

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 020614							1	38

2 MILLS BAYOU STR. & APPRS. (S)

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

MILLS BAYOU
STR. & APPRS. (S)

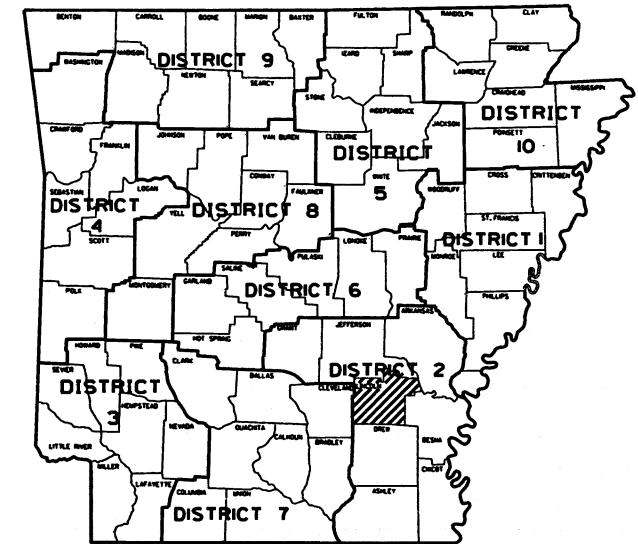
LINCOLN COUNTY

ROUTE 54 SECTION 3

FED. AID PROJ. NHPP-0040(34)

JOB 020614

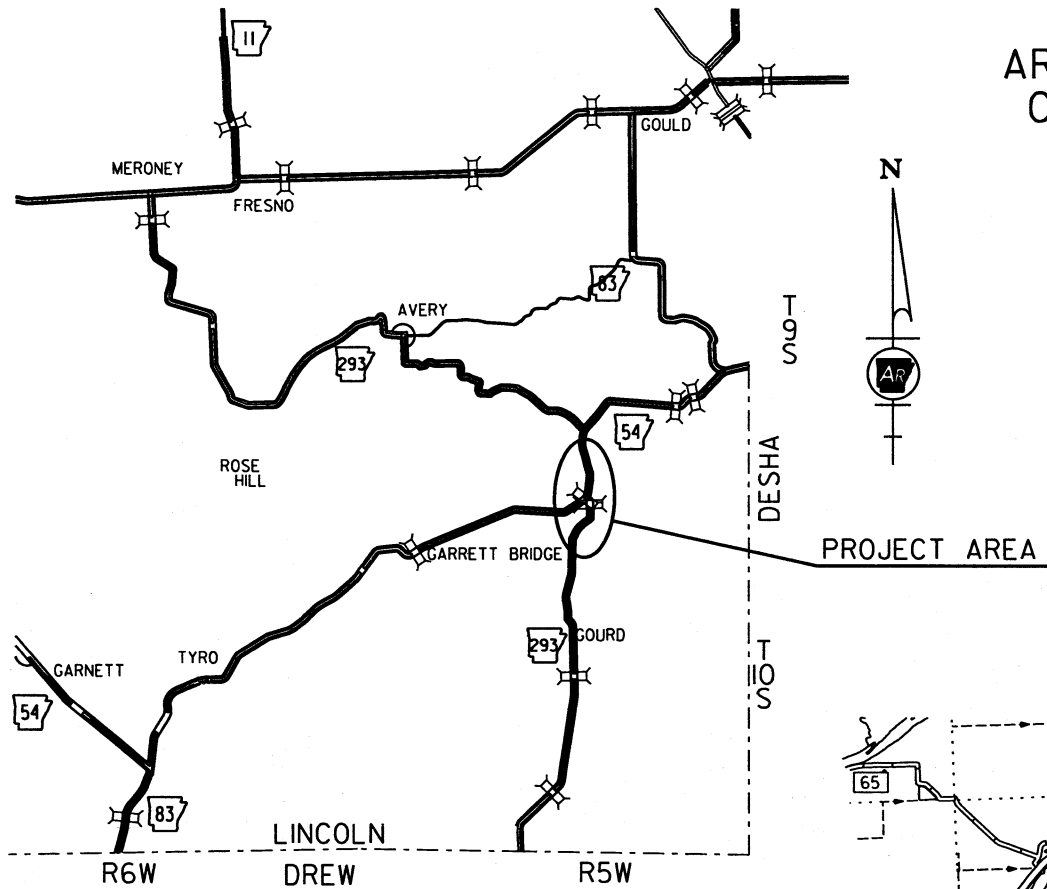
NOT TO SCALE



ARK. HWY. DIST. NO. 2

DESIGN TRAFFIC DATA

DESIGN YEAR	2039
2019 ADT	900
2039 ADT	1100
2039 DHV	121
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	4%
DESIGN SPEED	55 MPH

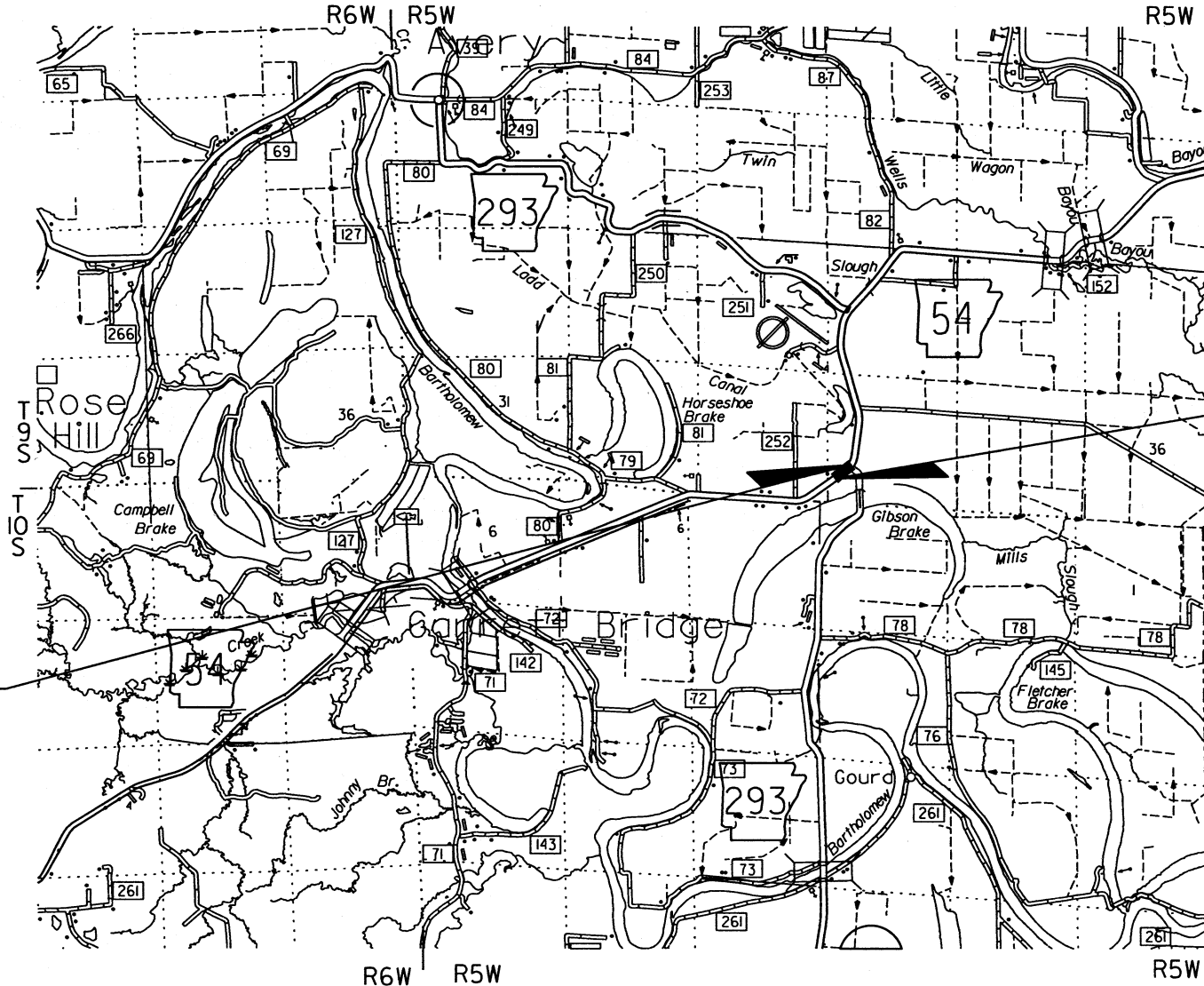


VICINITY MAP

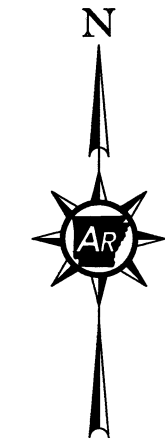
STRUCTURES OVER 20' -0" SPAN

STA. 112+51 CONSTRUCT
QUAD. 8' x 5' x 76' R.C BOX CULVERT
ON 15° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q25= 503 CFS D.A. = 2.32 SQ. MILES
SPAN = 35' -0"

STA. 112+00.00
BEGIN JOB 020614
L.M. 4.58



STA. 113+00.00
END JOB 020614



APPROVED



11-30-18
DEPUTY DIRECTOR
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N33° 52' 44"	N33° 52' 44"	N33° 52' 44"
LONGITUDE	W91° 36' 12"	W91° 36' 13"	W91° 36' 13"

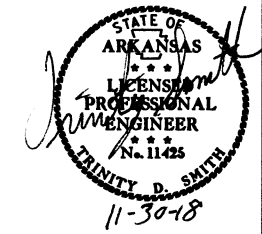
LENGTH OF PROJECT CALCULATED ALONG C.L.			
GROSS LENGTH OF PROJECT	100.00	FEET OR	0.019 MILES
NET ROADWAY	65.00		0.012 MILES
NET BRIDGES	35.00		0.007 MILES
NET PROJECT	100.00		0.019 MILES

11/14/2018

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② INDEX OF SHEETS & STANDARD DRAWINGS



INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 5	TYPICAL SECTIONS OF IMPROVEMENT
6 - 13	SPECIAL DETAILS
14 - 17	TEMPORARY EROSION CONTROL DETAILS
18 - 21	MAINTENANCE OF TRAFFIC DETAILS
22	PERMANENT PAVEMENT MARKING DETAILS
23 - 27	QUANTITIES
28	SUMMARY OF QUANTITIES AND REVISIONS
29 - 30	SURVEY CONTROL DETAILS
31 - 32	PLAN AND PROFILE SHEETS
33 - 38	CROSS SECTIONS

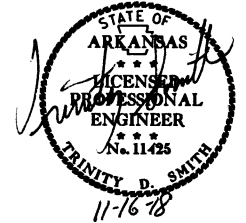
ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
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
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-06-16
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	10-18-96
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	04-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
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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2 GOVERNING SPECIFICATIONS AND GEN. NOTES



GOVERNING SPECIFICATIONS

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

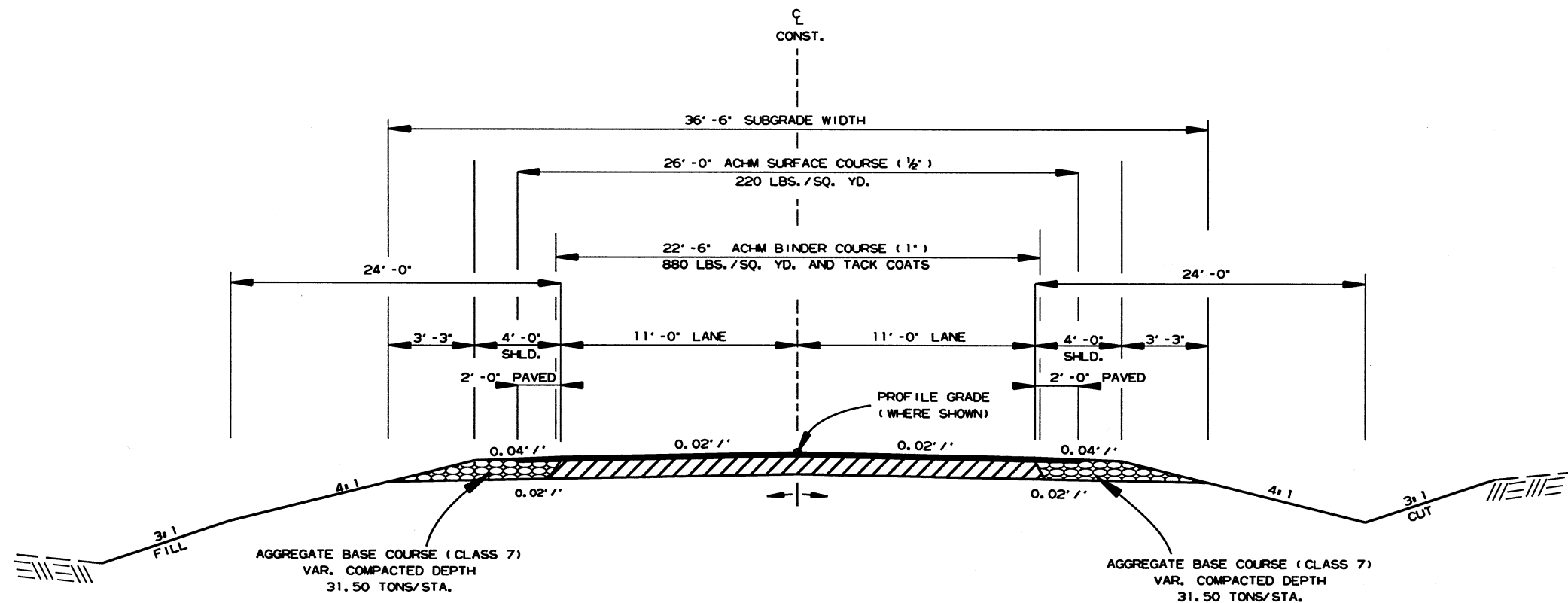
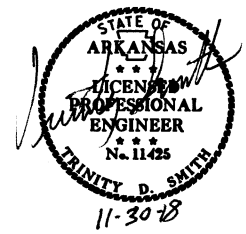
NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 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
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
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERENS
600-2	INCIDENTAL CONSTRUCTION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1	MULCH COVER
800-1	STRUCTURES
802-3	CONCRETE FOR STRUCTURES
JOB 020614	BIDDING REQUIREMENTS AND CONDITIONS
JOB 020614	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 020614	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 020614	CARGO PREFERENCE ACT REQUIREMENTS
JOB 020614	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 020614	FLEXIBLE BEGINNING OF WORK
JOB 020614	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 020614	MANDATORY ELECTRONIC CONTRACT
JOB 020614	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 020614	NESTING SITES OF MIGRATORY BIRDS
JOB 020614	PLASTIC PIPE
JOB 020614	SETTLEMENT AGREEMENTS
JOB 020614	SHORING FOR CULVERTS
JOB 020614	SOIL STABILIZATION
JOB 020614	STORM WATER POLLUTION PREVENTION PLAN
JOB 020614	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 020614	UTILITY ADJUSTMENTS
JOB 020614	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 AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

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2 TYPICAL SECTIONS OF IMPROVEMENT



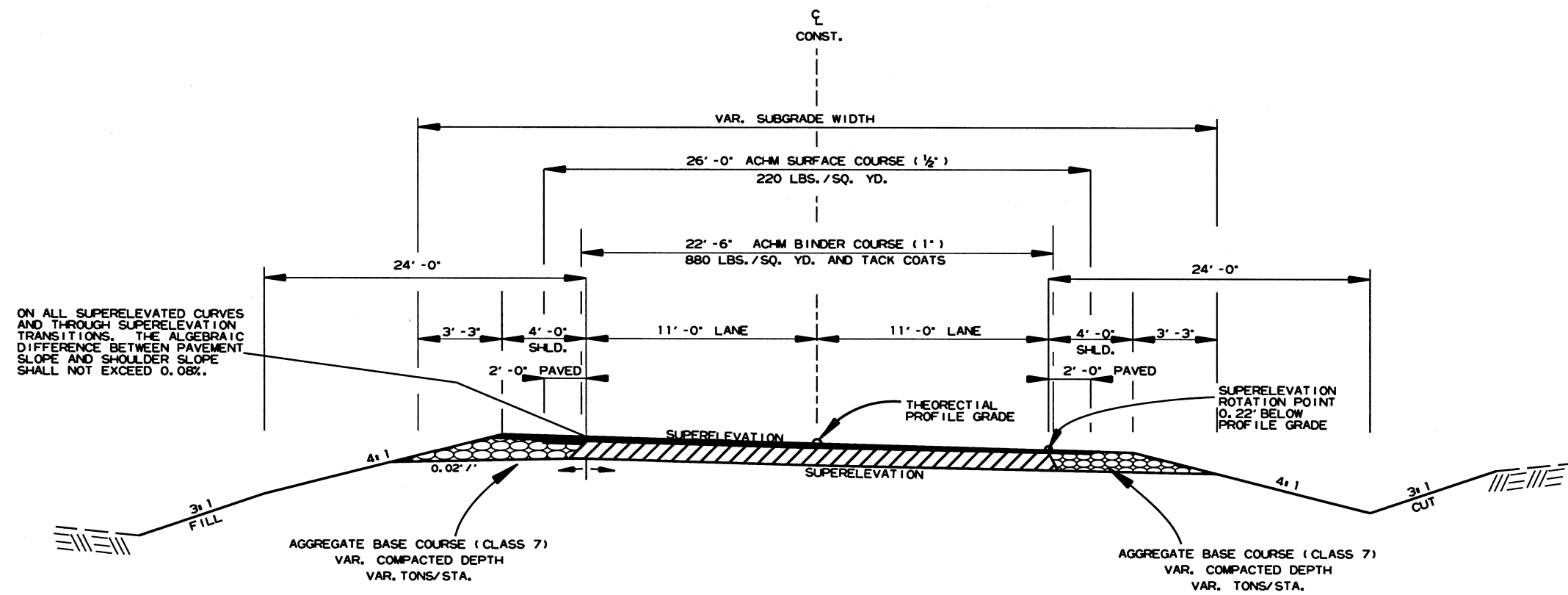
HWY. 54
TYPICAL SECTION OF IMPROVEMENT - FULL DEPTH

NOTES:
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.

