DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	1	87
				(2)	CANEY & TAYLOR CREEK STRS. & APPRS. (S)			

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS

CANEY & TAYLOR CREEK STRS. & APPRS. (S)

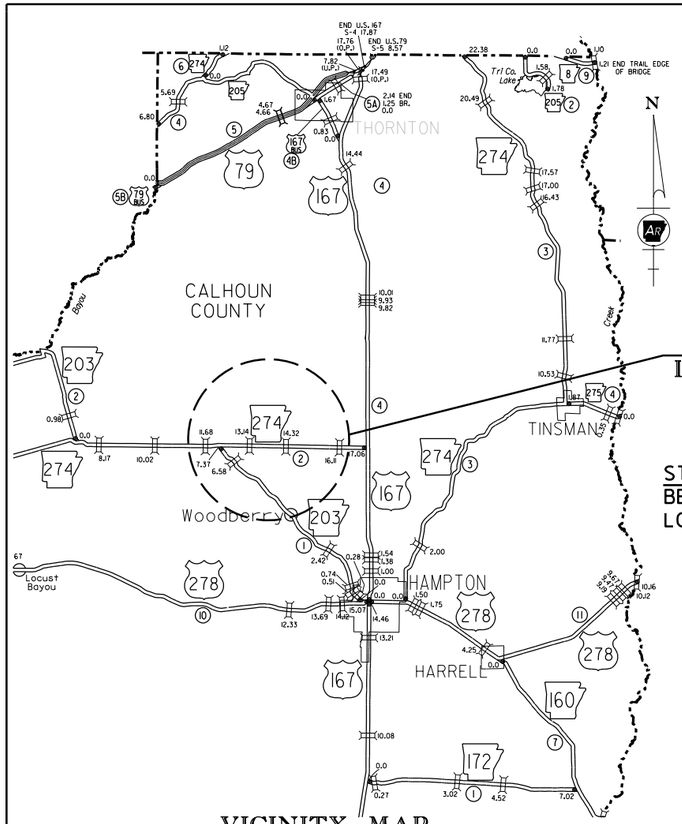
CALHOUN COUNTY

ROUTE 274 SECTION 2

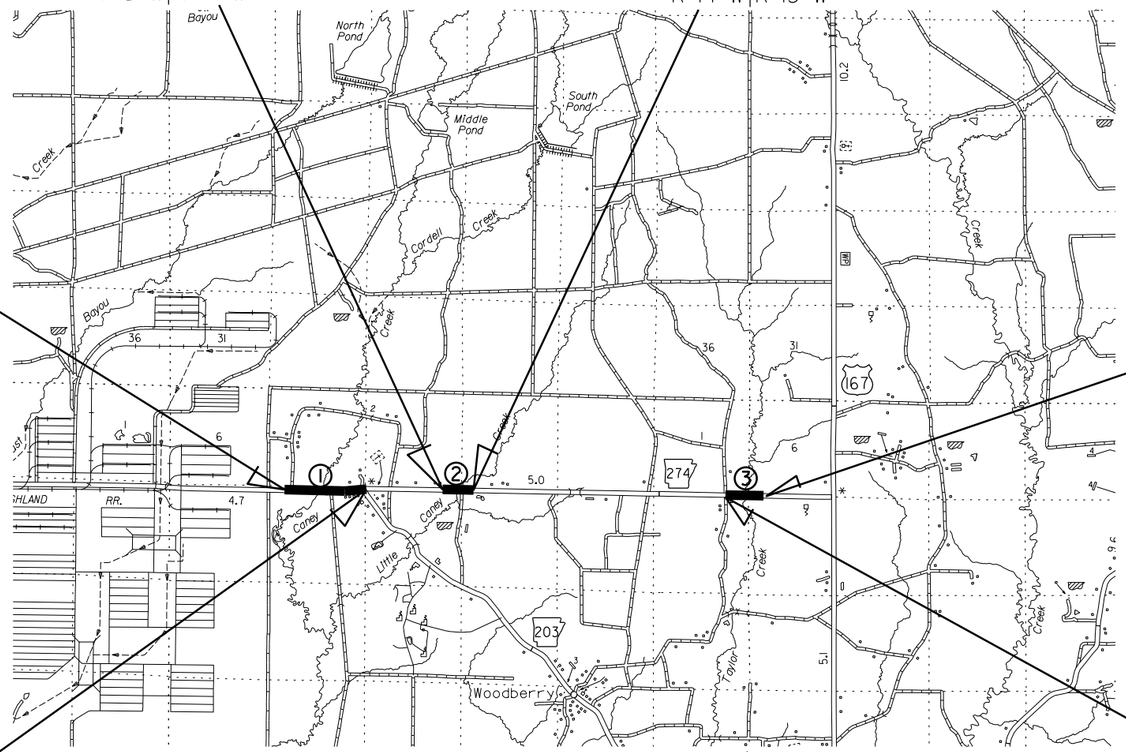
JOB 070435

FED. AID. PROJ. NHPP-0007(30)

NOT TO SCALE



VICINITY MAP



STA. 198+00.00
BEGIN SITE 2
LOG MILE 13.07

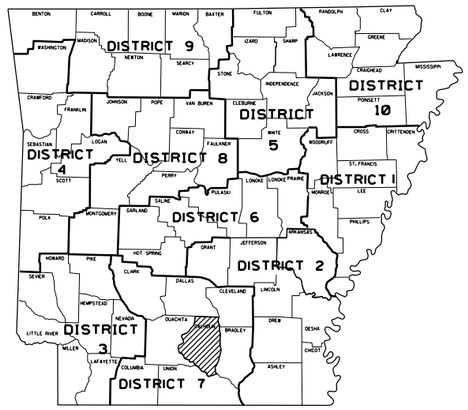
STA. 203+25.00
END SITE 2

STA. 92+97.00
BEGIN SITE 1
BEGIN JOB 070435
LOG MILE 11.50

STA. 112+80.00
END SITE 1

STA. 303+00.00
END SITE 3
END JOB 070435

STA. 298+00.00
BEGIN SITE 3
LOG MILE 16.07



ARKANSAS HIGHWAY DISTRICT 7

STRUCTURES OVER 20'-0" SPAN

① STA. 100+50.00
CONSTRUCT SEPTUPLE
12'X8'X90' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
20° LT. FWD. SKEW
Q25=1610 CFS D.A.=11.9 SQ. MI.
SPAN=94.89'

② STA. 200+30.00
CONSTRUCT QUINTUPLE
10'X7'X87' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
15° LT. FWD. SKEW
Q25=756 CFS D.A.=4.22 SQ. MI.
SPAN=55.65'

③ STA. 300+27.00
CONSTRUCT QUINTUPLE
10'X9'X84' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q25=1150 CFS D.A.=7.57 SQ. MI.
SPAN=54.00'

· DESIGN TRAFFIC DATA ·

DESIGN YEAR----------2041
2021 ADT----------800
2041 ADT----------900
2041 DHV----------99
DIRECTIONAL DISTRIBUTION---------0.60
TRUCKS----------10%
DESIGN SPEED----------60 MPH

SITE		BEGIN OF PROJECT	MID-POINT OF PROJECT	END OF PROJECT
SITE 1	LATITUDE	N 33°36'51"	N 33°36'50"	N 33°36'51"
	LONGITUDE	W 92°33'49"	W 92°33'37"	W 92°33'25"
SITE 2	LATITUDE	N 33°36'50"	N 33°36'49"	N 33°36'49"
	LONGITUDE	W 92°32'12"	W 92°32'09"	W 92°32'06"
SITE 3	LATITUDE	N 33°36'43"	N 33°36'43"	N 33°36'43"
	LONGITUDE	W 92°29'07"	W 92°29'04"	W 92°29'01"

JOB 070435				
GROSS LENGTH OF PROJECT	3008.00	FEET	0.570	MILES
NET LENGTH OF ROADWAY	2803.46	FEET	0.531	MILES
NET LENGTH OF BRIDGES	204.54	FEET	0.039	MILES
NET LENGTH OF PROJECT	3008.00	FEET	0.570	MILES

CERTIFICATE OF AUTHORIZATION
MICHAEL BAKER INTERNATIONAL INC
No. 1126
ARKANSAS - ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No. 10887
1-20-2021

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	2	87

(2) INDEX OF SHEETS AND STANDARD DRAWINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
1-6-2021

INDEX OF SHEETS

SHEET NO.		TITLE
1		TITLE SHEET
2		INDEX OF SHEETS AND STANDARD DRAWINGS
3		GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 6		TYPICAL SECTIONS OF IMPROVEMENT
7 - 18		SPECIAL DETAILS
19 - 34		TEMPORARY EROSION CONTROL DETAILS
35 - 51		MAINTENANCE OF TRAFFIC DETAILS
52 - 55		PERMANENT PAVEMENT MARKING DETAILS
56 - 58		QUANTITIES
59		SUMMARY OF QUANTITIES AND REVISIONS
60 - 67		SURVEY CONTROL DETAILS
68 - 73		PLAN AND PROFILE SHEETS
74 - 87		CROSS SECTIONS

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

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-14
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-20
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-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94

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REVISED DATE: $$REVDATE$$

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				6	ARK.			
				JOB NO.		070435	3	87
				(2)	GOVERNING SPECIFICATIONS & GENERAL NOTES			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.10887
SCOTT P. THORNSBERRY
1-6-2021

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA___	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273_	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273_	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273_	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273_	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273_	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273_	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273_	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
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
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
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
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)
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
620-1_____	MULCH COVER
800-1_____	STRUCTURES
804-2_____	REINFORCING STEEL FOR STRUCTURES
JOB 070435_	BIDDING REQUIREMENTS AND CONDITIONS
JOB 070435_	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 070435_	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 070435_	CARGO PREFERENCE ACT REQUIREMENTS
JOB 070435_	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 070435_	ESTABLISHING CONTRACT TIME – WORKING DAY CONTRACT
JOB 070435_	FLEXIBLE BEGINNING OF WORK
JOB 070435_	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 070435_	MANDATORY ELECTRONIC CONTRACT
JOB 070435_	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 070435_	NESTING SITES OF MIGRATORY BIRDS
JOB 070435_	PARTNERING REQUIREMENTS
JOB 070435_	PLASTIC PIPE
JOB 070435_	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 070435_	SHORING FOR CULVERTS
JOB 070435_	SOIL STABILIZATION
JOB 070435_	STORM WATER POLLUTION PREVENTION PLAN
JOB 070435_	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 070435_	UTILITY ADJUSTMENTS
JOB 070435_	VALUE ENGINEERING
JOB 070435_	WARM MIX ASPHALT

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. 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 IF AND WHERE 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 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 IF AND WHERE APPROVED BY THE RESIDENT ENGINEER.
8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
9. 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.
10. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

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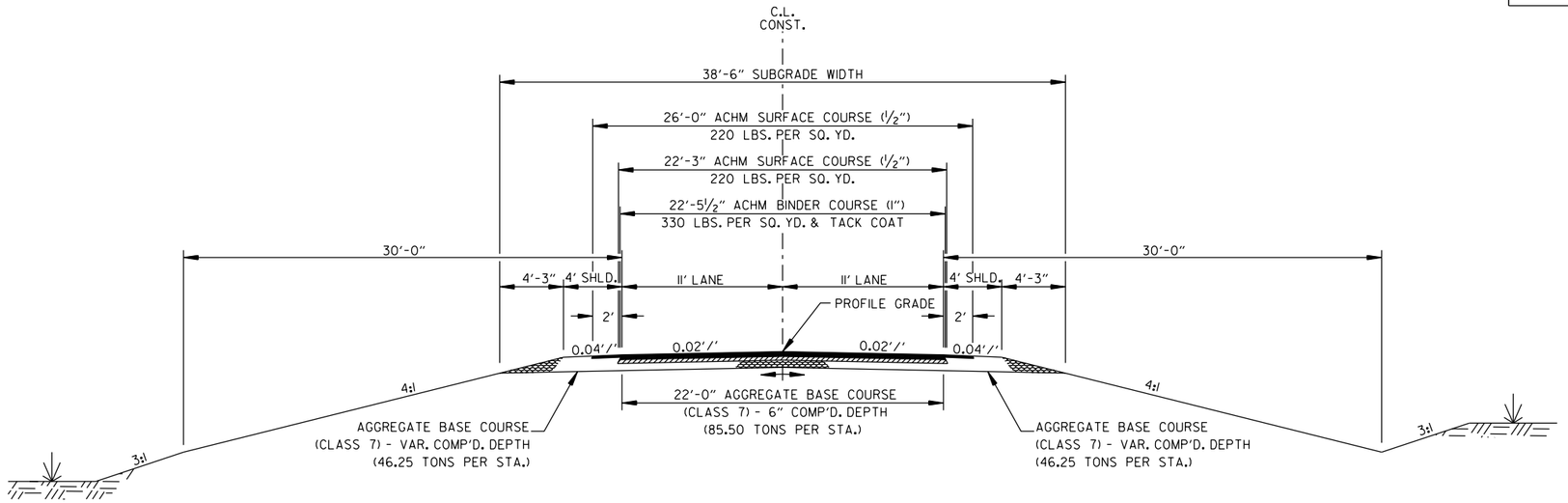
				6	ARK.			
				JOB NO.		070435	4	87
				(2)	TYPICAL SECTIONS OF IMPROVEMENT			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-14-2021

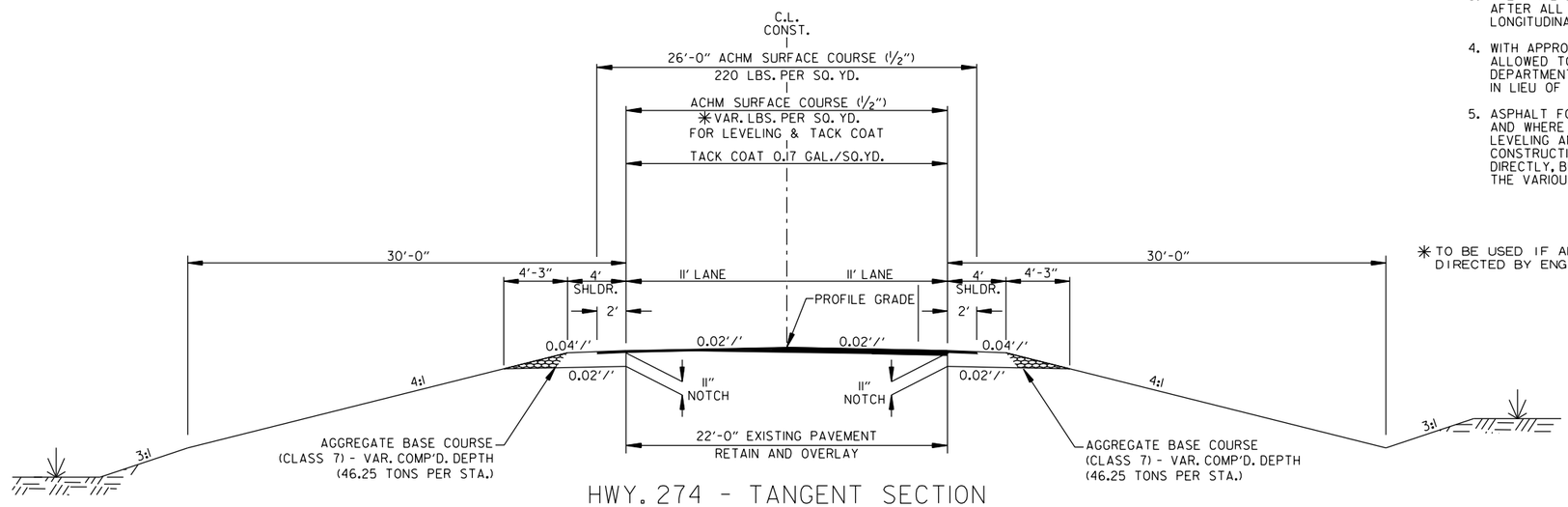


HWY. 274 - TANGENT SECTION

SITE 1 - STA. 99+80.00 TO STA. 101+44.32
SITE 2 - STA. 199+80.00 TO STA. 200+80.00
SITE 3 - STA. 299+75.00 TO STA. 300+78.00

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. 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 TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
4. WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.
5. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS PAY ITEMS.



* TO BE USED IF AND WHERE DIRECTED BY ENGINEER

STA. 93+00.00 TO STA. 99+80.00
TRANSITION FROM TANGENT SECTION NOTCH AND WIDENING TO FULL DEPTH TANGENT SECTION.

HWY. 274 - TANGENT SECTION NOTCH AND WIDENING

SITE 1 - STA. 93+00.00 TO STA. 99+80.00
SITE 1 - STA. 111+31.07 TO STA. 112+80.00
SITE 2 - STA. 195+00.00 TO STA. 199+80.00
SITE 2 - STA. 200+80.00 TO STA. 203+25.00
SITE 3 - STA. 298+00.00 TO STA. 299+75.00
SITE 3 - STA. 300+78.00 TO STA. 303+00.00

TYPICAL SECTIONS OF IMPROVEMENT

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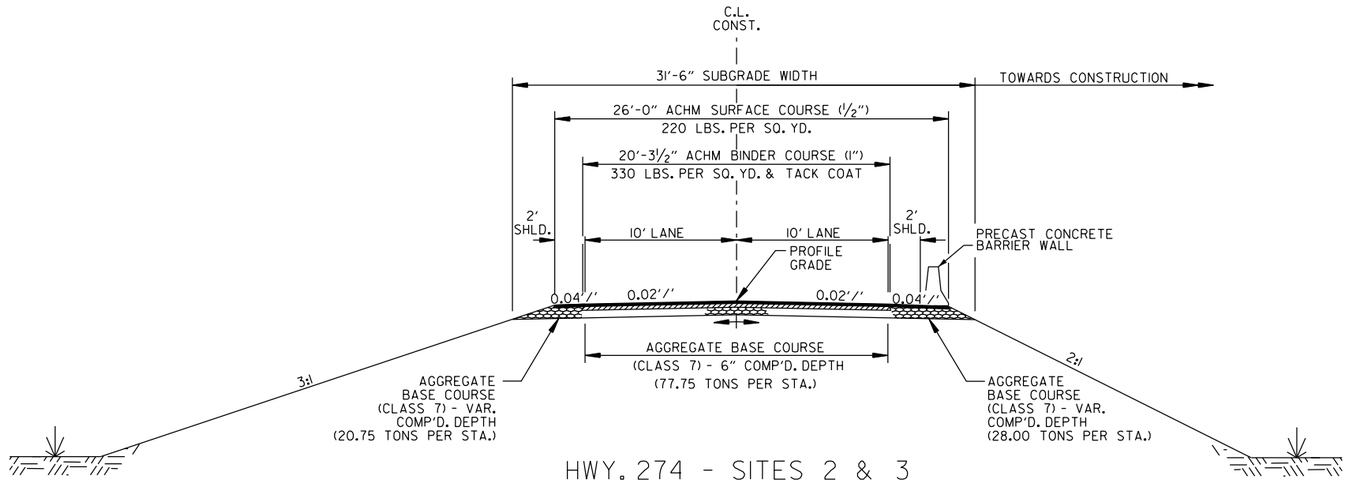
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	5	87
				(2)	TYPICAL SECTIONS OF IMPROVEMENT			



HWY. 274 - SITES 2 & 3
TEMPORARY DETOUR
TANGENT SECTION

SITE 2 - STA. 51+00.20 TO STA. 51+99.11
SITE 2 - STA. 55+97.34 TO STA. 56+97.54
SITE 3 - STA. 71+00.20 TO STA. 71+99.11
SITE 3 - STA. 75+97.34 TO STA. 76+97.54

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. 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 TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
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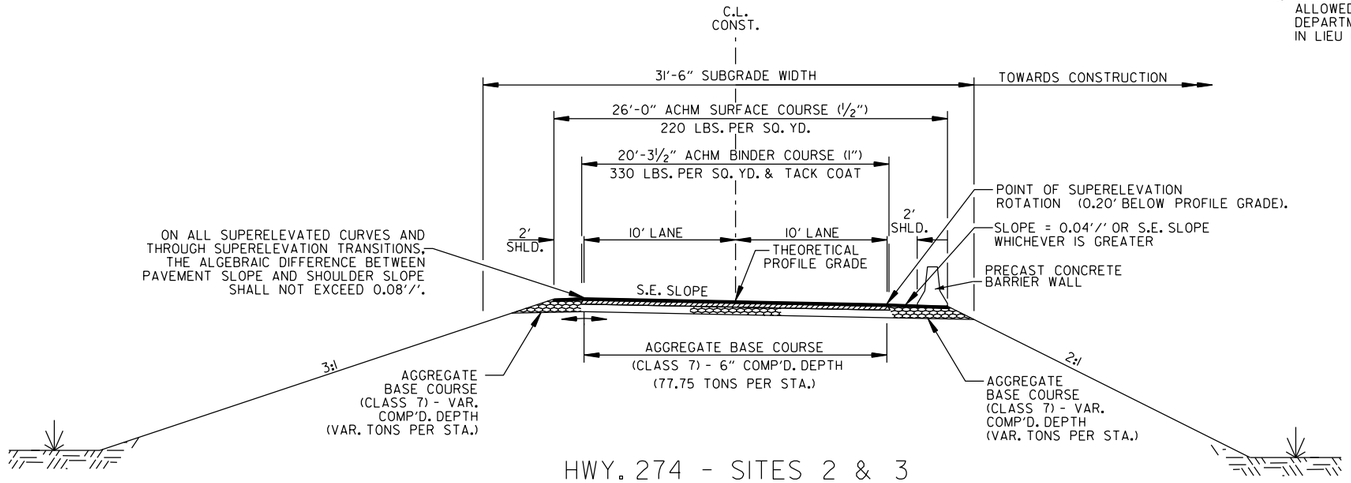

HWY. 274 - SITES 2 & 3
TEMPORARY DETOUR
SUPERELEVATED SECTION

SITE 2 - STA. 51+99.11 TO STA. 55+97.34
SITE 3 - STA. 71+99.11 TO STA. 75+97.34

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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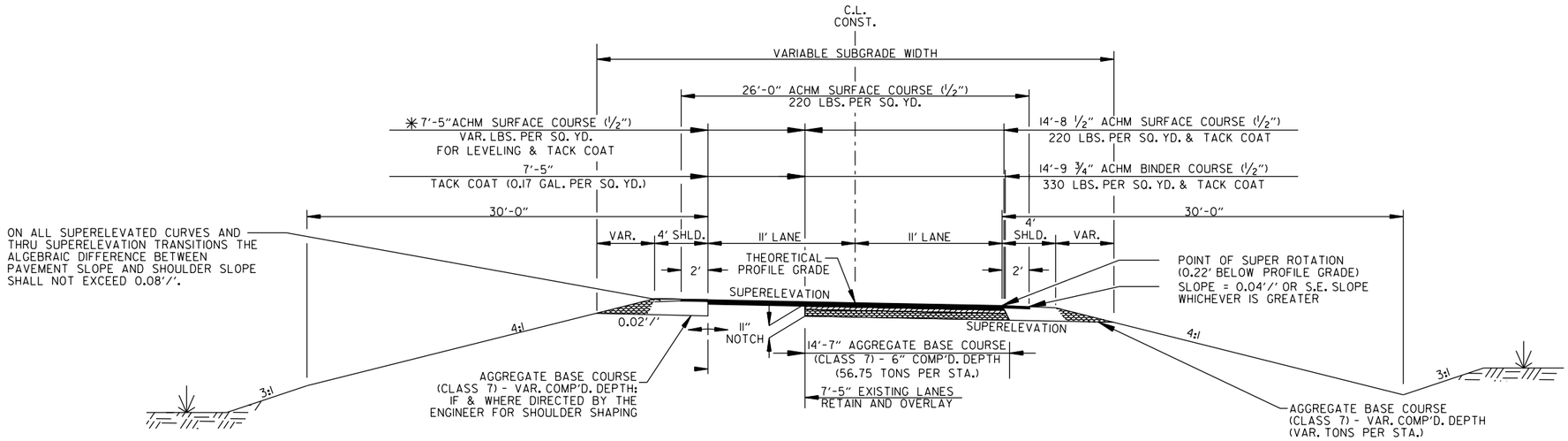
				JOB NO.		070435	6	87

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-14-2021



HWY. 274 - SUPERELEVATED SECTION NOTCH AND WIDENING

SITE 1 - STA. 101+44.32 TO STA. 103+69.32
SITE 1 - STA. 103+69.32 TO STA. 111+31.07

✳TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

STA. 103+69.32 TO STA. 112+80.00 TRANSITION FROM SUPERELEVATION SECTION NOTCH AND WIDENING TO VARIABLE WIDTH SUPERELEVATIOON SECTION NOTCH AND WIDENING.

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. 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.
3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS PAY ITEMS.
4. 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.
5. 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.
6. WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

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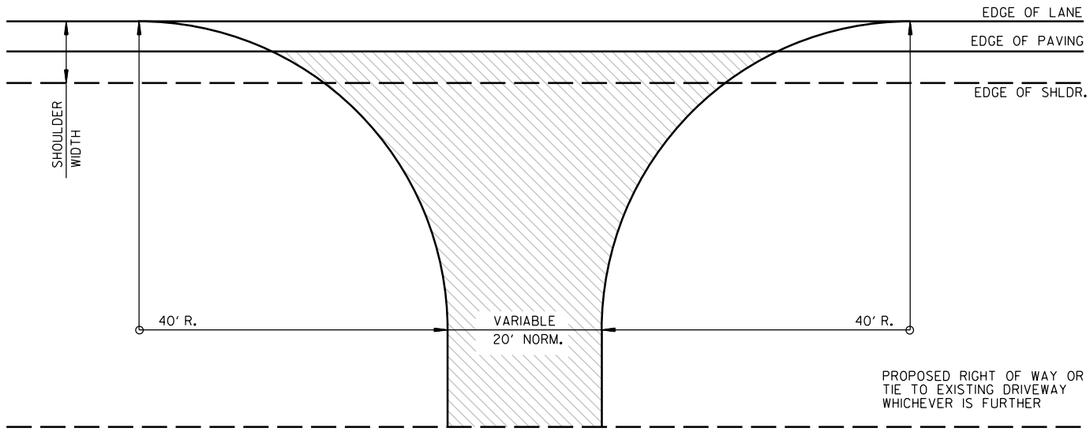
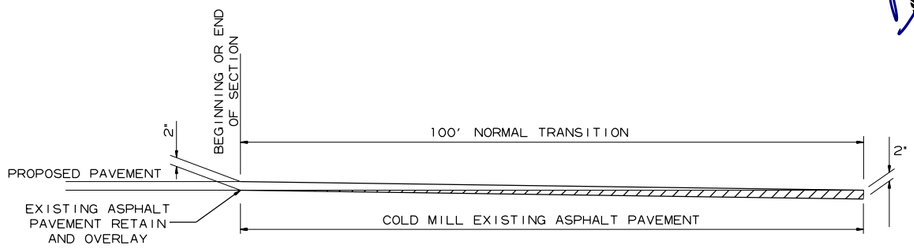
				(2)	SPECIAL DETAILS			



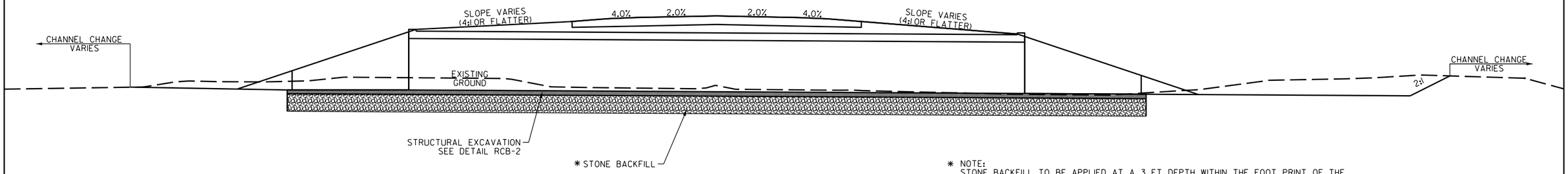
ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH.

NOTE:
REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUTS



DETAIL FOR TRANSITIONS



* NOTE:
STONE BACKFILL TO BE APPLIED AT A 3 FT DEPTH WITHIN THE FOOT PRINT OF THE CULVERT STRUCTURAL EXCAVATION LIMITS (SEE STANDARD DETAIL DETAIL RCB-2)

DETAIL FOR STONE BACKFILL
UNDER REINFORCED CONCRETE BOX CULVERTS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021

ByronLawrence 1/6/2021 11:36:14 AM
WORKSPACE: ARDOT
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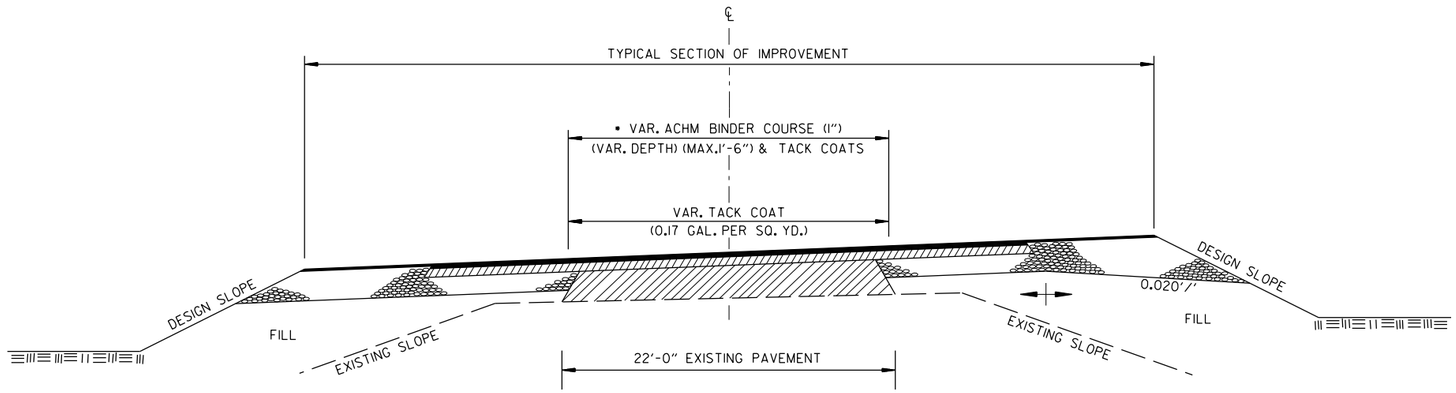
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	8	87
				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



• 6" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH A.C.H.M. BINDER COURSE (1")

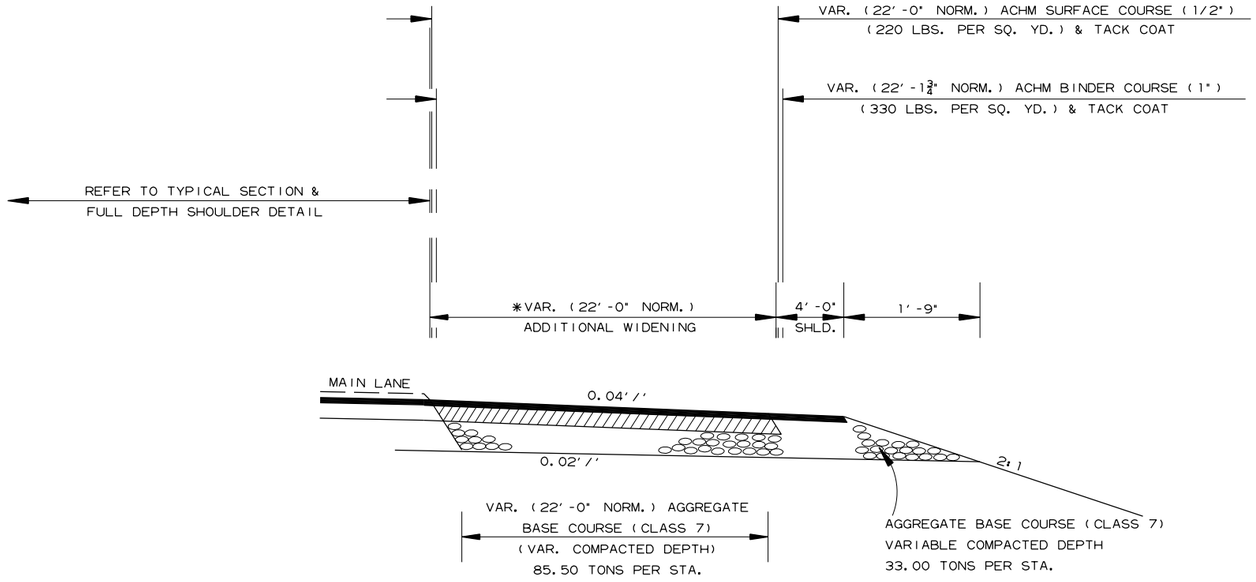
METHOD OF RAISING GRADE

NOTES:

(1) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS.



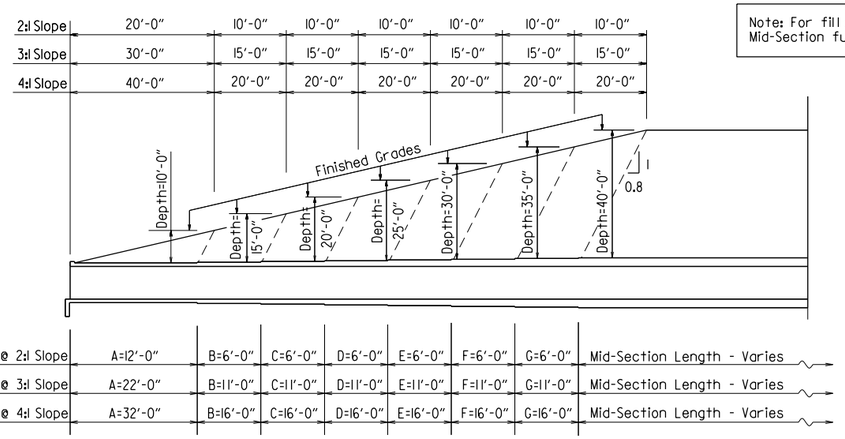
*STA. 94+95.00 TO STA. 99+90.00
WIDTH VARIES FROM 0'-0" TO 22'-0"
STA. 100+86.00 TO STA. 105+81.00
WIDTH VARIES FROM 22'-0" TO 0'-0"

ADDITIONAL WIDENING FOR MAINTENANCE OF TRAFFIC

SITE 1
STA. 94+95.00 TO STA. 105+81.00

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.		070435	9	87

(1) SPECIAL DETAILS

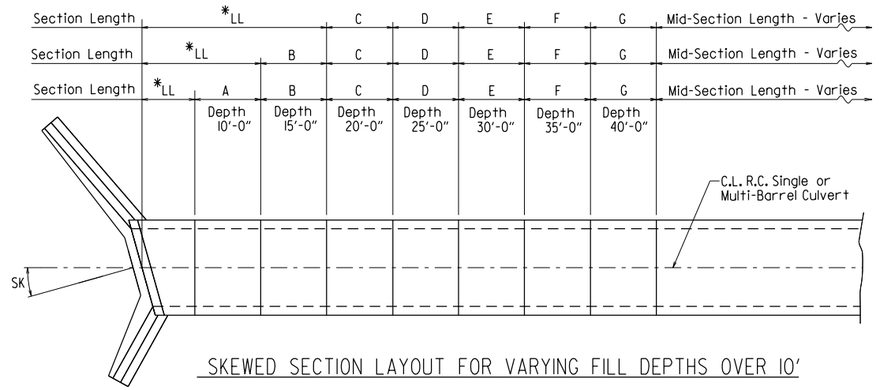


Note: For fill depths 10' and under, use Mid-Section full length of box culvert.

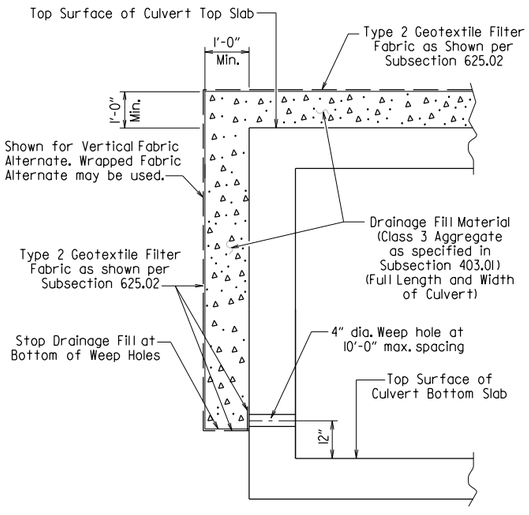
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

*LL = Skewed End Section Length - See "Skewed End Section Details" Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.

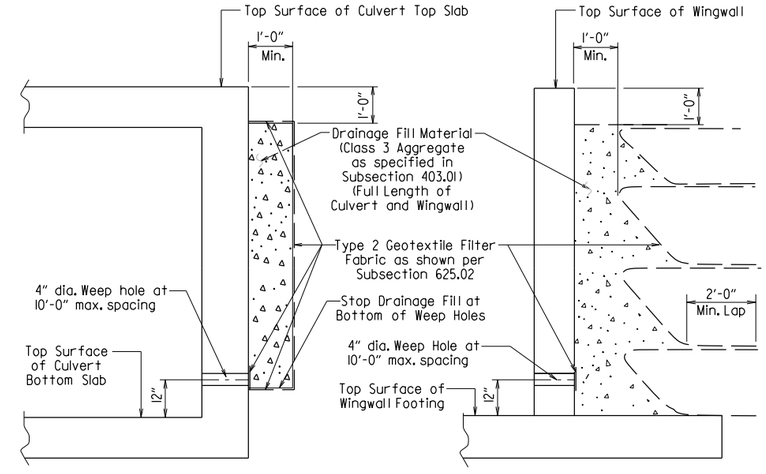


SKEWED SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'



CULVERT DRAINAGE DETAIL FOR ROCK FILL

This detail shall be used when rock fill is specified for embankment construction.

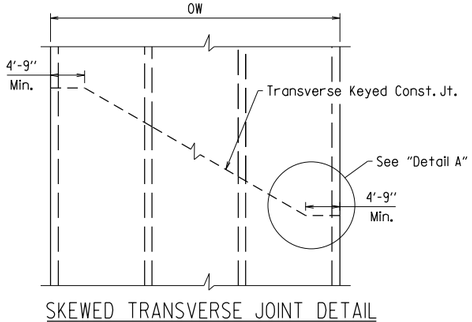


For Details of Excavation and Pay Limits, see Standard Drawing RCB-2.

VERTICAL FABRIC ALTERNATE
(Shown for Culvert, Similar for Wingwall)

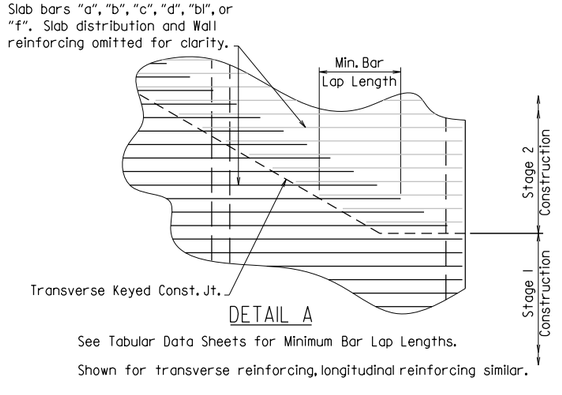
WRAPPED FABRIC ALTERNATE
(Shown for Wingwall, Similar for Culvert)

WINGWALL & CULVERT DRAINAGE DETAIL



SKEWED TRANSVERSE JOINT DETAIL

This detail shall be used to construct a skewed transverse joint only for Multi-Barrel Culverts and only when required by the Maintenance of Traffic Plans. Otherwise, transverse joints should be made normal to the centerline of the barrel.



DETAIL A

See Tabular Data Sheets for Minimum Bar Lap Lengths.

Shown for transverse reinforcing, longitudinal reinforcing similar.

GENERAL NOTES:

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, Fifth Edition (2010) with 2010 interim revisions.

LIVE LOADING: HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have ¾" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Reinforcing Steel Tolerances: The tolerances for reinforcing steel shall meet those listed in 'Manual of Standard Practice' published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for truss bars such as Figure 3 on page 7-4 of the CRSI Manual shall be minus zero to plus 1/2 inch.

Excavation and backfilling shall be in accordance with the requirements of Section 801.

Membrane Waterproofing shall conform to the requirements of Section 815. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalls of R.C. Box culverts and to the construction joint between wingwalls and R.C. Box culvert walls.

Weep Holes in box culvert walls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. The drain opening shall be 4" diameter and shall be placed 12" above the top of the bottom slab.

Weep Holes in wingwalls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 12" above the top of the wingwall footing.

The barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be keyed and shall be normal to the centerline of barrel except as noted. Reinforcing shall be continuous through joints unless noted otherwise. Reinforcing through stage construction joints shall provide the minimum bar lap length shown on the Tabular Data Sheets. All longitudinal construction joints shall be submitted to the Engineer for approval.

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage Fill Material will not be paid for directly but shall be considered subsidiary to Class S Concrete.

When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a tine finish shall be applied in accordance with subsection 802.19 for Class S Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class S Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 Protective Surface Treatment".

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

SHEET 1 OF 4

GENERAL DETAILS OF R.C. BOX CULVERT

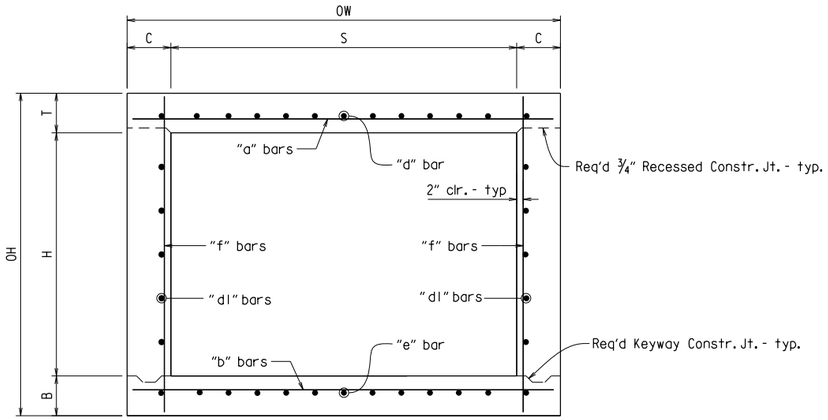
GENERAL NOTES &
LONGITUDINAL SECTION LENGTH SCHEDULE

SPECIAL DETAILS

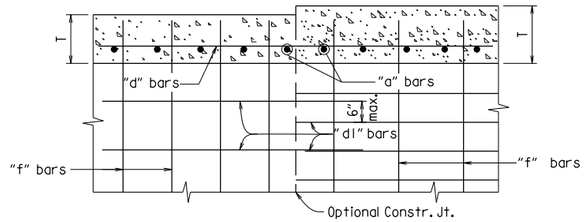
V 1.1.7 FILENAME

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.		070435	10	87
				(1)		SPECIAL DETAILS		

Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



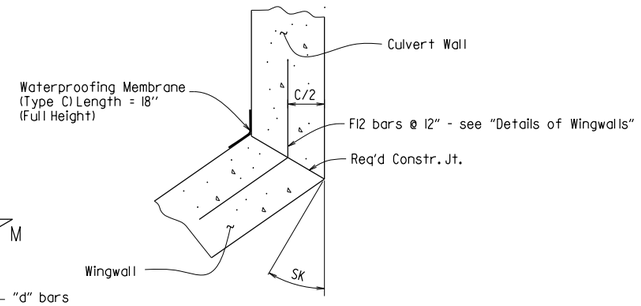
TYPICAL SECTION M-M



Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

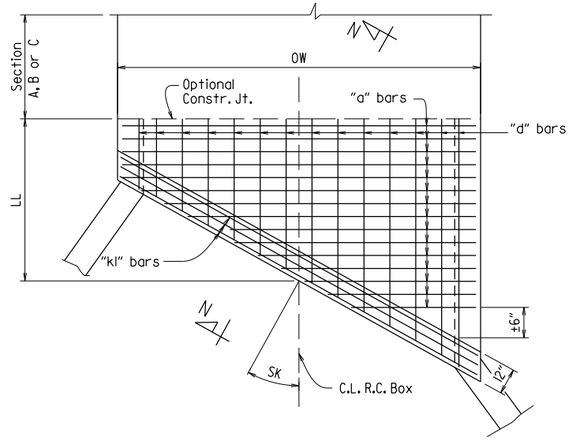
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

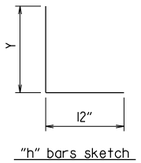


WINGWALL ATTACHMENT

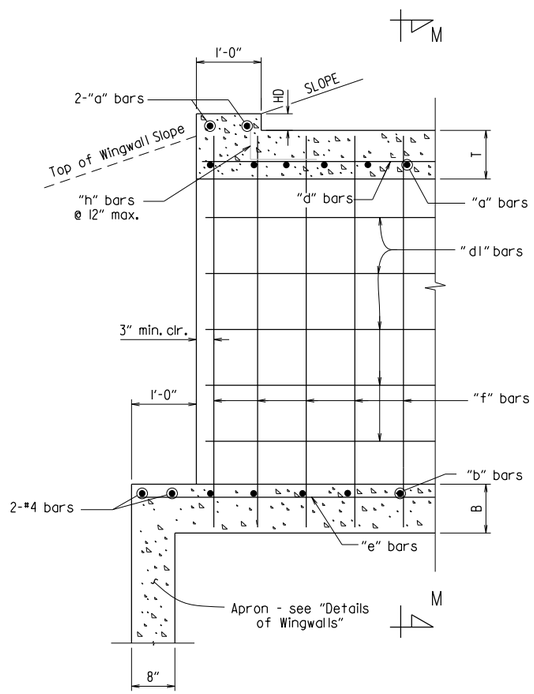
See "Details of Wingwalls" for additional information and wingwall details.



TOP SLAB REINFORCEMENT

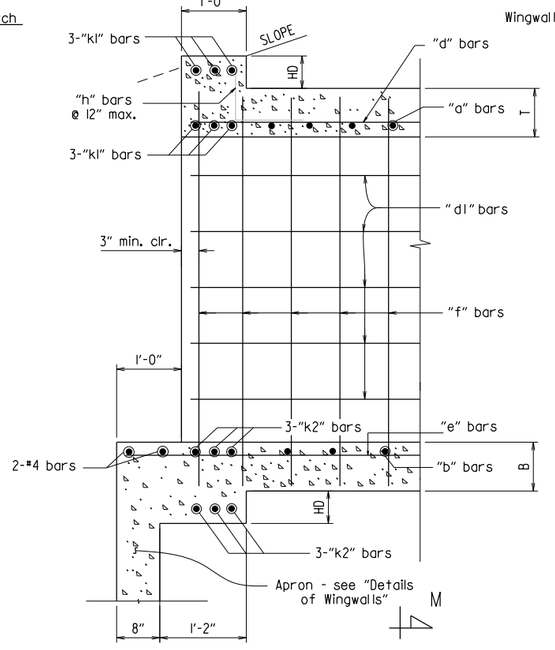


"h" bars sketch



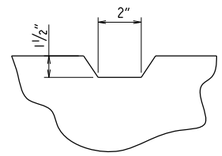
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



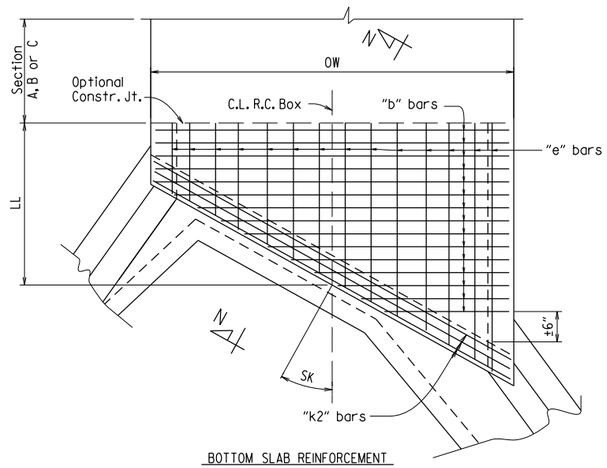
PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL

(All Construction Joints)



BOTTOM SLAB REINFORCEMENT

SKEWED END SECTION DETAILS

SHEET 2 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF SINGLE BARREL R.C. BOX CULVERT

SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
1/6/2021

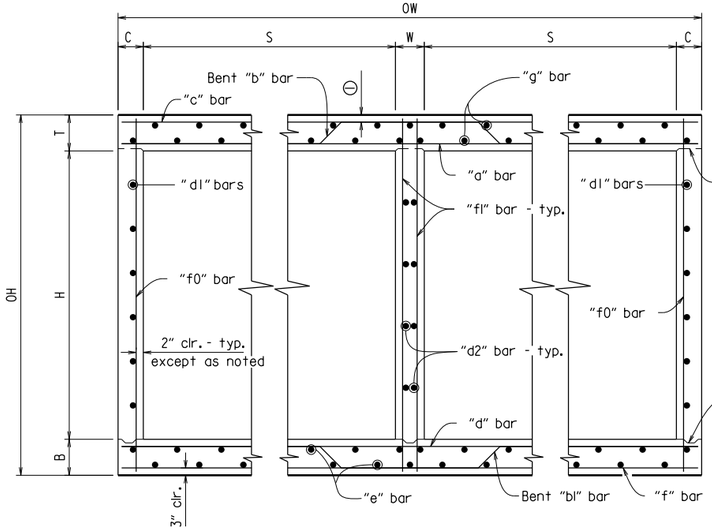
V 1.1.17 FILENAME

DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	11	87

(1) SPECIAL DETAILS

① 2" clr. for fill depth (D) greater than 2 ft.
2½" clr. for fill depth (D) equal to or less than 2 ft.

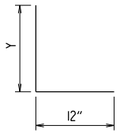
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



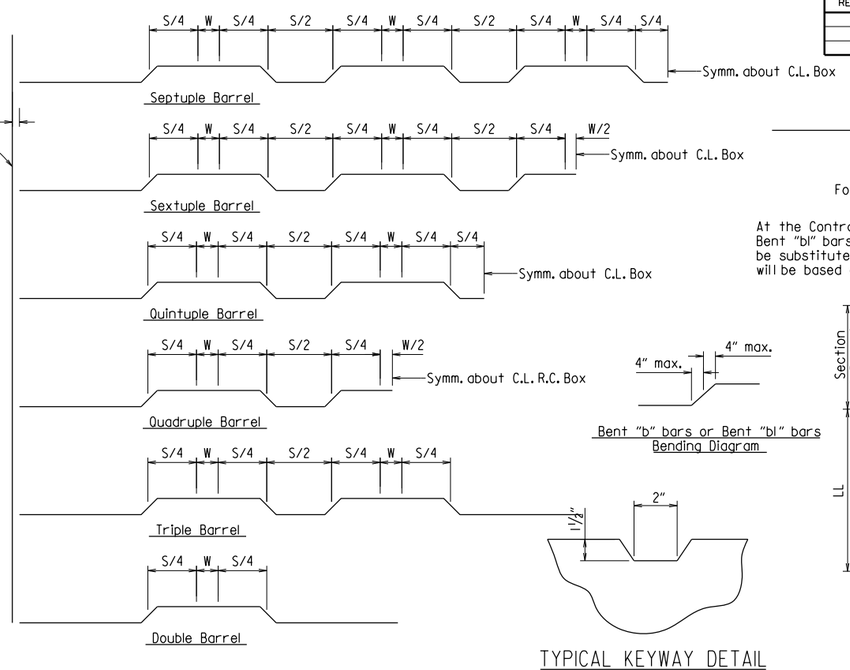
TYPICAL SECTION M-M

Top Slab
Straight "c" bars shall alternate with Bent "b" bars in top.
Straight "a" bars shall alternate with Bent "b" bars in bottom.

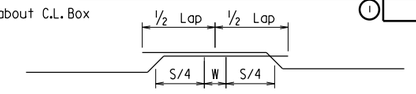
Bottom Slab
Straight "d" bars shall alternate with Bent "bl" bars in top.
Straight "f" bars shall alternate with Bent "bl" bars in bottom.



"h" bars sketch



Bent "b" bars or Bent "bl" bars sketch

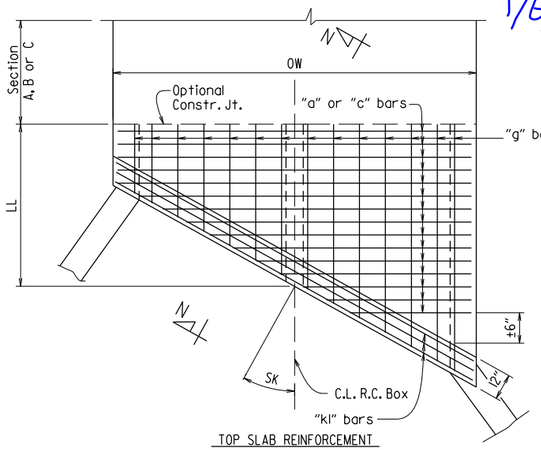


Lap Detail
For Bent "b" bars and Bent "bl" bars

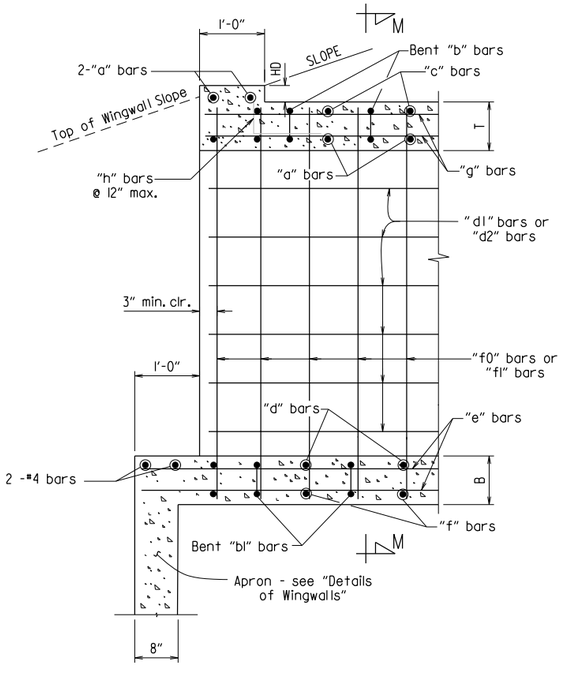
At the Contractor's option in lieu of providing Bent "b" or Bent "bl" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "bl" bar.

Bent "b" bars or Bent "bl" bars Bending Diagram

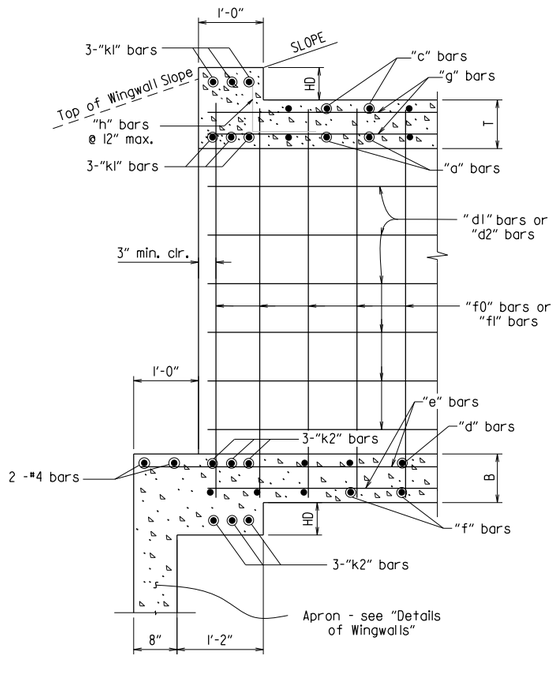
TYPICAL KEYWAY DETAIL
(All Construction Joints)



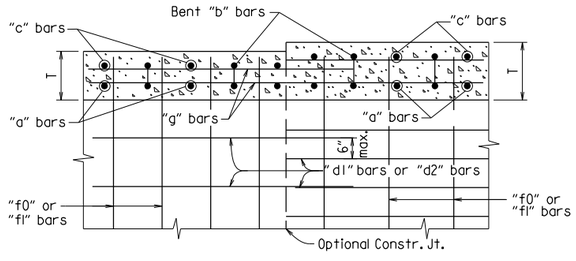
TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



PART LONGITUDINAL SECTION
(Non-Skewed Ends)

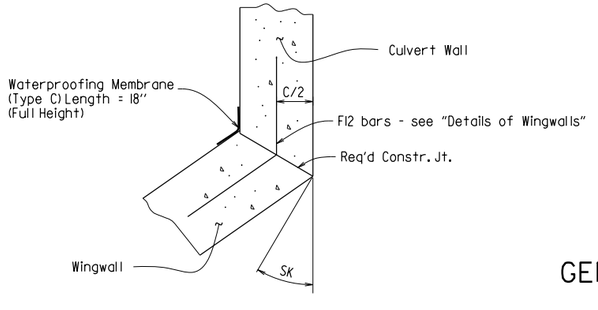


PART LONGITUDINAL SECTION N-N
(Skewed Ends)

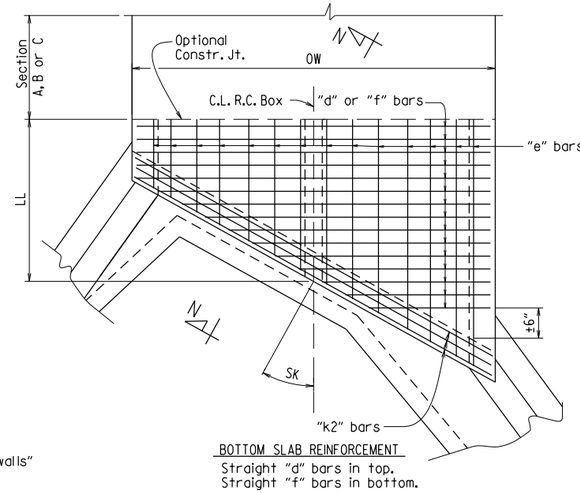


Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



WINGWALL ATTACHMENT
See "Details of Wingwalls" for additional information and wingwall details.



