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GARLAND COUNTY
 ROUTE 88 SECTION 4
 F.A.P. EBS-9210(20)
 JOB 061113

VICINITY MAP

STA. 196+87
BEGIN JOB 06III3
LOG MILE 1.81

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N34°28'09"	N34°28'17"	N34°28'28"
LON.	W93°04'06"	W93°03'55"	W93°03'49"

LENGTH CALCULATED ALONG C.L. CONSTRUCTION

GROSS LENGTH OF PROJECT	2503.00 FEET OR 0.474 MILES
NET LENGTH OF ROADWAY	2503.00 FEET OR 0.474 MILES
NET LENGTH OF BRIDGES	0.00 FEET OR 0.00 MILES
NET LENGTH OF PROJECT	2503.00 FEET OR 0.474 MILES

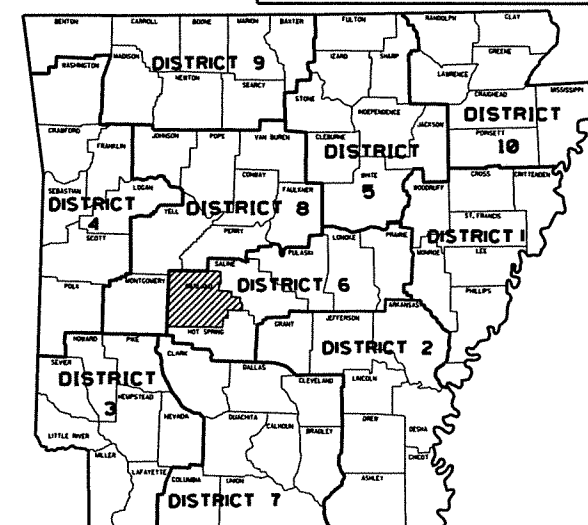
STA. 221+90
END JOB 06113

R19W

P.E. JOB 061113
NON-PART.

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.		061113	1	91

② HWY. 270-PRINTERS PLACE
(HIGDON FERRY RD.) (HOT SPRINGS) (S)



AHTD DISTRICT 6

• DESIGN TRAFFIC DATA •

DESIGN YEAR-----	2030
2011 ADT-----	15000
2031 ADT-----	19500
2031 DHV-----	2145
DIRECTIONAL DISTRIBUTION-----	60%
TRUCKS-----	3%
DESIGN SPEED-----	30 MPH

APPROVED



~~SECRET~~
DEPUTY DIRECTOR
AND CHIEF ENGINEER

INDEX OF SHEETS			
SHEET NO.	TITLE	DRAWING NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS AND GOVERNING SPECIFICATIONS		
3	GENERAL NOTES		
4-6	TYPICAL SECTIONS OF IMPROVEMENT		
7	SPECIAL DETAILS		
8	RETAINING WALL DETAILS		
9-12	TEMPORARY EROSION CONTROL DETAILS		
13-17	MAINTENANCE OF TRAFFIC DETAILS		
18	PERMANENT PAVEMENT MARKINGS		
19-25	QUANTITY SHEETS		
26	SUMMARY OF QUANTITIES AND REVISION BOX		
27-29	SURVEY CONTROL DETAILS		
30-35	PLAN AND PROFILE SHEETS		
36	SUMMARY OF SIGNAL QUANTITIES AND NOTES		
37-39	SIGNALIZATION PLAN SHEETS		
40-44	SIGNALIZATION DETAILS		
45	CONCRETE DITCH PAVING	CDP-1	11-17-10
46	CURBING DETAILS	CG-1	11-29-07
47	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
48	FLARED END SECTION	FES-1	10-18-96
49	FLARED END SECTION	FES-2	10-18-96
50	DETAILS OF DROP INLETS & JUNCTION BOXES	FPC-9	11-16-01
51	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8-22-02
52	DETAILS OF DROP INLET (TYPE MO)	FPC-9M	8-22-02
53	MAILBOX DETAILS	MB-1	11-18-04
54	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	12-15-11
55	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	12-15-11
56	PAVEMENT MARKING DETAILS	PM-1	11-17-10
57	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
58	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10-18-96
59	DETAILS OF SPECIAL ITEMS	SI-1	4-17-08
60	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	12-15-11
61	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
62	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
63	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12-15-11
64	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-2-94
65	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11-3-94
66	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11-10-05
67-91	CROSS SECTIONS		

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

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.	061113	2
								91

2 INDEX OF SHEETS AND GOVERNING SPECIFICATIONS

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FOR FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT-EQUAL OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT-SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT-EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT-EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT-POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT-WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TEST FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
501-1	INSTALLATION OF TIE BARS
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
711-1	CONCRETE PULL BOX
714-1	DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL MAST ARMS AND POLES
715-1	DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL PEDESTAL POLES
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 061113	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061113	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061113	CABINET DRAWER ASSEMBLY
JOB 061113	DELAY IN RIGHT-OF-WAY OCCUPANCY
JOB 061113	EDGE CARD VIDEO PROCESSOR
JOB 061113	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 061113	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 061113	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061113	INTERNET BIDDING
JOB 061113	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 061113	LED TRAFFIC SIGNAL HEAD
JOB 061113	LUMINAIRE ASSEMBLY (CUTOFF TYPE)
JOB 061113	PARTNERING REQUIREMENTS
JOB 061113	SERVICE POINT ASSEMBLY
JOB 061113	SITE USE (A+C METHOD)
JOB 061113	SOIL STABILIZATION
JOB 061113	STORM WATER POLLUTION PREVENTION PLAN
JOB 061113	STREET NAME SIGN (MAST ARM MOUNTED)
JOB 061113	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061113	SYSTEM LOCAL CONTROLLER
JOB 061113	UTILITY ADJUSTMENTS
JOB 061113	VALUE ENGINEERING
JOB 061113	VIDEO DETECTOR (COLOR)
JOB 061113	WARM MIX ASPHALT



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2 GENERAL NOTES



8-16-11

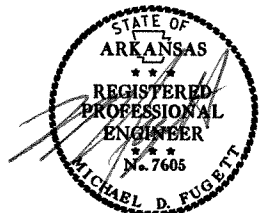
GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED IF AND WHERE DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. 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.
8. ALL FLEXIBLE BASE COURSE MATERIAL REMOVED WILL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.

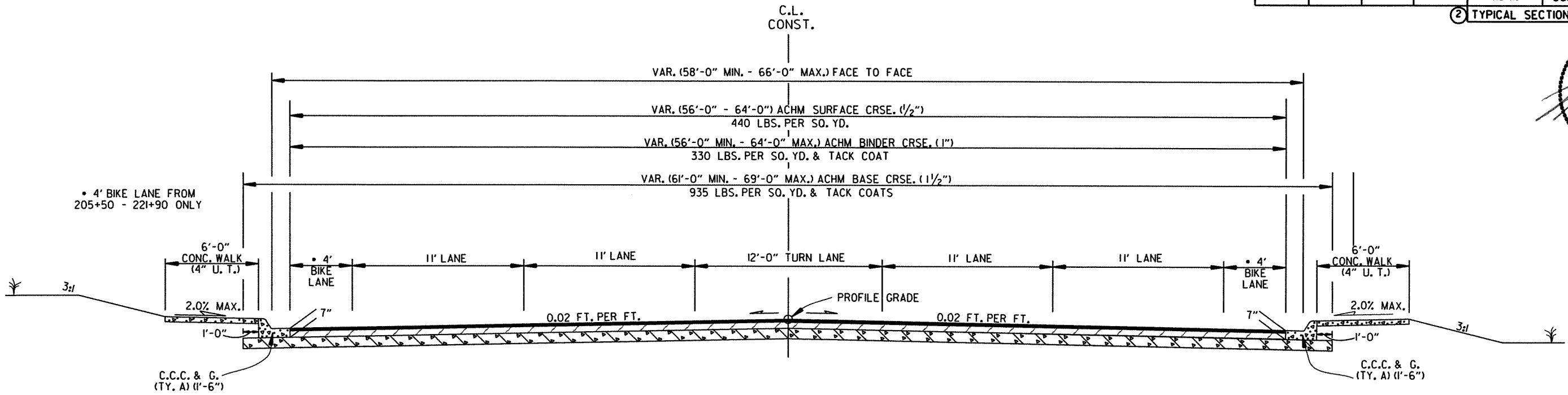
GENERAL NOTES

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2 TYPICAL SECTIONS OF IMPROVEMENT



816-11



TYPICAL SECTION OF IMPROVEMENT
STA. 201+00 - STA. 211+19
STA. 216+46 - STA. 218+00

NOTES:

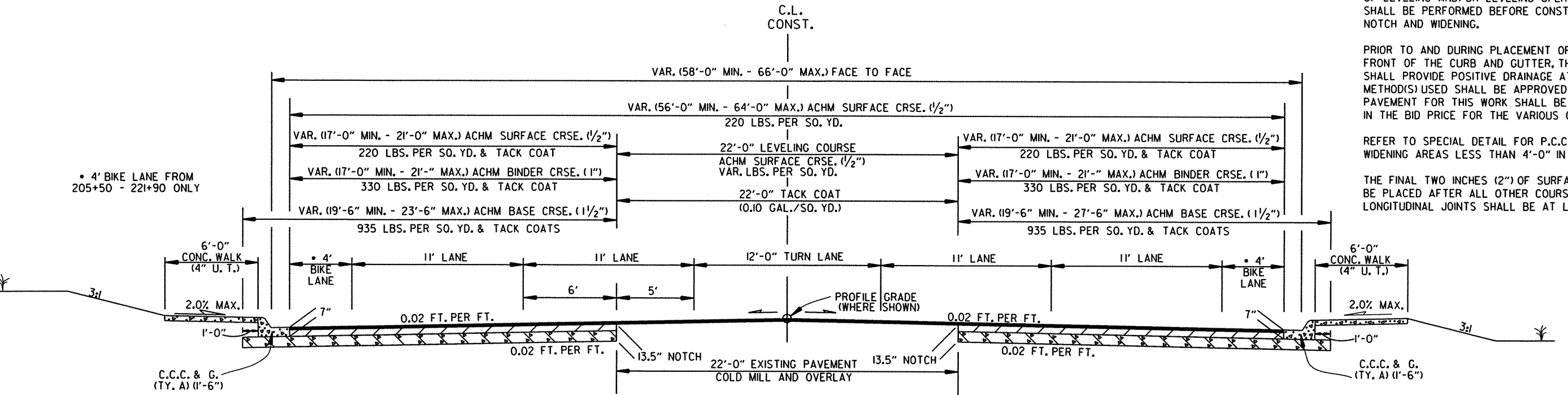
REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.

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

REFER TO SPECIAL DETAIL FOR P.C.C. BASE FOR ANY WIDENING AREAS LESS THAN 4'-0" IN WIDTH.

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



TYPICAL SECTION OF IMPROVEMENT
STA. 196+87 - STA. 201+00
STA. 218+00 - STA. 221+90

TYPICAL SECTIONS OF IMPROVEMENT

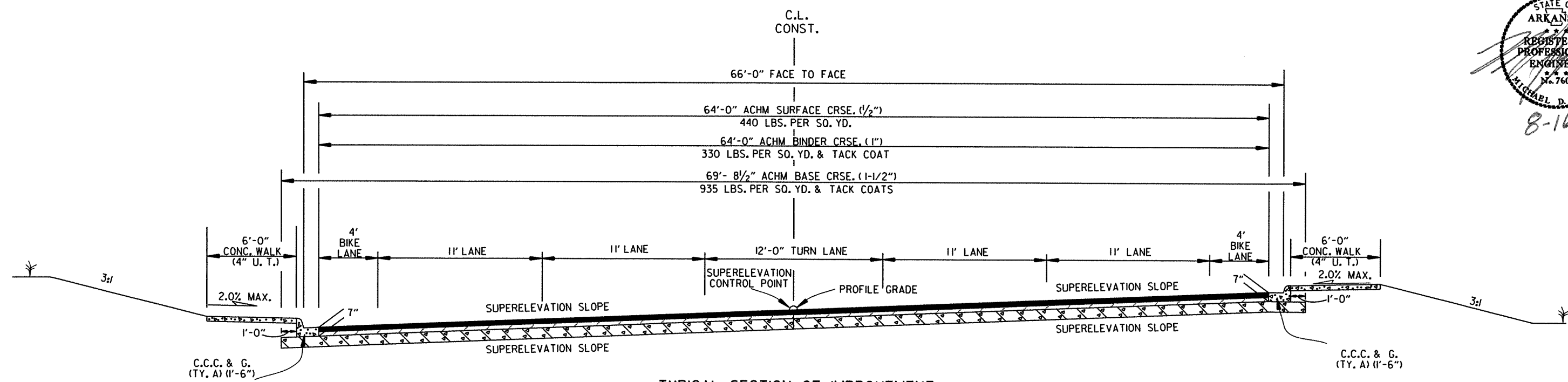
03-01-2011 r061113 t01.dgn

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				JOB NO.		061113	5	91

2 TYPICAL SECTIONS OF IMPROVEMENT



8-16-11



TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATED
STA. 211+19 - STA. 216+46

NOTES:

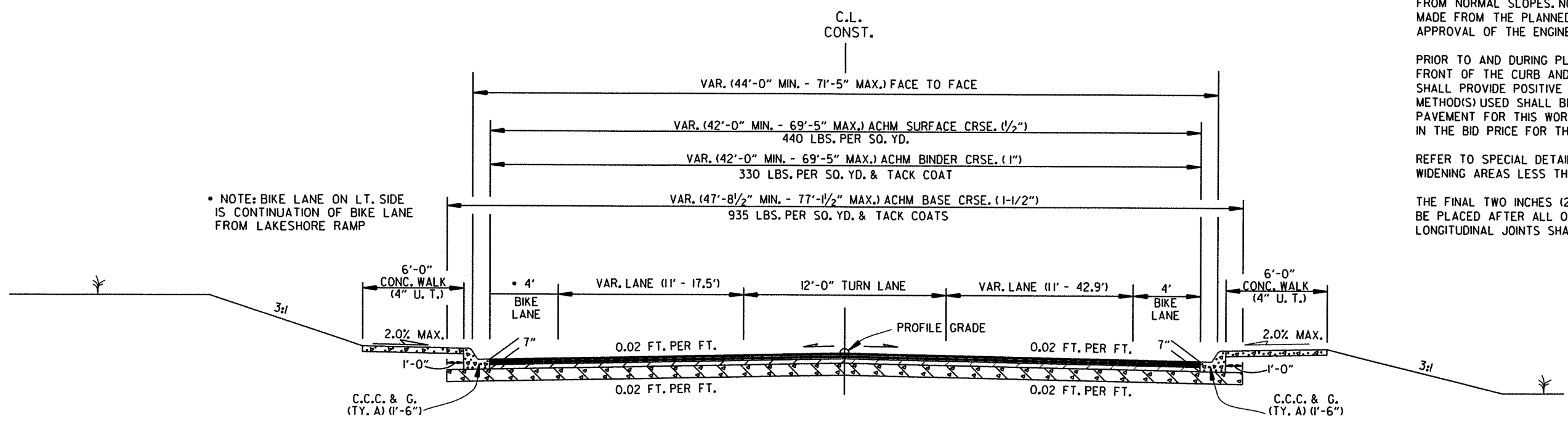
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NOTE: BIKE LANE ON L.T. SIDE IS CONTINUATION OF BIKE LANE FROM LAKESHORE RAMP



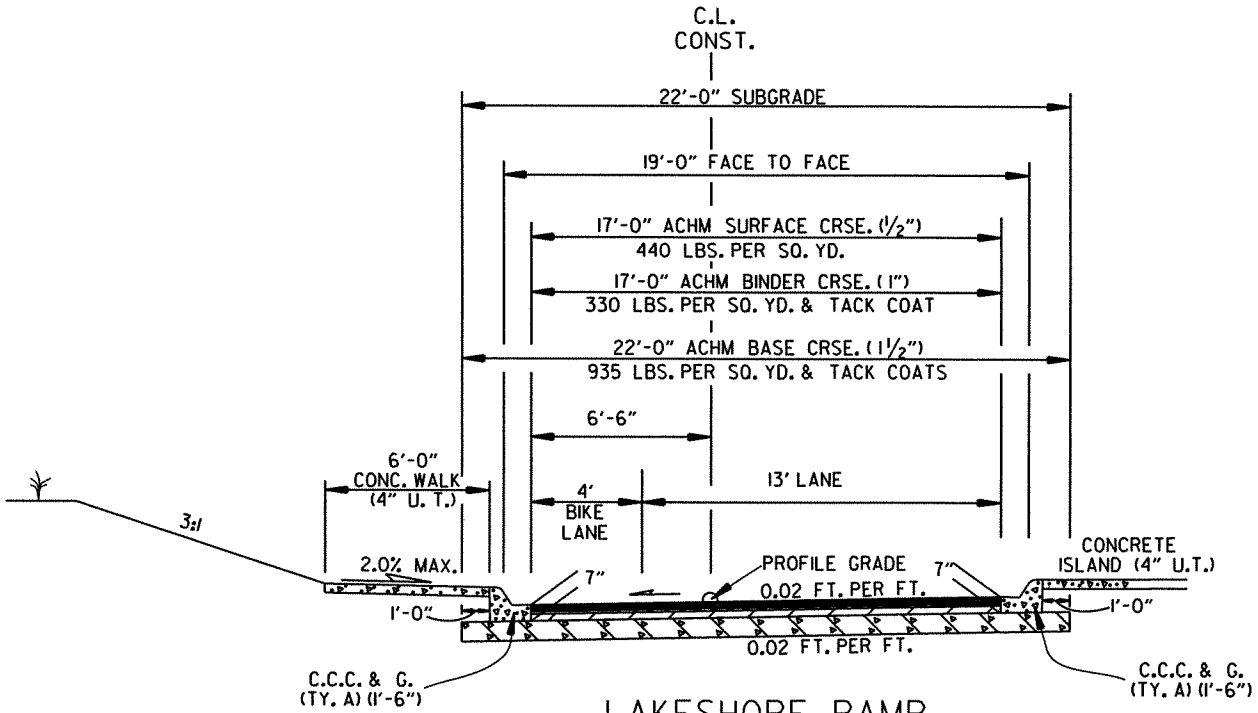
LAKESHORE DRIVE
STA. 0+50 - STA. 3+02

TYPICAL SECTIONS OF IMPROVEMENT

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						JOB NO. 061113	6	91

2 TYPICAL SECTIONS OF IMPROVEMENT



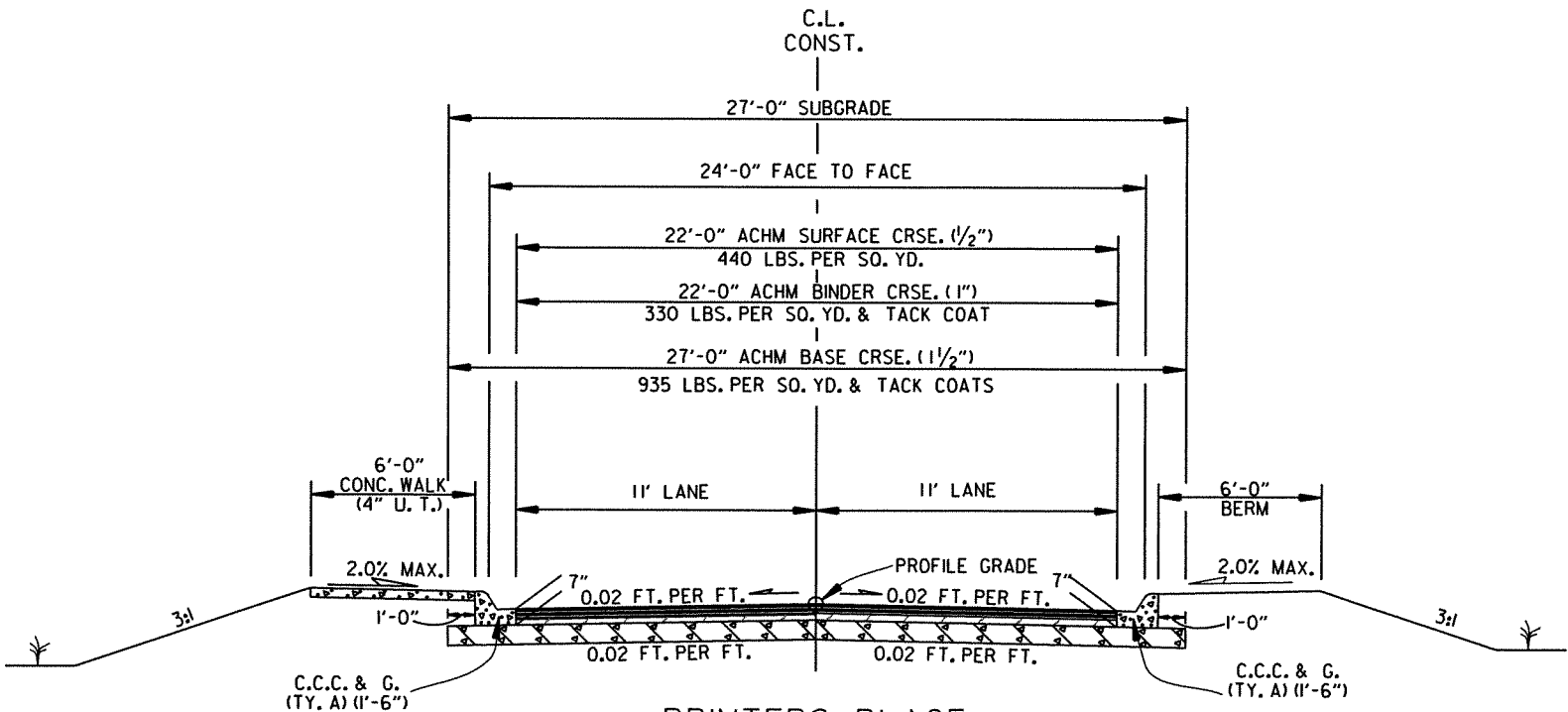
LAKESHORE RAMP
STA. 10+62 - STA. 11+66

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.

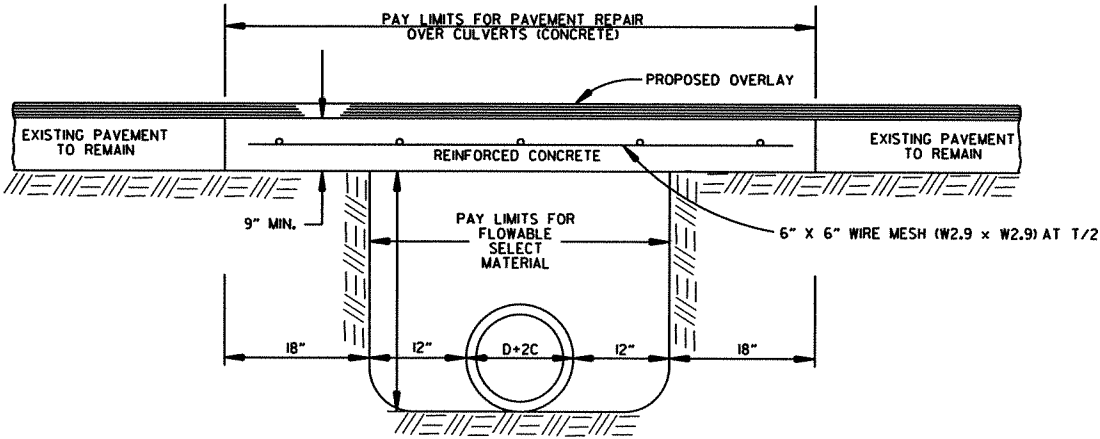
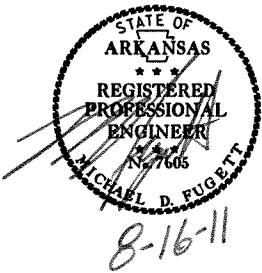
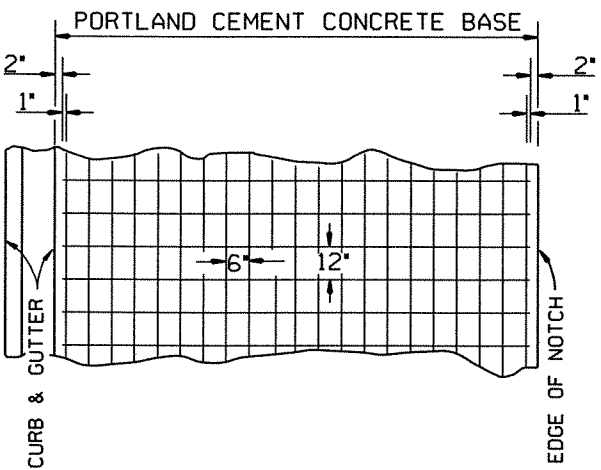
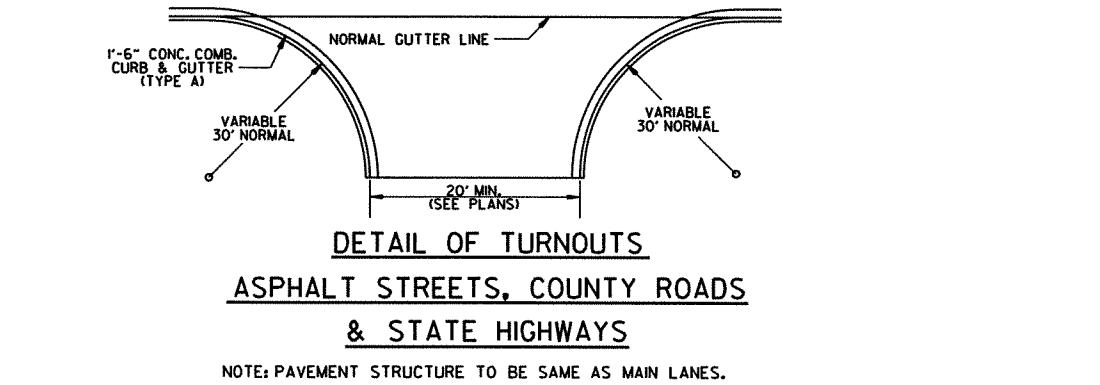
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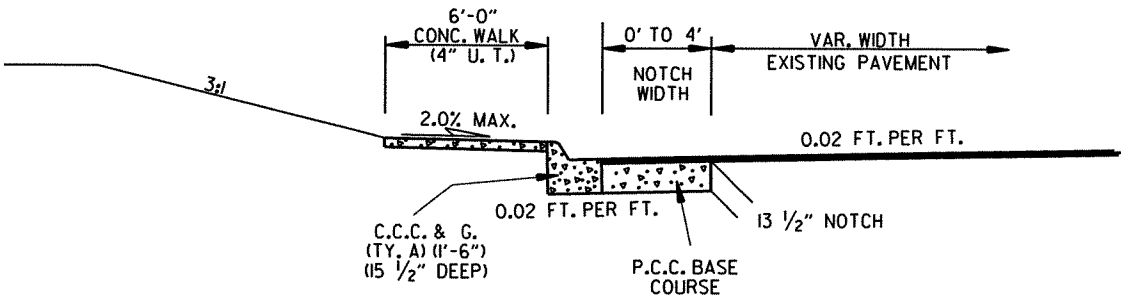
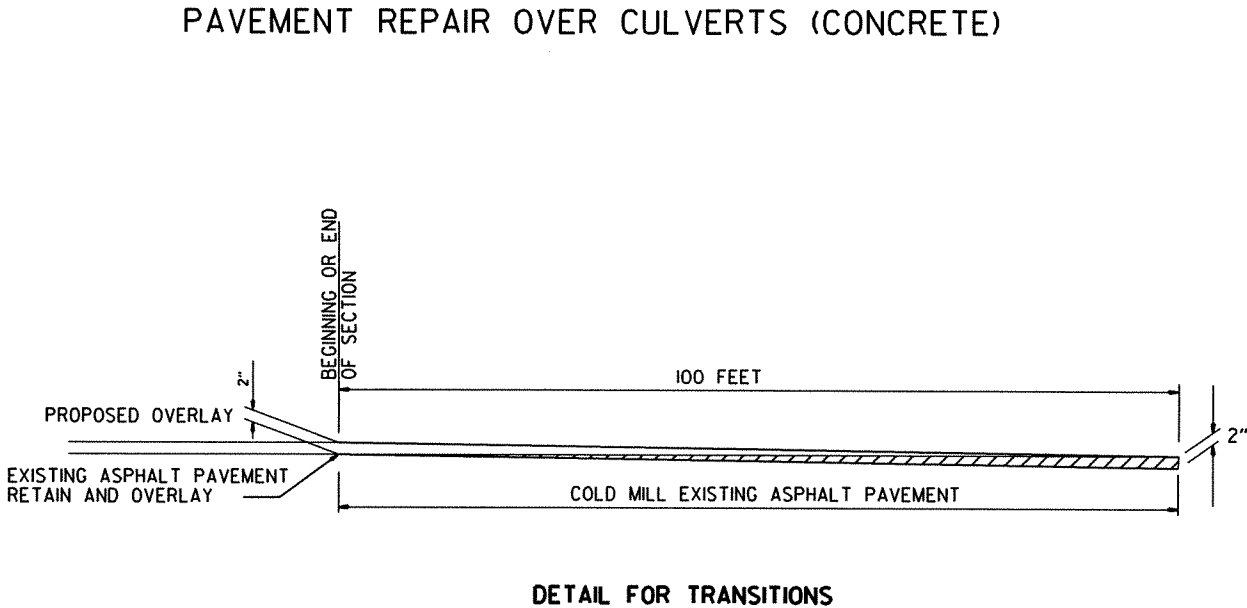


PRINTERS PLACE
STA. 21+00 - STA. 22+27

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						JOB NO. 061113	7	91
② SPECIAL DETAILS								

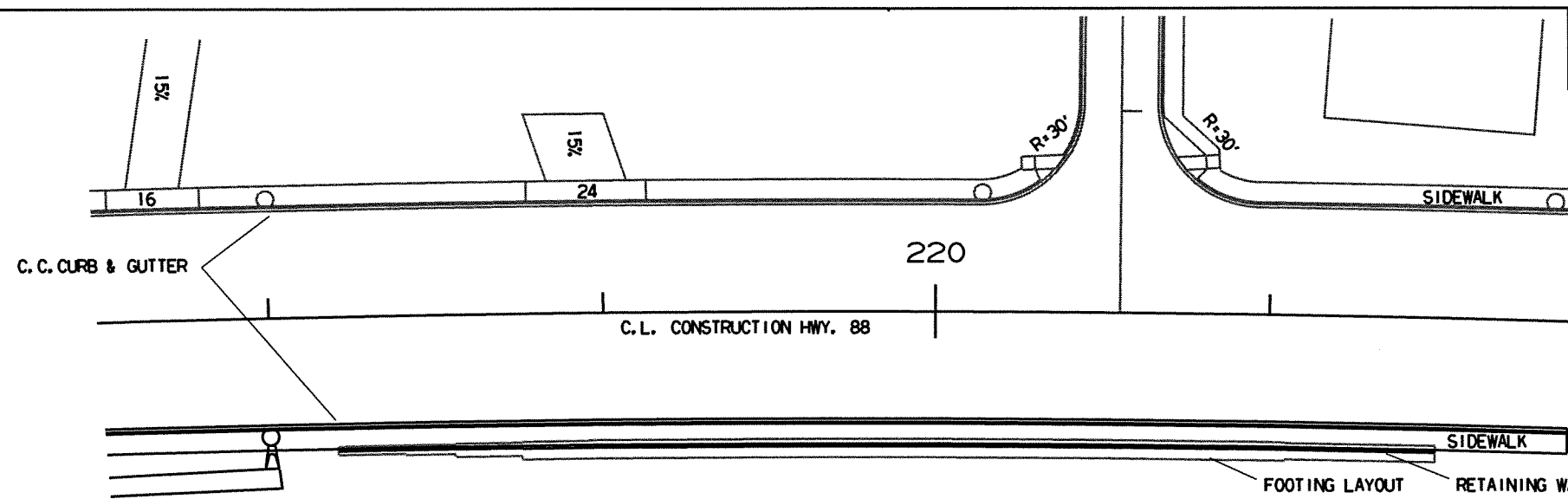


- NOTES:
1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
 2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
 3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFOR WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (13 1/2" U.T.)



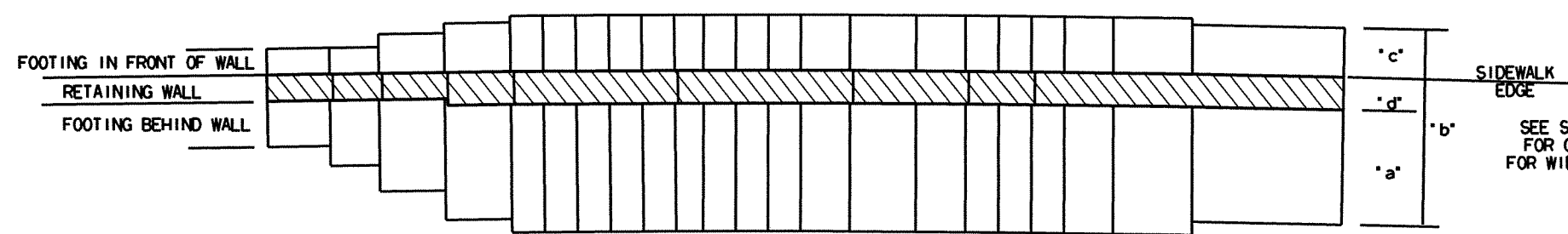
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2 RETAINING WALL DETAILS



FRONT FACE OF RETAINING WALL IS
ALONG THE BACK EDGE OF SIDEWALK,
OFFSET 39.5 FEET FROM CENTERLINE

SCALED PLAN VIEW

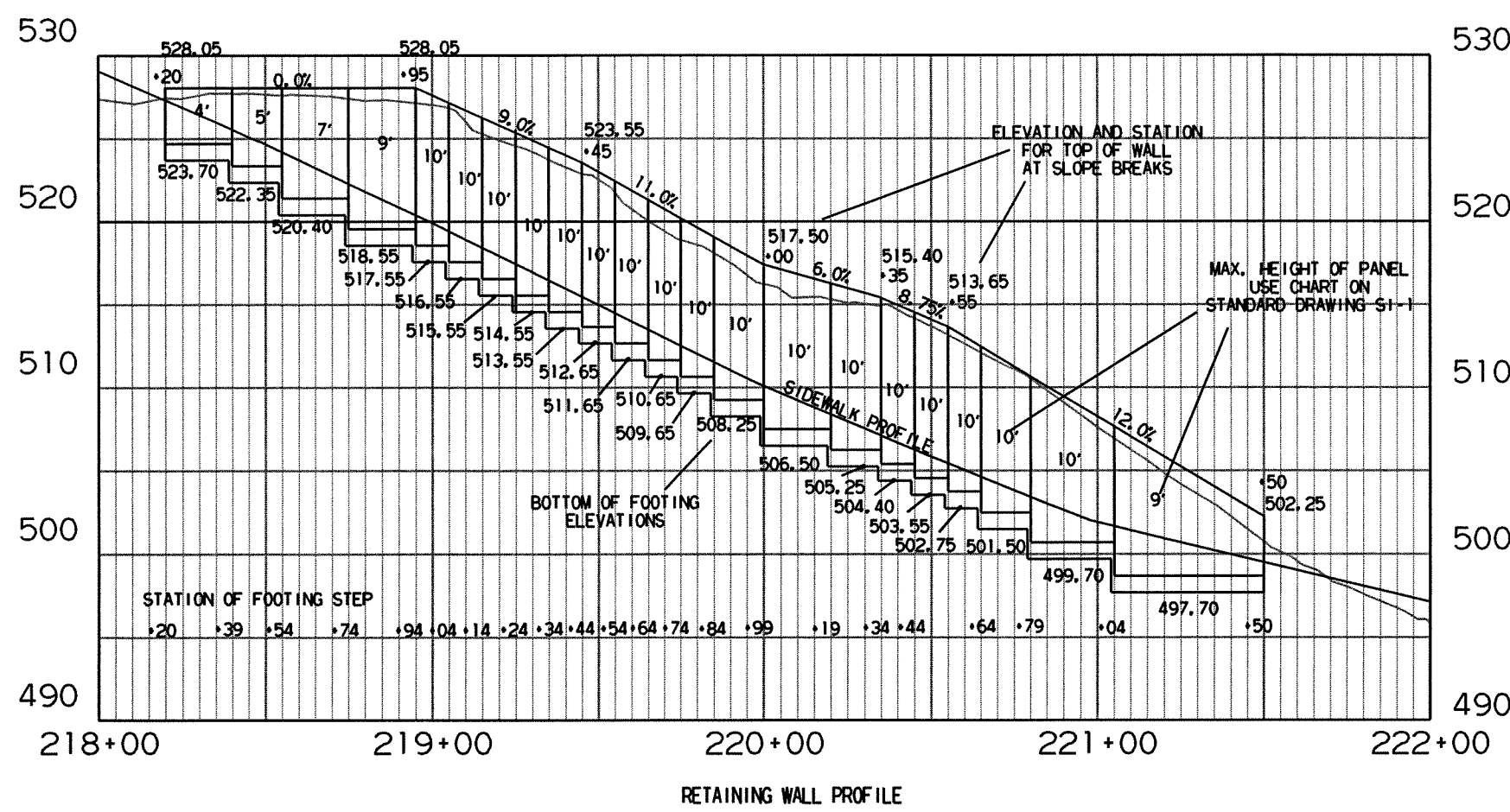


SEE STANDARD DRAWING S1-1
FOR CORRESPONDING VALUES
FOR WIDTHS "a", "c" and "d"

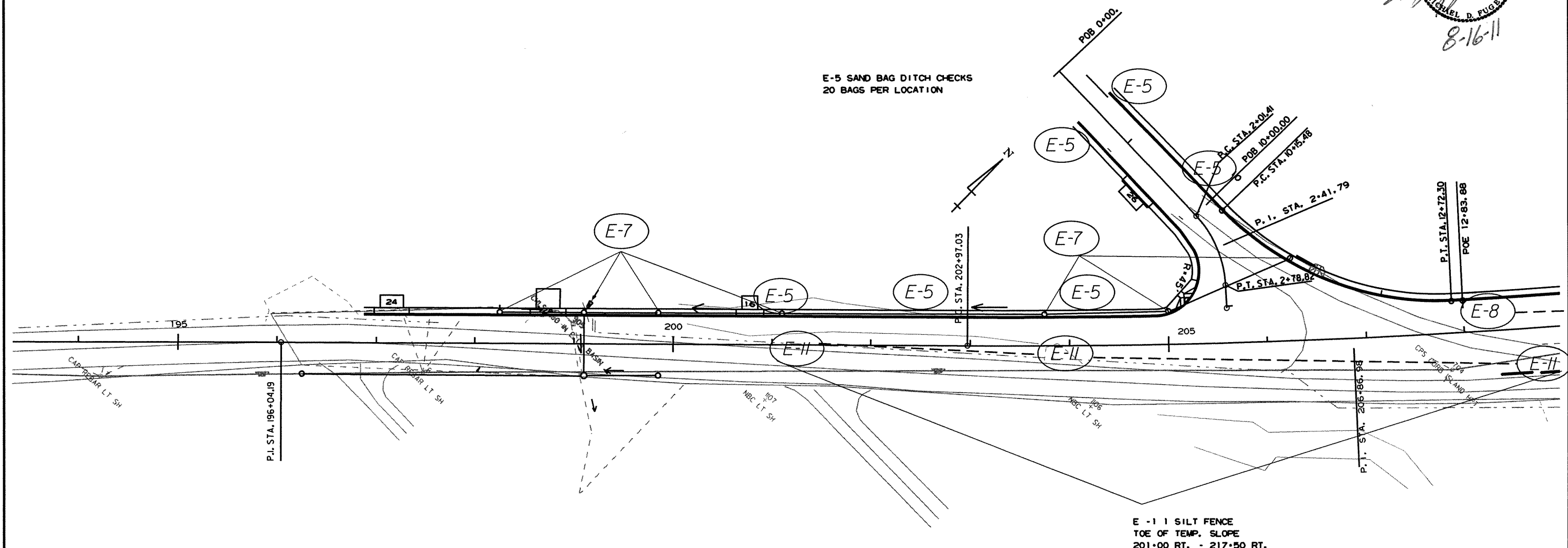
RETAINING WALL FOOTING LAYOUT
(EXAGGERATED PLAN VIEW)

CLASS 5 CONCRETE - ROADWAY	REINFORCING STEEL - ROWY. (GRADE 60)	UNCLASSIFIED EXCAV. FOR STRUCTURES-ROWY.
CU. YD.	POUND	CU. YD.
146.05	16324	739

NOTE: REFER TO STD. DRWG. S1-1 FOR
FOOTING STEP AND JOINT DETAILS.



RETAINING WALL DETAILS
STA. 218+20 - 221+50 RT.



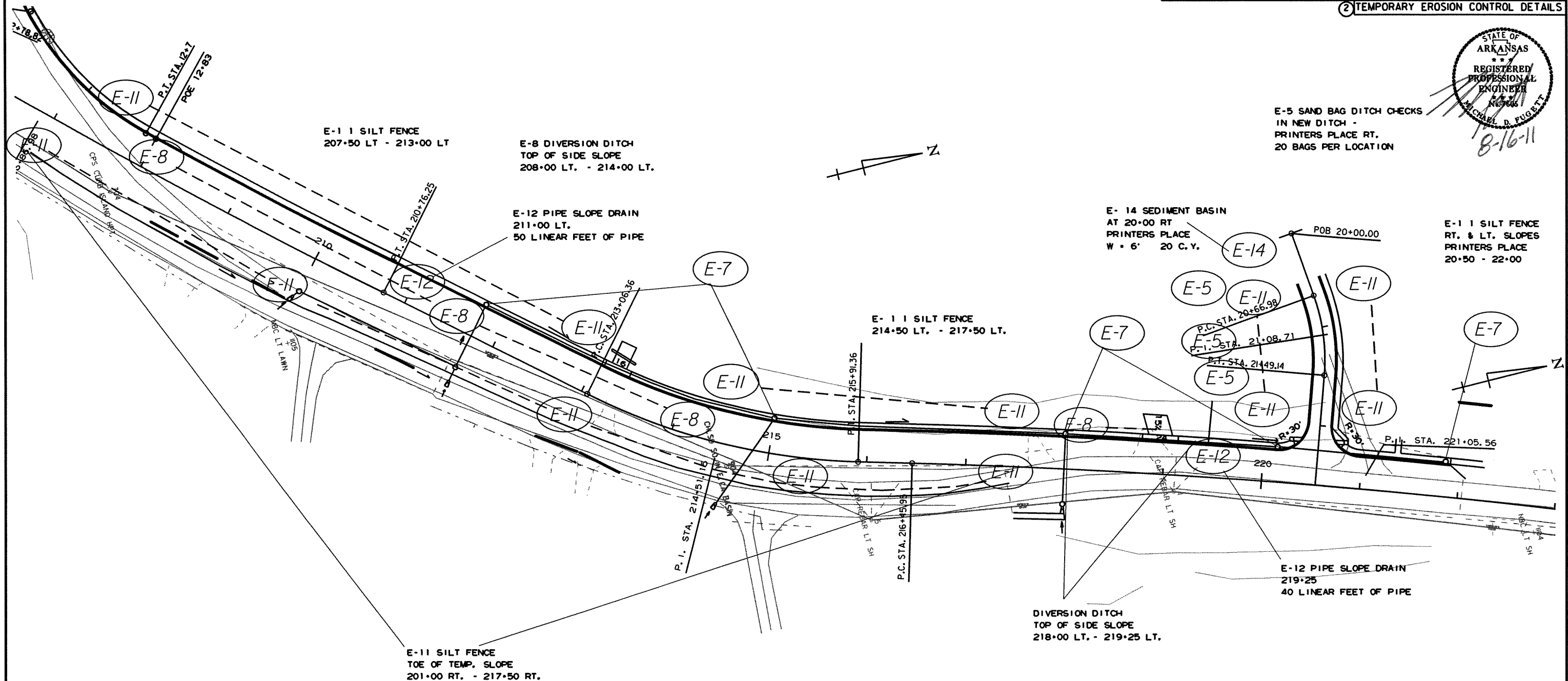
LEDGEND

- (E-5) SAND BAG DITCH CHECK
20 BAGS PER LOCATION
- (E-7) DROP INLET SILT FENCE -
25 LINEAR FEET PER LOCATION
- (E-8) DIVERSION DITCH
- (E-11) SILT FENCE
- (E-12) SLOPE DRAIN
- (E-14) SEDIMENT BASIN

REVISIONS

DATE	REVISION

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② TEMPORARY EROSION CONTROL DETAILS								



REVISIONS

DATE	REVISION

LEDGEND

- (E-5) SAND BAG DITCH CHECK
20 BAGS PER LOCATION
- (E-7) DROP INLET SILT FENCE -
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- (E-12) SLOPE DRAIN
- (E-14) SEDIMENT BASIN

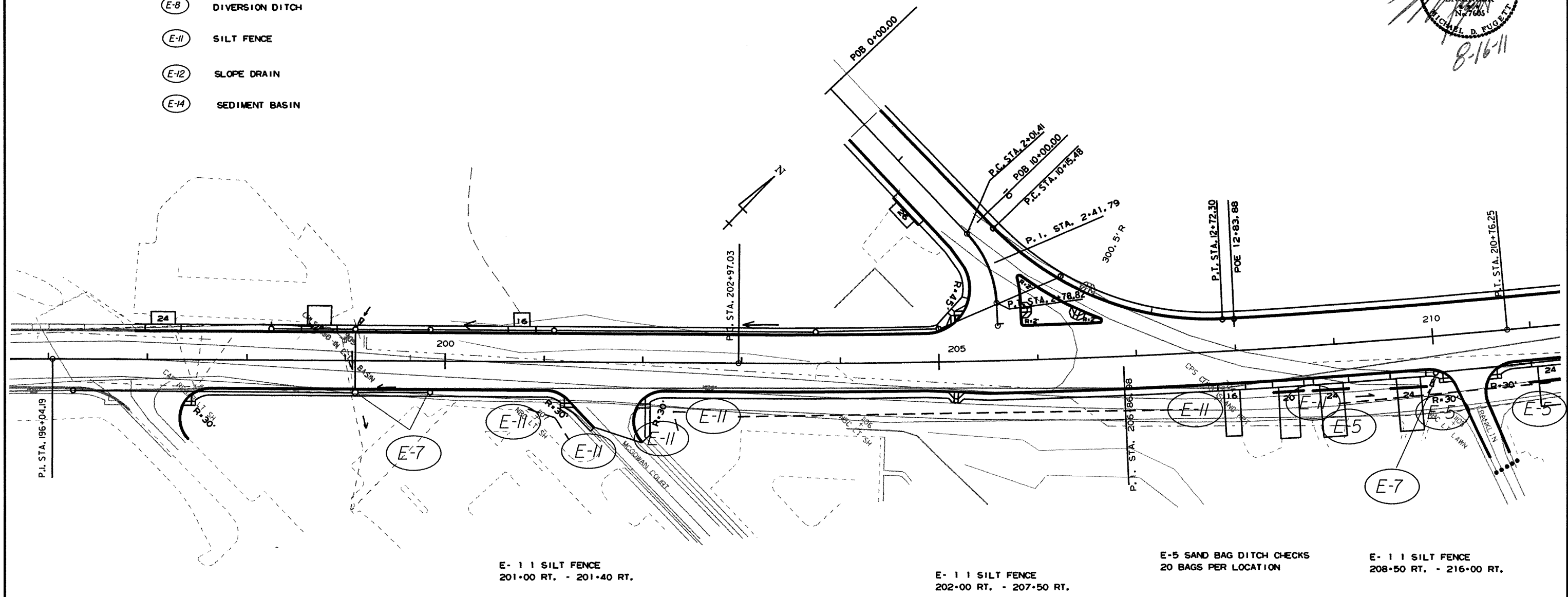
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② TEMPORARY EROSION CONTROL DETAILS



LEDGEND

- (E-5) SAND BAG DITCH CHECK
20 BAGS PER LOCATION
- (E-7) DROP INLET SILT FENCE -
25 LINEAR FEET PER LOCATION
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- (E-14) SEDIMENT BASIN

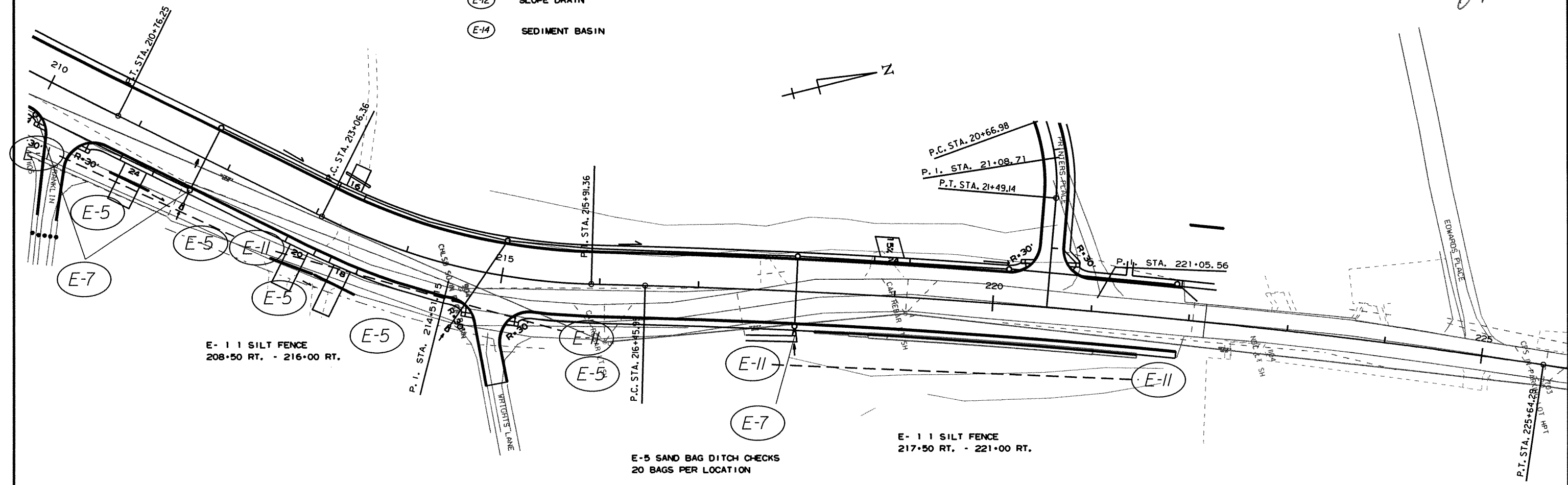
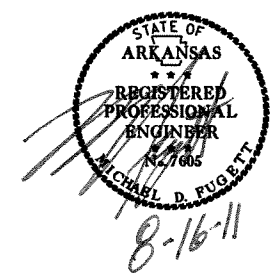


REVISIONS

DATE	REVISION

LEDGEND

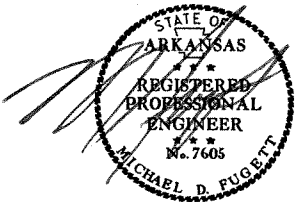
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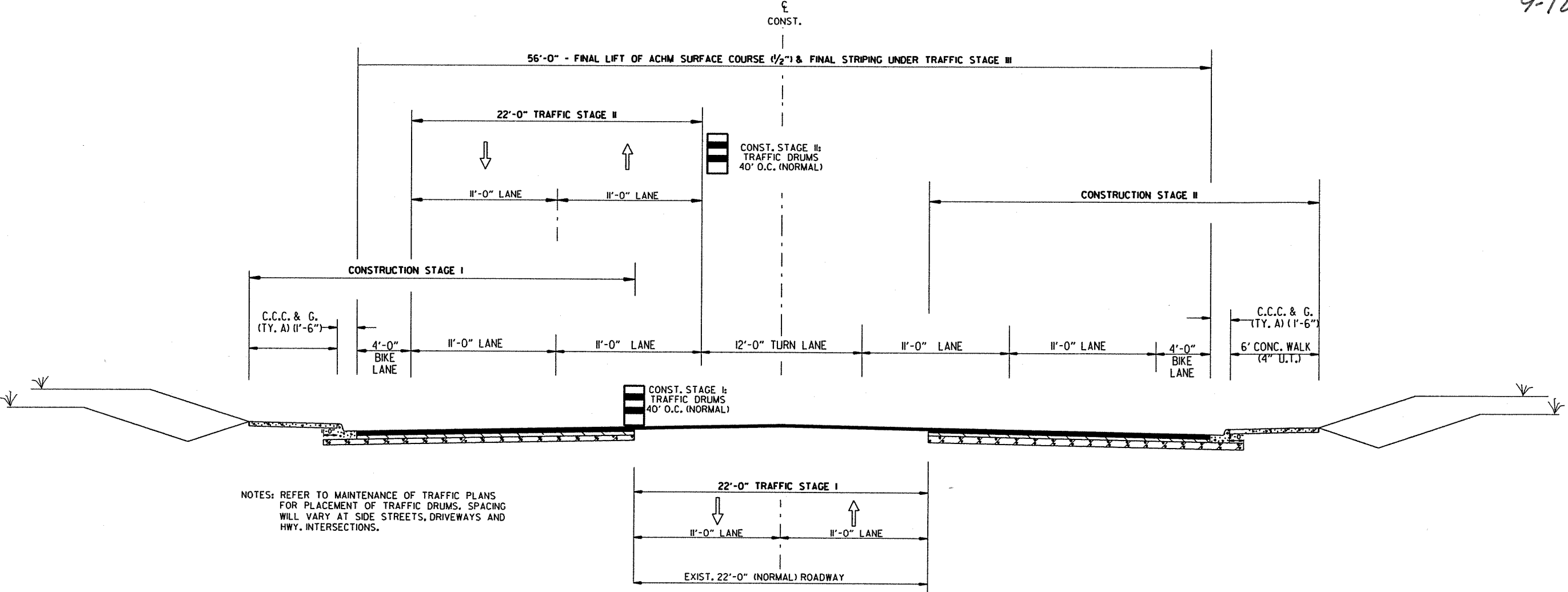
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② MAINTENANCE OF TRAFFIC DETAILS								



9-12-11



NOTES: REFER TO MAINTENANCE OF TRAFFIC PLANS FOR PLACEMENT OF TRAFFIC DRUMS. SPACING WILL VARY AT SIDE STREETS, DRIVEWAYS AND HWY. INTERSECTIONS.

MAINTENANCE OF TRAFFIC - CURB & GUTTER SECTION
STAGE CONSTRUCTION

MAINTENANCE OF TRAFFIC NOTES

STAGE 1:
NORTHBOUND HIGDON FERRY TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANE THROUGHOUT THIS STAGE. STRIPING SHALL BE ADJUSTED SO THAT SOUTHBOUND HIGDON FERRY WILL BE NEXT TO THE NORTHBOUND LANE. LAKESHORE WILL BE CLOSED DURING STAGE 1. PLACE ALL CLOSURE/ DETOUR SIGNS AND TRAFFIC CONTROL ITEMS FOR LAKESHORE CLOSURE AS SHOWN OR IF AND WHEN DIRECTED BY THE ENGINEER AS NEEDED. CONSTRUCT THE PROPOSED ROADWAY ON THE LEFT OF CENTERLINE FROM STA. 196+80 TO STA. 221+90; THE INTERSECTION WITH LAKESHORE, INCLUDING THE ISLAND, AND THE RELOCATION OF PRINTERS PLACE IN STAGE 1. INSTALL TRAFFIC SIGNAL EQUIPMENT IF AND WHERE DIRECTED BY THE ENGINEER.

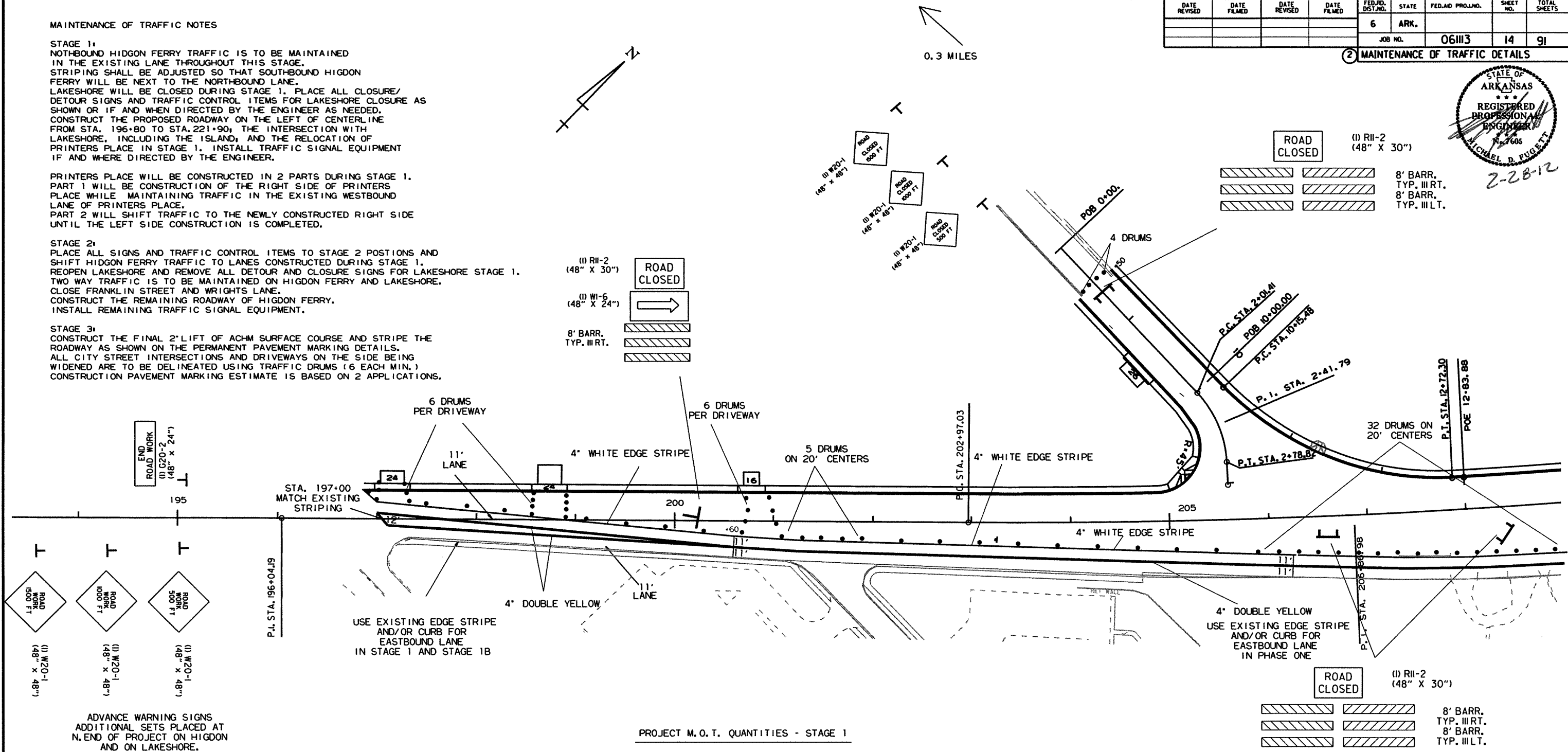
PRINTERS PLACE WILL BE CONSTRUCTED IN 2 PARTS DURING STAGE 1. PART 1 WILL BE CONSTRUCTION OF THE RIGHT SIDE OF PRINTERS PLACE WHILE MAINTAINING TRAFFIC IN THE EXISTING WESTBOUND LANE OF PRINTERS PLACE. PART 2 WILL SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED RIGHT SIDE UNTIL THE LEFT SIDE CONSTRUCTION IS COMPLETED.

STAGE 2:
PLACE ALL SIGNS AND TRAFFIC CONTROL ITEMS TO STAGE 2 POSITIONS AND SHIFT HIGDON FERRY TRAFFIC TO LANES CONSTRUCTED DURING STAGE 1. REOPEN LAKESHORE AND REMOVE ALL DETOUR AND CLOSURE SIGNS FOR LAKESHORE STAGE 1. TWO WAY TRAFFIC IS TO BE MAINTAINED ON HIGDON FERRY AND LAKESHORE. CLOSE FRANKLIN STREET AND WRIGHTS LANE. CONSTRUCT THE REMAINING ROADWAY OF HIGDON FERRY. INSTALL REMAINING TRAFFIC SIGNAL EQUIPMENT.

