

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.		100807	1	63
				② PARKER ROAD EXTENSION (JONESBORO) (S)				

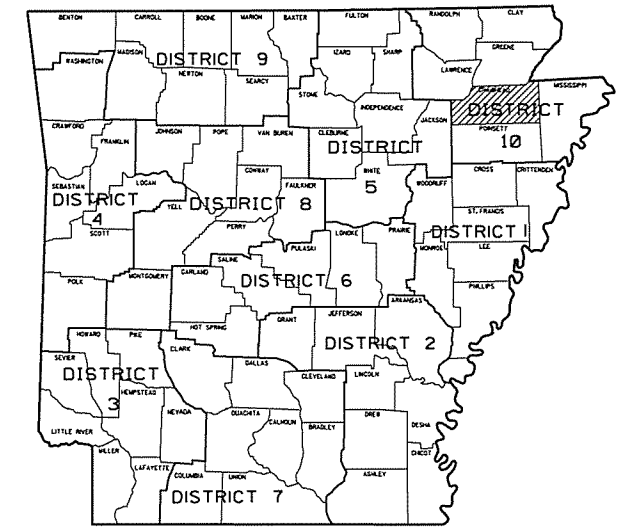
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

PARKER ROAD EXTENSION
(JONESBORO) (S)

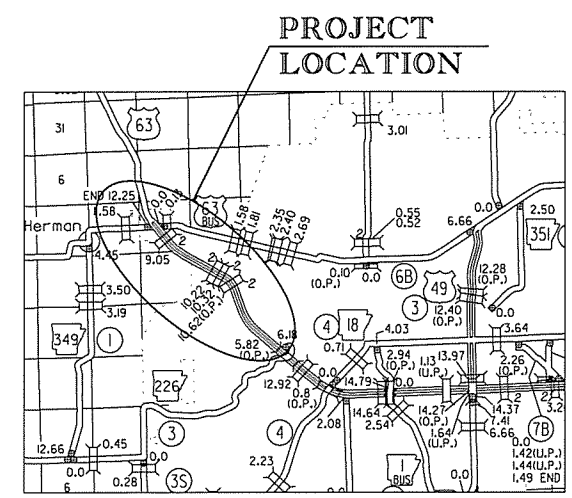
CRAIGHEAD COUNTY

FEDERAL AID PROJECT HDP-9227(48)

JOB 100807



ARKANSAS HIGHWAY DISTRICT 10



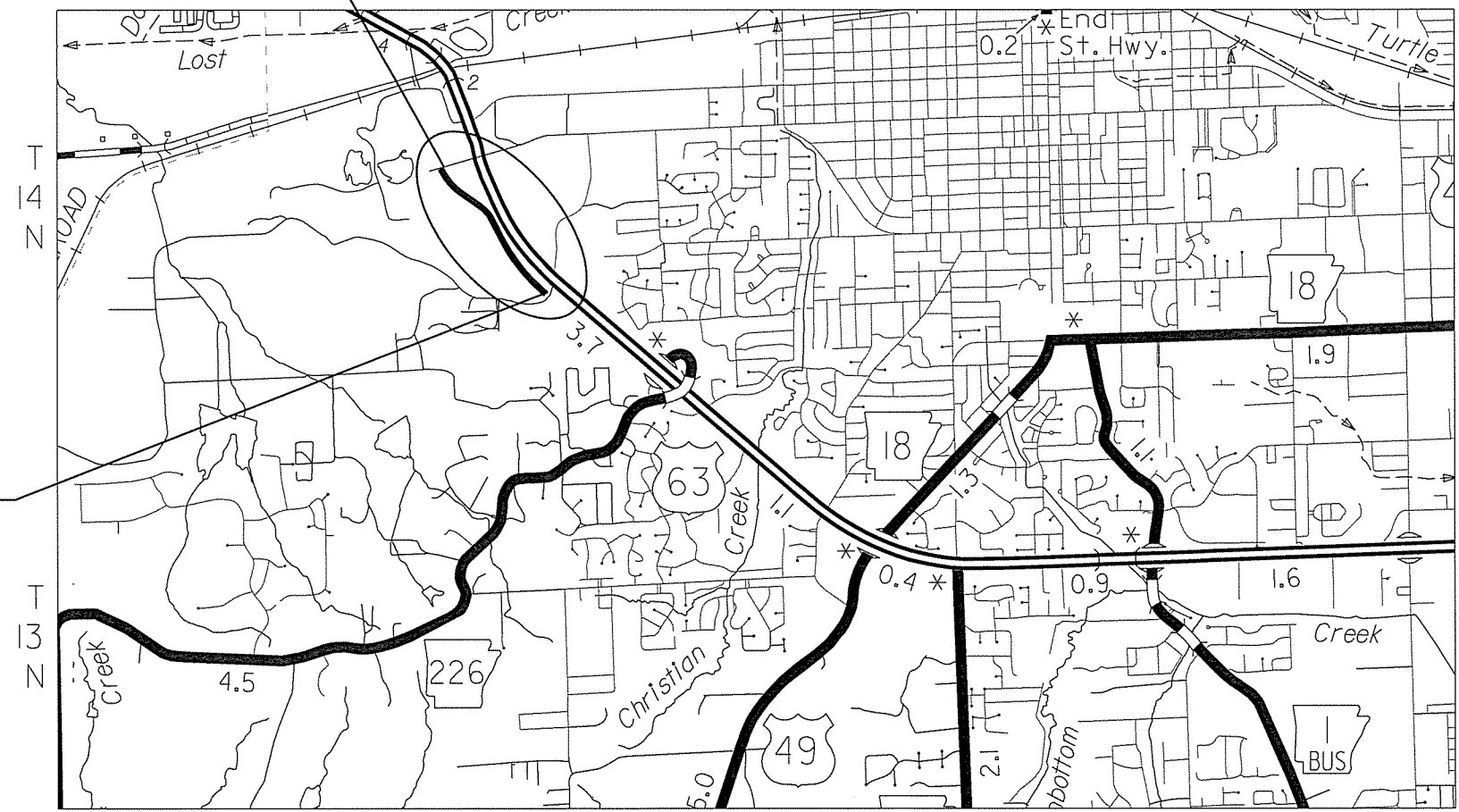
VICINITY MAP

STA. 112+27.13
END JOB 100807

R-3-E NOT TO SCALE

R-4-E

STA. 73+74.43
BEGIN JOB 100807



· DESIGN TRAFFIC DATA · PARKER RD.

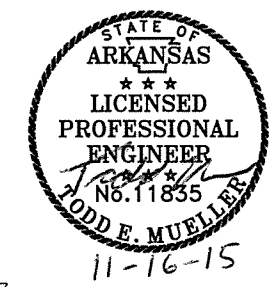
DESIGN YEAR	2036
2016 ADT	6,211
2036 ADT	9,128
2036 DHV	1,004
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	3%
DESIGN SPEED	50 MPH

PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 35°49'36"	N 35°49'51"	N 35°50'05"
LONGITUDE	W 90°44'41"	W 90°44'54"	W 90°45'10"
STATION	73+74.43	93+00.78	112+27.13

LENGTH COMPUTED ALONG C.L. PARKER RD.

GROSS LENGTH OF PROJECT	3852.70 FEET OR	0.730 MILES
NET LENGTH OF ROADWAY	3852.70 FEET OR	0.730 MILES
NET LENGTH OF BRIDGES	00.00 FEET OR	0.000 MILES
NET LENGTH OF PROJECT	3852.70 FEET OR	0.730 MILES

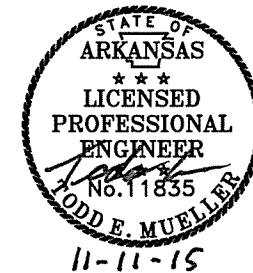


P.E. JOB 100807

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 REVISION DATE:

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						100807	2	63

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



SHEET NO.	TITLE	DRAWING NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES		
3	TYPICAL SECTIONS OF IMPROVEMENT		
4 - 5	SPECIAL DETAILS		
6 - 7	TEMPORARY EROSION CONTROL DETAILS		
8	MAINTENANCE OF TRAFFIC DETAILS		
9 - 10	PERMANENT PAVEMENT MARKING AND SIGNING DETAILS		
11	SOIL BORING LOG		
12 - 14	QUANTITIES		
15	SUMMARY OF QUANTITIES AND REVISIONS		
16 - 17	SURVEY CONTROL DETAILS		
18 - 21	PLAN AND PROFILE - PARKER RD.		
22	CONCRETE DITCH PAVING	CDP-1	11/17/10
23	CURBING DETAILS	CG-1	11/29/07
24	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	02/27/14
25	FLARED END SECTION	FES-1	10/18/96
26	FLARED END SECTION	FES-2	10/18/96
27	DETAILS OF DROP INLETS	FPC-9D	08/22/02
28	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	02/27/14
29	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	02/27/14
30	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	PCP-1	02/27/14
31	PLASTIC PIPE CULVERT (PVC F949)	PCP-2	02/27/14
32	PAVEMENT MARKING DETAILS	PM-1	09/12/13
33	DETAILS OF PIPE UNDERDRAIN	PU-1	04/10/03
34	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10/18/96
35	STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES	SHS-1	09/12/13
36	U-CHANNEL POST ASSEMBLIES	SHS-2	02/27/14
37	DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS	SHS-3	09/12/13
38	MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS	SHS-6	09/12/13
39	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	09/02/15
40	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	09/02/15
41	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	09/02/15
42	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12/15/11
43	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6/2/94
44	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11/3/94
45	TEMPORARY EROSION CONTROL DEVICES	TEC-4	7/26/12
46	WIRE FENCE TYPE A AND B	WF-1	8/22/02
47	WIRE FENCE WATER GAPS	WF-2	4/20/79
48 - 63	CROSS SECTIONS		

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

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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- 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 AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
- THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
- 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.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT REMOVED SHALL BE PAID FOR UNDER PAY ITEM 210 - EXCAVATION AND EMBANKMENT, UNLESS OTHERWISE NOTED.

GOVERNING SPECIFICATIONS

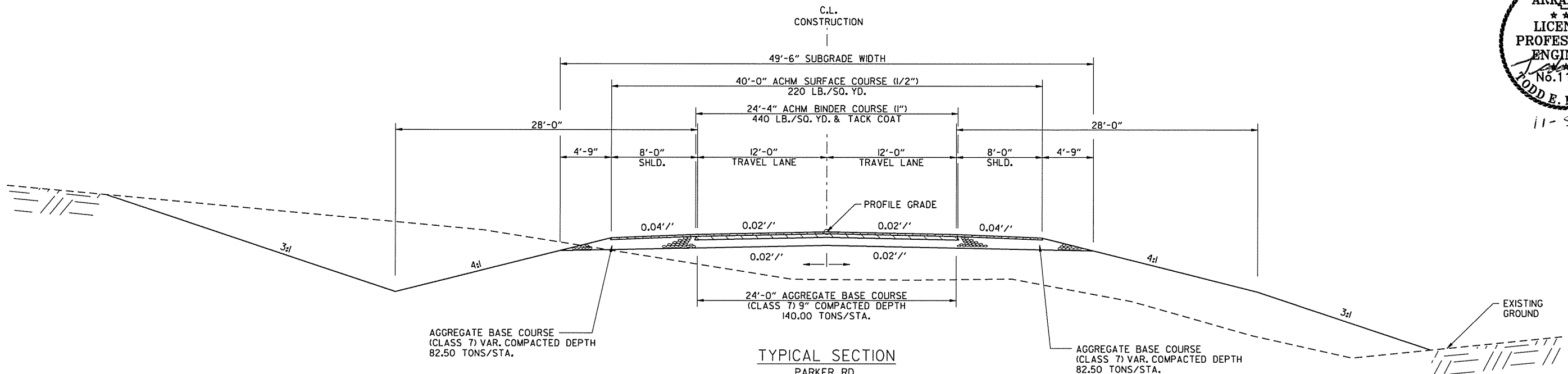
ARKANSAS HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

NUMBER	TITLE
	ERRATA
FHWA-1273	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
108-1	LIQUIDATED DAMAGES
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
JOB 100807	BIDDING REQUIREMENTS AND CONDITIONS
JOB 100807	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 100807	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 100807	CHANNEL POST SIGN SUPPORT
JOB 100807	COMPACTED EMBANKMENT
JOB 100807	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 100807	EXTENSION FOR PIPE CULVERTS
JOB 100807	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 100807	MANDATORY ELECTRONIC CONTRACT
JOB 100807	NESTING SITES OF MIGRATORY BIRDS
JOB 100807	OFF-SITE RESTRAINING CONDITIONS FOR BATS
JOB 100807	PARTNERING REQUIREMENTS
JOB 100807	PLASTIC PIPE
JOB 100807	SHORING FOR CULVERTS
JOB 100807	SIGN PANEL MATERIALS AND FABRICATION
JOB 100807	SOIL STABILIZATION
JOB 100807	SPECIAL CLEARING REQUIREMENTS
JOB 100807	STORM WATER POLLUTION PREVENTION PLAN
JOB 100807	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 100807	UTILITY ADJUSTMENTS
JOB 100807	VALUE ENGINEERING
JOB 100807	WARM MIX ASPHALT

INDEX OF SHEETS,
GOVERNING SPECIFICATIONS
& GENERAL NOTES

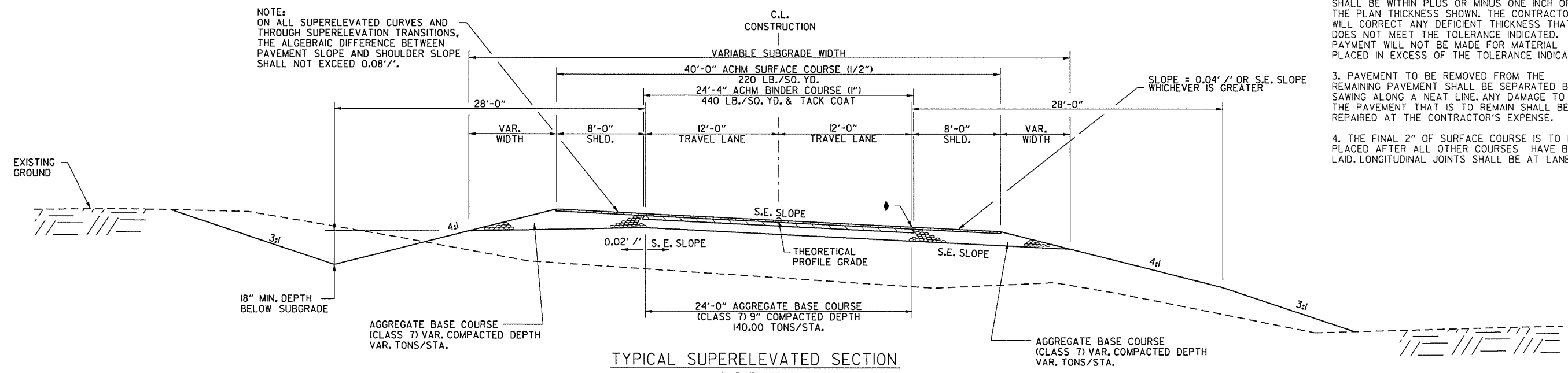
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				6	ARK.			
				JOB NO.	100807		3	63

2 TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION
PARKER RD.
STA. 73+74.43 TO STA. 74+66.75
STA. 91+43.25 TO STA. 93+59.81
STA. 101+55.14 TO STA. 104+02.57
STA. 111+82.87 TO STA. 112+27.13

- NOTES:
- REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
 - THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
 - PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. ANY DAMAGE TO THE PAVEMENT THAT IS TO REMAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
 - THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.



TYPICAL SUPERELEVATED SECTION
PARKER RD.
STA. 74+66.75 TO STA. 91+43.25
STA. 93+59.81 TO STA. 101+55.14
STA. 104+02.57 TO STA. 111+82.87

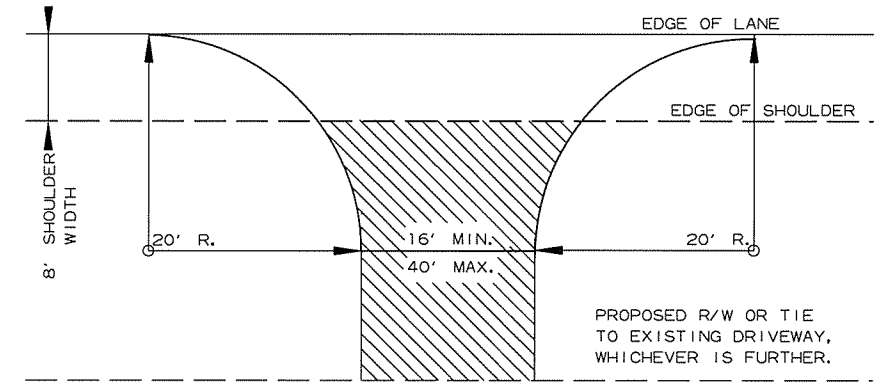
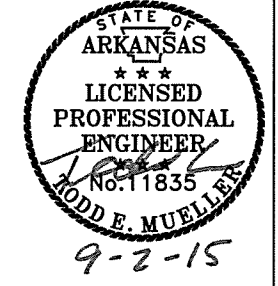
◆ POINT OF SUPERELEVATION ROTATION
(0.24' BELOW PROFILE GRADE TYPICALLY)

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

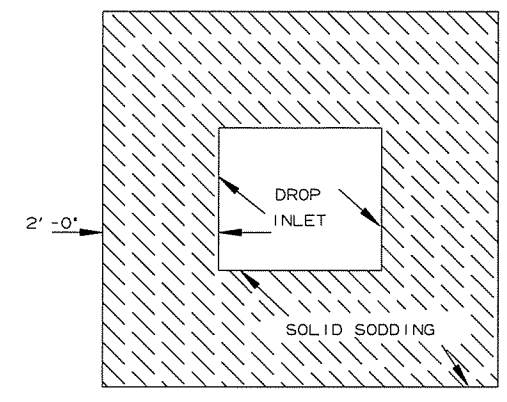
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				6	ARK.			
				JOB NO.	100807	4	63	

2 SPECIAL DETAILS

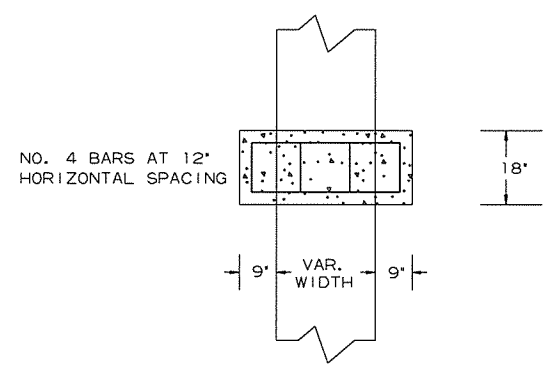


ASPHALT CONCRETE HOT MIX SURFACE COURSE (1 1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH.



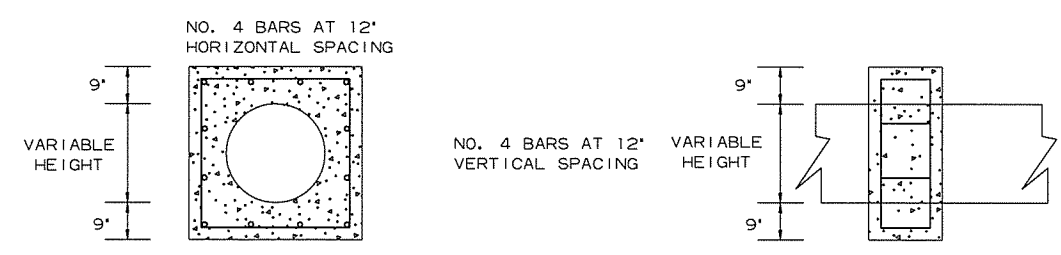
DETAIL FOR SOLID SODDING AROUND DROP INLETS

DETAIL FOR DRIVEWAY TURNOUTS
PARKER RD. STA. 103+60
PARKER RD. STA. 106+75



TOP VIEW

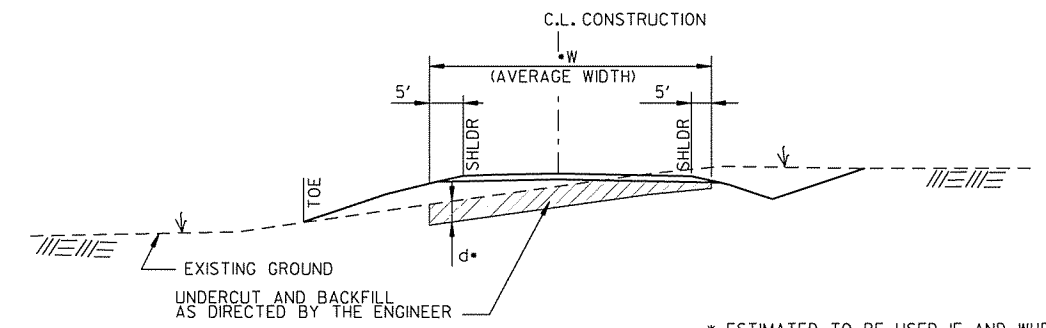
MIN 3" COVER



FRONT VIEW

SIDE VIEW

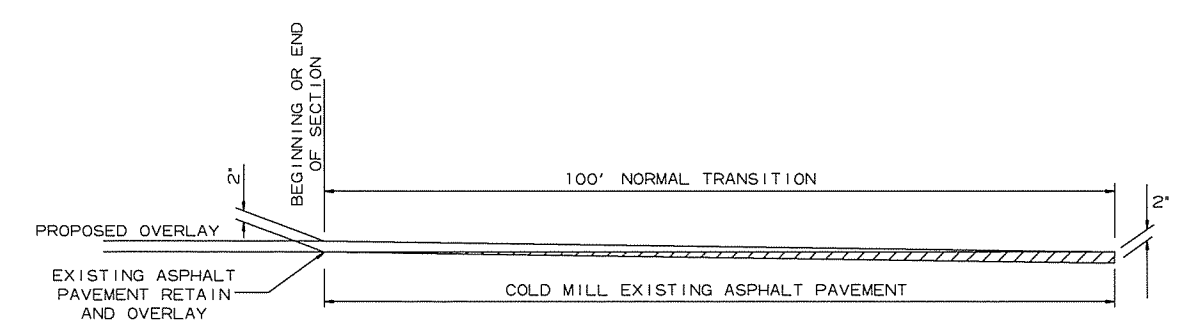
PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



* ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

DETAIL OF UNDERCUT

PARKER RD. STA. 73+74 TO STA. 103+75 d = 2' W = 50'



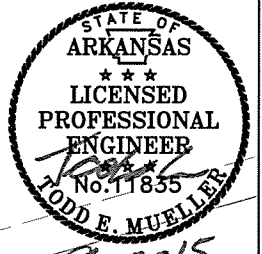
DETAIL FOR TRANSITIONS

SPECIAL DETAILS

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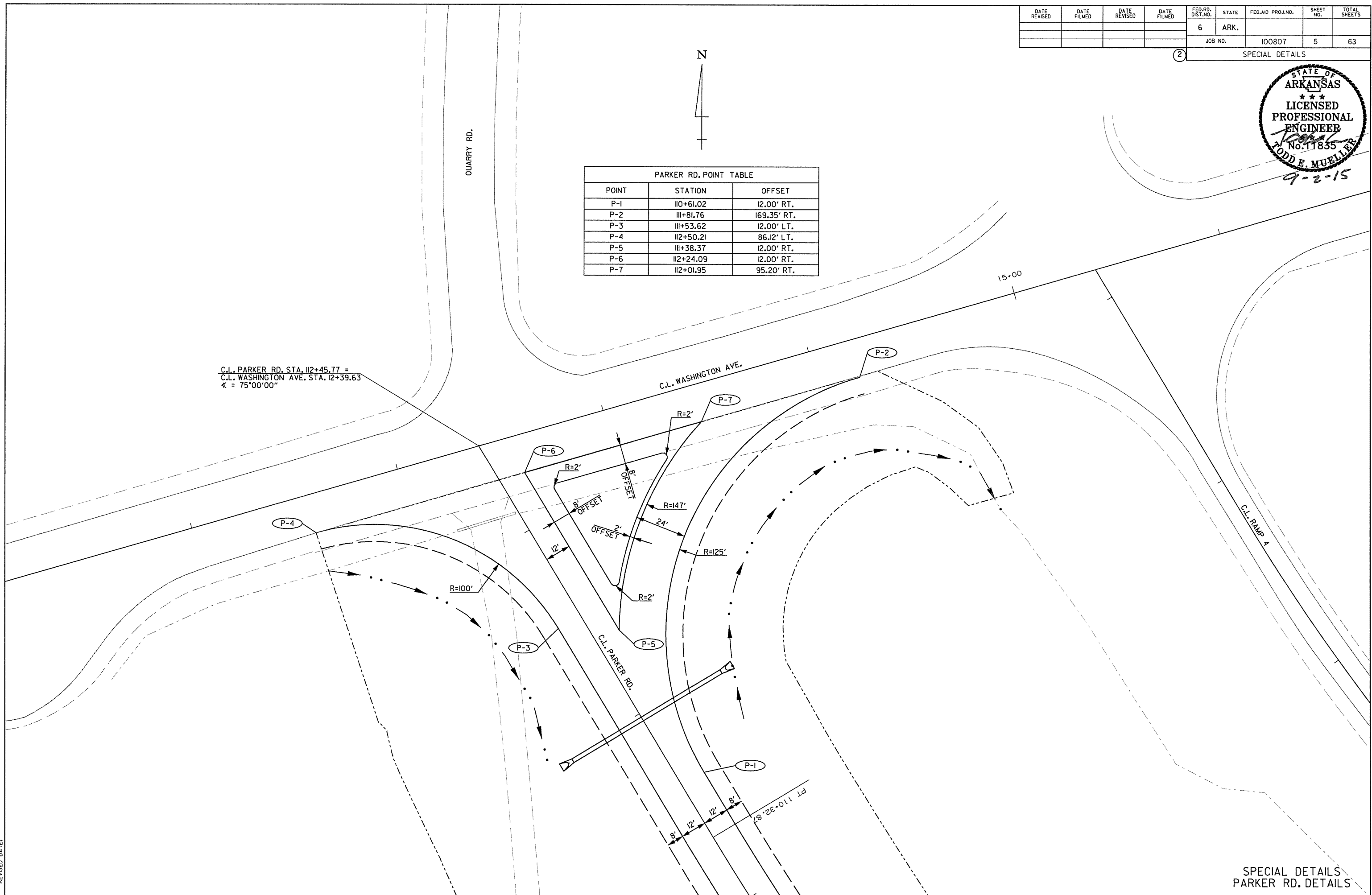
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				6	ARK.			
				JOB NO.	100807	5	63	

2 SPECIAL DETAILS



POINT	STATION	OFFSET
P-1	110+61.02	12.00' RT.
P-2	111+81.76	169.35' RT.
P-3	111+53.62	12.00' LT.
P-4	112+50.21	86.12' LT.
P-5	111+38.37	12.00' RT.
P-6	112+24.09	12.00' RT.
P-7	112+01.95	95.20' RT.

C.L. PARKER RD. STA. 112+45.77 =
 C.L. WASHINGTON AVE. STA. 12+39.63
 $\angle = 75^{\circ}00'00''$

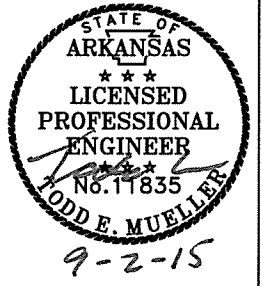


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SPECIAL DETAILS
 PARKER RD. DETAILS

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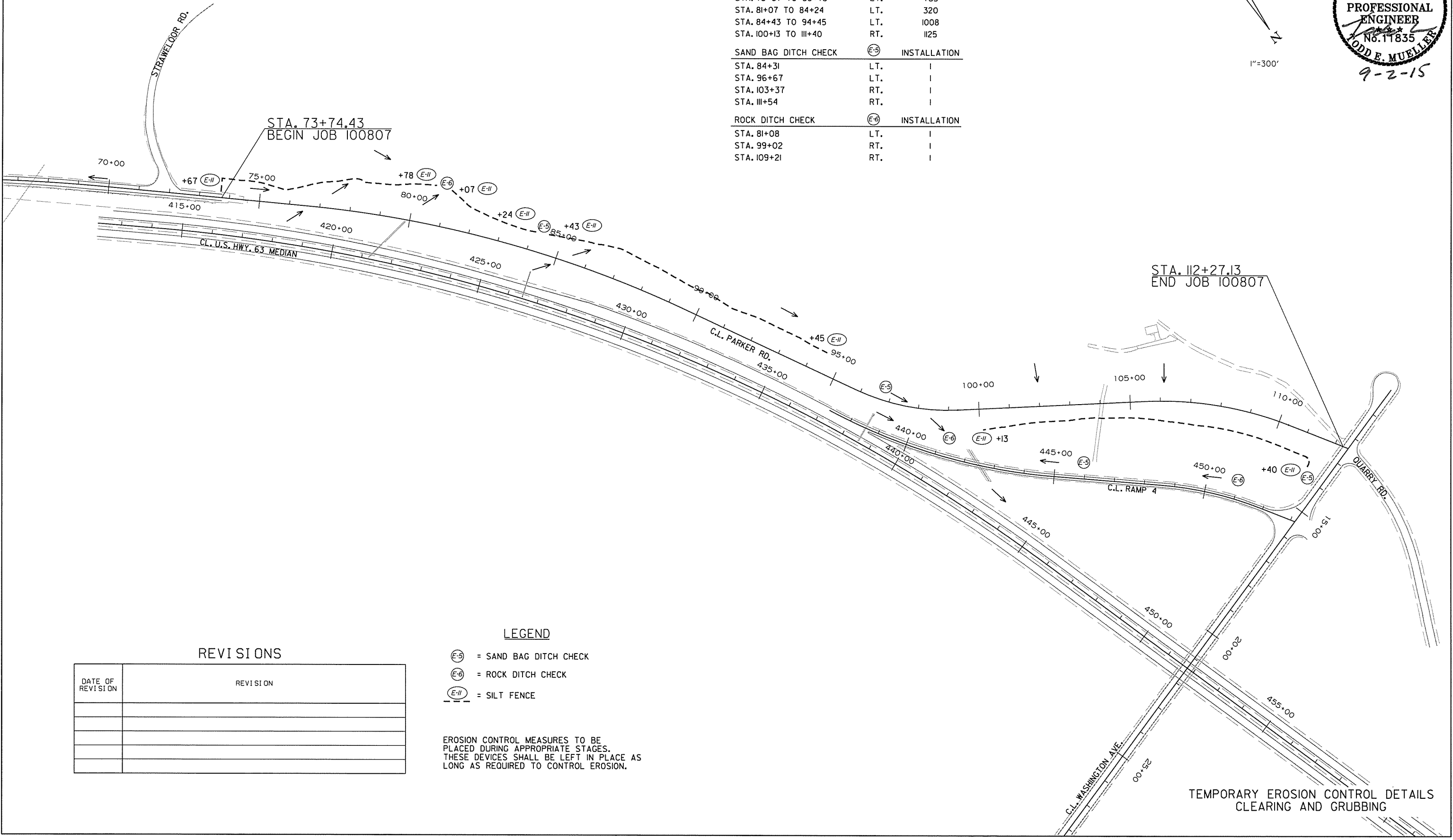
2 TEMPORARY EROSION CONTROL DETAILS



PARKER RD.

MEASURE	TYPE	LIN. FT.
SILT FENCE	(E-II)	
STA. 73+67 TO 80+78	LT.	765
STA. 81+07 TO 84+24	LT.	320
STA. 84+43 TO 94+45	LT.	1008
STA. 100+13 TO 111+40	RT.	1125
SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 84+31	LT.	1
STA. 96+67	LT.	1
STA. 103+37	RT.	1
STA. 111+54	RT.	1
ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 81+08	LT.	1
STA. 99+02	RT.	1
STA. 109+21	RT.	1

1"=300'



REVISIONS

DATE OF REVISION	REVISION

- LEGEND**
- (E-5) = SAND BAG DITCH CHECK
 - (E-6) = ROCK DITCH CHECK
 - (E-II) = SILT FENCE

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

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

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				6	ARK.			
						JOB NO.	100807	7
						TEMPORARY EROSION CONTROL DETAILS		

PARKER RD.		
SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 76+88	RT.	
STA. 77+40	RT.	
STA. 78+08	RT.	
STA. 79+19	RT.	
STA. 82+50	RT.	
STA. 83+00	RT.	
STA. 83+95	RT.	
STA. 84+31	LT.	
STA. 89+00	RT.	RETAIN
STA. 89+60	RT.	
STA. 90+05	RT.	
STA. 90+50	RT.	
STA. 90+95	RT.	
STA. 91+45	RT.	
STA. 92+05	RT.	
STA. 92+53	RT.	
STA. 93+00	RT.	
STA. 93+50	RT.	
STA. 93+98	RT.	
STA. 94+60	RT.	
STA. 95+28	RT.	
STA. 96+02	RT.	
STA. 96+65	RT.	
STA. 96+67	LT.	RETAIN
STA. 97+41	RT.	
STA. 103+37	RT.	RETAIN
STA. 109+29	RT.	
STA. 109+42	LT.	
STA. 111+54	RT.	RETAIN

SILT FENCE		(E-11)	LIN. FT.
STA. 73+67 TO 80+78	LT.	RETAIN	
STA. 81+07 TO 84+24	LT.	RETAIN	
STA. 84+43 TO 94+47	LT.	320	
STA. 87+75 TO 94+45	LT.	680	
STA. 100+13 TO 103+83	RT.	375	

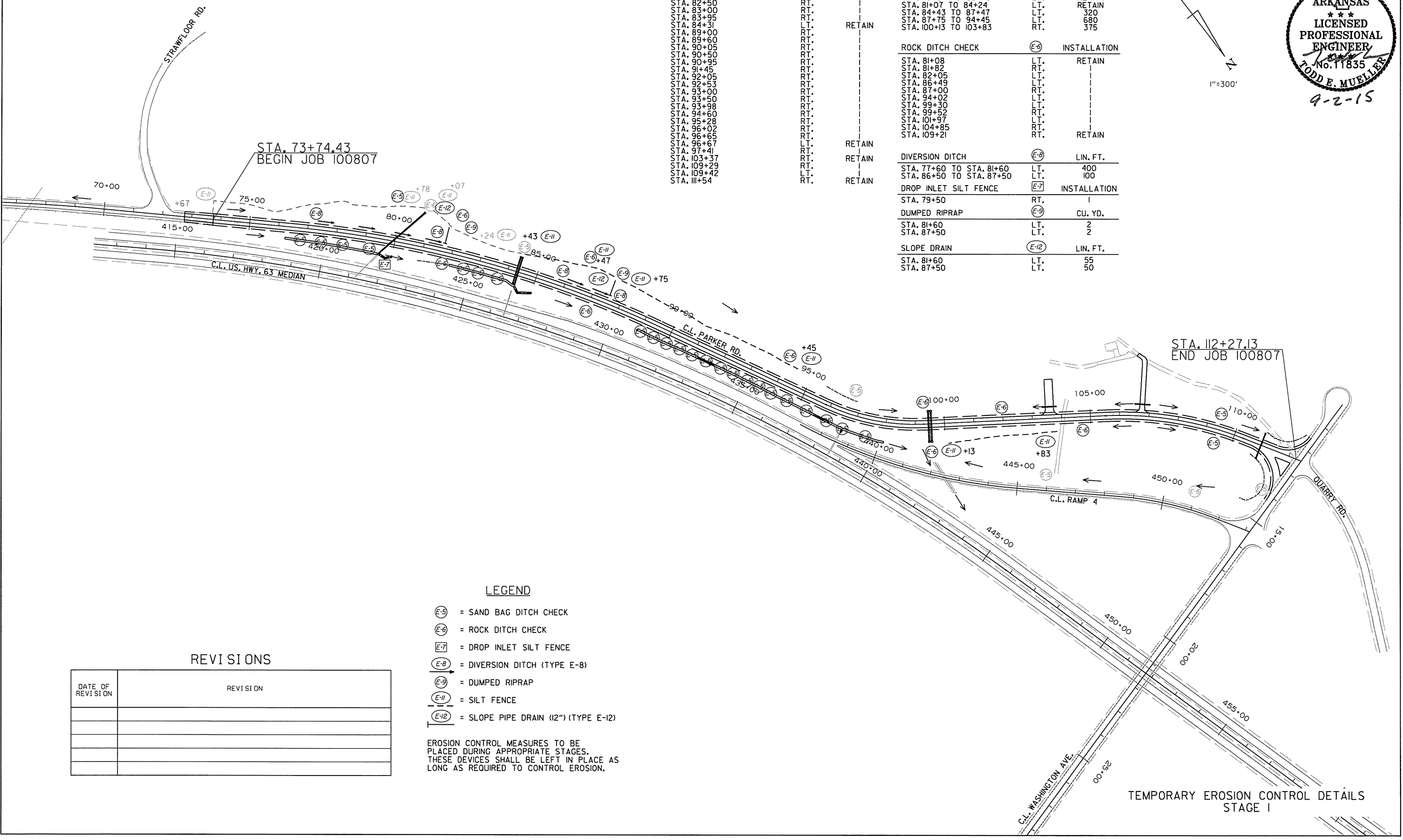
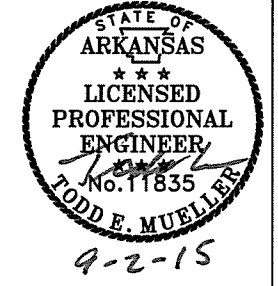
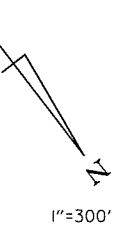
ROCK DITCH CHECK		(E-6)	INSTALLATION
STA. 81+08	LT.	RETAIN	
STA. 81+82	RT.		
STA. 82+05	LT.		
STA. 86+49	LT.		
STA. 87+00	RT.		
STA. 94+02	LT.		
STA. 99+30	LT.		
STA. 99+52	RT.		
STA. 101+97	LT.		
STA. 104+85	RT.		
STA. 109+21	RT.	RETAIN	

DIVERSION DITCH		(E-8)	LIN. FT.
STA. 77+60 TO STA. 81+60	LT.	400	
STA. 86+50 TO STA. 87+50	LT.	100	

DROP INLET SILT FENCE		(E-7)	INSTALLATION
STA. 79+50	RT.	1	

DUMPED RIPRAP		(E-9)	CU. YD.
STA. 81+60	LT.	2	
STA. 87+50	LT.	2	

SLOPE DRAIN		(E-12)	LIN. FT.
STA. 81+60	LT.	55	
STA. 87+50	LT.	50	



LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-8) = DIVERSION DITCH (TYPE E-8)
- (E-9) = DUMPED RIPRAP
- (E-11) = SILT FENCE
- (E-12) = SLOPE PIPE DRAIN (12") (TYPE E-12)

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

REVISIONS

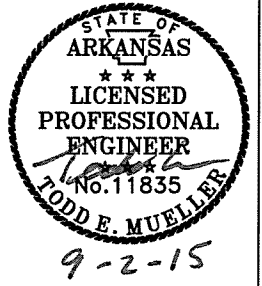
DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE I

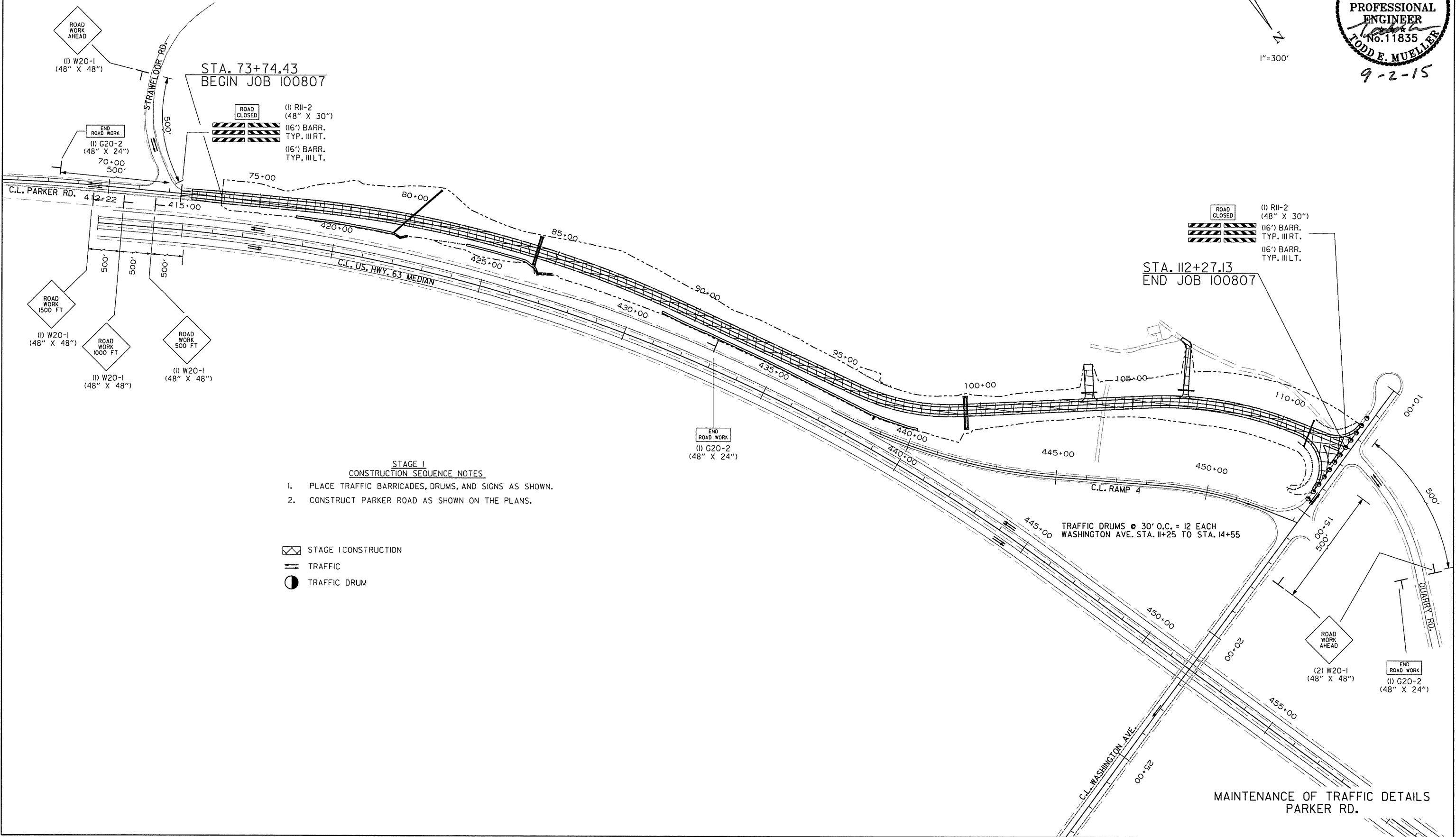
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	100807	8	63	

2 MAINTENANCE OF TRAFFIC DETAILS



1"=300'



- STAGE I CONSTRUCTION SEQUENCE NOTES**
1. PLACE TRAFFIC BARRICADES, DRUMS, AND SIGNS AS SHOWN.
 2. CONSTRUCT PARKER ROAD AS SHOWN ON THE PLANS.

