 7/16"	3"	2 9/16"	2½"±

NOTE:
As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced @ 8" O.C. may be used. Use weight of ⅝"ø stud as basis of measurement of Structural Steel In anchors.



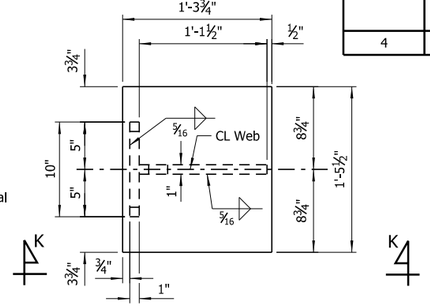
DETAIL OF ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT AT BENT NO. 4

No Scale



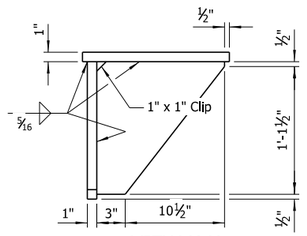
SECTION L-L

Scale: ½" = 1'-0"



PLAN OF LONGITUDINAL RESTRAINER AT BENT NO. 4

Scale: 1½" = 1'-0"



VIEW K-K

Scale: 1½" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 4 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

ROUTE SEC.

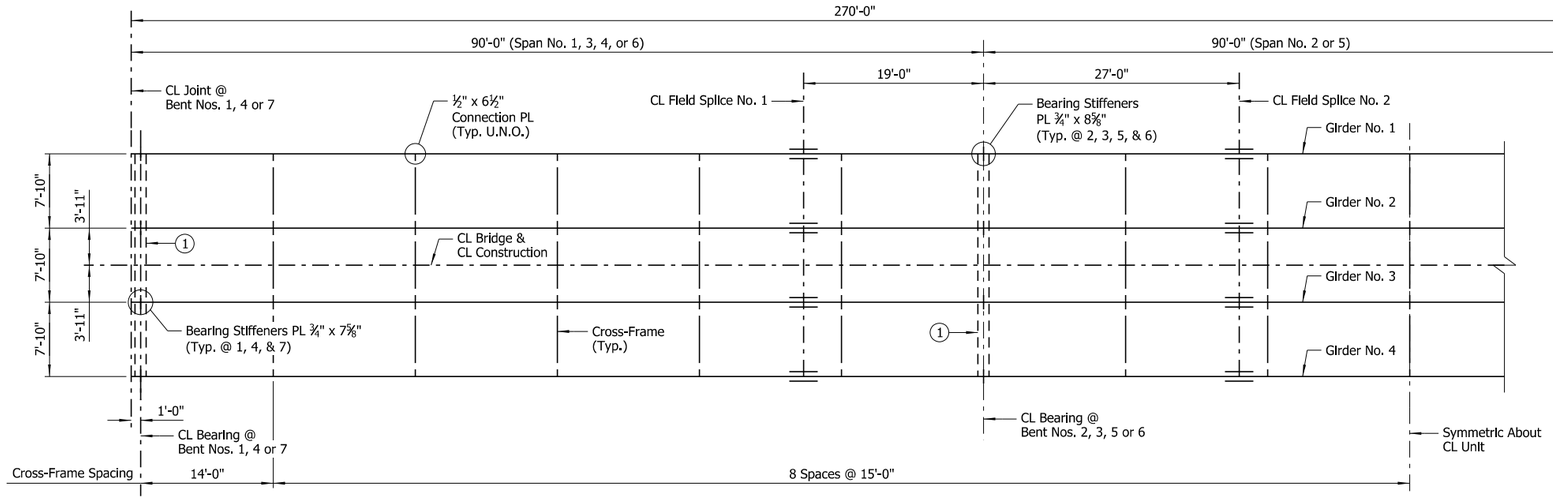
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: NOV. 2024 FILENAME: b110861_s4.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: NOV. 2024

BRIDGE NO. 07696 DRAWING NO. 68726

CSWylie
2/28/2025 10:46:23 AM
WORKSPACE\ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S404_SX.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	39	49
		07696		270'-0" UNIT		68727



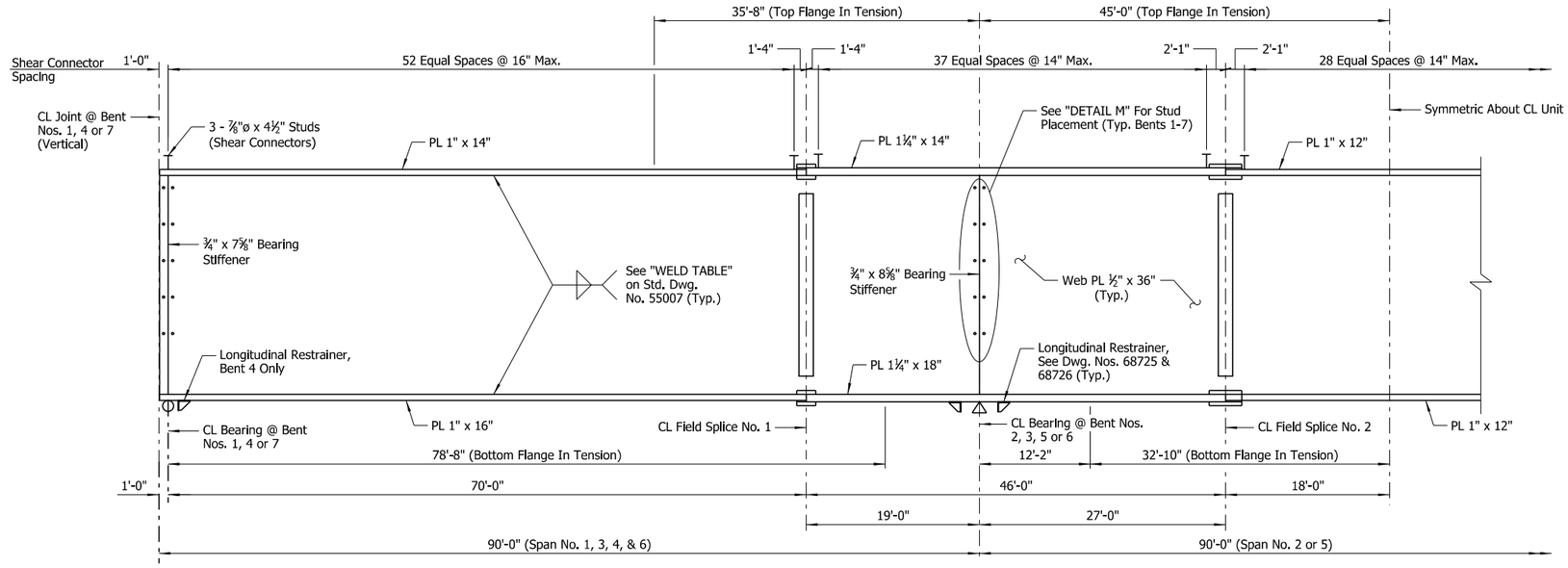
PART FRAMING PLAN

Scale: ⅛" = 1'-0"

(1) Concrete Diaphragm - Typical as shown at Bents 1-7. For details, see Dwg. Nos. 68724 thru 68726.

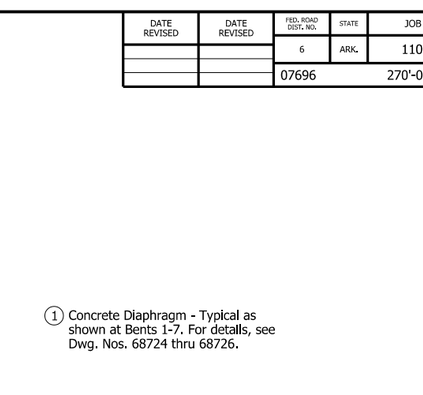
LEGEND

U.N.O. = Unless Noted Otherwise



PART GIRDER ELEVATION

No Scale



DETAIL M

No Scale

NOTES:
For "GENERAL NOTES", see Std. Dwg. No. 55006.

All structural steel shall be ASTM A709, Gr. 50W unless noted otherwise and shall be paid for at the unit price per pound bid for "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)".

Bolted Field Splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the Plan Quantities.

For "SHEAR CONNECTOR DETAIL" and "SCREED RAIL SUPPORT FOR PLATE GIRDERS", see Std. Dwg. No. 55007.

NOTES:
The Contractor shall ensure that girders are stable throughout the erection process. The Contractor will be responsible for providing temporary bracing or stiffening devices to accommodate handling stresses in individual members or segments of the structure during erection.

For field splice details, see Dwg. No. 68728.

For cross-frame, stiffener and connection plate details, see Dwg. No. 68729.

For painting of girders, see "GENERAL NOTES" on Dwg. No. 68713.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 5 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: NOV. 2024 FILENAME: b110861_s5.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: NOV. 2024
BRIDGE NO. 07696 DRAWING NO. 68727

CSWylie
WORKSPACE\ARDOT Bridge (2019)
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2/28/2025 10:46:24 AM
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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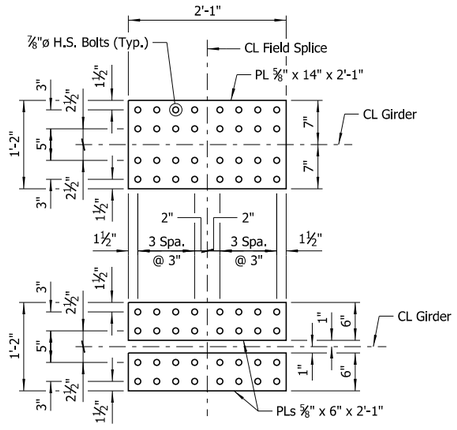
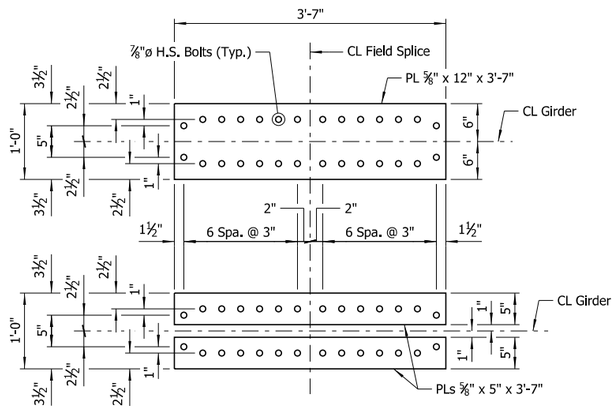
		07696		270'-0" UNIT		68728



TOP FLANGE FIELD SPLICE NO. 1

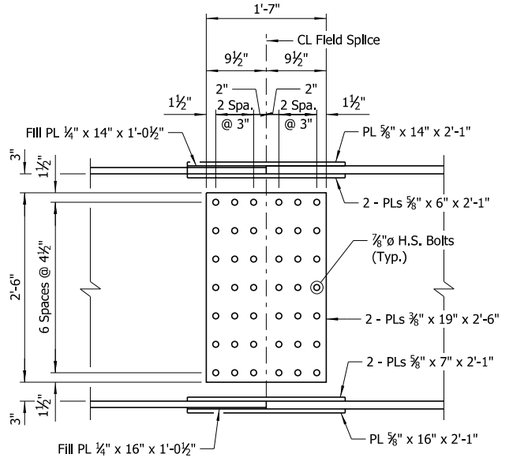
Scale: 1" = 1'-0"



TOP & BOTTOM FLANGE FIELD SPLICE NO. 2

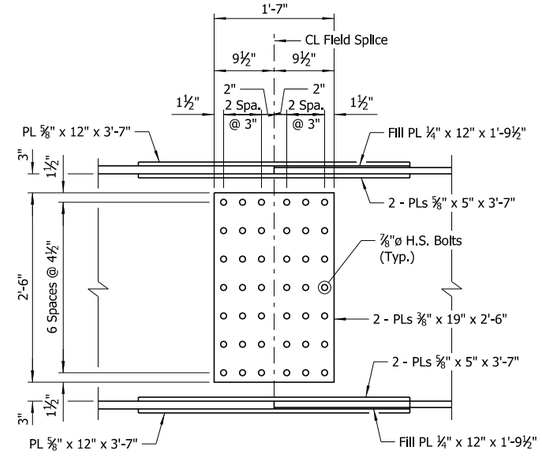
Scale: 1" = 1'-0"

NOTES:
All field splice connections shall be bolted with ⅞"ø H.S. bolts using $^{15}/_{16}$"ø open holes.



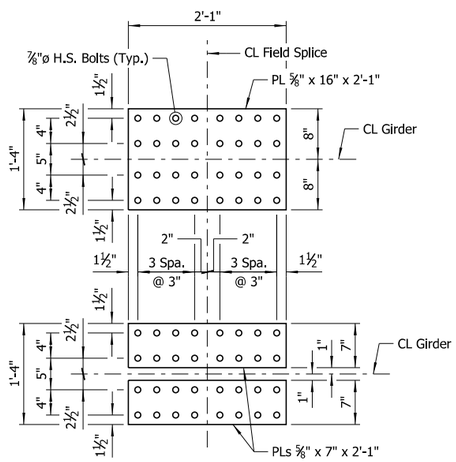
ELEVATION OF FIELD SPLICE NO. 1

Scale: 1" = 1'-0"



ELEVATION OF FIELD SPLICE NO. 2

Scale: 1" = 1'-0"



BOTTOM FLANGE FIELD SPLICE NO. 1

Scale: 1" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 6 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

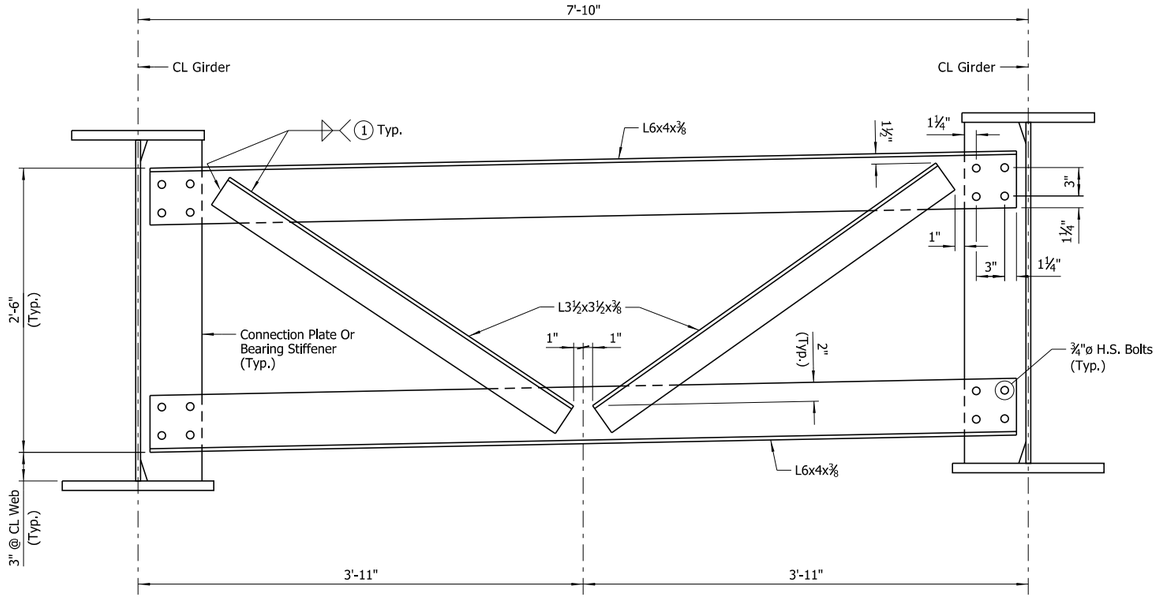
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: NOV. 2024 FILENAME: b110861_s6.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: NOV. 2024

BRIDGE NO. 07696 DRAWING NO. 68728

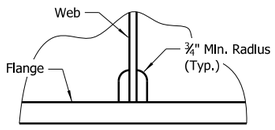
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	41	49
		07696		270'-0" UNIT		68729



CROSS-FRAME DETAIL

Scale: 1½" = 1'-0"

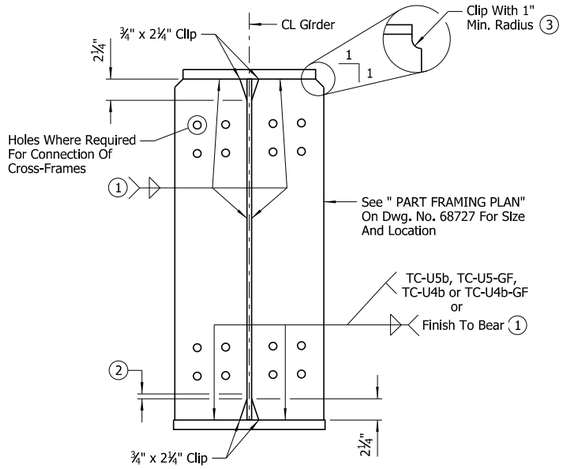
1. See "WELD TABLE" on Std. Dwg. No. 55007 for minimum weld size.
2. Stop weld ¼" to 1" from end of clip (Typ.)
3. If permanent deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form supports.



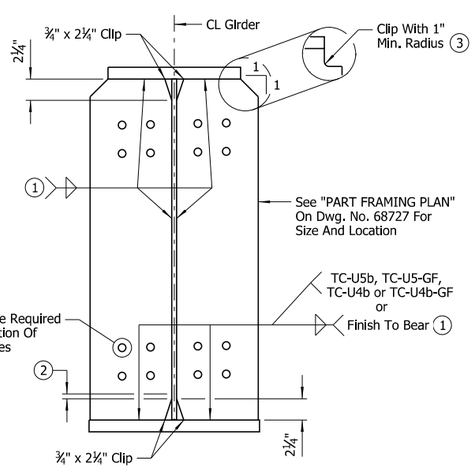
Height and width of clip shall be as noted in other details.

ALTERNATE CLIP DETAIL

(For Bearing Stiffeners, Intermediate Transverse Stiffeners and Cross-frame Connection Plates)
No Scale



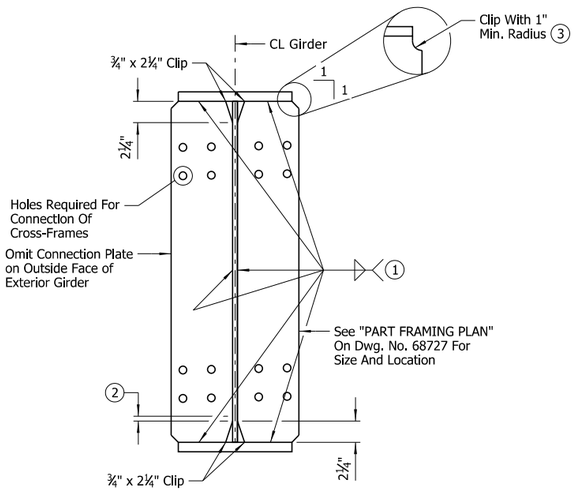
BENT 1, 4 & 7



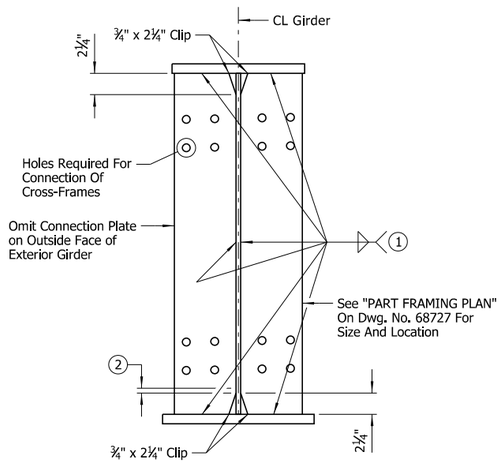
BENT 2, 3, 5 & 6

BEARING STIFFENER DETAIL

Scale: 1½" = 1'-0"



GIRDER WITH 12" TOP FLANGE



GIRDER WITH 14" TOP FLANGE

CONNECTION PLATE DETAIL

Scale: 1½" = 1'-0"

NOTES:
Bearing Stiffeners shall be fabricated to be vertical in their final positions.

Bearing Stiffeners are to be placed on both sides of all girder webs at bent locations.

Omit holes on outside bearing stiffeners on exterior girders.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 7 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

ROUTE SEC.

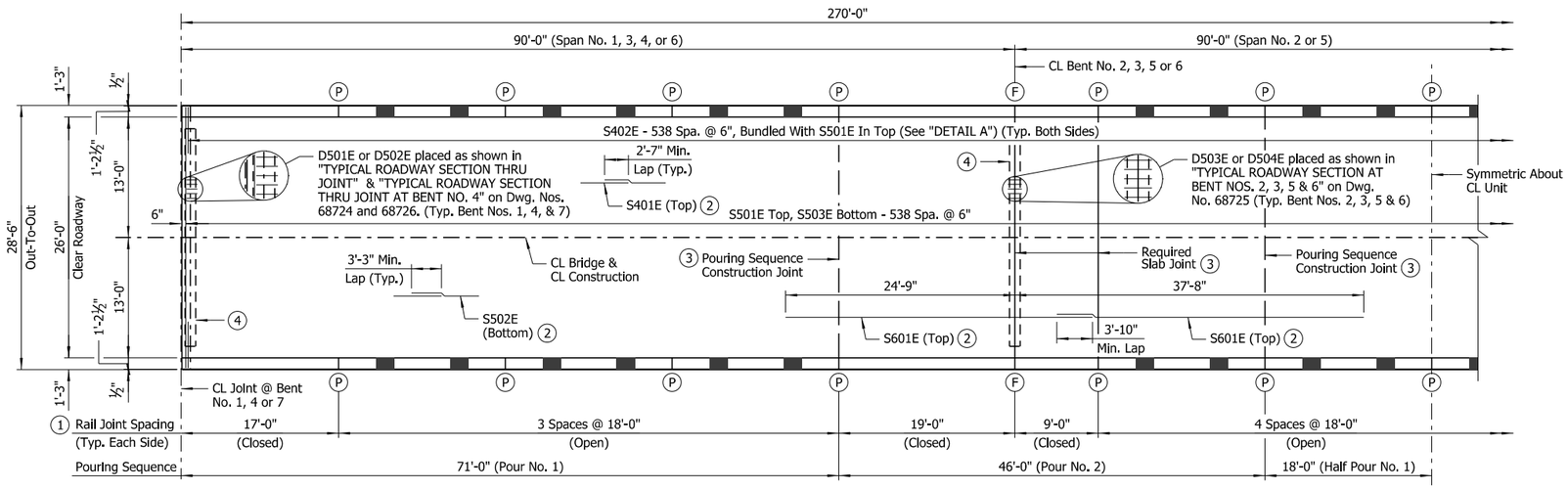
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: DEC. 2024 FILENAME: b110861_s7.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: DEC. 2024

BRIDGE NO. 07696 DRAWING NO. 68729

CSWylie 2/28/2025 10:46:25 AM
WORKSPACE\ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St. Francis River Str-Apprs\Drawings\b110861_S407_MD.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	42	49
		07696		270'-0" UNIT		68730



PART REINFORCING PLAN & SLAB POURING SEQUENCE

Scale: ⅛" = 1'-0"

(1) Rail joints designated with symbol (F) shall be stopped 6" from top of slab. All other rail joints with symbol (P) shall be partial-depth joints stopped 16" from top of slab.

(2) Placed as shown in "TYPICAL ROADWAY SECTION" on Dwg. No. 68723.

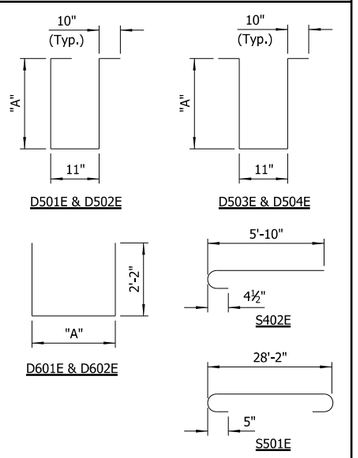
(3) See "TRANSVERSE SLAB JOINT DETAIL" on Std. Dwg. No. 55007.

(4) Concrete Diaphragm - Typical as shown at Bents 1-7. For details, see Dwg. Nos. 68724 thru 68726.

BAR LIST

MARK	NO. REQ'D	LENGTH	"A"	P.D.
D501E	58	8'-2"	3'-0"	2½"
D502E	12	6'-2"	2'-0"	2½"
D503E	58	8'-2"	3'-0"	2½"
D504E	12	6'-2"	2'-0"	2½"
D601E	32	6'-0"	2'-0"	4½"
D602E	8	11'-5"	7'-5"	4½"
D701E	96	7'-6"		Str.
R400E	160	5'-3"		2½"
R401E	1080	6'-4"		2½", 3"
R402E	104	5'-6"		Str.
R403E	1080	3'-6"		3", 3¾"
R404E	32	8'-8"		Str.
R405E	32	16'-8"		Str.
R406E	32	18'-8"		Str.
R407E	160	17'-8"		Str.
S401E	240	36'-0"		Str.
S402E	1078	6'-4"		3"
S501E	539	29'-4"		3¾"
S502E	150	56'-7"		Str.
S503E	539	28'-2"		Str.
S601E	116	33'-2"		Str.

BAR BENDING DIAGRAMS

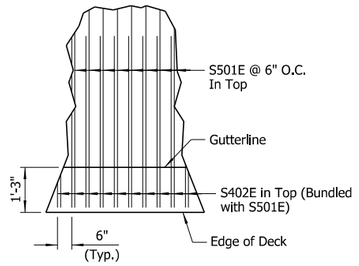


NOTES:
Dimensions of bars are out-to-out.

Bar designations ending with "E" indicate epoxy coated bars.

For bar bending diagrams of R400E, R401E & R403E, see Std. Dwg. No. 55070.

Number of bars shown is for one 270' unit. Two 270' units are required.



DETAIL A

No Scale

TABLE OF VARIABLES

Closed Rail Panels			Open Rail Panels					
Panel Length	A	R4XXE	Panel Length	B	C	D	E	R4XXE
9'-0"	17	04	18'-0"	11	4'-0"	11	6'-0"	07
17'-0"	33	05						
19'-0"	37	06						

NOTES:
All concrete diaphragms shall be cast in place and poured a minimum of 48 hours before the first deck pour. Removable forms shall be used when pouring diaphragms.

Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 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 the completion of the entire deck slab and the start of a railing pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Required slab joints and pouring sequence joints shall align with rail joints as shown.

For "GENERAL NOTES", see Std. Dwg. No. 55006.

