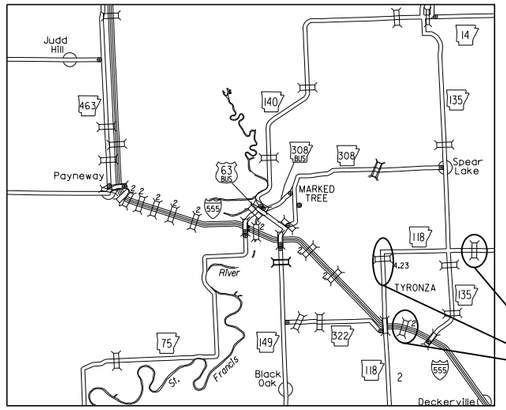
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	1	139
		TYRONZA RIVER & DITCH NO. 6 STRS. & APPRS. (S)				

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

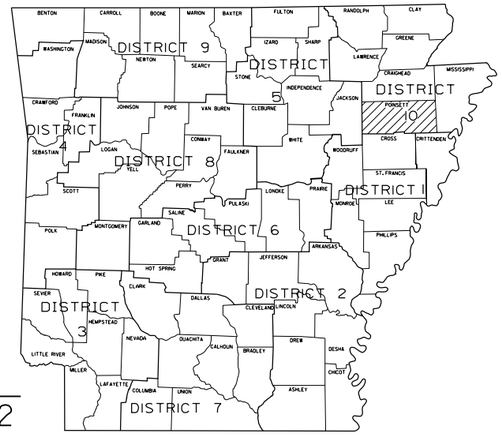
TYRONZA RIVER & DITCH NO. 6
STRS. & APPRS. (S)

POINSETT COUNTY
ROUTE 118 SECTION 2
JOB 101017

FED. AID PROJ. ACNHPP-0056(57)



VICINITY MAP



ARKANSAS HIGHWAY DISTRICT 10

BRIDGE CONSTRUCTION DATA

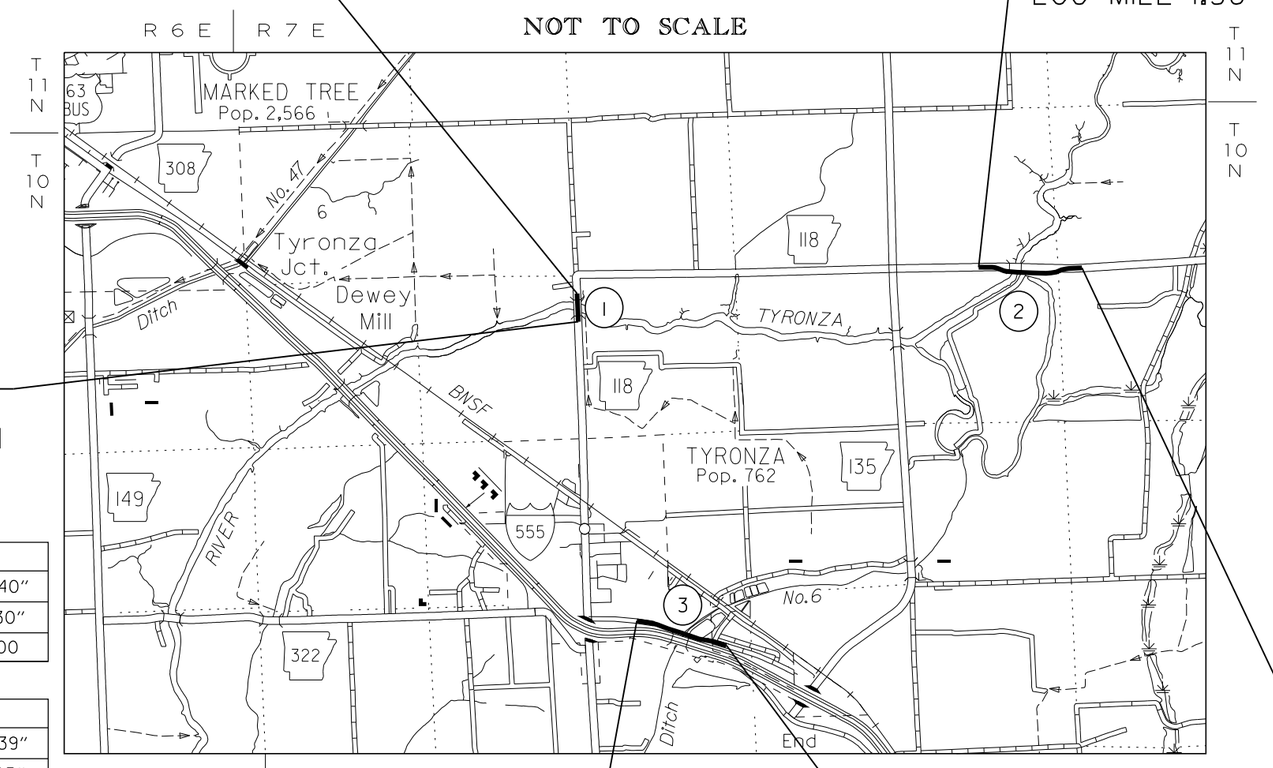
(1) STA. 150+66.42 BRIDGE END
BRIDGE NO. 07670 OVER TYRONZA RIVER
30'-0" CLEAR ROADWAY
330'-0" CONT. PLATE GIRDER UNIT
(100'-130'-100')
332'-2" BRIDGE LENGTH
STA. 153+98.58 BRIDGE END

(2) STA. 214+68.91 BRIDGE END
BRIDGE NO. 07671 OVER TYRONZA RIVER
30'-0" CLEAR ROADWAY
330'-0" CONT. PLATE GIRDER UNIT
(100'-130'-100')
332'-2" BRIDGE LENGTH
STA. 218+01.08 BRIDGE END

(3) STA. 626+49.41 BRIDGE END
BRIDGE NO. 07672 OVER DITCH NO. 6
30'-0" CLEAR ROADWAY
135'-0" CONT. INTEGRAL W-BEAM UNIT
(40'-55'-40')
136'-0¾" BRIDGE LENGTH
627+85.47 BRIDGE END

STA. 158+00.00
END HWY. 118 SITE 1

NOT TO SCALE



STA. 146+00.00
BEGIN JOB 101017
BEGIN HWY. 118 SITE 1
LOG MILE 4.34

STA. 200+90.00
BEGIN HWY. 118 SITE 2
LOG MILE 1.56

STA. 240+00.00
END HWY. 118 SITE 2

STA. 604+38.66
BEGIN I-555 SERVICE RD. SITE 3
LOG MILE 8.90

STA. 638+06.05
END I-555 SERVICE RD. SITE 3
END JOB 101017

DESIGN TRAFFIC DATA

HWY. 118 SITE 1:
DESIGN YEAR — 2044
2024 ADT — 500
2044 ADT — 560
2044 DHV — 62
DIRECTIONAL DISTRIBUTION — 60%
TRUCKS — 8%
DESIGN SPEED — 55 MPH

HWY. 118 SITE 2:
DESIGN YEAR — 2044
2024 ADT — 820
2044 ADT — 910
2044 DHV — 100
DIRECTIONAL DISTRIBUTION — 60%
TRUCKS — 11%
DESIGN SPEED — 55 MPH

I-555 SERVICE RD. SITE 3:
DESIGN YEAR — 2044
2024 ADT — 350
2044 ADT — 450
2044 DHV — 50
DIRECTIONAL DISTRIBUTION — 60%
TRUCKS — 6%
DESIGN SPEED — 55 MPH

N

HWY. 118 SITE 1 PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 35°30'28"	N 35°30'34"	N 35°30'40"
LONGITUDE	W 90°21'30"	W 90°21'30"	W 90°21'30"
STATION	146+00.00	152+00.00	158+00.00

HWY. 118 SITE 2 PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 35°30'41"	N 35°30'40"	N 35°30'39"
LONGITUDE	W 90°18'52"	W 90°18'29"	W 90°18'05"
STATION	200+90.00	220+45.00	240+00.00

I-555 SERVICE RD. SITE 3 PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 35°28'52"	N 35°28'47"	N 35°28'42"
LONGITUDE	W 90°21'20"	W 90°21'01"	W 90°20'42"
STATION	604+38.66	621+22.36	638+06.05

GROSS LENGTH OF PROJECT	8477.39	FEET OR	1.606	MILES
NET " " ROADWAY	7677.00	" "	1.454	MILES
NET " " BRIDGES	800.39	" "	0.152	MILES
NET " " PROJECT	8477.39	" "	1.606	MILES

CERTIFICATE OF AUTHORIZATION
GARVER LLC
No. 766
ARKANSAS-ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14994
DUSTIN L. TACKETT
DIGITALLY SIGNED 9/25/2024

NABradsby 9/25/2024 7:23:28 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_TL.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	2	139
		INDEX OF SHEETS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY

DIGITALLY SIGNED 7/3/2024

SHEET NO.			TITLE	BRIDGE NO.	DRWG.NO.
		1	TITLE SHEET		
		2	INDEX OF SHEETS		
		3	STANDARD DRAWINGS		
		4	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
5	-	6	TYPICAL SECTIONS OF IMPROVEMENT		
7	-	9	SPECIAL DETAILS		
10	-	21	TEMPORARY EROSION CONTROL DETAILS		
22	-	32	MAINTENANCE OF TRAFFIC DETAILS		
33	-	37	PERMANENT PAVEMENT MARKING DETAILS		
		38	SOIL BORING LOG		
39	-	42	QUANTITIES		
		43	SUMMARY OF BRIDGE QUANTITIES	07670, 07671, 07672	67043
		44	SUMMARY OF QUANTITIES AND REVISIONS		
45	-	50	SURVEY CONTROL DETAILS		
51	-	59	PLAN AND PROFILE SHEETS		
		60	LAYOUT OF BRIDGE - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 1 OF 2)	07670	67044
		61	LAYOUT OF BRIDGE - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 2 OF 2)	07670	67045
		62	LAYOUT OF BRIDGE - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 1 OF 2)	07671	67046
		63	LAYOUT OF BRIDGE - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 2 OF 2)	07671	67047
		64	DETAILS OF END BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 1 OF 4)	07670, 07671	67048
		65	DETAILS OF END BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 2 OF 4)	07670, 07671	67049
		66	DETAILS OF END BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 3 OF 4)	07670, 07671	67050
		67	DETAILS OF END BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 4 OF 4)	07670, 07671	67051
		68	DETAILS OF INTERMEDIATE BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 1 OF 4)	07670, 07671	67052
		69	DETAILS OF INTERMEDIATE BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 2 OF 4)	07670, 07671	67053
		70	DETAILS OF INTERMEDIATE BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 3 OF 4)	07670, 07671	67054
		71	DETAILS OF INTERMEDIATE BENTS - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 4 OF 4)	07670, 07671	67055
		72	DETAILS OF ELASTOMERIC BEARINGS - HIGHWAY 118 OVER TYRONZA RIVER	07670, 07671	67056
		73	DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 1 OF 7)	07670, 07671	67057
		74	DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 2 OF 7)	07670, 07671	67058
		75	DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 3 OF 7)	07670, 07671	67059
		76	DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 4 OF 7)	07670, 07671	67060
		77	DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 5 OF 7)	07670, 07671	67061
		78	DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 6 OF 7)	07670, 07671	67062
		79	DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT - HIGHWAY 118 OVER TYRONZA RIVER (SHEET 7 OF 7)	07670, 07671	67063
		80	LAYOUT OF BRIDGE - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 1 OF 2)	07672	67064
		81	LAYOUT OF BRIDGE - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 2 OF 2)	07672	67065
		82	DETAILS OF END BENTS - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 1 OF 3)	07672	67066
		83	DETAILS OF END BENTS - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 2 OF 3)	07672	67067
		84	DETAILS OF END BENTS - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 3 OF 3)	07672	67068
		85	DETAILS OF INTERMEDIATE BENTS - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 1 OF 3)	07672	67069
		86	DETAILS OF INTERMEDIATE BENTS - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 2 OF 3)	07672	67070
		87	DETAILS OF INTERMEDIATE BENTS - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 3 OF 3)	07672	67071
		88	DETAILS OF ELASTOMERIC BEARINGS - I-555 SERVICE ROAD OVER DITCH NO. 6	07672	67072
		89	DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 1 OF 7)	07672	67073
		90	DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 2 OF 7)	07672	67074
		91	DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 3 OF 7)	07672	67075
		92	DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 4 OF 7)	07672	67076
		93	DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 5 OF 7)	07672	67077
		94	DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 6 OF 7)	07672	67078
		95	DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT - I-555 SERVICE ROAD OVER DITCH NO. 6 (SHEET 7 OF 7)	07672	67079
96	-	139	CROSS SECTIONS		

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	3	139
		STANDARD DRAWINGS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY

DIGITALLY SIGNED 7/3/2024

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	04-14-23
55021	STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS	03-24-16
55030F	STANDARD DETAILS FOR TYPE F APPROACH GUTTERS	04-08-21
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
CDP-1	CONCRETE DITCH PAVING	12-08-16
DR-2	DETAILS OF DRIVEWAYS & STREET TURNOUTS	05-19-22
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
GR-6	GUARDRAIL DETAILS	05-19-22
GR-7	GUARDRAIL DETAILS	11-07-19
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
MB-1	MAILBOX DETAILS	11-18-04
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1	PAVEMENT MARKING DETAILS	02-27-20
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
SI-2	REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)	05-14-20
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
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER	11-07-19
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-2	WIRE FENCE WATER GAPS	04-20-79
WF-4	WIRE FENCE TYPE C AND D	08-22-02

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	4	139
		GOVERNING SPECIFICATIONS AND GENERAL NOTES				

DIGITALLY SIGNED 9/25/2024

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 - TRAINING PROGRAM - JOB NUMBER 101017
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
102-3_____	PREQUALFICATION 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)
605-1_____	CONCRETE DITCH PAVING
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
617-1_____	GUARDRAIL TERMINAL (TYPE 2)
617-2_____	GUARDRAIL DELINEATORS
619-1_____	FENCES
620-1_____	MULCH COVER
637-1_____	MAILBOXES
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

GOVERNING SPECIFICATIONS

NUMBER	TITLE
JOB 101017__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 101017__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 101017__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 101017__	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 101017__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 101017__	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 101017__	COLD MILLING - COUNTY PROPERTY
JOB 101017__	CONCRETE BRIDGE DECK CURING AND SURFACE TREATMENT RESTRICTIONS
JOB 101017__	CONCRETE FILL FOR LARGE DIA. STEEL SHELL PILES
JOB 101017__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 101017__	CONSTRUCTION PROJECT INFORMATION SIGN
JOB 101017__	COORDINATION OF WORK
JOB 101017__	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB 101017__	DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB 101017__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 101017__	FLEXIBLE BEGINNING OF WORK – CALENDAR DAY CONTRACT
JOB 101017__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 101017__	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 101017__	MAINTENANCE OF TRAFFIC
JOB 101017__	MANDATORY ELECTRONIC CONTRACT
JOB 101017__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 101017__	NESTING SITES OF MIGRATORY BIRDS
JOB 101017__	PARTNERING REQUIREMENTS
JOB 101017__	PERCENT AIR VOIDS AND NDESIGN FOR ACHM SURFACE MIX DESIGNS
JOB 101017__	PLASTIC PIPE
JOB 101017__	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 101017__	PRICE ADJUSTMENT FOR FUEL
JOB 101017__	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 101017__	RESTRAINING CONDITION
JOB 101017__	RUMBLE STRIPS
JOB 101017__	SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB 101017__	SEQUENCE OF WORK
JOB 101017__	SHORING FOR CULVERTS
JOB 101017__	SOIL STABILIZATION
JOB 101017__	STORM WATER POLLUTION PREVENTION PLAN
JOB 101017__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 101017__	UTILITY ADJUSTMENTS
JOB 101017__	VALUE ENGINEERING
JOB 101017__	VEGETATED BUFFER ZONE
JOB 101017__	WARM MIX ASPHALT
JOB 101017__	WATER POLLUTION CONTROL

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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. 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.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. 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.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. 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.

NABraddy 9/25/2024 11:16:47 AM
WORKSPACE: AHTD
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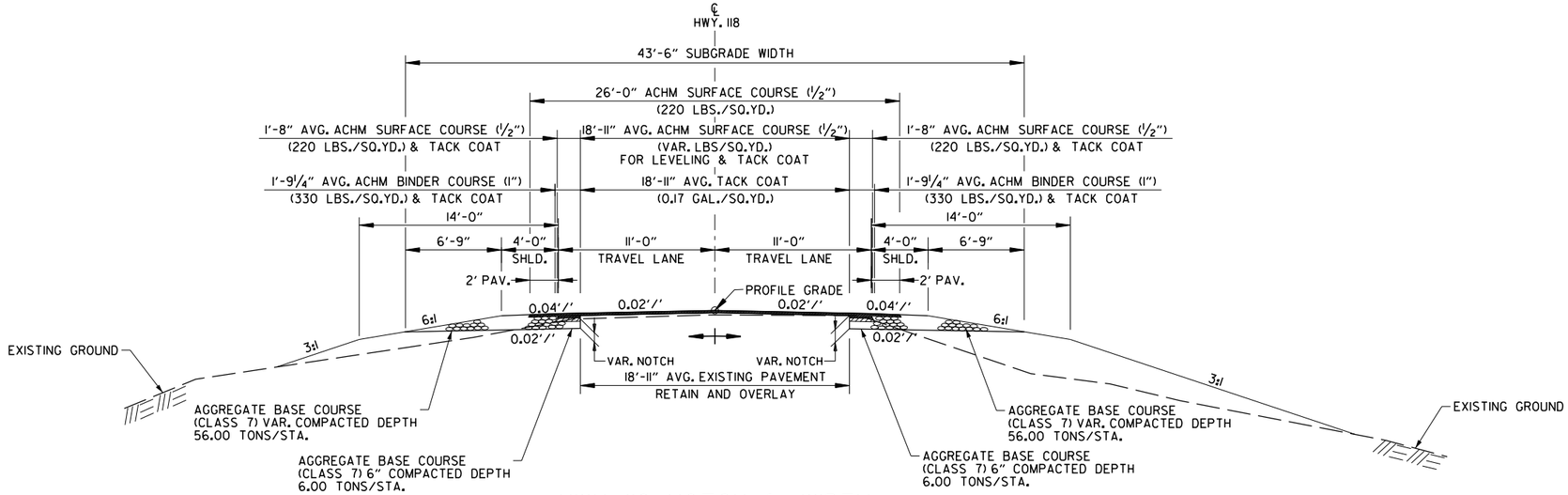
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	5	139
		TYPICAL SECTIONS OF IMPROVEMENT				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024



HWY. 118 NOTCH & WIDEN TYPICAL SECTION

SITE 1 - STA. 146+00.00 TO STA. 148+50.00
SITE 1 - STA. 154+75.00 TO STA. 158+00.00

NOTES:

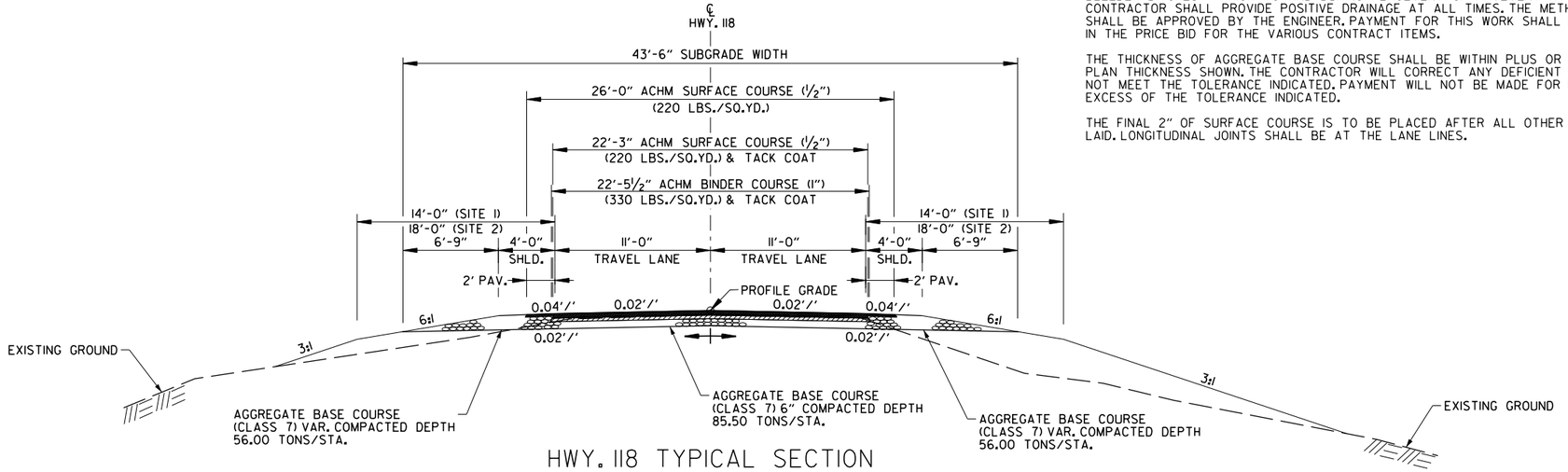
REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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 SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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.



HWY. 118 TYPICAL SECTION

SITE 1 - STA. 148+50.00 TO STA. 150+31.42
SITE 1 - STA. 154+33.58 TO STA. 154+75.00
SITE 2 - STA. 208+12.07 TO STA. 214+33.91
SITE 2 - STA. 218+36.08 TO STA. 233+74.74

NOTE: SEE BRIDGE PLANS FOR BRIDGE AND APPROACH SLAB INFORMATION FROM STA. 150+31.42 TO STA. 154+33.58 AND STA. 214+33.91 TO STA. 218+36.08.

WBCalloway 6/28/2024 7:42:10 AM
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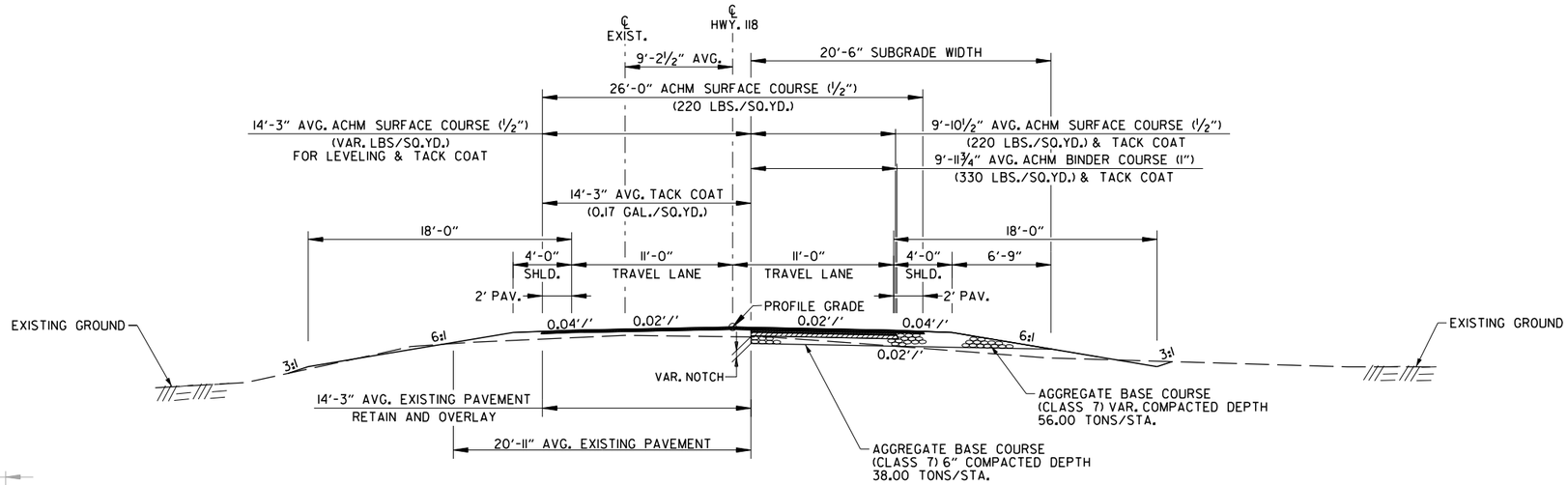
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	6	139
		TYPICAL SECTIONS OF IMPROVEMENT				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024



HWY. 118 NOTCH & WIDEN
TYPICAL SECTION

SITE 2 - STA. 200+90.00 TO STA. 208+12.07
SITE 2 - STA. 233+74.74 TO STA. 240+00.00

NOTES:

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

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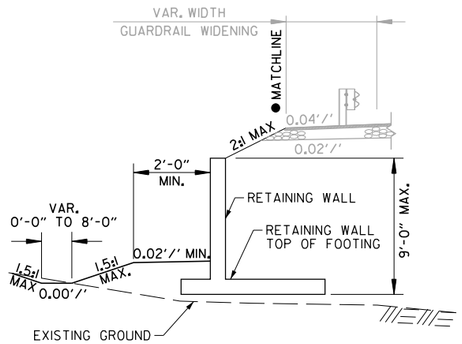
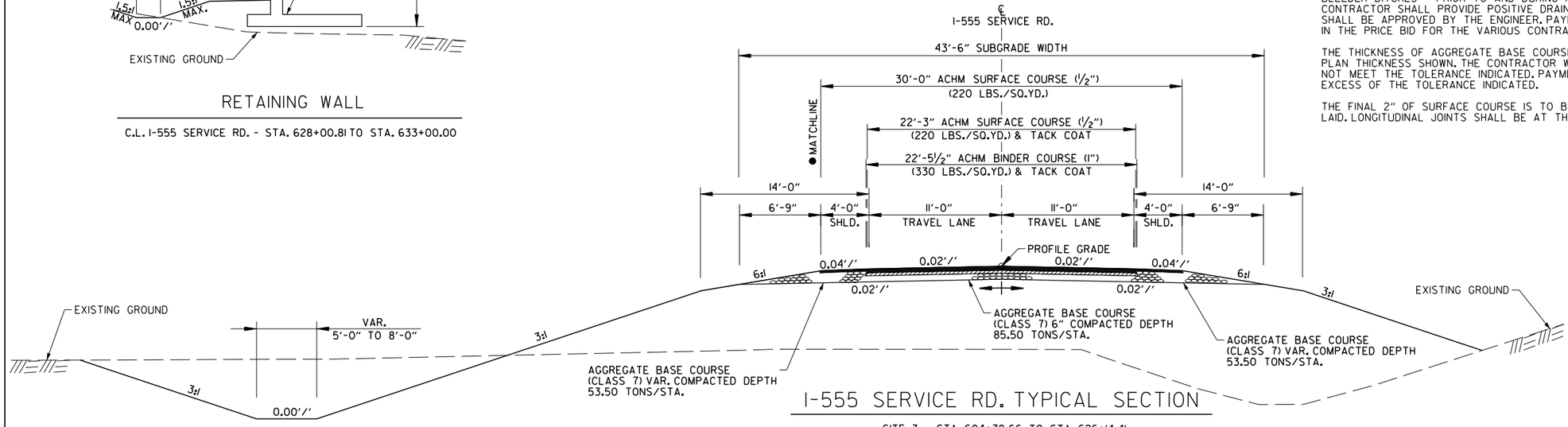


RETAINING WALL

C.L. I-555 SERVICE RD. - STA. 628+00.81 TO STA. 633+00.00



I-555 SERVICE RD. TYPICAL SECTION

SITE 3 - STA. 604+38.66 TO STA. 626+14.41
SITE 3 - STA. 628+20.47 TO STA. 638+06.05

NOTE: SEE BRIDGE PLANS FOR BRIDGE AND APPROACH SLAB INFORMATION FROM STA. 626+14.41 TO STA. 628+20.47.

WBCallaway 6/28/2024 7:42:10 AM
WORKSPACE: AHTD
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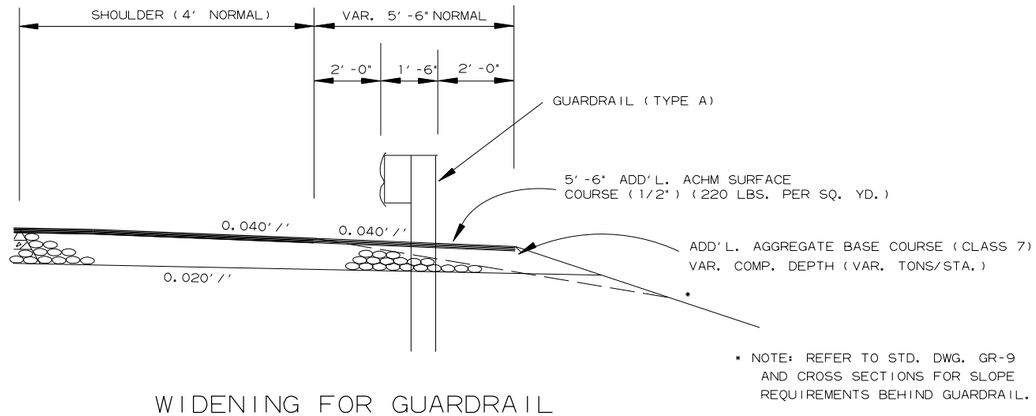
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	7	139
		SPECIAL DETAILS				

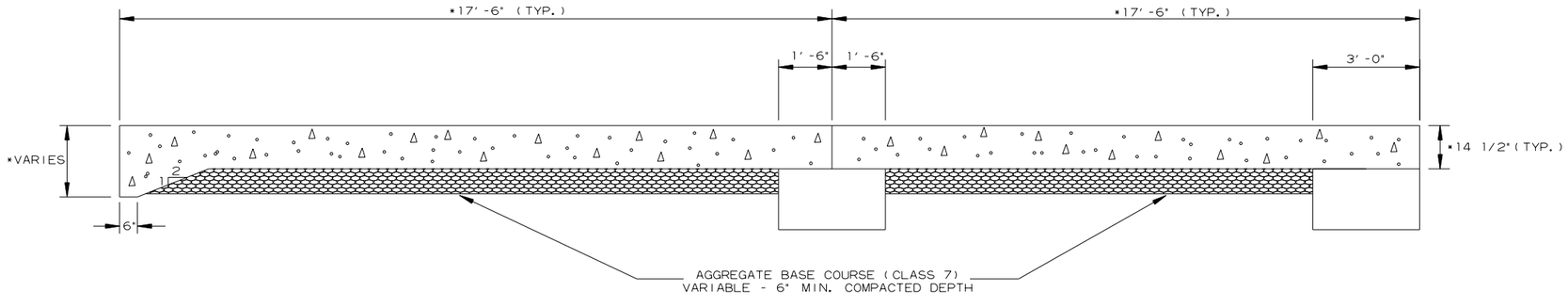
6.0" Radius, 1.3" Border, Black on Orange;
"Job XXXXXX" C 2K; "Start Date Mo Year" C 2K;
"Est Completion Mo Year" C 2K; "IDRIVE " Arial;
" ARKANSAS.COM " Arial;

CONSTRUCTION PROJECT INFORMATION SIGN



WIDENING FOR GUARDRAIL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024



* SEE APPROACH SLAB DETAILS IN BRIDGE STANDARD DRAWINGS

SECTION OF APPROACH SLAB

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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.	101017	8	139
		SPECIAL DETAILS				

STATE OF ARKANSAS
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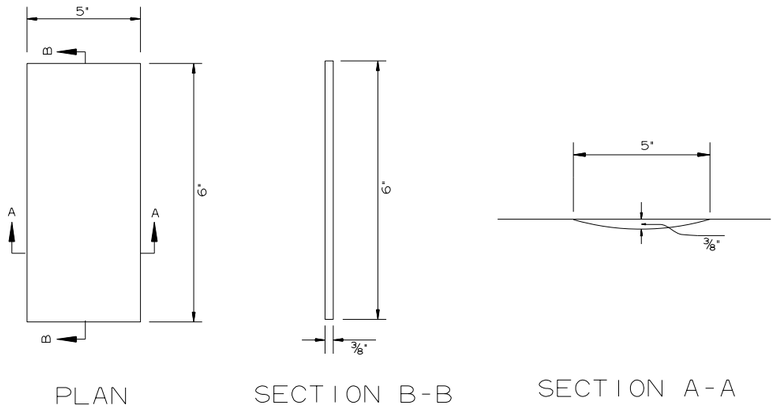
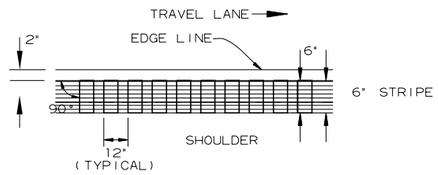
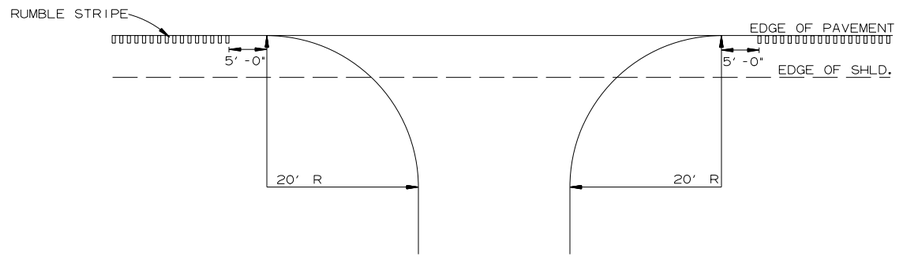


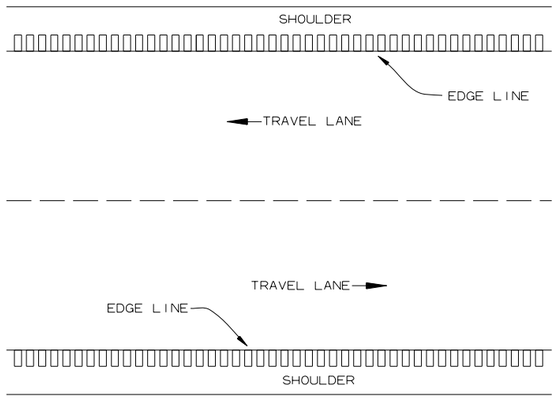
DETAILS OF RUMBLE STRIPE



LOCATION PLAN OF RUMBLE STRIPE
LEFT OR RIGHT SHOULDER



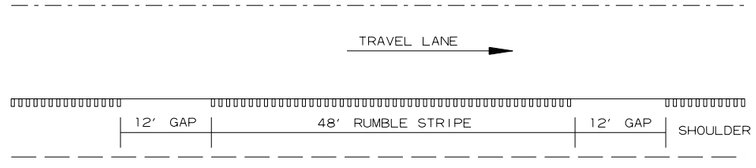
DETAIL FOR RUMBLE STRIPE GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPES SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. RUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPES HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPES HAVE NOT BEEN CONSTRUCTED.
4. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 6" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.



NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

DETAIL FOR GAP PATTERN RUMBLE STRIPE

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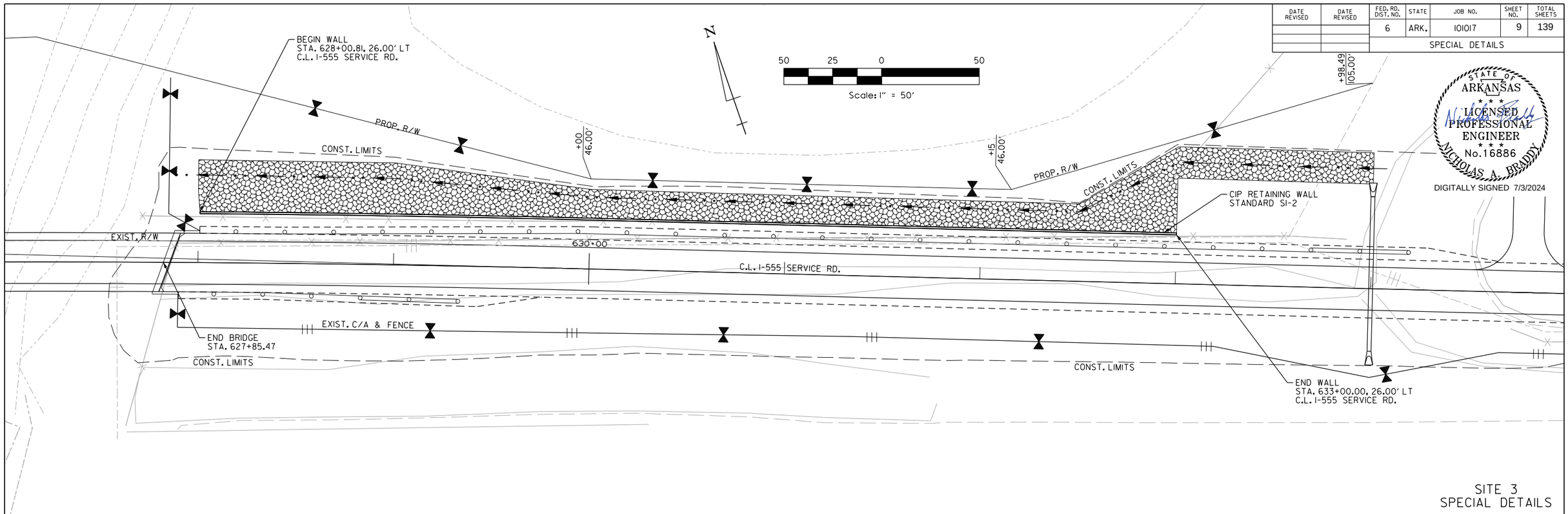
		6	ARK.	101017	9	139
		SPECIAL DETAILS				



STATE OF ARKANSAS
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NICHOLAS A. BRADDY
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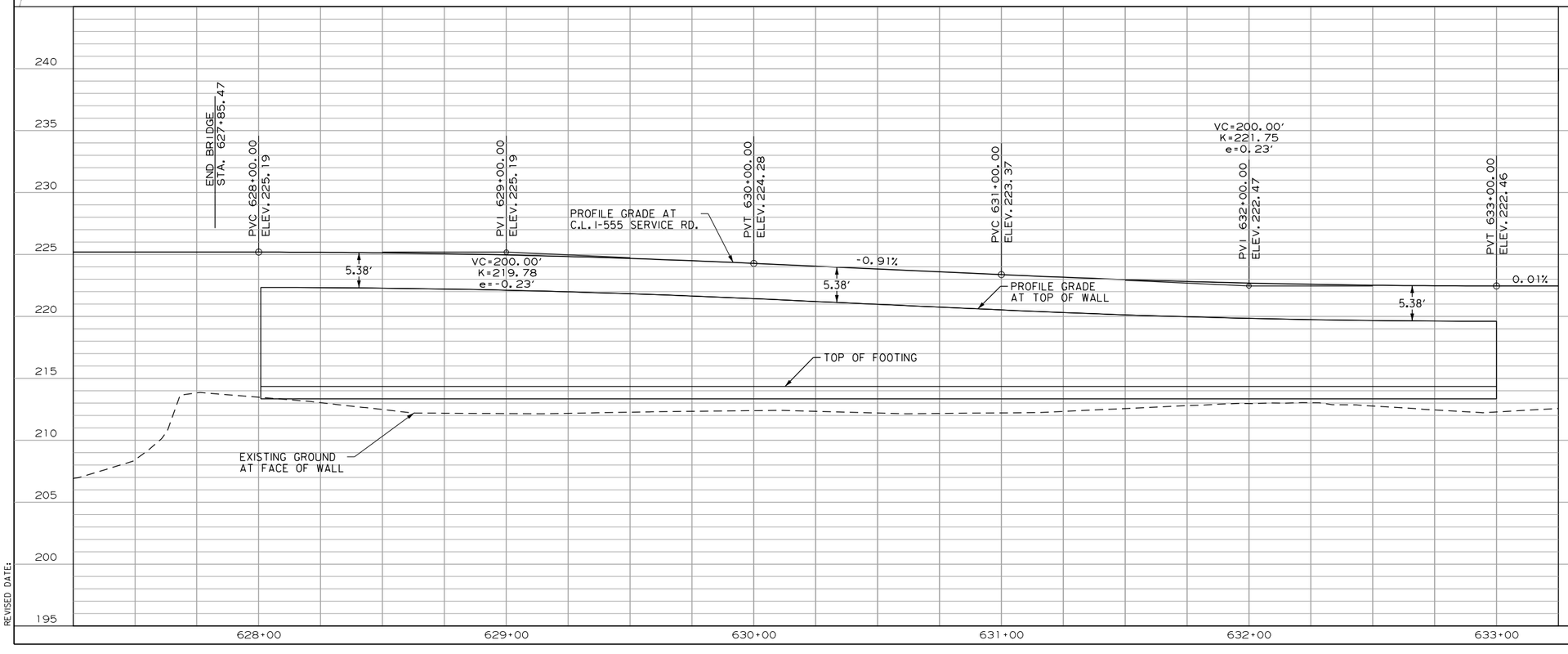
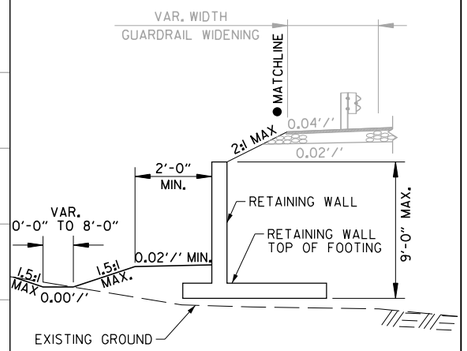
SITE 3
SPECIAL DETAILS





RETAINING WALL

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REVISED DATE:

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		6	ARK.	101017	10	139
		TEMPORARY EROSION CONTROL DETAILS				

LEGEND

(E-5) = SAND BAG DITCH CHECKS [E-7] = DROP INLET SILT FENCE

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

[E-13] = FILTER SOCK

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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NICHOLAS A. BRADDY
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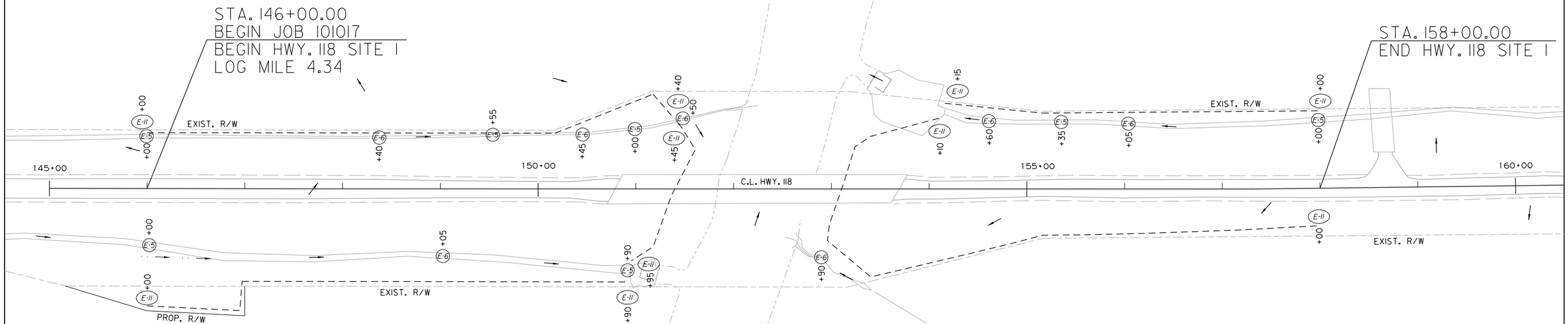

SITE 1

SILT FENCE	(E-11)	LIN. FT.
STA. 146+00 TO 150+90	RT.	520
STA. 146+00 TO 151+40	LT.	558
STA. 150+95 TO 151+45	RT. & LT.	167
STA. 154+10 TO 158+00	RT. & LT.	714
STA. 154+15 TO 158+00	LT.	384

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 146+00	RT.	1
STA. 146+00	LT.	1
STA. 149+55	LT.	1
STA. 150+90	RT.	1
STA. 151+00	LT.	1
STA. 155+35	LT.	1
STA. 158+00	LT.	1

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 148+40	LT.	1
STA. 149+05	RT.	1
STA. 150+45	LT.	1
STA. 151+50	LT.	1
STA. 152+90	RT.	1
STA. 154+60	LT.	1
STA. 156+05	LT.	1

REVISIONS

DATE	REVISION

HWY. 118 SITE 1
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

WBCallaway 6/28/2024 7:42:20 AM
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		TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
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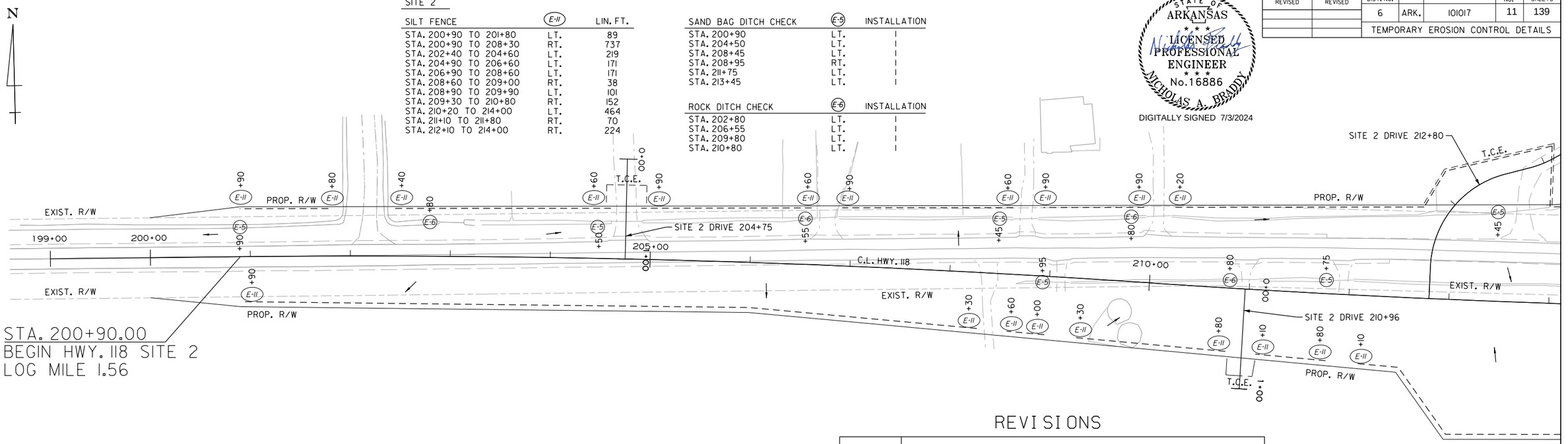
SITE 2

SILT FENCE	(E-11)	LIN. FT.
STA. 200+90 TO 201+80	LT.	89
STA. 200+90 TO 208+30	RT.	737
STA. 202+40 TO 204+60	LT.	219
STA. 204+90 TO 206+60	LT.	171
STA. 206+90 TO 208+60	LT.	171
STA. 208+60 TO 209+00	RT.	38
STA. 208+90 TO 209+90	LT.	101
STA. 209+30 TO 210+80	RT.	152
STA. 210+20 TO 214+00	LT.	464
STA. 211+10 TO 211+80	RT.	70
STA. 212+10 TO 214+00	RT.	224

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 200+90	LT.	1
STA. 204+50	LT.	1
STA. 208+45	LT.	1
STA. 208+95	RT.	1
STA. 211+75	LT.	1
STA. 213+45	LT.	1

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 202+80	LT.	1
STA. 206+55	LT.	1
STA. 209+80	LT.	1
STA. 210+80	LT.	1



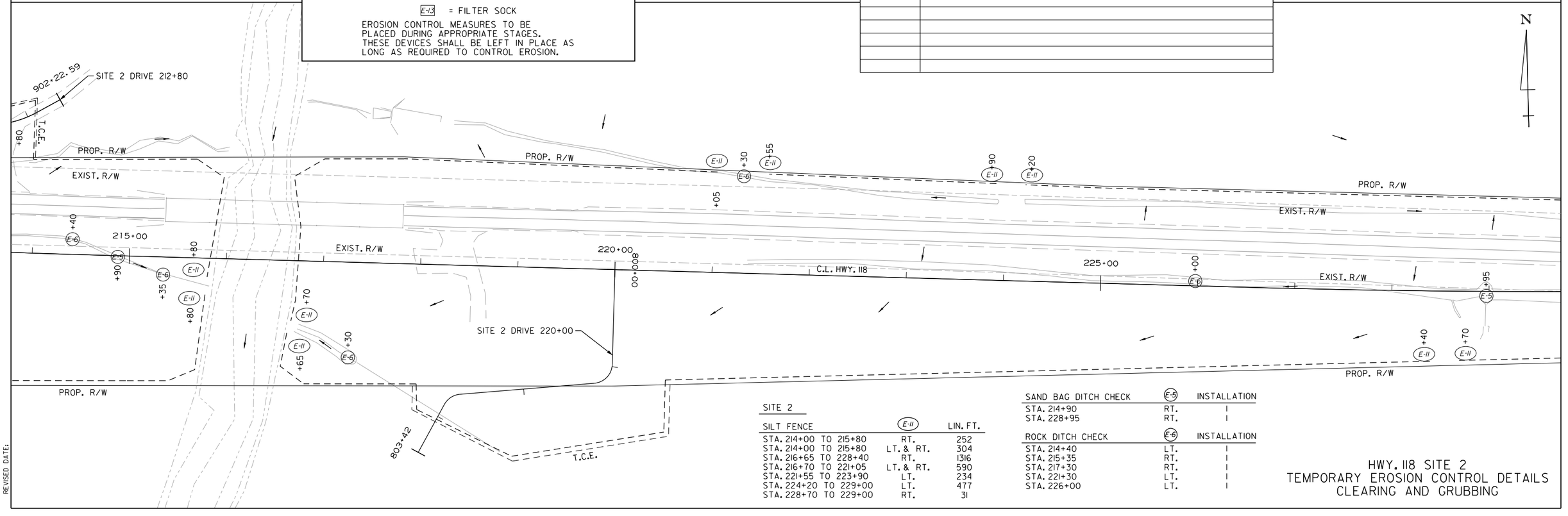
LEGEND

(E-5) = SAND BAG DITCH CHECKS
(E-6) = ROCK DITCH CHECKS
[E-7] = DROP INLET SILT FENCE
(E-11) = SILT FENCE
[E-13] = FILTER SOCK

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

REVISIONS

DATE	REVISION



SITE 2

SILT FENCE	(E-11)	LIN. FT.
STA. 214+00 TO 215+80	RT.	252
STA. 214+00 TO 215+80	LT. & RT.	304
STA. 216+65 TO 228+40	RT.	1316
STA. 216+70 TO 221+05	LT. & RT.	590
STA. 221+55 TO 223+90	LT.	234
STA. 224+20 TO 229+00	LT.	477
STA. 228+70 TO 229+00	RT.	31

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 214+90	RT.	1
STA. 228+95	RT.	1

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 214+40	LT.	1
STA. 215+35	RT.	1
STA. 217+30	RT.	1
STA. 221+30	LT.	1
STA. 226+00	LT.	1

HWY. 118 SITE 2
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

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		6	ARK.	101017	12	139
		TEMPORARY EROSION CONTROL DETAILS				

LEGEND

(E-5) = SAND BAG DITCH CHECKS [E-7] = DROP INLET SILT FENCE

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

[E-13] = FILTER SOCK

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STATE OF ARKANSAS
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No.16886
NICHOLAS A. BRADDY
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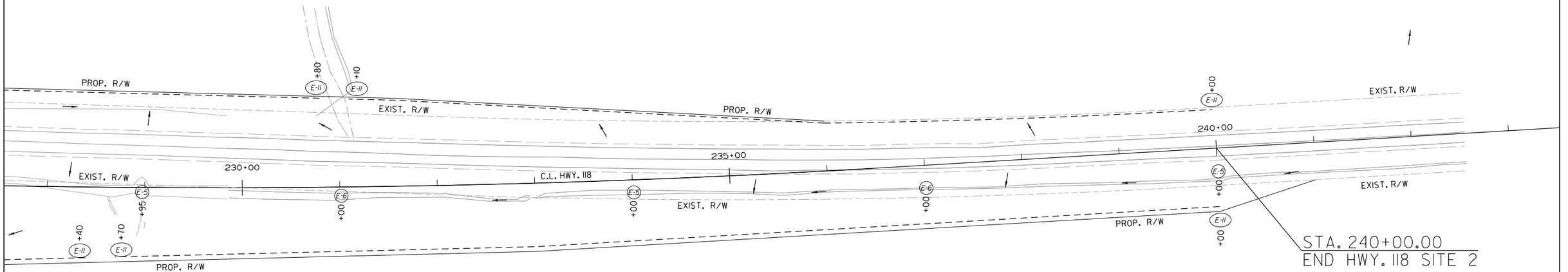
SITE 2

SILT FENCE	(E-11)	LIN. FT.
STA. 229+00 TO 230+80	LT.	179
STA. 229+00 TO 240+00	RT.	1104
STA. 231+10 TO 240+00	LT.	887

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 228+95	RT.	1
STA. 240+00	RT.	1
STA. 240+00	RT.	1

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 231+00	RT.	1
STA. 237+00	RT.	1



REVISIONS

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REVISED DATE:

HWY. 118 SITE 2
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	13	139
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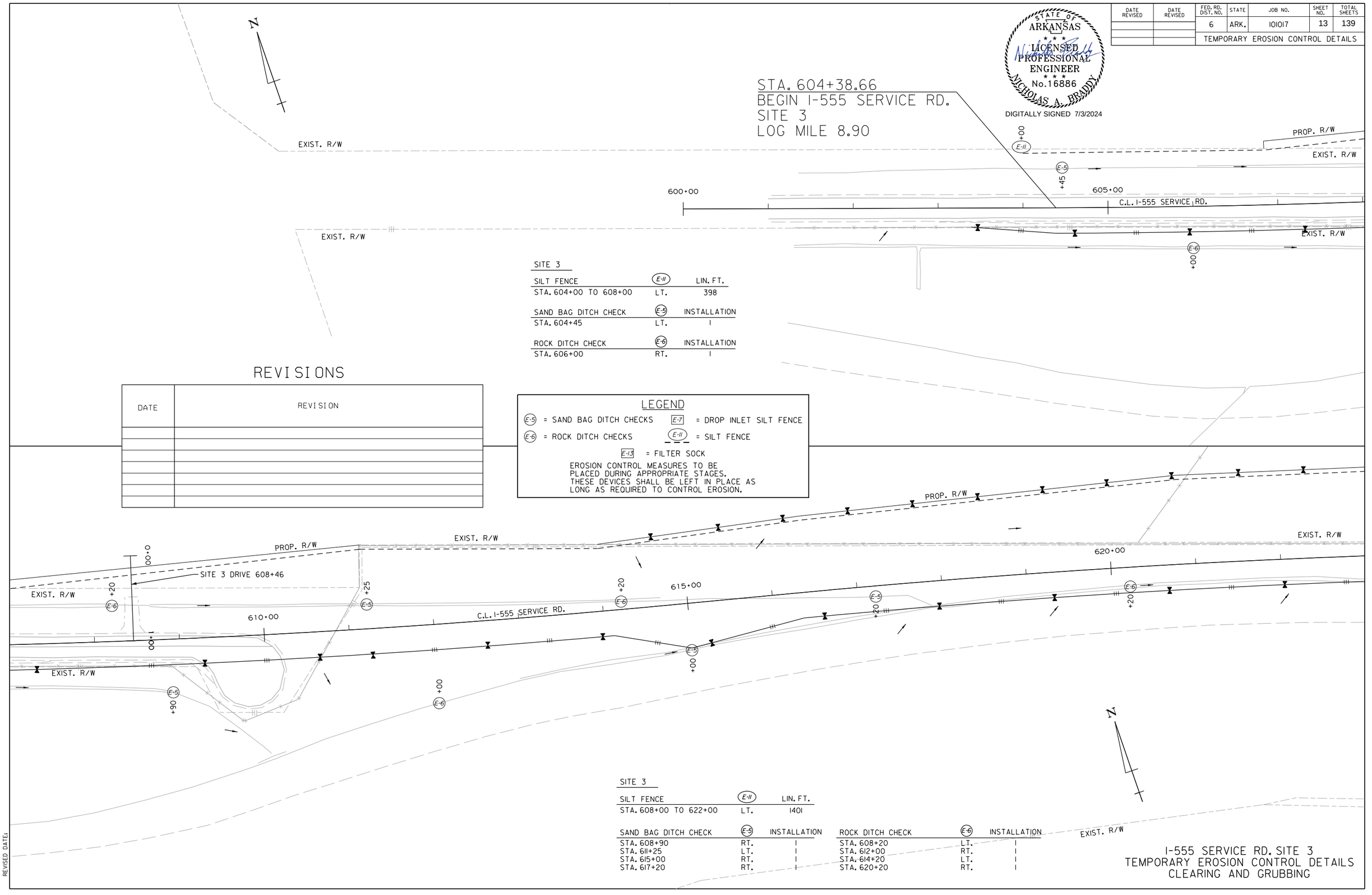


SITE 3

SILT FENCE	E-11	LIN. FT.
STA. 604+00 TO 608+00	LT.	398

SAND BAG DITCH CHECK	E-5	INSTALLATION
STA. 604+45	LT.	1

ROCK DITCH CHECK	E-6	INSTALLATION
STA. 606+00	RT.	1

REVISIONS

DATE	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECKS
E-6 = ROCK DITCH CHECKS
E-7 = DROP INLET SILT FENCE
E-11 = SILT FENCE
E-13 = FILTER SOCK

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

SITE 3

SILT FENCE	E-11	LIN. FT.
STA. 608+00 TO 622+00	LT.	1401

SAND BAG DITCH CHECK	E-5	INSTALLATION
STA. 608+90	RT.	1
STA. 611+25	LT.	1
STA. 615+00	RT.	1
STA. 617+20	RT.	1

ROCK DITCH CHECK	E-6	INSTALLATION
STA. 608+20	LT.	1
STA. 612+00	RT.	1
STA. 614+20	LT.	1
STA. 620+20	RT.	1

I-555 SERVICE RD. SITE 3
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

WBCallaway 6/28/2024 7:42:23 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_EC_04_S3_CG.dgn
REVISED DATE:

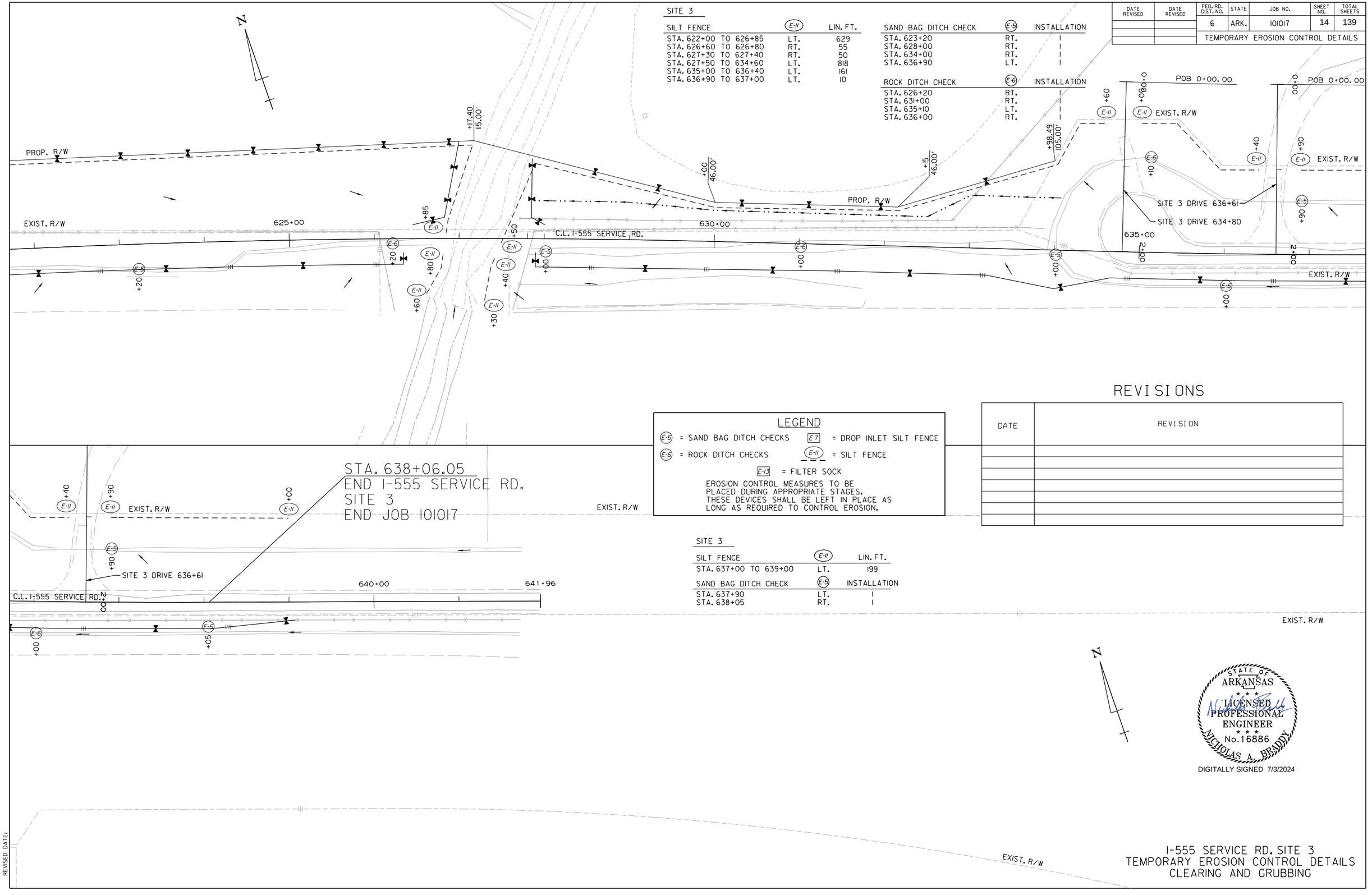
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	14	139
		TEMPORARY EROSION CONTROL DETAILS				

SITE 3

SILT FENCE	(E-11)	LIN. FT.
STA. 622+00 TO 626+85	LT.	629
STA. 626+60 TO 626+80	RT.	55
STA. 627+30 TO 627+40	RT.	50
STA. 627+50 TO 634+60	LT.	818
STA. 635+00 TO 636+40	LT.	161
STA. 636+90 TO 637+00	LT.	10

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 623+20	RT.	1
STA. 628+00	RT.	1
STA. 634+00	RT.	1
STA. 636+90	LT.	1

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 626+20	RT.	1
STA. 631+00	RT.	1
STA. 635+10	LT.	1
STA. 636+00	RT.	1



LEGEND

(E-5) = SAND BAG DITCH CHECKS [E-7] = DROP INLET SILT FENCE

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

[E-13] = FILTER SOCK

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

SITE 3

SILT FENCE	(E-11)	LIN. FT.
STA. 637+00 TO 639+00	LT.	199

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 637+90	LT.	1
STA. 638+05	RT.	1

REVISIONS

DATE	REVISION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

I-555 SERVICE RD. SITE 3
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

WBCallaway 6/28/2024 7:42:24 AM
WORKSPACE: AHTD
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REVISED DATE:

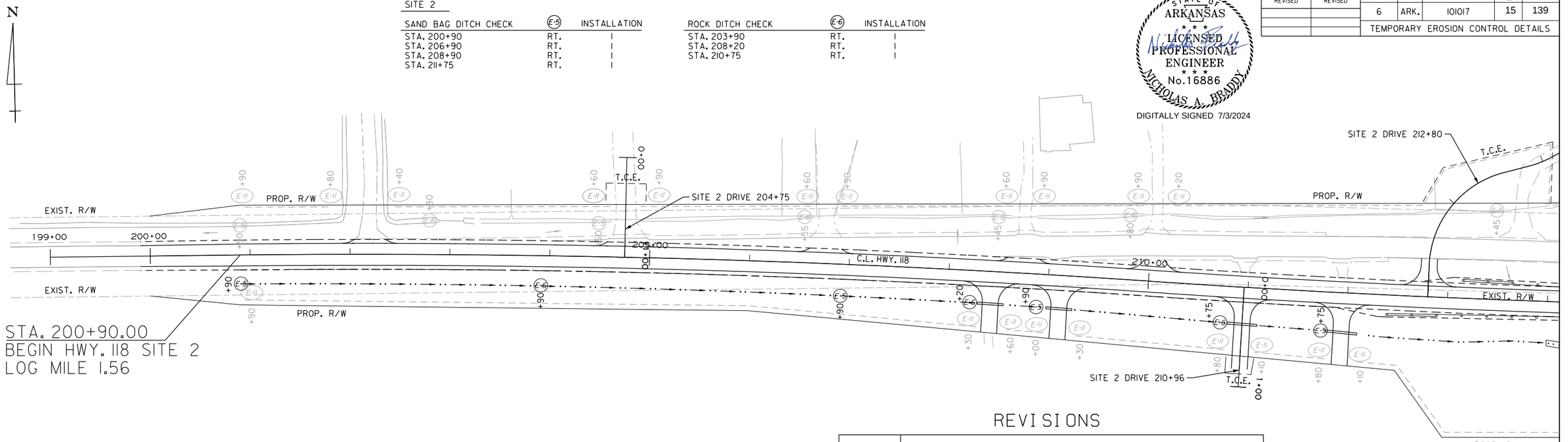
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	15	139
		TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADLY
DIGITALLY SIGNED 7/3/2024

SITE 2

SAND BAG DITCH CHECK	E-5	INSTALLATION
STA. 200+90	RT.	I
STA. 206+90	RT.	I
STA. 208+90	RT.	I
STA. 211+75	RT.	I

ROCK DITCH CHECK	E-6	INSTALLATION
STA. 203+90	RT.	I
STA. 208+20	RT.	I
STA. 210+75	RT.	I



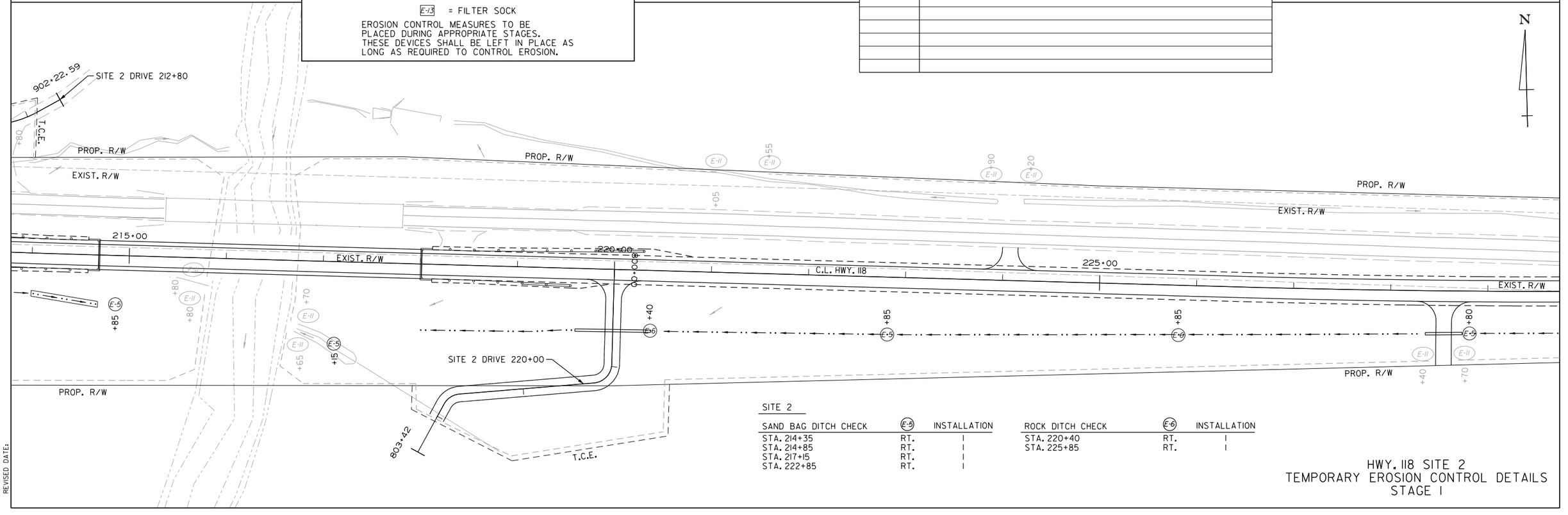
LEGEND

E-5 = SAND BAG DITCH CHECKS
E-6 = ROCK DITCH CHECKS
E-7 = DROP INLET SILT FENCE
E-11 = SILT FENCE
E-13 = FILTER SOCK

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

REVISIONS

DATE	REVISION



SITE 2

SAND BAG DITCH CHECK	E-5	INSTALLATION
STA. 214+35	RT.	I
STA. 214+85	RT.	I
STA. 217+15	RT.	I
STA. 222+85	RT.	I

ROCK DITCH CHECK	E-6	INSTALLATION
STA. 220+40	RT.	I
STA. 225+85	RT.	I

HWY. 118 SITE 2
TEMPORARY EROSION CONTROL DETAILS
STAGE I

WBCallaway 6/28/2024 7:42:25 AM
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.	101017	16	139
		TEMPORARY EROSION CONTROL DETAILS				

LEGEND

(E-5) = SAND BAG DITCH CHECKS [E-7] = DROP INLET SILT FENCE

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

[E-13] = FILTER SOCK

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

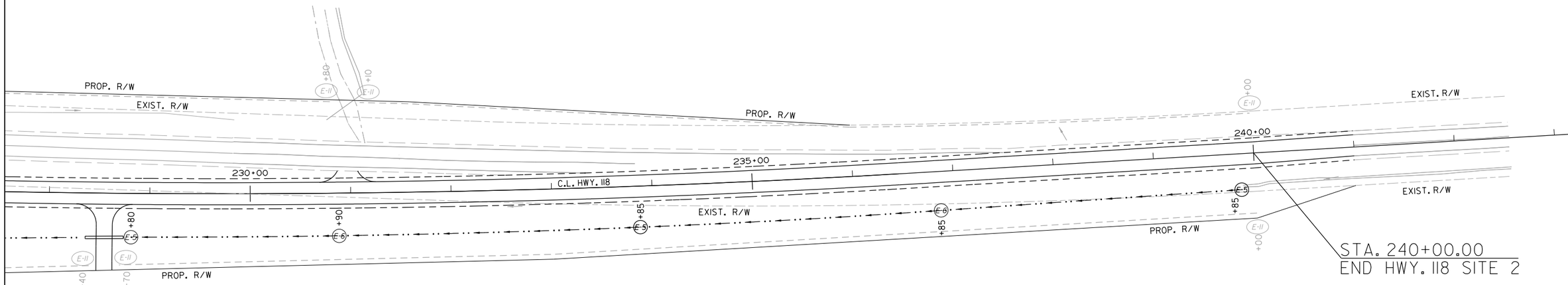
N

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

SITE 2

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 228+80	RT.	I
STA. 233+85	RT.	I
STA. 239+85	RT.	I

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 230+90	RT.	I
STA. 236+85	RT.	I



REVISIONS

DATE	REVISION

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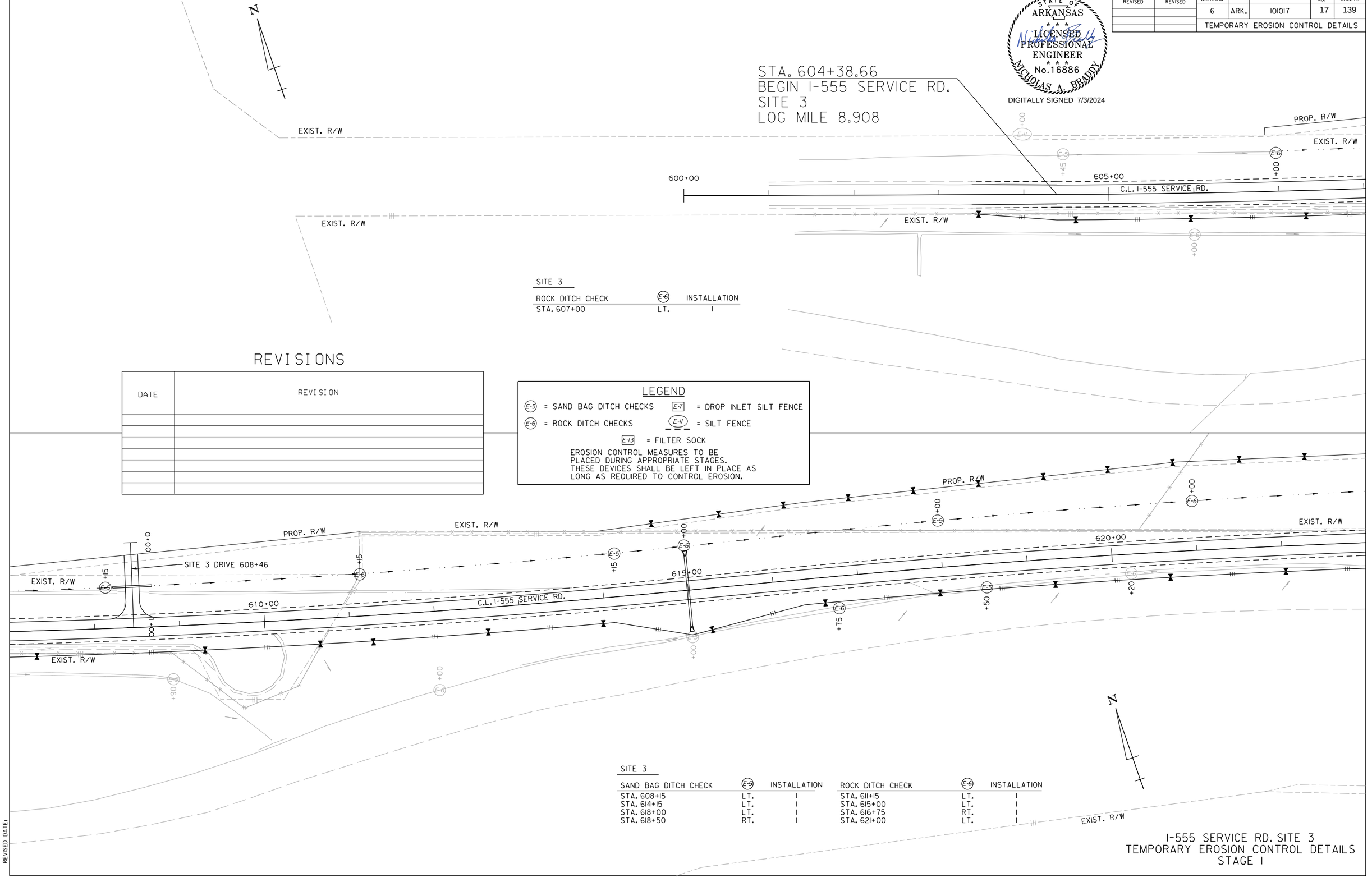
REVISED DATE:

HWY. 118 SITE 2
TEMPORARY EROSION CONTROL DETAILS
STAGE 1

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	17	139
		TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

STA. 604+38.66
BEGIN I-555 SERVICE RD.
SITE 3
LOG MILE 8.908



SITE 3

ROCK DITCH CHECK	E-6	INSTALLATION
STA. 607+00	LT.	1

REVISIONS

DATE	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECKS
E-6 = ROCK DITCH CHECKS
E-7 = DROP INLET SILT FENCE
E-11 = SILT FENCE
E-13 = FILTER SOCK

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

SITE 3

SAND BAG DITCH CHECK	E-5	INSTALLATION
STA. 608+15	LT.	1
STA. 614+15	LT.	1
STA. 618+00	LT.	1
STA. 618+50	RT.	1

ROCK DITCH CHECK	E-6	INSTALLATION
STA. 611+15	LT.	1
STA. 615+00	LT.	1
STA. 616+75	RT.	1
STA. 621+00	LT.	1

I-555 SERVICE RD. SITE 3
TEMPORARY EROSION CONTROL DETAILS
STAGE 1

WBCallaway 6/28/2024 7:42:27 AM
WORKSPACE: AHTD
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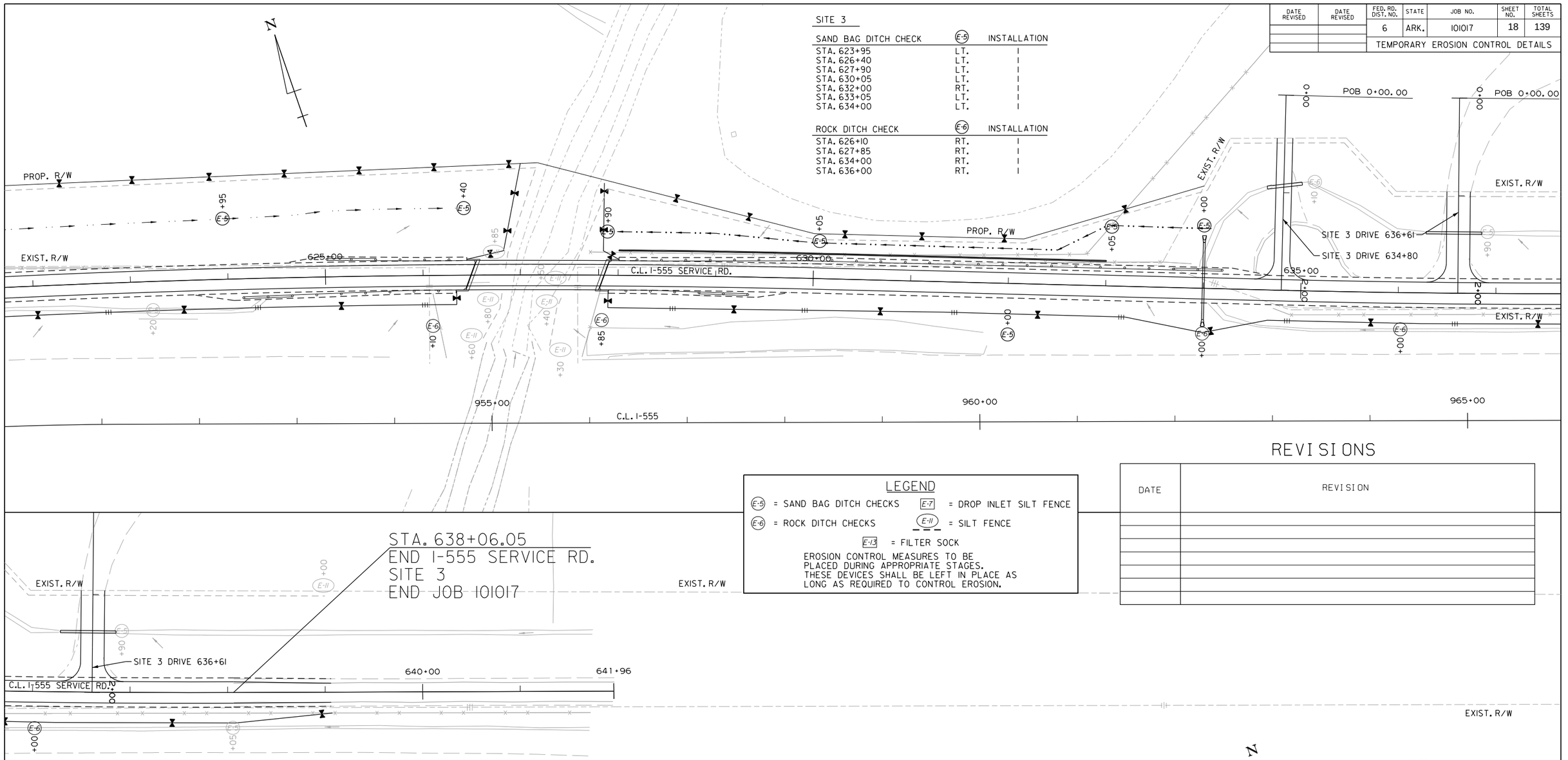
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	18	139
		TEMPORARY EROSION CONTROL DETAILS				

SITE 3

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 623+95	LT.	I
STA. 626+40	LT.	I
STA. 627+90	LT.	I
STA. 630+05	LT.	I
STA. 632+00	RT.	I
STA. 633+05	LT.	I
STA. 634+00	LT.	I

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 626+10	RT.	I
STA. 627+85	RT.	I
STA. 634+00	RT.	I
STA. 636+00	RT.	I



LEGEND

(E-5) = SAND BAG DITCH CHECKS E-7 = DROP INLET SILT FENCE

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

E-13 = FILTER SOCK

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

REVISIONS

DATE	REVISION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

I-555 SERVICE RD. SITE 3
TEMPORARY EROSION CONTROL DETAILS
STAGE I

WBCallaway 6/28/2024 7:42:28 AM
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.	101017	19	139
		TEMPORARY EROSION CONTROL DETAILS				

LEGEND

E-5 = SAND BAG DITCH CHECKS
E-6 = ROCK DITCH CHECKS
E-7 = DROP INLET SILT FENCE
E-11 = SILT FENCE
E-13 = FILTER SOCK

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

STATE OF ARKANSAS
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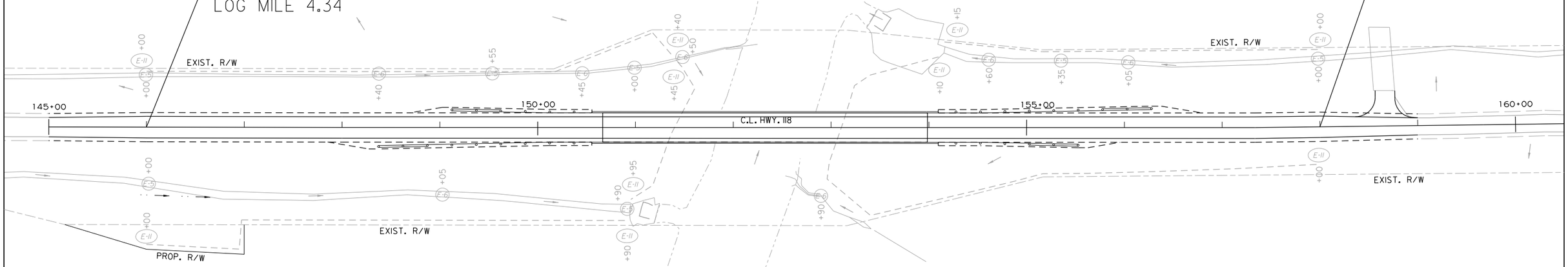
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

N

STA. 146+00.00
BEGIN JOB 101017
BEGIN HWY. 118 SITE 1
LOG MILE 4.34

STA. 158+00.00
END HWY. 118 SITE 1



REVISIONS

DATE	REVISION

HWY. 118 SITE 1
TEMPORARY EROSION CONTROL DETAILS
STAGE 2

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	20	139
		TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
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NICHOLAS A. BRADDY
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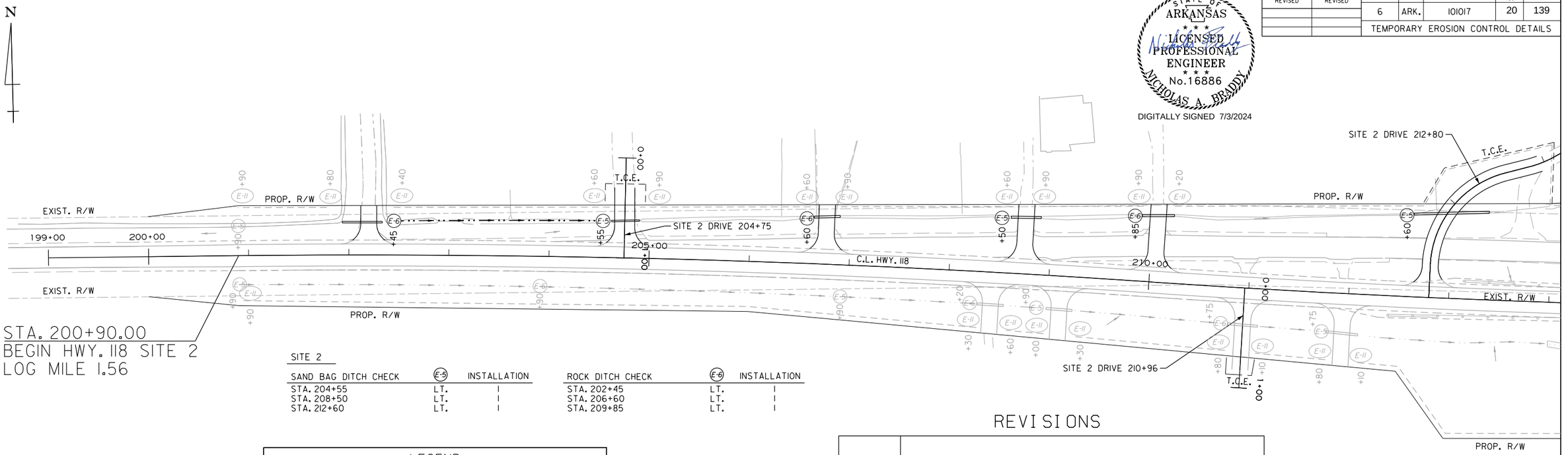


STA. 200+90.00
BEGIN HWY. 118 SITE 2
LOG MILE 1.56

SITE 2

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 204+55	LT.	1
STA. 208+50	LT.	1
STA. 212+60	LT.	1

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 202+45	LT.	1
STA. 206+60	LT.	1
STA. 209+85	LT.	1

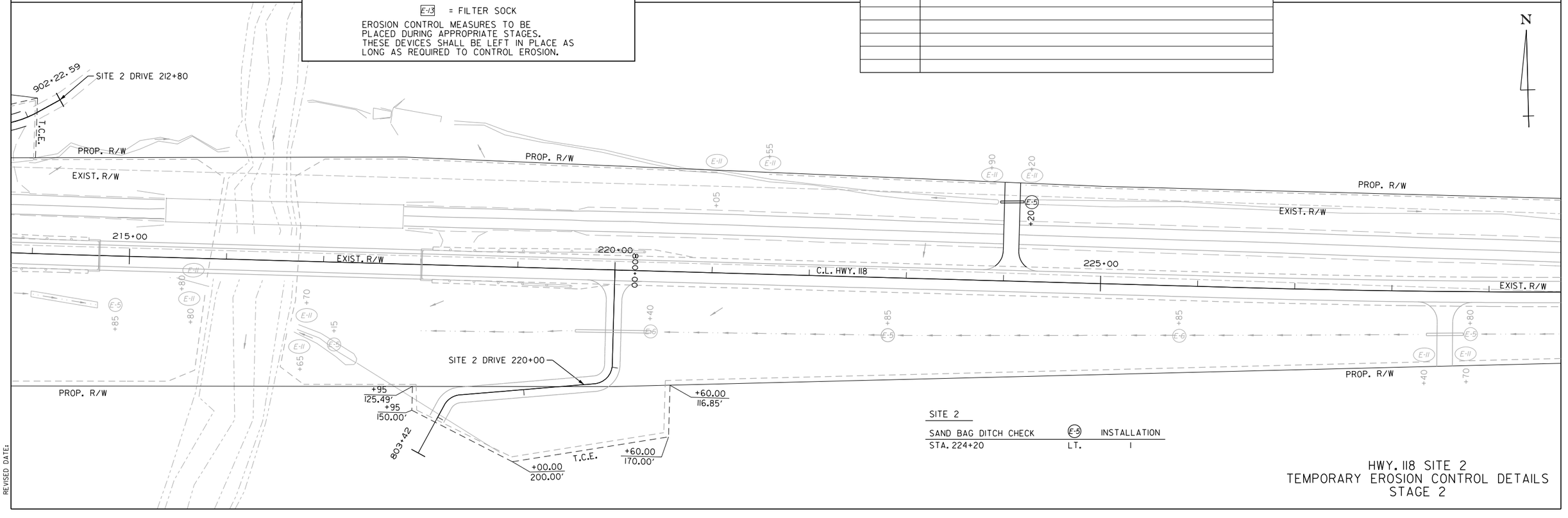
LEGEND

(E-5) = SAND BAG DITCH CHECKS
(E-6) = ROCK DITCH CHECKS
E-7 = DROP INLET SILT FENCE
E-11 = SILT FENCE
E-13 = FILTER SOCK

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

REVISIONS

DATE	REVISION



SITE 2

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 224+20	LT.	1

HWY. 118 SITE 2
TEMPORARY EROSION CONTROL DETAILS
STAGE 2

WBCallaway 6/28/2024 7:42:31 AM
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	21	139
		TEMPORARY EROSION CONTROL DETAILS				

LEGEND

(E-5) = SAND BAG DITCH CHECKS

(E-6) = ROCK DITCH CHECKS

[E-7] = DROP INLET SILT FENCE

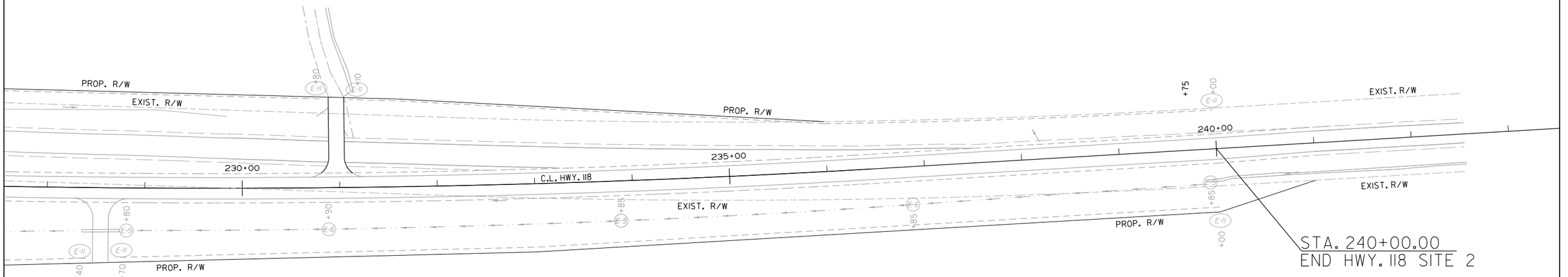
(E-11) = SILT FENCE

[E-13] = FILTER SOCK

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

N

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024



REVISIONS

DATE	REVISION

HWY. 118 SITE 2
TEMPORARY EROSION CONTROL DETAILS
STAGE 2

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	22	139
		MAINTENANCE OF TRAFFIC DETAILS				

BUMP — (4 PER STG.) W8-1 (30" X 30")

RIGHT SHOULDER CLOSED — (4 PER STG.) W21-5a (36" X 36")

(4 PER STG.) W8-17 (36" X 36")

SHOULDER DROP-OFF — (4 PER STG.) W8-17P (24" X 18")

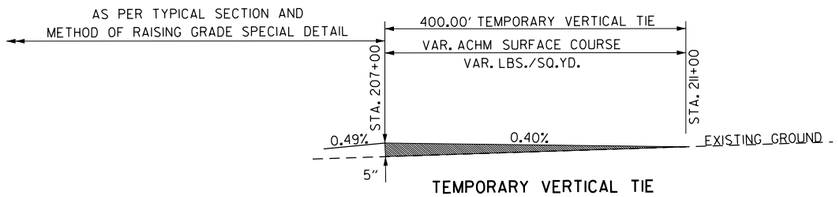
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

N

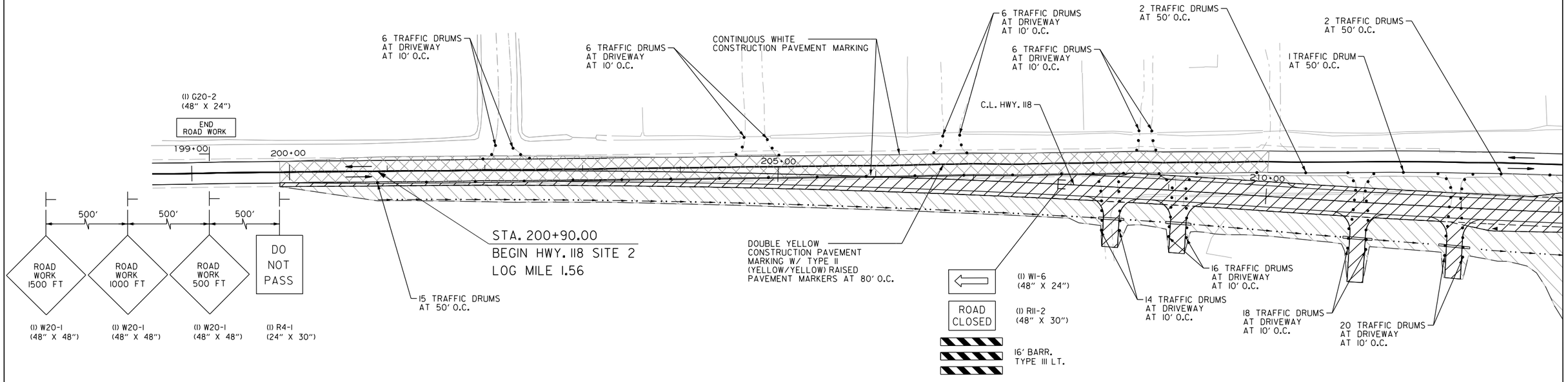
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

STAGE I CONSTRUCTION SEQUENCE NOTES

1. MAINTAIN HWY. 118 TRAFFIC ON EXISTING LANES.
2. INSTALL ADVANCE WARNING AND CHANNELIZING DEVICES.
3. CONSTRUCT HWY. 118 MAIN LANES AND STRUCTURES.
4. PLACE CONSTRUCTION PAVEMENT MARKINGS SHOWN FOR STAGE 2 CONFIGURATION PRIOR TO SWITCHING TRAFFIC.



TEMPORARY VERTICAL TIE
HWY. 118



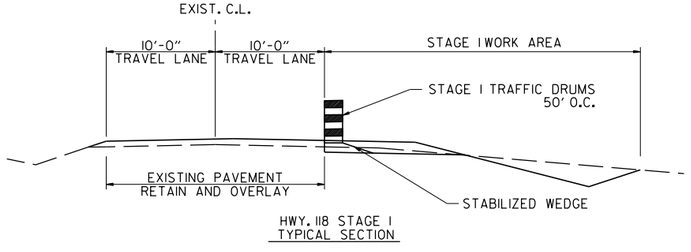
STAGE I TRAFFIC

STAGE I TRAFFIC DRUM

STAGE I PAVING UNDER TRAFFIC

STAGE I CONSTRUCTION

STAGE I GRADING



HWY. 118 STAGE I TYPICAL SECTION

SITE 2
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

WBCallaway 6/28/2024 7:42:34 AM
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.	101017	23	139
		MAINTENANCE OF TRAFFIC DETAILS				

BUMP (4 PER STG.) W8-1 (30" X 30")

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

(4 PER STG.) W8-17 (36" X 36")

SHOULDER DROP-OFF (4 PER STG.) W8-17P (24" X 18")

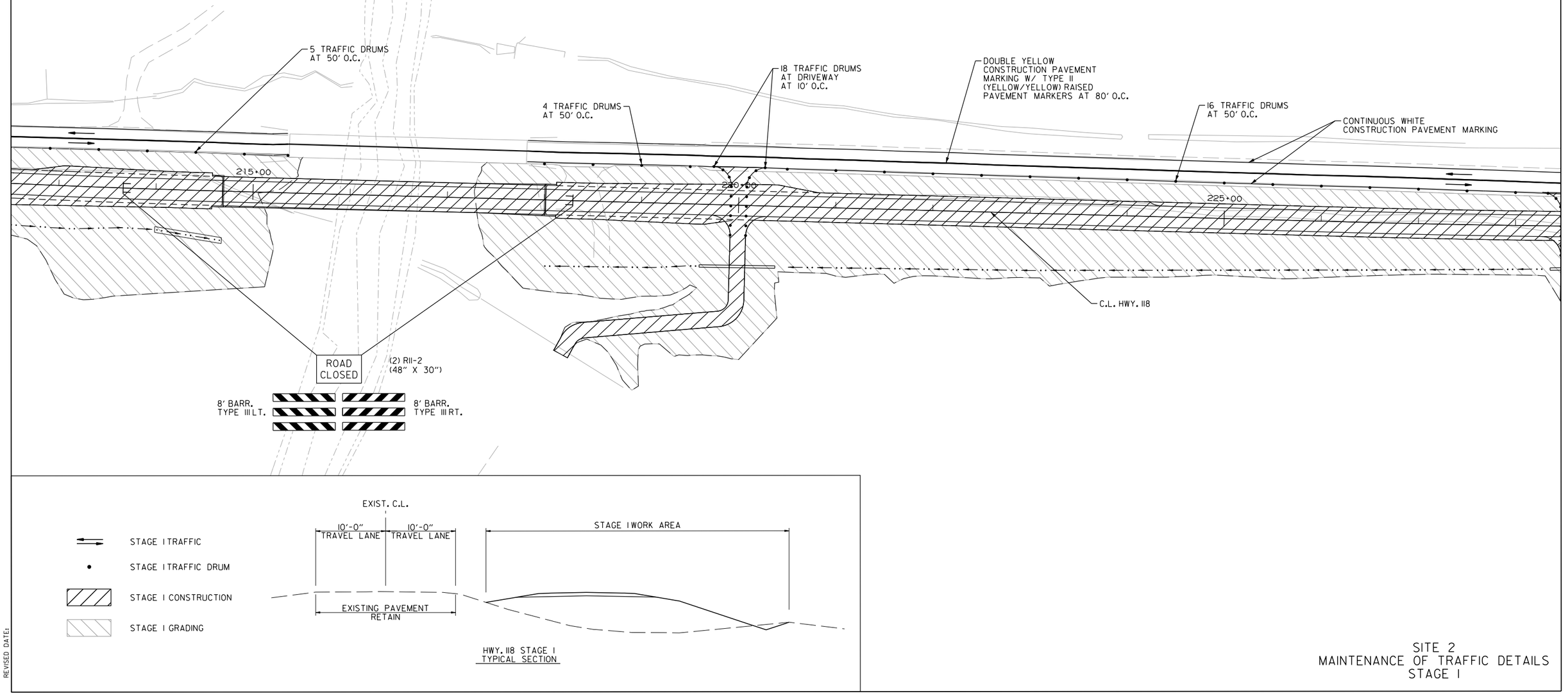
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

N

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

STAGE I CONSTRUCTION SEQUENCE NOTES

1. MAINTAIN HWY. 118 TRAFFIC ON EXISTING LANES.
2. INSTALL ADVANCE WARNING AND CHANNELIZING DEVICES.
3. CONSTRUCT HWY. 118 MAIN LANES AND STRUCTURES.
4. PLACE CONSTRUCTION PAVEMENT MARKINGS SHOWN FOR STAGE 2 CONFIGURATION PRIOR TO SWITCHING TRAFFIC.



HWY. 118 STAGE I TYPICAL SECTION

SITE 2
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

WBGalloway
6/28/2024 7:42:35 AM
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	24	139
		MAINTENANCE OF TRAFFIC DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

BUMP (4 PER STG.) W8-1 (30" X 30")

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

(4 PER STG.) W8-17 (36" X 36")

SHOULDER DROP-OFF (4 PER STG.) W8-17P (24" X 18")

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

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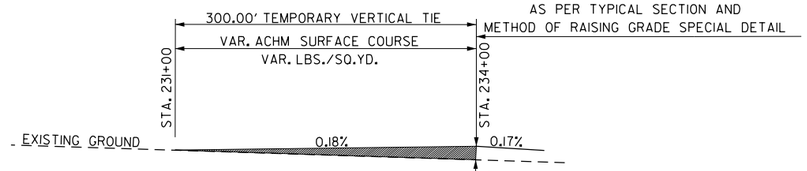
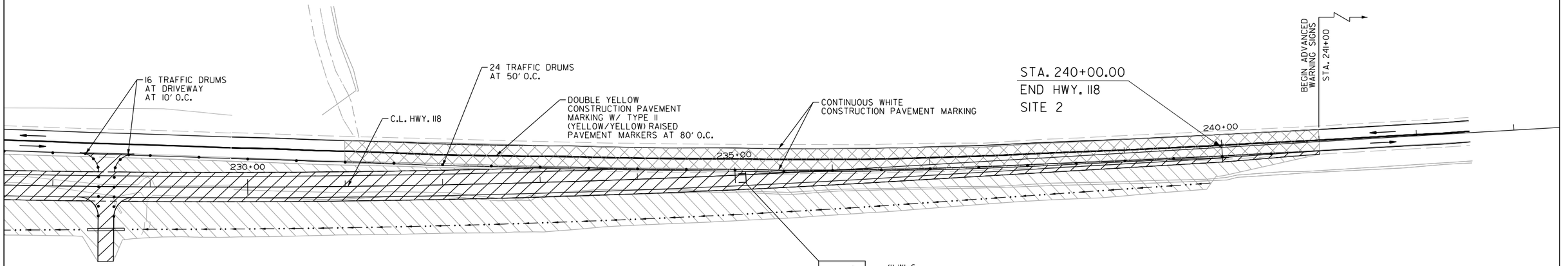
STAGE I CONSTRUCTION SEQUENCE NOTES

1. MAINTAIN HWY. 118 TRAFFIC ON EXISTING LANES.
2. INSTALL ADVANCE WARNING AND CHANNELIZING DEVICES.
3. CONSTRUCT HWY. 118 MAIN LANES AND STRUCTURES.
4. PLACE CONSTRUCTION PAVEMENT MARKINGS SHOWN FOR STAGE 2 CONFIGURATION PRIOR TO SWITCHING TRAFFIC.



TEMPORARY VERTICAL TIE
HWY. 118



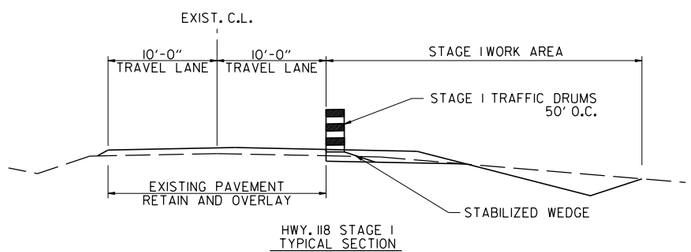
STAGE I TRAFFIC

STAGE I TRAFFIC DRUM

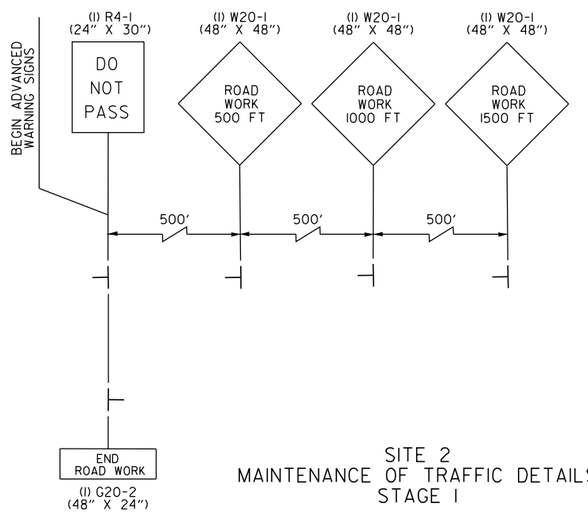
STAGE I PAVING UNDER TRAFFIC

STAGE I CONSTRUCTION

STAGE I GRADING



HWY. 118 STAGE I TYPICAL SECTION



SITE 2
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

WBCallaway 6/28/2024 7:42:35 AM
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_MOT_03_STG1_S2.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	25	139
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE I CONSTRUCTION SEQUENCE NOTES

1. INSTALL ROAD CLOSED BARRIERS.
2. CONSTRUCT I-555 SERVICE ROAD AND STRUCTURES AS SHOWN.
3. COMPLETE FINAL GRADING OPERATIONS AND PLACE FINAL 2" ACHM SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS. UTILIZE SITE 3 FINAL CONSTRUCTION FOR SITE I CONSTRUCTION DETOUR.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

STAGE I CONSTRUCTION

STAGE I GRADING

N

ROAD CLOSED

(1) R11-2 (48" X 30")

8' BARR. TYPE III LT.

8' BARR. TYPE III RT.

605+00

610+00

615+00

C.L. I-555 SERVICE RD.

STA. 604+38.66
BEGIN I-555 SERVICE RD.
SITE 3

SITE 3
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

WBCallaway 6/28/2024 7:42:36 AM
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\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_MOT_04_STGI_S3.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	26	139
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE I CONSTRUCTION SEQUENCE NOTES

1. INSTALL ROAD CLOSED BARRIERS.
2. CONSTRUCT I-555 SERVICE ROAD AND STRUCTURES AS SHOWN.
3. COMPLETE FINAL GRADING OPERATIONS AND PLACE FINAL 2" ACHM SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS. UTILIZE SITE 3 FINAL CONSTRUCTION FOR SITE ICONSTURCTION DETOUR.

STATE OF ARKANSAS
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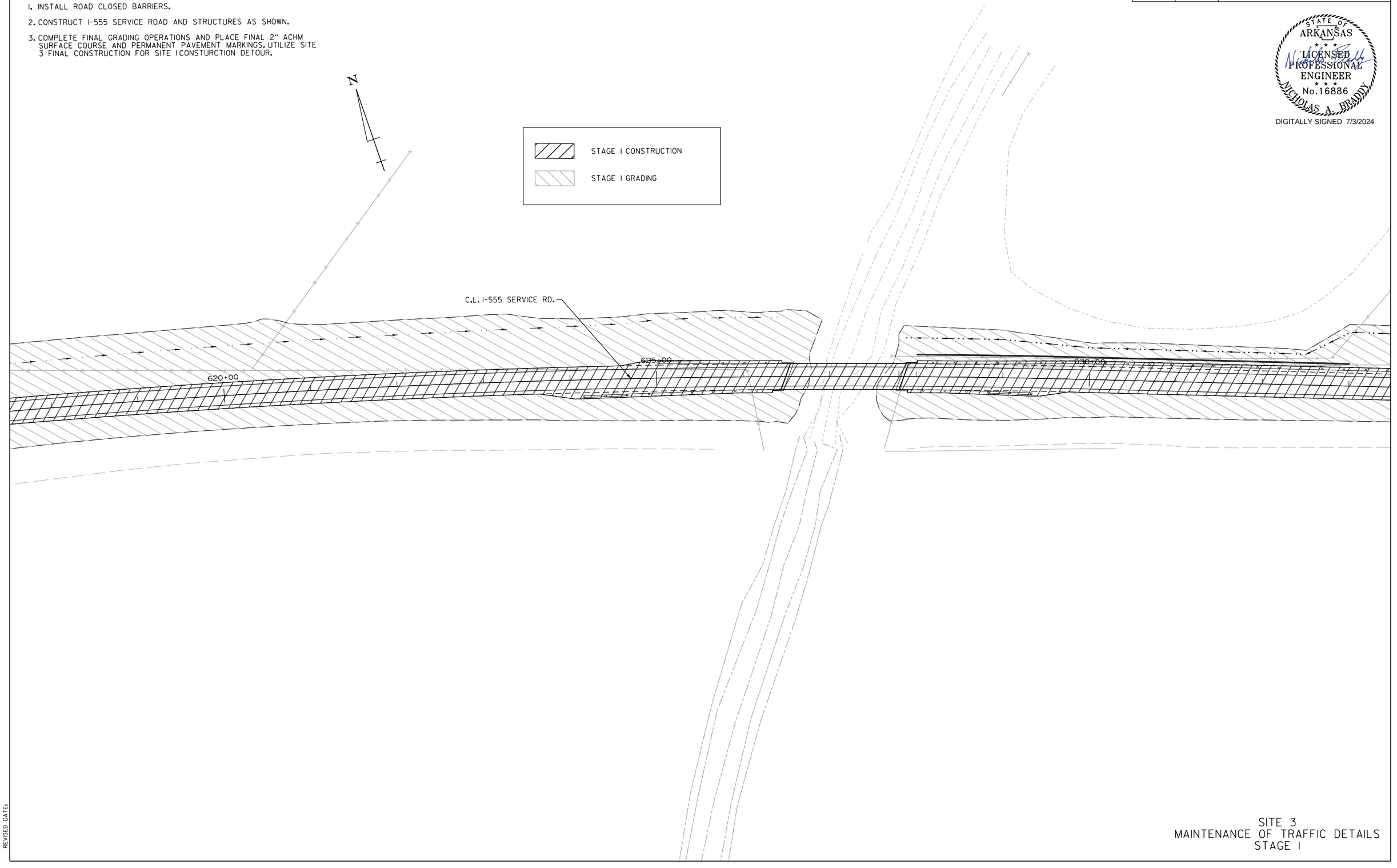
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024



SITE 3
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	27	139
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE I CONSTRUCTION SEQUENCE NOTES

1. INSTALL ROAD CLOSED BARRIERS.
2. CONSTRUCT I-555 SERVICE ROAD AND STRUCTURES AS SHOWN.
3. COMPLETE FINAL GRADING OPERATIONS AND PLACE FINAL 2" ACHM SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS. UTILIZE SITE 3 FINAL CONSTRUCTION FOR SITE 2 CONSTRUCTION DETOUR.