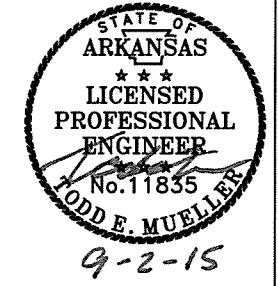
- ☒ STAGE I CONSTRUCTION
- ≡ TRAFFIC
- TRAFFIC DRUM

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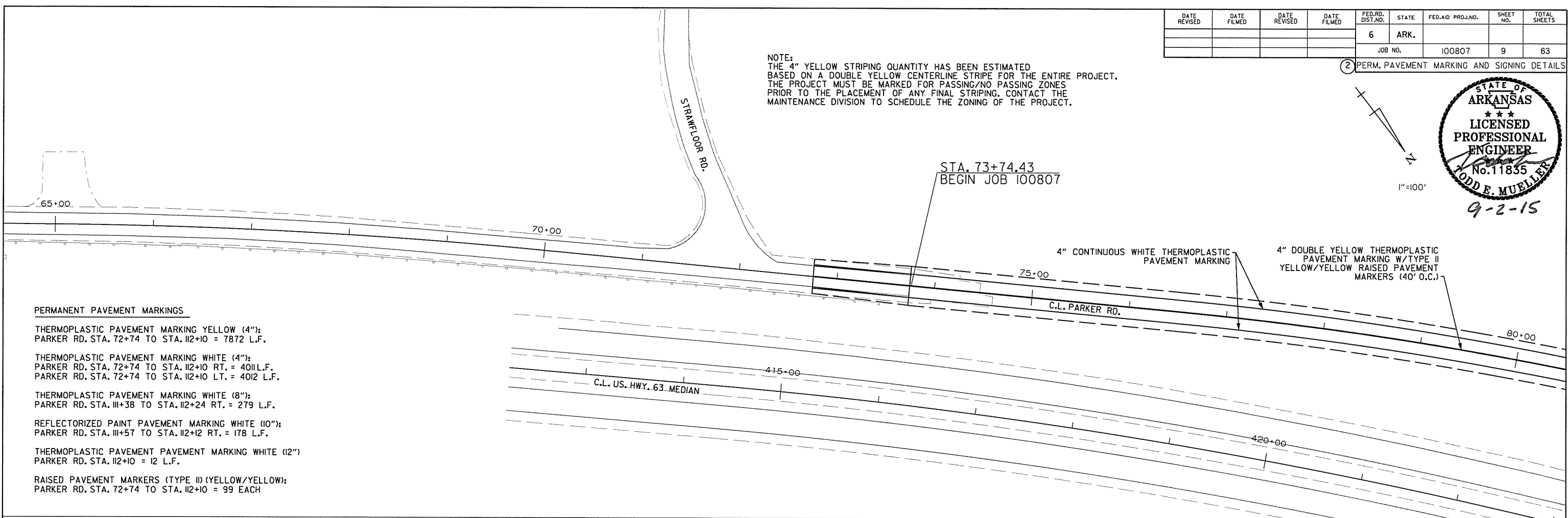
MAINTENANCE OF TRAFFIC DETAILS
PARKER RD.

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.	100807	9	63	

2 PERM. PAVEMENT MARKING AND SIGNING DETAILS

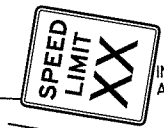
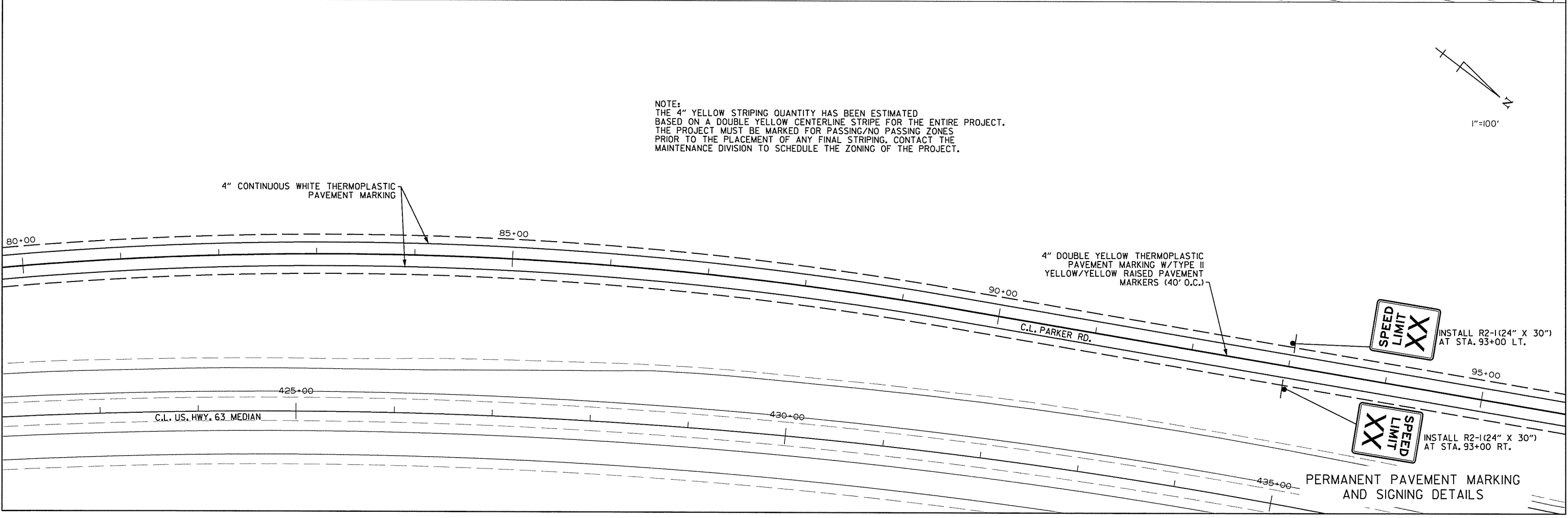


NOTE:
 THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED
 BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
 THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES
 PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE
 MAINTENANCE DIVISION TO SCHEDULE THE ZONING OF THE PROJECT.

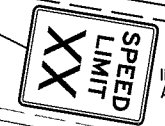


- PERMANENT PAVEMENT MARKINGS**
- THERMOPLASTIC PAVEMENT MARKING YELLOW (4"): PARKER RD. STA. 72+74 TO STA. 112+10 = 7872 L.F.
 - THERMOPLASTIC PAVEMENT MARKING WHITE (4"): PARKER RD. STA. 72+74 TO STA. 112+10 RT. = 4011 L.F. PARKER RD. STA. 72+74 TO STA. 112+10 LT. = 4012 L.F.
 - THERMOPLASTIC PAVEMENT MARKING WHITE (8"): PARKER RD. STA. 111+38 TO STA. 112+24 RT. = 279 L.F.
 - REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10"): PARKER RD. STA. 111+57 TO STA. 112+12 RT. = 178 L.F.
 - THERMOPLASTIC PAVEMENT PAVEMENT MARKING WHITE (12"): PARKER RD. STA. 112+10 = 12 L.F.
 - RAISED PAVEMENT MARKERS (TYPE II) (YELLOW/YELLOW): PARKER RD. STA. 72+74 TO STA. 112+10 = 99 EACH

NOTE:
 THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED
 BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
 THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES
 PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE
 MAINTENANCE DIVISION TO SCHEDULE THE ZONING OF THE PROJECT.



INSTALL R2-1(24" X 30") AT STA. 93+00 LT.



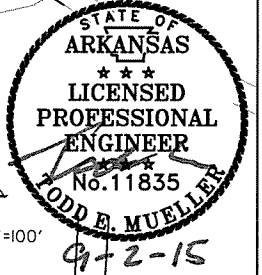
INSTALL R2-1(24" X 30") AT STA. 93+00 RT.

PERMANENT PAVEMENT MARKING AND SIGNING DETAILS

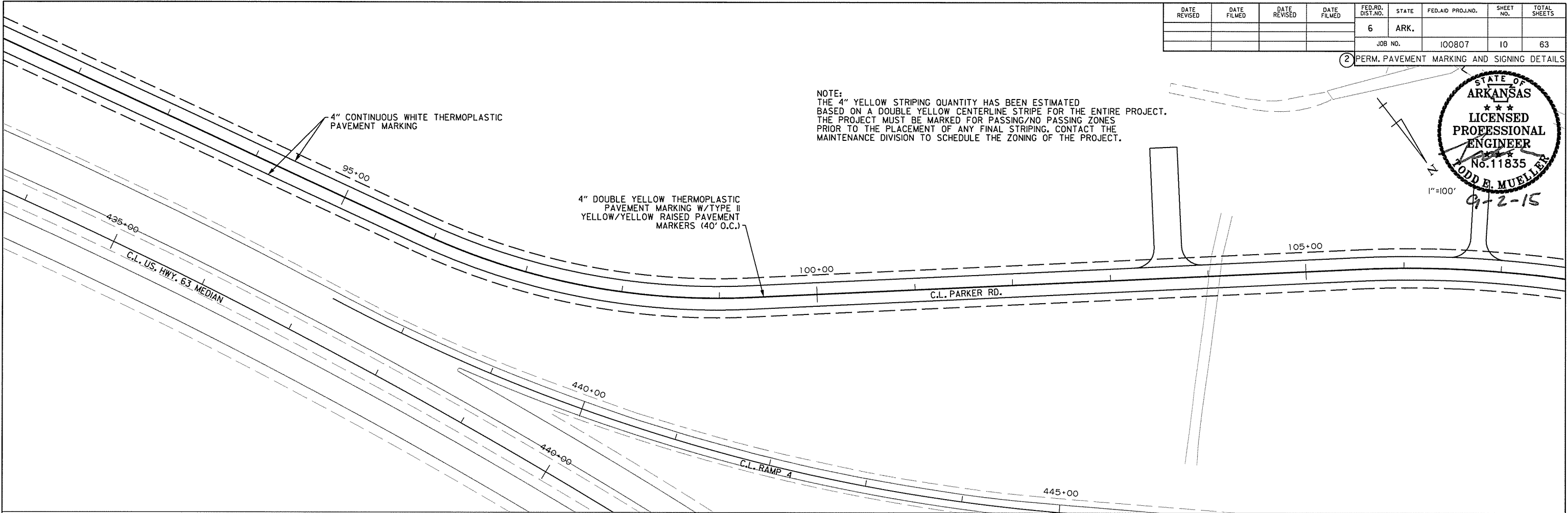
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				6	ARK.			
						JOB NO.	100807	10
						63		

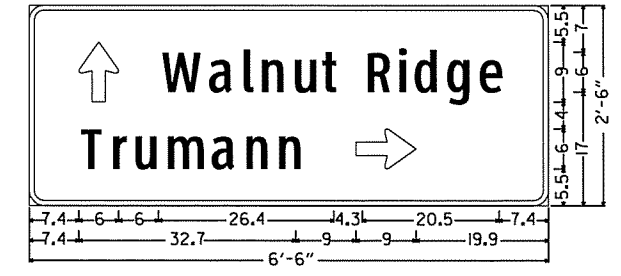
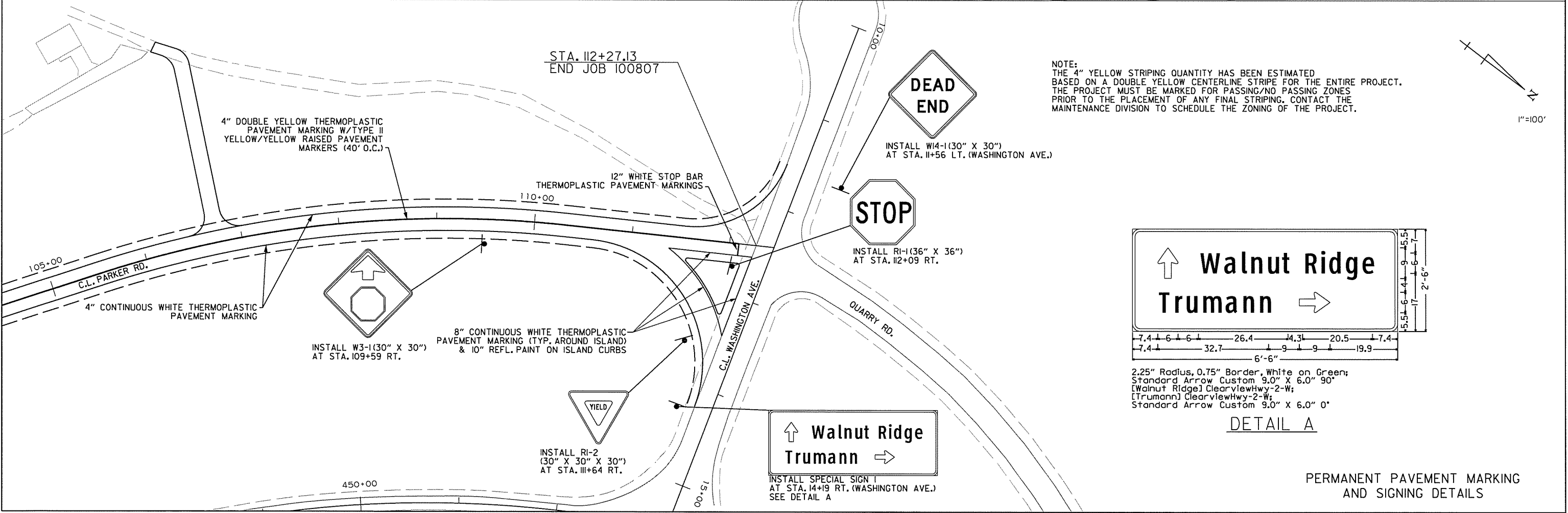
2 PERM. PAVEMENT MARKING AND SIGNING DETAILS



NOTE:
 THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED
 BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
 THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES
 PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE
 MAINTENANCE DIVISION TO SCHEDULE THE ZONING OF THE PROJECT.



NOTE:
 THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED
 BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
 THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES
 PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE
 MAINTENANCE DIVISION TO SCHEDULE THE ZONING OF THE PROJECT.



2.25" Radius, 0.75" Border, White on Green;
 Standard Arrow Custom 9.0" X 6.0" 90°
 [Walnut Ridge] ClearviewHwy-2-W;
 [Trumann] ClearviewHwy-2-W;
 Standard Arrow Custom 9.0" X 6.0" 0°

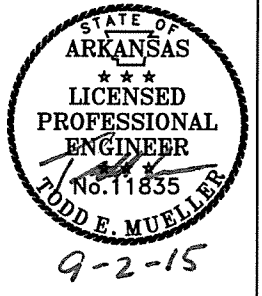
DETAIL A

PERMANENT PAVEMENT MARKING
 AND SIGNING DETAILS

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				6	ARK.			
				JOB NO.	100807	11	63	

② SOIL BORING LOG



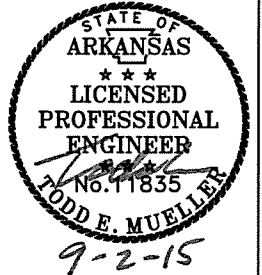
SOIL BORING LOG										
BORING/ TEST PIT NO.	APPROX STATION		SAMPLE DEPTH (ft.)	WATER CONTENT (%)	ATTERBERG LIMITS			PERCENT PASSING #200	UNIFIED CLASS.	AASHTO CLASS.
					LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX			
	STA	OFFSET (ft.)								
1	75+00	CL	0.5-1.5	19	37	19	18	75	CL	A-6
1	75+00	CL	4-5	5	28	19	9	12	GP-GC	A-2-4
2	83+00	60° R	2.5-3.5	20	40	21	19	73	CL	A-6
3	93+00	CL	0.5-1.5	16	28	22	6	54	CL-ML	A-4
3	93+00	CL	4.5-5.5	11	28	19	9	37	GC	A-4
4	103+00	CL	2.5-3.5	21	36	18	18	97	CL	A-6
5	111+00	CL	9-10	23	33	21	12	99	CL	A-6
5	111+00	CL	19-20	21	59	17	42	74	CH	A-7-6

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.

SOIL BORING LOG

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.	100807	12
						QUANTITIES		

2



ADVANCE WARNING SIGNS AND DEVICES								
SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	MAX. NUMBER	TOTAL REQUIRED	BARRICADE LT.	BARRICADE RT.	TRAFFIC DRUMS
G20-2	END ROAD WORK	48X24	3	3	24.0			
W20-1	ROAD WORK 1500 FT.	48X48	1	1	16.0			
W20-1	ROAD WORK 1000 FT.	48X48	1	1	16.0			
W20-1	ROAD WORK 500 FT.	48X48	1	1	16.0			
W20-1	ROAD WORK AHEAD	48X48	3	3	48.0			
R11-2	ROAD CLOSED	48X30	2	2	20.0			
	16' BARRICADE TYPE III RT.		2	2		32		
	16' BARRICADE TYPE III LT.		2	2			32	
	TRAFFIC DRUMS		12	12				12
TOTALS:					140.0	32	32	12

NOTE: THIS IS A HIGH VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

CONCRETE DITCH PAVING							
STATION	STATION	LOCATION	LENGTH FEET	CONCRETE DITCH PAVING (TYPE B)		SOLID SODDING SQ. YD.	WATER M.G.
				"W"	SQ. YD.		
76+25	79+49	PARKER RD. - RT.	322	6	215	143.1	1.8
79+53	80+00	PARKER RD. - RT.	48	6	32	21.3	0.3
82+00	84+34	PARKER RD. - RT.	234	6	156	104.0	1.3
84+34	85+00	PARKER RD. - RT.	83	6	55	36.9	0.5
88+90	98+03	PARKER RD. - RT.	927	6	618	412.0	5.2
TOTALS:					1076	717.3	9.1

BASIS OF ESTIMATE:
WATER = 12.6 GALS. PER SQ. YD. SOLID SODDING

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS							
DESCRIPTION	ENTIRE JOB	RAISED PAVEMENT MARKERS (TYPE II)	THERMOPLASTIC PAVEMENT MARKING				REFLECTORIZED PAINT PAVEMENT MARKING
			4"		8"	12"	
			WHITE	YELLOW	WHITE	WHITE	
THERMOPLASTIC PAVEMENT MARKING WHITE (4")	8023		8023				
THERMOPLASTIC PAVEMENT MARKING WHITE (8")	279				279		
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	12					12	
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	7872		7872				
RAISED PAVEMENT MARKERS (TYPE II) YELLOW/YELLOW	99	99					
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	178						178
TOTALS:		99	8023	7872	279	12	178

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

4" PIPE UNDERDRAINS			
LOCATION		4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
STA.	STA.	LIN. FT.	EACH
98+15.00	103+15.00	540	3
ENTIRE PROJECT*		300	3
TOTALS:		840	6

* QUANTITIES ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS. PIPE UNDERDRAINS SHALL BE CONNECTED TO DROP INLETS AND GROUTED IN PLACE WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR 4" PIPE UNDERDRAINS.

STRUCTURES																	
STATION	LOCATION	DESCRIPTION	SIDE DRAIN	REINFORCED CONCRETE PIPE CULVERTS						FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS				DROP INLETS (TYPE RM)	SOLID SODDING	WATER	STANDARD DRAWINGS
				CLASS III			CLASS IV			24 IN.	30 IN.	36 IN.	48 IN.				
				18 IN.	30 IN.	36 IN.	24 IN.	36 IN.	48 IN.								
79+51.00	PARKER RD.	CONSTRUCT DROP INLET ON RT. W/ R.C. PIPE CULVERT TO FES ON LT.											1	24	0.3	FES-1, FES-2, FPC-9D, PCC-1	
84+33.00	PARKER RD.	CONSTRUCT DBL. R.C. PIPE CULVERT WITH FES LT. AND RT.		170						4			1	28	0.4	FES-1, FES-2, PCC-1	
96+65.00	PARKER RD.	EXTEND R.C. PIPE WITH FES ON RT.			2							1	17	0.2	FES-1, FES-2, PCC-1		
99+50.00	PARKER RD.	CONSTRUCT DBL. R.C. PIPE CULVERT WITH FES LT. AND RT.												62	0.8	FES-1, FES-2, PCC-1	
103+60.00	PARKER RD.	CONSTRUCT SIDE DRAIN ON LT.	52									4				PCM-1, PCC-1, PCP-1, PCP-2	
106+75.00	PARKER RD.	CONSTRUCT SIDE DRAIN ON LT.	56													PCM-1, PCC-1, PCP-1, PCP-2	
110+97.00	PARKER RD.	CONSTRUCT R.C. PIPE CULVERT WITH FES LT. AND RT.				81			2					16	0.2	FES-1, FES-2, PCC-1	
TOTALS:			108	170	2	81	207	186	2	4	2	4	1	147	1.9		

BASIS OF ESTIMATE:
WATER = 12.6 GALS. PER SQ. YD. SOLID SODDING

FOR R.C. PIPE CULVERT INSTALLATIONS, USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

SELECTED PIPE BEDDING	
LOCATION	SELECTED PIPE BEDDING CU. YD.
ENTIRE PROJECT*	100
TOTAL:	100

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

SIGN QUANTITIES			
ITEM NUMBER	ITEM	TOTAL	UNIT
SP & 725	GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	16.25	SQ. FT.
SP & 726	STANDARD SIGN	34	SQ. FT.
SP & 729	CHANNEL POST SIGN SUPPORT (TYPE U-1)	6	EACH
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	489	POUND

CLEARING AND GRUBBING				
STATION	STATION	LOCATION	CLEARING STA.	GRUBBING STA.
73+74.43	100+00.00	PARKER RD.	27	27
104+00.00	105+00.00	PARKER RD.	1	1
108+00.00	112+00.00	PARKER RD.	4	4
TOTALS:			32	32

QUANTITIES

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				6	ARK.			
JOB NO.						100807	13	63

② QUANTITIES

TEMPORARY EROSION CONTROL															
STATION	STATION	SAND BAG DITCH CHECK (E-5)	ROCK DITCH CHECK (E-6)	DROP INLET SILT FENCE (E-7)	DIVERSION DITCH (E-8)	DUMPED RIPRAP (E-9)	SILT FENCE (E-11)	PIPE FOR SLOPE DRAIN (E-12)	SEDIMENT BASIN (E-14)	TRIANGULAR SILT DIKE	OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL AND DISPOSAL	TEMPORARY SEEDING	MULCH COVER	WATER
		BAG	CU. YD.	L.F.	LN. FT.	CU. YD.	L.F.	LN. FT.	CU. YD.	L.F.	CU. YD.	CU. YD.	ACRE	ACRE	M.G.
CLEARING AND GRUBBING															
PARKER RD.															
73+67	80+78						765								
81+07	84+24						320								
81+08	84+31	22	3												
84+43	94+45						1008								
96+67		22													
99+02			3												
100+13	111+40						1125								
103+37		22													
109+21			3												
111+54		22													
STAGE 1															
76+08	79+19	88													
77+60	81+60				400										
79+50				20											
79+82		22													
81+60						2		55							
81+82			3												
82+05			3												
82+50	83+95	66													
84+43	87+47						320								
86+49			3												
86+50	87+50				100										
87+00			3												
87+50						2		50							
87+75	94+45						680								
89+00	97+41	352													
94+02			3												
99+30			3												
99+52			3												
100+13	103+83						375								
101+97			3												
104+85			3												
109+29		22													
109+42		22													
* ENTIRE PROJECT		100	9		50	2	500	50	100	100	100	100	11.28	11.28	230.1
TOTALS:		760	45	20	550	6	5093	155	100	100	100	100	11.28	11.28	230.1

* QUANTITIES ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE:
SAND BAG DITCH CHECKS = 22 BAGS / LOCATION
ROCK DITCH CHECKS = 3 CU. YD. / LOCATION
WATER = 20.4 M.G. PER ACRE TEMPORARY SEEDING

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

SOIL STABILIZATION	
LOCATION	TON
ENTIRE PROJECT*	100
TOTAL:	100

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

EROSION CONTROL					
LOCATION	LIME	SEEDING	MULCH COVER	SECOND SEEDING APPLICATION	WATER
	TON	ACRE			M.G.
ENTIRE PROJECT	22.56	11.28	11.28	11.28	1150.6
TOTALS:	22.56	11.28	11.28	11.28	1150.6

BASIS OF ESTIMATE:
LIME = 2 TONS PER ACRE SEEDING
WATER = 102.0 M.G. PER ACRE SEEDING

EARTHWORK SUMMARY						
LOCATION	UNCLASSIFIED EXCAVATION			COMPACTED EMBANKMENT		
	UNDERCUT	TYPICAL	TOTAL	TYPICAL	*ADDITIONAL	TOTAL
CU. YD.						
PARKER RD.		44031	44031	95314		95314
DRIVEWAYS		279	279	344		344
**ENTIRE PROJECT	11115		11115		11115	11115
TOTALS:	11115	44310	55425	95658	11115	106773

EARTHWORK NOTES:

- ESTIMATES FOR QUANTITIES OF EXCAVATION AND EMBANKMENT ARE TAKEN DIRECTLY FROM THE CROSS SECTIONS, DETAILED IN ACCORDANCE WITH THE PLANS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT REMOVED SHALL BE PAID FOR UNDER PAY ITEM 210 - EXCAVATION AND EMBANKMENT, UNLESS OTHERWISE NOTED.

*INCLUDES 11,115 CU. YDS. OF COMPACTED EMBANKMENT USED FOR BACKFILL OF UNDERCUT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

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

WIRE FENCE			
STATION	STATION	LOCATION	WIRE FENCE (TYPE A)
			L.F.
73+74.00	100+00.00	PARKER RD.	2650
TOTAL:			2650

REMOVAL AND DISPOSAL OF STRUCTURES						
STATION	STATION	LOCATION	BARRICADES LEFT IN PLACE	FENCE	PIPE CULVERTS	SIGNS
			EACH	L.F.	EACH	EACH
76+25.58	100+00.00	PARKER RD. - RT./LT.		2420		
79+19.44	79+31.85	PARKER RD. - LT.		64		
83+32.17	83+81.14	PARKER RD. - RT./LT.		102		
87+53.66	87+83.56	PARKER RD. - LT.		83		
108+25.03	109+34.99	PARKER RD. - RT./LT.		339		
110+13.37	110+97.02	PARKER RD. - LT.		100		
111+27.00	111+28.00	PARKER RD. - RT.		21		
111+95.00		PARKER RD. - RT.				1
112+27.00		PARKER RD. - LT.				1
72+74.43		PARKER RD. - RT.	1			
72+74.43		PARKER RD. - LT.	1			
112+10.08	112+16.83	PARKER RD. - CTR.			1	
TOTALS:			2	3129	1	2

COLD MILLING ASPHALT PAVEMENT				
STATION	STATION	LOCATION	AVG. WIDTH FEET	SQ. YD.
72+74.43	73+74.43	PARKER RD.	34.46	383
TOTAL:				383

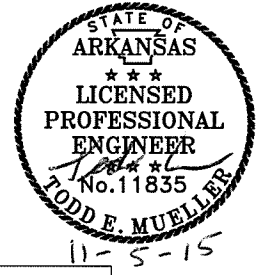
NOTE: AVERAGE MILLING DEPTH 1".

CONCRETE ISLAND				
STATION	LOCATION	SIDE	CURB FACE TYPE	AREA SQ. YD.
111+88.87	PARKER RD.	RT.	B	163.67
TOTAL:				163.67

ACHM PATCHING OF EXISTING ROADWAY	
LOCATION	TON
ENTIRE PROJECT*	25
TOTAL:	25

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

QUANTITIES



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	100807	14	63	

2 QUANTITIES



BASE & SURFACING																			
STATION	STATION	LOCATION	LENGTH FEET	ACHM SURFACE COURSE (1/2") (PG 64-22)				ACHM BINDER COURSE (1") (PG 64-22)				AGGREGATE BASE COURSE (CLASS 7)		TACK COAT					
				AVG. WIDTH	SQUARE YARDS	LBS. PER SQ. YD.	TON	AVG. WIDTH	SQUARE YARDS	LBS. PER SQ. YD.	TON	TONS PER STATION	TON	TOTAL WIDTH	SQUARE YARDS	0.03 G/SY	AVG. WIDTH	SQUARE YARDS	0.10 G/SY
				FEET				FEET						FEET		GAL.	FEET		GAL.
72+74.43	73+74.43	PARKER RD. - TRANSITION	100.00	37.03	411.44	220	45.26							VAR.	53.36				
73+74.43	74+66.75	PARKER RD.	92.32	40.00	410.31	220	45.13	24.33	249.57	440	54.91	305.00	281.58	24.33	249.57	7.49			
74+66.75	91+43.25	PARKER RD. - SUPERELEVATION	1676.50	40.00	7451.11	220	819.62	24.33	4532.14	440	997.07	VAR.	5207.03	24.33	4532.14	135.96			
91+43.25	93+59.81	PARKER RD.	216.56	40.00	962.49	220	105.87	24.33	585.43	440	128.79	305.00	660.51	24.33	585.43	17.56			
93+59.81	101+55.14	PARKER RD. - SUPERELEVATION	795.33	40.00	3534.80	220	388.83	24.33	2150.04	440	473.01	VAR.	3108.47	24.33	2150.04	64.50			
101+55.14	104+02.57	PARKER RD.	247.43	40.00	1099.69	220	120.97	24.33	668.89	440	147.16	305.00	754.66	24.33	668.89	20.07			
104+02.57	110+61.02	PARKER RD. - SUPERELEVATION	658.45	40.00	2926.44	220	321.91	24.33	1780.01	440	391.60	VAR.	2548.66	24.33	1780.01	53.40			
110+61.02	111+82.87	PARKER RD. - SUPER/TURNOUT	121.85	VAR.	912.16	220	100.34	VAR.	670.42	440	147.49	VAR.	638.71	VAR.	670.42	20.11			
111+82.87	112+27.13	PARKER RD. - TURNOUT	44.26	VAR.	540.96	220	59.51	VAR.	577.95	440	127.15	VAR.	383.64	VAR.	577.95	17.34			
TOTALS:					18249.40		2007.44		11214.45		2467.18		13636.62		11214.45	336.43		382.89	38.29

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2") : 5.2% ASPHALT BINDER (PG 64-22), 94.8% MINERAL AGGREGATE, N_{MAX}=115
 ACHM BINDER COURSE (1") : 4.2% ASPHALT BINDER (PG 64-22), 95.8% MINERAL AGGREGATE, N_{MAX}=115

BASE & SURFACING - DRIVEWAYS				
LOCATION	WIDTH	AGGREGATE BASE COURSE (CLASS 7)	ACHM SURFACE COURSE (1/2") (220 LBS. PER S.Y.) (PG 64-22)	
	FEET		TONS	SQUARE YARDS
PARKER RD. @ STA. 103+60	28	145.37	356	39.16
PARKER RD. @ STA. 106+75	16	142.10	348	38.28
TOTALS:		287.47	704	77.44

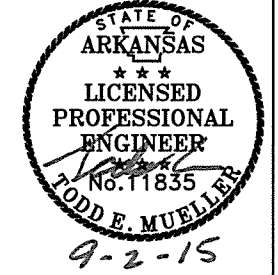
BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2") : 5.2% ASPHALT BINDER (PG 64-22), 94.8% MINERAL AGGREGATE, N_{MAX}=115

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	100807	16	63	

2 SURVEY CONTROL DETAILS



SURVEY CONTROL COORDINATES

Project Name: s100807
 Date: 10/2/2014
 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
44	548120.667800	1683186.335900	320.932	CTL	RBC
59	548516.189700	1682101.072500	349.786	CTL	REBAR+CAP
903	547855.454700	1683305.307200	327.679	BM	SQ CUT SE CRNR DI
904	547024.937600	1683875.347900	354.237	BM	SQR IN NORTH HW
905	545402.125300	1685238.039700	389.131	BM	CHSLD SQ NE COR. OF DI

*Note - Rebar and Cap - Standard - * 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 0.999930642 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 100807gi.ctl
 HORIZONTAL DATUM: NAD 83 (1997)
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: H 315 - 160016
 CONVERGENCE ANGLE: 00-43-37.34557 RIGHT AT PN: 707
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

ALIGNMENT NAME: PARKER RD.

POINT	STATION	TYPE	NORTHING	EASTING
8001	64+29.06	POB	545312.9398	1685188.9903
8002	65+00.98	PC	545357.3305	1685132.4072
8003	67+47.59	PI	545509.5482	1684938.3814
8004	69+93.89	PT	545677.8745	1684758.1523
8005	76+54.25	PC	546128.6106	1684275.5431
8006	83+11.37	PI	546577.1352	1683795.3018
8007	89+55.75	PT	547160.3597	1683492.5560
8008	95+84.81	PC	547718.6822	1683202.7365
8009	97+60.90	PI	547874.9699	1683121.6092
8010	99+30.14	PT	547975.8203	1682977.2600
8011	105+52.57	PC	548332.2978	1682467.0267
8012	107+96.30	PI	548471.8867	1682267.2304
8013	110+32.87	PT	548680.7048	1682141.5380
8014	112+45.77	POE	548863.1105	1682031.7438

ALIGNMENT NAME: WASHINGTON AVE.

POINT	STATION	TYPE	NORTHING	EASTING
8015	10+00.00	POB	548796.8793	1681801.4466
8016	28+46.92	POE	549307.3443	1683576.4214

ALIGNMENT NAME: US. HWY. 63 MEDIAN

POINT	STATION	TYPE	NORTHING	EASTING
8017	412+22.15	POB	545755.5159	1684854.7095
8018	414+34.00	PC	545898.5591	1684698.4493
8019	430+49.03	PI	546989.0674	1683507.1792
8020	445+82.38	PT	548541.1892	1683060.8045
8021	465+12.49	PC	550396.1149	1682527.3463
8022	472+67.15	PI	551121.3740	1682318.7691
8023	479+49.88	PT	551508.1711	1681670.7775
8024	484+84.41	POE	551782.1461	1681211.7941

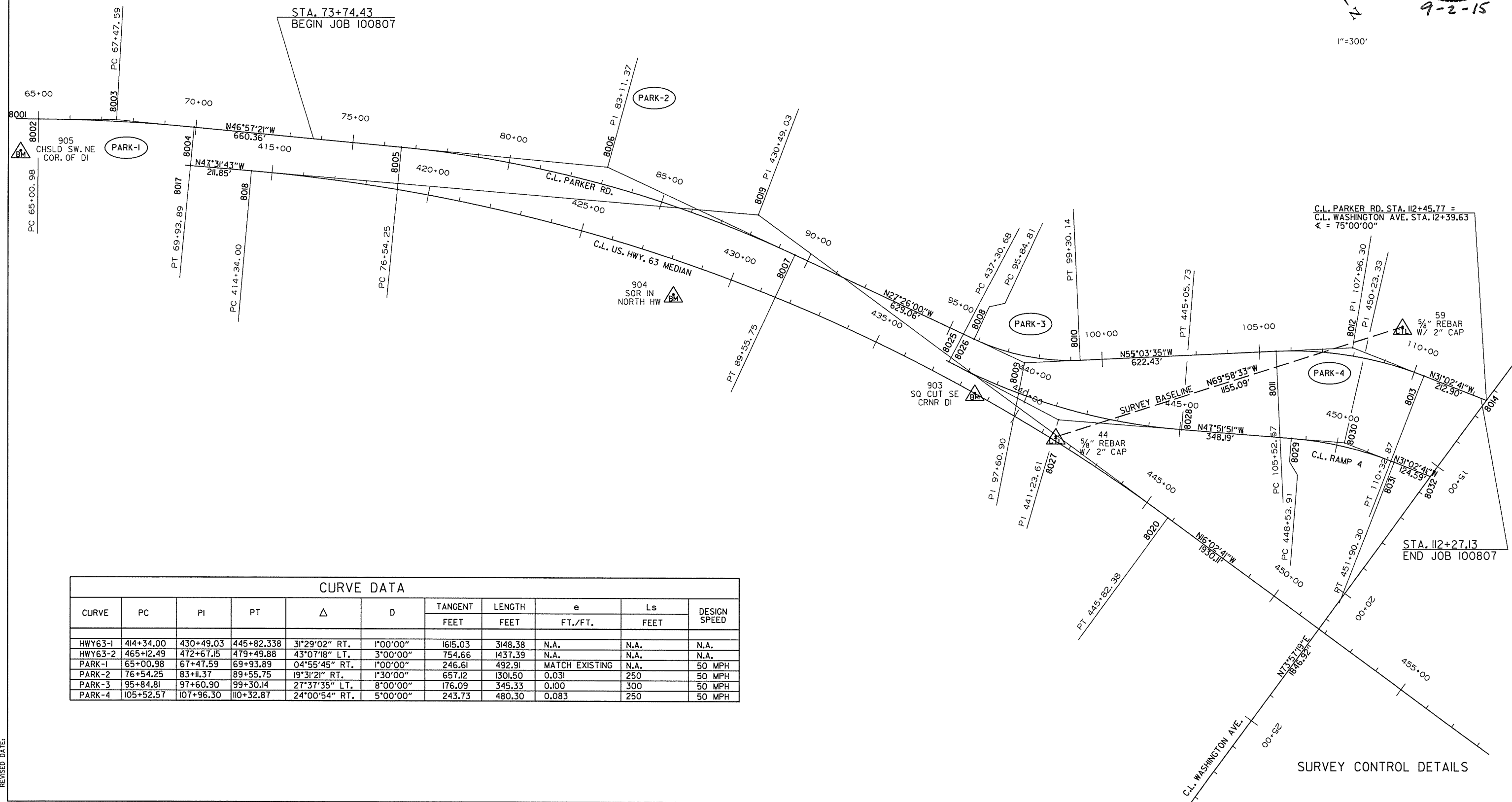
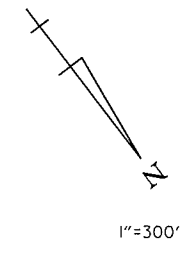
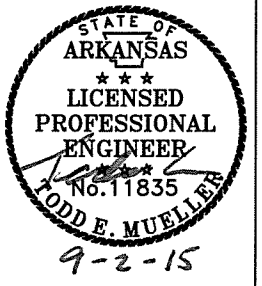
ALIGNMENT NAME: RAMP 4

POINT	STATION	TYPE	NORTHING	EASTING
8025	437+22.08	POB	547718.2225	1683314.1173
8026	437+30.68	PC	547726.0389	1683310.5366
8027	441+23.61	PI	548083.2705	1683146.8872
8028	445+05.73	PT	548346.8847	1682855.5057
8029	448+53.91	PC	548580.4799	1682597.3052
8030	450+23.33	PI	549430.2415	1683366.0885
8031	451+90.30	PT	548839.2848	1682384.3081
8032	453+14.89	POE	548946.0267	1682320.0577

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	100807	17
								63

2 SURVEY CONTROL DETAILS



C.L. PARKER RD. STA. 112+45.77 =
C.L. WASHINGTON AVE. STA. 12+39.63
Δ = 75°00'00"

59
5/8" REBAR
W/ 2" CAP

44
5/8" REBAR
W/ 2" CAP

STA. 112+27.13
END JOB 100807

CURVE DATA										
CURVE	PC	PI	PT	Δ	D	TANGENT	LENGTH	e	Ls	DESIGN SPEED
						FEET	FEET	FT./FT.	FEET	
HWY63-1	414+34.00	430+49.03	445+82.338	31°29'02" RT.	1°00'00"	1615.03	3148.38	N.A.	N.A.	N.A.
HWY63-2	465+12.49	472+67.15	479+49.88	43°07'18" LT.	3°00'00"	754.66	1437.39	N.A.	N.A.	N.A.
PARK-1	65+00.98	67+47.59	69+93.89	04°55'45" RT.	1°00'00"	246.61	492.91	MATCH EXISTING	N.A.	50 MPH
PARK-2	76+54.25	83+11.37	89+55.75	19°31'21" RT.	1°30'00"	657.12	1301.50	0.031	250	50 MPH
PARK-3	95+84.81	97+60.90	99+30.14	27°37'35" LT.	8°00'00"	176.09	345.33	0.100	300	50 MPH
PARK-4	105+52.57	107+96.30	110+32.87	24°00'54" RT.	5°00'00"	243.73	480.30	0.083	250	50 MPH

SURVEY CONTROL DETAILS

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 L:\2011\10715 - Parker Road Extension\Drawings\100807.SC.02.dgn
 REVISION DATE:

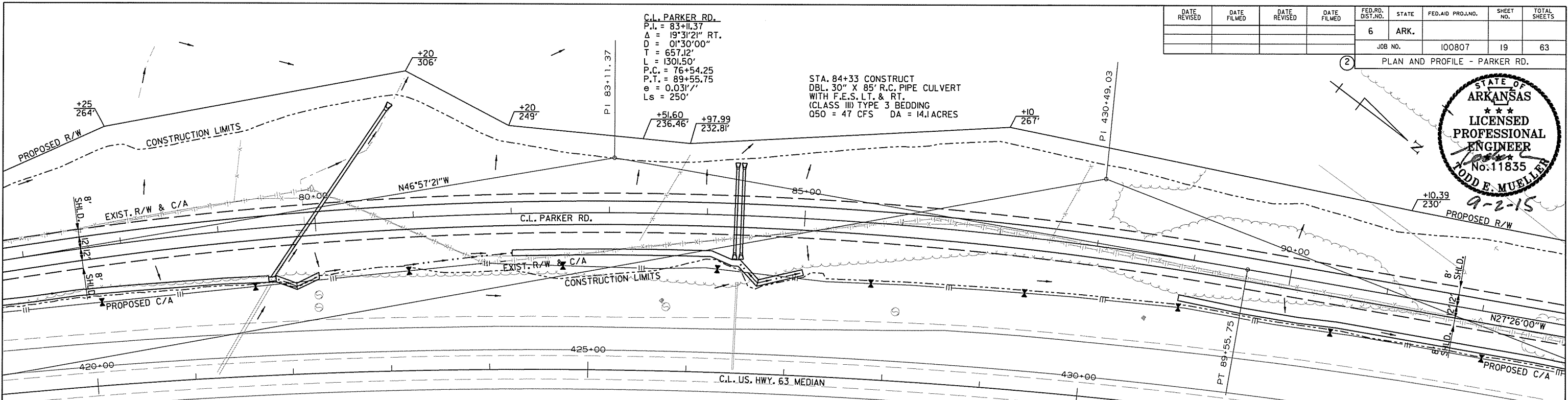
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	100807	19	63	

PLAN AND PROFILE - PARKER RD.



