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.		FA1108	1	63
				(4)	PIGGOT-WEST RECONSTRUCTION NO. 2			

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR PROPOSED COUNTY ROAD

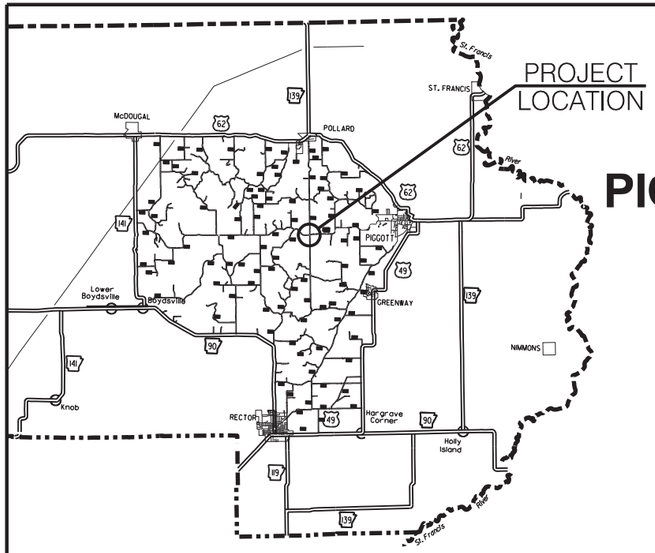
PIGGOTT-WEST RECONSTRUCTION NO. 2 (SEL. SEC.) (S)

CO. RD. 53 (CCR 450)

CLAY COUNTY

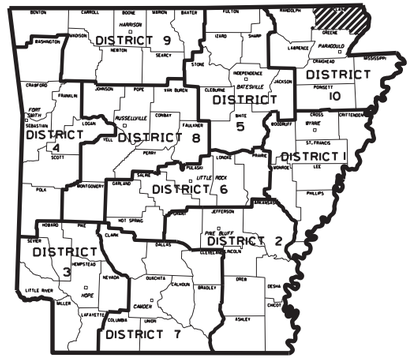
JOB FA1108

FED. AID PROJECT STPR-0011(57)

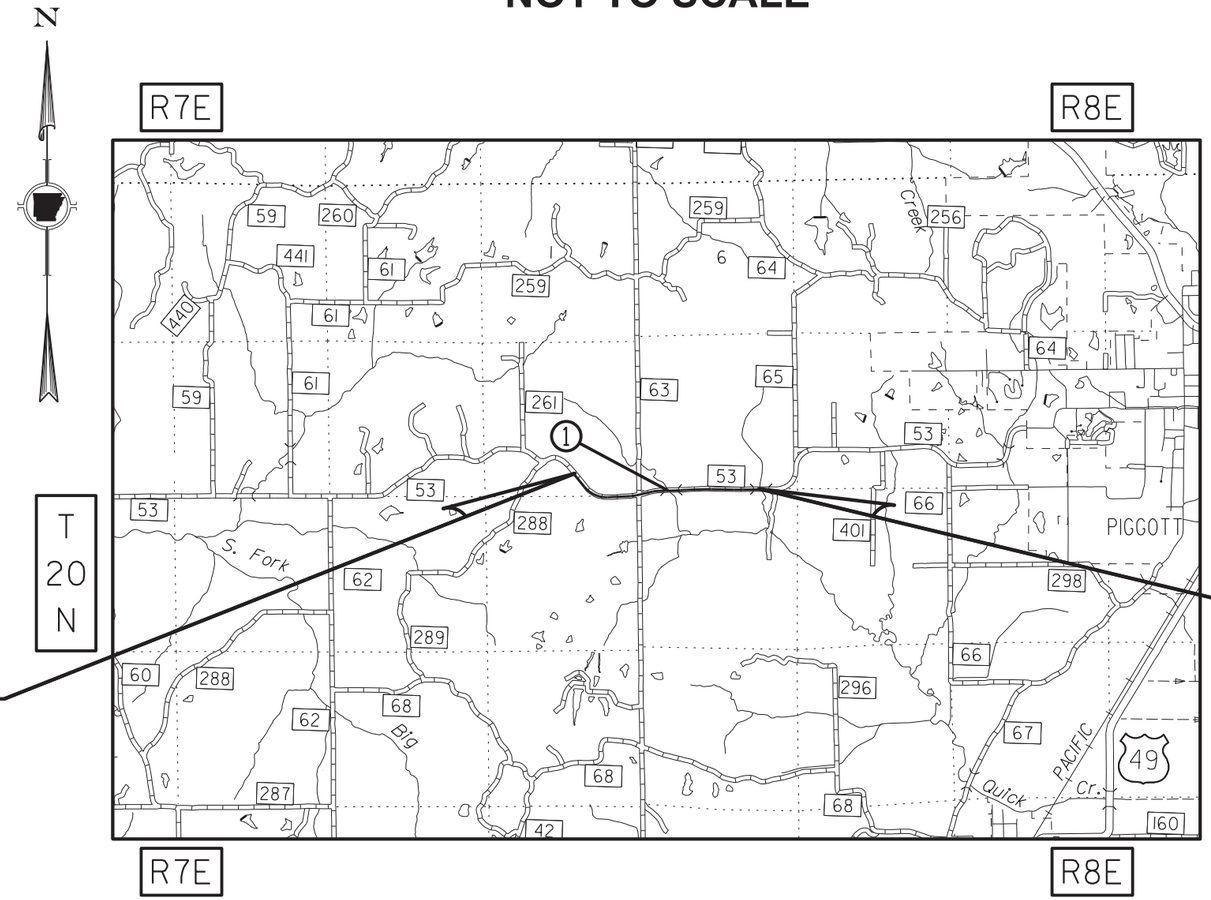


VICINITY MAP

NOT TO SCALE



ARKANSAS HIGHWAY DISTRICT 10



STRUCTURES OVER 20'-0" SPAN

(1) STA. 134+90 CONSTRUCT
TRIPLE 9' X 8' X 98'
R.C. BOX CULVERT
30° RT. FWD. SKEW
D.A. = 454 AC., Q25 = 560 C.F.S.
SPAN = 34' - 8 7/8"

DESIGN TRAFFIC DATA

DESIGN YEAR	2046
2026 ADT	80
2046 ADT	100
2046 DHV	15
DIRECTIONAL DISTRIBUTON	0.60
TRUCKS	3%
DESIGN SPEED	40 MPH

APPROVED

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 12547
JESSIE XU JONES

Date: 2025.11.25 18:32:55-06'00'

CHIEF ENGINEER - PRECONSTRUCTION

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N 36° 22' 36"	N 36° 22' 31"	N 36° 22' 30"
LONG.	W 90° 16' 21"	W 90° 15' 45"	W 90° 15' 4"

GROSS	LENGTH	OF	PROJECT	5350.00	FEET	OR	1.013	MILES
NET	"	"	ROADWAY	5315.26	"	"	1.006	"
NET	"	"	BRIDGE	34.74	"	"	0.007	"
NET	"	"	PROJECT	5350.00	"	"	1.013	"

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.		FA1108	2	63

(4) INDEX OF SHEETS AND STANDARD DRAWINGS

Digitally signed by Freeling, Bryan E.
Date: 2025.12.17 14:53:08-06'00'

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 5	TYPICAL SECTIONS OF IMPROVEMENT
6 - 14	SPECIAL DETAILS
15 - 19	TEMPORARY EROSION CONTROL DETAILS
20	MAINTENANCE OF TRAFFIC
21 - 24	QUANTITIES
25	SUMMARY OF QUANTITIES AND REVISIONS
26 - 31	SURVEY CONTROL DETAILS
32 - 36	PLAN AND PROFILE SHEETS
37 - 63	CROSS SECTIONS

ROADWAY STANDARD DRAWINGS

DRWG. NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PM-1	PAVEMENT MARKING DETAILS	02-27-20
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
SHS-1	STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES	09-12-13
SHS-2	U-CHANNEL POST ASSEMBLIES	07-25-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-14-25
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-14-25
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-14-25
TC-6	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-06-25
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-2	WIRE FENCE WATER GAPS	04-20-79
WF-4	WIRE FENCE TYPE C AND D	08-22-02

INDEX OF SHEETS AND STANDARD DRAWINGS

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4 GOVERNING SPECIFICATIONS & GENERAL NOTES

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
100-4	DEPARTMENT NAME CHANGE
102-2	ISSUANCE OF PROPOSALS
102-3	PREQUALIFICATION OF BIDDERS
103-2	CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS
105-4	MAINTENANCE DURING CONSTRUCTION
107-2	RESTRAINING CONDITIONS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
210-1	UNCLASSIFIED EXCAVATION
303-1	AGGREGATE BASE COURSE
306-1	QUALITY CONTROL AND ACCEPTANCE
400-1	TACK COATS
400-4	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6	LIQUID ANTI-STRIP ADDITIVE
400-7	TRACKLESS TACK
404-3	DESIGN OF ASPHALT MIXTURES
409-2	ASPHALT LABORATORY FACILITY
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
410-4	EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
416-1	RECYCLED ASPHALT PAVEMENT
501-3	PORTLAND CEMENT CONCRETE PAVEMENT
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
605-1	CONCRETE DITCH PAVING
606-1	PIPE CULVERTS FOR SIDE DRAINS
619-1	FENCES
620-1	MULCH COVER
621-1	FILTER SOCKS
723-1	GENERAL REQUIREMENTS FOR SIGNS
729-1	CHANNEL POST SIGN SUPPORT
800-1	STRUCTURES
802-5	CONCRETE FOR STRUCTURES
804-2	REINFORCING STEEL FOR STRUCTURES
JOB FA1108	BIDDING REQUIREMENTS AND CONDITIONS
JOB FA1108	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB FA1108	BUY AMERICA - CONSTRUCTION MATERIALS
JOB FA1108	CARGO PREFERENCE ACT REQUIREMENTS
JOB FA1108	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB FA1108	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB FA1108	DOCUMENTATION OF PAYMENTS MADE TO SUBCONTRACTORS
JOB FA1108	IMMEDIATE CLEARING
JOB FA1108	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB FA1108	MAINTENANCE OF TRAFFIC
JOB FA1108	MANDATORY ELECTRONIC CONTRACT
JOB FA1108	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB FA1108	NESTING SITES OF MIGRATORY BIRDS
JOB FA1108	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB FA1108	PARTNERING REQUIREMENTS
JOB FA1108	PLASTIC PIPE
JOB FA1108	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB FA1108	PRICE ADJUSTMENT FOR FUEL
JOB FA1108	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB FA1108	SHORING FOR CULVERTS
JOB FA1108	SPECIAL CLEARING REQUIREMENTS
JOB FA1108	STORM WATER POLLUTION PREVENTION PLAN
JOB FA1108	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB FA1108	UTILITY ADJUSTMENTS
JOB FA1108	VALUE ENGINEERING
JOB FA1108	WARM MIX ASPHALT
JOB FA1108	WELLHEAD PROTECTION

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN IN PLANS
2. UTILITIES INTERFERING WITH CONSTRUCTION SHALL BE MOVED BY THE OWNERS.
3. THE CONTRACTOR SHALL MAINTAIN MAILBOXES WITHIN THE PROJECT LIMITS SUCH THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. THE CONTRACTOR SHALL REMOVE AND RESTORE TO THE PROPER HEIGHT THE EXISTING MAILBOX POSTS AND MAILBOXES AS DIRECTED BY THE ENGINEER. ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT NO COST TO THE DEPARTMENT. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICES BID FOR OTHER ITEMS OF THE CONTRACT.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. THE CONTRACTOR SHALL PROVIDE A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
7. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR PERMIT REQUIREMENTS.
8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
9. PAVEMENT TO BE REMOVED SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. PAVEMENT SHALL BE REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT RETAINED. ANY DAMAGE TO RETAINED PAVEMENT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
10. TEMPORARY EASEMENTS ARE PROVIDED FOR CONTRACTOR ACCESS. AREAS OUTSIDE THE CONSTRUCTION LIMITS SHALL NOT BE CLEARED OR GRUBBED UNLESS DIRECTED BY THE ENGINEER.
11. AREAS WITHIN CONSTRUCTION LIMITS NOT CLASSIFIED AS CLEARING AND GRUBBING SHALL BE SCALPED AS DIRECTED BY THE ENGINEER. SCALPING WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICES BID FOR OTHER ITEMS OF THE CONTRACT.
12. SUPERELEVATION SHALL BE COMPUTED IN ACCORDANCE WITH STANDARD DRAWING SE-2 USING 40 M.P.H. DESIGN VALUES AND REVOLVE ABOUT THE INNER EDGE OF TRAVEL LANE UNLESS OTHERWISE SHOWN.
13. THE ROAD SHALL BE MAINTAINED AND REMAIN OPEN TO TRAFFIC BUT MAY BE CLOSED AS SHOWN IN THE PLANS AND IN ACCORDANCE WITH JOB SPECIAL PROVISION MAINTENANCE OF TRAFFIC.
14. EXISTING BRIDGE NO. 17838 SHALL BE REMOVED IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, PRIOR TO CONSTRUCTION OF THE REINFORCED CONCRETE BOX CULVERT. ALL MATERIAL FROM THE EXISTING BRIDGE SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
15. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
16. ALL SALVAGEABLE PIPE CULVERTS SHALL BE STORED ON THE RIGHT-OF-WAY AND REMAIN THE PROPERTY OF CLAY COUNTY.
17. INSTALLATION OF PERMANENT TRAFFIC SAFETY SIGNS NOT SHOWN IN THE PLANS IS THE RESPONSIBILITY OF CLAY COUNTY.

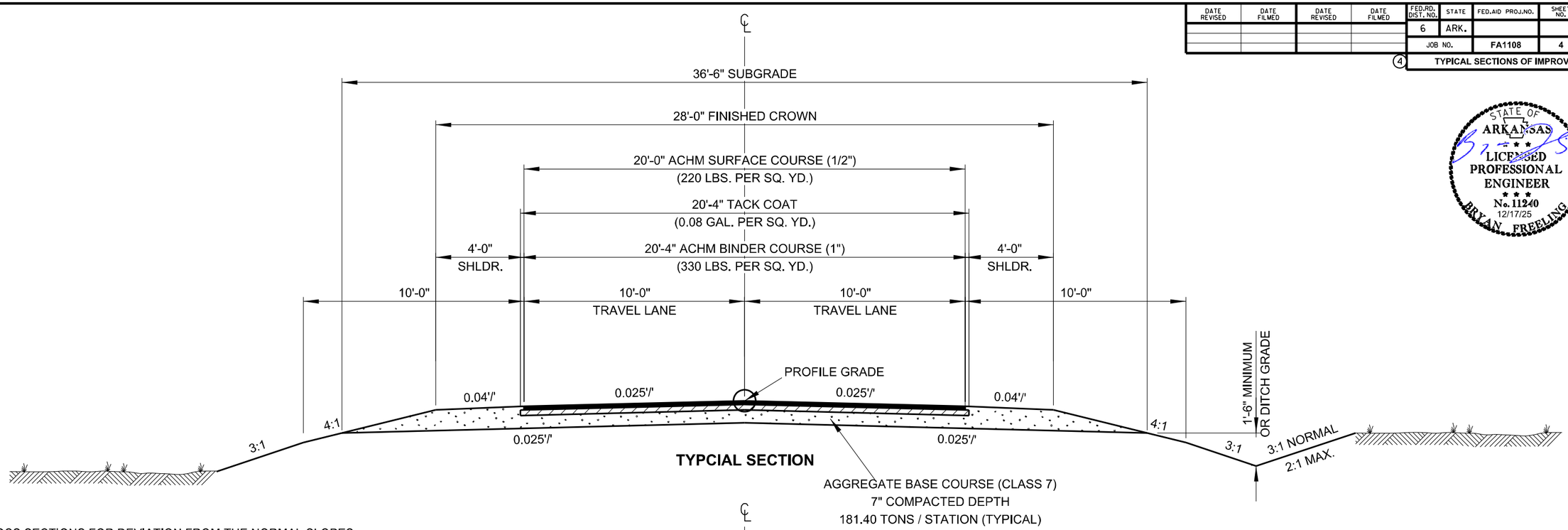
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
01/06/26
BRYAN FREELING

GOVERNING SPECIFICATIONS AND GENERAL NOTES

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				6	ARK.			
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4 TYPICAL SECTIONS OF IMPROVEMENT

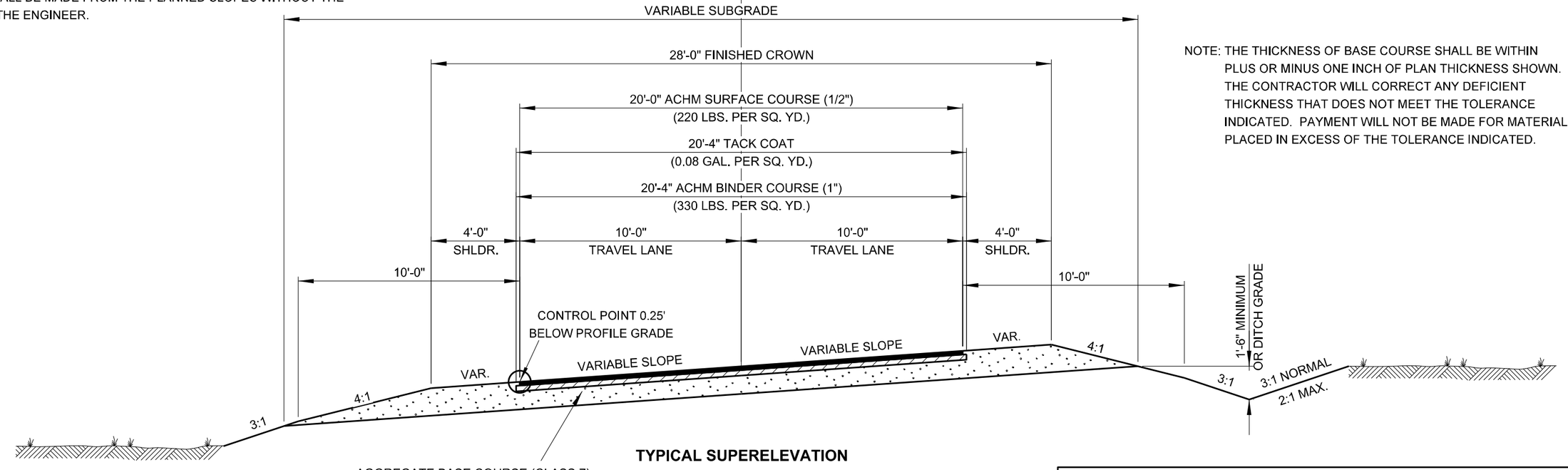
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING



TYPCIAL SECTION

AGGREGATE BASE COURSE (CLASS 7)
7" COMPACTED DEPTH
181.40 TONS / STATION (TYPICAL)

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



TYPICAL SUPERELEVATION

AGGREGATE BASE COURSE (CLASS 7)
7" COMPACTED DEPTH
VARIABLE TONS / STATION

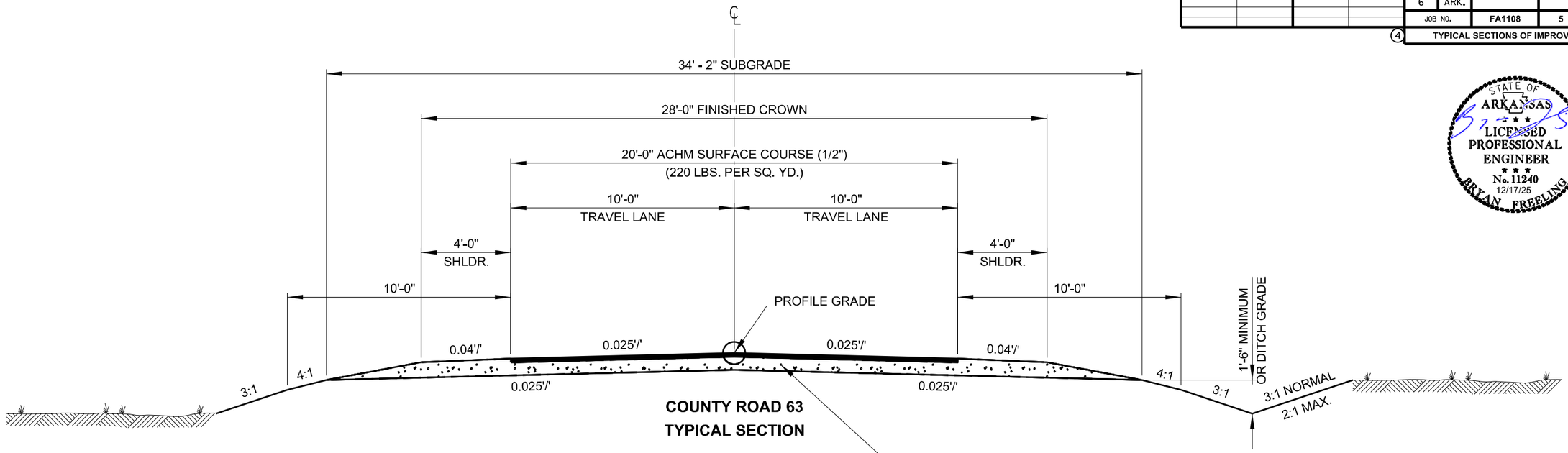
NOTE: THE THICKNESS OF BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

NOTE: DETAILS MAY BE MODIFIED TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

TYPICAL SECTIONS OF IMPROVEMENT

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.		FA1108	5	63

4 TYPICAL SECTIONS OF IMPROVEMENT



COUNTY ROAD 63
TYPICAL SECTION

AGGREGATE BASE COURSE (CLASS 7)
7" COMPACTED DEPTH
151.8 TONS / STATION (TYPICAL)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

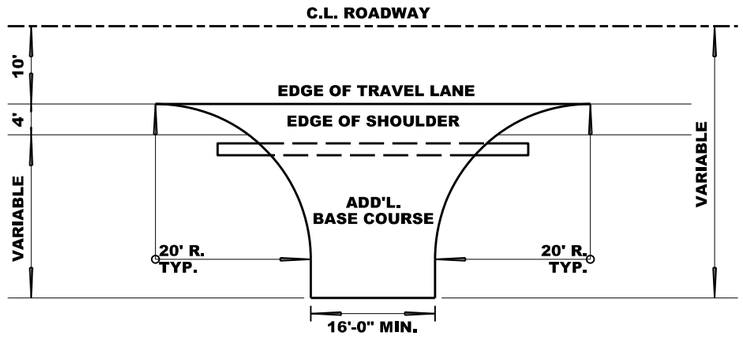
NOTE: REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGE SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

NOTE: DETAILS MAY BE MODIFIED TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

TYPICAL SECTIONS OF IMPROVEMENT

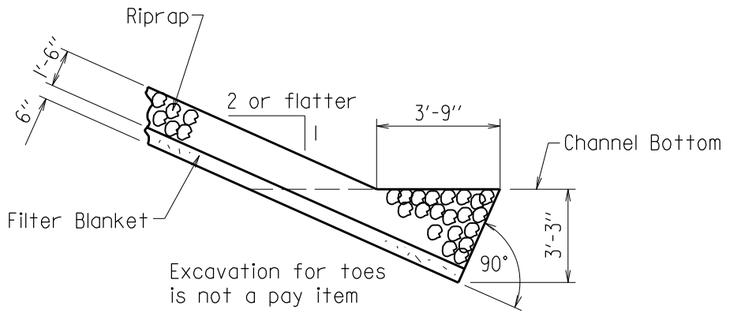
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				6	ARK.			
				JOB NO.		FA1108	6	63
				(4)	SPECIAL DETAILS			



DETAIL OF PRIVATE ENTRANCES

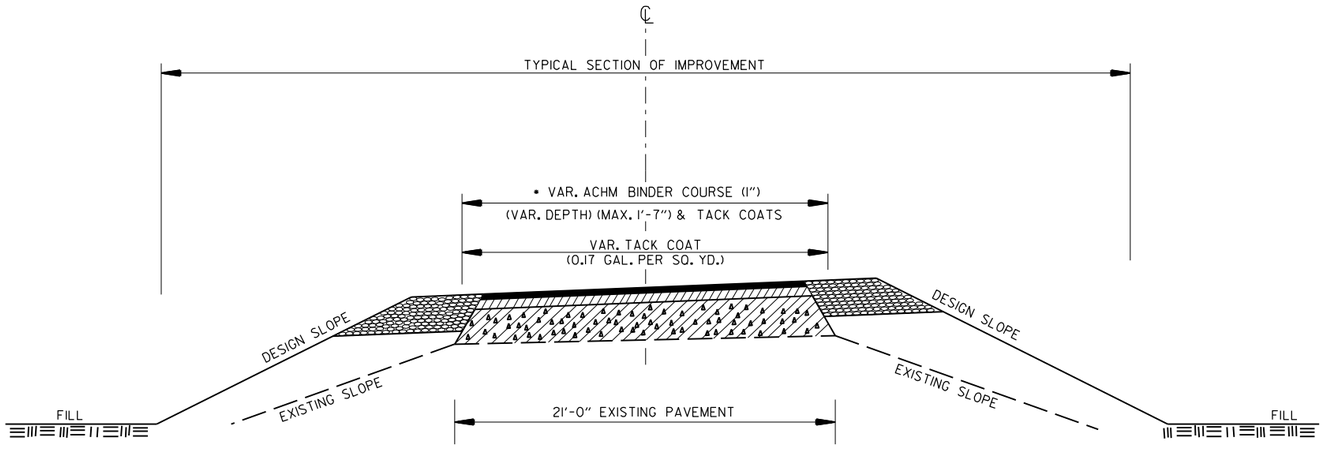
ADD'L.BASE COURSE AND SURFACING SEE QUANTITY BOX

NOTE: THE ABOVE DETAILS MAY BE MODIFIED TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.



DETAIL OF FILTER BLANKET AND DUMPED RIPRAP

(Toe Excavation in Soil)



• 7" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH ACHM BINDER COURSE (I")

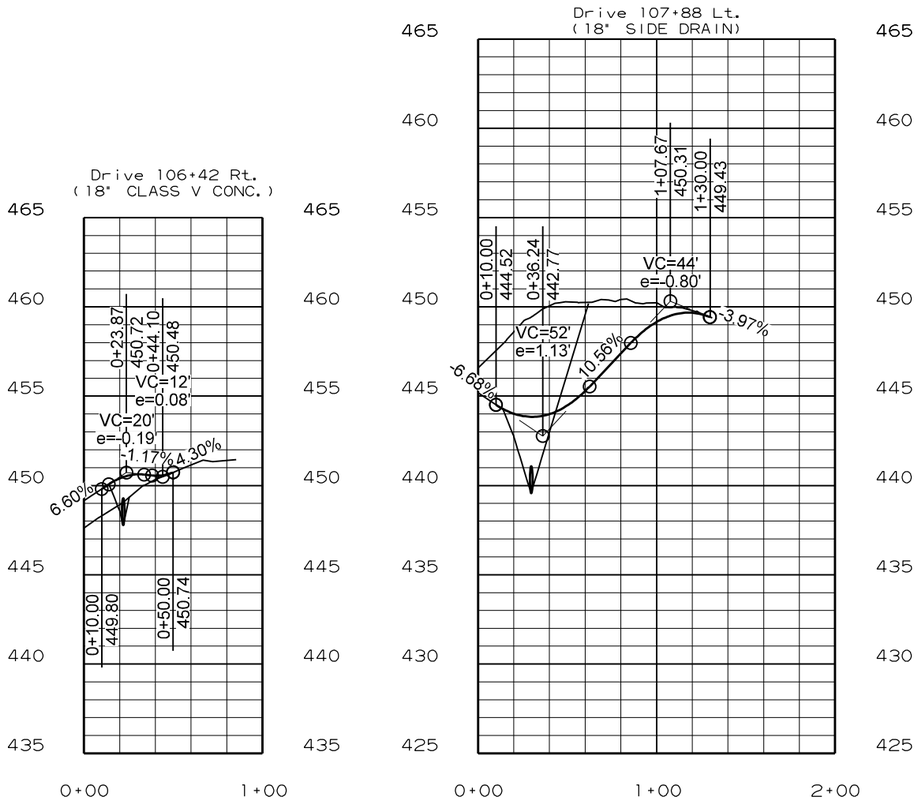
METHOD OF RAISING GRADE

NOTES:

(I) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS.