STAGE 3:
CONSTRUCT THE FINAL 2" LIFT OF ACHM SURFACE COURSE AND STRIPE THE ROADWAY AS SHOWN ON THE PERMANENT PAVEMENT MARKING DETAILS. ALL CITY STREET INTERSECTIONS AND DRIVEWAYS ON THE SIDE BEING WIDENED ARE TO BE DELINEATED USING TRAFFIC DRUMS (6 EACH MIN.) CONSTRUCTION PAVEMENT MARKING ESTIMATE IS BASED ON 2 APPLICATIONS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061113	14	91	

② MAINTENANCE OF TRAFFIC DETAILS



PROJECT M.O.T. QUANTITIES - STAGE 1

- SIGNS = 317 SQ. FT.
- TRAFFIC DRUMS = 150 EACH
- BARRICADES = 88 LIN. FT.
- CONSTRUCTION PAVEMENT MARKINGS = 17106 L.F.
- REMOVAL OF PERMANENT PAVEMENT MARKINGS = 3500 LIN. FT.
- NOTE: R4-1 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



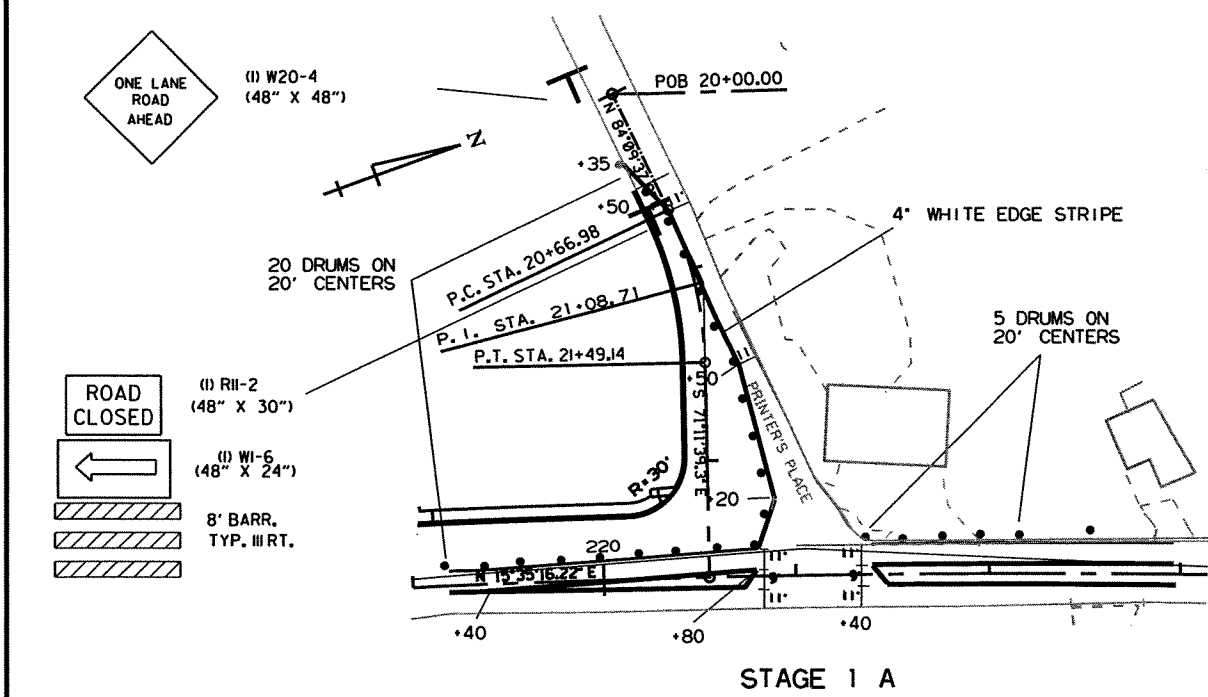
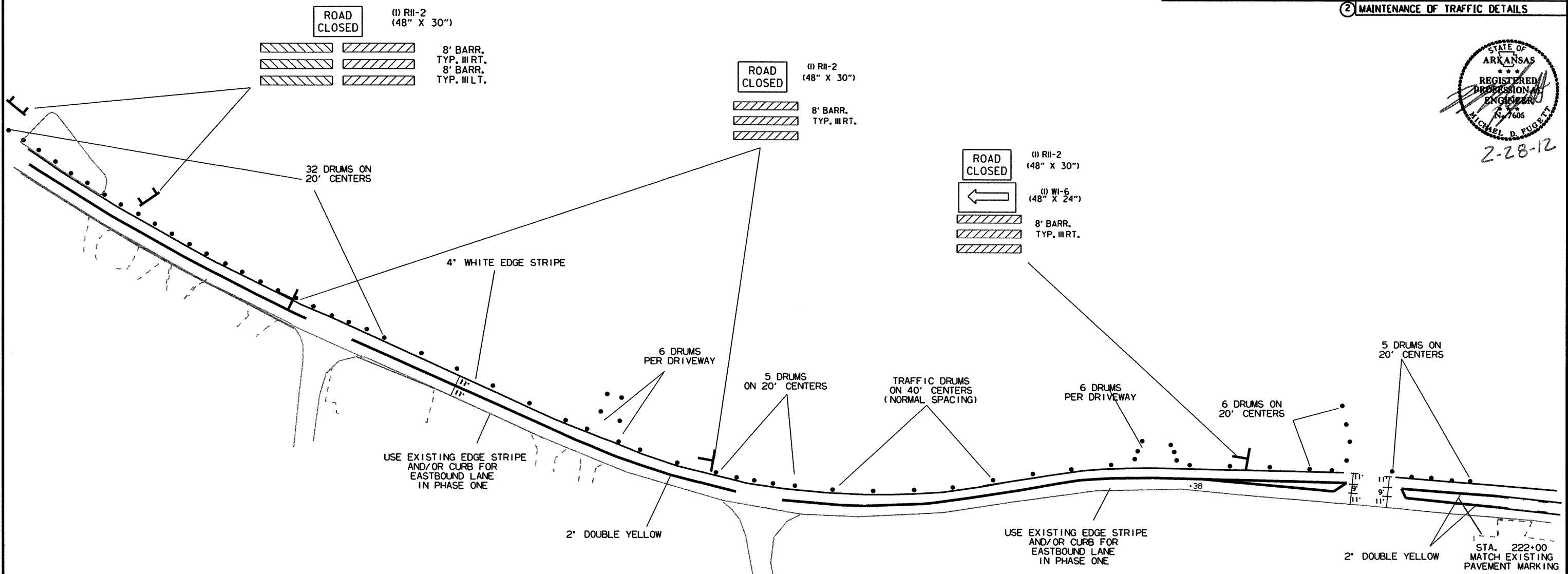
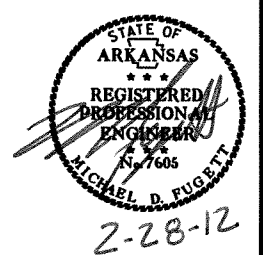
ADVANCE WARNING SIGNS
ADDITIONAL SETS PLACED AT
N. END OF PROJECT ON HIGDON
AND ON LAKESHORE.

DETAIL OF ADVANCE WARNING SIGN PLACEMENT
AT BEGINNING AND END OF JOB ON HWY. 88 AND
AT BEGINNING OF JOB ON LAKESHORE AFTER STAGE 1.

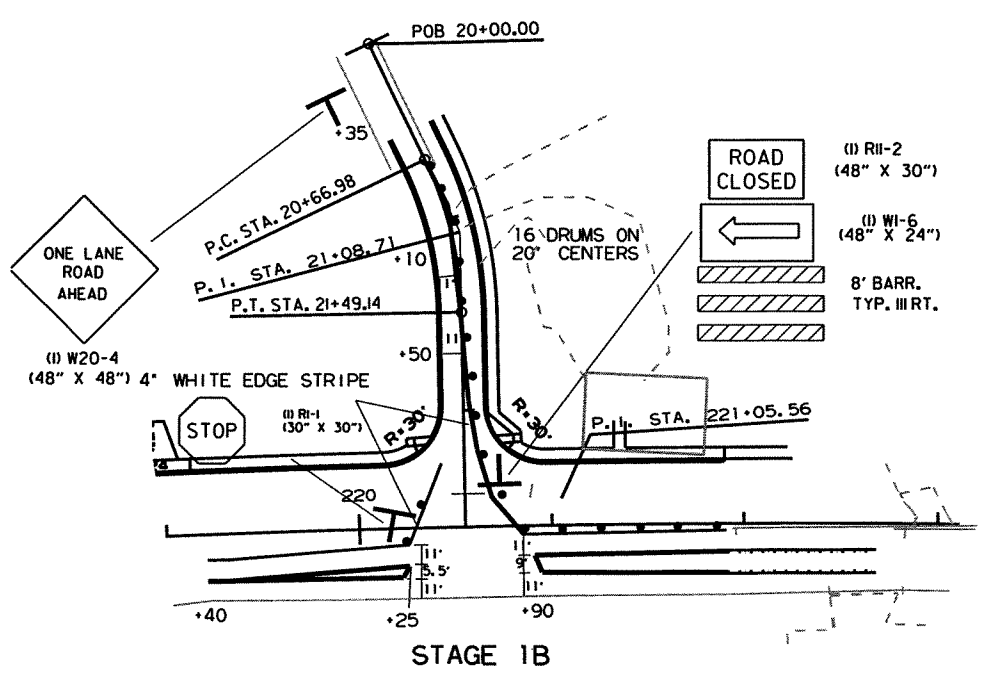
LAKESHORE WILL USE "ROAD CLOSED AHEAD" DURING
STAGE ONE AND NO "END ROAD WORK" AND "DO NOT PASS"
SIGNS DURING STAGE 1.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061113	15	91

② MAINTENANCE OF TRAFFIC DETAILS



- PRINTERS PLACE
STAGE 1A**
1. USE LEVELING STA. 20+50 TO 21+25 TO MAINTAIN TRAFFIC.
 2. REDUCE PRINTERS PLACE TO ONE LANE STA. 20+67 TO 21+50, LT. LANE.
 3. RETAIN REMAINING EXISTING.
 4. PLACE WHITE STRIPE AND DRUMS AS SHOWN.
 5. CONSTRUCT AS MUCH OF RT. NEW PRINTERS PLACE WITHOUT INTERFERENCE TO EXISTING LT. LANE.
 6. DO NOT PLACE FINAL LIFT OF ACHM SURFACE UNTIL STAGE 1B.

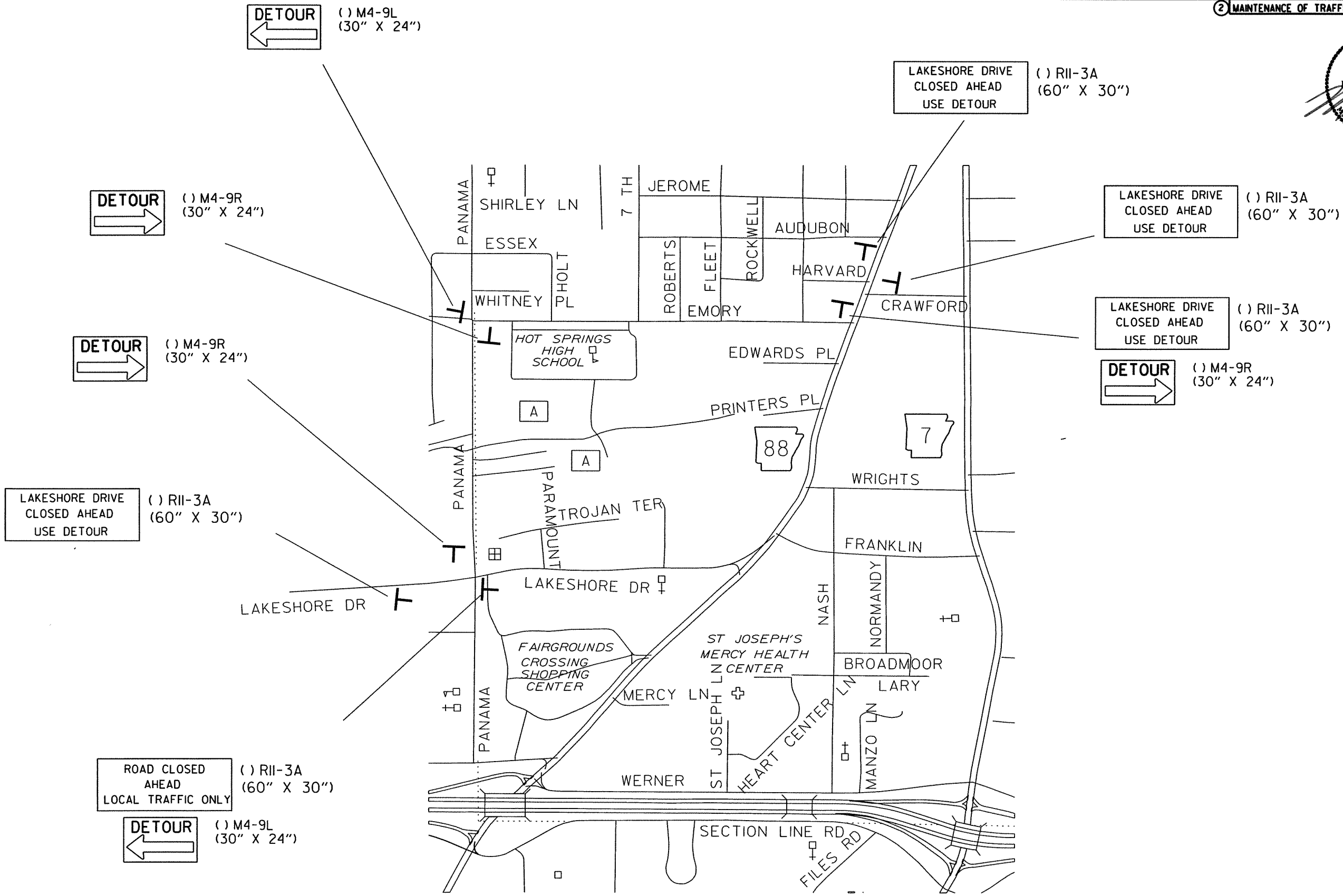


- PRINTERS PLACE
STAGE 1B**
1. PLACE STRIPING AND DRUMS AND SHIFT TRAFFIC TO RT. LANE OF NEW PRINTERS PLACE.
 2. REDUCE PRINTERS PLACE TO ONE LANE STA. 21+10 TO 21+50 RT. LANE.
 3. CONSTRUCT REMAINDER OF PRINTERS PLACE.
 4. PLACE FINAL LIFT OF ACHM SURFACE COURSE.

STAGE 1 - MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061113	15A	91	

2 MAINTENANCE OF TRAFFIC DETAILS



STAGE 1 - MAINTENANCE OF TRAFFIC DETAILS
LAKESHORE DETOUR DETAILS

MAINTENANCE OF TRAFFIC NOTES

STAGE 1:
NORTHBOUND HIGDON FERRY TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANE THROUGHOUT THIS STAGE. STRIPING SHALL BE ADJUSTED SO THAT SOUTHBOUND HIGDON FERRY WILL BE NEXT TO THE NORTHBOUND LANE. LAKESHORE WILL BE CLOSED DURING STAGE 1. PLACE ALL CLOSURE/ DETOUR SIGNS AND TRAFFIC CONTROL ITEMS FOR LAKESHORE CLOSURE AS SHOWN OR IF AND WHEN DIRECTED BY THE ENGINEER AS NEEDED. CONSTRUCT THE PROPOSED ROADWAY ON THE LEFT OF CENTERLINE FROM STA. 196+80 TO STA. 221+90, THE INTERSECTION WITH LAKESHORE, INCLUDING THE ISLAND, AND THE RELOCATION OF PRINTERS PLACE IN STAGE 1. INSTALL TRAFFIC SIGNAL EQUIPMENT IF AND WHERE DIRECTED BY THE ENGINEER.

PRINTERS PLACE WILL BE CONSTRUCTED IN 2 PARTS DURING STAGE 1. PART 1 WILL BE CONSTRUCTION OF THE RIGHT SIDE OF PRINTERS PLACE WHILE MAINTAINING TRAFFIC IN THE EXISTING WESTBOUND LANE OF PRINTERS PLACE. PART 2 WILL SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED RIGHT SIDE UNTIL THE LEFT SIDE CONSTRUCTION IS COMPLETED.

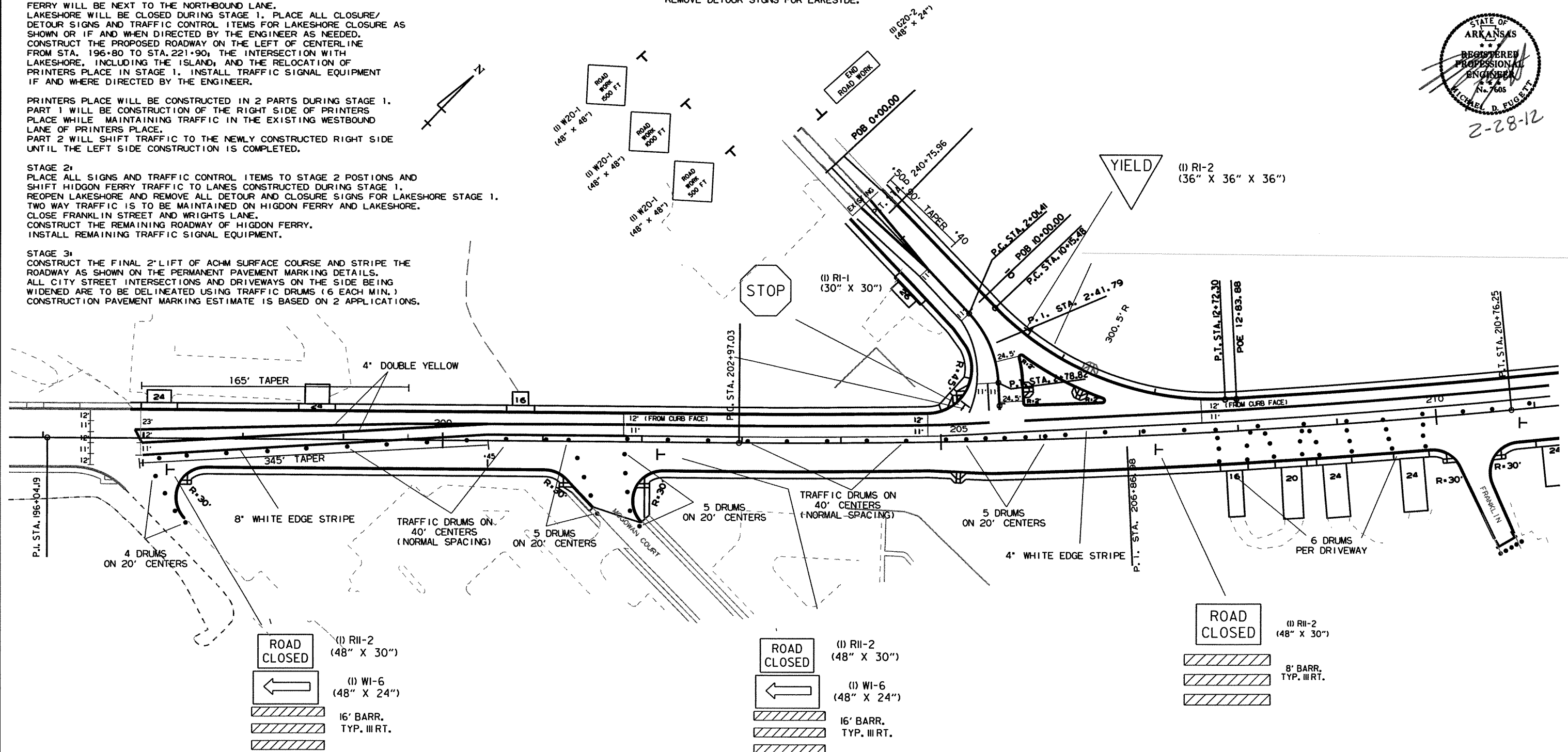
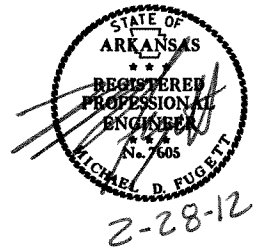
STAGE 2:
PLACE ALL SIGNS AND TRAFFIC CONTROL ITEMS TO STAGE 2 POSITIONS AND SHIFT HIGDON FERRY TRAFFIC TO LANES CONSTRUCTED DURING STAGE 1. REOPEN LAKESHORE AND REMOVE ALL DETOUR AND CLOSURE SIGNS FOR LAKESHORE STAGE 1. TWO WAY TRAFFIC IS TO BE MAINTAINED ON HIGDON FERRY AND LAKESHORE. CLOSE FRANKLIN STREET AND WRIGHTS LANE. CONSTRUCT THE REMAINING ROADWAY OF HIGDON FERRY. INSTALL REMAINING TRAFFIC SIGNAL EQUIPMENT.

STAGE 3:
CONSTRUCT THE FINAL 2" LIFT OF ACHM SURFACE COURSE AND STRIPE THE ROADWAY AS SHOWN ON THE PERMANENT PAVEMENT MARKING DETAILS. ALL CITY STREET INTERSECTIONS AND DRIVEWAYS ON THE SIDE BEING WIDENED ARE TO BE DELINEATED USING TRAFFIC DRUMS (6 EACH MIN.) CONSTRUCTION PAVEMENT MARKING ESTIMATE IS BASED ON 2 APPLICATIONS.

REMOVE DETOUR SIGNS FOR LAKESHORE.

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.		061113	16	91

2 MAINTENANCE OF TRAFFIC DETAILS



PROJECT M.O.T. QUANTITIES - STAGE 2
(ADDITIONAL QUANTITIES REQUIRED)

SIGNS = 207 SQ. FT.

CONSTRUCTION PAVEMENT MARKINGS = 5894 L.F.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS = 3000 LIN. FT.

REMOVAL OF PERMANENT PAVEMENT MARKINGS = 500 LIN. FT.

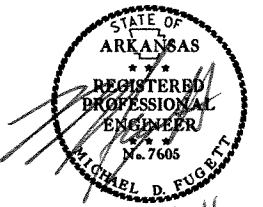
NOTE: R4-1 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



STAGE 2 - MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061113	18	91

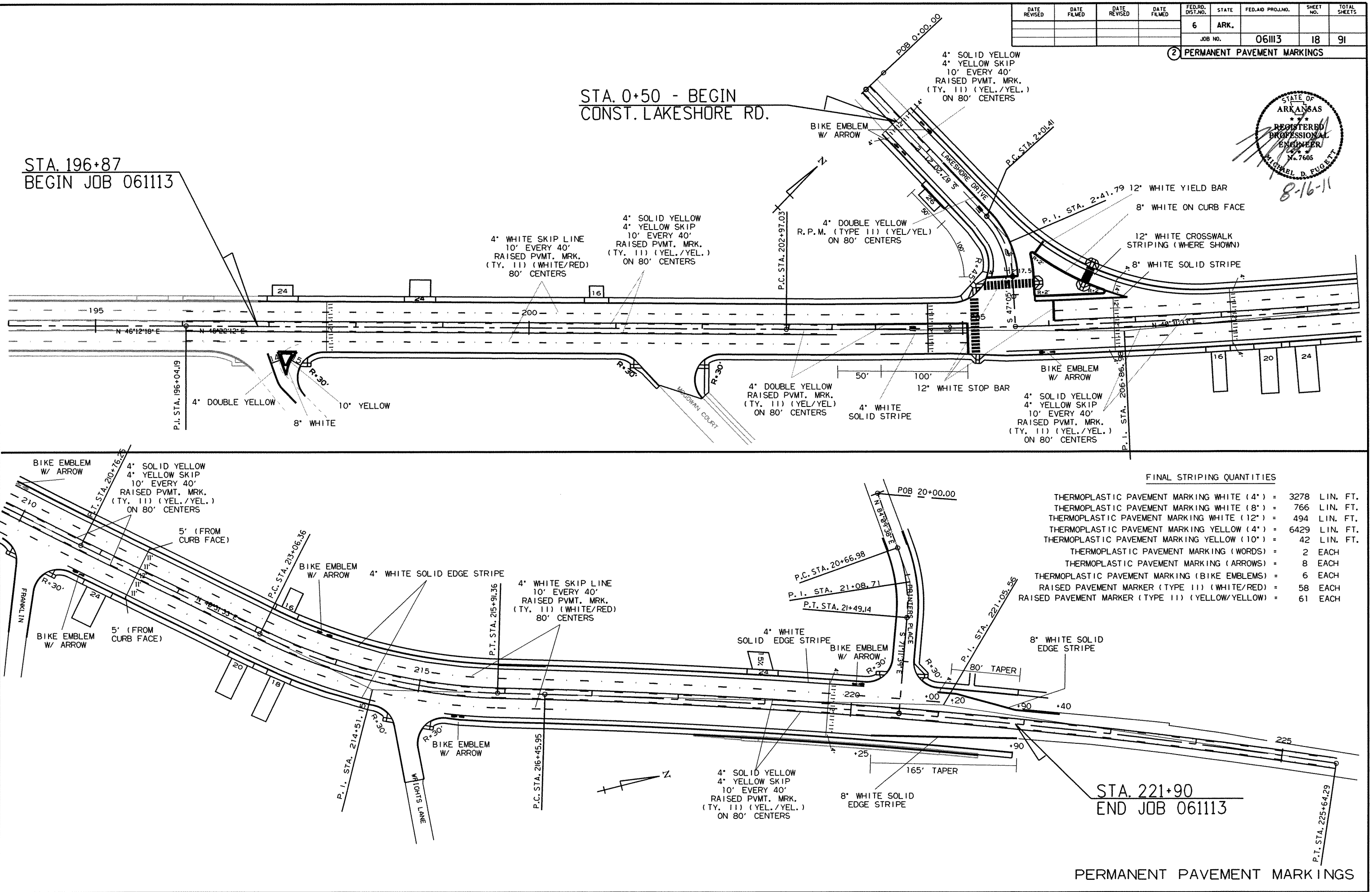
2 PERMANENT PAVEMENT MARKINGS



8-16-11

STA. 0+50 - BEGIN
CONST. LAKESHORE RD.

STA. 196+87
BEGIN JOB 061113



FINAL STRIPING QUANTITIES

THERMOPLASTIC PAVEMENT MARKING WHITE (4")	=	3278	LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (8")	=	766	LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	=	494	LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	=	6429	LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (10")	=	42	LIN. FT.
THERMOPLASTIC PAVEMENT MARKING (WORDS)	=	2	EACH
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	=	8	EACH
THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)	=	6	EACH
RAISED PAVEMENT MARKER (TYPE 11) (WHITE/RED)	=	58	EACH
RAISED PAVEMENT MARKER (TYPE 11) (YELLOW/YELLOW)	=	61	EACH

STA. 221+90
END JOB 061113

PERMANENT PAVEMENT MARKINGS

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.		061113	19	91

② QUANTITIES



SIGN NO.	DESCRIPTION	SIZE SQ. FT.	QUANTITY		MAXIMUM REQUIRED	SIGNS SQ. FT.	TRAFFIC DRUMS EACH	BARRICADES (TYPE III) LIN. FT.
			STAGE 1	STAGE 2				
M4-9L	DETOUR	5	2	0	1	5		
M4-9R	DETOUR	5	3	0	1	5		
R1-1	STOP	6	0	1	1	6		
R1-2	YIELD	2.25	0	1	1	2		
R4-1	DO NOT PASS	5	2	3	2	10		
R11-2	ROAD CLOSED	10	8	5	8	80		
R11-3A	LAKE SHORE DRIVE CLOSED AHEAD	12.5	5	0	5	63		
R11-3A	ROAD CLOSED AT HIGDON FERRY	12.5	0	2	2	25		
W1-4R	SHIFT RIGHT ARROW	16	0	1	1	16		
W1-6	LEFT ARROW	8	4	2	4	32		
W20-1	ROAD WORK 1500 FT.	16	2	3	3	48		
W20-1	ROAD WORK 1000 FT.	16	2	3	3	48		
W20-1	ROAD WORK 500 FT.	16	2	3	3	48		
W20-1	ROAD CLOSED 1500 FT.	16	1	0	1	16		
W20-1	ROAD CLOSED 1000 FT.	16	1	0	1	16		
W20-1	ROAD CLOSED 500 FT.	16	1	0	1	16		
W20-1	ROAD WORK AHEAD	16	6	6	6	96		
W20-4	ONE LANE ROAD AHEAD	16	1	0	1	16		
G20-2	END ROAD WORK	8	2	3	3	24		
	TRAFFIC DRUMS						150	
	BARRICADES (TYPE III)							88
TOTALS						572	150	88

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVMENT MARKINGS												
LOCATION	CONST. PAVEMENT MARKINGS	REMOVAL OF CONST. PAVEMENT MARKINGS	REMOVAL OF PERMANENT PAVEMENT MARKINGS	THERMOPLASTIC PAVEMENT MARKING								RAISED PVM'T. MRKS.
				WHITE 4"	WHITE 8"	WHITE 12"	YELLOW 4"	YELLOW 10"	ARROWS	WORDS	BIKE EMBLEMS	(TYPE II) YEL/YEL
				LIN. FT.			LIN. FT.					EACH
SUMMARY OF THE MAINTENANCE	23000	3000	4600									
OF TRAFFIC AS SHOWN IN THE				3278	766	494	6429	42	8	2	6	119
MAINTENANCE OF TRAFFIC DETAILS												
TOTALS	23000	3000	4600	3278	766	494	6429	42	8	2	6	119

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

COLD MILLING ASPHALT PAVEMENT	
LOCATION	COLD MILLING
	SQ. YD.
** SOUTH END OF PROJECT - STA. 196+87	311
* NORTH HOSPITAL ENTRANCE	122
** LAKE SHORE	122
* FRANKLIN STREET	122
* WRIGHTS LANE	122
* PRINTERS PLACE	122
** NORTH END OF PROJECT - STA. 221+90	122
WHERE DIRECTED BY THE ENGINEER	150
TOTAL	1193

* 1" AVG. MILLING DEPTH
** 2" AVG. MILLING DEPTH

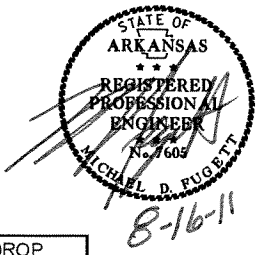
ASPHALT CONCRETE PATCHING			
LOCATION	ACHM PATCHING		TACK COAT
	MAINT. OF TRAFFIC	EXISTING ROADWAY **	
	TON		GALLON
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER.*	20	20	40
TOTALS	20	20	40

BASIS OF ESTIMATE:
A.C. PATCHING - 25 TONS PER MILE
* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
** PAYMENT FOR THE TACK COAT FOR ACHM PATCHING OF EXISTING ROADWAY
IS INCLUDED IN THE UNIT PRICE BID FOR ACHM PATCHING OF EXISTING ROADWAY.

r061113.qbox.dgn 03/1/2011

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. 061113	20	91

2 QUANTITIES



REMOVAL AND DISPOSAL ITEMS									
STATION	STATION	SIDE	CURB	WALKS	CONCRETE DRIVEWAYS	PAVEMENT	ISLANDS	FENCE	RETAINING WALL
			LIN. FT.	SQ. YD					LIN. FT.
196+87	204+71	RT	784						
207+25	221+90	RT	1465						
196+87	199+45	LT	258						
205+30	0+50	LT	451						
0+50	221+90	LT	1840						
LAKESIDE ISLAND			250				330		
196+87	197+00	LT		6					
197+21	201+48	RT		195					
197+33	198+55	LT		54					
198+91	199+45	LT		24					
202+05	204+72	RT		136					
221+24	221+48	LT		28					
197+16		LT			58				
198+75		LT			98				
207+95		RT			16				
208+50		RT			21				
208+93		RT			21				
209+72		RT			17				
211+16		RT			47				
213+00		RT			74				
21+24		LT			18				
213+46		RT			14				
217+80		LT			18				
218+95		LT			27				
221+68		LT			36				
1+40		RT			16				
1+85		RT			20				
2+50		LT			18				
200+00	201+25	RT				46			
201+98	210+25	RT				2414			
205+50	207+10	LT				87			
210+50	214+83	RT				1376			
215+10	217+65	RT				554			
220+88	221+22	LT				102			
0+25	1+50	LT.						125	
206+76	213+26	LT. & RT.						690	
204+00		LT							130
TOTALS			5048	443	519	4579	330	815	130

REMOVAL AND DISPOSAL ITEMS					
STATION	STATION	SIDE	DESCRIPTION	PIPE CULVERTS	DROP INLETS
				EACH	EACH
198+25	198+86	LT.	15" X 59' C.M. PIPE CULVERT	1	
198+87	199+04	LT.	24"X 16' C.M. PIPE CLVT.	1	
199+04	199+10	LT.	24" X 20' C.M.. PIPE CULVERT INLET	1	
208+81	211+70	RT.	24" X 290' R.C. PIPE CULVERT	1	
209+55	210+04	RT.	24" X 49' R.C. PIPE CULVERT	1	
210+10	211+69	RT.	24"160' R.C.PIPE CULVERT.	1	
211+72	211+72	RT.	18" X 38' R.C. CROSS DRAIN PIPE CLVT.	1	
211+73	214+68	RT.	30" X 300' R.C. PIPE CULVERT	1	
213+46		RT.	112" X 18' C.M. SIDE DRAIN	1	
214+73	217+72	RT.	30" X 274' R.C. PIPE CULVERT	1	
214+98		RT.	18" X 83' C.M. SIDE DRAIN - WRIGHTS LANE	1	
217+43	217+54	RT.	30" X 46' R.C. CROSS DRAIN PIPE CLVT.	1	
220+75	221+14	LT.	24" X 40' R.C. PIPE CULVERT	1	
221+18	221+85	LT.	18" X 68' R.C. PIPE CULVERT	1	
198+86		LT.	DROP INLET - 35' LEFT		1
199+04		LT.	DROP INLET - 23' LEFT		1
199+10		RT.	DROP INLET - 27' RIGHT		1
200+16		RT.	DROP INLET - 36' RIGHT		1
208+81		RT.	DROP INLET - 15' RIGHT		1
209+55		RT.	DROP INLET - 74' RIGHT		1
210+08		RT.	DROP INLET -75' RIGHT		1
211+72		RT.	DROP INLET - 30' RIGHT		1
211+73		RT.	DROP INLET - 69' RIGHT		1
214+71		RT.	DROP INLET - 30' RIGHT		1
217+43		RT.	DROP INLET - 4' RIGHT		1
220+15		RT.	DROP INLET - 20' RIGHT		1
221+17		LT.	DROP INLET - 48' LEFT		1
TOTALS				14	13

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL AND DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO SOIL CLASS	COLOR
		FEET				
187+00.	12' LT.	0 - 2	26	9	A-4(2)	BROWN
193+00.	12' RT.	0 - 5	31	14	A-6(9)	BR/GR
201+00.	12' LT.	0 - 5	38	16	A-6(13)	BR/GR
207+00.	5' RT.	0 - 2	25	9	A-4(3)	BROWN
215+00.	12' LT.	0 - 5	31	16	A-6(7)	BROWN
223+00.	12' RT.	0 - 5	28	12	A-6(3)	BROWN

NOTE: 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 ABOVE TABULATIONS.

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.		061113	21	91

2 QUANTITIES



CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
		STATIONS	
199+50	221+90	23	23
0+50	3+00	3	3
20+50	22+00	2	2
TOTALS		28	28

5' CHAIN LINK FENCE

STATION	STATION	LOCATION	5' STEEL CHAIN LINK FENCE	5' ALUMINUM CHAIN LINK FENCE
			LIN. FT.	LIN. FT.
203+57	203+92	ON LEFT RIGHT OF WAY LINE	35	35
TOTALS			35	35

FLOWABLE FILL FOR ABANDONED IN PLACE STRUCTURES

STATION	STATION	SIDE	DESCRIPTION	FLOWABLE SELECT MATERIAL
				CU. YD.
196+25	196+29	RT.	24" X 9' PLASTIC PIPE - PLUG, FILL & ABANDON	1
196+29		RT.	JUNCTION BOX (TYPE ST) - PLUG, FILL & ABANDON	4
196+30	197+75	RT.	24" X 145' PLASTIC PIPE - PLUG, FILL & ABANDON	17
197+76		RT.	JUNCTION BOX (TYPE ST) - PLUG, FILL & ABANDON	4
197+77	199+10	RT.	18" X 133' PLASTIC PIPE - PLUG, FILL & ABANDON	9
199+01	199+10	CROSS	24" X 52' RCP - PLUG, FILL & ABANDON	6
199+05	199+13	CROSS	24" X 51' RCP - PLUG, FILL & ABANDON	6
199+10	200+15	RT.	12" X 52' C.M. PIPE OUTLET - PLUG & ABANDON	4
TOTAL				51

NOTE: PLUG AND ABANDONMENT OF PIPE IS SUBSIDIARY TO THE INSTALLATION OF STORM DRAINS.
NO DIRECT PAYMENT WILL BE MADE FOR PLUGGING AND ABANDONING PIPE.

DITCH PAVING

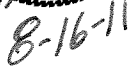
STATION	STATION	LOCATION	CONC. DITCH PAVING (TY. B) W=6'
			SQ. YD.
208+10	208+35	RT	16.7
208+67	208+75	RT	5.3
209+13	209+53	RT	26.7
209+91	210+00	RT	6.0
213+66	214+57	RT	60.7
217+50	218+00	RT	33.3
219+00	221+90	RT-TOP WALL	126.7
TOTAL			275.4

SELECTED PIPE BEDDING AND BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU. YD.	
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER*	50	100
TOTALS	50	100

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

② QUANTITIES



STATION	STATION	CONC. COMB CURB & GUTTER (TYPE A) (1' 6")
		LIN. FT.
196+87-HIGDON LT.	0+50-LAKESHORE RT.	900
197+42-HIGDON RT.	201+52-HIGDON RT.	475
202+00-HIGDON RT.	210+49-HIGDON RT.	970
0+50-LAKESHORE LT.	20+50-PRINTERS RT.	1825
210+67-HIGDON RT.	215+02-HIGDON RT.	596
215+20-HIGDON RT.	221+90-HIGDON RT.	750
20+50-PRINTERS LT.	221+90-HIGDON LT.	294
LAKESHORE / HIGDON INTERSECTION		225
TOTAL		6035

STATION	STATION	CONCRETE WALKS	CONCRETE ISLAND
		SQ. YDS.	
196+87-HIGDON LT.	0+50-LAKESHORE RT.	603	
197+42-HIGDON RT.	201+52-HIGDON RT.	318	
202+00-HIGDON RT.	210+49-HIGDON RT.	650	
0+50-LAKESHORE LT.	220+38-HIGDON LT.	1117	
210+67-HIGDON RT.	215+02-HIGDON RT.	399	
215+20-HIGDON RT.	221+90-HIGDON RT.	503	
20+50-PRINTERS LT.	221+90-HIGDON LT.	197	
LAKESHORE / HIGDON INTERSECTION			195
197+20 - HIGDON RT.			12
TOTALS		3787	207

NOTE: CONCRETE ISLAND THICKNESS IS 4" U. T.

STATION	SIDE	RAMP	RAMP	RAMP
		(TYPE 1)	(TYPE 3)	(TYPE 4)
		SQ.YD.	SQ. YD.	SQ.YD.
197+40	RT		9	
201+24	RT		9	
202+01	RT		9	
205+17	LT	45		
205+17	RT			16
205+89	LT			16
206+42	LT			16
206+53	LT			16
210+09	RT		9	
210+60	RT		9	
214+72	RT		9	
215+18	RT		9	
220+30	LT		9	
220+78	LT		9	
TOTALS		45	81	64

STATION	SIDE	WIDTH	EXTENSION LENGTH	ACHM DRIVEWAY		AGG. BASE COURSE (CLASS 7) (6" DEPTH)	ACHM SURF. COURSE (1/2") (PG 64-22) 220 LB/SQ.YD.	PCC DRIVEWAY		PCC DRIVEWAY TOTAL	18" SIDE DRAINS
				TURNOUT	EXTENSION			TURNOUT	EXTENSION		
		LIN. FT.	LIN. FT.	SQ. YD.	TONS	TONS	SQ. YD.	LIN. FT.			
197+16	LT	24	12					24.00	32.00	56.00	
198+75	LT	24	20					24.00	53.33	77.33	
200+78	LT	16	14		24.89	8.7	2.7	18.67		18.67	
207+94	RT	16	47		83.56	29.3	9.2	18.67		18.67	
208+51	RT	20	52		115.56	40.6	12.7	21.33		21.33	32.0
208+94	RT	24	54		144.00	50.5	15.8	24.00		24.00	38.0
209+72	RT	24	53		141.33	49.6	15.5	24.00		24.00	38.0
211+16	RT	24	41		109.33	38.4	12.0	24.00		24.00	44.0
213+00	RT	20	43					21.33	95.56	116.89	46.0
213+24	LT	16	24		42.67	15.0	4.7	18.67		18.67	32.0
213+46	RT	18	51		102.00	35.8	11.2	20.00		20.00	46.0
218+95	LT	24	22		58.67	20.6	6.5	24.00		24.00	
222+38	LT.	20	91		202.22	71.0	22.2	21.33		21.33	32.0
1+42	LAKESHORE RT	26	12		34.67	12.2	3.8	25.33		25.33	
20+94	PRINTERS LT.	24	35		93.33	32.8	10.3	24.00		24.00	
* ENTIRE PROJECT - TEMP. DRIVES						500.0					
TOTALS						904.5	126.6			514.22	308.0

VOLUME CONTROL OF MINERAL AGGREGATE AND ASPHALT BINDER IN ACHM SURFACE COURSE (1/2"):

NOTE: CONCRETE APRON DEPTH "D" IS 6'. NORMAL SLAB THICKNESS IS 6"

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.		061113	23	91

2 QUANTITIES

MAILBOXES		
LOCATION	MAILBOXES	MAILBOX SUPPORTS SINGLE
	EACH	
STA. 1+20 RT. LAKESHORE	1	1
TOTALS	1	1

EARTHWORK					
STATION	STATION	LOCATION	UNCLASS. EXCAVATION	COMPACTED EMBANKMENT	SOIL STABILIZATION
			CU.YD.		TON
ENTIRE PROJECT		MAIN LANES *	10593	18429	
ENTIRE PROJECT		DRIVES	100	1415	
**ENTIRE PROJECT IF & WHERE DIRECTED					
BY THE ENGINEER					50
TOTALS			10693	19844	50

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE TO BE PAID AS PLAN QUANTITY.
**MAIN LANES" INCLUDE HIGDON FERRY RD., LAKESHORE DR. & RAMP, AND PRINTERS PLACE.
** QUANTITIES ARE ESTIMATED AND ARE TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

BENCH MARKS	
LOCATION	BENCH MARKS
	EACH
STA. 218+25 - IN TOP OF RETAINING WALL ON RT.	1

SHOWN FOR INFORMATIONAL PURPOSES ONLY. BENCH MARKS TO BE FURNISHED, PLACED AND RECORDED BY STATE FORCES.

EROSION CONTROL							
LOCATION	LIME	SEEDING	MULCH COVER	TEMPORARY SEEDING	SOLID SODDING	WATER	SECOND SEEDING APPLICATION
	TON	ACRE			SQ. YD.	M. GAL.	ACRE
ENTIRE PROJECT	4	2.11	4.22	2.11		258.3	2.11
AROUND FLARED END SECTIONS					31	0.4	
AROUND CONCRETE DITCH PAVING					164	2.1	
IF AND WHERE DIRECTED BY THE ENGINEER					150	1.9	
TOTALS	4	2.11	4.22	2.11	345	262.7	2.11

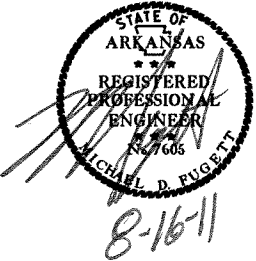
BASIS OF ESTIMATE:
LIME = 2 TONS PER ACRE
WATER = 102.0 M.G. PER ACRE (SEEDING)
20.4 M.G. PER ACRE (TEMPORARY SEEDING)
12.6 GAL. PER SQ. YD. (SOLID SODDING)

TEMPORARY EROSION CONTROL										
LOCATION	SAND BAG DITCH CHECKS (E-5)	DROP INLET SILT FENCE (E-7)	DIVERSION DITCH (E-8)	SILT FENCE (E-11)	PIPE FOR SLOPE DRAINS (E-12)	*SEDIMENT BASIN (E-14)	*OBLIT. OF SEDIMENT BASIN	* SEDIMENT REMOVAL AND DISPOSAL	* EROSION CONTROL MATTING (CLASS 2)	* EROSION CONTROL MATTING (CLASS 3)
	BAG	LIN. FT.				CU. YD.	CU. YD.	CU. YD.	SQ. YD.	
ENTIRE PROJECT - AS SHOWN ON EROSION CONTROL DETAILS	320	425	750	4490	90	50	50	100	1500	1500
TOTALS	320	425	750	4490	90	50	50	100	1500	1500

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.

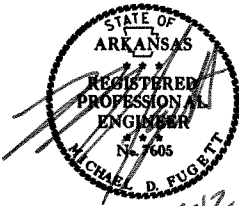
* QUANTITY ESTIMATED - TO BE USED IF & WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

BASIS OF ESTIMATE: SAND BAG DITCH CHECKS = 20 BAGS/INSTALLATION
DROP INLET SILT FENCE = 25 LIN. FT. PER DROP INLET



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. 061113	24	91

② QUANTITIES



PIPE UNDERDRAINS	
LOCATION	4" PIPE UNDERDRAINS
	LIN. FT.
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER*	500
TOTAL	500

* NOTE: QUANTITY ESTIMATED - SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS. UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLETS AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE UNDERDRAIN.

CROSS DRAIN CONSTRUCTION QUANTITIES					
STATION	CROSS DRAIN DIA.	TRENCH DEPTH	LENGTH	FLOWABLE SELECT MATERIAL	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)
	INCHES	FEET	FEET	CU. YD.	
199+10	18	4.5	47.0	20.5	9
199+85	18	3.0	33.0	7.2	6.3
218+00	24	3.5	35.0	9.7	7.3
TOTALS				37.4	22.6

STRUCTURES															
STATION	SIDE	DESCRIPTION	DROP INLETS TYPE MO	MODIFYING DROP INLETS	DROP INLET EXTENSIONS		REINFORCED CONCRETE PIPE CLVTS. (CLASS III)			ALTERNATE PIPE CULVERTS			FLARED END SECTIONS FOR R.C.PIPE CULVT.		YARD DRAINS
					4'	8'	18"	24"	30"	18"	24"	30"	18"	24"	
			EACH	EACH	EACH	LIN. FT.						EACH		EACH	
196+25	RT	MODIFY EXIST. DI & CONST. PIPE OUTLET		1			281								
198+25	LT	CONST DI W/ PIPE INLET & PIPE OUTLET	1							87					
199+10	LT	CONST DI W/ R.C. PIPE INLET W/ F.E.S. & R.C. CROSS DRAIN PIPE OUTLET	1					5	60					1	
199+10	RT	CONST DI W/ R.C. PIPE OUTLET	1									52			
199+85	LT	CONST DI W/ R.C.CROSS DRAIN PIPE OUTLET	1				60								
199+85	RT	CONST DI W/ PIPE OUTLET	1								71				
201+10	LT	CONST DI W/ 4' EXT. & BACK OPENING & PIPE OUTLET	1		1					121					
203+75	LT	CONST DI W/ 4' EXT. & BACK OPENING & PIPE OUTLET	1		1					261					
205+00	LT	CONST DI W/ 4' EXT. & PIPE OUTLET	1		1					121					
11+00	LT	CONST DI W/ R.C. CROSS DRAIN PIPE OUTLET	1				132								
210+00	RT	CONST DI W/ 4' EXT. & R.C. PIPE INLET W/F.E.S. & R.C. PIPE OUTLET	1		1		176						1		
211+75	LT	CONST DI W/ 4' EXT. & PIPE OUTLET	1		1					310					
211+75	RT	CONST DI W/ R.C. PIPE INLET W/ F.E.S. & R.C. CROSS DRAIN PIPE OUTLET	1				80						1		
215+00	LT	CONST DI W/ 4' EXT & R.C. CROSS DRAIN INLET W/ F.E.S. & PIPE OUTLET	1		1			101			296			1	
218+00	LT	CONST DI W/ 8' EXT. & PIPE OUTLET	1			1					210				
218+00	RT	CONST DI W/ 4' EXT. W/ F.E.S. INLET & R.C. CROSS DRAIN PIPE OUTLET	1		1			68						1	
220+14	LT	CONST DI W/ 4' EXT. & R.C. PIPE OUTLET	1		1			167							
221+85	LT	CONST DI W/ PIPE OUTLET	1								25				
		ENTIRE PROJECT: IF AND WHERE DIRECTED BY THE ENGINEER													3
TOTALS			17	1	8	1	729	341	60	900	602	52	2	3	3

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

NOTE: FOR CONCRETE PIPE CULVERT DETAILS, REFER TO STD. DRWG. NO. PCC-1.
FOR METAL PIPE CULVERT DETAILS, REFER TO STD. DRWG. NO. PCM-1.
FOR FLARED END SECTION DETAILS, REFER TO STD. DRWG. NOS. FES-1 & FES-2.
FOR DROP INLET DETAILS REFER TO STD. DRWG. FPC-9, FPC-9M, FPC-9E, & FPC-9S

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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.		061113	25	91

2 QUANTITIES

RETAINING WALL					
STATION	STATION	DESCRIPTION	UNCLASSIFIED EXCAVATION - ROADWAY	CLASS S CONCRETE - ROADWAY	REINFORCING STEEL - ROADWAY (GRADE 60)
			CU. YD.	CU. YD.	POUNDS
218+20	221+50	RETAINING WALL ON RIGHT	739	146.05	16324
TOTALS			739	146.05	16324

NOTE: FOR RETAINING WALL DETAILS, REFER TO STD. DRWG. NO. SI-1 AND RETAINING WALL DETAIL.

CONCRETE BASE								
STATION	STATION	LOCATION	LENGTH	TACK COAT (0.10 GAL./PER SQ. YD.)			PORTLAND CEMENT CONCRETE BASE	
				AVG. WID.	SQ. YD.	GAL.	AVG. WID.	13.5" U.T.
			FEET	FEET			FEET	SQ. YD.
197+15	198+15	NOTCH AND WIDEN SECTION ON LEFT	100.0	2.0	22.2	2.2	2.0	22.2
198+40	199+10	NOTCH AND WIDEN SECTION ON RIGHT	70.0	2.0	15.6	1.6	2.0	15.6
217+75	218+00	NOTCH AND WIDEN SECTION ON RIGHT	25.0	2.0	5.6	0.6	2.0	5.6
TOTALS						4.4		43.4

NOTE: CONCRETE BASE TO BE USED IN NOTCH & WIDEN AREAS LESS THAN 4' WIDE.



BASE AND SURFACING																								
STATION	STATION	LOCATION	LENGTH	TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				ACHM SURFACE COURSE (1/2")				P.C.C. PVMT. (6" U.T.)
				TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUNDS / SQ.YD.	PG 70-22 TON	AVG. WID.	SQ.YD.	POUNDS / SQ.YD.	PG 70-22 TON	AVG. WID.	SQ.YD.	POUNDS / SQ.YD.	PG 76-22 TON	AVG. WID.	SQ.YD.	POUNDS / SQ.YD.	PG 76-22 TON	
			FEET	FEET			FEET				FEET				FEET				FEET					
MAIN LANES																								
196+87	201+00	MAIN LANES - 58' SECTION - NOTCH & WIDEN	413.0	VAR.	4061.8	0.03	121.9	VAR.	911.0	935.0	425.9	VAR.	746.0	330.0	123.1	VAR.	746.0	220.0	82.1	56.0	2569.8	220.0	282.7	
201+00	204+87	MAIN LANES - 58' SECTION - FULL DEPTH	387.0	168.0	7224.0	0.03	216.7	61.7	2653.1	935.0	1240.3	56.0	2408.0	330.0	397.3	56.0	2408.0	220.0	264.9	56.0	2408.0	220.0	264.9	
204+87	205+87	MAIN LANES - TRANSITION - FULL DEPTH	100.0	180.0	2000.0	0.03	60.0	65.7	730.0	935.0	341.3	60.0	666.7	330.0	110.0	60.0	666.7	220.0	73.3	60.0	666.7	220.0	73.3	
205+87	218+00	MAIN LANES - 66' SECTION - FULL DEPTH	1213.0	192.0	25877.3	0.03	776.3	69.7	9394.0	935.0	4391.7	64.0	8625.8	330.0	1423.3	64.0	8625.8	220.0	948.8	64.0	8625.8	220.0	948.8	
218+00	221+90	MAIN LANES - 66' SECTION - NOTCH & WIDEN	390.0	VAR.	4047.3	0.03	121.4	VAR.	1555.7	935.0	727.3	VAR.	1308.7	330.0	215.9	VAR.	1308.7	220.0	144.0	64.0	2773.3	220.0	305.1	
0+50	3+02	LAKE SHORE DRIVE - FULL DEPTH	252.0	VAR.	4058.0	0.03	121.7	VAR.	1458.0	935.0	681.6	VAR.	1300.0	330.0	214.5	VAR.	1300.0	220.0	143.0	VAR.	1300.0	220.0	143.0	
10+62	11+66	LAKE SHORE RAMP- FULL DEPTH	104.0	44.7	655.1	0.03	19.7	22.7	262.3	935.0	122.6	17.0	196.4	330.0	32.4	17.0	196.4	220.0	21.6	17.0	196.4	220.0	21.6	
PRINTERS PLACE																								
20+50	21+00	PRINTERS PLACE - NOTCH & WIDEN	50.0	30.0	166.7	0.03	5.0	5.7	31.7	935.0	14.8	4.0	22.2	330.0	3.7	4.0	22.2	220.0	2.4	22.0	122.2	220.0	13.4	
21+00	22+27	PRINTERS PLACE - FULL DEPTH	127.0	66.0	931.3	0.03	27.9	27.7	390.9	935.0	182.7	22.0	310.4	330.0	51.2	22.0	310.4	220.0	34.1	22.0	310.4	220.0	34.1	
ADDITIONAL FOR LEVELING																								
196+87	198+50	MAIN LANES -58' SECTION - NOTCH & WIDEN	163.0	VAR.	2205.0	0.10	220.5					VAR.	VAR.	VAR.	221.4	VAR.	VAR.	VAR.	48.0					
218+00	221+90	MAIN LANES -66' SECTION - NOTCH & WIDEN	390.0	VAR.	2100.0	0.10	210.0					VAR.	VAR.	VAR.	439.3	VAR.	VAR.	VAR.	82.0					
20+50	21+25	PRINTERS PLACE - GRADE RAISE	75.0	VAR.	267.0	0.10	26.7					VAR.	VAR.	VAR.	89.2	VAR.	VAR.	VAR.	22.0					
CONCRETE STREET CONNECTIONS																								
		MCGOWAN COURT																					244.4	
TOTALS							1927.8				8128.2				3321.3				1866.2				2086.9	244.4

BASIS OF ESTIMATE:

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

VOLUME CONTROL OF MINERAL AGGREGATE AND ASPHALT BINDER IN:

ACHM SURFACE COURSE (1/2")	94.5%	5.5%	ASPH. BNDR.
ACHM BINDER COURSE (1")	95.2%	4.8%	ASPH. BNDR.
ACHM BASE COURSE (1 1/2")	95.6%	4.4%	ASPH. BNDR.

GYRATIONS: PG 70 - 22; N_{MAX} = 160
PG 76 - 22; N_{MAX} = 205

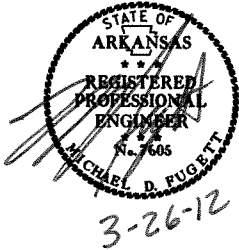
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SUMMARY OF QUANTITIES (SHEET 1 OF 2)			
ITEM NO.	ITEM	QUANTITY	UNIT
201	CLEARING	28	STATION
201	GRUBBING	28	STATION
202	REMOVAL AND DISPOSAL OF CURB	5048	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE	850	LIN. FT.
202	REMOVAL AND DISPOSAL OF RETAINING WALLS	130	LIN. FT.
202	REMOVAL AND DISPOSAL OF PAVEMENT	4579	SQ. YD.
202	REMOVAL AND DISPOSAL OF ISLANDS	330	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS	519	SQ. YD.
202	REMOVAL AND DISPOSAL OF WALKS	443	SQ. YD.
202	REMOVAL AND DISPOSAL OF DROP INLETS	13	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	14	EACH
206	FLOWABLE SELECT MATERIAL	88	CU. YD.
210	UNCLASSIFIED EXCAVATION	10693	CU. YD.
210	COMPACTED EMBANKMENT	19844	CU. YD.
SP&210	SOIL STABILIZATION	50	TON
SS&303	AGGREGATE BASE COURSE (CLASS 7)	905	TON
309	PORTLAND CEMENT CONCRETE BASE (13 1/2" UNIFORM THICKNESS)	43	SQ. YD.
401	TACK COAT	1972	GAL
SP,SS&405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	7770	TON
SP,SS&405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")	358	TON
SP,SS&406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	3162	TON
SP,SS&406	ASPHALT BINDER (PG 70 -22) IN ACHM BINDER COURSE (1")	159	TON
SP,SS&407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	3856	TON
SP,SS&407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	7	TON
SP,SS&407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	217	TON
412	COLD MILLING ASPHALT PAVEMENT	1193	SQ. YD.
SP,SS&414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	20	TON
SP,SS&415	ACHM PATCHING OF EXISTING ROADWAY	20	TON
SS&501	PORTLAND CEMENT CONCRETE PAVEMENT (6" UNIFORM THICKNESS)	244	SQ. YD.
505	PORTLAND CEMENT CONCRETE DRIVEWAY	514.22	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP&602	FURNISHING FIELD OFFICE	1	EACH
SS&603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS&604	SIGNS	572	SQ. FT.
SS&604	BARRICADES	88	LIN. FT.
SS&604	TRAFFIC DRUMS	150	EACH
SS&604	CONSTRUCTION PAVEMENT MARKINGS	23000	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	3000	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	4600	LIN. FT.
605	CONCRETE DITCH PAVING (TYPE B)	275	SQ. YD.
SS&606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	729	LIN. FT.
SS&606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	341	LIN. FT.
SS&606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	60	LIN. FT.
* SS&606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) -ALT. NO. 1	900	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE - ALT. NO. 2	900	LIN. FT.
* SS&606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) -ALT. NO. 1	602	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE - ALT. NO. 2	602	LIN. FT.
* SS&606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) -ALT. NO. 1	52	LIN. FT.
* 606	30" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE - ALT. NO. 2	52	LIN. FT.
SS&606	18" SIDE DRAIN	308	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	3	EACH
606	SELECTED PIPE BEDDING	50	CU. YD.
606	SELECTED PIPE BACKFILL	100	CU. YD.
609	DROP INLETS (TYPE MO)	17	EACH
609	DROP INLET EXTENSIONS (4')	8	EACH
609	DROP INLET EXTENSIONS (8')	1	EACH
609	YARD DRAINS	3	EACH
611	4" PIPE UNDERDRAINS	500	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	22.6	CU. YD.
* 619	5' STEEL CHAIN LINK FENCE -ALT. NO. 1	35	LIN. FT.
* 619	5' ALUMINUM CHAIN LINK FENCE -ALT. NO. 2	35	LIN. FT.
620	LIME	4	TON
620	SEEDING	2.11	ACRE
620	MULCH COVER	4.22	ACRE
SS&620	WATER	262.7	MGAL
621	TEMPORARY SEEDING	2.11	ACRE
621	SILT FENCE	4490	LIN. FT.
621	SAND BAG DITCH CHECKS	320	BAG
621	DIVERSION DITCH	750	LIN. FT.
621	DROP INLET SILT FENCE	425	LIN. FT.
621	SEDIMENT BASIN	50	CU. YD.

* DENOTES ALTERNATE BID ITEMS

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.		061113	26	91

2 SUMMARY OF QUANTITIES & REV. BOX



SUMMARY OF QUANTITIES (SHEET 2 OF 2)			
ITEM NO.	ITEM	QUANTITY	UNIT
621	OBLITERATION OF SEDIMENT BASIN	50	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	100	CU. YD.
621	PIPE FOR SLOPE DRAINS	90	LIN. FT.
623	SECOND SEEDING APPLICATION	2.11	ACRE
624	SOLID SODDING	345	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 2)	1500	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	1500	SQ. YD.
632	CONCRETE ISLAND	207	SQ. YD.
633	CONCRETE WALKS	3787	SQ. YD.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	6035	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	1	EACH
637	MAILBOX SUPPORTS (SINGLE)	1	EACH
640	MODIFYING DROP INLETS	1	EACH
641	WHEELCHAIR RAMPS (TYPE 1)	45	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 3)	81	SQ. YD.
641	WHEELCHAIR RAMPS (TYPE 4)	64	SQ. YD.
SP&701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	ANTENNA CABLE (TYPE 6)	70	LIN. FT.
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION,1 WAY)	6	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION,1 WAY)	2	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	972	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	65	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	194	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	221	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	419	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G.,EGC)	100	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	100	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	323	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	23	LIN. FT.
710	NON-METALLIC CONDUIT (3")	357	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1 HD)	1	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	4	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44'-44')	1	EACH
SP	LUMINAIRE ASSEMBLY	2	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	2	EACH
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	3278	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	766	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	494	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	6429	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING YELLOW (10")	42	LIN. FT.
SS&719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	2	EACH
SS&719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	8	EACH
SS&719	THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)	6	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	119	EACH
SP	18" STREET NAME SIGN	3	EACH
SP&733	VIDEO DETECTOR (CLR)	6	EACH
733	VIDEO CABLE	1124	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP&733	VIDEO EDGE CARD EXTENDER	1	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	739	CU.YD.
802	CLASS S CONCRETE - ROADWAY	146.05	CU. YD.
SS&804	REINFORCING STEEL - ROADWAY (GRADE 60)	16324	POUNDS

REVISION BOX

DATE	REVISION	SHEET NO.