C.L. PARKER RD.
 P.I. = 83+11.37
 $\Delta = 19^{\circ}31'21''$ RT.
 $D = 01^{\circ}30'00''$
 $T = 657.12'$
 $L = 1301.50'$
 $P.C. = 76+54.25$
 $P.T. = 89+55.75$
 $e = 0.031'$
 $Ls = 250'$

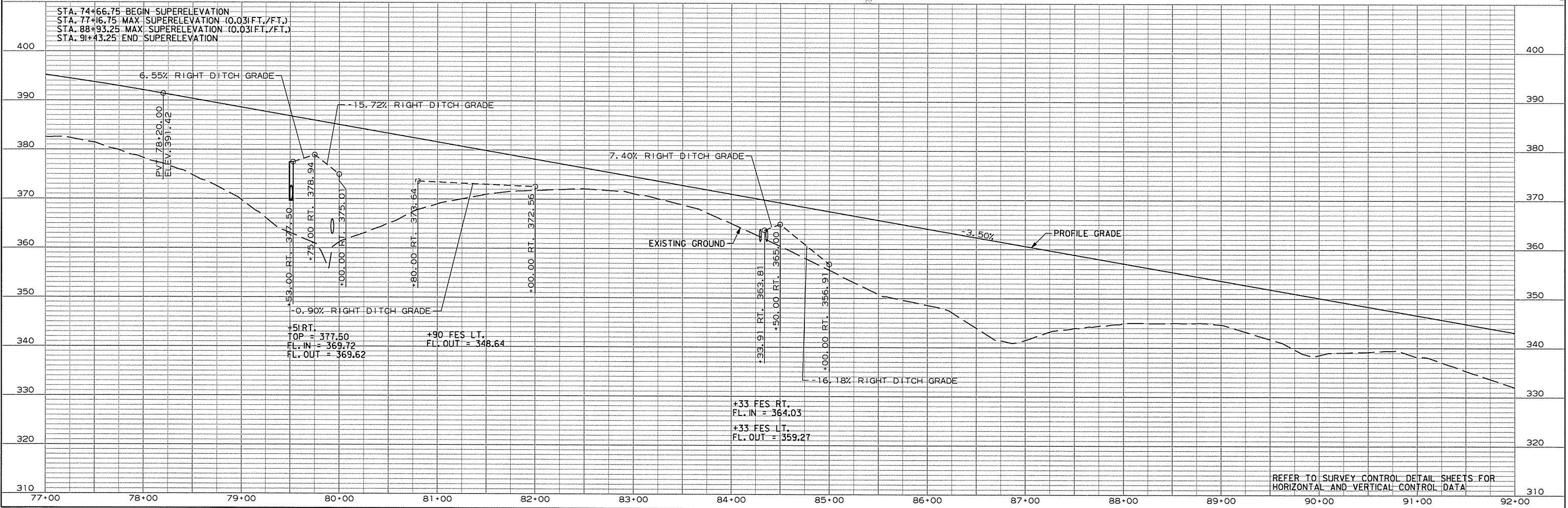
STA. 84+33 CONSTRUCT
 DBL. 30" X 85' R.C. PIPE CULVERT
 WITH F.E.S. LT. & RT.
 (CLASS III) TYPE 3 BEDDING
 $Q50 = 47$ CFS $DA = 14.1$ ACRES



STA. 79+51 IN PLACE
 36" X 178" R.C. PIPE CULVERT
 WITH HDWL. RT.
 REMOVE 60' R.C. PIPE CULVERT
 AND HDWL. RT.
 CONSTRUCT DROP INLET ON RT. H=7'-11"
 W/36" X 207" R.C. PIPE CULVERT
 TO FES ON LT.
 TYPE RM INLET (3'-0" X 6'-3")
 (CLASS IV) TYPE 3 BEDDING
 $Q50 = 54$ CFS $DA = 8.1$ ACRES

STA.	STA.	SIDE	"W"	SO. YDS.
79+53	80+00	RT. = 48 LIN. FT.	6'-0"	32
82+00	84+34	RT. = 234 LIN. FT.	6'-0"	156
84+34	85+00	RT. = 83 LIN. FT.	6'-0"	55
88+90	98+03	RT. = 927 LIN. FT.	6'-0"	618

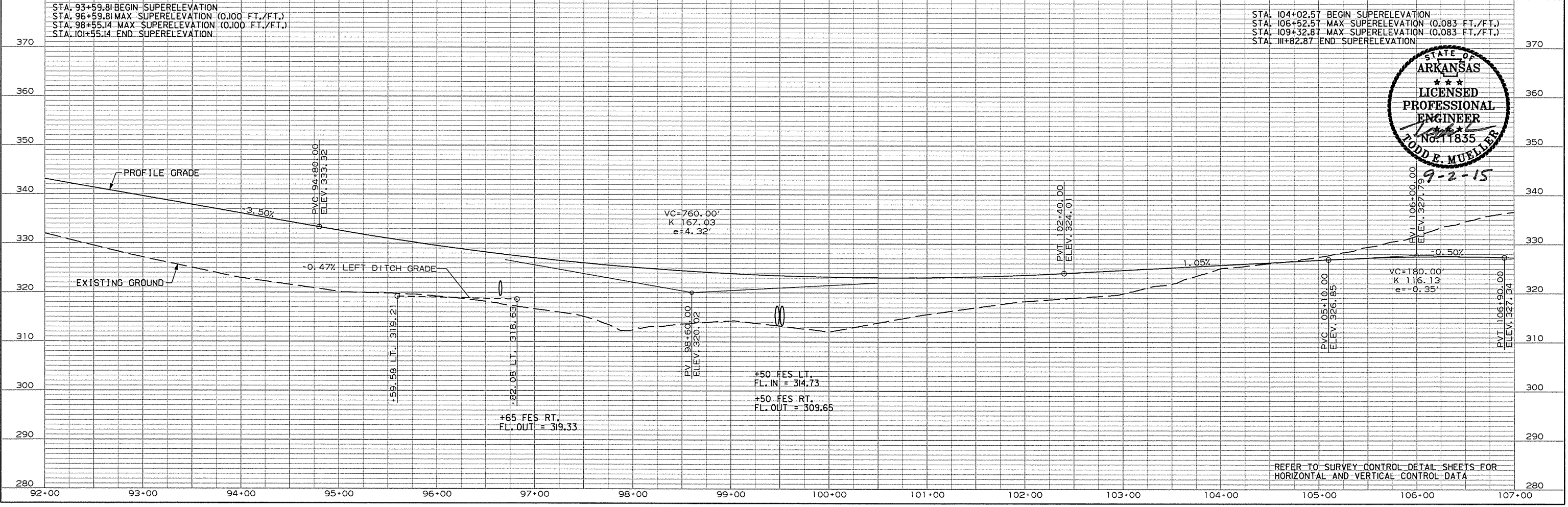
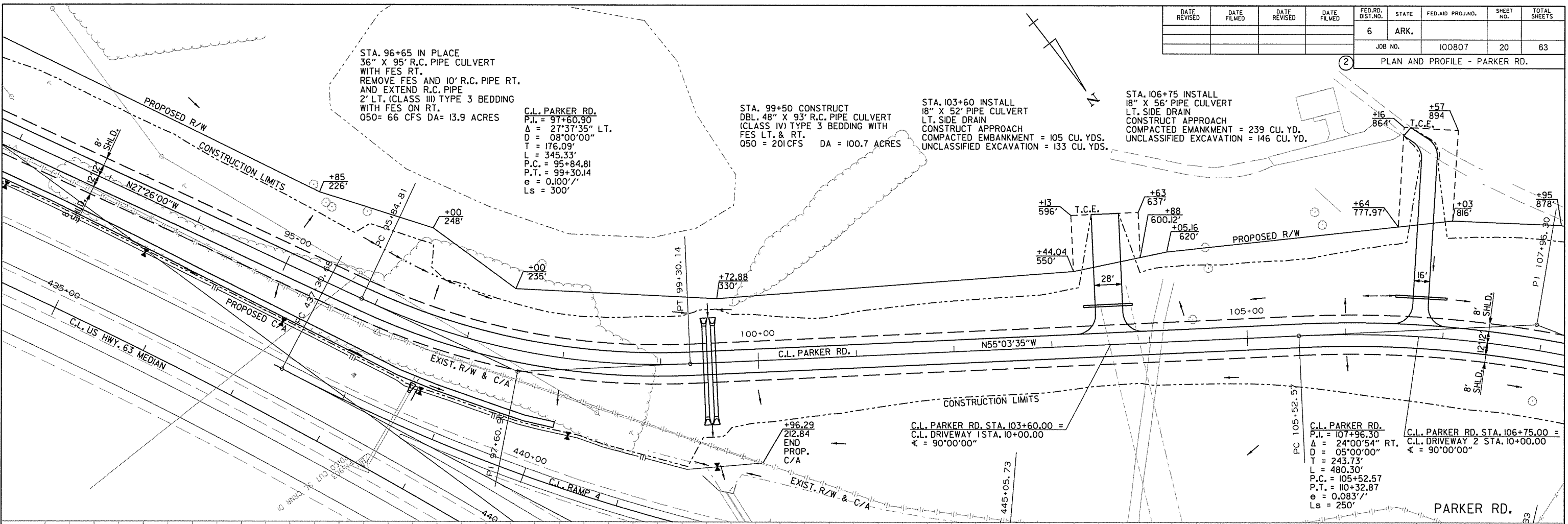
STA.	STA.	SIDE	UNIT
79+19	79+32	LT.	64 LIN. FT.
83+32	83+81	RT./LT.	102 LIN. FT.
87+54	87+84	LT.	83 LIN. FT.



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

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 WORKSPACE: AHTD
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 REVISION DATE:

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.	100807
							20	63
(2) PLAN AND PROFILE - PARKER RD.								



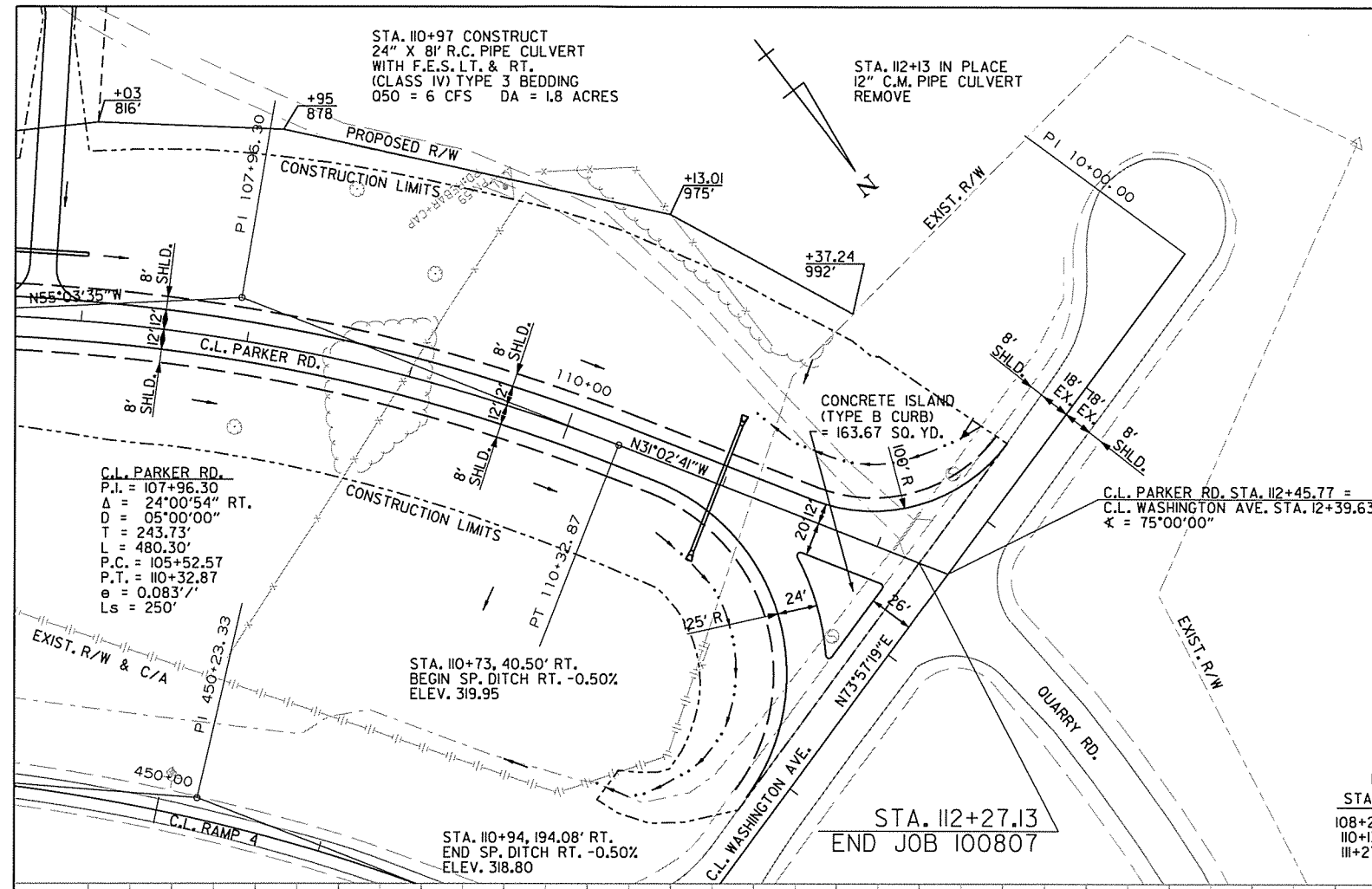
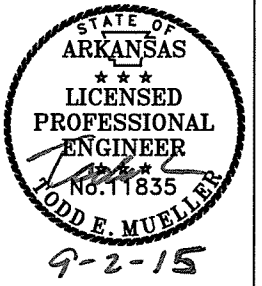
9-2-15

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

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	100807		21	63

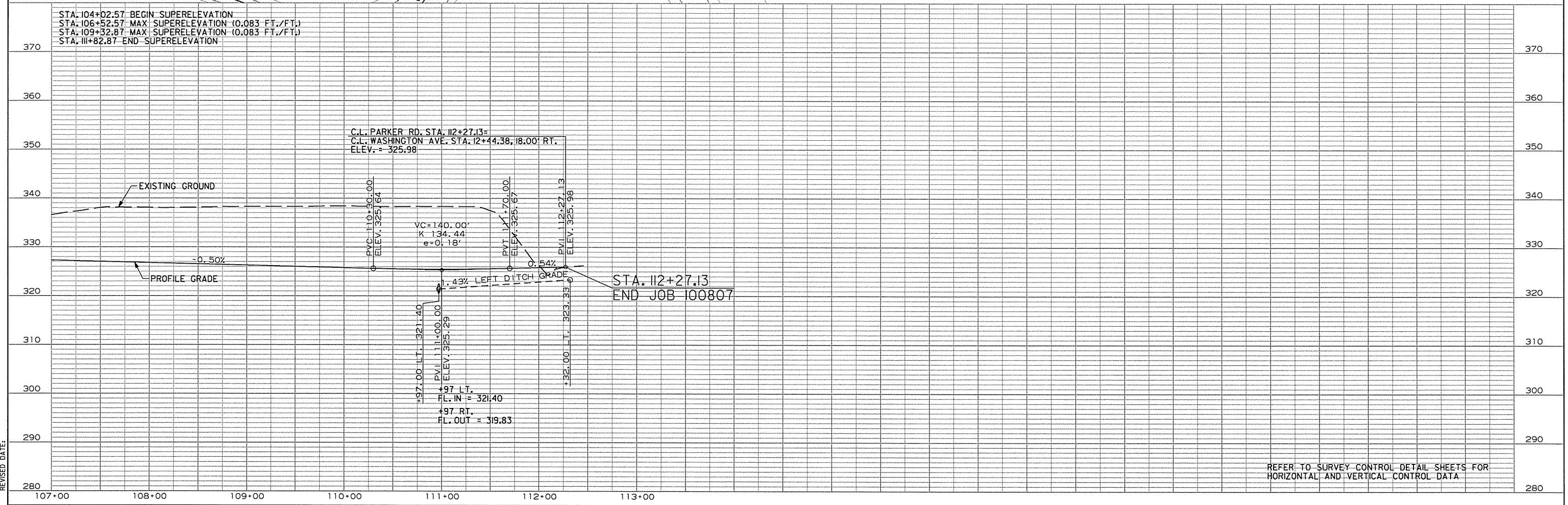
2 PLAN AND PROFILE - PARKER RD.



REMOVAL AND DISPOSAL OF FENCE

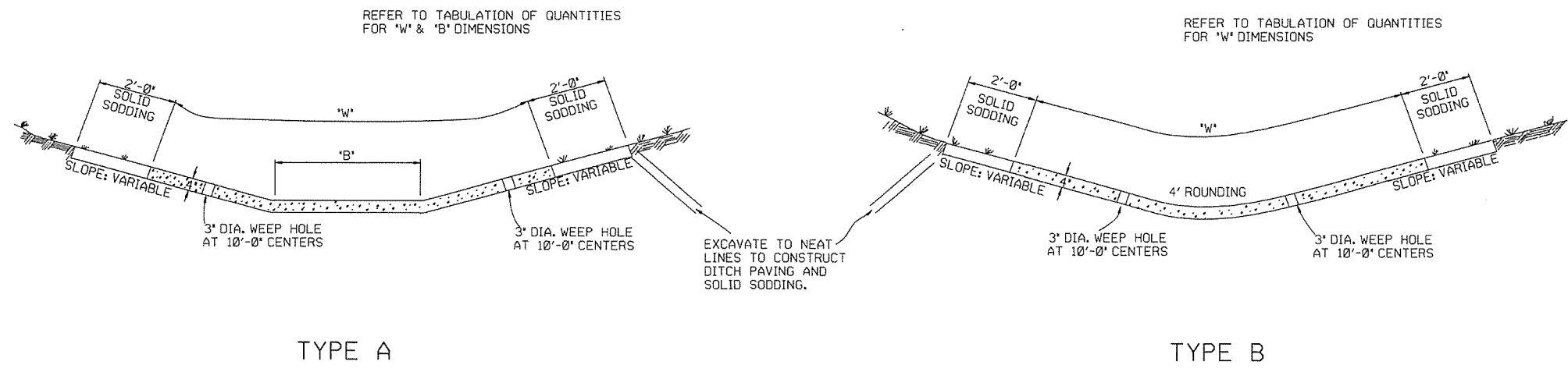
STA.	STA.	SIDE	UNIT
108+25	109+35	RT./LT.	331 LIN. FT.
110+13	110+97	LT.	100 LIN. FT.
111+27	111+28	RT.	21 LIN. FT.

PARKER RD.



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

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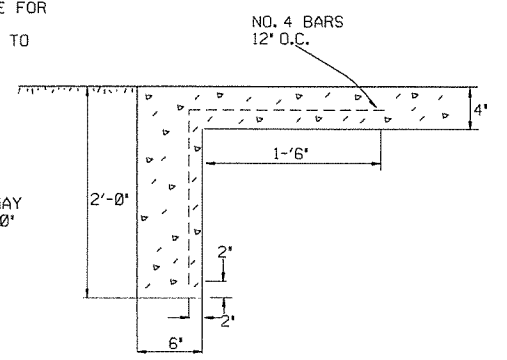


TYPE A

TYPE B

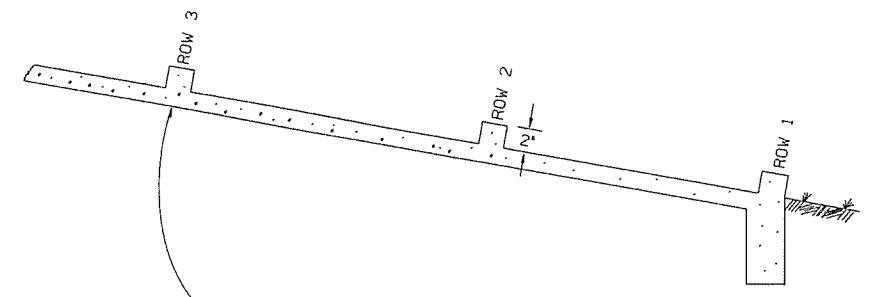
EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR 'CONCRETE DITCH PAVING.'



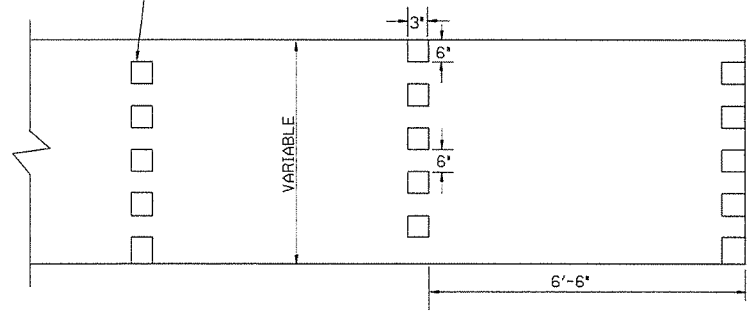
TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE UNINCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

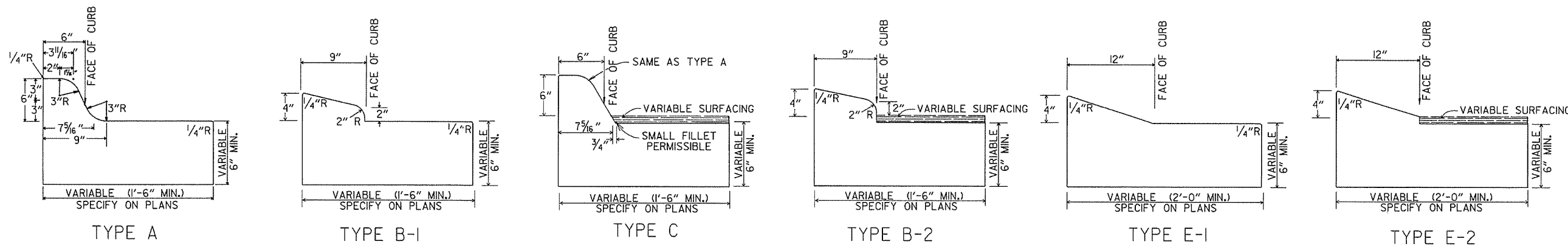
- THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.
- TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.
- SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.
- 1' WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-88	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED	
	TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

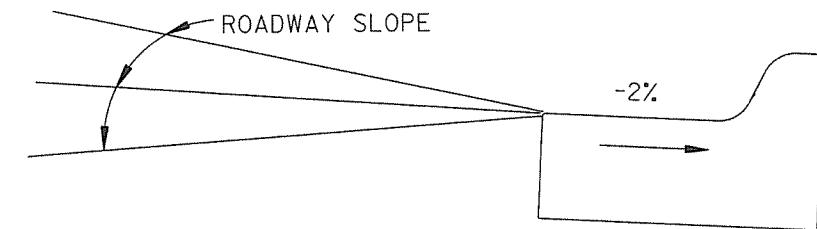
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

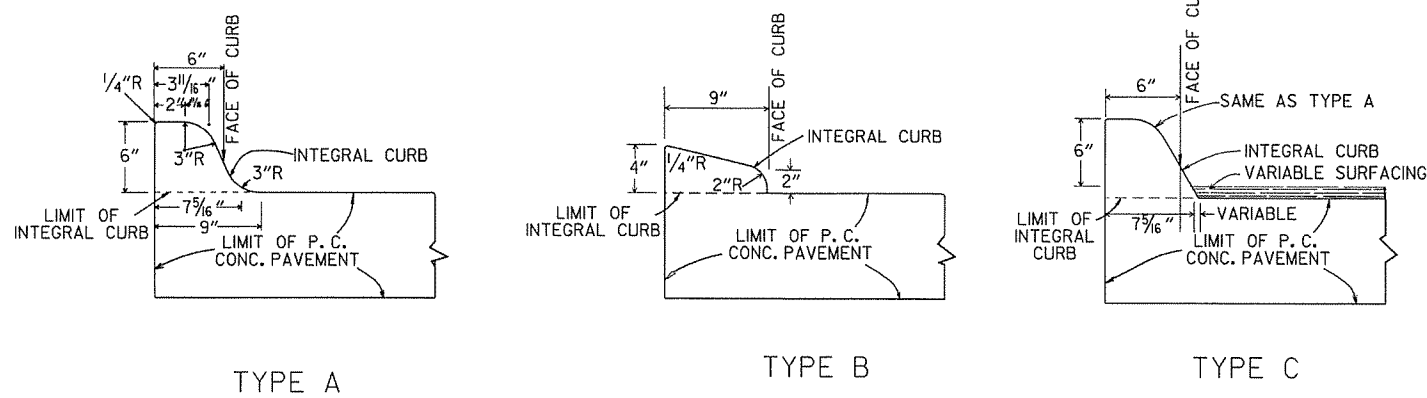
STANDARD DRAWING CDP-1



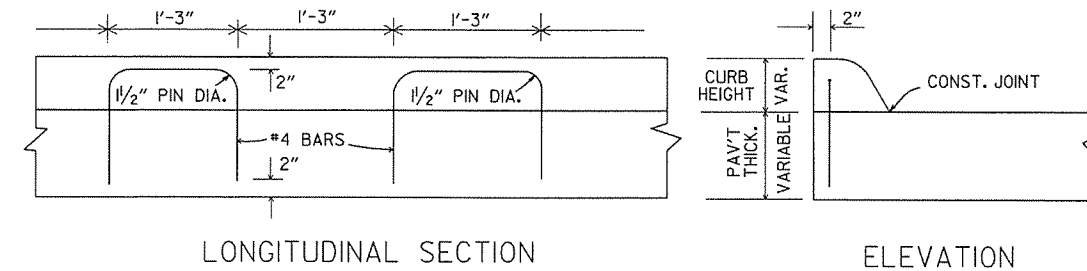
CONCRETE COMBINATION CURB AND GUTTER



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



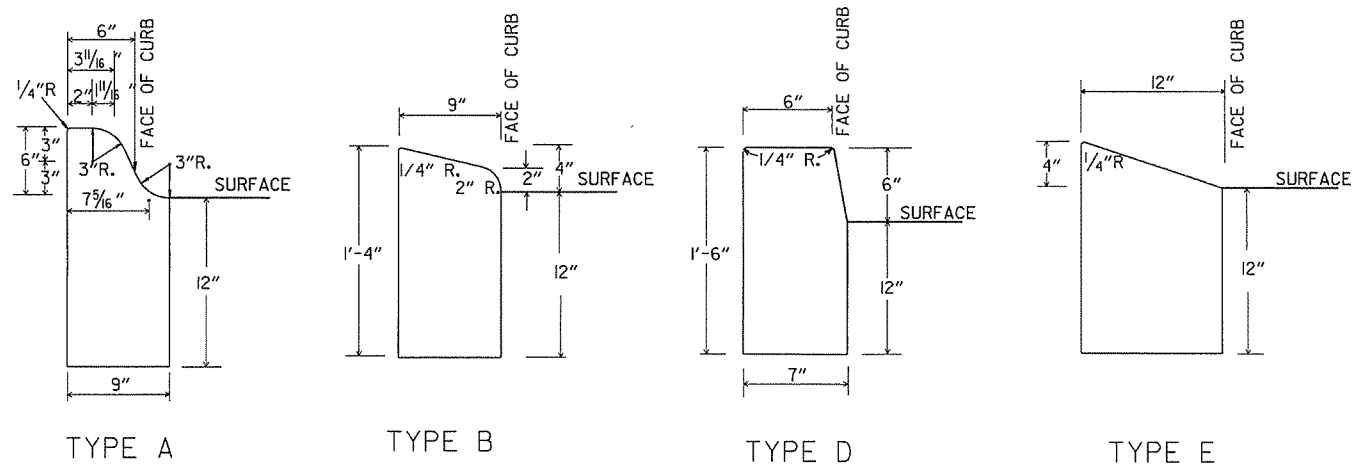
INTEGRAL CURB



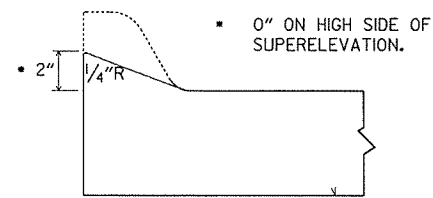
LONGITUDINAL SECTION

ELEVATION

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.

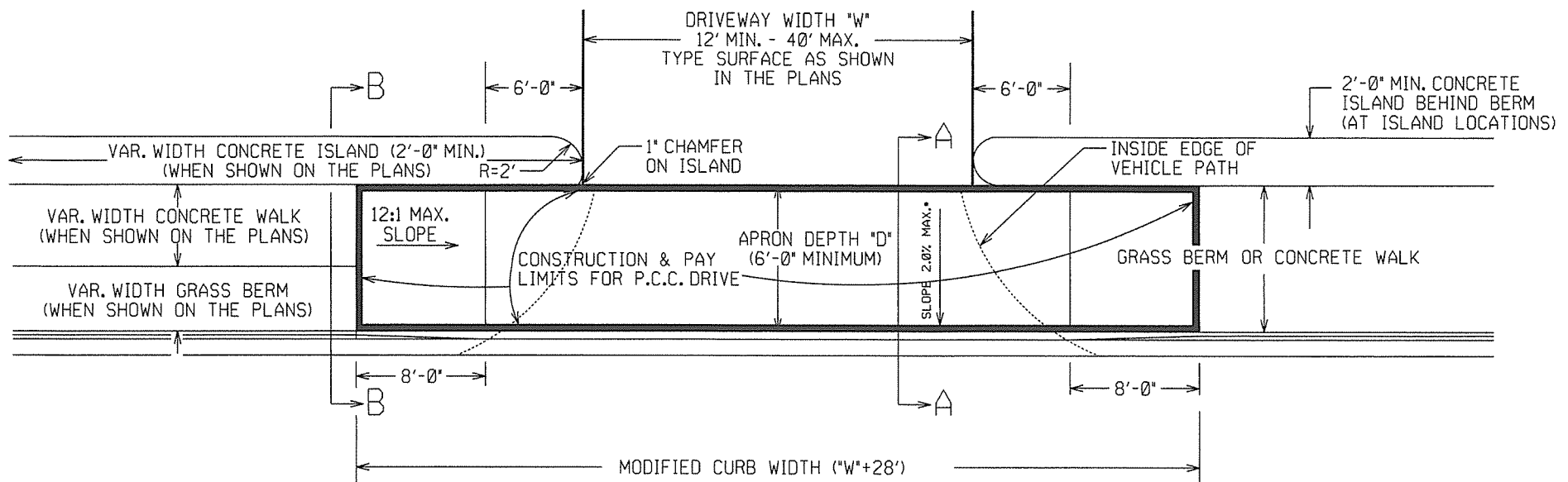
DETAILS OF MODIFIED CURB

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 I	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

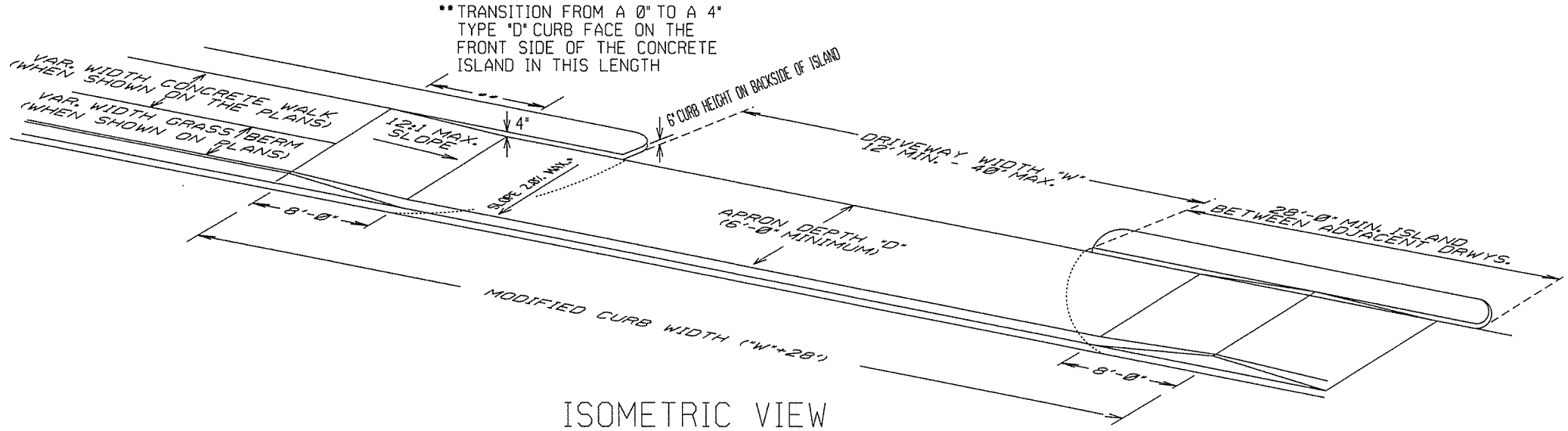
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

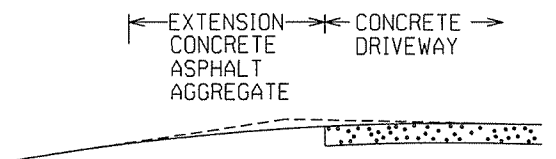
STANDARD DRAWING CG-1



PLAN VIEW



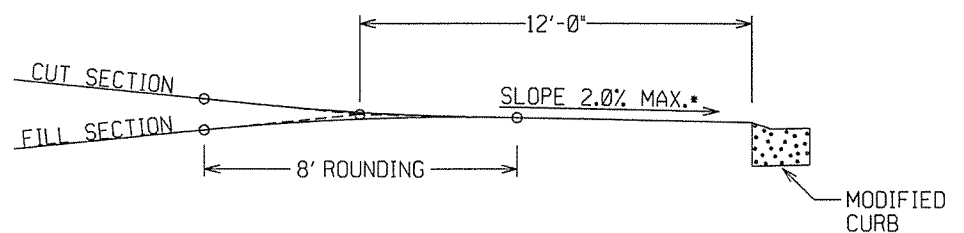
ISOMETRIC VIEW



EXTENSION TYPICAL SECTIONS

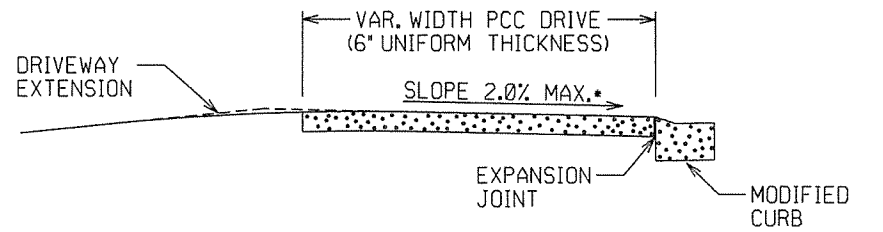
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

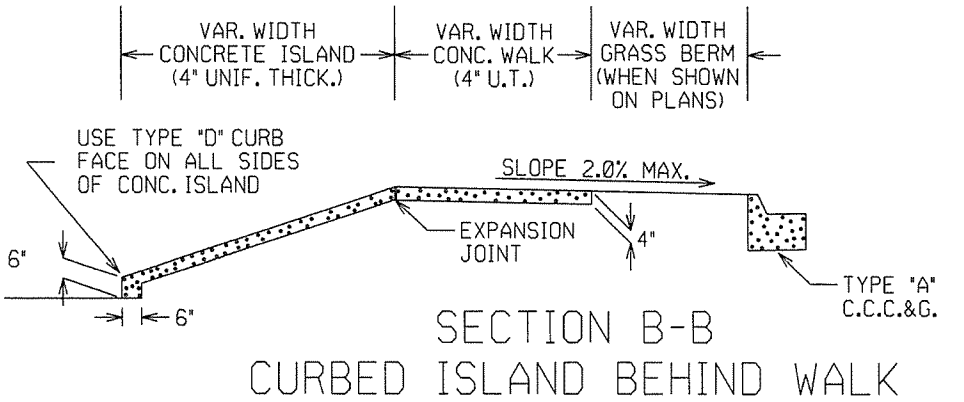


DRIVEWAY VERTICAL ALIGNMENT DETAILS

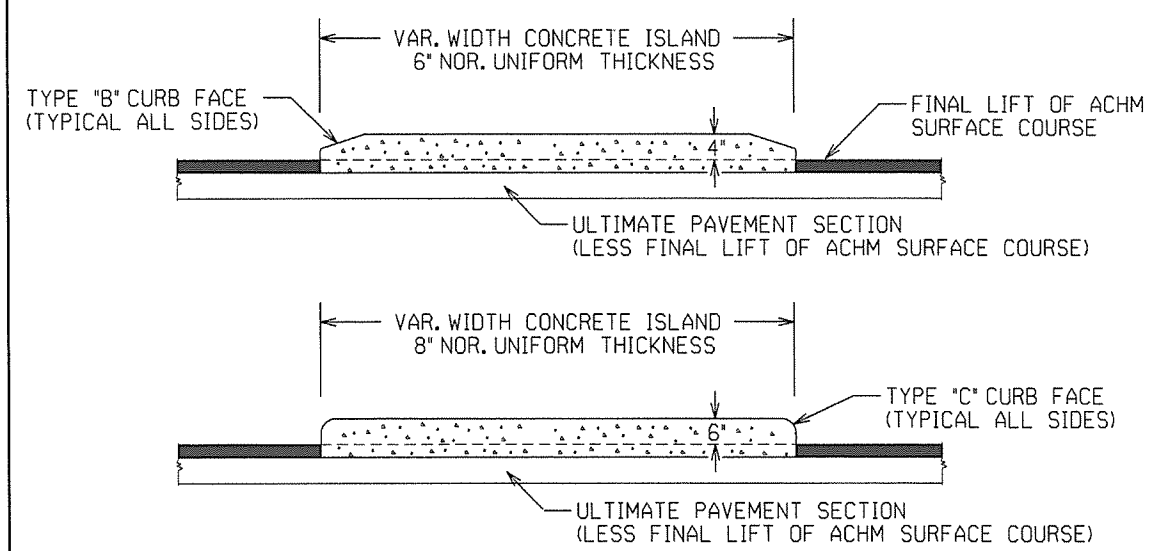
* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

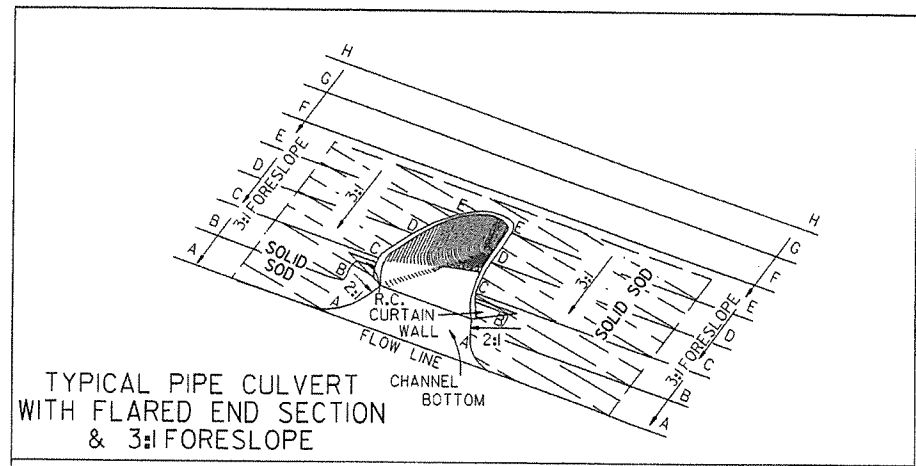


CURBED ISLANDS FOR CHANNELIZATION

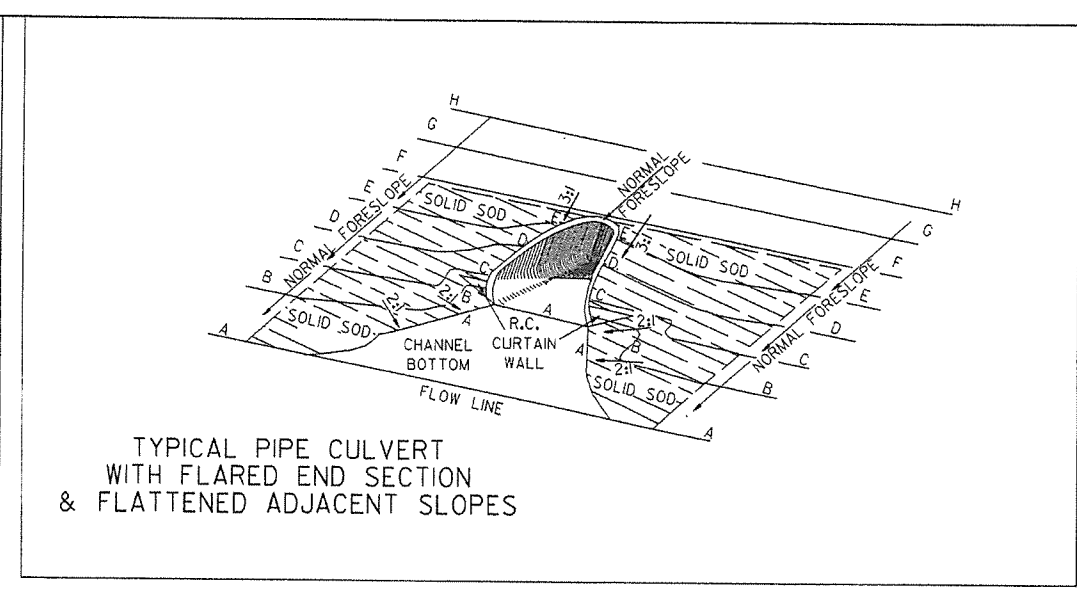
REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".