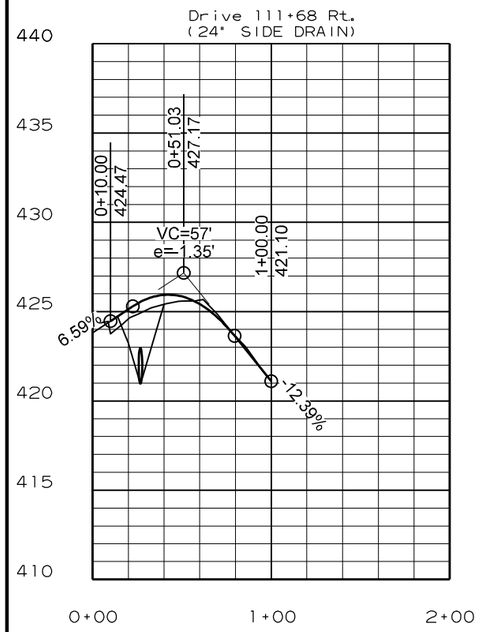


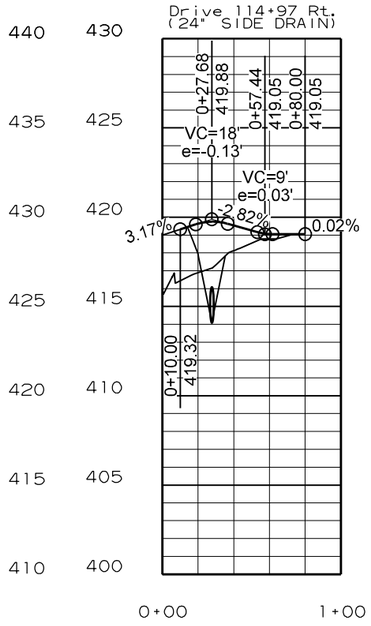
STATE OF ARKANSAS
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12/17/25
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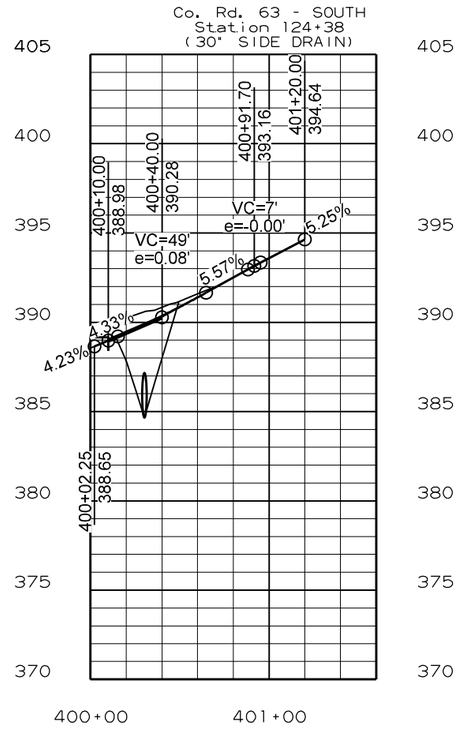
SPECIAL DETAILS

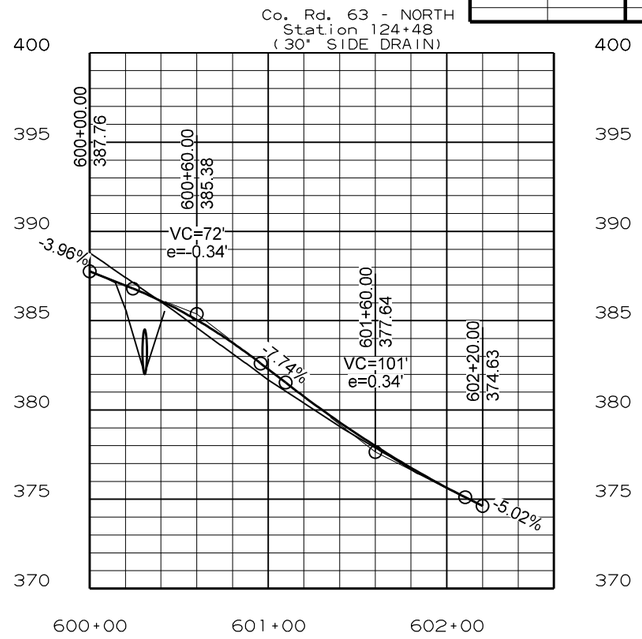
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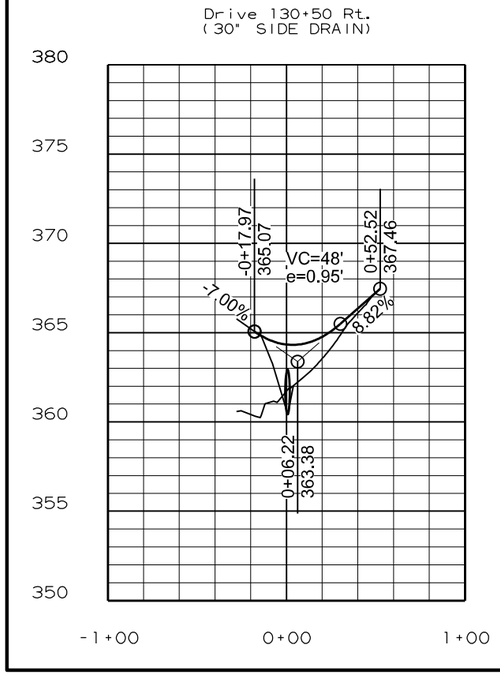
4 SPECIAL DETAILS

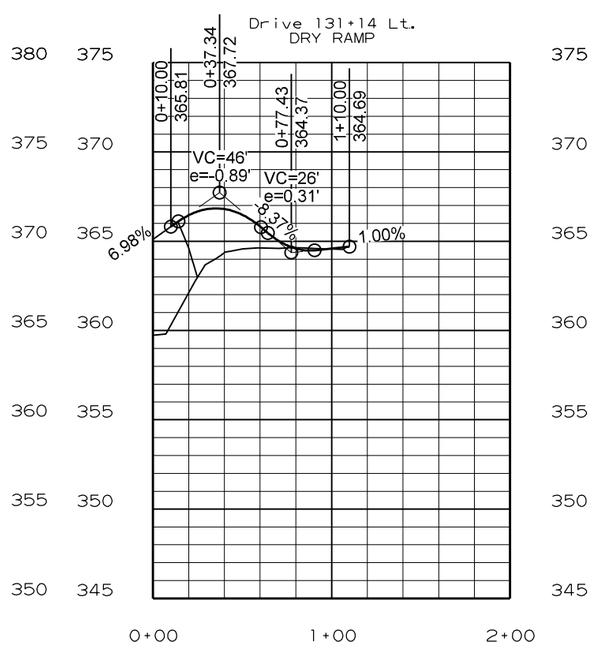


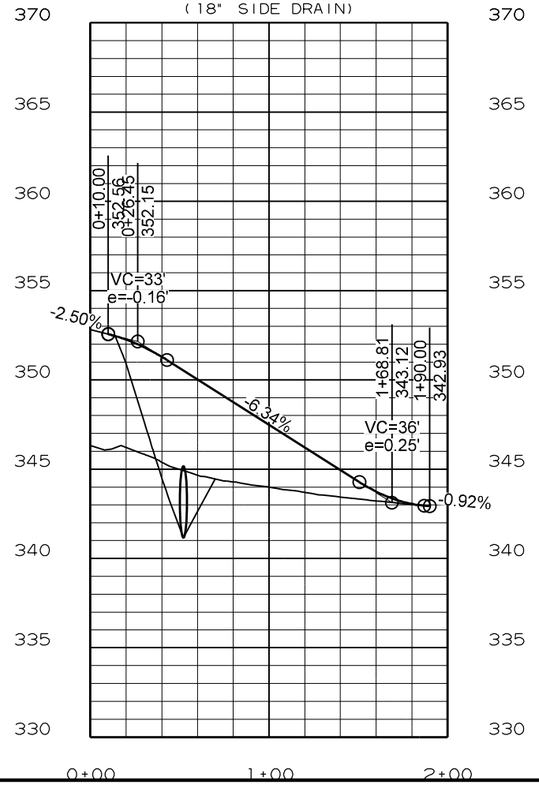


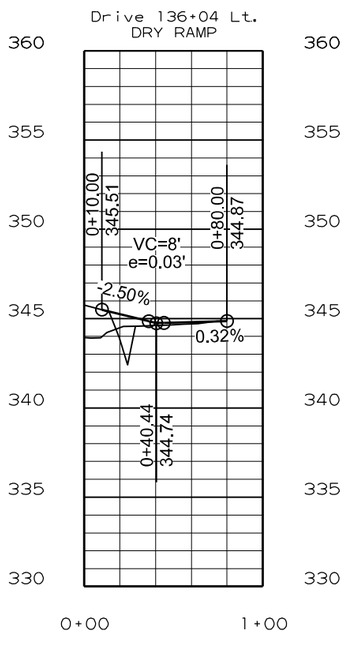










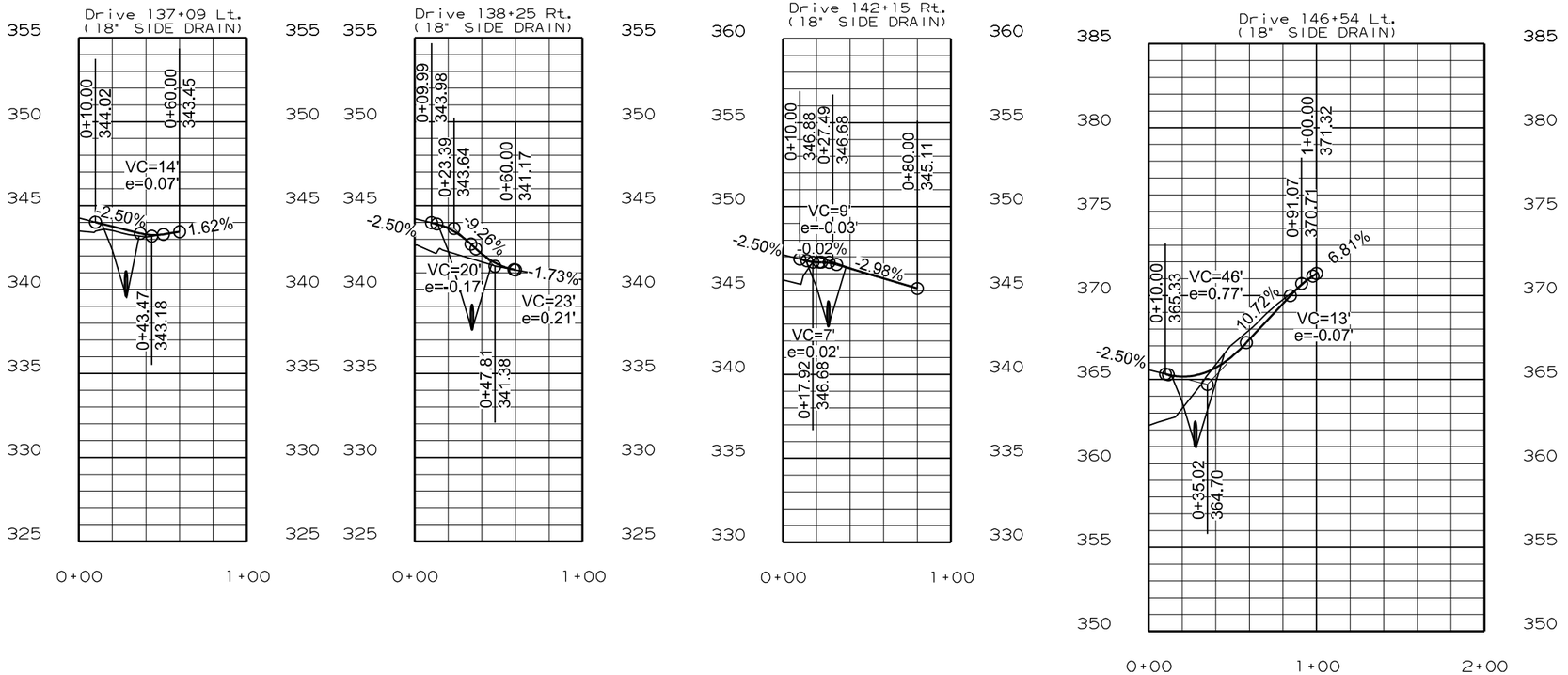


SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

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.		FA1108	8	63

4 SPECIAL DETAILS



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FAI108	9	63
				①		SPECIAL DETAILS		

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B	CLASS "S" CONCRETE (Includes apron) INLET	REINFORCING STEEL (Includes apron and laps if required) INLET
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
29'-8"	8'-0"	0'-9"	0'-8"	30	3:1	32'-8 5/8"	2'-0"	8'-10"	2'-8"	0	60	3'-2"	3'-10 1/2"	4'-9 7/8"	1'-2 1/2"	2'-7"	18'-6"	37'-0"	21'-9 3/8"	40'-3 3/8"	17.45	1702

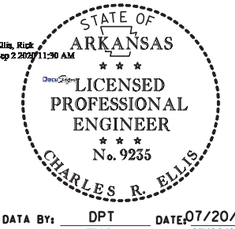
WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1 LENGTHS	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F6 LENGTHS	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F8 LENGTHS	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	19	L	-	4	12	6	L 4'-8"	-	-	-	L -	4	18	6	Min 6'-4"	4	18	4	18'-2"	4	18	13	Min 5'-3"		4	8	22'-7"	6	18	12	Min 2'-8"		-	-	-	Min -		4	2	19'-0"	4	2	19'-4"	6	12	8	L 3'-4"	561
				X	-				X 1'-3"				X -				Max 15'-4"								Max 2'-4"								Max 2'-4"				Max -									X 1'-8"	
				Y	-				Y 3'-6"				Y -												Y Min 3'-0" Max 9'-0"								Y Min 3'-0" Max 9'-0"														
WING B	4	12	37	L	-	4	12	12	L 5'-3"	-	-	-	L -	4	18	8	Min 3'-10"	4	18	4	36'-8"	4	18	25	Min 5'-3"		4	8	41'-1"	6	18	26	Min 2'-8"		4	18	2	Min 37'-9"		4	2	37'-0"	4	2	41'-9"	6	12	8	L 3'-4"	1141
				X	-				X 1'-10"				X -				Max 30'-10"								Max 2'-4"								Max 2'-4"				Max 37'-9"									X 1'-8"	
				Y	-				Y 3'-6"				Y -												Y Min 3'-0" Max 9'-1"								Y Min 3'-0" Max 9'-1"														

MID-SECTION BAR LAP TABLE

# of Long. Laps Req'd.	SL = Section Length
0	< 40.0 ft
1	>40.0 ft - 78.0 ft
2	>78.0 ft - 116.0 ft
3	>116.0 ft - 154.0 ft
4	>154.0 ft - 192.0 ft
5	>192.0 ft - 230.0 ft
6	>230.0 ft - 268.0 ft
7	>268.0 ft - 306.0 ft
8	>306.0 ft -344.0 ft

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

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



TABULAR DATA BY: DPT DATE: 07/20/2020
CHECKED BY: TMG DATE: 07/20/2020

This drawing to be used in conjunction with
SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE',
SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF MULTI-BARREL R.C. BOX CULVERT',
SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF WINGWALLS', and
STANDARD DRAWING RCB-2.

For additional information and outlet sections, see Sheet 2 of 2.

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINF. STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	TOP SLAB REINF. STEEL "c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D	BOTTOM SLAB REINF. STEEL "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	BOTTOM SLAB REINF. STEEL "f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D	SIDE WALL REINF. STEEL "f0" SIZE	"f0" SPACING	"f0" NO. REQ'D	"f0" LENGTH	INTERIOR WALL REINF. STEEL "f1" SIZE	"f1" SPACING	"f1" NO. REQ'D	"f1" LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" SIZE	"g" SPACING	"g" NO. REQ'D	"g" LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" SIZE	"e" SPACING	"e" NO. REQ'D	"e" LENGTHS VARY	SIDE WALL DISTRIBUTION REINF. STEEL "d1" SIZE	"d1" SPACING	"d1" NO. REQ'D	"d1" LENGTH	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" SIZE	"d2" SPACING	"d2" NO. REQ'D	"d2" LENGTH	CLASS "S" CONCRETE (Includes HDWL)	① REINFORCING STEEL (GR 60) (Includes HDWL)
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH													

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FAI108	10	63

(1) SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 2 2020 11:20 AM

TABULAR DATA BY: DPT DATE: 07/20/2020
CHECKED BY: TMG DATE: 07/20/2020

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B	CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
																					OUTLET	OUTLET
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
29'-8"	8'-0"	0'-9"	0'-8"	30	3:1	32'-8 5/8"	2'-0"	8'-10"	2'-8"	0	60	3'-2"	3'-10 1/2"	4'-9 7/8"	1'-2 1/2"	2'-7"	18'-6"	37'-0"	21'-9 3/8"	40'-3 3/8"	18.86	1702

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1 LENGTHS	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F6 LENGTHS	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	19	L Min 3'-8" / Max 10'-5"		4	12	6	L 4'-8"	-	-	-	L -	4	18	6	Min 6'-4" / Max 15'-4"	4	18	4	18'-2"	4	18	13	L Min 5'-3" / Max 11'-3"		4	8	22'-7"	6	18	12	Min 2'-8" / Max 3'-4"	-	-	-	Min - / Max -	4	2	19'-0"	4	2	19'-4"	6	12	8	L 3'-4"	561
				X Min 0'-9" / Max 1'-6"					X 1'-3"				X -												X Min 2'-4" / Max 2'-4"																				X 1'-8"	
				Y Min 3'-0" / Max 9'-0"					Y 3'-6"				Y -												Y Min 3'-0" / Max 9'-0"																						
WING B	4	12	37	L Min 3'-8" / Max 11'-4"		4	12	12	L 5'-3"	-	-	-	L -	4	18	8	Min 3'-10" / Max 30'-10"	4	18	4	36'-8"	4	18	25	L Min 5'-3" / Max 11'-4"		4	8	41'-1"	6	18	26	Min 2'-8" / Max 4'-3"	4	18	2	Min 37'-9" / Max 37'-9"	4	2	37'-0"	4	2	41'-9"	6	12	8	L 3'-4"	1141
				X Min 0'-9" / Max 2'-4"					X 1'-10"				X -												X Min 2'-4" / Max 2'-4"																				X 1'-8"	
				Y Min 3'-0" / Max 9'-1"					Y 3'-6"				Y -												Y Min 3'-0" / Max 9'-1"																						

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

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

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

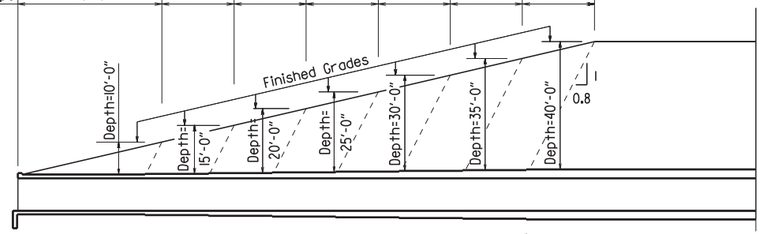
OUTLET SKEWED END SECTION

| SKEW (DEGREE) | SLOPE | DESIGN FILL DEPTH (FT.) | CLEAR SPAN (FT.) | CLEAR HEIGHT (FT.) | SECTION LENGTH | TOP SLAB THK. | HDWL DEPTH | BOTTOM SLAB THK. | SIDE WALL THK. | INTERIOR WALL THK. | OVER ALL WIDTH | OVER ALL HEIGHT | TOP SLAB REINFORCING STEEL "a" SIZE | "a" SPACING | "a" LENGTHS VARY | "a" NO. REQ'D | TOP SLAB REINFORCING STEEL "c" SIZE | "c" SPACING | "c" LENGTHS VARY | "c" NO. REQ'D | BOTTOM SLAB REINFORCING STEEL "d" SIZE | "d" SPACING | "d" LENGTHS VARY | "d" NO. REQ'D | BOTTOM SLAB REINFORCING STEEL "f" SIZE | "f" SPACING | "f" LENGTHS VARY | "f" NO. REQ'D | SIDE WALL REINFORCING STEEL "f0" SIZE | "f0" SPACING | "f0" NO. REQ'D | "f0" LENGTH | INTERIOR WALL REINFORCING STEEL "f1" SIZE | "f1" SPACING | "f1" NO. REQ'D | "f1" LENGTH | TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE | "g" SPACING | "g" NO. REQ'D | "g" LENGTHS VARY | BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE | "e" SPACING | "e" NO. REQ'D | "e" LENGTHS VARY | SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE | "d1" SPACING | "d1" NO. REQ'D | "d1" LENGTH | INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE | "d2" SPACING | "d2" NO. REQ'D | "d2" LENGTH | CLASS "S" CONCRETE (Includes HDWL) | (1) REINFORCING STEEL (GR 60) (Includes HDWL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FAI108	11	63

(1) SPECIAL DETAILS

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



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

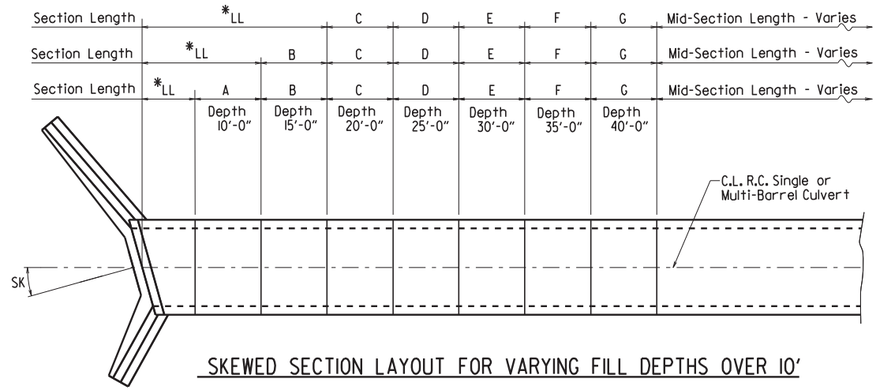
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

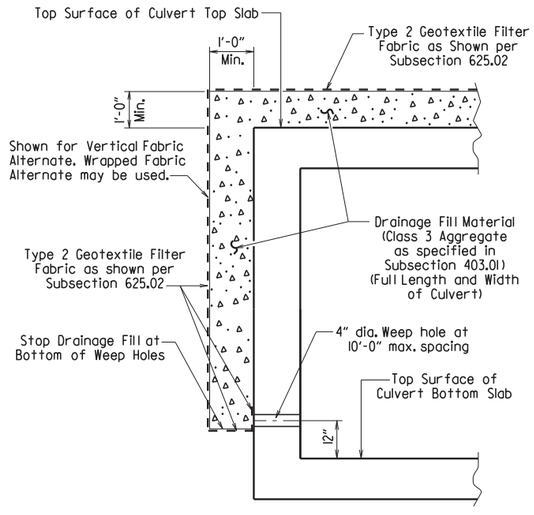
Note: For fill depths 10' and under, use Mid-Section full length of box culvert.

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

Section Length	*LL		C	D	E	F	G	Mid-Section Length - Varies
Section Length	*LL	B	C	D	E	F	G	Mid-Section Length - Varies
Section Length	*LL	A	B	C	D	E	F	G	Mid-Section Length - Varies
		Depth 10'-0"	Depth 15'-0"	Depth 20'-0"	Depth 25'-0"	Depth 30'-0"	Depth 35'-0"	Depth 40'-0"	

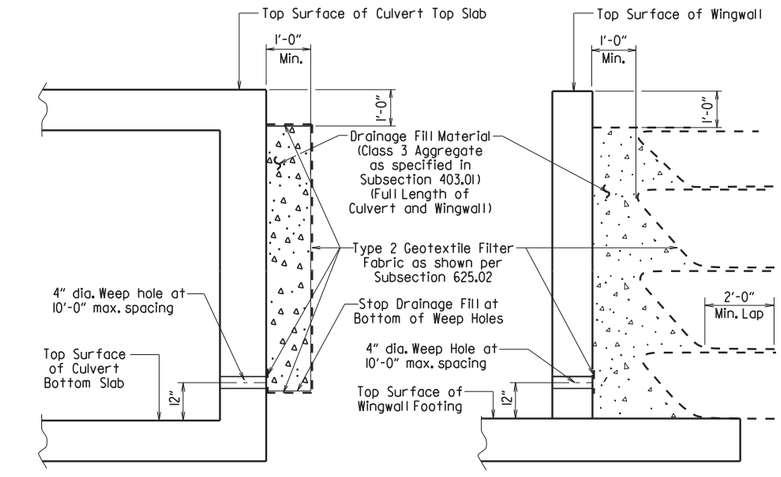


SKEWED SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'



CULVERT DRAINAGE DETAIL FOR ROCK FILL

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

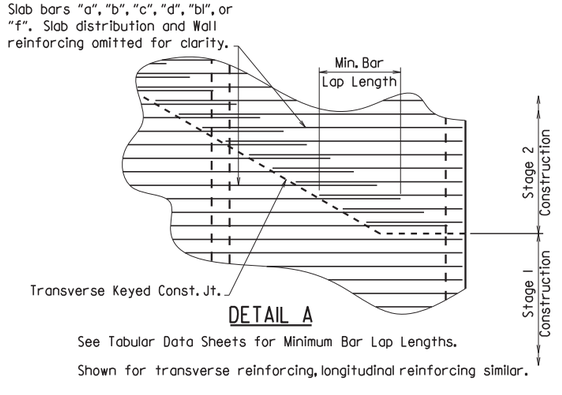


For Details of Excavation and Pay Limits, see Standard Drawing RCB-2.

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

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

WINGWALL & CULVERT DRAINAGE DETAIL



SKEWED TRANSVERSE JOINT DETAIL

This detail shall be used to construct a skewed transverse joint only for Multi-Barrel Culverts and only when required by the Maintenance of Traffic Plans. Otherwise, transverse joints should be made normal to the centerline of the barrel.

DETAIL A

See Tabular Data Sheets for Minimum Bar Lap Lengths.

Shown for transverse reinforcing, longitudinal reinforcing similar.

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition (2010) with 2010 interim revisions.