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.

AFTER PLACING FINAL 2" OF SURFACE COURSE, THE EXISTING SLOPE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.

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



HWY. 54
TYPICAL SECTION OF IMPROVEMENT - SUPERELEVATION
STA. 112+00.00 TO STA. 113+00.00

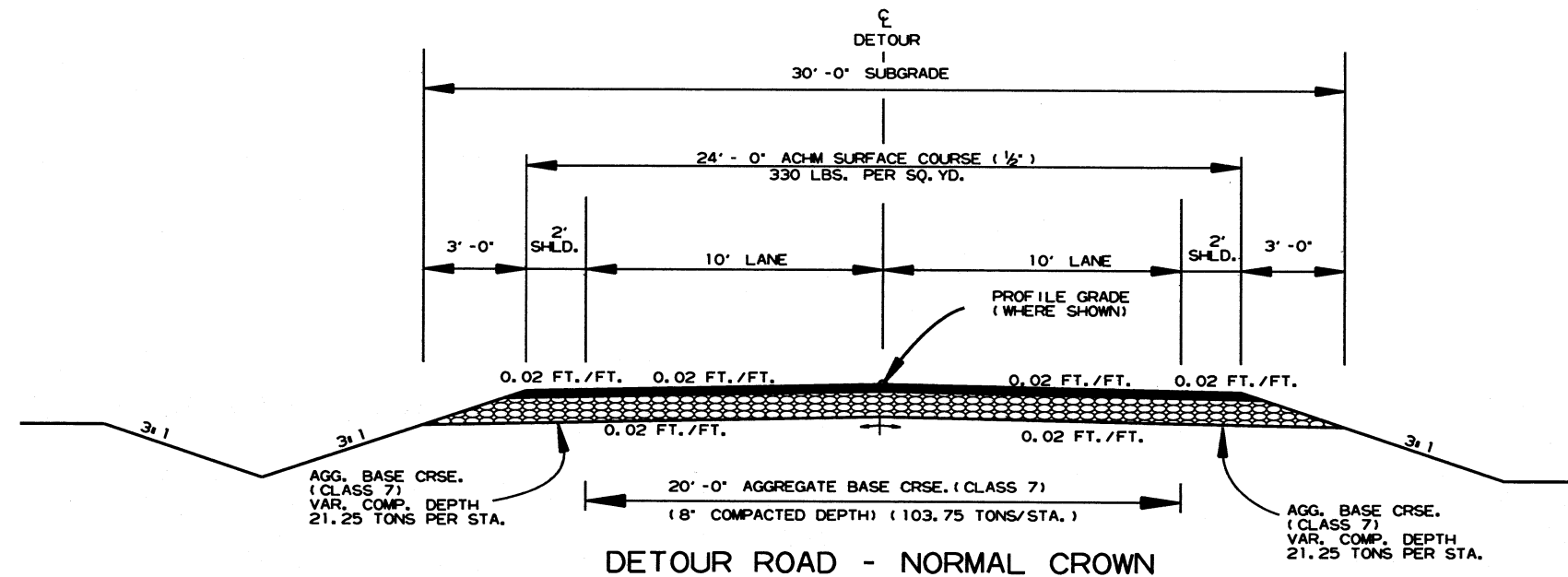
ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08%.

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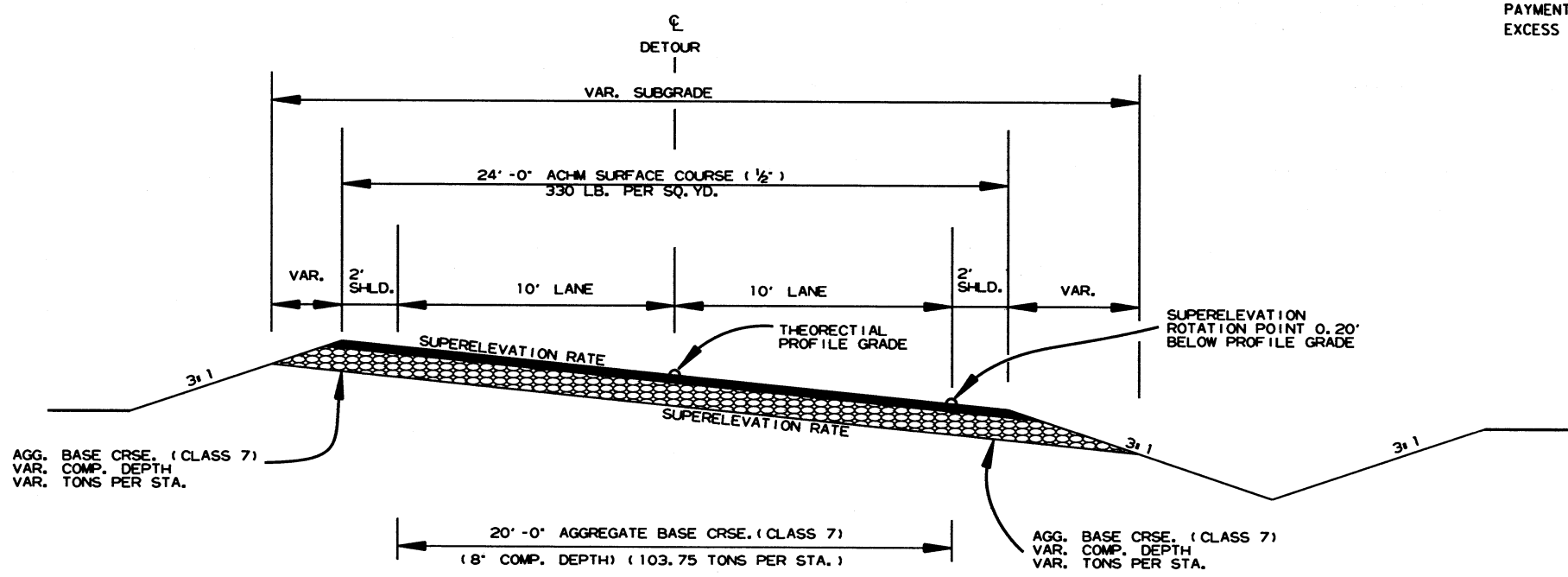
2 TYPICAL SECTIONS OF IMPROVEMENT



DETOUR ROAD - NORMAL CROWN
 STA. 16+00.00 TO STA. 18+69.29
 STA. 25+59.47 TO STA. 30+00.00

NOTES:
 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.

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.



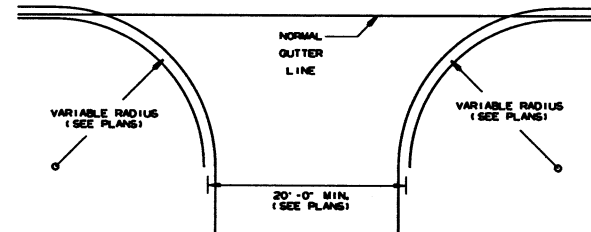
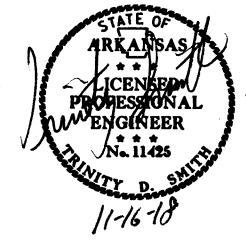
DETOUR ROAD - SUPERELEVATION
 STA. 18+69.29 TO STA. 25+59.47

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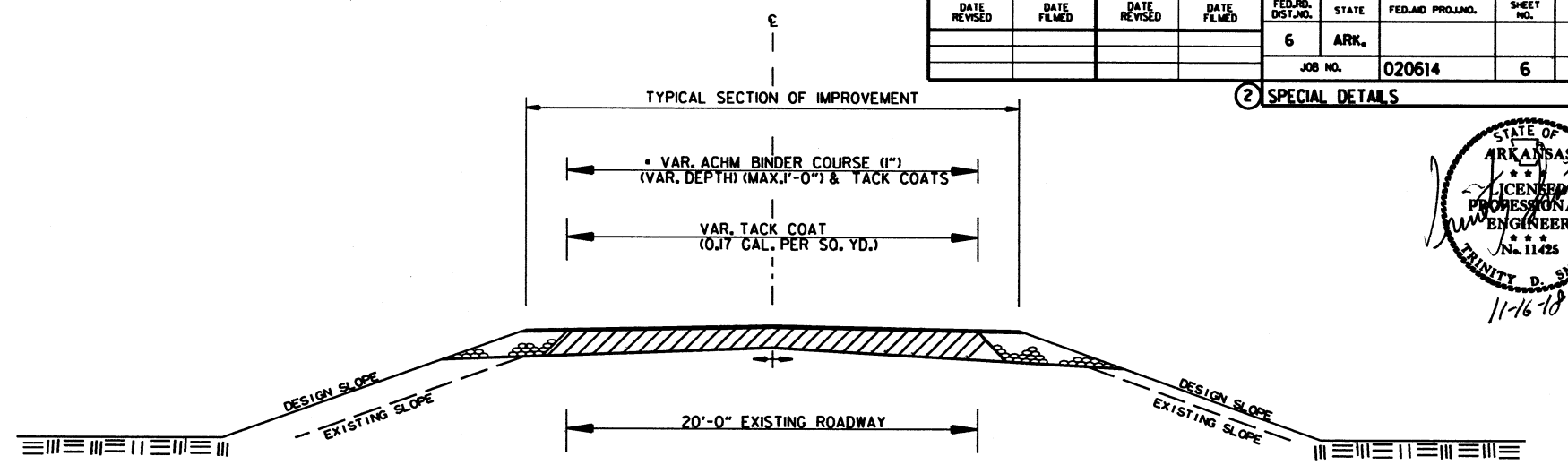
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				JOB NO. 020614				

2 SPECIAL DETAILS



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

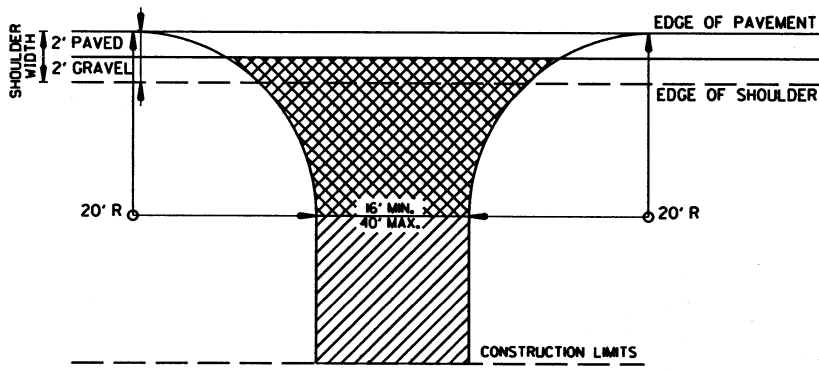
DETAIL OF TURNOUTS, ASPHALT STREETS,
COUNTY ROADS, & STATE HIGHWAYS
CURB & GUTTER SECTION



METHOD OF RAISING GRADE

• 9" AGGREGATE BASE COURSE (CLASS 7)
TO BE PLACED WITH ACHM BINDER COURSE (1")

- NOTES:
- (1) THIS DETAIL TO BE USED ONLY 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.

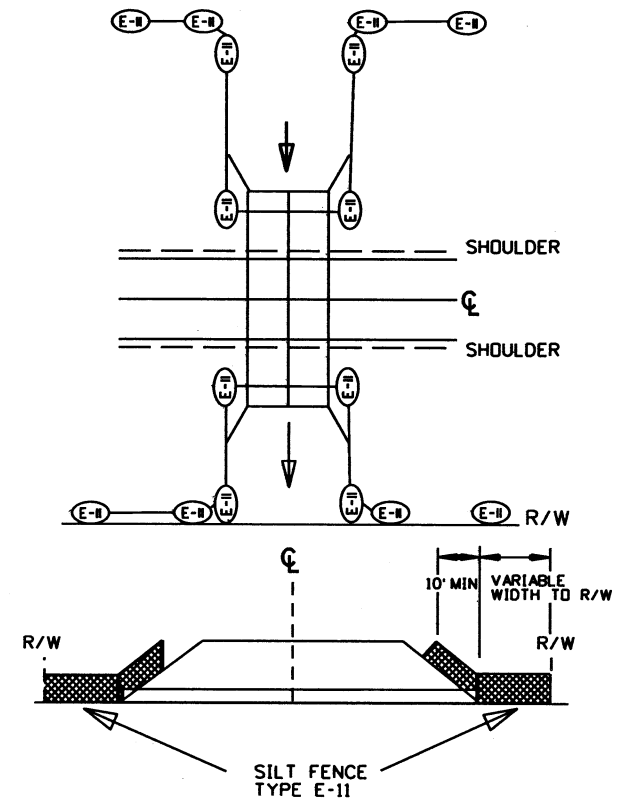


ACHM SURFACE COURSE (1/2")
(220 LBS./SQ. YD.) & AGGREGATE BASE
COURSE (CLASS 7) (7" COMPACTED DEPTH)

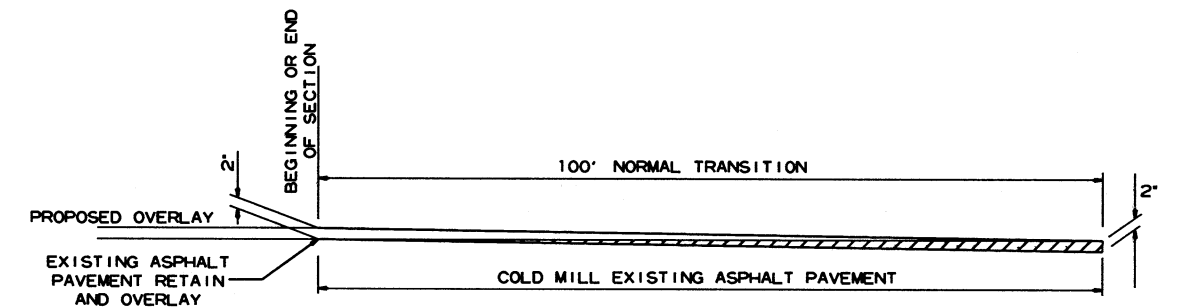
AGGREGATE BASE COURSE (CLASS 7)
9" COMP. DEPTH OR CONFORM TO
EXISTING DRIVEWAY

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

DETAIL FOR
DRIVEWAY TURNOUTS



DETAILS OF SILT FENCE
AT BOX CULVERTS

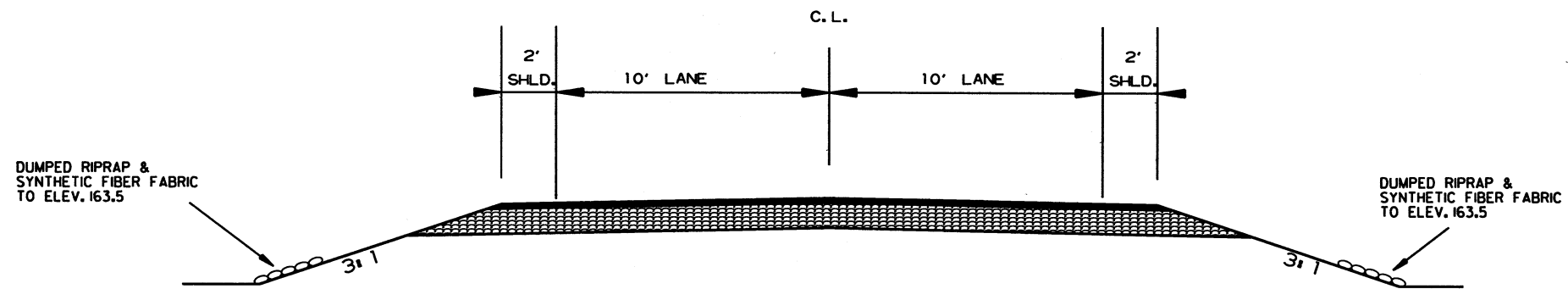
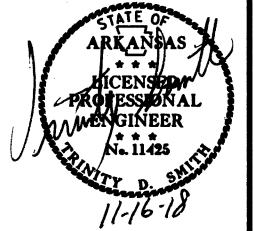


