

## **INDEX OF SHEETS**

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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
CDP-1 CONCRETE DITCH PAVING	12-08-16
CG-1 CURBING DETAILS	11-29-07
DR-1 DETAILS OF DRIVEWAYS & ISLANDS	11-07-19
FES-1 FLARED END SECTION	10-18-96
FES-2 FLARED END SECTION	10-18-96
FPC-9 DETAILS OF DROP INLETS & JUNCTION BOXES	11-16-01
FPC-9E DETAILS OF DROP INLETS (TYPE C)	08-22-02
FPC-9M DETAILS OF DROP INLET (TYPE MO)	08-22-02
MB-1 MAILBOX DETAILS	11-18-04
PBC-1 PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1 CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2 PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3 PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1 PAVEMENT MARKING DETAILS	02-27-20
PU-1 DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1REINFORCED 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
SI-1DETAILS OF SPECIAL ITEMS	10-25-18
TC-1STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3 STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-20
TEC-1TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-3CHAIN LINK FENCE	11-17-10
WF-4 WIRE FENCE TYPE C AND D	08-22-02

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PROFESSIONAL ENGINEER No. 11425 VEINTY -3-11-2020

# INDEX OF SHEETS AND STANDARD DRAWINGS

## GOVERNING SPECIFICATIONS

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

### NUMBER

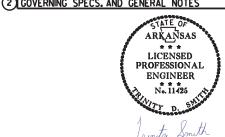
### TITLE

ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
	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
	_ CONTRACTOR'S LICENSE
100-4	_ DEPARTMENT NAME CHANGE
	_ ISSUANCE OF PROPOSALS
	LIQUIDATED DAMAGES
	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1	
	AGGREGATE BASE COURSE
	_ QUALITY CONTROL AND ACCEPTANCE
	TACK COATS
	_ DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
	_ PERCENTAIR VOIDS FOR ACHIMIMIX DESIGNS _ LIQUID ANTI-STRIP ADDITIVE
	DESIGN OF ASPHALT MIXTURES
	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
	PORTLAND CEMENT CONCRETE DRIVEWAY
	INCIDENTAL CONSTRUCTION
	LANE CLOSURE NOTIFICATION
	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
	CONCRETE DITCH PAVING
606-1	PIPE CULVERTS FOR SIDE DRAINS
	_ MULCH COVER
633-1	CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING
634-1	
	_STRUCTURES
	_ REINFORCING STEEL FOR STRUCTURES
	_ ARPORT CLEARANCE REQUIREMENTS
	BIDDING REQUIREMENTS AND CONDITIONS
	CARGO PREFERENCE ACT REQUIREMENTS
	_ CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
	ESTABLISHING CONTRACT TIME - WORKING DAY CONTRACT
	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
	NESTING SITES OF MIGRATORY BIRDS
	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
	PARTNERING REQUIREMENTS
	PLASTIC PIPE
	PRICE ADJUSTMENT FOR ASPHALT BINDER
	SHORING FOR CULVERTS
	SOIL STABILIZATION
	SPECIAL CLEARING PUP SEASON REQUIREMENTS
	STORM WATER POLLUTION PREVENTION PLAN
IOR 000434	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 090434_	UTILITY ADJUSTMENTS
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## **GENERAL NOTES**

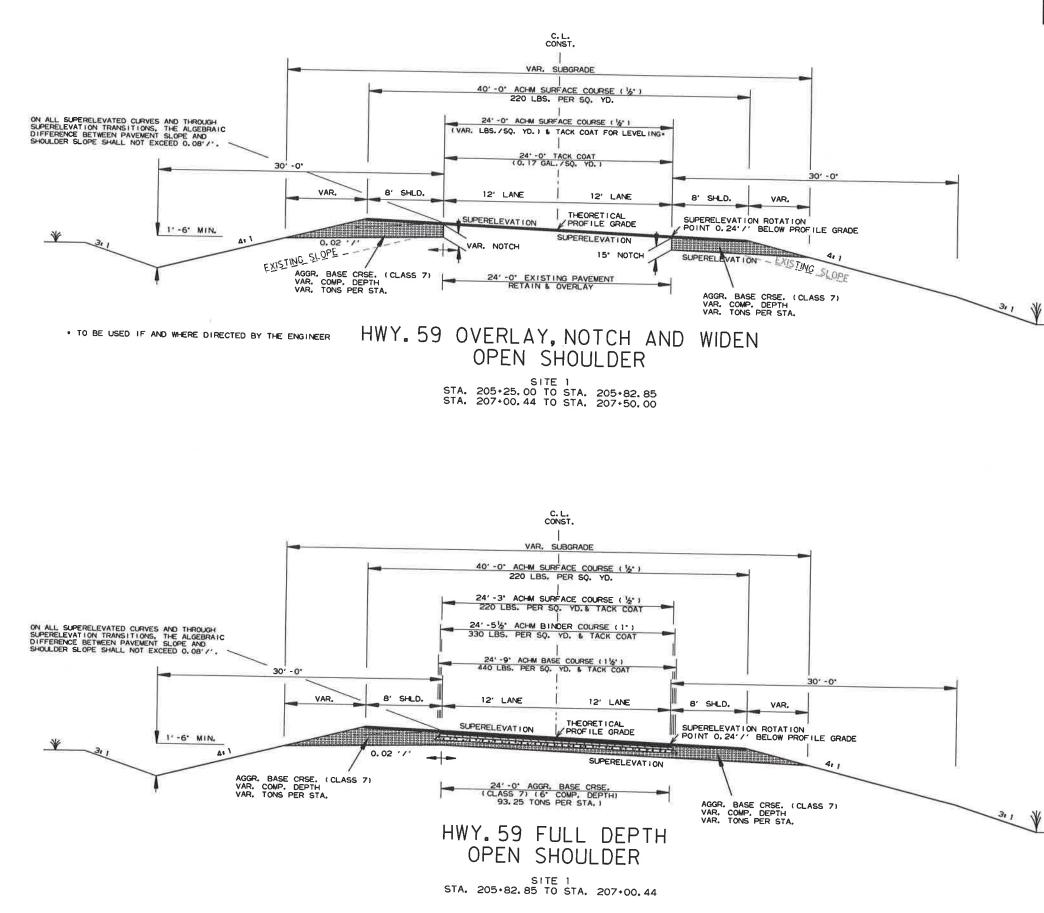
- 1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- 2. ALL PIPE LNES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- 3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- 5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- 6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR N LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAYELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
- 8. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
- 9 ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- 10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 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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# GOVERNING SPECIFICATIONS AND GENERAL NOTES



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NOTES

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

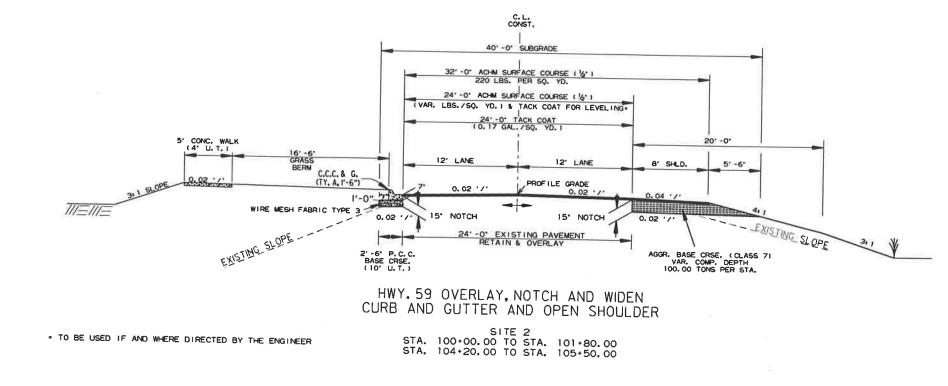
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN, THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

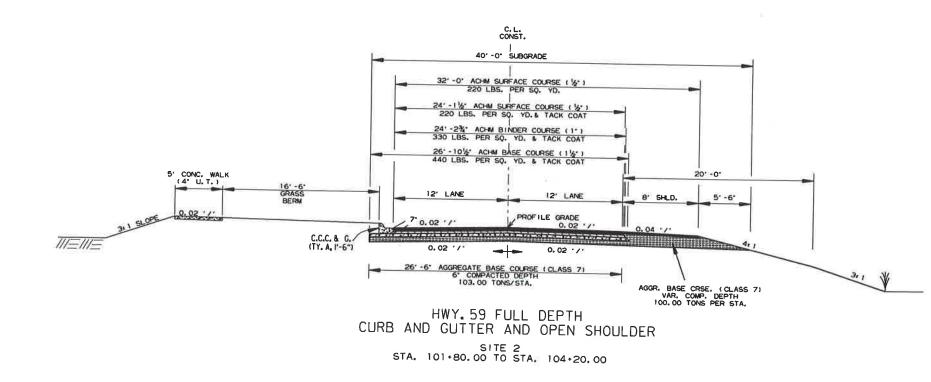
THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE (1/2\*) IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

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

TYPICAL SECTIONS OF IMPROVEMENT





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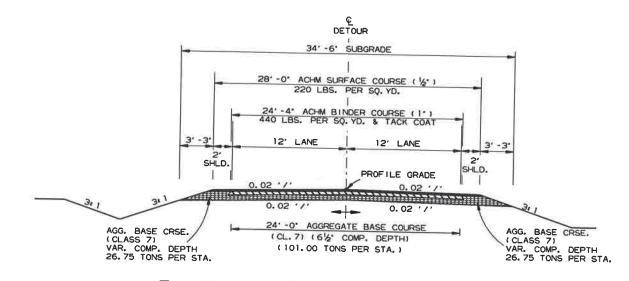
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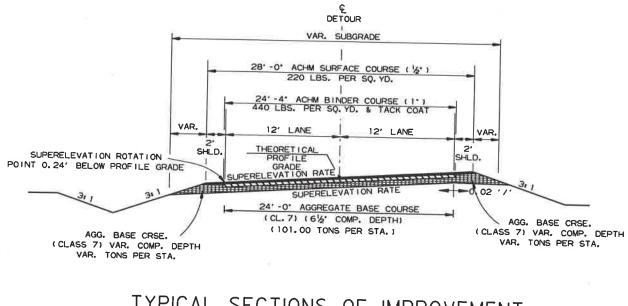
PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER, PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

## TYPICAL SECTIONS OF IMPROVEMENT



# TYPICAL SECTIONS OF IMPROVEMENT DETOUR ROAD

	SITE 1	
STA.	18+71.53 TO STA.	26+16.59
STA.	29+88.49 TO STA.	32+61.03
	SITE 2	
STA.	10+00.00 TO STA.	15+08.98



TYPICAL SECTIONS OF IMPROVEMENT DETOUR ROAD - SUPERELEVATION

CURVES ROTATE AROUND INSIDE EDGE

SITE 1 STA. 26+16.59 TO STA. 29+88.49

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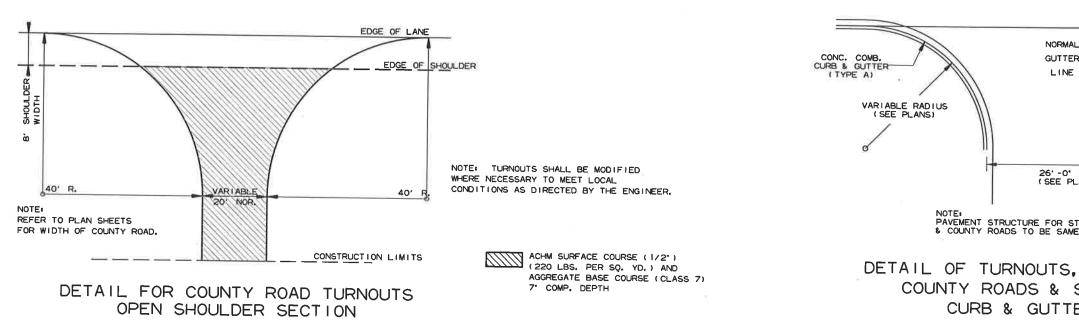
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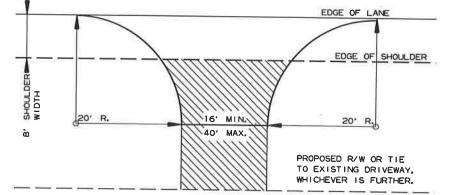
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES, NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

NOTES:

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## TYPICAL SECTIONS OF IMPROVEMENT

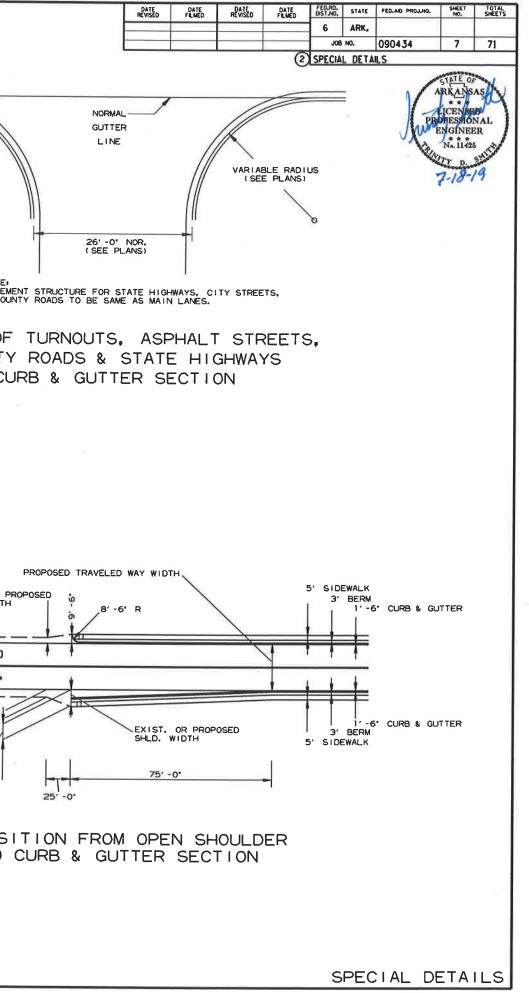


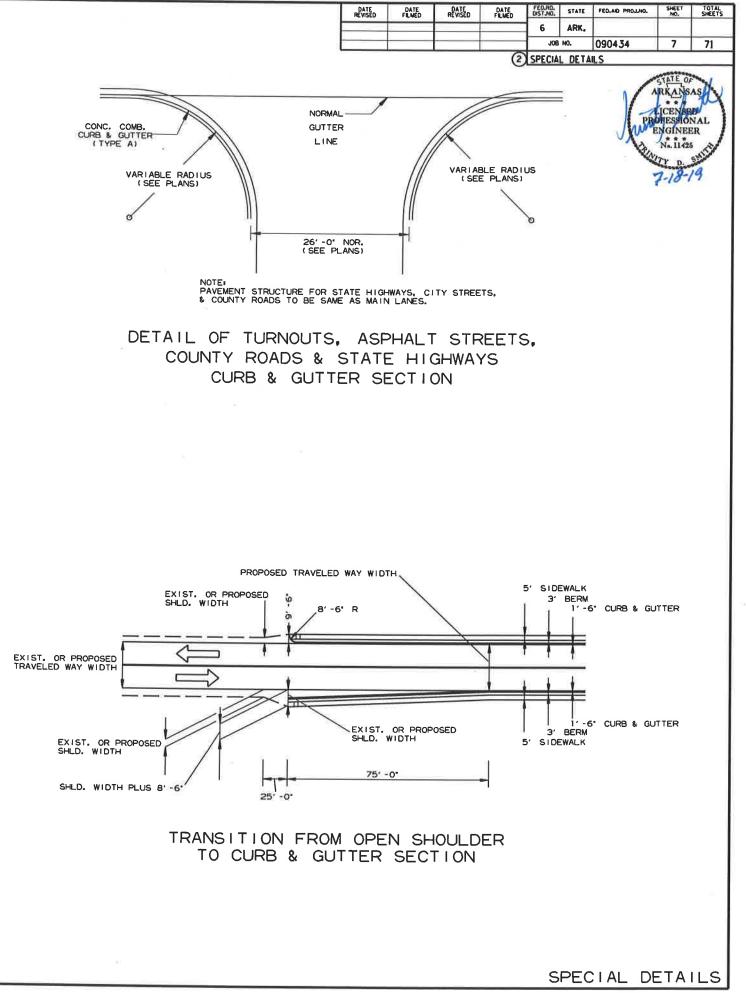


DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)

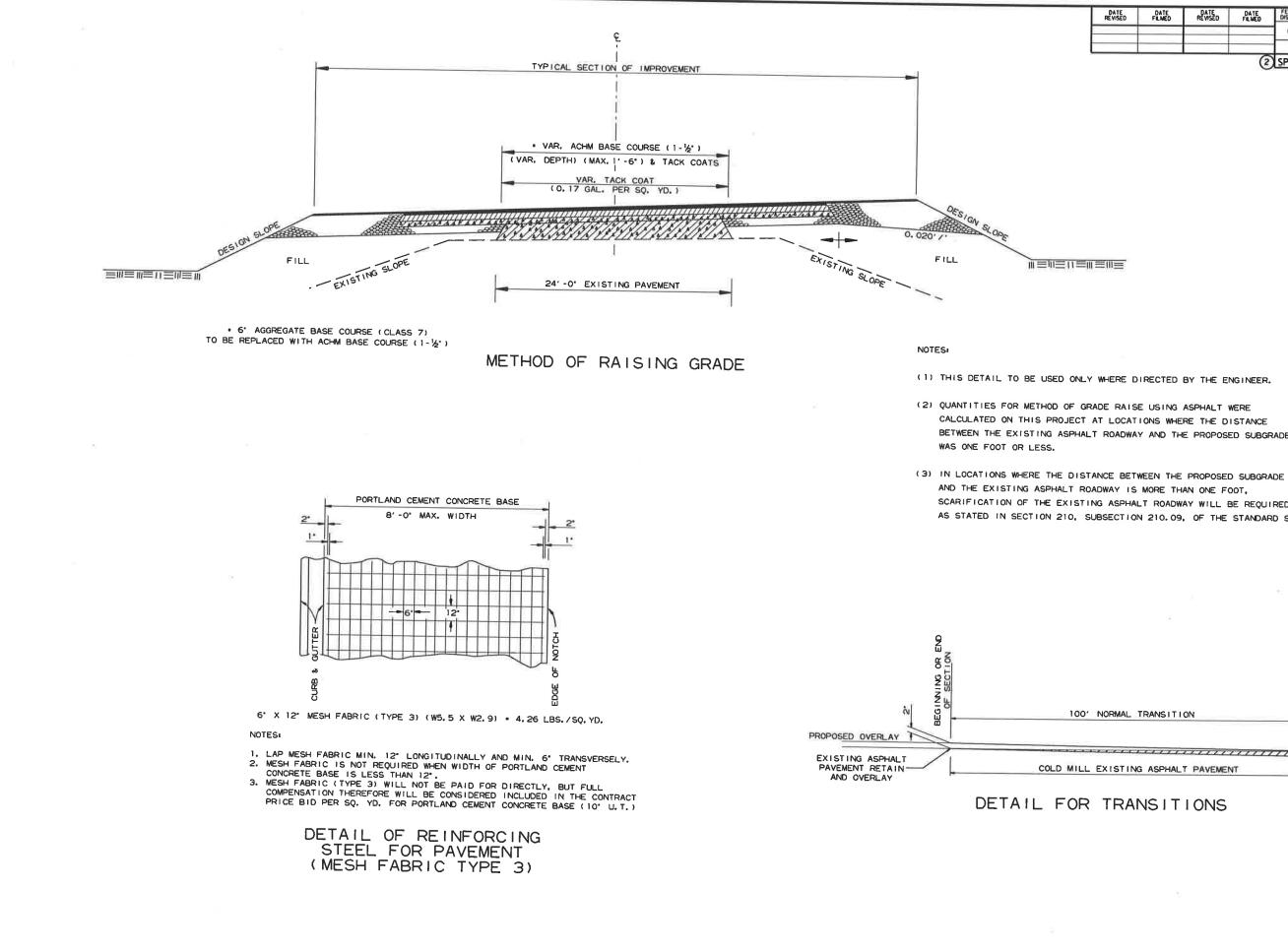
NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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





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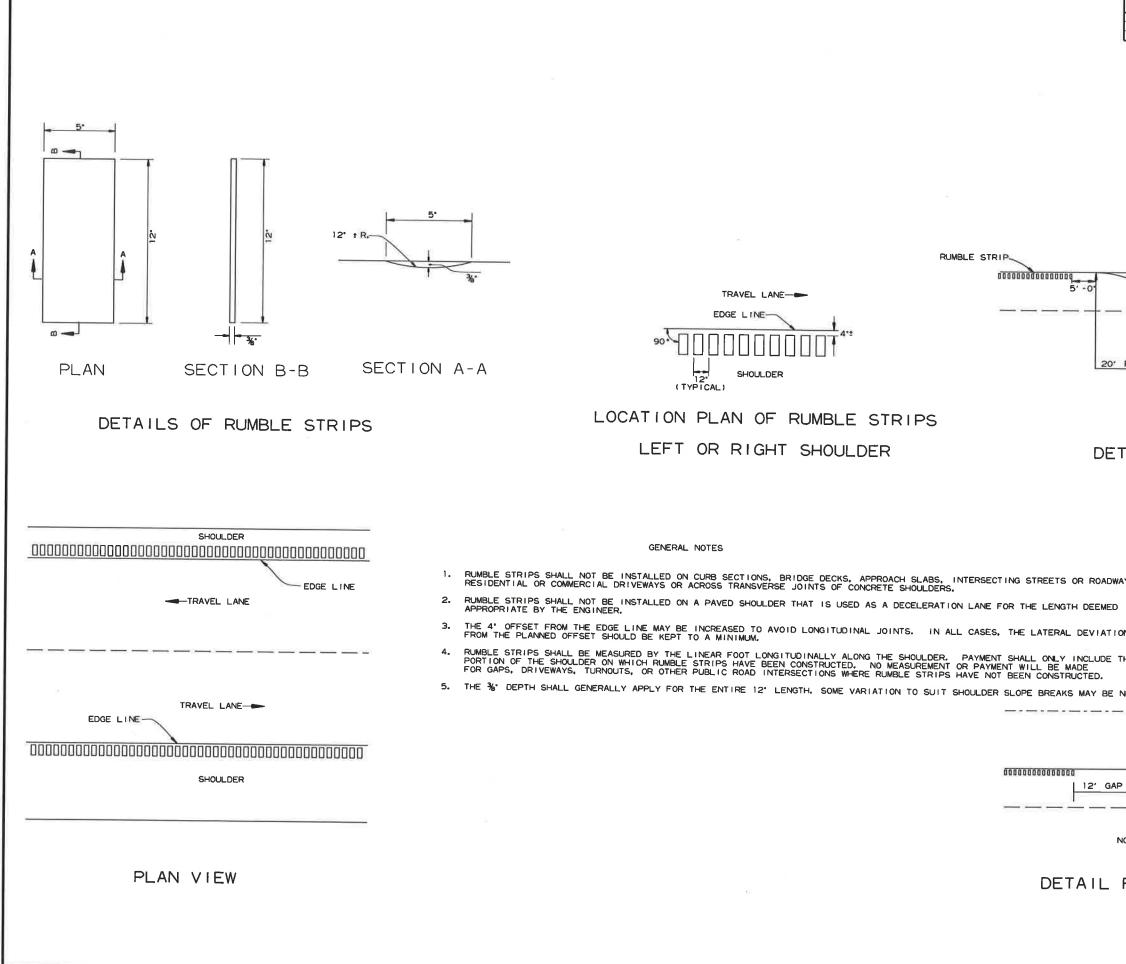
CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE

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.

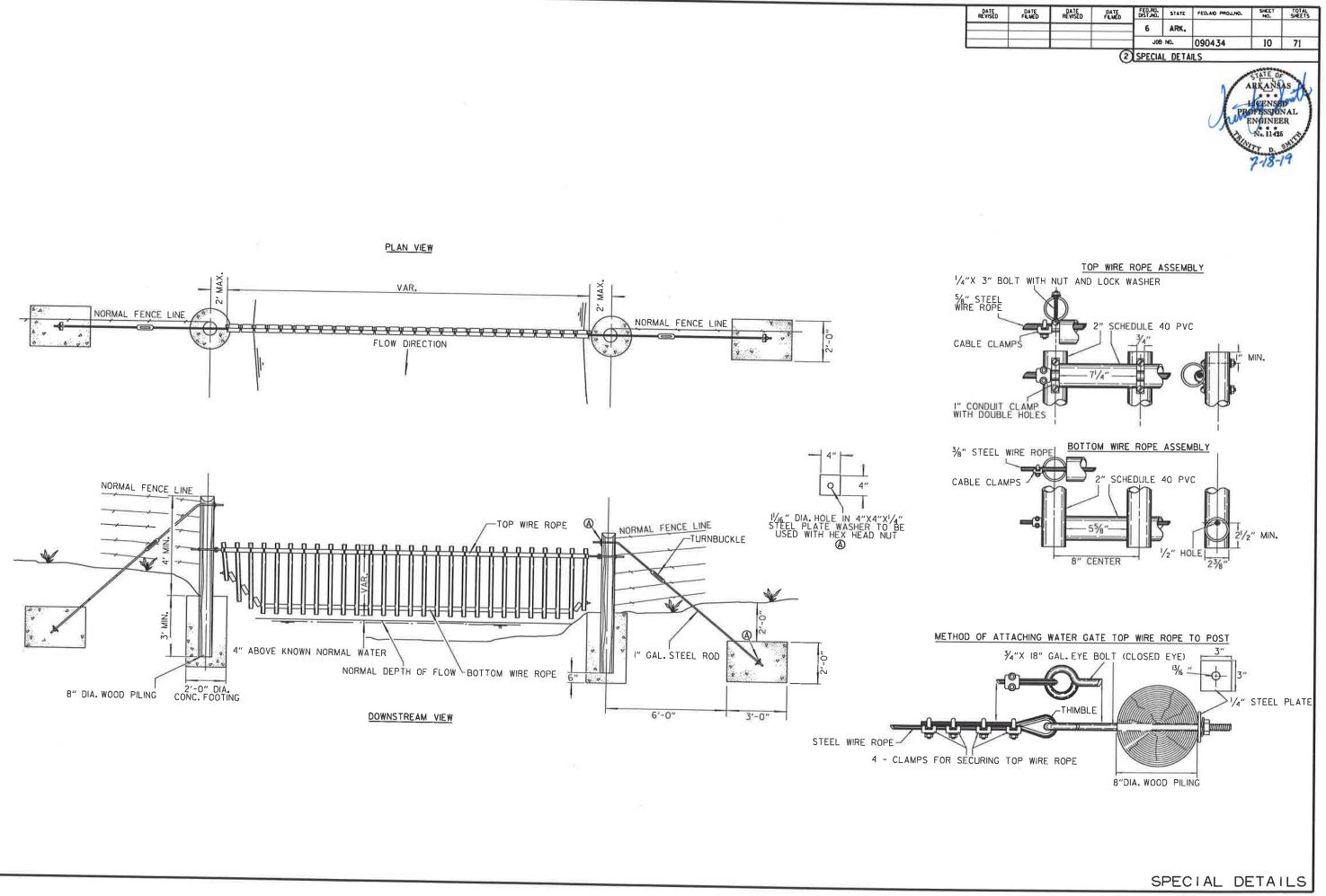
> 100' NORMAL TRANSITION COLD MILL EXISTING ASPHALT PAVEMENT

DETAIL FOR TRANSITIONS

SPECIAL DETAILS



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VINCE	BAR LAP TABLEMin. Bar Lap Length $\frac{1}{4}$ df Long. Laps Req'd.Min. Bar Lap Length $\frac{1}{4}$ df Long. $\frac{1}{7}$ Section Length $\frac{1}{7}$ Section Length $\frac{1}{7}$ 3-6" $\frac{1}{7}$ 3-6" $\frac{1}{7}$ 3-6" $\frac{1}{7}$ 3-116.0 ft - 116.0 ft $\frac{1}{7}$ 3 -116.0 ft - 116.0 ftMin. Bar Lap Length $\frac{1}{7}$ 3-6" $\frac{1}{7}$ 3 -6" $\frac{1}{7}$ 3 -6
$ \begin{array}{c} \\ \hline \\ $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
$ \begin{array}{c} \begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \end{array} \end{array} \\ \\ \\ \\ \\ \\ \\ \\ \\ $	SHEET I 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.
OI     Image: Sign of the second	AVAXA NO. LEOCD NO. RECINFORCING STEEL NOT RECINFORCING STEEL NO. REINFORCING STEEL NO. REINFORCING STEEL NO. RECING STEEL NO. RECI
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Line         *k1" HDWL BARS         *k2" HDWL BARS         *h" HDWL BARS           SIZE         LENGTH         NO. REQ'D         SIZE         LENGTH         NO. REQ'D           5         30'-9"         12         5         30'-9"         12         4         2'-1"         1'-1"         61	
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, 	OVER ALL WIDTH	CLEAR HEIGHT		FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDML LENGTH	HEEL	AT HDWL	L HEIGHT T MNG END		GLE REE)	FOOTING WIDTH AT WALL END		DTH OF N TINGS A	THDWL	PA	OOTING RALLEL	. WTH H	HDWL	LENG WNG	WALLS	-	igth of f	1			CO (Inclu	ASS "S NCRET des apro	E (		FORCIN les apror require	n and lap						
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WINGWALL	MING	BAR SIZE MAX, SPACING	NO. REQ'D	LENGTHS	DAD CITE	SPACING	NO REQD	LENGTHS	SPACING SPACING NO DECID	LENGTHS	BAR SIZE SPACING	1	BAR SIZE SPACING	NO. REQ'D	BAR SIZE SPACING	-	VARY		LENGTHS	BAR SIZE		LENGTHS VARY	BAR SIZE SPACING	TT	LENGTHS BAR SIZE		LENGTHS BAR SIZE	NO. REQ'D		BAR SIZE SPACING	NO. REQ'D	LENGTHS		QTY. PER WING	(rgs)					
OUTLET W	WNG A	4 12	25 X	Max 2' Min 4	5-1* -0" 11" -3"	5 12		8'-7" 2'-8" 6'-0"	4 12 9	E 6'-6 9 X 2'-0 Y 4'-9	4 18 8	Min 6'-4" Max 19'-10"	4 18	6 24'-2'	' 4 18 1		in 4'-3'	4	8 28'-9	9" 6	18 16	Min 2'-11" Max 4'-8"	4 18	2 2 M	VIAX	2 2	5'-4" 4	2	25'-5"	6 12	11-		3'-4"	963						
	WING B	4 12	L 49 X	Max         12           Min         5           Max         16           Min         1           Max         4           Min         4	-2" 1-3" -0"	5 12 1	L	9'-2" 3'-3"	4 12 1	L 6'-2 2 X 2'-6	4 18 1	Min 3'-10" Max	4 18	6 48'-8'	4 18 3	M	in 6'-9" ax 14'-10 in 2'-7" ax 2'-7"	)" 4 8	3 53'-3	3" 6	18 36 -	4-0 Min 2'-11" Max	4 18	2	11-0" Min 7'-2" Max 4	2 49	9'-2" 4	2 5	6'-10"	6 12	11	L 3	3'-4"	1992			#4 #5 #6 #7		p Length 1'-9" 2'-2" 2'-7" 3'-6"	
	님				<u>*-4</u> *		Y	6'-0"		Y 3'-9		39'-10"		× .		Y Ma						6'-2"		5	1'-8"						)	( 1	-8"				#8	1	4'-7"	
SECTION	SKEW (DEGREE)	SLOPE DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	8 THK.	PTH	BOTTOM SLAB THK. SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL MDTH	OVER ALL HEIGHT			REINFOR	RCING STEI					LAB RE	INFORC	ING STE	EEL		SIDE REINFOR	E WALL CING S			I TERIO IFORCI				P SLAB REINFOI		BUTION STEEL	10.00	TTOM SI REINFO		IRIBUTION STEEL	SIDE WAI REINFO
	EW (DE	SLOPE DESIGN F	EAR SF	EAR HE	CTION	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB 1 SIDE WALL THK.	ERIOR	ER ALL	ERALL		'a" φ	9	"c		e		"d" ഗ	P		"f"		0	1 1	'f0"	_		"f1		-	r		"g"	1	F	r	"e"	r	
END		SL D		ਹ ਮ	UL UL			B C		8 W0	<u>он</u>	SPACING	LENGTHS VARY	NO. REQ'D SIZE	SPACING	VARY	NO. REQ'D SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	VARY	NO. REQ'D	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. KEU	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE
ET SKEWED	30	FE 5	i 12	11 1	6'-11"	14	3	14 10	8	51'-8"	13'-4"	7 10	Max 51'-4" Min 3"-4" 51'-4"	34 5 3	6	Max 51'-4" Min 3'-4"	56 4	4.5	Max 51'-4" Min 3'-4" 51'-4"	74 6	4	6 N	flax  '-4" /lin '-4"	56	5 5		13'-0"					5	12	103	Max 31'-8" Min 1'-10"	5	12	103	Max 31'-8" Min 1'-10"	4 11
OUTL	SIZ		k1" HDI				0/7	- 1		WL BARS				"h" HDW						L					1 1				_									I		
리	5		30'-9"		. REQ'I 12	,	SIZE 5		LENG 30'-		NO. REQ'E	SIZE	LENG 2'-1		Y 1'-1"	NO, REQ 61	1 <sup>7</sup> D																							
		11	T-	гт	-	-	-		-	r																														
	SIGN FILL DEPTH (FT	CLEAR SPAN (FT.) CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK	SIDE WALL IHK			OVER ALL HEIGHT	SECTION LENGTH (FT.)	LE	SLAB REIN	/-4*+BE	NDS				NFORCIN - 4" + BE			REINFO	IDE WAI ORCING "f0" GTH = O	STEEL	REIN	VFORC	DR WALL ING STEE 1'' = OH - 4''		TOP S DISTRIBU REINF. S "g' LENGTH	UTION STEEL	DI R	DTTOM STRIBL EINF. S "e" ENGTH	JTION STEEL		DISTRII REINF	. Steel 11"	DIS RE	STRIBL		-	CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
		ช ช ร ห							1	"a"	Bent "b"	"с"	SPACING			ent "b1"	"φ" ω	SPACING	NO. REQ'D	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D LENGTH	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SING	G.D	H	SING	EQD		DS.	
OPE			<u> </u>		~ <b> </b> `	v o	- 44	ОН	SL	SIZE	L SIZE	L SIZE	SP,	NO. R SIZE	L SIZE	L	SIZE	SPA	ġ,	SPA	NO.	Ē	s i	SPA	LE NO.	- S	SPA	NO	SI	SPA(	NO. F	S	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D		CU. YDS.	LBS.
SL					-																											-	-						1	
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(2)		DEPTH		ADDITIO	NAL RE		ORHD	WL	SIZE	"h"	HDWL BAR	NO. R	EQ'D																				_					1	T	OTAL
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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.

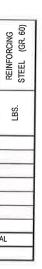
DATE	DATE	DATE REVISED	DATE	PEOL MONO DIST, MOL	STATE	FED. AID PROJ. NO.	5421 HG.	TOTAL BHEETS
				6	ARK.			
				JOB N	10.	090434	12	71
			0			SPECIAL DETAIL	s	
				R DATA BY	CHAN	ARKANSAS LICENSED OFESSIONAI ENGINEER No. 9235 LES R. WAC DATE:5		

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

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

CLASS S	N	RIOR W/ RIBUTIC RCING \$ "d2"	DIST REINFO				de Wali Reinfo	
	TENGTH	NO. REQ'D	SPACING	SIZE	LENGTH	NO. REQ'D	SPACING	SIZE
	LONG 24'-2"	22			LONG 31'-3"	12		
10	MID 16'-9" SHORT	22	12	4	SHORT 2'-3"	12	11	4
	9'-3"	22						

-		
	CLASS "S" CONCRETE (Includes HDWL)	OREINFORCING STEEL (GR 60) (Includes HDWL)
	CU YDS	LBS,
	101.99	14740



SHEET 2 OF 2 DETAILS OF R.C. BOX CULVERT OUADRUPLE BARREL BOX CULVERT Sta. 206+42

SPECIAL DETAILS

OVER ALL WIDTH OVER ALL WIDTH CLEAR HEIGHT FOOTING THK FOOTING THK MING WALL THK MING WALL THK SLOPE SLOPE	Wall Height     Wingwall     Image: Proving the proving	DATE REVISED     DATE FILMED     DATE REVISED     DATE FILMED     DATE FILMED     PED. ROAD (MIT.MG.)     STATE STATE     FED. AD PROJ. NO.     Sector       MID-SECTION     Image: Sector Sec
ALL TABLE ART TABLE	K     HL     WH1     WH2     AF1     AF2     WE     WF1     WF2     G1     G2     W1     W2     W3     W4       42'-8"     1'-0"     4'-10"     1'-4"     0     30     2'-2"     2'-3 3/4"     2'-5 3/4"     0'-7 3/4"     0'-4 3/8"     10'-6"     13'-10 5/8"     CU.YD     LBS.       -     F3     F4     F5     F6     F7     F8     F9     F10     F11     F12     H       2     W1<00     C0	BAR LAP TABLEMn. Bar Lap Length $\# of Long.$ Laps Req'd.SL = $\frac{Laps}{Req'd.}$ Section Length0<40.0 ft1>40.0 ft $\# 8$ $\# 3$ $4 - 7"$
MIN         L         Min         2:-4*         L         L           Max         5:-10*         -         -         -         -         -         -         X           Min         11         X         Min         0:-9*         -         -         -         X           Min         11:1         X         Min         0:-9*         -         -         -         X           Min         11:8*         Y         Min         1*.8*         Y	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	8 >306.0 ft-344.0 ft #8 6" b be used in conjunction with EXERAL DETAILS OF R.C. BOX CULVERT", 'GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE', GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF MULTI-BARREL R.C. BOX CULVERT', STRERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF WINGWALLS', ond NG RCB-2. Information and outlet sections, see Sheet 2 of 2.
) SECTION skew (pegree) slope besign fill depth (FT) clear span (FT) clear Height (FT) clear Height (FT) section Length top Slab THK.	XH     YH     TOP SLAB REINFORCING STEEL     BOTTOM SLAB REINFORCING STEEL     SIDE WALL REINFORCING STEEL     INTERIOR WALL REINFORCING STEEL     TOP SLAB DISTRIBUTION REINFORCING STEEL     BOTTOM SLAB REINFORCING STEEL       WH     YH     YH <th>DISTRIBUTION NG STEEL     SIDE WALL DISTRIBUTION REINFORCING STEEL     INTERIOR WALL DISTRIBUTION REINFORCING STEEL     INTERIOR WALL DISTRIBUTION</th>	DISTRIBUTION NG STEEL     SIDE WALL DISTRIBUTION REINFORCING STEEL     INTERIOR WALL DISTRIBUTION REINFORCING STEEL     INTERIOR WALL DISTRIBUTION
		Max     Max     LONG       Min     SHORT       Min     SHORT       SHORT
"k1" HDWL BARS           SIZE         LENGTH         NO. REQ'D         SIZE	"k2" HDWL BARS     "h" HDWL BARS       LENGTH     NO. REQ'D     SIZE       LENGTH     NO. REQ'D	
INLET SLOPE SECTION(S) R.C. BOX SECTION R.C. B	LEW       TOP SLAB REINFORCING STELL       BOITOM SLAB REINFORCING STELL       BOITOM SLAB REINFORCING STELL       SIDE VALL REINFORCING STELL "G"       NITERIOR VALL REINFORCING STELL "G"       NITERIOR VALL REINFORCING STELL "G"       SIDE VALL DISTRIBUTION REINF. STELL "G"       SIDE VALL	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$
Ver. LII5 D090434.C2.LGD MID-SECTION S C. BOX SECTION C D DESIGN FILL DEPTH (FT.) R.C. BOX SECTION C D DESIGN FILL DEPTH (FT.) R.C. BOX SECTION C D D D D D D D D D D D D D D D D D D D	$ \frac{1}{1} + 1$	SHEET I OF 2 SHEET I OF 2 DETAILS OF R.C. BOX CULVERT OUINTUPLE BARREL BOX CULVERT Sto. 102+51 285.00 37493 SPECIAL DETAILS

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	OVER ALL WDTH		CLEAR HEIGHT	FOOTING THK.	S WALL THK.	SKEW (DEG.)	SLOPE	ML LENGTH		HEEL	AT HDW.	HEIGH		AN	GLE GLE GREE)					I OF WNG GS AT HDW			ING DI			LENG WING			ENGTH (	OF FOO	TING H	EEL		CLAS			icludes ap	CING STEEL ron and laps uired)
ABLE	ON				MNG	BOX		HDWL				1 :	Ā	WNG A	WINC B		2		ING A	WNG	B	WN	G A	w	ING B	WING A	WN0 B	G	WNG A		WNG	в		OUT	ET.	t	OU	TLET
IA	43'-8		H 1'-0"	WB 0'-9"	CW 0'-8*	SK	SL 2:1	K 42'-	Q."	HL 1'-0"	WH1 4'-10"	-	/H2	AF1 30	AF2 30	_	WE 2'-2"	-	WF1	WF2		G	_	-	G2	W1	WZ	_	W3		W4			CU.	D		L	3S.
	<b>T</b>			F1	0.0		F2		T		-3	1	-4 F4	30	30	F5		2.	7 1/2"	2'-7 1/	-	0'-6	_	0-	6 3/8"	8'-0"	8'-0"	-	9'-10 5/8	_	9'-10 5/	8*		6.4	5		3	92
		U V		(0	-						r			_		T		T	T.I		-+		7	$\vdash$	FE	1	- 1	F9	1		-10	+	F11	+	1 1	F12	_	R R
WINGWAL	MNG	BAR SIZE MAX. SPACING	NO. REQ'I	TENGTHS		BAR SIZE SPACING	NO. REQ'	LENGTHS	BAR SIZE	SPACING NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS VARY	BAR SIZE SPACING	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS VARY		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. REO'D	BAR SIZE	SPACING NO DECIN	NU. NEW U	LENGTHS	REINF. STEEL OTY. PER WNG (LBS)
OUTLET WI	MNG A	4 12	2 8	Max X Min Max Y Min Max	2'-7' 6'-2' 0'-9" 1'-3" 1'-11" 5'-0"	<b>*</b> 2 7*	- X		-	• •	L . X . Y	4 1	84	Min 2'-6" Max 5'-11"	4 18	8 2	7'-8"	4 1	86	L Min 2'- Max 6'- X Min 1'- Max 1'- Y Min 1'- Max 5-	3" 4" 4" 8"	4 6	10'-9"	6	18 5	Min 1'-8" Max 2'-1"		•	Min - Max	4 2	8'-3"	4	2 9'-:	* 6	12	4	3'-4* 1'-8*	196
9	WING B	4 12	2 8	L Min Max X Min Max Y Min Max	2'-7" 6'-2" 0'-9" 1'-3" 1'-11" 5'-0"	5 3	- X		•	-	L . X . Y .	4 1	84	Min 2'-6" Max 5'-11*	4 18	3 2	7'-8"	4 1	86	L Min 2'- Max 6'- X Min 1'- Max 1'- Y Min 1'- Max 5-	3" 4" 4" 8"	4 6	10'-9"	6	18 5	Min 1'-8" Max 2'-1"			Min - Max	4 2	8'-3"	4	2 9'-5	* 6	12	4	3'-4" 1'-8*	196

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

SECTION	GREE)	ILL DEPTH (FT		IGHT (FT.)	ENGTH	HK.	ILAB THK.	ĨĦ.	WALL THK	HTOIM	HEIGHT			SLAB REI	NFORCIN				BOTION	SLAB RE	INFORCI	NG STE	EL		SIDE W	ALL. G STEEL		NTERIOF	R WALL NG STEEL		SLAB D			BOTTOM S REINF	LAB DIS ORCING				TRIBUTION G STEEL	INTERIO DISTRIB NFORCI			CLASS "S" CONCRETE Includes HDWL)	[ 뜻 급 옷
S	DE	μ K	R SP	뿦		DEF	WO	NALI	ğ	ALL	ALL		"a"		1 1	"c"			"d"			""			"f0"			"f1			"	<b>)</b> "			"e"			"d1"		 "d2	24	- 1	005	STEI
EWED END	SKEV	C LSIC			TI SECT		BOTT		MINTER INTER	MO OVER	2 OVER	SIZE	SPACING	x	SIZE	WIN VARY	NO. REQ'D	SIZE	Max VARY		SIZE	Ma Revealed A		SIZE		LENGTH	SIZE	SPACING NO BOT	NGTH	SIZE	PACING	NO. REQ'D	ENGTHS VARY	SIZE	NO. REQ'D	LENGTHS VARY	SIZE	NO. REQ'D	LONG		NO. KEND		CU. YDS.	LBS
OUTLET SK	SIZ		I" HDW		IO. REQ	)'D	SIZE		2" HDW	L BARS		EQ'D				RS	REQ'D																Min			Min			SHOR		SHOR	T		

TION(S)	C. BOX SECTION	SIGN FILL DEPTH (FT.) EAR SPAN (FT.)		ξ	BOTTOM SLAB THK.	e wall thk.	ERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	CTION LENGTH (FT.)		LE	NGTH	= OW	4* + E	G STEE BENDS	<u>.</u>			NGTH	= OW	NFORC - 4" + 1				REINFC	DE WAL RCING "f0" TH = OI	STEEL	. RE	EINFOF	RIOR W RCING : "f1" H = OH	STEEL	DIS RE	op Sl Stribu Inf. S "g" Ngth	TION TEEL	Di Ri	DTTOM STRIBU EINF. S "e" NGTH	TEEL	DI RI	Side V Stribu Einf. S "d1 Ength	JTION STEEL	1	NTERIO DISTRIB REINF. "d2 LENGT I	UTION STEEL 2"		CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
SLOPE SEC				T	_		W	0W	OH	SE SL	SIZE	L	Ber	L	"c"		APACING NO RECING	щ	"d" L	Ben	t"b1" ٤	PT SIZE	L	SPACING NO PEOD	NO. REQ'D	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		CU. YDS.	LBS.
OUTLET	Нр	WL DE HD 3"	РТН	AI	DDITIC	ι	EINF. BS. 58	FOR H	IDWL	SIZE 4		Y 0'-9*	"h" BAI	GTH		REQ'D																													-	TC 0.40	TAL 110

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.