SURVEY BASELINE
ARKANSAS STATE PLANE (FEET)
BASED ON GPS CONTROL PROJECTED TO GROUND

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.		061113	27	91

2 SURVEY CONTROL DETAILS

Point	Northing	Easting	Elevation
1	1975073.02547	993005.59349	566.34400
2	1973985.60030	992684.43822	556.00800
3	1972892.07067	992250.42443	534.13900
4	1971741.06670	991800.99447	516.32900
5	1971437.49176	991754.88098	542.15100
6	1970048.58581	990499.49912	542.16100
7	1969819.74052	990267.51859	553.94000
8	1968563.11757	989006.73333	516.92100
9	1967282.22078	988191.17770	544.58600
10	1966259.74252	987601.03611	492.91300
11	1964341.90060	987058.25710	475.85500
12	1963897.58903	986734.20261	498.17500
13	1963538.39889	986277.09007	487.90600
14	1963181.69894	985546.21184	497.19100
15	1963135.84147	985307.39080	487.14100
17	1968927.05007	990043.03163	531.08700
18	1968902.01817	991200.23107	523.30500
19	1968673.59891	993504.15416	534.01600
100	1968832.52792	989016.95010	560.17300
101	1968861.80914	992501.61641	503.59400
102	1962791.62846	985976.46735	450.32900
103	1963610.06430	987611.58791	455.96100
601	1974928.04251	992308.02878	572.49800
602	1976060.51208	994576.04815	563.20500
603	1972646.57812	991107.67508	529.96900
604	1973973.06935	993450.71312	558.44200
605	1970713.91209	990613.80076	559.39800
606	1972146.96837	992704.43973	513.87600
607	1969482.68205	988702.39133	556.51600
608	1970267.18833	991655.82050	529.03300
609	1967308.07373	987449.94969	513.07000
610	1968694.11346	990876.90864	518.48400
611	1965829.63302	986553.14793	483.23900
612	1968713.03890	990127.95705	519.17400
613	1963578.78294	984969.48126	443.30400
614	1966081.37004	988863.16648	486.70800
615	1968490.63909	987181.23939	548.07700
616	1964010.76458	987301.53148	470.16700
617	1968059.01148	990083.71070	556.43600
618	1962079.17263	986199.36320	446.84000
619	1967725.80130	992232.31406	547.14100
620	1969810.31581	987583.59779	545.37700
621	1966599.58120	993333.81929	540.85900
622	1969519.41083	992144.46842	513.37900
624	1968789.20365	993693.88650	554.02200
698	1967505.99169	995714.50218	480.17400
701	1976396.92150	993211.43904	590.47200
702	1974582.84643	992825.07985	567.11600
703	1972352.66691	992028.88469	497.13600
704	1970771.55444	991246.04653	564.57300
705	1969250.41250	989648.20580	565.29400
706	1966672.63572	987787.90423	528.42200
707	1964790.14547	987580.45755	463.93000
708	1962506.91695	984769.15313	450.57300
709	1968972.55150	987630.51034	549.74600
710	1968681.12448	992942.50172	500.00500
711	1968268.25129	993605.18780	536.68500
799	1968260.27268	994949.33736	525.45500
900	1974997.42744	984055.66681	532.10000
901	1976434.88737	993179.25161	590.44200
902	1974527.24523	992840.17299	566.39900
903	1972985.62274	992300.06018	536.29500
904	1971308.50501	991667.00434	543.86000
905	1970188.09435	990574.48579	539.86600
906	1968919.18447	989132.12580	562.46900
907	1966476.44889	987681.05016	509.49900
908	1964728.47281	987536.34222	465.28000
909	1963549.68874	986296.66655	489.33700
910	1962631.23834	984928.55817	451.03500
911	1971148.94396	983574.32084	424.46100
999	2018969.79928	1033436.93391	486.82000

Point	Northing	Easting	Elevation
1100	1974553.86700	992799.15400	567.79000
1101	1974285.92600	992769.34100	563.97600
1102	1973613.40800	992554.73000	535.00300
1103	1973254.61500	992396.00800	539.62200
1104	1972086.42800	991929.35900	493.88000
1105	1970908.38000	991438.37300	557.68000
1106	1970490.62300	991008.17500	547.52600
1107	1970267.65500	990767.14600	540.16800
1108	1969608.91200	990067.44700	539.12000
1110	1967447.06100	988264.00900	537.23800
1111	1967182.64700	988109.79300	543.51360
1112	1967086.44600	988038.02200	536.04700
1113	1967007.83000	987973.35600	531.28200
1114	1966953.16500	987923.34300	530.94000
1115	1968452.51900	989224.19600	520.81650
1116	1968689.17400	988787.34700	528.63620
1117	1967896.83700	988554.08700	513.56500
1118	1968207.44900	988801.27500	511.91020
1120	1965947.56500	987631.98200	484.19400
1121	1965726.49700	987634.23800	483.43100
1122	1965613.19000	987628.36700	477.41700
1123	1965486.31000	987620.18900	467.59540
1124	1965293.19900	987616.21700	462.97340
1125	1965177.74000	987617.37400	460.30090
1126	1965047.95500	987615.90400	459.54060
1127	1964742.48500	987564.78900	464.25600
1128	1964690.62000	987512.60200	466.52600
1129	1964622.16500	987440.66900	470.42500
1130	1964524.84500	987323.78500	467.65200
1131	1964931.85100	987619.86200	461.23950
1133	1964185.32000	986991.94000	476.21300
1135	1963424.12100	986028.34300	488.69320
1136	1962996.18800	985156.96200	473.40400
1137	1962701.21500	984994.39900	452.56200

CONSTRUCTION ALIGNMENT - HIGDON FERRY ROAD

Point	Type	Northing	Easting	Elevation
8000	PC	1967587.89	988383.19	0
8001	CC	1970768.24	983617.32	0
	PI	1967712.33	988466.23	0
8002	PT	1967840.93	988542.66	0
8003	PI	1968216.04	988765.60	0
8004	PC	1968513.19	988937.28	0
8005	CC	1967939.94	989929.50	0
8006	PT	1968755.29	989124.31	0
	PI	1968646.84	989014.49	0
8007	PI	1969240.93	989616.07	0
8008	PI	1969966.56	990372.89	0
8009	PC	1970444.63	990874.38	549.13
8010	CC	1975974.12	985603.17	0
	PI	1970713.69	991156.63	566.01
8011	PT	1971010.09	991410.01	558.43
	PC	1971185.00	991559.53	553.08
8012	PI	1971295.06	991653.62	549.35
8013	CC	1971610.49	991061.80	0
8014	PT	1971434.53	991692.53	543.13
8015	PC	1971487.11	991707.19	539.90
	PI	1971929.81	991830.70	501.66
8016	CC	1969434.27	999065.65	0
8017	PT	1972354.52	992006.39	497.52
8018	PI	1972709.93	992153.42	525.07
8019	PC	1972858.48	992213.87	533.31
	PI	1973060.95	992296.26	536.12
8020	CC	1972744.82	992493.18	0
8021	PT	1973045.64	992514.31	533.56
8022	PC	1973041.36	992575.13	533.20
	PI	1973032.75	992697.80	534.04
8023	CC	1973342.18	992596.26	0
8024	PT	1973112.37	992791.51	536.32
8025	PC	1973164.39	992852.74	538.1
	PI	1973236.56	992937.69	540.57
8026	CC	1972934.58	993047.99	0

CONSTRUCTION ALIGNMENT - LAKESHORE DRIVE

Point	Name	Type	Northing	Easting	Elevation
8200	POB		1970708.47	990748.70	563.68
8201	PC		1970699.12	990949.90	566.60
	PI		1970697.25	990990.24	566.21
8202	CC		1970589.06	990944.78	563.68
8203	PT		1970669.75	991019.81	565.09
8204	POE		1970654.00	991036.75	563.41

CONSTRUCTION ALIGNMENT - LAKESHORE RAMP

8400	POB	1970722.02	990949.55	565.49
8401	PC	1970721.49	990965.02	565.32
	PI	1970716.83	991101.72	564.88
8402	CC	1971022.88	990975.29	
8403	PT	1970816.61	991195.27	564.12
8404	POE	1970825.06	991203.19	563.84

CONSTRUCTION ALIGNMENT - PRINTERS PLACE

8600	POB	1971916.20	991574.76	
8601	PC	1971923.02	991641.39	488.85
	PI	1971927.26	991682.90	491.33
8602	CC	1971733.03	991660.83	
8603	PT	1971913.82	991722.39	496.67
8604	POE	1971877.99	991827.58	505.51

USE CAF 1.0 FOR STAKEOUT ON THIS PROJECT

TO CONVERT TO GRID USE CAF 0.999924438

GRID DISTANCE=GROUND DISTANCE X CAF

GRID COORDINATES ARE STORED UNDER FILENAME 060686G1.CTL

NO REFERENCE (1500 SERIES) ON THIS PROJECT

HORIZONTAL DATUM: NAD83

VERTICAL DATUM: NAVD88

BASIS OF BEARINGS

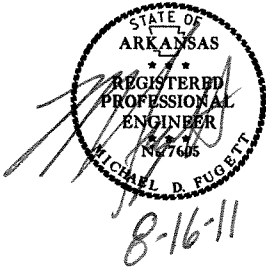
GRID NORTH, BASED ON GPS CONTROL AT POINT NO. 100

ARKANSAS STATE PLANE GRID COORDINATES, SOUTH ZONE

CONVERGENCE ANGLE AT POINT NO. 100=0°36'02" LT.

GRID AZIMUTH=ASTRONOMICAL AZIMUTH-CONVERGENCE ANGLE

Point	Station	Northing	Easting
BEGIN JOB	196+87.00	1970023.70	990432.83
MID JOB	209+38.50	1970906.20	991319.56
END JOB	221+90.00	1972005.51	991871.91



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. 061113	28	91

② SURVEY CONTROL DETAILS

P. I. = 2+41.79
 Δ = 40°15'15.8" RT.
 D = 52°00'00.0"
 T = 40.38'
 L = 77.41'
 P.C. = 2+01.41
 P.T. = 2+78.82

P. I. = 206+86.98
 Δ = 5°50'38.8" LT.
 D = 0°45'00.0"
 T = 389.95'
 L = 779.44'
 P.C. = 202+97.03
 P.T. = 210+76.26
 NO SUPER



STA. 0+50 - BEGIN
CONST. LAKESHORE RD.

STA. 3+01.95 - END
CONST. LAKESHORE RD.

STA. 196+87
BEGIN JOB 061113

STA. 221+90
END JOB 061113

P. I. = 214+51.15
 Δ = 24°56'16.6" LT.
 D = 8°45'00.0"
 T = 144.80'
 L = 285.01'
 P.C. = 213+06.35
 P.T. = 215+91.36
 Ls = 447'
 e = 0.040' / '

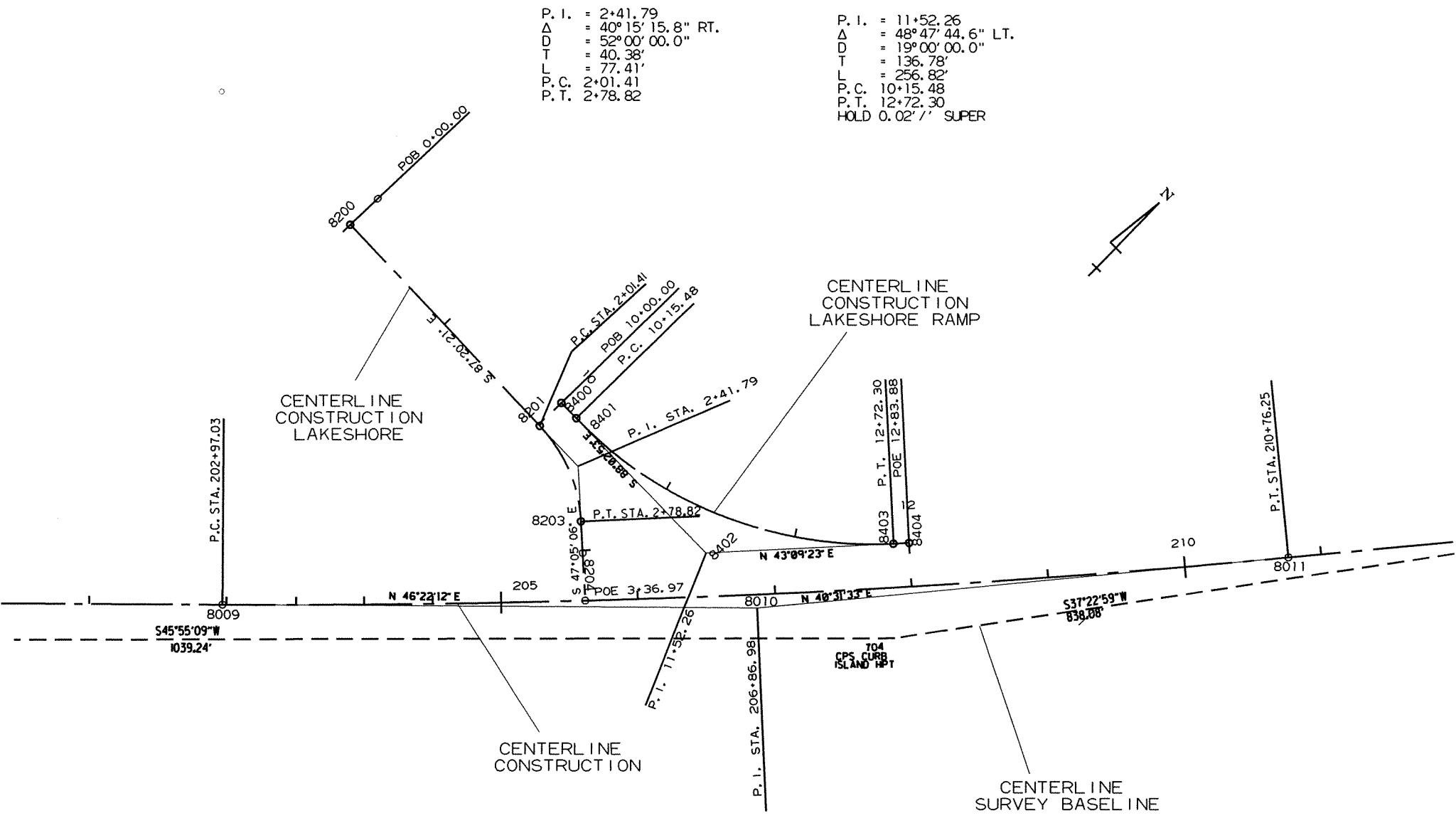
P. I. = 21+56.67
 Δ = 24°38'42.9" RT.
 D = 31°49'51.6"
 T = 117.35'
 L = 77.43'
 P.C. = 21+17.35
 P.T. = 21+94.77
 NO SUPER

P. I. = 221+05.56
 Δ = 6°53'09.2" RT.
 D = 0°45'00.0"
 T = 459.61'
 L = 918.11'
 P.C. = 216+45.95
 P.T. = 225+64.06
 NO SUPER

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. 061113	29	91

2 SURVEY CONTROL DETAILS



P. I. = 2+41.79
Δ = 40°15'15.8" RT.
D = 52°00'00.0"
T = 40.38'
L = 77.41'
P.C. 2+01.41
P.T. 2+78.82

P. I. = 11+52.26
Δ = 48°47'44.6" LT.
D = 19°00'00.0"
T = 136.78'
L = 256.82'
P.C. 10+15.48
P.T. 12+72.30
HOLD 0.02'/' SUPER

STA. 196+90 - IN PLACE
DROP INLET ON LT.
RETAIN
18" X 130' OUTLET PIPE
TO D.I. AT 198+25 37' RT.
RETAIN

STA. 197+16 - CONSTRUCT
APPROACH ON LT. = 5 CU.YD. FILL

STA. 198+25 - IN PLACE
D.I. ON LT. RETAIN
18" X 60' C.M. PIPE OUTLET
REMOVE AND CONSTRUCT
18" X 6' PIPE OUTLET
CONNECT TO D.I. AT STA. 198+25 LT.

STA. 198+25 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 18" X 8' PIPE OUTLET
CONNECT TO D.I. AT STA. 199+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 2"

STA. 198+75 - CONSTRUCT
APPROACH ON LT. = 10 CU. YD. FILL

STA. 198+86 - IN PLACE
D.I. ON LT. WITH
18" X 16' C.M. PIPE OUTLET
REMOVE

STA. 199+04 - IN PLACE
D.I. ON LT. WITH
24" X 20' C.M. PIPE INLET
REMOVE.
24" X 5' R.C. PIPE CROSS DRAIN
24" X 52' R.C. PIPE CROSS DRAIN
PLUG, FILL AND ABANDON IN PLACE
FLOWABLE FILL = 12 CU. YD.

STA. 199+10 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 24" X 5' R.C. STUB IN WITH FES
& 30" X 60' R.C. PIPE OUTLET
CONNECT TO D.I. AT STA. 199+10 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 8"

STA. 199+85 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 18" X 7' PIPE OUTLET
CONNECT TO D.I. AT STA. 199+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 4"

STA. 200+78 - CONSTRUCT
APPROACH ON LT. = 5 CU. YD. FILL

STA. 201+10 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" X 12' PIPE OUTLET
CONNECT TO D.I. AT STA. 199+85 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 9"

STA. 203+75 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" X 26' PIPE OUTLET
CONNECT TO D.I. AT STA. 201+10 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 9"

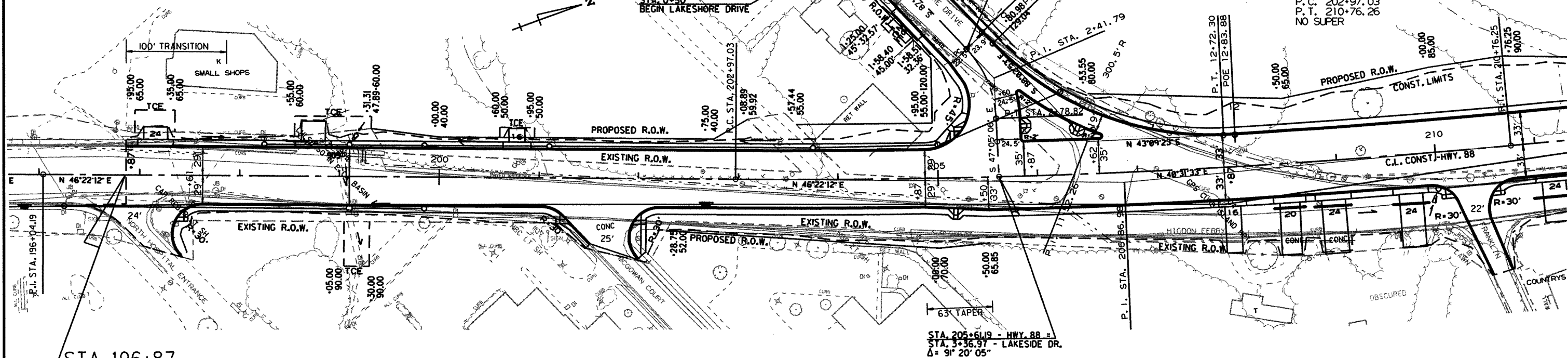
5' CHAIN LINK FENCE			
STA.	STA.	SIDE	LIN. FT.
203+57	203+93	LT.	35

STA. 205+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" X 120' PIPE OUTLET
CONNECT TO D.I. AT STA. 203+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 5"

STA. 2+65 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 18" X 132' R.C. PIPE OUTLET
CONNECT TO D.I. AT STA. 205+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 1"

P. I. = 2+41.79
Δ = 40° 15' 15.8" RT.
D = 52° 00' 00.0"
T = 40.38'
L = 77.41'
P.C. = 2+01.41
P.T. = 2+78.82

P. I. = 206+86.98
Δ = 5° 50' 38.8" LT.
D = 0° 45' 00.0"
T = 389.95'
L = 779.44'
P.C. = 202+97.03
P.T. = 210+76.26
NO SUPER



STA. 196+87
BEGIN JOB 061113
LOG MI. 1.81

STA. 196+25 - IN PLACE
D.I. ON RT. RETAIN & MODIFY INLET.
CONSTRUCT NEW BOTTOM AT
F.L. 541.50' WITH
18" X 28' R.C. PIPE OUTLET
CONNECT TO D.I. AT STA. 199+10 RT.

STA. 196+29 - IN PLACE
TYPE ST JUNCTION BOX ON RT.
WITH 24" X 9' PLASTIC PIPE INLET
& 24" X 145' PLASTIC PIPE OUTLET.
PLUG, FILL AND ABANDON IN PLACE
FLOWABLE FILL = 21 CU. YD.

STA. 197+11 - CONSTRUCT
APPROACH ON RT. = 100 CU. YD. CUT

STA. 197+76 - IN PLACE
TYPE ST JUNCTION BOX ON RT.
WITH 18" X 133' PLASTIC PIPE
TO EXISTING D.I. AT 199+10 RT.
PLUG, FILL AND ABANDON IN PLACE
FLOWABLE FILL = 13 CU. YD.

STA. 199+10 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
CONNECT TO EXISTING 24" X 55'
PLASTIC PIPE OUTLET TO D.I. AT
STA. 199+23 AT 87' RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 4"

STA. 199+10 - IN PLACE
DROP INLET ON RT.
REMOVE

STA. 199+85 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
& 24" X 7' PIPE OUTLET
CONNECT TO D.I. AT STA. 199+10 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 10"

STA. 200+16 - IN PLACE
DROP INLET ON RT. - REMOVE
12" X 152' C.M. PIPE OUTLET -
PLUG AND ABANDON IN PLACE

STA. 201+65 MC GOWAN CT. - CONSTRUCT
APPROACH ON RT. = 90 CU. YD. FILL

CONCRETE DITCH PAVING

STA.	STA.	SIDE	TYPE	SQ. YDS.
208+10	208+35	RT.	B	16.7
208+67	208+75	RT.	B	5.3
209+13	209+53	RT.	B	26.7
209+91	210+00	RT.	B	6.0

STA. 207+94 CONSTRUCT
APPROACH ON RT. = 5 CU. YD. FILL

STA. 208+51 INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTR. APPR = 10 CU. YD. FILL

STA. 208+81 - IN PLACE
DROP INLET ON RT. WITH
24" X 290' R.C. PIPE OUTLET
REMOVE

STA. 208+94 INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTR. APPR = 20 CU. YD. FILL

STA. 209+55 - IN PLACE
DROP INLET ON RT. WITH
24" X 49' R.C. PIPE OUTLET
REMOVE

STA. 209+72 INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTR. APPR = 55 CU. YD. FILL

STA. 210+00 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 18" X 5' STUB IN WITH FES
& 18" X 17' PIPE OUTLET
CONNECT TO D.I. @ STA. 221+75 RT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 4' 0"

STA. 210+08 - IN PLACE
DROP INLET ON RT. WITH
24" X 160' R.C. PIPE OUTLET
REMOVE

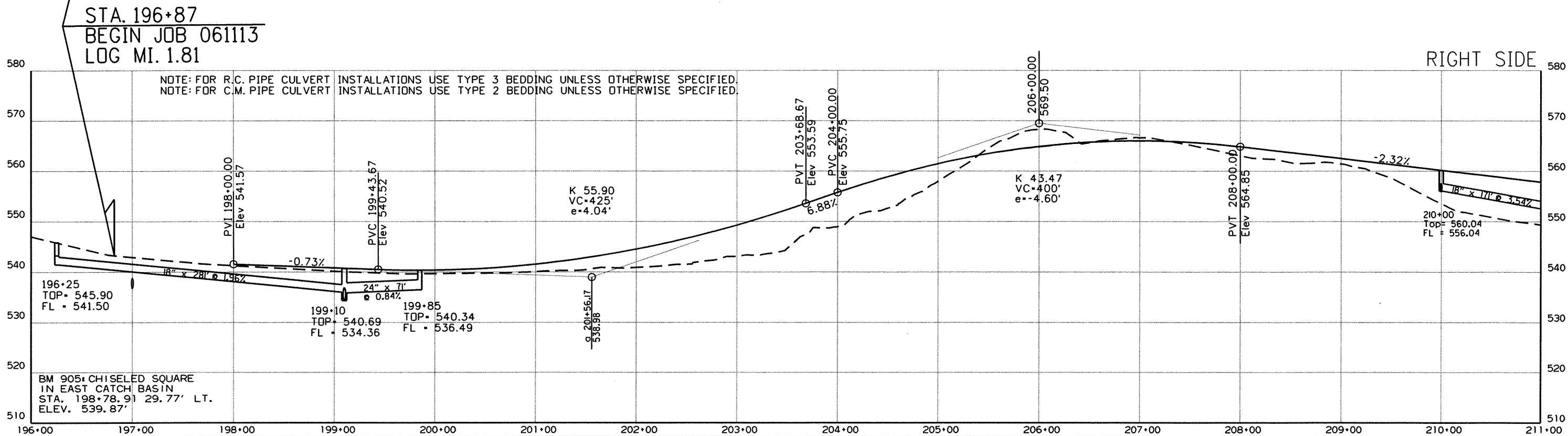
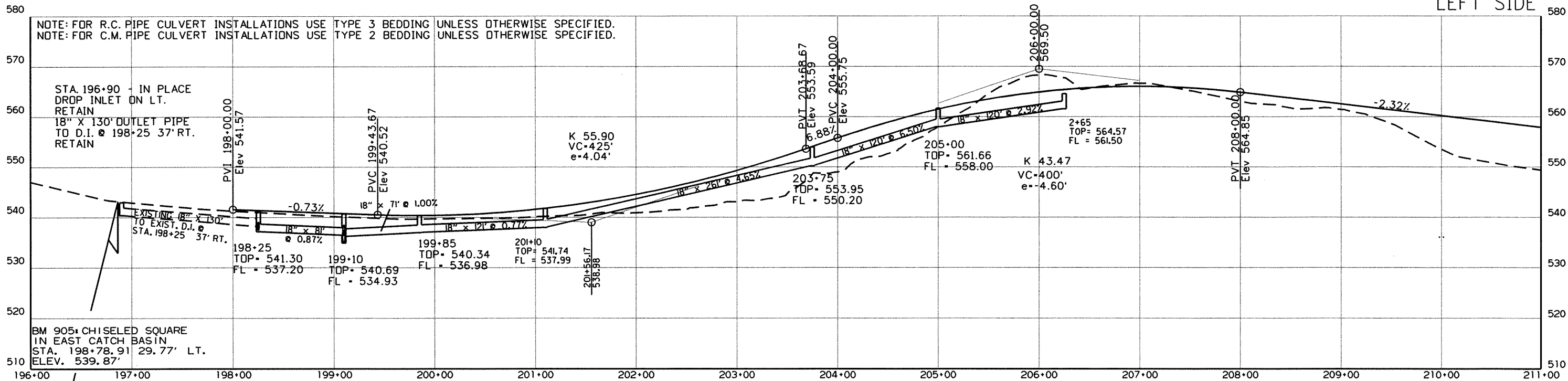
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				6	ARK.			
						JOB NO. 061113	30	91

2 PLAN SHEETS



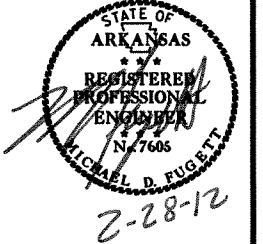
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				6	ARK.			
				JOB NO.	061113		31	91

2 PROFILE SHEETS



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. 061113	32	91

2 PLAN SHEETS



STA. 211+75 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 18" X 310' PIPE OUTLET
CONNECT TO D.I. AT STA. 215+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 0"

STA. 215+00 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" X 101' R.C. INLET W/FES.
& 24" X 296' PIPE OUTLET
CONNECT TO D.I. AT STA. 218+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 7' 0"

STA. 217+77 - IN PLACE
24" X 28' C.M. PIPE SIDE DRAIN
REMOVE

STA. 218+00 - CONSTRUCT
D.I. ON LT. WITH 8' EXTENSION
& 24" X 210' PIPE OUTLET
CONNECT TO D.I. AT STA. 220+14 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 5' 0"

STA. 220+14 - CONSTRUCT
D.I. ON LT. WITH 4' EXTENSION
& 24" X 167' PIPE OUTLET
CONNECT TO D.I. AT STA. 221+85 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 10"

STA. 221+85 - CONSTRUCT
D.I. ON LT. WITH NO EXTENSION
& 24" X 25' PIPE OUTLET
CONNECT TO D.I. AT STA. 222+08 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 7"

STA. 221+17 - IN PLACE
DROP INLET ON LT. WITH
24" X 40' R.C. PIPE INLET
& 18" X 68' R.C. PIPE OUTLET
REMOVE

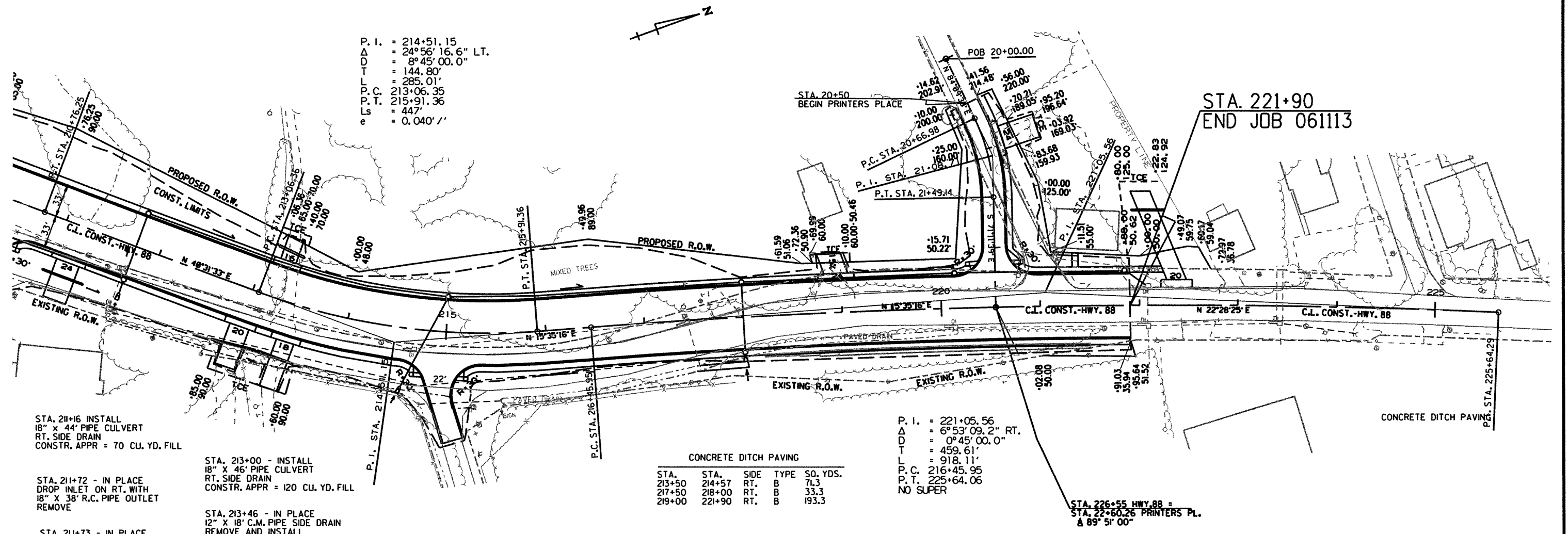
STA. 222+08 - IN PLACE
DROP INLET ON LT.
RETAIN

STA. 222+38 - CONSTRUCT
APPROACH ON LT. WITH
18" X 32' LT. SIDE DRAIN.
= 645 CU. YD. FILL

STA. 213+24 - INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTR. APPR = 30 CU. YD. FILL

STA. 218+95 - CONSTRUCT
APPROACH ON LT. = 10 CU. YD. FILL

STA. 20+94 - CONSTRUCT
APPROACH ON LT. = 45 CU. YD. FILL



P. I. = 214+51.15
Δ = 24°56'16.6" LT.
D = 8°45'00.0"
T = 144.80'
L = 285.01'
P. C. = 213+06.35
P. T. = 215+91.36
Ls = 447'
e = 0.040' /'

P. I. = 221+05.56
Δ = 6°53'09.2" RT.
D = 0°45'00.0"
T = 459.61'
L = 918.11'
P. C. = 216+45.95
P. T. = 225+64.06
NO SUPER

CONCRETE DITCH PAVING				
STA.	STA.	SIDE	TYPE	SO. YDS.
213+50	214+57	RT.	B	71.3
217+50	218+00	RT.	B	33.3
219+00	221+90	RT.	B	193.3

STA. 220+15 - IN PLACE
DROP INLET ON RT. WITH
24" X 191' R.C. PIPE OUTLET
REMOVE

STA. 222+08 - IN PLACE
DROP INLET ON RT.
RETAIN

CONCRETE RETAINING WALL			
STA.	STA.	SIDE	SO. FT.
218+20	221+90	RT.	13225

STA. 211+16 INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTR. APPR = 70 CU. YD. FILL

STA. 211+72 - IN PLACE
DROP INLET ON RT. WITH
18" X 38' R.C. PIPE OUTLET
REMOVE

STA. 211+73 - IN PLACE
DROP INLET ON RT. WITH
30" X 300' R.C. PIPE OUTLET
REMOVE

STA. 211+75 - CONSTRUCT
D.I. ON RT. WITH NO EXTENSION
& 18" X 12' R.C. INLET W/FES
& 18" X 68' R.C. PIPE OUTLET
CONNECT TO D.I. AT STA. 211+75 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 6' 2"

STA. 213+00 - INSTALL
18" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTR. APPR = 120 CU. YD. FILL

STA. 213+46 - IN PLACE
12" X 18' C.M. PIPE SIDE DRAIN
REMOVE AND INSTALL
18" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTR. APPR = 115 CU. YD. FILL

STA. 214+71 - IN PLACE
DROP INLET ON RT. WITH
30" X 274' R.C. PIPE OUTLET
REMOVE

STA. 214+98 - IN PLACE
18" X 83' C.M. PIPE CULVERT
SIDE DRAIN ON RT.
REMOVE AND CONSTRUCT
APPROACH ON RT. = 200 CU. YD. FILL

STA. 215+54 RT. TO STA. 217+50 RT.
RETAIN AND CLEAN OUT
EXISTING CONCRETE DITCH PAVING
REMOVE

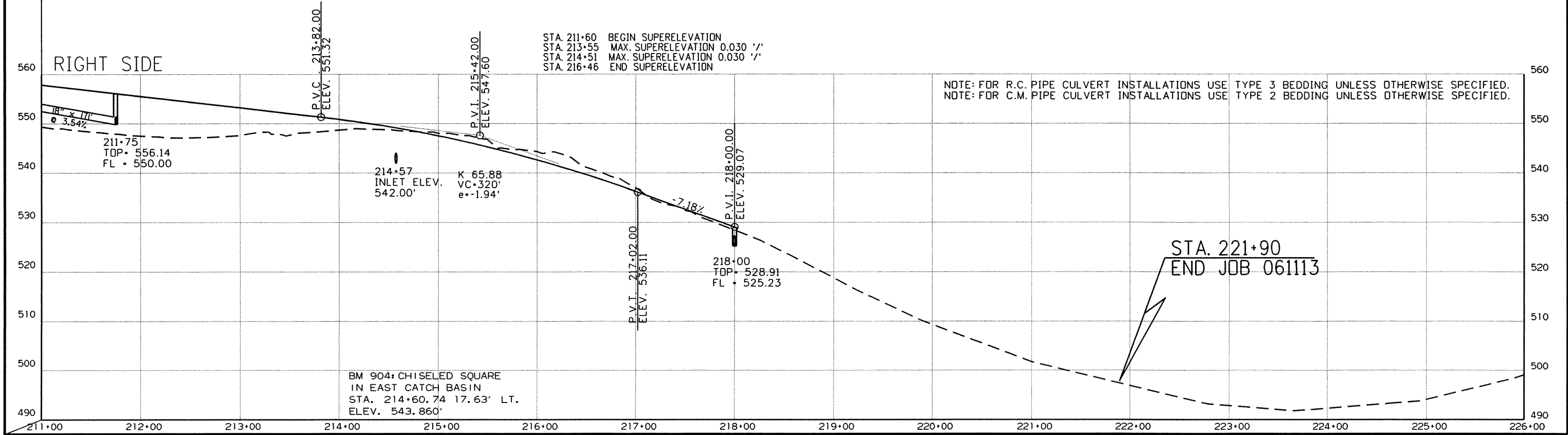
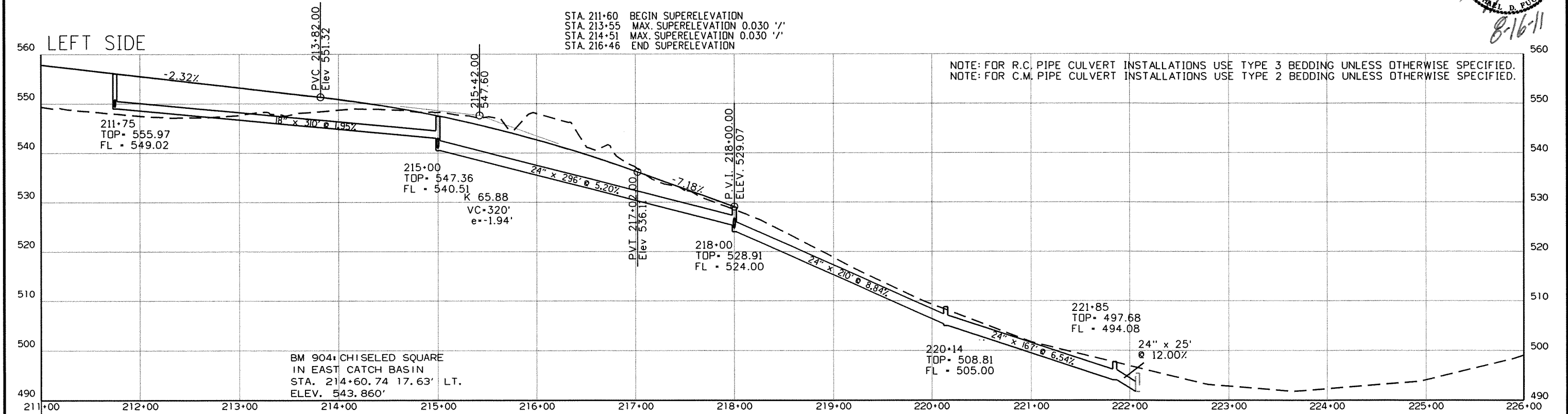
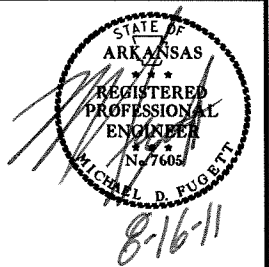
STA. 217+43 - IN PLACE
DROP INLET WITH 30" X 46'
R.C. PIPE CROSS DRAIN
REMOVE

STA. 218+00 - CONSTRUCT
D.I. ON RT. WITH 4' EXTENSION
& 24" FES STUB INLET
& 24" X 68' R.C. PIPE OUTLET
CONNECT TO D.I. AT STA. 218+00 LT.
TY C = 4' X 4'
TY MO = 4' I.D.
H = 3' 9"

STA. 226+55 HWY. 88 =
STA. 22+60.26 PRINTERS PL.
Δ 89° 51' 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. 061113	33	91

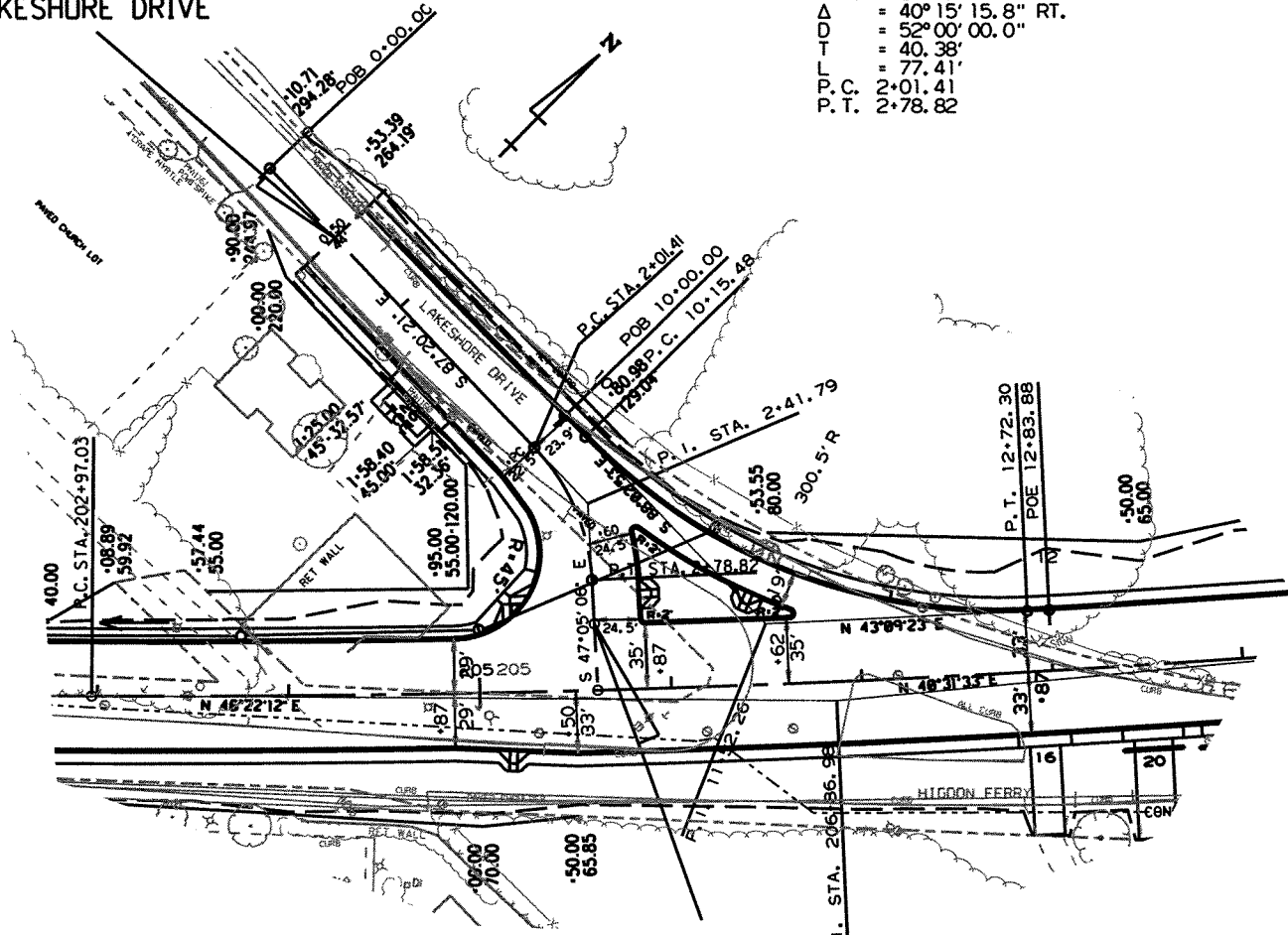
2 PROFILE SHEETS



STA. 0+50 - BEGIN
LAKESHORE DRIVE

STA. 1+42 DRIVE ON RT.
CONSTRUCT DRY RAMP
CONSTR. APPR = 5 CU. YD. CUT

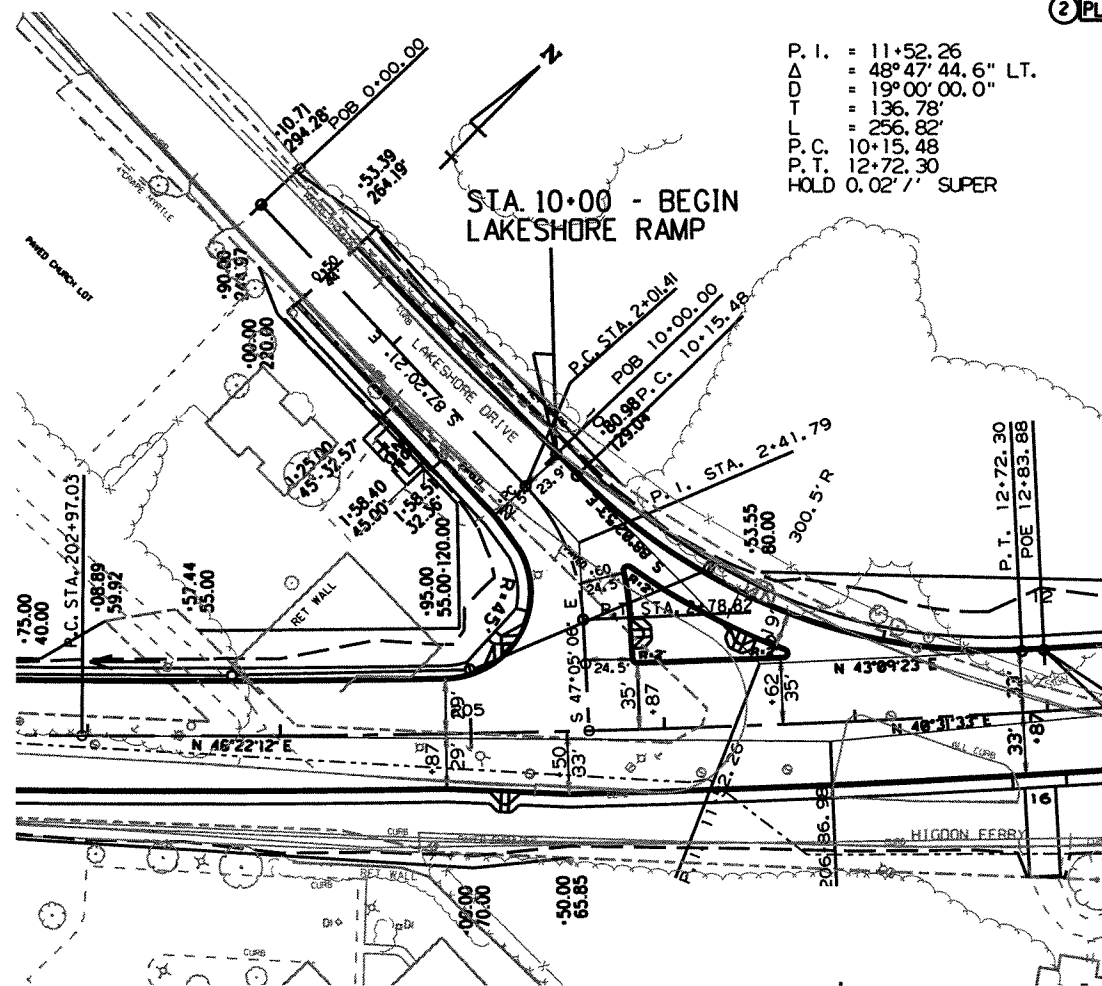
P. I. = 2+41.79
Δ = 40° 15' 15.8" RT.
D = 52° 00' 00.0"
T = 40.38'
L = 77.41'
P.C. = 2+01.41
P.T. = 2+78.82



STA. 3+01.95 - END
LAKESHORE DRIVE

STA. 11+00 LT-CONST. DI
TYPE MD-4'H-3.47'
18" x 130' R.C. PIPE OUTLET
TO EXIST. D.I. AT STA. 205+00

P. I. = 11+52.26
Δ = 48° 47' 44.6" LT.
D = 19° 00' 00.0"
T = 136.78'
L = 256.82'
P.C. = 10+15.48
P.T. = 12+72.30
HOLD 0.02' /' SUPER

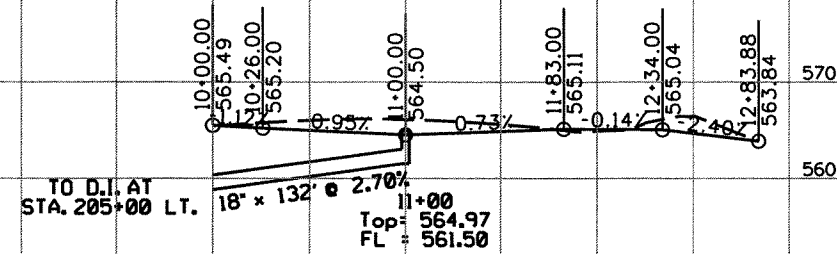
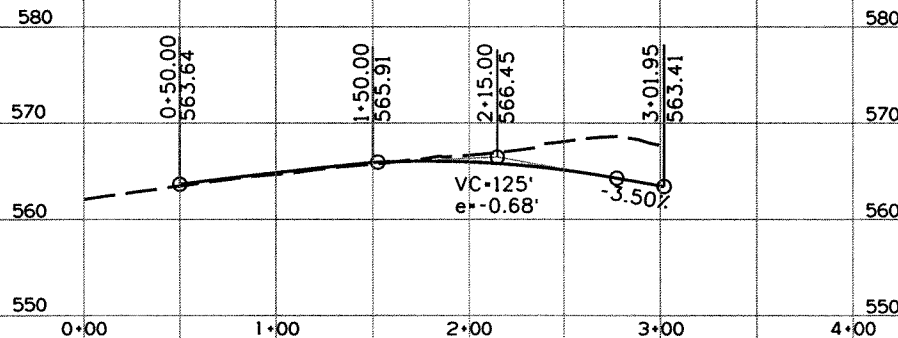


STA. 12+83.88 - END
LAKESHORE RAMP

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

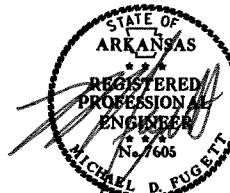
LAKESHORE DRIVE

RAMP FOR LAKESHORE



LAKESHORE & LAKESHORE RAMP

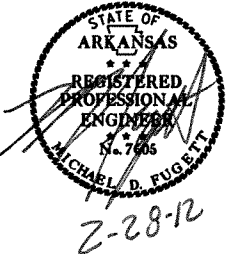
2 PLAN AND PROFILE SHEETS



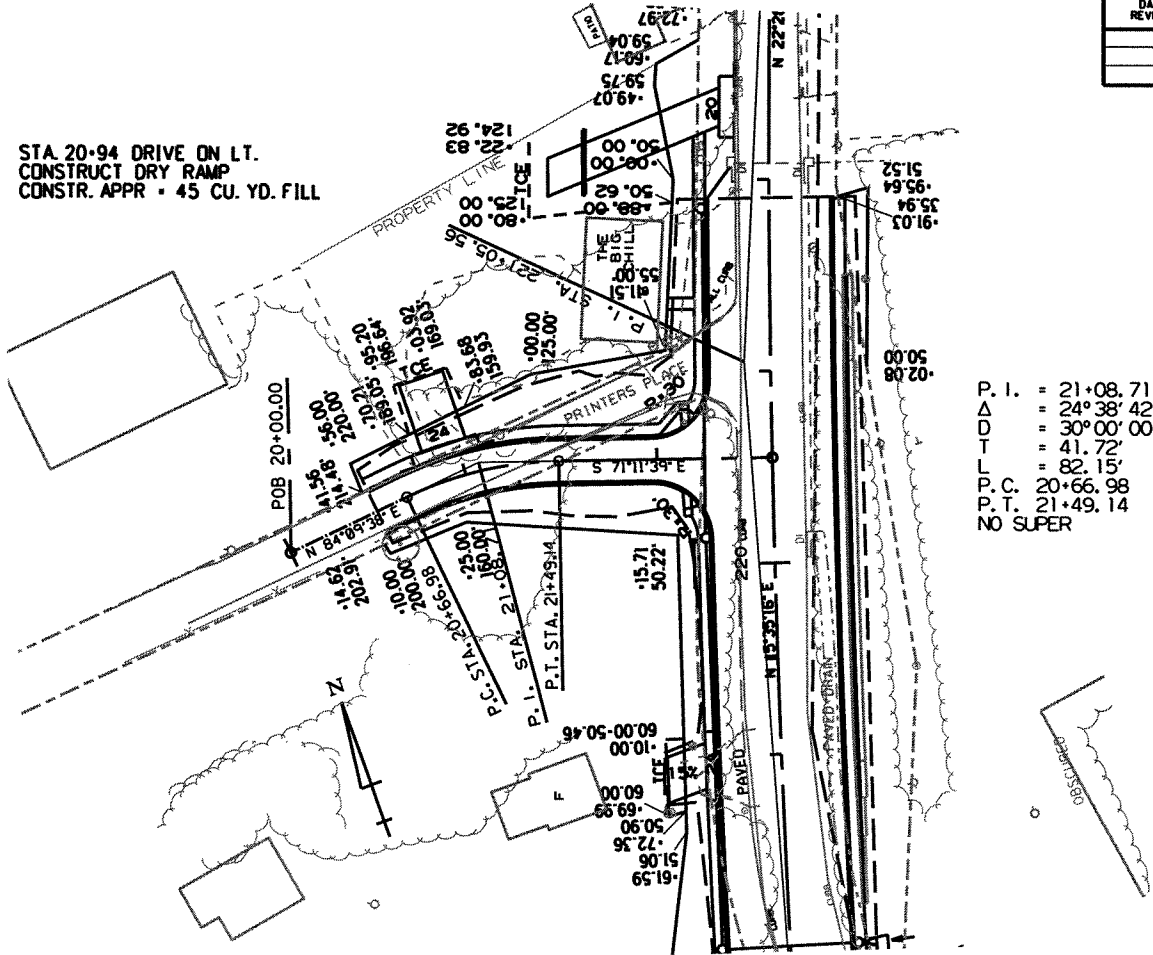
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061113	35	91

2 PLAN AND PROFILE SHEETS



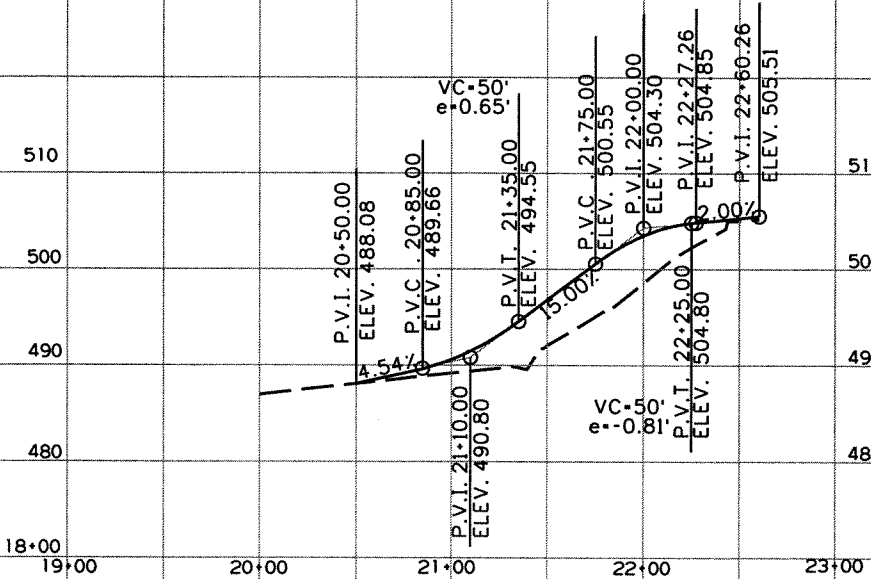
STA. 20+94 DRIVE ON L.T.
CONSTRUCT DRY RAMP
CONSTR. APPR = 45 CU. YD. FILL



P. I. = 21+08.71
Δ = 24°38'42.9" RT.
D = 30°00'00.0"
T = 41.72'
L = 82.15'
P. C. 20+66.98
P. T. 21+49.14
NO SUPER

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

PRINTERS PLACE



PRINTERS PLACE

TRAFFIC SIGNAL NOTES:

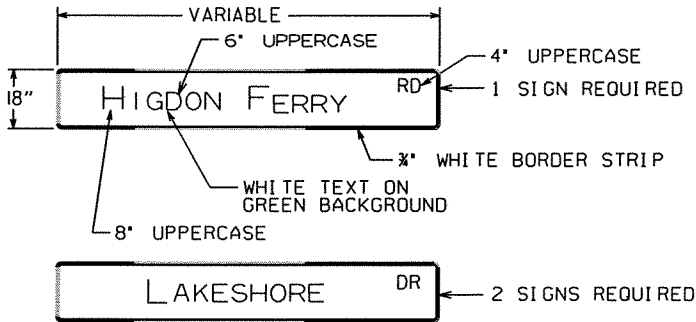
1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2002) NATIONAL ELECTRICAL CODE, NFPA 101(2000) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE, SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAIN-TIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/*6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/*12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET SHALL HAVE 16 LOAD BAYS AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PAVEMENT MARKING PLAN SHEETS.
11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY.
17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, 38 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 6 FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO ISMA STANDARDS.
22. ONE VIDEO PROGRAMMING MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
23. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

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.		061113	36	91
2 SUMMARY OF SIGNAL QUANTITIES & NOTES								

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS 2 - TYPE 2, E-NET (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	6	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	2	EACH
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	972	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	65	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	194	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	221	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	23	LIN. FT.
710	NON-METALLIC CONDUIT (3")	357	LIN. FT.
SS&711	CONCRETE PULL BOX (TYPE 1HD)	1	EACH
SS&711	CONCRETE PULL BOX (TYPE 2 HD)	4	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
SS&714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44'-44')	1	EACH
SS&715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	2	EACH
SP&733	VIDEO DETECTOR (CLR)	6	EACH
733	VIDEO CABLE	1124	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP&733	VIDEO EDGE CARD EXTENDER	1	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	419	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	100	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	100	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	323	LIN. FT.
SP	LUMINAIRE ASSEMBLY	2	EACH
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	ANTENNA CABLE (TYPE 6)	70	LIN. FT.
SP	18" STREET NAME SIGN	3	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

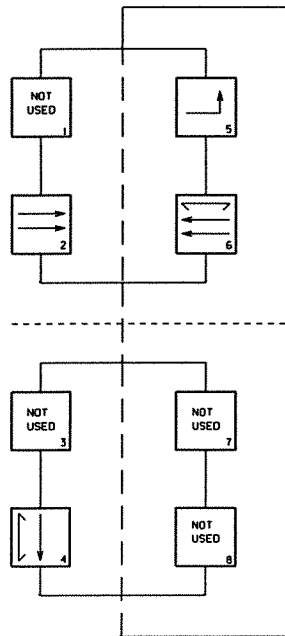
* QUANTITIES INCLUDE ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR.

TYPICAL OVERHEAD STREET NAME MARKER
MAST ARM MOUNTED



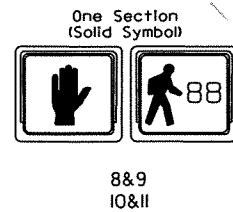
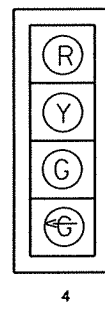
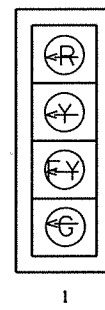
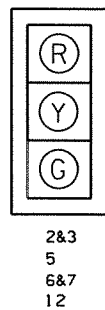
LOCATION: HWY. 88 (HIGDON FERRY RD.) / LAKESHORE DR.
CITY: HOT SPRINGS
COUNTY: GARLAND
DISTRICT: 6 SCALE: 1" = 100' DRAWN BY: GWE

PHASING DIAGRAM

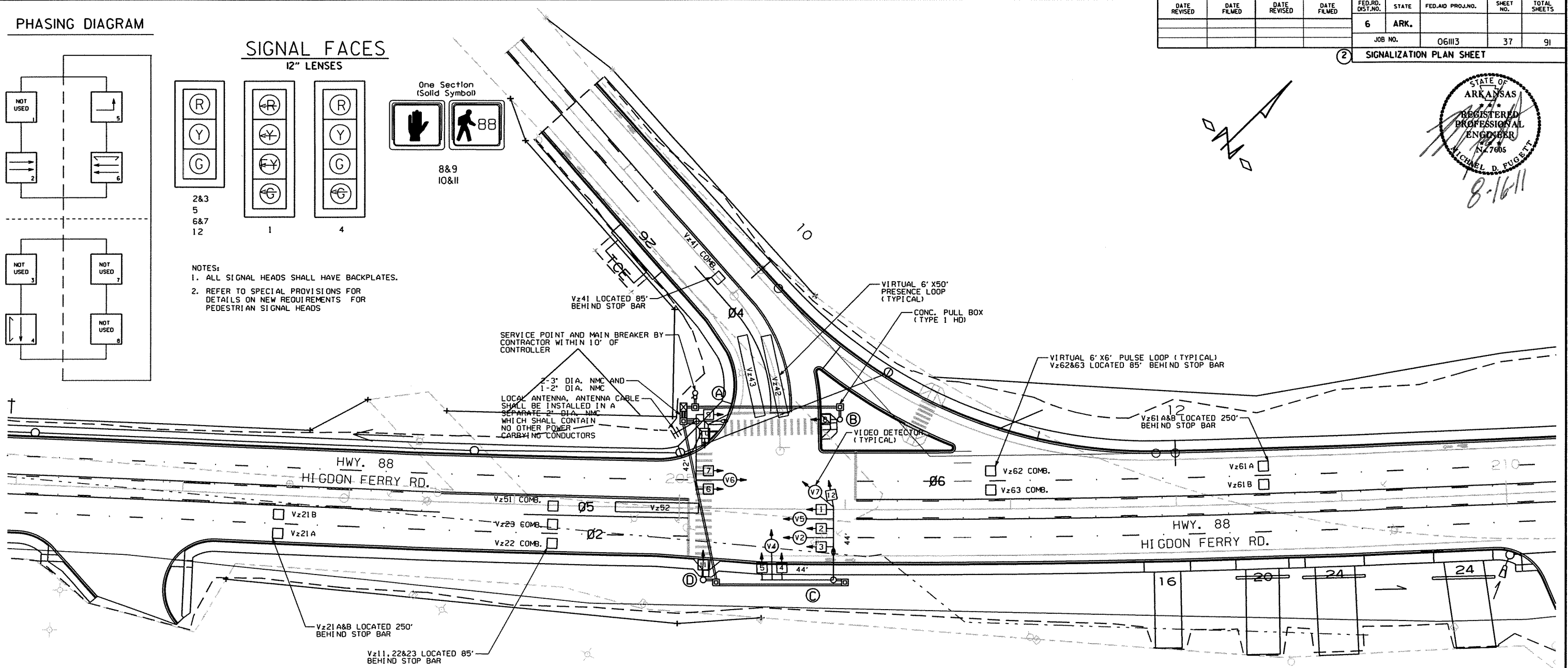


SIGNAL FACES

12" LENSES



- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS



DESIGN PARAMETERS

POSTED SPEED LIMIT:
35 MPH WEST APPROACH
35 MPH NORTH AND SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP BARS
SHOWN ON PAVEMENT MARKING PLAN.
SEE SEPARATE SHEET.

MINIMUM CLEAR ZONE DISTANCE
CONTROLLER - 1.5 FEET FROM HWY. 88
POLE A - 1.5 FEET FROM HWY. 88
POLE B - 1.5 FEET HWY. 88
POLE C - 1.5 FEET FROM HWY. 88
POLE D - 1.5 FEET FROM HWY. 88

INTERVAL CHART

SIGNAL FACES	HWY. 88/LAKESHORE DR.	FLASH SEQ.
1	2+5 CLR. 2+6 CLR. 4 CLR.	
2&3	G .. G .. R R	Y
4	R R R R G ..	R
5&12	R R R R G Y	R
6&7	R R G .. R R	Y
8&9	DW DW W FDW DW DW	BLK
10&11	DW DW DW DW W FDW	BLK

- .. DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
- .. DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
- ... DENOTES FLASHING ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

HWY. 88/LAKESHORE DR. POLE DIMENSIONS

POLE	MAST ARM	MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	LUM. ANGLE
A	42'	180°	35'	15'	90°
B	N/A	N/A	15'	N/A	N/A
C	44' - 44'	90° - 180°	35'	15'	180°
D	N/A	N/A	15'	N/A	N/A

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

SCALE IN FEET

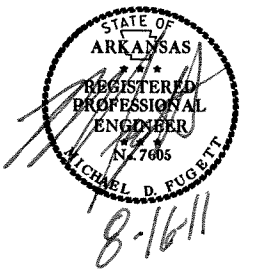


DATE: 07-29-11 FILE NAME: t061113.p01.dgn

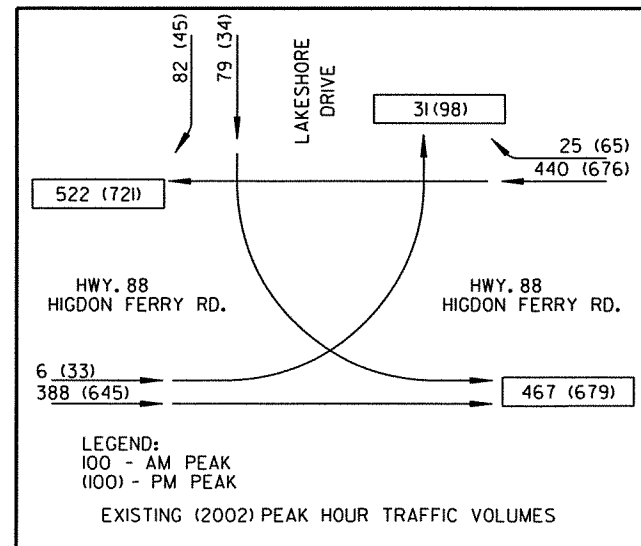
LOCATION: HWY. 88 (HIGDON FERRY RD.) / LAKESHORE DR.
CITY: HOT SPRINGS
COUNTY: GARLAND
DISTRICT: 6 SCALE: 1" = 60' DRAWN BY: GWE

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.		061113	37	91

2 SIGNALIZATION PLAN SHEET

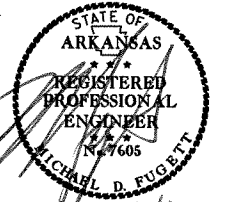


TRAFFIC FLOW DIAGRAM



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.		06113	38	91

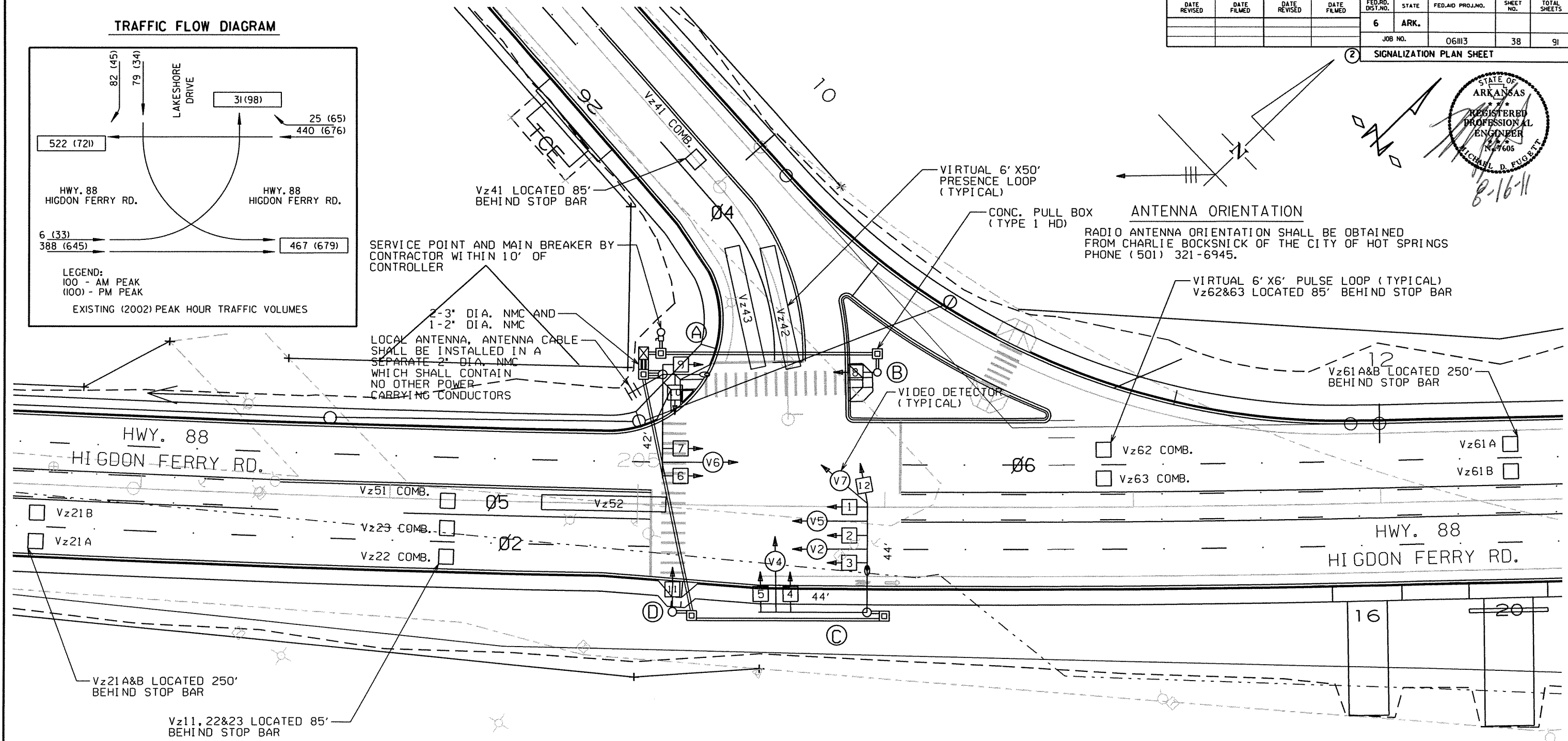
SIGNALIZATION PLAN SHEET



8-16-11

ANTENNA ORIENTATION

RADIO ANTENNA ORIENTATION SHALL BE OBTAINED FROM CHARLIE BOCKSNICK OF THE CITY OF HOT SPRINGS PHONE (501) 321-6945.