For Concrete Bridge Rail details, see Std. Dwg. No. 55070.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER

DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 8 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: DEC. 2024 FILENAME: b110861_s8.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: DEC. 2024

BRIDGE NO. 07696 DRAWING NO. 68730

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2/28/2025 10:46:25 AM
WORKSPACE\ARDOT Bridge (2019)
L:\2024\T02-2401790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\b110861_S408_SB.dgn
REVISED DATE:

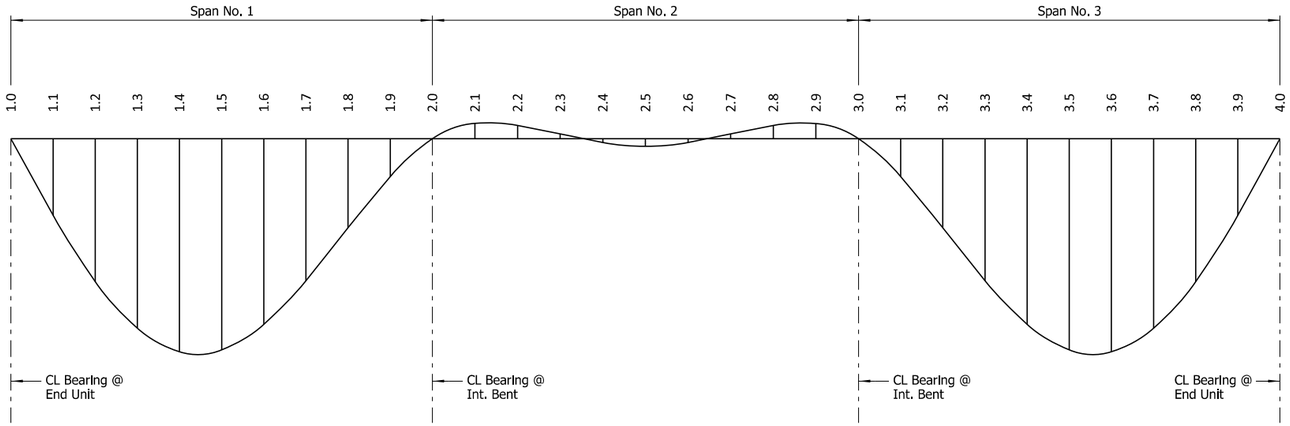
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	43	49
		07696		270'-0" UNIT		68731

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point Of Deflection	Girders 1 & 4			Girders 2 & 3		
		Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail	Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail
SPAN NO. 1	1.0	0.000	0.000	0.000	0.000	0.000	0.000
	1.1	0.133	0.672	0.749	0.145	0.802	0.874
	1.2	0.248	1.248	1.390	0.270	1.490	1.624
	1.3	0.329	1.657	1.846	0.359	1.978	2.156
	1.4	0.371	1.860	2.072	0.404	2.220	2.420
	1.5	0.369	1.843	2.053	0.402	2.199	2.397
	1.6	0.326	1.622	1.807	0.356	1.937	2.111
	1.7	0.252	1.245	1.386	0.275	1.485	1.619
	1.8	0.160	0.782	0.871	0.174	0.933	1.017
	1.9	0.069	0.332	0.369	0.075	0.396	0.431
SPAN NO. 2	2.0	0.000	0.000	0.000	0.000	0.000	0.000
	2.1	-0.031	-0.132	-0.146	-0.033	-0.156	-0.169
	2.2	-0.034	-0.121	-0.132	-0.036	-0.142	-0.152
	2.3	-0.025	-0.047	-0.048	-0.025	-0.052	-0.053
	2.4	-0.014	0.029	0.038	-0.013	0.040	0.048
	2.5	-0.009	0.060	0.073	-0.007	0.078	0.090
	2.6	-0.014	0.029	0.038	-0.013	0.040	0.048
	2.7	-0.025	-0.047	-0.048	-0.025	-0.052	-0.053
	2.8	-0.034	-0.121	-0.132	-0.036	-0.142	-0.152
	2.9	-0.031	-0.132	-0.146	-0.033	-0.156	-0.169
	3.0	0.000	0.000	0.000	0.000	0.000	0.000
SPAN NO. 3	3.1	0.069	0.332	0.369	0.075	0.396	0.431
	3.2	0.160	0.782	0.871	0.174	0.933	1.017
	3.3	0.252	1.245	1.386	0.275	1.485	1.619
	3.4	0.326	1.622	1.807	0.356	1.937	2.111
	3.5	0.369	1.843	2.053	0.402	2.199	2.397
	3.6	0.371	1.860	2.072	0.404	2.220	2.420
	3.7	0.329	1.657	1.846	0.359	1.978	2.156
	3.8	0.248	1.248	1.390	0.270	1.490	1.624
	3.9	0.133	0.672	0.749	0.145	0.802	0.874
	4.0	0.000	0.000	0.000	0.000	0.000	0.000

NOTES:
Camber for dead load deflection plus vertical curve +/- ¼" tolerance. Deflections shown are along CL Girder from a chord from CL Bearing to CL Bearing. Vertical curve corrections are not included. Negative sign (-) indicates point above chord.

Dead load deflections shown include an assumed loading of 18 psf to account for stay-in-place metal deck forms. Revision to the deflection tables may be necessary upon review of the Contractor's submitted forming details or any approved changes to the pouring sequence shown in "PART REINFORCING PLAN & SLAB POURING SEQUENCE" on Dwg. No. 68730.



DEAD LOAD DEFLECTION DIAGRAM
No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18340
BEN H. SPILKER
DIGITALLY SIGNED 02/28/2025
BRIDGE ENGINEER

SHEET 9 OF 9
DETAILS OF 270'-0" CONTINUOUS PLATE GIRDER UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: DEC. 2024 FILENAME: b110861_s9.dgn
CHECKED BY: BHS DATE: JAN. 2025 SCALE: As Shown
DESIGNED BY: SD DATE: DEC. 2024
BRIDGE NO. 07696 DRAWING NO. 68731

CSWylie 2/28/2025 10:46:26 AM
WORKSPACE\ARDOT Bridge (2019)
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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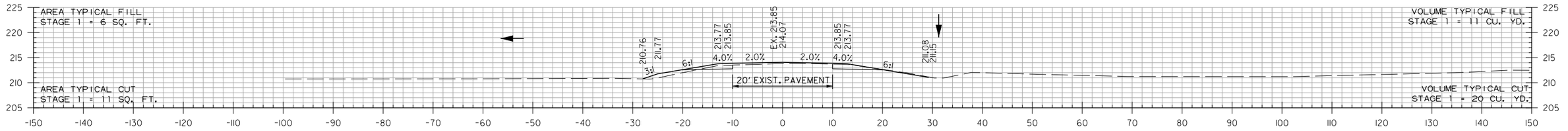
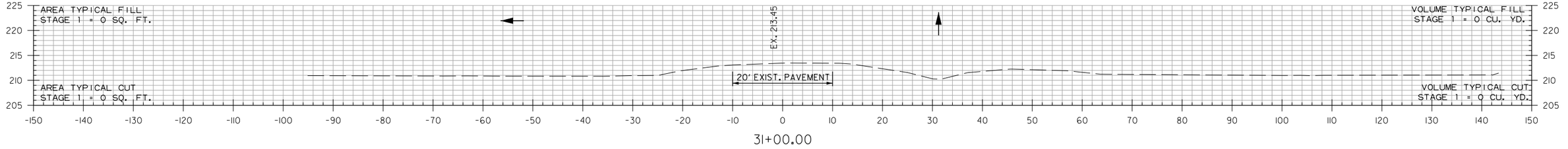
		CROSS SECTIONS				



32+00.00

STA. 32+00 END SUPERELEVATION

STA. 32+00.00 BEGIN JOB 110861



31+00.00

STA. 31+00 MATCH EXISTING SUPERELEVATION (0.020 FT./FT. LT. LANE, -0.0040 FT./FT. RT. LANE)

STA. 31+00.00 BEGIN 100' TRANSITION

HWY. 42
STA. 31+00 TO STA. 32+00

CGGervasini 2/21/2025 12:19:32 PM
WORKSPACE: AHTD
L:\2024\T02-240790 - ARDOT 110861 St Francis River Str-Apprs\Drawings\r110861_CX_01_HWY_42.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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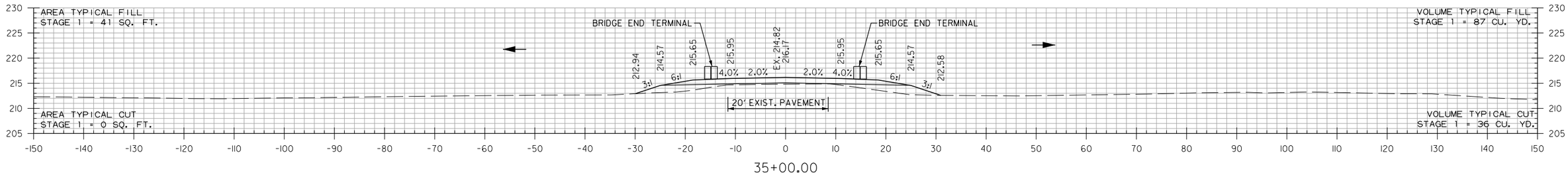
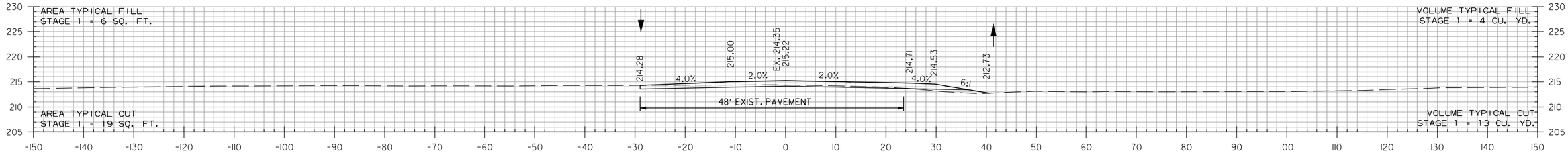
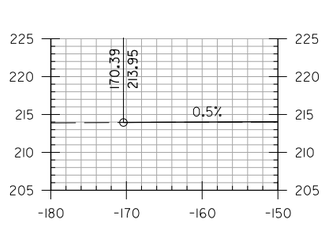
		CROSS SECTIONS				

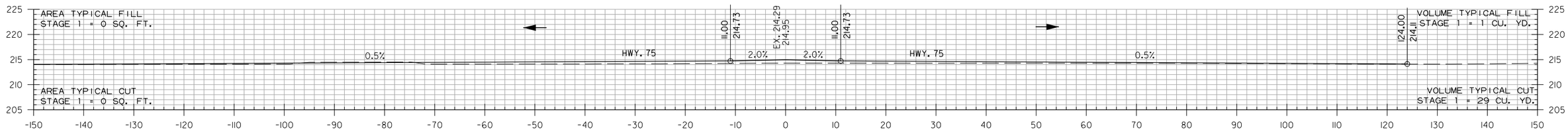


35+00.00

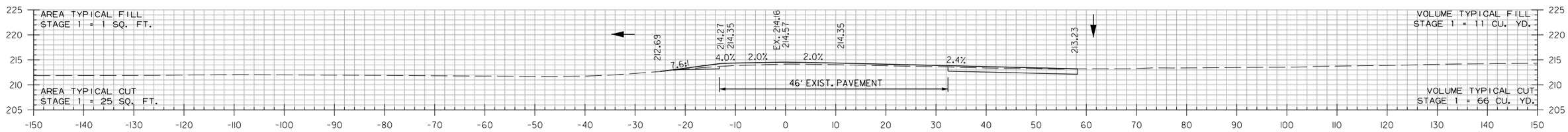


34+00.00





33+64.00



33+00.00

HWY. 42
STA. 33+00 TO STA. 35+00

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REVISED DATE:

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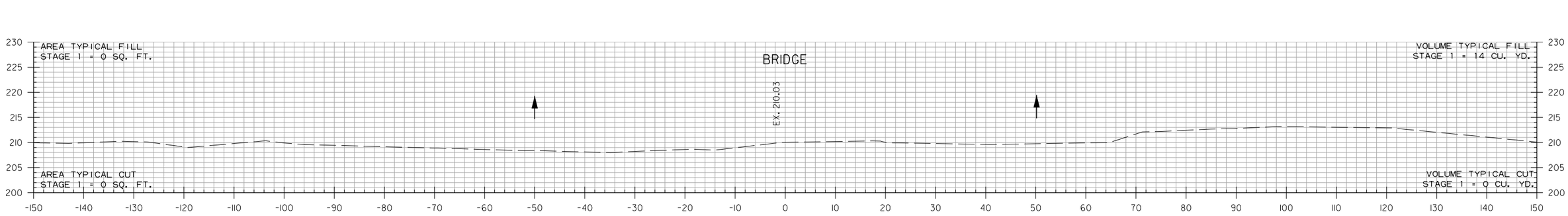
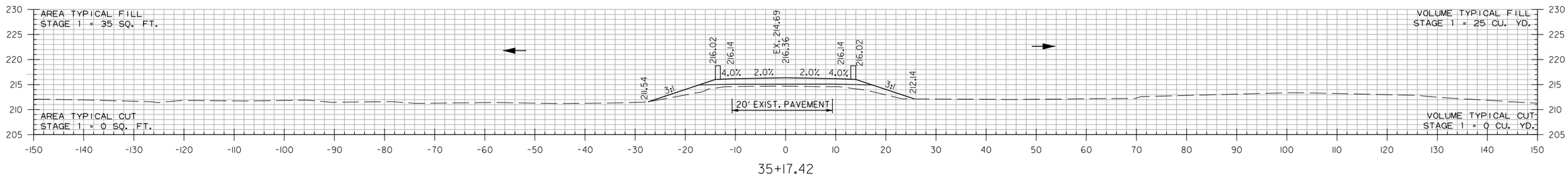


35+38.70

STA. 35+38.70 END TOE OF SLOPE
AT ELEVATION 210.03'



35+17.42

STA. 35+17.42 BEGIN BRIDGE

HWY. 42
STA. 35+17 TO STA. 35+39

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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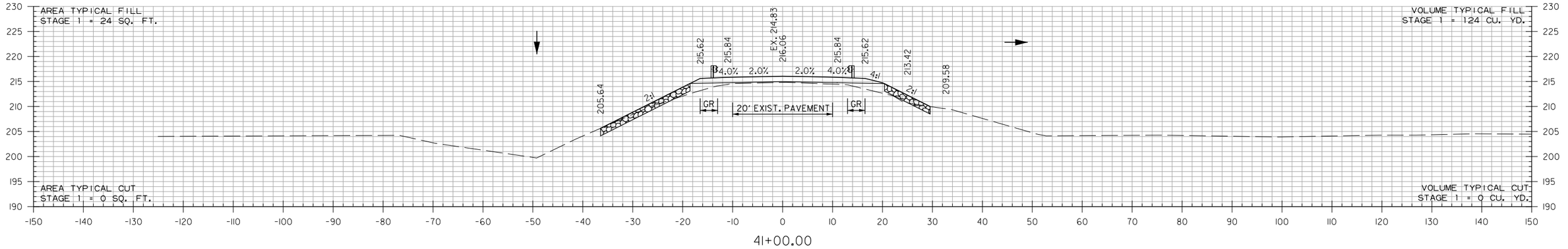
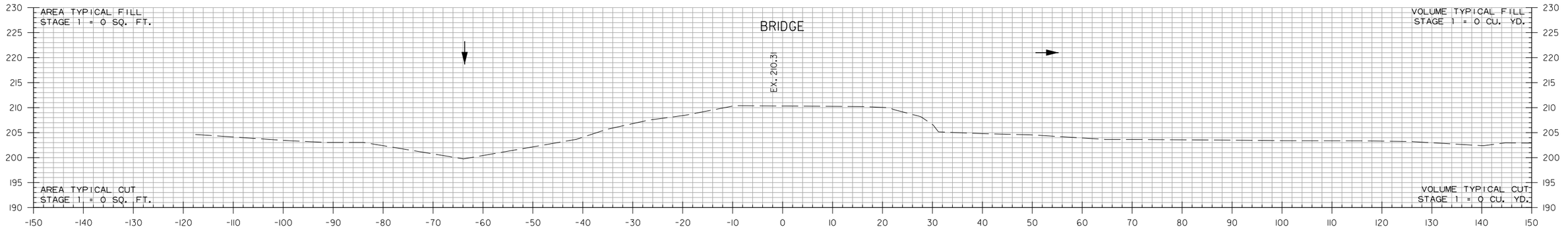


41+00.00

40+59.58

STA. 40+59.58 END BRIDGE

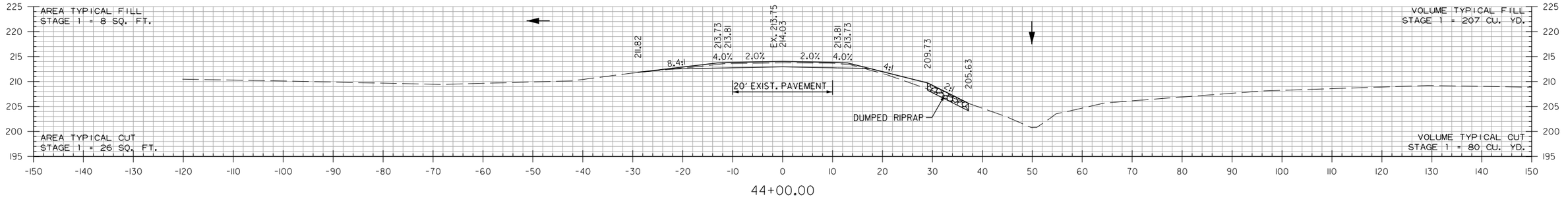


40+50.70

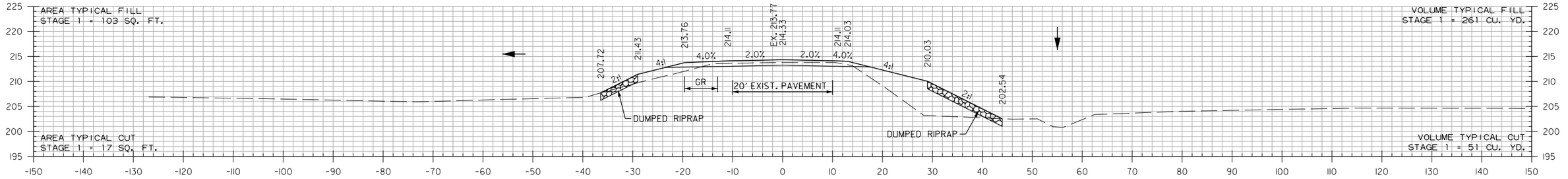
STA. 40+50.70 BEGIN TOE OF SLOPE
AT ELEVATION 210.31'

HWY. 42
STA. 40+51 TO STA. 41+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	110861	48	49
		CROSS SECTIONS				



44+00.00



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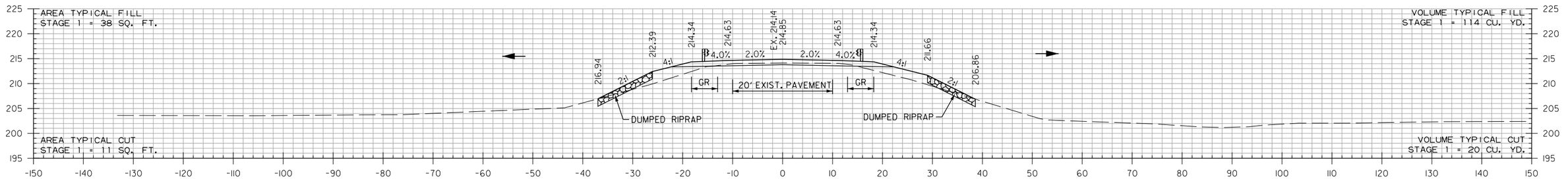

42+00.00

HWY. 42
STA. 42+00 TO STA. 44+00

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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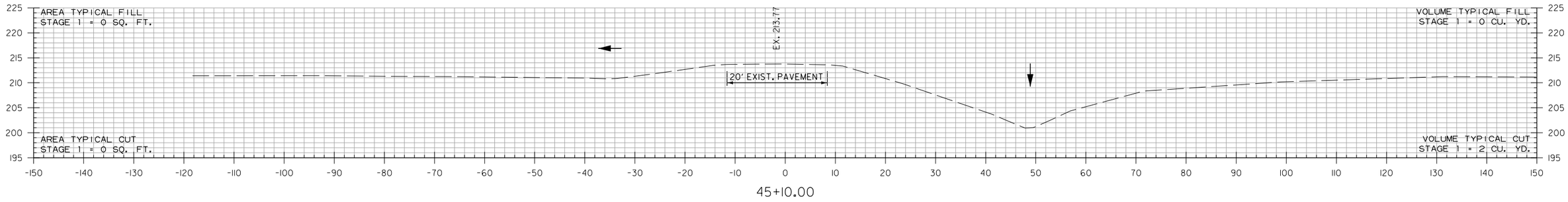
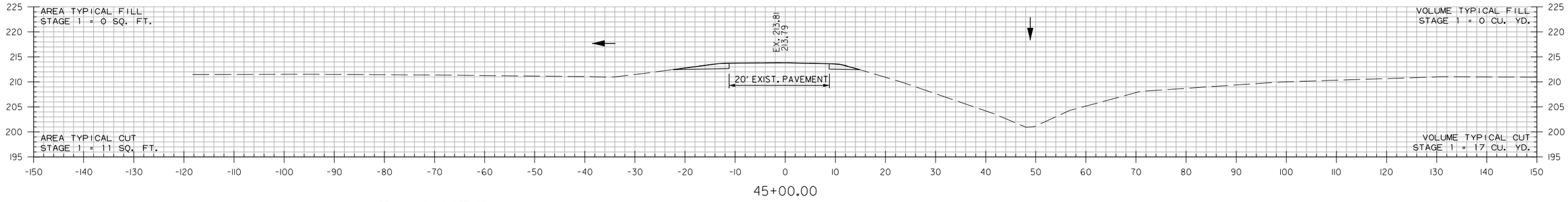
		CROSS SECTIONS				



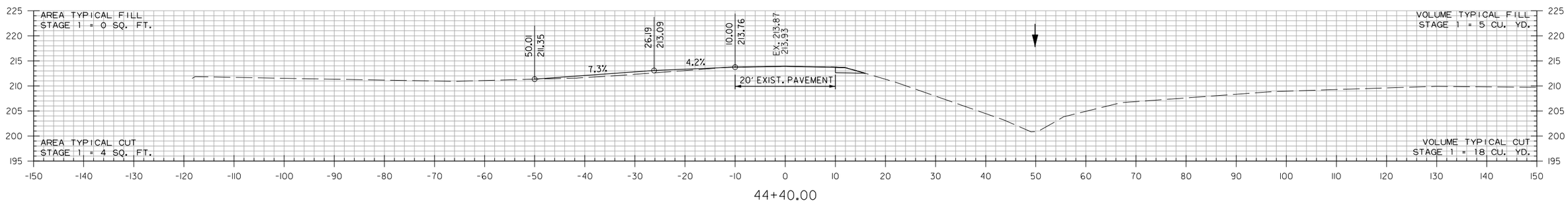
45+10.00

STA. 45+10.00 END 100' TRANSITION



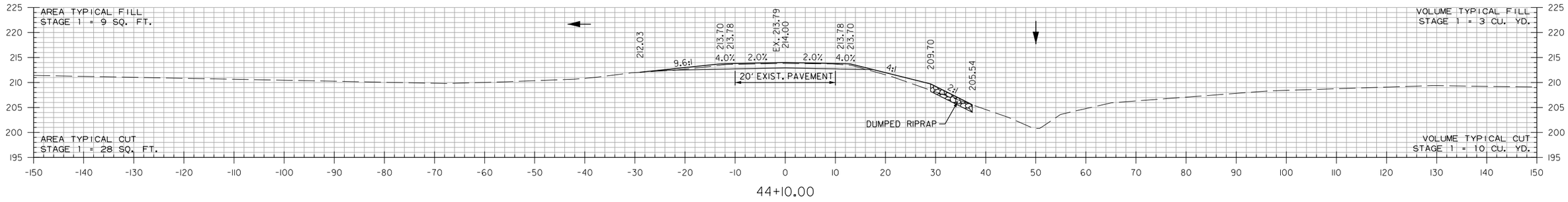
45+00.00

STA. 44+40 CONSTRUCT
APPROACH ON LT. = 18 CU. YDS.