DETAIL FOR TRANSITIONS

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2 SPECIAL DETAILS

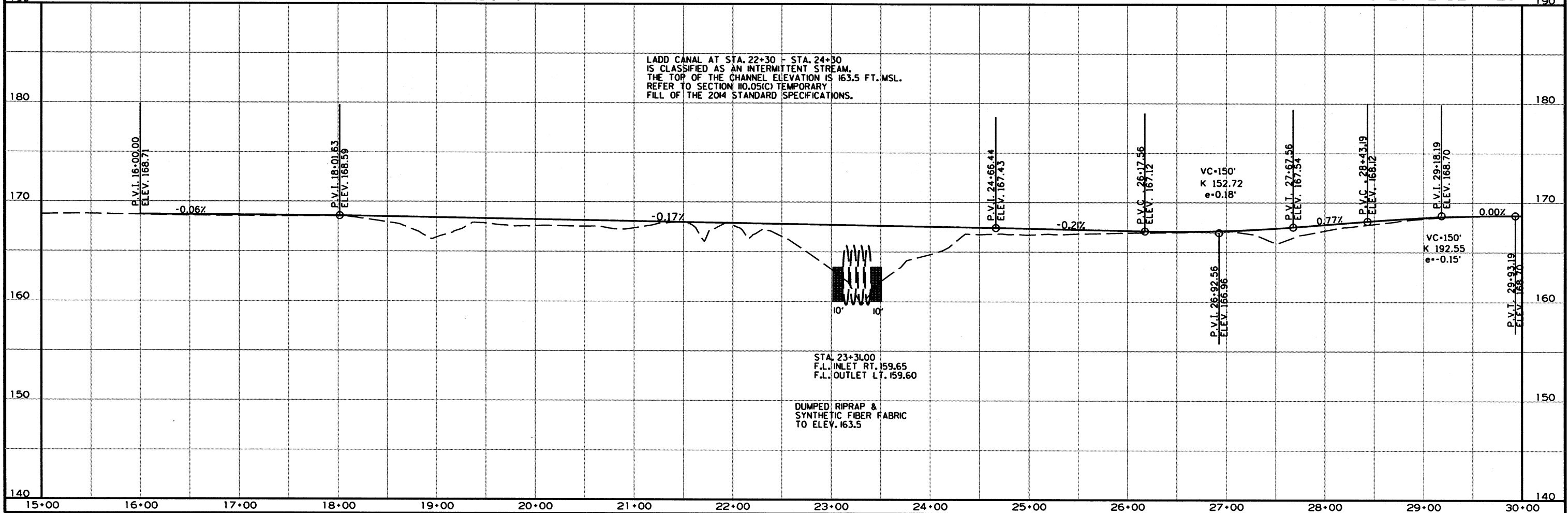


THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE INTERMITTENT STREAM BANK ELEVATION IS 163.5 FT. MSL.

TYPICAL SECTIONS OF IMPROVEMENT - DETOUR ROAD
STA. 22+30 - STA. 24+30

190 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SPECIAL DETAILS 190



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MID-SECTION

Table with columns for R.C. BOX SECTION, DESIGN FILL DEPTH, CLEAR SPAN, and various reinforcement steel details (top slab, bottom slab, side wall, interior wall).

Table with columns: CLASS 'S' CONCRETE, REINFORCING STEEL (GR. 60), CU. YDS., LBS.

INLET SLOPE SECTION(S)

Table with columns for R.C. BOX SECTION, DESIGN FILL DEPTH, CLEAR SPAN, and various reinforcement steel details (top slab, bottom slab, side wall, interior wall).

Table with columns: CLASS 'S' CONCRETE, REINFORCING STEEL (GR. 60), CU. YDS., LBS.

INLET SKEWED END SECTION

Table with columns for SKEW DEGREE, SLOPE, DESIGN FILL DEPTH, CLEAR SPAN, SECTION LENGTH, and various reinforcement steel details (top slab, bottom slab, side wall, interior wall).

Table with columns: CLASS 'S' CONCRETE (includes HDWL), REINFORCING STEEL (GR. 60) (includes HDWL), CU. YDS., LBS.

INLET WINGWALL TABLE

Large table with columns for OVER ALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT (AT HDWL, AT WING END), WING WALL ANGLE (DEGREE), WING WALL AT FOOTING WIDTH AT WALL END, WIDTH OF WING FOOTINGS AT HDWL (WING A, WING B), FOOTING DIMENSION PARALLEL WITH HDWL (WING A, WING B), LENGTH OF WING WALLS (WING A, WING B), LENGTH OF FOOTING HEEL (WING A, WING B), CLASS 'S' CONCRETE, REINFORCING STEEL.

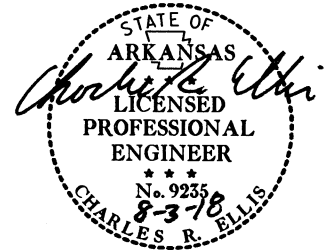
MID-SECTION BAR LAP TABLE

Table with columns: # of Long. Laps Req'd., SL = Section Length, REINF. STEEL QTY. PER WING (LBS).

Table with columns: Min. Bar Lap Length, #4, #5, #6, #7, #8.

Table with columns: Bar Fin Dia. Table, #4, #5, #6, #7, #8.

TABULAR DATA BY: KJF DATE: 03/08/18 CHECKED BY: DHP DATE: 8/11/18



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.

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

Table with columns: Design Fill Depth, Range of Actual Fill Depth.

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.

SHEET 1 OF 2 DETAILS OF R.C. BOX CULVERT QUADRUPLE BARREL BOX CULVERT Sta. 112+51

SPECIAL DETAILS

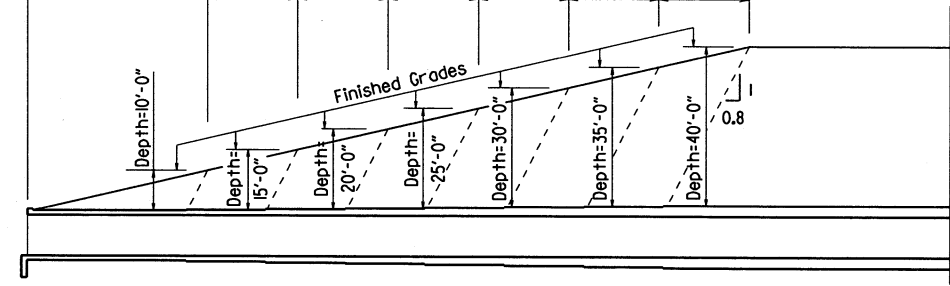


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				JOB NO.	020614		SPECIAL DETAILS	

2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"

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

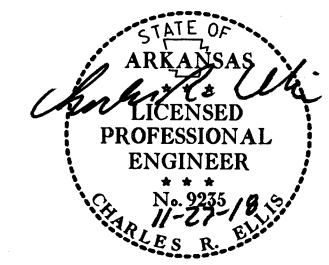
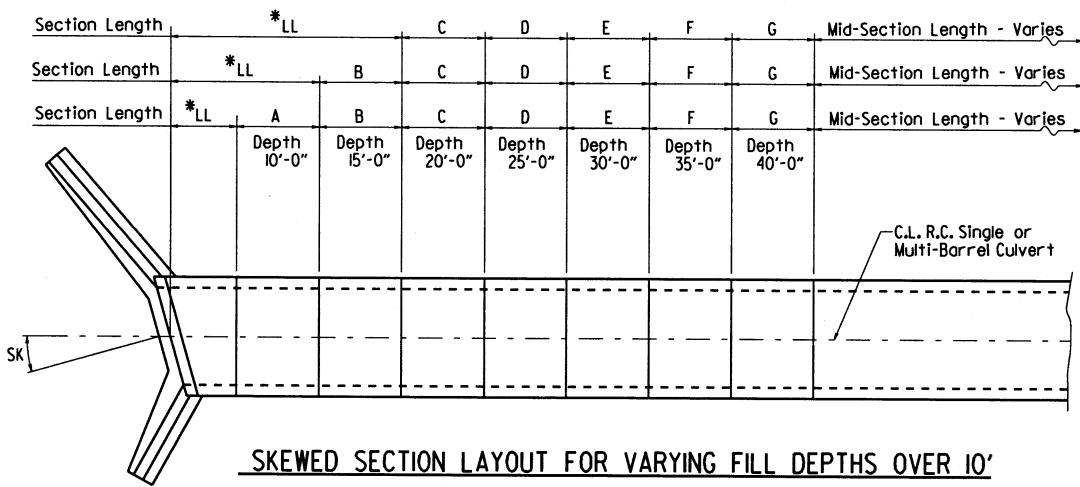
* LL = Skewed End Section Length - See "Skewed End Section Details"
Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.



Slope Section Length @ 2:1 Slope	A=12'-0"	B=6'-0"	C=6'-0"	D=6'-0"	E=6'-0"	F=6'-0"	G=6'-0"	Mid-Section Length - Varies
Slope Section Length @ 3:1 Slope	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	G=11'-0"	Mid-Section Length - Varies
Slope Section Length @ 4:1 Slope	A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	G=16'-0"	Mid-Section Length - Varies

LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes



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 5 with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have 3/8" 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.

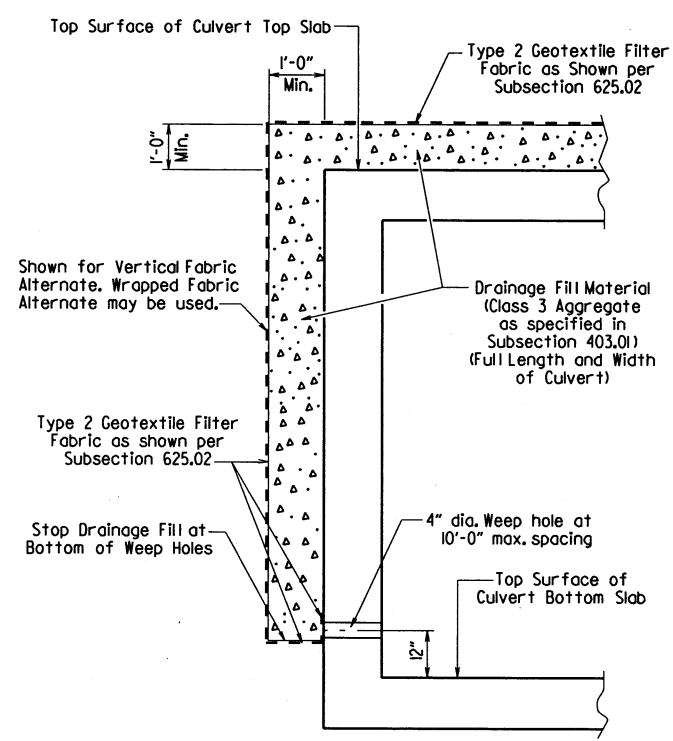
Weep Holes in wingwalls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 12" above the top of the wingwall footing.

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 normal to the centerline of barrel and shall be keyed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise. 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 5 Concrete.

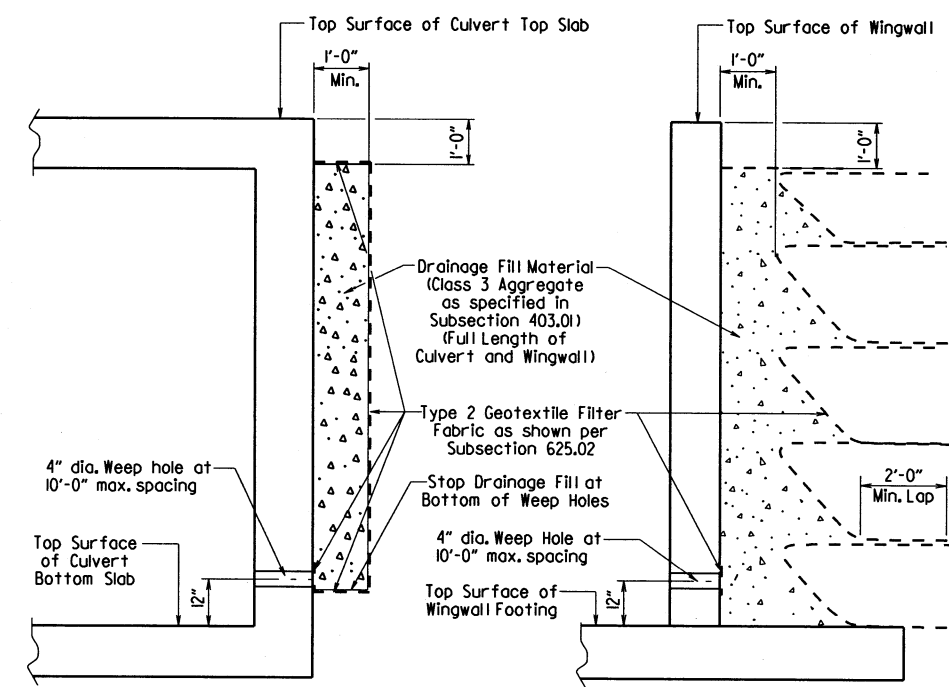
When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a tine finish shall be applied in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class 5 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.



CULVERT DRAINAGE DETAIL FOR ROCK FILL

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



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

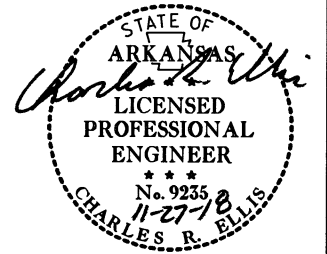
WRAPPED FABRIC ALTERNATE
(Shown for Wingwall, Similar for Culvert)

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

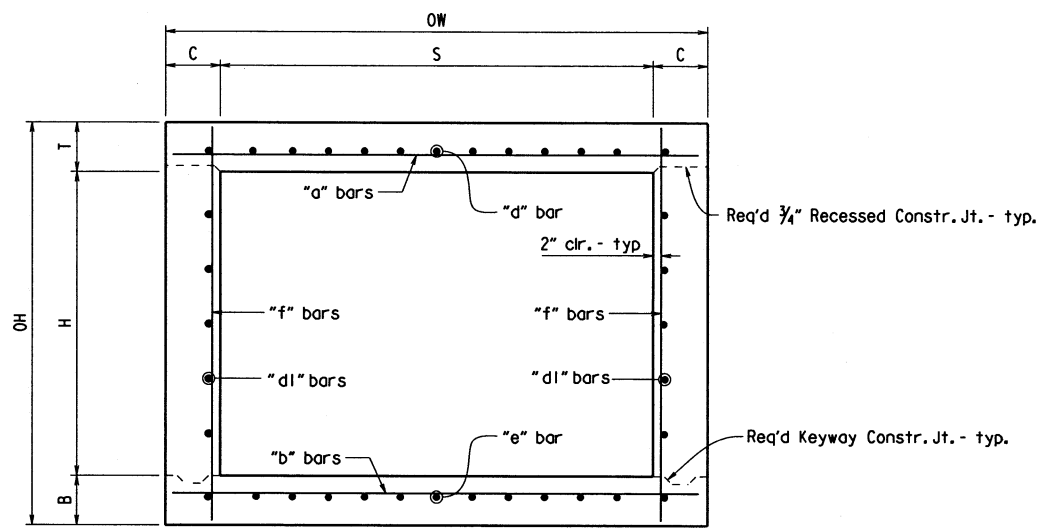
WINGWALL & CULVERT DRAINAGE DETAIL

V 1114 b020614_culvert.dgn

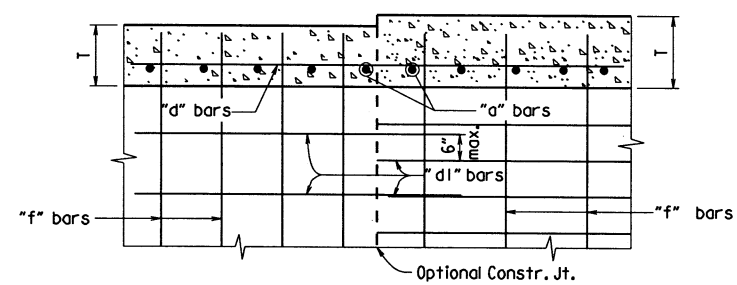
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 020614							11	38