HWY. 88/LAKESHORE DR. POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 88 - STA. 205+08.20	52' LT.	990988.7332, 1970630.1187
B	HWY. 88 - STA. 205+96.88	54' LT.	991048.0851, 1970693.2937
C	HWY. 88 STA. 205+92.93	43' LT.	991115.2195, 1970623.3648
D	HWY. 88 - STA. 205+14.39	43' RT.	991060.7394, 1970566.7717

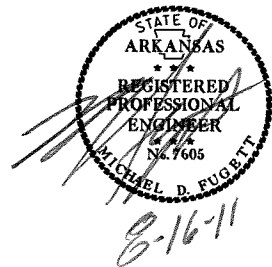


DATE: 07-29-11 FILE NAME: t061113.p02.dgn

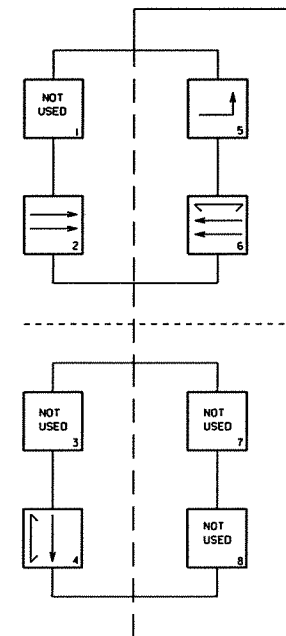
LOCATION: HWY. 88 (HIGDON FERRY RD.) / LAKESHORE DR.
CITY: HOT SPRINGS
COUNTY: GARLAND
DISTRICT: 6 SCALE: 1" = 40' DRAWN BY: GWE

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.		061113	39	91

2 SIGNALIZATION PLAN SHEET

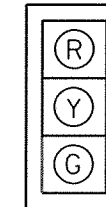


PHASING DIAGRAM

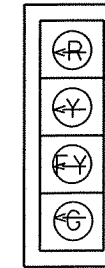


SIGNAL FACES

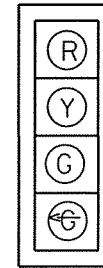
12" LENSES



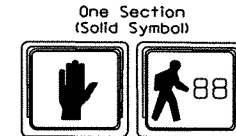
2&3
5
6&7
12



1



4

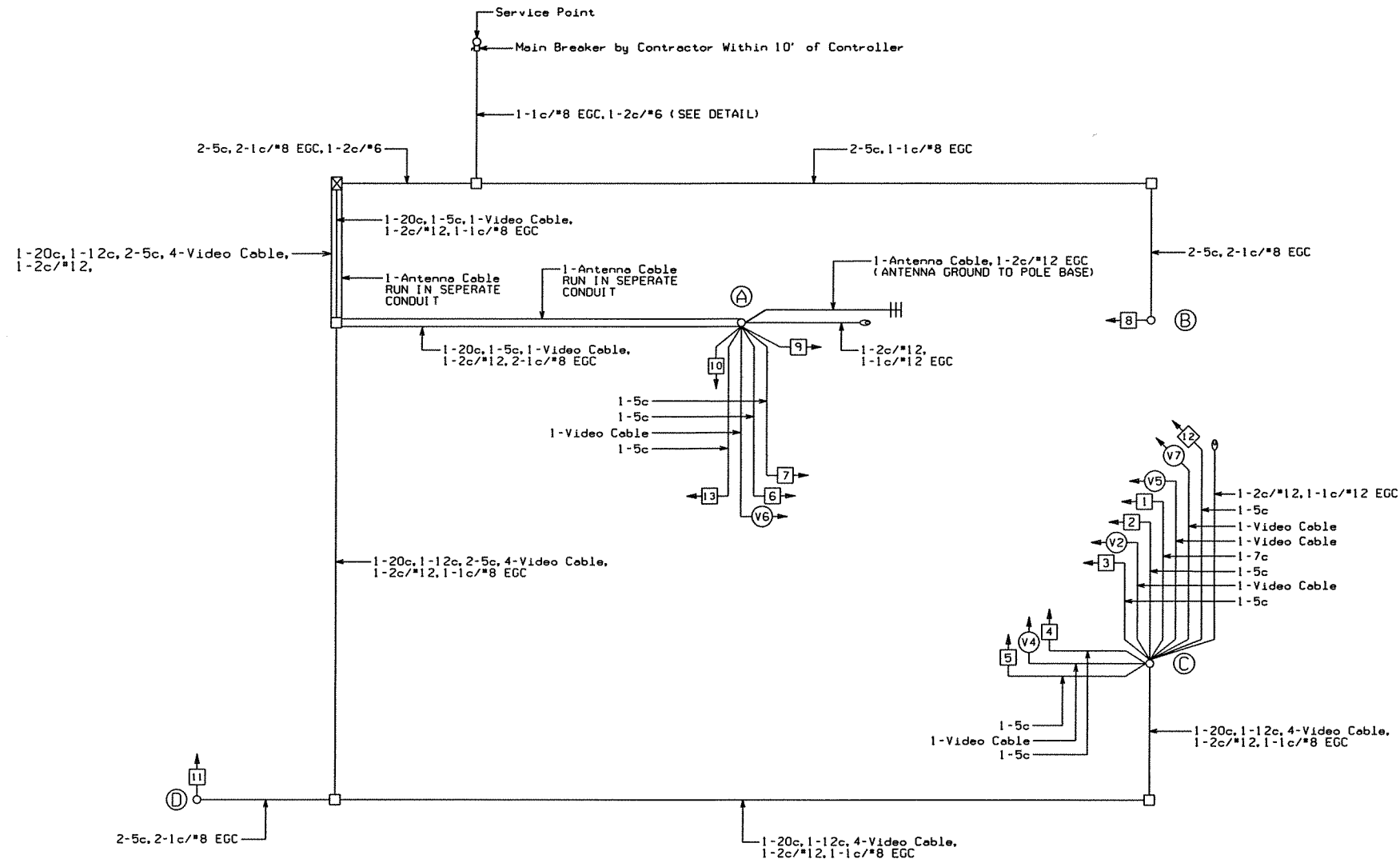


8&9
10&11

- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISIONS FOR DETAILS ON NEW REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS

SYSTEM DESCRIPTION: JOB 061113										
HOT SPRINGS - HWY. 88/LAKESHORE DR. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			CAMERA
DET. ID#	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM #	AMP. CHN. #	CON. INP. #	PHS	SYSTEM DET. #	MASTER SYSTEM DETECTOR NUMBERS	
Vz51	NB LT. TURN ADVANCE	COMB.			5	D5	5	5		CAMERA V5
Vz52	NB LEFT TURN	LOCAL			6	V5	5			CAMERA V5
Vz21A&B	NB ADVANCE	LOCAL			1	V2	2			CAMERA V2
Vz22	NB OUTSIDE NEAR	COMB.			2	D2	2	2		CAMERA V5
Vz23	NB INSIDE NEAR	COMB.			3	D3	2	3		CAMERA V5
Vz41	EB LEFT ADVANCE	SYSTEM			9	D4	4	4		CAMERA V7
Vz42	EB LEFT TURN	LOCAL			10	V4	4			CAMERA V4
Vz43	EB RIGHT TURN	LOCAL			11	P1	4			CAMERA V4
Vz61A&B	SB ADVANCE	LOCAL			13	V6	6			CAMERA V6
Vz62	SB OUTSIDE NEAR	COMB.			14	D6	6	6		CAMERA V6
Vz63	SB INSIDE NEAR	COMB.			15	D8	6	8		CAMERA V6
PB2A&B	TWIN POINTS W. LEG	PED.					2			
PB4A&B	HWY. 88 S. LEG	PED.					4			
							SPARE 4, 7, 8, 12 & 16			

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT



WIRING DIAGRAM

- NOTES TO CONTRACTOR:
- ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
 - ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
 - THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

LOCATION: HWY. 88 (HIGDON FERRY RD.) /LAKESHORE DR.
CITY: HOT SPRINGS
COUNTY: GARLAND
DISTRICT: 6 SCALE: 1" = 80' DRAWN BY: GWE

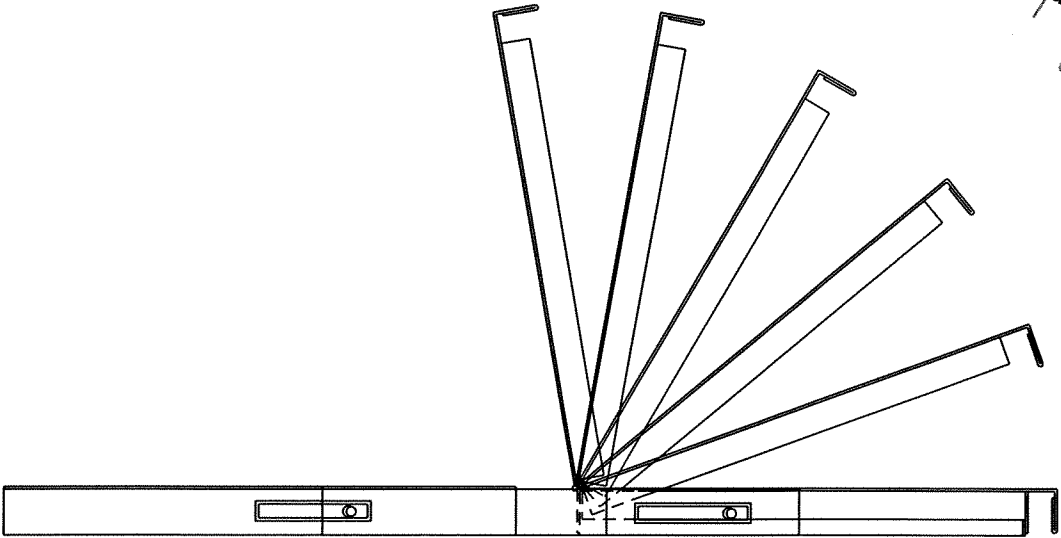
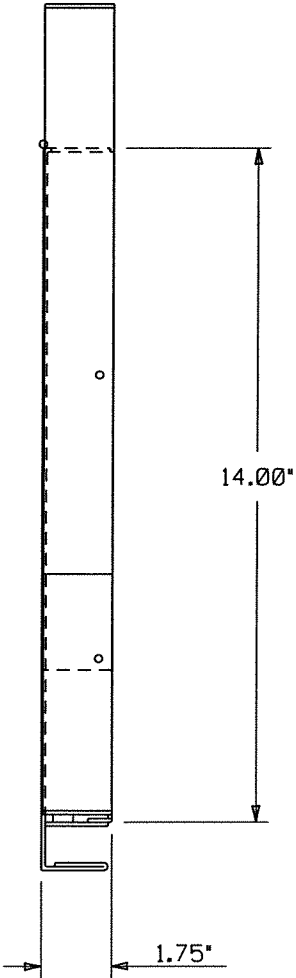
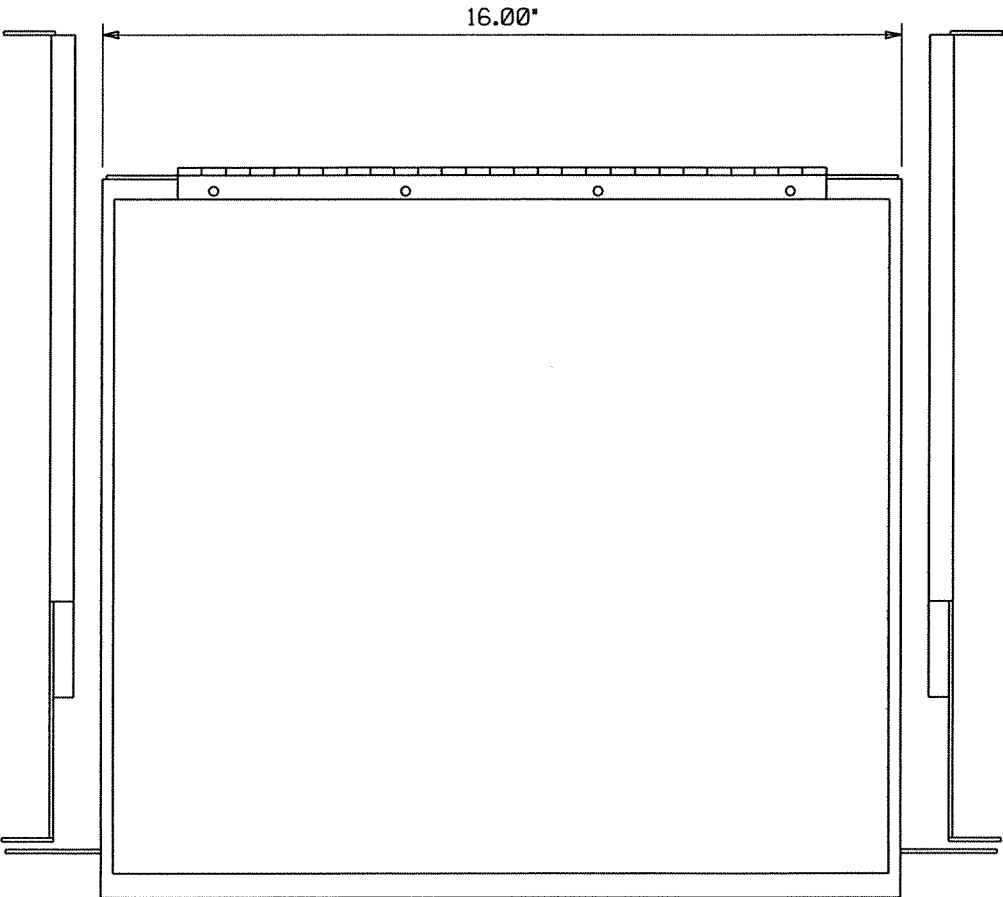
DATE: 07-29-11 FILE NAME: t061113.p01.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061113	40	91

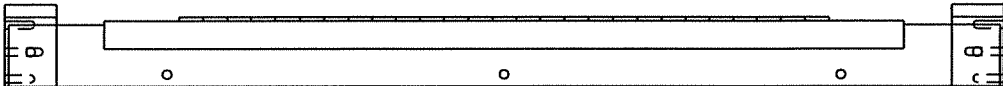
2 SIGNALIZATION DETAILS



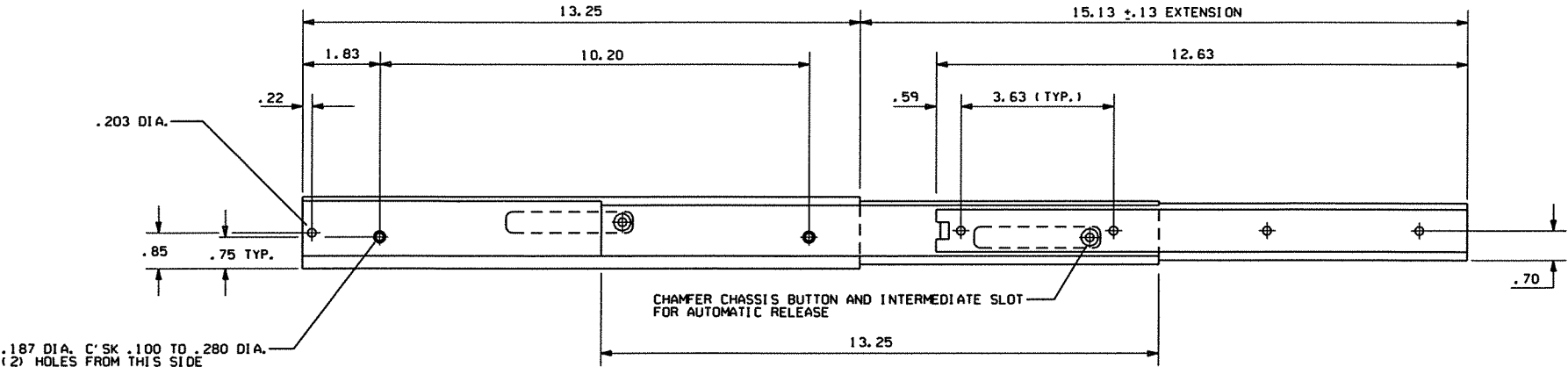
DRAWER PLAN VIEW



NOTES:
 1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
 2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
 3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



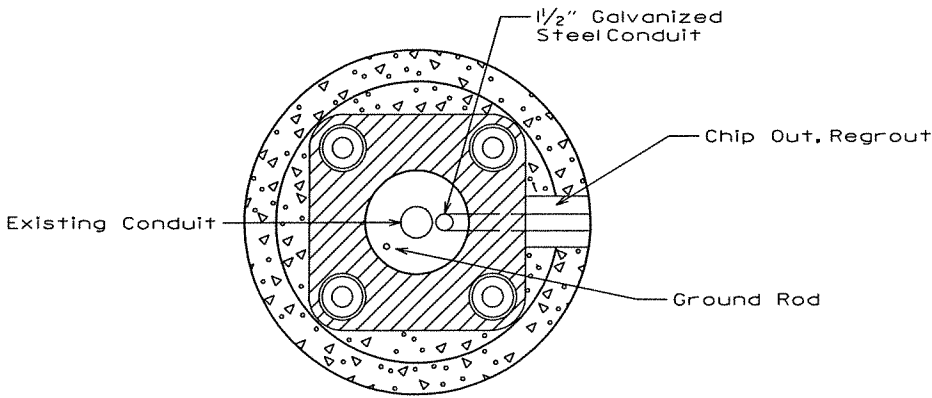
FRONT VIEW



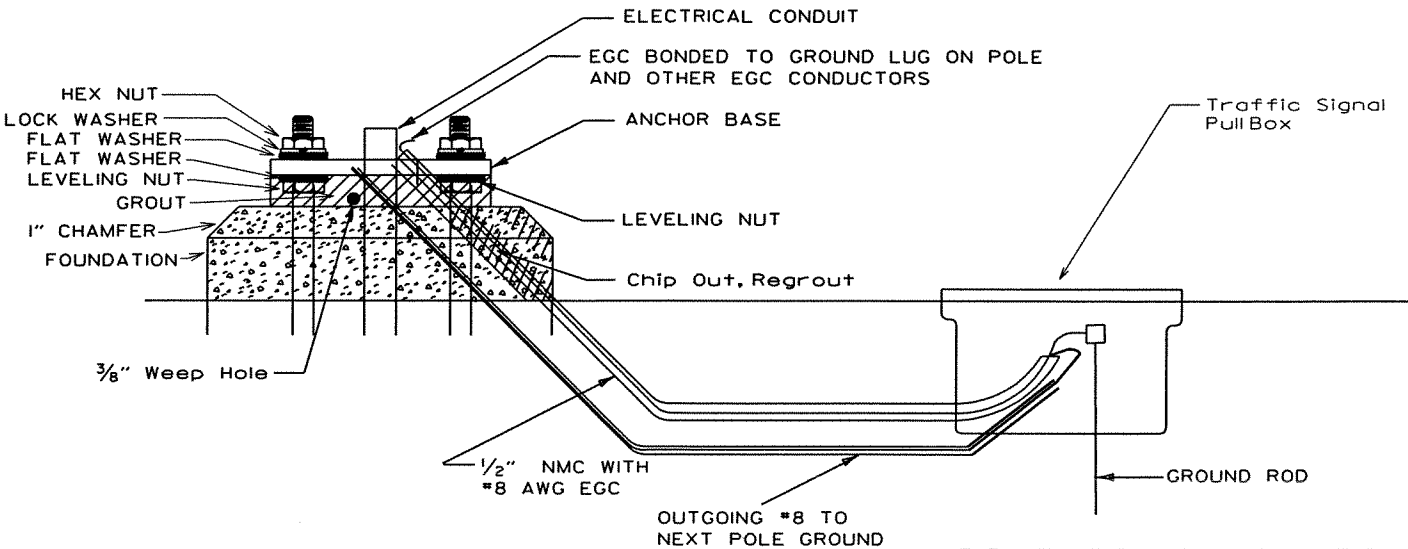
RIGHT SIDE ASSEMBLY

ARKANSAS STATE HIGHWAY COMMISSION		
SIGNALIZATION DETAIL (Controller Cabinet Utility Drawer)		
6-15-05	ISSUED	
DATE	REVISION	DATE FILM

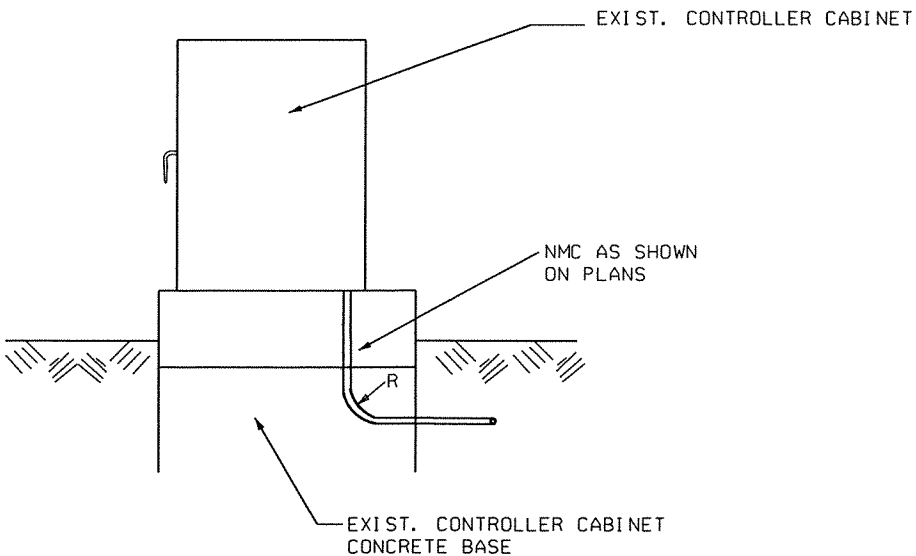
CONDUIT ENTRY TO
EXISTING POLE BASE



ANCHOR BASE

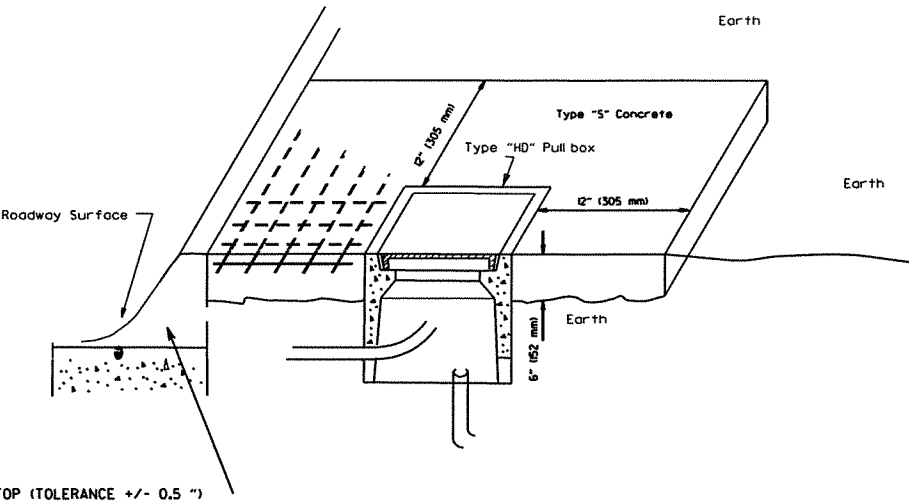


CONDUIT ENTRY TO EXISTING
CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH
A CUT IN THE BASE SUFFICIENT TO PROVIDE
ADEQUATE CONDUIT RADIUS FOR ITEM.

Type "HD" Concrete PullBox Detail

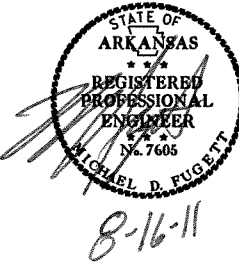


Note: All Type 1 and Type 2 HD pullboxes are installed with an apron of concrete 12 inch (305 mm) wide and 6 inch (152 mm) in depth. All payment shall be included in the price of the Type HD pullbox. Pullbox shall be installed flush to surrounding grade unless otherwise instructed by the engineer. The concrete shall be Class "S." Three #6 reinforcing bars in the apron on all sides of the pullbox is required in concrete.

5-21-09	REVISED GROUNDING	
7-31-08	ADDED & REVISED CONDUIT ENTRY	
6-23-04	REVISED CLEARANCE AT CURB ENTRY	
1-4-02	ADDED REINFORCING TO BOX APRON	
7-2-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	
DATE	REVISION	DATE FILM

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL
(Heavy Duty PullBox)



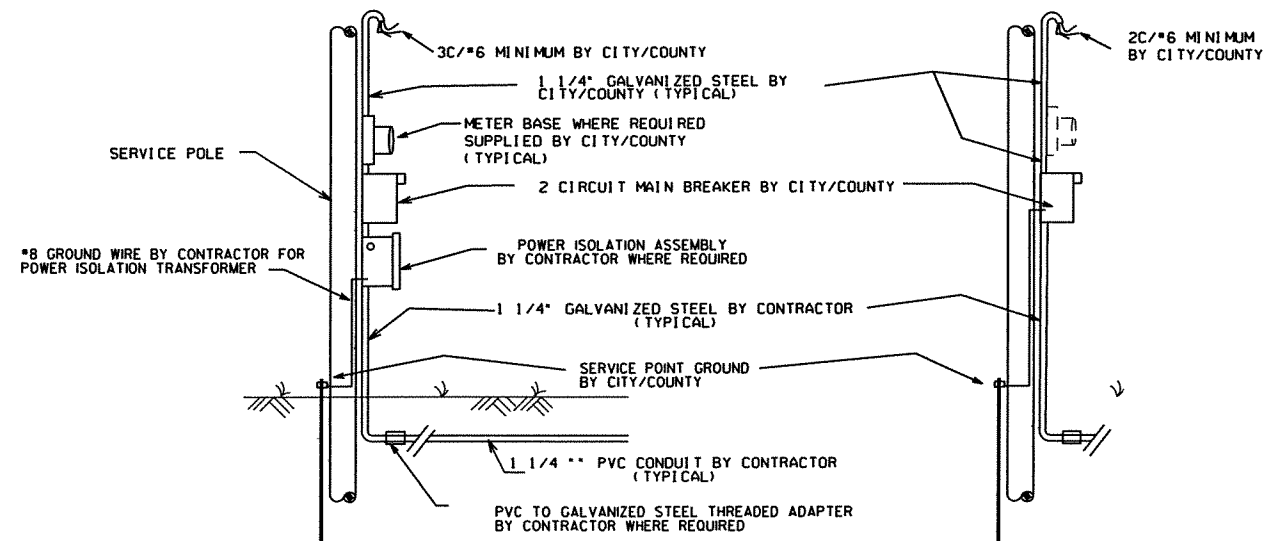
2 SIGNALIZATION DETAILS

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.	061113		41	91

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY

WITHOUT POWER ISOLATION ASSEMBLY



NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY)

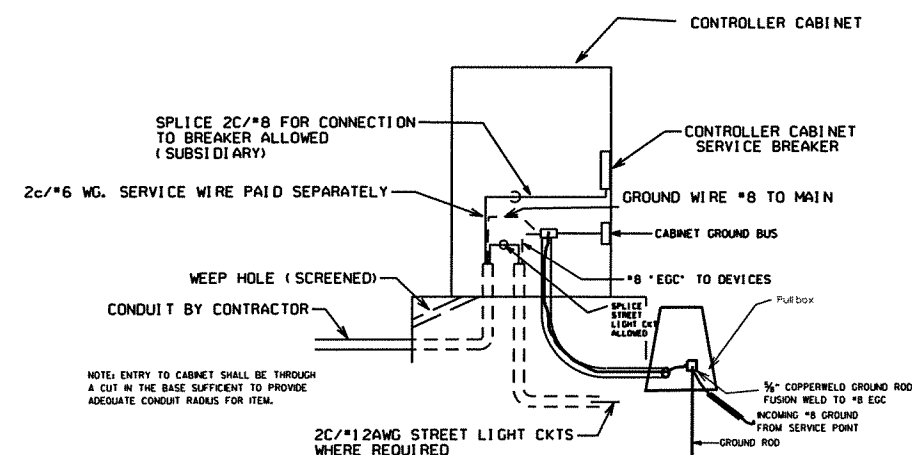
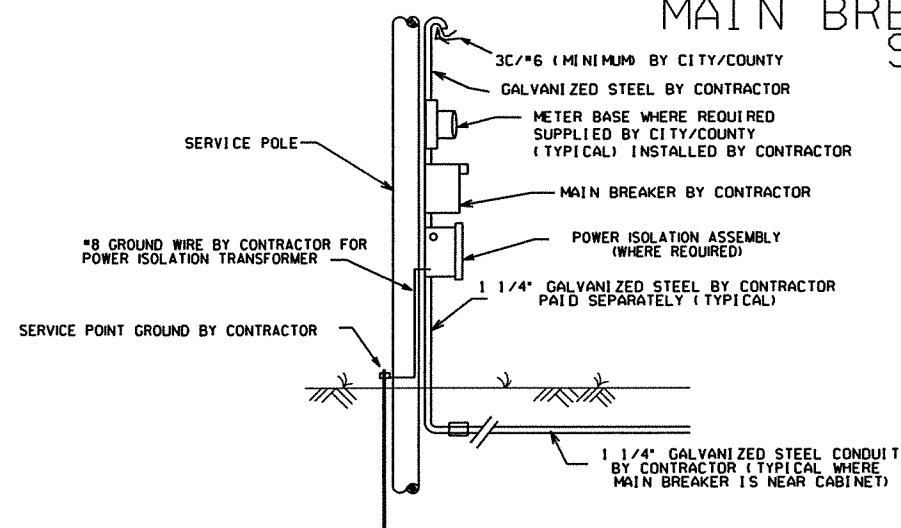
Electrical service typically falls into two categories: MAIN BREAKER NEAR CONTROLLER CABINET; and MAIN BREAKER NOT NEAR CONTROLLER CABINET. The Contractor's and the City's or County's responsibility varies accordingly as indicated on these details.

1. ALL SITUATIONS: Electrical service shall be provided by the City/County to a service pole with external raintight breaker (MAIN BREAKER) at a mutually acceptable point within the right-of-way. Service point includes galvanized steel conduit to a point 18" below ground line, two circuit main breaker, power isolation assembly where required, meter loop if required by local utility, electrical conductors and weatherhead. Where street lighting is included as part of signal installation, street lighting circuit (2c/#12 awg UF rated, typical) shall be kept separate from the circuit serving traffic signal. Service wire and wiring from the controller to main breaker is provided by the Contractor as a part of this contract. Wire and wiring from main breaker, and connection to the utility is the responsibility of the City/County.

2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: The Main Breaker assembly, galvanized steel conduit, weatherhead and wire above Main Breaker and connection to the utility shall be provided by City/County. Contractor shall provide as part of contract Secondary Breaker, conduit, wire and wiring to the Main Breaker.

3. MAIN BREAKER NEAR CONTROLLER CABINET: All components of the service point with the exception of the wire and wiring above the Main Breaker is furnished and installed by the Contractor. Wiring from Main Breaker including connection to the utility, is the responsibility of the City/County. If meter loop is required, meter base and hardware is provided by the City/County and installed by the contractor.

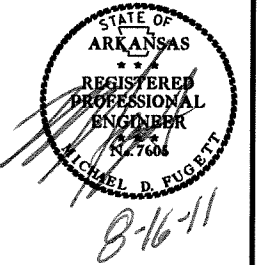
MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED



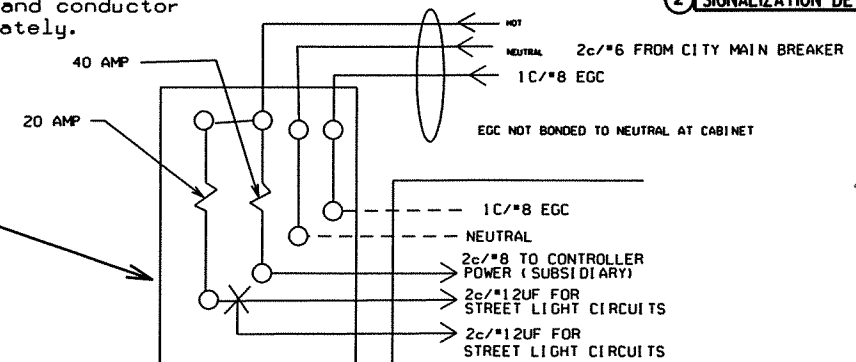
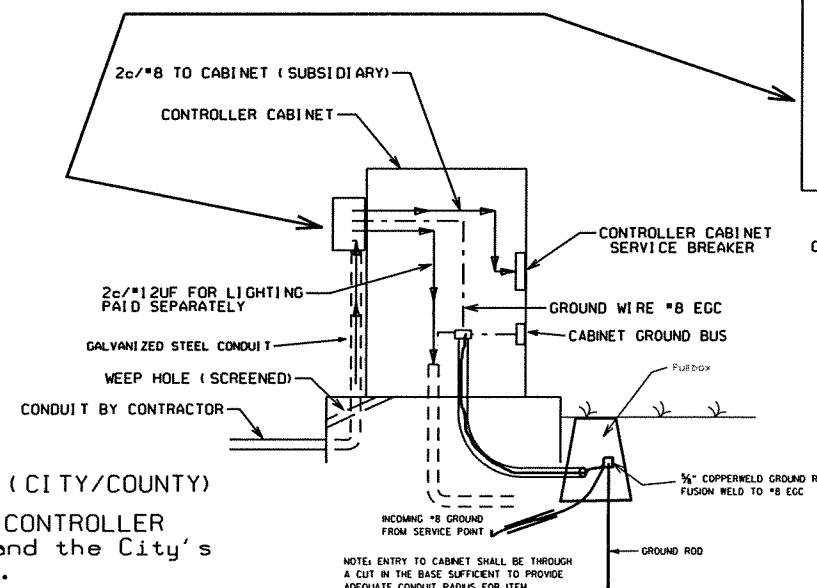
Ground Rod-A 10' x 3/4" ground rod shall be installed in the pull box for each pole and the controller. Payment for the ground rod and 1/2" NMC shall be included in Item 701. The pull box and conductor box shall be paid for separately.

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.	061113		42	91

2 SIGNALIZATION DETAILS



SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)

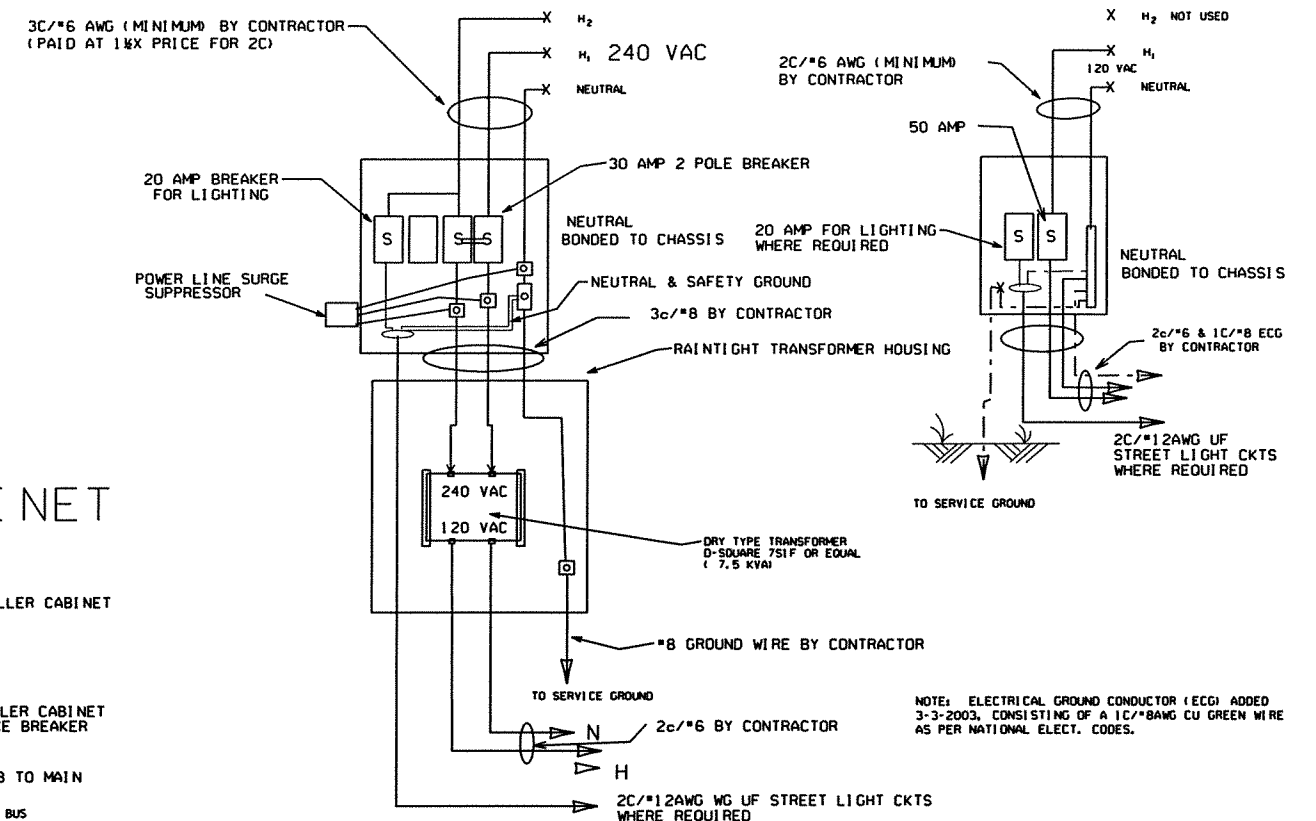


MAIN BREAKER WIRING (TYPICAL)

Service Ground is typically tied to neutral at the Main Breaker. As such, controller ground IS NOT tied to Neutral at secondary Breaker or in controller cabinet.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (EGC) ADDED 3-3-2003, CONSISTING OF A 1c/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

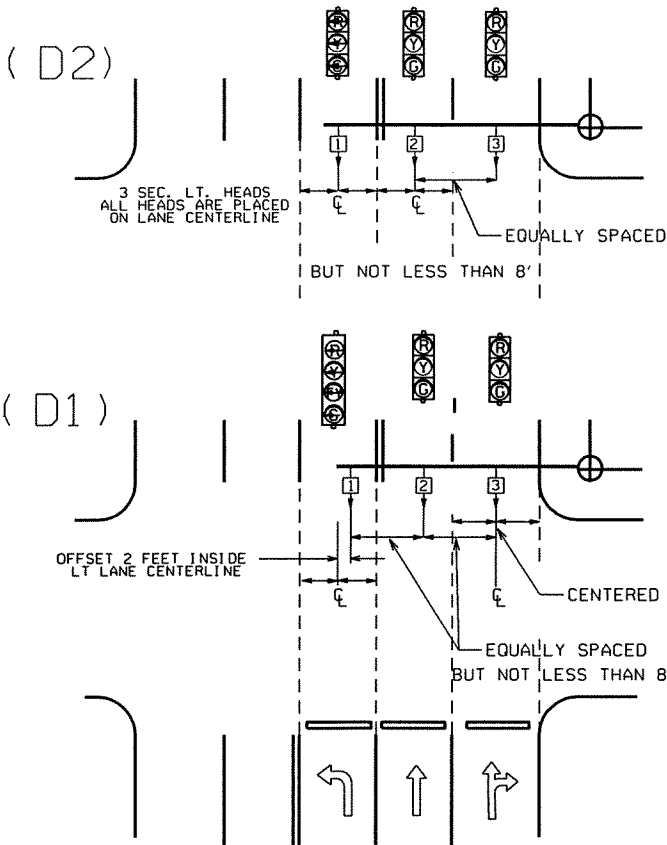
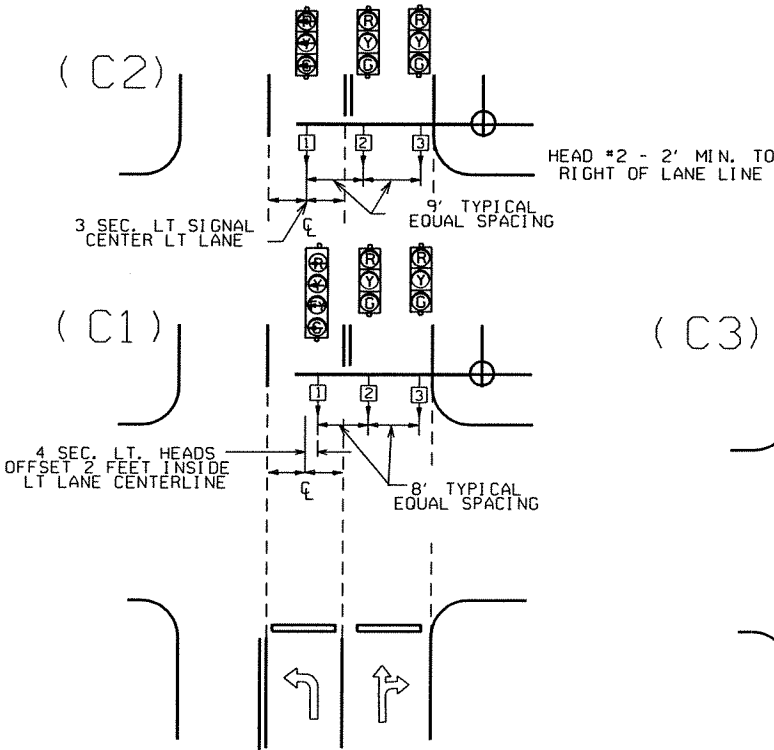
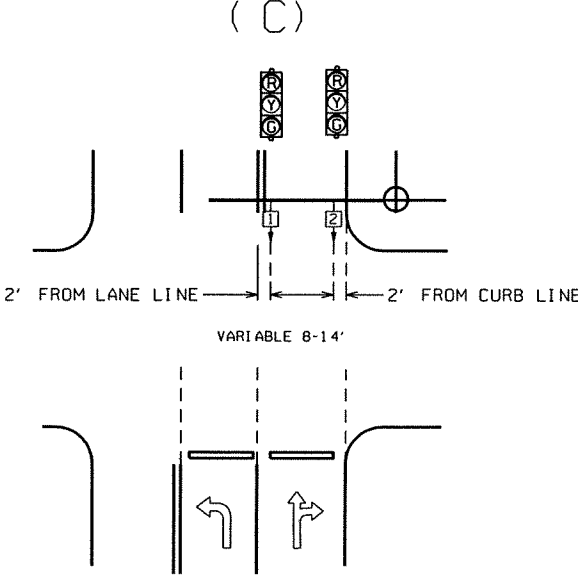
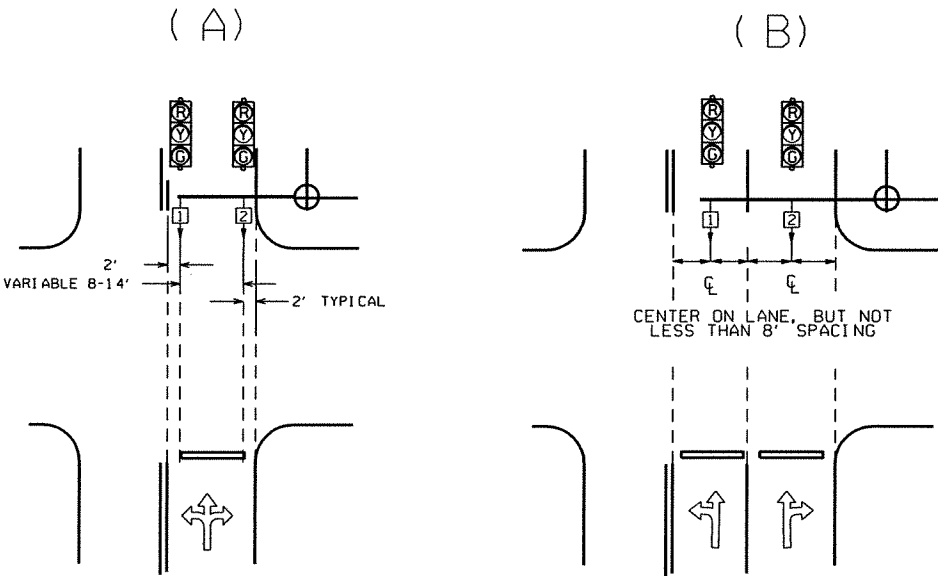
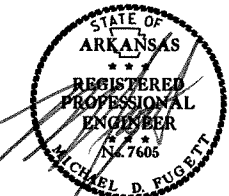
DATE	REVISION	DATE FILM
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
3-3-03	ADDED EGC NOTE	
9-26-01	REVISED	
12-27-99	REVISED	
7-28-99	REVISED	
2-5-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

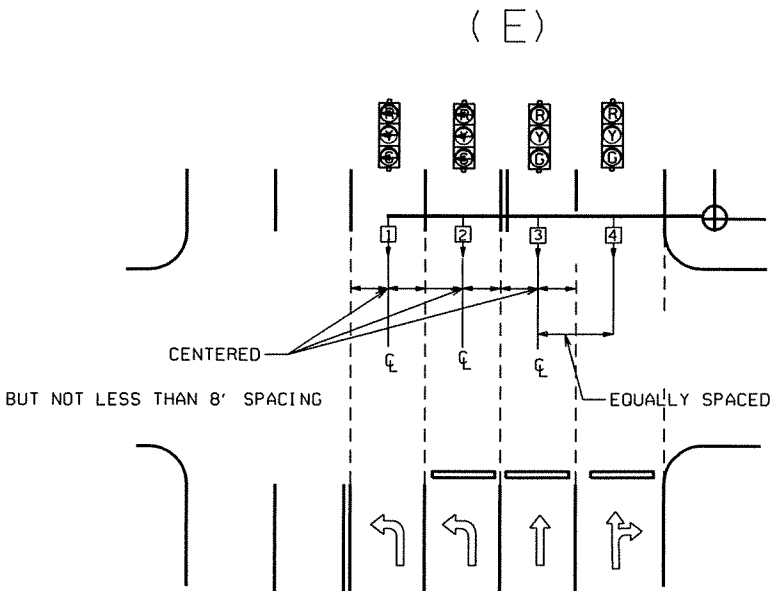
SIGNALIZATION DETAIL
(Service Point)

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. 061113	43	91

2 SIGNALIZATION DETAILS



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS



GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.
4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.
5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.
6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

CL = CENTER OF LANE FROM APPROACH SIDE

			ARKANSAS STATE HIGHWAY COMMISSION
			SIGNALIZATION DETAIL (Signal Head Placement)
3-11-10	2009 MUTCD		
12-9-99	ISSUED		
DATE	REVISION	DATE FILM	

7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.

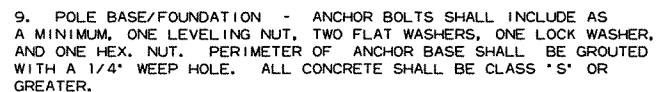


Diagram illustrating two wiring configurations for a traffic signal controller:

- NO LUMINAIRE:** Shows a service pole connected to a service breaker by city. A 2c #8 conductor runs from the service pole to a signal pole, which is connected to a traffic signal controller.
- WITH LUMINAIRE:** Shows a service pole connected to a service breaker by city. A 2c #8 conductor runs from the service pole to a signal pole, which is connected to a traffic signal controller. Additionally, a 2c #2 electrical conductor for luminaires runs from the signal pole to a 2c #2 breaker by contractor.

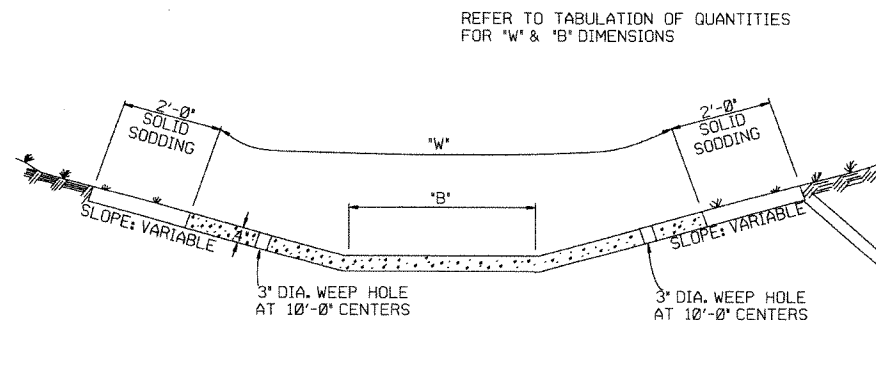
CONTRACTOR TO POSITION
PEDESTRIAN SIGNAL HEADS
AS SHOWN

PEDESTRIAN SIGNAL HEADS

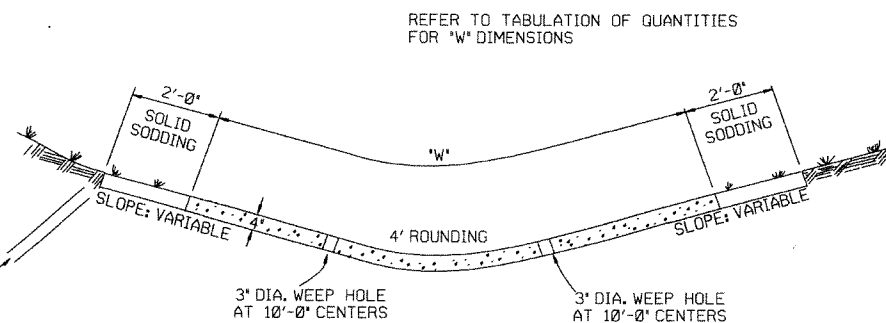
7-21-8	REVISED VMD, SIGNAL HEADS	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
4-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2004 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
6-23-04	REVISED	
5-18-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-4-01	REV. NOTES & POLE MASTER ARM SLOPE	
4-18-01	REVISED POLE TAPERS	
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	
DATE	REVISION	DATE FILED

SIGNALIZATION DETAILS

(Steel Pole With Mast Arm)



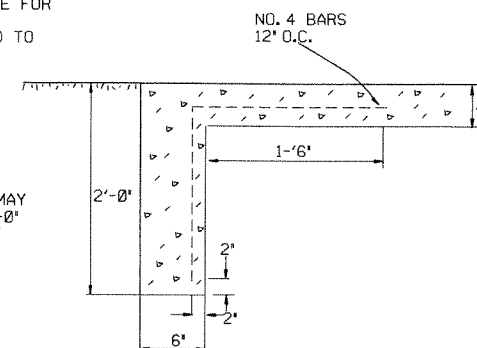
TYPE A



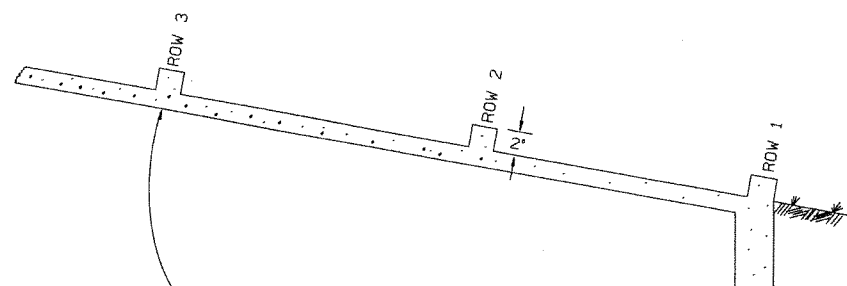
TYPE B

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.'

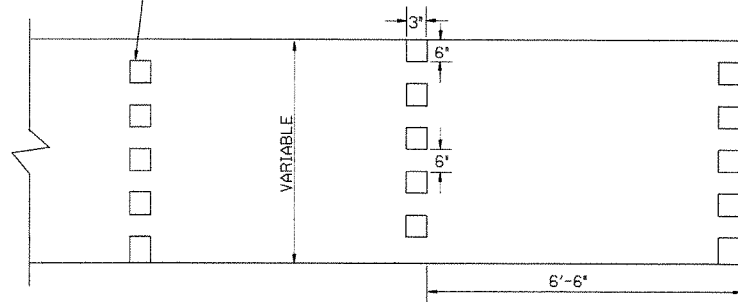


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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 INCLUDED 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.