DATE	REVIDATE	FILMED	DESCRIPTION
2-27-14			REVISED PLAN & ISOMETRIC VIEW
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
			DATE REVIDATE FILMED DESCRIPTION

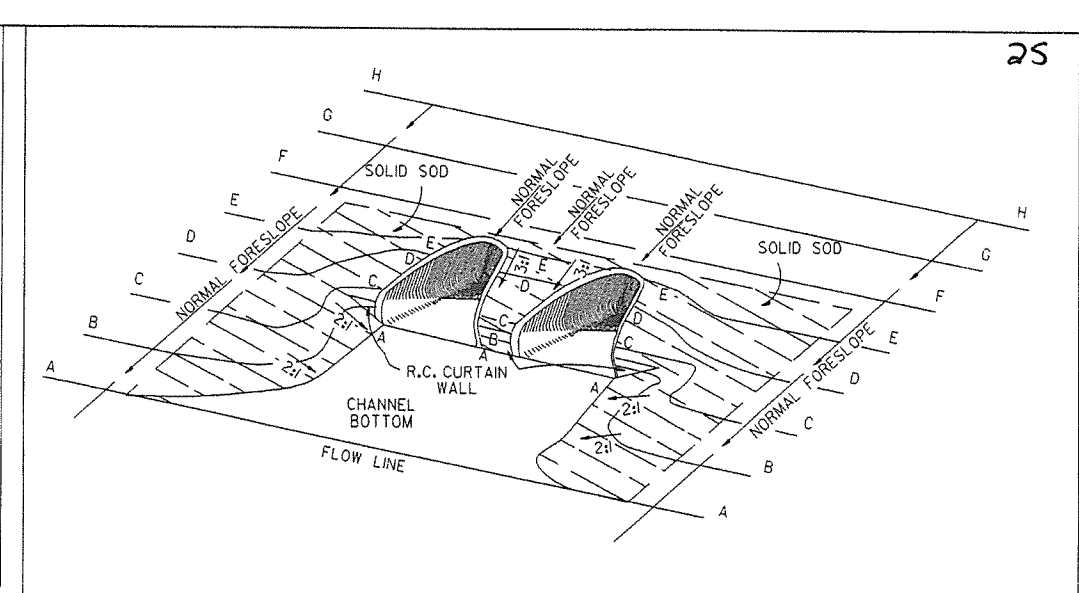
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



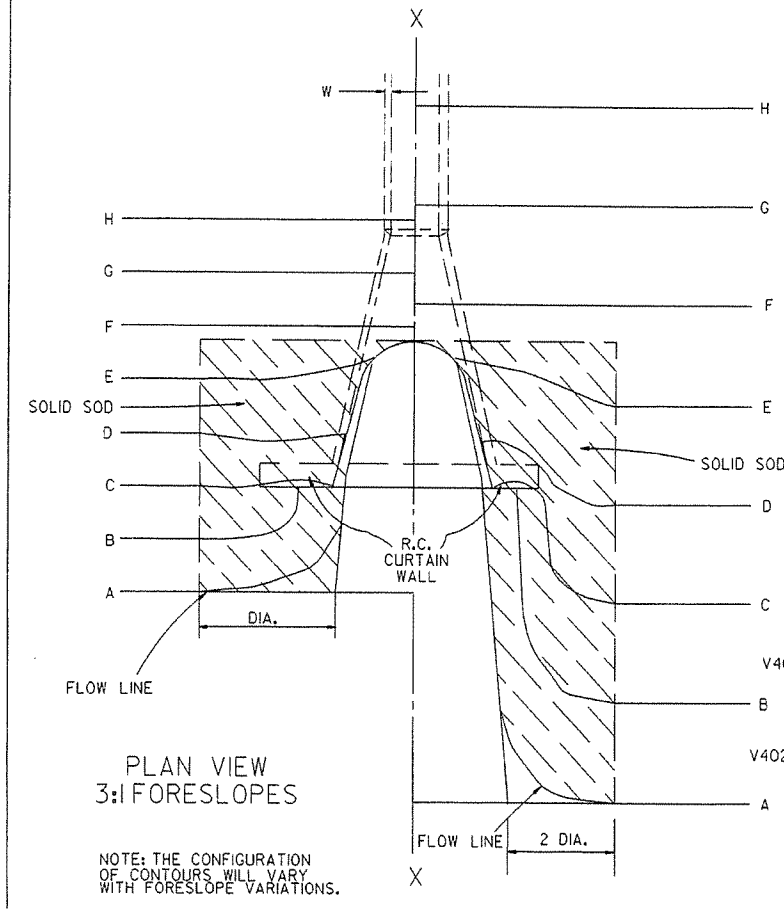
TYPICAL PIPE CULVERT WITH FLARED END SECTION & 3:1 FORESLOPE



TYPICAL PIPE CULVERT WITH FLARED END SECTION & FLATTENED ADJACENT SLOPES

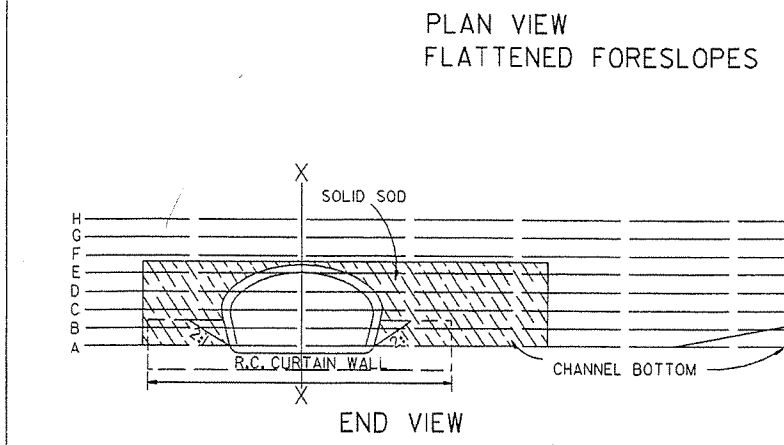


TYPICAL MULTIPLE PIPE CULVERT WITH FLARED END SECTIONS & FLATTENED ADJACENT SLOPES



PLAN VIEW 3:1 FORESLOPES

NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

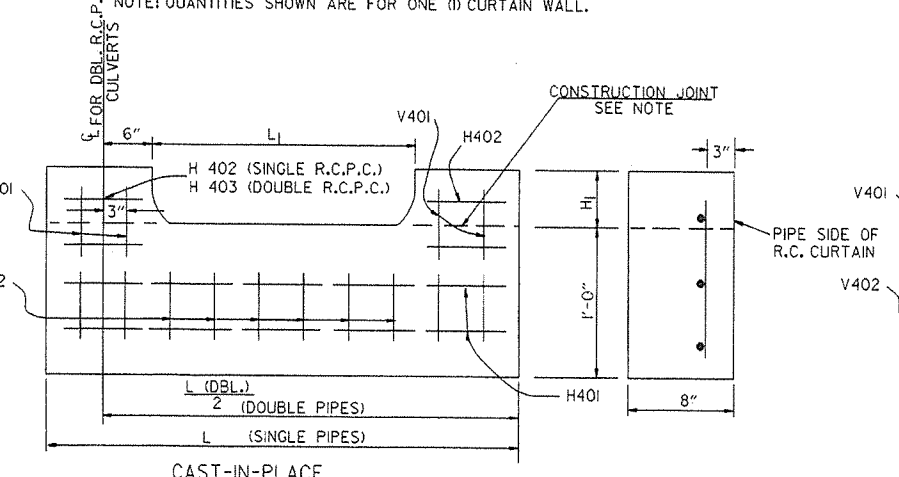


PLAN VIEW FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

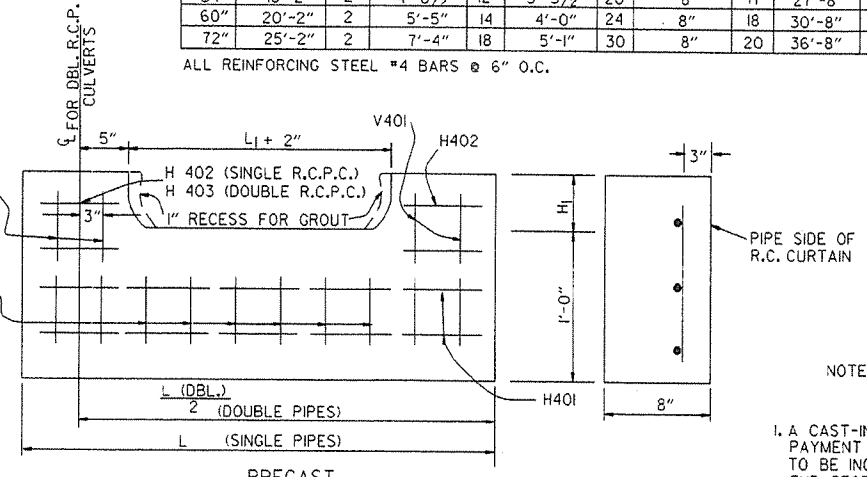
PIPE DIA.	H ₁	L ₁	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



R.C. CURTAIN WALL DETAILS

NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11 1/2"	4	1'-7 1/2"	8	8"	8	12'-2"	2	1'-11 1/2"	4	8"	2	1'-7 1/2"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8 1/2"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8 1/2"	12	8"	18
30"	10'-8"	2	2'-4 1/2"	4	1'-11 1/2"	10	8"	12	17'-8"	2	2'-4 1/2"	4	8"	2	1'-11 1/2"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9 1/2"	8	2'-9 1/2"	16	8"	15	23'-8"	2	3'-9 1/2"	8	8"	4	2'-9 1/2"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5 1/2"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

ALL REINFORCING STEEL #4 BARS @ 6" O.C.

SOLID SODDING

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

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

- GENERAL NOTES
1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
 2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
 3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
 4. WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.

10-18-96	ADDED NOTE TO SOLID SODDING		10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING			
11-3-94	ADDED GENERAL NOTE NO. 4			
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.			
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES			
5-15-80	ADDED PRECAST WALL & GENERAL NOTES			
10-2-72	REVISED AND REDRAWN			
DATE	REVISION	FILMED		STANDARD DRAWING FES-1

FLARED END SECTION

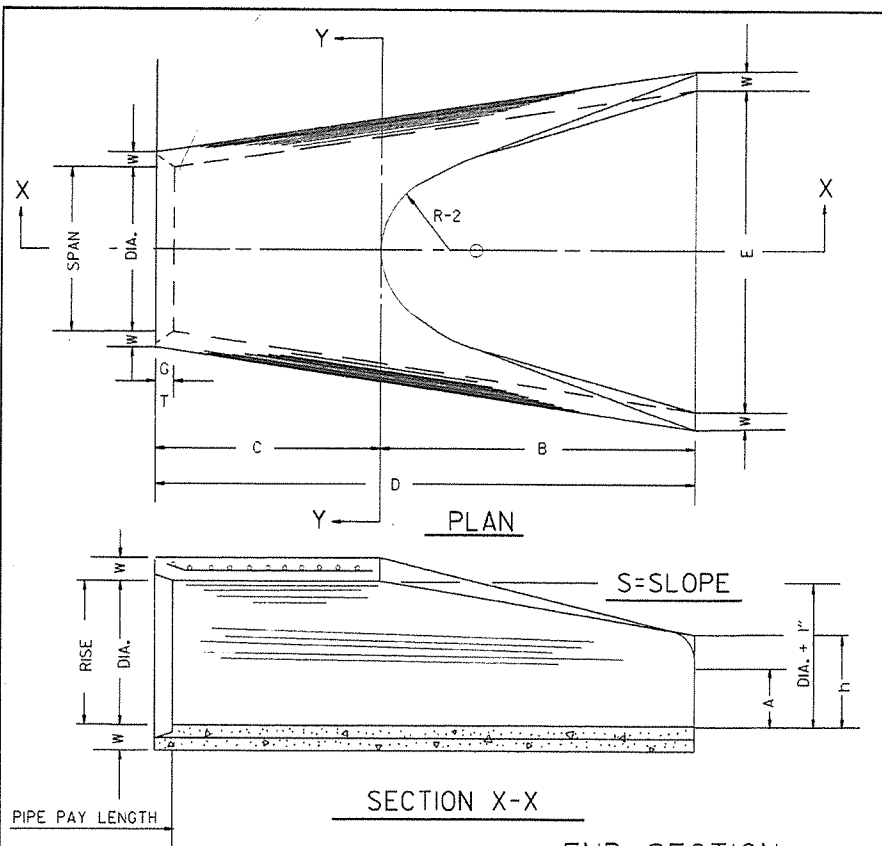
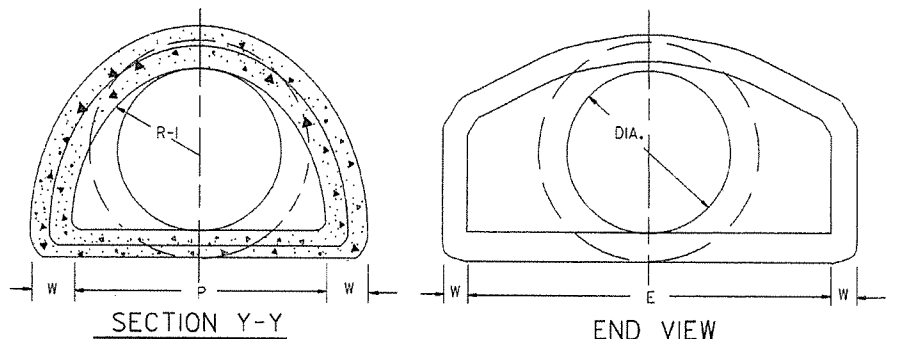


TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA.	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 3/4"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 5/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/4"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	63 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 1/8"	38 1/8"	24"	5"	13250	4'-6"



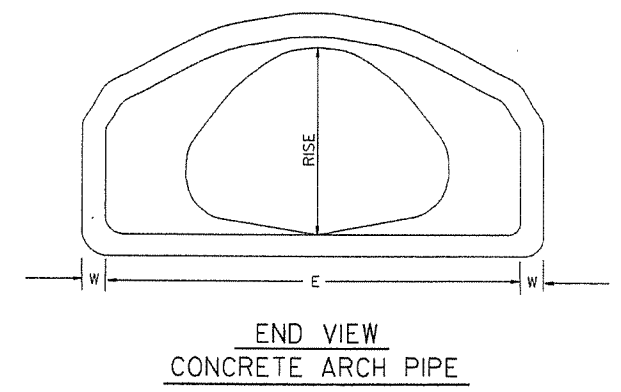
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

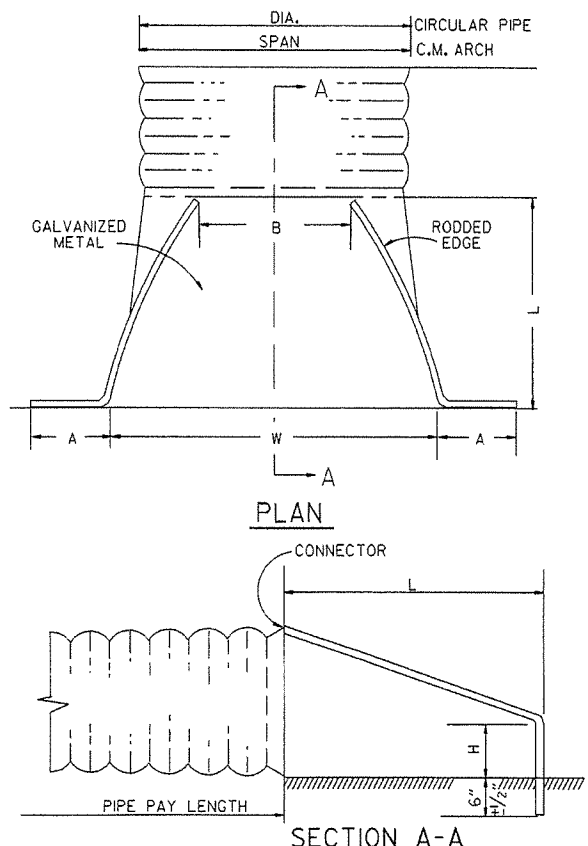
ARCH PIPE

EQUIV. DIA.	SPAN		RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 3/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 3/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 1/8	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 1/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2 1/2:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/8"	24"	5"	2 1/2:1

* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW CONCRETE ARCH PIPE

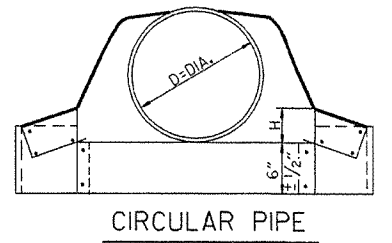


NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

CIRCULAR PIPE

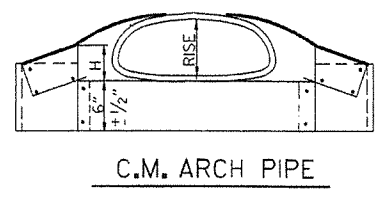
D. DIA.	GAUGE	A	B. MAX.	H	L	W	S
12	16	6	6	6	21	24	2 1/2:1
15	16	7	8	6	26	30	2 1/2:1
18	16	8	10	6	31	36	2 1/2:1
21	16	9	12	6	36	42	2 1/2:1
24	16	10	13	6	41	48	2 1/2:1
30	14	12	16	8	51	60	2 1/2:1
36	14	14	19	9	60	72	2 1/2:1
42	12	16	22	11	69	84	2 1/2:1
48	12	18	27	12	78	90	2 1/2:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1 3/4:1
66	12	18	36	12	87	120	1 1/2:1
72	12	18	39	12	87	126	1 1/3:1



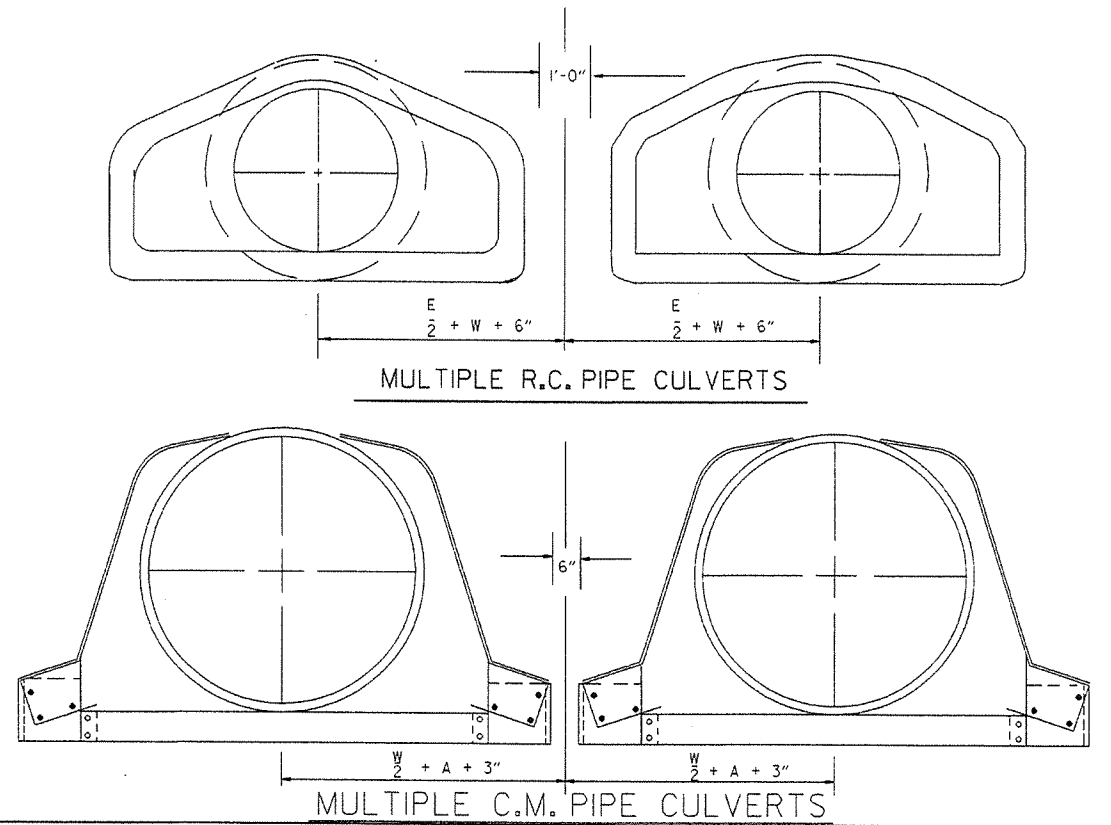
CIRCULAR PIPE

C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A	B MAX.	H	L	W	S	GAUGE
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33	13	21	9	53	85	2 1/2:1	12
48"	57	38	18	26	12	63	90	2 1/2:1	12
54"	64	43	18	30	12	70	102	2 1/2:1	12
60"	71	47	18	33	12	77	114	2 1/4:1	12



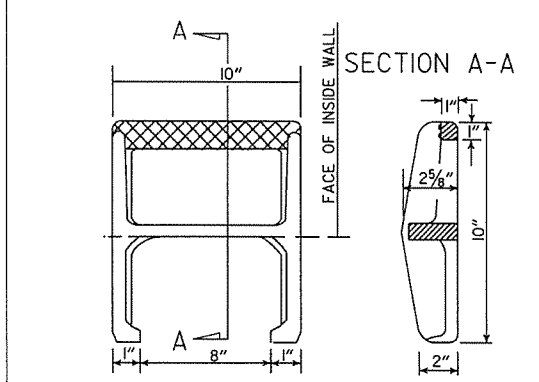
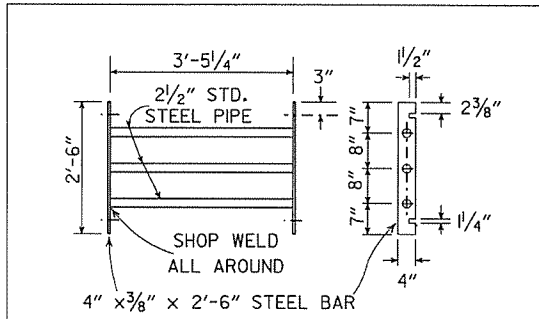
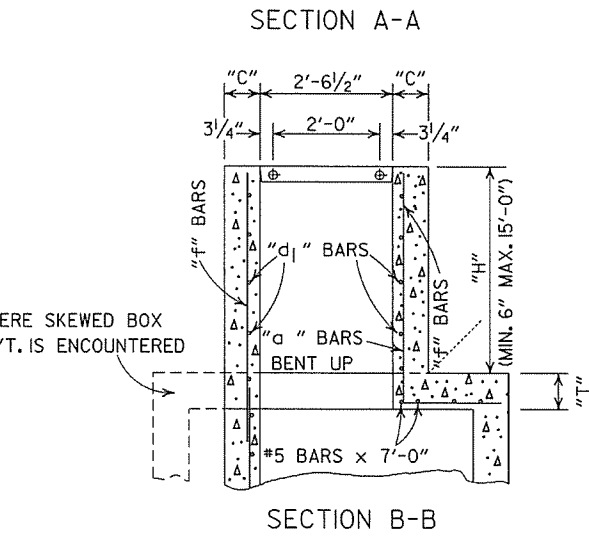
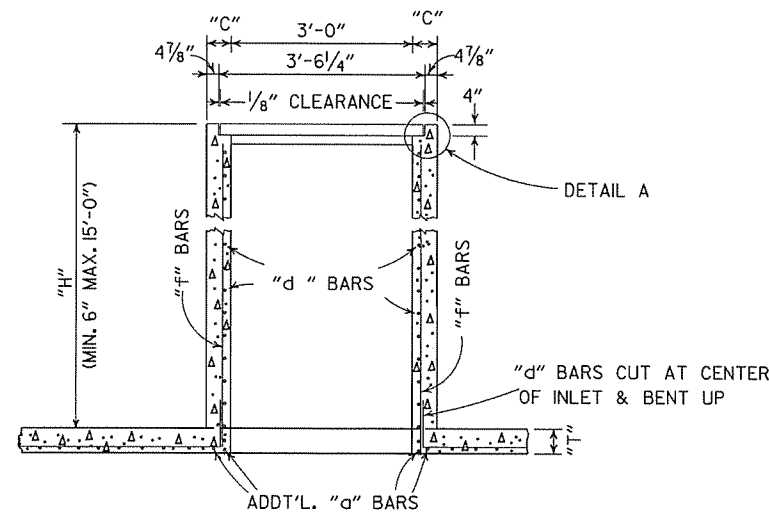
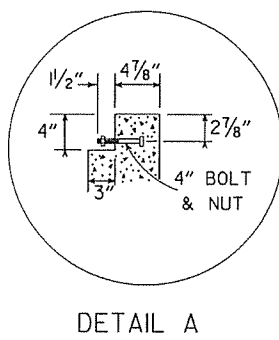
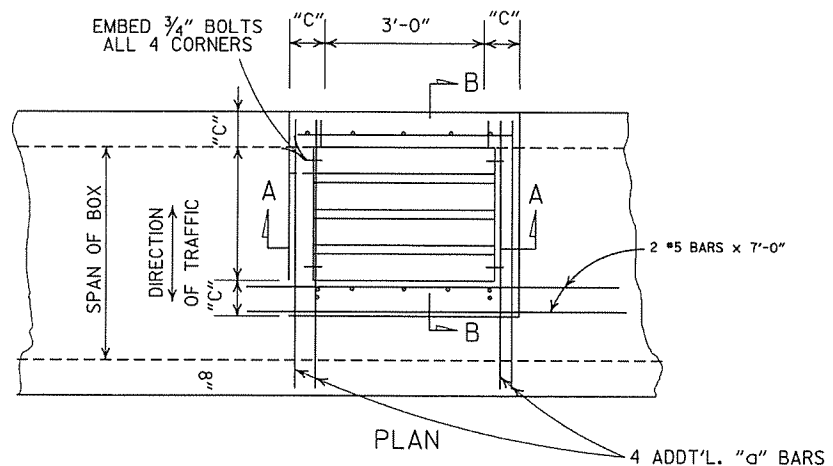
C.M. ARCH PIPE



MULTIPLE R.C. PIPE CULVERTS

MULTIPLE C.M. PIPE CULVERTS

10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	FLARED END SECTION
12-5-74	REMOVED NOTE RE REINF. FOR R.C.F.E.S.	500-12-5-74	
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73	
10-2-72	REVISED AND REDRAWN	760-10-2-72	STANDARD DRAWING FES-2
DATE	REVISION	FILE NO.	



DETAIL OF STEP FOR DROP INLET

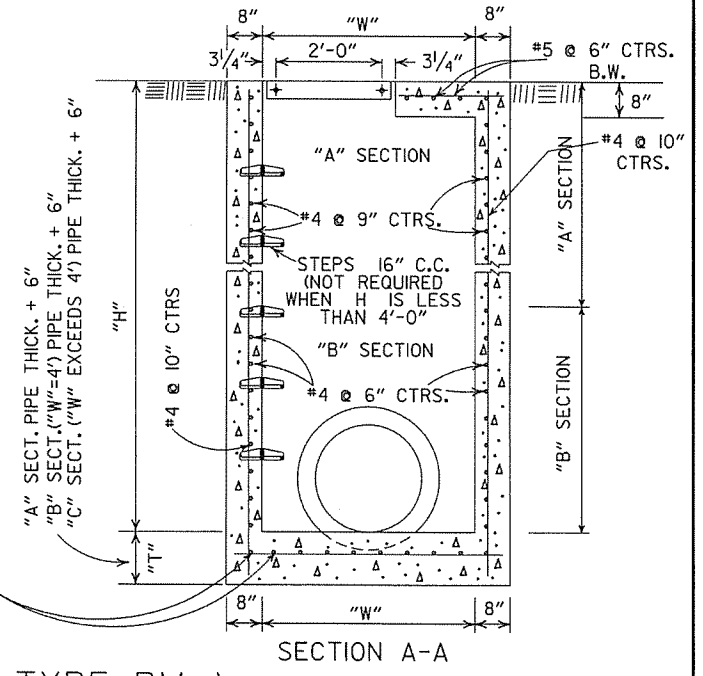
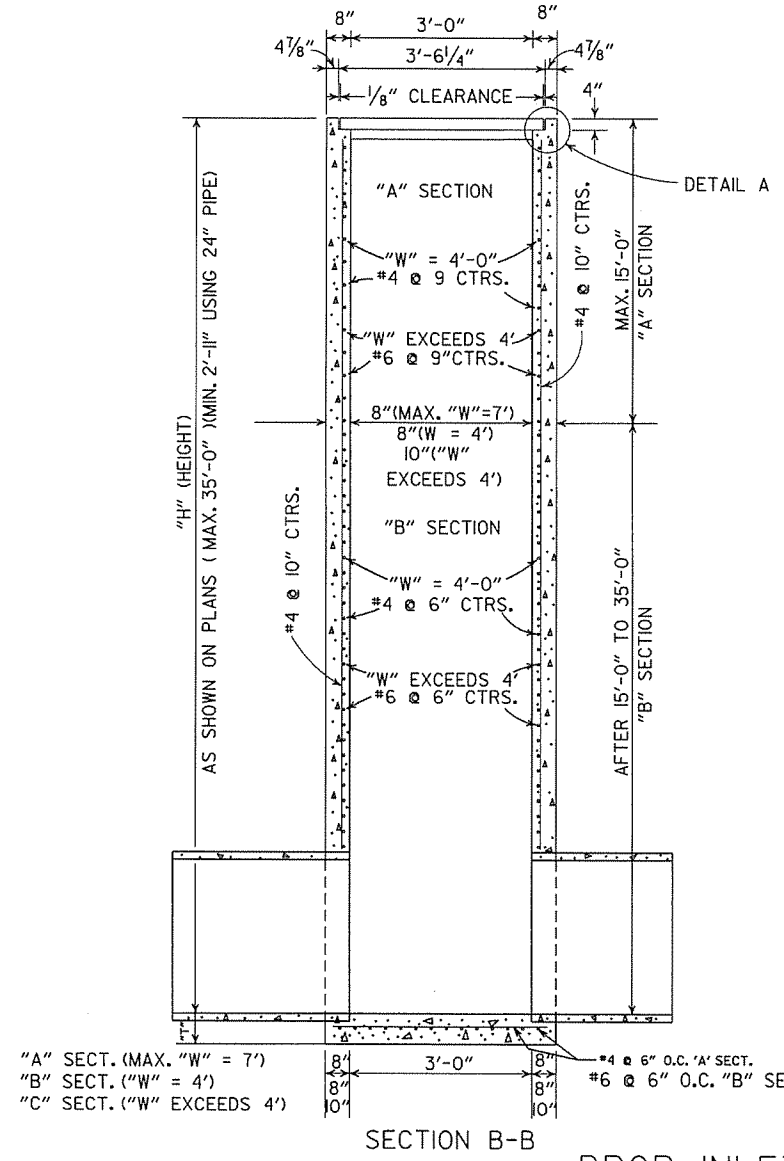
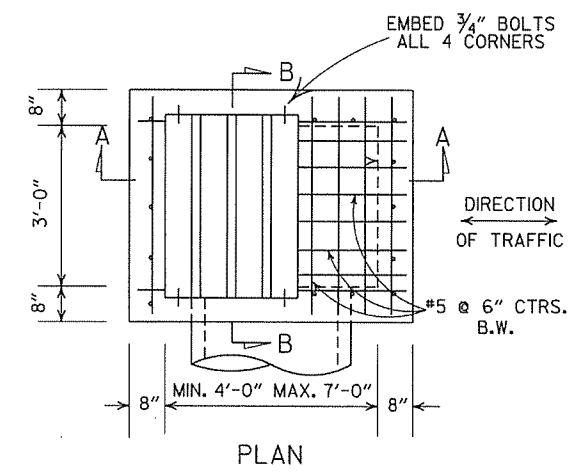
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

- GENERAL NOTES:
- STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE BB CLASS 10R 2, ASTM A307 OR AASHTO M 164.
 - STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
 - BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
 - ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
 - ALL #4 AND #5 REINFORCING BARS TO HAVE 1/2" COVER. LARGER SIZES TO HAVE 2" COVER.
 - THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TABLE OF "W" DIMENSIONS

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL, TM & RM D.I. & GRATE DETAIL	7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72
REVISED		DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D

NOTE: ADD'L. REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM" FOR REINFORCED CONC. BOX CULVERTS

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 1/6	51	31 5/8	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 7/8	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)(1).

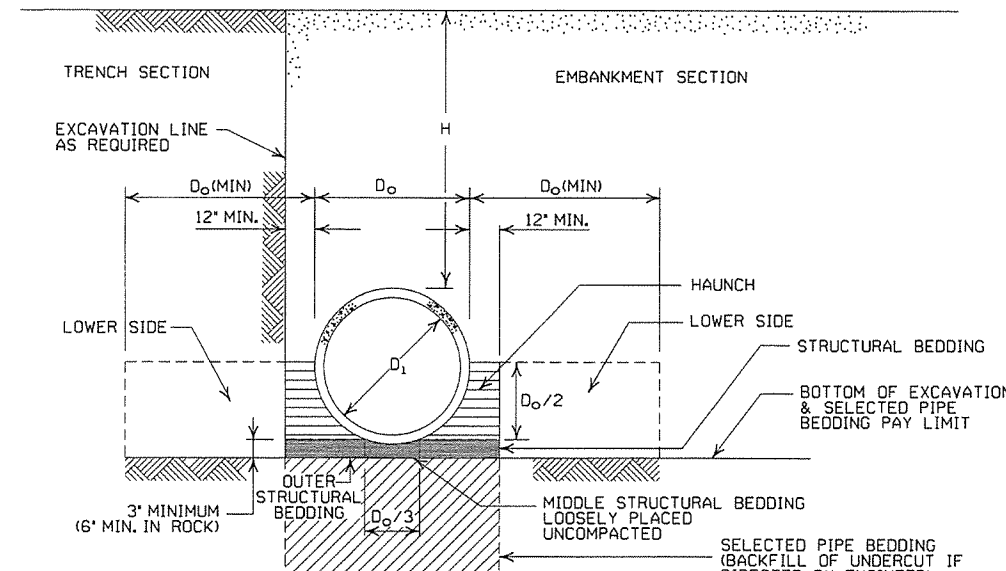
NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

- LEGEND -

- D₁ = NORMAL INSIDE DIAMETER OF PIPE
- D_o = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- UNDISTURBED SOIL

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

- * SM-3 WILL NOT BE ALLOWED.
- ** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
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
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1



CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

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

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM						
12	1	45	45			
18	2	30	30	52	41	
24	2	22	22	39	32	34
30	2		18	31	27	28
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

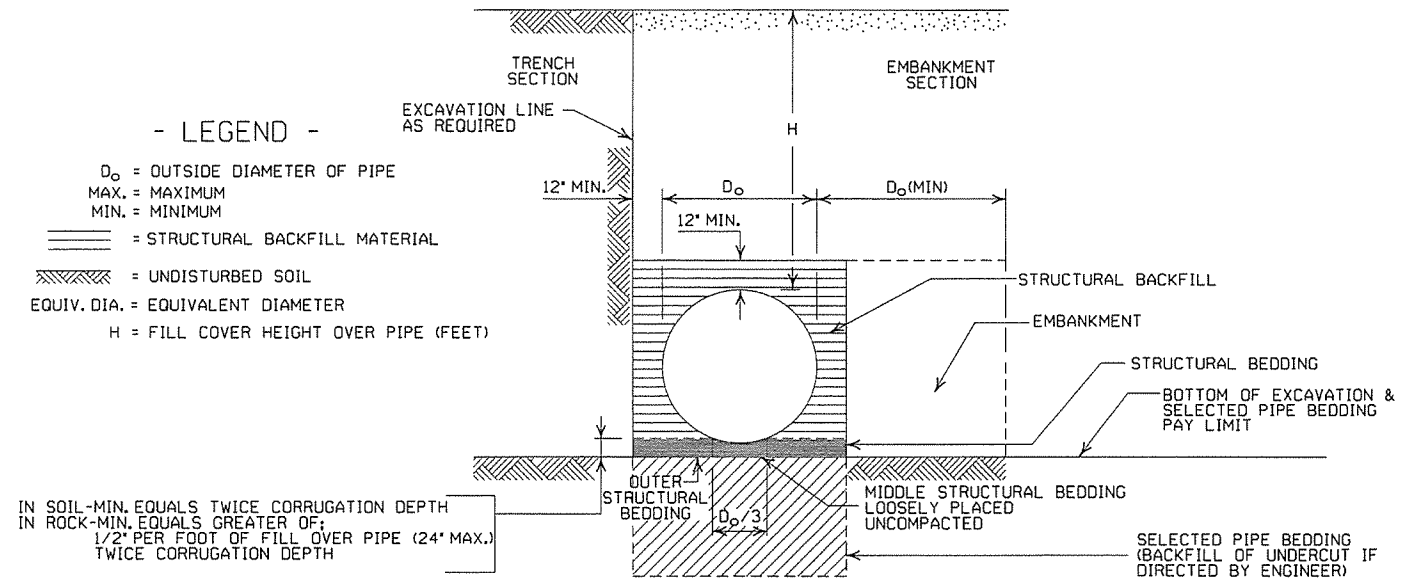
EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)			
				INSTALLATION TYPE 1	INSTALLATION TYPE 1		INSTALLATION TYPE 1	INSTALLATION TYPE 1		
2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM										
15	17x13	3	0.064	2	15	0.060	2	15		
18	21x15	3	0.064	2	15	0.060	2	15		
21	24x18	3	0.064	2.25	15	0.060	2.25	15		
24	28x20	3	0.064	2.5	15	0.075	2.5	15		
30	35x24	3	0.079	3	12	0.075	3	12		
36	42x29	3 1/2	0.079	3	12	0.105	3	12		
42	49x33	4	0.079	3	12	0.105	3	12		
48	57x38	5	0.109	3	13	0.135	3	13		
54	64x43	6	0.109	3	14	0.135	3	14		
60	71x47	7	0.138	3	15	0.164	3	15		
66	77x52	8	0.168	3	15					
72	83x57	9	0.168	3	15					
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM										
			INSTALLATION				INSTALLATION			
			TYPE 2		TYPE 1		TYPE 2		TYPE 1	
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3" x 1/2" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

- LEGEND -

- D_o = OUTSIDE DIAMETER OF PIPE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- [Symbol] = STRUCTURAL BACKFILL MATERIAL
- [Symbol] = UNDISTURBED SOIL
- EQUIV. DIA. = EQUIVALENT DIAMETER
- H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 1/2" x 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" x 1" OR 5" x 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS, UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER. AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

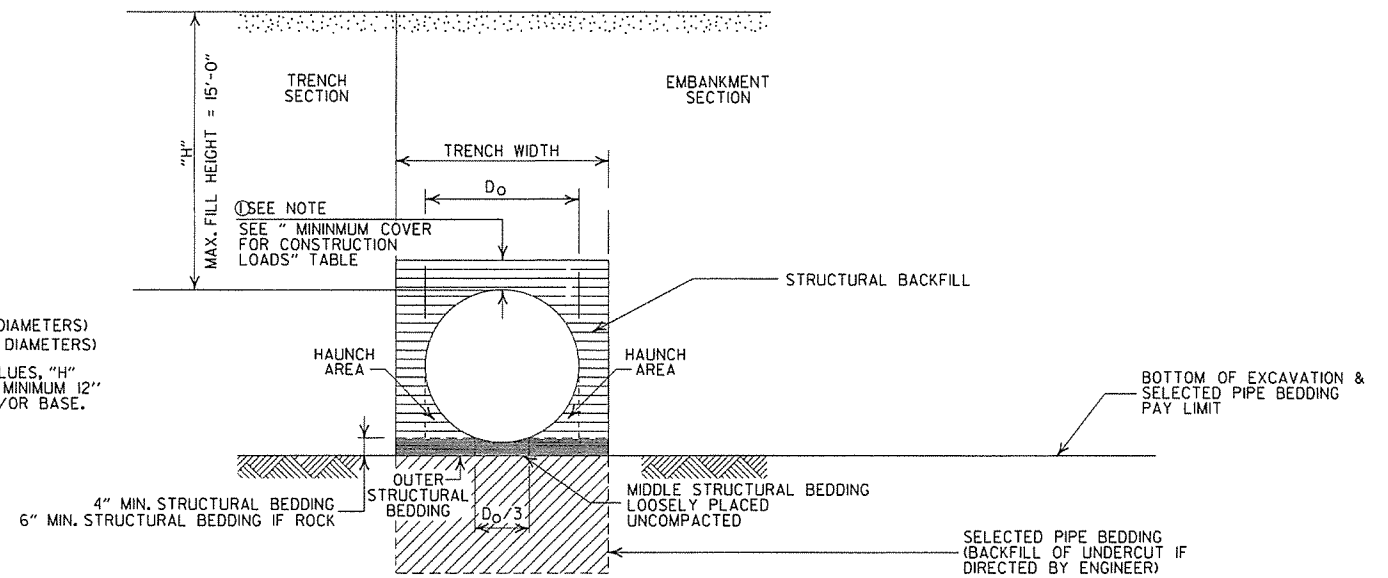
INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

- AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.
SM3 WILL NOT BE ALLOWED.
 - STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1/2 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.
- STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" > OR = 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

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

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

- LEGEND -

- H = FILL HEIGHT (FT.)
- D_o = OUTSIDE DIAMETER OF PIPE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- ===== = STRUCTURAL BACKFILL MATERIAL
- ||||| = UNDISTURBED SOIL

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT
(HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

- AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL. SM3 WILL NOT BE ALLOWED.
- STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1/2 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.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

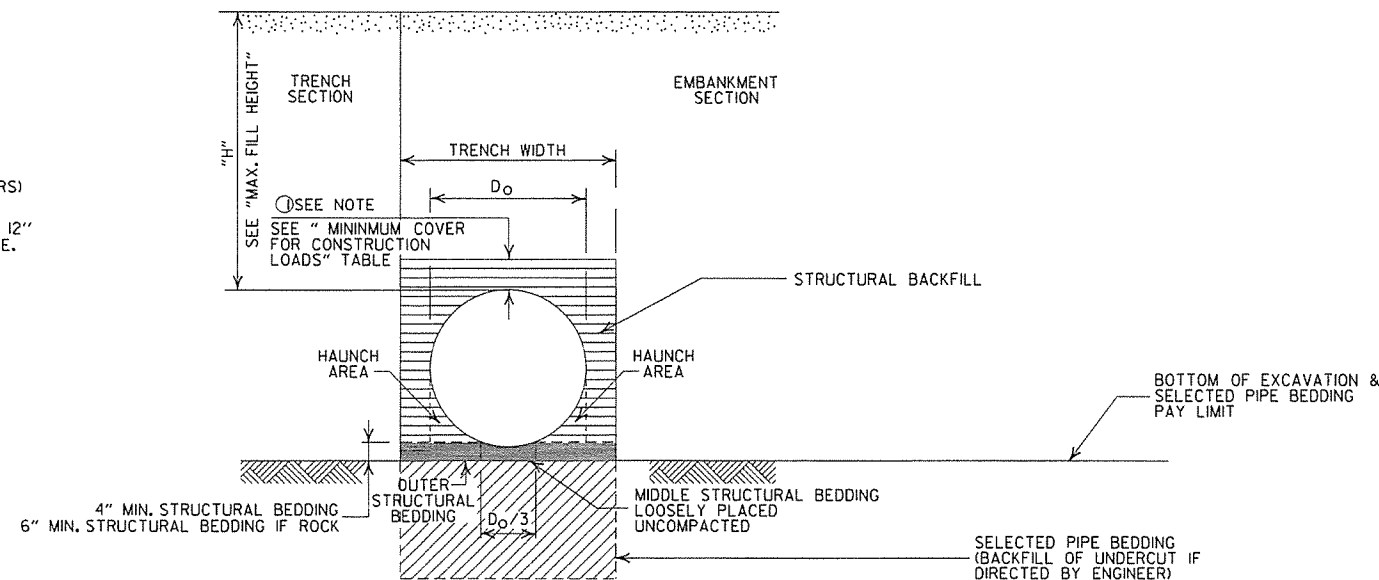
MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

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.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS I2454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

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

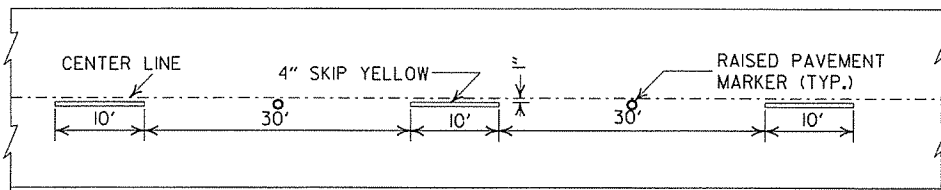
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

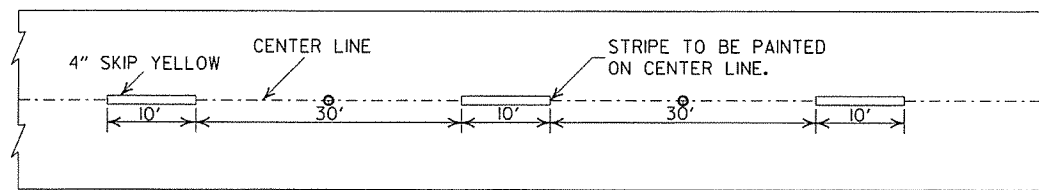
PLASTIC PIPE CULVERT
(PVC F949)

STANDARD DRAWING PCP-2



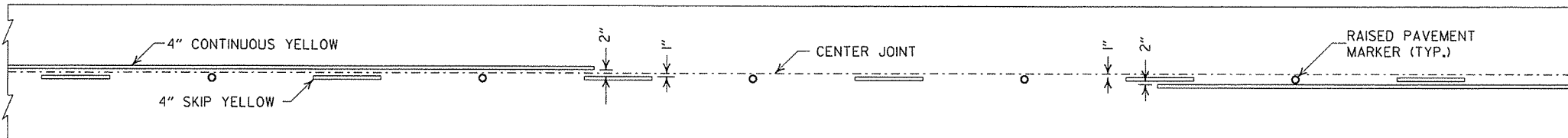


CONCRETE PAVEMENT

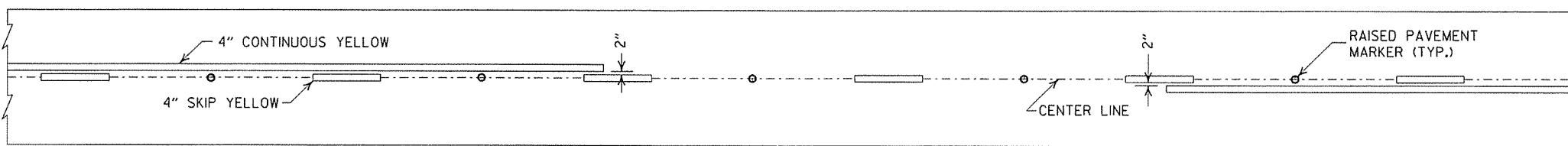


ASPHALT PAVEMENT

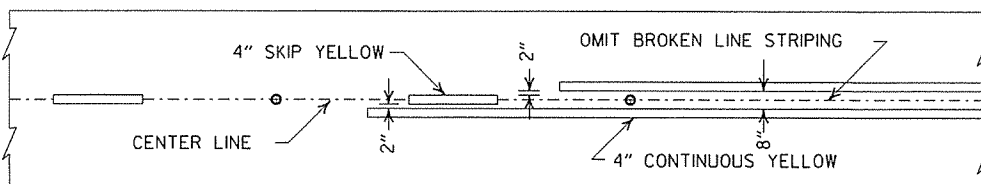
BROKEN LINE STRIPING



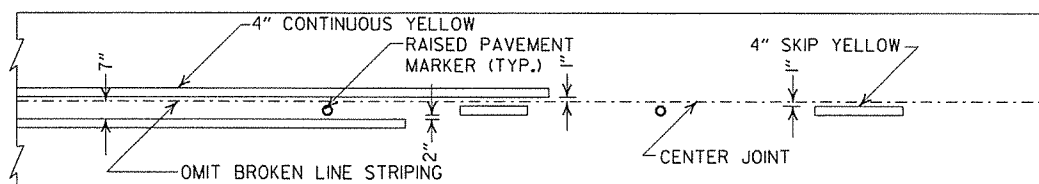
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

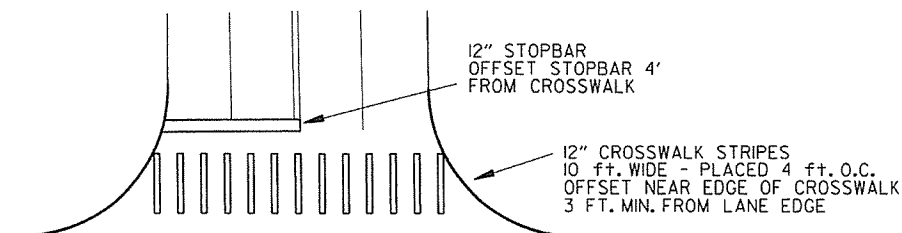


ASPHALT PAVEMENT



CONCRETE PAVEMENT

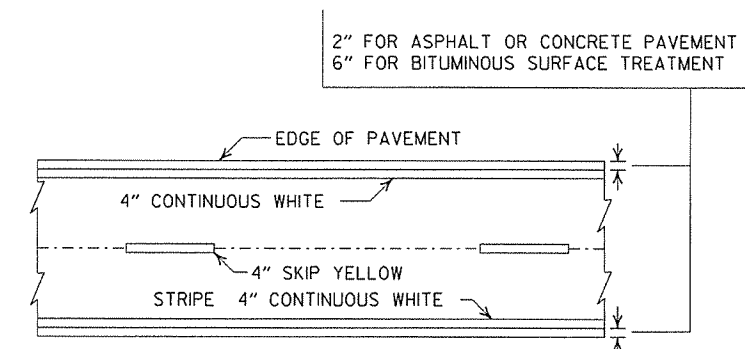
STRIPING AT ADJACENT NO PASSING LANES



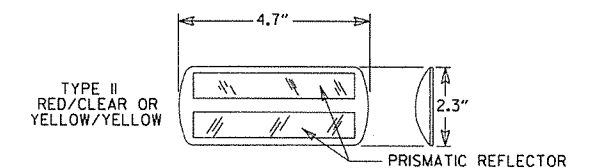
CROSSWALK AND STOPBAR DETAILS

NOTES:

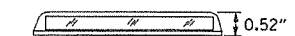
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED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



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

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.