LIVE LOADING: HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have ¾" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Reinforcing Steel Tolerances: The tolerances for reinforcing steel shall meet those listed in 'Manual of Standard Practice' published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for truss bars such as Figure 3 on page 7-4 of the CRSI Manual shall be minus zero to plus 1/2 inch.

Excavation and backfilling shall be in accordance with the requirements of Section 801.

Membrane Waterproofing shall conform to the requirements of Section 815. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalls of R.C. Box culverts and to the construction joint between wingwalls and R.C. Box culvert walls.

Weep Holes in box culvert walls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. The drain opening shall be 4" diameter and shall be placed 12" above the top of the bottom slab.

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

The barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be keyed and shall be normal to the centerline of barrel except as noted. Reinforcing shall be continuous through joints unless noted otherwise. Reinforcing through stage construction joints shall provide the minimum bar lap length shown on the Tabular Data Sheets. All longitudinal construction joints shall be submitted to the Engineer for approval.

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage Fill Material will not be paid for directly but shall be considered subsidiary to Class S Concrete.

When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a tine finish shall be applied in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class S Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 Protective Surface Treatment".

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 2 2020 11:29 AM
Charles R. Ellis
DocuSign

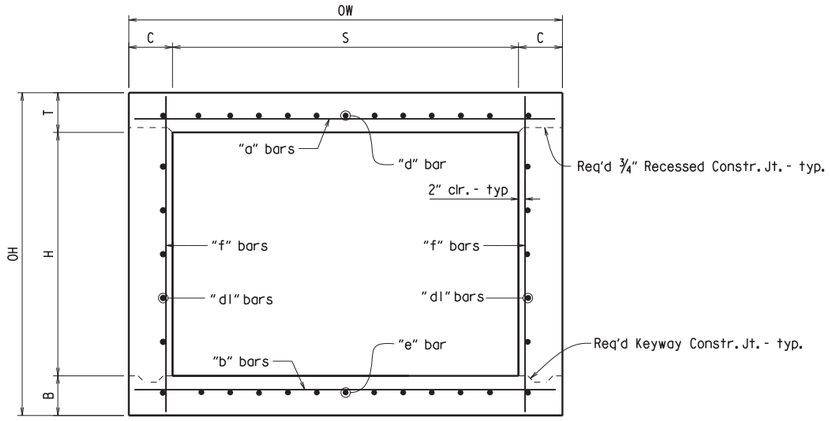
SHEET 1 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE

SPECIAL DETAILS

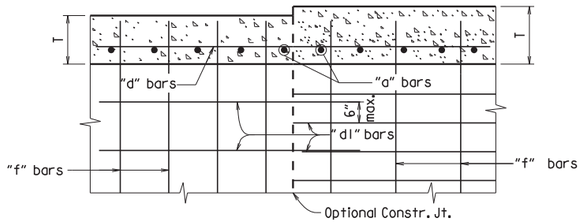
V_LI17 bFAI108_culvert.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FAI108	12	63
				(1)		SPECIAL DETAILS		

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



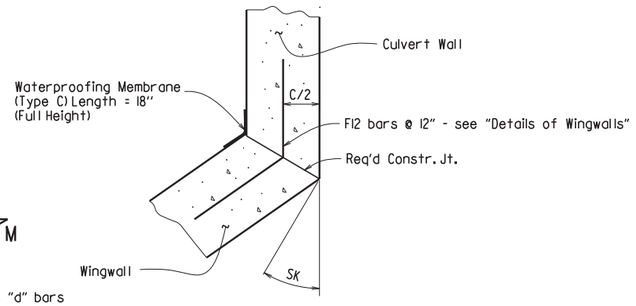
TYPICAL SECTION M-M



Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

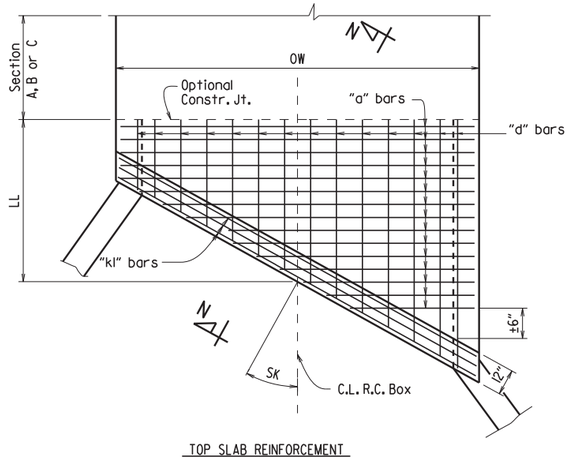
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

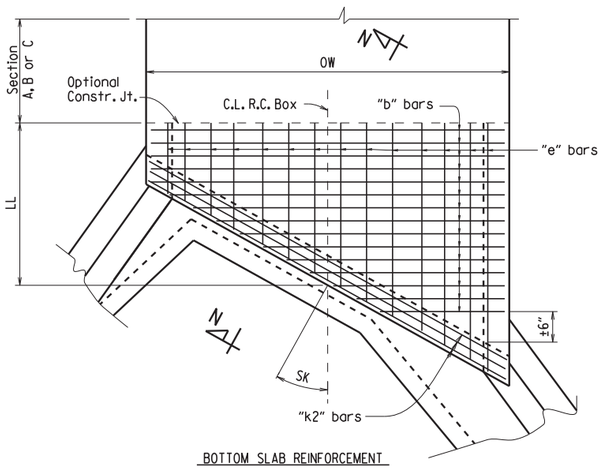


WINGWALL ATTACHMENT

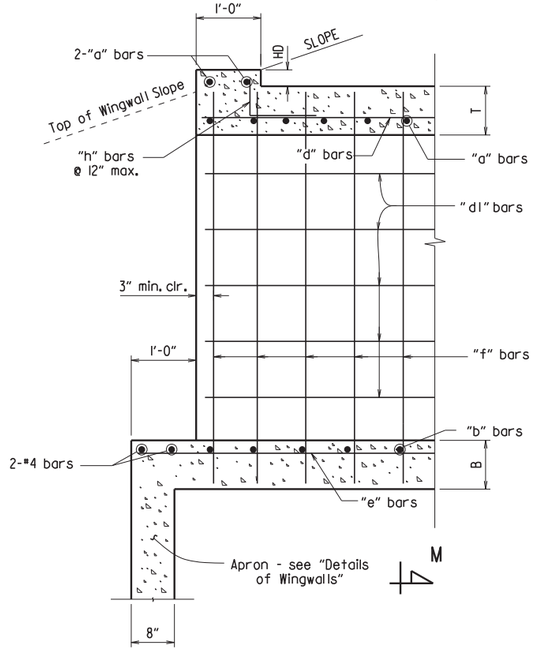
See "Details of Wingwalls" for additional information and wingwall details.



TOP SLAB REINFORCEMENT

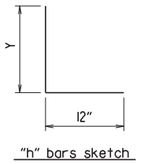


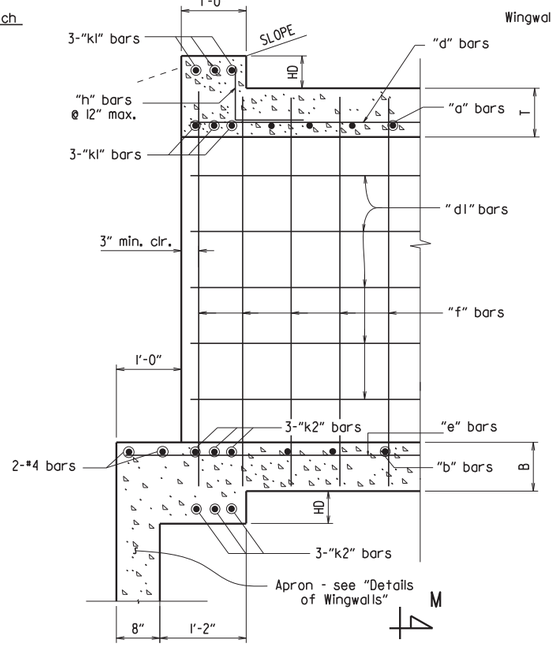
BOTTOM SLAB REINFORCEMENT



PART LONGITUDINAL SECTION

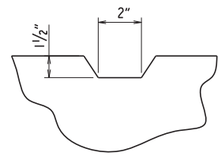
(Non-Skewed Ends)





PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL

(All Construction Joints)

SKEWED END SECTION DETAILS

SHEET 2 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF SINGLE BARREL
R.C. BOX CULVERT

SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 2 2020 11:29 AM
DocuSign

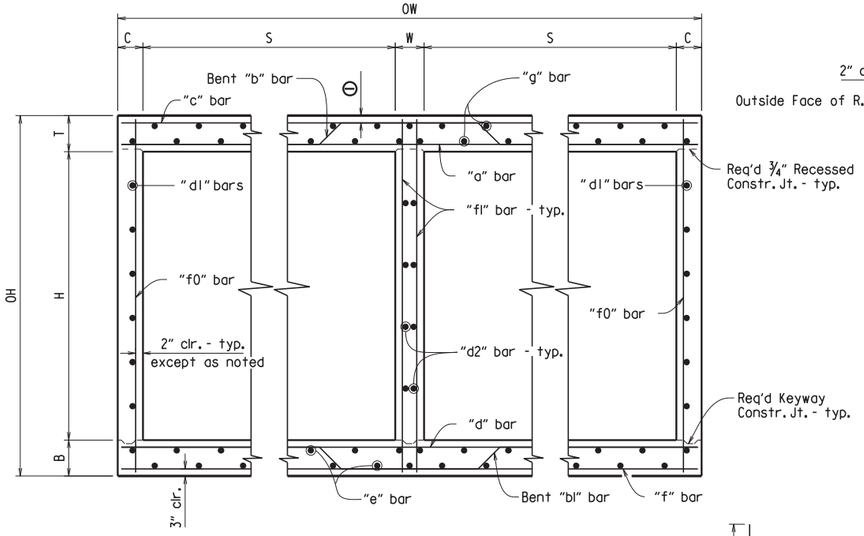
V 1.1.17 bFAI108_culvert.dgn

DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FAI108	13	63

① SPECIAL DETAILS

① 2" clr. for fill depth (D) greater than 2 ft.
2½" clr. for fill depth (D) equal to or less than 2 ft.

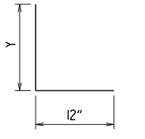
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



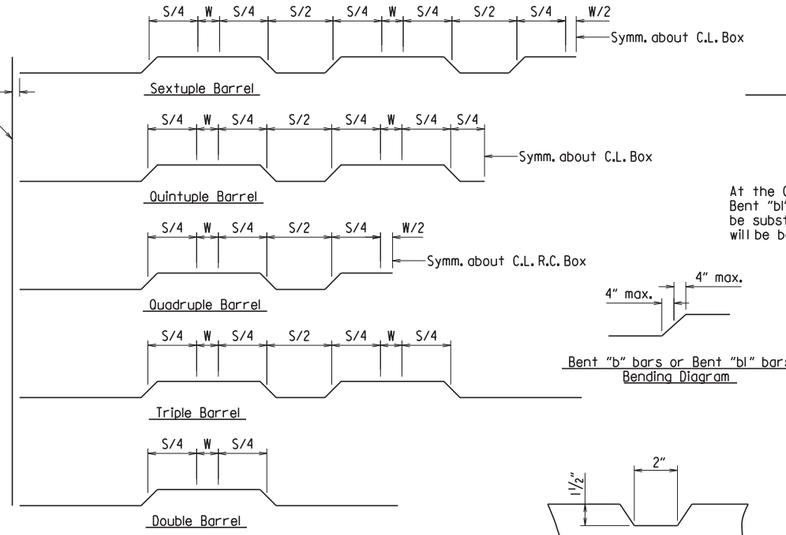
TYPICAL SECTION M-M

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

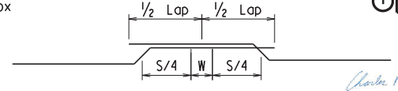
Bottom Slab
Straight "d" bars shall alternate with Bent "bl" bars in top.
Straight "f" bars shall alternate with Bent "bl" bars in bottom.



"h" bars sketch



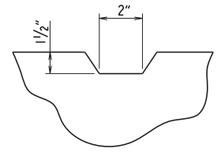
Bent "b" bars or Bent "bl" bars sketch



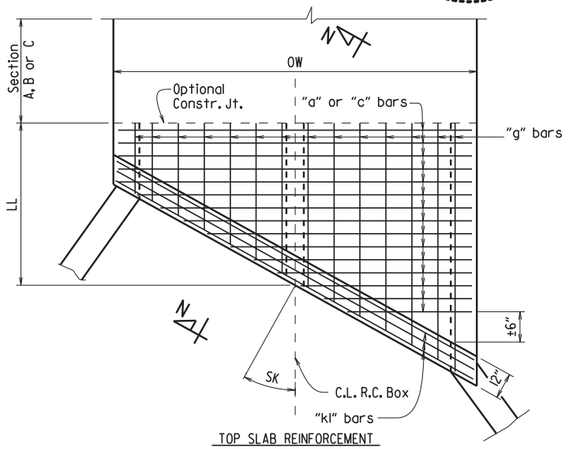
Lap Detail
For Bent "b" bars and Bent "bl" bars

At the Contractor's option in lieu of providing Bent "b" or Bent "bl" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "bl" bar.

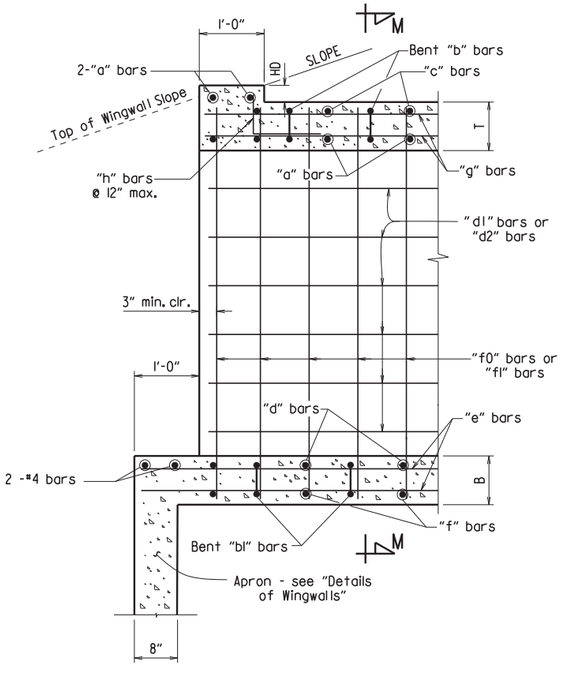
Bent "b" bars or Bent "bl" bars Bending Diagram



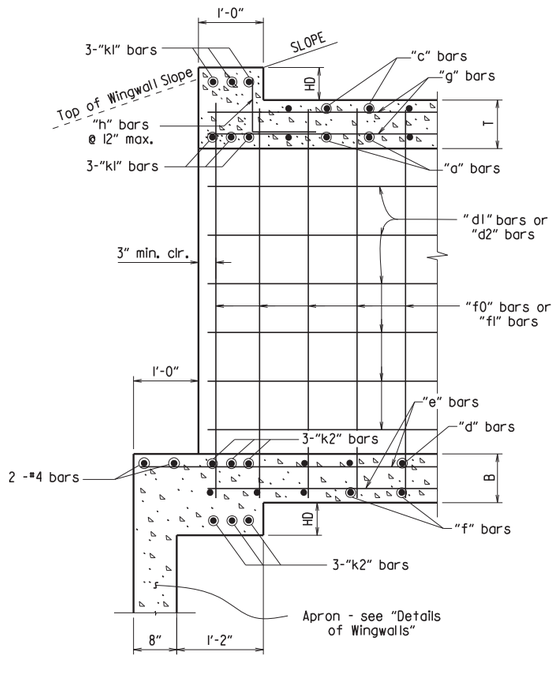
TYPICAL KEYWAY DETAIL
(All Construction Joints)



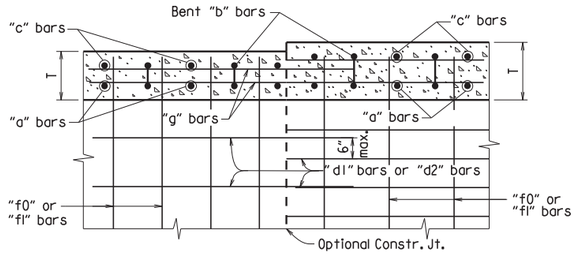
TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



PART LONGITUDINAL SECTION
(Non-Skewed Ends)

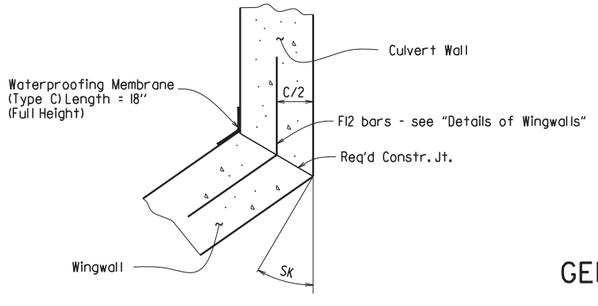


PART LONGITUDINAL SECTION N-N
(Skewed Ends)

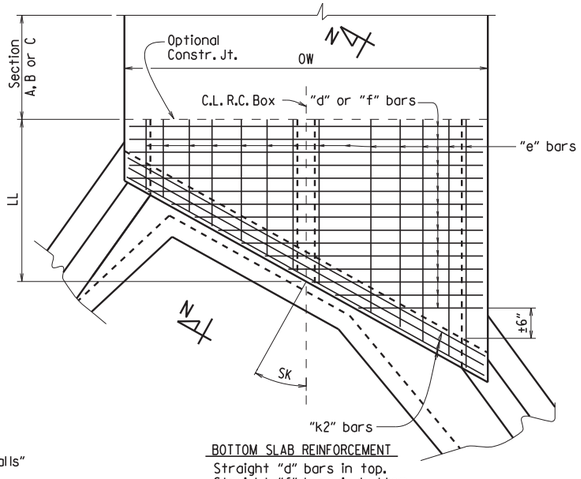


Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



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



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

SKEWED END SECTION DETAILS

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

DETAILS OF MULTI-BARREL R.C. BOX CULVERT

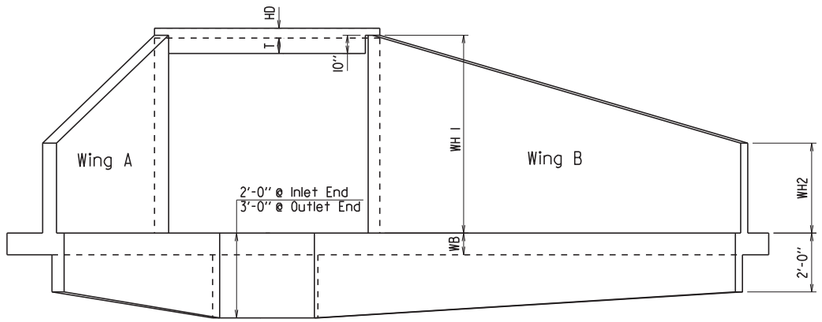
SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 2 2020 11:29 AM
Charles R. Ellis

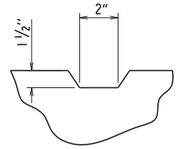
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA1108	14	63

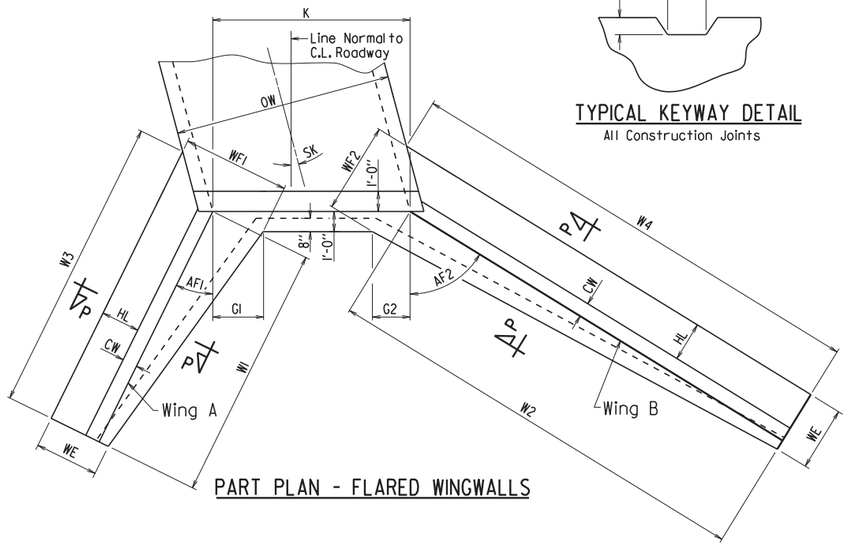
① SPECIAL DETAILS



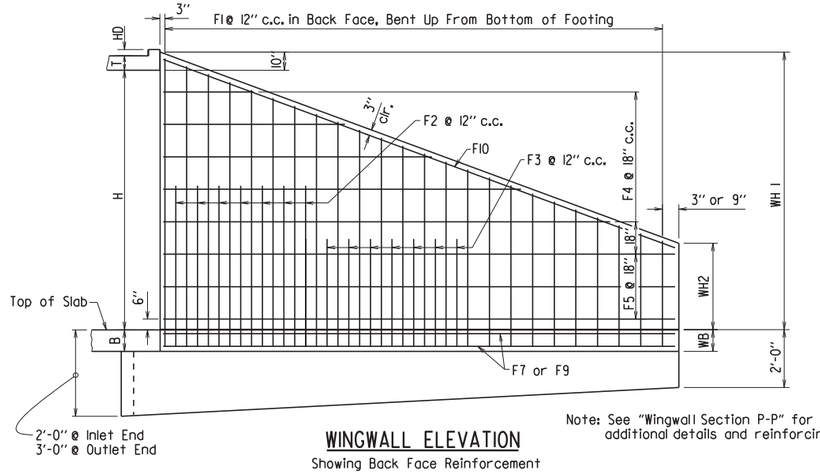
END ELEVATION
Flared Wingwalls Shown



TYPICAL KEYWAY DETAIL
All Construction Joints

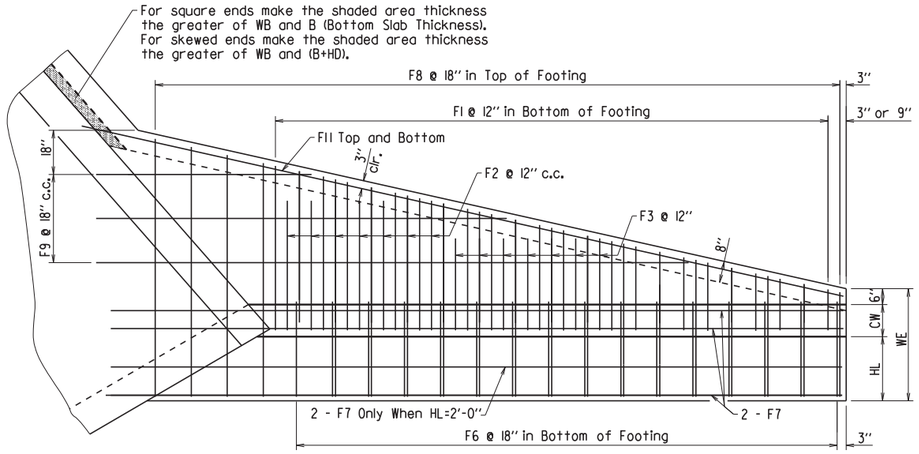


PART PLAN - FLARED WINGWALLS

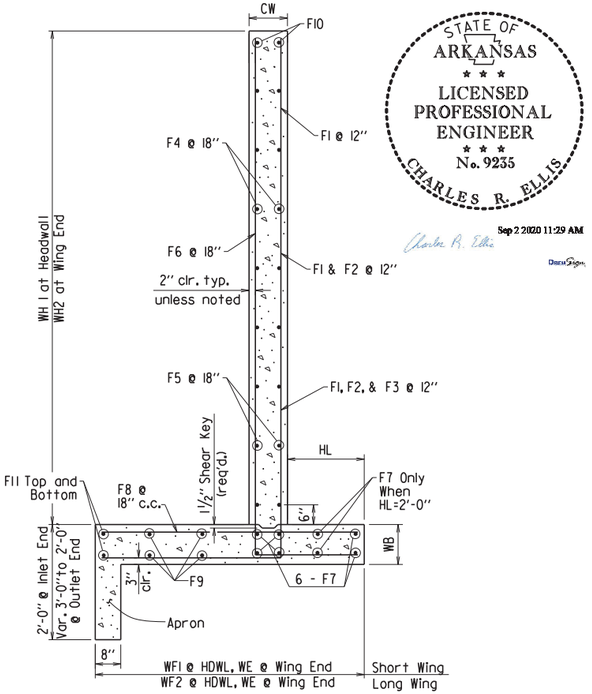


WINGWALL ELEVATION
Showing Back Face Reinforcement

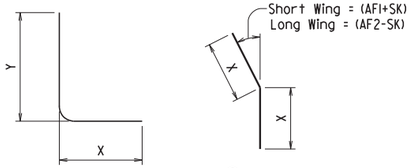
Note: See "Wingwall Section P-P" for additional details and reinforcing.