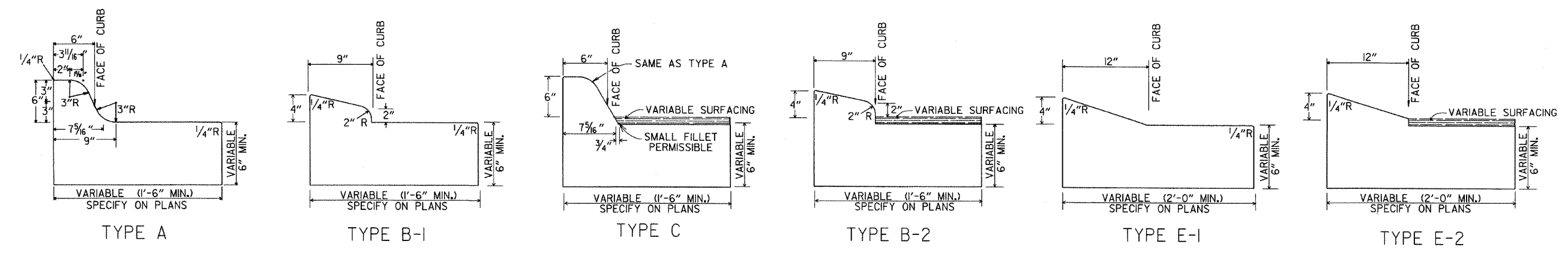
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	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	508-11-1-84
11-1-84	ADDED	
11-1-84	EXCAVATION DETAILS ADDED	
10-2-72	TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72
DATE	REVISION	DATE FILM'D

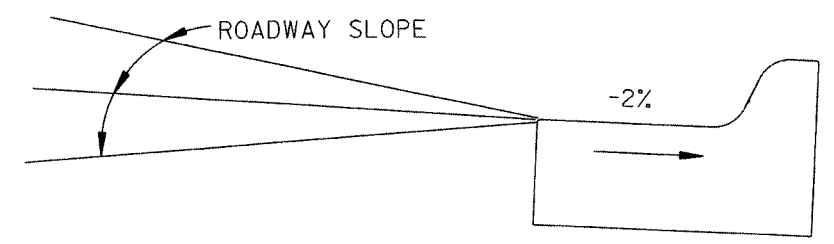
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

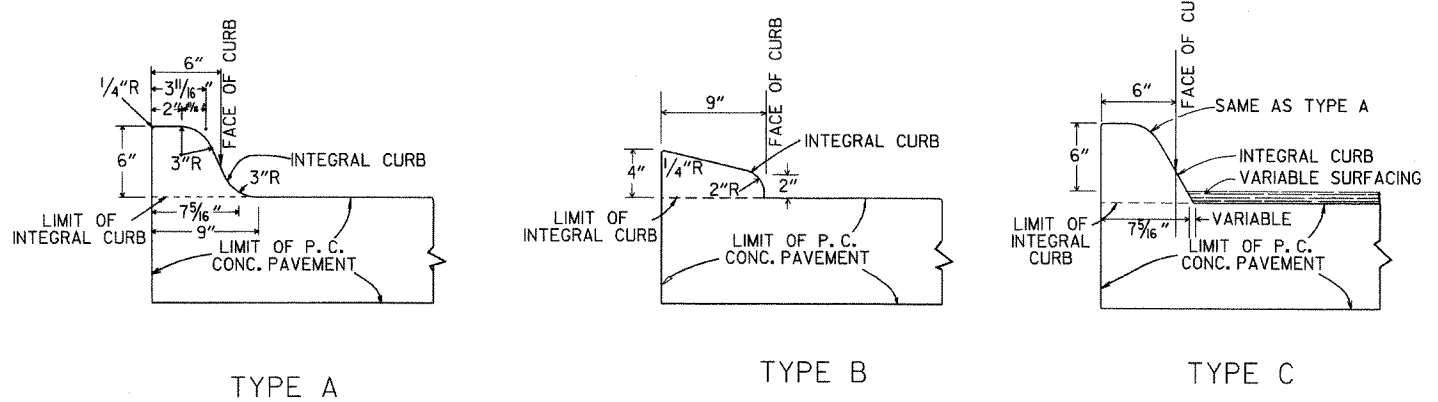
STANDARD DRAWING CDP-1



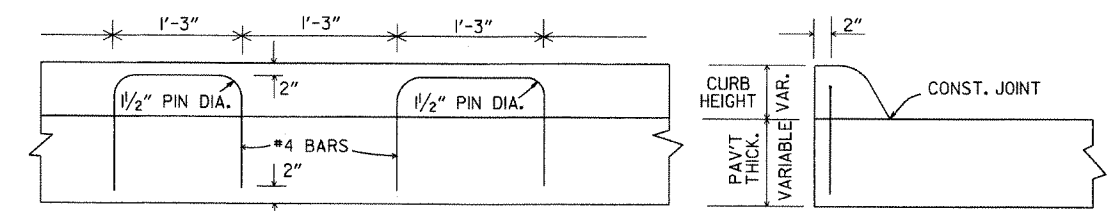
CONCRETE COMBINATION CURB AND GUTTER



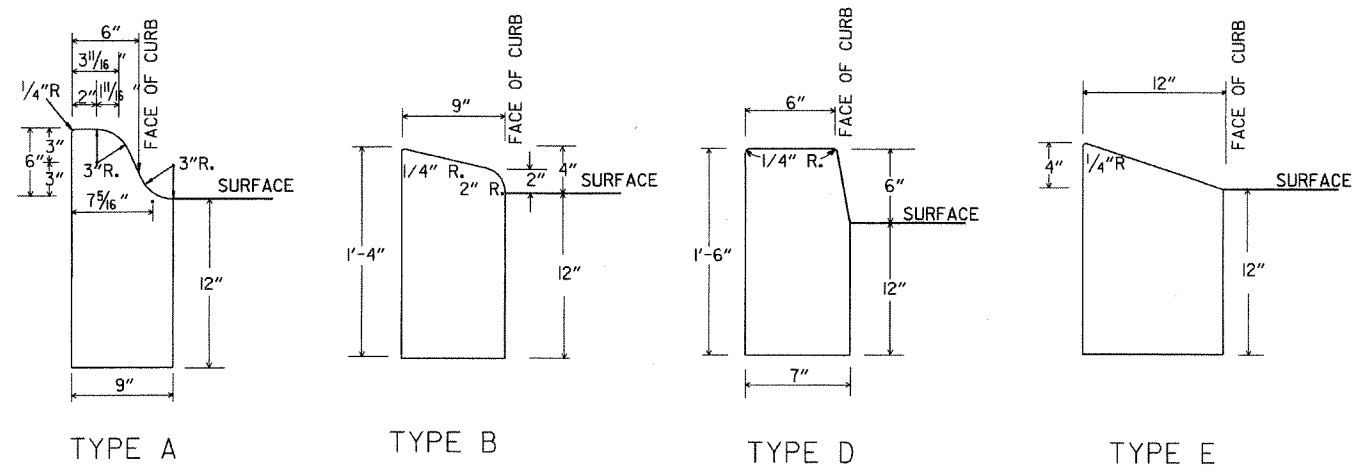
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



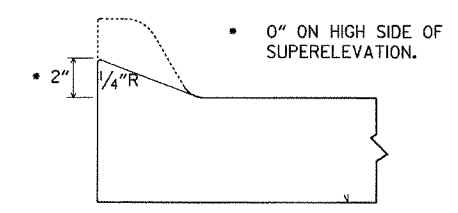
INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



CONCRETE CURB



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

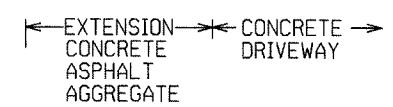
DETAILS OF MODIFIED CURB

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

ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

STANDARD DRAWING CG-1

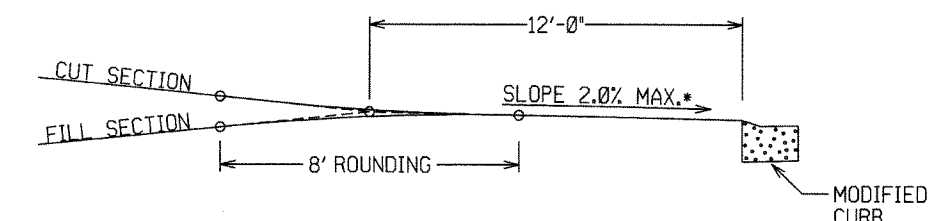


EXTENSION TYPICAL SECTIONS

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

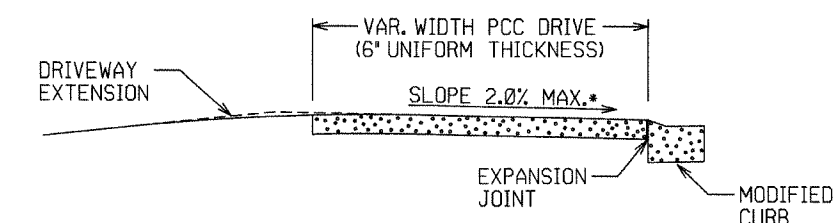
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

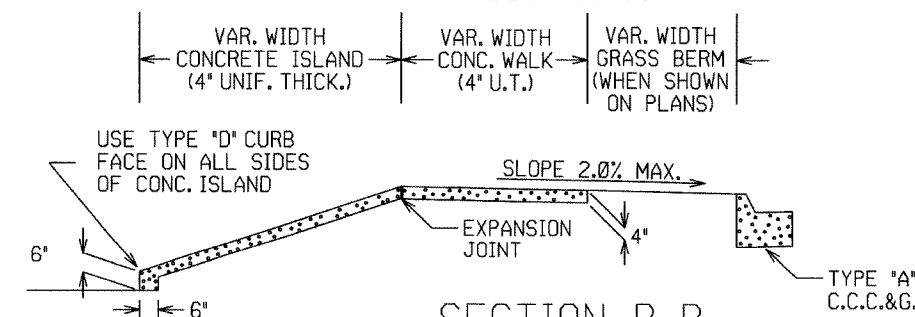


DRIVEWAY VERTICAL ALIGNMENT DETAILS

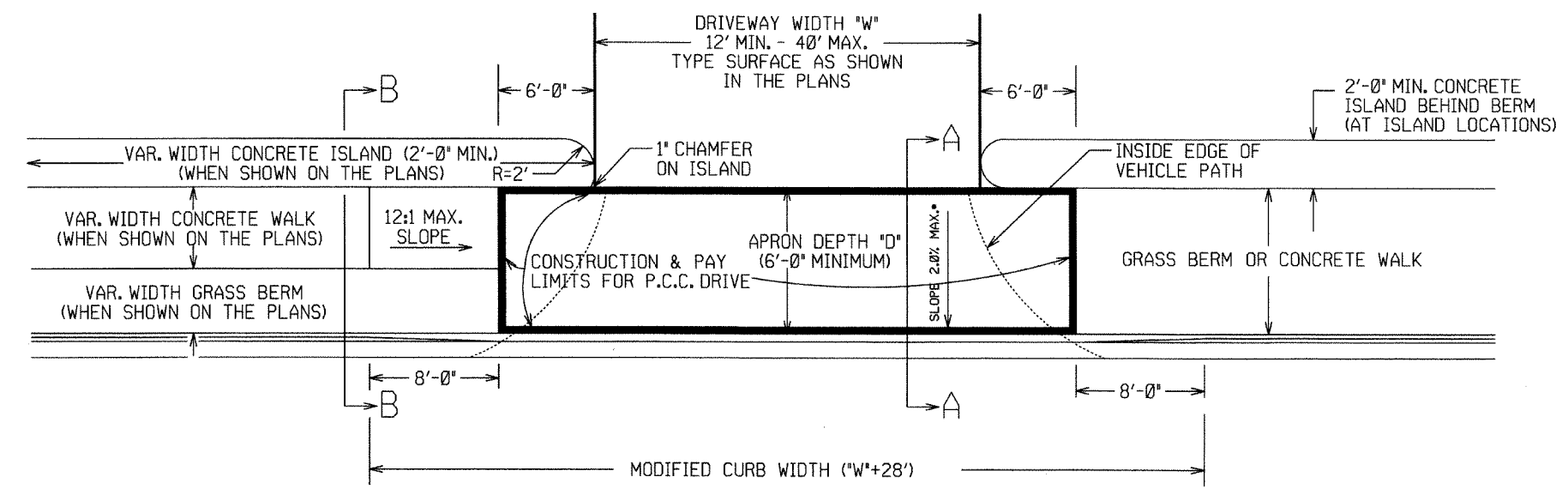
* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



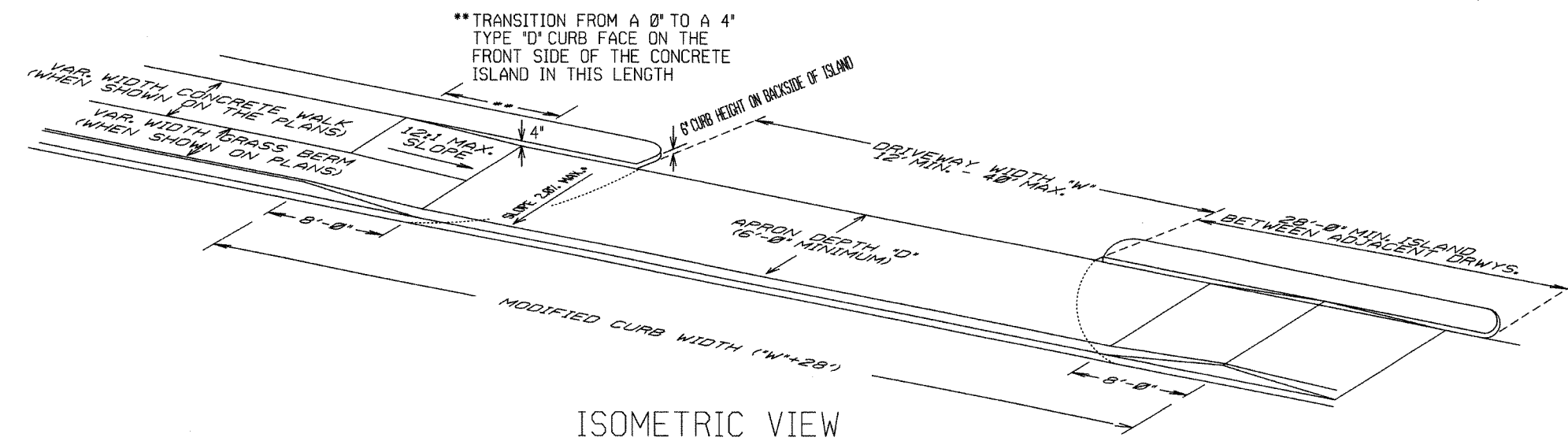
SECTION A-A



SECTION B-B CURBED ISLAND BEHIND WALK

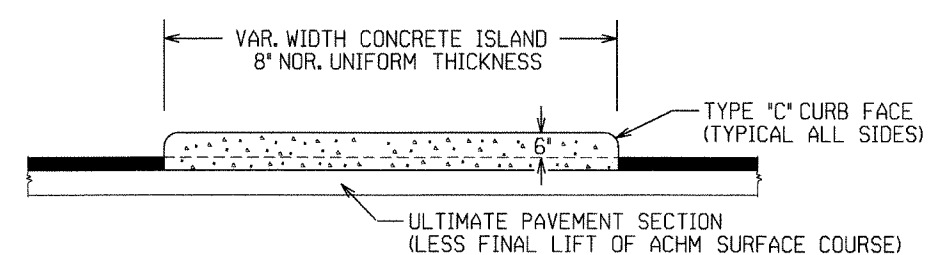
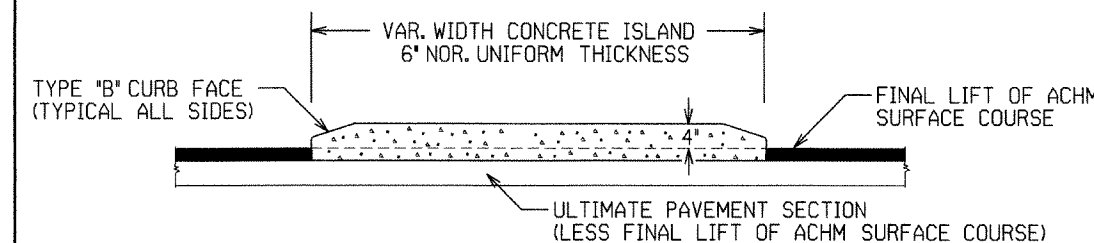


PLAN VIEW



ISOMETRIC VIEW

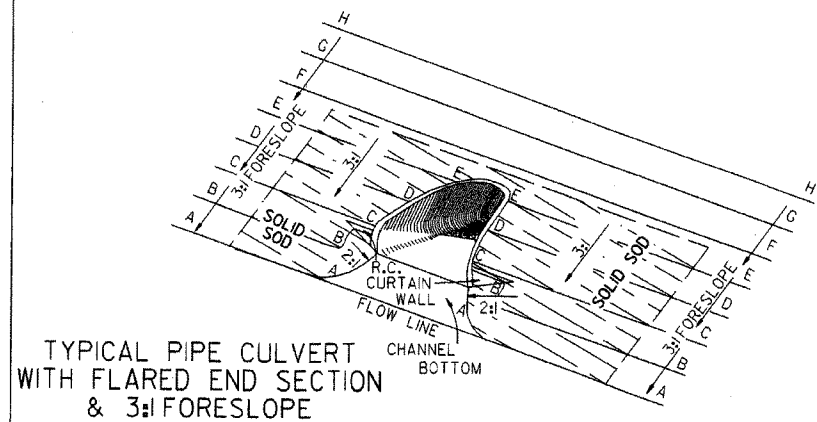
REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



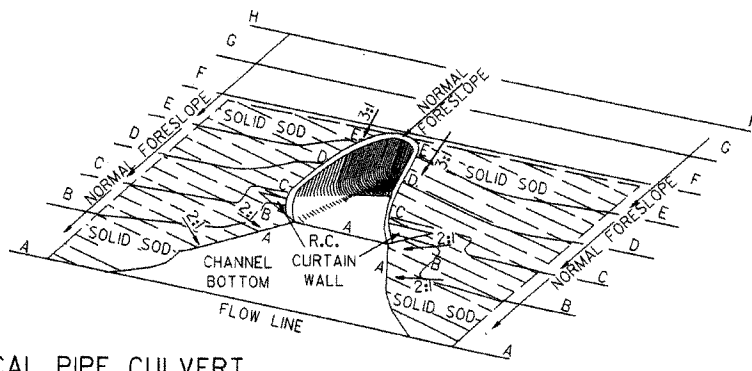
CURBED ISLANDS FOR CHANNELIZATION

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

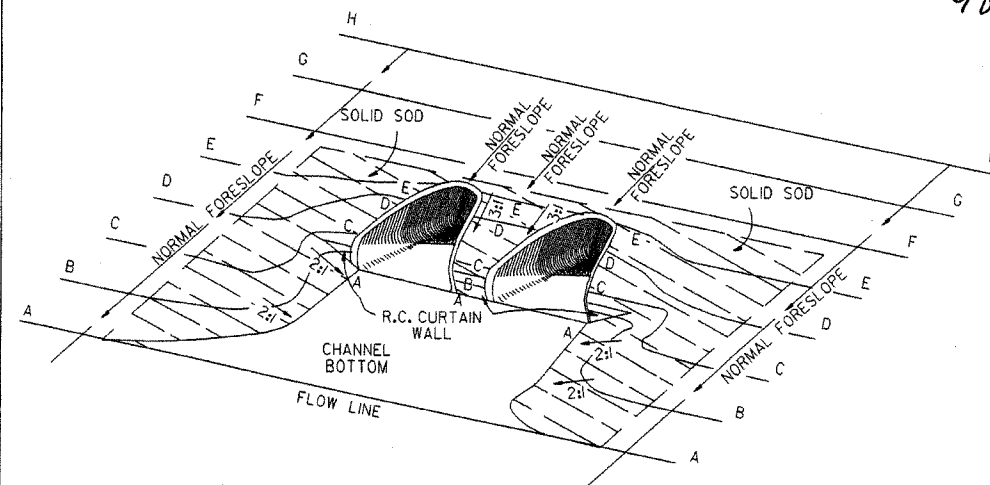
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



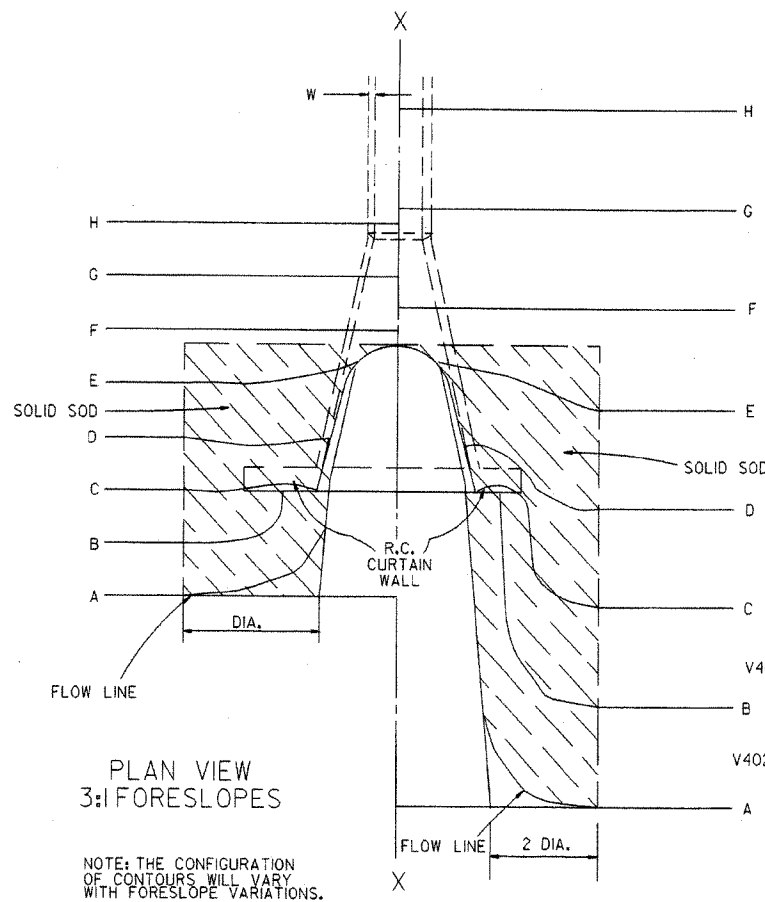
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



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

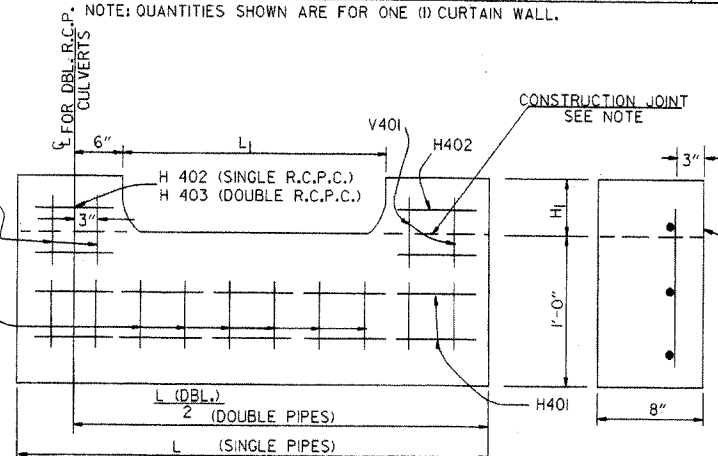
NOTE: THE CONFIGURATION
OF CONTOURS WILL VARY
WITH FORESLOPE VARIATIONS.

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

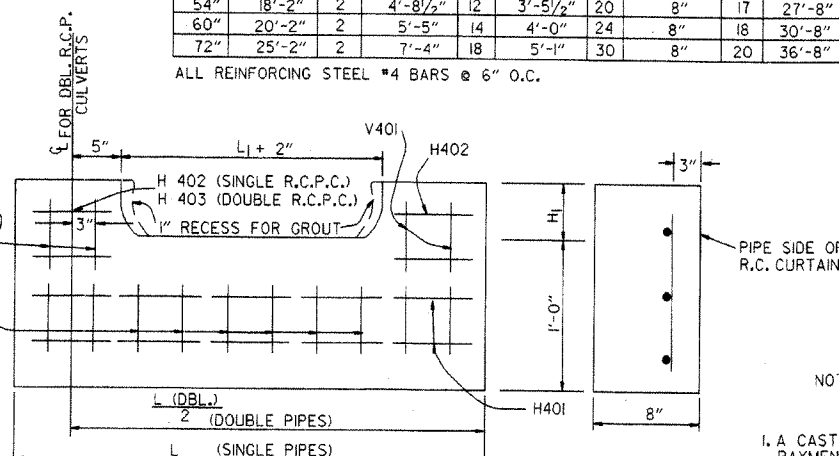
NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



CAST-IN-PLACE

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.

R.C. CURTAIN WALL DETAILS



PRECAST

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	
	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
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
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
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14
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
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20
54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	27'-8"	2	4'-8 1/2"	12	8"	6	3'-5 1/2"	22
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33

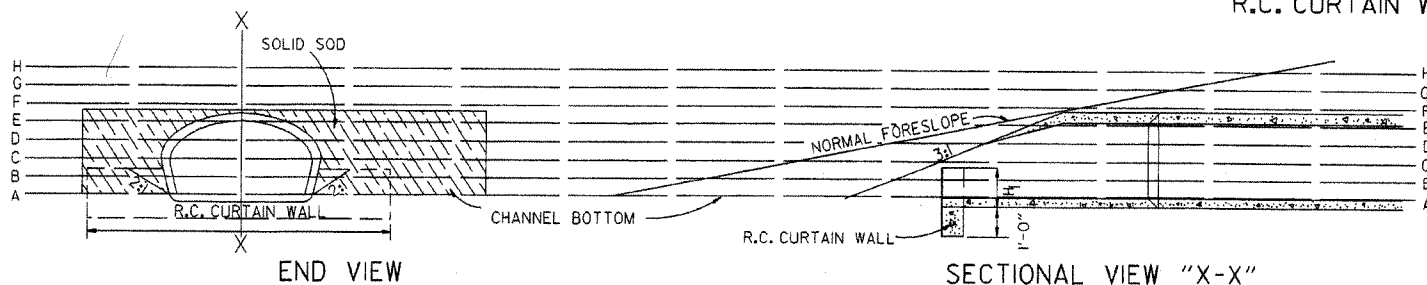
ALL REINFORCING STEEL #4 BARS @ 6" O.C.

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



SECTIONAL VIEW "X-X"

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

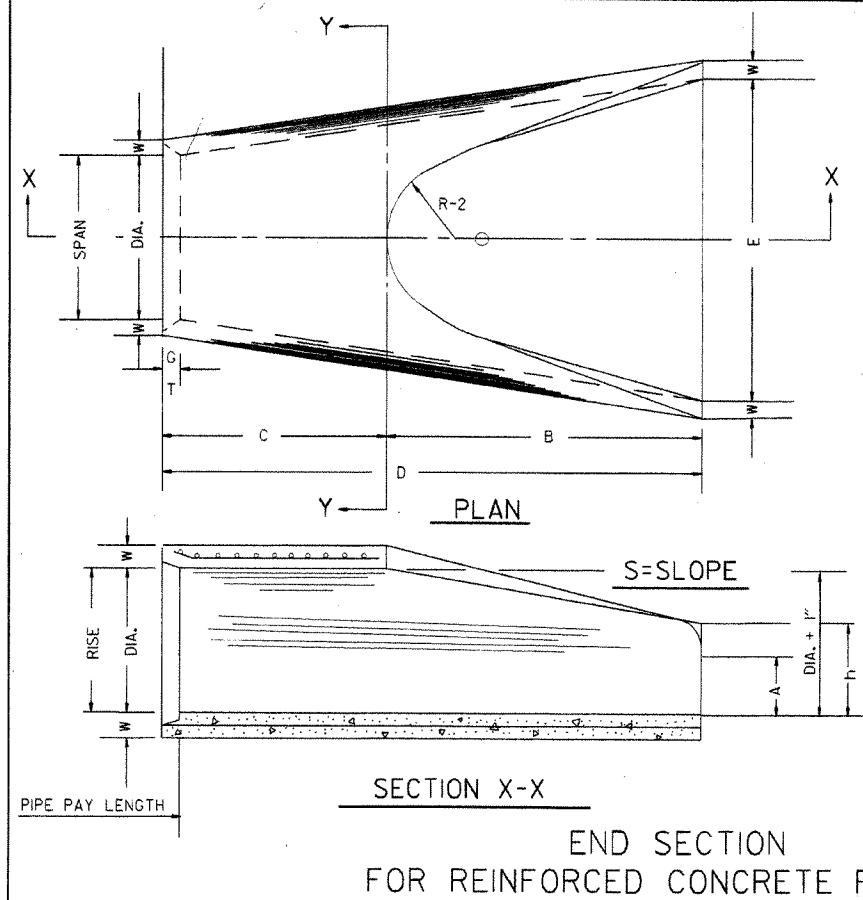
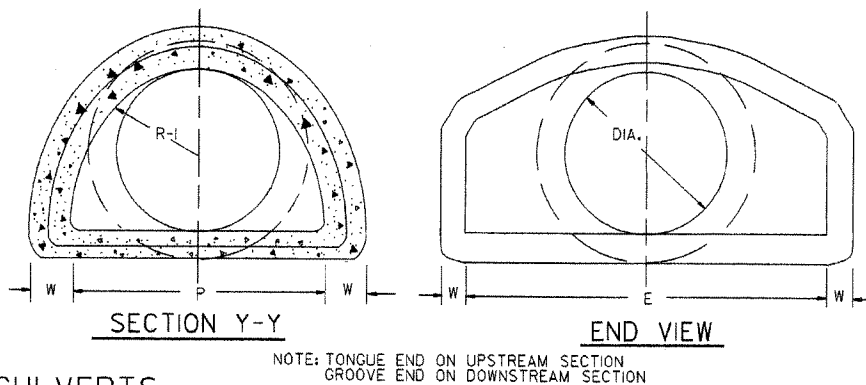
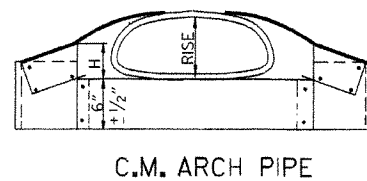
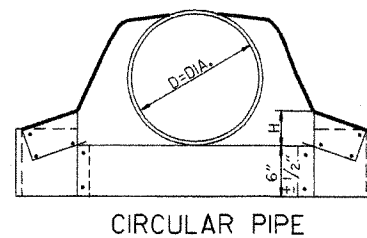
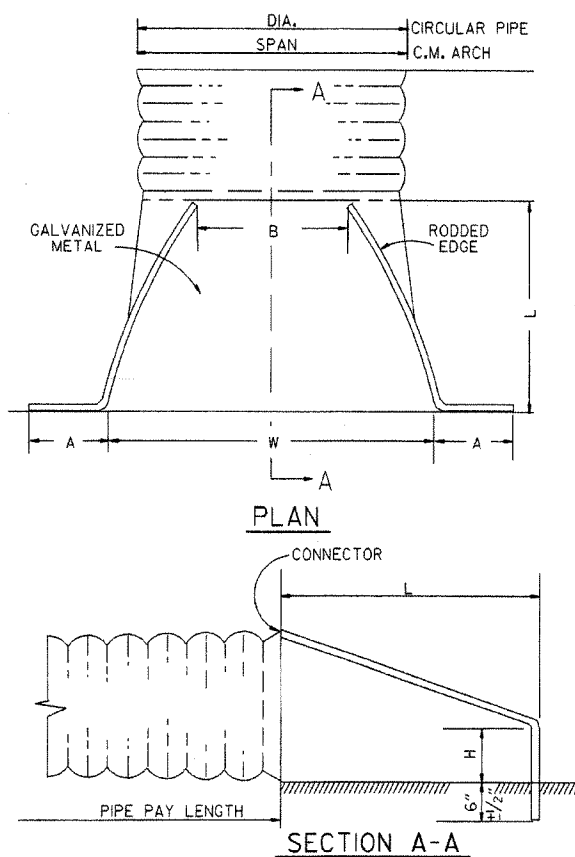
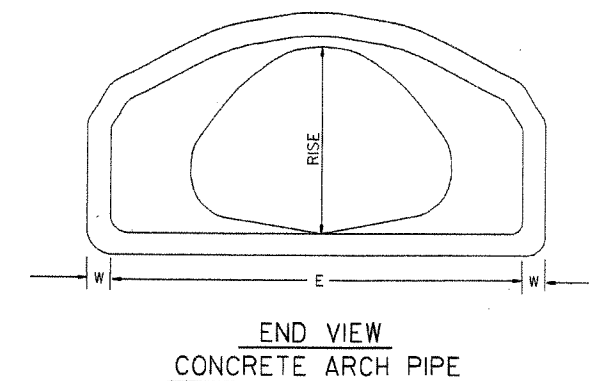


TABLE OF DIMENSIONS															
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h	
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"	
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 3/8"	14"	2 1/2"	1600	1'-1 1/2"	
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"	
36"	4"	1'-3"	5'-3"	2'-10 1/4"	8'-1 1/4"	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 3/8"	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"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"	
60"	6"	2'-0"	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 3/8"	38 3/8"	24"	5"	13250	4'-6"	



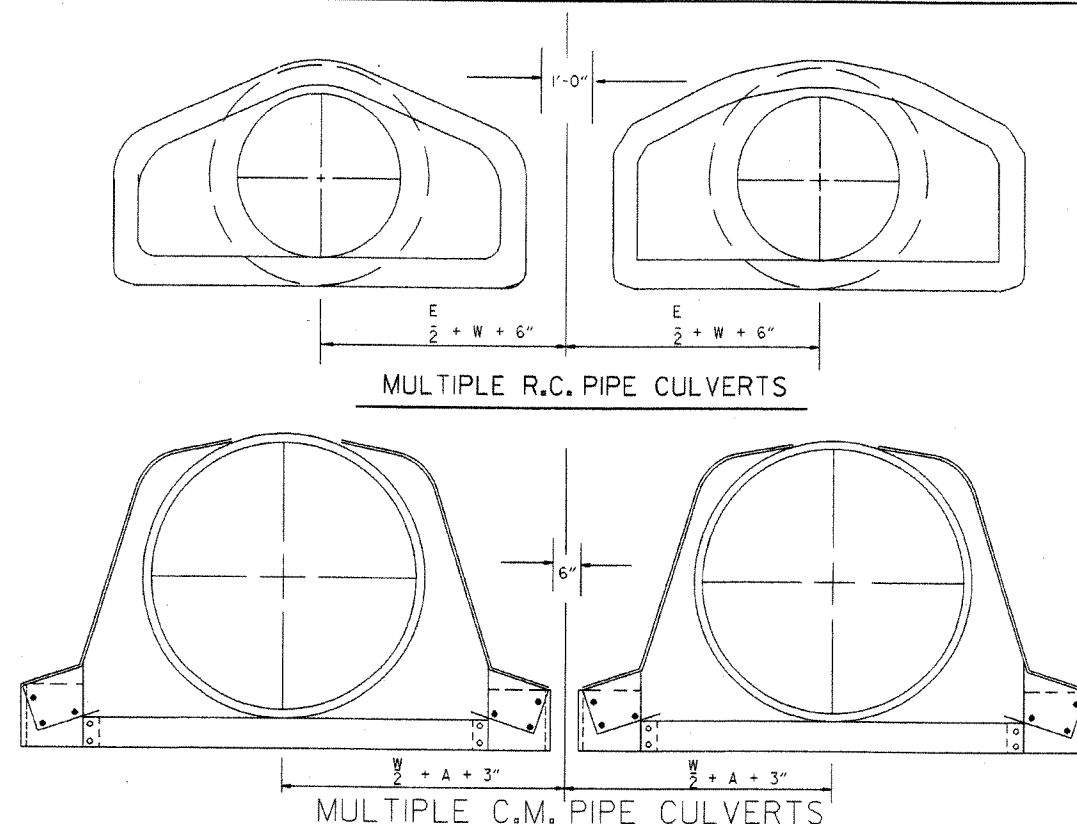
ARCH PIPE															
EQUIV. DIA.	• SPAN		• RISE		W	A	B	C	D	E	P	R2	G-T	S	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL											
INCHES															
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2"	
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2"	
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"	
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 3/8"	15"	2 1/2"	2 1/2"	
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 1/8"	20"	3"	2 1/2"	
36	43 3/4	44	26 5/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 5/8"	22"	3 1/2"	2 1/2"	
42	51 1/8	51	31 5/8	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"	
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"	
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 1/4"	
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 3/8"	24"	5"	2 1/4"	

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



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

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

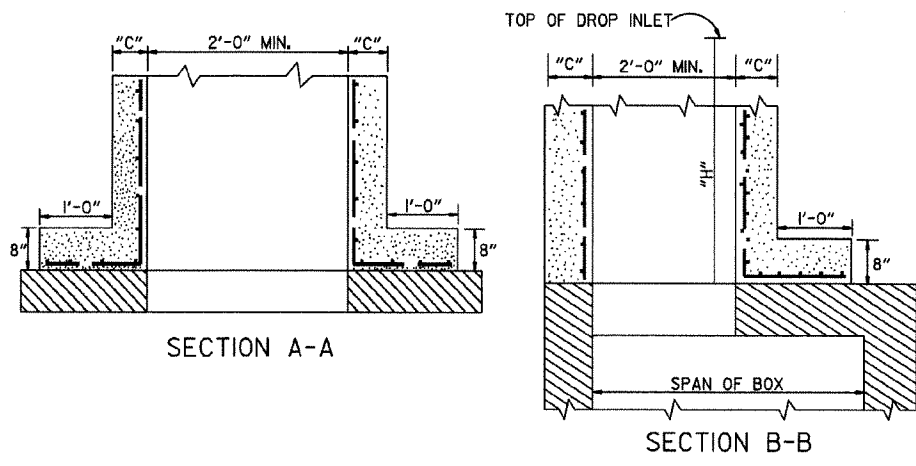
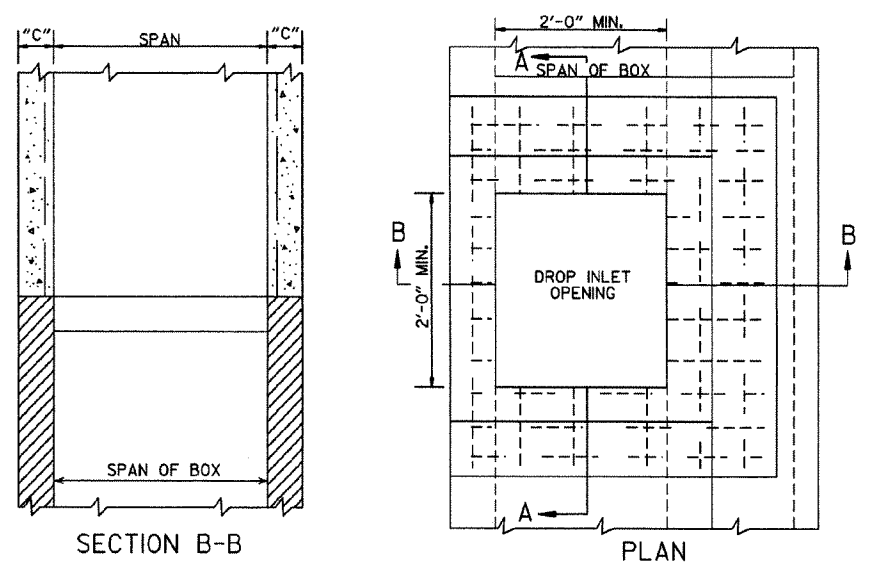


NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

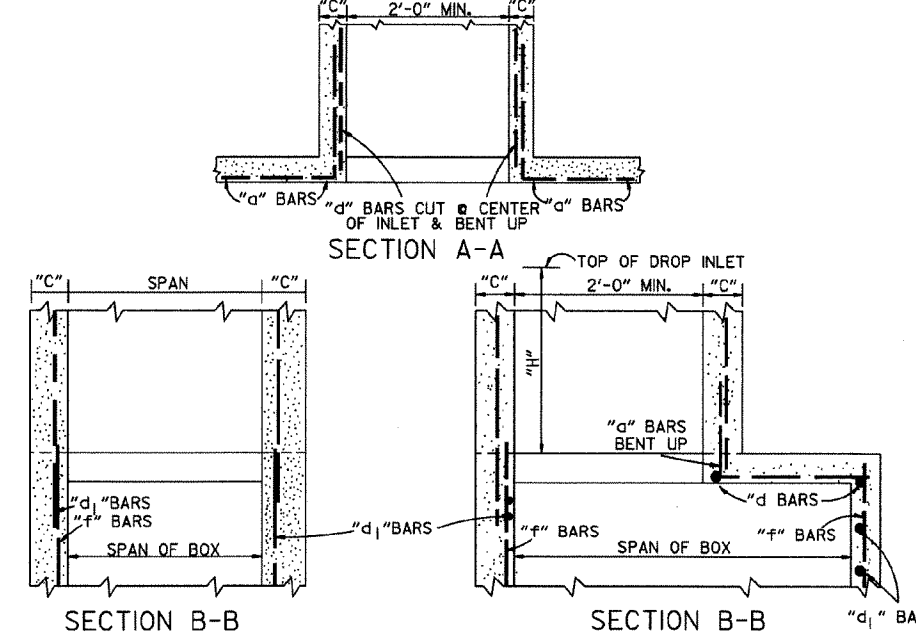
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

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	
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	
DATE	REVISION	FILMED	

FLARED END SECTION
STANDARD DRAWING FES-2

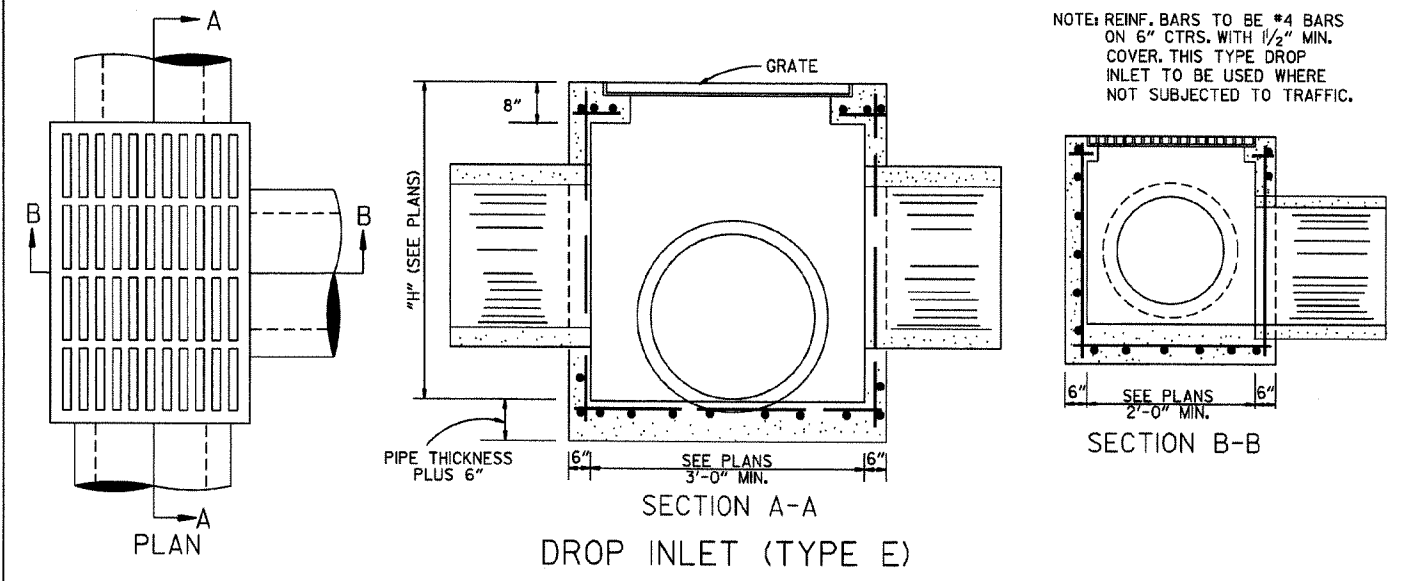


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

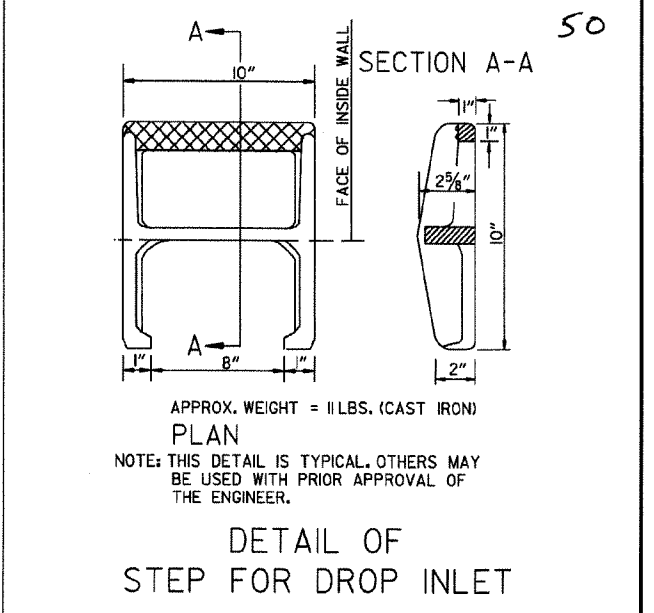


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

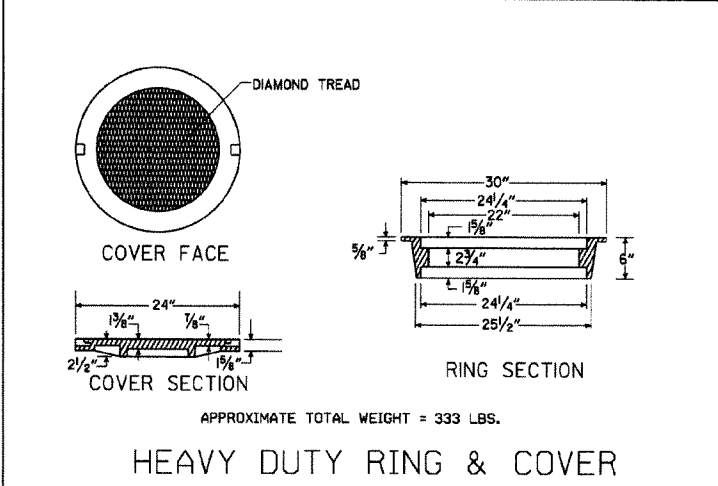
NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



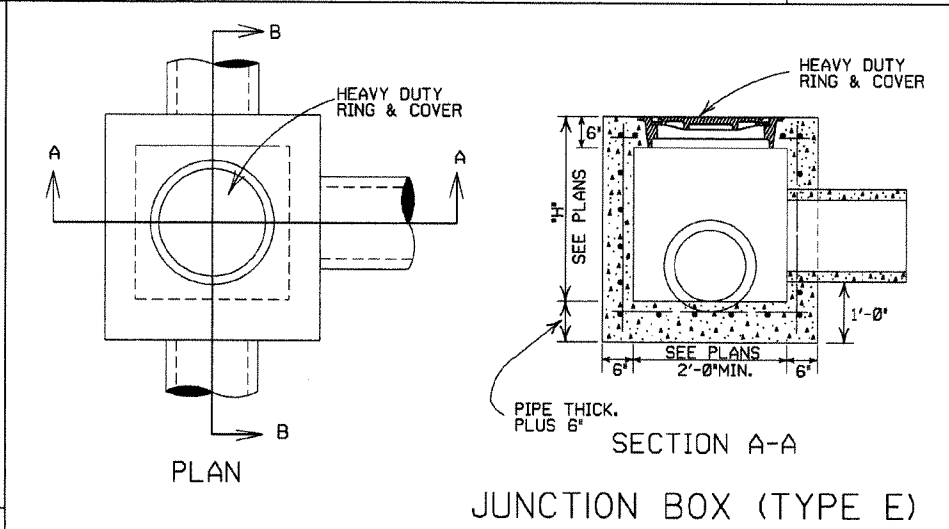
DROP INLET (TYPE E)



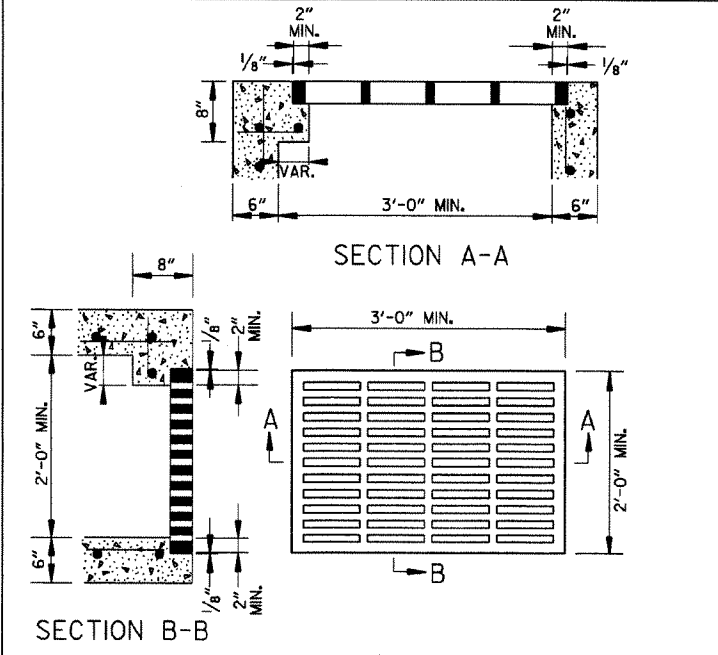
DETAIL OF STEP FOR DROP INLET



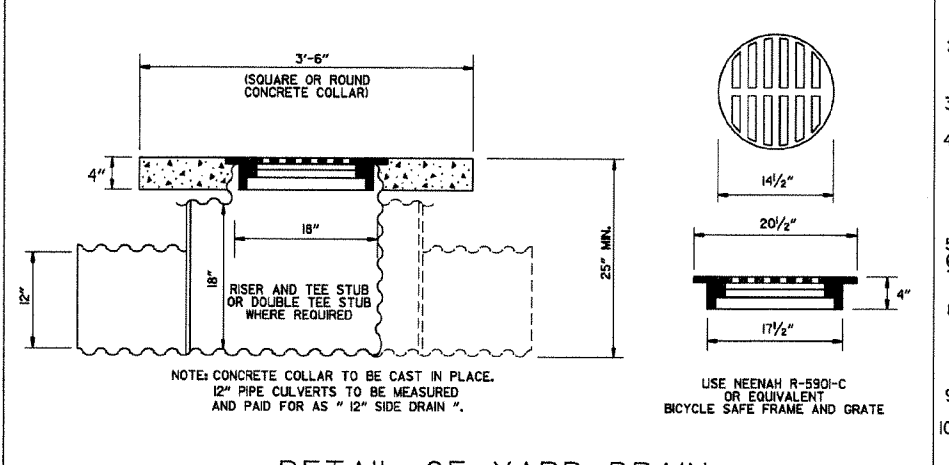
HEAVY DUTY RING & COVER



JUNCTION BOX (TYPE E)



GRATE FOR TYPE E DROP INLET



- GENERAL NOTES:
1. ALL EXPOSED CORNERS SHALL BE 3/4" CHAMFERED.
 2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
 3. EXPANSION JOINT MATERIAL SHALL BE 3/4" PREFORMED FIBER.
 4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
 5. GRATE AND FRAME SHALL NOT BE PAINTED.
 6. GRATE SHALL BE BICYCLE SAFE.
 7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
 8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
 9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
 10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED D (TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	
DATE REV.	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

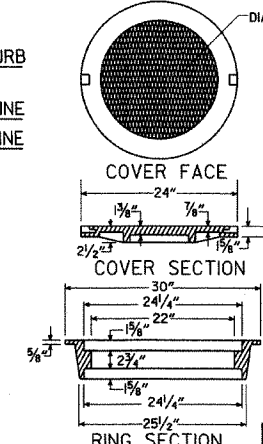
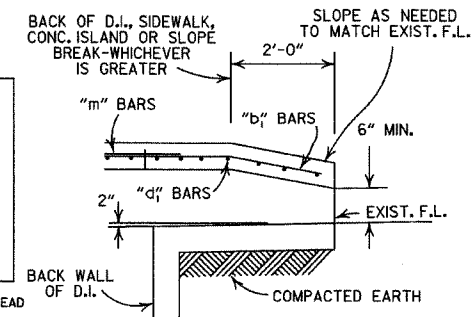
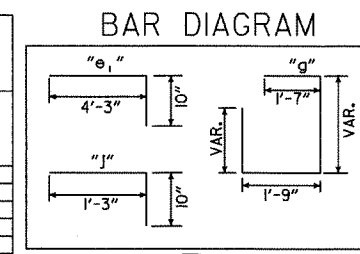
4'-0" LENGTH DROP INLET DROP INLET EXTENSION

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

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

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

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



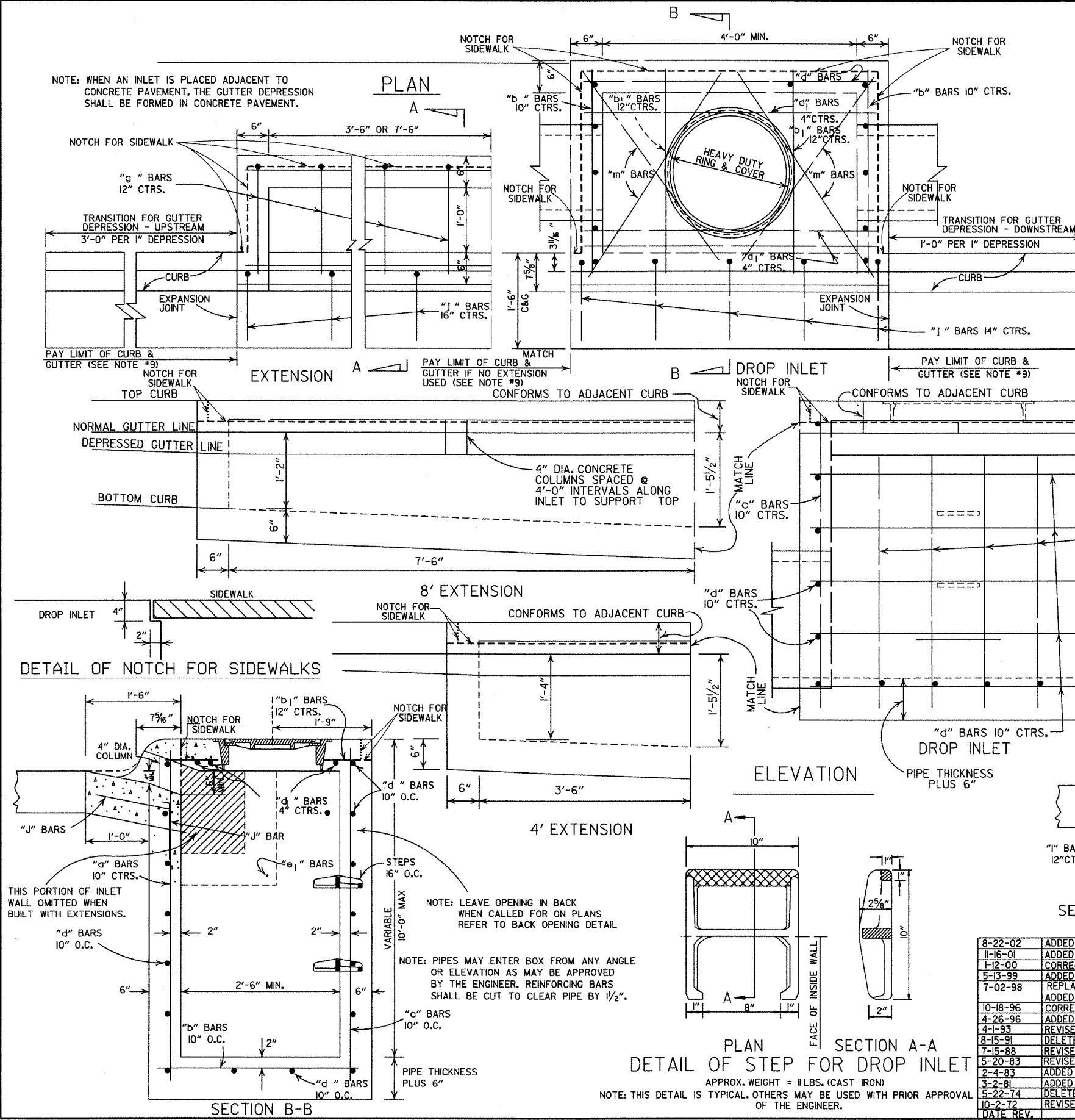
HEAVY DUTY RING & COVER

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

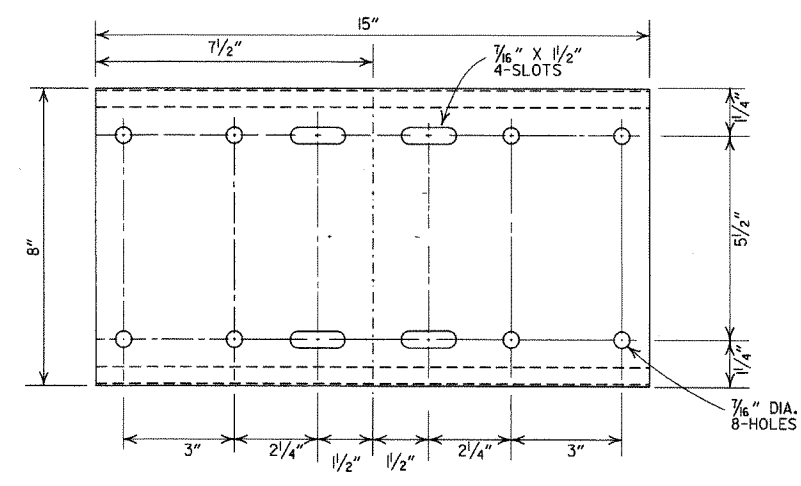
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

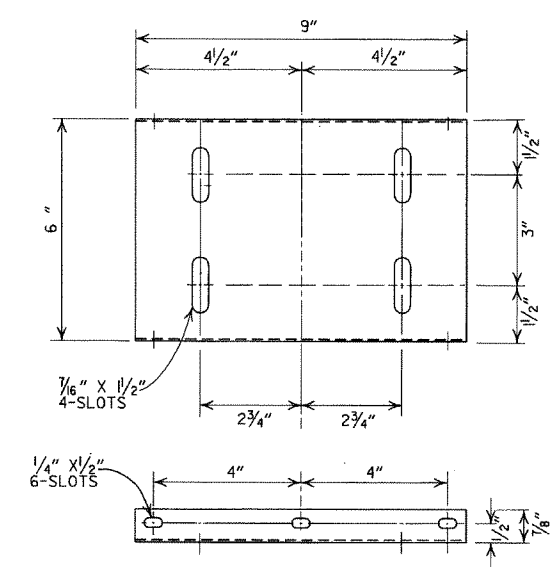
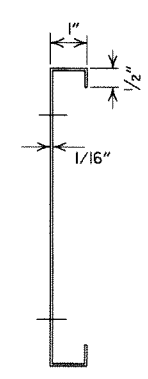
STANDARD DRAWING FPC-9E



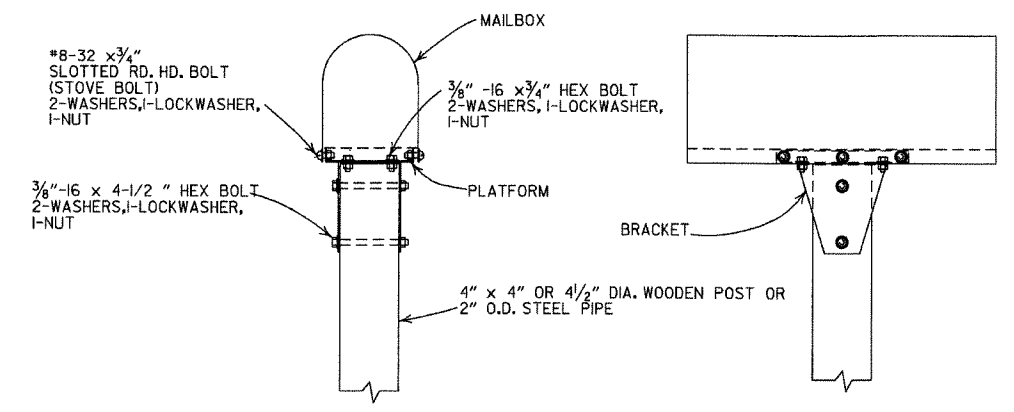
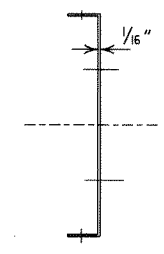
DATE	REV.	DESCRIPTION	DATE	REV.	DESCRIPTION
8-22-02		ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B			
11-16-01		ADDED NOTE 13; REVISED SECTION B-B			
1-12-00		CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER			
5-13-99		ADDED DETAIL OF NOTCH FOR SIDEWALKS			
7-02-98		REPLACED RING & COVER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



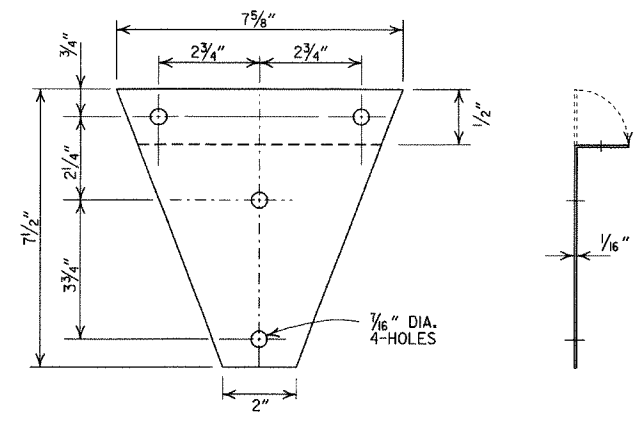
SHELF



PLATFORM

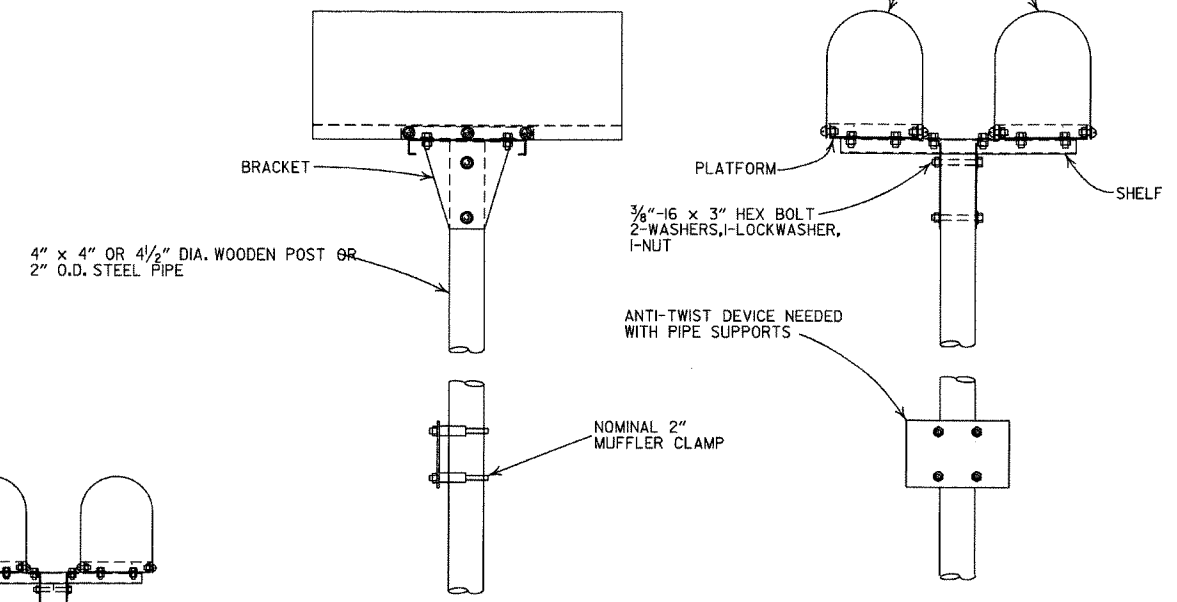


SINGLE INSTALLATION

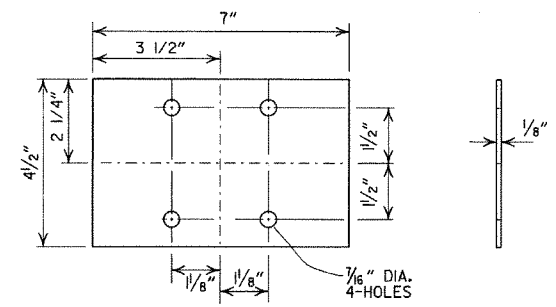


BRACKET

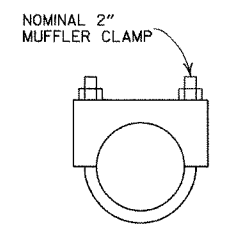
- GENERAL NOTES
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
 2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
 3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF 3/4" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X 3/4" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
 4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
 5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
 6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



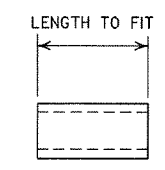
DOUBLE INSTALLATION



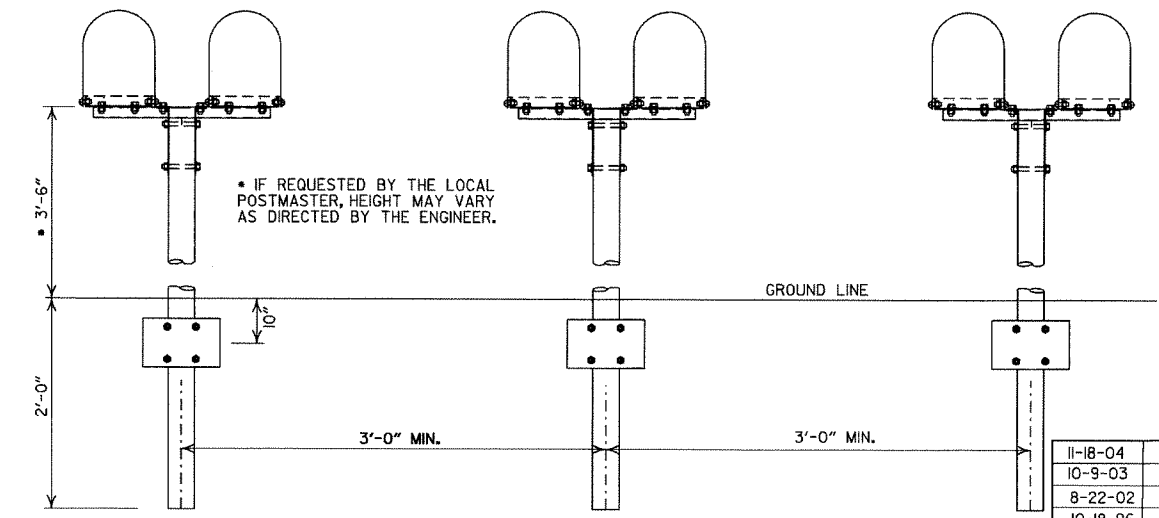
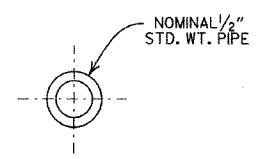
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	120-7-15-88	ISSUED

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	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51½	51	31¾	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL
PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

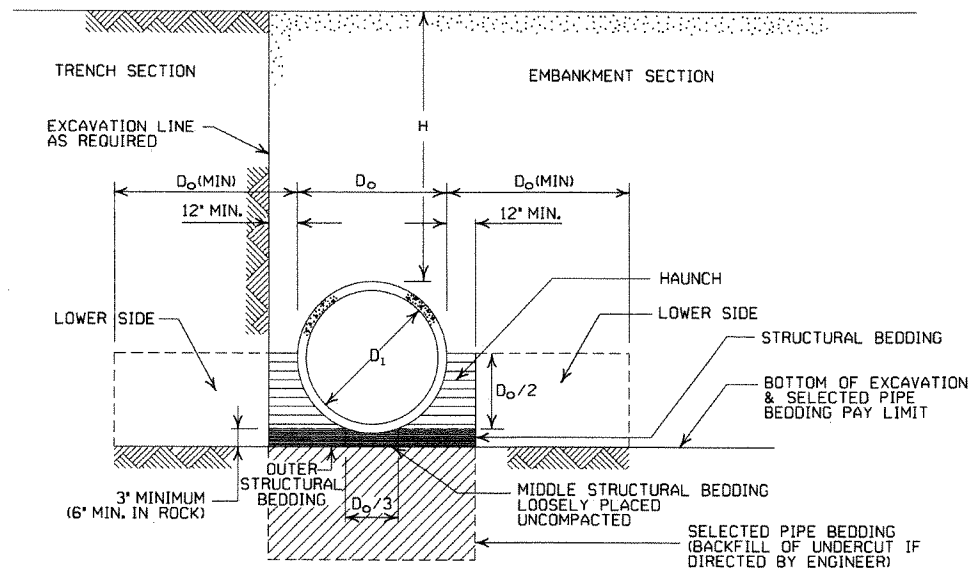
- LEGEND -

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DATE	REVISION	DATE FILMED
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.

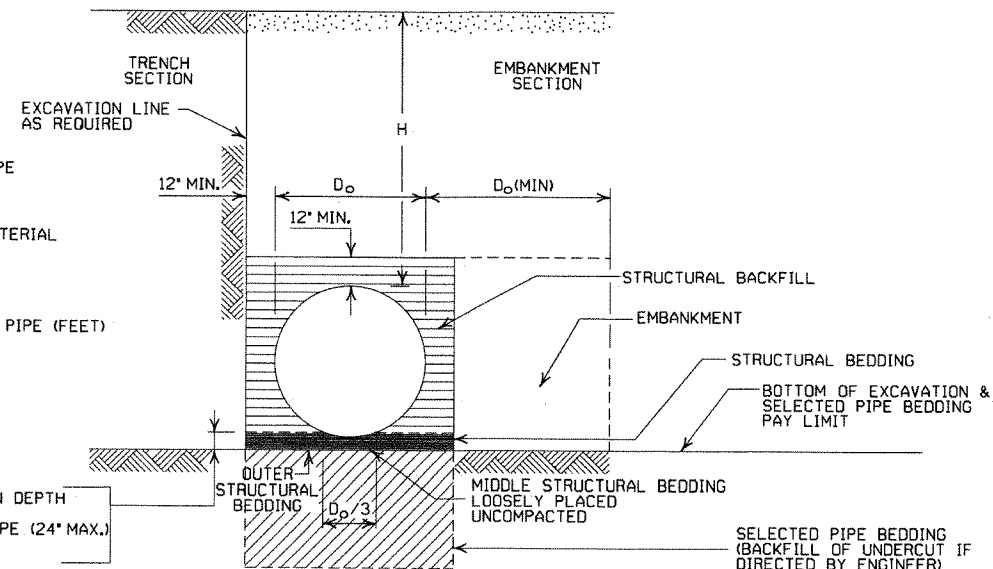
INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

- LEGEND -

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

IN SOIL-MIN. EQUALS TWICE CORRUGATION DEPTH
IN ROCK-MIN. EQUALS GREATER OF:
1/2" PER FOOT OF FILL OVER PIPE (24" MAX.)
TWICE CORRUGATION DEPTH



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 (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS, UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. 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."