44+40.00

STA. 44+10.00 END JOB 110861



44+10.00

HWY. 42
STA. 44+10 TO STA. 45+10

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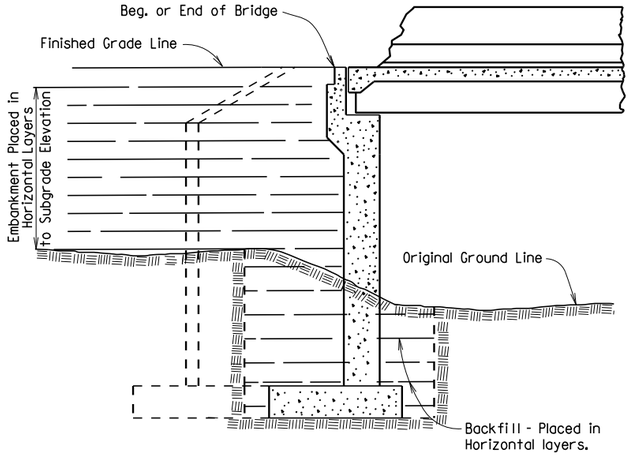
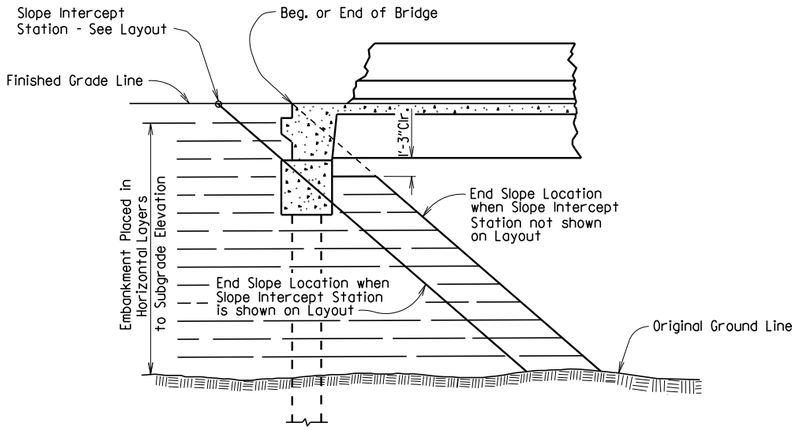
REVISED DATE:

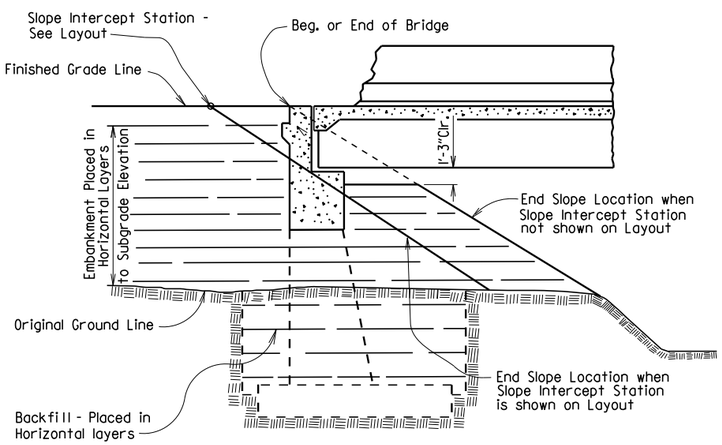
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				(1) EMBANKMENT & BACKFILL 55000				



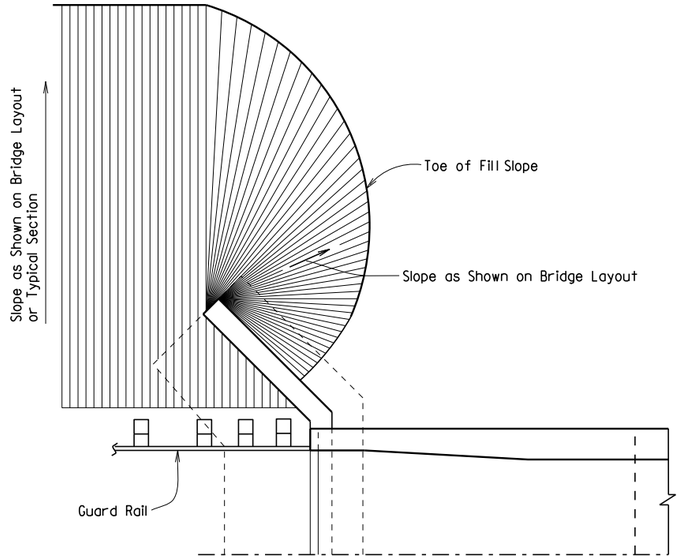
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



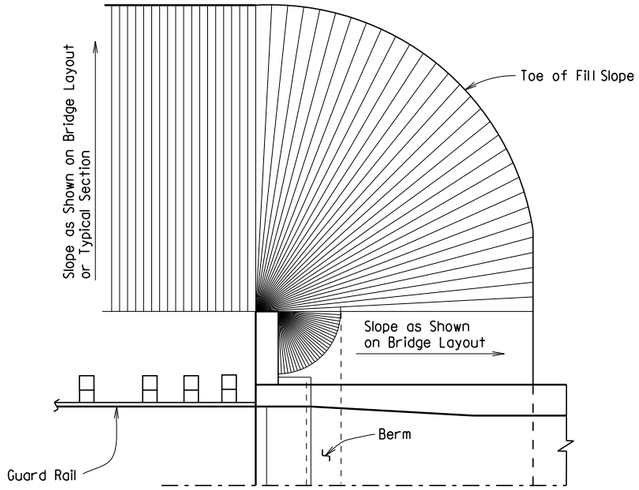
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



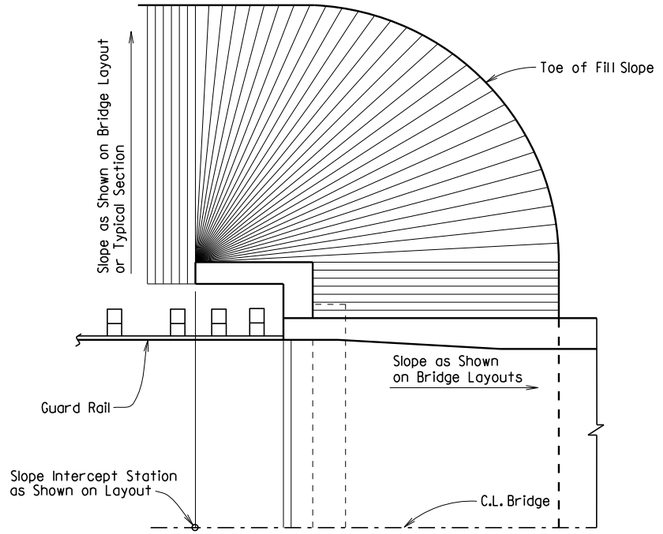
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



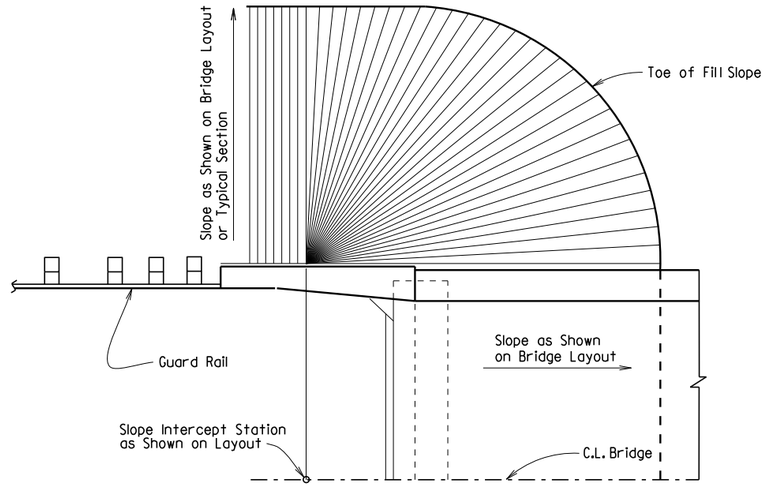
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

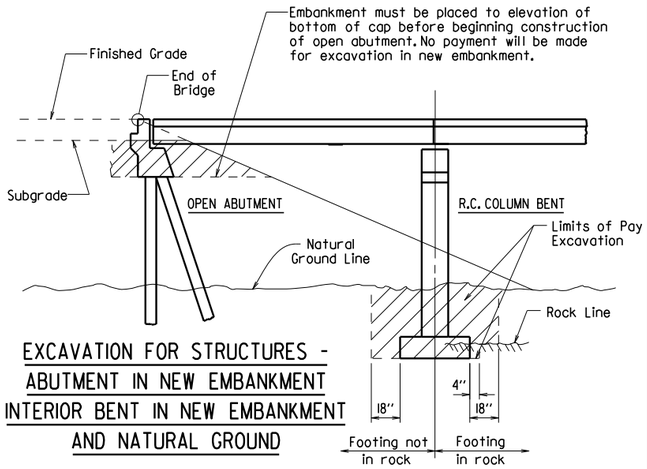
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: -

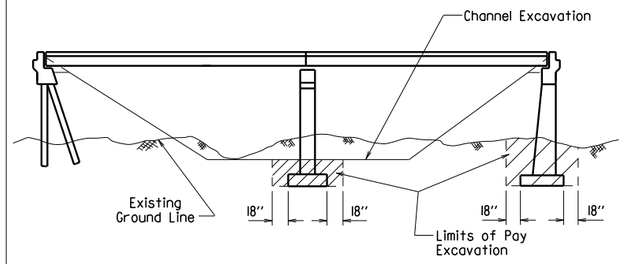
DRAWING NO. 55000

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

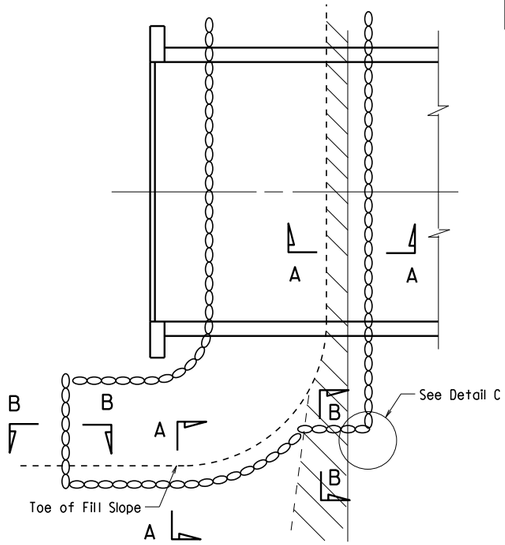
(1) RIPRAP & EXCAV. 55001



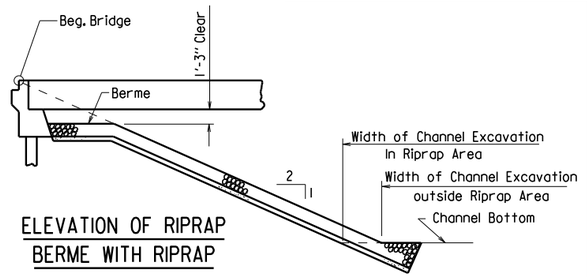
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



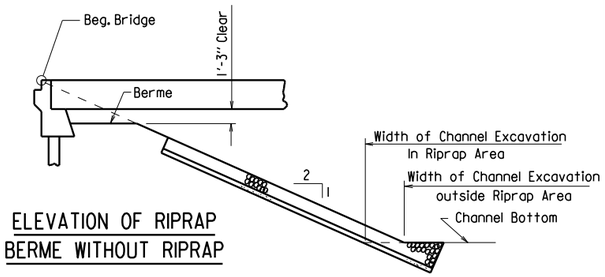
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



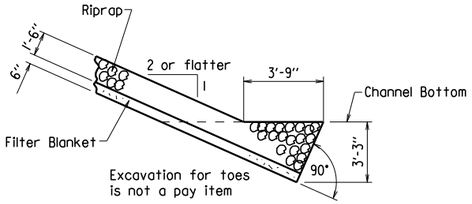
PLAN OF DUMPED RIPRAP



ELEVATION OF RIPRAP BERME WITH RIPRAP

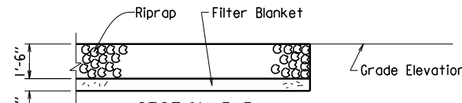


ELEVATION OF RIPRAP BERME WITHOUT RIPRAP

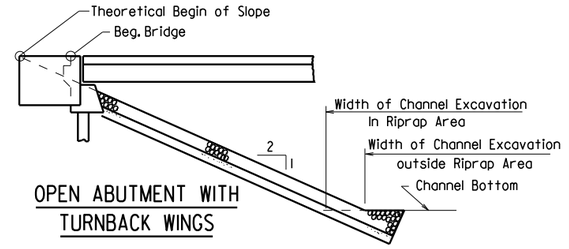


SECTION A-A

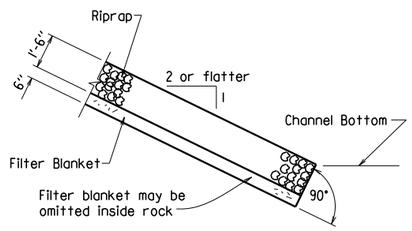
(Toe Excavation in Soil)



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



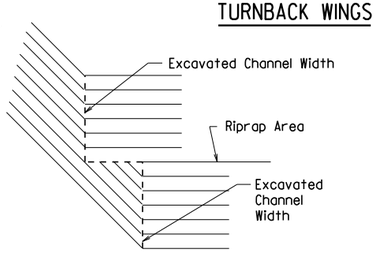
SECTION A-A

(Toe Excavation in Rock)

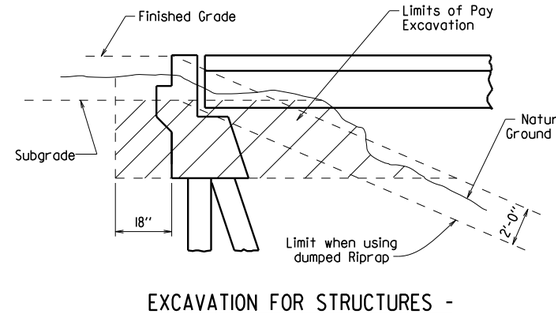
Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

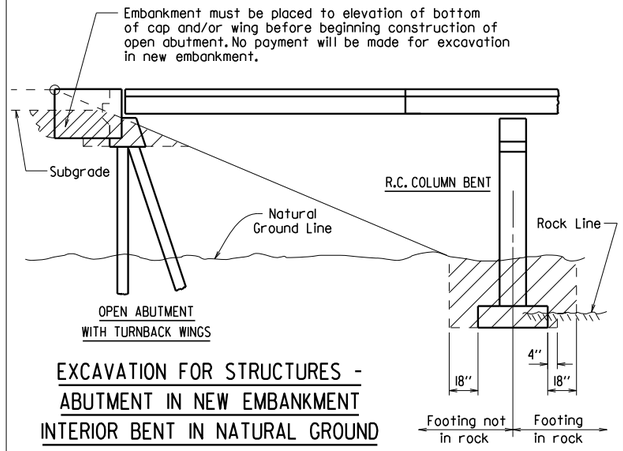
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



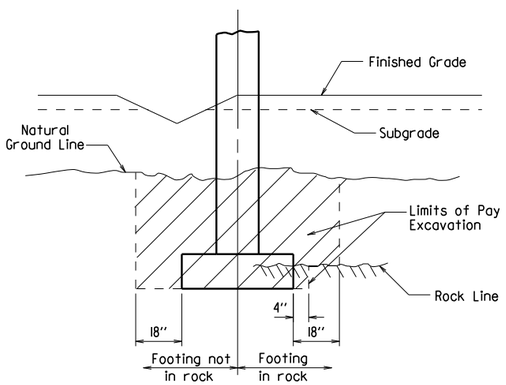
DETAIL C



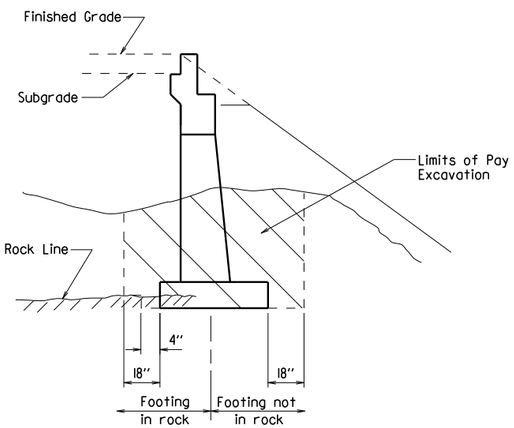
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55001.dgn

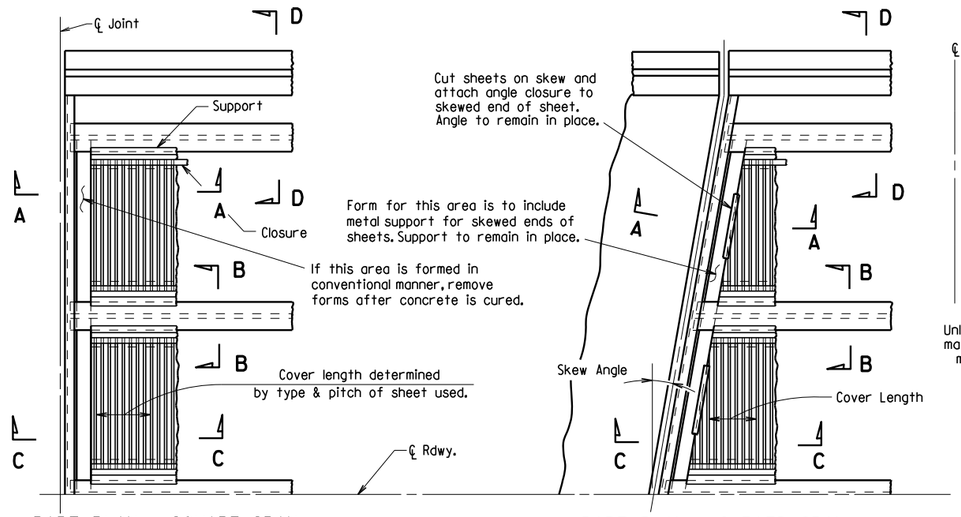
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE:

DRAWING NO. 55001

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				

(1) BRIDGE DECK FORMS 55005

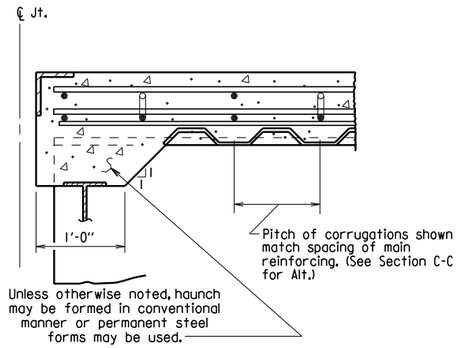


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

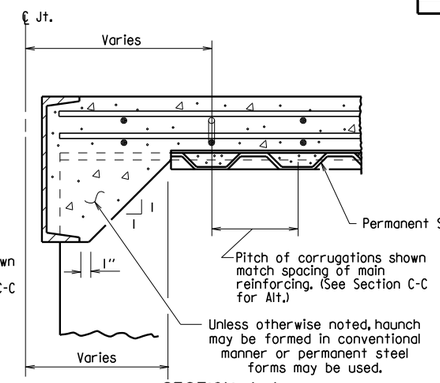
3/8" = 1'-0"



SECTION A-A

N.T.S.

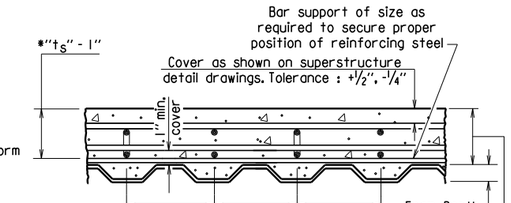
(Angle at end of span)



SECTION A-A

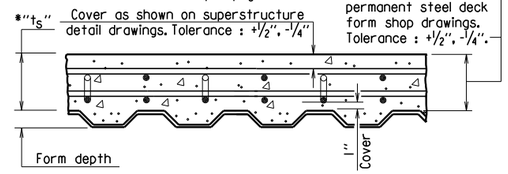
N.T.S.

(Channel at end of span)



SECTION C-C

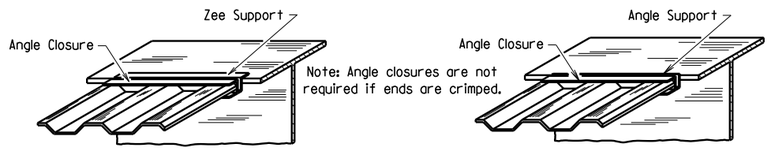
1" = 1'-0"



SECTION C-C - ALTERNATE

1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

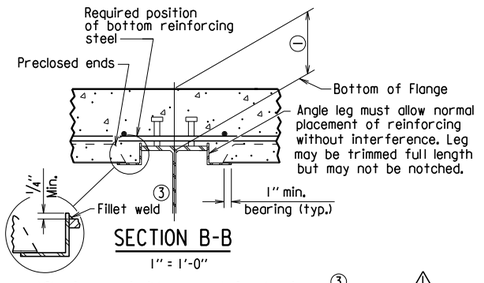
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

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

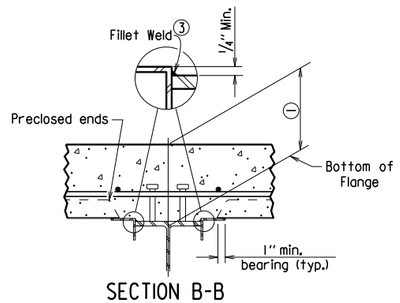


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

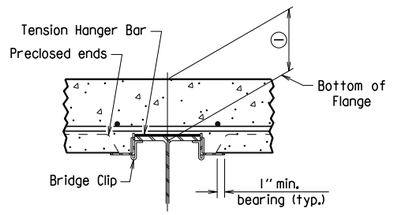
(3) ⚠ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

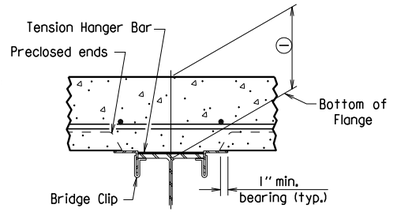
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

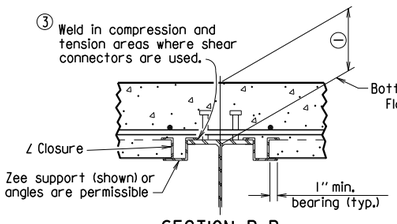
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

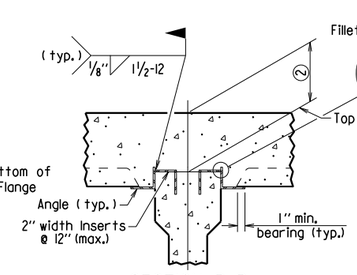
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

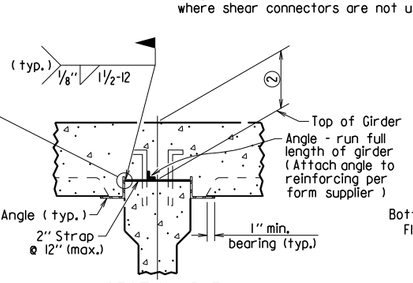


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Insert cast in girder)

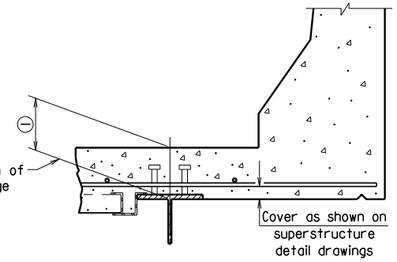


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Strap)



SECTION D-D

1" = 1'-0"

Note: Only Bottom Reinforcing is shown.

(1) Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_S + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

(2) Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE

DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①		GENERAL NOTES		55006

GENERAL NOTES

These GENERAL NOTES are applicable unless otherwise shown in the Plan Details, Special Provisions, or Supplemental Specifications.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Specifications.

DESIGN SPECIFICATIONS: See Bridge Layout(s).

SUPERSTRUCTURE NOTES:

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy =	60,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy =	36,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. HPS70W)	Fy =	70,000 psi

See Plan Details for Grade(s) of Structural Steel required.

CONCRETE:

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted.

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.

Use of a longitudinal screed is not permitted on any span of a bridge deck with horizontal curvature.

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. Sidewalks shall receive a broomed finish as specified for final finishing in Subsection 802.19 for Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam or 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, median barrier, and sidewalks.

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, 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)".

STRUCTURAL STEEL (COMMON TO W-BEAMS AND PLATE GIRDERS):

Structural steel shall be AASHTO M 270 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). 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 AASHTO M 270, Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted.

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

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

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.

Unless otherwise noted, field connections shall be bolted with ¾" ø high-strength bolts using 13/16 " ø open holes. Holes for ¾" ø high-strength bolts may be 15/16 " ø if a washer is supplied for use under both the nut and head of the bolt. The use of oversized holes will not be allowed on main members unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam or girder webs and on the bottom of the beam or girder flanges.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the Manufacturer.

When painting is required, all structural steel except galvanized steel and steel completely encased in concrete shall be painted in accordance with Subsection 807.75. The color of paint shall be as specified in the plans.

STRUCTURAL STEEL (W-BEAMS):

All beams and field splice plates, and all diaphragms and connection plates attached to horizontally curved beams are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M 270, Gr. ___)".

All beams in continuous units and simple spans with field splices shall be blocked in their true position in the shop in groups as specified in Subsection 807.54(b)(2) with the webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All beams in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Bent plate diaphragms for horizontally curved beams shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight beams may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved beams.

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

STRUCTURAL STEEL (PLATE GIRDERS):

All references to cross-frames shall include "X" or "K" types.

All girder web and flange plates, all field splice plates, and all diaphragms, cross-frames and connection plates attached to horizontally curved girders are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

All girders in continuous units and simple spans with field splices shall be assembled in the shop as specified in Subsection 807.54(b)(2) and blocked in their true position with webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All girders in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Web and flange plates for main members and flange splice plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Girder webs may be made by shop splicing with minimum lengths of 25 feet for sections. Flange plates longer than 50 feet may be made by shop splicing with minimum lengths of 25 feet for sections. No additional payment will be made for shop welded splices.

All girder dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Groove welds in web and flange plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Q.C. testing shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

Bent plate diaphragms for horizontally curved girders shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight girders may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved girders.

Unless otherwise noted, cross-frames and diaphragms shall be installed as girders are erected. All bolts in cross-frames, diaphragms, and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

SUBSTRUCTURE NOTES:

CONCRETE:

Unless otherwise noted, concrete in caps, columns and footings (except seal footings) shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. Seal Concrete for footings shall have a minimum 28 day compressive strength f'c = 2,100 psi.

Concrete in drilled shafts shall be Class "S" as modified by Job SP "Drilled Shaft Foundations".

All exposed corners shall be chamfered ¾" unless otherwise noted.

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

Structural steel in end bents shall be AASHTO M 270 with grade and payment as specified in the plans.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

STANDARD GENERAL NOTES
FOR STEEL BRIDGE STRUCTURES

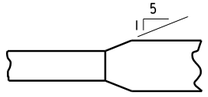
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 9-2-2015 FILENAME: b55006.dgn
CHECKED BY: B.E.F. DATE: 9-2-2015 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55006

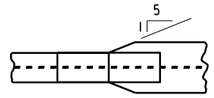
PRINT DATE: 11/7/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	STEEL BRIDGE STRUCTURES 55007			

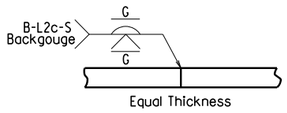


Plan-Unequal Width (Flg.)

FLANGE SPLICE

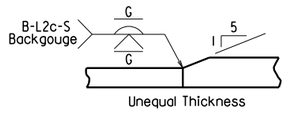


FLANGE SPLICE AT UNEQUAL BOTTOM FLANGE WIDTHS



Equal Thickness

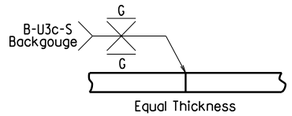
WEB & FLANGE SPLICE



Unequal Thickness

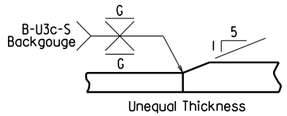
FLANGE SPLICE

(Use when Base Metal Thickness is Equal to or Less than 2")



Equal Thickness

WEB & FLANGE SPLICE

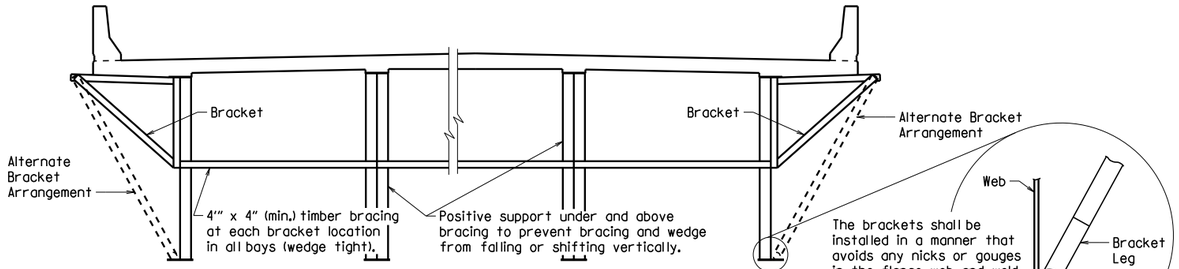


Unequal Thickness

FLANGE SPLICE

(Use when Base Metal Thickness is Greater than 2")

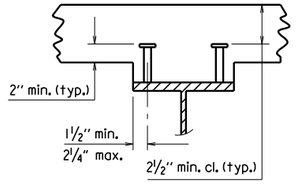
DETAILS OF WELDED SPLICES FOR PLATE GIRDERS



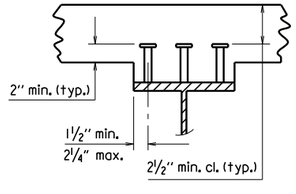
Note:
If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if web stiffeners matching the size of the cross-frame connection plates are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown above is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for cross frame connection plates shown on the plans. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (___)".

SCREED RAIL SUPPORT FOR PLATE GIRDERS

(USE WHEN WEB DEPTHS ARE 48" OR GREATER)



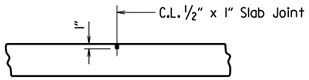
2 STUDS PER ROW



3 STUDS PER ROW

Stud Shear Connectors shall be automatically end welded to the beam or girder flange in accordance with the recommendations of the Manufacturer. See plan details for number and size.

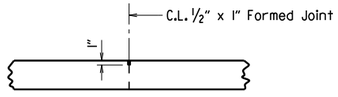
SHEAR CONNECTOR DETAIL



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. Slab Joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. Slab joints shall be installed before the parapet 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.