STATE OF ARKANSAS
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NICHOLAS A. BRADDY
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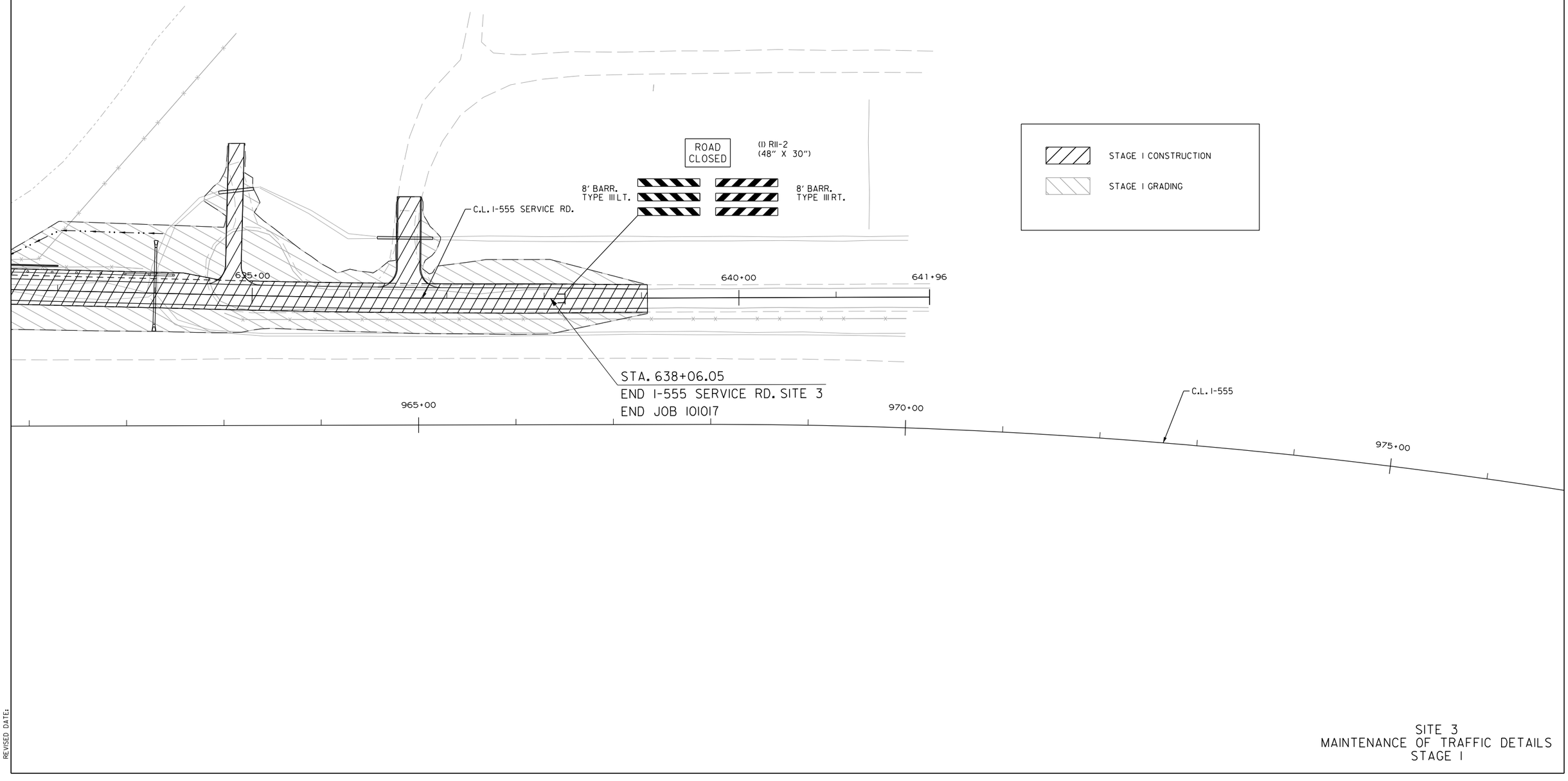

STAGE I CONSTRUCTION

STAGE I GRADING

SITE 3
MAINTENANCE OF TRAFFIC DETAILS
STAGE I

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	28	139

MAINTENANCE OF TRAFFIC DETAILS

1 — ROAD CLOSED — (2) R11-2 (48" X 30")
8' BARR. TYP. III LT.
8' BARR. TYP. III RT.

2 — ROAD CLOSED 500 FT — (1) W20-3 (48" X 48")

3 — ROAD CLOSED 1000 FT — (1) W20-3 (48" X 48")

4 — ROAD CLOSED 1500 FT — (1) W20-3 (48" X 48")

5 — ROAD CLOSED 1.8 MILES AHEAD LOCAL TRAFFIC ONLY — (1) R11-3A (60" X 30")

6 — ROAD CLOSED 1.7 MILES AHEAD LOCAL TRAFFIC ONLY — (1) R11-3A (60" X 30")

7 — DETOUR / 118 — (1) M4-10L (48" X 18")
(1) M1-5 (MODIFIED) (24" X 24")

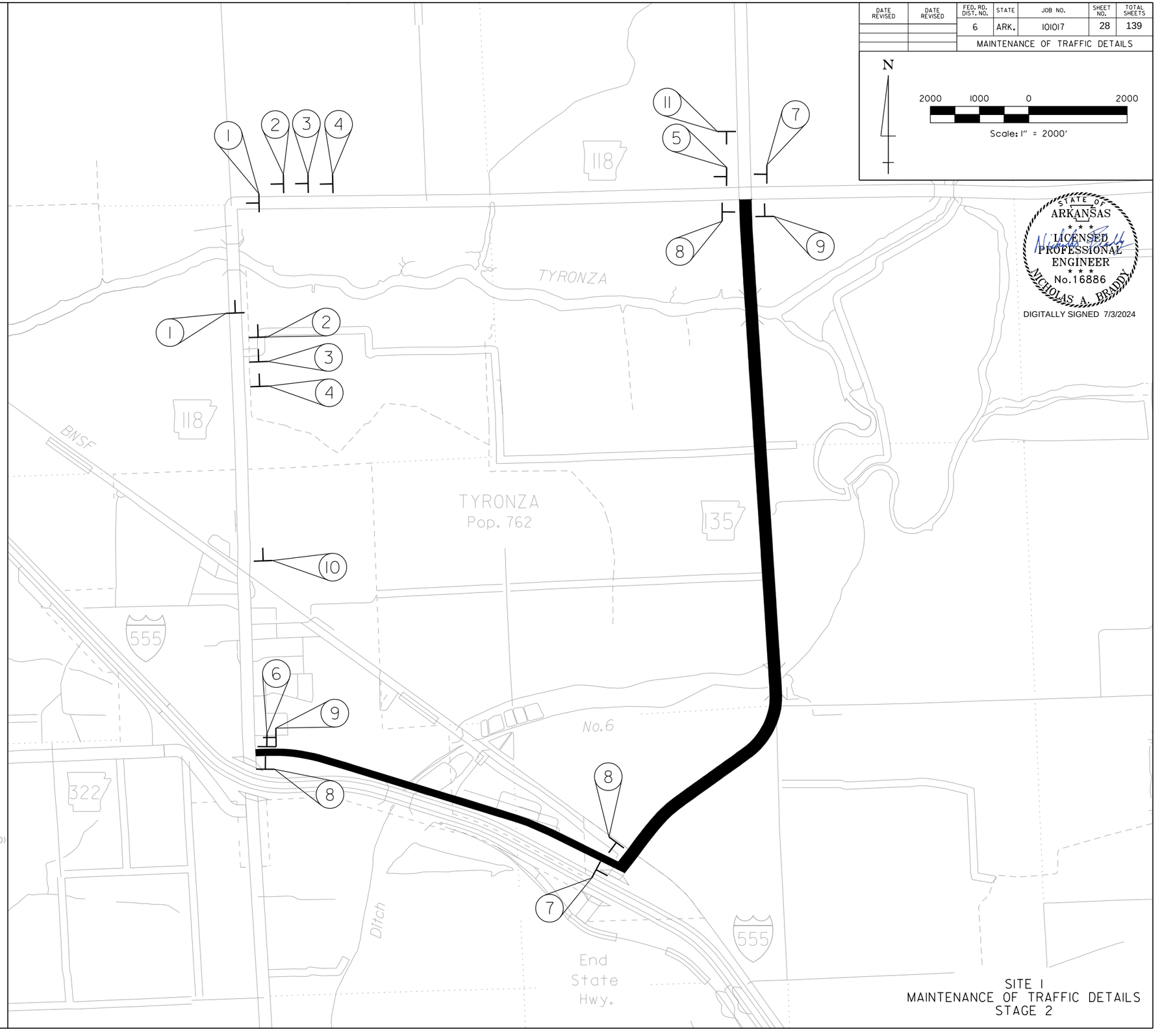
8 — DETOUR / 118 — (1) M4-10R (48" X 18")
(1) M1-5 (MODIFIED) (24" X 24")

9 — END DETOUR — (1) M4-8A (48" X 24")

10 — ROAD CLOSED AHEAD — (1) W20-3 (48" X 48")

11 — DETOUR / EAST 118 / WEST 118 — (1) M4-8 (24" X 12")

(EXIST) M3-2 (24" X 12")	(EXIST) M3-2 (24" X 12")	
(EXIST) M1-5 (MOD) (24" X 24")	(EXIST) M1-5 (MOD) (24" X 24")	
(EXIST) M6-1 (21" X 15")	(1) M6-3 (21" X 15")	



STATE OF ARKANSAS
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NICHOLAS A. BRADDY
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SITE 1
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

WBCallaway 6/28/2024 7:42:41 AM
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\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_MOT_07_ST02_SI_DET.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	29	139
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE 2 CONSTRUCTION SEQUENCE NOTES

1. INSTALL ADVANCE WARNING AND CHANNELIZING DEVICES.
2. DETOUR HWY. 118 TRAFFIC.
3. CONSTRUCT HWY. 118 AND STRUCTURE.
4. COMPLETE FINAL GRADING OPERATIONS, PLACE FINAL 2" ACHM SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

STATE OF ARKANSAS
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N

STAGE 2 TRAFFIC

STAGE 2 TRAFFIC DRUM

STAGE 2 CONSTRUCTION

STAGE 2 GRADING

STA. 146+00.00
BEGIN JOB 101017
BEGIN HWY. 118 SITE 1
LOG MILE 4.34

STA. 158+00.00
END HWY. 118 SITE 1

145+00 150+00 155+00 160+00

C.L. HWY. 118

ROAD CLOSED

(1) R11-2 (48" X 30")

8' BARR. TYPE III LT.

8' BARR. TYPE III RT.

ROAD CLOSED

(1) R11-2 (48" X 30")

8' BARR. TYPE III LT.

8' BARR. TYPE III RT.

SITE 1
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

WBCalloway 6/28/2024 7:42:42 AM
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\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_MOT_08_STG2_Si.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	30	139
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE 2 CONSTRUCTION SEQUENCE NOTES

1. SHIFT TRAFFIC STAGE 1 COMPLETED LANES.
2. MAINTAIN ADVANCED WARNING SIGNS AS SHOWN.
3. CONSTRUCT HWY. 118 AS SHOWN AND REMOVE THE EXISTING LANES, BRIDGE STRUCTURE AND APPROACHES.
4. COMPLETE FINAL GRADING OPERATIONS. PLACE FINAL 2" ACHM SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
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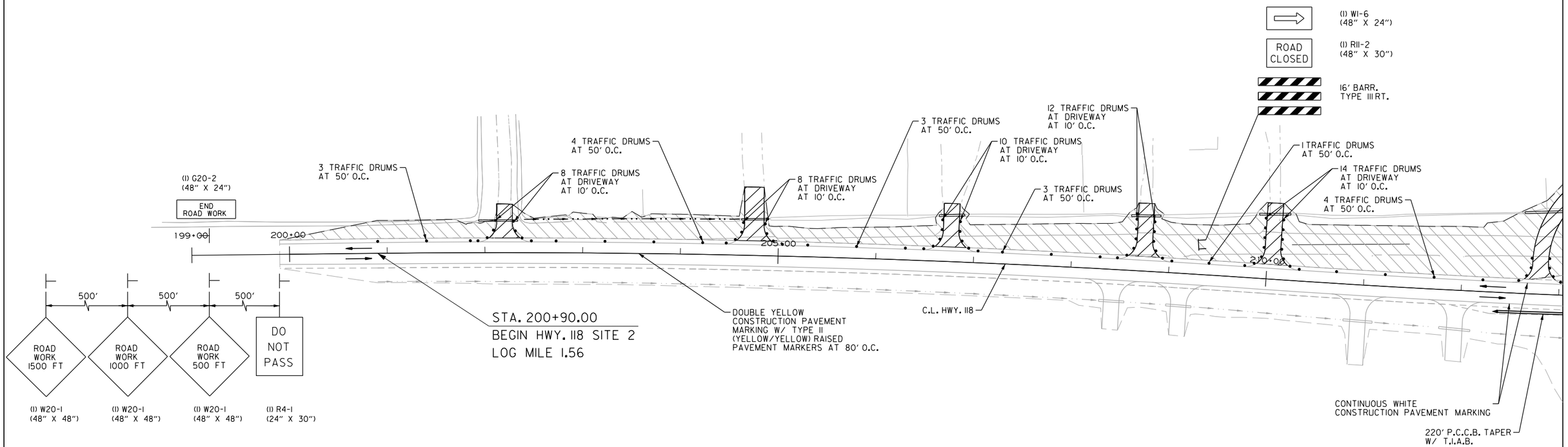
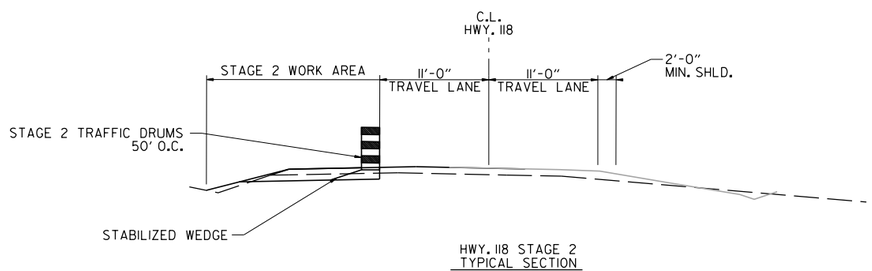


STA. 200+90.00
BEGIN HWY. 118 SITE 2
LOG MILE 1.56

STAGE 2 TRAFFIC
STAGE 2 TRAFFIC DRUM
STAGE 2 CONSTRUCTION
STAGE 2 GRADING



HWY. 118 STAGE 2
TYPICAL SECTION

SITE 2
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

WBCallaway 6/28/2024 7:42:46 AM
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\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_MOT_08_ST02_S2.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	31	139
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE 2 CONSTRUCTION SEQUENCE NOTES

1. SHIFT TRAFFIC STAGE 1 COMPLETED LANES.
2. MAINTAIN ADVANCED WARNING SIGNS AS SHOWN.
3. CONSTRUCT HWY. 118 AS SHOWN AND REMOVE THE EXISTING LANES, BRIDGE STRUCTURE AND APPROACHES.
4. COMPLETE FINAL GRADING OPERATIONS, PLACE FINAL 2" ACHM SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

STATE OF ARKANSAS
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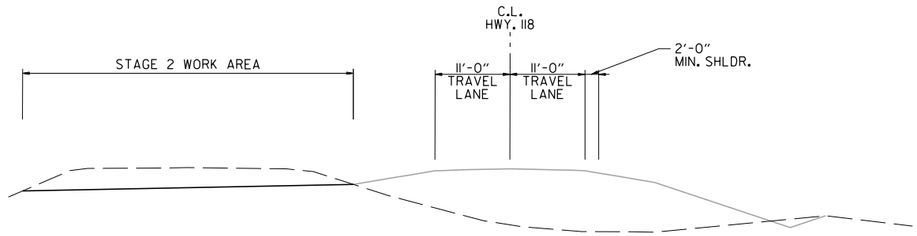
N

ROAD CLOSED
(2) R11-2 (48" X 30")
8' BARR. TYPE III LT.
8' BARR. TYPE III RT.
140' P.C.C.B. TAPER W/ SPECIAL END UNIT
3 TRAFFIC DRUMS AT 50' O.C.
215+00
8 TRAFFIC DRUMS AT DRIVEWAY AT 10' O.C.
220' P.C.C.B. TAPER W/ SPECIAL END UNIT
12 TRAFFIC DRUMS AT 50' O.C.
220' P.C.C.B. TAPER W/ T.I.A.B.
220+00
140' P.C.C.B. TAPER W/ SPECIAL END UNIT
8 TRAFFIC DRUMS AT DRIVEWAY AT 10' O.C.
7 TRAFFIC DRUMS AT 50' O.C.
225+00
DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING W/ TYPE II (YELLOW/YELLOW) RAISED PAVEMENT MARKERS AT 80' O.C.
C.L. HWY. 118
CONTINUOUS WHITE CONSTRUCTION PAVEMENT MARKING

STAGE 2 TRAFFIC
STAGE 2 TRAFFIC DRUM
STAGE 2 CONSTRUCTION
STAGE 2 GRADING



SITE 2
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

WBCallaway 6/28/2024 7:42:47 AM
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	32	139
		MAINTENANCE OF TRAFFIC DETAILS				

STAGE 2 CONSTRUCTION SEQUENCE NOTES

1. SHIFT TRAFFIC STAGE 1 COMPLETED LANES.
2. MAINTAIN ADVANCED WARNING SIGNS AS SHOWN.
3. CONSTRUCT HWY. 118 AS SHOWN AND REMOVE THE EXISTING LANES, BRIDGE STRUCTURE AND APPROACHES.
4. COMPLETE FINAL GRADING OPERATIONS. PLACE FINAL 2" ACHM SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

STATE OF ARKANSAS
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N

(1) W1-6 (48" X 24")

ROAD CLOSED

(1) R11-2 (48" X 30")

16' BARR. TYPE III LT.

6 TRAFFIC DRUMS AT 50' O.C.

CONTINUOUS WHITE CONSTRUCTION PAVEMENT MARKING

6 TRAFFIC DRUMS AT DRIVEWAY AT 10' O.C.

19 TRAFFIC DRUMS AT 50' O.C.

BEGIN ADVANCED WARNING SIGNS STA. 241+00

230+00

235+00

240+00

C.L. HWY. 118

DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKING W/ TYPE II (YELLOW/YELLOW) RAISED PAVEMENT MARKERS AT 80' O.C.

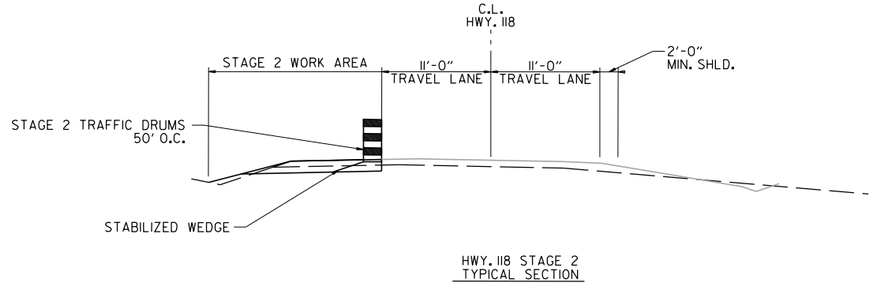
STA. 240+00.00
END HWY. 118
SITE 2

STAGE 2 TRAFFIC

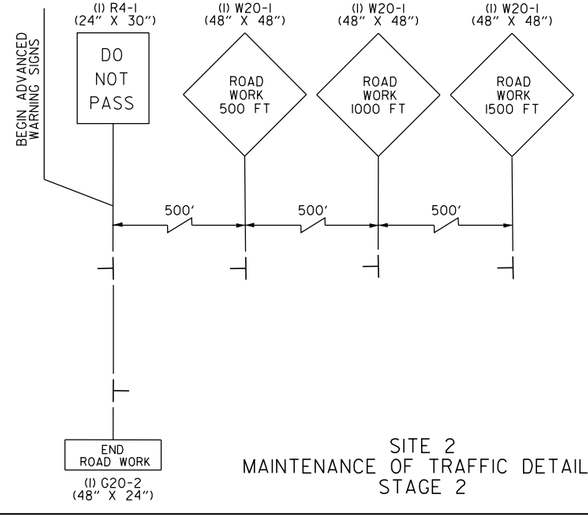
STAGE 2 TRAFFIC DRUM

STAGE 2 CONSTRUCTION

STAGE 2 GRADING



HWY. 118 STAGE 2
TYPICAL SECTION



SITE 2
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	33	139
		PERMANENT PAVEMENT MARKING DETAILS				

HWY. 118 SITE 1

6" WHITE REFLECTORIZED PAINT PAVEMENT MARKING

STA.	STA.	LOCATION	LIN. FT.
145+00.00	159+00.00	LT.	1400
145+00.00	159+00.00	RT.	1400

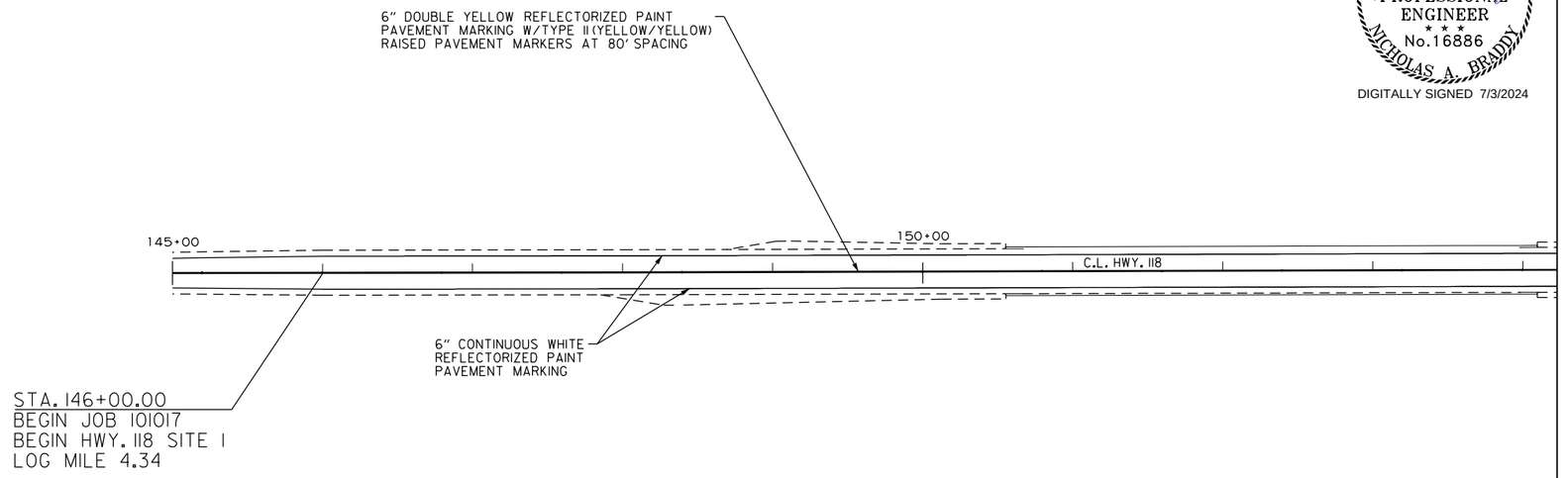
6" YELLOW REFLECTORIZED PAINT PAVEMENT MARKING

STA.	STA.	LOCATION	LIN. FT.
145+00.00	159+00.00	C.L.	2800

TYPE II (YELLOW/YELLOW) RAISED PAVEMENT MARKERS AT 80' SPACING

STA.	STA.	LOCATION	EA.
145+00.00	159+00.00	C.L.	18

• THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.



STATE OF ARKANSAS
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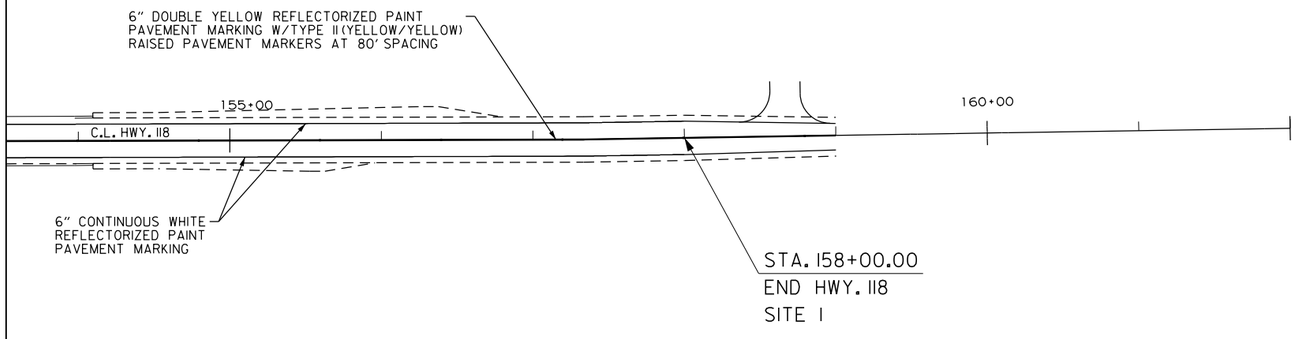

HWY. 118 SITE 1
PERMANENT PAVEMENT MARKING DETAILS

WBCallaway 6/28/2024 7:42:52 AM
WORKSPACE: AHTD
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REVISED DATE:

HWY. 118 SITE 2

6" WHITE REFLECTORIZED PAINT PAVEMENT MARKING

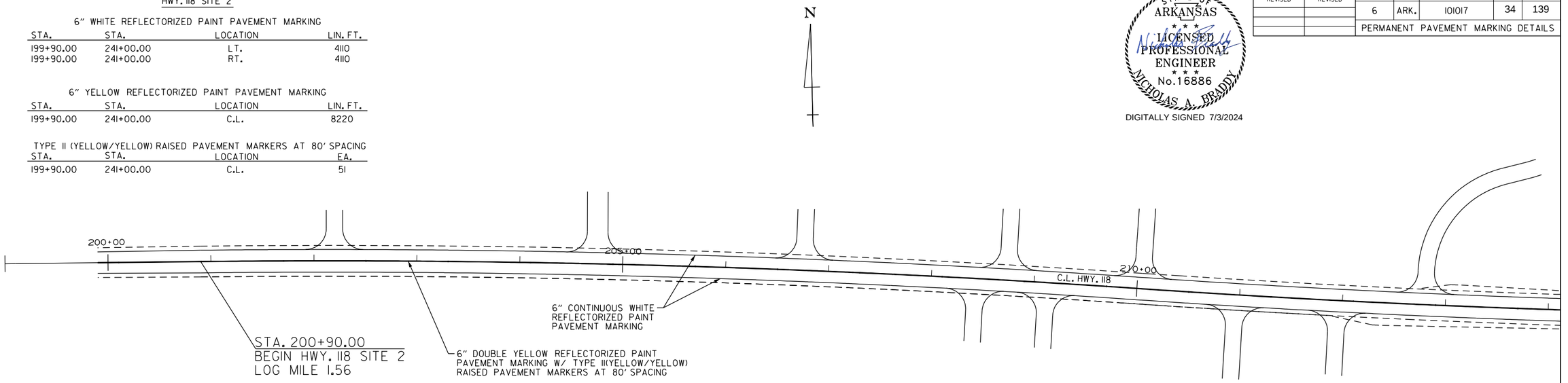
STA.	STA.	LOCATION	LIN. FT.
199+90.00	241+00.00	LT.	4110
199+90.00	241+00.00	RT.	4110

6" YELLOW REFLECTORIZED PAINT PAVEMENT MARKING

STA.	STA.	LOCATION	LIN. FT.
199+90.00	241+00.00	C.L.	8220

TYPE II (YELLOW/YELLOW) RAISED PAVEMENT MARKERS AT 80' SPACING

STA.	STA.	LOCATION	EA.
199+90.00	241+00.00	C.L.	51



• THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
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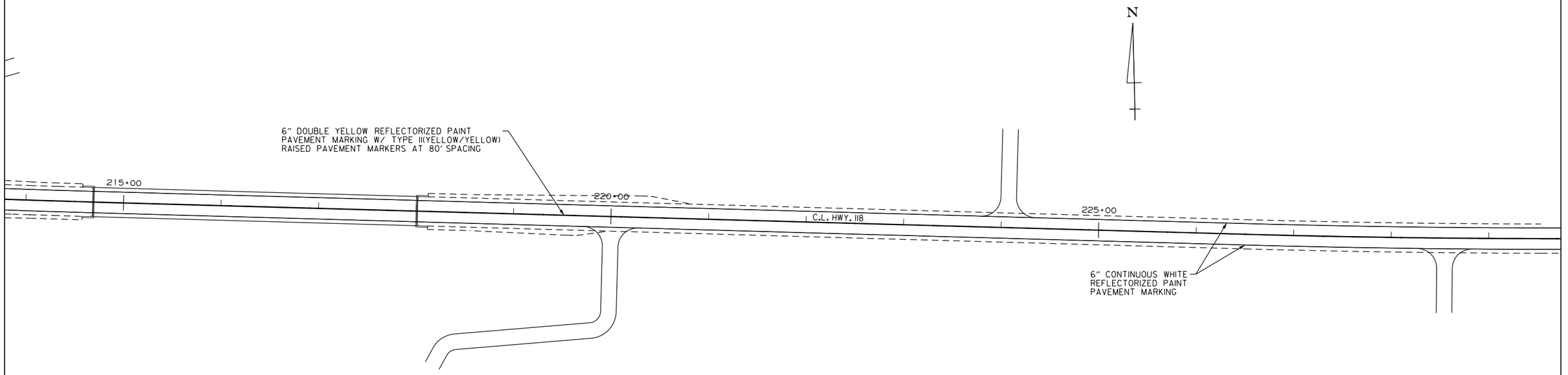
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	34	139
		PERMANENT PAVEMENT MARKING DETAILS				



HWY. 118 SITE 2
PERMANENT PAVEMENT MARKING DETAILS

WBCallaway 6/28/2024 7:42:53 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PM_02_S2.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	35	139
		PERMANENT PAVEMENT MARKING DETAILS				

STATE OF ARKANSAS
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No. 16886
NICHOLAS A. BRADDY
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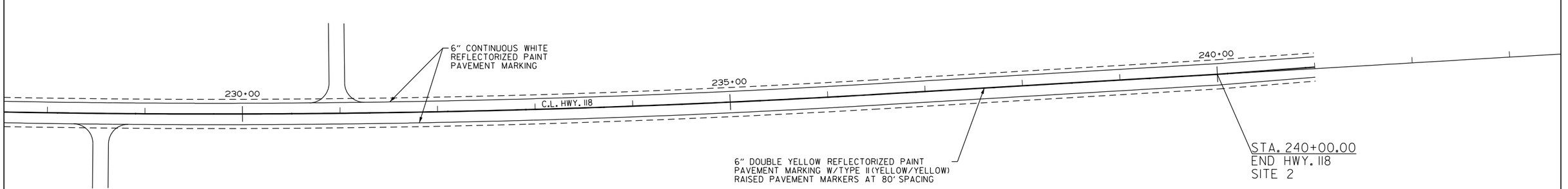
N

• THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.



HWY. 118 SITE 2
PERMANENT PAVEMENT MARKING DETAILS

WBCallaway 6/28/2024 7:42:53 AM
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.	101017	36	139
		PERMANENT PAVEMENT MARKING DETAILS				

STATE OF ARKANSAS
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SERVICE RD. SITE 3

6" WHITE REFLECTORIZED PAINT PAVEMENT MARKING

STA.	STA.	LOCATION	LIN. FT.
603+38.66	639+06.05	LT.	3568
603+38.66	639+06.05	RT.	3568

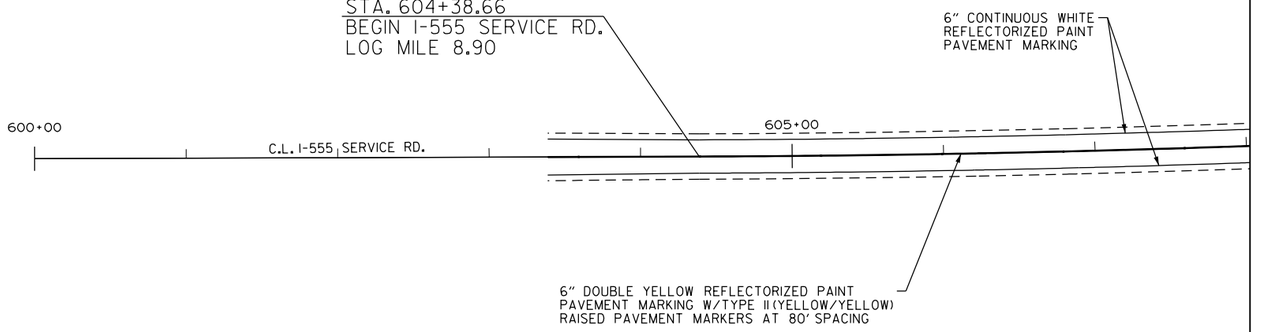
6" YELLOW REFLECTORIZED PAINT PAVEMENT MARKING

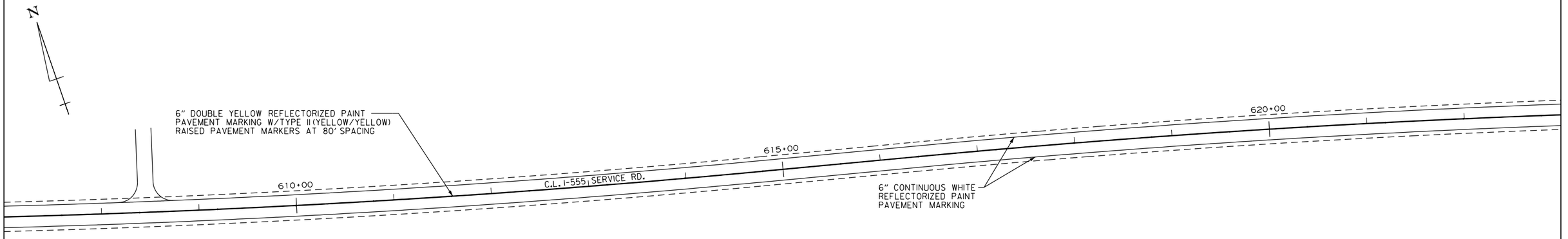
STA.	STA.	LOCATION	LIN. FT.
603+38.66	639+06.05	C.L.	7136

TYPE II (YELLOW/YELLOW) RAISED PAVEMENT MARKERS AT 80' SPACING

STA.	STA.	LOCATION	EA.
603+38.66	639+06.05	C.L.	44

• THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.





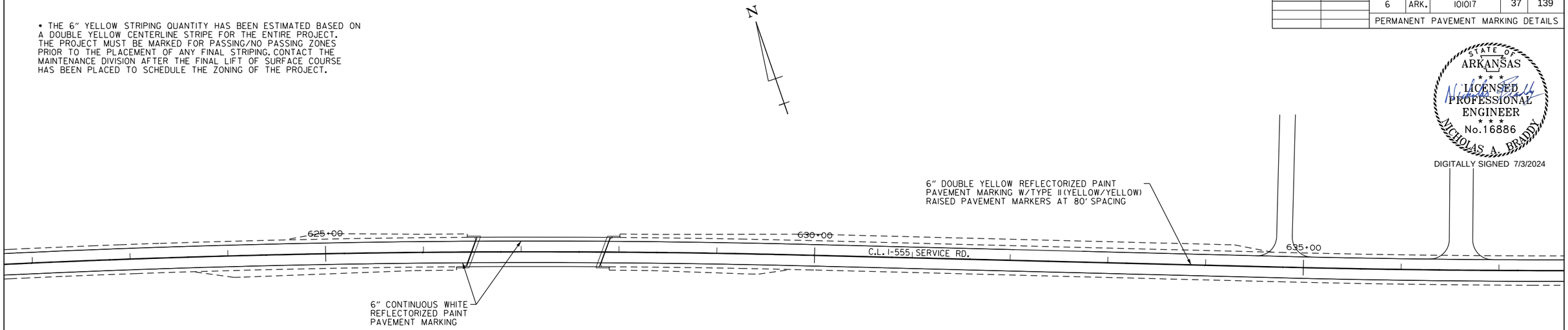
I-555 SERVICE RD. SITE 3
PERMANENT PAVEMENT MARKING DETAILS

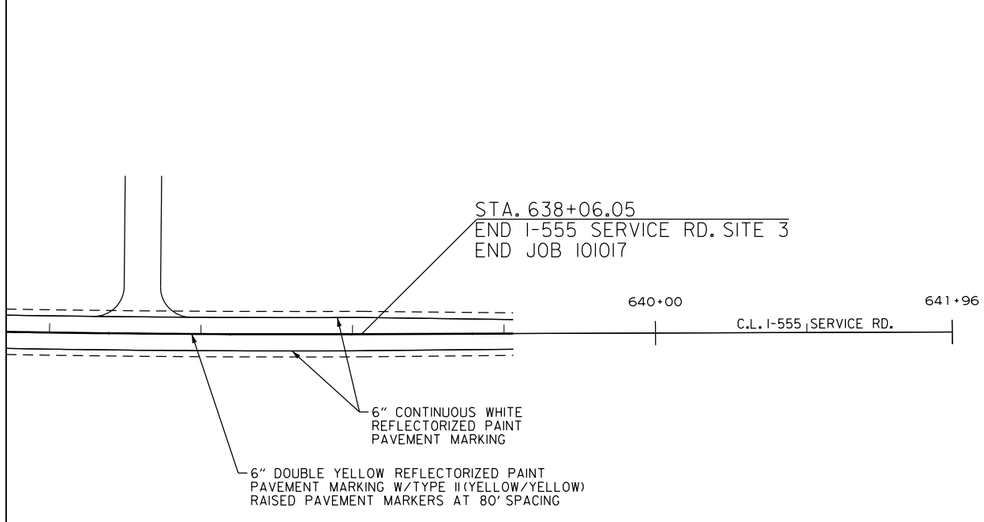
WBCallaway 6/28/2024 7:42:54 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PM_04_S3.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	37	139
		PERMANENT PAVEMENT MARKING DETAILS				

• THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024





I-555 SERVICE RD. SITE 3
PERMANENT PAVEMENT MARKING DETAILS

WBCallaway 6/28/2024 7:42:55 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PM.05.S3.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	38	139
		SOIL BORING LOG				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

SITE 1 SOIL BORING LOG

BORING or TEST PIT NO.	APPROX. STATION*	SAMPLE DEPTH (ft)	ATTERBERG LIMITS			PERCENT PASSING #10, %	PERCENT PASSING #40, %	PERCENT PASSING #200, %	GI	UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX						
B1-1	149+64 6' LT	3	89	23	66	----	----	----	----	CH	A-7-6
B1-1	149+64 6' LT	6	----	----	----	100	100	85.1	----	CH	A-7-6
B1-1	149+64 6' LT	10	90	32	58	----	----	----	----	CH	A-7-6
B1-1	149+64 6' LT	15	87	35	52	----	----	----	----	CH	A-7-6
B1-2	150+70 12' RT	10	92	30	62	----	----	----	----	CH	A-7-6
B1-2	150+70 12' RT	15	102	46	56	----	----	----	----	MH	A-7-5
B1-2	150+70 12' RT	20	70	28	42	----	----	----	----	CH	A-7-6
B1-2	150+70 12' RT	38.5	----	----	----	100.0	75.7	10.3	----	SP-SC	A-2-6
B1-3	152+00 6' LT	3.5	----	----	----	99.3	95.4	67	----	CL	A-6
B1-3	152+00 6' LT	6	----	----	----	99.2	90.3	72.6	----	CL	A-6
B1-3	152+00 6' LT	13.5	----	----	----	100	67.9	6.0	----	SP-SC	A-2-6
B1-3	152+00 6' LT	38.5	----	----	----	64.6	19.7	3.9	----	SP	A-1-b
B1-4	153+00 12' RT	10	----	----	----	99.9	78.7	1.9	----	SP	A-3
B1-4	153+00 12' RT	13.5	----	----	----	99.8	79.5	5.1	----	SP-SM	A-3
B1-4	153+00 12' RT	18.5	----	----	----	100	77.3	2.7	----	SP	A-3
B1-4	153+00 12' RT	28.5	----	----	----	96.6	53.9	1.7	----	SP	A-3
B1-4	153+00 12' RT	38.5	----	----	----	100	64.8	6.6	----	SP-SM	A-3
B1-5	154+00 12' LT	6	----	----	----	100	97.0	66.6	----	CH	A-7-6
B1-5	154+00 12' LT	8	66	19	47	----	----	----	----	CH	A-7-6
B1-5	154+00 12' LT	20	50	20	30	----	----	----	----	CH	A-7-6
B1-5	154+00 12' LT	28.5	----	----	----	100	92.6	45.6	----	SC	A-6
B1-6	154+80 14' RT	3.5	45	19	47	99.8	93.6	60.4	13	CL	A-7-6 (13)
B1-6	154+80 14' RT	10	72	22	50	----	----	----	----	CH	A-7-6
B1-6	154+80 14' RT	15	80	28	52	----	----	----	----	CH	A-7-6
B1-6	154+80 14' RT	23.5	----	----	----	100	100	27	----	SC	A-7-6
B1-6	154+80 14' RT	28.5	----	----	----	100	99.2	20.7	----	SM	A-2-6
B1-6	154+80 14' RT	33.5	----	----	----	100	100	17.7	----	SM	A-2-4
B1-6	154+80 14' RT	38.5	----	----	----	100	98.5	13.8	----	SM	A-2-4

SITE 2 SOIL BORING LOG

BORING or TEST PIT NO.	APPROX. STATION	SAMPLE DEPTH (ft)	ATTERBERG LIMITS			PERCENT PASSING #10, %	PERCENT PASSING #40, %	PERCENT PASSING #200, %	GI	UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX						
B2-1	214+00, CL	3	69	22	47	----	----	----	----	CH	A-7-6
B2-1	214+00, CL	10	69	18	51	----	----	----	----	CH	A-7-6
B2-2	214+63 18' RT	1	63	19	44	----	----	----	----	CH	A-7-6
B2-2	214+63 18' RT	8	110	24	86	----	----	----	----	CH	A-7-6
B2-2	214+63 18' RT	16	78	24	54	----	----	----	----	CH	A-7-6
B2-2	214+63 18' RT	28.5	----	----	----	100	99.7	88.1	----	CH	A-7-6
B2-2	214+63 18' RT	38.5	----	----	----	100	68.0	21.7	----	SM	A-2-4
B2-3	216+00 36' LT	3.5	----	----	----	100	90.8	11.9	----	SP-SM	A-2-4
B2-3	216+00 36' LT	13.5	----	----	----	100	30.5	3.2	----	SP	A-1-b
B2-3	216+00 36' LT	38.5	----	----	----	93.6	9.2	1.7	----	SP	A-1-b
B2-3	216+00 36' LT	48.5	----	----	----	99.7	67.4	3.1	----	SP	A-3
B2-4	217+19 38' LT	3.5	----	----	----	87.9	69.7	49.9	----	CH	A-7-6
B2-4	217+19 38' LT	13.5	----	----	----	100	100	99.7	----	SC	A-7-6
B2-4	217+19 38' LT	18.5	----	----	----	100	78.7	49.1	----	CH	A-7-6
B2-5	218+35, CL	3	97	22	75	----	----	----	----	CH	A-7-6
B2-5	218+35, CL	10	55	16	39	----	----	----	----	CH	A-7-6
B2-5	218+35, CL	15	46	21	25	----	----	----	----	CL	A-7-6
B2-5	218+35, CL	23.5	----	----	----	100	83.9	9.1	----	SP-SC	A-2-7
B2-5	218+35, CL	33.5	----	----	----	100	100	72.7	----	CH	A-7-6
B2-6	219+22 60' RT	3	95	26	69	----	----	----	----	CH	A-7-6
B2-6	219+22 60' RT	8	46	17	29	----	----	----	----	CH	A-7-6
B2-6	219+22 60' RT	23.5	----	----	----	100	100	34.7	----	SC	A-2-6
B2-6	219+22 60' RT	33.5	----	----	----	100	100	86.6	----	CL	A-4

SITE 3 SOIL BORING LOG

BORING or TEST PIT NO.	APPROX. STATION	SAMPLE DEPTH (ft)	ATTERBERG LIMITS			PERCENT PASSING #10, %	PERCENT PASSING #40, %	PERCENT PASSING #200, %	GI	UNIFIED CLASS.	AASHTO CLASS.
			LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX						
B3-1	625+50 25' RT	10	104	32	72	----	----	----	56	CH	A-7-5
B3-1	625+50 25' RT	11.5	104	32	72	----	----	----	----	SP-SC	A-2-7
B3-1	625+50 25' RT	15	58	23	35	----	----	----	----	SP-SC	A-2-7
B3-1	625+50 25' RT	28.5	----	----	----	88	20.5	5.2	----	SP-SM	A-1-b
B3-2	626+75 25' RT	6	107	34	73	----	----	----	77	CH	A-7-5
B3-2	626+75 25' RT	10	58	23	35	----	----	----	26	CH	A-7-6
B3-2	626+75 25' RT	13.5	58	23	35	----	----	----	26	CH	A-7-6
B3-2	626+75 25' RT	33.5	----	----	----	100.0	99.6	11.4	----	SP-SM	A-2-4
B3-3	627+75 25' RT	10	115	34	81	----	----	----	85	CH	A-7-5
B3-3	627+75 25' RT	15	61	22	39	----	----	----	28	CH	A-7-6
B3-3	627+75 25' RT	20	31	23	8	----	----	----	5	ML	A-4
B3-3	627+75 25' RT	43.5	----	----	----	94.0	93.8	21.3	----	SM	A-2-4
B3-4	628+00 25' RT	10	116	30	86	----	----	----	89	CH	A-7-5
B3-4	628+00 25' RT	15	65	21	44	----	----	----	32	CH	A-7-6
B3-4	628+00 25' RT	20	25	22	3	----	----	----	1	ML	A-4
B3-4	628+00 25' RT	38.5	25	22	3	----	----	----	----	SM	A-2-4
B3-4	628+00 25' RT	53.5	----	----	----	89	71.0	27.3	----	SP	A-1-b

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMIT 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.

* STATION LOCATIONS AND OFFSETS ARE APPROXIMATE SEE GEOTECH REPORTS FOR ADDITIONAL INFORMATION.

WBCallaway 6/28/2024 7:42:56 AM
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_DTY.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	39	139
		QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
					TYPE II	6"	
					(YELLOW/YELLOW)	WHITE	YELLOW
	LIN. FT. - EACH			LIN. FT.	EACH	LIN. FT.	
CONSTRUCTION PAVEMENT MARKINGS	17080	15512		32592			
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	55	53	113		221		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")			18156			18156	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")			18156				18156
TOTALS:				**32592**	**221**	**18156**	**18156**

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING.
CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE
									RIGHT	LEFT				
			LIN. FT. - EACH			NO.	SQ. FT.	EACH	LIN. FT.		LIN. FT.	EACH		
W20-1	ROAD WORK 1500 FT.	48" x 48"	2	2	2	2	32.0							
W20-1	ROAD WORK 1000 FT.	48" x 48"	2	2	2	2	32.0							
W20-1	ROAD WORK 500 FT.	48" x 48"	2	2	2	2	32.0							
W20-3	ROAD CLOSED 1500 FT.	48" x 48"		2	2	2	32.0							
W20-3	ROAD CLOSED 1000 FT.	48" x 48"		2	2	2	32.0							
W20-3	ROAD CLOSED 500 FT.	48" x 48"		2	2	2	32.0							
W20-3	ROAD CLOSED AHEAD	48" x 48"		1	1	1	16.0							
G20-2	END ROAD WORK	48" x 24"	2	2	2	2	16.0							
R11-2	ROAD CLOSED	48" x 30"	6	8	8	8	80.0							
R4-1	DO NOT PASS	24" x 30"	2	2	2	2	10.0							
R11-3A	ROAD CLOSED - LOCAL TRAFFIC ONLY (1.7 MI)	60" x 30"		1	1	1	12.5							
R11-3A	ROAD CLOSED - LOCAL TRAFFIC ONLY (1.8 MI)	60" x 30"		1	1	1	12.5							
W1-6	DIRECTIONAL ARROW (RIGHT)	48" x 24"	1	1	1	1	8.0							
W1-6	DIRECTIONAL ARROW (LEFT)	48" x 24"	1	1	1	1	8.0							
W8-1	BUMP	30" x 30"	4		4	4	25.0							
W8-17	SHOULDER DROP-OFF (SYMBOL)	36" x 36"	4		4	4	36.0							
W8-17P	SHOULDER DROP-OFF (PLAQUE)	24" x 18"	4		4	4	12.0							
W21-5a	RIGHT SHOULDER CLOSED	36" x 36"	4		4	4	36.0							
M4-8	DETOUR	24" x 12"		1	1	1	2.0							
M4-10L	DETOUR ARROW (LEFT)	48" x 18"		2	2	2	12.0							
M4-10R	DETOUR ARROW (RIGHT)	48" x 18"		3	3	3	18.0							
M6-3	DIRECTIONAL ARROW	21" x 15"		1	1	1	2.2							
M1-5 (MOD)	STATE ROUTE SIGN	24" x 24"		5	5	5	20.0							
G20-2	END DETOUR	48" x 24"		2	2	2	16.0							
SPECIAL	CONSTRUCTION PROJECT NFORMATION SIGN	48" x 96"	2	4	4	4	128.0							
	CONSTRUCTION PROJECT NFORMATION SIGN UPDATE													8
	TRAFFIC DRUMS		194	138	194			194						
	TYPE III BARRICADE-RT. (8')		5	7	7				56					
	TYPE III BARRICADE-LT. (8')		5	7	7					56				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			720	720						720			
	TEMPORARY IMPACT ATTENUATION BARRIER			2	2							2		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			2	2								2	
TOTALS:							**662.2**	**194**	**56**	**56**	**720**	**2**	**2**	**8**

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

SOIL STABILIZATION

STATION	STATION	LOCATION / DESCRIPTION	SOIL STABILIZATION
			TON
ENTIRE	PROJECT	TO BE USED IF AND WHERE	100
		DIRECTED BY THE ENGINEER.	
TOTAL:			**100**

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND	100
WHERE DIRECTED BY THE ENGINEER.	
TOTAL:	**100**

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU. YD.
ENTIRE PROJECT TO BE USED IF AND	100
WHERE DIRECTED BY THE ENGINEER.	
TOTAL:	**100**

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
150+66	HWY. 118 SITE 1 - BEGIN BRIDGE RT.	1
214+69	HWY. 118 SITE 2 - BEGIN BRIDGE RT.	1
626+44	I-555 SERVICE RD. SITE 3 - BEGIN BRIDGE RT.	1
TOTAL:		**3**

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

WBCalloway 6/28/2024 7:43:09 AM
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_QTY.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	40	139
		QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

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						15.74	15.74	321.1	638	81	13874	570
ENTIRE	PROJECT	STAGE 1	8.87	17.74	8.87	904.9	8.87	8.87	8.87	181.0	484	48		38
ENTIRE	PROJECT	STAGE 2	4.60	9.19	4.60	468.8	4.60	4.60	4.60	93.8	88	9		7
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.											121	14	1387	51
TOTALS:			**13.47**	**26.93**	**13.47**	**1373.7**	**13.47**	**29.21**	**29.21**	**595.9**	**1331**	**152**	**15261**	**666**

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

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
146+00	158+00	HWY. 118 SITE 1	12	12
200+90	240+00	HWY. 118 SITE 2	40	40
604+39	638+06	I-555 SERVICE RD. SITE 3	34	34
TOTALS:			**86**	**86**

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	"B"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	FEET	SQ. YD.	SQ. YD.	M. GAL.
214+00.00	214+69.00	HWY. 118 SITE 2 - RT	69.00	6.00		46.00	30.67	0.39
TOTALS:						**46.00**	**30.67**	**0.39**

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
146+00.00	146+65.00	HWY. 118 SITE 1 - RT.	65.00	57.78
200+90.00	214+68.91	HWY. 118 SITE 2 - RT.	1378.91	1225.70
200+90.00	205+50.00	HWY. 118 SITE 2 - LT.	460.00	408.89
218+01.08	240+00.00	HWY. 118 SITE 2 - RT.	2198.92	1954.60
604+38.66	626+49.41	I-555 SERVICE RD. SITE 3 - LT.	2210.75	1965.11
615+00.00	626+49.41	I-555 SERVICE RD. SITE 3 - RT.	1149.41	1021.70
627+85.47	638+06.05	I-555 SERVICE RD. SITE 3 - RT.	1020.58	907.18
TOTAL:				**7540.96**

NOTE: AVERAGE WIDTH = 8'-0"

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS				STANDARD DRAWINGS
							18"	24"	30"	36"	
			FEET	SQ. YD.	TON	TON	LIN. FT.				
HWY. 118 SITE 1											
158+67	LT.	MAIN LANES	20	52.93	5.82						DR-2
HWY. 118 SITE 2											
202+20	LT.	MAIN LANES	16	62.72	6.90	25.61	40				DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
204+75	LT.	MAIN LANES	20	123.61	13.60	50.47	28				DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
206+76	LT.	MAIN LANES	16	80.44	8.85	32.85		26			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
208+43	RT.	MAIN LANES	16	84.07	9.25	34.33		26			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
208+74	LT.	MAIN LANES	16	98.27	10.81	40.13	30				DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
209+12	RT.	MAIN LANES	16	88.26	9.71	36.04		26			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
210+05	LT.	MAIN LANES	16	113.36	12.47	46.29		32			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
210+96	RT.	MAIN LANES	16	120.47	13.25	49.19		30			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
211+95	RT.	MAIN LANES	16	103.80	11.42	42.39		32			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
212+80	LT.	MAIN LANES	16	345.11	37.96	140.92		75			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
220+00	RT.	MAIN LANES	16	511.21	56.23	208.74			78		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
224+07	LT.	MAIN LANES	16	154.71	17.02	63.17		24			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
228+55	RT.	MAIN LANES	16	111.28	12.24	45.44			38		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
230+97	LT.	MAIN LANES	16	139.00	15.29	56.76					DR-2
I-555 SERVICE RD. SITE 3											
608+46	LT.	MAIN LANES	16	127.15	13.99	51.92		46			DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
634+80	LT.	MAIN LANES	16	251.90	27.71	102.86				36	DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
636+60	LT.	MAIN LANES	24	238.87	26.28	97.54			57		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
* ENTIRE PROJECT TEMPORARY DRIVES.				140.36	15.44	57.31					
TOTALS:				**2947.52**	**324.24**	**1181.96**	**98**	**317**	**173**	**36**	

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

* QUANTITY ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

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.

DUMPED RIPRAP AND FILTER BLANKET

STATION	STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
			CU. YD.	SQ. YD.
148+50	150+55.42	HWY. 118 SITE 1 - LT.	287	573
148+50	150+55.42	HWY. 118 SITE 1 - RT.	200	399
154+09.58	156+50	HWY. 118 SITE 1 - LT.	139	277
154+09.58	156+50	HWY. 118 SITE 1 - RT.	313	626
615+00		I-555 SERVICE RD. SITE 3	5	10
628+00	634+00	I-555 SERVICE RD. SITE 3	625	1249
TOTALS:			**1569**	**3134**

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

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III)	FLARED END SECTIONS FOR R.C. PIPE CULVERTS	SOLID SODDING	WATER	STD. DWG. NOS.
		24"	24"			
		LIN. FT.	EACH	SQ.YD.	M.GAL.	
615+00	I-555 SERVICE RD. SITE 3	83	2	16	0.20	FES-1, FES-2, PCC-1
634+00	I-555 SERVICE RD. SITE 3	79	2	16	0.20	FES-1, FES-2, PCC-1
TOTALS:		**162**	**4**	**32**	**0.40**	

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

WBCallaway 6/28/2024 7:43:27 AM
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_QTY.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	41	139
		QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE F)	APPROACH SLABS	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU.YD.	CU.YD.	POUND	TON
150+31.42	150+66.42	HWY. 118 SITE 1	8.40	51.32	6689	29.3
153+98.58	154+33.58	HWY. 118 SITE 1	8.40	51.32	6689	29.3
214+33.91	214+68.91	HWY. 118 SITE 2	8.40	51.32	6689	29.3
218+01.08	218+36.08	HWY. 118 SITE 2	8.40	51.32	6689	29.3
626+14.41	626+49.41	I-555 SERVICE RD. SITE 3	8.40	52.48	6757	29.3
627+85.47	628+20.47	I-555 SERVICE RD. SITE 3	8.40	52.40	6749	29.3
TOTALS:			50.40	310.16	40262	175.8

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	GRAIN BIN	GUARDRAIL	MAILBOXES
			EACH	LIN. FT.	EACH
HWY. 118 SITE 1					
149+70	150+71	MAIN LANES - RT.		100	
150+34	150+85	MAIN LANES - LT.		50	
153+64	154+12	MAIN LANES - RT.		50	
153+80	154+76	MAIN LANES - LT.		100	
HWY. 118 SITE 2					
209+52	209+52	MAIN LANES - RT.			1
209+72	209+72	MAIN LANES - RT.	1		
209+84	209+84	MAIN LANES - RT.	1		
215+06	215+34	MAIN LANES - LT.		25	
215+07	215+34	MAIN LANES - LT.		25	
217+83	218+12	MAIN LANES - LT.		25	
217+84	218+11	MAIN LANES - LT.		25	
TOTALS:			2	400	1

NOTE: THE QUANTITY SHOWN ABOVE FOR THE REMOVAL AND DISPOSAL OF GUARDRAIL SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL GUARDRAIL TERMINALS AND TERMINAL ANCHOR POSTS.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
HWY. 118 SITE 1					
148+37.27	150+56.02	RT.	150	1	1
149+12.27	150+56.02	LT.	75	1	1
154+08.98	155+52.73	RT.	75	1	1
154+08.98	156+27.73	LT.	150	1	1
HWY. 118 SITE 2					
212+39.78	214+58.53	RT.	150	1	1
213+14.76	214+58.51	LT.	75	1	1
218+11.48	219+55.23	RT.	75	1	1
218+11.48	220+30.23	LT.	150	1	1
I-555 SERVICE RD. SITE 3					
624+15.68	626+34.43	RT.	150	1	1
625+01.82	626+45.57	LT.	75	1	1
627+89.52	629+33.27	RT.	75	1	1
628+00.21	634+18.96	LT.	550	1	1
TOTALS:			1750	12	12

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
HWY. 118 SITE 2		
203+01	LT. SIDE DRAIN	1
212+83	LT. SIDE DRAIN	1
213+76	LT. SIDE DRAIN	1
228+97	RT. SIDE DRAIN	1
TOTAL:		4

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
603+39	611+17	I-555 SERVICE RD. SITE 3 - RT./LT.	927
614+00	618+00	I-555 SERVICE RD. SITE 3 - LT.	402
618+00	626+24	I-555 SERVICE RD. SITE 3 - LT./RT.	902
620+33	620+96	I-555 SERVICE RD. SITE 3 - LT.	99
627+64	633+00	I-555 SERVICE RD. SITE 3 - LT./RT.	609
627+70	633+19	I-555 SERVICE RD. SITE 3 - LT.	572
633+00	639+07	I-555 SERVICE RD. SITE 3 - RT.	438
633+00	633+57	I-555 SERVICE RD. SITE 3 - LT.	57
TOTAL:			4006

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION			* COMPACTED EMBANKMENT
			UNDERCUT	TYPICAL	TOTAL	
			CU. YD.			
146+00	158+00	HWY. 118 SITE 1 - STAGE 2		860	860	4822
200+90	240+00	HWY. 118 SITE 2 - STAGE 1	7616	7860	15476	29181
200+90	240+00	HWY. 118 SITE 2 - STAGE 2		9935	9935	152
604+39	638+06	I-555 SERVICE RD. SITE 3 - STAGE 1	11099	10208	21307	56000
ENTIRE	PROJECT	APPROACHES			501	1422
TOTALS:			18715	28863	48079	91577

* INCLUDES 18715 CU. YDS. OF COMPACTED EMBANKMENT USED FOR BACKFILL OF UNDERCUT.

MAILBOXES

STATION	LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
		EACH	
209+52	HWY. 118 SITE 2 - RT.	1	1
TOTALS:		1	1

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE D)
			LIN. FT.
603+39	626+34	I-555 SERVICE RD. SITE 3 - RT.	2315
614+00	627+00	I-555 SERVICE RD. SITE 3 - LT.	1443
627+90	639+06	I-555 SERVICE RD. SITE 3 - RT.	1138
627+85	633+19	I-555 SERVICE RD. SITE 3 - LT.	633
TOTAL:			5529

RETAINING WALLS

STATION	STATION	LOCATION	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY
			CU.YD.	POUND	CU.YD.
628+01	633+00	I-555 SERVICE RD. SITE 3 - LT.	298.59	48571	1581
TOTALS:			298.59	48571	1581

WBCallaway 6/28/2024 7:43:48 AM
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.	101017	42	139
		QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
145+00.00	146+00.00	HWY. 118 SITE 1	28.93	321.49
158+00.00	159+00.00	HWY. 118 SITE 1	27.78	308.68
199+90.00	200+90.00	HWY. 118 SITE 2	29.41	326.81
240+00.00	241+00.00	HWY. 118 SITE 2	29.48	327.55
603+38.66	604+38.66	I-555 SERVICE RD. SITE 3	30.69	341.03
638+06.05	639+06.05	I-555 SERVICE RD. SITE 3	29.06	322.87
TOTAL:				1948.43

COORDINATE COLD MILLING STOCKPILE LOCATIONS WITH DISTRICT ENGINEER.
STOCKPILE LOCATIONS SHALL NOT BE FURTHER THAN FIVE MILES FROM EACH SITE.

RUMBLE STRIPES IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPES IN ASPHALT SHOULDERS
			LIN. FT.
145+00	150+66	HWY. 118 SITE 1	906
153+99	159+00	HWY. 118 SITE 1	802
199+90	214+69	HWY. 118 SITE 2	2366
218+01	241+00	HWY. 118 SITE 2	3678
603+39	626+49	I-555 SERVICE RD. SITE 3	3698
627+85	639+06	I-555 SERVICE RD. SITE 3	1792
TOTALS:			13242

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND	36	73
WHERE DIRECTED BY THE ENGINEER.		
TOTALS:	36	73

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

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.)			TOTAL GALLONS													
				TON / STATION	TON	TOTAL WID.			TOTAL WID.				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	SQ.YD.	GALLON	FEET	SQ.YD.	GALLON		FEET			TON	FEET			TON	FEET			TON	TON
HWY. 118 SITE 1																									
145+00.00	146+00.00	TRANSITION	100.00						28.93	321.49	54.65	54.65									28.93	321.49	220.00	35.36	35.36
146+00.00	148+50.00	N&W TYPICAL SECTION	250.00	124.00	310.00	6.88	190.97	9.55	18.92	525.46	89.33	98.88	3.54	98.38	330.00	16.23	3.33	92.59	220.00	10.18	26.00	722.22	220.00	79.44	89.62
148+50.00	150+31.42	TYPICAL SECTION	181.42	197.50	358.30	44.71	901.22	45.06				45.06	22.46	452.71	330.00	74.70	22.25	448.51	220.00	49.34	26.00	524.10	220.00	57.65	106.99
154+33.58	154+75.00	TYPICAL SECTION	41.42	197.50	81.80	44.71	205.76	10.29				10.29	22.46	103.36	330.00	17.05	22.25	102.40	220.00	11.26	26.00	119.66	220.00	13.16	24.42
154+75.00	158+00.00	N&W TYPICAL SECTION	325.00	124.00	403.00	6.88	248.26	12.41	18.92	683.10	116.13	128.54	3.54	127.89	330.00	21.10	3.33	120.37	220.00	13.24	26.00	938.89	220.00	103.28	116.52
158+00.00	159+00.00	TRANSITION	100.00						27.78	308.68	52.48	52.48									27.78	308.68	220.00	33.95	33.95
HWY. 118 SITE 2																									
199+90.00	200+90.00	TRANSITION	100.00						29.41	326.81	55.56	55.56									29.41	326.81	220.00	35.95	35.95
200+90.00	208+12.07	N&W TYPICAL SECTION	722.07	94.00	678.75	19.85	1592.90	79.65	14.25	1143.28	194.36	274.01	9.98	800.63	330.00	132.10	9.88	792.27	220.00	87.15	26.00	2085.98	220.00	229.46	316.61
208+12.07	214+33.91	TYPICAL SECTION	621.84	197.50	1228.13	44.71	3089.05	154.45				154.45	22.46	1551.72	330.00	256.03	22.25	1537.33	220.00	169.11	26.00	1796.43	220.00	197.61	366.72
218+36.08	233+74.74	TYPICAL SECTION	1538.66	197.50	3038.85	44.71	7643.44	382.17				382.17	22.46	3839.53	330.00	633.52	22.25	3803.91	220.00	418.43	26.00	4445.02	220.00	488.95	907.38
233+74.74	240+00.00	N&W TYPICAL SECTION	625.26	94.00	587.74	19.85	1379.34	68.97	14.25	989.99	168.30	237.27	9.98	693.29	330.00	114.39	9.88	686.05	220.00	75.47	26.00	1806.31	220.00	198.69	274.16
240+00.00	241+00.00	TRANSITION	100.00						29.48	327.55	55.68	55.68									29.48	327.55	220.00	36.03	36.03
I-555 SERVICE RD. SITE 3																									
603+38.66	604+38.66	TRANSITION	100.00						30.69	341.03	57.98	57.98									30.69	341.03	220.00	37.51	37.51
604+38.66	626+14.41	TYPICAL SECTION	2175.75	192.50	4188.32	44.71	10808.24	540.41				540.41	22.46	5429.30	330.00	895.83	22.25	5378.94	220.00	591.68	30.00	7252.50	220.00	797.78	1389.46
628+20.47	638+06.05	TYPICAL SECTION	985.58	192.50	1897.24	44.71	4895.96	244.80				244.80	22.46	2459.39	330.00	405.80	22.25	2436.57	220.00	268.02	30.00	3285.27	220.00	361.38	629.40
638+06.05	639+06.05	TRANSITION	100.00						29.06	322.87	54.89	54.89									29.06	322.87	220.00	35.52	35.52
ADDITIONAL FOR LEVELING																									
146+00.00	148+50.00	HWY. 118 SITE 1 - N&W TYPICAL SECTION	250.00			18.92	525.46	26.27				26.27									18.92	525.46	VAR.	115.60	115.60
154+75.00	158+00.00	HWY. 118 SITE 1 - N&W TYPICAL SECTION	325.00			18.92	683.10	34.16				34.16									18.92	683.10	VAR.	150.28	150.28
200+90.00	208+12.07	HWY. 118 SITE 2 - N&W TYPICAL SECTION	722.07			14.25	1143.28	57.16				57.16									14.25	1143.28	VAR.	188.64	188.64
233+74.74	240+00.00	HWY. 118 SITE 2 - N&W TYPICAL SECTION	625.26			14.25	989.99	49.50				49.50									14.25	989.99	VAR.	163.35	163.35
ADDITIONAL FOR GUARDRAIL WIDENING																									
147+85.27	150+55.42	HWY. 118 SITE 1 - RT.	270.15	34.00	91.85																6.76	202.91	220.00	22.32	22.32
148+69.27	150+55.42	HWY. 118 SITE 1 - LT.	186.15	28.50	53.05																6.00	124.10	220.00	13.65	13.65
154+09.59	155+55.73	HWY. 118 SITE 1 - RT.	186.14	28.50	53.05																6.01	124.30	220.00	13.67	13.67
154+09.58	156+79.73	HWY. 118 SITE 1 - LT.	270.15	33.75	91.18																6.75	202.61	220.00	22.29	22.29
211+87.78	214+57.93	HWY. 118 SITE 2 - RT.	270.15	33.00	89.15																6.63	199.01	220.00	21.89	21.89
212+71.76	214+57.91	HWY. 118 SITE 2 - LT.	186.15	29.00	53.98																6.05	125.13	220.00	13.76	13.76
218+12.08	219+98.23	HWY. 118 SITE 2 - RT.	186.15	28.50	53.05																6.01	124.31	220.00	13.67	13.67
218+12.08	220+82.23	HWY. 118 SITE 2 - LT.	270.15	34.00	91.85																6.76	202.91	220.00	22.32	22.32
623+63.68	626+33.83	I-555 SERVICE RD. SITE 3 - RT.	270.15	35.00	94.55																4.90	147.08	220.00	16.18	16.18
624+58.82	626+44.97	I-555 SERVICE RD. SITE 3 - LT.	186.15	28.50	53.05																3.98	82.32	220.00	9.06	9.06
627+90.12	629+76.30	I-555 SERVICE RD. SITE 3 - RT.	186.18	29.00	53.99																4.05	83.78	220.00	9.22	9.22
628+00.81	634+67.96	I-555 SERVICE RD. SITE 3 - LT.	667.15	41.00	273.53																5.74	425.49	220.00	46.80	46.80
ADDITIONAL FOR MAINTENANCE OF TRAFFIC																									
207+00.00	211+00.00	HWY. 118 SITE 2 - TEMP. VERTICAL TIE	400.00						VAR.	1300.82	221.14	221.14									29.27	1300.82	275.00	178.86	178.86
231+00.00	234+00.00	HWY. 118 SITE 2 - TEMP. VERTICAL TIE	300.00						VAR.	974.74	165.71	165.71									29.24	974.74	220.00	107.22	107.22
TOTALS:					**13824.41**		**34296.97**	**1714.85**		**7565.82**	**1286.21**	**3001.06**		**15556.20**		**2566.75**		**15398.94**		**1693.38**		**32586.15**		**3870.50**	**5564.38**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2).....94.4% MIN. AGGR.....5.6% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.9% MIN. AGGR.....4.1% ASPHALT BINDER
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

WBCallaway 6/28/2024 7:44:00 AM
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\102-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_QTY.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	43	139
		07670, 07671 & 07672		QUANTITIES		67043

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 101017

BRIDGE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	801	SP, SS & 802	SP, SS & 802	SP & 803	SS & 804	SS & 804	SS & 805	SS & 805	SS & 805	SS & 805	SS & 805	SS & 805	SP, SS & 807	SP, SS & 807	SS & 807	SS & 808	SS & 809	812	SS & 816	SS & 816
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _)	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 (16" DIA.) (1)	STEEL SHELL PILING (18" DIA.) (1)	STEEL SHELL PILING (24" DIA.) (1)	STEEL SHELL PILING (30" DIA.) (1)(2)	PILE ENCASEMENT	PREBORING	STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)	STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)	PAINTING STRUCTURAL STEEL	ELASTOMERIC BEARINGS	SILICONE JOINT SEALANT	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP
			UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	SQ. YD.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	LB.	TON	CU. IN.	LIN. FT.	EACH	SQ. YD.	CU. YD.
07670	HIGHWAY 118 OVER TYRONZA RIVER	BENT NO. 1			46	43.99		13.2	9,574	936		265					574			4,664.0	32	1	171	94
		BENT NO. 2				27.36			16,086					304	61					2,730.0				
		BENT NO. 3				27.36			16,086					260	64					2,730.0				
		BENT NO. 4			55	43.99		13.2	9,574	936		260					574			4,664.0	32		186	104
		330'-0" CONTINUOUS PLATE GIRDER UNIT					356.20	1,370.5		99,058							333,512		79.6					
		SITE NO. 1 (EXISTING BRIDGE NO. A3872)		1																				
		TOTALS FOR BRIDGE NO. 07670			101	142.70	356.20	1,396.9	51,320	100,930		525		564	125		334,660		79.6	14,788.0	64	1	357	198
07671	HIGHWAY 118 OVER TYRONZA RIVER	BENT NO. 1			28	43.99		13.2	9,574	936		270					574			4,664.0	32	1	400	222
		BENT NO. 2				27.36			16,086					316	57					2,730.0				
		BENT NO. 3				27.36			16,086					240	53					2,730.0				
		BENT NO. 4			44	43.99		13.2	9,574	936		235					574			4,664.0	32		372	207
		330'-0" CONTINUOUS PLATE GIRDER UNIT					356.20	1,370.5		99,058							333,512		79.6					
		SITE NO. 2 (EXISTING BRIDGE NO. A3311)		1																				
		TOTALS FOR BRIDGE NO. 07671			72	142.70	356.20	1,396.9	51,320	100,930		505		556	110		334,660		79.6	14,788.0	64	1	772	429
07672	I-555 SERVICE ROAD OVER DITCH NO.6	BENT NO. 1				16.96			4,750	1,062	216					40		173				1	438	235
		BENT NO. 2				22.15			8,905				224		41					2,016.0				
		BENT NO. 3				22.15			8,905				236		41					2,016.0				
		BENT NO. 4				16.84			4,750	1,062	228					40		173					465	247
		135'-0" CONTINUOUS INTEGRAL W-BEAM UNIT					160.50	581.2		46,846								80,724	16.9					
		TOTALS FOR BRIDGE NO. 07672				78.10	160.50	581.2	27,310	48,970	444		460		82	80		81,070	16.9	4,032.0		1	903	482
		TOTALS FOR JOB NO. 101017			173	363.50	872.90	3,375.0	129,950	250,830	444	1,030	460	1,120	317	80	669,320	81,070	176.1	33,608.0	128	3	2,032	1,109

(1) Steel shell piles shall conform to ASTM A252, Grade 3, Fy = 45,000 psi.

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

TABLE OF APPROACH SLAB QUANTITIES

(For Information Only)

Bridge No.	Item	Reinforcing Steel	Concrete
	Unit	Lbs.	Cu. Yds.
07670	Begin Bridge	6,269	51.32
	End Bridge	6,269	51.32
07671	Begin Bridge	6,269	51.32
	End Bridge	6,269	51.32
07672	Begin Bridge	6,337	52.48
	End Bridge	6,329	52.40

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
TYRONZA RIVER & DITCH
NO. 6 STRS. & APPRS. (S)
POINSETT COUNTY
ROUTE 118 & 555 SEC. 2 & 125
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017_q1.dgn
CHECKED BY: ABH DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023
BRIDGE NO. 07670-07672 DRAWING NO. 67043

ABHall 1/22/2024 3:47:15 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x0_S001_QT.dgn

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	86	STATION
201	GRUBBING	86	STATION
202	REMOVAL AND DISPOSAL OF FENCE	4006	LIN. FT.
202	REMOVAL AND DISPOSAL OF GRAIN BIN	2	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	4	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL	400	LIN. FT.
202	REMOVAL AND DISPOSAL OF MAILBOXES	1	EACH
SP, SS, & 210	UNCLASSIFIED EXCAVATION	48079	CU. YD.
SP & 210	COMPACTED EMBANKMENT	91577	CU. YD.
SP & 210	SOIL STABILIZATION	100	TON
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)	15182	TON
SS & 401	TACK COAT	3074	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	2462	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	105	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	5558	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	330	TON
SP & 412	COLD MILLING ASPHALT PAVEMENT	1948	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	36	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	100	TON
SP, SS, & 504	APPROACH SLABS	310.16	CU. YD.
SP, SS, & 504	APPROACH GUTTERS	50.40	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1.00	EACH
SP, SS, & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	662	SQ. FT.
SP, SS, & 604	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE	8	EACH
SS & 604	BARRICADES	112	LIN. FT.
SS & 604	TRAFFIC DRUMS	194	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	720	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	32592	LIN. FT.
SP, SS, & 605	CONCRETE DITCH PAVING (TYPE B)	46	SQ. YD.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	162	LIN. FT.
SS & 606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
SP, SS, & 606	18" SIDE DRAIN	98	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN	317	LIN. FT.
SP, SS, & 606	30" SIDE DRAIN	173	LIN. FT.
SP, SS, & 606	36" SIDE DRAIN	36	LIN. FT.
SS & 606	SELECTED PIPE BEDDING	100	CU. YD.
SS & 617	GUARDRAIL (TYPE A)	1750	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	12	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	12	EACH
SS & 619	WIRE FENCE (TYPE D)	5529	LIN. FT.
620	LIME	27	TON
620	SEEDING	13.47	ACRE
SS & 620	MULCH COVER	42.68	ACRE
620	WATER	1970.4	M. GAL.
621	TEMPORARY SEEDING	29.21	ACRE
621	SILT FENCE	15261	LIN. FT.
621	SAND BAG DITCH CHECKS	1331	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	666	CU. YD.
621	ROCK DITCH CHECKS	152	CU. YD.
623	SECOND SEEDING APPLICATION	13.47	ACRE
624	SOLID SODDING	63	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	7541	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	1	EACH
SS & 637	MAILBOX SUPPORTS (SINGLE)	1	EACH
SP & 642	RUMBLE STRIPES IN ASPHALT SHOULDERS	13242	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	18156	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	18156	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	221	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	2	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	2	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	1581	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-ROADWAY	298.59	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	88833	POUND
SS & 816	FILTER BLANKET	3134	SQ. YD.
SS & 816	DUMPED RIPRAP	1569	CU. YD.
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	173	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-BRIDGE	363.50	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE	872.90	CU. YD.
SP & 803	CLASS 2 PROTECTIVE SURFACE TREATMENT	3375.0	SQ. YD.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	129950	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	250830	POUND
SS & 805	STEEL SHELL PILING (16" DIAMETER)	444	LIN. FT.
SS & 805	STEEL SHELL PILING (18" DIAMETER)	1030	LIN. FT.
SS & 805	STEEL SHELL PILING (24" DIAMETER)	460	LIN. FT.
SS & 805	STEEL SHELL PILING (30" DIAMETER)	1120	LIN. FT.
SS & 805	PREBORING	80	LIN. FT.
SS & 805	PILE ENCASEMENT	317	LIN. FT.
SP, SS, & 807	STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)	81070	POUND
SP, SS, & 807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)	669320	POUND
SS & 807	PAINTING STRUCTURAL STEEL	176.1	TON
SS & 808	ELASTOMERIC BEARINGS	33608.0	CU. IN.
SS & 809	SILICONE JOINT SEALANT	128	LIN. FT.
812	BRIDGE NAME PLATE (TYPE D)	3	EACH
SS & 816	FILTER BLANKET	2032	SQ. YD.
SS & 816	DUMPED RIPRAP	1109	CU. YD.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	44	139
		SUMMARY OF QUANTITIES AND REVISIONS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY

DIGITALLY SIGNED 9/23/2024

REVISIONS

DATE	REVISION	SHEET NUMBER

HBVinson
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_QTY.dgn
9/23/2024 3:21:31 PM
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	45	139
		SURVEY CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY

DIGITALLY SIGNED 7/3/2024

SURVEY CONTROL COORDINATES

Project Name: s101017
Date: 7/27/2020
Coordinate System: ARKANSAS STATE PLANE – NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	433304.7544	1801981.6543	218.221	CTL	ARDOT STD MON STAMPED PN:1
2	433319.5914	1801101.3384	218.392	CTL	ARDOT STD MON STAMPED PN:2
3	432599.8538	1801063.5628	219.678	CTL	ARDOT STD MON STAMPED PN:3
4	431700.1349	1801038.1741	218.126	CTL	ARDOT STD MON STAMPED PN:4
5	430883.8842	1801073.1215	218.319	CTL	ARDOT STD MON STAMPED PN:5
6	430109.3394	1801082.0771	218.395	CTL	ARDOT STD MON STAMPED PN:6
7	429247.3086	1801094.6089	217.784	CTL	ARDOT STD MON STAMPED PN:7
8	428398.3297	1801077.0997	218.224	CTL	ARDOT STD MON STAMPED PN:8
9	427508.2581	1801072.6004	217.774	CTL	ARDOT STD MON STAMPED PN:9
10	434157.6656	1800997.0604	215.945	CTL	ARDOT STD MON STAMPED PN:10
11	434962.7785	1800978.1011	214.683	CTL	ARDOT STD MON STAMPED PN:11
12	435805.7460	1800968.3535	215.341	CTL	ARDOT STD MON STAMPED PN:12
13	433173.2716	1813840.1908	221.86	CTL	STD ARDOT MON STAMPED PN:13
14	433163.2920	1814781.9249	220.94	CTL	STD ARDOT MON STAMPED PN:14
15	433088.5069	1815753.4970	222.14	CTL	STD ARDOT MON STAMPED PN:15
16	433043.9600	1816641.9035	220.51	CTL	STD ARDOT MON STAMPED PN:16
17	433001.3691	1817553.1315	221.51	CTL	STD ARDOT MON STAMPED PN:17
102	433238.1470	1802748.1567	217.976	GPS	PD:ARDOT GPS MON 560013
103	433222.0949	1803974.0718	219.146	GPS	PD:ARDOT GPS MON 560013A
900	430307.5046	1801110.0709	215.048	TBM	NE COR OF SE END OF BRIDGE 118-,118
901	432068.5226	1801066.7570	221.600	TBM	CH SQ CENTER N HW OF BOX CU E 0,118
902	420686.4071	1805727.0323	218.749	TBM	SQUARE CUT BASE OF N SIGN POST
903	421196.9333	1804205.3623	227.149	TBM	AHTD DISK SET NE CRNR BR
904	421453.0224	1803044.9516	221.843	TBM	SQUARE CUT ON DI
905	421774.3270	1801053.5672	246.885	TBM	SQUARE CUT ON NW CRNR BR
906	422592.2118	1799820.3475	219.748	TBM	SQUARE CUT ON DI
907	424729.5189	1797991.0110	217.032	TBM	SQUARE CUT CNTR N HW
908	426186.2805	1796664.2391	217.909	TBM	SQUARE CUT CNTR N HW
998	428186.3875	1797856.2940	219.950	BM	DISK STAMPED E 174 1956 127' SW
1501	420409.6155	1806268.4195	222.618	CTL	STD ARDOT MON. STAMPED PN:1
1502	420777.8522	1805448.0286	222.062	CTL	STD ARDOT MON. STAMPED PN:2
1503	421066.5256	1804614.6577	221.732	CTL	STD ARDOT MON. STAMPED PN:3
1504	421347.1023	1803787.0203	224.133	CTL	STD ARDOT MON. STAMPED PN:4
1505	421547.2408	1802890.4832	227.368	CTL	STD ARDOT MON. STAMPED PN:5
1506	421637.8958	1802088.1655	223.077	CTL	STD ARDOT MON. STAMPED PN:6
1507	421973.5913	1801414.1613	230.898	CTL	STD ARDOT MON. STAMPED PN:7
1508	422071.0078	1800768.2210	228.752	CTL	STD ARDOT MON. STAMPED PN:8

*Note – Rebar and Cap – Standard – 5/8" 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
A PROJECT CAF OF 0.9999330069 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s101017gi.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: 560013 & 560013A
CONVERGENCE ANGLE: 00 57 19.1 RIGHT AT LAT N35°30'29.22 LON W90°21'29.81
GRID AZIMUTH = ASTRONOMICAL AZIMUTH – CONVERGENCE ANGLE.

PN:1501–1508, 902–908 WERE ADDED DUE TO ADD BRIDGE IN MARCH 2021 BY CJM
HORZ BASED ON GPS 560013 – 560013A
VERT BASED ON LEVEL RUN FROM NGS BM E 174

ALIGNMENT NAME: SITE 1 - HWY. 118

POINT	STATION	TYPE	NORTHING	EASTING
8000	145+00.00	POB	431497.6548	1801053.7962
8001	148+00.00	PI	431797.6450	1801051.3756
8002	157+33.46	PI	432731.0680	1801042.6426
8003	162+00.00	POE	433197.4867	1801032.1122

ALIGNMENT NAME : SITE 2 - HWY. 118

POINT	STATION	TYPE	NORTHING	EASTING
8100	199+00.00	POB	433159.3667	1813840.5834
8101	200+90.00	PC	433156.9132	1814030.5556
8102	209+97.66	PT	433109.2792	1814936.7413
8103	210+04.14	PC	433108.6835	1814943.1895
8104	214+65.17	PT	433075.5174	1815402.9961
8105	226+50.47	PC	433014.0406	1816586.7010
8106	236+46.17	PT	433005.6359	1817582.0524
8107	245+00.00	POE	433035.5154	1818435.3591

ALIGNMENT NAME: SITE 3 - I-555 SERVICE ROAD

POINT	STATION	TYPE	NORTHING	EASTING
8200	600+00.00	POB	422068.4497	1801587.3025
8201	604+38.66	PC	421926.6151	1802002.4034
8202	614+78.31	PT	421635.5205	1803000.0988
8203	616+34.94	PC	421598.5154	1803152.2877
8204	630+01.27	PT	421197.4009	1804457.5724
8205	634+75.56	PC	421031.3170	1804901.8300
8206	638+06.05	PT	420920.0672	1805213.0208
8207	641+95.91	POE	420794.1346	1805581.9827

ALIGNMENT NAME : SITE 2 DRIVE 204+75

POINT	STATION	TYPE	NORTHING	EASTING
8500	0+00.00	POB	433245.3680	1814420.0290
8501	1+00.00	POE	433145.4762	1814415.3796

ALIGNMENT NAME : SITE 2 DRIVE 210+96

POINT	STATION	TYPE	NORTHING	EASTING
8600	0+00.00	POB	433100.5996	1815034.6952
8601	1+00.00	POE	433000.9531	1815026.2945

ALIGNMENT NAME : SITE 2 DRIVE 212+80

POINT	STATION	TYPE	NORTHING	EASTING
8300	899+85.00	POB	433086.6151	1815218.1510
8301	900+17.60	PC	433119.1336	1815220.5062
8302	901+44.99	PT	433209.4220	1815297.9462
8303	901+69.39	PC	433214.8624	1815321.7274
8304	901+94.50	PT	433223.4599	1815345.2480
8305	902+22.59	POE	433236.3302	1815370.2138

ALIGNMENT NAME : SITE 2 DRIVE 220+00

POINT	STATION	TYPE	NORTHING	EASTING
8400	800+00.00	POB	433047.7779	1815937.1062
8401	800+97.63	PC	432950.2775	1815932.0425
8402	801+26.83	PT	432931.3494	1815913.2446
8403	802+65.92	PC	432923.1766	1815774.3982
8404	802+85.71	PT	432913.1895	1815758.2404
8405	803+41.93	POE	432864.4693	1815730.1929

ALIGNMENT NAME : SITE 3 DRIVE 608+46

POINT	STATION	TYPE	NORTHING	EASTING
8700	0+00.00	POB	421897.5054	1802419.0690
8701	1+00.00	POE	421801.7876	1802390.1191

ALIGNMENT NAME : SITE 3 DRIVE 634+80

POINT	STATION	TYPE	NORTHING	EASTING
8800	0+00.00	POB	421217.1271	1804975.9515
8801	2+00.00	POE	421029.7632	1804905.9890

ALIGNMENT NAME : SITE 3 DRIVE 636+61

POINT	STATION	TYPE	NORTHING	EASTING
8900	0+00.00	POB	421156.2344	1805143.0408
8901	2+00.00	POE	420967.7888	1805076.0463

WBCalloway 6/28/2024 7:44:42 AM
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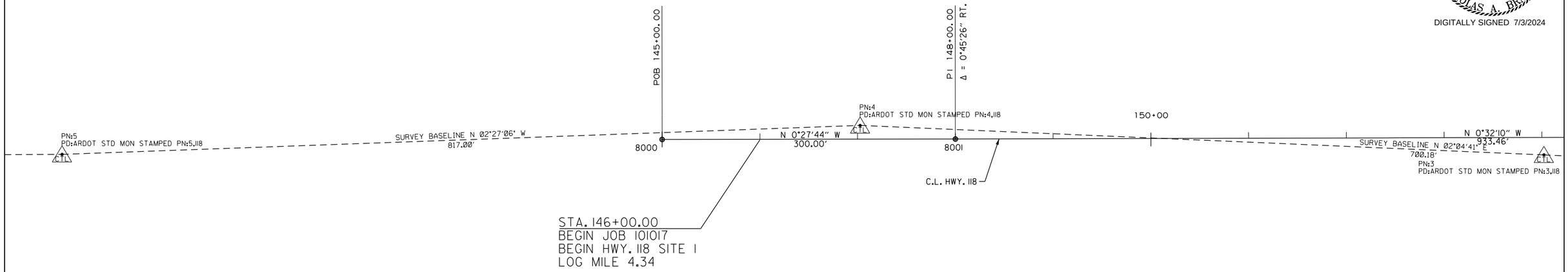
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_SC_01.dgn
REVISED DATE:

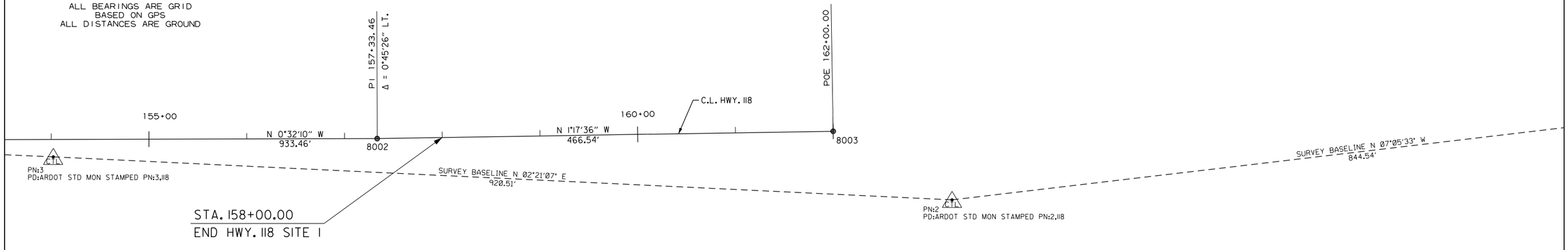
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	46	139
		SURVEY CONTROL DETAILS				

ALL BEARINGS ARE GRID
BASED ON GPS
ALL DISTANCES ARE GROUND

DIGITALLY SIGNED 7/3/2024



ALL BEARINGS ARE GRID
BASED ON GPS
ALL DISTANCES ARE GROUND



SURVEY CONTROL DETAILS

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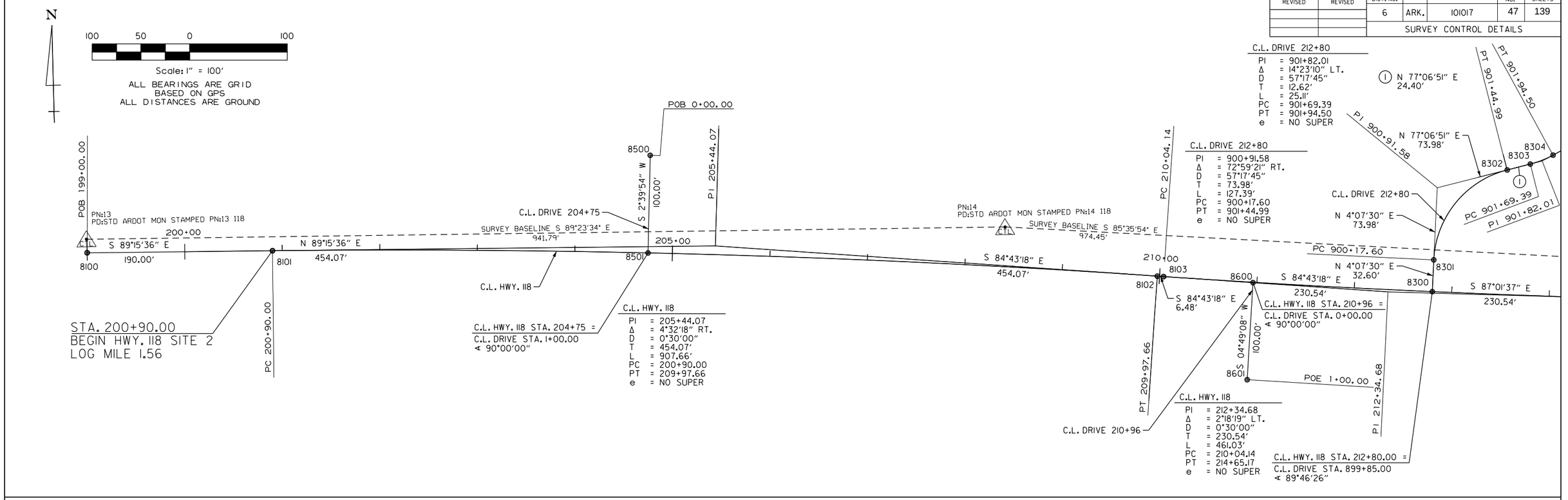
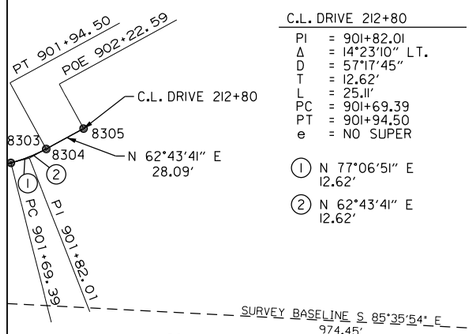
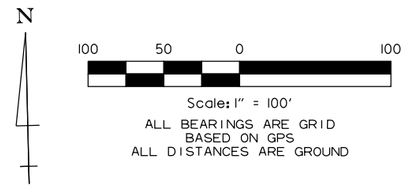
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	47	139
		SURVEY CONTROL DETAILS				







DIGITALLY SIGNED 7/3/2024

SITE 2
SURVEY CONTROL DETAILS

WBCallaway 6/28/2024 7:44:48 AM
WORKSPACE: AHTD
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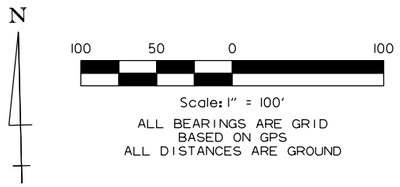
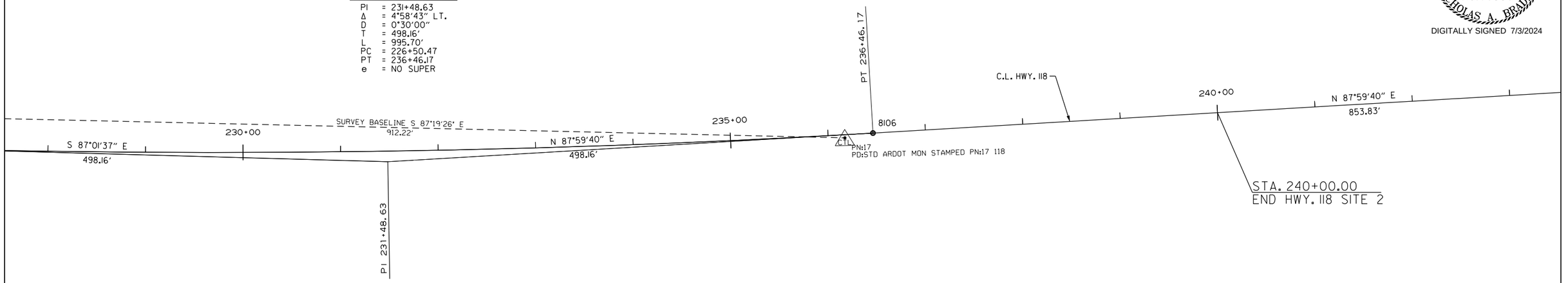
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	48	139
		SURVEY CONTROL DETAILS				

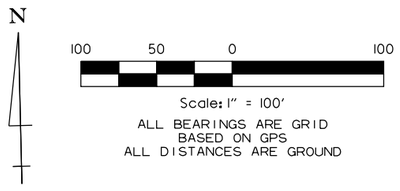


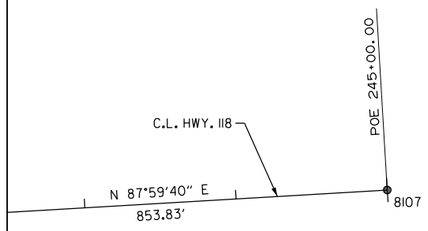
C.L. HWY. 118

PI	= 231+48.63
Δ	= 4°58'43" LT.
D	= 0°30'00"
T	= 498.16'
L	= 995.70'
PC	= 226+50.47
PT	= 236+46.17
e	= NO SUPER



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024





SITE 2
SURVEY CONTROL DETAILS

WBCallaway 6/28/2024 7:44:49 AM
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	49	139
		SURVEY CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

N

100 50 0 100

Scale: 1" = 100'

ALL BEARINGS ARE GRID
BASED ON GPS
ALL DISTANCES ARE GROUND

POB 600+00.00

C.L. I-555 SERVICE RD.

PC 604+38.66

8200

S 71°08'07" E
438.66'

8201

S 71°08'07" E
520.19'

STA. 604+38.66
BEGIN I-555 SERVICE RD. SITE 3
LOG MILE 8.90

C.L. I-555 SERVICE RD.

PI	= 609+58.85
Δ	= 5°11'54" LT.
D	= 0°30'00"
T	= 520.19'
L	= 1039.65'
PC	= 604+38.66
PT	= 614+78.31
e	= NO SUPER

PN:1507
PD:STD ARDOT MON. STAMPED PN:7

SURVEY BASELINE N 81°25'25" W
653.24'

SURVEY BASELINE N 63°31'26" W
752.98'

SURVEY BASELINE N 83°33'12" W
807.42'

PN:1508
PD:STD ARDOT MON. STAMPED PN:8

PN:1506
PD:STD ARDOT MON. STAMPED PN:6

N

100 50 0 100

Scale: 1" = 100'

ALL BEARINGS ARE GRID
BASED ON GPS
ALL DISTANCES ARE GROUND

POB 0+00.00

8700

S 19°49'41" W
100.00'

C.L. I-555 SERVICE RD. STA. 608+46.00 =
C.L. DRIVE STA. 1+00.00
∢ 90°00'00"

C.L. DRIVE 608+46

C.L. I-555 SERVICE RD.

610+00

8701

S 71°08'07" E
520.19'

PI 609+58.85

C.L. I-555 SERVICE RD.

PI	= 609+58.85
Δ	= 5°11'54" LT.
D	= 0°30'00"
T	= 520.19'
L	= 1039.65'
PC	= 604+38.66
PT	= 614+78.31
e	= NO SUPER

PT 614+78.31

615+00

8202

S 76°20'01" E
520.19'

PC 616+34.94

S 76°20'01" E
156.63'

8203

620+00

S 76°20'01" E
683.98'

C.L. I-555 SERVICE RD.

PI	= 623+18.92
Δ	= 6°49'54" RT.
D	= 0°30'00"
T	= 683.98'
L	= 1366.33'
PC	= 616+34.94
PT	= 630+01.27
e	= NO SUPER

PN:1505
PD:STD ARDOT MON. STAMPED PN:5

SURVEY BASELINE N 77°24'57" W
918.60'

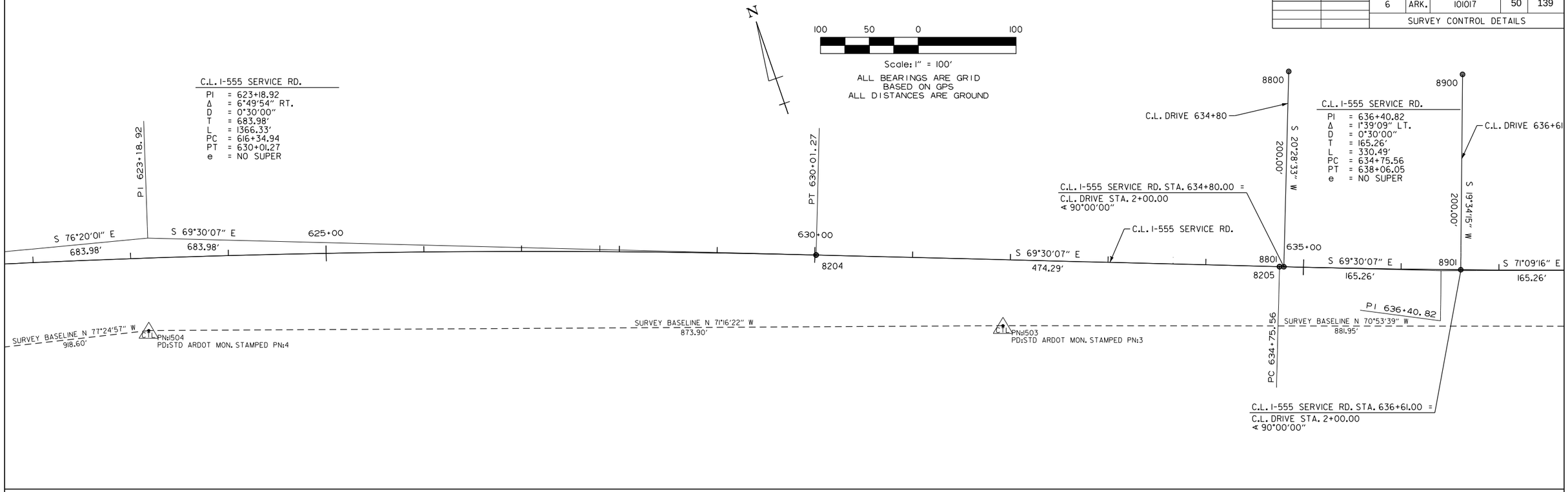
TBM
PN:904
PD:SQUARE CUT ON DI

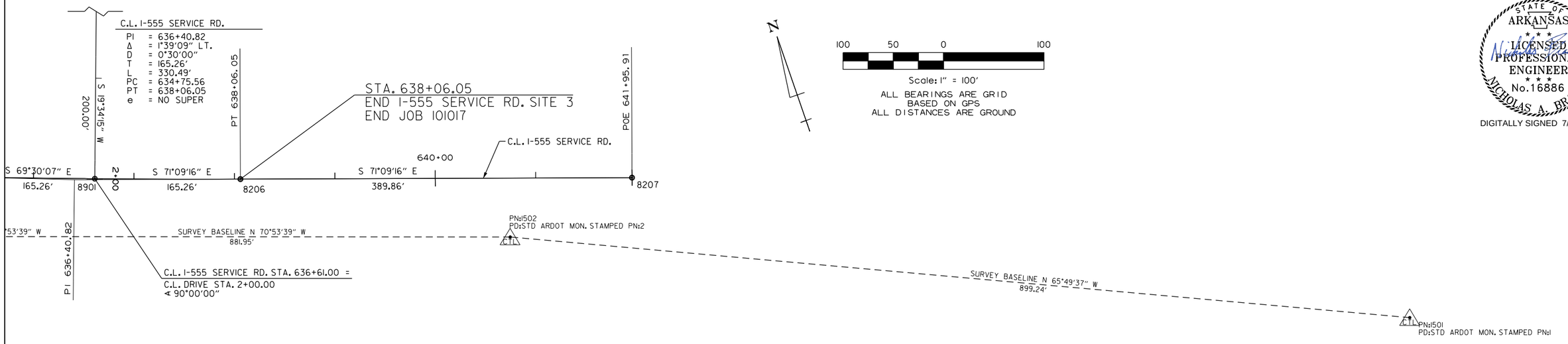
SURVEY BASELINE N 83°33'12" W
807.42'

SITE 3
SURVEY CONTROL DETAILS

WBCallaway 6/28/2024 7:44:49 AM
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_SC_05_S3.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	50	139
		SURVEY CONTROL DETAILS				





STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

SITE 3
SURVEY CONTROL DETAILS

WBCallaway 6/28/2024 7:44:50 AM
WORKSPACE: AHTD
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_SC_06_S3.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	51	139
		PLAN AND PROFILE - HWY. 118				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADLY
DIGITALLY SIGNED 7/3/2024

N

STA. 146+00.00
BEGIN JOB 101017
BEGIN HWY. 118 SITE 1
LOG MILE 4.34

STA. 150+66.42 BRIDGE END
BRIDGE NO. 07670 OVER TYRONZA RIVER
330'-0" CONT. PLATE GIRDER UNIT (100'-130'-100')
30'-0" CLEAR ROADWAY
332'-2" TOTAL BRIDGE LENGTH
STA. 153+98.58 BRIDGE END

TYRONZA RIVER

STA. 158+67 IN PLACE
LT. CONCRETE SUPERSTRUCTURE
RETAIN
CONSTRUCT APPROACH = 0 CU. YDS.

100' TRANSITION TO MATCH EXISTING
+00
4' EX. AGG. SHLD.
145+00
20' EX. LANES
4' EX. AGG. SHLD.
EXIST. R/W
22'
4'
N 0°27'44" W
PI 148+00.00
Δ = 0°45'26" RT.
DUMPED RIPRAP (18" THICKNESS)
STA. 148+50.00 TO 150+55.42
CONST. LIMITS
C.L. HWY. 118
BEGIN BRIDGE
STA. 150+66.42
TBM
CONST. LIMITS
EXIST. R/W
DUMPED RIPRAP (18" THICKNESS)
STA. 148+50.00 TO 150+55.42
+16.5
99.86'
PROP. ROW
+00.00
125.00'
+00.00
130.00'
+00.00
99.82'
BRIDGE NO. A3872 IN PLACE
291'-0" X 28'-6" BRIDGE CONSISTING OF A STEEL AND TIMBER SUPERSTRUCTURE SUPPORTED BY A TIMBER SUBSTRUCTURE. REMOVE AS EXISTING BRIDGE STRUCTURE = LOO LUMP SUM
SPECIAL FLOOD HAZARD AREA
DUMPED RIPRAP (18" THICKNESS)
STA. 154+09.58 TO 156+50.00
PI 157+33.46
Δ = 0°45'26" LT.
EXIST. R/W
CONST. LIMITS
N 0°32'10" W
END BRIDGE
STA. 153+98.58
CONST. LIMITS
+67
20'
4'
22'
4'
4' EX. AGG. SHLD.
20' EX. LANES
4' EX. AGG. SHLD.
160+00
N 1°17'36" W
EXIST. R/W
+00
100' TRANSITION TO MATCH EXISTING
+00
STA. 158+00.00
END HWY. 118 SITE 1

C.L. HWY. 118 STATIONING	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 149+12.27 TO STA. 150+56.02 LT.	= 75 LIN. FT.	1 EACH	1 EACH
STA. 148+37.27 TO STA. 150+56.02 RT.	= 150 LIN. FT.	1 EACH	1 EACH
STA. 154+08.98 TO STA. 156+27.73 LT.	= 150 LIN. FT.	1 EACH	1 EACH
STA. 154+08.98 TO STA. 155+52.73 RT.	= 75 LIN. FT.	1 EACH	1 EACH

REMOVAL AND DISPOSAL OF GUARDRAIL STA.	STA.	SIDE	UNIT
149+70	150+71	RT.	100 LIN. FT.
150+35	150+85	LT.	50 LIN. FT.
153+62	154+12	RT.	50 LIN. FT.
153+76	154+76	LT.	100 LIN. FT.

REFER TO BRIDGE LAYOUT DRAWING FOR ADDITIONAL DUMPED RIPRAP AND FILTER BLANKET REQUIRED AT BRIDGE ENDS. LIMITS SHOWN CORRESPOND TO END OF WING AT BRIDGE END BENT.

HWY. 118 SITE 1

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

100' TRANSITION TO MATCH EXISTING
+00
PVI 146+00.00
ELEV. 218.67
+00
PVC 146+50.00
ELEV. 218.81
VC=150.00'
K=189.87
e=0.15'
PVT 148+00.00
ELEV. 219.82
0.28%
1.07%
PVI 147+25.00
ELEV. 219.02
-0.03% RT. DITCH GRADE
+00.00 RT. 201.78
+65.00 RT. 201.76
STA. 146+00.00
BEGIN JOB 101017
BEGIN HWY. 118 SITE 1
ELEV. 218.67
PVC 150+25.00
ELEV. 222.23
BEGIN BRIDGE
STA. 150+66.42
PVI 152+25.00
ELEV. 224.36
050 DESIGN H.W.
ELEV. = 214.1
VC=400.00'
K=188.68
e=-1.06'
END BRIDGE
STA. 153+98.58
PVT 154+25.00
ELEV. 222.26
EXISTING GROUND
-1.05%
PVC 156+25.00
ELEV. 220.15
VC=150.00'
K=182.93
e=0.15'
PVI 157+00.00
ELEV. 219.36
PVT 157+75.00
ELEV. 219.19
PVI 158+00.00
ELEV. 219.14
-0.23%
100' TRANSITION TO MATCH EXISTING
+00
STA. 158+00.00
END HWY. 118 SITE 1
ELEV. 219.14

FOR THE CONSTRUCTION OF TEMPORARY WORK ROADS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE TOP OF CHANNEL ELEVATION = 211.00 FT. MSL. BETWEEN STATIONS 151+00 TO 153+50. REFER TO SECTION 110.05 (c) OF THE 2014 STANDARD SPECIFICATIONS

260 250 240 230 220 210 200 190 180 170
145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00 157+00 158+00 159+00 160+00

WBCalloway 6/28/2024 7:44:58 AM
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.	101017	52	139
		PLAN AND PROFILE - HWY. 118				

STA. 202+20 INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 11 CU. YDS.

STA. 203+01 IN PLACE
15" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 204+75 IN PLACE
15" X 31' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 19 CU. YDS.

STA. 206+76 IN PLACE
24" X 20' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 26' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 36 CU. YDS.