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	32	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

EQUIVALENT METAL THICKNESSES AND GAUGES

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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM				
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)		MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)		
				INSTALLATION	INSTALLATION			INSTALLATION	INSTALLATION		
				TYPE 1	TYPE 1			TYPE 1	TYPE 1		
			2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
15	17x13	3	0.064	2	15		0.060	2	15		
18	21x15	3	0.064	2	15		0.060	2	15		
21	24x18	3	0.064	2.25	15		0.060	2.25	15		
24	28x20	3	0.064	2.5	15		0.075	2.5	15		
30	35x24	3	0.079	3	12		0.075	3	12		
36	42x29	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	① FOR MINIMUM COVER VALUES, "H" SHALL ② WHERE THE STANDARD 2 2/3" x 1/2" COR WITH A 3" x 1" OR 5" x 1" CORRUGATION OR GREATER THAN THE MAXIMUM FILL			
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 1/2" 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.

12-15-II	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

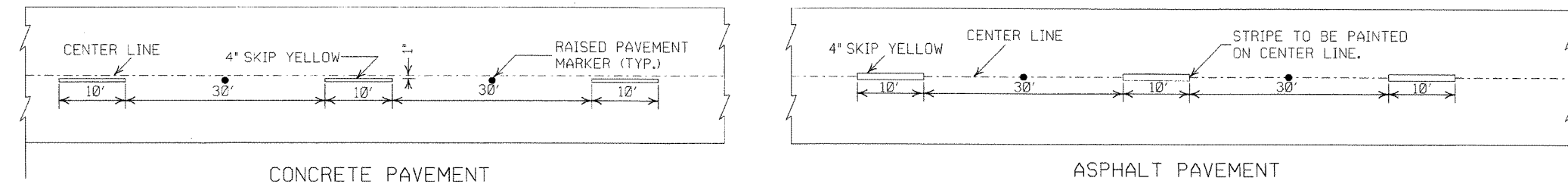
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT
FILL HEIGHTS & BEDDING

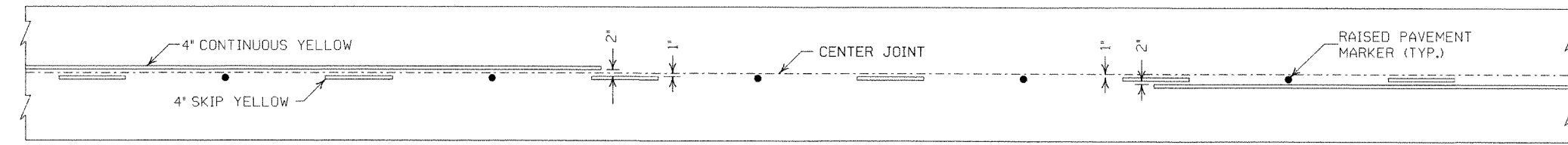
STANDARD DRAWING PCM-1



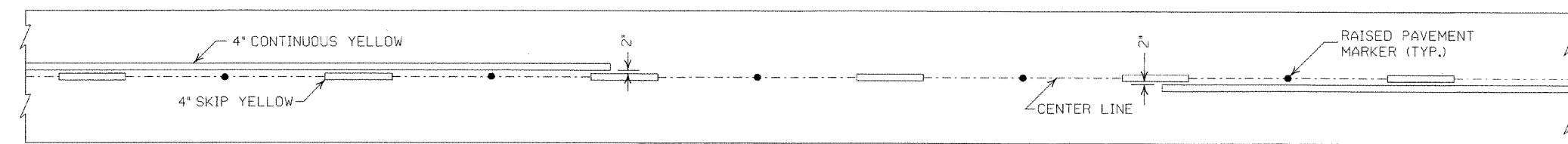
- NOTES:
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
 2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
 3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.'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



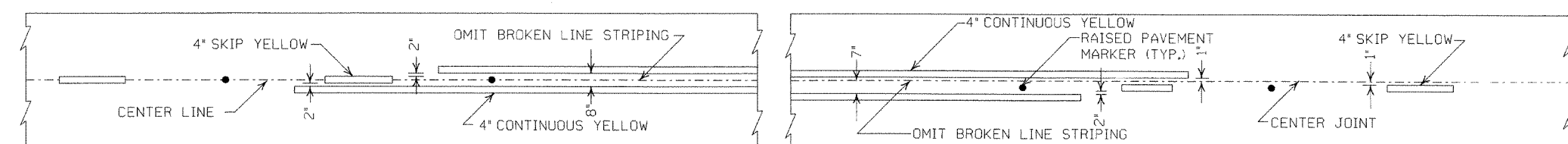
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



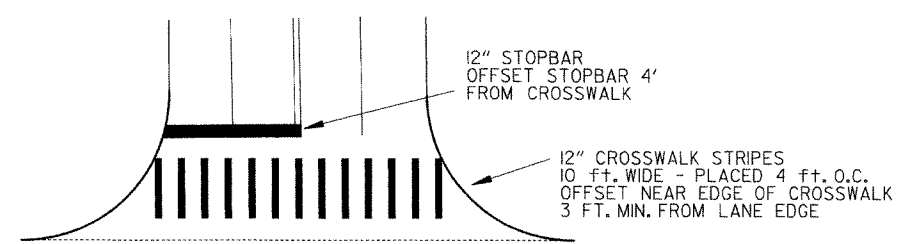
ASPHALT PAVEMENT

CONCRETE PAVEMENT

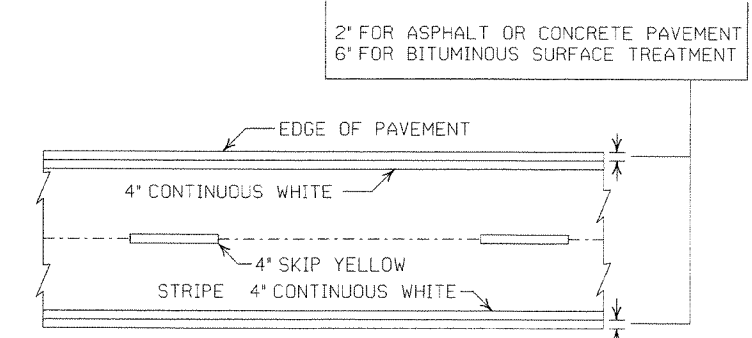
STRIPING AT ADJACENT NO PASSING LANES

GENERAL NOTES:
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

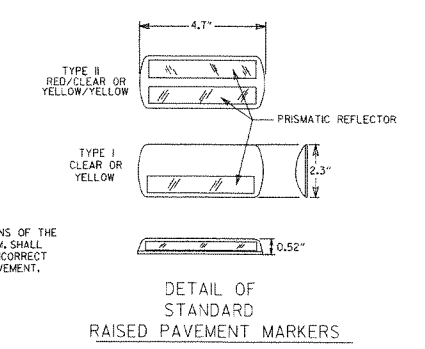
NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



CROSSWALK AND STOPBAR DETAILS



PAVEMENT EDGE LINE MARKING



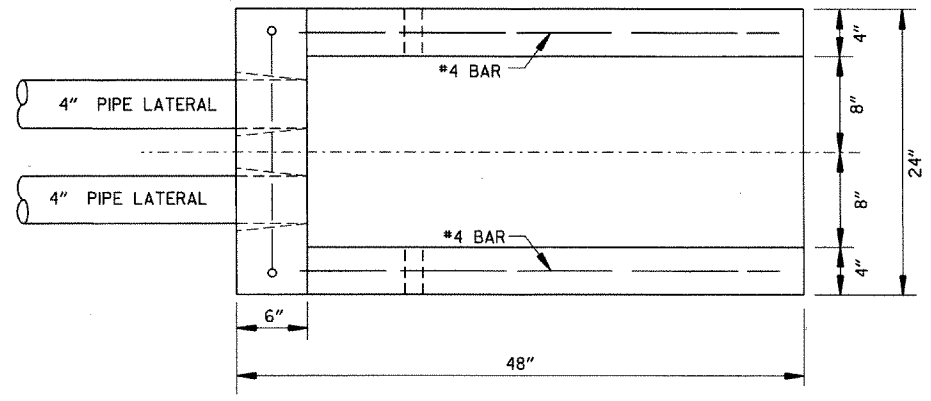
NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

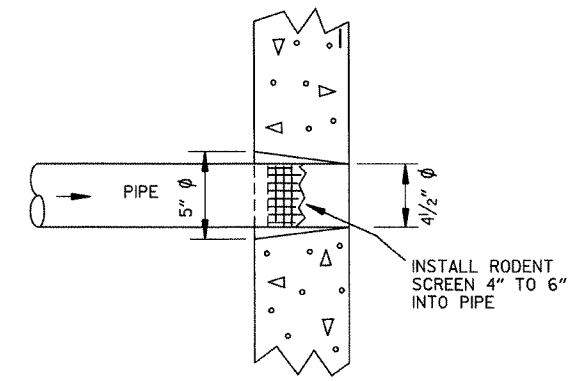
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION
PAVEMENT MARKING DETAILS
STANDARD DRAWING PM-1

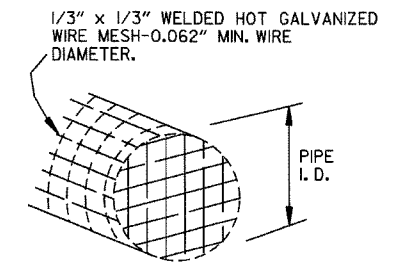
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF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



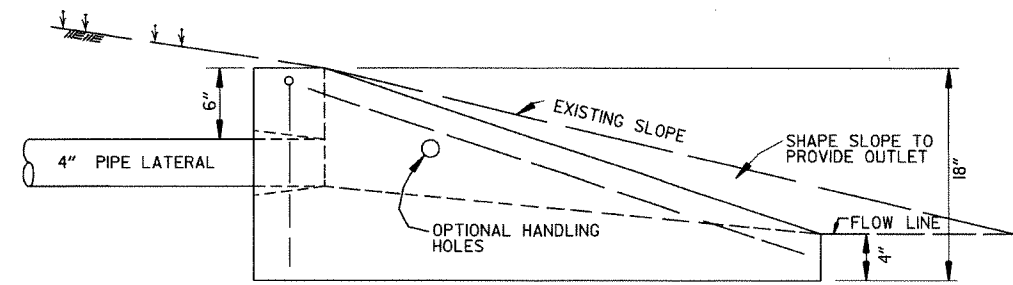
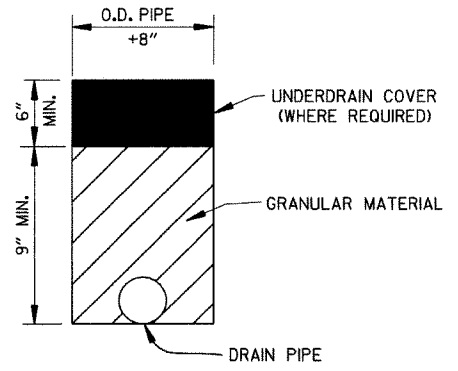
PLAN VIEW



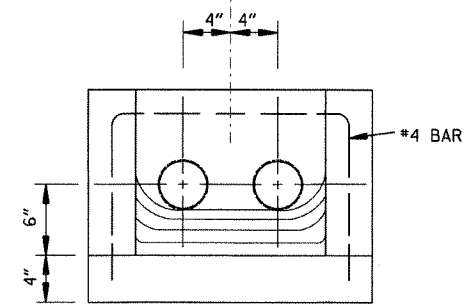
DETAIL OF HOLE FOR 4" PIPE



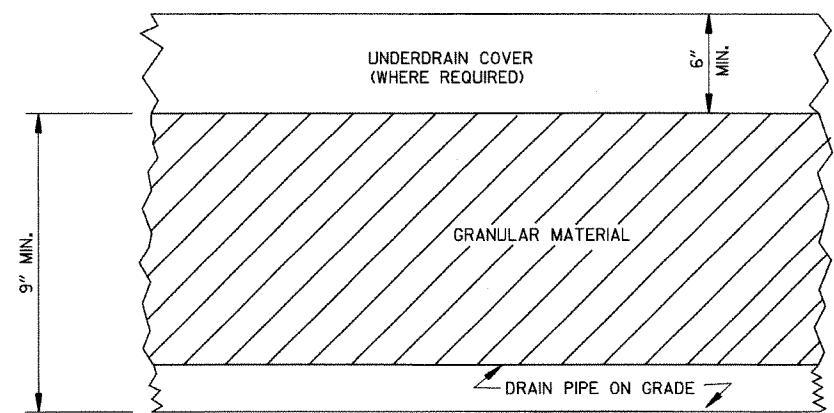
DETAIL OF RODENT SCREEN



SIDE VIEW



FRONT VIEW

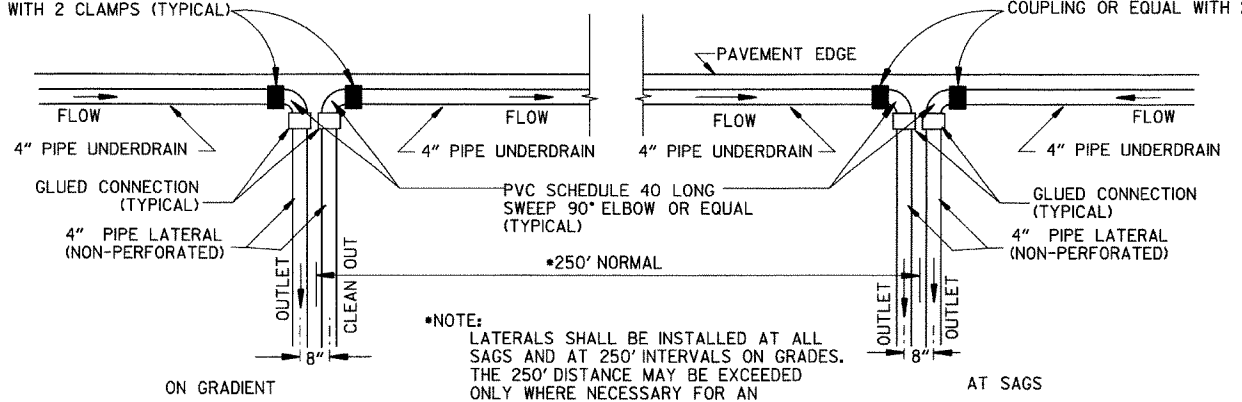


DETAILS OF PIPE UNDERDRAIN

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



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-I

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)
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.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 15'	R.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 30'	0.021		0.021		0.021		0.021		0.021		0.021	
2° 45'	0.023		0.025		0.031		0.037		0.043		0.054	
3° 00'	0.025		0.028		0.036		0.043		0.049		0.062	
3° 15'	0.027		0.031		0.040		0.048		0.055		0.070	
3° 30'	0.029		0.034		0.045		0.053		0.061		0.078	
3° 45'	0.031		0.037		0.049		0.058		0.067		0.085	
4° 00'	0.033		0.040		0.053		0.063		0.072		0.091	
4° 15'	0.035		0.043		0.056		0.067		0.077		0.096	
4° 30'	0.037		0.046		0.059		0.070		0.080		0.099	
4° 45'	0.039		0.049		0.062		0.073		0.083		0.100	
5° 00'	0.041		0.051		0.065		0.076		0.086		0.100	
5° 15'	0.043		0.053		0.068		0.079		0.089		0.100	
5° 30'	0.045		0.056		0.071		0.082		0.092		0.100	
5° 45'	0.047		0.058		0.074		0.085		0.095		0.100	
6° 00'	0.049		0.061		0.077		0.088		0.098		0.100	
6° 15'	0.051		0.063		0.080		0.091		0.100		0.100	
6° 30'	0.053		0.065		0.083		0.094		0.100		0.100	
6° 45'	0.055		0.067		0.086		0.097		0.100		0.100	
7° 00'	0.057		0.069		0.089		0.100		0.100		0.100	
7° 15'	0.059		0.071		0.092		0.100		0.100		0.100	
7° 30'	0.061		0.074		0.095		0.100		0.100		0.100	
7° 45'	0.063		0.077		0.098		0.100		0.100		0.100	
8° 00'	0.065		0.080		0.100		0.100		0.100		0.100	
8° 15'	0.067		0.083		0.100		0.100		0.100		0.100	
8° 30'	0.069		0.086		0.100		0.100		0.100		0.100	
8° 45'	0.071		0.089		0.100		0.100		0.100		0.100	
9° 00'	0.073		0.091		0.100		0.100		0.100		0.100	
9° 15'	0.075		0.094		0.100		0.100		0.100		0.100	
9° 30'	0.077		0.097		0.100		0.100		0.100		0.100	
9° 45'	0.079		0.099		0.100		0.100		0.100		0.100	
10° 00'	0.081		0.100		0.100		0.100		0.100		0.100	
10° 15'	0.083		0.100		0.100		0.100		0.100		0.100	
10° 30'	0.085		0.100		0.100		0.100		0.100		0.100	
10° 45'	0.087		0.100		0.100		0.100		0.100		0.100	
11° 00'	0.089		0.100		0.100		0.100		0.100		0.100	
11° 15'	0.091		0.100		0.100		0.100		0.100		0.100	
11° 30'	0.093		0.100		0.100		0.100		0.100		0.100	
11° 45'	0.095		0.100		0.100		0.100		0.100		0.100	
12° 00'	0.097		0.100		0.100		0.100		0.100		0.100	
12° 15'	0.099		0.100		0.100		0.100		0.100		0.100	
12° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
12° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
13° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
13° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
13° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
13° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
14° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
14° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
14° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
14° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
15° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
15° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
15° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
15° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
16° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
16° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
16° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
16° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
17° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
17° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
17° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
17° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
18° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
18° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
18° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
18° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
19° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
19° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
19° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
19° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
20° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
20° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
20° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
20° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
21° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
21° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
21° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
21° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
22° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
22° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
22° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
22° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
23° 00'	0.100		0.100		0.100		0.100		0.100		0.100	
23° 15'	0.100		0.100		0.100		0.100		0.100		0.100	
23° 30'	0.100		0.100		0.100		0.100		0.100		0.100	
23° 45'	0.100		0.100		0.100		0.100		0.100		0.100	
24° 00'	0.100		0.100		0.100		0.100		0.100		0.100	

D MAX = 24° 45'

GENERAL NOTES

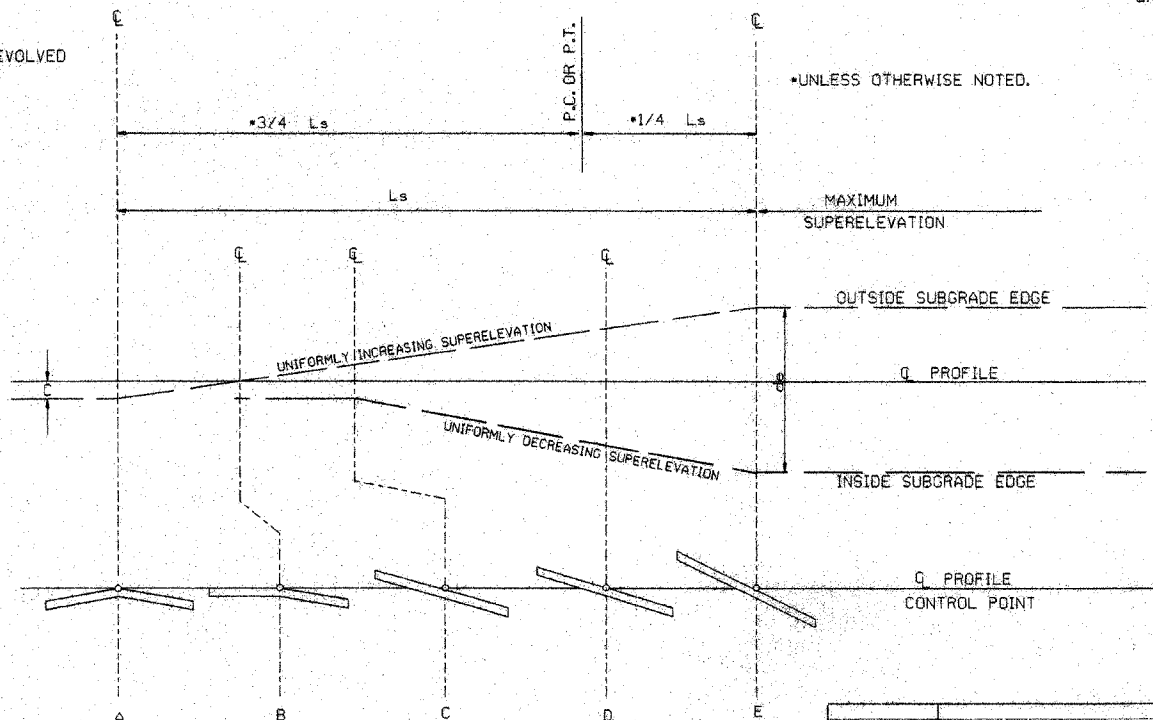
- ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS.
- SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
- LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
- 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%

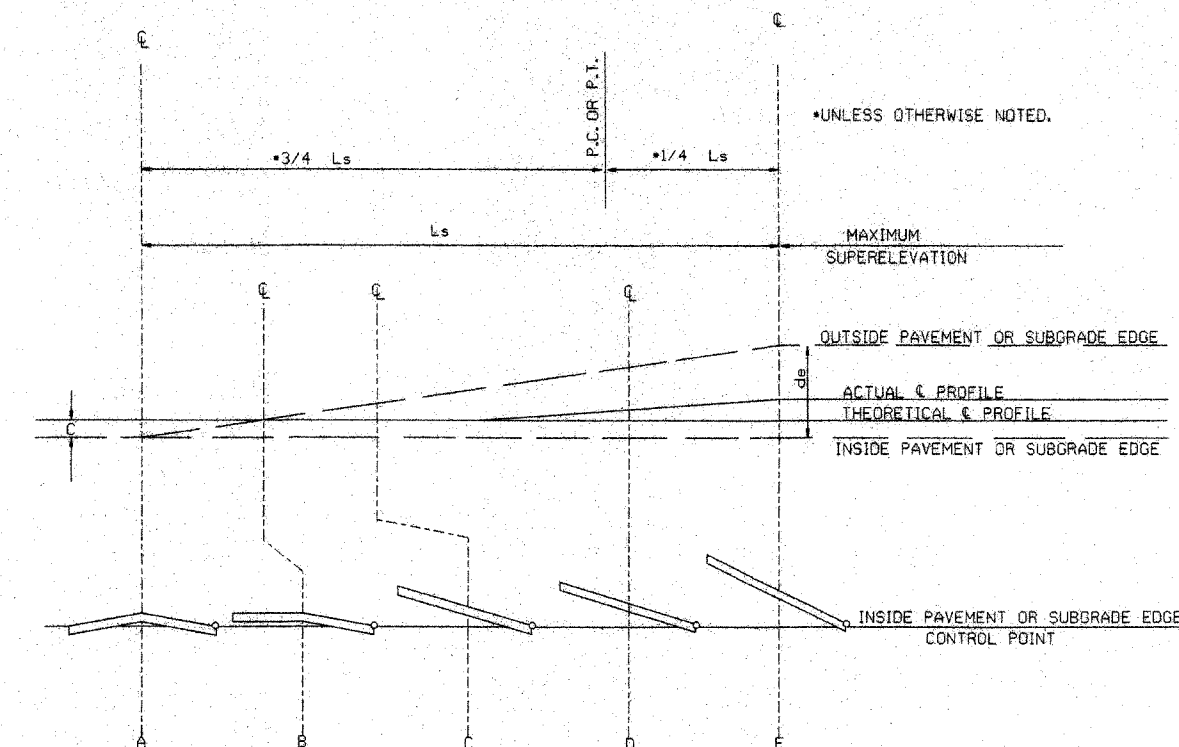
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.
 RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

ABBREVIATIONS

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



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

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

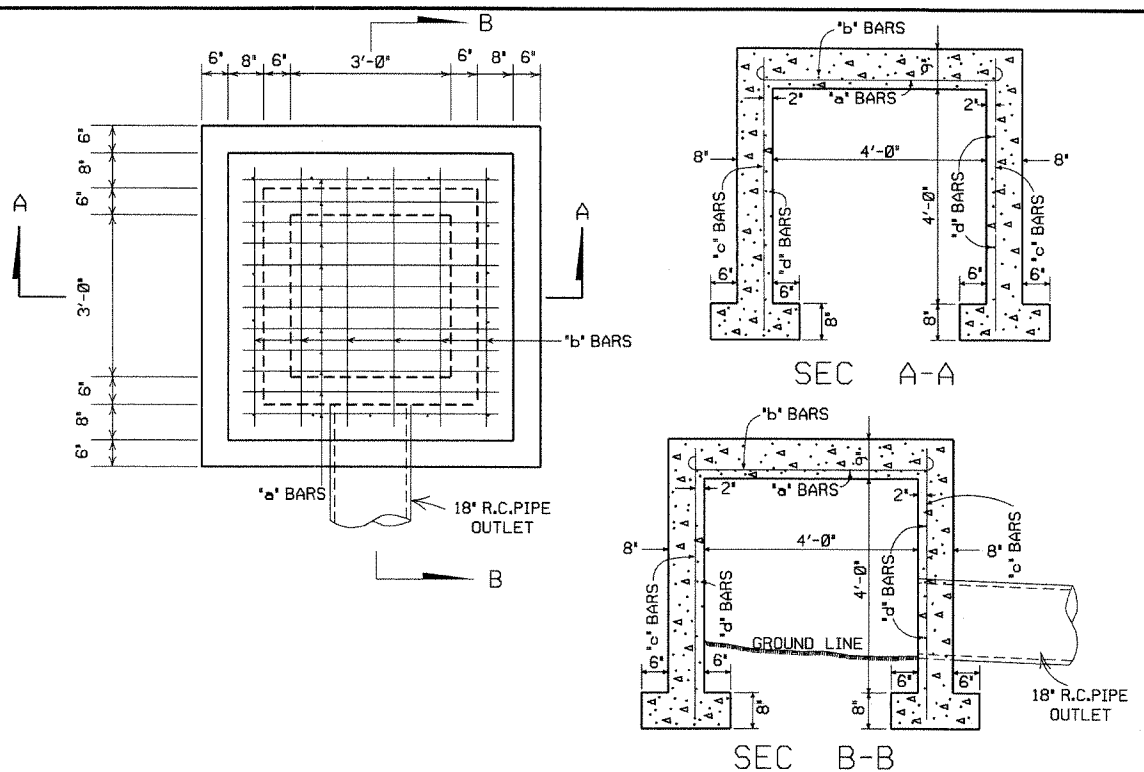
$$\text{SUPERELEVATION FORMULA} = \frac{Lde}{Ls}$$

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

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



STEEL SCHEDULE

BAR	NUMBER	LENGTH	SPACING
'a'	11	6'-0"	5'
'b'	6	6'-0"	10'
'c'	16	5'-1"	12"
'd'	16	5'-0"	12"

ALL STEEL TO BE #4 BARS

QUANTITIES

CONCRETE 3.40 CU. YDS.
REINFORCING STEEL 176 LB.

GENERAL NOTE:
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX

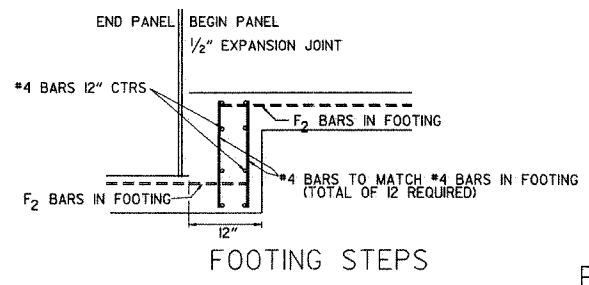
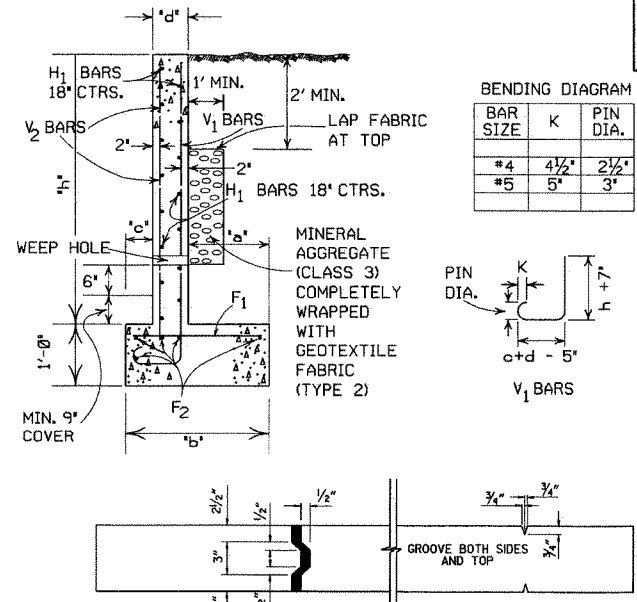
GENERAL NOTES

THE PAY ITEMS FOR THE CONSTRUCTION OF REINFORCED CONCRETE RETAINING WALL SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL AND EXCAVATION FOR STRUCTURES.

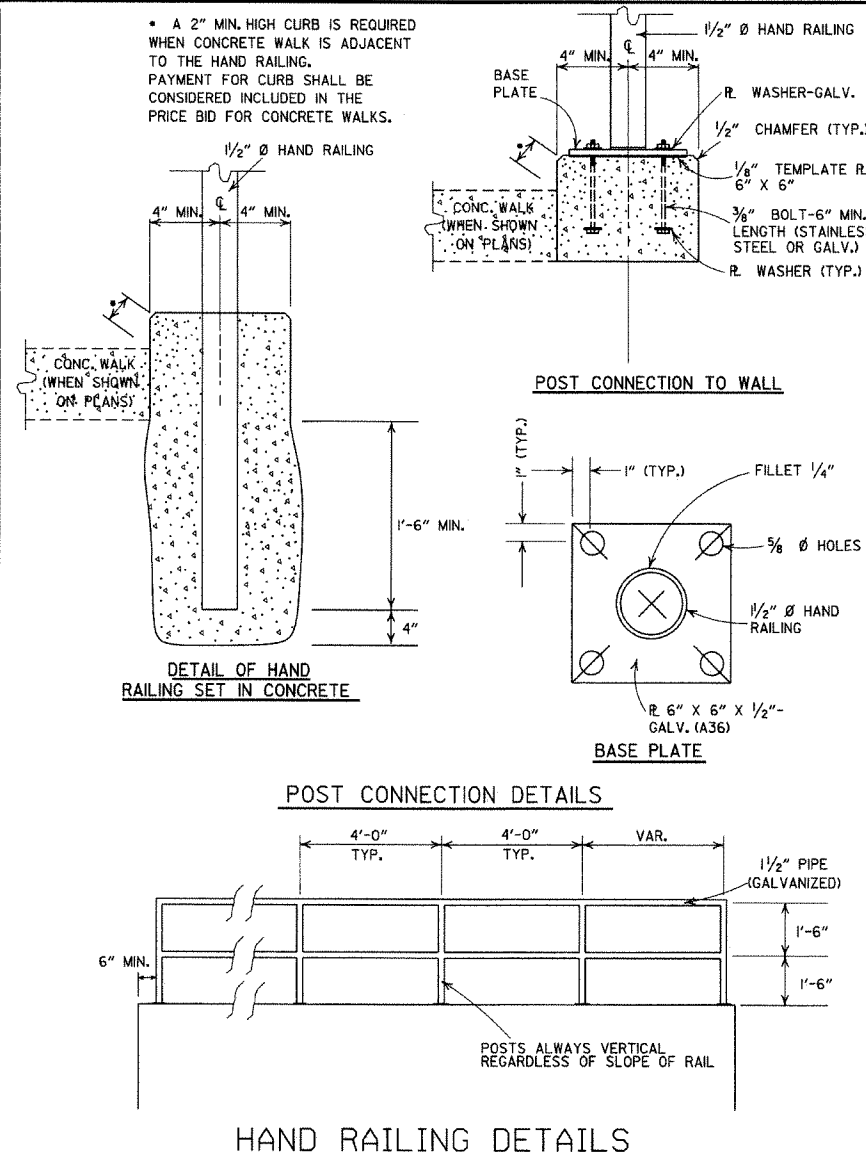
MINERAL AGGREGATE WRAPPED WITH GEOTEXTILE FABRIC (CONTINUOUS) TO BE PLACED 1'-0" IN WIDTH AND 1'-0" IN HEIGHT AS A SUBSIDIARY ITEM TO THE VARIOUS PAY ITEMS.

3" WEEP HOLES (MAX. SPACING 10'-0" CTRS.) TO BE PLACED WHERE SPECIFIED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO PLACE CONTRACTION JOINTS ON 20' CENTERS AND EXPANSION JOINTS ON 60' CENTERS.

ALL EXPOSED EDGES TO BE CHAMFERED 3/4".

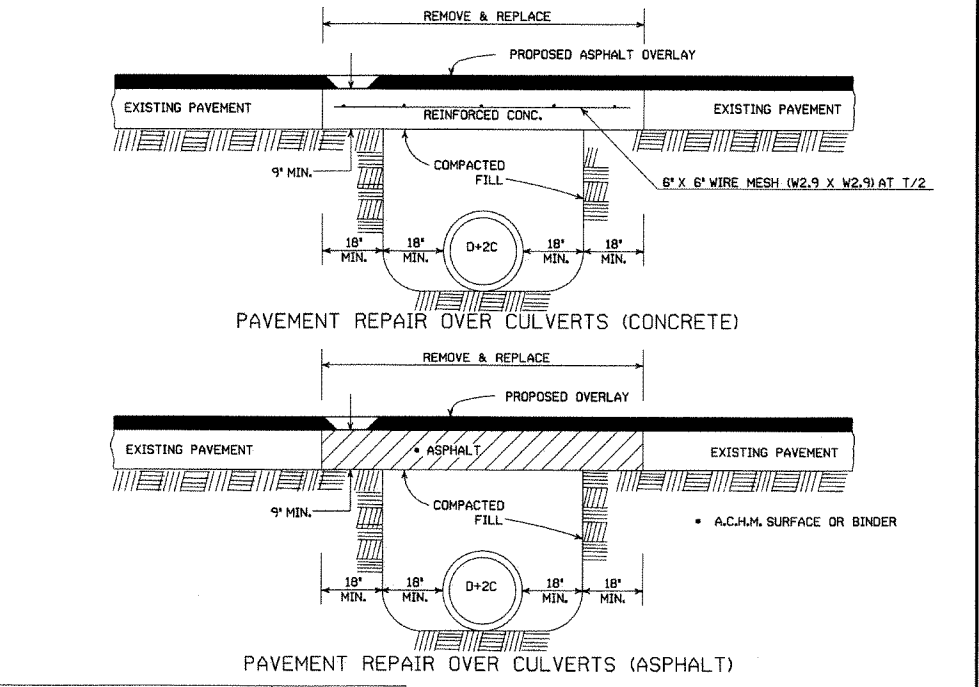
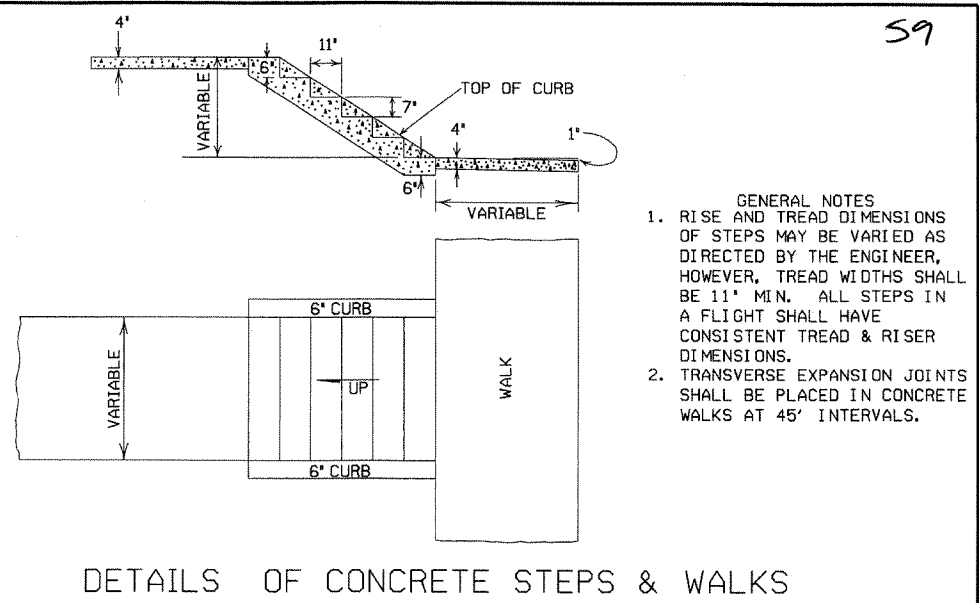
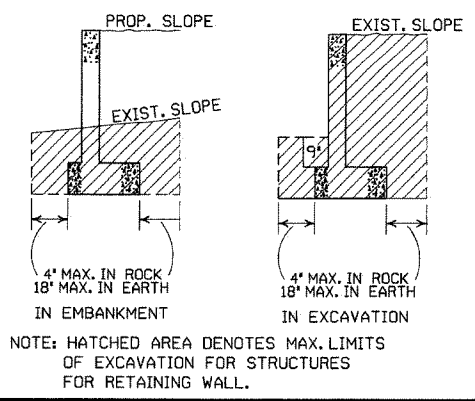


REINFORCED CONCRETE RETAINING WALL



STEEL SCHEDULE

'c'	'd'	'h'	'a'	'b'	V1 BARS	F1 BARS	H1	V2	F2
8"	8"	1'-0"	8"	2'-0"	#4 12"	#4 12"	18"	18"	18"
8"	8"	2'-0"	8"	2'-0"	#4 12"	#4 12"	18"	18"	18"
8"	8"	3'-0"	8"	2'-0"	#4 12"	#4 12"	18"	18"	18"
8"	8"	4'-0"	1'-2"	2'-6"	#4 12"	#4 12"	18"	18"	18"
8"	8"	5'-0"	1'-8"	3'-0"	#4 9"	#4 9"	18"	18"	18"
8"	8"	6'-0"	2'-2"	3'-6"	#4 6"	#4 6"	18"	18"	18"
12"	8"	7'-0"	2'-4"	4'-0"	#4 8"	#4 8"	18"	18"	18"
12"	8"	8'-0"	2'-10"	4'-6"	#4 6"	#4 6"	18"	18"	18"
15"	10"	9'-0"	2'-11"	5'-0"	#4 5"	#4 5"	18"	18"	18"
17"	10"	10'-0"	3'-3"	5'-6"	#5 6"	#5 6"	18"	18"	18"



DATE	REVISION	DATE FILMED
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE/REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	DELETED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HOWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V1 BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
	ADDED HOWL. MODS. DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET. & PAVEMENT REPAIR	74-4-20-79
2-2-76	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

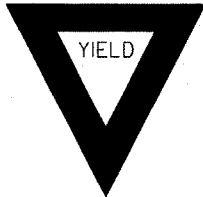
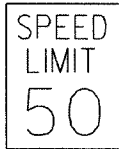
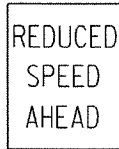
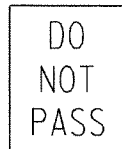
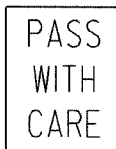
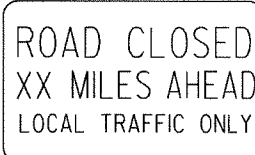
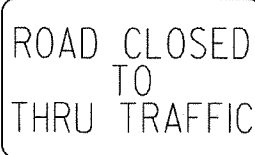
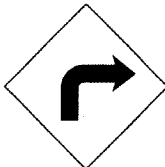
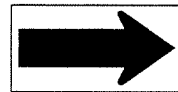
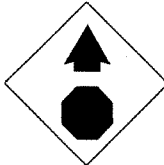
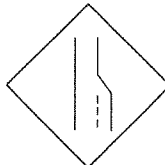
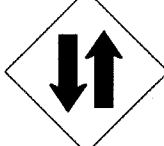
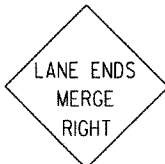
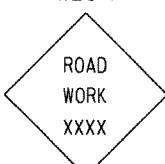
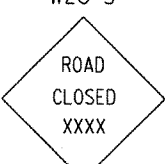
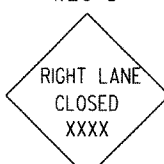
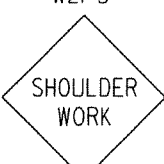
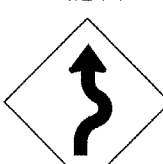
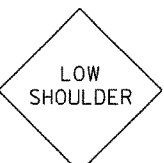
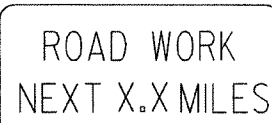
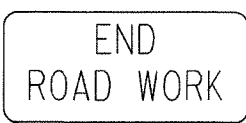
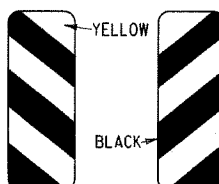
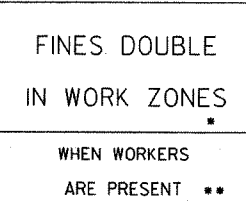
DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

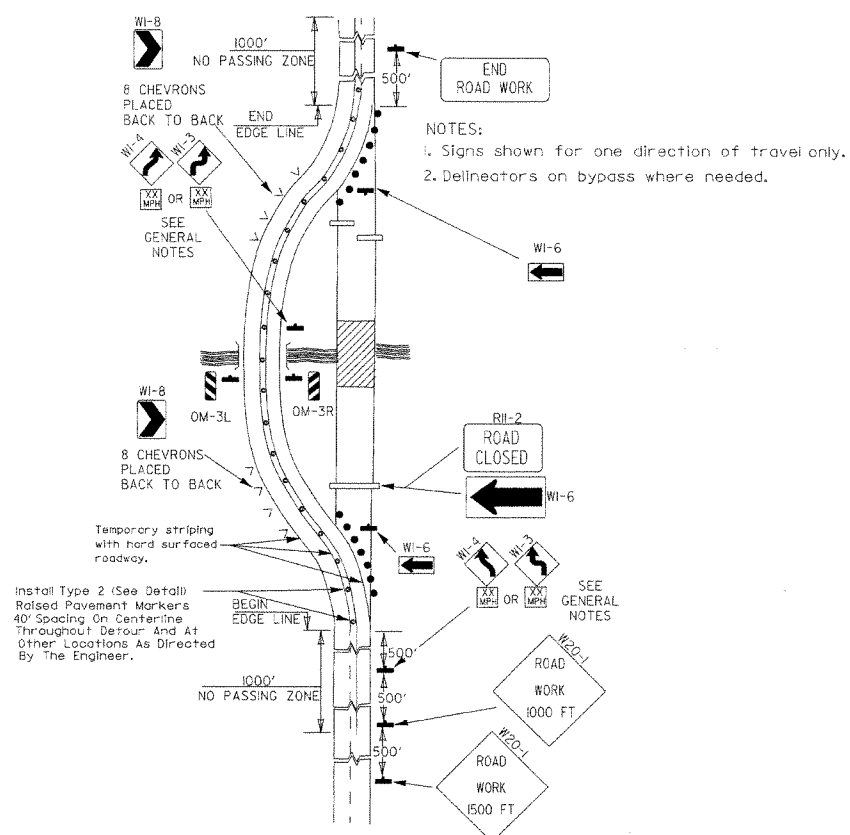
4-17-08	REV. JOINT & FOOTING STEP DETAILS
11-29-07	REVISED RETAINING WALL DRAINAGE

ARKANSAS STATE HIGHWAY COMMISSION

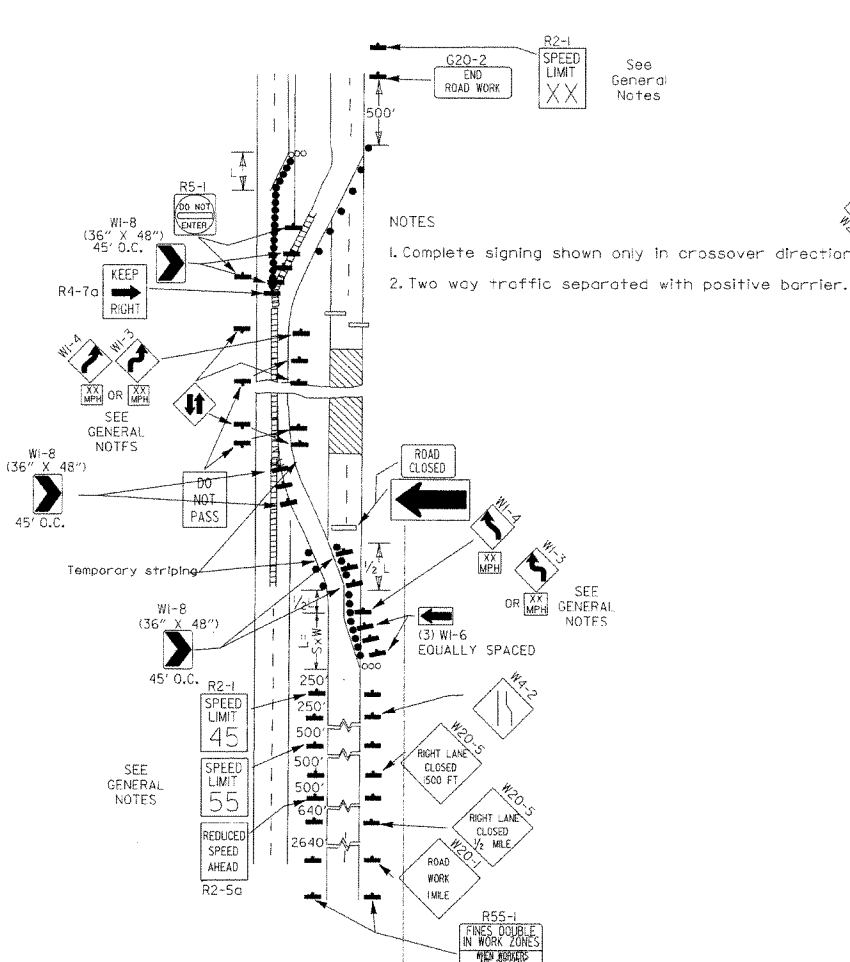
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

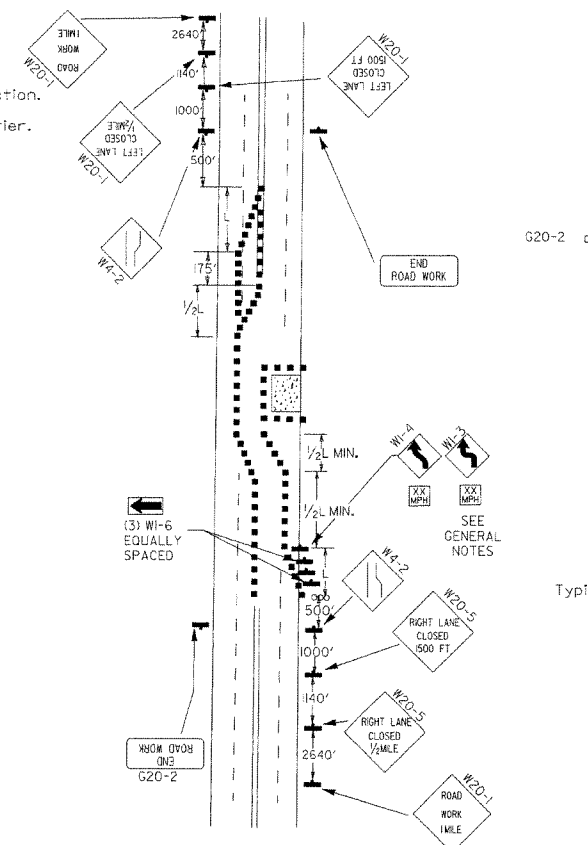
RI-1  STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"	RI-2  STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"	R2-1  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R2-5A  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R2-5C  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R4-1  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R4-2  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	ADVANCE DISTANCES (XXXX) 500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD GENERAL NOTES: 1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. 3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF 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.		
R5-1  STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"	R11-2  48"x30"	R11-3A  60"x30"	R11-4  60"x30"	RSP-1  48"x30"	W1-1  STD. 36"x36" FWY. 48"x48"	W1-2  STD. 36"x36" FWY. 48"x48"	12-15-81 REVISED W24-1 11-17-10 DELETED W8-9a & ADDED W8-9 10-15-09 ADDED REFERENCE TO MASH & ADDED SIGN W24-1 4-17-08 REVISED SIGN DESIGNATIONS 11-18-04 REVISED NOTES 10-9-03 REVISED NOTE 1 11-16-01 REVISED NOTE 7 9-28-00 REVISED NOTE 11-18-98 ADDED NOTE 6-26-97 REVISED NOTE 5 4-03-97 REVISED NOTE 5 10-18-96 ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7 10-12-95 ADDED R55-1 6-8-95 REVISED TO CORRECT SIGN ILLUSTRATIONS 2-2-95 REVISED PER PART VI, MUTCD SEPT. 3, 1993 8-15-91 DRAWN AND PLACED IN USE DATE REVISION FILMED		
W1-3  STD. 48"x48"	W1-4  STD. 48"x48"	W1-6  STD. 48"x24" SPECIAL 60"x30"	W1-8  STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"	W3-1  STD. 36"x36" SPECIAL 48"x48"	W3-2  STD. 36"x36" SPECIAL 48"x48"	W4-2  STD. 36"x36" FWY. 48"x48"			
W5-1  STD. 36"x36" SPECIAL 48"x48"	W6-3  EXPWY. 36"x36" SPECIAL 48"x48"	W8-7  EXPWY. 36"x36" FWY. 48"x48"	W9-2  STD. 36"x36" FWY. 48"x48"	W13-1  STD. 24"x24"	W20-1  STD. 48"x48"	W20-2  STD. 48"x48"			
W20-3  STD. 48"x48"	W20-4  STD. 48"x48"	W20-5  STD. 48"x48"	W20-7a  500 FEET 18" 24" W16-2 STD. 36"x36" FWY. 48"x48"	W21-2  STD. 30"x30" SPECIAL 36"x36"	W21-5  STD. 30"x30" SPECIAL 36"x36"	W24-1  STD. 36"x36"			
W1-4b  STD. 48"x48"	R56-1  STD. 18"x18"	W8-11  STD. 36"x36" FWY. 48"x48"	W8-9  STD. 36"x36" FWY. 48"x48"	G20-1  60"x24"	G20-2  48"x24"	OM-3L OM-3R  12"x36"	M4-9  STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"	M4-10  48"x18"	R55-1  36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS



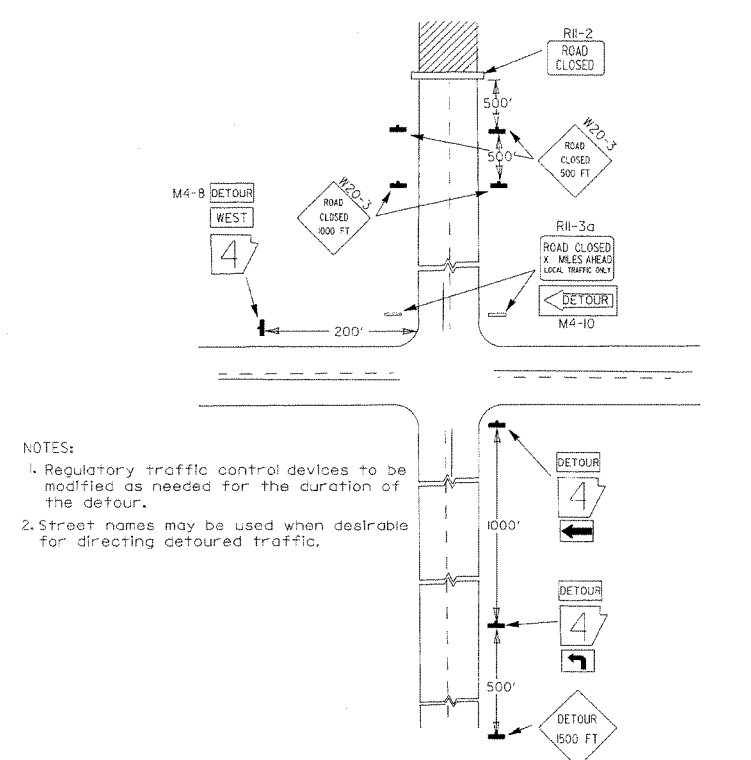
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



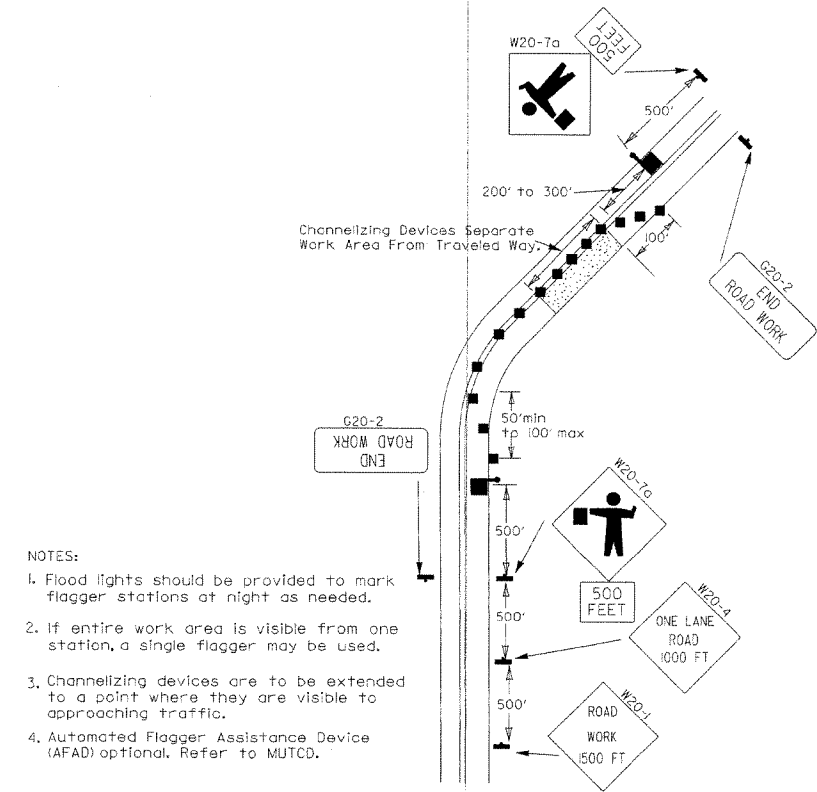
(B) Typical application - 4-lane divided roadway where one roadway is closed.



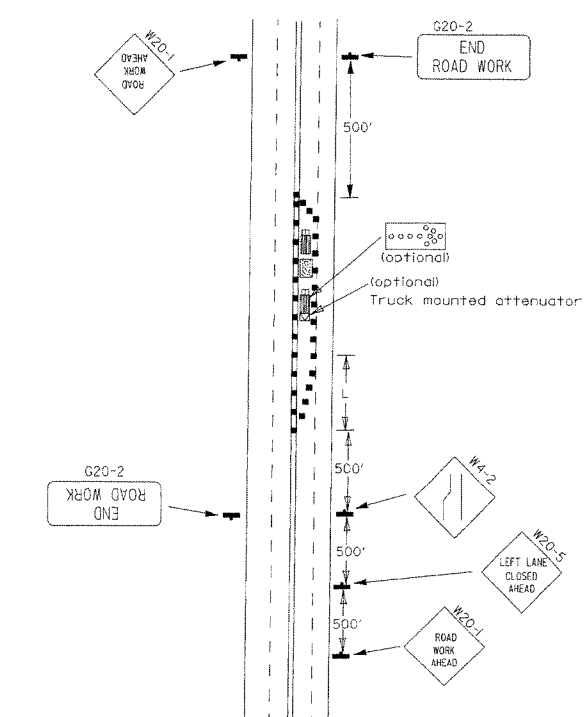
(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



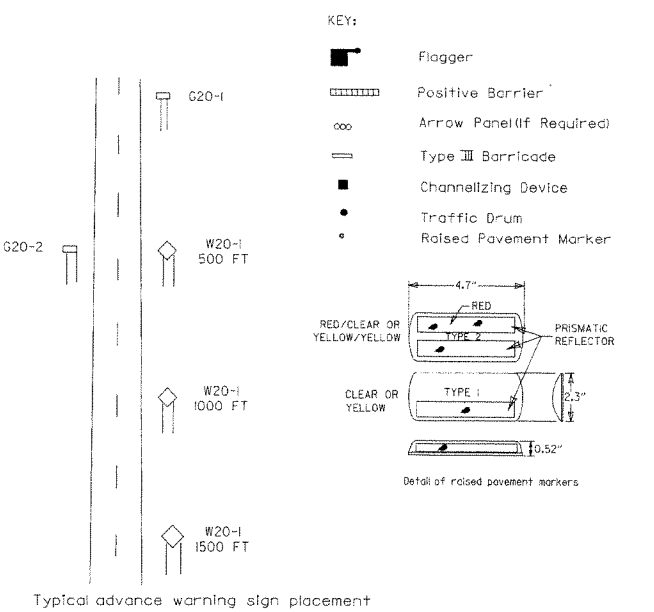
(D) Typical application - roadway closed beyond detour point.



(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.

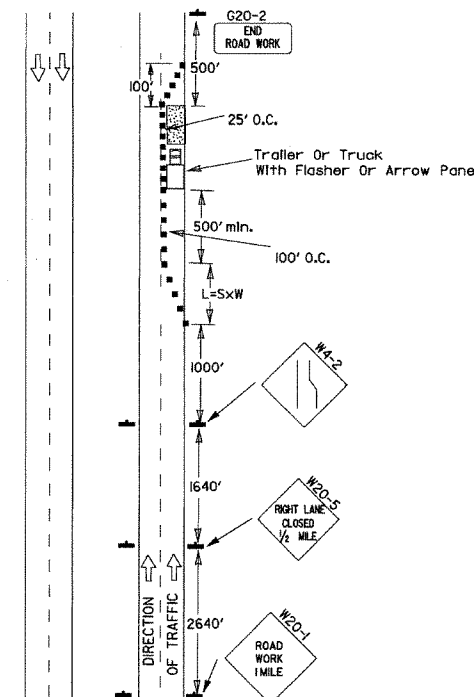


Taper formulae:
 $L = S \times W$ for speeds of 45mph or more.
 $L = \frac{W \times S^2}{60}$ for speeds of 40mph or less.
Where:
L = Minimum length of taper.
S = Numerical value of posted speed limit prior to work or 85th percentile speed.
W = Width of offset.

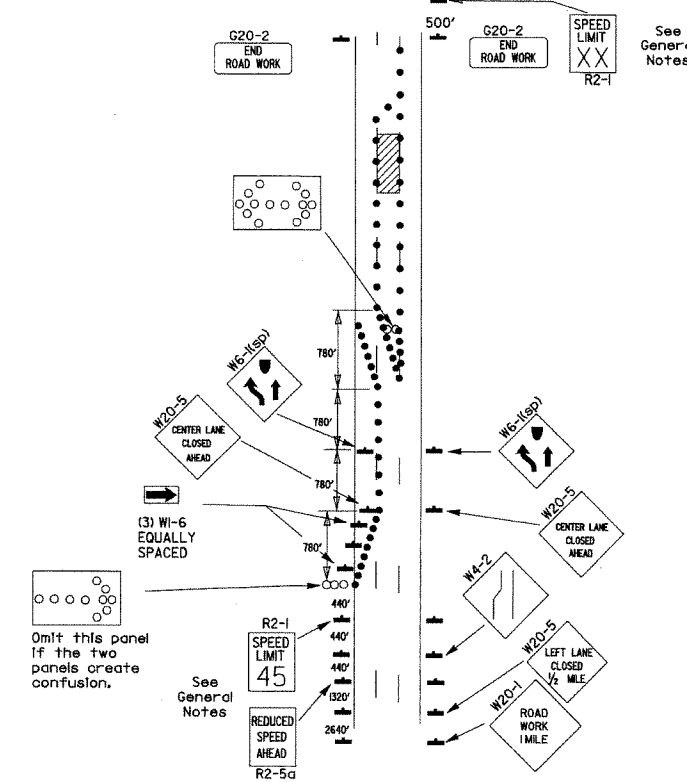
GENERAL NOTES:
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(45) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(45) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(45) 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.

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

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC 2



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

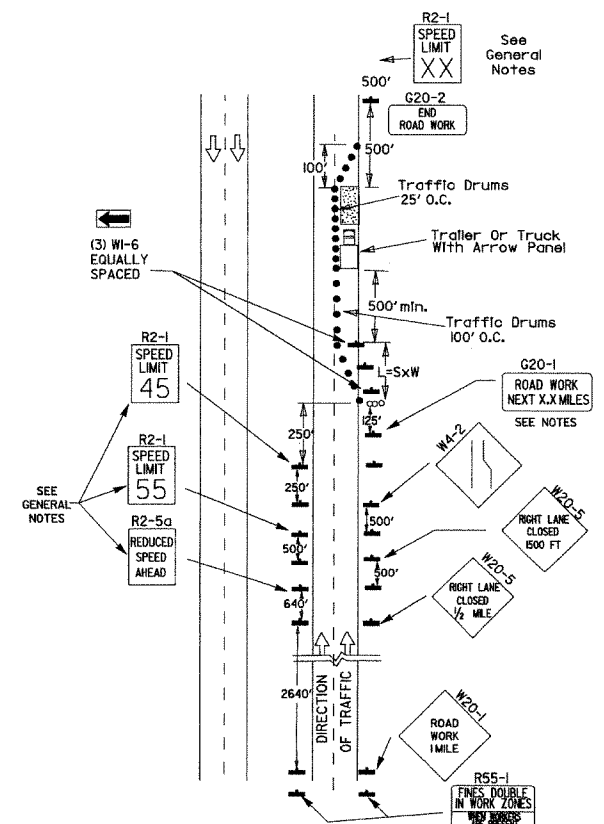


(B) Typical application - 3-lane one-way roadway where center lane is closed.