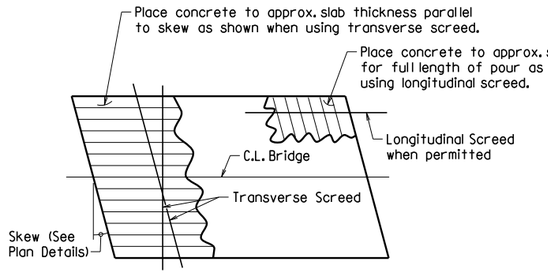
ADDITIONAL NOTES IF SIDEWALKS OR RAISED MEDIANS ARE REQUIRED:
Slab Joints shall be installed before the sidewalk or raised median is poured. After installation of the joint in the sidewalk or raised median and prior to pouring the parapet rail, the joint sealer shall be placed extending across the deck slab from gutterline to gutterline and acrosss the top of the sidwalk or raised median to the edge of the slab. No joint sealer shall be placed on the deck slab under the sidewalk or raised median.

TRANSVERSE SLAB JOINT DETAIL



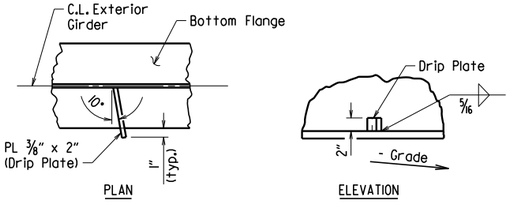
Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal color shall be gray or other color similar to concrete.

LONGITUDINAL CONSTRUCTION JOINT



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 FOR BRIDGES WITH SKEW



PLAN ELEVATION

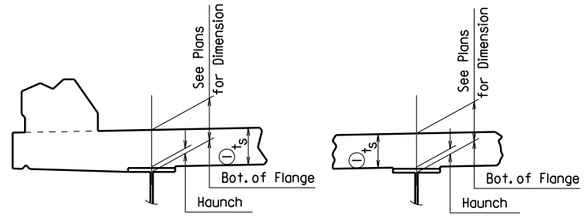
Drip Plate to be welded to the outer side of the bottom flange of the exterior girders.

Locate drip plate 5'-0" from C.L. Bearing on high side of each Bent, unless otherwise noted in the plans.

BOTTOM FLANGE DRIP PLATE

(USE WHEN WEB DEPTHS ARE 54" OR GREATER AND UNIT OR SPAN IS NOT IN LEVEL GRADE)

t_s = slab thickness. See "Typical Roadway Section" in the plans.



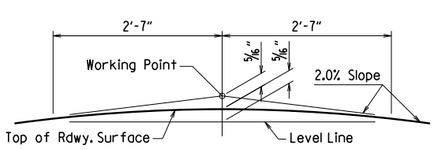
EXTERIOR BEAM OR GIRDER INTERIOR BEAM OR GIRDER

① Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

NOTES:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1¾" unless otherwise noted in the plans. No increase in concrete and structural steel quantities will be made to maintain tolerances.

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

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

BRIDGES IN NORMAL CROWN

WELD TABLE

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	⅝"	

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

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES

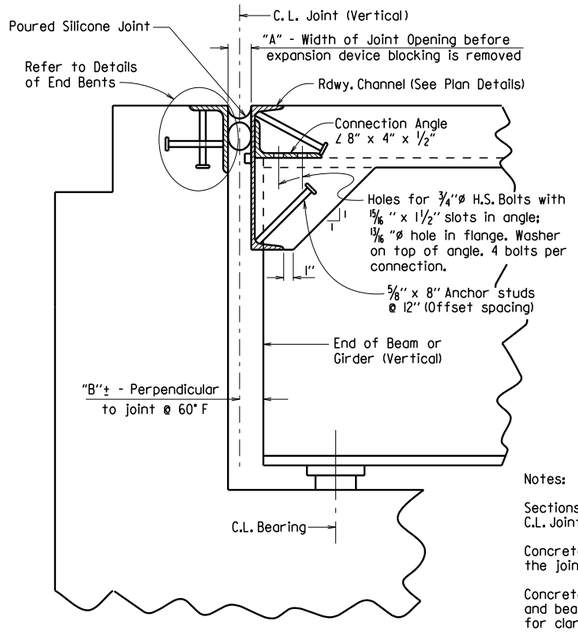
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

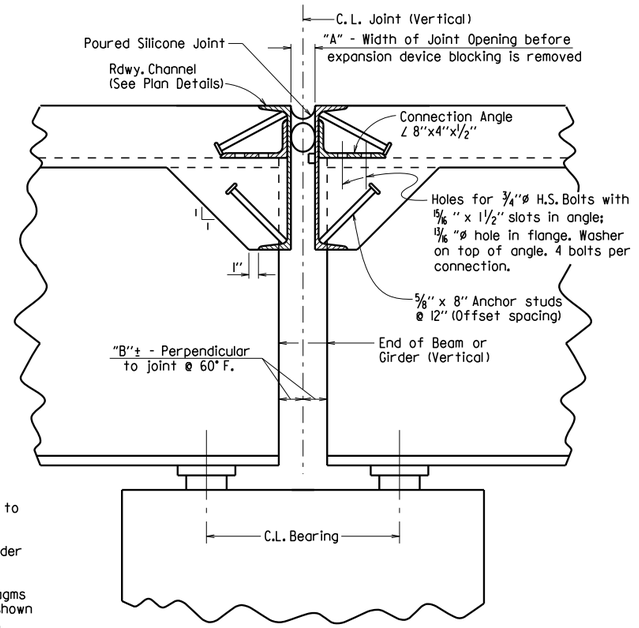
DRAWN BY: JYP DATE: 2/11/2016 FILENAME: b55007.dgn
CHECKED BY: AMS DATE: 2/11/2016 SCALE: No Scale
DESIGNED BY: STD. DATE: —

DRAWING NO. 55007

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①		POURED SILICONE JOINT		55008



SECTION THRU JOINT AT END BENT



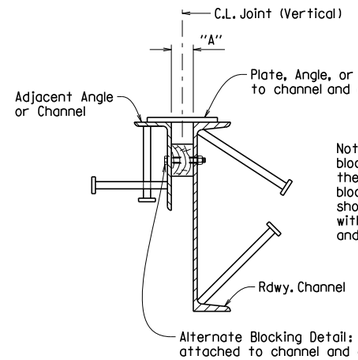
SECTION THRU JOINT AT INTERMEDIATE BENT

Notes:

Sections are taken perpendicular to C.L. Joint.

Concrete shall be hand packed under the joint armor.

Concrete diaphragms, steel diaphragms and bearing stiffeners are not shown for clarity. See plans for details.



Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "A" shown for 60° F and the blocking details shall be shown on the shop drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

EXPANSION DEVICE INSTALLATION AT END BENTS:

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

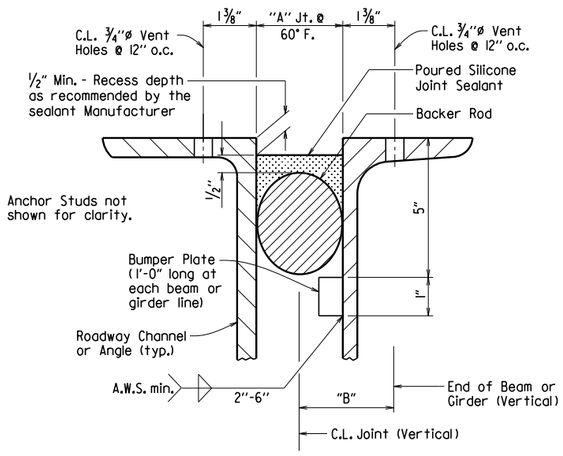
1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams or girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior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

2) The backwall shall be poured to the optional construction joint after beams or girders are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature and grade.

EXPANSION DEVICE INSTALLATION AT INTERMEDIATE BENTS:

After all beams or girders on each side of the joint are erected the blocked expansion device shall be installed and adjusted for grade. Deck concrete shall be placed for the entire unit or span on one side of the joint before deck concrete on the other side is placed. Connection bolts for the first side to have deck concrete placed shall be completely bolted. Bolts on the other side shall be loosely installed so that thermal and rotational movements will not be restricted during concrete placement on the first side.

Connection bolts on the second side shall remain loose until the concrete pour adjacent to the joint is to be placed. Immediately prior to pouring the span concrete on the second side, the blocking shall be removed, the joint adjusted for temperature and grade, and the connection bolts tightened.



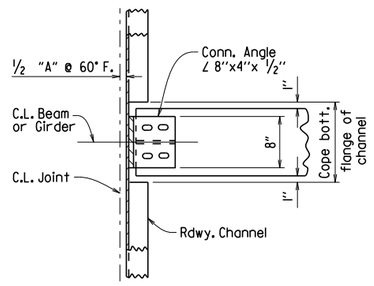
DETAIL OF POURED SILICONE JOINT

Silicone joint material and installation shall conform to Section 809. The temperature limitations recommended by the sealant Manufacturer shall be observed. The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80° F.

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

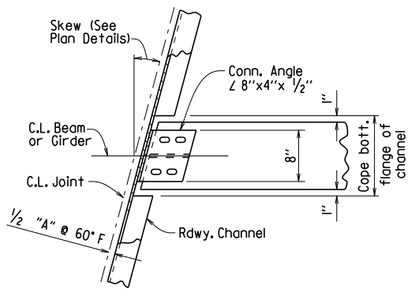
The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.

When bridge deck is constructed in stages, backer rods shall be extended beyond length of poured joint in initial construction stage so that the two pieces can be properly spliced together prior to installing sealant in subsequent stages. Manufacturer's recommendations shall be followed to prevent sealant from "running out of joint" during stage construction.



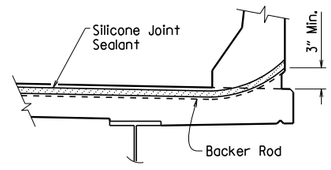
CHANNEL CONNECTION DETAIL

BENTS WITHOUT SKEW

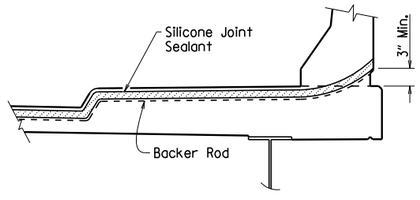


CHANNEL CONNECTION DETAIL

BENTS WITH SKEW



JOINT SEAL PLACEMENT AT RAIL



JOINT SEAL PLACEMENT AT SIDEWALK

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS. SEE "TABLE OF SILICONE JOINT DATA" IN PLAN DETAILS FOR VARIABLES "A" AND "B", AND BUMPER PLATE SIZE.

STANDARD DETAILS FOR POURED SILICONE JOINTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.C.P. DATE: 2/11/2016 FILENAME: b55008.dgn

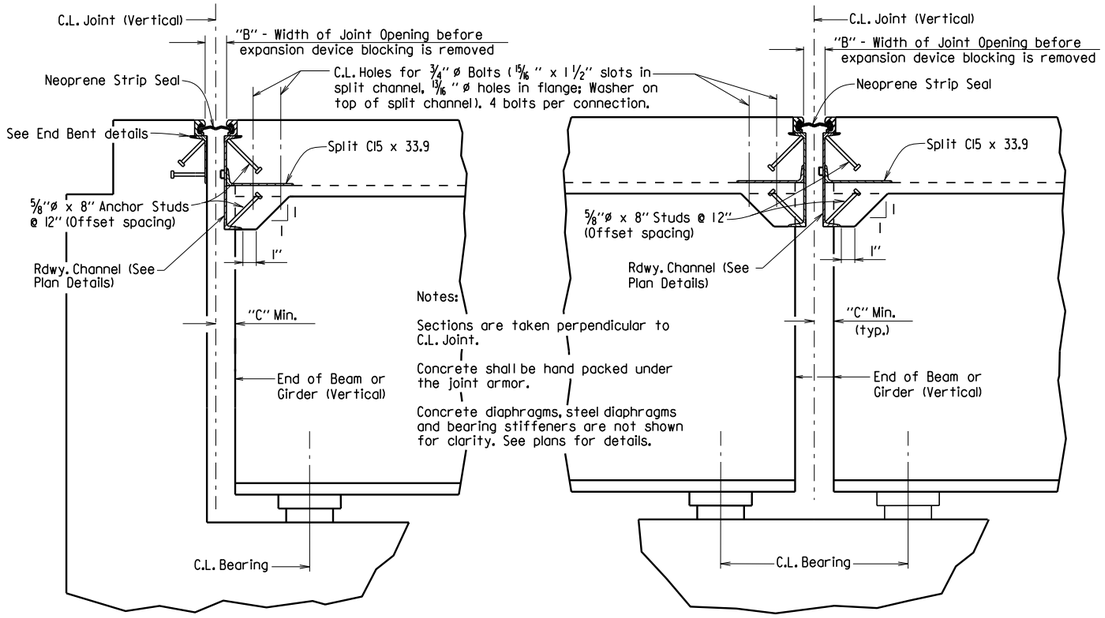
CHECKED BY: A.M.S. DATE: 2/11/2016 SCALE: No Scale

DESIGNED BY: STD. DATE: —

DRAWING NO. 55008

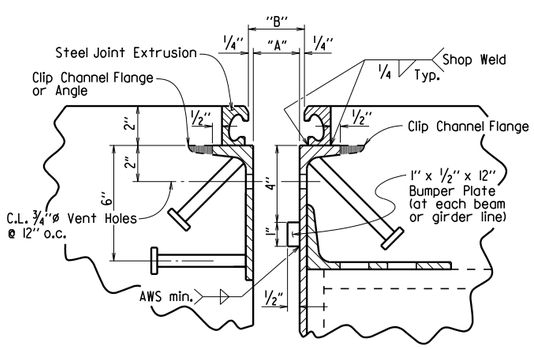
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

1 STRIP SEAL JOINT 55009



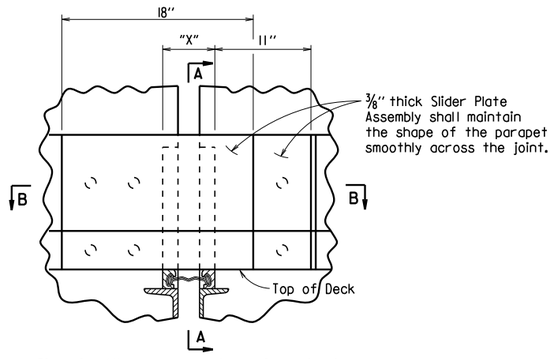
SECTION THRU JOINT AT END BENT

SECTION THRU JOINT AT INTERMEDIATE BENT



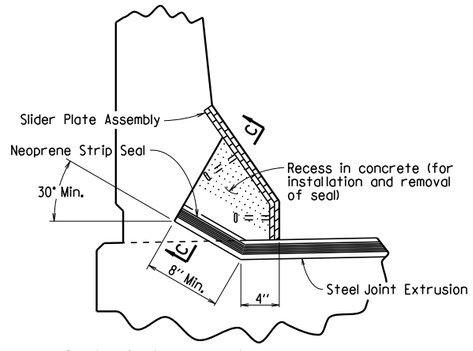
DETAIL OF STRIP SEAL JOINT

Detail shown at End Bent,
Details similar at Intermediate Bent



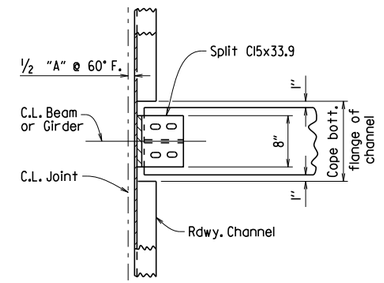
Dimension "X" equals the width of opening in parapet to allow for removal or repair of joint.

DETAIL OF PARAPET SLIDER PLATES



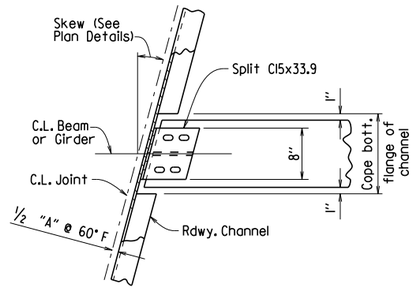
Details of Joint turn-up in parapet are general and show basic design controls only. See plan details for joint installation at sidewalks.

SECTION A-A



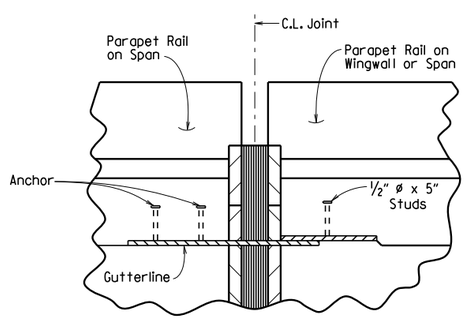
CHANNEL CONNECTION DETAIL

BENTS WITHOUT SKEW



CHANNEL CONNECTION DETAIL

BENTS WITH SKEW

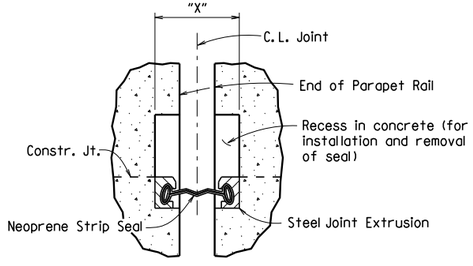


The method of attachment of the slider plate assembly shall allow for removal to provide for future replacement of the neoprene seal. Anchors shall not be paid for directly, but shall be considered subsidiary to the item "Armored Joint with Neoprene Strip Seal".

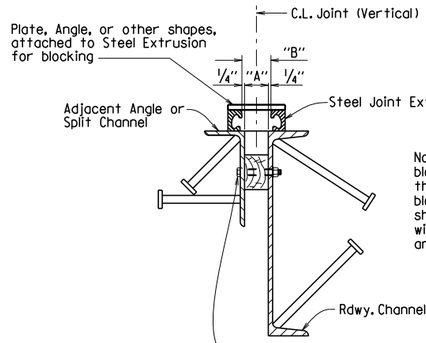
Method of installation and fabrication shall be determined by the Manufacturer.

SECTION B-B

BENTS WITHOUT SKEW SHOWN



SECTION C-C



Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "A" shown for 60° F and the blocking details shall be shown on the shop drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

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 or girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, and the opening adjusted for temperature and grade.

2) The backwall shall be poured to the optional construction joint after beams or girders are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature and grade.

EXPANSION DEVICE INSTALLATION AT INTERMEDIATE BENTS:

After all beams or girders on each side of the joint are erected the blocked expansion device shall be installed and adjusted for grade. Deck concrete shall be placed for the entire unit or span on one side of the joint before deck concrete on the other side is placed. Connection bolts for the first side to have deck concrete placed shall be completely bolted. Bolts on the other side shall be loosely installed so that thermal and rotational movements will not be restricted during concrete placement on the first side.

Connection bolts on the second side shall remain loose until the concrete pour adjacent to the joint is to be placed. Immediately prior to pouring the span concrete on the second side, the blocking shall be removed, the joint adjusted for temperature and grade, and the connection bolts tightened.

GENERAL NOTES FOR NEOPRENE STRIP SEAL JOINTS:

The steel extrusion and neoprene strip seal material and installation shall be in accordance with Section 809.

The expansion device shall provide for the movement rating(s) shown in the "TABLE OF STRIP SEAL JOINT DATA" in the plan details. The expansion joint shall be capable of sealing the deck surface and parapet area to prevent moisture and other contaminants from descending through the joint.

Details of proposed slider plate assembly shall be submitted to the Engineer for approval prior to the fabrication of any structural steel at the expansion device.

All structural steel shall conform to AASHTO M 270, Grade 50W and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e). The parapet slider plates and structural steel completely embedded in concrete shall conform to AASHTO M 270, Grade 36, 50 or 50W steel. Unless otherwise noted in the plans, all exposed surfaces of the parapet slider plates shall be cleaned and painted in accordance with Section 638. Painting shall not be paid for directly and structural steel completely embedded in concrete need not be painted. Payment for structural steel shall be as specified in the plans.

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS. SEE "TABLE OF STRIP SEAL JOINT DATA" IN PLAN DETAILS FOR VARIABLES "A", "B", AND "C".

STANDARD DETAILS FOR NEOPRENE STRIP SEAL JOINTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

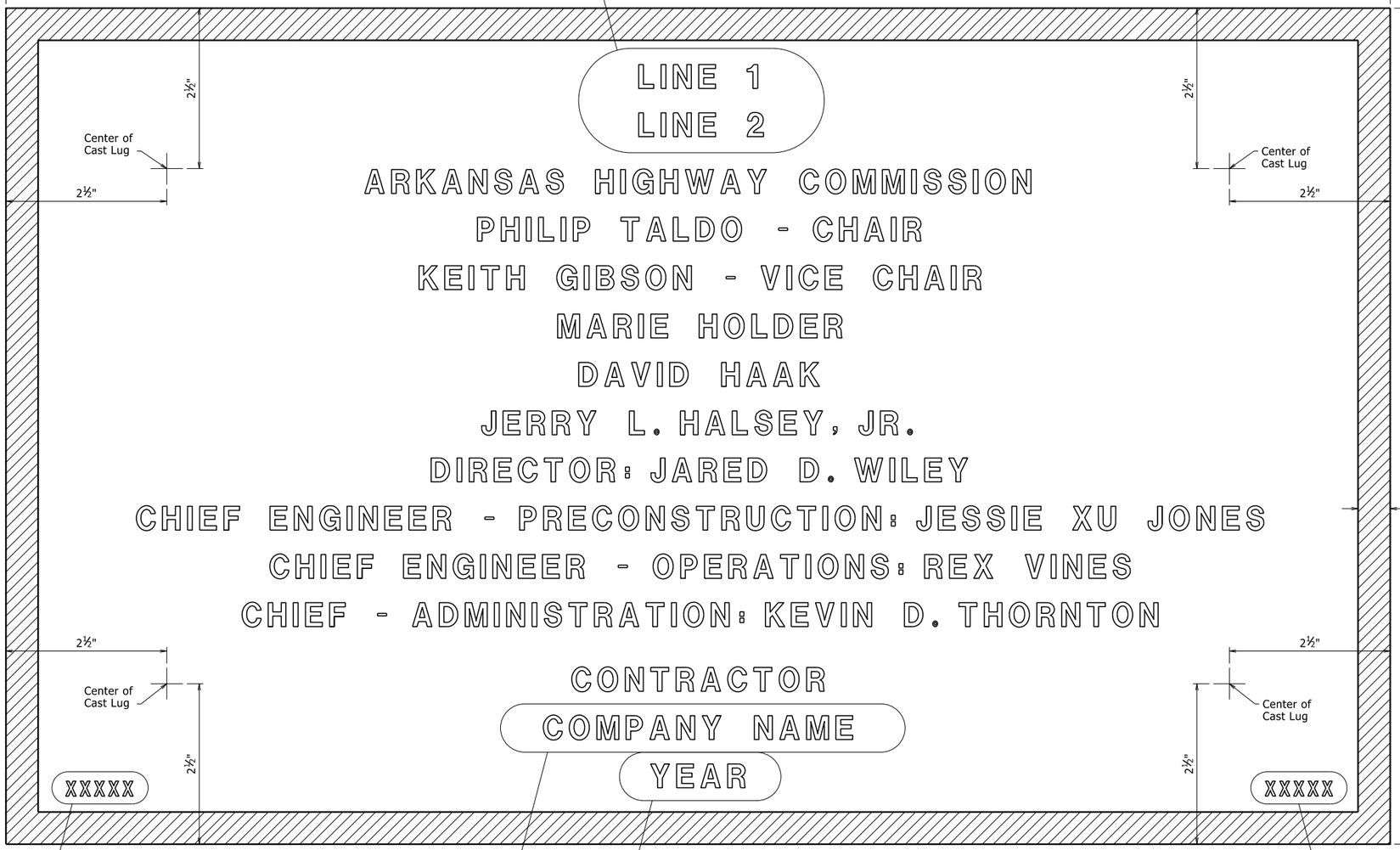
DRAWN BY: L.J.B. DATE: 2/11/2016 FILENAME: b55009.dgn
CHECKED BY: A.M.S. DATE: 2/11/2016 SCALE: No Scale
DESIGNED BY: STD. DATE: —

DRAWING NO. 55009

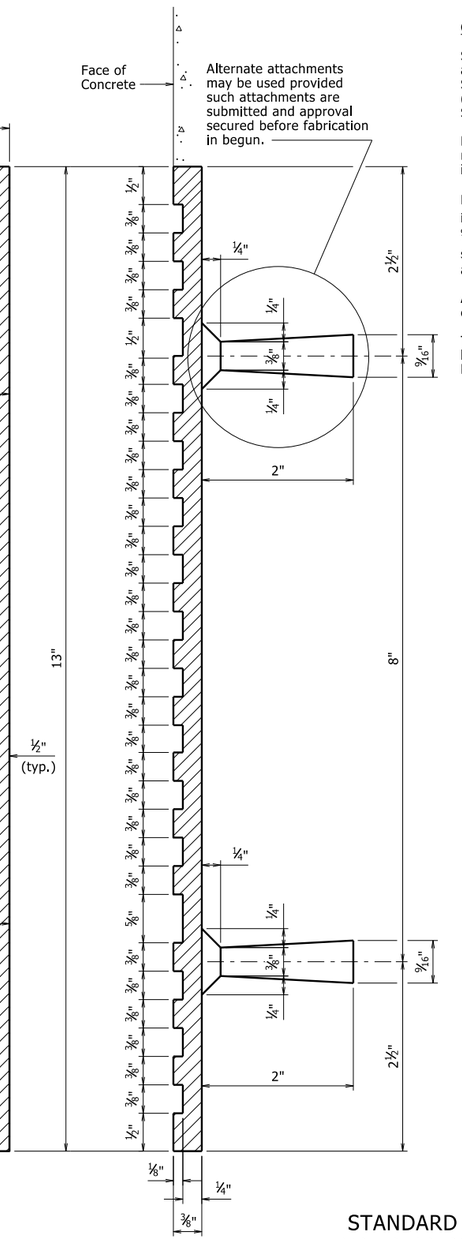
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
4-14-23		6	ARK.			
1-28-25						
		TYPE D NAME PLATE - 55010				

The name of the bridge as shown on the plans shall be placed on Lines 1 & 2 using ⅛" raised letters and numerals ⅜" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	RED RIVER	SOUTHERN RAILROAD	SALINE RIVER	HIGHWAY 5
Line 2	RELIEF	OVERPASS		



TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

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

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be ¼" thick and shall include four tapering cone lugs ⅜" to 9/16" x 2" long. The border and all lettering shall be raised ⅛" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

2 Updated names
1-28-25 CGP Checked By: CRE

1 Revised and Redrawn
4-14-23 CGP Checked By: CRE

STANDARD DETAILS FOR
TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

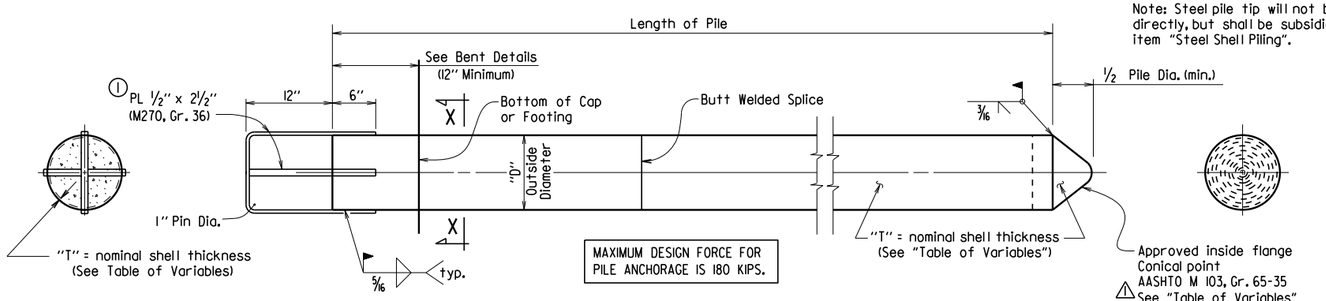
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55010

PRINT DATE: 1/28/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				
						STEEL SHELL PILES		55021

(1)

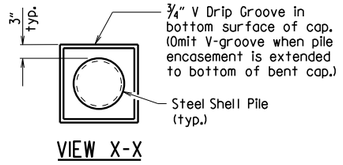


Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

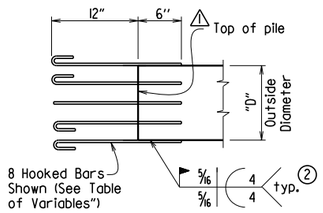
CONCRETE FILLED STEEL SHELL PILE

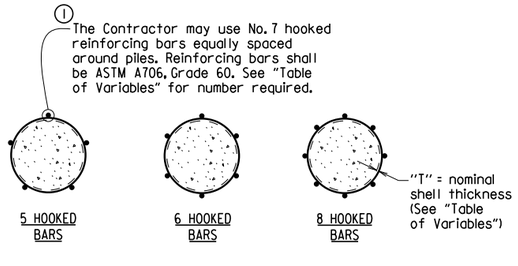
(1) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

(2) Welding shall comply with ANSI/AWS D1.4 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D1.5 Bridge Welding Code.