C.L. HWY. 118
PI = 212+34.68
Δ = 2°18'19" LT.
D = 0°30'00"
T = 230.54'
L = 461.03'
PC = 210+04.14
PT = 214+65.17
e = NO SUPER

N

C.L. DRIVE 212+80
PI = 900+91.58
Δ = 72°59'21" RT.
D = 57°17'45"
T = 73.98'
L = 127.39'
PC = 900+17.60
PT = 901+44.99
e = NO SUPER

C.L. DRIVE 212+80
PI = 901+82.01
Δ = 14°23'10" LT.
D = 57°17'45"
T = 12.62'
L = 25.11'
PC = 901+69.39
PT = 901+94.50
e = NO SUPER

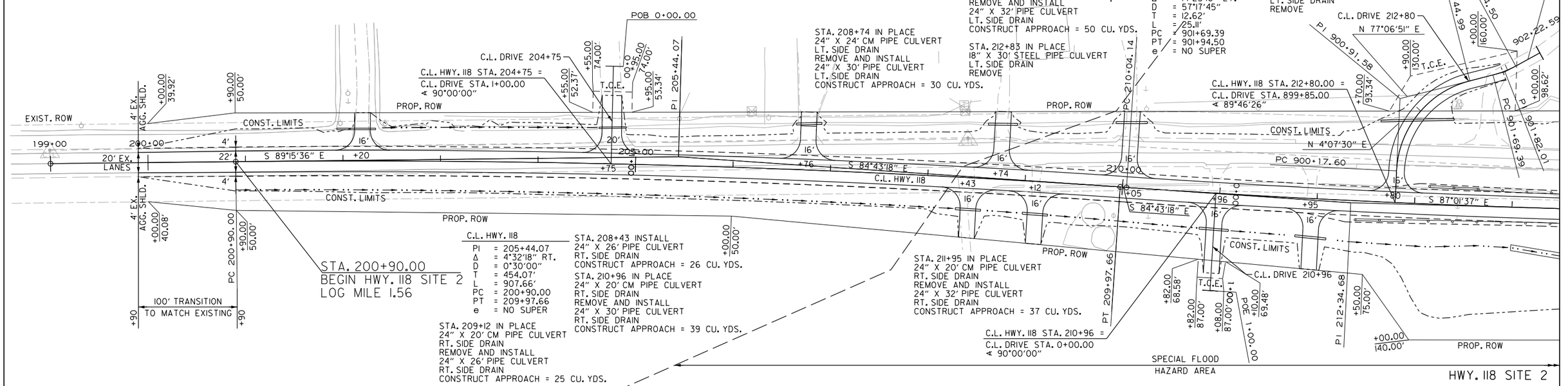
STA. 210+05 IN PLACE
24" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 208+74 IN PLACE
24" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

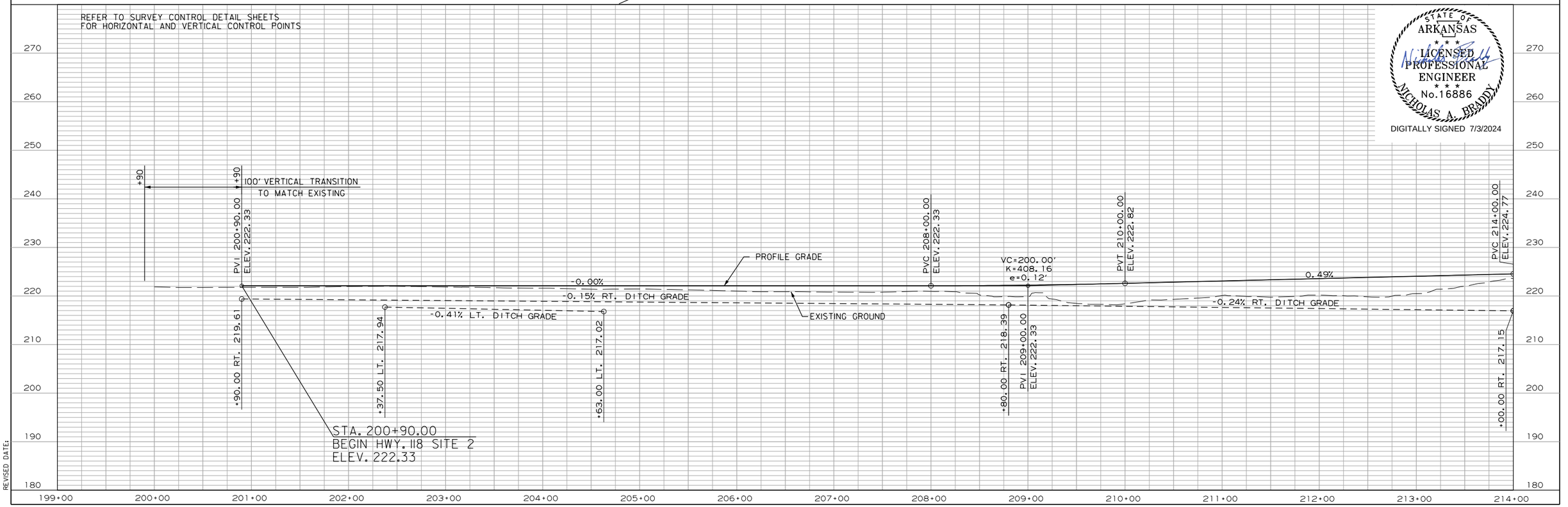
STA. 212+83 IN PLACE
18" X 30' STEEL PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 212+80 INSTALL
24" X 75' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 196 CU. YDS.

STA. 213+76 IN PLACE
24" X 44' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE



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



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADY
DIGITALLY SIGNED 7/3/2024

WBCallaway 6/28/2024 7:45:00 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PP_SITE 2.0i.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	53	139
		PLAN AND PROFILE - HWY. 118				

CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ. YDS.
214+00	214+69	LT. = 69 LIN. FT.	6'-0"	46

C.L. HWY. 118 STATIONING	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 213+14.76 TO STA. 214+58.51 LT.	= 75 LIN. FT.	1 EACH	1 EACH
STA. 212+39.78 TO STA. 214+58.53 RT.	= 150 LIN. FT.	1 EACH	1 EACH
STA. 218+11.48 TO STA. 220+30.23 LT.	= 150 LIN. FT.	1 EACH	1 EACH
STA. 218+11.48 TO STA. 219+55.23 RT.	= 75 LIN. FT.	1 EACH	1 EACH

REMOVAL AND DISPOSAL OF GUARDRAIL

STA.	STA.	SIDE	UNIT
215+09	215+34	LT.	25 LIN. FT.
215+09	215+34	LT.	25 LIN. FT.
217+83	218+08	LT.	25 LIN. FT.
217+83	218+08	LT.	25 LIN. FT.

STA. 224+07 INSTALL
24" X 24' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 80 CU. YDS.

N

C.L. HWY. 118
PI = 231+48.63
Δ = 4°58'43" LT.
D = 0°30'00"
T = 498.16'
L = 995.70'
PC = 226+50.47
PT = 236+46.17
e = NO SUPER

STATE OF ARKANSAS
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PT 901+94.50
+00.00
160.00'
N 62°43'41" E
902+22.59
+00.00
98.62'
C.L. DRIVE 212+80
214+65.17
PC 901+69.39
P
901+82.01
PT
N 77°06'51" E
215+00
S 87°01'37" E
TYRONZA RIVER
+80.00
110.00'
BRIDGE NO. A3311 IN PLACE
247'-0" X 28'-6" BRIDGE CONSISTING OF A STEEL AND TIMBER SUPERSTRUCTURE SUPPORTED BY A TIMBER SUBSTRUCTURE. REMOVE AS EXISTING BRIDGE STRUCTURE = 1.00 LUMP SUM
PROP. ROW
EXIST. R/W
C.L. HWY. 118 STA. 220+00.00 =
C.L. DRIVE STA. 800+00.00
∢ 90°00'00"
SPECIAL FLOOD HAZARD AREA
+00.00
100.00'
PC 226+50.47
PROP. ROW
EXIST. R/W
CONST. LIMITS
C.L. HWY. 118
220+00
800+00.00
+00
16'
225+00
+07
+55
16'
BEGIN BRIDGE
STA. 214+68.91
END BRIDGE
STA. 218+01.08
PI 802+16.71
PC 802+65.92
PT 802+85.71
CONST. LIMITS
C.L. DRIVE 220+00
S 2°58'23" W
PC 800+97.63
CONST. LIMITS
CONST. LIMITS
PROP. ROW
S 86°37'53" W
+95
125.49'
+95
150.00'
+60.00
116.85'
803.42
T.C.E.
S 29°55'42" W
+00.00
200.00'
T.C.E.
+00.00
120.00'
PT 801+26.83
PI 801+15.53
+60.00
170.00'

C.L. DRIVE 220+00
PI = 801+15.53
Δ = 83°39'30" RT.
D = 286°28'44"
T = 17.90'
L = 29.20'
PC = 800+97.63
PT = 801+26.83
e = NO SUPER

STA. 220+00 INSTALL
30" X 78' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 978 CU. YDS.

STA. 228+55 INSTALL
30" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 58 CU. YDS.

STA. 228+97 IN PLACE
16" X 26' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 214+68.91 BRIDGE END
BRIDGE NO. 07671 OVER TYRONZA RIVER
330'-0" CONT. PLATE GIRDER UNIT (100'-130'-100')
30'-0" CLEAR ROADWAY
332'-2" TOTAL BRIDGE LENGTH
STA. 218+01.08 BRIDGE END

C.L. DRIVE 220+00
PI = 802+76.71
Δ = 56°42'11" LT.
D = 286°28'44"
T = 10.79'
L = 19.79'
PC = 802+65.92
PT = 802+85.71
e = NO SUPER

HWY. 118 SITE 2

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

PVC 214+00.00
ELEV. 224.77
BEGIN BRIDGE
STA. 214+68.91
PVI 216+00.00
ELEV. 225.75
PVT 218+00.00
ELEV. 225.02
END BRIDGE
STA. 218+01.08
PVC 227+00.00
ELEV. 221.72
PVT 229+00.00
ELEV. 221.52
PROFILE GRADE
0.49%
-0.37%
VC=200.00'
K=370.37
e=0.13'
0.17%
-4.14% RT. DITCH GRADE
050 DESIGN H.W.
ELEV. = 216.6
VC=400.00'
K=465.12
e=-0.43'
EXISTING GROUND
0.10% RT. DITCH GRADE
0.58% RT. DITCH GRADE
PVI 228+00.00
ELEV. 221.35
+00.00 RT. 217.15
+68.91 RT. 214.30
+01.08 RT. 210.00
+00.00 RT. 210.50
+00.00 RT. 214.00

FOR THE CONSTRUCTION OF TEMPORARY WORK ROADS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE TOP OF CHANNEL ELEVATION = 212.00 FT. MSL. BETWEEN STATIONS 215+50 TO 217+25. REFER TO SECTION 110.05 (c) OF THE 2014 STANDARD SPECIFICATIONS

270 260 250 240 230 220 210 200 190 180

214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00 227+00 228+00 229+00

WBCalloway
6/28/2024 7:45:01 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PP_SITE 2_02.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	54	139
		PLAN AND PROFILE - HWY. 118				

C.L. HWY. 118
PI = 231+48.63
Δ = 4°58'43" LT.
D = 0°30'00"
T = 498.16'
L = 995.70'
PC = 226+50.47
PT = 236+46.17
e = NO SUPER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

N

SPECIAL FLOOD HAZARD AREA

STA. 230+97 IN PLACE
15" X 43' STEEL PIPE CULVERT
LT. SIDE DRAIN
RETAIN
CONSTRUCT APPROACH = 37 CU. YDS.

+60.00
90.00'

PROP. ROW

+00.00
51.12'

PT 236+46.17

CONST. LIMITS

16'

230+00

+97

S 87°01'37" E

235+00

C.L. HWY. 118

100' TRANSITION TO MATCH EXISTING

+00

+00

EXIST. R/W

4' EX. AGG. SHLD.

240+00

4'

22'

20' EX. LANES

4'

4' EX. AGG. SHLD.

N 87°59'40" E

EXIST. R/W

+00.00
38.56'

CONST. LIMITS

PROP. ROW

+00.00
65.00'

STA. 240+00.00
END HWY. 118 SITE 2

STA. 228+55 INSTALL
30" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 58 CU. YDS.

PI 231+48.63

+00.00
70.00'

HWY. 118 SITE 2

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

PVT 229+00.00
ELEV. 221.52

PROFILE GRADE

0.17%

EXISTING GROUND

+00.00 RT. 214.00

PVC 235+00.00
ELEV. 222.51

0.34% RT. DITCH GRADE

PVI 236+00.00
ELEV. 222.68

VC=200.00'
K=1176.47
e=-0.04'

PVT 237+00.00
ELEV. 222.68

0.00%

+86.00 RT. 217.68

100' VERTICAL TRANSITION TO MATCH EXISTING

+00.00

PVI 240+00.00
ELEV. 222.68

STA. 240+00.00
END HWY. 118 SITE 2
ELEV. 222.68

270 260 250 240 230 220 210 200 190 180

229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00 243+00 244+00

WBCalloway
6/28/2024 7:45:02 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PP_SITE 2.03.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	55	139
		PLAN & PROFILE - I-555 SERVICE RD.				

FENCING

STA.	STA.	SIDE	TYPE	UNIT
603+39	618+00	RT	D	1469 LIN. FT.
614+00	618+00	LT	D	403 LIN. FT.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	UNIT
603+39	611+17	LT./RT.	927 LIN. FT.
614+00	618+00	LT.	402 LIN. FT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

C.L. I-555 SERVICE RD.
PI = 609+58.85
Δ = 5°11'54" LT.
D = 0°30'00"
T = 520.19'
L = 1039.65'
PC = 604+38.66
PT = 614+78.31
e = NO SUPER

STA. 608+46 IN PLACE
24" X 36' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 98 CU. YDS.

STA. 604+38.66
BEGIN I-555 SERVICE RD. SITE 3
LOG MILE 8.90

PC 604+38.66
+85.00
66.50'-75.00'
C.L. DRIVE 608+46
00+0
EXIST. R/W
CONST. LIMITS
PROP. ROW
+18.38
98.99'
EXIST. R/W C/A & FENCE
+00.00
78.91'
614+78.31
PT
PROP. ROW & FENCE
PC 616+34.94
+40.00
90.00'
CONST. LIMITS
615+00
S 76°20'01" E
610+00
605+00
4' EX. SHLD.
24' EX. LANES
4' EX. SHLD.
4'
22'
4'
S 71°08'07" E
C.L. I-555 SERVICE RD.
+46
00+0
16'
EXIST. R/W, C/A & FENCE
PROP. C/A & FENCE
PROP. C/A & FENCE
CONST. LIMITS
EXIST. ROW
CONST. LIMITS
PI 609+58.85
+38.66
100' TRANSITION TO MATCH EXISTING
+38.66

C.L. I-555 SERVICE RD. STA. 608+46.00 =
C.L. DRIVE STA. 1+00.00
∢ 90°00'00"

STA 615+00 CONSRUCT
30" X 83' RC PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
W/FES LT. & RT.
30" RC PIPE CULVERT = 83 LIN. FT.
30" FES = 2 EACH
Q50 = 28.0 CFS D.A. = 18.19 ACRES
DUMPED RIPRAP = 5 CU. YD.

C.L. I-555 SERVICE RD.
PI = 623+18.92
Δ = 6°49'54" RT.
D = 0°30'00"
T = 683.98'
L = 1366.33'
PC = 616+34.94
PT = 630+01.27
e = NO SUPER

I-555 SERVICE RD. SITE 3

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

100' VERTICAL TRANSITION TO MATCH EXISTING
+38.66
PVI 604+38.66
ELEV. 222.64
PROFILE GRADE
PVI 610+00.00
ELEV. 223.15
0.09%
0.06%
EXISTING GROUND
VC=200.00'
K=6666.67
e=-0.01'
-0.11% LT. DITCH GRADE
-0.30% LT. DITCH GRADE
STA. 604+38.66
BEGIN I-555 SERVICE RD. SITE 3
ELEV. 222.64
+00.00 LT. 214.19
PVC 609+00.00
ELEV. 223.06
PVT 611+00.00
ELEV. 223.21
+00.00 LT. 213.30
INLET PROP. F.L. = 213.42 RT.
OUTLET PROP. F.L. = 213.30 LT.

270 260 250 240 230 220 210 200 190 180
603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00 611+00 612+00 613+00 614+00 615+00 616+00 617+00 618+00

WBCalloway
6/28/2024 7:45:03 AM
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.	101017	56	139
		PLAN & PROFILE - I-555 SERVICE RD.				

FENCING

STA.	STA.	SIDE	TYPE	UNIT
618+00	626+34	RT	D	846 LIN. FT.
618+00	627+00	LT	D	1040 LIN. FT.
627+90	633+00	RT	D	527 LIN. FT.
627+85	633+00	LT	D	613 LIN. FT.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	UNIT
618+00	626+24	LT./RT.	902 LIN. FT.
620+33	620+96	LT.	99 LIN. FT.
627+64	633+00	LT./RT.	609 LIN. FT.
627+70	633+19	LT.	572 LIN. FT.

STA. 626+49.41 BRIDGE END
BRIDGE NO. 07672 OVER DITCH NO. 6
135'-0" INTEGRAL CONT. W-BEAM UNIT (40'-55'-40')
30'-0" CLEAR ROADWAY
136'-0¾" TOTAL BRIDGE LENGTH
STA. 627+85.47 BRIDGE END

+81.85 105.00'
PI 623+18.92
+17.40 115.00'
+00 46.00'
+15 46.00'

PROP. R/W & FENCE
CONST. LIMITS
EXIST. R/W C/A & FENCE
620+00
625+00
630+06
C.L. I-555 SERVICE RD.
S 76°20'01" E
S 69°30'07" E
PROP. C/A & FENCE
CONST. LIMITS
DUMPED RIPRAP (18" THICKNESS)
STA. 628+00.00 TO 634+00.00
BEGIN BRIDGE
STA. 626+49.41
END BRIDGE
STA. 627+85.47
PT 630+01.27

C.L. I-555 SERVICE RD. STATIONING	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 625+01.82 TO STA. 626+45.57 LT.	= 75 LIN. FT.	1 EACH	1 EACH
STA. 624+15.68 TO STA. 626+34.43 RT.	= 150 LIN. FT.	1 EACH	1 EACH
STA. 628+00.21 TO STA. 634+18.96 LT.	= 550 LIN. FT.	1 EACH	1 EACH
STA. 627+89.52 TO STA. 629+33.27 RT.	= 75 LIN. FT.	1 EACH	1 EACH

C.L. I-555 SERVICE RD.
PI = 623+18.92
Δ = 6°49'54" RT.
D = 0°30'00"
T = 683.98'
L = 1366.33'
PC = 616+34.94
PT = 630+01.27
e = NO SUPER

C.L. I-555 SERVICE RD.
PI = 636+40.82
Δ = 1°39'09" LT.
D = 0°30'00"
T = 165.26'
L = 330.49'
PC = 634+75.56
PT = 638+06.05
e = NO SUPER

SPECIAL FLOOD HAZARD AREA

I-555 SERVICE RD. SITE 3

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

PROFILE GRADE
EXISTING GROUND
0.06%
0.79%
-0.00%
-0.91%
-0.01%
-0.30% LT. DITCH GRADE

PVC 623+50.00 ELEV. 223.97
VC=100.00' K=136.99 e=0.09'
PVT 624+50.00 ELEV. 224.40
PVI 624+00.00 ELEV. 224.00
PVI 625+50.00 ELEV. 225.19
VC=100.00' K=126.58 e=-0.10'
PVC 625+00.00 ELEV. 224.79
PVT 626+00.00 ELEV. 225.19
+49.41 LT. 209.85
025 DESIGN H.W. ELEV. = 214.1
+80.00 LT. 208.64
PVC 628+00.00 ELEV. 225.19
PVI 629+00.00 ELEV. 225.19
VC=200.00' K=219.78 e=-0.23'
PVT 630+00.00 ELEV. 224.28
PVC 631+00.00 ELEV. 223.37
VC=200.00' K=222.22 e=0.23'
PVI 632+00.00 ELEV. 222.47
PVT 633+00.00 ELEV. 222.46

270 260 250 240 230 220 210 200 190 180
618+00 619+00 620+00 621+00 622+00 623+00 624+00 625+00 626+00 627+00 628+00 629+00 630+00 631+00 632+00 633+00

FOR THE CONSTRUCTION OF TEMPORARY WORK ROADS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A INTERMITTENT STREAM.
THE TOP OF CHANNEL ELEVATION = 212.00 FT. MSL.
BETWEEN STATIONS 626+50 TO 627+75.
REFER TO SECTION 110.05 (c) OF THE 2014 STANDARD SPECIFICATIONS

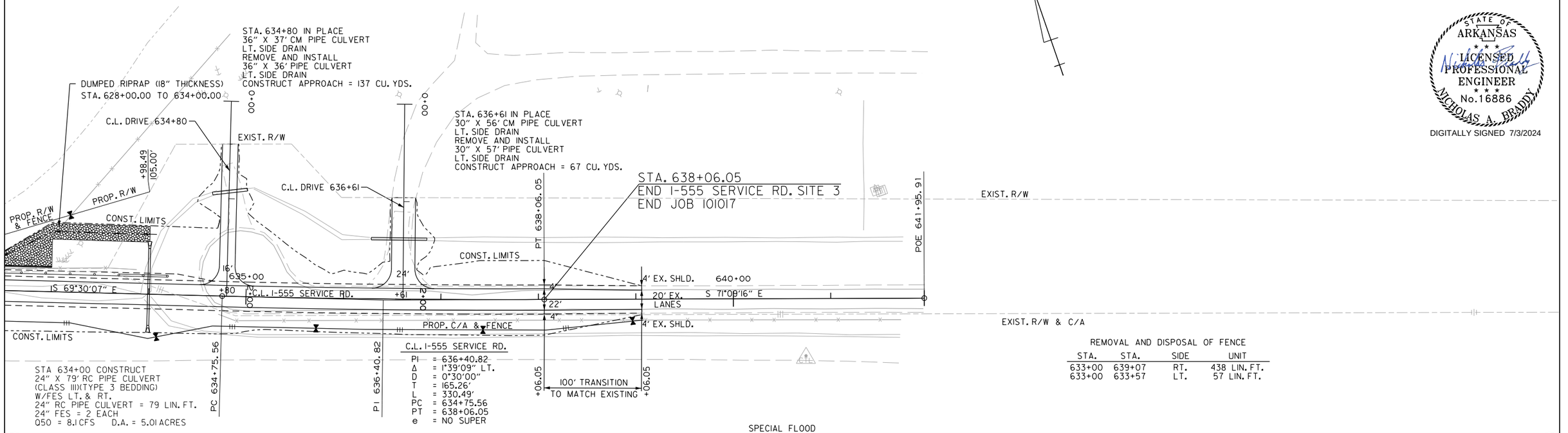
WBCalloway 6/28/2024 7:45:04 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PP_SITE 3.02.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	57	139
		PLAN & PROFILE - I-555 SERVICE RD.				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

FENCING

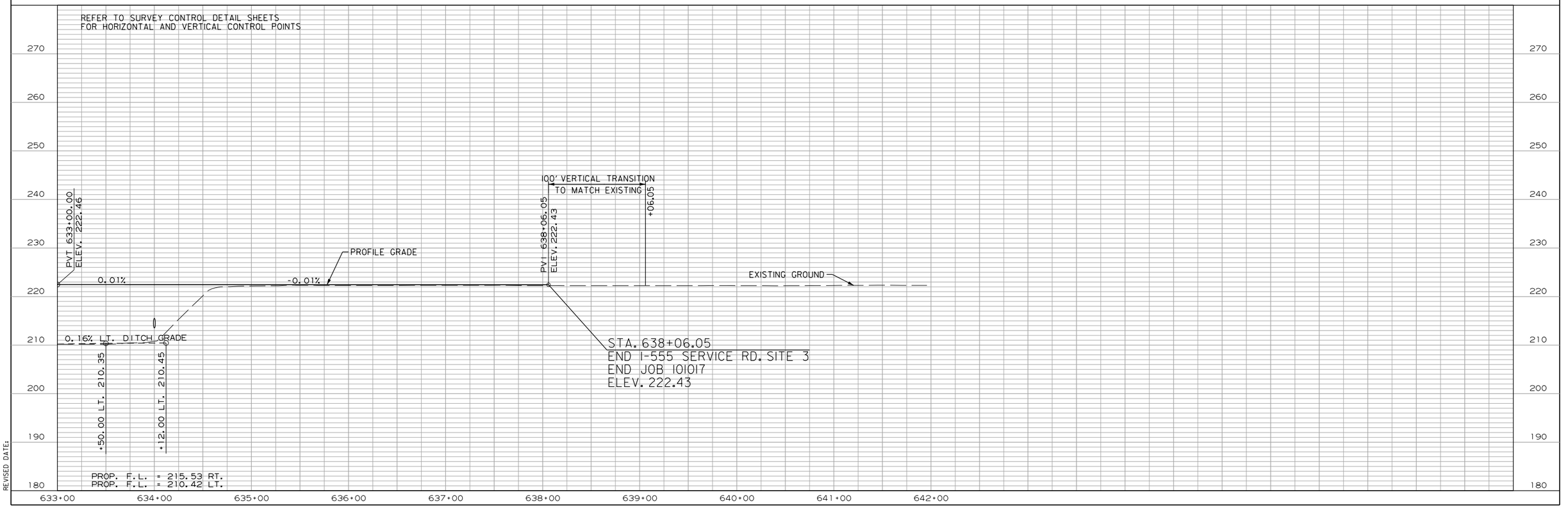
STA.	STA.	SIDE	TYPE	UNIT
633+00	639+06	RT	D	611 LIN. FT.
633+00	633+19	LT	D	20 LIN. FT.



REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	UNIT
633+00	639+07	RT.	438 LIN. FT.
633+00	633+57	LT.	57 LIN. FT.

I-555 SERVICE RD. SITE 3



WBCallaway 6/28/2024 7:45:07 AM
WORKSPACE: AHTD
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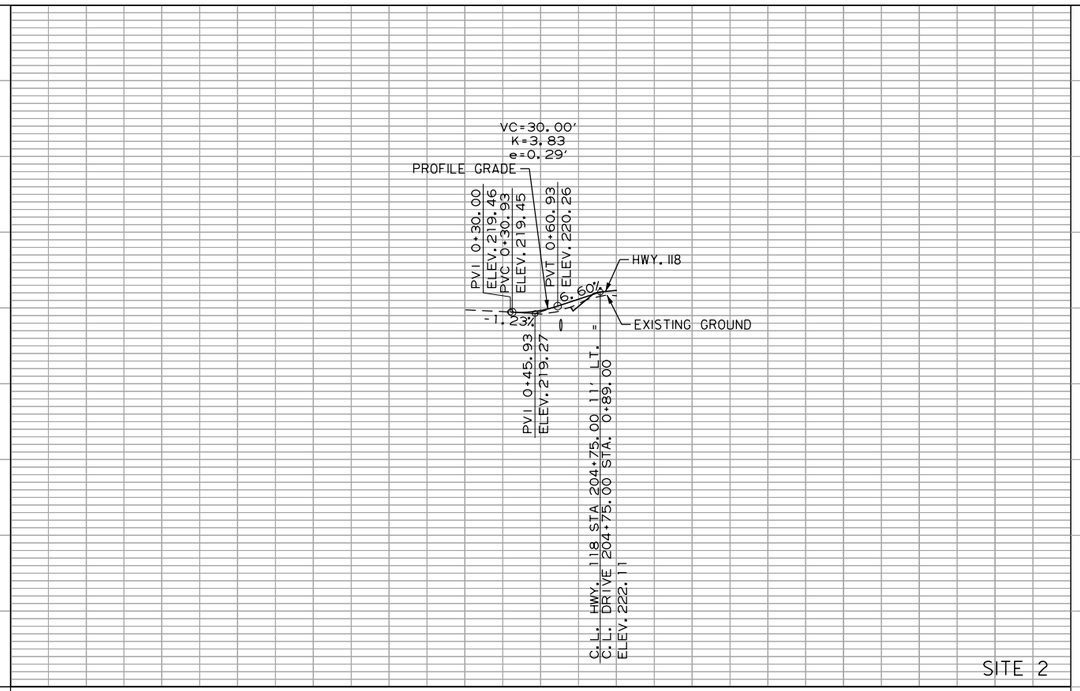
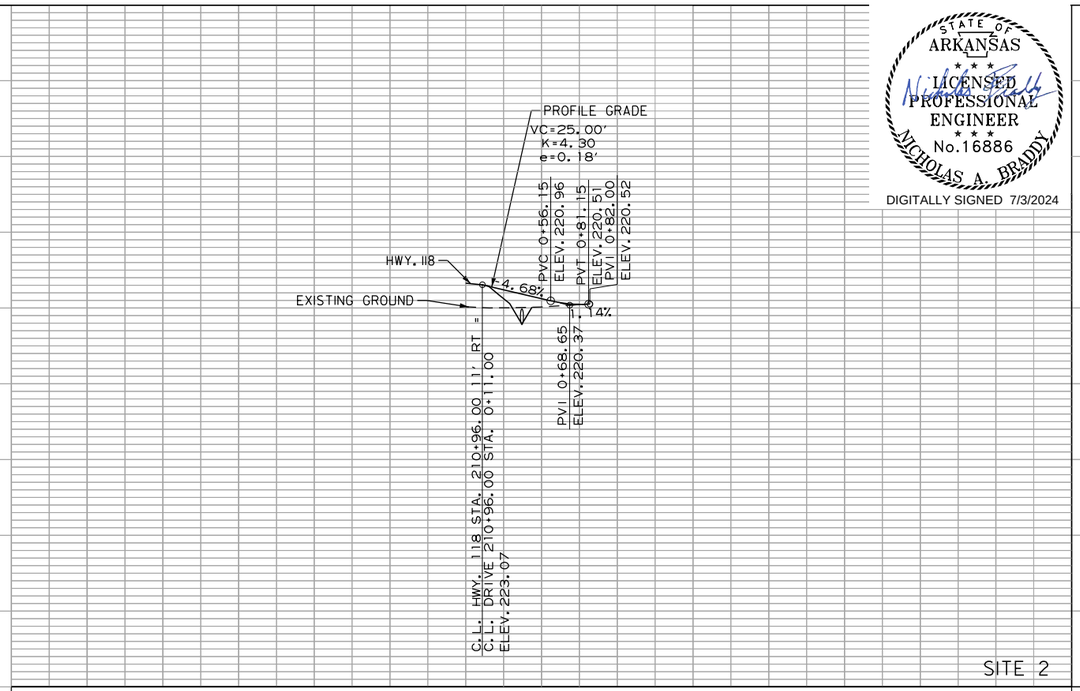
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	58	139
		DRIVEWAY PROFILES				

HWY. 118 DRIVE 204+75 LT. PROFILE



HWY. 118 DRIVE 210+96 RT. PROFILE



STATE OF ARKANSAS
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NICHOLAS A. BRADDY
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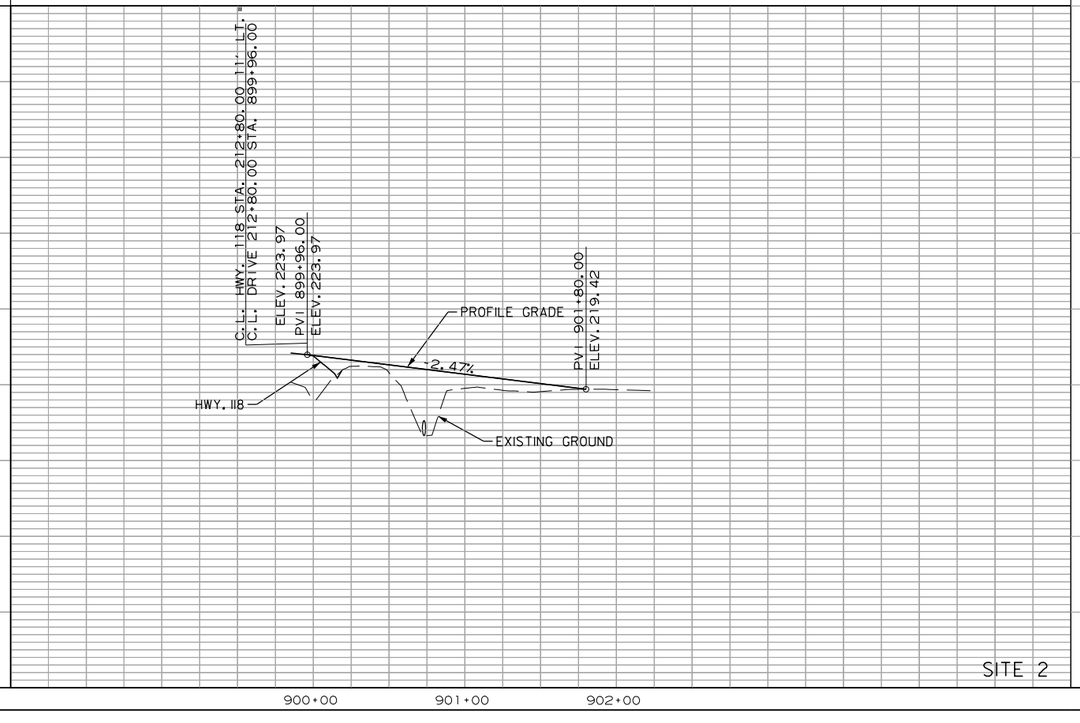
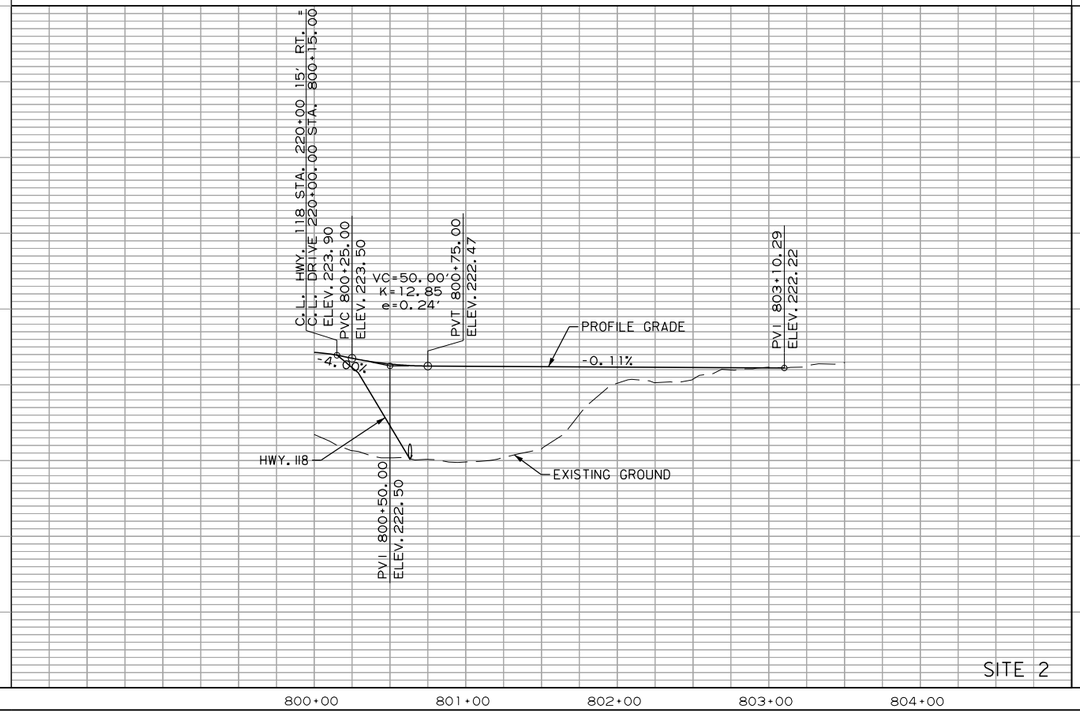
HWY. 118 DRIVE 212+80 LT. PROFILE



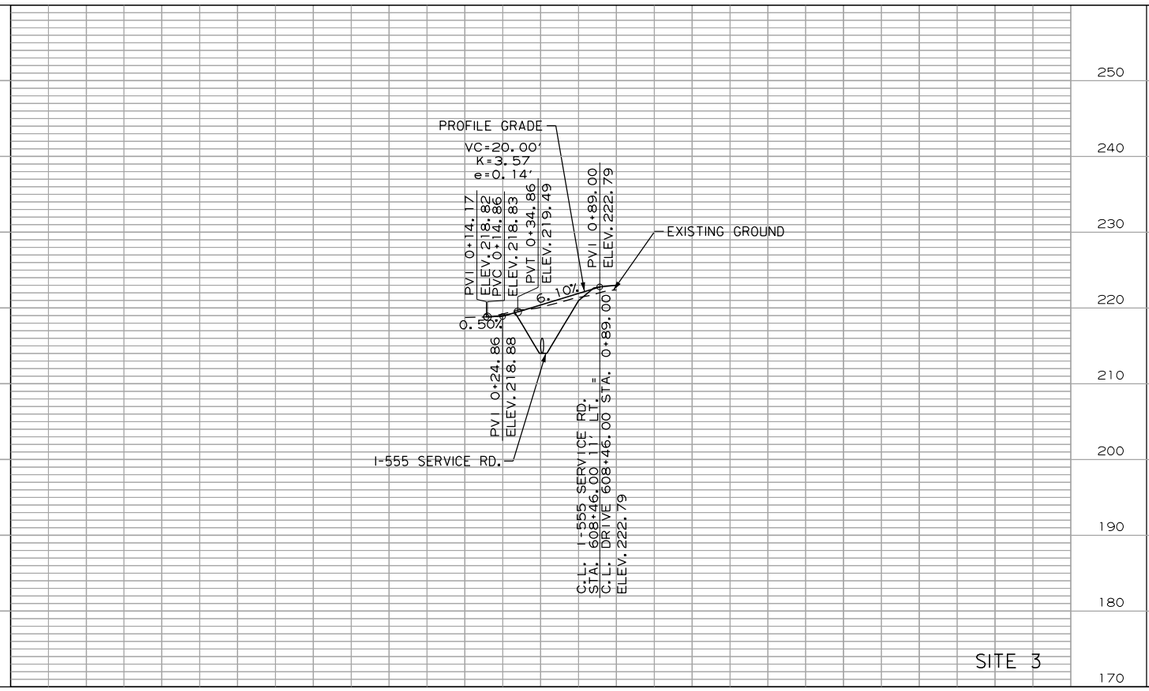
HWY. 118 DRIVE 220+00 RT. PROFILE



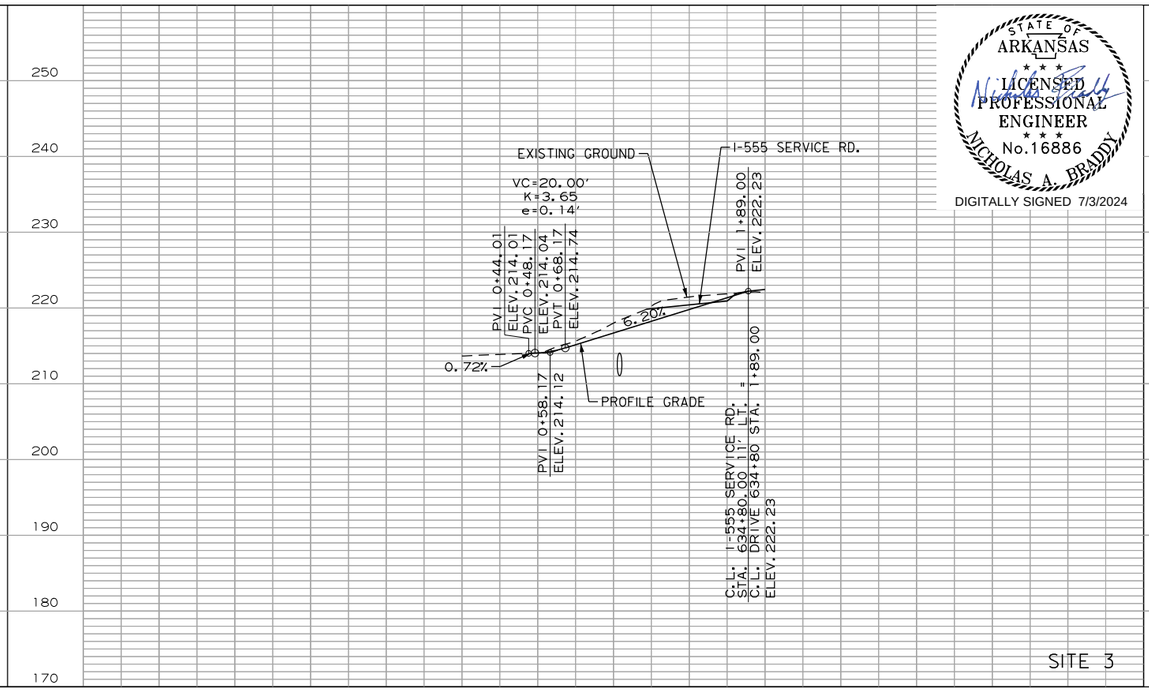
WBCallaway 6/28/2024 7:45:08 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PR_DRIVES_01.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	59	139
		DRIVEWAY PROFILES				

I-555 SERVICE RD. DRIVE 608+46 LT. PROFILE

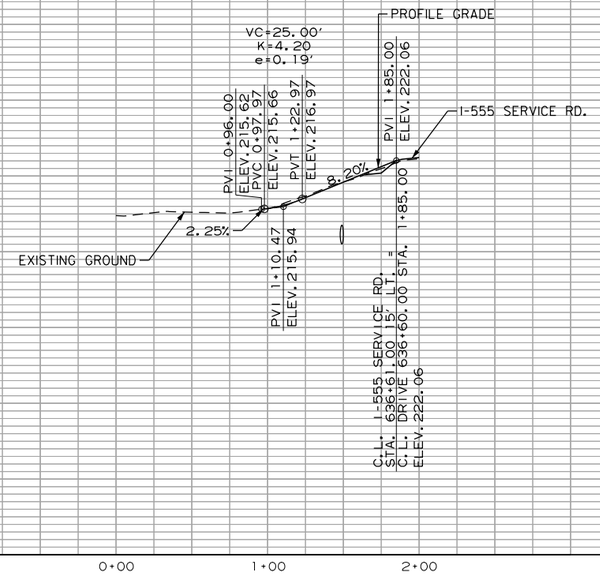


I-555 SERVICE RD. DRIVE 634+80 LT. PROFILE



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16886
NICHOLAS A. BRADDY
DIGITALLY SIGNED 7/3/2024

I-555 SERVICE RD. DRIVE 636+60 LT. PROFILE



WBCalaway 6/28/2024 7:45:09 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_PR_DRIVES_02.dgn
REVISED DATE:

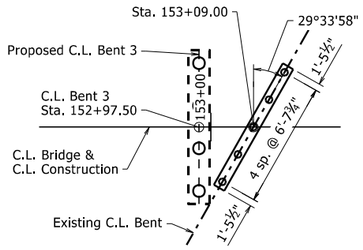
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	60	139
		07670 - LAYOUT - 67044				

For R/W Data,
See Roadway Plans.

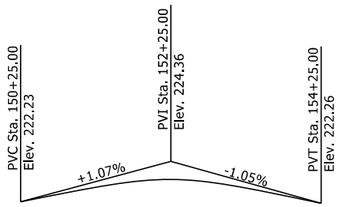
Toe of Fill Slope
Top of Cut Slope
Excavate existing embankment as shown to Elev 212.0. Approx. 502 cu. yds. of excavation.
Existing Bridge A3872
1-2½" Bridge Rail
C.L. Bridge & C.L. Const.
Tang. Dist. over 500'
Approx. 1.9 mi. to Jct. US Hwy. 63
1V:2H
4'-0" Shldr.
30'-0" Finished Crown
22'-0" Lanes
32'-6" Out to Out
30'-0" Clear Roadway
2% Cross Slope
N 0°32'10" W
Toe of Cut Slope
Place 1'-6" Dumped Riprap on Filter Blanket. See Std. Dwg. No. 55001. Top of Riprap at Elev. 216.0 or as shown. (typ. both sides)
① Existing Drainage Channel
Existing Concrete ① Drainage Outlet
Tyronza River
Place Type F Approach Gutters and Type F Approach Slab (width = 26'-0") at both ends of the bridge. See Std. Dwg. Nos. 55030F and 55040F1, respectively.
See Roadway Plans for additional embankment excavation details.
① Existing Concrete Drainage Outlet
① Existing Drainage Channel
Type F Approach Slab and Type F Approach Gutters (typ.)
Toe of Cut Slope
Top of Cut Slope
Toe of Fill Slope
Tang. Dist. over 500'
Approx. 6.4 mi. to Jct. S.H. 77
Excavate existing embankment as shown to Elev 212.0. Approx. 767 cu. yds. of excavation.
Water Utility
Sta. 153+89.60 28.52' Right of C.L. Construction
20°0'0"
Sta. 153+78.54 63.14' Right of C.L. Construction

PLAN
1" = 20'-0"

NOTE:
Locations of existing substructure elements shown are approximate only and based on existing plans. Existing substructure assumed to be on 55' - 18" octagonal precast concrete piles. The Contractor shall field verify the existing substructure type and dimensions and its relationship to the proposed work. Partial or full removal of existing foundations may be required.



FOUNDATION PLAN
No Scale



Length of Curve = 400.00 ft.

VERTICAL ALIGNMENT DATA
Along C.L. Construction & C.L. Profile Grade Line
No Scale

① Drainage Channel and Concrete Drainage Outlet Structure to remain in place.

② Riprap extends to Sta. 148+50.00 at Begin. Bridge and to Sta. 156+50.00 at End Bridge. See Roadway Plans for additional details.

Total Length of Bridge = 332'-2"
1'-1" | 330'-0" Continuous Plate Girder Unit (100'-130'-100') | 1'-1"

C.L. 2" Poured Silicone Joint
C.L. 2" Poured Silicone Joint
Begin. Bridge
Sta. 150+66.42
Elev. 222.62
End Bridge
Sta. 153+98.58
Elev. 222.52
Slope Intercept
Sta. 150+55.42
Slope Intercept
Sta. 154+09.58
Bridge Traffic Rail (Type SSTR36)
C.L. Bent 2
Sta. 151+67.50
Elev. 223.21
C.L. Deck at C.L. Bent to Low Side Top of Cap = 5'-7¼"
④ Low Steel to Design H.W. = 3.3'
C.L. Deck to Low Steel = 5'-2⅝"
C.L. Deck at C.L. Bent to Low Side Top of Cap = 5'-7¼"
C.L. Bent 3
Sta. 152+97.50
Elev. 223.17
Proposed Grade Line along C.L. Bridge
Guardrail, See Rdwy. Plans (typ.)
Exp.
Fix.
Fix.
Exp.
53' Piles
76' Piles
65' Piles
52' Piles
Existing Ground Line along C.L. Bridge
Q50 Design H.W. Elevation 214.1'

Note:
Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Std. Dwg. No. 55007 for additional information.

For Soil Borings, see Dwg. No. 67045.

Bent No. 1 2 3 4

ELEVATION
1" = 20'-0"

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	TOTAL DISCHARGE	③ NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	9260	214.1	214.1
Base	100	10050	214.4	214.4
Extreme	500	11800	215.0	215.0
Overtopping	>500	-	-	-

③ Unconstricted water surface elevation without structure or roadway approaches.

Q100 backwater elevation for existing structure = 214.4 ft
④ Proposed Low Bridge Chord elevation = 217.4 ft @ Sta. 153+96.50

Drainage Area = 290 square miles
Historical H.W. Elev. = N/A

Digitally signed by Charles R. Ellis
Date: 2024.01.22 15:04:55 -06'00'

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
1/22/24
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF BRIDGE
HIGHWAY 118 OVER TYRONZA RIVER
TYRONZA RIVER & DITCH
NO. 6 STRS. & APPRS. (S)
POINSETT COUNTY

ROUTE 118 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BAB DATE: 12/9/2021 FILENAME: b101017x1_l1.dgn
CHECKED BY: MCB DATE: 1/11/2022 SCALE: As Noted
DESIGNED BY: BAB DATE: 12/2021

BRIDGE NO. 07670 DRAWING NO. 67044

PRINT DATE: 1/22/2024

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	61	139
		07670 - LAYOUT - 67045				

GENERAL NOTES:

BENCH MARK: 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. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

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

LIVE LOADING: HL-93

SEISMIC ZONE: 4 SD1 = 0.972g 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 (Grade 60, AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Reinforcing Steel (Grade 75, AASHTO M 31)	fy = 75,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi
Structural Steel (ASTM A709, Gr. 50 or 50W)	Fy = 50,000 psi

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

STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 18" diameter concrete filled steel shell piles and shall be driven to meet the requirements in PILE BEARING TABLE. Piling in Bents 2 and 3 shall be 30" diameter concrete filled steel shell piles and shall be driven to meet the requirements in PILE BEARING TABLE. All piling shall be driven with an approved air, steam, or diesel hammer to a minimum tip elevation as shown in PILE BEARING TABLE. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of 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. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g). No piles will be paid for as test 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 item "Steel Sheel Piling (__" Dia.)".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling 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 per blow required to obtain the ultimate bearing capacity for all piles will be as shown in PILE BEARING TABLE.

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural or finished ground. See Dwg. No. 67054 for additional information.

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

All steel surfaces within 8 feet of bridge deck expansion joints, including cross-frames, connection bolts, and bearings.

All steel surfaces exposed to the outside face of the bridge, including outside faces & bottom of the exterior girders, splice plates and bolts, stiffeners, and bearings.

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. 595B, 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. ASTM F3125, Grade A325 Type 3 bolts shall be used within these painted zones and shall be painted.

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 concrete bridge rails in accordance with Section 803.

DETAIL DRAWINGS:	DRAWING NO(S).
End Bents	67048-67051
Intermediate Bents	67052-67055
Elastomeric Bearings	67056
330' Continuous Plate Girder Unit	67057-67063
General Notes for Steel Bridge Structures	55006
Details for Steel Bridge Structures	55007
Poured Silicone Joints	55008
Concrete Filled Steel Shell Piles (End Bents Only)	55021
Type F Approach Gutter	55030F
Type F Approach Slab	55040F1
Bridge Traffic Rail	55070

EXISTING BRIDGE: Existing Bridge No. A3872 (Log Mile 4.23) is 28.5' wide (24.0' clear roadway) and 291.0' long and consists of steel I-beam spans (5 spans total) supported by concrete piles. The existing bridge is located on the same alignment of the proposed bridge. Plans of the existing structure, if available, may be obtained upon request to the Construction Contract Development Section of the Program Management Division.

REMOVAL AND SALVAGE: After the detour alignment is open to traffic, the Contractor shall remove existing bridge A3872 in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor.

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

PILE BEARING TABLE

BENT NO.	REQUIRED MINIMUM ULTIMATE BEARING CAPACITY (TONS)	MINIMUM TIP ELEVATION	MINIMUM ENERGY (FT-LBS)
1	250	188.00	43,000
2	650	168.00	122,000
3	600	166.00	122,000
4	290	177.00	51,000

B1-1
Sta. 150+01.0
Offset 8.4' Left
Elev. 220.00

Depth (ft)	N - Value
1.5 - 2.5	8
6.5 - 7.5	7
9.0 - 10.0	6
14.0 - 15.0	7
19.0 - 20.0	7
24.0 - 25.0	3
29.0 - 30.0	26
34.0 - 35.0	16
39.0 - 40.0	41
44.0 - 45.0	53
49.0 - 49.9	91 (11")

B1-2
Sta. 150+70.9
Offset 11.8 Right
Elev. 220.00

Depth (ft)	N - Value
1.5 - 2.5	8
4.0 - 5.0	6
6.5 - 7.5	9
9.0 - 10.0	6
14.0 - 15.0	9
19.0 - 20.0	7
24.0 - 25.0	4
29.0 - 30.0	3
34.0 - 35.0	9
39.0 - 40.0	35
44.0 - 45.0	27
49.0 - 50.0	38
54.0 - 55.0	34
59.0 - 60.0	33
69.0 - 70.0	32
79.0 - 80.0	31
89.0 - 90.0	47
99.0 - 100.0	34

B1-3
Sta. 151+82.8
Offset 8.4' Left
Elev. 198.00

Depth (ft)	N - Value
4.0 - 5.0	4
6.5 - 7.5	9
9.0 - 10.0	2
14.0 - 15.0	14
19.0 - 20.0	21
24.0 - 25.0	25
29.0 - 30.0	34
34.0 - 35.0	31
39.0 - 40.0	28
44.0 - 45.0	22
49.0 - 50.0	16
54.0 - 55.0	24
59.0 - 60.0	32
69.0 - 70.0	31
79.0 - 80.0	26
89.0 - 90.0	17
99.0 - 100.0	50

B1-4
Sta. 153+01.2
Offset 13.0' Right
Elev. 204.00

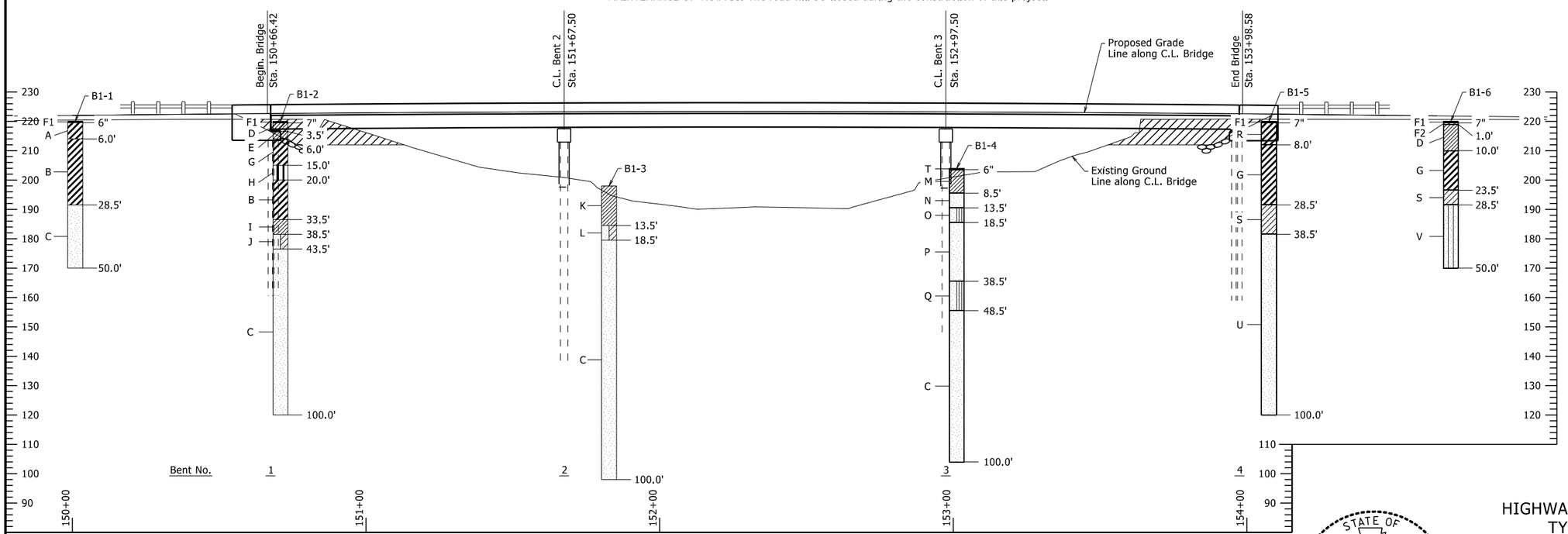
Depth (ft)	N - Value
1.5 - 2.5	5
4.0 - 5.0	4
6.5 - 7.5	4
9.0 - 10.0	18
14.0 - 15.0	18
19.0 - 20.0	16
24.0 - 25.0	17
29.0 - 30.0	10
34.0 - 35.0	20
39.0 - 40.0	38
44.0 - 45.0	20
49.0 - 50.0	22
54.0 - 55.0	29
59.0 - 60.0	21
69.0 - 70.0	37
79.0 - 80.0	17
89.0 - 90.0	24
99.0 - 100.0	28

B1-5
Sta. 154+07.5
Offset 10.3' Left
Elev. 220.00

Depth (ft)	N - Value
1.5 - 2.5	8
4.0 - 5.0	7
6.5 - 7.5	8
14.0 - 15.0	5
19.0 - 20.0	6
24.0 - 25.0	5
29.0 - 30.0	5
34.0 - 35.0	5
39.0 - 40.0	30
44.0 - 45.0	18
49.0 - 50.0	60
54.0 - 55.0	39
59.0 - 60.0	29
69.0 - 70.0	42
79.0 - 80.0	32
89.0 - 90.0	49
99.0 - 100.0	16

B1-6
Sta. 154+69.5
Offset 13.7' Right
Elev. 220.00

Depth (ft)	N - Value
1.5 - 2.5	5
4.0 - 5.0	5
6.5 - 7.5	8
9.0 - 10.0	5
14.0 - 15.0	9
19.0 - 20.0	7
24.0 - 25.0	9
29.0 - 30.0	8
34.0 - 35.0	16
39.0 - 40.0	17
44.0 - 45.0	23
49.0 - 50.0	29



ELEVATION OF SOIL BORINGS

BORING LEGEND

T	Topsoil
F1	Asphalt
F2	Base Material
A	Medium stiff to stiff, sandy, FAT CLAY
B	Soft to stiff, FAT CLAY
C	Medium dense to dense, SAND
D	Medium stiff, sandy, LEAN CLAY
E	Medium stiff, LEAN CLAY
G	Medium stiff to stiff, FAT CLAY
H	Stiff to medium stiff, ELASTIC SILT
I	Stiff, sandy, LEAN CLAY
J	Dense SAND, with clay
K	Soft to stiff, LEAN CLAY
L	Medium dense SAND, with clay
M	Medium stiff to soft, LEAN CLAY
N	Medium dense SAND
O	Medium dense SAND with silt
P	Medium dense to loose SAND
Q	Dense to medium dense SAND with silt
R	Medium stiff, sandy, FAT CLAY
S	Loose, CLAYEY SAND
U	Medium dense to very dense SAND
V	Loose to medium dense, SILTY SAND

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
1/22/24
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE
HIGHWAY 118 OVER TYRONZA RIVER
TYRONZA RIVER & DITCH
NO. 6 STRS. & APPRS. (S)
POINSETT COUNTY

ROUTE 118 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BAB DATE: 12/9/2021
CHECKED BY: MCB DATE: 1/11/2022
DESIGNED BY: BAB DATE: 12/2021
FILENAME: b101017x1_l1.dgn
SCALE: 1" = 20'-0"

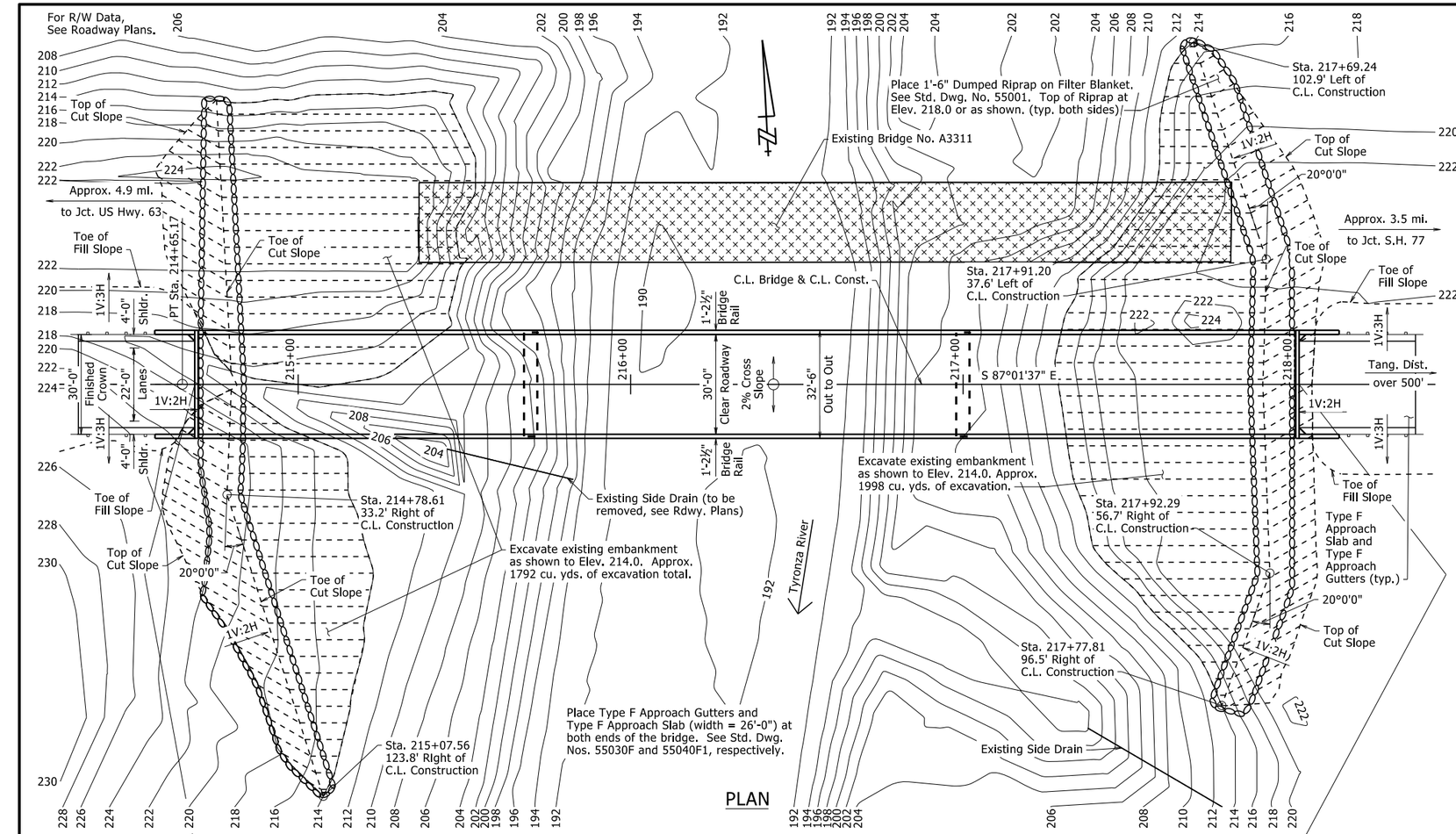
BRIDGE NO. 07670 DRAWING NO. 67045

PRINT DATE: 1/22/2024

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	62	139
		07671 - LAYOUT - 67046				

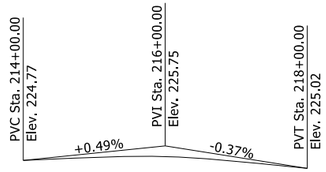
NOTES:
Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Std. Dwg. No. 55007 for additional information.

See Roadway Plans for additional embankment excavation details.



HORIZONTAL CURVE DATA

P.I. Sta. 212+34.68
Δ 2°18'19" Lt.
D 0°30'00"
T 230.55'
L 461.03'
R 11459.16'
NO SUPERELEVATION



Length of Curve = 400.00 ft.

VERTICAL ALIGNMENT DATA

Along C.L. Construction & C.L. Profile Grade Line
No Scale

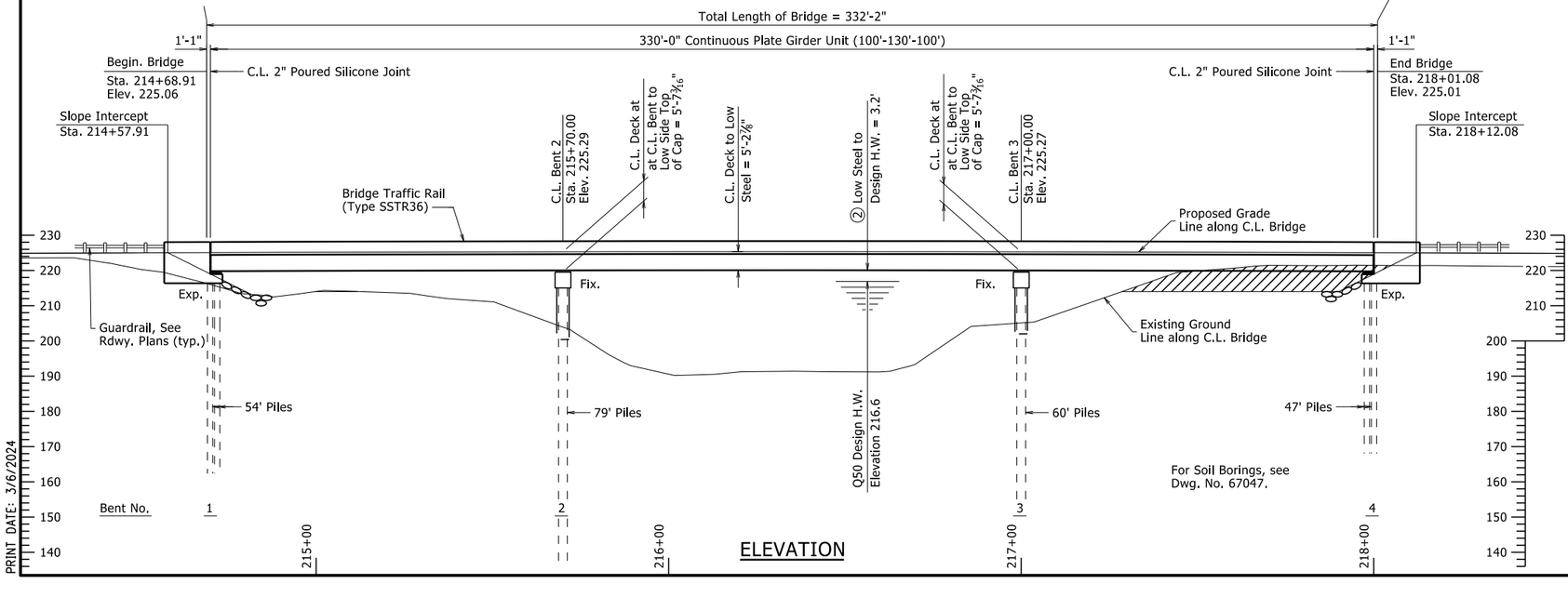
HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	TOTAL DISCHARGE	① NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	9260	216.6	216.6
Base	100	10050	217.5	217.5
Extreme	500	11800	219.6	219.6
Overtopping	>500	-	-	-

① Unconstricted water surface elevation without structure or roadway approaches.

Q100 backwater elevation for existing structure = 217.5 ft
② Proposed Low Bridge Chord elevation = 219.8 ft @ Sta. 217+99.00

Drainage Area = 290 square miles
Historical H.W. Elev. = N/A



PRINT DATE: 3/6/2024

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
3/8/24
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF BRIDGE
HIGHWAY 118 OVER TYRONZA RIVER
TYRONZA RIVER & DITCH
NO. 6 STRS. & APPRS. (S)
POINSETT COUNTY

ROUTE 118 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BAB DATE: 12/15/2021 FILENAME: b101017x2_l1.dgn
CHECKED BY: MCB DATE: 1/11/2022 SCALE: 1" = 20'-0"
DESIGNED BY: BAB DATE: 12/2021
BRIDGE NO. 07671 DRAWING NO. 67046

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	63	139
		07671 - LAYOUT - 67047				

GENERAL NOTES:

BENCH MARK: 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. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

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

LIVE LOADING: HL-93

SEISMIC ZONE: 4 SD1 = 1.017g 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 (Grade 60, AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Reinforcing Steel (Grade 75, AASHTO M 31)	fy = 75,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi
Structural Steel (ASTM A709, Gr. 50 or 50W)	Fy = 50,000 psi

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

STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 18" diameter concrete filled steel shell piles and shall be driven to meet the requirements in PILE BEARING TABLE. Piling in Bents 2 and 3 shall be 30" diameter concrete filled steel shell piles and shall be driven to meet the requirements in PILE BEARING TABLE. All piling shall be driven with an approved air, steam, or diesel hammer to a minimum tip elevation as shown in PILE BEARING TABLE. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of 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. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g). No piles will be paid for as test 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 item "Steel Shell Piling (__" Dia.)".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling 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 per blow required to obtain the ultimate bearing capacity for all piles will be as shown in PILE BEARING TABLE.

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural or finished ground. See Dwg. No. 67054 for additional information.

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

All steel surfaces within 8 feet of bridge deck expansion joints, including cross-frames, connection bolts, and bearings.

All steel surfaces exposed to the outside face of the bridge, including outside faces & bottom of the exterior girders, splice plates and bolts, stiffeners, and bearings.

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. 595B, 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. ASTM F3125, Grade A325 Type 3 bolts shall be used within these painted zones and shall be painted.

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 concrete bridge rails in accordance with Section 803.

DETAIL DRAWINGS:	DRAWING NO(S).
End Bents	67048-67051
Intermediate Bents	67052-67055
Elastomeric Bearings	67056
330' Continuous Plate Girder Unit	67057-67063
General Notes for Steel Bridge Structures	55006
Details for Steel Bridge Structures	55007
Poured Silicone Joints	55008
Concrete Filled Steel Shell Piles (End Bents Only)	55021
Type F Approach Gutter	55030F
Type F Approach Slab	55040F1
Bridge Traffic Rail	55070

EXISTING BRIDGE: Existing Bridge No. A3311 (Log Mile 1.24) is 28.6' wide (24.0' clear roadway) and 247' long and consists of steel I-beam spans (5 spans total) supported by concrete piles. The existing bridge is located approximately 50' upstream of the proposed bridge. Plans of the existing structure, if available, may be obtained upon request to the Construction Contract Development Section of the Program Management Division.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, the Contractor shall remove existing Bridge No. A3311 in accordance with Section 205. All material from the existing bridge shall become property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

PILE BEARING TABLE

BENT NO.	REQUIRED MINIMUM ULTIMATE BEARING CAPACITY (TONS)	MINIMUM TIP ELEVATION	MINIMUM ENERGY (FT-LBS)
1	335	172.00	66,000
2	650	150.00	122,000
3	565	170.00	122,000
4	250	190.00	43,000

For End Bent 4, a waiting period of 28 days is required after the placement of embankment fill and prior to commencing pile driving operations. The waiting period begins after all fill has been placed for End Bent 4.

B2-1 Sta. 214+08.0 Offset 0.8' Left Elev. 222.00

Depth (ft)	N - Value
1.5 - 2.5	9
6.5 - 7.5	7
9.0 - 10.0	9
14.0 - 15.0	9
19.0 - 20.0	5
24.0 - 25.0	7
29.0 - 30.0	7
34.0 - 35.0	6
39.0 - 40.0	19
44.0 - 45.0	39
49.0 - 50.0	36

B2-2 Sta. 214+65.0 Offset 18.2' Right Elev. 220.00

Depth (ft)	N - Value
1.5 - 2.5	12
4.0 - 5.0	12
6.5 - 7.5	12
14.0 - 15.0	11
19.0 - 20.0	9
24.0 - 25.0	8
29.0 - 30.0	11
34.0 - 35.0	14
39.0 - 40.0	13
44.0 - 45.0	34
49.0 - 50.0	28
54.0 - 55.0	27
59.0 - 60.0	24
64.0 - 65.0	26
69.0 - 70.0	22
74.0 - 75.0	22
79.0 - 80.0	24
84.0 - 85.0	37
89.0 - 90.0	38
94.0 - 95.0	27
99.0 - 100.0	27

B2-3 Sta. 216+01.3 Offset 36.1' Left Elev. 193.00

Depth (ft)	N - Value
1.5 - 2.5	6
4.0 - 5.0	22
6.5 - 7.5	22
9.0 - 10.0	32
14.0 - 15.0	20
19.0 - 20.0	23
24.0 - 25.0	30
29.0 - 30.0	32
34.0 - 35.0	20
39.0 - 40.0	13
44.0 - 45.0	34
49.0 - 50.0	26
54.0 - 55.0	29
59.0 - 60.0	37
69.0 - 70.0	31

B2-4 Sta. 217+18.4 Offset 38.5' Left Elev. 204.00

Depth (ft)	N - Value
4.0 - 5.0	9
6.5 - 7.5	2
9.0 - 10.0	2
14.0 - 15.0	4
19.0 - 20.0	14
24.0 - 25.0	34
29.0 - 30.0	21
34.0 - 35.0	36
39.0 - 40.0	29
44.0 - 45.0	22
49.0 - 50.0	54
54.0 - 55.0	46
59.0 - 60.0	35
69.0 - 70.0	29
79.0 - 80.0	42
89.0 - 90.0	50
99.0 - 100.0	78 (9")

B2-5 Sta. 218+33.4 Offset 1.3' Right Elev. 222.00

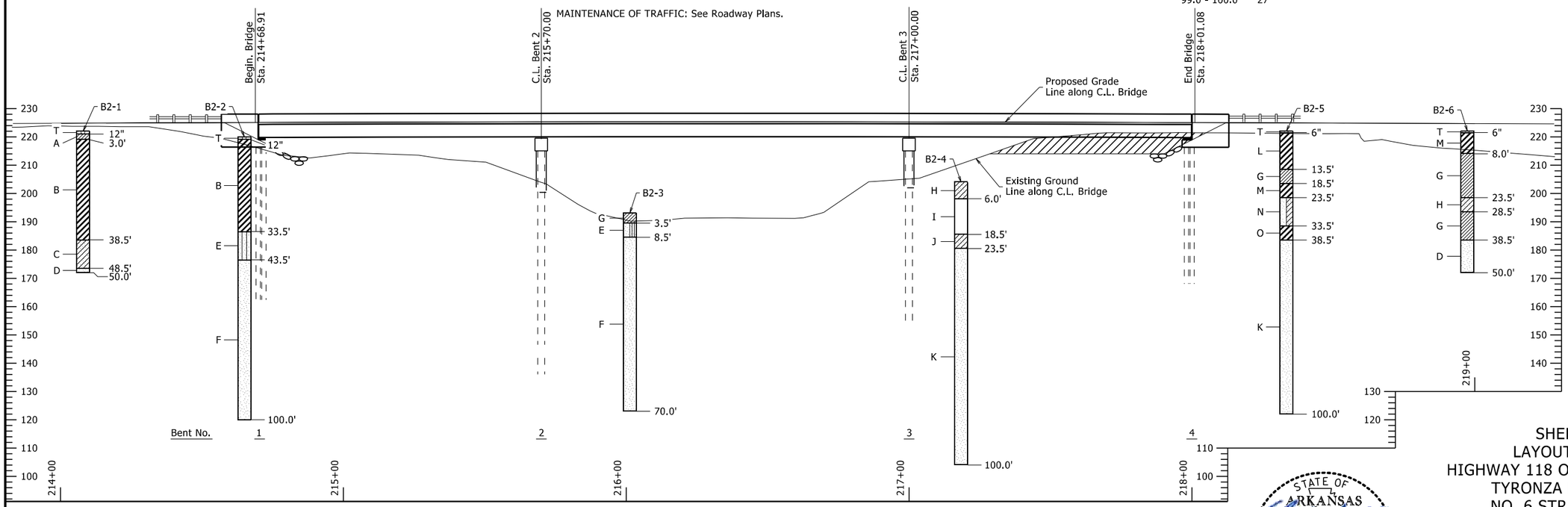
Depth (ft)	N - Value
1.5 - 2.5	6
6.5 - 7.5	7
9.0 - 10.0	6
14.0 - 15.0	7
19.0 - 20.0	5
24.0 - 25.0	7
29.0 - 30.0	6
34.0 - 35.0	32
39.0 - 40.0	42
44.0 - 45.0	33
49.0 - 50.0	39
54.0 - 55.0	30
59.0 - 60.0	28
69.0 - 70.0	51
79.0 - 80.0	29
89.0 - 90.0	25
99.0 - 100.0	27

B2-6 Sta. 218+97.4 Offset 20.6' Right Elev. 222.00

Depth (ft)	N - Value
1.5 - 2.5	5
6.5 - 7.5	6
14.0 - 15.0	5
19.0 - 20.0	5
24.0 - 25.0	6
29.0 - 30.0	6
34.0 - 35.0	5
39.0 - 40.0	45
44.0 - 45.0	40
49.0 - 50.0	31

BORING LEGEND

T	Topsoil
A	Stiff, LEAN CLAY
B	Medium stiff to stiff, FAT CLAY
C	Medium dense to dense, CLAYEY SAND
D	Dense SAND
E	Medium dense, SILTY SNAD
F	Medium dense to dense SAND
G	Medium stiff, LEAN CLAY
H	Loose, CLAYEY SAND
I	Soft, FAT CLAY
J	Medium dense, CLAYEY SAND
K	Medium dense to very dense, SAND
L	Medium stiff to very stiff, FAT CLAY
M	Medium stiff, FAT CLAY
N	Loose SAND, with clay
O	Hard, sandy, FAT CLAY



ELEVATION OF SOIL BORINGS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 9235 1/22/24 CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE
HIGHWAY 118 OVER TYRONZA RIVER
TYRONZA RIVER & DITCH
NO. 6 STRS. & APPRS. (S)
POINSETT COUNTY

ROUTE 118 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BAB DATE: 12/15/2021 FILENAME: b101017x2_l1.dgn
CHECKED BY: MCB DATE: 1/11/2022 SCALE: 1" = 20'-0"
DESIGNED BY: BAB DATE: 12/2021

BRIDGE NO. 07671 DRAWING NO. 67047

PRINT DATE: 1/22/2024

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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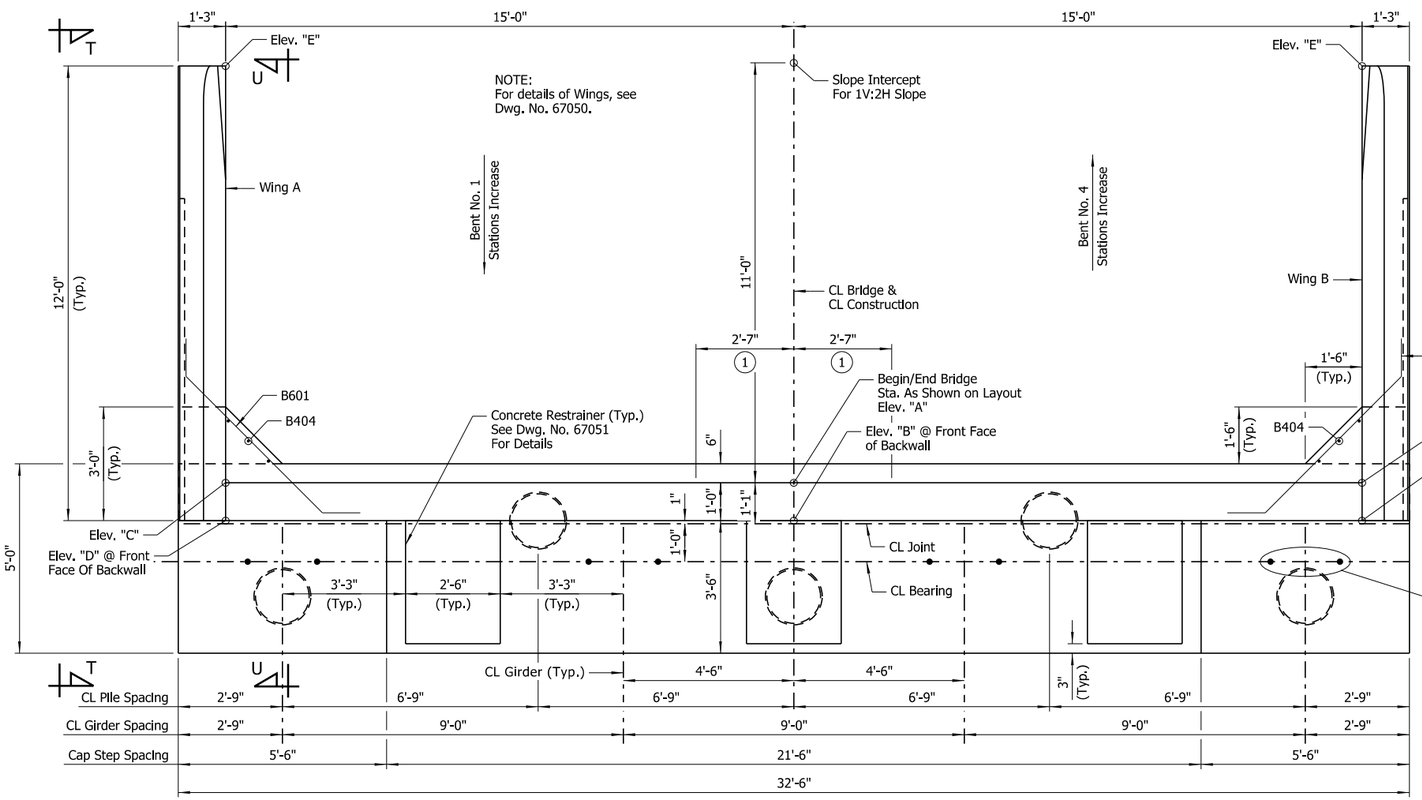
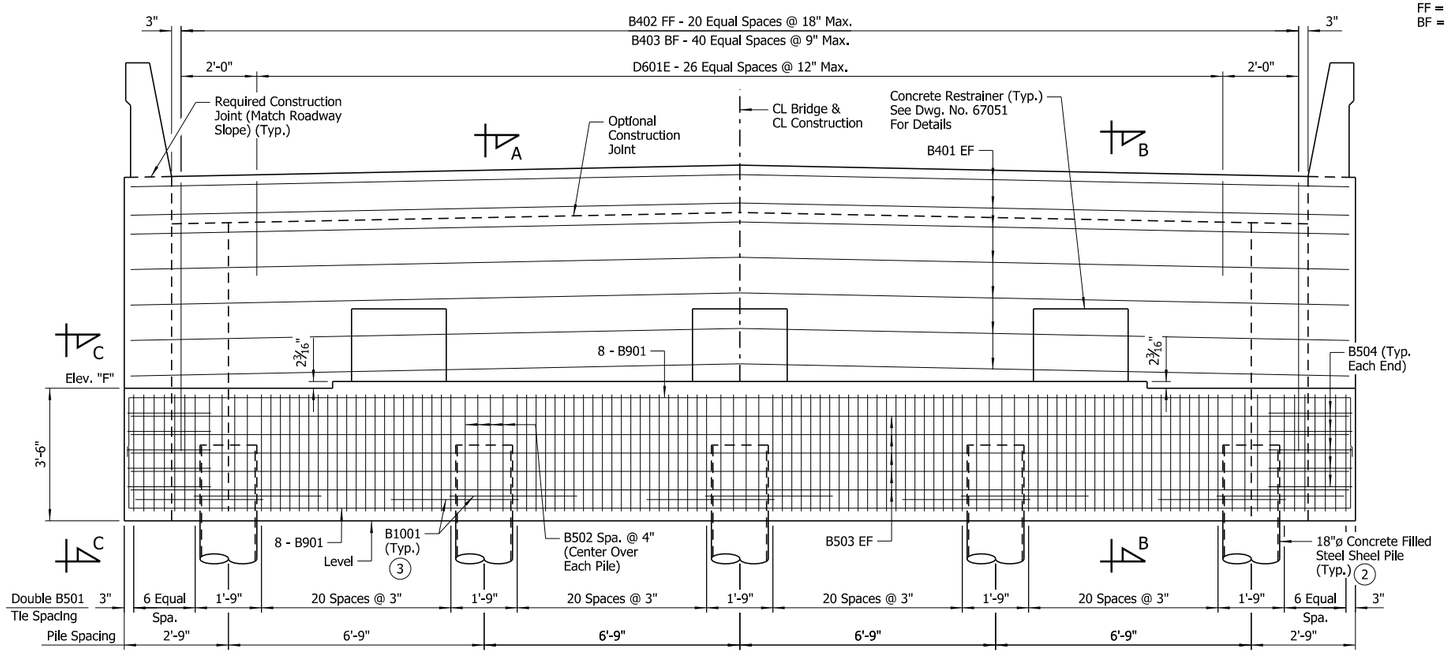
		07670 & 07671		END BENTS		67048



PLAN - END BENT NOS. 1 & 4

Scale: ½" = 1'-0"



ELEVATION - END BENT NOS. 1 & 4

(Bent No. 1 - Looking Back; Bent No. 4 - Looking Ahead)
Scale: ½" = 1'-0"

NOTE:
B602 and B603 Bars are not shown for clarity.
For locations of B602 and B603, see "PLAN OF B602 AND B603 PLACEMENT" on 67049.

(3) Position vertically pair of B1001 bars as shown at each pile. See "PLAN OF B1001 PLACEMENT" for additional details.

(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 Std. Dwg. No. 55021 shall be required. Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap.

NOTES:
For "BAR LIST (EACH END BENT)" & "BAR BENDING DIAGRAMS", see Dwg. No. 67051.

For "SECTION A-A", "SECTION B-B", "VIEW C-C" & "END BENT WALL ARMOR DETAIL", see Dwg. No. 67049.

For "VIEW T-T" and "SECTION U-U", see Dwg. No. 67050.

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)".

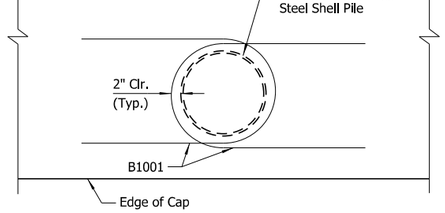
For additional information, see Layout.

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



PLAN OF B1001 PLACEMENT

No Scale

TABLE OF VARIABLES (END BENT NOS. 1 & 4)

Bridge No.	Location	"A"	"B"	"C"	"D"	"E"	"F"
07670	End Bent No. 1	222.62	222.63	222.32	222.33	222.22	216.74
	End Bent No. 4	222.52	222.53	222.22	222.23	222.12	216.63
07671	End Bent No. 1	225.06	225.06	224.76	224.76	224.72	219.17
	End Bent No. 4	225.01	225.01	224.71	224.71	224.67	219.12

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF END BENTS
HIGHWAY 118 OVER TYRONZA RIVER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: NOV. 2023 FILENAME: b101017x1x2_a1.dgn
CHECKED BY: ABH DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: NOV. 2023

BRIDGE NO. 07670 & 07671 DRAWING NO. 67048

ABHall 1/22/2024 3:47:16 PM
WORKSPACE: ARDOT Bridge (2019)
\\garvehc.local\data\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S201_AB.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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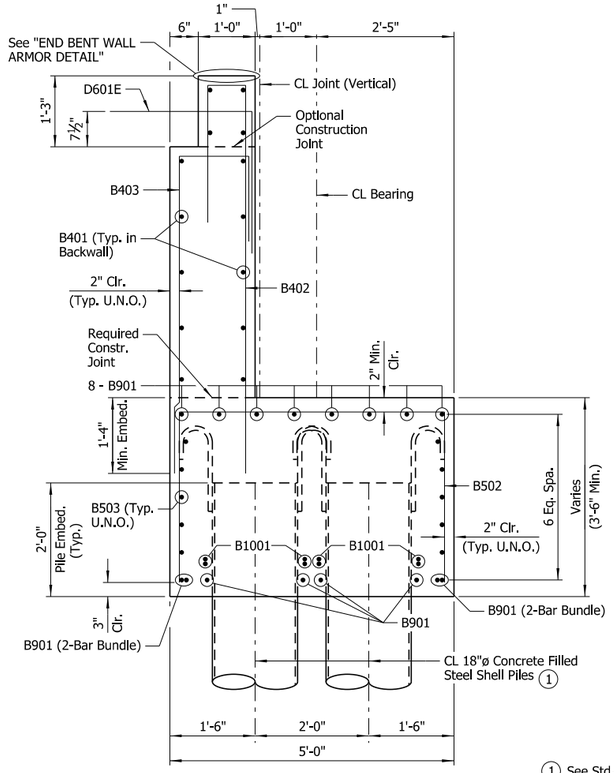
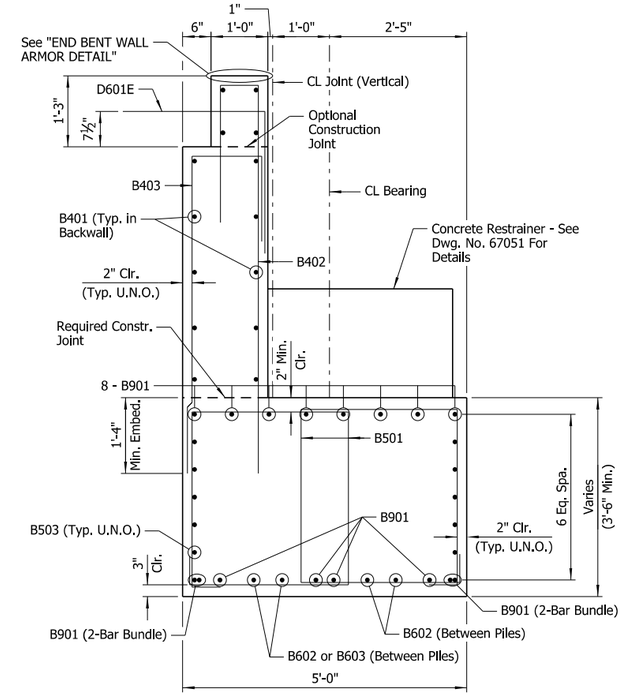
		07670 & 07671		END BENTS		67049



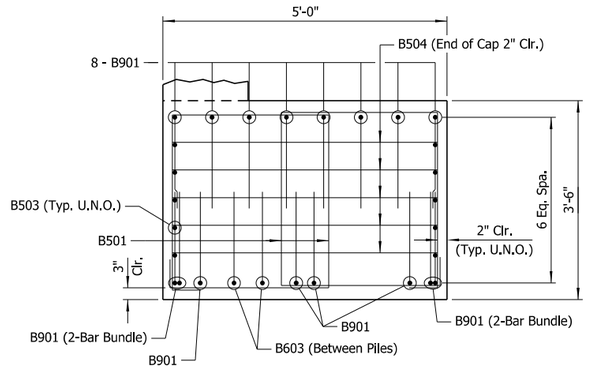
SECTION A-A

Scale: ¾" = 1'-0"



SECTION B-B

Scale: ¾" = 1'-0"



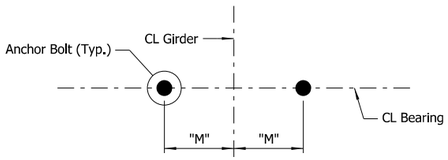
VIEW C-C

Scale: ¾" = 1'-0"

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

LEGEND

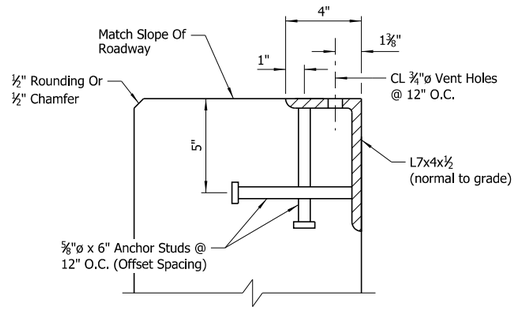
U.N.O. = Unless Noted Otherwise



TYPICAL ANCHOR BOLT LAYOUT

No Scale

NOTE:
For details of Elastomeric Bearings, see Dwg. No. 67056.



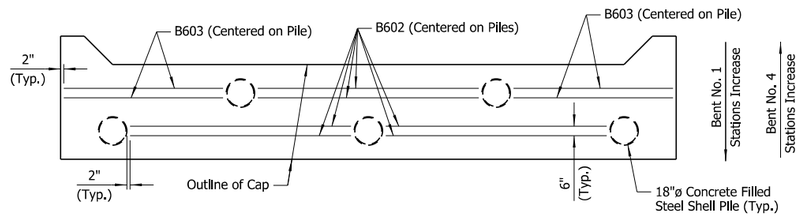
NOTES:
Transverse spacing between vertical anchor studs and vent holes shall be 6".

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



PLAN OF B602 AND B603 PLACEMENT

Scale: ¼" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF END BENTS
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: NOV. 2023 FILENAME: b101017x1x2_a2.dgn
CHECKED BY: ABH DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: NOV. 2023

BRIDGE NO. 07670 & 07671 DRAWING NO. 67049

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WORKSPACE: ARDOT Bridge (2019)
\\garvernc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S202_AB.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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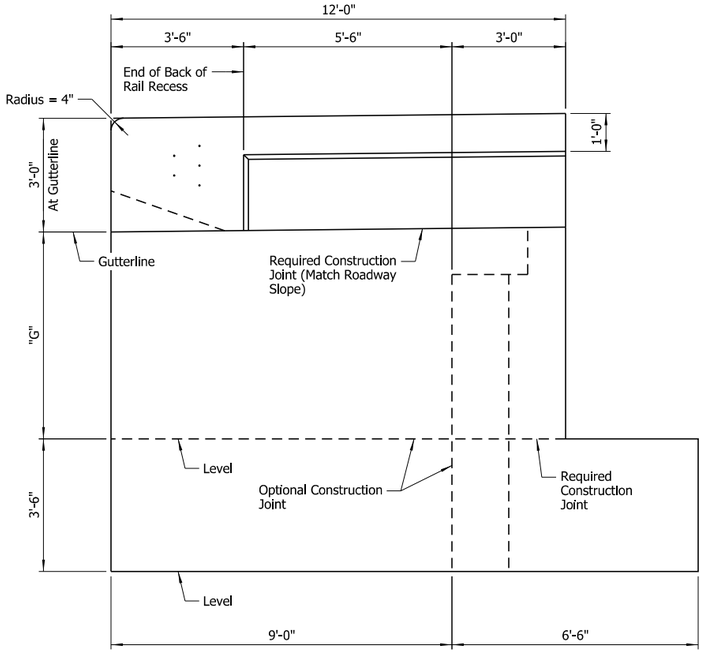
		07670 & 07671		END BENTS		67050

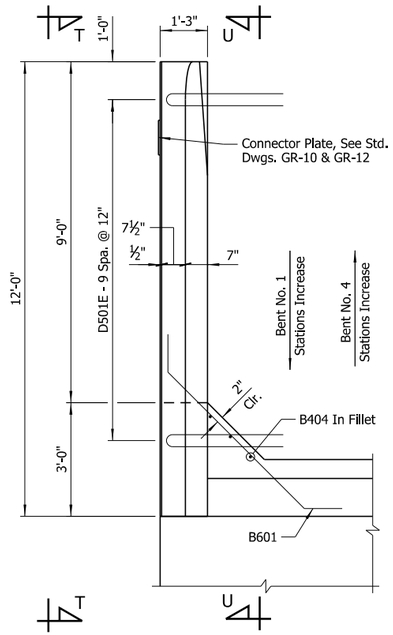


VIEW T-T

Scale: ½" = 1'-0"

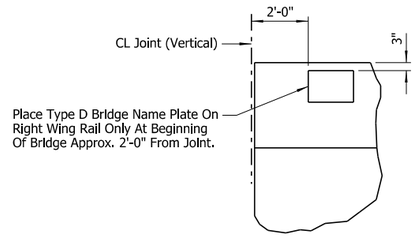
NOTES:
For locations of "VIEW T-T" & "SECTION U-U", see Dwg. No. 67048.

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



PLAN OF RAIL

Scale: ½" = 1'-0"

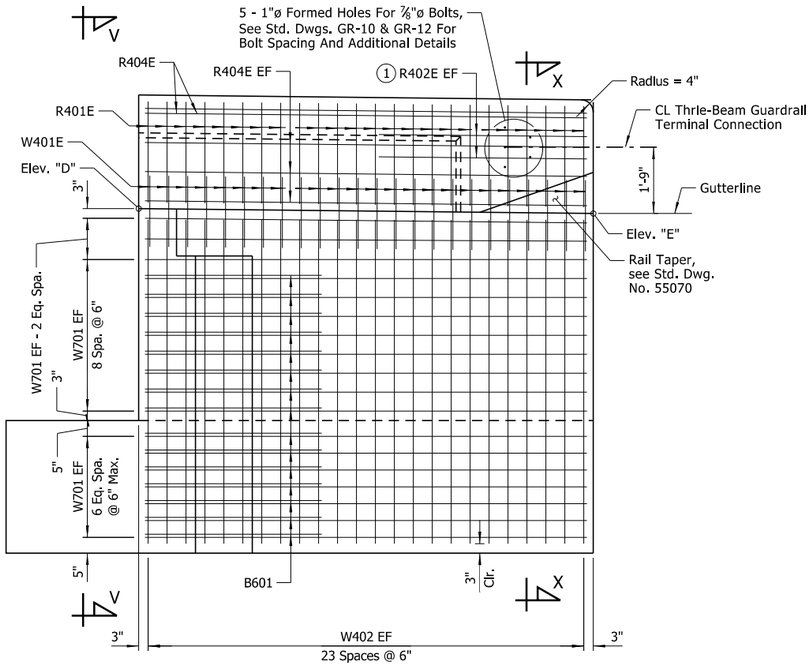


VIEW SHOWING LOCATION OF NAME PLATE

No Scale

LEGEND

EF = Each Face



SECTION U-U

Scale: ½" = 1'-0"

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

VIEW V-V

Scale: ¾" = 1'-0"

SECTION X-X

Scale: ¾" = 1'-0"

TABLE OF VARIABLES				
Bridge No.	Bent No.	"D"	"E"	"G"
07670	1	222.33	222.22	5'-5¾"
	4	222.23	222.12	5'-5⅞"
07671	1	224.76	224.72	5'-6⅜"
	4	224.71	224.67	5'-6⅝"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF END BENTS
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: NOV. 2023 FILENAME: b101017x1x2_a3.dgn
CHECKED BY: ABH DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: NOV. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67050

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DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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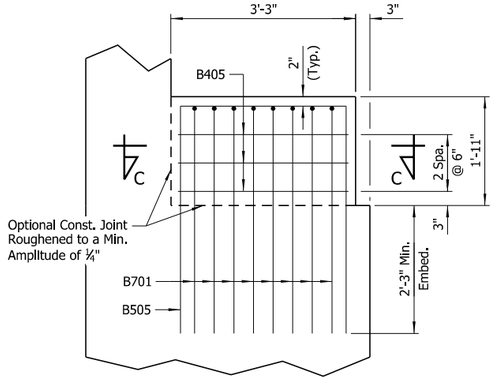
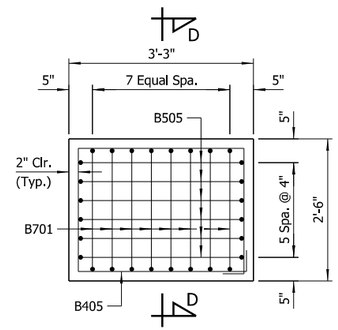
		07670 & 07671		END BENTS		67051



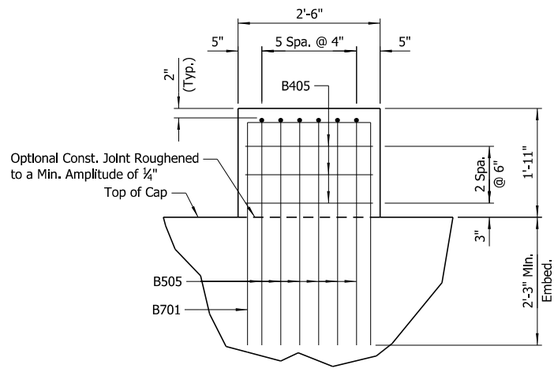
ELEVATION - CONCRETE RESTRAINER

Scale: ¾" = 1'-0"



SECTION C-C

Scale: ¾" = 1'-0"



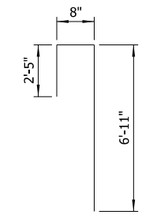
SECTION D-D

Scale: ¾" = 1'-0"

BAR LIST (EACH END BENT)

MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
B401	14	32'-2"			Str.
B402	21	9'-10"			2"
B403	41	8'-10"			2"
B404	6	7'-5"			Str.
B405	9	10'-6"			2"
B501	196	12'-2"			2½"
B502	20	10'-7"	4'-8"	3'-1"	2½"
B503	10	31'-10"			Str.
B504	10	8'-3"	4'-6"	2'-0"	2½"
B505	18	10'-8"	2'-10"	4'-0"	2½"
B601	30	7'-0"			4½"
B602	6	13'-4"	11'-8"	1'-0"	4½"
B603	4	10'-0"	8'-4"	1'-0"	4½"
B701	24	9'-9"	2'-1"	4'-0"	5¼"
B901	16	34'-8½"	32'-0½"	1'-7¼"	9"
B1001	10	8'-0"	2'-0$\frac{9}{16}$"	3'-6"	1'-10"
D501E	20	6'-4"	5"	3'-1"	3¾"
D601E	27	4'-10"			4½"
R401E	48	6'-4"			2½", 3"
R402E	8	5'-6"			Str.
R404E	32	11'-8"			Str.
W401E	48	3'-11"			3¾"
W402	96	8'-7"			Str.
W701	72	11'-8"			Str.

BAR BENDING DIAGRAMS



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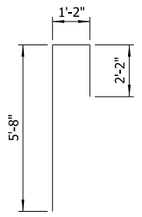

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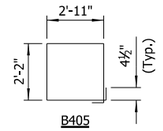

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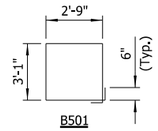

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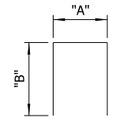
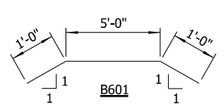


B502, B504, B505 B602, B603, B701 & B901



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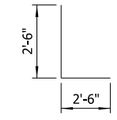
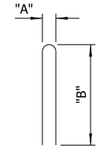


D601E



B1001 & D501E

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.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

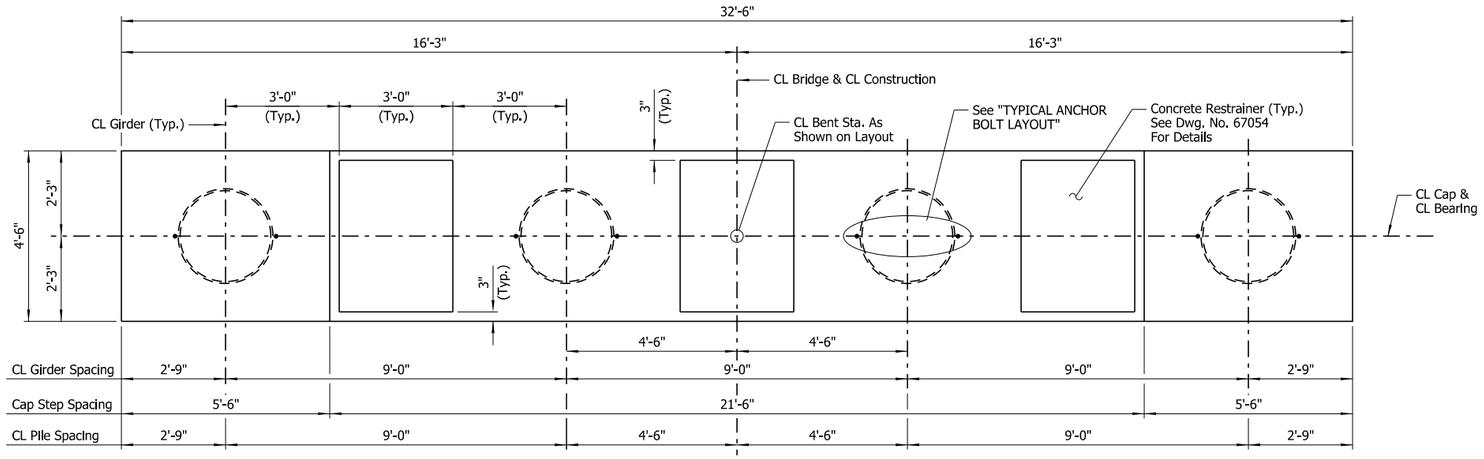
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF END BENTS
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

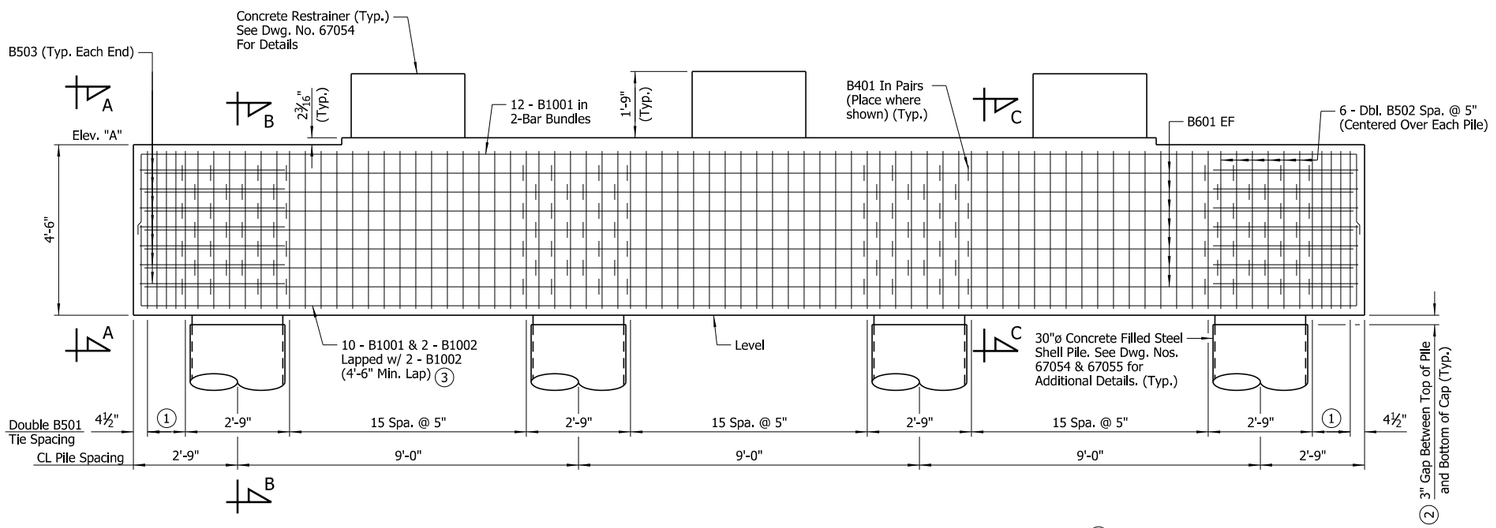
DRAWN BY: HEW DATE: NOV. 2023 FILENAME: b101017x1x2_a4.dgn
CHECKED BY: ABH DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: NOV. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67051

ABHall 1/22/2024 3:47:17 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S204_AB.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	68	139
		07670 & 07671		INT. BENTS		67052



PLAN
Scale: ½" = 1'-0"



ELEVATION
(Looking Ahead)
Scale: ½" = 1'-0"

(1) 4 Spaces @ 3"

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

(3) Some B1001 bars in 2-bar bundles. See Sections on Dwg. No. 67053.

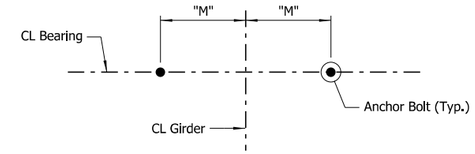
NOTES:
Concrete shall be Class "S" except that the coarse aggregate size shall meet AASHTO M 43, Size 67 (¾" Max.). Concrete shall have a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners shall be chamfered ¾" unless noted otherwise.

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. 67053.

For additional information, see Layouts on Dwg. Nos. 67044 & 67046.



TYPICAL ANCHOR BOLT LAYOUT
No Scale

NOTE:
For details of Elastomeric Bearings, see Dwg. No. 67056.