BOTTOM SLAB REINFORCEMENT
Straight "d" bars in top.
Straight "f" bars in bottom.

SKEWED END SECTION DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER
1/6/2021

SHEET 3 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT

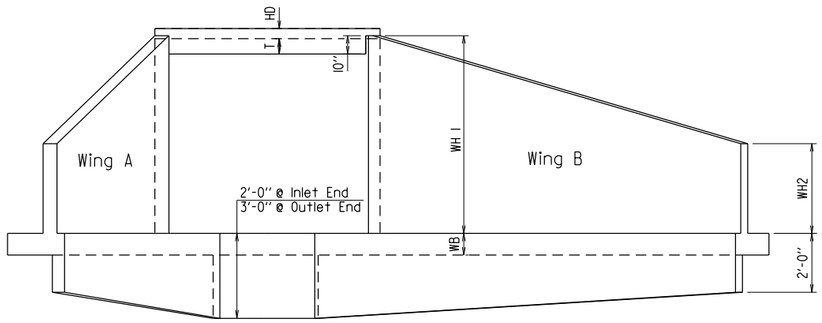
DETAILS OF MULTI-BARREL R.C. BOX CULVERT

SPECIAL DETAILS

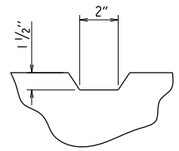
V 1.17 FILENAME

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.		070435	12	87

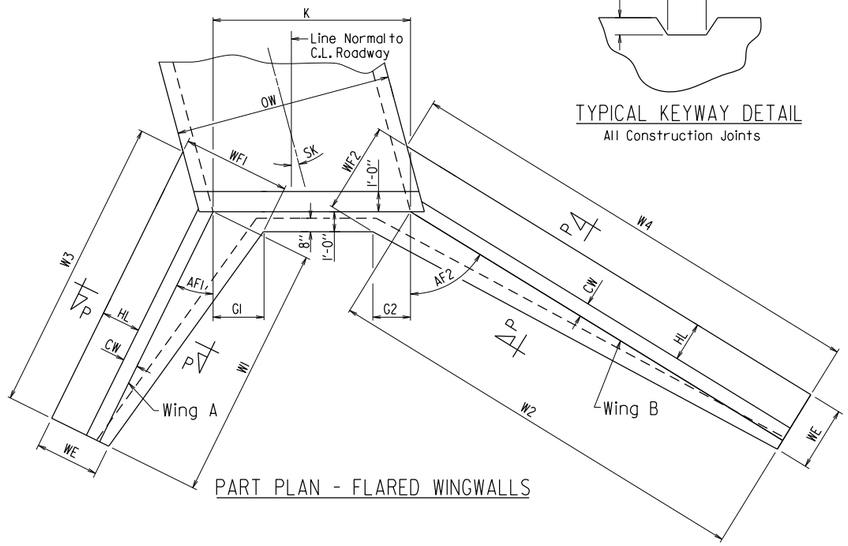
1 SPECIAL DETAILS



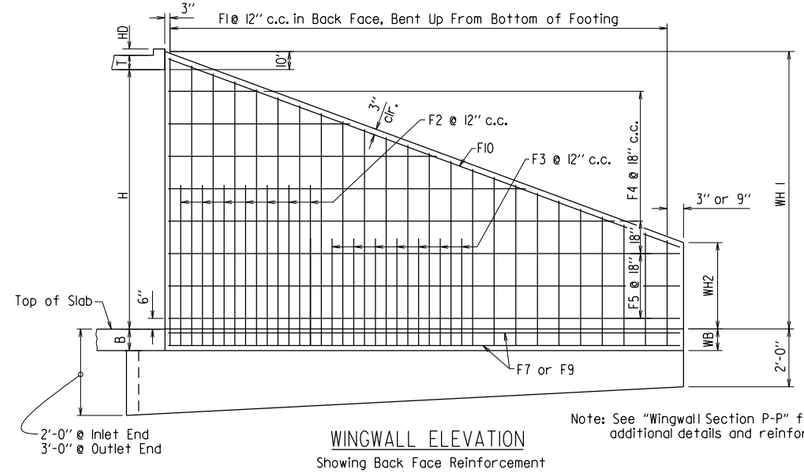
END ELEVATION
Flared Wingwalls Shown



TYPICAL KEYWAY DETAIL
All Construction Joints

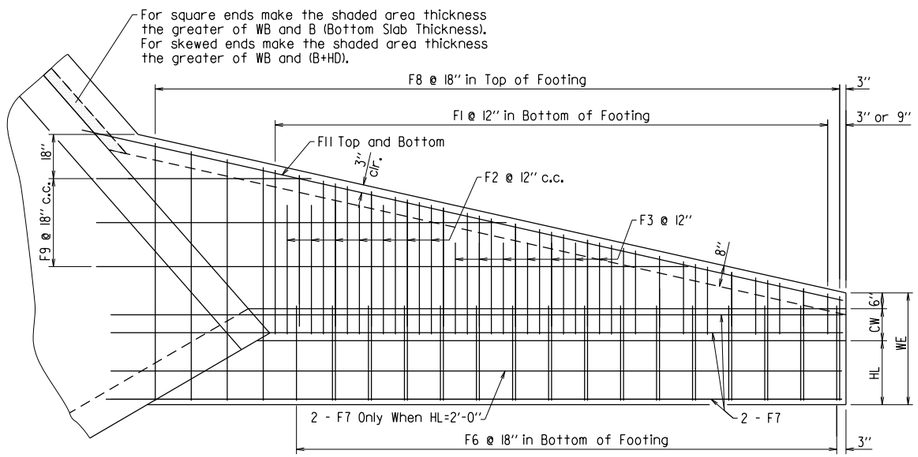


PART PLAN - FLARED WINGWALLS

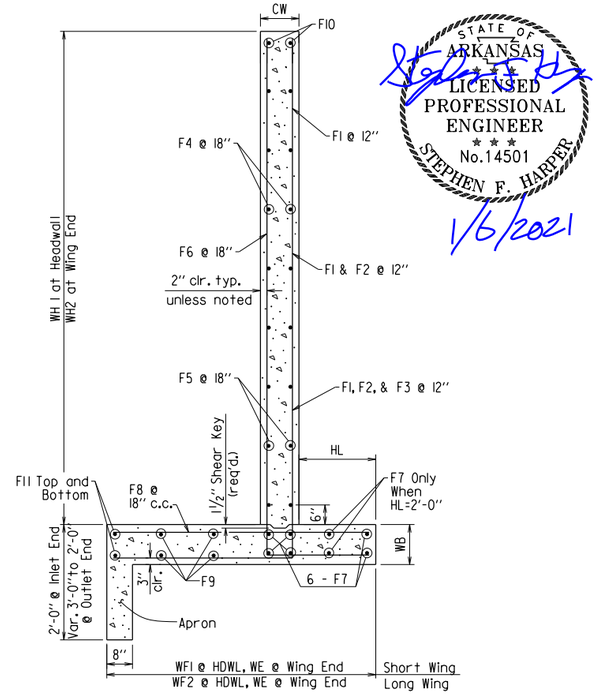


WINGWALL ELEVATION
Showing Back Face Reinforcement

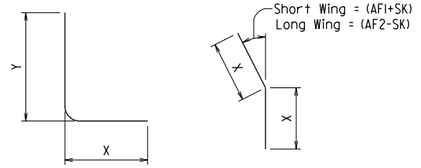
Note: See "Wingwall Section P-P" for additional details and reinforcing.



PLAN - FLARED WINGWALLS
Showing Footing Reinforcement



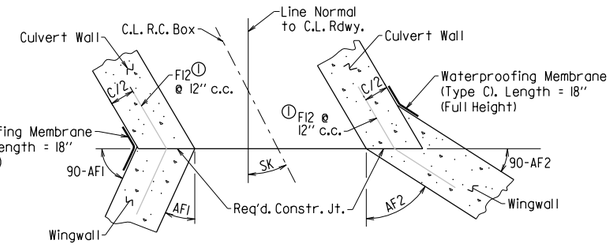
WINGWALL SECTION P-P



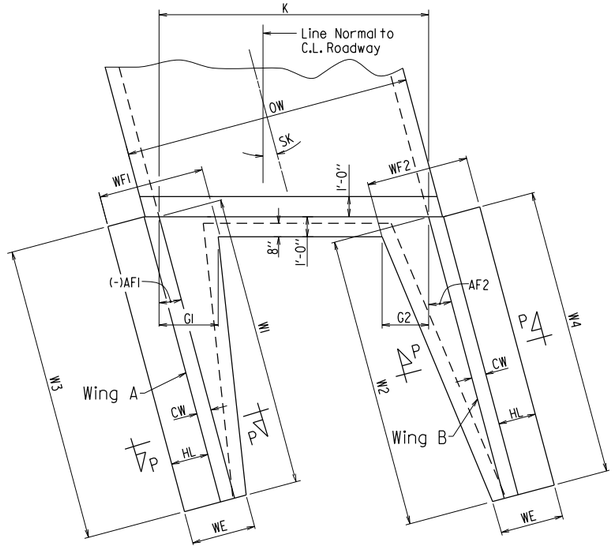
F1, F2, F3, & F6 BARS

①F12 BAR

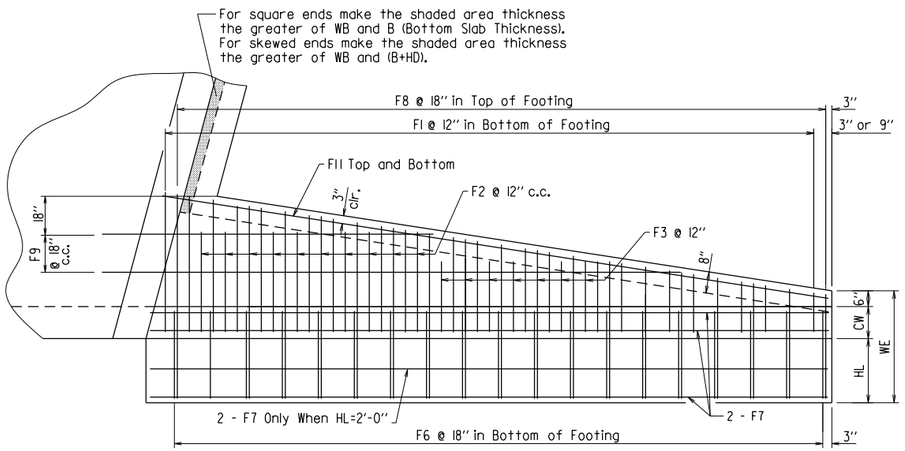
①F12 is a straight bar for parallel wingwalls



CONSTRUCTION JOINTS
Flared Wingwalls Shown



PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement

SHEET 4 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF WINGWALLS
SPECIAL DETAILS

V 1.117 FILENAME

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.		070435	13	87

① SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
89'-2"	8'-0"	0'-9"	0'-8"	20	3:1	93'-7 3/4"	2'-0"	8'-10"	2'-8"	10	50	3'-2"	4'-1 1/2"	4'-9 5/8"	1'-3 5/8"	2'-1 5/8"	18'-6"	28'-6"	21'-11 3/8"	31'-11 3/8"

CLASS "S" CONCRETE (Includes apron) INLET	REINFORCING STEEL (Includes apron and laps if required) INLET
CU.YD	LBS.
18.69	1546

	F1						F2					F3					F4			
WING	BAR SIZE	MAX. SPACING	NO. REQ'D	LENGTHS VARY			BAR SIZE	SPACING	NO. REQ'D	LENGTHS		BAR SIZE	SPACING	NO. REQ'D	LENGTHS		BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY
WING A	4	12	19	L	Min	3'-8"	4	12	6	L	4'-10"	-	-	-	L	-	4	18	6	Min
					Max	10'-8"														6'-4"
				X	Min	0'-9"				X	1'-5"				X	-				
					Max	1'-9"														Max
				Y	Min	3'-0"				Y	3'-6"				Y	-				15'-4"
					Max	9'-0"														
WING B	4	12	29	L	Min	3'-8"	4	12	10	L	5'-3"	-	-	-	L	-	4	18	8	Min
					Max	11'-3"														2'-11"
				X	Min	0'-9"				X	1'-10"				X	-				
					Max	2'-4"														Max
				Y	Min	3'-0"				Y	3'-6"				Y	-				23'-9"
					Max	9'-0"														

	F5				F6						F7			F8				F9				F10			F11			F12					
WING	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY			BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	18	4	18'-2"	4	18	13	L	Min	5'-3"	4	8	22'-9"	6	18	12	Min	-	-	-	Min	4	2	19'-0"	4	2	19'-8"	6	12	8	L	3'-4"	609
									Max	11'-3"							2'-8"				-												
								X	Min	2'-4"																							
									Max	2'-4"							Max				Max										X	1'-8"	
								Y	Min	3'-0"							3'-7"				-												
									Max	9'-0"																							
WING B	4	18	4	28'-2"	4	18	19	L	Min	5'-5"	4	8	32'-9"	6	18	20	Min	4	18	2	Min	4	2	28'-8"	4	2	32'-0"	6	12	8	L	3'-4"	937
									Max	11'-3"							2'-8"				29'-4"												
								X	Min	2'-4"																							
									Max	2'-4"							Max				Max										X	1'-8"	
								Y	Min	3'-2"							4'-3"				29'-4"												
									Max	9'-0"																							

MID-SECTION BAR LAP TABLE

# of Long. Laps Req'd.	SL = Section Length
0	< 40.0 ft
1	>40.0 ft - 78.0 ft
2	>78.0 ft - 116.0 ft
3	>116.0 ft - 154.0 ft
4	>154.0 ft - 192.0 ft
5	>192.0 ft - 230.0 ft
6	>230.0 ft - 268.0 ft
7	>268.0 ft - 306.0 ft
8	>306.0 ft -344.0 ft

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.14501
STEPHEN F. HARPER

1/6/2021

TABULAR DATA BY: SCR DATE: 01/05/2021
CHECKED BY: SFH DATE: 01/06/2021

This drawing to be used in conjunction with
SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE',
SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF MULTI-BARREL R.C. BOX CULVERT',
SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF WINGWALLS', and
STANDARD DRAWING RCB-2.

For additional information and outlet sections, see Sheet 2 of 2.

INLET SKEWED END SECTION

SKEW (DEGREE) SK	SLOPE SL	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	SECTION LENGTH LL	TOP SLAB THK. T	HDWL DEPTH HD	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	TOP SLAB REINFORCING STEEL "a" SIZE	SPACING	LENGTHS VARY	NO. REQ'D	"c" SIZE	SPACING	LENGTHS VARY	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "d" SIZE	SPACING	LENGTHS VARY	NO. REQ'D	"f" SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	SPACING	NO. REQ'D	LENGTHS VARY	CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	① REINFORCING STEEL (GR 60) (Includes HDWL) LBS.
20	3:1	2	12	8	18'-3"	13.5	3	13.5	7	8	89'-2"	10'-3"	6	8	Max	47	8	8.5	Max	44	4	8.5	Max	44	4	8.5	Max	44	5	5	88	9'-11"	4	12	240	9'-11"	4	8	265	Max	4	8	265	Max	4	12	8	LONG	4	12	16	LONG	165.24	24435
															88'-10"				88'-10"				88'-10"				88'-10"													34'-3"				34'-3"				34'-2"				29'-8"		
															Min				Min				Min				Min													Min				Min			8	SHORT			64	MID		
															4'-7"				4'-7"				4'-7"				4'-7"													1'-10"				1'-10"				2'-0"				25'-0"		
															88'-10"	3			88'-10"	3			88'-10"	3			88'-10"	3																							16	SHORT		
																																																				6'-6"		

"k1" HDWL BARS SIZE	LENGTH	NO. REQ'D	"k2" HDWL BARS SIZE	LENGTH	NO. REQ'D	"h" HDWL BARS SIZE	LENGTH	Y	NO. REQ'D
4	48'-2"	12	4	48'-2"	12	4	2'-0"	1'-0"	96

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK B	SIDE WALL THK C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	L	Bent "b" SIZE	L	"c" SIZE	L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	L	Bent "b1" SIZE	L	"f" SIZE	L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
TOTAL	

HDWL DEPTH HD	ADDITIONAL REINF. FOR HDWL LBS.	"h" HDWL BARS SIZE	Y	LENGTH	NO. REQ'D

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	L	Bent "b" SIZE	L	"c" SIZE	L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	L	Bent "b1" SIZE	L	"f" SIZE	L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
A	2	12	8	13.5	13.5	7	8	89'-2"	10'-3"	53.5	4	88'-10"	8	91'-5"	8	88'-10"	17	37	4	88'-10"	6	91'-2"	4	88'-10"	24	26	5	5	256	9'-11"	4	12	648	9'-11"	4	8	265	4	8	265	4	12	16	4	12	96

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
479.44	58992

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
SEPTUPLE BARREL BOX CULVERT
Sta. 100+50.00
SPECIAL DETAILS

Ver. 1.17 FILENAME

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.		070435	14	87

① SPECIAL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.14501 STEPHEN F. HARPER

Stephen F. Harper
1/6/2021

TABULAR DATA BY: SCR DATE: 01/05/2021
CHECKED BY: SFH DATE: 01/06/2021

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
89'-2"	8'-0"	0'-9"	0'-8"	20	3:1	93'-7 3/4"	2'-0"	8'-10"	2'-8"	10	50	3'-2"	4'-1 1/2"	4'-9 5/8"	1'-3 5/8"	2'-1 5/8"	18'-6"	28'-6"	21'-11 3/8"	31'-11 3/8"

CLASS "S" CONCRETE (Includes apron) OUTLET	REINFORCING STEEL (Includes apron and laps if required) OUTLET
CU.YD	LBS.
21.50	1546

	F1				F2				F3				F4				F5				F6				F7			F8				F9				F10			F11			F12				
WING	BAR SIZE	MAX. SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	19	L Min 3'-8" Max 10'-8" X Min 0'-9" Max 1'-9" Y Min 3'-0" Max 9'-0"	4	12	6	L 4'-10" X 1'-5" Y 3'-6"	-	-	-	L - X - Y -	4	18	6	Min 6'-4" Max 15'-4"	4	18	4	18'-2"	4	18	13	L Min 5'-3" Max 11'-3" X Min 2'-4" Max 2'-4" Y Min 3'-0" Max 9'-0"	4	8	22'-9"	6	18	12	Min 2'-8" Max 3'-7"	-	-	-	Min - Max -	4	2	19'-0"	4	2	19'-8"	6	12	8	L 3'-4" X 1'-8"	609
WING B	4	12	29	L Min 3'-8" Max 11'-3" X Min 0'-9" Max 2'-4" Y Min 3'-0" Max 9'-0"	4	12	10	L 5'-3" X 1'-10" Y 3'-6"	-	-	-	L - X - Y -	4	18	8	Min 2'-11" Max 23'-9"	4	18	4	28'-2"	4	18	19	L Min 5'-5" Max 11'-3" X Min 2'-4" Max 2'-4" Y Min 3'-2" Max 9'-0"	4	8	32'-9"	6	18	20	Min 2'-8" Max 4'-3"	4	18	2	Min 29'-4" Max 29'-4"	4	2	28'-8"	4	2	32'-0"	6	12	8	L 3'-4" X 1'-8"	937

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL								BOTTOM SLAB REINFORCING STEEL								SIDE WALL REINFORCING STEEL				INTERIOR WALL REINFORCING STEEL				TOP SLAB DISTRIBUTION REINFORCING STEEL				BOTTOM SLAB DISTRIBUTION REINFORCING STEEL				SIDE WALL DISTRIBUTION REINFORCING STEEL				INTERIOR WALL DISTRIBUTION REINFORCING STEEL				CLASS "S" CONCRETE (Includes HDWL)	① REINFORCING STEEL (GR 60) (Includes HDWL)
													"a"				"c"				"d"				"f"				"f0"				"f1"				"g"				"e"				"d1"				"d2"					
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	CU. YDS.	LBS.
20	3:1	2	12	8	18'-3"	13.5	3	13.5	7	8	89'-2"	10'-3"	6	8	Max 88'-10" Min 4'-7" 88'-10"	47 3	8	8.5	Max 88'-10" Min 4'-7" 88'-10"	44 3	4	8.5	Max 88'-10" Min 4'-7" 88'-10"	44 3	4	8.5	Max 88'-10" Min 4'-7" 88'-10"	44 3	5	5	88	9'-11"	4	12	240	9'-11"	4	8	265	Max 34'-3" Min 1'-10"	4	8	265	Max 34'-3" Min 1'-10"	4	12	8 8	LONG 34'-2" SHORT 2'-0"	4	12	16 64 16	LONG 29'-8" MID 25'-0" SHORT 6'-6"	165.24	24435

"k1" HDWL BARS			"k2" HDWL BARS			"h" HDWL BARS			
SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	Y	NO. REQ'D
4	48'-2"	12	4	48'-2"	12	4	2'-0"	1'-0"	96

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK	SIDE WALL THK	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4"				INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4"				TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL			BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL			SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL			INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL		
											"a"		Bent "b"		"c"				"d"		Bent "b1"		"f"																							
	D	S	H	T	B	C	W	OW	OH	SL	SIZE	L	SIZE	L	SIZE	L	SPACING	NO. REQ'D	SIZE	L	SIZE	L	SIZE	L	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
TOTAL	

HDWL DEPTH	ADDITIONAL REINF. FOR HDWL	"h" HDWL BARS			
HD	LBS.	SIZE	Y	LENGTH	NO. REQ'D

The required number of bars and lengths shown are for estimating purpose only.
The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2

DETAILS OF R.C. BOX CULVERT

SEPTUPLE BARREL BOX CULVERT
Sta. 100+50.00

SPECIAL DETAILS

Ver. 1.17 FILENAME

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.		070435	15	87

① SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
53'-9"	7'-0"	0'-9"	0'-8"	15	3:1	54'-6 1/4"	2'-0"	7'-10"	2'-4"	15	45	3'-2"	3'-7 3/4"	4'-1"	0'-8 7/8"	1'-0"	17'-0"	23'-0"	20'-6 3/8"	26'-6 3/8"

CLASS "S" CONCRETE (Includes apron) INLET	REINFORCING STEEL (Includes apron and laps if required) INLET
CU.YD	LBS.
13.47	1162

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY
WING A	4	12	17	L Min 3'-6", Max 9'-2" X Min 0'-9", Max 1'-3" Y Min 2'-10", Max 8'-0"	4	12	4	L 3'-7" X 1'-2" Y 2'-6"	-	-	-	L - X - Y -	4	18	6	Min 3'-5" Max 12'-9"
WING B	4	12	23	L Min 3'-5", Max 9'-7" X Min 0'-9", Max 1'-8" Y Min 2'-9", Max 8'-0"	4	12	5	L 3'-11" X 1'-6" Y 2'-6"	-	-	-	L - X - Y -	4	18	6	Min 4'-9" Max 17'-3"

WING	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY
WING A	4	18	4	16'-8"	4	18	12	L Min 4'-11", Max 10'-3" X Min 2'-4", Max 2'-4" Y Min 2'-8", Max 8'-0"	4	8	21'-4"	6	18	11	Min 2'-8" Max 3'-1"
WING B	4	18	4	22'-8"	4	18	16	L Min 4'-11", Max 10'-3" X Min 2'-4", Max 2'-4" Y Min 2'-8", Max 8'-0"	4	8	27'-4"	6	18	16	Min 2'-8" Max 3'-7"

WING	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	-	-	-	Min - Max -	4	2	17'-5"	4	2	18'-1"	6	12	7	L 3'-4" X 1'-8"	503
WING B	-	-	-	Min - Max -	4	2	23'-2"	4	2	25'-4"	6	12	7	L 3'-4" X 1'-8"	659

MID-SECTION BAR LAP TABLE

# of Long. Laps Req'd.	SL = Section Length
0	< 40.0 ft
1	>40.0 ft - 78.0 ft
2	>78.0 ft - 116.0 ft
3	>116.0 ft - 154.0 ft
4	>154.0 ft - 192.0 ft
5	>192.0 ft - 230.0 ft
6	>230.0 ft - 268.0 ft
7	>268.0 ft - 306.0 ft
8	>306.0 ft -344.0 ft

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.14501 STEPHEN F. HARPER

1/6/2021

TABULAR DATA BY: SCR DATE: 01/05/2021
CHECKED BY: SFH DATE: 01/06/2021

This drawing to be used in conjunction with
SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE',
SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF MULTI-BARREL R.C. BOX CULVERT',
SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF WINGWALLS', and
STANDARD DRAWING RCB-2.
For additional information and outlet sections, see Sheet 2 of 2.

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH
15	3:1	2	10	7	9'-2"	12	3	12	6.5	8	53'-9"	9'-0"

TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	"c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	"f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D
5	7	Max 53'-5" Min 5'-11"	22	6	5.5	Max 53'-5" Min 5'-11"	28	4	8.5	Max 53'-5" Min 5'-11"	18	4	10	Max 53'-5" Min 5'-11"	16
		53'-5"	4			53'-5"	5			53'-5"	3			53'-5"	3

SIDE WALL REINFORCING STEEL "f0" SIZE	"f0" SPACING	"f0" NO. REQ'D	"f0" LENGTH	INTERIOR WALL REINFORCING STEEL "f1" SIZE	"f1" SPACING	"f1" NO. REQ'D	"f1" LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	"g" SPACING	"g" NO. REQ'D	"g" LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	"e" SPACING	"e" NO. REQ'D	"e" LENGTHS VARY
4	4	56	8'-8"	4	12	88	8'-8"	4	9	149	Max 16'-3" Min 1'-10"	4	9	149	Max 16'-3" Min 1'-10"

SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	"d1" SPACING	"d1" NO. REQ'D	"d1" LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	"d2" SPACING	"d2" NO. REQ'D	"d2" LENGTH	CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	① REINFORCING STEEL (GR 60) (Includes HDWL) LBS.
4	12	7	LONG 16'-2"	4	12	14	LONG 13'-4"	46.95	7054
		7	SHORT 1'-11"			28	MID 10'-6"		
						14	SHORT 4'-9"		

"k1" HDWL BARS SIZE	"k1" LENGTH	"k1" NO. REQ'D	"k2" HDWL BARS SIZE	"k2" LENGTH	"k2" NO. REQ'D	"h" HDWL BARS SIZE	"h" LENGTH	"h" Y	"h" NO. REQ'D
4	28'-6"	12	4	28'-6"	12	4	1'-11"	0'-11"	57

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL (LENGTH = OW - 4" + BENDS) "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL (LENGTH = OW - 4" + BENDS) "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" (LENGTH = OH - 4") SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" (LENGTH = OH - 4") SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
																				TOTAL	

HDWL DEPTH HD	ADDITIONAL REINF. FOR HDWL LBS.	"h" HDWL BARS SIZE	Y	LENGTH	NO. REQ'D

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL (LENGTH = OW - 4" + BENDS) "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL (LENGTH = OW - 4" + BENDS) "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D
A	2	10	7	12	12	6.5	8	53'-9"	9'-0"	68.67	4	53'-5"	8	54'-10"	8	53'-5"	14	58	4	53'-5"	4	54'-9"	4	53'-5"	20	41

SIDE WALL REINFORCING STEEL "f0" (LENGTH = OH - 4") SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" (LENGTH = OH - 4") SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" (LENGTH = SL) SIZE	SPACING	NO. REQ'D	CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
4	4	412	8'-8"	4	12	544	8'-8"	4	9	149	4	9	149	4	12	14	4	12	56	340.17	48090

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
Sta. 200+30.00

SPECIAL DETAILS

LRFD

Byron.Lawrence 1/6/2021 11:35:36 AM
WORKSPACE: ARDOT
Y:\Projects\A-DOT_166694_070435 Coney & Taylor Creek Bridges\Design\BRIDGE\Drawings\B070435X2_RCBI.dgn
REVISED DATE: $$REVDATE$$

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.		070435	16	87

① SPECIAL DETAILS

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT		WINGWALL ANGLE (DEGREE)		FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL		FOOTING DIMENSION PARALLEL WITH HDWL		LENGTH OF WINGWALLS		LENGTH OF FOOTING HEEL	
								AT HDWL	AT WING END	WING A	WING B		WING A	WING B	WING A	WING B	WING A	WING B	WING A	WING B
OW	**H**	**WB**	**CW**	**SK**	**SL**	**K**	**HL**	**WH1**	**WH2**	**AF1**	**AF2**	**WE**	**WF1**	**WF2**	**G1**	**G2**	**W1**	**W2**	**W3**	**W4**
53'-9"	7'-0"	0'-9"	0'-8"	15	3:1	54'-6 1/4"	2'-0"	7'-10"	2'-4"	15	45	3'-2"	3'-7 3/4"	4'-1"	0'-8 7/8"	1'-0"	17'-0"	23'-0"	20'-6 3/8"	26'-6 3/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	**LBS.**
15.25	1162

WING	F1						F2					F3					F4				F5				F6					
	BAR SIZE	MAX. SPACING	NO. REQ'D	LENGTHS VARY			BAR SIZE	SPACING	NO. REQ'D	LENGTHS		BAR SIZE	SPACING	NO. REQ'D	LENGTHS		BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY		
WING A	4	12	17	L	Min	3'-6"	4	12	4	L	3'-7"	-	-	-	L	-	4	18	6	Min	4	18	4	16'-8"	4	18	12	L	Min	4'-11"
					Max	9'-2"														3'-5"									Max	10'-3"
				X	Min	0'-9"				X	1'-2"				X	-												X	Min	2'-4"
					Max	1'-3"														Max									Max	2'-4"
				Y	Min	2'-10"				Y	2'-6"				Y	-				12'-9"								Y	Min	2'-8"
					Max	8'-0"																							Max	8'-0"
WING B	4	12	23	L	Min	3'-5"	4	12	5	L	3'-11"	-	-	-	L	-	4	18	6	Min	4	18	4	22'-8"	4	18	16	L	Min	4'-11"
					Max	9'-7"														4'-9"									Max	10'-3"
				X	Min	0'-9"				X	1'-6"				X	-												X	Min	2'-4"
					Max	1'-8"														Max									Max	2'-4"
				Y	Min	2'-9"				Y	2'-6"				Y	-				17'-3"								Y	Min	2'-8"
					Max	8'-0"																							Max	8'-0"

WING	F7			F8				F9				F10			F11			F12					REINF. STEEL QTY. PER WING (LBS)
	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS		
WING A	4	8	21'-4"	6	18	11	Min	-	-	-	Min	4	2	17'-5"	4	2	18'-1"	6	12	7	L	3'-4"	503
							2'-8"				-												
							Max				Max										X	1'-8"	
							3'-1"				-												
WING B	4	8	27'-4"	6	18	16	Min	-	-	-	Min	4	2	23'-2"	4	2	25'-4"	6	12	7	L	3'-4"	659
							2'-8"				-												
							Max				Max										X	1'-8"	
							3'-7"				-												

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

Stephen F Harper

1/6/2021

STEPHEN F. HARPER No.14501

TABULAR DATA BY: SCR DATE: 01/05/2021
CHECKED BY: SFH DATE: 01/06/2021

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL								BOTTOM SLAB REINFORCING STEEL							
													"a"				"c"				"d"				"f"			
SK	**SL**	**D**	**S**	**H**	**LL**	**T**	**HD**	**B**	**C**	**W**	**OW**	**OH**	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D
15	3:1	2	10	7	9'-2"	12	3	12	6.5	8	53'-9"	9'-0"	5	7	Max	22	6	5.5	Max	28	4	8.5	Max	18	4	10	Max	16
															53'-5"				53'-5"				53'-5"				53'-5"	
															Min				Min				Min				Min	
															5'-11"				5'-11"				5'-11"				5'-11"	
															53'-5"	4			53'-5"	5			53'-5"	3			53'-5"	3

SIDE WALL REINFORCING STEEL				INTERIOR WALL REINFORCING STEEL				TOP SLAB DISTRIBUTION REINFORCING STEEL				BOTTOM SLAB DISTRIBUTION REINFORCING STEEL				SIDE WALL DISTRIBUTION REINFORCING STEEL				INTERIOR WALL DISTRIBUTION REINFORCING STEEL				CLASS "S" CONCRETE (Includes HDWL)	① REINFORCING STEEL (GR 60) (Includes HDWL)
"f0"				"f1"				"g"				"e"				"d1"				"d2"					
SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	CU. YDS.	LBS.
4	4	56	8'-8"	4	12	88	8'-8"	4	9	149	Max	4	9	149	Max	4	12	7	LONG	4	12	14	LONG	46.95	7054
											16'-3"				16'-3"				16'-2"				13'-4"		
											Min				Min			7	SHORT			28	MID		
											1'-10"				1'-10"				1'-11"				10'-6"		
																						14	SHORT		
																							4'-9"		

"k1" HDWL BARS			"k2" HDWL BARS			"h" HDWL BARS			
SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	Y	NO. REQ'D
4	28'-6"	12	4	28'-6"	12	4	1'-11"	0'-11"	57

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4"				INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4"				TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL			BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL			SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL			INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL		
											"a"		Bent "b"		"c"		SPACING	NO. REQ'D	"d"		Bent "b1"		"f"		SPACING	NO. REQ'D																				
	D	**S**	**H**	**T**	**B**	**C**	**W**	**OW**	**OH**	**SL**	SIZE	L	SIZE	L	SIZE	L			SIZE	L	SIZE	L	SIZE	L			SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D

HDWL DEPTH	ADDITIONAL REINF. FOR HDWL	"h" BARS			
HD	LBS.	SIZE	Y	LENGTH	NO. REQ'D

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
TOTAL	

The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT

QUINTUPLE BARREL BOX CULVERT
Sta. 200+30.00

SPECIAL DETAILS

Byron.Lawrence 1/6/2021 11:36:34 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Caney & Taylor Creek Bridges\Design\BRIDGE\Drawings\B070435X2_RCB1.dgn
REVISED DATE: $$REVDATE$$

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.		070435	17	87
				(I)		SPECIAL DETAILS		

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B	CLASS "S" CONCRETE (Includes apron) INLET	REINFORCING STEEL (Includes apron and laps if required) INLET
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
54'-1"	9'-0"	0'-10"	0'-9"	0	3:1	52'-9"	2'-0"	9'-10"	3'-0"	30	30	3'-3"	4'-10"	4'-10"	1'-10"	1'-10"	23'-6"	23'-6"	26'-11 1/8"	26'-11 1/8"	18.79	1648

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	24	L Min 4'-2" Max 12'-5"; X Min 0'-10" Max 2'-5"; Y Min 3'-5" Max 10'-1"	4	12	11	L 6'-3"; X 1'-9"; Y 4'-7"	-	-	-	L -; X -; Y -	4	18	8	Min 5'-7"; Max 21'-0"	4	18	4	23'-2"	4	18	16	L Min 5'-11" Max 12'-5"; X Min 2'-5" Max 2'-5"; Y Min 3'-7" Max 10'-1"	4	8	27'-9"	6	18	16	Min 2'-9"; Max 4'-3"	4	18	2	Min 24'-3"; Max 24'-3"	4	2	24'-0"	4	2	25'-8"	6	12	9	L 3'-4"; X 1'-8"	824
WING B	4	12	24	L Min 4'-2" Max 12'-5"; X Min 0'-10" Max 2'-5"; Y Min 3'-5" Max 10'-1"	4	12	11	L 6'-3"; X 1'-9"; Y 4'-7"	-	-	-	L -; X -; Y -	4	18	8	Min 5'-7"; Max 21'-0"	4	18	4	23'-2"	4	18	16	L Min 5'-11" Max 12'-5"; X Min 2'-5" Max 2'-5"; Y Min 3'-7" Max 10'-1"	4	8	27'-9"	6	18	16	Min 2'-9"; Max 4'-3"	4	18	2	Min 24'-3"; Max 24'-3"	4	2	24'-0"	4	2	25'-8"	6	12	9	L 3'-4"; X 1'-8"	824

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

MID-SECTION

BAR LAP TABLE

# of Long. Laps Req'd.	SL = Section Length
0	< 40.0 ft
1	>40.0 ft - 78.0 ft
2	>78.0 ft - 116.0 ft
3	>116.0 ft - 154.0 ft
4	>154.0 ft - 192.0 ft
5	>192.0 ft - 230.0 ft
6	>230.0 ft - 268.0 ft
7	>268.0 ft - 306.0 ft
8	>306.0 ft -344.0 ft

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
STEPHEN F. HARPER
No.14501
1/6/2021

TABULAR DATA BY: SCR DATE: 01/05/2021
CHECKED BY: SFH DATE: 01/06/2021

This drawing to be used in conjunction with
SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE',
SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF MULTI-BARREL R.C. BOX CULVERT',
SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF WINGWALLS', and
STANDARD DRAWING RCB-2.
For additional information and outlet sections, see Sheet 2 of 2.

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	TOP SLAB REINFORCING STEEL "c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" SIZE	"f0" SPACING	"f0" NO. REQ'D	"f0" LENGTH	INTERIOR WALL REINFORCING STEEL "f1" SIZE	"f1" SPACING	"f1" NO. REQ'D	"f1" LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	"g" SPACING	"g" NO. REQ'D	"g" LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	"e" SPACING	"e" NO. REQ'D	"e" LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	"d1" SPACING	"d1" NO. REQ'D	"d1" LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	"d2" SPACING	"d2" NO. REQ'D	"d2" LENGTH
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH
															Max / Min				Max / Min				Max / Min				Max / Min												Max / Min				Max / Min				LONG / SHORT			LONG / MID / SHORT				

"k1" HDWL BARS SIZE	"k1" HDWL BARS LENGTH	"k1" HDWL BARS NO. REQ'D	"k2" HDWL BARS SIZE	"k2" HDWL BARS LENGTH	"k2" HDWL BARS NO. REQ'D	"h" HDWL BARS SIZE	"h" HDWL BARS LENGTH	"h" HDWL BARS Y	"h" HDWL BARS NO. REQ'D

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	(1) REINFORCING STEEL (GR 60) (Includes HDWL) LBS.

(1) Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
D	S	H	T	B	C	W	OW	OH	SL																																										

HDWL DEPTH HD	ADDITIONAL REINF. FOR HDWL LBS.	"h" HDWL BARS SIZE	"h" HDWL BARS Y	"h" HDWL BARS LENGTH	"h" HDWL BARS NO. REQ'D
3"	72	4	1'-0"	2'-0"	56

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
TOTAL	
0.50	147

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
D	S	H	T	B	C	W	OW	OH	SL																																										
A	5	10	9	12	12	8.5	8	54'-1"	11'-0"	84	5	53'-9"	7	55'-2"	4	53'-9"	17	59	4	53'-9"	4	56'-1"	4	53'-9"	12	84	5	6	336	10'-8"	4	12	672	10'-8"	4	9	149	4	9	149	4	12	18	4	12	72

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
450.85	55034

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
Sta. 300+27.00

SPECIAL DETAILS

Ver. 1.17 FILENAME

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.		070435	18	87

① SPECIAL DETAILS

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
54'-1"	9'-0"	0'-10"	0'-9"	0	3:1	52'-9"	2'-0"	9'-10"	3'-0"	30	30	3'-3"	4'-10"	4'-10"	1'-10"	1'-10"	23'-6"	23'-6"	26'-11 1/8"	26'-11 1/8"

CLASS "S" CONCRETE (Includes apron) OUTLET	REINFORCING STEEL (Includes apron and laps if required) OUTLET
CU.YD	LBS.
20.59	1648

WING	F1				F2				F3				F4				F5				F6				F7			F8				F9				F10			F11			F12				REINF. STEEL QTY. PER WING (LBS)
	BAR SIZE	MAX. SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	
WING A	4	12	24	L Min 4'-2" L Max 12'-5" X Min 0'-10" X Max 2'-5" Y Min 3'-5" Y Max 10'-1"	4	12	11	L 6'-3" X 1'-9" Y 4'-7"	-	-	-	L - X - Y -	4	18	8	Min 5'-7" Max 21'-0"	4	18	4	23'-2"	4	18	16	L Min 5'-11" L Max 12'-5" X Min 2'-5" X Max 2'-5" Y Min 3'-7" Y Max 10'-1"	4	8	27'-9"	6	18	16	Min 2'-9" Max 4'-3"	4	18	2	Min 24'-3" Max 24'-3"	4	2	24'-0"	4	2	25'-8"	6	12	9	L 3'-4" X 1'-8"	824
WING B	4	12	24	L Min 4'-2" L Max 12'-5" X Min 0'-10" X Max 2'-5" Y Min 3'-5" Y Max 10'-1"	4	12	11	L 6'-3" X 1'-9" Y 4'-7"	-	-	-	L - X - Y -	4	18	8	Min 5'-7" Max 21'-0"	4	18	4	23'-2"	4	18	16	L Min 5'-11" L Max 12'-5" X Min 2'-5" X Max 2'-5" Y Min 3'-7" Y Max 10'-1"	4	8	27'-9"	6	18	16	Min 2'-9" Max 4'-3"	4	18	2	Min 24'-3" Max 24'-3"	4	2	24'-0"	4	2	25'-8"	6	12	9	L 3'-4" X 1'-8"	824

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

Stephen F Harper

1/6/2021

No.14501
STEPHEN F. HARPER

TABULAR DATA BY: SCR DATE: 01/05/2021
CHECKED BY: SFH DATE: 01/06/2021

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL								BOTTOM SLAB REINFORCING STEEL								SIDE WALL REINFORCING STEEL				INTERIOR WALL REINFORCING STEEL				TOP SLAB DISTRIBUTION REINFORCING STEEL				BOTTOM SLAB DISTRIBUTION REINFORCING STEEL				SIDE WALL DISTRIBUTION REINFORCING STEEL				INTERIOR WALL DISTRIBUTION REINFORCING STEEL			
													"a"				"c"				"d"				"f"				"f0"				"f1"				"g"				"e"				"d1"				"d2"			
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH
															Max				Max				Max				Max													Max				Max				LONG				LONG
															Min				Min				Min				Min													Min				Min				SHORT				MID
																																																				SHORT

CLASS "S" CONCRETE (Includes HDWL)	① REINFORCING STEEL (GR 60) (Includes HDWL)
CU. YDS.	LBS.

"k1" HDWL BARS			"k2" HDWL BARS			"h" HDWL BARS			
SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	Y	NO. REQ'D

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4"				INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4"				TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL			BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL			SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL			INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL		
											"a"		Bent "b"		"c"				"d"		Bent "b1"		"f"																							
	D	S	H	T	B	C	W	OW	OH	SL	SIZE	L	SIZE	L	SIZE	L	SPACING	NO. REQ'D	SIZE	L	SIZE	L	SIZE	L	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D
	10	10	9																																											

HDWL DEPTH	ADDITIONAL REINF. FOR HDWL	"h" BARS			
HD	LBS.	SIZE	Y	LENGTH	NO. REQ'D
3"	72	4	1'-0"	2'-0"	56

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
TOTAL	
0.50	147

The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2

DETAILS OF R.C. BOX CULVERT

QUINTUPLE BARREL BOX CULVERT
Sta. 300+27.00

SPECIAL DETAILS

LRFD

Ver. 1.17 FILENAME

TEMPORARY EROSION CONTROL GENERAL NOTES

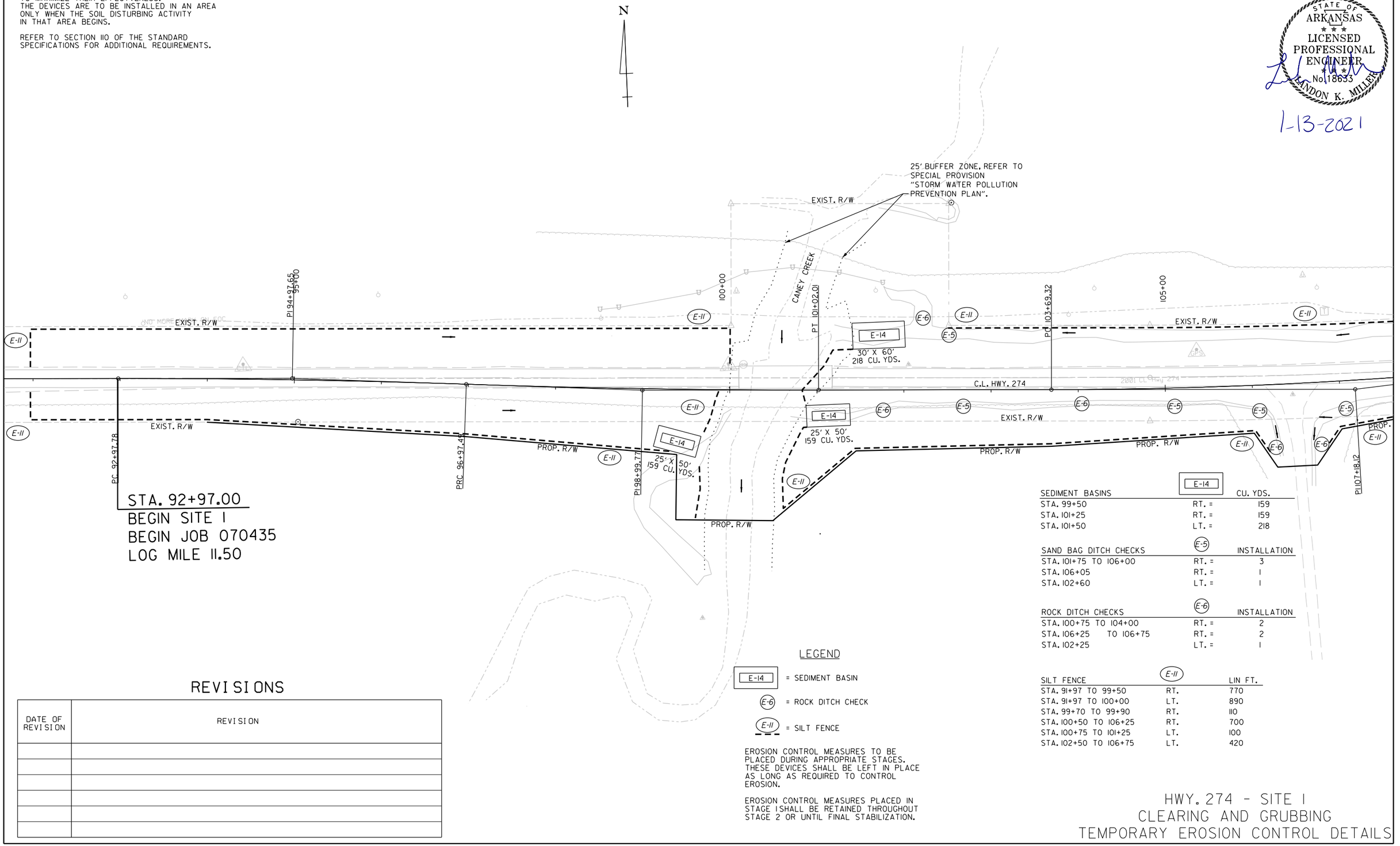
THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	19	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
BRANDON K. MILLER

1-13-2021



SEDIMENT BASINS	E-14	CU. YDS.
STA. 99+50	RT. =	159
STA. 101+25	RT. =	159
STA. 101+50	LT. =	218

SAND BAG DITCH CHECKS	E-5	INSTALLATION
STA. 101+75 TO 106+00	RT. =	3
STA. 106+05	RT. =	1
STA. 102+60	LT. =	1

ROCK DITCH CHECKS	E-6	INSTALLATION
STA. 100+75 TO 104+00	RT. =	2
STA. 106+25 TO 106+75	RT. =	2
STA. 102+25	LT. =	1

SILT FENCE	E-11	LIN FT.
STA. 91+97 TO 99+50	RT.	770
STA. 91+97 TO 100+00	LT.	890
STA. 99+70 TO 99+90	RT.	110
STA. 100+50 TO 106+25	RT.	700
STA. 100+75 TO 101+25	LT.	100
STA. 102+50 TO 106+75	LT.	420

LEGEND

E-14 = SEDIMENT BASIN

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 1
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:24 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_05E_ECL00.dgn
REVISED DATE: $$REVDATE$$

TEMPORARY EROSION CONTROL GENERAL NOTES

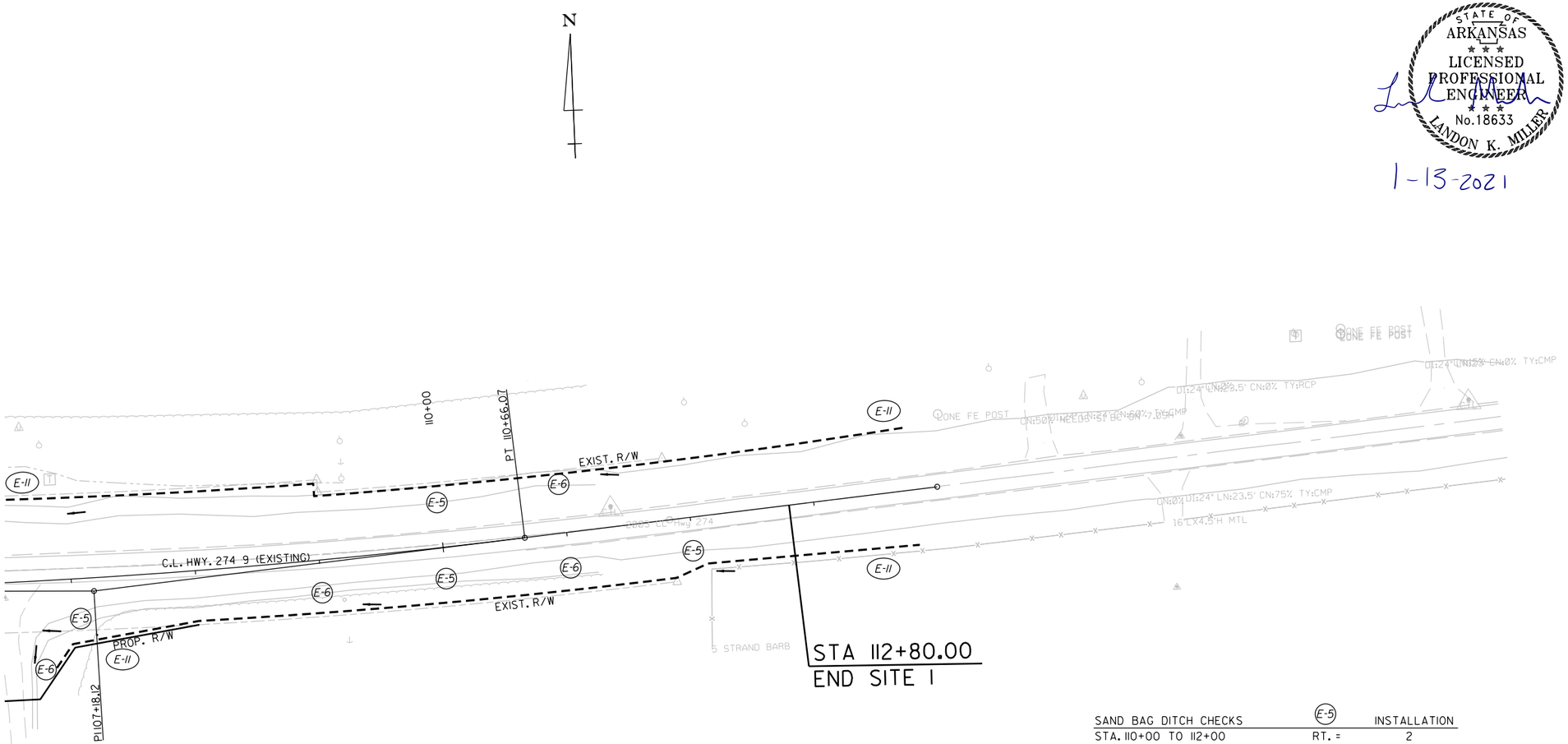
THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	20	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



SAND BAG DITCH CHECKS	(E-5)	INSTALLATION
STA. 110+00 TO 112+00	RT. =	2
STA. 110+00	LT. =	1

ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 109+00 TO 111+00	RT. =	2
STA. 111+00	LT. =	1

SILT FENCE	(E-11)	LIN FT.
STA. 106+75 TO 113+80	RT.	710
STA. 106+75 TO 113+80	LT.	710

LEGEND

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 1
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:24 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166634_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_05E_ECL002.dgn
REVISED DATE: $$REVDATE$$

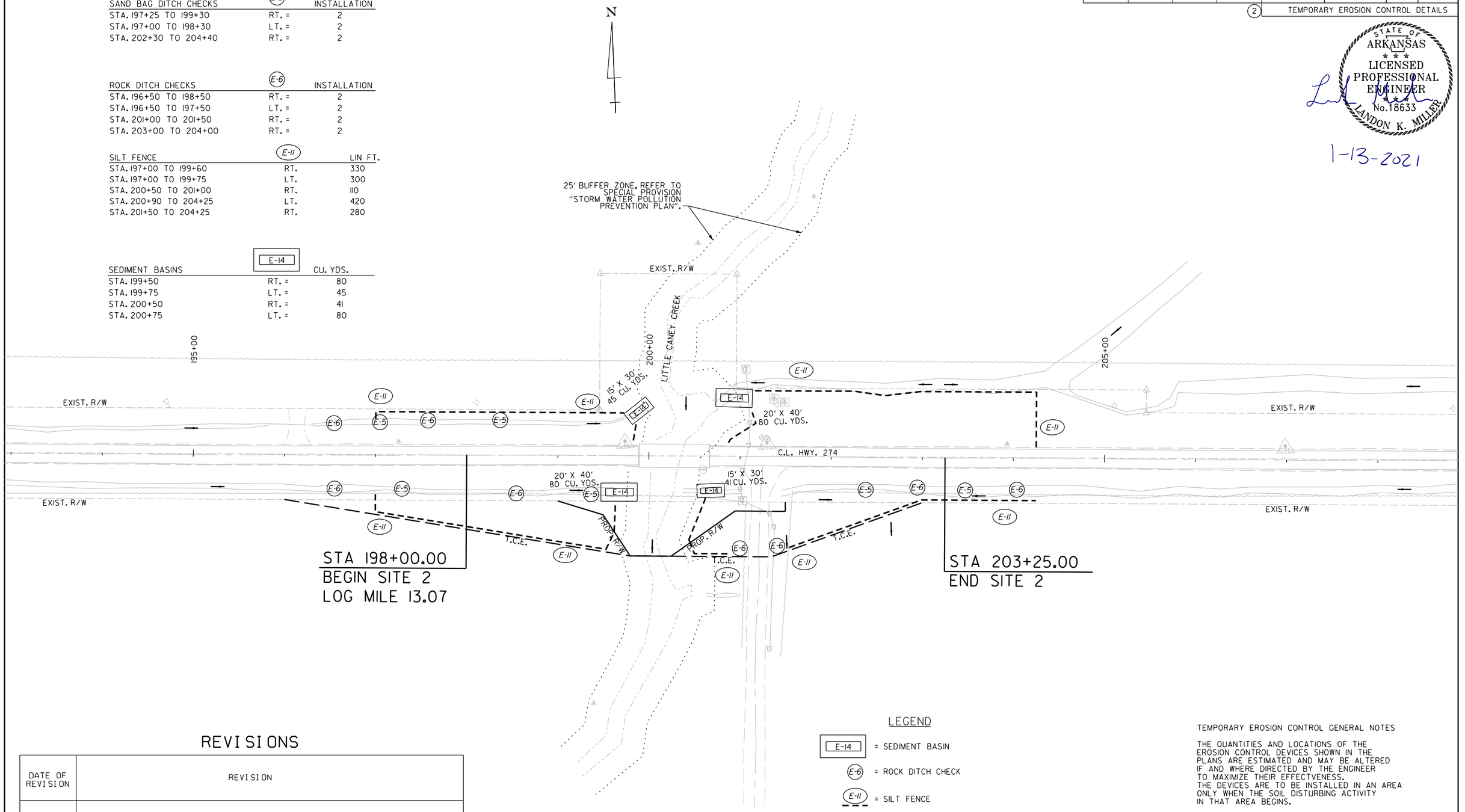
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	21	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

SAND BAG DITCH CHECKS	(E-5)	INSTALLATION
STA. 197+25 TO 199+30	RT. =	2
STA. 197+00 TO 198+30	LT. =	2
STA. 202+30 TO 204+40	RT. =	2

ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 196+50 TO 198+50	RT. =	2
STA. 196+50 TO 197+50	LT. =	2
STA. 201+00 TO 201+50	RT. =	2
STA. 203+00 TO 204+00	RT. =	2

SILT FENCE	(E-11)	LIN FT.
STA. 197+00 TO 199+60	RT.	330
STA. 197+00 TO 199+75	LT.	300
STA. 200+50 TO 201+00	RT.	110
STA. 200+90 TO 204+25	LT.	420
STA. 201+50 TO 204+25	RT.	280