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

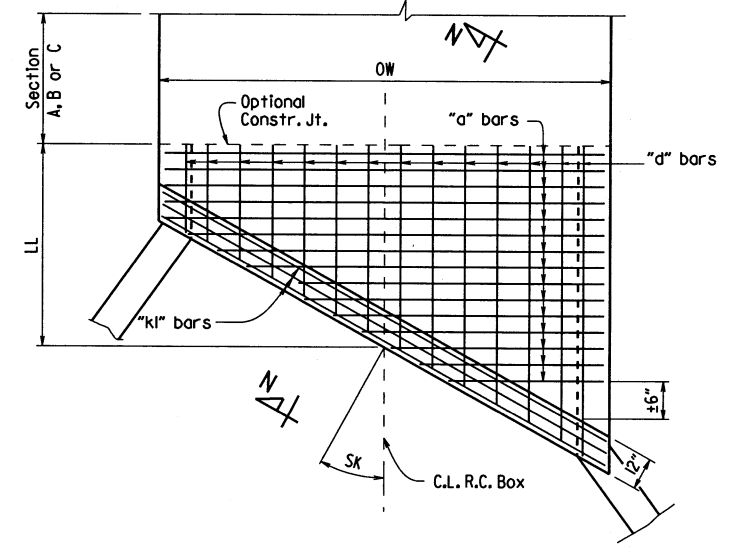


TYPICAL SECTION M-M

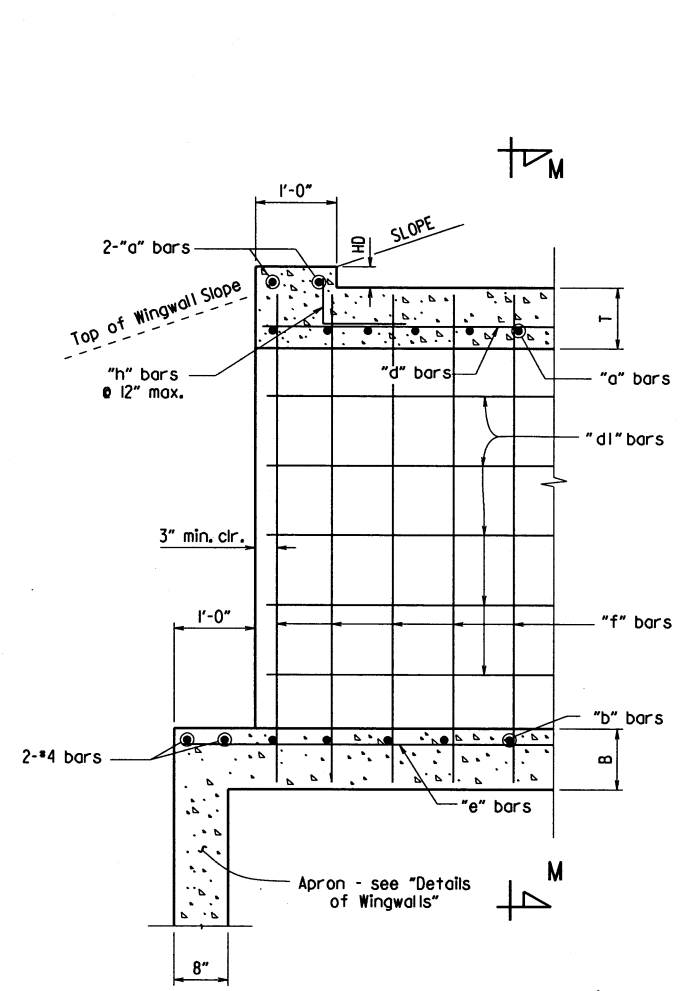


LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

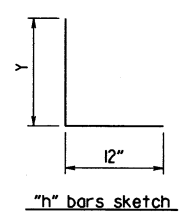
TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



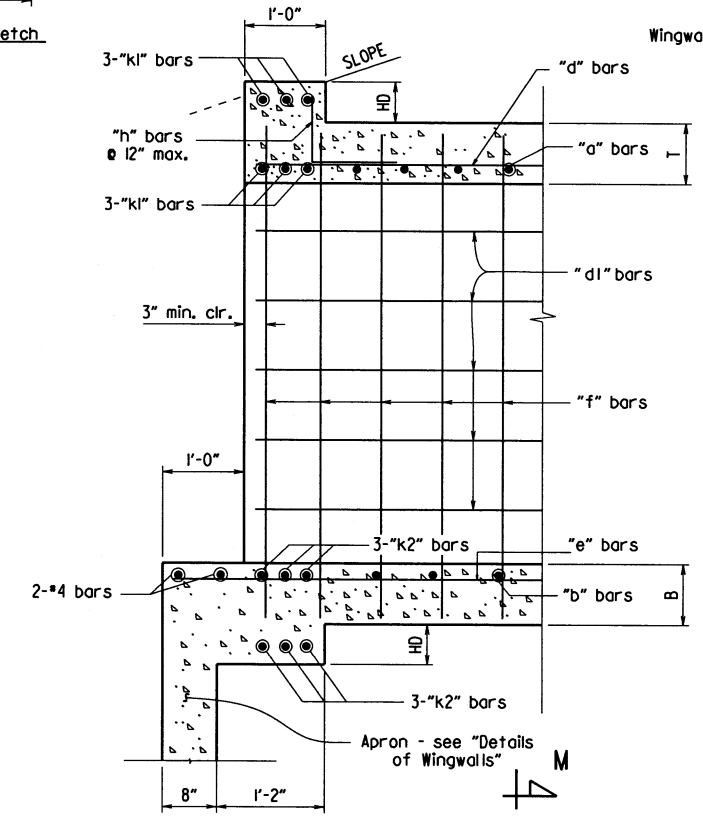
TOP SLAB REINFORCEMENT



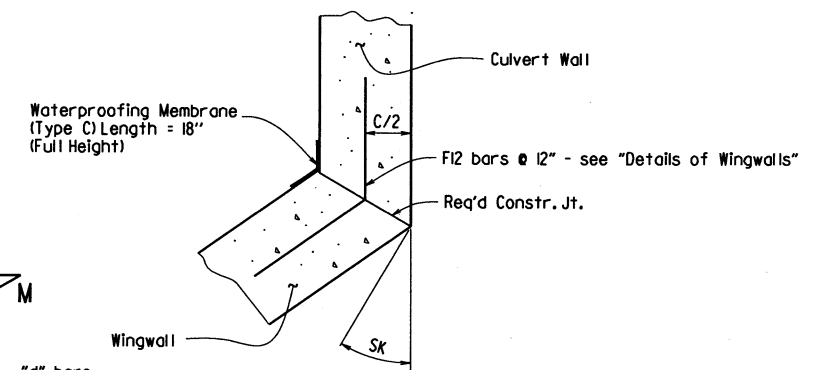
PART LONGITUDINAL SECTION
(Non-Skewed Ends)



"h" bars sketch

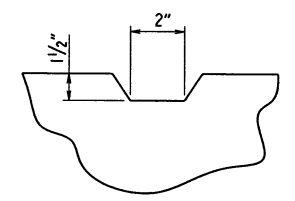


PART LONGITUDINAL SECTION N-N
(Skewed Ends)

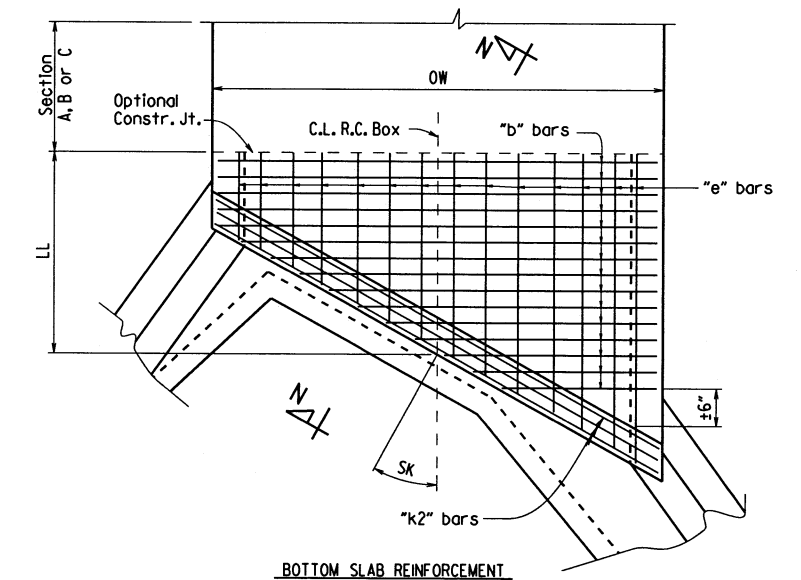


WINGWALL ATTACHMENT

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



TYPICAL KEYWAY DETAIL
(All Construction Joints)



SKewed END SECTION DETAILS

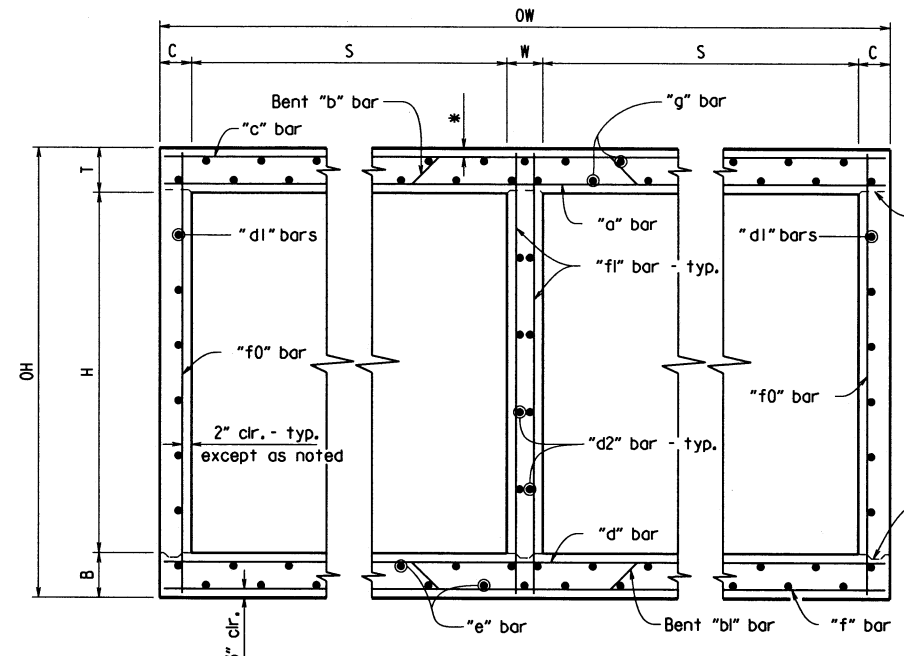
SHEET 2 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF SINGLE BARREL
R.C. BOX CULVERT
SPECIAL DETAILS

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DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		12	38
				JOB NO.	020614		12	38

*2" clr. for fill depth (D) greater than 2 ft.
 2 1/2" 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.

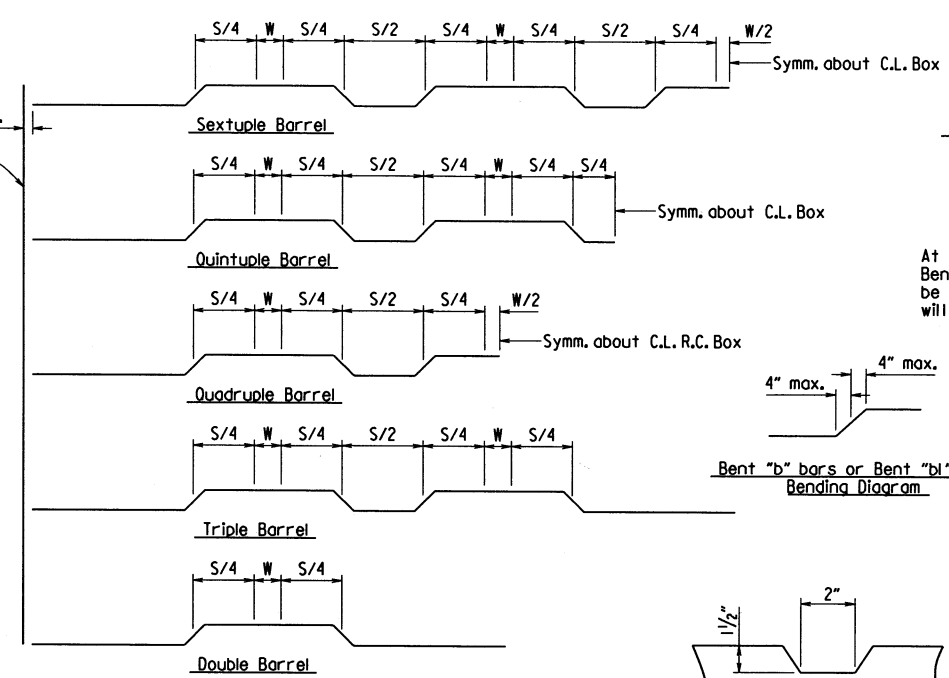


TYPICAL SECTION M-M

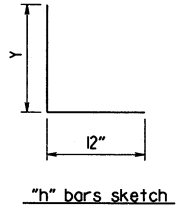
Top Slab
 Straight "c" bars shall alternate with Bent "b" bars in top.
 Straight "a" bars shall alternate with Bent "b" bars in bottom.

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

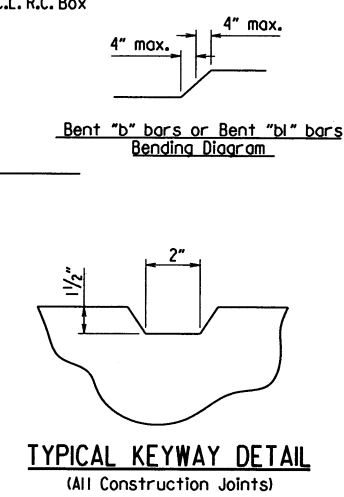
2" clr. - typ.
 Outside Face of R.C. Box
 Req'd 3/4" Recessed Constr. Jt. - typ.
 Req'd Keyway Constr. Jt. - typ.



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



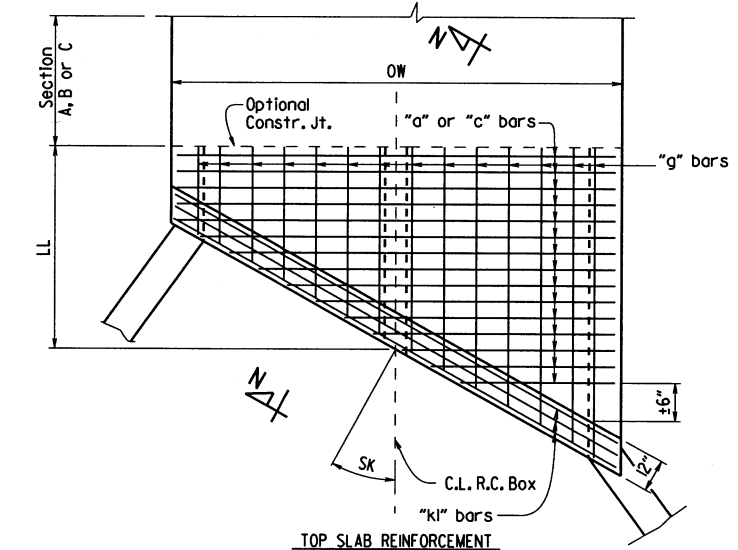
"h" bars sketch



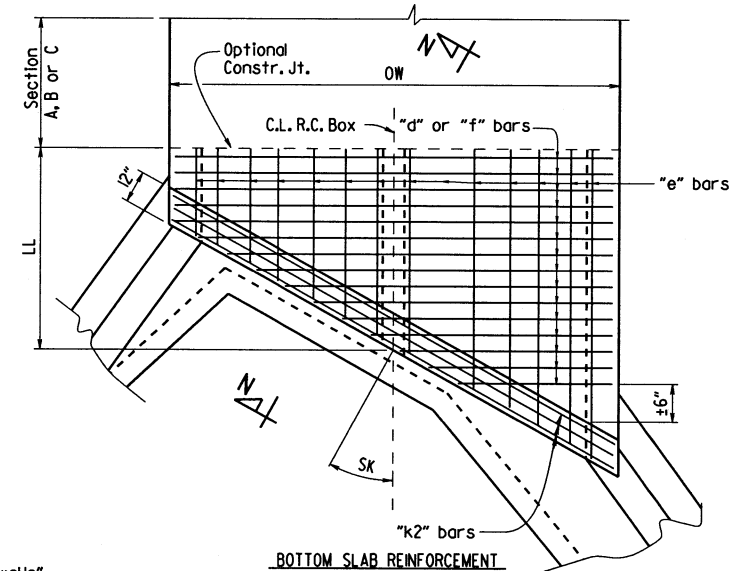
TYPICAL KEYWAY DETAIL
 (All Construction Joints)

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.

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



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



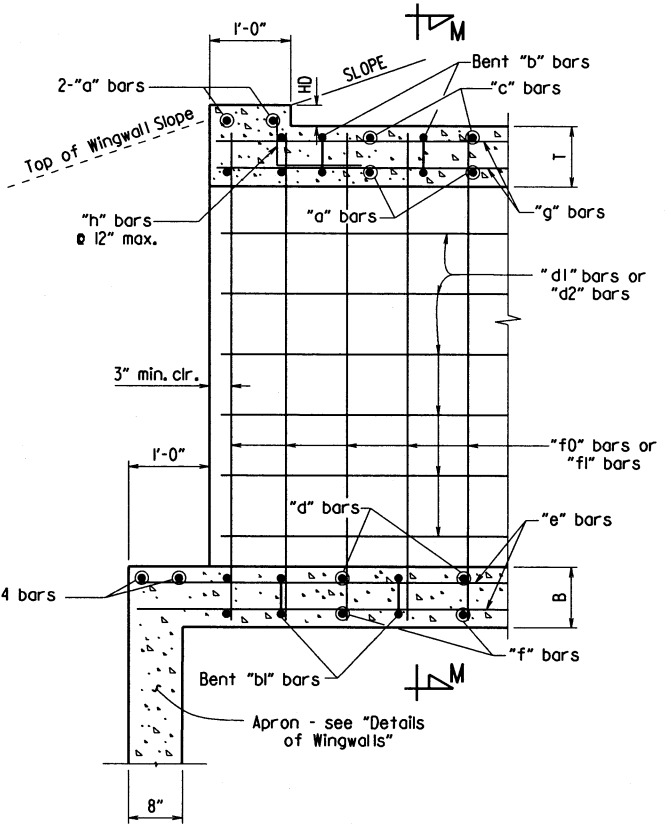
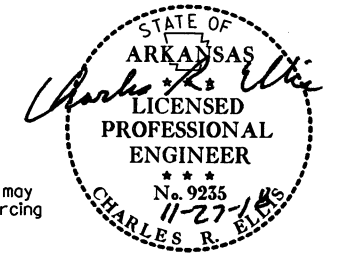
BOTTOM SLAB REINFORCEMENT
 Straight "d" bars in top.
 Straight "f" bars in bottom.