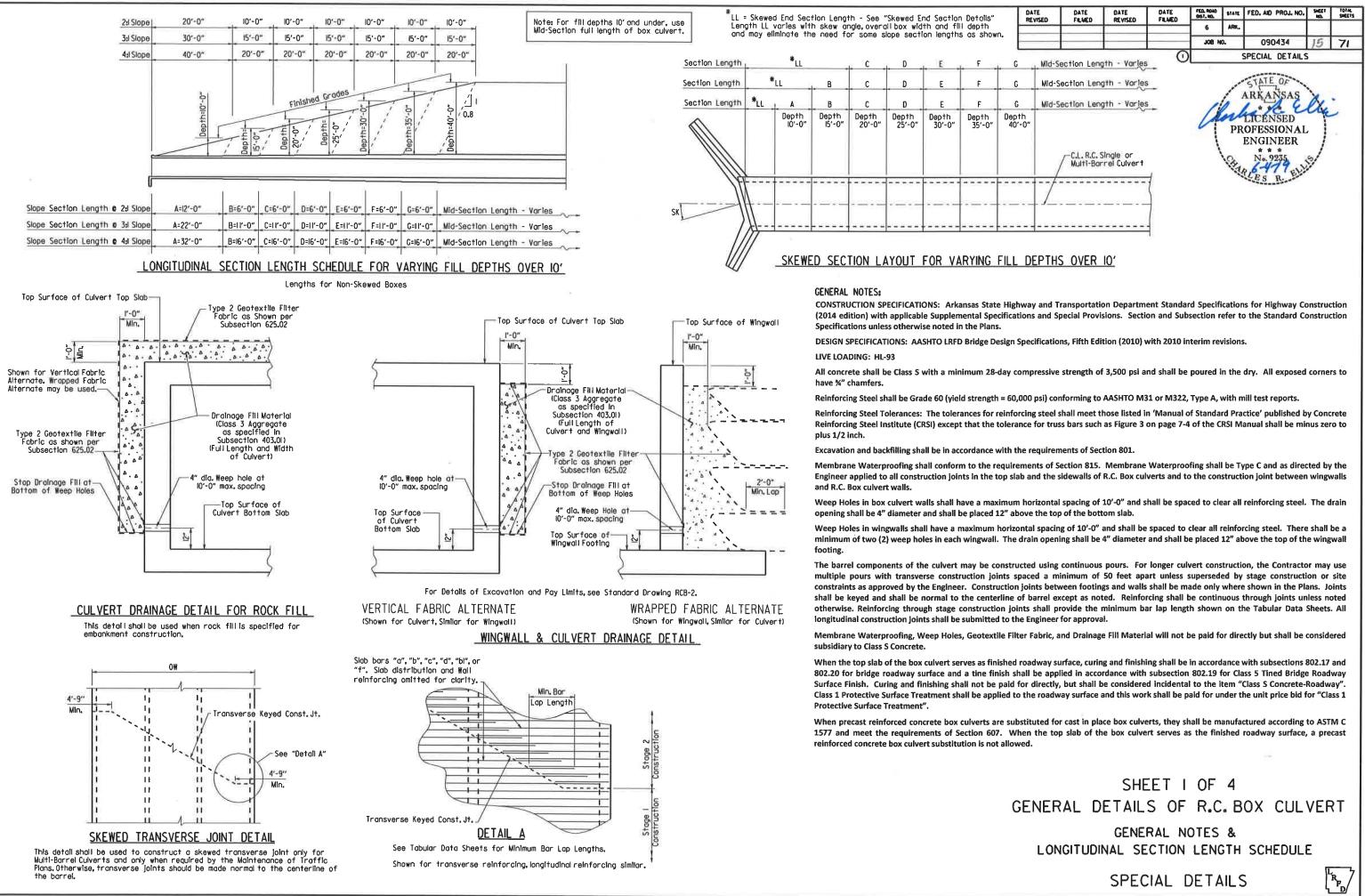
	ATE Eviseo	DATE	DATE	DATE FILMED	FED. POAD DIST, MD.	STATE	FED. AID PROJ. NO.	BHET ML	TOTAL
					6	ARK.			
					JOB N	0.	090434	14	71
				0			SPECIAL DETAILS	5	
Bar P	in Dia. Tat	ple			A		LICENSED OFESSION AL ENGINEER	Bly	2
#4	3"						* * *	1	
#5	3 3/4"					Se	No. 9235	2.	
#6	4 1/2"					MAN	6417		
#7	5 1/4"					-	ES R.		
#8	6"			123320100000			and the second s		
					R DATA BY	·	WAC DATES	20/20	19

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

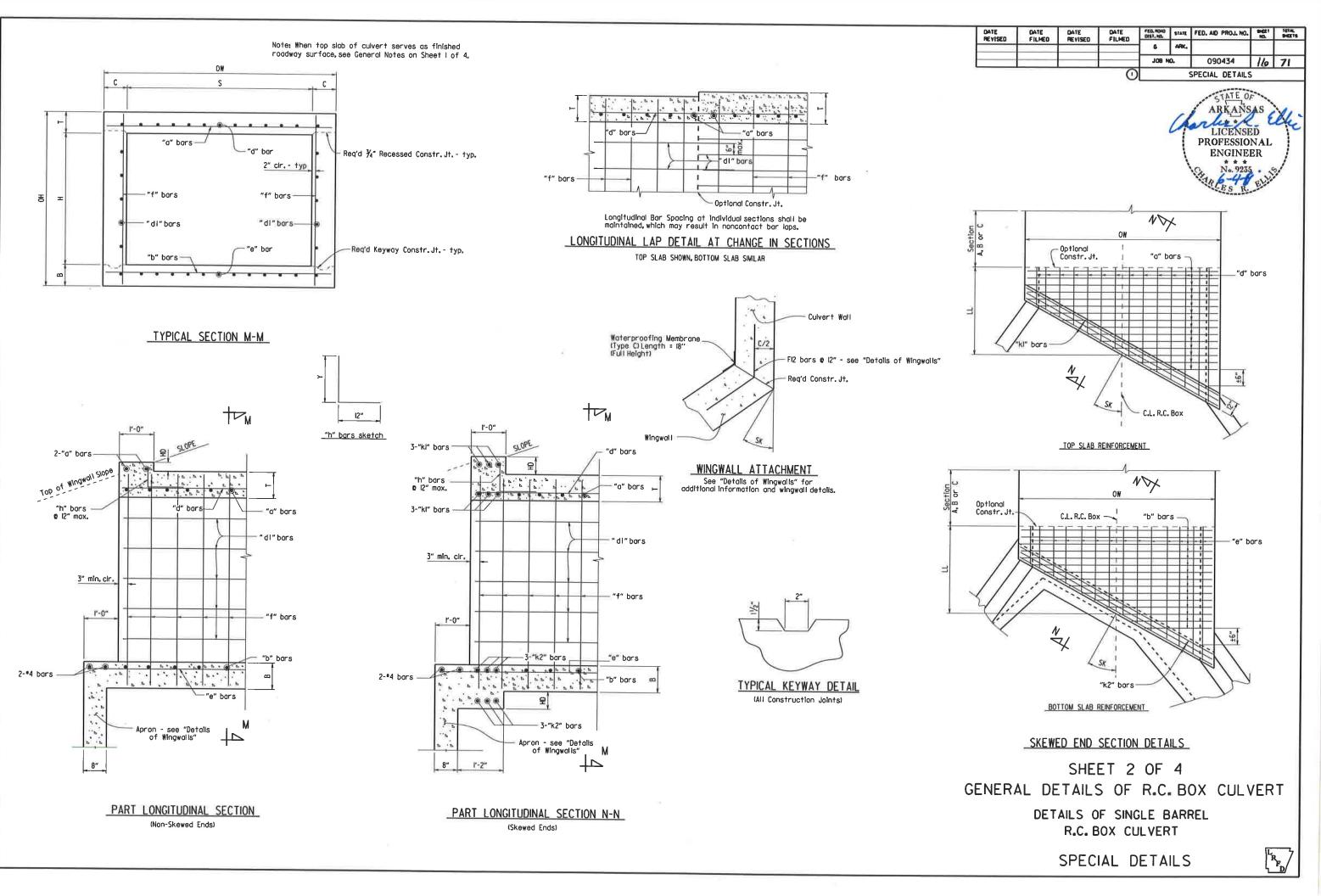


SHEET 2 OF 2 DETAILS OF R.C. BOX CULVERT OUINTUPLE BARREL BOX CULVERT Sta. 102+51

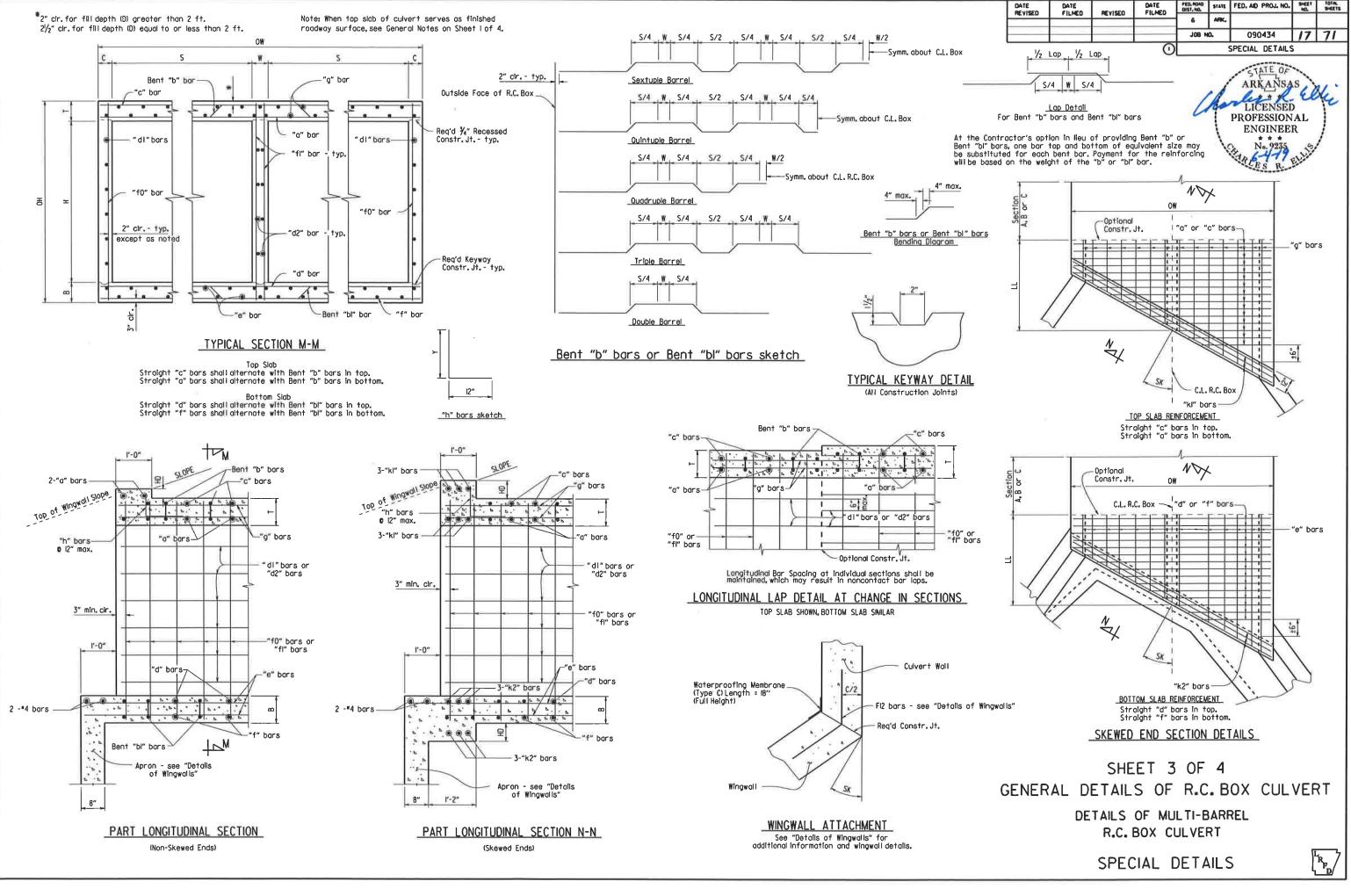
SPECIAL DETAILS

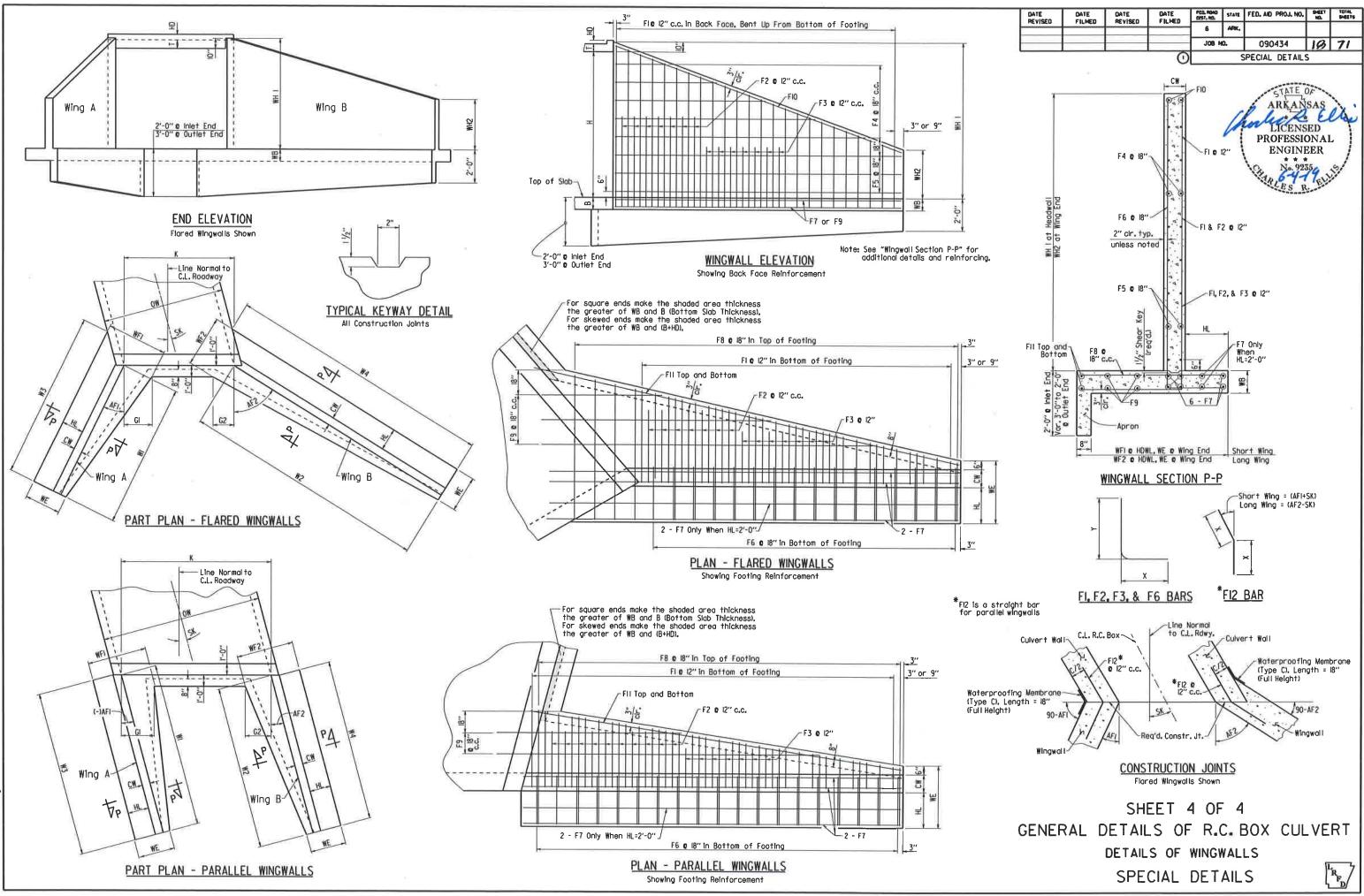


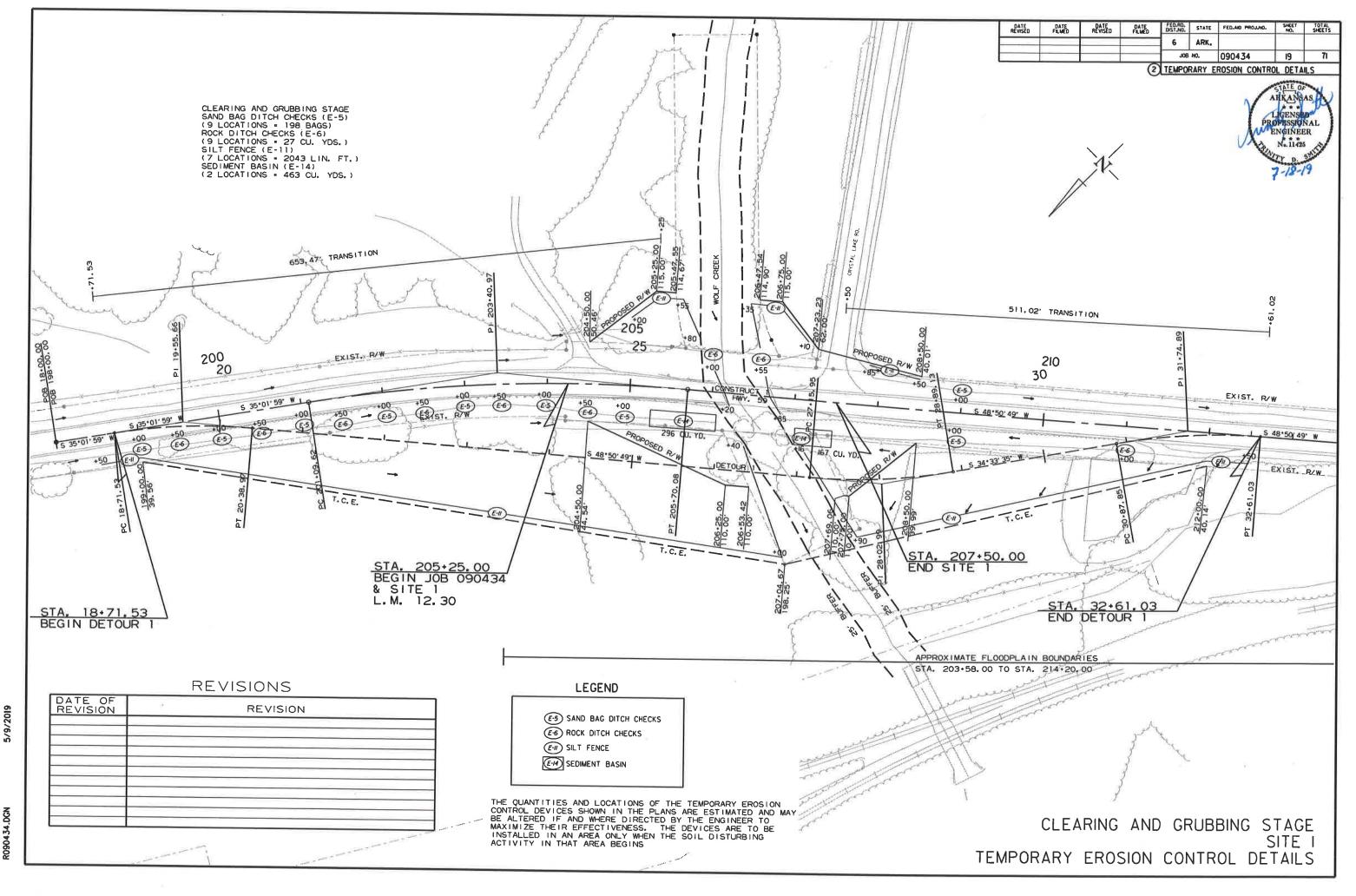
SPECIAL DETAILS

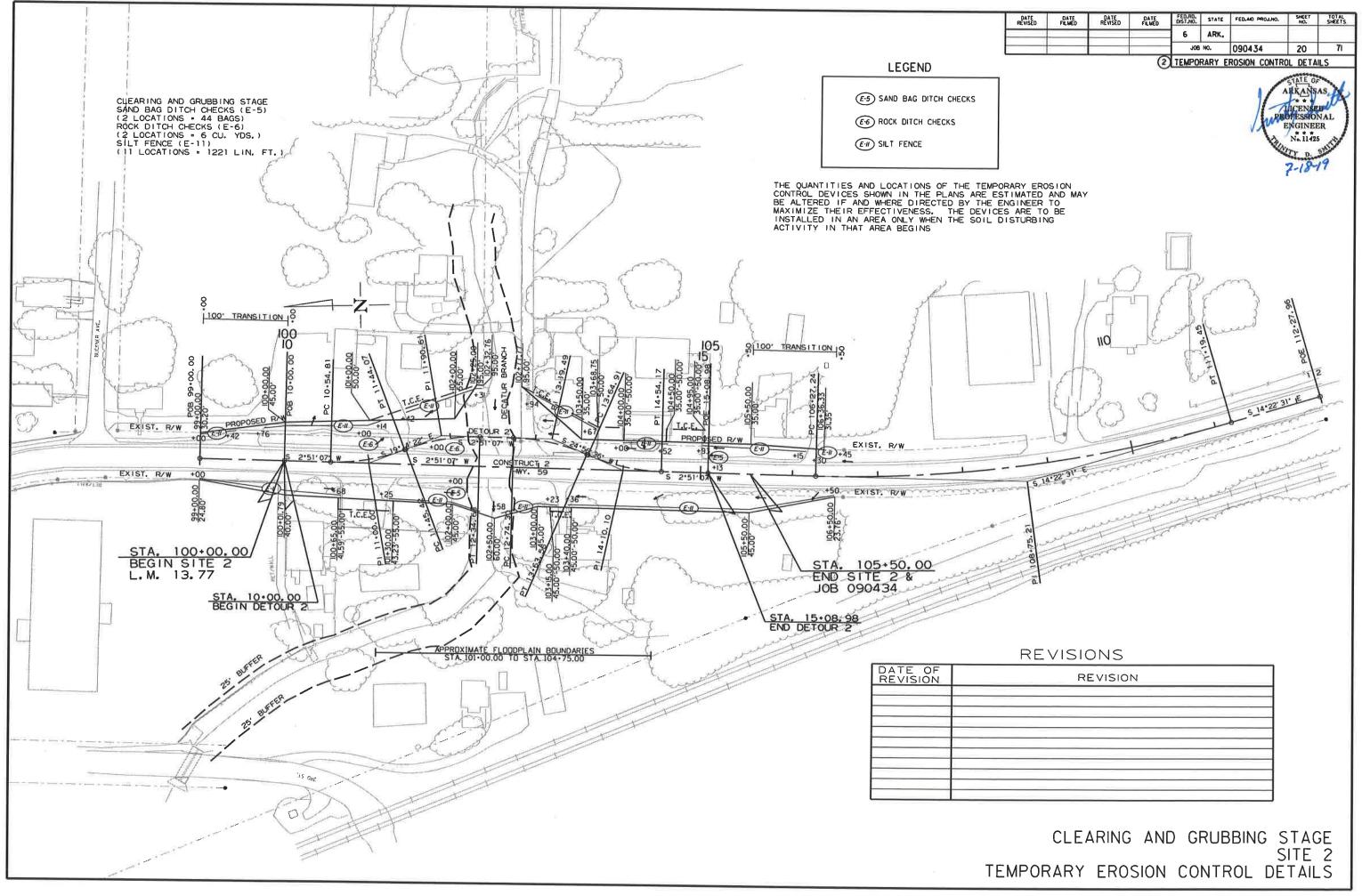


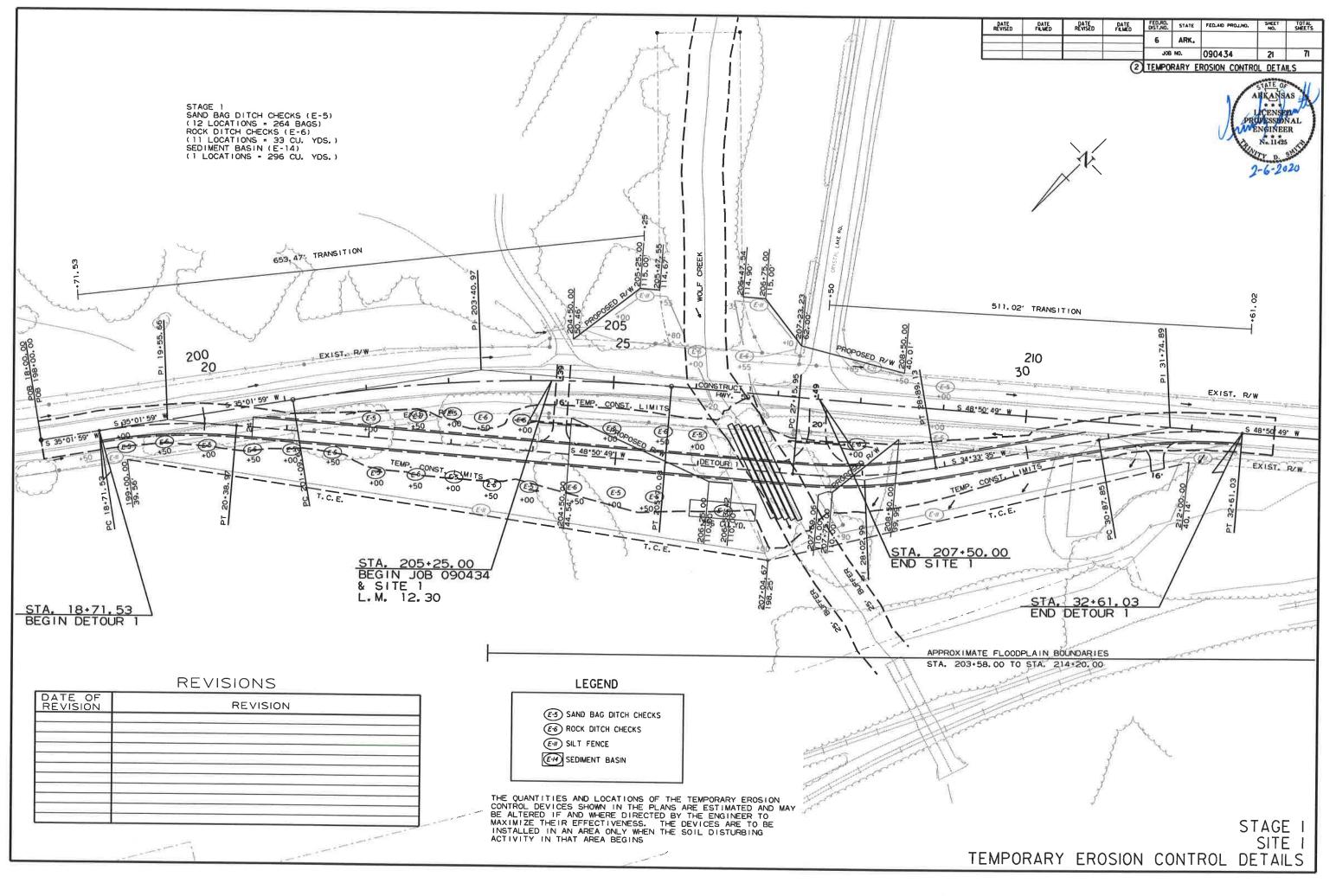
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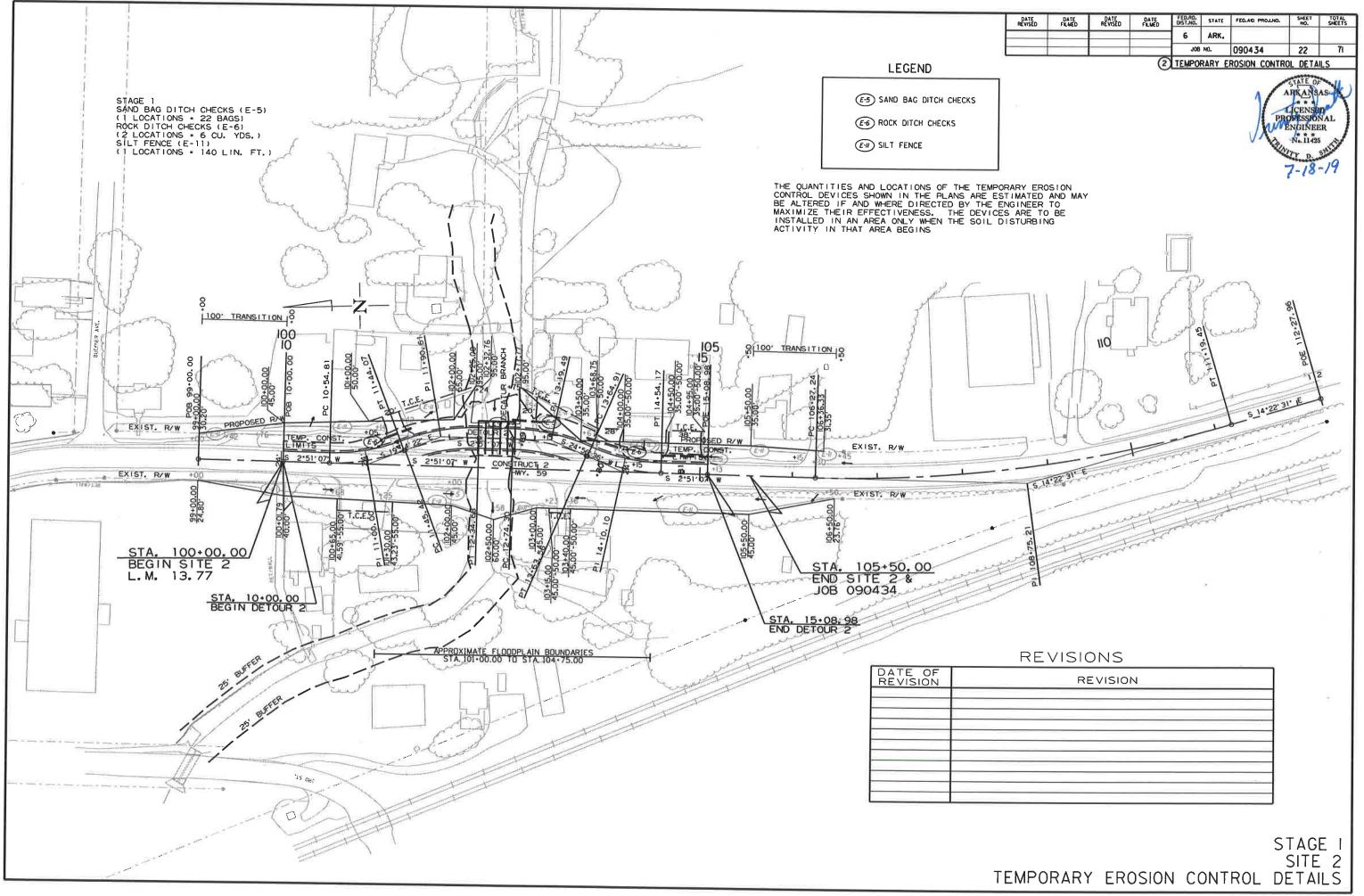