TABLE OF VARIABLES		
BRIDGE NO.	BENT NO.	"A"
07670	2	217.61
	3	217.56
07671	2	219.69
	3	219.67

LEGEND
EF = Each Face

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF INTERMEDIATE BENTS
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: NOV. 2023 FILENAME: b101017x1x2_b1.dgn
CHECKED BY: ABH DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: NOV. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67052

ABHall 1/22/2024 3:47:17 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S210_BE.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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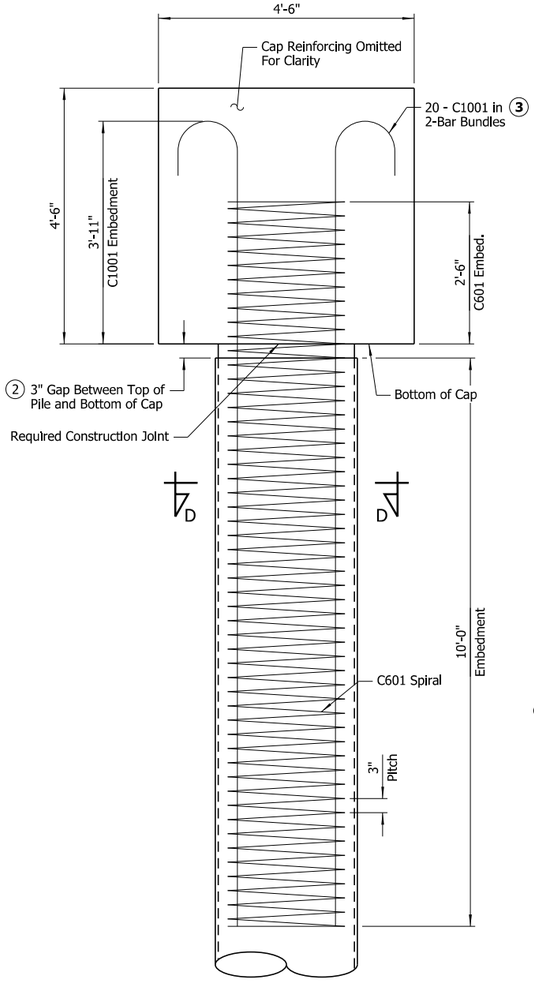
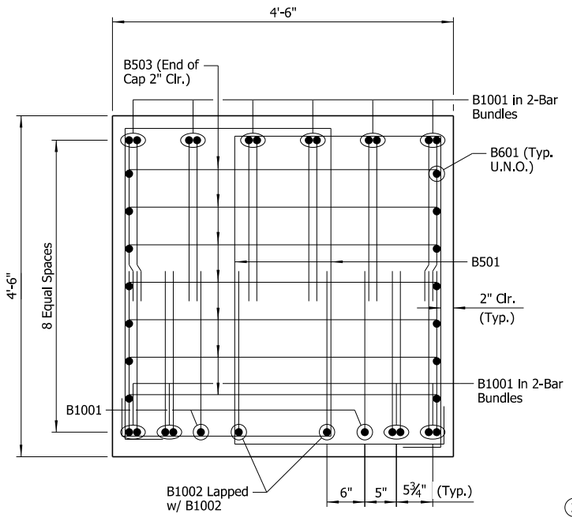
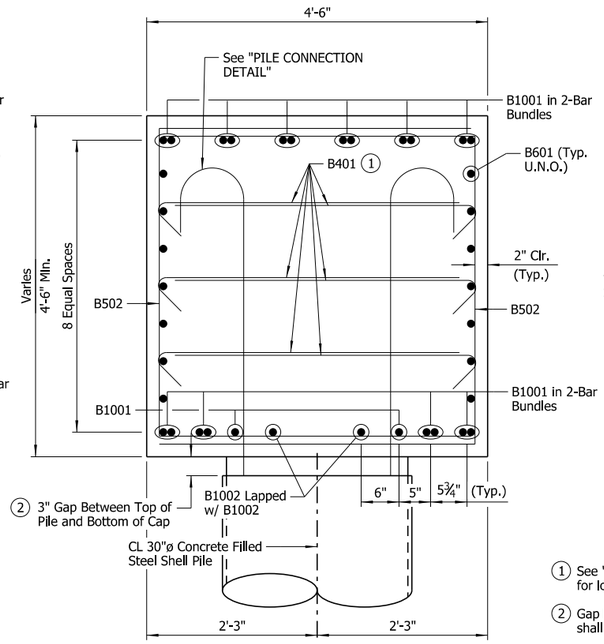
		07670 & 07671		INT. BENTS		67053



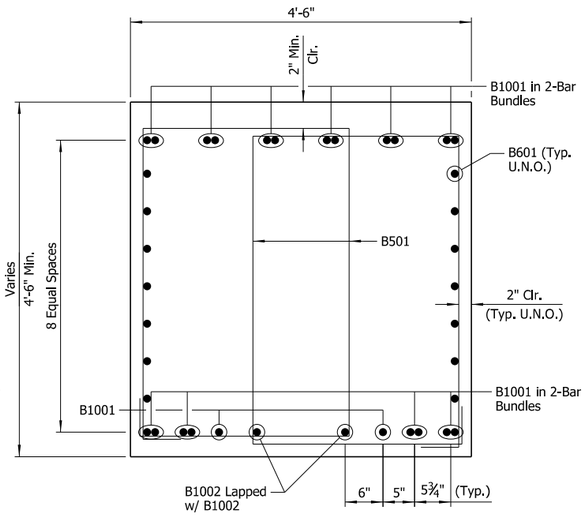
END VIEW
Scale: ¾" = 1'-0"



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



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

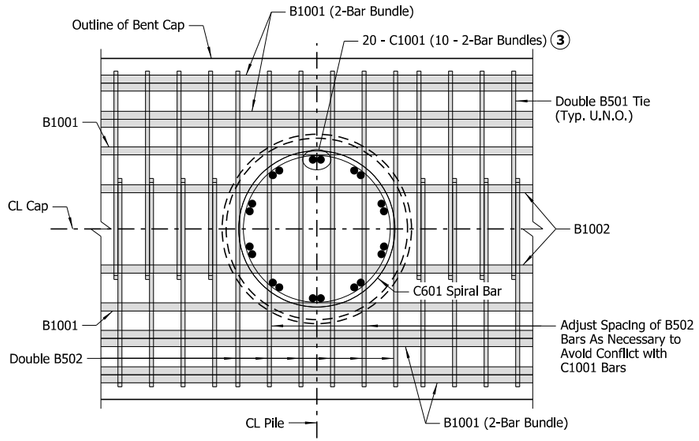


1 See "ELEVATION" on Dwg. No. 67052 for locations and spacing.

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

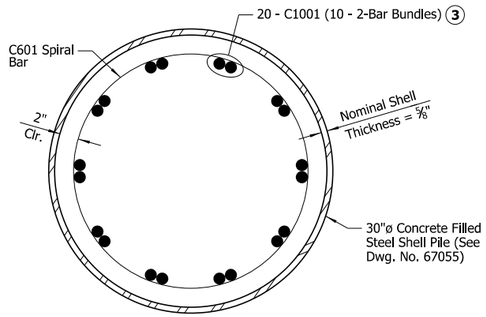
SECTION C-C
Scale: 1" = 1'-0"

3 C1001 bars shall be Grade 75 (yield strength = 75,000 psi). These bars will not be paid for separately but shall be included in the quantity bid for "REINFORCING STEEL-BRIDGE (GRADE 60)".



NOTE:
Place C1001 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

LEGEND

U.N.O. = Unless Noted Otherwise

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF INTERMEDIATE BENTS
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: NOV. 2023 FILENAME: b101017x1x2_b2.dgn
CHECKED BY: ABH DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: NOV. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67053

ABHall 1/22/2024 3:47:17 PM
WORKSPACE: ARDOT Bridge (2019)
\\garvinhc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S211_BE.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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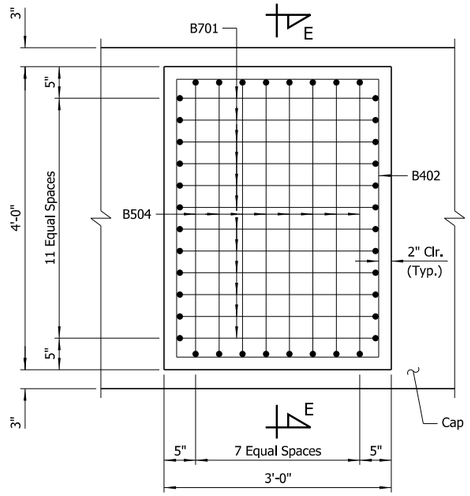
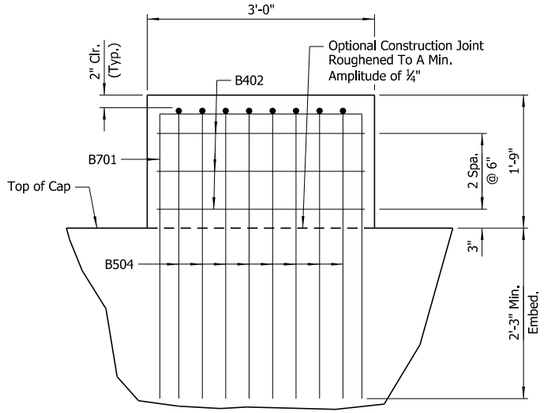
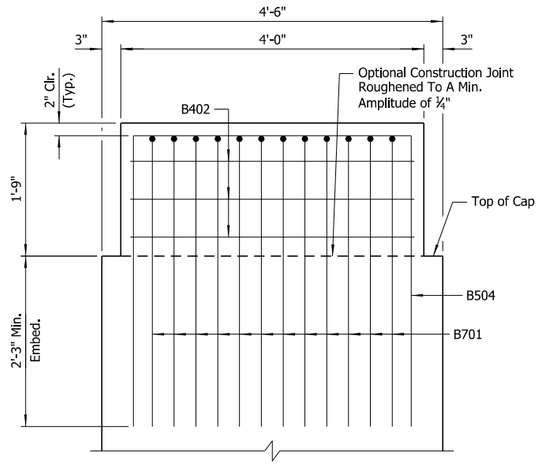
		07670 & 07671		INT. BENTS		67054



PLAN



ELEVATION
(Looking Ahead)



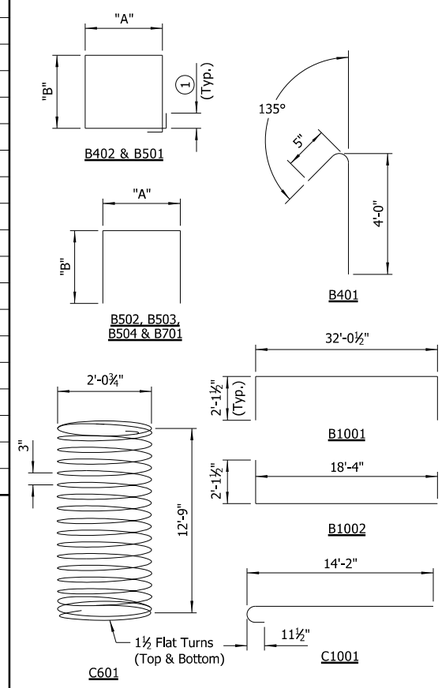
SECTION E-E
Scale: 1" = 1'-0"

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

BAR LIST (PER BENT)					
MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
B401	224	4'-6"			3"
B402	9	13'-0"	2'-8"	3'-8"	2"
B501	116	14'-4"	2'-9"	4'-2"	2½"
B502	48	12'-3"	4'-2"	4'-2"	2½"
B503	14	11'-5"	4'-0"	3'-10"	2½"
B504	24	11'-3"	3'-7"	3'-11"	2½"
B601	14	31'-9"			Str.
B701	36	10'-1'	2'-7"	3'-11"	5¼"
B1001	22	35'-8"			10"
B1002	4	20'-2"			10"
C601	4	339'-4"			23¼"
② C1001	80	15'-7"			10"

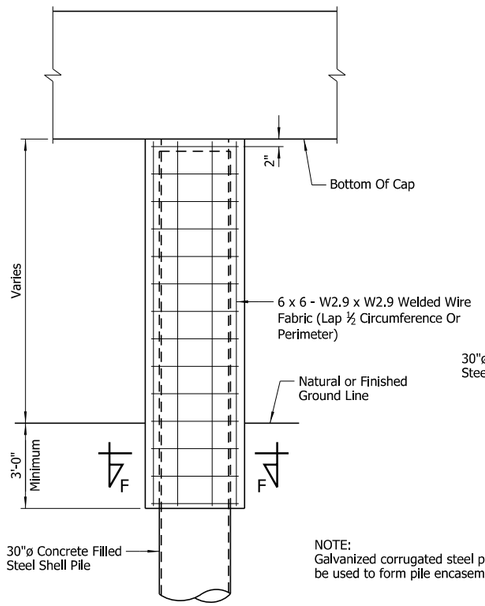
② C1001 bars shall be Grade 75 (yield strength = 75,000 psi). These bars will not be paid for separately but shall be included in the quantity bid for "REINFORCING STEEL-BRIDGE (GRADE 60)".

BAR BENDING DIAGRAMS

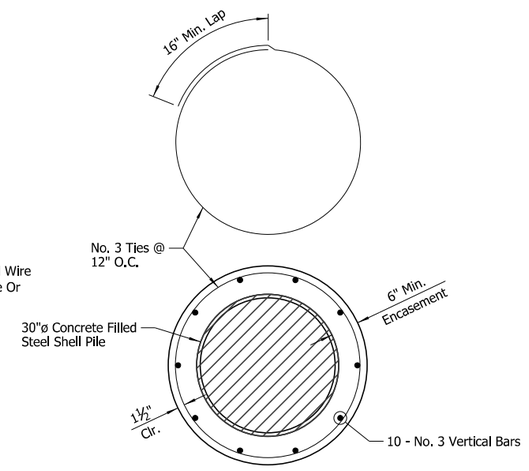


NOTE:
Dimensions of bars are out-to-out.

① 4½" (B402) or 6" (B501)



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



SECTION F-F

PILE ENCASEMENT DETAIL FOR 30" STEEL SHELL PILES
No Scale

GENERAL NOTES FOR PILE ENCASEMENTS:

See Bridge Layouts 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".

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF INTERMEDIATE BENTS
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: NOV. 2023 FILENAME: b101017x1x2_b3.dgn
CHECKED BY: ABH DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: NOV. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67054

ABHall 1/22/2024 3:47:18 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S212_BE.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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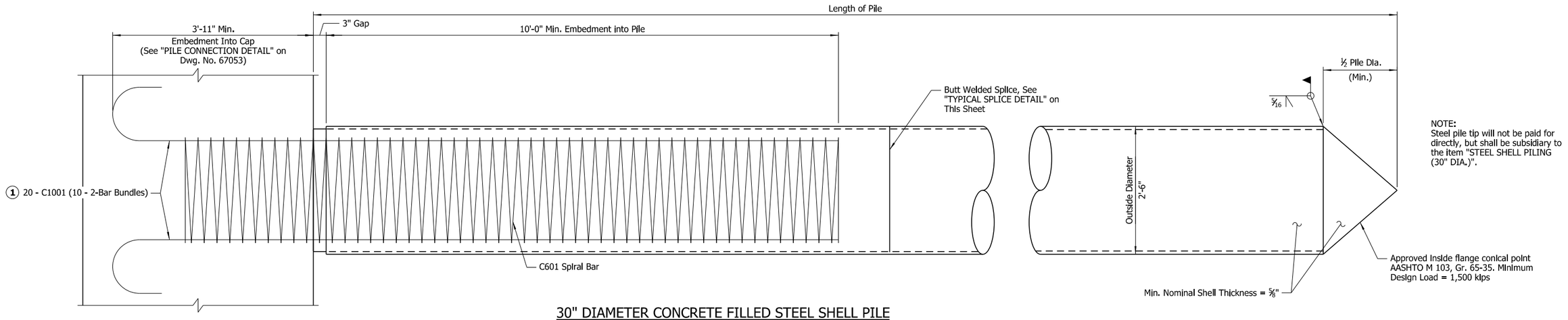
		07670 & 07671		INT. BENTS		67055

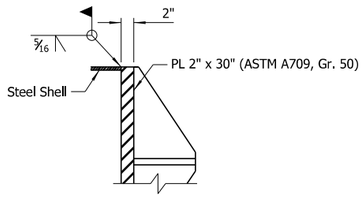


NOTE:
Steel pile tip will not be paid for directly, but shall be subsidiary to the item "STEEL SHELL PILING (30" DIA.)".

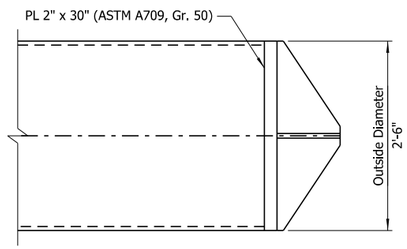
30" DIAMETER CONCRETE FILLED STEEL SHELL PILE

Scale: 1" = 1'-0"

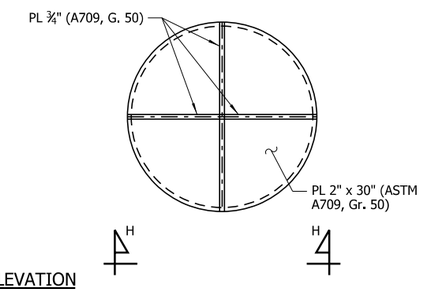
1 C1001 bars shall be Grade 75 (yield strength = 75,000 psi). These bars will not be paid for separately but shall be included in the quantity bid for "REINFORCING STEEL-BRIDGE (GRADE 60)".

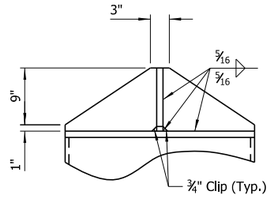


PART SECTION



ELEVATION

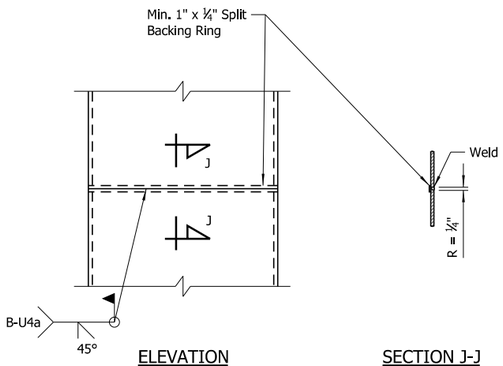




VIEW H-H

ALTERNATE VANED TIP DETAIL FOR 30" PIPE

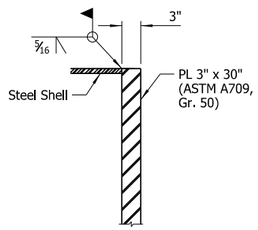
Scale: 1" = 1'-0"



ELEVATION SECTION J-J

TYPICAL SPLICE DETAIL

Scale: 1" = 1'-0"



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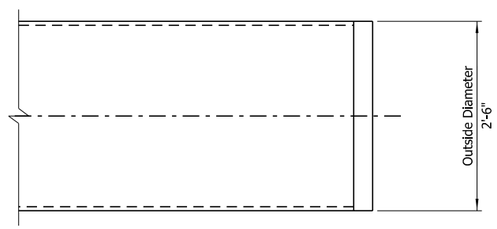
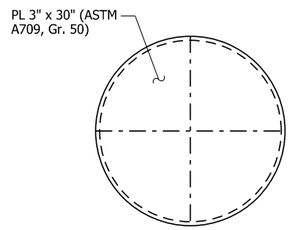


ELEVATION



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).

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. 67054.

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
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BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF INTERMEDIATE BENTS
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

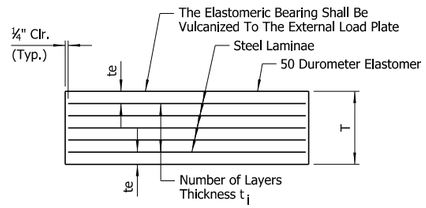
DRAWN BY: CSW DATE: DEC. 2023 FILENAME: b101017x1x2_b4.dgn
CHECKED BY: ABH DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: CSW DATE: DEC. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67055

ABHall 1/22/2024 3:47:18 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-23020000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S213_BE.dgn

TABLE OF FABRICATOR VARIABLES

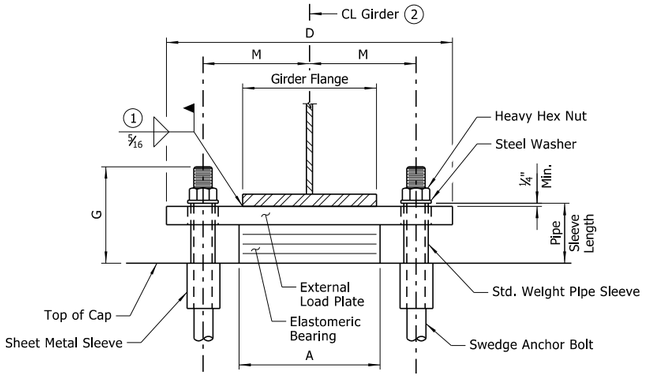
Bridge No.	Location		Bearing Type	No. Of Bearings Each Bent	③ Maximum Design Load (Kips)	G	H	Elastomeric Pad							External Load Plate								Anchor Bolt				
	Bent No.	Girder No.						A	B	N	t_i	t_e	No. & Thickness Of Steel Laminae	T	C	D	E	F	K	M	T_a	T_b	Anchor Bolt (Dia. x L)	Anchor Bolt Grade	Pipe Sleeve Size (Dia. x L)	Sheet Metal Sleeve Size (Dia. x L)	Steel Washer Size (O.D.)
07670	1	All	Exp.	4	140	11 13/16"	8 9/16"	16"	11"	10	½"	¼"	11 @ 12 Ga.	6⅝"	12"	28½"	6¼"	3⅜"	½"	11"	2.05"	1.95"	2" x 35"	55	2½" x 8 13/16"	4" x 10"	3¾"
	2	All	Fixed	4	390	8⅝"	4⅜"	20"	14"	3	½"	¼"	4 @ 12 Ga.	2 7/16"	15"	38"	3¾"	3¾"	½"	15½"	2.02"	1.98"	2¾" x 40"	55	3" x 4⅝"	5" x 10"	5"
	3	All	Fixed	4	390	8⅝"	4⅜"	20"	14"	3	½"	¼"	4 @ 12 Ga.	2 7/16"	15"	38"	3¾"	3¾"	½"	15½"	1.97"	2.03"	2¾" x 40"	55	3" x 4⅝"	5" x 10"	5"
	4	All	Exp.	4	140	11 13/16"	8 9/16"	16"	11"	10	½"	¼"	11 @ 12 Ga.	6⅝"	12"	28½"	6¼"	3⅜"	½"	11"	1.95"	2.05"	2" x 35"	55	2½" x 8 13/16"	4" x 10"	3¾"
07671	1	All	Exp.	4	140	11 13/16"	8 9/16"	16"	11"	10	½"	¼"	11 @ 12 Ga.	6⅝"	12"	28½"	6¼"	3⅜"	½"	11"	2.02"	1.98"	2" x 35"	55	2½" x 8 13/16"	4" x 10"	3¾"
	2	All	Fixed	4	390	8⅝"	4⅜"	20"	14"	3	½"	¼"	4 @ 12 Ga.	2 7/16"	15"	38"	3¾"	3¾"	½"	15½"	2.01"	1.99"	2¾" x 40"	55	3" x 4⅝"	5" x 10"	5"
	3	All	Fixed	4	390	8⅝"	4⅜"	20"	14"	3	½"	¼"	4 @ 12 Ga.	2 7/16"	15"	38"	3¾"	3¾"	½"	15½"	1.99"	2.01"	2¾" x 40"	55	3" x 4⅝"	5" x 10"	5"
	4	All	Exp.	4	140	11 13/16"	8 9/16"	16"	11"	10	½"	¼"	11 @ 12 Ga.	6⅝"	12"	28½"	6¼"	3⅜"	½"	11"	1.98"	2.02"	2" x 35"	55	2½" x 8 13/16"	4" x 10"	3¾"

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	72	139
		07670 & 07671	ELASTOMERIC BEARINGS			67056

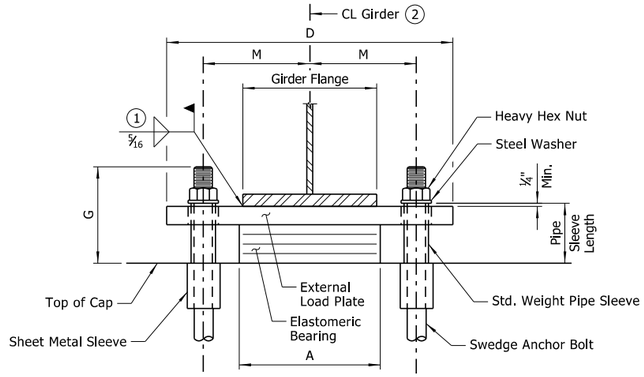


t_e = Thickness Of Elastomer Cover On Top And Bottom Of Pad
t_i = Thickness Of Elastomer Between Steel Laminae
N = Number Of Elastomer Layers Of Thickness t_i

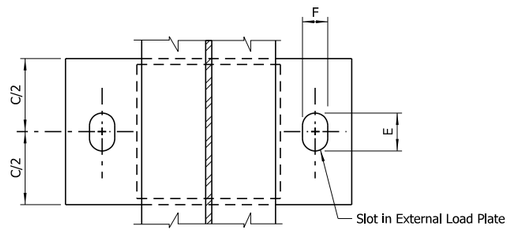
ELASTOMERIC BEARING



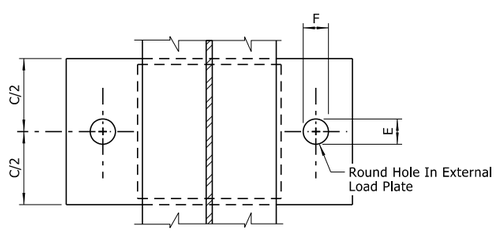
FRONT VIEW - AT BENT NOS. 1 & 4



FRONT VIEW - AT BENT NOS. 2 & 3

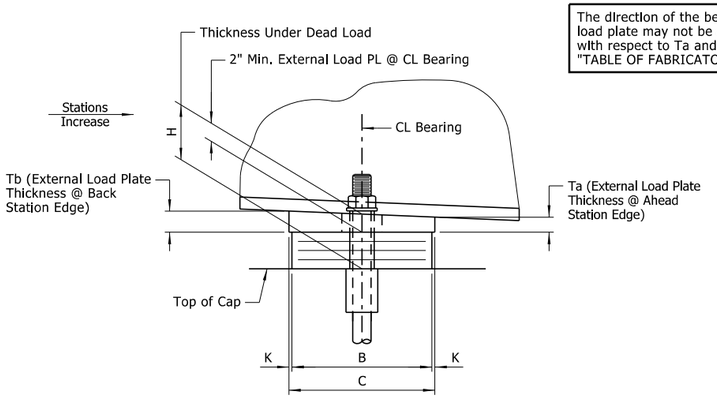


PLAN VIEW - AT BENT NOS. 1 & 4

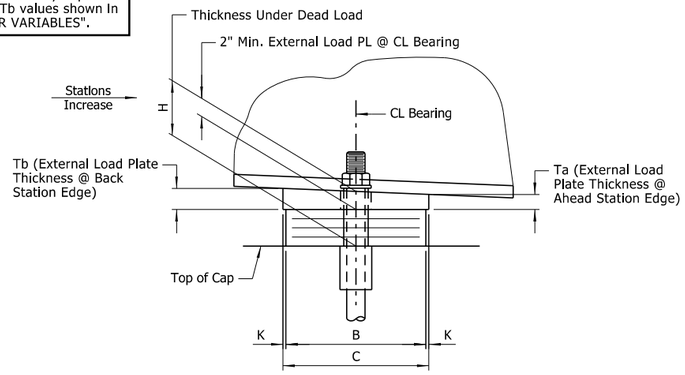


PLAN VIEW - AT BENT NOS. 2 & 3

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



SIDE VIEW - AT BENT NOS. 2 & 3

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 allgned with CL Girder.

③ Maximum Design Load = 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 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.

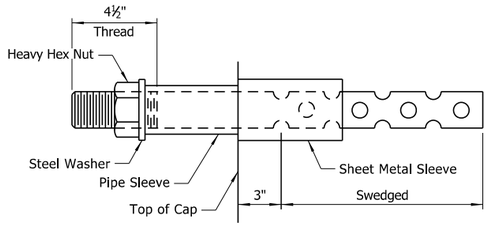
External load plates shall be completely fabricated (including bevel, bolt holes and all shop welding) and shall be cleaned before vulcanizing to the elastomeric bearing. The surfaces in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808.03. Other surfaces shall be 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 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.14498
ADAM B. HALL
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS HIGHWAY 118 OVER TYRONZA RIVER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

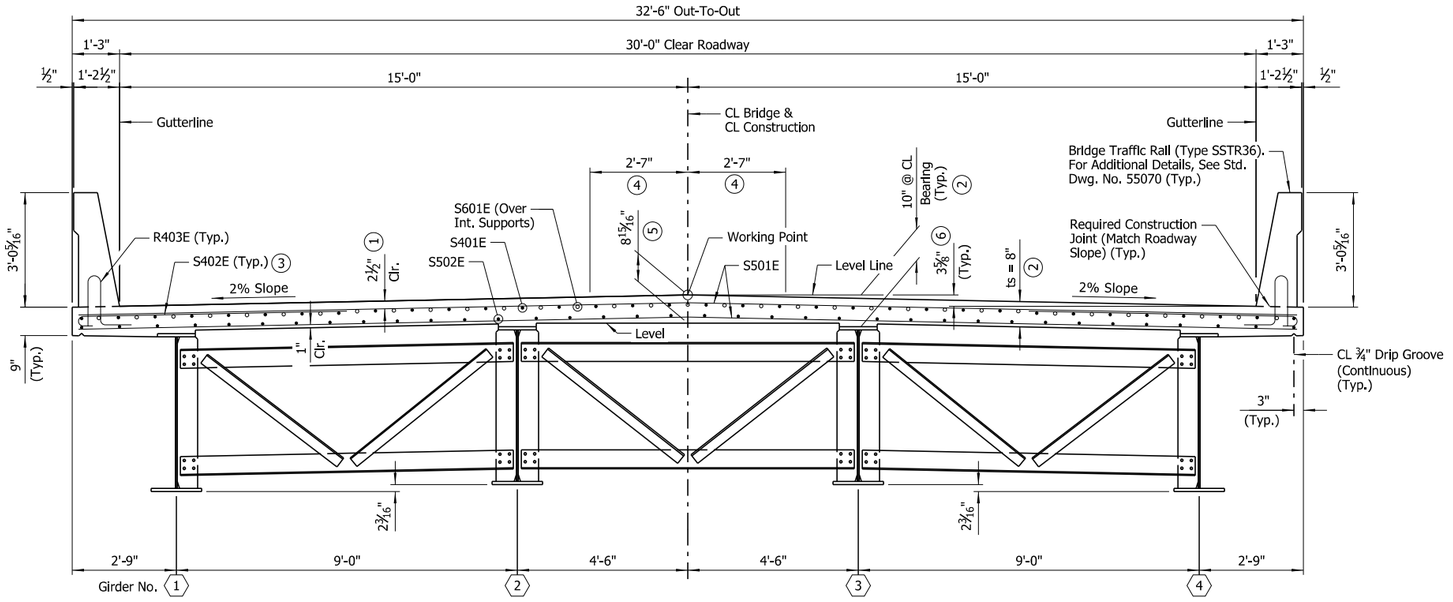
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x1x2_e1.dgn
CHECKED BY: KWY DATE: OCT. 2023 SCALE: No Scale
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07670 & 07671 DRAWING NO. 67056

ABHall 1/22/2024 3:47:19 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1_S301_BG.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	73	139
		07670 & 07671		330'-0" UNIT		67057



TYPICAL ROADWAY SECTION

(Looking Ahead)
Scale: ½" = 1'-0"

SLAB REINFORCING:

Transverse: S501E @ 6" O.C. In Top and 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. 67063 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. 67063.

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

(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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21243
COLTON S. WYLIE
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 1 OF 7
DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x1x2_s1.dgn
CHECKED BY: CSW DATE: OCT. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67057

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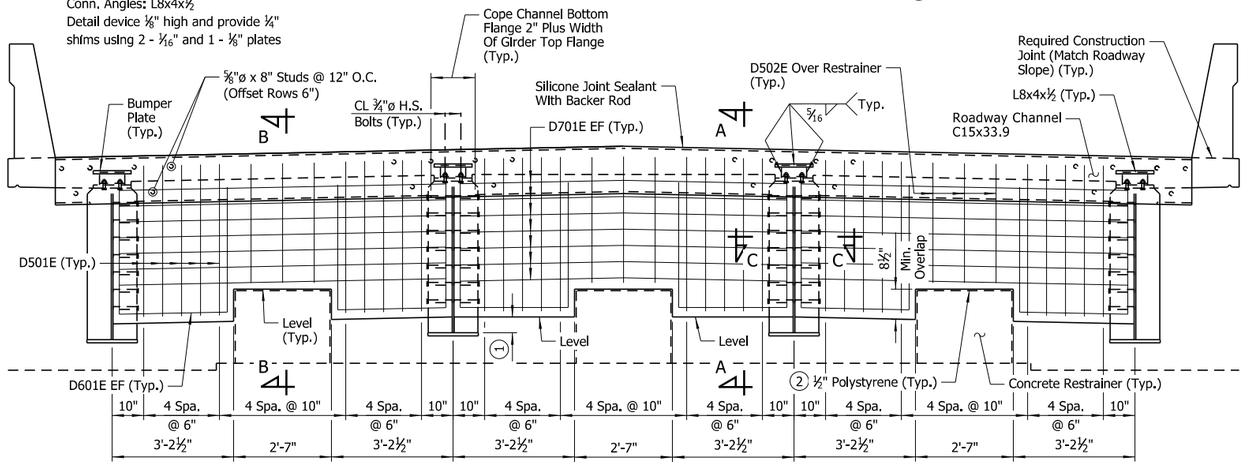
WORKSPACE: ARDOT Bridge (2019)
\\garvernc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1x2_s1.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	74	139
		07670 & 07671		330'-0" UNIT		67058

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

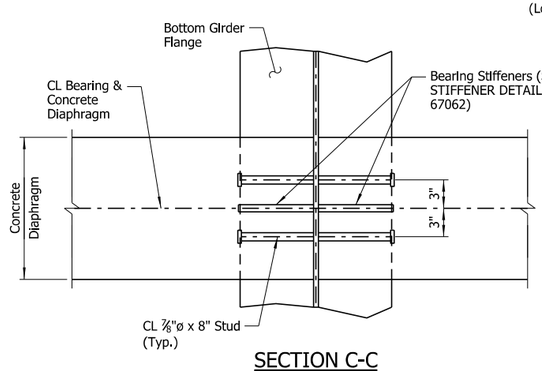


TYPICAL ROADWAY SECTION THRU JOINT

(Looking Ahead at End Bent No. 1, End Bent No. 4 Similar)
Scale: ½" = 1'-0"

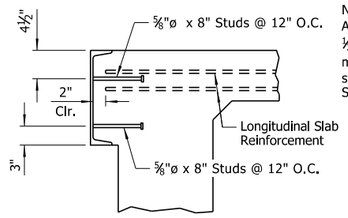
NOTES:
All structural steel shall be ASTM A709, Gr. 50W unless noted otherwise, and all structural steel shall be paid for as "STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50W)".

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



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

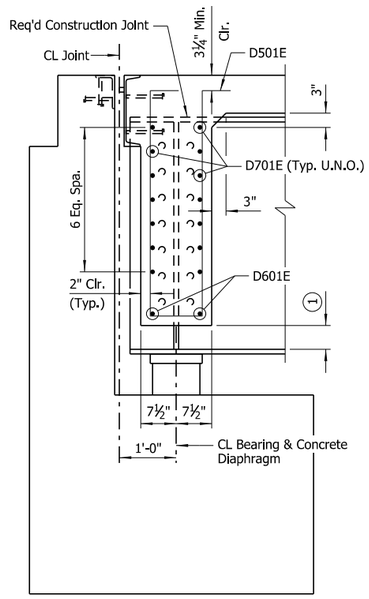
(2) ½" Polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place. Polystyrene will not be paid for directly but will be considered subsidiary to the item "CLASS S(AE) CONCRETE-BRIDGE".

LEGEND

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

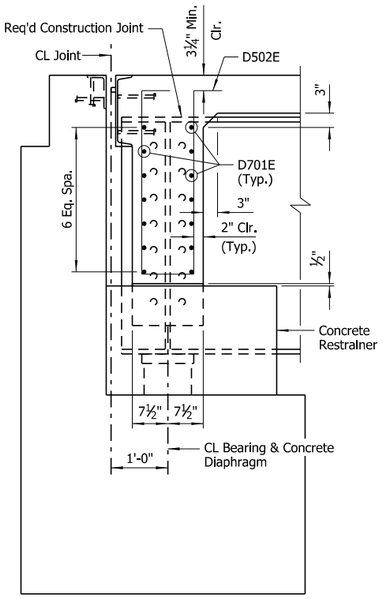
TABLE OF SILICONE JOINT DATA					
Bent No(s).	"A" Width Perpendicular To Joint At 24 Hour Average Temperature (3) Of:			"B" Perpendicular To Joint At 60°F	Bumper Plate Size
	40°F	60°F	80°F		
1 & 4	2¼"	2"	1¾"	2¼"	1" x 1" x 12"

(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.



SECTION A-A

Scale: ¾" = 1'-0"



SECTION B-B

Scale: ¾" = 1'-0"

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.

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 2 OF 7
DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 118 OVER TYRONZA RIVER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x1x2_s2.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07670 & 07671 DRAWING NO. 67058

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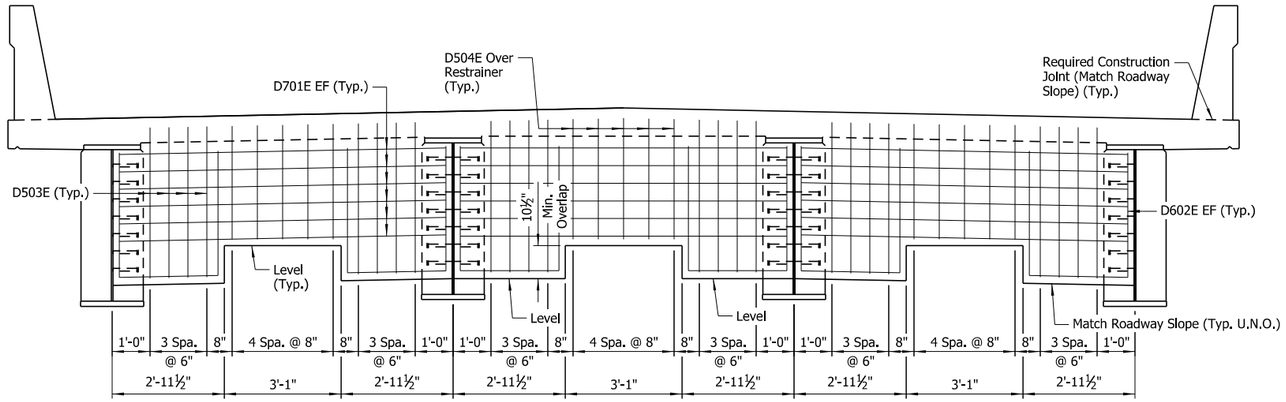
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-23020000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1x2_s2.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	75	139
		07670 & 07671		330'-0" UNIT		67059



TYPICAL ROADWAY SECTION AT INTERMEDIATE BENTS

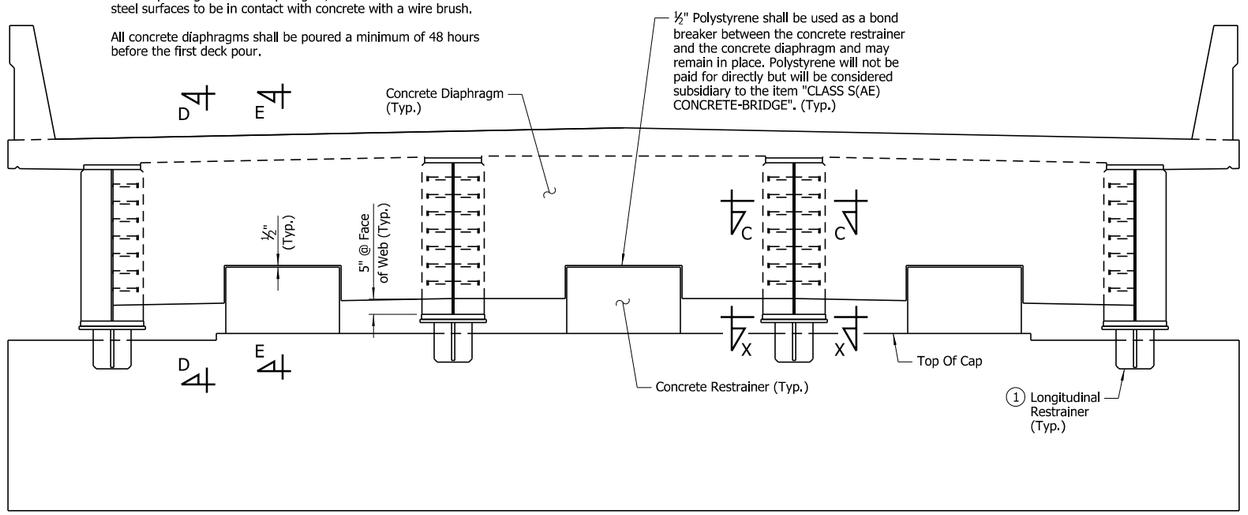
(Looking Ahead)
Scale: ½" = 1'-0"

NOTES:
Forms for concrete diaphragms shall be removable.

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

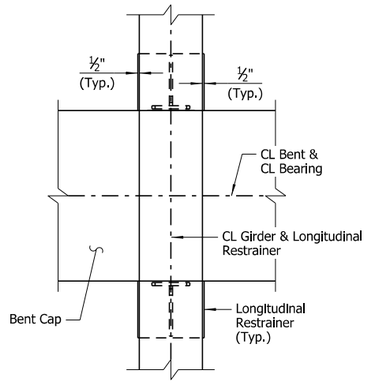
All concrete diaphragms shall be poured a minimum of 48 hours before the first deck pour.

NOTE:
See Dwg. No. 67058 for "SECTION C-C".



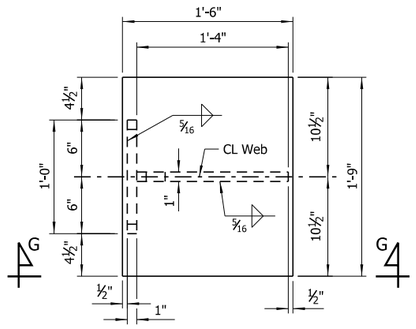
TYPICAL ROADWAY SECTION AT INTERMEDIATE BENTS SHOWING CONCRETE RESTRAINERS

(Looking Ahead)
Scale: ½" = 1'-0"



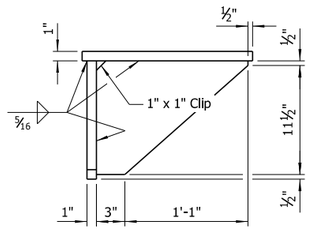
VIEW X-X

Scale: ½" = 1'-0"



PLAN OF LONGITUDINAL RESTRAINER

Scale: 1½" = 1'-0"

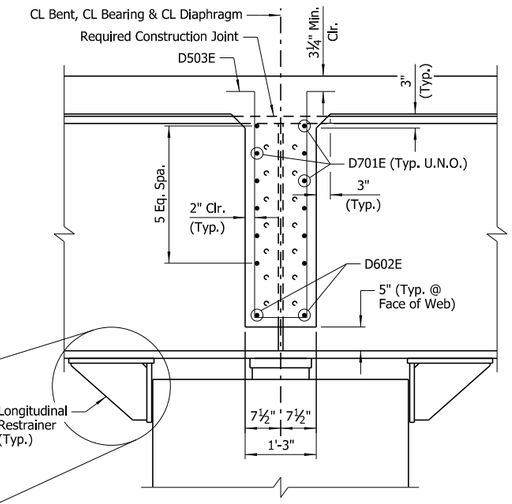


VIEW G-G

Scale: 1½" = 1'-0"

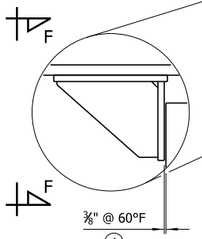
LEGEND

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

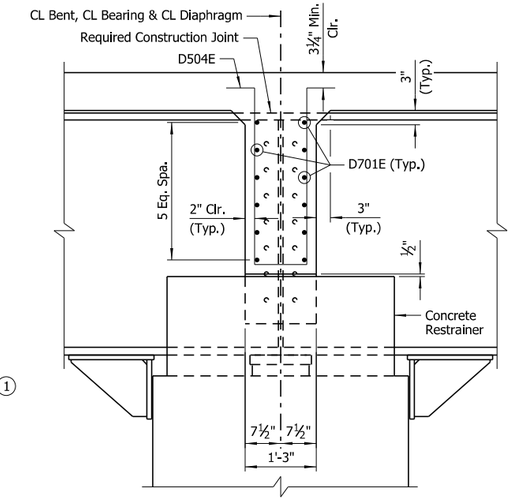


SECTION D-D

Scale: ¾" = 1'-0"

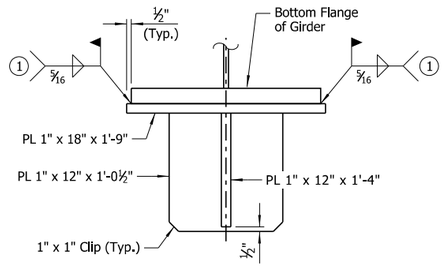


1 Field weld longitudinal restrainer after deck has been poured.



SECTION E-E

Scale: ¾" = 1'-0"



VIEW F-F

Scale: ¾" = 1'-0"

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 3 OF 7
DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 118 OVER TYRONZA RIVER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x1x2_s3.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07670 & 07671 DRAWING NO. 67059

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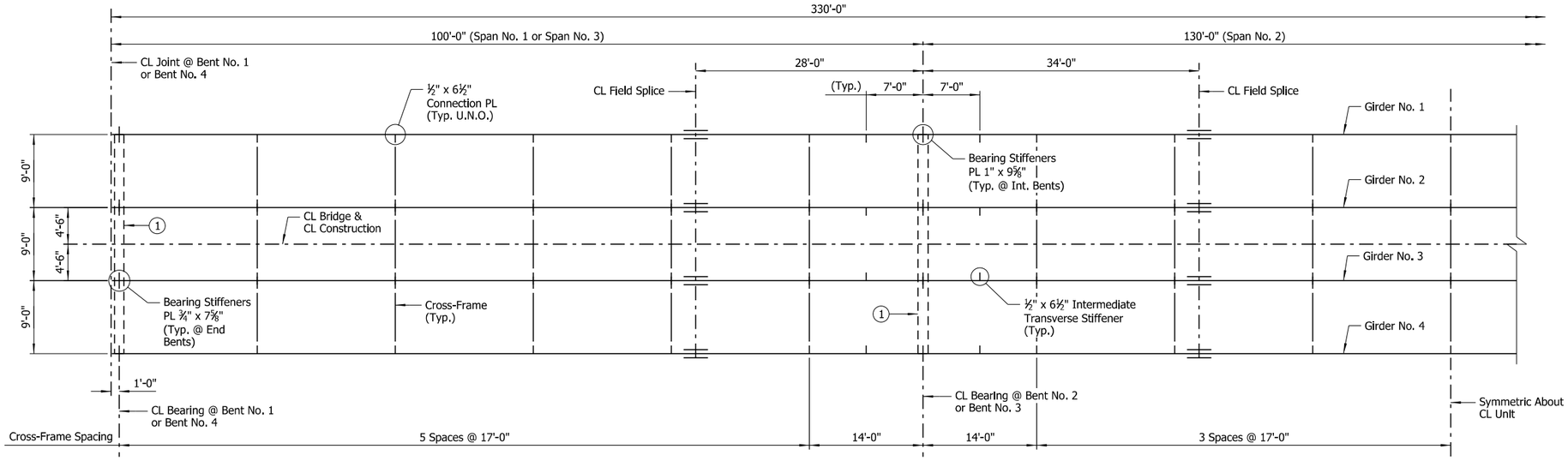
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1x2_s3.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	76	139
		07670 & 07671		330'-0" UNIT		67060



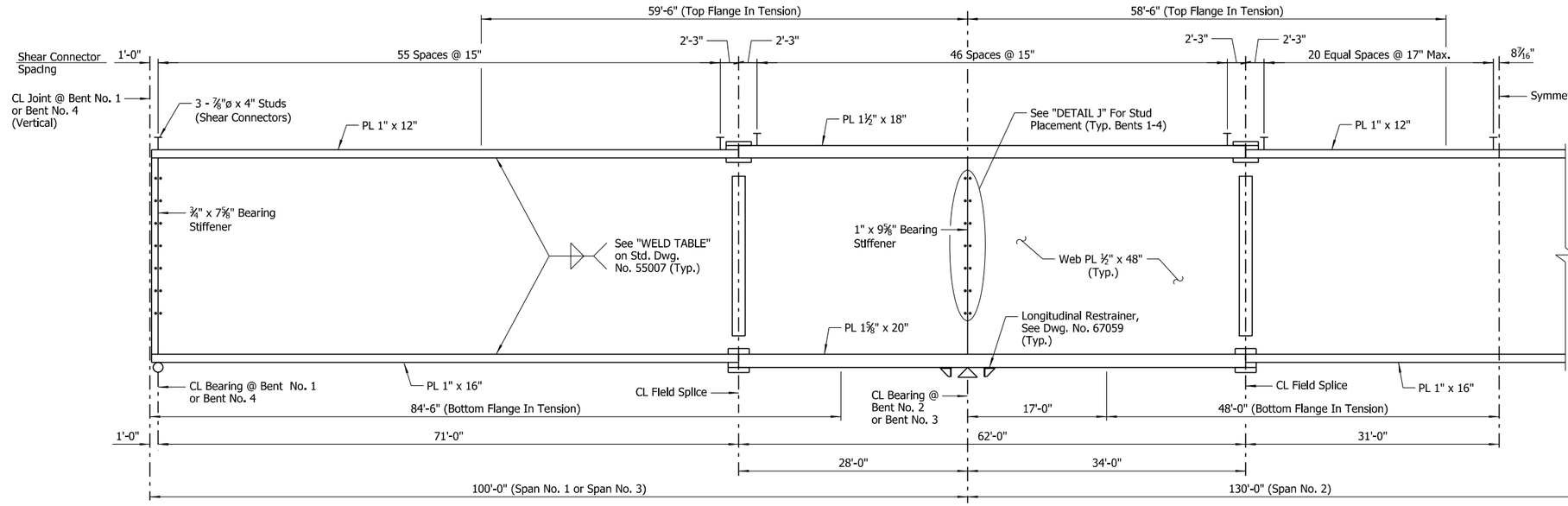
1 Concrete Diaphragm - Typical as shown at Bents 1-4. For details, see Dwg. Nos. 67058 and 67059.

PART FRAMING PLAN

Scale: ⅛" = 1'-0"

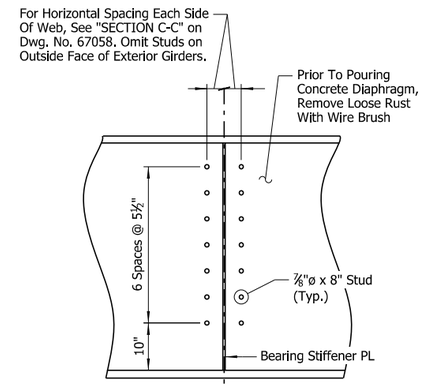
LEGEND

U.N.O. = Unless Noted Otherwise



PART GIRDER ELEVATION

No Scale



DETAIL J

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 "DETAILS OF WELDED SPLICES FOR PLATE GIRDERS", "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. 67061.

For cross-frame, stiffener and connection plate details, see Dwg. No. 67062.

For painting of girders, see "GENERAL NOTES" on Dwg. Nos. 67045 and 67047.

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 4 OF 7
DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 118 OVER TYRONZA RIVER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY:	CSW	DATE:	OCT. 2023	SCALE:	As Shown
DESIGNED BY:	RAK	DATE:	OCT. 2023		

BRIDGE NO. 07670 & 07671 DRAWING NO. 67060

ABHall 1/22/2024 3:47:21 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1x2_s4.dgn

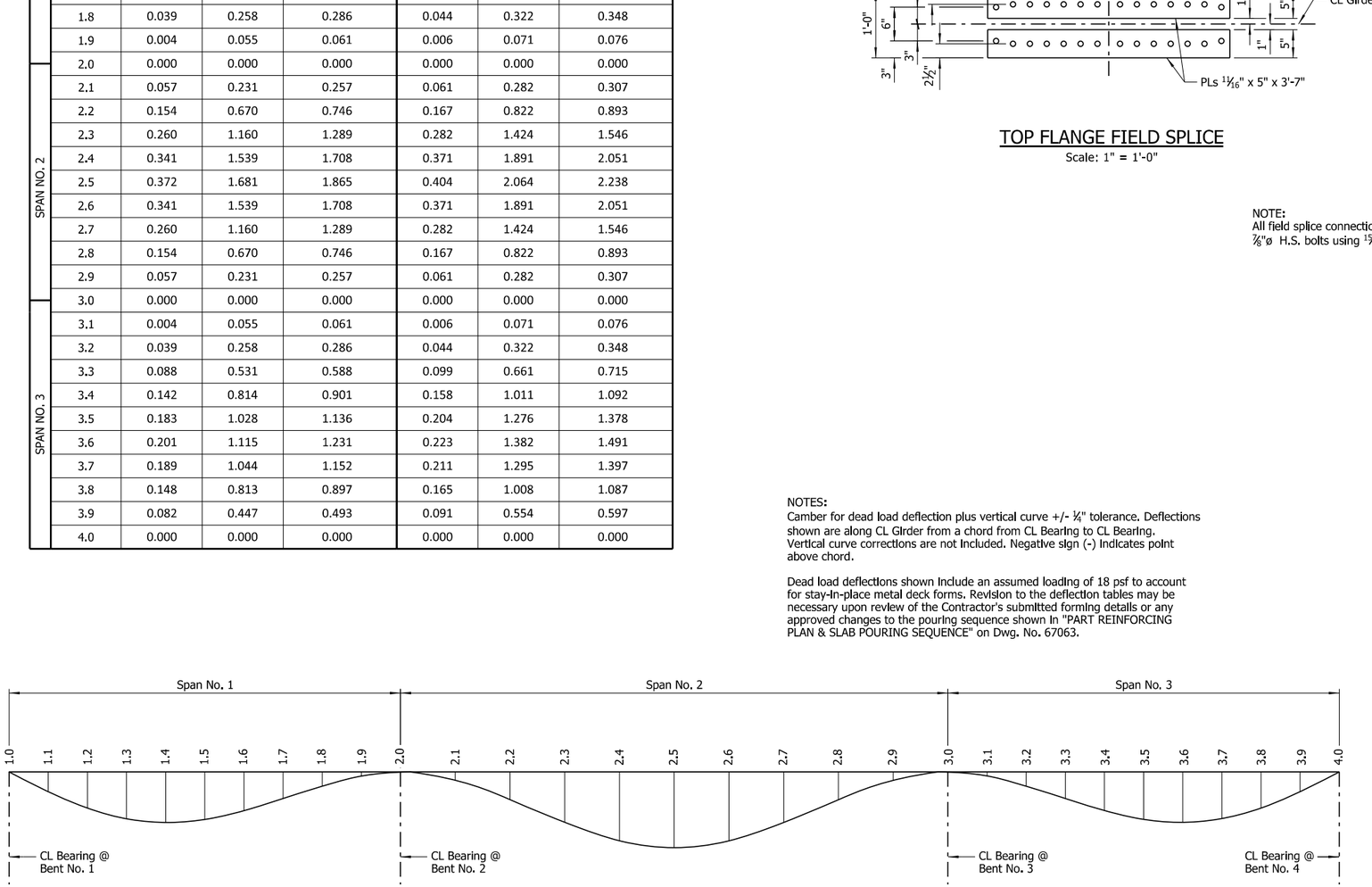
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	77	139
		07670 & 07671		330'-0" UNIT		67061

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

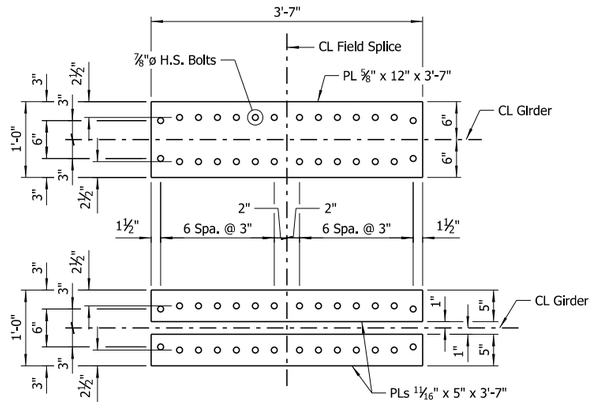
	Point Of Deflection	Girders 1 & 4			Girders 2 & 3		
		Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail	Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail
SPAN NO. 1	1.0	0.000	0.000	0.000	0.000	0.000	0.000
	1.1	0.082	0.447	0.493	0.091	0.554	0.597
	1.2	0.148	0.813	0.897	0.165	1.008	1.087
	1.3	0.189	1.044	1.152	0.211	1.295	1.397
	1.4	0.201	1.115	1.231	0.223	1.382	1.491
	1.5	0.183	1.028	1.136	0.204	1.276	1.378
	1.6	0.142	0.814	0.901	0.158	1.011	1.092
	1.7	0.088	0.531	0.588	0.099	0.661	0.715
	1.8	0.039	0.258	0.286	0.044	0.322	0.348
	1.9	0.004	0.055	0.061	0.006	0.071	0.076
SPAN NO. 2	2.0	0.000	0.000	0.000	0.000	0.000	0.000
	2.1	0.057	0.231	0.257	0.061	0.282	0.307
	2.2	0.154	0.670	0.746	0.167	0.822	0.893
	2.3	0.260	1.160	1.289	0.282	1.424	1.546
	2.4	0.341	1.539	1.708	0.371	1.891	2.051
	2.5	0.372	1.681	1.865	0.404	2.064	2.238
	2.6	0.341	1.539	1.708	0.371	1.891	2.051
	2.7	0.260	1.160	1.289	0.282	1.424	1.546
	2.8	0.154	0.670	0.746	0.167	0.822	0.893
	2.9	0.057	0.231	0.257	0.061	0.282	0.307
SPAN NO. 3	3.0	0.000	0.000	0.000	0.000	0.000	0.000
	3.1	0.004	0.055	0.061	0.006	0.071	0.076
	3.2	0.039	0.258	0.286	0.044	0.322	0.348
	3.3	0.088	0.531	0.588	0.099	0.661	0.715
	3.4	0.142	0.814	0.901	0.158	1.011	1.092
	3.5	0.183	1.028	1.136	0.204	1.276	1.378
	3.6	0.201	1.115	1.231	0.223	1.382	1.491
	3.7	0.189	1.044	1.152	0.211	1.295	1.397
	3.8	0.148	0.813	0.897	0.165	1.008	1.087
	3.9	0.082	0.447	0.493	0.091	0.554	0.597
	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.

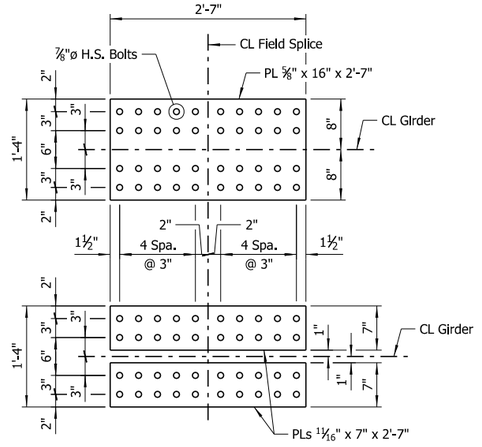
Dead load deflections shown include an assumed loading of 18 psf to account for stay-in-place metal deck forms. Revision to the deflection tables may be necessary upon review of the Contractor's submitted forming details or any approved changes to the pouring sequence shown in "PART REINFORCING PLAN & SLAB POURING SEQUENCE" on Dwg. No. 67063.



DEAD LOAD DEFLECTION DIAGRAM
No Scale

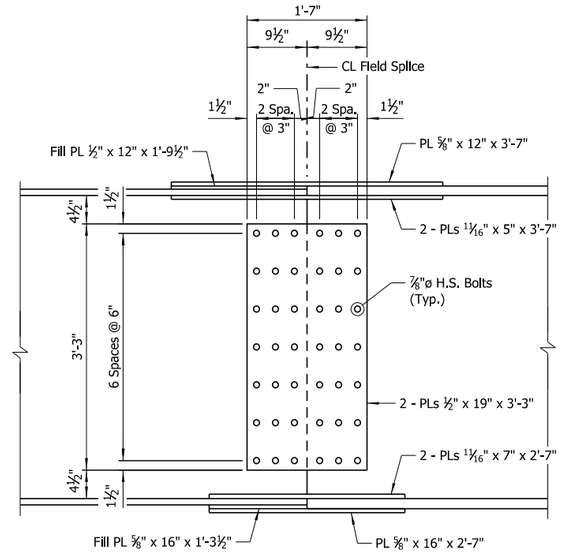


TOP FLANGE FIELD SPLICE
Scale: 1" = 1'-0"



BOTTOM FLANGE FIELD SPLICE
Scale: 1" = 1'-0"

NOTE:
All field splice connections shall be bolted with ⅞"ø H.S. bolts using 15/16"ø open holes.



ELEVATION OF FIELD SPLICE
Scale: 1" = 1'-0"

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 5 OF 7
DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 118 OVER TYRONZA RIVER
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x1x2_s5.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023
BRIDGE NO. 07670 & 07671 DRAWING NO. 67061

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WORKSPACE: ARDOT Bridge (2019)
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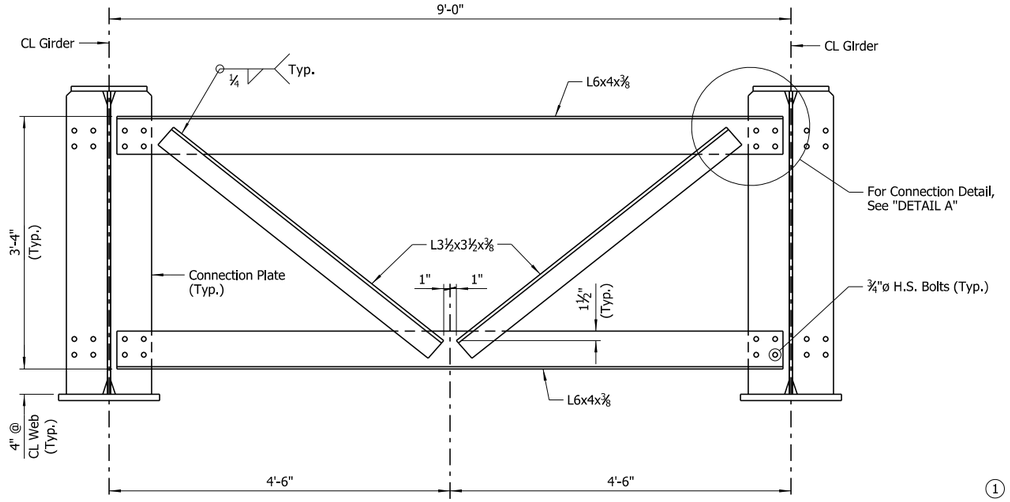
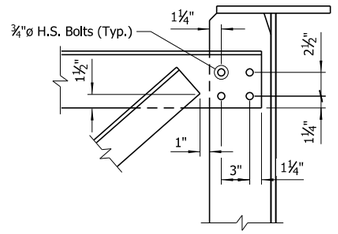
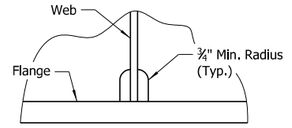
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	78	139
		07670 & 07671		330'-0" UNIT		67062



CROSS-FRAME DETAIL
Scale: 1" = 1'-0"



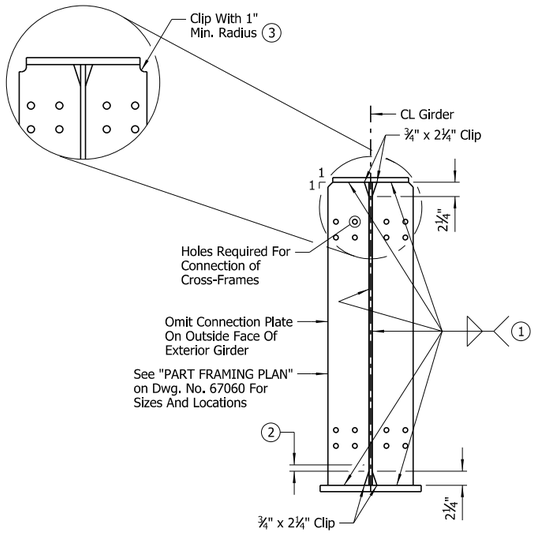
DETAIL A
No Scale



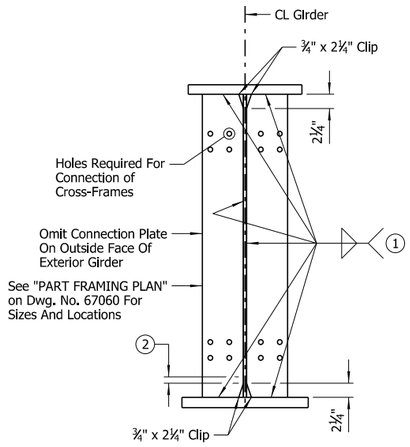
Height and width of clip shall be as noted in other details.

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

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

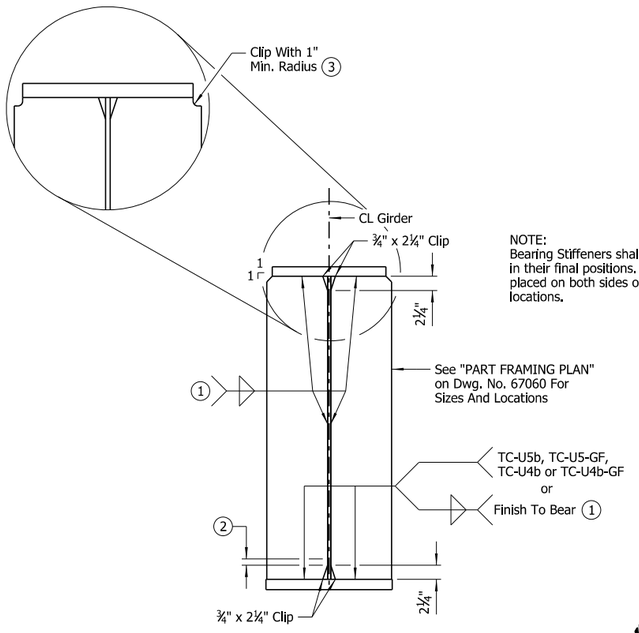


GIRDER WITH 12" TOP FLANGE



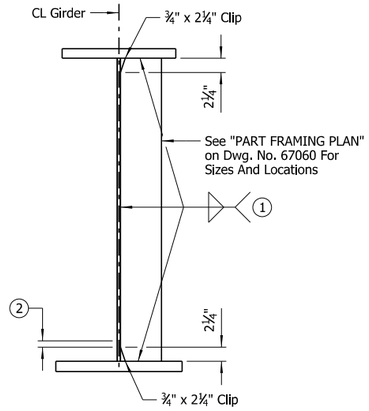
GIRDER WITH 18" TOP FLANGE

CONNECTION PLATE DETAIL
Scale: 1" = 1'-0"



BEARING STIFFENER DETAIL
No Scale

NOTE:
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.



INTERMEDIATE TRANSVERSE STIFFENER DETAIL
Scale: 1" = 1'-0"

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 6 OF 7
DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 118 OVER TYRONZA RIVER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x1x2_s6.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07670 & 07671 DRAWING NO. 67062

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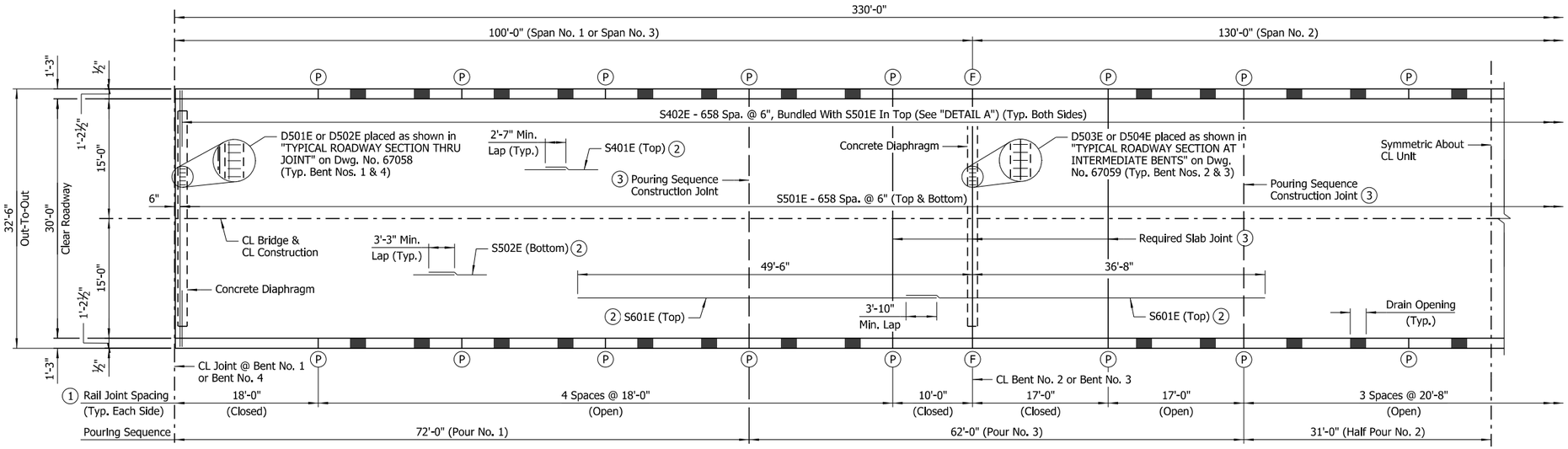
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\data\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x1x2_s6.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	79	139
		07670 & 07671		330'-0" UNIT		67063



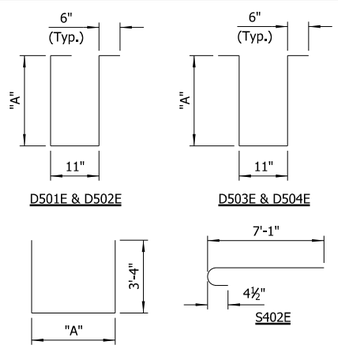
PART REINFORCING PLAN & SLAB POURING SEQUENCE

Scale: ⅛" = 1'-0"

BAR LIST

MARK	NO. REQ'D	LENGTH	"A"	P.D.
D501E	60	9'-6"	4'-0"	2½"
D502E	18	8'-0"	3'-3"	2½"
D503E	48	9'-6"	4'-0"	2½"
D504E	30	7'-6"	3'-0"	2½"
D601E	24	9'-2"	2'-10"	4½"
D602E	24	8'-11"	2'-7"	4½"
D701E	156	8'-8"		Str.
R400E	208	5'-3"		2½"
R401E	1328	6'-4"		2½", 3"
R402E	128	5'-6"		Str.
R403E	1328	3'-6"		3", 3¾"
R404E	32	9'-8"		Str.
R405E	64	16'-8"		Str.
R406E	160	17'-8"		Str.
R407E	48	20'-4"		Str.
S401E	306	39'-0"		Str.
S402E	1318	7'-7"		3"
S501E	1318	32'-2"		Str.
S502E	216	57'-9"		Str.
S601E	132	45'-0"		Str.

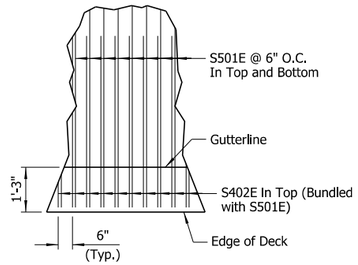
BAR BENDING DIAGRAMS



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.



DETAIL A

No Scale

TABLE OF VARIABLES

Closed Rail Panels			Open Rail Panels					
Panel Length	A	R4XXE	Panel Length	B	C	D	E	R4XXE
10'-0"	19	04	17'-0"	9	3'-6"	11	6'-0"	05
17'-0"	33	05	18'-0"	11	4'-0"	11	6'-0"	06
18'-0"	35	06	20'-8"	15	5'-4"	11	6'-0"	07

(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. 67057.

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

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. All Pours (2) must be placed before Pours (3) 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.21243
COLTON S. WYLIE

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 7 OF 7
DETAILS OF 330'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 118 OVER TYRONZA RIVER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x1x2_s7.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07670 & 07671 DRAWING NO. 67063

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WORKSPACE: ARDOT Bridge (2019)
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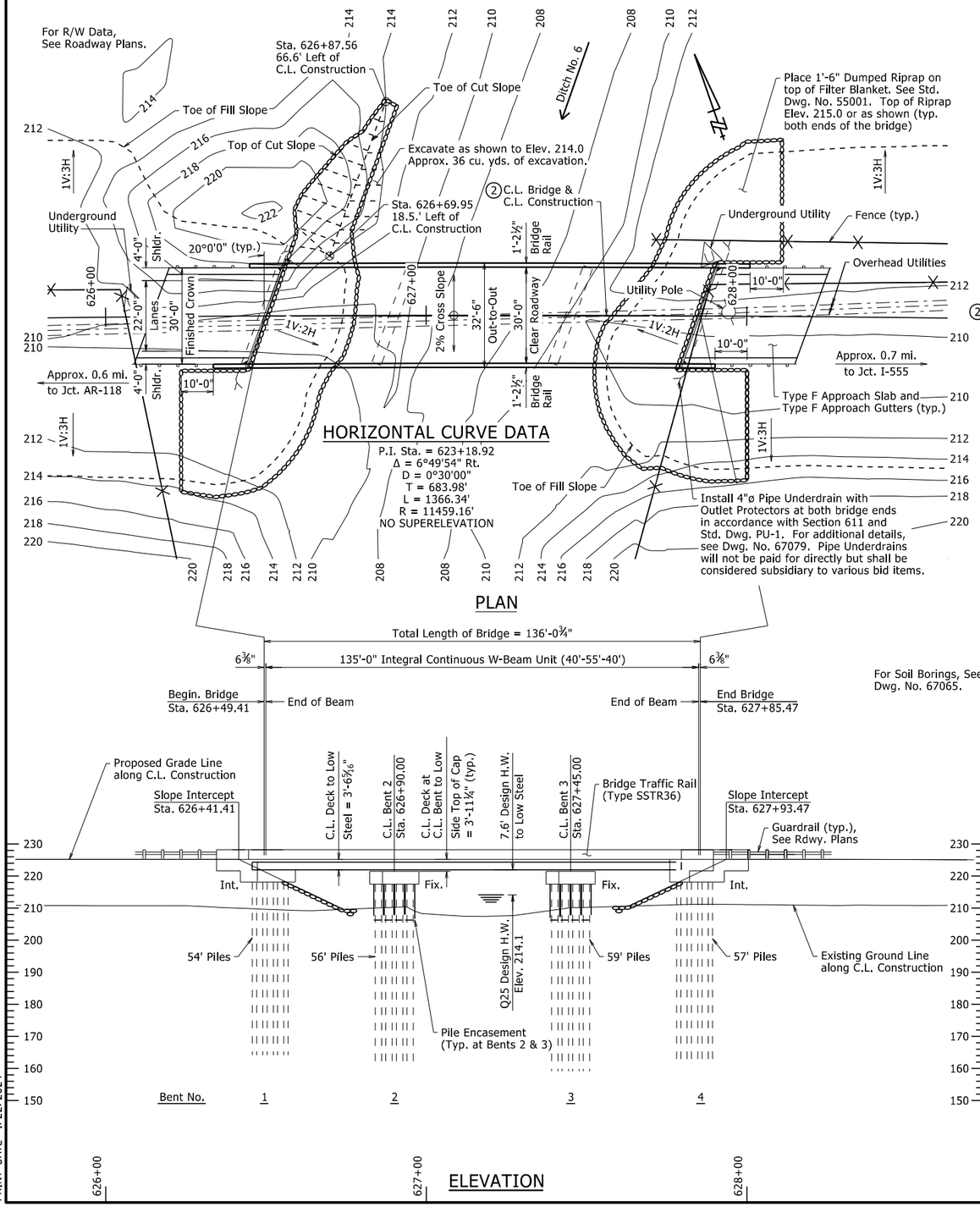
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	80	139
		07672 - LAYOUT - 67064				



For Soil Borings, See Dwg. No. 67065.

NOTES:

Span lengths, stations, & elevations are along C.L. Construction. See "CONSTRUCTION CHORD DETAIL" for additional information.

(2) C.L. Bridge & C.L. Construction are located on a 0°30'00" curve right. C.L. Chord is defined as a chord between Sta. 626+49.41 and Sta. 627+85.47 at C.L. of Construction. C.L. Bearings and C.L. Bents shall be skewed left forward to a line perpendicular to C.L. Chord. Beams shall be constructed parallel to C.L. Chord. All other longitudinal lines of the bridge, approach gutters and approach slabs shall be constructed on curves concentric to C.L. Construction. See "CONSTRUCTION CHORD DETAIL".

Place Type F Approach Gutters and Type F Approach Slab (width = 26'-0") at both ends of the bridge. See Std. Dwg. Nos. 55030F and 55040F1, respectively.

Bridge on Level Grade, C.L. Deck Elev. 225.19.

Stations shown are along C.L. Bridge. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "Rounding Detail" on Std. Dwg. No. 55007 for additional information.

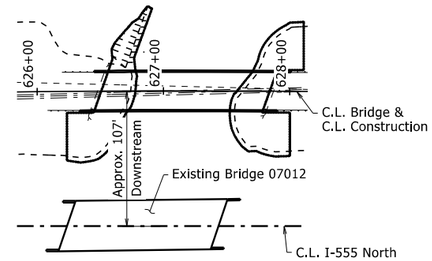
HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	(1) NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEVATION WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	25	650	214.1	214.1
Base	100	780	214.4	214.4
Extreme	500	920	214.8	214.7
Overtopping	>500	-	-	-

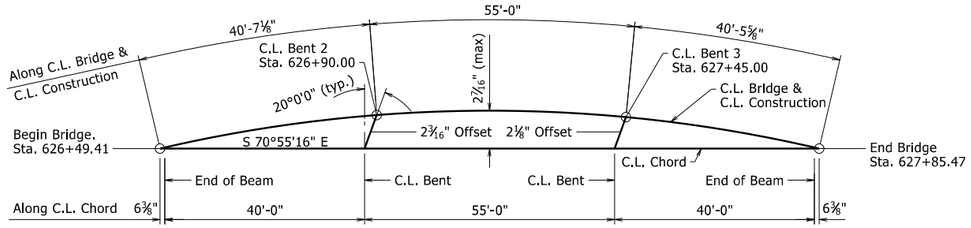
(1) Unconstricted water surface elevation without structure or roadway approaches.

Q100 backwater elevation for existing structure = 214.4 feet
Proposed Low Bridge Chord Elev. = 221.7 feet

Drainage Area = 5.2 square miles
Historical H.W. Elev. = N/A



LOCATION PLAN
No Scale



CONSTRUCTION CHORD DETAIL
No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
1/22/24
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF BRIDGE
I-555 SERVICE ROAD OVER DITCH NO. 6
TYRONZA RIVER & DITCH NO. 6
STRS. & APPRS. (S)
POINSETT COUNTY

ROUTE 555 SEC. 125

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BAB	DATE: 12/7/2022	FILENAME: b101017x3_l1.dgn	
CHECKED BY: DPT	DATE: 12/12/2022	SCALE: 1" = 20'-0"	
DESIGNED BY: BAB	DATE: 11/2022		

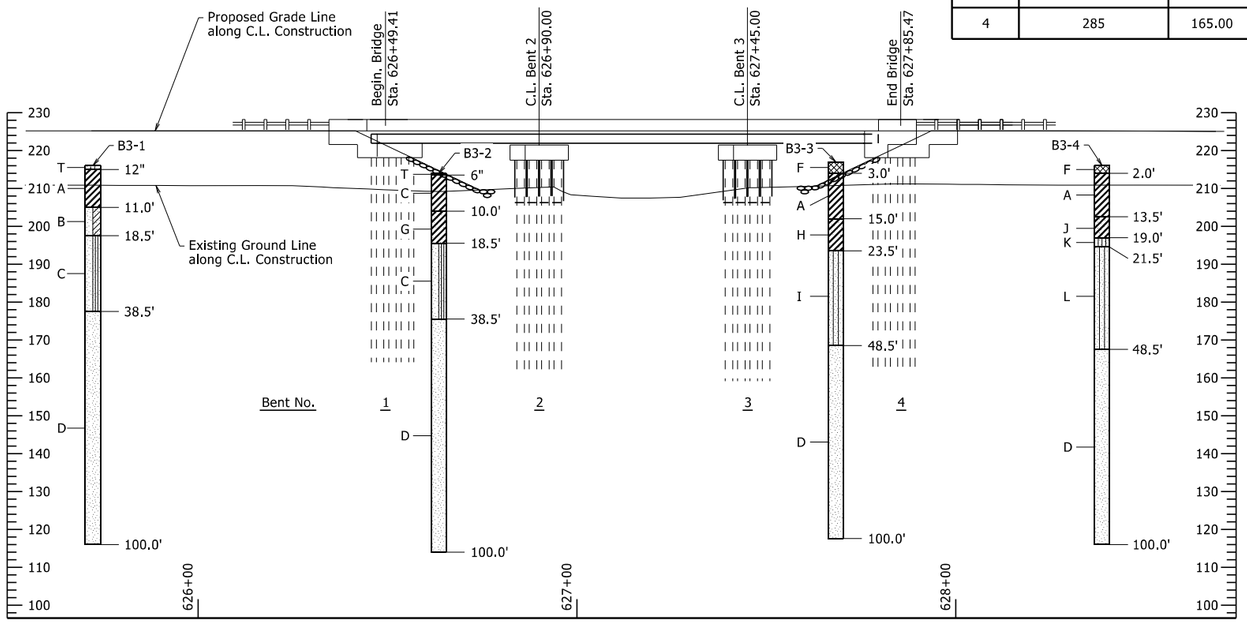
BRIDGE NO. 07672 DRAWING NO. 67064

PRINT DATE: 1/22/2024

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	81	139
		07672 - LAYOUT - 67065				

PILE BEARING TABLE

BENT NO.	REQUIRED MINIMUM ULTIMATE BEARING CAPACITY (TONS)	MINIMUM TIP ELEVATION	MINIMUM ENERGY (FT-LBS)
1	255	175.00	43,000
2	375	172.00	66,000
3	405	165.00	73,000
4	285	165.00	51,000



ELEVATION OF SOIL BORINGS

BORING LEGEND
- T Topsoil
- F FILL: rip rap
- A Soft to medium stiff, FAT CLAY
- B Loose SAND, with clay
- C Medium dense SAND, with silt
- D Medium dense to very dense SAND
- E Medium stiff to stiff, FAT CLAY
- G Medium stiff, sandy, FAT CLAY
- H Soft to medium stiff, sandy, FAT CLAY
- I Medium dense, SILTY SAND
- J Medium stiff to stiff, sandy, FAT CLAY
- K Medium stiff, sandy SILT
- L Loose to medium dense, SILTY SAND

B3-1
Sta. 625+72.2
Offset 26.3' Right
Elev. 216.00

Depth (ft)	N - Value
1.5 - 2.5	3
4.0 - 5.0	4
6.5 - 7.5	6
9.0 - 10.0	6
14.0 - 15.0	8
19.0 - 20.0	22
24.0 - 25.0	19
29.0 - 30.0	13
34.0 - 35.0	15
39.0 - 40.0	29
44.0 - 45.0	26
49.0 - 50.0	18
54.0 - 55.0	40
59.0 - 60.0	29
64.0 - 65.0	25
69.0 - 70.0	40
74.0 - 75.0	25
79.0 - 80.0	33
84.0 - 85.0	25
89.0 - 90.0	39
94.0 - 95.0	50 (5.5")
99.0 - 100.0	47

B3-2
Sta. 626+63.5
Offset 22.8' Right
Elev. 214.00

Depth (ft)	N - Value
1.5 - 2.5	6
4.0 - 5.0	9
9.0 - 10.0	8
14.0 - 15.0	7
19.0 - 20.0	18
24.0 - 25.0	16
29.0 - 30.0	12
34.0 - 35.0	14
39.0 - 40.0	30
44.0 - 45.0	24
49.0 - 50.0	26
54.0 - 55.0	26
59.0 - 60.0	38
69.0 - 70.0	26
79.0 - 80.0	36
89.0 - 90.0	44
99.0 - 100.0	74

B3-3
Sta. 627+68.3
Offset 21.6' Right
Elev. 217.00

Depth (ft)	N - Value
4.0 - 5.0	3
6.5 - 7.5	4
9.0 - 10.0	4
14.0 - 15.0	8
19.0 - 20.0	4
24.0 - 25.0	15
29.0 - 30.0	13
34.0 - 35.0	21
39.0 - 40.0	17
44.0 - 45.0	13
49.0 - 50.0	25
54.0 - 55.0	21
59.0 - 60.0	37
69.0 - 70.0	41
79.0 - 80.0	38
89.0 - 90.0	39
99.0 - 100.0	50 (5")

B3-4
Sta. 628+38.6
Offset 20.7' Right
Elev. 216.00

Depth (ft)	N - Value
4.0 - 5.0	4
6.5 - 7.5	3
9.0 - 10.0	4
14.0 - 15.0	8
19.0 - 20.0	6
24.0 - 25.0	9
29.0 - 30.0	15
34.0 - 35.0	18
39.0 - 40.0	15
44.0 - 45.0	9
49.0 - 50.0	32
54.0 - 55.0	16
59.0 - 60.0	22
64.0 - 65.0	34
69.0 - 70.0	30
74.0 - 75.0	30
79.0 - 80.0	51
84.0 - 85.0	33
89.0 - 90.0	49
94.0 - 95.0	51
99.0 - 100.0	61

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. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

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

LIVE LOADING: HL-93

SEISMIC ZONE: 4 SD1: 0.999g 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
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.

STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 16" diameter concrete filled steel shell piles and shall be driven to meet the requirements in PILE BEARING TABLE. Piling in Bents 2 and 3 shall be 24" diameter concrete filled steel shell piles and shall be driven to meet the requirements in PILE BEARING TABLE. All piling shall be driven with an approved air, steam, or diesel hammer to a minimum tip elevation as shown in PILE BEARING TABLE. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of 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. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g). No piles will be paid for as test 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 item "Steel Shell Piling (__" Dia.)".

PREBORING: Preboring is required for all piling at Bents 1 and 4. Prebored holes shall have a diameter 6" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling which may require the use of temporary casings or other approved methods, Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the item "Preboring".

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling 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 per blow required to obtain the ultimate bearing capacity for all piles will be as shown in PILE BEARING TABLE.

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural or finished ground. See Standard Drawing Number 55021 for additional information.

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

All steel surfaces within the end 5 feet of integral abutments, including the section encased in concrete.

All steel surfaces exposed to the outside face of the bridge, including outside faces & bottom of the exterior beams, splice plates and bolts, stiffeners, and bearings.

Galvanized members and surfaces in contact with concrete shall not be painted unless otherwise noted above. The color of paint shall be Brown equal or close to Fed Std. 595B, 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. ASTM F3125, Grade A325 Type 3 bolts shall be used within these painted zones and shall be painted.

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 the roadway surface and to the roadway face and top of the concrete bridge rails in accordance with Section 803.

DETAIL DRAWINGS:	DRAWING NO(S).
End Bents	67066-67068
Intermediate Bents	67069-67071
Elastomeric Bearings	67072
135' Integral Continuous W-Beam Unit	67073-67079
General Notes for Steel Bridge Structures	55006
Details for Steel Bridge Structures	55007
Concrete Filled Steel Shell Piles and Pile Encasement	55021
Type F Approach Gutter	55030F
Type F Approach Slab	55040F1
Bridge Traffic Rail	55070

MAINTENANCE OF TRAFFIC: See Roadway Plans.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
1/22/24
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE
I-555 SERVICE ROAD OVER DITCH NO. 6
TYRONZA RIVER & DITCH NO. 6
STRS. & APPRS. (S)
POINSETT COUNTY

ROUTE 555 SEC. 125

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: BAB DATE: 12/7/2022 FILENAME: b101017x3_l1.dgn
CHECKED BY: DPT DATE: 12/12/2022 SCALE: 1" = 20'-0"
DESIGNED BY: BAB DATE: 11/2022

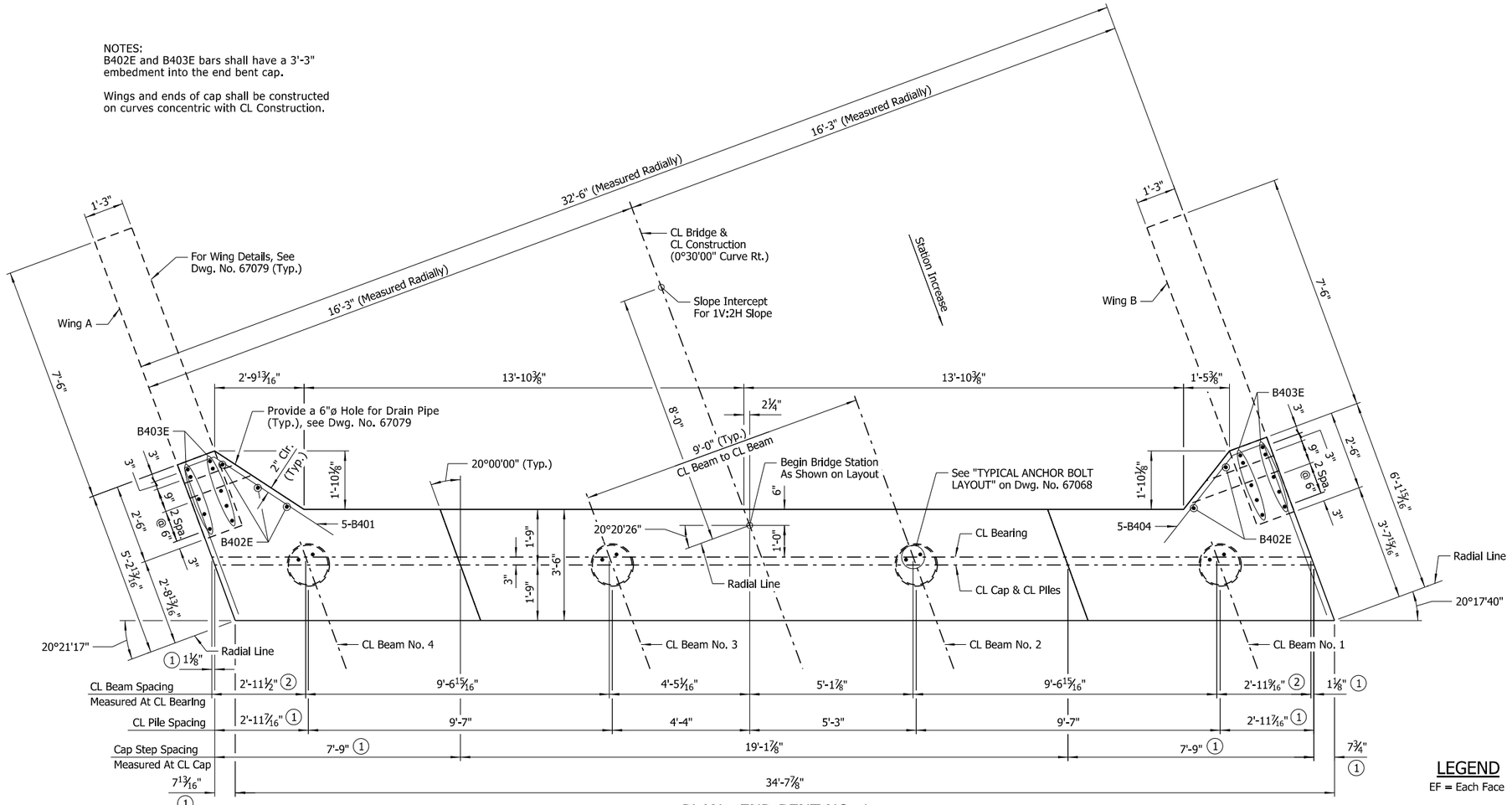
BRIDGE NO. 07672 DRAWING NO. 67065

PRINT DATE: 1/22/2024

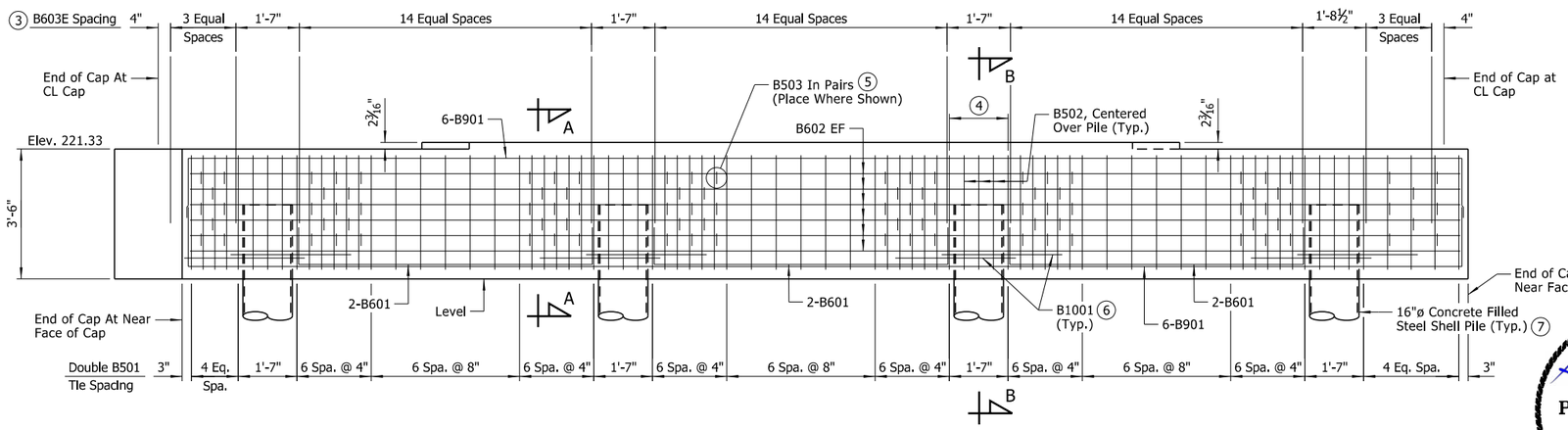
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	82	139
		07672		END BENTS		67066

NOTES:
B402E and B403E bars shall have a 3'-3" embedment into the end bent cap.

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



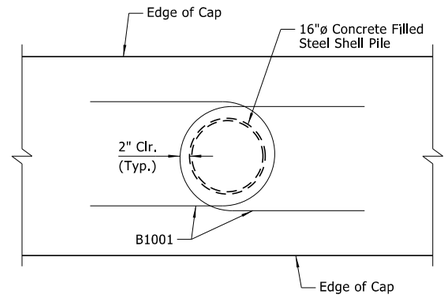
PLAN - END BENT NO. 1
Scale: ½" = 1'-0"



ELEVATION - END BENT NO. 1
(Looking Back)
Scale: ½" = 1'-0"

NOTE:
For plan view of Double B501 & B502 spacing, see "TRANSVERSE BAR SPACING PLAN - BENT NO. 1" on Dwg. No. 67068.

NOTE:
For "SECTION A-A", "SECTION B-B", "BAR LIST (PER BENT)" and "BAR BENDING DIAGRAMS", see Dwg. 67068.



PLAN OF B1001 PLACEMENT
No Scale

LEGEND
EF = Each Face

1. Measured to Intersection of CL Cap and End of Cap
2. Measured to Intersection of CL Bearing and End of Cap
3. Spacing shown measured along CL Cap. Place B603E Bars parallel to cap step skew. Top of B603E Bars shall maintain 2" clear of paving notch in the End Bent Diaphragm.
4. 4 Spa. @ 4¾" (Typ. over each pile)
5. Orient each pair of B503 bars to be parallel to horizontal legs of adjacent Double B501 Tie.
6. Position vertically pair of B1001 bars as shown at each pile. See "PLAN OF B1001 PLACEMENT" for additional details.
7. See Std. Dwg. No. 55021 for details of piles. Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap.

GENERAL NOTES

Concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners 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.

Granular backfill and pipe underdrain required behind end bent caps. See Dwg. No. 67074 for details.

For additional information, see Layout.

STATE OF ARKANSAS
ADAM B. HALL
LICENSED PROFESSIONAL ENGINEER
No.14498
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF END BENTS
I-555 SERVICE ROAD OVER DITCH NO. 6
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	HEW	DATE:	DEC. 2023	FILENAME: b101017x3_a1.dgn
CHECKED BY:	ABH	DATE:	DEC. 2023	SCALE: As Shown
DESIGNED BY:	RAK	DATE:	DEC. 2023	

BRIDGE NO. 07672 DRAWING NO. 67066

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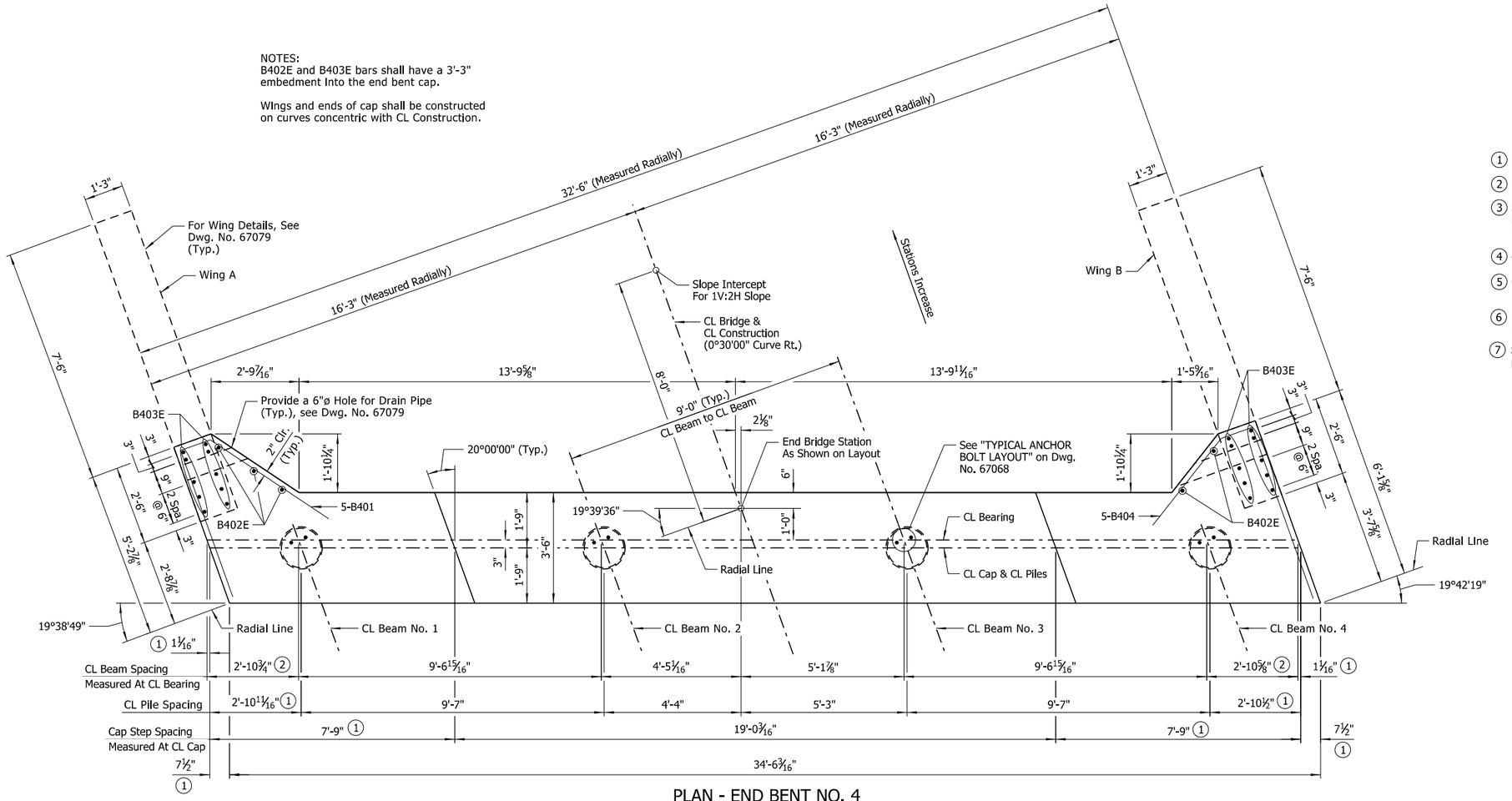
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S201_AB.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	83	139
		07672		END BENTS		67067

NOTES:
B402E and B403E bars shall have a 3'-3" embedment into the end bent cap.

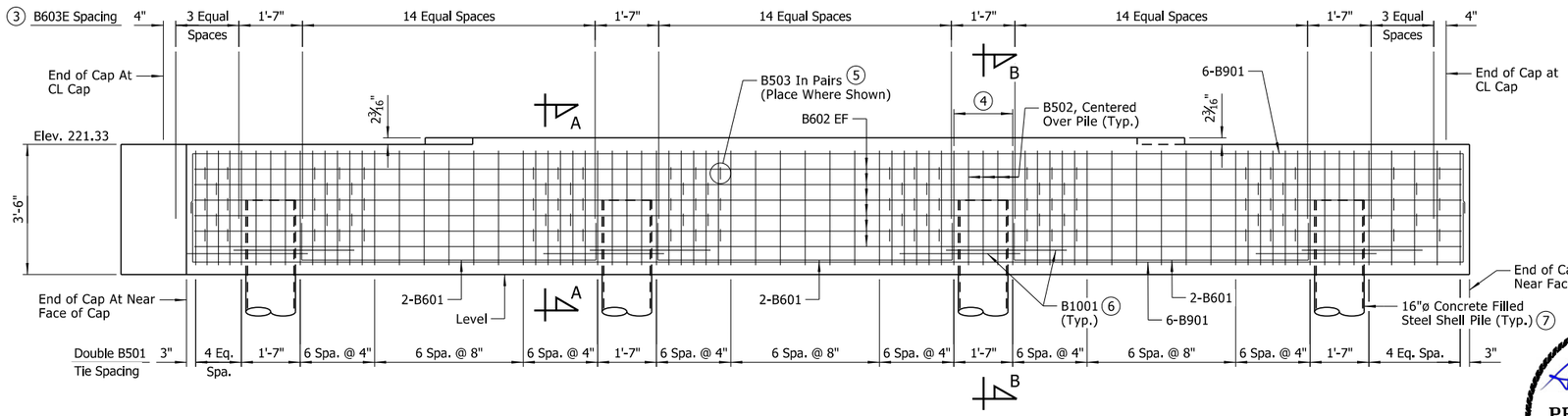
Wings and ends of cap shall be constructed on curves concentric with CL Construction.



PLAN - END BENT NO. 4

Scale: ½" = 1'-0"

1. Measured to Intersection of CL Cap and End of Cap
2. Measured to Intersection of CL Bearing and End of Cap
3. Spacing shown measured along CL Cap. Place B603E Bars parallel to cap step skew. Top of B603E Bars shall maintain 2" clear of paving notch in the End Bent Diaphragm.
4. 4 Spa. @ 4¾" (Typ. over each pile)
5. Orient each pair of B503 bars to be parallel to horizontal legs of adjacent Double B501 Tie.
6. Position vertically pair of B1001 bars as shown at each pile. See "PLAN OF B1001 PLACEMENT" on Dwg. No. 67066 for additional details.
7. See Std. Dwg. No. 55021 for details of piles. Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap.



ELEVATION - END BENT NO. 4

(Looking Ahead)
Scale: ½" = 1'-0"

NOTE:
For plan view of Double B501 & B502 spacing, see "TRANSVERSE BAR SPACING PLAN - BENT NO. 4" on Dwg. No. 67068.

NOTE:
For "SECTION A-A", "SECTION B-B", "BAR LIST (PER BENT)" and "BAR BENDING DIAGRAMS", see Dwg. 67068.

LEGEND

EF = Each Face

NOTE:
For "GENERAL NOTES", see Dwg. No. 67066.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF END BENTS
I-555 SERVICE ROAD OVER DITCH NO. 6
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: DEC. 2023 FILENAME: b101017x3_a2.dgn
CHECKED BY: ABH DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: DEC. 2023
BRIDGE NO. 07672 DRAWING NO. 67067

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1/22/2024 3:47:24 PM
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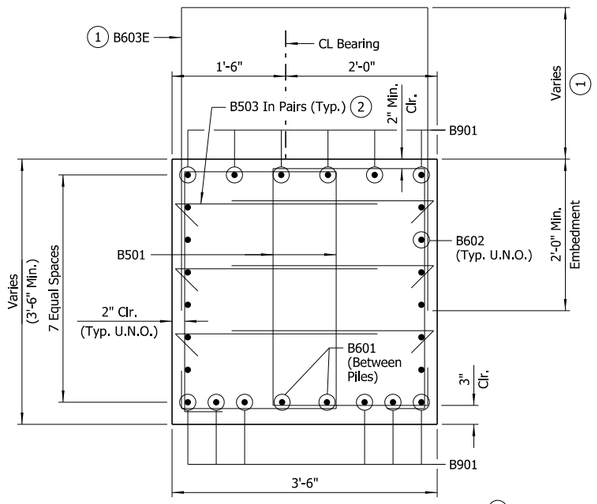
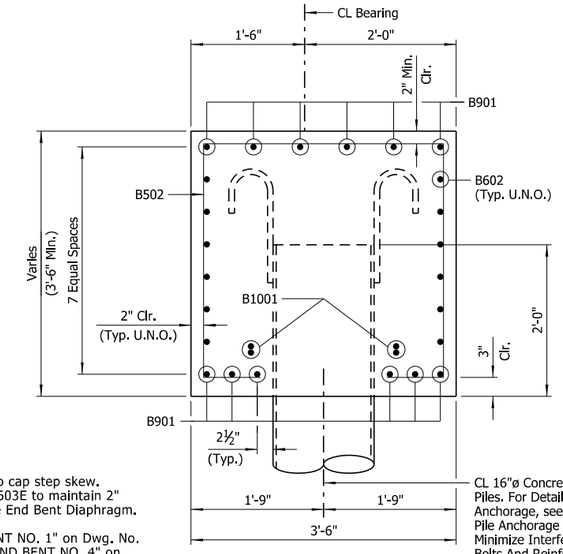
		07672		END BENTS		67068



SECTION A-A

Scale: 1" = 1'-0"



SECTION B-B

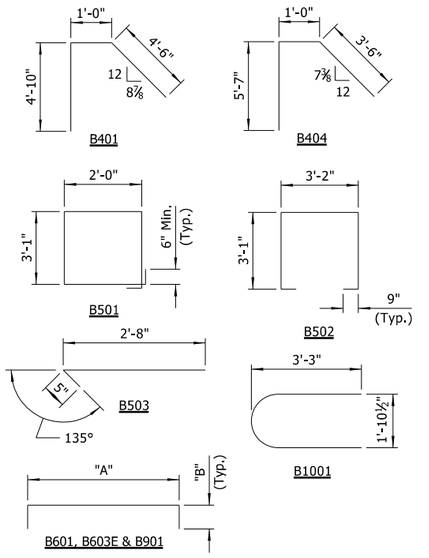
Scale: 1" = 1'-0"

1. Place B603E Bars parallel to cap step skew. Adjust projection of Bars B603E to maintain 2" clear of paving notch in the End Bent Diaphragm.
2. See "ELEVATION - END BENT NO. 1" on Dwg. No. 67066 and "ELEVATION - END BENT NO. 4" on Dwg. No. 67067 for placement.

LEGEND

U.N.O. = Unless Noted Otherwise

BAR BENDING DIAGRAMS

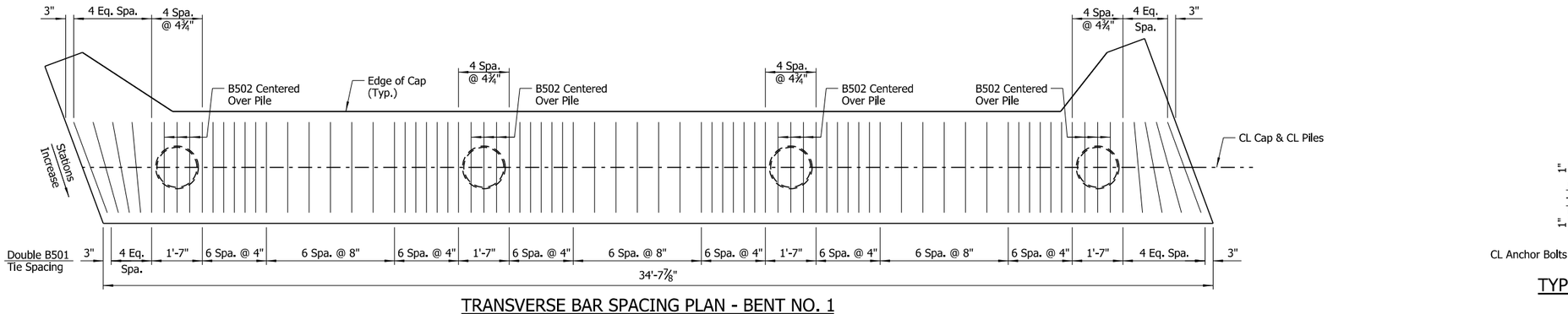


BAR LIST (PER BENT)

MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
B401	5	10'-3"			2"
B402E	5	5'-5"			Str.
B403E	20	6'-8"			Str.
B404	5	10'-0"			2"
B501	134	10'-8"			2½"
B502	12	10'-5"			2½"
B503	188	3'-1"			3¾"
B601	6	9'-7"	7'-11"	1'-0'	4½"
B602	12	33'-11½"			Str.
B603E	53	12'-0"	3'-4"	4'-6"	4½"
B901	12	36'-10"	34'-2"	1'-7¼"	9"
B1001	8	7'-5"			1'-8"

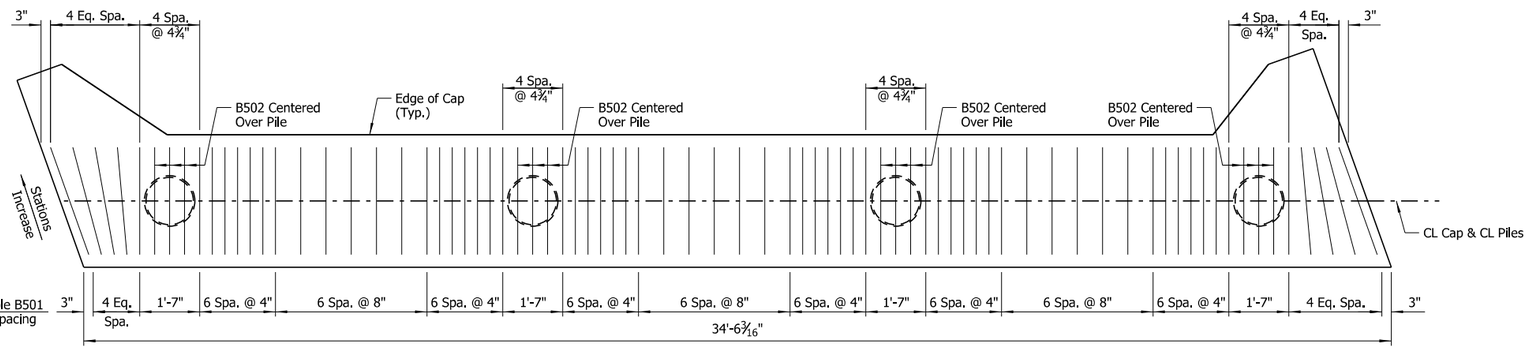
NOTES:
Dimensions of bars are out-to-out.