SKewed END SECTION DETAILS

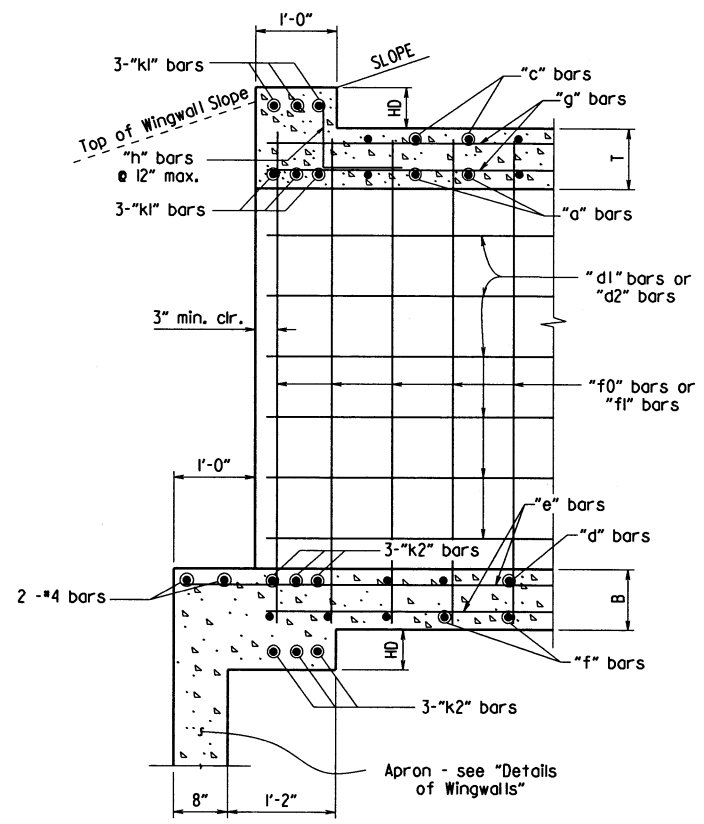
SHEET 3 OF 4
 GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF MULTI-BARREL R.C. BOX CULVERT

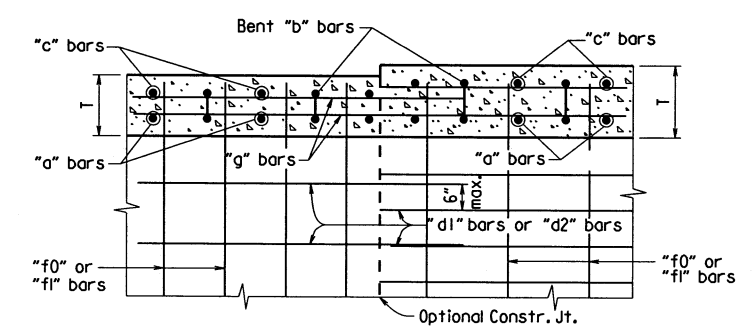
SPECIAL DETAILS



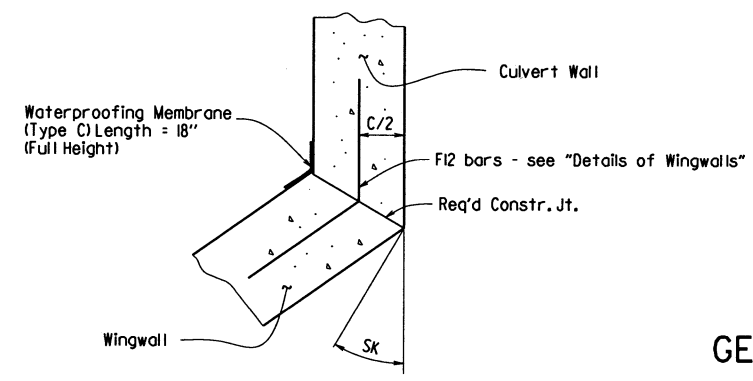
PART LONGITUDINAL SECTION
 (Non-Skewed Ends)



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

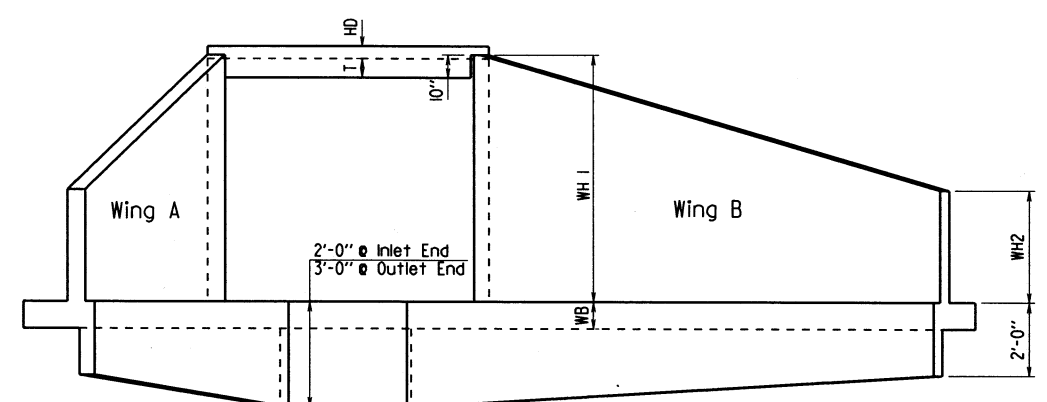
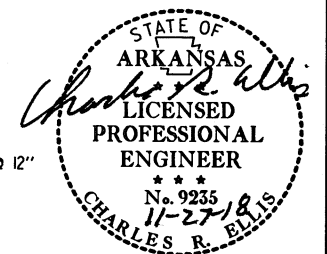


WINGWALL ATTACHMENT
 See "Details of Wingwalls" for additional information and wingwall details.

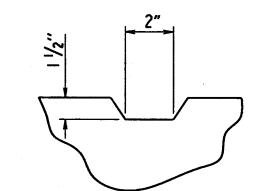
b020614_culvert.dgn

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.		020614	13	38

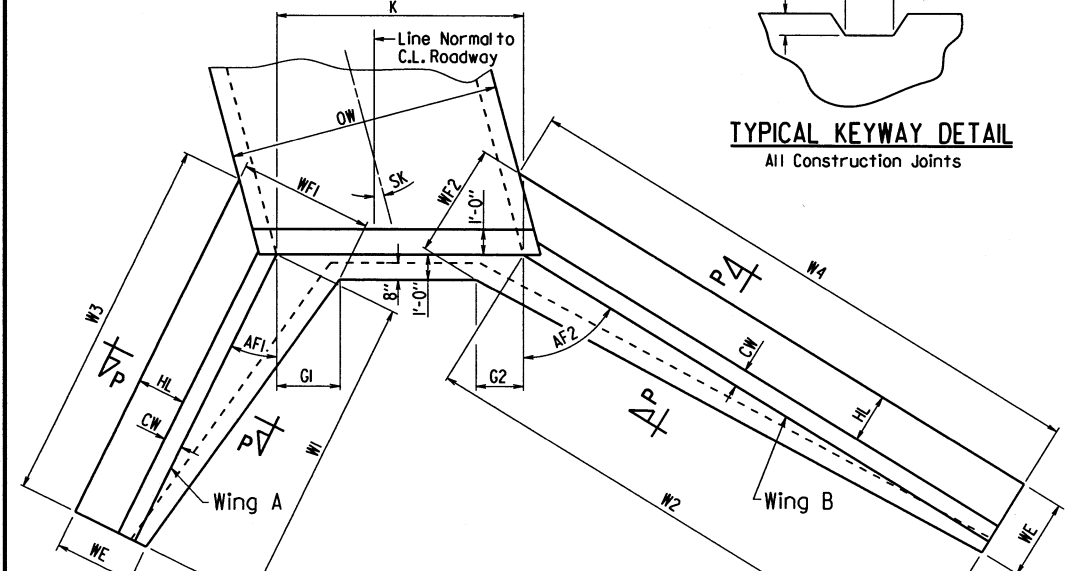
1 SPECIAL DETAILS



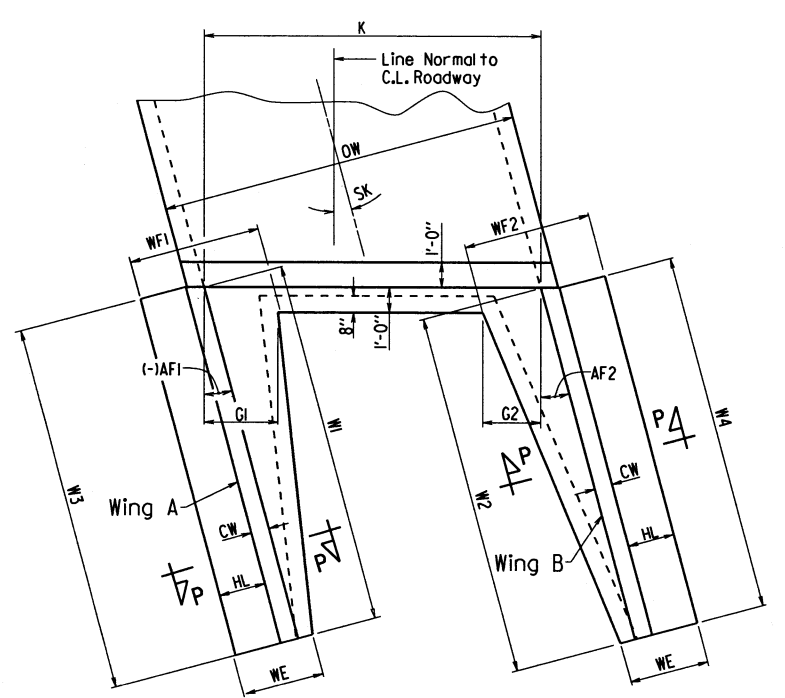
END ELEVATION
Flared Wingwalls Shown



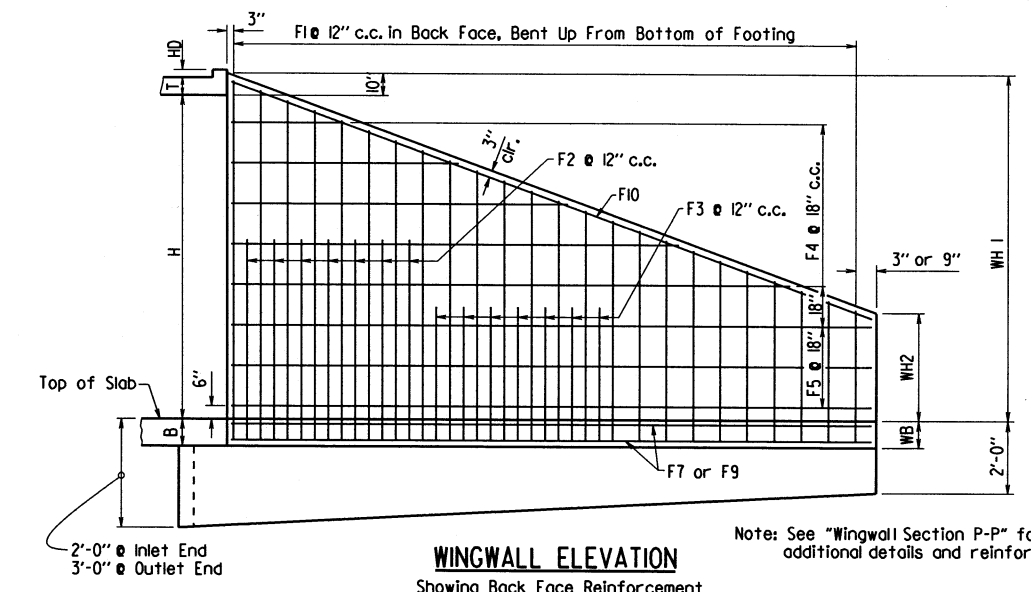
TYPICAL KEYWAY DETAIL
All Construction Joints



PART PLAN - FLARED WINGWALLS

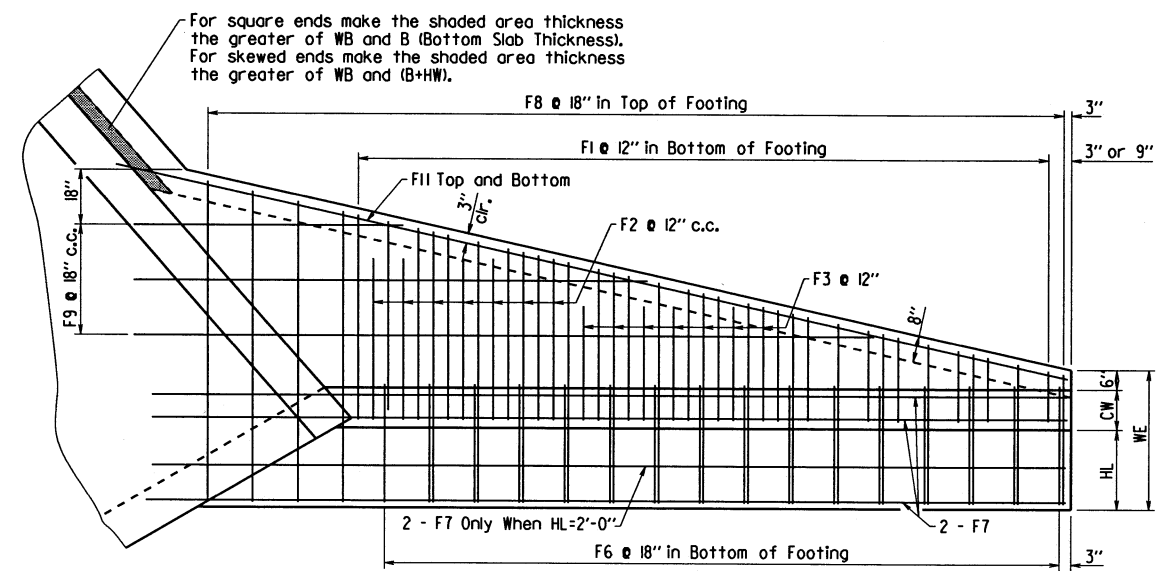


PART PLAN - PARALLEL WINGWALLS

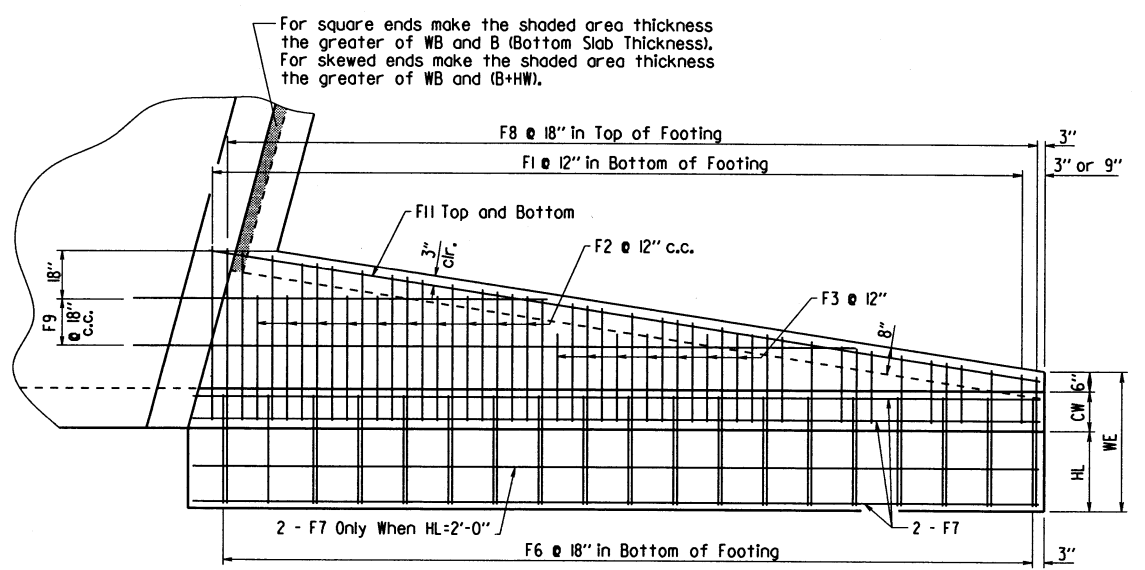


WINGWALL ELEVATION
Showing Back Face Reinforcement

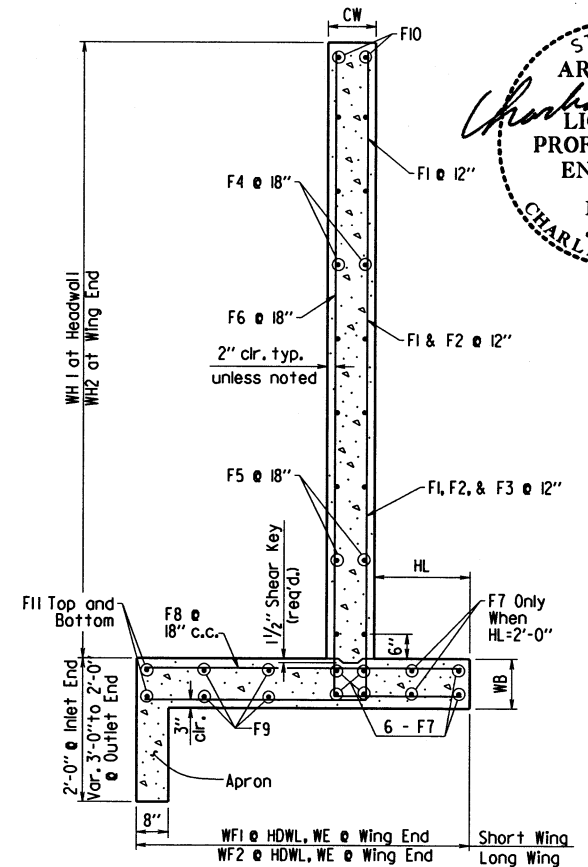
Note: See "Wingwall Section P-P" for additional details and reinforcing.