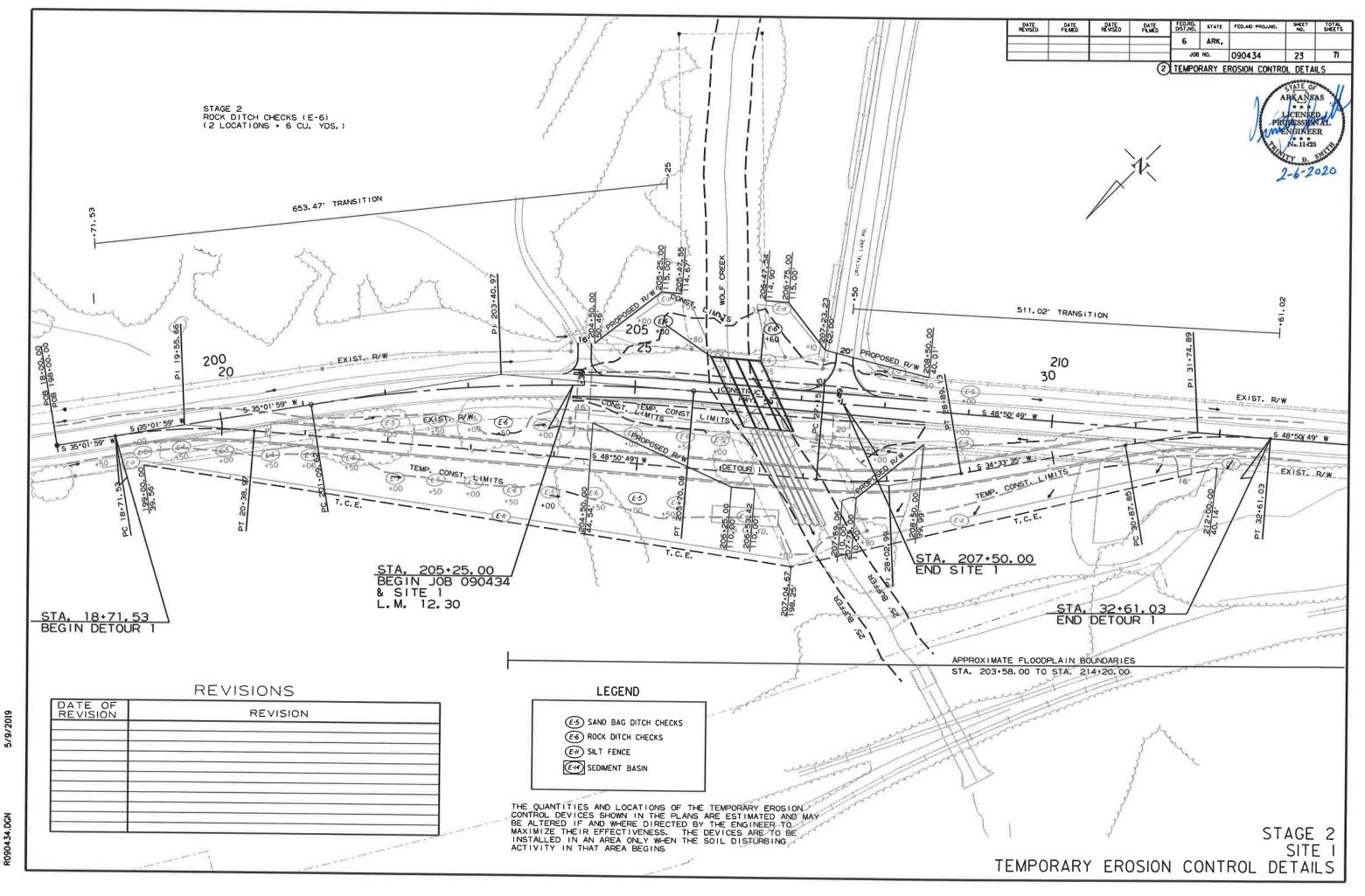


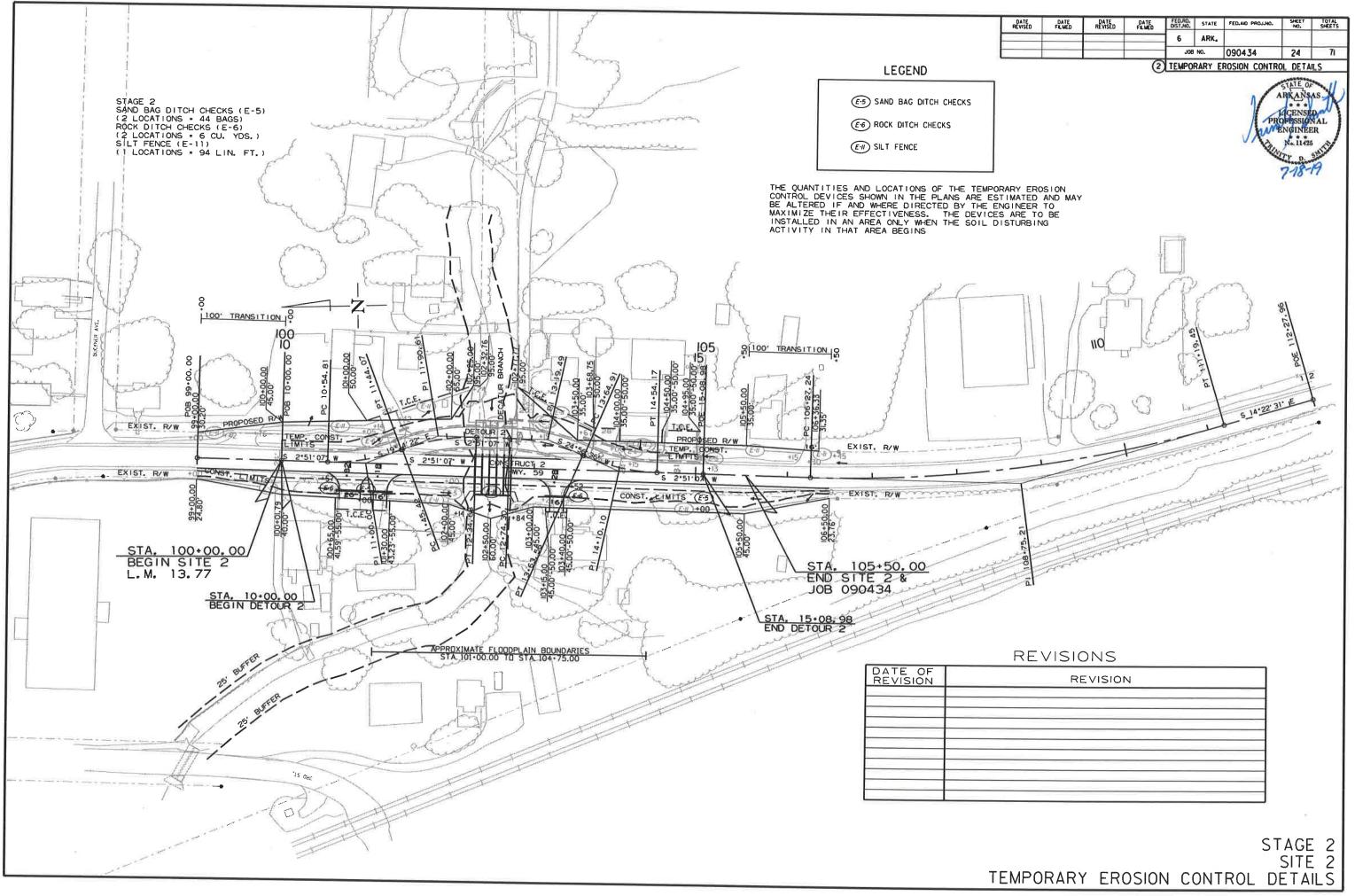


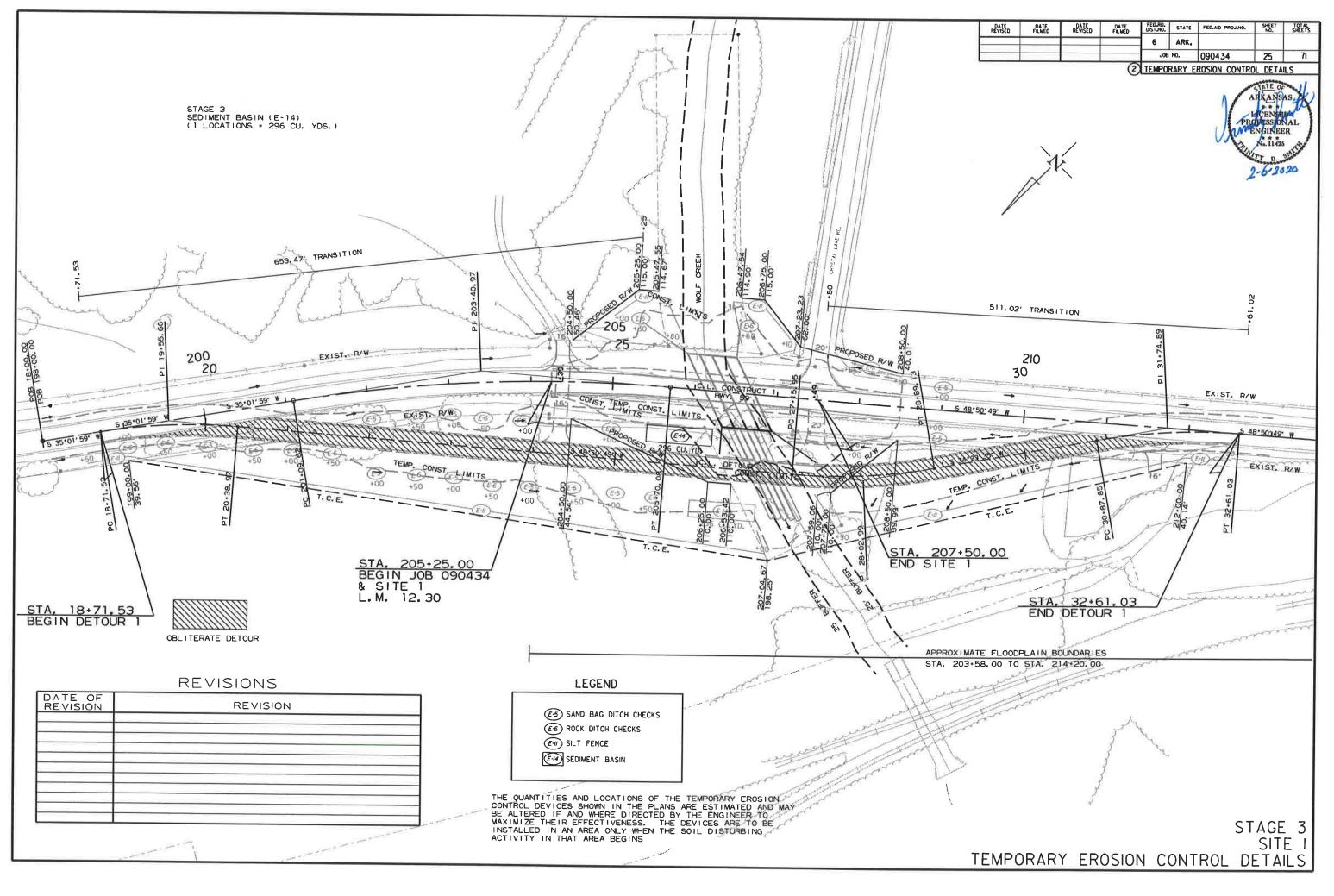


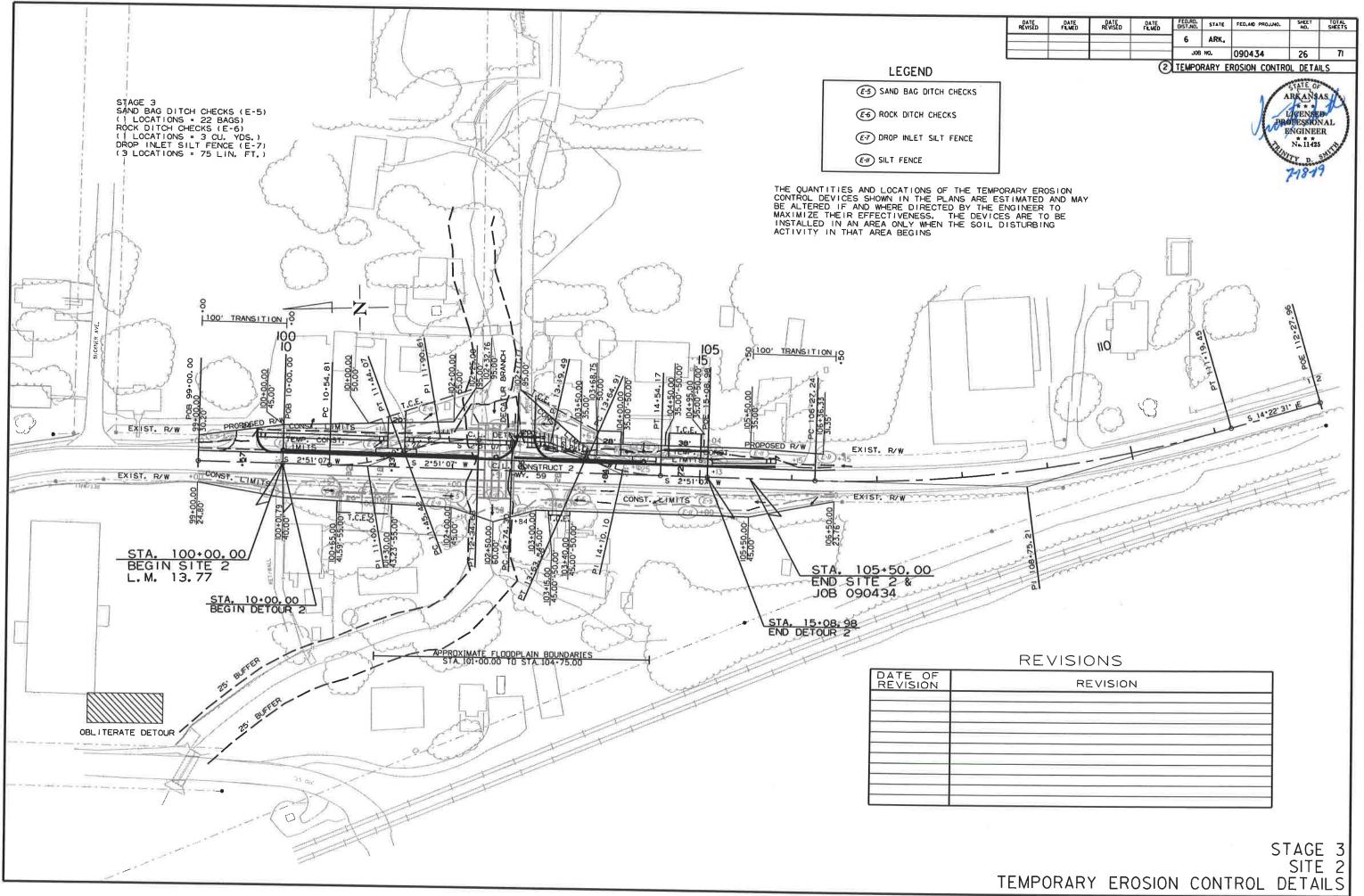




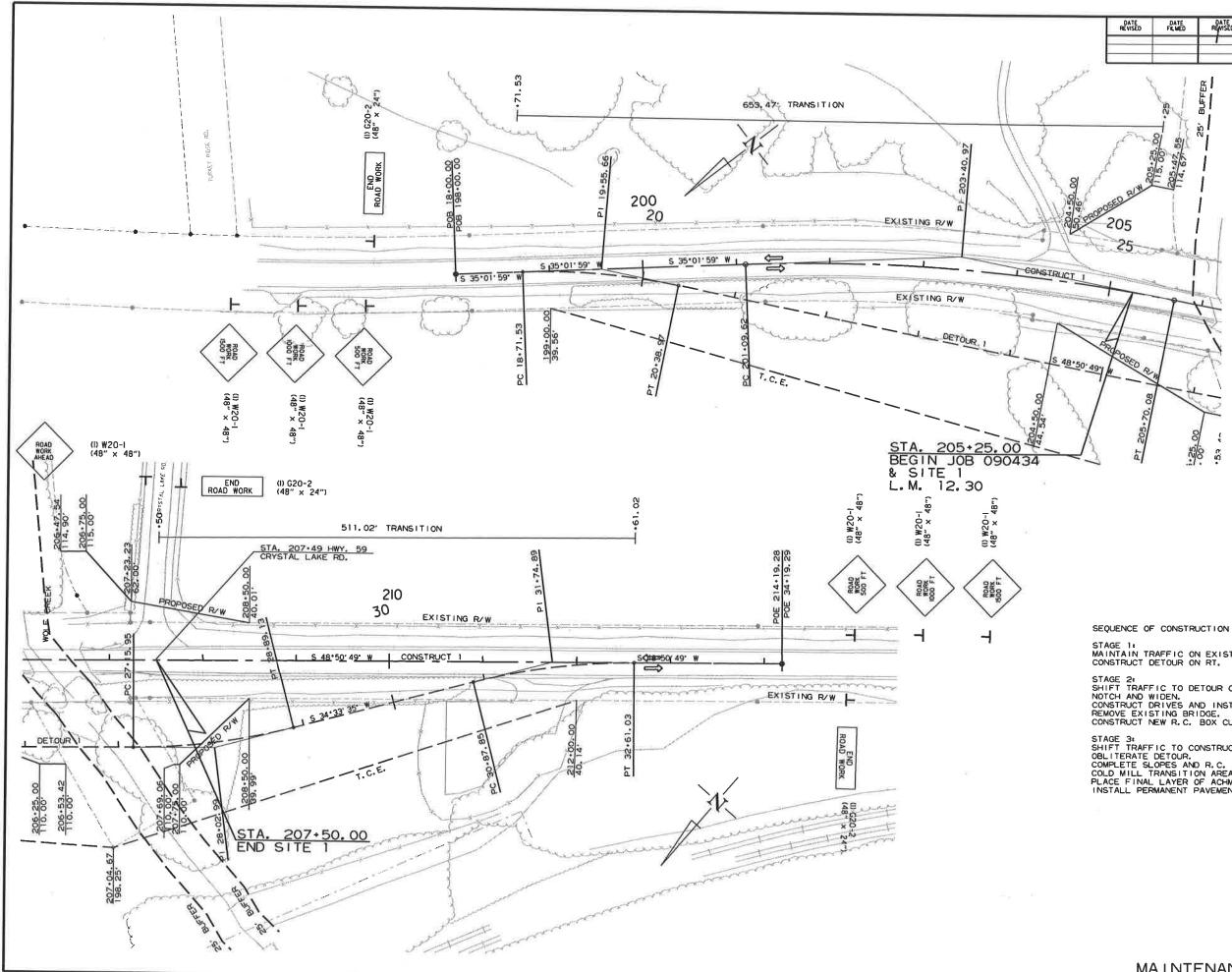








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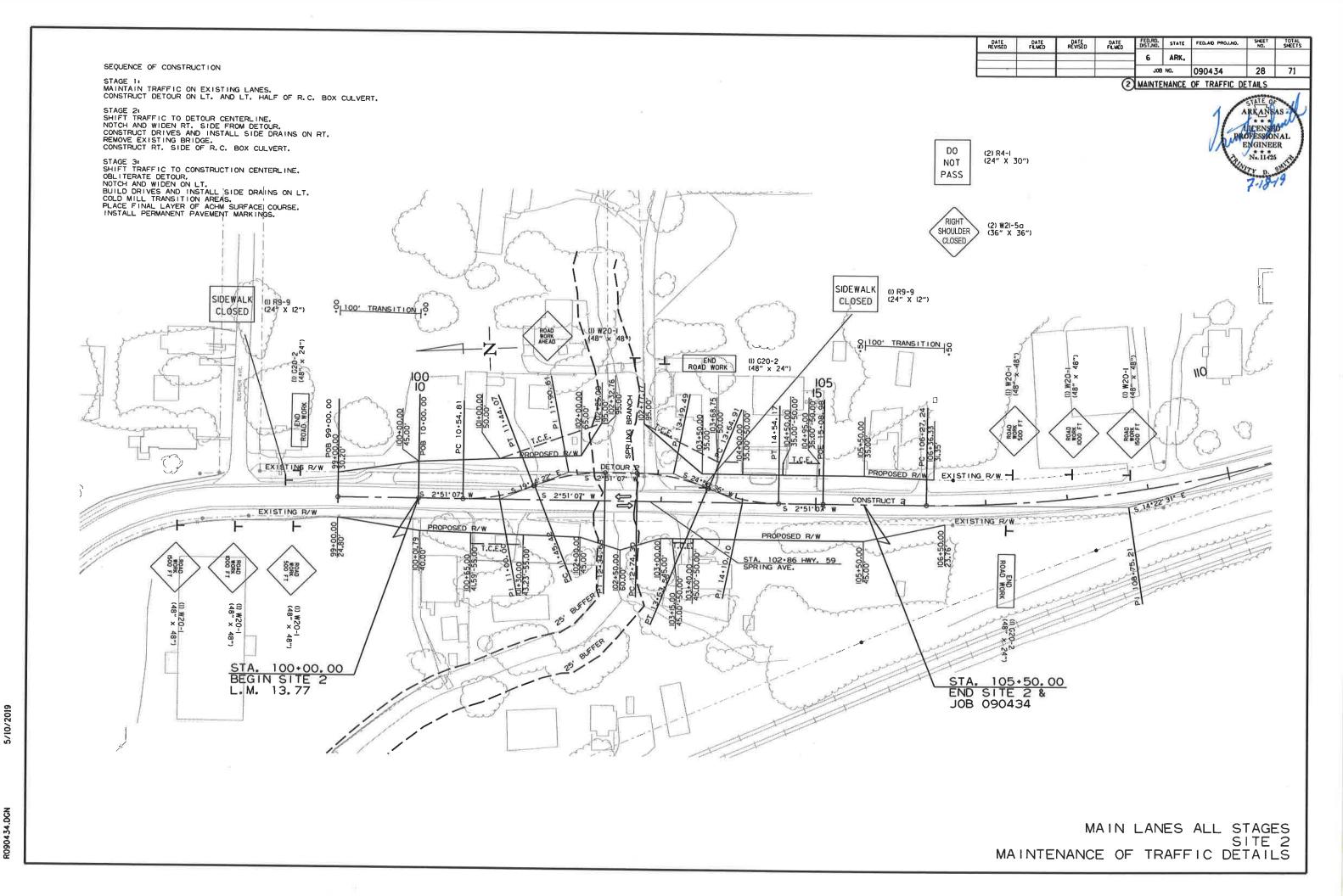
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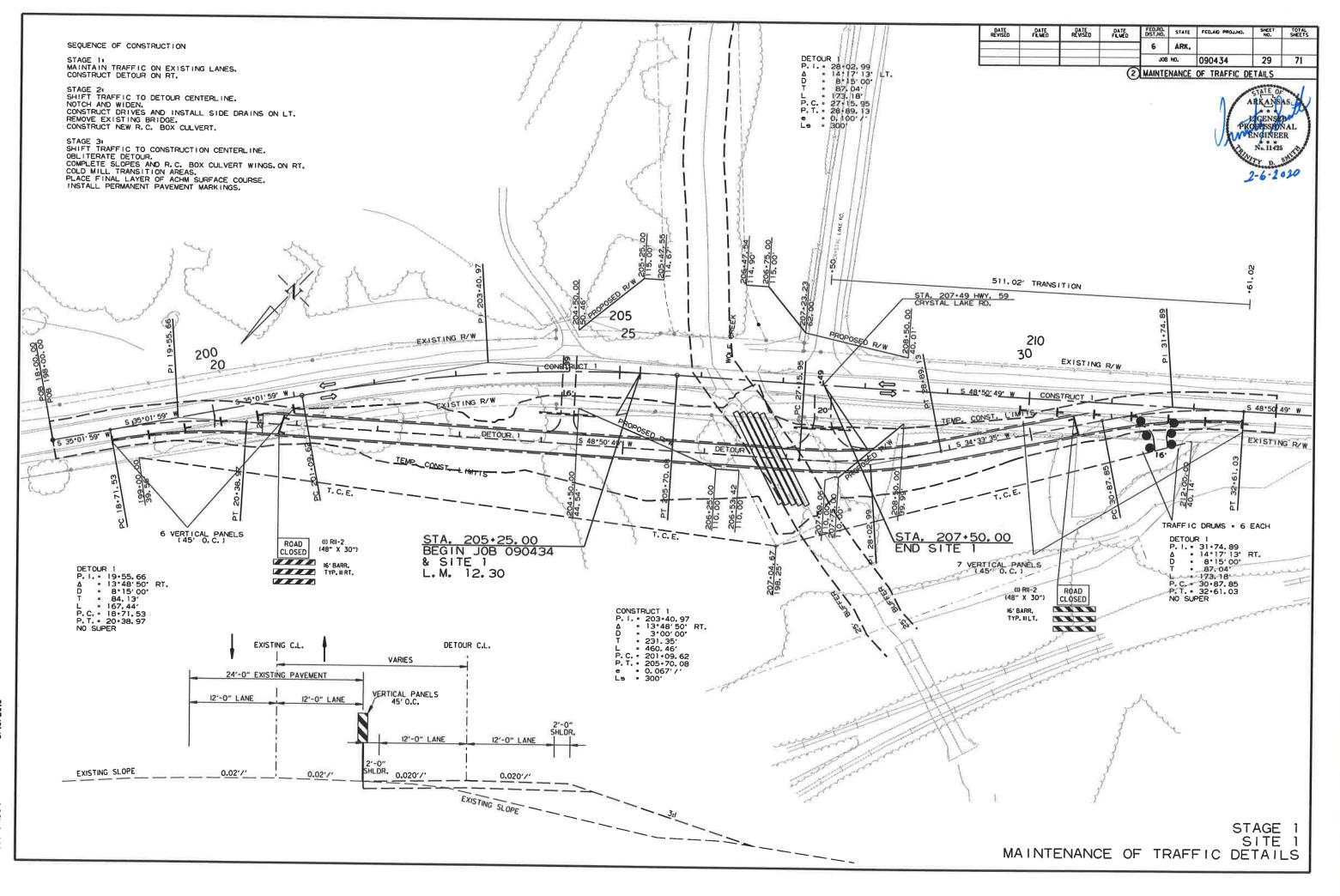
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DO NOT PASS 205 25 25 25 25 25 25 25 25 25 25 25 25 25	DO NOT PASS 205 25 RIGHT (2) W2I-5a (36" X 36")	L	_			0					71
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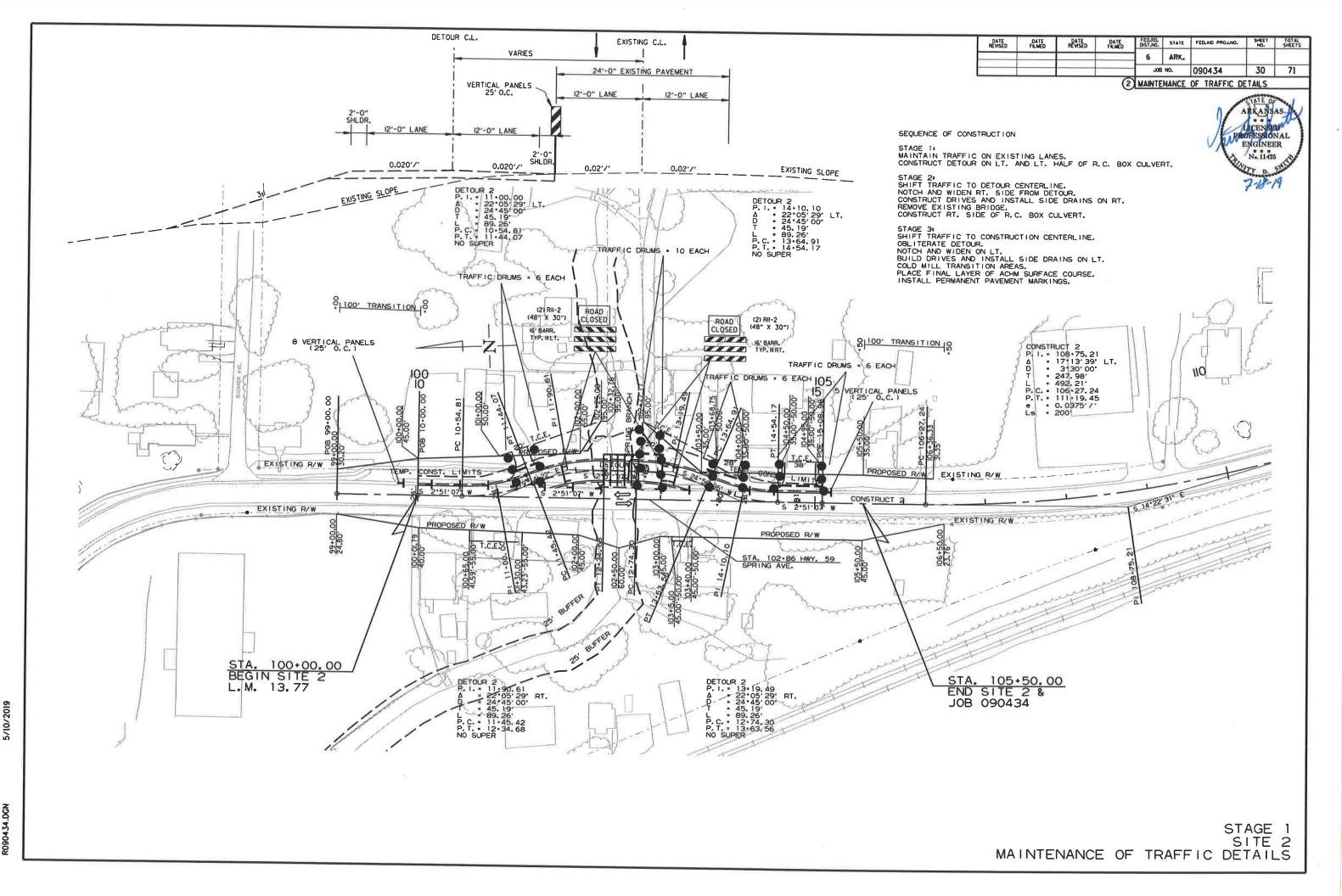
STAGE 1: MAINTAIN TRAFFIC ON EXISTING LANES. CONSTRUCT DETOUR ON RT. STAGE 2: SHIFT TRAFFIC TO DETOUR CENTERLINE, NOTCH AND WIDEN. CONSTRUCT DRIVES AND INSTALL SIDE DRAINS ON LT. REMOVE EXISTING BRIDGE. CONSTRUCT NEW R.C. BOX CULVERT. STAGE 3: SHIFT TRAFFIC TO CONSTRUCTION CENTERLINE, OBLITERATE DETOUR, COMPLETE SLOPES AND R.C. BOX CULVERT WINGS.ON RT. COLD MILL TRANSITION AREAS, PLACE FINAL LAYER OF ACHM SURFACE COURSE. INSTALL PERMANENT PAVEMENT MARKINGS.

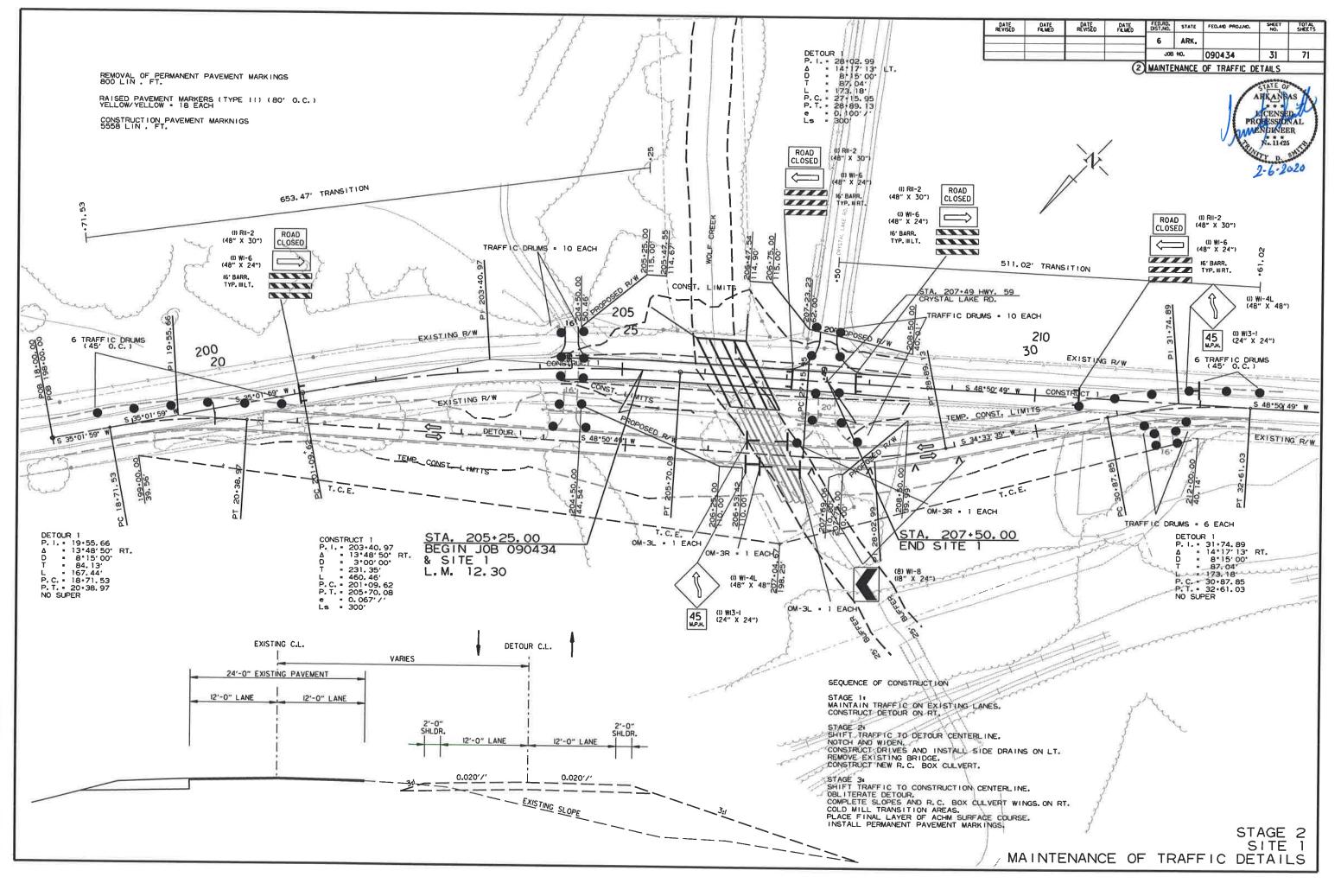
> MAIN LANES ALL STAGES SITE 1 MAINTENANCE OF TRAFFIC DETAILS



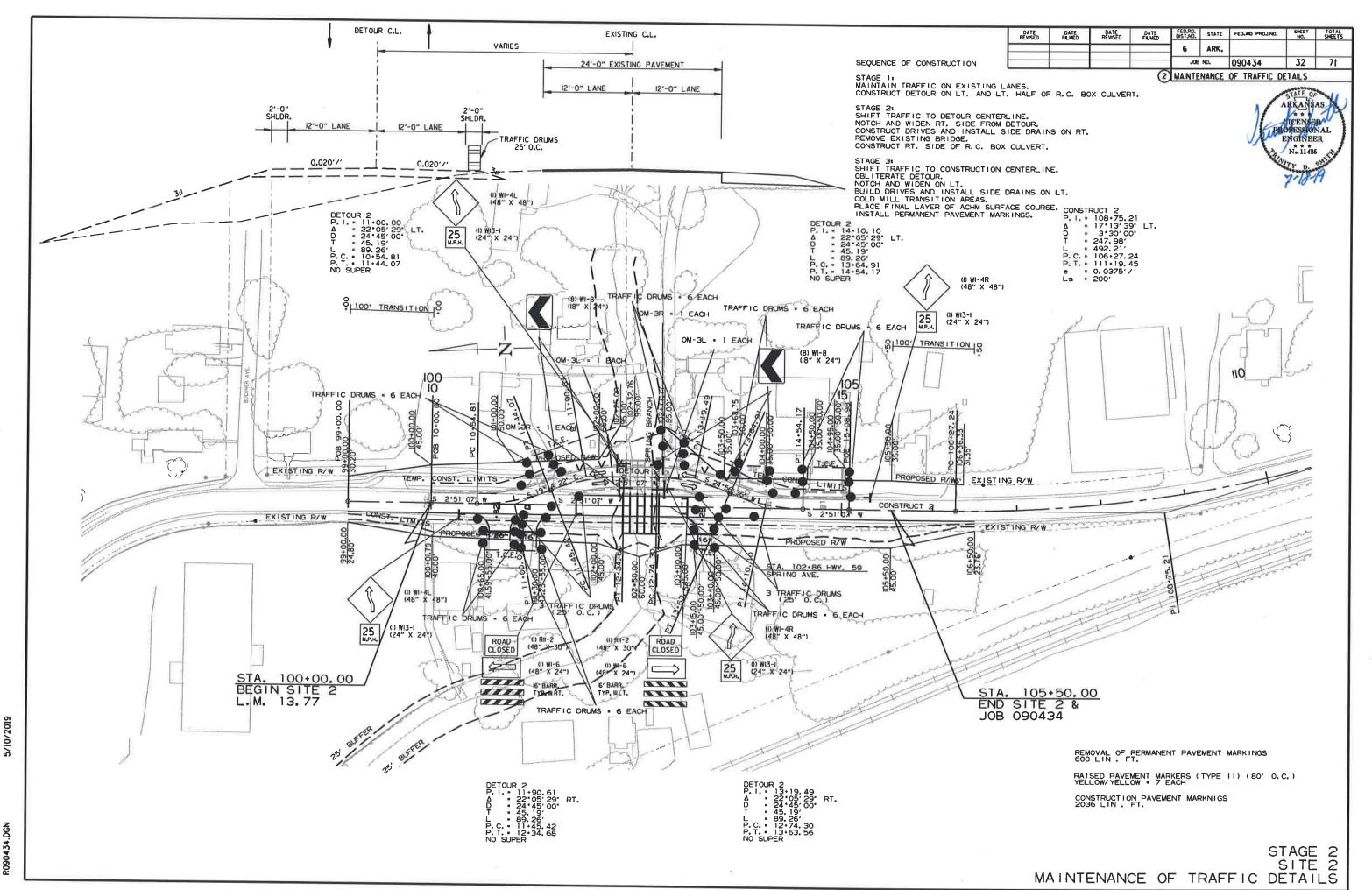


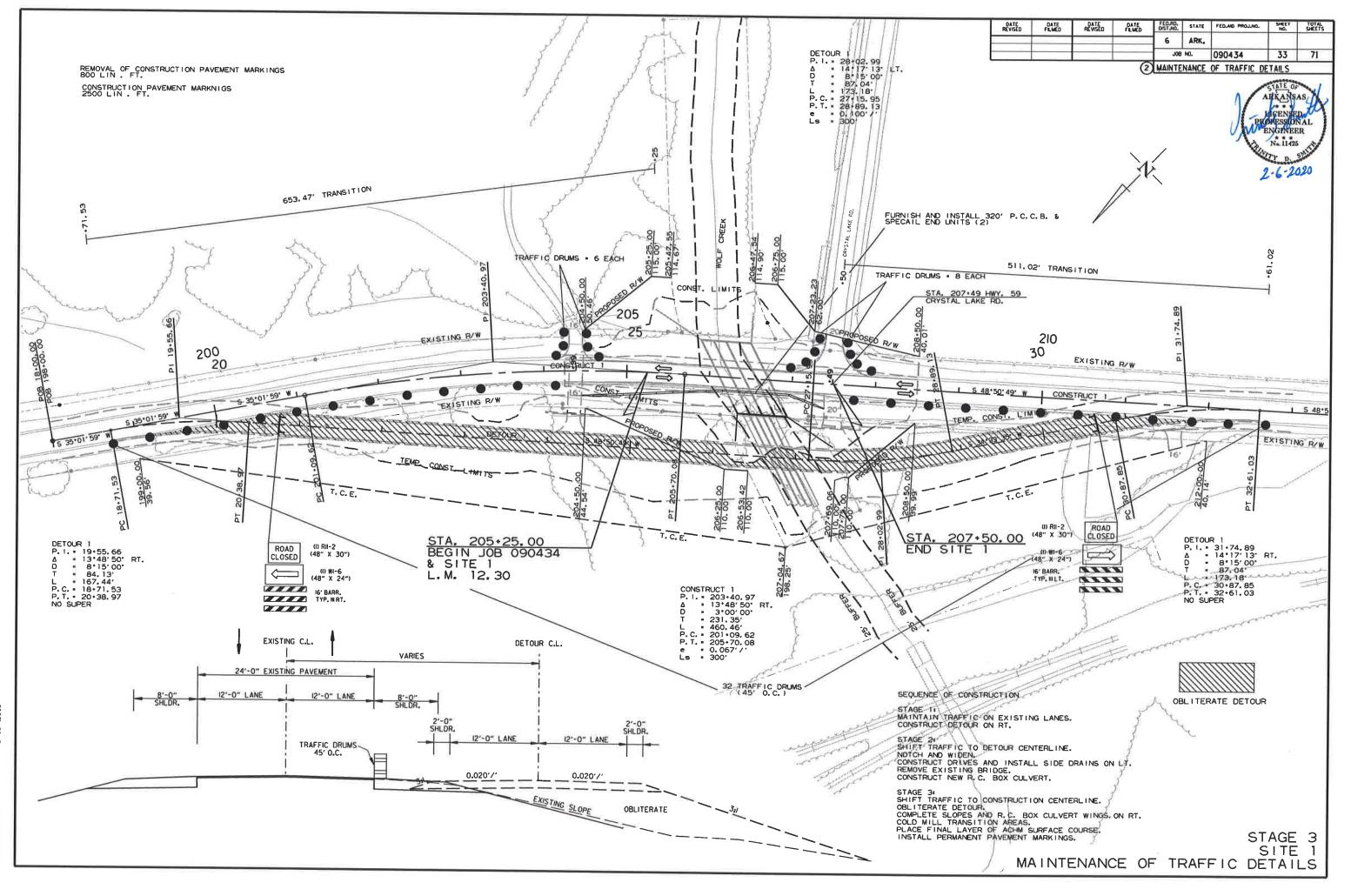
5/10/2019



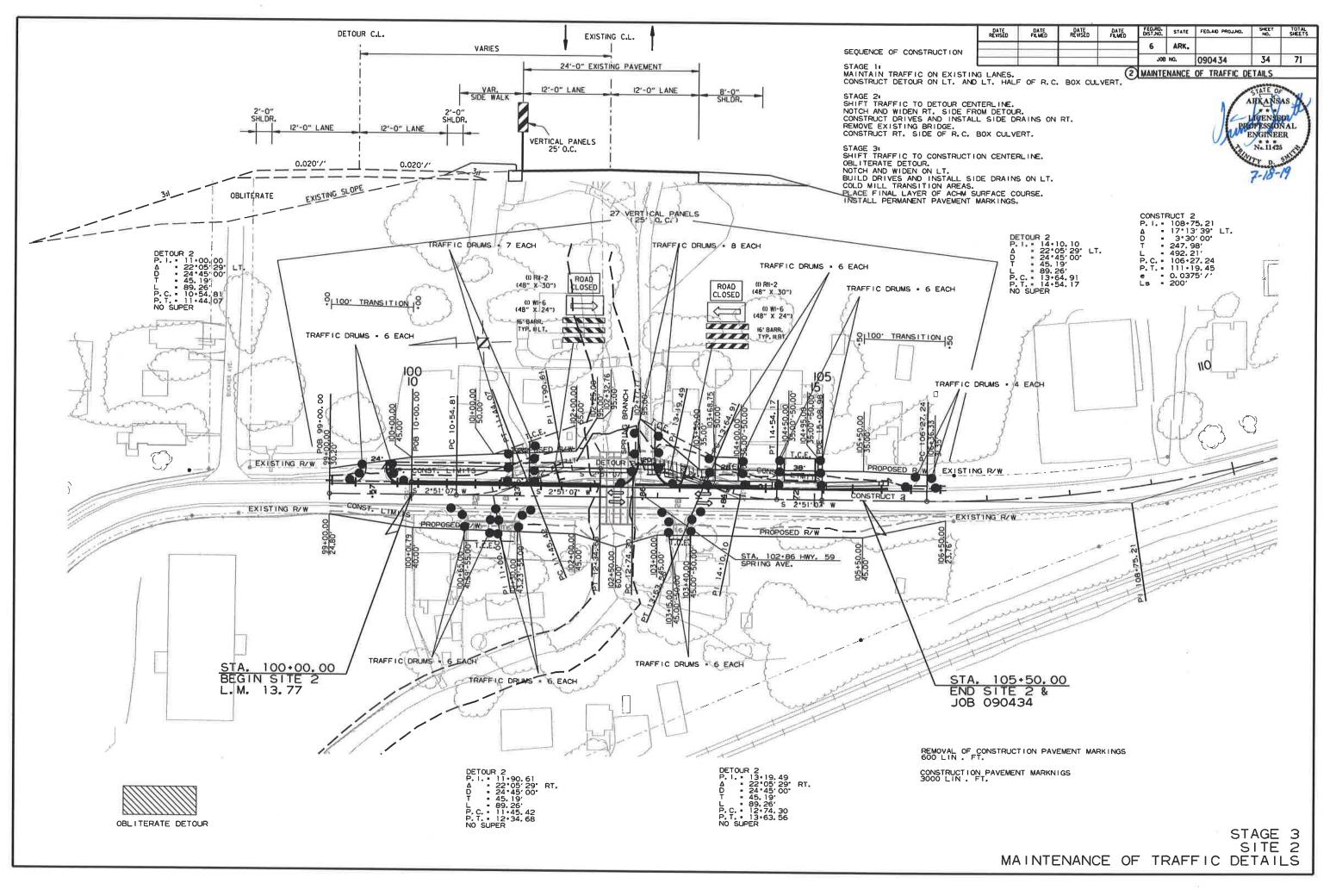


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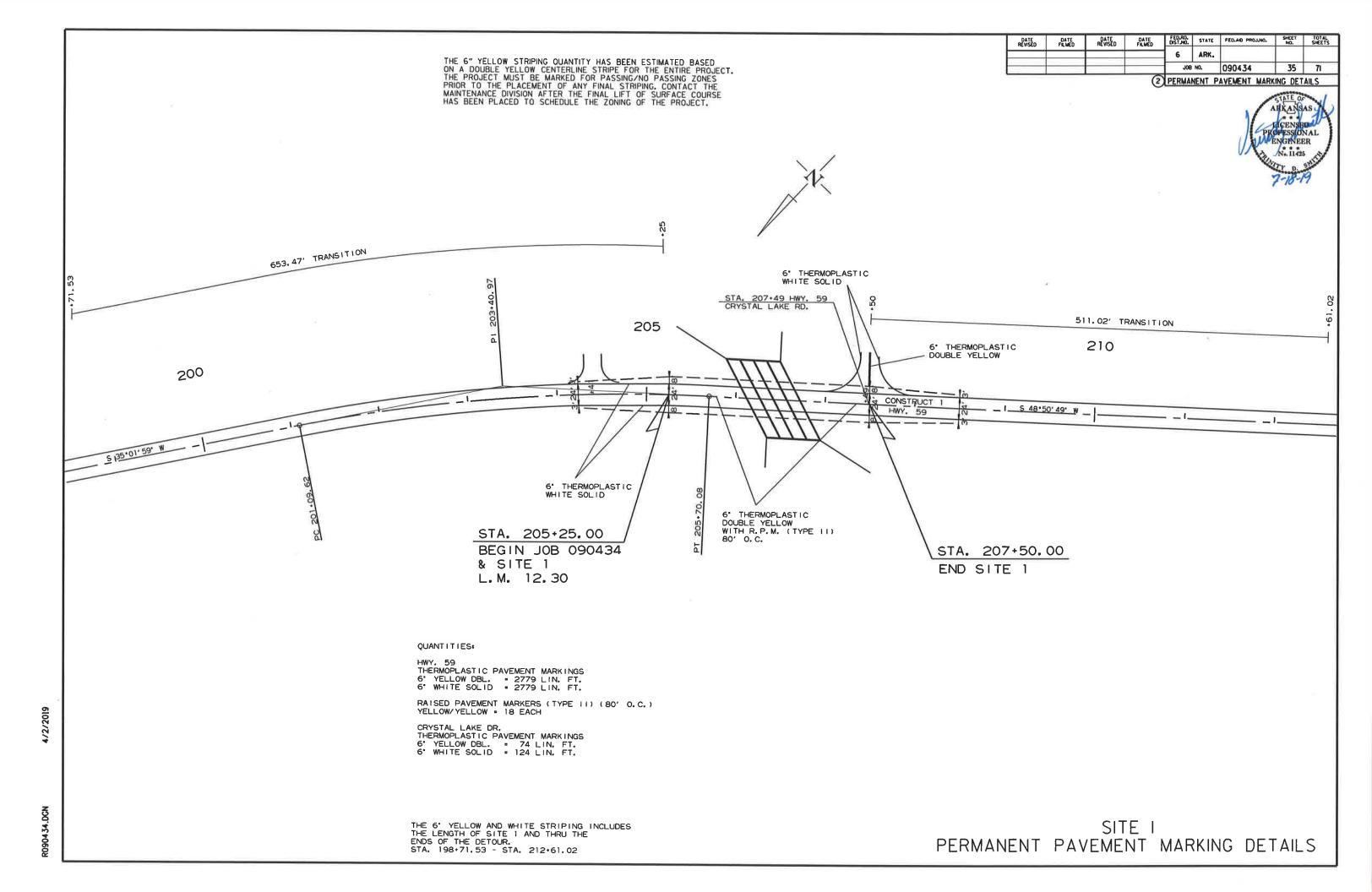




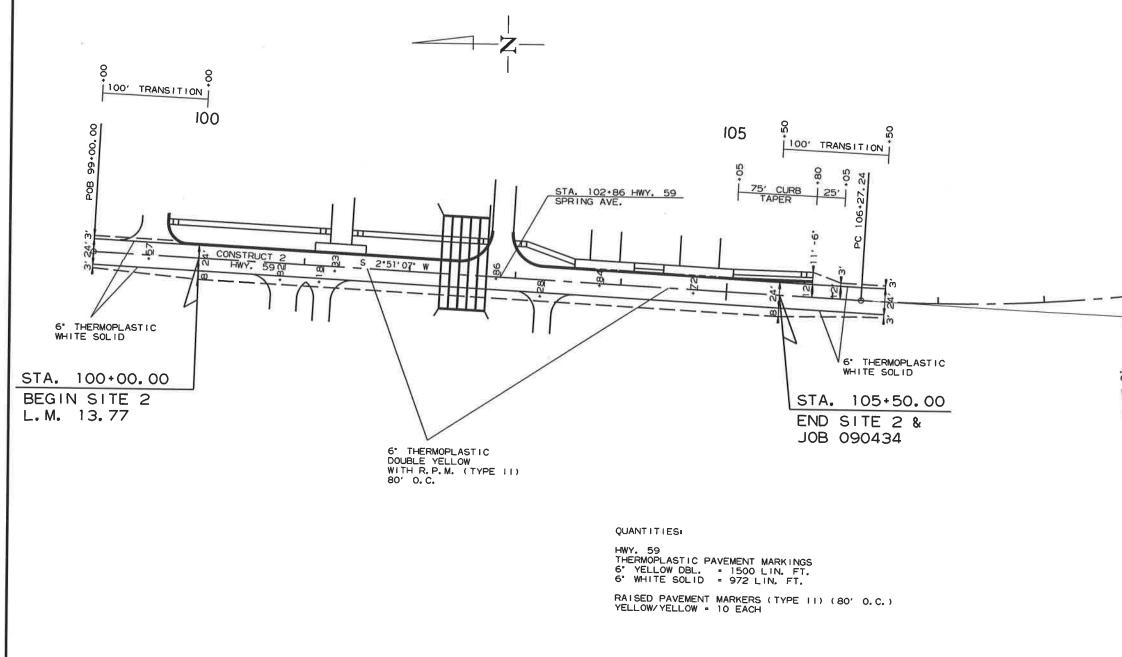
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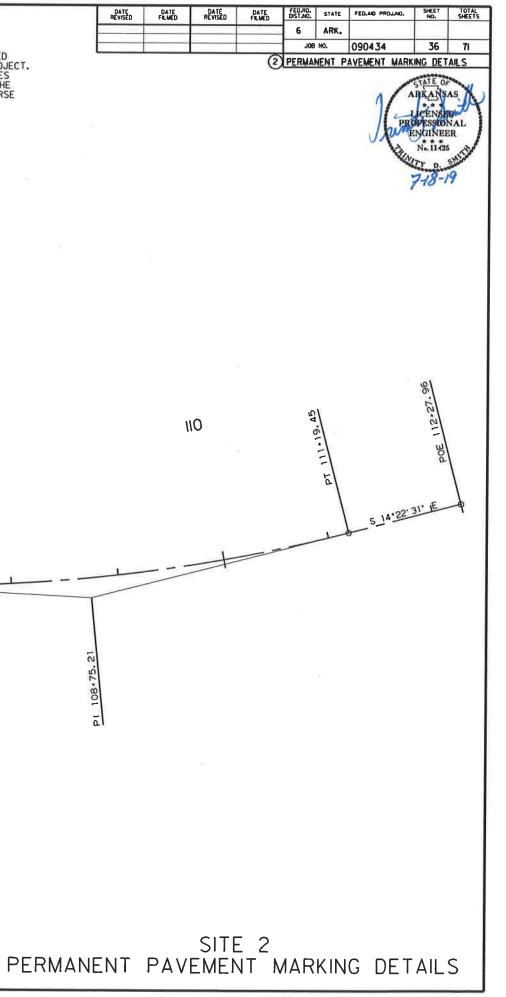
5/10/2019



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.



4/2/2019



DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT	RAISED PAVEMENT MARKERS		OPLASTIC T MARKING
					MARKINGS	MARKINGS	MARKINGS	TYPE II	6"	
		LINET	- EACH					(YELLOW/YELLOW) WHITE		YELLOW
REMOVAL OF PERMANENT PAVEMENT MARKINGS		1400	-EAGH			LIN, FT.		EACH	LIN	FT.
CONSTRUCTION PAVEMENT MARKINGS			-		1400					1
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		7594	5500			13094				
TELMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			1400				1400			
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)		25		28						
		20		20				53		
THERMOPLASTIC PAVEMENT MARKING WHITE (6")				0.0710						
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")				3875					3875	
				4353						4353
TOTALS:										
NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SE	0700100100 0711				1400	13094	1400	53	3875	4353

## CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

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.

SIGN NUMBER	DESCRIPTION	SIGN SIZE	JOB NUM		MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL TRAFFIC PANELS DRUMS		BARRICADES (TYPE III)		FURNIS INSTAI PRECAS		
				LIN. FT.	FACH							RIGHT	LEFT	BAR
W20-1 ROAD WORK	1500 FT.	48"x48"	4	Lint, P 1.	- CAGH			NO.	SQ. FT.	EA	СН		LIN. F	Т.
W20-1 ROAD WORK		48"x48"	4		4	4	4	4	64.0				· · · · · · · · · · · · · · · · · · ·	
W20-1 ROAD WORK	500 FT.	48"x48"	4	4	- 4	4	4	4	64.0					
W20-1 ROAD WORK	AHEAD	48"x48"	2	2	2	4	4	4	64.0					
G20-2 END ROAD W		48"x24"	6		<u>.</u>	2	2	2	32.0			· · · · · · · · · · · · · · · · · · ·		
W1-4R REVERSE CU		48"x48"	0	6	6	6	6	6	48.0					
W1-4L REVERSE CU		48"x48"		2			2	2	32.0					
W13-1 SPEED LIMIT		24"x24"					4	4	64.0					
R9-9 SIDEWALK CI		24 x24 24"x12"	-	6			6	6	24.0					
R11-2 ROAD CLOSE		48"x30"	2	2	2	2	2	2	4.0					
OM-3L OBJECT MAR		12"x36"		6	4		6	6	60.0					
OM-3R OBJECT MAR		12 x36" 12"x36"		4			4	4	12.0					
W1-6 LARGE ARRO		48"x24"		4			4	4	12.0					
W1-8 CHEVRONS		18"x24"		6	. 4		6	6	48.0					
R4-1 DO NOT PASS				24			24	24	72.0					
W21-5a RIGHT SHOUL		24"x30"	4	4	4	4	4	4	20.0					
HEI GU HIGHT GHOUL	DEROLOGED	36"x36"	4	4	4	4	4	4	36.0					
VERTICAL PA	NELS		26		27									
TRAFFIC DRU	MS		34	86			27			27				
			04	80	101		101				101			
TYPE III BARRI	CADE-RT. (16')		3	-										
TYPE III BARRI	CADE-I T (16')		3	3	2		3					48		
	onde en (10)		3	3	2		3						48	
FURNISHING A	ND INSTALLING PRECAST CONCRETE BARRIER													
2. · · · · · · · · · · · · · · · · · · ·	OUTSTALTE DRIVALIN													320
OTALS:														
OTE: THIS IS A LICH TOAL	FIC VOLUME ROAD AS DEFINED IN SECTION 604 03								656.0	27	101	48	48	320

### ADVANCE WARNING SIGNS AND DEVICES

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

5/8/2019

DA	TE SED	DATE	DATE REVISED	DATE	FED.AD. DIST.NO.	STATE	FED.AD PROJ.NO.	SHEET NO.	TOTAL SHEETS
	_				6	ARK.			
					J08	NO.	090434	37	71
				(2	OUANTI	TES	(	A	



### CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STA	TION
SITE 1				
199+00	212+00	HWY, 59	13	13
SITE 2				
100+00	101+00	HWY. 59	1	1
102+00	106+50		5	5
TOTALS:			19	19

### REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT
SITE 1		N. Contraction of the second se	
199+00	212+00	HWY. 59 RT.	1290
204+50	204+88	HWY. 59 LT	48
206+55	207+23	HWY. 59 LT.	89
207+86	208+50	HWY. 59 LT.	67
SITE 2			
99+00	100+68	HWY. 59 RT.	214
101+85	102+24	HWY. 59 RT	57
103+70		HWY. 59 LT.	19
TOTAL;		d	1784

## REMOVAL OF EXISTING BRIDGE STRUCTURE

STATION	STATION	LOCATION	LUMP SUM
SITE 1			
206+12	206+74	62' X 27.7' CONCRETE SLAB AND TEE BEAM BRIDGE NO. 01999	1.00
SITE 2		(SITE NO. 1)	
102+30	102+71	41' X 26.7' CONCRETE SLAB BRIDGE NO. M1057	1.00
		(SITE NO. 2)	

## **BENCH MARKS**

STATION	LOCATION	BENCH MARKS
		EACH
SITE 1		
206+42	LT. HEADWALL OF R.C. BOX CULVERT	1
SITE 2		
102+51	RT. HEADWALL OF R.C. BOX CULVERT	1
TOTAL:		2

SHALL BE FURNISHED AND PLACED BY STATE FORCES.

STATION	STATION	LOCATION	WIRE FENCE	4' CHAIN LINK	* 6' CHAIN LINK	* 16'-0"	WATER
•		Lookinok	(TYPE C)	FENCE	FENCE	GATES	GATE
			STOUTIESTS IN	LIN. FT.		EACH	EACH
SITE 1							
199+00	212+00	HWY. 59 RT.	1374			3	1
204+50	205+32	HWY. 59 LT.	104			1	-
206+55	207+23	HWY. 59 LT.	91				
207+86	208+50	HWY 59 LT.	65				
SITE 2					·		
99+00	100+03	HWY, 59 RT.			104		
100+03	100+68	HWY. 59 RT.		78	104		
101+85	102+24	HWY, 59 RT.		40			
TOTALS:			1634	118	104	4	1

			DE	LONGITUDE							1	
STATION [	L/	ΑΤΙΤΟ	DE	LO	NGII		LOCATION	DEPTH	LIQUID	PLASTICITY	AASHTO	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET	LIMIT	INDEX	CLASSIFICATION	OOLOK
101+00	36	19	57.20	94	27	30.80	6' RT.	0-5	ND	NP	A-2-4 (0)	BROWN
101+00	36	19	57.20	94	27	30.80	15' RT.	0-5	ND	NP	A-1-B (0)	BROWN
101+60	36	19	56.70	94	27	30.90	24' RT.	0-5	ND	NP	A-2-4 (0)	BROWN
104+00	36	19	54.20	94	27	30,40	6' LT.	0-5	26	6	A-1-B (0)	BROWN
203+00	36	20	57.80	94	26	53,60	6' RT.	0-5	23	6	A-4 (0)	BROWN
203+00	36	20	57.70	94	26	53.60	15'RT.	0-5	24	7	A-4 (0)	BROWN
203+00	36	20	57.70	94	26	53,70	21'RT.	0-5	30	9	A-4 (3)	BROWN
210+00	36	20	52.90	94	26	59.40	6' LT.	0-5	42	17		
210+00	36	20	52.90	94	26	59.20	15'LT	0-5	28		A-7-6 (4)	BROWN
210+00	36	20	52.90	94	26	59.20	24'LT.			13	A-6 (1)	BROWN
210+10	36	20	52.90	94	26	59.20	24 LT.	0-5	ND 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.

NP - NON-PLASTIC ND - NOT DETERMINABLE

### **4" PIPE UNDERDRAIN**

STATION STATIO		LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
ENTIRE PR	OJECT TO B	E USED IF AND	1000	5
WHERE DI	RECTED BY	THE ENGINEER		
TOTALS:			1000	5

SEE SECTION 104,03 OF THE STD. SPECS.

	MAILBOXES	MAILBOX	SUPPORTS
LOCATION	MAILBOXES	(SINGLE)	(DOUBLE)
SITE 2	5	EACH 1	2
TOTALS:	5	1	2

PAVEMENT REPAIR OVER

STATION	LOCATION	WIDTH	LENGTH	TON	
		F	ET	TON	
SITE 2			anisister		
102+86	SPRING AVENUE	7.92	34	15	
102+86	SPRING AVENUE	7.92	19	8	
TOTAL:				23	

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	DIR
1	TOT
	NOT
	SEE
	BAS
	AS
	TA



5/8/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE	FED.AD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB	NO.	090434	38	71
			0	1				

### 2 OUANTITES



STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT	
			FEET	SQ. YD.	
SITE 1					
198+71.53	204+59.03	MAIN LANES	24.00	1566.67	
204+25.00	205+25.00	MAIN LANES	24.00	266.67	
207+50.00	208+50.00	MAIN LANES	24.00	266.67	
209+23.33	212+61.02	MAIN LANES	24.00	900.51	
SITE 2					
99+00.00	100+00.00	MAIN LANES	24.00	266.67	
105+50.00	106+50.00	MAIN LANES	24.00	266.67	
TOTAL:				3533.86	

TO

NOTE: AVERAGE MILLING DEPTH 1\*. \* NOTE: AVERAGE MILLING DEPTH 6". \*\* NOTE: AVERAGE MILLING DEPTH 3".

### ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	50
DIRECTED BY THE ENGINEER	
TOTAL:	50

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

### ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT	
LOOKHON		GALLON	
NTIRE PROJECT - TO BE USED IF AND WHERE	4	8	
RECTED BY THE ENGINEER			
OTALS:	4	8	
OTE: QUANTITIES ARE ESTIMATED. EE SECTION 104.03 OF THE STD. SPECS.			

SIS OF ESTIMATE:

....50 GAL./MILE

### RUMBLE STRIPS IN ASPHALT SHOULDERS

ATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS LIN.FT.
1			
05+25	207+50	HWY. 59 LT.	180
05+25	207+50	HWY. 59 RT.	225
AL:	. <u></u>		405

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

STATION	STATION	LOCATION	CURB	RETAINING WALLS	WALKS	SIGN FOUNDATIONS	LUMINAIRE POLES	GUARDRAIL	PEDESTRIAN BRIDGE	SIGNS
			LIN. FT.	LIN. FT.	SQ. YD.	EACH	EACH	LIN. FT.	EACH	EACH
SITE 1									to an interest of the second sec	
204+69	206+19	HWY, 59 RT.						149		
205+33	206+05	HWY 59 LT						73		
206+70	207+12	HWY. 59 LT.						44		
206+82	207+56	HWY: 59 RT.						75		
SITE 2										
99+00	100+00	HWY. 59 RT		114				1 1	T	
99+45	102+26	HWY. 59 LT.			121					
99+86		HWY. 59 LT.					1			
100+25		HWY. 59 LT.					1			
100+67		HWY. 59 LT.					1			
101+08		HWY. 59 LT.								
102+09		HWY. 59 RT.				2				1
102+26	102+63	HWY. 59 LT.							4	
102+63	102+79	HWY. 59 LT.			10					
103+17	103+66	HWY, 59 LT.			29					
103+66	103+69	HWY. 59 LT.	36							
103+70		HWY. 59 LT.				2		-		
104+09	104+42	HWY. 59 LT.	50							
104+91	104+93	HWY. 59 LT.	34					-		
TOTALS:			120	114	160	4	4	341		2

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

### CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
SITE 2		COV. ( 1,	
99+69	102+76	HWY. 59 LT	342
102+96	105+80	HWY. 59 LT.	302
TOTAL:			644

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS SQ.YD.	
			LIN, FT.		
SITE 2					
99+79	101+13	HWY. 59 LT.	134	74	
101+53	102+63	HWY. 59 LT.	110	61	
103+09	103+56	HWY. 59 LT.	47	26	
104+12	104+39	HWY. 59 LT.	27	15	
105+05	105+69	HWY. 59 LT.	64	36	
TOTAL:			1	212	

		1			RIVEWAY	S & TURNO	DUTS				
STATION SIDE	LOCATION	WIDTH	**MODIFI	ED CURB	B PORTLAND CEMENT CONCRETE DRIVEWAY ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS	STANDARD DRAWINGS		
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.	
SITE 1										1	
204+39	LT,	HWY. 59 DRIVE	16				65.45	7.20	26.73	1	
207+49	LT.	CRYSTAL LAKE RD.	20				117.59	12.93	48.02		
SITE 2								12.00	40.02		
99+57	LT.	HWY. 59 DRIVE	24	1		1 1	72.10	7.93	29.44	1	
100+82	RT.	HWY. 59 DRIVE	26				72.16	7.94	29.47	36	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
101+18	RT.	HWY. 59 DRIVE	16				62.95	6.92	25.70		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
101+33	LT.	HWY. 59 DRIVE	20	101+09	101+57	42.67	89.33	9,83	36.48		100-1,1 0WF1, 1 0F-1, 10F-2, F0F-3
103+28	RT.	HWY. 59 DRIVE	16				60.64	6.67	24.76	28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
103+84	LT.	HWY. 59 DRIVE	28	103+56	104+12	49.78	89,60	9.86	36.59	20	100-1,10M-1,10F-1,10F-2,10F-3
104+72	LT.	HWY. 59 DRIVE	38	104+39	105+05	58.67	119.91	13.19	48.96	48	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
ENTIRE PROJ	ECT	TEMPORARY DRIVES							450.00		
TOTALS:						151.12	749.73	82.47	756.15	140	

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

\*\* FOR INFORMATION ONLY

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.

			UNCLASSIFIED	COMPACTED	* SOIL
STATION	STATION	LOCATION / DESCRIPTION	EXCAVATION	EMBANKMENT	STABILIZATION
			CU.	YD,	TON
ENTIRE	PROJECT	SITE 1 STAGE 1	1164	17214	
ENTIRE	PROJECT	SITE 1 STAGE 2	684	3341	
ENTIRE	PROJECT	SITE 1 STAGE 3	18471	1416	
ENTIRE	PROJECT	SITE 2 STAGE 1	417	202	
ENTIRE	PROJECT	SITE 2 STAGE 2	140	713	
ENTIRE	PROJECT	SITE 2 STAGE 3	344	1146	
ENTIRE	PROJECT	APPROACHES		290	
ENTIRE	PROJECT	TEMPORARY APPROACHES	20	1225	
102+51		CHANNEL CHANGE	579		
206+42		CHANNEL CHANGE	1628		
ENTIRE	PROJECT	TO BE USED IF AND WHERE			100
		DIRECTED BY THE ENGINEER			
OTALS:	l		23447	25547	100

SEE SECTION 104.03 OF THE STD. SPECS.

STATION	LOCATION	TYPE 3	
		SQ.YD.	
99+74	HWY. 59 LT.	5.6	
101+18	HWY. 59 LT.	5.6	
101+48	HWY. 59 LT.	5.6	
102+68	HWY. 59 LT.	6.1	
103+04	HWY. 59 LT.	6.1	
105+74	HWY. 59 LT.	6.1	

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
SITE 1							
205+25.00	205+31.00	HWY. 59 LT.	6.00	6.00	4.00	2.67	0.03
205+86.00	206+36.00	HWY. 59 RT.	50.00	6.00	33.33	22.22	0.28
206+48.00	206+98.00	HWY. 59 LT.	50.00	6.00	33.33	22.22	0.28
207+54.00	208+04.00	HWY. 59 RT.	50.00	6.00	33,33	22.22	0.28
SITE 2							
102+00.00	102+23.00	HWY. 59 RT.	23.00	4.00	10.22	10.22	0.13
102+00.00	102+23.00	HWY. 59 LT.	23.00	6.00	15.33	10.22	0.13
102+79.00	103+00.00	HWY. 59 RT.	21.00	6.00	14.00	9.33	0,12
TOTALS:					143.54	99,10	1.25

WATER	12.6	GAL.	/SQ.	YD.	. C

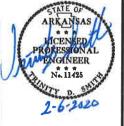
STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
ENTIRE PRO	JECT TO BE USE	ED IF AND WHERE DIRECTED	500.00	444.44
BY THE ENG	NEER			
TOTAL:	II_			444.44

PIPE BEDDI
CU.YI
40
40

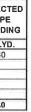
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.40 PROJ.NO.	SHEET NO.	SHEETS
				6	ARK.			
				JOB	NO.	090434	39	71
			6	Nouth T				

2 OUANTITES

### EARTHWORK



OF SOLID SODDING.