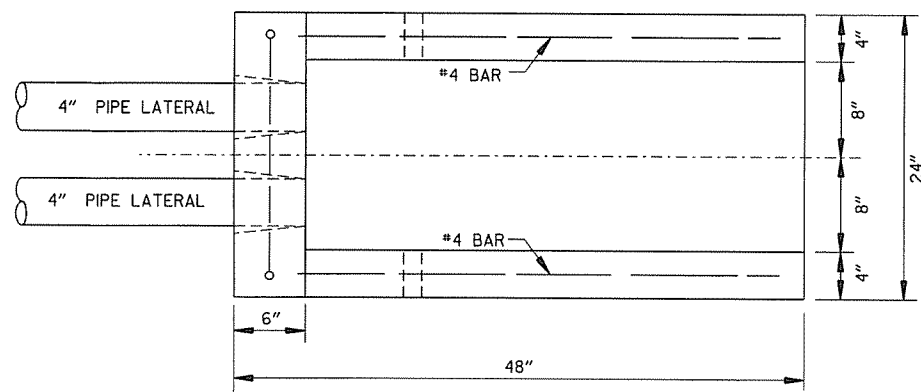
DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

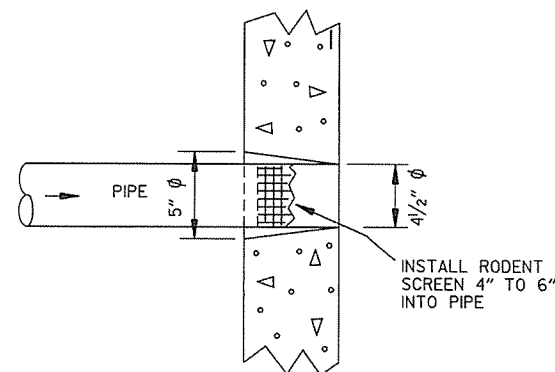
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

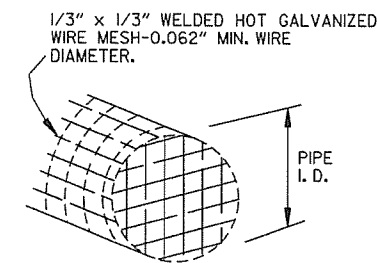
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH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



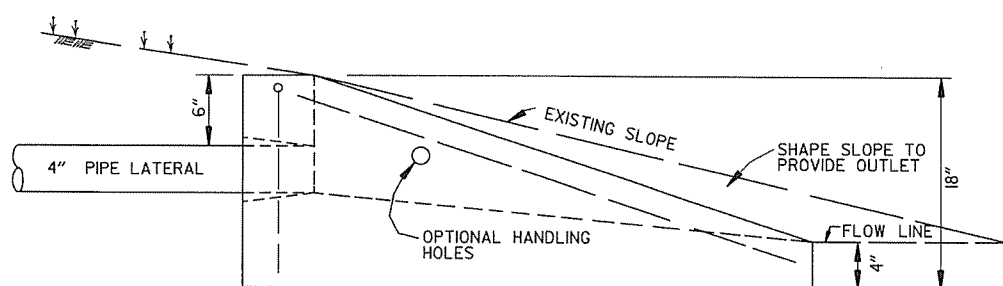
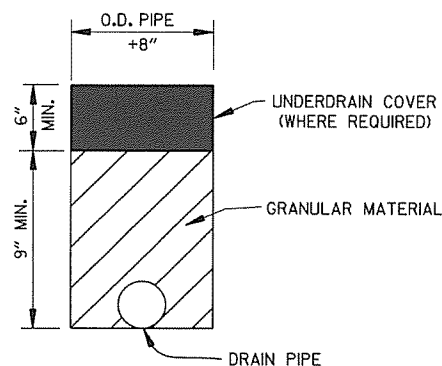
PLAN VIEW



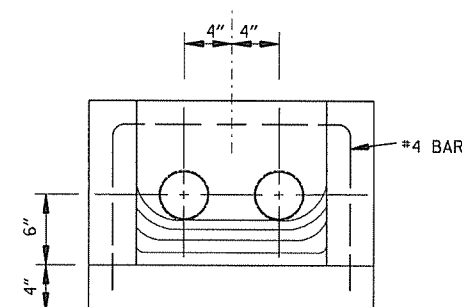
DETAIL OF HOLE FOR 4" PIPE



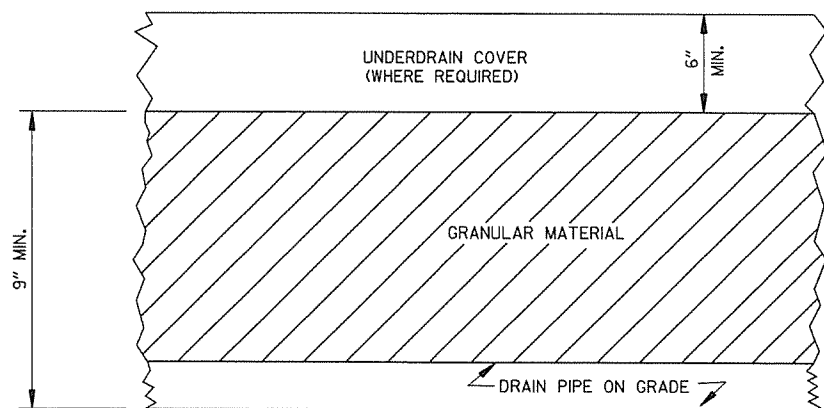
DETAIL OF RODENT SCREEN



SIDE VIEW



FRONT VIEW

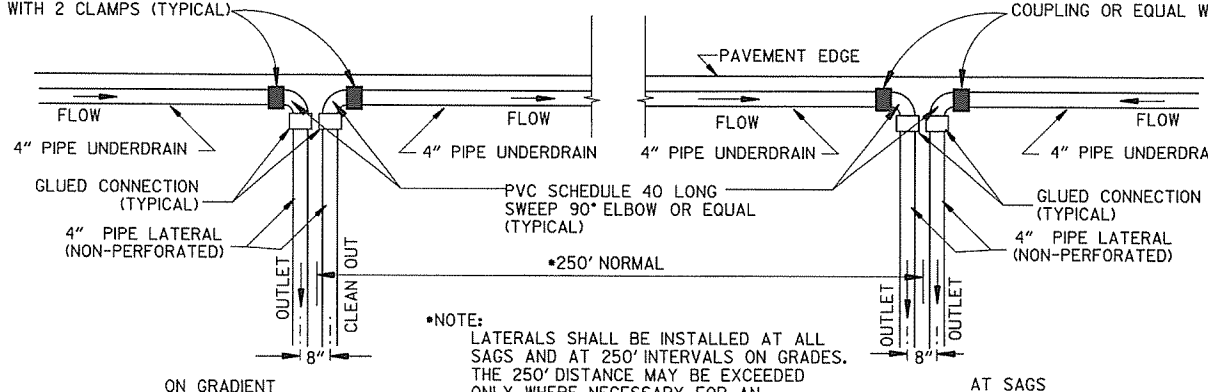


DETAILS OF PIPE UNDERDRAIN

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.

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

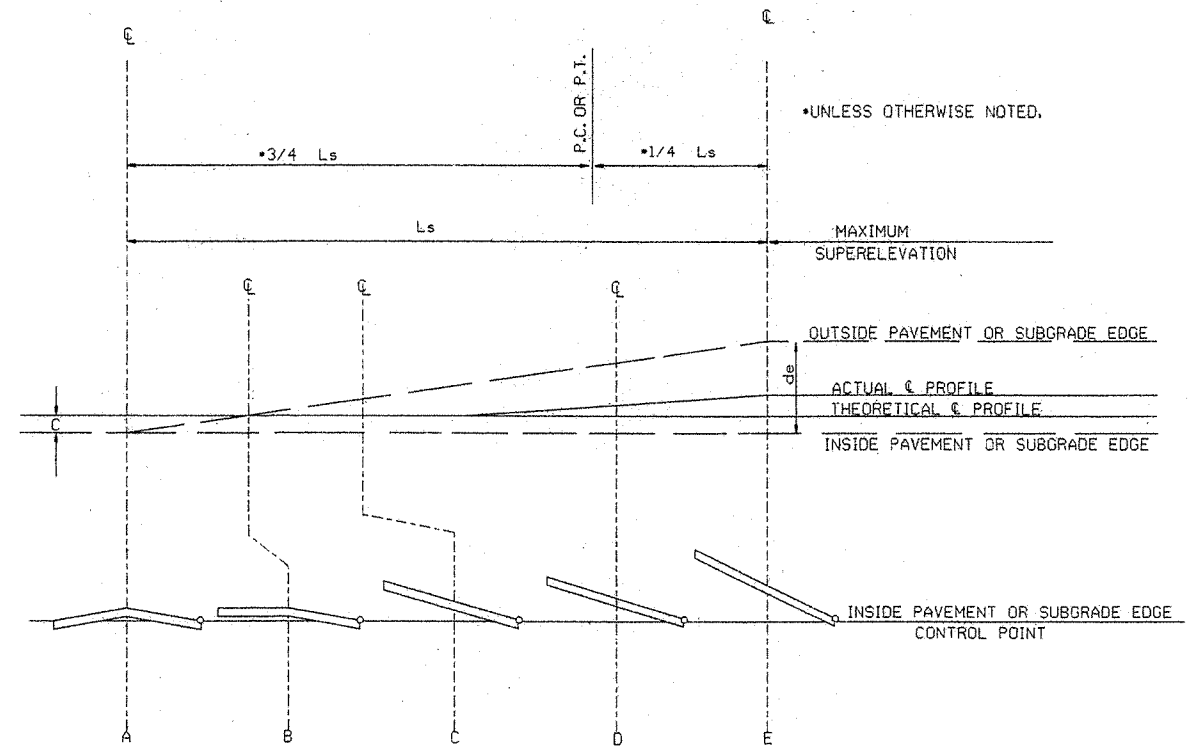
STANDARD DRAWING PU-1

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		0.023		0.023		0.023		0.023		0.023	
3° 00'	0.025		0.025		0.025		0.025		0.025		0.025	
3° 15'	0.027		0.027		0.027		0.027		0.027		0.027	
3° 30'	0.029		0.029		0.029		0.029		0.029		0.029	
3° 45'	0.031		0.031		0.031		0.031		0.031		0.031	
4° 00'	0.033		0.033		0.033		0.033		0.033		0.033	
4° 30'	0.037		0.037		0.037		0.037		0.037		0.037	
5° 00'	0.040		0.040		0.040		0.040		0.040		0.040	
5° 30'	0.043		0.043		0.043		0.043		0.043		0.043	
6° 00'	0.046		0.046		0.046		0.046		0.046		0.046	
6° 30'	0.050		0.050		0.050		0.050		0.050		0.050	
7° 00'	0.053		0.053		0.053		0.053		0.053		0.053	
7° 30'	0.056		0.056		0.056		0.056		0.056		0.056	
8° 00'	0.058		0.058		0.058		0.058		0.058		0.058	
8° 30'	0.061		0.061		0.061		0.061		0.061		0.061	
9° 00'	0.063		0.063		0.063		0.063		0.063		0.063	
10° 00'	0.068		0.068		0.068		0.068		0.068		0.068	
11° 00'	0.072		0.072		0.072		0.072		0.072		0.072	
12° 00'	0.076		0.076		0.076		0.076		0.076		0.076	
13° 00'	0.080		0.080		0.080		0.080		0.080		0.080	
14° 00'	0.083		0.083		0.083		0.083		0.083		0.083	
15° 00'	0.086		0.086		0.086		0.086		0.086		0.086	
16° 00'	0.089		0.089		0.089		0.089		0.089		0.089	
17° 00'	0.091		0.091		0.091		0.091		0.091		0.091	
18° 00'	0.093		0.093		0.093		0.093		0.093		0.093	
19° 00'	0.095		0.095		0.095		0.095		0.095		0.095	
20° 00'	0.097		0.097		0.097		0.097		0.097		0.097	
21° 00'	0.098		0.098		0.098		0.098		0.098		0.098	
22° 00'	0.099		0.099		0.099		0.099		0.099		0.099	
23° 00'	0.099		0.099		0.099		0.099		0.099		0.099	
24° 00'	0.100		0.100		0.100		0.100		0.100		0.100	

ABBREVIATIONS

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



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

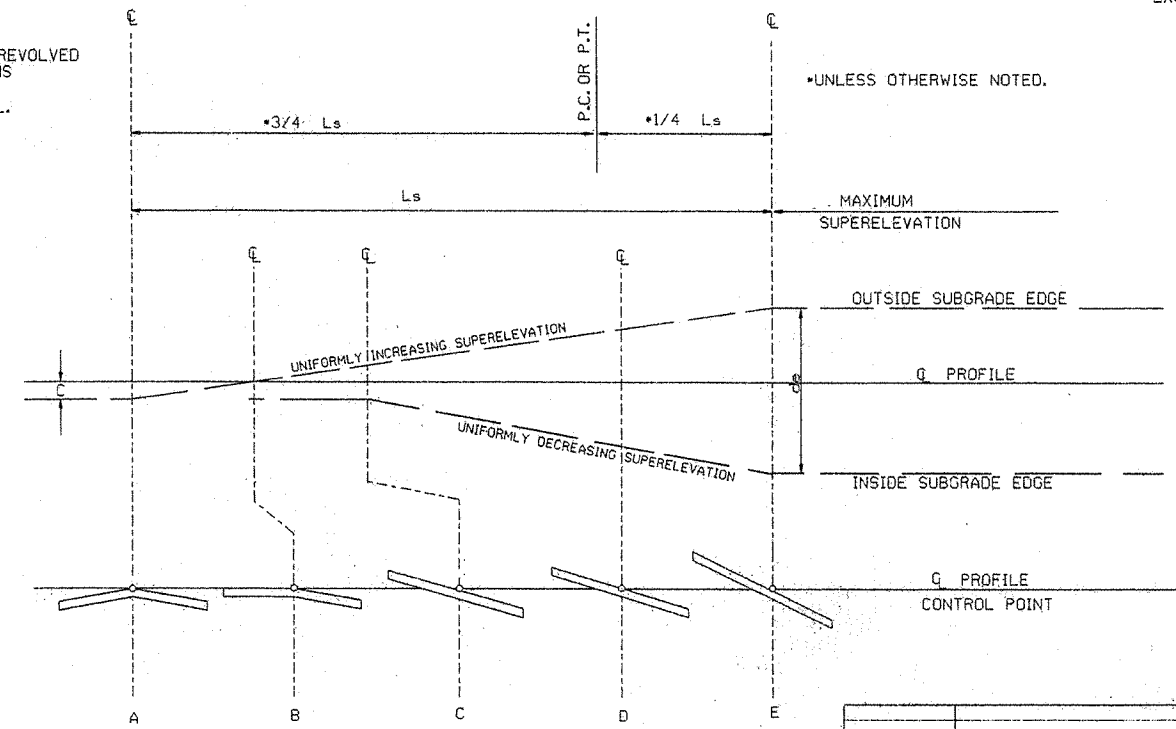
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

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

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.



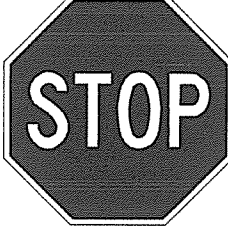
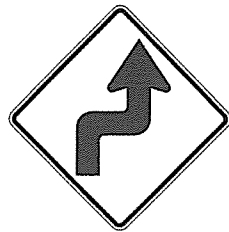
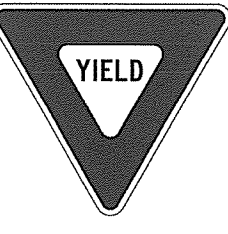

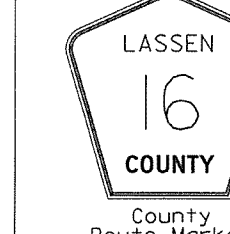
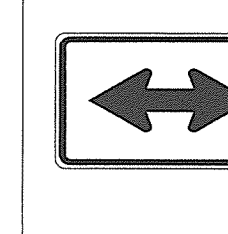

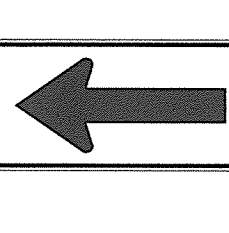
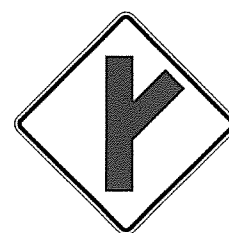

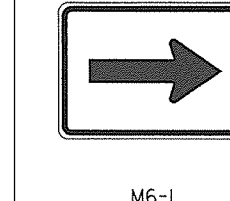
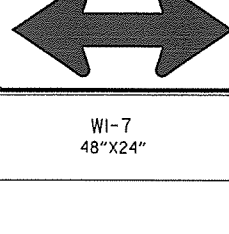
STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

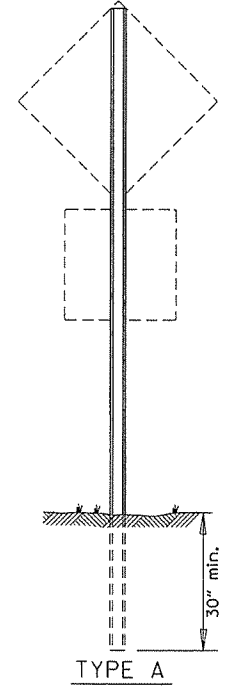
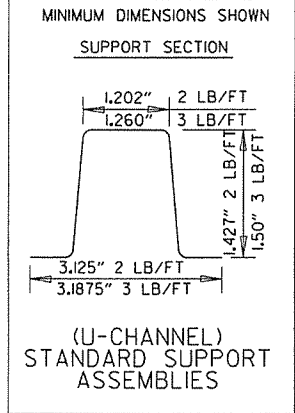
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILLED

ARKANSAS STATE HIGHWAY COMMISSION

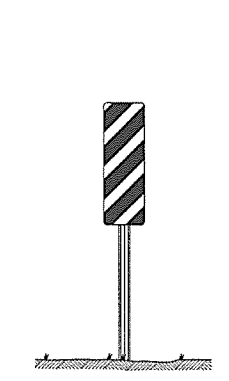
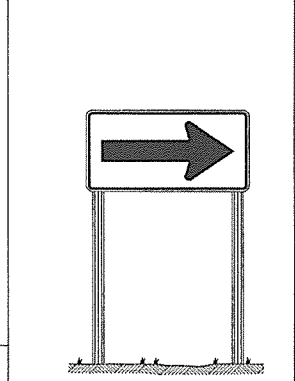
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

 RI-1 30"x30"	 WI-3 30"x30" (LT. OR RT.)	 WI-8 18"x24"	 W2-5 30"x30"	 W3-1 36"x36"	 W5-1 36"x36"	 M6-3 21"x15"
 RI-2 36"x36"x36"	 WI-4 30"x30" (LT. OR RT.)	 W2-1 30"x30"	 SI-1 36"x36"	 W3-2 36"x36"	 LASSEN 16 COUNTY County Route Marker MI-6 24"x24"	 M6-4 21"x15"
 R2-1 24"x30"	 WI-5 30"x30" (LT. OR RT.)	 W2-2 30"x30"	 W5-2 36"x36"	 W8-3 36"x36"	<p>NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.</p>  RI-3P 18"x6"	 M6-5 21"x15"
 WI-1 30"x30" (LT. OR RT.)	 WI-6 48"x24"	 W2-3 30"x30" (LT. OR RT.)	 W5-3 36"x36"	 35 M.P.H. W13-IP 18"x18"	 M6-1 21"x15"	 M6-6 21"x15"
 WI-2 30"x30" (LT. OR RT.)	 WI-7 48"x24"	 W2-4 30"x30"	 R X R W10-1 36" DIAMETER	 W3-3 36"x36"	 M6-2 21"x15"	 S4-3P 24"x8" WHEN CHILDREN ARE PRESENT S4-2P 24"x10"



NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



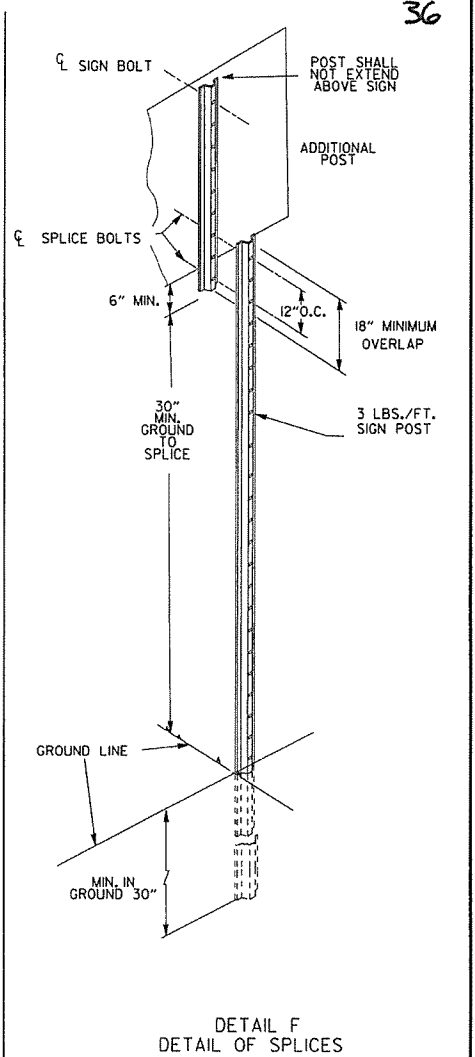
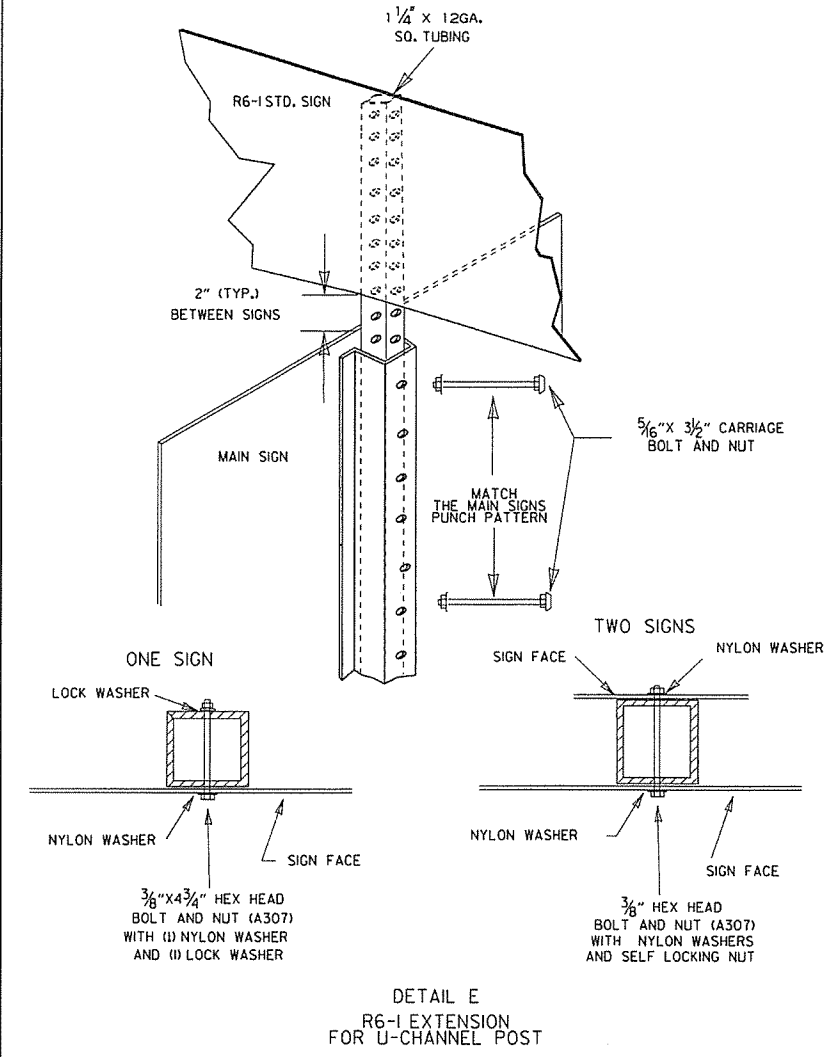
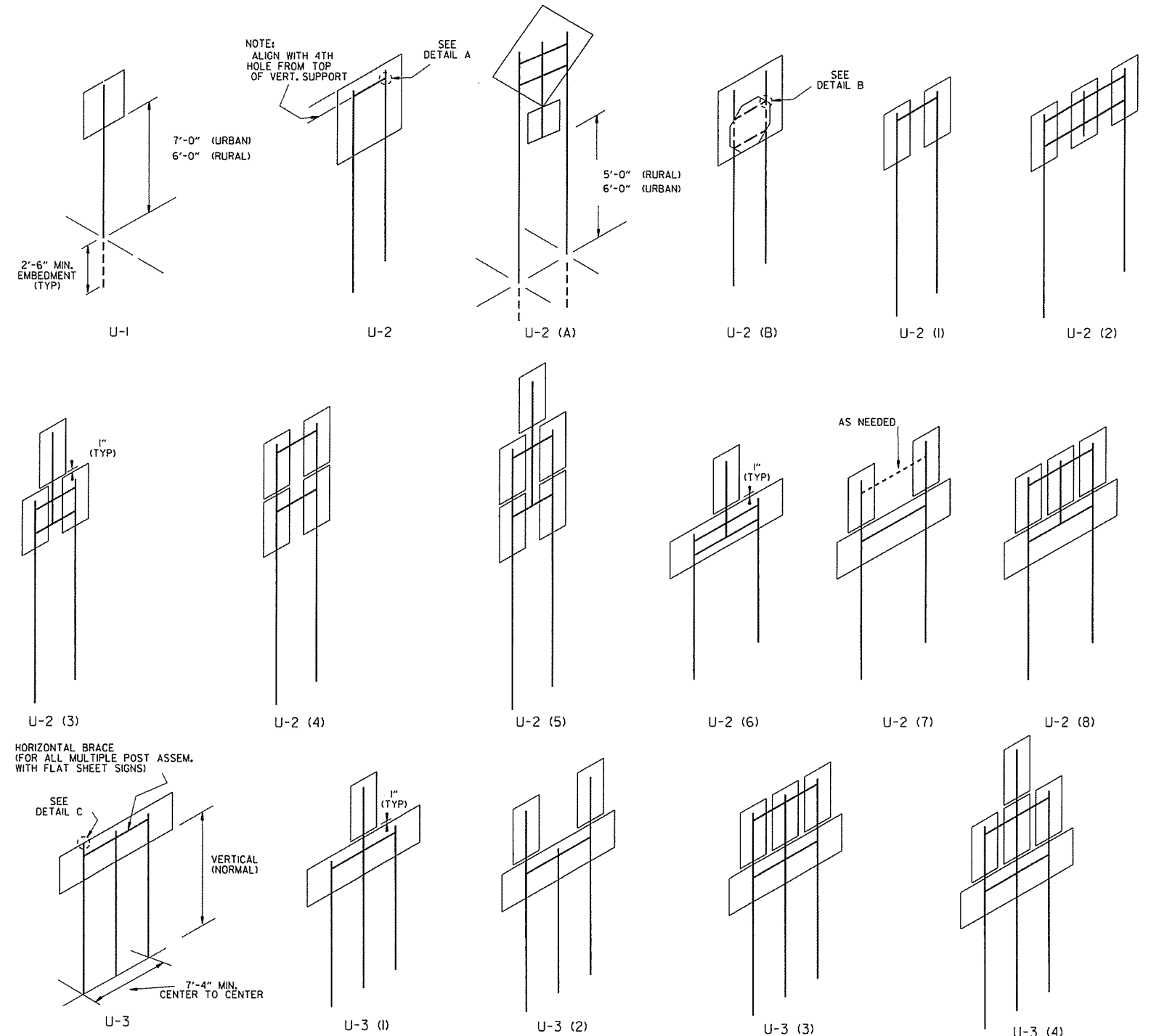
MINIMUM WEIGHT
TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

SUPPORT ASSEMBLIES

9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED WI-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED WI-4-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2"-3"; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES
STANDARD DRAWING SHS-1



NOTES:

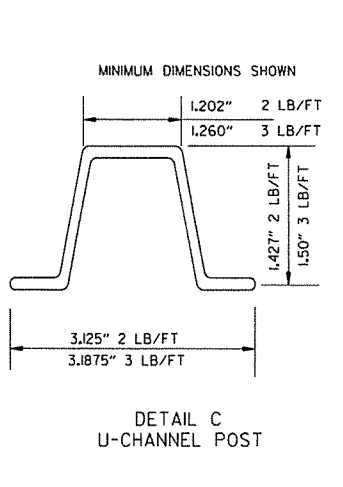
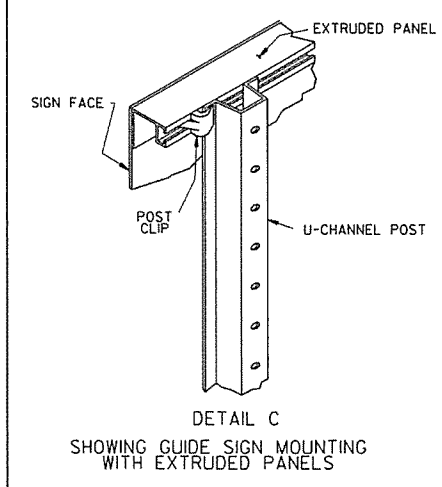
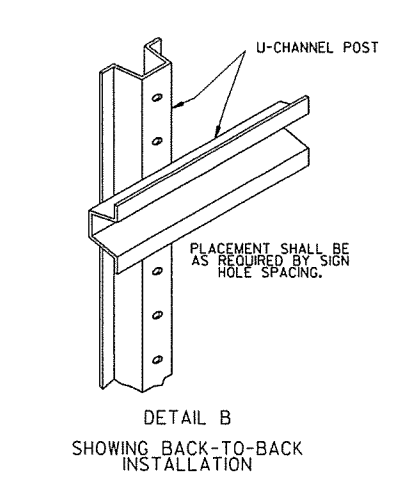
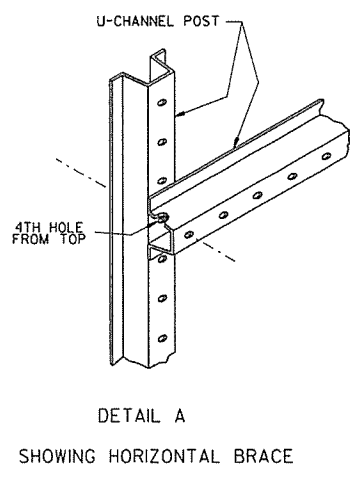
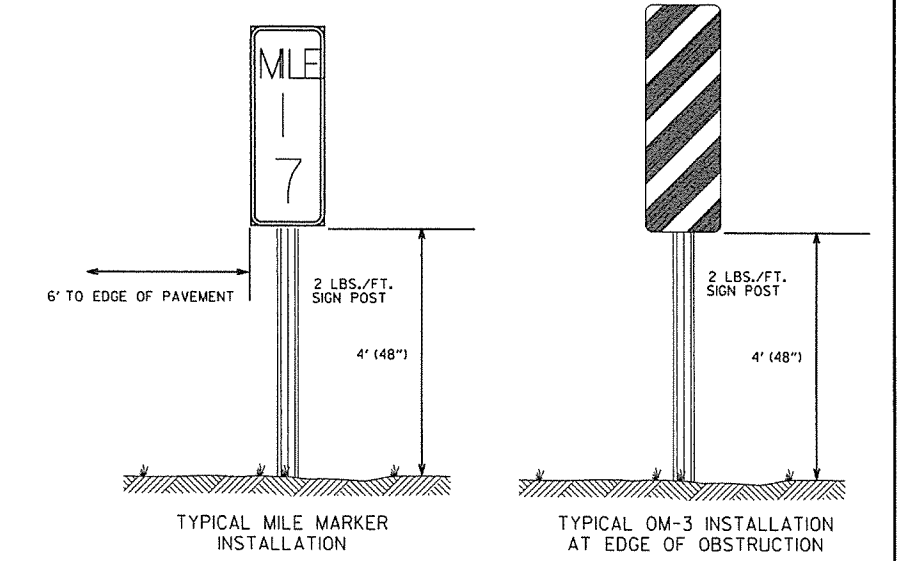
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



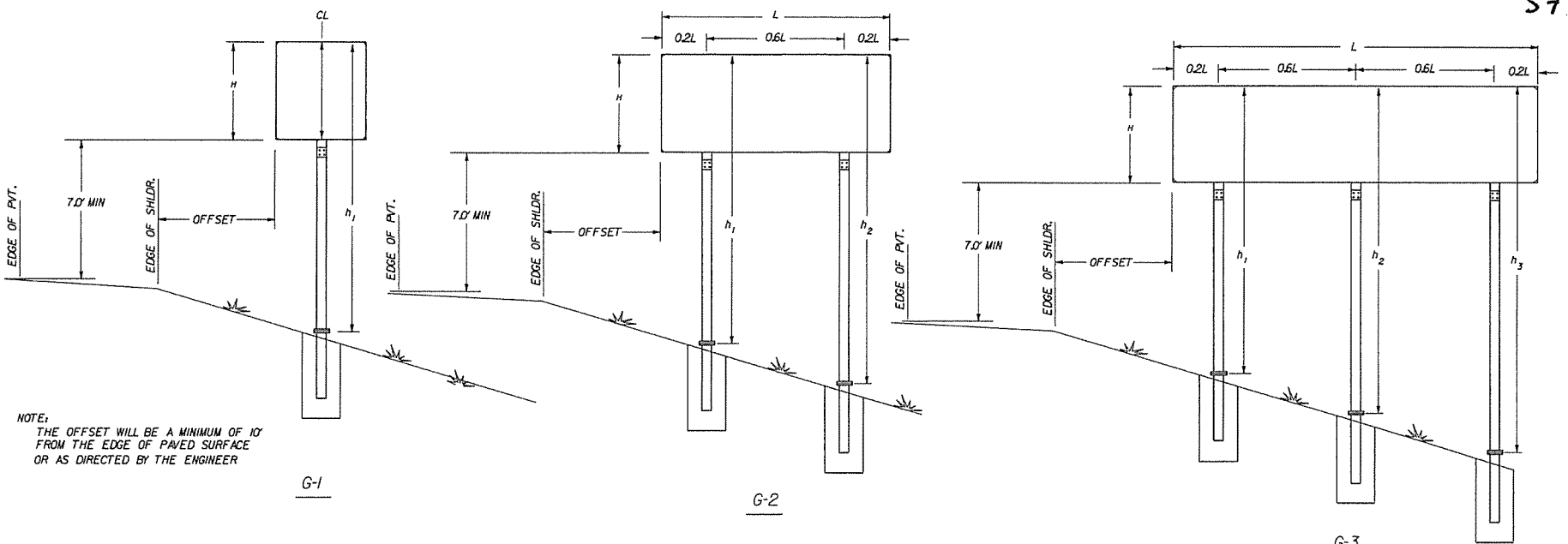
DATE	REVISION	
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95
		FILMED

ARKANSAS STATE HIGHWAY COMMISSION

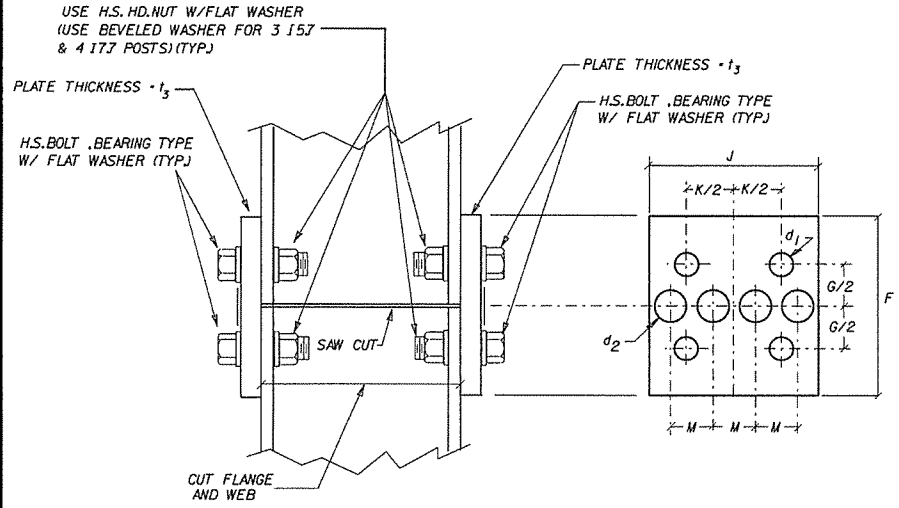
U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2

POST SIZE	BASE CONNECTION DATA												FUSE PLATE DATA										WT. OF EACH FUSE PLATE LBS.
	BOLT SIZE	BOLT TORQUE (INCH/LBS)	A	B	C	D	E	t ₁	t ₂	W	R	F	G	J	K	M	d ₁	d ₂	t ₃	BOLT SIZE			
W 6X9																							
W 6X12	5/8" x 2 1/4"	450*-680*	5'	2'	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	1/2"	4 1/4"	2"	4"	2 1/4"	1"	5/16"	3/4"	1/4"	1/2" x 1 1/2"	1.01		
W 6X15																							
W 8X18																							
W 8X21																							
W 10X22	3/4" x 3 1/2"	750*-1050*	6'	2 1/4"	1 3/8"	3 1/2"	1 1/4"	r	3/4"	5/16"	1/2"	5"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	1 1/8"	r	1/2"	3/4" x 2 1/4"	2.26		
W 10X26																							
W 12X26																							



NOTE: THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER

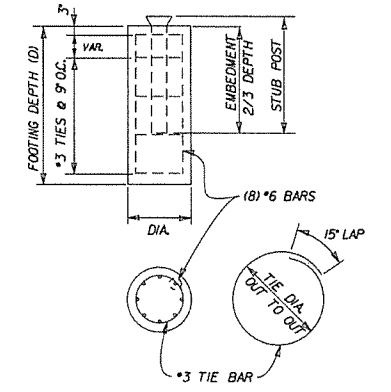


NOTE: SECTIONS SHOWN ARE FOR INSTALLATION ON THE RIGHT SHOULDER AND IN THE GORE. BOLT HOLES IN BASE PLATE ARE SLOTTED AND BEVELED AS SHOWN. USE H.S. BOLTS WITH HEX HD. HEX NUT AND THREE FLAT WASHERS FOR EACH BOLT. SEE TABLE FOR BOLT DIA. AND TORQUE.
 NOTE: ASSEMBLE SIGN POST TO STUB POST USING THE BOLTS SPEC. IN THE TABLE AND AS SHOWN IN THE ELEVATION DETAILS. THERE SHALL BE THREE FLAT WASHERS ON EACH BOLT LOCATED AS SHOWN IN THE ELEVATIONS. USE A SHIM TO PLUMB THE SIGN POST, THEN TIGHTEN THE BOLTS USING A 12" TO 15" WRENCH UNTIL THE WASHERS AND SHIMS ARE SEATED AND THE BOLT THREADS ARE CLEAR. THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE (SEE TABLE). THE BURR THREADS ADJACENT TO THE BACK SIDE OF THE NUT TO PREVENT LOOSENING.