PLAN - FLARED WINGWALLS
Showing Footing Reinforcement



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement



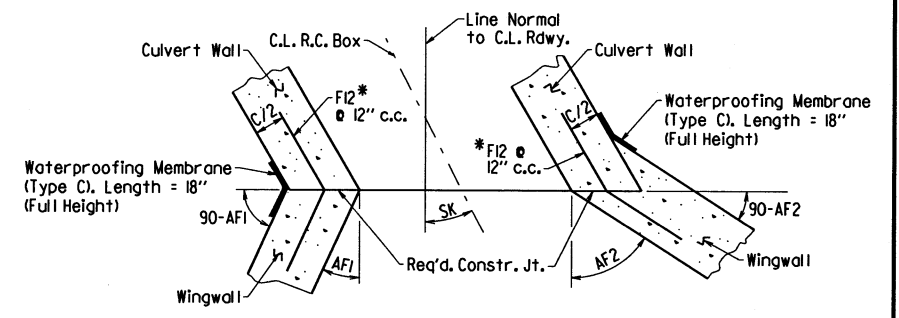
WINGWALL SECTION P-P

Short Wing = (AF1+SK)
Long Wing = (AF2-SK)

F1, F2, F3, & F6 BARS

***F12 BAR**

*F12 is a straight bar for parallel wingwalls



CONSTRUCTION JOINTS
Flared Wingwalls Shown

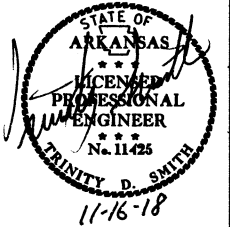
SHEET 4 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF WINGWALLS
SPECIAL DETAILS

b020614_culvert.dgn

STA. 111+61 INSTALL
24" X 80' RT. SIDE DRAIN
CONST. APPR. = CU. YD.

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				6	ARK.			
JOB NO. 020614							14	38

② TEMPORARY EROSION CONTROL DETAILS



LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE

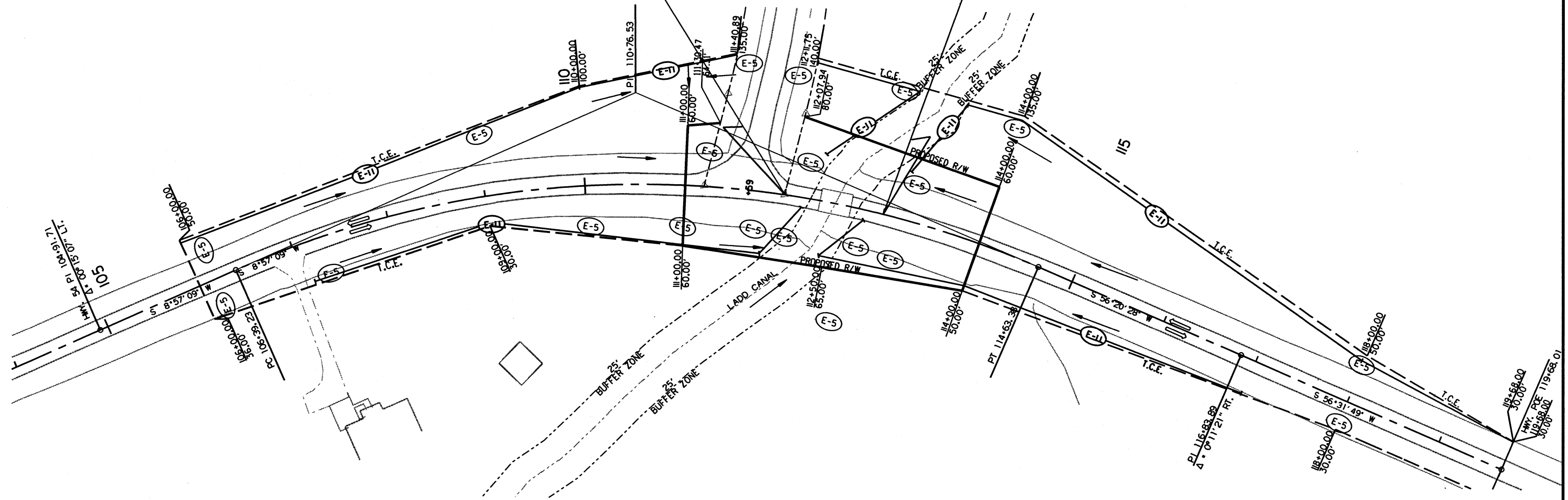
TEMPORARY EROSION CONTROL GENERAL NOTES

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 EFFECTIVENESS. 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.

STA. 112+00
BEGIN JOB 020614
LOG MILE 4.58

STA. 113+00
BEGIN JOB 020614



REVISIONS

DATE OF REVISION	REVISION

HWY. 54 CURVE DATA

PI = 110+76.53
Δ = 47°23'19" RT.
D = 5°45'00"
T = 437.29'
L = 824.15'
PC = 106+39.23
PT = 114+63.38
MATCH EXISTING SUPER

SAND BAG DITCH CHECKS (E-5)

STATION	LOCATION	INSTALLATION	QUANTITY
STA. 106+00	LT. & RT.	INSTALLATION	44 BAGS
STA. 107+30	RT.	INSTALLATION	22 BAGS
STA. 109+00	RT.	INSTALLATION	22 BAGS
STA. 110+00	RT.	INSTALLATION	22 BAGS
STA. 111+20	LT.	INSTALLATION	22 BAGS
STA. 111+60	LT. & RT.	INSTALLATION	44 BAGS
STA. 112+00	LT.	INSTALLATION	22 BAGS
STA. 112+20	LT.	INSTALLATION	22 BAGS
STA. 112+80	RT.	INSTALLATION	22 BAGS
STA. 113+00	LT.	INSTALLATION	22 BAGS
STA. 113+25	LT.	INSTALLATION	22 BAGS
STA. 114+00	LT.	INSTALLATION	22 BAGS
STA. 118+60	LT. & RT.	INSTALLATION	44 BAGS

SILT FENCE (E-11)

STATION	LOCATION	STATION	LOCATION	LENGTH
STA. 106+00	-	STA. 114+50	LT.	850'
STA. 107+10	-	STA. 111+70	RT.	460'
STA. 111+70	-	STA. 112+20	RT.	70'
STA. 112+10	-	STA. 113+00	RT.	90'
STA. 112+40	-	STA. 113+00	RT.	130'
STA. 112+45	-	STA. 112+80	RT.	60'
STA. 112+45	-	STA. 117+00	RT.	450'
STA. 113+20	-	STA. 113+50	LT.	90'
STA. 113+50	-	STA. 119+60	LT.	610'

10/16/2018

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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. 020614	15 38

2 TEMPORARY EROSION CONTROL DETAILS

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN

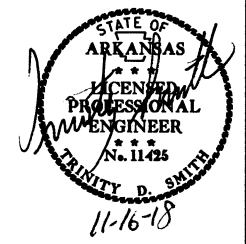
TEMPORARY EROSION CONTROL GENERAL NOTES

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 EFFECTIVENESS. 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.

DETOUR CURVE DATA

PI = 29+38.08
 Δ = 9°21'44" LT.
 D = 8°15'00"
 T = 56.87'
 L = 113.48'
 PC = 28+81.21
 PT = 29+94.69
 NO SUPER

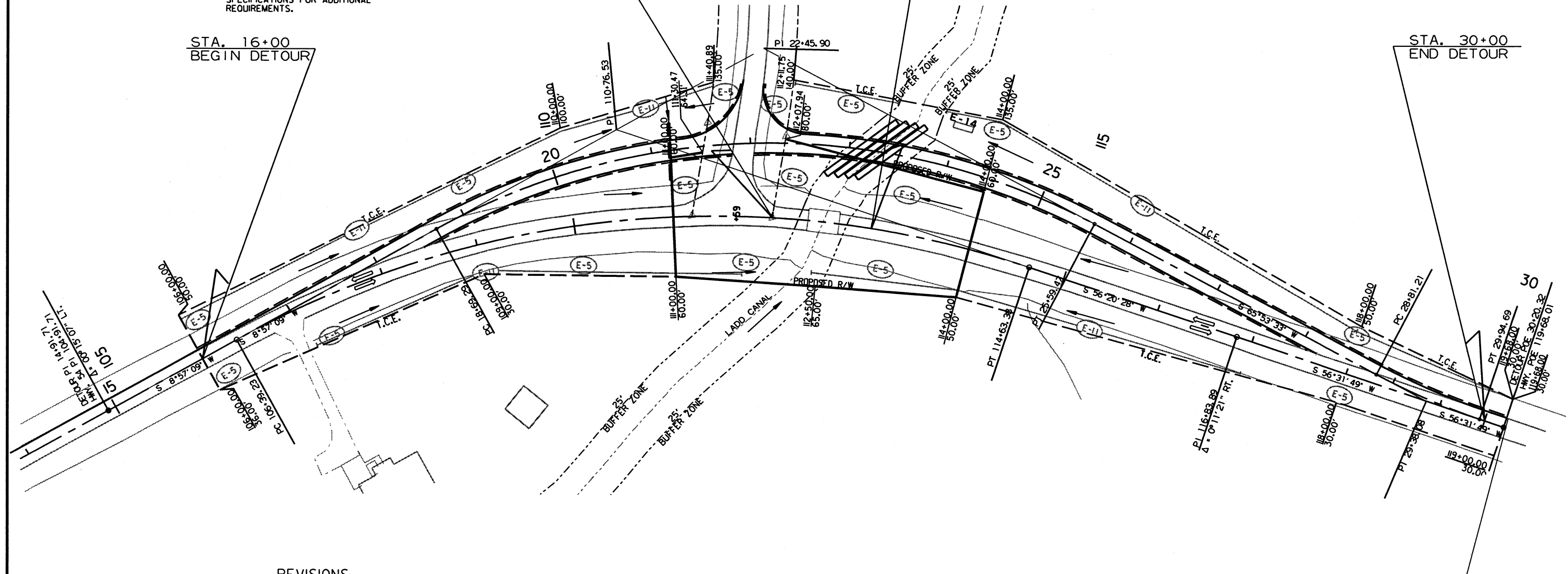


STA. 112+00
 BEGIN JOB 020614
 LOG MILE 4.58

STA. 113+00
 END JOB 020614

STA. 16+00
 BEGIN DETOUR

STA. 30+00
 END DETOUR



REVISIONS

DATE OF REVISION	REVISION

HWY. 54 CURVE DATA
 PI = 110+76.53
 Δ = 47°23'19" RT.
 D = 5°45'00"
 T = 437.29'
 L = 824.15'
 PC = 106+39.23
 PT = 114+63.38
 MATCH EXISTING SUPER

DETOUR CURVE DATA
 PI = 22+45.90
 Δ = 56°56'24" RT.
 D = 8°15'00"
 T = 376.61'
 L = 690.18'
 PC = 18+69.29
 PT = 25+59.47
 e = 0.100' /'
 Ls = 300.00'

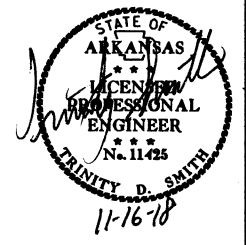
10/16/2018

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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.	020614		16	38

② TEMPORARY EROSION CONTROL DETAILS

DETOUR CURVE DATA
 PI = 29+38.08
 Δ = 9°21'44" LT.
 D = 8°15'00"
 T = 56.87'
 L = 113.48'
 PC = 28+81.21
 PT = 29+94.69
 NO SUPER



LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN

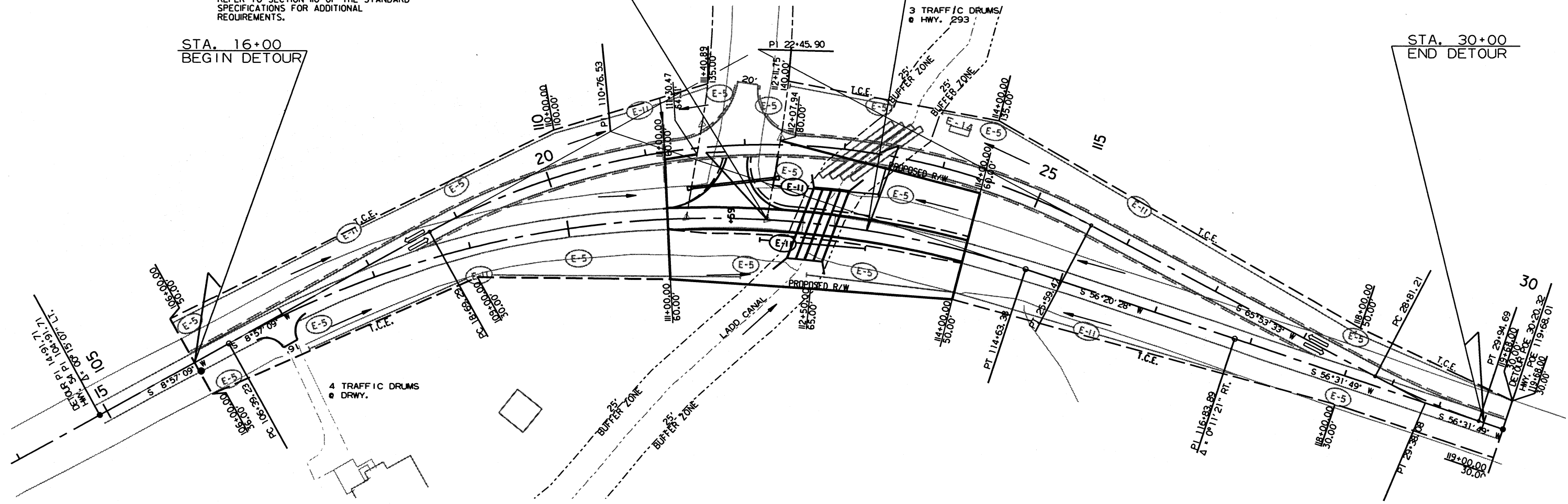
TEMPORARY EROSION CONTROL GENERAL NOTES
 THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.
 REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STA. 112+00
 BEGIN JOB 020614
 LOG MILE 4.58

STA. 113+00
 END JOB 020614

STA. 16+00
 BEGIN DETOUR

STA. 30+00
 END DETOUR



REVISIONS

DATE OF REVISION	REVISION

HWY. 54 CURVE DATA
 PI = 110+76.53
 Δ = 47°23'19" RT.
 D = 5°45'00"
 T = 437.29'
 L = 824.15'
 PC = 106+39.23
 PT = 114+63.38
 MATCH EXISTING SUPER

DETOUR CURVE DATA
 PI = 22+45.90
 Δ = 56°56'24" RT.
 D = 8°15'00"
 T = 376.61'
 L = 690.18'
 PC = 18+69.29
 PT = 25+59.47
 e = 0.100' /'
 Ls = 300.00'

R020614.DGN 10/16/2018

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		17	38
						JOB NO. 020614		

2 TEMPORARY EROSION CONTROL DETAILS



DETOUR CURVE DATA
 PI = 29+38.08
 Δ = 9°21'44" LT.
 D = 8°15'00"
 T = 56.87'
 L = 113.48'
 PC = 28+81.21
 PT = 29+94.69
 NO SUPER

