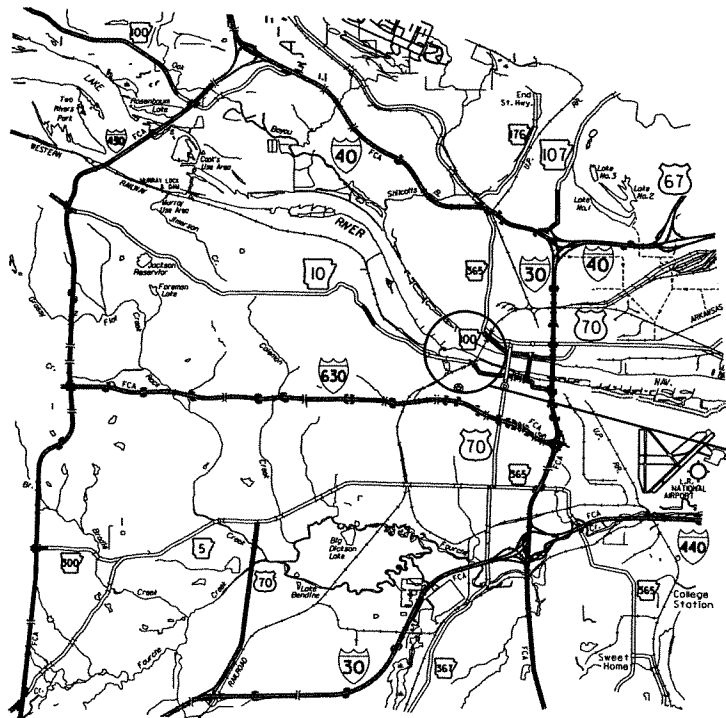


ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061218	1	39

2 UNION PACIFIC R.R. VIADUCT SAFETY IMPVTS. (LITTLE ROCKS)



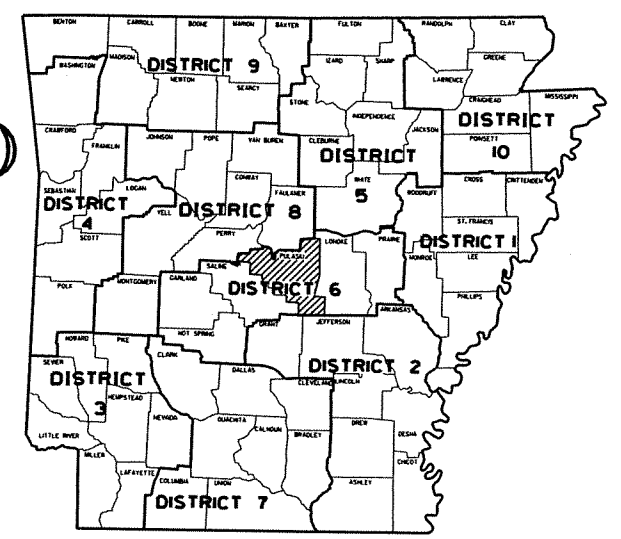
UNION PACIFIC R.R. VIADUCT  
SAFETY IMPVTS. (LITTLE ROCK) (S)

PROJECT  
LOCATION

PULASKI COUNTY  
ROUTE 10 SECTION 8

JOB 061218

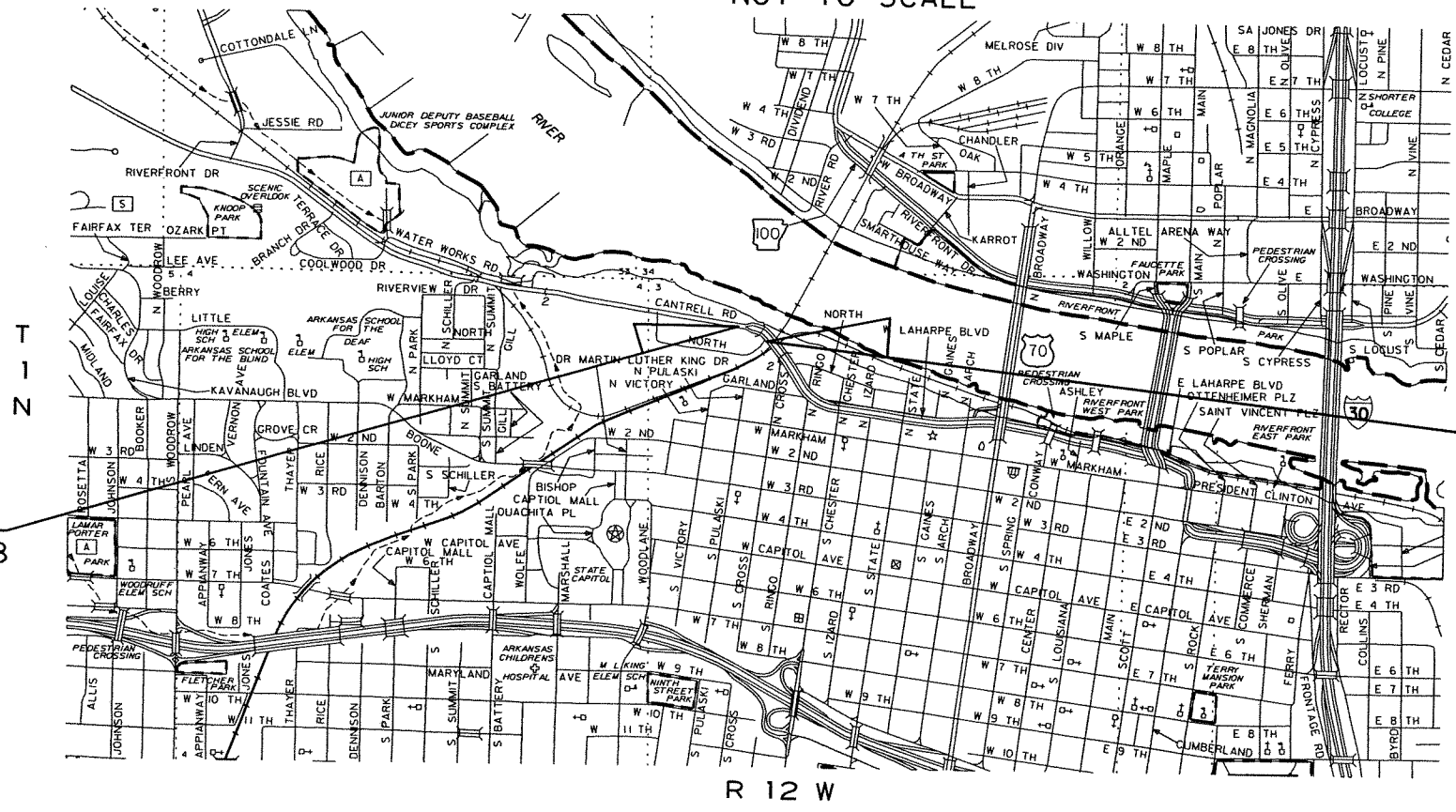
FED. AID PROJ. HSIP-9253(61)



ARK. HWY. DIST. NO. 6

VICINITY MAP

NOT TO SCALE



DESIGN TRAFFIC DATA

DESIGN YEAR	-----	2032
2012 ADT	-----	30,500
2032 ADT	-----	40,000
2032 DHV	-----	4400
DIRECTIONAL DISTRIBUTION	-----	60%
TRUCKS	-----	3%
DESIGN SPEED	-----	40 MPH

STA. 100+10  
BEGIN JOB 061218  
LOG MILE 15.04

STA. 103+60  
END JOB 061218



APPROVED

STATE OF ARKANSAS  
REGISTERED PROFESSIONAL ENGINEER  
No. 3917  
FRANK VOZEL  
DEPUTY DIRECTOR AND CHIEF ENGINEER

GROSS LENGTH OF PROJECT	350.00 FEET	OR	0.066 MILES
NET " " ROADWAY	350.00 " "	" "	0.066 " "
NET " " BRIDGES	0.00 " "	" "	0.000 " "
NET " " PROJECT	350.00 " "	" "	0.066 " "

P.E. 061218  
NON-PART.

R061218.DGN 4/5/2011

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061218	2	39

2 INDEX OF SHEETS, GOV. SPEC. & GEN. NOTES

## INDEX OF SHEETS

SHEET NO.	TITLE	DRWG. NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES		
3	TYPICAL SECTIONS OF IMPROVEMENT		
4	SPECIAL DETAILS		
5 - 6	TEMPORARY EROSION CONTROL DETAILS		
7 - 8	MAINTENANCE OF TRAFFIC DETAILS		
9	PERMANENT PAVEMENT MARKING DETAILS		
10 - 12	QUANTITY SHEETS		
13	SUMMARY OF QUANTITIES AND REVISIONS		
14	SURVEY CONTROL DETAILS		
15 - 16	PLAN AND PROFILE SHEETS		
17	CURBING DETAILS	CG-1	11-29-07
18	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
19	DETAILS OF DROP INLETS & JUNCTION BOXES	FPC-9	11-16-01
20	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8-22-02
21	DETAILS OF DROP INLET (TYPE MO)	FPC-9M	8-22-02
22	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	12-15-11
23	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	12-15-11
24	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	PCP-1	12-15-11
25	PLASTIC PIPE CULVERT (PVC F949)	PCP-2	12-15-11
26	PAVEMENT MARKING DETAILS	PM-1	11-17-10
27	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
28	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10-18-96
29	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	12-15-11
30	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
31	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
32	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12-15-11
33	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-02-94
34	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11-03-94
35 - 39	CROSS SECTIONS		

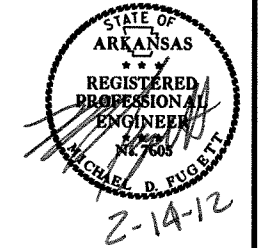
## GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
JOB 061218	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061218	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061218	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061218	INTERNET BIDDING
JOB 061218	MAINTENANCE OF TRAFFIC
JOB 061218	PLASTIC PIPE
JOB 061218	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061218	UTILITY ADJUSTMENTS
JOB 061218	WARM MIX ASPHALT

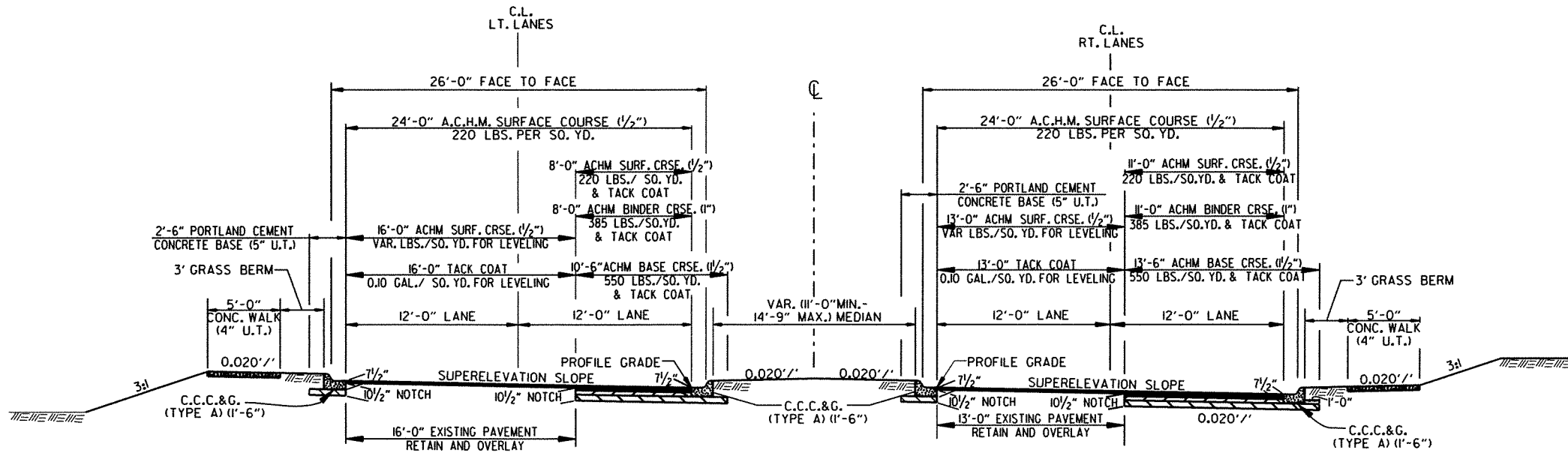
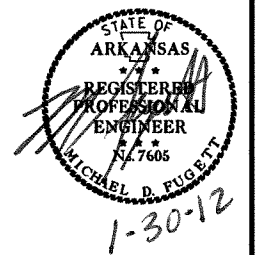
### GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- 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.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- 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.



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	06121B		3	39

2 TYPICAL SECTIONS OF IMPROVEMENT



4 LANE DIVIDED - SUPERELEVATION

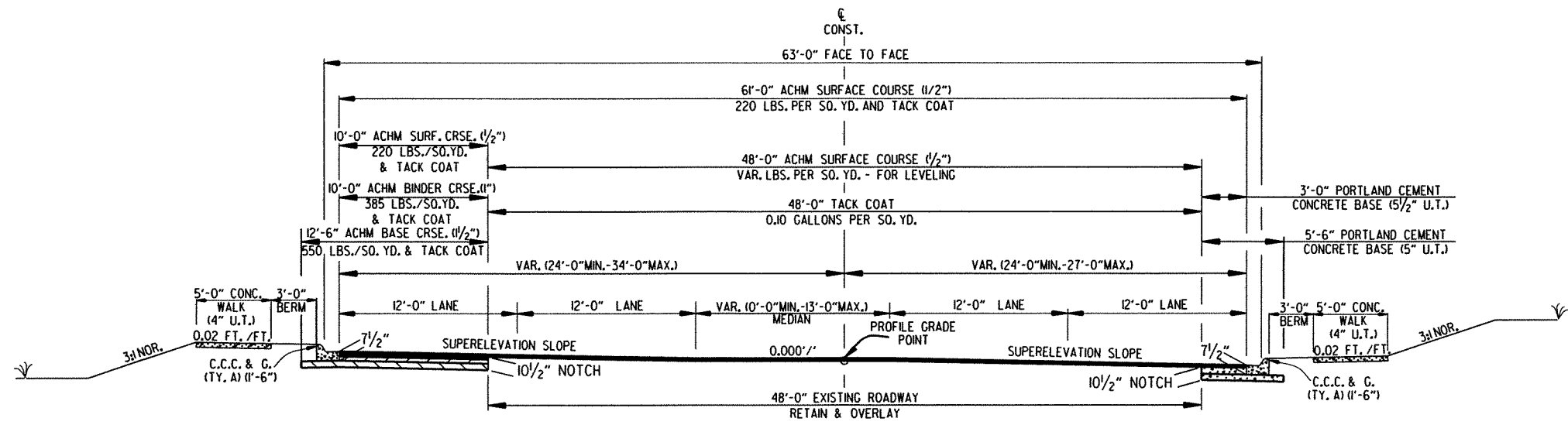
NOTES:  
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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.

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

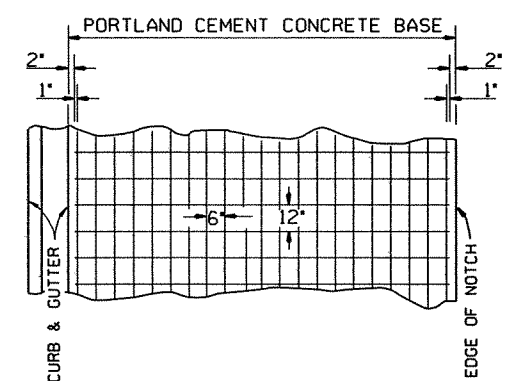
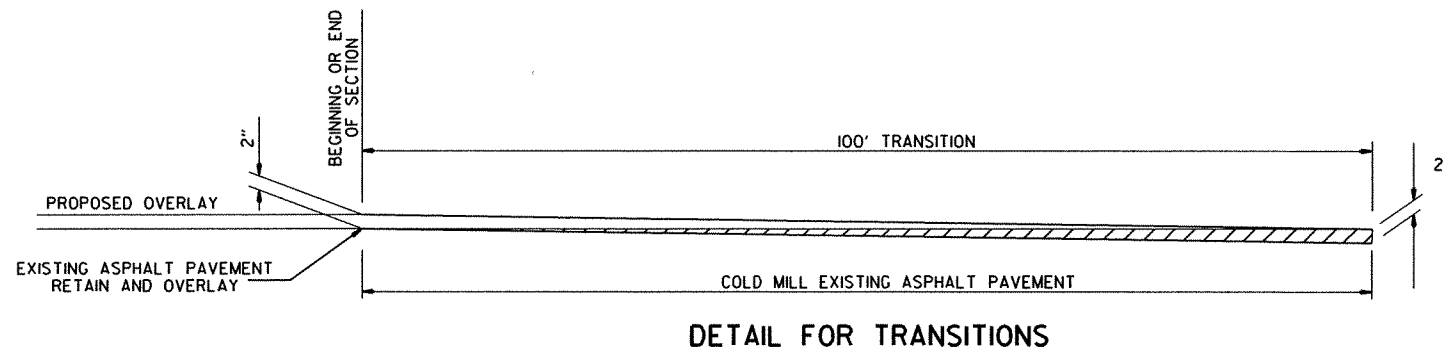
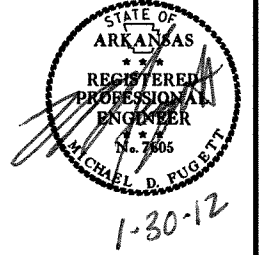
PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB OR CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



4 LANE UNDIVIDED - SUPERELEVATION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061218		4	39

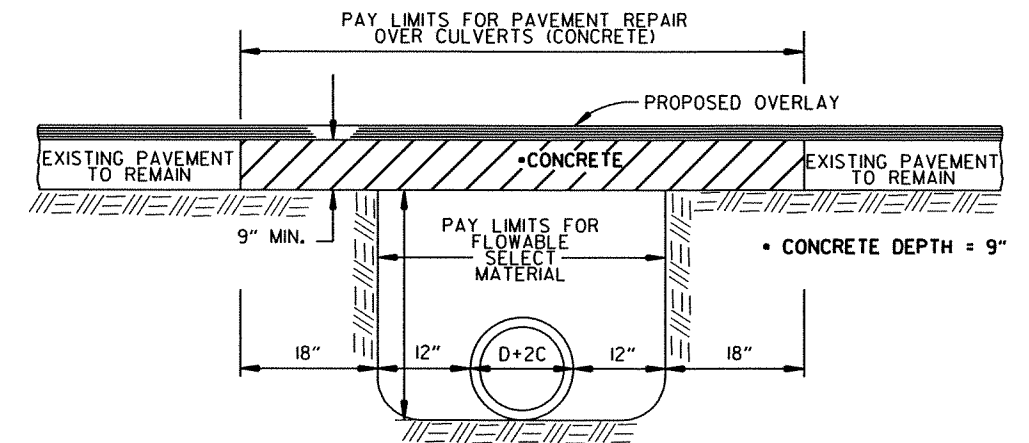
② SPECIAL DETAILS



DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

NOTES: 6" X 12" MESH FABRIC (TYPE 3) (W5.5 x W2.9) = 4.26 LBS./SO. YD.

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SO. YD. FOR PORTLAND CEMENT CONCRETE BASE (5" U.T. & 5 1/2" U.T.)



PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		5	39

2 TEMPORARY EROSION CONTROL DETAILS



**EROSION CONTROL GENERAL NOTES:**

ROCK BAG DITCH CHECKS ESTIMATED AT 5 CU. YD. PER DITCH CHECK.

SAND BAG DITCH CHECKS ESTIMATED AT 25 BAGS PER DITCH CHECK.

DROP INLET SILT FENCE ESTIMATED AT 25 LIN. FT. PER DROP INLET.

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

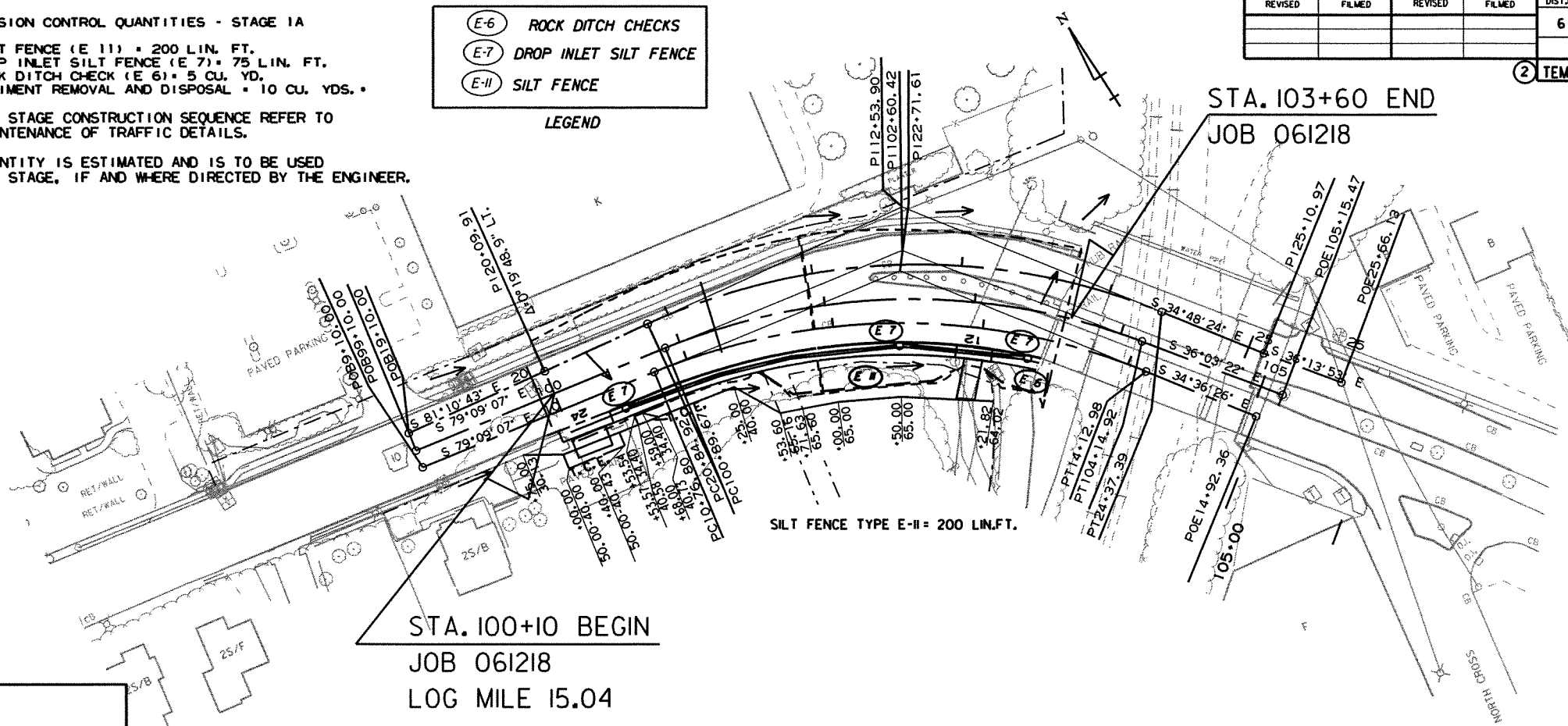
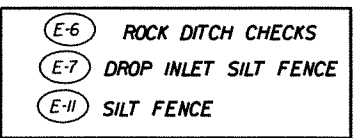
REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

**EROSION CONTROL QUANTITIES - STAGE 1A**

SILT FENCE (E 11) = 200 LIN. FT.  
 DROP INLET SILT FENCE (E 7) = 75 LIN. FT.  
 ROCK DITCH CHECK (E 6) = 5 CU. YD.  
 SEDIMENT REMOVAL AND DISPOSAL = 10 CU. YDS. •

FOR STAGE CONSTRUCTION SEQUENCE REFER TO MAINTENANCE OF TRAFFIC DETAILS.

• QUANTITY IS ESTIMATED AND IS TO BE USED ANY STAGE, IF AND WHERE DIRECTED BY THE ENGINEER.