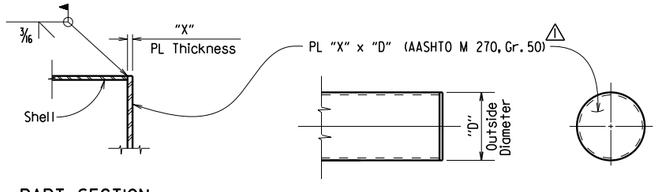
VIEW X-X





ALTERNATE PILE ANCHORAGE DETAIL

Note: Hooked bars shall be oriented to provide the required concrete clearances shown in the plans.

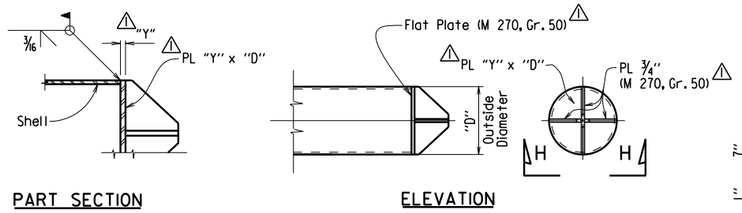


PART SECTION

ELEVATION

ALTERNATE FLAT TIP DETAIL

Note: The alternate flat tip detail shall not be used on steel shell piling to be driven through embankments constructed with internal geosynthetic reinforcement.

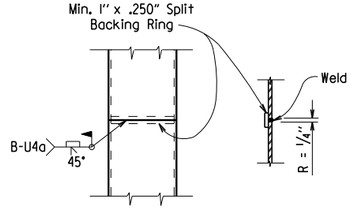


PART SECTION

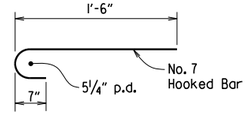
ELEVATION

VIEW H-H

ALTERNATE VANED TIP DETAIL



TYPICAL SPLICE DETAILS



HOOKED BAR DETAIL

GENERAL NOTES FOR CONCRETE FILLED STEEL SHEEL PILES:

Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi.)

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

Steel shell piling that extends above the ground and is not protected by pile encasement shall be painted in accordance with Subsection 805.02.

See Bridge Layout for size and estimated length of steel shell piles and for driving information.

Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".

TABLE OF VARIABLES

OUTSIDE DIAMETER "D"	NOMINAL SHELL THICKNESS "T"	⚠ PLATE THICKNESS "X"	⚠ PLATE THICKNESS "Y"	NO. OF HOOKED BARS FOR ALTERNATE PILE ANCHORAGE	⚠ MINIMUM CONICAL TIP DESIGN LOAD (KIPS)
14"	0.50"	2¼"	1½"	5	859
16"	0.50"	2¼"	1½"	5	986
18"	0.50"	2½"	1½"	6	1,114
20"	0.50"	2½"	1¾"	6	1,241
24"	0.50"	2¾"	1¾"	8	1,495

⚠ Revised and added various details by KWY, Ck'd. by BEF, 3/24/16.

GENERAL NOTES FOR PILE ENCASEMENTS:

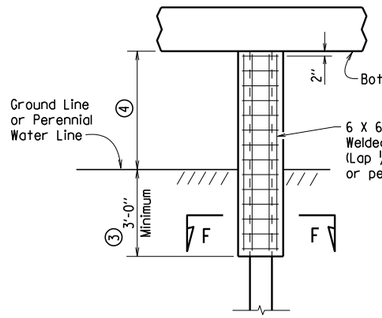
⚠ See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

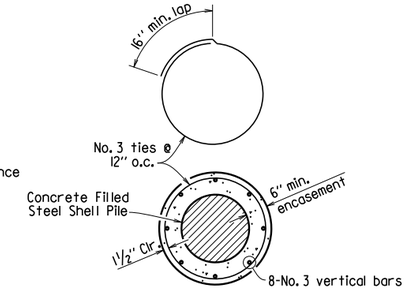
Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

Welded wire fabric shall conform to AASHTO M 55 or M 221.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".





SECTION F-F (REINF. ALTERNATE)

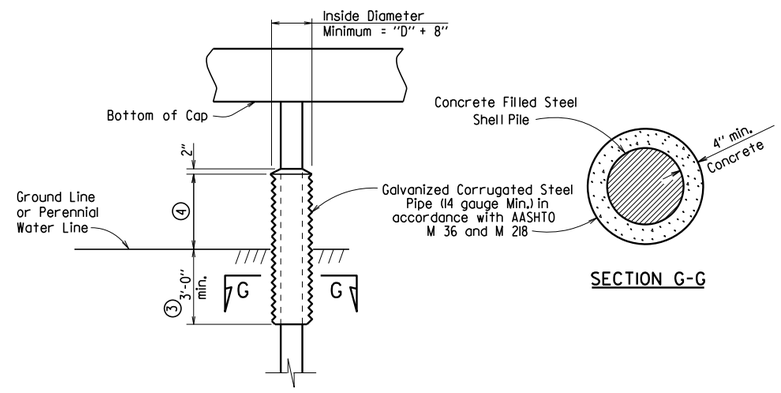
PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(5) (Shown with Encasement to Bottom of Cap)

(3) Unless otherwise noted on Bridge Layout.

(4) See Bridge Layout for height of pile encasement (3'-0" Minimum).

(5) Pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the detail for partial height encasement.



SECTION G-G

ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(Shown with Partial Height Encasement)

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on March 24, 2016. This copy is not a signed and sealed document.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

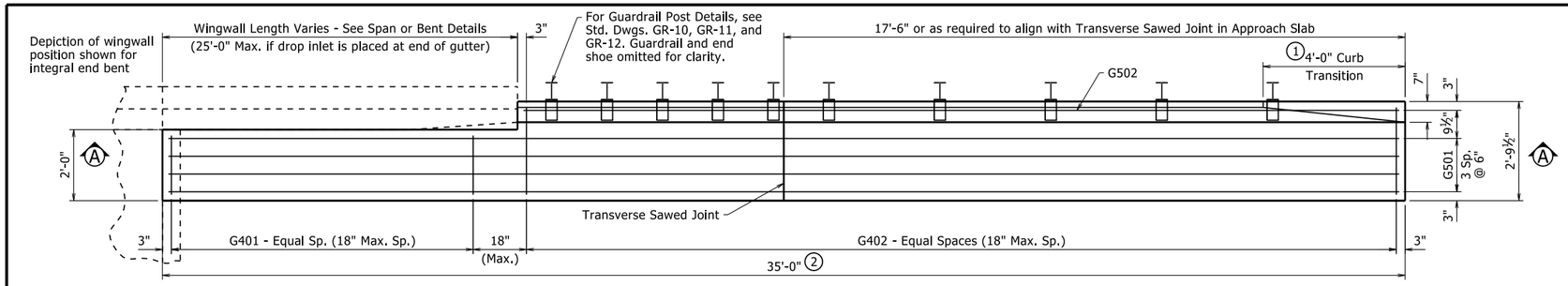
DRAWN BY: A.M.S. DATE: 2/27/2014
CHECKED BY: B.E.F. DATE: 2/27/2014
DESIGNED BY: STD. DATE: —

FILENAME: b55021.dgn
SCALE: NO SCALE

DRAWING NO. 55021

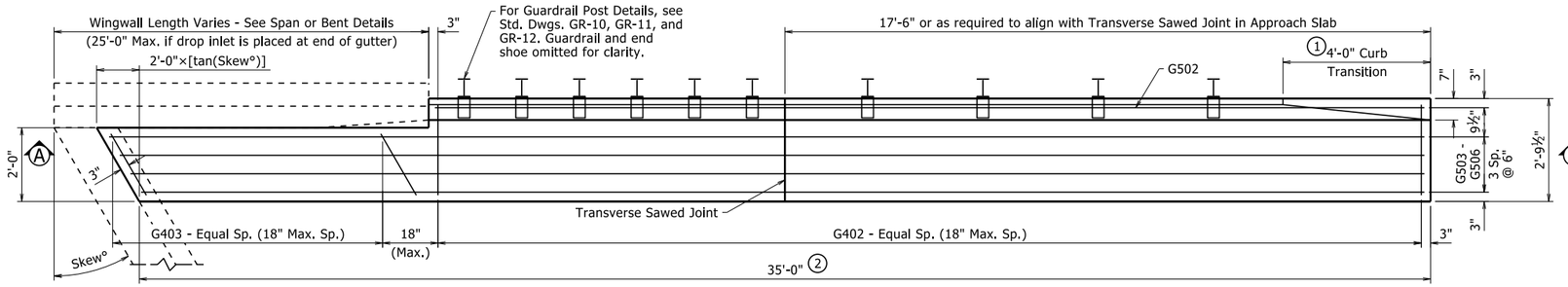
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

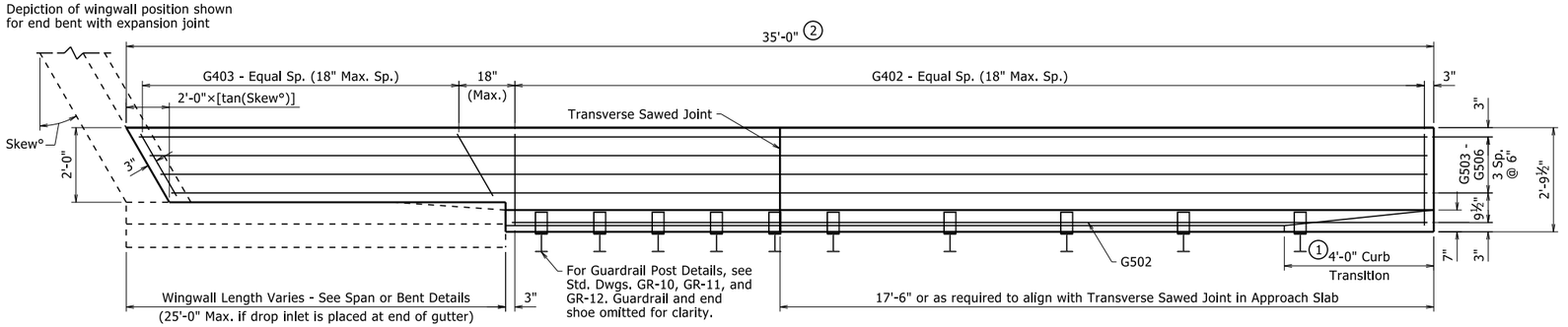
① Type F Approach Gutters - 55030F



HALF PLAN OF APPROACH GUTTERS FOR SQUARE END BENT

½" = 1'-0"





PLAN OF SKEWED APPROACH GUTTERS FOR SKEWED END BENT

½" = 1'-0"

QUANTITIES FOR ONE APPROACH GUTTER

(For Information Only)

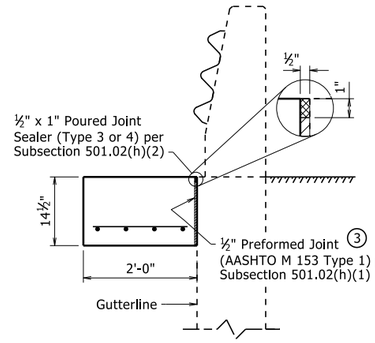
Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
210	4.20

Quantities are based on one gutter for a square, integral end bent and a wingwall length of 10'-0"

BAR LIST FOR ONE APPROACH GUTTER

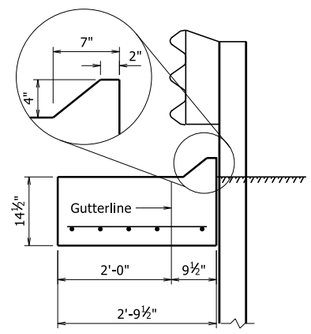
	Mark	No. Req'd.	Length
Square End Bent	G401	④	1'-8"
	G402	④	2'-5½"
	G501	4	34'-8"
	G502	1	④
Skewed End Bent	G402	④	2'-5½"
	G403	④	④
	G502	1	④
	G503 - G506	1 ea.	④

④ Varies with Skew and/or Wingwall Length



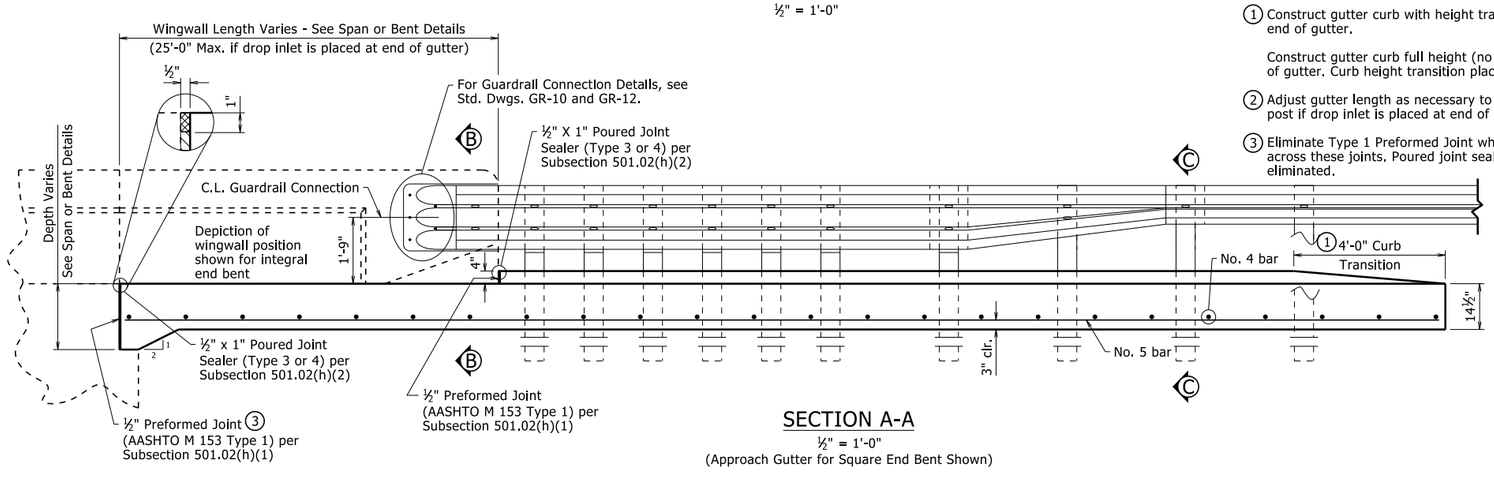
SECTION B-B

¾" = 1'-0"



SECTION C-C

¾" = 1'-0"



SECTION A-A

½" = 1'-0"

(Approach Gutter for Square End Bent Shown)

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.

② Adjust gutter length as necessary to avoid outlet pipe interference with guardrail post if drop inlet is placed at end of gutter.

③ Eliminate Type 1 Preformed Joint when bridge details show reinforcing dowels across these joints. Poured joint sealer is required, however, backer rod shall be eliminated.

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 M 31 or M 322, Type A, with mill test reports.

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

All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

Scales shown are for 22"x34" drawings. When using 11"x17" drawings, reduce scale by one half.

STANDARD DETAILS FOR TYPE F APPROACH GUTTERS

ARKANSAS STATE HIGHWAY COMMISSION

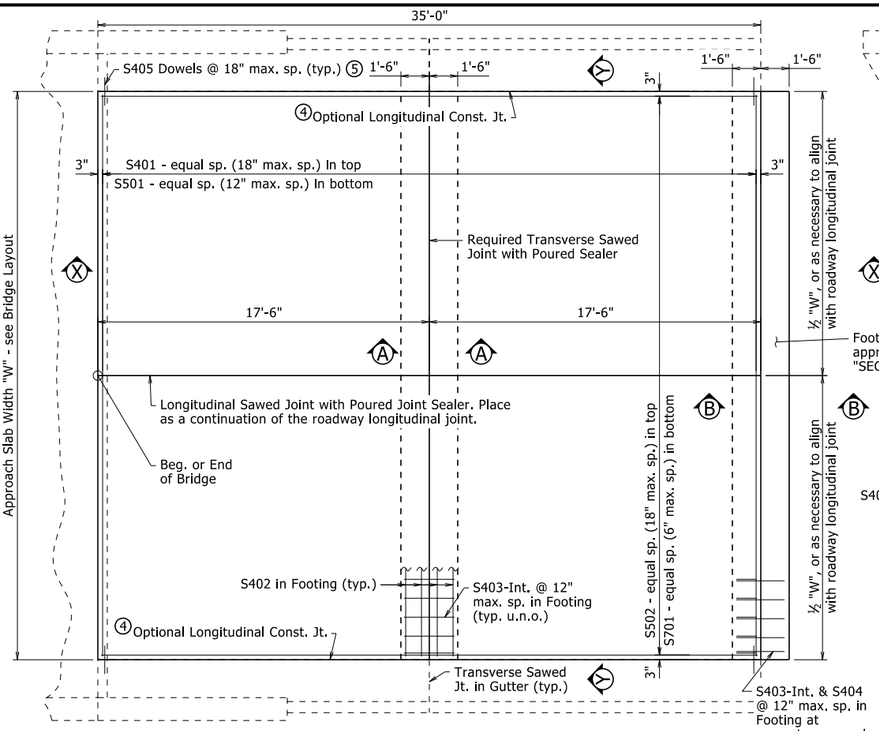
LITTLE ROCK, ARK.

DRAWN BY: NAC DATE: 4-8-2021 FILENAME: b55030f.dgn
CHECKED BY: LJB DATE: 4-8-2021 SCALE: AS NOTED
DESIGNED BY: STD DATE: -

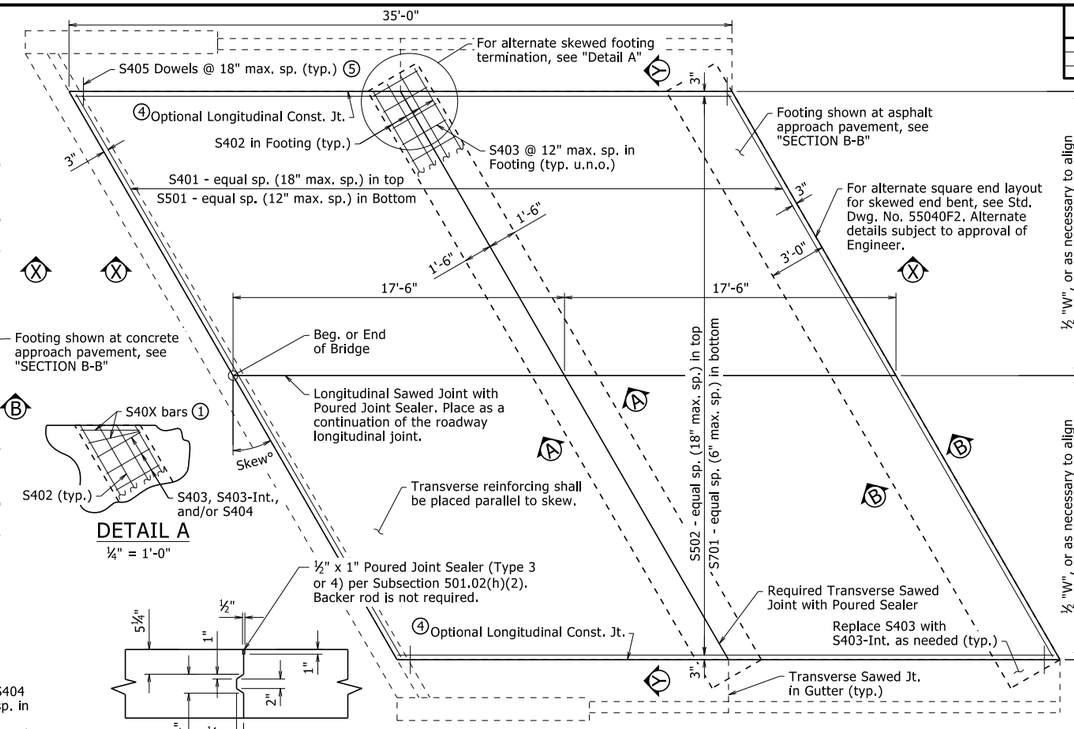
DRAWING NO. 55030F

PRINT DATE: 9/8/2023

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.			
		Type F Approach Slab - 55040F1				



PLAN - APPROACH SLAB AT SQUARE END BENT

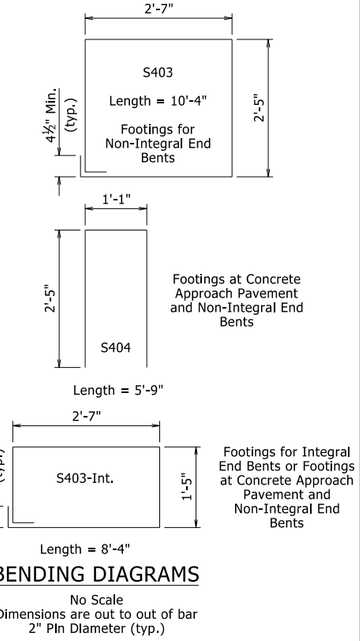


LONGITUDINAL CONSTRUCTION JOINT

½" = 1'-0"

DETAIL A

¼" = 1'-0"

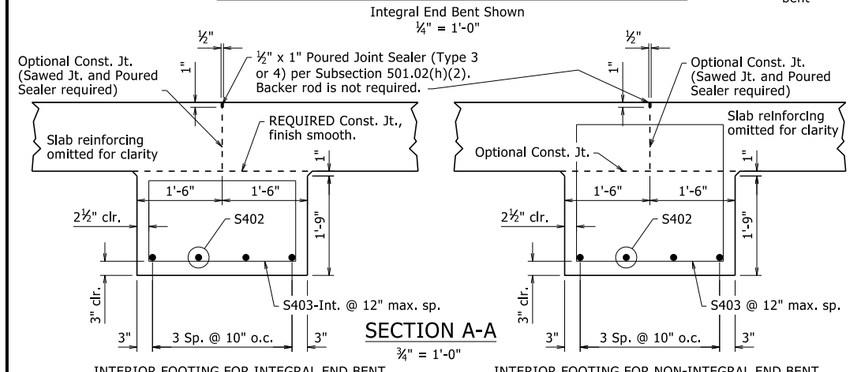


BENDING DIAGRAMS

No Scale
Dimensions are out to out of bar
2" Pin Diameter (typ.)

PLAN - APPROACH SLAB AT SKEWED END BENT

Non-Integral End Bent Shown
¼" = 1'-0"

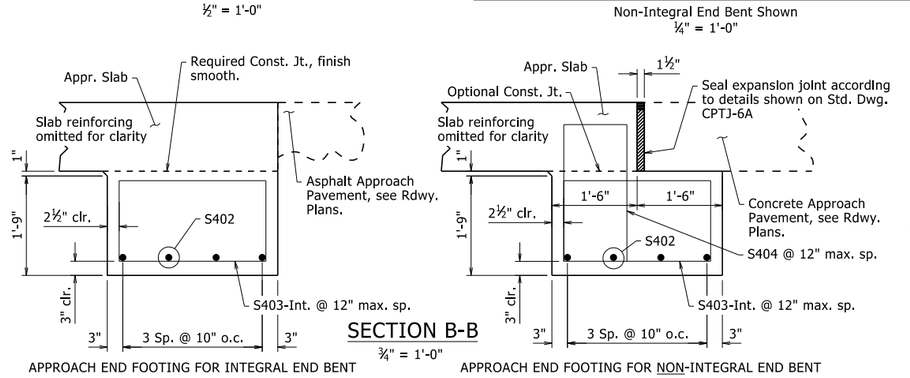


SECTION A-A

¾" = 1'-0"

INTERIOR FOOTING FOR INTEGRAL END BENT

INTERIOR FOOTING FOR NON-INTEGRAL END BENT



SECTION B-B

¾" = 1'-0"

APPROACH END FOOTING FOR INTEGRAL END BENT

Asphalt Approach Shown. For Concrete Approach, adjust footing location by 1'-6" to add paving notch and include expansion joint.

APPROACH END FOOTING FOR NON-INTEGRAL END BENT

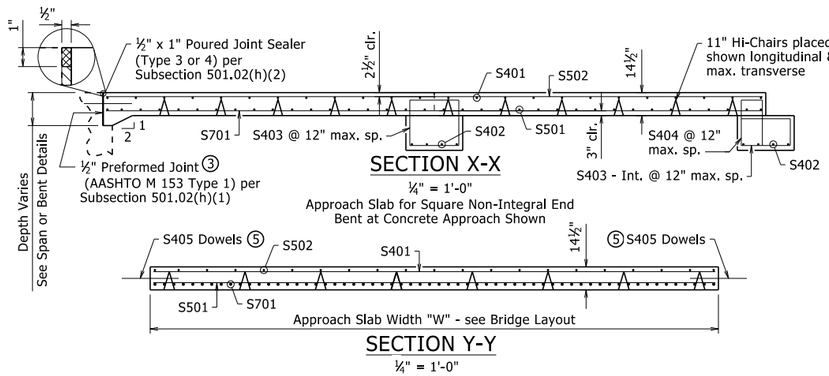
Concrete Approach Shown. For Asphalt Approach, adjust footing location by 1'-6", omit expansion joint, and replace bars S403-Int. & S404 with S403.