SEDIMENT BASINS	[E-14]	CU. YDS.
STA. 199+50	RT. =	80
STA. 199+75	LT. =	45
STA. 200+50	RT. =	41
STA. 200+75	LT. =	80



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER

1-13-2021

REVISIONS

DATE OF REVISION	REVISION

LEGEND

[E-14] = SEDIMENT BASIN

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE I SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

HWY. 274 - SITE 2
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:25 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	22	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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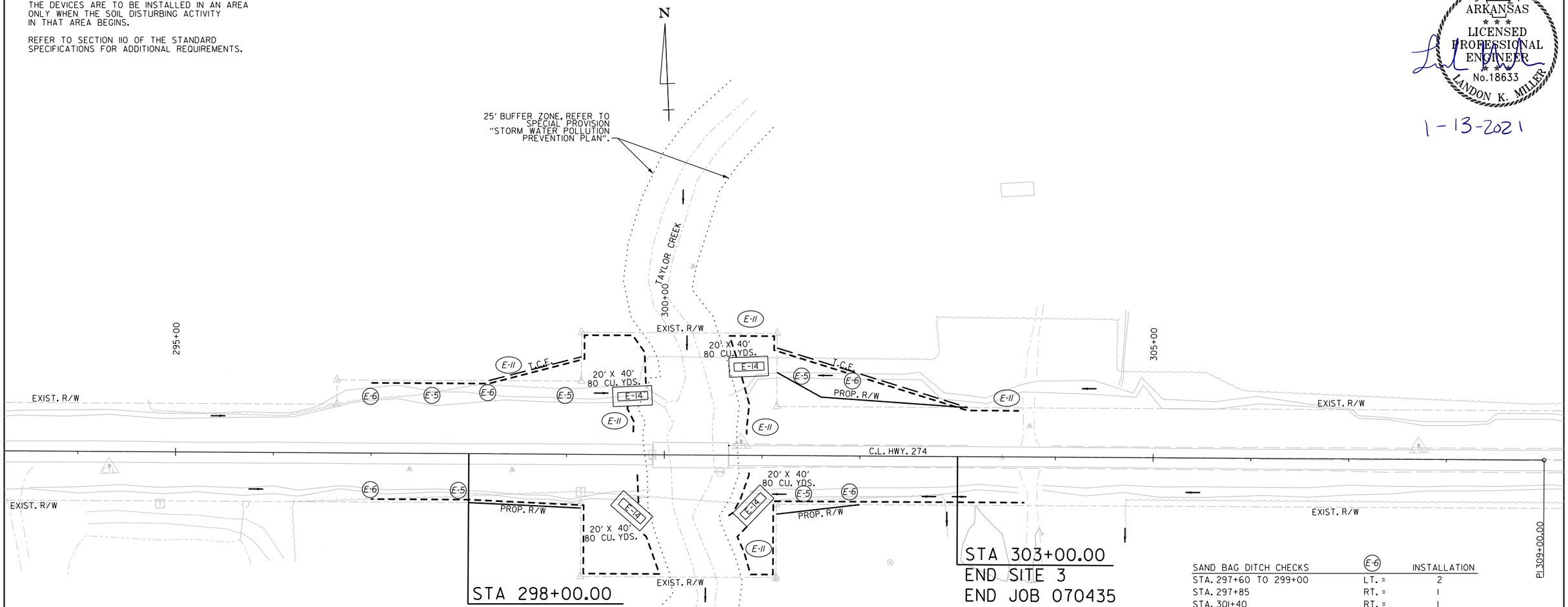
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-14 = SEDIMENT BASIN

E-6 = ROCK DITCH CHECK

E-11 = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

SAND BAG DITCH CHECKS	E-6	INSTALLATION
STA. 297+60 TO 299+00	LT. =	2
STA. 297+85	RT. =	1
STA. 301+40	RT. =	1
STA. 301+40	LT. =	1

ROCK DITCH CHECKS	E-6	INSTALLATION
STA. 297+00 TO 298+25	LT. =	2
STA. 297+00	RT. =	1
STA. 301+90	RT. =	1
STA. 301+90	LT. =	1

SILT FENCE	E-11	LIN FT.
STA. 297+00 TO 299+90	LT.	380
STA. 297+00 TO 300+00	RT.	440
STA. 300+75 TO 303+50	LT.	380
STA. 300+75 TO 303+50	RT.	460

SEDIMENT BASINS	E-14	CU. YDS.
STA. 299+75	RT. =	80
STA. 299+75	LT. =	80
STA. 301+00	RT. =	80
STA. 301+00	LT. =	80

HWY. 274 - SITE 3
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:26 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_05E_ECI.004.dgn
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	23	87

(2) TEMPORARY EROSION CONTROL DETAILS

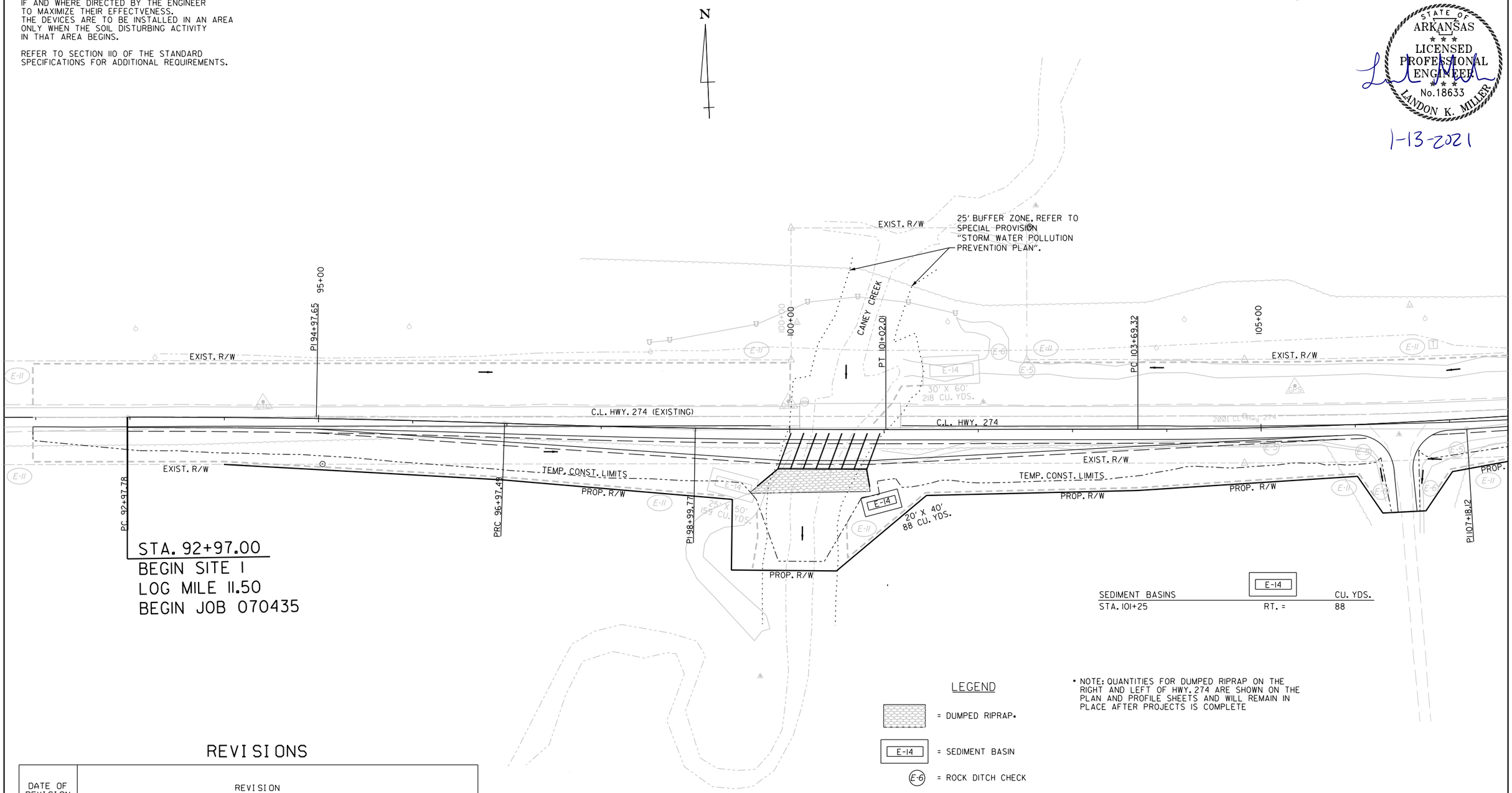
TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



STA. 92+97.00
BEGIN SITE 1
LOG MILE 11.50
BEGIN JOB 070435

SEDIMENT BASINS	E-14	CU. YDS.
STA. 101+25	RT. =	88

LEGEND

- = DUMPED RIPRAP.
- E-14 = SEDIMENT BASIN
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE I SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

• NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 1
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

Byron Lawrence 1/13/2021 11:09:27 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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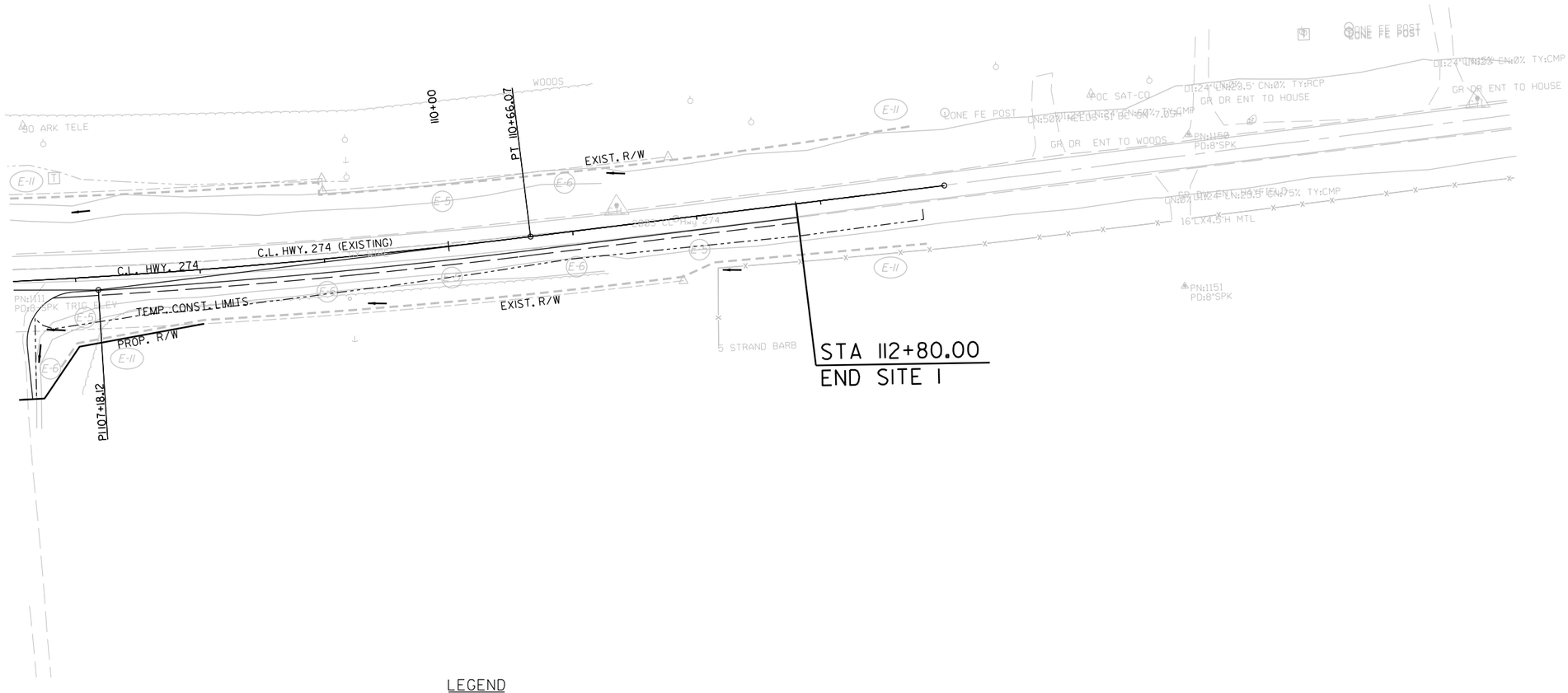
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	24	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE ISHALL BE RETAINED THROUGHOUT STAGE 2 AND/OR UNTIL FINAL STABILIZATION.

HWY. 274 - SITE 1
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:9:27 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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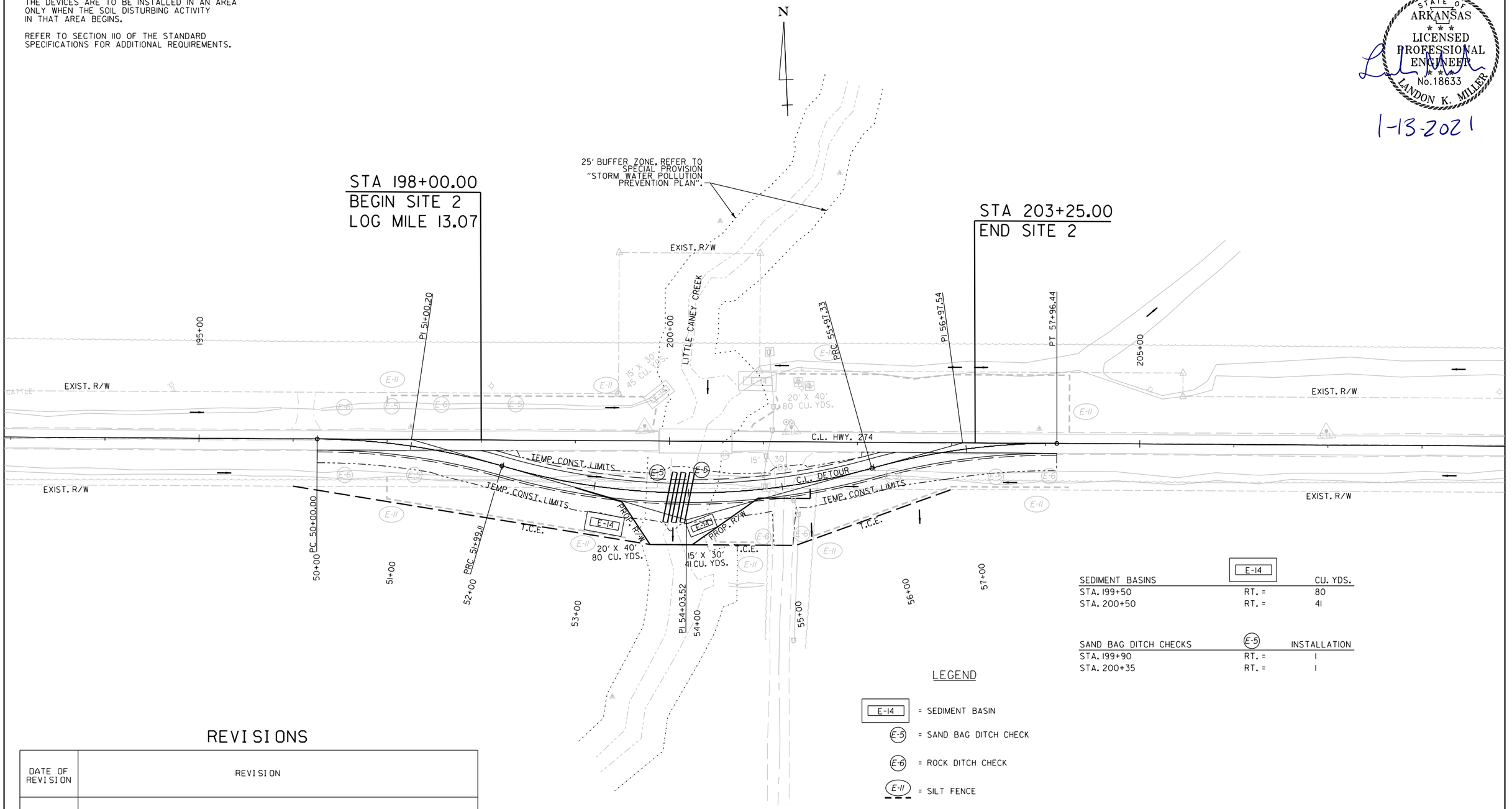
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	25	87
(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER

1-13-2021



SEDIMENT BASINS	E-14	CU. YDS.
STA. 199+50	RT. =	80
STA. 200+50	RT. =	41

SAND BAG DITCH CHECKS	E-5	INSTALLATION
STA. 199+90	RT. =	1
STA. 200+35	RT. =	1

LEGEND

E-14 = SEDIMENT BASIN

E-5 = SAND BAG DITCH CHECK

E-6 = ROCK DITCH CHECK

E-11 = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 2
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:28 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	26	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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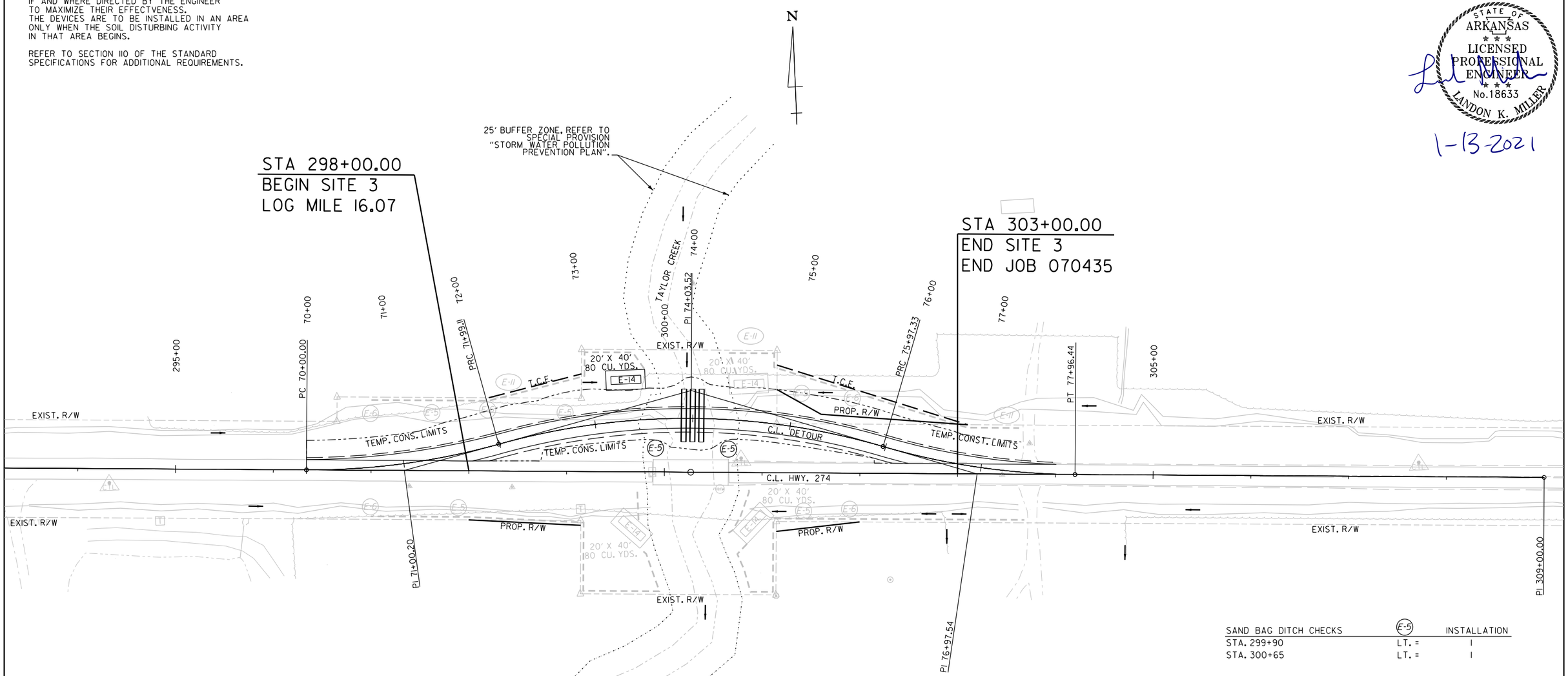
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
1-13-2021



SAND BAG DITCH CHECKS	(E-5)	INSTALLATION
STA. 299+90	LT. =	I
STA. 300+65	LT. =	I

SEDIMENT BASINS	E-14	CU. YDS.
STA. 299+50	LT. =	80

LEGEND

E-14 = SEDIMENT BASIN

(E-5) = SAND BAG DITCH CHECK

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE I SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 3
STAGE I
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:29 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_05E_EC2_004.dgn
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	27	87
(2)	TEMPORARY EROSION CONTROL DETAILS			

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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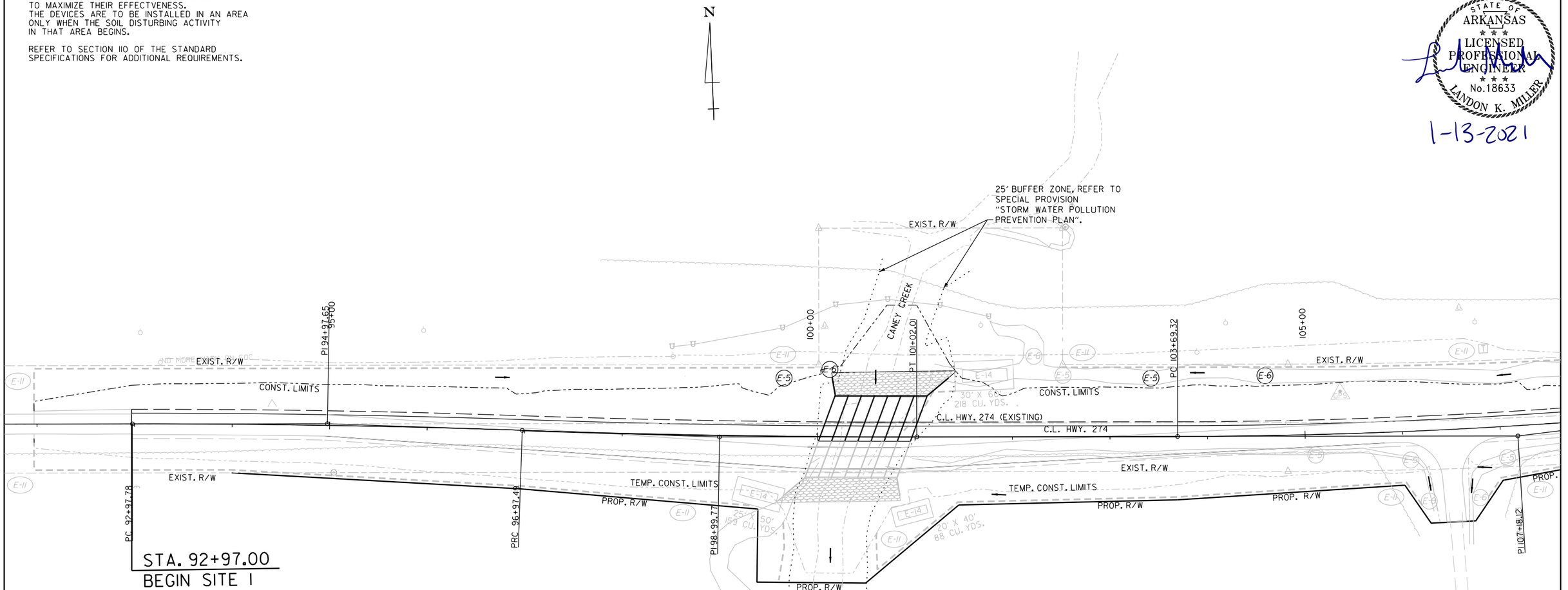
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



STA. 92+97.00
BEGIN SITE 1
LOG MILE 11.50
BEGIN JOB 070435

SAND BAG DITCH CHECKS (E-5)		INSTALLATION
STA. 99+60	LT. =	1
STA. 103+45	LT. =	1

ROCK DITCH CHECKS (E-6)		INSTALLATION
STA. 100+13	LT. =	1
STA. 104+65	LT. =	1

LEGEND

= DUMPED RIPRAP.

E-14 = SEDIMENT BASIN

(E-5) = SAND BAG DITCH CHECK

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

• NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 1
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:30 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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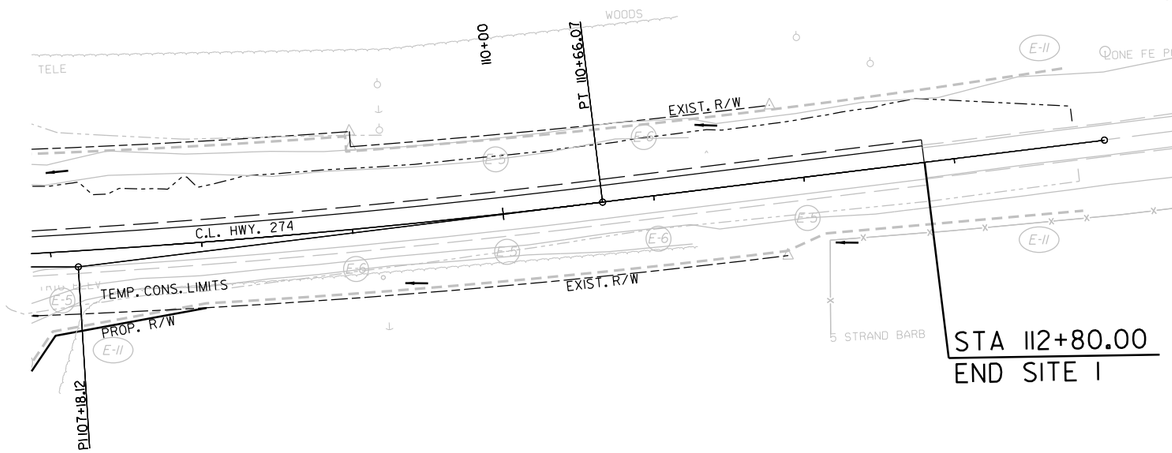
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	28	87
(2) TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECK

E-6 = ROCK DITCH CHECK

E-11 = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 AND/OR UNTIL FINAL STABILIZATION.

HWY. 274 - SITE 1
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:19:30 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Carney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_05E_EC3_002.dgn
REVISED DATE: $$REVDATE$$

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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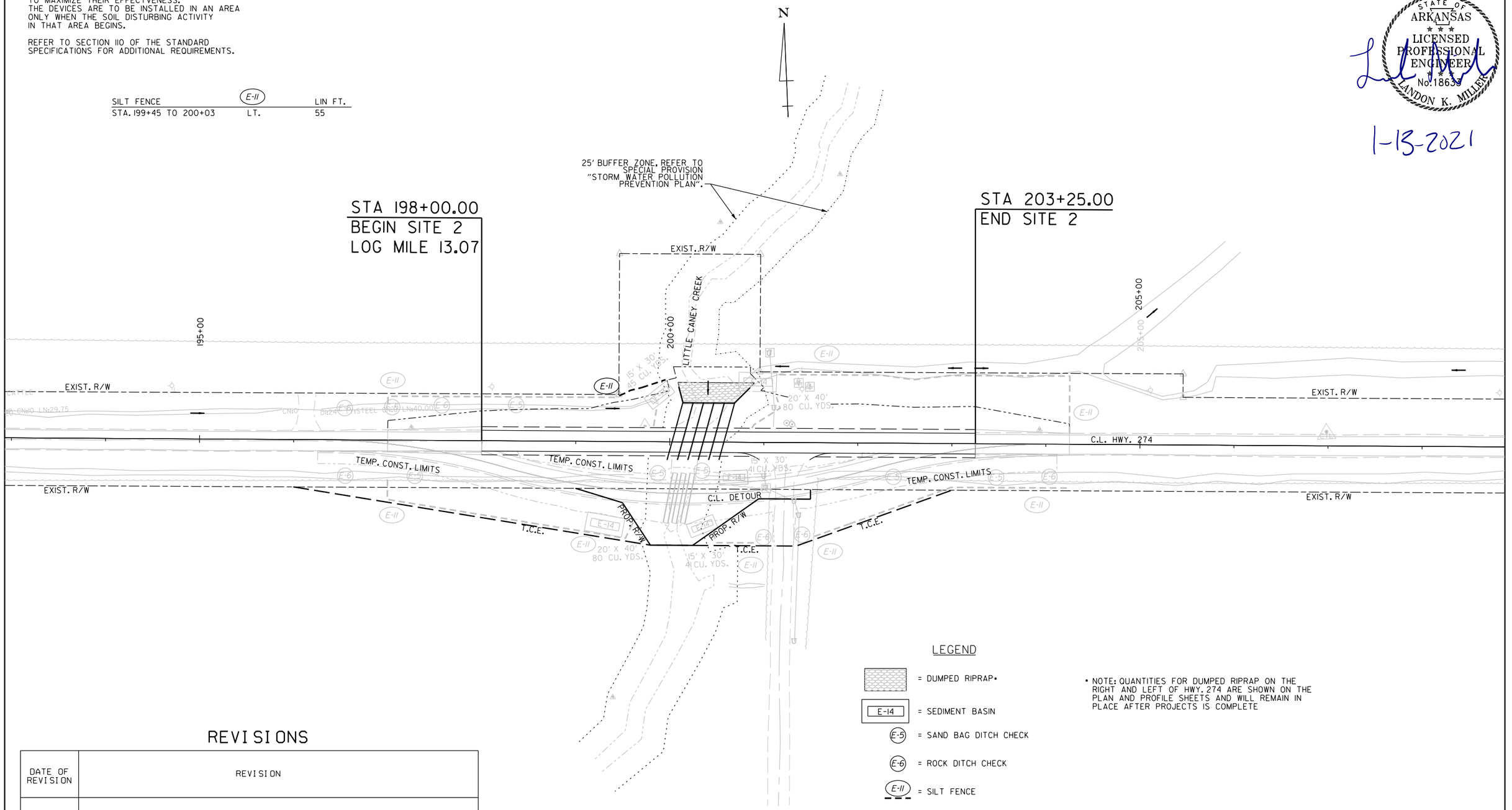
SILT FENCE	(E-11)		LIN FT.
STA. 199+45 TO 200+03		LT.	55

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	29	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18639
LANDON K. MILLER

1-13-2021



LEGEND

- = DUMPED RIPRAP.
- E-14 = SEDIMENT BASIN
- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE I SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

• NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 2
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	30	87

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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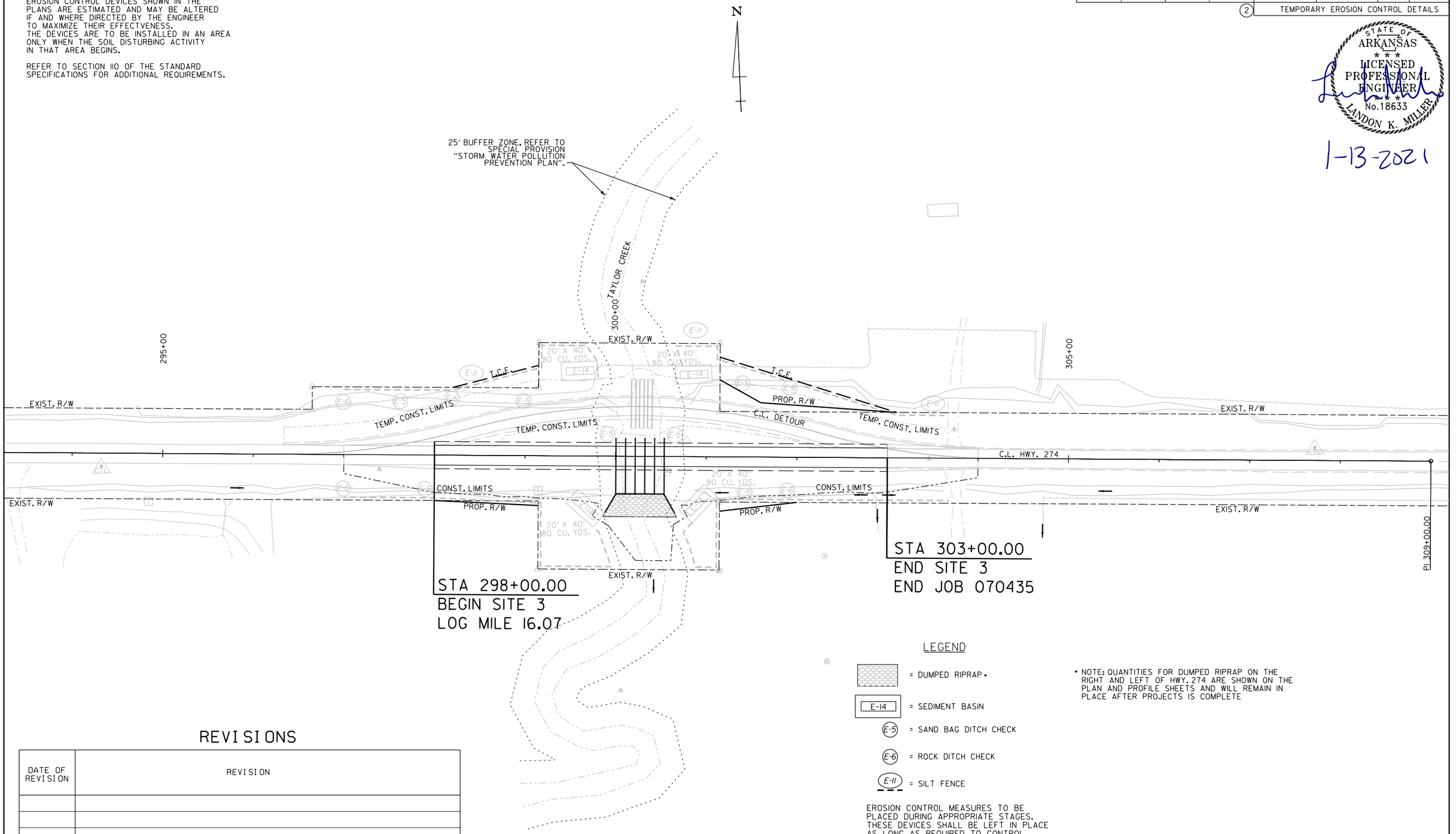
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



LEGEND

- = DUMPED RIPRAP.
- E-14 = SEDIMENT BASIN
- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

• NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 3
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:9:32 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	31	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

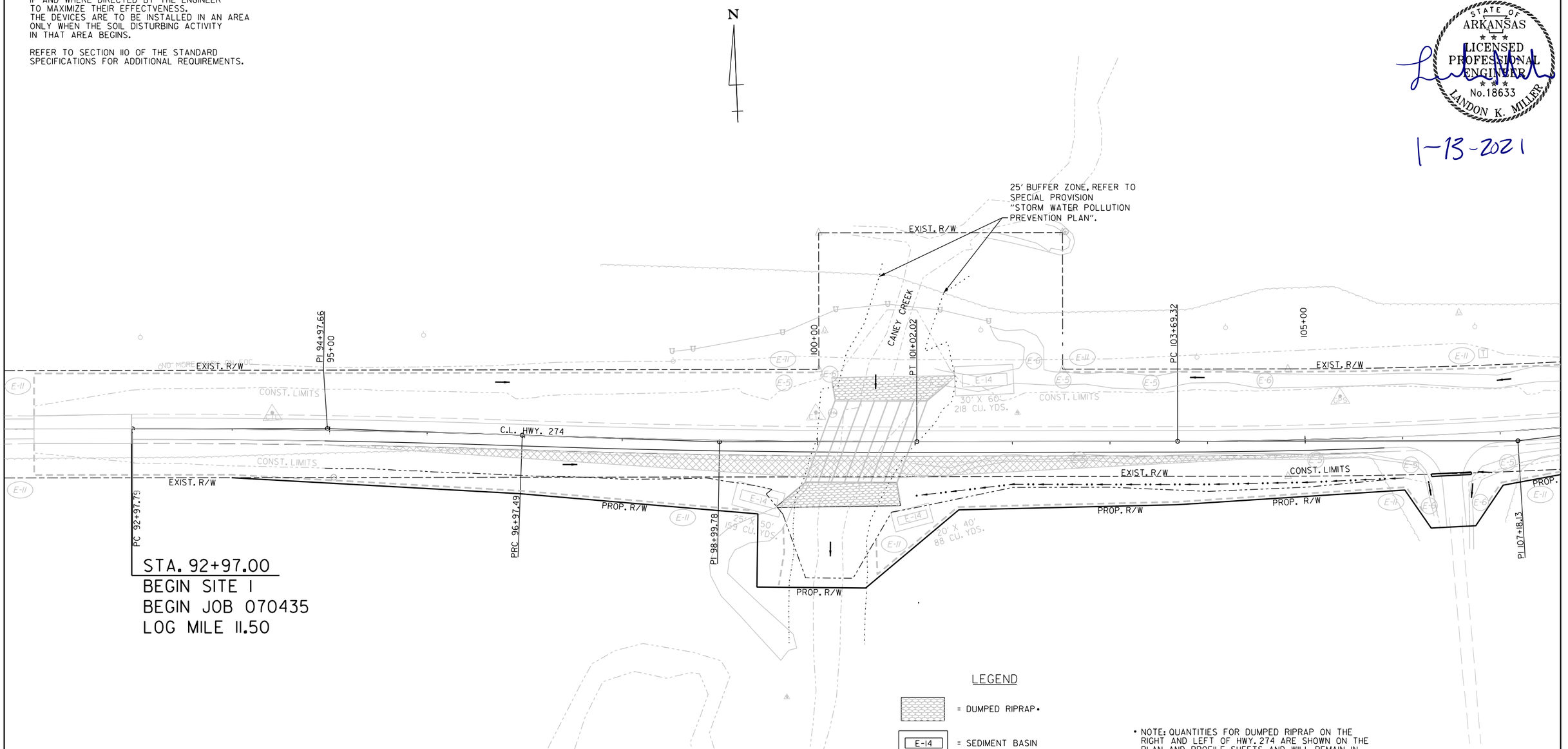
TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



STA. 92+97.00
BEGIN SITE 1
BEGIN JOB 070435
LOG MILE 11.50

LEGEND

- = DUMPED RIPRAP.
- E-14 = SEDIMENT BASIN
- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

. NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 1
STAGE 3
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:49:33 AM
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REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	32	87
				(2)	TEMPORARY EROSION CONTROL DETAILS			

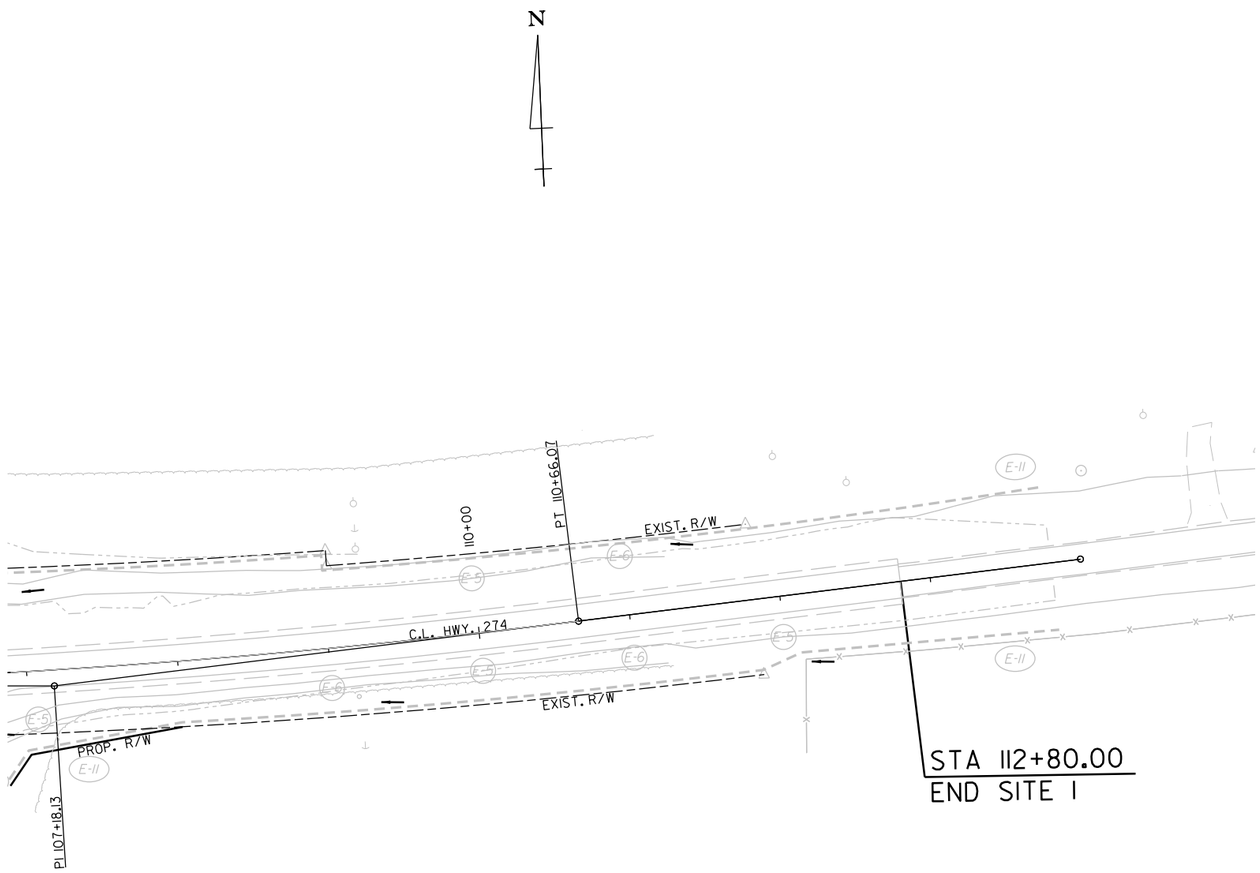
TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



LEGEND

(E-5) = SAND BAG DITCH CHECK

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 AND/OR UNTIL FINAL STABILIZATION.

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 1
STAGE 3
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:49:33 AM
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TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

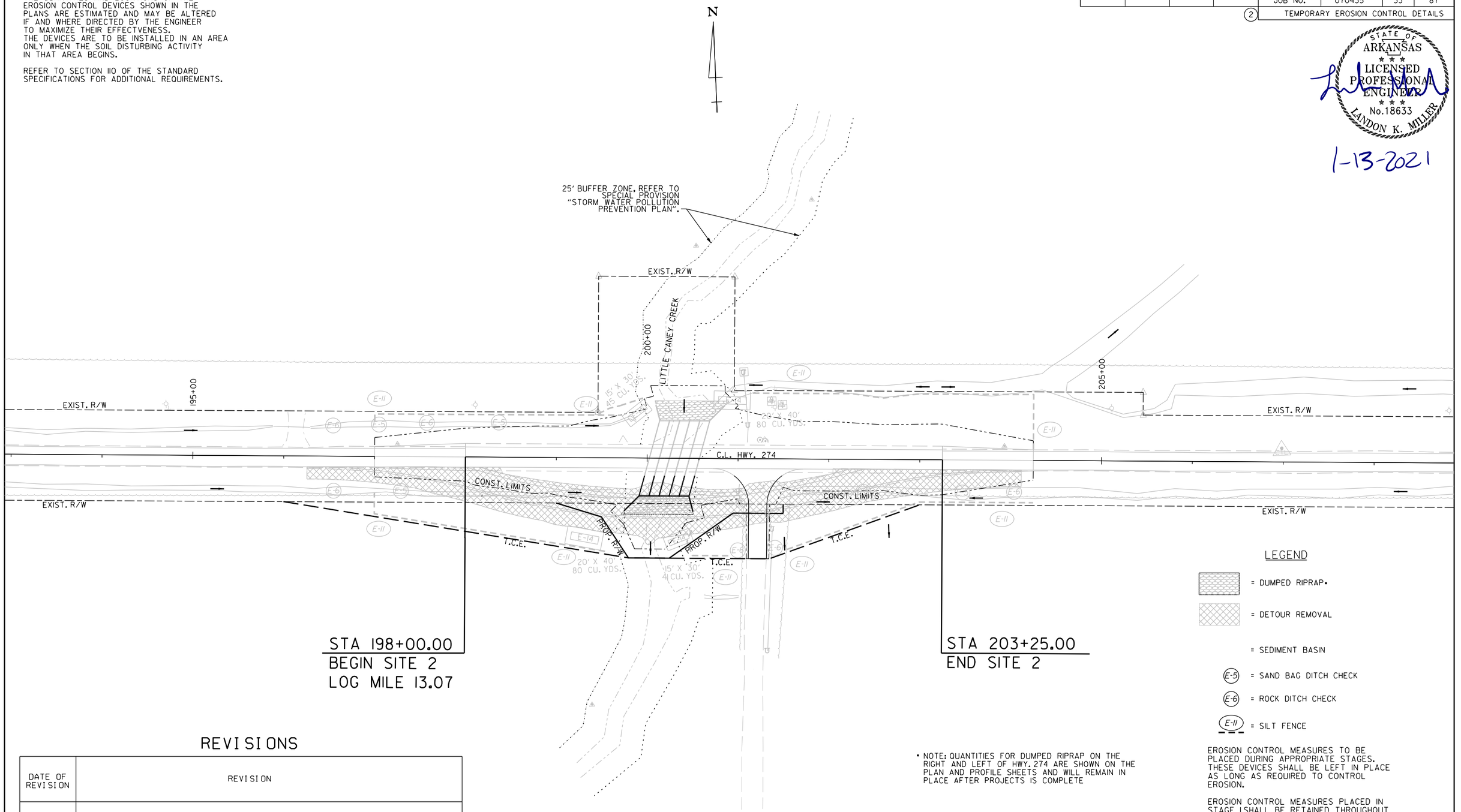
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	33	87

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



STA 198+00.00
BEGIN SITE 2
LOG MILE 13.07

STA 203+25.00
END SITE 2

LEGEND

= DUMPED RIPRAP•

= DETOUR REMOVAL

= SEDIMENT BASIN

(E-5) = SAND BAG DITCH CHECK

(E-6) = ROCK DITCH CHECK

(E-11) = SILT FENCE

• NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

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

EROSION CONTROL MEASURES PLACED IN STAGE 1 SHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 2
STAGE 3
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:09:34 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	34	87

(2) TEMPORARY EROSION CONTROL DETAILS

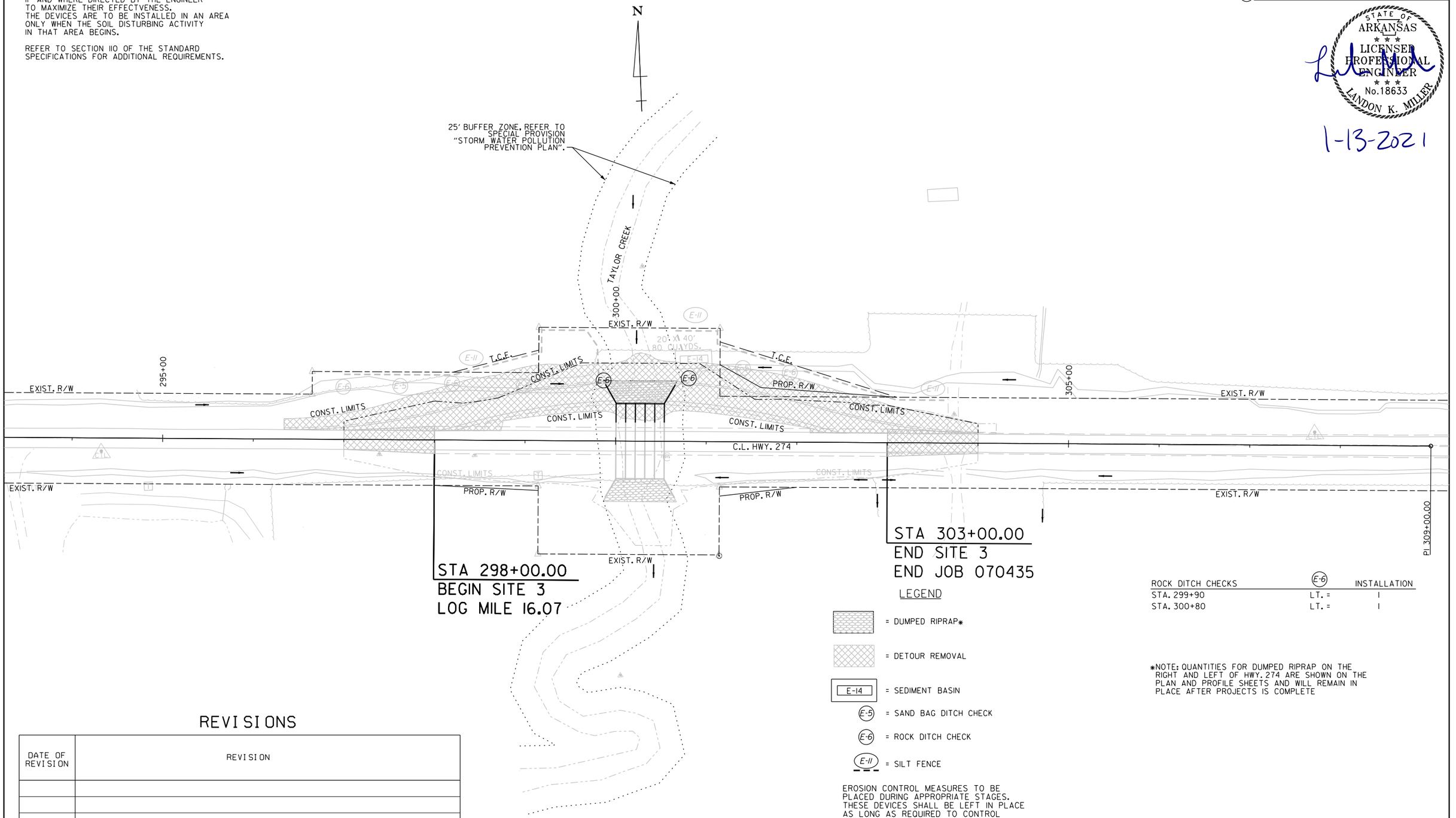
TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



LEGEND

- = DUMPED RIPRAP*
- = DETOUR REMOVAL
- E-14 = SEDIMENT BASIN
- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-II) = SILT FENCE

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

EROSION CONTROL MEASURES PLACED IN STAGE ISHALL BE RETAINED THROUGHOUT STAGE 2 OR UNTIL FINAL STABILIZATION.

ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 299+90	LT. =	1
STA. 300+80	LT. =	1

*NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

REVISIONS

DATE OF REVISION	REVISION

HWY. 274 - SITE 3
STAGE 3
TEMPORARY EROSION CONTROL DETAILS

ByronLawrence 1/13/2021 11:9:35 AM
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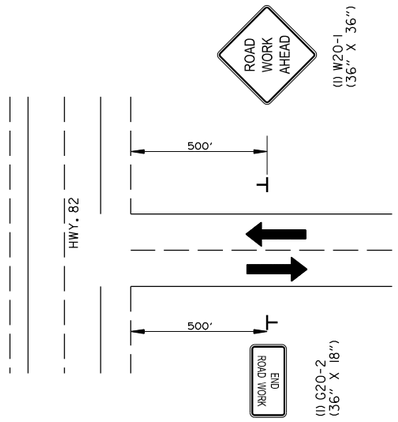
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	35	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			



ADVANCE WARNING
SIDE ROADS
(ALL STAGES)

COUNTY RD. 221
COUNTY RD. 14

CONSTRUCTION SEQUENCE - HWY. 274 - SITE 1

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE I MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE I MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

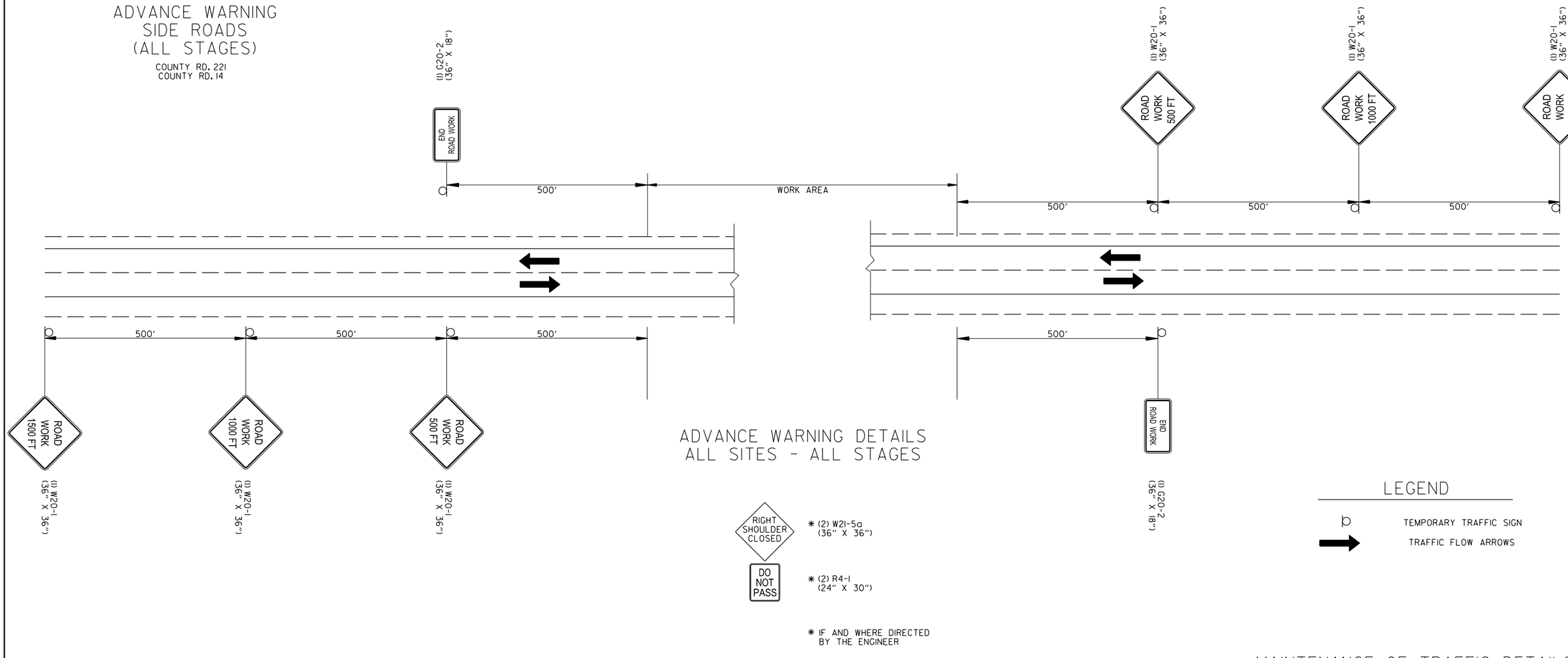
SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



ADVANCE WARNING DETAILS
ALL SITES - ALL STAGES

* (2) W21-5a (36" X 36")

* (2) R4-1 (24" X 30")

* IF AND WHERE DIRECTED BY THE ENGINEER

LEGEND

b TEMPORARY TRAFFIC SIGN

TRAFFIC FLOW ARROWS

MAINTENANCE OF TRAFFIC DETAILS

ByronLawrence 1/6/2021 11:37:25 AM
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				6	ARK.			
				JOB NO.		070435	36	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021

CONSTRUCTION SEQUENCE - HWY. 274 - SITE 1

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

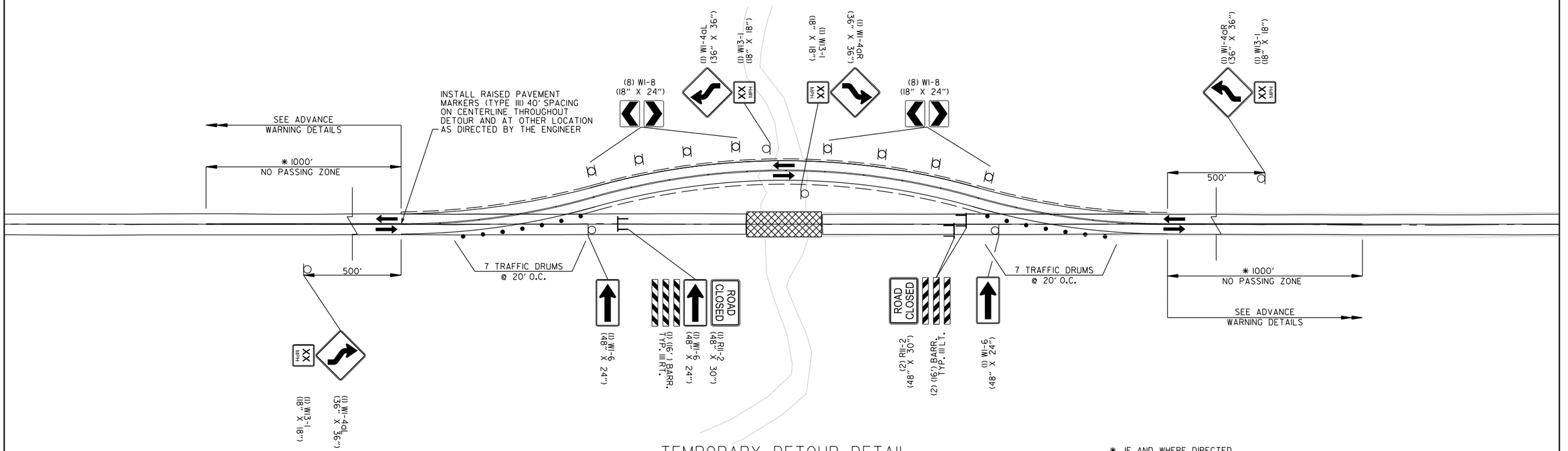
STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.