**REVISIONS**

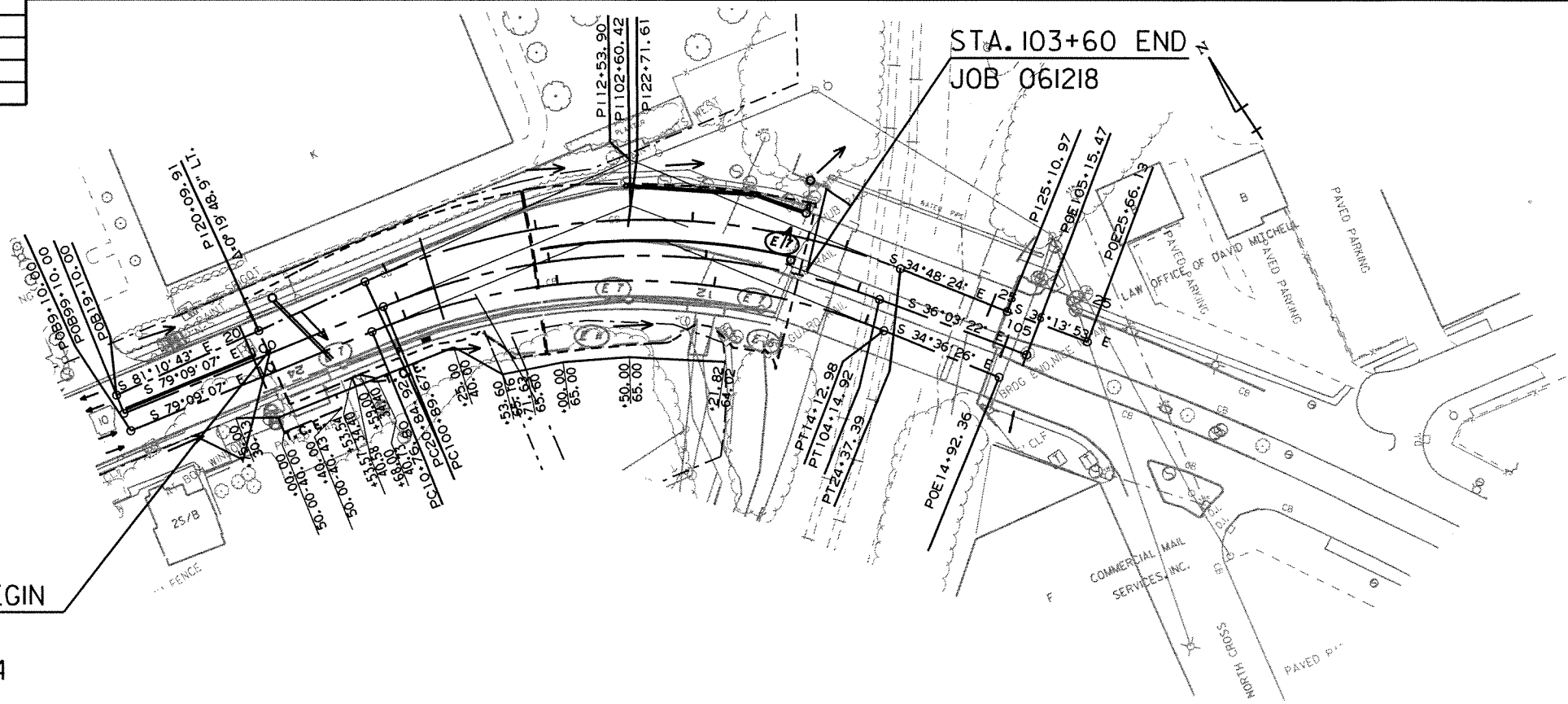
DATE	REVISION

**EROSION CONTROL QUANTITIES - STAGE 1B:**

DROP INLET SILT FENCE = 25 LIN. FT.  
 SEDIMENT REMOVAL AND DISPOSAL = 10 CU. YDS. •

FOR STAGE CONSTRUCTION SEQUENCE REFER TO MAINTENANCE OF TRAFFIC DETAILS.

• QUANTITY IS ESTIMATED AND IS TO BE USED ANY STAGE, IF AND WHERE DIRECTED BY THE ENGINEER.



STA. 100+10 BEGIN  
 JOB 061218  
 LOG MILE 15.04

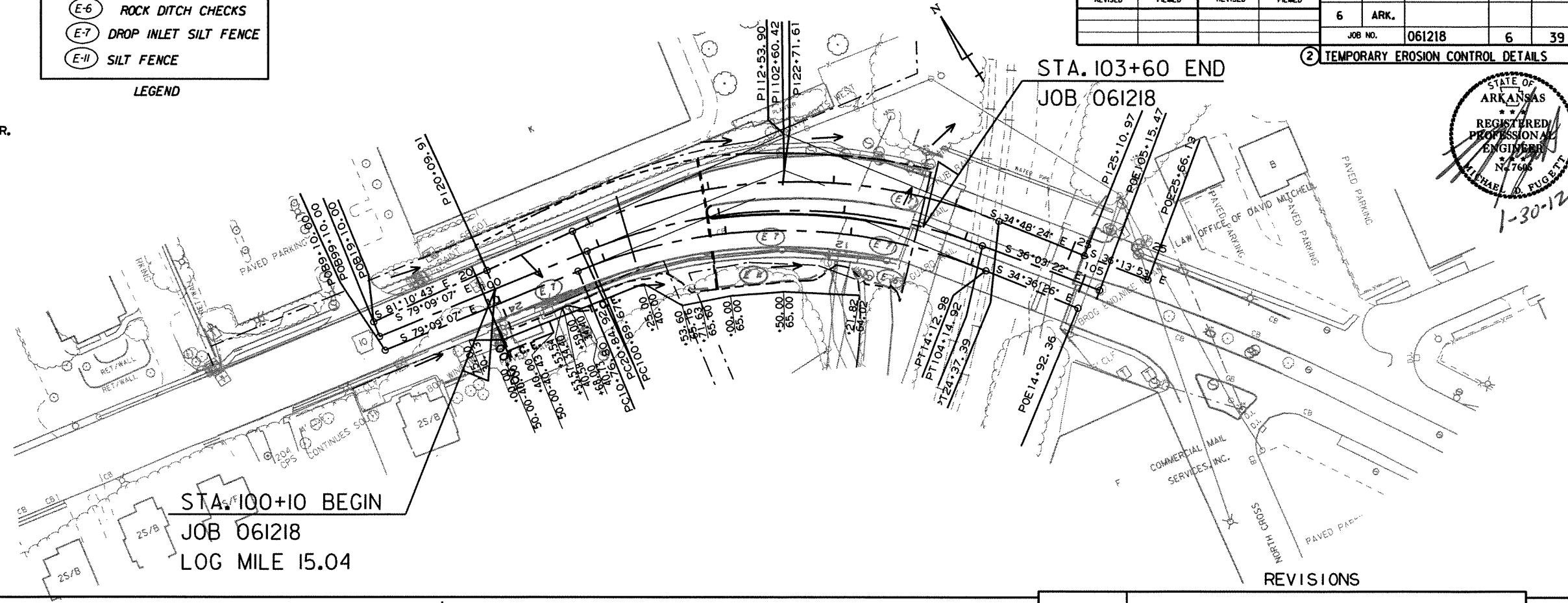
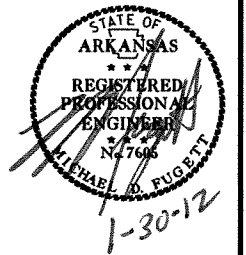
EROSION CONTROL QUANTITIES - STAGE 2A:  
 SEDIMENT REMOVAL AND DISPOSAL • 10 CU. YDS. •  
 STAGE 2A IS THE SAME AS STAGE 1B.  
 NO ADDITIONAL MEASURES NECESSARY.  
 FOR STAGE CONSTRUCTION SEQUENCE REFER TO  
 MAINTENANCE OF TRAFFIC DETAILS.  
 • QUANTITY IS ESTIMATED AND IS TO BE USED  
 ANY STAGE, IF AND WHERE DIRECTED BY THE ENGINEER.

**LEGEND**

- (E-6) ROCK DITCH CHECKS
- (E-7) DROP INLET SILT FENCE
- (E-11) SILT FENCE

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

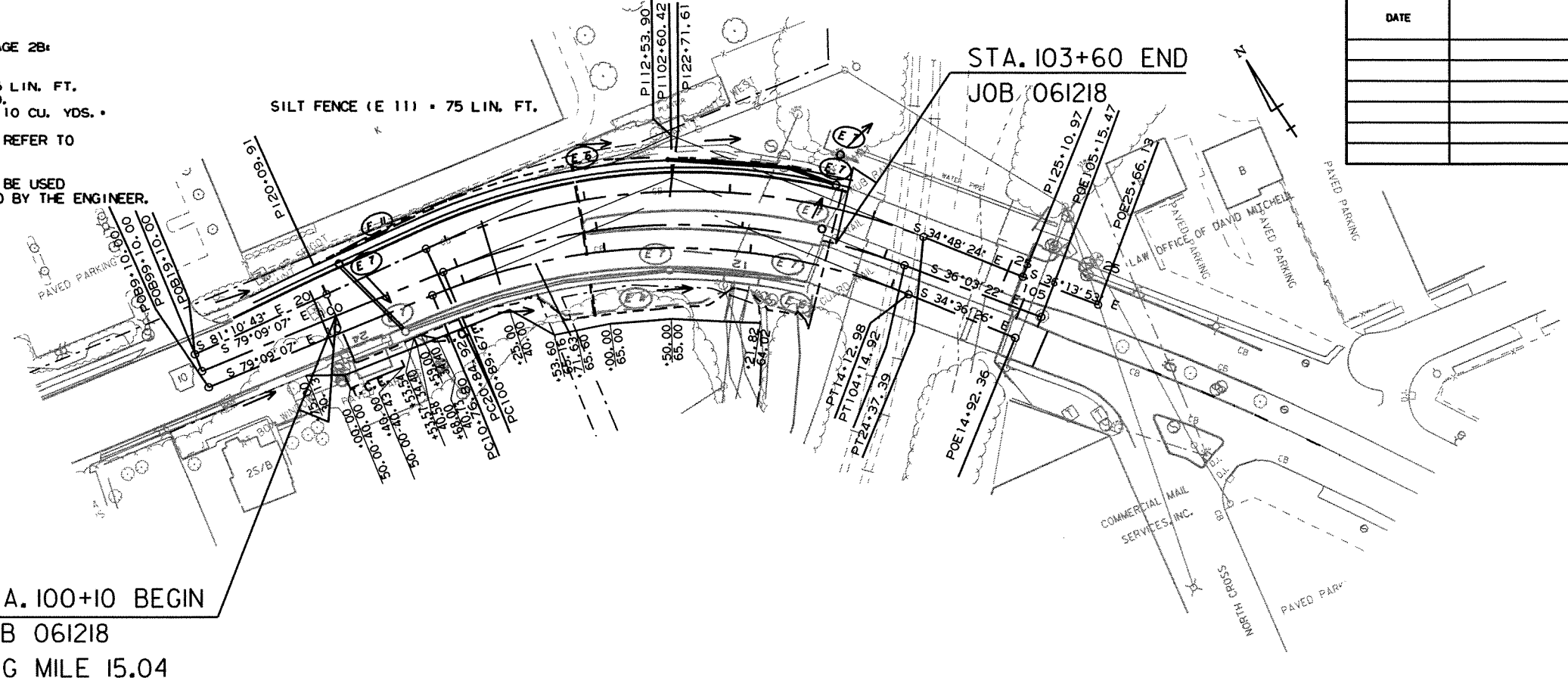
JOB NO. 061218 SHEET NO. 6 TOTAL SHEETS 39  
 ② TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE	REVISION

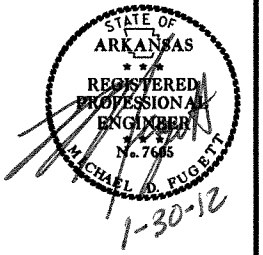
EROSION CONTROL QUANTITIES - STAGE 2B:  
 SILT FENCE (E 11) • 75 LIN. FT.  
 DROP INLET SILT FENCE (E 7) • 75 LIN. FT.  
 ROCK DITCH CHECK (E 6) • 5 CU. YD.  
 SEDIMENT REMOVAL AND DISPOSAL • 10 CU. YDS. •  
 FOR STAGE CONSTRUCTION SEQUENCE REFER TO  
 MAINTENANCE OF TRAFFIC DETAILS.  
 • QUANTITY IS ESTIMATED AND IS TO BE USED  
 ANY STAGE, IF AND WHERE DIRECTED BY THE ENGINEER.



STA. 100+10 BEGIN  
 JOB 061218  
 LOG MILE 15.04

TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	061218	7
						2 MAINTENANCE OF TRAFFIC DETAILS		



END ROAD WORK

(1) G20-2 (48" X 24")



(1) W20-1 (48" X 48")



(1) W20-1 (48" X 48")



(1) W20-1 (48" X 48")

DETAIL OF SIGN PLACEMENT AT BEGINNING AND END OF JOB

STAGE 1A:  
 TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES THROUGHOUT THE PROJECT ON THE WESTBOUND (LEFT) LANES. TRAFFIC IS TO BE NARROWED TO ONE LANE AS SHOWN ON PLANS ON THE EASTBOUND (RIGHT) LANES. CONSTRUCT WIDENING ON RT. AS SHOWN ON PLANS.  
 PLACE TRAFFIC DRUMS AS SHOWN (40' ON CENTER).  
 CONSTRUCTION PAVEMENT MARKINGS AS SHOWN ON PLANS.  
 ALL DRIVEWAYS ON THE SIDE BEING WIDENED ARE TO BE DELINEATED USING TRAFFIC DRUMS (6 EACH).  
 W20-1 (AHEAD) SIGNS ARE TO BE PLACED AT ALL CITY STREET INTERSECTIONS THROUGH THE WORK ZONE.

MAINTENANCE OF TRAFFIC QUANTITIES STAGE 1A:  
 SIGNS = 184 SQ. FT.  
 TRAFFIC DRUMS = 34 EACH  
 REMOVAL OF PERM. PVMT. MRK. = 1110 LIN. FT.  
 CONST. PVMT. MRK. = 1725 LIN. FT.

LT. LANES  
 P. I. = 22+71.61  
 Δ = 46°42'07.8" RT.  
 D = 13°15'00.0"  
 T = 186.69'  
 L = 352.47'  
 P. C. = 10+76.80  
 P. T. = 14+12.98

CONST. PVMT. MRK. 4" DBL. YELLOW CENTERLINE  
 CONST. PVMT. MRK. 4" WHITE SKIP LINE (10' OF 40')

CONST. PVMT. MRK. 4" SOLID WHITE EDGE LINE  
 C.L. CONSTRUCTION  
 P. I. = 102+60.42  
 Δ = 43°05'44.6" RT.  
 D = 13°15'00.0"  
 T = 170.75'  
 L = 325.25'  
 e = 0.040'  
 LS = 124'  
 P. C. = 100+89.67  
 P. T. = 104+14.92

RT. LANES  
 P. I. = 12+53.90  
 Δ = 44°32'40.8" RT.  
 D = 13°15'00.0"  
 T = 177.10'  
 L = 336.19'  
 P. C. = 20+84.92  
 P. T. = 24+37.39

MAINTENANCE OF TRAFFIC QUANTITIES STAGE 1B:  
 SIGNS = 184 SQ. FT.  
 TRAFFIC DRUMS = 34 EACH  
 REMOVAL OF CONST. PVMT. MRK. = 840 LIN. FT.  
 CONST. PVMT. MRK. = 1725 LIN. FT.

LT. LANES  
 P. I. = 22+71.61  
 Δ = 46°42'07.8" RT.  
 D = 13°15'00.0"  
 T = 186.69'  
 L = 352.47'  
 P. C. = 10+76.80  
 P. T. = 14+12.98

CONST. PVMT. MRK. 4" SOLID WHITE EDGE LINE

TRAFFIC DRUMS 40' SPACING  
 CONST. PVMT. MRK. 4" WHITE SKIP LINE (10' OF 40')

C.L. CONSTRUCTION  
 P. I. = 102+60.42  
 Δ = 43°05'44.6" RT.  
 D = 13°15'00.0"  
 T = 170.75'  
 L = 325.25'  
 e = 0.040'  
 LS = 124'  
 P. C. = 100+89.67  
 P. T. = 104+14.92

RT. LANES  
 P. I. = 12+53.90  
 Δ = 44°32'40.8" RT.  
 D = 13°15'00.0"  
 T = 177.10'  
 L = 336.19'  
 P. C. = 20+84.92  
 P. T. = 24+37.39

STA. 100+10 BEGIN  
 JOB 061218  
 LOG MILE 15.04

STA. 103+60 END  
 JOB 061218

MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

**STAGE 2A:**

TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES THROUGHOUT THE PROJECT ON THE WESTBOUND (LEFT) LANES. TRAFFIC IS TO BE NARROWED TO ONE LANE AS SHOWN ON PLANS ON THE EASTBOUND (RIGHT) LANES. CONSTRUCT WIDENING LT. OF EASTBOUND LANES AS SHOWN ON PLANS.

PLACE TRAFFIC DRUMS AS SHOWN (40' ON CENTER).

CONSTRUCTION PAVEMENT MARKINGS AS SHOWN ON PLANS.

ALL DRIVEWAYS ON THE SIDE BEING WIDENED ARE TO BE DELINEATED USING TRAFFIC DRUMS (6 EACH).

W20-1 (AHEAD) SIGNS ARE TO BE PLACED AT ALL CITY STREET INTERSECTIONS THROUGH THE WORK ZONE.

**MAINTENANCE OF TRAFFIC QUANTITIES STAGE 2A:**

SIGNS = 184 SQ. FT.  
 TRAFFIC DRUMS = 30 EACH  
 REMOVAL OF CONST. PVMT. MRK. = 1590 LIN. FT.  
 CONST. PVMT. MRK. = 1610 LIN. FT.

**LT. LANES**

P. I. = 22+71.61  
 Δ = 46°42'07.8" RT.  
 D = 13°15'00.0"  
 T = 186.69'  
 L = 352.47'  
 P.C. = 10+76.80  
 P.T. = 14+12.98

**RT. LANES**

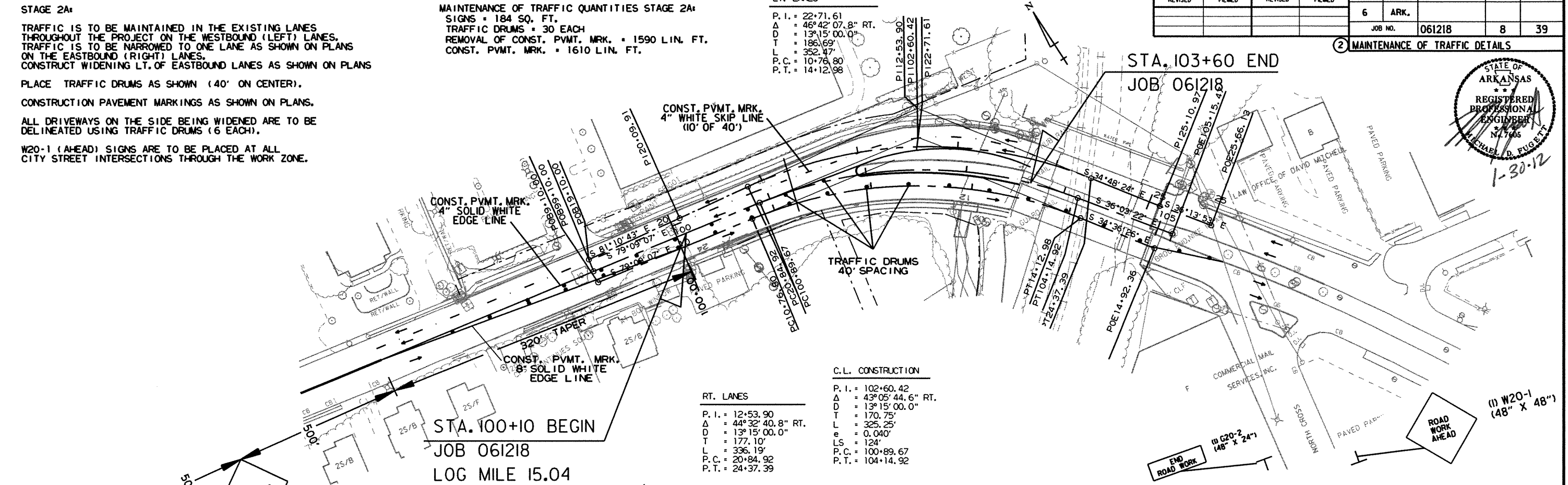
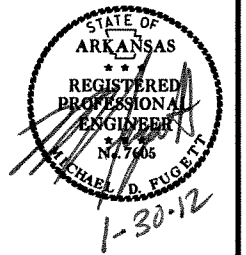
P. I. = 12+53.90  
 Δ = 44°32'40.8" RT.  
 D = 13°15'00.0"  
 T = 177.10'  
 L = 336.19'  
 P.C. = 20+84.92  
 P.T. = 24+37.39

**C.L. CONSTRUCTION**

P. I. = 102+60.42  
 Δ = 43°05'44.6" RT.  
 D = 13°15'00.0"  
 T = 170.75'  
 L = 325.25'  
 e = 0.040'  
 LS = 124'  
 P.C. = 100+89.67  
 P.T. = 104+14.92

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 061218							8	39

**MAINTENANCE OF TRAFFIC DETAILS**



**STAGE 2B:**

TWO LANES OF TRAFFIC IS TO BE MAINTAINED EASTBOUND (RIGHT) THROUGHOUT THE PROJECT AS SHOWN ON PLANS. TRAFFIC IS TO BE NARROWED TO ONE LANE AS SHOWN ON PLANS ON THE WESTBOUND (LEFT) LANES. CONSTRUCT WIDENING LT. OF WESTBOUND LANES AS SHOWN ON PLANS.

PLACE TRAFFIC DRUMS AS SHOWN (40' ON CENTER).

CONSTRUCTION PAVEMENT MARKINGS AS SHOWN ON PLANS.

ALL DRIVEWAYS ON THE SIDE BEING WIDENED ARE TO BE DELINEATED USING TRAFFIC DRUMS (6 EACH).

W20-1 (AHEAD) SIGNS ARE TO BE PLACED AT ALL CITY STREET INTERSECTIONS THROUGH THE WORK ZONE.

**LT. LANES**

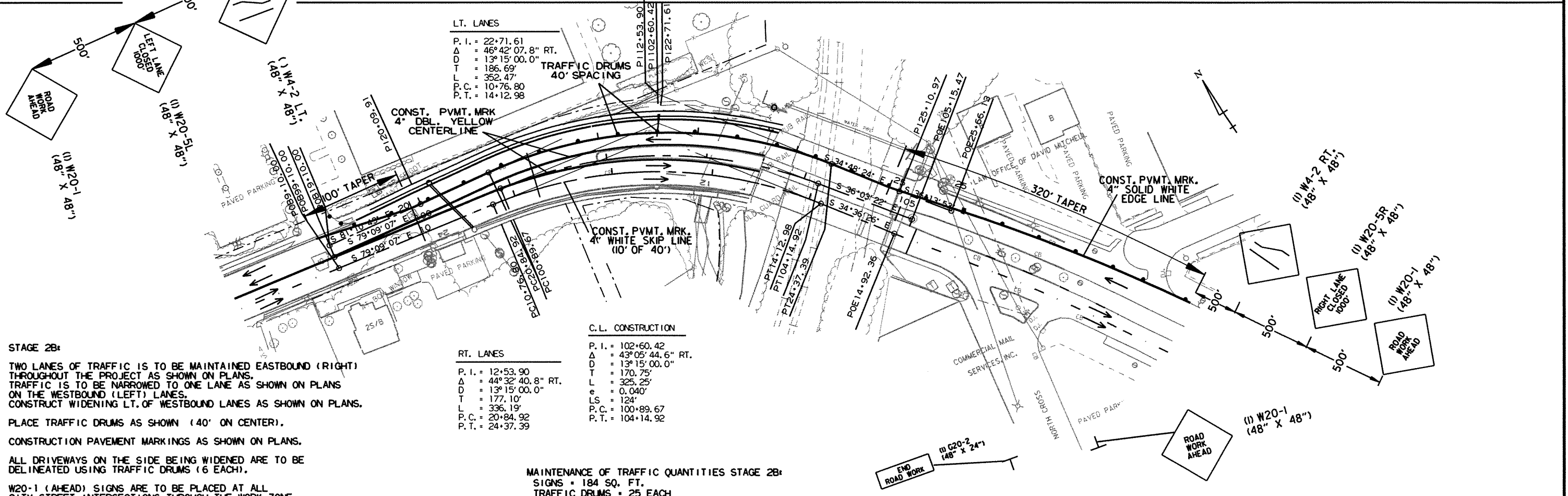
P. I. = 22+71.61  
 Δ = 46°42'07.8" RT.  
 D = 13°15'00.0"  
 T = 186.69'  
 L = 352.47'  
 P.C. = 10+76.80  
 P.T. = 14+12.98

**C.L. CONSTRUCTION**

P. I. = 102+60.42  
 Δ = 43°05'44.6" RT.  
 D = 13°15'00.0"  
 T = 170.75'  
 L = 325.25'  
 e = 0.040'  
 LS = 124'  
 P.C. = 100+89.67  
 P.T. = 104+14.92

**MAINTENANCE OF TRAFFIC QUANTITIES STAGE 2B:**

SIGNS = 184 SQ. FT.  
 TRAFFIC DRUMS = 25 EACH  
 REMOVAL OF CONST. PVMT. MRK. = 1615 LIN. FT.  
 CONST. PVMT. MRK. = 2600 LIN. FT.



**MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)**





DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061218	10	39

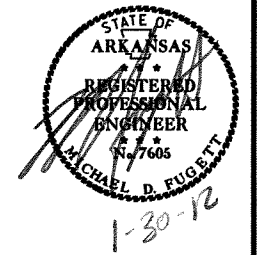
**ADVANCE WARNING SIGNS AND DEVICES**

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1A	STAGE 1B	STAGE 2A	STAGE 2B	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS
			LIN. FT. - EACH					NO.	SQ. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	2	32.0	
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	2	32.0	
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	2	32.0	
W20-1	ROAD WORK AHEAD	48"x48"	2	2	2	2	2	2	32.0	
G20-2	END ROAD WORK	48"x24"	3	3	3	3	3	3	24.0	
W20-5R	RIGHT LANE CLOSED 1000'	48"x48"	1			1	1	1	16.0	
W20-5R	LEFT LANE CLOSED 1000'	48"x48"		1	1		1	1	16.0	
W4-2R	RIGHT LANE NARROWS	48"x48"	1			1	1	1	16.0	
W4-2L	LEFT LANE NARROWS	48"x48"		1	1		1	1	16.0	
	TRAFFIC DRUMS		34	34	30	25	34	34		34
<b>TOTALS:</b>									<b>216.0</b>	<b>34</b>

② QUANTITIES

**CLEARING AND GRUBBING**

STATION	STATION	CLEARING	GRUBBING
STATION			
101+00	103+00	2	2
<b>TOTALS:</b>		<b>2</b>	<b>2</b>



**BENCH MARKS**

STATION	LOCATION	BENCH MARKS
		EACH
103+51	BRIDGE END ON RT.	1
<b>TOTALS:</b>		

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

**CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS**

DESCRIPTION	STAGE 1A	STAGE 1B	STAGE 2A	STAGE 2B	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS			
	LIN. FT. - EACH								LIN. FT.	LIN. FT.	TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	4"	
											EACH		WHITE	YELLOW
REMOVAL OF PERMANENT PAVEMENT MARKINGS	1110					1110								
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		840	1590	1615				4045						
CONSTRUCTION PAVEMENT MARKINGS	1725	1725	1610	2600			7660							
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)					32				32					
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)					8					8				
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")					560						560			
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")					1760							1760		
<b>TOTALS:</b>						<b>1110</b>	<b>7660</b>	<b>4045</b>	<b>32</b>	<b>8</b>	<b>560</b>	<b>1760</b>		

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

**REMOVAL AND DISPOSAL OF ITEMS**

STATION	STATION	DESCRIPTION	CURB AND GUTTER	CONCRETE DRIVEWAYS	WALKS	SIGN FOUNDATIONS	SIGNS	GUARDRAIL	DROP INLETS	SPRINKLER SYSTEM	PLANTER
			LIN. FT.	SQ. YD.	SQ. YD.	EACH	EACH	LIN. FT.	EACH	EACH	EACH
99+61	103+60	WALK ON LT.			212						
99+75	100+54	SPRINKLER SYSTEM ON RT.								1	
99+98		SIGN AND SIGN FOUNDATION ON RT.				1	1				
99+98		BRICK PLANTER ON RT.									1
100+06	103+54	GUARDRAIL ON LT.						375			
100+10	103+60	CURB AND GUTTER ON RT.	350								
100+10	103+60	CURB AND GUTTER ON LT.	350								
100+20		CONCRETE DRIVE ON RT.		50							
100+39	103+60	WALK ON RT.			193						
103+41		DROP INLET ON RT.							1		
103+54		DROP INLET ON RT.							1		
103+57		DROP INLET ON LT.							1		
<b>TOTALS:</b>			<b>700</b>	<b>50</b>	<b>405</b>	<b>1</b>	<b>1</b>	<b>375</b>	<b>3</b>	<b>1</b>	<b>1</b>

**EARTHWORK**

STATION	STATION	LOCATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
ENTIRE	PROJECT	MAIN LANES	191	809
ENTIRE	PROJECT	DRIVEWAYS		10
ENTIRE	PROJECT	UNDERCUT	200	200
<b>TOTALS:</b>			<b>391</b>	<b>1019</b>

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

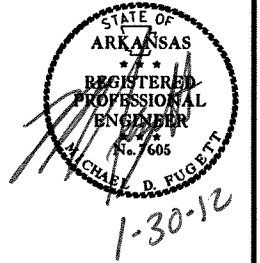
NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061218		II	39

**EROSION CONTROL**

STATION	STATION	LOCATION	PERM. EROSION CONTROL				TEMPORARY EROSION CONTROL					*SEDIMENT REMOVAL & DISPOSAL CU. YD.	
			WATER M.GAL.	SOLID SODDING SQ. YD.	TEMPORARY SEEDING ACRE	MULCH COVER ACRE	WATER M.GAL.	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	DROP INLET SILT FENCE	SILT FENCE		
								(E-5) BAG	(E-6) CU. YD.	(E-7) LIN. FT.	(E-11) LIN. FT.		
ENTIRE PROJECT	STAGE 1A											10	
ENTIRE PROJECT	STAGE 1B											10	
ENTIRE PROJECT	STAGE 2A											10	
ENTIRE PROJECT	STAGE 2B											10	
ENTIRE PROJECT	MAIN LANES		9.5	754	0.50	0.50	10.2			5	75	75	10
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								50					
<b>TOTALS:</b>			<b>9.5</b>	<b>754</b>	<b>0.50</b>	<b>0.50</b>	<b>10.2</b>	<b>50</b>	<b>10</b>	<b>175</b>	<b>275</b>	<b>40</b>	

② QUANTITIES



**BASIS OF ESTIMATE:**

WATER..... 20.4 M.G. / ACRE OF TEMPORARY SEEDING.  
 WATER..... 12.6 GAL. / SQ. YD. OF SOLID SODDING.  
 SAND BAG DITCH CHECKS..... 25 BAGS / LOCATION  
 ROCK DITCH CHECKS..... 5 CU. YD. / LOCATION

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

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

**4" PIPE UNDERDRAIN**

LOCATIONS	4" PIPE UNDERDRAINS
	LIN. FT.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	350
<b>TOTAL</b>	<b>350</b>

\* NOTE: QUANTITIES ARE ESTIMATED.  
 SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

**STRUCTURES**

STATION	DESCRIPTION	DROP INLET (TYPE)			REINF. CONC. PIPE CULVERT (CLASS III)	ALTERNATE PIPE CULVERT	YARD DRAIN	SIDE DRAIN	STD. DWG. NOS.
		MO	4'	8'					
		EACH			18"	18"	EACH	12"	
100+25	CONST. D.I. LT. W/ EXT. & PIPE OUTLET	1		1	61				FPC-9E, FPC-9M, PCC-1
100+50	CONST. D.I. RT. W/ EXT. & PIPE OUTLET	1		1					FPC-9E, FPC-9M, PCC-1, PCM-1, PCP-1, PCP-2
102+50	INSTALL YD. DRN ON LT. W/ PIPE OUTLET					1	76		FPC-9, PCC-1, PCM-1
102+50	CONST. D.I. RT. W/ EXT. & PIPE OUTLET	1		1					FPC-9E, FPC-9M, PCC-1, PCM-1, PCP-1, PCP-2
103+25	INSTALL YD. DRN ON LT. W/ PIPE OUTLET					1	32		FPC-9, PCC-1, PCM-1
103+41	CONST. D.I. RT.	1							FPC-9E, FPC-9M
103+54	CONST. D.I. RT. W/ EXT.	1	1						FPC-9E, FPC-9M
103+57	CONST. D.I. LT. & EXTEND PIPE LT.	1			4				FPC-9E, FPC-9M, PCC-1
<b>TOTALS:</b>		<b>6</b>	<b>1</b>	<b>3</b>	<b>65</b>	<b>2</b>	<b>108</b>		

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.

**PAVEMENT REPAIR OVER CULVERTS (CONCRETE)**

STATION	DEPTH	LENGTH	FLOWABLE SELECT MATERIAL	PAVEMENT REPAIR
	FEET		CU. YD.	CU. YD.
100+25	3.00	48	14.4	9.2
<b>TOTALS:</b>			<b>14.4</b>	<b>9.2</b>

AVG. DEPTH = 9"

**SELECTED PIPE BEDDING & BACKFILL**

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU. YD.	
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	25	50
<b>TOTALS:</b>	<b>25</b>	<b>50</b>

NOTE: QUANTITIES ARE ESTIMATED.  
 SEE SECTION 104.03 OF THE STD. SPECS.

**CONCRETE ITEMS**

STATION	STATION	SIDE	CONC. COMB. CURB & GUTTER (TY. A) (1'6")	CONCRETE WALKS
			LIN. FT.	SQ. YD.
100+10	103+60	LT.	350	195
100+10	103+60	RT.	350	161
101+90	103+60	MEDIAN	339	
<b>TOTALS:</b>			<b>1039</b>	<b>356</b>

**SOIL LOG**

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO SOIL CLASS	COLOR
		FEET				
11+00	20RT*	0-3.0Z	21	4	A-4(0)	BROWN
11+00	5RT*	0-3.3Z	29	16	A-6(6)	RD/BR
11+00	20RT*	0-3Z	23	7	A-4(3)	BROWN
12+75	CL**	0-5	19	8	A-4(0)	BROWN
21+00	CL**	0-5	27	12	A-6(4)	GRAY
23+00	CL**	0-4.3Z	24	9	A-4(4)	BROWN

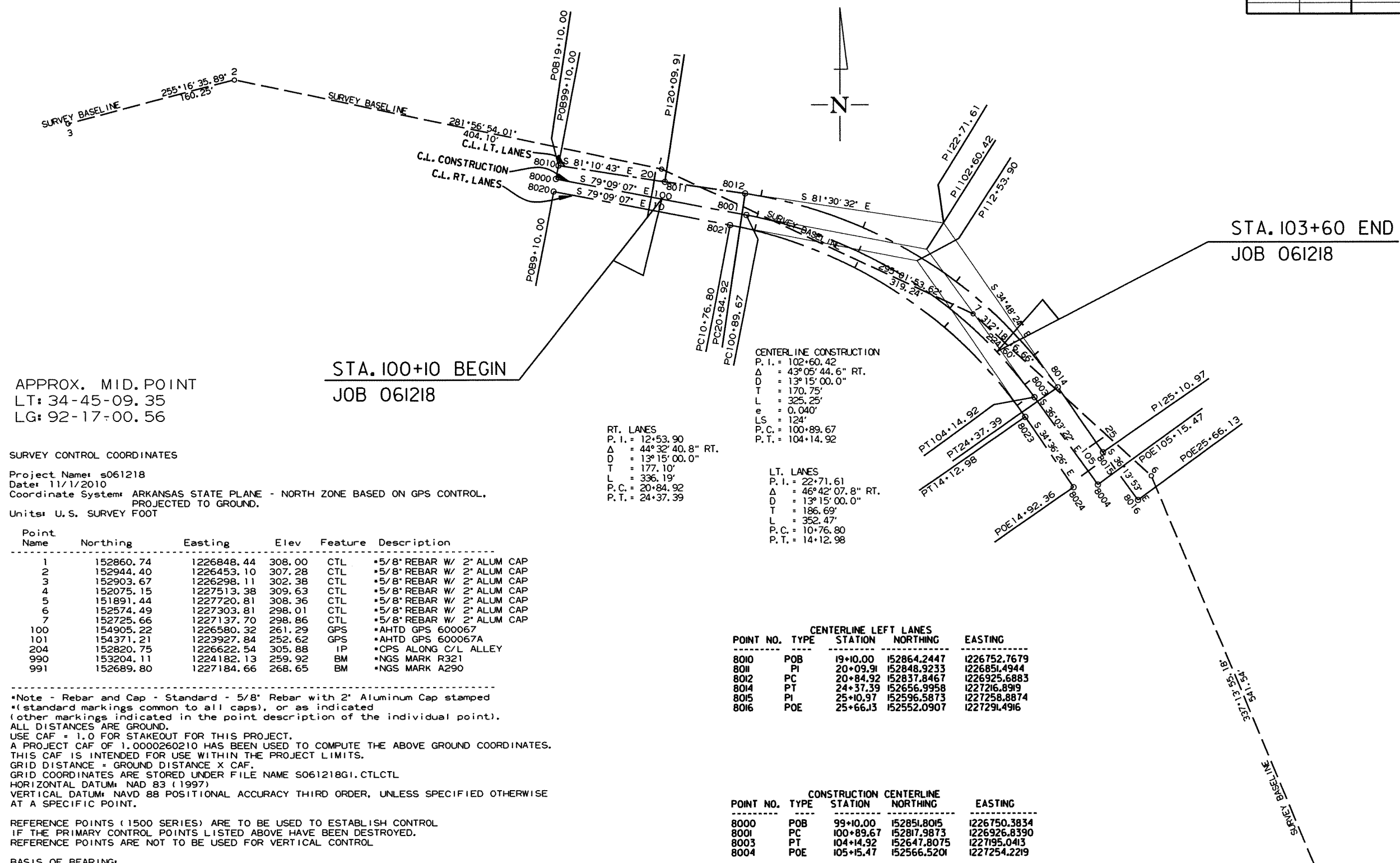
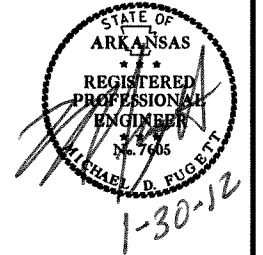
SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING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





DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061218		14	39

2 SURVEY CONTROL DETAILS



APPROX. MID. POINT  
 LT: 34-45-09.35  
 LG: 92-17-00.56

STA. 100+10 BEGIN  
 JOB 061218

STA. 103+60 END  
 JOB 061218

CENTERLINE CONSTRUCTION  
 P. I. = 102+60.42  
 Δ = 43°05'44.6" RT.  
 D = 13°15'00.0"  
 T = 170.75'  
 L = 325.25'  
 e = 0.040'  
 LS = 124'  
 P. C. = 100+89.67  
 P. T. = 104+14.92

RT. LANES  
 P. I. = 12+53.90  
 Δ = 44°32'40.8" RT.  
 D = 13°15'00.0"  
 T = 177.10'  
 L = 336.19'  
 P. C. = 20+84.92  
 P. T. = 24+37.39

LT. LANES  
 P. I. = 22+71.61  
 Δ = 46°42'07.8" RT.  
 D = 13°15'00.0"  
 T = 186.69'  
 L = 352.47'  
 P. C. = 10+76.80  
 P. T. = 14+12.98

SURVEY CONTROL COORDINATES

Project Name: s061218  
 Date: 11/1/2010  
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.  
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	152860.74	1226848.44	308.00	CTL	5/8" REBAR W/ 2" ALUM CAP
2	152944.40	1226453.10	307.28	CTL	5/8" REBAR W/ 2" ALUM CAP
3	152903.67	1226298.11	302.38	CTL	5/8" REBAR W/ 2" ALUM CAP
4	152075.15	1227513.38	309.63	CTL	5/8" REBAR W/ 2" ALUM CAP
5	151891.44	1227720.81	308.36	CTL	5/8" REBAR W/ 2" ALUM CAP
6	152574.49	1227303.81	298.01	CTL	5/8" REBAR W/ 2" ALUM CAP
7	152725.66	1227137.70	298.86	CTL	5/8" REBAR W/ 2" ALUM CAP
100	154905.22	1226580.32	261.29	GPS	AHTD GPS 600067
101	154371.21	1223927.84	252.62	GPS	AHTD GPS 600067A
204	152820.75	1226622.54	305.88	IP	CPS ALONG C/L ALLEY
990	153204.11	1224182.13	259.92	BM	NGS MARK R321
991	152689.80	1227184.66	268.65	BM	NGS MARK A290

\*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped  
 \*(standard markings common to all caps), or as indicated  
 (other markings indicated in the point description of the individual point).  
 ALL DISTANCES ARE GROUND.  
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.  
 A PROJECT CAF OF 1.0000260210 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.  
 THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.  
 GRID DISTANCE = GROUND DISTANCE X CAF.  
 GRID COORDINATES ARE STORED UNDER FILE NAME S061218G1.CTLCTL  
 HORIZONTAL DATUM: NAD 83 (1997)  
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE  
 AT A SPECIFIC POINT.

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

BASIS OF BEARING:  
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE  
 DETERMINED FROM GPS CONTROL POINTS: 600067 - 600067A  
 CONVERGENCE ANGLE: 00-09-53.86530 LEFT AT LT: 34-45-09.3 LG: 92-17-00.5  
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

CENTERLINE LEFT LANES				
POINT NO.	TYPE	STATION	NORTHING	EASTING
8010	POB	19+10.00	152864.2447	1226752.7679
8011	PI	20+09.91	152848.9233	1226851.4944
8012	PC	20+84.92	152837.8467	1226925.6883
8014	PT	24+37.39	152656.9958	1227216.8919
8015	PI	25+10.97	152596.5873	1227258.8874
8016	POE	25+66.13	152552.0907	1227291.4916

CONSTRUCTION CENTERLINE				
POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	99+10.00	152851.8015	1226750.3834
8001	PC	100+89.67	152817.9873	1226926.8390
8003	PT	104+14.92	152647.8075	1227195.0413
8004	POE	105+15.47	152566.5201	1227254.2219

CENTERLINE RIGHT LANES				
POINT NO.	TYPE	STATION	NORTHING	EASTING
8020	POB	9+10.00	152840.0264	1226748.0709
8021	PC	10+76.80	152808.6341	1226911.8877
8023	PT	14+12.98	152629.5330	1227186.4140
8024	POE	14+92.36	152564.2035	1227231.4940

FOR R.C. PIPE CULVERT INSTALLATIONS USE CLASS III WITH (TYPE 3) BEDDING UNLESS OTHERWISE SPECIFIED.  
FOR C.M. PIPE AND PLASTIC PIPE CULVERT INSTALLATIONS USE (TYPE 2) BEDDING UNLESS OTHERWISE SPECIFIED.

STA. 100+25 CONSTRUCT  
D.I. ON LT. H. 3'0"  
WITH 8' EXT. AND  
18" X 61" PIPE OUTLET  
TO D.I. STA. 100+50 RT.  
TYPE MD-4'  
TYPE C = 4'X3'

STA. 102+50 INSTALL  
YARD DRAIN ON LT. WITH  
12" X 76" SIDE DRAIN  
TO YARD DRAIN STA. 103+25 LT.

STA. 103+57 IN PLACE  
D.I. ON LT. WITH 18" R.C. PIPE OUTLET  
REMOVE DROP INLET AND CONSTRUCT  
DROP INLET ON LT. H. 4'9"  
EXTEND 18" R.C. PIPE 4' LT. AND  
CONNECT DROP INLET TO PIPES LT. AND RT.  
TYPE MD-4'  
TYPE C = 4'X3'

STA. 103+25 INSTALL  
YARD DRAIN ON LT. WITH  
12" X 32" SIDE DRAIN  
TO D.I. STA. 103+57 LT.

STA. 103+55 IN PLACE  
DROP INLET ON LT. WITH  
18" PIPE OUTLET  
RETAIN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	061218	15
						2 PLAN SHEET		



LT. LANES

P. I. = 22+71.61  
Δ = 46°42'07.8" RT.  
D = 13°15'00.0"  
T = 186.69'  
L = 352.47'  
P. C. = 10+76.80  
P. T. = 14+12.98

C.L. CONSTRUCTION

P. I. = 102+60.42  
Δ = 43°05'44.6" RT.  
D = 13°15'00.0"  
T = 170.75'  
L = 325.25'  
e = 0.040'  
LS = 124'  
P. C. = 100+89.67  
P. T. = 104+14.92

RT. LANES

P. I. = 12+53.90  
Δ = 44°32'40.8" RT.  
D = 13°15'00.0"  
T = 177.10'  
L = 336.19'  
P. C. = 20+84.92  
P. T. = 24+37.39

STA. 100+20 CONSTRUCT  
APPROACH ON RT. = 5 CU. YDS.

STA. 100+50 CONSTRUCT  
D.I. ON RT. H. 3'0"  
WITH 8' EXT. AND  
18" X 196" PIPE OUTLET  
TO D.I. STA. 102+50 RT.  
TYPE MD-4'  
TYPE C = 4'X3'

STA. 102+50 CONSTRUCT  
D.I. ON RT. H. 3'0"  
WITH 8' EXT. AND  
18" X 87" PIPE OUTLET  
TO D.I. STA. 103+41 RT.  
TYPE MD-4'  
TYPE C = 4'X3'

STA. 103+03 CONSTRUCT  
APPROACH ON RT. = 5 CU. YDS.

STA. 103+41 IN PLACE  
DROP INLET ON RT.  
WITH 15" X 42" R.C. PIPE OUTLET  
REMOVE DROP INLET AND CONSTRUCT  
DROP INLET ON RT. H. 3'5"  
CONNECT D.I. TO EXISTING 15" R.C. PIPE  
TYPE MD-4'  
TYPE C = 4'X3'

STA. 103+54 MEDIAN  
IN PLACE DROP INLET  
WITH 15" X 34" R.C. PIPE OUTLET  
REMOVE DROP INLET AND CONSTRUCT  
DROP INLET H. 4'0" ON LT. SIDE OF MEDIAN  
WITH 4' EXTENSION  
CONNECT TO EXISTING PIPES LT. AND RT.  
TYPE MD-4'  
TYPE C = 4'X3'

C.L. CONSTRUCTION  
STA. 100+10.00 BEGIN SUPERELEVATION  
STA. 101+34.00 MAX. SUPERELEVATION (0.040'')

LT. LANES  
STA. 102+92.36 MAX. SUPERELEVATION (0.40'')

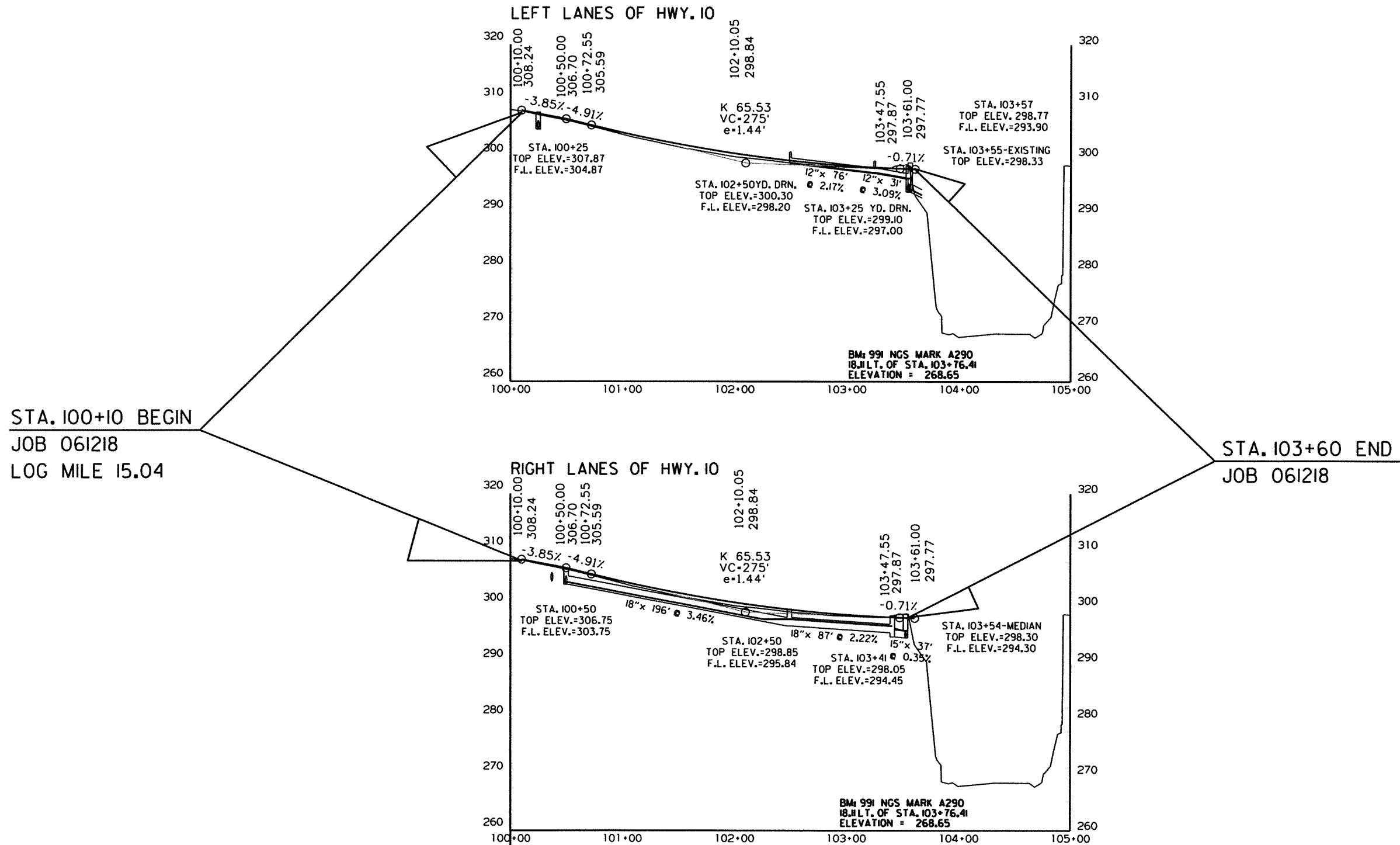
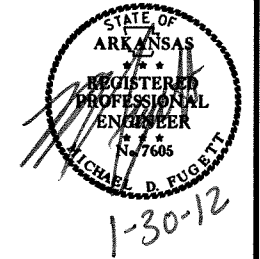
RT. LANES  
STA. 102+92.36 MAX. SUPERELEVATION (0.40'')