				STRUCT	URES													
STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS V)	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2	FLARED END SECTIONS FOR R.C. PIPE CULVERTS		ORARY ERTS	DF		ETS	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-	REINF. STEEL-	UNCL.EXC. FOR STR	SOLID	WATER	
		18"	18"	16"	18"	72"		MO 4					ROADWAY	ROADWAY (GRADE 60)	ROADWAY	SODDING		STD. DWG. NOS.
SITE 1			N. FT.	EACH	LIN.	.FT.		EACH			LIN, FT.		CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL.	
24+29	INSTALL TEMPORARY PIPE CULVERT ON LT.			1	_								- COMP.	1 00110	00.10.	56.15.	MLO/IL.	
26+81	OUINT 72" X 124' 40° RT EWD SKEW/TEMP PIPE CUI VEDT				68								1				-	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
27+42	QUINT, 72" X 124' 40° RT. FWD. SKEW TEMP. PIPE CULVERT INSTALL TEMPORARY PIPE CULVERT ON LT.					710												PCC-1, PCM-1
SITE 2					68													PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
100+00	CONSTRUCT DI ON LT. W/PIPE OUTLET	1	1	1														recent remain rer-1, rer-2, rer-3
102+51	CONSTRUCT DI ON LT. ON TOP OF R.C. BOX CULVERT		228					1	11		1				1 7			FPC-9E, FPC-9M, PCC-1, PCM-1
102+86	INSTALL R.C. PIPE CULVERT WITH FES ON LT.	30					1			-								FPC-9, FPC-9E
104+25	CONSTRUCT DI ON LT. W/PIPE OUTLET WITH OPENING IN BACK															5	0.06	PCC-1, FES-1, FES-2
11+44	INSTALL TEMPORARY PIPE CULVERT ON LT.		152					1 1									0.00	FPC-9E, FPC-9M, PCC-1, PCM-1
12+89	INSTALL TEMPORARY PIPE CULVERT ON LT.				34								· · · · · · · · · · · · · · · · · · ·					PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
13+80	INSTALL TEMPORARY PIPE CULVERTON LT.				34					_								PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
14+81	INSTALL TEMPORARY PIPE CULVERT ON LT.				46													PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
SUBTOTAL	S:	30			54													PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
		30	380	1	304	710	1	2 1	1			h				5	0.06	FOO-1, FOM-1, FOF-1, FOF-2, FOF-3
SITE 1				STRUCTURES OVE	R 20' - 0" S	SPAN										5	0.00	
206+42	CONSTRUCT QUAD, R.C. BOX CULVERT ON 30° RT. EWD, SKEW W/3:1 WINGS LT & RT.	1	r															
SITE 2	AND THOSE BUTTLE DAY COLVENINGS OF TWO SKEW WOT WINGS LT & RT.									12	11	99	670.14	82332	258	60	0.76	SPECIAL DETAILS, RCB-1, RCB-2
102+51	CONSTRUCT QUINT. R.C. BOX CULVERT W/3:1 WINGS LT. AND 2:1 WINGS RT.												07,07,14	02002	200	00	0.70	SPECIAL DETALS, ROB-1, ROB-2
SUBTOTAL	S:									8	4	88	298.51	38584	123	29	0.37	SPECIAL DETAILS, RCB-1, RCB-2
TOTALS:		30											968.65	120916	381	89	1.13	OF COME DE IMES, RGB-1, RGB-2
BASIS OF E	STMATE		380	1	304	710	1	2 4	4				968.65	120916	381	94	1.19	

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.

	1	1					ERO	SION CON	TROL									
				P	ERMANENTE	ROSION CON	TROL						TEMPORARY	EROSION CON	TROI			
STATION	STATION	LOCATION	SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	DROP INLET	1	SEDIMENT BASIN	OBLITERATION OF SEDIMENT	*SEDIMENT REMOVAL
			ACRE	TON	ACRE	HON						(E-5)	(E-6)	(E-7)	(E-11)	(E-14)	BASIN	DISPOSAL
SITE 1			AUNE	TON	ACKE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING		-	Т		1						10 C					1
ENTIRE	PROJECT	STAGE 1							4.30	4.30	87.7	198	27		2043	463	463	557
ENTIRE	PROJECT		0.64	1.00					1.30	1.30	26.5	264	33			296	296	319
ENTIRE	PROJECT		2.00	1.28	0.64	65.3	0.64					44				200	200	210
SITE 2		o marca	2.00	4.00	2.00	204.0	2.00						1			296	296	296
ENTIRE	PROJECT	CLEARING AND GRUBBING	1											-		2.00	200	1 230
ENTIRE	and the second								1.21	1.21	24.7	44	6		1221		1	54
ENTIRE	PROJECT				1.000				0.22	0.22	4.5	22	6		140			54
ENTIRE	PROJECT	STAGE 3	0.23	0.46	0.23	23.5	0.23					44	6		94			2
Let VI II Me	TROJECT	ISTAGE S	0.47	0.94	0.47	69.4	0.47	1703				22	3	75	34			3
ENTIRE PRO	FOT TO BE	USED IF AND WHERE DIRECTED BY THE ENGINEER.											, , , , , , , , , , , , , , , , , , ,	1.5				3
LINING THO	I	USED IF AND WHERE DIRECTED BY THE ENGINEER.	1.66	3.32	1.66	173.1	1.66	297	0.97	0.97	19,8	88	15	25	700	100	400	100
TOTALS:								6 6					10	20	/00	100	100	136
BASIS OF ES	TIMA TE-		5.00	10.00	5.00	535.3	5.00	2000	8.00	8.00	163,2	726	96	100	4198	1155	1155	1375

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 WATER \_\_\_\_\_20.4 M.G. / ACRE OF TEMPORARY SEEDING WATER \_\_\_\_\_20.4 M.G. / ACRE OF SOLID SODDING 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.

R090434.DGN

5/8/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				J08	NO.	090434	40	71

(2) OUANTITIES

INEEF No. 11425

			LENGTH		ATE BASE (CLASS 7)				TACK COAT					ACHM BASE C	AND SURF		I			_						
STATION	STATION	LOCATION	LENGIN	TON /			5 GAL. PER S	Q. YD.)	(0.17	GAL PER S	Q. YD.)					r		CHM BINDE	R COURSE (	1") 					A	CHN
			FEET	STATION	TON	TOTAL WIL	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 /	PG 64-22	AVG. WID.	SQ.YD,	POUND /	PG 64-22	PG 70-22	A
SITE	LANES					1 1 1 1 1 1			I FEEI				FEET	1	302.10.	TON	FEET	·	SQ.YD.	TON	FEET	002.10,	SQ.YD.	TON	TON	+-
		HWY, 59 OVERLAY	553.47		-				-							_					_					-
04+25.00	205+25.00	HWY. 59 TRANSITION	100,00	100,00	100.00				30.00	1844.90	313,63	313.63				1			1		1					-
05+25.00	205+82.85	HWY, 59 OVERLAY, NOTCH AND WIDEN	57.85	200.00	115,70	24.00	154.27	7.71	24.00	266.67	45.33	45.33			1											+-
		HWY, 59 FULL DEPTH HWY, 59 OVERLAY, NOTCH AND WIDEN	117.59	293,25	344,83	73,45	959.80	47.99				47.99	24.75	323.37	440.00	71.14										1
	208+50.00	HWY. 59 TRANSITION	49.56	200,00	99.12	24.00	132.16	6,61				6.61	8.717.0	.945.57	440.00	11.14	24.46	319.58	330.00	52.73	24.25	318.84	220.00	34,85		
08+50.00	212+61.02	HWY. 59 OVERLAY	411.02	100.00	100.00				24.00	266.67	45.33	45,33		1					-						<u> </u>	+-
SITE	2								30.00	1370.07	232.91	232.91														+
00:00+00		HWY. 59 TRANSITION HWY. 59 OVERLAY, NOTCH AND WIDEN	100.00	50,00	50.00			1	24.00	266.67	45.33	45.33							-	<u> </u>			·			
01+80.00	102+12 19	HWY, 59 FULL DEPTH WITH GRADE RAISE	180.00	100.00	180.00	24.00	480.00	24.00				24.00								·						
02+12.19	102+91.24	HWY. 59 FULL DEPTH	79.05	203.00	32,19	72.73	260.13 638.81	13.01				13.01	26.88	96,14	440.00	21.15	24.23	86.66	330.00	14.30	24.13	86.30	000.00			+-
02+91.24		HWY. 59 FULL DEPTH WITH GRADE RAISE	128.76	100.00	128.76	72.73	1040.52	31,94				31.94	26.88	236.10	440.00	51.94	24.23	212.82	330.00	35.12	24.13	211.94	220.00		9.49 23.31	
04+20.00	105+50.00	HWY. 59 OVERLAY, NOTCH AND WIDEN	130,00	100,00	130.00	24.00	346.67	17.33				52.03 17.33	26.88	384.56	440.00	84.60	24.23	346,65	330.00	57.20	24.13	345.22	220.00		37.97	-
02+86.00	108+50.00	HWY 59 TRANSITION SPRING AVE	100.00	50.00	50.00				24.00	266.67	45.33	45.33														
ADD	TIONAL FOR		78.00	VAR	61.25	VAR	477,96	23.90	VAR.	51.33	8.73	32.63	VAR.	175,32	440.00	38.57	VAR.	161.48	330.00	26.64	VAR	100.00				
SITE																		101.60	530,00	20.04	VAR 1	155,00	220.00		17.05	_
05+25.00	205+82.85	HWY. 59	57.85			1	1	r	24.00	154.27	26.23	26.23														
SITE	207+50.00	HWY, 59	49.56						24.00	132.16	22.47	20.23					· · · · · · · · · · · · · · · · · · ·									E
	101+80.00	HWY 59	180.00						1			66.71							N			_				
04+20.00	105+50.00	HWY 59	130,00						24.00	480.00	81.60	81.60					1		1				r			-
		GRADE RAISE			_		1	I	24.00	346,67	58.93	58.93													L	-
SITE													_													-
05+25.00	204+89.03	HWY 59 MAIN LANES RAISE FOR DETOUR	617.50 57,85						30.00	2058,33	349.92	349.92														_
07+00.44	207+50.00	HWY, 59	49.56			48.71 24.25	313.10	15.66		and the second second		15.66					24.46	157.22	VAR	38.13	30.00	2058.33	VAR.	339.62	L	
09+23.33	212+61.02	HWY, 59 MAIN LANES RAISE FOR DETOUR	337.69			24.23	133.54	6.68	30.00	1100 00		6.68					21.70	101.44	VAR	30.13	24.25	155.87 133.54	VAR. VAR	17.15	I	–
SITE									30.00	1125.63	191.36	191.36									30.00	1125.63	VAR	123.82		
	102+12.19 105+50.00		212.19			72.74	1714.97	85.75			T	85.75	26.88	337,49	VAR.	129.93				-						<u> </u>
ADDI	TIONAL FOR	SUPERELEVATION	258,76			72.74	2091.36	104.57				104.57	26.88	623 50	VAR.	291,49	24.23	368.83	VAR.	60.86 92.73	24.13	568.90	VAR		62.58	
SITE 1	r				_						_			1			A.4.6.0	002,03	VAR	92.73	24.13	693.76	VAR.		76.31	<u> </u>
04+25.00	205+25.00	HWY, 59	100.00	51.19	51.19				Г	_																
SITE 1	207+98.13 I DETOUR	HWY, 59	273.13	45.38	123.95							-	_							14			1			<b>—</b>
	28+02.54	HWY 59	185.95		0.40								_									_	n -			
8+02.54	29+88.49	HWY 59	185.95	1,50	2.79												1									-
ADDIT SITE 1	TIONAL FOR I	DETOUR		1.000 1.	- A.I.e				I																	-
		NOTCH AND WIDEN											-	_												<u></u>
		FULL DEPTH	203.27	VAR	128.55	VAR.	195.67	9,78	6/			9.78		1			VAR	105 83								
	32+61.03	NOTCH AND WIDEN	979.55 206.68	154.50 VAR	1513,40 133,63	24.33 VAR	2648.05	132.40				132.40					24.33	195.67 2648.05	440.00	43.05						$\square$
SITE 2			2.00.00	VAIC 1	100,00	VAR	206,56	10.33				10.33					VAR	206,56	440.00	45.44						-
		NOTCH AND WIDEN	169.79	VAR	89.48	VAR	116 22	5.81			i i	5.04	_											/	· · · · · · · · · · · · · · · · · · ·	<u>k</u>
		FULL DEPTH NOTCH AND WIDEN	170.59	154.50	263.56	24.33	461.16	23.06				5.81 23.06					VAR.	116.22	440.00	25.57						<u></u>
TALS:	13*00.90	NOTCH AND WIDEN	168.60	VAR.	89.70 3951.36	VAR	117.68	5.88				5.88					24.33 VAR	461.16	440.00	101.46						
SIS OF EST					3951.36		12488.61	624,44	· · · · · · · · · · · · · · · · · · ·	8630.04	1467.10	2091.54		2176,48		688.82	YAN.		440.00	25.89		5851.33		530.13	226.71	1
		(1/2")																5960.59		1201.69						

			LENGTH	PORTLAND CEMEN	T CONCRETE BASE
STATION	STATION	LOCATION	LENGTH	AVG. WID.	10" U.T.
			FEET	FEET	SQ. YD.
99+70.00	101+80.00	HWY. 59 LT.	210.00	2.50	58.33
104+20.00	105+05.00	HWY. 59 LT	85.00	2.50	23.61
105+05.00	105+80.00	HWY. 59 LT.	75.00	4.00	33.33
OTAL:					115.27

FILMED	DATE REVISED	DATE	DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET	TOTAL SHEETS
			6	ARK.			
			J08	NO.	090434	41	71
				6 	6 ARK. JOB NO.	6 АRК. Job NO. 090434	6 ARK.

(2)	OUAN	TI	TI	E:	S
~		-	_	-	

STATE ( ARKANSA 19

> GINEER No. 11425

		AC	HM SURFACI	COURSE (1	/2")				
1	PG 64-22	PG 70-22	AVG. WID.	SQ.YD.	POUND /	PG 64-22	PG 70-22	TOTAL PG 64-22	TOTAL PG 70-22
·	TON	TON	FEET		SQ.YD.	TON	TON	TON	TON
				_	•				
			30.00	1844.90	220.00	202.94		202.94	
	<u>7</u> 4	-	35.00	388.89	220.00	42.78		42.78	
			40.00	257.11	220.00	28.28		28.28	
	34.85		40.00	522.62	220.00	57.49		92.34	
_			40.00	220,27.	220.00	24.23		24.23	
-			35.00	388.89	220.00	42.78		42.78	
-			30.00	1370,07	220.00	150.71		150.71	_
			31.00	344.44	220.00		37,89		37.89
	1		32.00	640.00	220.00		70.40		70,40
		9.49	32.00	114.45	220.00		12.59		22.08
		23.31	32.00	281,07	220,00		30.92		54.23
		37.97	32.00	457.81	220.00		50.36		88,33
_			32.00	462.22	220.00		50,84		50,84
-		17.05	31.00	344.44	220.00		37.89		37,89
_		17.05	VAR	206.33	220.00		22,70		39,75
-			24.00	154.27	220,00	16.97	·	16.97	S
-			24,00	132.16	220.00	14.54		14.54	
T	1		24.00	480.00	220.00		52.80		52 80
			24,00	346,67	220.00		38.13		38.13
_	_	_				0		2	
	339.62							339.62	
-	17.15							17.15	_
	14.69							14.69	
	123.82							123.82	
-		62.58			î	(	2		62.58
_	l	76.31							76,31
-						_			
Т	1					1			
_									
+		-				()			
-									
								_	
T			VAR.	251.11	220.00	27.62		27.62	
1			28,00	3047.49	220.00	335.22		335.22	
Ц,			VAR.	262.00	220.00	28.82		28.82	
T			VAR	154.00	220.00	16.04		16.04	
+			28.00	154.00 530.72	220.00	16.94 58.38	i i i	16.94 58.38	
			VAR.	155.44	220.00	17.10		17.10	
- 14									

ITEM NUMBER	ІТЕМ	QUANTITY	UNI
201	CLEARING		
201	GRUBBING	19	STAT
202	REMOVAL AND DISPOSAL OF CURB REMOVAL AND DISPOSAL OF FENCE	120	LIN, F
202	REMOVAL AND DISPOSAL OF RETAINING WALLS	1784	LIN, F
202	REMOVAL AND DISPOSAL OF WALKS REMOVAL AND DISPOSAL OF PEDESTRIAN BRIDGE	160	SQ. Y
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS	4	EAC
202	REMOVAL AND DISPOSAL OF GUARDRAIL REMOVAL AND DISPOSAL OF LUMINAIRE POLES	341	LIN, F
202	REMOVAL AND DISPOSAL OF SIGNS	4	EAC
SS & 210 210	UNCLASSIFIED EXCAVATION COMPACTED EMBANKMENT	2 23447	EAC CU. Y
SP & 210	SOIL STABLIZATION	25547	CU.Y
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	100 4708	TO
309 SS & 401	PORTLAND CEMENT CONCRETE BASE (10" UNIFORM THICKNESS) TACK COAT	115	SQ.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	2100	GA
SP, SS, & 405 SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2") MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	28	TO
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1*)	1148	TO
SP, SS, & 407	MINERAL AGGREGATE IN ACHIM SURFACE COURSE (1/2")	54 2182	TO
SP, SS, & 407 SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2") ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	92	TO
412	COLD MILLING ASPHALT PAVEMENT	35	TOP
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	3534	SQ. Y
SP, SS, & 415 SS & 505	ACHM PATCHING OF EXISTING ROADWAY PORTLAND CEMENT CONCRETE DRIVEWAY	50	TON
601	MOBILIZATION	151.12	SQ. Y
	FURNISHING FIELD OFFICE MAINTENANCE OF TRAFFIC	1.00	EAC
603	18° TEMPORARY CULVERT	1.00	LUMP S
	72" TEMPORARY CULVERT	304 710	LIN, F
	SIGNS BARRICADES	656	SQ.F
SS & 604	TRAFFIC DRUMS	96	LIN, F
SS & 604 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	101 320	EAC LIN. F
	CONSTRUCTION PAVEMENT MARKINGS REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	13094	LIN, F
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	1400	LIN. F
	VERTICAL PANELS CONCRETE DITCH PAVING (TYPE B)	27	EAC
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	144	SQ. Y
606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	380	LIN, F
606 SP, SS, & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS V) 18" SIDE DRAIN 18" SIDE DRAIN	30	LIN, F
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	140	LIN, F
606	SELECTED PIPE BEDDING	40	EAC CU. Y
	DROP INLETS (TYPE C) DROP INLETS (TYPE MO)	1	EAC
SS & 609	DROP INLET EXTENSIONS (4')	2	EAC
	DROP INLET EXTENSIONS (8') I" PIPE UNDERDRAINS	1	EAC
SS & 611	JNDERDRAIN OUTLET PROTECTORS	1000	LIN. F
615 I 619 V	PAVEMENT REPAIR OVER CULVERTS (ASPHALT) WIRE FENCE (TYPE C)	5 23	EAC
	VATER GATE	1634	LIN. F
619 4	STEEL CHAIN LINK FENCE (ALTERNATE NO. 1)	1 118	EACH LIN. F
	ALTERNATE NO. 2) (ALTERNATE NO. 2)	118	LIN. F
619 6	ALLIMINIM CHANNELINE CENTER (ALTERNATE NO. 1)	104	LIN, F
619 1	6'STEEL GATES	4	LIN. F
	6'ALUMINUM GATES (ALTERNATE NO. 1) IME (ALTERNATE NO. 2)	4	EACH
620 5	EEDING	10	TON
	MULCH COVER VATER	5.00	ACRE
	EMPORARY SEEDING	700.9	M. GAI
	ILT FENCE	8.00	ACRE
	AND BAG DITCH CHECKS PROP INLET SILT FENCE	726	BAG
621 S	EDMENTBASIN	100	LIN, F
	BLITERATION OF SEDIMENT BASIN EDIMENT REMOVAL AND DISPOSAL	1155	CU. YE
	CONTROL AND DISPOSAL	1375	CU. YE
623 S	ECOND SEEDING APPLICATION	96 5.00	CU. YE
	OLID SODDING ROSION CONTROL MATTING (CLASS 3)	2193	SQ. YE
SS & 633 C	ONCRETE WALKS	444 212	SQ YD
SS & 634 C 635 R	ONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6") OADWAY CONSTRUCTION CONTROL	644	SQ. YE
	ALBOXES		LUMP SI
637 N	AILBOX SUPPORTS (SINGLE)	5	EACH EACH
637 M 641 V	AILBOX SUPPORTS (DOUBLE) HEELCHAIR RAMPS (TYPE 3)	2	EACH
642 R	UMBLE STRIPS IN ASPHALT SHOULDERS	35	SQ. YD
719 T	HERMOPLASTIC PAVEMENT MARKING WHITE (6")	405 3875	LIN, FT
	HERMOPLASTIC PAVEMENT MARKING YELLOW (6") AISED PAVEMENT MARKERS (TYPE II)	4353	LIN. FT
		53	EACH
	STRUCTURES OVER 20' SPAN		
205 R 205 R	EMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1) EMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)		UMP SU
801 U	MOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2) VGLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	1.00 L	UMP SU
SS & 802 C	LASS S CONCRETE-ROADWAY EINFORCING STEEL-ROADWAY (GRADE 60)	381 968.65	CU. YD
SS & 804 R			

DATE	REVISION	SHEET NUMBE

\* DENOTES ALTERNATE BID ITEMS.

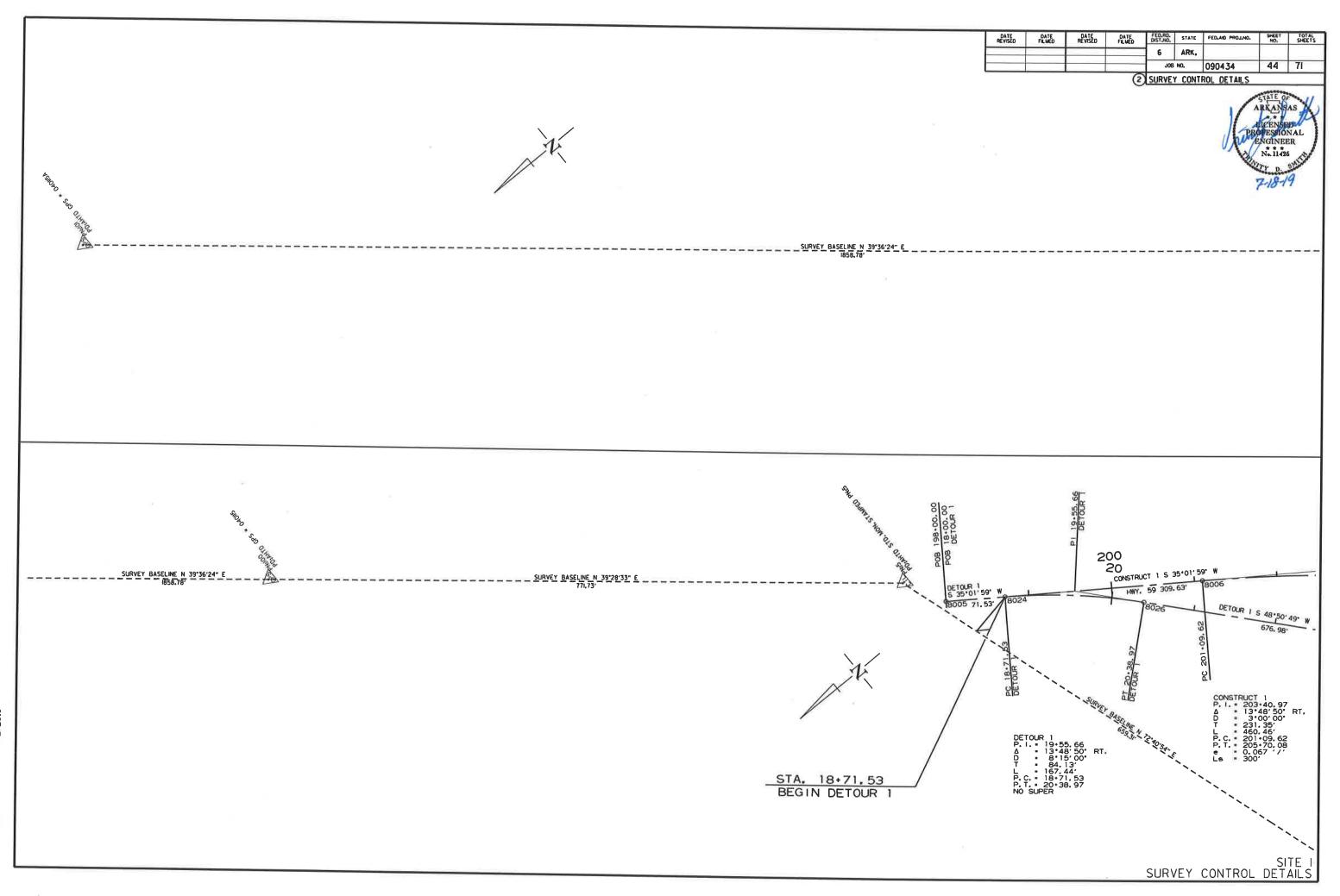
DATE REVISED	DATE	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJJNO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB	NO.	090434	42	71
			(2)	SUMMA	RY OF	OUANTITIES AN	D REVISI	ONS

ARKANSAS LICENSED PROFESSIONAL ENGINEER N. 11425 MITY 2-21-2020

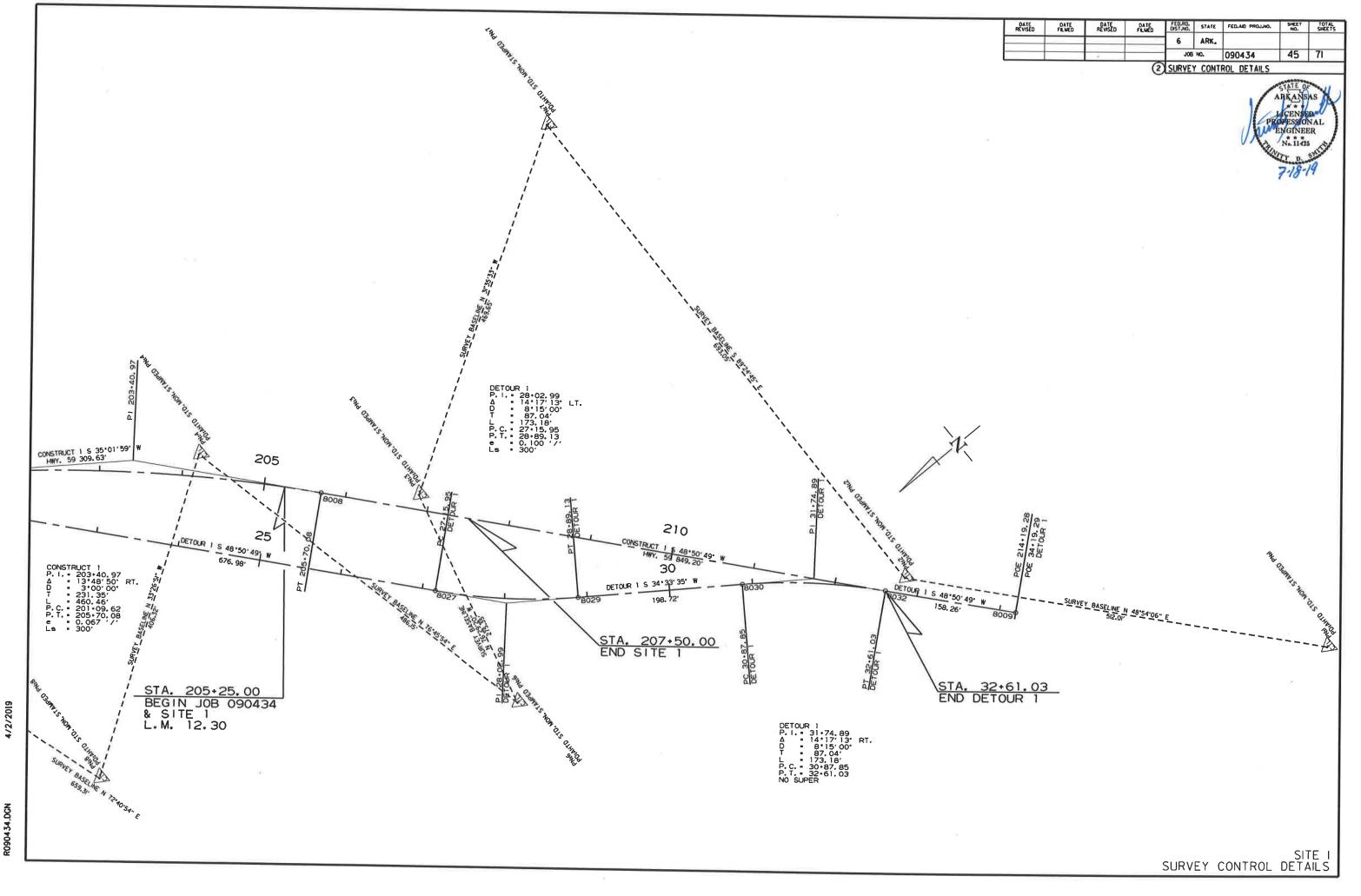
# SUMMARY OF QUANTITIES AND REVISIONS

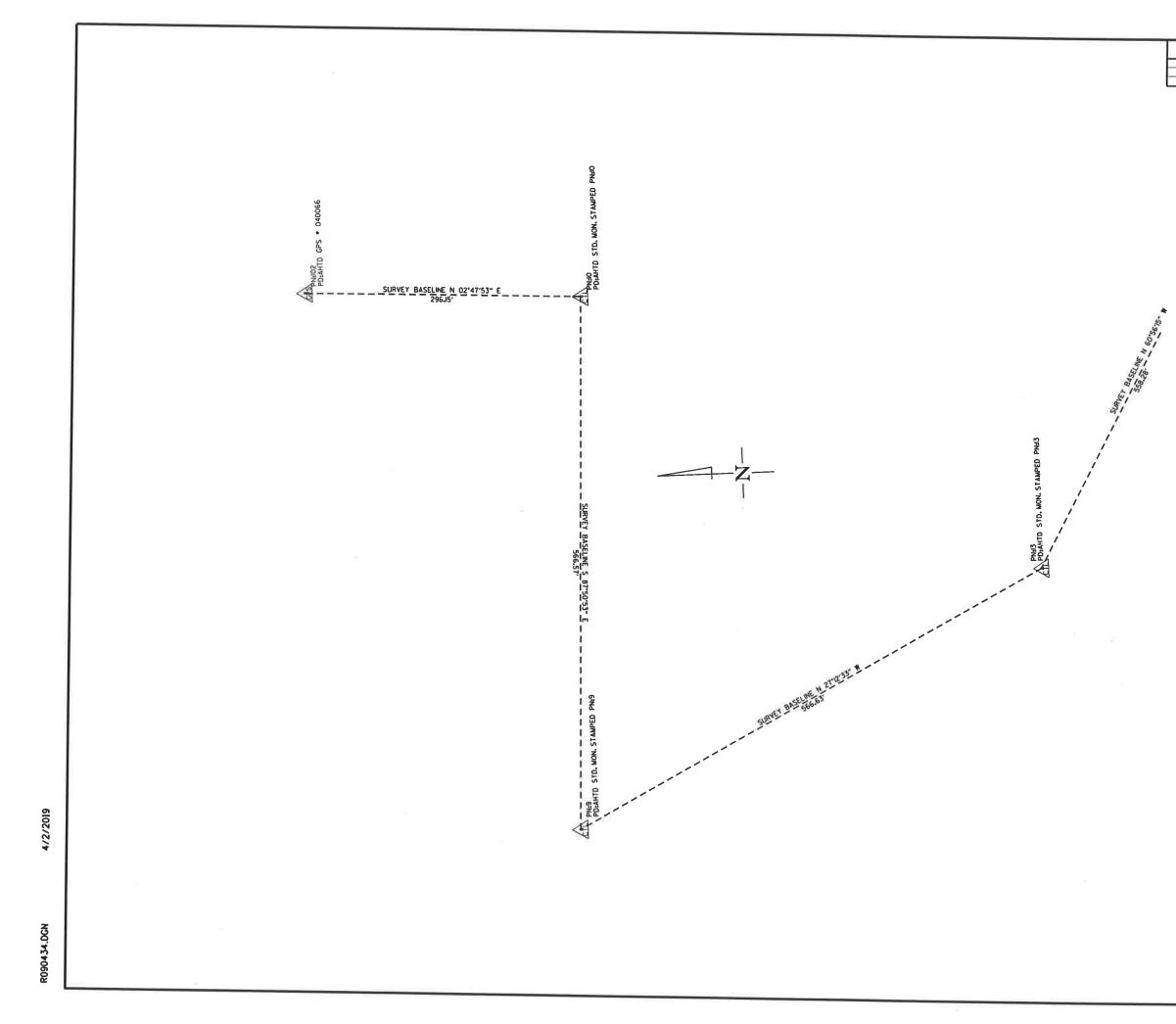
		DATE DATE REVISED FILMED	6 A J08 NO.	TATE FED.AD PROJ.NO. SHEET TOTAL NO. SHEETS NO. 090434 43 71 CONTROL DETAILS
				PROFESSIONAL PROFESSIONAL ENGINEER No. 11425
SURVEY CONTROL COORDINATES	SITE 1			7-18-19
Project Name: s090434 Date: 10/10/2016 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, 040115 - 040115A, 040066 PROJECTED TO GROUND	CONSTRUCT 1			(10
PROJECTED TO GROUND. Units: U.S. SURVEY FOOT	POINT NO. TYPE	STATION		FACTING
Point	8005 POB		NORTHING	EASTING
Name         Northing         Easting         Elev         Feature         Description           1         741800.1536         590319.4642         1135.430         CTL         AHTD STD. MON. STAMPED PN: 1           2         742136         7504         590319.4642         1135.430         CTL         AHTD STD. MON. STAMPED PN: 1	8006 PC 8008 PT 8009 POE	198+00.00 201+09.62 205+70.08 214+19.28	743214.8262 742961.2972 742619.6150 742060.7784	591713.3178 591535.5768 591228.5725
2 /42136. /254 590705. 3075 1124. 200 CTI AHTD STD MONI STANDED DAY 2	DETOUR 1	214+19.20	/42060.//84	590589.1642
4 /42705,2986 591357.7915 1127.378 CTL AHTD STD. MON. STAMPED PN: 4 5 743240.5951 591763,2568 1164.997 CTL AHTD STD. MON. STAMPED PN: 4	POINT NO. TYPE	STATION	NORTHING	EASTING
6 742593,9959 590884,5549 1114.616 CTL AHTD STD. MON. STAMPED PN: 6 7 742129.6184 591398.3215 1121.007 CTL AHTD STD. MON. STAMPED PN: 7	8005 POB	18+00.00	743214. 8262 743156. 2491	591713.3178 591672.2513
9 737417.3943 587595.5066 1232.380 CTL AHTD STD. MON. STAMPED PN 8	8024 PC 8026 PT 8027 PC	18+71.53 20+38.97	743032.0010	591560.6134
11 736642.2734 588342.5797 1239.575 CTL AHTD STD. MON. STAMPED PN: 10	8027 PC 8029 PT 8030 PC	27+15.95 28+89.13	742586.4982 742457.5398	591050.8791 590935.9678
13 736913.4638 587854.5937 1233.927 CTL AHTD STD. MON. STAMPED PN: 12 14 736453 8882 587854.5937 1233.927 CTL AHTD STD. MON. STAMPED PN: 13	8032 PT 8009 POE	30+87.85 32+61.03 34+19.29	742293.8844 742164.9259 742060.7784	590823.2388 590708.3275
100 743836.2882 592253.8879 1180.387 GPS AHTD GPS * 040115 101 745268.3683 593438.8874 1188.934 GPS AHTD GPS * 0401154		34+19.29	/42060.//84	590589.1642
102       737691.9145       588176.1330       1248.552       GPS       AHTD GPS * 040015A         103       736134.7677       588246.2399       1267.697       GPS       AHTD GPS * 040066         999       736596.3348       588852.2558       1247.442       BM       FOUND U.S.G.S. BM W/NO FOUND	SITE 2			
	CONSTRUCT 2			
*Note - Rebar and Cap - Standard - 5/8' Rebar with 2' Aluminum Cap stamped *(standard markings common to all caps), or as indicated	POINT NO. TYPE	STATION	NORTHING	EASTING
(other markings indicated in the point description of the individual point). ALL DISTANCES ARE GROUND. USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.	8000 POB	99+00.00	736969.2516	588235.9720
A PROJECT CAF OF 0.999970715705 (CAF BASED ON COMBINED JOB AVERAGE CAF) HAS BEEN USED TO COMPUTE	8001 PC 8003 PT 8004 POF	106+27.24	736242.9142 735755.0328	588199, 7867 588249, 0138
THE ABOVE GROUND COORDINATES. THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.	8004 POE DETOUR 2	112+27.96	735649.9190	588275.9542
GRID DISTANCE = GROUND DISTANCE X CAF. GRID COORDINATES ARE STORED UNDER FILE NAME. \$090434gi.CTL		0747 ( ON		
HORIZONTAL DATUM: NAD 83 (2011) VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT	POINT NO. TYPE	STATION	NORTHING	EASTING
AT A SPECIFIC POINT.	8010 POB 8011 PC	10+00.00 10+54.81	736869.3754 736814.6336	588230.9962 588228.2691
REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.	8013 PT 8014 PC 8016 PT	11+44.07 11+45.42	736726.8329 736725.5544	588240.9114 588241.3576
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL	8016 PT 8017 PC 8019 PT	12+34.68 12+74.30	736637.7537 736598.1833	588253, 9999 588252, 0286
BASIS OF BEARING: ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE	8019 PT 8020 PC 8022 PT	13+63.56 13+64.91	736512.0739 736510.8460	588230.7222 588230.1512
DETERMINED FROM GPS CONTROL POINTS: 040115 - 040115A, 040066 CONVERGENCE ANGLE: 01 25 49.28 FFT. AT LT: 36-19-55 95 LG: 004 27 20 00 - 01 05 00 01 05	8023 POE	14+54.17 15+08.98	736424.7366 736369.9947	588208, 8449 588206, 1177
AT LT: 36-20-54.84 LG: 094-26-56.55 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.				
CONTRINCE ANGLE.				

SURVEY CONTROL DETAILS

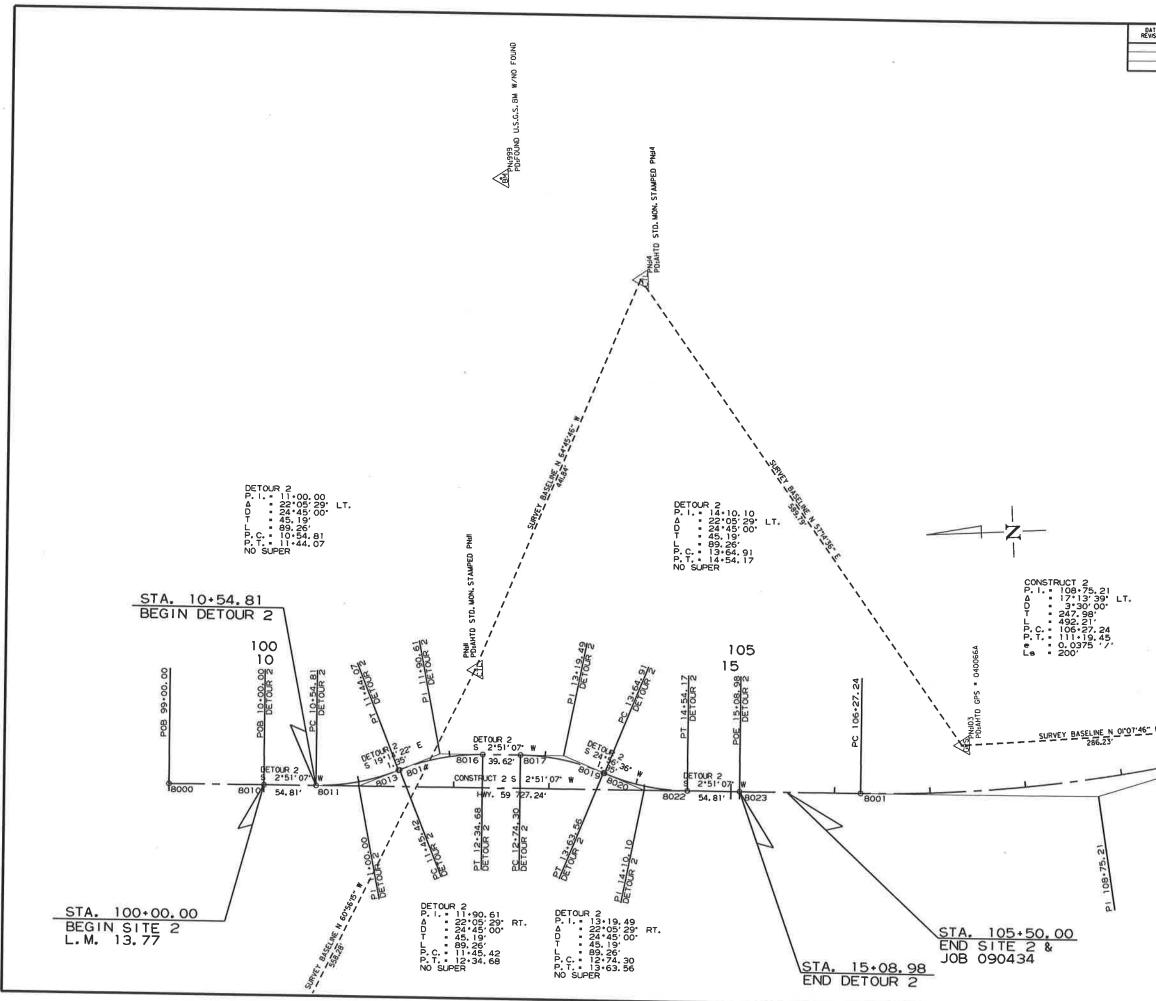


4/2/2019



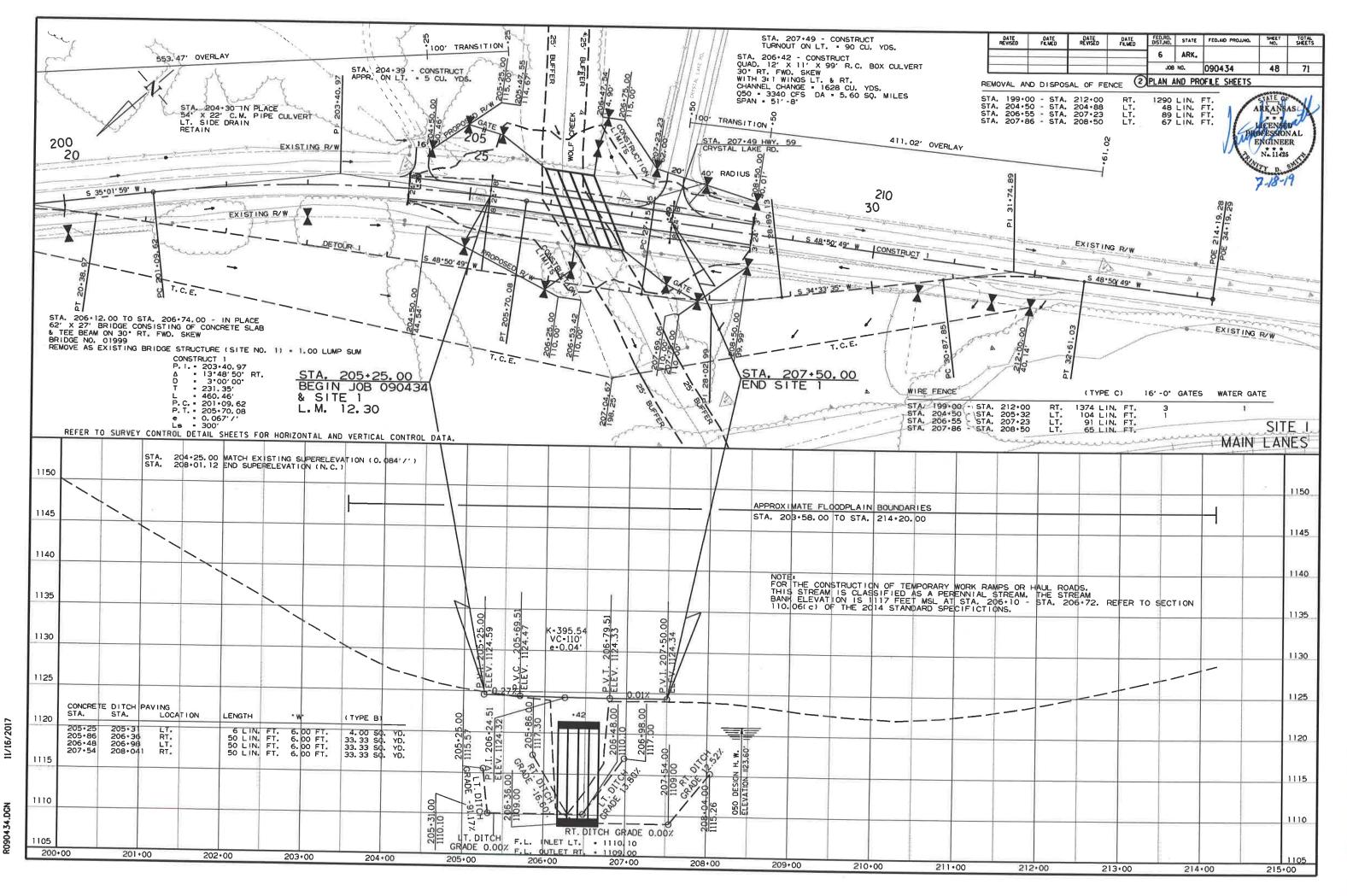


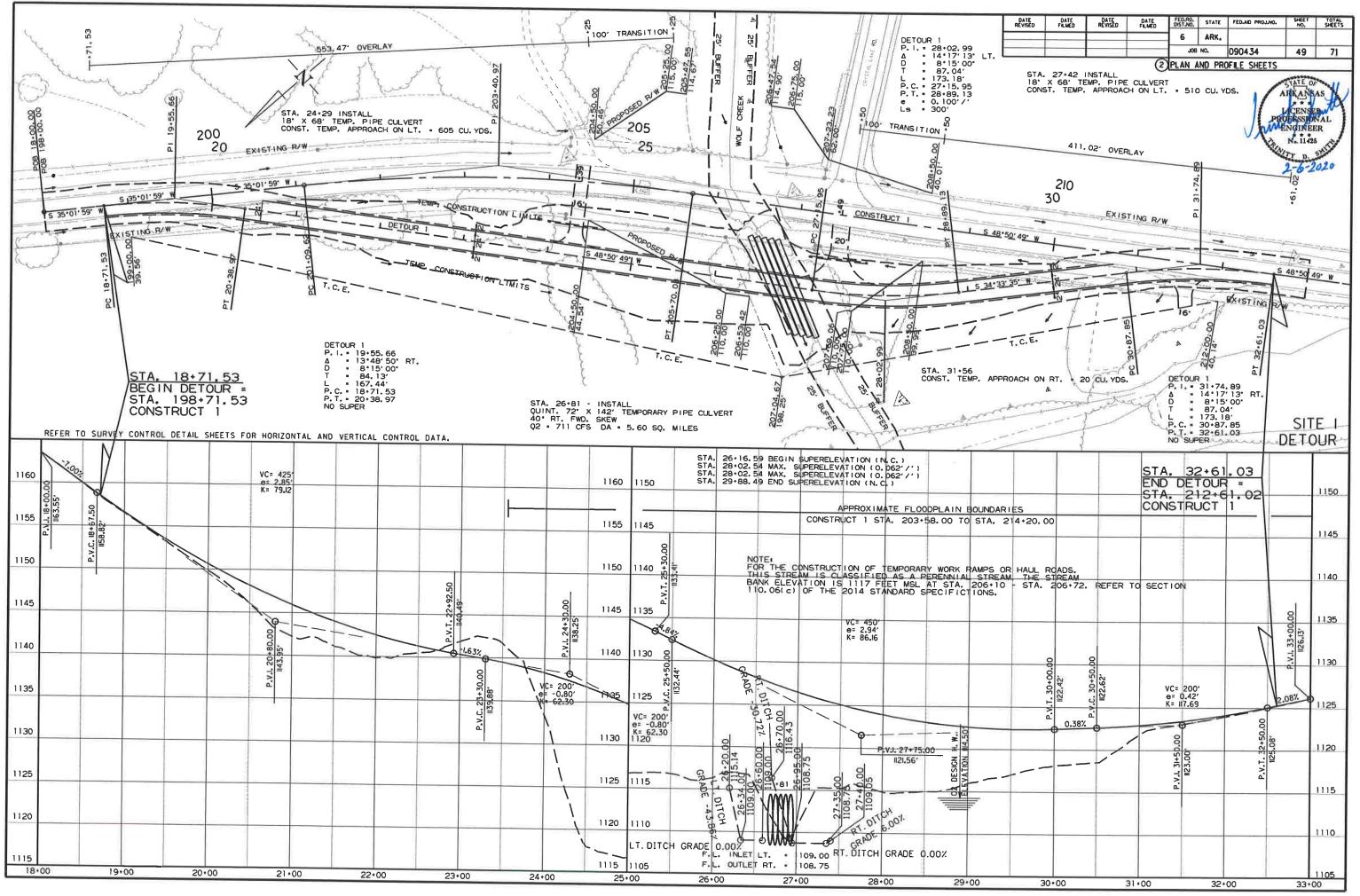
DATE REVISED	DATE FILMED	DATE REVISED	DATE	FED.RD. DIST.NO.	STATE	FED.AND PROJUNO.	SHEET NO.	TOTAL
				6	ARK.	000171	46	71
			2	JOB		090434 ROL DETAILS	46	71
						1	ICENSI IC	AS A
					×			
								^
						CONTROL	SIT	E 2