TEMPORARY DETOUR DETAIL
SITES 2 & 3
STAGE 2

* IF AND WHERE DIRECTED BY THE ENGINEER

LEGEND

- TYPE III BARRICADE
- TEMPORARY TRAFFIC SIGN
- TRAFFIC DRUM
- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS

MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	37	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

CONSTRUCTION SEQUENCE - HWY. 274 - SITE 1

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

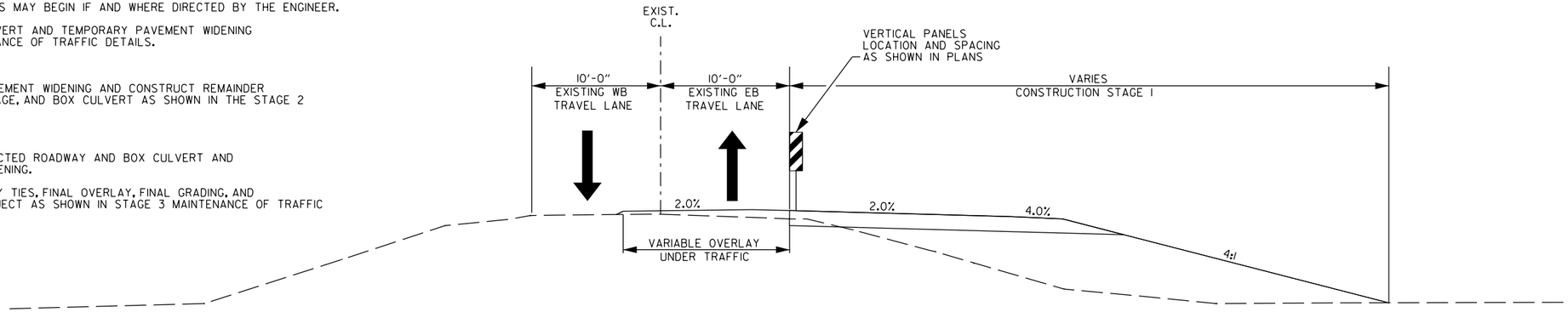
STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

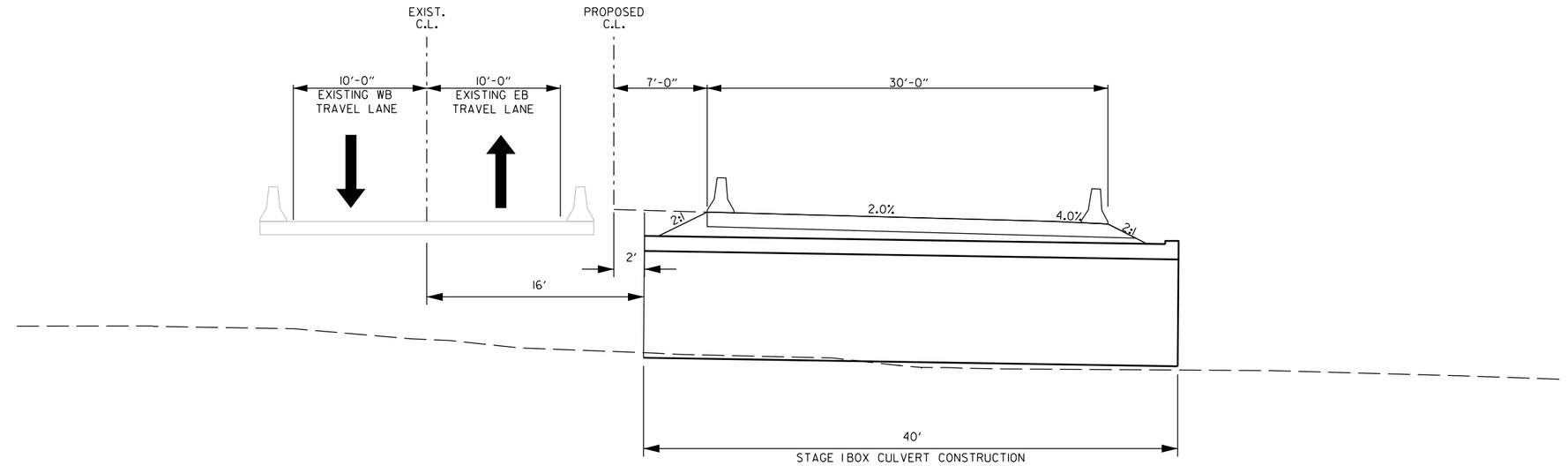
SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.



SITE 1- CANEY CREEK
STAGE 1- NOTCH AND WIDEN
MAINTENANCE OF TRAFFIC DETAILS
TYPICAL SECTION

STA. 92+97.00 TO 99+80.00
STA. 101+19.00 TO 112+80.00



SITE 1- CANEY CREEK
STAGE 1- TEMP. PAVEMENT WIDENING
MAINTENANCE OF TRAFFIC DETAILS
TYPICAL SECTION

STA. 99+80.00 TO 101+19.00

SITE 1- STAGE 1
TYPICAL SECTION
MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
6-2021

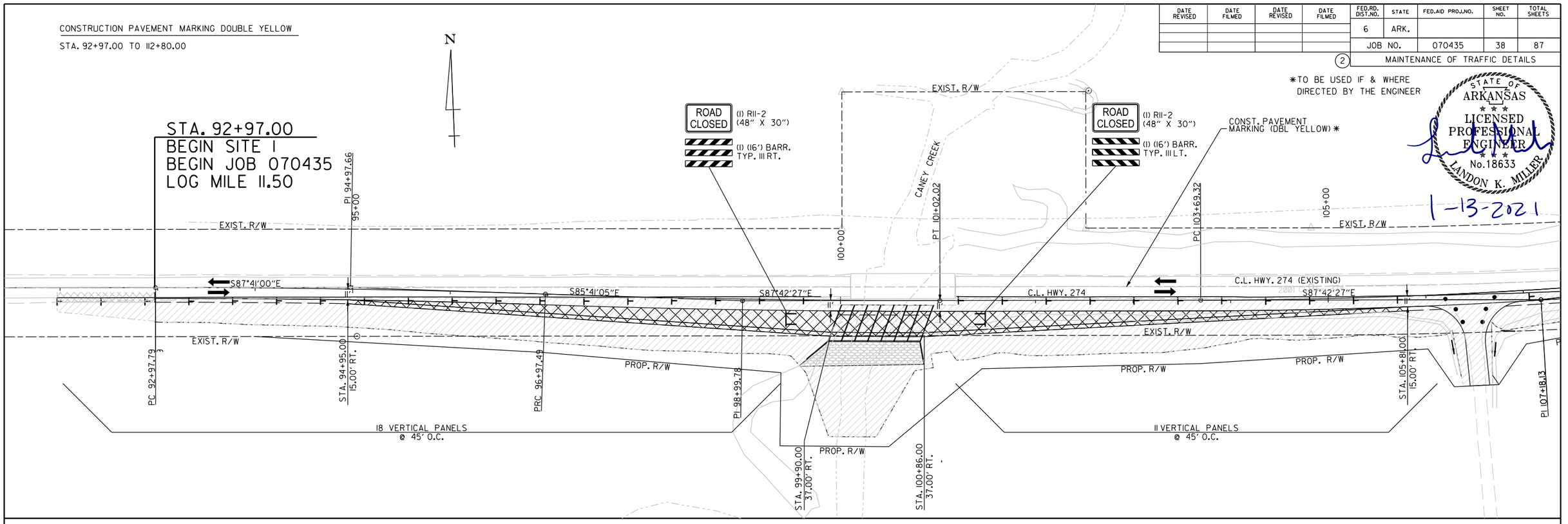
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	38	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

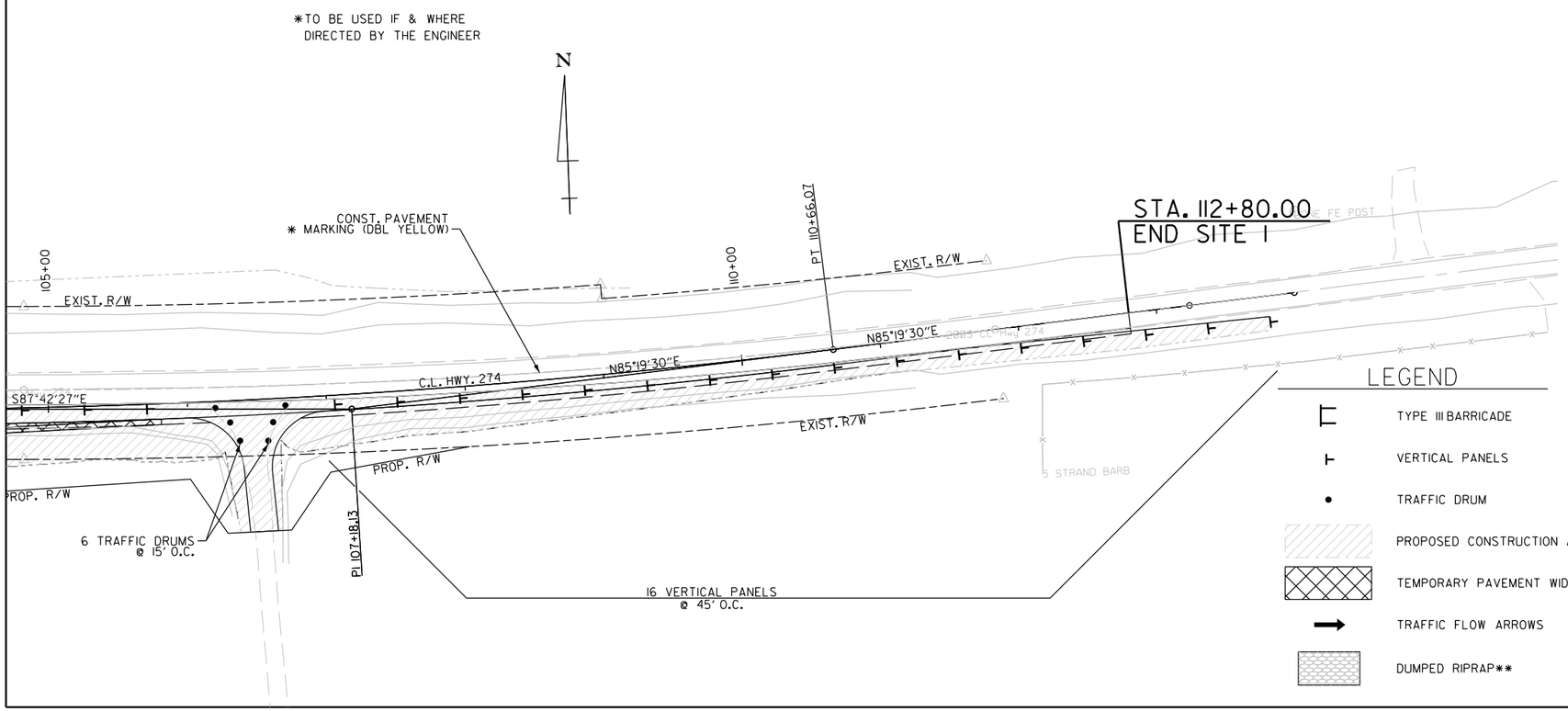
CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW

STA. 92+97.00 TO 112+80.00

*TO BE USED IF & WHERE DIRECTED BY THE ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
1-13-2021





CONSTRUCTION SEQUENCE - HWY. 274 - SITE I

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

LEGEND

- TYPE III BARRICADE
- VERTICAL PANELS
- TRAFFIC DRUM
- PROPOSED CONSTRUCTION AREA
- TEMPORARY PAVEMENT WIDENING
- TRAFFIC FLOW ARROWS
- DUMPED RIPRAP**

**NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

CANEY CREEK SITE I
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

ByronLawrence 1/13/2021 11:20:33 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

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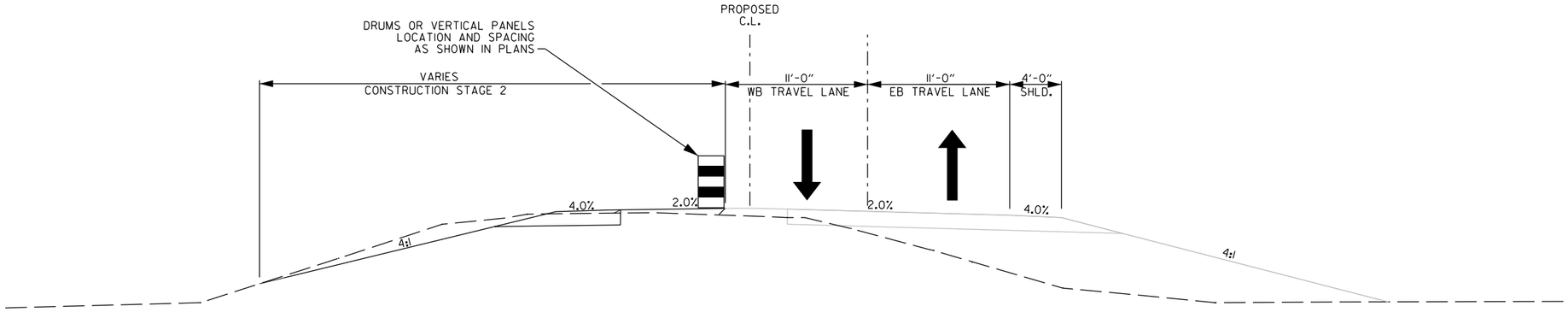
				6	ARK.			
				JOB NO.		070435	39	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021

CONSTRUCTION SEQUENCE - HWY. 274 - SITE 1

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

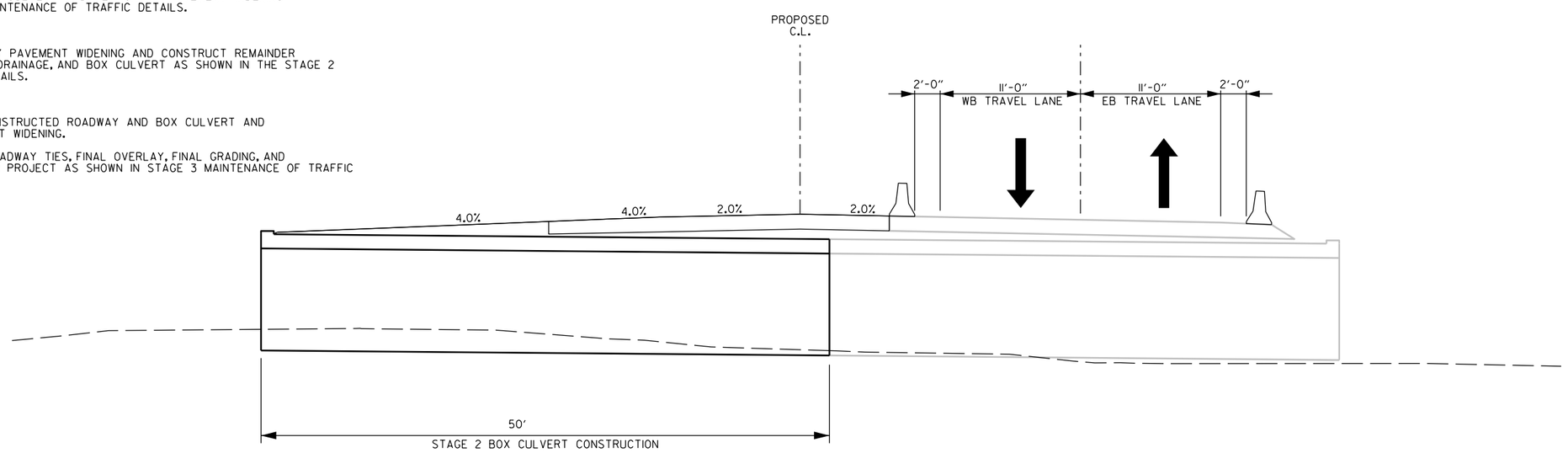
STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

SITE 1- CANEY CREEK
STAGE 2 - MAINTENANCE OF TRAFFIC DETAILS
TYPICAL SECTION

STA. 92+97.00 TO 99+80.00
STA. 101+19.00 TO 112+80.00



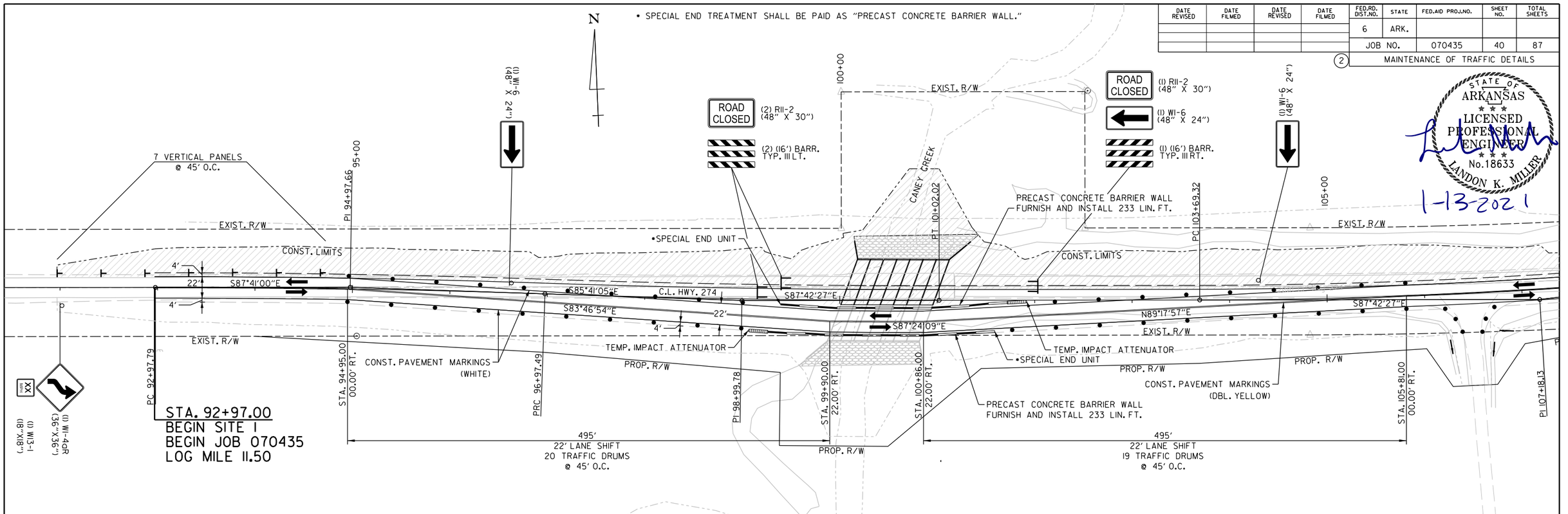
SITE 1- CANEY CREEK
STAGE 2 - MAINTENANCE OF TRAFFIC DETAILS
TYPICAL SECTION

STA. 99+80.00 TO 101+19.00

SITE 1- STAGE 2
TYPICAL SECTION
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	40	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

• SPECIAL END TREATMENT SHALL BE PAID AS "PRECAST CONCRETE BARRIER WALL."



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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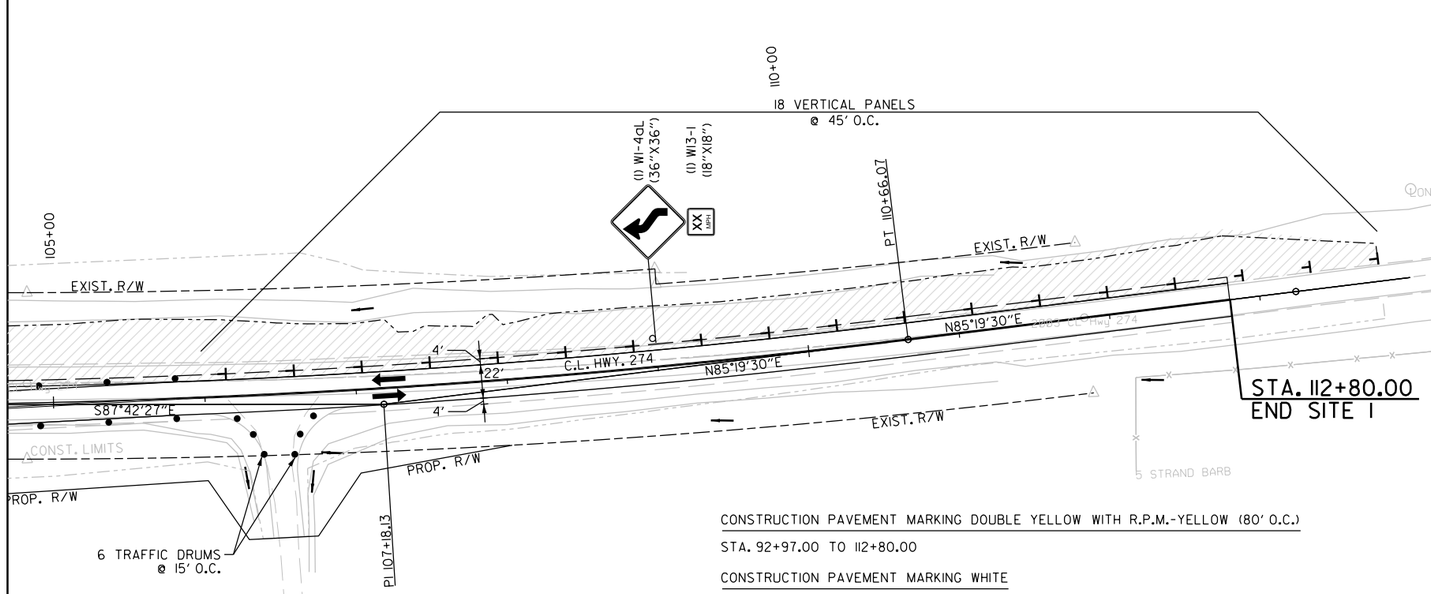
LANDON K. MILLER
1-13-2021



CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW WITH R.P.M.-YELLOW (80' O.C.)

STA. 92+97.00 TO 112+80.00

CONSTRUCTION PAVEMENT MARKING WHITE

STA. 92+97 TO 112+80 RT./LT.

**NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

CONSTRUCTION SEQUENCE - HWY. 274 - SITE 1

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

LEGEND

- PRECASE CONCRETE BARRIER WALL
- DUMPED RIPRAP**
- TYPE III BARRICADE
- TEMPORARY TRAFFIC SIGN
- VERTICAL PANEL
- TRAFFIC DRUM
- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS

CANEY CREEK SITE 1 STAGE 2 MAINTENANCE OF TRAFFIC DETAILS

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REVISED DATE: $$REVDATE$$

CONSTRUCTION SEQUENCE - HWY. 274 - SITE 1

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

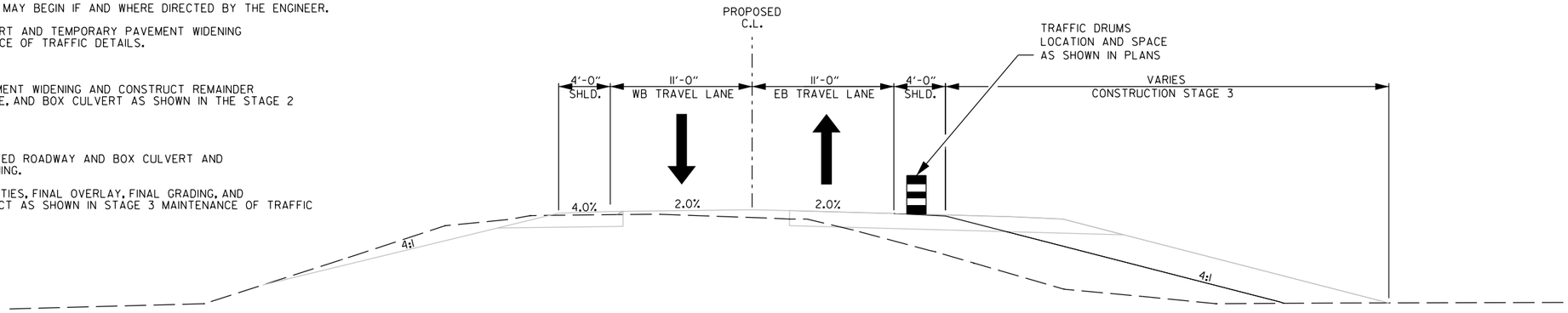
SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	41	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

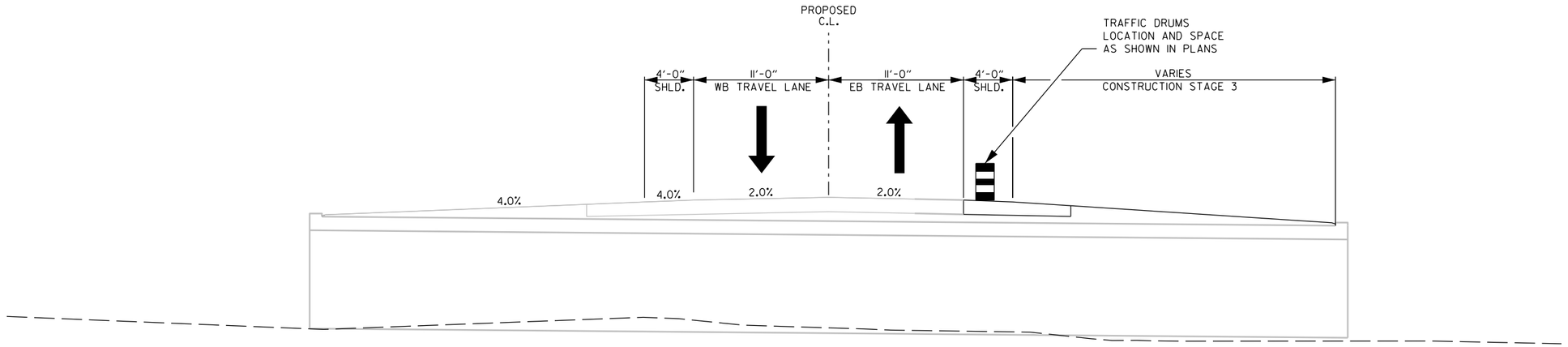
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER

1-13-2021



SITE 1 - CANEY CREEK
STAGE 3 - MAINTENANCE OF TRAFFIC DETAILS
TYPICAL SECTION

STA. 92+97.00 TO 99+80.00
STA. 101+19.00 TO 112+80.00



SITE 1 - CANEY CREEK
STAGE 3 - MAINTENANCE OF TRAFFIC DETAILS
TYPICAL SECTION

STA. 99+80.00 TO 101+19.00

SITE 1 - STAGE 3
TYPICAL SECTION
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	42	87
(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
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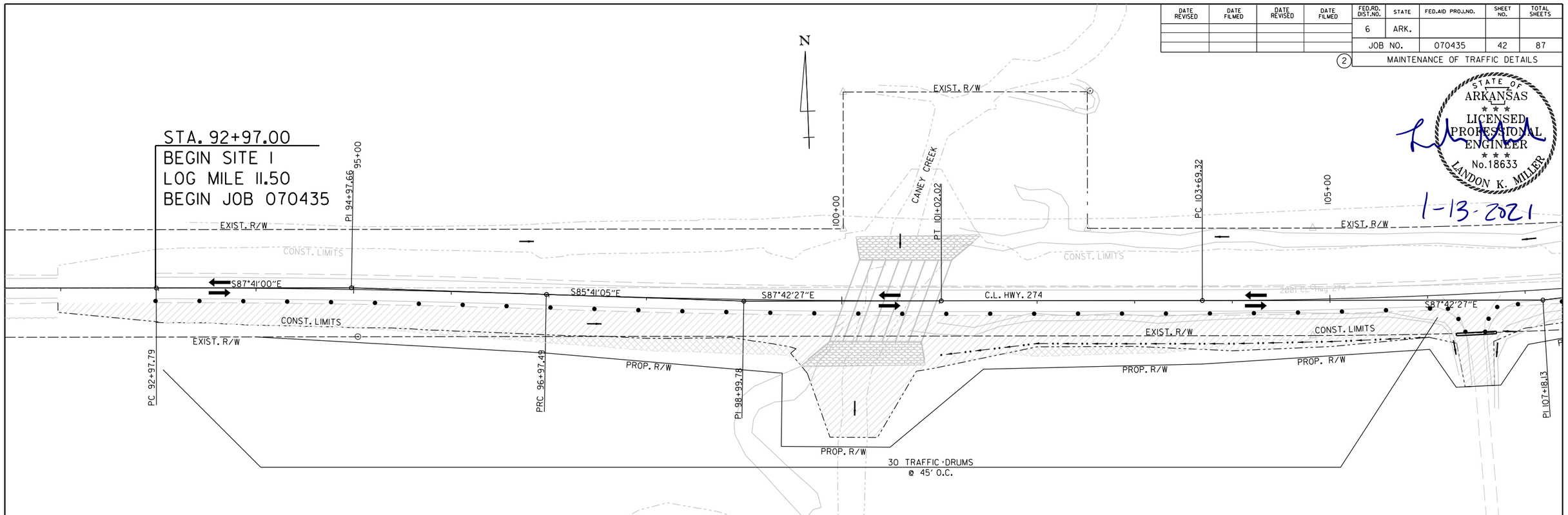
1-13-2021



CONSTRUCTION SEQUENCE - HWY. 274 - SITE 1

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

CONSTRUCT PORTIONS OF BOX CULVERT AND TEMPORARY PAVEMENT WIDENING AS SHOWN IN THE STAGE 1MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY PAVEMENT WIDENING AND CONSTRUCT REMAINDER OF THE PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND REMOVE TEMPORARY PAVEMENT WIDENING.

CONSTRUCT REMAINDER OF ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

LEGEND

- TEMPORARY DETOUR REMOVAL
- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS
- TRAFFIC DRUMS
- DUMPED RIPRAP**

**NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

CANEY CREEK SITE 1
STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE IMAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	43	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
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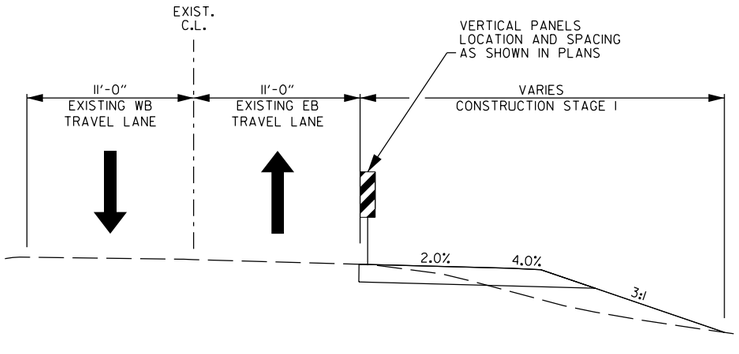
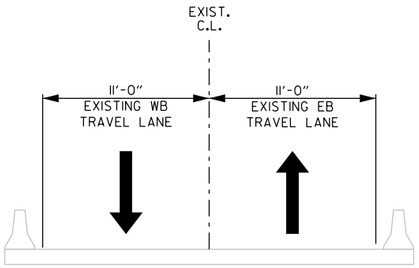
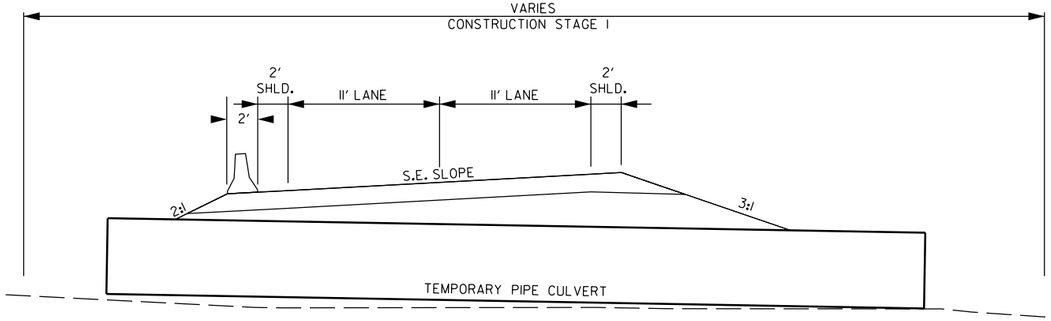
1-13-2021



SITES 2 & 3
LITTLE CANEY CREEK & TAYLOR CREEK
STAGE 1- TEMP. DETOUR
NOTCH AND WIDEN





SITES 2 & 3
LITTLE CANEY CREEK & TAYLOR CREEK
STAGE 1- TEMP. DETOUR

SITES 2 & 3
STAGE 1
TYPICAL SECTION
MAINTENANCE OF TRAFFIC DETAILS

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REVISED DATE: $$REVDATE$$

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		070435	44	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
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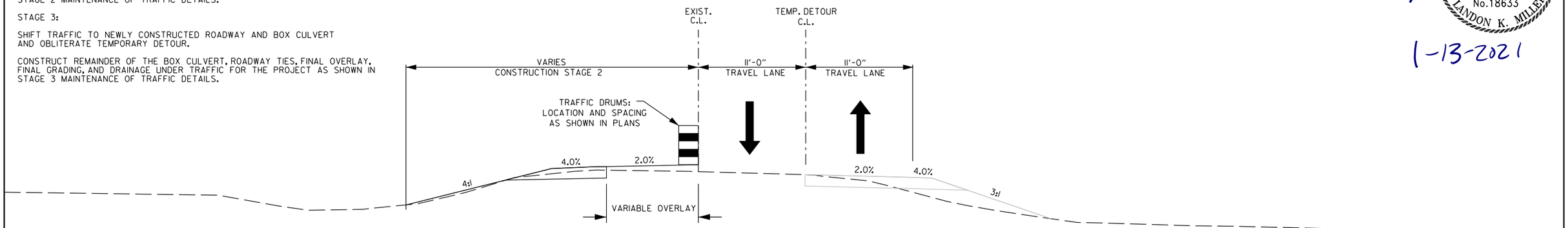
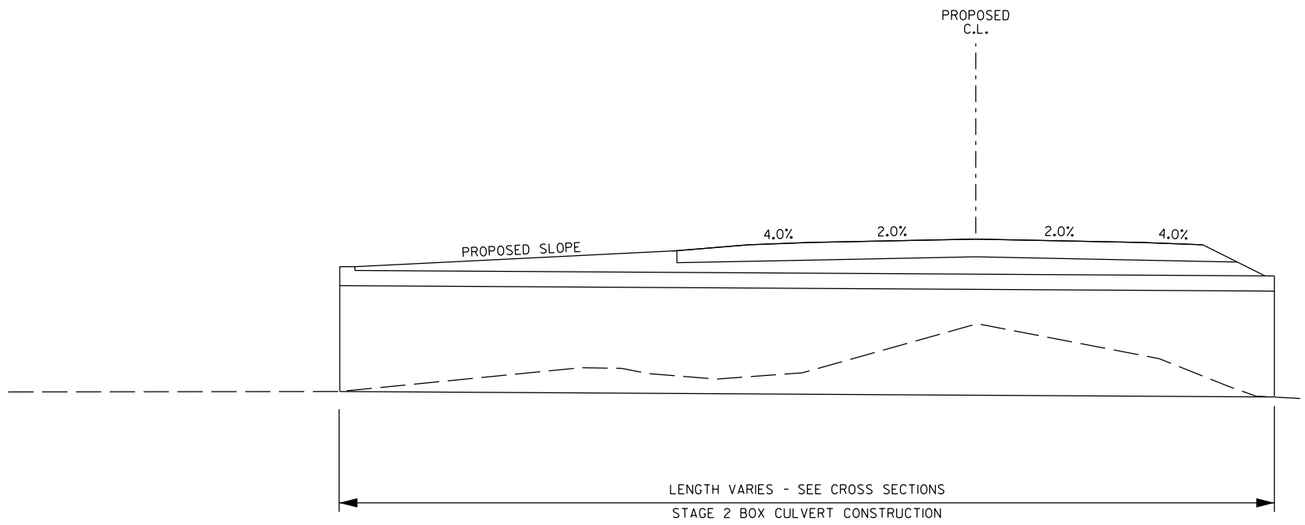
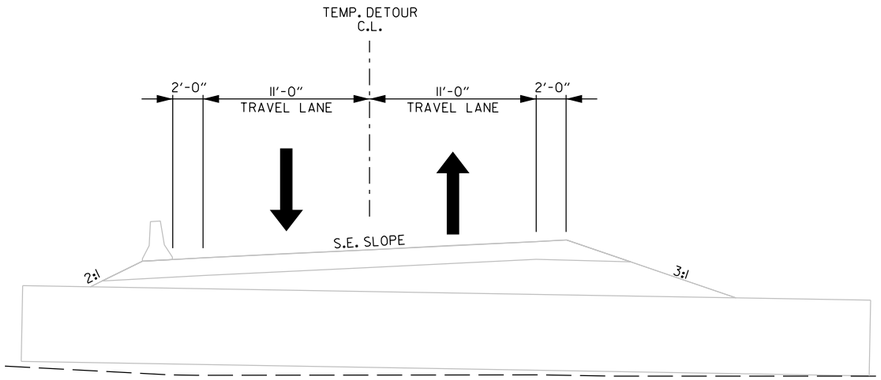
No.18633
LANDON K. MILLER

1-13-2021



SITES 2 & 3
LITTLE CANEY CREEK & TAYLOR CREEK
STAGE 2 - TEMP. DETOUR





SITES 2 & 3
LITTLE CANEY CREEK & TAYLOR CREEK
STAGE 2 - TEMP. DETOUR

SITES 2 & 3
STAGE 2
TYPICAL SECTION
MAINTENANCE OF TRAFFIC DETAILS

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REVISED DATE: $$REVDATE$$

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	45	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
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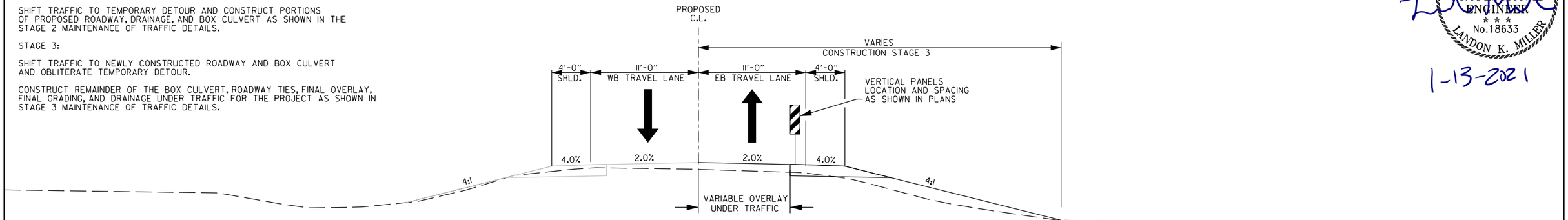
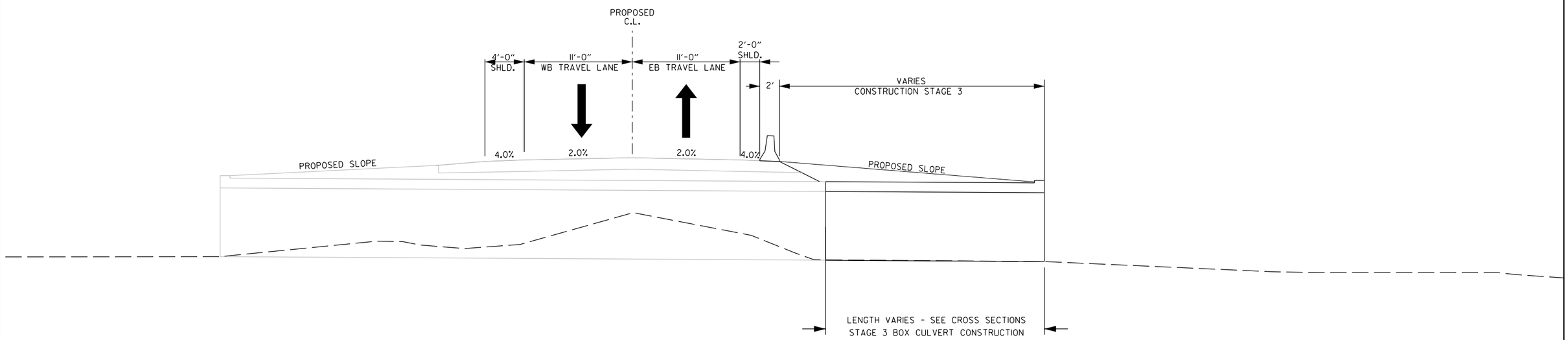
1-13-2021



SITES 2 & 3
LITTLE CANEY CREEK & TAYLOR CREEK
STAGE 3 - TEMP. DETOUR



SITES 2 & 3
LITTLE CANEY CREEK & TAYLOR CREEK
STAGE 3 - TEMP. DETOUR

SITES 2 & 3
STAGE 3
TYPICAL SECTION
MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE I MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

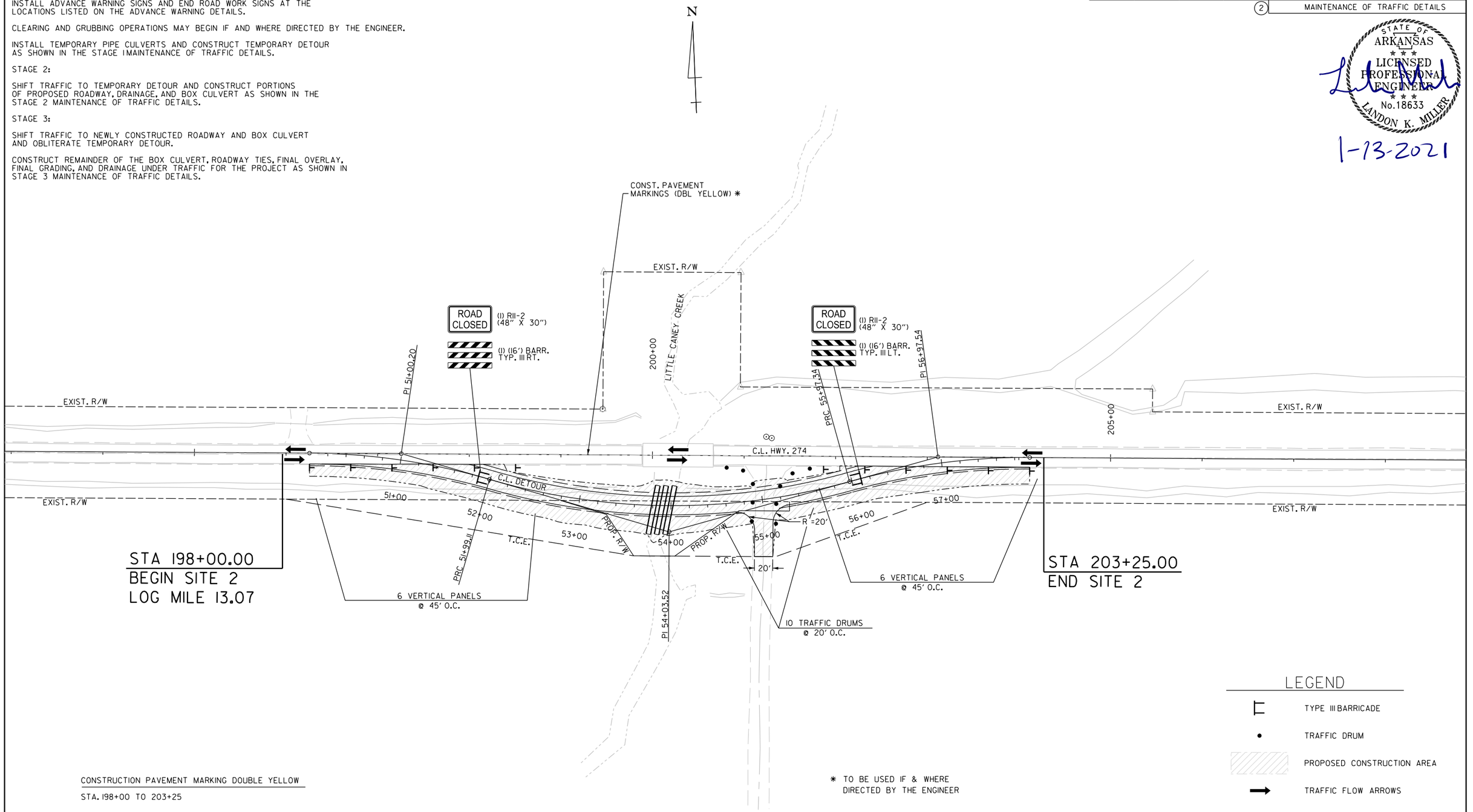
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	46	87

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER

1-13-2021



CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW

STA. 198+00 TO 203+25

* TO BE USED IF & WHERE DIRECTED BY THE ENGINEER

LEGEND

- TYPE III BARRICADE
- TRAFFIC DRUM
- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS
- VERTICAL PANELS

SITE 2 - LITTLE CANEY CREEK TEMPORARY DETOUR STAGE I MAINTENANCE OF TRAFFIC DETAILS

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CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE IMAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

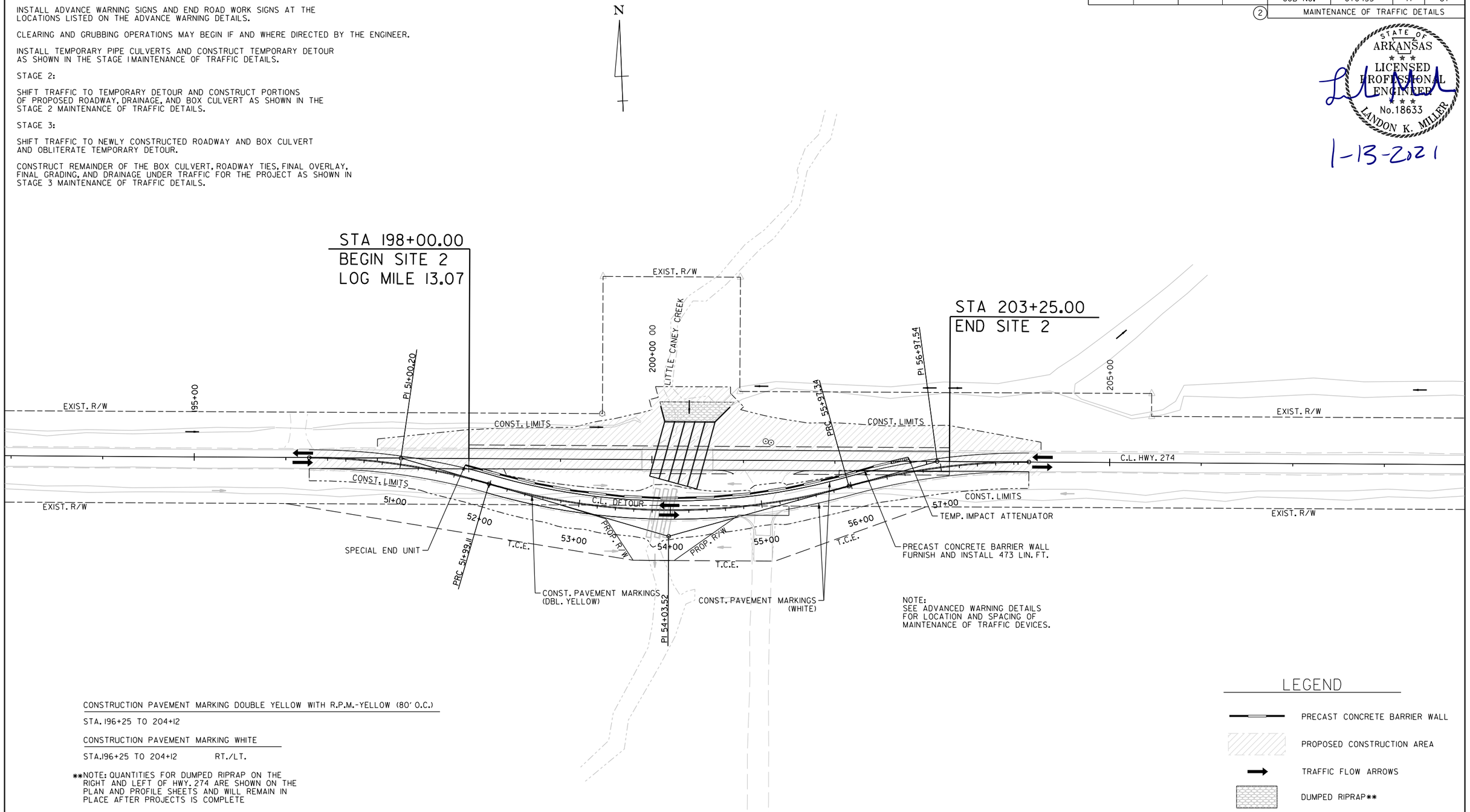
SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	47	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER

1-13-2021



NOTE:
SEE ADVANCED WARNING DETAILS FOR LOCATION AND SPACING OF MAINTENANCE OF TRAFFIC DEVICES.

CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW WITH R.P.M.-YELLOW (80' O.C.)

STA. 196+25 TO 204+12

CONSTRUCTION PAVEMENT MARKING WHITE

STA. 196+25 TO 204+12 RT./LT.

**NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

LEGEND

- PRECAST CONCRETE BARRIER WALL
- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS
- DUMPED RIPRAP**

SITE 2 - LITTLE CANEY CREEK TEMPORARY DETOUR STAGE 2 MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	48	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
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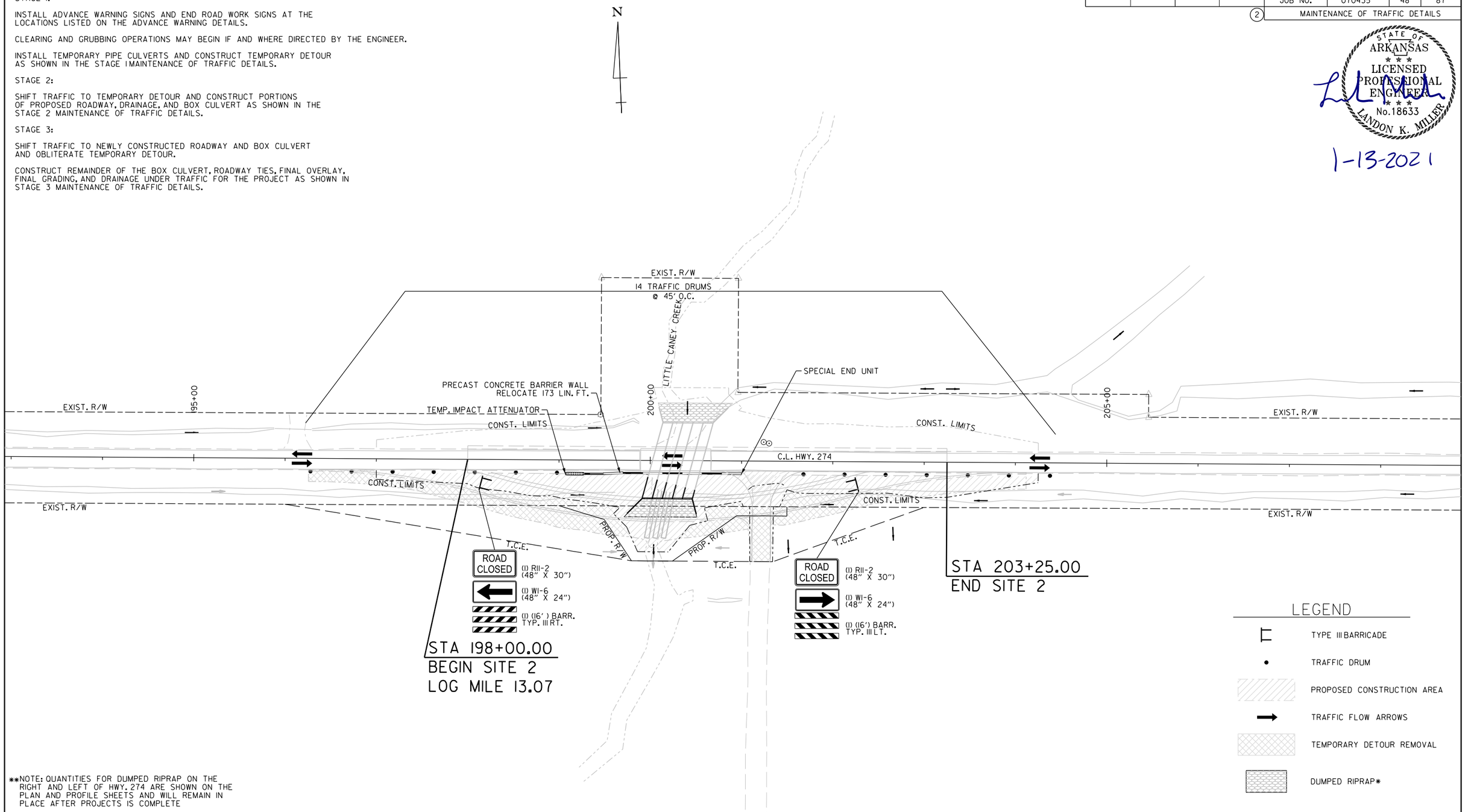
1-13-2021



LEGEND

- TYPE III BARRICADE
- TRAFFIC DRUM
- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS
- TEMPORARY DETOUR REMOVAL
- DUMPED RIPRAP*

**NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW

STA. 198+00 TO 203+25

CONSTRUCTION PAVEMENT MARKING WHITE

STA. 198+00 TO 203+25 RT./LT.