STA. 100+10 BEGIN  
JOB 061218  
LOG MILE 15.04

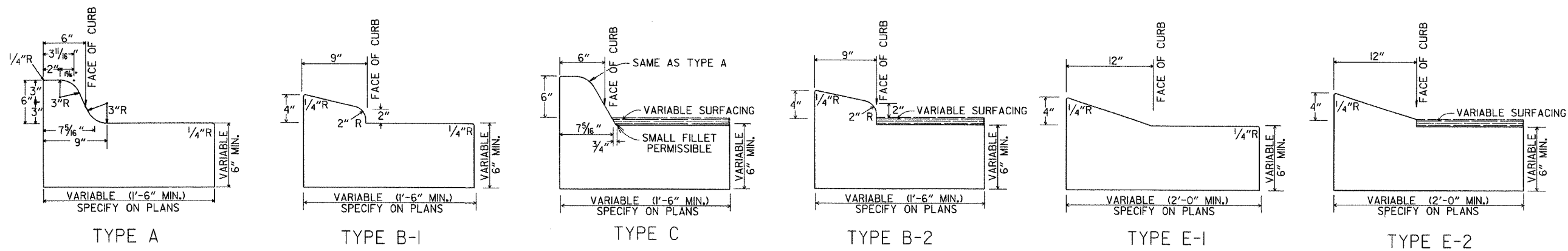
THE EXISTING BILLBOARD AT STA. 100+58 ON RT.  
IS TO REMAIN IN PLACE. IF MEASURES ARE  
REQUIRED TO PROTECT BILLBOARD DURING CONSTRUCTION,  
IT WILL BE AT NO COST TO THE DEPARTMENT.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 061218			16	39

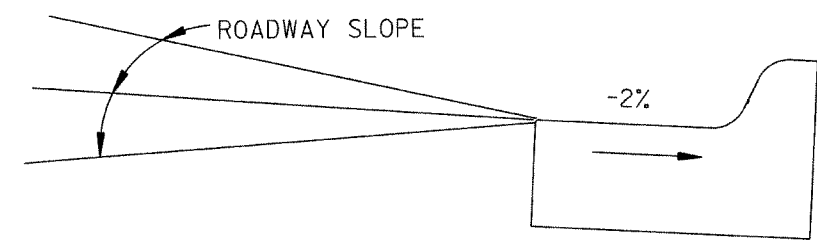
2 PROFILE SHEET



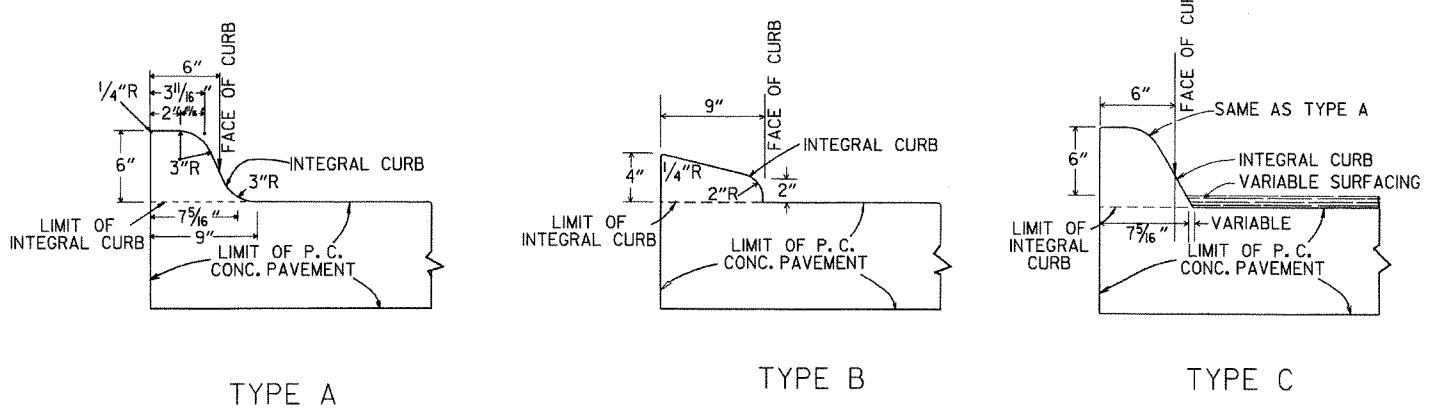




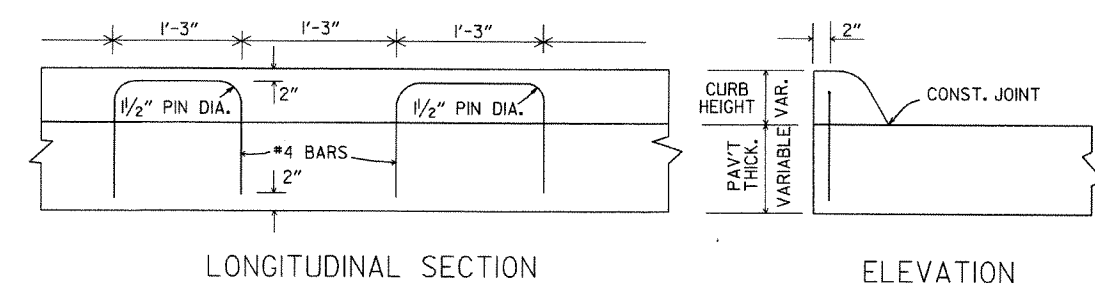
CONCRETE COMBINATION CURB AND GUTTER



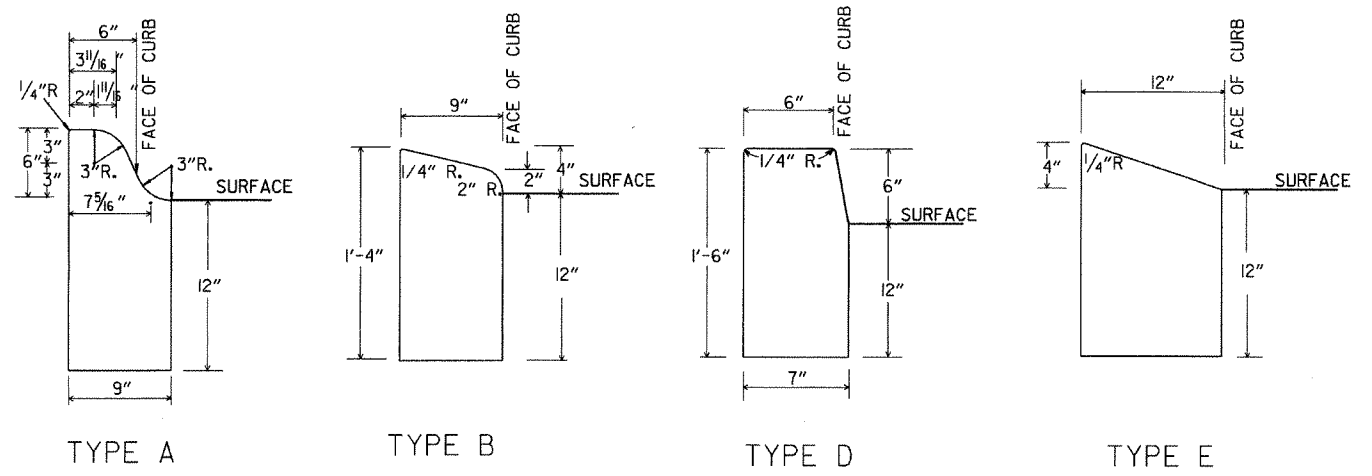
DETAIL OF GUTTER SLOPE  
 GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



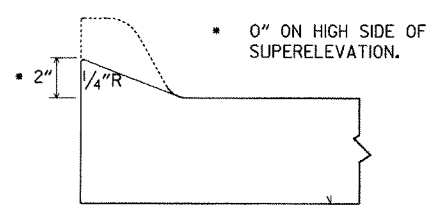
INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

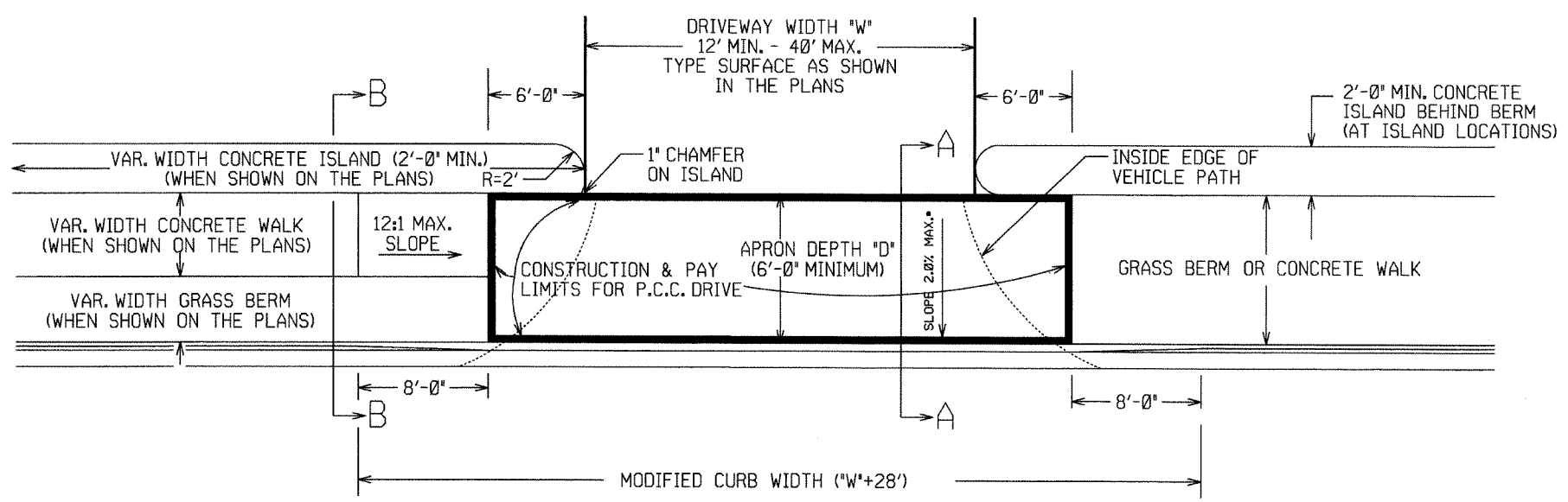
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIABLE DEPTH TYPE A & B 1	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

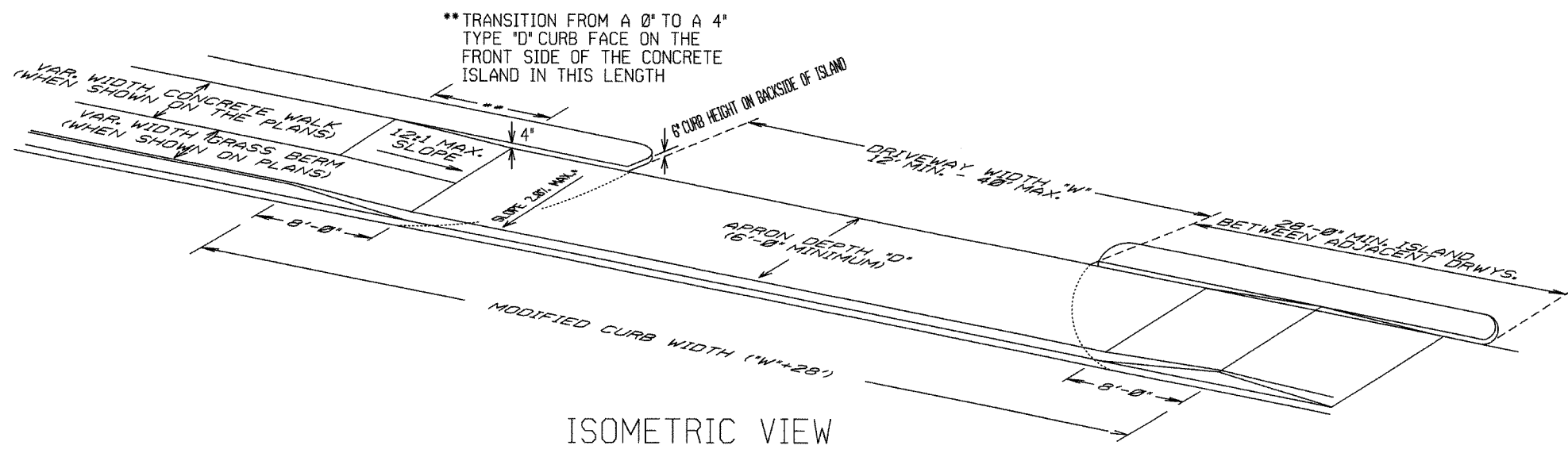
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

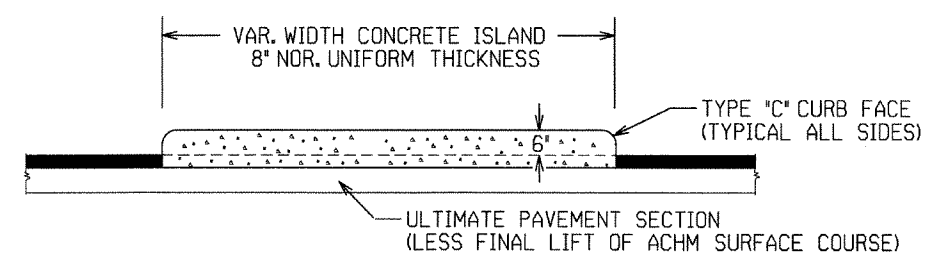
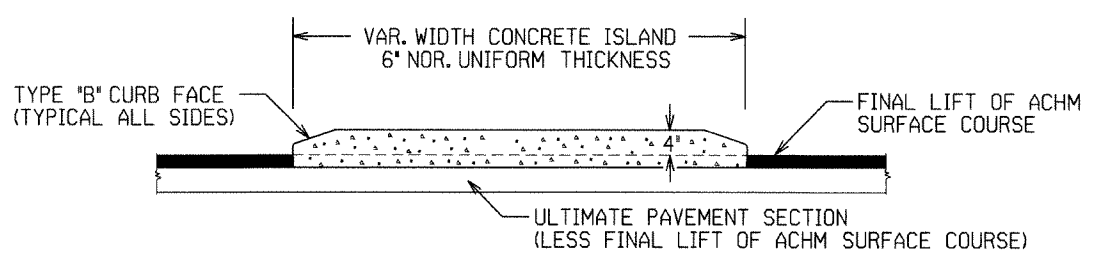
STANDARD DRAWING CG-1



PLAN VIEW

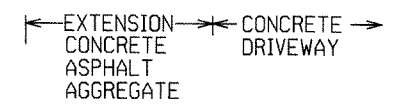


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED.  
NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES  
SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB  
FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE  
ITEM "CONCRETE ISLAND".

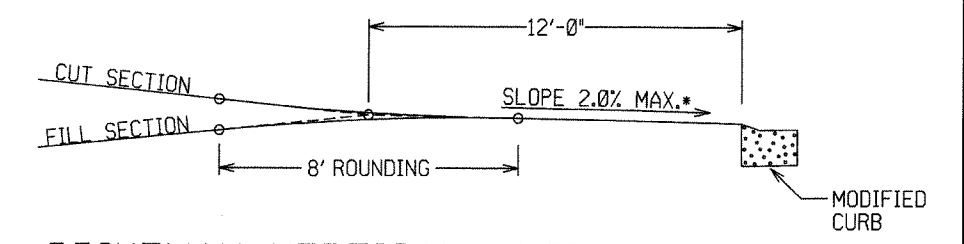


EXTENSION TYPICAL SECTIONS

- 1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY
- 2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")  
4" ACHM BINDER COURSE (1") OR  
4" ACHM BASE COURSE (1-1/2")
- 3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")  
7" AGGREGATE BASE COURSE
- 4: AGGREGATE - 6" AGGREGATE BASE COURSE

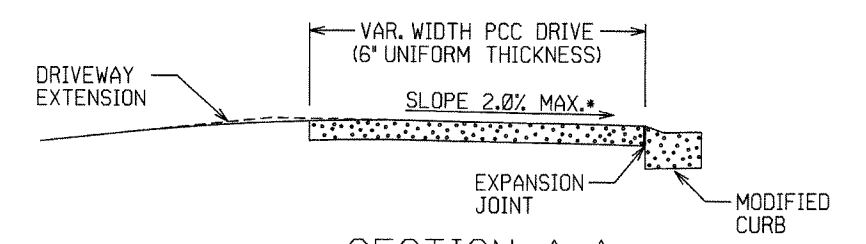
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS.  
THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER,  
SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU  
OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL  
COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

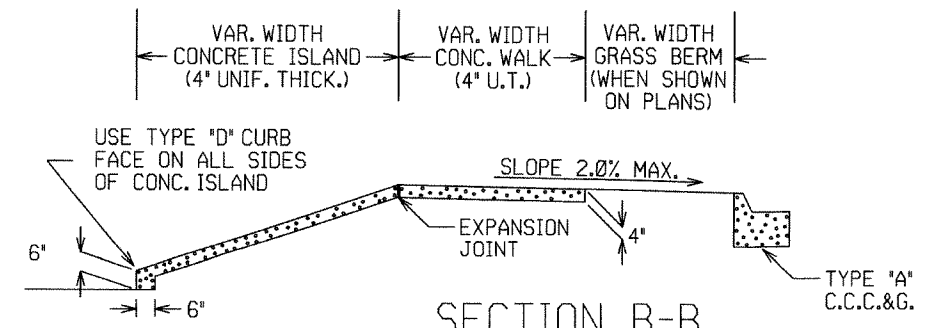


DRIVEWAY VERTICAL ALIGNMENT DETAILS

\* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY  
FROM THE ROADWAY UNLESS APPROVED  
BY THE ENGINEER.



SECTION A-A



SECTION B-B  
CURBED ISLAND BEHIND WALK

DATE	REV	DATE	FILED	DESCRIPTION
11-29-07				ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05				REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02				ADDED ISLAND DETAILS & NOTES
3-30-00				REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98				REVISED NOTES
11-18-98				REDRAWN AND REISSUED

ARKANSAS STATE HIGHWAY COMMISSION  
DETAILS OF DRIVEWAYS & ISLANDS  
STANDARD DRAWING DR-1



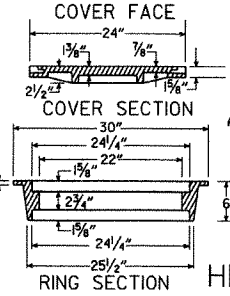
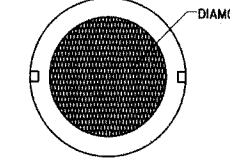
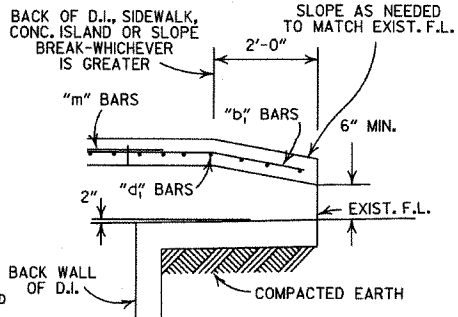
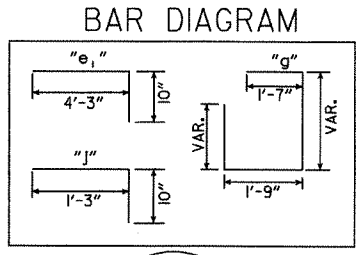
4'-0" LENGTH DROP INLET DROP INLET EXTENSION

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0"		PLUS OR MINUS PER LIN. FT. OF HEIGHT		4'-0"		8'-0"	
		CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22	0.58	38	0.87	72
24"	2'-6"	1.79	156	0.28	22				
30"	3'-2"	2.39	205	0.30	26				
36"	3'-8"	2.63	236	0.32	28				
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
						0.04	3		

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

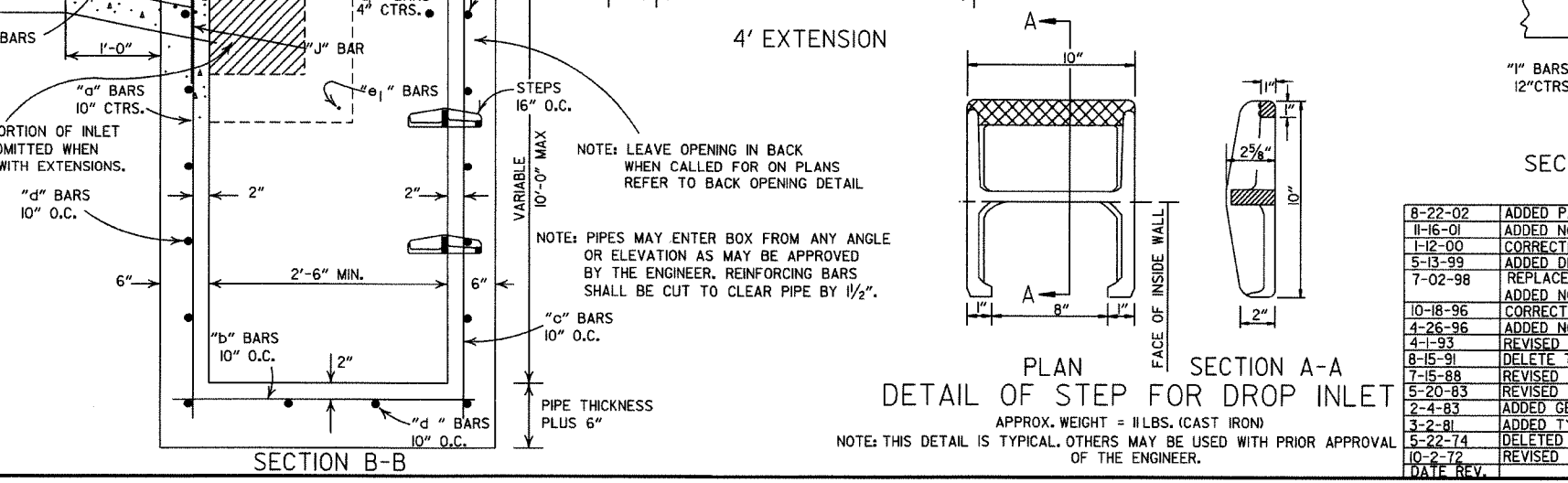
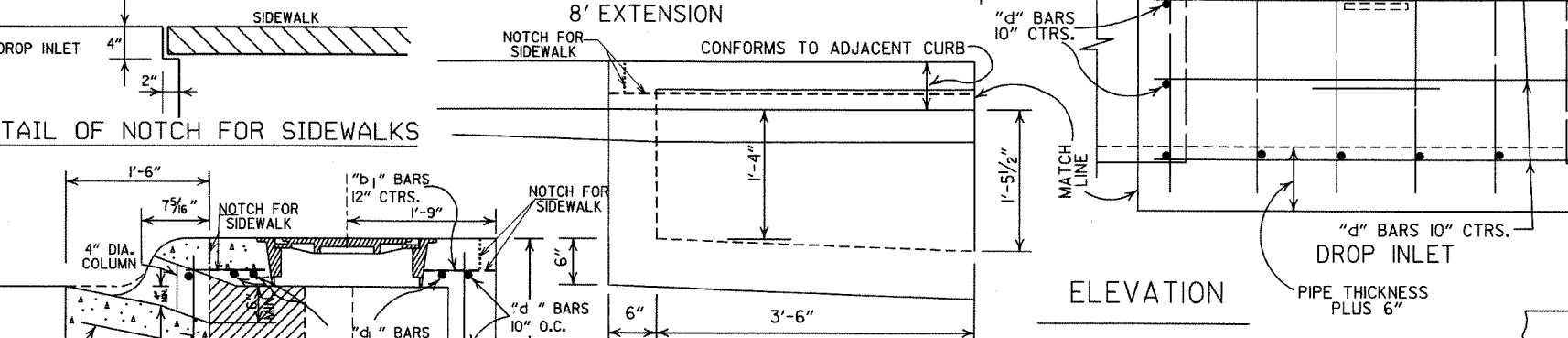
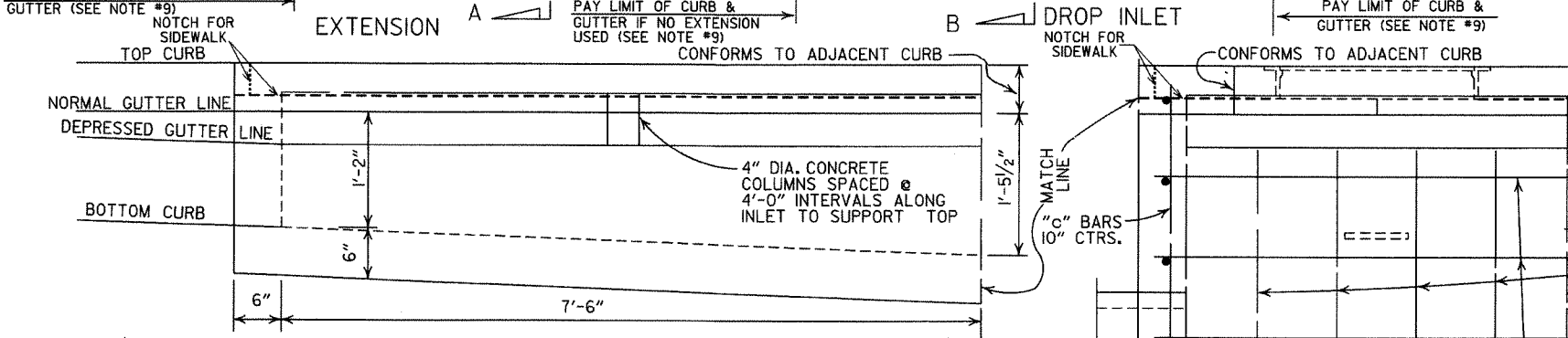
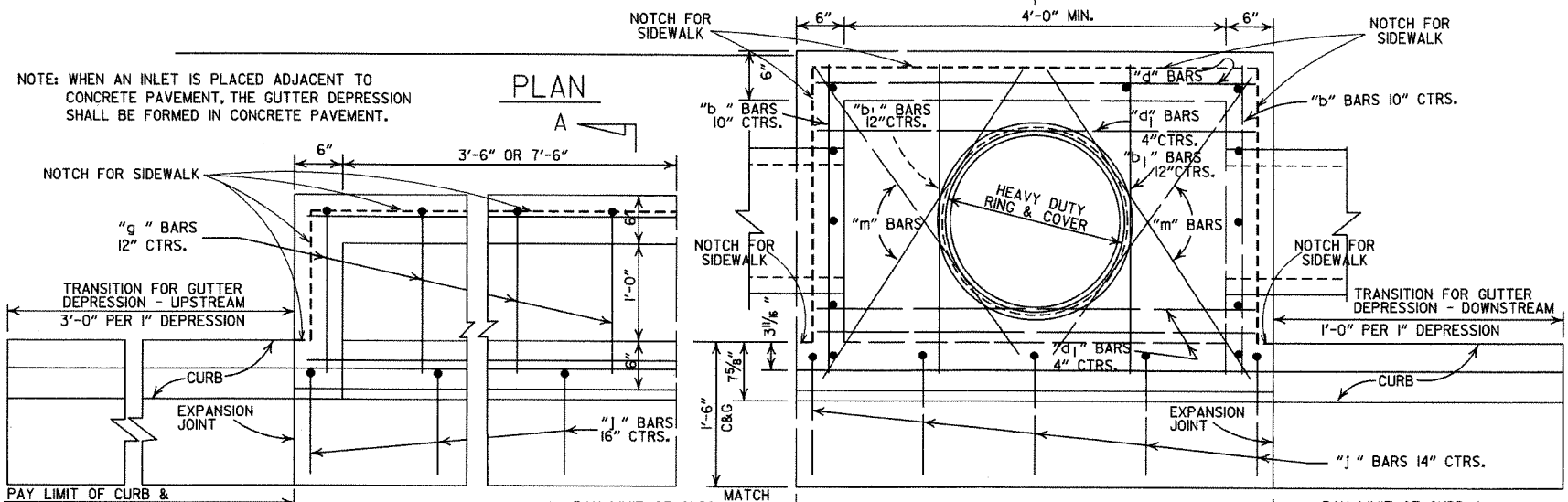
INSIDE DIA. PIPE	CLASS A CONC. CU. YDS.	REINF. STEEL POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8



APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
  2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
  3. ALL REINF. BARS SHALL BE #4 AND HAVE 1/2" COVER.
  4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
  5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
  6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
  7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
  8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
  9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
  10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
  11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
  12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
  13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



DATE	REV.	DESCRIPTION	DATE FILMED
8-22-02		ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01		ADDED NOTE 13; REVISED SECTION B-B	
1-12-00		CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99		ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98		REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96		CORRECTED SPELLING	
4-26-96		ADDED NOTE 8 & REVISED (4'x8') EXTENSION TITLES	10-18-96
4-1-93		REVISED BACK OPENING & NOTE	
8-15-91		DELETE TYPE IV GRATE	
7-15-88		REVISED STEP DETAIL	
5-20-83		REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83		ADDED GENERAL NOTE NO. 4	
3-2-81		ADDED TYPE IV-A GRATE	
5-22-74		DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72		REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

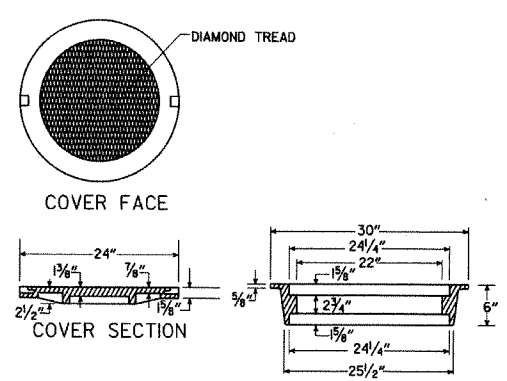
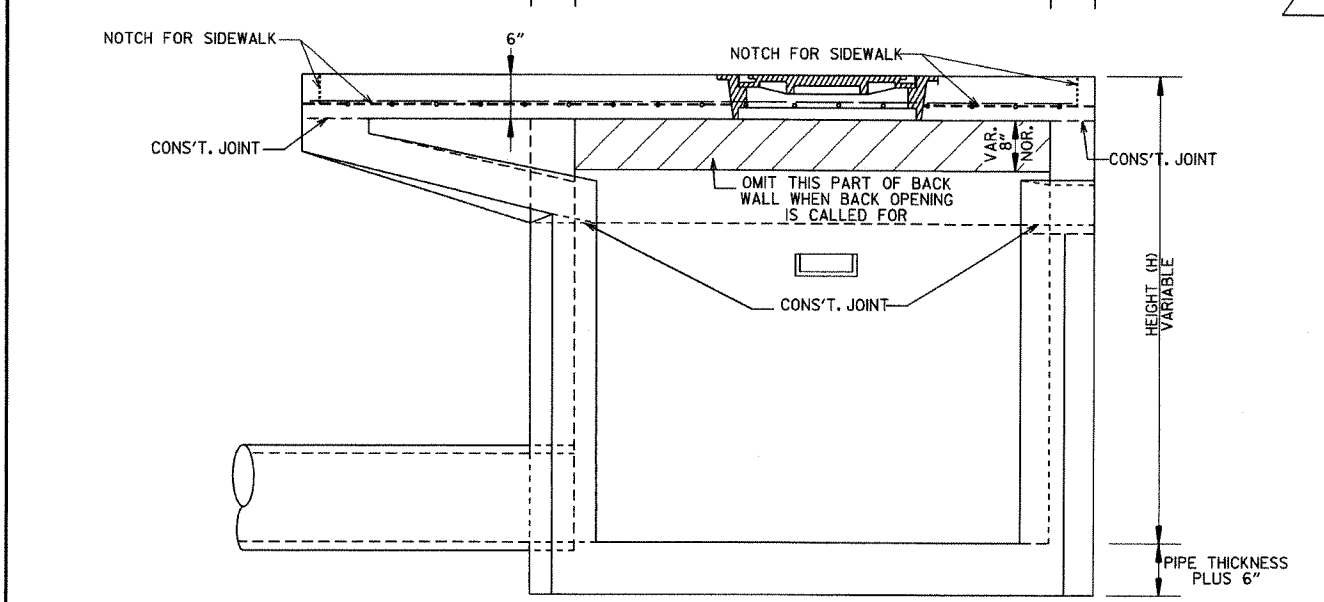
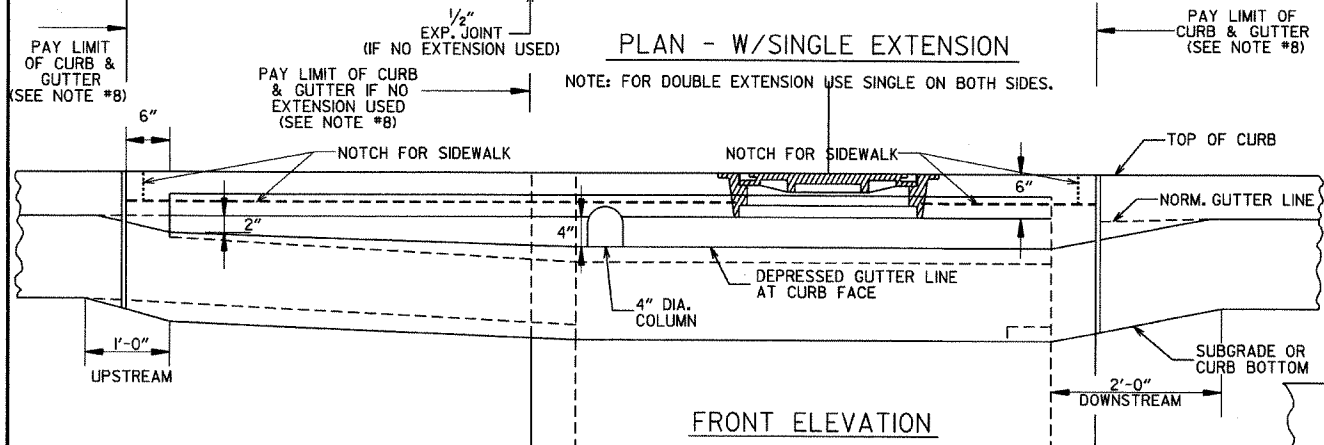
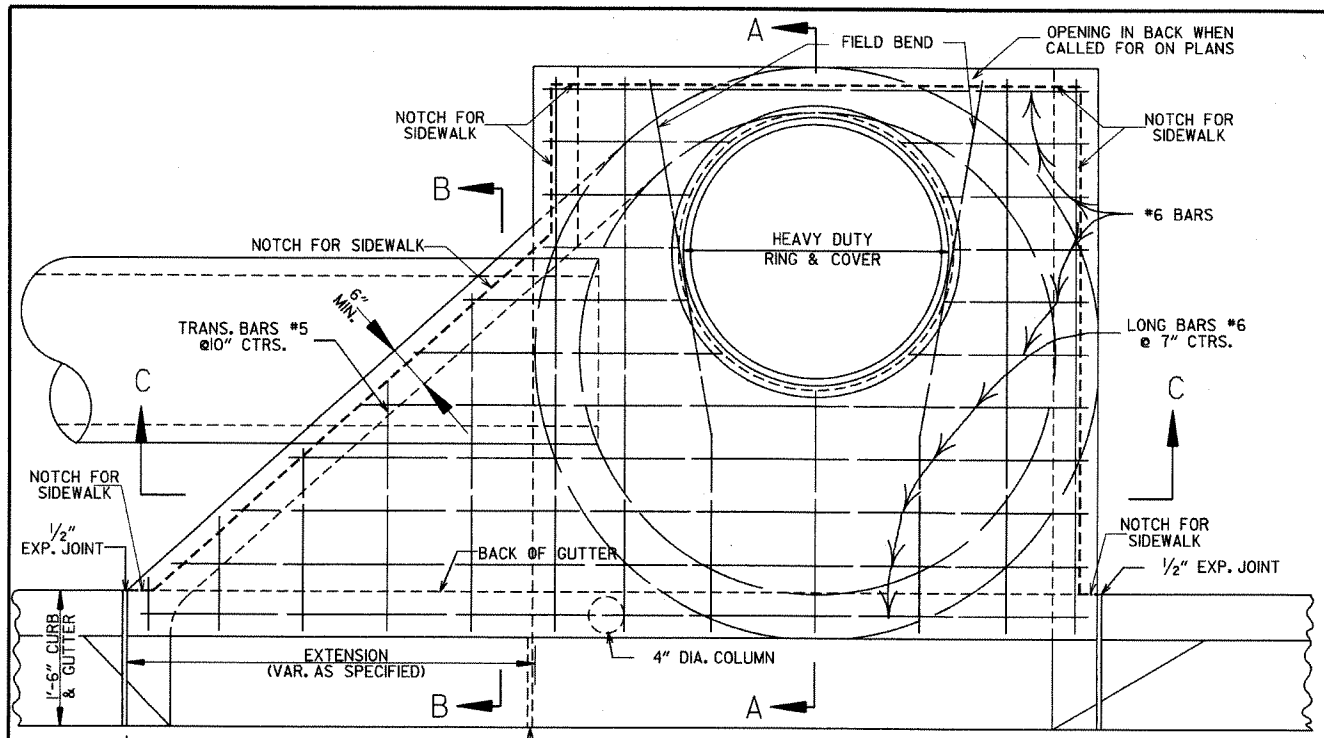
STANDARD DRAWING FPC-9E

PLAN SECTION A-A  
DETAIL OF STEP FOR DROP INLET  
APPROX. WEIGHT = 11 LBS. (CAST IRON)  
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

NOTE: WHEN AN INLET IS PLACED ADJACENT TO CONCRETE PAVEMENT, THE GUTTER DEPRESSION SHALL BE FORMED IN CONCRETE PAVEMENT.

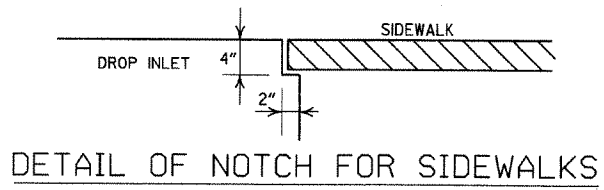
NOTE: LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

NOTE: PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 1/2".

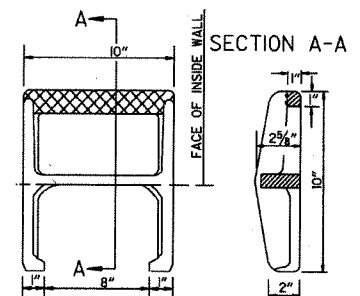


HEAVY DUTY RING & COVER

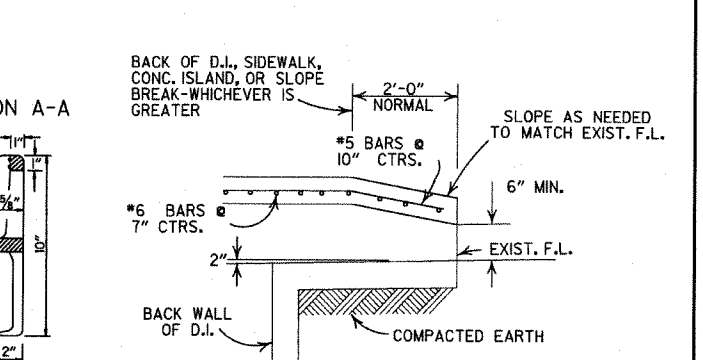
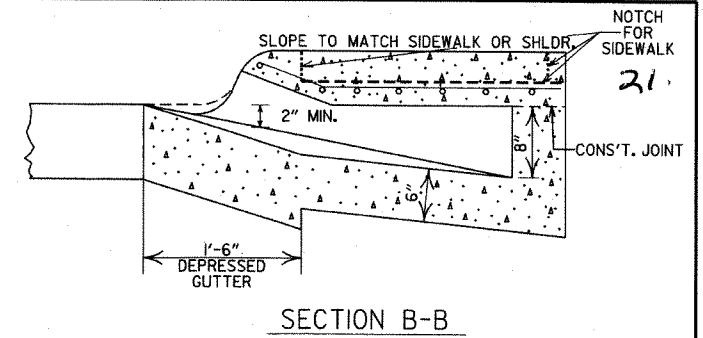
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS



DETAIL OF STEP FOR DROP INLET



BACK OPENING

- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4\"/>
  - 2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0\"/>
  - 3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1/2\"/>
  - 4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
  - 5. 4\"/>
  - 6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
  - 7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
  - 8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
  - 9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
  - 10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
  - 11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
  - 12. 4\"/>
  - 13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

MINIMUM WALL THICKNESS			
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	ISSUED	REVISIONS	DATE FILED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B		
8-16-01	ADDED NOTE 13		
1-12-00	REVISED HEAVY DUTY RING & COVER		
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS		
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET		
4-28-98	ADDED NOTE 11 AND OPENING DIMENSION		
10-12-95	CORRECTED #6 BAR SPACING		
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX		
2-2-95	TYPE C TO MO OPEN BACK DETAIL		
8-2-91	REVISED GENERAL NOTES		
4-1-91	REV. BACK OPEN DETAIL & NOTE		
8-15-91	REVISED NOTES 11, 12 & ADDED BACK OPEN DETAIL		
11-30-89	ADDED NOTE NO. 12		
8-23-89	ADDED NOTE & MINIMUM WALL THICKNESS		
7-15-88	ADDED EXTEND NOTE TO SECTION A-A		
1-12-87	MODIFIED WALL THICKNESS		
6-12-84	ISSUED		

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13 1/2	14
21	26	26	15 1/2	16
24	28 1/2	29	18	18
30	36 1/4	36	22 1/2	23
36	43 3/8	44	26 5/8	27
42	51 1/8	51	31 1/8	31
48	58 1/2	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77 1/2	77
108	138	138	87 1/8	87
120	154	154	96 3/8	97
132	168 3/4	169	106 1/2	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

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

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(ii).

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

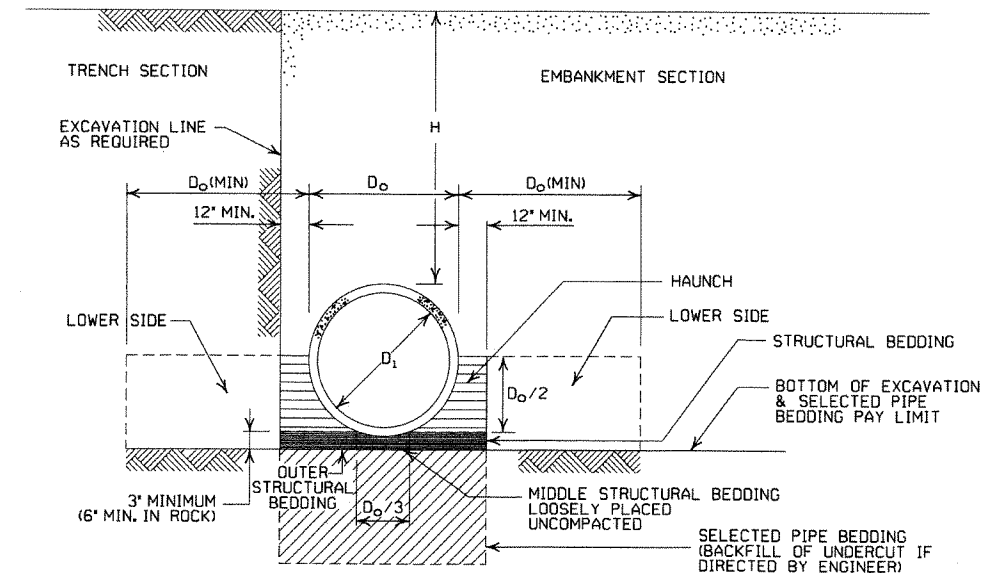
- LEGEND -

- D<sub>i</sub> = NORMAL INSIDE DIAMETER OF PIPE
- D<sub>o</sub> = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

\*SM-3 WILL NOT BE ALLOWED.

\*\* MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

INSTALLATION TYPE	CLASS OF PIPE			
	CLASS III	CLASS IV	CLASS V	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

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

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

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

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
TYPE 2 OR TYPE 3	FEET	
	2.5	1.5

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

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

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

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

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

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT  
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1







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 1/4 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 PVC PIPE.

MAXIMUM FILL HEIGHT  
BASED ON STRUCTURAL BACKFILL

PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:  
12" MIN. (18" - 36" DIAMETERS)  
MINIMUM COVER VALUE, "H"  
SHALL INCLUDE A MINIMUM 12"  
OF PAVEMENT AND/OR BASE.

MINIMUM TRENCH WIDTH  
BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" > OR = 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

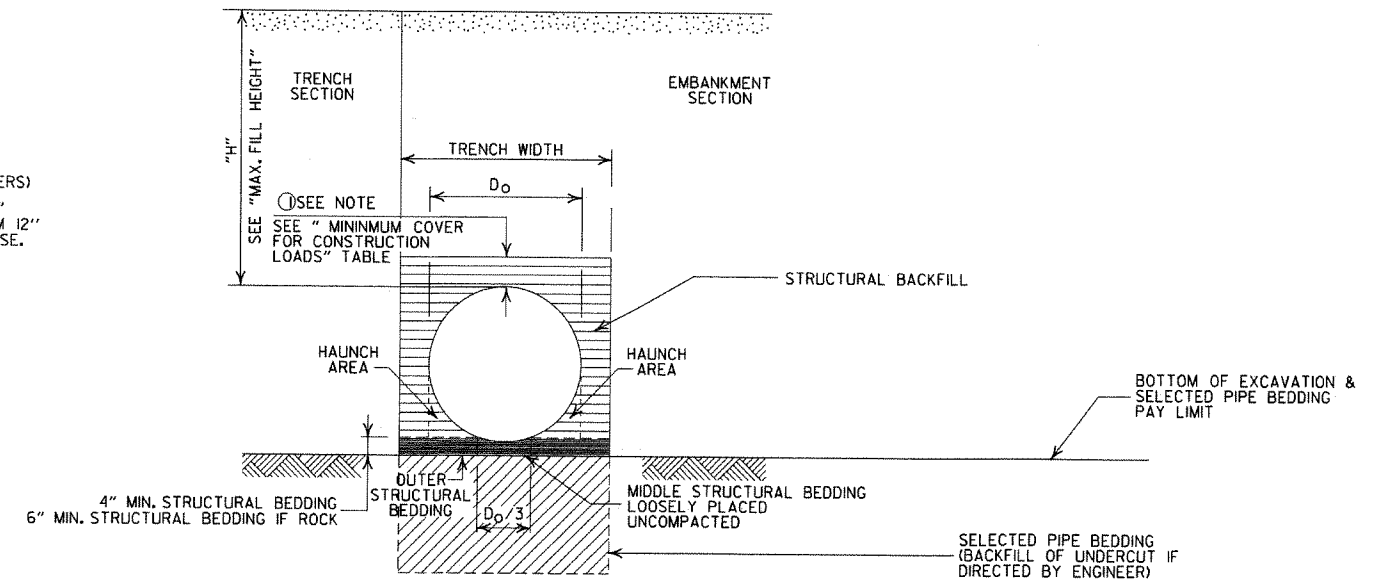
MULTIPLE INSTALLATION OF  
PVC PIPES

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

MINIMUM COVER FOR  
CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

- 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

- PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
- INSTALL PIPE TO GRADE.
- COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
- 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.

- LEGEND -

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

==== = STRUCTURAL BACKFILL MATERIAL  
===== = UNDISTURBED SOIL

GENERAL NOTES

- 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, 2003 EDITION.
- PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- 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.
- 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.
- 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."
- 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."
- 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.
- PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- 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.