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



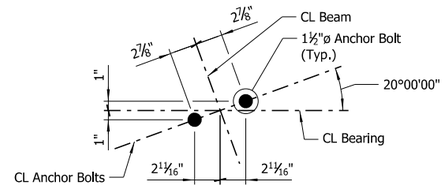
TRANSVERSE BAR SPACING PLAN - BENT NO. 1

Scale: ½" = 1'-0"



TRANSVERSE BAR SPACING PLAN - BENT NO. 4

Scale: ½" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT

Scale: 1½" = 1'-0"

NOTE:
See Dwg. No. 67074 for details of anchor bolts.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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ADAM B. HALL

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF END BENTS
I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: DEC. 2023 FILENAME: b101017x3_a3.dgn
CHECKED BY: ABH DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: DEC. 2023

BRIDGE NO. 07672 DRAWING NO. 67068

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DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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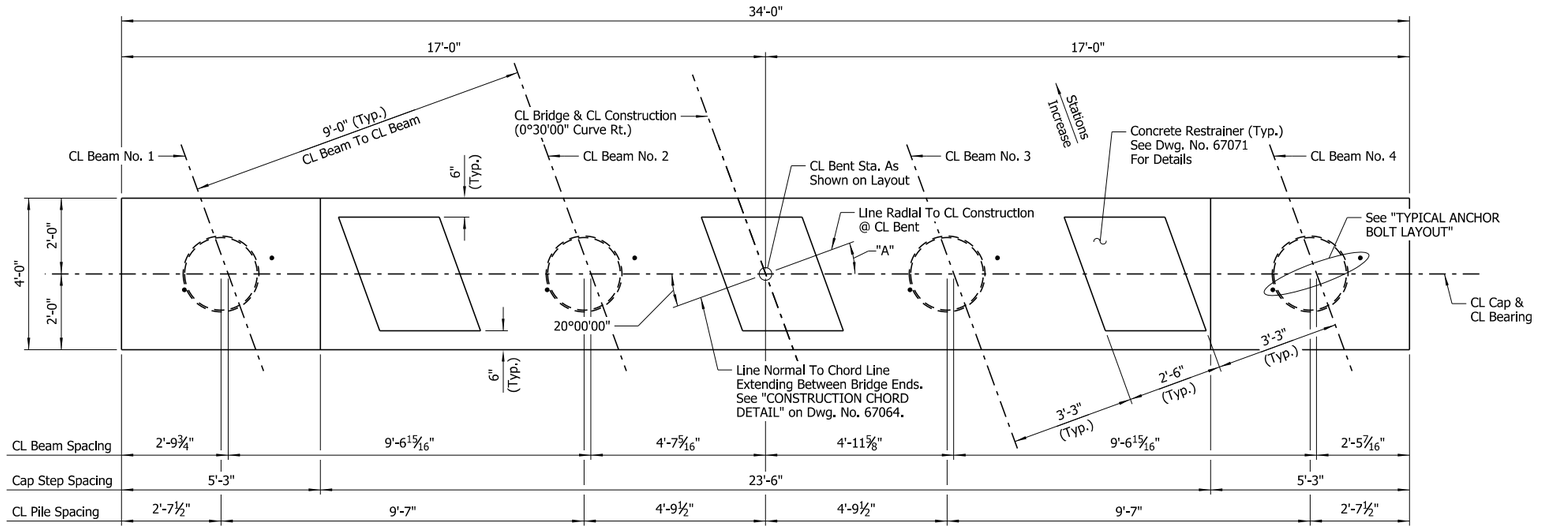
		07672		INT. BENTS		67069



PLAN
Scale: ½" = 1'-0"

GENERAL NOTES

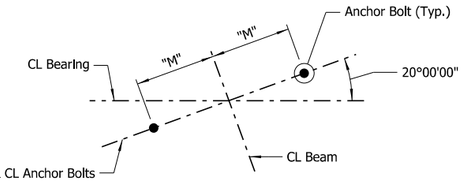
Concrete shall be Class "S" except that the coarse aggregate size shall meet AASHTO M 43, Size 67 (¾" Max.). Concrete shall have a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners shall be chamfered ¾" unless noted otherwise.

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.

For "VIEW A-A", "SECTION B-B" & "SECTION C-C", see Dwg. No. 67070.

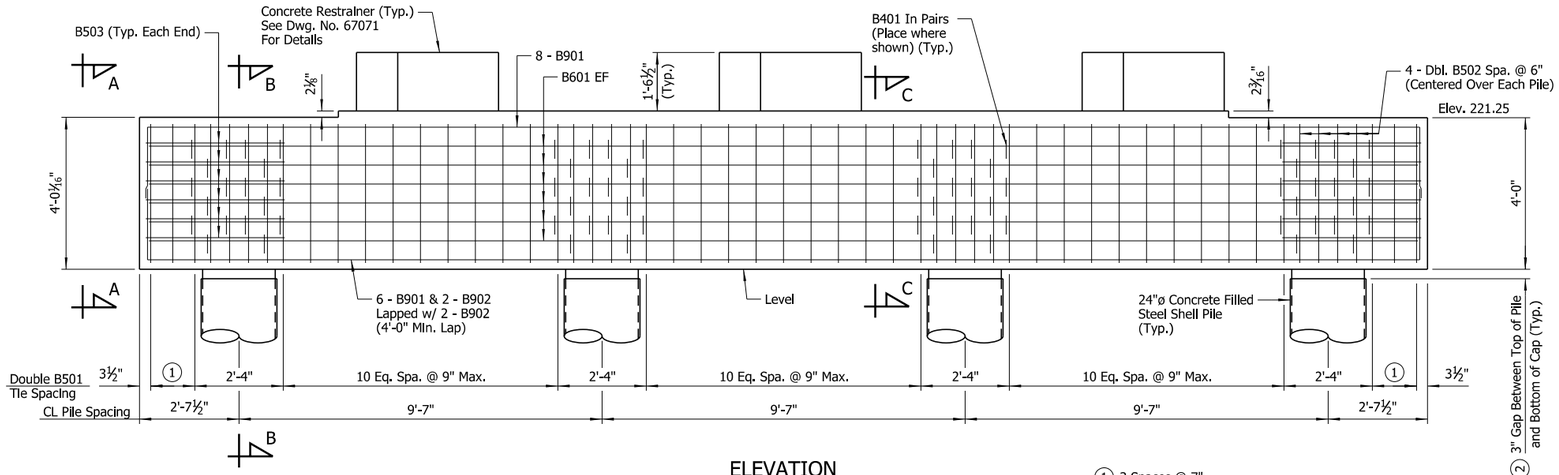
For additional information, see Layout on Dwg. No. 67064.



TYPICAL ANCHOR BOLT LAYOUT
No Scale

NOTE:
For details of Elastomeric Bearings, see Dwg. No. 67072.

LEGEND
EF = Each Face



ELEVATION
(Looking Ahead)
Scale: ½" = 1'-0"

① 2 Spaces @ 7"

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

TABLE OF VARIABLES	
BENT NO.	"A"
2	20°08'14"
3	19°51'44"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF INTERMEDIATE BENTS
I-555 SERVICE ROAD OVER DITCH NO. 6
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: DEC. 2023 FILENAME: b101017x3_b1.dgn
CHECKED BY: ABH DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: DEC. 2023
BRIDGE NO. 07672 DRAWING NO. 67069

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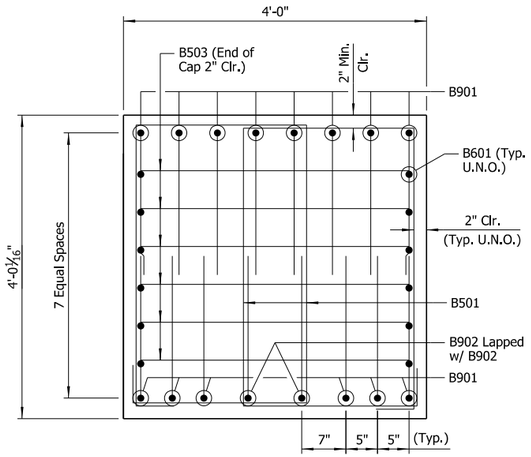
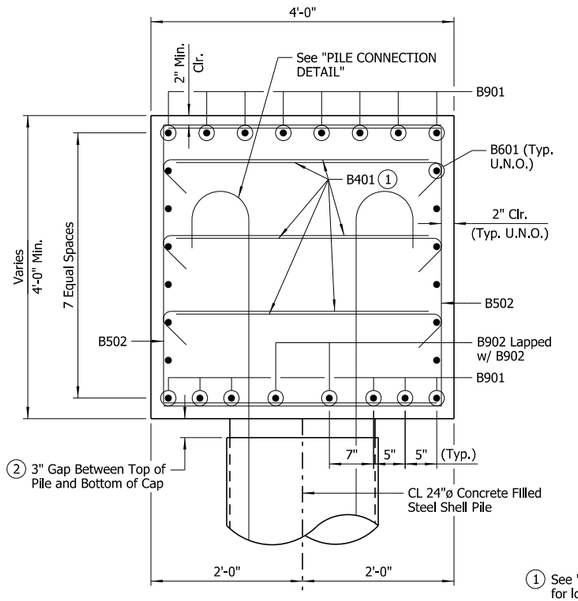
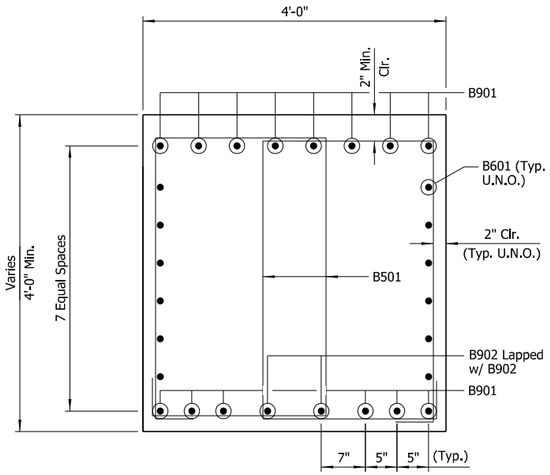
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	86	139
		07672		INT. BENTS		67070



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



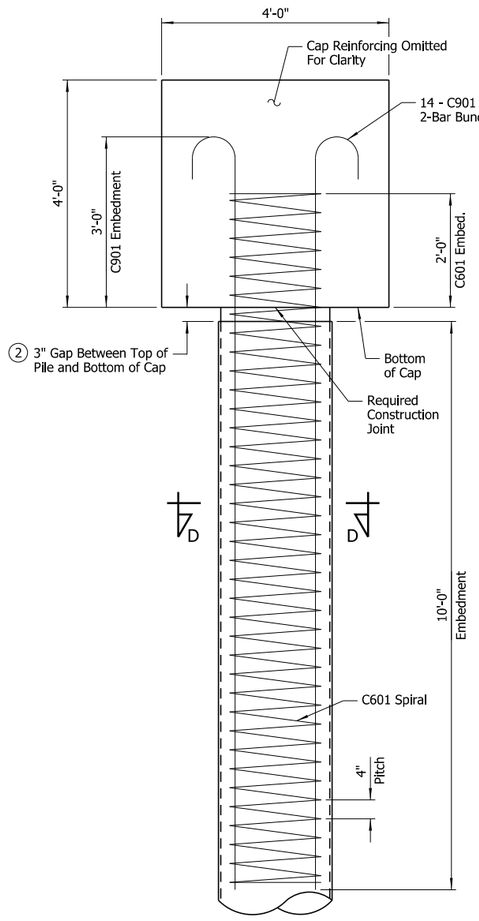
SECTION B-B
Scale: 1" = 1'-0"



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

(1) See "ELEVATION" on Dwg. No. 67069 for locations and spacing.

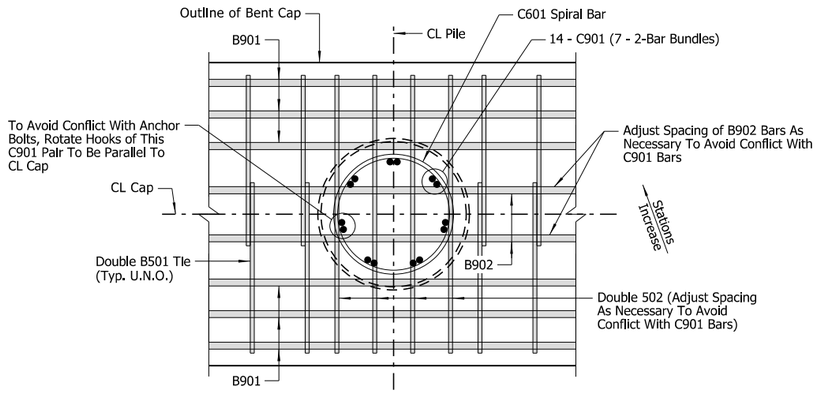
(2) Gap between top of pile and bottom of cap shall be 3"±1".



END VIEW
Scale: ¾" = 1'-0"

LEGEND

U.N.O. = Unless Noted Otherwise

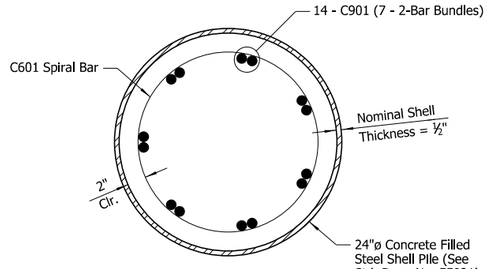


PLAN
Scale: 1" = 1'-0"

NOTE:
Place C901 Bars as shown to facilitate placement of cap reinforcement. Only bottom mat of cap reinforcement shown.

(3) Pile connection details shown shall be used in lieu of the pile anchorage details shown on Std. Dwg. No. 55021.

PILE CONNECTION DETAIL (3)



SECTION D-D
Scale: 1½" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14498
ADAM B. HALL
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF INTERMEDIATE BENTS
I-555 SERVICE ROAD OVER DITCH NO. 6
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: DEC. 2023 FILENAME: b101017x3_b2.dgn
CHECKED BY: ABH DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: DEC. 2023
BRIDGE NO. 07672 DRAWING NO. 67070

ABHall 1/22/2024 3:47:26 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S211_BE.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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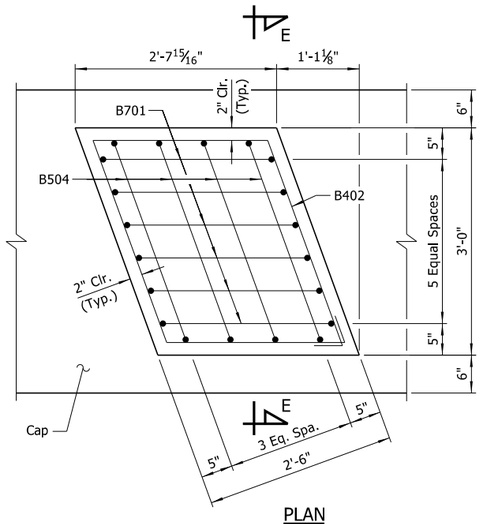
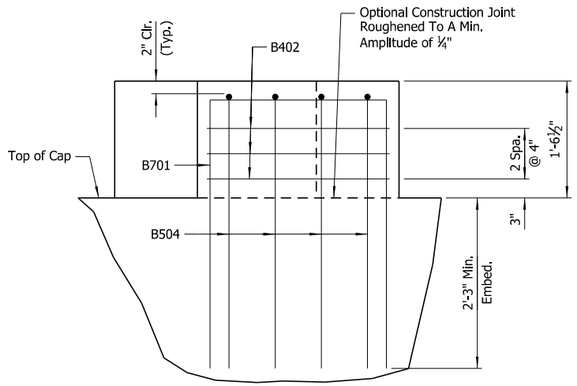
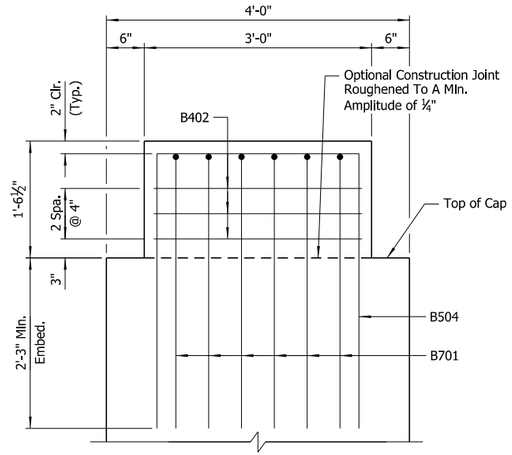
		07672		INT. BENTS		67071



PLAN



ELEVATION
(Looking Ahead)



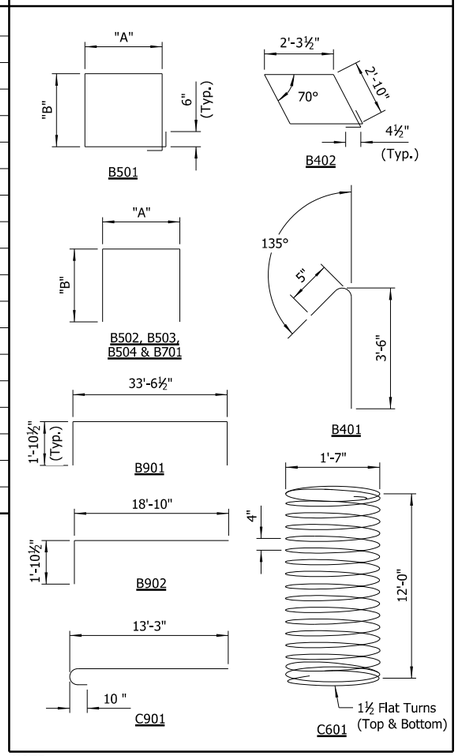
SECTION E-E
Scale: 1" = 1'-0"

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

BAR LIST (PER BENT)

MARK	NO. REQ'D	LENGTH	"A"	"B"	P.D.
B401	144	4'-0"			3"
B402	9	10'-7"			2"
B501	78	12'-4"	2'-3"	3'-8"	2½"
B502	32	10'-9"	3'-8"	3'-8"	2½"
B503	12	10'-3"	3'-6"	3'-6"	2½"
B504	12	9'-10"	2'-8½"	3'-8"	2½"
B601	12	33'-3"			Str.
B701	18	9'-2"	2'-2½"	3'-8"	5¼"
B901	14	36'-8"			9"
B902	4	20'-5"			9"
C601	4	186'-4"			17½"
C901	56	14'-6"			9"

BAR BENDING DIAGRAMS



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

STATE OF ARKANSAS
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ADAM B. HALL

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SHEET 3 OF 3
DETAILS OF INTERMEDIATE BENTS
I-555 SERVICE ROAD OVER DITCH NO. 6
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: DEC. 2023 FILENAME: b101017x3_b3.dgn
CHECKED BY: ABH DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: DEC. 2023
BRIDGE NO. 07672 DRAWING NO. 67071

ABHall 1/22/2024 3:47:26 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S212_BE.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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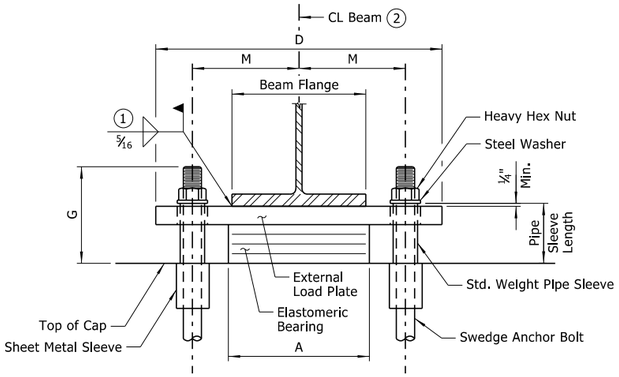
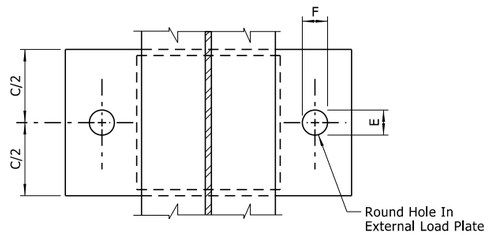
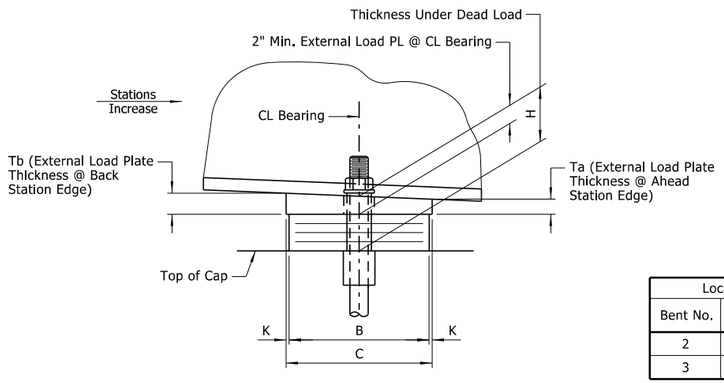
		07672	ELASTOMERIC BEARINGS			67072



FRONT VIEW - AT BENT NOS. 2 & 3

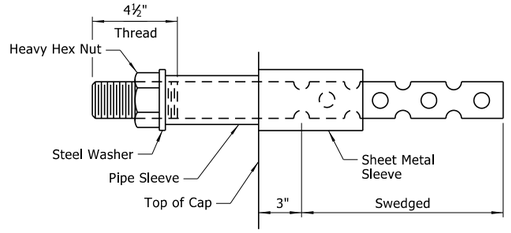


PLAN VIEW - AT BENT NOS. 2 & 3



SIDE VIEW - AT BENT NOS. 2 & 3

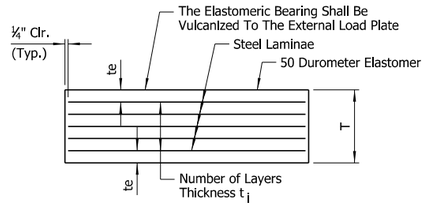
The direction of the bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in "TABLE OF FABRICATOR VARIABLES".



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 BEAM SPANS (A709, GR. 50W)".



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

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 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 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 BEAM SPANS (A709, GR. 50W)". External load plates will not be measured or paid for separately but will be included in 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 beams, the Contractor shall verify the orientation of the bearings with respect to T_a and T_b.

(1) Care shall be taken to ensure that the external load plate is in full and complete contact with the beam flange before welding begins.

(2) CL Elastomeric Pad shall be allgned with CL Beam.

TABLE OF FABRICATOR VARIABLES

Location		Bearing Type	No. Of Bearings Each Bent	(3) Maximum Design Load (Kips)	G	H	Elastomeric Pad							External Load Plate								Anchor Bolt				
Bent No.	Beam No.						A	B	N	t_i	t_e	No. & Thickness Of Steel Laminae	T	C	D	E	F	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.)
2	All	Fixed	4	180	8 3/16"	4 15/16"	14"	12"	4	½"	¼"	5 @ 12 Ga.	3"	13"	36"	3⅛"	3⅛"	½"	14¾"	2.00"	2.00"	2" x 31"	55	2½" x 5 5/16"	4" x 10"	3¾"
3	All	Fixed	4	180	8 3/16"	4 15/16"	14"	12"	4	½"	¼"	5 @ 12 Ga.	3"	13"	36"	3⅛"	3⅛"	½"	14¾"	2.00"	2.00"	2" x 31"	55	2½" x 5 5/16"	4" x 10"	3¾"

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

STATE OF ARKANSAS
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BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS
I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x3_e1.dgn
CHECKED BY: KWY DATE: OCT. 2023 SCALE: No Scale
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07672 DRAWING NO. 67072

ABHall 1/22/2024 3:47:27 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S301_BG.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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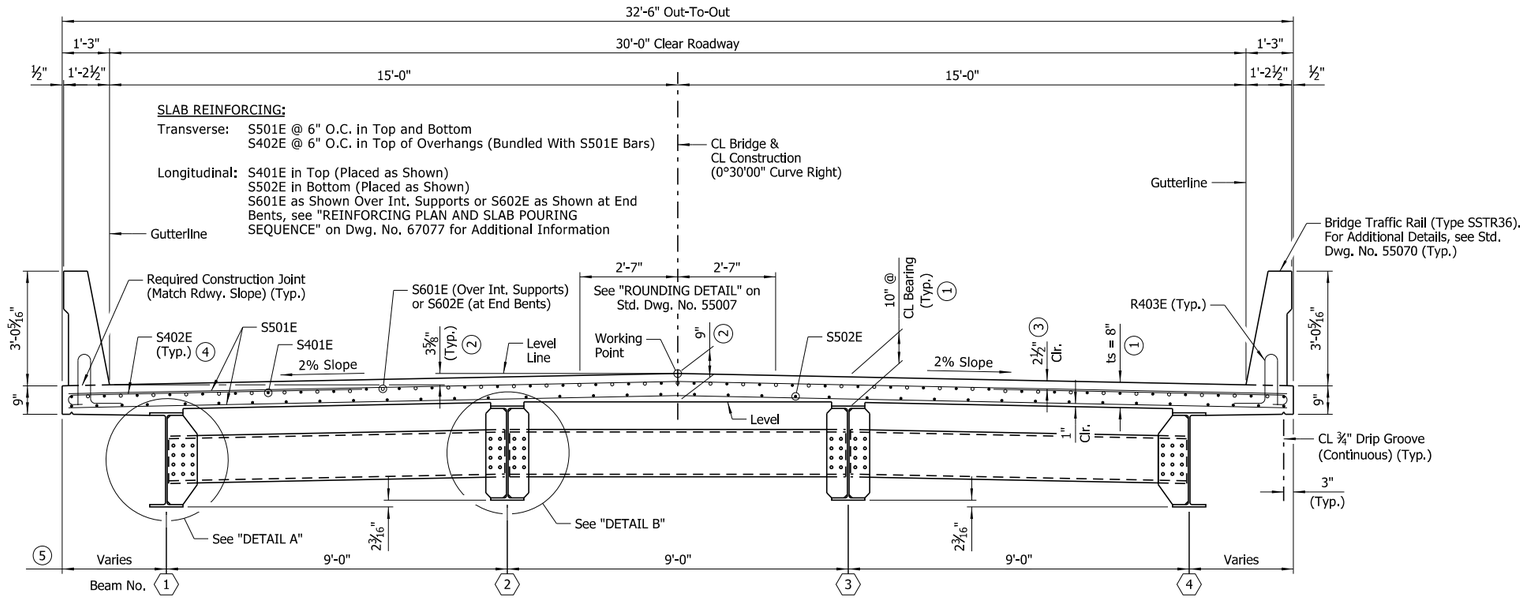
		07672		135'-0" UNIT		67073



TYPICAL ROADWAY SECTION

(Looking Ahead)
Scale: ½" = 1'-0"

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

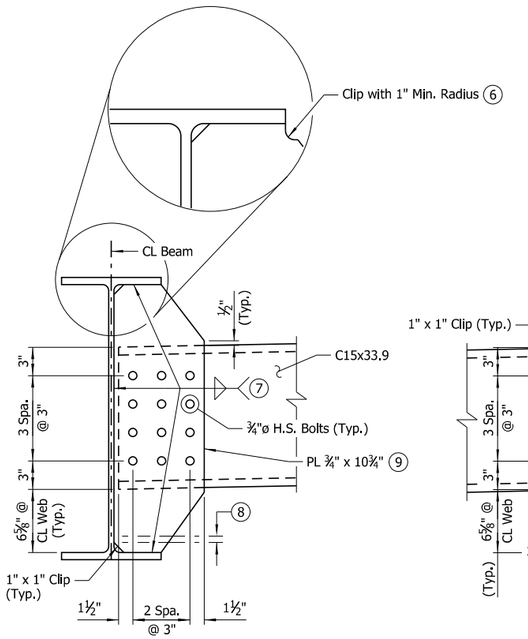
NOTES:
For Standard General Notes and details, see Std. Dwg. Nos. 55006 & 55007.

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.

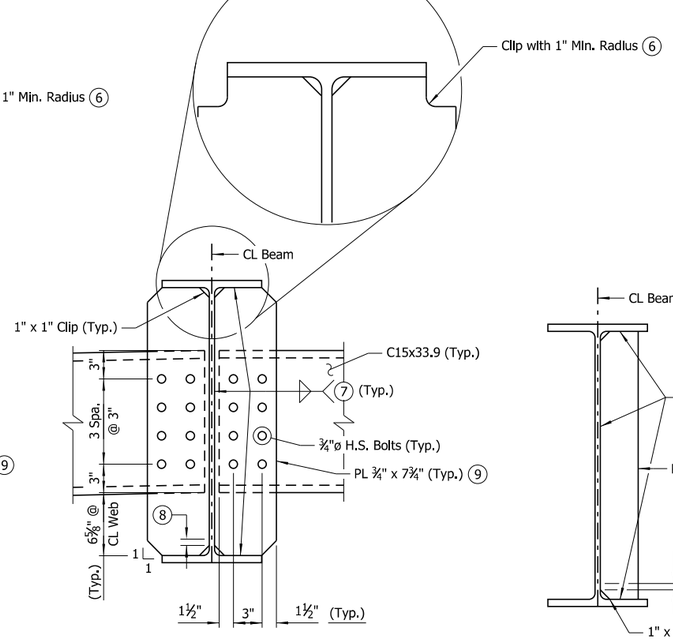
All structural steel shall be ASTM A709, Gr. 50W unless noted otherwise, and all structural steel shall be paid for as "STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)".

For "BAR LIST" and "BAR BENDING DIAGRAMS", see Dwg. No. 67078.



DETAIL A

No Scale



DETAIL B

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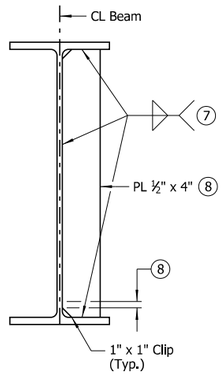

DETAIL C

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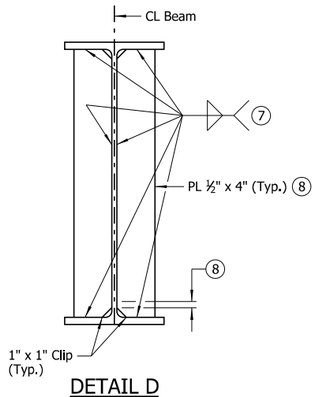


DETAIL D

No Scale

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

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

(3) 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.

(4) Bundled with S501E bars in top. Rotate S402E hook as needed to avoid interference with bottom mat of deck reinforcement.

(5) Measured perpendicular to chord line extending between bridge ends. See "CONSTRUCTION CHORD DETAIL" on Dwg. No. 67064.

(6) If permanent steel bridge deck forms are used, the Fabricator shall clip the plate as necessary to accommodate the deck form support.

(7) See "WELD TABLE" on Std. Dwg. No. 55007.

(8) Stop weld ¼" to 1" from end of clip (Typ.)

(9) Connection Plates and Stiffeners shall be oriented parallel to skewed supports.

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 1 OF 7
DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: OCT. 2023 FILENAME: b101017x3_s1.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RH DATE: OCT. 2023

BRIDGE NO. 07672 DRAWING NO. 67073

ABHall
1/22/2024 3:47:27 PM
WORKSPACE: ARDOT Bridge (2019)
\\garvelnc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S401_SX.dgn

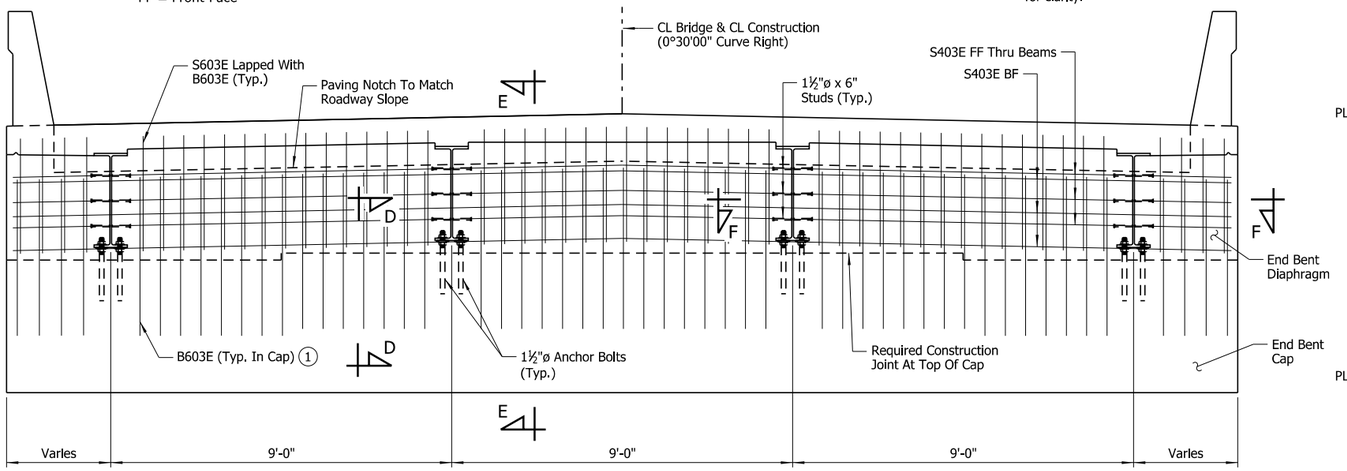
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	90	139
		07672		135'-0" UNIT		67074

LEGEND

BF = Back Face
FF = Front Face

(1) See Dwg. Nos. 67066-67068 for End Bent reinforcing details and placement.

NOTE:
Deck reinforcing omitted for clarity.



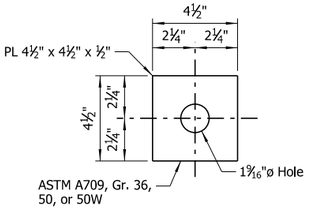
TYPICAL ROADWAY SECTION AT CONCRETE END BENT DIAPHRAGMS

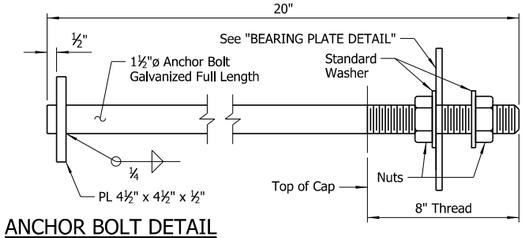
(Looking Back at Bent 1 & Parallel To CL Beams)
No Scale

NOTE:
Diaphragm at Bent 4 similar.

(2) Measured along CL Bridge & CL Construction

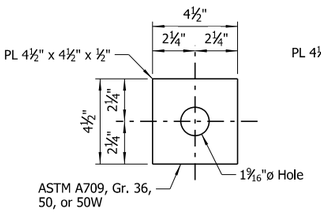
(3) Measured along CL Beam

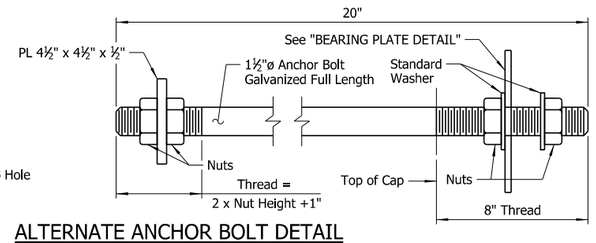




ANCHOR BOLT DETAIL

No Scale



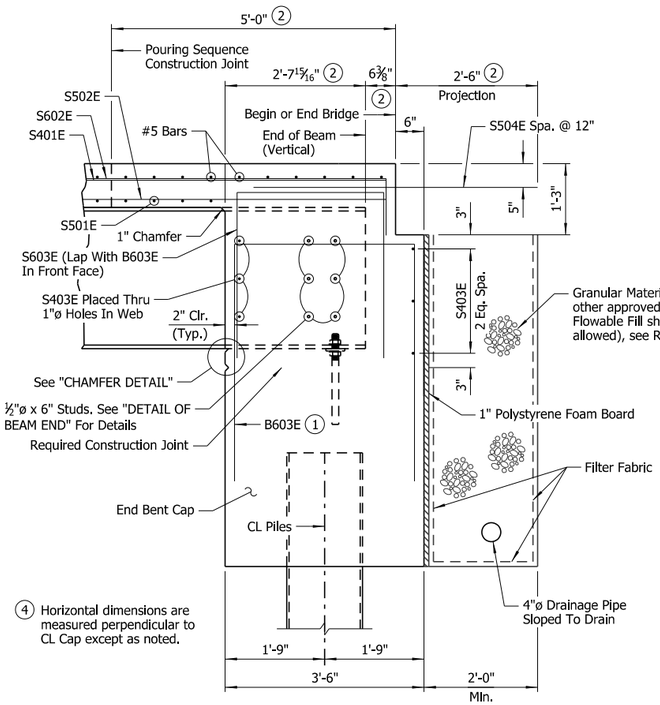


ALTERNATE ANCHOR BOLT DETAIL

No Scale

Anchor bolts shall comply with AASHTO M 314, Grade 55 with Supplementary Requirement S1, and shall be galvanized according to Subsection 807.07. Nuts and washers for bolts shall be as specified in Subsection 807.07. Plates, anchor bolts, nuts and washers shall be paid for at the unit price bid for "STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)".

Use lower nut and washer to adjust to grade. Snug tight top nut and washer after grade is adjusted.



(4) Horizontal dimensions are measured perpendicular to CL Cap except as noted.

SECTION E-E (4)

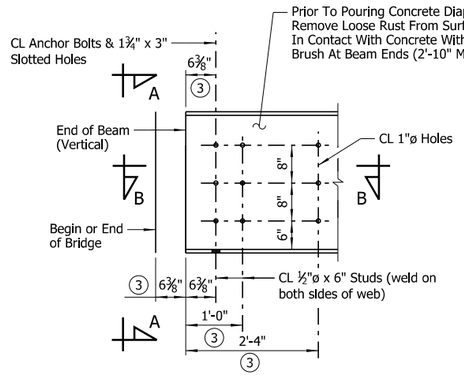
(Looking Normal To Bent)
No Scale

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

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

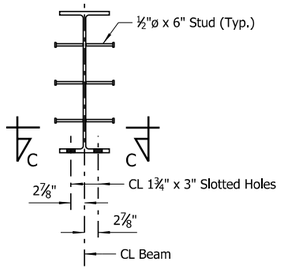
1" Polystyrene Foam Board, Filter Fabric and Granular Material shall not be paid for directly but shall be considered subsidiary to various bid items.

NOTE:
For "SECTION F-F", see Dwg. No. 67078.



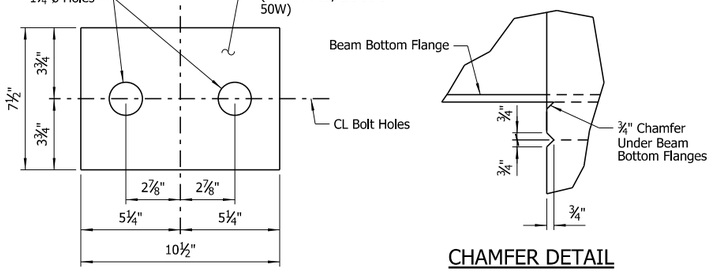
DETAIL OF BEAM END

Scale: ¾" = 1'-0"



VIEW A-A

Scale: ¾" = 1'-0"

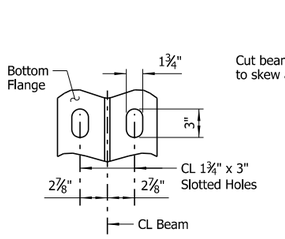


BEARING PLATE DETAIL

Scale: 3" = 1'-0"

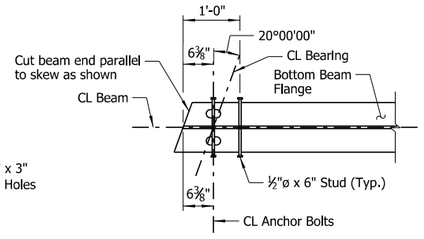
CHAMFER DETAIL

No Scale



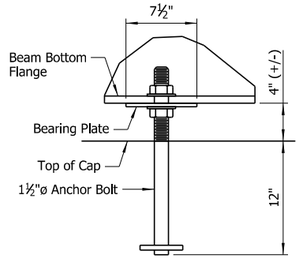
SECTION C-C

Scale: 1½" = 1'-0"



SECTION B-B

Scale: ¾" = 1'-0"



VIEW D-D

No Scale

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 2 OF 7
DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

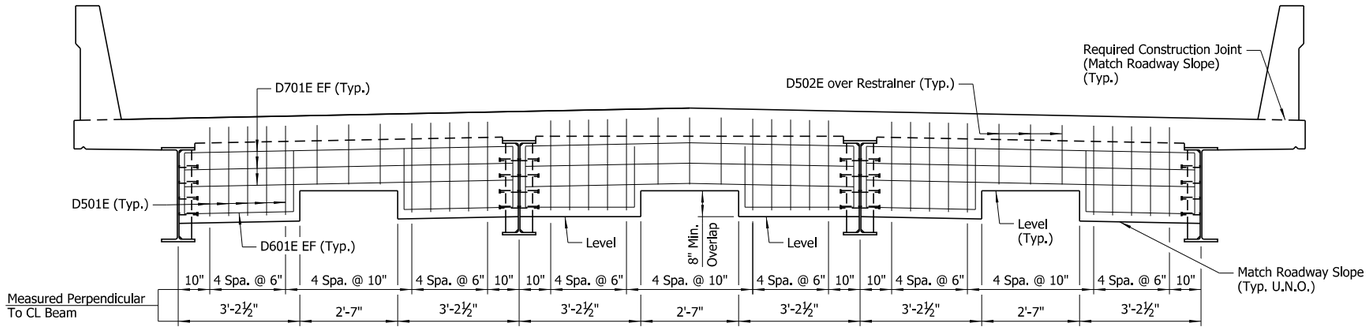
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x3_s2.dgn
CHECKED BY: CSW DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07672 DRAWING NO. 67074

ABHall 1/22/2024 3:47:28 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S402_SX.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	91	139
		07672		135'-0" UNIT		67075

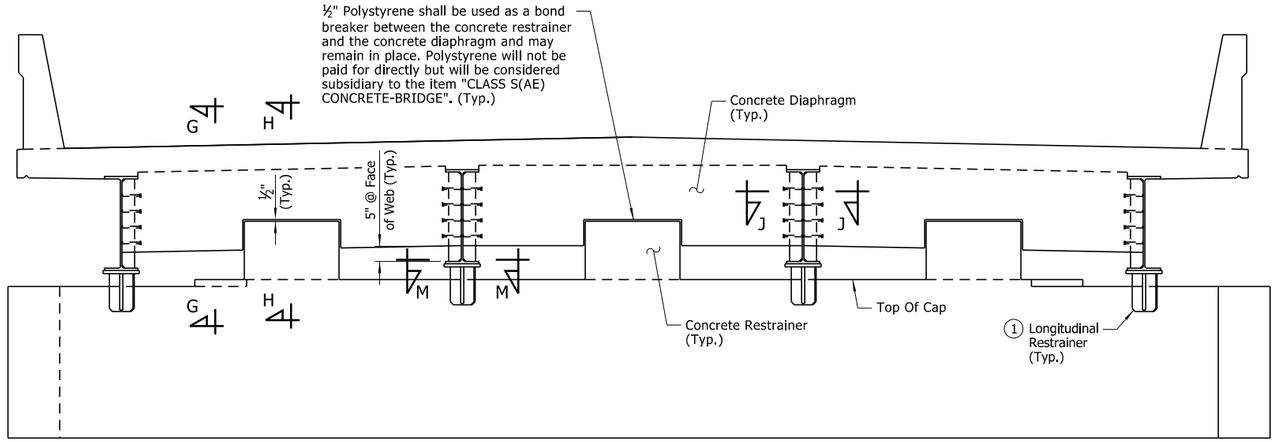


TYPICAL ROADWAY SECTION AT INTERMEDIATE BENTS

(Looking Ahead & Parallel To CL Beams)
No Scale

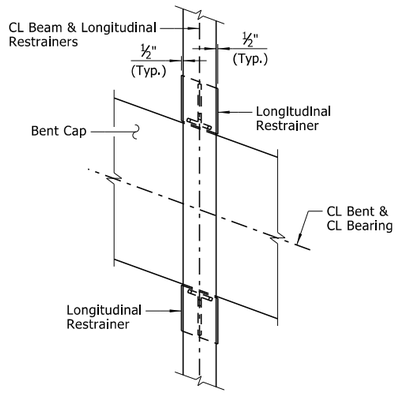
LEGEND

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



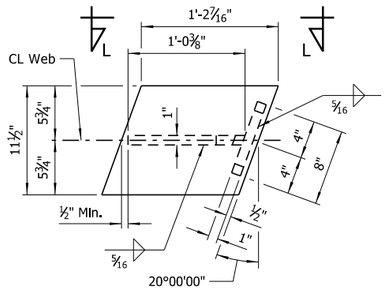
TYPICAL ROADWAY SECTION AT INTERMEDIATE BENTS SHOWING CONCRETE RESTRAINERS

(Looking Ahead & Parallel To CL Beams)
No Scale



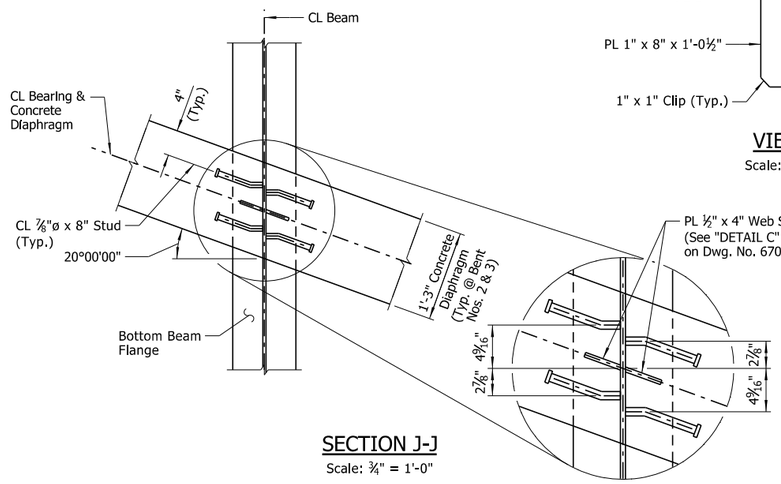
VIEW M-M

Scale: ½" = 1'-0"



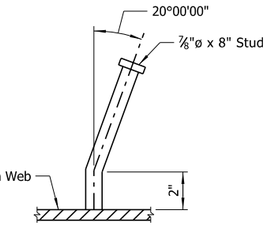
PLAN OF LONGITUDINAL RESTRAINER

Scale: 1½" = 1'-0"



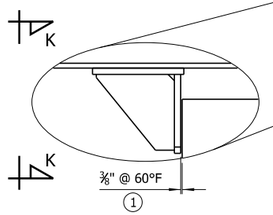
SECTION J-J

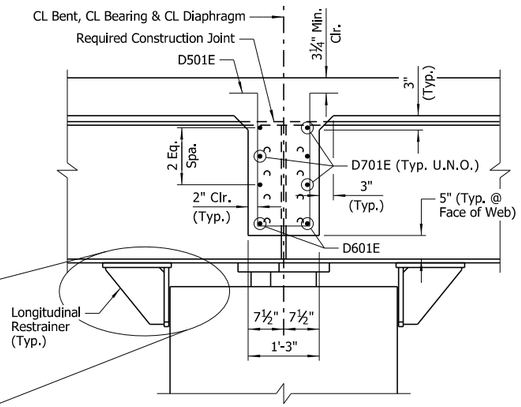
Scale: ¾" = 1'-0"



STUD DETAIL AT DIAPHRAGM

No Scale

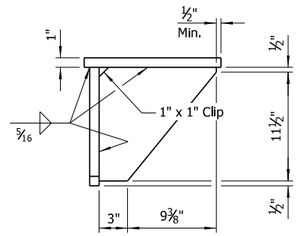




SECTION G-G

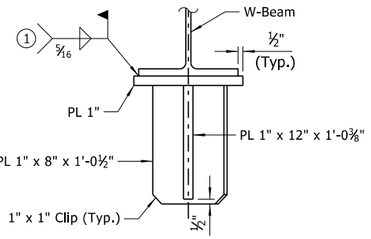
Scale: ¾" = 1'-0"

NOTE:
"SECTION G-G" and "SECTION H-H" are taken normal to concrete diaphragm.



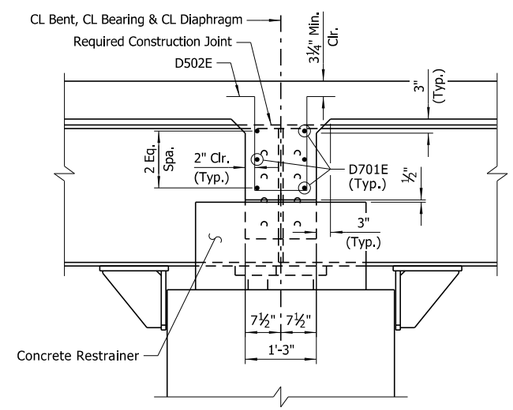
VIEW L-L

No Scale



VIEW K-K

Scale: ¾" = 1'-0"



SECTION H-H

Scale: ¾" = 1'-0"

1 Field weld longitudinal restrainer after deck has been poured.

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 3 OF 7
DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x3_s3.dgn
CHECKED BY: CSW DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07672 DRAWING NO. 67075

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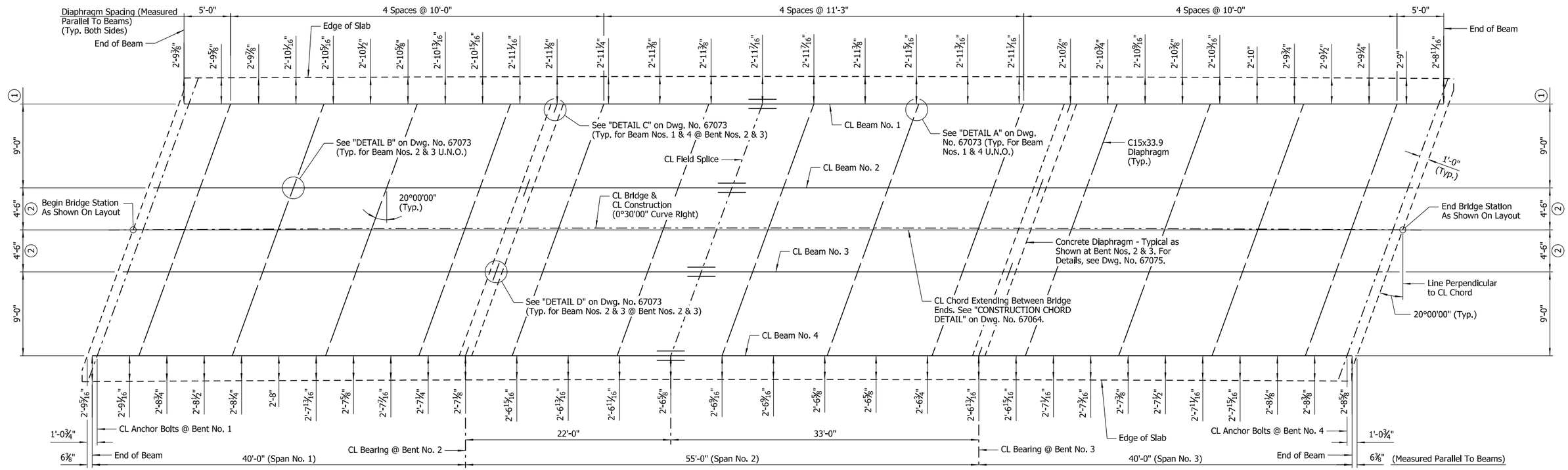
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S403_SX.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	92	139
		07672		135'-0" UNIT		67076

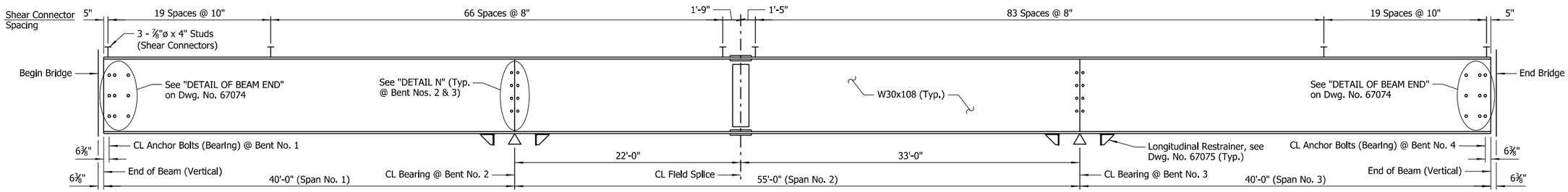
(1) Measured perpendicular to CL Chord extending between bridge ends. See "CONSTRUCTION CHORD DETAIL" on Dwg. No. 67064.

(2) Measured from CL Beam to CL Chord extending between bridge ends. See "CONSTRUCTION CHORD DETAIL" on Dwg. No. 67064.



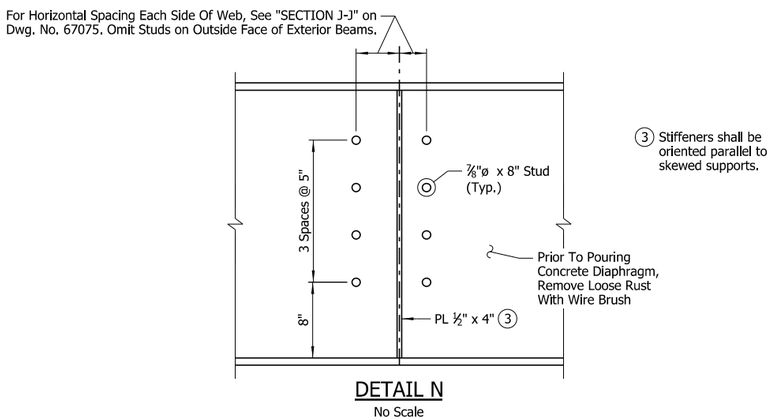
FRAMING PLAN

Scale: 3/16" = 1'-0"



BEAM ELEVATION

No Scale



DETAIL N

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 BEAM 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.

The Contractor shall ensure that beams 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.

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

For "SHEAR CONNECTOR DETAIL", see Std. Dwg. No. 55007.

For painting of beams, see "GENERAL NOTES" on Dwg. No. 67065.

For field splice details, see Dwg. No. 67078.

LEGEND

U.N.O. = Unless Noted Otherwise

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

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 4 OF 7
DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: OCT. 2023 FILENAME: b101017x3_s4.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RH DATE: OCT. 2023

BRIDGE NO. 07672 DRAWING NO. 67076

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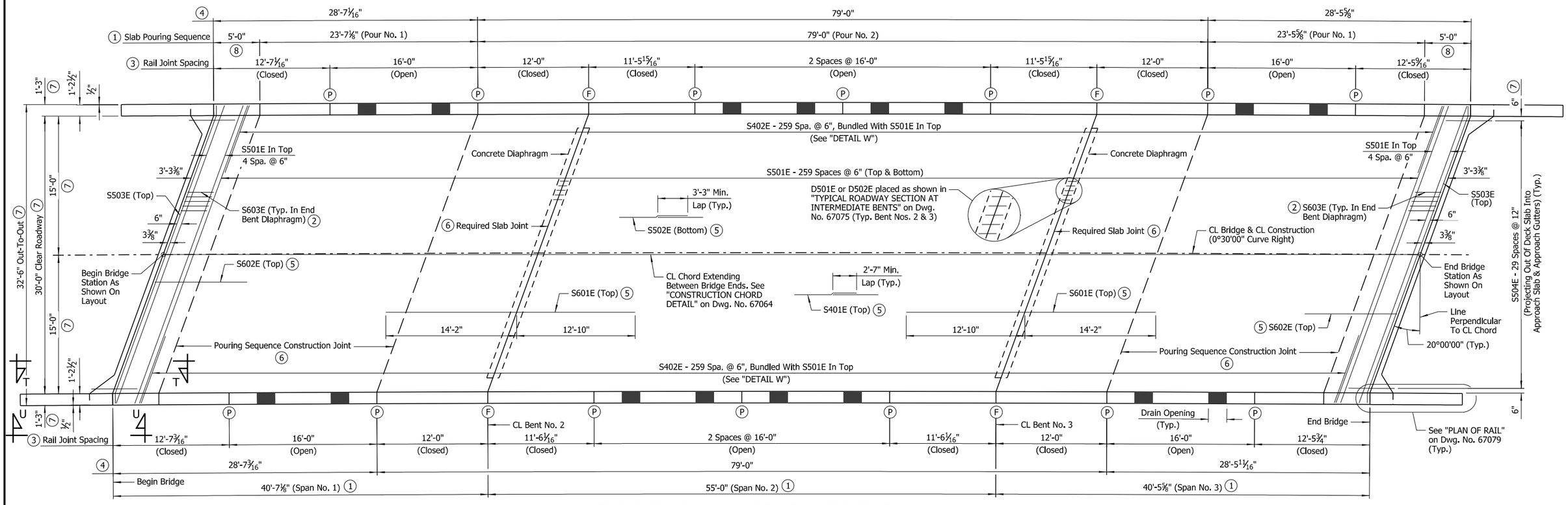
1/22/2024 3:47:29 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\data\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S404_SF.dgn

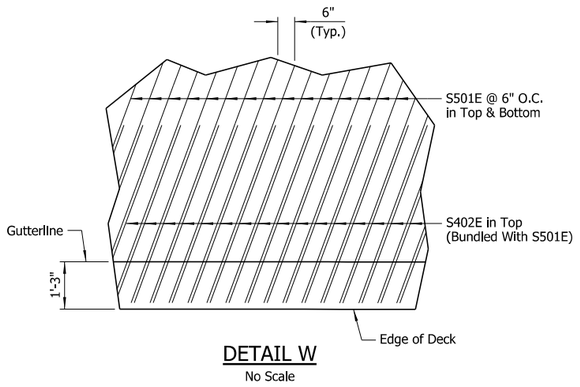
DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	93	139
		07672		135'-0" UNIT		67077



REINFORCING PLAN & SLAB POURING SEQUENCE

Scale: 3/16" = 1'-0"

1. Measured along CL Bridge & CL Construction
2. See Dwg. No. 67074 for additional details of reinforcing in concrete end bent diaphragms.
3. Measured along gutterline. 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.
4. Measured along edge of deck
5. Placed as shown in "TYPICAL ROADWAY SECTION" on Dwg. No. 67073
6. See "TRANSVERSE SLAB JOINT DETAIL" on Std. Dwg. No. 55007.
7. Measured Along Line Radial to CL Bridge
8. Pour No. 3



DETAIL W

No Scale

TABLE OF VARIABLES

Closed Rail Panels			Open Rail Panels					
Panel Length	A	R4XXE	Panel Length	B	C	D	E	R4XXE
11'-5 15/16"	22	04	16'-0"	8	3'-0"	11	6'-0"	08
11'-6 1/16"	22	04						
12'-0"	23	05						
12'-5 9/16"	24	06						
12'-5 3/4"	24	06						
12'-7 1/16"	25	07						
12'-7 3/16"	25	07						

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

All transverse lines and transverse slab reinforcing shall be placed on lines skewed 20°00'00" left-forward from a line perpendicular to chord line extending between bridge ends. See "CONSTRUCTION CHORD DETAIL" on Dwg. No. 67064. Spacing of transverse slab reinforcing shown is measured along chord line.

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

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

For "BAR LIST" & "BAR BENDING DIAGRAMS", see Dwg. No. 67078.

For "SECTION T-T" & "VIEW U-U", see Dwg. No. 67079.

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

SLAB POURING SEQUENCE NOTES:
Pours with the same number may be placed simultaneously or separately. All Pour(s) 1 must be placed before Pour(s) 2 can be placed. All Pour(s) 2 must be placed before Pour(s) 3 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 completion of the entire slab and the pouring of the bridge railing. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence(s) shown.

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

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

Unless noted otherwise, required slab joints and pouring sequence construction joints shall align with rail open joints at the gutterline.

STATE OF ARKANSAS
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SHEET 5 OF 7
DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x3_s5.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
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BRIDGE NO. 07672 DRAWING NO. 67077

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WORKSPACE: ARDOT Bridge (2019)
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DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	94	139
		07672		135'-0" UNIT		67078

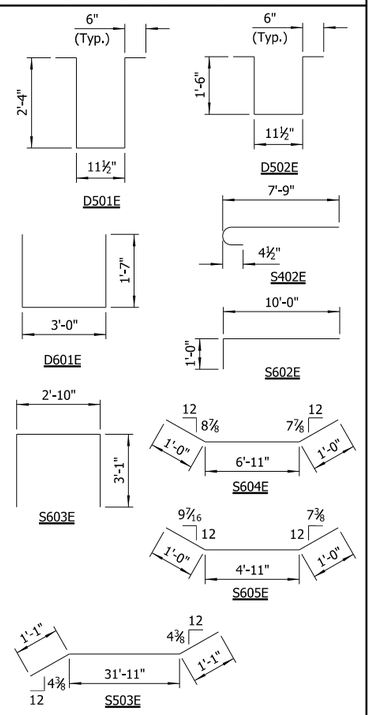
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point Of Deflection	Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Rail
SPAN NO. 1	1.0	0.000	0.000	0.000
	1.1	0.007	0.063	0.068
	1.2	0.013	0.113	0.122
	1.3	0.017	0.147	0.158
	1.4	0.018	0.156	0.168
	1.5	0.017	0.143	0.154
	1.6	0.013	0.112	0.121
	1.7	0.008	0.069	0.074
	1.8	0.003	0.025	0.027
	1.9	0.000	-0.004	-0.004
SPAN NO. 2	2.0	0.000	0.000	0.000
	2.1	0.009	0.080	0.086
	2.2	0.024	0.206	0.221
	2.3	0.038	0.329	0.354
	2.4	0.047	0.416	0.447
	2.5	0.051	0.448	0.481
	2.6	0.047	0.416	0.447
	2.7	0.038	0.329	0.354
	2.8	0.024	0.206	0.221
	2.9	0.009	0.080	0.086
	3.0	0.000	0.000	0.000
SPAN NO. 3	3.1	0.000	-0.004	-0.004
	3.2	0.003	0.025	0.027
	3.3	0.008	0.069	0.074
	3.4	0.013	0.112	0.121
	3.5	0.017	0.143	0.154
	3.6	0.018	0.156	0.168
	3.7	0.017	0.147	0.158
	3.8	0.013	0.113	0.122
	3.9	0.007	0.063	0.068
	4.0	0.000	0.000	0.000

BAR LIST

MARK	NO. REQ'D	LENGTH	P.D.
D501E	60	6'-2½"	2½"
D502E	18	4'-6½"	2½"
D601E	24	5'-10"	4½"
D701E	36	9'-2"	Str.
R400E	64	5'-3"	2½"
R401E	610	6'-4"	2½", 3"
R402E	104	5'-6"	Str.
R403E	530	3'-6"	3", 3¾"
R404E	32	11'-2"	Str.
R405E	32	11'-8"	Str.
R406E	16	12'-1"	Str.
R407E	16	12'-3"	Str.
R408E	64	15'-8"	Str.
R409E	32	9'-8"	Str.
S401E	152	35'-11"	Str.
S402E	520	8'-3"	3"
S403E	12	34'-2"	Str.
S501E	530	34'-3"	Str.
S502E	114	47'-5"	Str.
S503E	2	34'-1"	3¾"
S504E	60	5'-0"	Str.
S601E	74	27'-0"	Str.
S602E	74	10'-10"	4½"
S603E	106	8'-8"	4½"
S604E	8	8'-11"	4½"
S605E	8	6'-11"	4½"
W401E	80	3'-11"	3¾"
W402E	120	3'-2"	Str.
W701E	28	12'-6"	Str.
W702E	28	12'-11"	Str.

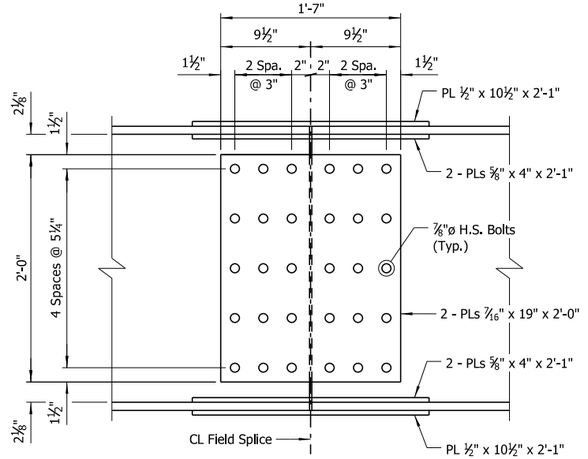
BAR BENDING DIAGRAMS



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

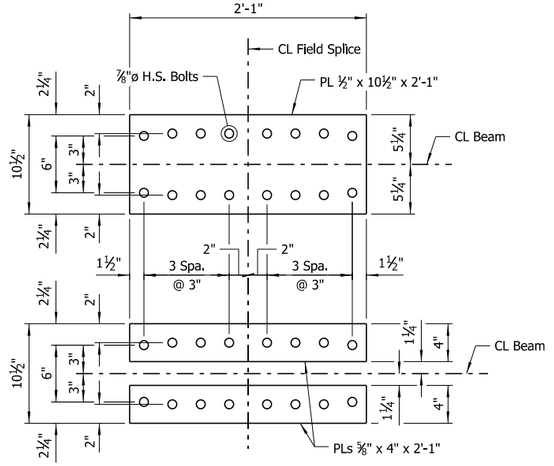
Bar designations ending with "E" indicate epoxy coated bars.

For bar bending diagrams of R400E, R401E, R403E & W401E, see Std. Dwg. No. 55070.



ELEVATION OF FIELD SPLICE

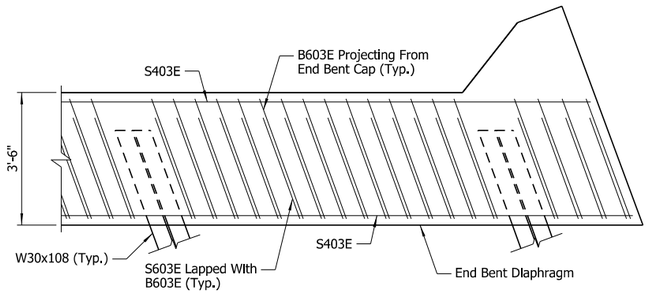
Scale: 1½" = 1'-0"



TOP & BOTTOM FLANGE FIELD SPLICE

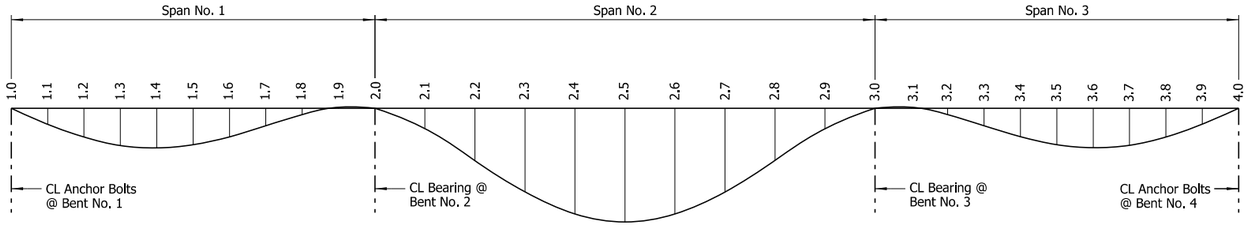
Scale: 1½" = 1'-0"

NOTE:
All field splice connections shall be bolted with ⅞"ø H.S. bolts using 15⁄16"ø open holes.



SECTION F-F

Scale: ½" = 1'-0"



DEAD LOAD DEFLECTION DIAGRAM

No Scale

NOTES:
Camber for dead load deflection plus vertical curve +/- ¼" tolerance. Deflections shown are along CL Beam from a chord from CL Bearing or Anchor Bolts to CL Bearing. 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 "REINFORCING PLAN & SLAB POURING SEQUENCE" on Dwg. No. 67077.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21243
COLTON S. WYLIE
DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

SHEET 6 OF 7
DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT
I-555 SERVICE ROAD OVER DITCH NO. 6

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

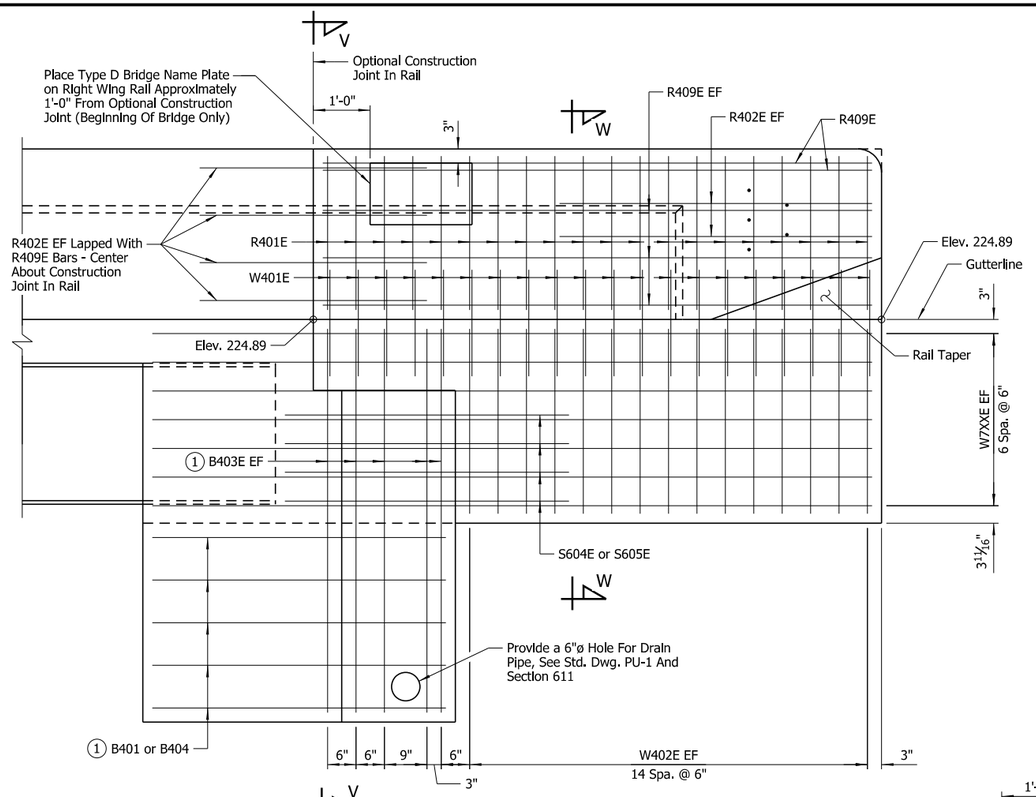
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x3_s6.dgn
CHECKED BY: CSW DATE: NOV. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07672 DRAWING NO. 67078

ABHall 1/22/2024 3:47:31 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S406_MD.dgn

DATE REVISED	DATE REVISED	FED. ROAD DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	95	139
		07672		135'-0" UNIT		67079

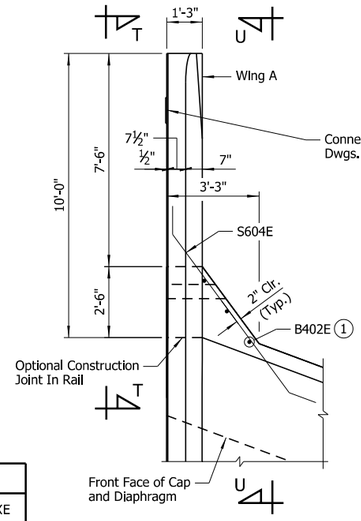


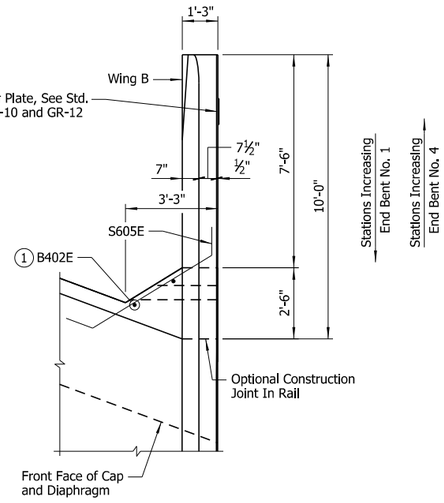
SECTION T-T
Scale: ¾" = 1'-0"

NOTES:
For locations of "SECTION T-T" & "VIEW U-U", see "REINFORCING PLAN & SLAB POURING SEQUENCE" on Dwg. No. 67077.

For additional details of the bridge traffic rail on wing, see "RAIL TERMINUS DETAILS", "SECTION C-C" & "SECTION D-D" on Std. Dwg. No. 55070.

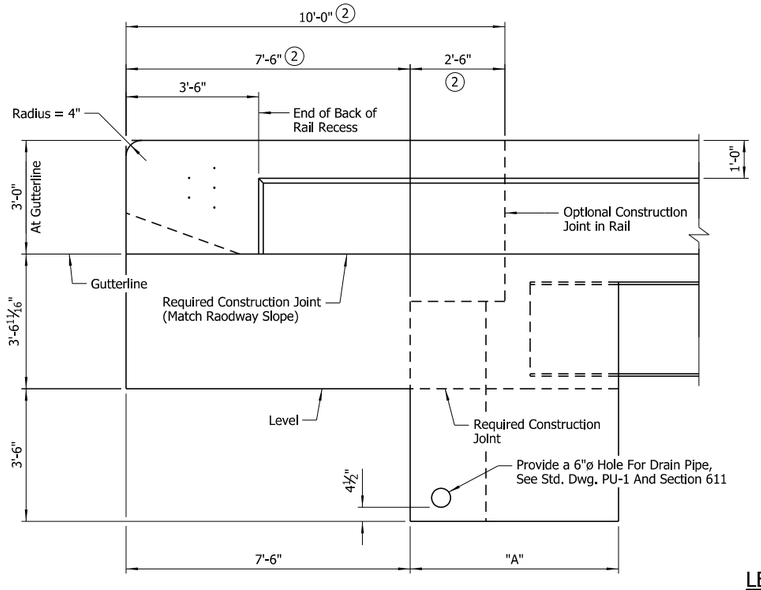
1 See End Bent Details on Dwg. Nos. 67066-67068 for reinforcing and additional details.





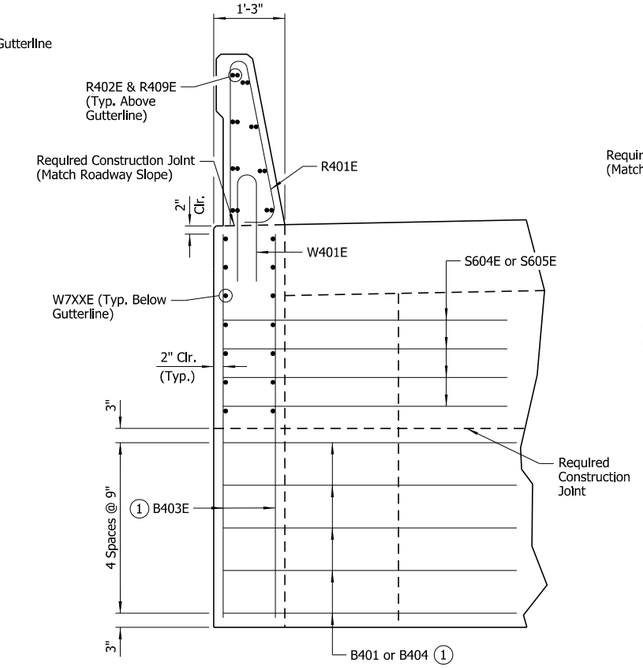
PLAN OF RAIL
Scale: ⅜" = 1'-0"

TABLE OF VARIABLES			
END BENT NO.	LOCATION	"A"	W7XXE
1	WING A	5'-2 13/16"	W701E
	WING B	6'-1 5/16"	W702E
4	WING A	5'-2⅞"	W701E
	WING B	6'-1⅝"	W702E

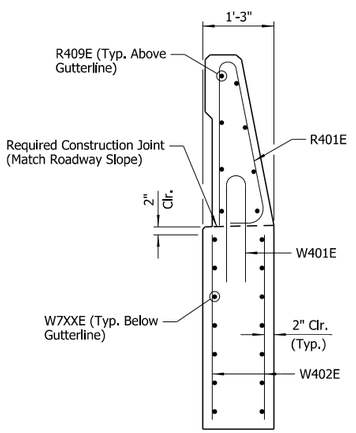


VIEW U-U
Scale: ½" = 1'-0"

2 Measured Along Gutterline



SECTION V-V
Scale: ¾" = 1'-0"



SECTION W-W
Scale: ¾" = 1'-0"

LEGEND
EF = Each Face

DIGITALLY SIGNED 7/3/2024
BRIDGE ENGINEER

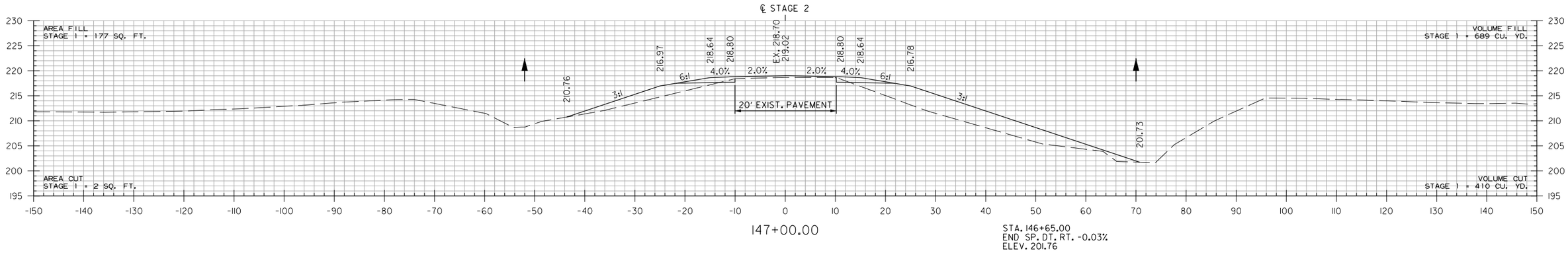
SHEET 7 OF 7
DETAILS OF 135'-0" INTEGRAL CONTINUOUS W-BEAM UNIT
I-555 SERVICE ROAD OVER DITCH NO. 6
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: OCT. 2023 FILENAME: b101017x3_s7.dgn
CHECKED BY: CSW DATE: DEC. 2023 SCALE: As Shown
DESIGNED BY: RAK DATE: OCT. 2023

BRIDGE NO. 07672 DRAWING NO. 67079

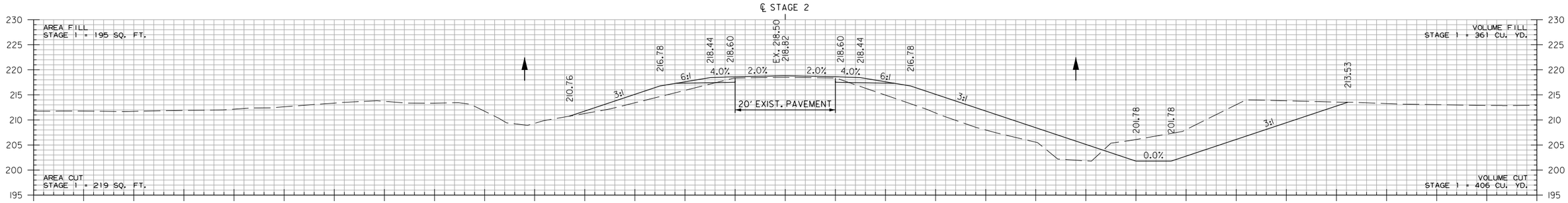
ABHall 1/22/2024 3:47:32 PM
WORKSPACE: ARDOT Bridge (2019)
\\garverinc.local\gdata\Projects\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\b101017x3_S407_MD.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	96	139
		CROSS SECTIONS				



147+00.00

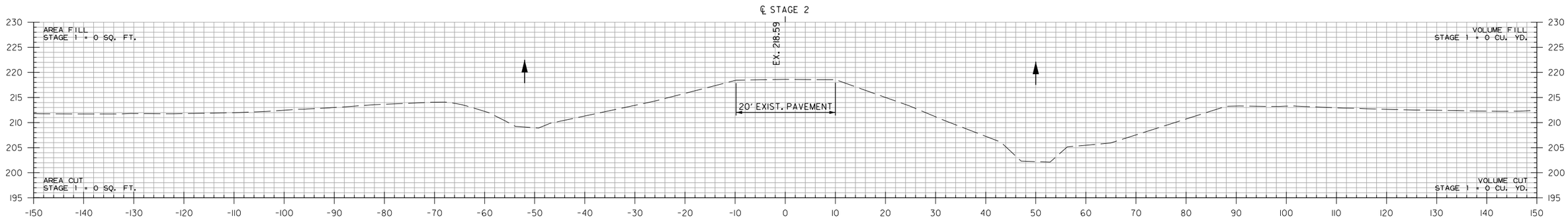
STA. 146+65.00
END SP. DT. RT. -0.03%
ELEV. 201.76



146+00.00

STA. 146+00.00
BEGIN SP. DT. RT. -0.03%
ELEV. 201.78

STA. 146+00.00 BEGIN JOB 101017
BEGIN HWY. 118 SITE 1



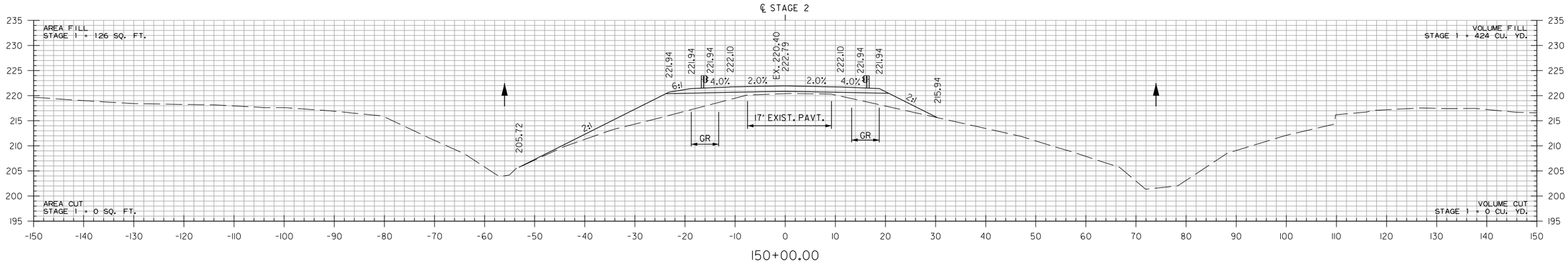
145+00.00

STA. 145+00.00 BEGIN 100' TRANSITION

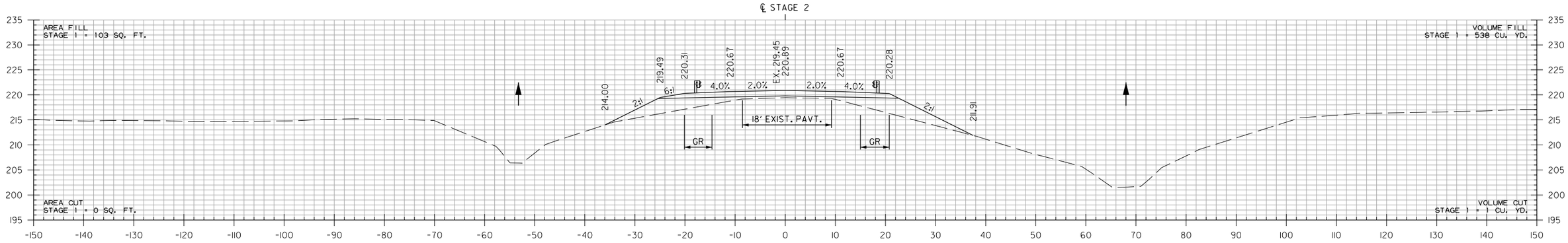
HWY. 118 SITE 1
STA. 145+00 TO STA. 147+00

WBCallaway 6/28/2024 7:45:17 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site.DGN
REVISED DATE:

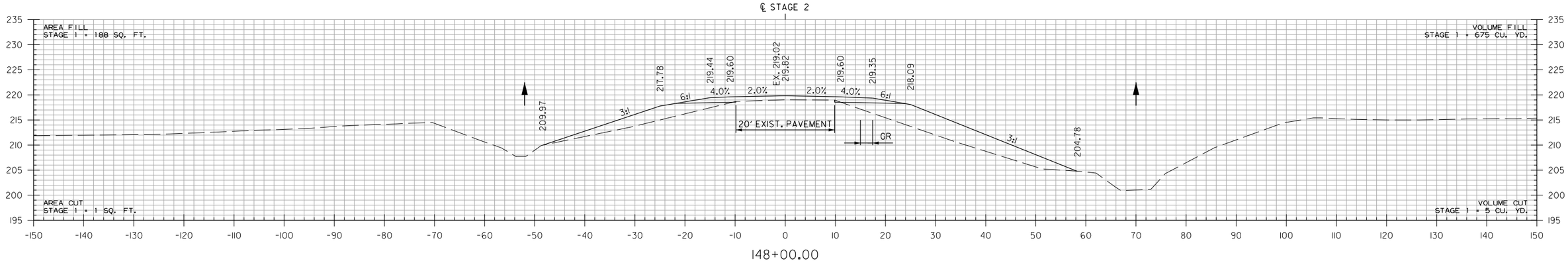
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	97	139
		CROSS SECTIONS				



150+00.00



149+00.00

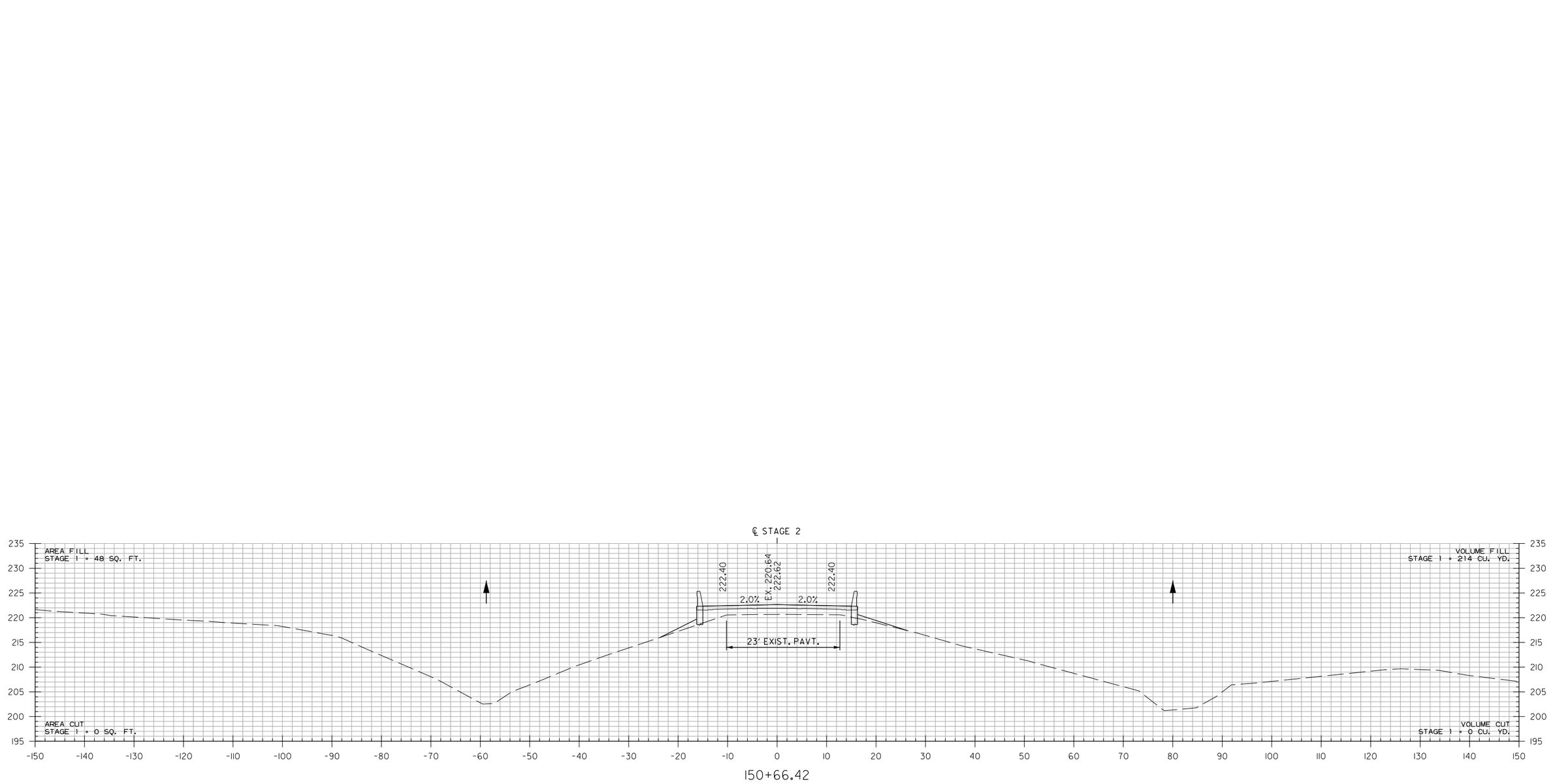


148+00.00

HWY. 118 SITE 1
STA. 148+00 TO STA. 150+00

WBCallaway 6/28/2024 7:45:17 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site.IDGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	98	139
		CROSS SECTIONS				



150+66.42

STA. 150+66.42 BEGIN BRIDGE

HWY. 118 SITE 1
STA. 150+66 TO STA. 150+66

WBCallaway 6/28/2024 7:45:17 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_1.DGN
REVISED DATE:

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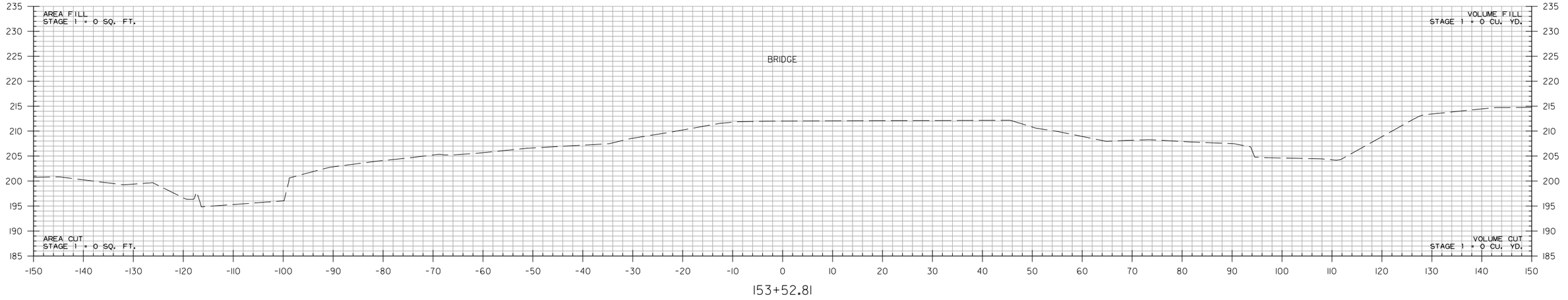
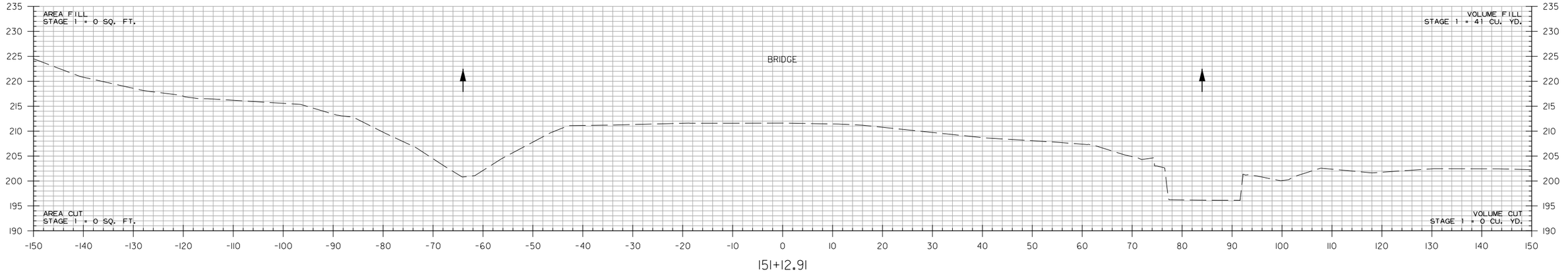
		CROSS SECTIONS				



153+52.81

STA. 153+52.81 THEORETICAL BEGIN TOE OF SLOPE AT ELEVATION 212.00'



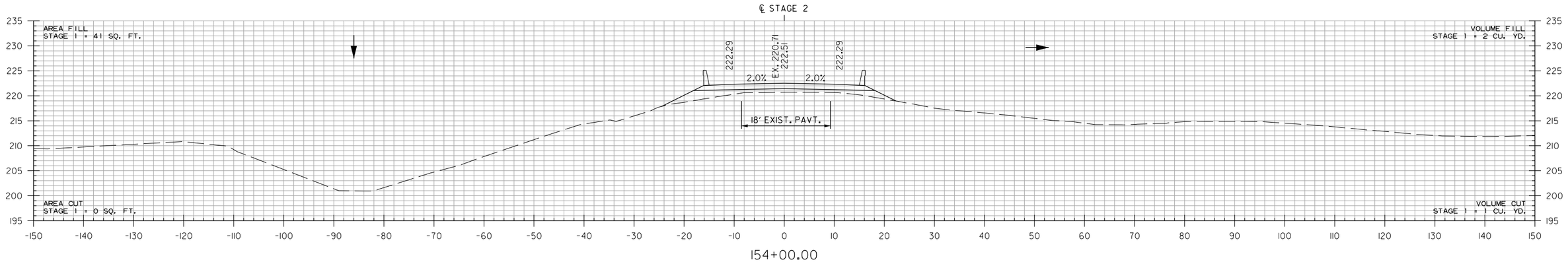
151+12.91

STA. 151+12.91 THEORETICAL END TOE OF SLOPE AT ELEVATION 212.00'

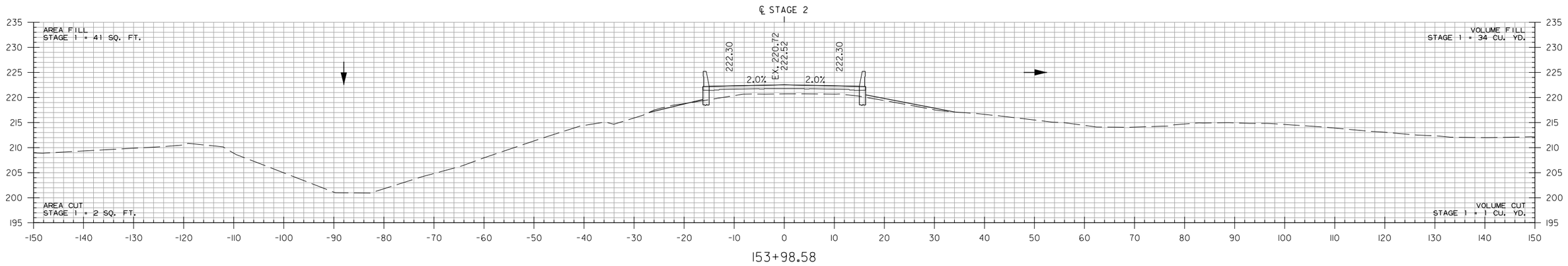
HWY. 118 SITE 1
STA. 151+13 TO STA. 153+53

WBCallaway 6/28/2024 7:45:18 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site.IDGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	100	139
		CROSS SECTIONS				



154+00.00



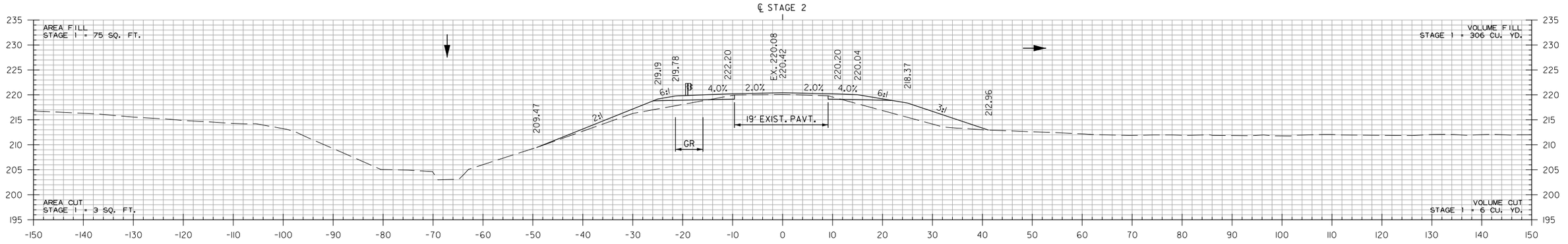
153+98.58

STA. 153+98.58 END BRIDGE

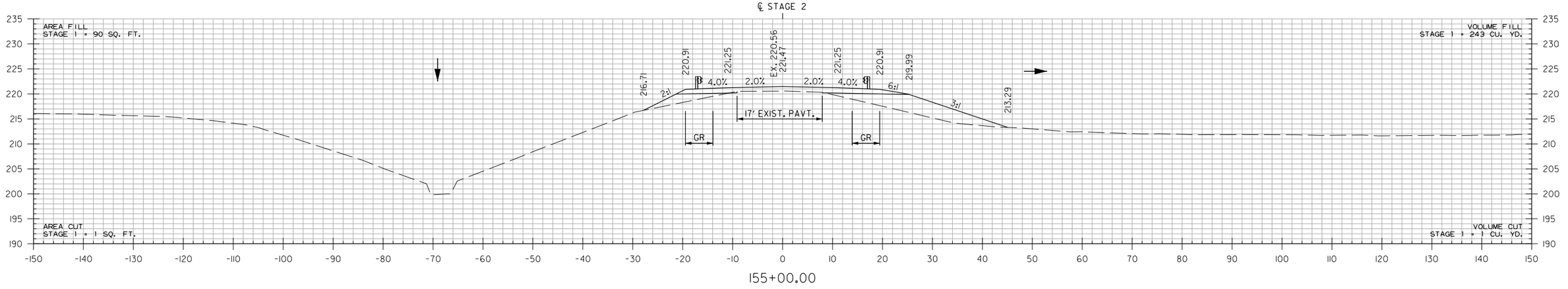
HWY. 118 SITE 1
STA. 153+99 TO STA. 154+00

WBCalloway 6/28/2024 7:45:18 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	101	139
		CROSS SECTIONS				



156+00.00



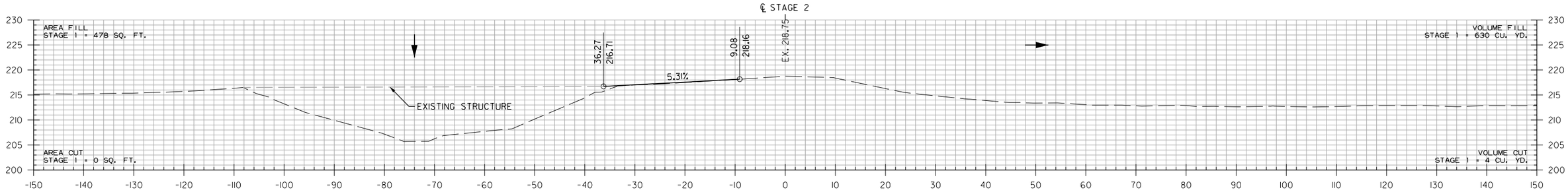
155+00.00

HWY. 118 SITE 1
STA. 155+00 TO STA. 156+00

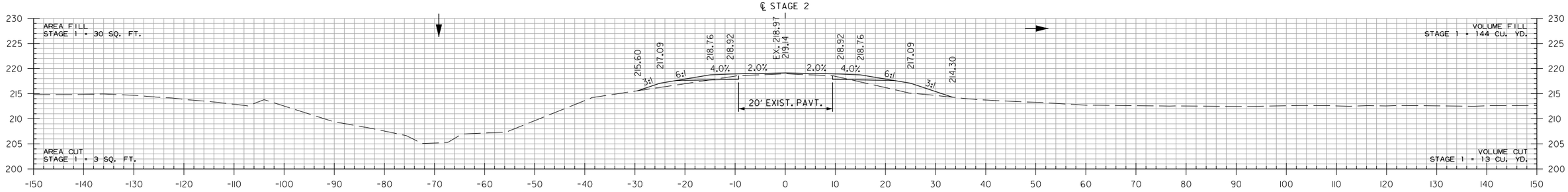
WBCallaway 6/28/2024 7:45:18 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site.IDGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	102	139
		CROSS SECTIONS				

STA. 158+67 IN PLACE
LT. CONCRETE SUPERSTRUCTURE
RETAIN
CONSTRUCT APPROACH = 0 CU. YDS.

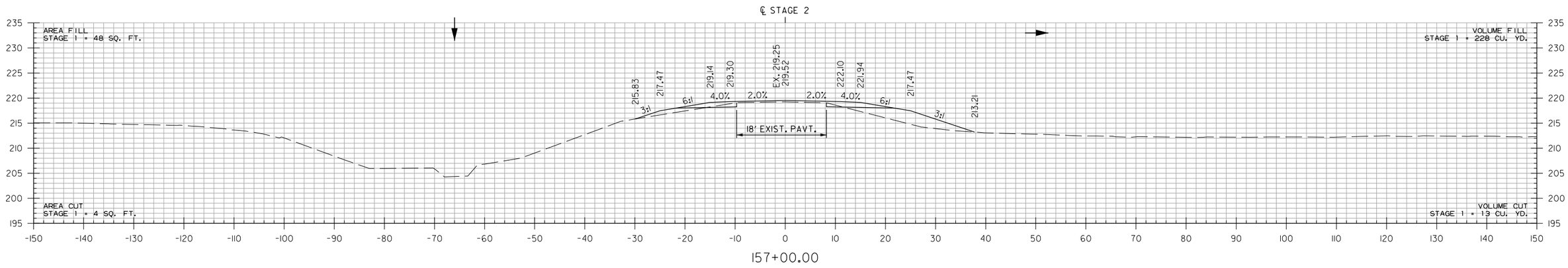


158+67.00



158+00.00

STA. 158+00.00
END HWY. 118 SITE 1

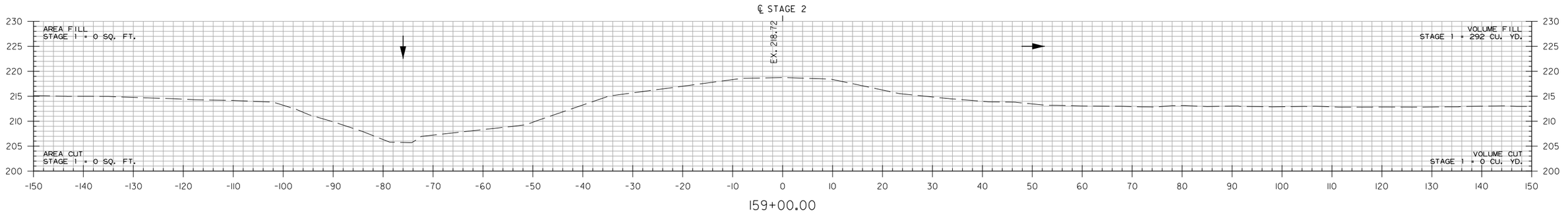


157+00.00

HWY. 118 SITE 1
STA. 157+00 TO STA. 158+67

WBCallaway 6/28/2024 7:45:19 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_1.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	103	139
		CROSS SECTIONS				



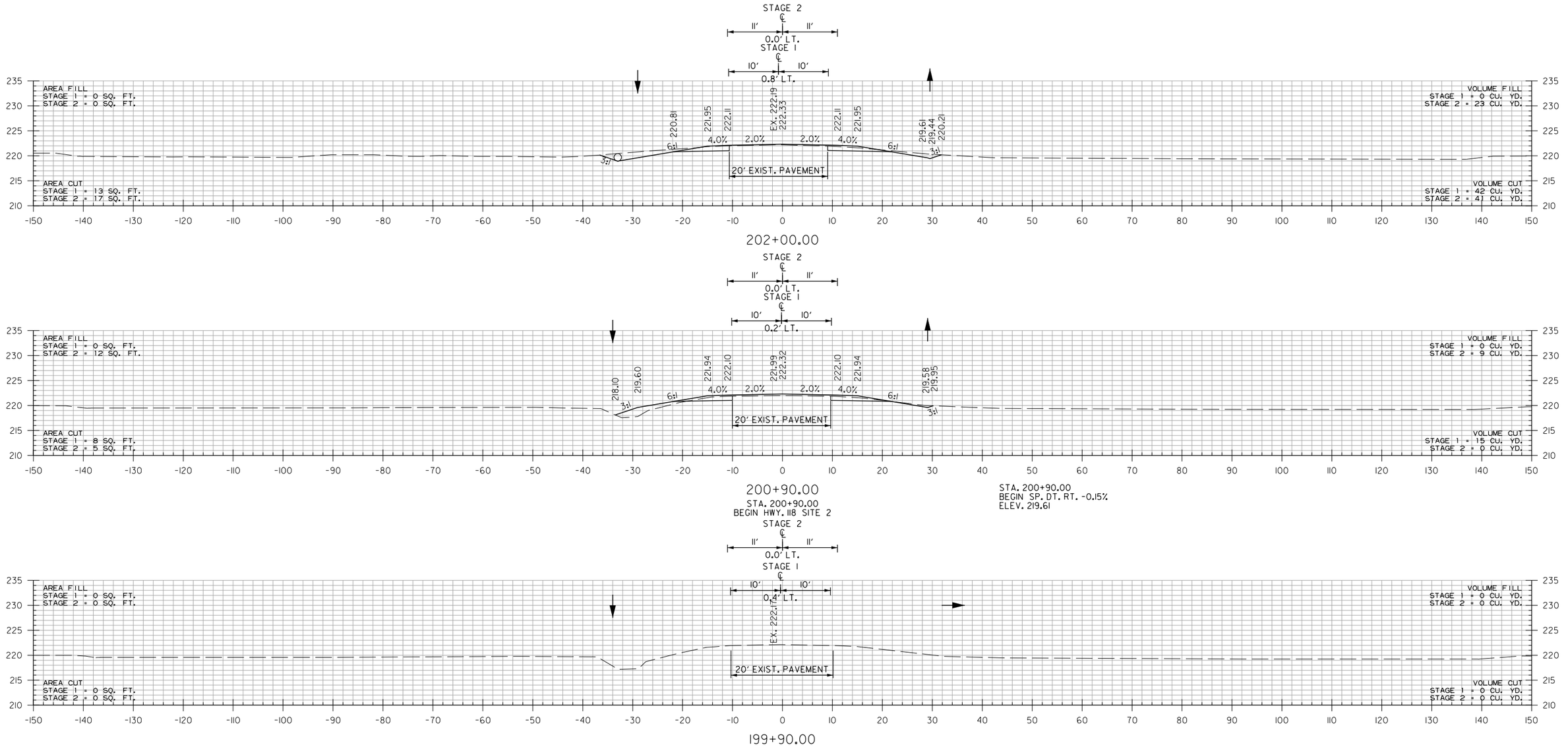
159+00.00

STA. 159+00.00 END 100' TRANSITION

HWY. 118 SITE 1
STA. 159+00

WBCallaway 6/28/2024 7:45:19 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_1.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	104	139
		CROSS SECTIONS				

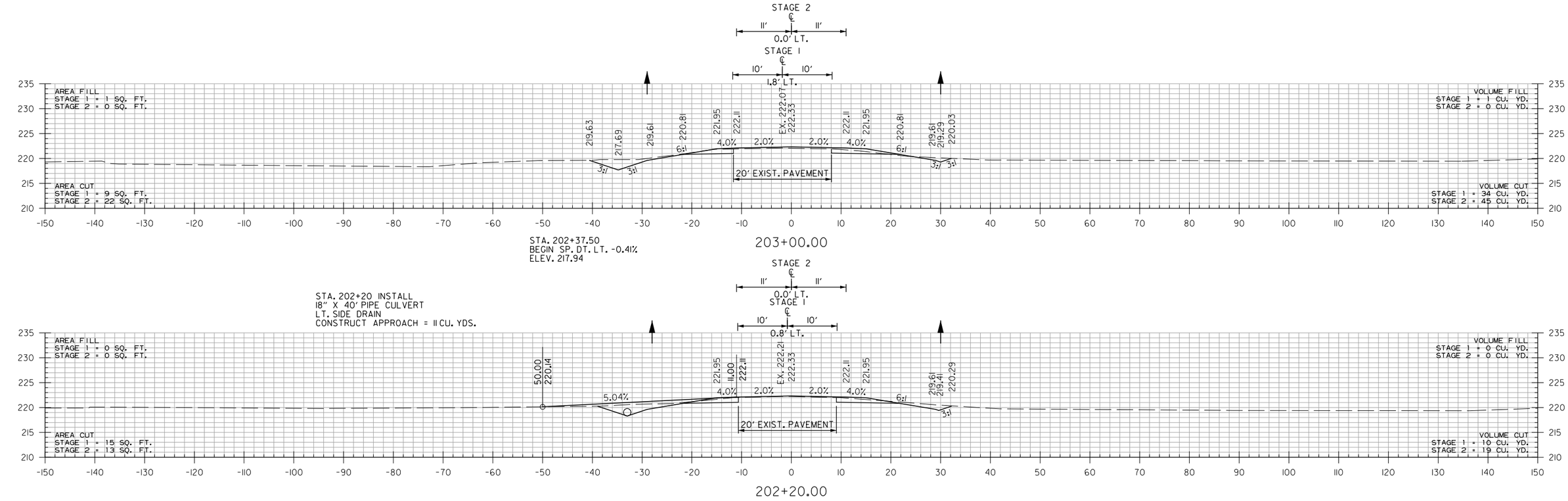


STA. 199+90.00 BEGIN 100′ TRANSITION

HWY. 118 SITE 2
STA. 199+90 TO STA. 202+00

WBallaway 6/28/2024 7:45:20 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

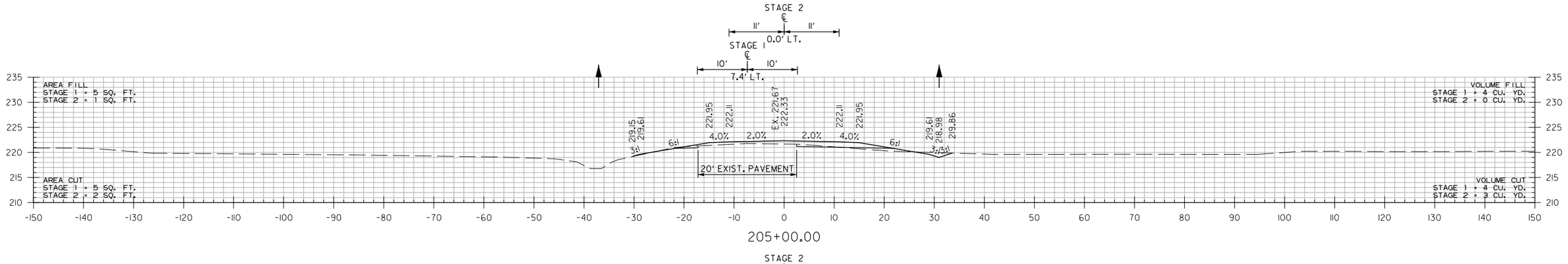
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	105	139
		CROSS SECTIONS				



HWY. 118 SITE 2
STA. 202+20 TO STA. 203+00

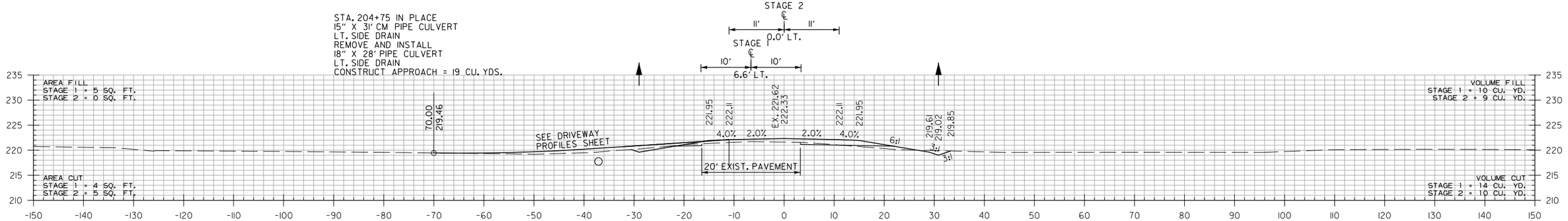
WBCalloway
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:
6/28/2024 7:45:21 AM

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	106	139
		CROSS SECTIONS				



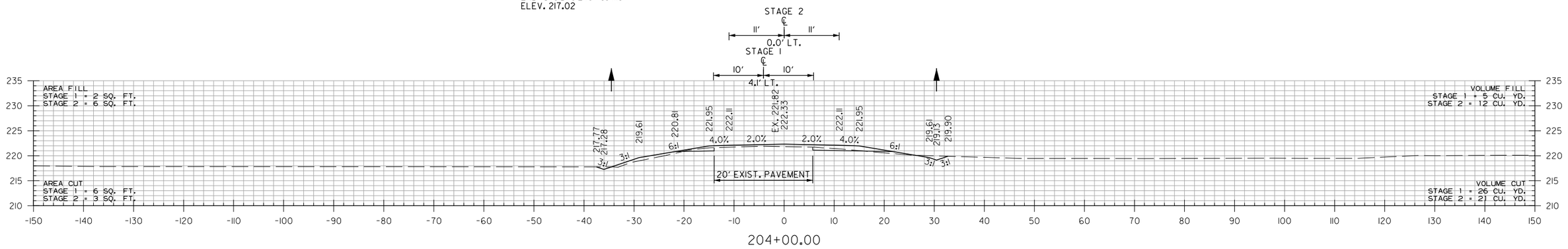
205+00.00

STA. 204+75 IN PLACE
15" X 31′ CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28′ PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 19 CU. YDS.