SITE 2 - LITTLE CANEY CREEK TEMPORARY DETOUR STAGE 3 MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

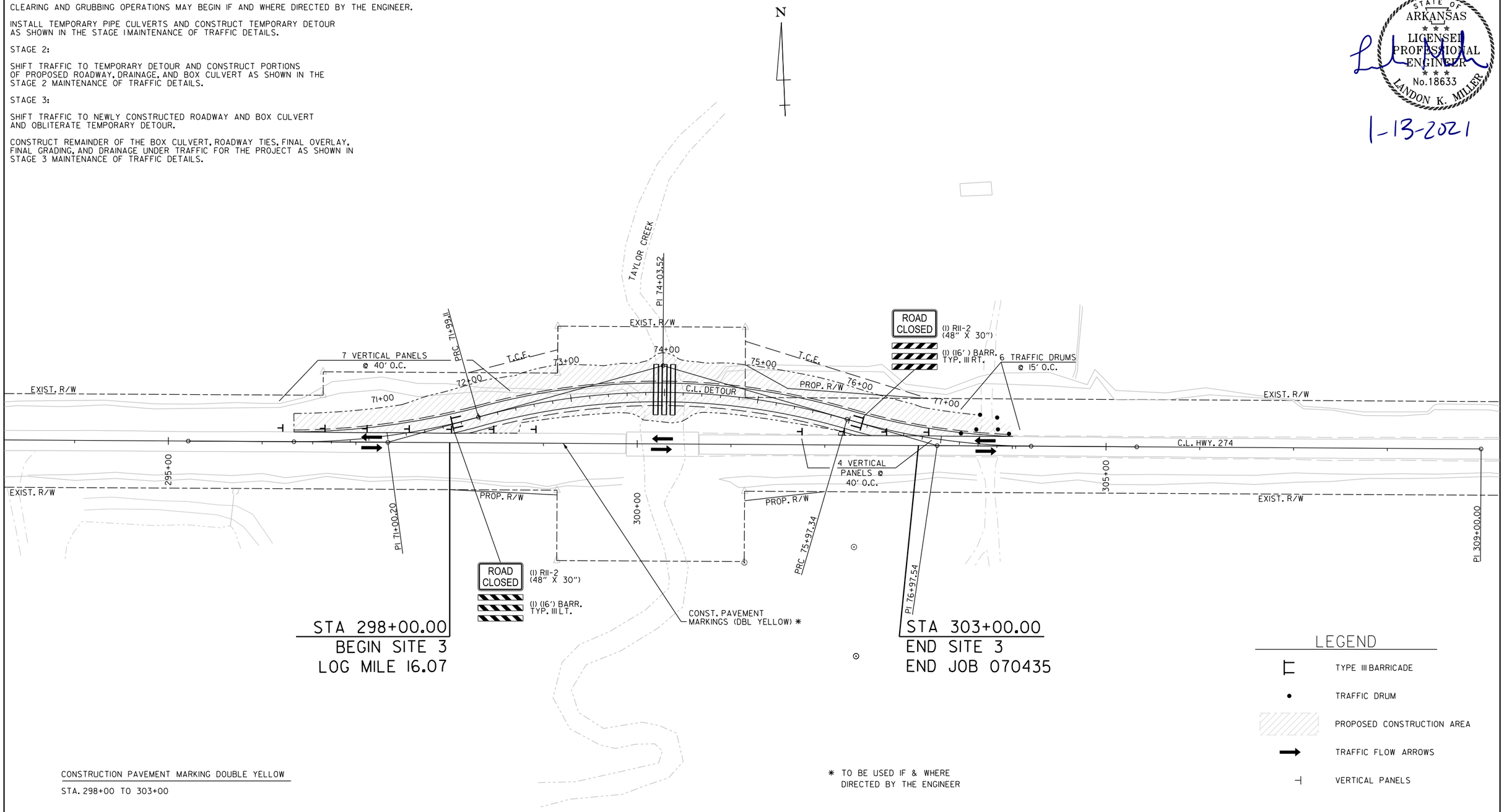
SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	49	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER

1-13-2021



CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW

STA. 298+00 TO 303+00

* TO BE USED IF & WHERE DIRECTED BY THE ENGINEER

LEGEND

- TYPE III BARRICADE
- TRAFFIC DRUM
- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS
- VERTICAL PANELS

SITE 3 - TAYLOR CREEK TEMPORARY DETOUR STAGE 1 MAINTENANCE OF TRAFFIC DETAILS

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REVISED DATE: $$REVDATE$$

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

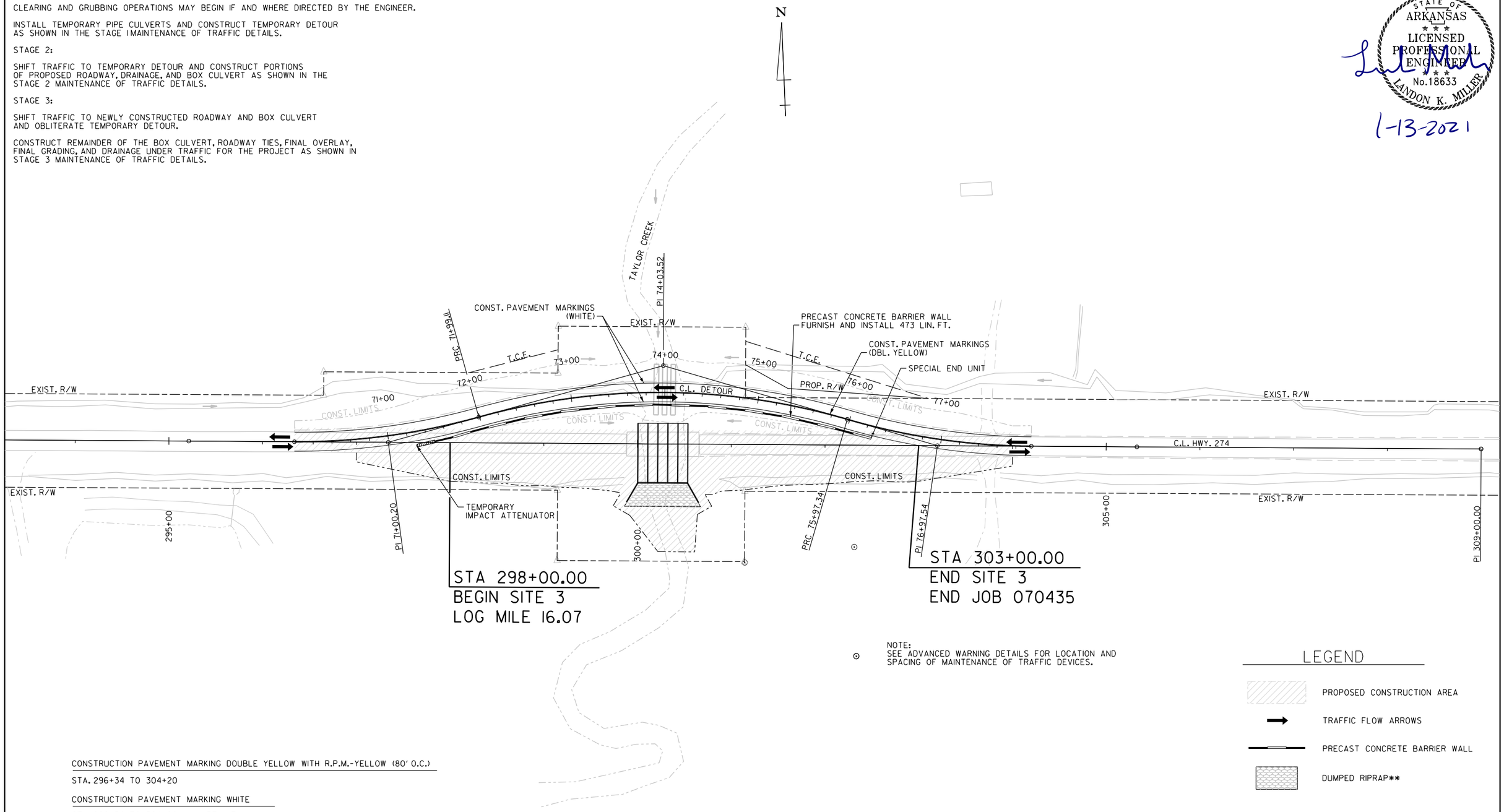
STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	50	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
1-13-2021



NOTE:
SEE ADVANCED WARNING DETAILS FOR LOCATION AND SPACING OF MAINTENANCE OF TRAFFIC DEVICES.

CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW WITH R.P.M.-YELLOW (80' O.C.)

STA. 296+34 TO 304+20

CONSTRUCTION PAVEMENT MARKING WHITE

STA. 296+34 TO 304+20 RT./LT.

**NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

LEGEND

- PROPOSED CONSTRUCTION AREA
- TRAFFIC FLOW ARROWS
- PRECAST CONCRETE BARRIER WALL
- DUMPED RIPRAP**

SITE 3 - TAYLOR CREEK TEMPORARY DETOUR STAGE 2 MAINTENANCE OF TRAFFIC DETAILS

ByronLawrence 1/13/2021 11:20:42 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

CONSTRUCTION SEQUENCE - HWY. 274 - SITES 2 & 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	51	87
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS.

CLEARING AND GRUBBING OPERATIONS MAY BEGIN IF AND WHERE DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY PIPE CULVERTS AND CONSTRUCT TEMPORARY DETOUR AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2:

SHIFT TRAFFIC TO TEMPORARY DETOUR AND CONSTRUCT PORTIONS OF PROPOSED ROADWAY, DRAINAGE, AND BOX CULVERT AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

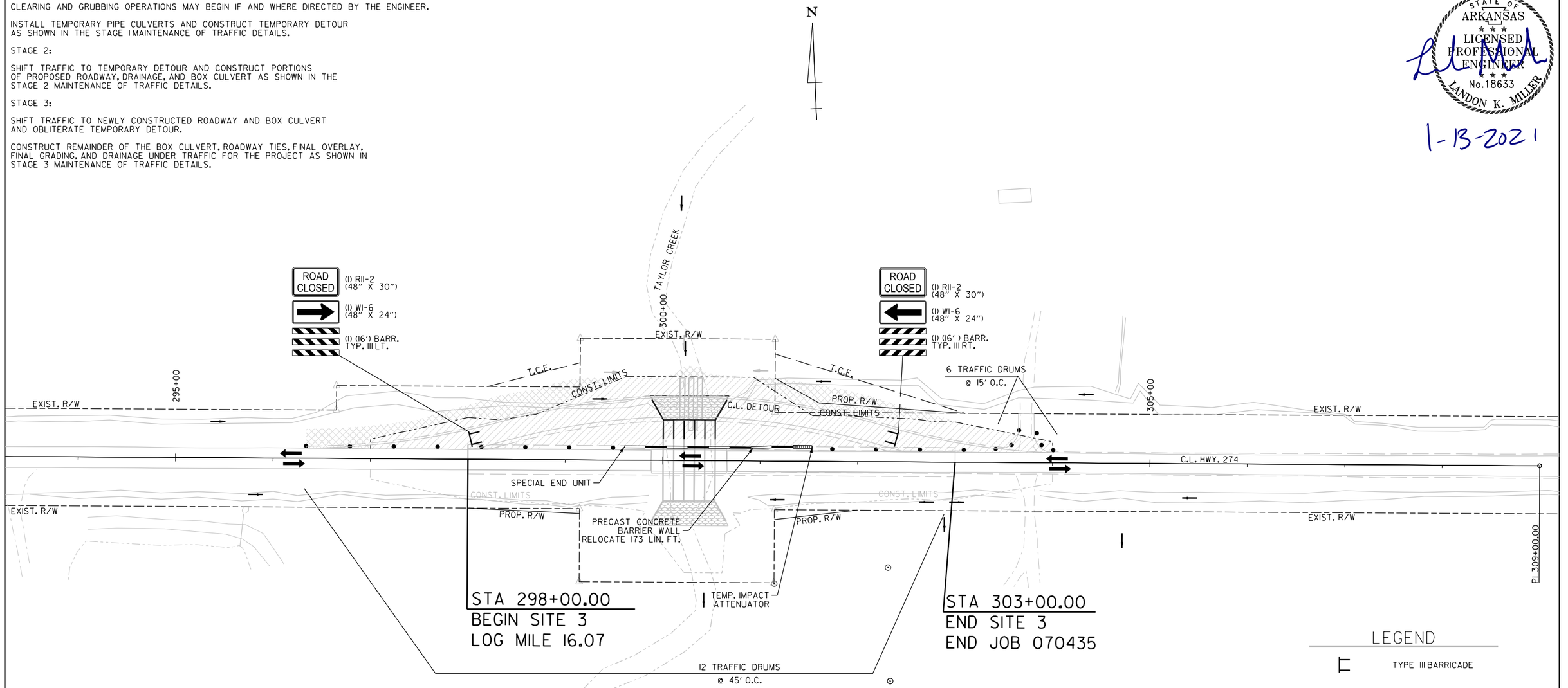
STAGE 3:

SHIFT TRAFFIC TO NEWLY CONSTRUCTED ROADWAY AND BOX CULVERT AND OBLITERATE TEMPORARY DETOUR.

CONSTRUCT REMAINDER OF THE BOX CULVERT, ROADWAY TIES, FINAL OVERLAY, FINAL GRADING, AND DRAINAGE UNDER TRAFFIC FOR THE PROJECT AS SHOWN IN STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER

1-13-2021



**NOTE: QUANTITIES FOR DUMPED RIPRAP ON THE RIGHT AND LEFT OF HWY. 274 ARE SHOWN ON THE PLAN AND PROFILE SHEETS AND WILL REMAIN IN PLACE AFTER PROJECTS IS COMPLETE

CONSTRUCTION PAVEMENT MARKING DOUBLE YELLOW

STA. 298+00 TO 303+00

CONSTRUCTION PAVEMENT MARKING WHITE

STA.298+00 TO 303+00 RT./LT.

LEGEND

- TYPE III BARRICADE
- TRAFFIC DRUM
- PROPOSED CONSTRUCTION AREA
- TEMPORARY DETOUR REMOVAL
- TRAFFIC FLOW ARROWS
- DUMPED RIPRAP**

SITE 3 - TAYLOR CREEK TEMPORARY DETOUR STAGE 3 MAINTENANCE OF TRAFFIC DETAILS

ByronLawrence 1/13/2021 11:20:43 AM
WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

NOTES:

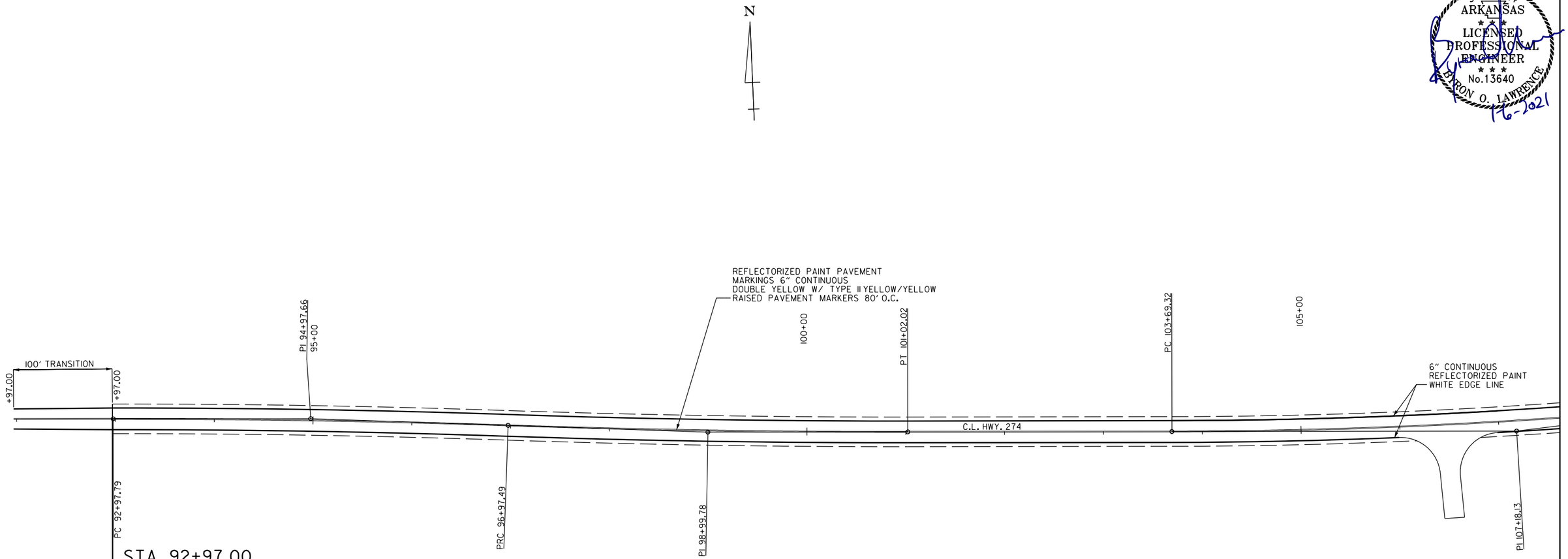
1. THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	52	87

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



STA. 92+97.00
BEGIN SITE 1
LOG MILE 11.50
BEGIN JOB 070435

PERMANENT PAVEMENT MARKING QUANTITIES
HWY. 274 (STA. 91+97 TO STA. 107+00)

DESCRIPTION	QUANTITIES
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	3006 LIN. FT.
RAISED PAVEMENT MARKER TYPE II (YELLOW/YELLOW)	19 EACH
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	3006 LIN. FT.

HWY. 274 - SITE 1
PERMANENT PAVEMENT MARKING DETAILS

ByronLawrence 1/6/2021 11:37:59 AM
WORKSPACE: ARDOT
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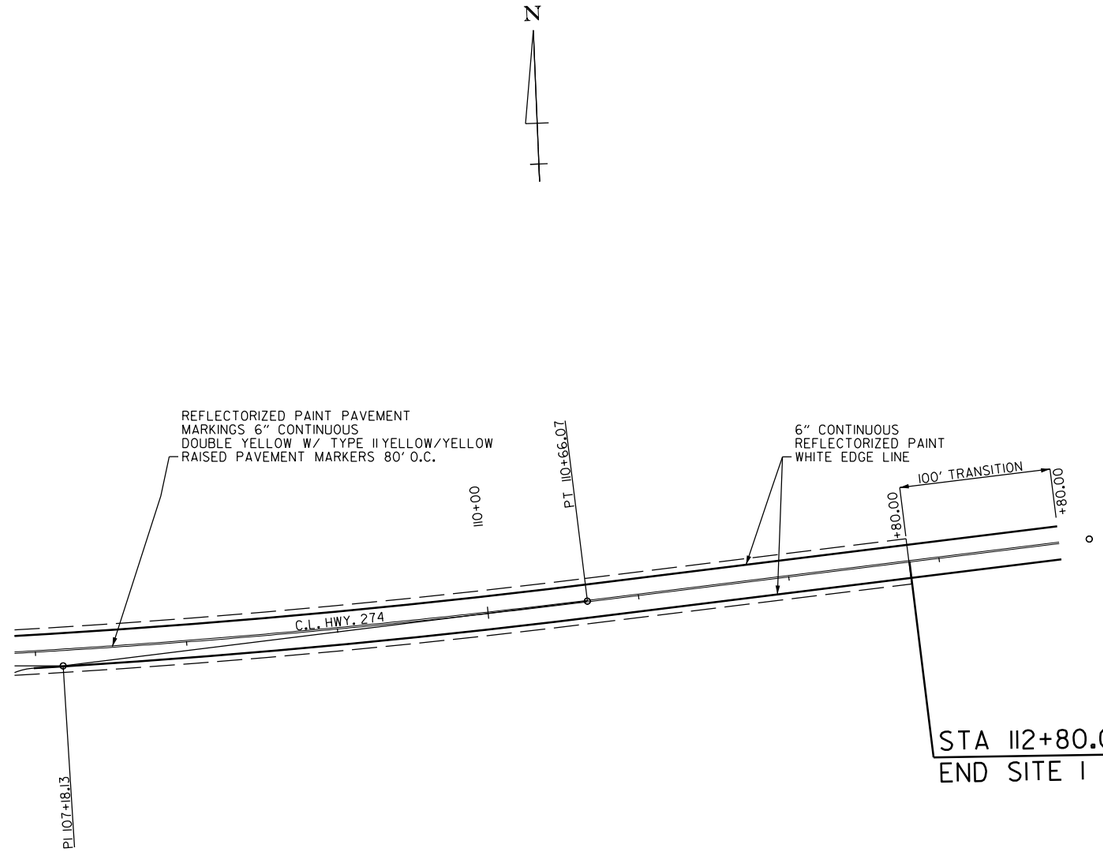
REVISED DATE: $$REVDATE$$

NOTES:

1. 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 PROJECT.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	53	87
				(2)	PERMANENT PAVEMENT MARKING DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



PERMANENT PAVEMENT MARKING QUANTITIES
HWY. 274 (STA. 107+00 TO STA. 113+80)

DESCRIPTION	QUANTITIES
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	1360 LIN. FT.
RAISED PAVEMENT MARKER TYPE II (YELLOW/YELLOW)	9 EACH
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	1360 LIN. FT.

HWY. 274 - SITE I
PERMANENT PAVEMENT MARKING DETAILS

NOTES:

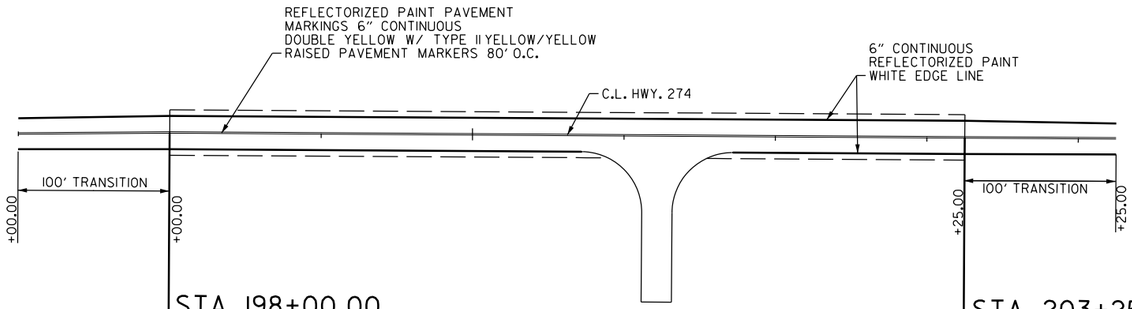
1. THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	54	87
				(2)	PERMANENT PAVEMENT MARKING DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021

N

200+00



STA 198+00.00
BEGIN SITE 2
LOG MILE 13.07

STA 203+25.00
END SITE 2

PERMANENT PAVEMENT MARKING QUANTITIES
HWY. 274 (STA. 197+00 TO STA. 204+25)

DESCRIPTION	QUANTITIES
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	1450 LIN. FT.
RAISED PAVEMENT MARKER TYPE II (YELLOW/YELLOW)	9 EACH
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	1450 LIN. FT.

HWY. 274 - SITE 2
PERMANENT PAVEMENT MARKING DETAILS

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WORKSPACE: ARDOT
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REVISED DATE: $$REVDATE$$

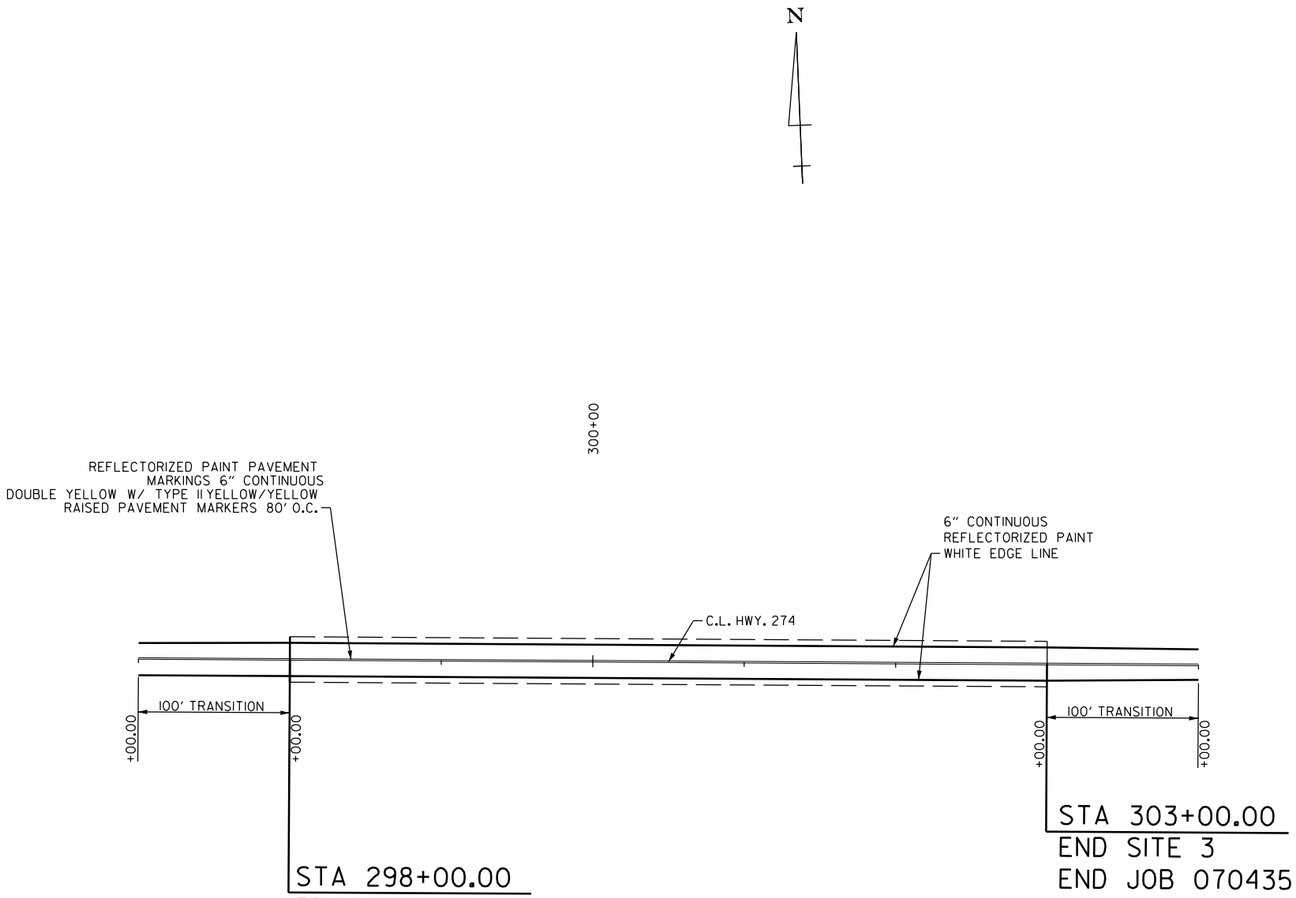
NOTES:

1. 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 PROJECT.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	55	87

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



PERMANENT PAVEMENT MARKING QUANTITIES
HWY. 274 (STA. 297+00 TO STA. 304+00)

DESCRIPTION	QUANTITIES
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	1400 LIN. FT.
RAISED PAVEMENT MARKER TYPE II (YELLOW/YELLOW)	9 EACH
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	1400 LIN. FT.

HWY. 274 - SITE 3
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	56	87
				(2)		QUANTITIES		

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-13-2021

ADVANCE WARNING SIGNS AND DEVICES

	SIGN NUMBER	DESCRIPTION	SIGN SIZE	SITE 1			SITE 2			SITE 3			MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	TEMP. IMPACT ATTEN.BARR. (RELOCATION)
				STAGE 1	STAGE 2	STAGE 3	STAGE 1	STAGE 2	STAGE 3	STAGE 1	STAGE 2	STAGE 3		NO.	SQ. FT.	EACH		RIGHT	LEFT	LIN. FT.		EACH		
				LIN. FT. - EACH																				
	W20-1	ROAD WORK 1500 FT.	36"x36"	2	2	2	2	2	2	2	2	2	6	6	54.0									
	W20-1	ROAD WORK 1000 FT.	36"x36"	2	2	2	2	2	2	2	2	2	6	6	54.0									
	W20-1	ROAD WORK 500 FT.	36"x36"	2	2	2	2	2	2	2	2	2	6	6	54.0									
	W20-1	ROAD WORK AHEAD	36"x36"	1	1	1	1	1	1				2	2	18.0									
	G20-2	END ROAD WORK	36"x18"	3	3	3	3	3	3	2	2	2	8	8	36.0									
	W13-1	SPEED LIMIT (ADVISORY)	18"x18"		2			4			4		10	10	22.5									
	R11-2	ROAD CLOSED	48"x30"	2	3		2	3	2	2	3	2	9	9	90.0									
	W1-4aL	REVERSE CURVE LEFT	36"x36"		1			2			2		5	5	45.0									
	W1-4aR	REVERSE CURVE RIGHT	36"x36"		1			2			2		5	5	45.0									
	W1-6	LARGE ARROW	48"x24"		3			3	2		3	2	9	9	72.0									
	W1-8	CHEVRONS	18"x24"					16			16		32	32	96.0									
*	R4-1	DO NOT PASS	24"x30"	2	2	2	2	2	2	2	2	2	6	6	30.0									
*	W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2	2	2	2	2	2	2	2	6	6	54.0									
		VERTICAL PANELS		45	25		12			11			68			68								
		TRAFFIC DRUMS		6	45	51	10	14	14	6	14	18	83				83							
		TYPE III BARRICADE-RT. (16')		1	1		1	1	1	1	1	1	3					48						
		TYPE III BARRICADE-LT. (16')		1	2		1	2	1	1	2	1	6						96					
		FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			466			473			473		1412							1412				
		RELOCATING PRECAST CONCRETE BARRIER							173			173	346								346			
		TEMPORARY IMPACT ATTENUATION BARRIER			2			1			1		4									4		
		TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			2			1	1		1	1	6										6	
		TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)							1			1	2											2
	TOTALS:														670.5	68	83	48	96	1412	346	4	6	2

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

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

	DESCRIPTION	SITE 1				SITE 2				SITE 3				REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
		STAGE 1	STAGE 2	STAGE 3	END OF JOB	STAGE 1	STAGE 2	STAGE 3	END OF JOB	STAGE 1	STAGE 2	STAGE 3	END OF JOB				TYPE II	6"	
																	(YELLOW/YELLOW)	WHITE	YELLOW
		LIN. FT. - EACH												LIN. FT.		LIN. FT.	EACH	LIN. FT.	
	REMOVAL OF PERMANENT PAVEMENT MARKINGS		3210				430				408			4048					
	CONSTRUCTION PAVEMENT MARKINGS		7932	7932			3148	2100			3144	2000			26256				
	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			2100				860				870				3830			
	RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)																		
	RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)		25		28		10		9		10		9				91		
	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")				4366				1450				1400					7216	
	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")				4366				1450				1400						7216
	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")																		
	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")																		
*	CONSTRUCTION PAVEMENT MARKINGS	1983				525	2000			500	2000				7008				
	TOTALS:													4048	33264	3830	91	7216	7216

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.

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
100+50	SITE 1 C.L. HWY. 274 CANEY CREEK	1
200+30	SITE 2 C.L. HWY. 274 LITTLE CANEY CREEK	1
300+27	SITE 3 C.L. HWY. 274 TAYLOR CREEK	1
TOTAL:		3

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
91+97	113+80	SITE 1 C.L. HWY. 274 - CANEY CREEK	22	22
197+00	204+25	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK	8	8
297+00	304+00	SITE 3 C.L. HWY. 274 - TAYLOR CREEK	7	7
TOTALS:			37	37

DUMPED RIPRAP AND FILTER BLANKET

STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
		CU. YD.	SQ. YD.
100+50	HWY. 274 - SITE 1 - LT.	196	391
100+50	HWY. 274 - SITE 1 - RT.	196	391
200+30	HWY. 274 - SITE 2 - LT.	81	162
200+30	HWY. 274 - SITE 2 - RT.	74	148
300+27	HWY. 274 - SITE 3 - LT.	92	184
300+27	HWY. 274 - SITE 3 - RT.	92	184
TOTALS:		731	1460

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
91+97.00	92+97.00	SITE 1 C.L. HWY 274 - CANEY CREEK	22.00	244.44
112+80.00	113+80.00	SITE 1 C.L. HWY 274 - CANEY CREEK	22.00	244.44
197+00.00	198+00.00	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK	22.00	244.44
203+25.00	204+25.00	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK	22.00	244.44
297+00.00	298+00.00	SITE 3 C.L. HWY. 274 - TAYLOR CREEK	22.00	244.44
303+00.00	304+00.00	SITE 3 C.L. HWY. 274 - TAYLOR CREEK	22.00	244.44
TOTAL:				1466.64

NOTE: AVERAGE MILLING DEPTH 1".

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	57	87
				(2)	QUANTITIES			

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 BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	SITE 1 C.L. HWY. 274 - CANEY CREEK - CLEARING AND GRUBBING									176	24	4410	536	536	715
ENTIRE	PROJECT	SITE 1 C.L. HWY. 274 - CANEY CREEK - STAGE 1						3.13	3.13	63.9				88	88	88
ENTIRE	PROJECT	SITE 1 C.L. HWY. 274 - CANEY CREEK - STAGE 2	1.96	3.92	1.96	199.9	1.96	3.92	3.92	80.0	44	6				4
ENTIRE	PROJECT	SITE 1 C.L. HWY. 274 - CANEY CREEK - STAGE 3	1.94	3.88	1.94	197.9	1.94	3.88	3.88	79.2						
ENTIRE	PROJECT	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK - CLEARING AND GRUBBING									132	24	1440	246	246	313
ENTIRE	PROJECT	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK - STAGE 1						0.90	0.90	18.4	44			121	121	123
ENTIRE	PROJECT	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK - STAGE 2	0.58	1.16	0.58	59.2	0.58	1.16	1.16	23.7			55			2
ENTIRE	PROJECT	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK - STAGE 3	0.74	1.48	0.74	75.5	0.74	1.48	1.48	30.2						
ENTIRE	PROJECT	SITE 3 C.L. HWY. 274 - TAYLOR CREEK - CLEARING AND GRUBBING									110	15	1660	320	320	391
ENTIRE	PROJECT	SITE 3 C.L. HWY. 274 - TAYLOR CREEK - STAGE 1						1.44	1.44	29.4	44			80	80	82
ENTIRE	PROJECT	SITE 3 C.L. HWY. 274 - TAYLOR CREEK - STAGE 2	0.75	1.50	0.75	76.5	0.75	1.50	1.50	30.6						
ENTIRE	PROJECT	SITE 3 C.L. HWY. 274 - TAYLOR CREEK - STAGE 3	1.10	2.20	1.10	112.2	1.10	2.20	2.20	44.9		6				2
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	1.00	2.00	1.00	102.0	1.00	2.00	2.00	40.8	44	27	757			28
TOTALS:			**8.07**	**16.14**	**8.07**	**823.20**	**8.07**	**21.61**	**21.61**	**441.1**	**594**	**102**	**8322**	**1391**	**1391**	**1748**

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.

STRUCTURES

STATION	DESCRIPTION	TEMPORARY CULVERT 60"	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.	LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL.	
53+91	SITE 2 C.L. TEMP. DETOUR - LITTLE CANEY CREEK	162									PCC-1, PCM-1, PCP-3
74+00	SITE 3 C.L. TEMP. DETOUR - TAYLOR CREEK	162									PCC-1, PCM-1, PCP-3
SUBTOTALS:		**324**									
	STRUCTURES OVER 20' - 0" SPAN										
100+50	SITE 1 C.L. HWY. 274 - CANEY CREEK		12	8	90	850.11	110954	372	63	0.79	RCB-1, RCB-2, PBC 1, SPECIAL DETAILS
200+30	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK		10	7	87	462.79	64522	200	42	0.53	RCB-1, RCB-2, PBC 1, SPECIAL DETAILS
300+27	SITE 3 C.L. HWY. 274 - TAYLOR CREEK		10	9	84	491.23	58624	197	45	0.57	RCB-1, RCB-2, PBC 1, SPECIAL DETAILS
SUBTOTALS:						**1804.13**	**234100**	**769**	**150**	**1.89**	
TOTALS:		**324**				**1804.13**	**234100**	**769**	**150**	**1.89**	

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.

NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

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 30"	STANDARD DRAWINGS
			FEET	SQ. YD.	TON	TON	LIN. FT.	
106+46	RT.	SITE 1 C.L. HWY. 274 - CANEY CREEK	20	224.52	24.70	91.68	46	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
201+22	RT.	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK	20	262.30	28.85	107.11		
* 201+22	RT.	SITE 2 C.L. HWY. 274 - TEMP. APPROACH	20			33.83		
TOTALS:				**486.82**	**53.55**	**232.62**	**46**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	15
DIRECTED BY THE ENGINEER	
TOTAL:	**15**

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

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED	225.00	200.00
		BY THE ENGINEER		
TOTAL:				**200.00**

NOTE: AVERAGE WIDTH = 8'-0"

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	13	26
DIRECTED BY THE ENGINEER		
TOTAL:	**13**	**26**

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

REMOVAL OF EXISTING BRIDGE STRUCTURE

STATION	STATION	LOCATION	LUMP SUM
100+10	101+17	SITE 1 C.L. HWY. 274 - CANEY CREEK	1.00
199+89	200+66	SITE 2 C.L. HWY. 274 - LITTLE CANEY CREEK	1.00
299+88	300+65	SITE 3 C.L. HWY. 274 - TAYLOR CREEK	1.00

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			1500	3
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			**1500**	**3**

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION	STONE BACKFILL
			CU. YD.		TON	TON
92+97	112+80	SITE 1 C.L. HWY. 274 - STAGE 1	130.0	5781.6	750	
92+97	112+80	SITE 1 C.L. HWY. 274 - STAGE 2&3	3178.0	1488.2		
198+00	203+25	SITE 2 C.L. HWY. 274 - STAGE 1	76.0	2503.0	250	
198+00	203+25	SITE 2 C.L. HWY. 274 - STAGE 2&3	172.0	2292.4		
298+00	303+00	SITE 3 C.L. HWY. 274 - STAGE 1	1.0	4769.0	250	
298+00	303+00	SITE 3 C.L. HWY. 274 - STAGE 2&3	100.0	3537.0		
ENTIRE	PROJECT	APPROACHES		205.0		
* 201+22	201+22	SITE 2 C.L. HWY. 274 - TEMPORARY APPROACH		80.0		
*		SITE 1 C.L. HWY. 274 - CHANNEL CHANGE	2189.0	45.0		
*		SITE 2 C.L. HWY. 274 - CHANNEL CHANGE	889.0	47.0		
*		SITE 3 C.L. HWY. 274 - CHANNEL CHANGE	1117.0	68.0		
*		SITE 1 CULVERT STONE BACKFILL				2083
*		SITE 2 CULVERT STONE BACKFILL				1260
*		SITE 3 CULVERT STONE BACKFILL				1239
TOTALS:			**7852**	**20816.2**	**1250**	**4582**

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
** QUANTITY FOR COMPACTED EMBANKMENT HAS R.C. BOX CULVERT DEDUCTION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-13-2021

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	58	87
				(2)	QUANTITIES			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-13-2021

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")							
						(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)															
				TON / STATION	TON	TOTAL WID	SQ.YD.	GALLON	TOTAL WID.	SQ.YD.	GALLON	TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TOTAL PG 64-22
			FEET			FEET			FEET				FEET			TON	FEET			TON	FEET			TON
MAIN LANES																								
91+97.00	92+97.00	SITE 1 C.L. HWY. 274 - TRANSITION	100.00						22.00	244.44	41.55	41.55									26.00	288.89	220.00	31.78	31.78
92+97.00	99+20.00	SITE 1 C.L. HWY. 274 - NOTCH AND WIDEN	623.00	100.25	624.56	12.70	879.12	43.96				43.96	6.40	443.02	330.00	73.10	6.30	436.10	220.00	47.97	26.00	1799.78	220.00	197.98	245.95
99+20.00	99+80.00	SITE 1 C.L. HWY. 274 - NOTCH AND WIDEN (RAISE GRADE)	60.00	92.50	55.50	44.71	298.07	14.90				14.90	22.46	149.73	330.00	24.71	22.25	148.33	220.00	16.32	26.00	173.33	220.00	19.07	35.39
99+80.00	101+44.32	SITE 1 C.L. HWY. 274 - FULL DEPTH	164.32	178.00	292.49	44.71	816.31	40.82				40.82	22.46	410.07	330.00	67.66	22.25	406.24	220.00	44.69	26.00	474.70	220.00	52.22	96.91
101+44.32	112+80.00	SITE 1 C.L. HWY. 274 - NOTCH AND WIDEN (SUPERELEVATION)	1135.68	124.00	1408.24	16.49	2080.82	104.04				104.04	8.28	1044.83	330.00	172.40	8.21	1035.99	220.00	113.96	26.00	3280.85	220.00		113.96
112+80.00	113+80.00	SITE 1 C.L. HWY. 274 - TRANSITION	100.00						22.00	244.44	41.55	41.55									26.00	288.89	220.00	31.78	31.78
94+95.00	99+80.00	SITE 1 C.L. HWY. 274 - TEMP. PAVEMENT WIDENING	485.00	70.00	339.50	10.59	570.68	28.53				28.53	10.59	570.68	330.00						14.30	770.61	220.00	84.77	84.77
99+80.00	101+19.00	SITE 1 C.L. HWY. 274 - TEMP. PAVEMENT WIDENING	139.00	100.00	139.00	22.46	346.88	17.34				17.34	22.46	346.88	330.00						26.00	401.56	220.00	44.17	44.17
101+19.00	105+81.00	SITE 1 C.L. HWY. 274 - TEMP. PAVEMENT WIDENING	462.00	64.25	296.84	9.09	466.62	23.33				23.33	9.09	466.62	330.00						12.80	657.07	220.00	72.28	72.28
197+00.00	198+00.00	SITE 2 C.L. HWY. 274 - TRANSITION	100.00						22.00	244.44	41.55	41.55									26.00	288.89	220.00	31.78	31.78
198+00.00	199+80.00	SITE 2 C.L. HWY. 274 - NOTCH AND WIDEN	180.00	100.25	180.45	4.71	94.20	4.71				4.71	2.46	49.20	330.00	8.12	2.25	45.00	220.00	4.95	26.00	520.00	220.00	57.20	62.15
199+80.00	200+80.00	SITE 2 C.L. HWY. 274 - FULL DEPTH	100.00	178.00	178.00	44.71	496.78	24.84				24.84	22.46	249.56	330.00	41.18	22.25	247.22	220.00	27.19	26.00	288.89	220.00	31.78	58.97
200+80.00	203+25.00	SITE 2 C.L. HWY. 274 - NOTCH AND WIDEN	245.00	100.25	245.61	4.71	128.22	6.41				6.41	2.46	66.97	330.00	11.05	2.25	61.25	220.00	6.74	26.00	707.78	220.00	77.86	84.60
203+25.00	204+25.00	SITE 2 C.L. HWY. 274 - TRANSITION	100.00						22.00	244.44	41.55	41.55									26.00	288.89	220.00	31.78	31.78
50+00.00	51+99.11	SITE 2 C.L. HWY. 274 - TEMPORARY DETOUR	199.11	54.50	108.51	8.83	195.35	9.77				9.77	8.83	195.35	330.00	32.23					10.68	236.28	220.00	25.99	25.99
51+99.11	55+97.34	SITE 2 C.L. HWY. 274 - TEMPORARY DETOUR	398.23	126.50	503.76	20.29	897.79	44.89				44.89	20.29	897.79	330.00	148.14					26.00	1150.44	220.00	126.55	126.55
55+97.34	57+96.45	SITE 2 C.L. HWY. 274 - TEMPORARY DETOUR	199.11	55.75	111.00	9.18	203.09	10.15				10.15	9.18	203.09	330.00	33.51					11.03	244.02	220.00	26.84	26.84
297+00.00	298+00.00	SITE 3 C.L. HWY. 274 - TRANSITION	100.00						22.00	244.44	41.55	41.55									23.59	262.11	220.00	28.83	28.83
298+00.00	299+20.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN	120.00	100.25	120.30	4.71	62.80	3.14				3.14	2.46	32.80	330.00	5.41	2.25	30.00	220.00	3.30	26.00	346.67	220.00	38.13	41.43
299+20.00	299+75.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN (RAISE GRADE)	55.00	100.25	55.14	44.71	273.23	13.66				13.66	22.46	137.26	330.00	22.65	22.25	135.97	220.00	14.96	26.00	158.89	220.00	17.48	32.44
299+75.00	300+80.00	SITE 3 C.L. HWY. 274 - FULL DEPTH	105.00	178.00	186.90	44.71	521.62	26.08				26.08	22.46	262.03	330.00	43.23	22.25	259.58	220.00	28.55	26.00	303.33	220.00	33.37	61.92
300+80.00	301+54.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN (RAISE GRADE)	74.00	100.25	74.19	44.71	367.62	18.38				18.38	22.46	184.67	330.00	30.47	22.25	182.94	220.00	20.12	26.00	213.78	220.00	23.52	43.64
301+54.00	303+00.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN	146.00	100.25	146.37	4.71	76.41	3.82					2.46	39.91	330.00	6.59	2.25	36.50	220.00	4.02	26.00	421.78	220.00	46.40	50.42
303+00.00	304+00.00	SITE 3 C.L. HWY. 274 - TRANSITION	100.00						22.00	244.44	41.55	41.55									26.00	288.89	220.00	31.78	31.78
70+00.00	71+99.11	SITE 3 C.L. HWY. 274 - TEMPORARY DETOUR	199.11	58.75	116.98	9.89	218.80	10.94				10.94	9.89	218.80	330.00	36.10					11.74	259.73	220.00	28.57	28.57
71+99.11	75+97.34	SITE 3 C.L. HWY. 274 - TEMPORARY DETOUR	398.23	126.50	503.76	26.29	1163.27	58.16				58.16	26.29	1163.27	330.00	191.94					26.00	1150.44	220.00	126.55	126.55
75+97.34	77+96.45	SITE 3 C.L. HWY. 274 - TEMPORARY DETOUR	199.11	55.75	111.00	9.15	202.43	10.12				10.12	9.15	202.43	330.00	33.40					11.00	243.36	220.00	26.77	26.77
ADDITIONAL FOR LEVELING																								
92+97.00	99+20.00	SITE 1 C.L. HWY. 274 - NOTCH AND WIDEN	623.00			15.83	1095.79	54.79	15.83	1095.79	186.28	241.07	15.83	1095.79	230.00	126.02	15.83	1095.79	220.00	120.54					120.54
99+20.00	99+80.00	SITE 1 C.L. HWY. 274 - NOTCH AND WIDEN (RAISE GRADE)	60.00	56.00	33.60				7.60	50.67	8.61	8.61	7.60	50.67	330.00	8.36									
101+44.32	112+80.00	SITE 1 C.L. HWY. 274 - NOTCH AND WIDEN	1135.68			13.87	1750.21	87.51	13.87	1750.21	297.54	385.05	13.87	1750.21	160.00	140.02	13.87	1750.21	220.00	192.52					192.52
198+00.00	199+80.00	SITE 2 C.L. HWY. 274 - NOTCH AND WIDEN	180.00			22.00	440.00	22.00	22.00	440.00	74.80	96.80	20.00	400.00	105.00	21.00	20.00	400.00	220.00	44.00					44.00
200+80.00	203+25.00	SITE 2 C.L. HWY. 274 - NOTCH AND WIDEN	245.00			22.00	598.89	29.94	22.00	598.89	101.81	131.75	20.00	544.44	160.00	43.56	20.00	544.44	220.00	59.89					59.89
298+00.00	299+20.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN	120.00			22.00	293.33	14.67	22.00	293.33	49.87	64.54	20.00	266.67	350.00	46.67	20.00	266.67	220.00	29.33					29.33
299+20.00	299+75.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN (RAISE GRADE)	55.00						22.00	134.44	22.85	22.85	22.00	134.44	650.00	43.69									
301+54.00	303+00.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN	146.00			22.00	356.89	17.84	22.00	356.89	60.67	78.51	20.00	324.44	260.00	42.18	20.00	324.44	220.00	35.69					35.69
300+80.00	301+54.00	SITE 3 C.L. HWY. 274 - NOTCH AND WIDEN (RAISE GRADE)	74.00						22.00	180.89	30.75	30.75	22.00	180.89	1190.00	107.63									
ADDITIONAL FOR SUPERELEVATION																								
101+44.32	112+80.00	SITE 1 C.L. HWY. 274	1135.68	17.50	198.74																			
101+44.32	112+80.00	SITE 1 C.L. HWY. 274 - TEMP. PAVEMENT WIDENING	1135.68	1.00	11.36																			
51+99.11	55+97.34	SITE 2 C.L. HWY. 274 - TEMPORARY DETOUR	398.23	6.25	24.89																			
71+99.11	75+97.34	SITE 3 C.L. HWY. 274 - TEMPORARY DETOUR	398.23	6.25	24.89																			
TOTALS:					**6091.58**		**14895.22**	**744.74**		**6367.75**	**1082.48**	**1823.40**		**12082.51**		**1561.02**		**7406.67**		**814.74**		**15509.85**		**1345.23**	**2159.97**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

ByronLawrence 1/13/2021 10:39:34 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_08B_QTY_001.dgn
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	59	87
				(2)	SUMMARY OF QUANTITIES AND REVISIONS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-13-2021

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	37	STATION
201	GRUBBING	37	STATION
207	STONE BACKFILL	4582	TON
SS & 210	UNCLASSIFIED EXCAVATION	7852	CU. YD.
210	COMPACTED EMBANKMENT	20816	CU. YD.
SP & 210	SOIL STABILIZATION	1250	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	6324	TON
SS & 401	TACK COAT	1849	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	1492	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	69	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	2097	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	117	TON
412	COLD MILLING ASPHALT PAVEMENT	1467	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	13	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	15	TON
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	60" TEMPORARY CULVERT	324	LIN. FT.
SS & 604	SIGNS	671	SQ. FT.
SS & 604	BARRICADES	144	LIN. FT.
SS & 604	TRAFFIC DRUMS	83	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	1412	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER	346	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	33264	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	3830	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	4048	LIN. FT.
SS & 604	VERTICAL PANELS	68	EACH
SP, SS, & 606	30" SIDE DRAIN	46	LIN. FT.
SS & 611	4" PIPE UNDERDRAINS	1500	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	3	EACH
620	LIME	16	TON
620	SEEDING	8.07	ACRE
SS & 620	MULCH COVER	29.68	ACRE
620	WATER	1266.2	M. GAL.
621	TEMPORARY SEEDING	21.61	ACRE
621	SILT FENCE	8322	LIN. FT.
621	SAND BAG DITCH CHECKS	594	BAG
621	SEDIMENT BASIN	1391	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	1391	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	1748	CU. YD.
621	ROCK DITCH CHECKS	102	CU. YD.
623	SECOND SEEDING APPLICATION	8.07	ACRE
624	SOLID SODDING	150	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	200	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	7216	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	7216	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	91	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	4	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	6	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	2	EACH
816	FILTER BLANKET	1460	SQ. YD.
816	DUMPED RIPRAP	731	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
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	769	CU. YD.
SS & 802	CLASS S CONCRETE-ROADWAY	1804.13	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	234100	POUND

REVISIONS

DATE	REVISION	SHEET NUMBER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	60	87
				(2)	SURVEY CONTROLS DETAILS			

SURVEY CONTROL COORDINATES

Project Name: s070435
Date: 3/12/2018
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1657696.1348	1140448.8654	198.739	CTL	ARDOT STD. MON. STAMPED PN:1
2	1657675.6156	1140982.5181	199.919	CTL	ARDOT STD. MON. STAMPED PN:2
3	1657653.0625	1141539.2474	200.985	CTL	ARDOT STD. MON. STAMPED PN:3
4	1657644.8315	1142674.5885	199.515	CTL	ARDOT STD. MON. STAMPED PN:4
5	1657702.0633	1143366.9713	206.348	CTL	ARDOT STD. MON. STAMPED PN:5
6	1657557.2613	1147822.8741	211.242	CTL	ARDOT STD. MON. STAMPED PN:6
7	1657529.3197	1148477.3008	211.434	CTL	ARDOT STD. MON. STAMPED PN:7
8	1657494.4835	1149207.5335	206.785	CTL	ARDOT STD. MON. STAMPED PN:8
9	1657486.7999	1149363.1233	206.780	CTL	ARDOT STD. MON. STAMPED PN:9
10	1657459.1613	1149931.3694	205.966	CTL	ARDOT STD. MON. STAMPED PN:10
11	1657434.1799	1150483.0525	206.418	CTL	ARDOT STD. MON. STAMPED PN:11
12	1656816.2260	1163860.2065	224.262	CTL	ARDOT STD. MON. STAMPED PN:12
13	1656758.4948	1164324.2026	217.692	CTL	ARDOT STD. MON. STAMPED PN:13
14	1656756.8923	1164970.9401	215.923	CTL	ARDOT STD. MON. STAMPED PN:14
15	1656724.0127	1165663.3184	214.435	CTL	ARDOT STD. MON. STAMPED PN:15
16	1656685.6972	1166503.2498	221.374	CTL	ARDOT STD. MON. STAMPED PN:16
100	1657685.2166	1144122.8999	212.565	GPS	ARDOT GPS #070002
101	1657647.2206	1142076.8324	195.565	GPS	ARDOT GPS #070002A
102	1655969.2456	1163815.6964	219.034	GPS	ARDOT GPS #070016
103	1657168.7670	1163835.8327	226.209	GPS	ARDOT GPS #070016A
900	1657753.6911	1143863.1966	212.415	TBM	CHISELED SQUARE
901	1657587.2853	1147282.0971	211.484	TBM	CHISELED SQUARE
902	1656826.1479	1163784.6735	225.738	TBM	CHISELED SQUARE
914	1658217.0615	1169893.7848	251.276	TBM	CHISELED SQ CENTER OF HEADWALL

*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 0.999939378670 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 s070435gi.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 - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 070002 - 070002A, 070016 - 070016A
CONVERGENCE ANGLE: CANEY CREEK LOCATION 00 18 50.81 LEFT AT N 33-36-50.70 W092-33-40.43
LITTLE CANEY CREEK LOCATION 00 18 00.06 LEFT AT LAT N 33-36-49.53 LON W092-32-09.75
TAYLOR CREEK LOCATION 00 16 15.72 LEFT AT LAT N 33-36-43.01 LON W092-29-03.32
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

ALIGNMENT NAME: HWY. 274 - SITE 1

POINT NAME	TYPE	STATION	NORTHING	EASTING
8000	POB	88+00.00	1657685.2425	1140341.1709
8001	PC	92+97.78	1657665.1210	1140838.5453
8003	PRC	96+97.49	1657642.0026	1141237.5602
8005	PT	101+02.01	1657618.6903	1141641.3953
8006	PC	103+69.32	1657607.9978	1141908.4829
8008	PT	110+66.07	1657622.4739	1142604.6577
8009	POE	114+00.00	1657649.6900	1142937.4722

ALIGNMENT NAME: HWY. 274 - SITE 2

POINT NAME	TYPE	STATION	NORTHING	EASTING
8010	POB	192+00.00	1657515.0399	1148433.9964
8011	POE	209+00.00	1657434.4650	1150132.0859

ALIGNMENT NAME: HWY. 274 - SITE 3

POINT NAME	TYPE	STATION	NORTHING	EASTING
8012	POB	292+00.00	1656783.9504	1164092.7466
8013	POE	309+00.00	1656703.3755	1165790.8360

ALIGNMENT NAME: HWY. 274 SITE 2 TEMP DETOUR

POINT NAME	TYPE	STATION	NORTHING	EASTING
8021	PC	50+00.00	1657494.8664	1148859.1457
8023	PRC	51+99.11	1657458.0811	1149054.1783
8025	PRC	55+97.34	1657439.4487	1149446.8502

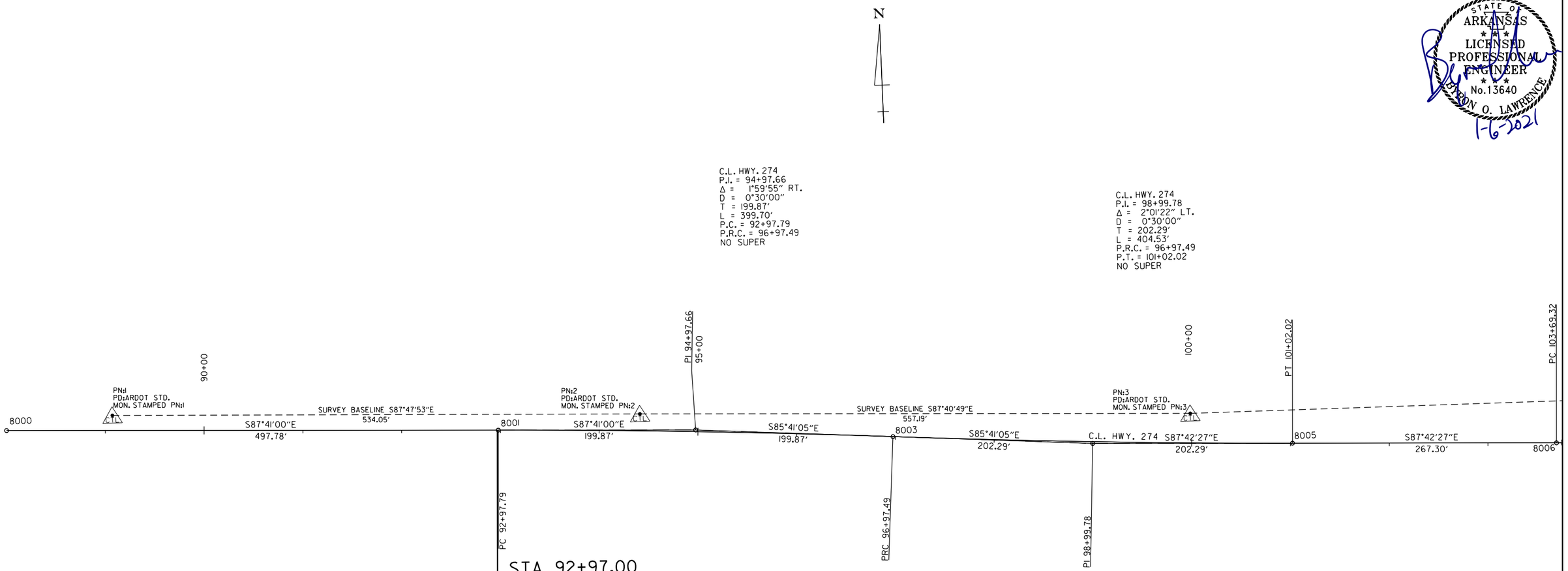
ALIGNMENT NAME: HWY. 274 SITE 3 TEMP DETOUR

POINT NAME	TYPE	STATION	NORTHING	EASTING
8014	PC	71+00.00	1656763.3855	1164526.1453
8016	PRC	72+99.11	1656781.5384	1164723.7846
8018	PRC	76+97.34	1656762.9060	1165116.4565

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	61	87
				(2)	SURVEY CONTROLS DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



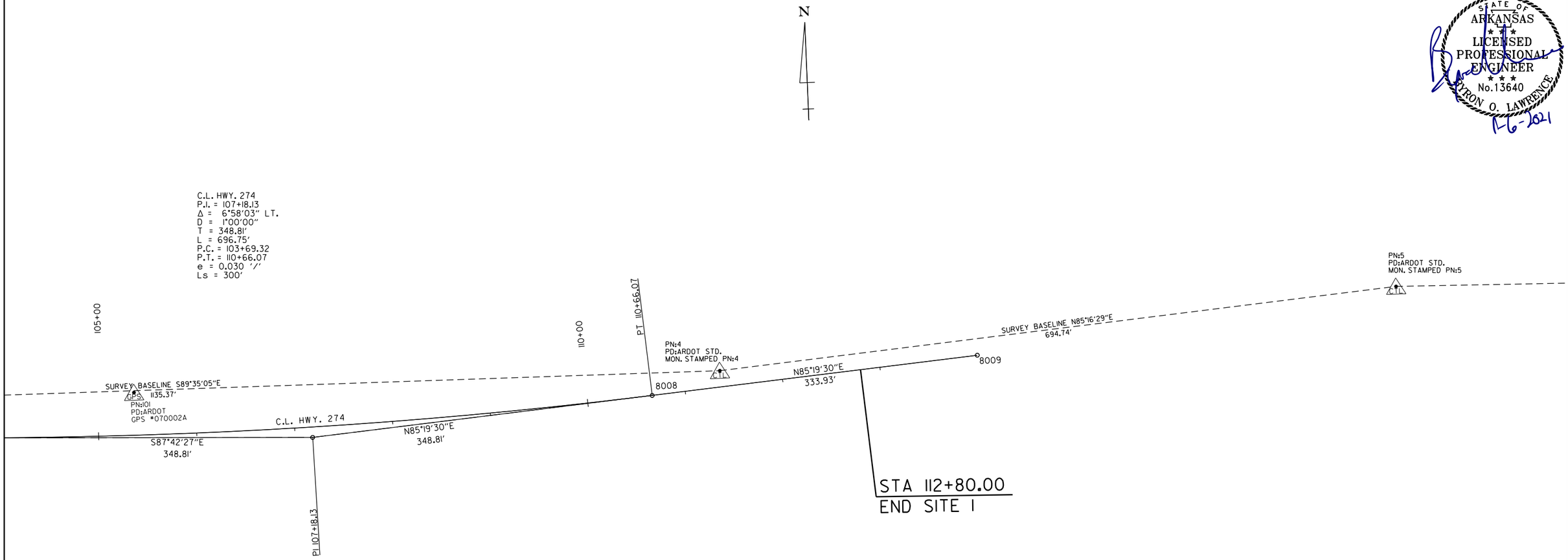
HWY. 274 - SITE 1
SURVEY CONTROLS DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
~~NOTE~~			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	62	87