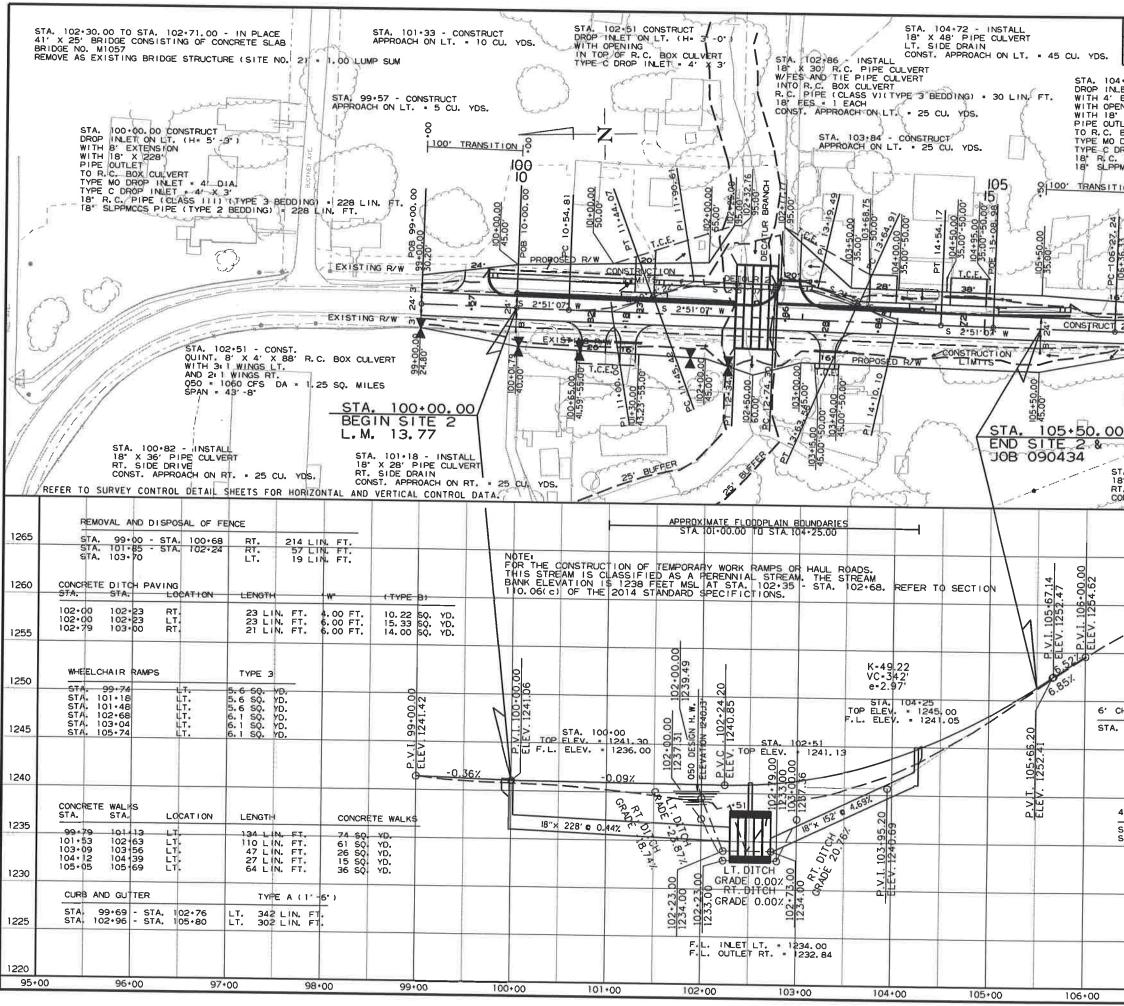
4/2/2019

FED.RD. STATE FED.AD PROJ.NO. SHEET TOTAL NO. SHEETS DATE DATE DATE REVISED DATE ARK. 6 JOB NO. 090434 47 71 2 SURVEY CONTROL DETAILS STATE OF ARKANSAS No. 11425 7-18-19 12.27.96 Shel2 STAMPED 50 110 61.111 MON. 5 14"22" 31 8003 HIV. 59 108.51" 8004 PN±I2 PD=AHTD STD. SURVEY CONTROL DETAILS





11/16/2017 R0904 34.DGN

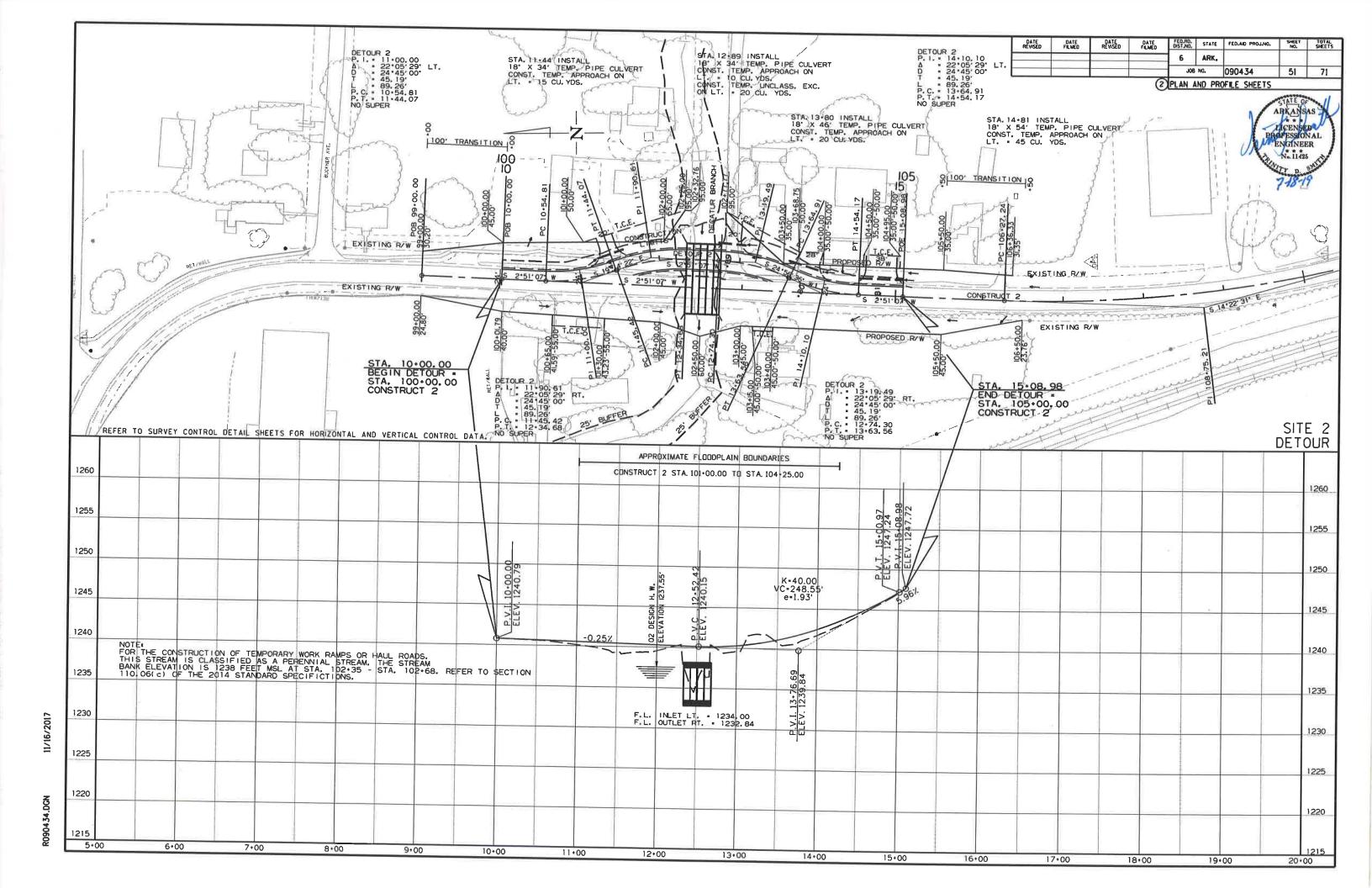


11/16/2017

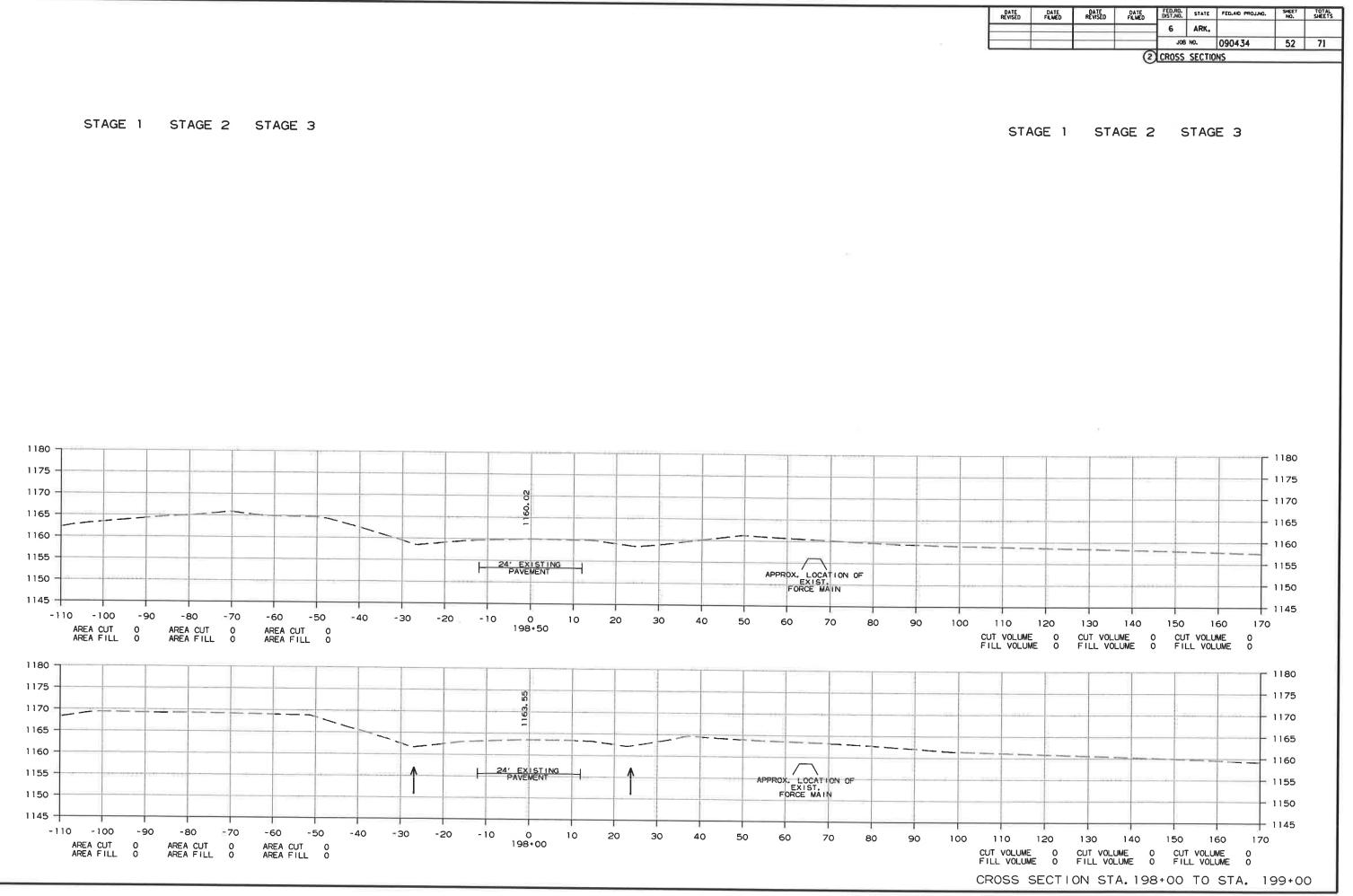
DON.

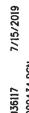
R090434.

_	0475	0475	0475	T av		FED RD.			SHEET	TOTAL
	DATE REVISED	DATE FILMED	DATE REVISED	DA FLN		FED.RD. DIST.NO.	STATE	FED.AID PROJ.N	D. SHEET NO.	SHEETS
E						JOB		090434	50	71
	CCS PIPE	(H= 4 ACK RT T = 4' ASS []	DIA	у Э ВЕД NG) -		• 15	2 1 10	1 / 20	S ARKANS DICENSE PROFESSIO ENGINE N. 1122	NAL SR
	37:35 37:35 37:35	ر در EX		P.I D T P.C. P.T. e Ls	* 3 * 24 * 49 * 100	8+75. 13'3 30'0 7.98' 2.21' 5+27. 1+19. 0375'	9' LT. 0' 24 45 /'		7-18-1	A A C
	igaçai 🔨			~~~	200	CONC.	15.1	1.22.31. E		
0	23.76	the second in the	ISTING R				Pi 108-75-21	and the second	and the	3H HE
8" T.	103+21 X 28-11 SIDE DI	PIPE CL	LVERT	35 CU.	YDS.			MA	SIT IN LA	E 2 NES
			O BEGIN O MATCH					ON (0.006	·/·) - — —	1265
_									7	1260
		_				_				1255
					_					1250
_	AIN LIN4 99+00 -	_		RT,	104	LIN	FT.	-		1245
4'	CUALA									1240
s	A. 100+	LINK FE	TA. 100+4		RT.	78	LIN.	FT.		
SI	[A. 101+	85 - S	TA. 102+;	24	RT.	40	LIN.	FT.		1235
										1230
										1225
	10	07+00		108+0	0		109	•00	110+	1220 00



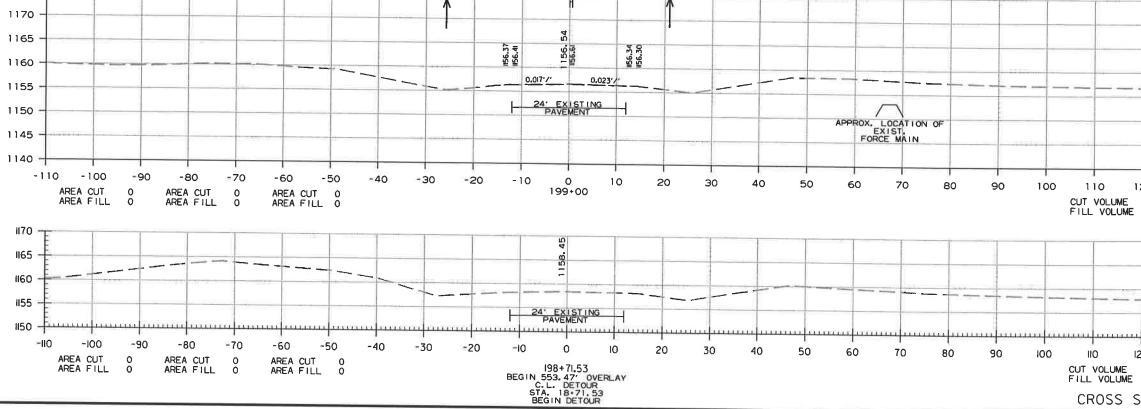






gd36117 R090434.DGN

1175 -



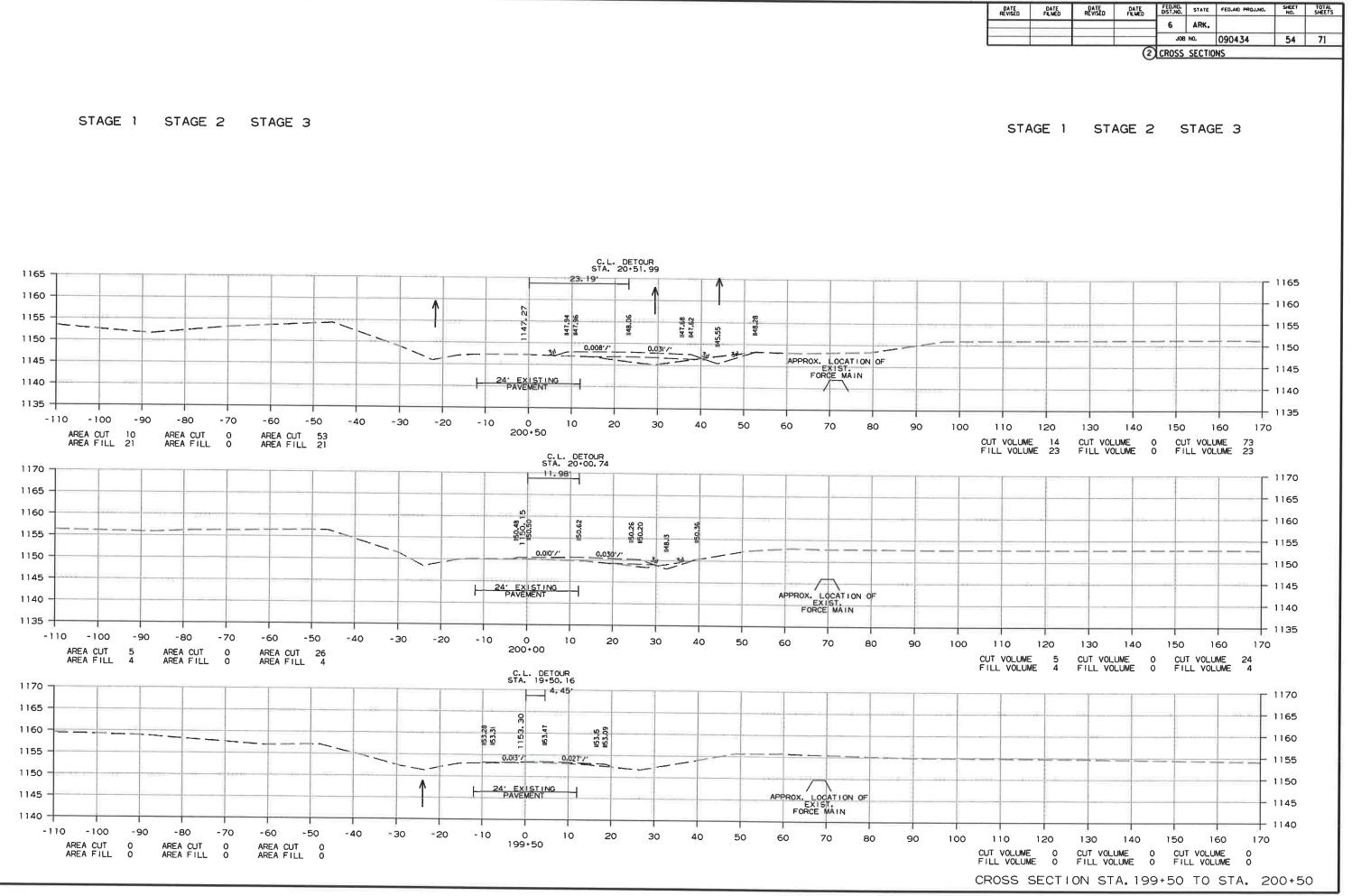
C.L. DETOUR STA. 19+00.00

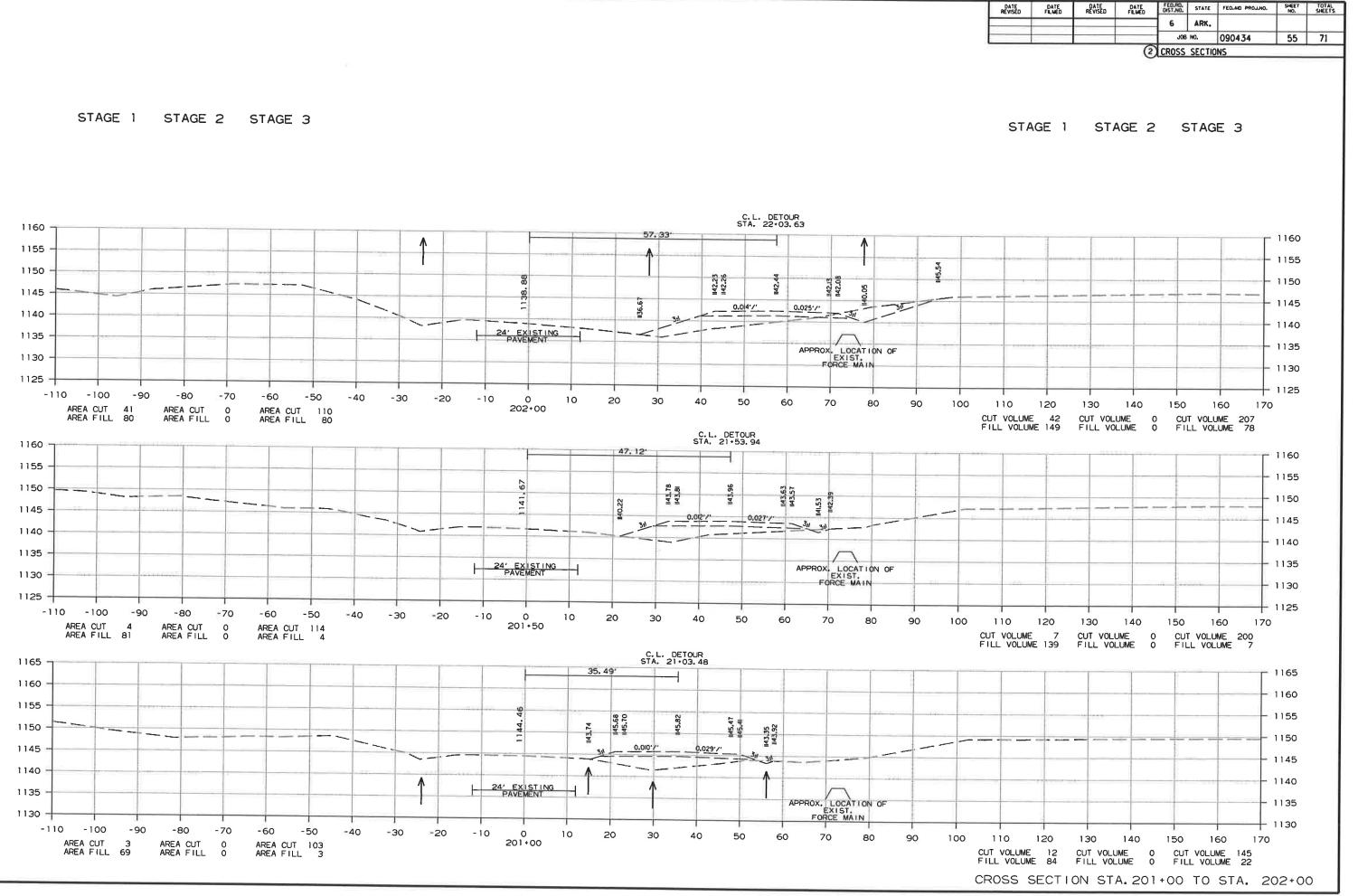
1 0.58'

STAGE 1 STAGE 2 STAGE 3

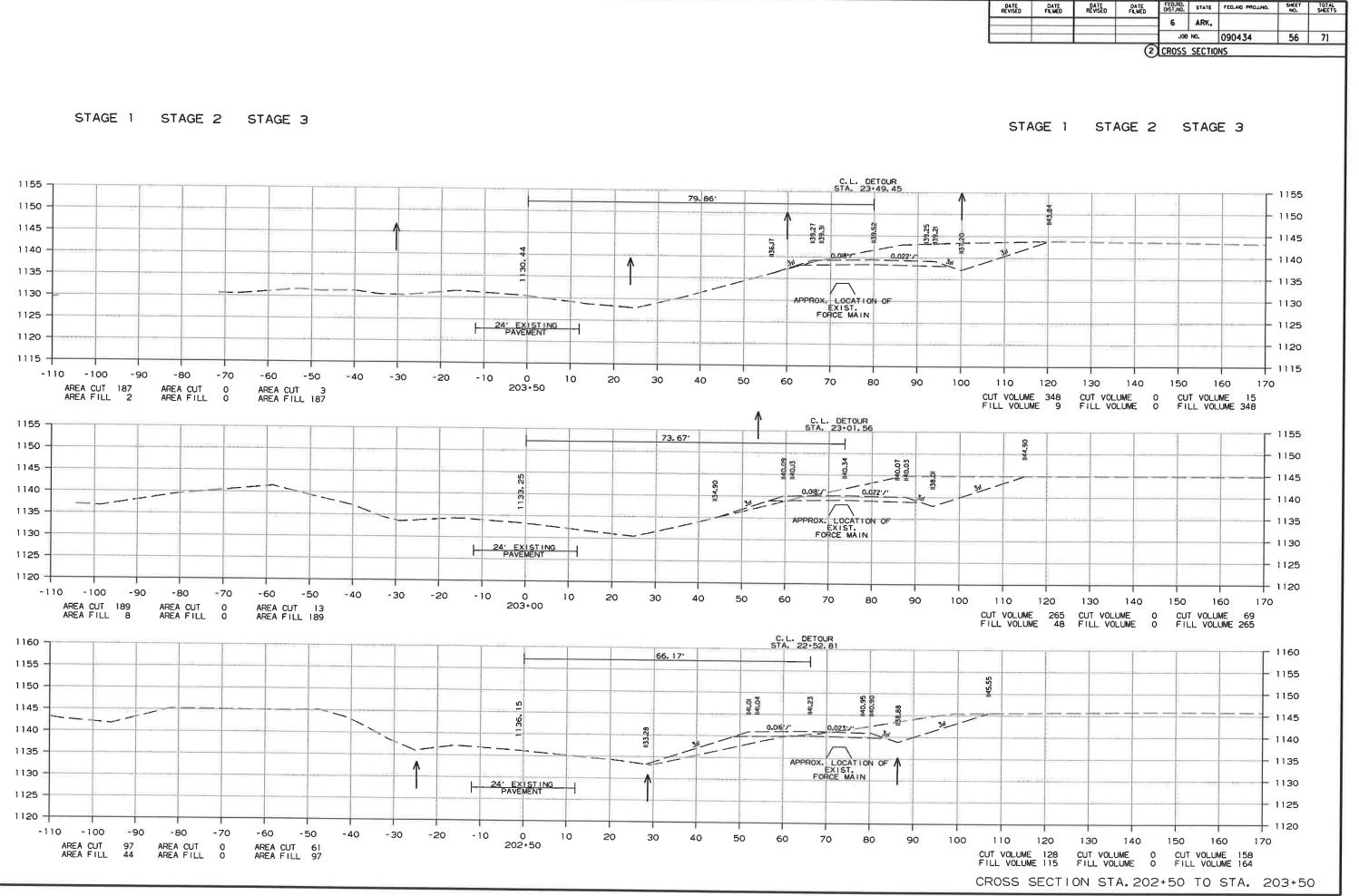
l	DATE REVISED	DATE	6	DATE REVISED	DATE FILMED		FED.RD. DIST.NO.	STATE	FED.	AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
							6	ARK.	000	474		
j.		A	_1			2	JOB CROSS			434	53	71
	STA	AGE	1	ST						3		
											1175 1170 1165 1160 1155 1150	
	110 JT VOLUME LL VOLUM			130 CUT VOLI					60 ME UME		1145 1140	
											170 165 160 155	
	IIO IT VOLUME LL VOLUM CROSS	120 E 0		I30 CUT VOLL FILL VOL	I40 JME JME	0	I50 CUT FIL		JME	170 0 0		