12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	
DATE	REVISION	DATE FILMED

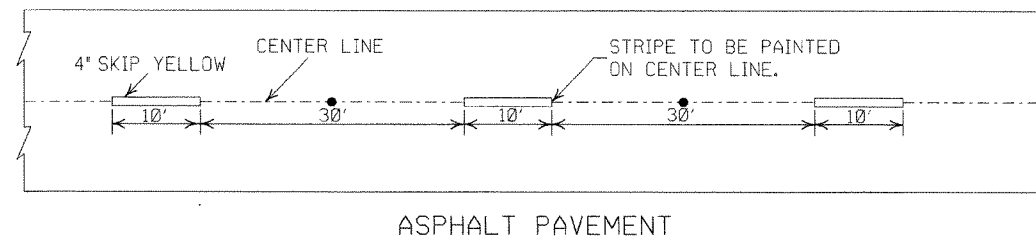
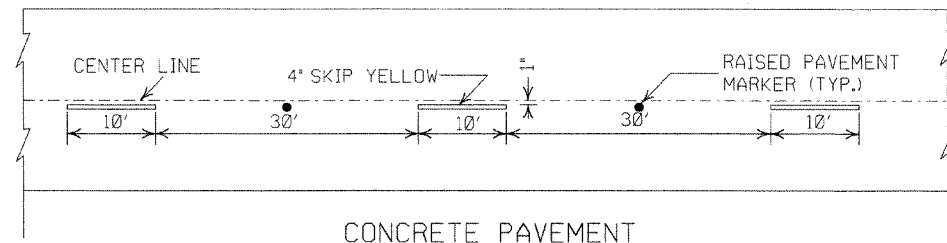
ARKANSAS STATE HIGHWAY COMMISSION  
PLASTIC PIPE CULVERT  
(PVC F949)

STANDARD DRAWING PCP-2

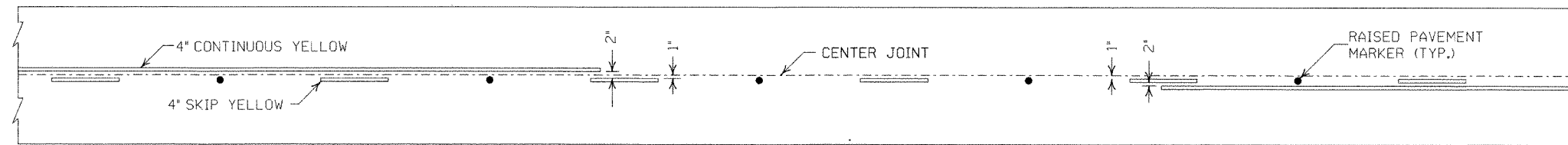


NOTES:

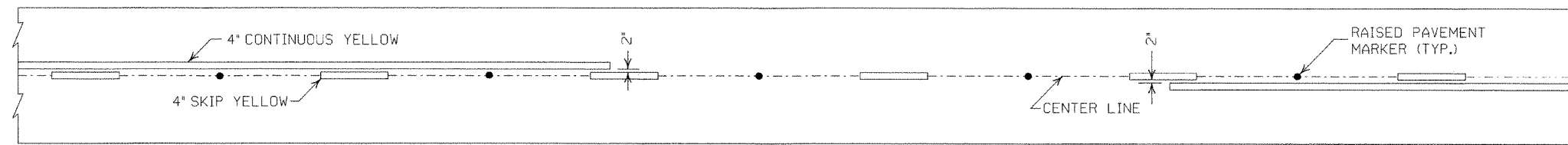
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



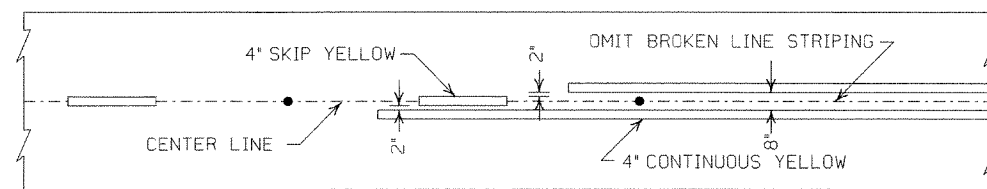
BROKEN LINE STRIPING



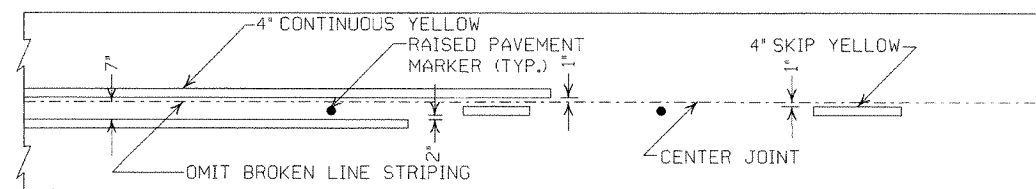
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



ASPHALT PAVEMENT



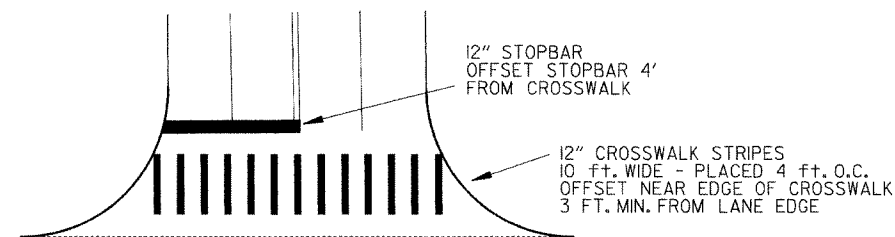
CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

GENERAL NOTES:  
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

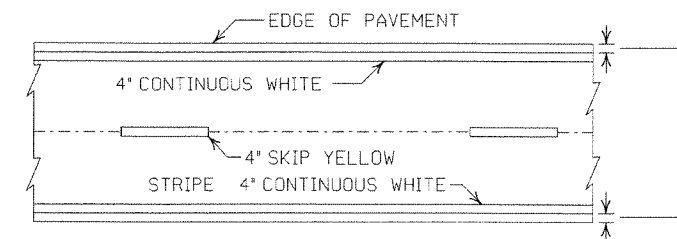
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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

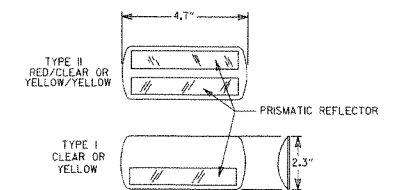


CROSSWALK AND STOPBAR DETAILS

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



PAVEMENT EDGE LINE MARKING



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

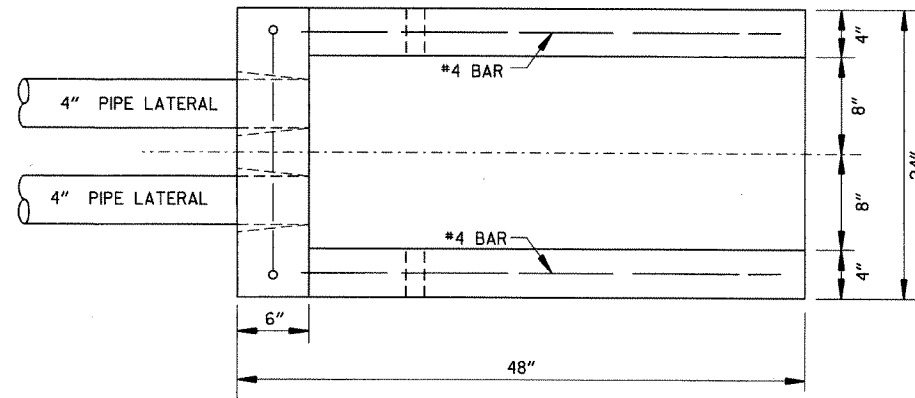
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

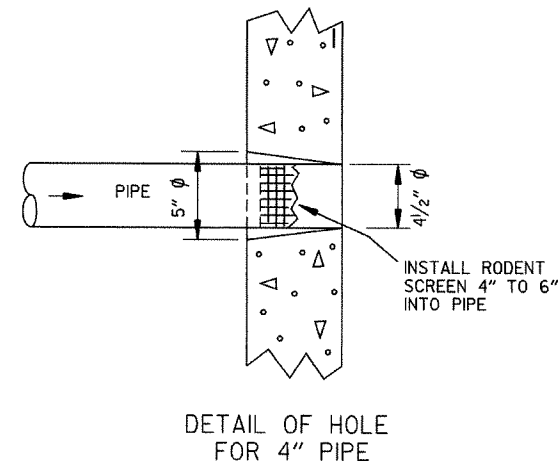
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

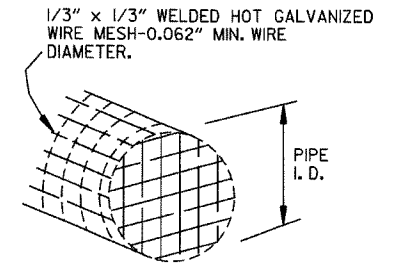
- NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
  2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
  3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



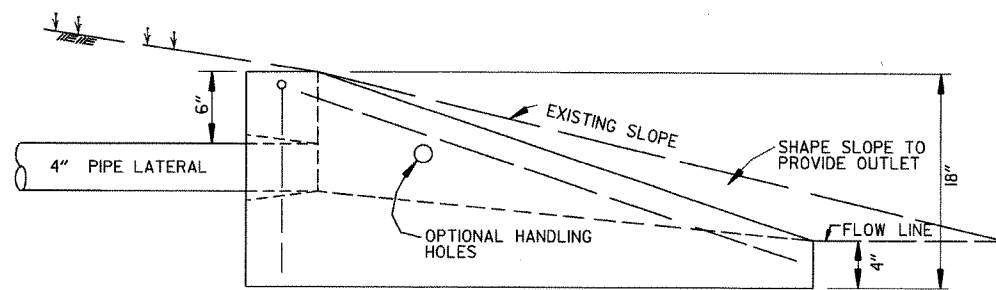
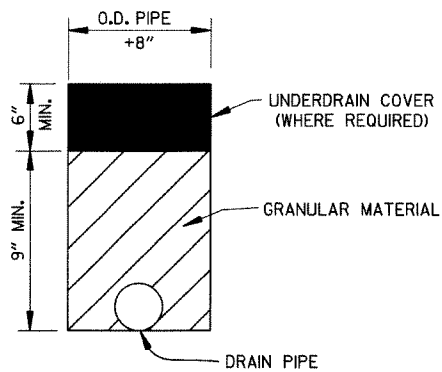
PLAN VIEW



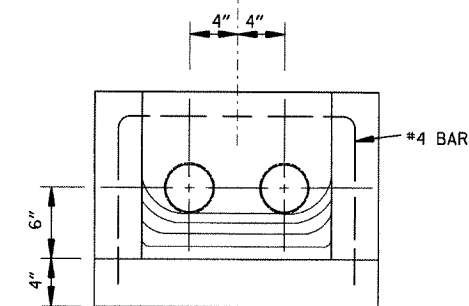
DETAIL OF HOLE FOR 4" PIPE



DETAIL OF RODENT SCREEN



SIDE VIEW

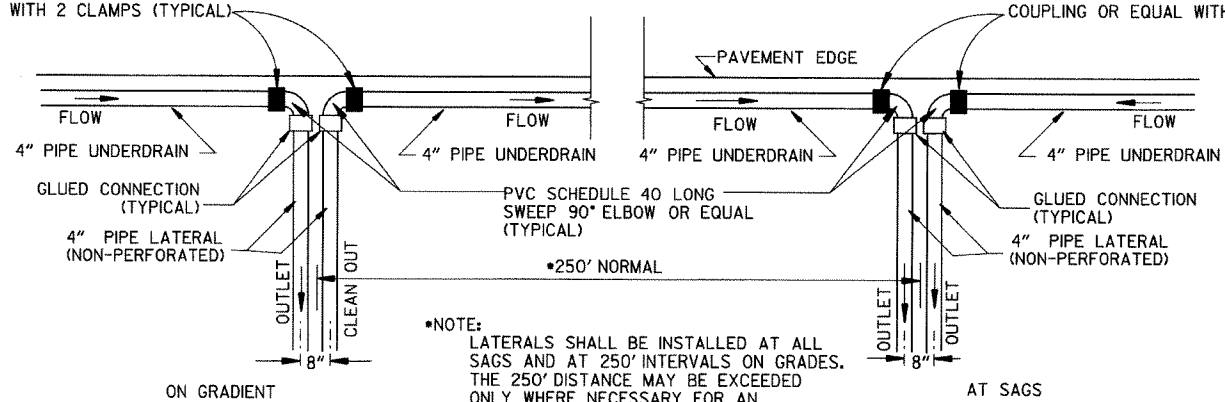


FRONT VIEW

FERNCO 1056-44 (4" CI/PLASTIC) OR FERNCO 1051-44 (4" AC/DI OR 4" CI/PLASTIC) COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

UNDERDRAIN OUTLET PROTECTORS

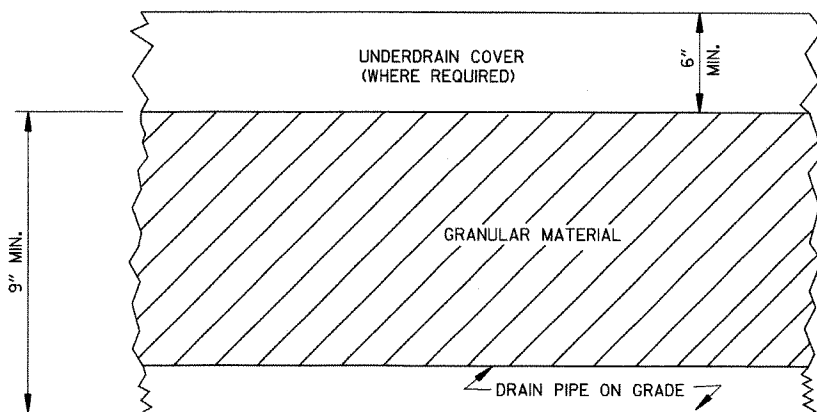
FERNCO 1056-44 (4" CI/PLASTIC) OR FERNCO 1051-44 (4" AC/DI OR 4" CI/PLASTIC) COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)



NOTE: LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250' INTERVALS ON GRADES. THE 250' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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



DETAILS OF PIPE UNDERDRAIN

4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5 1/2" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11-3-94	REVISED FOR DUAL LATERALS	11-3-94
10-1-92	SUBSTITUTED GEOTEXTILE	10-1-92
8-15-91	ADDED POLYETHYLENE PIPE	8-15-91
11-8-90	DELETED ALTERNATE NOTE	11-8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88
DATE	REVISION	DATE FILMED

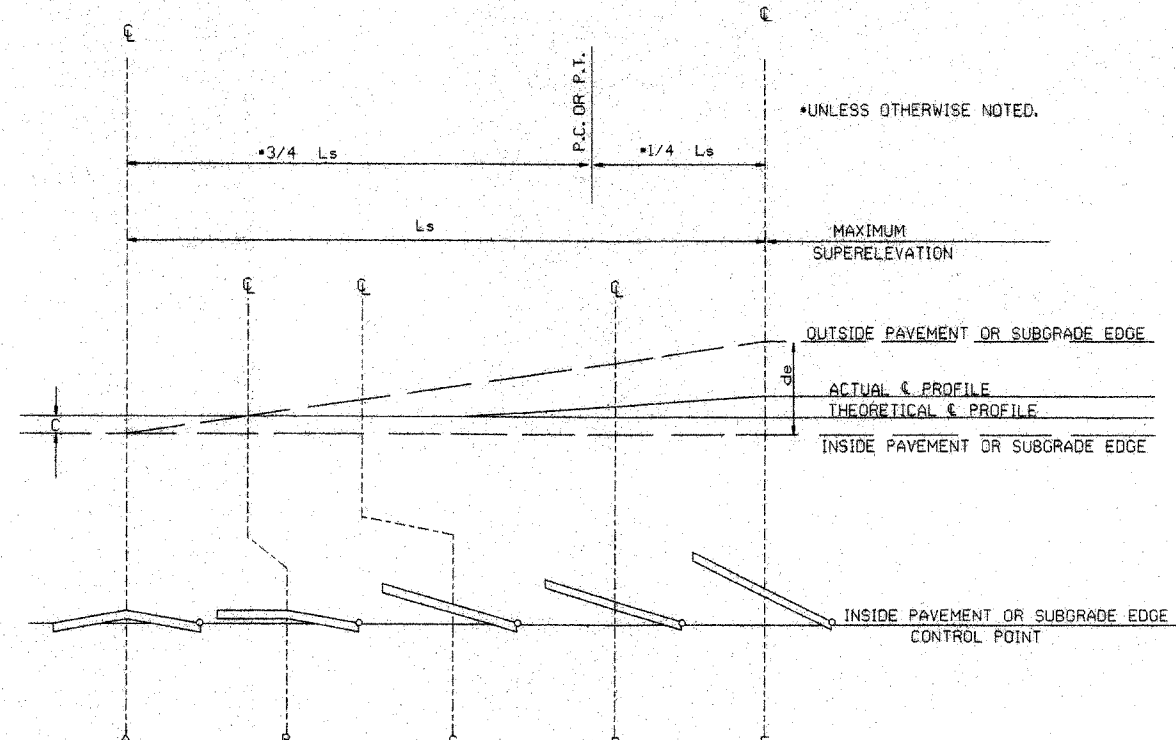
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)	
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
0° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 00'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 00'	R.C.		R.C.		R.C.		R.C.		R.C.		R.C.	
2° 15'	R.C.		R.C.		R.C.		R.C.		R.C.		R.C.	
2° 30'	0.021		0.021		0.021		0.021		0.021		0.021	
2° 45'	0.023		0.025		0.031		0.037		0.043		0.049	
3° 00'	0.025		0.028		0.036		0.043		0.048		0.055	
3° 15'	0.027		0.031		0.040		0.048		0.053		0.061	
3° 30'	0.029		0.034		0.045		0.053		0.058		0.067	
3° 45'	0.031		0.037		0.045		0.053		0.058		0.067	
4° 00'	0.033		0.040		0.049		0.057		0.063		0.072	
4° 30'	0.037		0.046		0.057		0.065		0.072		0.077	
5° 00'	0.040		0.049		0.061		0.072		0.077		0.082	
5° 30'	0.043		0.053		0.065		0.076		0.082		0.086	
6° 00'	0.046		0.057		0.069		0.080		0.086		0.090	
6° 30'	0.050		0.061		0.074		0.083		0.089		0.093	
7° 00'	0.053		0.064		0.078		0.087		0.093		0.098	
7° 30'	0.056		0.067		0.081		0.091		0.096		0.100	
8° 00'	0.058		0.070		0.084		0.094		0.099		0.100	
8° 30'	0.061		0.073		0.087		0.096		0.100		0.100	
9° 00'	0.063		0.075		0.089		0.098		0.100		0.100	
10° 00'	0.066		0.078		0.092		0.100		0.100		0.100	
11° 00'	0.068		0.081		0.094		0.100		0.100		0.100	
12° 00'	0.072		0.084		0.097		0.100		0.100		0.100	
13° 00'	0.076		0.088		0.099		0.100		0.100		0.100	
14° 00'	0.080		0.092		0.100		0.100		0.100		0.100	
15° 00'	0.083		0.095		0.100		0.100		0.100		0.100	
16° 00'	0.086		0.098		0.100		0.100		0.100		0.100	
17° 00'	0.089		0.100		0.100		0.100		0.100		0.100	
18° 00'	0.091		0.100		0.100		0.100		0.100		0.100	
19° 00'	0.093		0.100		0.100		0.100		0.100		0.100	
20° 00'	0.095		0.100		0.100		0.100		0.100		0.100	
21° 00'	0.097		0.100		0.100		0.100		0.100		0.100	
22° 00'	0.099		0.100		0.100		0.100		0.100		0.100	
23° 00'	0.099		0.100		0.100		0.100		0.100		0.100	
24° 00'	0.100		0.100		0.100		0.100		0.100		0.100	



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

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

ABBREVIATIONS

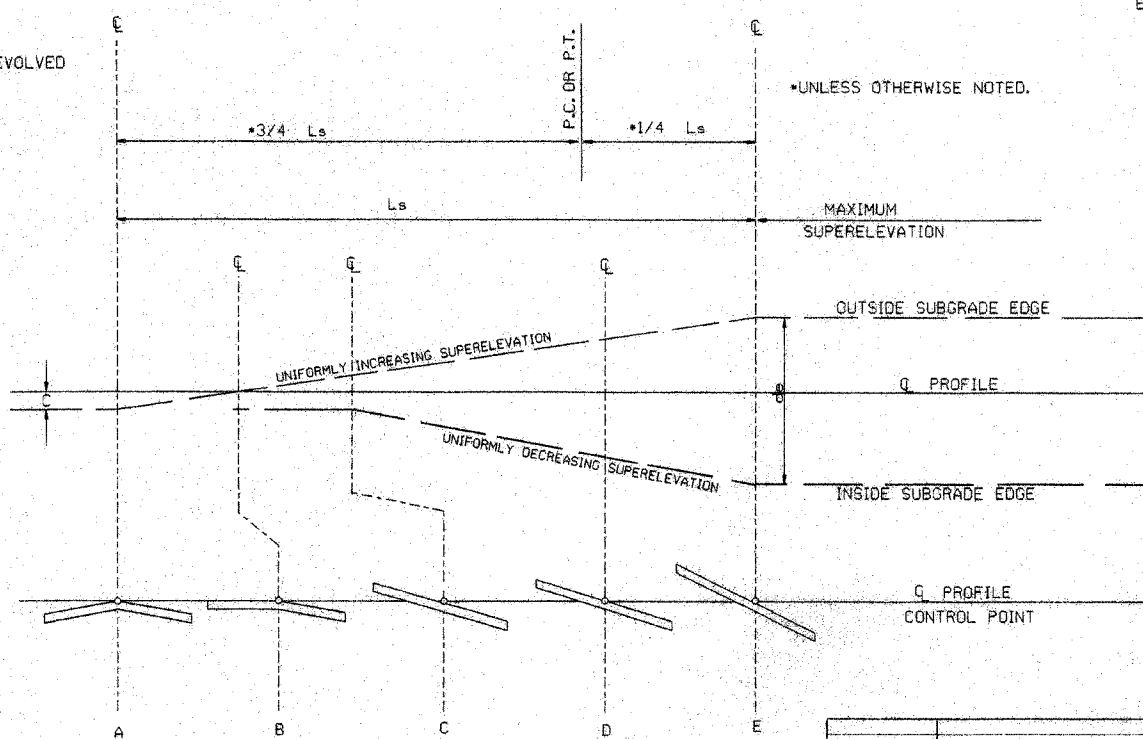
- NC - NORMAL CROWN
- RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
- e - RATE OF SUPERELEVATION (FT. PER FT.)
- Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
- L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
- d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)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

GENERAL NOTES

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

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

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.  
RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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


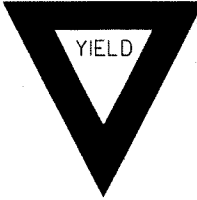
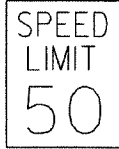
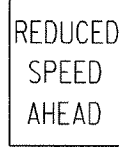





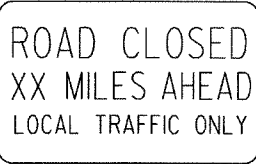
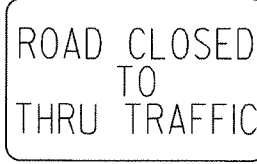
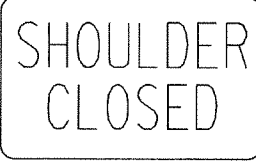
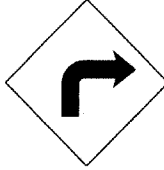





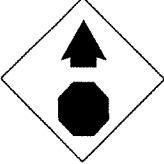
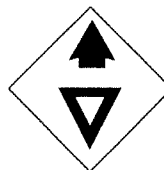
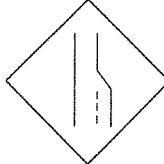

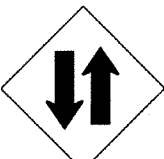

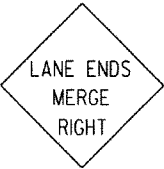



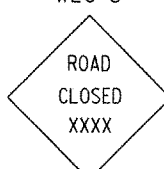


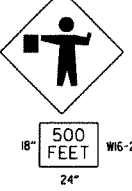


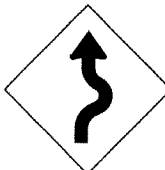



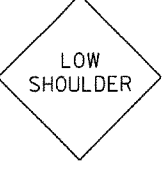
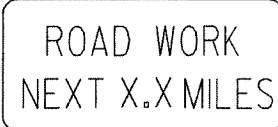
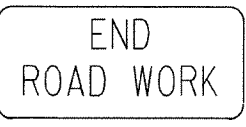
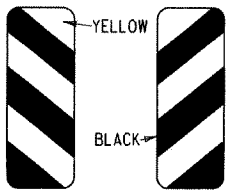


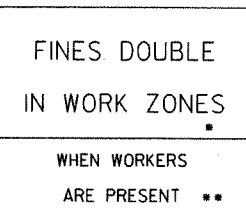
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILLED

ADVANCE DISTANCES  
(XXXX)  
500 FT 1/2 MILE  
1000 FT 3/4 MILE  
1500 FT 1 MILE  
AHEAD

<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>WI-3</p>  <p>STD. 48"x48"</p>	<p>WI-4</p>  <p>STD. 48"x48"</p>	<p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>WI-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>WI-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS</p>

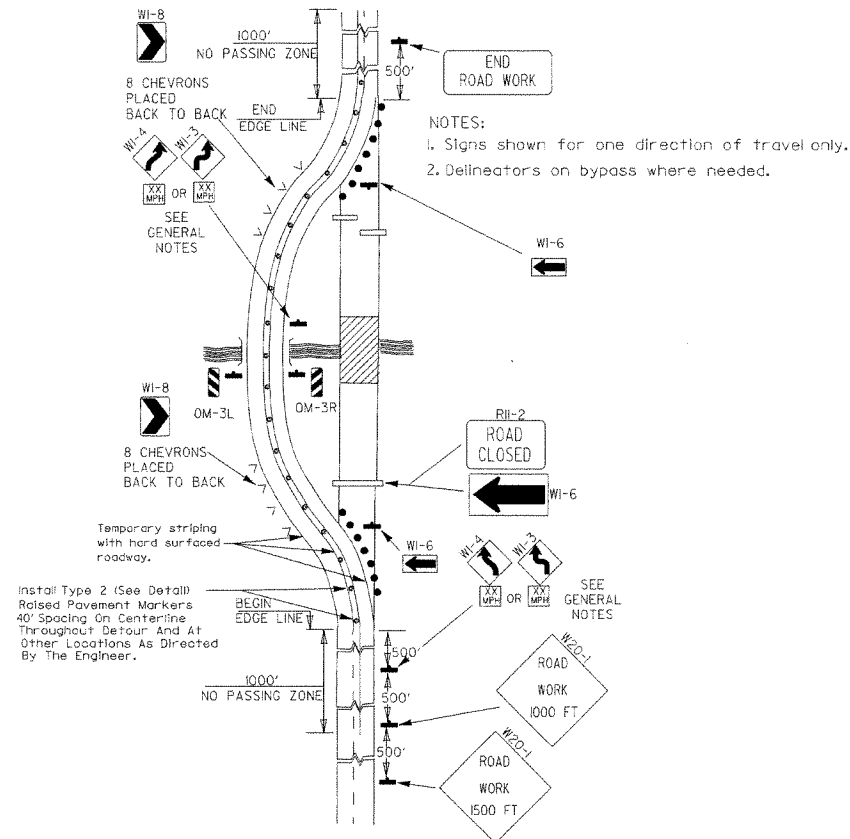
GENERAL NOTES:

- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
- EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
- POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
- ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

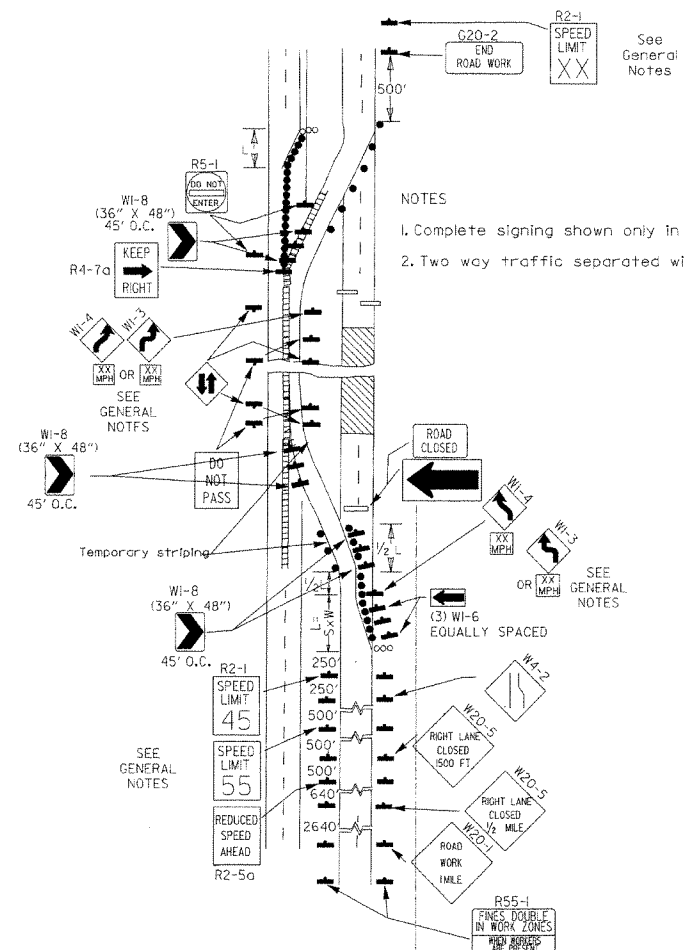
- FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT, HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
- R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

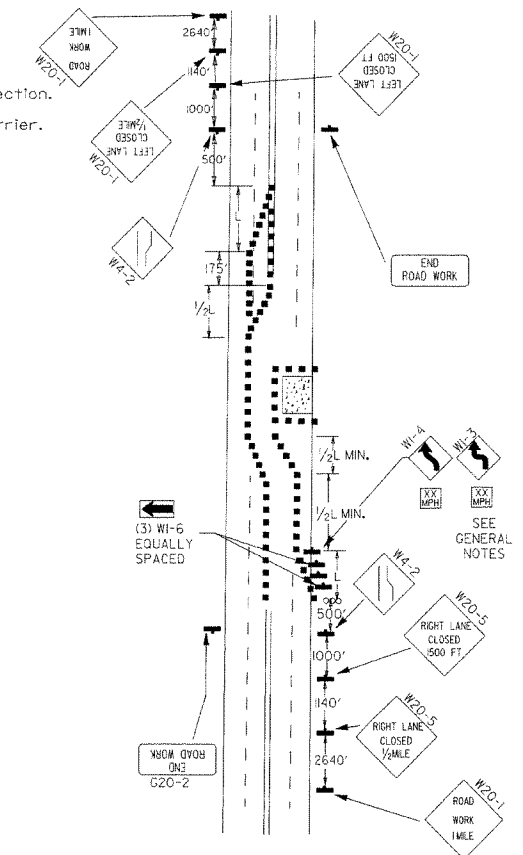
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED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



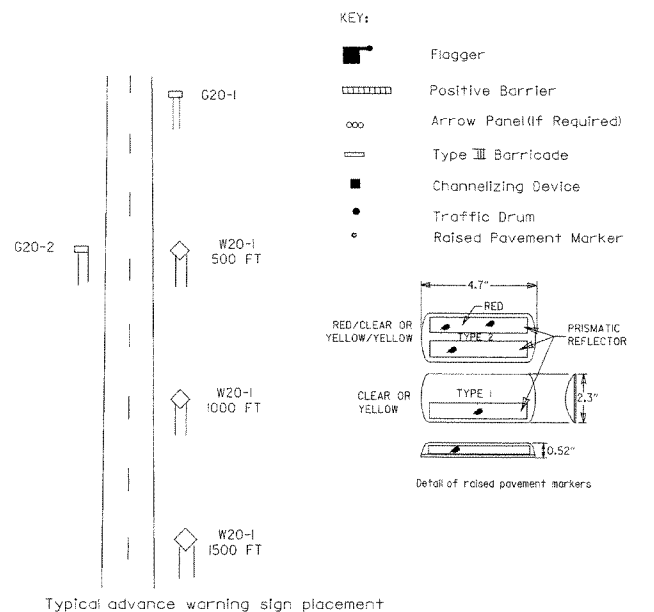
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



(B) Typical application - 4-lane divided roadway where one roadway is closed.

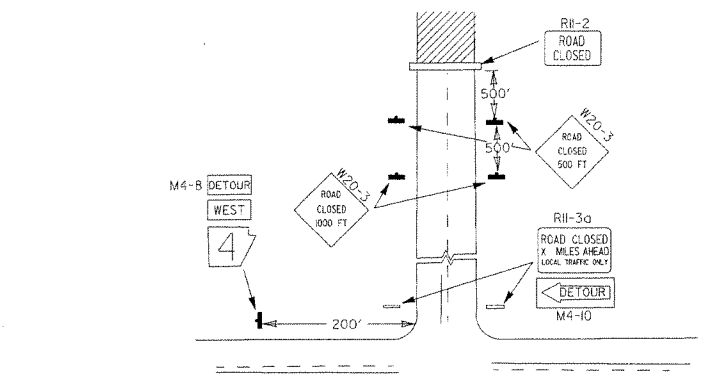


(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



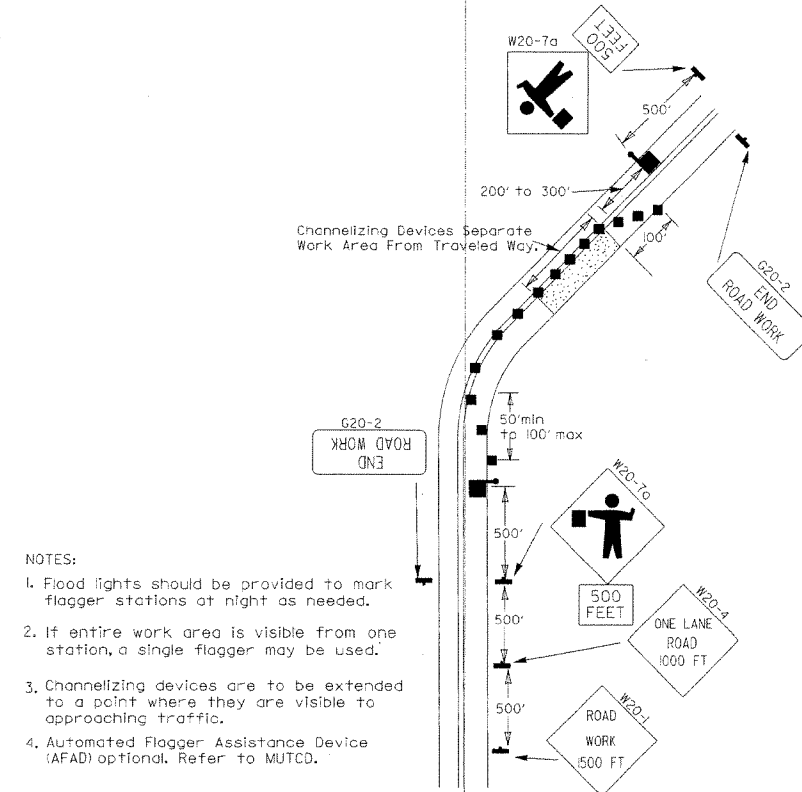
Taper formulae:  
 $L = S \times W$  for speeds of 45mph or more.  
 $L = \frac{WS^2}{60}$  for speeds of 40mph or less.  
 Where:  
 L = Minimum length of taper.  
 S = Numerical value of posted speed limit prior to work or 85th percentile speed.  
 W = Width of offset.

- GENERAL NOTES:
- Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
  - When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-1(45) shall be installed at that location. Additional R2-1(45) speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(45) shall be installed to match original speed limit.
  - When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-1(55) speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(55) shall be installed to match original speed limit.
  - The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
  - Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
  - Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
  - Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

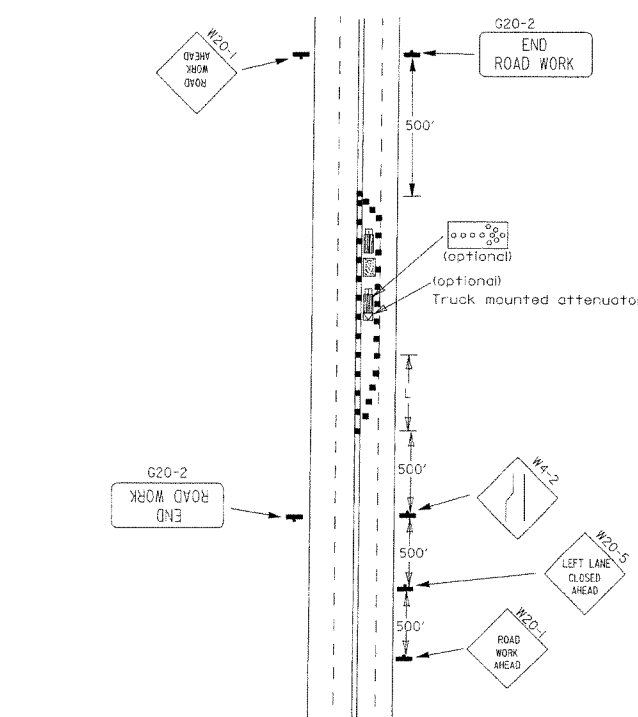


- NOTES:  
 1. Regulatory traffic control devices to be modified as needed for the duration of the detour.  
 2. Street names may be used when desirable for directing detoured traffic.

(D) Typical application - roadway closed beyond detour point.



(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.

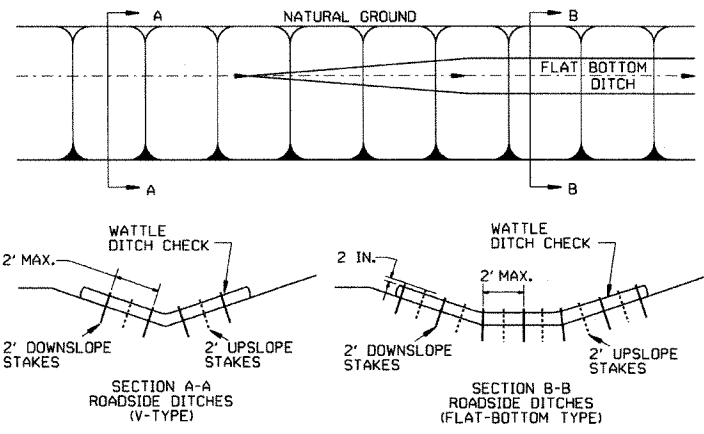


(F) Typical application - 4-lane undivided roadway with inside lane closed.

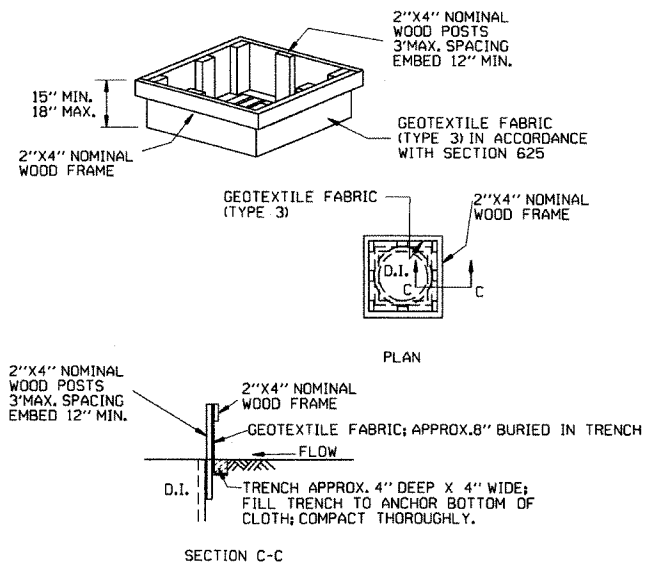
DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	



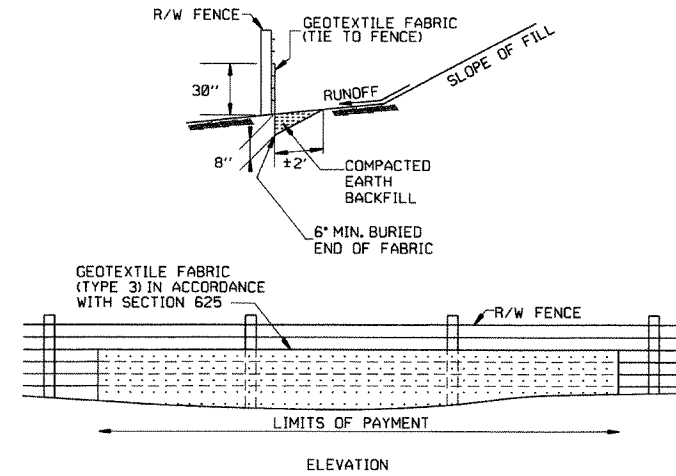
GENERAL NOTES  
 INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



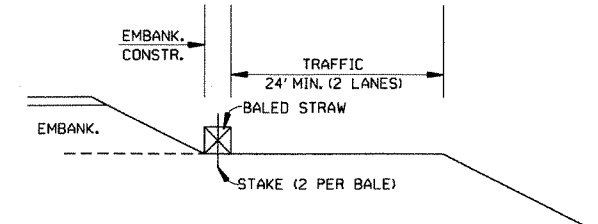
DROP INLET SILT FENCE (E-7)



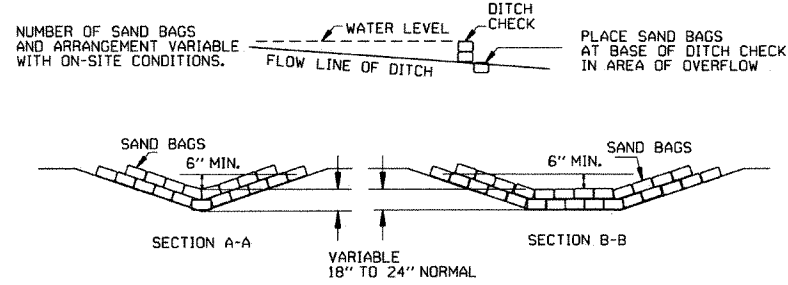
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES  
 GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

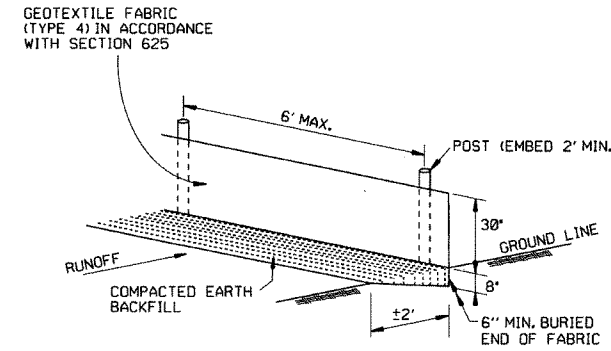
- GENERAL NOTES
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
  2. NO GAPS SHALL BE LEFT BETWEEN BALES.
  3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)

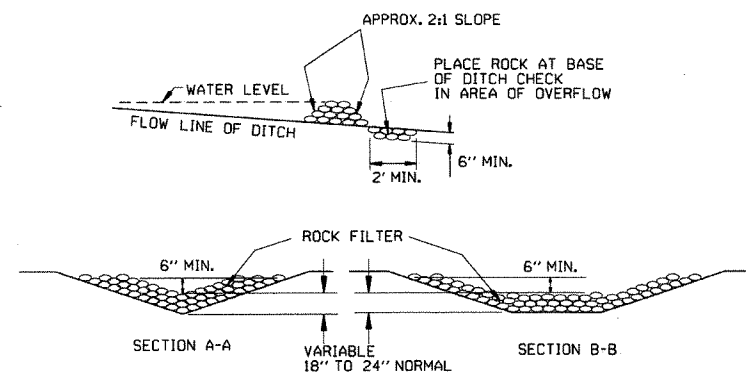


SAND BAG DITCH CHECK (E-5)



SILT FENCE (E-11)

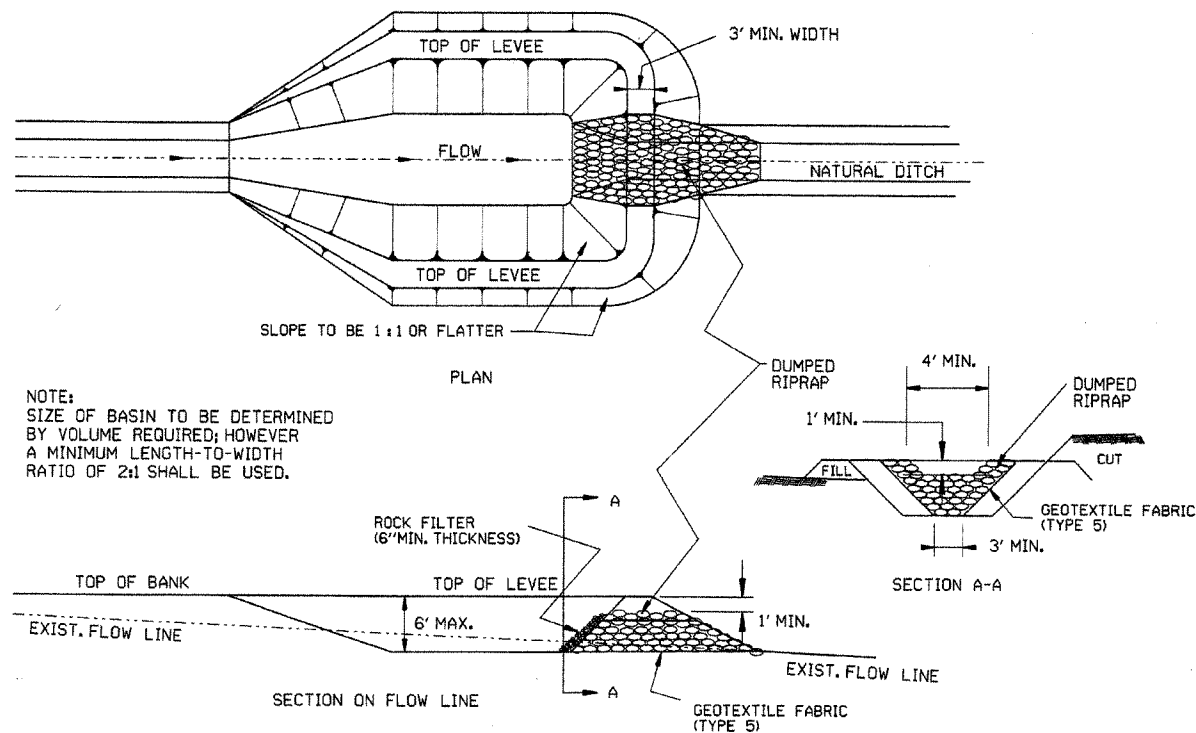
GENERAL NOTES  
 GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



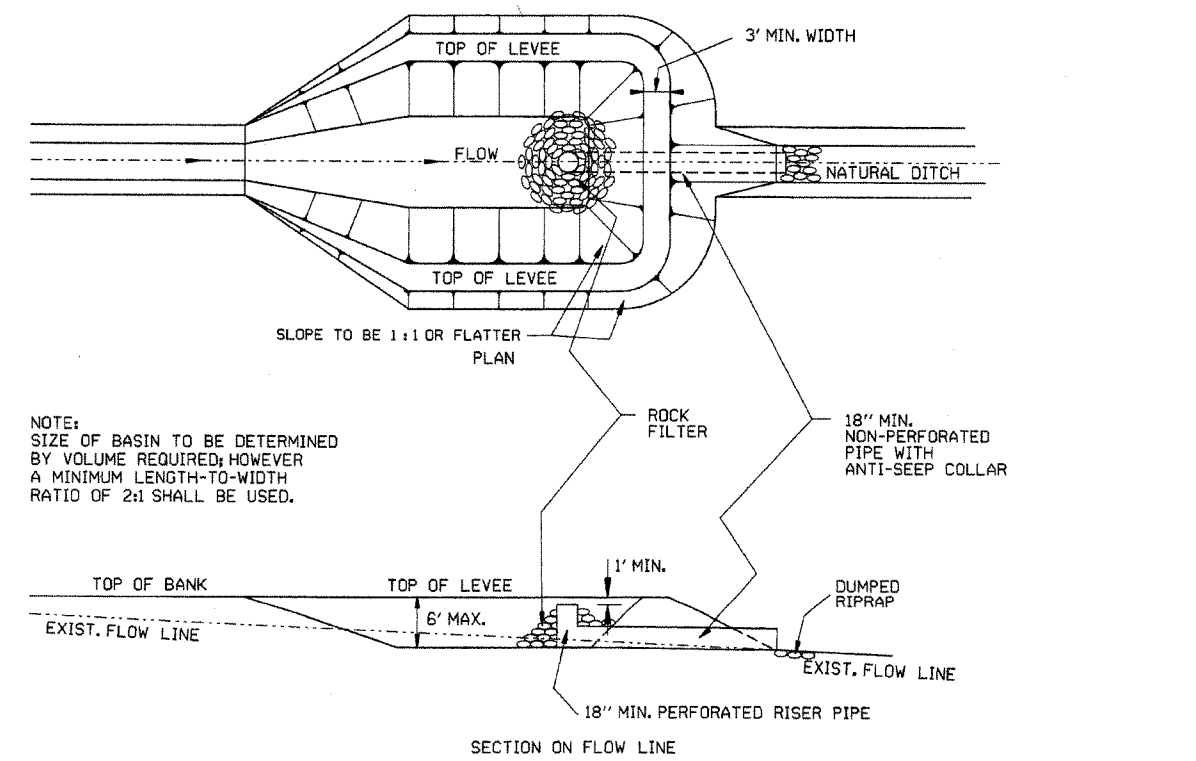
ROCK DITCH CHECK (E-6)

12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
11-18-98	ADDED NOTES		
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC		
6-2-94	REVISED E-1, 4, 7 & 11; DELETED E-2 & 3	6-2-94	
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	STANDARD DRAWING TEC-1

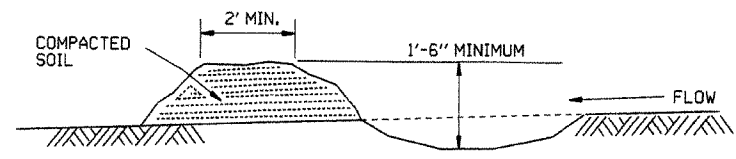




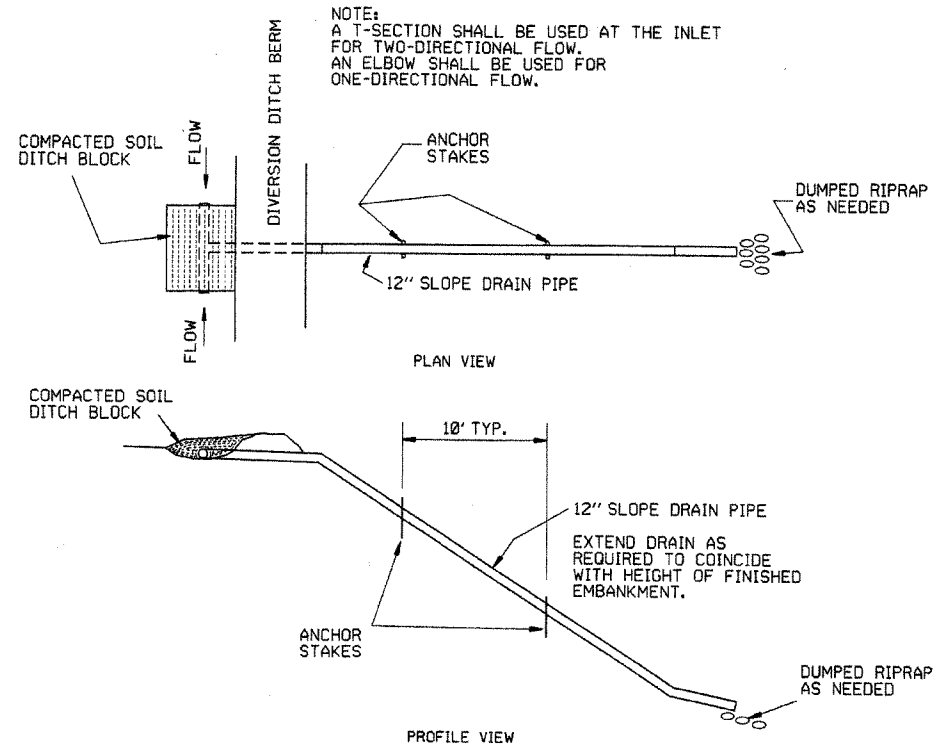
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



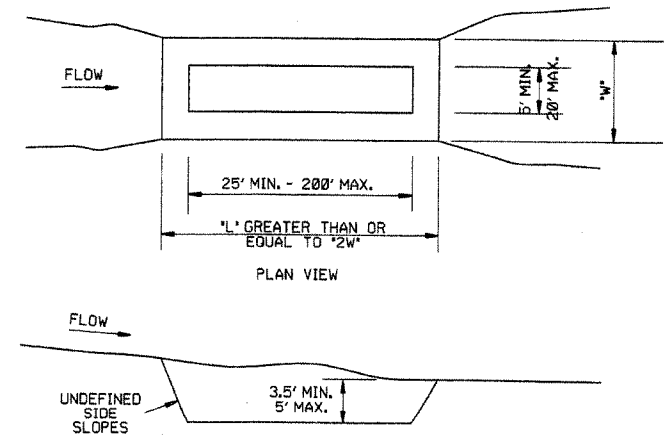
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



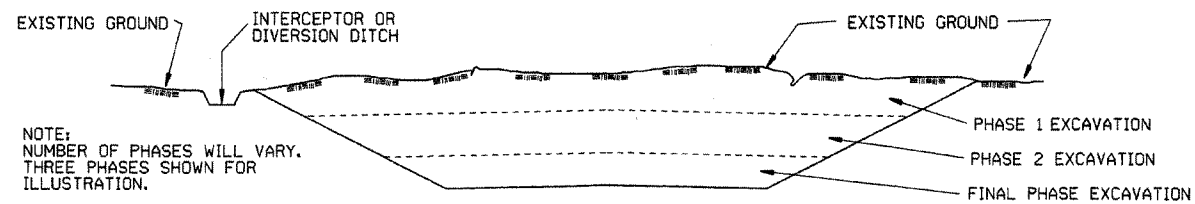
SEDIMENT BASIN (E-14)

ARKANSAS STATE HIGHWAY COMMISSION			
TEMPORARY EROSION CONTROL DEVICES			
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED

### CLEARING AND GRUBBING

- CONSTRUCTION SEQUENCE
1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
  2. PERFORM CLEARING AND GRUBBING OPERATION.