(2) SURVEY CONTROLS DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
12-6-2021



HWY. 274 - SITE 1
SURVEY CONTROLS DETAILS

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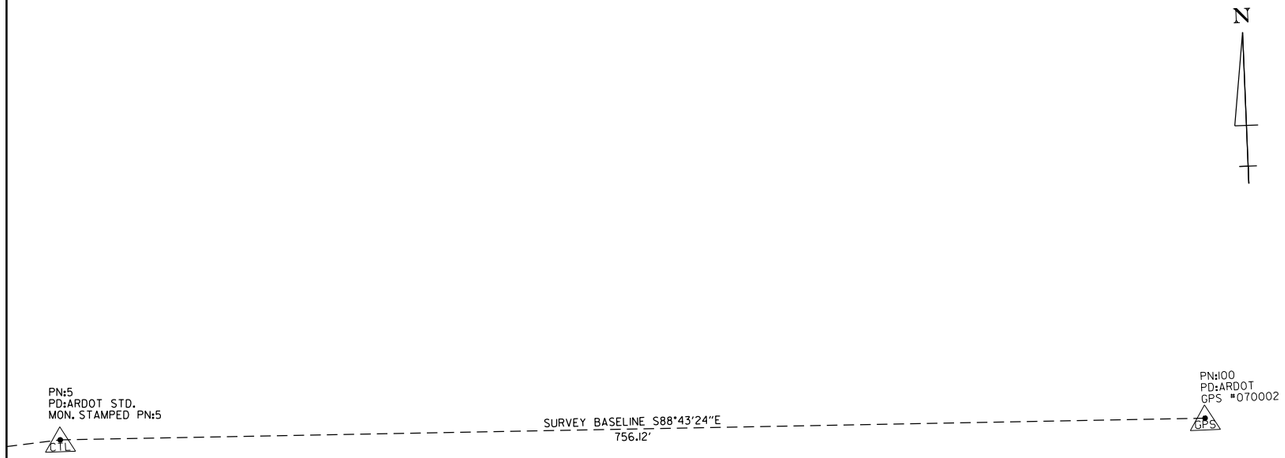
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
NOTE			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	63	87

2 SURVEY CONTROLS DETAILS

STATE OF
ARKANSAS
LICENSED
PROFESSIONAL
ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



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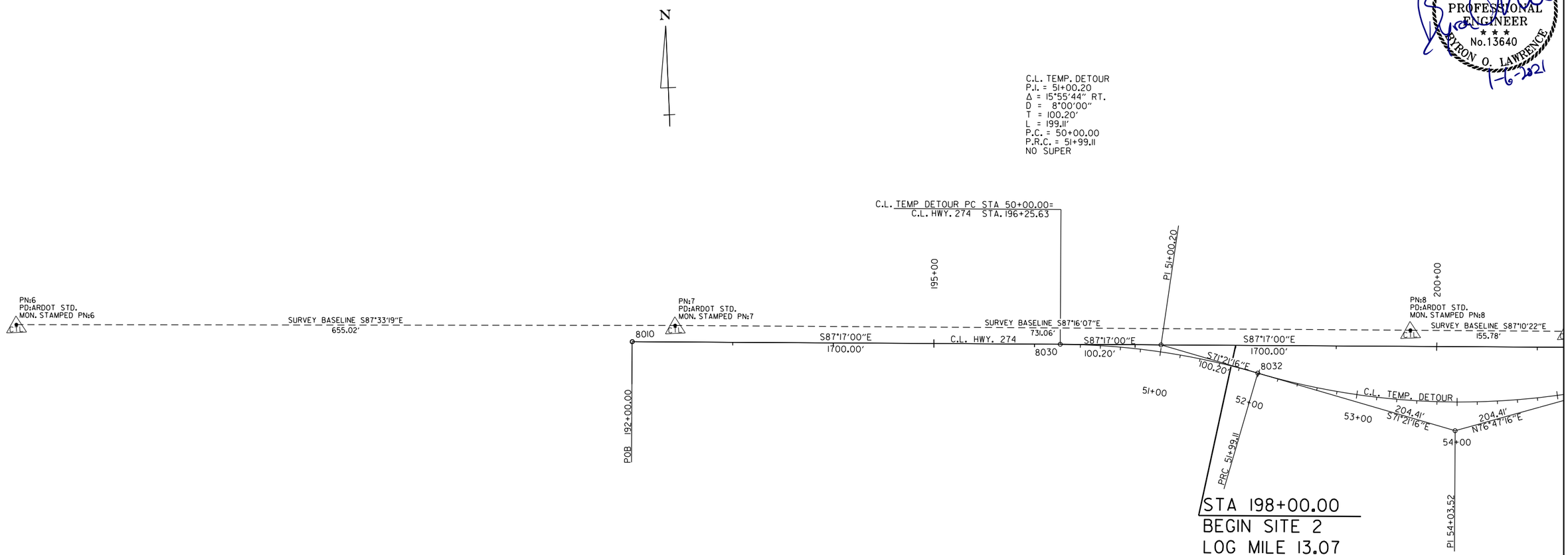
REVISED DATE: $$REVDATE$$

HWY. 274 - SITE 1
SURVEY CONTROLS DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	64	87

(2) SURVEY CONTROLS DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



C.L. TEMP. DETOUR
P.I. = 54+03.52
Δ = 31°51'28" LT.
D = 8°00'00"
T = 204.41'
L = 398.22'
P.R.C. = 51+99.11
P.R.C. = 55+97.34
Ls = 199.12'
e = 0.066'/'

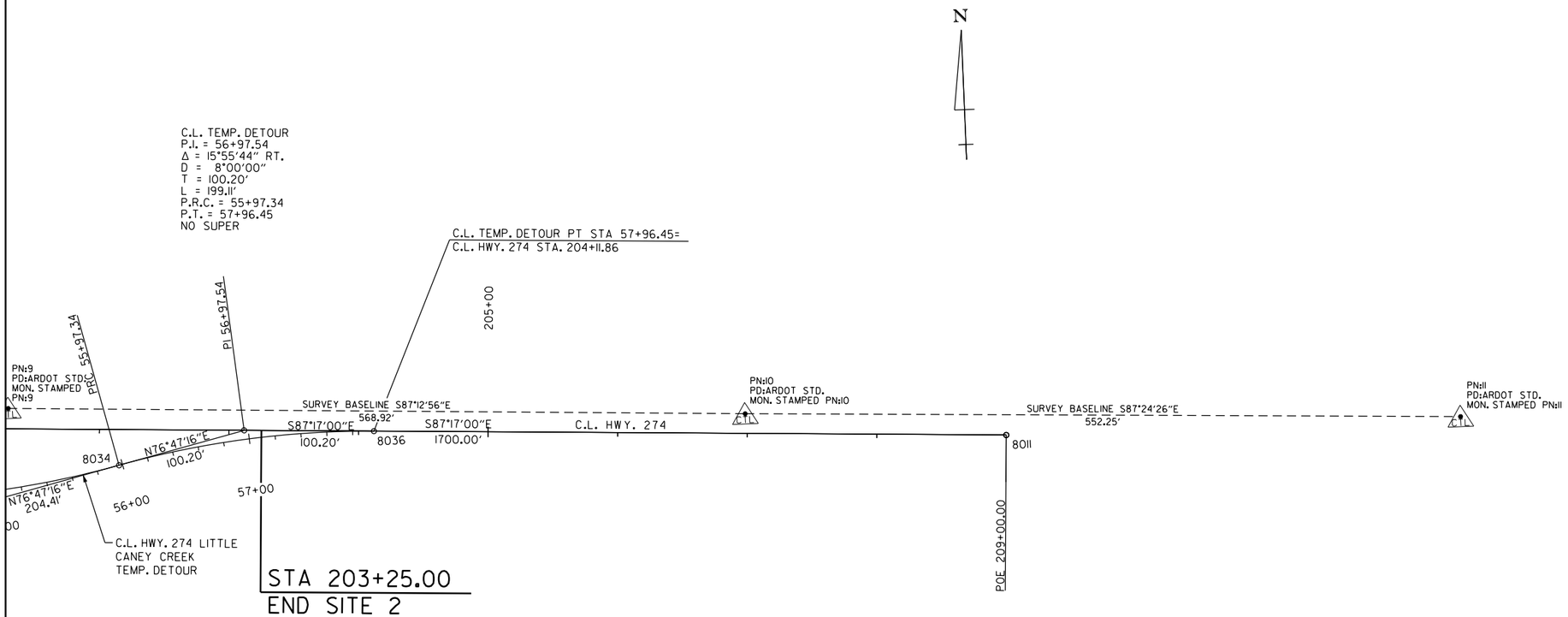
HWY. 274 - SITE 2
SURVEY CONTROLS DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	65	87

(2) SURVEY CONTROLS DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021

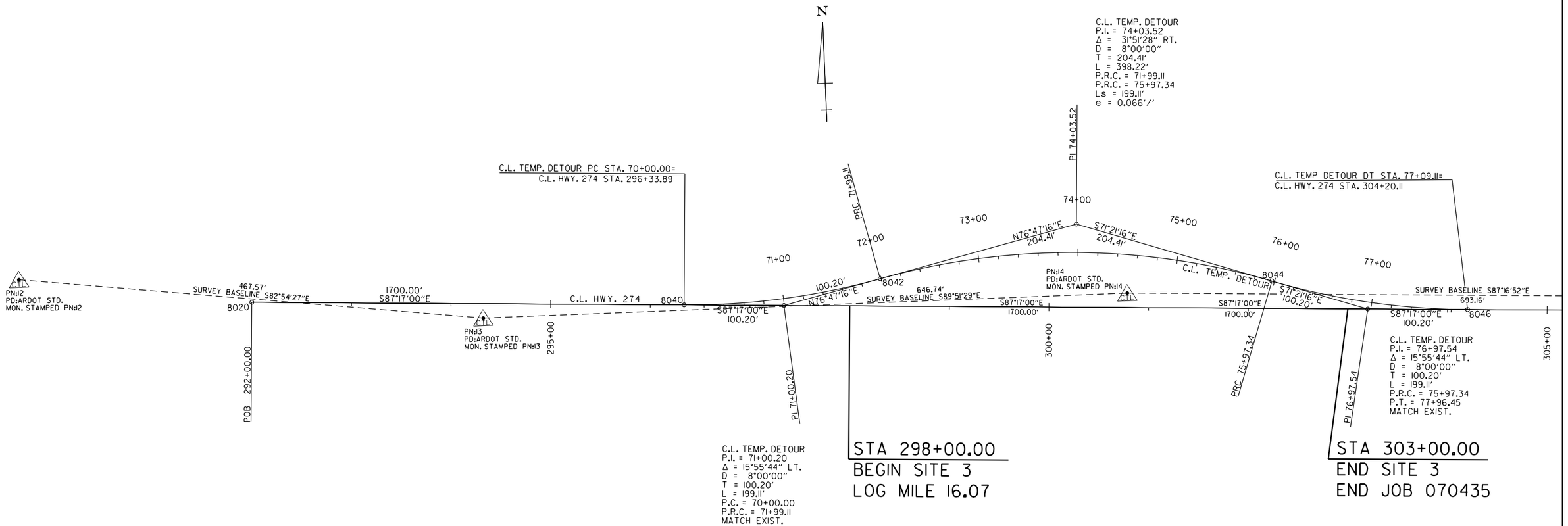


HWY. 274 - SITE 2
SURVEY CONTROLS DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	66	87
(2)	SURVEY CONTROLS DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021



HWY. 274 - SITE 3
SURVEY CONTROLS DETAILS

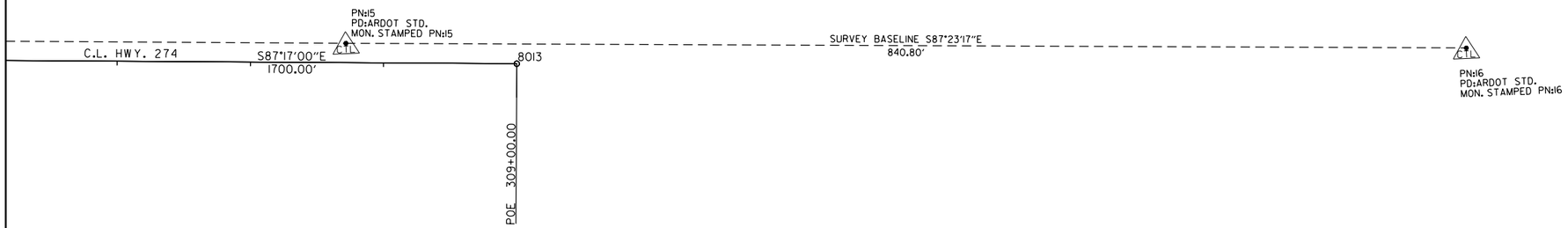
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	67	87

(2) SURVEY CONTROLS DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-6-2021

N



HWY. 274 - SITE 3
SURVEY CONTROLS DETAILS

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REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	68	87
				(2)	PLAN AND PROFILE			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.13640
BYRON O. LAWRENCE
1-13-2021

N

C.L. HWY. 274
P.I. = 94+97.66
Δ = 1°59'55" RT.
D = 0°30'00"
T = 199.87'
L = 399.70'
P.C. = 92+97.79
P.R.C. = 96+97.49
NO SUPER

C.L. HWY. 274
P.I. = 98+99.78
Δ = 2°01'22" LT.
D = 0°30'00"
T = 202.29'
L = 404.53'
P.R.C. = 96+97.49
P.T. = 101+02.02
NO SUPER

STA. 100+50 LT.
INSTALL
196 CU. YDS.
DUMPED RIPRAP

C.L. HWY. 274
P.I. = 107+18.13
Δ = 6°58'03" LT.
D = 1°00'00"
T = 348.81'
L = 696.75'
P.C. = 103+69.32
P.T. = 110+66.07
e = 0.030 '/'
Ls = 300'

STA. 100+10 TO STA. 101+17
EXISTING BRIDGE NO. 2455
107.0' X 29.8' TREATED TIMBER SUPERSTRUCTURE (7-SPAN)
WITH CONCRETE DECK ON TIMBER SUBSTRUCTURE
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 1) = 1.00 LUMP SUM

100' TRANSITION TO MATCH EXIST.

EXIST. R/W

CONST. LIMITS

4' / 22' / 4'

S87°41'00"E

S85°41'05"E

C.L. HWY. 274 (EXISTING)
S87°42'27"E

C.L. HWY. 274

PROP. R/W

CANEY CREEK

PI 94+97.66

PC 92+97.79

PRC 96+97.49

PI 98+99.78

PT 101+02.02

PC 103+69.32

90+00 / 95+00 / 100+00 / +00 49.78 / +97.49 60' / +50 / +40 75' / +40 150' / +50 150' / +45 70' / +69.32 65'

2000 LC HWY 274

LEGEND

PAVEMENT TRANSITION

DUMPED RIPRAP

STA. 92+97.00
BEGIN SITE 1
BEGIN JOB 070435
LOG MILE 11.50

STA. 100+50 RT.
INSTALL
196 CU. YDS.
DUMPED RIPRAP

STA. 100+50.00
CONSTRUCT SEPTUPLE
12'X8'X90' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
20° LT. FWD. SKEW
Q25=1610 CFS D.A.=11.9 SQ. MI.
SPAN=94.89'

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

HWY. 274 - SITE 1

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROLS.

STA. 101+44.32 BEGIN SUPERELEVATION
STA. 104+44.32 MAX SUPERELEVATION (0.030'/')
STA. 109+91.07 MAX SUPERELEVATION (0.030'/')
STA. 111+31.07 END SUPERELVATION (0.016'/') (MATCH EXIST.)

STREAM	STREAM ID	STATION	STREAM TYPE	TOP OF CHANNEL ELEV.
CANEY CREEK	S1	100+10-100+80	PERENNIAL	195 FT. MSL

PVI 92+97.00
ELEV. 200.66

PVC 93+00.00
ELEV. 200.67

PVI 100+50.00
ELEV. 204.50

PROFILE GRADE

ELEV. 202.4

0.53% (EXIST.) / 0.51% / 0.51% / -0.45%

100' TRANSITION TO MATCH EXIST.

EXIST. GROUND

VC=1500.00'
K=1563
e=-1.80'

Q25 = 198.28

0.08% RT. DT. GR.

2:1 / 2:1

LIMITS OF UNCLASSIFIED EXCAVATION: (CHANNEL CHANGE)

FL IN LT. = 192.00
FL OUT RT. = 191.25

+00.00 RT. 195.00

LIMITS OF UNCLASSIFIED EXCAVATION: (CHANNEL CHANGE)

HWY. 274 - SITE 1
PLAN AND PROFILE

250 / 240 / 230 / 220 / 210 / 200 / 190 / 180 / 170 / 160 / 150

89+00 / 90+00 / 91+00 / 92+00 / 93+00 / 94+00 / 95+00 / 96+00 / 97+00 / 98+00 / 99+00 / 100+00 / 101+00 / 102+00 / 103+00 / 104+00

ByronLawrence 1/13/2021 10:53:30 AM
WORKSPACE: ARDOT
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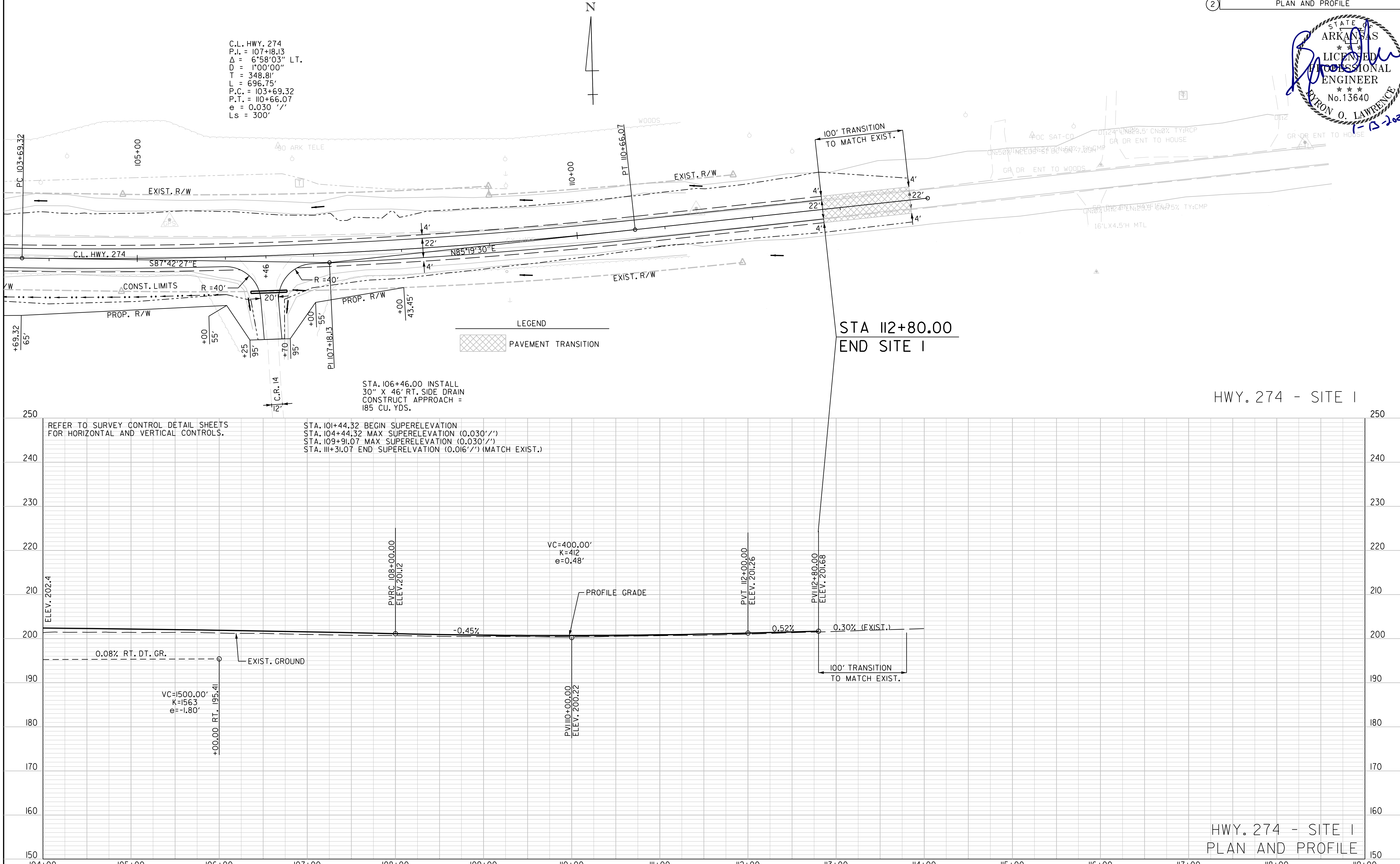
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	69	87

(2) PLAN AND PROFILE



N
C.L. HWY. 274
P.I. = 107+18.13
Δ = 6°58'03" LT.
D = 1°00'00"
T = 348.81'
L = 696.75'
P.C. = 103+69.32
P.T. = 110+66.07
e = 0.030 '/'
Ls = 300'
PC 103+69.32
105+00
110+00
PT 110+66.07
EXIST. R/W
CONST. LIMITS
PROP. R/W
C.L. HWY. 274
S87°42'27"E
N85°19'30"E
R =40'
20'
C.R. 14
12'
PI 107+18.13
100' TRANSITION TO MATCH EXIST.
STA 112+80.00
END SITE 1
LEGEND
PAVEMENT TRANSITION
STA. 106+46.00 INSTALL 30" X 46' RT. SIDE DRAIN CONSTRUCT APPROACH = 185 CU. YDS.
HWY. 274 - SITE 1
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROLS.
STA. 101+44.32 BEGIN SUPERELEVATION
STA. 104+44.32 MAX SUPERELEVATION (0.030'/')
STA. 109+91.07 MAX SUPERELEVATION (0.030'/')
STA. 111+31.07 END SUPERELVATION (0.016'/') (MATCH EXIST.)
ELEV. 202.4
PVRC 108+00.00 ELEV. 201.12
VC=400.00' K=412 e=0.48'
PROFILE GRADE
PVT 112+00.00 ELEV. 201.26
PVI 112+80.00 ELEV. 201.68
-0.45%
0.52%
0.30% (EXIST.)
0.08% RT. DT. GR.
EXIST. GROUND
100' TRANSITION TO MATCH EXIST.
VC=1500.00' K=1563 e=-1.80'
+00.00 RT. 195.41
PVI 110+00.00 ELEV. 200.22
HWY. 274 - SITE 1
PLAN AND PROFILE

ByronLawrence 1/13/2021 10:53:31 AM
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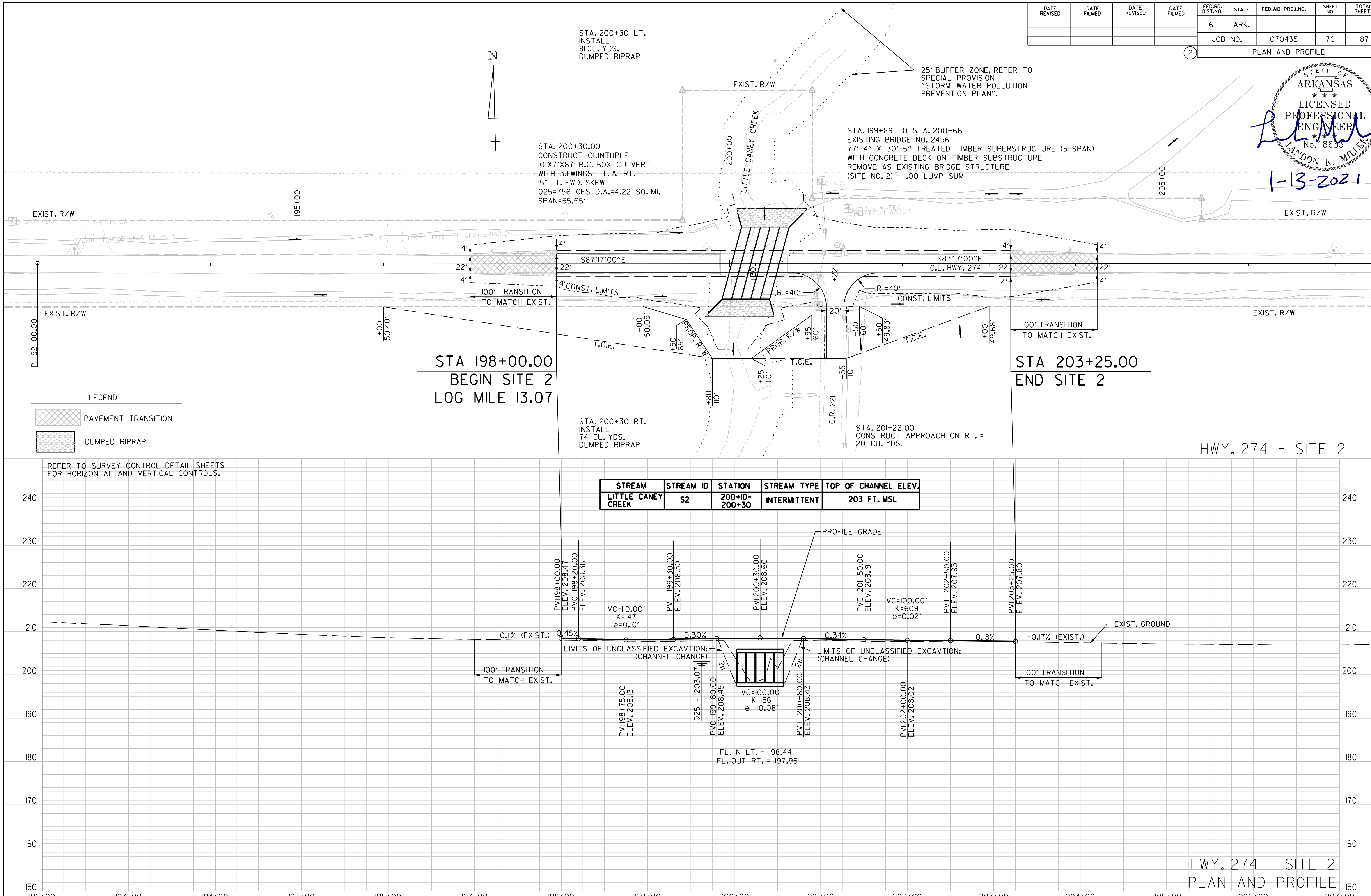
REVISED DATE: $$REVDATE$$



STA. 200+30 LT.
INSTALL
81 CU. YDS.
DUMPED RIPRAP
N
EXIST. R/W
LITTLE CANEY CREEK
200+00
25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".
STA. 199+89 TO STA. 200+66
EXISTING BRIDGE NO. 2456
77'-4" X 30'-5" TREATED TIMBER SUPERSTRUCTURE (5-SPAN)
WITH CONCRETE DECK ON TIMBER SUBSTRUCTURE
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 2) = 1.00 LUMP SUM
STA. 200+30.00
CONSTRUCT QUINTUPLE
10'X7'X87' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
15° LT. FWD. SKEW
Q25=756 CFS D.A.=4.22 SQ. MI.
SPAN=55.65'
195+00
205+00
EXIST. R/W
S87°17'00"E
C.L. HWY. 274
4'
22'
4' CONST. LIMITS
R =40'
20'
CONST. LIMITS
100' TRANSITION
TO MATCH EXIST.
EXIST. R/W
PI 192+00.00
+00 50.40'
+00 50.09'
+50 65'
PROP. R/W
T.C.E.
+80 110'
+25 110'
+95 60'
+35 110'
+50 60'
+50 49.83'
+00 49.68'
C.R. 221
STA 198+00.00
BEGIN SITE 2
LOG MILE 13.07
STA 203+25.00
END SITE 2
LEGEND
PAVEMENT TRANSITION
DUMPED RIPRAP
STA. 200+30 RT.
INSTALL
74 CU. YDS.
DUMPED RIPRAP
STA. 201+22.00
CONSTRUCT APPROACH ON RT. =
20 CU. YDS.
HWY. 274 - SITE 2
REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROLS.
PROFILE GRADE
PVI 198+00.00 ELEV. 208.47
PVC 198+20.00 ELEV. 208.38
VC=110.00' K=147 e=0.10'
PVT 199+30.00 ELEV. 208.30
PVI 200+30.00 ELEV. 208.60
PVC 201+50.00 ELEV. 208.19
VC=100.00' K=609 e=0.02'
PVT 202+50.00 ELEV. 207.93
PVI 203+25.00 ELEV. 207.80
-0.11% (EXIST.)
-0.45%
0.30%
-0.34%
-0.18%
-0.17% (EXIST.)
EXIST. GROUND
LIMITS OF UNCLASSIFIED EXCAVTION: (CHANNEL CHANGE)
LIMITS OF UNCLASSIFIED EXCAVTION: (CHANNEL CHANGE)
100' TRANSITION
TO MATCH EXIST.
PVI 198+75.00 ELEV. 208.13
Q25 = 203.07
PVC 199+80.00 ELEV. 208.45
VC=100.00' K=156 e=-0.08'
PVT 200+80.00 ELEV. 208.43
PVI 202+00.00 ELEV. 208.02
FL. IN LT. = 198.44
FL. OUT RT. = 197.95
240
230
220
210
200
190
180
170
160
150
192+00
193+00
194+00
195+00
196+00
197+00
198+00
199+00
200+00
201+00
202+00
203+00
204+00
205+00
206+00
207+00
HWY. 274 - SITE 2
PLAN AND PROFILE
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 18655 LANDON K. MILLER
1-13-2021
ByronLawrence 1/13/2021 10:53:32 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_i2_PP_003.dgn
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	70	87
				(2)	PLAN AND PROFILE			

STREAM	STREAM ID	STATION	STREAM TYPE	TOP OF CHANNEL ELEV.
LITTLE CANEY CREEK	S2	200+10-200+30	INTERMITTENT	203 FT. MSL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	71	87
				(2)	PLAN AND PROFILE			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18633
LANDON K. MILLER
1-13-2021

N

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

STA. 299+88 TO STA. 300+65
EXISTING BRIDGE NO. 2457
77'-4" X 30'-5" TREATED TIMBER SUPERSTRUCTURE (5-SPAN) WITH CONCRETE DECK ON TIMBER SUBSTRUCTURE
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 3) = 1.00 LUMP SUM

TAYLOR CREEK

STA. 300+27 LT.
INSTALL
92 CU. YDS.
DUMPED RIPRAP

300+00

EXIST. R/W

+14.70 100'

+20 74.93'

T.C.E.

CONST. LIMITS

100' TRANSITION TO MATCH EXIST.

295+00

EXIST. R/W

4' 22' 4'

S87°17'00"E

CONST. LIMITS

PROP. R/W

+00 50.09'

+14.81 55'

EXIST. R/W

+27

+14.70 110'

+14.71 85'

T.C.E.

+60 60'

PROP. R/W

CONST. LIMITS

100' TRANSITION TO MATCH EXIST.

+10 50.25'

305+00

EXIST. R/W

S87°17'00"E C.L. HWY. 274

4' 22' 4'

CONST. LIMITS

PROP. R/W

+14.81 60'

+00 49.82'

EXIST. R/W

ACCORDING TO RAMP FOR SITE 3 ONLY

LEGEND

PAVEMENT TRANSITION

DUMPED RIPRAP

STA 298+00.00
BEGIN SITE 3
LOG MILE 16.07

STA. 300+27.00
CONSTRUCT QUINTUPLE
10'x9'x84' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q25=1150 CFS D.A.=7.57 SQ. MI.
SPAN=54.00'

STA 303+00.00
END SITE 3
END JOB 070435

STA. 300+27 RT.
INSTALL
92 CU. YDS.
DUMPED RIPRAP

HWY. 274 - SITE 3

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROLS.

STREAM	STREAM ID	STATION	STREAM TYPE	TOP OF CHANNEL ELEV.
TAYLOR CREEK	S3	300+10-300+40	INTERMITTENT	207 FT. MSL

PVC 298+00.00 ELEV.216.72
VC=100.00' K=143 e=0.09'
PVT 299+00.00 ELEV.217.17
PVI 300+40.00 ELEV. 218.29
PROFILE GRADE
PVC 301+90.00 ELEV.216.94
VC=100.00' K=173 e=0.07'
PVT 302+90.00 ELEV.216.33
PVI 303+00.00 ELEV. 216.29

0.12% (EXIST.) 0.10% 0.80% 0.80% -0.90% -0.90% -0.32% -0.18% (EXIST.)

EXIST. GROUND

LIMITS OF EXCAVTION
LIMITS OF EXCAVTION
2:1
2:1

100' TRANSITION TO MATCH EXIST.
100' TRANSITION TO MATCH EXIST.

PVI 298+50.00 ELEV. 216.77
PVC 299+05.00 ELEV.217.21
Q25 = 212.03
FL. IN LT. = 205.36
FL. OUT RT. =204.94
VC=270.00' K=159 e=-0.57'
PVT 301+75.00 ELEV.217.08
PVI 302+40.00 ELEV. 216.49

250 240 230 220 210 200 190 180 170 160 150

293+00 294+00 295+00 296+00 297+00 298+00 299+00 300+00 301+00 302+00 303+00 304+00 305+00 306+00 307+00 308+00

HWY. 274 - SITE 3

ByronLawrence 1/13/2021 10:53:32 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_12_PP_004.dgn
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	72	87
				(2)	PLAN AND PROFILE			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18633
LANDON K. MILLER
1-13-2021

C.L. TEMP. DETOUR
P.I. = 51+00.20
Δ = 15°55'44" RT.
D = 8°00'00"
T = 100.20'
L = 199.11'
P.C. = 50+00.00
P.R.C. = 51+99.11
NO SUPER

C.L. TEMP. DETOUR
P.I. = 54+03.52
Δ = 31°51'28" LT.
D = 8°00'00"
T = 204.41'
L = 398.22'
P.R.C. = 51+99.11
P.R.C. = 55+97.34
e = 0.092'/'
Ls = 275'

25' BUFFER ZONE, REFER TO SPECIAL PROVISION "STORM WATER POLLUTION PREVENTION PLAN".

C.L. TEMP. DETOUR
P.I. = 56+97.54
Δ = 15°55'44" RT.
D = 8°00'00"
T = 100.20'
L = 199.11'
P.R.C. = 55+97.34
P.T. = 57+96.45
NO SUPER

STA. 53+91.00 INSTALL
TRI. 60" X 54' TEMP. PIPE CULVERT
10° LT. FWD. SKEW

C.L. TEMP DETOUR P.C. STA. 50+00.00 = C.L. HWY. 274 STA. 196+25.63

C.L. TEMP. DETOUR P.T. STA. 57+96.45 = C.L. HWY. 274 STA. 204+11.86

N

EXIST. R/W

LITTLE CANEY CREEK

C.L. HWY. 274

C.L. TEMP. DETOUR

PROP. R/W

T.C.E.

C.L. HWY 274 LITTLE CANEY CREEK TEMP. DETOUR

PI 51+00.20

PRC 51+99.11

PI 54+03.52

PRC 55+97.34

PI 56+97.54

S87°17'00"E

S71°21'16"E

N76°47'16"E

195+00

200+00

205+00

51+00

52+00

53+00

54+00.

55+00

56+00

57+00

C.L. HWY. 274
STA. 201+22.00
CONST. TEMP. APPROACH ON RT. = 80 CU. YDS.

PLAN AND PROFILE
HWY. 274 - SITE 2 - TEMP. DETOUR

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROLS.

STA. 51+99.11 BEGIN SUPERELEVATION
STA. 53+98.22 MAX. SUPERELEVATION (0.066'/')
STA. 53+98.22 MAX. SUPERELEVATION (0.066'/')
STA. 55+97.34 END SUPERELEVATION

PVI 51+26.39 ELEV. 207.85
PVI 52+00.00 ELEV. 207.64
PVC 52+60.00 ELEV. 206.74
PVI 54+00.00 ELEV. 204.64
PVT 55+40.00 ELEV. 206.53
PVI 56+10.00 ELEV. 207.47
PVI 56+73.64 ELEV. 207.41
PVC 51+50.00 ELEV. 207.78
PVT 52+50.00 ELEV. 206.89
PVC 55+55.00 ELEV. 206.73
PVT 56+65.00 ELEV. 207.42

PROFILE GRADE

EXIST. GROUND

-0.28%
-1.50%
1.35%
-0.10%

VC=280.00'
K=98
e=1.00'

VC=100.00'
K=82
e=-0.15'

VC=110.00'
K=76
e=-0.20'

FL. IN LT. = 198.12
FL. OUT RT. = 197.50

240 230 220 210 200 190 180 170 160 150

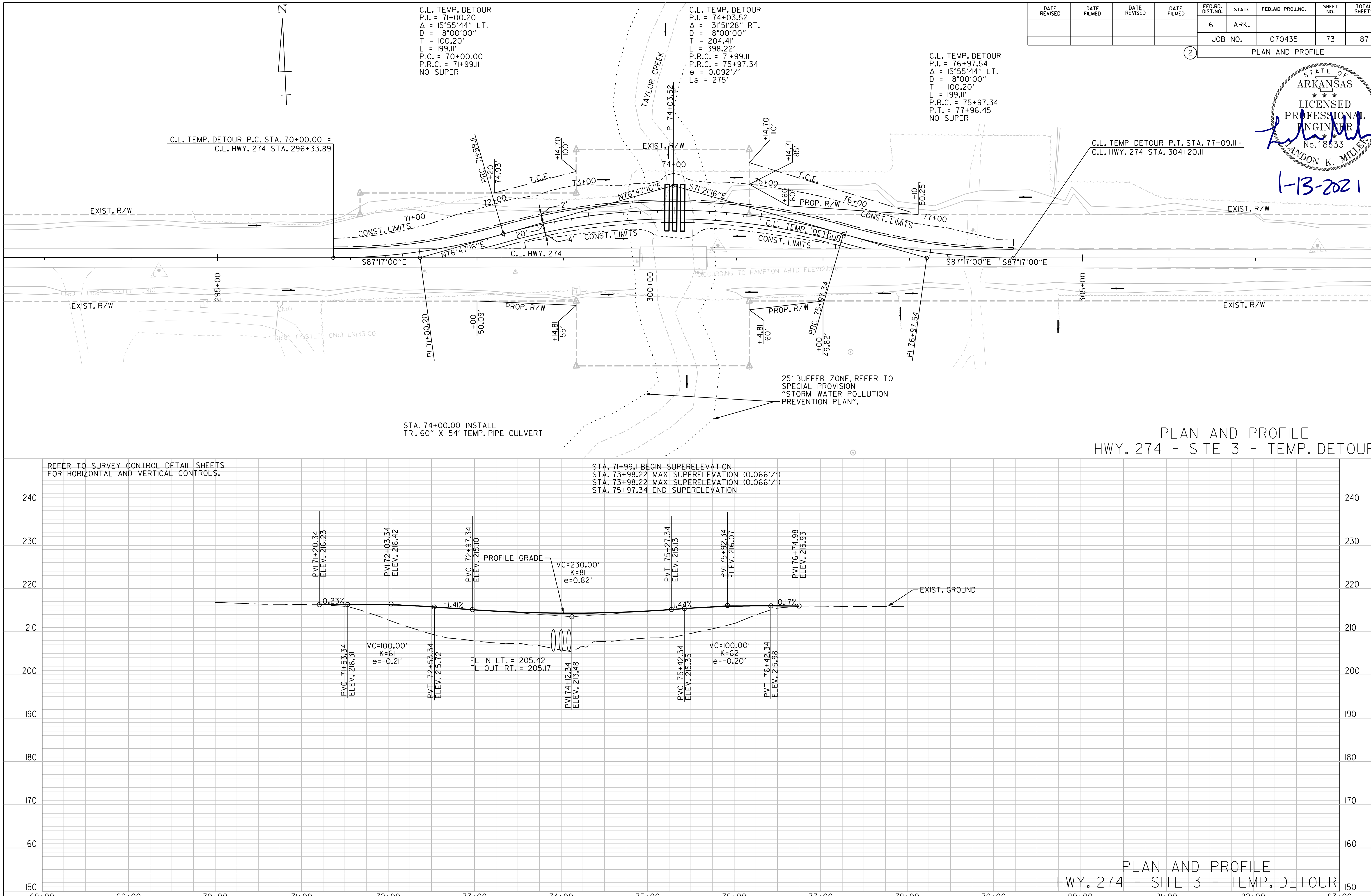
48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00

PLAN AND PROFILE
HWY. 274 - SITE 2 - TEMP. DETOUR

ByronLawrence 1/13/2021 10:53:33 AM
WORKSPACE: ARDOT
Y:\Projects\Ar-DOT_166694_070435 Caney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_12_PP_005.dgn
REVISED DATE: $$REVDATE$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	73	87

(2) PLAN AND PROFILE



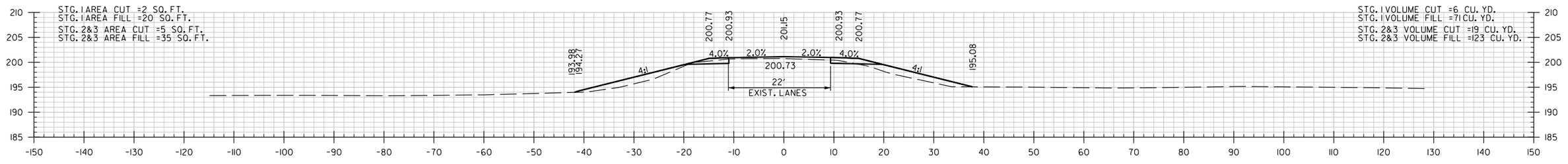
N
C.L. TEMP. DETOUR
P.I. = 71+00.20
Δ = 15°55'44" LT.
D = 8°00'00"
T = 100.20'
L = 199.11'
P.C. = 70+00.00
P.R.C. = 71+99.11
NO SUPER
C.L. TEMP. DETOUR
P.I. = 74+03.52
Δ = 31°51'28" RT.
D = 8°00'00"
T = 204.41'
L = 398.22'
P.R.C. = 71+99.11
P.R.C. = 75+97.34
e = 0.092'/'
Ls = 275'
C.L. TEMP. DETOUR
P.I. = 76+97.54
Δ = 15°55'44" LT.
D = 8°00'00"
T = 100.20'
L = 199.11'
P.R.C. = 75+97.34
P.T. = 77+96.45
NO SUPER
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.18633 LANDON K. MILLER
1-13-2021
TAYLOR CREEK
C.L. TEMP. DETOUR P.C. STA. 70+00.00 =
C.L. HWY. 274 STA. 296+33.89
C.L. TEMP DETOUR P.T. STA. 77+09.11 =
C.L. HWY. 274 STA. 304+20.11
EXIST. R/W
PROP. R/W
CONST. LIMITS
T.C.E.
C.L. HWY. 274
C.L. TEMP. DETOUR
N76°47'16"E
S71°21'16"E
S87°17'00"E
PI 71+00.20
PI 74+03.52
PI 76+97.54
PRC 71+99.11
PRC 75+97.34
295+00
300+00
305+00
25' BUFFER ZONE, REFER TO
SPECIAL PROVISION
"STORM WATER POLLUTION
PREVENTION PLAN".
STA. 74+00.00 INSTALL
TRI. 60" X 54' TEMP. PIPE CULVERT
PLAN AND PROFILE
HWY. 274 - SITE 3 - TEMP. DETOUR
REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROLS.
STA. 71+99.11 BEGIN SUPERELEVATION
STA. 73+98.22 MAX SUPERELEVATION (0.066'/')
STA. 73+98.22 MAX SUPERELEVATION (0.066'/')
STA. 75+97.34 END SUPERELEVATION
PVI 71+20.34 ELEV. 216.23
PVI 72+03.34 ELEV. 216.42
PVC 72+97.34 ELEV. 215.10
PVT 75+27.34 ELEV. 215.13
PVI 75+92.34 ELEV. 216.07
PVI 76+74.98 ELEV. 215.93
PROFILE GRADE
VC=230.00'
K=81
e=0.82'
EXIST. GROUND
0.23%
-1.41%
1.44%
-0.17%
PVC 71+53.34 ELEV. 216.31
VC=100.00'
K=61
e=-0.21'
PVT 72+53.34 ELEV. 215.72
FL IN LT. = 205.42
FL OUT RT. = 205.17
PVI 74+12.34 ELEV. 213.48
PVC 75+42.34 ELEV. 215.35
VC=100.00'
K=62
e=-0.20'
PVT 76+42.34 ELEV. 215.98
240
230
220
210
200
190
180
170
160
150
68+00
69+00
70+00
71+00
72+00
73+00
74+00
75+00
76+00
77+00
78+00
79+00
80+00
81+00
82+00
83+00
PLAN AND PROFILE
HWY. 274 - SITE 3 - TEMP. DETOUR

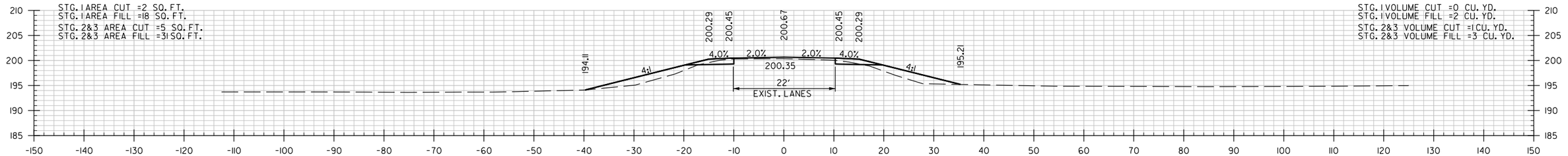
ByronLawrence 1/13/2021 10:53:34 AM
WORKSPACE: ARDOT
Y:\Projects\ArDOT_166694_070435 Coney & Taylor Creek Bridges\Design\CIVIL\Drawings\R070435_12_PP_006.dgn
REVISED DATE: $$REVDATE$$

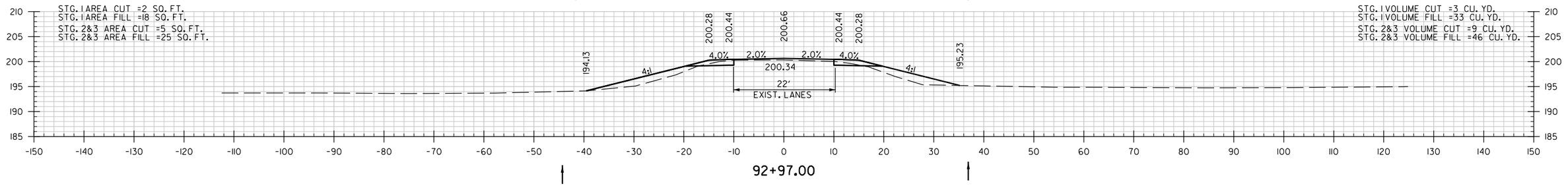
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	74	87

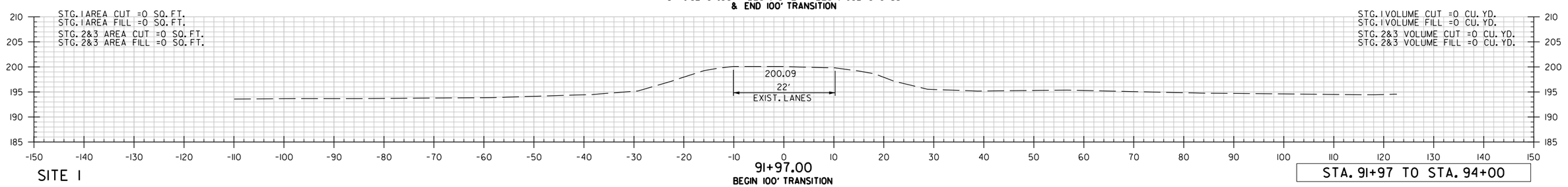
(2) CROSS SECTIONS







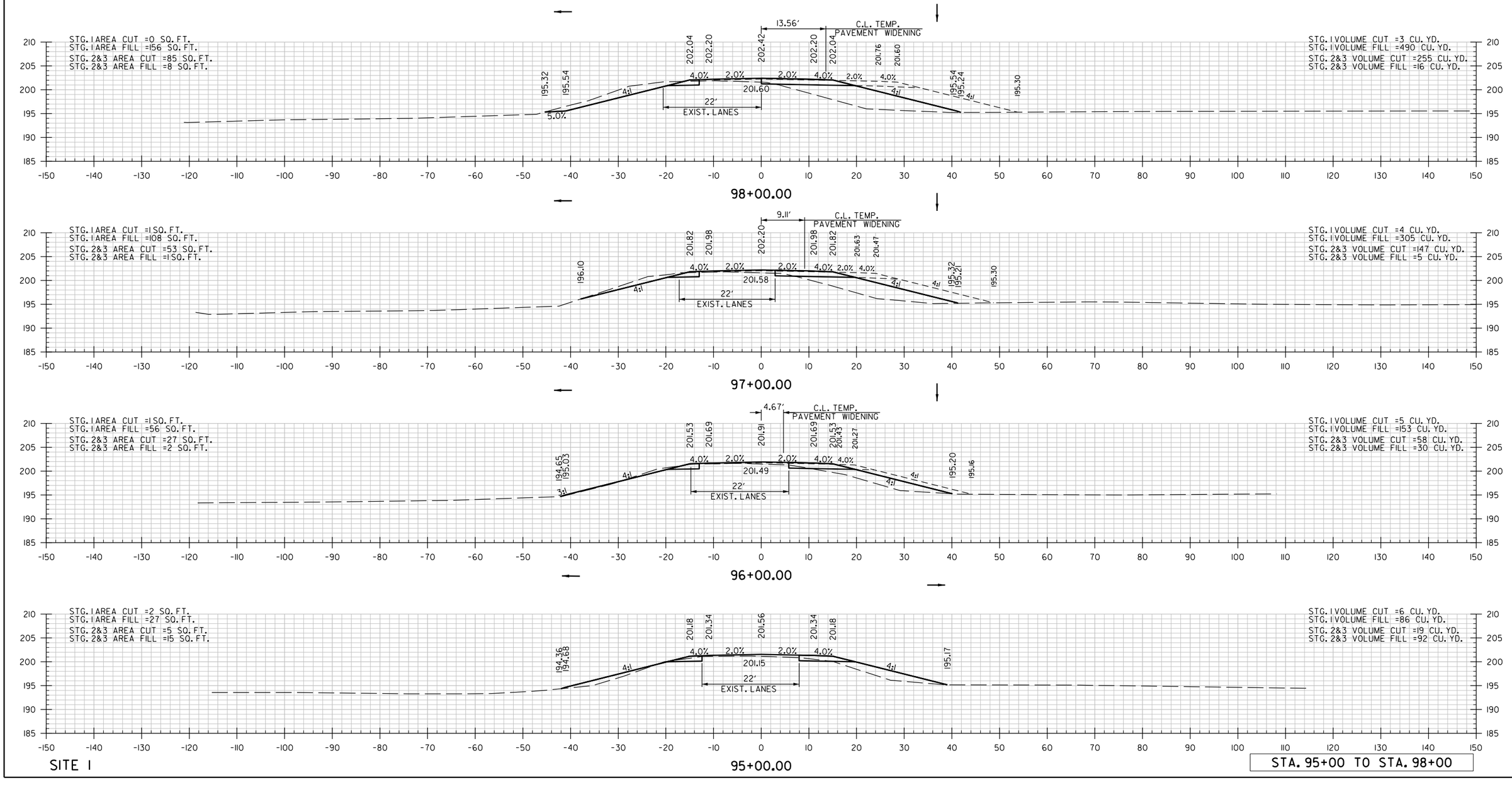
STA. 92+97.00 - BEGIN SITE 1- BEGIN JOB 070435 & END 100' TRANSITION



SITE 1

STA. 91+97 TO STA. 94+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	75	87
				(2)	CROSS SECTIONS			

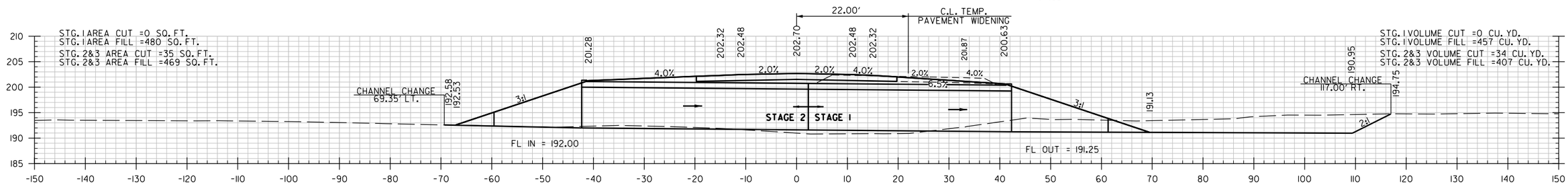


SITE 1

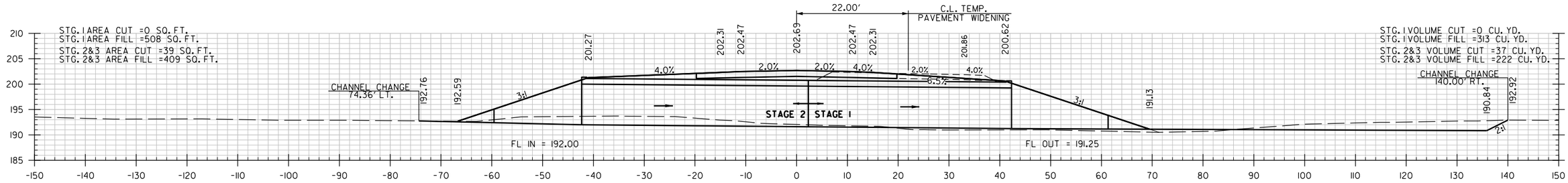
STA. 95+00 TO STA. 98+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	76	87
				(2)	CROSS SECTIONS			

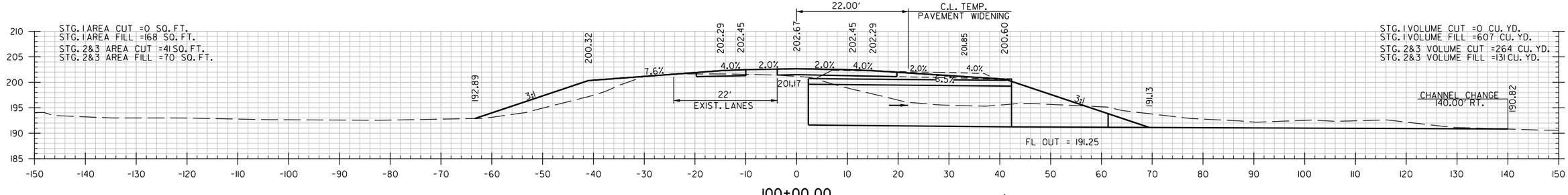
STA. 100+50.00
CONSTRUCT SEPTUPLE
12'X8'X90' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
20° LT. FWD. SKEW
Q25=1610 CFS D.A.=11.9 SQ. MI.
SPAN=94.89'



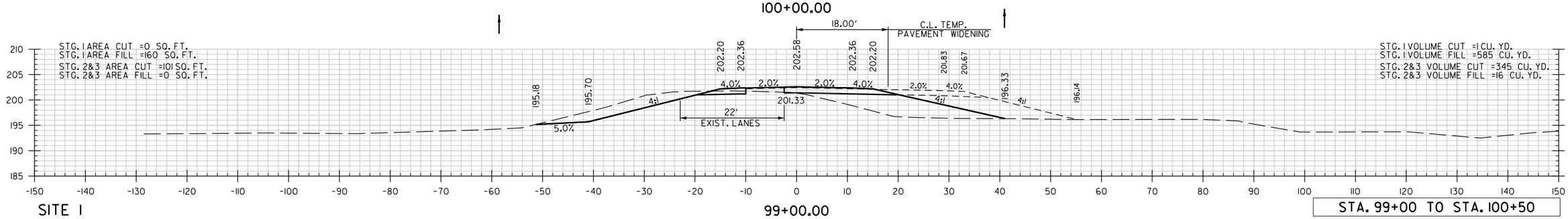
100+50.00



100+25.00



100+00.00



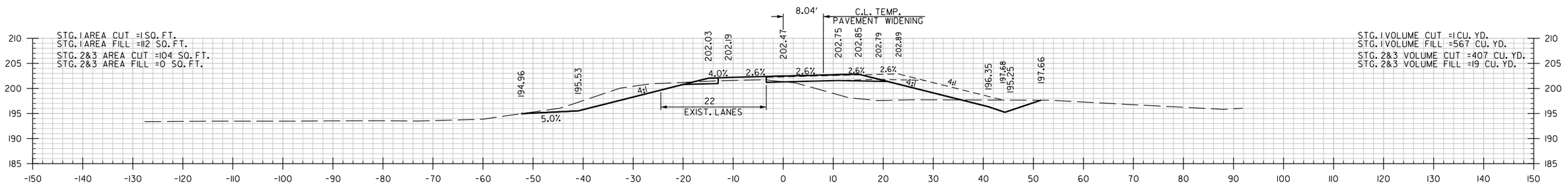
SITE 1

99+00.00

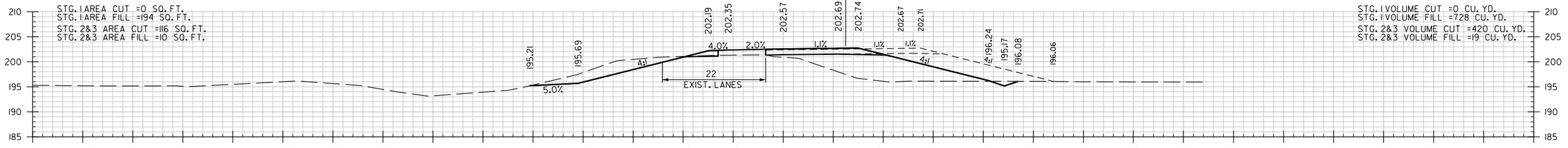
STA. 99+00 TO STA. 100+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	77	87
				(2)	CROSS SECTIONS			

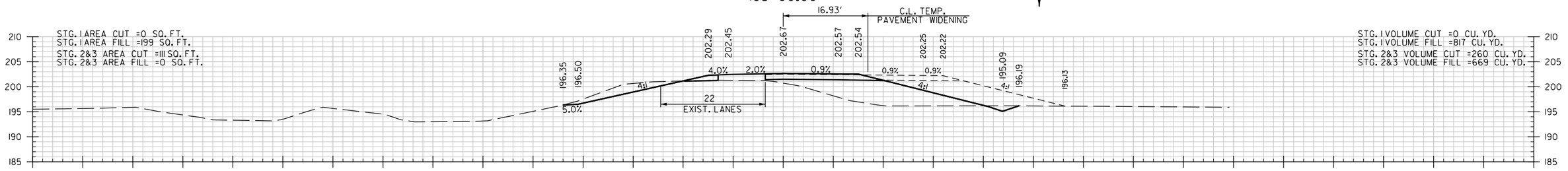
STA. 104+44.32 MAX SUPERELEVATION (0.030'/')



104+00.00



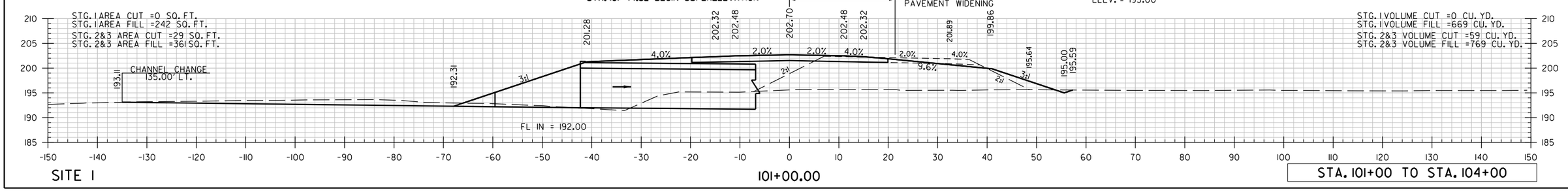
103+00.00



102+00.00

STA. 101+44.32 BEGIN SUPERELEVATION

STA. 101+00.00
BEGIN SP. DT. RT. -0.08%
ELEV. = 195.00



101+00.00

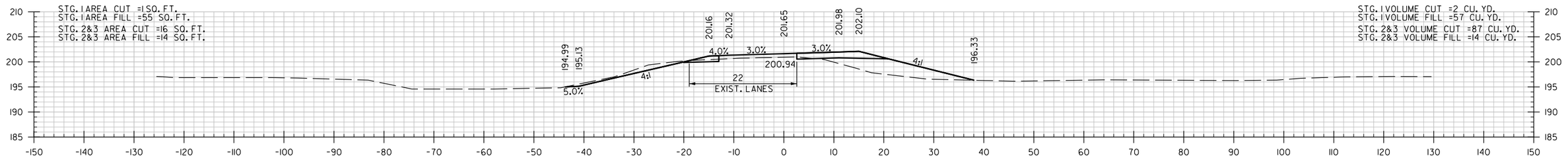
SITE 1

STA. 101+00 TO STA. 104+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

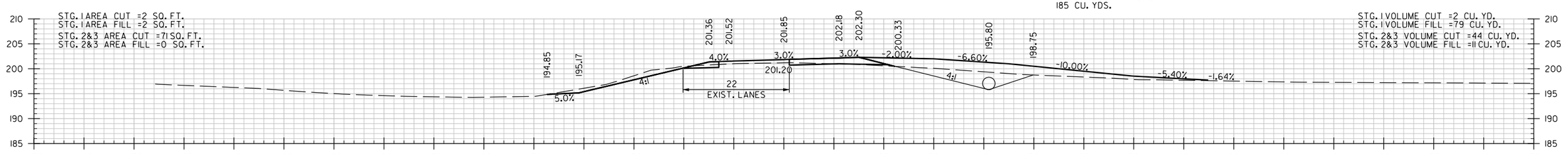
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	78	87

(2) CROSS SECTIONS



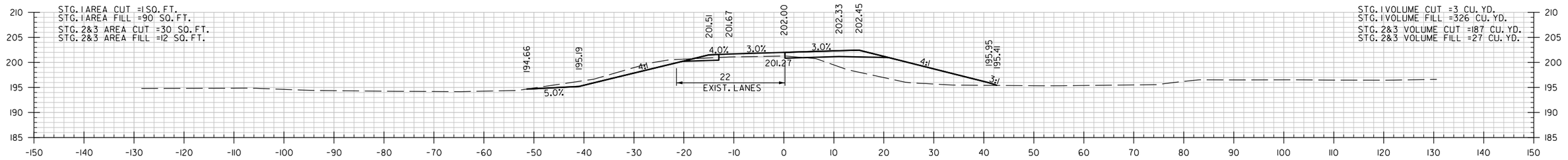
107+00.00

STA. 106+46.00 INSTALL
30" X 46' RT. SIDE DRAIN
CONSTRUCT APPROACH =
185 CU. YDS.