PLAN - FLARED WINGWALLS
Showing Footing Reinforcement



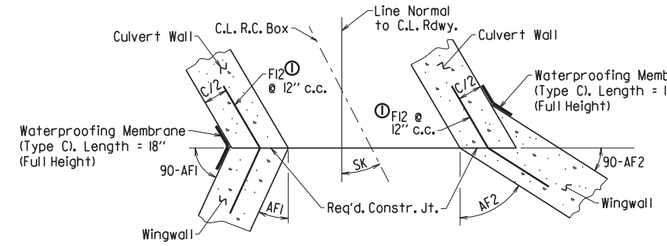
WINGWALL SECTION P-P



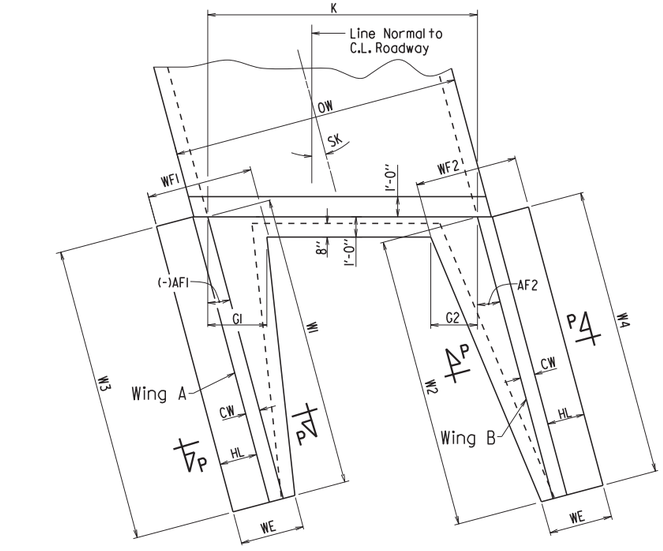
F1, F2, F3, & F6 BARS

①F12 BAR

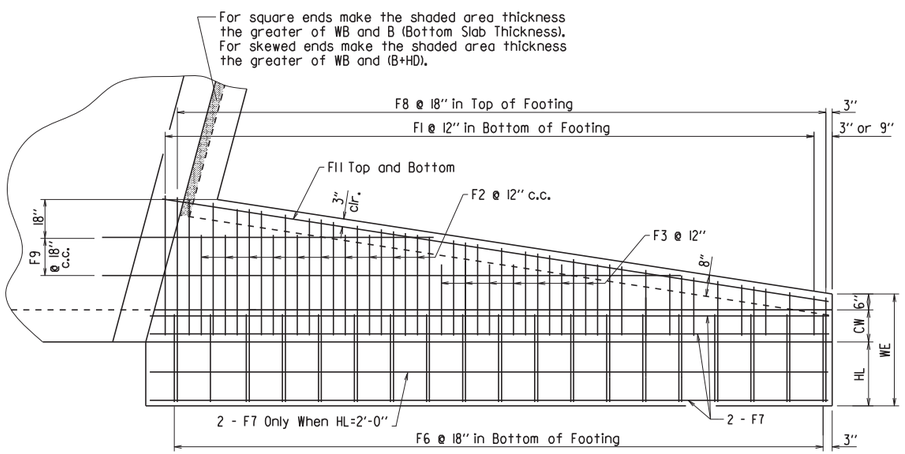
①F12 is a straight bar for parallel wingwalls



CONSTRUCTION JOINTS
Flared Wingwalls Shown



PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement

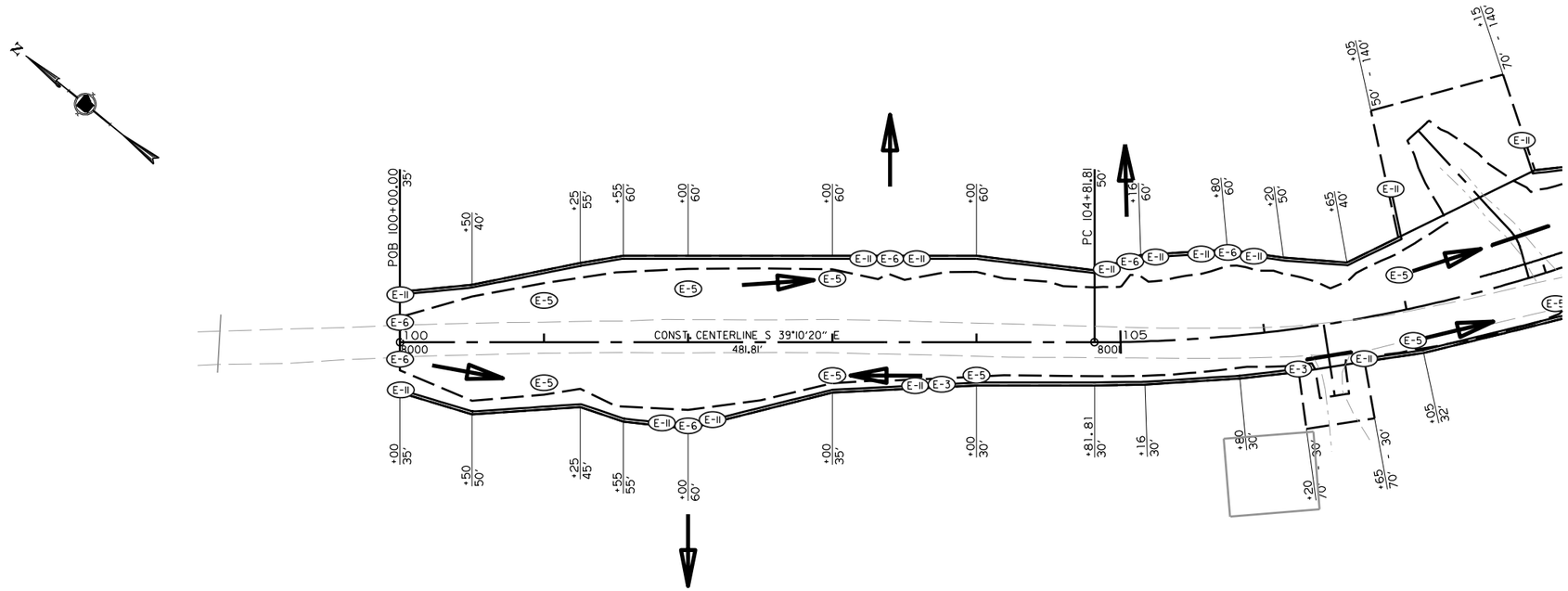
SHEET 4 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF WINGWALLS
SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 2 2020 11:29 AM
Charles R. Ellis
DocuSigned

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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.		FA1108	15	63

4 TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

	TEMPORARY SEEDING	MULCH COVER	WATER
STA. 100+00 TO STA. 108+00 LT. & RT. =	1.34 ACRES	1.34 ACRES	27.3 M. GALS

TEMPORARY EROSION CONTROL

FILTER SOCK (18") (E-3)	SEDIMENT REMOVAL AND DISPOSAL
STA. 103+57 TO STA. 106+20 RT. = 267 LIN. FT.	29.4 CU. YDS
SAND BAG DITCH CHECKS (E-5)	SEDIMENT REMOVAL AND DISPOSAL
STA. 101+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 102+00 LT. = 22 BAGS	1.5 CU. YDS
STA. 103+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 104+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 107+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
ROCK DITCH CHECKS (E-6)	SEDIMENT REMOVAL AND DISPOSAL
STA. 100+00 LT. & RT. = 6 CU.YDS.	3.0 CU. YDS
STA. 102+00 RT. = 3 CU.YDS.	1.5 CU. YDS
STA. 103+40 LT. = 3 CU.YDS.	1.5 CU. YDS
STA. 105+08 LT. = 3 CU.YDS.	1.5 CU. YDS
STA. 105+80 LT. = 3 CU.YDS.	1.5 CU. YDS
SILT FENCE (E-11)	SEDIMENT REMOVAL AND DISPOSAL
STA. 100+00 TO STA. 102+00 RT. = 207 LIN. FT.	22.8 CU. YDS
STA. 100+00 TO STA. 103+40 LT. = 344 LIN. FT.	37.8 CU. YDS
STA. 102+00 TO STA. 103+57 RT. = 162 LIN. FT.	17.8 CU. YDS
STA. 103+40 TO STA. 105+08 LT. = 170 LIN. FT.	18.7 CU. YDS
STA. 105+08 TO STA. 105+80 LT. = 68 LIN. FT.	7.5 CU. YDS
STA. 105+80 TO STA. 107+07 LT. = 162 LIN. FT.	17.8 CU. YDS
STA. 106+65 TO STA. 111+42 RT. = 578 LIN. FT.	63.6 CU. YDS

E-3	FILTER SOCK
E-5	SAND BAG DITCH CHECK
E-6	ROCK DITCH CHECK
E-8	DIVERSION DITCH
E-11	SILT FENCE
E-12	SLOPE DRAIN
E-14	SEDIMENT BASIN

REVISIONS

DATE	DESCRIPTION

EROSION CONTROL ITEMS ARE SUBJECT TO IMMEDIATE PLACEMENT AS DIRECTED BY THE ENGINEER. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

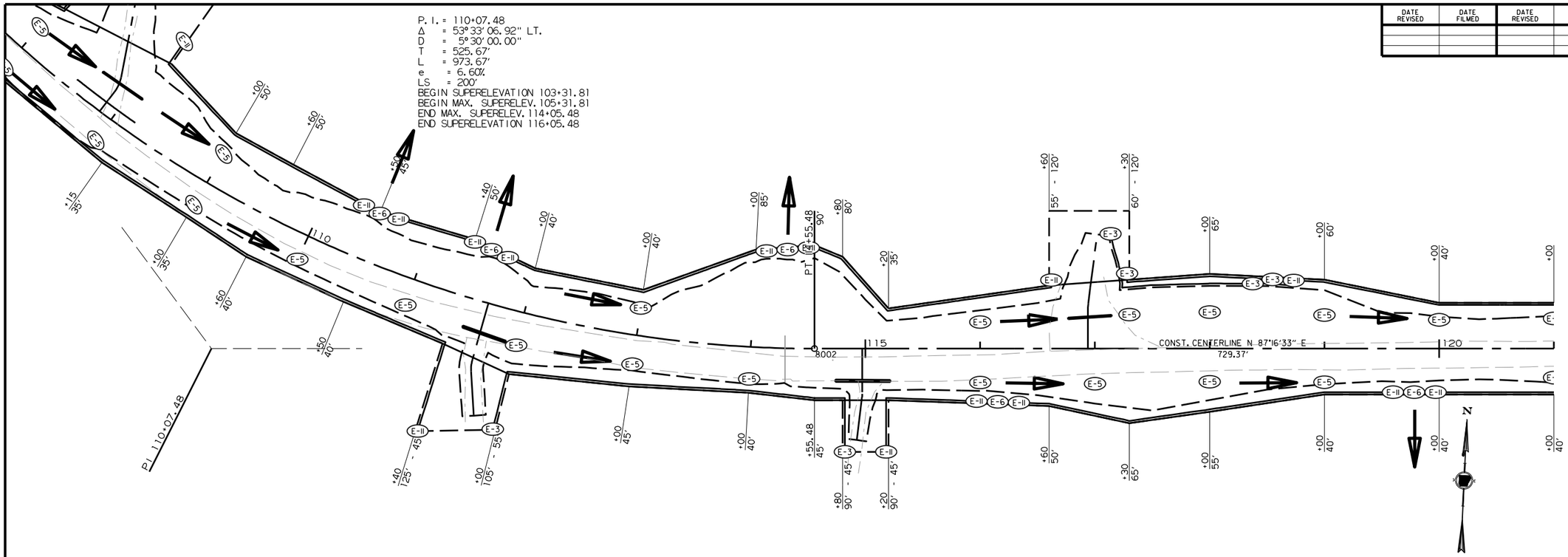
THE TEMPORARY EROSION CONTROL DEVICES SHOWN SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S.

WATERWAY AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT. ALL TEMPORARY EROSION CONTROL QUANTITIES ARE ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

TEMPORARY EROSION 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.		FA1108	16	63

(4) TEMPORARY EROSION CONTROL DETAILS





	TEMPORARY SEEDING	MULCH COVER	WATER
STA. 108+00 TO STA. 121+00 LT. & RT. =	2.12 ACRES	2.12 ACRES	43.2 M. GALS

TEMPORARY EROSION CONTROL

FILTER SOCK (18") (E-3)	SEDIMENT REMOVAL AND DISPOSAL
STA. 111+98 TO STA. 114+82 RT. = 395 LIN. FT.	43.5 CU. YDS
STA. 117+14 TO STA. 118+73 LT. = 351 LIN. FT.	38.6 CU. YDS

SAND BAG DITCH CHECKS (E-5)	SEDIMENT REMOVAL AND DISPOSAL
STA. 108+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 109+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 110+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 111+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 112+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 113+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 114+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 116+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 117+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 117+30 LT. = 22 BAGS	1.5 CU. YDS
STA. 118+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 119+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 120+00 LT. = 22 BAGS	1.5 CU. YDS

ROCK DITCH CHECKS (E-6)	SEDIMENT REMOVAL AND DISPOSAL
STA. 110+50 LT. = 3 CU.YDS.	1.5 CU. YDS
STA. 111+57 LT. = 3 CU.YDS.	1.5 CU. YDS
STA. 114+30 LT. = 3 CU.YDS.	1.5 CU. YDS
STA. 116+15 RT. = 3 CU.YDS.	1.5 CU. YDS
STA. 119+78 RT. = 3 CU.YDS.	1.5 CU. YDS

SILT FENCE (E-11)	SEDIMENT REMOVAL AND DISPOSAL
STA. 108+12 TO STA. 110+50 LT. = 258 LIN. FT.	28.4 CU. YDS
STA. 110+50 TO STA. 111+57 LT. = 103 LIN. FT.	11.3 CU. YDS
STA. 111+57 TO STA. 114+30 LT. = 272 LIN. FT.	29.9 CU. YDS
STA. 114+30 TO STA. 116+62 LT. = 263 LIN. FT.	28.9 CU. YDS
STA. 115+18 TO STA. 116+15 RT. = 145 LIN. FT.	16.0 CU. YDS
STA. 116+15 TO STA. 119+78 RT. = 367 LIN. FT.	40.4 CU. YDS
STA. 118+73 TO STA. 123+92 LT. = 658 LIN. FT.	72.4 CU. YDS
STA. 119+78 TO STA. 121+52 RT. = 174 LIN. FT.	19.1 CU. YDS

(E-3)	FILTER SOCK
(E-5)	SAND BAG DITCH CHECK
(E-6)	ROCK DITCH CHECK
(E-8)	DIVERSION DITCH
(E-11)	SILT FENCE
(E-12)	SLOPE DRAIN
(E-14)	SEDIMENT BASIN

REVISIONS

DATE	D E S C R I P T I O N

EROSION CONTROL ITEMS ARE SUBJECT TO IMMEDIATE PLACEMENT AS DIRECTED BY THE ENGINEER. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

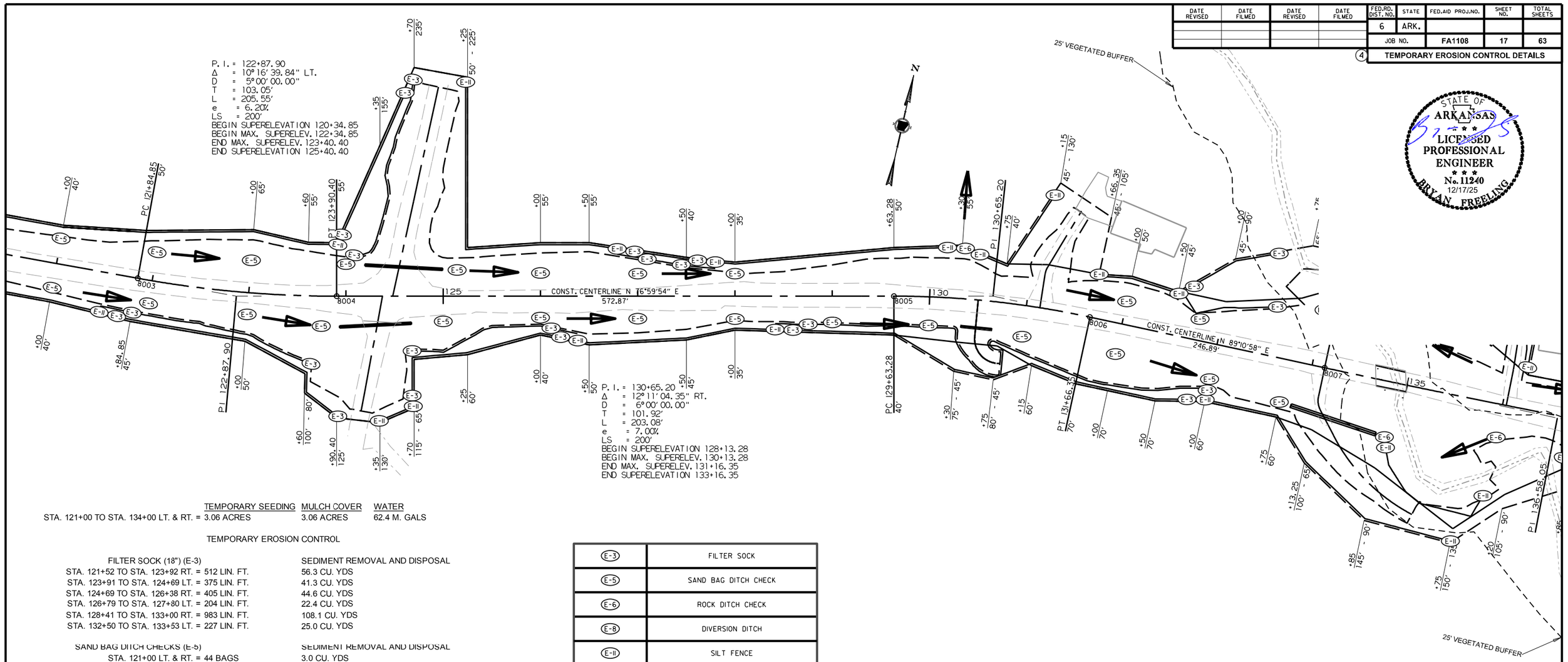
THE TEMPORARY EROSION CONTROL DEVICES SHOWN SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S.

WATERWAY AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT. ALL TEMPORARY EROSION CONTROL QUANTITIES ARE ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

TEMPORARY EROSION 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.		FA1108	17	63

4 TEMPORARY EROSION CONTROL DETAILS



	TEMPORARY SEEDING	MULCH COVER	WATER
STA. 121+00 TO STA. 134+00 LT. & RT. =	3.06 ACRES	3.06 ACRES	62.4 M. GALS

TEMPORARY EROSION CONTROL

FILTER SOCK (18") (E-3)	SEDIMENT REMOVAL AND DISPOSAL
STA. 121+52 TO STA. 123+92 RT. = 512 LIN. FT.	56.3 CU. YDS
STA. 123+91 TO STA. 124+69 LT. = 375 LIN. FT.	41.3 CU. YDS
STA. 124+69 TO STA. 126+38 RT. = 405 LIN. FT.	44.6 CU. YDS
STA. 126+79 TO STA. 127+80 LT. = 204 LIN. FT.	22.4 CU. YDS
STA. 128+41 TO STA. 133+00 RT. = 983 LIN. FT.	108.1 CU. YDS
STA. 132+50 TO STA. 133+53 LT. = 227 LIN. FT.	25.0 CU. YDS

SAND BAG DITCH CHECKS (E-5)	SEDIMENT REMOVAL AND DISPOSAL
STA. 121+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 122+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 123+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 123+75 RT. = 22 BAGS	1.5 CU. YDS
STA. 124+00 LT. = 22 BAGS	1.5 CU. YDS
STA. 125+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 125+14 LT. = 22 BAGS	1.5 CU. YDS
STA. 126+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 127+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 128+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 129+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 130+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 131+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 132+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 132+80 LT. = 22 BAGS	1.5 CU. YDS
STA. 133+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 133+75 RT. = 22 BAGS	1.5 CU. YDS

ROCK DITCH CHECKS (E-6)	SEDIMENT REMOVAL AND DISPOSAL
STA. 130+33 LT. = 3 CU.YDS.	1.5 CU. YDS

SILT FENCE (E-11)	SEDIMENT REMOVAL AND DISPOSAL
STA. 124+34 TO STA. 124+69 RT. = 39 LIN. FT.	4.3 CU. YDS
STA. 125+23 TO STA. 126+79 LT. = 334 LIN. FT.	36.7 CU. YDS
STA. 126+38 TO STA. 128+41 RT. = 205 LIN. FT.	22.6 CU. YDS
STA. 127+80 TO STA. 130+33 LT. = 255 LIN. FT.	28.1 CU. YDS
STA. 130+33 TO STA. 131+12 LT. = 139 LIN. FT.	15.3 CU. YDS
STA. 131+65 TO STA. 132+50 LT. = 85 LIN. FT.	9.4 CU. YDS
STA. 133+00 TO STA. 135+76 RT. = 309 LIN. FT.	34.0 CU. YDS

E-3	FILTER SOCK
E-5	SAND BAG DITCH CHECK
E-6	ROCK DITCH CHECK
E-8	DIVERSION DITCH
E-11	SILT FENCE
E-12	SLOPE DRAIN
E-14	SEDIMENT BASIN

REVISIONS

DATE	DESCRIPTION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

EROSION CONTROL ITEMS ARE SUBJECT TO IMMEDIATE PLACEMENT AS DIRECTED BY THE ENGINEER. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

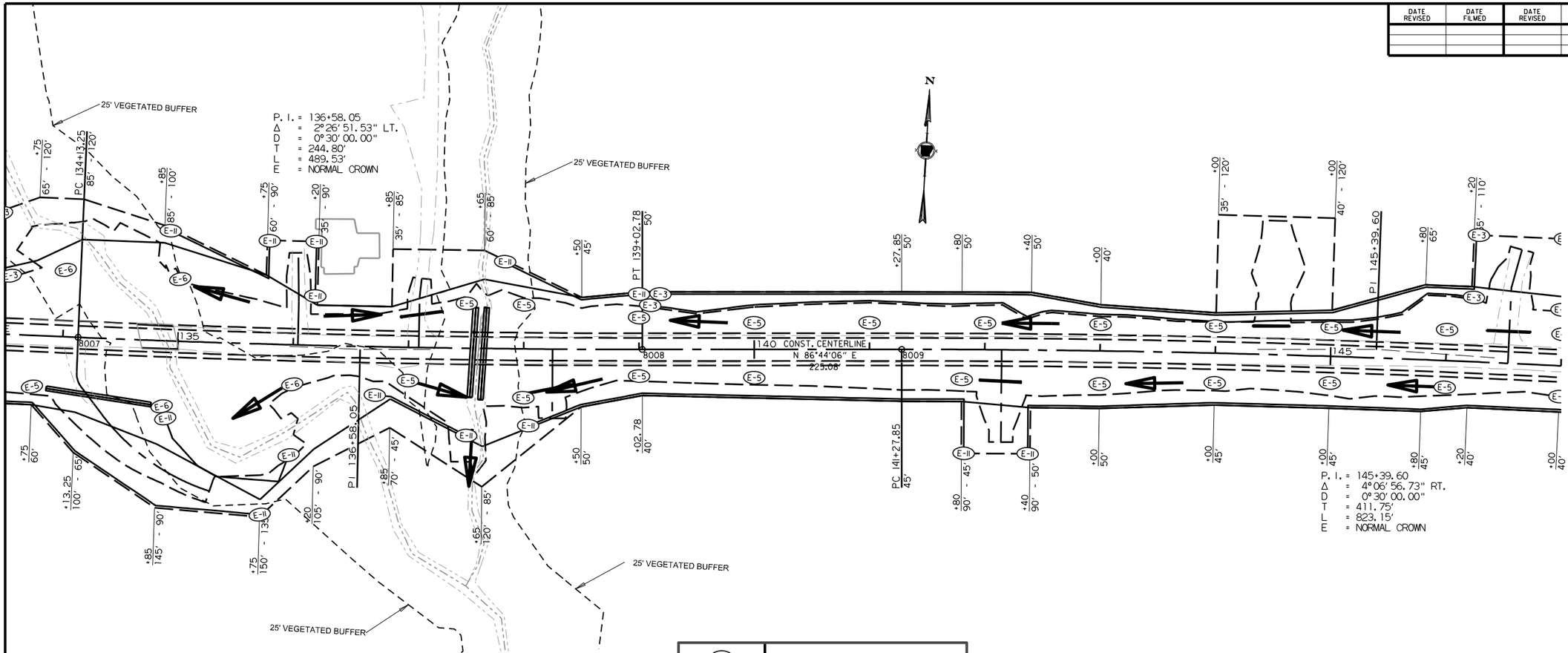
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WATERWAY AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT. ALL TEMPORARY EROSION CONTROL QUANTITIES ARE ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

TEMPORARY EROSION 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.		FA1108	18	63

4 TEMPORARY EROSION CONTROL DETAILS



	TEMPORARY SEEDING	MULCH COVER	WATER
STA. 134+00 TO STA. 147+00 LT. & RT. =	2.69 ACRES	2.69 ACRES	54.7 M. GALS

TEMPORARY EROSION CONTROL

FILTER SOCK (18") (E-3)	SEDIMENT REMOVAL AND DISPOSAL
STA. 139+00 TO STA. 146+22 LT. = 1511 LIN. FT.	166.2 CU. YDS
STA. 146+98 TO STA. 149+27 LT. = 522 LIN. FT.	57.4 CU. YDS
SAND BAG DITCH CHECKS (E-5)	SEDIMENT REMOVAL AND DISPOSAL
STA. 137+00 RT. = 22 BAGS	1.5 CU. YDS
STA. 137+50 LT. = 22 BAGS	1.5 CU. YDS
STA. 138+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 139+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 140+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 141+00 LT. = 22 BAGS	1.5 CU. YDS
STA. 141+80 RT. = 22 BAGS	1.5 CU. YDS
STA. 142+00 LT. = 22 BAGS	1.5 CU. YDS
STA. 143+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 144+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 145+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 146+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
ROCK DITCH CHECKS (E-6)	SEDIMENT REMOVAL AND DISPOSAL
STA. 134+00 LT. = 3 CU.YDS.	1.5 CU. YDS
STA. 134+88 RT. = 3 CU.YDS.	1.5 CU. YDS
STA. 135+00 LT. = 3 CU.YDS.	1.5 CU. YDS
STA. 136+00 RT. = 3 CU.YDS.	1.5 CU. YDS
SILT FENCE (E-11)	SEDIMENT REMOVAL AND DISPOSAL
STA. 134+88 TO STA. 135+98 RT. = 157 LIN. FT.	17.3 CU. YDS
STA. 134+90 TO STA. 135+77 LT. = 126 LIN. FT.	13.9 CU. YDS
STA. 136+18 TO STA. 136+18 LT. = 47 LIN. FT.	5.2 CU. YDS
STA. 136+72 TO STA. 137+51 RT. = 88 LIN. FT.	9.7 CU. YDS
STA. 137+83 TO STA. 139+00 LT. = 128 LIN. FT.	14.1 CU. YDS
STA. 138+00 TO STA. 141+82 RT. = 430 LIN. FT.	47.3 CU. YDS
STA. 142+38 TO STA. 149+02 RT. = 752 LIN. FT.	82.7 CU. YDS

E-3	FILTER SOCK
E-5	SAND BAG DITCH CHECK
E-6	ROCK DITCH CHECK
E-8	DIVERSION DITCH
E-11	SILT FENCE
E-12	SLOPE DRAIN
E-14	SEDIMENT BASIN

REVISIONS

DATE	DESCRIPTION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

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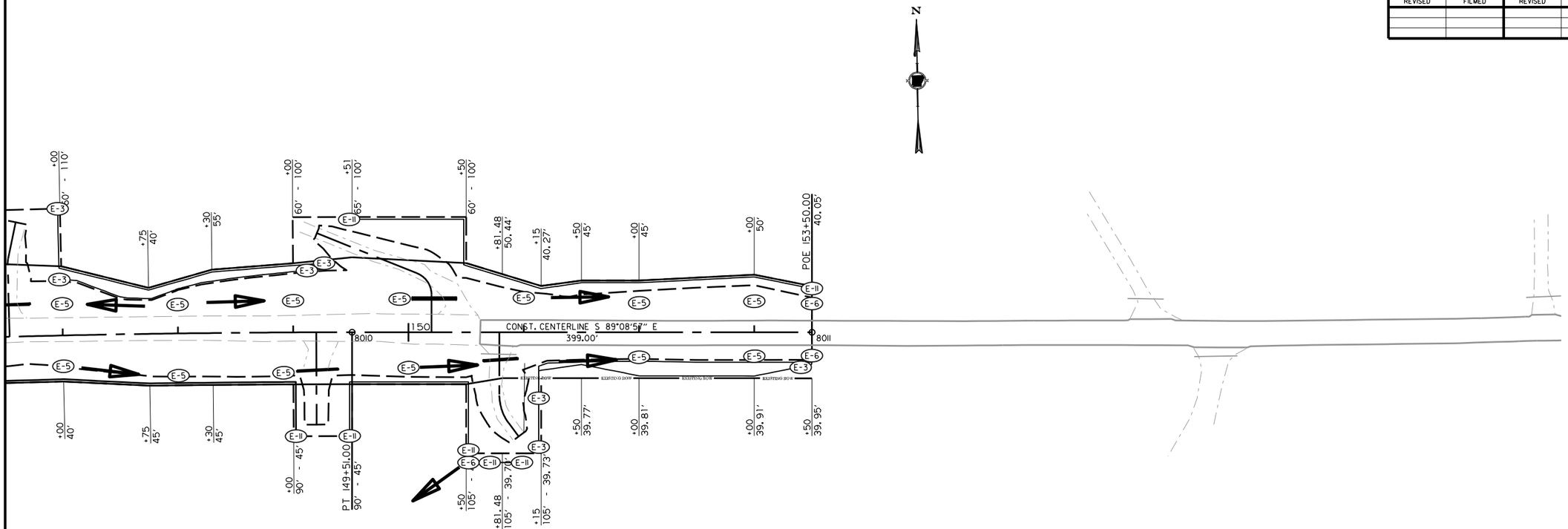
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TEMPORARY EROSION CONTROL DETAILS