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN

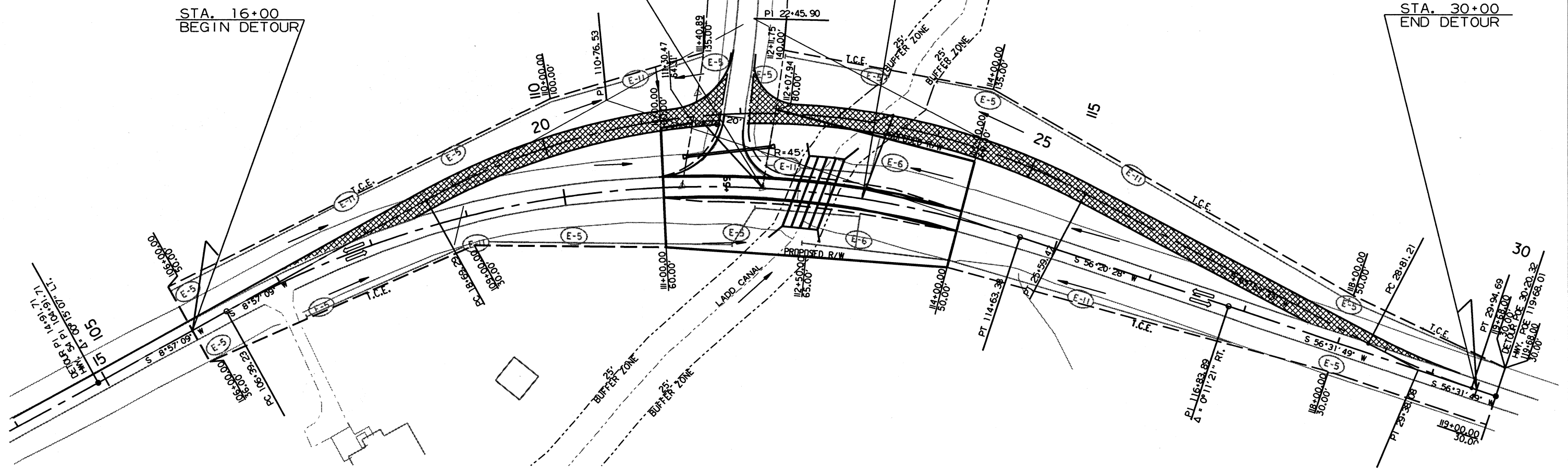
TEMPORARY EROSION CONTROL GENERAL NOTES
 THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.
 REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STA. 112+00
 BEGIN JOB 020614
 LOG MILE 4.58

STA. 113+00
 END JOB 020614



OBLITERATE ROADWAY



REVISIONS

DATE OF REVISION	REVISION

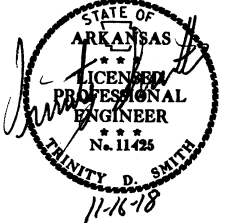
HWY. 54 CURVE DATA
 PI = 110+76.53
 Δ = 47°23'19" RT.
 D = 5°45'00"
 T = 437.29'
 L = 824.15'
 PC = 106+39.23
 PT = 114+63.38
 MATCH EXISTING SUPER

DETOUR CURVE DATA
 PI = 22+45.90
 Δ = 56°56'24" RT.
 D = 8°15'00"
 T = 376.61'
 L = 690.18'
 PC = 18+69.29
 PT = 25+59.47
 e = 0.100' /'
 Ls = 300.00'

11/8/2011 ZBORDER.CEL

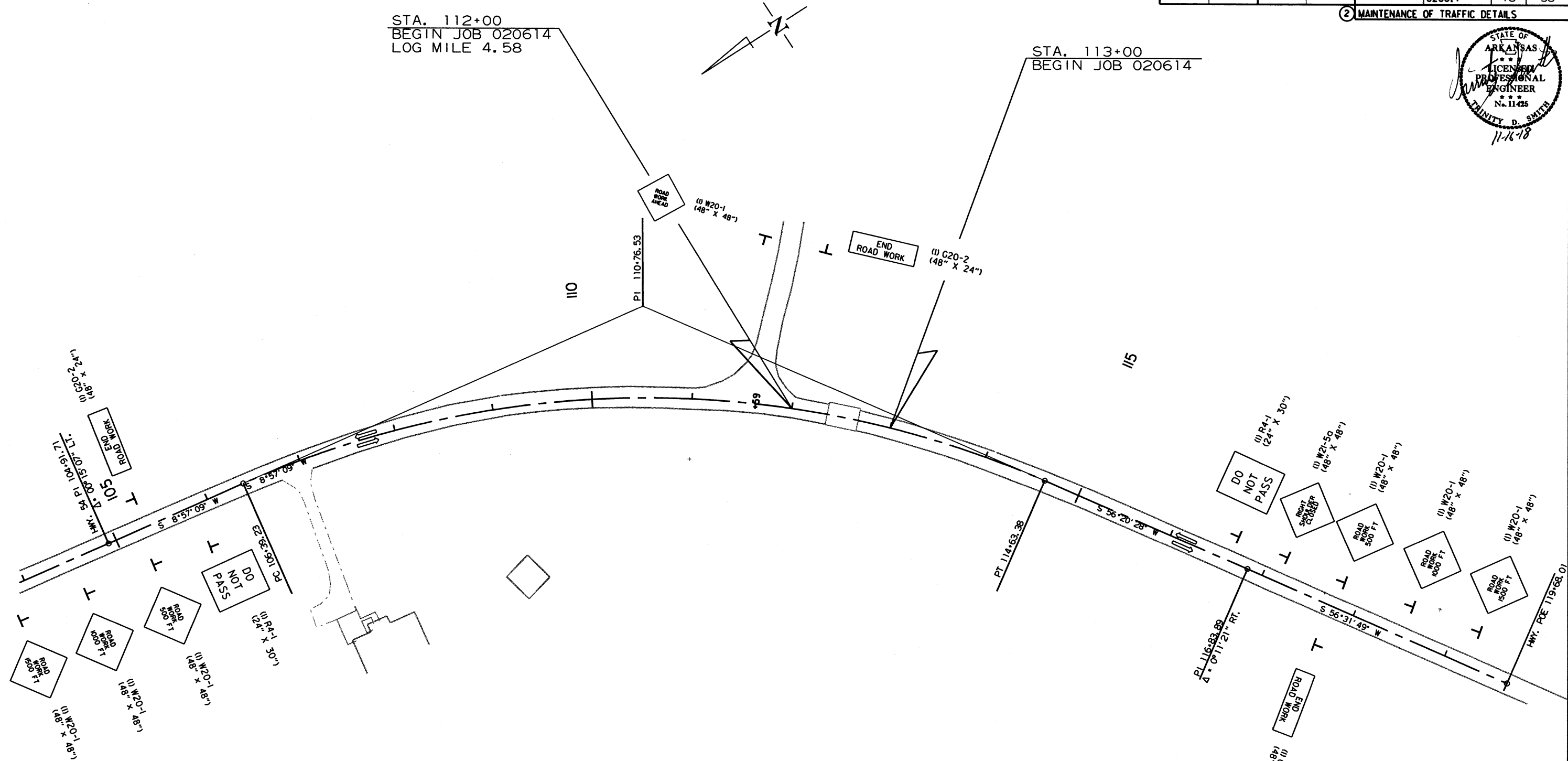
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		18	38
				JOB NO. 020614				

② MAINTENANCE OF TRAFFIC DETAILS



STA. 112+00
BEGIN JOB 020614
LOG MILE 4.58

STA. 113+00
BEGIN JOB 020614



HWY. 54 CURVE DATA
 PI = 110+76.53
 Δ = 47°23'19" RT.
 D = 5°45'00"
 L = 437.29'
 PC = 106+39.23
 PT = 114+63.38
 MATCH EXISTING SUPER

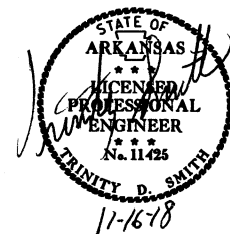
- SEQUENCE OF CONSTRUCTION
- STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT DETOUR ROADWAY.
 - STAGE 2: SHIFT TRAFFIC TO DETOUR AND MAINTAIN. REMOVE EXISTING BRIDGE STRUCTURE AND CONSTRUCT NEW R. C. BOX CULVERT.
 - STAGE 3: COMPLETE FINAL SURFACING AND FINAL STRIPING. SHIFT TRAFFIC TO PROPOSED ROADWAY, OBLITERATE DETOUR ROADWAY AND COMPLETE PERMANENT SEEDING.

ADVANCE WARNING SIGNS
MAINTENANCE OF TRAFFIC DETAILS

10/16/2018
R020614.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		19	38
				JOB NO. 020614				

② MAINTENANCE OF TRAFFIC DETAILS



DETOUR CURVE DATA

PI = 29+38.08
 Δ = 9°21'44" LT.
D = 8°15'00"
T = 56.87'
L = 113.48'
PC = 28+81.21
PT = 29+94.69
NO SUPER

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



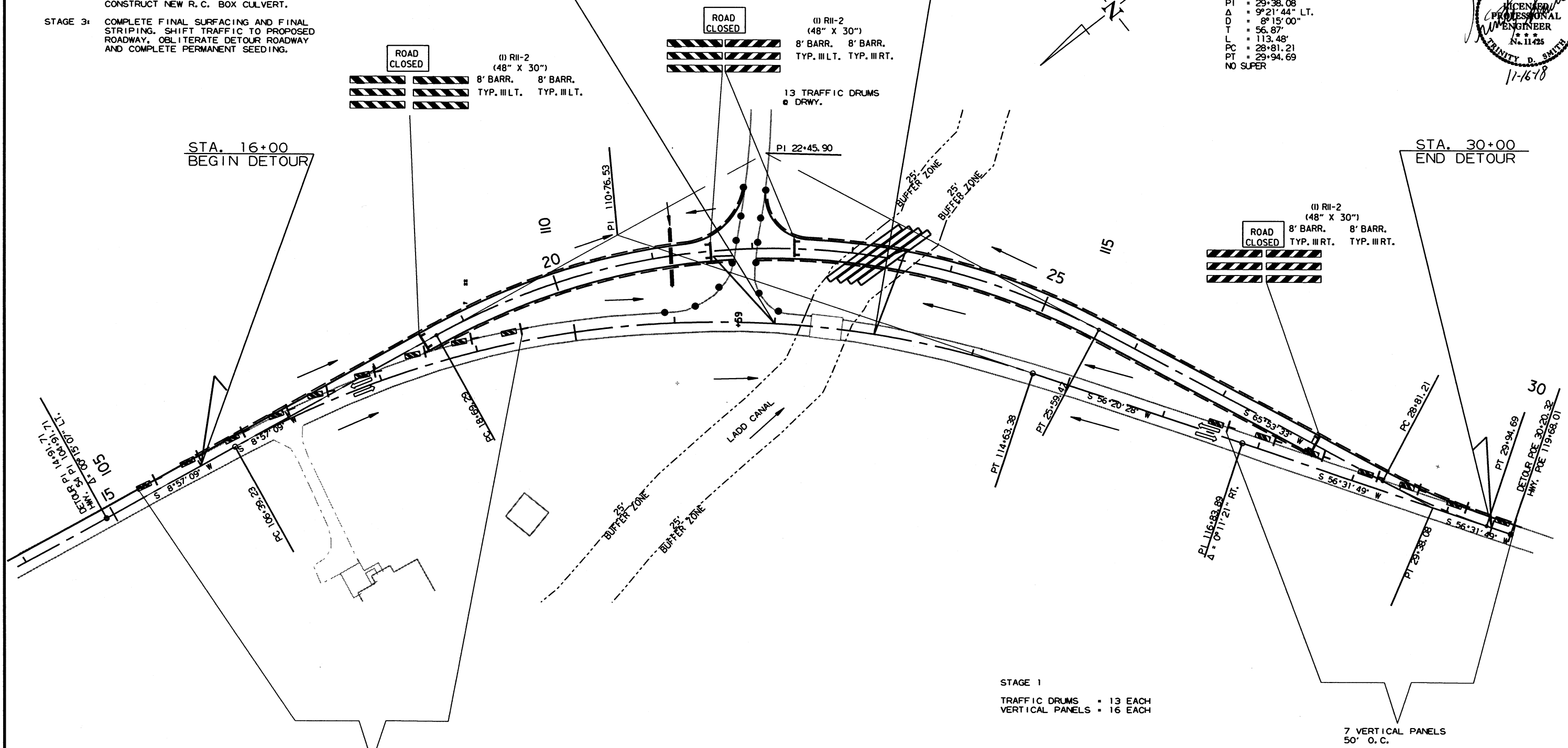
SEQUENCE OF CONSTRUCTION
STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT DETOUR ROADWAY.
STAGE 2: SHIFT TRAFFIC TO DETOUR AND MAINTAIN. REMOVE EXISTING BRIDGE STRUCTURE AND CONSTRUCT NEW R. C. BOX CULVERT.
STAGE 3: COMPLETE FINAL SURFACING AND FINAL STRIPING. SHIFT TRAFFIC TO PROPOSED ROADWAY. OBLITERATE DETOUR ROADWAY AND COMPLETE PERMANENT SEEDING.

STA. 112+00
BEGIN JOB 020614
LOG MILE 4.58

STA. 113+00
END JOB 020614

STA. 16+00
BEGIN DETOUR

STA. 30+00
END DETOUR



HWY. 54 CURVE DATA

PI = 110+76.53
 Δ = 47°23'19" RT.
D = 5°45'00"
T = 437.29'
L = 824.15'
PC = 106+39.23
PT = 114+63.38
MATCH EXISTING SUPER

DETOUR CURVE DATA

PI = 22+45.90
 Δ = 56°56'24" RT.
D = 8°15'00"
T = 376.61'
L = 690.18'
PC = 18+69.29
PT = 25+59.47
e = 0.100' /'
Ls = 300.00'

STAGE 1

TRAFFIC DRUMS = 13 EACH
VERTICAL PANELS = 16 EACH

9 VERTICAL PANELS
50' O. C.

7 VERTICAL PANELS
50' O. C.

10/16/2018

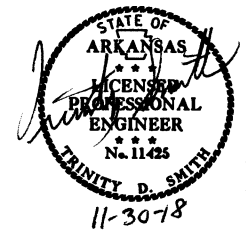
R020614.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		20	38
				JOB NO. 020614				

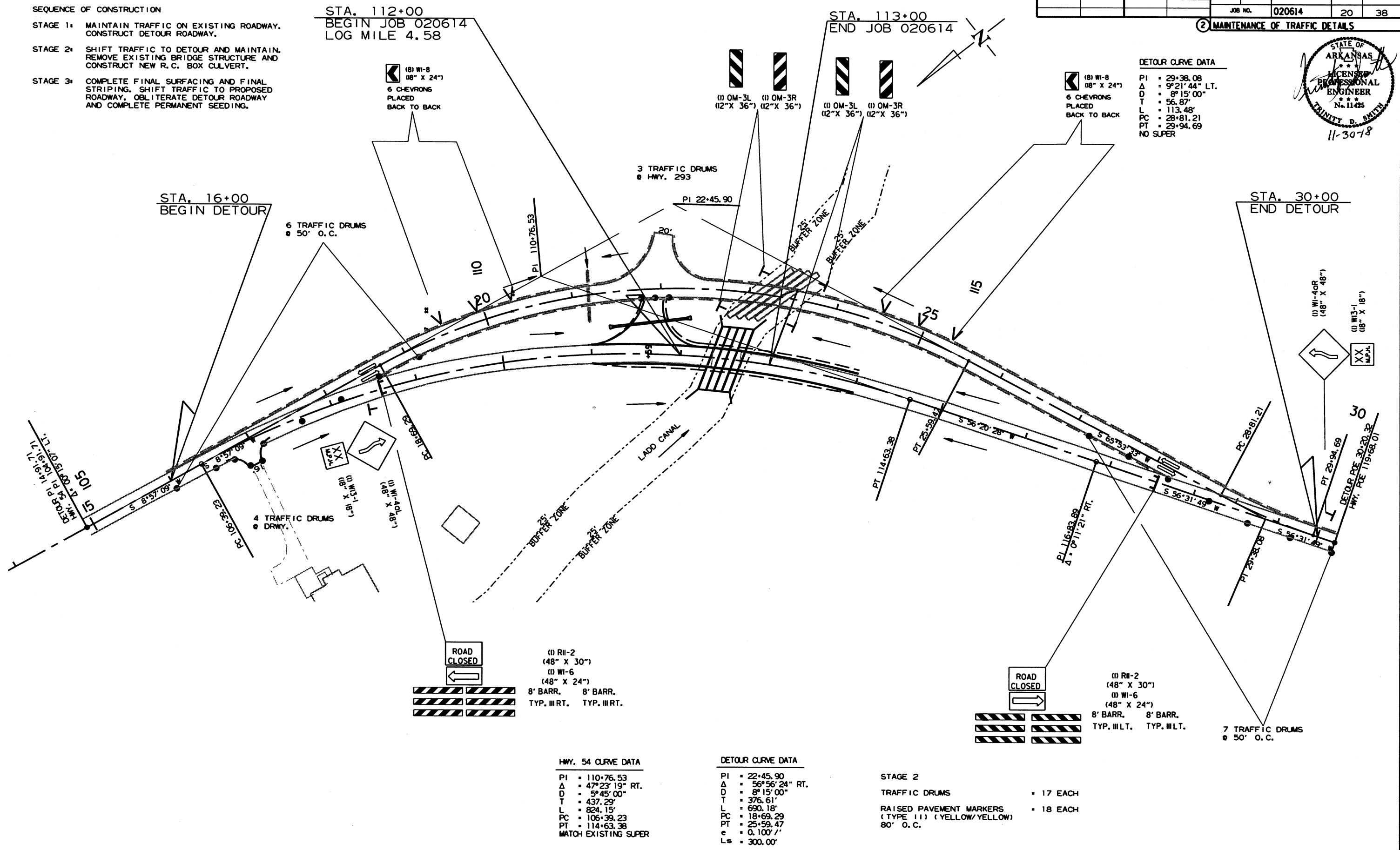
SEQUENCE OF CONSTRUCTION

- STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT DETOUR ROADWAY.
- STAGE 2: SHIFT TRAFFIC TO DETOUR AND MAINTAIN. REMOVE EXISTING BRIDGE STRUCTURE AND CONSTRUCT NEW R. C. BOX CULVERT.
- STAGE 3: COMPLETE FINAL SURFACING AND FINAL STRIPING. SHIFT TRAFFIC TO PROPOSED ROADWAY, OBLITERATE DETOUR ROADWAY AND COMPLETE PERMANENT SEEDING.