BAR LIST - PER APPROACH SLAB

	Square End Bent		Skewed End Bent	
Mark	No. Req'd.	Length	No. Req'd.	Length
S401	24	"W" - 0.33'	24	("W" - 0.33') / cos (Skew°)
S402	8	"W" - 0.33'	8	"W"/cos(Skew°) + 3.0'×tan(Skew°) - 0.33'
S403	①	②	①	②
S403-Int.	①	②	①	②
S404	①	②	①	②
S405	48	1'-6"	48	1'-6"
S501	36	"W" - 0.33'	36	("W" - 0.33') / cos (Skew°)
S502	①	34'-8"	①	34'-8"
S701	①	34'-8"	①	34'-8"

All bar lengths are in feet.

① Varies with Approach Slab Type, Width and/or Skew.
② See "BENDING DIAGRAMS"



SECTION X-X

¼" = 1'-0"

SECTION Y-Y

¼" = 1'-0"

③ Eliminate Type 1 Preformed Joint when bridge details show reinforcing dowels across these joints. Poured joint sealer is required, however, backer rod shall be eliminated.

④ When construction joint is eliminated, place 1" Sawed Joint with ½" x 1" Poured Joint Sealer (Type 3 or 4) per Subsection 501.02(h)(2). Backer rod is not required.

⑤ Eliminate dowels when approach slab is adjacent to curb and gutter, or as directed by the Engineer.

MINIMUM BAR LAP LENGTH

#4	1'-8"
#5	2'-0"
#7	2'-10"

The document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on September 7, 2023. This copy is not a signed and sealed document.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

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 M 31 or M 322, Type A, with mill test reports.

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

All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

See Plans for actual Approach Slab Width, "W", end bent or span details, and approach pavement. Units of "W" are in Feet.

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

Scales shown are for full size 22"x34" drawings. When using 11"x17" drawings, reduce scale by one half.

For Table of Quantities, see "SCHEDULE OF BRIDGE QUANTITIES".

STANDARD DETAILS FOR TYPE F APPROACH SLAB

ARKANSAS STATE HIGHWAY COMMISSION

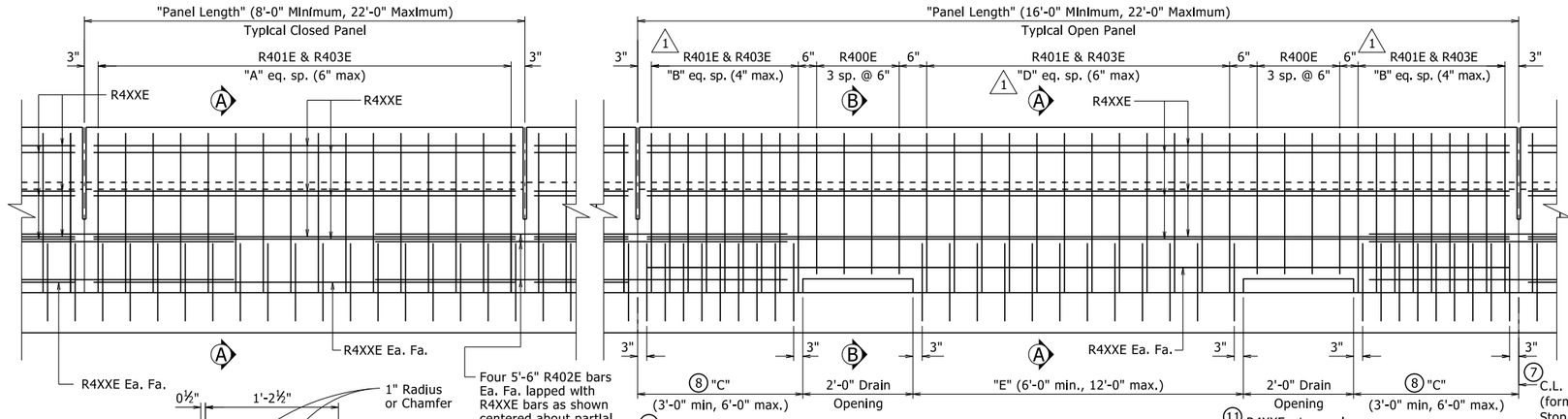
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 05/12/2023 FILENAME: b55040f.dgn
CHECKED BY: JYP DATE: 05/15/2023 SCALE: AS NOTED
DESIGNED BY: STD. DATE: -

DRAWING NO. 55040F1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
09/27/2022				6	ARK.			
				JOB NO.				

TYPE SSTR36 - 55070



(1) ELEVATION - SINGLE SLOPE TRAFFIC RAIL

¾" = 1'-0"

(1) All measurements shown are along gutterline at base of rail.

(2) Minimum embedment into deck/slab.

(3) Eliminate recess when formliner with architectural finish is used. See Plans for additional information.

(4) C.L. 1" ø formed holes for ⅞" ø bolts. See Standard Drawings GR-10 and GR-12 for additional information.

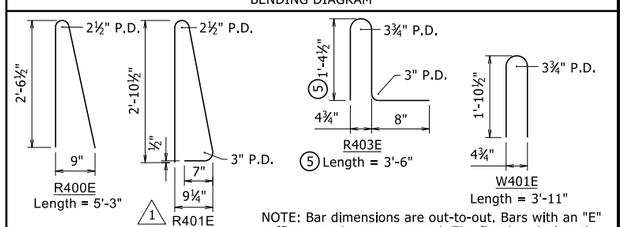
(5) Only applicable for bridges with rail cast directly on bridge deck/slab surface. Increase height as necessary for sidewalks, see Plans for additional information.

(6) Field bend front leg of R401E bar as required to maintain minimum 1½" front face clearance within limits of taper.

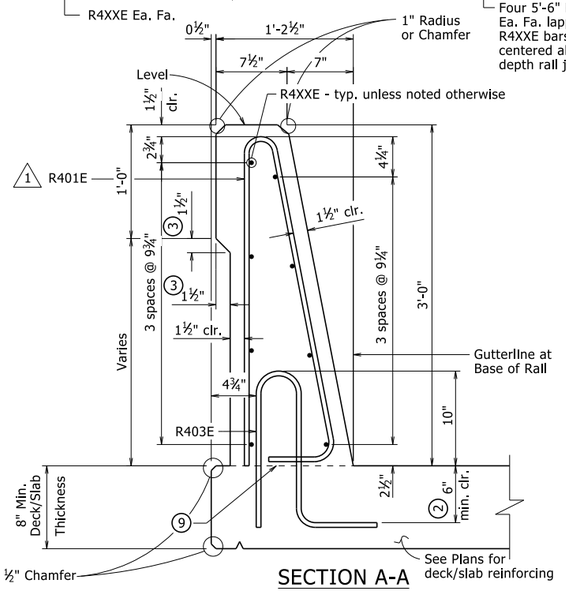
(7) When optional slip forming is used: to control cracking, all rail joints must be V-grooved around the perimeter of the rail prior to concrete set and sawing. Depth of V-groove shall be ½". Sawing of the joints shall be done as soon as practical to a width of ¼", and must be controlled so it will follow the V-Groove.

(8) End posts shall be the same length within a panel.

BENDING DIAGRAM

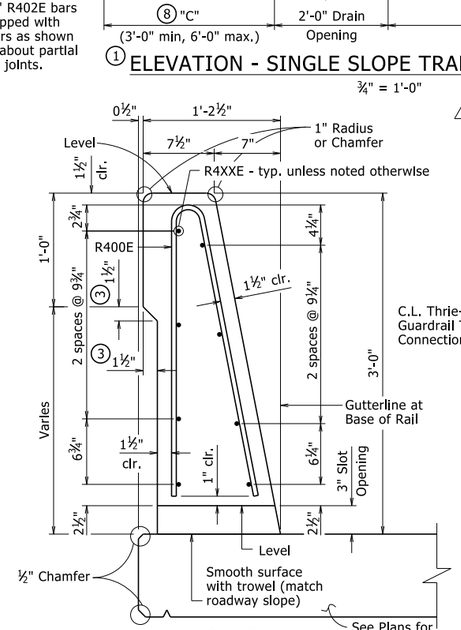


NOTE: Bar dimensions are out-to-out. Bars with an "E" suffix are to be epoxy coated. The first bar designation number indicates the reinforcing bar size.



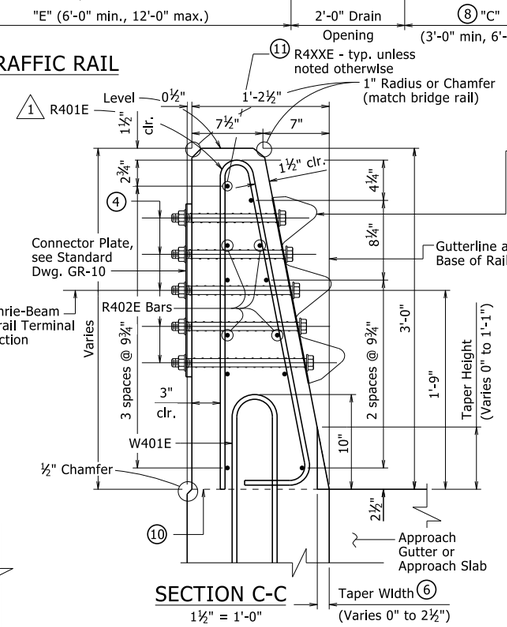
SECTION A-A

1½" = 1'-0"



SECTION B-B

1½" = 1'-0"



SECTION C-C

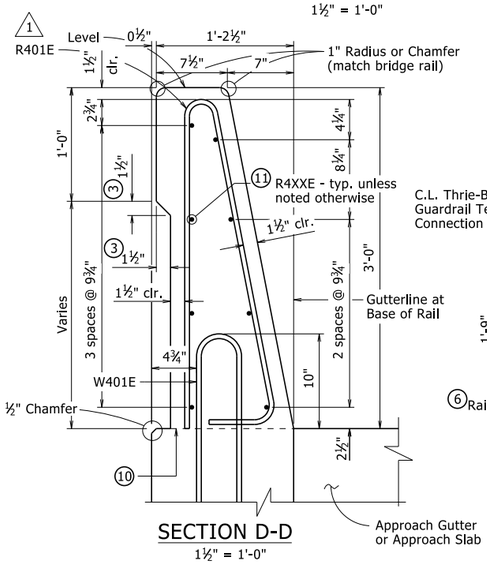
1½" = 1'-0"

(9) Required Construction Joint. Level where water flows away from rail, match roadway slope where water flows toward rail.

(10) Top of Abutment Wing & Required Construction Joint (match bridge deck/slab construction joint slope). See Plans for Wing reinforcing.

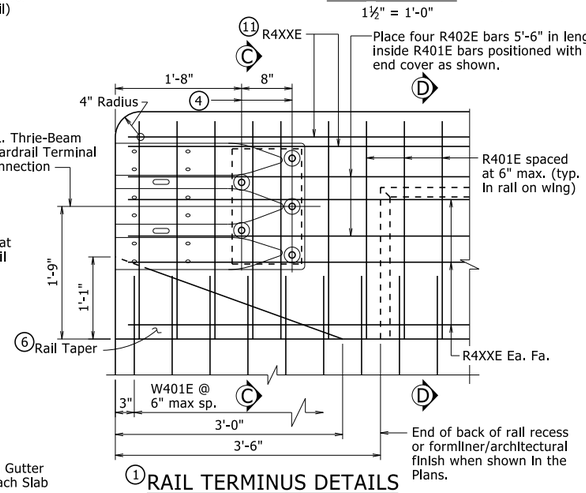
(11) These bars will not be included in the "Table of Variables". See Plans for details.

Bolt Special End Shoe to face of rail as shown. Tapered washers are not required between the head of the bolts and the sloped face of the rail. Tighten the five terminal connection bolts in a well distributed pattern to prevent damage or distortion of the thrie-beam connection. Cut bolts off after installation so as to extend no more than ¾" beyond nut. Paint ends of cut-off bolts with zinc-rich paint. This work and material will not be paid for directly but shall be considered subsidiary to associated contract items.



SECTION D-D

1½" = 1'-0"



(1) RAIL TERMINUS DETAILS

1" = 1'-0"

TABLE OF VARIABLES

Closed Rail Panels			Open Rail Panels					
Panel Length	A	R4XXE	Panel Length	B	C	D	E	R4XXE

See Plans for table with values.

GENERAL NOTES

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria.

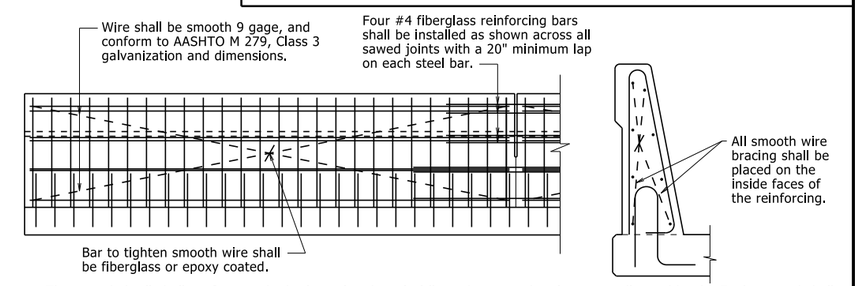
Details shown are general for bridges without sidewalks. See Plans for additional details and requirements specific to bridges with sidewalks.

For Table of Variables, Rail Bar List, locations of Full and Partial Depth Rail Joints, and Wing & Rail Bar Lists, see Plans.

For location of drain openings, see Plans. Drain openings shown are not applicable for bridges with sidewalks. Drain openings will not be allowed over Railroad Right of Way, travelled roadways, and protected waterways.

Rail Terminus details, including Rail Taper, are not applicable for bridges with sidewalks or when bridge railing is continuous with roadway railing.

Scales shown are for 22"x34" drawings. When using 11"x17" drawings, reduce scale by one half.



The extruded rail shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Unless otherwise noted, exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of Class 2, Rubbed Finish.

All panels shall be braced as required to prevent racking.

Slip forming will not be allowed on bridges where formliner with architectural treatment is used unless approval from the Engineer is obtained.

DETAILS OF OPTIONAL SLIP FORMING OF BRIDGE TRAFFIC RAIL

No Scale

1 Modified bending diagram and spacing for R401E bar.

By: CGP, Checked by: CMW 09/27/2022

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on November 5, 2020. This copy is not a signed and sealed document.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR BRIDGE TRAFFIC RAIL TYPE SSTR36

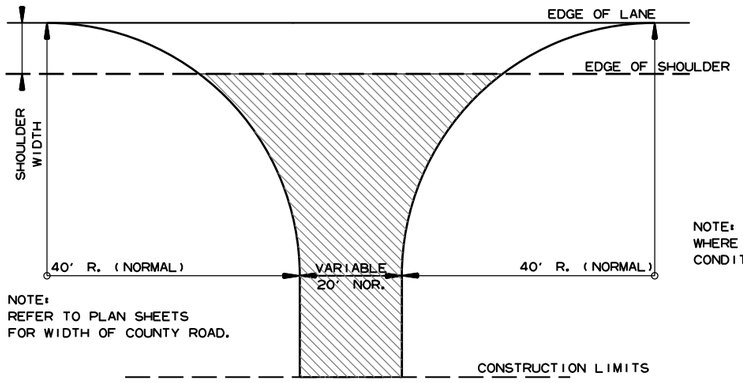
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KWY DATE: 11/5/2020
CHECKED BY: LJB DATE: 11/5/2020
DESIGNED BY: STD. DATE: -----
FILENAME: b55070.dgn
SCALE: As Noted

DRAWING NO. 55070

PRINT DATE: 10/6/2022

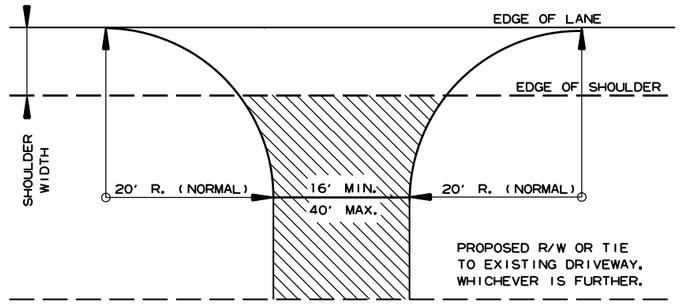


NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH, UNLESS OTHERWISE SPECIFIED IN PLANS.

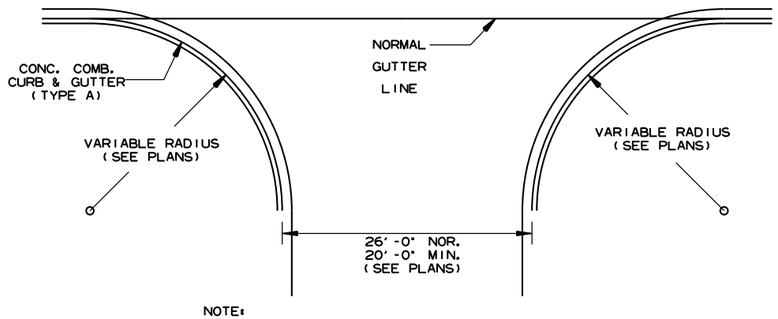
DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

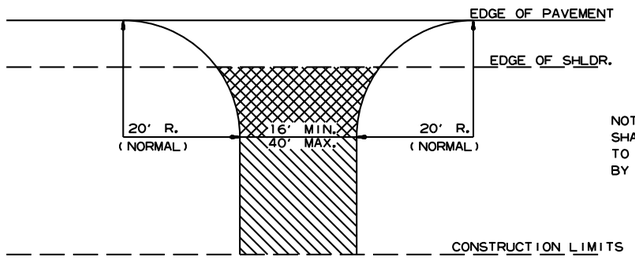
ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING, OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)



NOTE:
PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS, & COUNTY ROADS TO BE SAME AS MAIN LANES.

DETAIL OF TURNOUTS, ASPHALT STREETS, COUNTY ROADS & STATE HIGHWAYS CURB & GUTTER SECTION



NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ASPHALT CONCRETE HOT MIX SURFACE COURSE (220 LBS. PER SQ. YD.) AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR 6" CONCRETE IF CONCRETE DRIVE EXIST.

AGGREGATE BASE COURSE (CLASS 7) 9" COMP. DEPTH OR CONFORM TO EXISTING DRIVEWAY

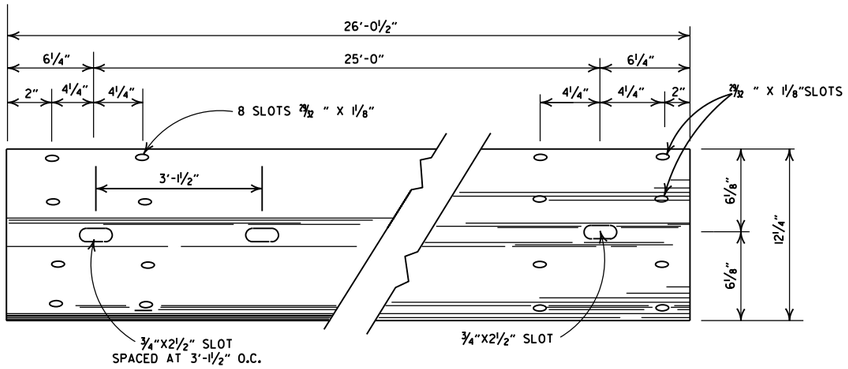
DETAIL FOR DRIVEWAY TURNOUTS (COLLECTORS)

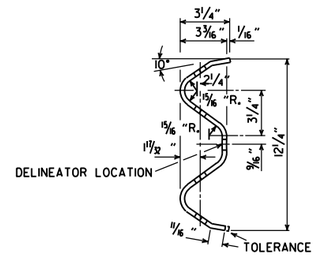
DATE REV	DATE FILMED	DESCRIPTION
5-19-22		ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & STREET TURNOUTS

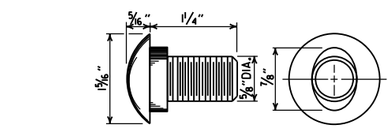
STANDARD DRAWING DR-2



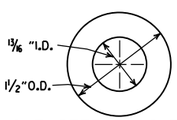


DETAILS OF W-BEAM GUARDRAIL

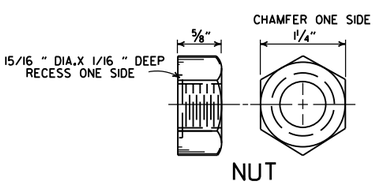
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



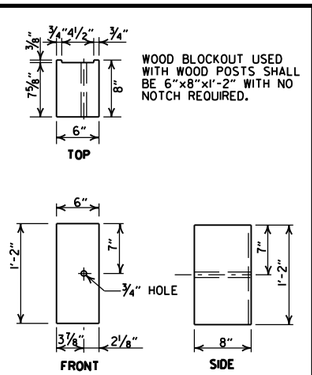
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

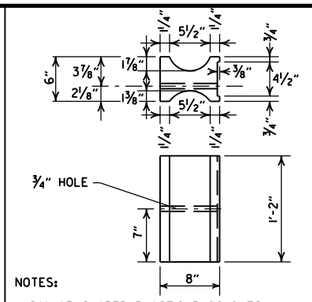


NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

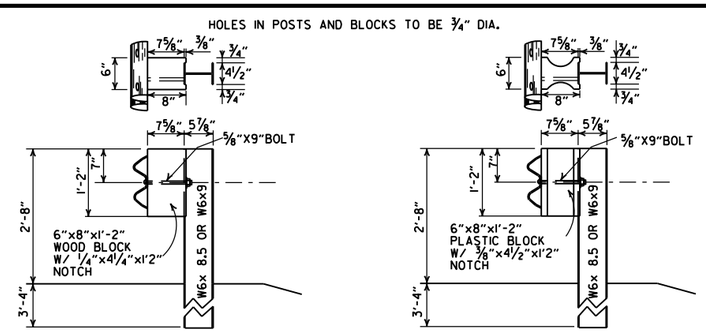
WOOD BLOCKOUT (W-BEAM)



NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

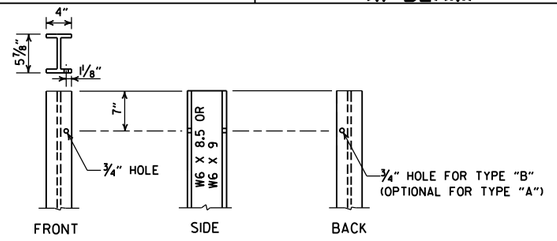
PLASTIC BLOCKOUT (W-BEAM)



WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST

TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARDRAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARDRAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

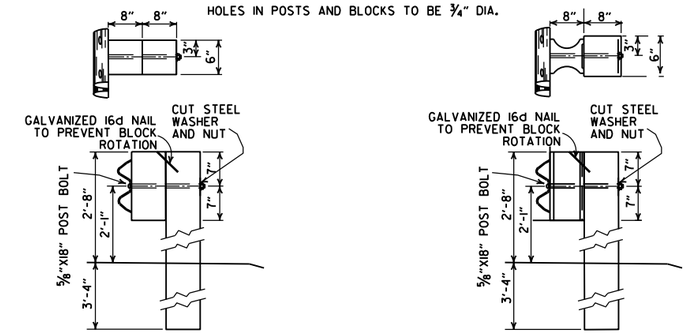
USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARDRAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARDRAIL.