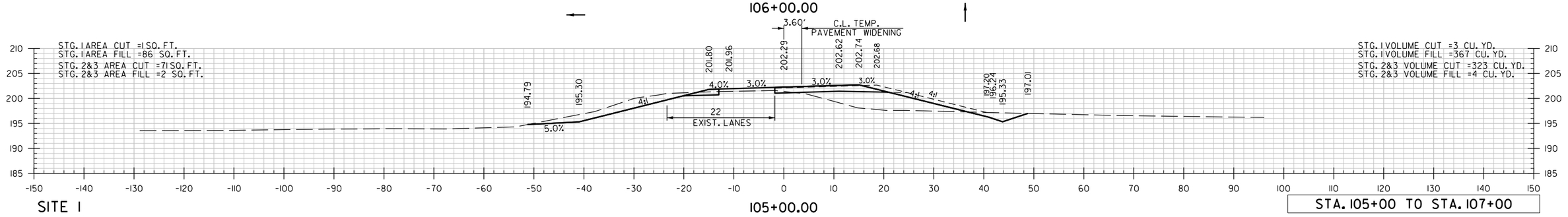


106+46.00

STA. 106+00.00
END SP. DT. RT. -0.08%
ELEV. = 195.41



106+00.00

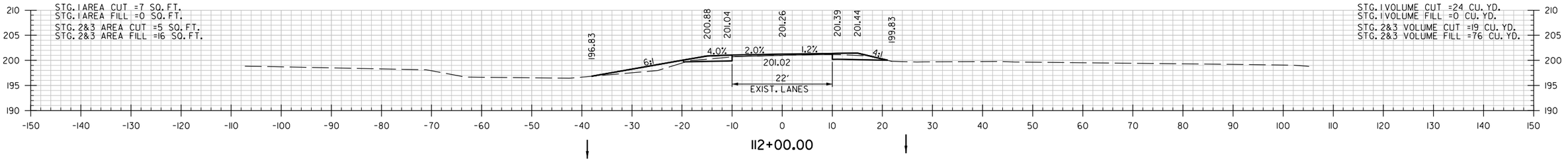


SITE 1

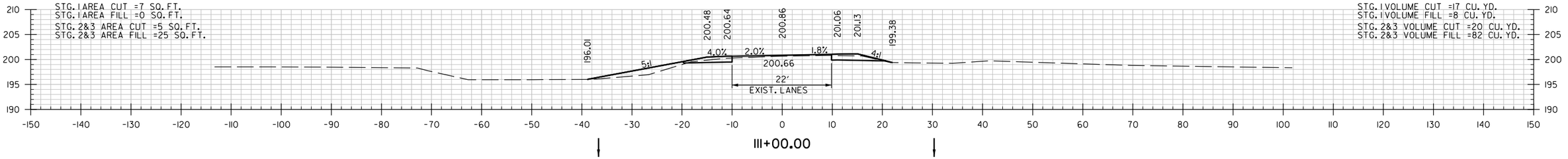
105+00.00

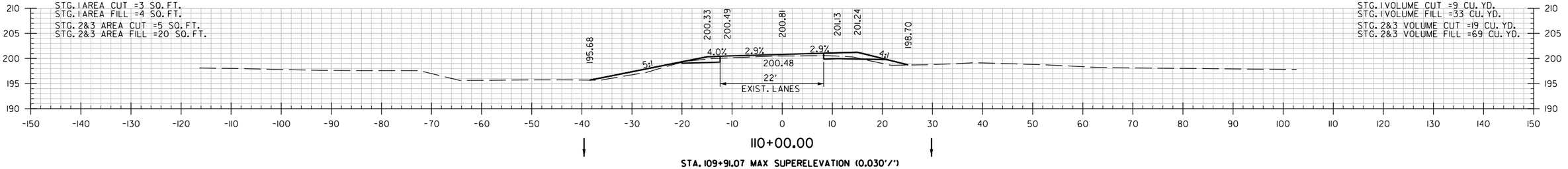
STA. 105+00 TO STA. 107+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	79	87
				(2)	CROSS SECTIONS			

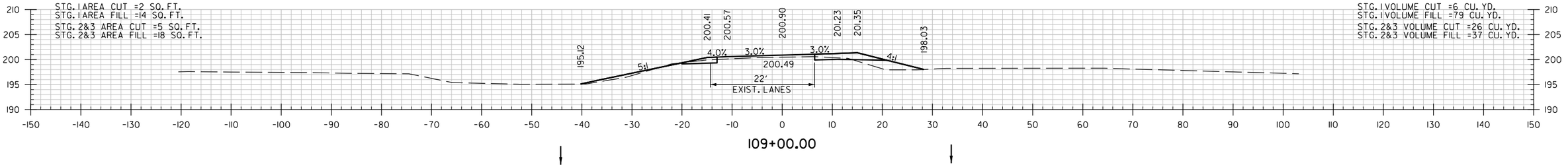


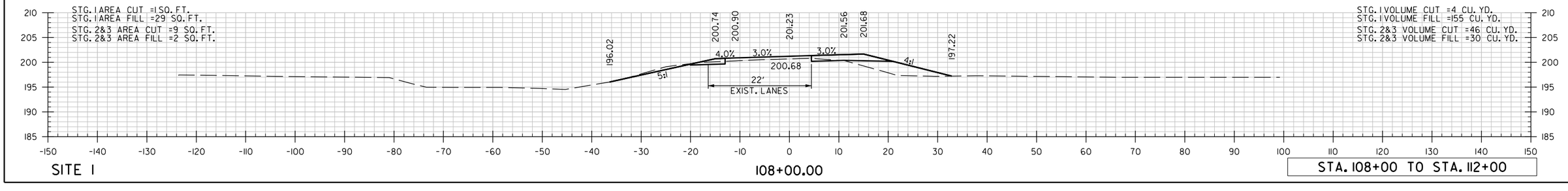
STA. 111+31.07 END SUPERELVATION (0.016'/') (MATCH EXIST.)





STA. 109+91.07 MAX SUPERELEVATION (0.030'/')





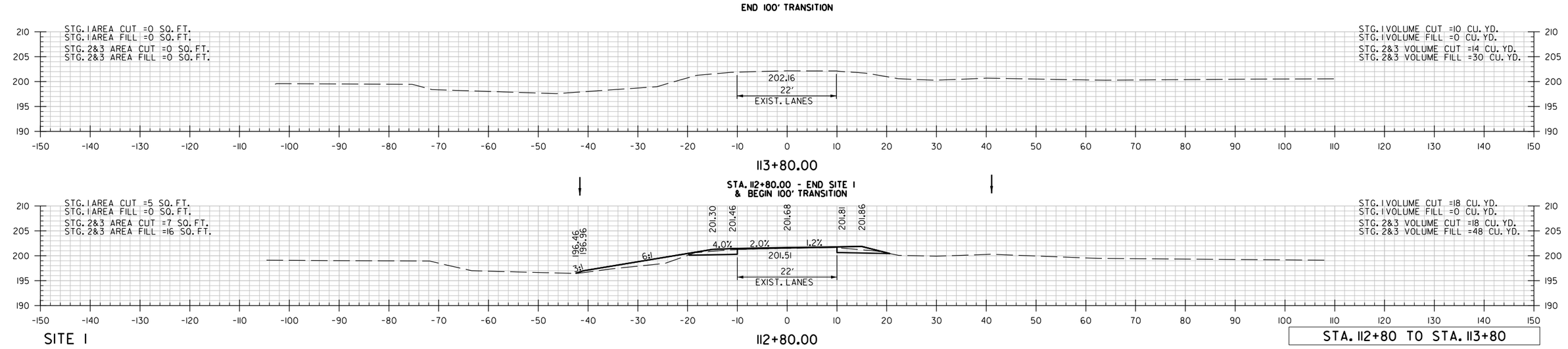
SITE 1

STA. 108+00 TO STA. 112+00

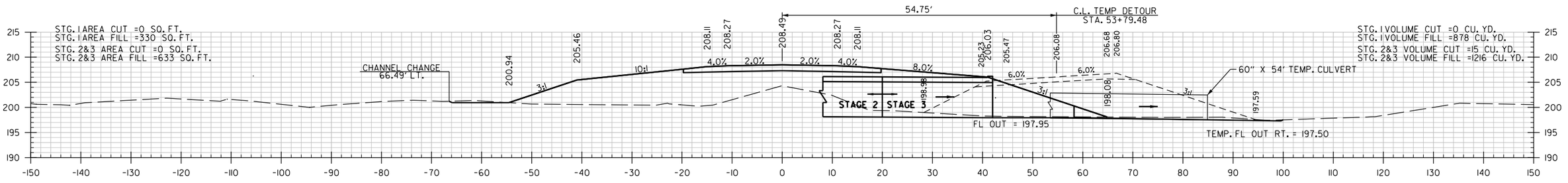
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

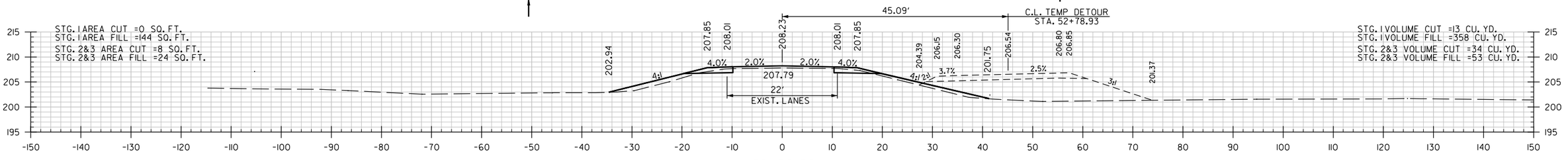
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	80	87

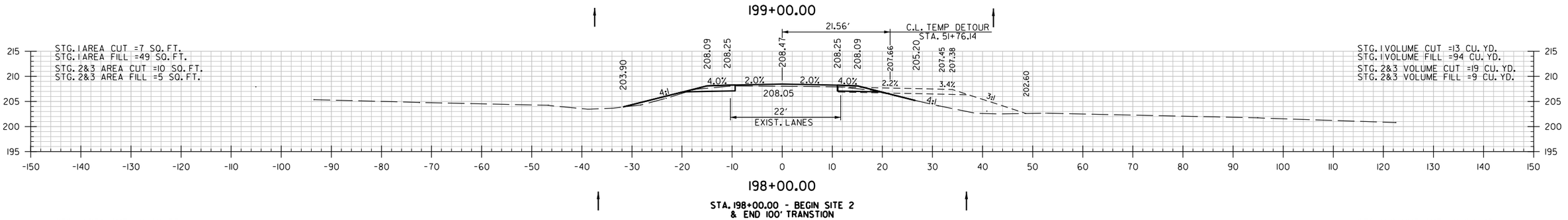
(2) CROSS SECTIONS

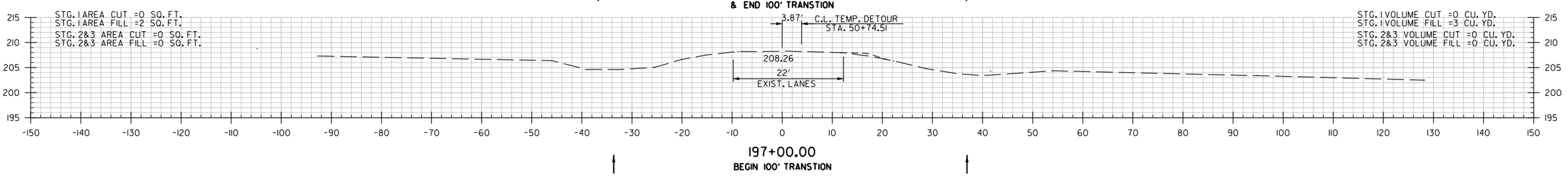


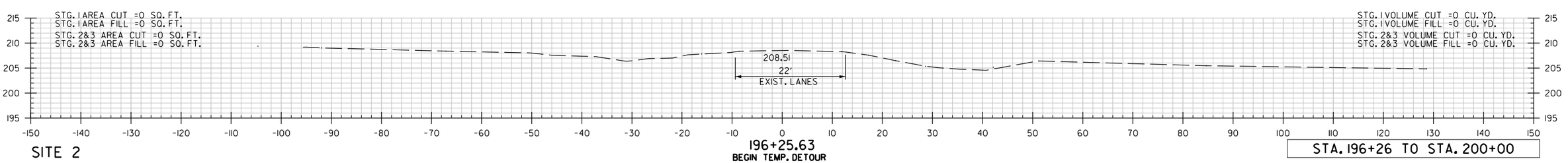
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	81	87
				(2)	CROSS SECTIONS			







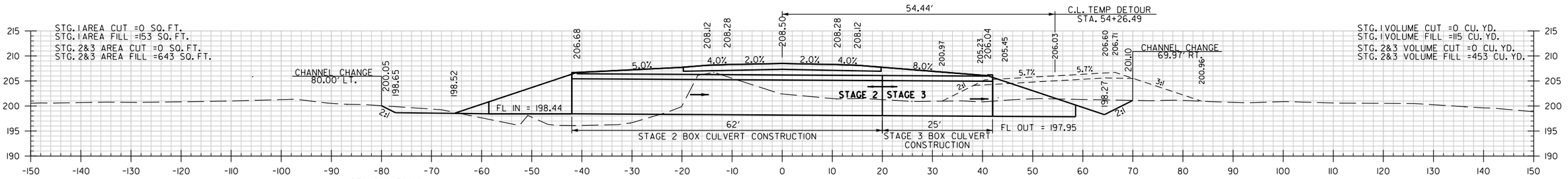




SITE 2

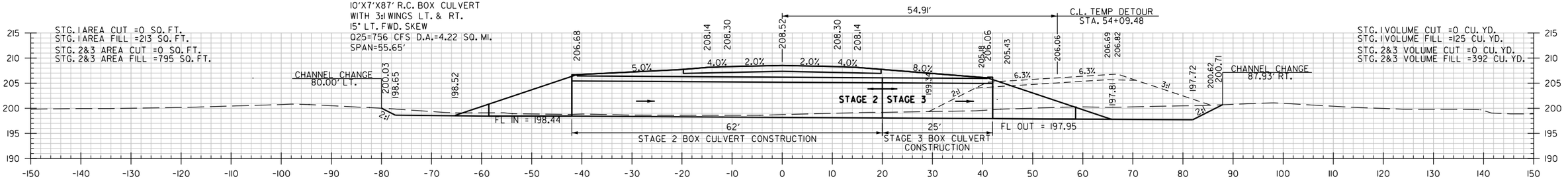
STA. 196+26 TO STA. 200+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	82	87
				(2)	CROSS SECTIONS			

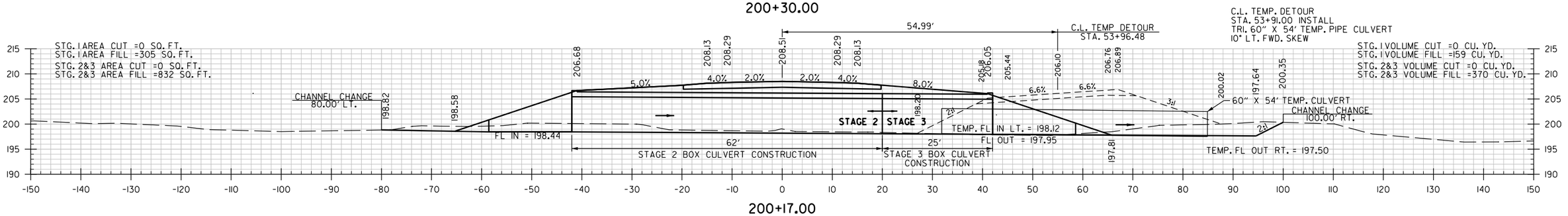


STA. 200+30.00
CONSTRUCT QUINTUPLE
10'X7'X87' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
15° LT. FWD. SKEW
Q25=756 CFS D.A.=4.22 SQ. MI.
SPAN=55.65'

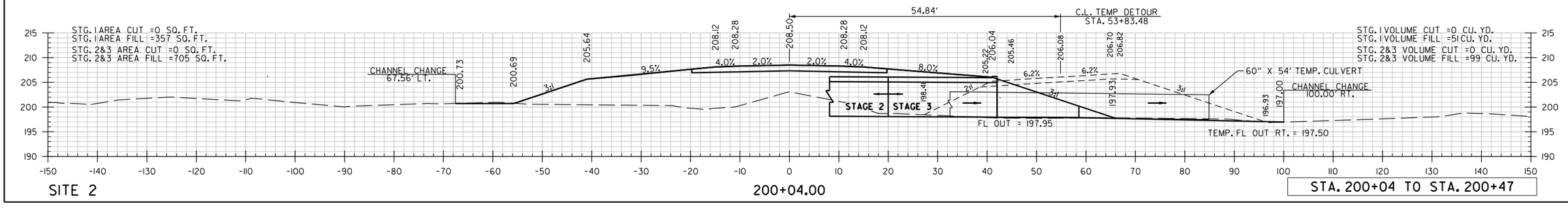
200+47.00



200+30.00



200+17.00

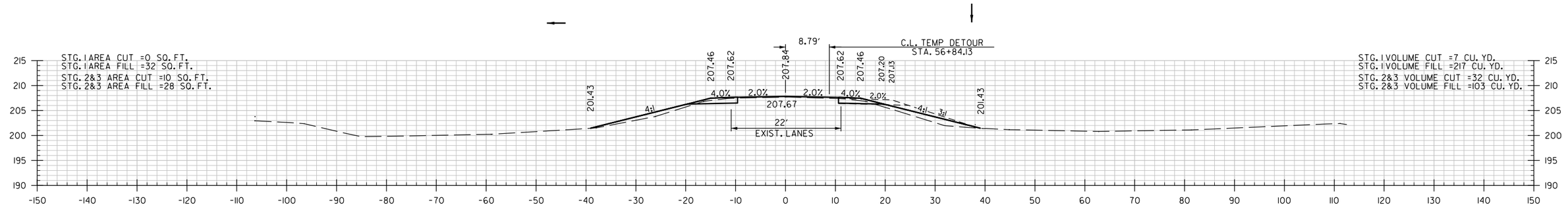


200+04.00

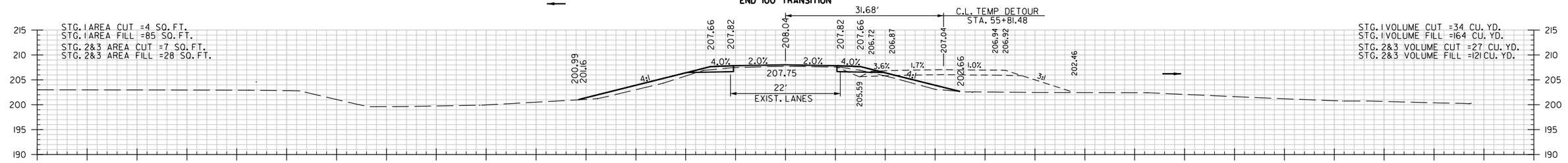
SITE 2

STA. 200+04 TO STA. 200+47

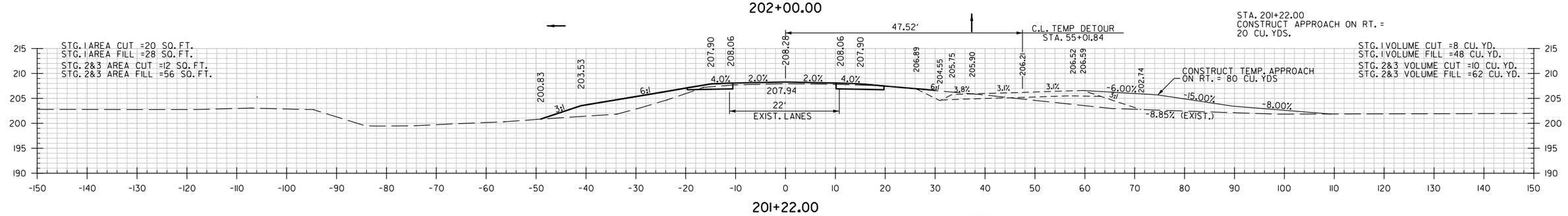
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	83	87
				(2)	CROSS SECTIONS			



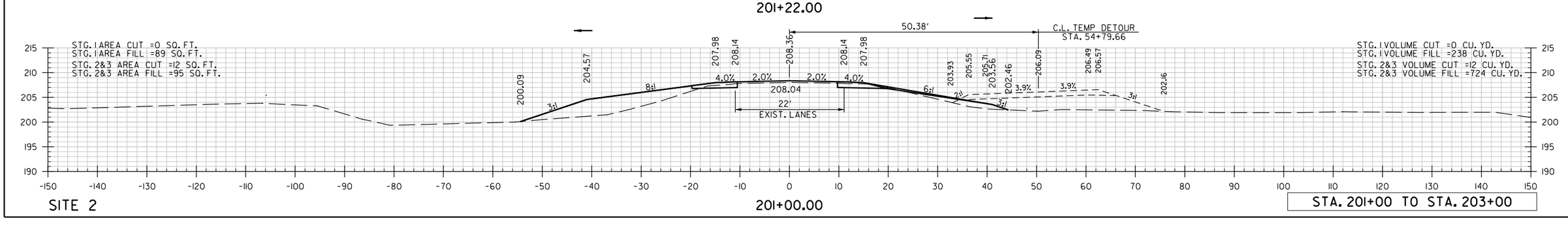
203+00.00
END 100' TRANSITION



202+00.00



201+22.00



201+00.00

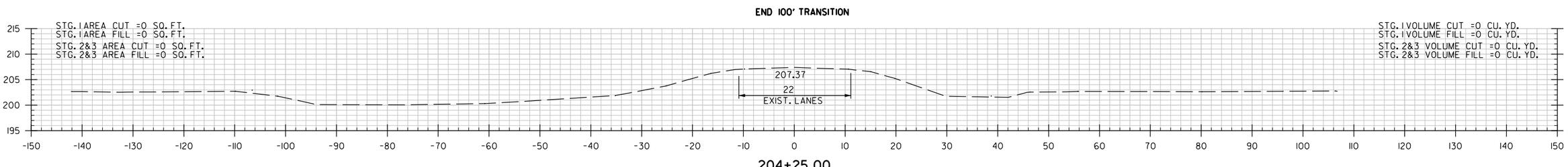
SITE 2

STA. 201+00 TO STA. 203+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

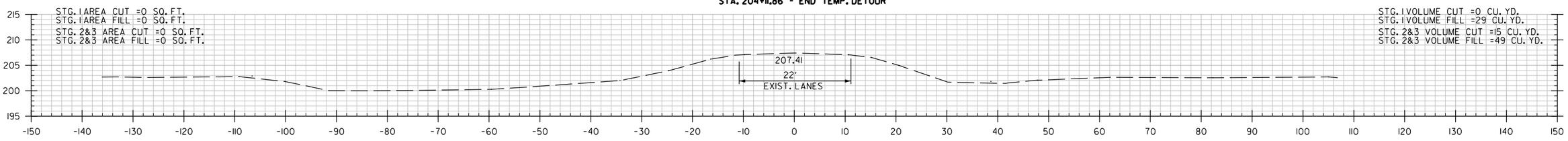
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070435	84	87
(2)	CROSS SECTIONS			

END 100' TRANSITION



204+25.00

STA. 204+11.86 - END TEMP. DETOUR



204+11.86

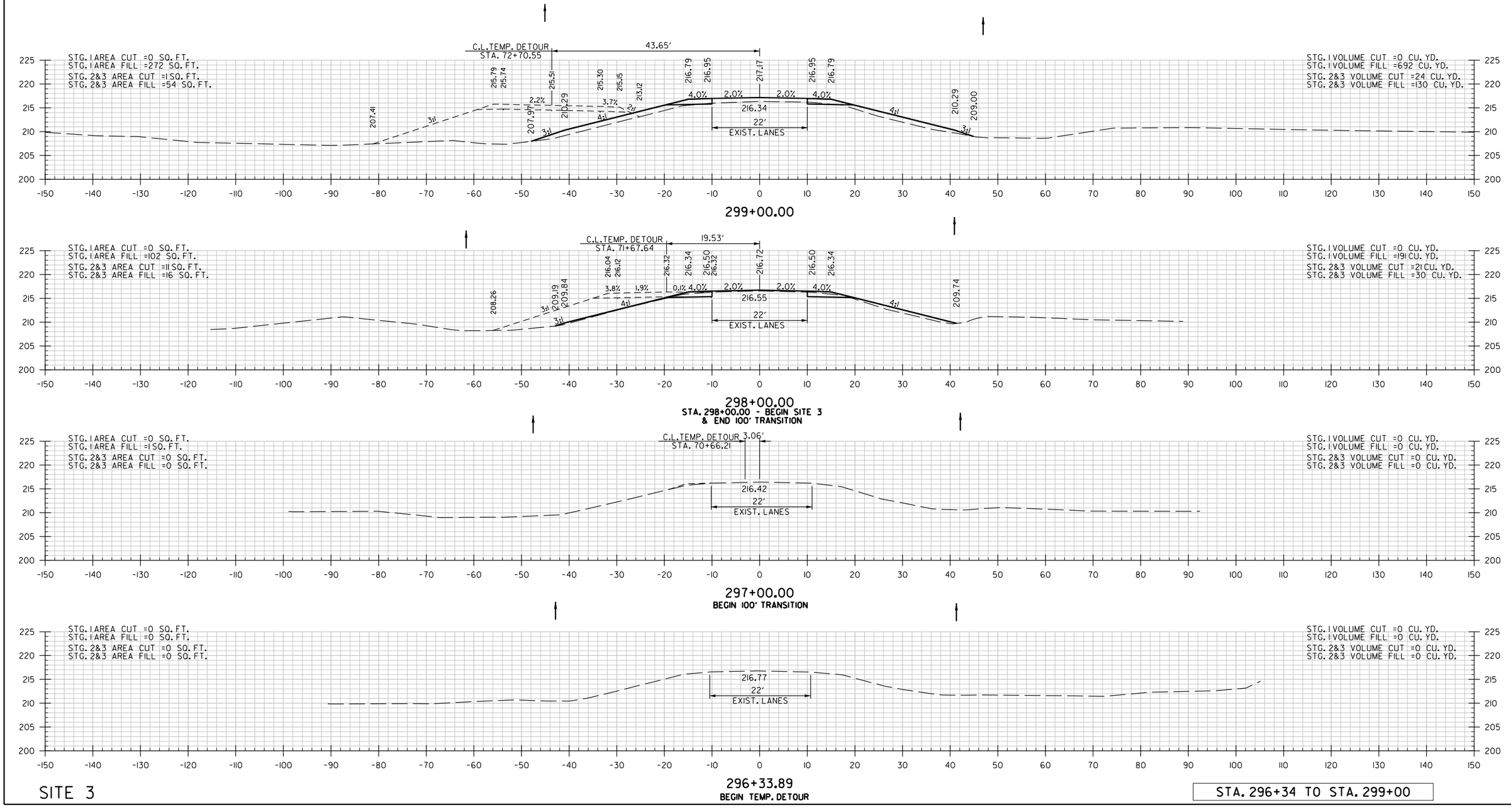
STA. 203+25.00 - END SITE 2
& BEGIN 100' TRANSITION

SITE 2

203+25.00

STA. 203+25 TO STA. 204+25

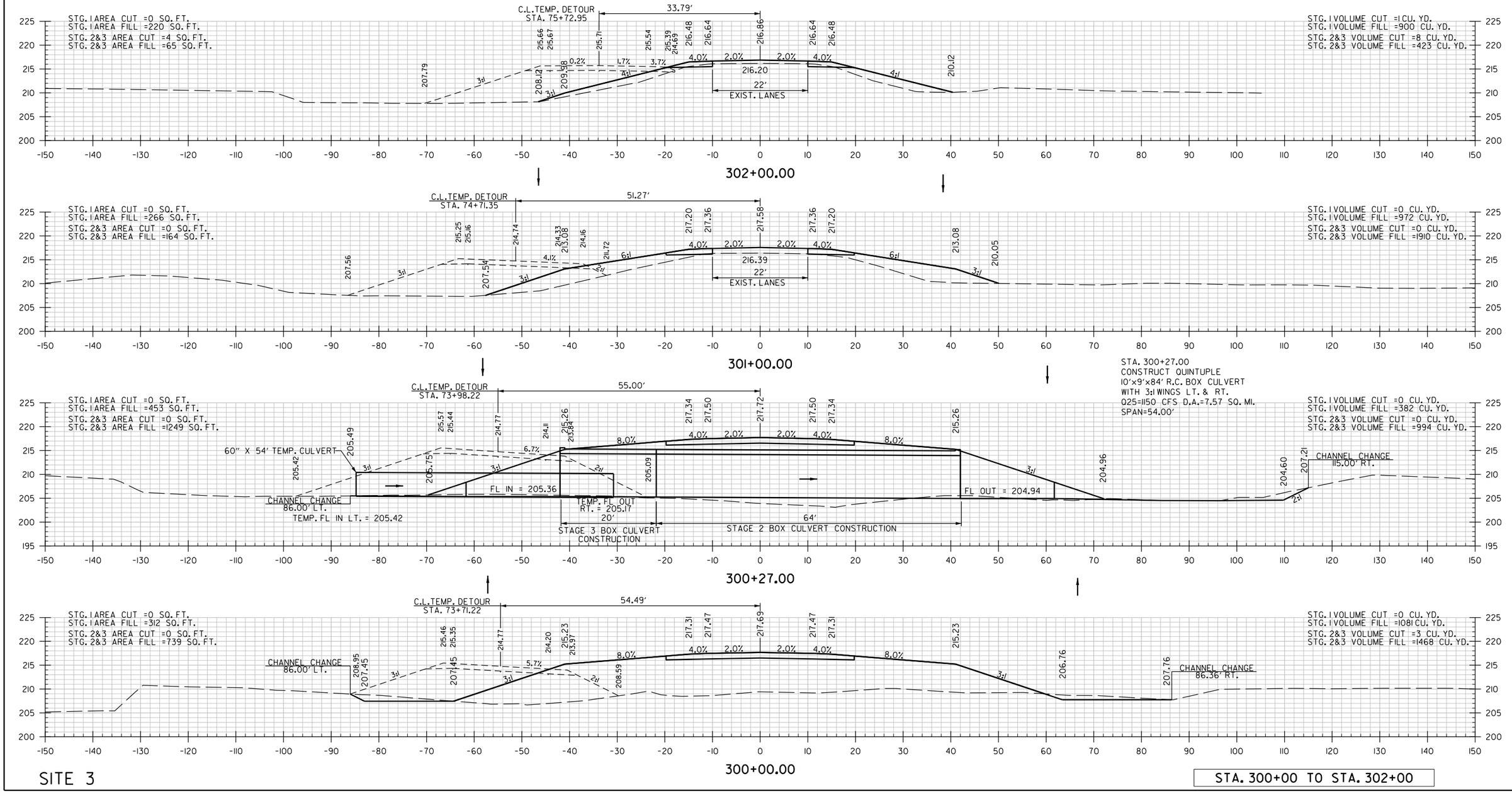
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	85	87
				(2)	CROSS SECTIONS			



SITE 3

STA. 296+34 TO STA. 299+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	86	87
				(2)	CROSS SECTIONS			



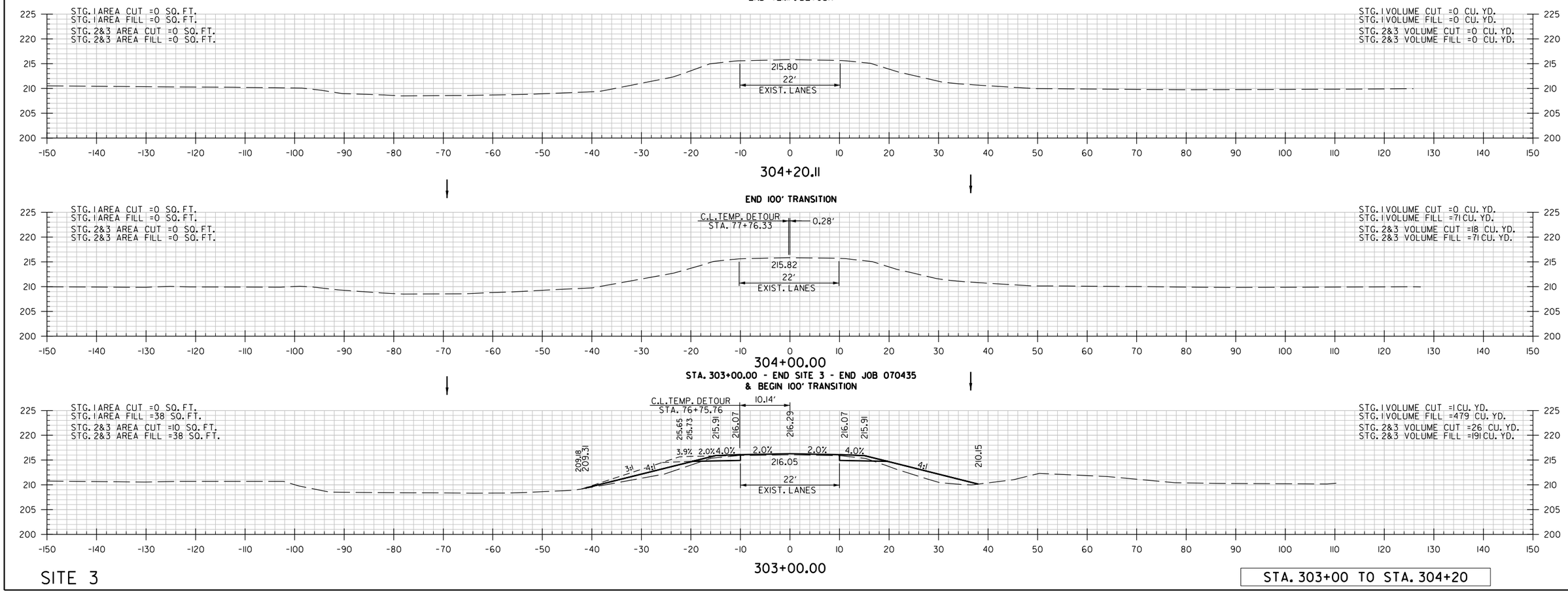
SITE 3

STA. 300+00 TO STA. 302+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070435	87	87

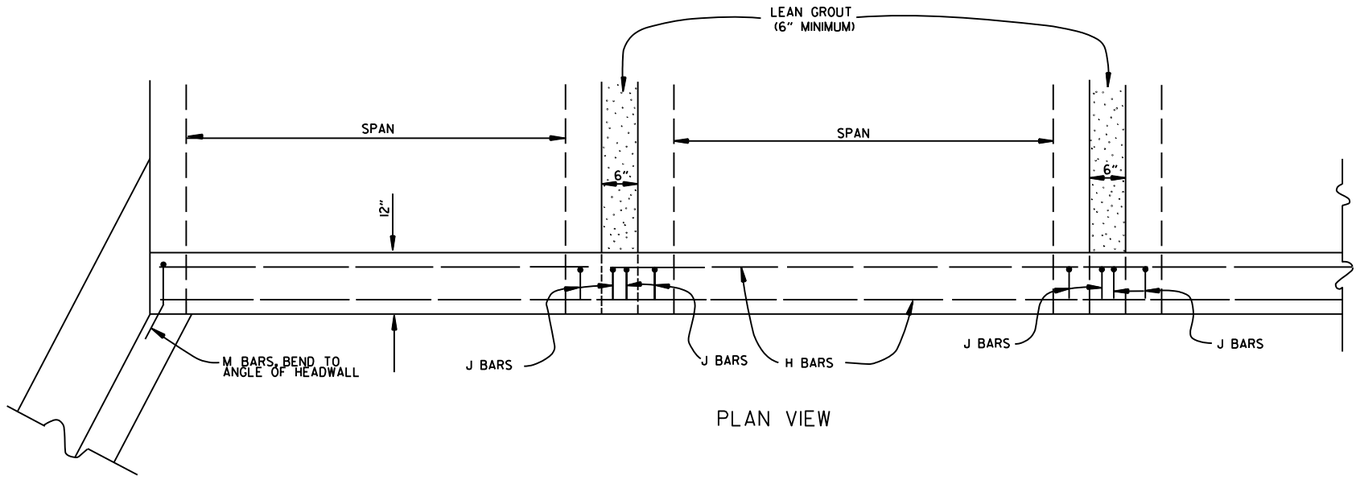
(2) CROSS SECTIONS

END TEMP. DETOUR



SITE 3

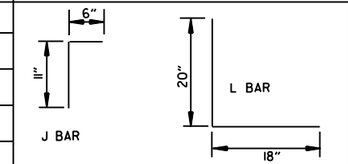
STA. 303+00 TO STA. 304+20



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

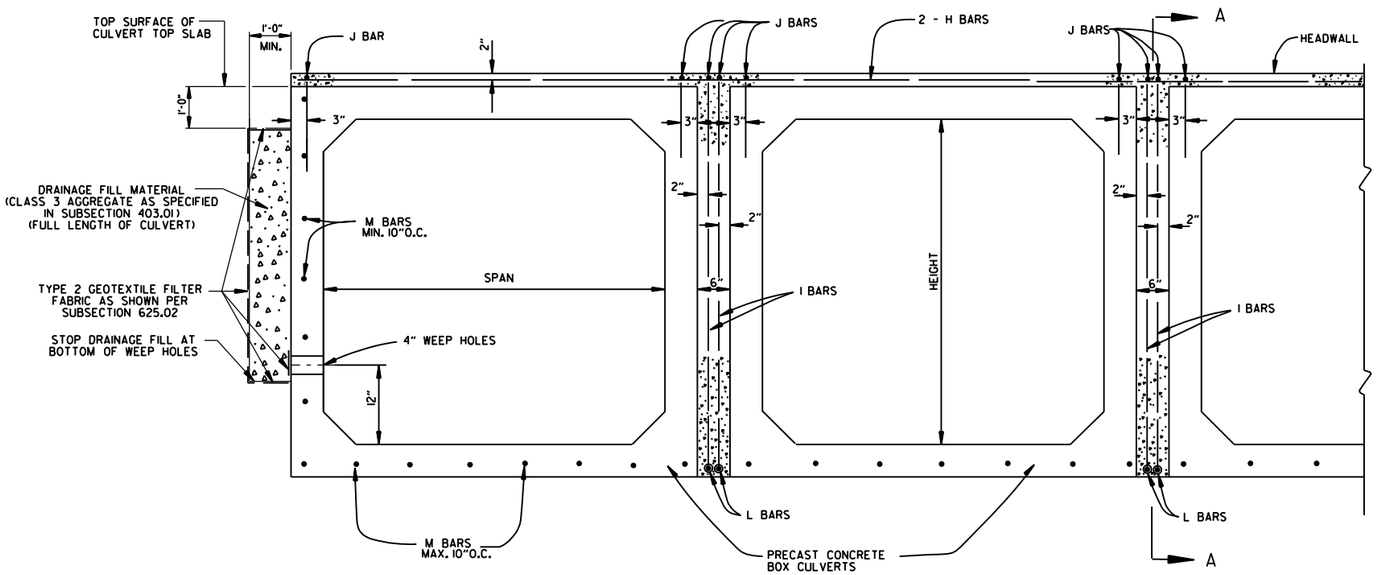
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

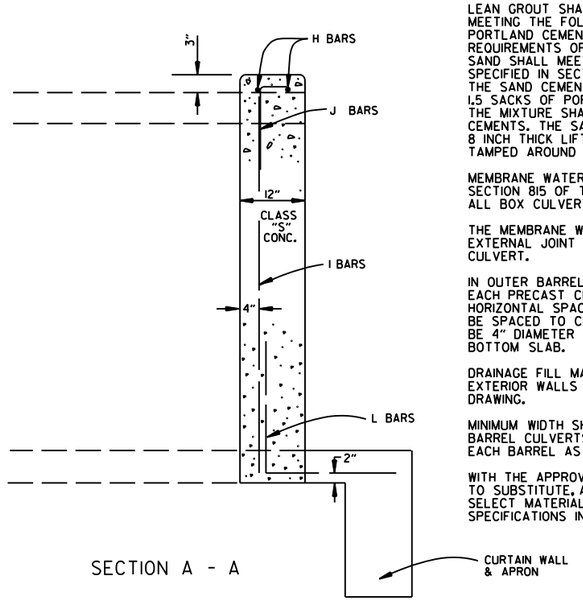
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-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.

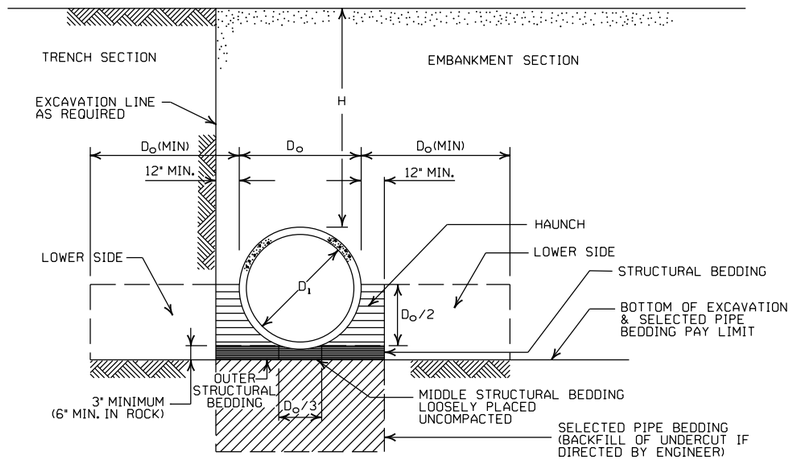
- LEGEND -

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

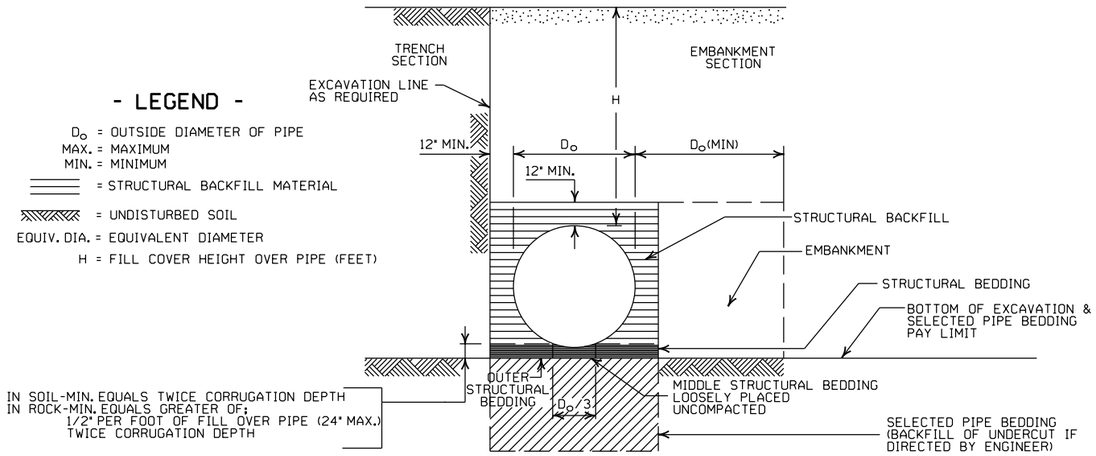
EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)
				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 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"

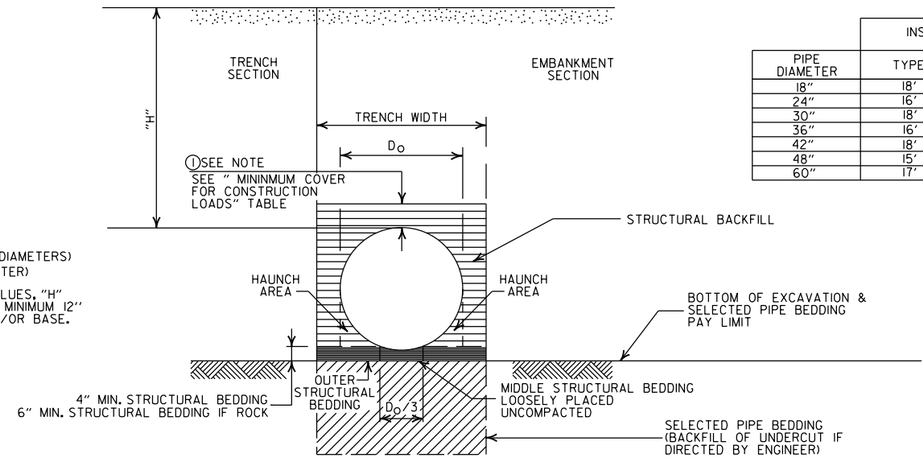
MINIMUM COVER FOR CONSTRUCTION LOADS

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

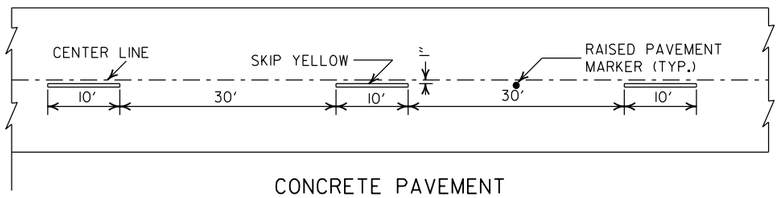
DATE	REVISION	DATE FILMED
02-27-20	REVISED	
11-07-19	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

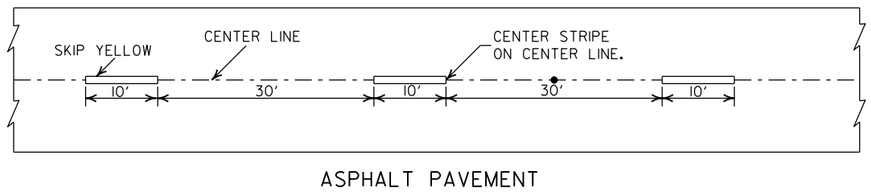
PLASTIC PIPE CULVERT (POLYPROPYLENE)

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.