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.		FA1108	19	63

4 TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

	TEMPORARY SEEDING	MULCH COVER	WATER
STA. 147+00 TO STA. 153+50 LT. & RT. =	1.14 ACRES	1.14 ACRES	23.3 M. GALS

TEMPORARY EROSION CONTROL

FILTER SOCK (18") (E-3)	SEDIMENT REMOVAL AND DISPOSAL
STA. 151+13 TO STA. 153+50 RT. = 563 LIN. FT.	61.9 CU. YDS
SAND BAG DITCH CHECKS (E-5)	SEDIMENT REMOVAL AND DISPOSAL
STA. 147+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 148+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 149+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 150+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 151+00 LT. = 22 BAGS	1.5 CU. YDS
STA. 152+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
STA. 153+00 LT. & RT. = 44 BAGS	3.0 CU. YDS
ROCK DITCH CHECKS (E-6)	SEDIMENT REMOVAL AND DISPOSAL
STA. 150+52 RT. = 3 CU.YDS.	1.5 CU. YDS
STA. 153+50 LT. & RT. = 6 CU.YDS.	3.0 CU. YDS
SILT FENCE (E-11)	SEDIMENT REMO'
STA. 149+49 TO STA. 150+52 RT. = 212 LIN. FT.	23.3 CU. YDS
STA. 149+49 TO STA. 154+00 LT. = 444 LIN. FT.	48.8 CU. YDS
STA. 150+52 TO STA. 150+97 RT. = 49 LIN. FT.	5.4 CU. YDS

E-3	FILTER SOCK
E-5	SAND BAG DITCH CHECK
E-6	ROCK DITCH CHECK
E-8	DIVERSION DITCH
E-11	SILT FENCE
E-12	SLOPE DRAIN
E-14	SEDIMENT BASIN

REVISIONS

DATE	DESCRIPTION

EROSION CONTROL ITEMS ARE SUBJECT TO IMMEDIATE PLACEMENT AS DIRECTED BY THE ENGINEER. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

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TEMPORARY EROSION 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.		FA1108	20	63

④ MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

① BRIDGE OUT 0.9 MILES AHEAD LOCAL TRAFFIC ONLY — (1) R11-3B (60"x30")
16' BARRICADE TYPE III (RIGHT)

② BRIDGE OUT 0.18 MILES AHEAD LOCAL TRAFFIC ONLY — (1) R11-3B (60"x30")
16' BARRICADE TYPE III (RIGHT)

③ ROAD CLOSED — (2) R11-2 (48"x30")
8' BARRICADE TYPE III (LEFT)
8' BARRICADE TYPE III (RIGHT)

4W
WEST — (2) M3-4 (24" X 12")
CLAY 450 COUNTY — (2) M1-6 (24"x24")
DETOUR — (2) M4-9L (30"x24")

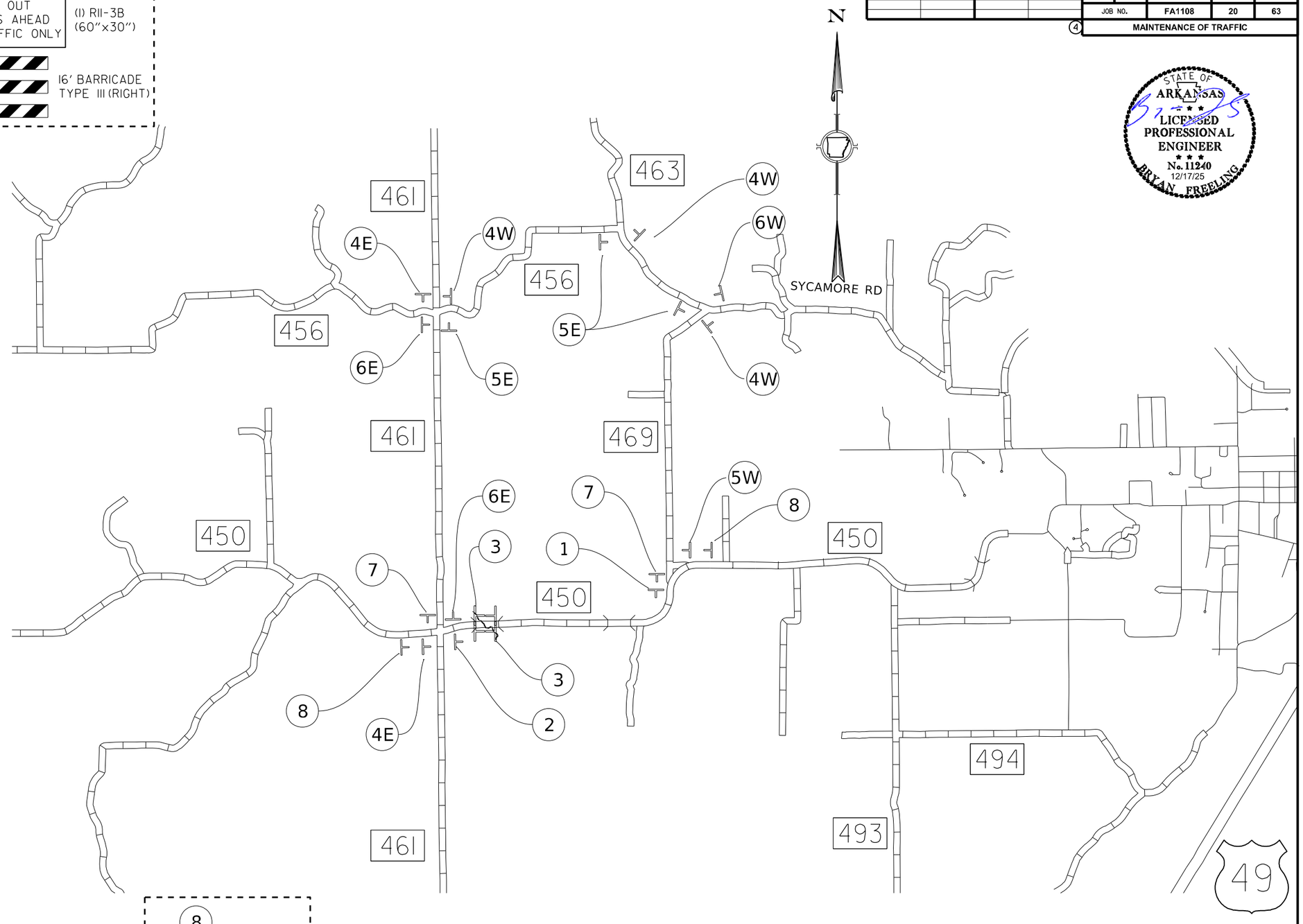
4E
EAST — (2) M3-2 (24" X 12")
CLAY 450 COUNTY — (2) M1-6 (24"x24")
DETOUR — (2) M4-9L (30"x24")

5W
WEST — (1) M3-4 (24" X 12")
CLAY 450 COUNTY — (1) M1-6 (24"x24")
DETOUR — (1) M4-9R (30"x24")

5E
EAST — (2) M3-2 (24" X 12")
CLAY 450 COUNTY — (2) M1-6 (24"x24")
DETOUR — (2) M4-9R (30"x24")

6W
WEST — (1) M3-4 (24" X 12")
CLAY 450 COUNTY — (1) M1-6 (24"x24")
DETOUR — (1) M4-9S (30"x30")

6E
EAST — (2) M3-2 (24" X 12")
CLAY 450 COUNTY — (2) M1-6 (24"x24")
DETOUR — (2) M4-9S (30"x30")



7 END DETOUR — (2) M4-8A (24"x18")

8 DETOUR AHEAD — (2) W20-2 (48"x48")

DETOUR FOR BRIDGE REPLACEMENT

MAINTENANCE OF TRAFFIC

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.		FA1108	21	63

④ QUANTITIES

TRAFFIC CONTROL DEVICES

DESCRIPTION	W20-1 1500 FT. NO.	W20-1 1500 FT. SQ. FT.	W20-1 1000 FT. NO.	W20-1 1000 FT. SQ. FT.	W20-1 500 FT. NO.	W20-1 500 FT. SQ. FT.	W20-1 AHEAD NO.	W20-1 AHEAD SQ. FT.	W20-2 (DETOUR AHEAD) NO.	W20-2 (DETOUR AHEAD) SQ. FT.	G20-1 (ROAD WORK NEXT X.X MILES) NO.	G20-1 (ROAD WORK NEXT X.X MILES) SQ. FT.	G20-2 (END ROAD WORK) NO.	G20-2 (END ROAD WORK) SQ. FT.	M1-6 (COUNTY ROUTE MARKER) NO.	M1-6 (COUNTY ROUTE MARKER) SQ. FT.	M3-2 (EAST MARKER) NO.	M3-2 (EAST MARKER) SQ. FT.	M3-4 (WEST MARKER) NO.	M3-4 (WEST MARKER) SQ. FT.	M4-8a (END DETOUR) NO.	M4-8a (END DETOUR) SQ. FT.	M4-9 (DETOUR ARROW) NO.	M4-9 (DETOUR ARROW) SQ. FT.	R2-6aP (FINES DOUBLE) NO.	R2-6aP (FINES DOUBLE) SQ. FT.	R2-11 (END HIGHER FINES ZONE) NO.	R2-11 (END HIGHER FINES ZONE) SQ. FT.	R11-2 (ROAD CLOSED) NO.	R11-2 (ROAD CLOSED) SQ. FT.	*R11-3b (BRIDGE OUT XX MILES AHEAD) NO.	*R11-3b (BRIDGE OUT XX MILES AHEAD) SQ. FT.	*BARRICADES (TYPE III) LIN. FT.	*TRAFFIC DRUMS EACH	*VERTICAL PANELS EACH	STANDARD DRAWING NUMBER
STA. 85+00 RT.	1	16.00																							1	12.00										TC-1, TC-2, TC-3, TC-6
STA. 90+00 RT.			1	16.00																																TC-1, TC-2, TC-3, TC-6
STA. 95+00 LT.													1	8.00														1	12.00							TC-1, TC-2, TC-3, TC-6
STA. 95+00 RT.					1	16.00																														TC-1, TC-2, TC-3, TC-6
STA. 98+50 RT.											1	10.00																								TC-1, TC-2, TC-3, TC-6
STA. 124+35 RT.							1	16.00																												TC-1, TC-2, TC-3, TC-6
STA. 124+50 LT.							1	16.00																												TC-1, TC-2, TC-3, TC-6
STA. 134+25 CL.																															1	10.00			16*			TC-1, TC-2, TC-3, TC-6
STA. 135+90 CL.																															1	10.00			16*			TC-1, TC-2, TC-3, TC-6
STA. 155+00 LT.											1	10.00																								TC-1, TC-2, TC-3, TC-6
STA. 158+50 LT.					1	16.00																														TC-1, TC-2, TC-3, TC-6
STA. 158+50 RT.													1	8.00															1	12.00						TC-1, TC-2, TC-3, TC-6
STA. 163+50 LT.			1	16.00																																TC-1, TC-2, TC-3, TC-6
STA. 168+50 RT.	1	16.00																							1	12.00										TC-1, TC-2, TC-3, TC-6
DETOUR**									2	32.00					10	40.00	6	12.00	4	8.00	2	6.00	10	53.75									2	25.00	32*			TC-1, TC-2, TC-3, TC-6
SUBTOTALS:	2	32.00	2	32.00	2	32.00	2	32.00	2.00	32.00	2	20.00	2	16.00	10	40.00	6	12.00	4	8.00	2	6.00	10	53.75	2	24.00	2	24.00	2	20.00	2	25.00	64*	75*	25*	
TOTALS:																																	408.75	64*	75*	25*	
USE:																																	409.00	64	75	25	

LOCATION OF THE TRAFFIC CONTROL DEVICES TO BE AS DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
*ESTIMATED QUANTITY. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
**SEE SHEET 20A FOR LOCATION OF DETOUR CONTROL DEVICES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

FENCING

STATION	STATION	SIDE	REMOVAL AND DISPOSAL OF FENCE	FENCE REMOVED AND RECONSTRUCTED	REMOVAL AND DISPOSAL OF GATES	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D-1)	18' STEEL GATES	18' ALUMINUM GATES
			LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	EACH	EACH
100+00	102+92	RT.		306					
101+46	103+11	LT.	165			175			
107+61	107+79	LT.						1	1
107+71	107+90	LT.			2				
111+40	111+57	RT.		50					
115+22	124+06	RT.	982				916		
124+35	124+50	RT.		89					
126+88	130+42	RT.	362				351		
129+56	131+02	LT.	153				156		
130+42	130+61	RT.	18					1	1
130+61	133+94	RT.	376				332		
133+92	133+93	RT.			1				
133+94	133+95	RT.						1	1
134+81	135+93	LT.				135			
135+05	135+39	LT.	35						
149+51	149+57	LT.						1	1
149+63	149+68	LT.		10					
149+68	149+74	LT.			1				
149+74	149+89	LT.		30					
150+60	150+62	LT.	26			30			
TOTALS:			2117	485	4	340	1755	4	4

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

CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
		STATION	STATION
100+00	116+00	16	16
117+00	153+50	37	37
TOTAL:		53	53

FLOWABLE SELECT MATERIAL

STATION	DESCRIPTION	CU. YDS.
114+30	FILL AND ABANDON IN PLACE 21" X 41' STEEL PIPE CULVERT	4
TOTAL:		4

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION NORMAL	UNCLASSIFIED EXCAVATION ADD'L	UNCLASSIFIED EXCAVATION TOTAL	COMPACTED EMBANKMENT NORMAL	COMPACTED EMBANKMENT ADD'L	COMPACTED EMBANKMENT TOTAL
			CUBIC YARDS					
100+00	108+00	MAIN LANES	2596		2596	2040		2040
106+42		DRIVE ON RT.		2	2		21	21
107+88		DRIVE ON LT.		317	317		62	62
108+06	111+32	OBLITERATION OF ABANDONED ROADWAY		55	55			
108+50	121+00	MAIN LANES	4476		4476	3385		3385
111+68		DRIVE ON RT.		10	10		62	62
114+97		DRIVE ON RT.		4	4		79	79
116+94		DRIVE ON LT.		161	161		43	43
121+27	134+00	MAIN LANES	5503		5503	5120		5120
124+38		COUNTY ROAD 63 - SOUTH		563	563		173	173
124+48		COUNTY ROAD 63 - NORTH		98	98		227	227
130+50		DRIVE ON RT.		3	3		66	66
131+14		DRIVE ON LT.		14	14		93	93
133+57	134+81	CHANNEL CHANGE FOR BOX CULVERT - INLET		409	409		15	15
133+87	135+79	R.C. BOX CULVERT EXCAVATION		2311	2311			
134+13	147+00	MAIN LANES	2754		2754	4869		4869
134+13		DRIVE ON RT.		4	4		654	654
134+89	135+91	CHANNEL CHANGE FOR BOX CULVERT - OUTLET		381	381			
136+04		DRIVE ON LT.		4	4		36	36
137+09		DRIVE ON LT.		2	2		80	80
137+61		CHANNEL CHANGE FOR DBL. R.C. PIPE CULVERT - INLET		30	30			
137+61		CHANNEL CHANGE FOR DBL. R.C. PIPE CULVERT - OUTLET		145	145			
138+25		DRIVE ON RT.		4	4		78	78
142+15		DRIVE ON RT.		32	32		38	38
144+50		DRIVE ON LT.		164	164		58	58
146+54		DRIVE ON LT.		75	75		52	52
147+50	153+50	MAIN LANES	1409		1409	1950		1950
149+20		DRIVE ON RT.		8	8		84	84
150+20		DRIVE ON LT.		155	155		70	70
150+79		DRIVE ON RT.		116	116		52	52
TOTALS:			16738	5067	21805	17364	2043	19407

EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

CHANNEL CHANGE EXCAVATION, IF DEEMED SUITABLE BY THE ENGINEER, TO BE USED AS ROADWAY EMBANKMENT.
EXCAVATION DEEMED UNSUITABLE SHALL BE DISPOSED OF AS APPROVED BY THE ENGINEER.

REMOVAL AND DISPOSAL OF PIPE CULVERTS

STATION	DESCRIPTION	PIPE CULVERT
		EACH
124+38	20" X 40' STEEL CROSS DRAIN (CO. RD. 63)	1
137+61	48" X 50' CMP CROSS DRAIN	1
150+79	12" X 31' CMP RT. SIDE DRAIN	1
TOTAL:		3

ALL SALVAGEABLE PIPE CULVERTS SHALL BECOME THE PROPERTY OF CLAY COUNTY.

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA1108	22	63

④ QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

BASE AND SURFACING

STARTING STATION	ENDING STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
			FEET	TONS/STATION	TONS	WIDTH	SQ. YDS.	GAL./SQ.YD.	GALLONS	WIDTH	SQ. YDS.	LBS./SQ. YD.	TONS	WIDTH	SQ. YDS.	LBS./SQ. YD.	TONS
MAIN LANES																	
100+00.00	103+31.81	MAIN LANES	331.81	181.40	601.90	20.33	749.52	0.08	59.96	20.33	749.52	330.00	123.7	20.00	737.36	220.00	81.1
103+31.81	105+31.81	MAIN LANES	200.00	182.20	364.40	20.33	451.78	0.08	36.14	20.33	451.78	330.00	74.5	20.00	444.44	220.00	48.9
105+31.81	114+05.48	MAIN LANES	873.67	186.70	1631.14	20.33	1973.52	0.08	157.88	20.33	1973.52	330.00	325.6	20.00	1941.49	220.00	213.6
114+05.48	116+05.48	MAIN LANES	200.00	182.20	364.40	20.33	451.78	0.08	36.14	20.33	451.78	330.00	74.5	20.00	444.44	220.00	48.9
116+05.48	120+34.85	MAIN LANES	429.37	181.40	778.88	20.33	969.90	0.08	77.59	20.33	969.90	330.00	160.0	20.00	954.16	220.00	105.0
120+34.85	122+34.85	MAIN LANES	200.00	182.00	364.00	20.33	451.78	0.08	36.14	20.33	451.78	330.00	74.5	20.00	444.44	220.00	48.9
122+34.85	123+40.4	MAIN LANES	105.55	185.70	196.01	20.33	238.43	0.08	19.07	20.33	238.43	330.00	39.3	20.00	234.56	220.00	25.8
123+40.4	125+40.4	MAIN LANES	200.00	182.00	364.00	20.33	451.78	0.08	36.14	20.33	451.78	330.00	74.5	20.00	444.44	220.00	48.9
125+40.4	128+13.28	MAIN LANES	272.88	181.40	495.00	20.33	616.41	0.08	49.31	20.33	616.41	330.00	101.7	20.00	606.40	220.00	66.7
128+13.28	130+13.28	MAIN LANES	200.00	183.50	367.00	20.33	451.78	0.08	36.14	20.33	451.78	330.00	74.5	20.00	444.44	220.00	48.9
130+13.28	131+16.35	MAIN LANES	103.07	186.80	192.53	20.33	232.82	0.08	18.63	20.33	232.82	330.00	38.4	20.00	229.04	220.00	25.2
131+16.35	133+16.35	MAIN LANES	200.00	183.50	367.00	20.33	451.78	0.08	36.14	20.33	451.78	330.00	74.5	20.00	444.44	220.00	48.9
133+16.35	153+50.00	MAIN LANES	2033.65	181.40	3689.04	20.33	4593.79	0.08	367.50	20.33	4593.79	330.00	758.0	20.00	4519.22	220.00	497.1
ADDITIONAL FOR METHOD OF RAISING GRADE																	
150+60.	151+25.00	MAIN LANES	65.00			21.00	151.67	0.17	25.78	21.00	151.67	VAR.	84.8				
ADDITIONAL FOR CO. RD. 63																	
400+00.	401+20.	CO. RD. 63 (SOUTH)	120.00	VARIABLE	132.58									VAR.	324.68	220.00	35.7
600+00.	602+20.	CO. RD. 63 (NORTH)	220.00	VARIABLE	224.90									VAR.	550.78	220.00	60.6
ADDITIONAL FOR DRIVEWAYS																	
106+42.00		DRIVEWAY ON RT.	50.00	VARIABLE	37.07									VAR.	90.80	220.00	10.0
107+88.00		DRIVEWAY ON LT.	130.00	VARIABLE	101.11									VAR.	247.62	220.00	27.2
111+68.00		DRIVEWAY ON RT.	100.00	VARIABLE	73.33									VAR.	179.58	220.00	19.8
114+97.00		DRIVEWAY ON RT.	80.00	VARIABLE	53.94									VAR.	132.11	220.00	14.5
116+94.00		DRIVEWAY ON LT.	100.00	VARIABLE	73.12									VAR.	179.06	220.00	19.7
130+50.00		DRIVEWAY ON RT.	70.05	VARIABLE	58.63									VAR.	1292.17	220.00	142.1
131+14.00		DRIVEWAY ON LT.	110.00	VARIABLE	79.08									VAR.	193.68	220.00	21.3
136+04.00		DRIVEWAY ON LT.	80.00	VARIABLE	56.18									VAR.	137.57	220.00	15.1
137+09.00		DRIVEWAY ON LT.	60.00	VARIABLE	42.36									VAR.	103.75	220.00	11.4
138+25.00		DRIVEWAY ON RT.	50.00	VARIABLE	44.11									VAR.	108.02	220.00	11.9
142+15.00		DRIVEWAY ON RT.	80.00	VARIABLE	58.64									VAR.	143.60	220.00	15.8
144+50.00		DRIVEWAY ON LT.	106.21	VARIABLE	84.89									VAR.	207.89	220.00	22.9
146+54.00		DRIVEWAY ON LT.	100.00	VARIABLE	73.15									VAR.	179.14	220.00	19.7
149+20.00		DRIVEWAY ON RT.	80.00	VARIABLE	58.64									VAR.	143.60	220.00	15.8
150+20.00		DRIVEWAY ON LT.	150.00	VARIABLE	107.97									VAR.	264.42	220.00	29.1
150+79.00		DRIVEWAY ON RT.	95.00	VARIABLE	68.44									VAR.	167.62	220.00	18.4
MAINTENANCE OF TRAFFIC*		ENTIRE PROJECT			3000.00												
TOTALS:					14203.44				992.56				2078.5				1818.9
USE:					14203				993				2079				1819

BASIS OF ESTIMATE:

AGGREGATE BASE COURSE (CLASS 7)	181.4 TONS / STA. (TYPICAL)
TACK COAT	0.08 GAL. / SQ. YD.
ACHM BINDER COURSE	330 LBS. / SO. YD.
ACHM SURFACE COURSE (1/2")	220 LBS. / SO. YD.

VOLUME CONTROL:

ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	4.7%
MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	95.3%
ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	5.6%
MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	94.4%

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA1108	23	63

4 QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

FILTER BLANKET AND DUMPED RIPRAP

STATION	STATION	SIDE	FILTER BLANKET	DUMPED RIPRAP
			SQ. YDS.	CU. YDS.
133+57	134+15	LT.	135	68
134+36	134+81	LT.	94	47
134+89	136+14	RT.	367	280
135+61	136+06	RT.	64	32
137+45	137+70	RT.	69	35
137+50	137+75	LT.	57	29
TOTALS:			786	491

NOTE: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

PAVEMENT MARKING

STATION		DESCRIPTION	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")
FROM	TO		LINEAR FEET	
100+00	153+50	DOUBLE LINE	10700	
100+00	153+50	SOLID LINE (LT.)		5350
100+00	153+50	SOLID LINE (RT.)		5350
TOTALS:			10700	10700

THIS IS A LOW VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS.