DELINEATORS SHALL BE MOUNTED AT 37.5' SPACING ON THE FRONT FACE OF THE GUARDRAIL. SPACING MAY BE REDUCED IN CURVES, AS DIRECTED BY THE ENGINEER. COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR GUARDRAIL.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

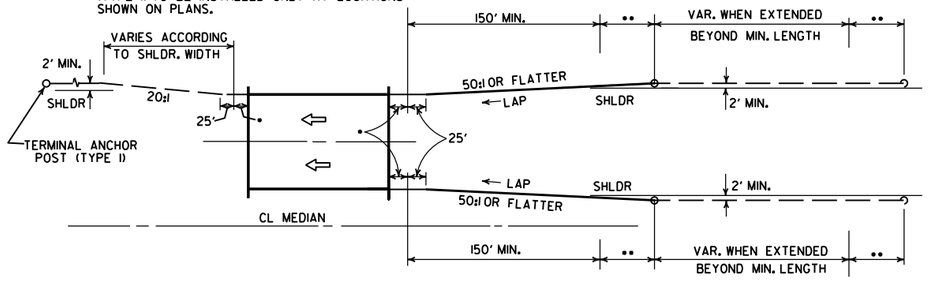
DATE	REVISION	FILMED
05-19-22	REVISED GENERAL NOTES. ADDED DELINEATOR LOCATION.	
11-07-19	RENUMBERED AND RENAMED	
11-16-17	REVISED GENERAL NOTES AND RAISED GUARDRAIL HEIGHT 3"	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
03-30-00	REMOVED GUARDRAIL AT BRIDGE ENDS	
01-12-00	ADDED PLASTIC BLOCKOUT	
08-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARDRAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
04-03-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
06-02-94	ADDED ALT. STEEL POST SIZE	
08-05-93	REVISED STEEL POST SIZE	8-5-93
10-01-92	REDRAWN & REVISED	10-1-92
08-15-91	REVISED WASHER NOTE	8-15-91
08-02-90	REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK	8-2-90
07-15-88	REVISED SECTION 3 & GENERAL NOTES	
03-04-88	REV. ANCHOR POST ,ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-09-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

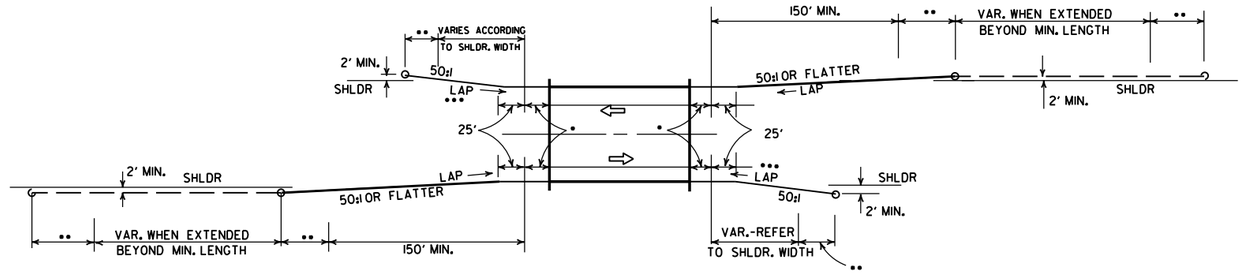
STANDARD DRAWING GR-6

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

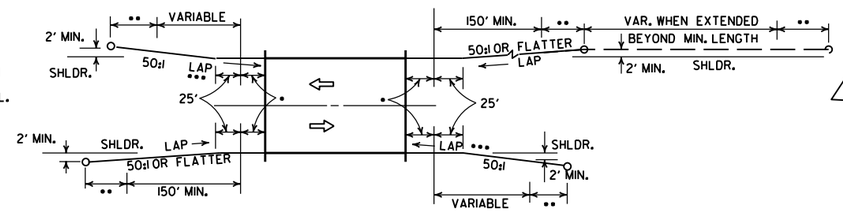
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

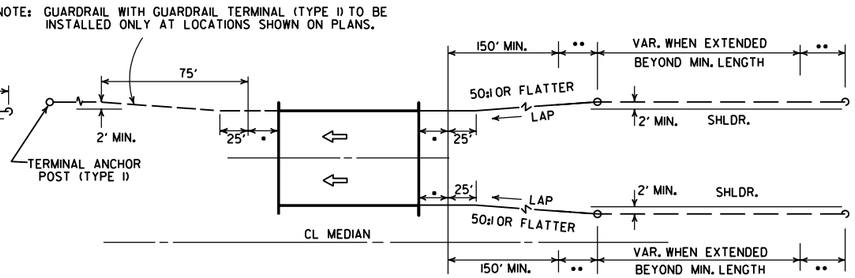
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

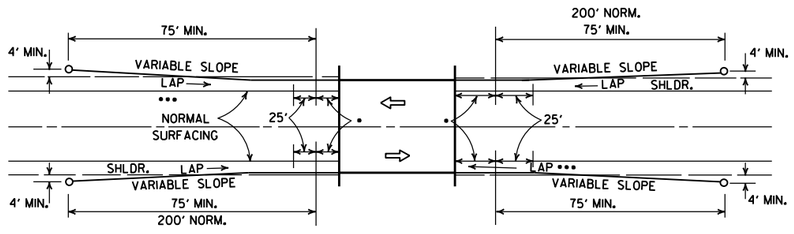
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARDRAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



LEGEND

- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

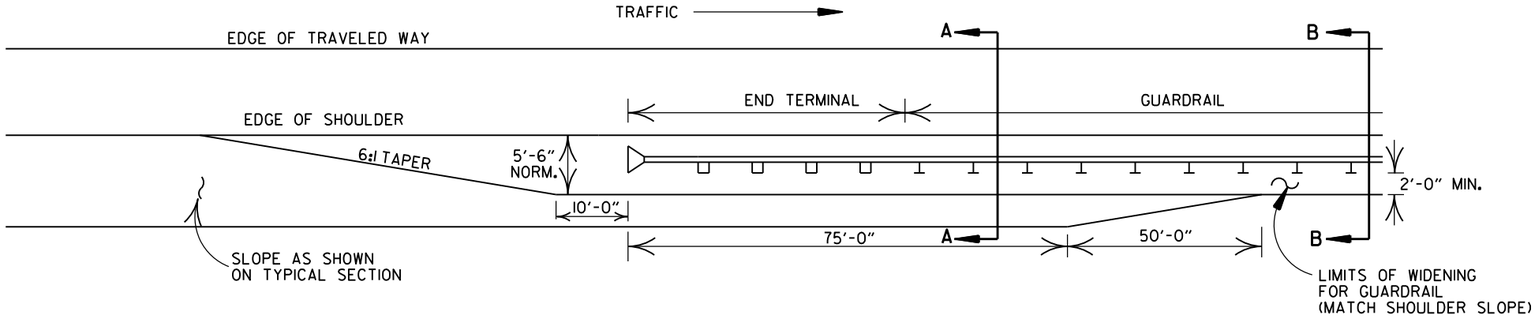
METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

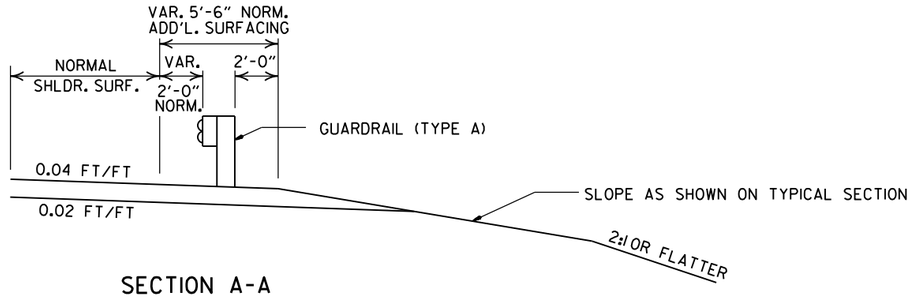
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

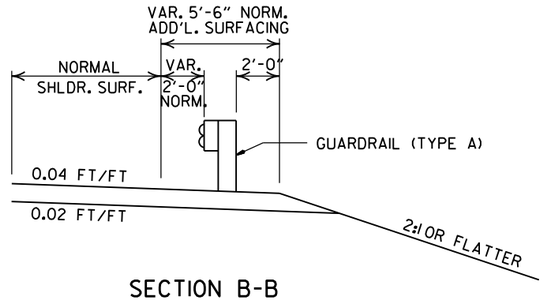
GUARDRAIL DETAILS

STANDARD DRAWING GR-8





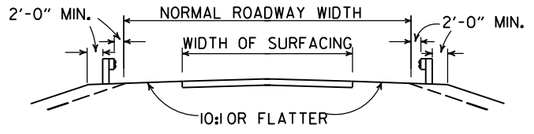
SECTION A-A



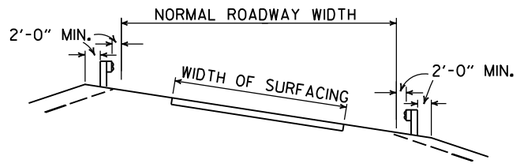
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARDRAIL.

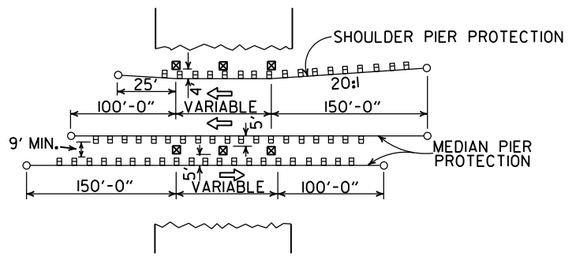


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY



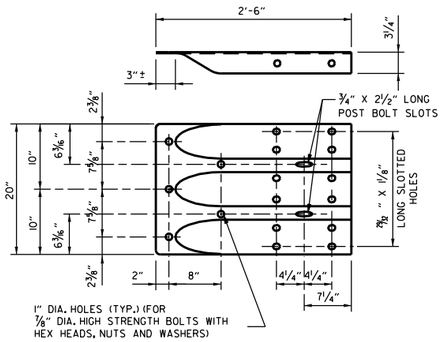
METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

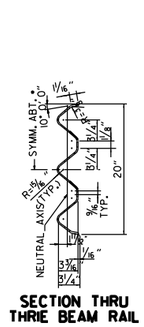
ARKANSAS STATE HIGHWAY COMMISSION

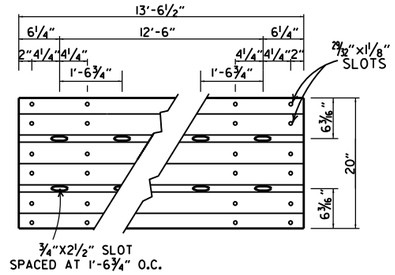
GUARDRAIL DETAILS

STANDARD DRAWING GR-9

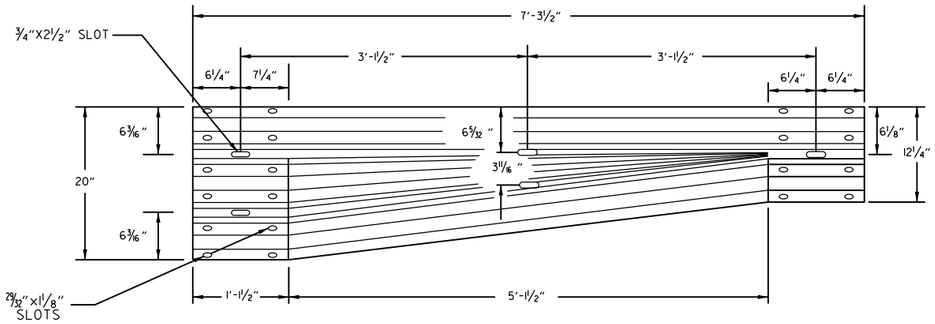


SPECIAL END SHOE

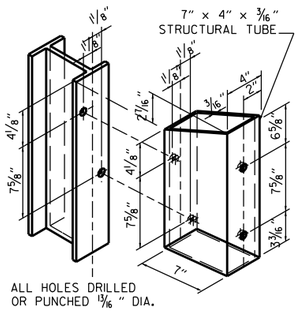




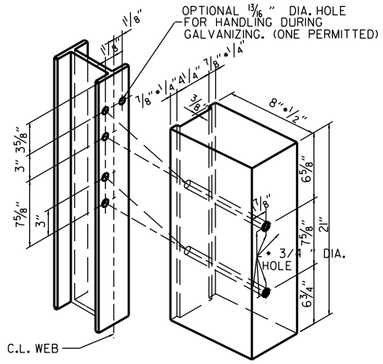
THRIE BEAM RAIL



TRANSITION SECTION



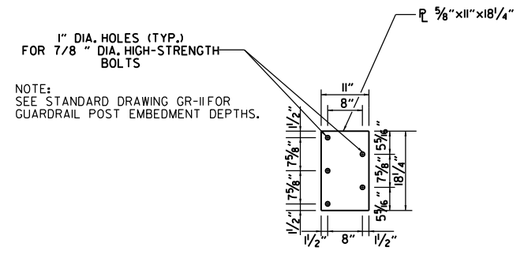
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

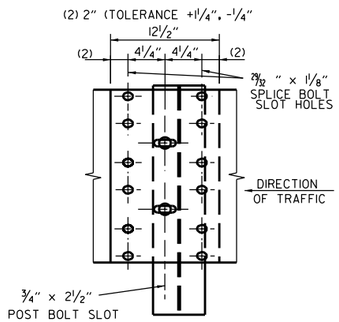
HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



THRIE BEAM RAIL SPLICE AT POST

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3"4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

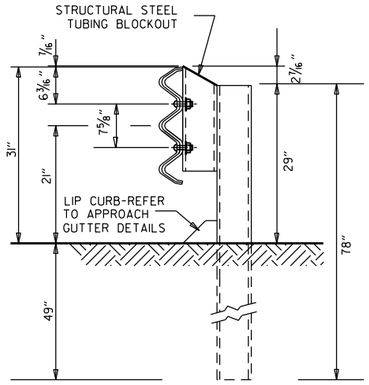
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED AND REVISED REFERENCES	
11-16-17	REVISED TRANSITION SECTION, GUARD RAIL HEIGHT, AND GENERAL NOTES; MOVED THRIE BEAM GUARD RAIL CONNECTIONS AT BRIDGES ENDS TO STD. DRWG. GR-12	
07-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED NOTE (2)	
06-29-00	MOVED DIMENSION LINES	
05-18-00	ADDED NOTE	
03-30-00	DRAWN & ISSUED	

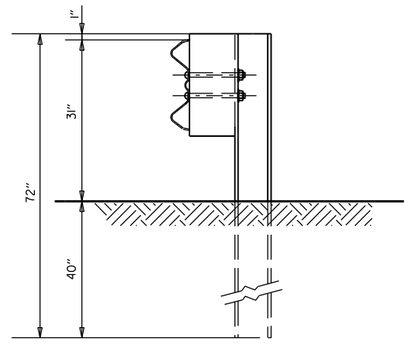
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

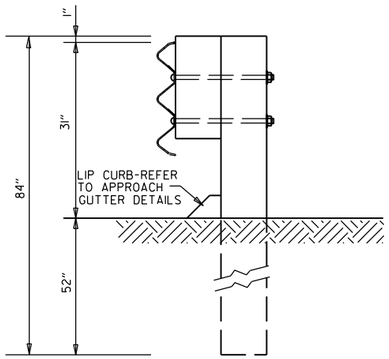
STANDARD DRAWING GR-10



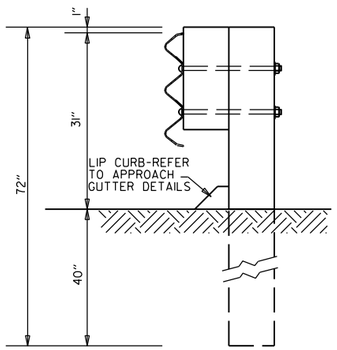
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



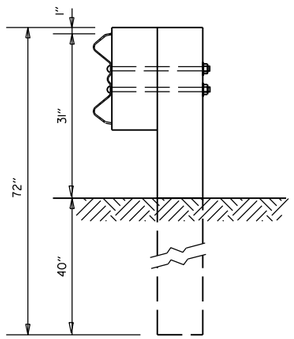
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

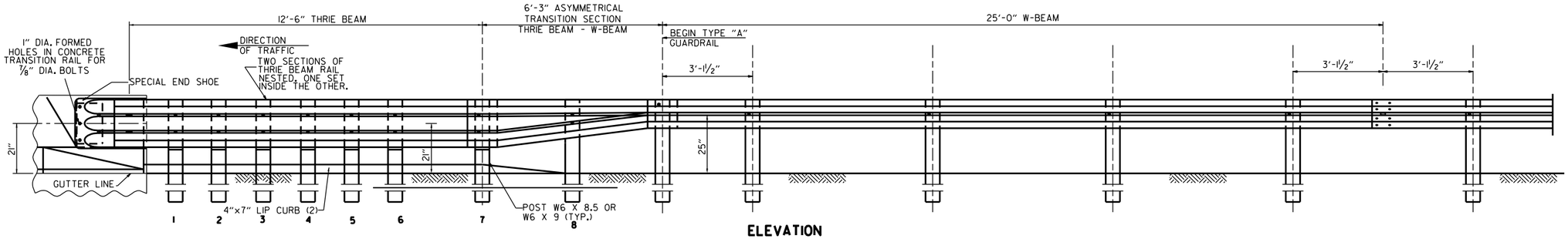
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED	
11-16-17	REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-11	
07-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
08-22-02	REVISED LIP CURB NOTE	
03-30-00	DRAWN & ISSUED	

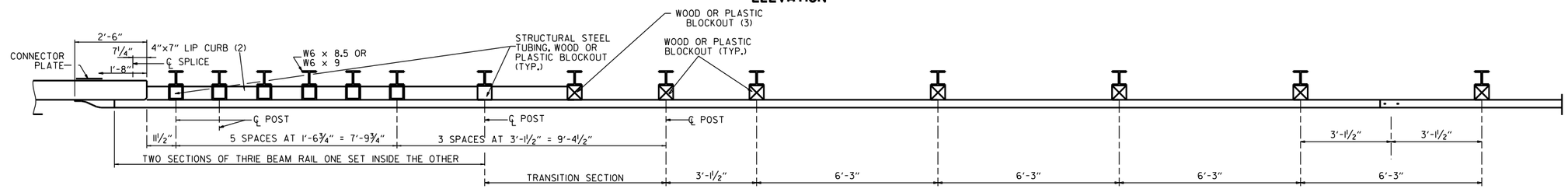
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

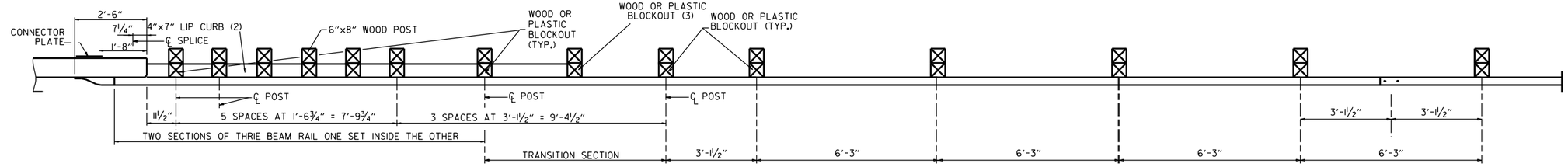
STANDARD DRAWING GR-11



ELEVATION



PLAN



PLAN

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARDRAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

POSTS SHALL NOT BE PLACED AT SPLICE LOCATIONS ALONG W-BEAM RAILS.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

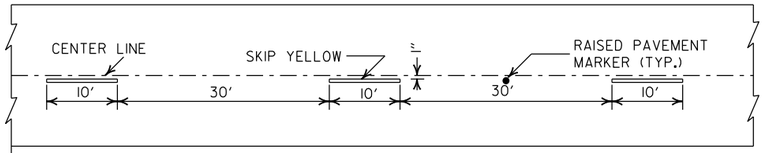
DATE	REVISION	FILMED
05-14-20	REVISED NOTES	
11-07-19	RENAMED & REVISED REFERENCES	
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

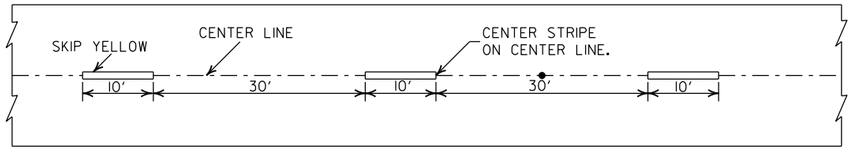
GUARDRAIL DETAILS

STANDARD DRAWING GR-12

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

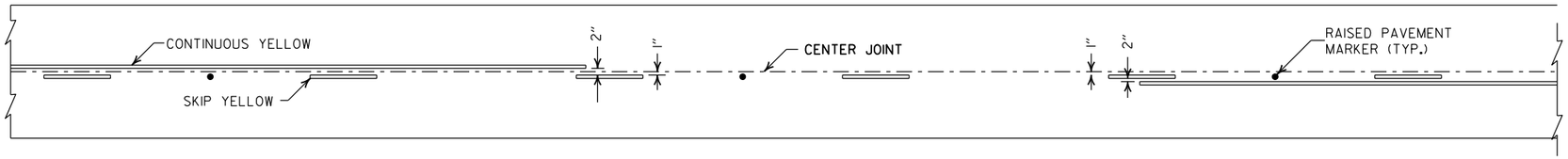


CONCRETE PAVEMENT

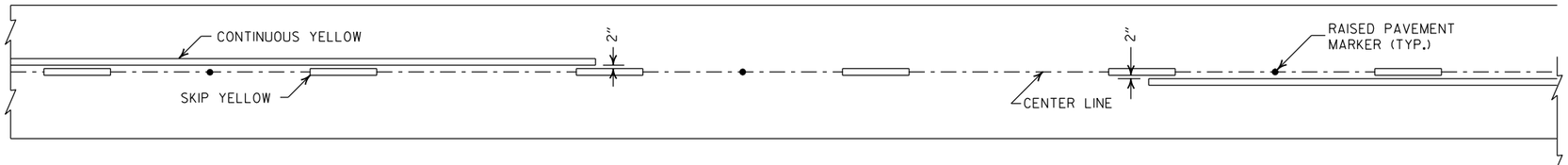


ASPHALT PAVEMENT

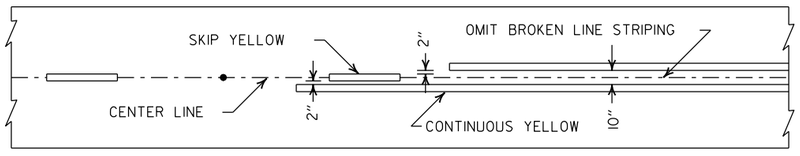
BROKEN LINE STRIPING



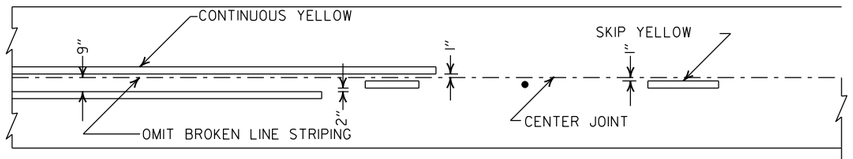
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

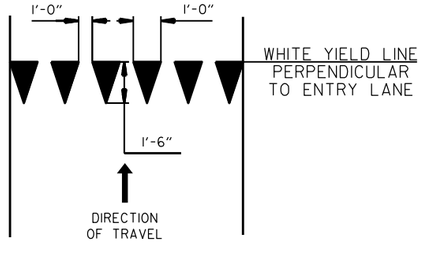


ASPHALT PAVEMENT

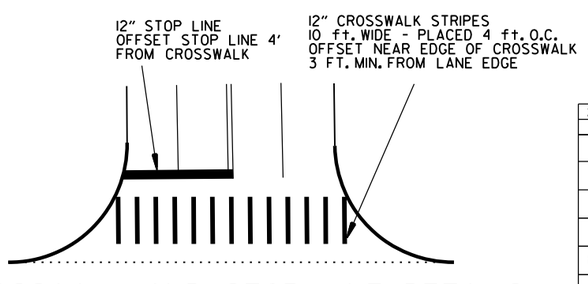


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

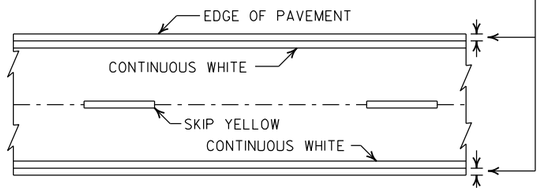


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

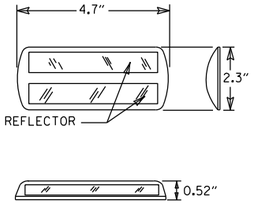
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

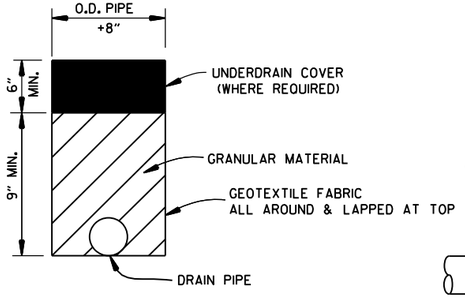
PAVEMENT MARKING DETAILS

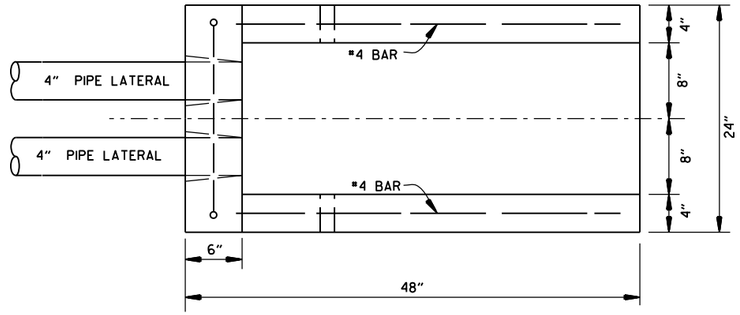
STANDARD DRAWING PM-1

NOTE:

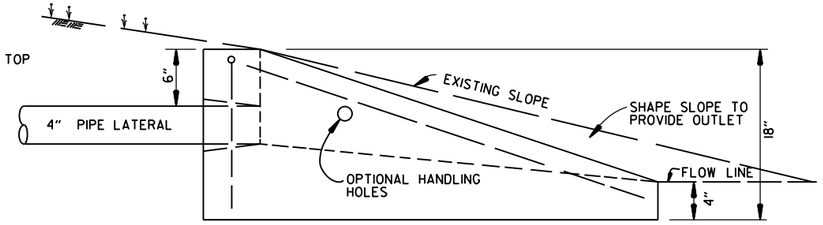
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

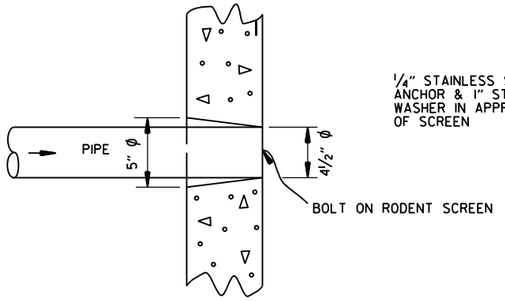




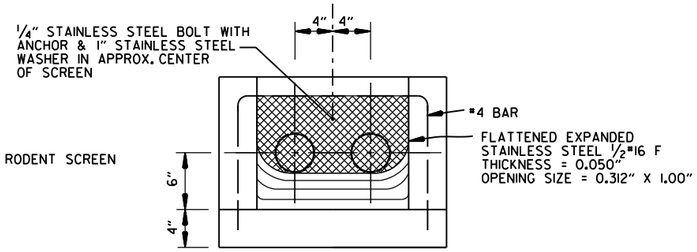
PLAN VIEW



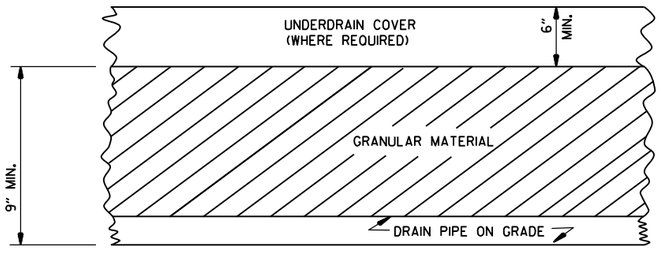
SIDE VIEW



DETAIL OF HOLE
FOR 4" PIPE

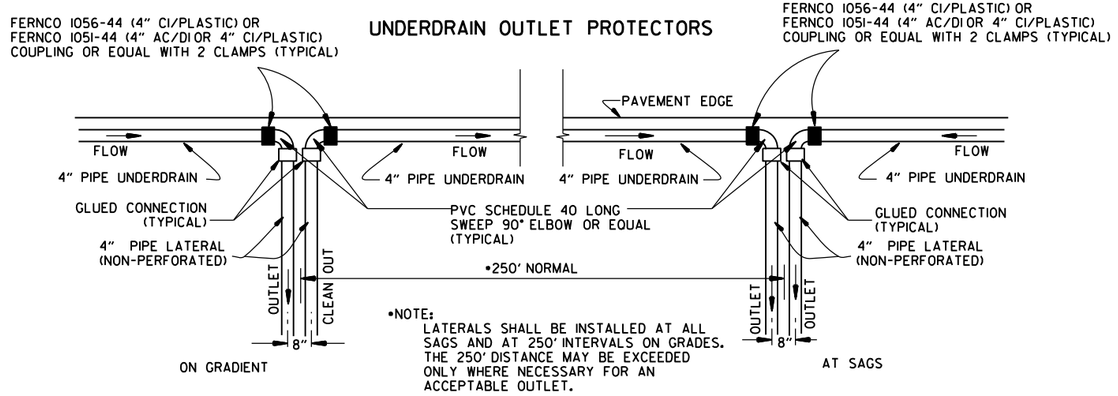


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS
WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE 1. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			NC			RC	96		RC	96		RC	96		0.022	101	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.042	149	300
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158	300	0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168		0.056	182		0.062	197	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168	300	0.056	182	300	0.064	202		0.070	216	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.080	240	350
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178		0.062	197		0.070	216		0.078	235	350	0.088	259	
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187	300	0.068	211		0.076	230		0.086	254		0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149	200	0.054	178	250	0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	400
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187		0.068	211		0.078	235		0.088	259		0.098	283	400	D MAX = 2° 45'		
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288				
3° 30'	0.030	90		0.038	113		0.046	139	200	0.056	171		0.066	206		0.076	230		0.086	254		0.096	278	350	D MAX = 3° 30'					
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.098	283							
4° 00'	0.034	97		0.042	121	200	0.052	151		0.062	185		0.072	221		0.084	250		0.094	274	350	0.100	288							
4° 15'	0.036	100		0.044	125		0.054	155		0.064	189		0.076	230		0.086	254		0.096	278		D MAX = 4° 15'								
4° 30'	0.036	100	200	0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283										
4° 45'	0.038	104		0.048	133		0.060	168		0.070	203		0.082	245		0.092	269	350	0.100	288										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		D MAX = 5° 15'										
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221	250	0.088	259	300	0.098	283												
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.100	288												
6° 30'	0.050	126		0.062	160		0.074	198	250	0.086	239		0.096	278		D MAX = 6° 30'													
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283															
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252	300	0.100	288															
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257		D MAX = 8° 25'																
8° 30'	0.060	144		0.072	179		0.086	223	250	0.096	261																		
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266																		
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270																		
10° 00'	0.066	155		0.080	195		0.094	240		D MAX = 10° 30'																			
11° 00'	0.070	162		0.084	203		0.096	244																					
12° 00'	0.074	169		0.088	211	250	0.098	248																					
13° 00'	0.076	173		0.090	215		0.100	252	300																				
14° 00'	0.080	180		0.094	222		D MAX = 13° 45'																						
15° 00'	0.082	184		0.096	226																								
16° 00'	0.086	191		0.098	230																								
17° 00'	0.088	194		0.100	234																								
18° 00'	0.090	198	250	D MAX = 19° 30'																									
19° 00'	0.092	202																											
20° 00'	0.094	205																											
21° 00'	0.096	209																											
22° 00'	0.096	209																											
23° 00'	0.098	212																											
24° 00'	0.098	212																											
25° 00'	0.100	216																											