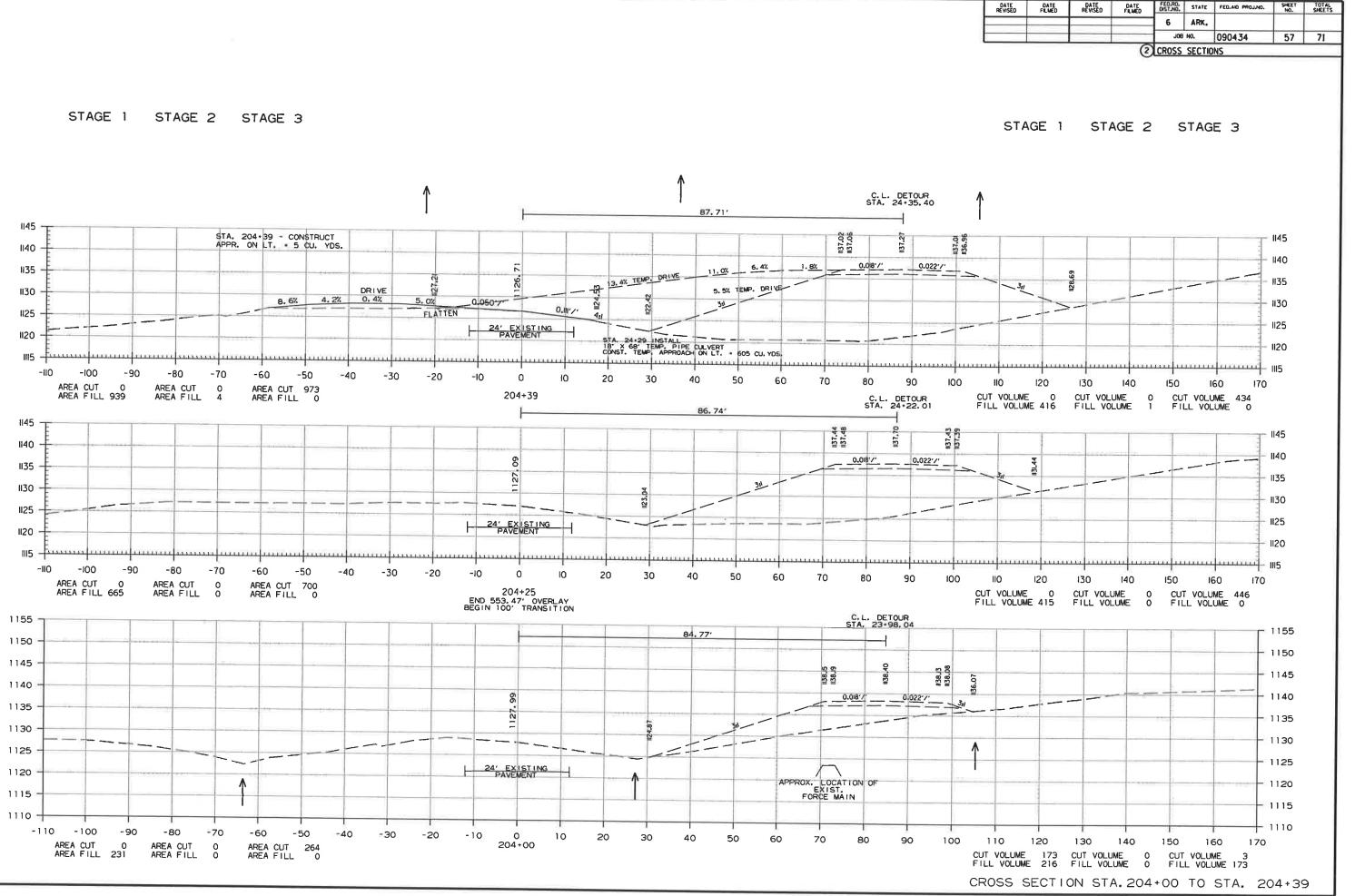




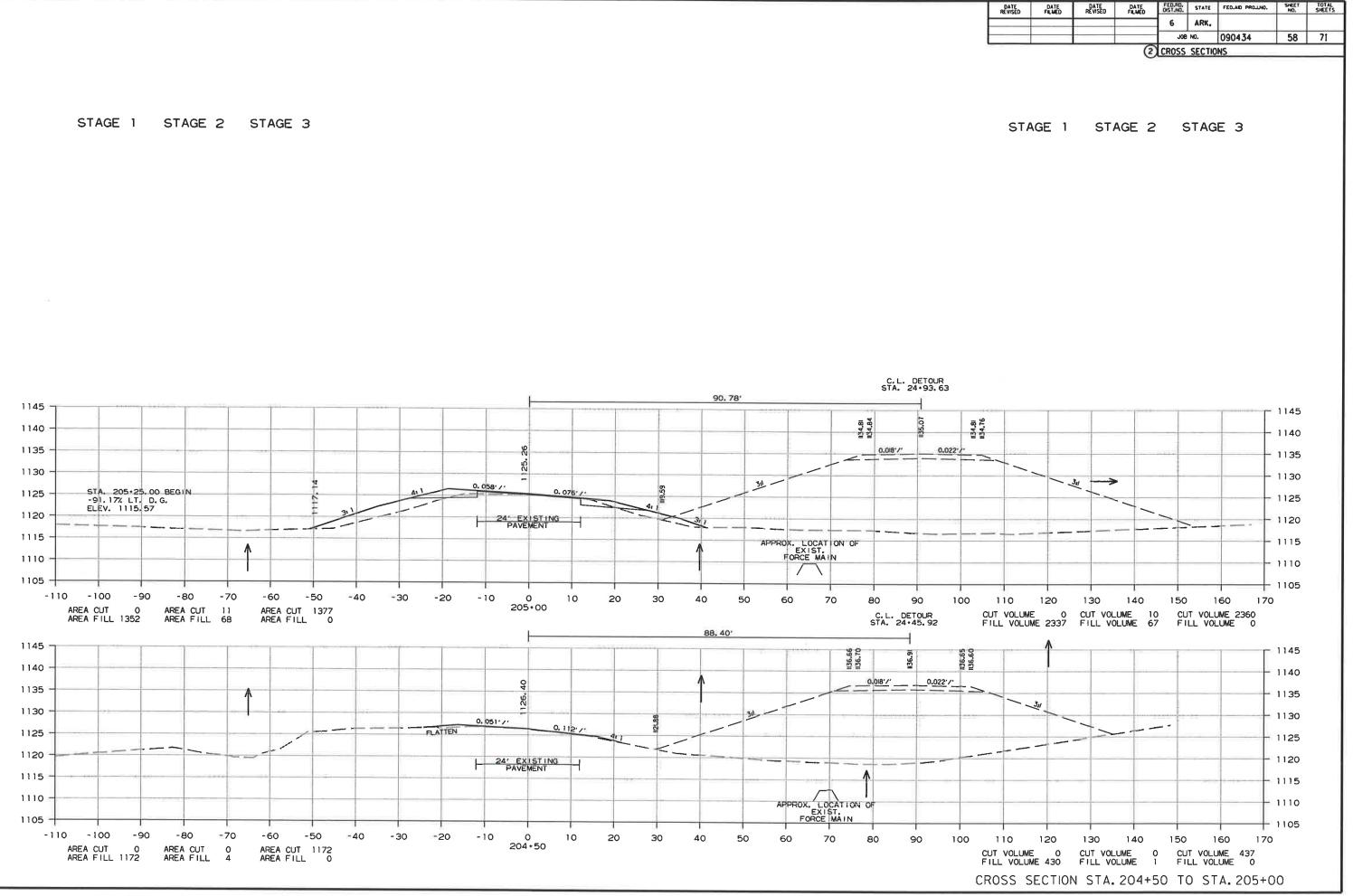




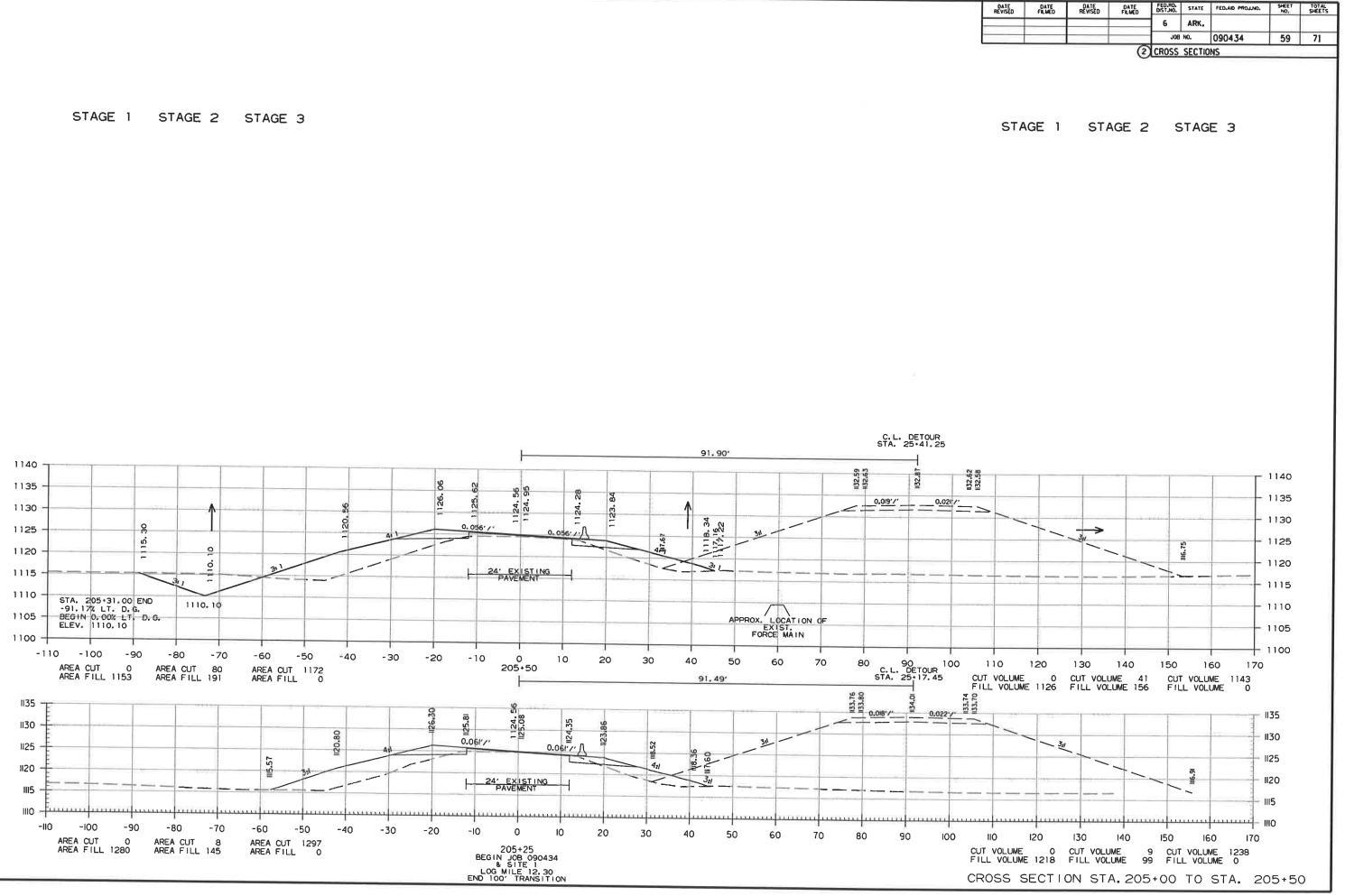




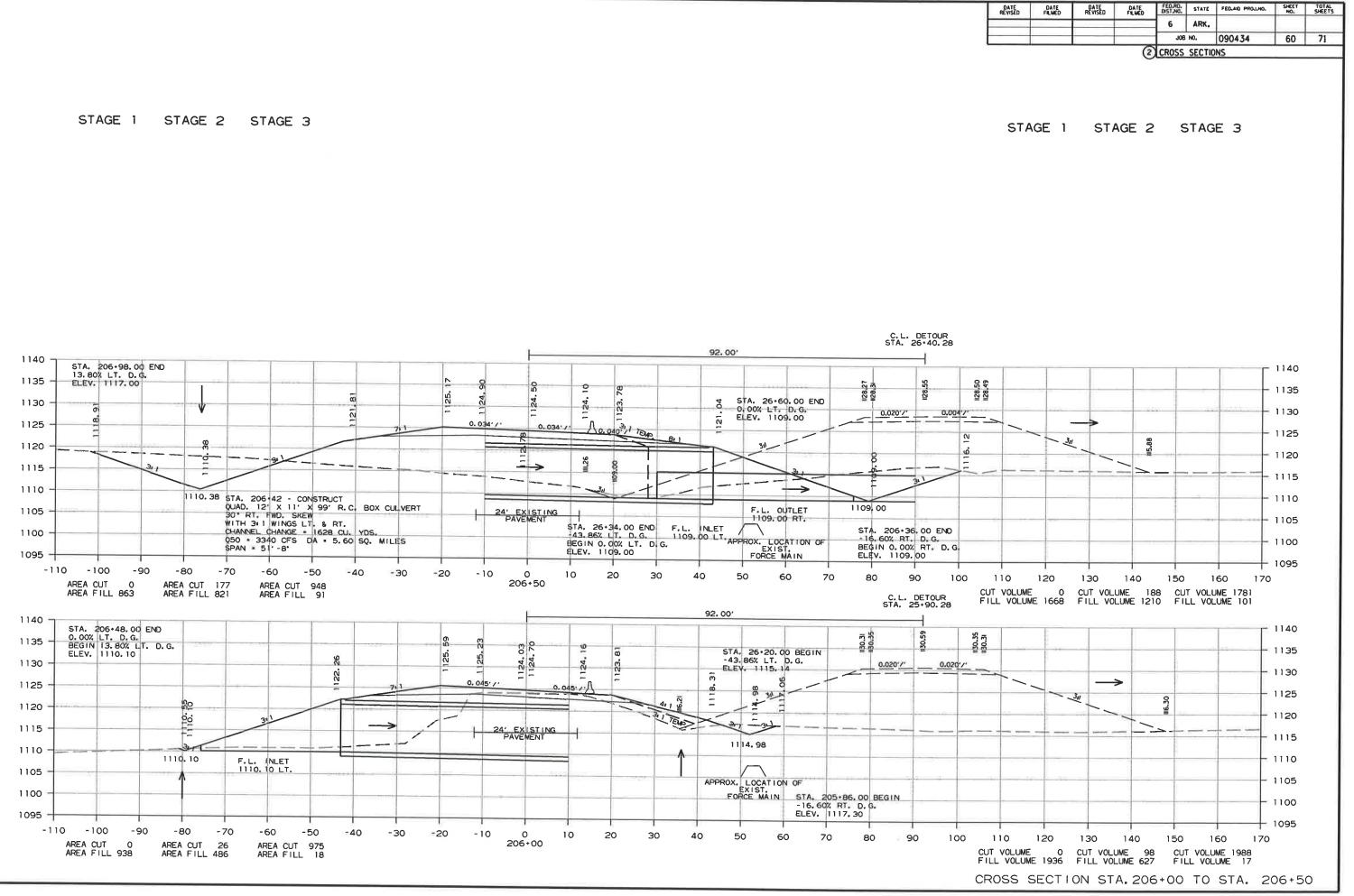


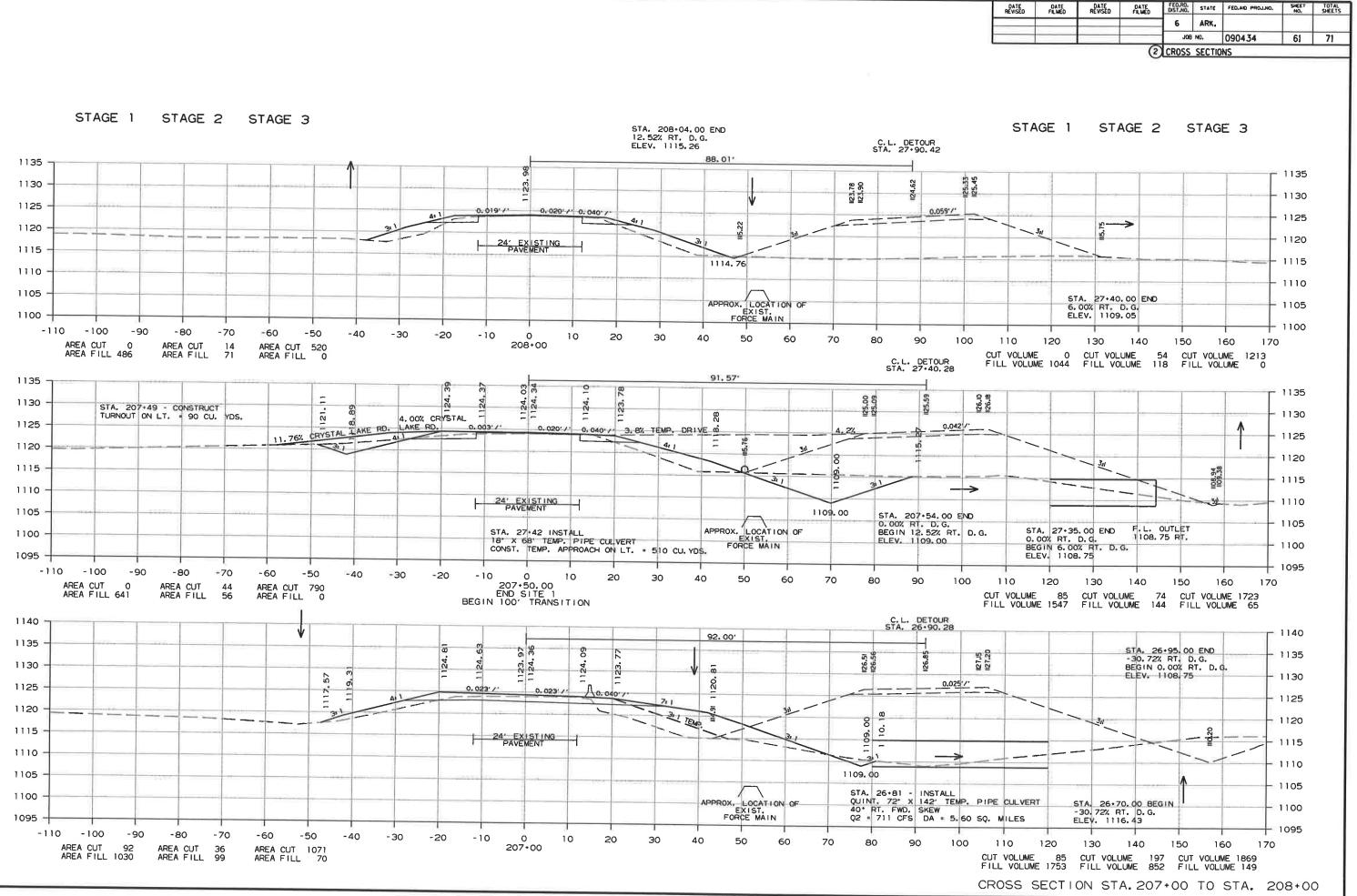


7/15/2019 gd36117 R090434.DGN

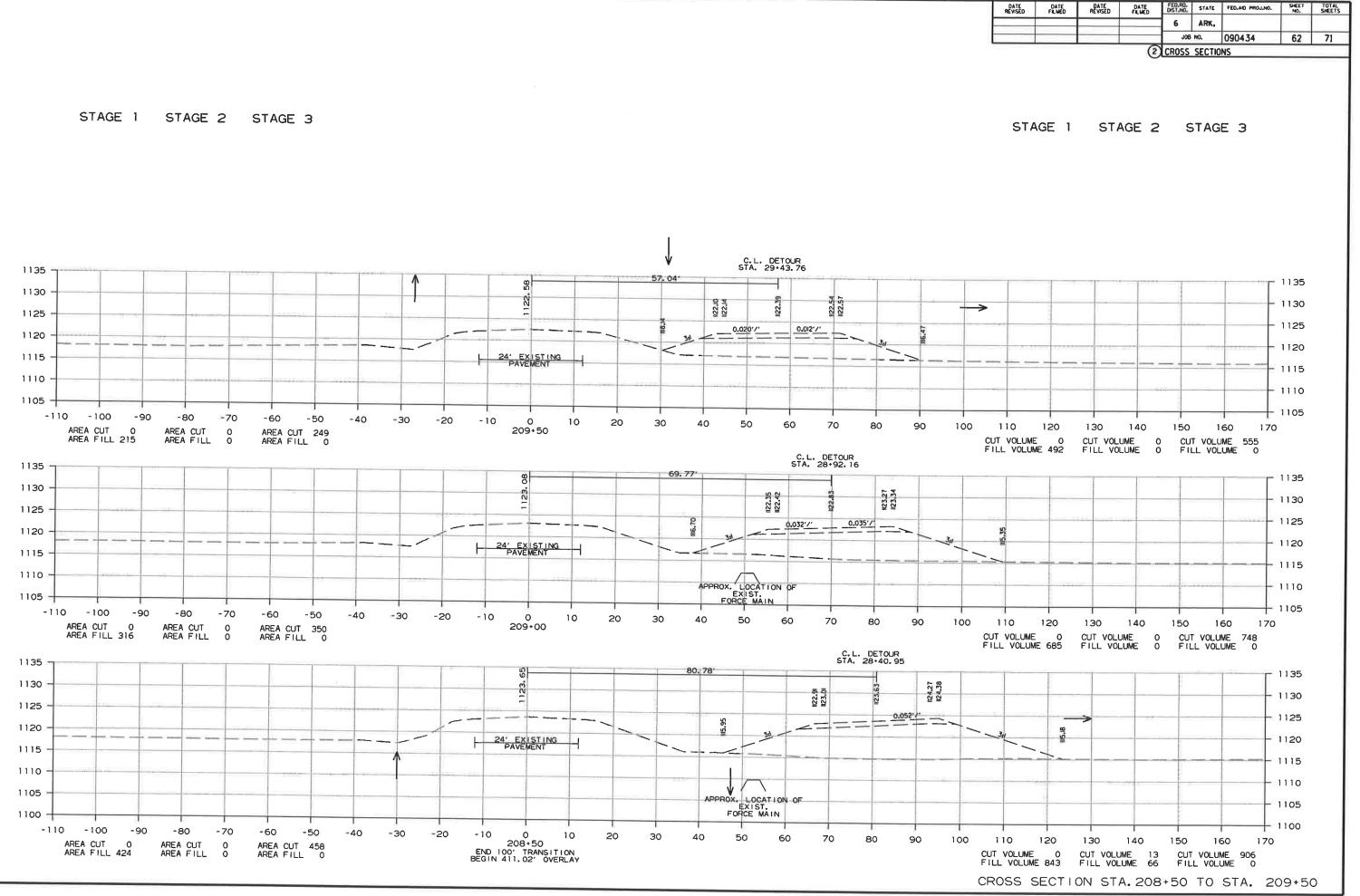




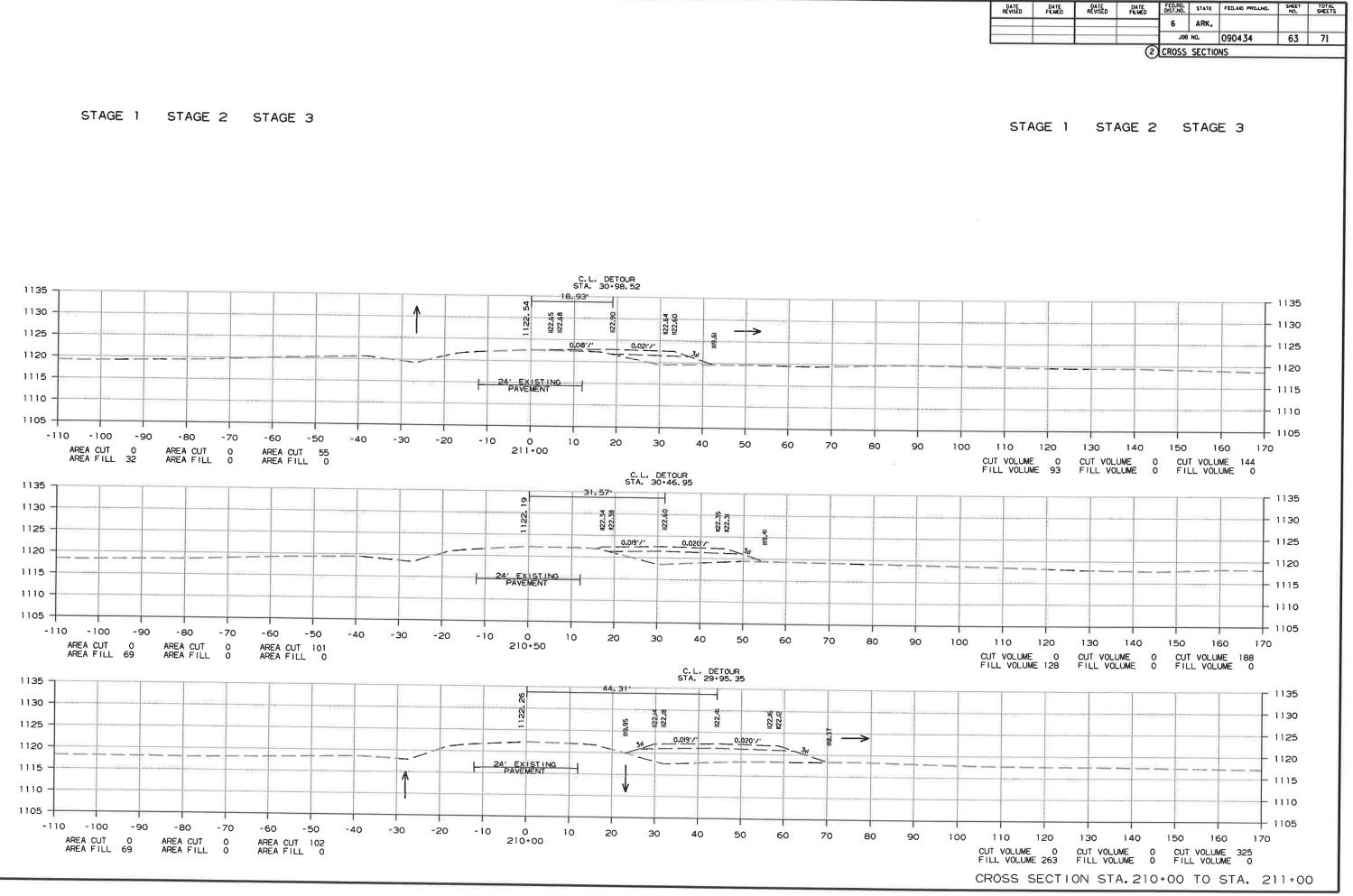


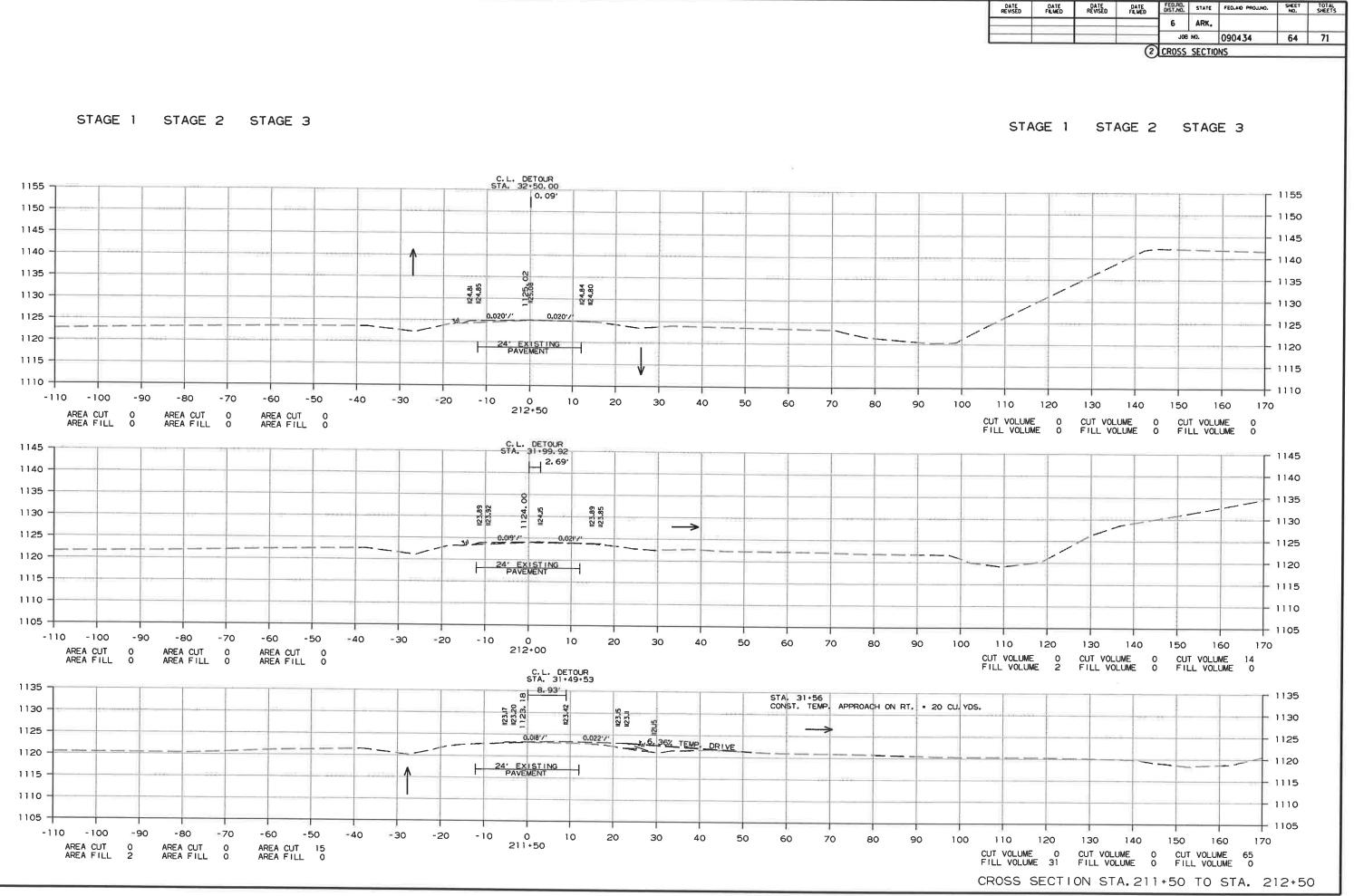


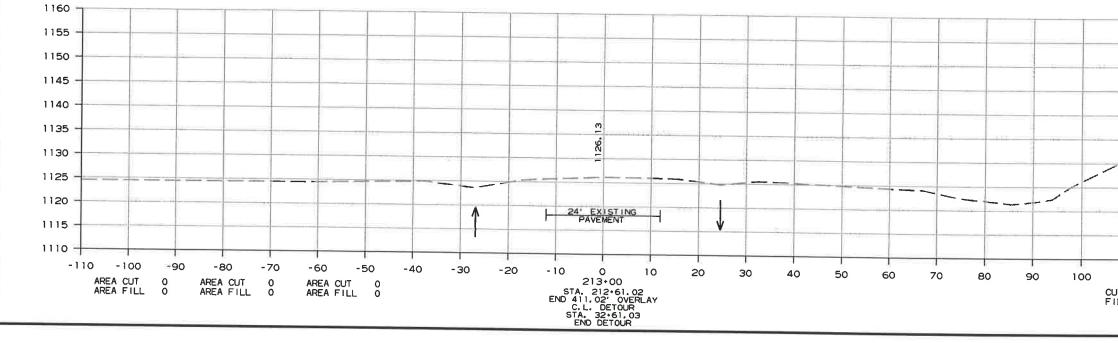






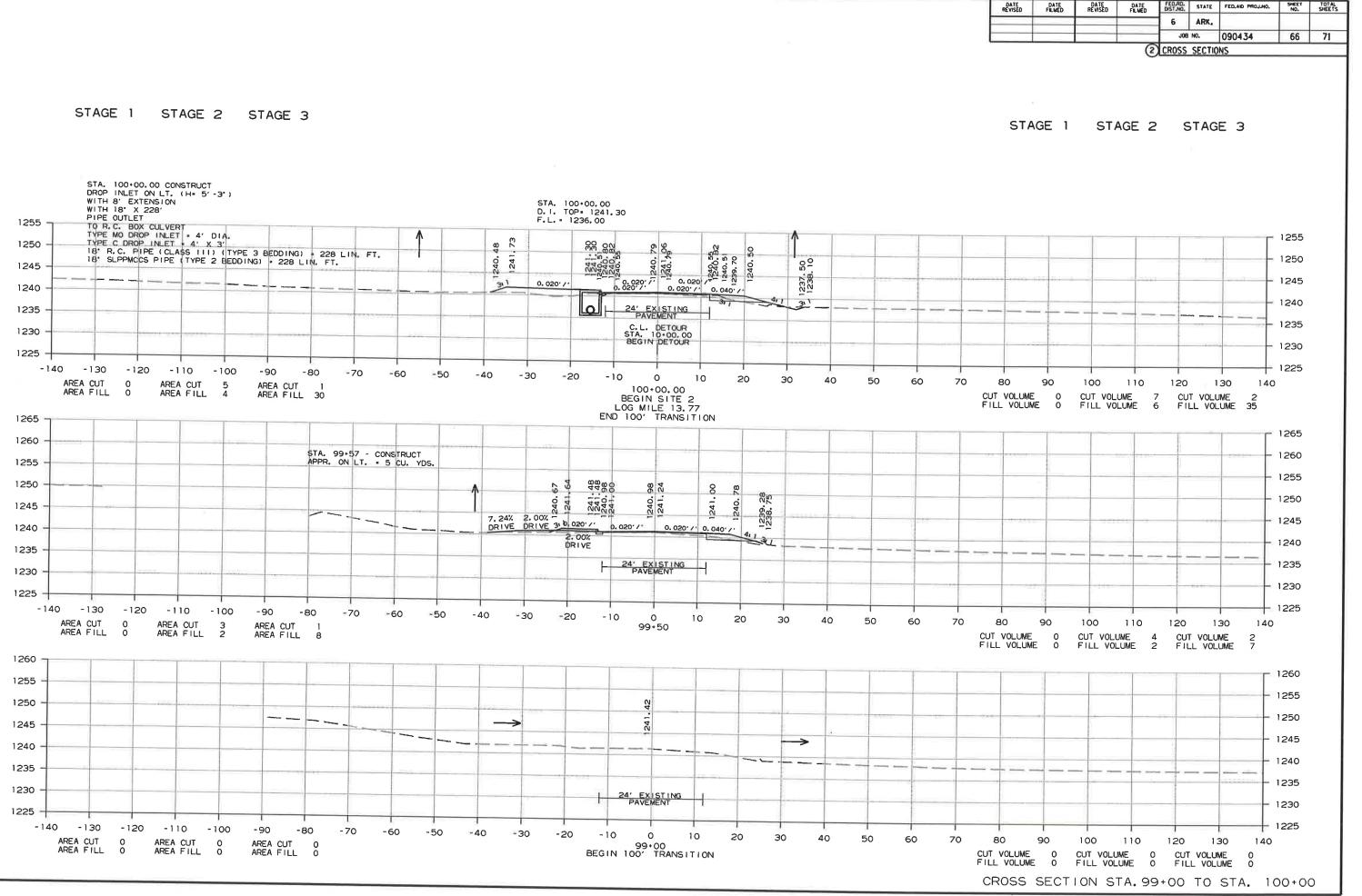




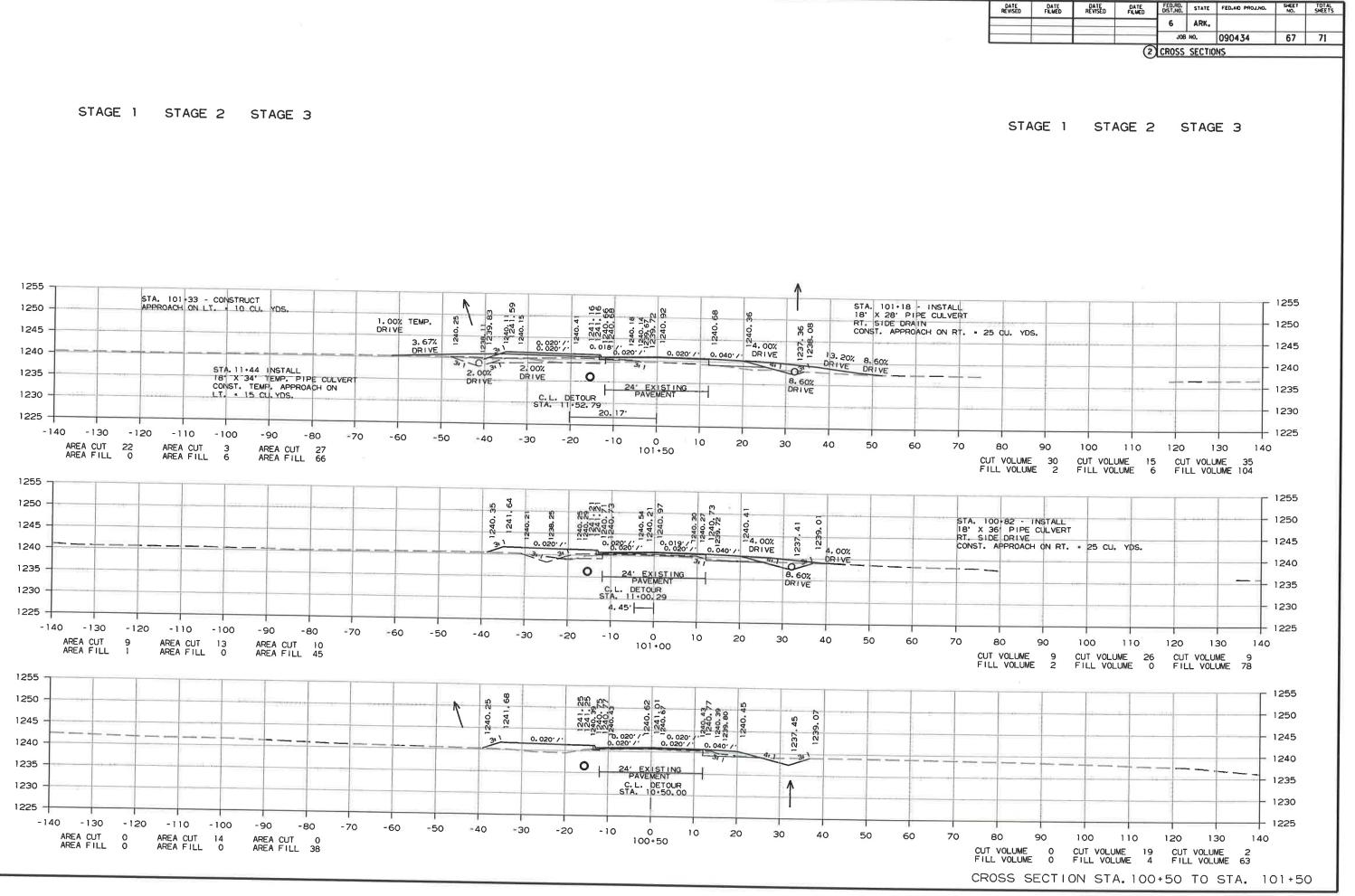


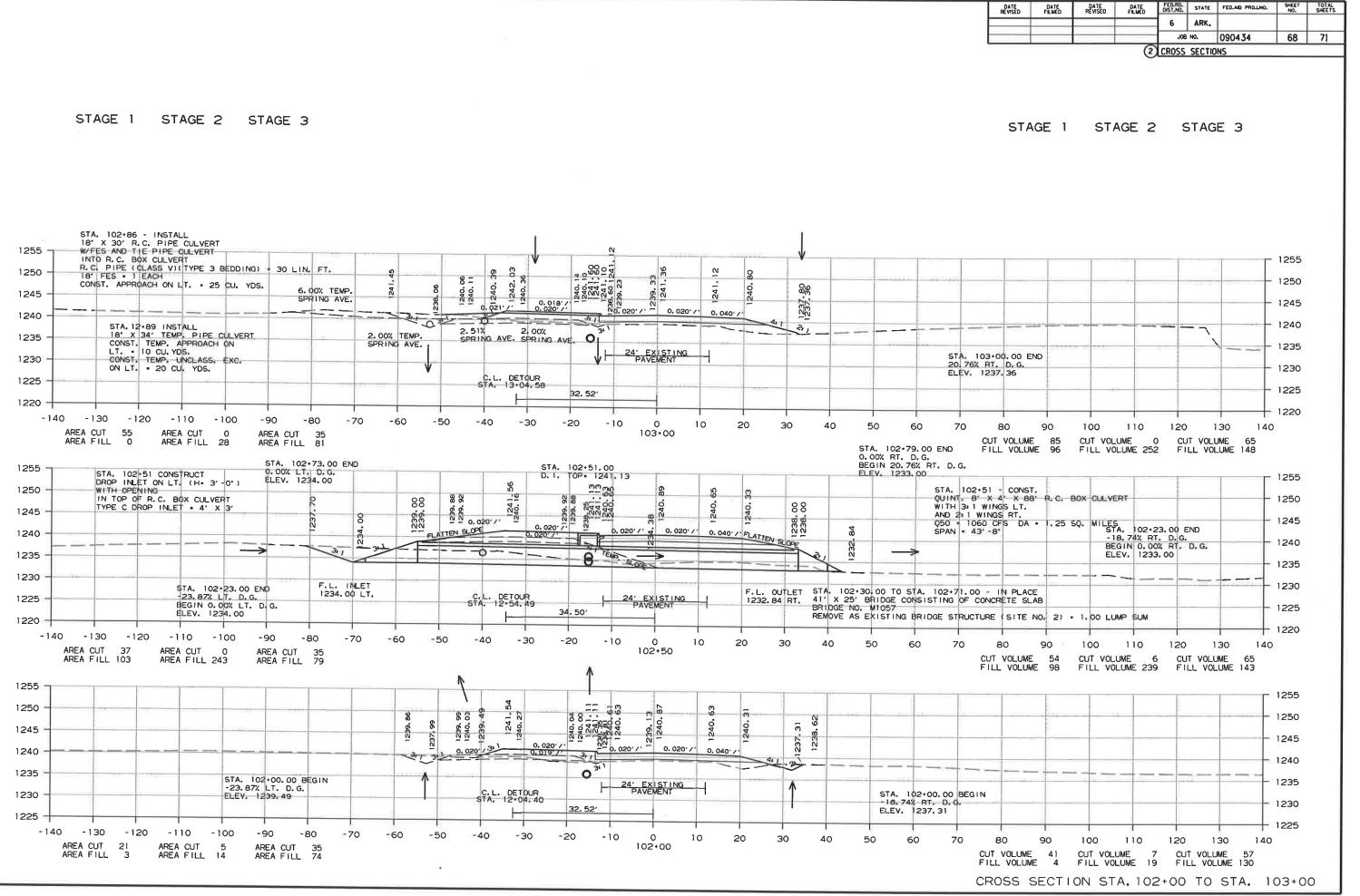
STAGE 1 STAGE 2 STAGE 3

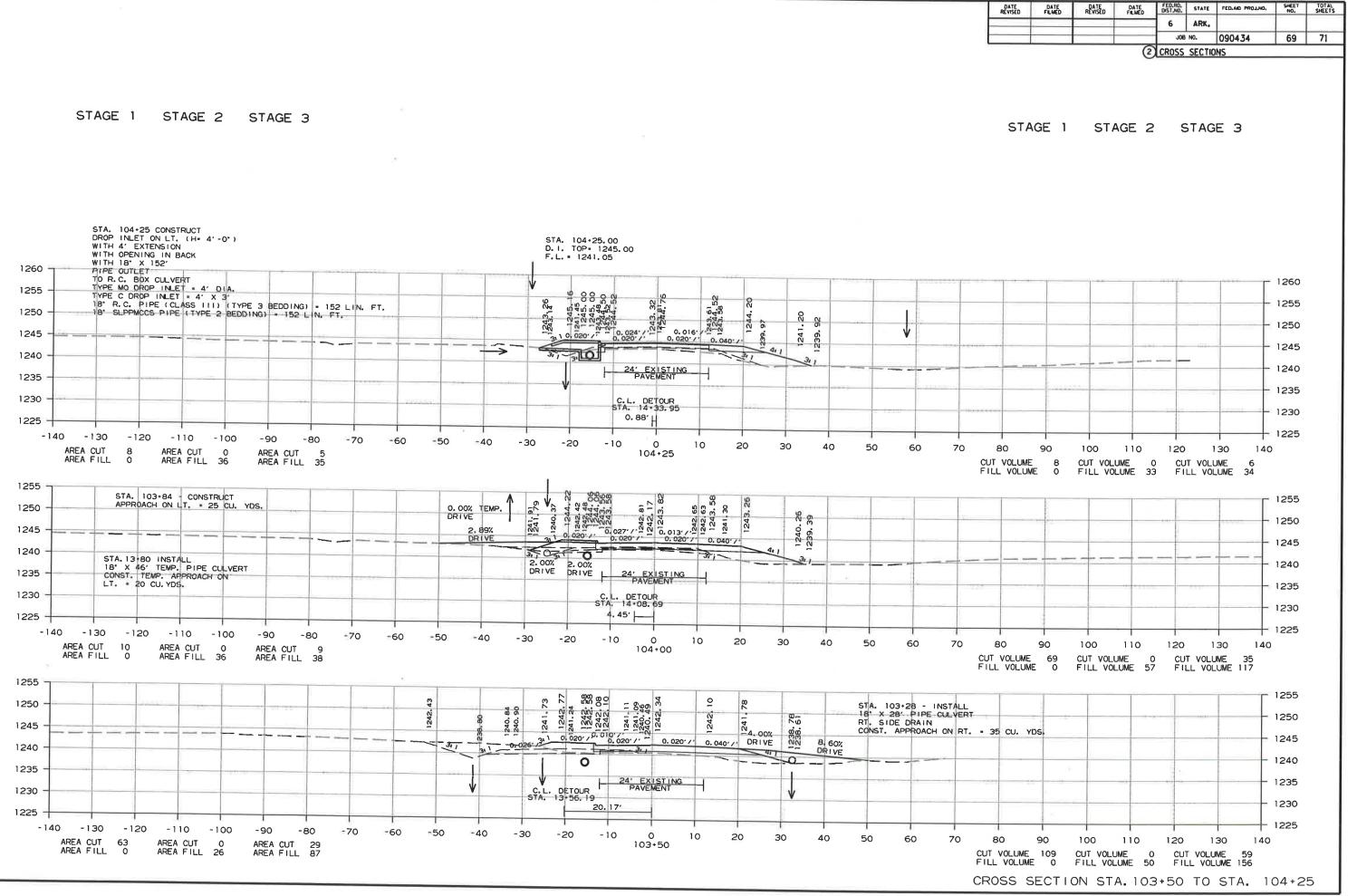
Τ	DATE REVISED	DAT FILM	ie ED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
						6	ARK.	000474		
		2	_		(2)	JOB CROSS		090434 NS	65	71
	STA	AGE	1	ST						
									1160 1155 1150 1145 1140	
	10 VOLUME VOLUM			CUT VOLI FILL VOL	JME 0 LUME 0	CUT FIL	1 e VOLUI L VOLU	50 170	1135 1130 1125 1120 1115 1110 3+0	0