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

STATION	SIDE	STANDARD SIGN NUMBER																SUPPORT ASSEMBLIES		STANDARD DRAWING NUMBER
		R1-1 (STOP)		W1-2R (RIGHT CURVE)		W1-2L (LEFT CURVE)		W8-3 (PAVEMENT ENDS)		R2-5a (REDUCED SPEED AHEAD)		W8-25 (SHOULDER ENDS)		OM-3L (OBJECT MARKER)		OM-3R (OBJECT MARKER)		TYPE A	TYPE C	
		NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	EACH		
101+00	LT.							1.00	9.00									1		SHS 1&2
101+50	LT.									1	5.00							1		SHS 1&2
102+00	LT.											1.00	9.00					1		SHS 1&2
104+00	RT.					1	6.25											1		SHS 1&2
115+50	LT.			1	6.25													1		SHS 1&2
124+40	LT.	1	6.25															1		SHS 1&2
124+50	RT.	1	6.25															1		SHS 1&2
134+40	LT.													1	3.00				1	SHS 1&2
134+76	RT.															1	3.00		1	SHS 1&2
135+03	LT.															1	3.00		1	SHS 1&2
135+34	RT.													1	3.00				1	SHS 1&2
TOTALS:		2	12.50	1	6.25	1	6.25	1	9.00	1	5.00	1	9.00	2	6.00	2	6.00	7	4	

ALL STANDARD SIGN BLANKS TO BE 0.08" THICK. REFER TO STANDARD DRAWING SHS - 2 FOR CHANNEL POST SPLICING DETAILS.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL			
			LIME	SEEDING	MULCH COVER	WATER
			TONS	ACRES	ACRES	M. GALS.
100+00	108+00	LT.	2	0.81	0.81	82.6
100+00	108+00	RT.	1	0.54	0.54	55.1
108+00	121+00	LT.	2	1.15	1.15	117.3
108+00	121+00	RT.	2	0.98	0.98	100.0
121+00	134+00	LT.	3	1.50	1.50	153.0
121+00	134+00	RT.	3	1.37	1.37	139.7
134+00	147+00	LT.	3	1.47	1.47	149.9
134+00	147+00	RT.	3	1.34	1.34	136.7
147+00	153+50	LT.	1	0.64	0.64	65.3
147+00	153+50	RT.	1	0.50	0.50	51.0
TOTALS:			21	10.30	10.30	1050.6

BASIS OF ESTIMATE:
LIME..... 2 TONS / ACRE OF SEEDING
WATER..... 102.0 M.G. / ACRE OF SEEDING, PERMANENT SEEDING

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	TEMPORARY SEEDING	MULCH COVER	WATER	FILTER SOCK (18") (E-3)	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DIVERSION DITCH (E-8)	SILT FENCE (E-11)	PIPE FOR SLOPE DRAINS (E-12)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL AND DISPOSAL
			ACRES	ACRES	M. GALS	LIN. FT.	BAGS	CU.YDS.	LIN. FT.	LIN. FT.	LIN. FT.	CU. YDS	CU. YDS	CU. YDS
100+00	108+00	LT. & RT.	1.34	1.34	27.3	267	176	18		1691				236.4
108+00	121+00	LT. & RT.	2.12	2.12	43.2	746	396	15		2240				363.0
121+00	134+00	LT. & RT.	3.06	3.06	62.4	2706	528	3		1386				485.6
134+00	147+00	LT. & RT.	2.69	2.69	54.7	2033	418	12		1728				448.3
147+00	153+50	LT. & RT.	1.14	1.14	23.3	563	286	9		705				160.4
ENTIRE	PROJECT	AS DIRECTED							1000		250	1800	1800	1874.1
TOTALS:			10.35	10.35	210.9	6315	1804	57	1000	7730	250	1800	1800	3567.8

BASIS OF ESTIMATE:
WATER..... 20.4 M.G. / ACRE OF SEEDING, TEMPORARY SEEDING

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

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

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA1108	24	63

(4) QUANTITIES

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	"B"	CONCRETE DITCH PAVING (TYPE A)	CONCRETE DITCH PAVING (TYPE B)	*SOLID SODDING	*WATER
			FEET	FEET	FEET	SQ. YD.	SQ. YD.	SQ. YD.	M. GAL.
108+00	111+52	RT.	360	6			240	160	2.0
121+59	124+20	LT.	255	6			170	113	1.4
123+00	123+93	RT.	96	6			64	43	0.5
124+67	127+20	RT.	253	6			169	112	1.4
124+99	127+20	LT.	221	6			147	98	1.2
132+00	133+87	RT.	189	6			126	84	1.1
132+60	134+00	LT.	146	6			97	65	0.8
134+78	134+96	RT.	18	6			12	8	0.1
135+71	136+30	RT.	64	6			43	28	0.4
136+85	137+54	RT.	72	6			48	32	0.4
137+29	137+50	LT.	21	6			14	9	0.1
137+66	138+02	RT.	37	6			25	16	0.2
138+43	138+72	RT.	30	6			20	13	0.2
143+06	144+26	RT.	120	6			80	53	0.7
143+66	144+32	LT.	66	6			44	29	0.4
144+63	145+47	LT.	84	6			56	37	0.5
147+75	150+03	LT.	229	6			153	102	1.3
150+41	151+00	LT.	59	6			39	26	0.3
151+00	151+50	LT.	50	VARIES	VARIES	42		22	0.3
151+50	152+80	LT.	130	9	5	130		58	0.7
TOTALS:						172	1547	1108	14.0

BASIS OF ESTIMATE:
WATER..... 12.6 GAL. PER ACRE OF SEEDING

ENERGY DISSIPATORS SHALL BE USED WHEN THE SLOPE OF DITCH PAVING EXCEEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT ARE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

REMOVAL AND DISPOSAL OF EXISTING BRIDGE STRUCTURE

STATION	DESCRIPTION	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)
		LUMP SUM
134+82	SINGLE SPAN CONCRETE BRIDGE	1.00
TOTAL:		1.00

STONE BACKFILL

STATION	STATION	DESCRIPTION	STONE BACKFILL
			TON
134+13	135+62	BOX CULVERT	533
TOTALS:			533

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

REINFORCED CONCRETE BOX CULVERT QUANTITIES

STATION	DESCRIPTION	R.C. BOX CULVERTS SPAN	R.C. BOX CULVERTS HEIGHT	R.C. BOX CULVERTS LENGTH	CLASS 'S' CONCRETE - ROADWAY	REINFORCING STEEL - ROADWAY (GRADE 60)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	SOLID SODDING	WATER	STANDARD DRAWING NUMBERS
		LIN. FT.			CU. YDS.	POUNDS	CU. YDS.	SQ. YDS.	M. GALS.	
134+90	TRIPLE 9' X 8' X 98 R.C. BOX CULVERT	9	8	98	303.04	43414	141	40	0.5	PBC-1, RCB-1, RCB-2
TOTALS:					303.04	43414	141	40	0.5	

BASIS OF ESTIMATE:
WATER..... 12.5 GALLONS PER SQUARE YARD

STRUCTURES

STATION	DESCRIPTION	SIDE DRAINS 18"	SIDE DRAINS 24"	SIDE DRAINS 30"	SIDE DRAINS 48"	PIPE CULVERTS REINFORCED CONCRETE (CLASS IV) 30"	REINFORCED CONCRETE (CLASS IV) 54"	ASPHALT COATED CORRUGATED STEEL (16 GUAGE) 30"	ASPHALT COATED CORRUGATED STEEL (16 GUAGE) 54"	ALUMINUM COATED CORRUGATED STEEL (16 GAUGE) 30"	ALUMINUM COATED CORRUGATED STEEL (16 GAUGE) 54"	POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL (16 GAUGE) 30"	POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL (16 GAUGE) 54"	FLARED END SECTIONS CONCRETE 54"	FLARED END SECTIONS METAL 54"	SOLID SODDING	WATER	SELECTED PIPE BEDDING*	STANDARD DRAWING NUMBERS
		LINEAR FT.												EACH		SQ. YD.	M. GAL.	CU. YDS.	
106+42.	INSTALL PIPE CULVERT RT. SIDE DRAIN	32**																1*	PCC-1
107+88.	INSTALL PIPE CULVERT LT. SIDE DRAIN	42																1*	PCM-1, PCC-1, PCP-1, PCP-2
111+68.	INSTALL PIPE CULVERT RT. SIDE DRAIN		40															1*	PCM-1, PCC-1, PCP-1, PCP-2
114+97.	INSTALL PIPE CULVERT RT. SIDE DRAIN		48															2*	PCM-1, PCC-1, PCP-1, PCP-2
116+94.	INSTALL PIPE CULVERT LT. SIDE DRAIN	38																1*	PCM-1, PCC-1, PCP-1, PCP-2
124+38.	CONSTRUCT PIPE CULVERT (CR 63)					74		74		74		74						9*	PCM-1, PCC-2
124+48.	CONSTRUCT PIPE CULVERT (CR 63)					80		80		80		80						9*	PCM-1, PCC-1
130+50.	INSTALL PIPE CULVERT RT. SIDE DRAIN			32														1*	PCM-1, PCC-1, PCP-1, PCP-2
134+13.	INSTALL PIPE CULVERT RT. SIDE DRAIN				92													8*	PCM-1, PCC-1, PCP-1
137+09.	INSTALL PIPE CULVERT LT. SIDE DRAIN	46																2*	PCM-1, PCC-1, PCP-1, PCP-2
137+61.	CONSTRUCT DBL. PIPE CULVERT						152		158		158		158	4	4	74	0.9	32*	FES-1,FES-2 PCM-1, PCC-1
138+25.	INSTALL PIPE CULVER RT. SIDE DRAIN	42																2*	PCM-1, PCC-1, PCP-1, PCP-2
142+15.	INSTALL PIPE CULVERT RT. SIDE DRAIN	36																1*	PCM-1, PCC-1, PCP-1, PCP-2
144+50.	INSTALL PIPE CULVERT LT. SIDE DRAIN	32																1*	PCM-1, PCC-1, PCP-1, PCP-2
146+54.	INSTALL PIPE CULVERT LT. SIDE DRAIN	38																1*	PCM-1, PCC-1, PCP-1, PCP-2
149+20.	INSTALL PIPE CULVERT RT. SIDE DRAIN	42																2*	PCM-1, PCC-1, PCP-1, PCP-2
150+20.	INSTALL PIPE CULVERT LT. SIDE DRAIN			42														3*	PCM-1, PCC-1, PCP-1, PCP-2
150+79.	INSTALL PIPE CULVERT RT. SIDE DRAIN	40																1*	PCM-1, PCC-1, PCP-1, PCP-2
TOTALS:		388	88	74	92	154	152	154	158	154	158	154	158	4	4	74	0.9	78*	

FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR PLASTIC PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
*QUANTITIES ARE ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
** REINFORCED CONCRETE (CLASS V) ONLY. MINIMUM HEIGHT OF FILL < 2'. NO ALTERNATES.
BASIS OF ESTIMATE:
WATER..... 12.6 GALLONS PER SQUARE YARD

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-29-2025				6	ARK.			
				JOB NO.		FA1108	25	63

(4) SUMMARY OF QUANTITIES AND REVISIONS

SUMMARY OF QUANTITIES

	ITEM NO.	ITEM		TOTAL QUANTITY	UNIT
	SP & 201	CLEARING		53	STATION
	201	GRUBBING		53	STATION
	202	REMOVAL AND DISPOSAL OF FENCE		2117	LIN. FT.
	202	REMOVAL AND DISPOSAL OF GATES		4	EACH
	202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		3	EACH
	SS & 206	FLOWABLE SELECT MATERIAL		4	CU. YD.
	SP & 207	STONE BACKFILL		533	TON
	208	FENCE REMOVED AND RECONSTRUCTED		485	LIN. FT.
	SP, SS, & 210	UNCLASSIFIED EXCAVATION		21805	CU. YD.
	SP & 210	COMPACTED EMBANKMENT		19407	CU. YD.
	SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)		14203	TON
	SS & 401	TACK COAT		993	GAL.
	SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		1981	TON
	SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		98	TON
	SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		1717	TON
	SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		102	TON
	601	MOBILIZATION		1.00	LUMP SUM
	SP & 602	FURNISHING FIELD OFFICE		1	EACH
	SP & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
	SS & 604	SIGNS		409	SQ. FT.
	SS & 604	BARRICADES		64	LIN. FT.
	SS & 604	TRAFFIC DRUMS		75	EACH
	SS & 604	VERTICAL PANELS		25	EACH
	SP, SS, & 605	CONCRETE DITCH PAVING (TYPE A)		172	SQ. YD.
	SP, SS, & 605	CONCRETE DITCH PAVING (TYPE B)		1547	SQ. YD.
**	SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		32	LIN. FT.
*	SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	(ALTERNATE NO. 1)	154	LIN. FT.
*	SS & 606	30" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 2)	154	LIN. FT.
*	SS & 606	30" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 3)	154	LIN. FT.
*	SS & 606	30" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (16 GAUGE)	(ALTERNATE NO. 4)	154	LIN. FT.
*	SS & 606	54" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	(ALTERNATE NO. 1)	152	LIN. FT.
*	SS & 606	54" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 2)	158	LIN. FT.
*	SS & 606	54" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 3)	158	LIN. FT.
*	SS & 606	54" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (16 GAUGE)	(ALTERNATE NO. 4)	158	LIN. FT.
*	SS & 606	54" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	(ALTERNATE NO. 1)	4	EACH
*	SS & 606	54" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	(ALTERNATE NO. 2)	4	EACH
	SP, SS, & 606	18" SIDE DRAIN		356	LIN. FT.
	SP, SS, & 606	24" SIDE DRAIN		88	LIN. FT.
	SP, SS, & 606	30" SIDE DRAIN		74	LIN. FT.
	SP, SS, & 606	48" SIDE DRAIN		92	LIN. FT.
	SS & 606	SELECTED PIPE BEDDING		78	CU. YD.
	SS & 619	WIRE FENCE (TYPE C)		340	LIN. FT.
	SS & 619	WIRE FENCE (TYPE D-1)		1755	LIN. FT.
*	SS & 619	18' STEEL GATES	(ALTERNATE NO. 1)	4	EACH
*	SS & 619	18' ALUMINUM GATES	(ALTERNATE NO. 2)	4	EACH
	620	LIME		21	TON
	620	SEEDING		10.30	ACRE
	SS & 620	MULCH COVER		20.65	ACRE
	620	WATER		1276.9	M. GAL.
	621	TEMPORARY SEEDING		10.35	ACRE
	621	SILT FENCE		7730	LIN. FT.
	621	SAND BAG DITCH CHECKS		1804	BAG
	621	DIVERSION DITCH		1000	LIN. FT.
	621	SEDIMENT BASIN		1800	CU. YD.
	621	OBLITERATION OF SEDIMENT BASIN		1800	CU. YD.
	621	SEDIMENT REMOVAL AND DISPOSAL		3567.8	CU. YD.
	621	PIPE FOR SLOPE DRAINS		250	LIN. FT.
	621	ROCK DITCH CHECKS		57	CU. YD.
	SS & 621	FILTER SOCK (18")		6315	LIN. FT.
	624	SOLID SODDING		1222	SQ. YD.
	635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
	718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")		10700	LIN. FT.
	718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")		10700	LIN. FT.
	SS & 726	STANDARD SIGN		60.00	SQ. FT.
	SS & 729	CHANNEL POST SIGN SUPPORT (TYPE A)		7	EACH
	SS & 729	CHANNEL POST SIGN SUPPORT (TYPE C)		4	EACH
	SS & 816	FILTER BLANKET		786	SQ. YD.
	SS & 816	DUMPED RIPRAP		491	CU. YD.
		STRUCTURES OVER 20'-0" SPAN			
	205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)		1.00	LUMP SUM
	801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		141	CU. YD.
	SP, SS, & 802	CLASS S CONCRETE-ROADWAY		303.04	CU. YD.
	SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		43414	POUND

* DENOTES ALTERNATE BID ITEMS

** SIDE DRAIN AT STA. 106+42

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
01/06/26
BRYAN FREELING

REVISIONS		
DATE	REVISION	SHEET NUMBER
12/29/2025	ADDED SPECIAL PROVISION IMMEDIATE CLEARING. REVISED MAINTENANCE OF TRAFFIC SP.	3 & 25

SUMMARY OF QUANTITIES AND REVISIONS

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.		FA1108	26	63
				4	SURVEY CONTROL DETAILS			

SURVEY CONTROL COORDINATES

Project Name: sFA1108
Date: 1/11/2019
Coordinate System: ARKANSAS STATE PLANE – NORTH ZONE BASED ON HORIZONTAL POSITIONS BASED ON STATIC POINTS 1 & 15 PROJECTED TO GROUND.

Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	748628.7519	1820555.6570	455.07	GPS	ARDOT STD. MON. STAMPED PN:1
2	748385.5270	1820770.6880	440.68	CTL	ARDOT STD. MON. STAMPED PN:2
3	748166.7738	1820969.6930	443.68	CTL	ARDOT STD. MON. STAMPED PN:3
4	747728.4963	1821329.8411	450.40	CTL	ARDOT STD. MON. STAMPED PN:4
5	747499.6284	1821780.8535	424.93	CTL	ARDOT STD. MON. STAMPED PN:5
6	747526.6945	1822261.8917	418.36	CTL	ARDOT STD. MON. STAMPED PN:6
7	747529.4274	1822782.0766	403.93	CTL	ARDOT STD. MON. STAMPED PN:7
8	747616.7369	1823269.2494	372.71	CTL	ARDOT STD. MON. STAMPED PN:8
9	747742.1232	1823682.7295	361.64	CTL	ARDOT STD. MON. STAMPED PN:9
10	747697.5771	1824056.0213	344.73	CTL	ARDOT STD. MON. STAMPED PN:10
11	747740.4954	1824727.7991	345.76	CTL	ARDOT STD. MON. STAMPED PN:11
12	747806.9568	1825214.6480	365.27	CTL	ARDOT STD. MON. STAMPED PN:12
13	747754.0543	1825564.7943	358.68	CTL	ARDOT STD. MON. STAMPED PN:13
14	747787.6353	1826208.4447	335.46	CTL	ARDOT STD. MON. STAMPED PN:14
15	747762.5997	1827123.8014	331.41	GPS	ARDOT STD. MON. STAMPED PN:15
16	747804.8775	1827705.6057	347.46	CTL	ARDOT STD. MON. STAMPED PN:16
900	748355.8237	1820804.8213	438.18	TBM	CHIS SQR 18" STEEL PIPE
901	747484.5397	1822038.0697	415.97	TBM	CHIS SQR 18" STEEL PIPE
902	747749.9890	1824066.2285	344.91	TBM	CHIS SQR CNTR N SIDE BR
903	747750.0560	1826267.8051	334.47	TBM	CHIS SQR 12" STEEL PIPE

*Note – Rebar and Cap – Standard – 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 1.00001713995 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME sFA1108gi.CTL
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS – 0301–NORTH ZONE
DETERMINED FROM GPS STATIC POINTS: 1 & 15
CONVERGENCE ANGLE: 01 00 41.4591 RIGHT AT PN:10 LT:36 22 30.3062 LG:090 15 42.1128
GRID AZIMUTH = ASTRONOMICAL AZIMUTH – CONVERGENCE ANGLE.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

CONSTRUCTION CENTERLINE COORDINATES FOR: CO. RD. 53 (CCR 450)

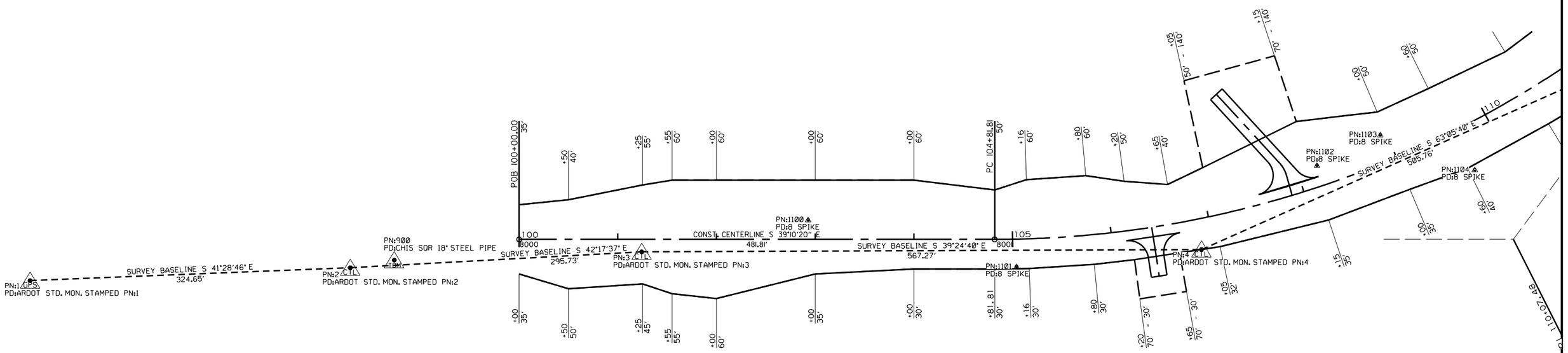
POINT NAME	NORTHING	EASTING	DESCRIPTION	STATION
8000	748270.9854	1820901.0040	POB	100+00.00
8001	747897.4612	1821205.3406	PC	104+81.81
	747489.9323	1821537.3833	PI	110+07.48
8002	747514.9155	1822062.4623	PT	114+55.48
8003	747549.5794	1822791.0049	PC	121+84.85
	747554.4771	1822893.9422	PI	122+87.90
8004	747577.6624	1822994.3541	PT	123+90.40
8005	747706.5484	1823552.5405	PC	129+63.28
	747729.4790	1823651.8498	PI	130+65.20
8006	747730.9328	1823753.7616	PT	131+66.35
8007	747734.4543	1824000.6304	PC	134+13.25
	747737.9460	1824245.4074	PI	136+58.05
8008	747751.8881	1824489.8119	PT	139+02.78
8009	747764.7068	1824714.5230	PC	141+27.85
	747788.1572	1825125.6076	PI	145+39.60
8010	747782.0428	1825537.3150	PT	149+51.00
8011	747776.1179	1825936.2679	POE	153+50.00

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.		FA1108	27	63

4 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING



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.		FA1108	28	63

4 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

P. I. = 110+07.48
Δ = 53°33'06.92" LT.
D = 5°30'00.00"
T = 525.67'
L = 973.67'
e = 6.6%
LS = 200'
BEGIN SUPERELEVATION 103+31.81
BEGIN MAX. SUPERELEV. 105+31.81
END MAX. SUPERELEV. 114+05.48
END SUPERELEVATION 116+05.48

T = 205.55'
L = 6.2%
e = 200'
LS
BEGIN SUPERELEVATION 120
BEGIN MAX. SUPERELEV. 122
END MAX. SUPERELEV. 123+
END SUPERELEVATION 125+

PN:1102 PD:8 SPIKE
PN:1103 PD:8 SPIKE
PN:1104 PD:8 SPIKE
SURVEY BASELINE S 63°05'40" E 505.76'
L STAMPED PN:4
PI 110+07.48
PT 114+55.48
PC 121+84.85
PI 122+87.90
SURVEY BASELINE N 86°46'47" E 481.80'
PN:5 CTL PD:ARDOT STD. MON. STAMPED PN:5
8002
PN:1105 PD:8 SPIKE
PN:901 IBM PD:CHIS SQR 18" STEEL PIPE
CONST. CENTERLINE N 87°16'33" E 729.37'
PN:6 CTL PD:ARDOT STD. MON. STAMPED PN:6
PN:1106 PD:8 SPIKE
SURVEY BASELINE N 89°41'56" E 520.19'
8003
PN:7 CTL PD:ARDOT STD. MON. STAMPED PN:7

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.		FA1108	29	63

4 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

P. I. = 122+87.90
Δ = 10°16'39.84" LT.
D = 5°00'00.00"
T = 103.05'
L = 205.55'
e = 6.20%
LS = 200'
BEGIN SUPERELEVATION 120+34.85
BEGIN MAX. SUPERELEV. 122+34.85
END MAX. SUPERELEV. 123+40.40
END SUPERELEVATION 125+40.40

P. I. = 130+65.20
Δ = 12°11'04.35" RT.
D = 6°00'00.00"
T = 101.92'
L = 203.08'
e = 7.00%
LS = 200'
BEGIN SUPERELEVATION 128+13.28
BEGIN MAX. SUPERELEV. 130+13.28
END MAX. SUPERELEV. 131+16.35
END SUPERELEVATION 133+16.35

P. I. = 136+58.05
Δ = 90°00'00.00" RT.
D = 244.49'
L = 489.76'
NORMAL

PN:1107 PD:8 SPIKE
PN:1108 PD:8 SPIKE
PN:1109 PD:8 SPIKE
PN:1110 PD:8 SPIKE
PN:1111 PD:8 SPIKE
PN:1112 PD:8 SPIKE
PN:1113 PD:8 SPIKE

PN:7 PD:ARDOT STD. MON. STAMPED PN:7
PN:8 PD:ARDOT STD. MON. STAMPED PN:8
PN:9 PD:ARDOT STD. MON. STAMPED PN:9
PN:10 PD:ARDOT STD. MON. STAMPED PN:10

PN:902 PD:CHIS SQR CNTR N SIDE BR
TBM 135

8003 8004 8005 8006 8007

CONST. CENTERLINE N 76°59'54" E 572.87'
SURVEY BASELINE N 79°50'22" E 494.93'
SURVEY BASELINE N 73°07'49" E 432.07'
CONST. CENTERLINE N 89°10'58" E
SURVEY BASELINE S 83°11'42" E 375.94'
SURVEY BASELINE N 86°20'40" E 673.15'

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.		FA1108	30	63

4 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

PN:1117
PD:8 SPIKE

PN:1116
PD:8 SPIKE

P. I. = 136+58.05
Δ = 2°26'51.53" LT.
D = 0°30'00.00"
T = 244.80'
L = 489.53'
E = NORMAL CROWN

PN:1112
PD:8 SPIKE

PC 134+13.25

PN:1115
PD:8 8" SPIKE

PN:1113
PD:8 SPIKE

PT 139+02.78

PI 145+39.60

PN:902
PD:CHIS SOR CNTR N SIDE BR
TBM

PN:12
PD:ARDOT STD. MON. STAMPED PN:12
C/L

8007

135

140 CONST. CENTERLINE
N 86°44'06" E
225.08'

8008

8009

145

SURVEY BASELINE N 83°11'42" E

SURVEY BASELINE N 86°20'40" E
673.15'

SURVEY BASELINE N 82°13'35" E
491.36'

SURVEY BASELINE S 81°24'30" E
354.12'

PN:10 C/L
PD:ARDOT STD. MON. STAMPED PN:10

PN:1118
PD:8 SPIKE

PN:1114
PD:8 SPIKE

PN:1110
PD:8 SPIKE

PN:1111
PD:8 SPIKE

PN:11 C/L
PD:ARDOT STD. MON. STAMPED PN:11

PN:1119
PD:8 SPIKE

PN:1120
PD:8 SPIKE

PI 136+58.05

PC 141+27.85

P. I. = 145+39.60
Δ = 4°06'56.73" RT.
D = 0°30'00.00"
T = 411.75'
L = 823.15'
E = NORMAL CROWN

PT 149+51.00

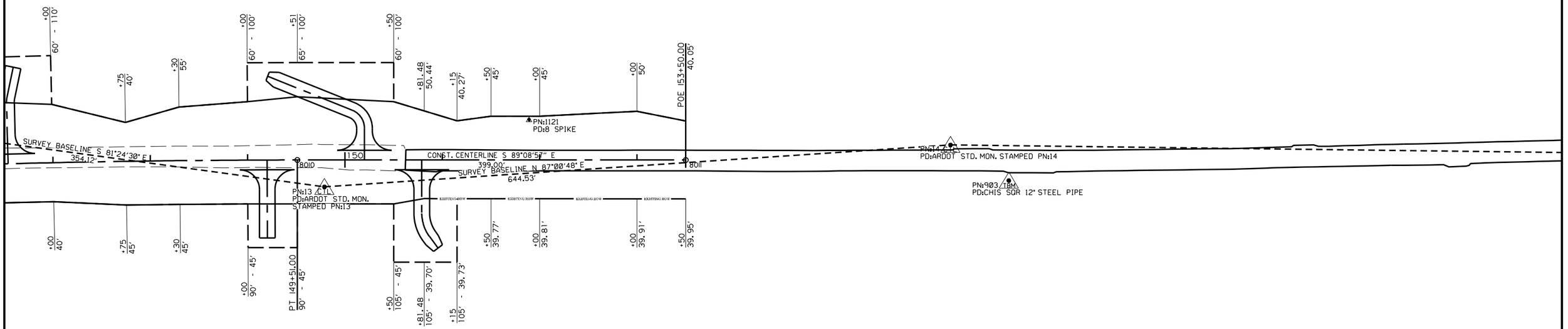
PN:1109
PD:8 SPIKE

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.		FA1108	31	63

4 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING



SURVEY CONTROL DETAILS

LEGEND

- POWER POLE
- COMBINATION POLE
- POLE W/GUY
- TELEPHONE RISER
- TELEPHONE POLE
- UNDERGROUND CABLE MKR.
- WATER METER
- WATER VALVE

CLEARING AND GRUBBING
STA. 100+00 TO STA. 108+00 = 8 STA.

REMOVAL AND DISPOSAL OF FENCE
STA. 101+46 TO STA. 103+11 ON LT. = 165 LIN. FT.

WIRE FENCE (TYPE C)
STA. 101+46 TO STA. 103+11 ON LT. = 175 LIN. FT.