D MAX = 28° 30'

GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

   3 LANE UNDIVIDED - - - - - +20%
   4 LANE UNDIVIDED - - - - - +50%
   5 LANE UNDIVIDED - - - - - +80%
   6 LANE UNDIVIDED - - - - - +100%

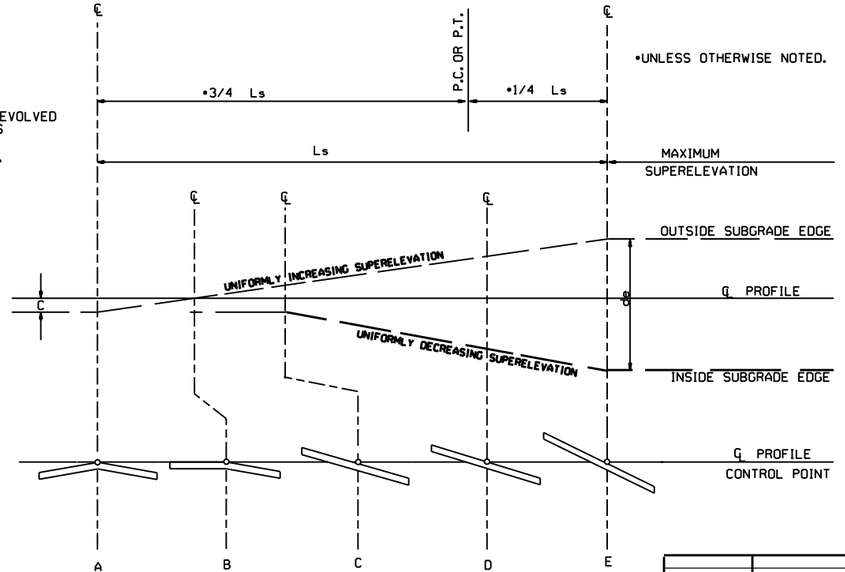
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

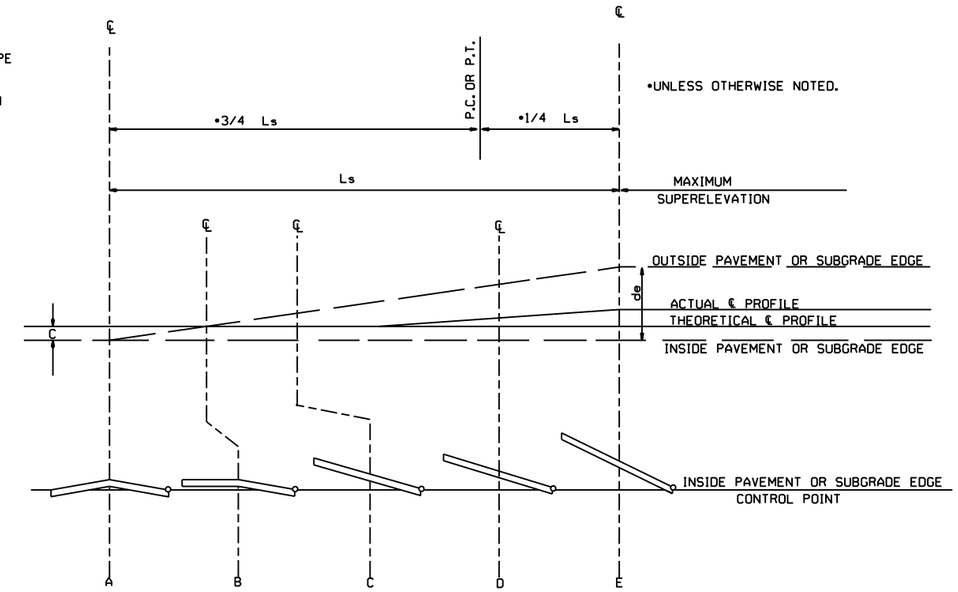
SUPERELEVATION FORMULA $= \frac{Lde}{Ls}$

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

DATE	REVISION	DATE FILMED
11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

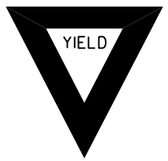
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

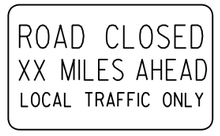
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2

48"X30"

RII-3A



60"X30"

RII-4

60"X30"

W2I-5a

STD. 36"X36"
FWY. 48"X48"

WI-1

STD. 36"X36"
FWY. 48"X48"

WI-2

STD. 36"X36"
FWY. 48"X48"

WI-3

STD. 48"X48"

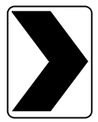
WI-4

STD. 48"X48"

WI-6

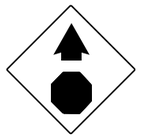
STD. 48"X24"
SPECIAL 60"X30"

WI-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1

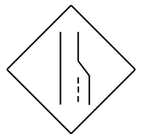


STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-I

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD.48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W2I-2

STD. 30"X30"
SPECIAL 36"X36"

W2I-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-II

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

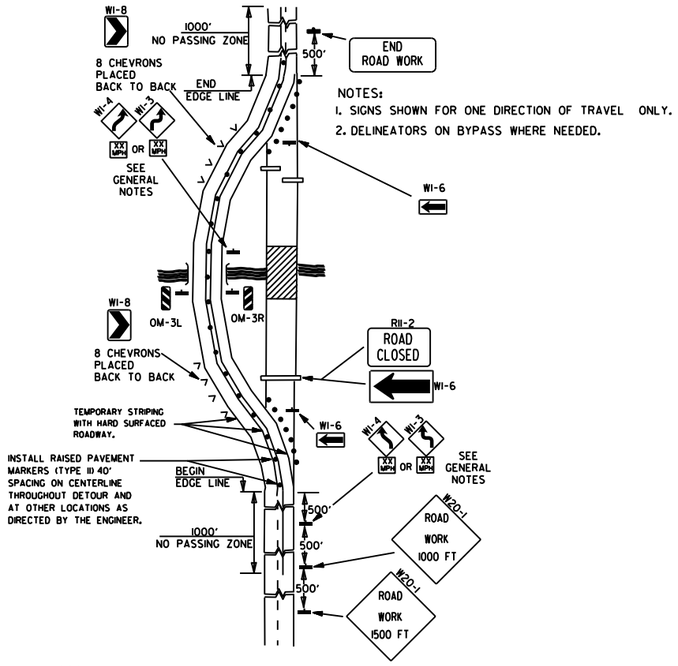
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

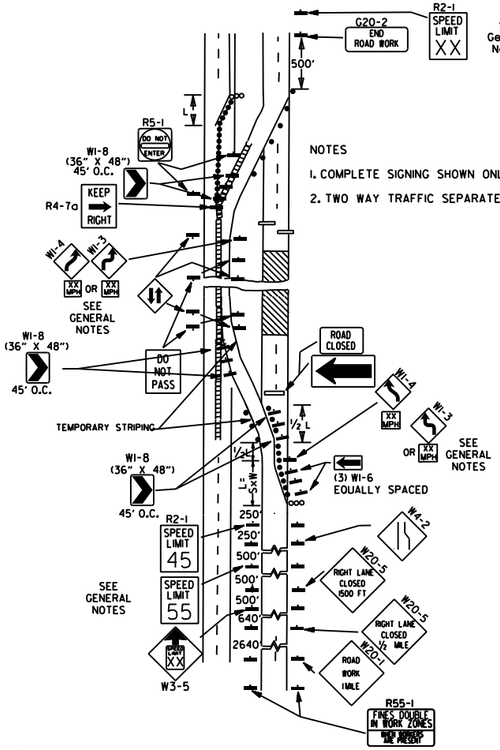
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



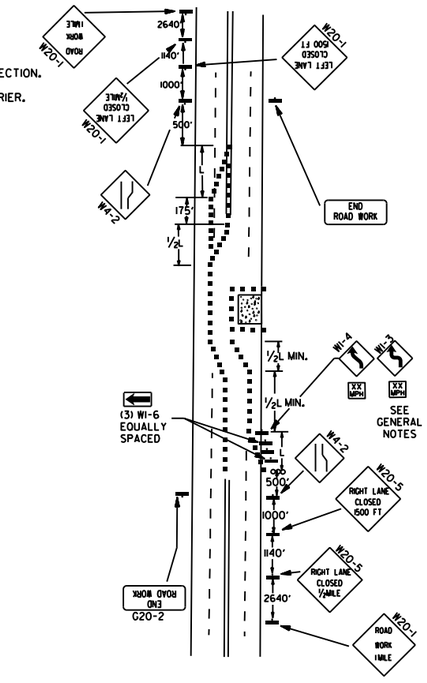
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

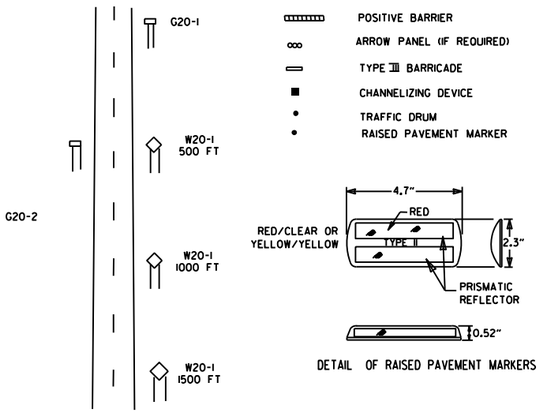


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

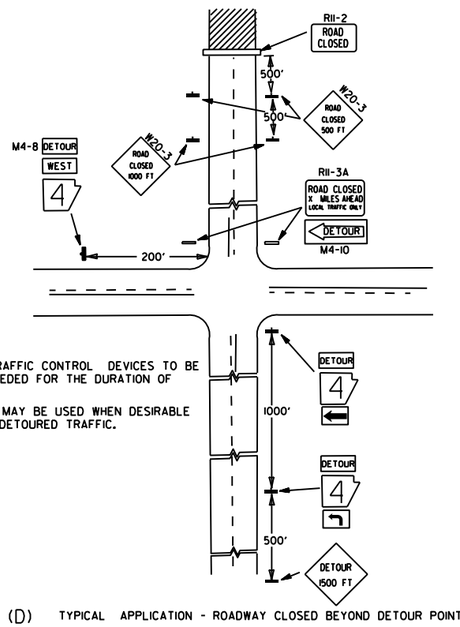
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

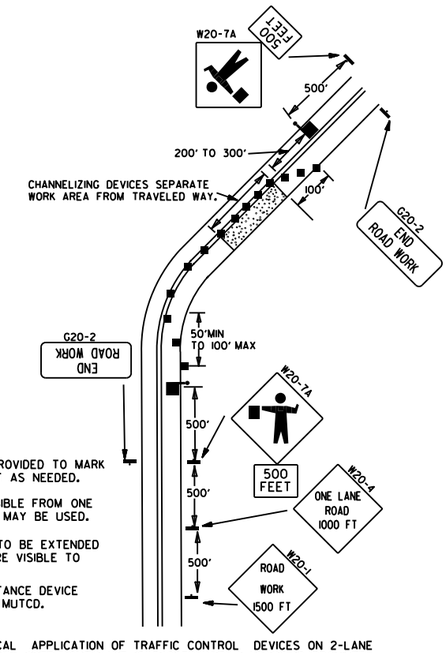
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



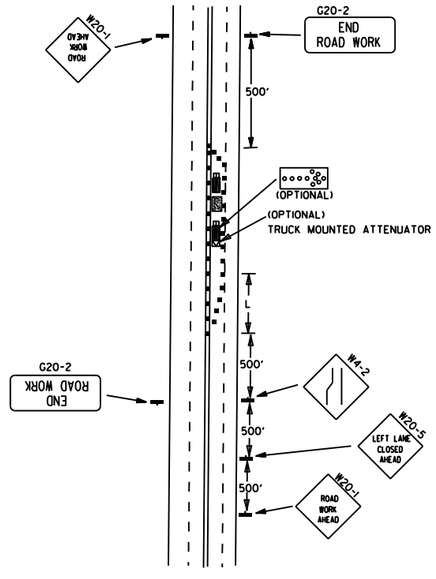
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



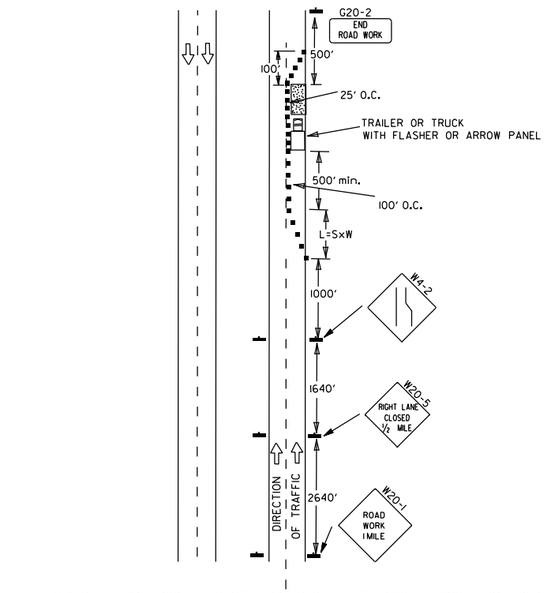
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

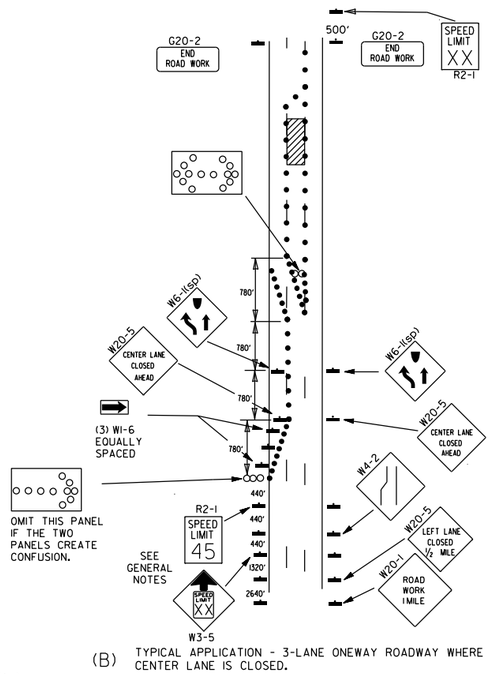
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



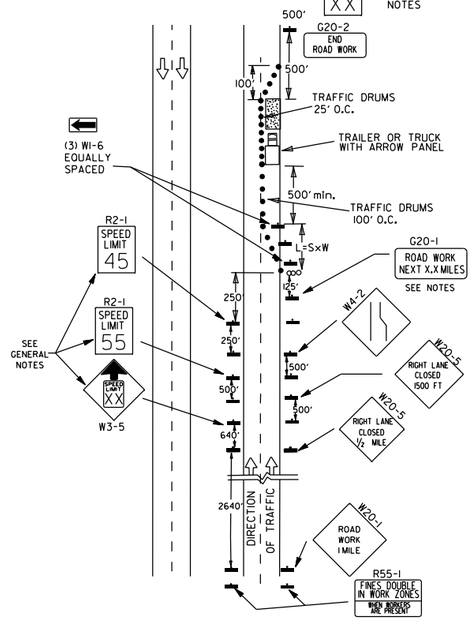
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

- ○○○ ARROW PANEL (IF REQUIRED)
- ■ CHANNELIZING DEVICE
- ● TRAFFIC DRUM

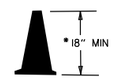
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

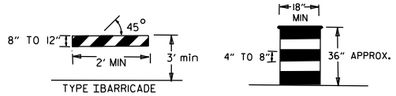
CHANNELIZING DEVICES

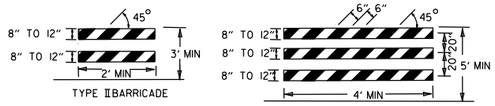


* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

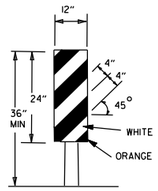
CONES

PLASTIC DRUM

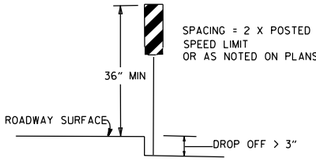


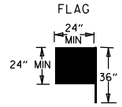


NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



VERTICAL PANEL PLACEMENT





FLAG SHALL BE OF GOOD GRADE RED MATERIAL

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE(6)	STANDARD LANE CLOSURE(6)
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS(1)	W8-9 AND TRAFFIC DRUMS(1)
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS(3)
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER(4) & EDGE LINES	PRECAST CONCRETE BARRIER(4) & EDGE LINES

INTERSTATE

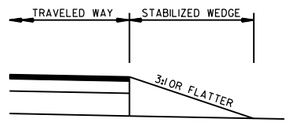
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

INTERSTATE AND NON-INTERSTATE

FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

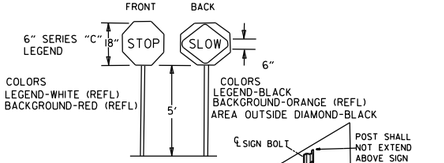
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

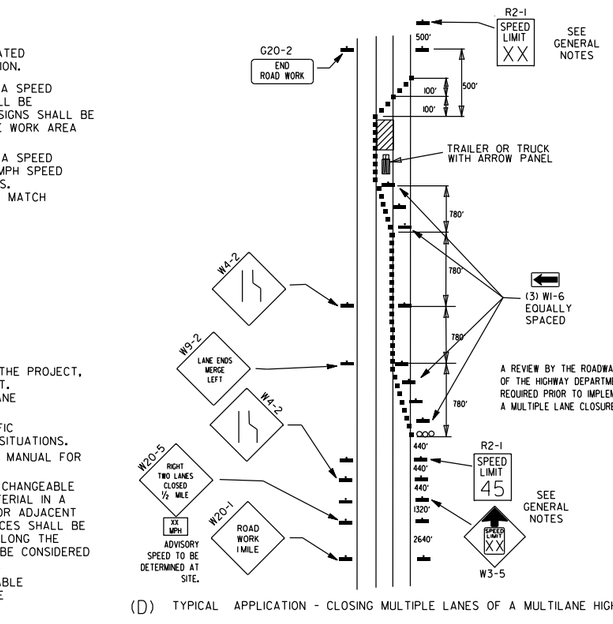


STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE





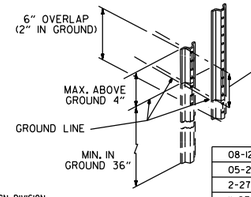
A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

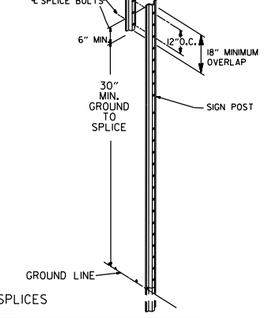
NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DETAIL OF SPLICES



DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

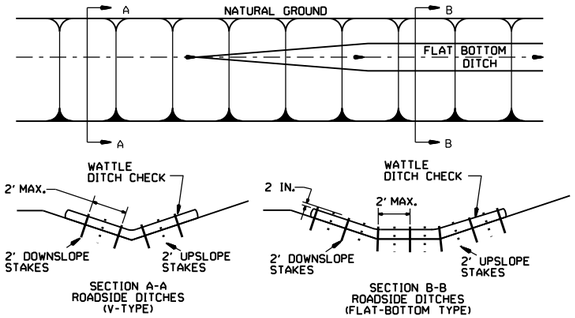
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

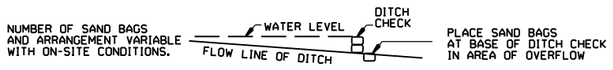
STANDARD DRAWING TC-3

GENERAL NOTES

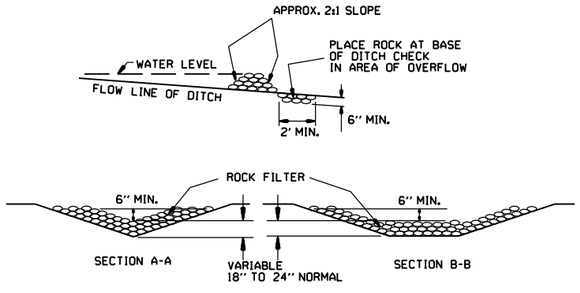
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

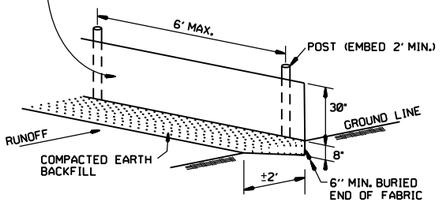


ROCK DITCH CHECK (E-6)

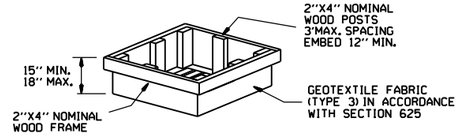
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

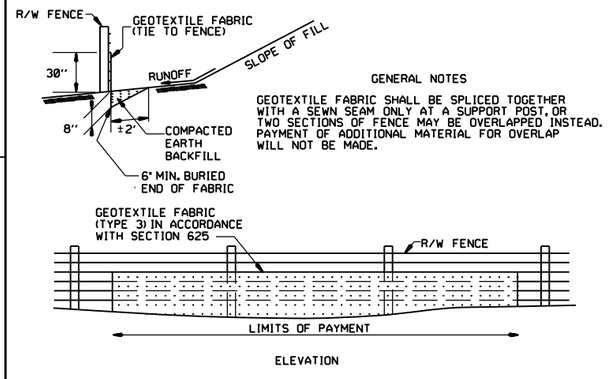
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

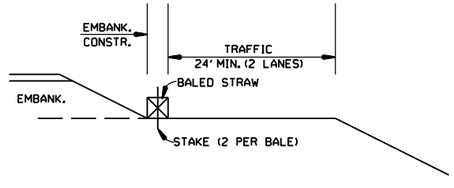
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

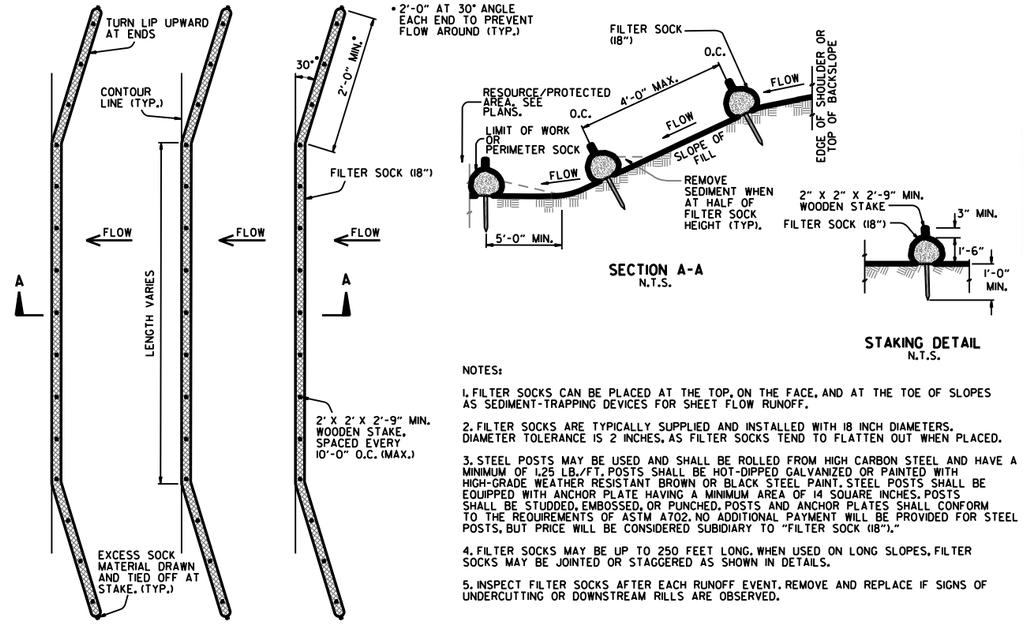
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



PLAN VIEW
N.T.S.

SECTION A-A
N.T.S.

STAKING DETAIL
N.T.S.

NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

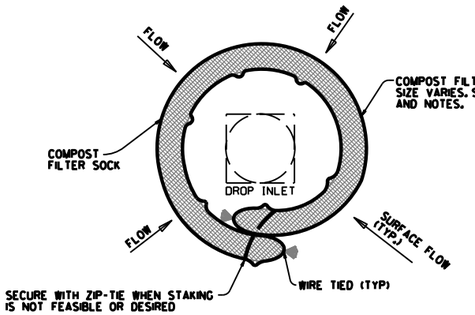
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

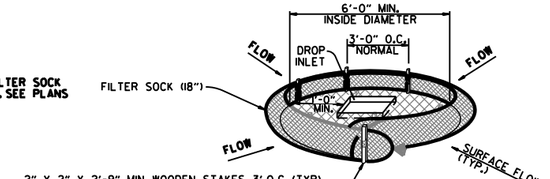
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



DROP INLET PLAN VIEW
N.T.S.



DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

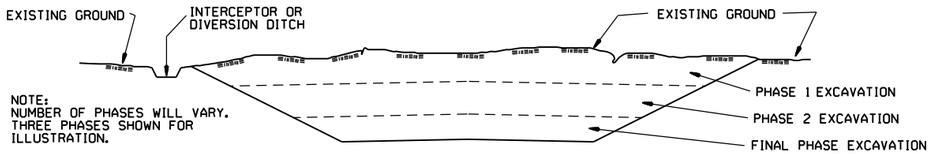
STANDARD DRAWING TEC-1

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



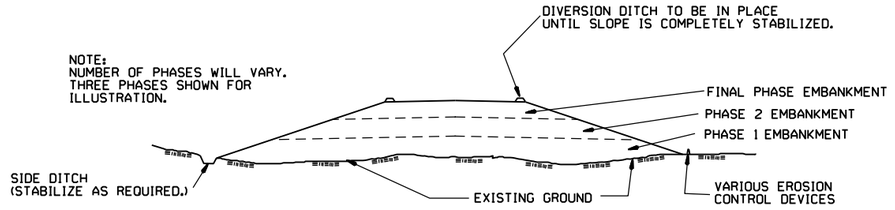
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3