STEEL SCHEDULE

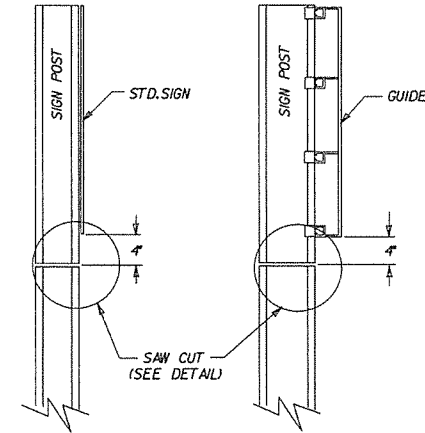
FOOTING DIAMETER	#3 TIE BARS		
	DIAMETER	BAR LENGTH	POUNDS
INCHES	INCHES	FEET	
18	12	4.39	1.65
24	18	5.96	2.24
30	24	7.53	2.83
36	30	9.1	3.42

FOOTING DEPTH	#6 STRAIGHT BARS		
	BAR LENGTH	NUMBER REQ'D.	POUNDS
FEET	FEET		
2.50	2.00	8	24.03
3.00	2.50	8	30.04
3.50	3.00	8	36.05
4.00	3.50	8	42.06
4.50	4.00	8	48.06
5.00	4.50	8	54.07
5.50	5.00	8	60.08
6.00	5.50	8	66.09
6.50	6.00	8	72.10
7.00	6.50	8	78.10
7.50	7.00	8	84.11
8.00	7.50	8	90.12

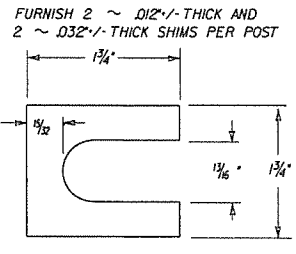
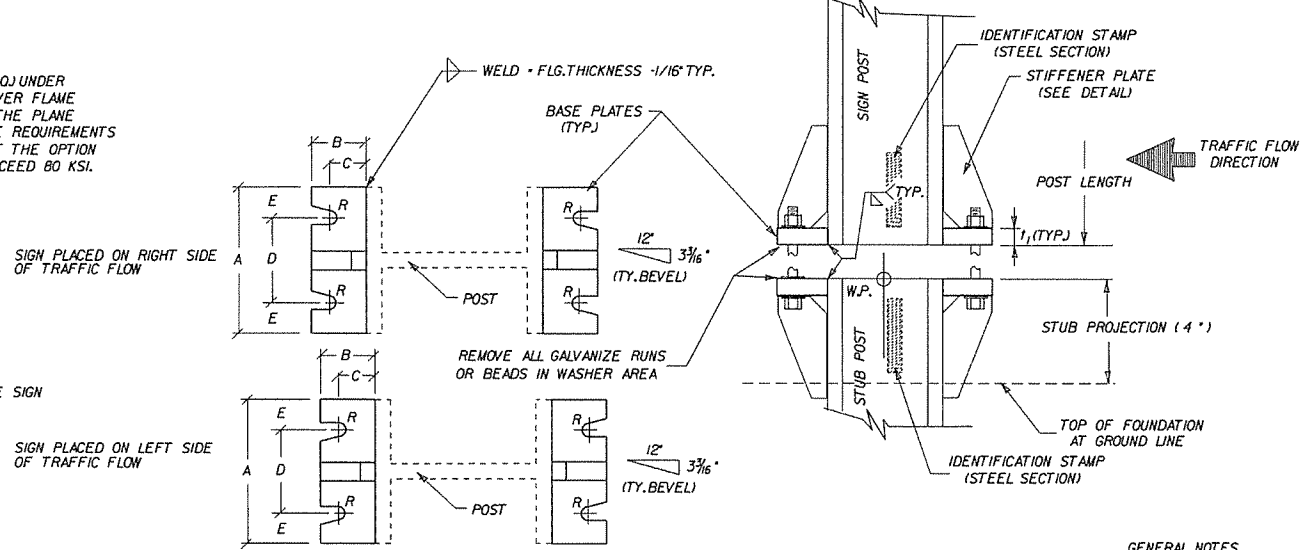


NOTE: USE H.S. HEX HEAD BOLTS, HEX HEAD NUTS AND BEVEL OR FLAT WASHERS (WHERE REQ.) UNDER NUTS. ALL HOLES SHALL BE DRILLED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM-A36, ASTM-A441, ASTM-572 GRADE 50, OR ASTM-A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.

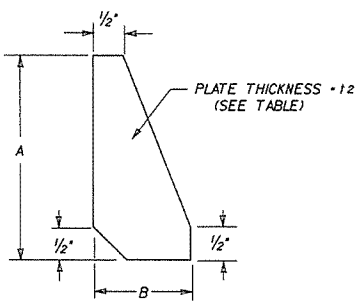
NOTE: BOLT HOLES, USED IN THE MOUNTING OF STANDARD SIGNS SHALL BE LOCATED IN THE FLANGE ADJACENT TO THE NEAR EDGE OF PAVEMENT FOR SINGLE POST ASSEMBLIES AND IN THE OUTSIDE FLANGES FOR MULTIPLE POST ASSEMBLIES.



STANDARD SIGNS
 FUSE PLATE DETAILS
 GUIDE SIGNS



SHIM DETAIL



STIFFENER PLATE DETAIL

GENERAL NOTES
 TIGHTEN THE HIGH STRENGTH BOLTS IN THE BASE CONNECTION ONLY TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.
 BASE PLATES AND STIFFENER PLATES SHALL BE OF THE SAME MATERIAL AS THE PRIMARY SUPPORT POSTS WHICH THEY ARE WELDED.
 REFER TO THE PLANS FOR FOOTING DIMENSIONS.
 EACH STUB POST AND SIGN POST SHALL HAVE A PERMANENT IDENTIFYING STAMP WHICH SPECIFIES THE STEEL SECTION USED. IF THE CONTRACTOR ELECTS TO SHIP THE STUB POST SEPARATE FROM THE SIGN POST A MATCH MARK SYSTEM WILL BE REQUIRED.

FOOTING QUANTITIES

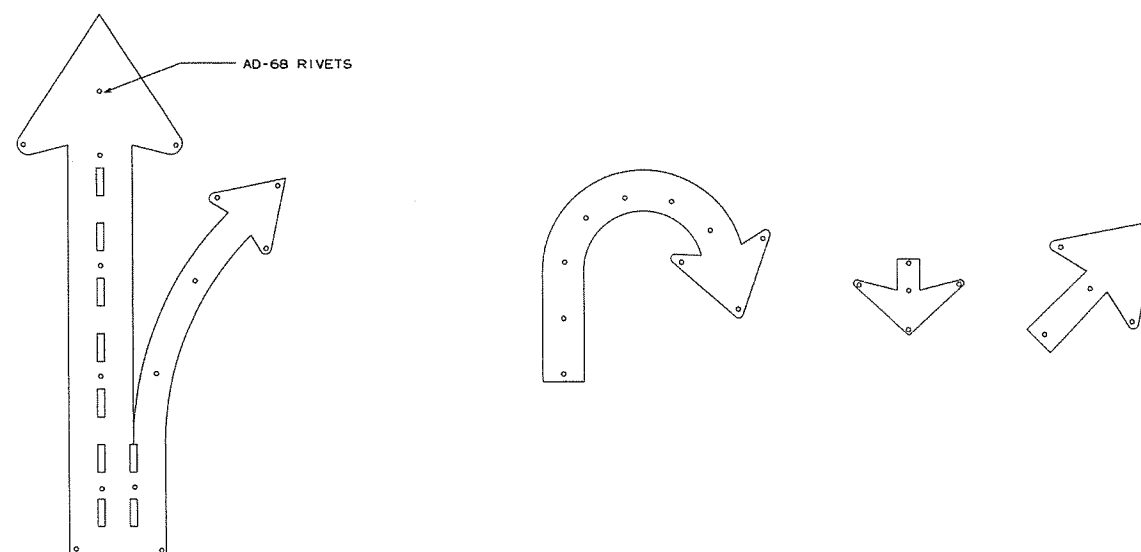
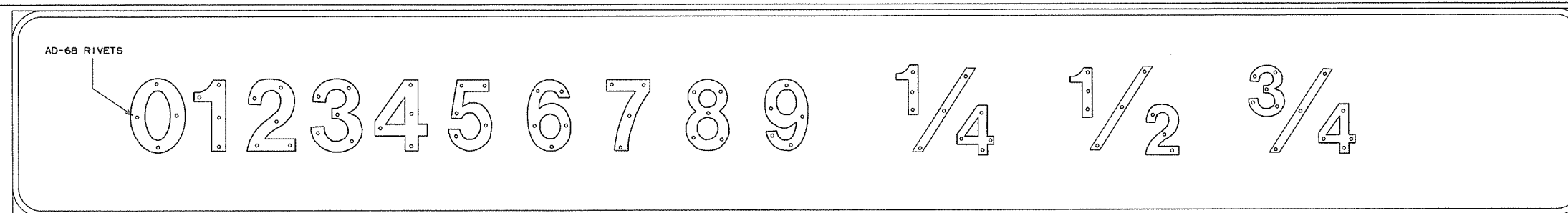
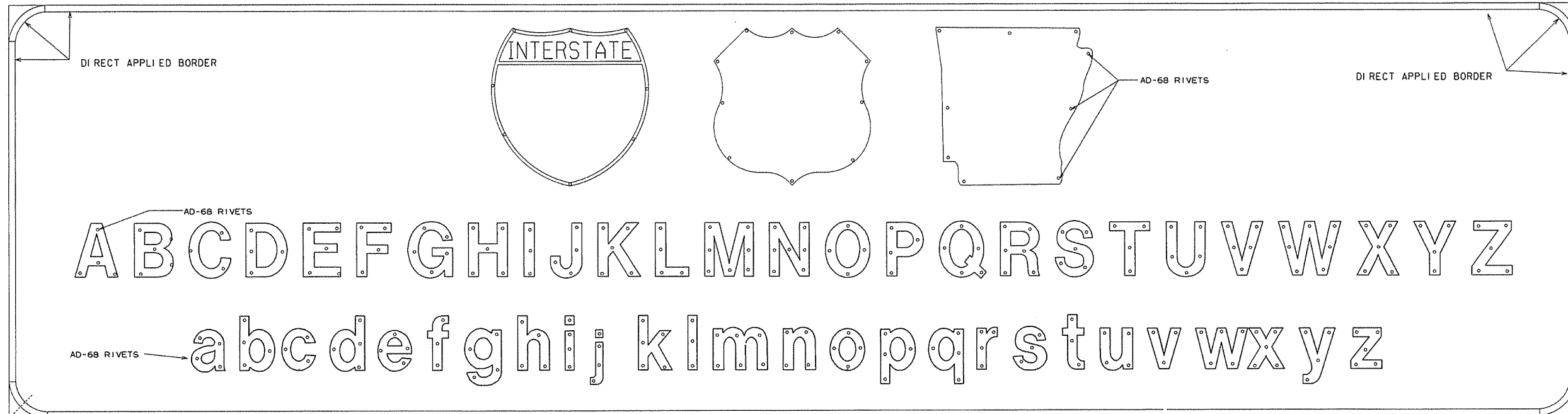
FOOTING DEPTH	NUMBER TIE BARS REQ'D	18" DIAMETER		24" DIAMETER		30" DIAMETER		36" DIAMETER	
		CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL
FEET		CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)
2.50	4	0.16	31						
3.00	4	0.20	37						
3.50	5	0.23	44						
4.00	6	0.26	52	0.47	56				
4.50	6	0.29	58	0.52	62				
5.00	7	0.33	66	0.58	70	0.91	74		
5.50	8			0.64	78	1.00	83		
6.00	8			0.70	84	1.09	89	1.57	93
6.50	9					1.18	98	1.70	103
7.00	10					1.27	106	1.83	112
7.50	10							1.96	118
8.00	11							2.09	128

SIGN POST AND STUB POST

ARKANSAS STATE HIGHWAY COMMISSION			
DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS			
STANDARD DRAWING SHS-3			
9-12-13	ISSUED		
DATE	REVISION		FILMED

THE CONTRACTOR SHALL DRILL AND POP-RIVET LEGEND, SHIELDS, ARROWS, OR OTHER COPY AS SHOWN.

MOUNTING DETAILS FOR DEMOUNTABLE
LEGEND ON GUIDE SIGNS



NOTES:

LEGEND ON GUIDE SIGNS ON THE MAIN LANES SHALL BE DEMOUNTABLE. LEGEND ON GUIDE SIGNS ON CROSS ROADS AND RAMPS SHALL BE DIRECT APPLIED. THE DEMOUNTABLE AND DIRECT APPLIED LEGENDS SHALL BE TYPE IX SHEETING.

THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.


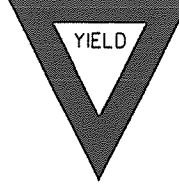
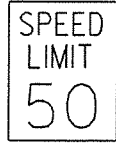


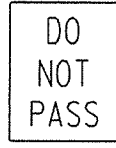

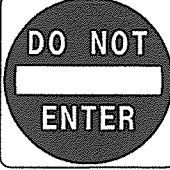

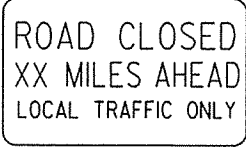
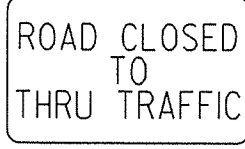
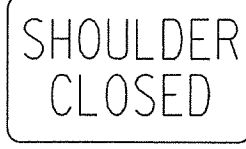
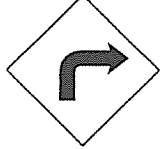
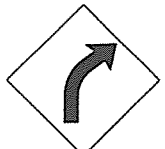
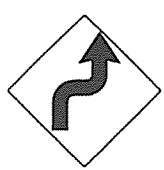
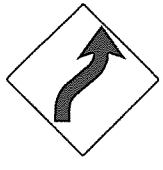
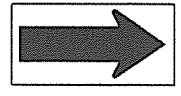

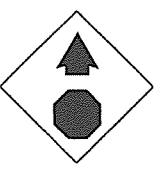
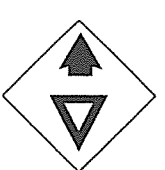
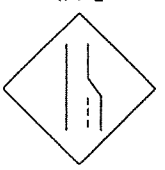



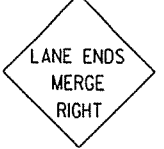


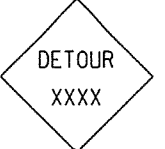



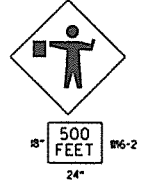


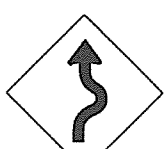



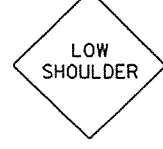
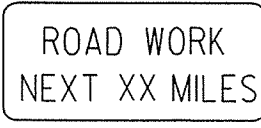
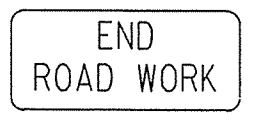
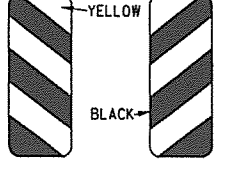
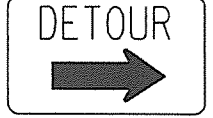

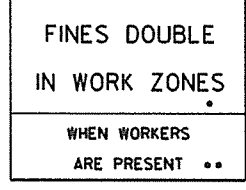
NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

			ARKANSAS STATE HIGHWAY COMMISSION
			MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS
9-12-13	ISSUED		STANDARD DRAWING SHS-6
DATE	REVISION	FILMED	

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

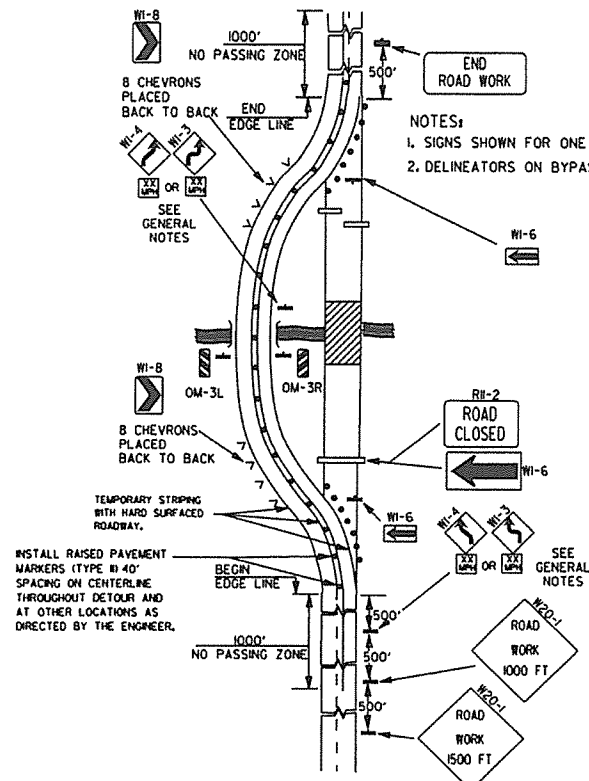
GENERAL NOTES:

- 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 WHEN 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.

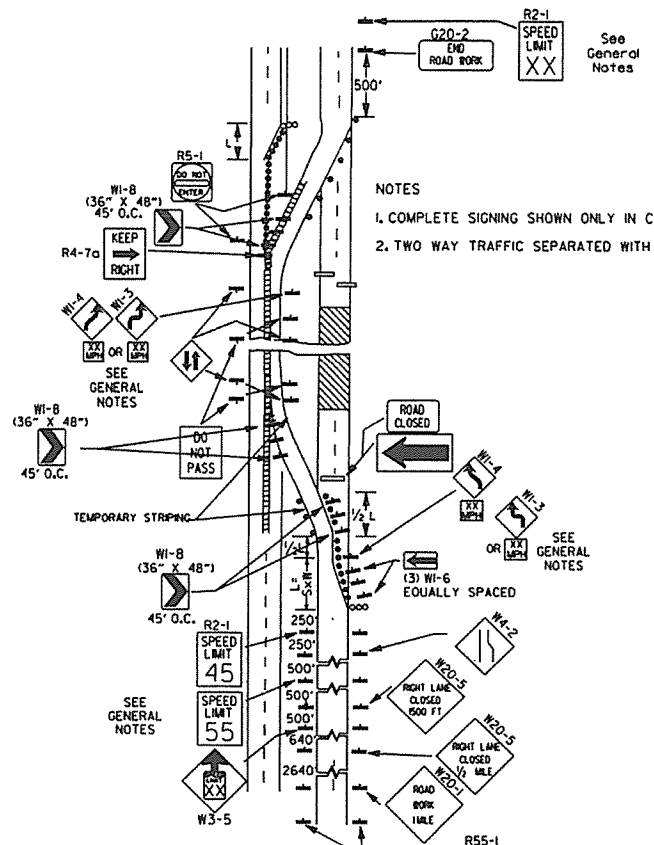
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</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>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</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>W1-4b</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>

9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-1	REVISED W24-1	
1-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
8-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
1-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
1-18-98	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	FILED

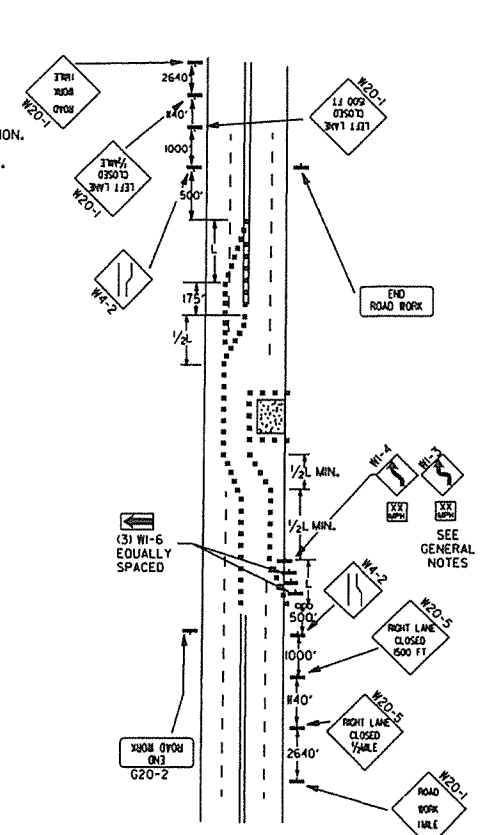
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



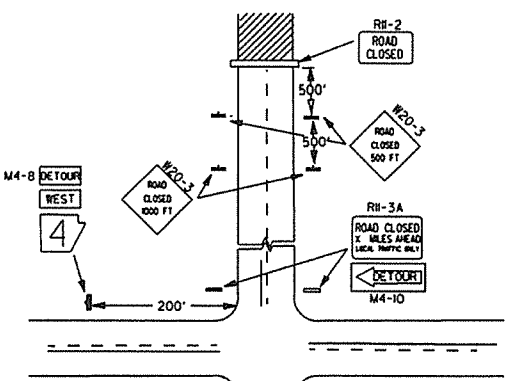
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



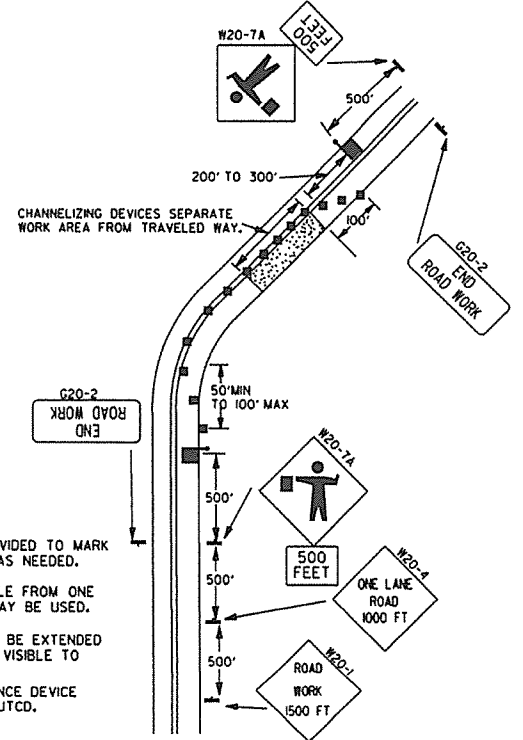
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



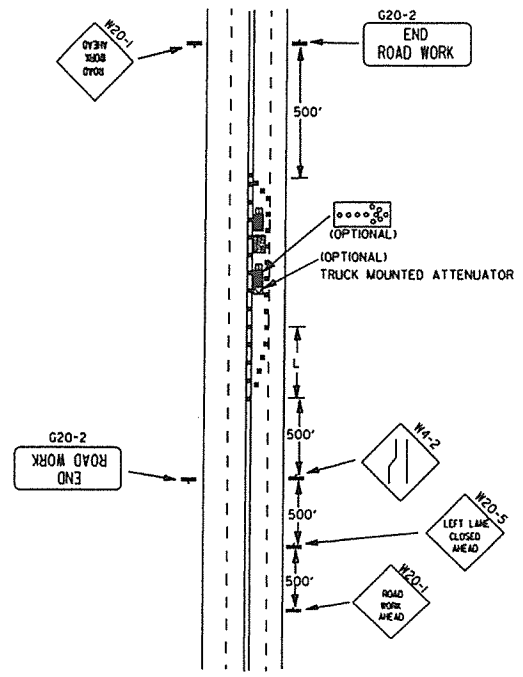
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



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

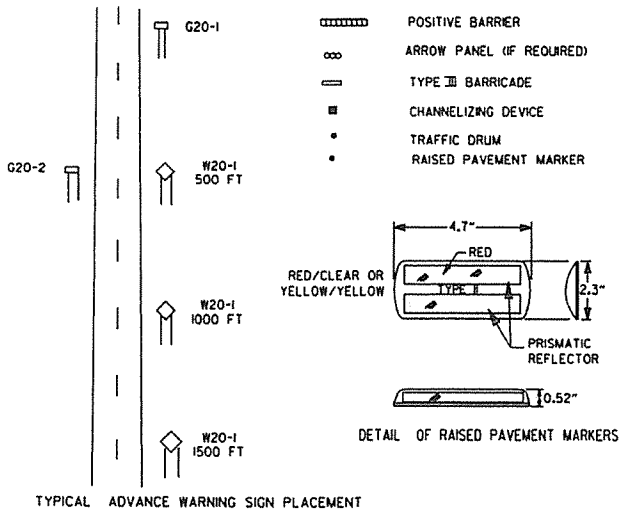


(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



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

- KEY:
- FLAGGER
 - POSITIVE BARRIER
 - ARROW PANEL (IF REQUIRED)
 - TYPE III BARRICADE
 - CHANNELIZING DEVICE
 - TRAFFIC DRUM
 - RAISED PAVEMENT MARKER

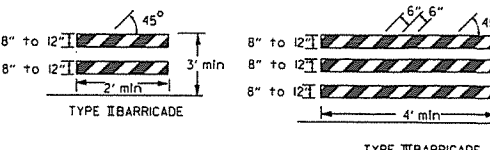
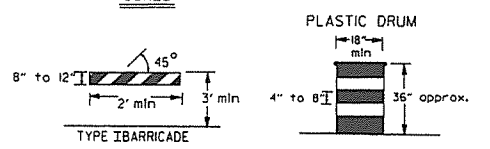
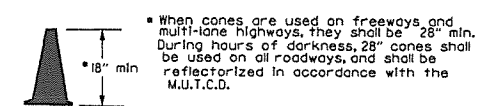


TAPER FORMULAE:
 $L = SXW$ FOR SPEEDS OF 45MPH OR MORE.
 $L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

- GENERAL NOTES:
1. 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.
 2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(45) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER, WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
 8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

9-2-15	REVISED NOTE 2, ADDED NOTE B, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-1-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (G) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILED

Channelizing devices

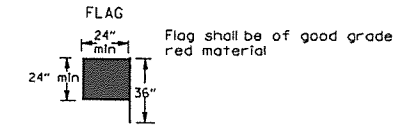


NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

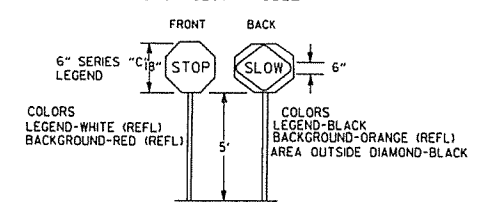
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-II
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-I and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

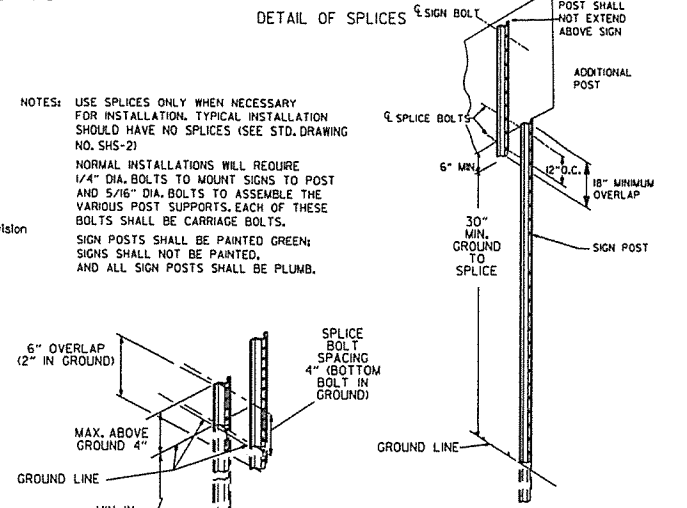
* When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



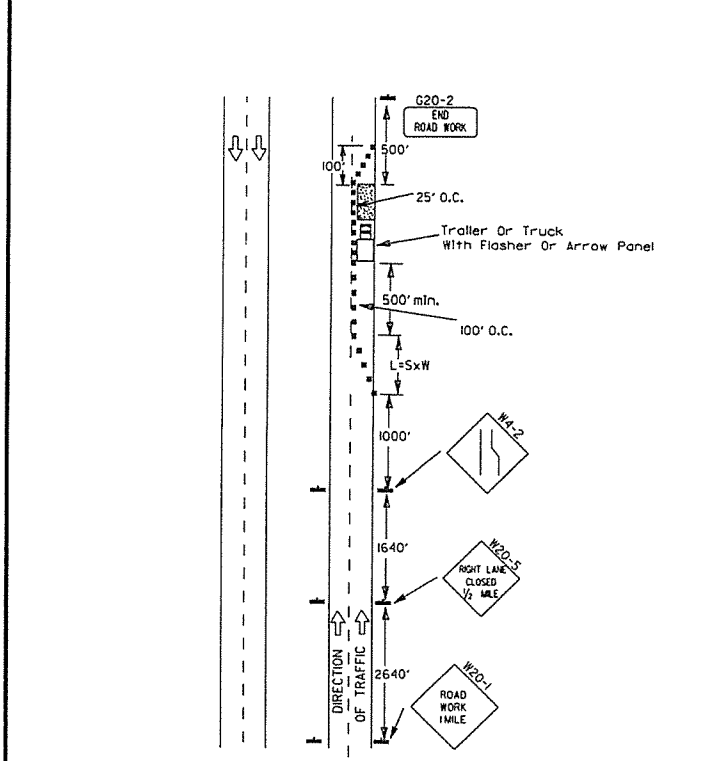
STOP SLOW PADDLE



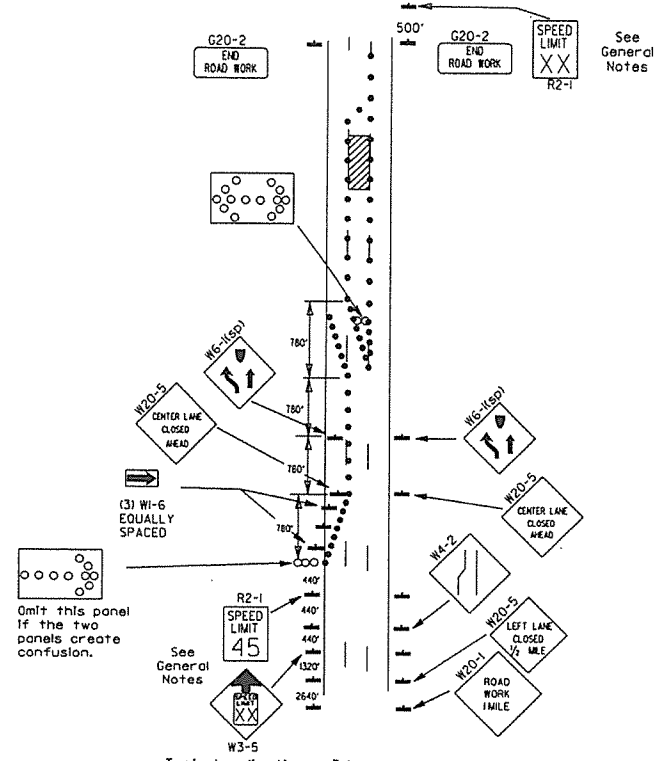
DETAIL OF SPLICES



DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SPI) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	



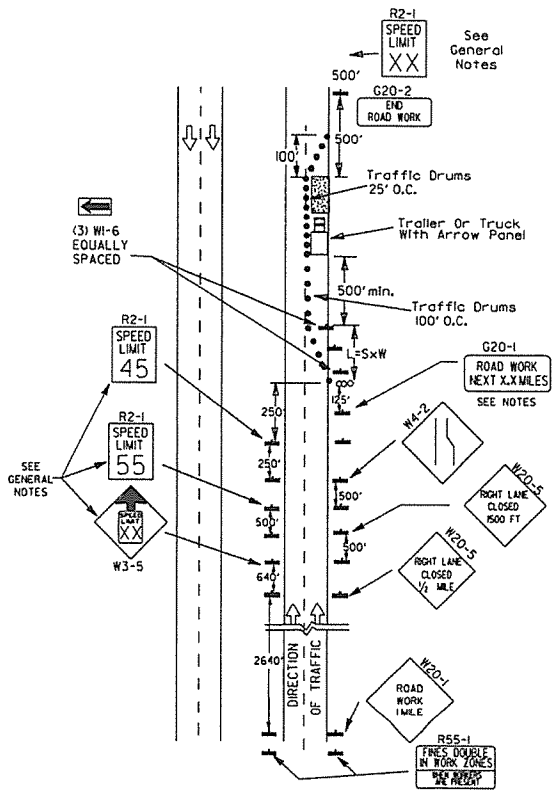
(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



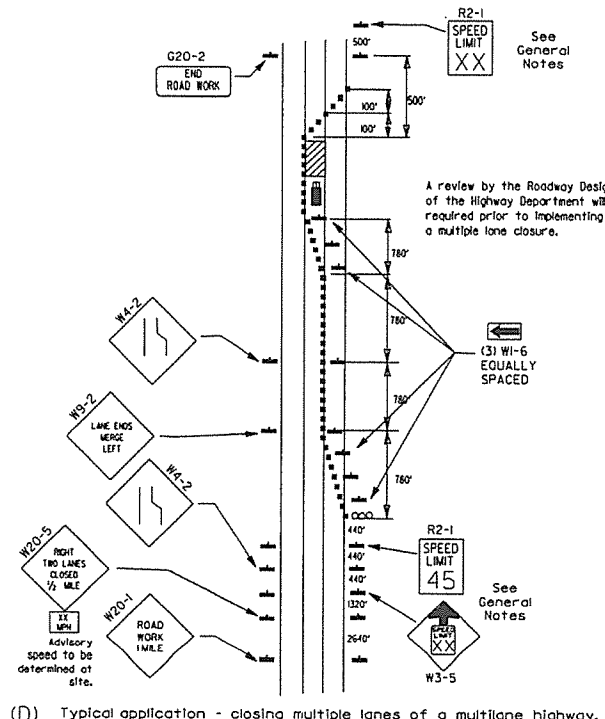
(B) Typical application - 3-lane one-way roadway where center lane is closed.

- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

- GENERAL NOTES:
- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
 - When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1(45) speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) 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(XX) 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.
 - The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1(1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
 - Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
 - All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
 - Traffic 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.

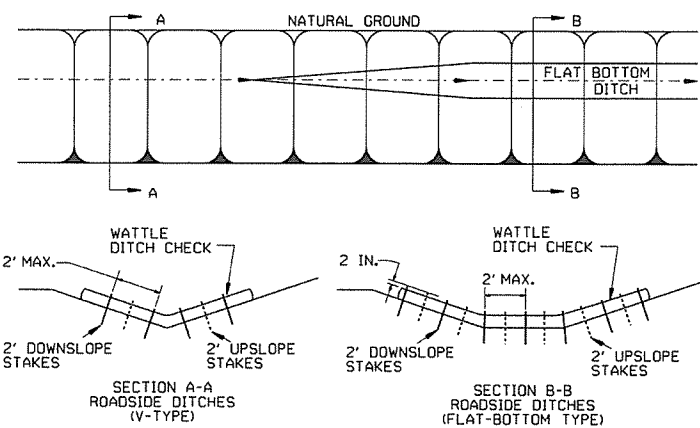


(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

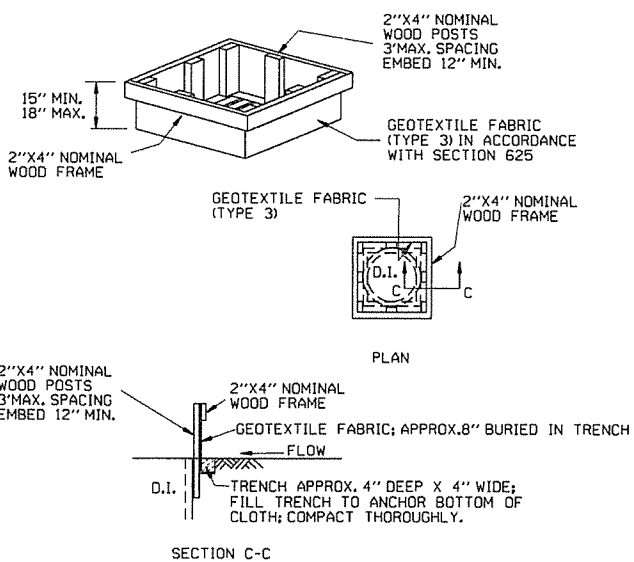


(D) Typical application - closing multiple lanes of a multilane highway.

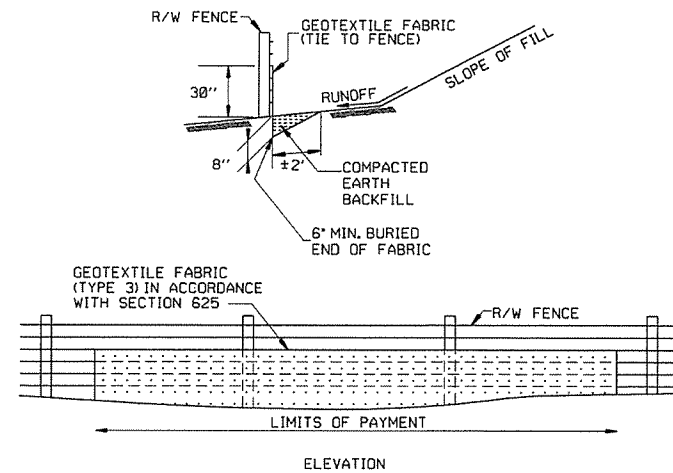
GENERAL NOTES
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



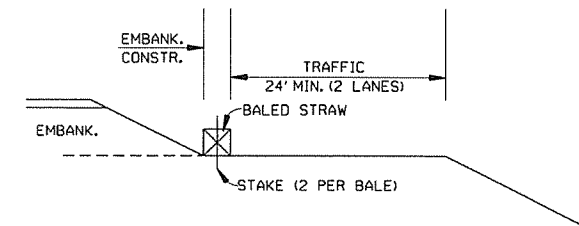
DROP INLET SILT FENCE (E-7)



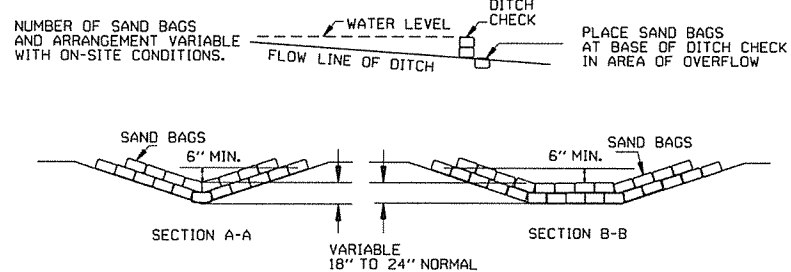
SILT FENCE ON R/W FENCE (E-4)

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.

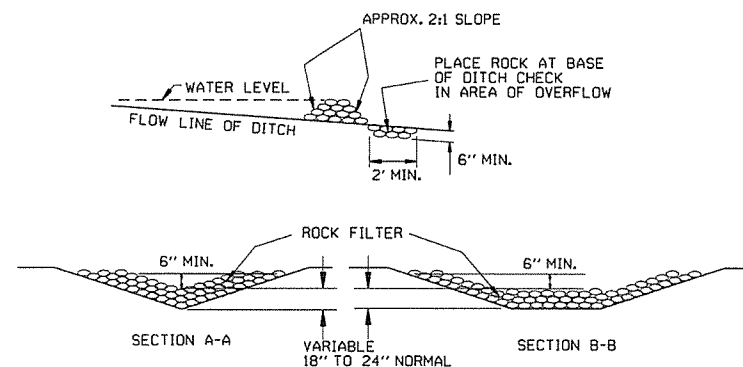
GENERAL NOTES
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL 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.



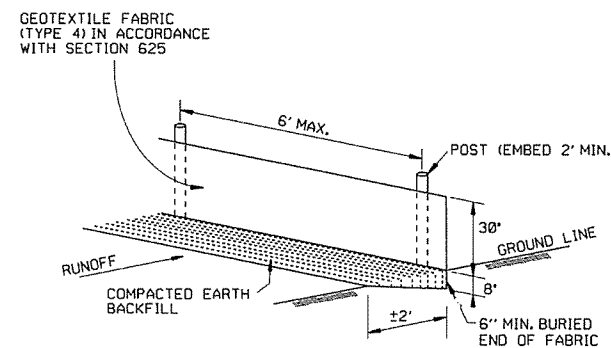
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



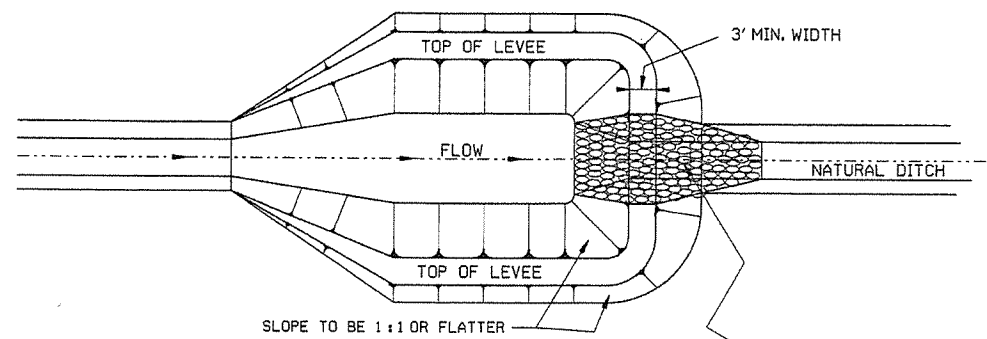
ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

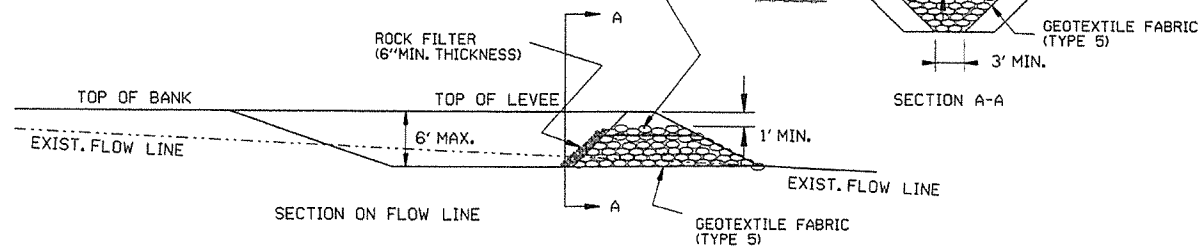
GENERAL NOTES
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

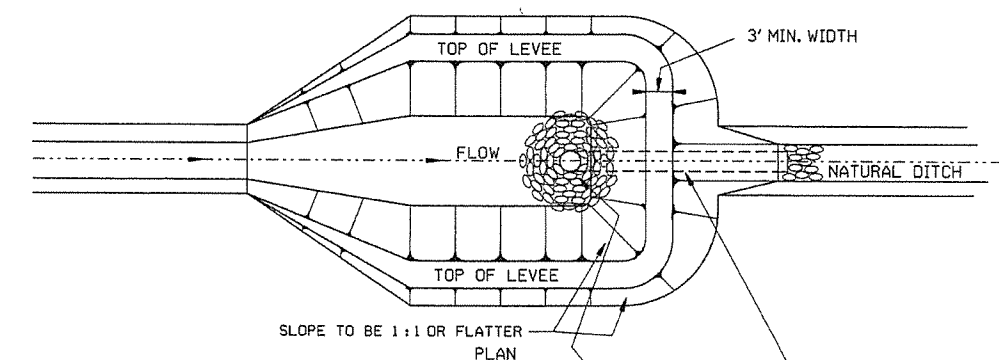


NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

PLAN

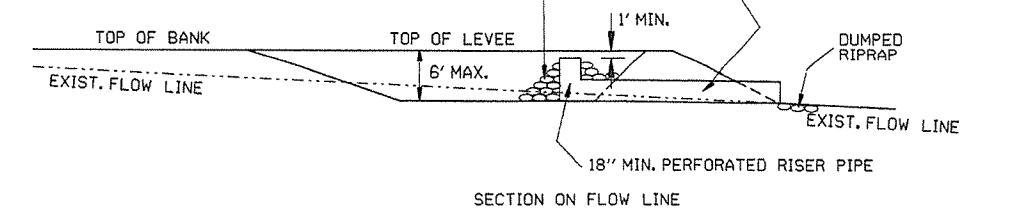


SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

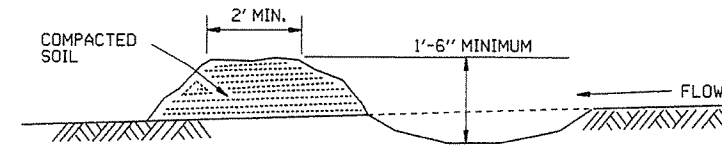


NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

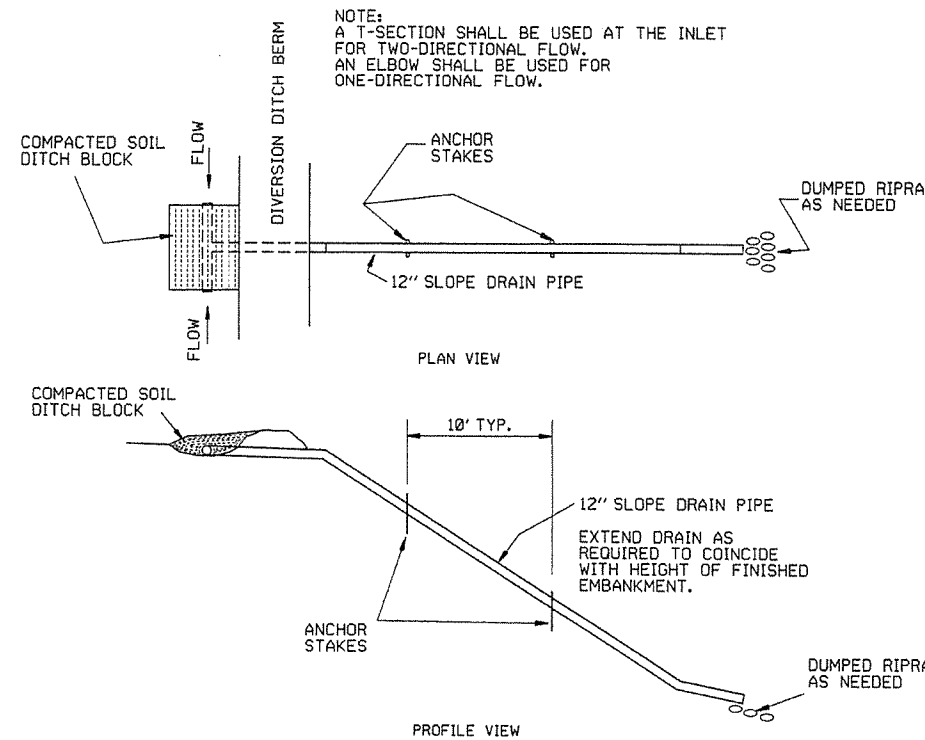
PLAN



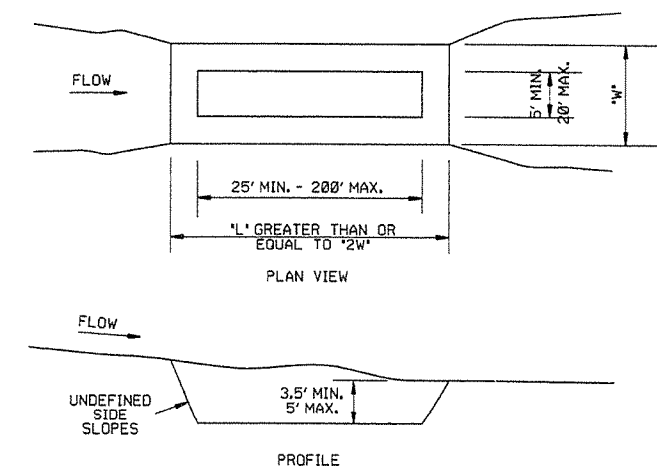
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

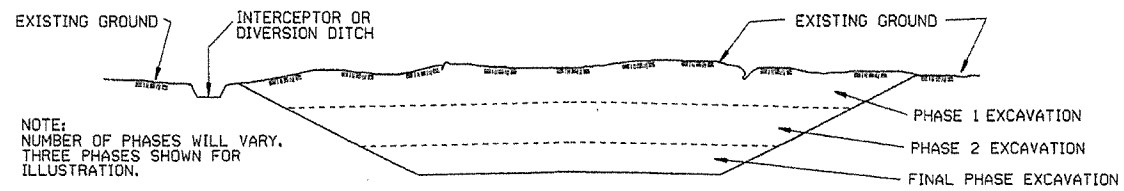
ARKANSAS STATE HIGHWAY COMMISSION			
TEMPORARY EROSION CONTROL DEVICES			
STANDARD DRAWING TEC-2			
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED

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.