REMOVAL AND DISPOSAL OF GATES
STA. 107+71 TO STA. 107+90 ON LT. = 2 EACH

18' STEEL GATES
STA. 107+61 TO STA. 107+79 ON LT. = 1 EACH
OR
18' ALUMINUM GATES
STA. 107+61 TO STA. 107+79 ON LT. = 1 EACH

STA. 101+00 CONSTRUCT
STD. HWY. SIGNS
W8-3 ON LT.
TYPE A SUPPORT ASSEMBLY

STA. 101+50 CONSTRUCT
STD. HWY. SIGNS
R2-5a ON LT.
TYPE A SUPPORT ASSEMBLY

STA. 102+00 CONSTRUCT
STD. HWY. SIGNS
W8-25 ON LT.
TYPE A SUPPORT ASSEMBLY

EARTHWORK
STA. 100+00 TO STA. 108+00

UNCLASSIFIED EXCAVATION (NORMAL)	=	2596 CU. YDS.
UNCLASSIFIED EXCAVATION (ADDITIONAL)	=	319 CU. YDS.
COMPACTED EMBANKMENT (NORMAL)	=	2040 CU. YDS.
COMPACTED EMBANKMENT (ADDITIONAL)	=	83 CU. YDS.

NOTE: EARTHWORK SHALL BE PAID AS PLAN QUANTITY.

TRAFFIC CONTROL DEVICES

R2-6aP
STA. 85+00 RT. 1 SIGN = 12 SQ. FT.

R2-11
STA. 95+00 LT. 1 SIGN = 12 SQ. FT.

W20-1
STA. 85+00 RT. (1500 FT.) 1 SIGN = 16 SQ. FT.
STA. 90+00 RT. (1000 FT.) 1 SIGN = 16 SQ. FT.
STA. 95+00 RT. (500 FT.) 1 SIGN = 16 SQ. FT.

G20-1
(ROAD WORK NEXT X.X MILES)
STA. 98+50 RT. 1 SIGN = 10 SQ. FT.

G20-2
(END ROAD WORK)
STA. 95+00 LT. 1 SIGN = 8 SQ. FT.

TRAFFIC DRUMS
ENTIRE PROJECT AS DIRECTED 75 EACH

VERTICAL PANELS
ENTIRE PROJECT AS DIRECTED 25 EACH

FENCE REMOVED AND RECONSTRUCTED
STA. 100+00 TO STA. 102+92 ON RT. = 306 LIN. FT.

Scottie R.& Tracy G.Cole

Stephen M.& Betty M. Martin

STA. 104+00 CONSTRUCT
STD. HWY. SIGNS
W1-2L ON RT.
TYPE A SUPPORT ASSEMBLY

STA. 107+88
INSTALL SIDE DRAIN ON LT.
18" X 42' PIPE CULVERT
CONSTRUCT APPROACH =
317 CU. YDS. UNCL. EXC.
62 CU. YDS. COMP. EMB.

STA. 106+42
INSTALL SIDE DRAIN ON RT.
18" X 32' R.C. PIPE CULVERT (CLASS V) (NO ALTERNATES)
(TYPE 3 BEDDING)
CONSTRUCT APPROACH =
2 CU. YDS. UNCL. EXC.
21 CU. YDS. COMP. EMB.

POB 100+00.00
PC 104+81.81
CONST. CENTERLINE S 39°10'20" E 481.81'
100 8000
105 8001

0 100 200
SCALE IN FEET

STATE OF ARKANSAS
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No. 11240
12/17/25
BRYAN FREELING

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.		FA1108	32	63

4 PLAN AND PROFILE SHEETS

STA. 100+00.00
BEGIN JOB FA1108

100+00.00 440.24
100+27.48 440.76
101+17.18 442.99
100+00.00 439.00
100+50.00 438.37
100+56.47 437.94
101+60.14 437.10
103+40.00 435.10
107+27.76 451.13
106+97.54 444.42

VC=38' e=0.03'
VC=51' e=-0.07'
VC=382' e=4.15'
VC=447' e=3.90'

-1.89%
2.49%
1.33%
RT. DITCH GRADE -1.15%
LT. DITCH GRADE -1.88%
LT. DITCH GRADE -1.00%
LT. DITCH GRADE -5.43%
-7.35%

PLAN AND 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.		FA1108	33	63

4 PLAN AND PROFILE SHEETS

P. I. = 110+07.48
Δ = 53°33'06.92" LT.
D = 5°30'00.00"
T = 525.67'
L = 973.67'
e = 6.60%
LS = 200'
BEGIN SUPERELEVATION 103+31.81
BEGIN MAX. SUPERELEV. 105+31.81
END MAX. SUPERELEV. 114+05.48
END SUPERELEVATION 116+05.48

CLEARING AND GRUBBING
STA. 108+00 TO STA. 116+00 = 8 STA.
STA. 117+00 TO STA. 121+00 = 4 STA.

OBLITERATION OF EXISTING ROADWAY
STA. 108+06 TO STA. 111+32 ON RT. = 55 CU. YDS.

FLOWABLE SELECT MATERIAL
STA. 114+30 = 4 CU. YDS.

FILL AND ABANDON IN PLACE
21" X 41' STEEL PIPE CULVERT

STA. 115+50 CONSTRUCT
STD. HWY. SIGNS
W1-2R ON LT.
TYPE A SUPPORT ASSEMBLY

STA. 116+94
INSTALL SIDE DRAIN ON LT.
18" X 38' PIPE CULVERT
CONSTRUCT APPROACH =
161 CU. YDS. UNCL. EXC.
43 CU. YDS. COMP. EMB.

Tom & Sue
Rickman

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

LEGEND
- POWER POLE
- COMBINATION POLE
- POLE W/GUY
- TELEPHONE RISER
- TELEPHONE POLE
- UNDERGROUND CABLE MKR.
- WATER METER
- WATER VALVE

P.I. 110+07.48
P.T. 111+55.48
8002
CONST. CENTERLINE N 87°16'33" E 729.37'

FENCE REMOVED AND RECONSTRUCTED
STA. 111+40 TO STA. 111+57 ON RT. = 50 LIN. FT.

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE	LENGTH	"W"	SQ. YD.
108+00	111+52	RT. =	360.00	6.00	240

STA. 111+68
INSTALL SIDE DRAIN ON RT.
24" X 40' PIPE CULVERT
CONSTRUCT APPROACH =
10 CU. YDS. UNCL. EXC.
62 CU. YDS. COMP. EMB.

STA. 114+97
INSTALL SIDE DRAIN ON RT.
24" X 48' PIPE CULVERT
CONSTRUCT APPROACH =
4 CU. YDS. UNCL. EXC.
79 CU. YDS. COMP. EMB.

REMOVAL AND DISPOSAL OF FENCE
STA. 115+22 TO STA. 124+06 ON RT. = 982 LIN. FT.

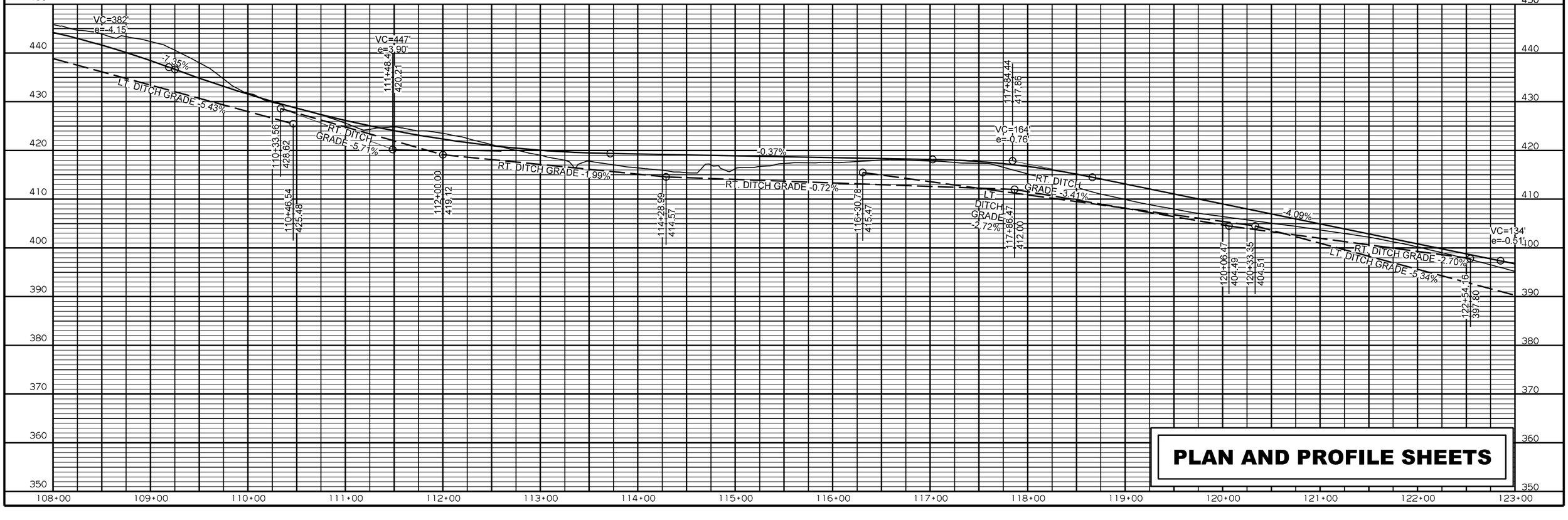
WIRE FENCE (TYPE D-1)
STA. 115+22 TO STA. 124+06 ON RT. = 916 LIN. FT.

0 100 200
SCALE IN FEET

EARTHWORK
STA. 108+06 TO STA. 121+00

UNCLASSIFIED EXCAVATION (NORMAL)	=	4476 CU. YDS.
UNCLASSIFIED EXCAVATION (ADDITIONAL)	=	230 CU. YDS.
COMPACTED EMBANKMENT (NORMAL)	=	3385 CU. YDS.
COMPACTED EMBANKMENT (ADDITIONAL)	=	184 CU. YDS.

NOTE: EARTHWORK SHALL BE PAID AS PLAN QUANTITY.



PLAN AND 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.		FA1108	34	63

4 PLAN AND PROFILE SHEETS

CLEARING AND GRUBBING
STA. 121+00 TO STA. 134+00 = 13 STA.

LEGEND
- POWER POLE
- COMBINATION POLE
- POLE W/GUY
- TELEPHONE RISER
- TELEPHONE POLE
- UNDERGROUND CABLE MKR.
- WATER METER
- WATER VALVE

STA. 124+40 CONSTRUCT
STD. HWY. SIGNS
R1-1 ON LT.
TYPE A SUPPORT ASSEMBLY

P. I. = 122+87.90
Δ = 10° 16' 39.84" LT.
D = 5° 00' 00.00"
T = 103.05'
L = 205.55'
e = 6.20%
LS = 200'
BEGIN SUPERELEVATION 120+34.85
BEGIN MAX. SUPERELEV. 122+34.85
END MAX. SUPERELEV. 123+40.40
END SUPERELEVATION 125+40.40

STA. 124+48
CONSTRUCT
CO. RD. 63 TURNOUT ON LT.
30" R.C. PIPE CULVERT (CLASS IV)
(TYPE 1 - 3 BEDDING) = 80 LIN. FT.
OR
30" C.M.P. CULVERT
(TYPE 2 BEDDING) = 80 LIN. FT.
D.A.=1.2 ACRES
CONSTRUCT APPROACH =
98 CU. YDS. UNCL. EXC.
227 CU. YDS. COMP. EMB.

REMOVAL AND DISPOSAL OF FENCE

STA. 126+88 TO STA. 130+42 ON RT.	=	362	LIN. FT.
STA. 129+56 TO STA. 131+02 ON LT.	=	153	LIN. FT.
STA. 130+42 TO STA. 130+61 ON RT.	=	18	LIN. FT.
STA. 130+61 TO STA. 133+94 ON RT.	=	376	LIN. FT.

WIRE FENCE (TYPE D-1)

STA. 126+88 TO STA. 130+42 ON RT.	=	351	LIN. FT.
STA. 129+56 TO STA. 131+02 ON LT.	=	156	LIN. FT.
STA. 130+61 TO STA. 133+94 ON RT.	=	332	LIN. FT.

STA. 131+14
DRIVE ON LT.
CONSTRUCT APPROACH =
14 CU. YDS. UNCL. EXC.
93 CU. YDS. COMP. EMB.

0 100 200
SCALE IN FEET

Jeania Eubanks

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
132+60	134+00	LT.	=	146.00	6.00	97

STA. 134+76 CONSTRUCT
STD. HWY. SIGNS
OM-3R ON RT.
TYPE C SUPPORT ASSEMBLY

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11240
12/17/25
BRYAN FREELING

TRAFFIC CONTROL DEVICES
W20-1
STA. 124+35 RT. (AHEAD) 1 SIGN = 16 SQ. FT.
STA. 124+50 LT. (AHEAD) 1 SIGN = 16 SQ. FT.
R11-2
(ROAD CLOSED)
STA. 134+25 CL. 1 SIGN = 10 SQ. FT.
BARRICADES (TYPE III)
STA. 134+25 CL. AS DIRECTED 16 LIN. FT.

STA. 124+38 IN PLACE
20" X 40' STEEL
CROSS DRAIN (CO. RD. 63)
REMOVE AND CONSTRUCT
CO. RD. 63 TURNOUT ON RT.
30" R.C. PIPE CULVERT (CLASS IV)
(TYPE 1 - 3 BEDDING) = 74 LIN. FT.
OR
30" CMP CULVERT
(TYPE 2 BEDDING) = 74 LIN. FT.
D.A.=0.4 ACRES
CONSTRUCT APPROACH =
563 CU. YDS. UNCL. EXC.
173 CU. YDS. COMP. EMB.

P. I. = 130+65.20
Δ = 12° 11' 04.35" RT.
D = 6° 00' 00.00"
T = 101.92'
L = 203.08'
e = 7.00%
LS = 200'
BEGIN SUPERELEVATION 128+13.28
BEGIN MAX. SUPERELEV. 130+13.28
END MAX. SUPERELEV. 131+16.35
END SUPERELEVATION 133+16.35

STA. 124+50 CONSTRUCT
STD. HWY. SIGNS
R1-1 ON RT.
TYPE A SUPPORT ASSEMBLY

FENCE REMOVED AND RECONSTRUCTED
STA. 124+35 TO STA. 124+50 ON RT. = 89 LIN. FT.

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
132+00	133+87	RT.	=	189.00	6.00	126

STA. 130+50
INSTALL SIDE DRAIN ON RT.
30" X 32' PIPE CULVERT
DRIVE ON RT.
CONSTRUCT APPROACH =
3 CU. YDS. UNCL. EXC.
66 CU. YDS. COMP. EMB.

18' STEEL GATES
STA. 130+42 TO STA. 130+61 ON RT. = 1 EACH
STA. 133+94 TO STA. 133+95 ON RT. = 1 EACH
OR
18' ALUMINUM GATES
STA. 130+42 TO STA. 130+61 ON RT. = 1 EACH
STA. 133+94 TO STA. 133+95 ON RT. = 1 EACH

REMOVAL AND DISPOSAL OF GATES
STA. 133+92 TO STA. 133+93 ON RT. = 1 EACH

STA. 134+13
INSTALL SIDE DRAIN ON RT.
48" X 92' PIPE CULVERT
CONSTRUCT APPROACH =
4 CU. YDS. UNCL. EXC.
654 CU. YDS. COMP. EMB.

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
121+59	124+20	LT.	=	255.00	6.00	170
123+00	123+93	RT.	=	96.00	6.00	64

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
124+67	127+20	RT.	=	253.00	6.00	169
124+99	127+20	LT.	=	221.00	6.00	147

STA. 134+90 CONSTRUCT
TRIPLE 9' X 8' X 98'
R.C. BOX CULVERT
30° RT. FWD. SKEW
D.A. = 454 AC., Q25 = 560 C.F.S.
SPAN = 34' - 8 7/8"

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATIONS ARE 338 FEET MSL BETWEEN STATIONS 134+66 AND 135+14. REFER TO SECTION 110.06(c) OF THE STANDARD SPECIFICATIONS.

EARTHWORK
STA. 121+27 TO STA. 134+00

UNCLASSIFIED EXCAVATION (NORMAL)	=	5503 CU. YDS.
UNCLASSIFIED EXCAVATION (ADDITIONAL)	=	3398 CU. YDS.
COMPACTED EMBANKMENT (NORMAL)	=	5120 CU. YDS.
COMPACTED EMBANKMENT (ADDITIONAL)	=	574 CU. YDS.

NOTE: EARTHWORK SHALL BE PAID AS PLAN QUANTITY.

DESIGN H.W. Q25=339.17

PLAN AND PROFILE SHEETS

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				6	ARK.			
				JOB NO.		FA1108	35	63

4 PLAN AND PROFILE SHEETS

FILTER BLANKET AND DUMPED RIPRAP

	FILTER BLANKET	DUMPED RIPRAP
STA. 133+57 TO STA. 134+15 ON LT. =	135 SQ. YDS.	68 CU. YDS.
STA. 134+36 TO STA. 134+81 ON LT. =	94 SQ. YDS.	47 CU. YDS.
STA. 137+50 TO STA. 137+75 ON LT. =	57 SQ. YDS.	29 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA. 135+05 TO STA. 135+39 ON LT. = 35 LIN. FT.

WIRE FENCE (TYPE C)

STA. 134+81 TO STA. 135+93 ON LT. = 135 LIN. FT.

CLEARING AND GRUBBING

STA. 134+00 TO STA. 147+00 = 13 STA.

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
137+29	137-50	LT.	=	21.00	6.00	14

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
143+66	144+32	LT.	=	66.00	6.00	44.00
144+63	145+47	LT.	=	84.00	6.00	56.00

STA. 134+40 CONSTRUCT
STD. HWY. SIGNS
OM-3L ON LT.
TYPE C SUPPORT ASSEMBLY

STA. 136+04
DRIVE ON LT.
CONSTRUCT APPROACH =
4 CU. YDS. UNCL. EXC.
36 CU. YDS. COMP. EMB.

STA. 137+09
INSTALL SIDE DRAIN ON LT.
18" X 46' PIPE CULVERT
CONSTRUCT APPROACH =
2 CU. YDS. UNCL. EXC.
60 CU. YDS. COMP. EMB.

STA. 144+50
INSTALL SIDE DRAIN ON LT.
18" X 32' PIPE CULVERT
DRIVE ON LT.
CONSTRUCT APPROACH =
164 CU. YDS. UNCL. EXC.
58 CU. YDS. COMP. EMB.

STA. 146+54
INSTALL SIDE DRAIN ON LT.
18" X 38' PIPE CULVERT
CONSTRUCT APPROACH =
75 CU. YDS. UNCL. EXC.
52 CU. YDS. COMP. EMB.

STATE OF ARKANSAS
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No. 11240
12/17/25
BRYAN FREELING

Johnny & Dawn Owen

P. I. = 136+58.05
Δ = 2°26' 51.53" LT.
D = 0°30' 00.00"
T = 244.80'
L = 489.53'
E = NORMAL CROWN

James Shawndale & Stacy Ann Morris

P. I. = 145+39.60
Δ = 4°06' 56.73" RT.
D = 0°30' 00.00"
T = 411.75'
L = 823.15'
E = NORMAL CROWN

PC 134+13.25
PT 139+02.78
PC 141+27.85
PI 136+58.05
PI 145+39.60
8007
8008
8009
140 CONST. CENTERLINE
N 86°44'06" E
225.08'
135
145

STA. 135+03 CONSTRUCT
STD. HWY. SIGNS
OM-3R ON LT.
TYPE C SUPPORT ASSEMBLY

STA. 135+34 CONSTRUCT
STD. HWY. SIGNS
OM-3L ON RT.
TYPE C SUPPORT ASSEMBLY

STA. 138+25
INSTALL SIDE DRAIN ON RT.
18" X 42' PIPE CULVERT
DRIVE ON RT.
CONSTRUCT APPROACH =
4 CU. YDS. UNCL. EXC.
78 CU. YDS. COMP. EMB.

STA. 142+15
INSTALL SIDE DRAIN ON RT.
18" X 36' PIPE CULVERT
CONSTRUCT APPROACH =
32 CU. YDS. UNCL. EXC.
38 CU. YDS. COMP. EMB.

FILTER BLANKET AND DUMPED RIPRAP

	FILTER BLANKET	DUMPED RIPRAP
STA. 134+89 TO STA. 136+14 ON RT. =	367 SQ. YDS.	280 CU. YDS.
STA. 135+61 TO STA. 136+06 ON RT. =	64 SQ. YDS.	32 CU. YDS.
STA. 137+45 TO STA. 137+70 ON RT. =	69 SQ. YDS.	35 CU. YDS.

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
143+06	144+26	RT.	=	120.00	6.00	80.00

0 100 200
SCALE IN FEET

TRAFFIC CONTROL DEVICES

R11-2
(ROAD CLOSED)
STA. 135+90 CL. 1 SIGN = 10 SQ. FT.
BARRICADES (TYPE III)
STA. 135+90 CL. AS DIRECTED 16 LIN. FT.

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
134+78	134+96	RT.	=	18.00	6.00	12
135+71	136+30	RT.	=	64.00	6.00	43
136+85	137+54	RT.	=	72.00	6.00	48
137+66	138+02	RT.	=	37.00	6.00	25
138+43	138+72	RT.	=	30.00	6.00	20

STA. 134+90 CONSTRUCT
TRIPLE 9' X 8' X 98'
R.C. BOX CULVERT
30° RT. FWD. SKEW
D.A. = 454 AC., Q25 = 560 C.F.S.
SPAN = 34' - 8 7/8"

STA. 137+61 IN PLACE
48" X 50' CMP
CROSS DRAIN
REMOVE AND CONSTRUCT
DBL. 54" R.C. PIPE CULVERT (CLASS IV)
(TYPE 3 BEDDING)= 152 LIN. FT.
OR
DBL. 54" C.M.P. CULVERT
(TYPE 2 BEDDING)= 158 LIN. FT.
D.A.=102 ACRES Q25 = 200 C.F.S.
54" F.E.S ON LT. AND RT. = 4 EACH

STA. 134+82 IN PLACE 22' X 32' BRIDGE
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 1)
= 1 LUMP SUM.

EARTHWORK
STA. 134+13 TO STA. 147+00

UNCLASSIFIED EXCAVATION (NORMAL) =	2754 CU. YDS.
UNCLASSIFIED EXCAVATION (ADDITIONAL) =	841 CU. YDS.
COMPACTED EMBANKMENT (NORMAL) =	4869 CU. YDS.
COMPACTED EMBANKMENT (ADDITIONAL) =	996 CU. YDS.

NOTE: EARTHWORK SHALL BE PAID AS PLAN QUANTITY.

LEGEND
- POWER POLE
- COMBINATION POLE
- POLE W/GUY
- TELEPHONE RISER
- TELEPHONE POLE
- UNDERGROUND CABLE MKR.
- WATER METER
- WATER VALVE

VC=315'
e=1.94'
VC=386'
e=2.91'
VC=434'
e=5.35'

DESIGN H.W.
Q25=339.17
DESIGN H.W.
Q25=340.02

INLET ELEVATION 333.30 (LT.)
OUTLET ELEVATION 333.00 (RT.)
INLET ELEVATION 335.00 (LT.)
OUTLET ELEVATION 333.30 (RT.)

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATIONS ARE 338 FEET MSL BETWEEN STATIONS 134+66 AND 135+14. REFER TO SECTION 110.06(c) OF THE STANDARD SPECIFICATIONS.

PLAN AND PROFILE SHEETS

134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00

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				6	ARK.			
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				4	PLAN AND PROFILE SHEETS			

18' STEEL GATES
STA. 149+51 TO STA. 149+57 ON LT. = 1 EACH
OR
18' ALUMINUM GATES
STA. 149+51 TO STA. 149+57 ON LT. = 1 EACH

FENCE REMOVED AND RECONSTRUCTED
STA. 149+63 TO STA. 149+68 ON LT. = 10 LIN. FT.
STA. 149+74 TO STA. 149+89 ON LT. = 30 LIN. FT.

REMOVAL AND DISPOSAL OF GATES
STA. 149+68 TO STA. 149+74 ON LT. = 1 EACH

REMOVAL AND DISPOSAL OF FENCE
STA. 150+60 TO STA. 150+62 ON LT. = 26 LIN. FT.

WIRE FENCE (TYPE C)
STA. 150+60 TO STA. 150+62 ON LT. = 30 LIN. FT.

CONCRETE DITCH PAVING (TYPE A)

STATION	STATION	SIDE		LENGTH	"W"	"B"	SQ. YD.
151+00	151+50	LT.	=	50.00	VARIES	VARIES	42.00
151+50	152+80	LT.	=	130.00	9.00	5.00	130.00

STA. 150+20
INSTALL SIDE DRAIN ON LT.
30" X 42' PIPE CULVERT
CONSTRUCT APPROACH =
155 CU. YDS. UNCL. EXC.
70 CU. YDS. COMP. EMB.

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
147+75	150+03	LT.	=	229.00	6.00	153.00

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
150+41	151+00	LT.	=	59.00	6.00	39.00

CLEARING AND GRUBBING
STA. 147+00 TO STA. 153+50 = 7 STA.

Al Williams & Sons Nursery, Inc.

LEGEND
- POWER POLE
- COMBINATION POLE
- POLE W/GUY
- TELEPHONE RISER
- TELEPHONE POLE
- UNDERGROUND CABLE MKR.
- WATER METER
- WATER VALVE

STATE OF ARKANSAS
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STA. 149+20
INSTALL SIDE DRAIN ON RT.
18" X 42' PIPE CULVERT
CONSTRUCT APPROACH =
8 CU. YDS. UNCL. EXC.
84 CU. YDS. COMP. EMB.

STA. 150+79 IN PLACE
12" X 31' CMP
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
CONSTRUCT APPROACH =
116 CU. YDS. UNCL. EXC.
52 CU. YDS. COMP. EMB.

0 100 200
SCALE IN FEET

EARTHWORK
STA. 147+50 TO STA. 153+50

UNCLASSIFIED EXCAVATION (NORMAL)	=	1409 CU. YDS.
UNCLASSIFIED EXCAVATION (ADDITIONAL)	=	279 CU. YDS.
COMPACTED EMBANKMENT (NORMAL)	=	1950 CU. YDS.
COMPACTED EMBANKMENT (ADDITIONAL)	=	206 CU. YDS.

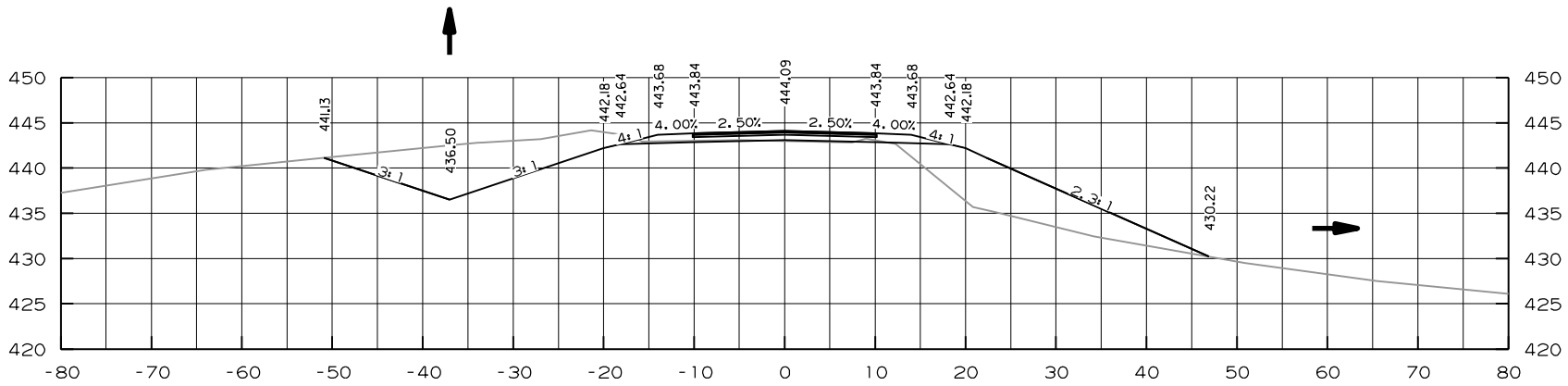
NOTE: EARTHWORK SHALL BE PAID AS PLAN QUANTITY.