STA. 204+63.00
END SP. DT. LT. -0.41%
ELEV. 217.02

204+75.00



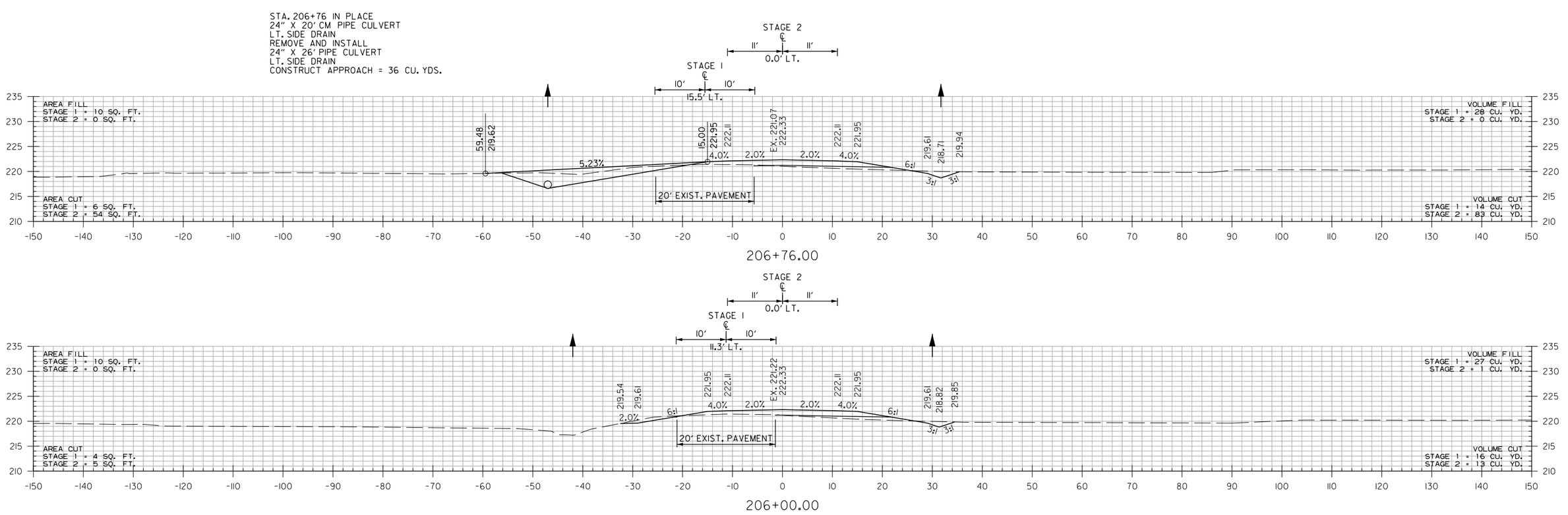
204+00.00

HWY. 118 SITE 2
STA. 204+00 TO STA. 205+00

WBCalloway 6/28/2024 7:45:21 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	107	139
		CROSS SECTIONS				

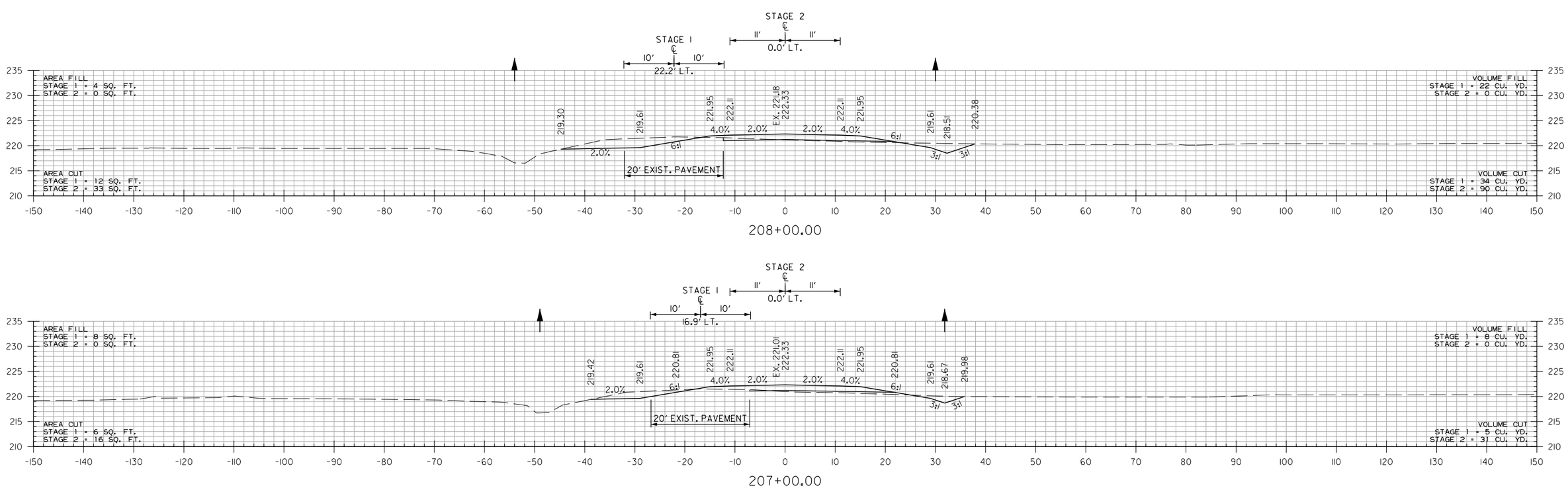
STA. 206+76 IN PLACE
24" X 20' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 26' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 36 CU. YDS.



HWY. 118 SITE 2
STA. 206+00 TO STA. 206+76

WBCallaway 6/28/2024 7:45:21 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

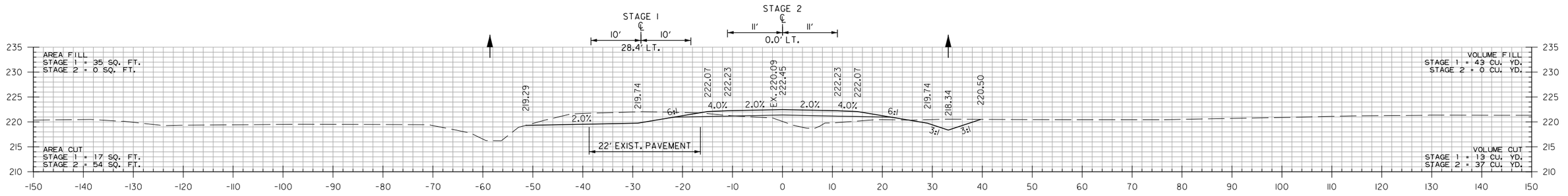
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	108	139
		CROSS SECTIONS				



HWY. 118 SITE 2
STA. 207+00 TO STA. 208+40

WBCallaway 6/28/2024 7:45:22 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

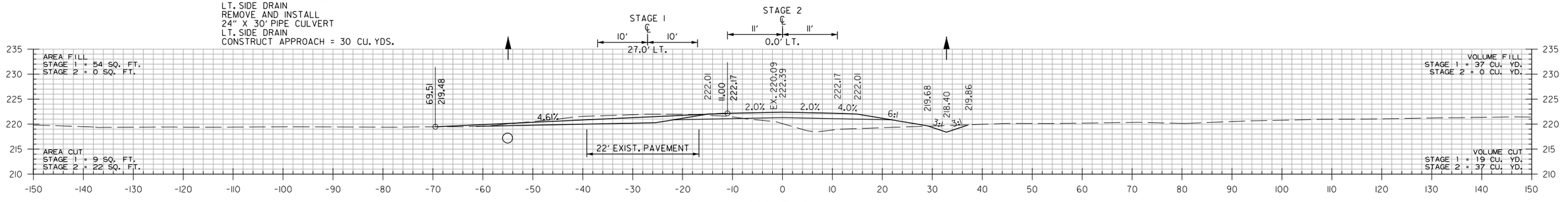
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	109	139
		CROSS SECTIONS				



209+00.00

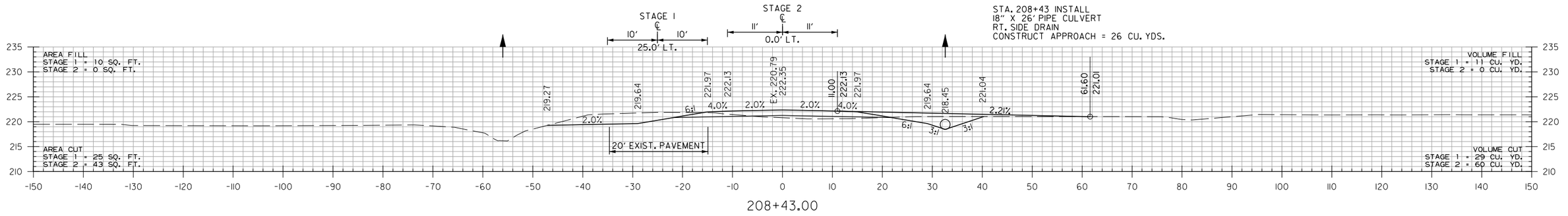
STA. 208+80.00
END SP. DT. RT. -0.15%
BEGIN SP. DT. RT. -0.24%
ELEV. 218.39

STA. 208+74 IN PLACE
24" X 24′ CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30′ PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.



208+74.00

STA. 208+43 INSTALL
18" X 26′ PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 26 CU. YDS.



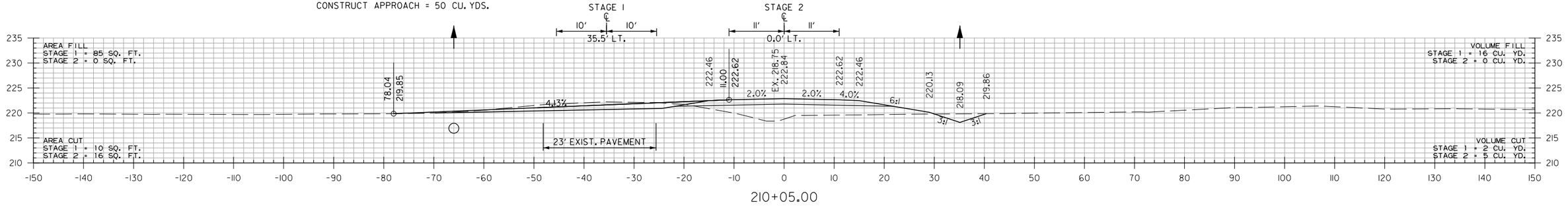
208+43.00

HWY. 118 SITE 2
STA. 208+43 TO STA. 209+00

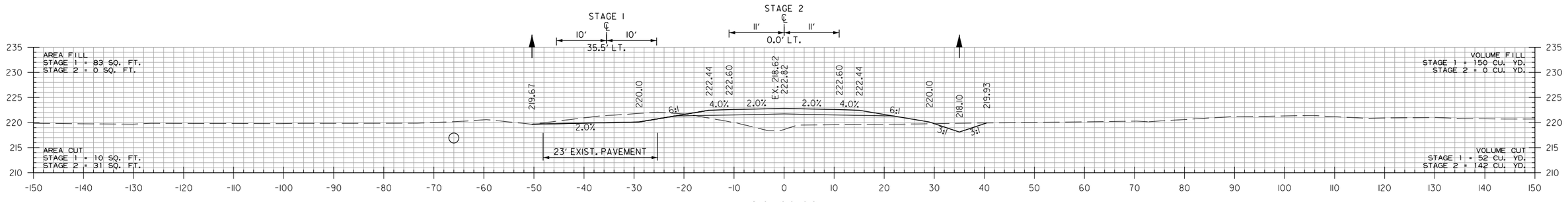
WBCallaway 6/28/2024 7:45:22 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	110	139
		CROSS SECTIONS				

STA. 210+05 IN PLACE
24" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

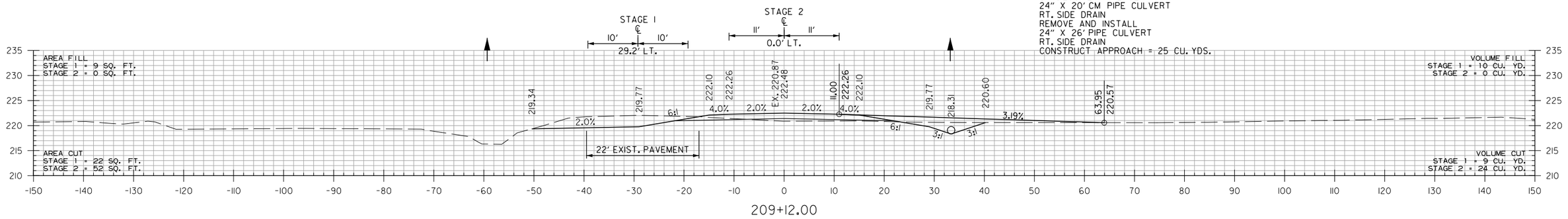


210+05.00



210+00.00

STA. 209+12 IN PLACE
24" X 20' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 26' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.



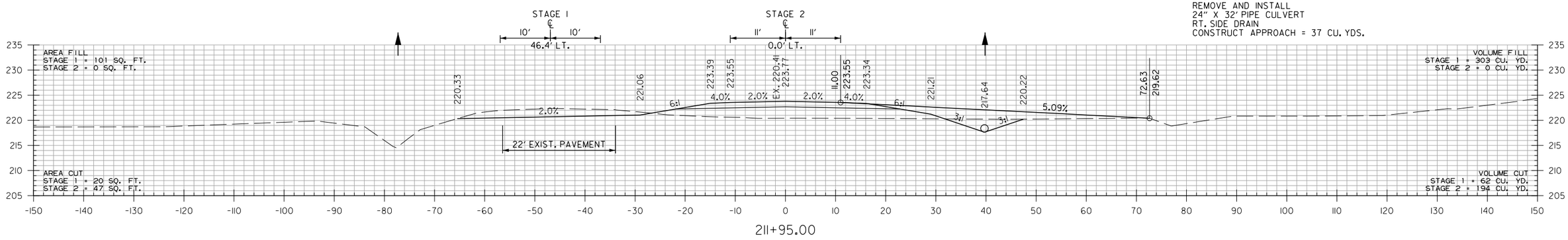
209+12.00

HWY. 118 SITE 2
STA. 209+12 TO STA. 210+05

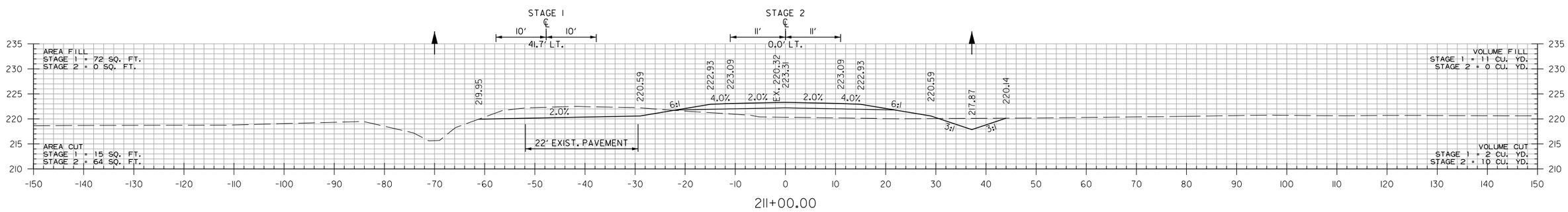
WBCallaway
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site 2.DGN
REVISED DATE:
6/28/2024 7:45:23 AM

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	111	139
		CROSS SECTIONS				

STA. 211+95 IN PLACE
24" X 20' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 37 CU. YDS.

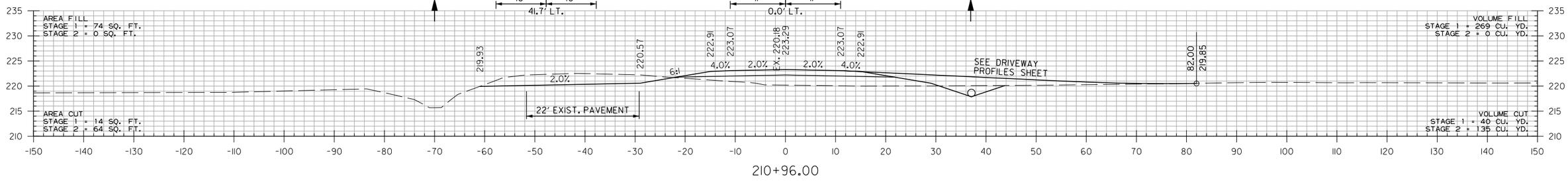


211+95.00



211+00.00

STA. 210+96 IN PLACE
24" X 20' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 39 CU. YDS.

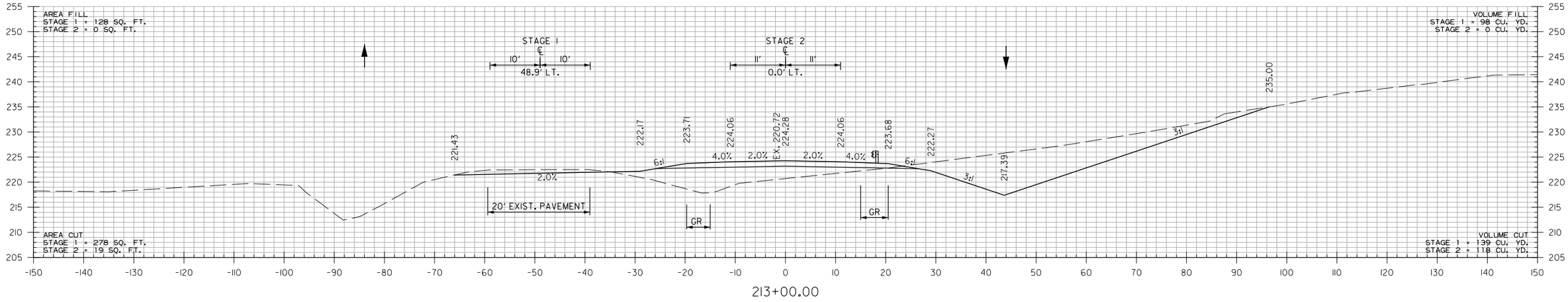


210+96.00

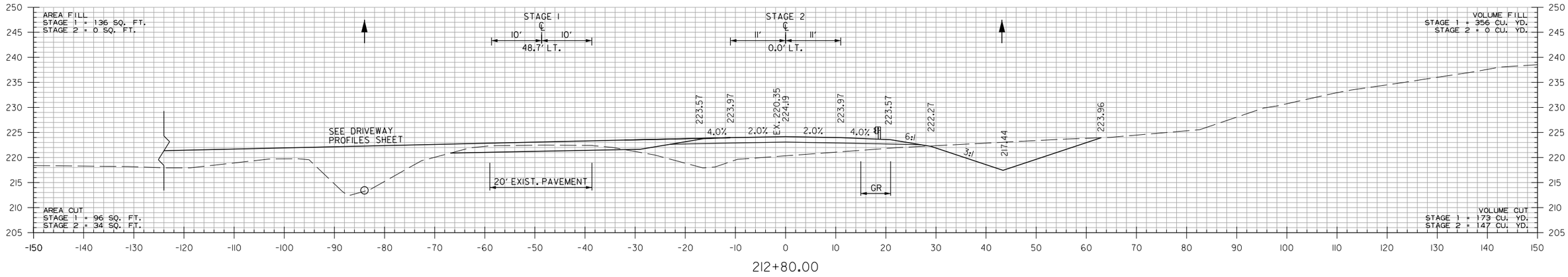
HWY. 118 SITE 2
STA. 210+96 TO STA. 211+95

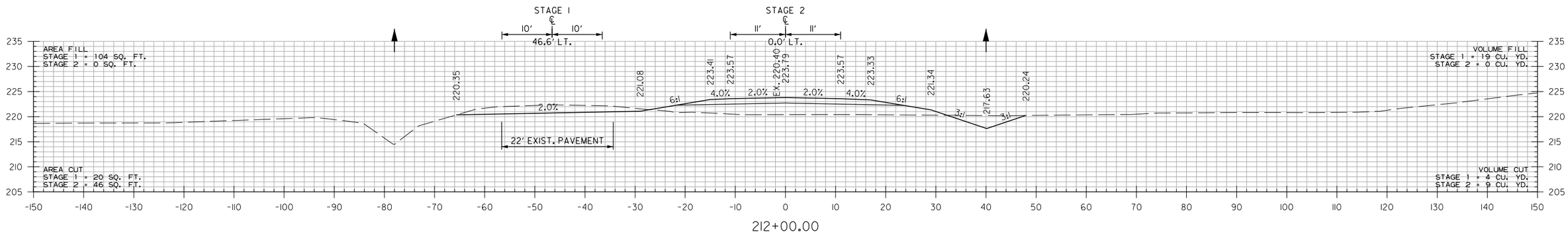
WBCallaway 6/28/2024 7:45:23 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site 2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	112	139
		CROSS SECTIONS				



STA. 212+80 INSTALL
24" X 75' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 196 CU. YDS.

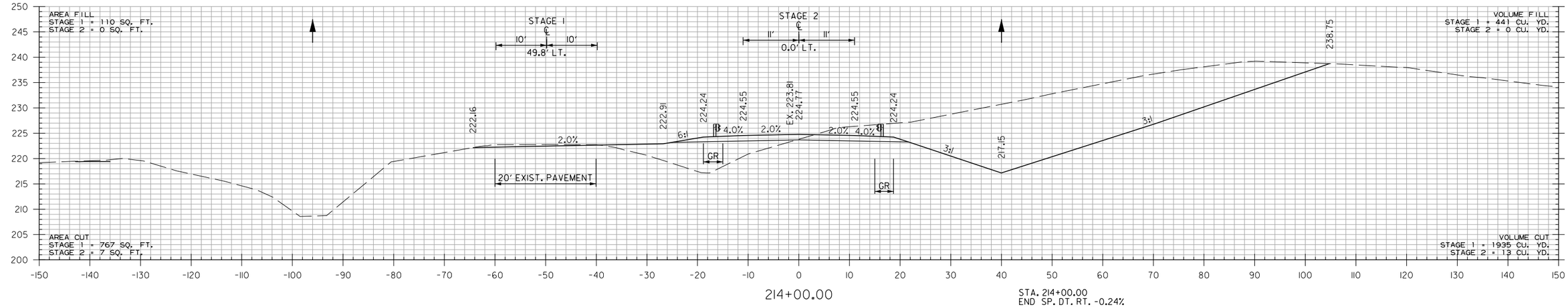




HWY. 118 SITE 2
STA. 212+00 TO STA. 213+00

WBCallaway 6/28/2024 7:45:23 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	113	139
		CROSS SECTIONS				



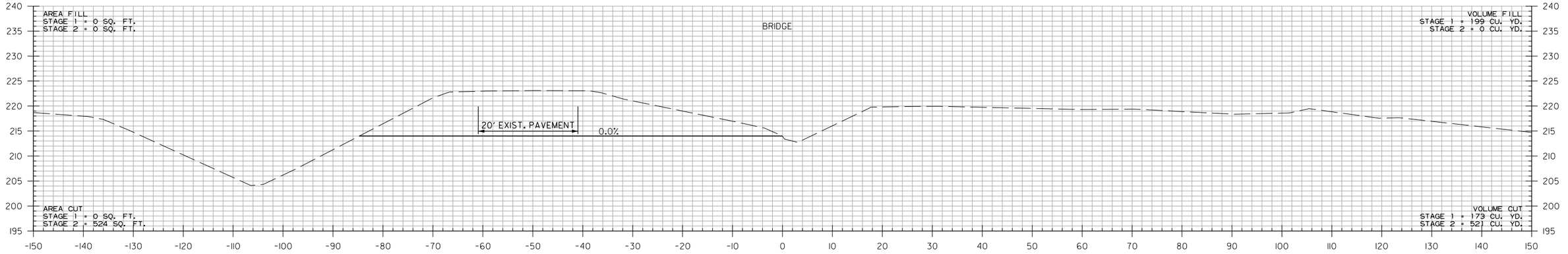
214+00.00

STA. 214+00.00
END SP. DT. RT. -0.24%
BEGIN SP. DT. RT. -4.14%
ELEV. 217.15

HWY. 118 SITE 2
STA. 214+00 TO STA. 214+00

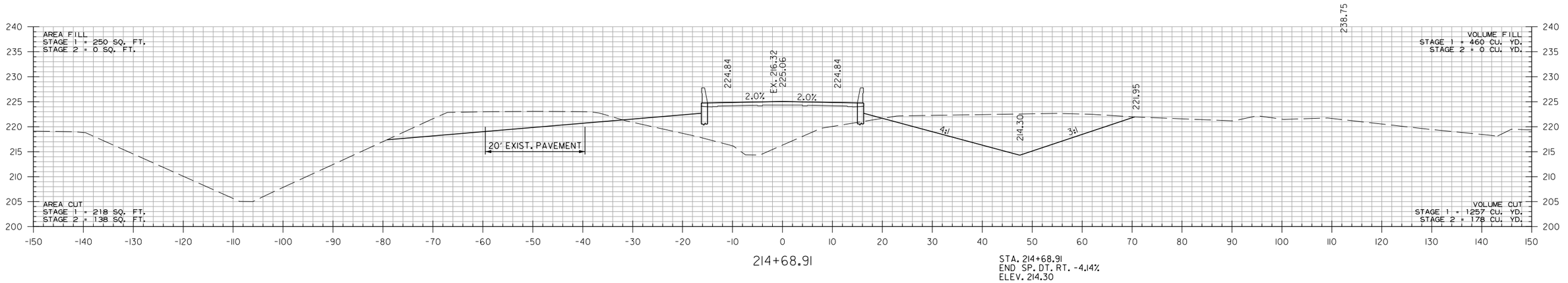
WBCallaway 6/28/2024 7:45:24 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site 2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	114	139
		CROSS SECTIONS				



215+11.80

STA. 215+11.80 END TOE OF SLOPE AT ELEVATION 214.00'



214+68.91

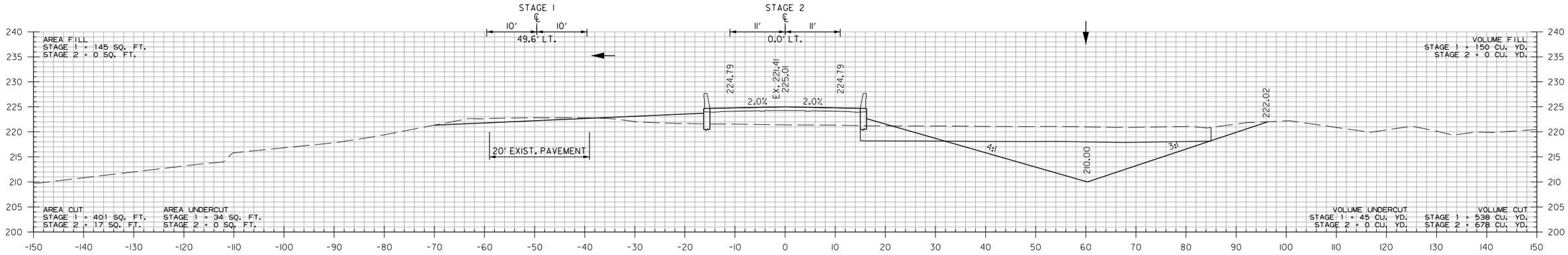
STA. 214+68.91
END SP. DT. RT. -4.14%
ELEV. 214.30

STA. 214+68.91 BEGIN BRIDGE

HWY. 118 SITE 2
STA. 214+69 TO STA. 215+12

WBCallaway 6/28/2024 7:45:24 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

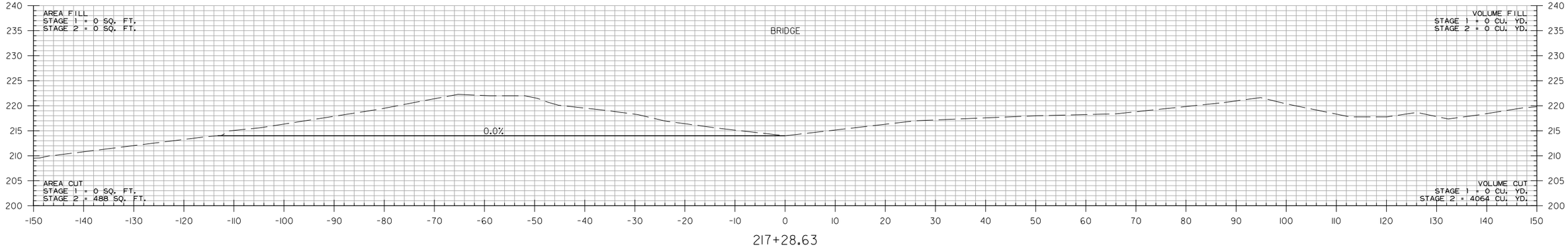
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	115	139
		CROSS SECTIONS				



218+01.08

STA. 218+01.08
BEGIN SP. DT. RT. 0.10%
ELEV. 210.00

STA. 218+01.08 END BRIDGE



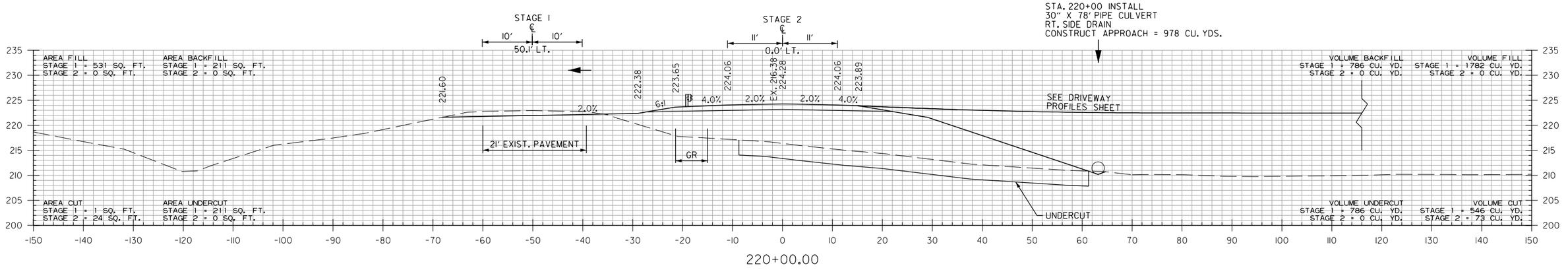
217+28.63

STA. 217+28.63 BEGIN TOE OF SLOPE AT ELEVATION 214.00′

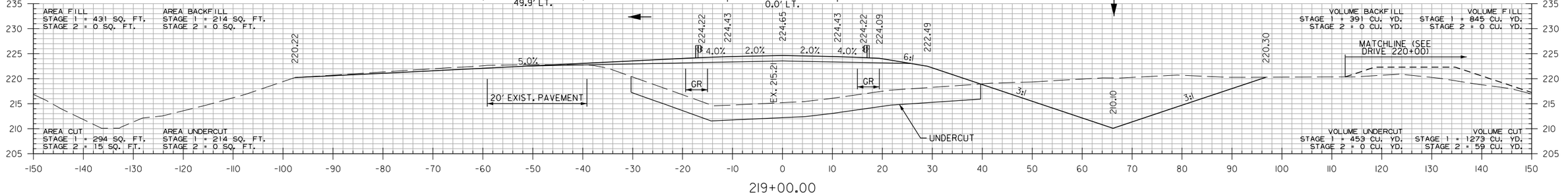
HWY. 118 SITE 2
STA. 217+29 TO STA. 218+01

WBCallaway 6/28/2024 7:45:24 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	116	139
		CROSS SECTIONS				



220+00.00



219+00.00

HWY. 118 SITE 2
STA. 219+00 TO STA. 220+00

WBCalloway 6/28/2024 7:45:25 AM
WORKSPACE: AHTD
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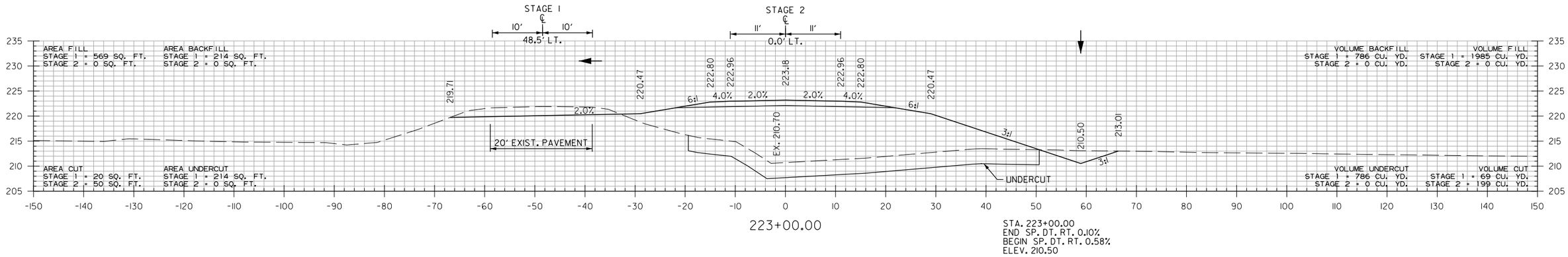
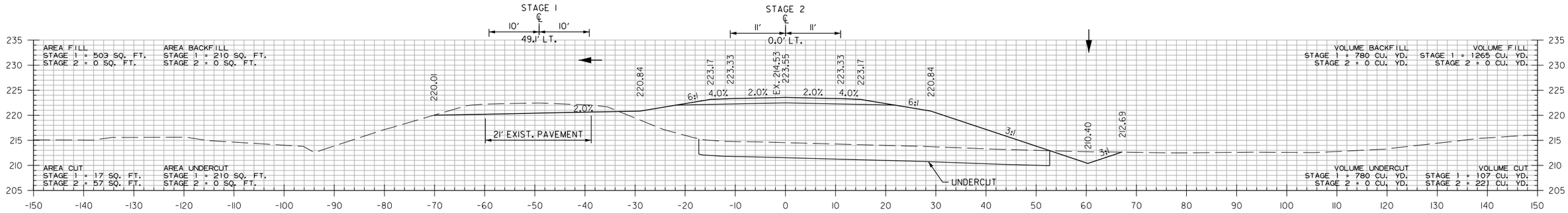
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	117	139
		CROSS SECTIONS				

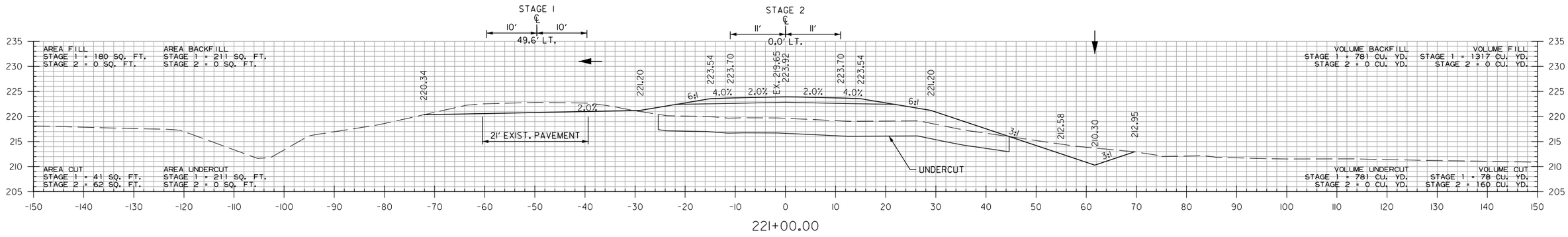


223+00.00

STA. 223+00.00
END SP. DT. RT. 0.10%
BEGIN SP. DT. RT. 0.58%
ELEV. 210.50



222+00.00



221+00.00

HWY. 118 SITE 2
STA. 221+00 TO STA. 223+00

WBCallaway 6/28/2024 7:45:25 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
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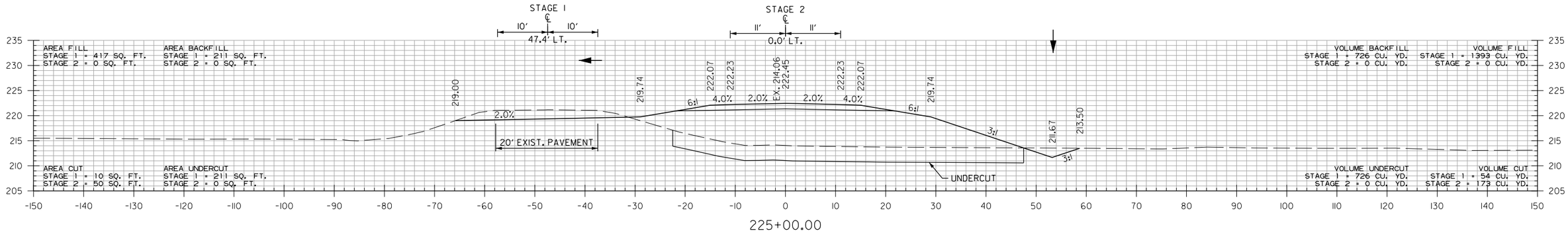
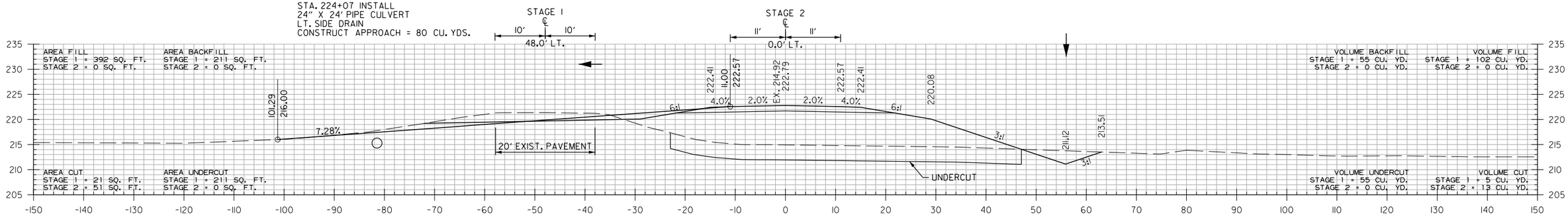
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	118	139
		CROSS SECTIONS				

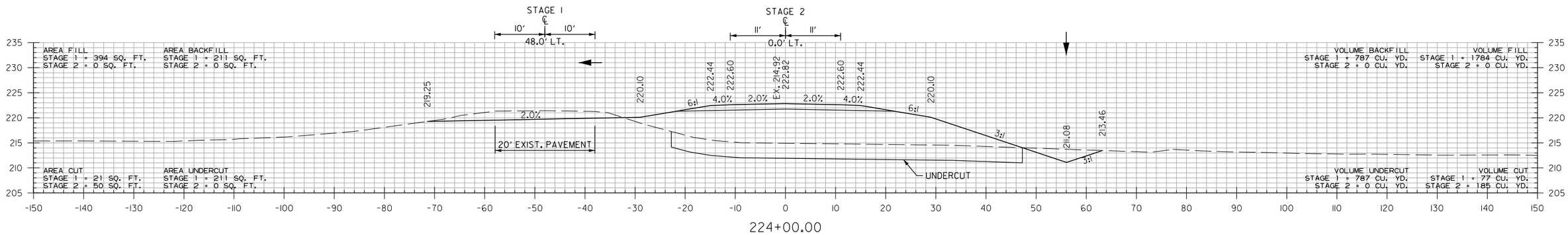


225+00.00

STA. 224+07 INSTALL
24" X 24' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 80 CU. YDS.



224+07.00

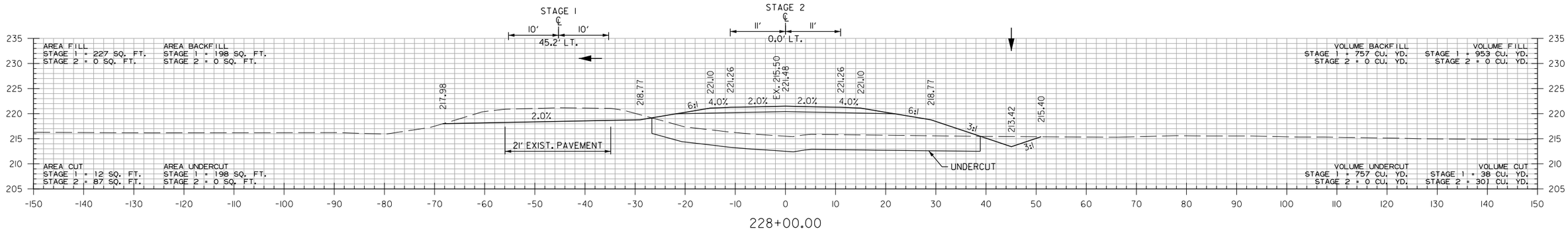


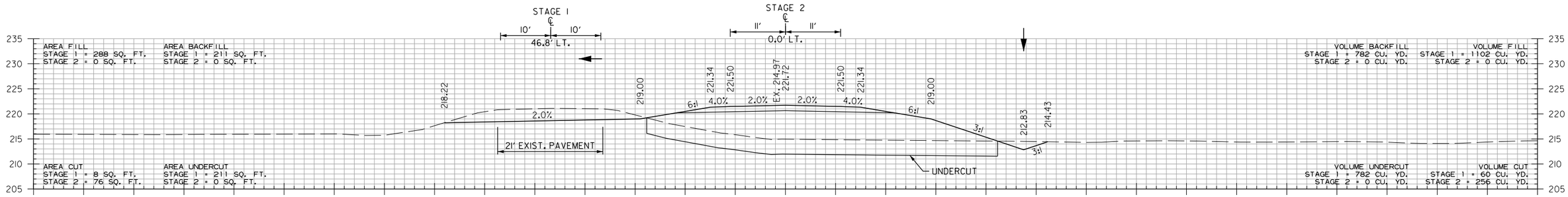
224+00.00

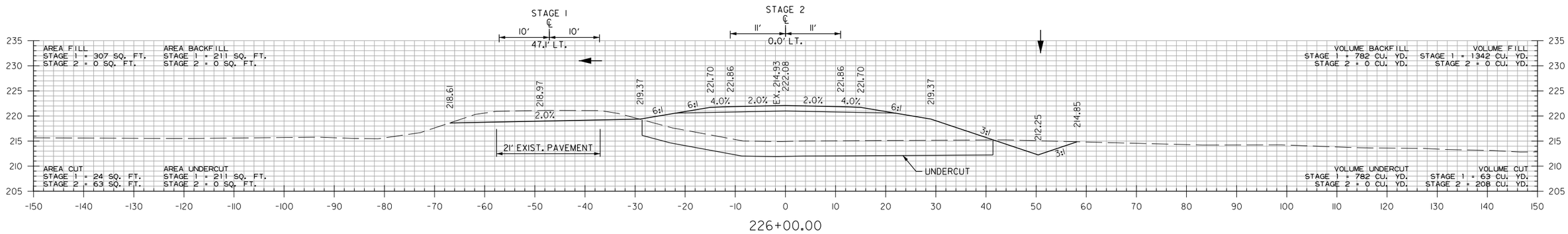
HWY. 118 SITE 2
STA. 224+00 TO STA. 225+00

WBCalloway 6/28/2024 7:45:25 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	119	139
		CROSS SECTIONS				



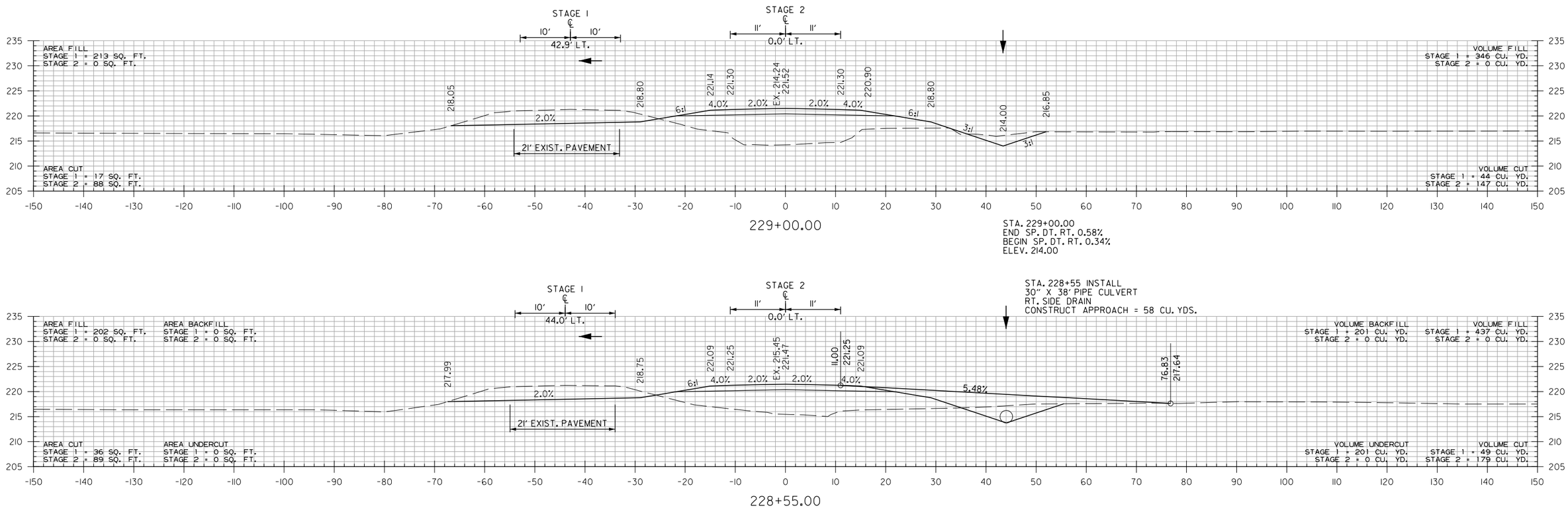




HWY. 118 SITE 2
STA. 226+00 TO STA. 228+00

WBCallaway 6/28/2024 7:45:26 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

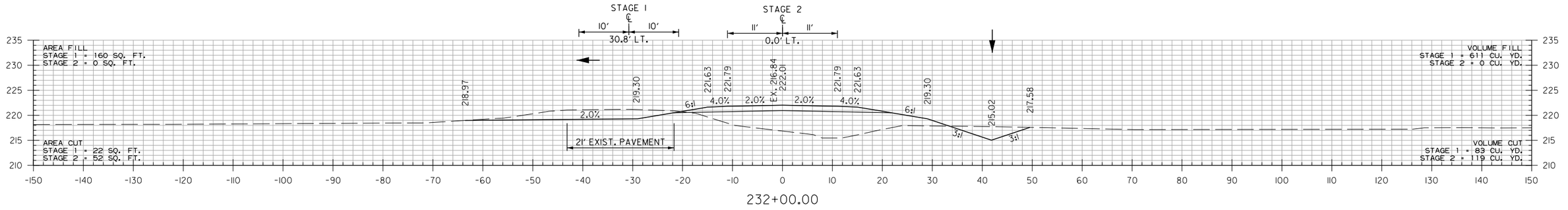
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	120	139
		CROSS SECTIONS				

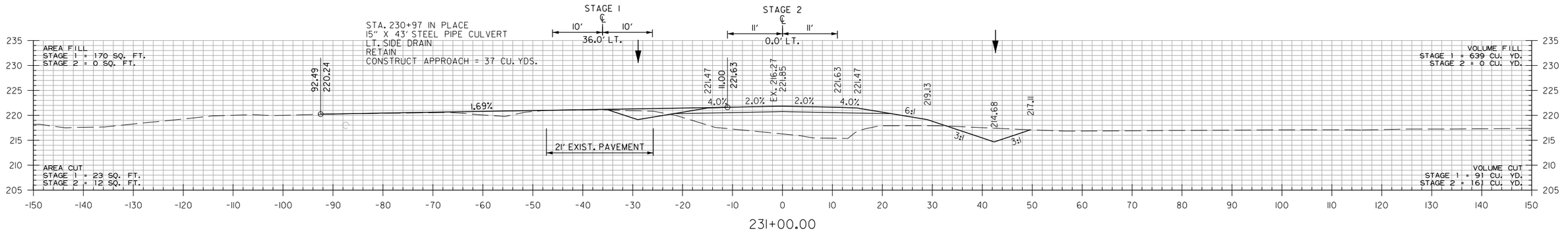


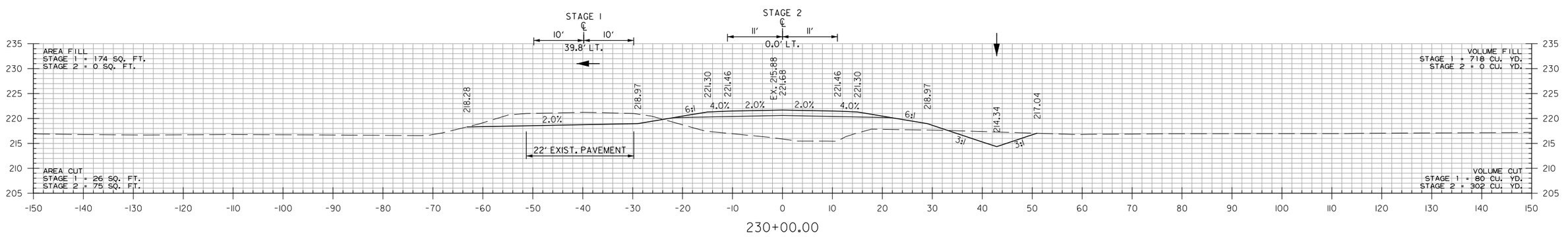
HWY. 118 SITE 2
STA. 228+55 TO STA. 229+00

WBCallaway 6/28/2024 7:45:26 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	121	139
		CROSS SECTIONS				



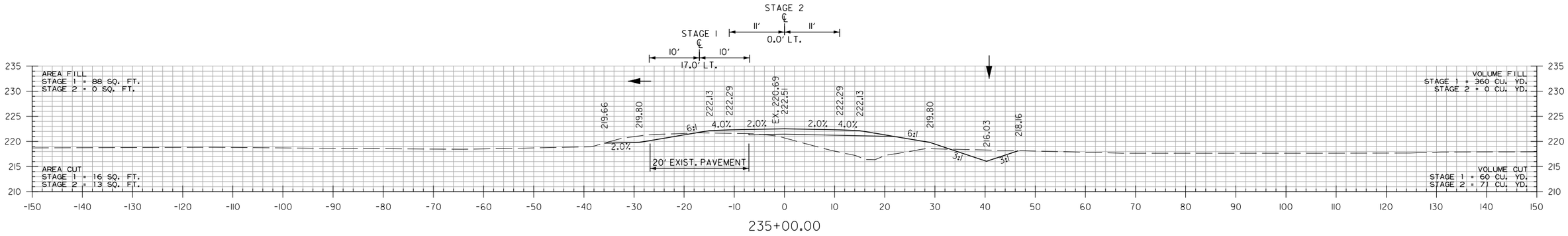


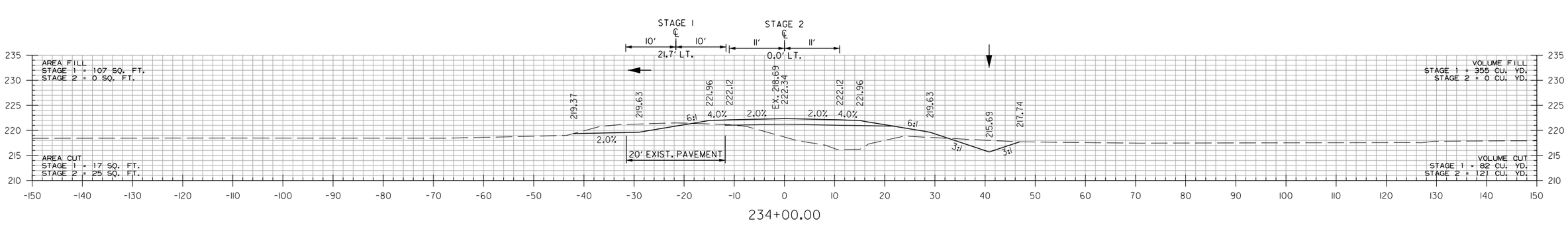


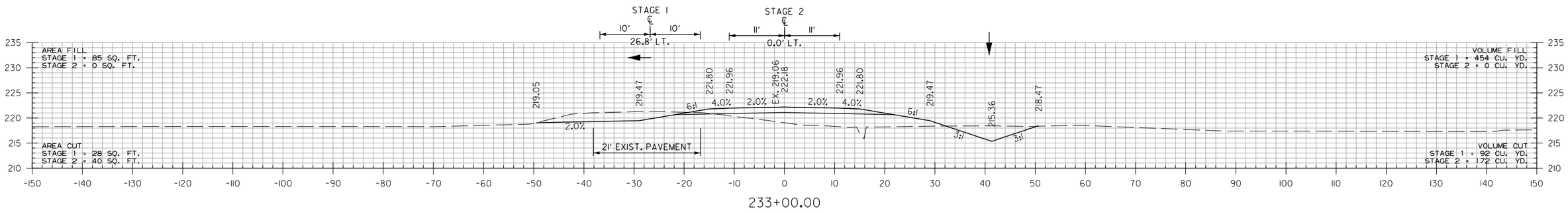
HWY. 118 SITE 2
STA. 230+00 TO STA. 232+00

WBCallaway 6/28/2024 7:45:26 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017.CX.Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	122	139
		CROSS SECTIONS				



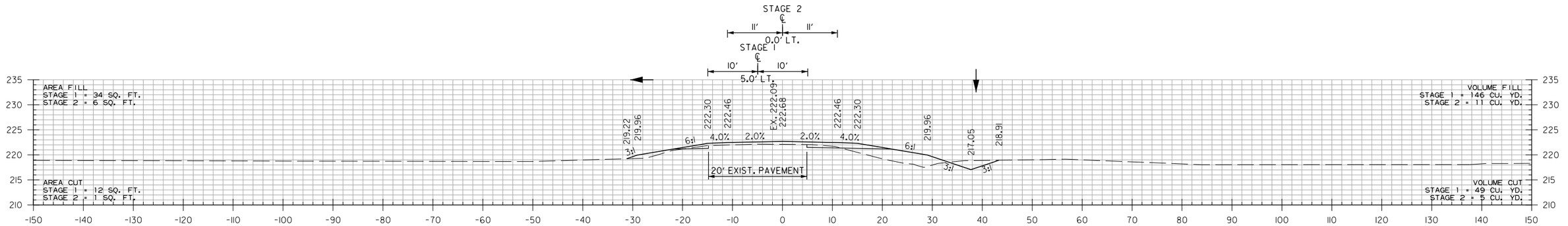




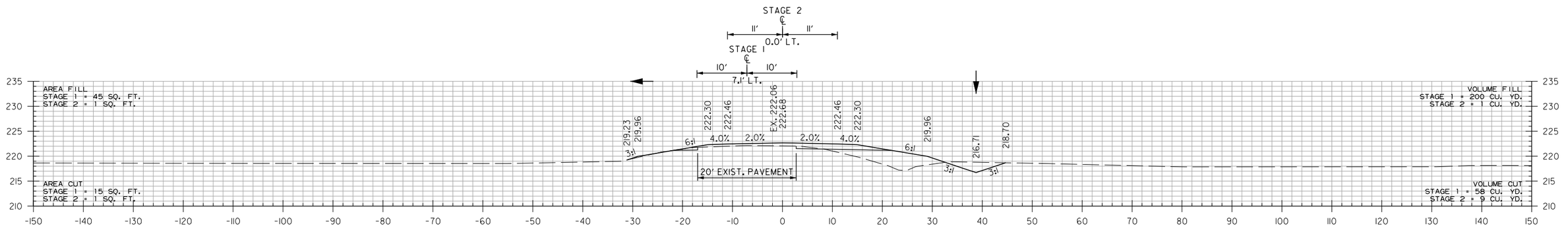
HWY. 118 SITE 2
STA. 233+00 TO STA. 235+00

WBCallaway
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site 2.DGN
REVISED DATE:
6/28/2024 7:45:27 AM

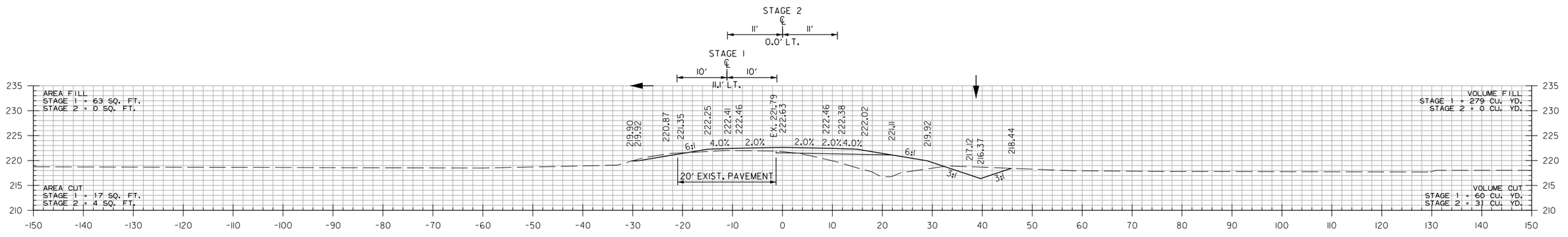
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	123	139
		CROSS SECTIONS				



238+00.00



237+00.00

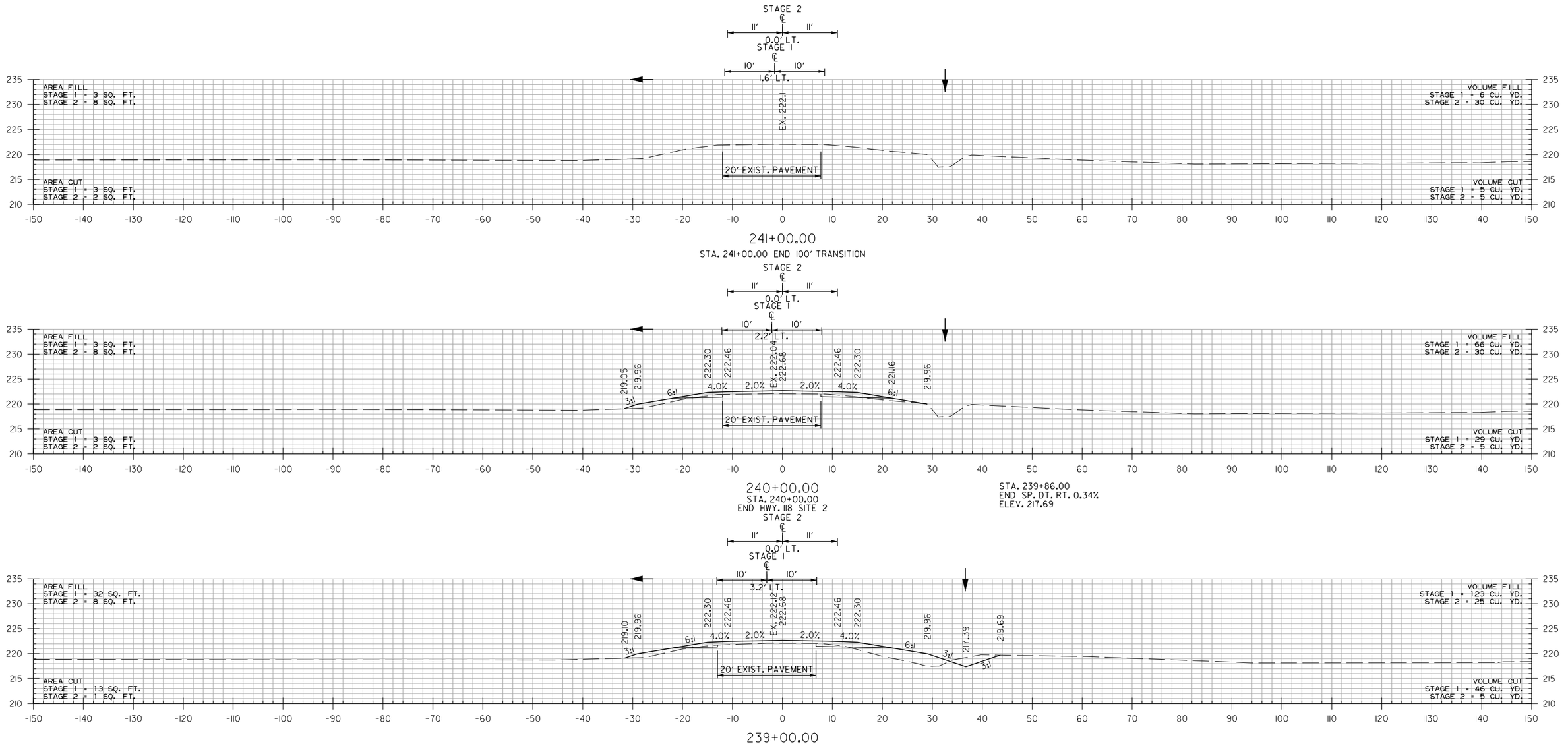


236+00.00

HWY. 118 SITE 2
STA. 236+00 TO STA. 238+00

WBCalloway 6/28/2024 7:45:27 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_2.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	124	139
		CROSS SECTIONS				



HWY. 118 SITE 2
STA. 239+00 TO STA. 241+00

WBCallaway 6/28/2024 7:45:28 AM
WORKSPACE: AHTD
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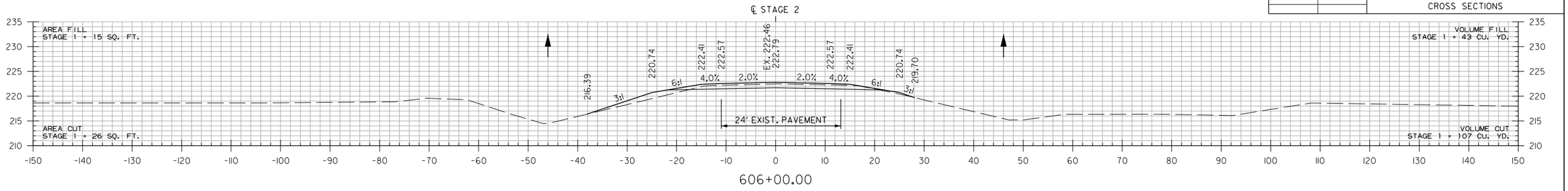
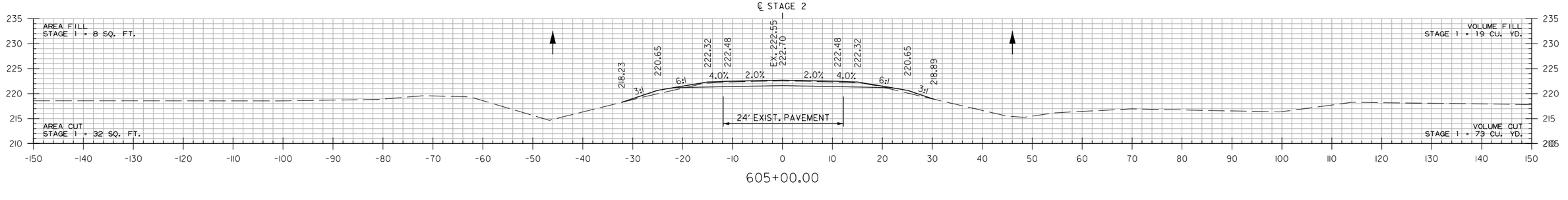
REVISED DATE:

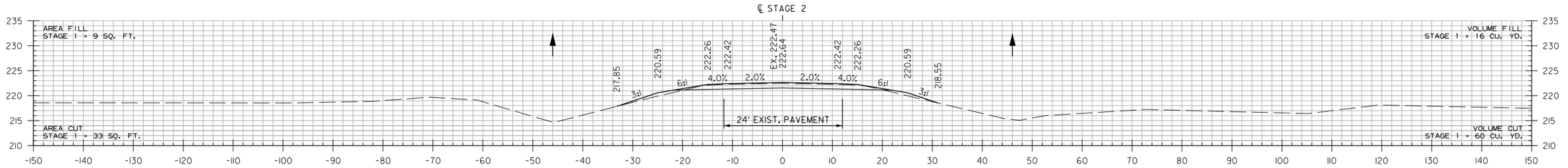
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	125	139
		CROSS SECTIONS				



606+00.00

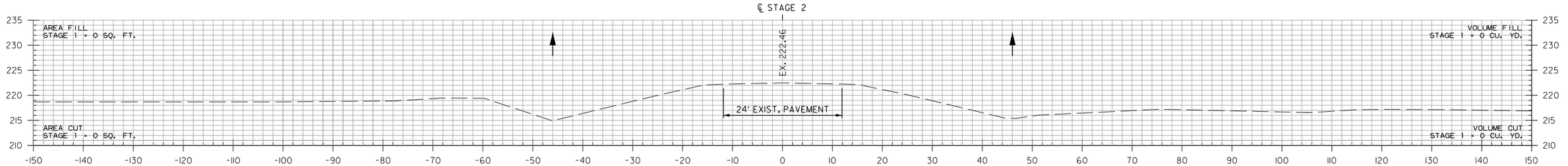


605+00.00



604+38.66

STA. 604+38.66 BEGIN
I-555 SERVICE RD. SITE 3



603+38.66

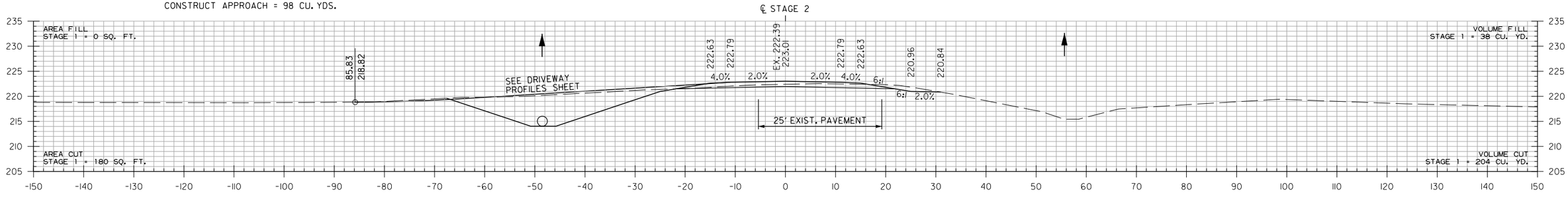
STA. 603+38.66 BEGIN 100' TRANSITION

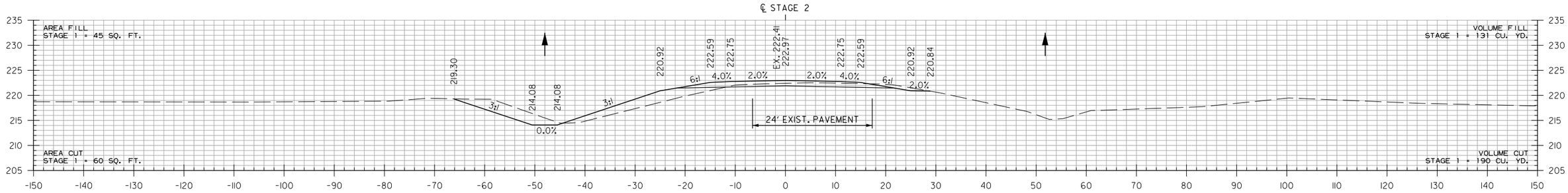
SERVICE RD. SITE 3
STA. 604+39 TO STA. 606+00

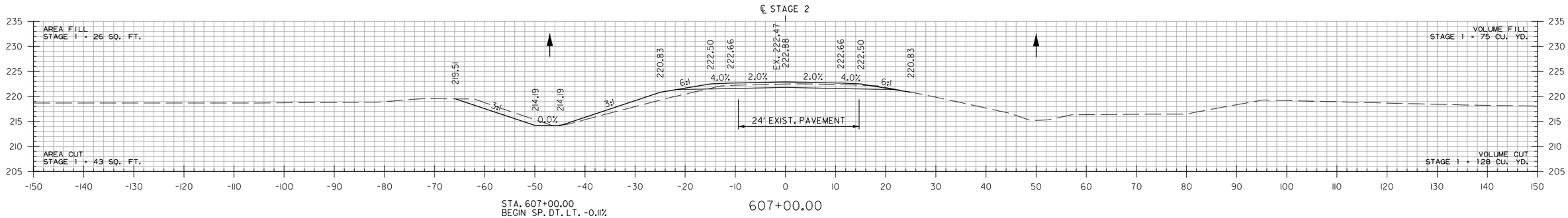
WBCallaway 6/28/2024 7:45:32 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	126	139
		CROSS SECTIONS				

STA. 608+46 IN PLACE
24" X 36' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 98 CU. YDS.





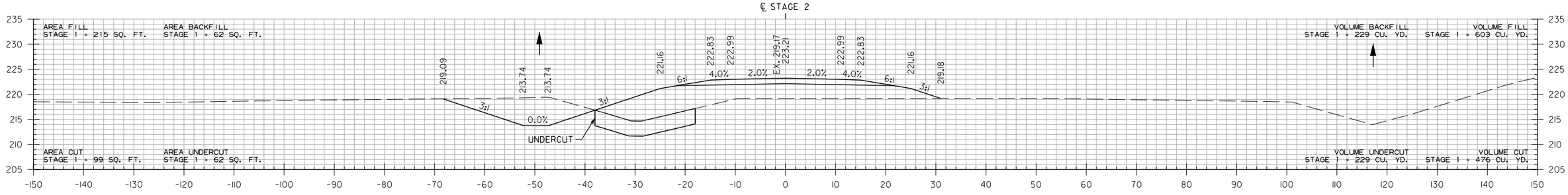


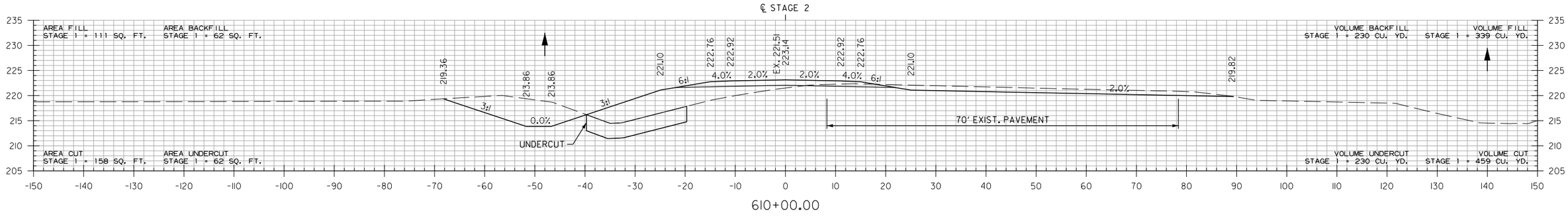
STA. 607+00.00
BEGIN SP. DT. LT. -0.11%
ELEV. 214.19

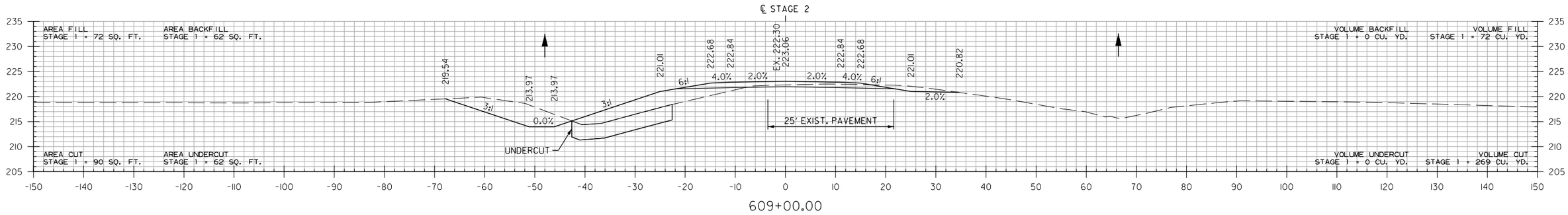
SERVICE RD. SITE 3
STA. 607+00 TO STA. 608+46

WBCalloway 6/28/2024 7:45:32 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	127	139
		CROSS SECTIONS				



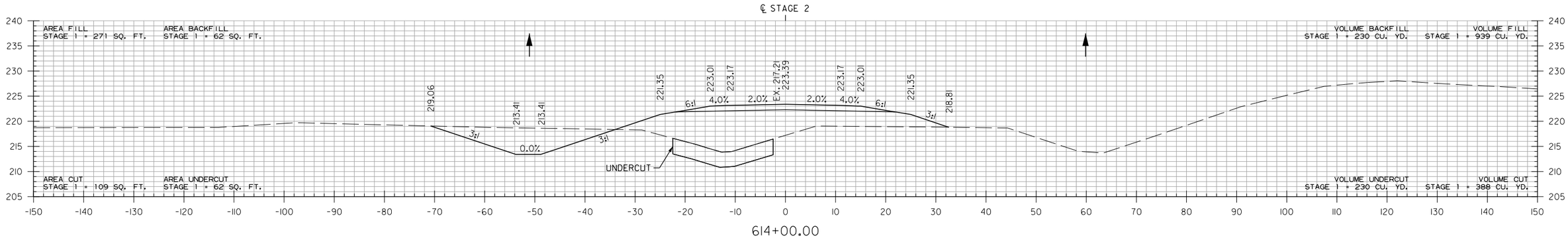


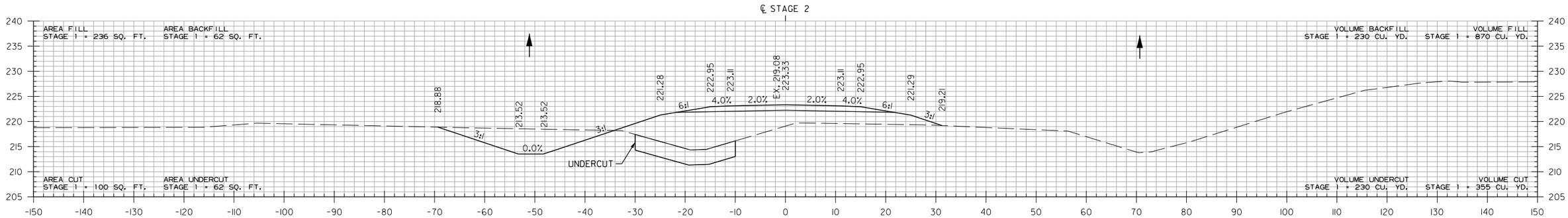


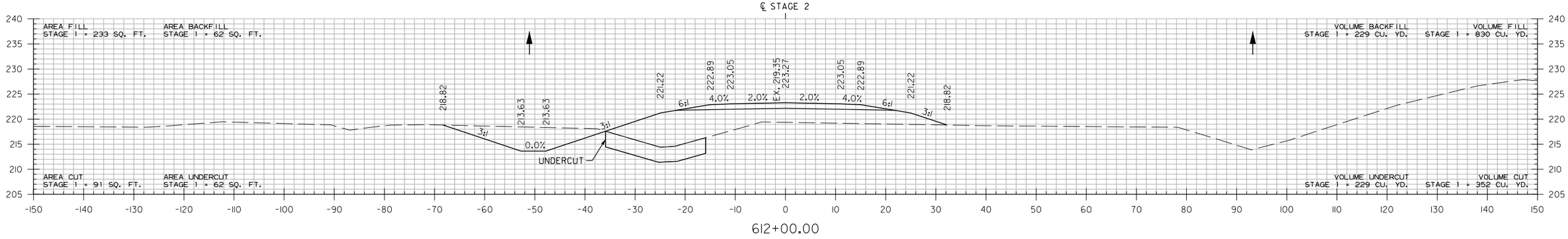
SERVICE RD. SITE 3
STA. 609+00 TO STA. 611+00

WBCalloway 6/28/2024 7:45:32 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	128	139
		CROSS SECTIONS				



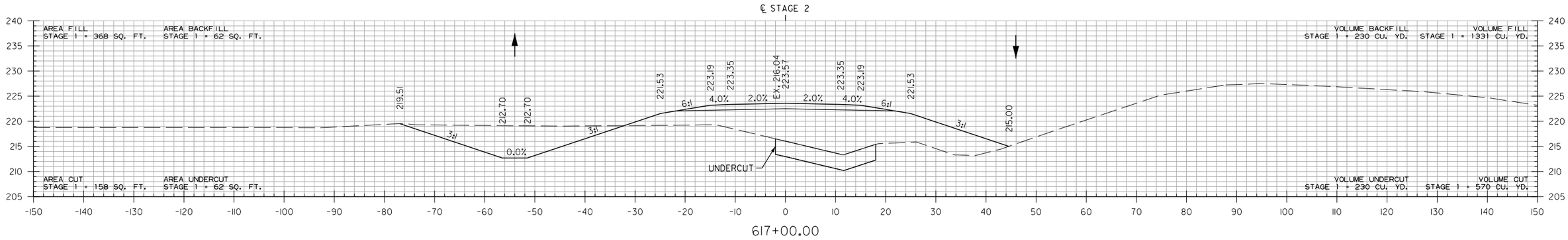




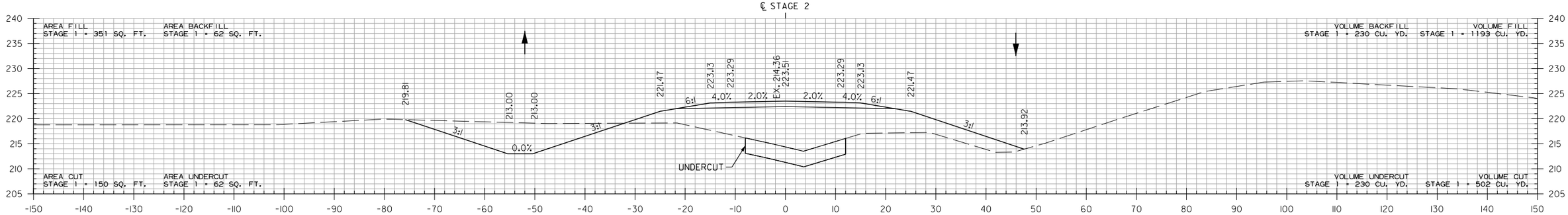
SERVICE RD. SITE 3
STA. 612+00 TO STA. 614+00

WBCallaway 6/28/2024 7:45:33 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	129	139
		CROSS SECTIONS				

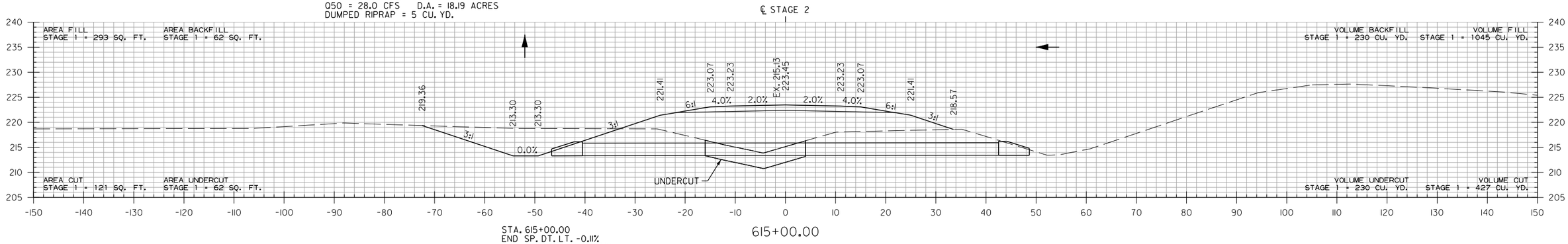


617+00.00



616+00.00

STA 615+00 CONSTRUCT
30" X 83' RC PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
W/FES LT. & RT.
30" RC PIPE CULVERT = 83 LIN. FT.
30" FES = 2 EACH
Q50 = 28.0 CFS D.A. = 18.19 ACRES
DUMPED RIPRAP = 5 CU. YD.



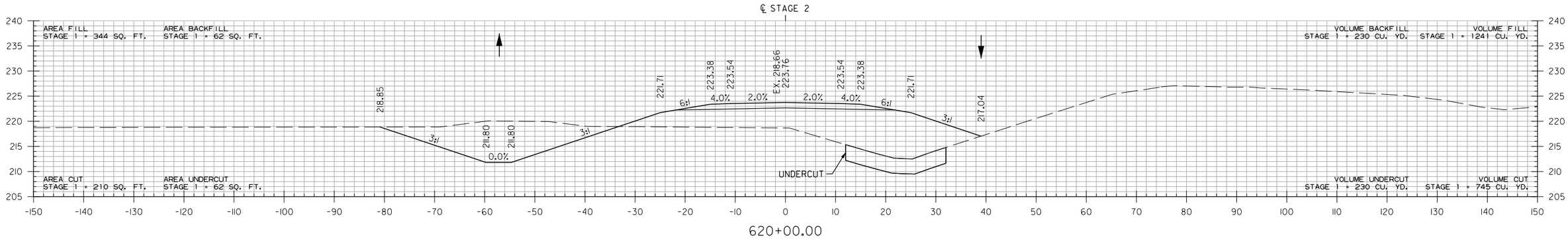
615+00.00

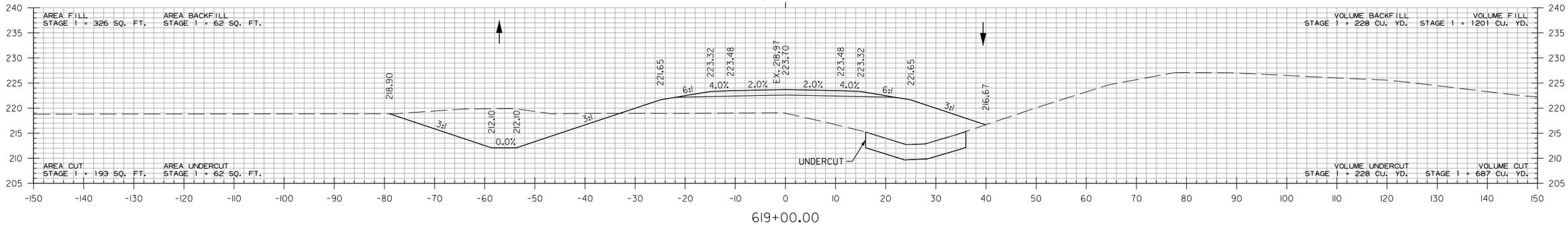
STA. 615+00.00
END SP. DT. LT. -0.11%
BEGIN SP. DT. LT. -0.30%
ELEV. 213.30

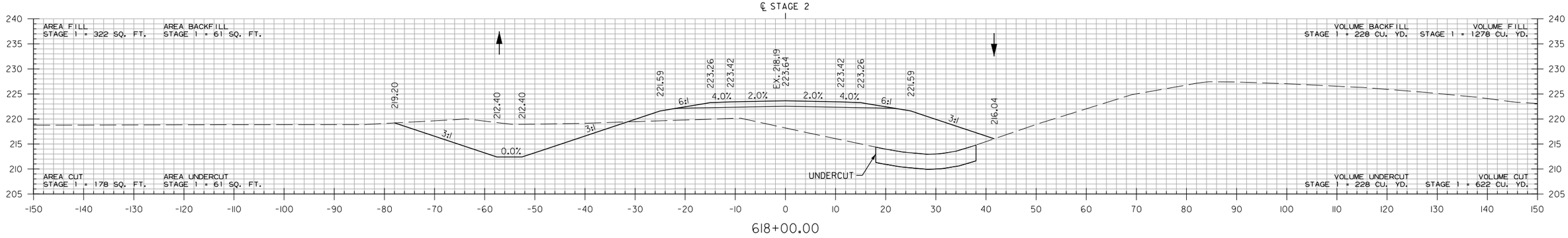
SERVICE RD. SITE 3
STA. 615+00 TO STA. 617+00

WBCallaway 6/28/2024 7:45:33 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	130	139
		CROSS SECTIONS				



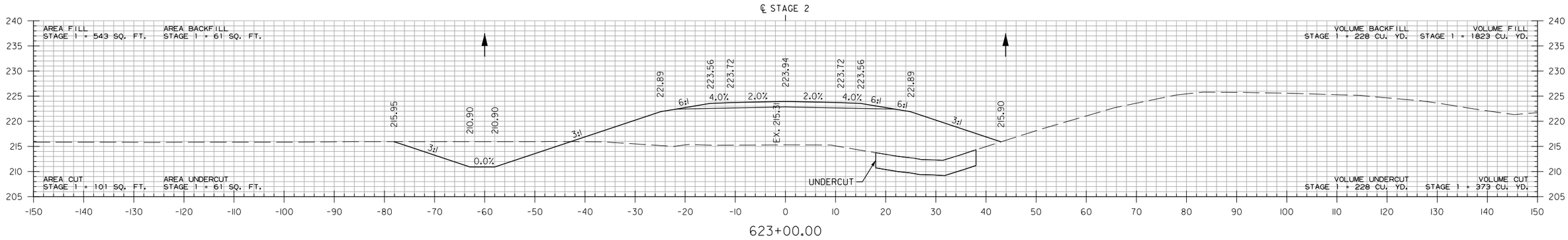


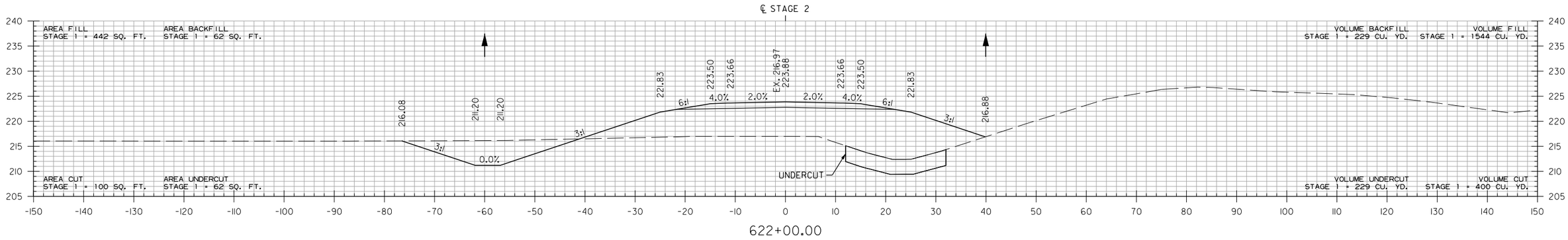


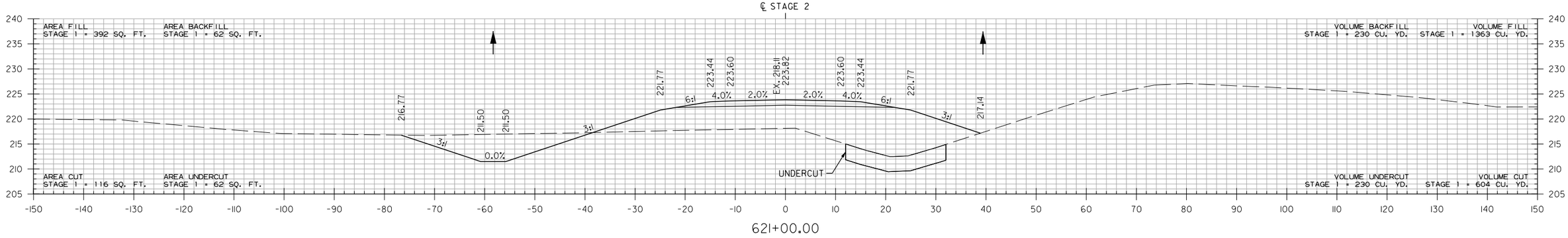
SERVICE RD. SITE 3
STA. 618+00 TO STA. 620+00

WBCallaway 6/28/2024 7:45:34 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	131	139
		CROSS SECTIONS				



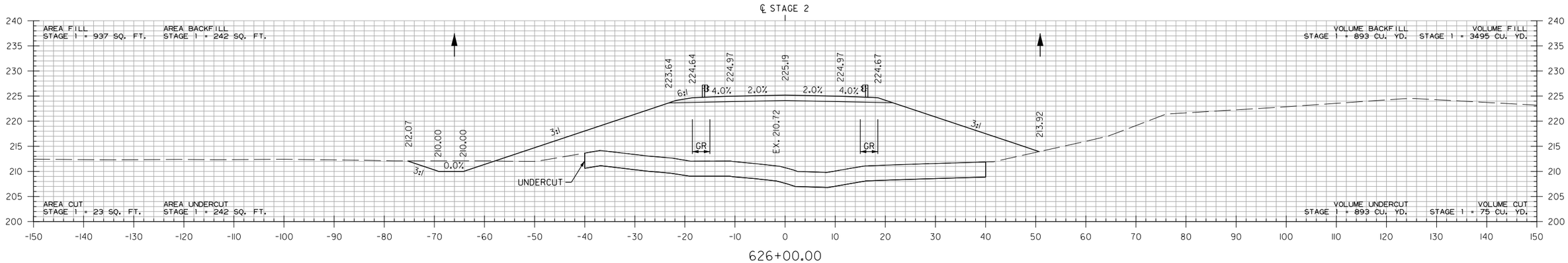


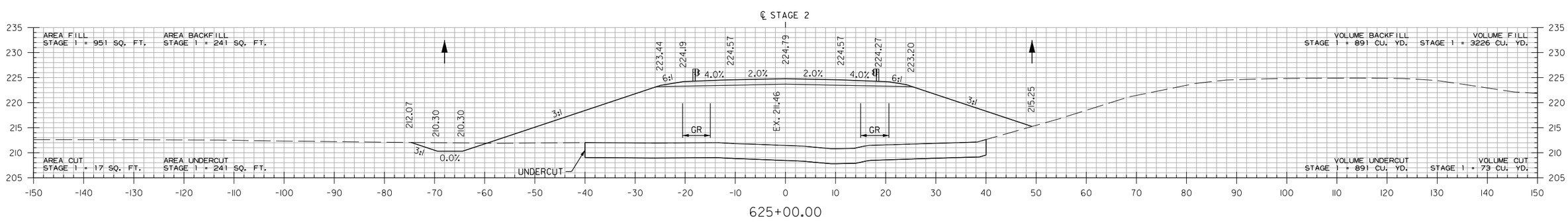


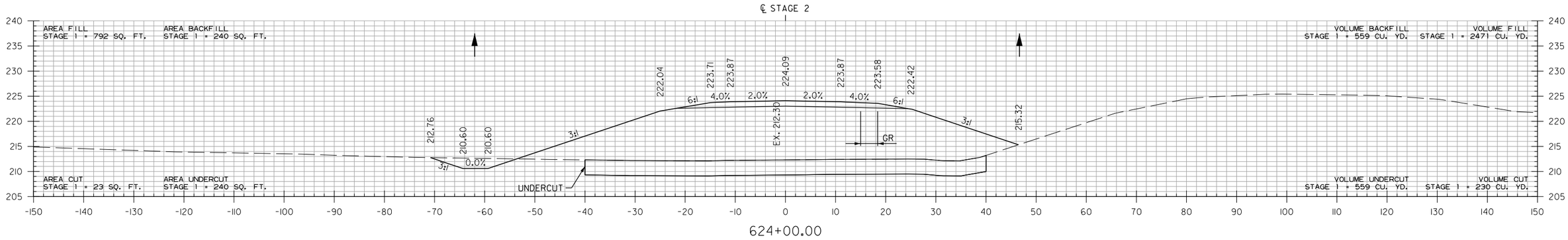
SERVICE RD. SITE 3
STA. 621+00 TO STA. 623+00

WBCallaway 6/28/2024 7:45:34 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	132	139
		CROSS SECTIONS				



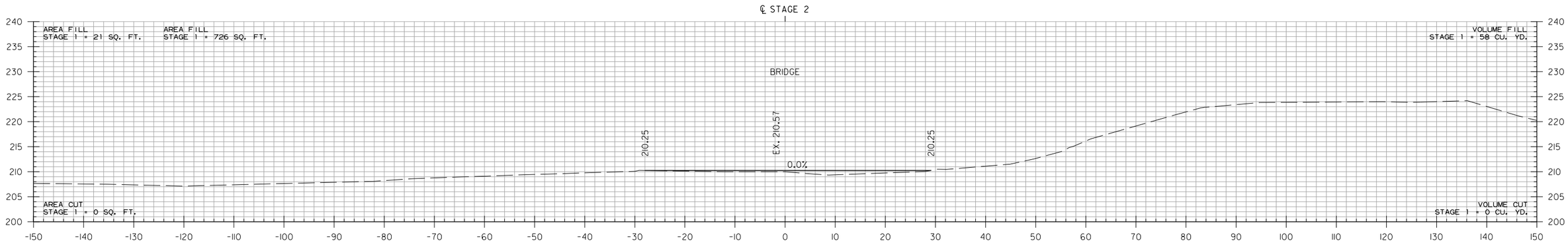




SERVICE RD. SITE 3
STA. 624+00 TO STA. 626+00

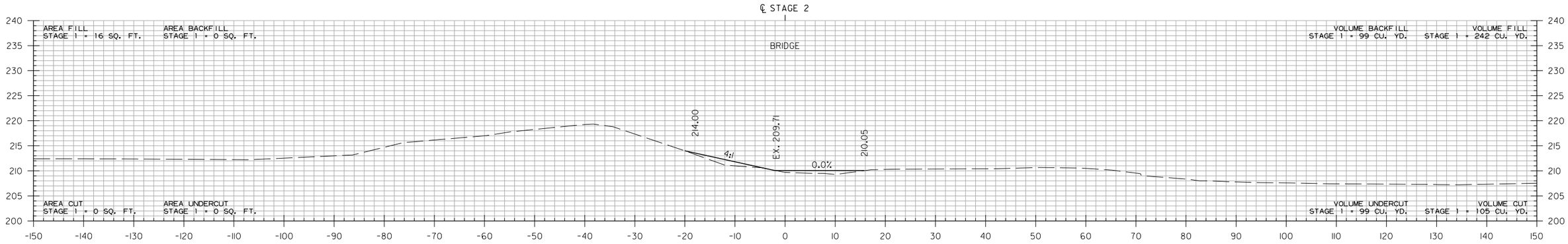
WBCalloway 6/28/2024 7:45:34 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	133	139
		CROSS SECTIONS				



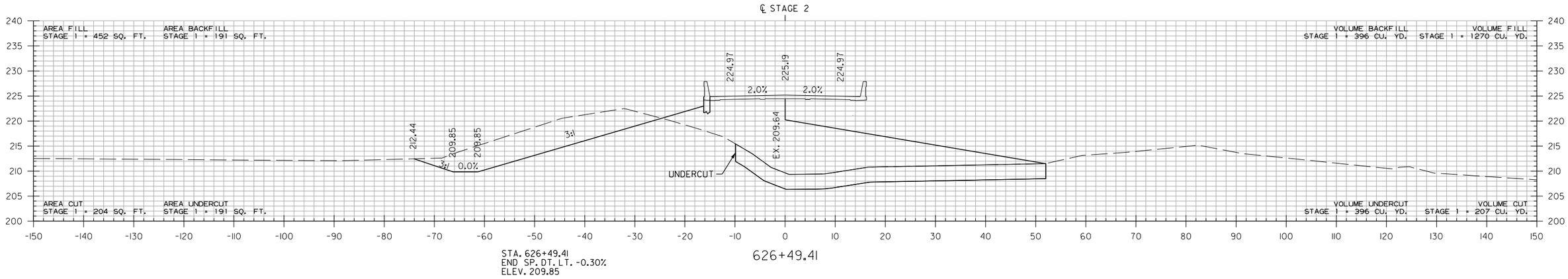
627+61.41

STA. 627+61.41 BEGIN TOE OF SLOPE AT ELEVATION 210.25'



626+77.36

STA. 626+77.36 END TOE OF SLOPE AT ELEVATION 210.05'



STA. 626+49.41
END SP. DT. LT. -0.30%
ELEV. 209.85

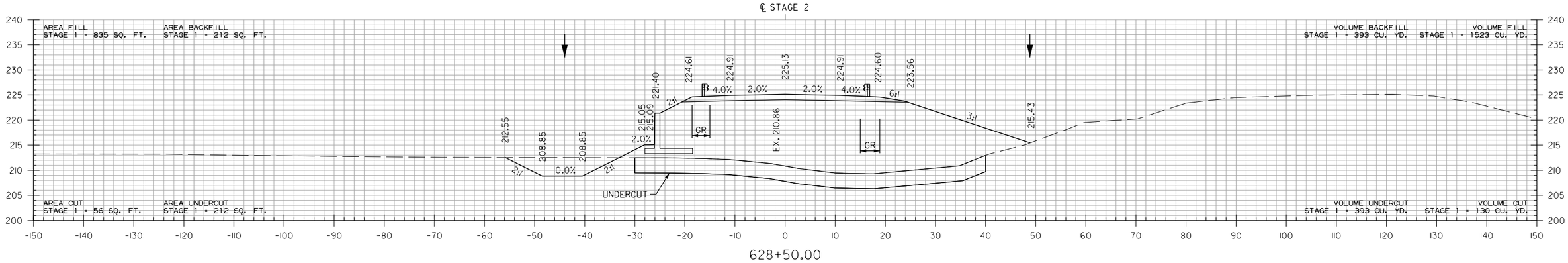
626+49.41

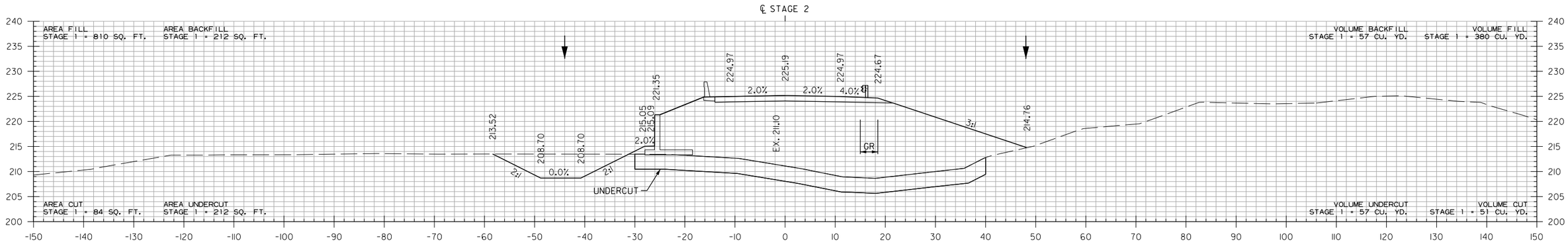
STA. 626+49.41 BEGIN BRIDGE

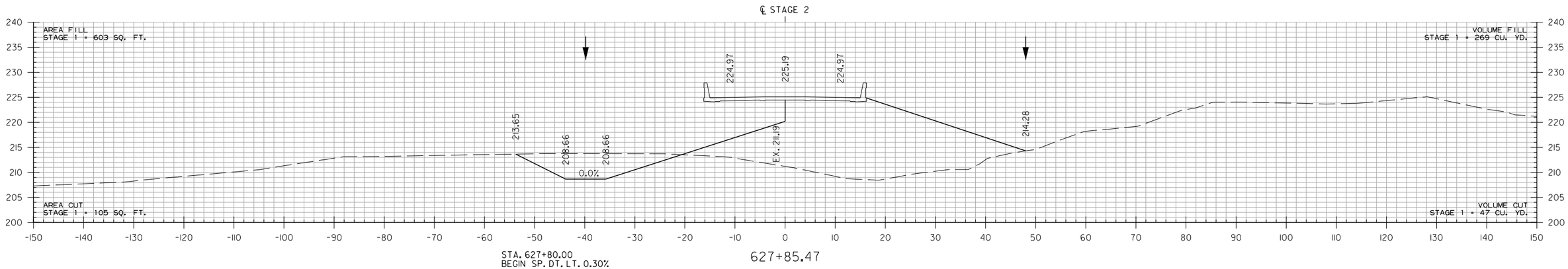
SERVICE RD. SITE 3
STA. 626+49 TO STA. 627+61

WBCallaway 6/28/2024 7:45:35 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	134	139
		CROSS SECTIONS				



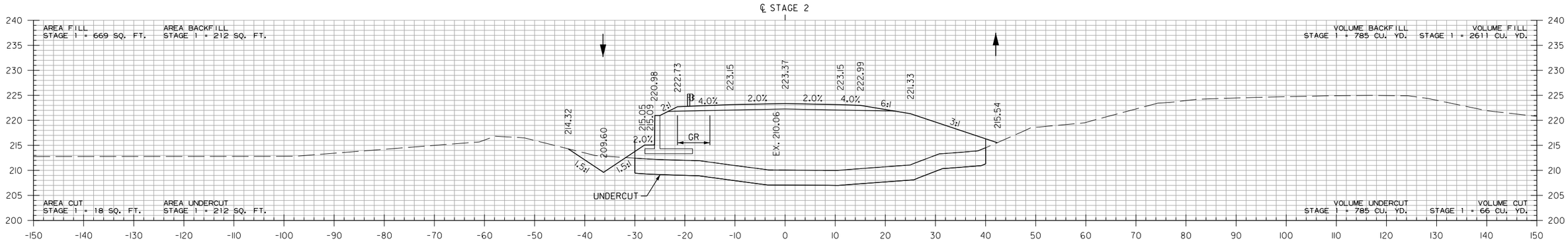


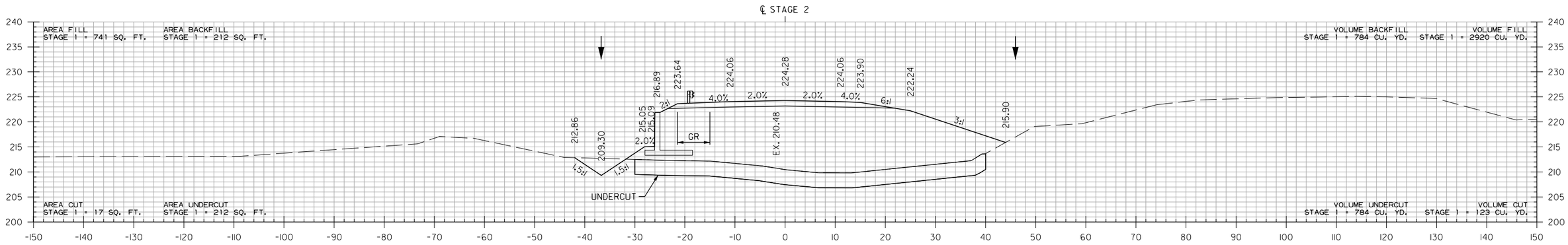


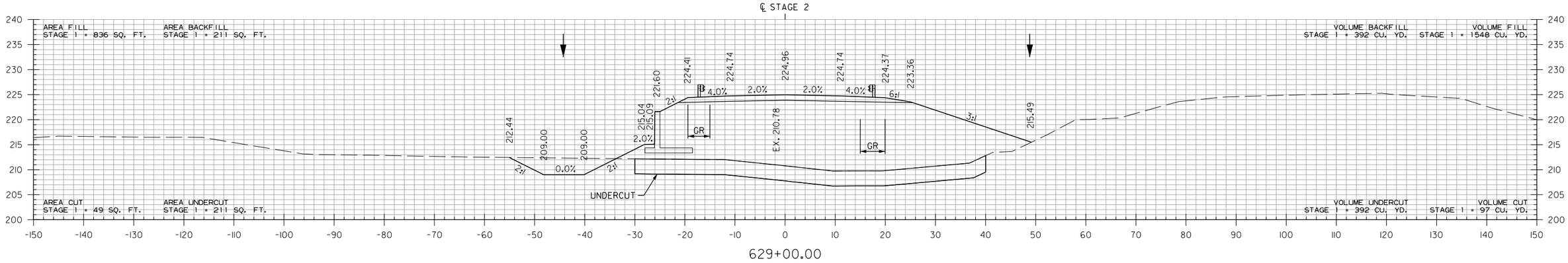
SERVICE RD. SITE 3
STA. 627+85 TO STA. 628+50

WBCalloway 6/28/2024 7:45:35 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	135	139
		CROSS SECTIONS				



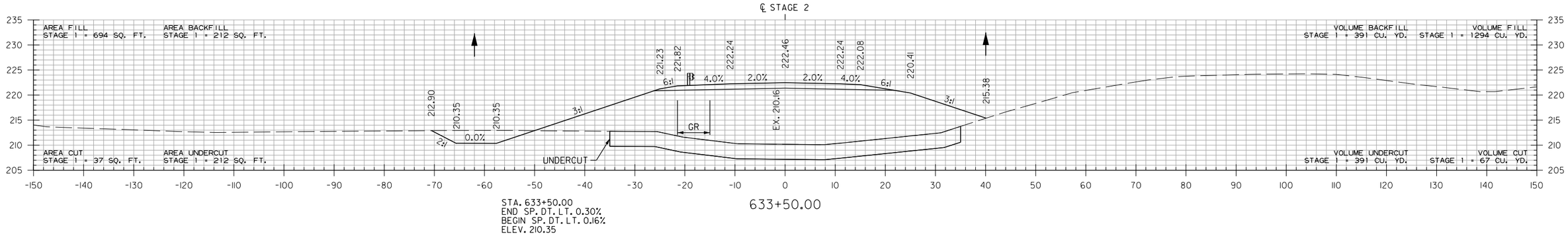


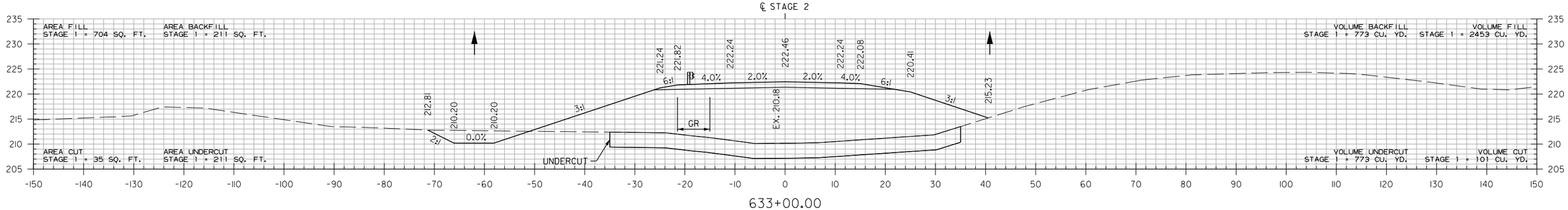


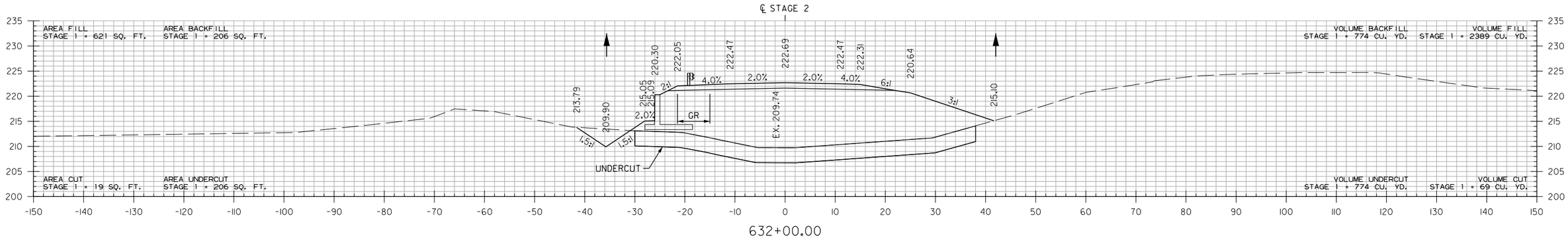
SERVICE RD. SITE 3
STA. 629+00 TO STA. 631+00

WBCalloway 6/28/2024 7:45:35 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	136	139
		CROSS SECTIONS				



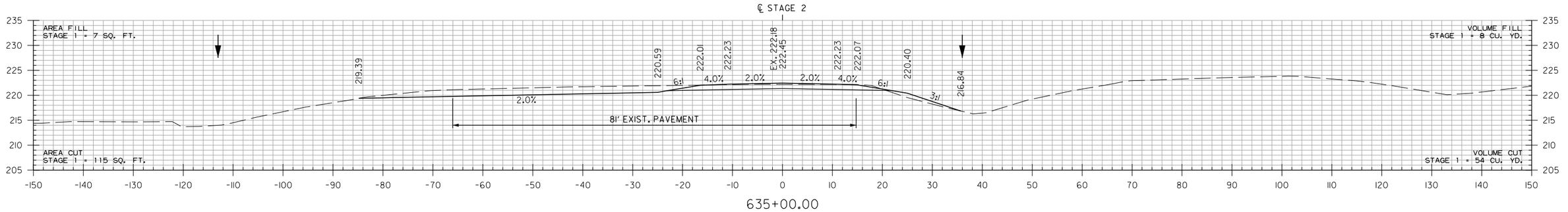




SERVICE RD. SITE 3
STA. 632+00 TO STA. 633+50

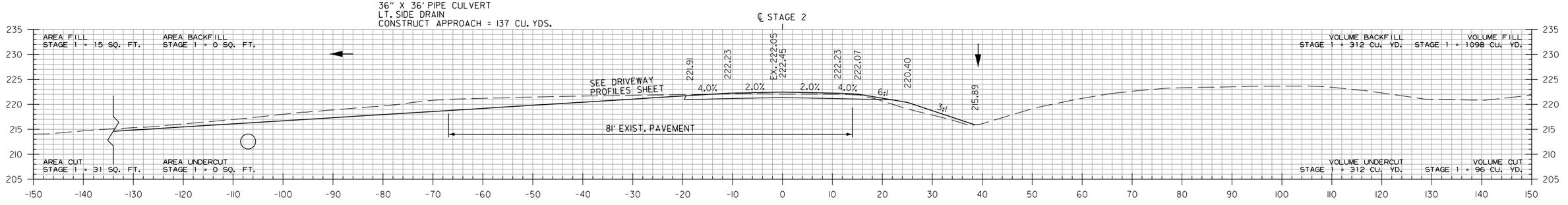
WBCalloway 6/28/2024 7:45:36 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	137	139
		CROSS SECTIONS				



635+00.00

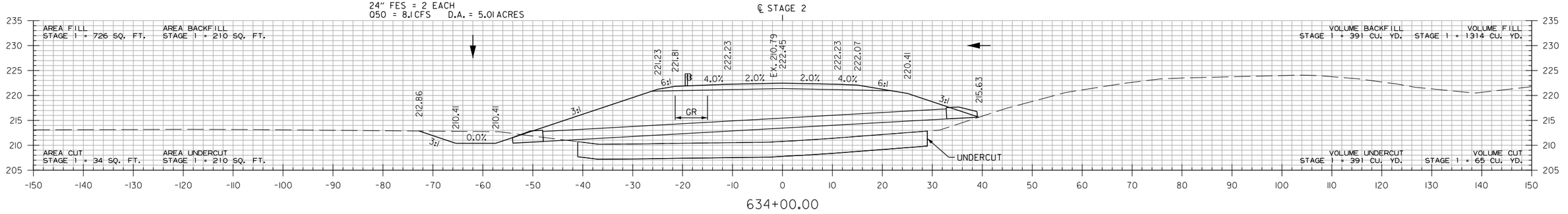
STA. 634+80 IN PLACE
36" X 37' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
36" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 137 CU. YDS.