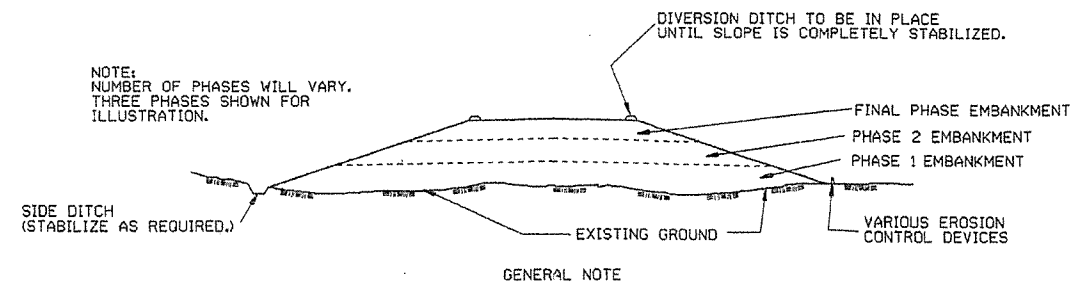
GENERAL NOTE

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

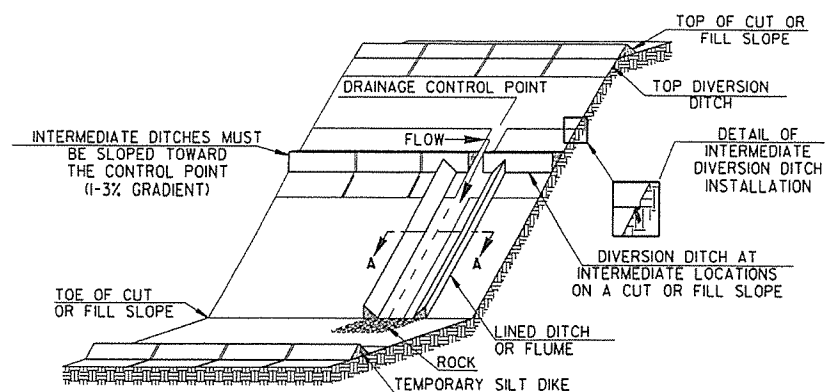
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

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.

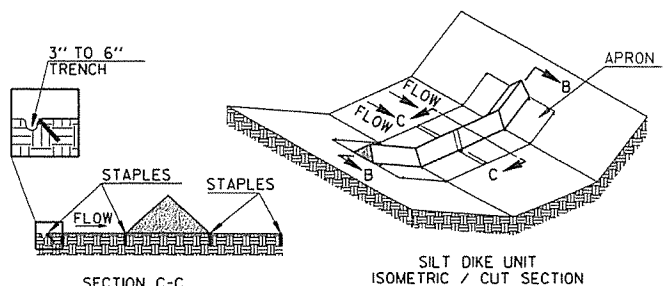
44

		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	FILMED
DATE	REVISION		

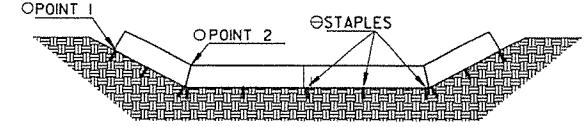


TEMPORARY DITCH LINER SECTION A-A

TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER



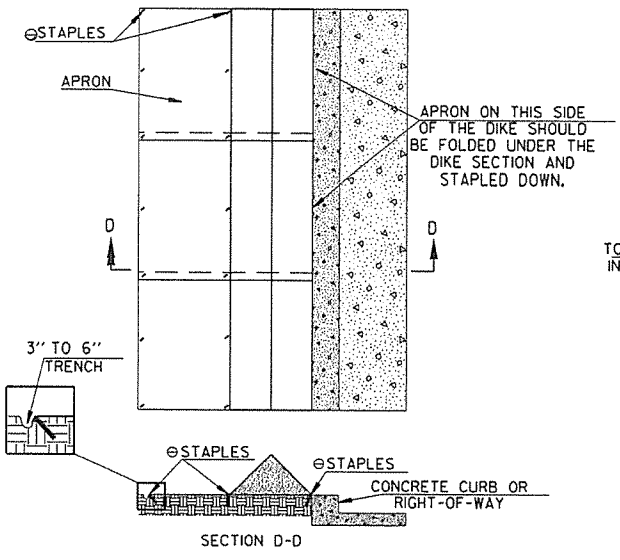
SECTION C-C



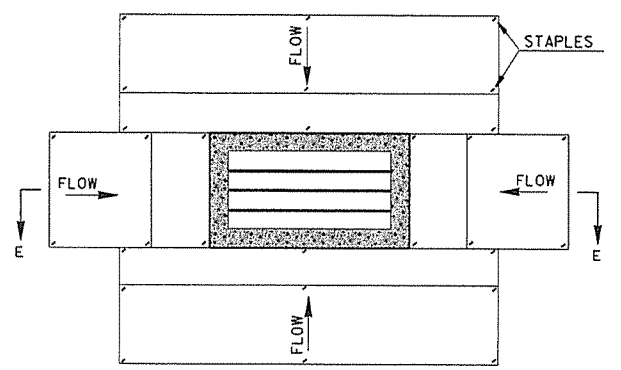
DIKE SECTION SECTION B-B

TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

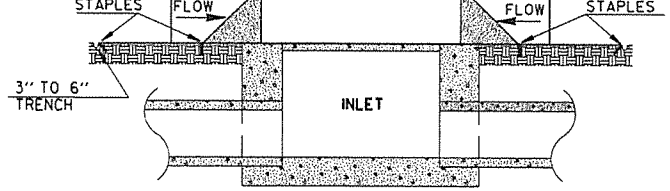
O POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
 O STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER

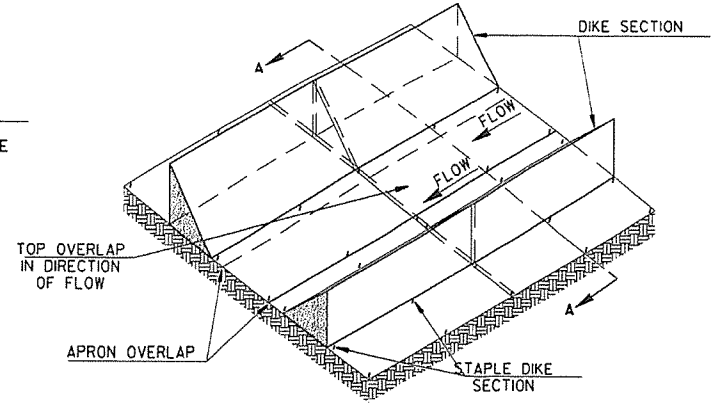


DROP INLET



SECTION E-E

TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS

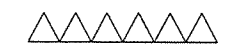


TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
		STANDARD DRAWING TEC-4	
7-26-12	REVISED GENERAL NOTE 2.		
12-15-11	ISSUED		
DATE	REVISION		FILMED

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.
 TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

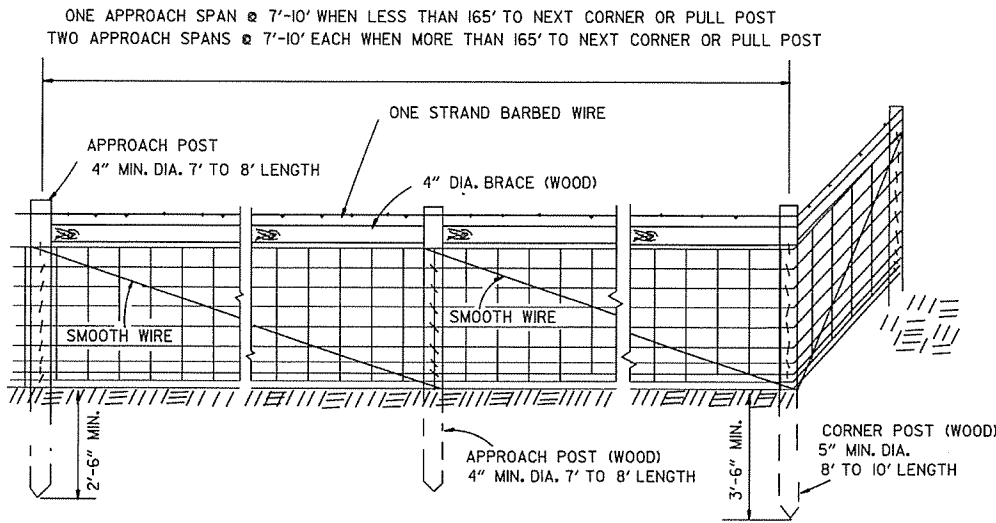
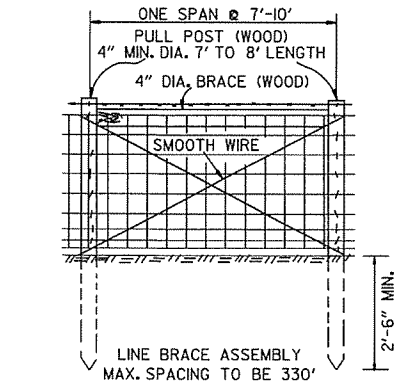
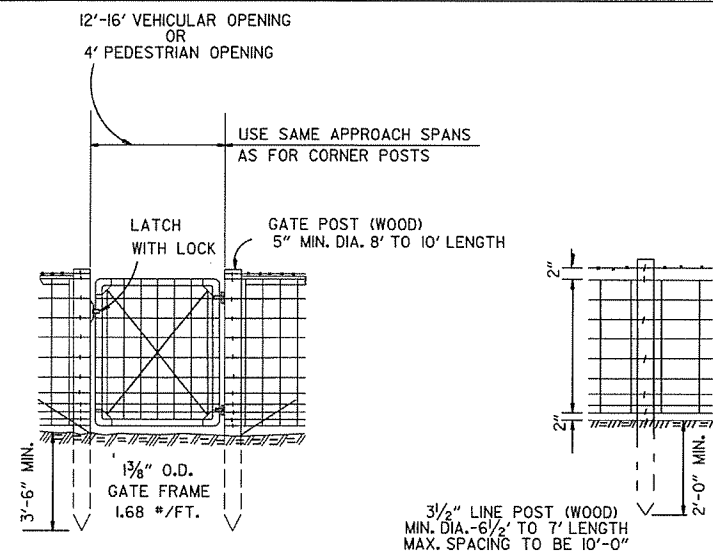
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF WOOD LINE POSTS OF 7' LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

GATE HINGES AND LATCHES WITH LOCKS TO BE OF A TYPE APPROVED BY THE ENGINEER. DRIVEWAY GATES, EITHER SINGLE 12' OR 16' OR DOUBLE 6' TO 8' OPENINGS OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE FOR USE BY MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON THE PLANS OR AS DESIGNATED BY THE ENGINEER.

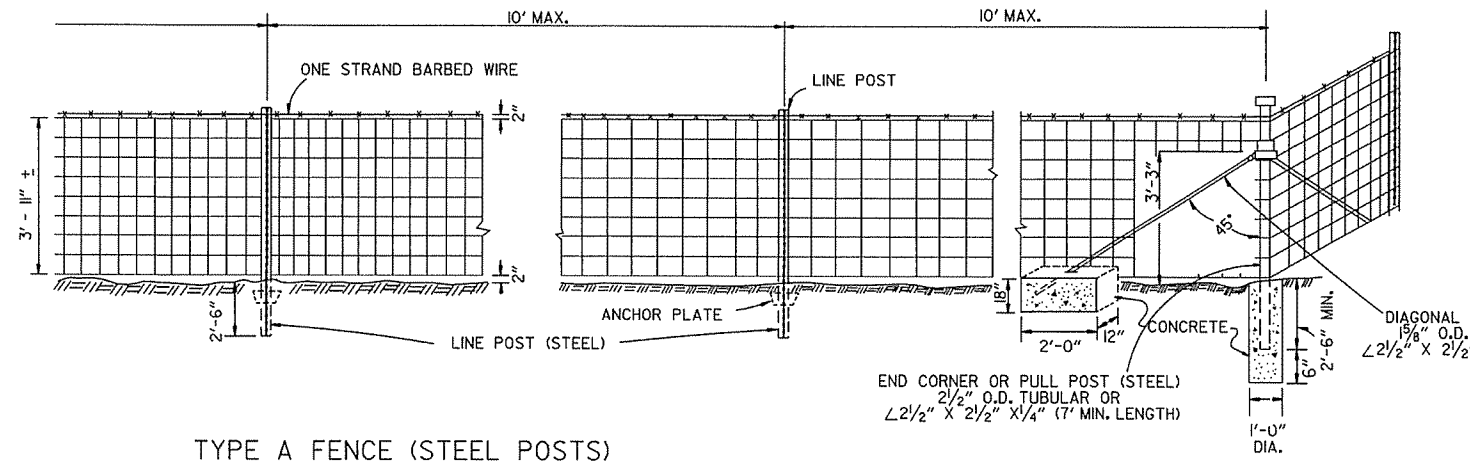
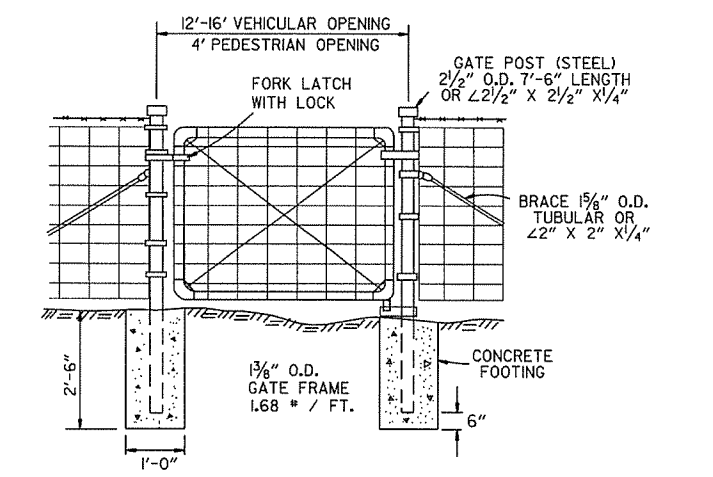
AT STREAM CROSSINGS THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS, WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF BANK TO THE BRIDGE STRUCTURE, A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD, WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO THE BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

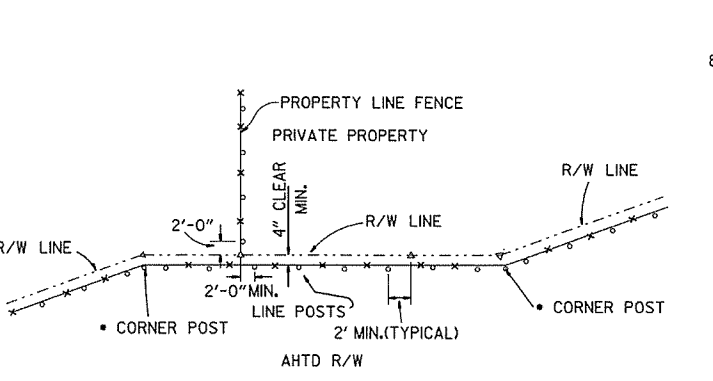
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.



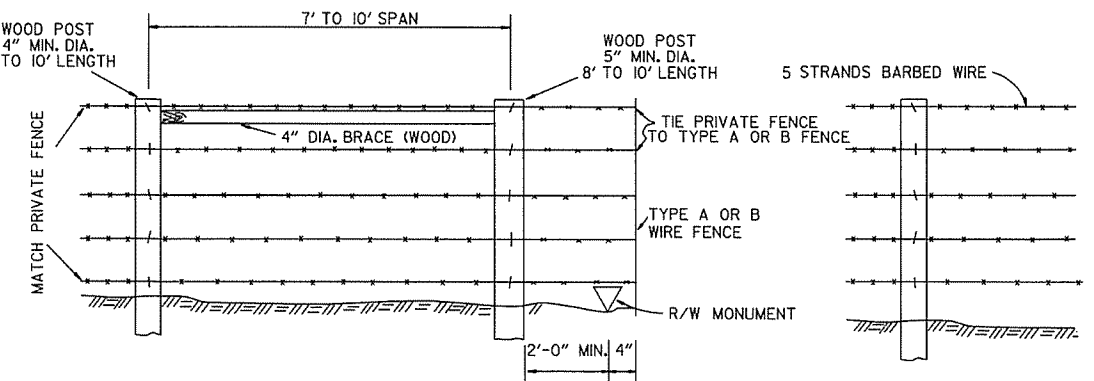
TYPE A FENCE (WOOD POSTS)



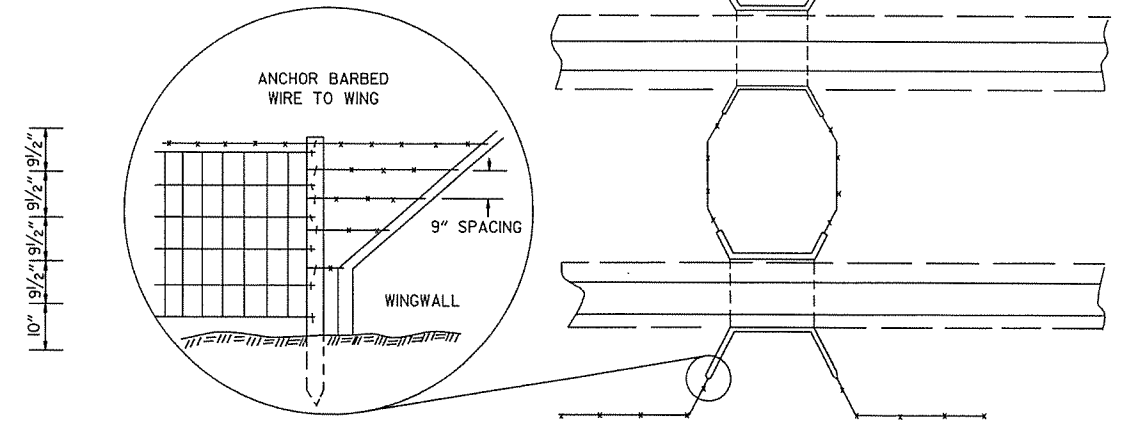
TYPE A FENCE (STEEL POSTS)



RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION



DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

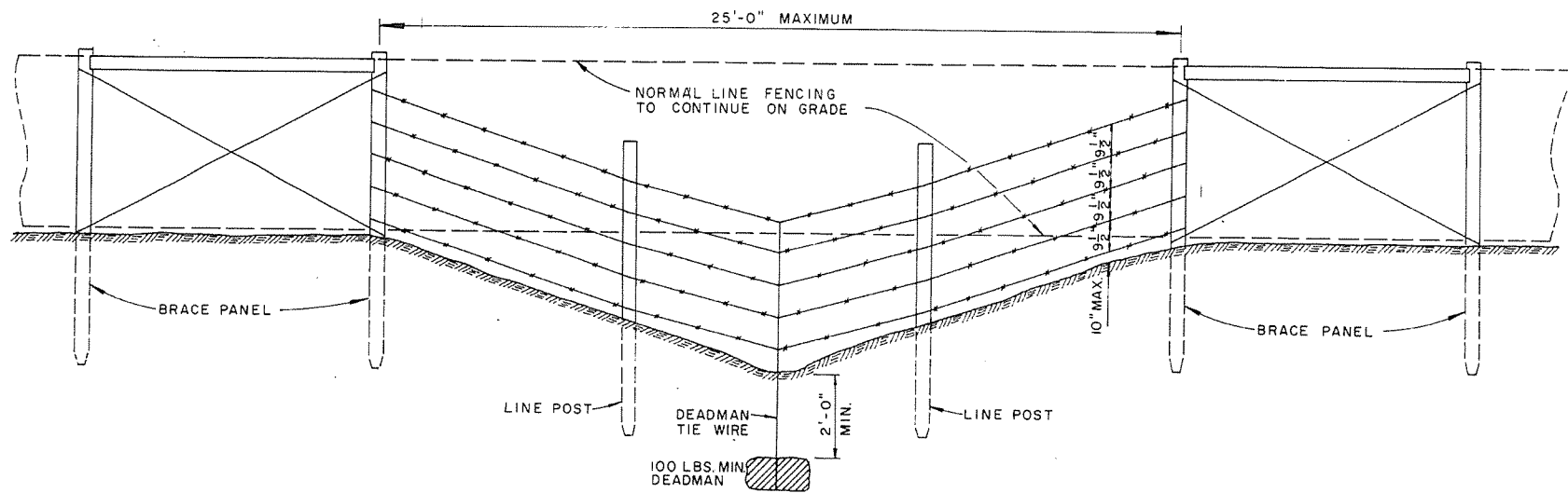
TYPE B FENCE

DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

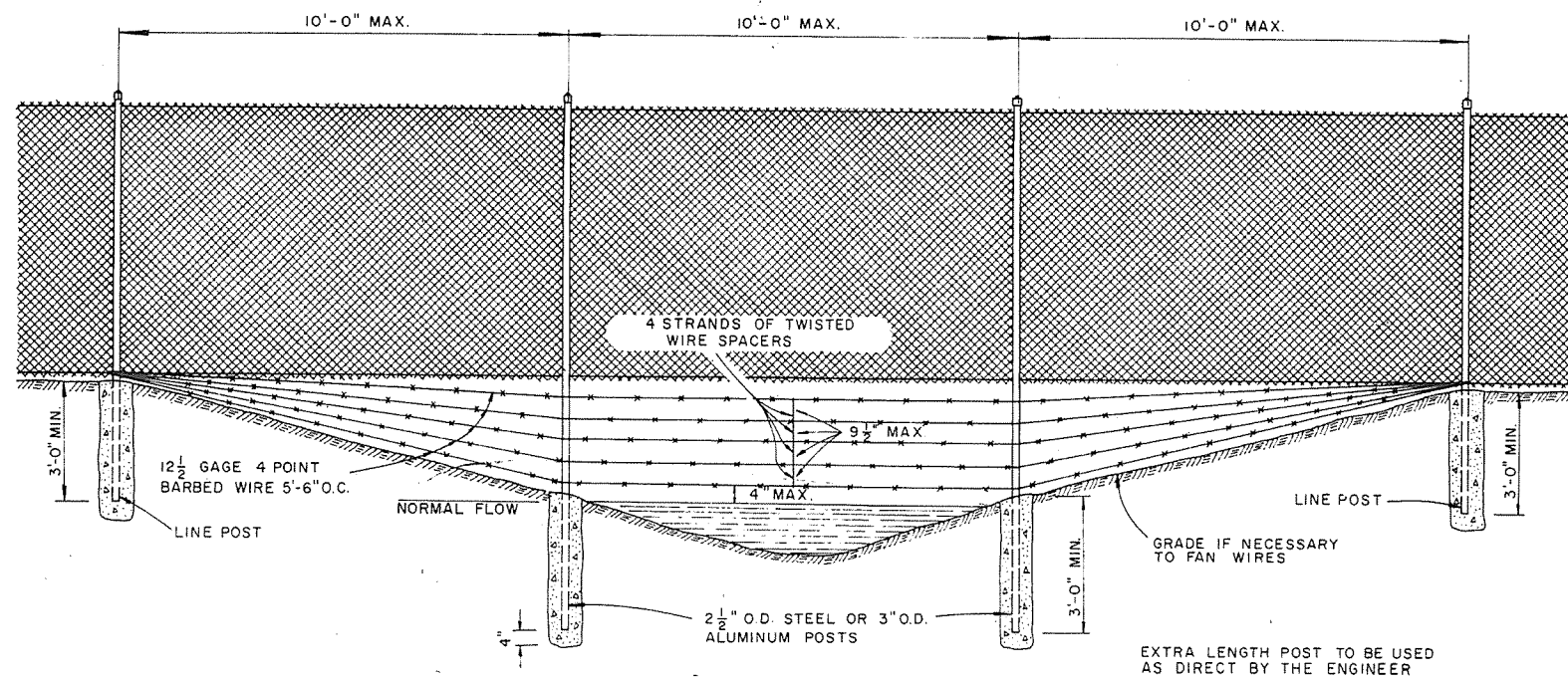
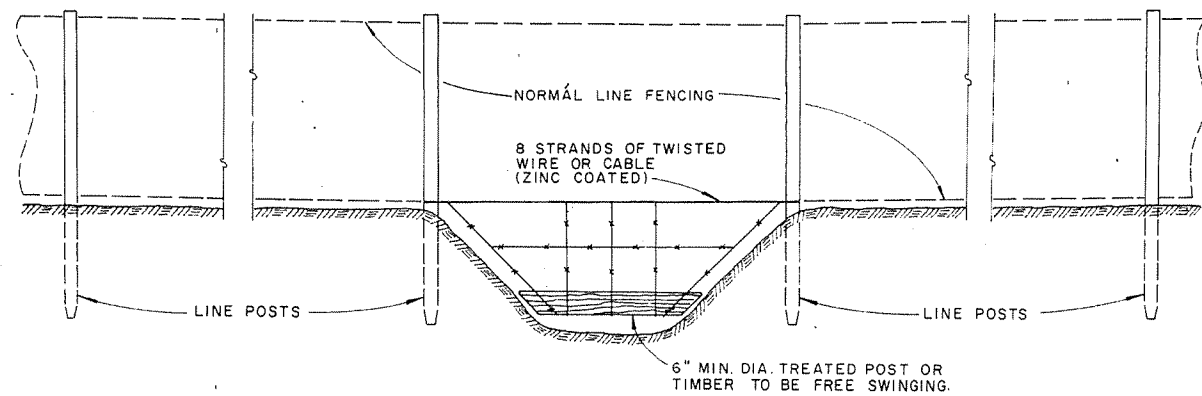
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE A AND B

STANDARD DRAWING WF-1



GENERAL NOTES:
 THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.
 WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.
 IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.
 PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

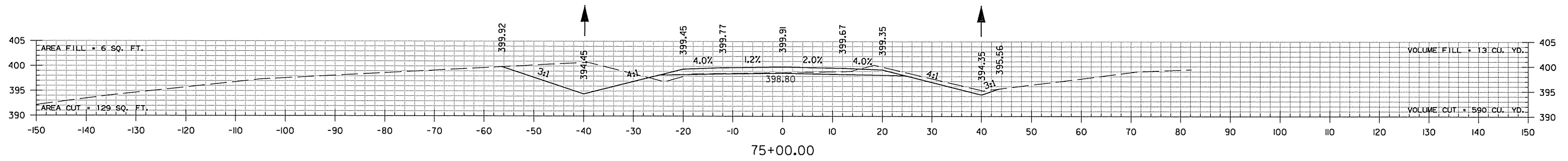
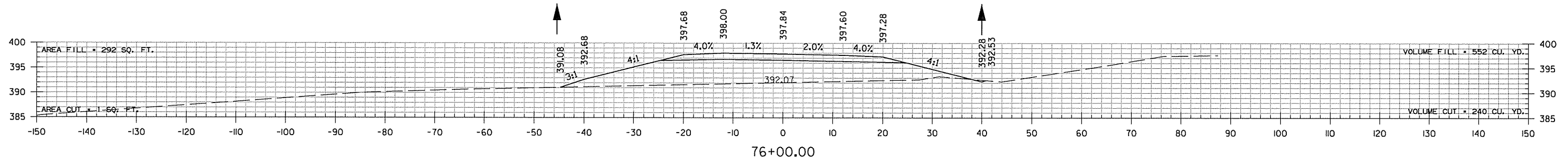


ARKANSAS STATE HIGHWAY COMMISSION		
WIRE FENCE WATER GAPS		
STANDARD DRAWING		
4-20-79	REVISED TOP RAIL & TENSION WIRE	676-4-20-79
10-2-72	REVISED & REDRAWN	529-10-2-72
DATE	REVISION	DATE FILMD.

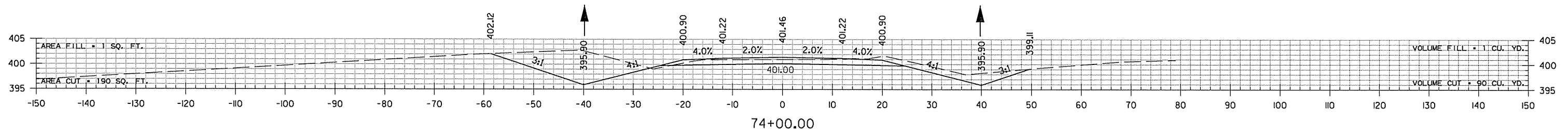
WF-2

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.		100807	48	63

2 CROSS SECTIONS



STA. 74+66.75 BEGIN SUPERELEVATION



AREA FILL = 0 SQ. FT.

VOLUME FILL = 0 CU. YD.

AREA CUT = 0 SQ. FT.

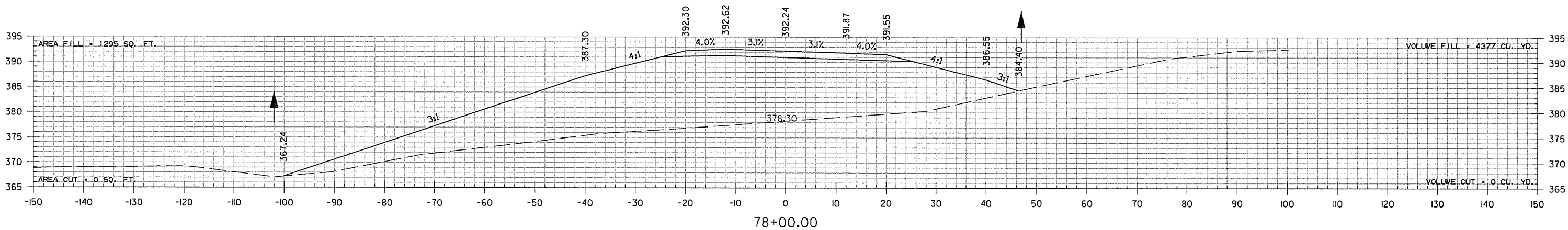
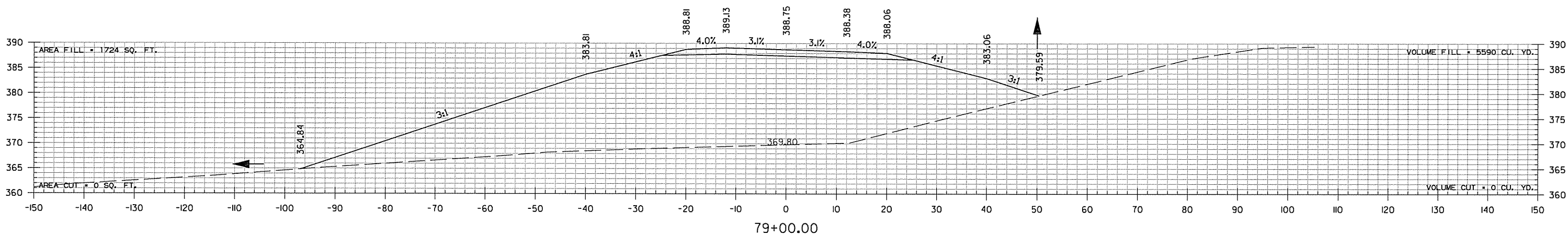
VOLUME CUT = 0 CU. YD.

STA. 73+74.43 BEGIN JOB 100807

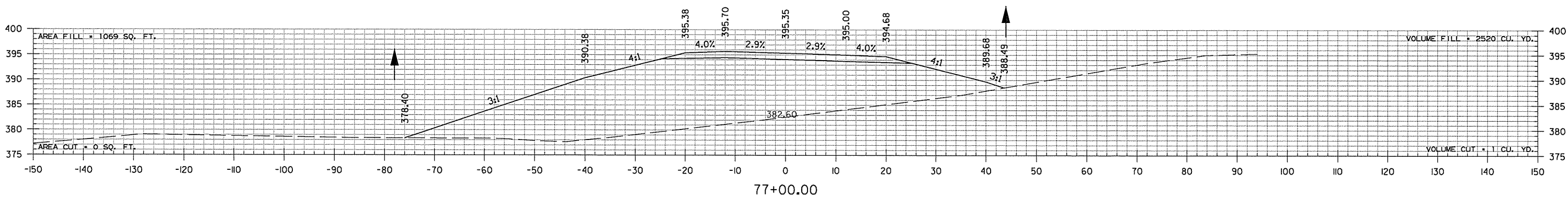
PARKER RD.
STA. 73+74 TO STA. 76+00

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. 100807	49	63

2 CROSS SECTIONS



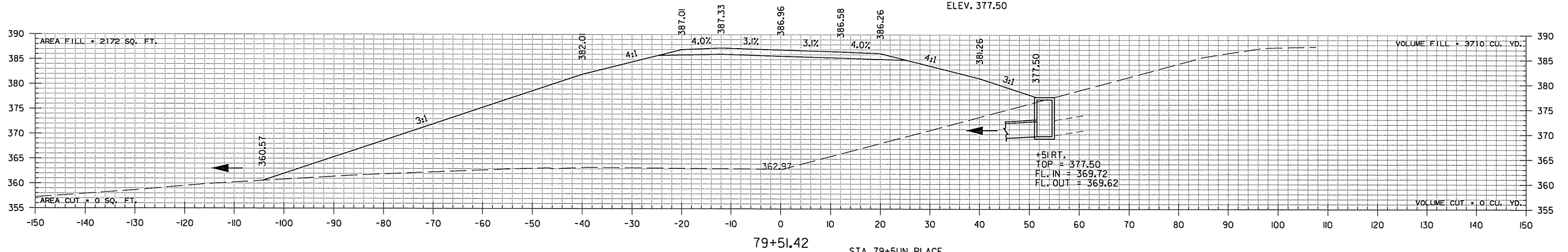
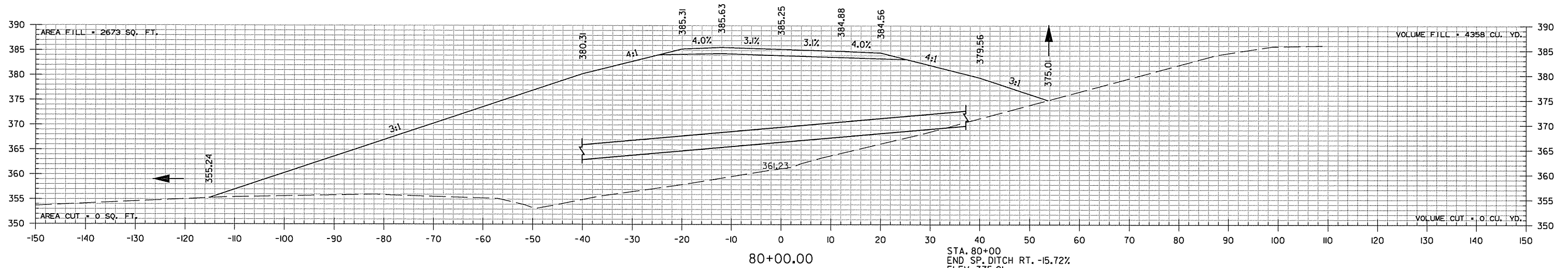
STA. 77+16.75 MAXIMUM SUPERELEVATION (S.E. = 0.031 FT./FT.)