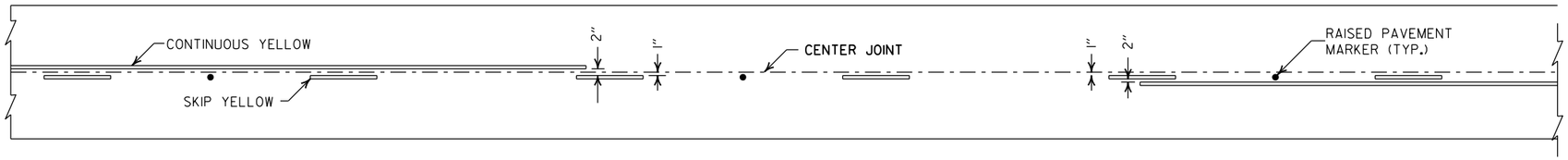


CONCRETE PAVEMENT

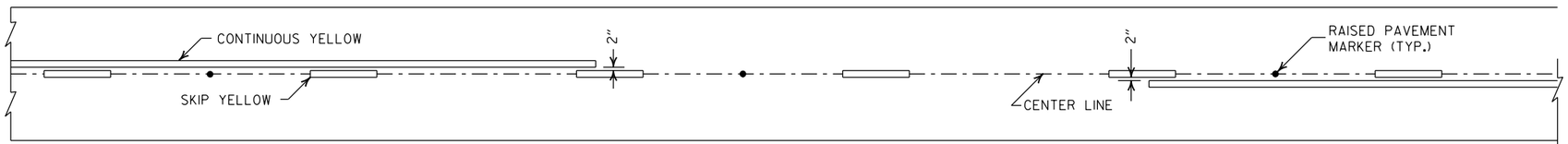


ASPHALT PAVEMENT

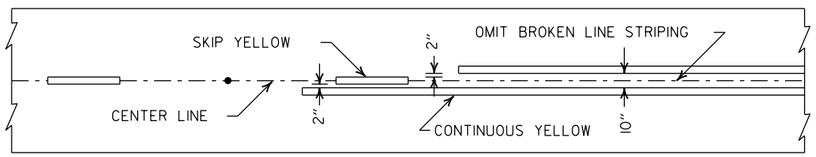
BROKEN LINE STRIPING



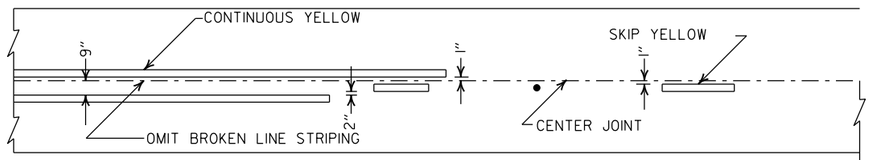
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

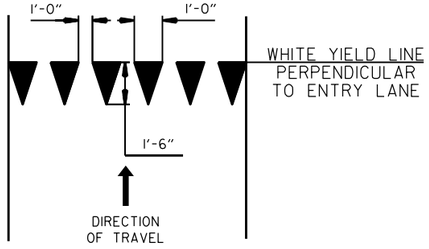


ASPHALT PAVEMENT

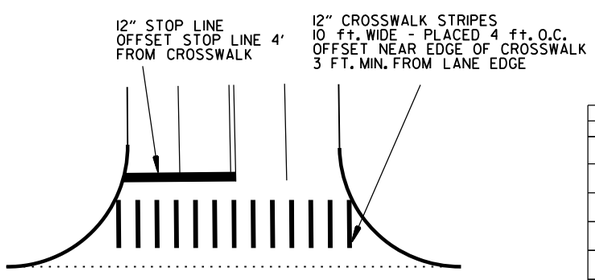


CONCRETE PAVEMENT

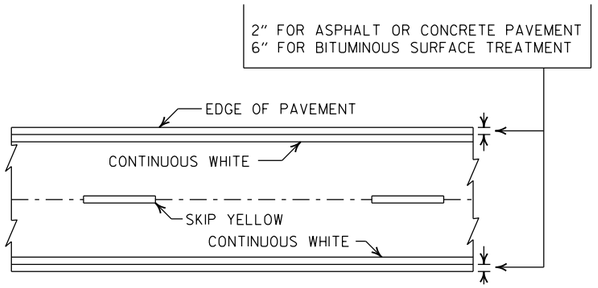
STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL



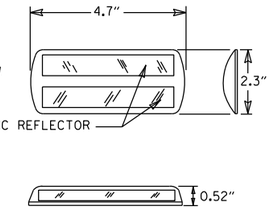
CROSSWALK AND STOP LINE DETAILS



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

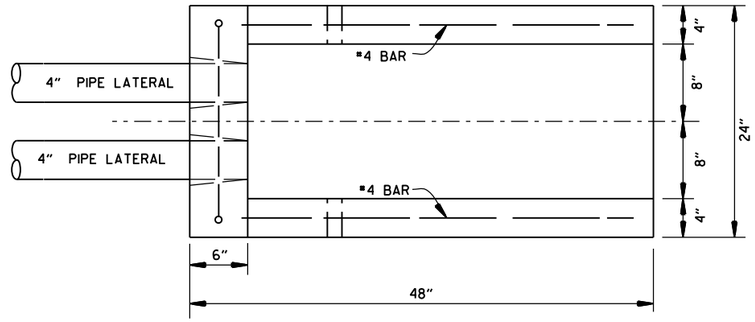
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

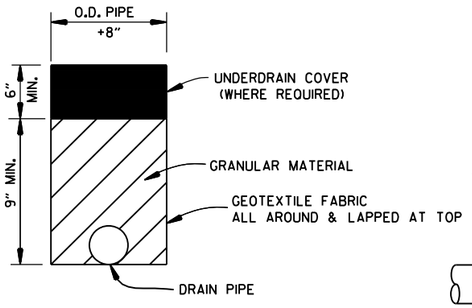
NOTE:

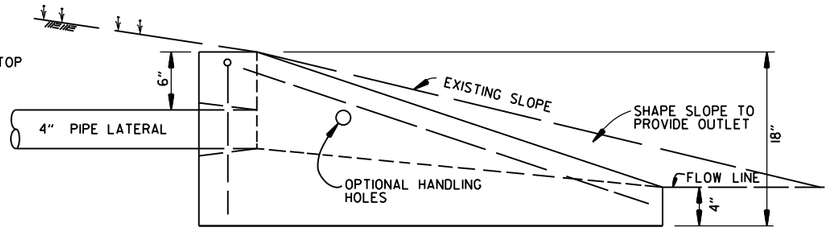
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

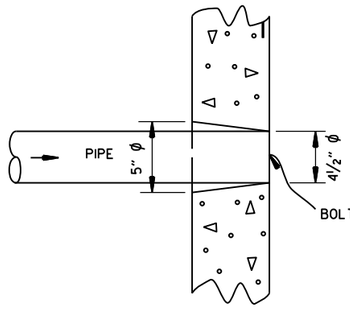


PLAN VIEW

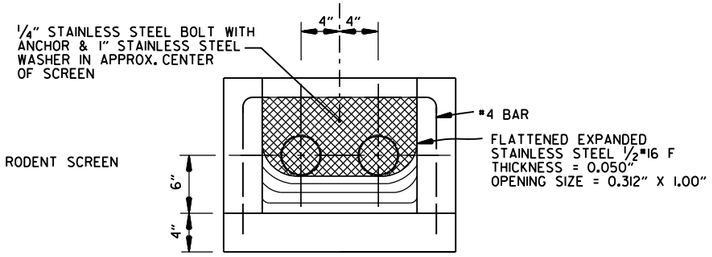




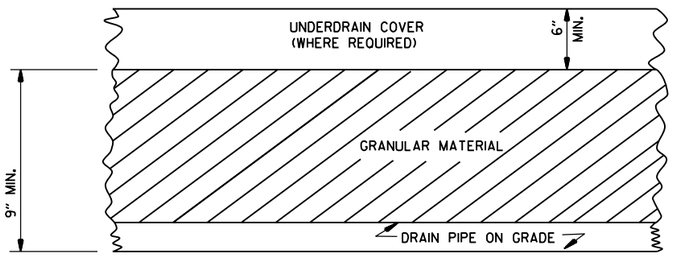
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE

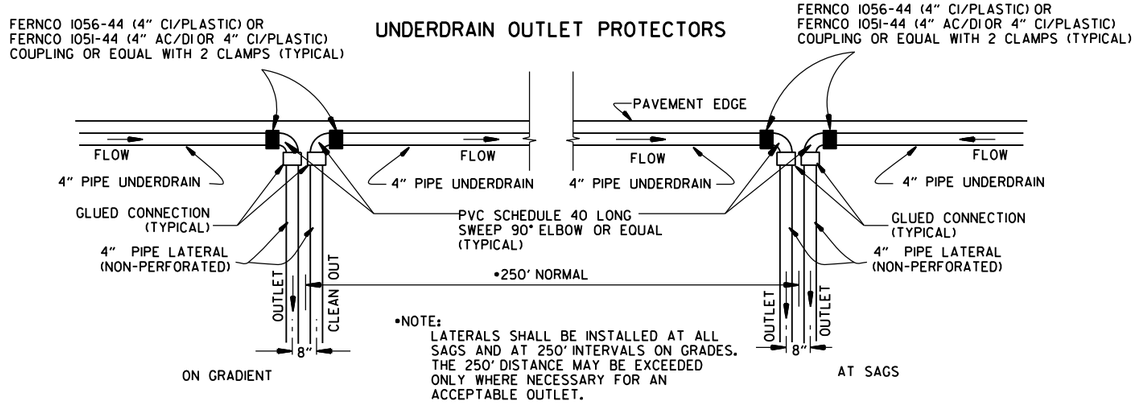


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

NOTES FOR PIPE UNDERDRAINS

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

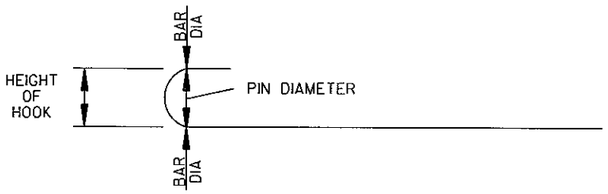
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

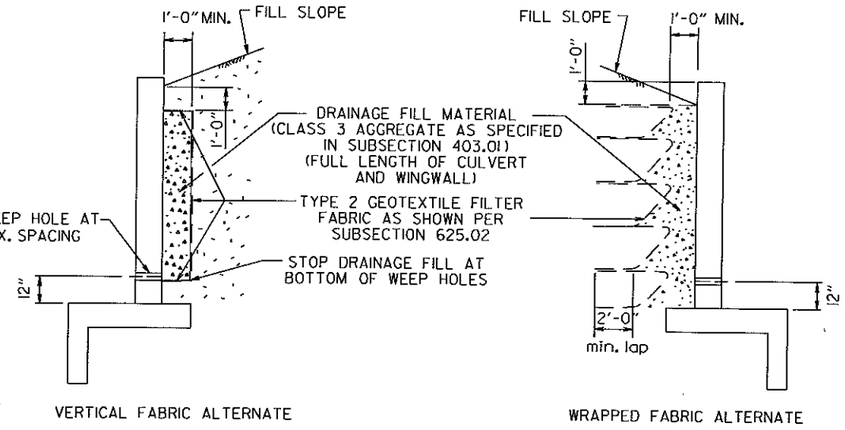
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

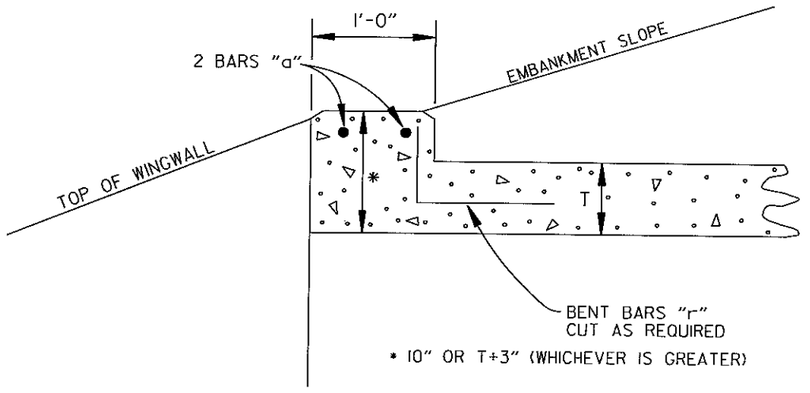
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

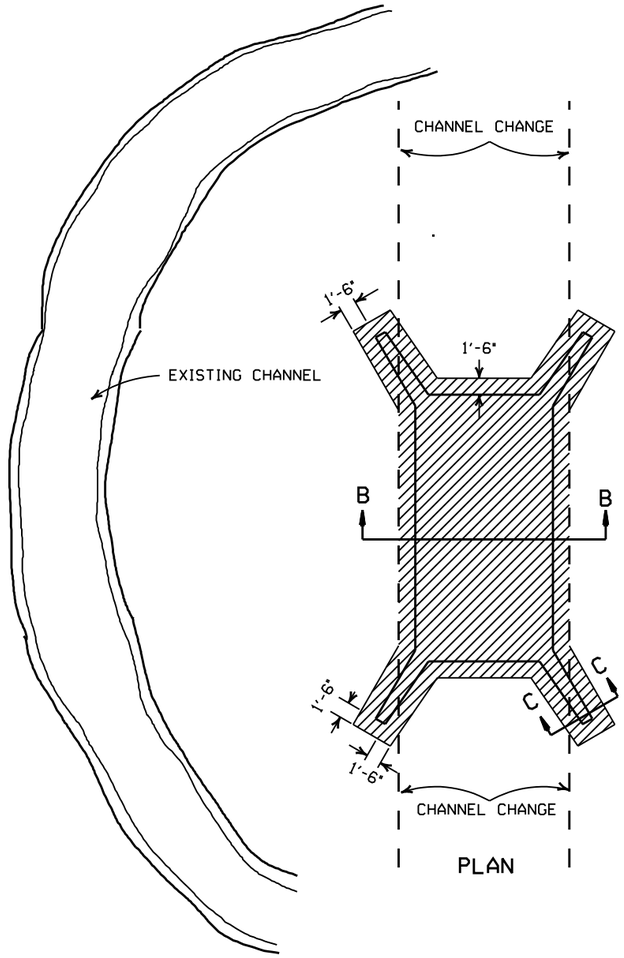
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

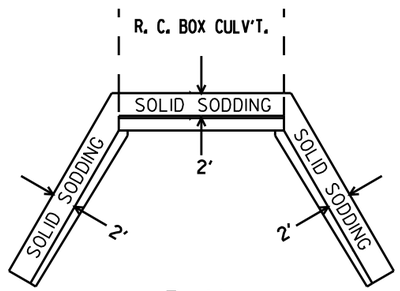
ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



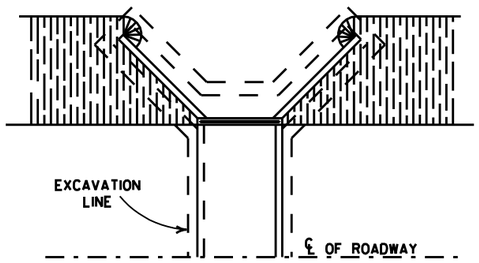
PLAN



PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.



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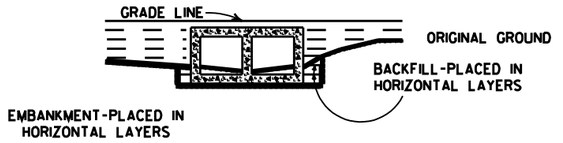
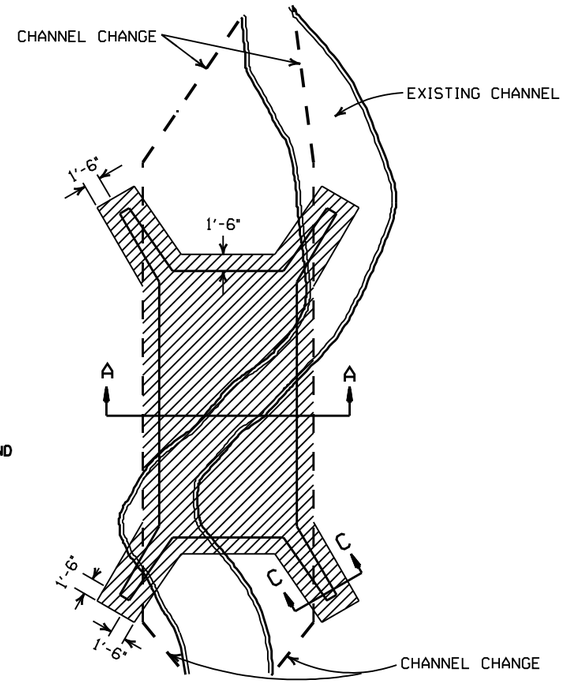


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT



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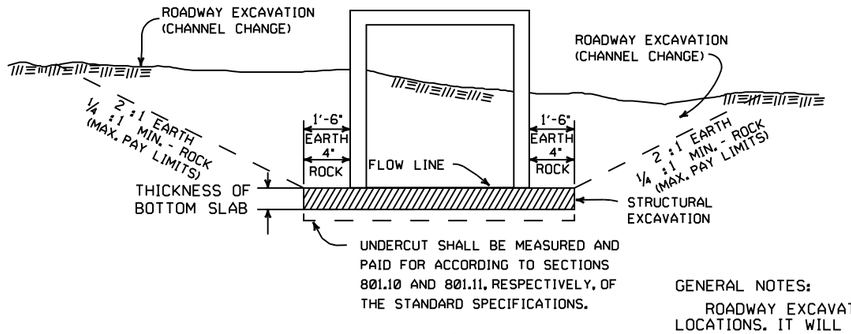
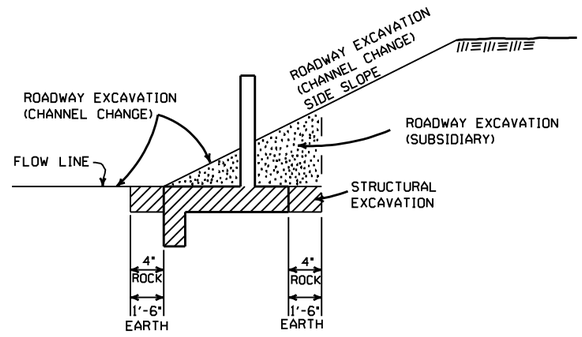
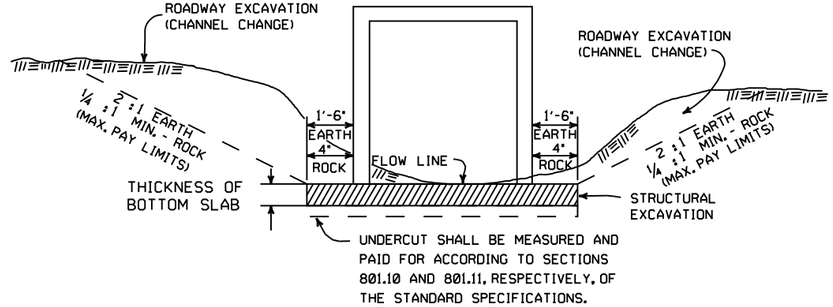


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

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%

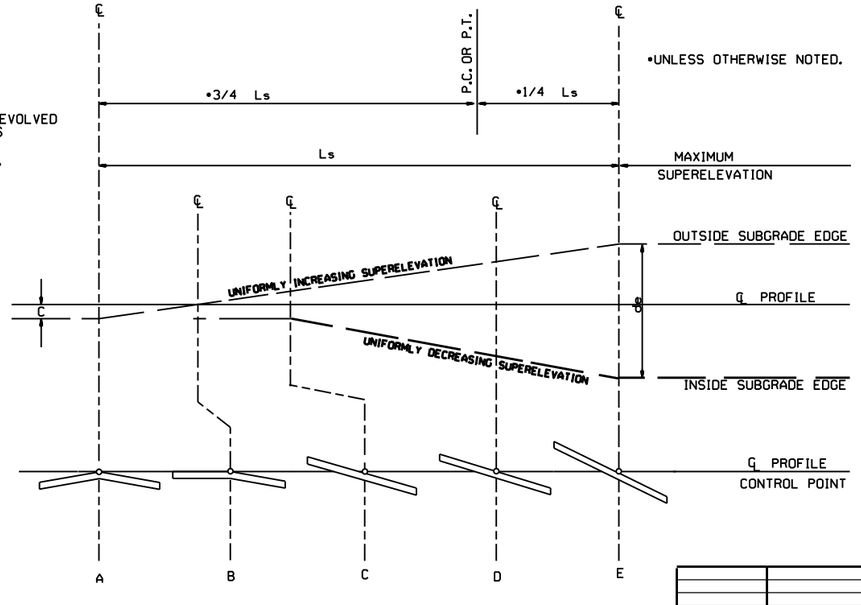
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

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

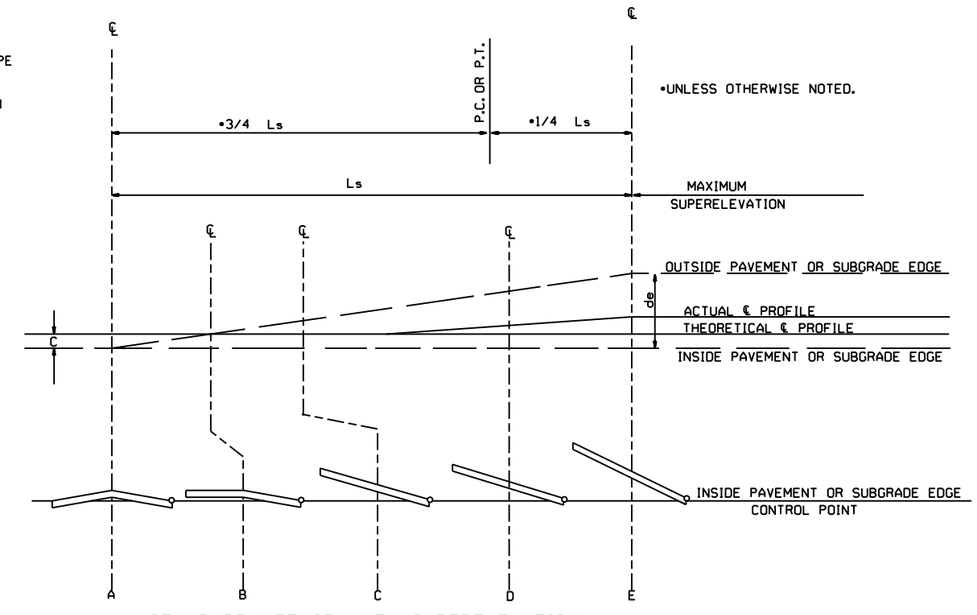
SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

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

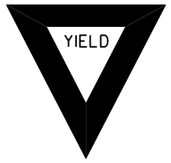
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

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"

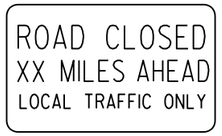
R5-1

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"

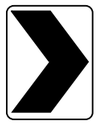
WI-4

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"

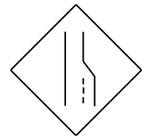
W3-1

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"

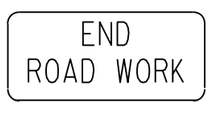
W8-9

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

G20-1

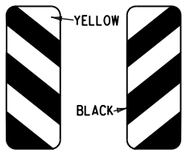
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

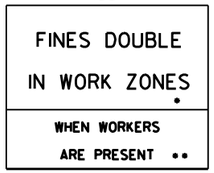
M4-9

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.

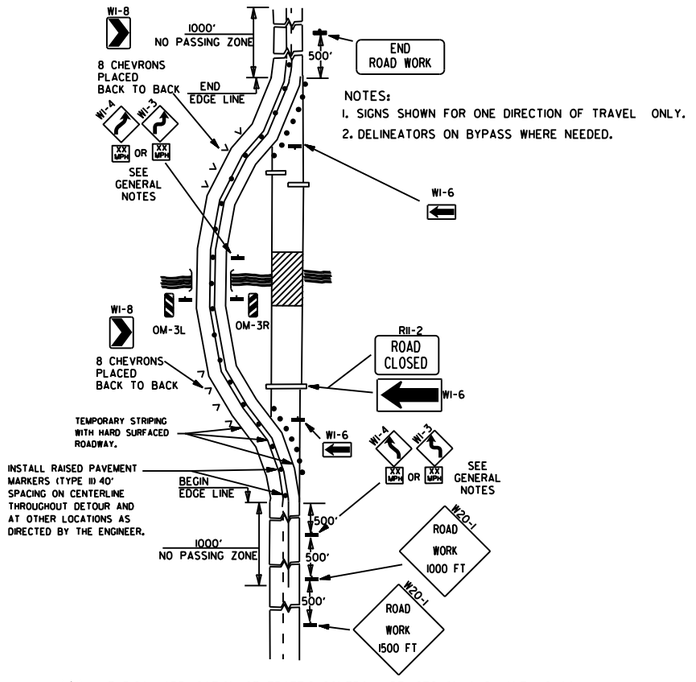
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

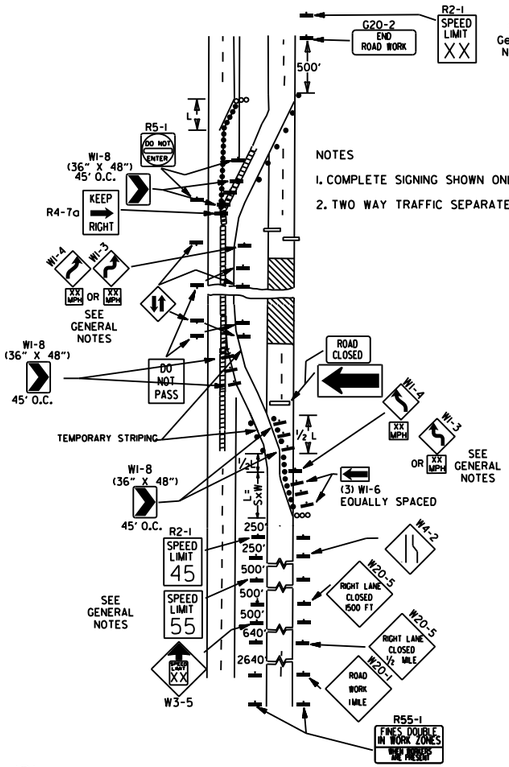
STANDARD DRAWING TC-1



(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:

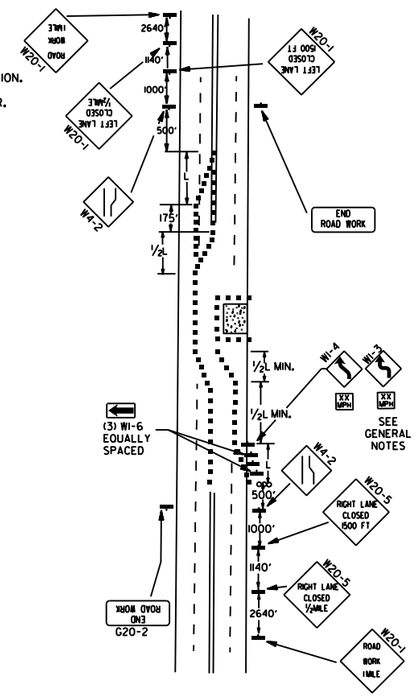
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.



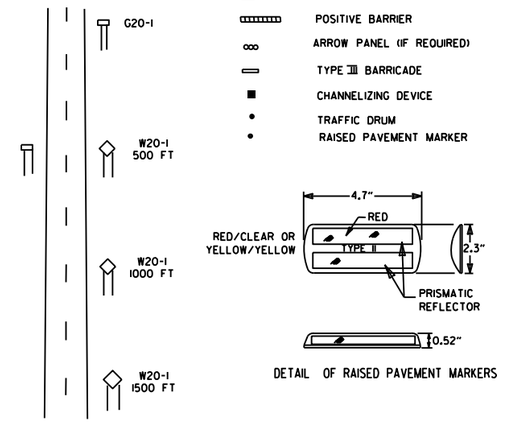
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.

NOTES

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



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



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:

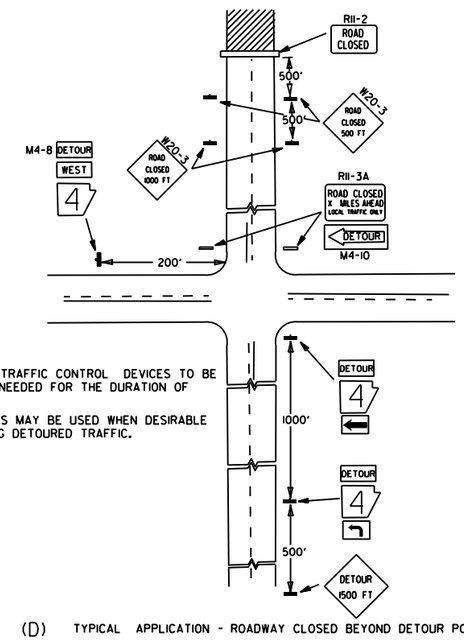
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W= WIDTH OF OFFSET.

GENERAL NOTES:

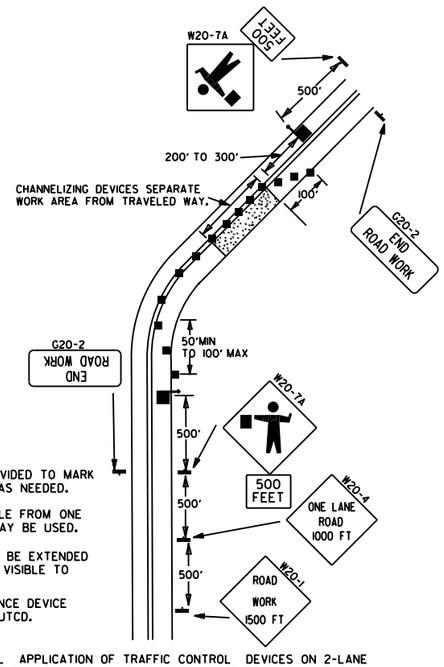
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT 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 R2-145MPH 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 R2-155MPH 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.
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.

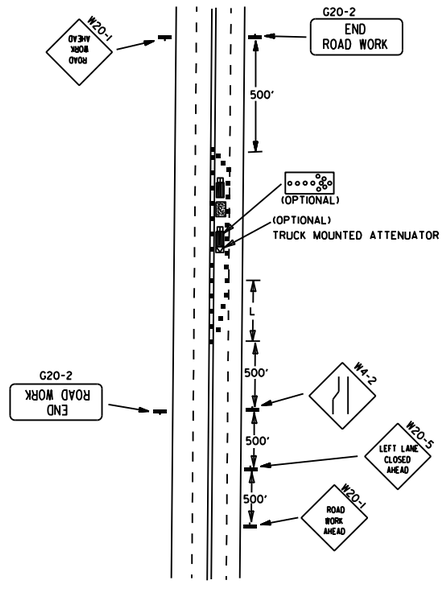
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



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.



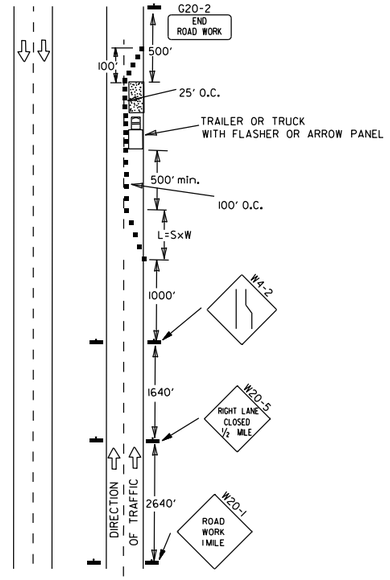
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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	
DATE	REVISION	FILMED

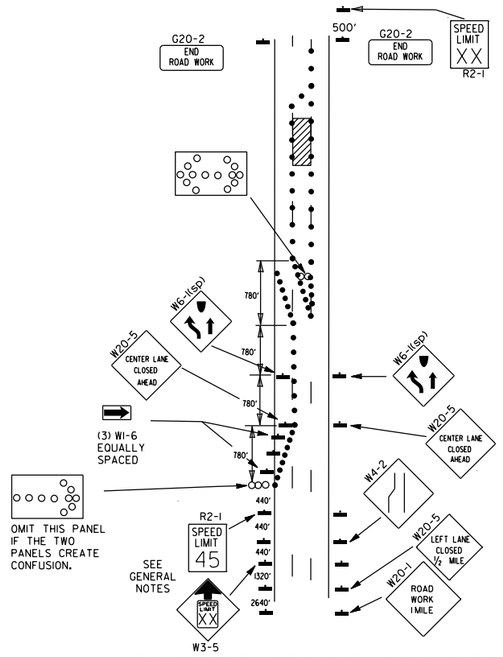
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

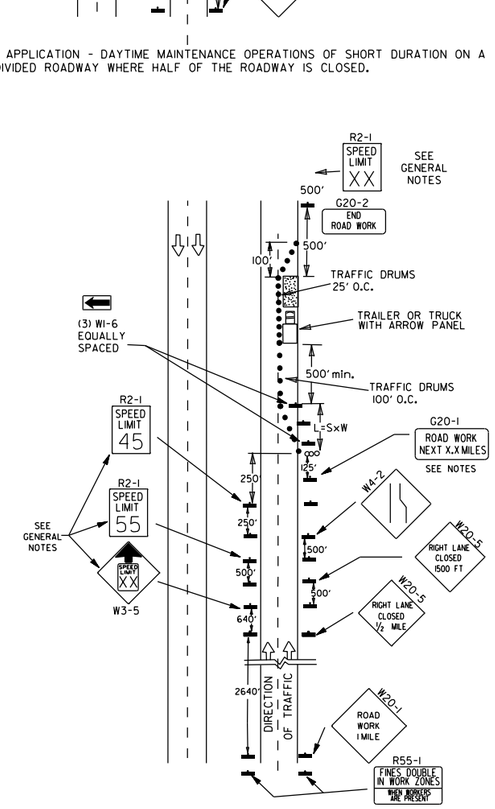
STANDARD DRAWING TC-2



(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.



(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

KEY:

ooo ARROW PANEL (IF REQUIRED)

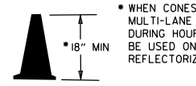
■ CHANNELIZING DEVICE

● TRAFFIC DRUM

GENERAL NOTES:

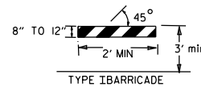
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL 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 R2-155MPH 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.
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).

CHANNELIZING DEVICES

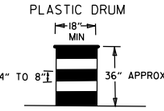


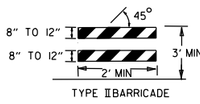
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

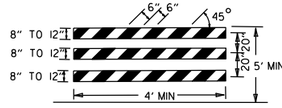
CONES



PLASTIC DRUM

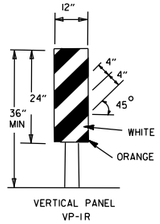




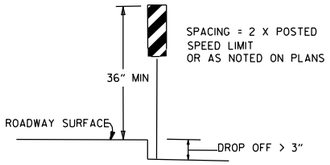


TYPE III BARRICADE

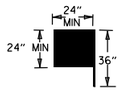
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



VERTICAL PANEL PLACEMENT



FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

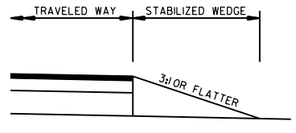
TRAFFIC CONTROL DEVICES

NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
> 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
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 2" ≤ 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

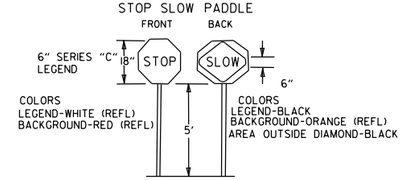
GENERAL NOTES:
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED 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.



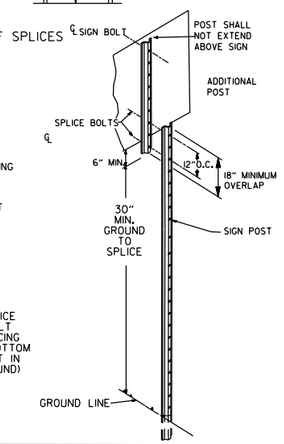
STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE



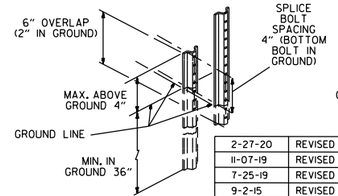
DETAIL OF SPLICES

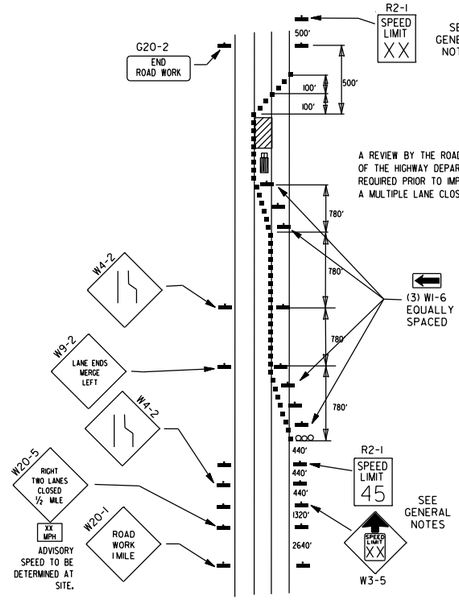


NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

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.





(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

DATE	REVISION	FILMED
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	

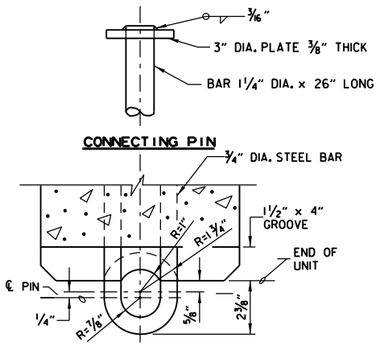
ARKANSAS STATE HIGHWAY COMMISSION

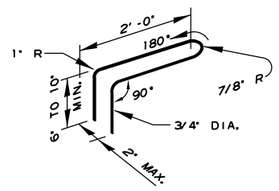
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

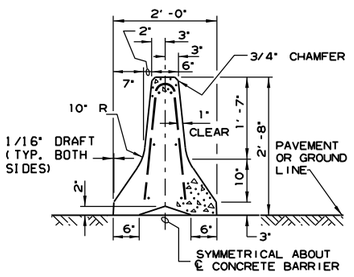
STANDARD DRAWING TC-3

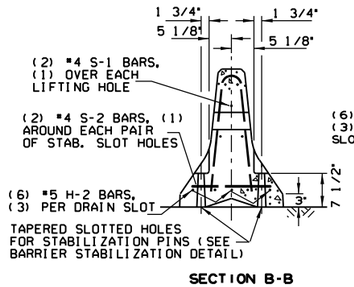
REINFORCING BAR TABLE PER BARRIER UNIT

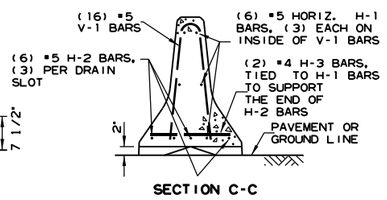
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. 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"

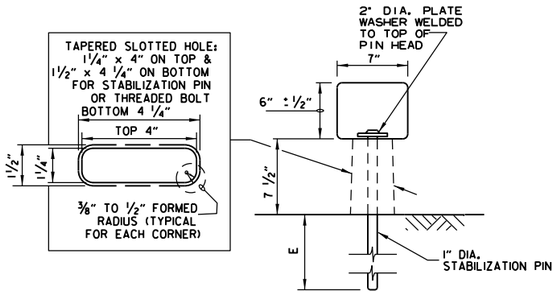




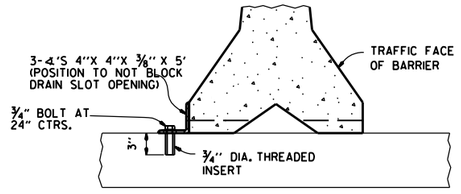






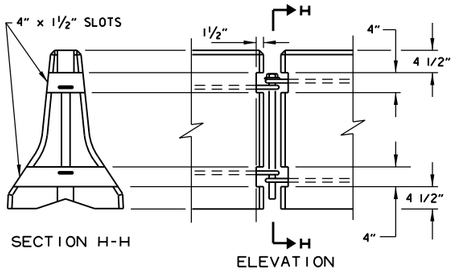


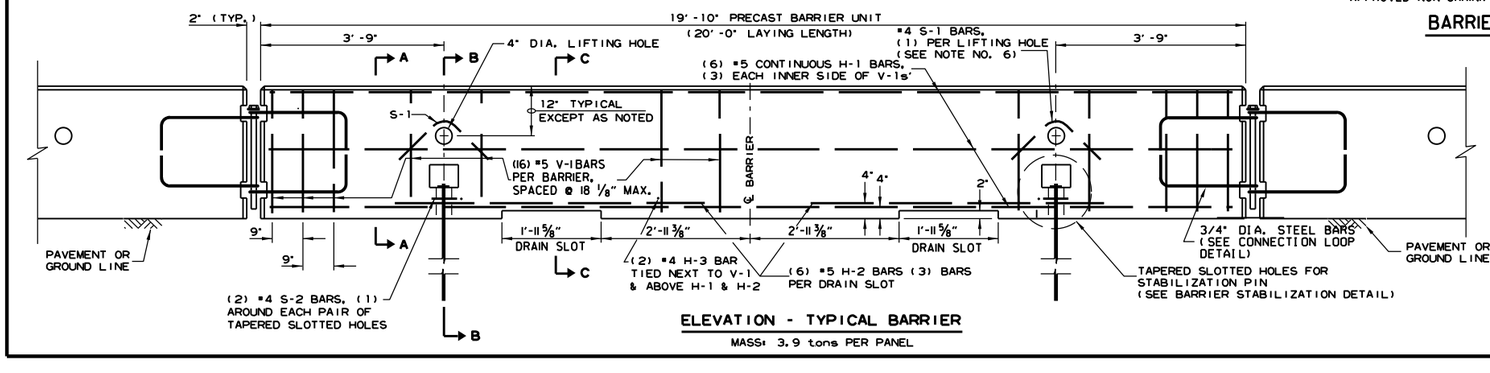
Ⓔ 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



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.

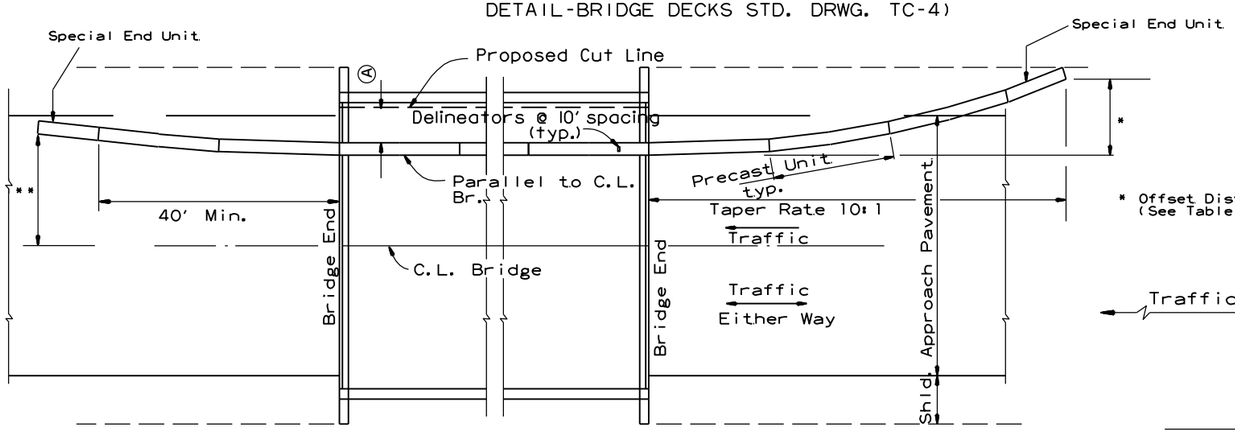
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO WASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED 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

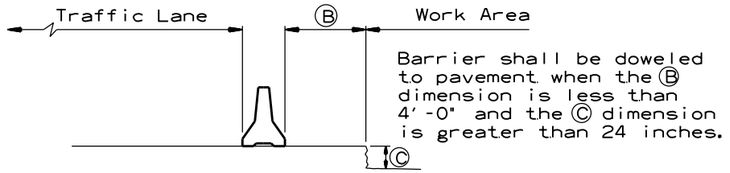
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

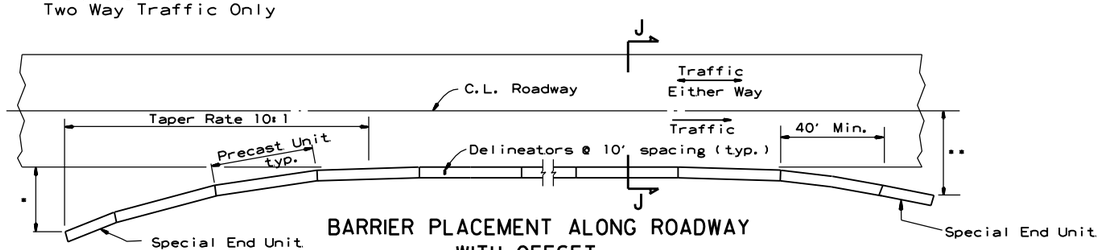
** Offset Distance for Two Way Traffic Only



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

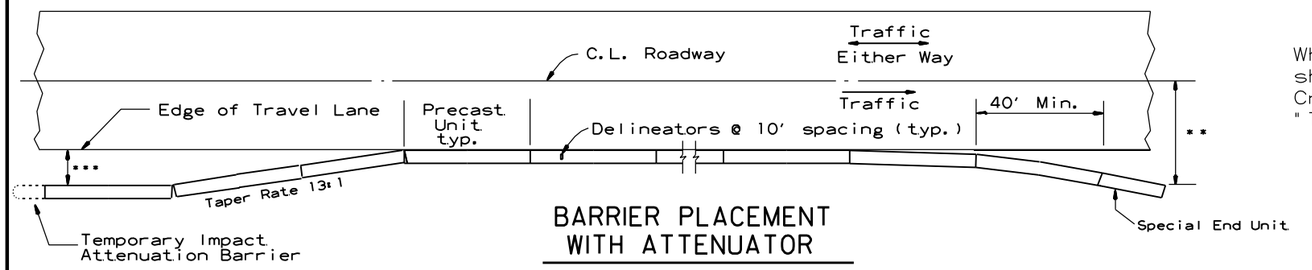
** Offset Distance For Two Way Traffic Only

* 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.

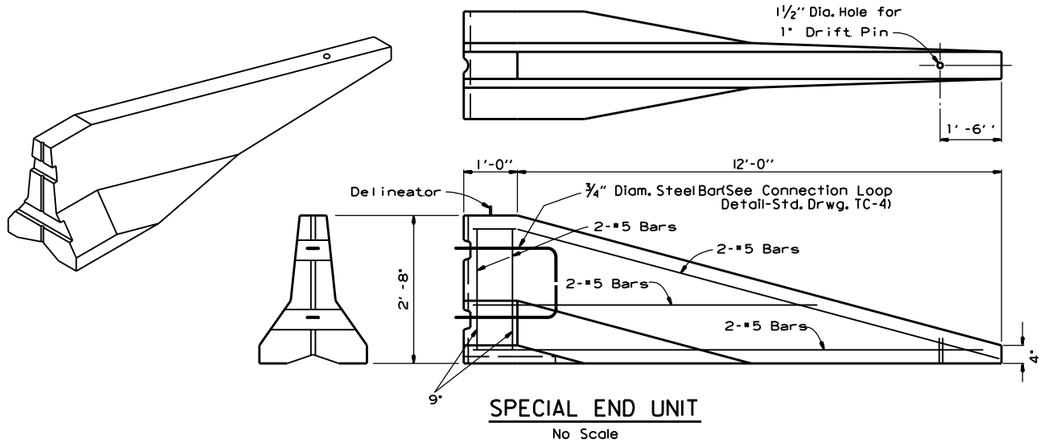


BARRIER PLACEMENT WITH ATTENUATOR

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	

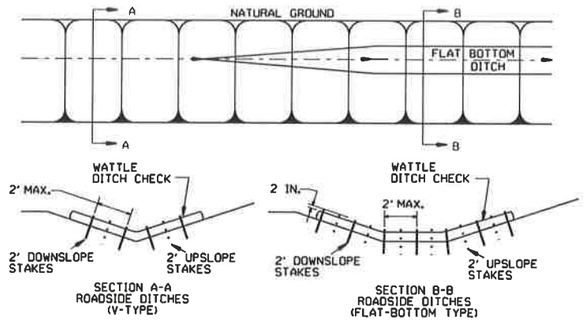
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

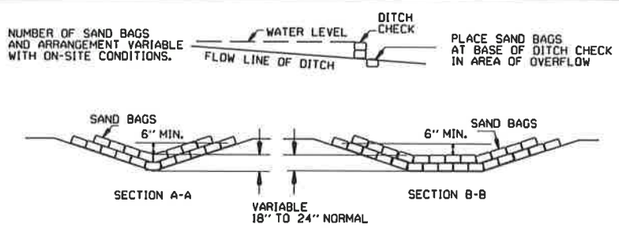
STANDARD DRAWING TC-5

GENERAL NOTES

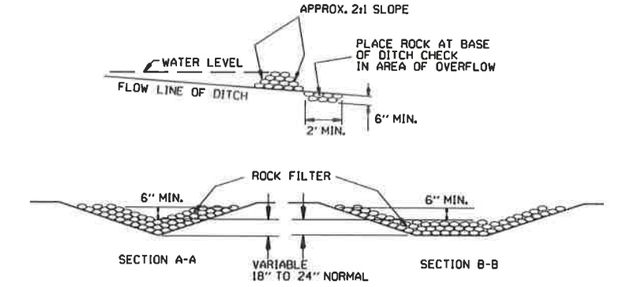
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

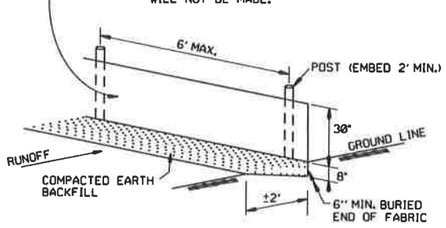


ROCK DITCH CHECK (E-6)

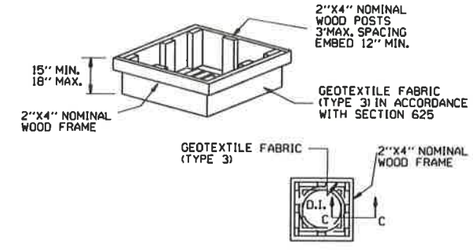
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

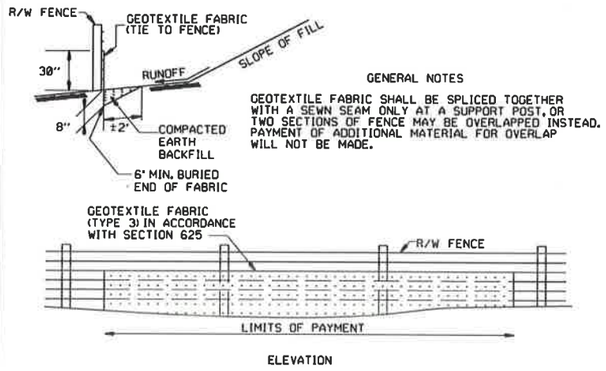
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



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.

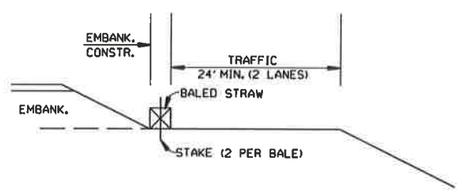
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

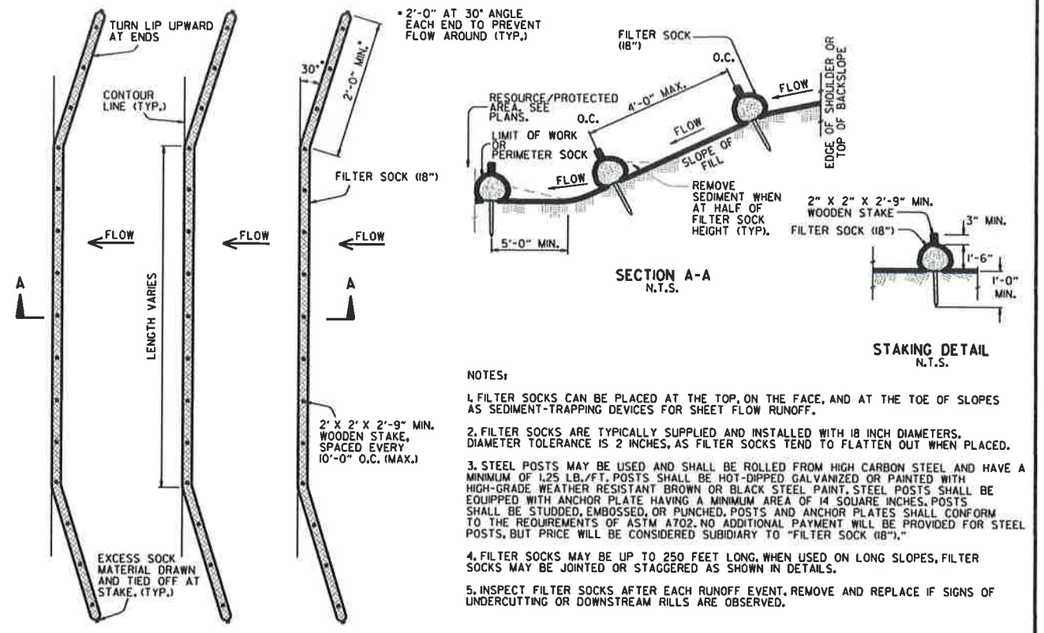
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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.

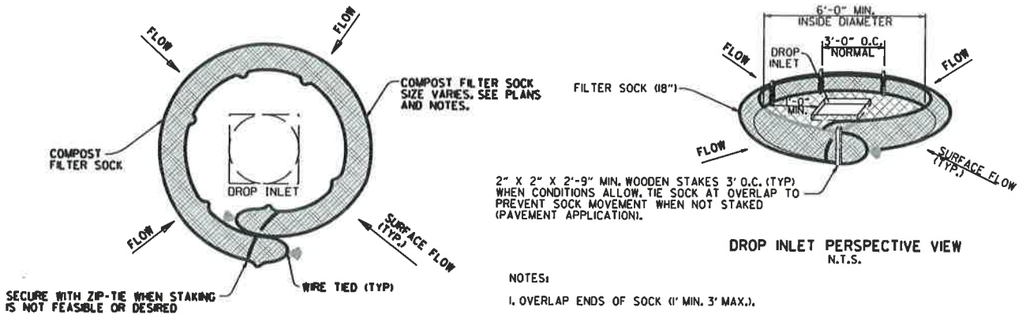
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

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.

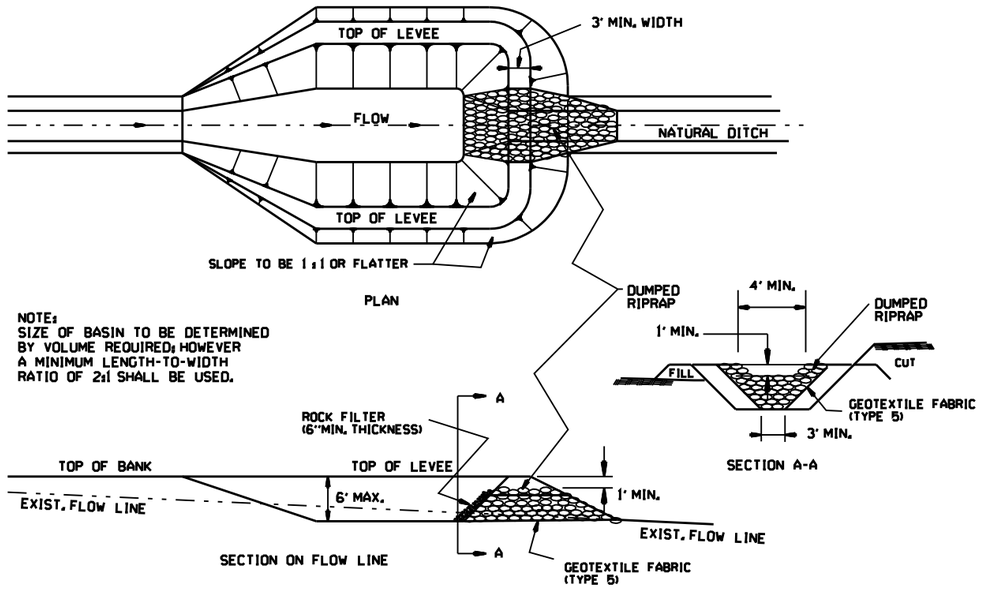
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

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

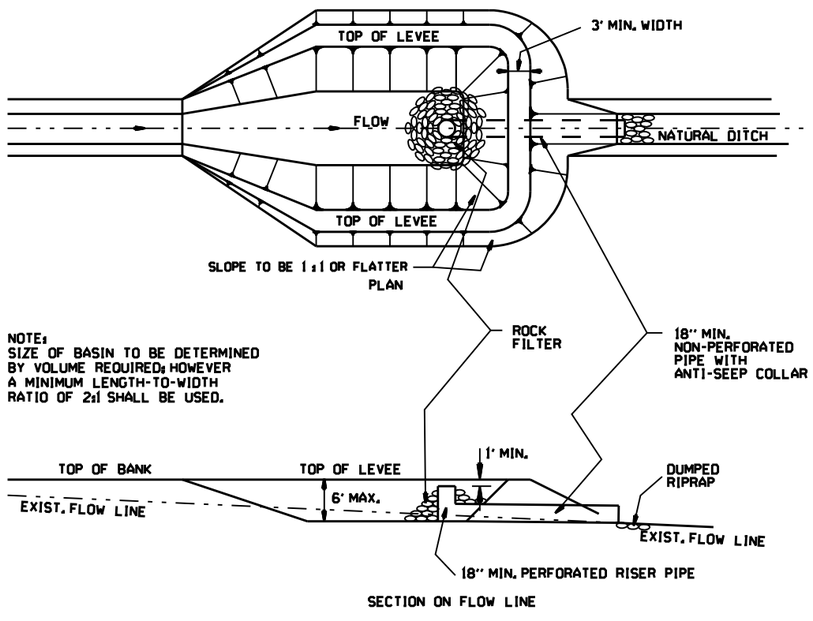
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

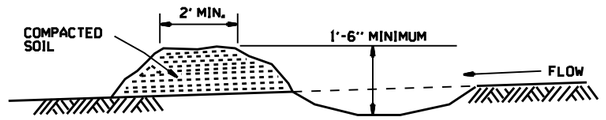
STANDARD DRAWING TEC-1



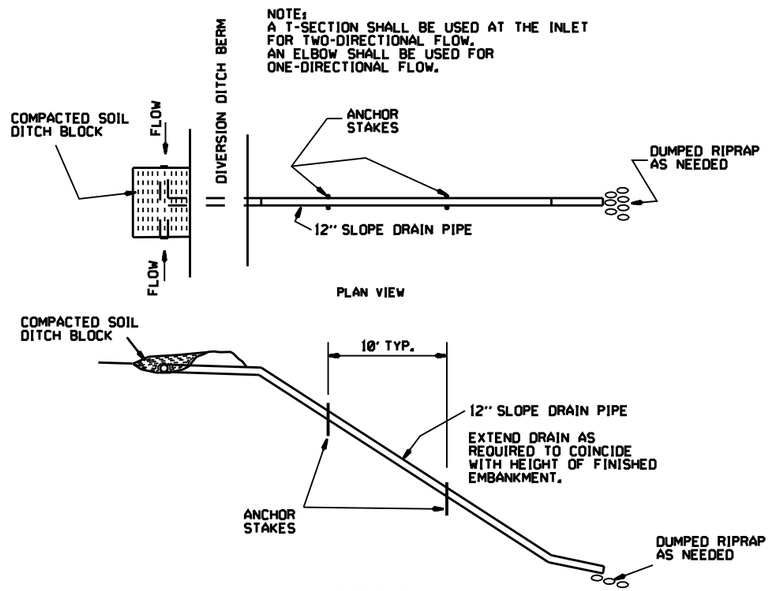
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



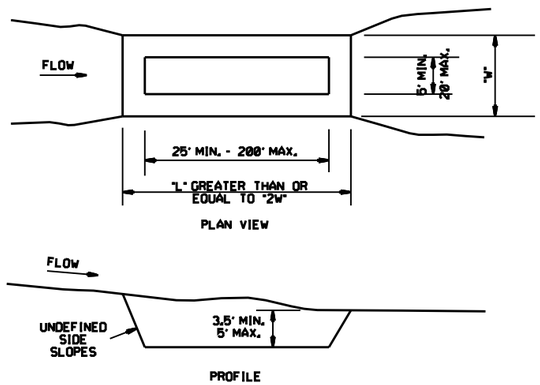
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

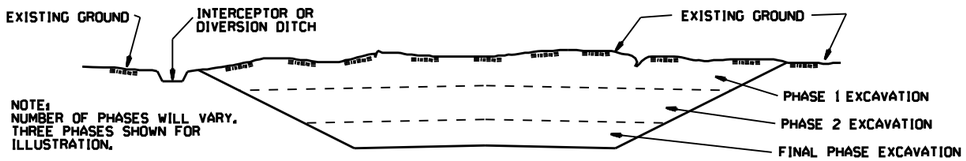
STANDARD DRAWING TEC-2

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



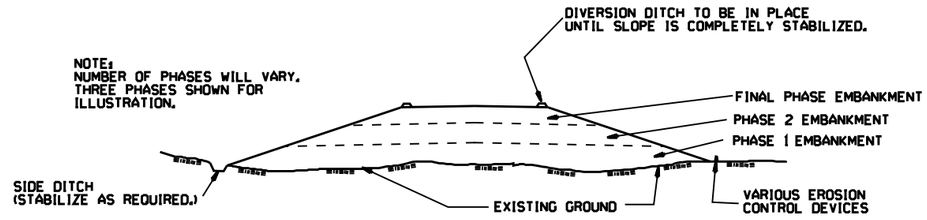
GENERAL NOTE

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