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

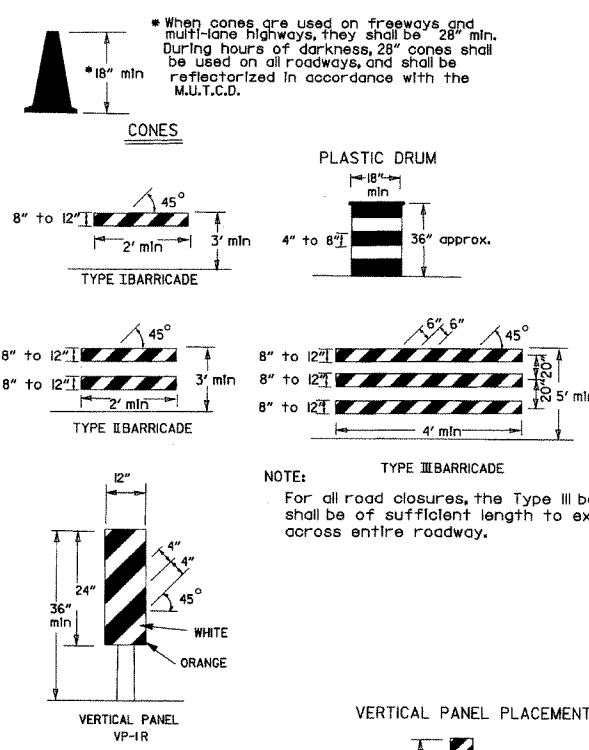
GENERAL NOTES:

- 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 R2-5A 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).
- 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.

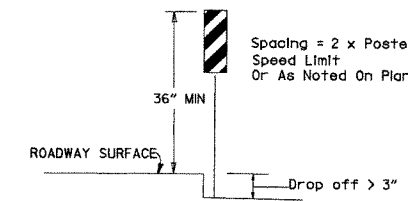


(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

Channelizing devices



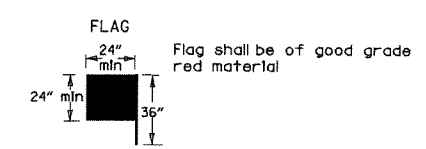
VERTICAL PANEL PLACEMENT



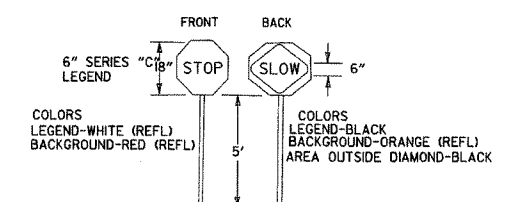
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
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-1 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.

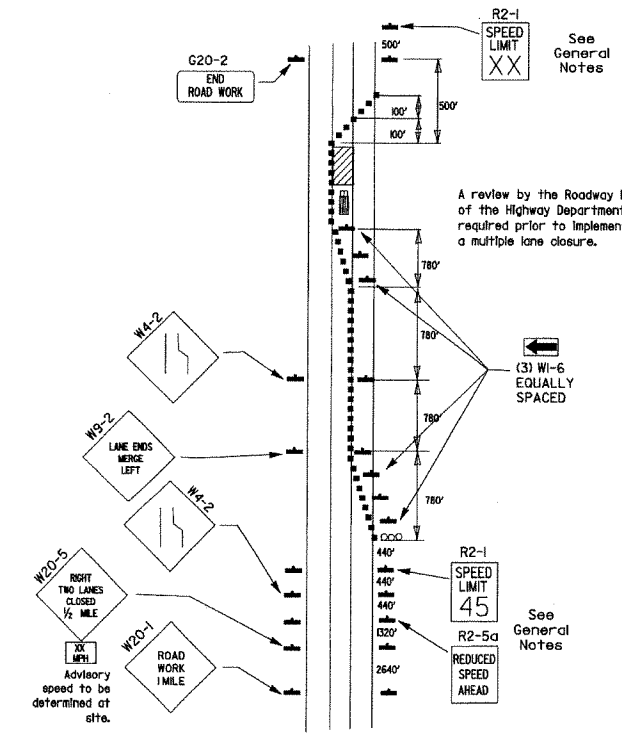
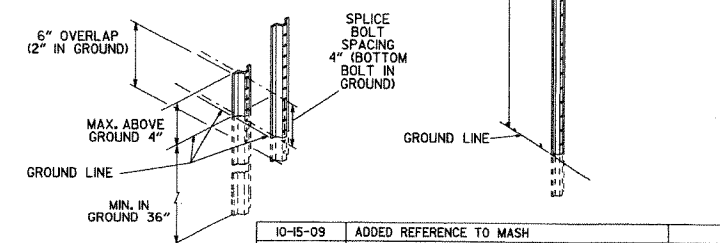


STOP SLOW PADDLE



DETAIL OF SPLICES

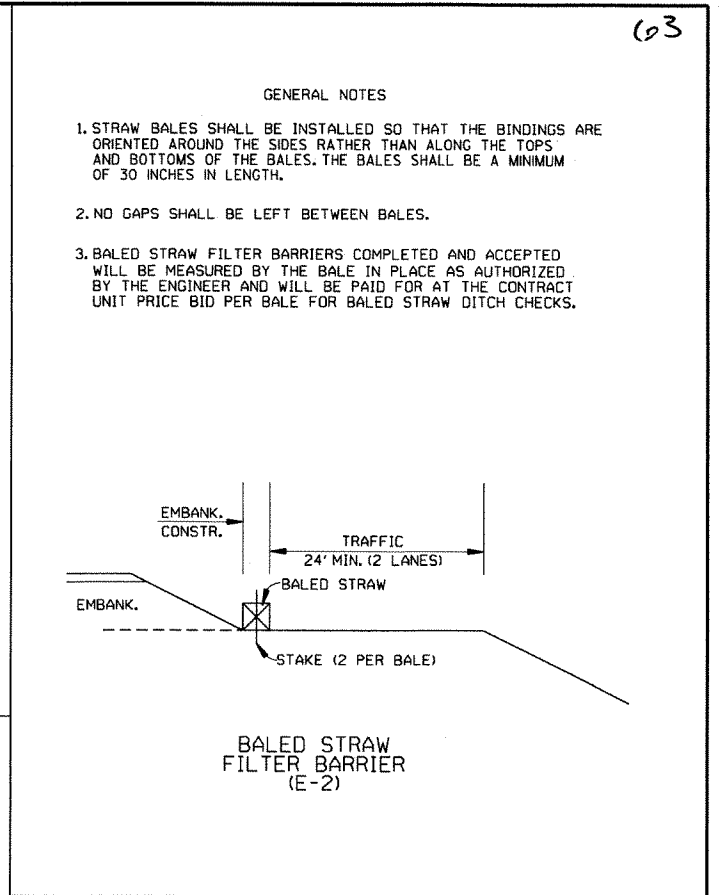
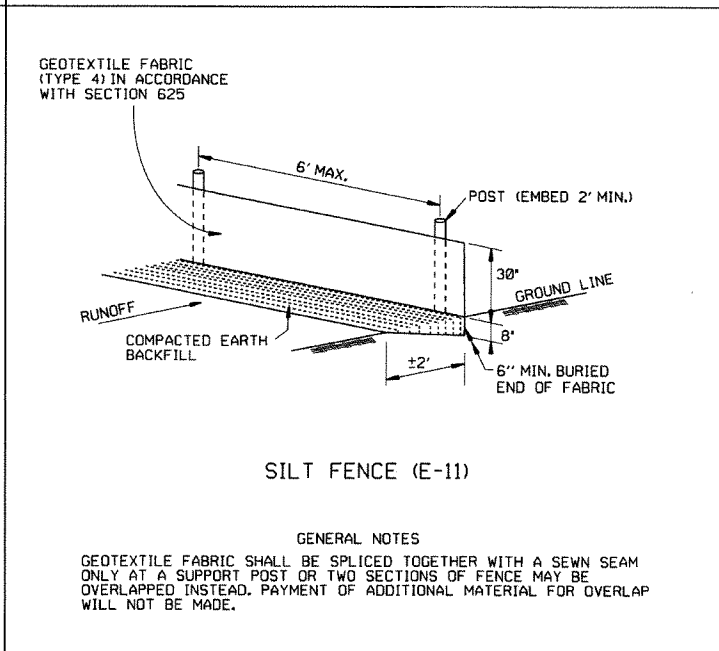
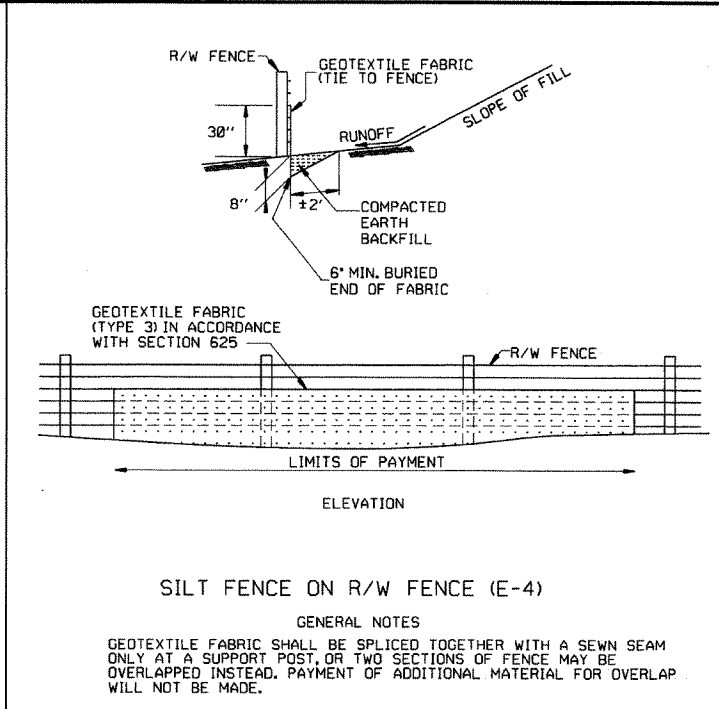
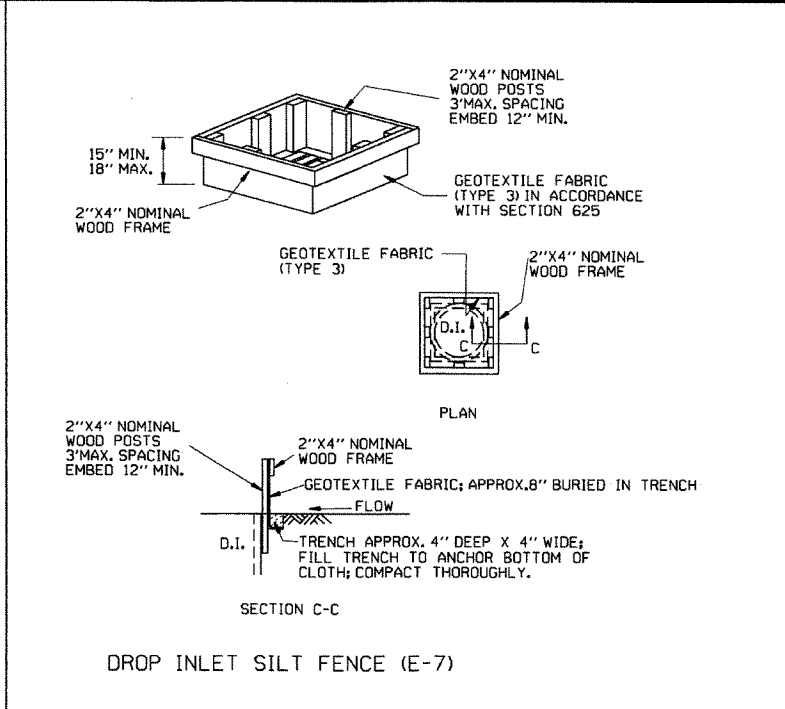
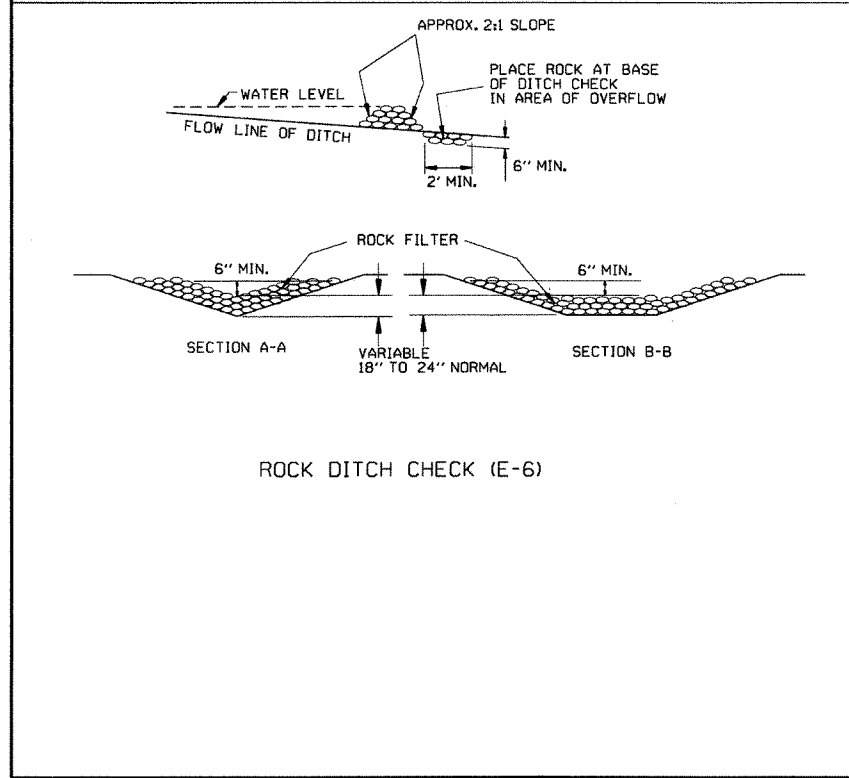
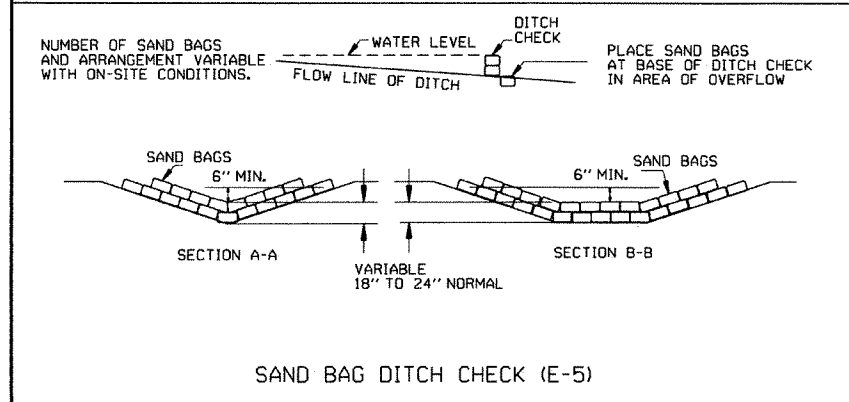
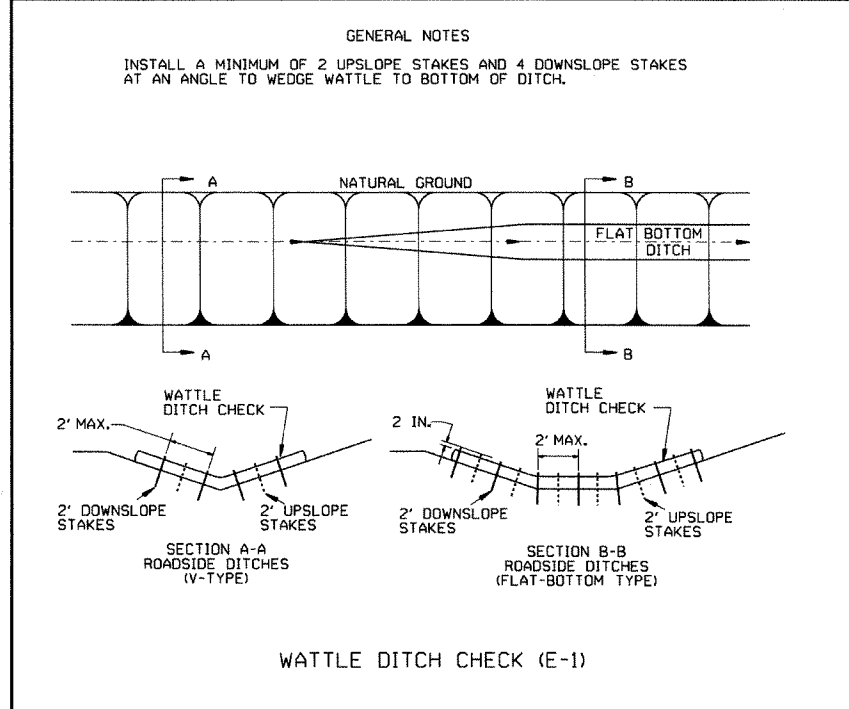
- NOTES:
- USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)
 - NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.
 - SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



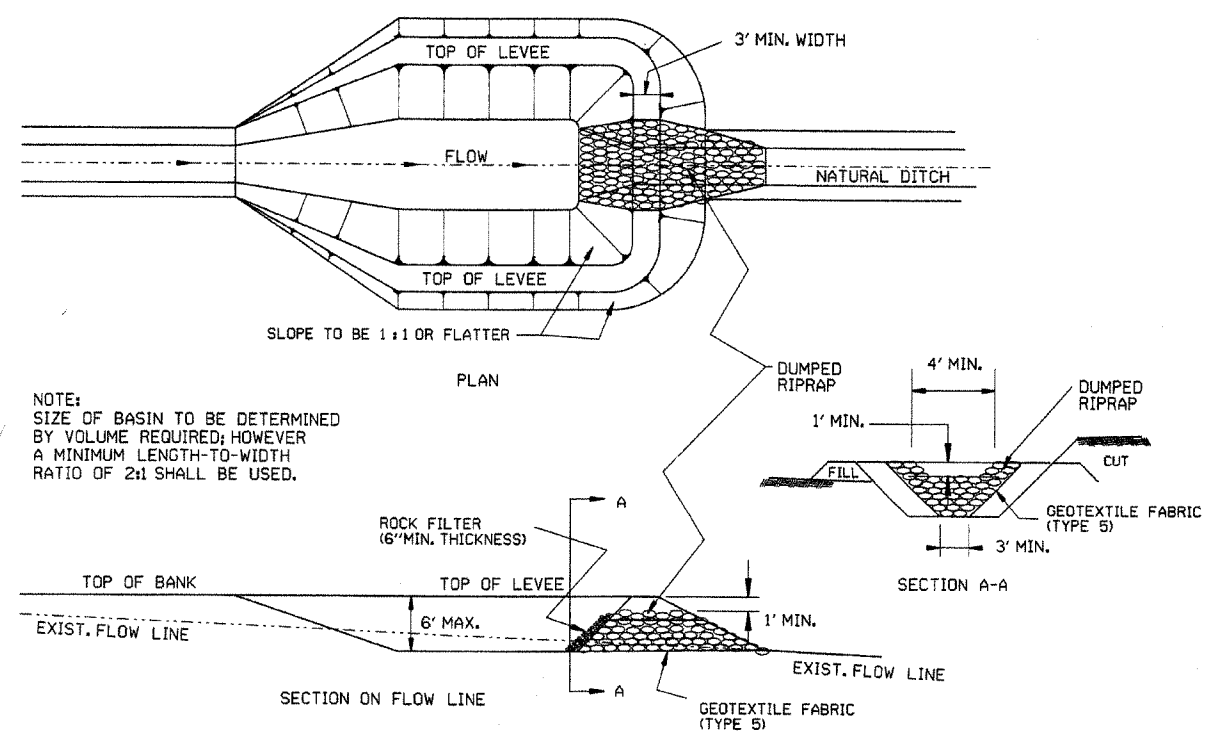
(D) Typical application - closing multiple lanes of a multi-lane highway.

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

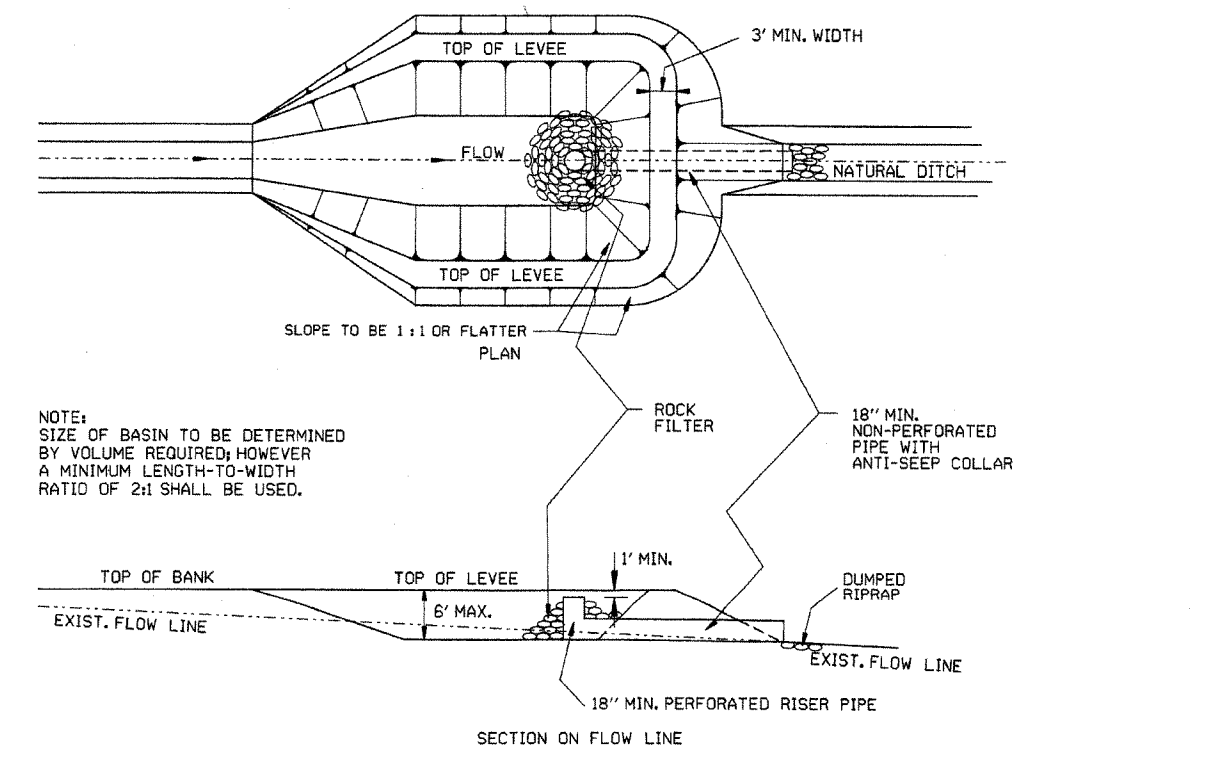
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-3



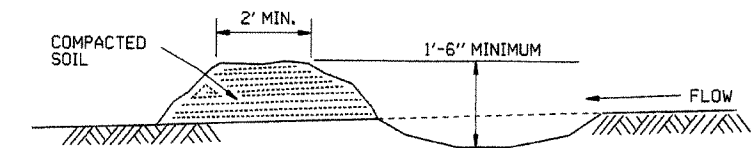
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
11-18-98	ADDED NOTES		
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC		
6-2-94	REVISED E-1, 4,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



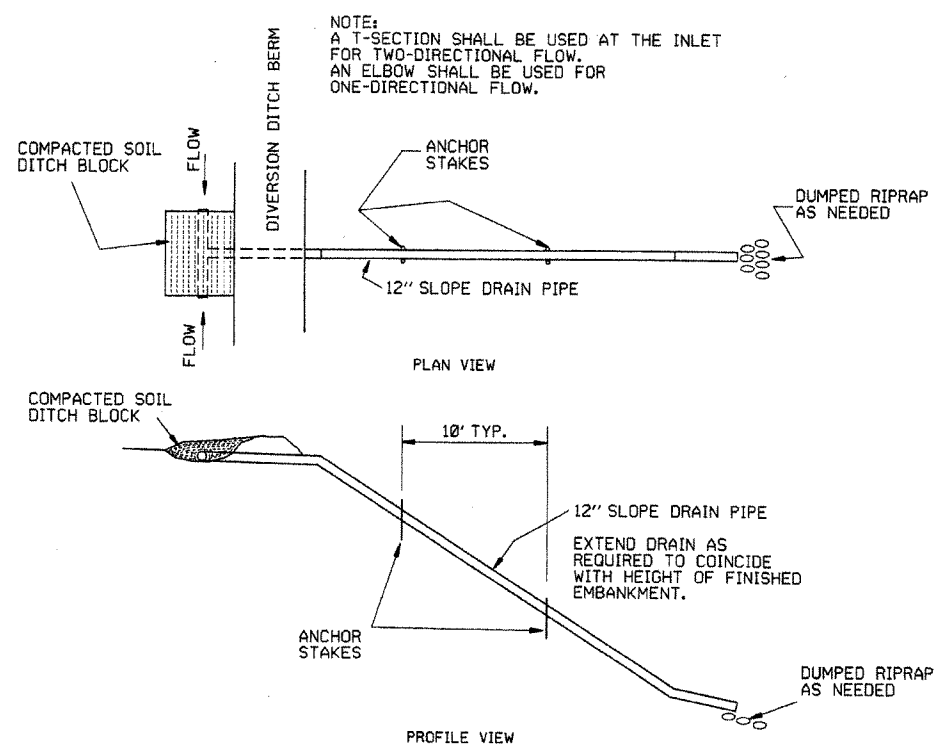
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



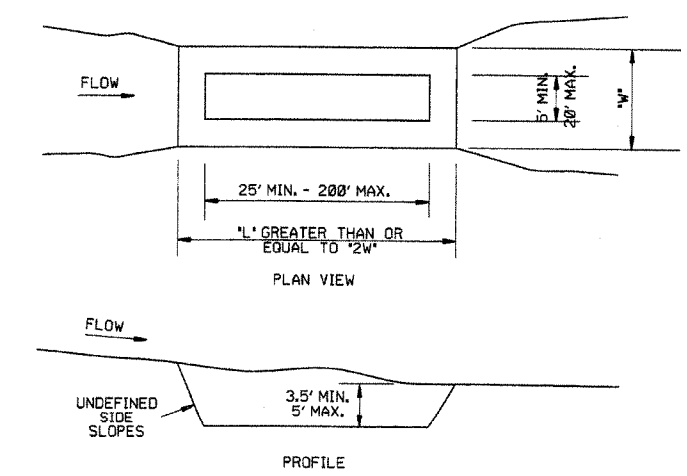
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



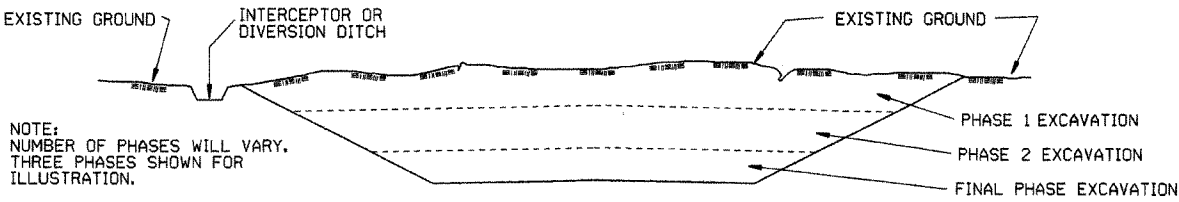
SEDIMENT BASIN (E-14)

ARKANSAS STATE HIGHWAY COMMISSION			
TEMPORARY EROSION CONTROL DEVICES			
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

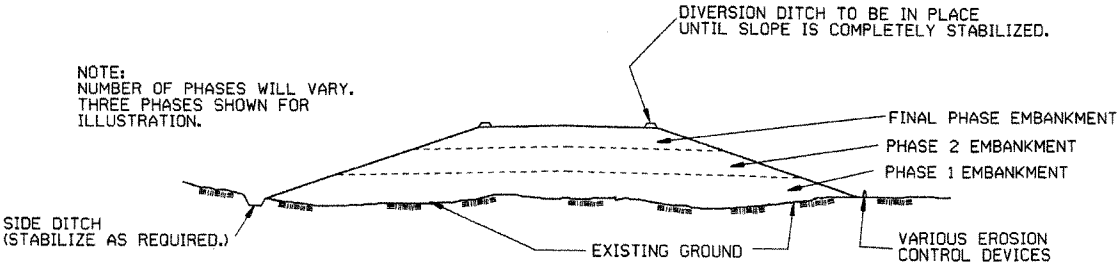


GENERAL NOTE

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

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

EMBANKMENT

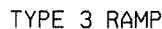
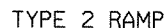


GENERAL NOTE

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

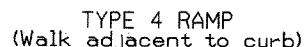
- CONSTRUCTION SEQUENCE
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
 2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY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

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



A diagram of a quarter-circle ramp. The outer arc is labeled "RADIUS 'R'". The straight edges are labeled "DISTANCE 'Y'". The curved edge is labeled "LENGTH 'L'". The ramp is divided into several rectangular sections. Two of these sections are hatched with a grid pattern. Arrows point from the text "HATCHED AREA 'A' DENOTES CONCRETE REQUIRED FOR ONE TYPE 1 RAMP, SQ. YD." to these hatched areas. Another arrow points from the text "DETECTABLE WARNING DEVICE" to the same hatched areas. The ramp is shown with arrows indicating its extent from a starting point to an ending point.

NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS,
AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS
REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.



50-65% of Base Dia.

0.2"

TRUNCATED DOME

0.9"-1.4"

1.6" Min.
2.4" Max.

1.6" Min.
2.4" Max.

0.65" Min.
Base-Base

DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.

IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.

THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.

THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA
OF THE RAMP.

ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.

THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36",
WHICHEVER IS GREATER.

RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.

THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR
A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED
INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

RAMP SELECTION CRITERIA

RAMP SELECTION CRITERIA	
FIRST CHOICE	TYPE 1 CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2 CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3 CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4 TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5 TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6 CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE	IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPs ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

II-10-05	REVISED TO NEW SIDEWALK POLICY		
9-10-03	REV. GEN. NOTES & ADDED NOTE		
4-10-03	REV. DETECTABLE WARNING DEVICES		
8-22-02	ADD DETECTABLE WARNING DEVICES		
3-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.		
II-18-98	REVISED NOTES		
8-12-96	REVISED TEXTURE		
7-02-96	REDRAWN & REISSUED		
10-18-96	CORRECTED DIMENSIONS		10-18-96
5-24-90	FROM BITTO MAX. SLOPE		5-24-90
7-15-88	ADJUSTED MAX. SLOPE		652-7-15
7-14-88	INCLUD. "CONC. ISL.D." IN PAY ITEM		
6-02-76	ISSUED P.H.D.		299-7-28
DATE	REVISION		DATE FILED

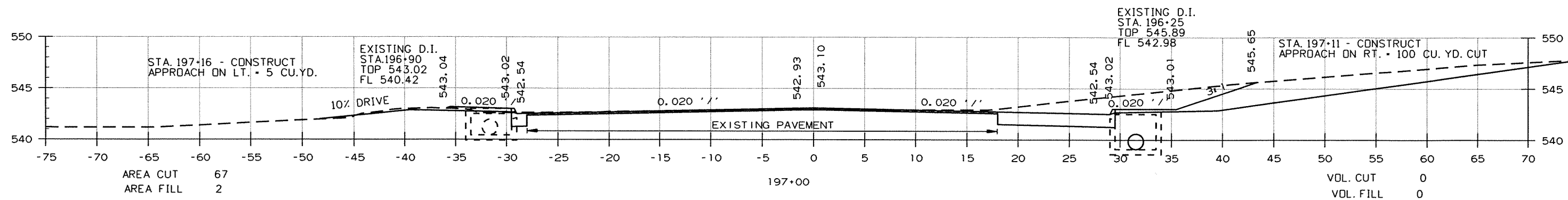
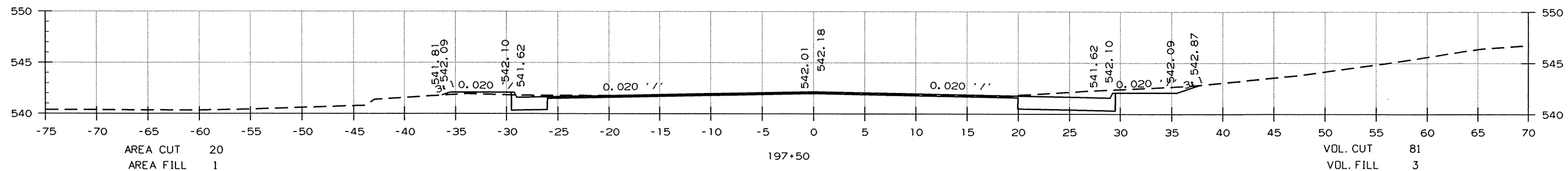
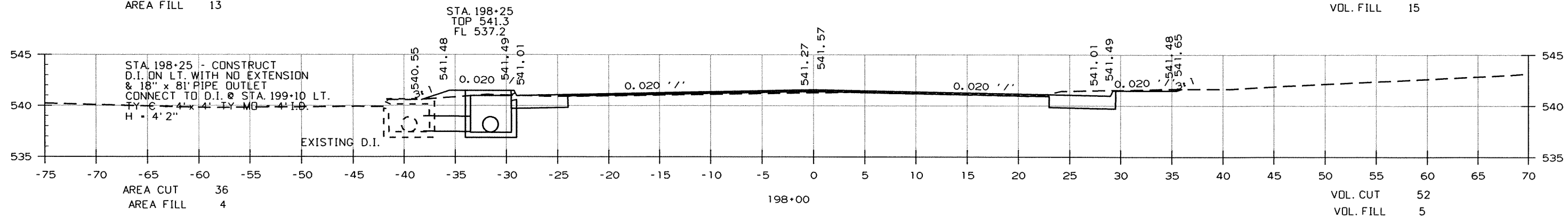
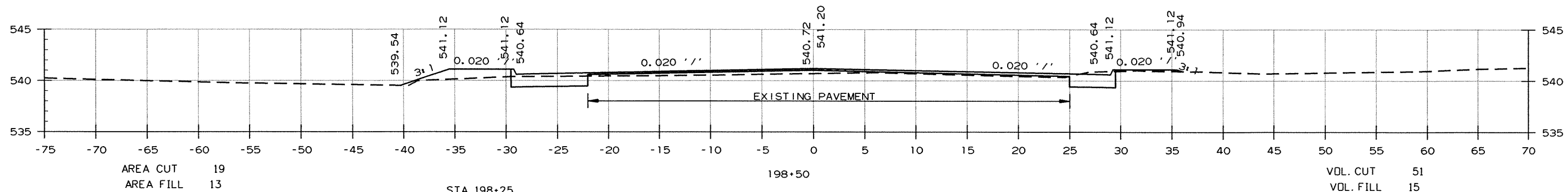
ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

STANDARD DRAWING WR-1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061113		67	91

2 CROSS SECTION STA 197+00 TO STA. 198+50

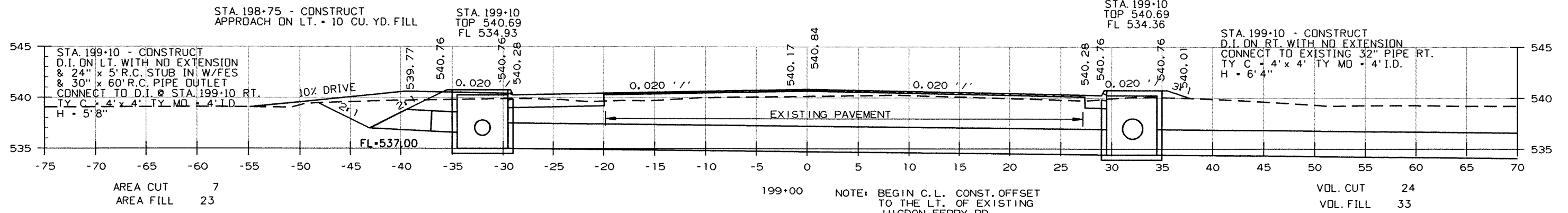
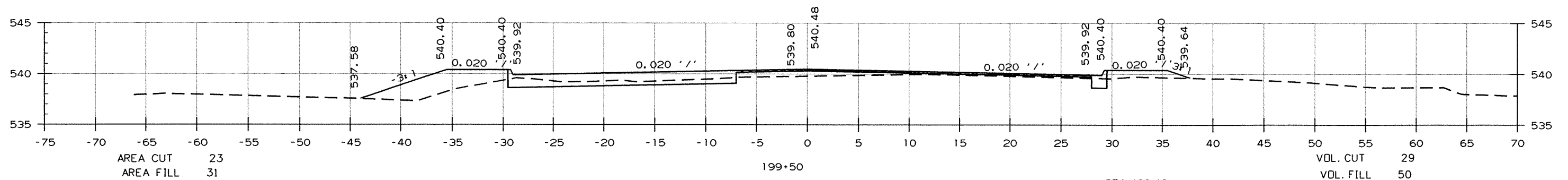
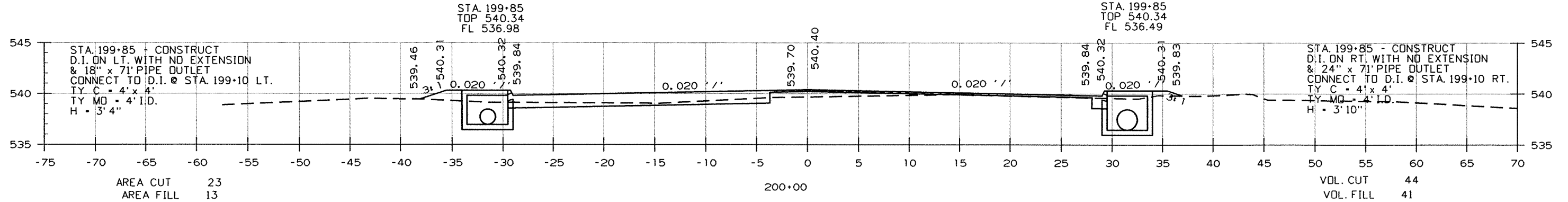
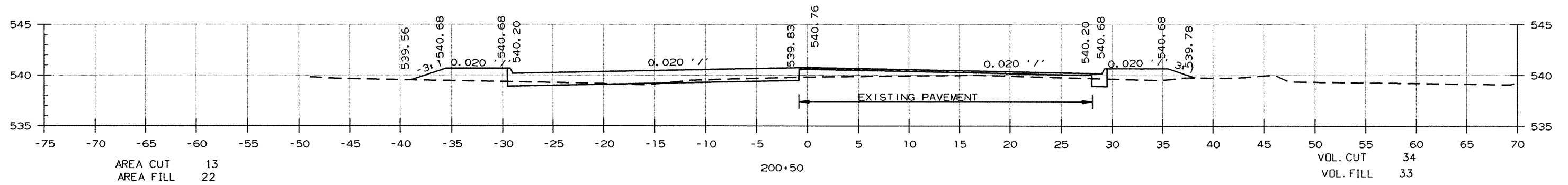


STA. 196+87 - BEGIN JOB 061113

HWY. 88 (HIGDON FERRY RD.)
STA. 197+00 - STA. 198+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 061113		68	91	

2 CROSS SECTION STA. 199+00 TO STA. 200+50

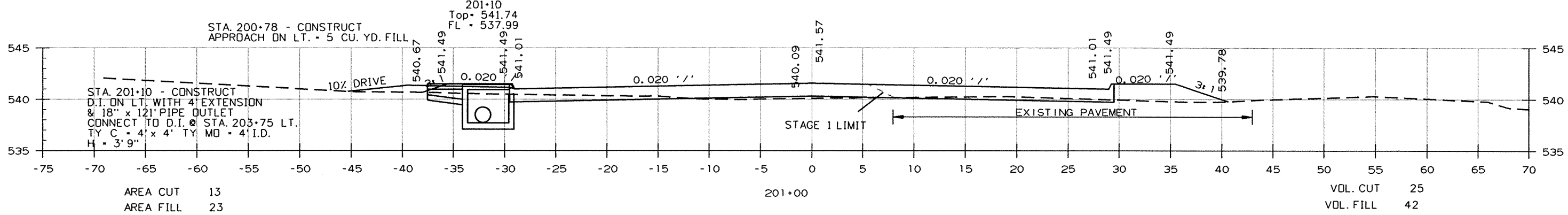
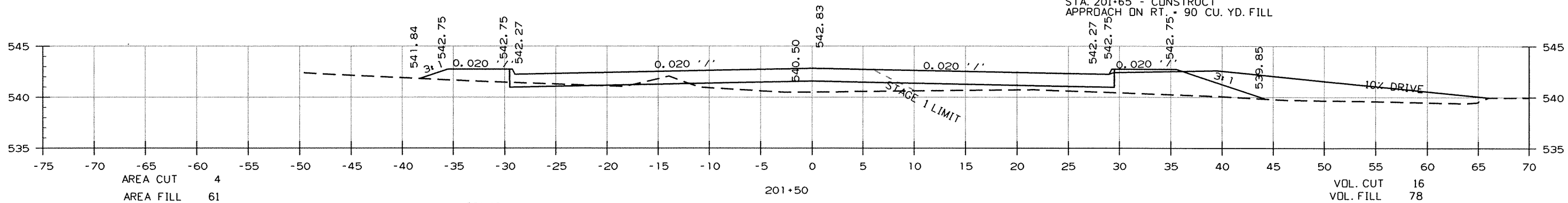
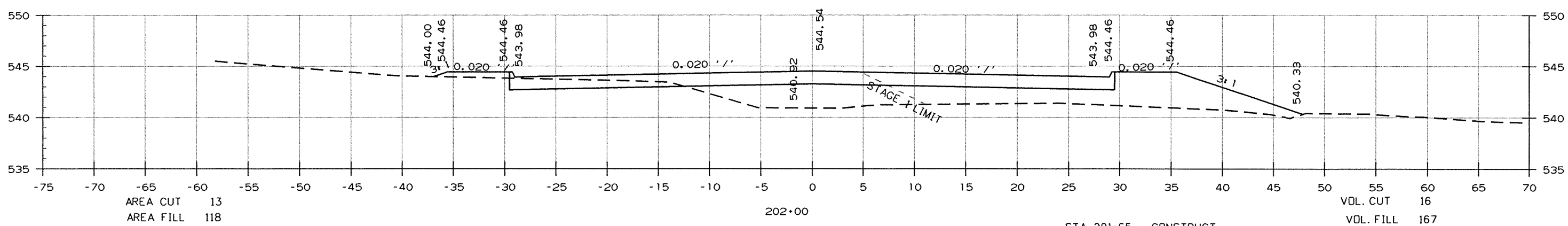
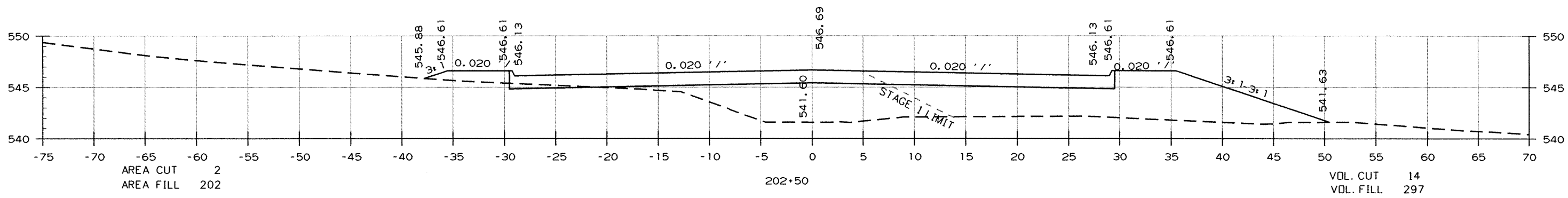


NOTE: BEGIN C.L. CONST. OFFSET TO THE LT. OF EXISTING HIGDON FERRY RD.

HWY. 88 (HIGDON FERRY RD.)
STA. 199+00 - STA. 200+50

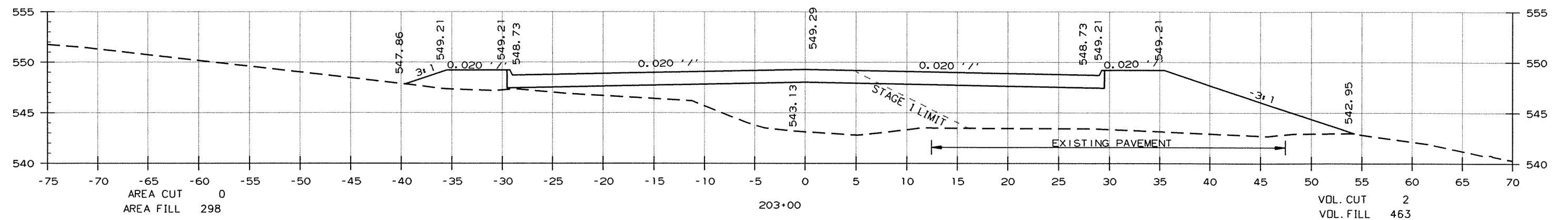
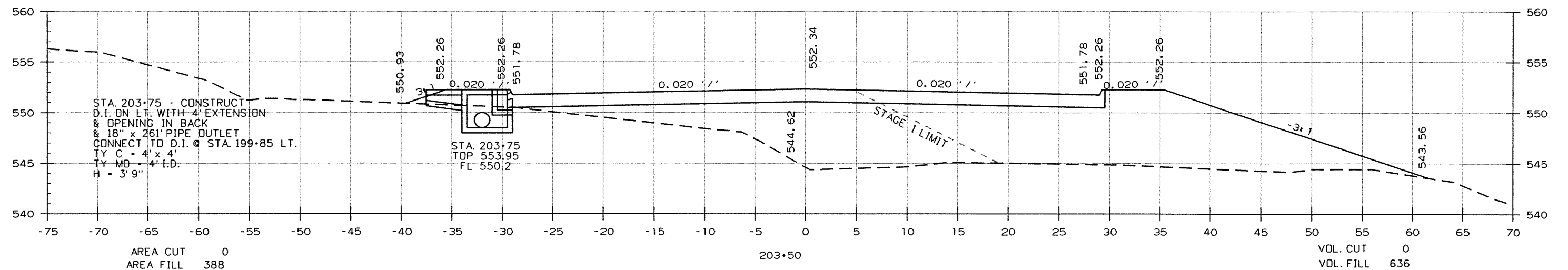
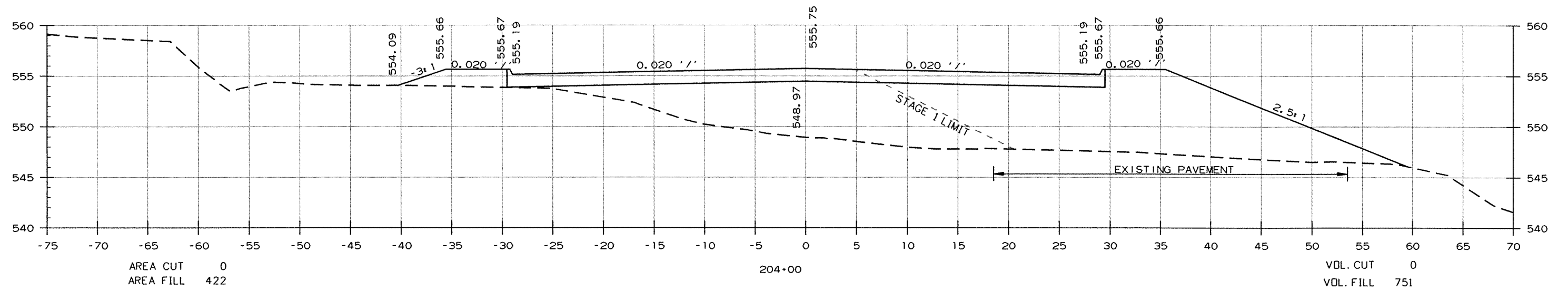
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				JOB NO. 061113		69	91	

2 CROSS SECTION STA. 201+00 TO STA. 202+50



HWY. 88 (HIGDON FERRY RD.)
STA. 201+00 - STA. 202+50

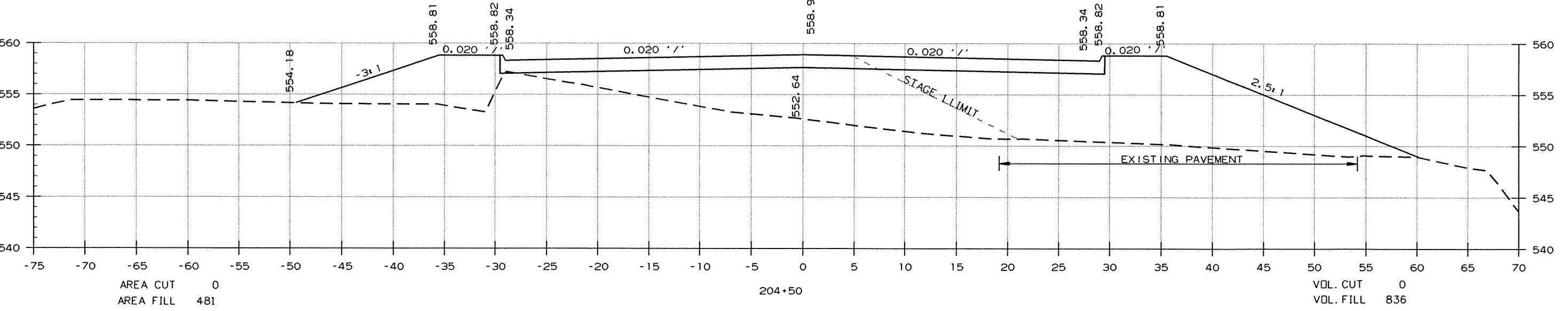
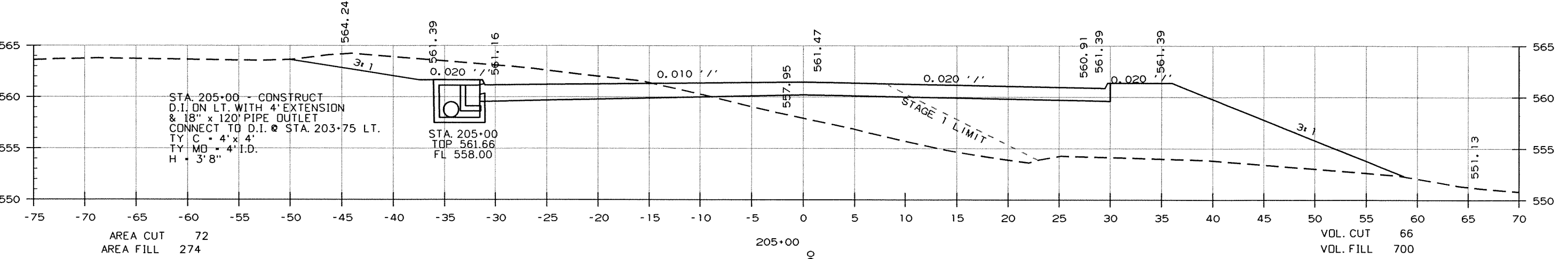
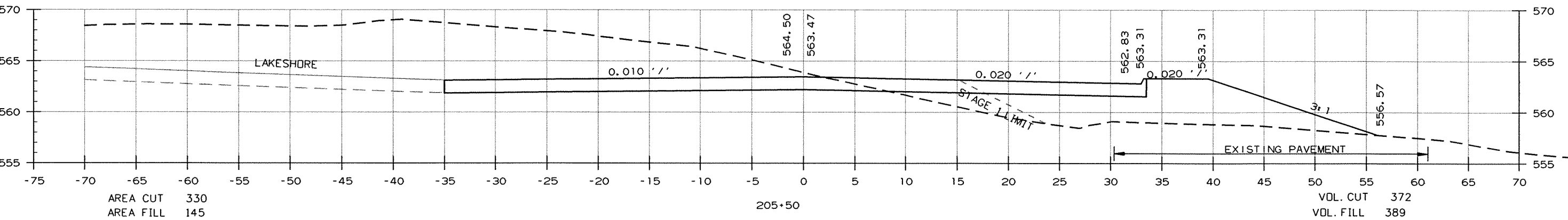
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HWY. 88 (HIGDON FERRY RD.)
STA. 203+00 - STA. 204+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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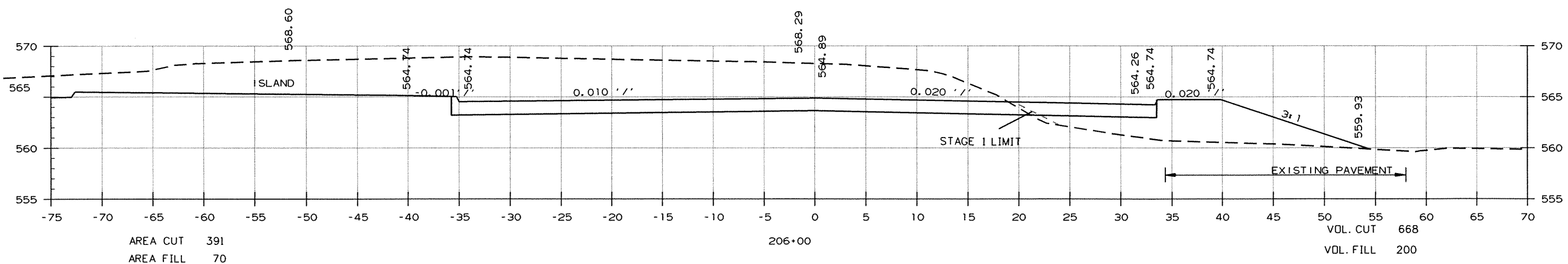
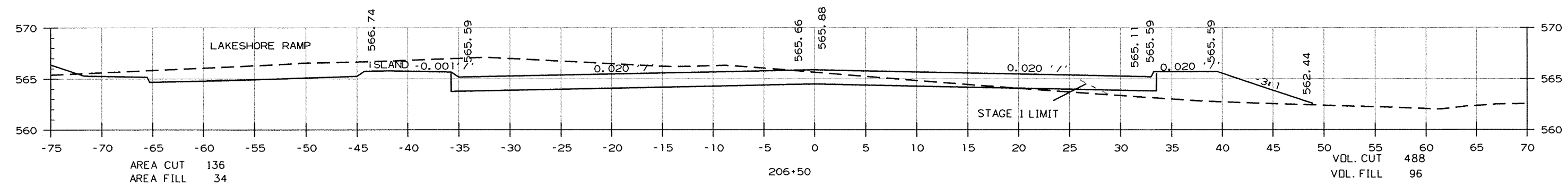
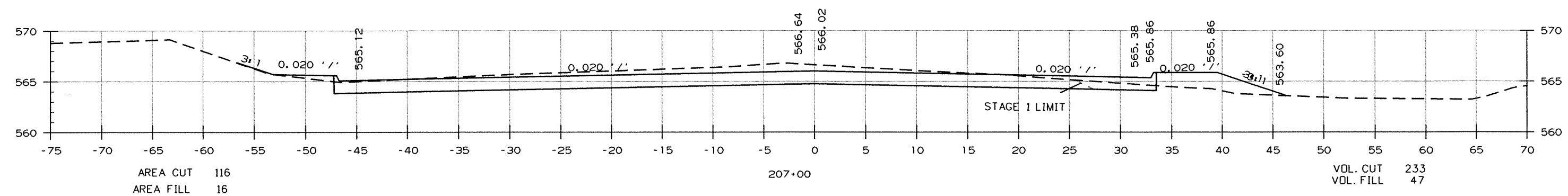
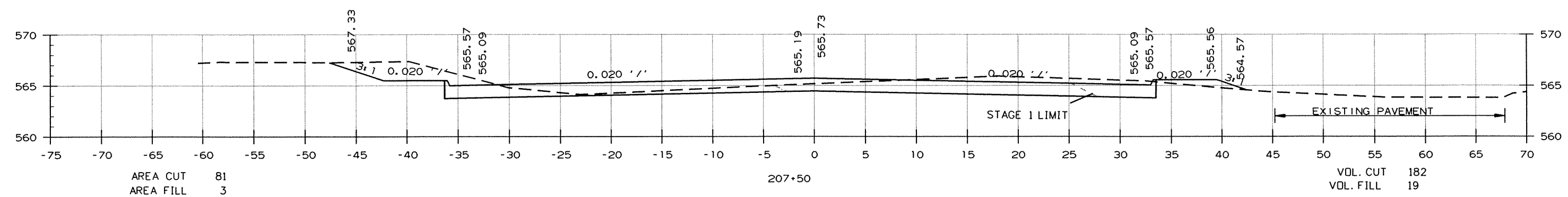
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HWY. 88 (HIGDON FERRY RD.)
STA. 204+50 - STA. 205+50

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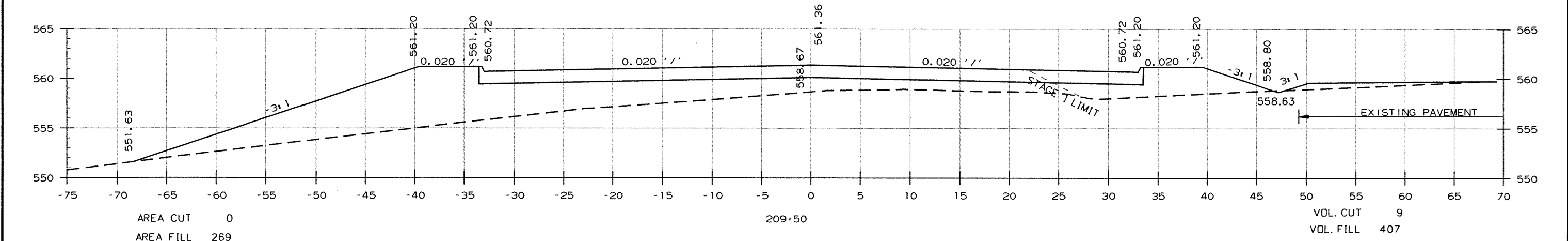
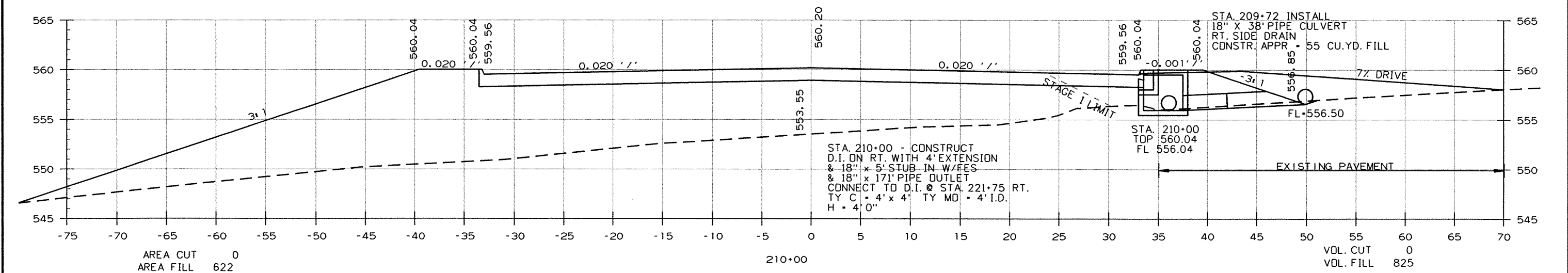
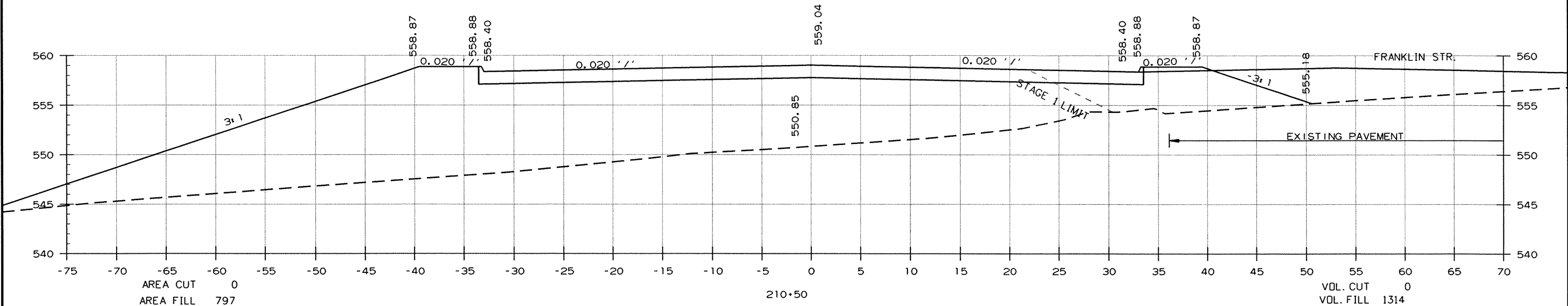
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HWY. 88 (HIGDON FERRY RD.)
STA. 206+00 - STA. 207+50

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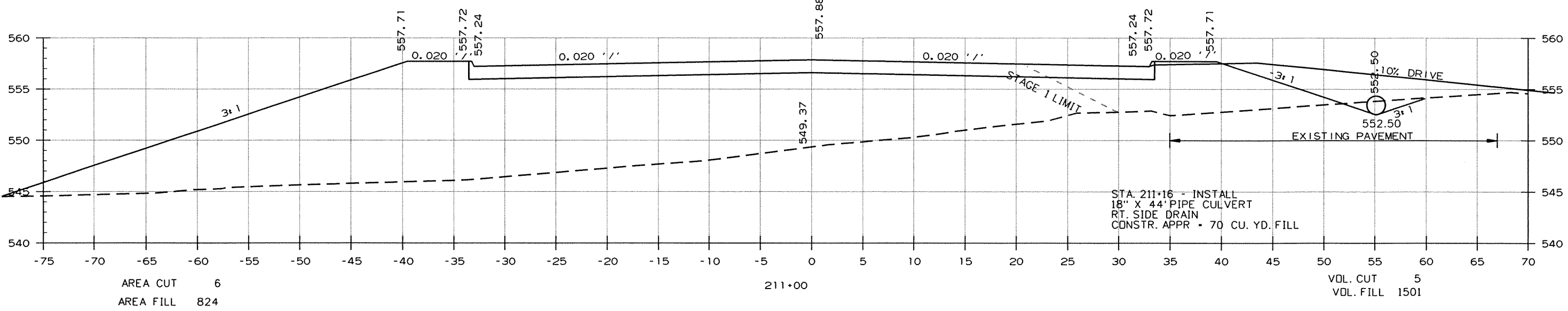
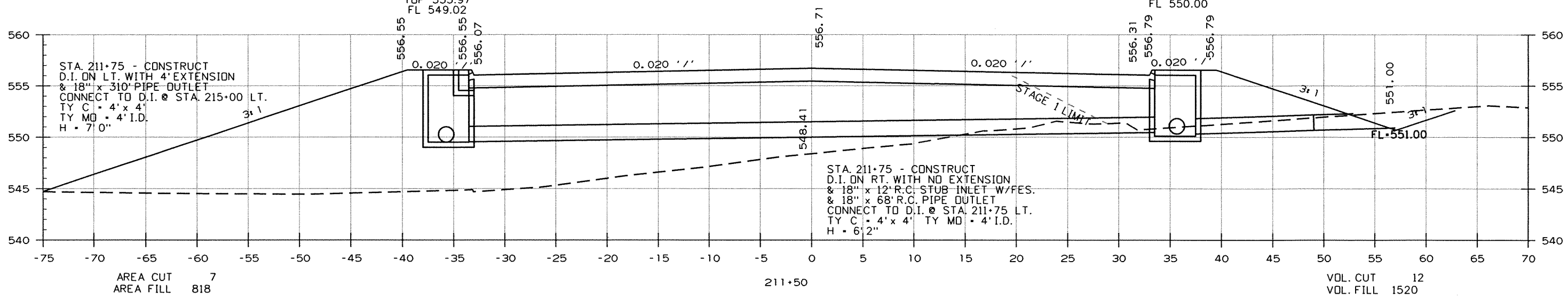
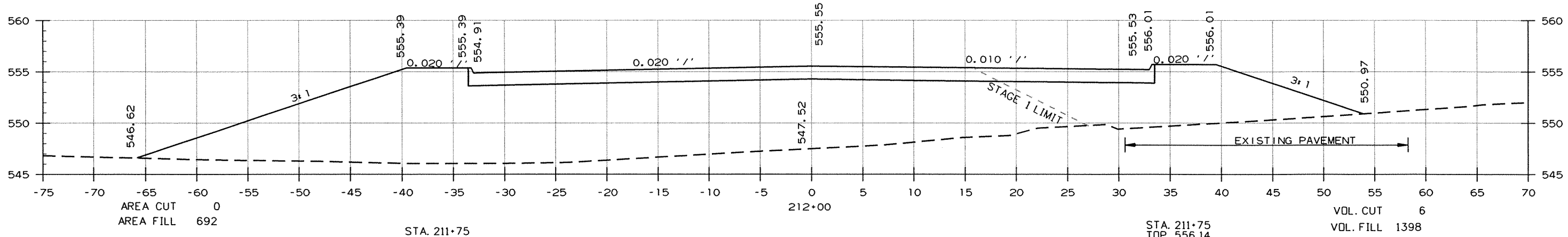
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HWY. 88 (HIGDON FERRY RD.)
STA. 209+50 - STA. 210+50