PARKER RD.
STA. 77+00 TO STA. 79+00

10/22/2015 3:28:23 PM
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 L:\20110715 - Parker Road Extension\Drawings\100807_CX_ALL.dgn
 REVISION DATE:

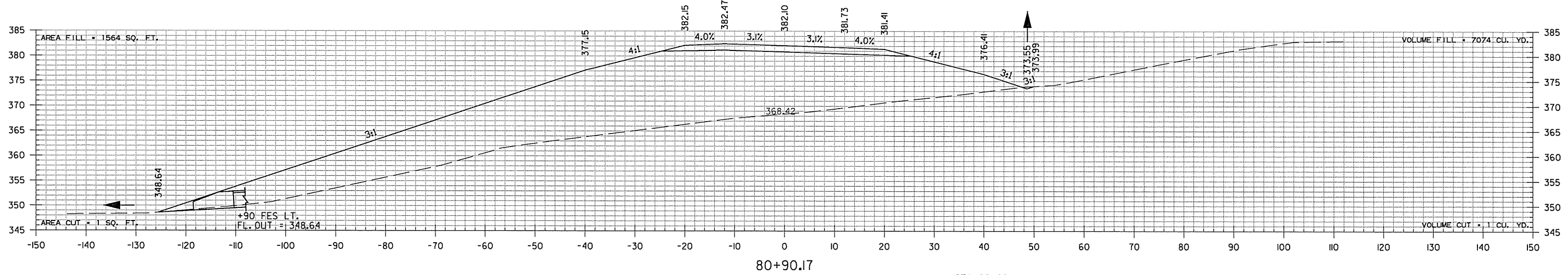
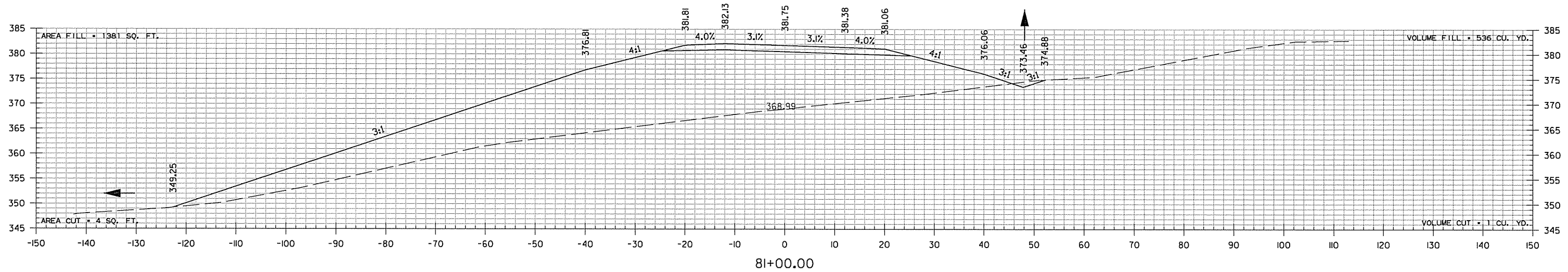
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	100807		50	63
② CROSS SECTIONS								



PARKER RD.
STA. 79+51 TO STA. 80+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.	100807		51	63

2 CROSS SECTIONS

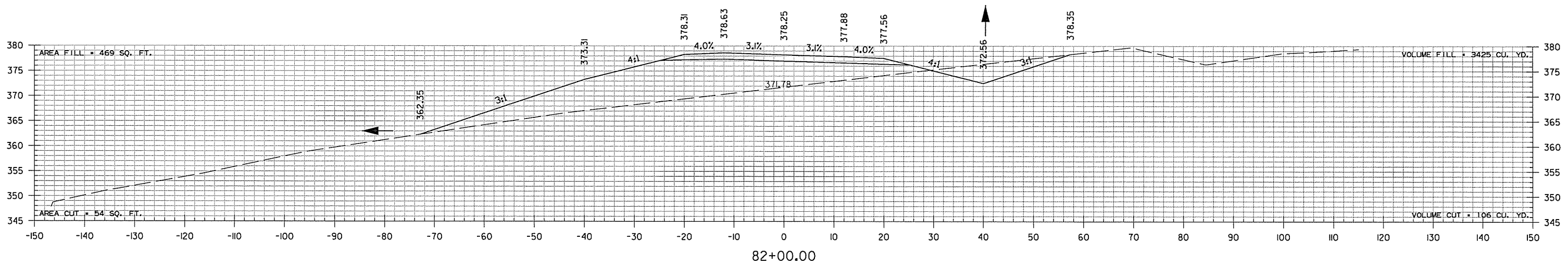
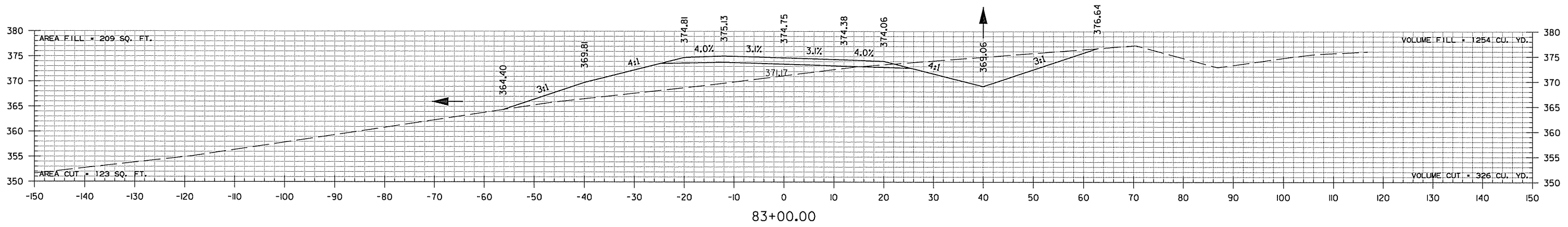
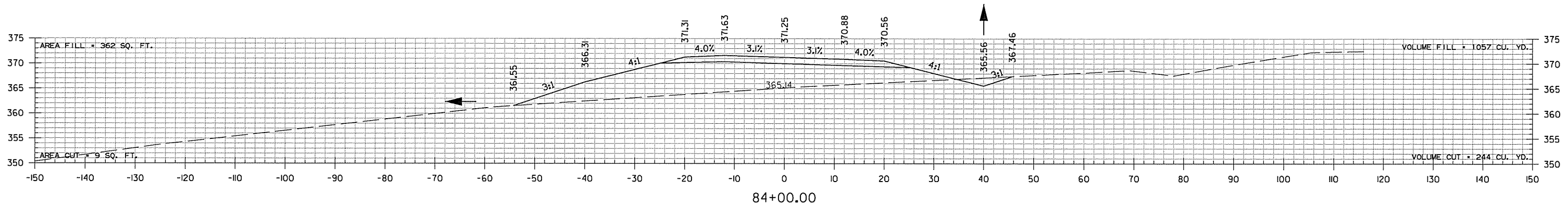


STA. 80+80
 BEGIN SP. DITCH RT. -0.90%
 ELEV. 373.64

PARKER RD.
 STA. 80+90 TO STA. 81+00

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 CM/Cullen
 WORKSPACE: AHTD
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 REVISED DATE:

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.	I00807		52	63
② CROSS SECTIONS								



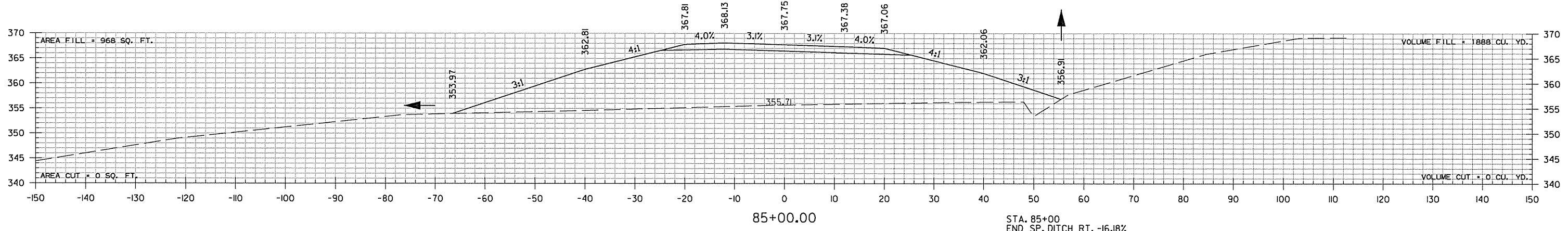
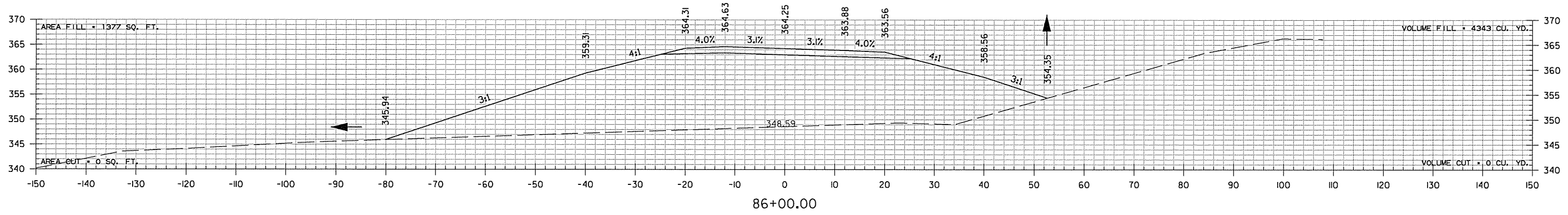
STA. 82+00
END SP. DITCH RT. -0.90%
ELEV. 372.56

PARKER RD.
STA. 82+00 TO STA. 84+00

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 REVISION DATE:

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. 100807	53	63

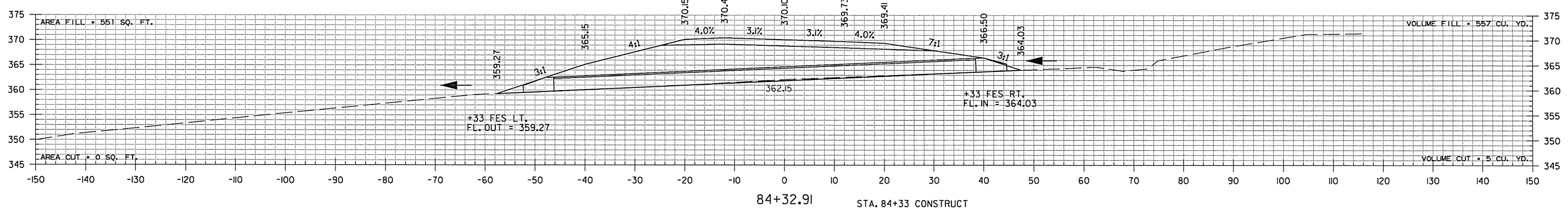
2 CROSS SECTIONS



STA. 85+00
END SP. DITCH RT. -16.18%
ELEV. 356.91

STA. 84+50
END SP. DITCH RT. 7.40%
BEGIN SP. DITCH RT. -16.18%
ELEV. 365.00

STA. 84+34
BEGIN SP. DITCH RT. 7.40%
ELEV. 363.81



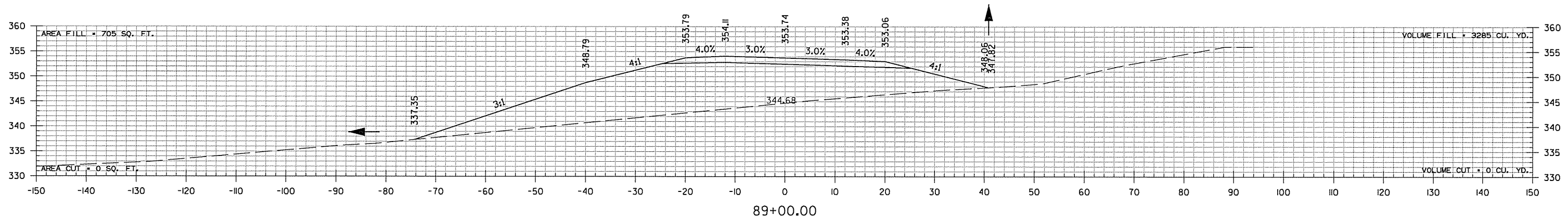
STA. 84+33 CONSTRUCT
DBL. 30" X 85' R.C. PIPE CULVERT
WITH F.E.S. LT. & RT.
(CLASS III) TYPE 3 BEDDING
Q50 = 47 CFS DA = 14.1 ACRES

PARKER RD.
STA. 84+33 TO STA. 86+00

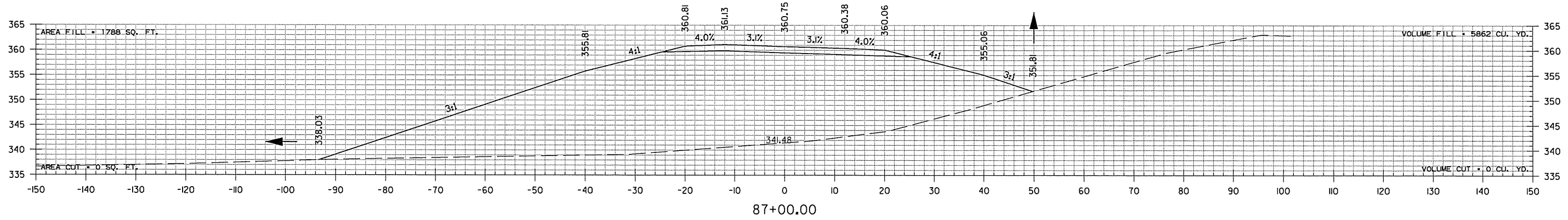
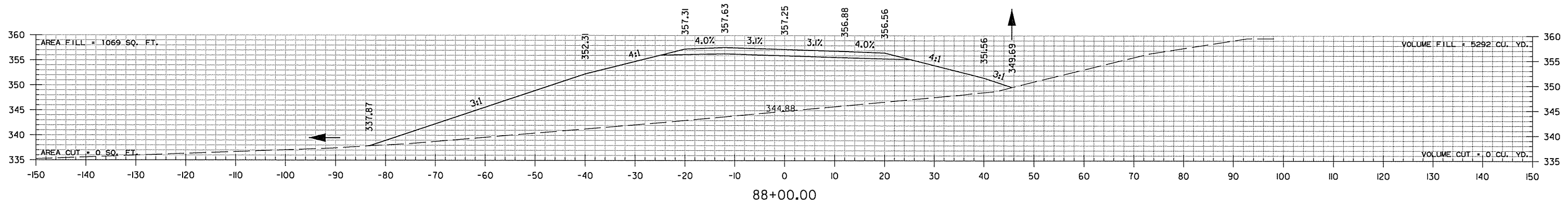
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REVISED DATE:

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.	100807	54	63	

2 CROSS SECTIONS



STA. 88+93.25 MAXIMUM SUPERELEVATION (S.E. = 0.031 FT./FT.)

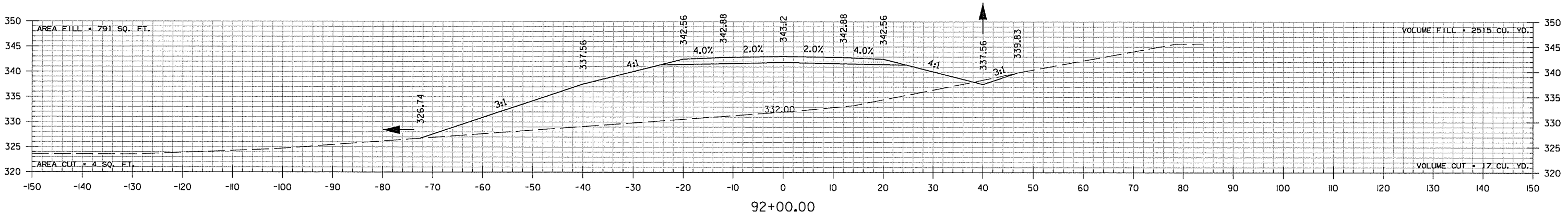


PARKER RD.
STA. 87+00 TO STA. 89+00

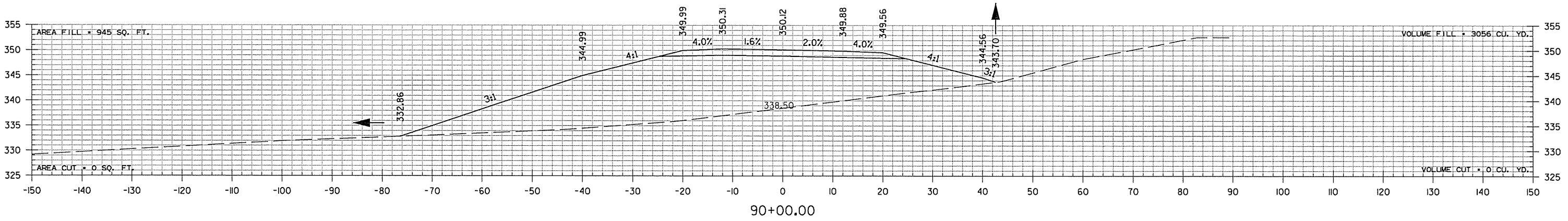
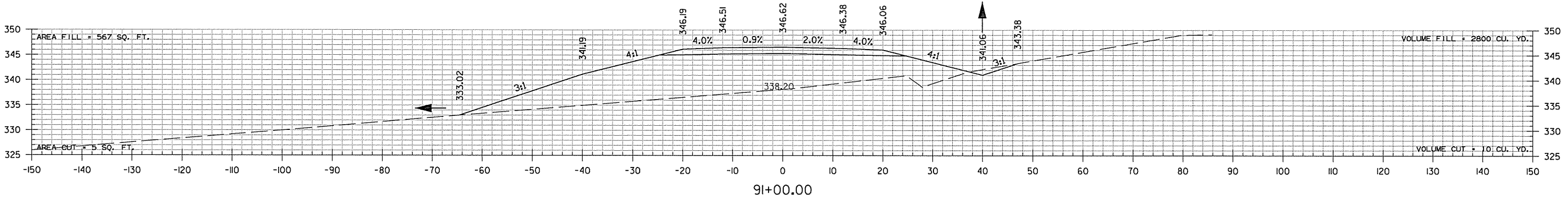
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 REVISED DATE:

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.		100807	55	63

2 CROSS SECTIONS



STA. 91+43.25 END SUPERELEVATION

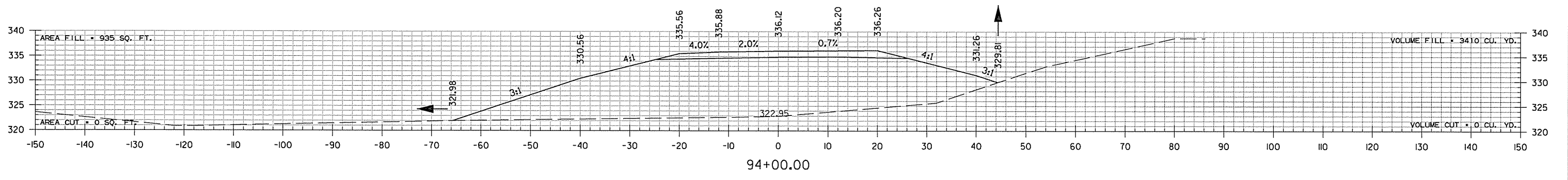
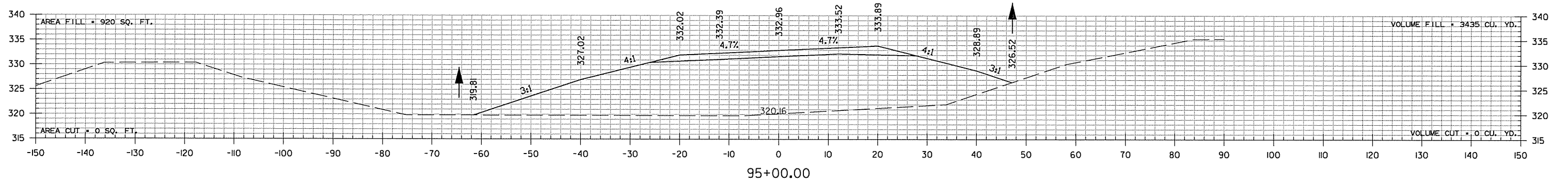


PARKER RD.
STA. 90+00 TO STA. 92+00

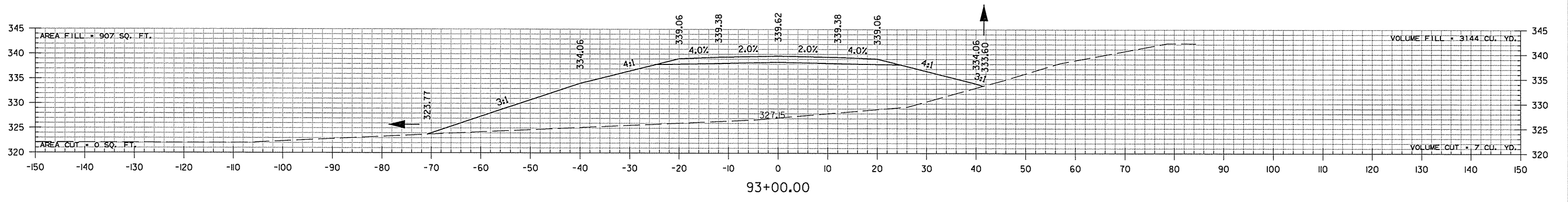
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 WORKSPACE: AHTD
 L:\2010\101775 - Parker Road Extension\Drawings\100807_CX_ALL.dgn
 REVISION DATE:

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.		100807	56	63

2 CROSS SECTIONS



STA. 93+59.81 BEGIN SUPERELEVATION

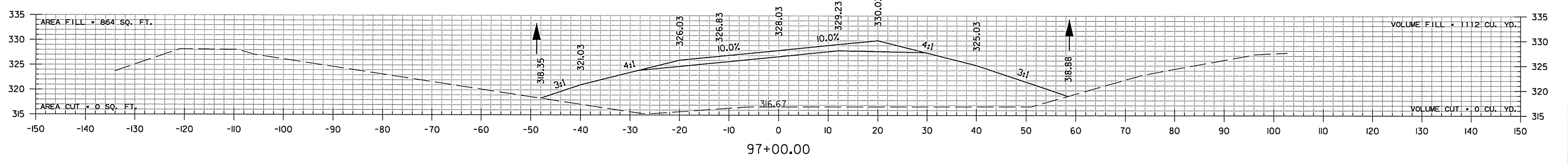
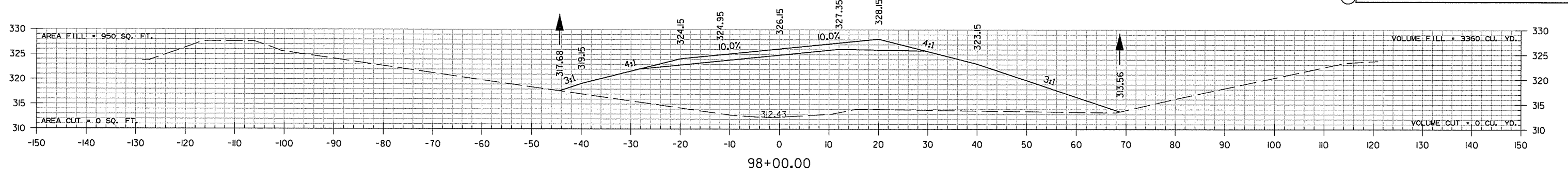


PARKER RD.
STA. 93+00 TO STA. 95+00

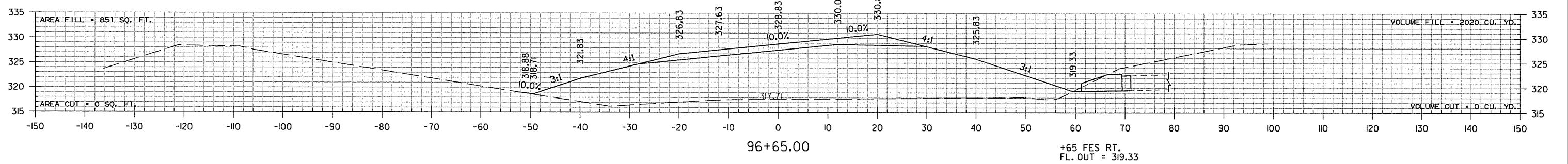
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CMCullen
WORKSPACE: AHTD
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REVISED DATE:

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.	100807		57	63

2 CROSS SECTIONS

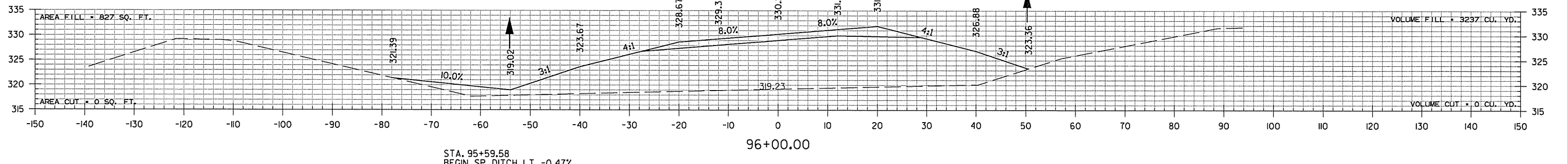


STA. 96+82.08
END SP. DITCH LT. -0.47%
ELEV. 318.63



+65 FES RT.
FL. OUT = 319.33
STA. 96+65 IN PLACE
36" X 95' R.C. PIPE CULVERT
WITH FES RT.
REMOVE FES AND 10' R.C. PIPE RT.
AND EXTEND R.C. PIPE
2' LT. (CLASS III) TYPE 3 BEDDING
WITH FES ON RT.
050= 66 CFS DA= 13.9 ACRES

STA. 96+59.81 MAXIMUM SUPERELEVATION (S.E. = 0.100 FT./FT.)



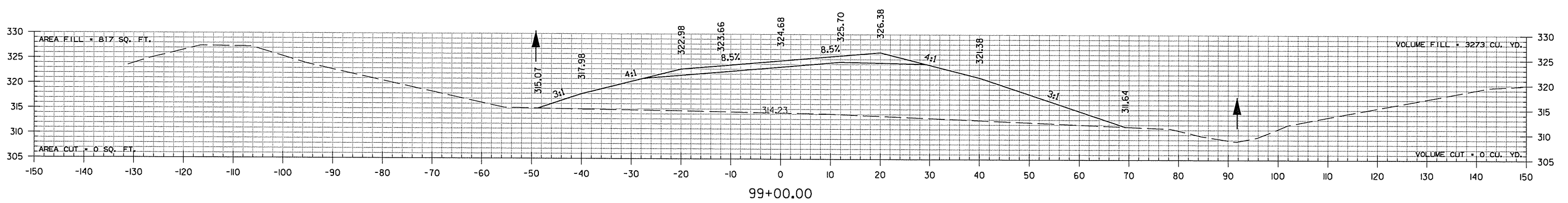
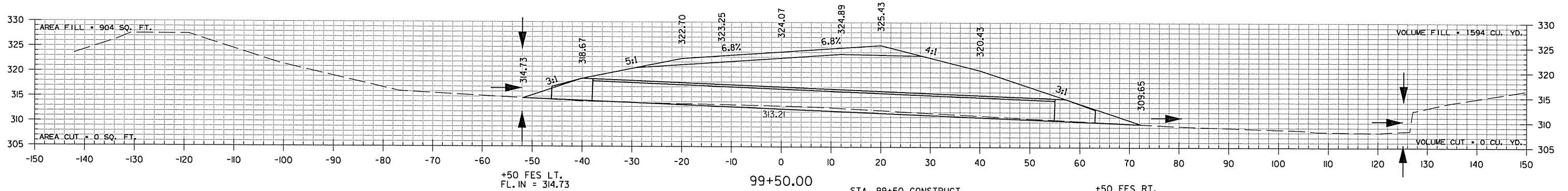
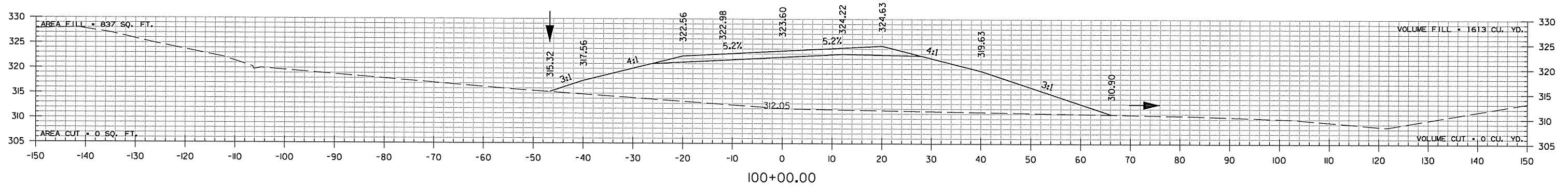
STA. 95+59.58
BEGIN SP. DITCH LT. -0.47%
ELEV. 319.21

PARKER RD.
STA. 96+00 TO STA. 98+00

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WORKSPACE: AHTD
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REVISED DATE:

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.	100807	58	63	

② CROSS SECTIONS

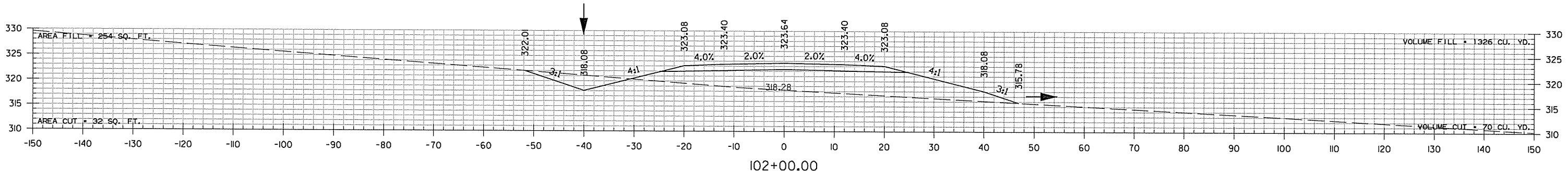
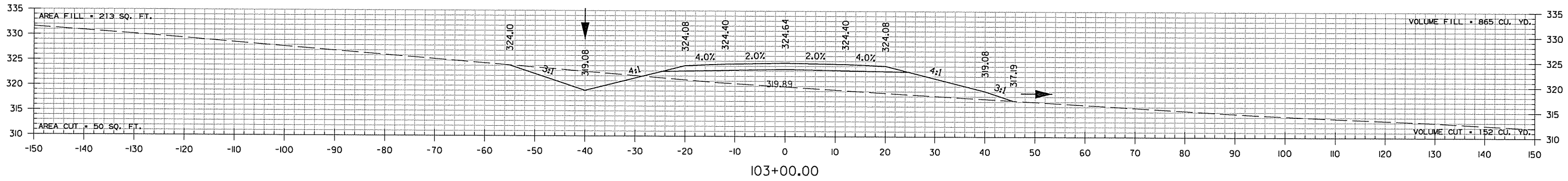


PARKER RD.
 STA. 99+00 TO STA. 100+00

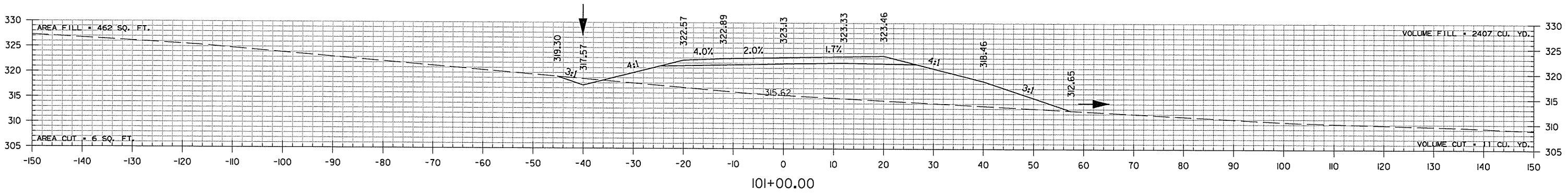
11/4/2015 5:16:23 PM
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 REVISION DATE:

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.		100807	59	63

2 CROSS SECTIONS



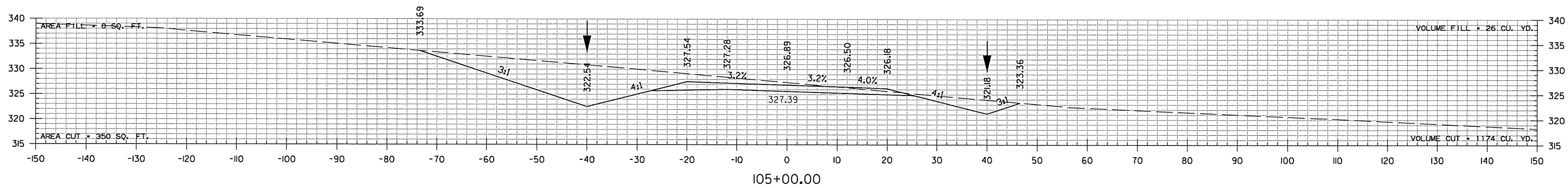
STA. 101+55.14 END SUPERELEVATION



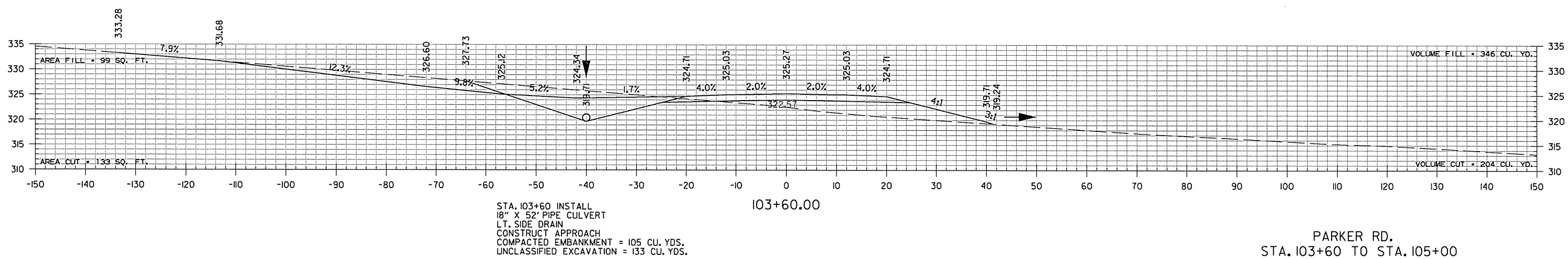
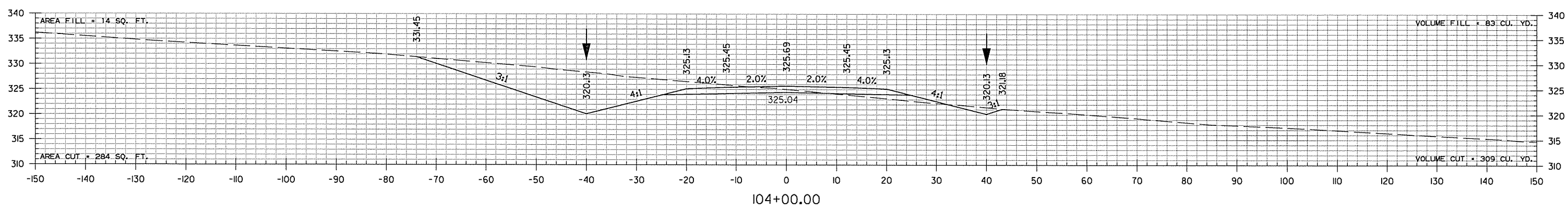
PARKER RD.
STA. 101+00 TO STA. 103+00

11/4/2015 5:16:37 PM
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 REVISION DATE:

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.		100807	60	63
				(2) CROSS SECTIONS				



STA. 104+02.57 BEGIN SUPERELEVATION

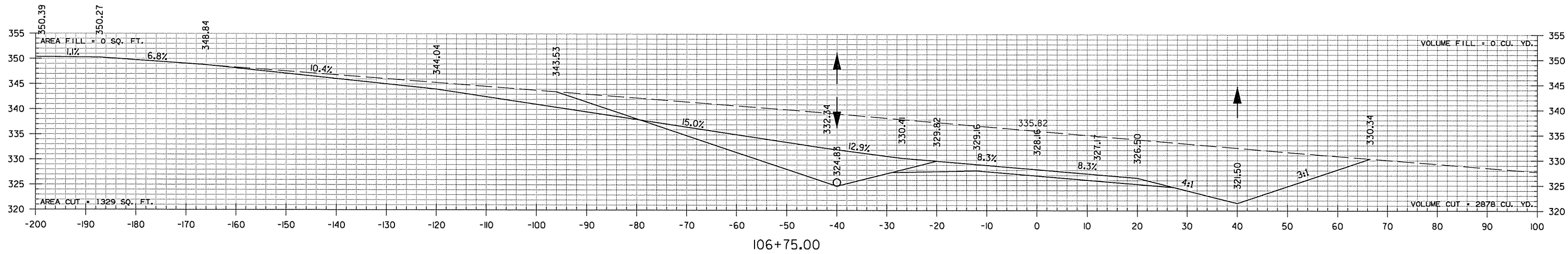
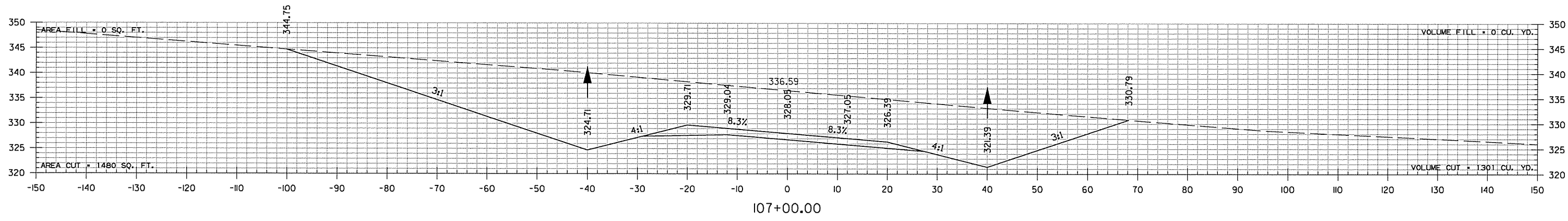


PARKER RD.
STA. 103+60 TO STA. 105+00

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 REVISED DATE:

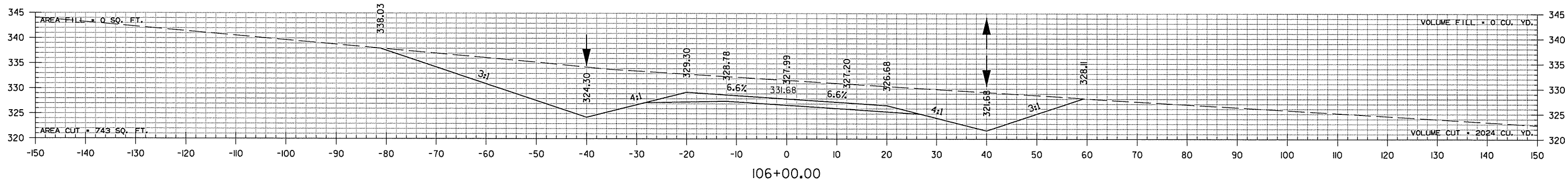
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 100807		61	63	

2 CROSS SECTIONS



STA. 106+75 INSTALL
 18" X 56' PIPE CULVERT
 L.T. SIDE DRAIN
 CONSTRUCT APPROACH
 COMPACTED EMANKMENT = 239 CU. YD.
 UNCLASSIFIED EXCAVATION = 146 CU. YD.

STA. 106+52.57 MAXIMUM SUPERELEVATION (S.E. = 0.083 FT./FT.)

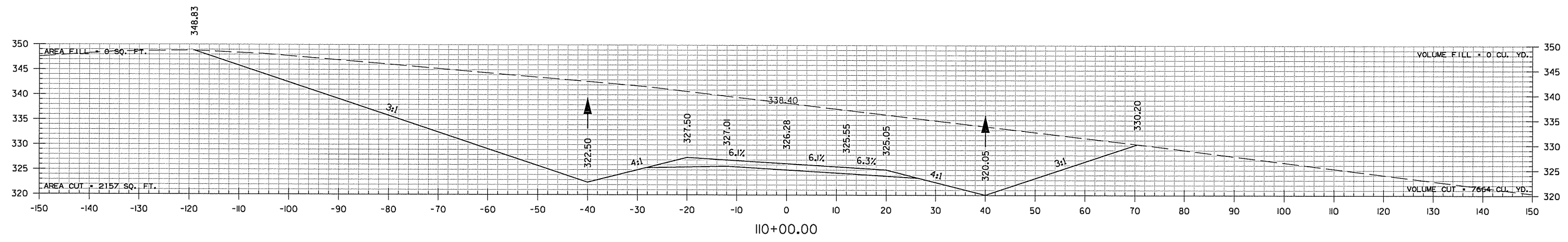


PARKER RD.
 STA. 106+00 TO STA. 107+00

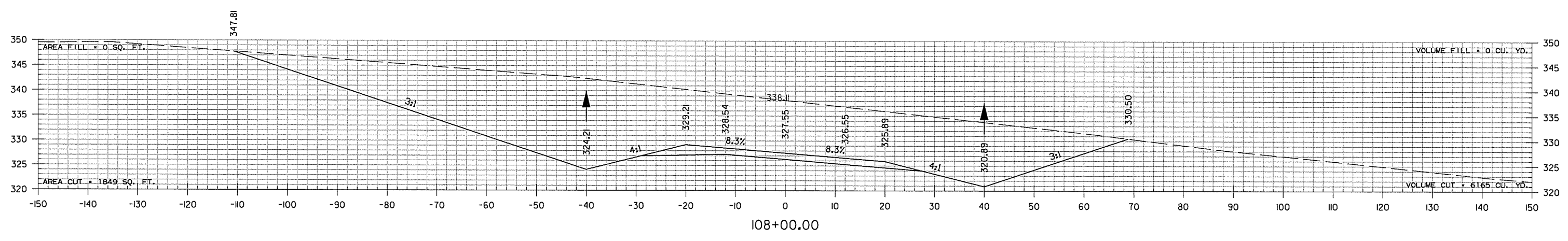
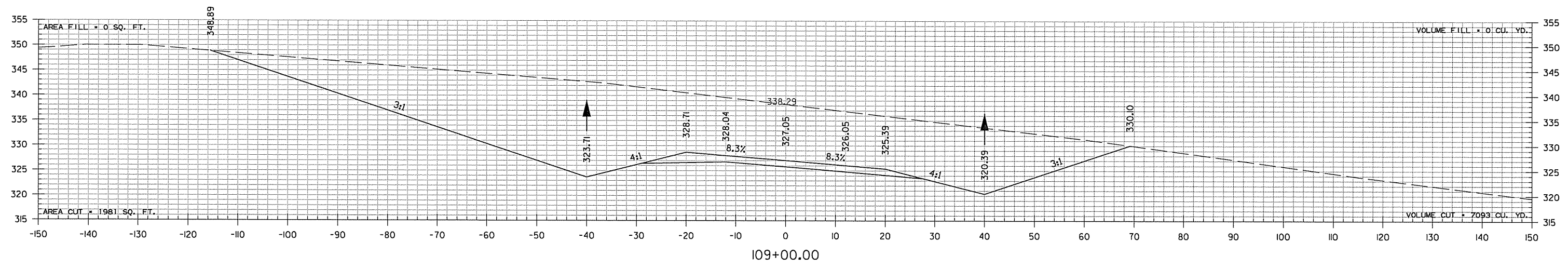
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 REVISED DATE:

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.	100807		62	63

2 CROSS SECTIONS



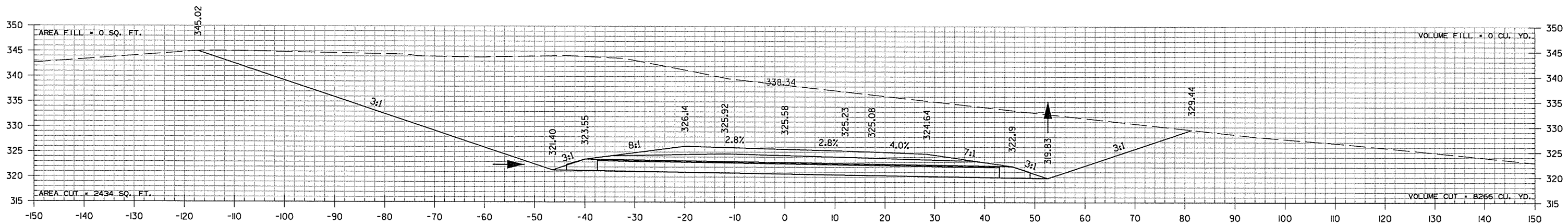
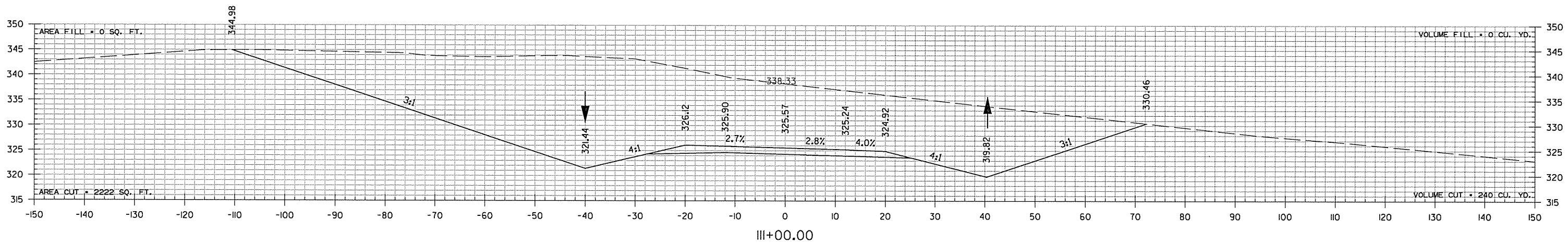
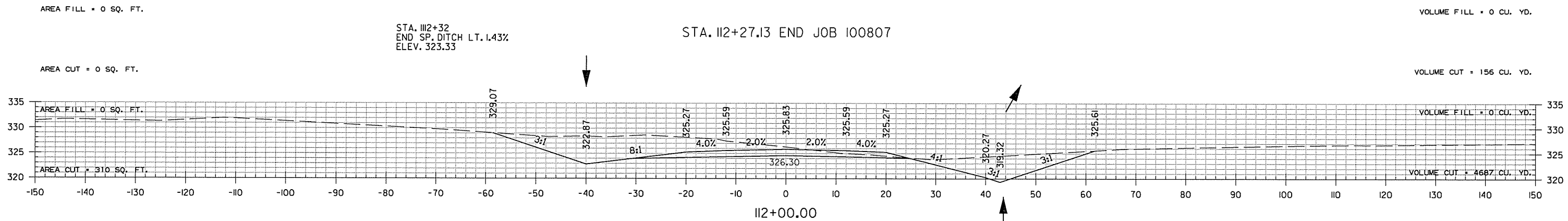
STA. 109+32.87 MAXIMUM SUPERELEVATION (S.E. = 0.083 FT./FT.)



PARKER RD.
STA. 108+00 TO STA. 110+00

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REVISED DATE:

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. 100807	63	63
② CROSS SECTIONS								



STA. 110+97
BEGIN SP. DITCH LT. 1.43%
ELEV. 321.40

+97 LT.
FL. = 321.40

STA. 110+97 CONSTRUCT
24" X 8' R.C. PIPE CULVERT
WITH F.E.S. LT. & RT.
(CLASS IV) TYPE 3 BEDDING
Q50 = 6 CFS DA = 1.8 ACRES

STA. 110+94, 194.08' RT.
END SP. DITCH RT. -0.50%
ELEV. 318.80

+97 RT.
FL. = 319.83

STA. 110+73, 40.50' RT.
BEGIN SP. DITCH RT. -0.50%
ELEV. 319.95

PARKER RD.
STA. 110+97 TO STA. 112+00