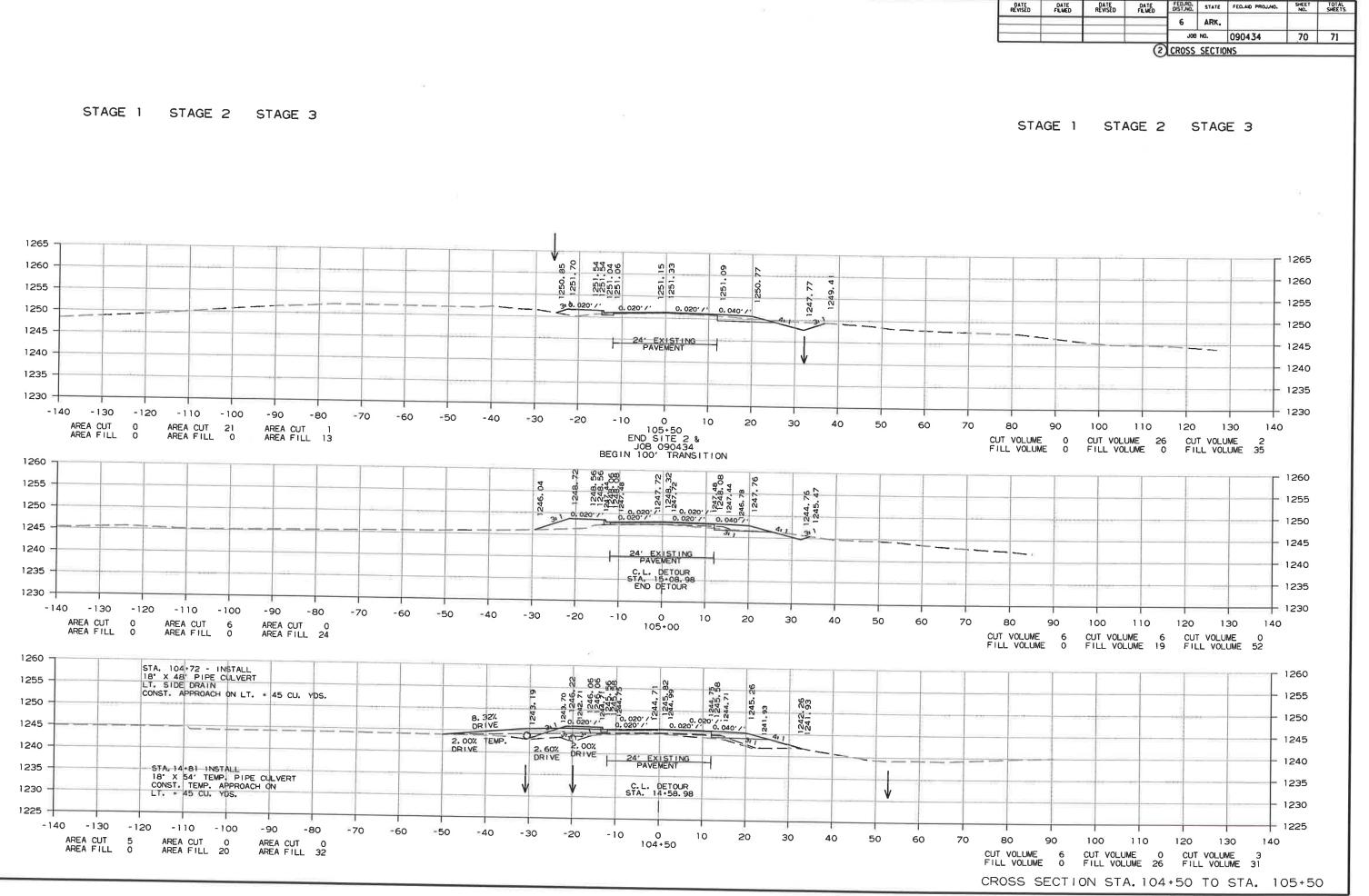




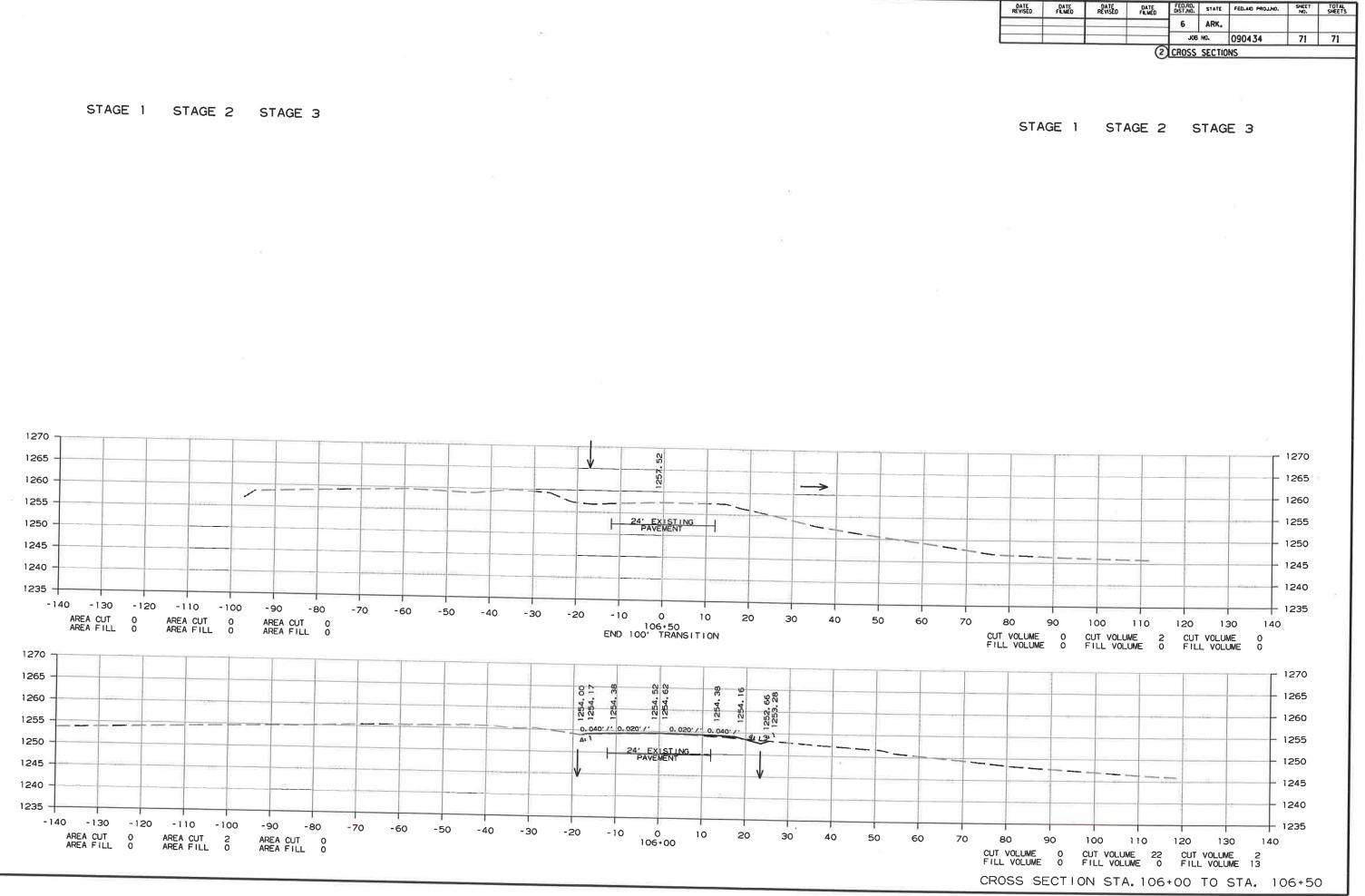


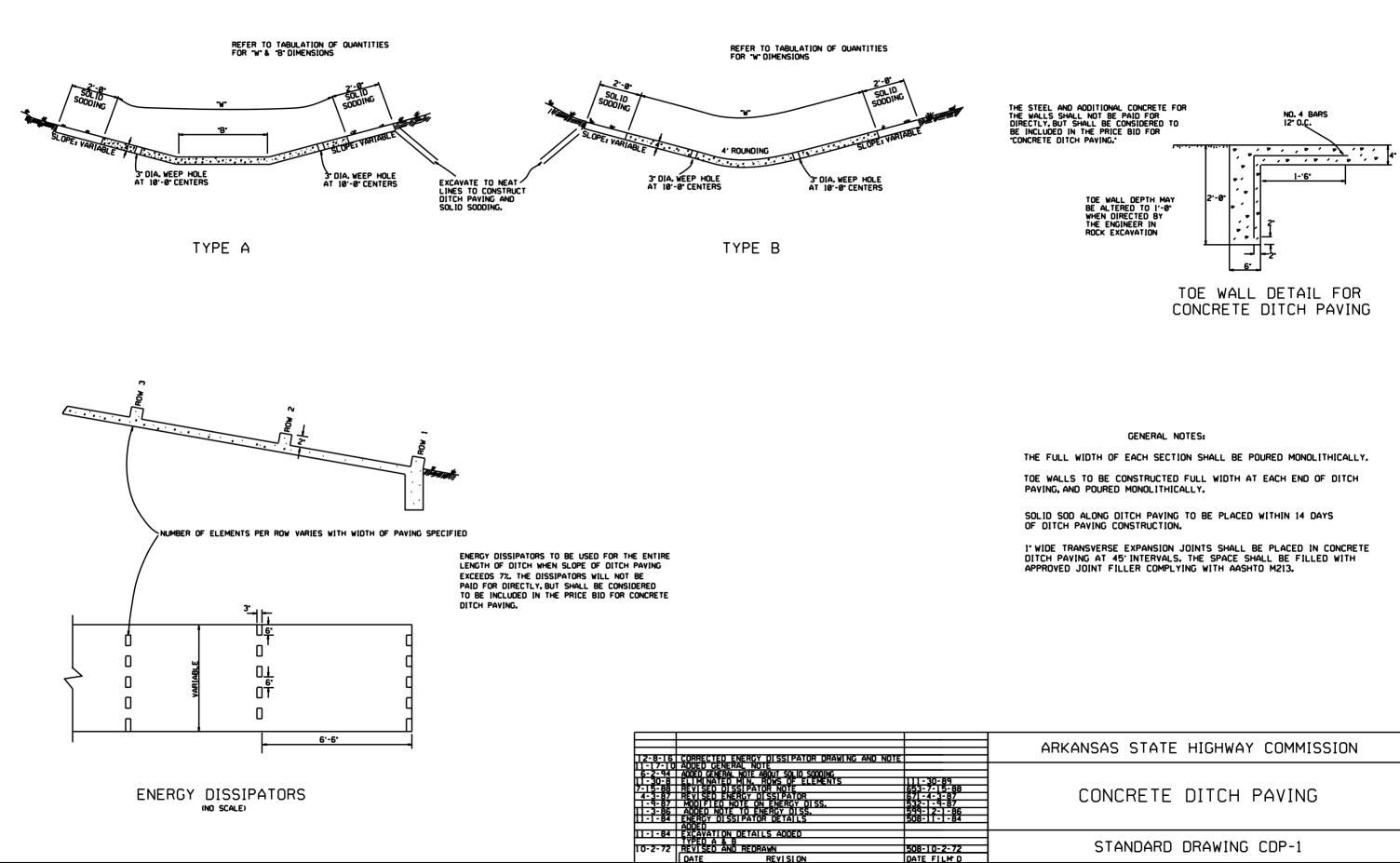


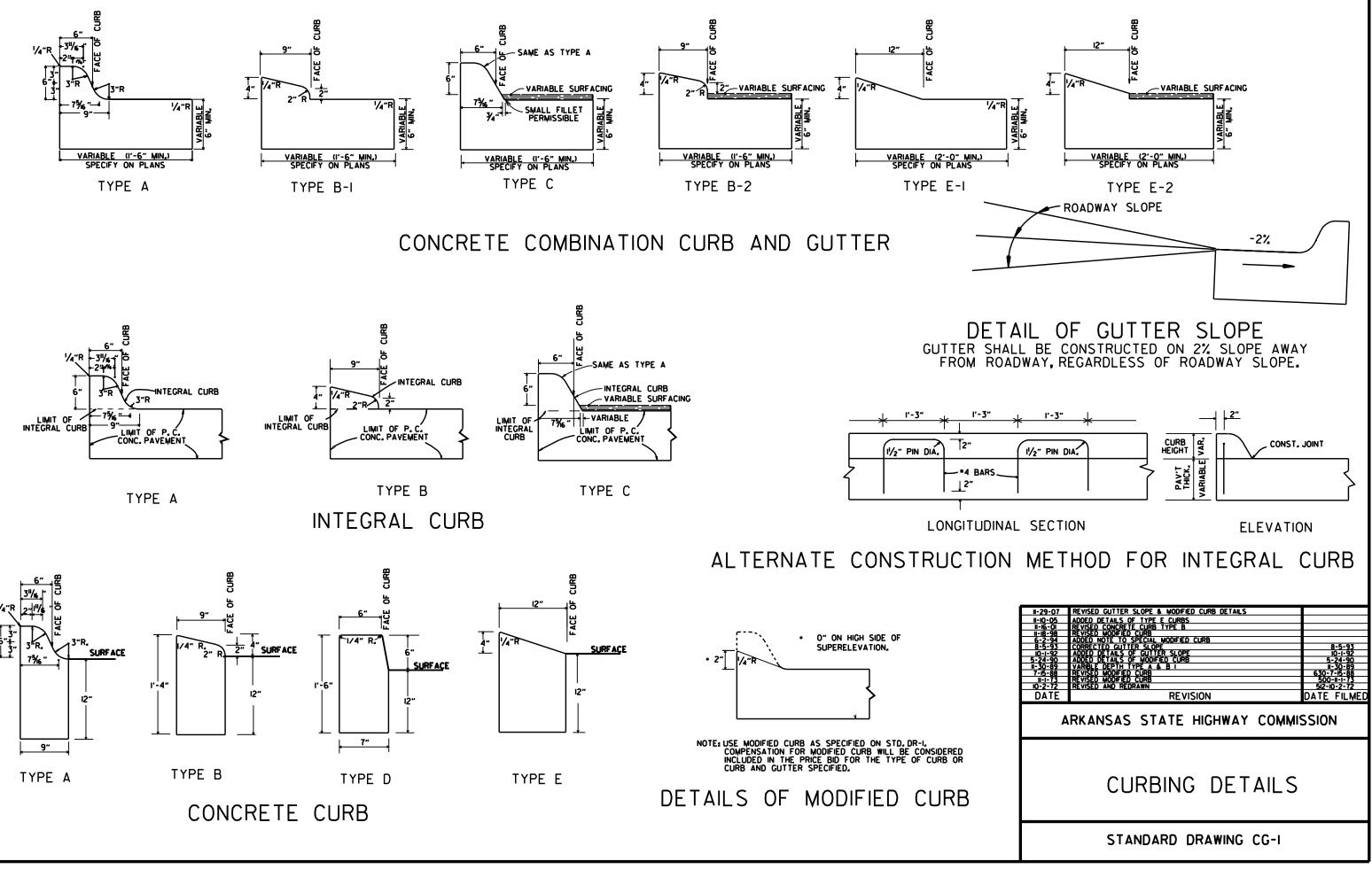


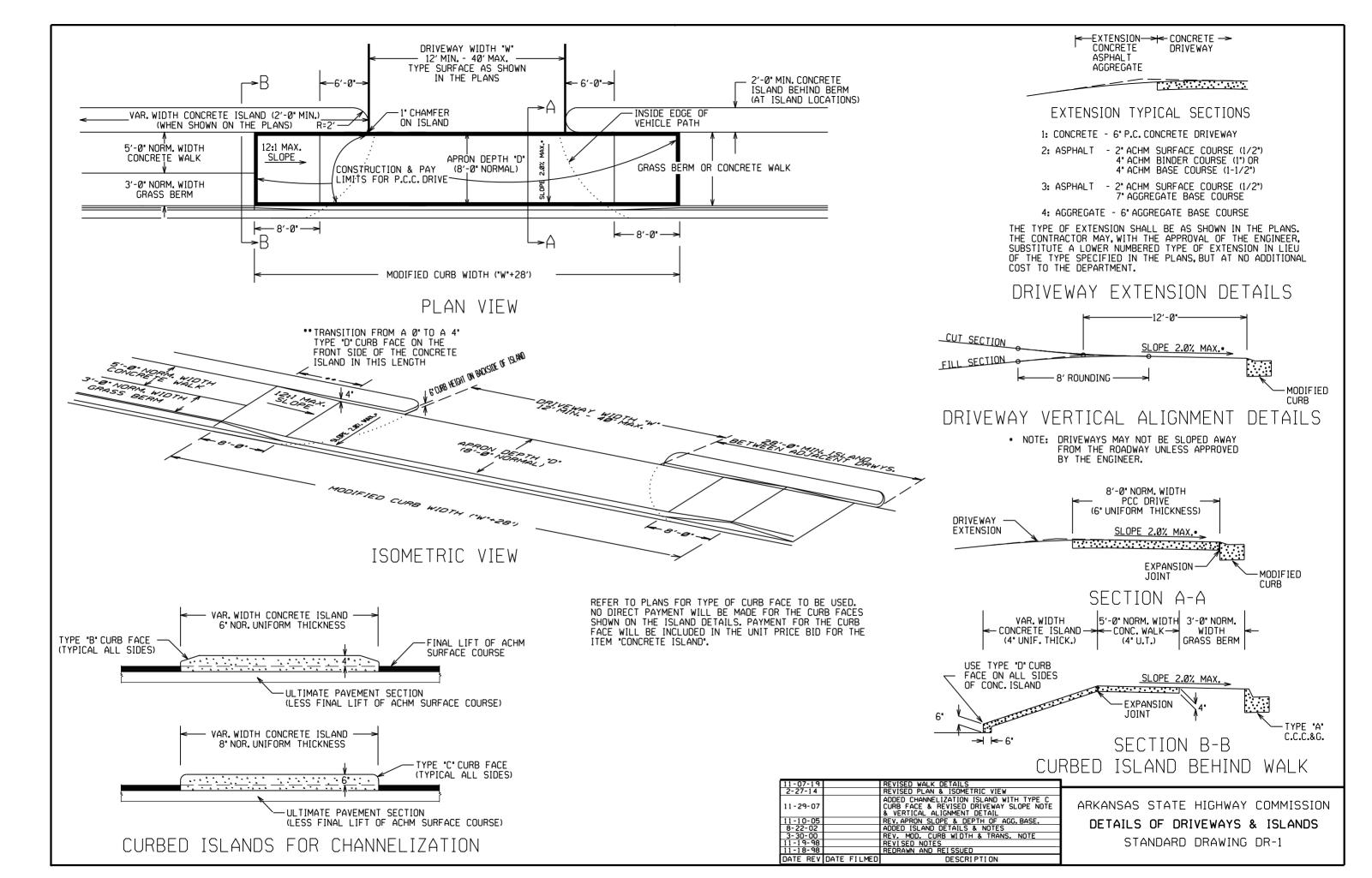


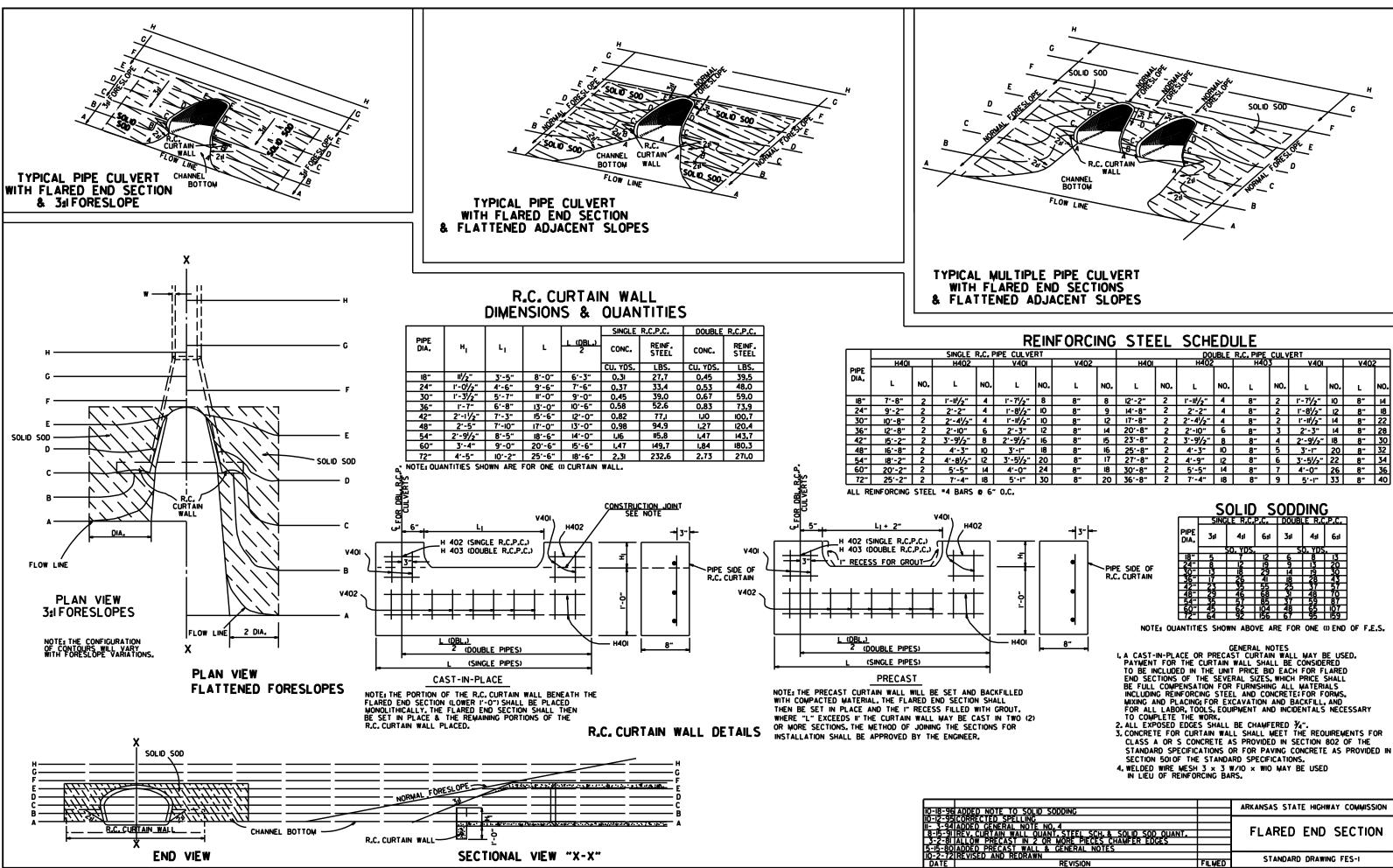










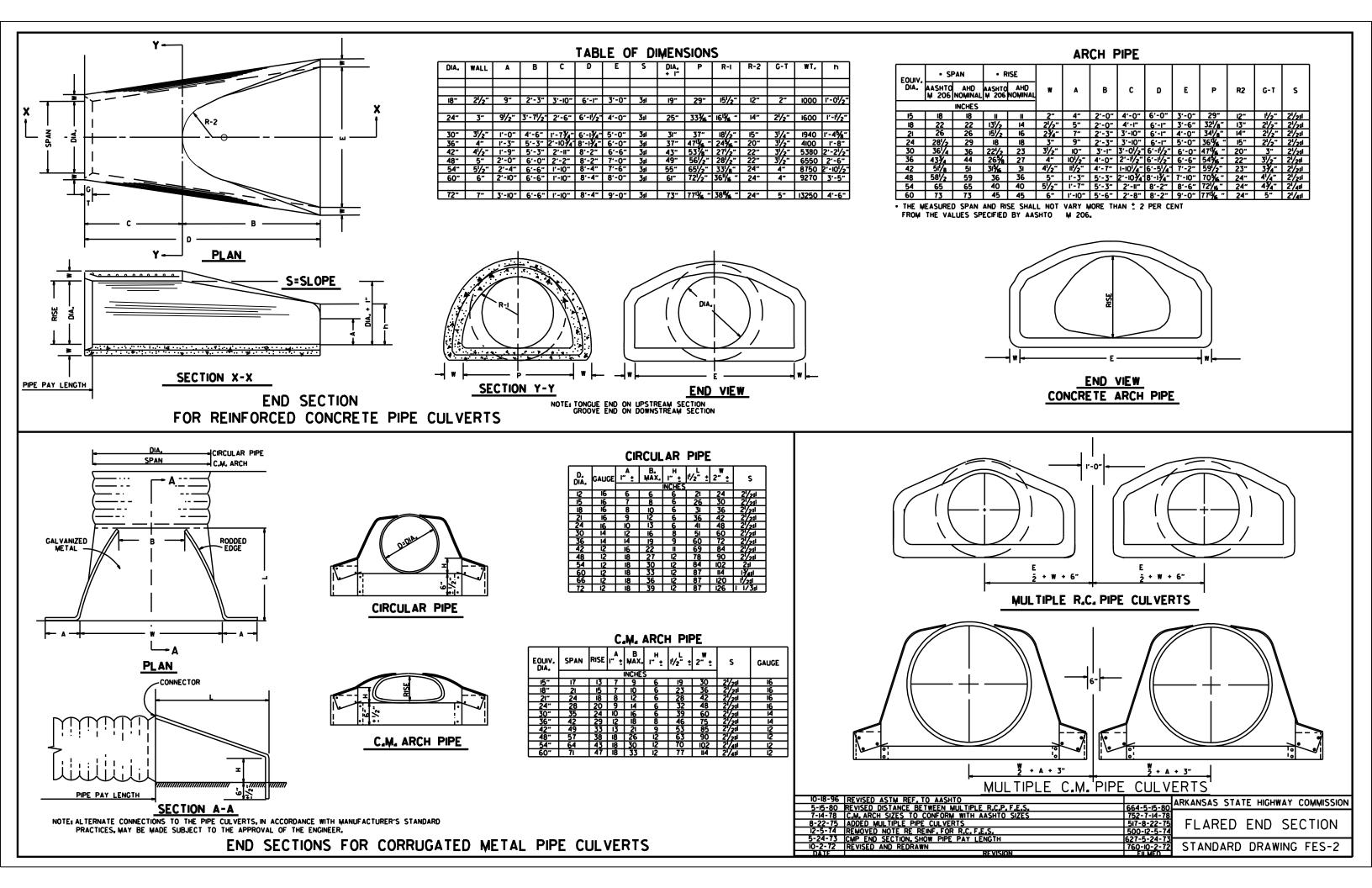


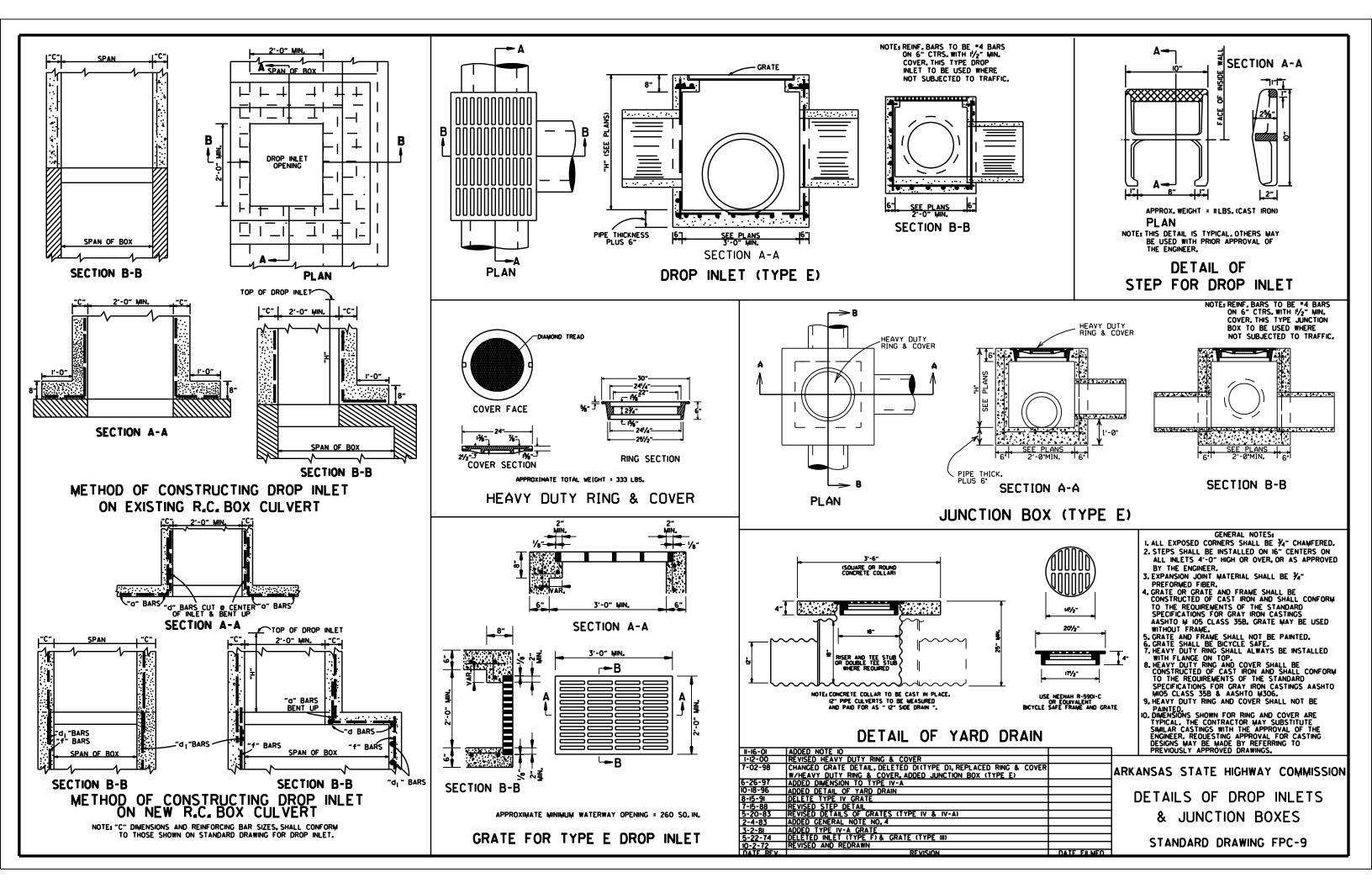
	FORCI	NG	STE	EL	SCH	EDI	JLE					
RT				DOUBLE R.C. PIPE CULVERT								
	V402		H40I		H402		H40.	5	V40I		V402	2
NO.	L	NO.	L	NO.	L	NO.	L	N0.	L	NO.	L	NO.
8	8"	8	12'-2"	2	ľ-ľ/2"	4	8"	2	I'-7¼2"	10	8"	14
10	8"	9	14'-8"	2	2'-2"	4	8"	2	r-81/2"	12	8"	18
10	8"	12	17'-8"	2	2'-41/2"	4	8"	2	I'-II <sup>I</sup> /2*	14	8~	22
12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
16	8"	15	23'-8"	2	3'-91/2"	8	8	4	2'-91/2"	18	8"	30
18	8"	16	25'-8"	2	4'-3"	0	8*	5	3'-1"	20	8"	32
20	8**	17	27'-8"	2	4'-9"	12	8*	9	3'-51/2"	22	8~	34
24	8"	18	30'-8"	2	5′-5″	14	8"	7	4'-0"	26	8"	36
30	8"	20	36'-8"	2	7'-4"	18	8*	9	5'-1"	33	8~	40

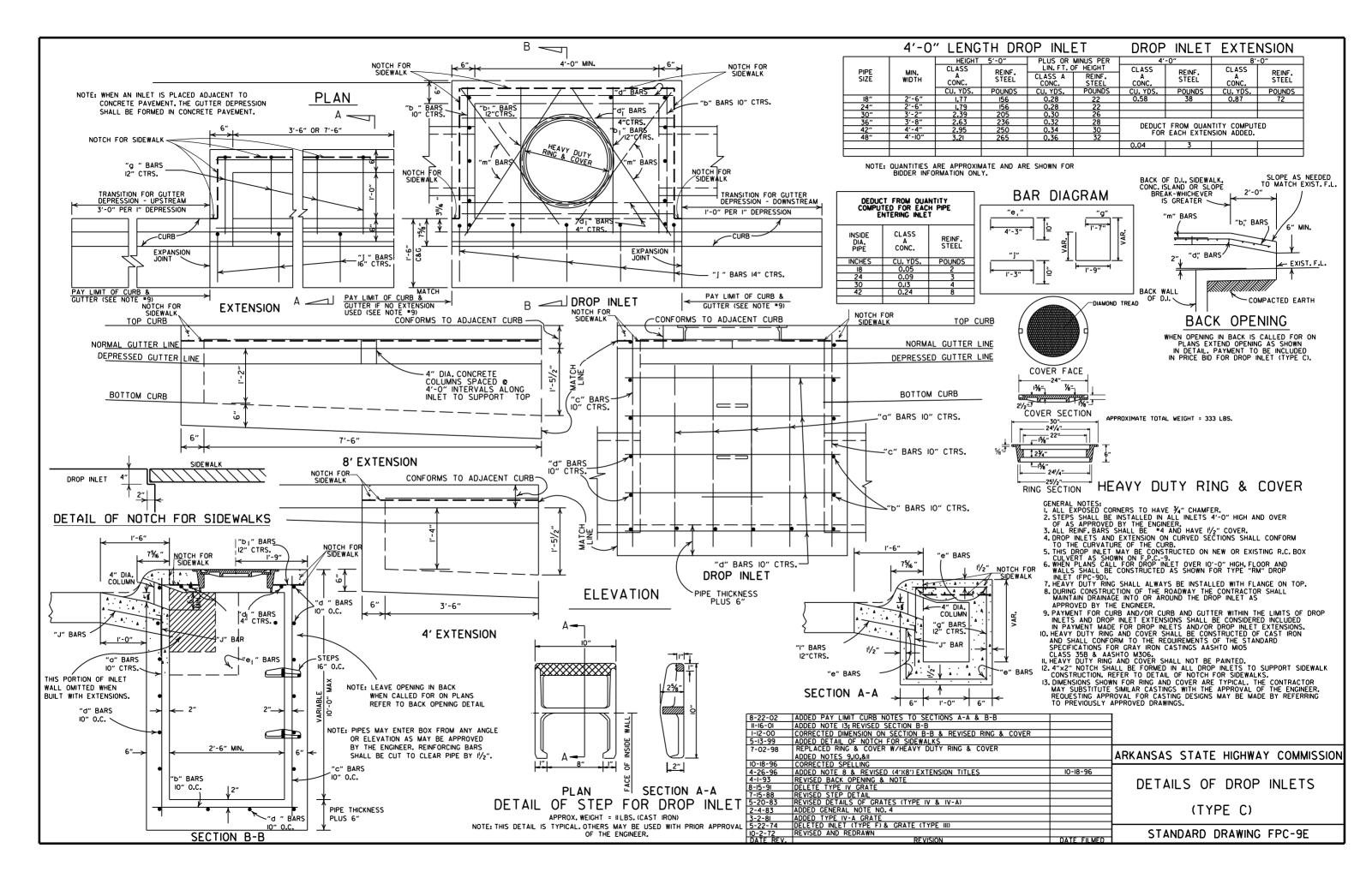
S	ÔL	.ID	S	odc	)IN(	;
SINC	ile	R_C_P.	.C.	DOUB	E R.C	. Р.

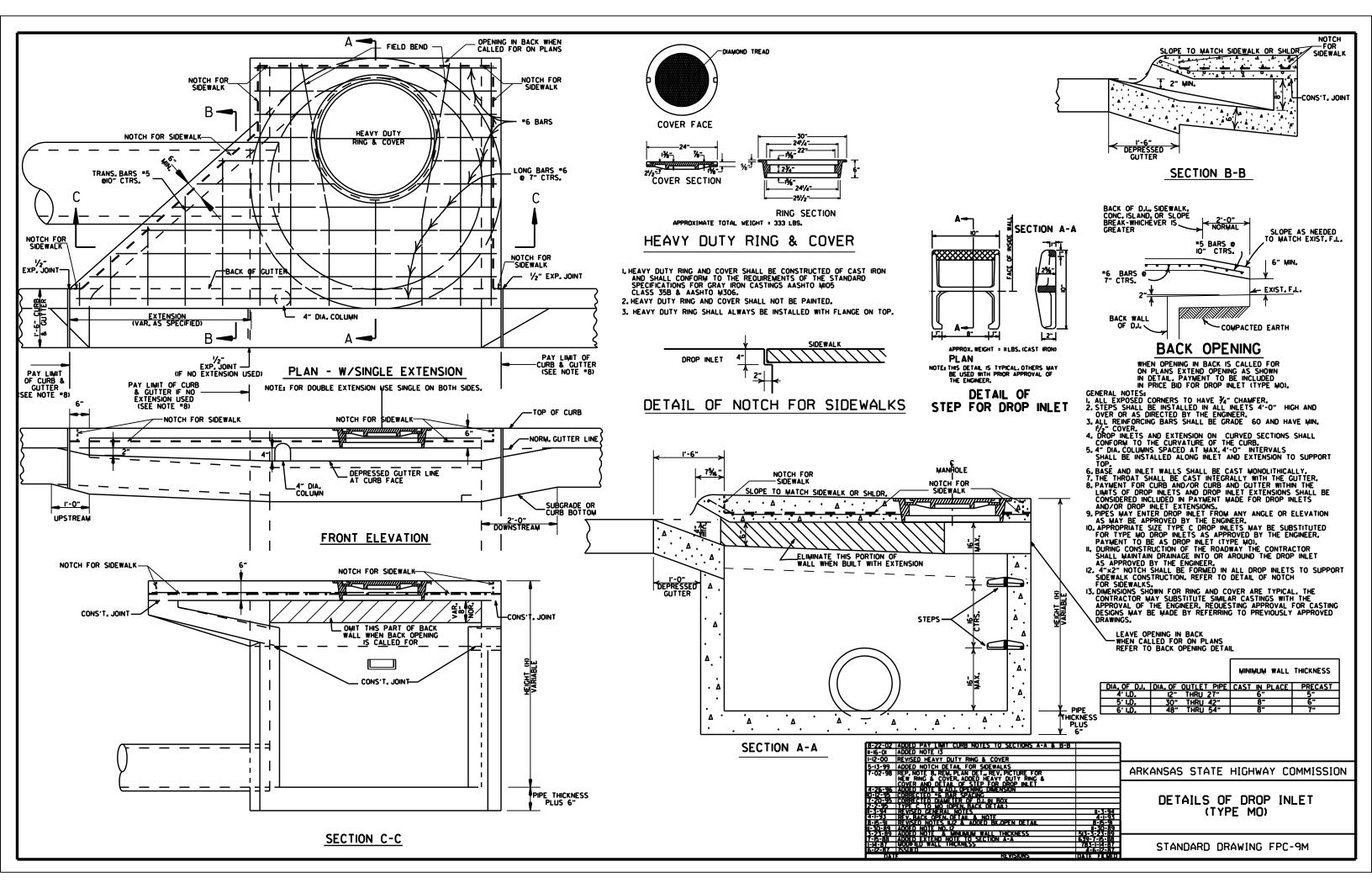
PIPE DIA,	3:1	4;1	6:1	3si	4:1	6:1
Г		SO, YDS,		S	O. YDS	
18**	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

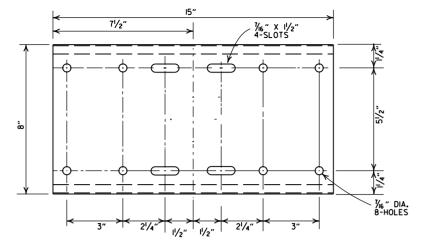
LID SODDING		ARKANSAS STATE HIGHWAY COMMISSION	
C TE NO. 4			
OUANT.STEEL SCH.& SOLID SOD OUANT. 2 OR MORE PIECES CHAMFER EDGES		FLARED END SECTION	
LL & GENERAL NOTES		STANDARD DRAWING FES-I	
REVISION	FILMED		



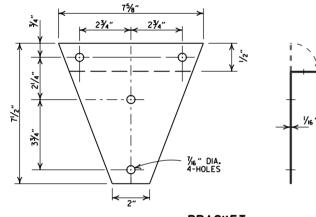




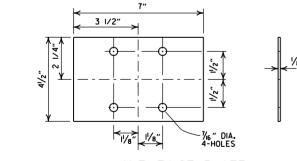




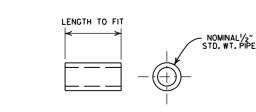






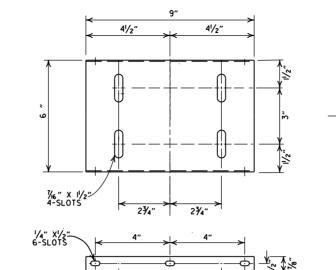


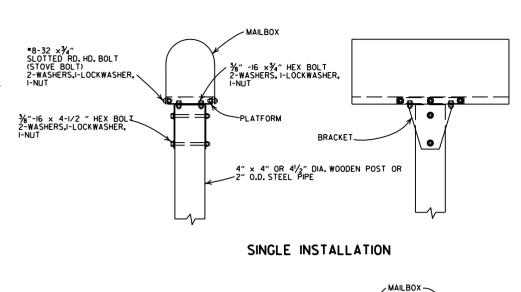
ANTI-TWIST PLATE



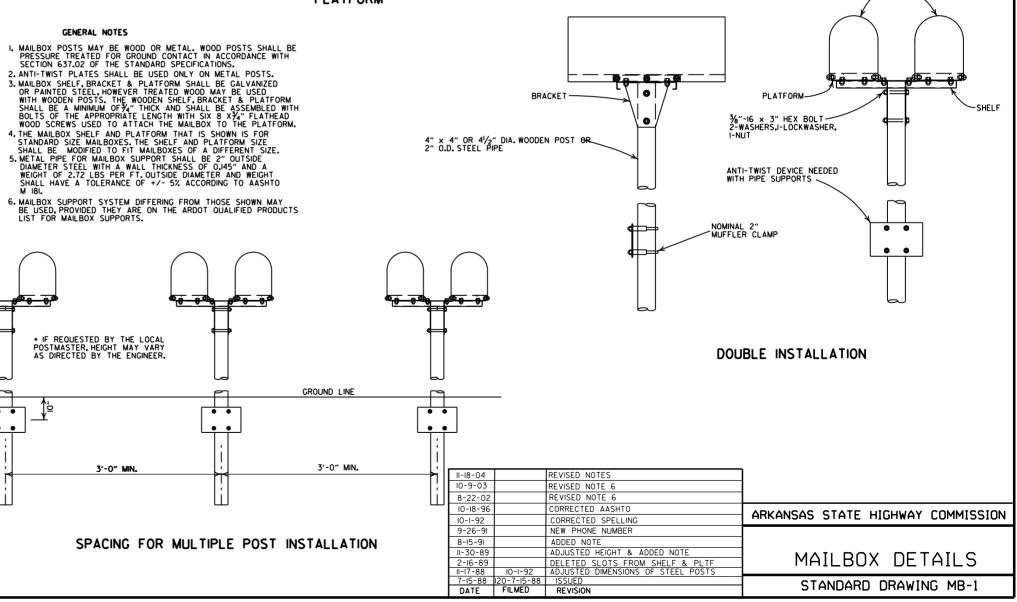


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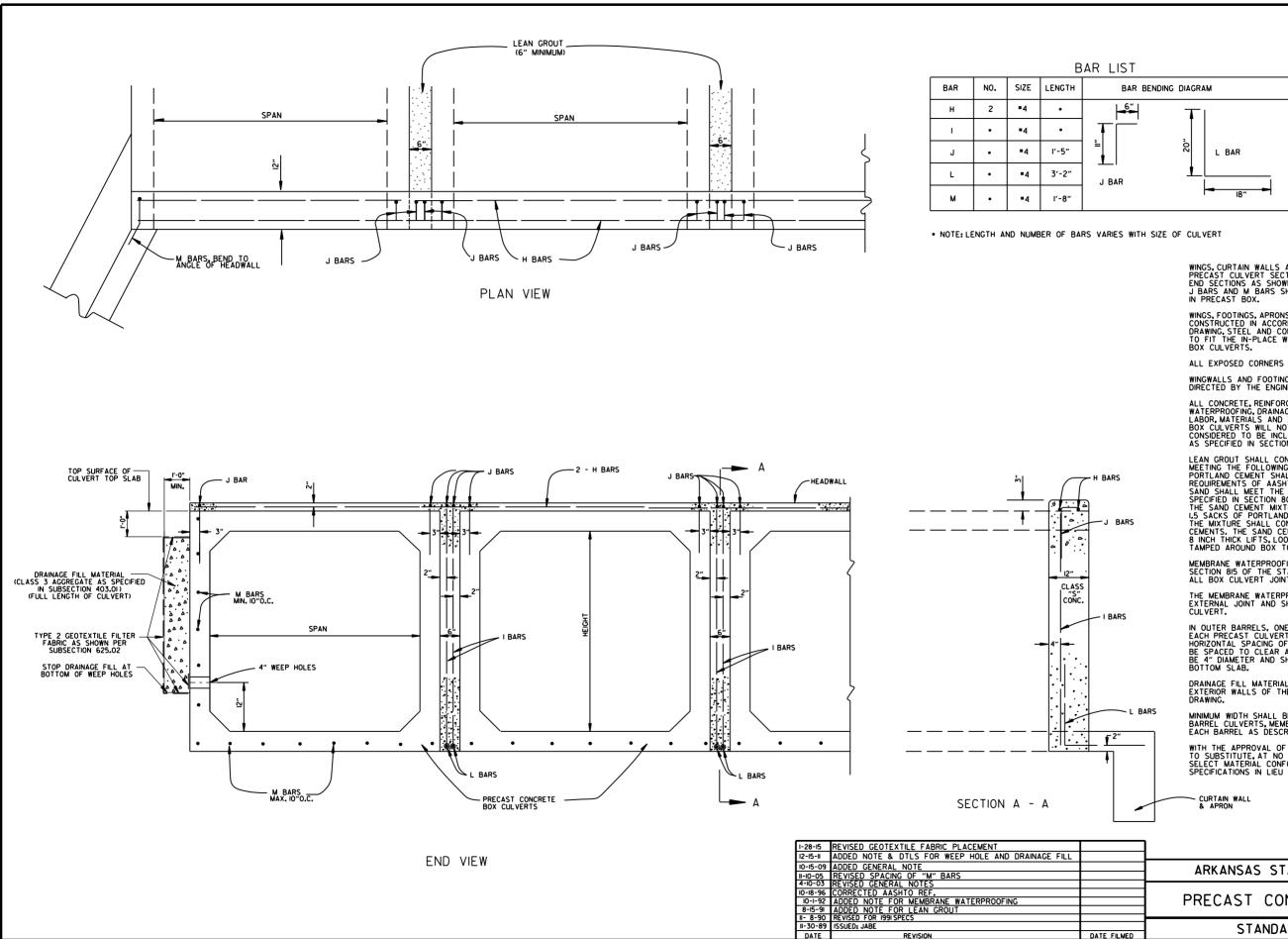
PLATFORM



CLAMP

NOMINAL 2 MUFFLER CLAMP

SPACER



#### 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 IO" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING, STELL AND CONCRETE OUANTIFIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE DAY OF THE PRECAST CONCRETE

ALL EXPOSED CORNERS TO HAVE 3/4" 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 EOUIPMENT REOURED 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 I FOOT DOWN THE SIDES OF THE

IN OUTER BARRELS, ONE WEEP HOLE IS REOUIRED 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

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.

ARKANSAS STATE HIGHWAY COMMISSION PRECAST CONCRETE BOX CULVERTS STANDARD DRAWING PBC-I

#### REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV.	SP	AN	RISE	
DIA.	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES		INC	HES	
15 18 21 24 30 36 42 48 54 60 72 84 90 96 108 120 132	18 22 26 281/2 361/4 43% 511/6 581/2 65 73 88 102 115 122 138 154 168%	18 22 26 29 36 44 51 59 65 73 88 102 115 122 138 154 169	11 13½ 15½ 26% 31% 40 45 54 40 45 54 62 72 77½ 87% 96%	11 14 16 23 27 31 36 40 45 54 62 77 77 87 97 107

MORE THAN + 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206

#### MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

		CLASS O	F PIPE	
	CLASS	III	CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)		FEE	T	
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.

#### MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

	CLASS	OF PIPE	
INSTALLATION TYPE	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.

### REINFORCED CONCRETE HORIZONTAL ELLIPTICAL

PIPE	DIMENSIONS				
EQUIV.	AASHT	D M 207			
DIA.	SPAN	RISE			
INCHES	INC	HES			
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	ļ		
THE MEA	SURED S	PAN AND RI	S		

SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

### CONSTRUCTION SEQUENCE

I. 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.(†)(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 PIPF.

#### - LEGEND -

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.

#### MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	C	LASS OF PIP	È		
INSTALLATION TYPE	CLASS III	CLASS IV	CLASS V		
TIFE	FEET				
TYPE 1	21	32	50		
TYPE 2	16	25	39		
TYPE 3	12	20	30		

NOTF: īΔī

#### MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

	CLASS OF PIPE			
INSTALLATION TYPE	CLASS III	CLASS IV		
TTFE	FEET			
TYPE 2	13	21		
TYPE 3	10	16		

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

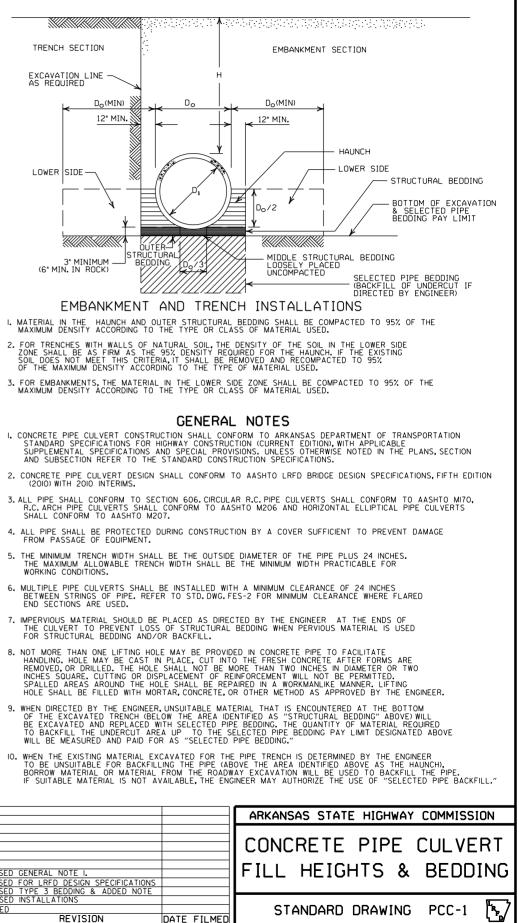
# TRENCH SECTION EXCAVATION LINE AS REQUIRED $D_{O}(MIN)$ 12" MIN. LOWER SIDE -3" MINIMUM (6" MIN. IN ROCK)

- (2010) WITH 2010 INTERIMS.

- WORKING CONDITIONS.
- END SECTIONS ARE USED.

	REVISED GENERAL NOTE I.
	REVISED FOR LRFD DESIGN SPECIFICATIONS
	REVISED TYPE 3 BEDDING & ADDED NOTE
3-30-00	REVISED INSTALLATIONS
II-06-97	ISSUED
DATE	REVISION

DE	SIGN	CON	CRET	EXCE E PIF STAL	PE W	ILL		



### CORRUGATED STEEL PIPE (ROUND)

0011	ROOTTED				07	
PIPE	1 MINUMUM COVER TOP OF	MAX.FILL	HEIGHT "	H" ABOVE	TOP OF PI	PE (FEET)
DIAMETER	PIPE TO TOP OF GROUND		METAL	THICKNESS	(INCHES)	
(INCHES)	"H" (FEET)	0.064	0.079	0.109	0.138	0.168
	23 RIVET	INCH BY	1/2 INCH	CORRUGATI	ON (-SEAM	
12 15 18 24 30 36 42 48	     2 2 2 2	84 67 56 42 34	91 73 61 46 36 30 43 37	59 47 39 67 58	41 70 61	73 64
	2 3 INCH BY RIVETE			BY 1 INC		
36 42 48 54 60 66 72 78 84 90 96 102 108 114 120	   2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	48 41 36 32 29 26 24	60 51 45 36 33 28 26 24 22	88 72 64 59 53 44 41 38 35 33 31 30 28 27	III 90 77 71 64 58 53 49 45 45 45 40 38 35 34 32	118 102 85 79 71 64 59 54 51 45 44 42 39 37 35

#### CORRUGATED ALUMINUM PIPE (ROUND)

PIPE	() MINUMUM COVER TOP OF	MAX.FILL	. HEIGHT '	'H'' ABOVE	TOP OF P	PIPE (FEET		
DIAMETER	PIPE TO TOP							
(INCHES)	OF GROUND "H" (FEET)	0.060	0.075	0.105	0.135	0.164		
		2 ²/3			CORRUGA			
			IVETED OF	<u>HELICAL</u>	LOCK-SEA	M		
12	1	45	45					
18	2	30	30	52				
24	2	22	22	39	41			
30	2		18	31	32	34		
36	2.5		iŠ	26	27	28		
42	2.5		13	43	43	44		
48	2			40	41			
						43		
54	2			35	37	38		
60	2				33	34		
66	2					31		
72	2					29		

### CORRUGATED METAL PIPE ARCHES

			STEEL					ALUMINUM			
	PIPE	MINUMUM	MIN.	1 MIN. HEI			IGHT OF	MIN.	() MIN. HEIGHT OF	MAX.HEIGHT OF	
EQUIV.	DIMENSION		THICKNESS	FILL, "H" (FT.)		FILL,"	H"(FT.)	THICKNESS	FILL, "H" (FT.)	FILL,"H"(FT.)	
DIA.	SPAN X RISE		REQUIRED	INSTAL	LATION	INSTAL	LATION	REQUIRED	INSTALLATION	INSTALLATION	
(INCHES)	(INCHES)	(INCHES)	INCHES	TYPE	1	TYPE	E 1	INCHES	TYPE 1	TYPE 1	
				2 ⅔ INCH E ETED. WELDE	D. OR HELIC		м		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17×13	3	0.064	2		15	j	0.060	2	15	
18	21×15	3	0.064	2		15	i	0.060	2	15	
21	24×18	3	0.064	2.2	5	15		0.060	2.25	15 15	
24	28×20	3	0.064	2.5	5	15		0.075	2.5	15	
30	35×24	3	0.079	3		12		0.075	3	12	
36	42×29	31/2	0.079	3		12		0.105	3	12	
42	49×33	4	0.079	3		12		0.105	3	12	
48	57×38	5	0.109	3		13	5	0.135	3	13	
54	64×43	6	0.109	3		4		0.135	3	4	
60	71×47	7	0.138	3		15		0.164	3	15	
66	77×52	8	0.168	3		15					
72	83×57	9	0.168	3		15					
			2 3 INCH RIVE	BY 1 INCH ( TED, WELDE	DR 5 INCH E D, OR HELIC	3Y 1 INCH CO AL LOCK-SE	ORRUGATION				
				INSTAL	LATION	INSTAL	LATION	1	FOR MINIMUM COVER	VALUES, "H" SHALL	
				TYPE 2	TYPE 1	TYPE 2	TYPE 1	2	WHERE THE STANDAR	D 2 2/3"x 1//" CORI	
36	40×31	5	0.079	3	2	12	15		WITH A 3" × 1" OR 5"		
42	46×36	6	0.079	3	2	13	15	(	OR GREATER THAN TI	HE MAXIMUM FILL	
48	53×4I	7	0.079	3	2	13	15				
54	60×46	8	0.079	3	2	13	15				
60	66×51	9	0.079	3	2	13	15				
66	73×55	12	0.079	3	2	15	15				
72	81×59	14	0.079	3	2	15	15				
78	87×63	14	0.079	3	2	15	15				
84	95×67	16	0.109	3	2	15	15				
90	103×71	16	0.109	3	2	15	15				
96	II2×75	18	0.109	3	2	15	15				
102	117×79	18	0.109	3	2	15	15				
108	128×83	18	0.138	3	2	15	15	]			

#### 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
- 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.

INSTAL TY		MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE	E 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE	E 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	
STI	EEL		GAUGE NUMBER
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

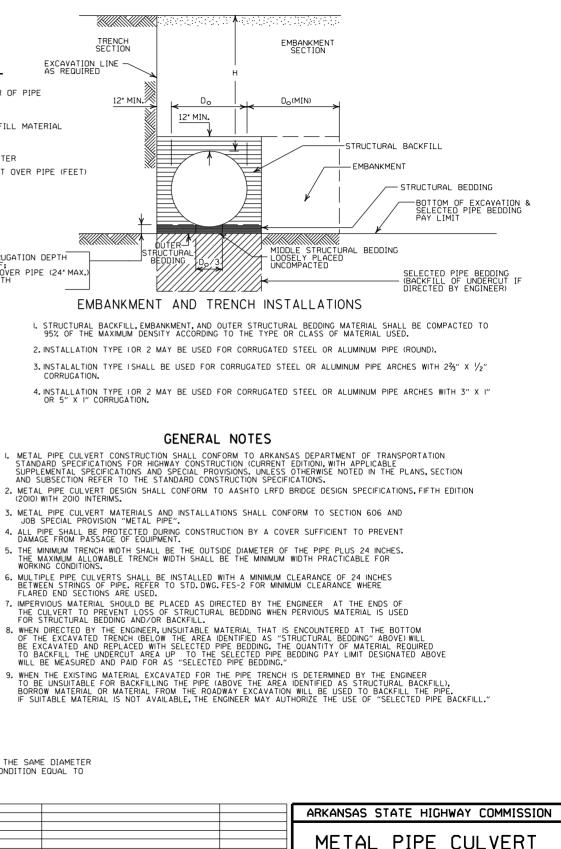
# TRENCH SECTION EXCAVATION LINE - LEGEND -Do = OUTSIDE DIAMETER OF PIPE 12" MIN. 🖄 Dr MAX. = MAXIMUM MIN. = MINIMUM 12" MIN = STRUCTURAL BACKFILL MATERIAL = UNDISTURBED SOIL EQUIV. DIA. = EQUIVALENT DIAMETER H = FILL COVER HEIGHT OVER PIPE (FEET) XIX IN SOIL-MIN. EQUALS TWICE CORRUGATION DEPTH IN ROCK-MIN. EQUALS GREATER OF: 1/2"PER FOOT OF FILL OVER PIPE (24" MAX.) TWICE CORRUGATION DEPTH TIRAI ł IŅĢ BEDD CORRUGATION.

- (2010) WITH 2010 INTERIMS.

"SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

½°CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER GATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO M FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

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Γ	2-27-14	REVISED GENERAL NOTE I.
Γ	12-15-11	REVISED FOR LRFD DESIGN SPECS
Γ	3-30-00	REVISED INSTALLATIONS
ſ	II-06-97	ISSUED
	DATE	REVISION



	FILL HEIGHTS & BEDDIN	C
DATE FILMED	STANDARD DRAWING PCM-1	7

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-I, SM-2 OR SM-4)

AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

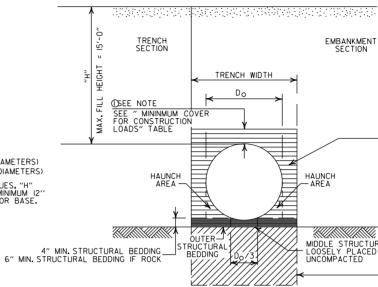
STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

#### MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

	TRENCH WIDTH (FEET)			
PIPE DIAMETER	"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"		

(NOTE: 18" MIN. (18" - 30" DIAMETERS) 24" MIN. (36" - 48" DIAMETERS) MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



### TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

I. 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

I. 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.

PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

#### GENERAL NOTES

I. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

- 2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- 3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- 4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- 5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEODING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- 6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE, IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- 7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
- 8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- 9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

#### - LEGEND -

H = FILL HEIGHT (FT.) B = OUTSIDE DIAMETER OF PIPE MAX. = MAXIMUM MIN. = MINIMUM

=	STRUCTURAL	BACKFILL	MATERIAL
=	UNDISTURBED	SOIL	

			ARKANSAS STATE HIGHWAY COMMISSION
			PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)
2-27-14	REVISED GENERAL NOTE I.		
12-15-11 11-17-10	REVISED GENERAL NOTES & MINIMUM COVER NOTE ISSUED		STANDARD DRAWING PCP-1
DATE	REVISION	DATE FILMED	

#### MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18″	l'-6"
24″	2'-0"
30"	2'-6"
36"	3'-0"
42″	3'-6"
48"	4'-0"

MINIMUM	COVER	FOR
CONSTRU	CTION I	LOADS

	Ø MIN. 0	COVER (FEET CONSTRUCT		ATED
PIPE DIAMETER	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	II0.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

	•		
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•		••	•

	BOTTOM OF EXCAVATION & SELECTED PIPE BEDDING PAY LIMIT
TURAL BEDDING CED	
	SELECTED PIPE BEDDING (BACKFILL OF UNDERCUT IF DIRECTED BY ENGINEER)

- STRUCTURAL BACKFILL

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

 STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF INCH, STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OF FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PVC PIPE.

#### MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

		H WIDTH EET)
PIPE DIAMETER	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30″	5′-6″	7'-6"
36"	6'-0"	9'-0"

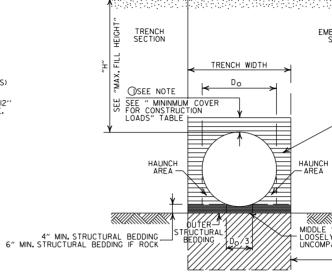
#### MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30″	2'-6"
36"	3'-0"

#### MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL



NOTE: 12" MIN. (18" - 36" DIAMETERS) MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



## TYPE 2 EMBANKMENT AND TRENCH

I. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR C

#### MINIMUM COVER FOR CONSTRUCTION LOADS

	2 MIN. C	COVER (FEET CONSTRUCT		ATED
PIPE DIAMETER	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	II0.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

# CONSTRUCTION SEQUE

- 2. INSTALL PIPE TO GRADE.
- COMPACT STRUCTURAL BEDDING OUTSIDE TH
   THE STRUCTURAL BACKFILL SHALL BE PLACI LAYERS NOT EXCEEDING 8". THE LAYERS SH AND SIMULTANEOUSLY TO THE ELEVATION OF
- 5. PIPE INSTALLATION MAY REQUIRE THE USE OR OTHER APPROVED METHODS IN ORDER T ALIGNMENT.

## GENERAL NOTES

- I. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
- 2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- 3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- 4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- 5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- 6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL, BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- 7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.

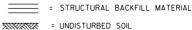
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.

9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

# - LEGEND -

DATE FILMED

H = FILL HEIGHT (FT.) D<sub>0</sub> = OUTSIDE DIAMETER OF PIPE MAX.= MAXIMUM MIN.= MINIMUM



2-27-14	REVISED GENERAL NOTE I.
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL
11-17-10	ISSUED
DATE	REVISION

MBANKMENT SECTION		
02011011		
STRUCTU	IRAL BACKFILL	
н		
	BOTTOM OF EXCAVATION & SELECTED PIPE BEDDING PAY LIMIT	
E STRUCTURAL BEDDIN LY PLACED MPACTED		
	SELECTED PIPE BEDDING 	
INSTALLATIO		
L BEDDING MATERIAL S CLASS OF MATERIAL	SHALL BE COMPACTED TO USED.	
RADE. DO NOT COM	MPACT.	
THE MIDDLE THIRD OF ACED AND COMPACTED SHALL BE BROUGHT U		
OF THE MINIMUM COVI	ER.	
TO HELP MAINTAIN GR	ADE AND	
	ARKANSAS STATE HIGHWAY COMMISSION	J
		-
	PLASTIC PIPE CULVERT	

STANDARD DRAWING PCP-2

(PVC F949)

INSTALLATION	** MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE I	AGGREGATE BASE COURSE (CLASS 4, 5, 6, 0R 7)
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) OR TYPE I INSTALLATION MATERIAL

\* SM3 WILL NOT BE ALLOWED.

\*\* STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF INCH, 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
DIAMETER	BETWEEN PIPES
18″	l'-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"

	TRENCH WIDTH (FEET)			
PIPE DIAMETER	"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" 12'-0"		
48″	8'-0"			
60"	10'-0"	15'-0"		

MINIMUM COVER FOR CONSTRUCTION LOADS

 PIPE
 18.0-50.0
 50.0-75.0
 75.0-110.0
 10.0-150.0

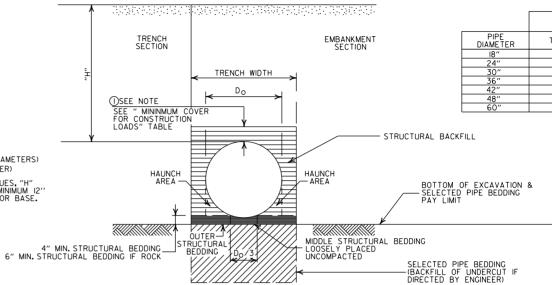
 DIAMETER
 (KIPS)
 (KIPS)
 (KIPS)
 (KIPS)
 (KIPS)
 (KIPS)

 36" OR LESS
 2'-0"
 2'-6"
 3'-0"
 3'-0"
 3'-0"
 3'-6"
 4'-0"

② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS

 $\textcircled{O}_{\rm MINIMUM}$  cover shall be measured from top of pipe to top of the maintained construction roadway surface. The surface shall be maintained.

(I)NOTE: 12" MIN. (18" - 42" DIAMETERS) 24" MIN. (60" DIAMETER) MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



### EMBANKMENT AND TRENCH INSTALLATIONS

I. 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

I. 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
---------	-------

- I. 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).
- 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 BEDING" ABOVED 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.

			ARKANSAS STATE HIGHWAY COMMISSION
			PLASTIC PIPE CULVERT
			(POLYPROPYLENE)
02-27-20	REVISED		
II-07-19 DATE		DATE FILMED	STANDARD DRAWING PCP-3

### MAXIMUM HEIGHT OF FILL "H"

М	т
IN	

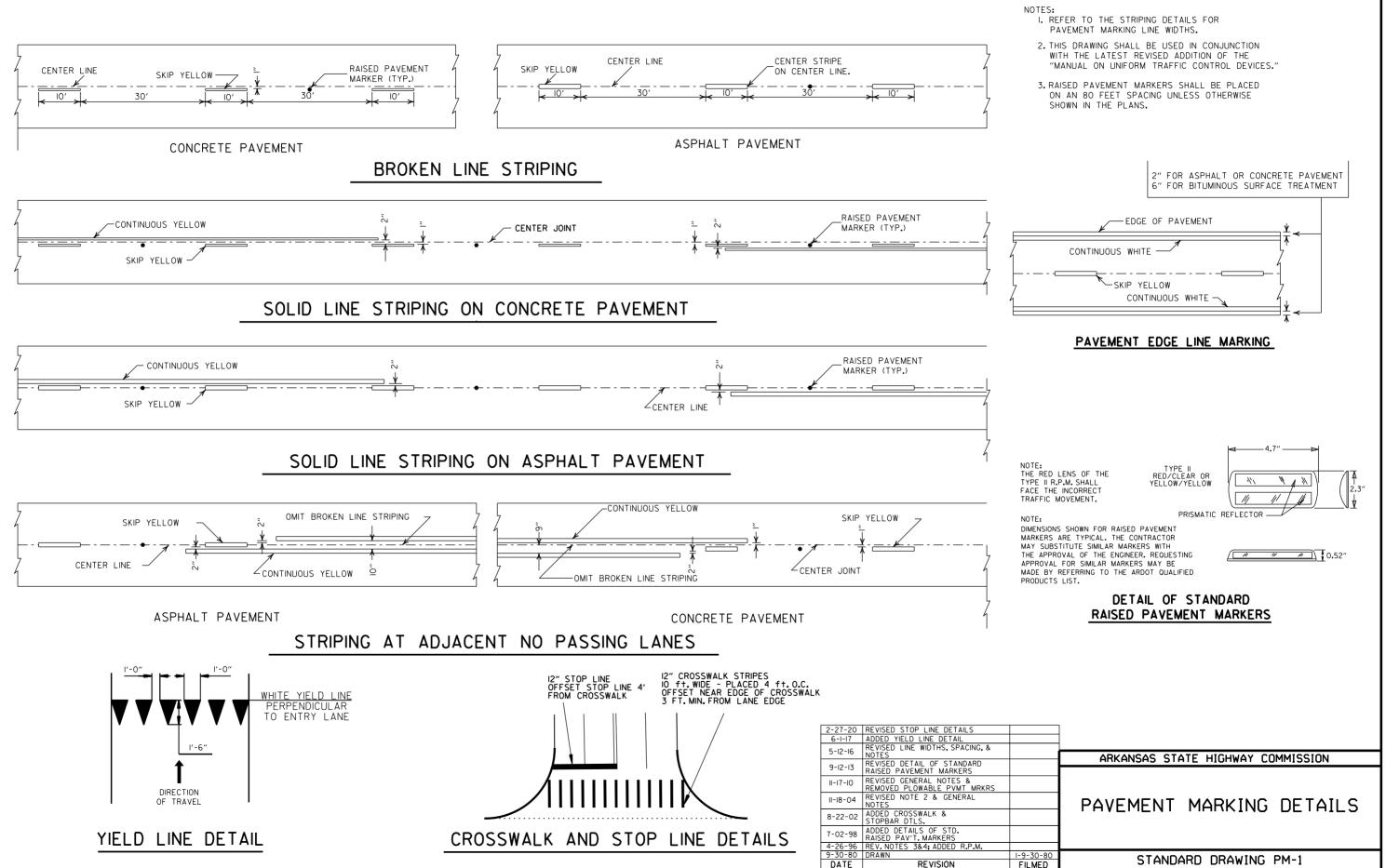
	INSTALLATION TYPE				
PIPE DIAMETER	TYPE I	TYPE 2			
18″	18'	14'			
24″	16'	12'			
30"	18'	14'			
36″	16'	12'			
42″	18'	13'			
48″	15'	II'			
60″	17'	12'			

- LEGEND -

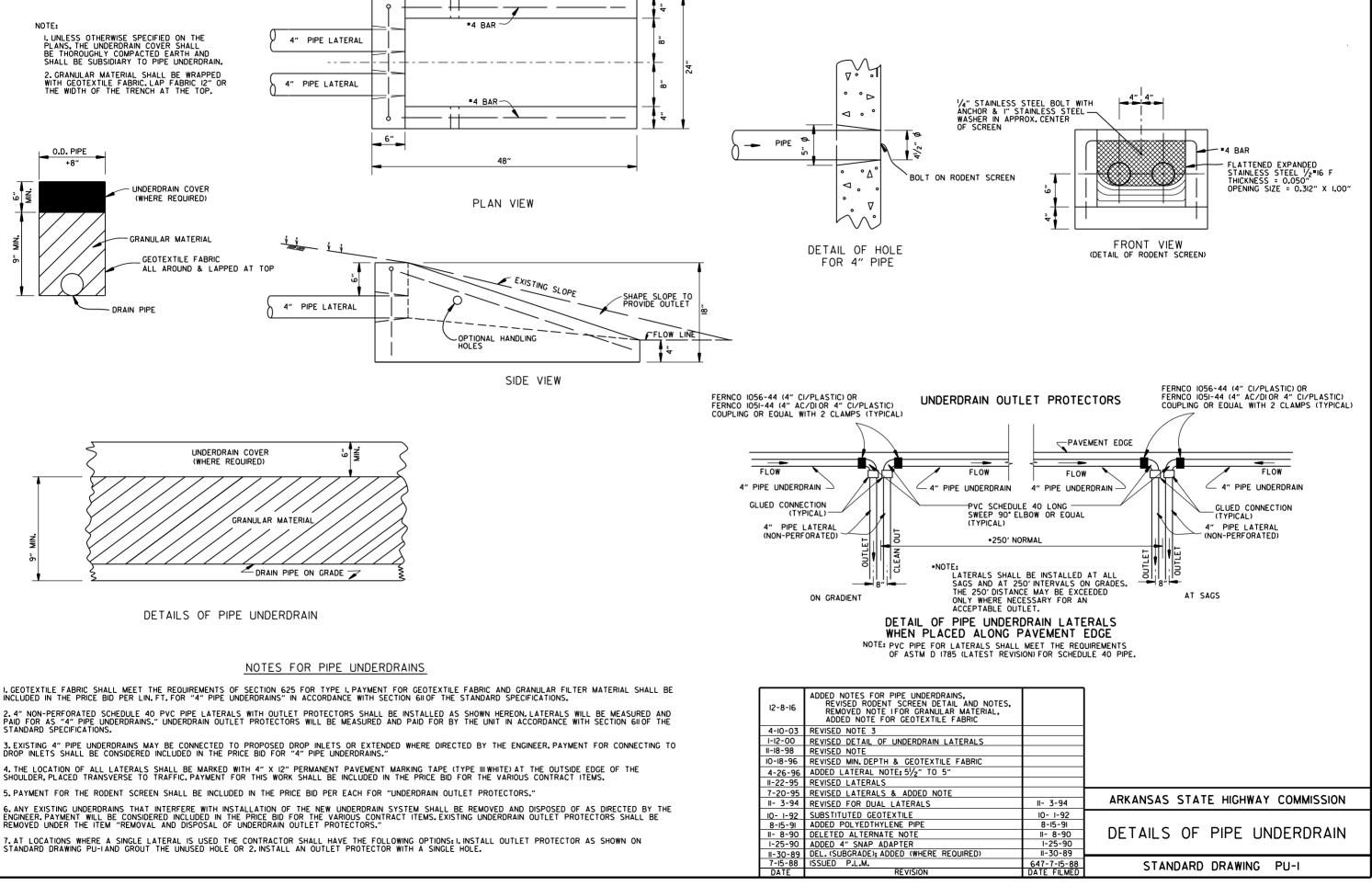
H = FILL HEIGHT (FT.) Do = OUTSIDE DIAMETER OF PIPE MAX. = MAXIMUM MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL



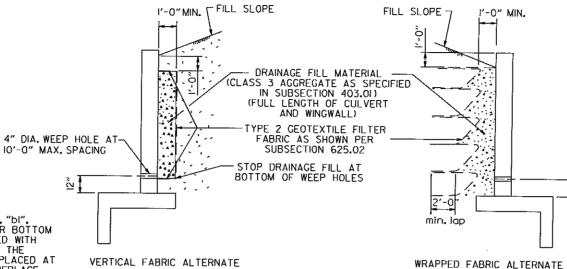
FILMED



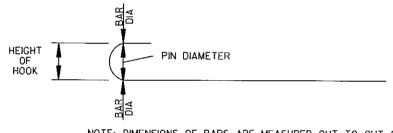
7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: I. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-I AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

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

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	21/4"	4"
4	3 ″	4 <sup>1</sup> /2"
5	3¾″	5"
6	41/2"	6″
7	51/4"	7"
8	6"	8"



IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "D", "DI", "D2" or "D3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2<sup>3</sup>/<sub>4</sub> 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 "D", "D1", "D2" OR "D3" 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 CLIT IN FIELD TO FIT.

## REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
*4	L + I' - O"	SEE "c" BAR LENGTH
*5	L + l' - 2"	SEE "c" BAR LENGTH
*6	L + l' - 4"	SEE "c" BAR LENGTH
#7	L + l' - 8"	SEE "c" BAR LENGTH
#8	L + I' - 10"	SEE "c" BAR LENGTH
#9	L + 2′ - 6″	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES

### WINGWALL & CULVERT DRAINAGE DETAIL

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.

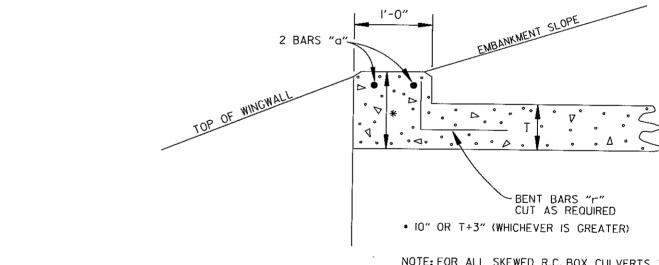
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER, NO PAYMENT SHALL BE MADE FOR THIS ITEM. BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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 CRSIMANUAL SHALL BE MINUS ZERO TO PLUS 1/2 INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-O" 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'-O" 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.



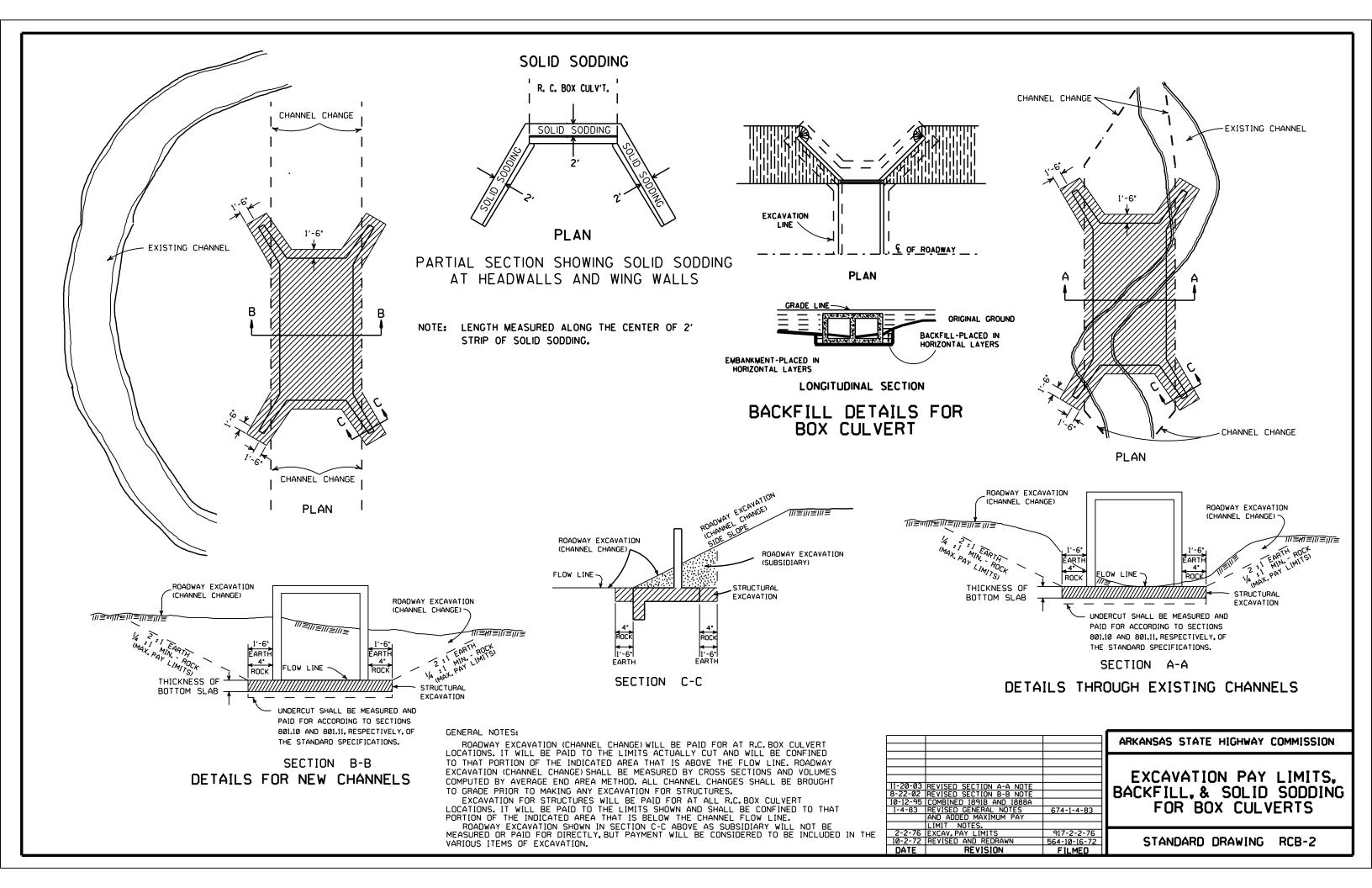
		-
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	,
#-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING 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	
DATE	REVISION	DAT

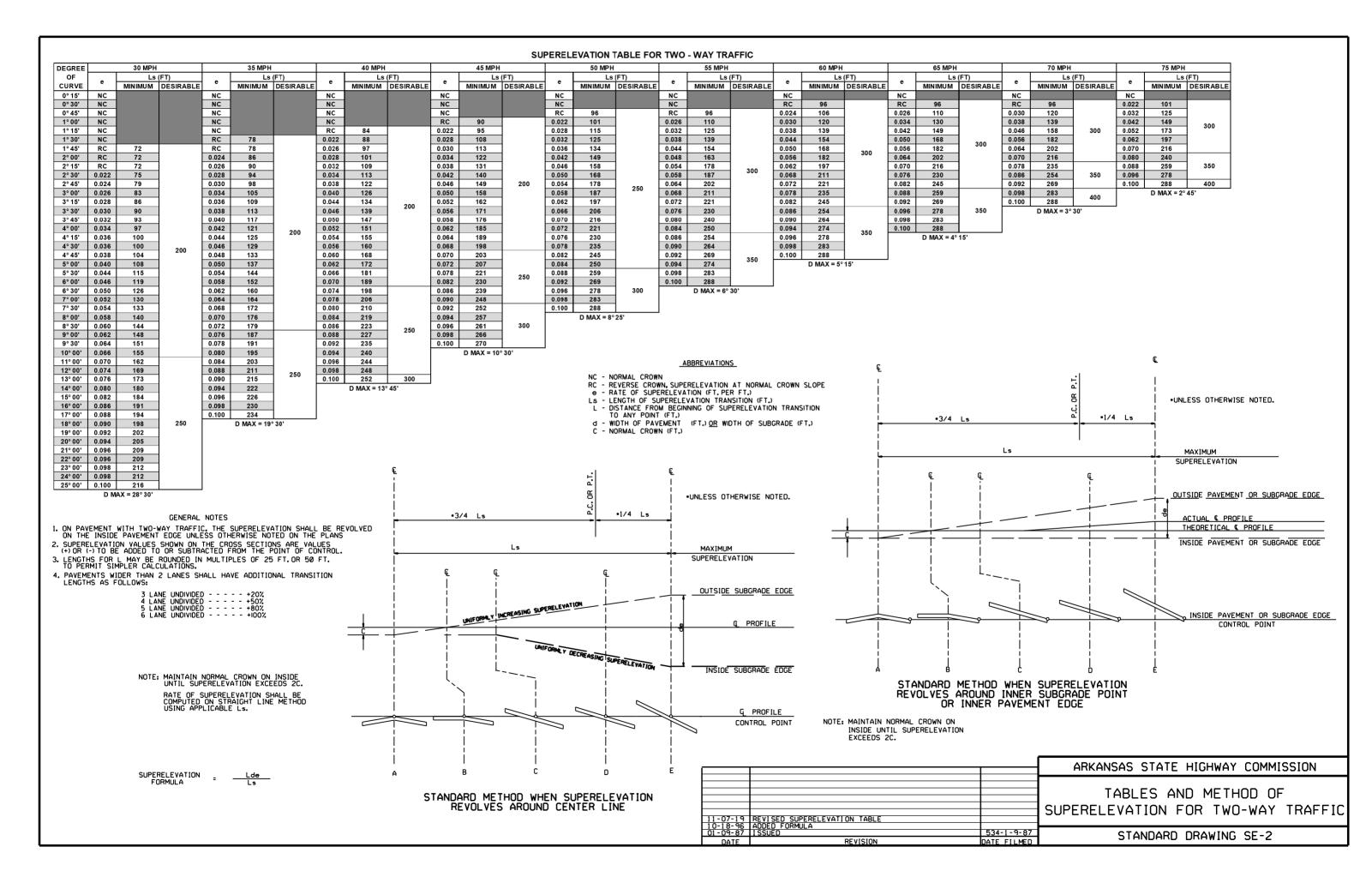
## REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

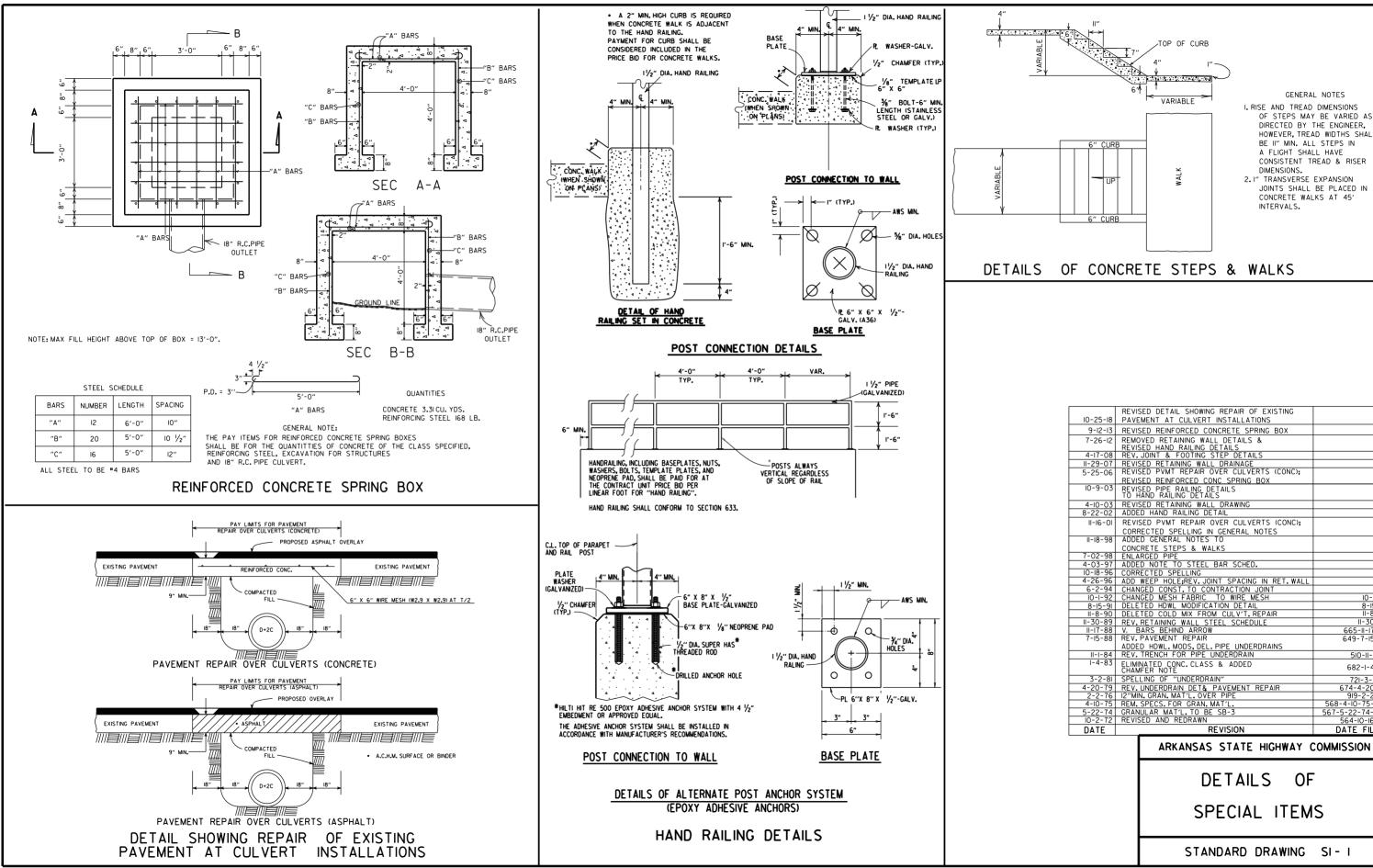
NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

R.C. BOX CULVERT HEADWALL MODIFICATIONS

	ARKANSAS STATE HIGHWAY COMMISSION
	REINFORCED CONCRETE BOX CULVERT DETAILS
TE FILMED	STANDARD DRAWING RCB-1







STANDARD DRAWING SI-I

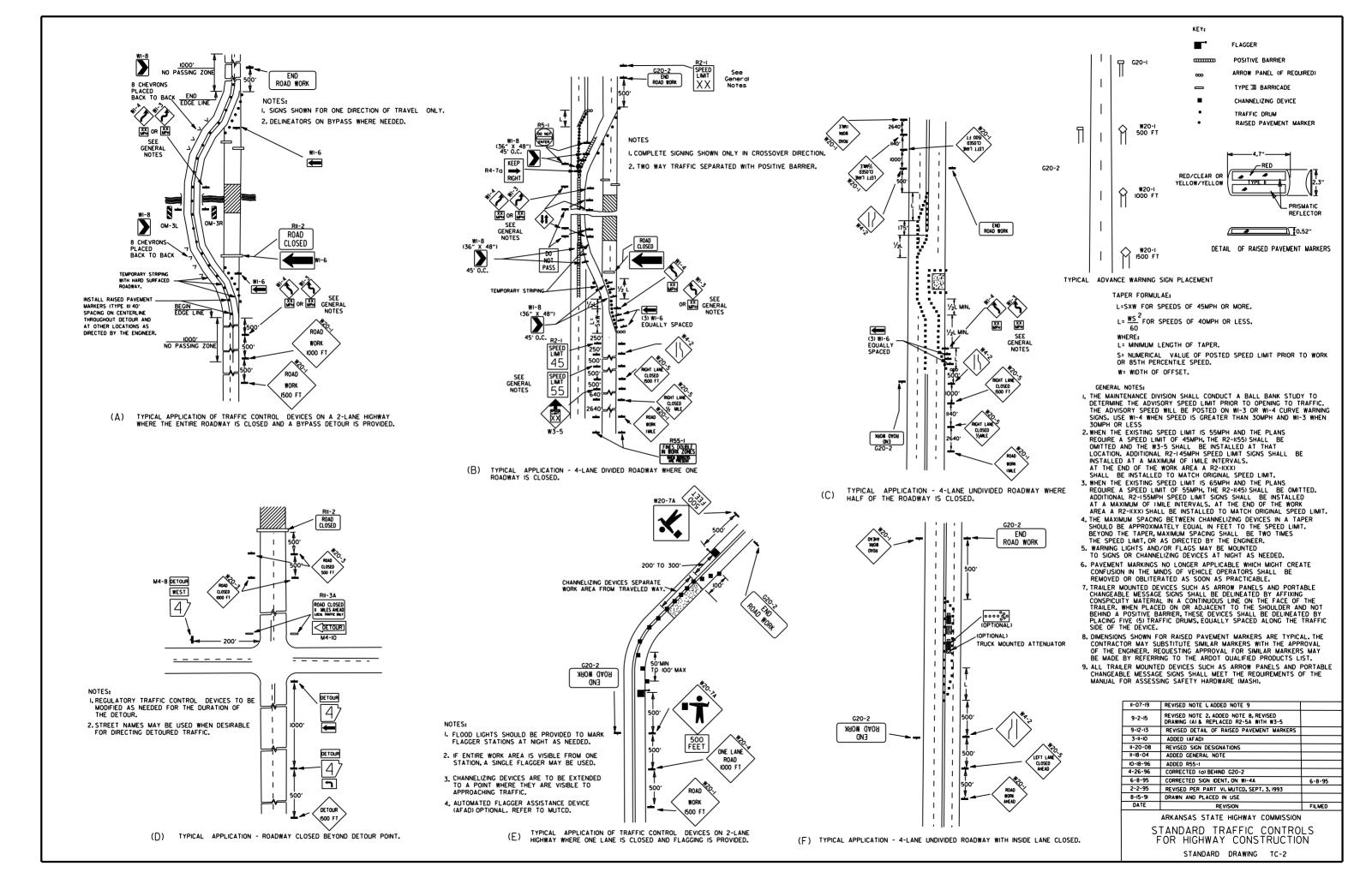
# SPECIAL ITEMS

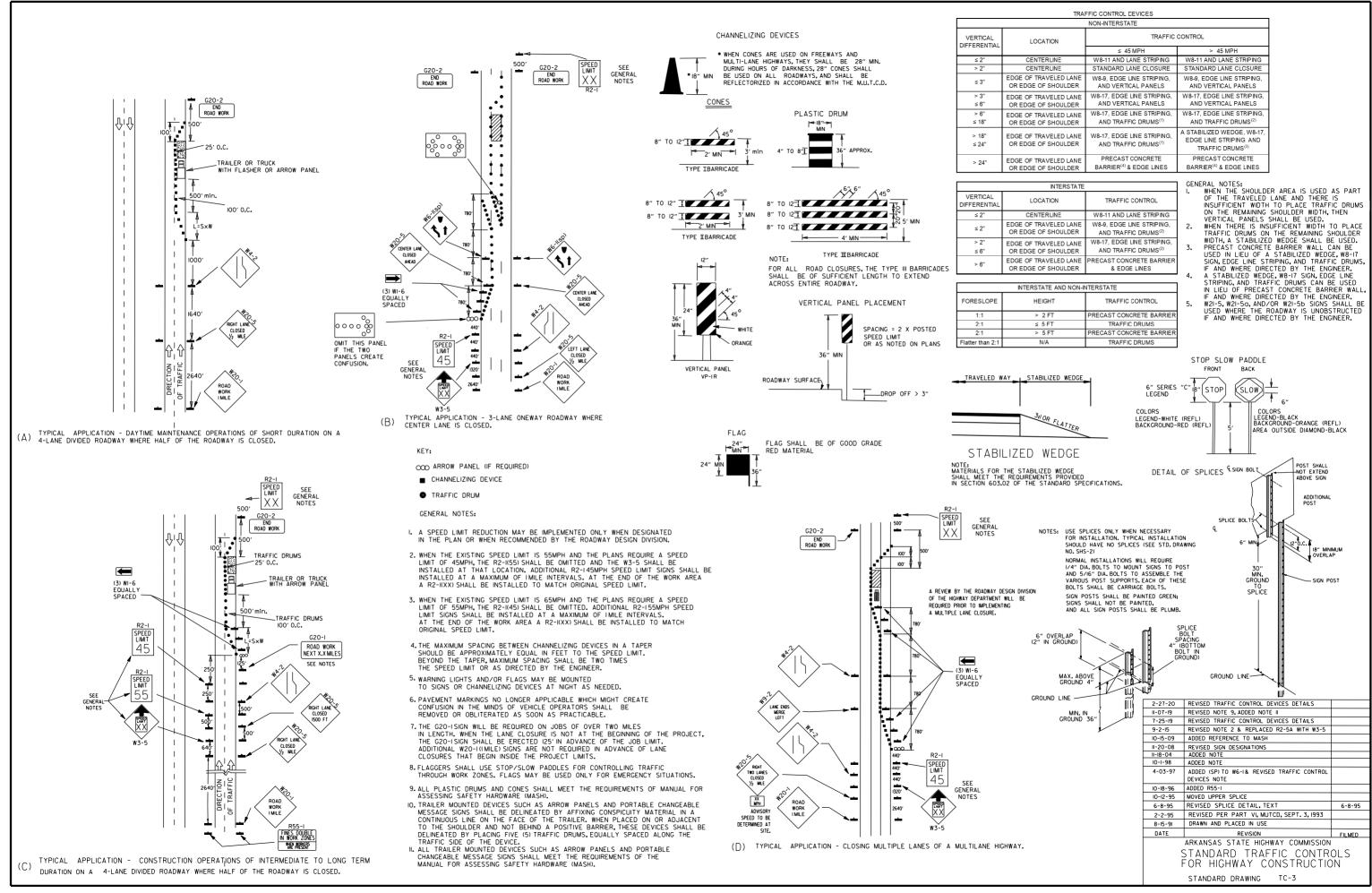
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
1-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC);	
	REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC):	
	CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO	
	CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96		
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T.REPAIR	II-8-90
II-30-89	REV. RETAINING WALL STEEL SCHEDULE	II-30-89
11-17-88	V, BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC.CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79		674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
	REM. SPECS.FOR GRAN. MAT'L.	568-4-10-75-853
	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72
DATE	REVISION	DATE FILMED

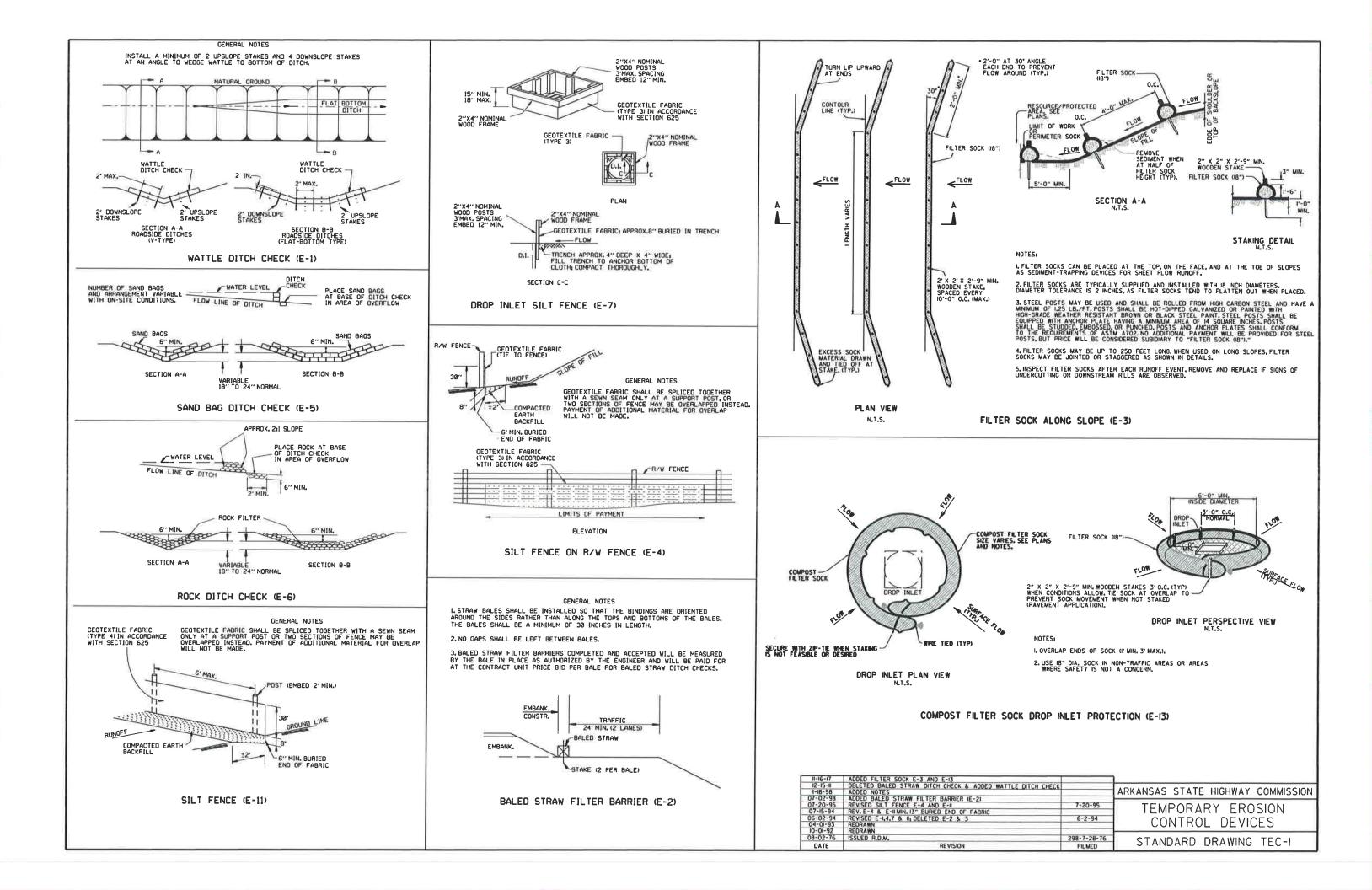
GENERAL NOTES I. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER. HOWEVER TREAD WIDTHS SHALL BE II" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.

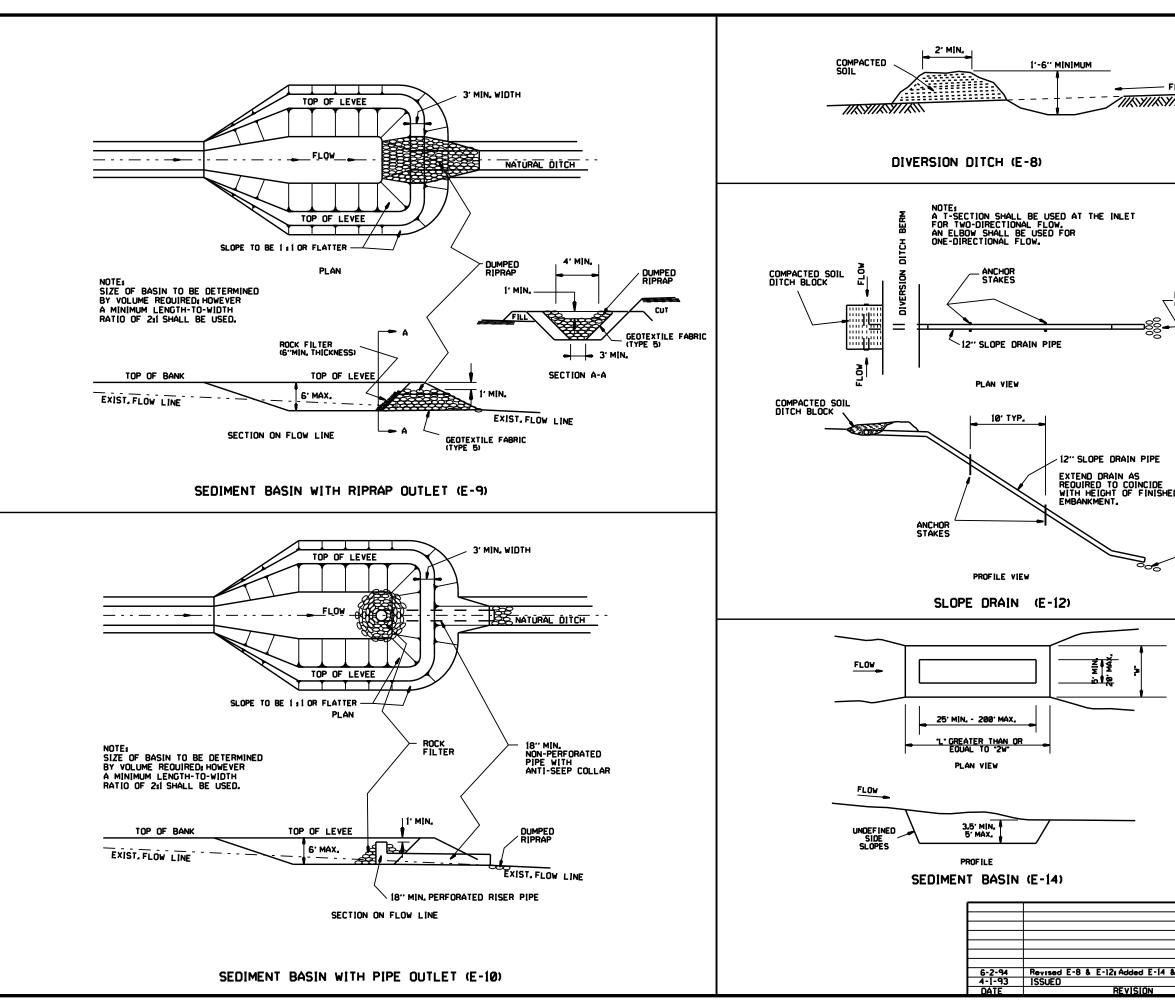
								ADVANCE DISTANCES
STOP	RI-2	R2-I SPEED LIMIT	W3-5	W3-5a XX MPH SPEED ZONE	R4-I DO NOT	R4-2 PASS WITH	GENERAL NOTES:	(XXXX) 500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD S USED ON ROAD CONSTRUCTION SHALL CONFORM TO
STANDARD 30"X30"	STD. 36"X36"X36"	50 STD. 24"X30"	STD. 36"X36"	AHEAD STD. 36"X36"	PASS 5TD. 24"X30"	CARE	THE MANUAL ON UNIFORM TR STANDARD HIGHWAY SIGNS, LAT HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SH OPERATIONS AND SHALL BE PF	AFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE TEST EDITION, OR AS APPROVED BY THE FEDERAL ALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION ROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
EXPRESSWAY 36"X36" SPECIAL 48"X48" R5-I	STD. 36"X36"X36" EXPWY. 48"X48"X48" FWY. 60"X60" RII-2	EXPWY. 36"X48" FWY. 48"X60" RII-3A	EXPWY. 48"X48" FWY. 48"X48" RII-4	EXPWY. 48"X48" FWY. 48"X48" W2I-5g	EXPWY. 36"X48" FWY. 48"X60" WI-I	EXPWY. 36"X48" FWY. 48"X60" WI-2	CLEAN AND LEGIBLE AT ALL T SHALL BE REMOVED. SIGNS TH	CTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS AT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT BE CLEANED, REPAIRED, OR REPLACED.
DO NOT	ROAD	ROAD CLOSED	ROAD CLOSED	RIGHT SHOULDER CLOSED			OR LARGER THAN IO SO.FT.SI BARRICADE. • 5. SIGN POSTS DIRECT BURIED IN WOOD POSTS. CHANNEL POSTS	ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" HALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"×4" SHALL BE PAINTED GREEN, WOOD POSTS SHALL BE PAINTED
STD. 30"X30"	48"X30"	LOCAL TRAFFIC ONLY	60"x30"	STD. 36"X36"	STD. 36"X36"	STD. 36"x36"	REPAIRED AS NEEDED FOR THE 2 POSTS IN A 7'PATH FOR WU SHALL BE IN ACCORDANCE WITH 6. POST MOUNTED SIGNS IN RURA	AL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF
EXPWY. 36"X36" SPECIAL 48"X48"	WI-4	WI-6		FWY. 48"X48" W3-I	FWY. 48"X48" W3-2	FWY- 48"X48"		FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND ALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT
WI-3			WI-8 STD. IB"X24"		WJ-2	W4-2	A MINIMUM DISTANCE OF 7' FRC ALL POST AND BARRICADE MOL A MINIMUM DISTANCE OF 7' FRC EXCEPT A MINIMUM OF 6' SHAL WARNING SIGN. TEMPORARY SIG INTERMEDIATE TERM STATIONAF SHALL BE 5'. RETROREFLECTIV MOUNTED ON PORTABLE SUPPO CONDITIONS. THEY SHALL BE N	JNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED DM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. JNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED DM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, L BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A NS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR RY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT E DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE IRTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE IO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS
STD. 48"X48"	STD. 48"X48"	STD. 48"X24" SPECIAL 60"X30"	SPECIAL 24"X30" EXPWY. 30"X36" FWY. 36"X48"	STD. 36"X36" SPECIAL 48"X48"	STD. 36"X36" SPECIAL 48"X48"	STD. 36"X36" FWY. 48"X48"	NECESSITATE THE USE OF POR	TABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE LAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED
ROAD NARROWS	W6-3	W8-7 LOOSE GRAVEL	W9-2 LANE ENDS MERGE RIGHT	WI3-I M.P.H.	W2O-I ROAD WORK XXXX	W2O-2 DETOUR XXXX	W2O-3 ROAD CLOSED XXXX	<ul> <li>PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.</li> <li>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.</li> <li>10. R55-ISIGNS SHALL BE PLACED AT LEAST ISOO' BUT NOT MORE THAN I 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</li> </ul>
STD. 36"X36" SPECIAL 48"X48"	EXPWY. 36"X36" SPECIAL 48"X48"	EXPWY. 36"X36" FWY. 48"X48"	STD. 36"X36" FWY. 48"X48"	STD. 24"X24"	STD. 48"X48"	STD. 48"X48"	STD. 48"X48"	ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM
W20-4 ONE LANE ROAD XXXX	W2O-5 RIGHT LANE CLOSED XXXX	W20-7a	FRESH OIL	W2I-5 SHOULDER WORK	W24-1	WI-4b	R56-I Controlled Access Hwy. NO EXIT	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.         II-07-19 REVISED FOR MASH         4-13-17 DELETED RSP-1 & ADDED W21-5g         9-2-15 REVISED REDUCED SPEED LIMIT AHEAD SIGNS         REVISED RAD WORK NEXT XX MILES         12-15-II REVISED W24-1         II-17-10 DELETED W3-90 & ADDED W8-9
STD. 48"X48"	STD. 48"X48"	STD. 36"X36" FWY. 48"X48"	STD. 30"X30" SPECIAL 36"X36"	STD. 30"X30" SPECIAL 36"X36"	STD. 36"X36"	STD. 48"X48"	STD. 18"X18"	IO-5-09         ADDED         REFERENCE         TO         MASH         &         ADDED         Sign         W24-1           4-17-08         REVISED         SIGN         DESIGNATIONS         II-I8-04         REVISED         NOTES
W8-II	W8-9	G20-I	G20-2	OM-3L OM-3R	M4-9	M4-I0	R55-I	I0-9-03         REVISED NOTE I           II-16-01         REVISED NOTE 7           9-28-00         REVISED NOTE
UNEVEN LANES	LOW SHOULDER	ROAD WORK NEXT XX MILES	END ROAD WORK	YELLOW BLACK-	STD. 30"X24"	DETOUR	FINES DOUBLE IN WORK ZONES WHEN WORKERS ARE PRESENT ••	II-I8-98         ADDED NOTE           6-26-97         REVISED NOTE 5           4-03-97         REVISED NOTE 5           I0-I8-96         ADDED CONTROLLED ACCESS HWY, SIGN & TO NOTE 7           I0-I2-95         ADDED CONTROLLED ACCESS HWY, SIGN & TO NOTE 7           I0-I2-95         ADDED R55-1           6-8-95         REVISED TO CORRECT SIGN ILLUSTRATIONS           2-2-95         REVISED PER PART VI, MUTCD SEPT, 3, 1993           8-15-91         DRAWN AND PLACED IN USE           DATE         REVISION
STD. 36"X36" FWY. 48"X48"	STD. 36"X36" FWY. 48"X48"	60"X24"	48″X24″	ı2"X36"	SPECIAL 48"X36" SPECIAL 60"X48"	48"XI8"	36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS	ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION STANDARD DRAWING TC-1

500	FT	1/2	MILE
1000	FT	3/4	MILE
1500	FT	1	MILE
		4	HEAD

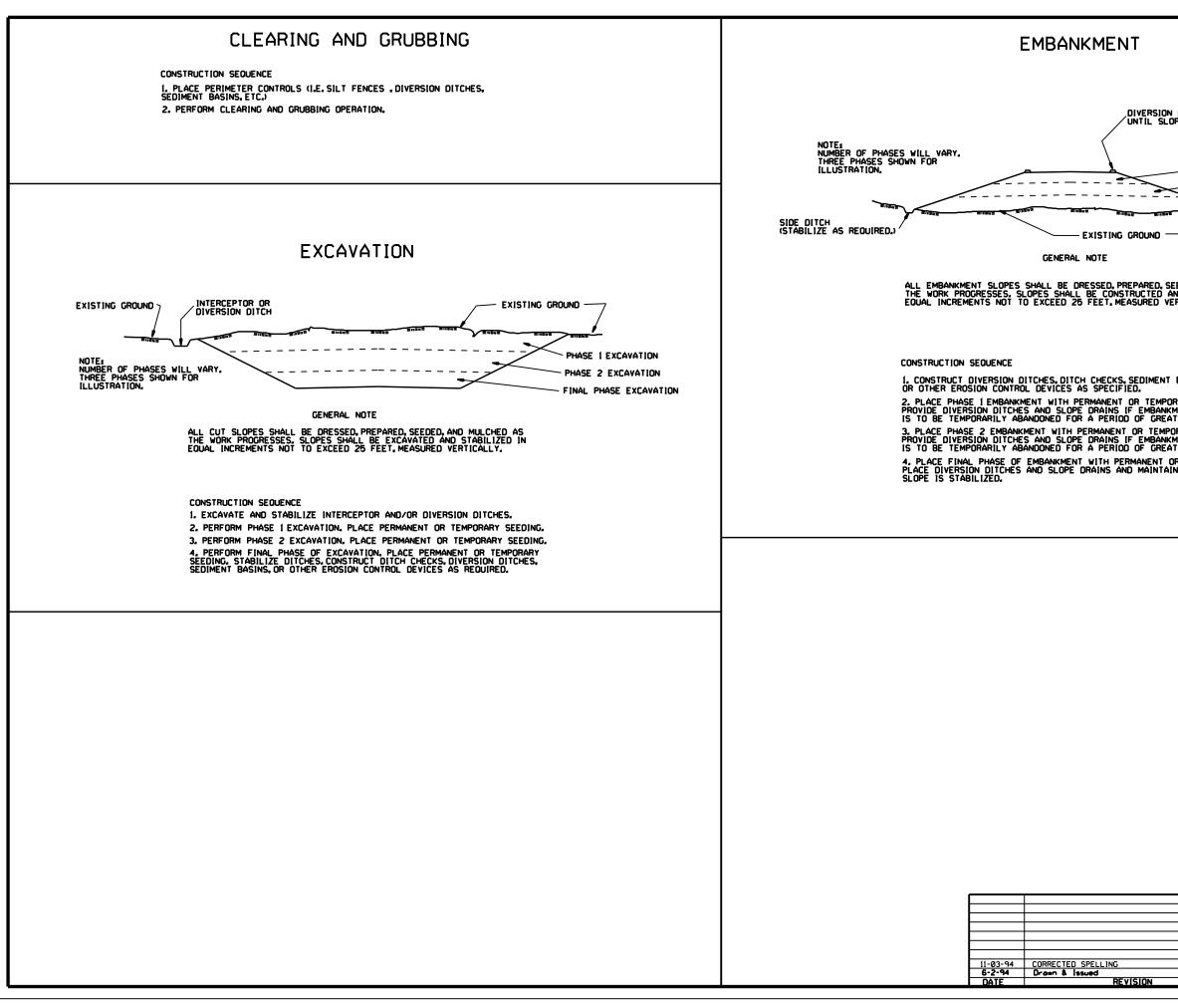




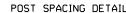




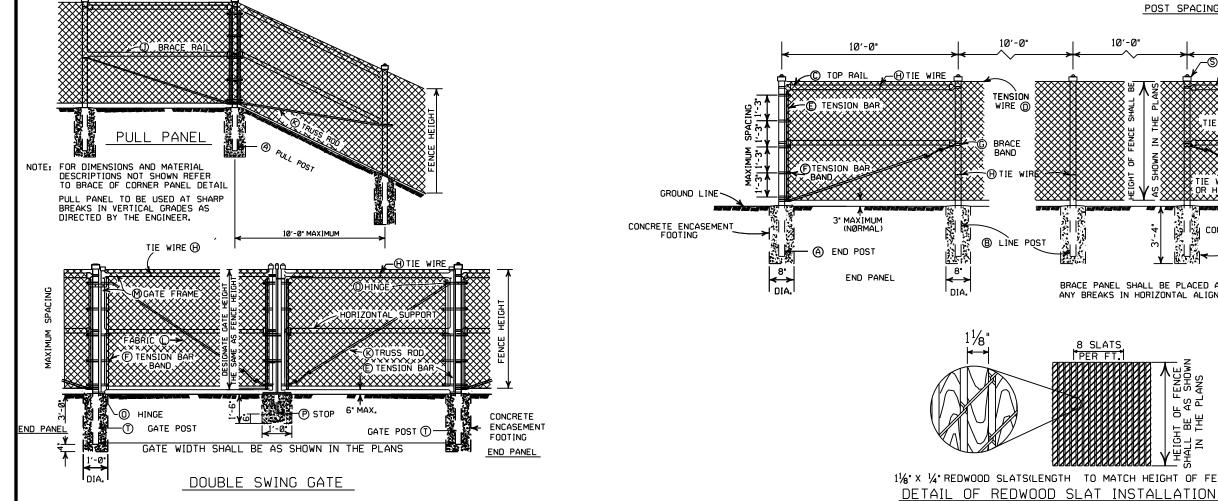
FLOW							
////							
DUMPED RIPRAP AS NEEDED							
AS NEEDED							
7							
ED							
DUMPED RIPRAP AS NEEDED							
AS NEEDED							
	•						
		ARKANSAS STATE HIGHWAY COMMISSION					
		TEMPORARY EROSION					
		CONTROL DEVICES					
& Deleted E-13							
	FUMEO	STANDARD DRAWING TEC-2					
	FILMED						



N DITCH TO BE IN PLACE OPE IS COMPLETELY STABILIZE	D.	
FINAL PHASE EM PHASE 2 EMBANK PHASE 1 EMBANKM TATLET VARIOUS EROSIO CONTROL DEVICE	MENT IENT	
SEEDED, AND MULCHED AS AND STABILIZED IN FERTICALLY.		
I BASINS, SILT FENCES, ORARY SEEDING, KMENT CONSTRUCTION ATER THAN 21 DAYS, ORDARY SEEDING		
PORARY SEEDING. KMENT CONSTRUCTION ATER THAN 21 DAYS. OR TEMPORARY SEEDING. IN UNTIL ENTIRE		
	TEMPOR	HIGHWAY COMMISSION ARY EROSION DL DEVICES
6-2-94 Filmed		DRAWING TEC-3



10'-0'



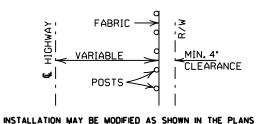
(WHERE APPLICABLE)

HEIGHT	A		B			C			(	D		E		F			6		
OF FENCE	END, PUL		LINE F	POSTS		TOP RAI	Ľ		TEN	ISION IRE		TENSIO BAR	N	TENSION BAR BAND		BRACE BAND			
FENCE	BRACE P		SIZE	TIE SPACING	SIZE	TIE SPACING	MIN.	тн	SIZE			ZE L	.ENGTH	SIZE	BOL T SIZE	SPACING	SIZE	BOL T SIZE	
6' AND LESS	2½° 0.	.D. 2	" O.D.	1 TIE EVERY 1'-2	1%° 0.D.	1 TIE EVERY	10'-0	<u>a-</u> C	7 AUGE	1 TIE EVERY	M	DF   2	1IN. OF LESS THAN	MIN. OF		AND AT TOP	OF		
OVER 6' TO 12' INCL.	3 . 0.	D. 21/	2" O.D.	OF FABRIC HEIGHT		2'-0		s	COIL PRING WIRE	1'-0"	%6 "∶	.,3⁄,•   F	ABRIC	¾° x 0.074	5%6 "X 11⁄4	15° MAX INTERVAL BETWEEN BANDS	¾" × 0.105	%-бх 11/4	
	Э			(J)	K		$\square$			(M)	(	N)			T		ו		
HEIGHT OF FENCE	TIE	HOG	BR	ACE RAIL	TRUSS		FABRIC			FRAME			HINGE		GATE POST		1		
FABRIC	WIRE	RING	SIZE		ROD	SIZE	MESH SE		SIZE	TIE SPACING		TIE		GATE W		ATE WIDTH OVER 12'TO 24'INCL.	1		
6' AND	MIN. OF 12 GA. STEEL	SAME GAUGE		1 TIE	MIN OF		.	NUCK -ING		4 775				3' 0.(	D.				
LESS OVER 6' TO 12' INCL	OR	GAUGE AS FABRIC		.D. EVERY 2'-0"	ROUŃĎ W TIGHTNE AND		. 2" <sub>AN</sub>	ND/OR WIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" 0.D.	1 TIE EVERY 1'-0"	OFFSET	4" 0.(	<b>).</b>	4" O.D.			

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½ FOR FENCE HEIGHT OF 6' AND LESS. AN OUTSIDE DIAMETER OF 3 FOR FENCE HEIGHT OF 6' TO 12'. END PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3' FOR FENCE HEIGHT OF 6' AND LESS. AN OUTSIDE DIAMETER OF 3½ FOR FENCE HEIGHT OF 6' TO 12'. END PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3' FOR FENCE HEIGHT OF 6' AND LESS. AN OUTSIDE DIAMETER OF 3½ FOR FENCE HEIGHT OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½ FOR FENCE HEIGHT OF 6' AND LESS. DE GAND LESS, ALUMINUM TENSION WIRE SHALL BE 0.192' IN DIAMETER, MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078'. POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

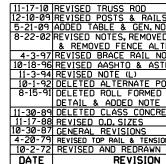
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

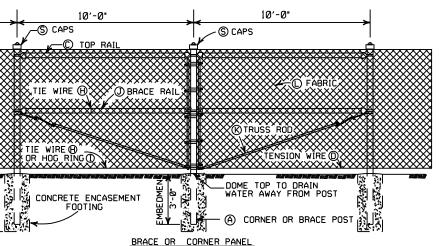
ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.



TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS GRADE 1 AND ALUMINUM ALLOY GRADE 2 LBS. PEF SIZE WALL n.n WALI LINEAR FT. STEEL | ALUMINUM 0.D. LBS, PER 0.D. THICKNESS INCHES INEAR FT. INCHES [HICKNESS 1% 1.660 1.660 0.140 2.27 0.786 0.111 1.84 2 2.72 0.940 1.900 2.28 1.900 0.145 0.120 1.264 2½ 0.154 3.65 2.375 0.130 3.11 2.375 4.64 2.875 3 2.875 0.203 5.79 2.004 0.160 3 500 0.216 7.58 2,621 3.500 0.160 5.71 4.000 9.11 3.151 4.000 0.160 4 0.226 6.56 TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181





BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.

#### GENERAL NOTES:

- (C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.
- (D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.
- (J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL. PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

1% X 1/8 REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE) (L) EABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

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- (M) <u>GATE FRAMES</u>: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.
- (0) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.
- (P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.
- (S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND T POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS. EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH. THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6' INTO THE ROCK. WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

_		5 TABLE
ARKANSAS STATE HIGHWAY COMMISSION		DTE (C)
HUKHNOHO STHIE HIOHWHI CUMMISSIUN		D TABLE. ERNATE
		DTE
		M REF.
	10-1-92	DST
	8-15-91	POST
	<u>8-15-91</u> 11-30-89	ETE
8	668-11-17-88	
	548-10-30-87 695-4-20-79	
	530-10-2-72	IN WIRE
STANDARD DRAWING WF-3	FILMED	