### EXCAVATION



NOTE:  
NUMBER OF PHASES WILL VARY.  
THREE PHASES SHOWN FOR  
ILLUSTRATION.

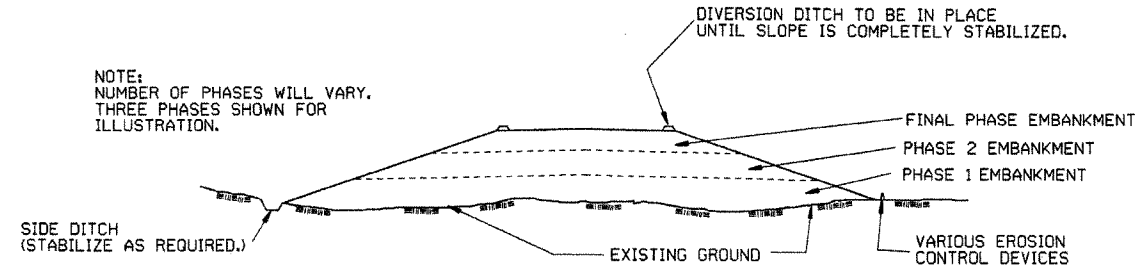
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

### EMBANKMENT



NOTE:  
NUMBER OF PHASES WILL VARY.  
THREE PHASES SHOWN FOR  
ILLUSTRATION.

GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

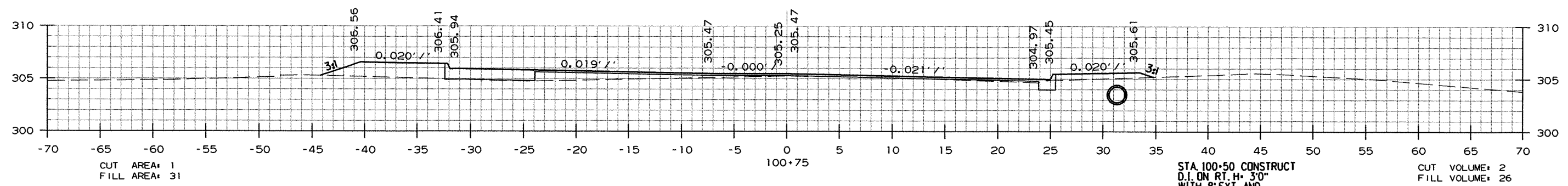
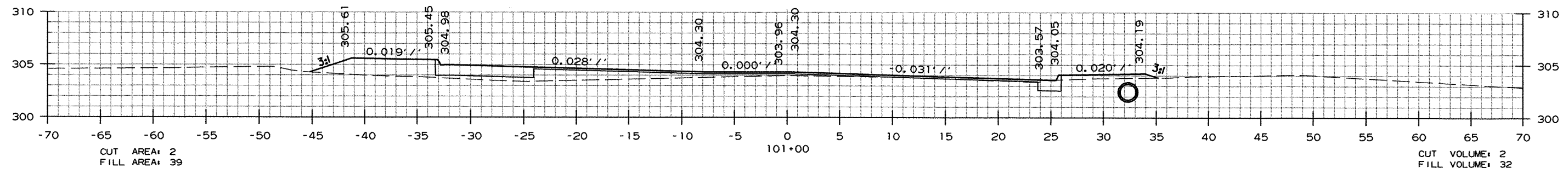
CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
		STANDARD DRAWING TEC-3	
11-03-94	CORRECTED SPELLING		
6-2-94	Drawn & Issued		6-2-94
DATE	REVISION		FILMED

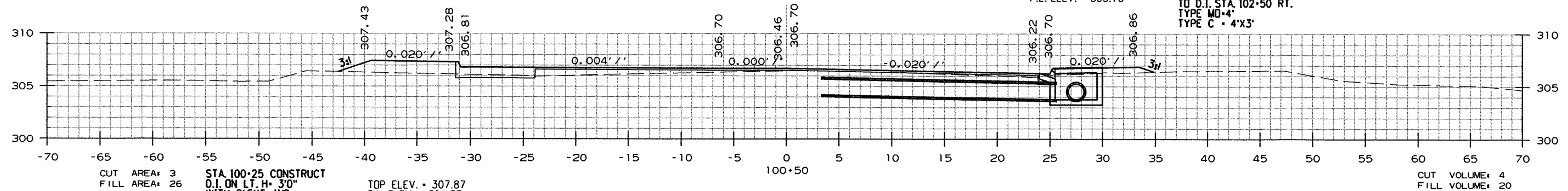
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 061218							35	39

2 CROSS SECTIONS



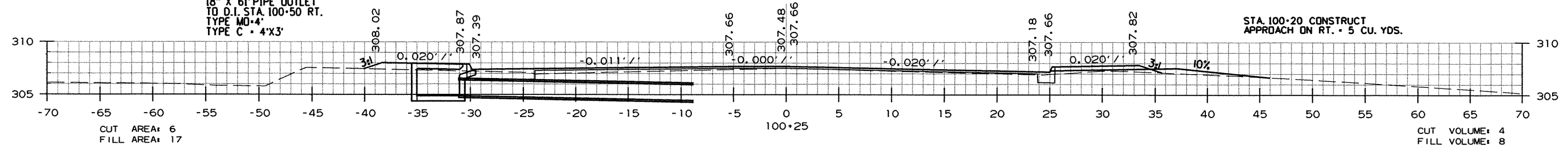
STA 100-50 CONSTRUCT  
D.I. ON RT. H= 3'0"  
WITH 8' EXT. AND  
18" X 196' PIPE OUTLET  
TO D.I. STA. 102-50 RT.  
TYPE MD-4  
TYPE C - 4'X3'

TOP ELEV. - 306.75  
F.L. ELEV. - 303.75

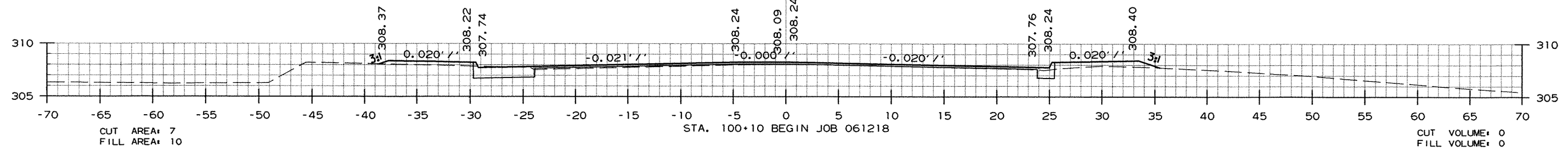


STA 100-25 CONSTRUCT  
D.I. ON LT. H= 3'0"  
WITH 8' EXT. AND  
18" X 61' PIPE OUTLET  
TO D.I. STA. 100-50 RT.  
TYPE MD-4  
TYPE C - 4'X3'

TOP ELEV. - 307.87  
F.L. ELEV. - 304.87



STA 100-20 CONSTRUCT  
APPRDACH ON RT. - 5 CU. YDS.

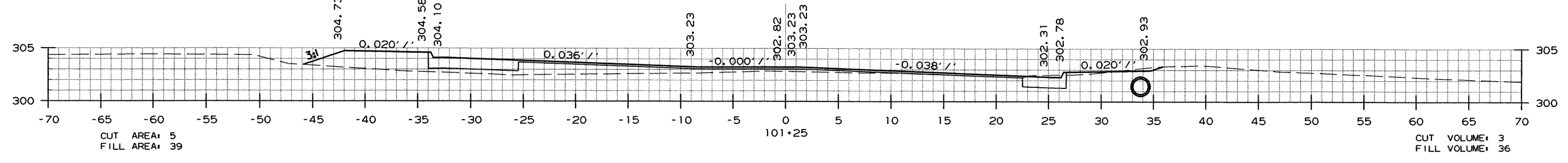
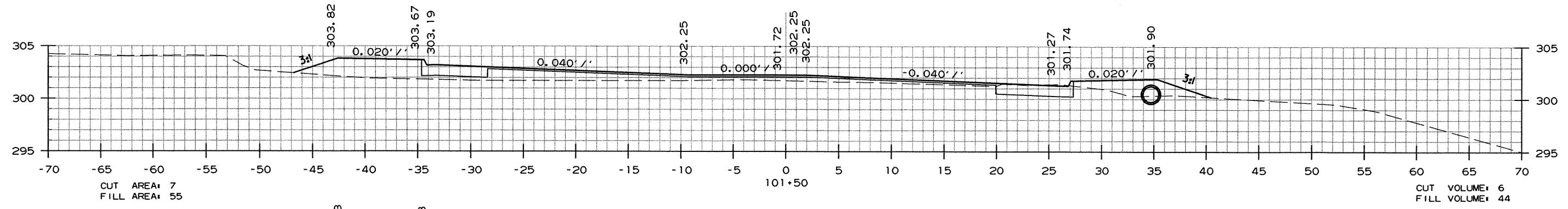
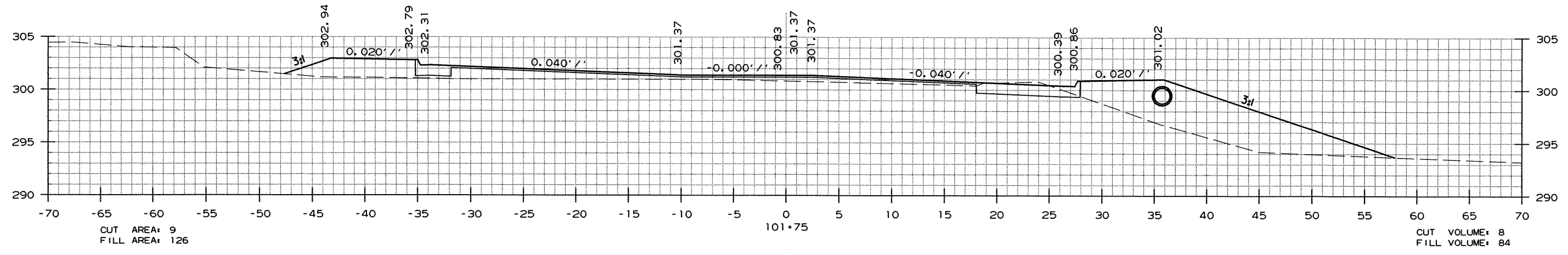
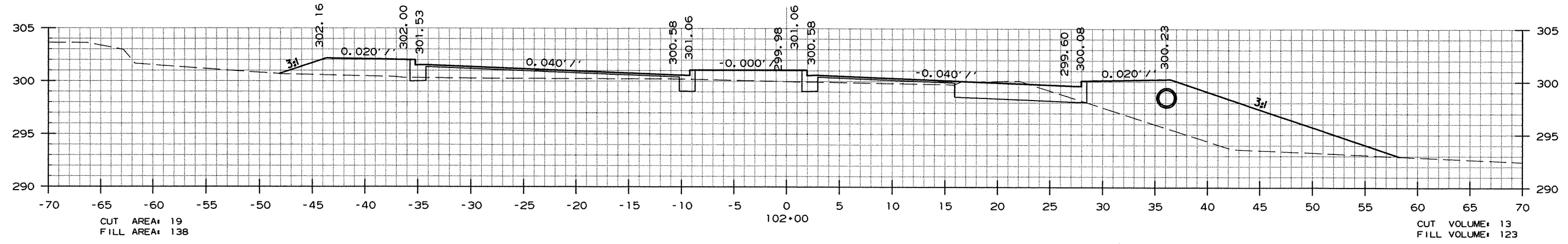


STA. 100+10 BEGIN JOB 061218

CROSS SECTION STA. 100+10 TO STA. 101+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061218	36	39

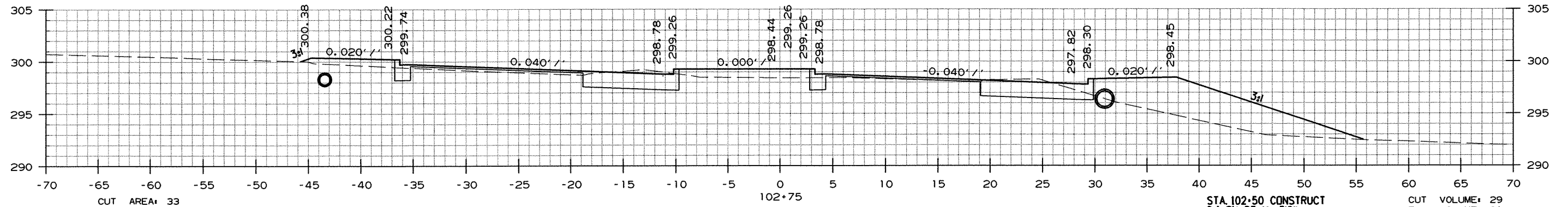
2 CROSS SECTIONS



CROSS SECTION STA. 101+25 TO STA. 102+00

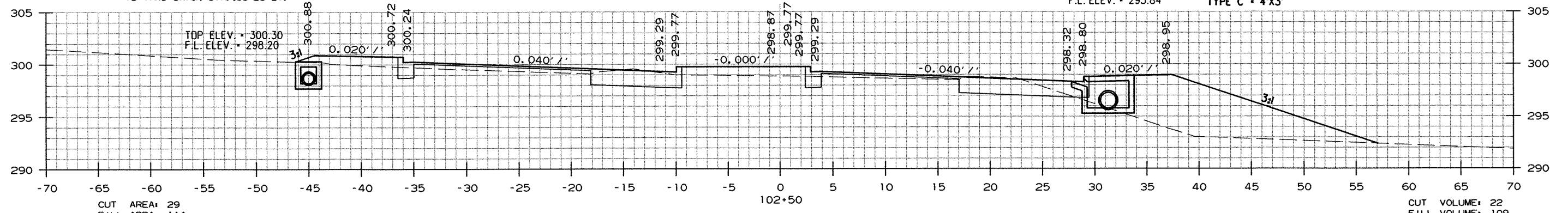
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061218	37	39

2 CROSS SECTIONS



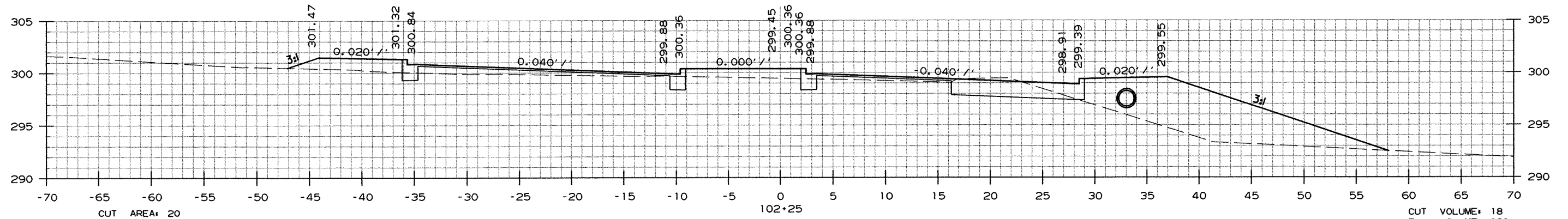
CUT AREA: 33  
FILL AREA: 82  
STA. 102+50 INSTALL  
YARD DRAIN ON LT. WITH  
12" X 76" SIDE DRAIN  
TO YARD DRAIN STA. 103+25 LT.

TOP ELEV. - 298.85  
F.L. ELEV. - 295.84  
STA. 102+50 CONSTRUCT  
D.I. ON RT. H. 3'0"  
WITH 8' EXT. AND  
18" X 87" PIPE OUTLET  
TO D.I. STA. 103+41 RT.  
TYPE MO-4'  
TYPE C - 4'X3'



CUT AREA: 29  
FILL AREA: 114

CUT VOLUME: 22  
FILL VOLUME: 109



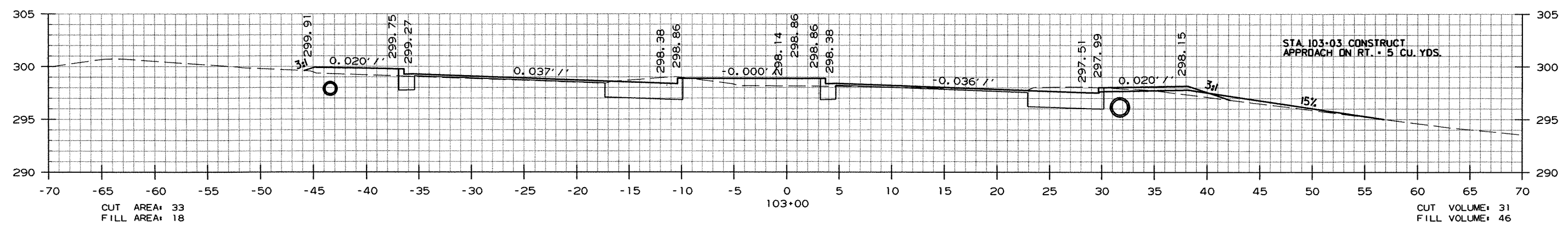
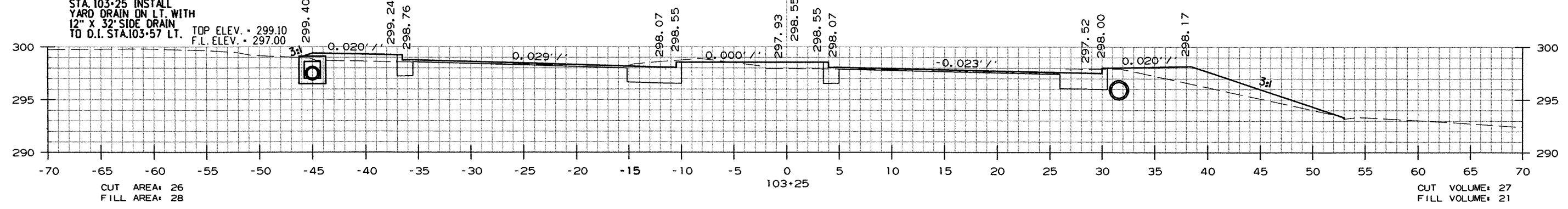
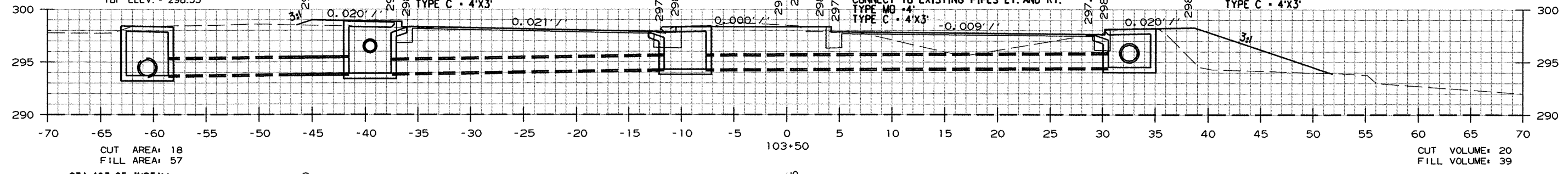
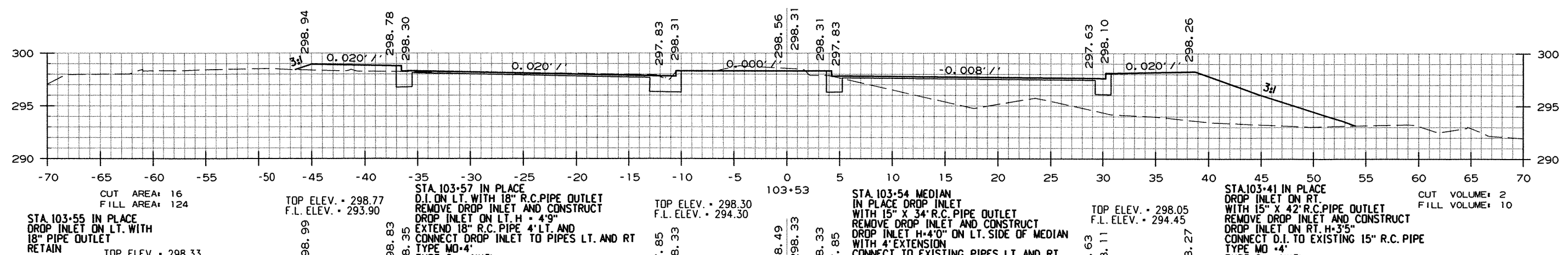
CUT AREA: 20  
FILL AREA: 122

CUT VOLUME: 18  
FILL VOLUME: 120

CROSS SECTION STA. 102+25 TO STA. 102+75

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 061218							38	39

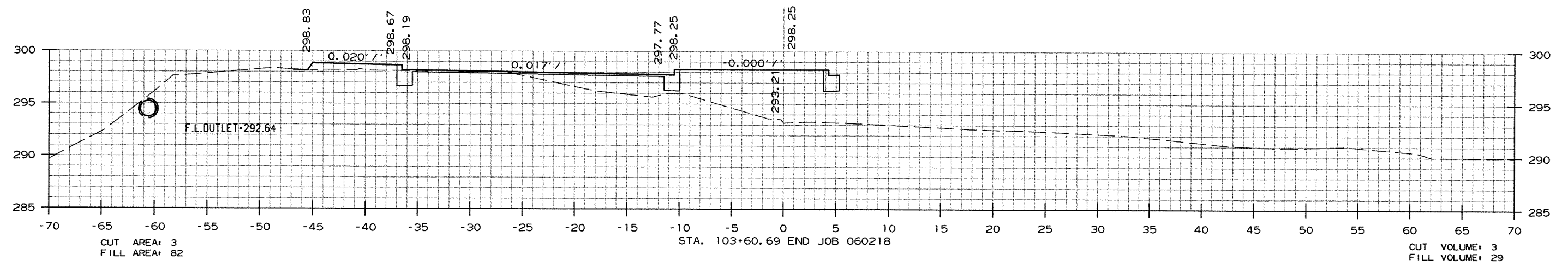
2 CROSS SECTIONS



CROSS SECTION STA. 103+00 TO STA. 103+53

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061218		39	39

② CROSS SECTIONS



CUT AREA: 3  
FILL AREA: 82

CUT VOLUME: 3  
FILL VOLUME: 29

CROSS SECTION STA. 103+61 TO STA. 103+61