STA. 634+12.00
END SP. DT. LT. 0.16%
ELEV. 210.45

634+80.00

STA 634+00 CONSTRUCT
24" X 79' RC PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
W/FES LT. & RT.
24" RC PIPE CULVERT = 79 LIN. FT.
24" FES = 2 EACH
Q50 = 8.1 CFS D.A. = 5.01 ACRES

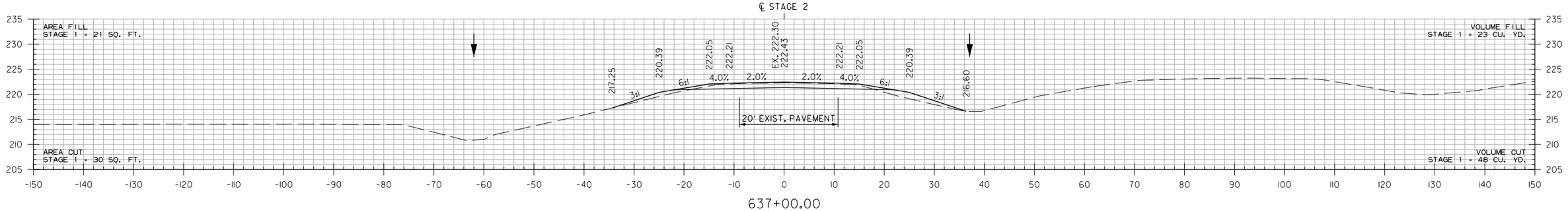


634+00.00

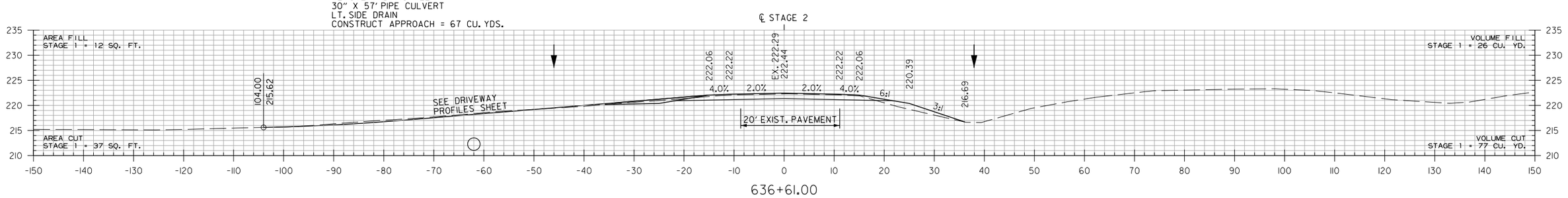
SERVICE RD. SITE 3
STA. 634+00 TO STA. 635+00

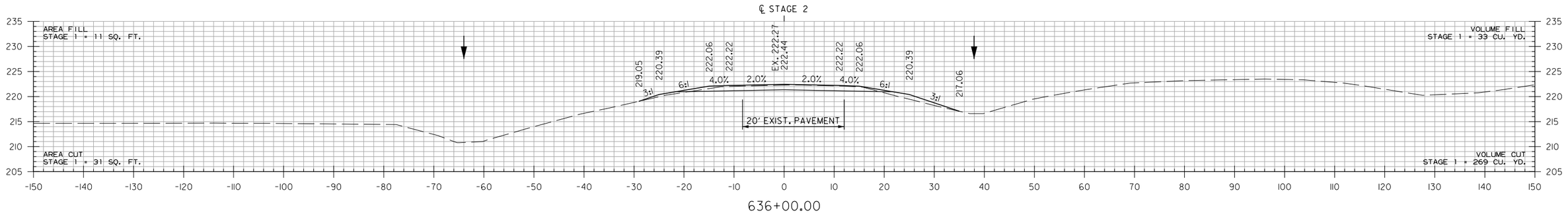
WBCalloway 6/28/2024 7:45:36 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	138	139
		CROSS SECTIONS				



STA. 636+61 IN PLACE
30" X 56' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
30" X 57' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 67 CU. YDS.

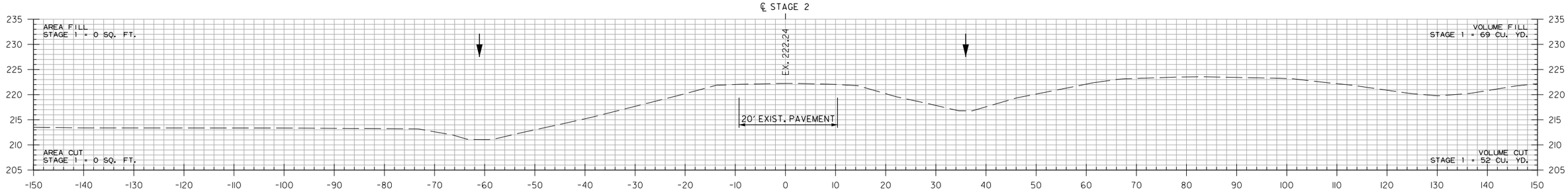




SERVICE RD. SITE 3
STA. 636+00 TO STA. 637+00

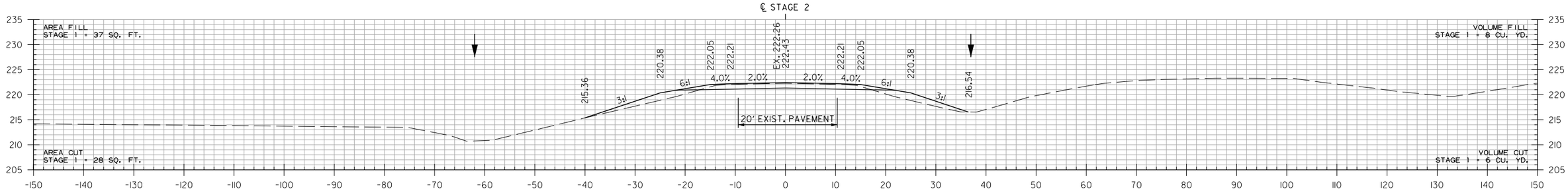
WBCallaway 6/28/2024 7:46:01 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site3.DGN
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	101017	139	139
		CROSS SECTIONS				



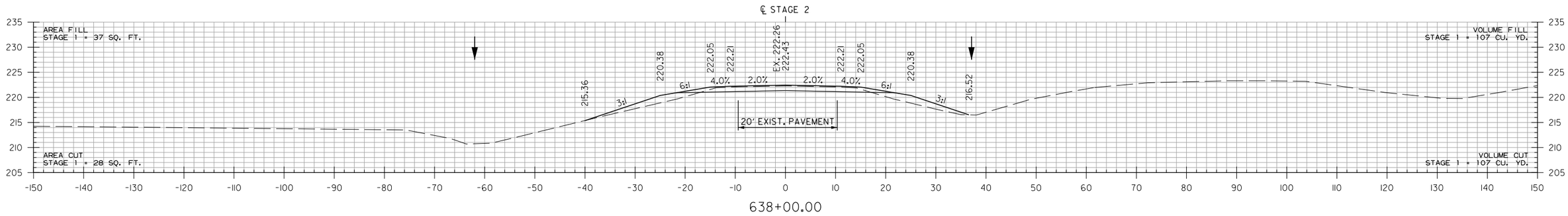
639+06.05

STA. 639+06.05 END 100' TRANSITION



638+06.05

STA. 638+06.05
END I-555 SERVICE RD. SITE 3
END JOB 101017



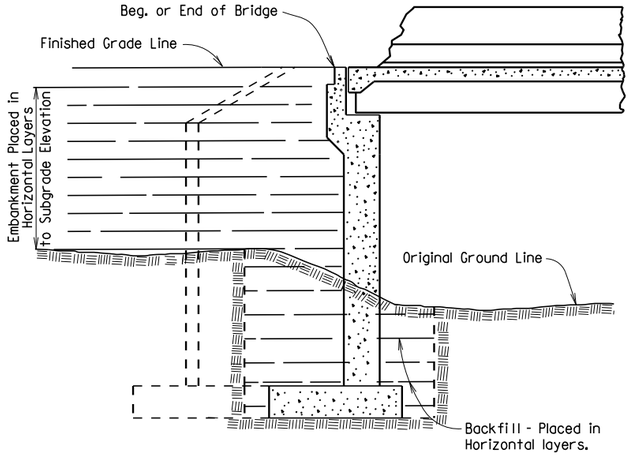
638+00.00

SERVICE RD. SITE 3
STA. 638+00 TO STA. 639+06

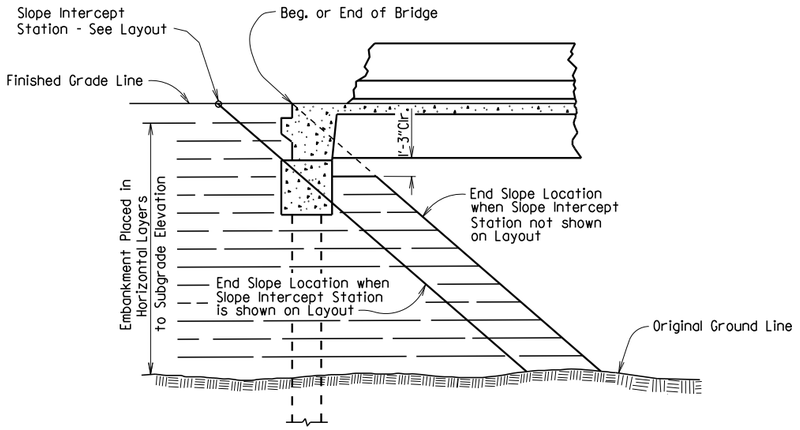
WBCalloway 6/28/2024 7:46:02 AM
WORKSPACE: AHTD
L:\2023\T02-2302000 - ARDOT 101017 Tyronza River and Ditch 6\Drawings\r101017_CX_Site_3.DGN
REVISED DATE:

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.				

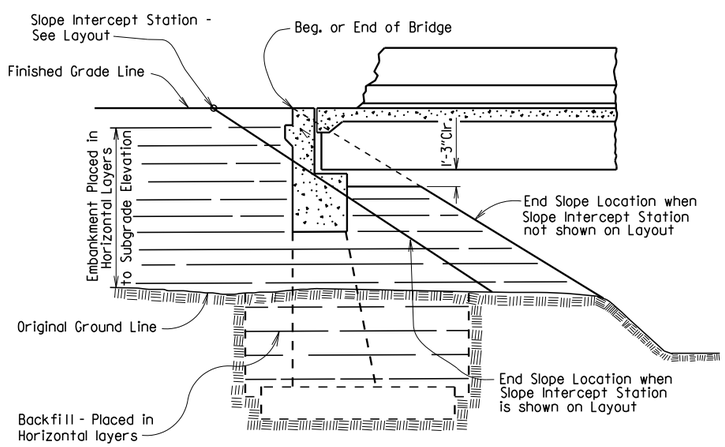
1 EMBANKMENT & BACKFILL 55000



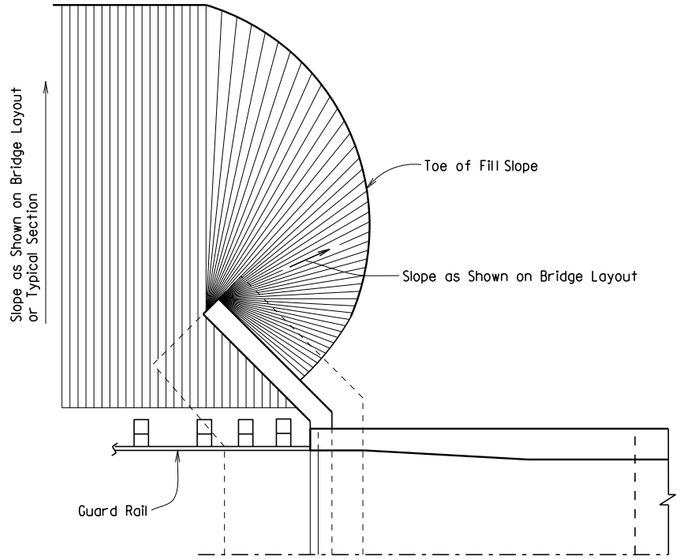
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



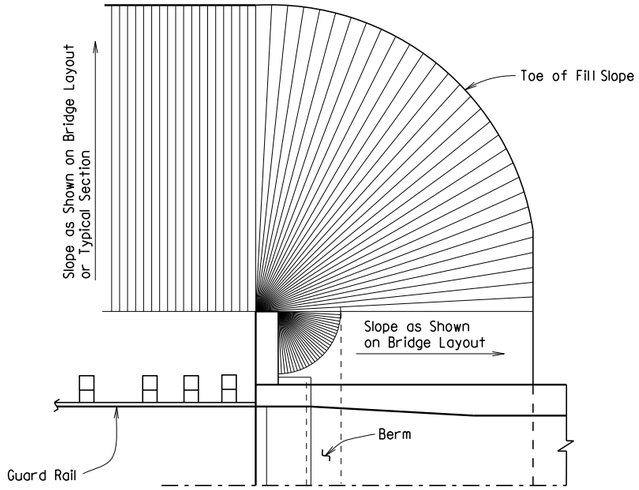
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



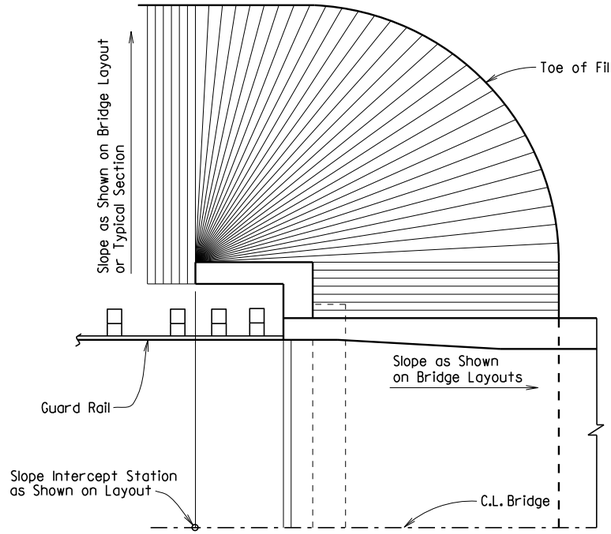
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



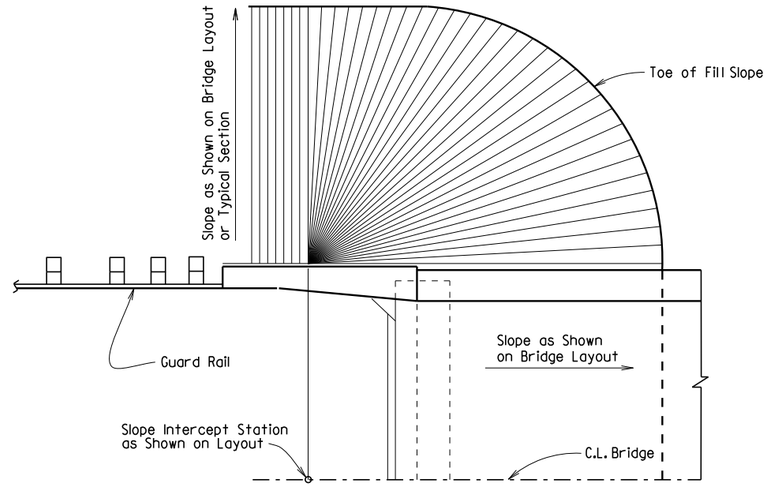
VERTICAL WALL ABUTMENTS



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

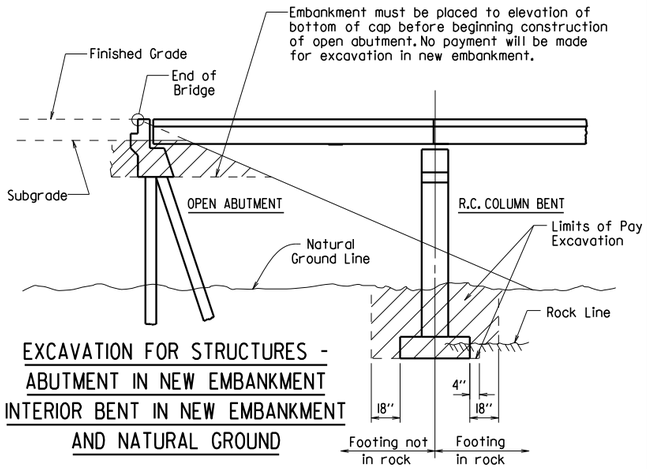
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: -

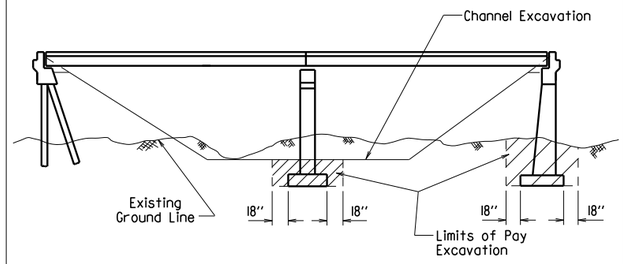
DRAWING NO. 55000

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.				

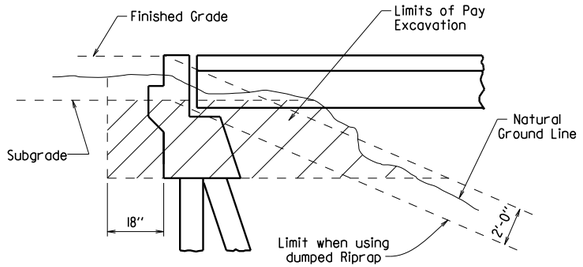
1 RIPRAP & EXCAV. 55001



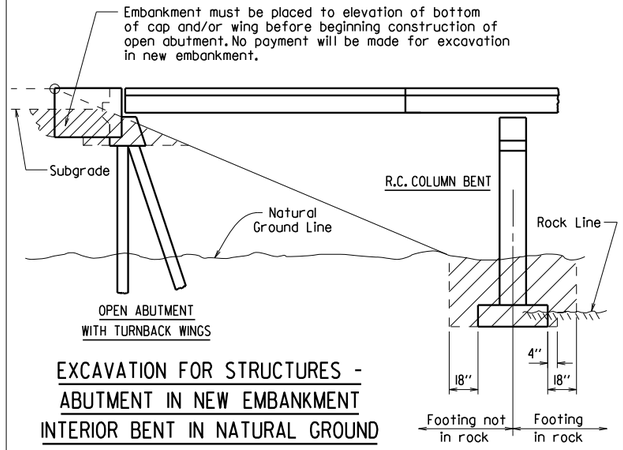
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



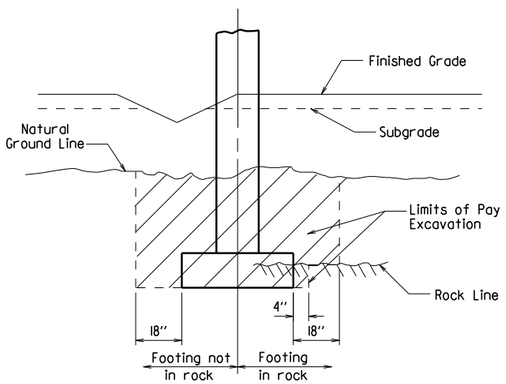
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



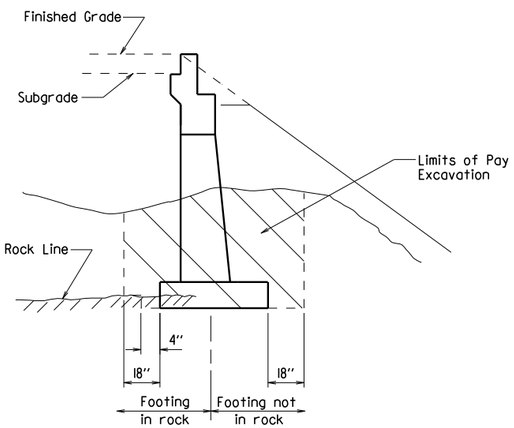
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



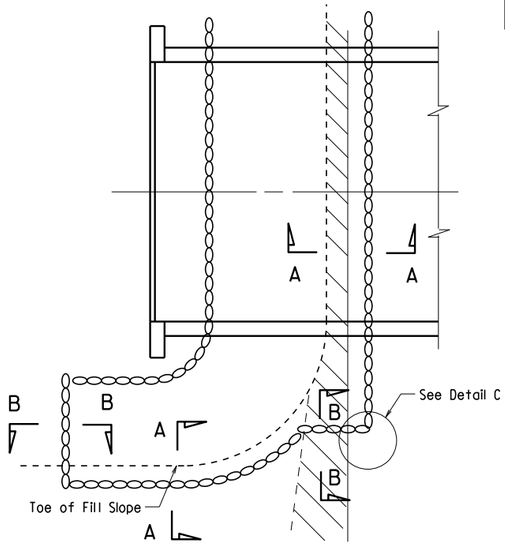
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



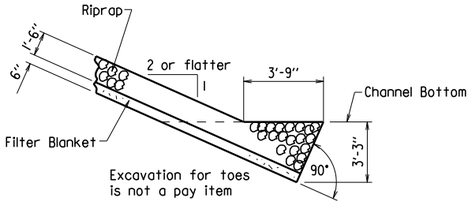
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

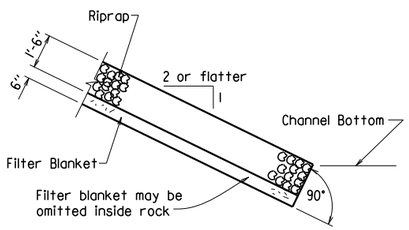


PLAN OF DUMPED RIPRAP



SECTION A-A

(Toe Excavation in Soil)



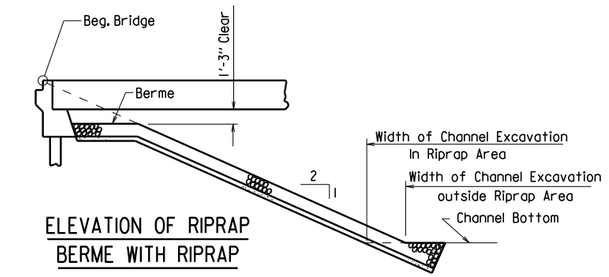
SECTION A-A

(Toe Excavation in Rock)

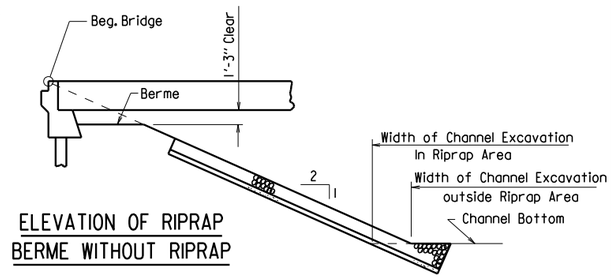
Note : Use this type of toe when rock is encountered which is in a stable condition.

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.

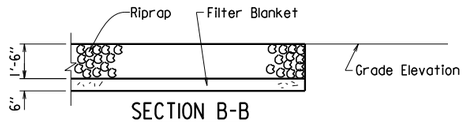
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



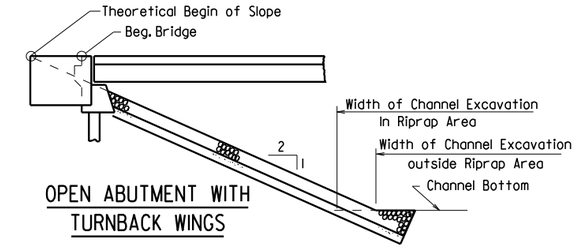
ELEVATION OF RIPRAP BERME WITH RIPRAP



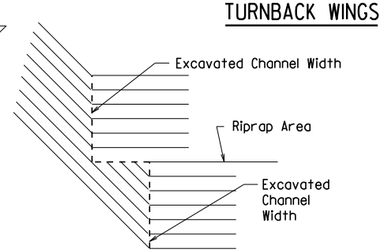
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

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

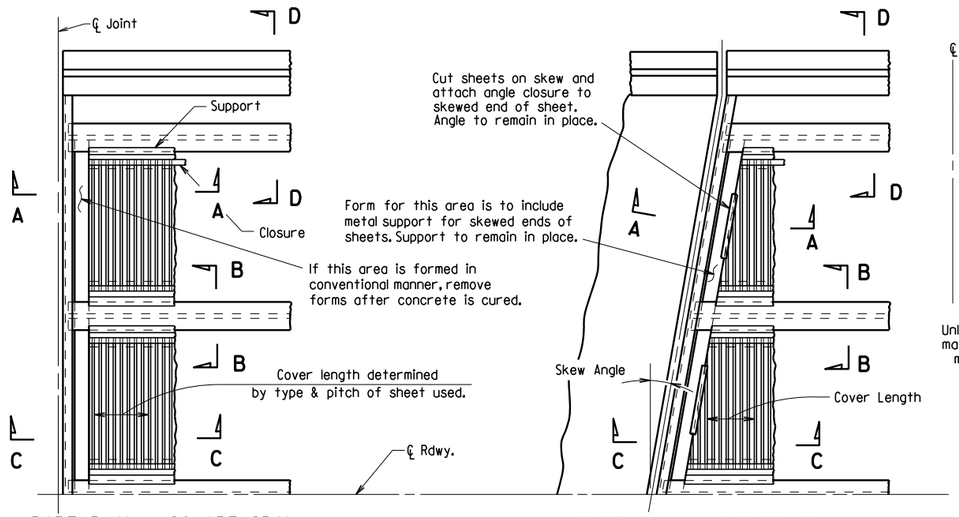
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

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

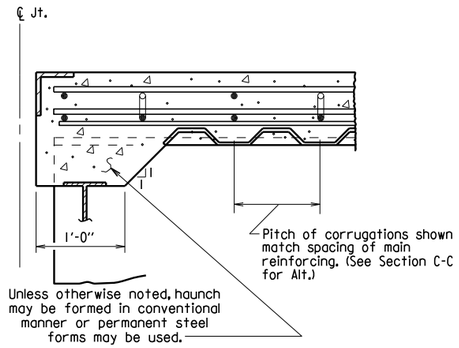


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

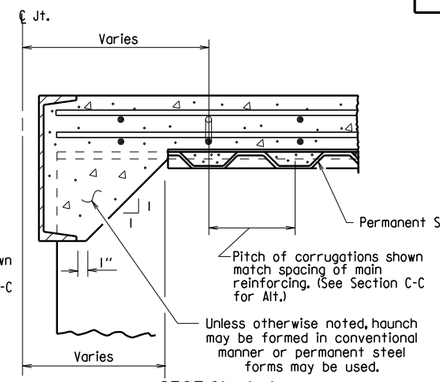
3/8" = 1'-0"



SECTION A-A

N.T.S.

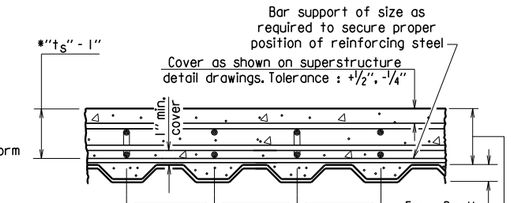
(Angle at end of span)



SECTION A-A

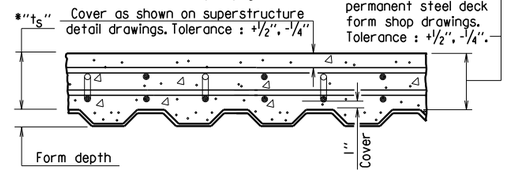
N.T.S.

(Channel at end of span)



SECTION C-C

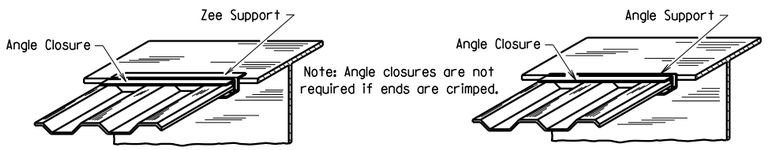
1" = 1'-0"



SECTION C-C - ALTERNATE

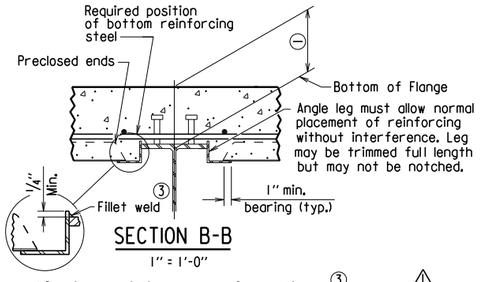
1" = 1'-0"

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



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

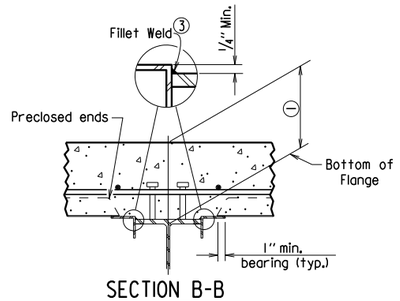


SECTION B-B

1" = 1'-0"

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

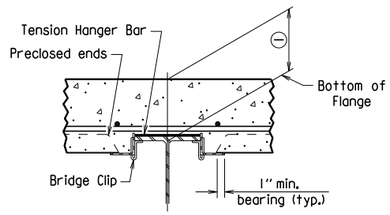
③ ⚠ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

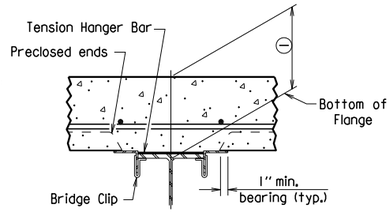
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

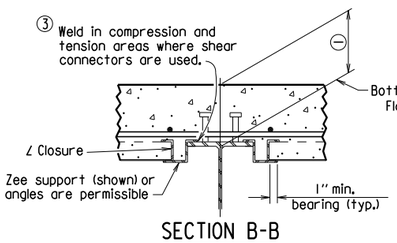
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

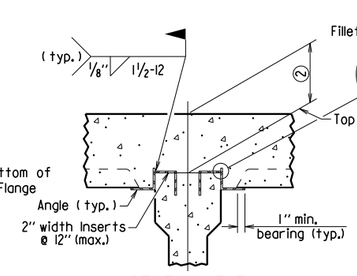
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

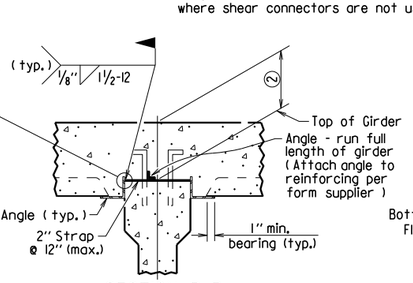


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Insert cast in girder)

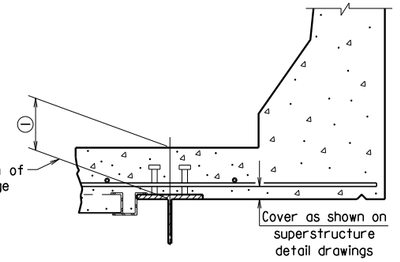


SECTION B-B

(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.

*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.

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.				
						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.

STANDARD GENERAL NOTES
FOR STEEL BRIDGE STRUCTURES

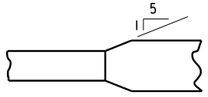
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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

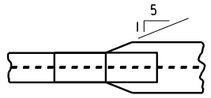
PRINT DATE: 11/7/2019

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			

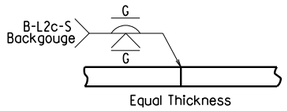


Plan-Unequal Width (Flg.)

FLANGE SPLICE

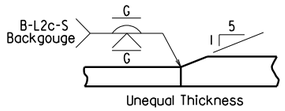


FLANGE SPLICE AT UNEQUAL BOTTOM FLANGE WIDTHS



Equal Thickness

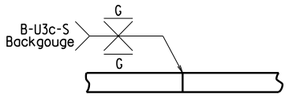
WEB & FLANGE SPLICE



Unequal Thickness

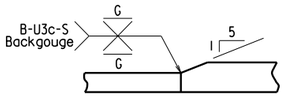
FLANGE SPLICE

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



Equal Thickness

WEB & FLANGE SPLICE

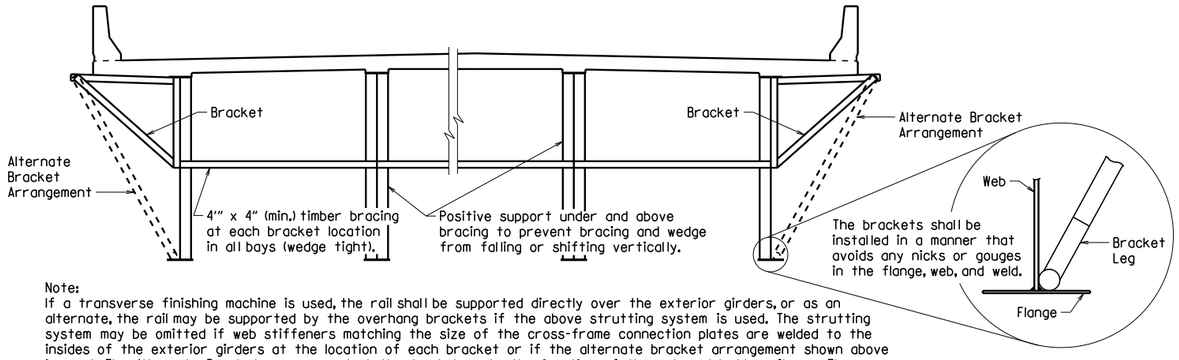


Unequal Thickness

FLANGE SPLICE

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

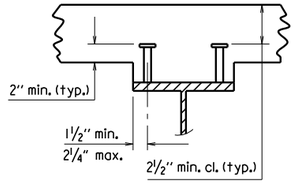
DETAILS OF WELDED SPLICES FOR PLATE GIRDERS



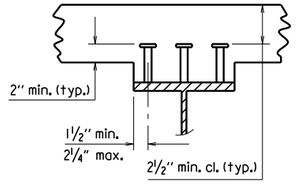
Note:
If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if web stiffeners matching the size of the 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)



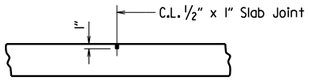
2 STUDS PER ROW



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.

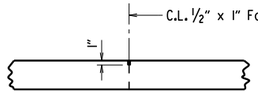
SHEAR CONNECTOR DETAIL



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.

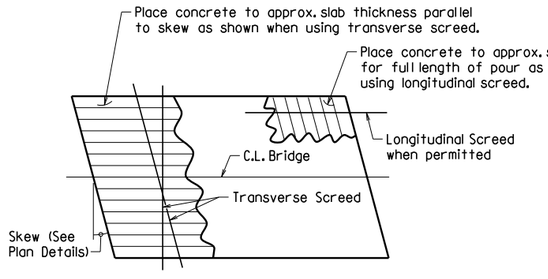
ADDITIONAL NOTES IF SIDEWALKS OR RAISED MEDIANS ARE REQUIRED:
Slab Joints shall be installed before the sidewalk or raised median is poured. After installation of the joint in the sidewalk or raised median and prior to pouring the parapet rail, the joint sealer shall be placed extending across the deck 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



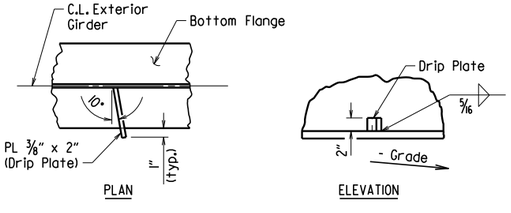
Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal color shall be gray or other color similar to concrete.

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

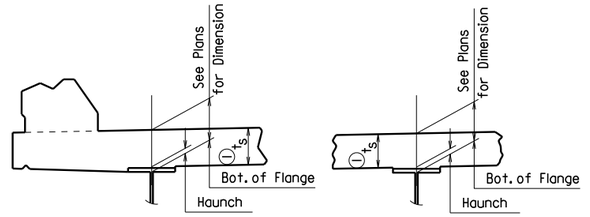
Drip Plate to be welded to the outer side of the bottom flange of the exterior girders.

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

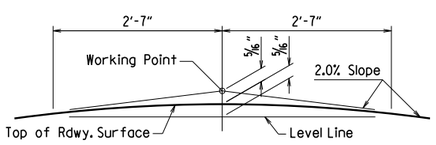
INTERIOR BEAM OR GIRDER

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.

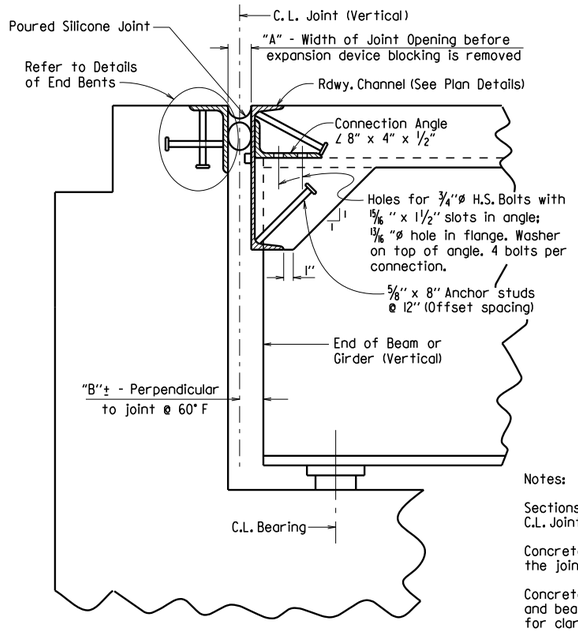
DRAWN BY: JYP DATE: 2/11/2016 FILENAME: b55007.dgn

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



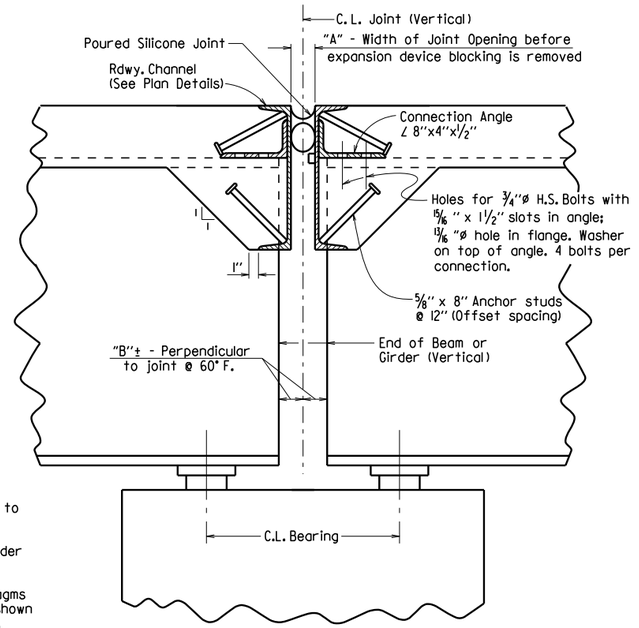
SECTION THRU JOINT AT END BENT

Notes:

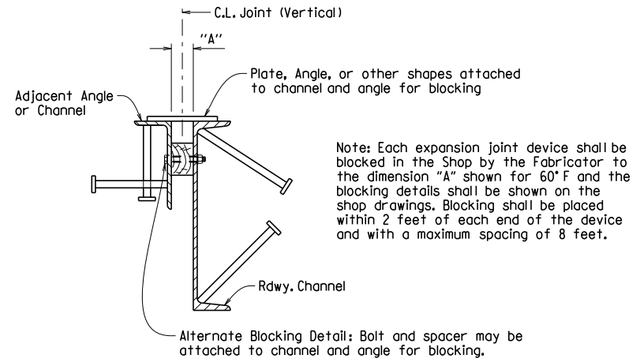
Sections are taken perpendicular to C.L. Joint.

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.



SECTION THRU JOINT AT INTERMEDIATE BENT



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:

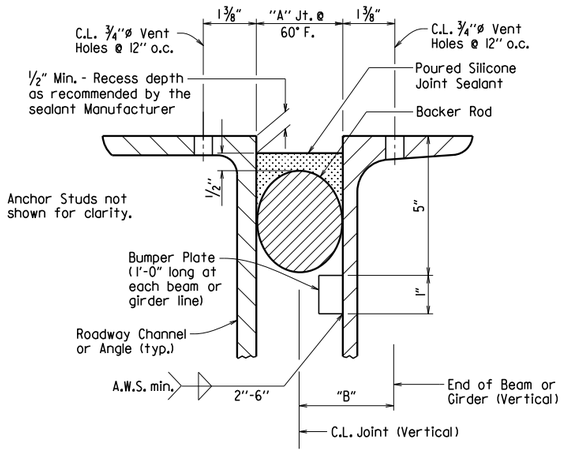
1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams or girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior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



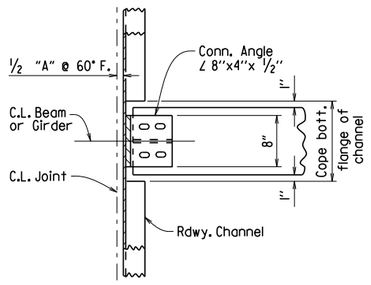
DETAIL OF POURED SILICONE JOINT

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.

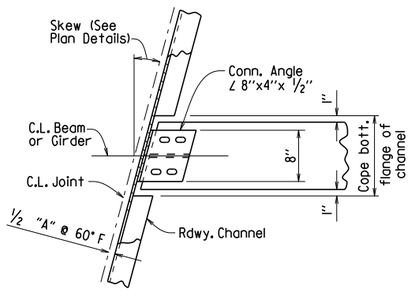
The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.

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.



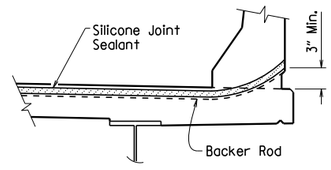
CHANNEL CONNECTION DETAIL

BENTS WITHOUT SKEW

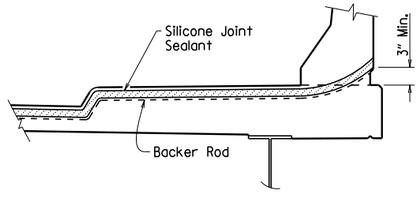


CHANNEL CONNECTION DETAIL

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

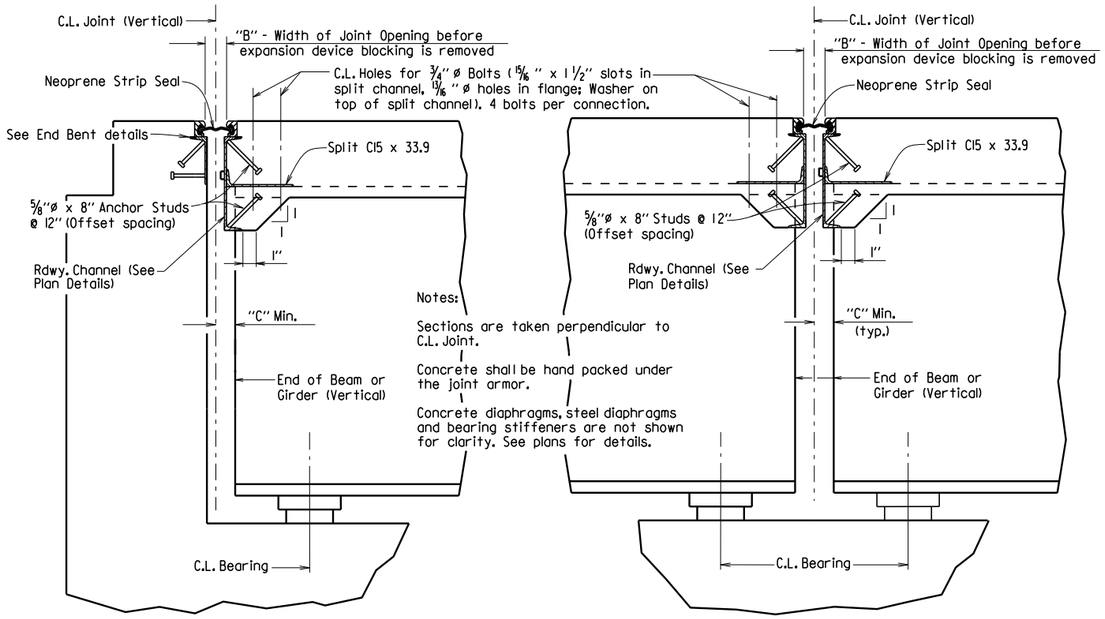
CHECKED BY: A.M.S. DATE: 2/11/2016 SCALE: No Scale

DESIGNED BY: STD. DATE: —

DRAWING NO. 55008

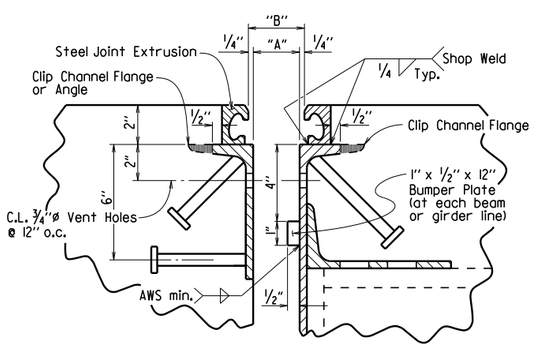
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

1 STRIP SEAL JOINT 55009



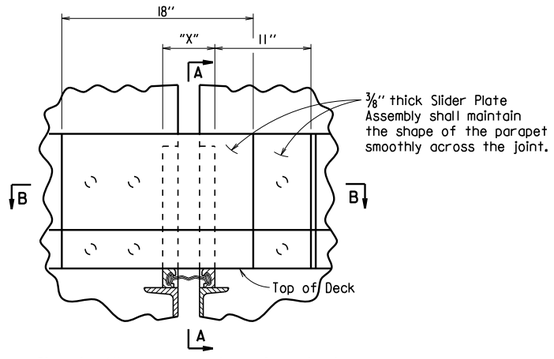
SECTION THRU JOINT AT END BENT

SECTION THRU JOINT AT INTERMEDIATE BENT



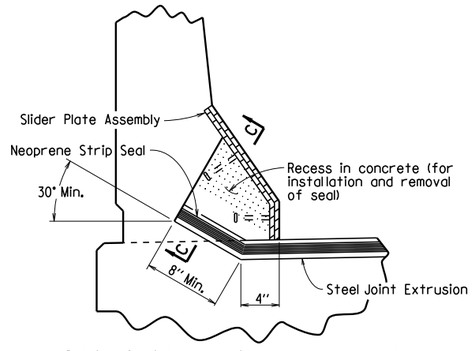
DETAIL OF STRIP SEAL JOINT

Detail shown at End Bent,
Details similar at Intermediate Bent



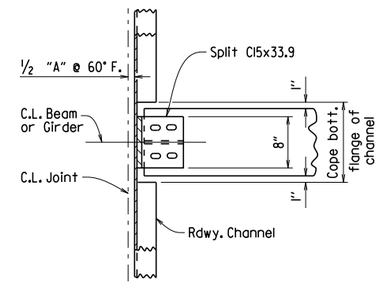
Dimension "X" equals the width of opening in parapet to allow for removal or repair of joint.

DETAIL OF PARAPET SLIDER PLATES



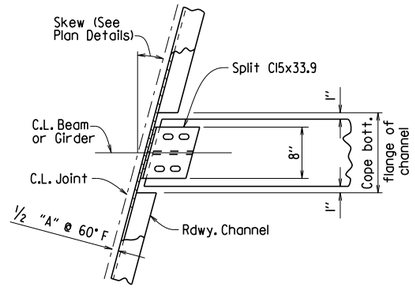
Details of Joint turn-up in parapet are general and show basic design controls only. See plan details for joint installation at sidewalks.

SECTION A-A



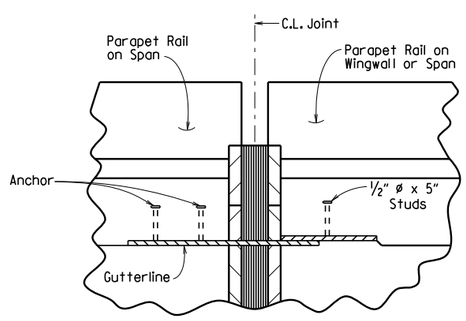
CHANNEL CONNECTION DETAIL

BENTS WITHOUT SKEW



CHANNEL CONNECTION DETAIL

BENTS WITH SKEW

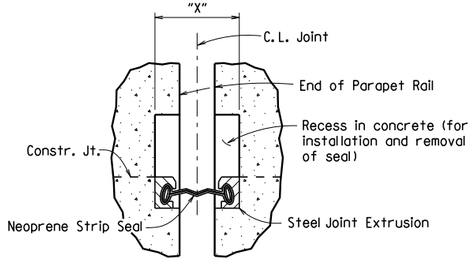


The method of attachment of the slider plate assembly shall allow for removal to provide for future replacement of the neoprene seal. Anchors shall not be paid for directly, but shall be considered subsidiary to the item "Armored Joint with Neoprene Strip Seal".

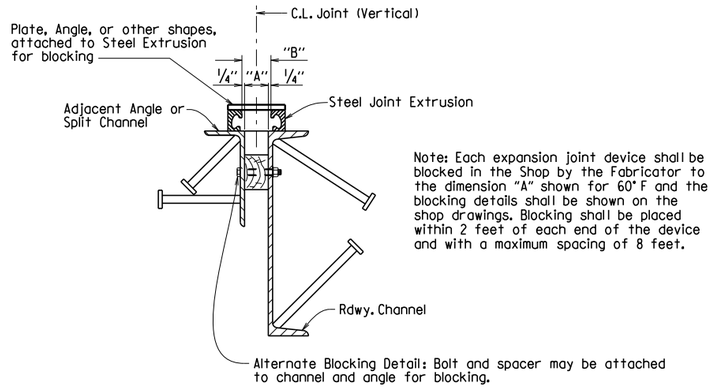
Method of installation and fabrication shall be determined by the Manufacturer.

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.

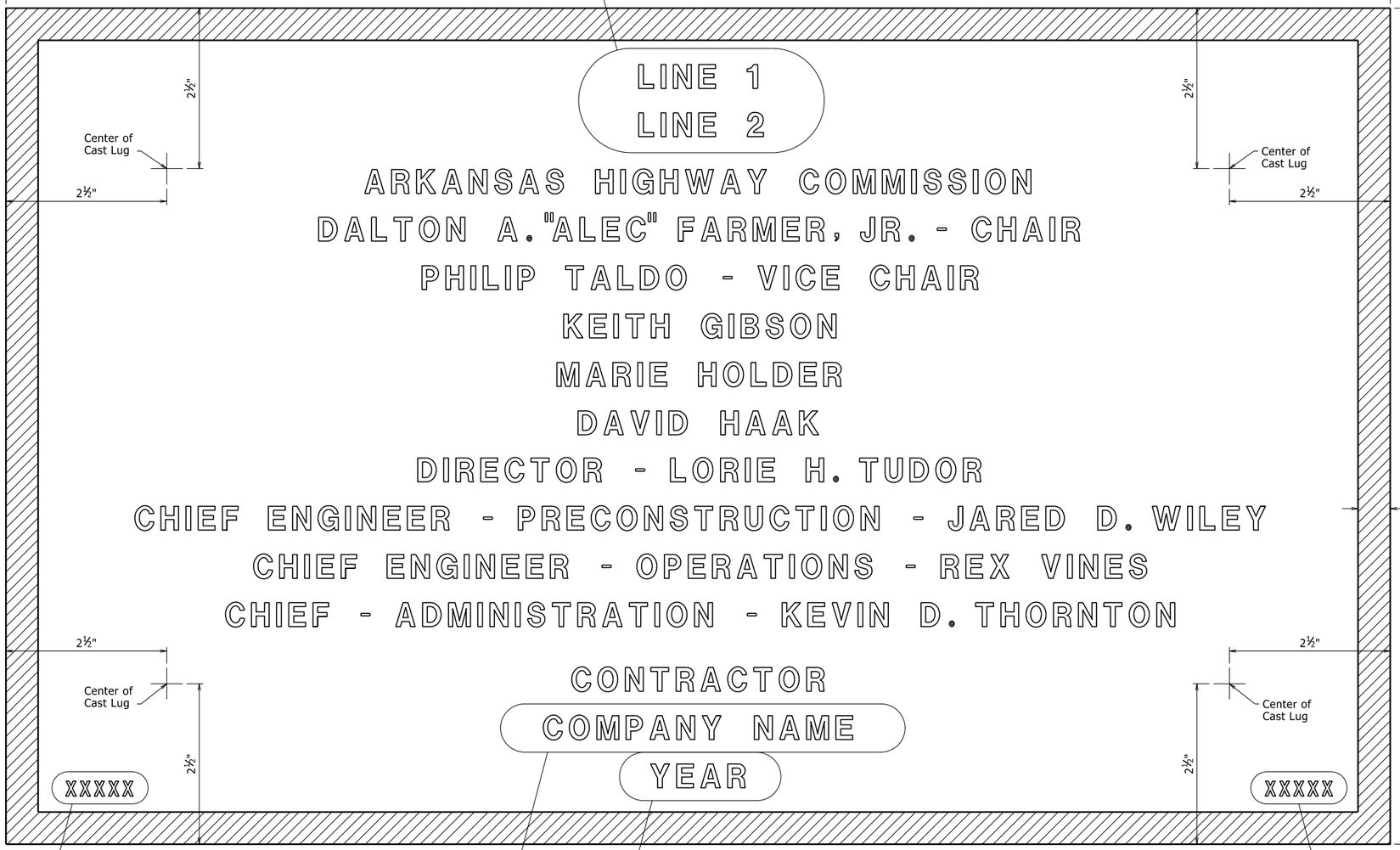
DRAWN BY: L.J.B. DATE: 2/11/2016 FILENAME: b55009.dgn
CHECKED BY: A.M.S. DATE: 2/11/2016 SCALE: No Scale
DESIGNED BY: STD. DATE: —

DRAWING NO. 55009

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
4-14-23		6	ARK.			
		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	RELIEF	



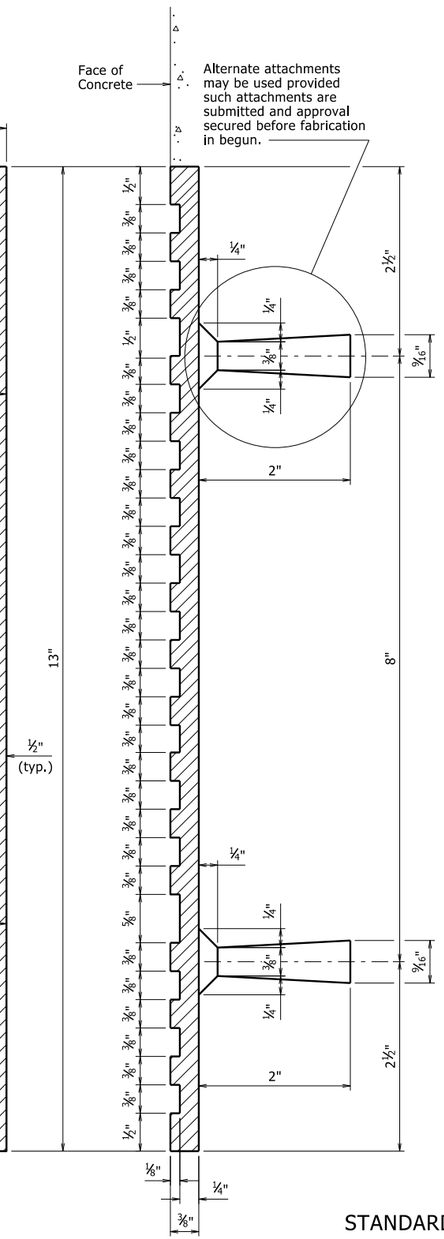
Place the design live loading here using ⅛" raised letters and numerals ¼" high. Examples: HS20, HL-93

Place the Year in which Contract was awarded here using ⅛" raised numerals ⅜" high. Example: 2001

Place the name of the company awarded the construction contract here using ⅛" raised letters and numerals ⅜" high. Example: ABCD CONSTRUCTION, INC.

Place the Bridge number here using ⅛" raised letters and numerals ¼" high. Examples: A1234, 05432

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.

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.

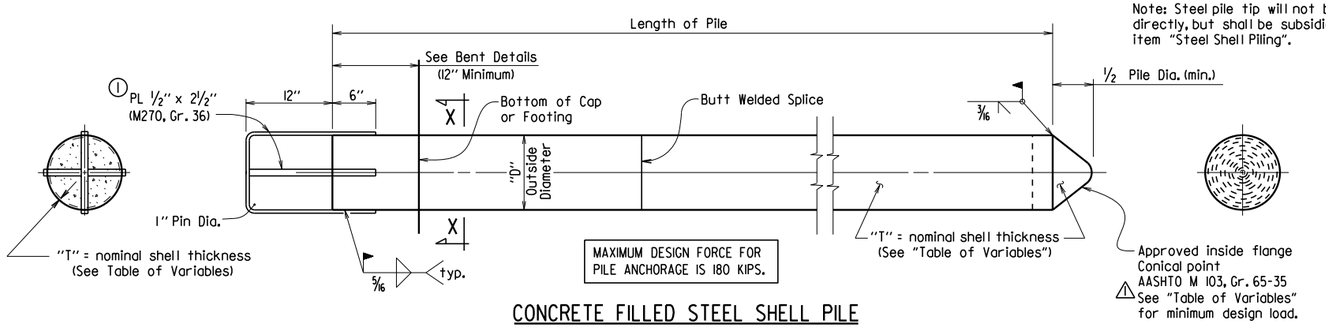
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55010

PRINT DATE: 4/20/2023

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) STEEL SHELL PILES 55021

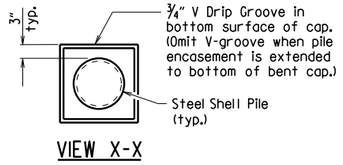


Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

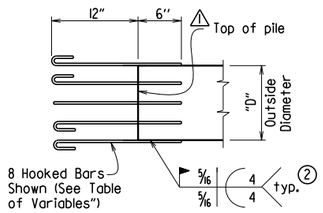
CONCRETE FILLED STEEL SHELL PILE

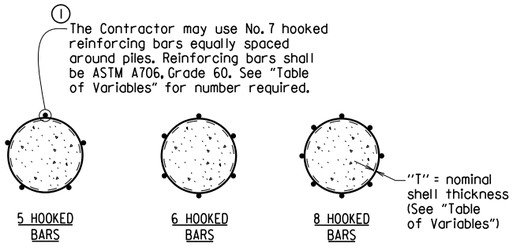
(1) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

(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.



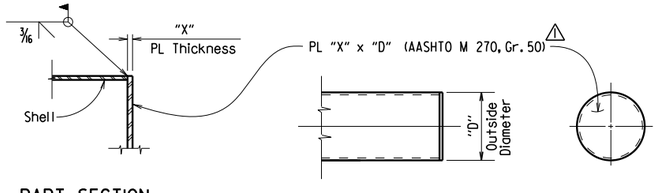
VIEW X-X





ALTERNATE PILE ANCHORAGE DETAIL

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

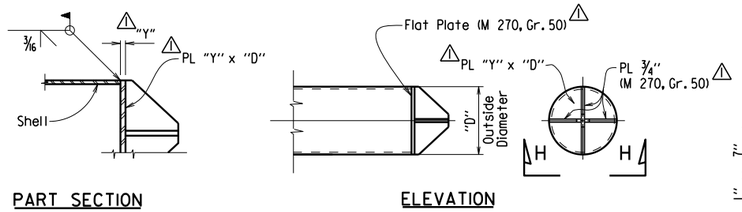


PART SECTION

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

GENERAL NOTES FOR CONCRETE FILLED STEEL SHEEL PILES:

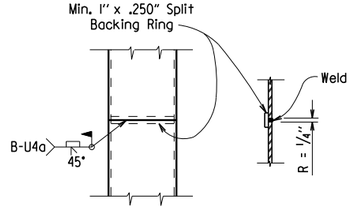
Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi.)

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.

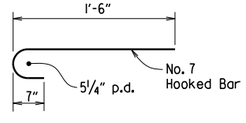
Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".



TYPICAL SPLICE DETAILS

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"	2 1/4"	1 1/2"	5	859
16"	0.50"	2 1/4"	1 1/2"	5	986
18"	0.50"	2 1/2"	1 1/2"	6	1,114
20"	0.50"	2 1/2"	1 3/4"	6	1,241
24"	0.50"	2 3/4"	1 3/4"	8	1,495



HOOKED BAR DETAIL

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

GENERAL NOTES FOR PILE ENCASEMENTS:

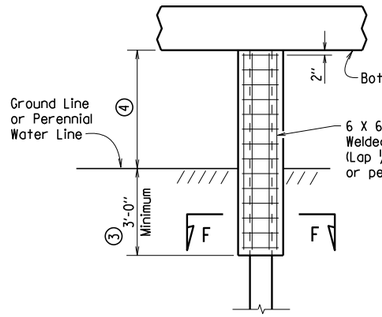
⚠ See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

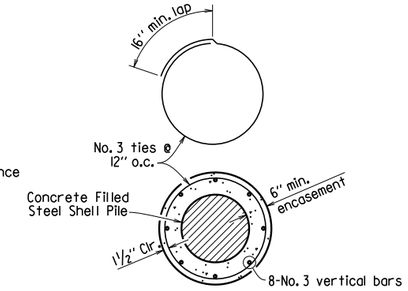
Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

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)

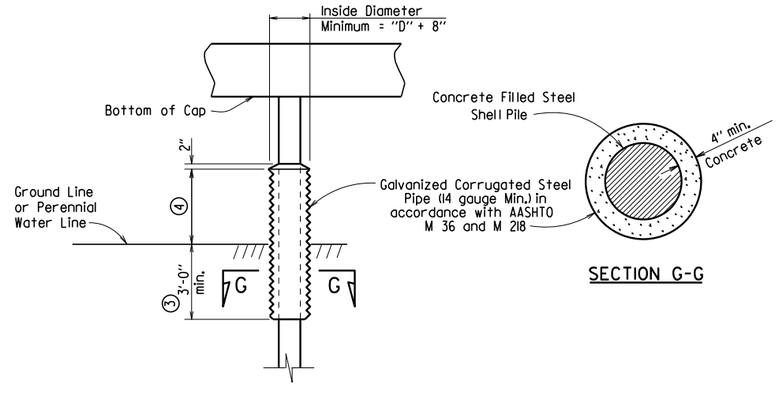
PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(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

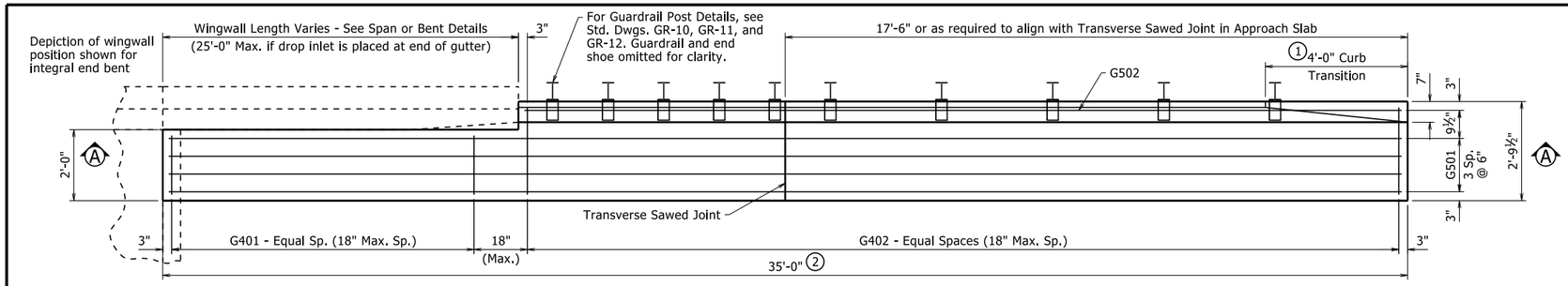
LITTLE ROCK, ARK.

DRAWN BY:	A.M.S.	DATE:	2/27/2014	FILENAME:	b55021.dgn
CHECKED BY:	B.E.F.	DATE:	2/27/2014	SCALE:	NO SCALE
DESIGNED BY:	STD.	DATE:	—		

DRAWING NO. 55021

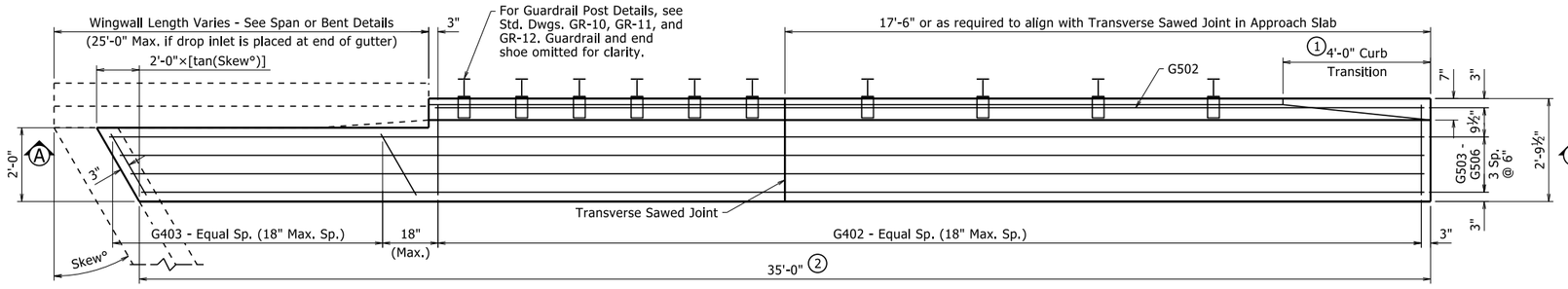
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

① Type F Approach Gutters - 55030F

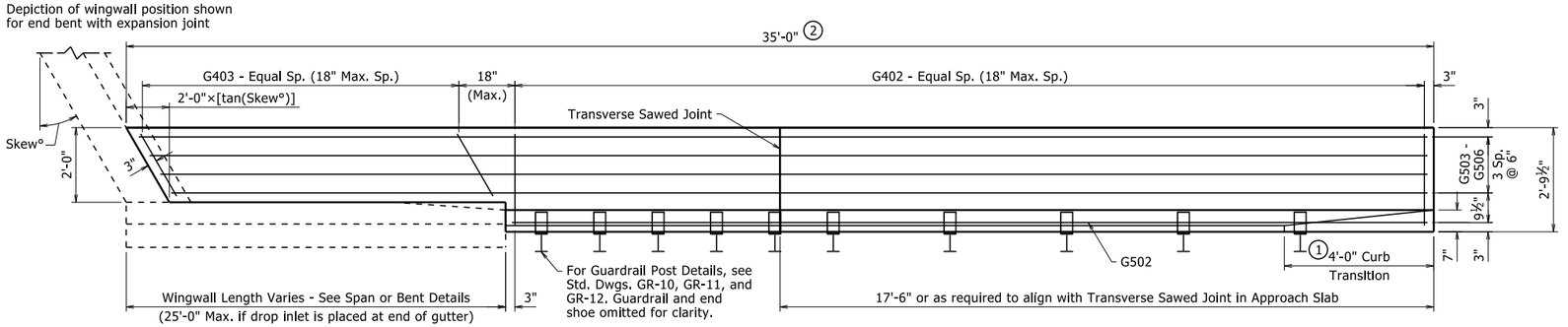


HALF PLAN OF APPROACH GUTTERS FOR SQUARE END BENT

½" = 1'-0"



Depiction of wingwall position shown for end bent with expansion joint



PLAN OF SKEWED APPROACH GUTTERS FOR SKEWED END BENT

½" = 1'-0"

QUANTITIES FOR ONE APPROACH GUTTER

(For Information Only)

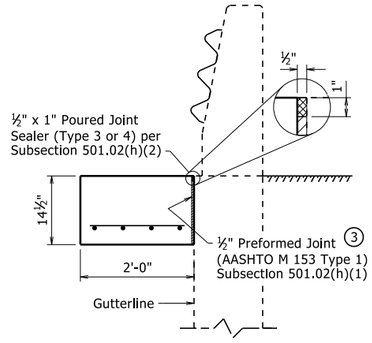
Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
210	4.20

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

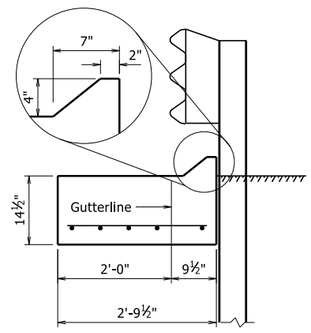
	Mark	No. Req'd.	Length
Square End Bent	G401	④	1'-8"
	G402	④	2'-5½"
	G501	4	34'-8"
	G502	1	④
Skewed End Bent	G402	④	2'-5½"
	G403	④	④
	G502	1	④
	G503 - G506	1 ea.	④

④ Varies with Skew and/or Wingwall Length



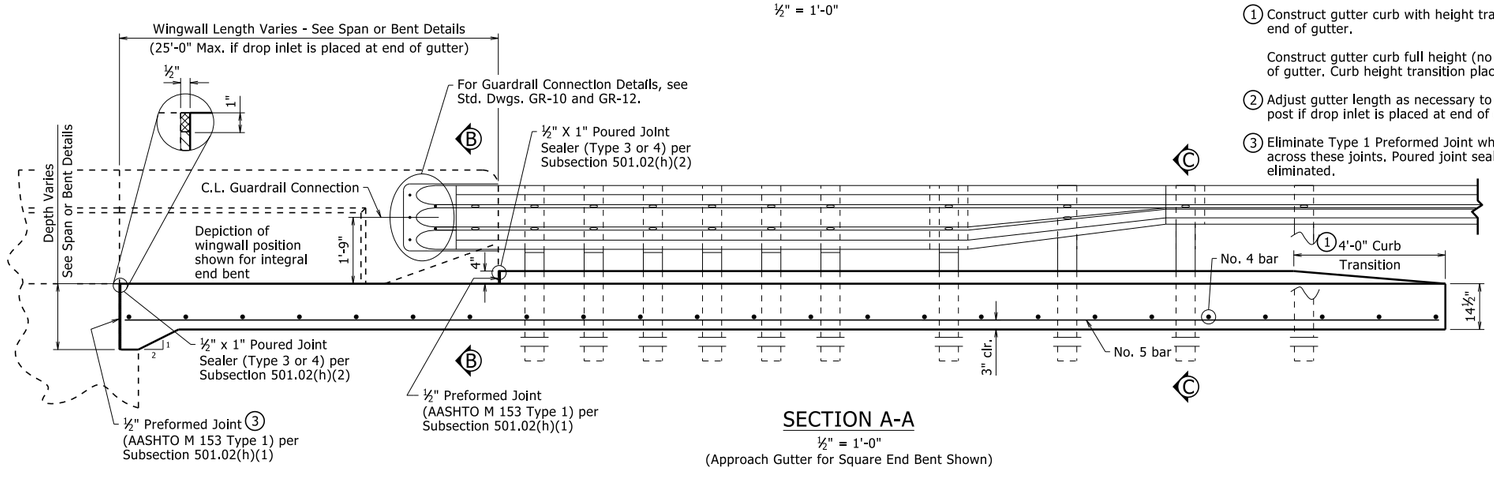
SECTION B-B

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

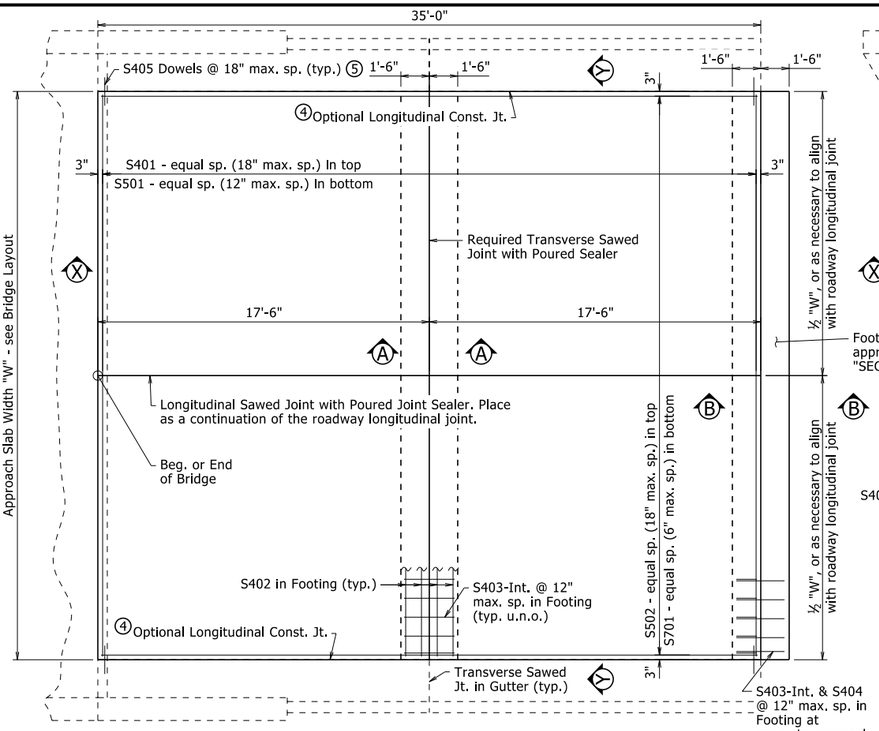
LITTLE ROCK, ARK.

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

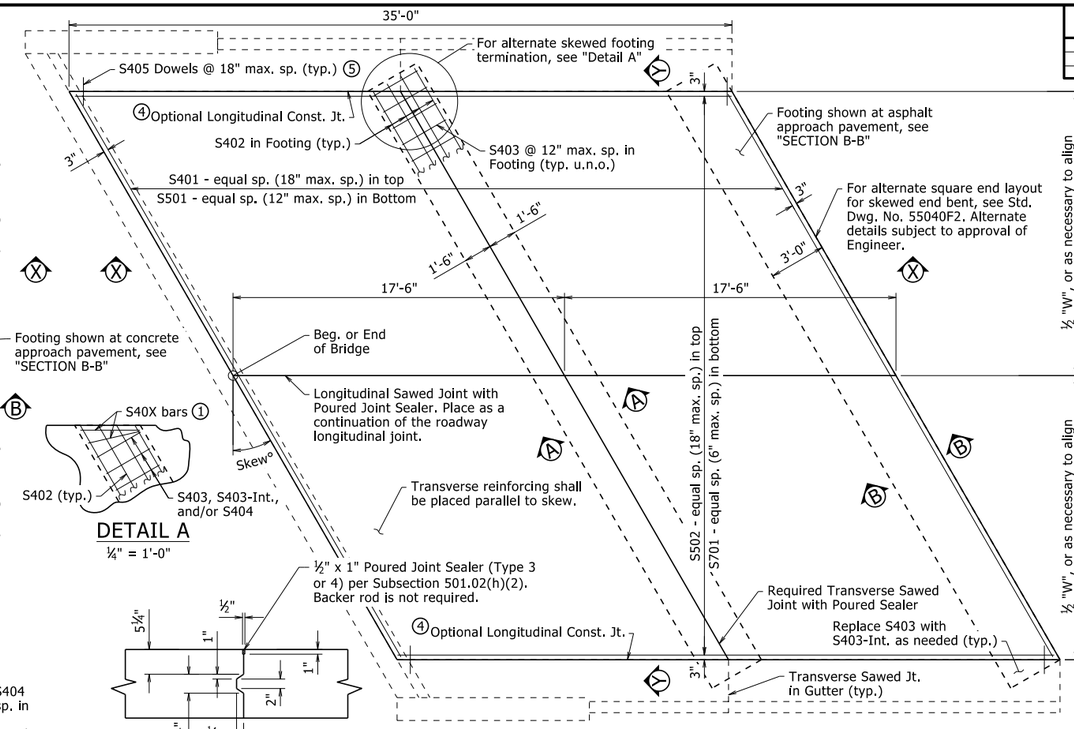
DRAWING NO. 55030F

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				

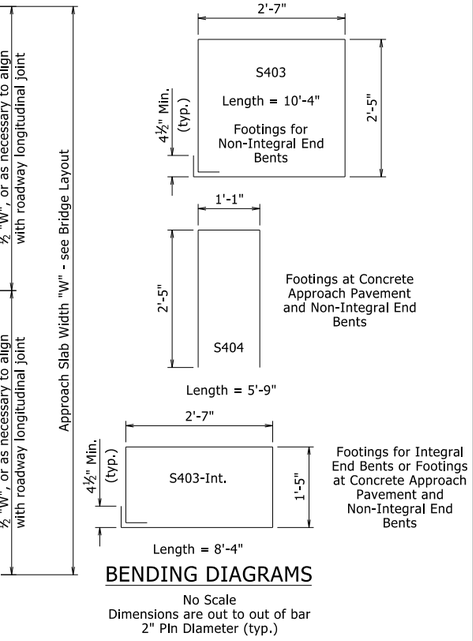


PLAN - APPROACH SLAB AT SQUARE END BENT



LONGITUDINAL CONSTRUCTION JOINT

½" = 1'-0"

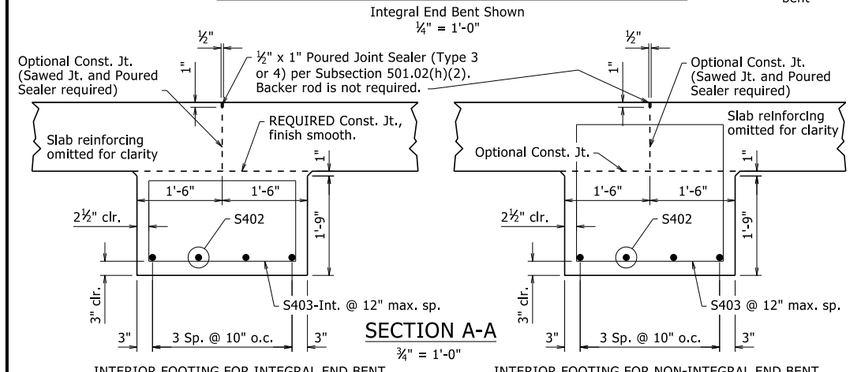


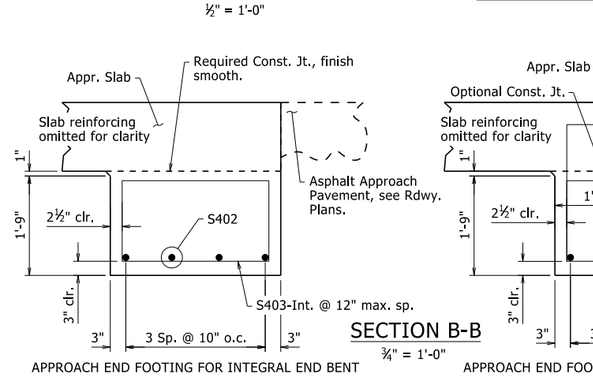
BENDING DIAGRAMS

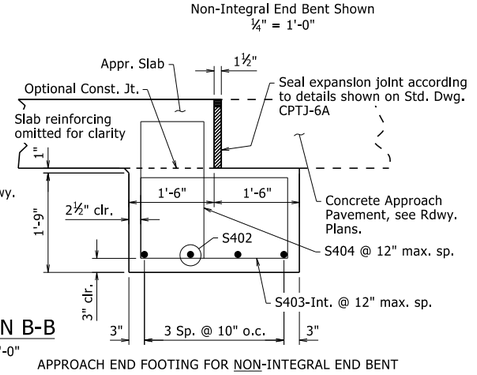
No Scale
Dimensions are out to out of bar
2" PIn Diameter (typ.)

PLAN - APPROACH SLAB AT SKEWED END BENT

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







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"

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.

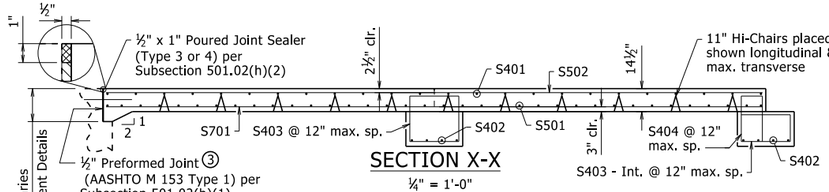
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

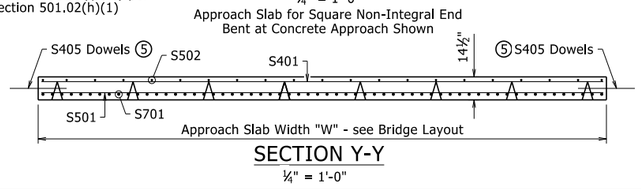
See Plans for actual Approach Slab Width, "W", end bent or span details, and approach pavement. Units of "W" are in Feet.

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".





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

STANDARD DETAILS FOR TYPE F APPROACH SLAB

ARKANSAS STATE HIGHWAY COMMISSION

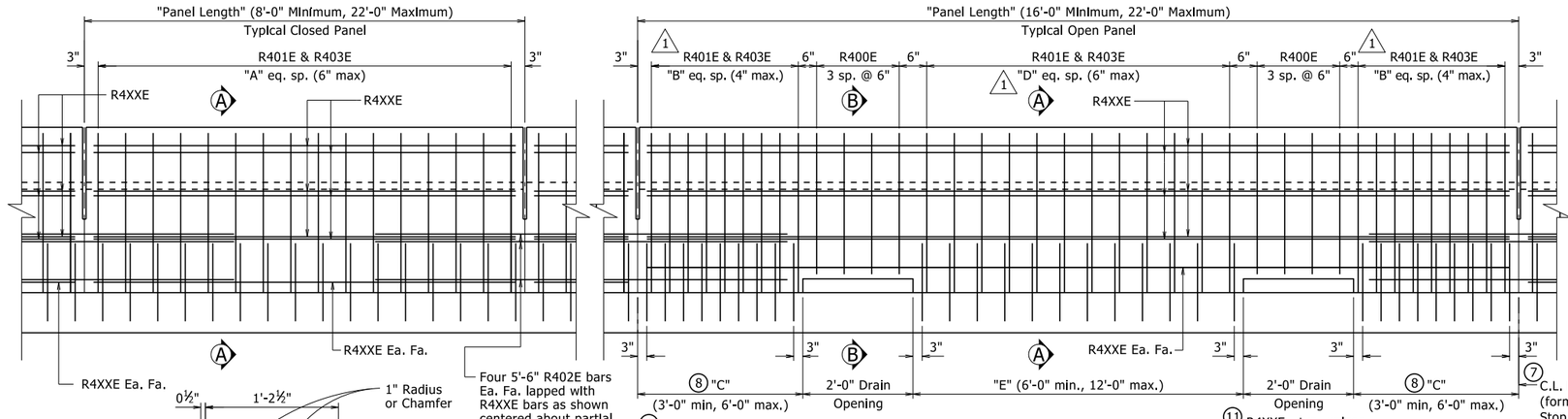
LITTLE ROCK, ARK.

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

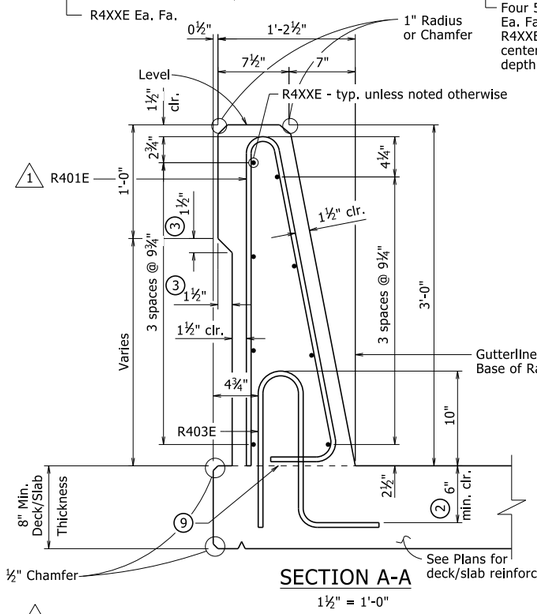
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
09/27/2022				6	ARK.			
				JOB NO.				

TYPE SSTR36 - 55070



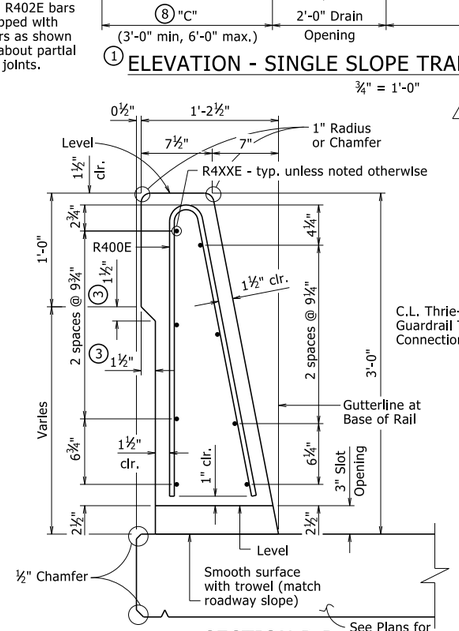
(1) ELEVATION - SINGLE SLOPE TRAFFIC RAIL

¾" = 1'-0"



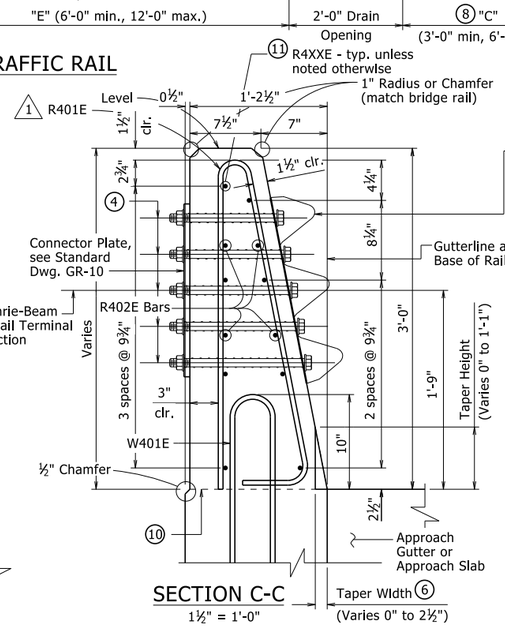
SECTION A-A

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.

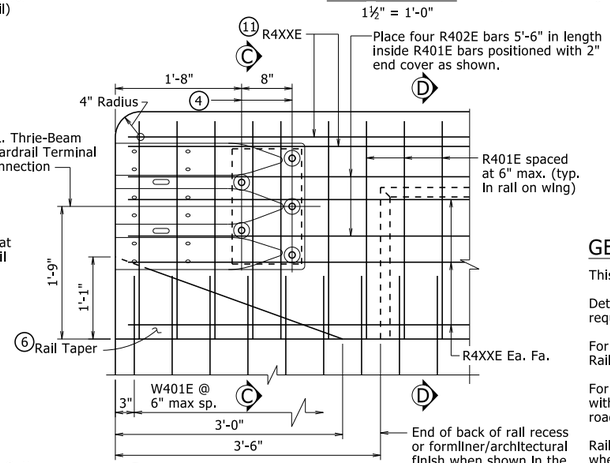
(10) Top of Abutment Wing & Required Construction Joint (match bridge deck/slab construction joint slope). See Plans for Wing reinforcing.

(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

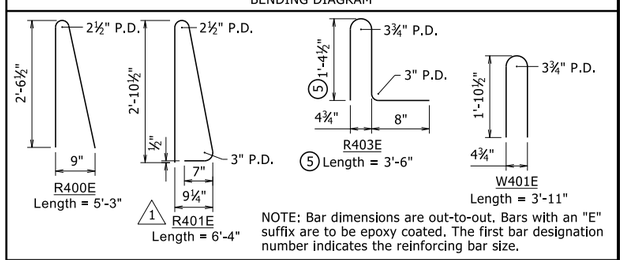
1½" = 1'-0"



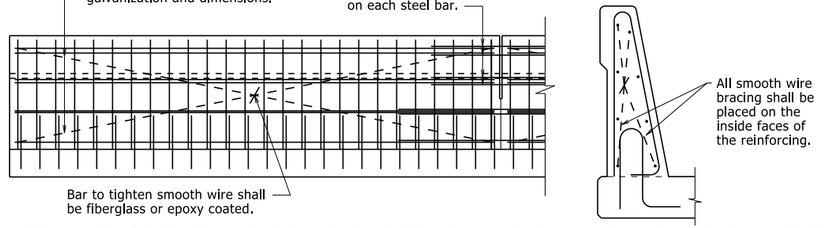
(1) RAIL TERMINUS DETAILS

1" = 1'-0"

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.



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.

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.

(1) Modified bending diagram and spacing for R401E bar.

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

No Scale

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

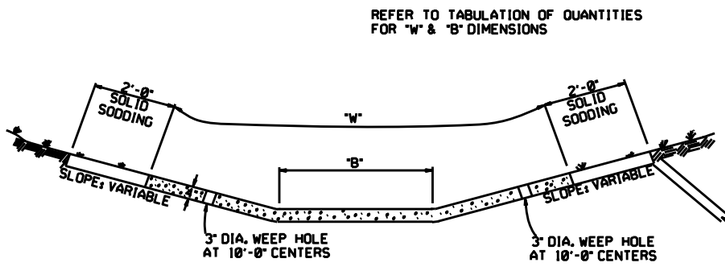
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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

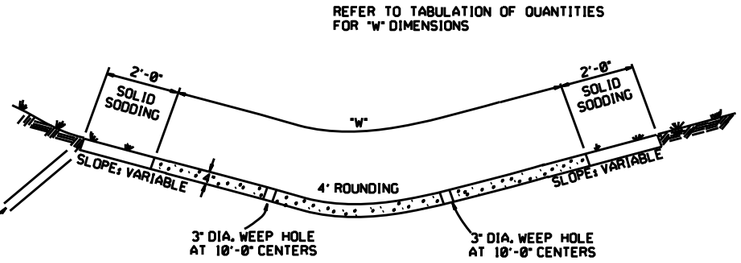
DRAWING NO. 55070

PRINT DATE: 10/6/2022



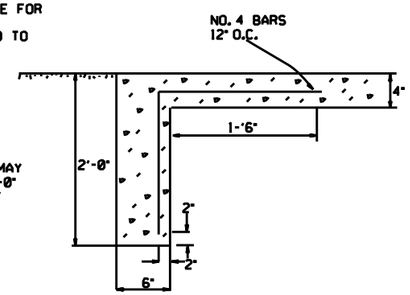
TYPE A

EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.



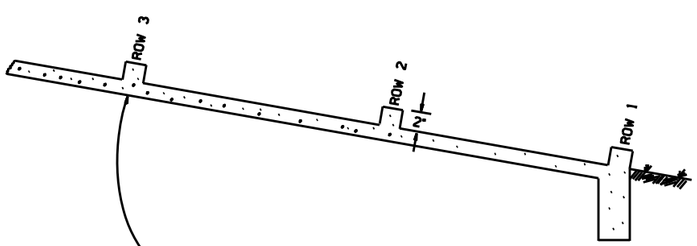
TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."



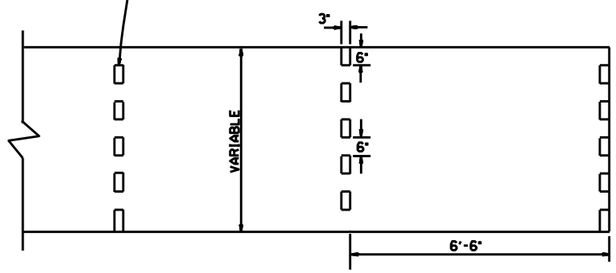
TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

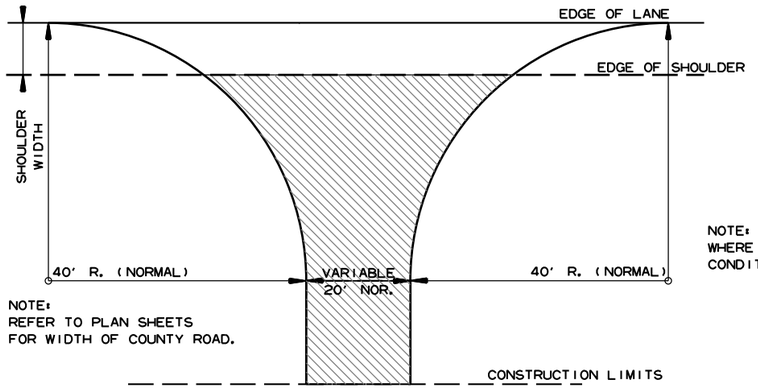
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45° INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1

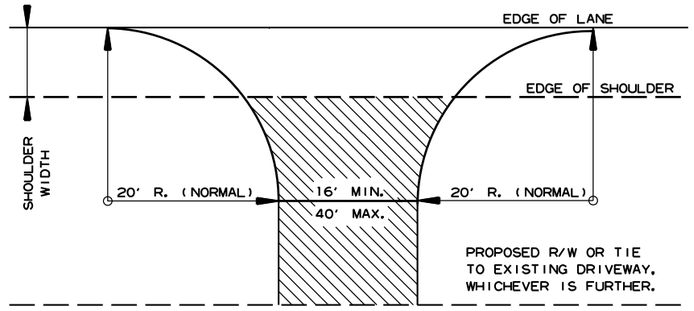


NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

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.

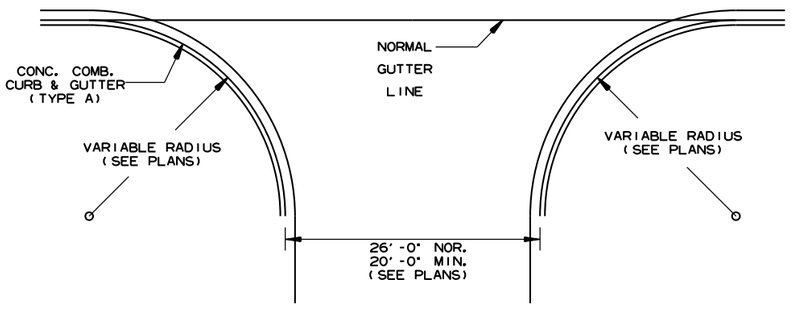
DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



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

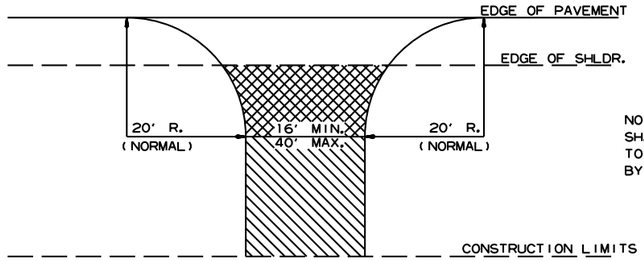
ACHM SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT OR
GRAVEL DRIVE EXISTING; OR 6"
CONCRETE IF CONCRETE DRIVE
EXISTING.

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

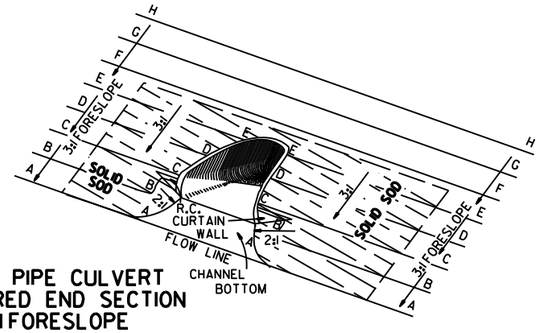
DETAIL FOR DRIVEWAY TURNOUTS (COLLECTORS)

DATE REV	DATE FILMED	DESCRIPTION
5-19-22		ISSUED

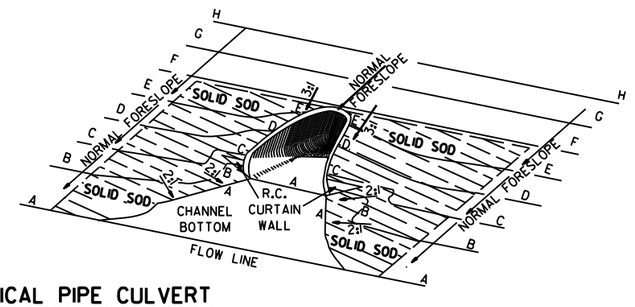
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & STREET TURNOUTS

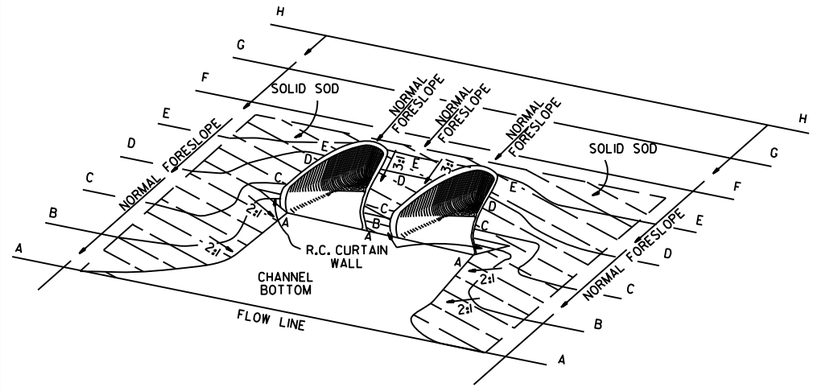
STANDARD DRAWING DR-2



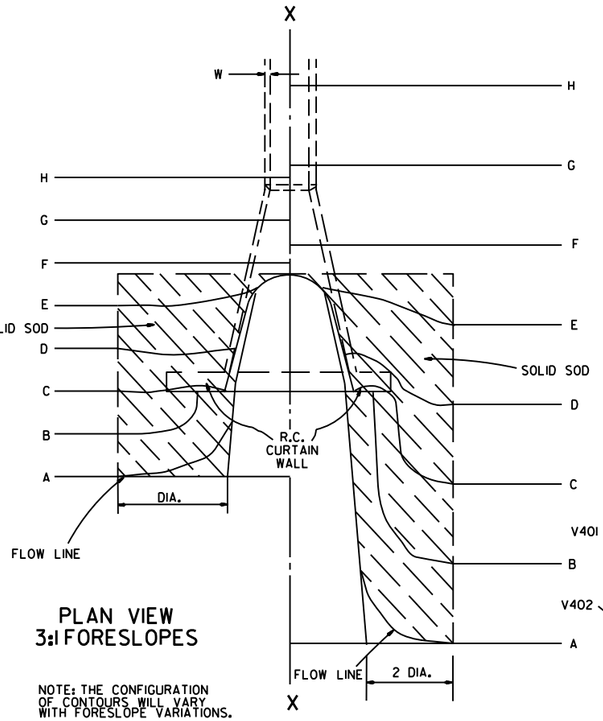
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES



PLAN VIEW
3:1 FORESLOPES

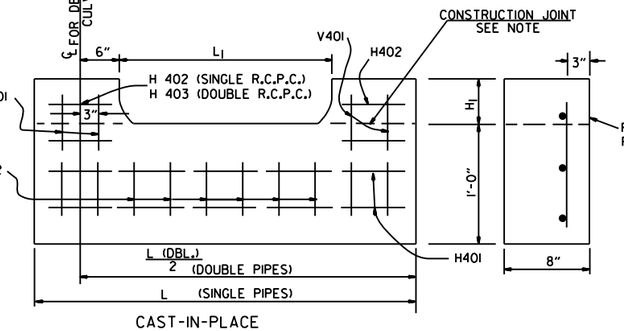
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

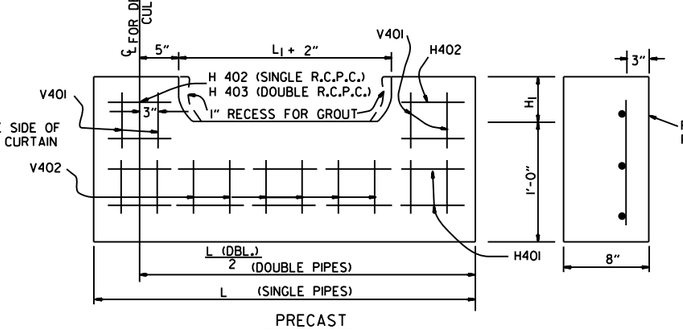
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



CAST-IN-PLACE

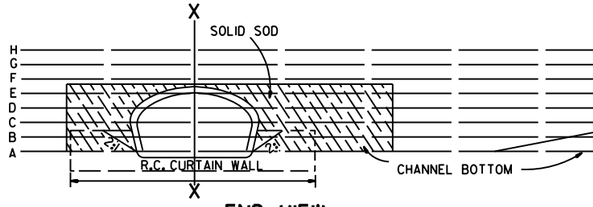
NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



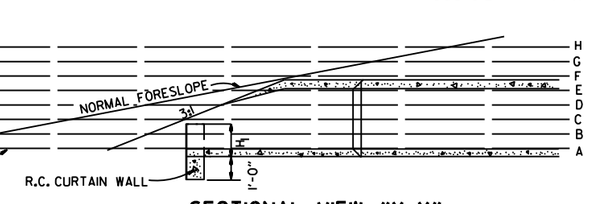
PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

R.C. CURTAIN WALL DETAILS



END VIEW



SECTIONAL VIEW "X-X"

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

ALL REINFORCING STEEL #4 BARS @ 6" O.C.

SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	4:1	6:1	DOUBLE R.C.P.C. 3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

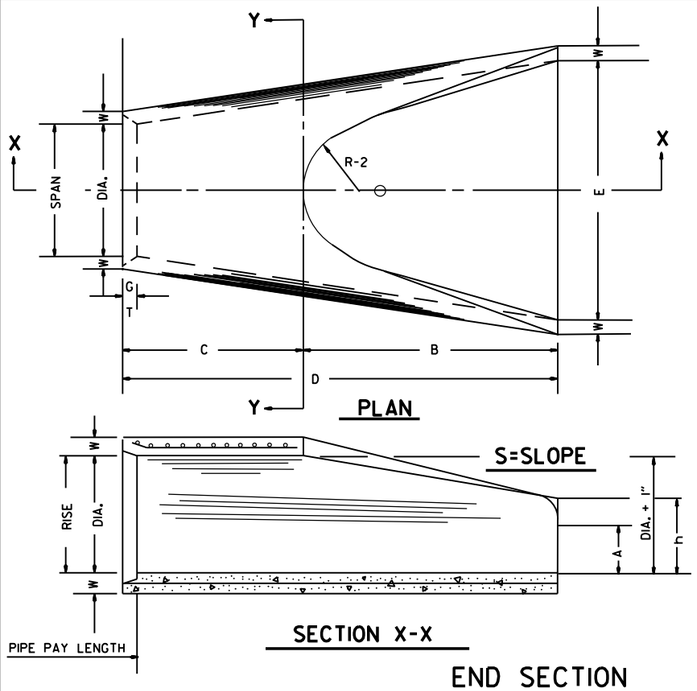
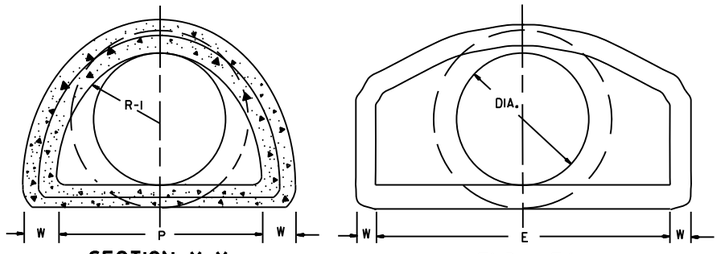


TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 15/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 13/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 15/16"	24"	5"	13250	4'-6"

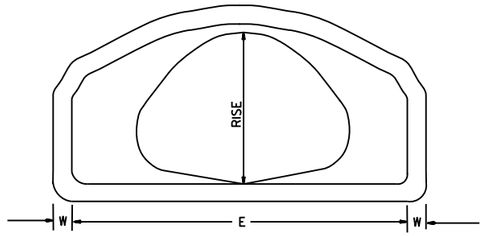


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

ARCH PIPE

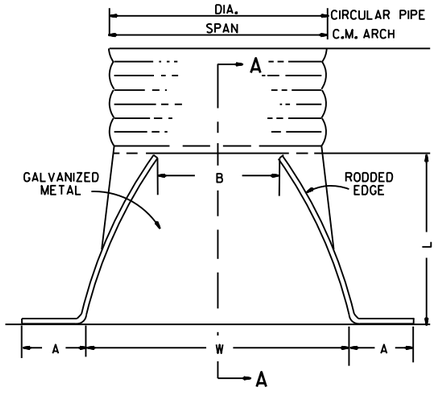
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 11/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 11/16"	20"	3"	2½:1
36	43¾	44	26⅜	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/16"	24"	5"	2¼:1

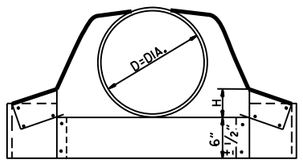
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

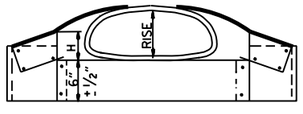


END VIEW
CONCRETE ARCH PIPE

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS







CIRCULAR PIPE

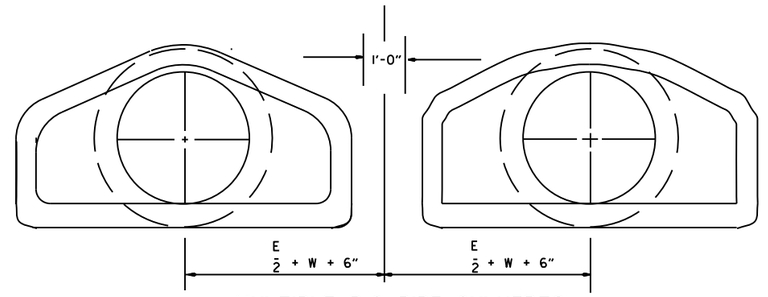
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

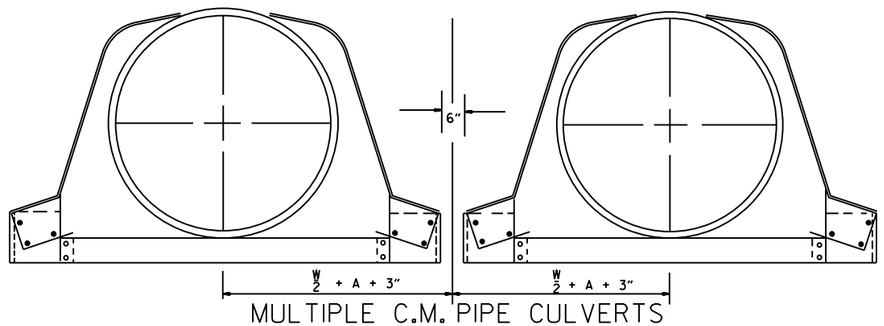
EQUIV. DIA.	SPAN	RISE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



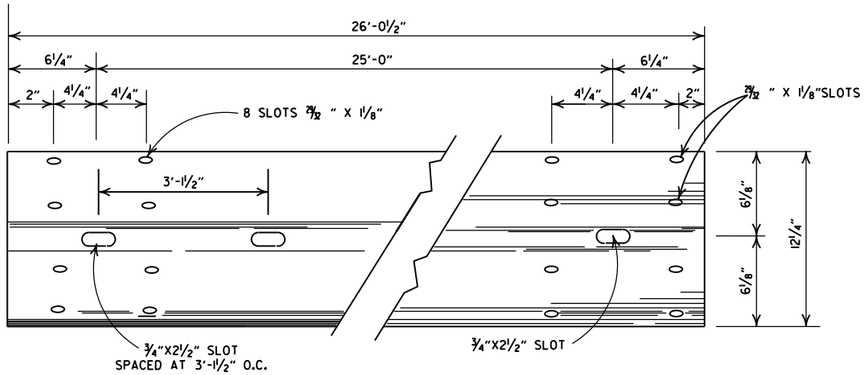
MULTIPLE C.M. PIPE CULVERTS

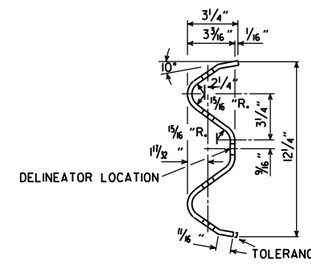
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

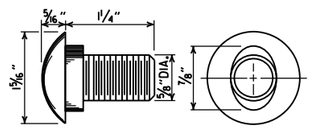
STANDARD DRAWING FES-2



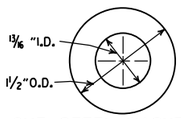


DETAILS OF W-BEAM GUARDRAIL

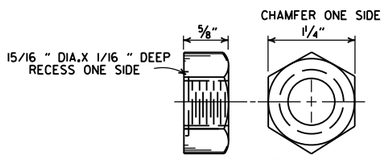
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



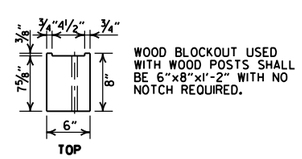
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

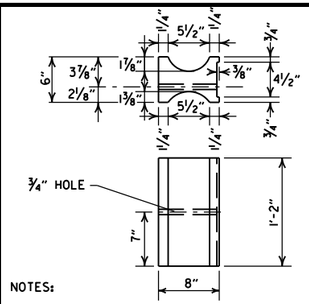


NUT



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

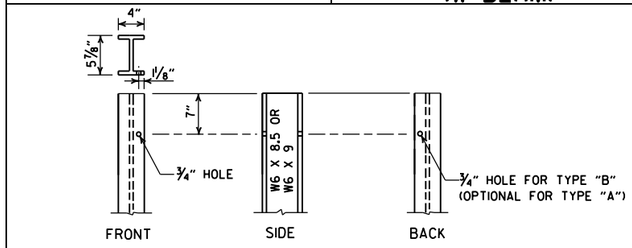
WOOD BLOCKOUT (W-BEAM)



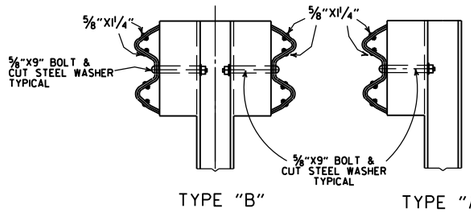
NOTES:

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)



STEEL POST



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.

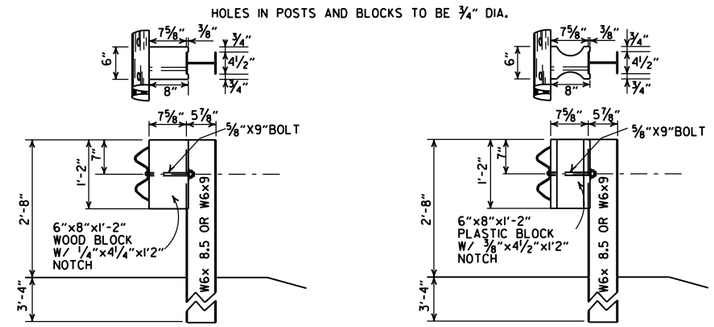
USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

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 9.7 f (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.

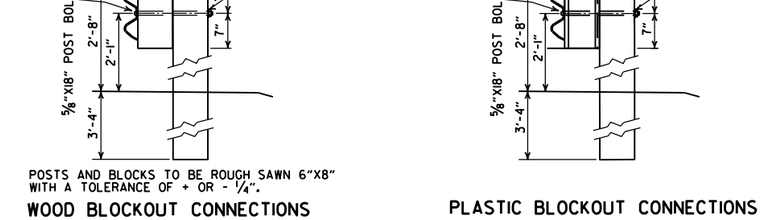
DELINEATORS SHALL BE MOUNTED AT 37.5' SPACING ON THE FRONT FACE OF THE GUARDRAIL. SPACING MAY BE REDUCED IN CURVES, AS DIRECTED BY THE ENGINEER. COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN.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



WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



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

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

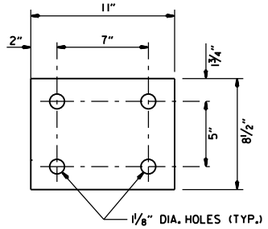
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

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

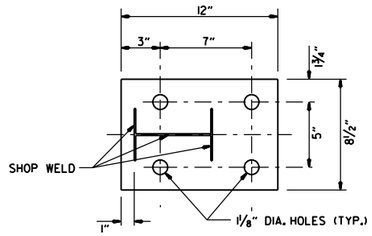
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

STANDARD DRAWING GR-6

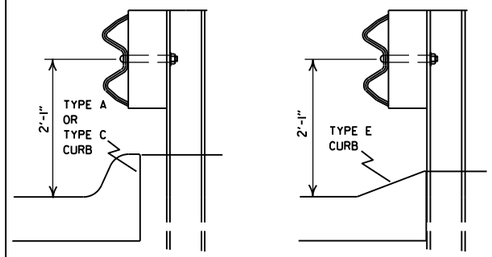


WASHER PLATE



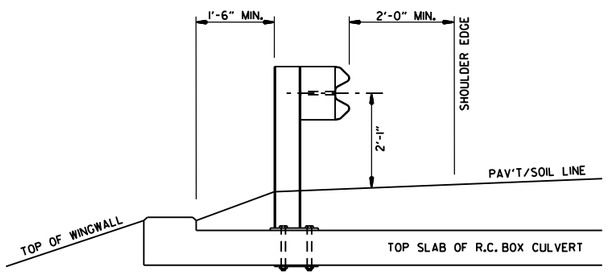
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

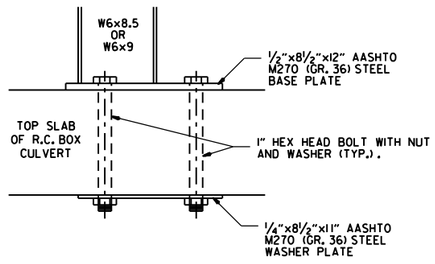


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

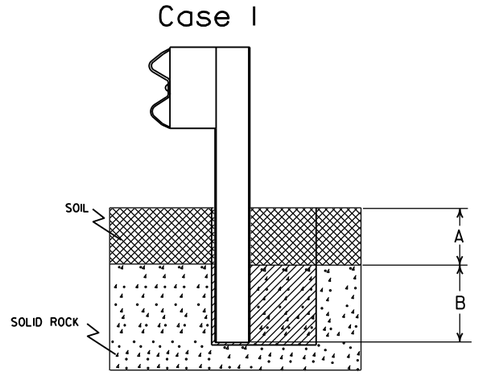
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.

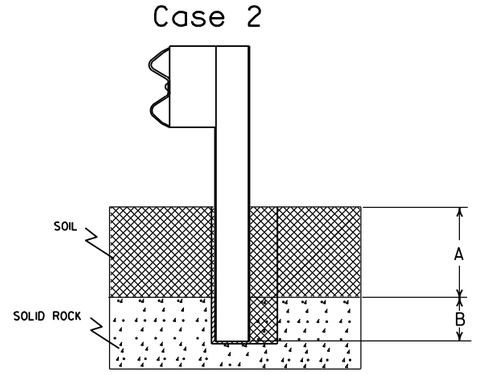


SECTION A-A



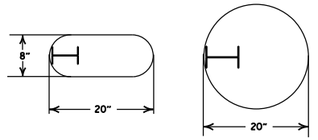
DETAIL OF CONNECTION

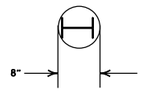




Plan View Steel Posts

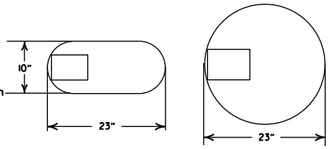
Either hole configuration acceptable

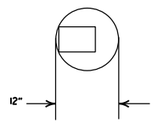




Plan View Wood Posts

Either hole configuration acceptable





Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

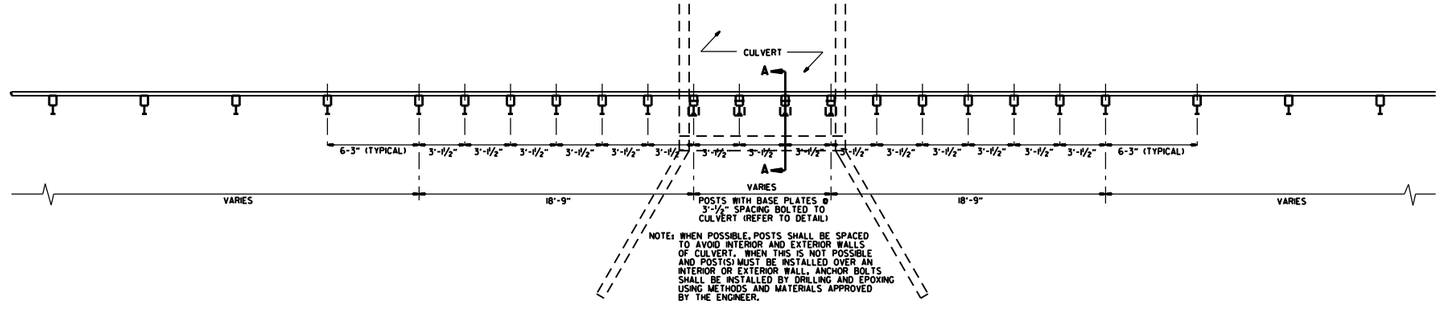
Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARDRAIL POSTS AS SHOWN ON STD. DWG. GR-6.

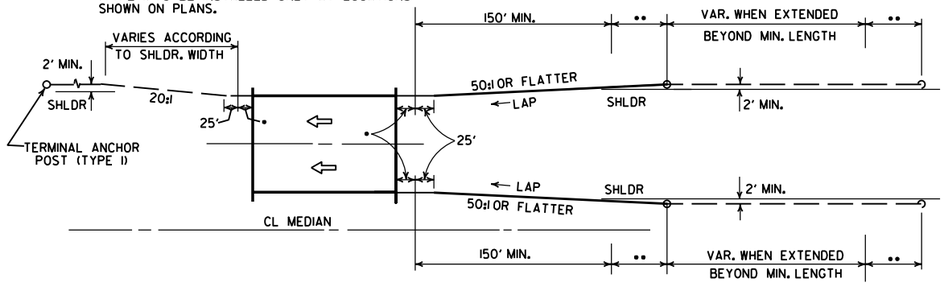
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARDRAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADDED DET. OF GUARDRAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARDRAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-15-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

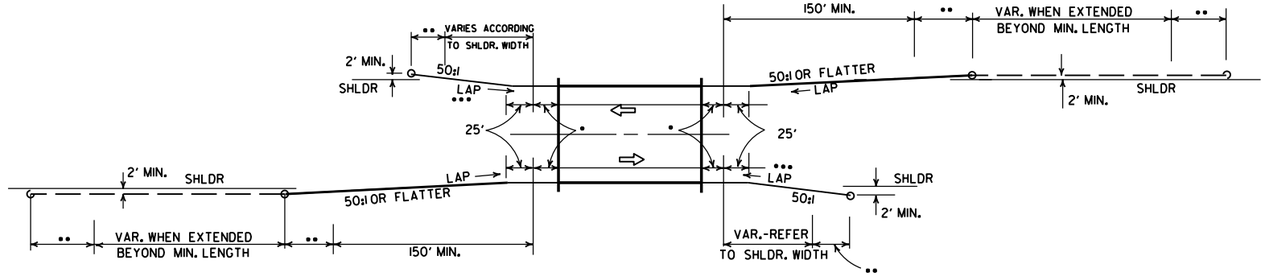
STANDARD DRAWING GR-7

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



ONE-WAY TRAFFIC

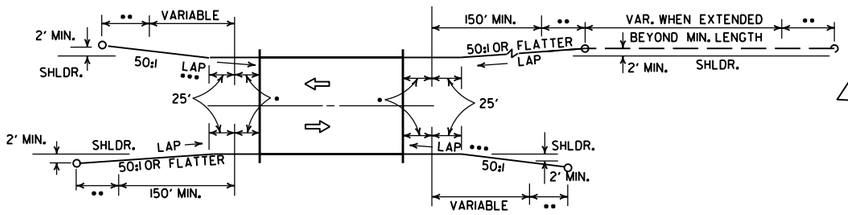
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

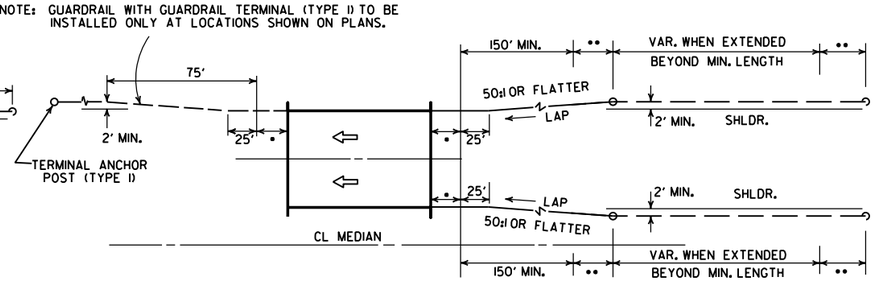
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

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



TWO-WAY TRAFFIC

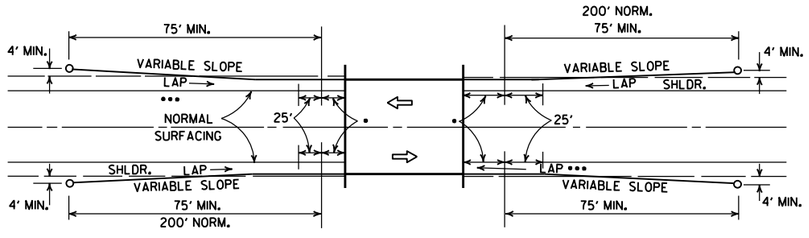
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



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.



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

LEGEND

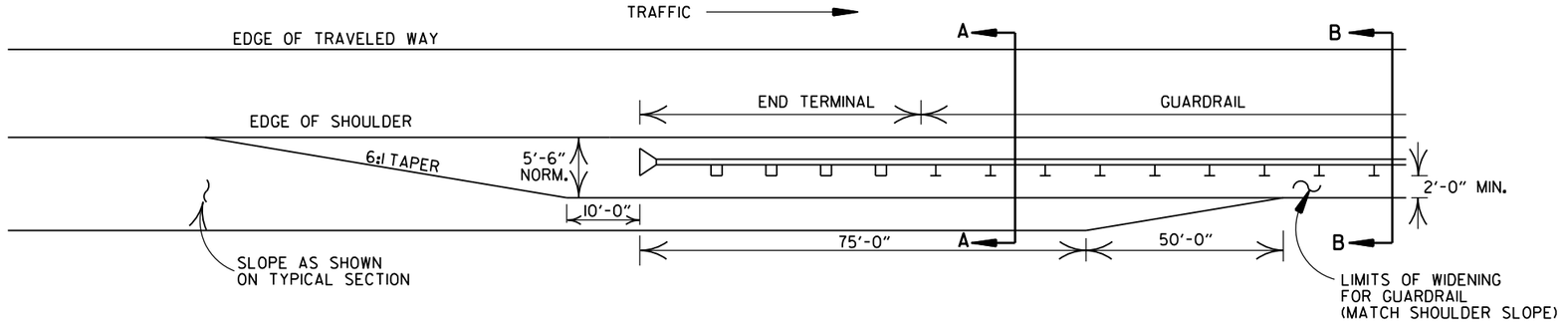
- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

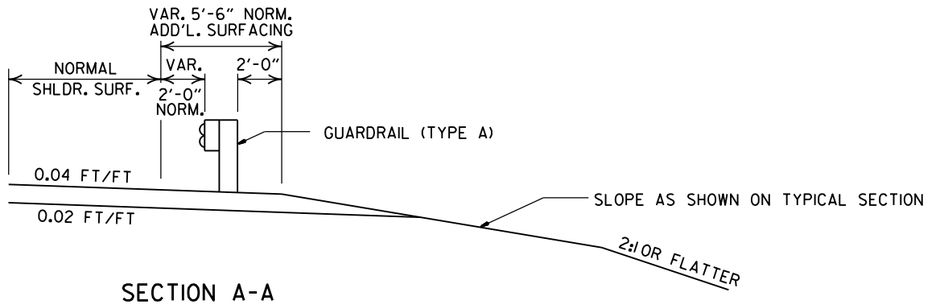
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED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

ARKANSAS STATE HIGHWAY COMMISSION

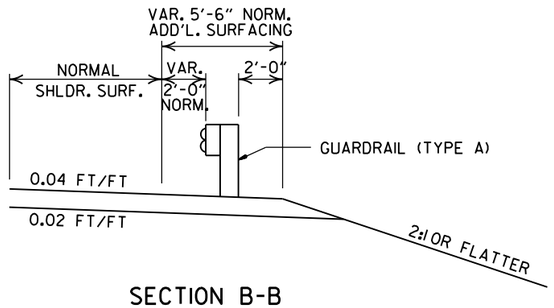
GUARDRAIL DETAILS

STANDARD DRAWING GR-8



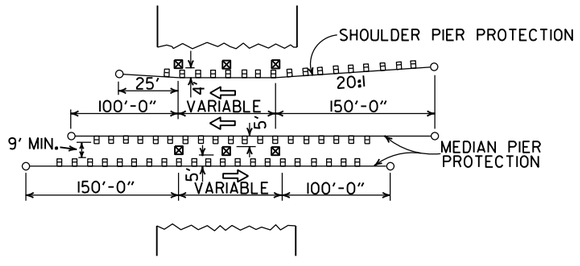


SECTION A-A



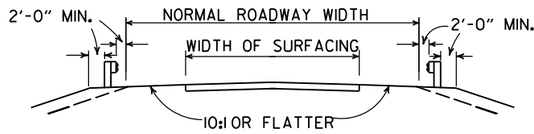
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

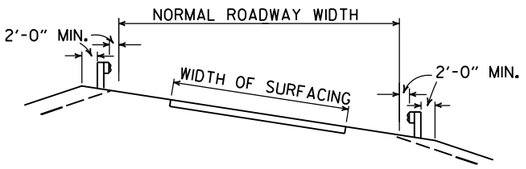


METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

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



SECTION ON TANGENT



SECTION ON CURVE

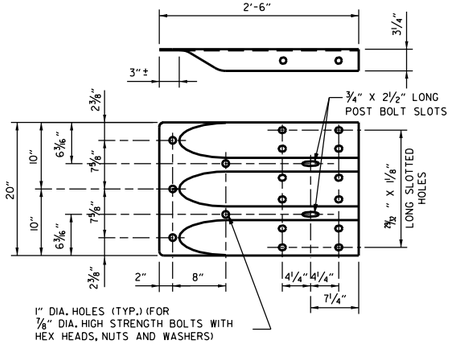
DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY

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

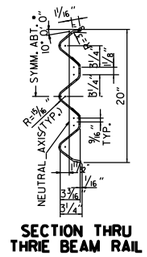
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

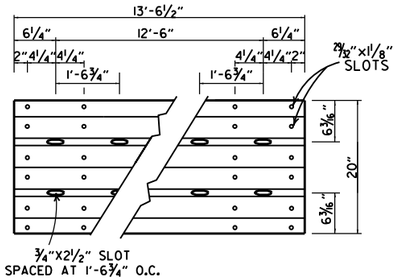
STANDARD DRAWING GR-9



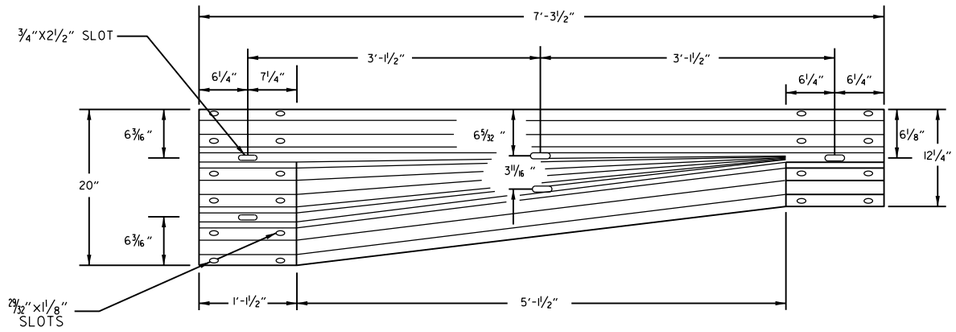
SPECIAL END SHOE



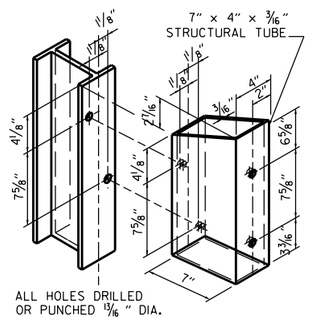
SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL

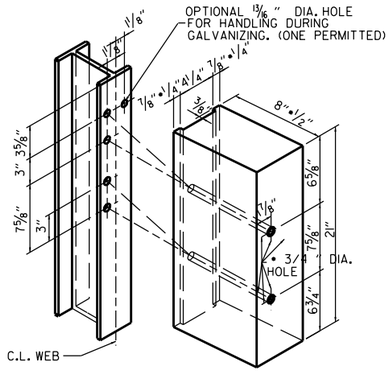


TRANSITION SECTION



ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

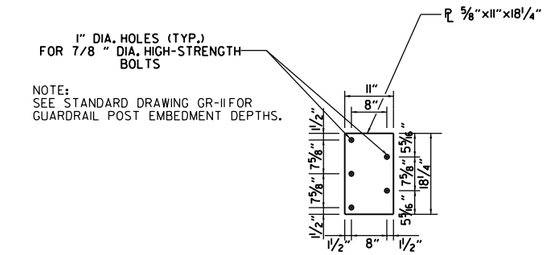
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

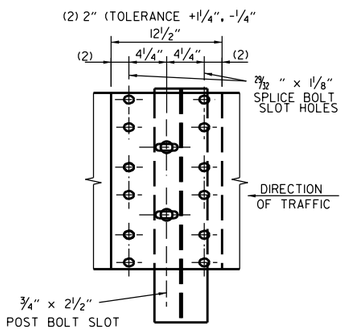
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



NOTE:
SEE STANDARD DRAWING GR-11 FOR GUARDRAIL POST EMBEDMENT DEPTHS.

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 1.

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.

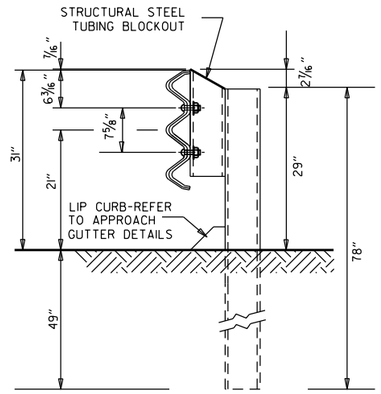
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

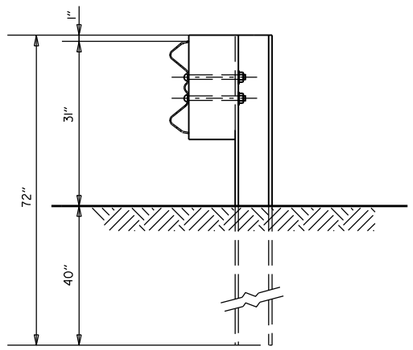
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

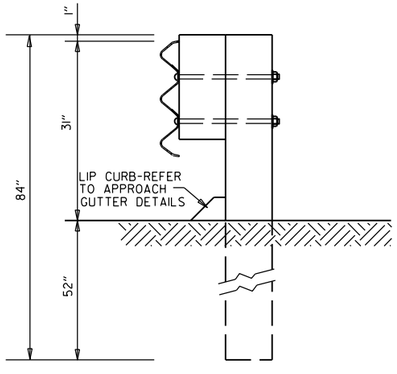
STANDARD DRAWING GR-10



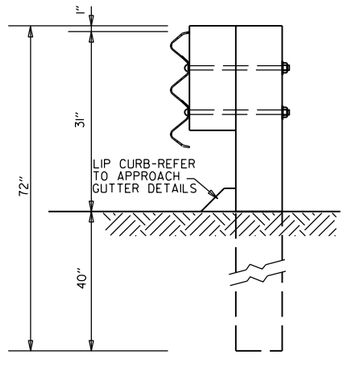
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



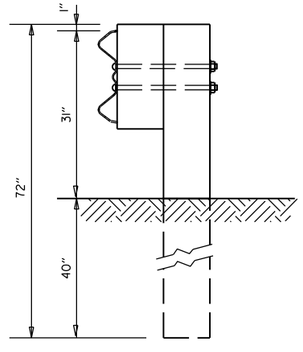
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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.

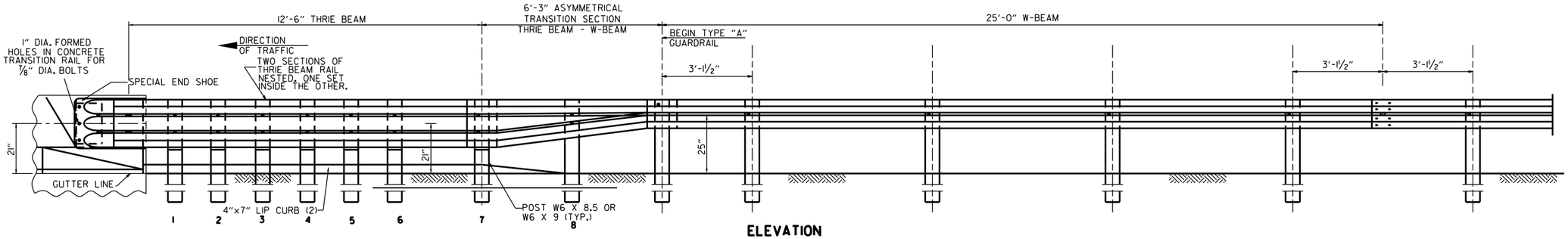
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

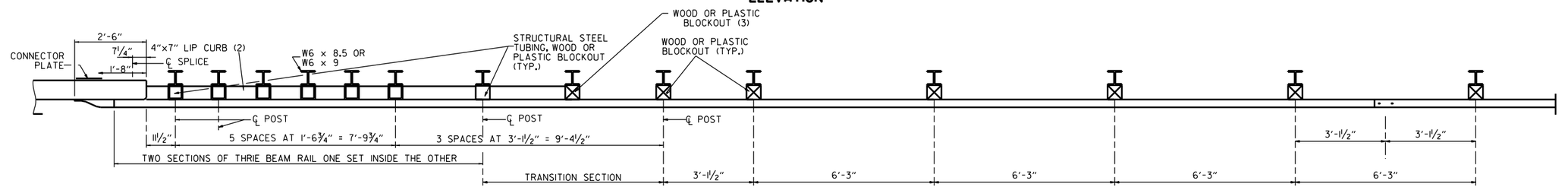
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

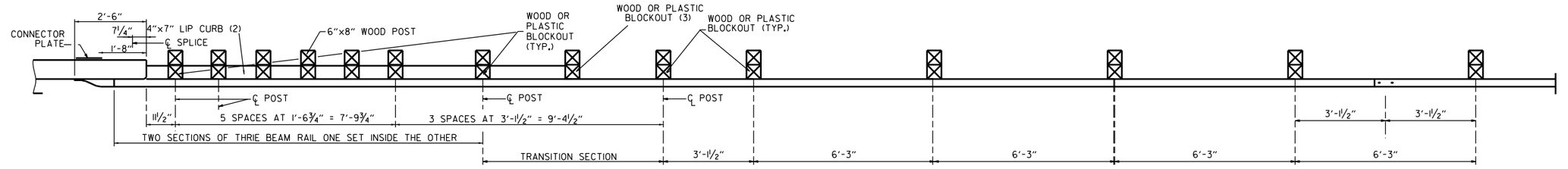
STANDARD DRAWING GR-11



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.

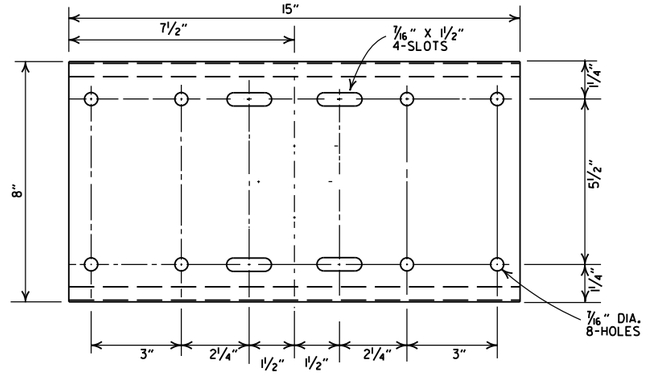
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

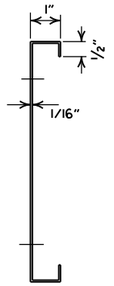
ARKANSAS STATE HIGHWAY COMMISSION

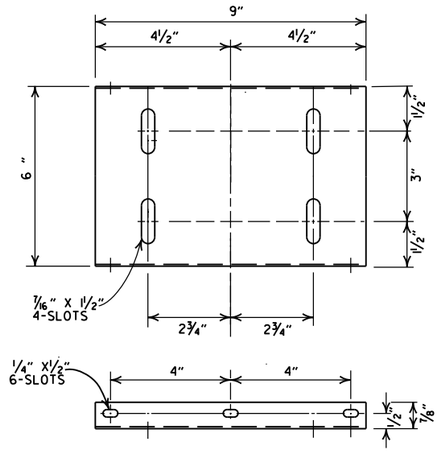
GUARDRAIL DETAILS

STANDARD DRAWING GR-12

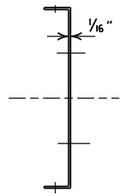


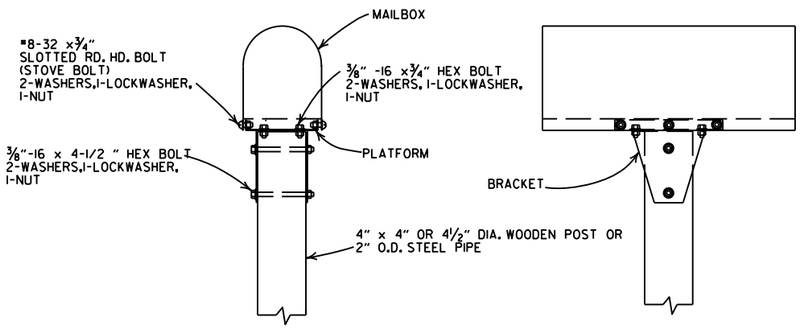
SHELF



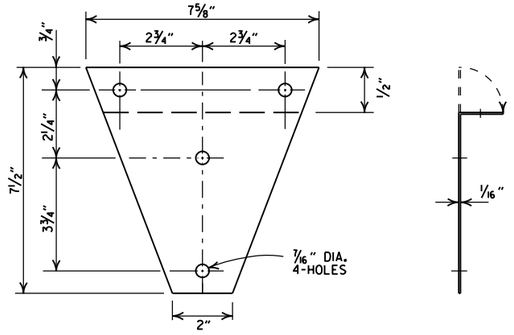


PLATFORM





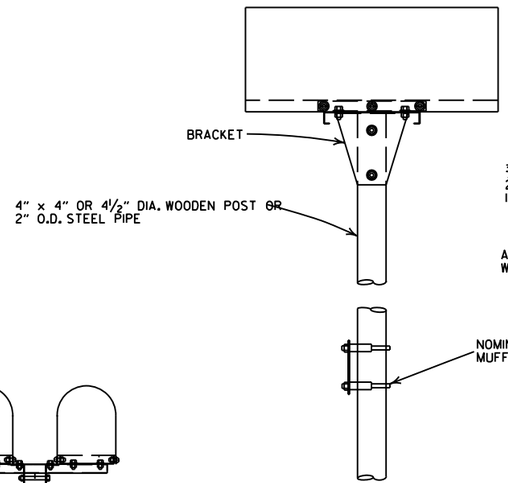
SINGLE INSTALLATION



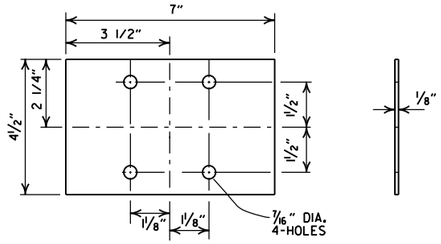
BRACKET

GENERAL NOTES

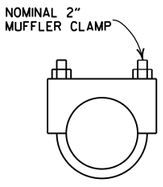
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X¾" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



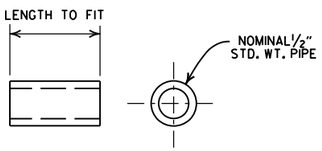
DOUBLE INSTALLATION



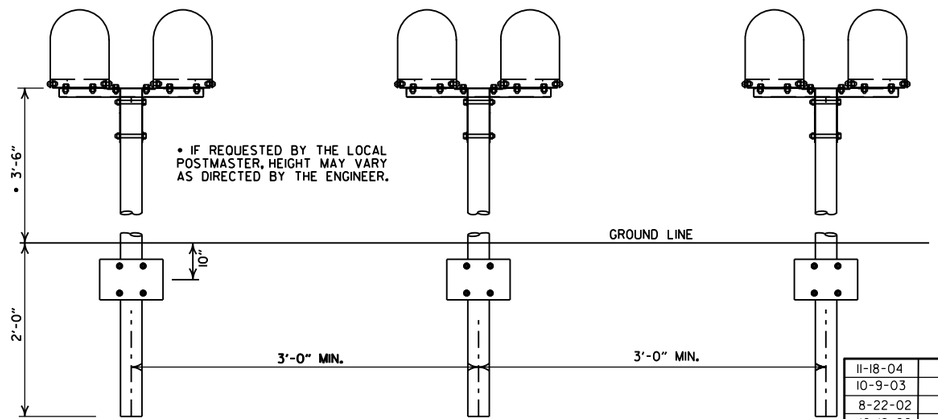
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	20-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅜	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

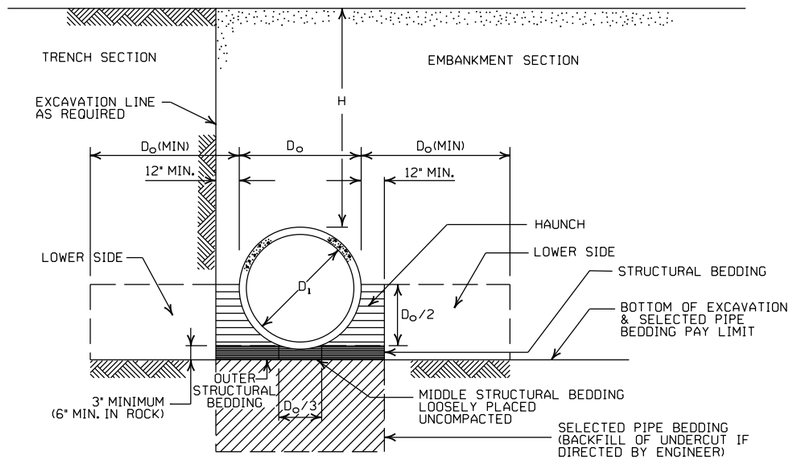
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_O = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

CORRUGATED METAL PIPE ARCHES

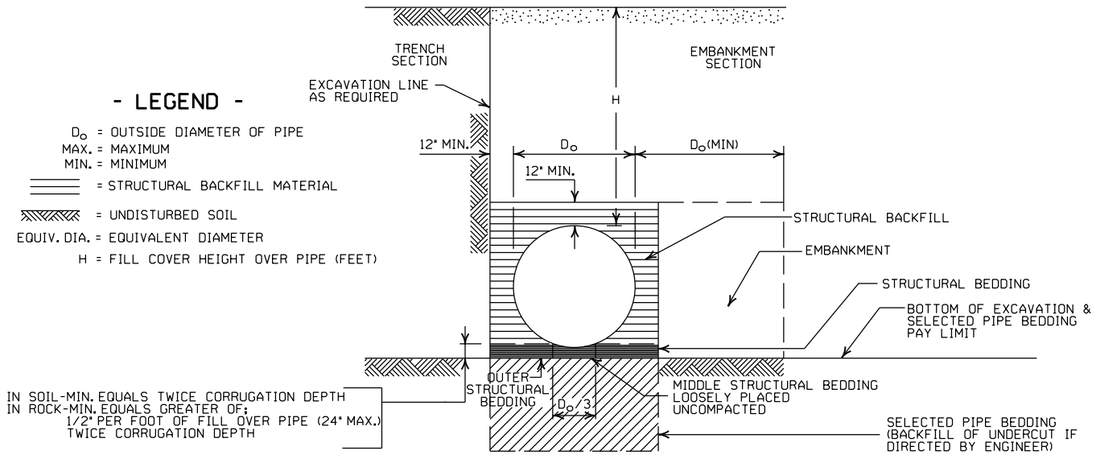
EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION TYPE 1	INSTALLATION TYPE 1		INSTALLATION TYPE 1	INSTALLATION TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM					
				INSTALLATION TYPE 2	INSTALLATION TYPE 1		INSTALLATION TYPE 2	INSTALLATION TYPE 1
36	40x31	5	0.079	3	2		12	15
42	46x36	6	0.079	3	2		13	15
48	53x41	7	0.079	3	2		13	15
54	60x46	8	0.079	3	2		13	15
60	66x51	9	0.079	3	2		13	15
66	73x55	12	0.079	3	2		15	15
72	81x59	14	0.079	3	2		15	15
78	87x63	14	0.079	3	2		15	15
84	95x67	16	0.109	3	2		15	15
90	103x71	16	0.109	3	2		15	15
96	112x75	18	0.109	3	2		15	15
102	117x79	18	0.109	3	2		15	15
108	128x83	18	0.138	3	2		15	15

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

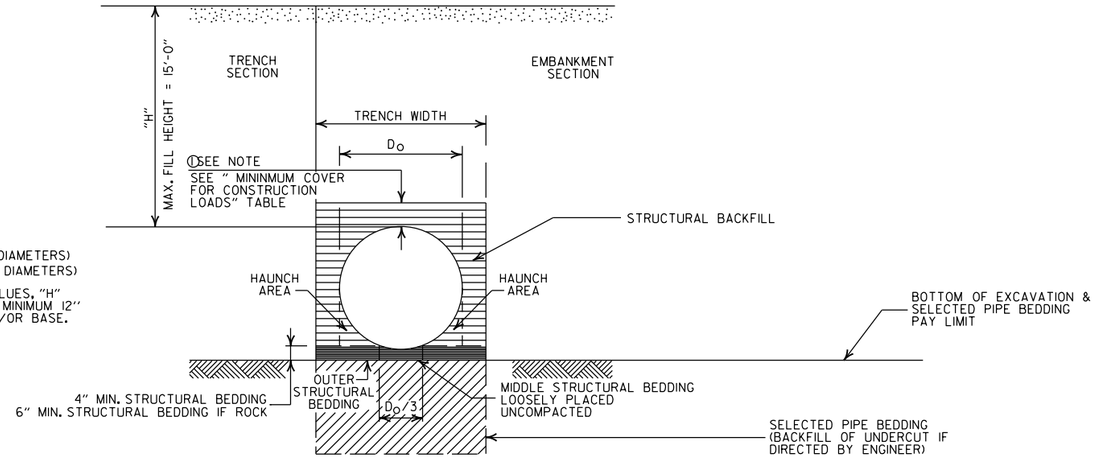
PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

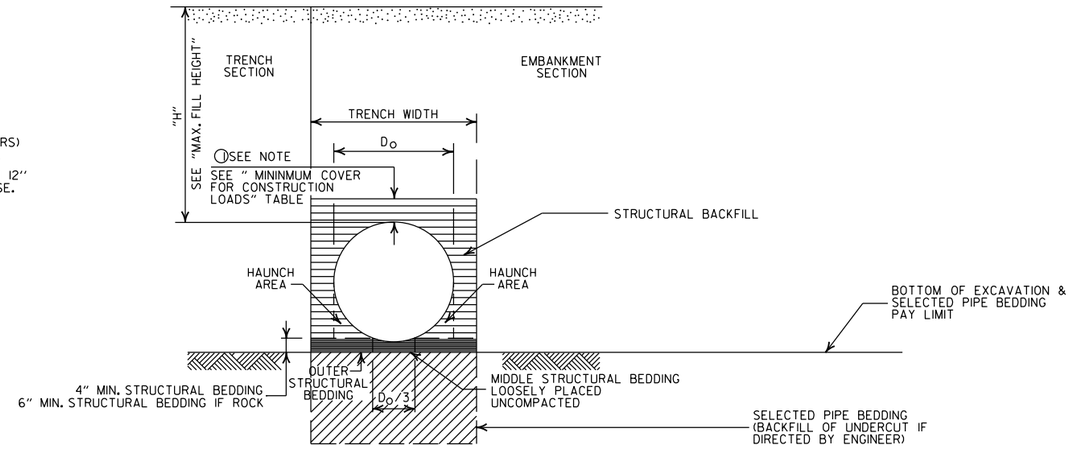
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

INSTALLATION TYPE	**MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) OR TYPE 1 INSTALLATION MATERIAL

*SM3 WILL NOT BE ALLOWED.

** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF POLYPROPYLENE PIPE.

MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"
60"	5'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"
60"	10'-0"	15'-0"

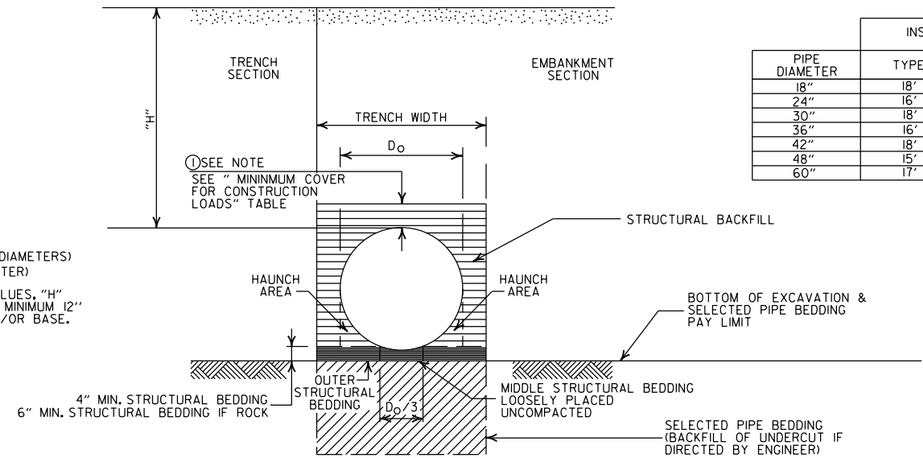
MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-150.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

①NOTE:
12" MIN. (18" - 42" DIAMETERS)
24" MIN. (60" DIAMETER)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



MAXIMUM HEIGHT OF FILL "H"

PIPE DIAMETER	INSTALLATION TYPE	
	TYPE 1	TYPE 2
18"	18'	14'
24"	16'	12'
30"	18'	14'
36"	16'	12'
42"	18'	13'
48"	15'	11'
60"	17'	12'

EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M330, TYPE S, INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

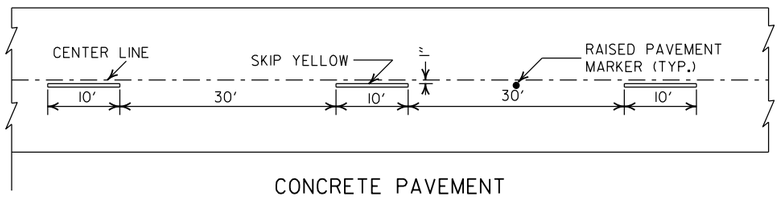
DATE	REVISION	DATE FILMED
02-27-20	REVISED	
11-07-19	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

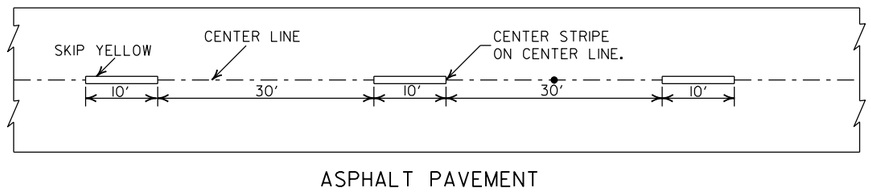
PLASTIC PIPE CULVERT (POLYPROPYLENE)

STANDARD DRAWING PCP-3

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.

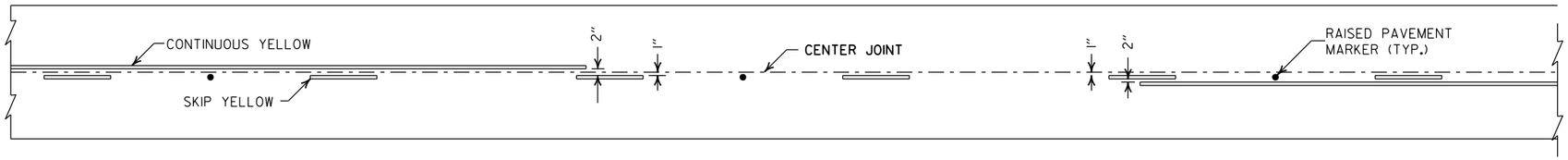


CONCRETE PAVEMENT

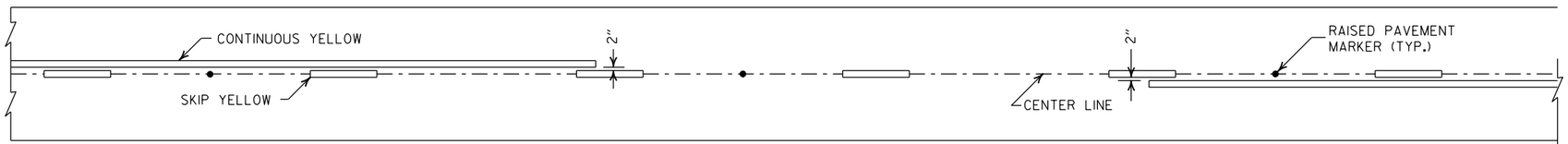


ASPHALT PAVEMENT

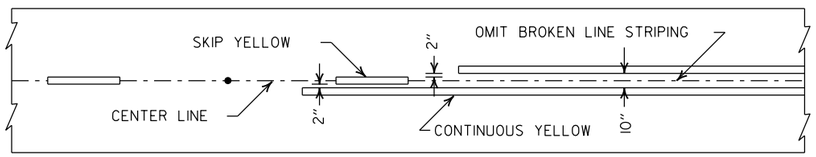
BROKEN LINE STRIPING



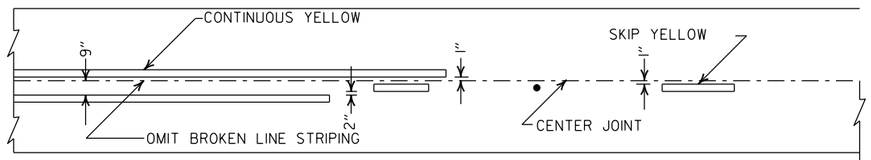
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

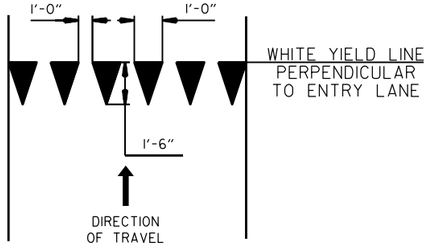


ASPHALT PAVEMENT

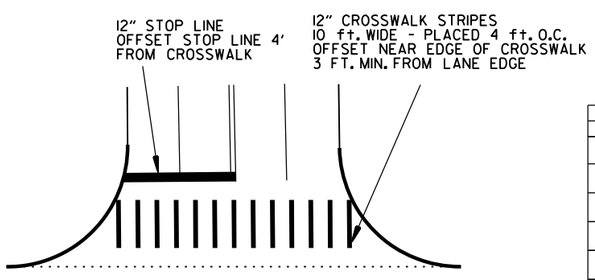


CONCRETE PAVEMENT

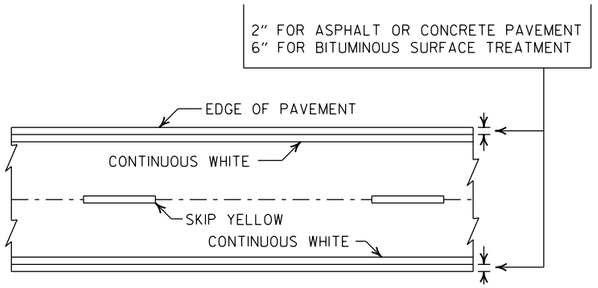
STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL



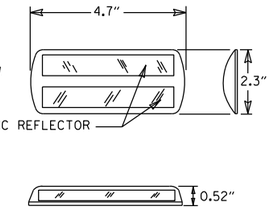
CROSSWALK AND STOP LINE DETAILS



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

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	300	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		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	300	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		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	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178	300	0.062	197		0.070	216		0.078	235	350	0.088	259	350
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187		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		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	250	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	350	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		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%

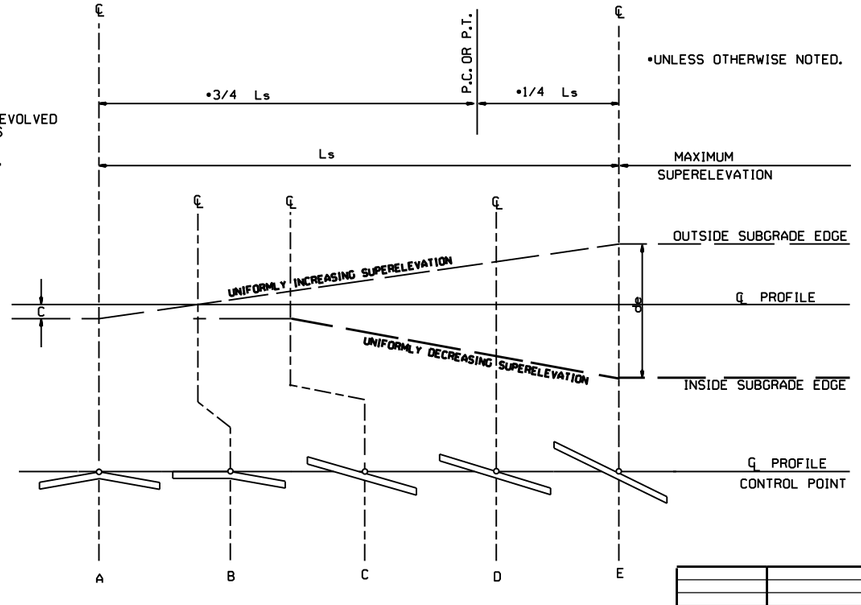
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

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

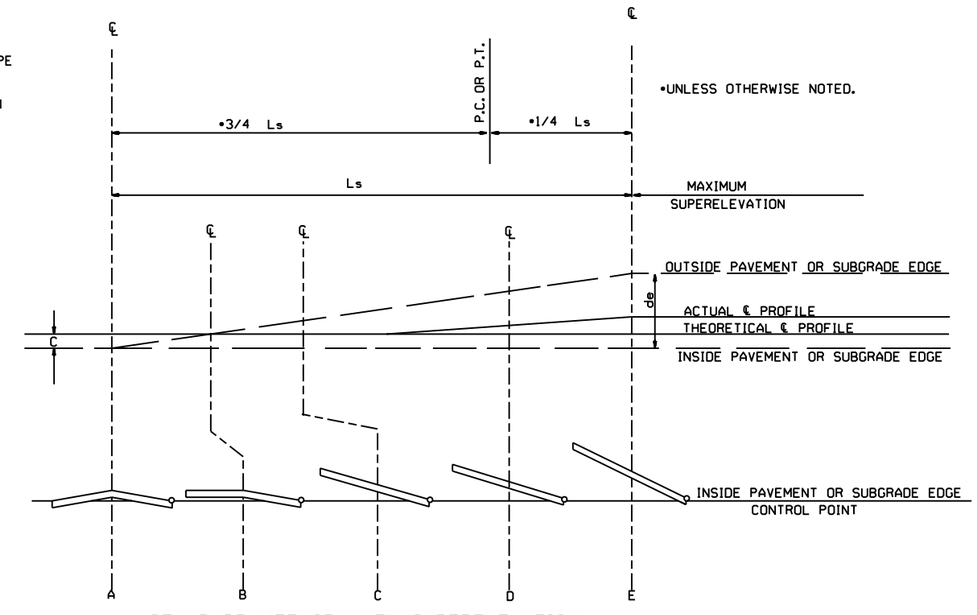
SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

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

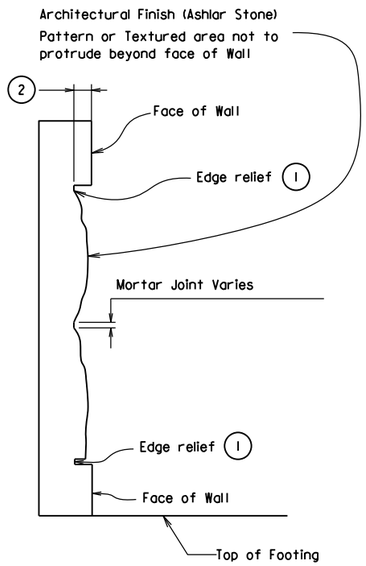
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

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

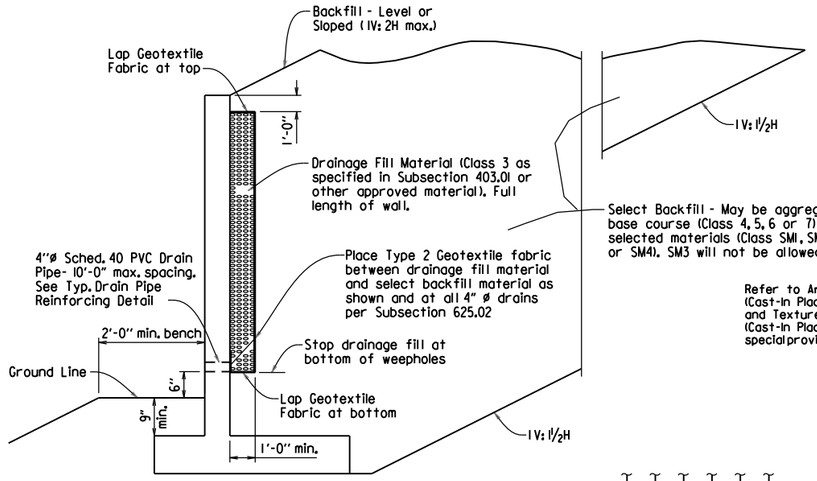


ARCHITECTURAL FINISH DETAILS

N.T.S.

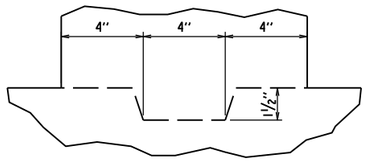
(1) Provide edge relief around perimeter of Texture. Edge relief dimensions shall match manufacturers edge distance.

(2) Depth of Ashlar Stone pattern approx. 1⅝". See SP "Architectural Finish".



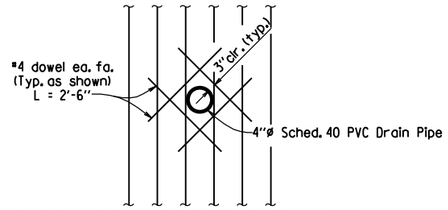
TYPICAL DRAINAGE & BACKFILL DETAILS

N.T.S



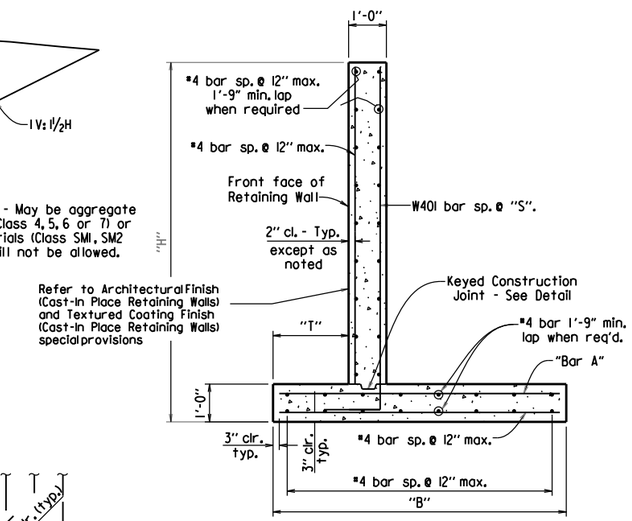
KEYED CONSTRUCTION JOINT DETAIL

N.T.S



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S



TYPICAL SECTION

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas Department of Transportation Standard Specifications for Highway Construction (Current 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, Sixth Edition (2012).

LIVE LOAD: Live Load Surcharge is not included in the design of these walls. Vehicular Live Load shall not be allowed within a distance equal to one-half the height of the wall.

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered ½". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi. A Class 2 Surface finish shall be used on all surfaces of the concrete unless otherwise noted. Refer to Architectural Finish (Cast-in Place Retaining Walls) and Textured Coating Finish (Cast-in Place Retaining Walls) special provisions.

REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.

Foundations for footings shall be prepared in accordance with subsection 801.04. Backfill for retaining walls shall be in accordance with subsection 801.08.

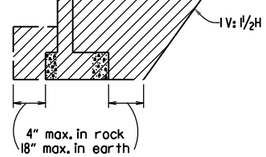
Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

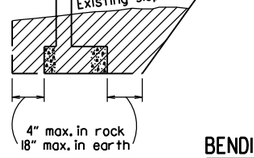
These details are not intended for use along streams or ditches without consideration for scour.

TABLE OF RETAINING WALL VARIABLES (SLOPED BACKFILL) (1V: 2H MAX.)

"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6½"
8'-0"	1'-6"	8'-0"	7½"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"



In Excavation



In Embankment

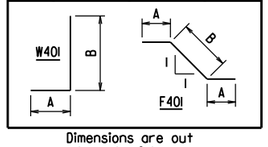
NOTE: Hatched area denotes maximum limits of pay excavation.

DETAILS OF EXCAVATION

N.T.S

BENDING DIAGRAMS

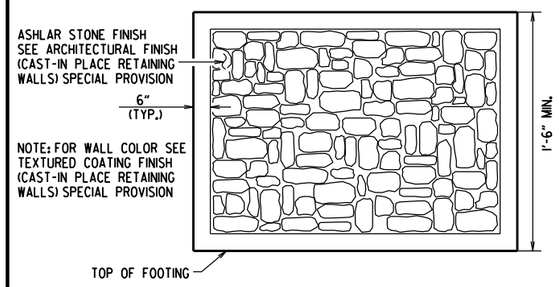
MARK	A	B	P.D.
W401	8"	"H" - 6"	3"
F401	1'-6"	1'-10"	2½"



Dimensions are out to out of bars.

TABLE OF RETAINING WALL VARIABLES (LEVEL BACKFILL)

"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6½"



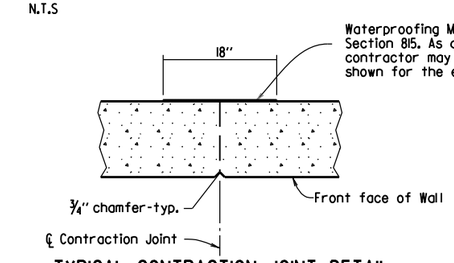
ASHLAR STONE FINISH DETAIL

NOTES:

Wall pattern shall be applied to the exposed surfaces of wall in accordance with SP "Architectural Finish (Cast-in Place Retaining Walls)" and as shown in the plans. Care shall be taken with form liner handling and installation to ensure aesthetic quality of the wall texturing is maintained. Where form liner panels require modification to conform to the location, dimensions and lines shown in the plans, the Contractor shall provide edge relief matching that of the unaltered form liner. Payment for wall texturing shall be in accordance with SP "Architectural Finish (Cast-in Place Retaining Walls)".

No adjustments will be made in concrete volume due to the use of "Architectural Finish". Class "S" Concrete shall be measured in accordance with Subsection 802.24(a). Care shall be taken in placing concrete to avoid segregation and to eliminate flow lines.

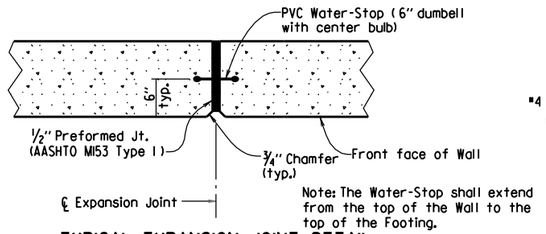
Class 3 Textured Coating Finish shall be applied to wall surfaces as specified in SP "Textured Coating Finish (Cast-in Place Retaining Walls)" and in accordance with Subsection 802.19(b)(3).



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

Note: 20'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction joints.

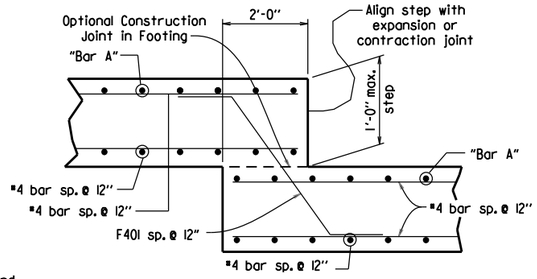


Note: The Water-Stop shall extend from the top of the Wall to the top of the Footing.

TYPICAL EXPANSION JOINT DETAIL

N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from ℄ Expansion Joint.



FOOTING STEP DETAIL

N.T.S.

SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A_S):
Level Backfill - $A_S \leq .40g$
Sloped Backfill (1V: 2H max.) - $A_S \leq .30g$

5-14-20	ADDED ASHLAR STONE FINISH DETIAL AND NOTES. REVISED TYP. SECTION AND GEN. NOTES.	
5-12-16	REVISED SLOPES FOR SELECT BACKFILL	
2-27-14	REVISED GENERAL NOTES	
7-26-12	DRAWING ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

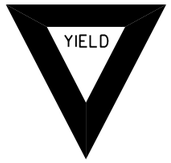
REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)

STANDARD DRAWING SI - 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"

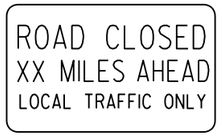
R5-1

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

RII-2

48"X30"

RII-3A



60"X30"

RII-4

60"X30"

W21-5a

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"

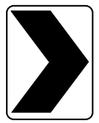
WI-4

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"

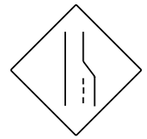
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

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"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

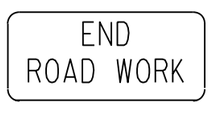
W8-9

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

G20-1

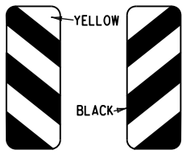
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

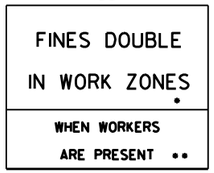
M4-9

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.

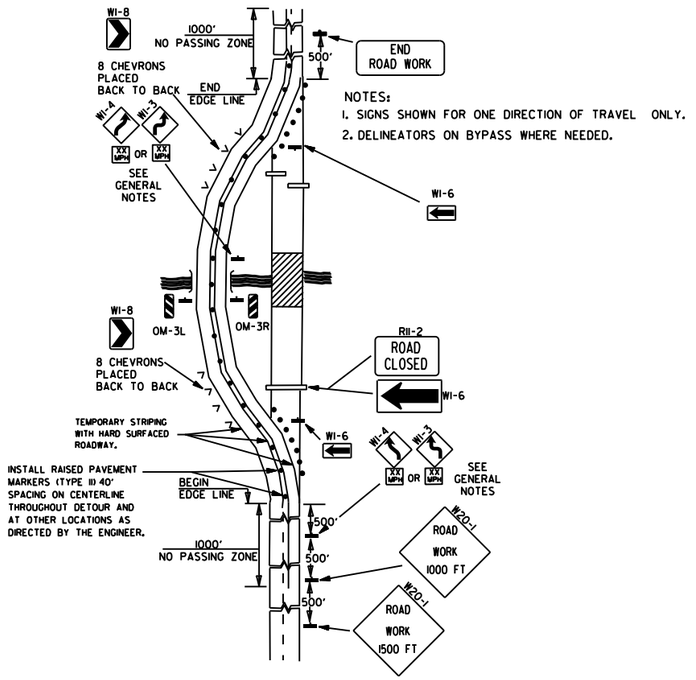
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

DATE	REVISION	FILMED
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	

ARKANSAS STATE HIGHWAY COMMISSION

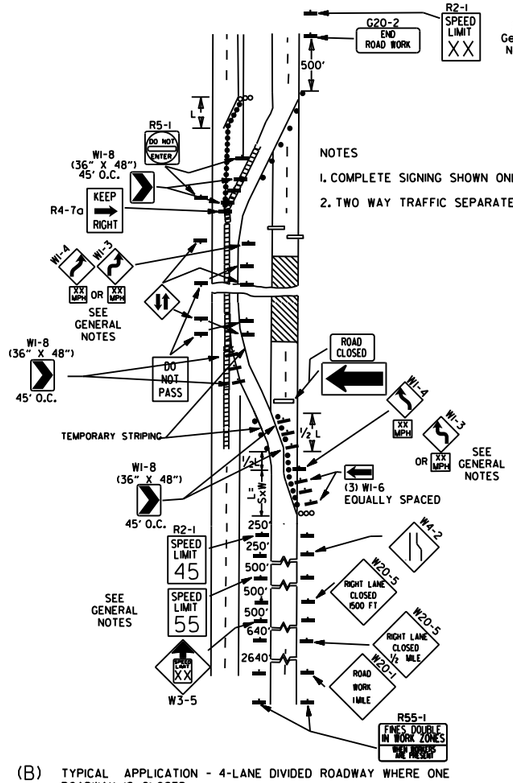
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



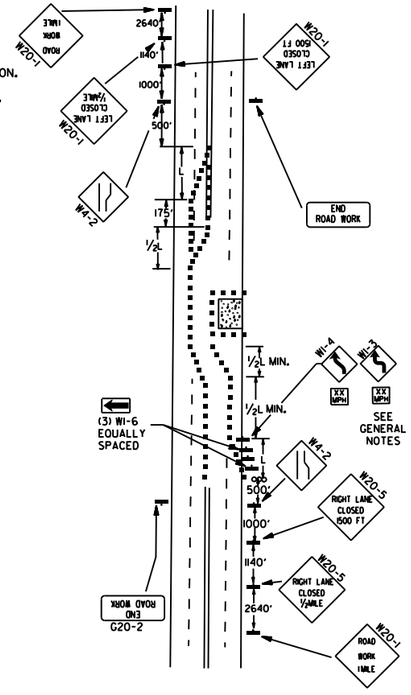
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

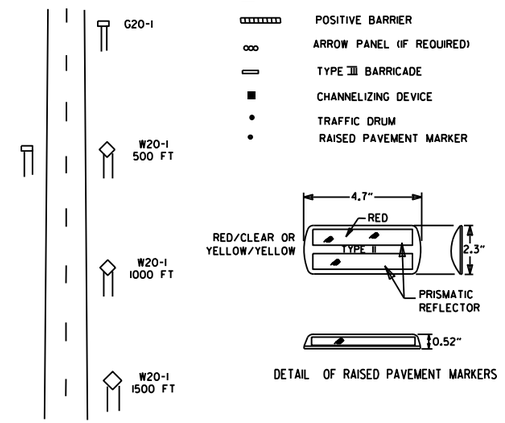


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(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:

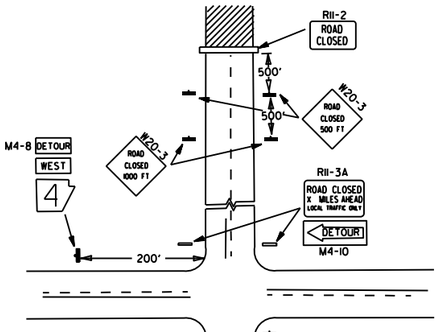
L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

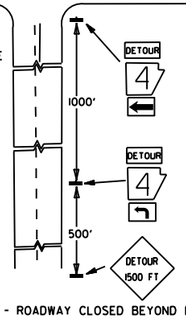
WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:

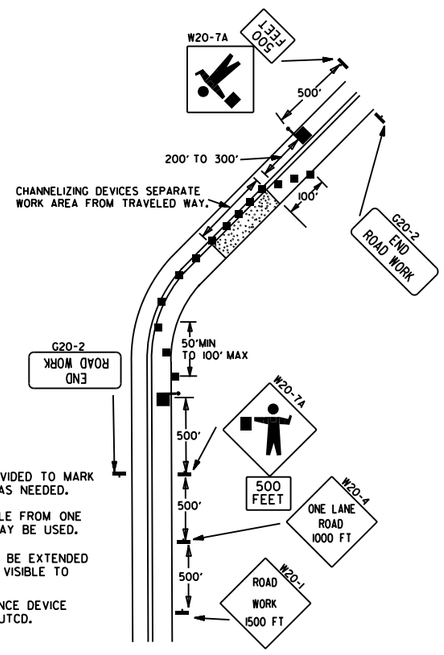
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT 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.

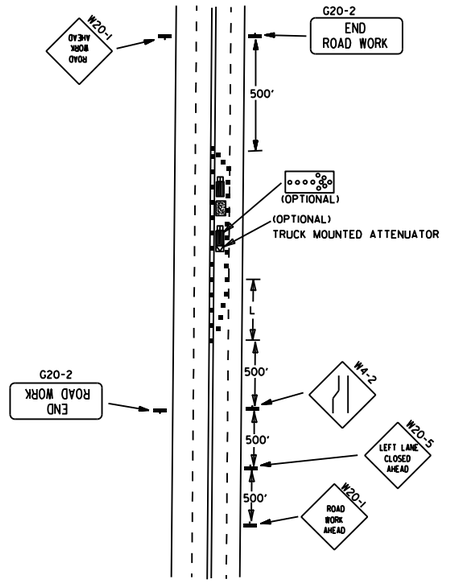


(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



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.



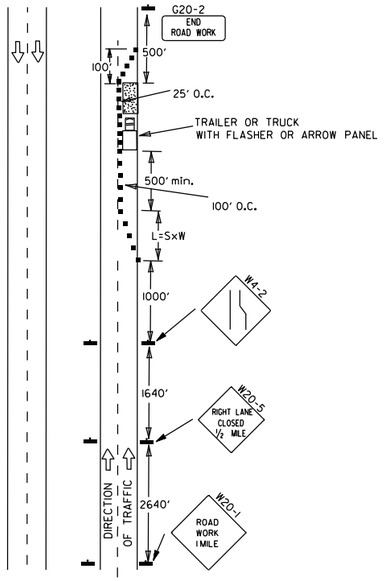
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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	

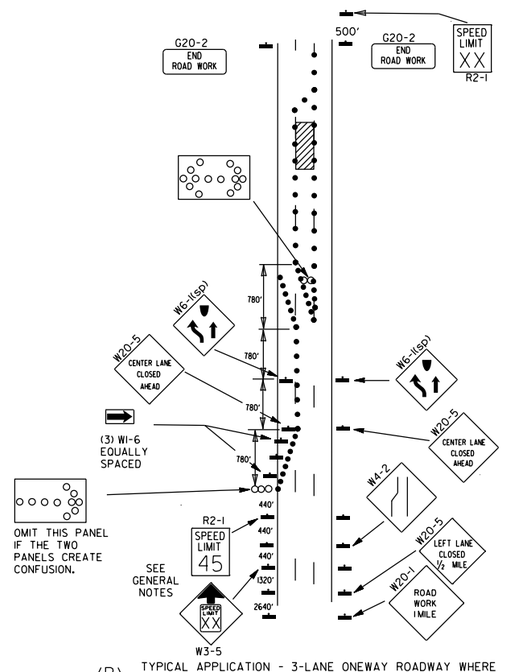
ARKANSAS STATE HIGHWAY COMMISSION

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.



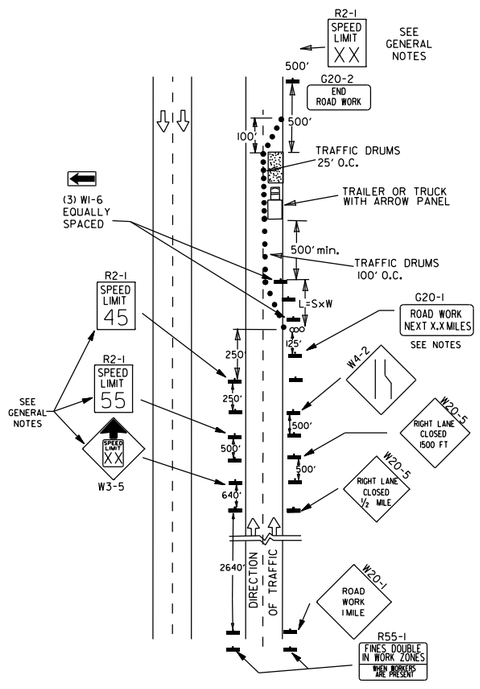
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

- ARROW PANEL (IF REQUIRED)
- ■ CHANNELIZING DEVICE
- ● TRAFFIC DRUM

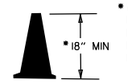
GENERAL NOTES:

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 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. 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).



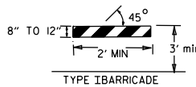
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES



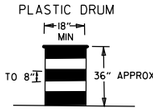
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

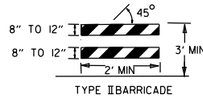
CONES



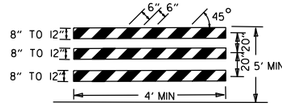
TYPE I BARRICADE

PLASTIC DRUM



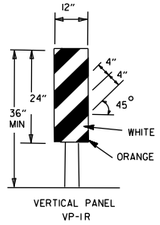


TYPE II BARRICADE



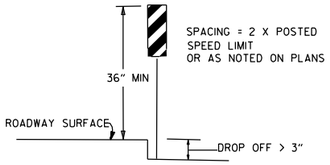
TYPE III BARRICADE

NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

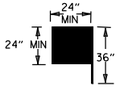


VERTICAL PANEL VP-1R

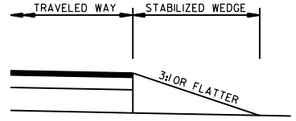
VERTICAL PANEL PLACEMENT



FLAG



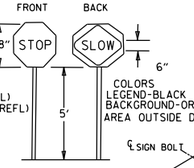
FLAG SHALL BE OF GOOD GRADE RED MATERIAL

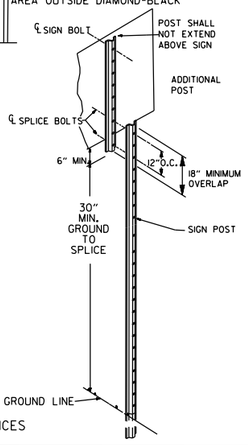


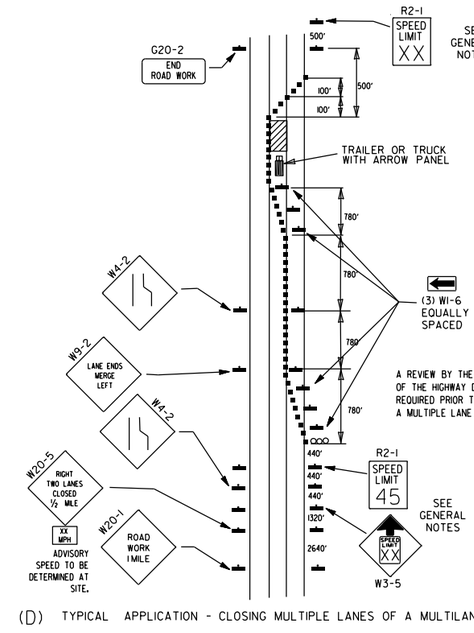
STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE







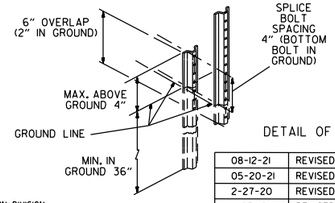
A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(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-21)

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

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).

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	

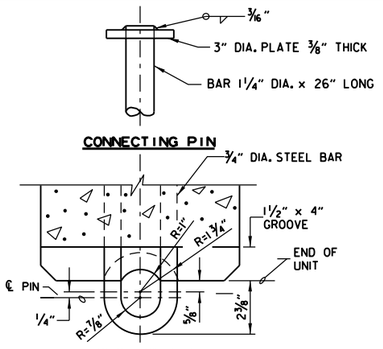
ARKANSAS STATE HIGHWAY COMMISSION

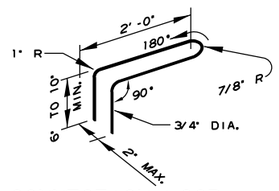
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

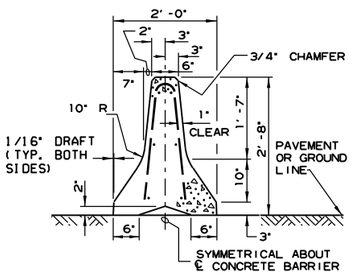
STANDARD DRAWING TC-3

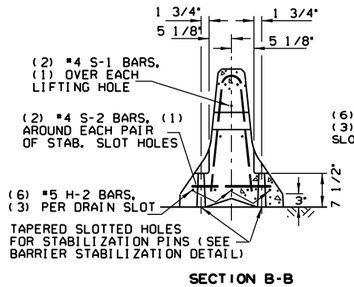
REINFORCING BAR TABLE PER BARRIER UNIT

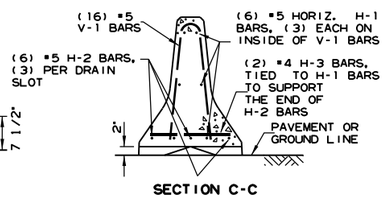
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9"; 2 3/16" R; 12°; 1 1/2"; 9"; 2'-1 3/8"; 4 3/8"

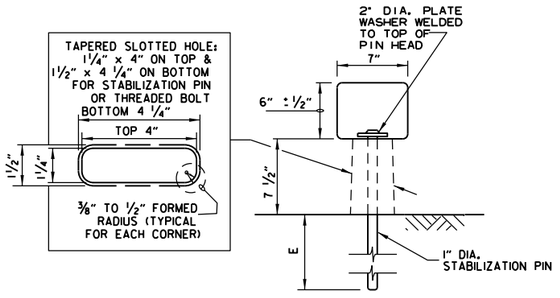




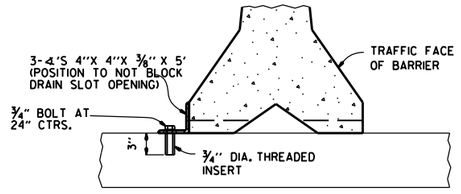






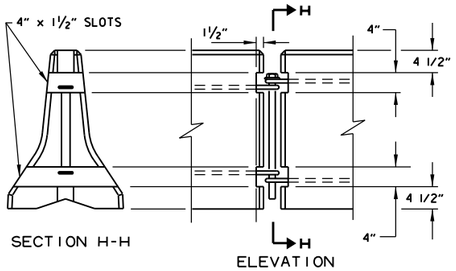


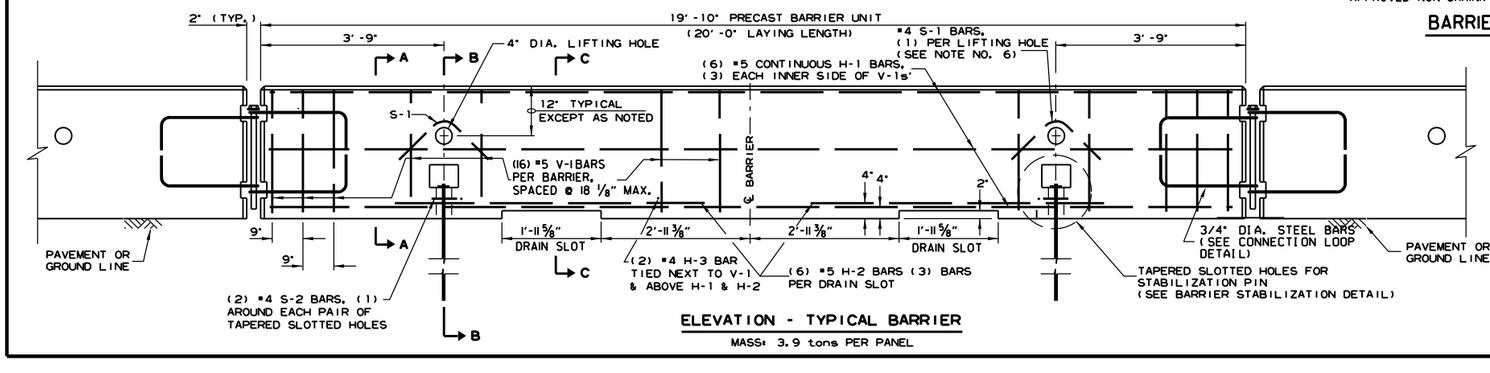
Ⓔ 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL
BRIDGE DECKS





MASS: 3.9 tons PER PANEL

GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

2. MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
   STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
   DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

   IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
   DELINEATOR 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 "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

3. OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

4. DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

5. ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

6. A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

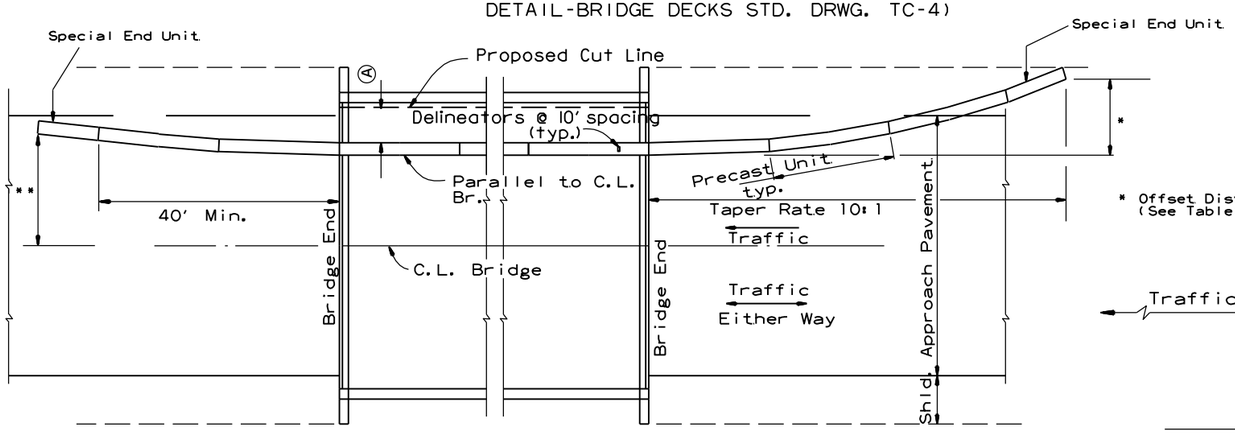
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO WASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

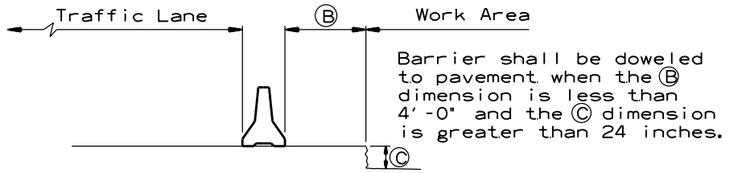
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

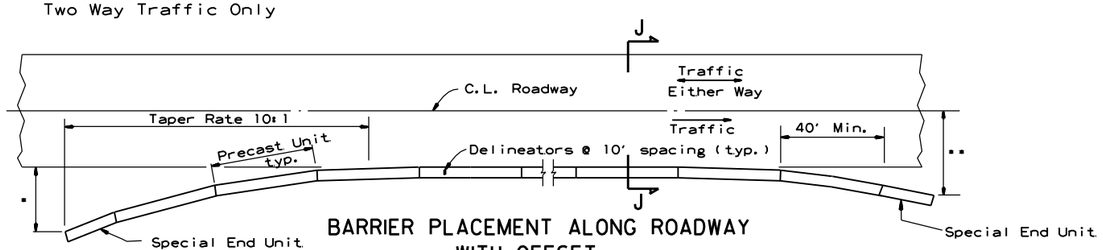
** Offset Distance for Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

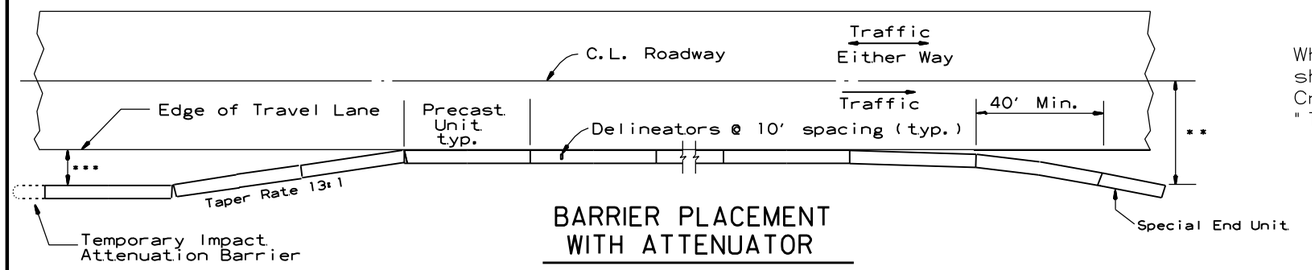
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

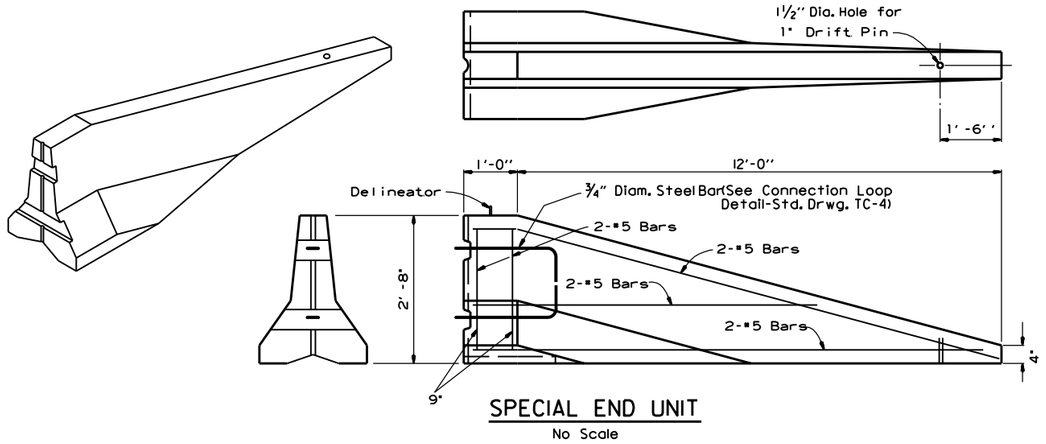


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

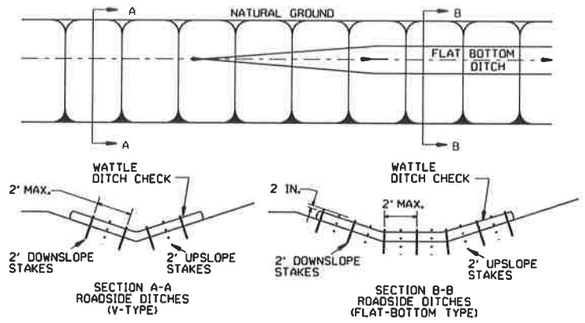
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

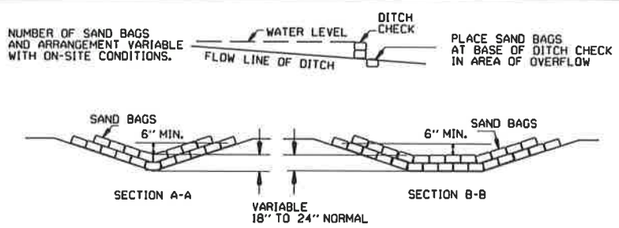
STANDARD DRAWING TC-5

GENERAL NOTES

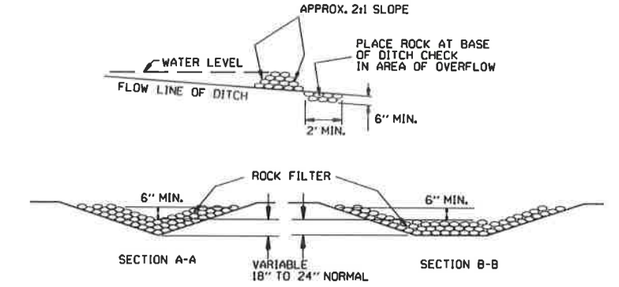
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

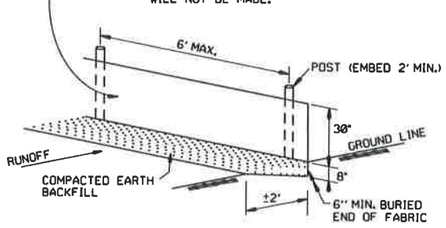


ROCK DITCH CHECK (E-6)

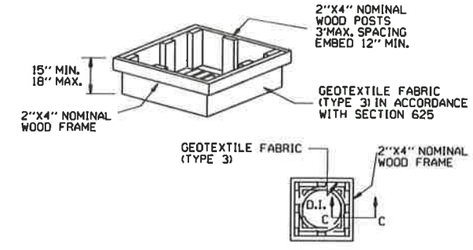
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

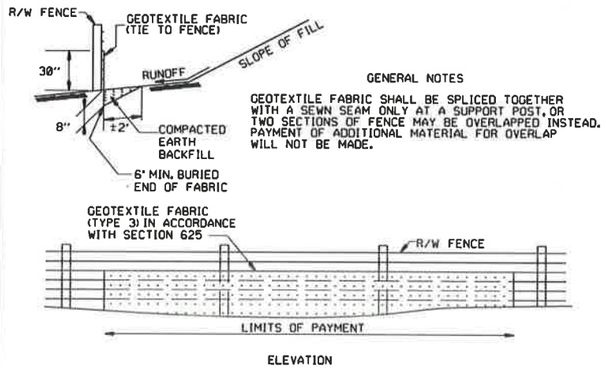
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



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.

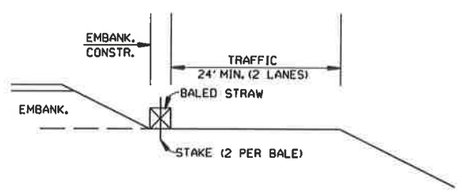
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

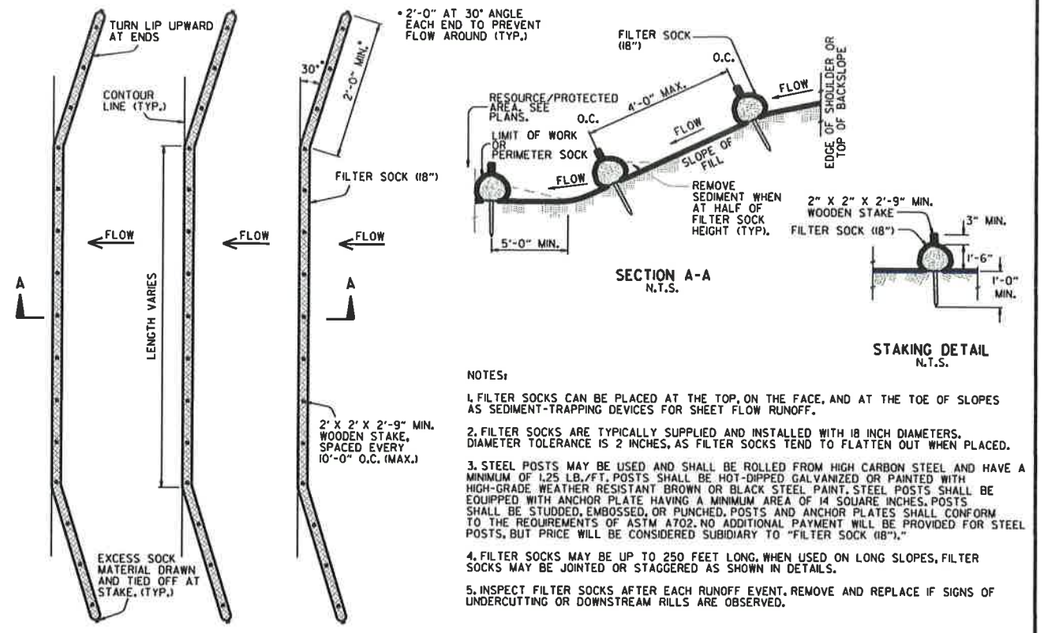
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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)



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.

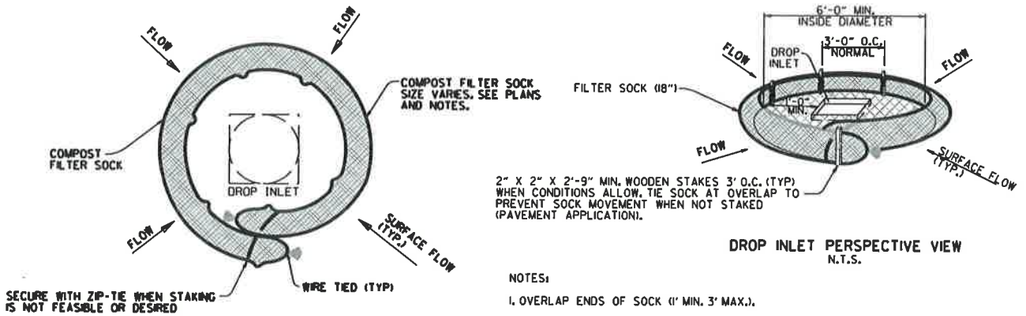
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

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)



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

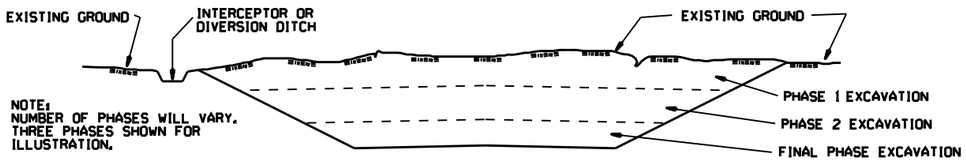
STANDARD DRAWING TEC-1

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



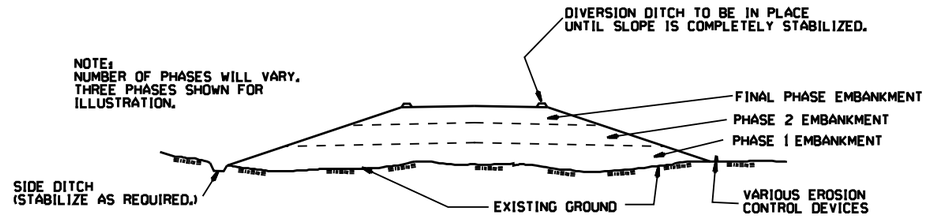
GENERAL NOTE

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

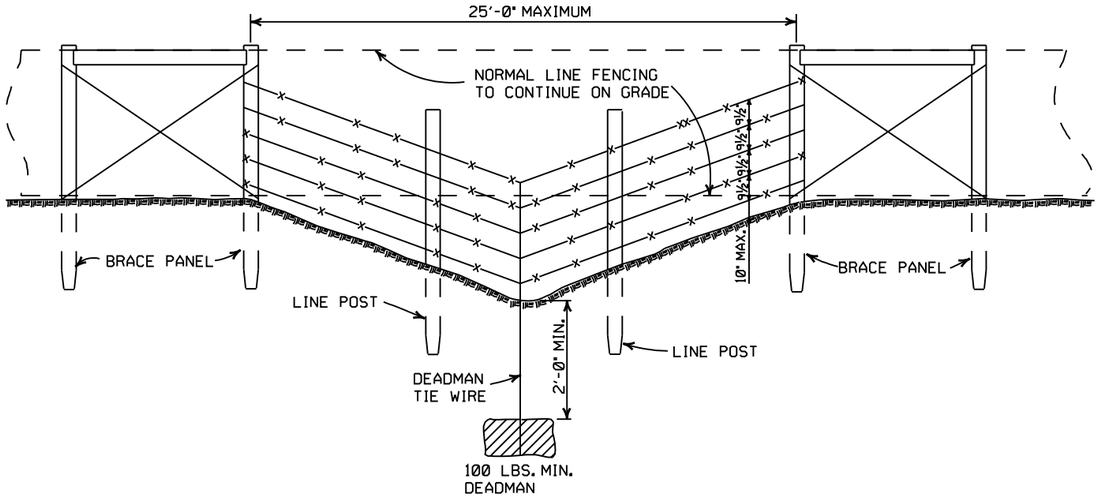
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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.

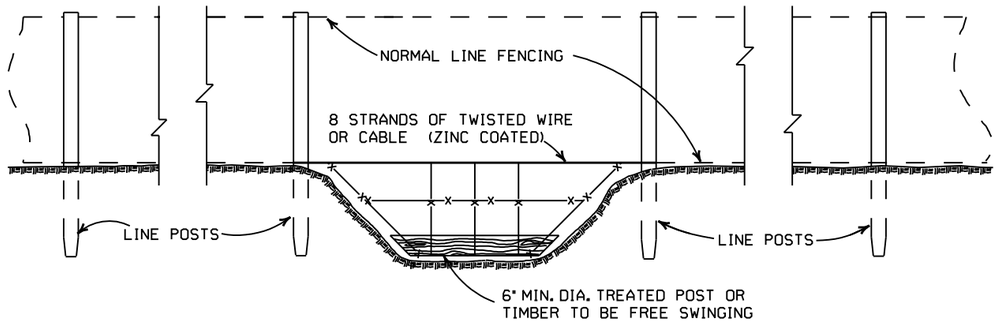
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

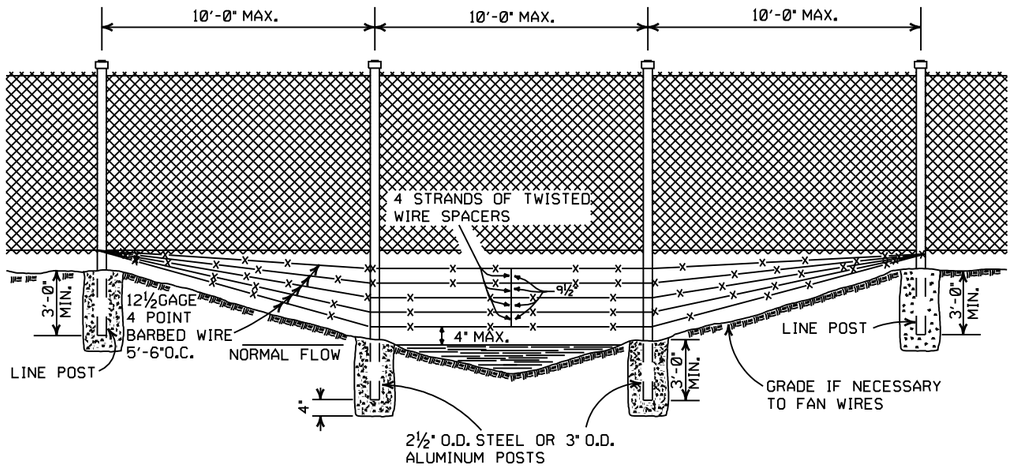
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

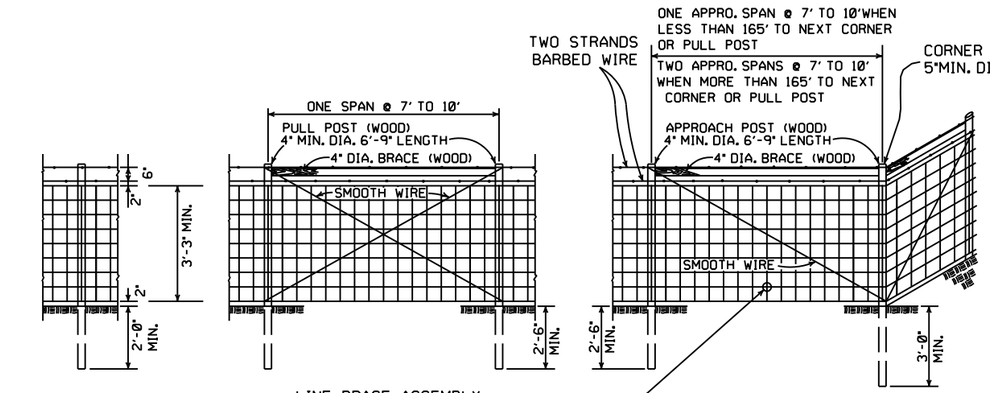
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED AND REDRAWN	529-10-2-72
DATE	REVISION	FILMED

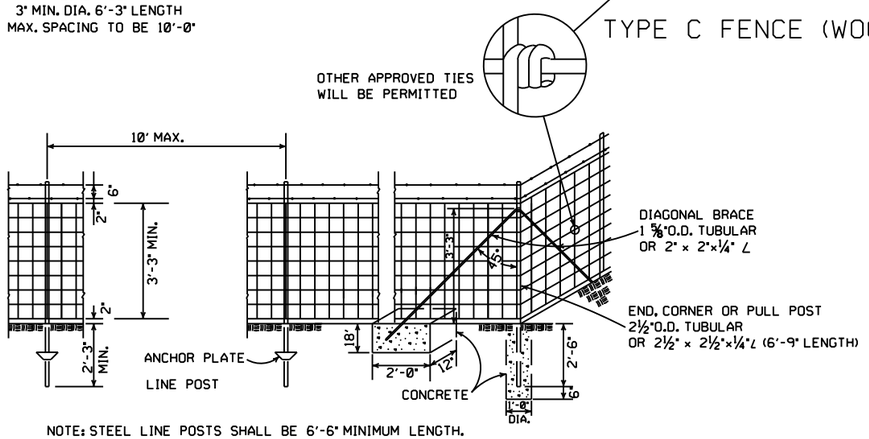
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING WF-2

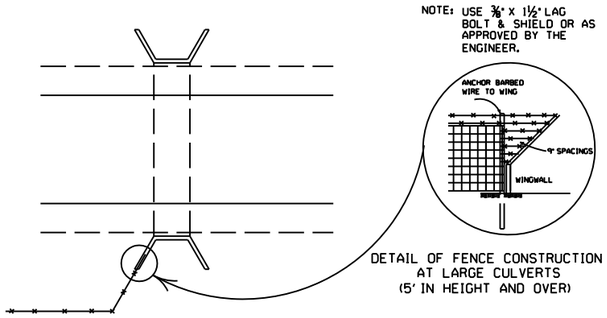


TYPE C FENCE (WOOD POSTS)



NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

TYPE C FENCE (STEEL POSTS)



DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

GENERAL NOTES:

STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

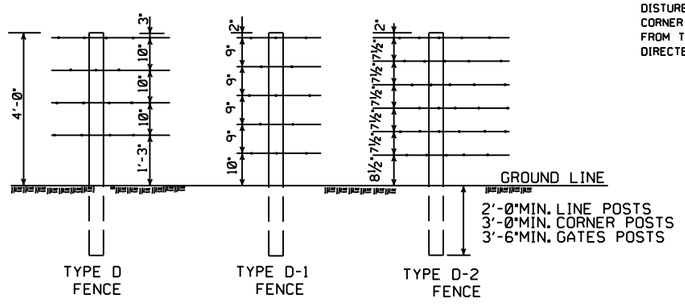
AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

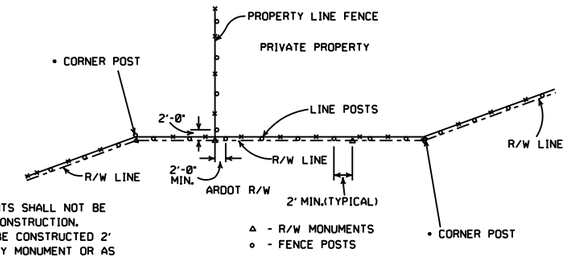
SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

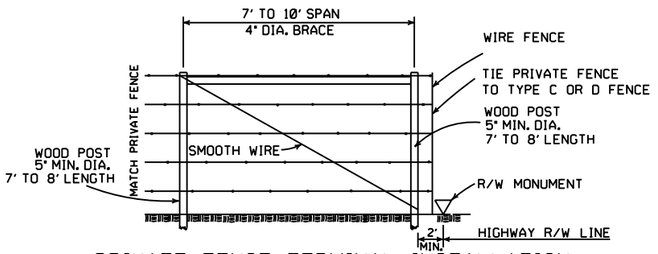


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



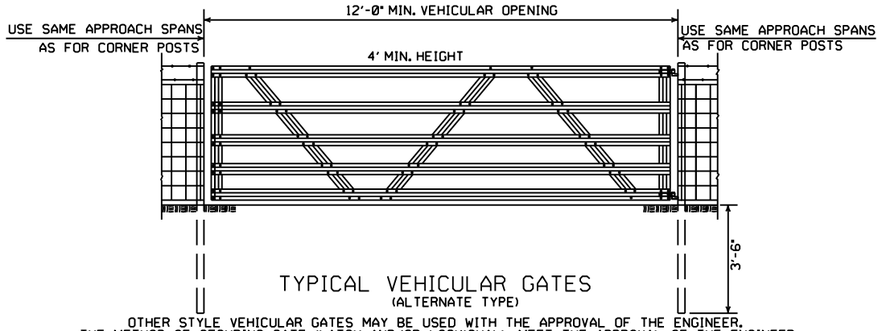
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4