MAINTENANCE OF TRAFFIC DETAILS



DETOUR CURVE DATA
 PI = 29+38.08
 Δ = 9°21'44" LT.
 D = 8°15'00"
 T = 56.87'
 L = 113.48'
 PC = 28+81.21
 PT = 29+94.69
 NO SUPER



(1) R11-2 (48" X 30")
 (1) W1-6 (48" X 24")
 8' BARR. 8' BARR.
 TYP. III RT. TYP. III RT.

HWY. 54 CURVE DATA
 PI = 110+76.53
 Δ = 47°23'19" RT.
 D = 5°45'00"
 T = 437.29'
 L = 824.15'
 PC = 106+39.23
 PT = 114+63.38
 MATCH EXISTING SUPER

DETOUR CURVE DATA
 PI = 22+45.90
 Δ = 56°56'24" RT.
 D = 8°15'00"
 T = 376.61'
 L = 690.18'
 PC = 18+69.29
 PT = 25+59.47
 e = 0.100' /'
 Ls = 300.00'

- STAGE 2
 TRAFFIC DRUMS - 17 EACH
 RAISED PAVEMENT MARKERS (TYPE 11) (YELLOW/YELLOW) 80' O.C. - 18 EACH

11/27/2018

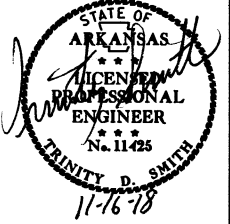
R020614.DGN

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.	020614		21	38

② MAINTENANCE OF TRAFFIC DETAILS

DETOUR CURVE DATA

PI = 29+38.08
 Δ = 9°21'44" LT.
D = 8°15'00"
T = 56.87'
L = 113.48'
PC = 28+81.21
PT = 29+94.69
NO SUPER



SEQUENCE OF CONSTRUCTION

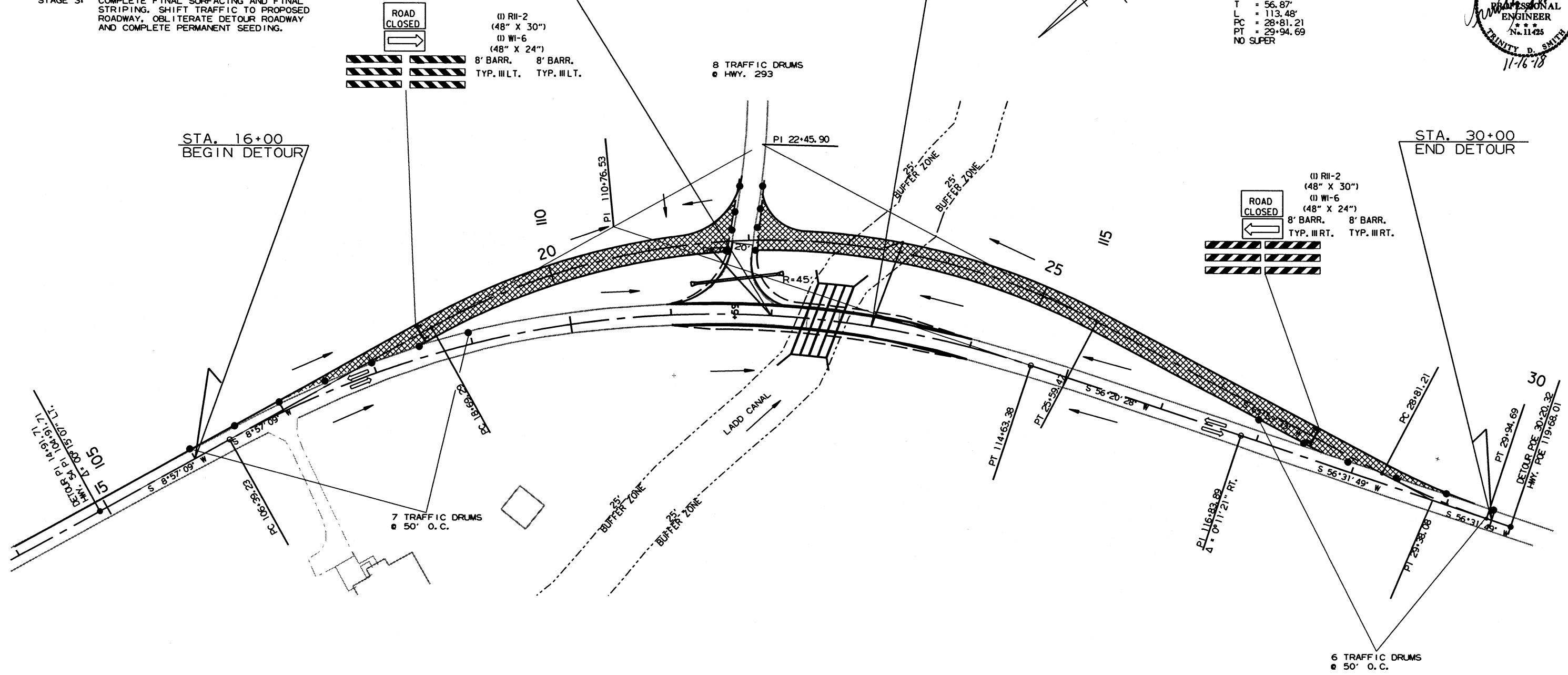
- STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT DETOUR ROADWAY.
- STAGE 2: SHIFT TRAFFIC TO DETOUR AND MAINTAIN. REMOVE EXISTING BRIDGE STRUCTURE AND CONSTRUCT NEW R. C. BOX CULVERT.
- STAGE 3: COMPLETE FINAL SURFACING AND FINAL STRIPING. SHIFT TRAFFIC TO PROPOSED ROADWAY, OBLITERATE DETOUR ROADWAY AND COMPLETE PERMANENT SEEDING.

STA. 112+00
 BEGIN JOB 020614
 LOG MILE 4.58

STA. 113+00
 END JOB 020614

STA. 16+00
 BEGIN DETOUR

STA. 30+00
 END DETOUR



HWY. 54 CURVE DATA

PI = 110+76.53
 Δ = 47°23'19" RT.
D = 5°45'00"
T = 437.29'
L = 824.15'
PC = 106+39.23
PT = 114+63.38
MATCH EXISTING SUPER

DETOUR CURVE DATA

PI = 22+45.90
 Δ = 56°56'24" RT.
D = 8°15'00"
T = 376.61'
L = 690.18'
PC = 18+69.29
PT = 25+59.47
e = 0.100' /'
Ls = 300.00'

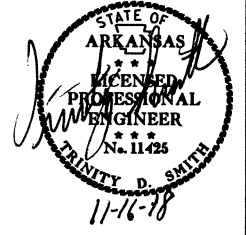
STAGE 3

- TRAFFIC DRUMS = 17 EACH
- RAISED PAVEMENT MARKERS (TYPE 11) (YELLOW/YELLOW) 80' O.C. = 16 EACH

11/8/2011 ZBORNER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 020614	22	38

PERMANENT PAVEMENT MARKING DETAILS



DETOUR CURVE DATA
 PI = 29+38.08
 Δ = 9°21'44" LT.
 D = 8°15'00"
 T = 56.87'
 L = 113.48'
 PC = 28+81.21
 PT = 29+94.69
 NO SUPER

STA. 112+00
 BEGIN JOB 020614
 LOG MILE 4.58

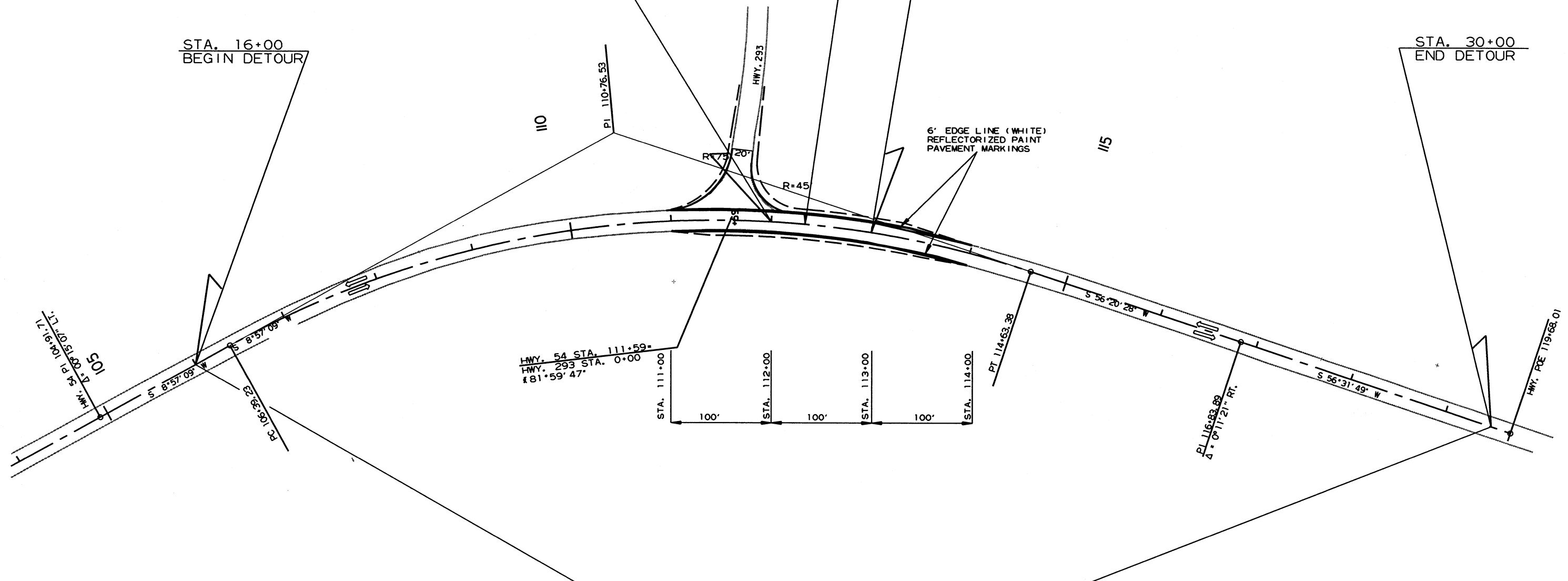
STA. 113+00
 END JOB 020614

STA. 16+00
 BEGIN DETOUR

STA. 30+00
 END DETOUR

6" CENTERLINE (DOUBLE YELLOW)
 REFLECTORIZED PAINT
 PAVEMENT MARKINGS
 W/ RPM (TYPE 11) (YEL/YEL)
 @ 80' O.C.

6" EDGE LINE (WHITE)
 REFLECTORIZED PAINT
 PAVEMENT MARKINGS



HWY. 54 CURVE DATA
 PI = 110+76.53
 Δ = 47°23'19" RT.
 D = 5°45'00"
 T = 437.29'
 L = 824.15'
 PC = 106+39.23
 PT = 114+63.38
 MATCH EXISTING SUPER

DETOUR CURVE DATA
 PI = 22+45.90
 Δ = 56°56'24" RT.
 D = 8°15'00"
 T = 376.61'
 L = 690.18'
 PC = 18+69.29
 PT = 25+59.47
 e = 0.100 /'
 Ls = 300.00'

DETOUR LANES
 RAISED PAVEMENT MARKERS
 (TYPE 11) (YELLOW/YELLOW)
 80' O.C. = 18 EACH

MAIN LANES
 REFLECTORIZED PAINT PAVEMENT MARKINGS
 6" WHITE SOLID = 2650 LIN. FT.
 6" DBL. YELLOW = 2440 LIN. FT.
 RAISED PAVEMENT MARKERS (TYPE 11) = 34 EACH
 (YELLOW/YELLOW) (80' O.C.)

PERMANENT PAVEMENT MARKING DETAILS

10/30/2018

R020614.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	020614		23	38

2 QUANTITIES



CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
	LIN. FT. - EACH			LIN. FT.		LIN. FT.	TYPE II (YEL/YEL)	6"	
							(YEL/YEL)	WHITE	YELLOW
							EACH	LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	1804			1804					
CONSTRUCTION PAVEMENT MARKINGS		3526			3526				
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS			1804			1804			
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)		18	16				34		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")			2440					2440	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")			2650						2650
TOTALS:				1804	3526	1804	34	2440	2650

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

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)	
			LIN. FT. - EACH				NO.	SQ. FT.			EACH	RIGHT
											LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK AHEAD	48"x48"	1	1	1	1	1	16.0				
G20-2	END ROAD WORK	48"x24"	3	3	3	3	3	24.0				
W1-4aL	REVERSE CURVE LT.	48"x48"		1		1	1	16.0				
W1-4aR	REVERSE CURVE RT.	48"x48"		1		1	1	16.0				
W13-1	SPEED LIMIT (ADVISORY)	24"x24"		2	2	2	2	8.0				
R11-2	ROAD CLOSED	48"x30"	3	2	2	3	3	30.0				
OM-3L	OBJECT MARKER	12"x36"		2	2	2	2	6.0				
OM-3R	OBJECT MARKER	12"x36"		2	2	2	2	6.0				
W1-6	LARGE ARROW	48"x24"		2	2	2	2	16.0				
W1-8	CHEVRONS	18"x24"		12		12	12	36.0				
R4-1	DO NOT PASS	24"x30"	2	2	2	2	2	10.0				
W21-5a	RIGHT SHOULDER CLOSED	48"x48"	1	1	1	1	1	16.0				
	VERTICAL PANELS		16			16			16			
	TRAFFIC DRUMS		13	20	21	21				21		
	TYPE III BARRICADE-RT. (8')		3	2	2	3					24	
	TYPE III BARRICADE-LT. (8')		3	2	2	3						24
TOTALS:								296.0	16	21	24	24

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

11/27/2018

R020614.DGN

QUANTITIES

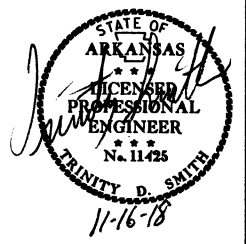
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 020614			24	38

② QUANTITIES

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
112+51	R.C. BOX CULVERT - RT. HEADWALL	1
TOTAL:		1

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



CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
16+00	30+00	DETOUR LANES	14	14
TOTALS:			14	14

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
		FEET				
108+10	21 LT.	0-5	ND	NP	A-4(0)	BROWN
102+00	6 RT.	0-5	44	29	A-7-6(22)	BROWN
102+00	21 RT.	0-5	24	6	A-4(4)	BROWN
108+00	6 LT.	0-5	38	22	A-6(19)	BROWN
108+00	21 LT.	0-5	35	20	A-6(17)	BROWN
112+00	21 RT.	0-5	37	32	A-6(28)	BROWN
119+00	6 LT.	0-5	33	18	A-6(13)	BROWN
119+00	21 LT.	0-5	ND	NP	A-4(0)	BROWN

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

Z- AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE

REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)

STATION	STATION	LOCATION	LUMP SUM
112+35	112+67	30' x 23' TIMBER BEAM & SUPPORTS (SITE NO. 1)	1.00
TOTAL:			1.00

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	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-11) LIN. FT.	(E-14) CU.YD.	CU.YD.
ENTIRE PROJECT		CLEARING AND GRUBBING													
ENTIRE PROJECT		STAGE 1	1.54	3.08	1.54	157.1	1.54							120	
ENTIRE PROJECT		STAGE 2	0.32	0.64	0.32	32.6	0.32					155		16	6
ENTIRE PROJECT		STAGE 3	2.21	4.42	2.21	225.4	2.21								
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			1.00	2.00	1.00	102.0	1.00				88	200			7
TOTALS:			5.07	10.14	5.07	517.1	5.07	3.55	3.55	72.4	440	3165	16	16	149

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

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.

11/6/2018

R020614.DGN