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				JOB NO.		061113	75	91

2 CROSS SECTION STA. 211+00 TO STA. 212+00

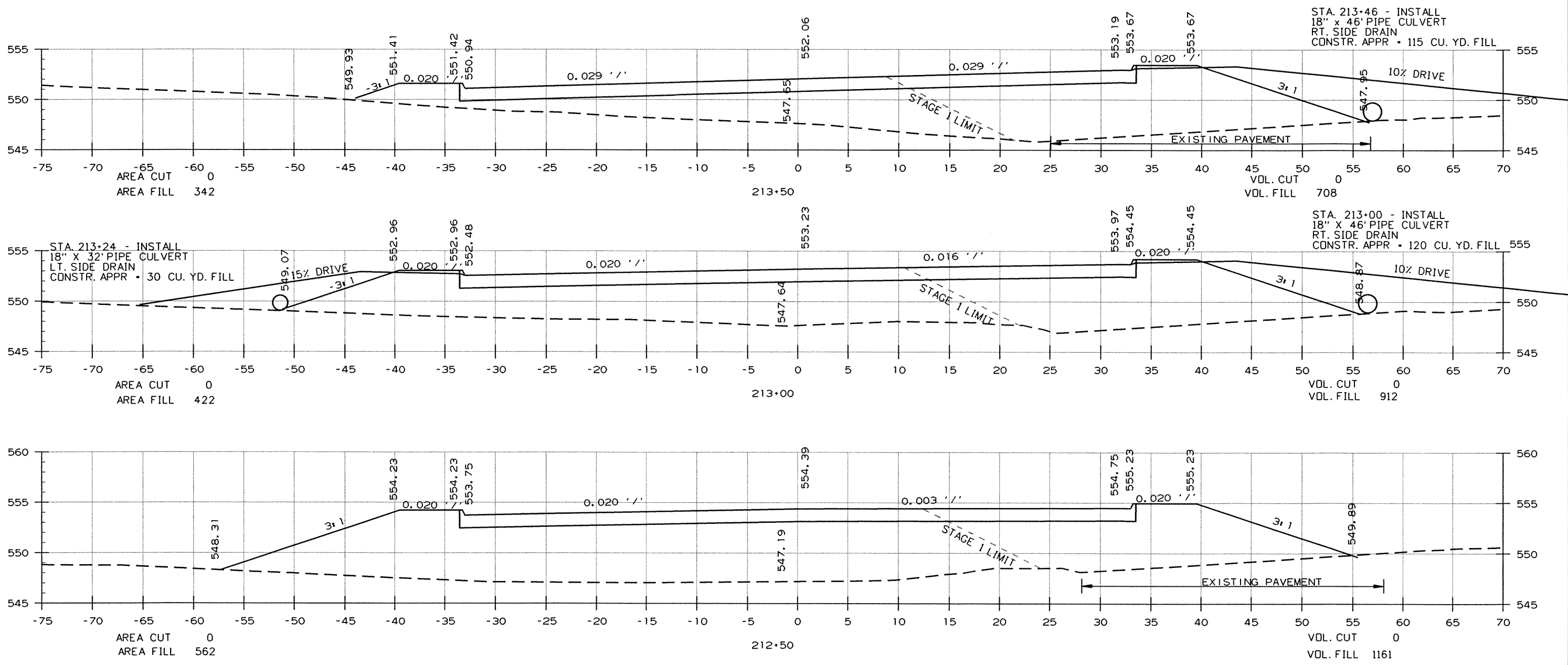


HWY. 88 (HIGDON FERRY RD.)
STA. 211+00 - STA. 212+00

r061113_crs.dgn 3-01-2011

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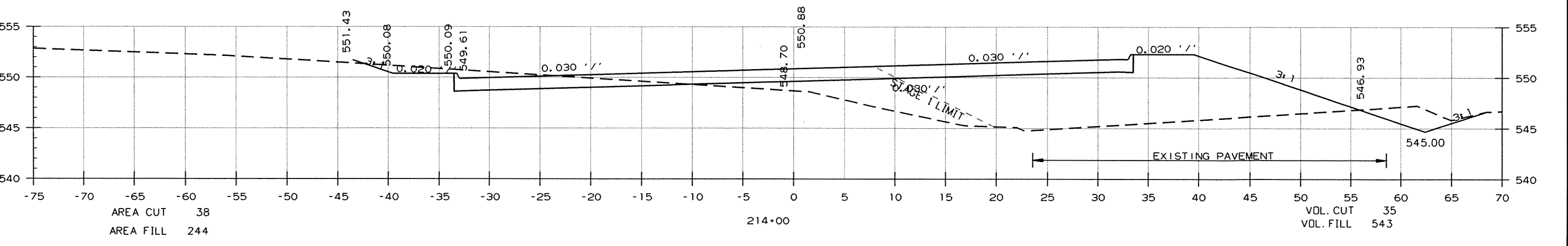
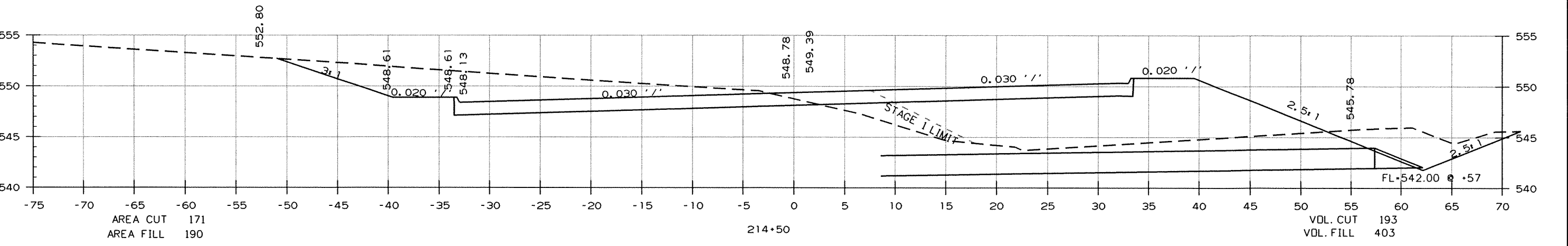
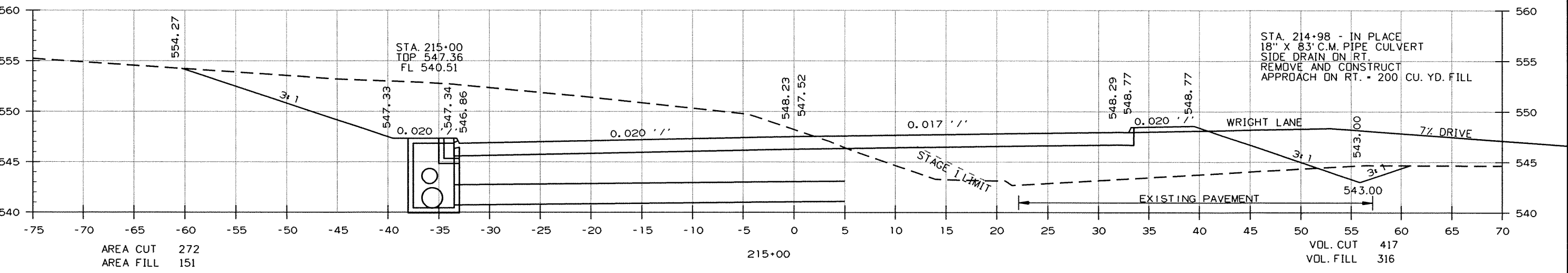
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HWY. 88 (HIGDON FERRY RD.)
STA. 212+50 - STA. 213+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO. 061113			77	91

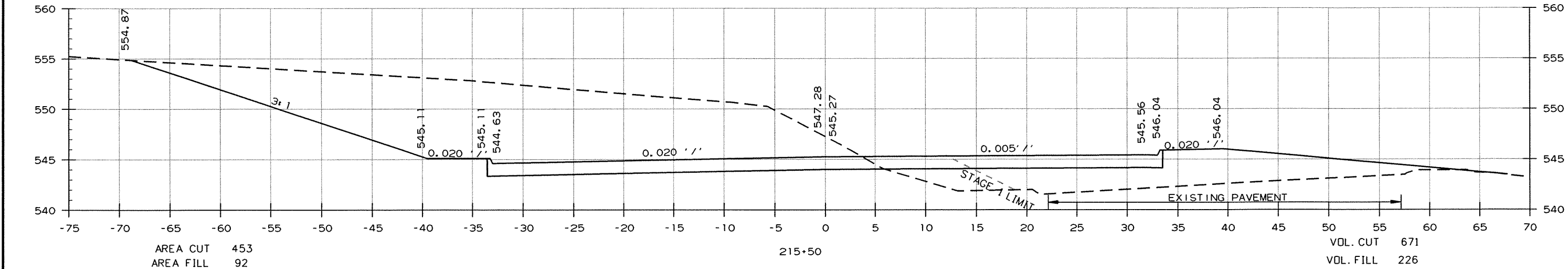
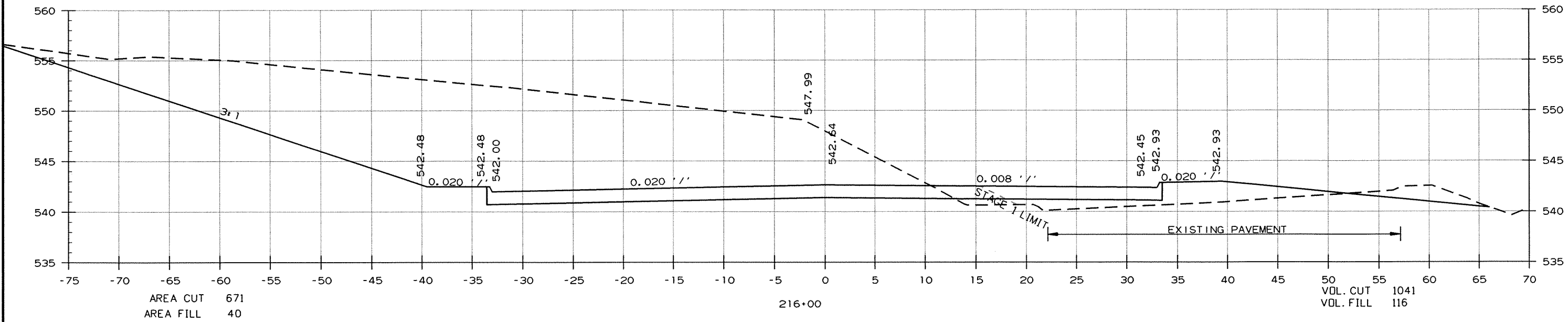
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HWY. 88 (HIGDON FERRY RD.)
STA. 214+00 - STA. 215+00

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.	061113	78	91

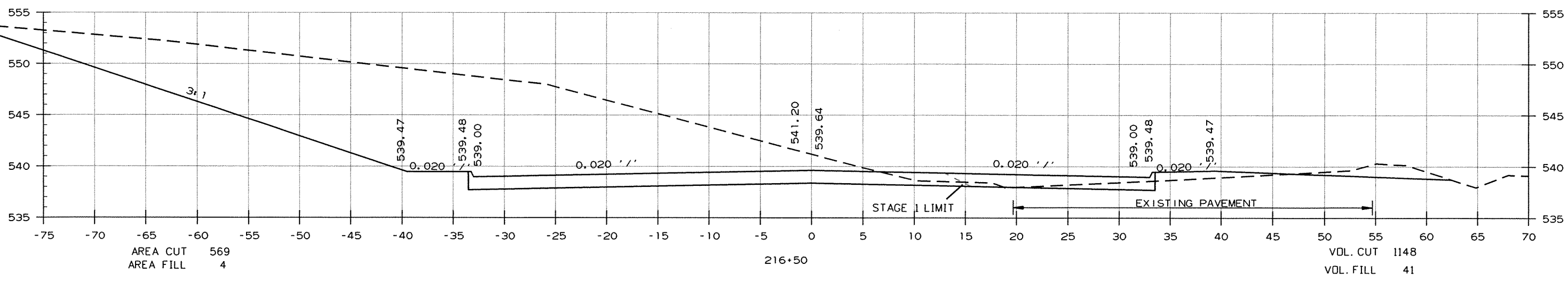
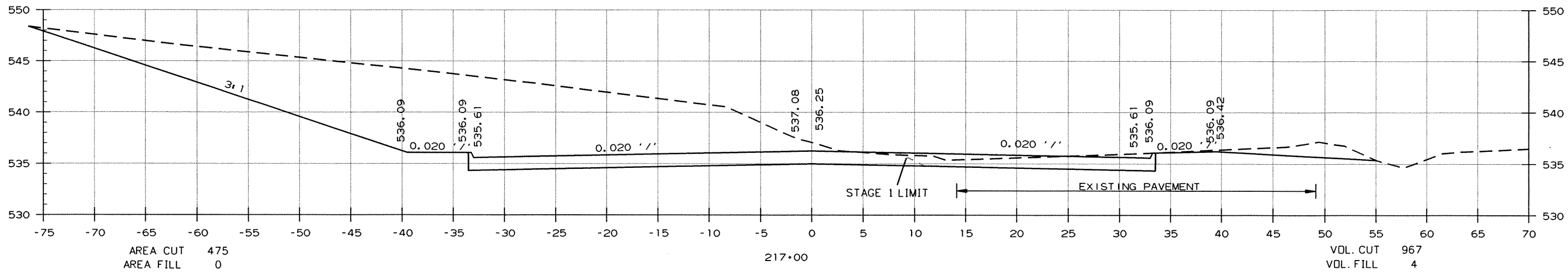
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HWY. 88 (HIGDON FERRY RD.)
STA. 215+50 - STA. 216+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO. 061113			79	91

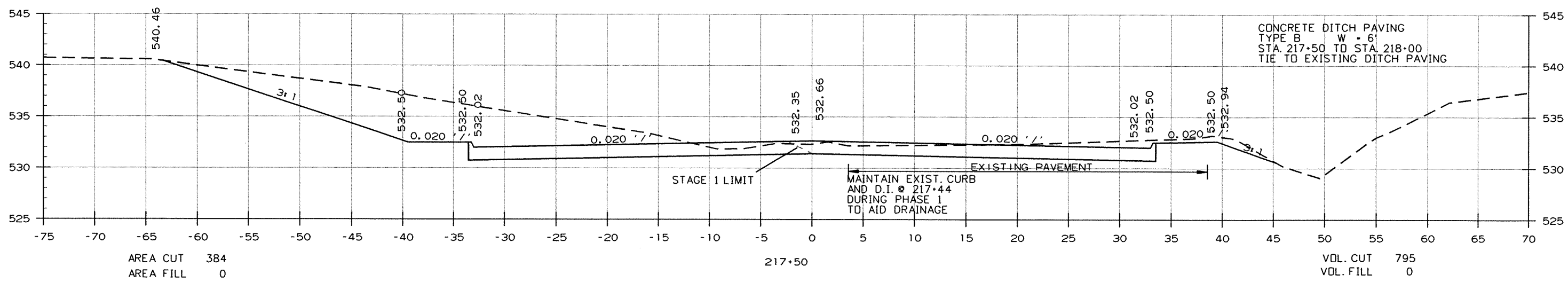
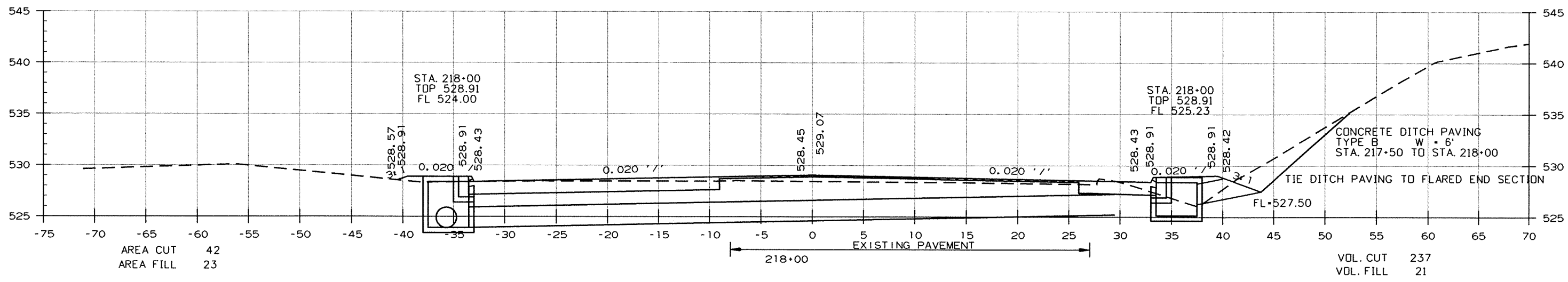
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HWY. 88 (HIGDON FERRY RD.)
STA. 216+50 - STA. 217+00

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. 061113	80	91

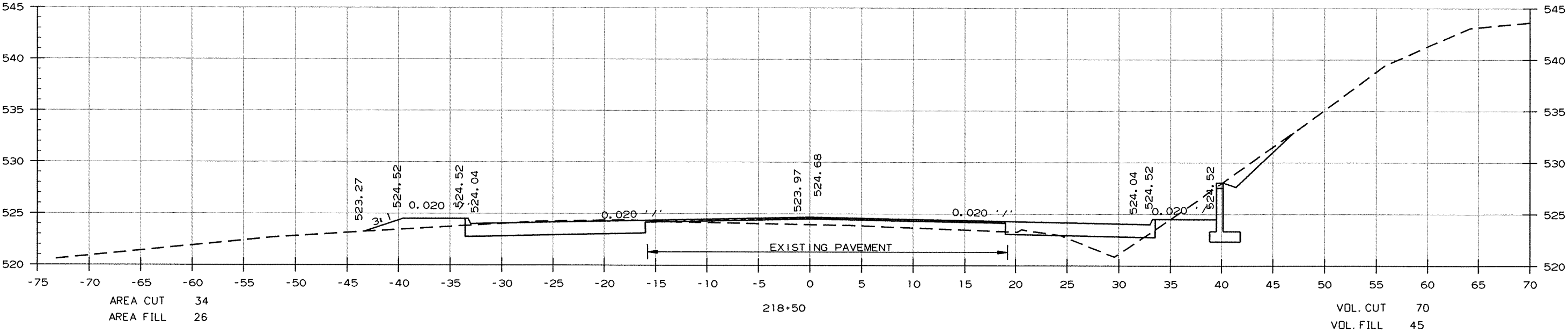
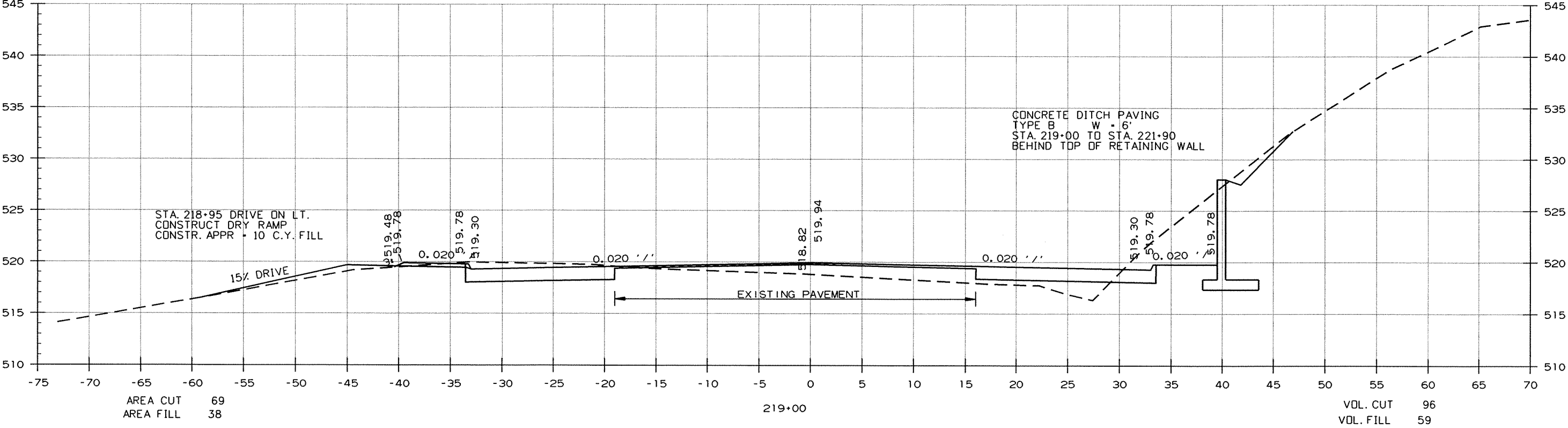
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HWY. 88 (HIGDON FERRY RD.)
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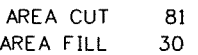
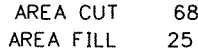
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				6	ARK.			
				JOB NO.		061113	81	91

2 CROSS SECTION STA. 218+50 TO STA. 219+00



HWY. 88 (HIGDON FERRY RD.)
STA. 218+50 - STA. 219+00

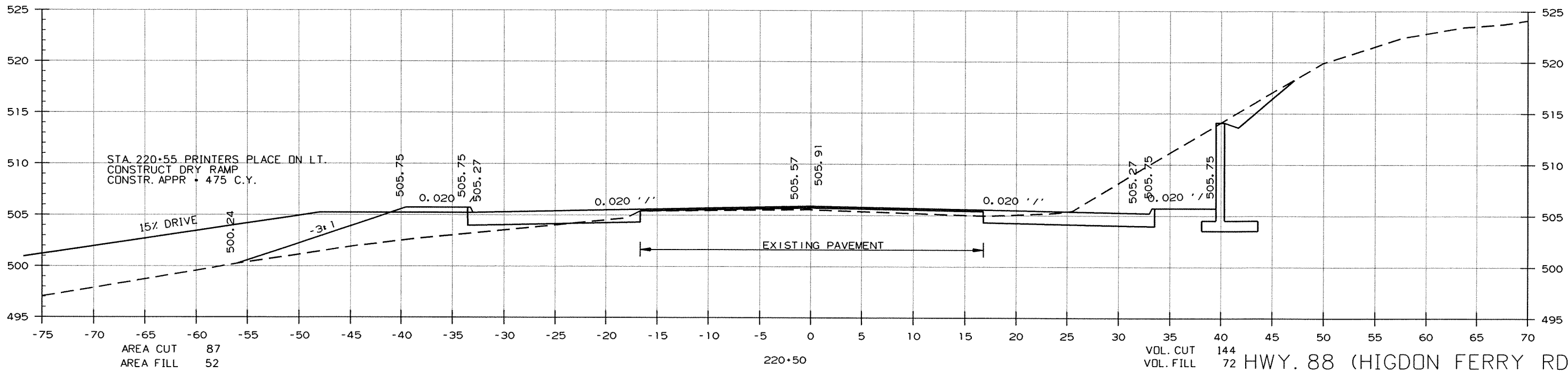
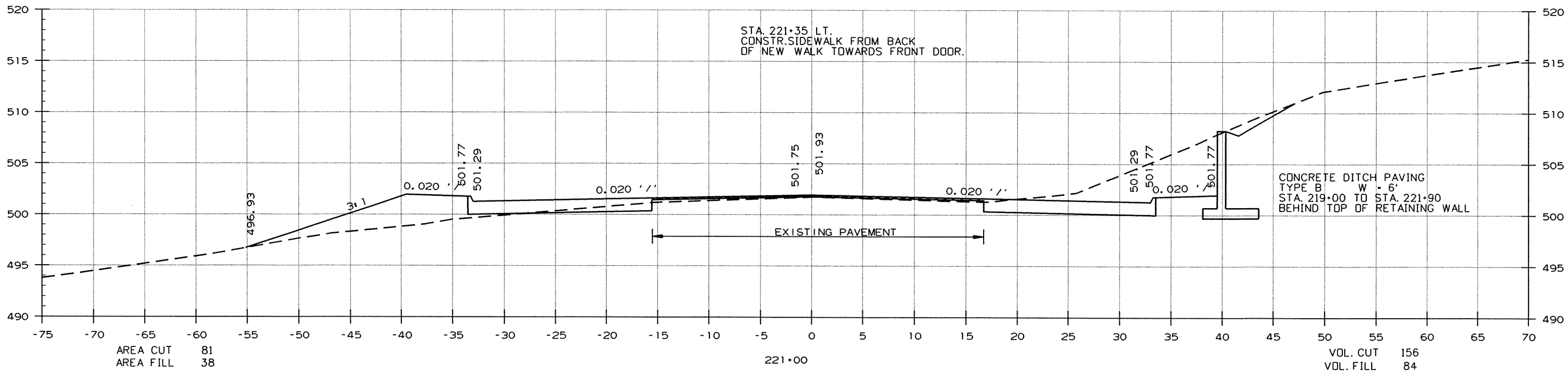
② CROSS SECTION STA. 219+50 TO STA. 220+00



40
53 HWY. 88 (HIGDON FERRY RD.)
STA. 219+50 - STA. 220+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.		061113	83	91

2 CROSS SECTION STA 220+50 TO STA. 221+00

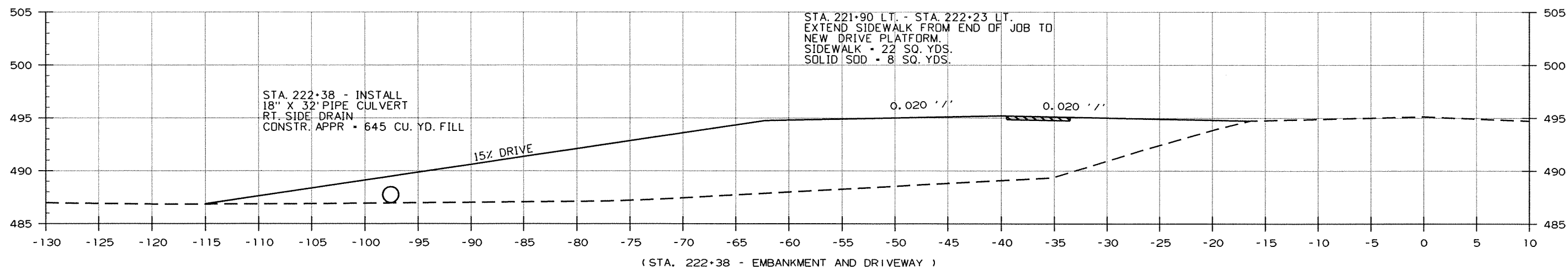


HWY. 88 (HIGDON FERRY RD.)
STA. 220+50 - STA. 221+00

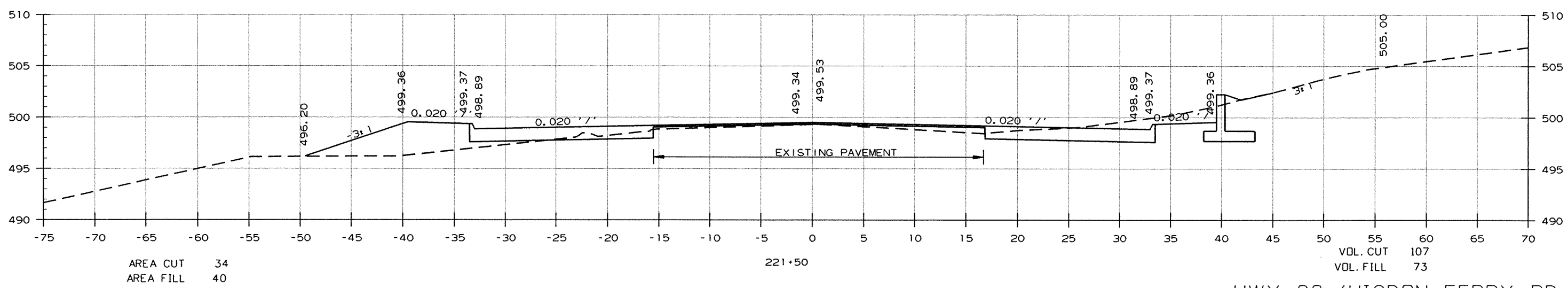
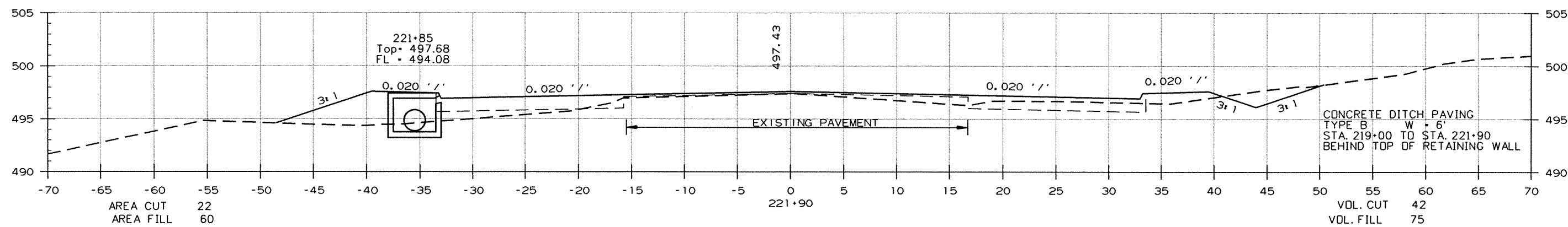
r061113_crs.dgn 6-22-2011

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. 061113	84	91

2 CROSS SECTION STA. 221+50 TO STA. 222+38



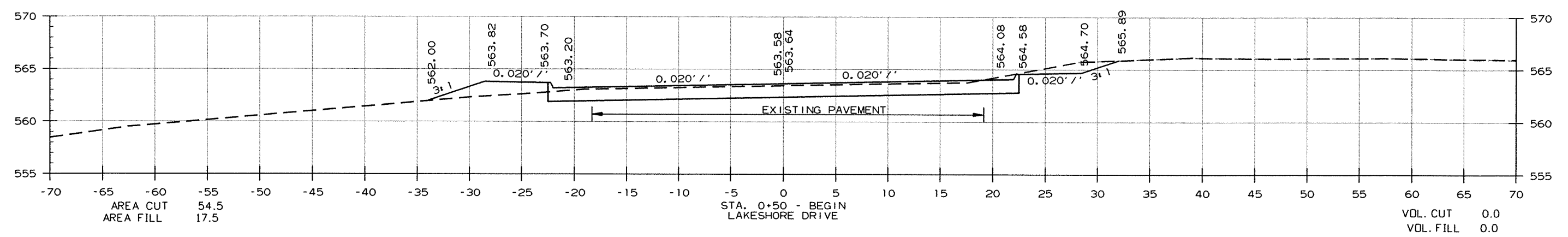
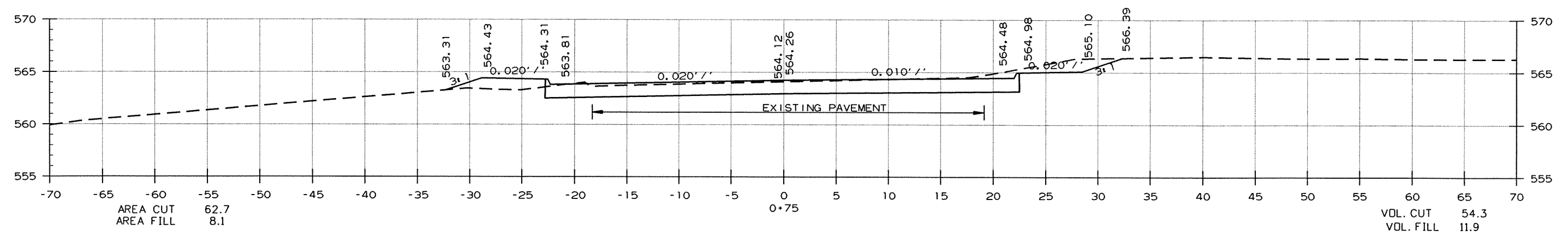
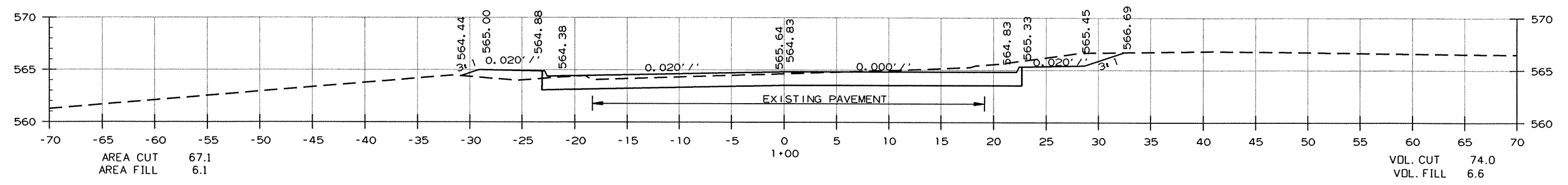
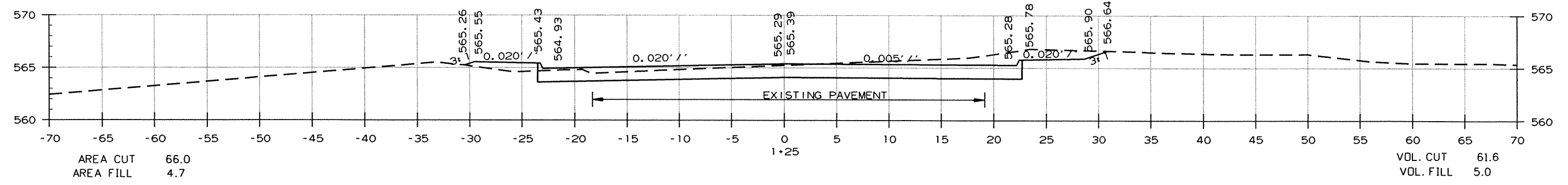
STA. 221+90 - END JOB 061113



HWY. 88 (HIGDON FERRY RD.)
STA. 221+50 - STA. 222+38

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. 061113		85	91	

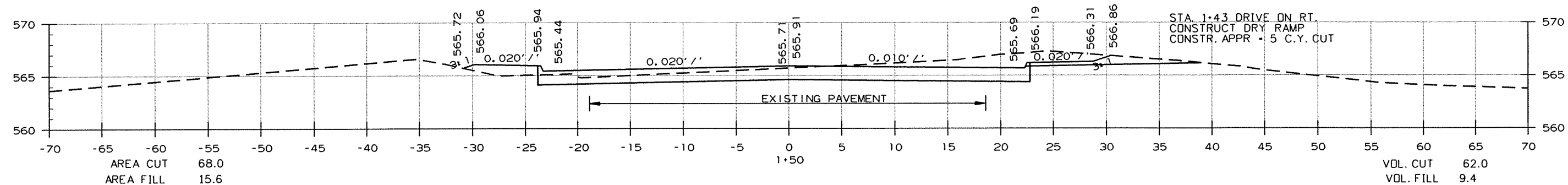
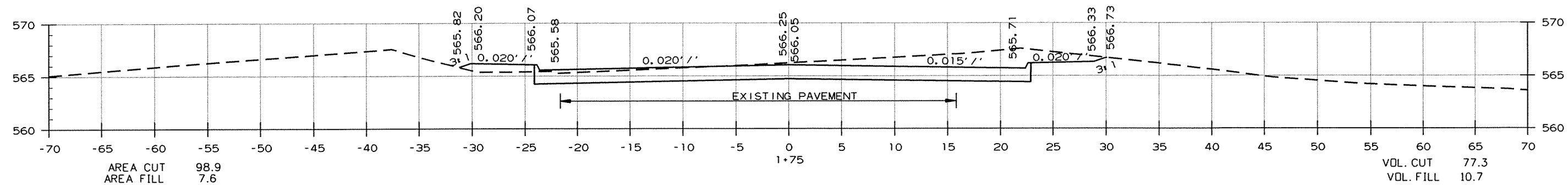
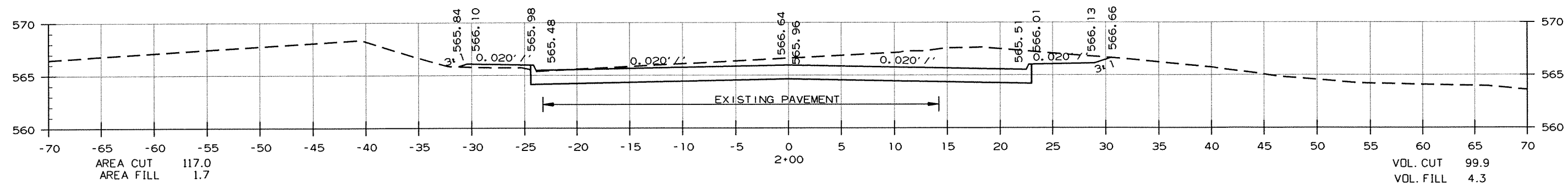
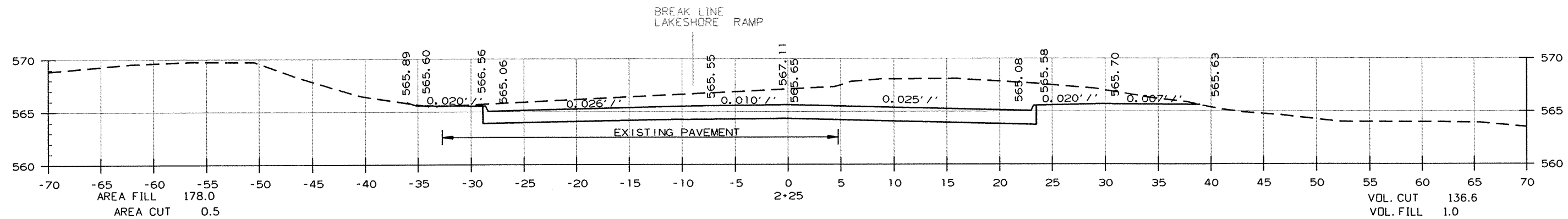
2 CROSS SECTION - STA. 0+50 TO STA. 1+25



LAKESHORE DR.
STA. 0+50 TO STA. 1+25

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						061113	86	91

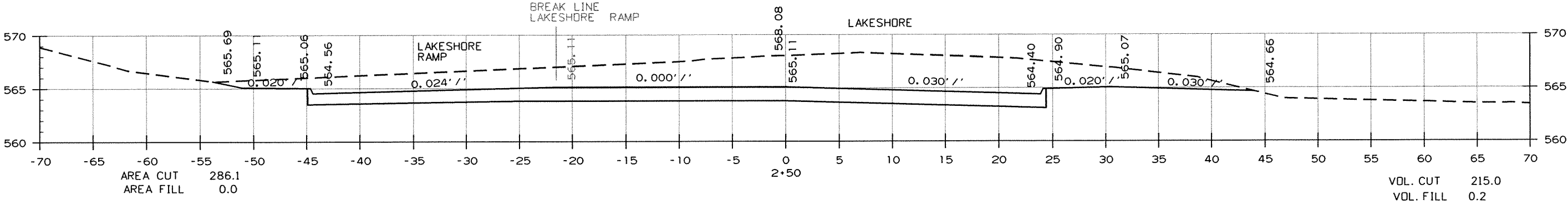
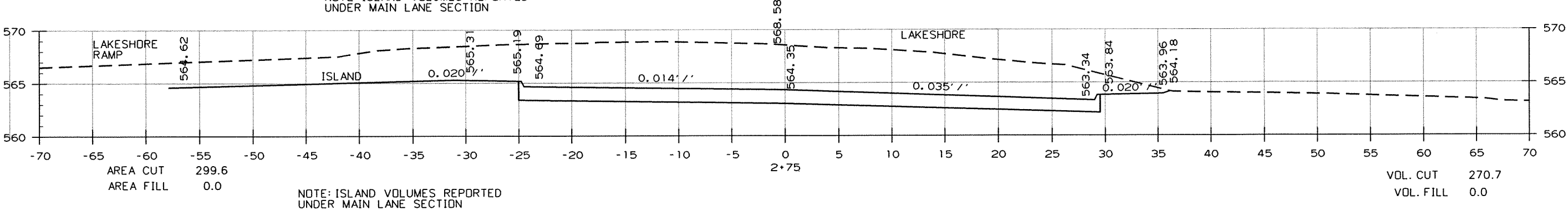
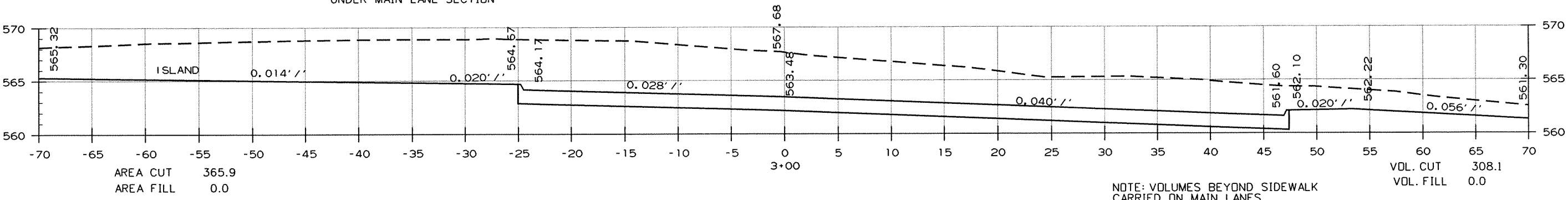
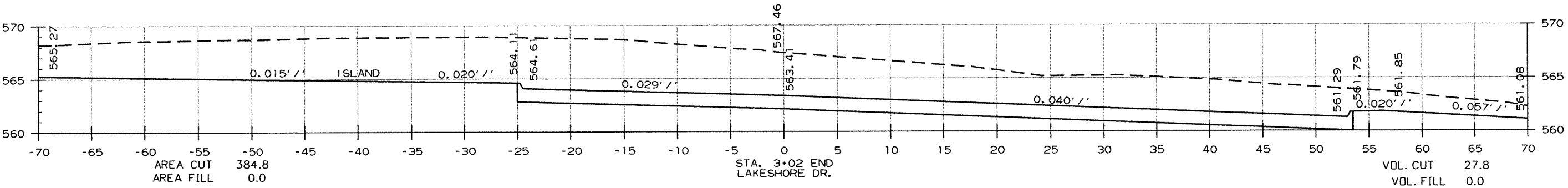
2 CROSS SECTION - STA. 1+50 TO STA. 2+25



LAKESHORE DR.
STA. 1+50 TO STA. 2+25

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061113	87	91

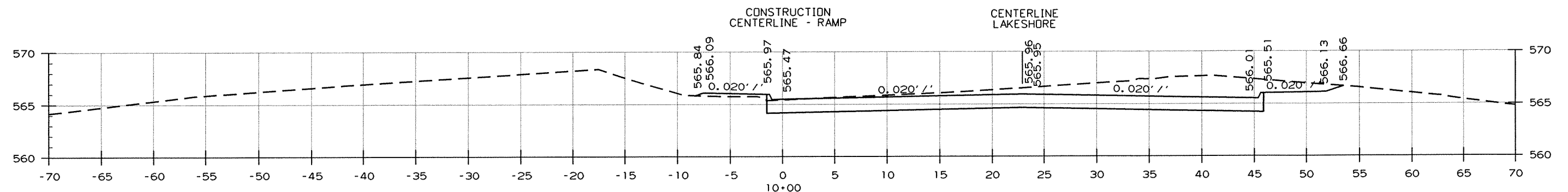
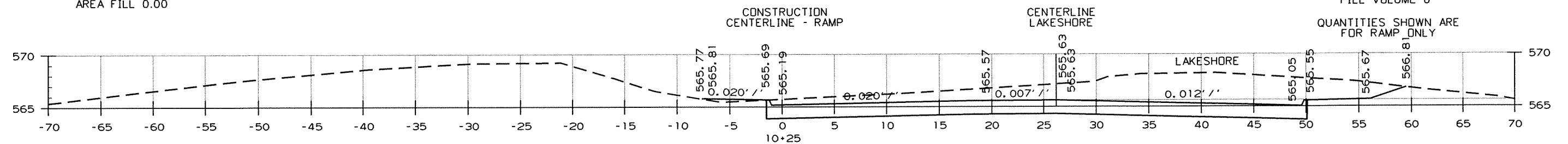
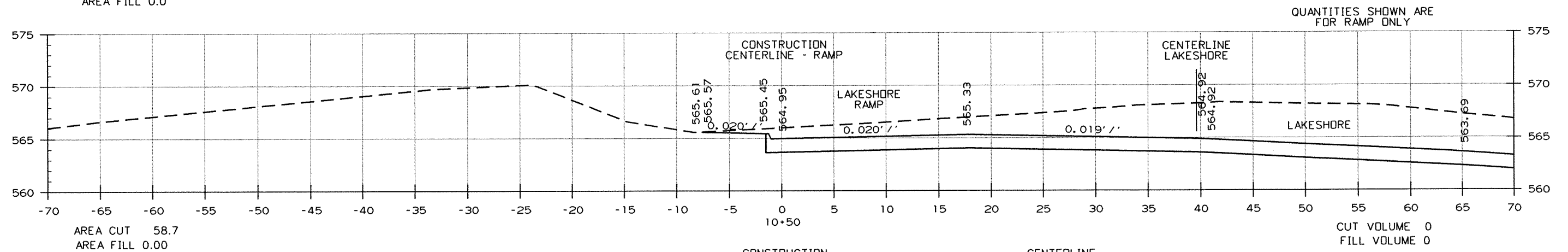
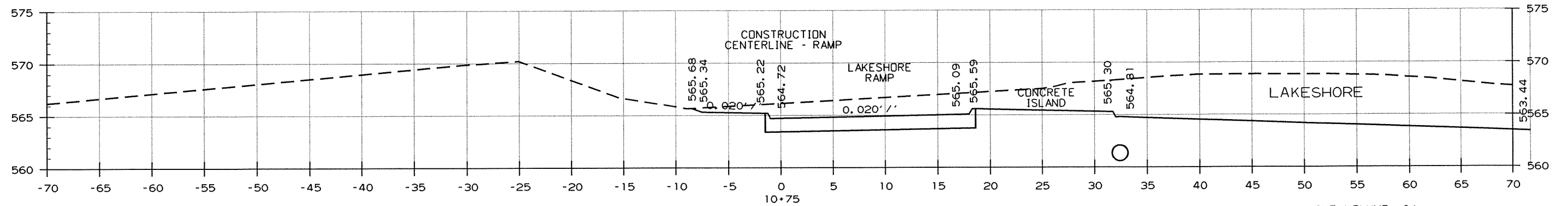
2 CROSS SECTION - STA. 2+50 TO STA. 3+02



LAKESHORE DR.
STA. 2+50 TO STA. 3+02

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.		061113	88	91

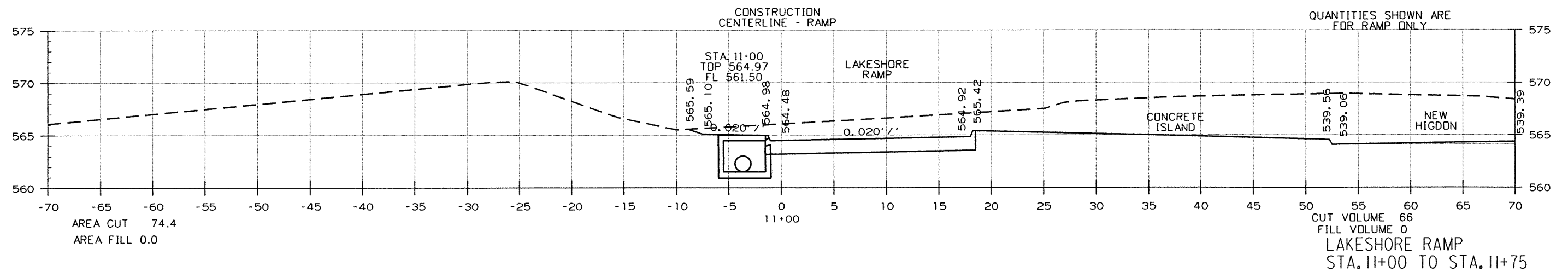
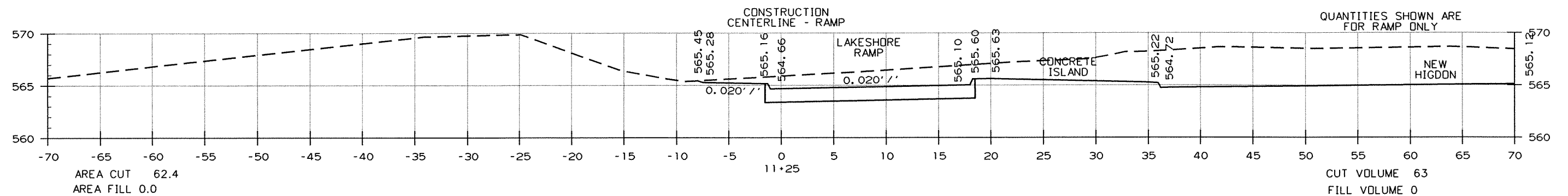
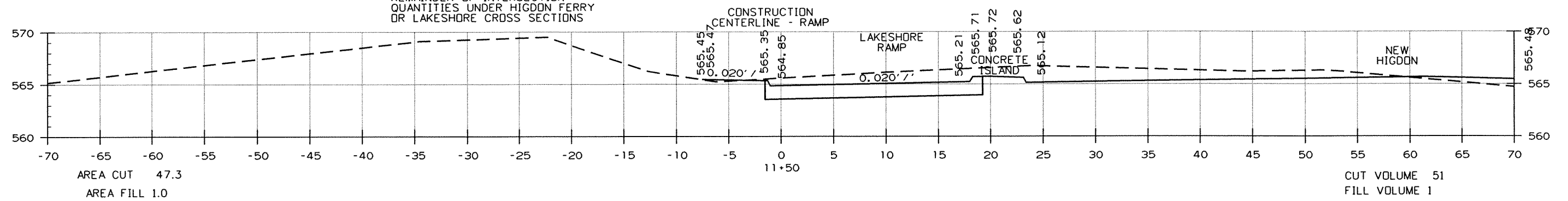
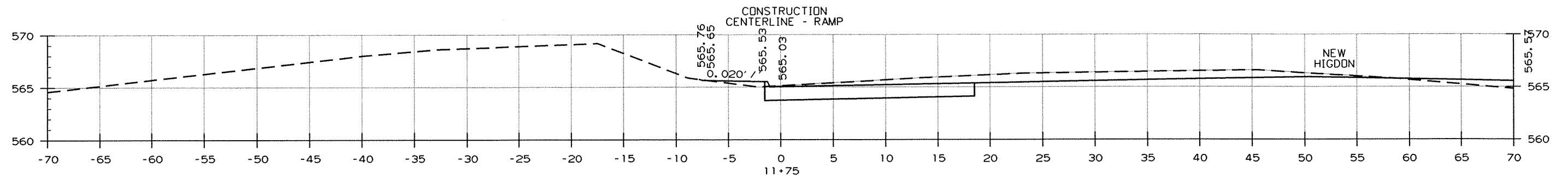
2 CROSS SECTION - STA. 10+00 TO STA. 10+75



STA. 10+00 C.L. LAKE SHORE RAMP (OFFSET 12' LT. OF C.L. LAKE SHORE DR.) - STA. 2+00 C.L. LAKE SHORE DR.
NOTE: ALL QUANTITIES FOR RAMP CONSTRUCTION WILL BE REFERENCED TO LAKE SHORE DR. C.L.
STA. 10+00 TO STA. 10+65

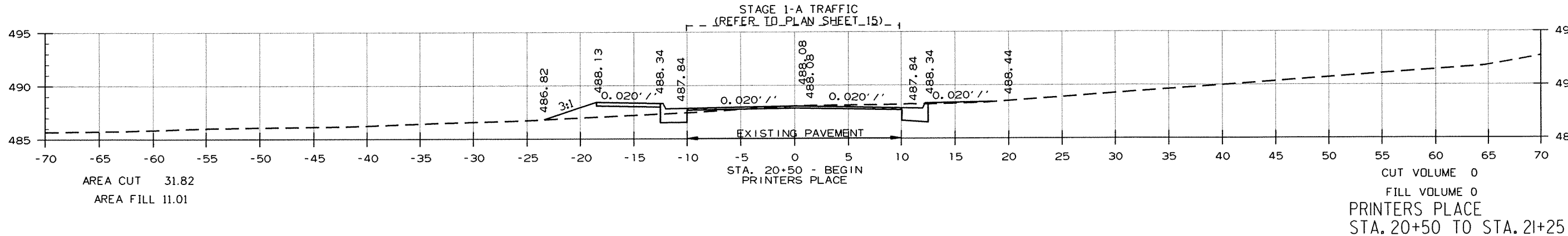
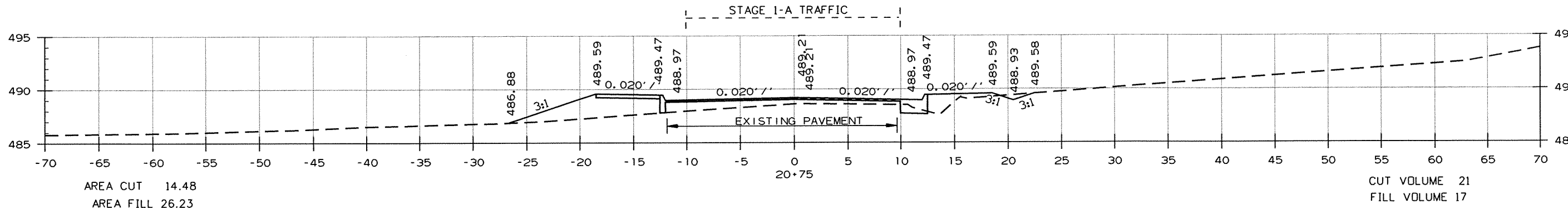
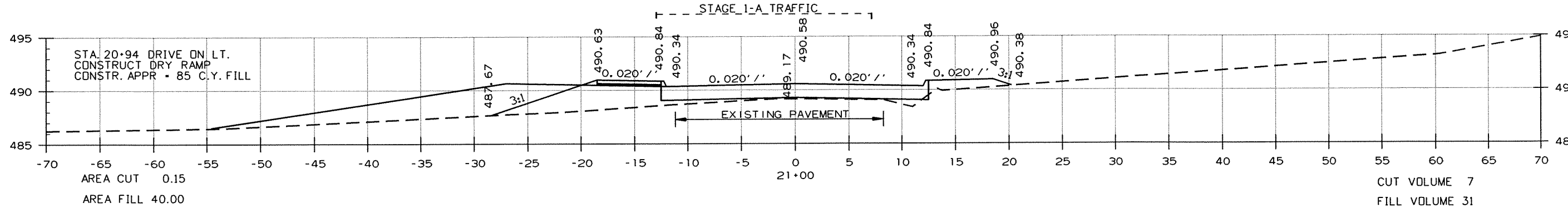
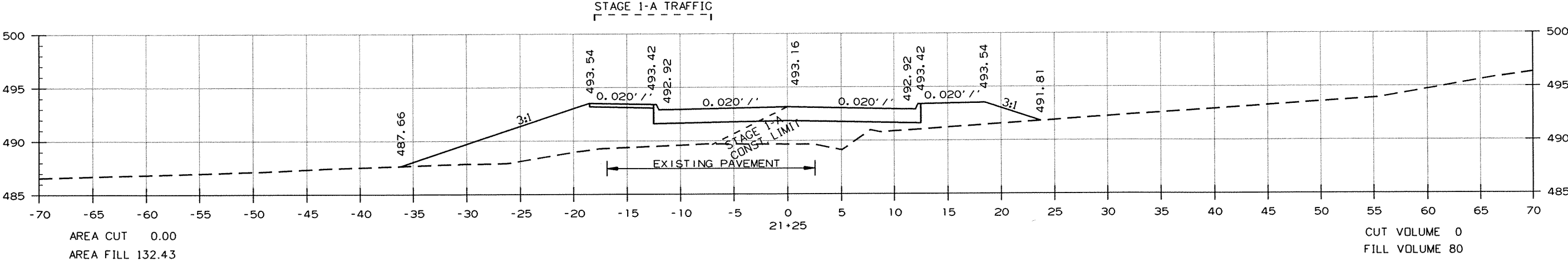
LAKE SHORE RAMP
STA. 10+00 TO STA. 10+75

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061113	89	91



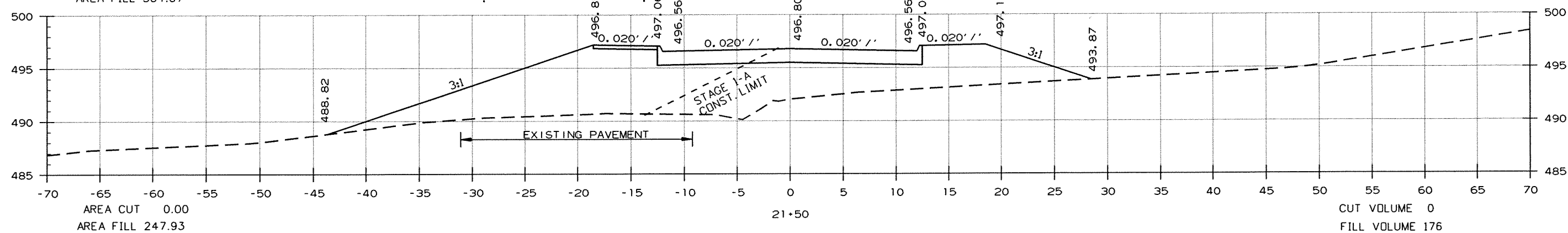
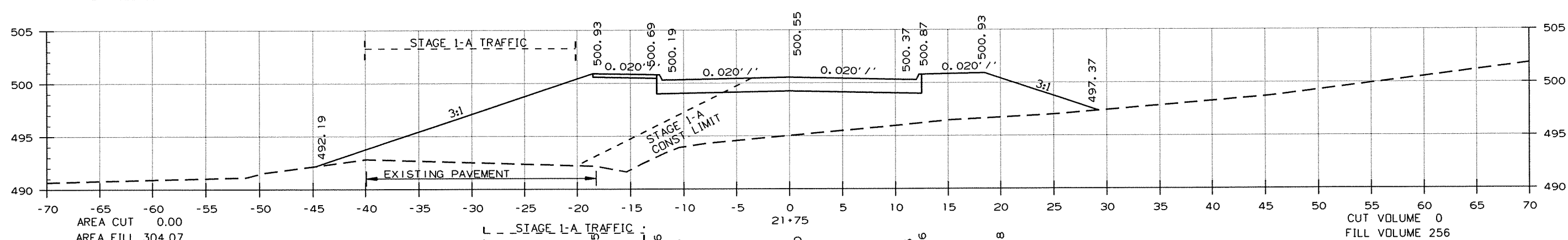
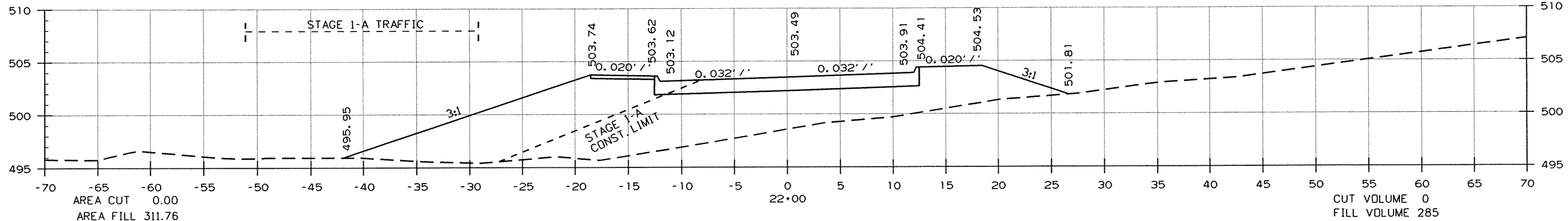
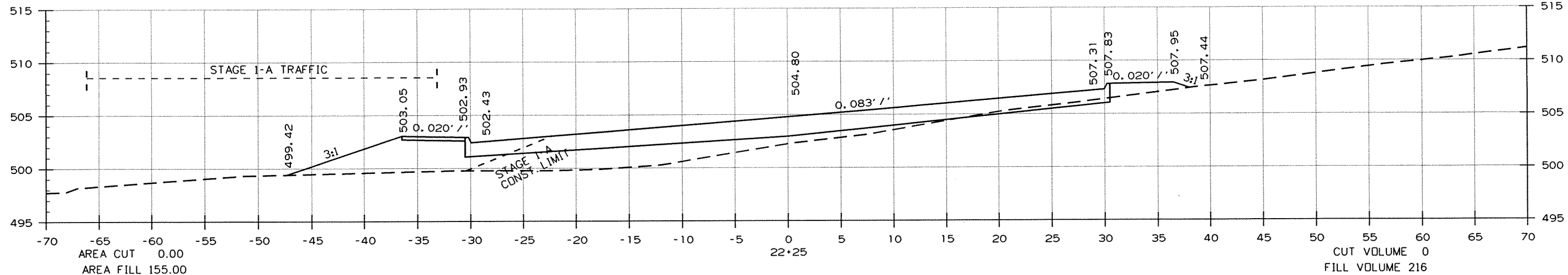
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	061113	90
								91

2 CROSS SECTION STA. 20+50 TO STA. 21+25



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061113	91	91

2 CROSS SECTION STA. 21+50 TO STA. 22+25



PRINTERS PLACE
STA. 21+50 TO STA. 22+25