Vanice E.& Bernice Wiseman

TRAFFIC CONTROL DEVICES
R2-6aP
STA. 168+50 LT. 1 SIGN = 12 SQ. FT.
R2-11
STA. 158+50 RT. 1 SIGN = 12 SQ. FT.
W20-1
STA. 168+50 LT. (1500 FT.) 1 SIGN = 16 SQ. FT.
STA. 163+50 LT. (1000 FT.) 1 SIGN = 16 SQ. FT.
STA. 158+50 LT. (500 FT.) 1 SIGN = 16 SQ. FT.
G20-1
(ROAD WORK NEXT X.X MILES)
STA. 155+00 LT. 1 SIGN = 10 SQ. FT.
G20-2
(END ROAD WORK)
STA. 158+50 RT. 1 SIGN = 8 SQ. FT.

STA. 153+50.00
END JOB FA1108

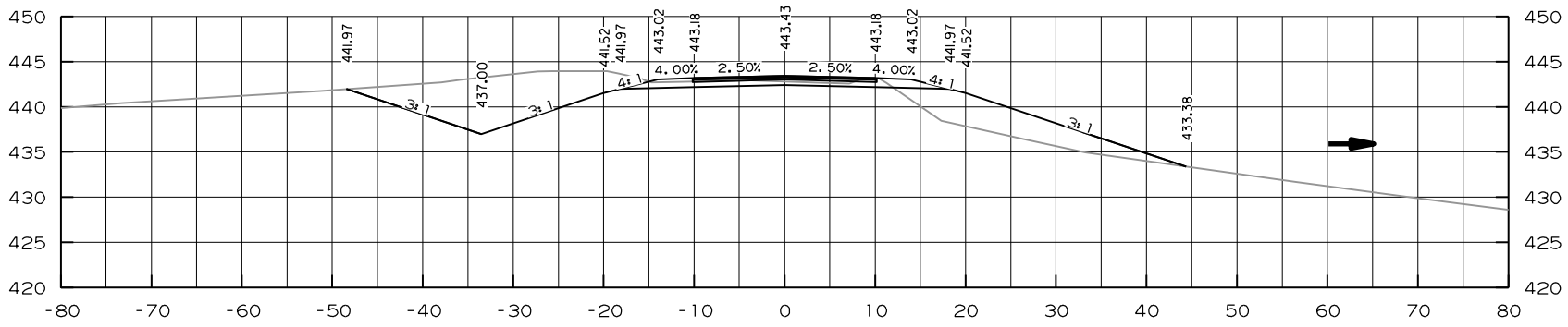
PLAN AND PROFILE SHEETS



AREA CUT 115.50
AREA FILL 115.29

102+00.00

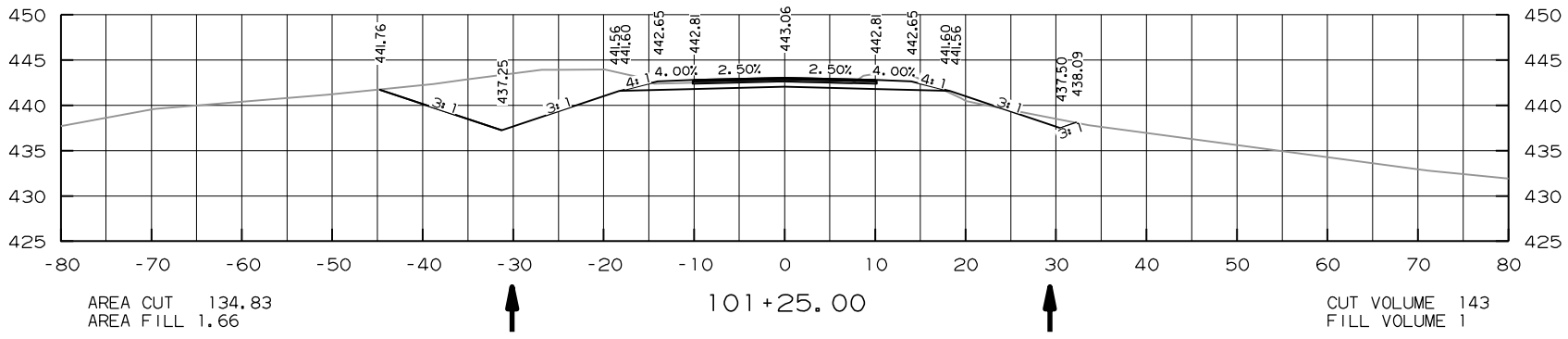
CUT VOLUME 226
FILL VOLUME 171



AREA CUT 128.97
AREA FILL 69.89

101+50.00

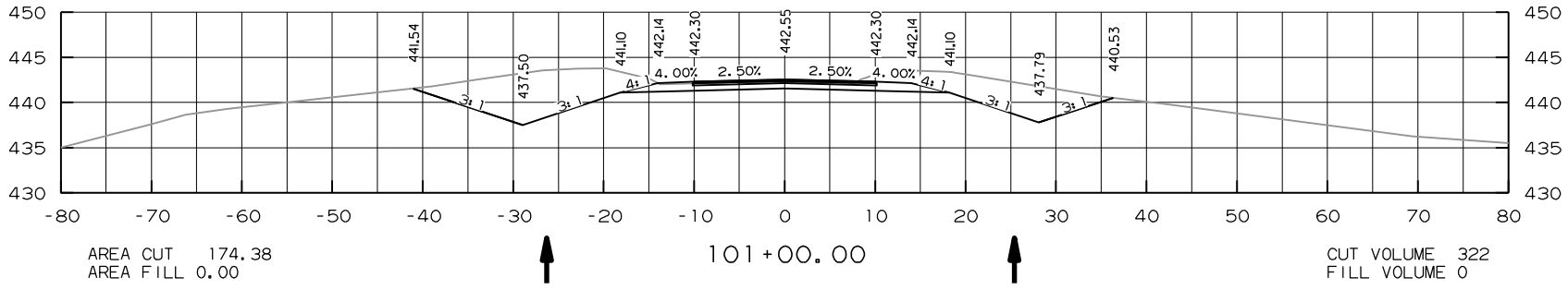
CUT VOLUME 122
FILL VOLUME 33



AREA CUT 134.83
AREA FILL 1.66

101+25.00

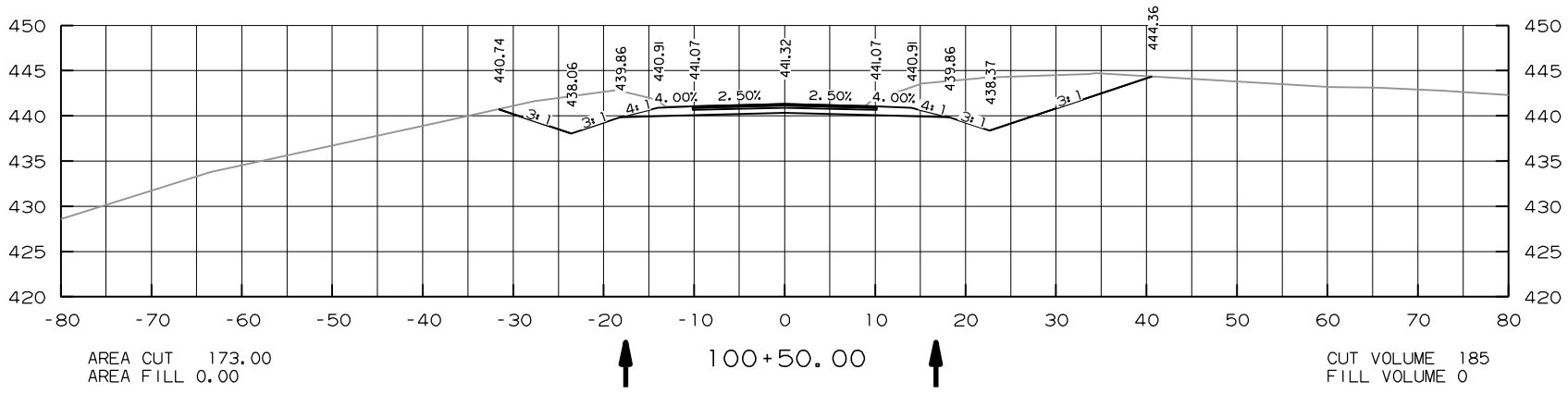
CUT VOLUME 143
FILL VOLUME 1



AREA CUT 174.38
AREA FILL 0.00

101+00.00

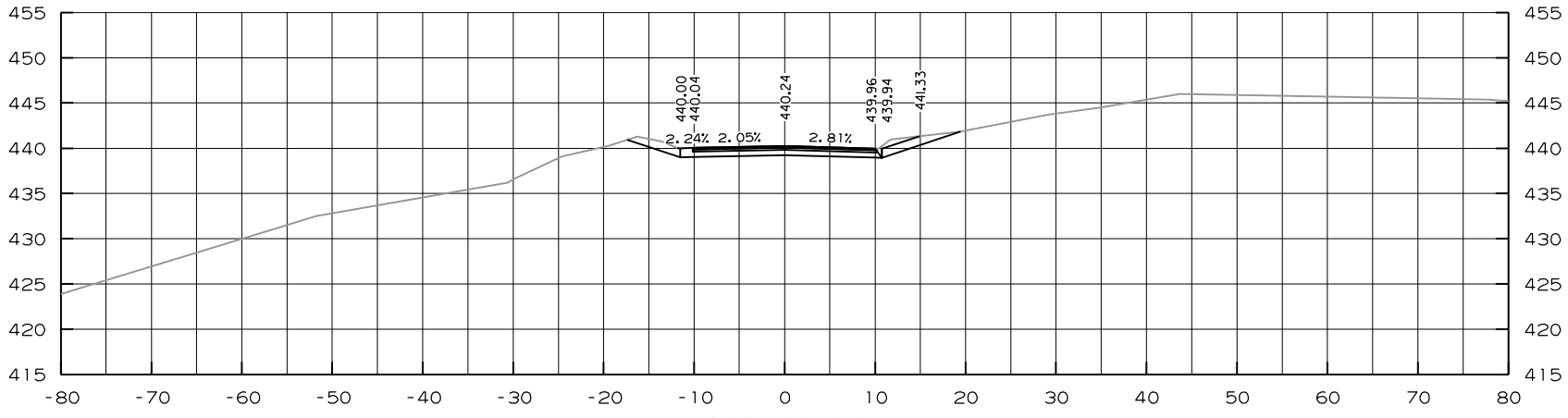
CUT VOLUME 322
FILL VOLUME 0



AREA CUT 173.00
AREA FILL 0.00

100+50.00

CUT VOLUME 185
FILL VOLUME 0



AREA CUT 26.29
AREA FILL 0.00

100+00.00

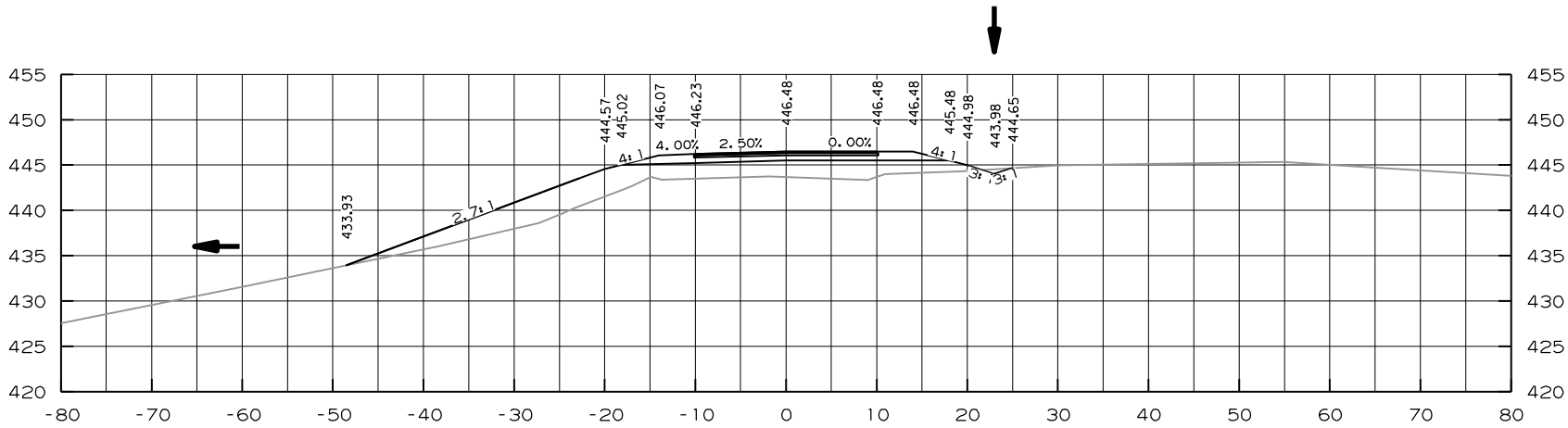
BEGIN JOB FA1108

CUT VOLUME 0
FILL VOLUME 0

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				6	ARK.		37	63

JOB NO. FA1108

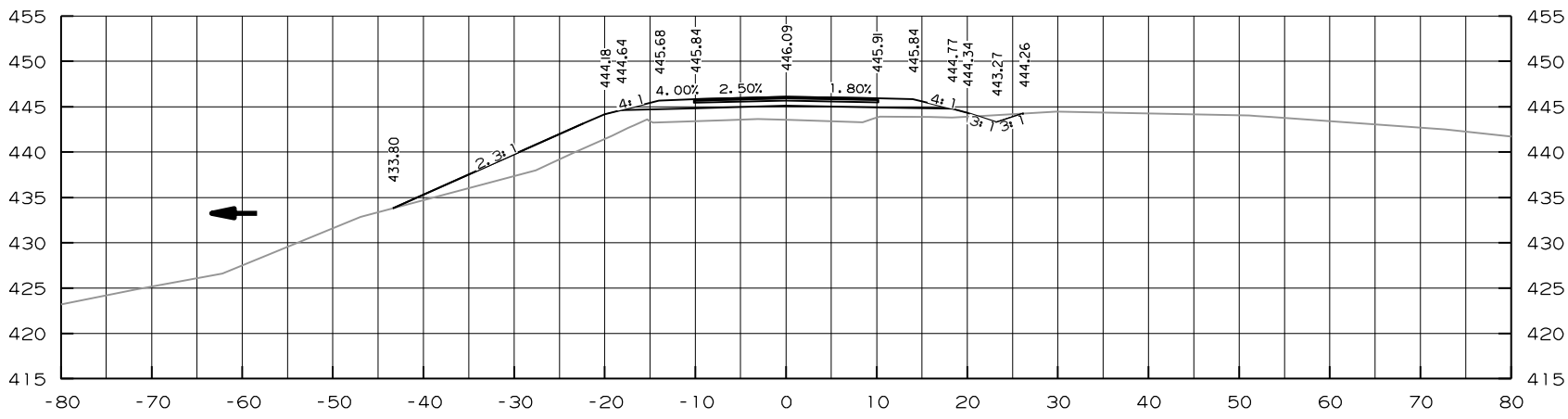
4 CROSS SECTIONS STA.100+00.00 TO 102+00.00



AREA CUT 0.93
AREA FILL 129.77

103+78.83

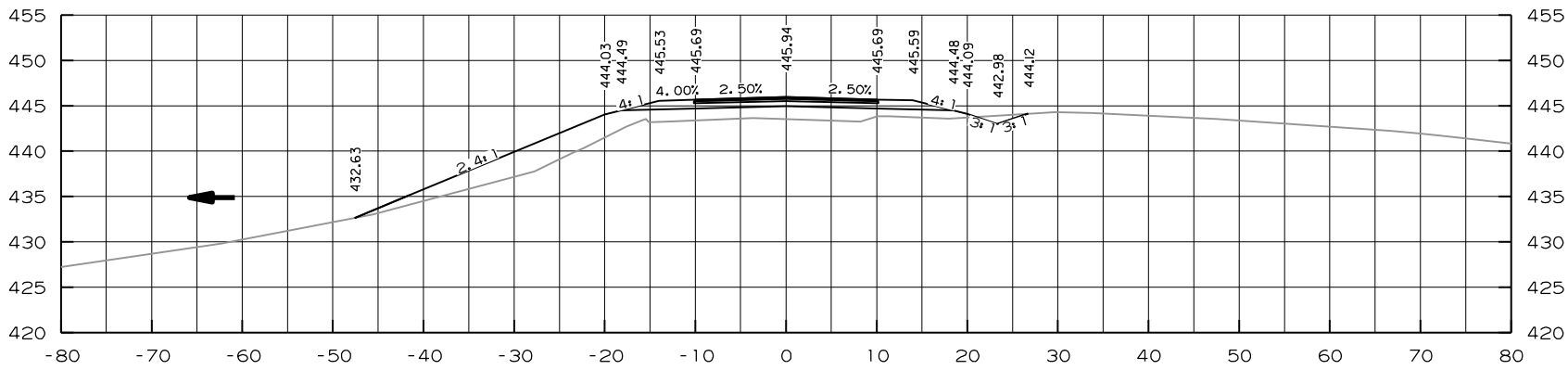
CUT VOLUME 2
FILL VOLUME 123



AREA CUT 2.08
AREA FILL 99.71

103+50.00

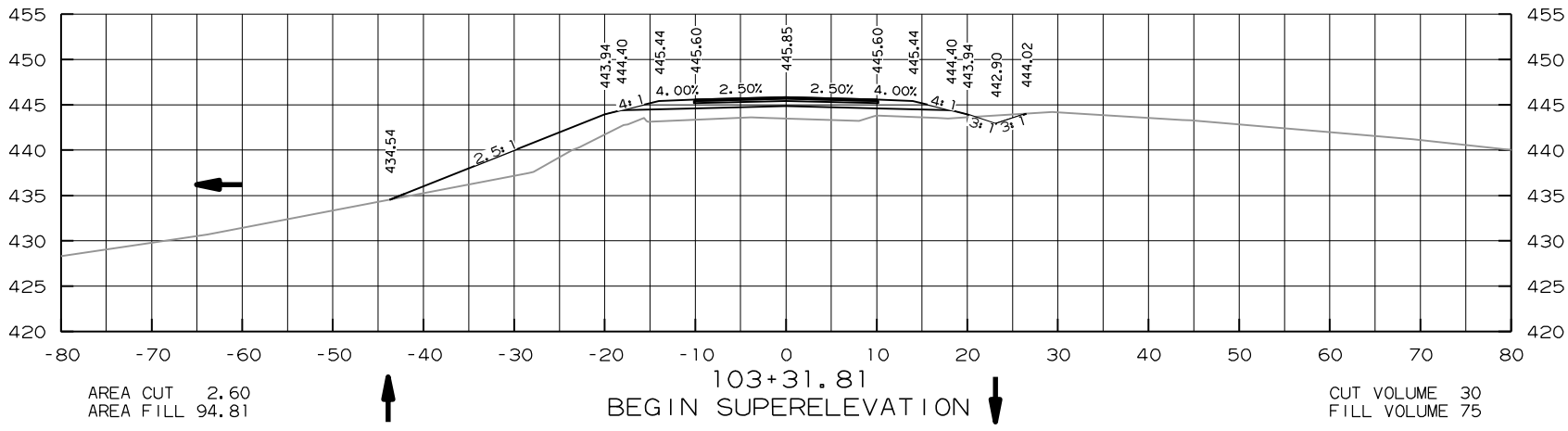
CUT VOLUME 1
FILL VOLUME 43



AREA CUT 2.67
AREA FILL 104.76

103+38.69

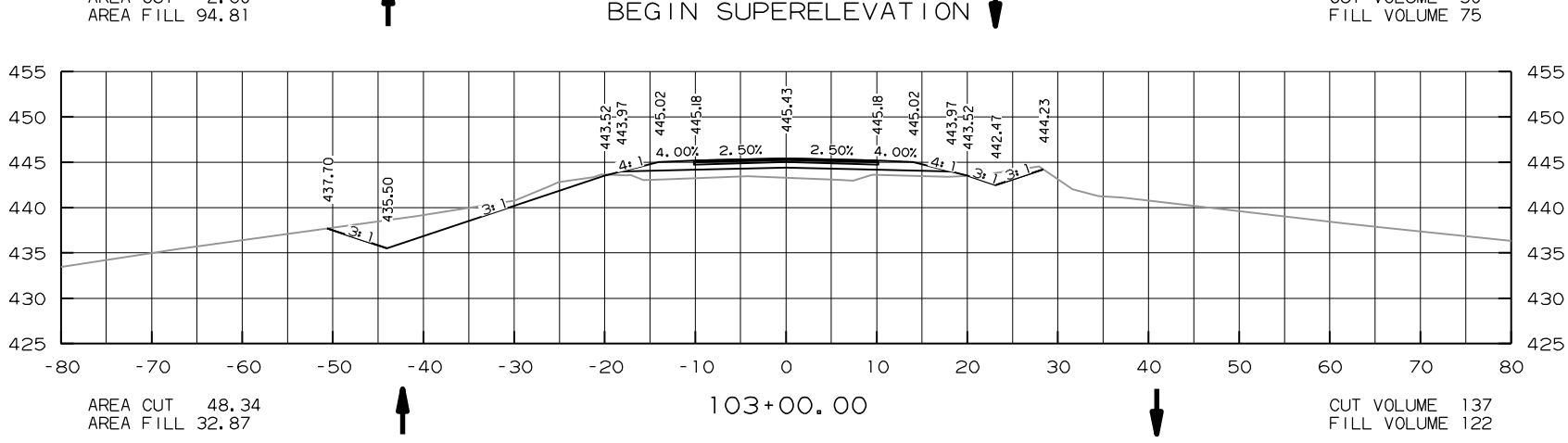
CUT VOLUME 1
FILL VOLUME 25



AREA CUT 2.60
AREA FILL 94.81

103+31.81
BEGIN SUPERELEVATION

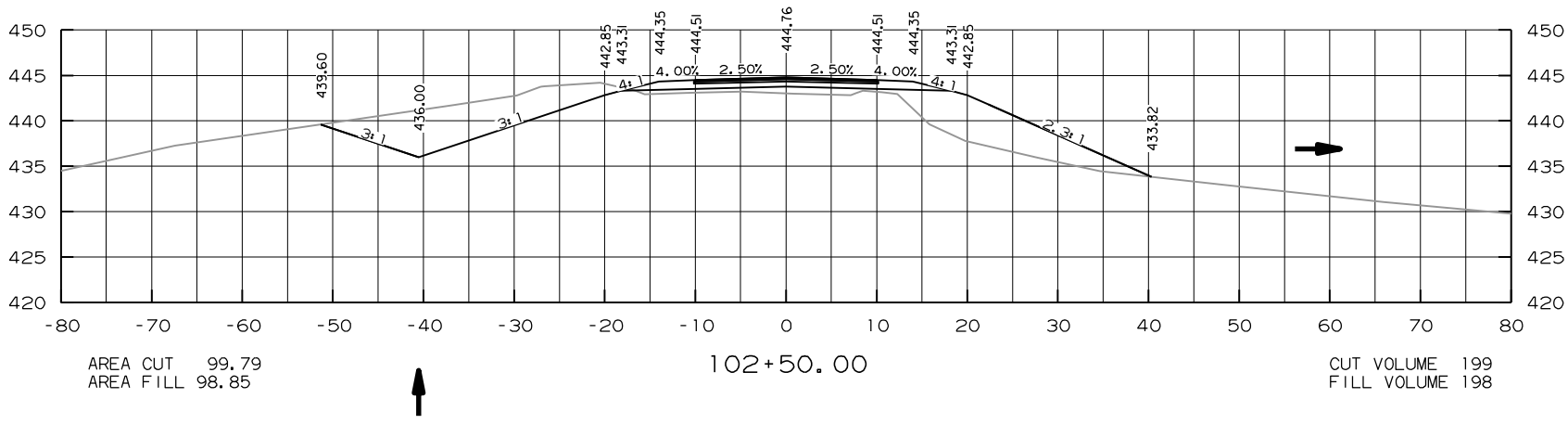
CUT VOLUME 30
FILL VOLUME 75



AREA CUT 48.34
AREA FILL 32.87

103+00.00

CUT VOLUME 137
FILL VOLUME 122



AREA CUT 99.79
AREA FILL 98.85

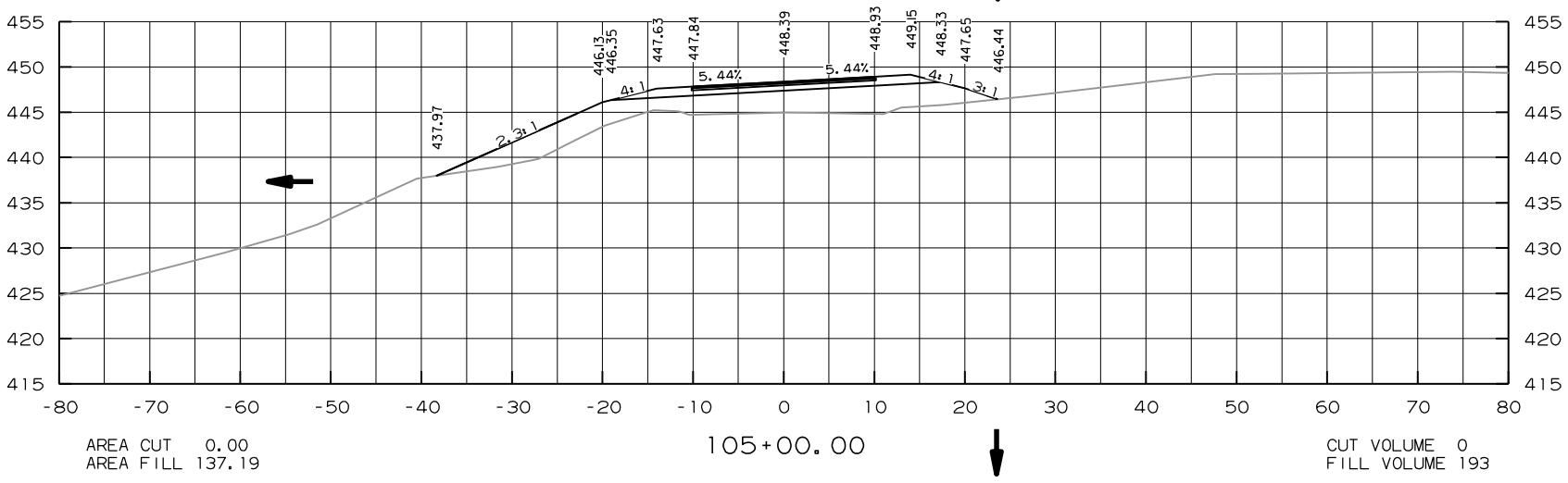
102+50.00

CUT VOLUME 199
FILL VOLUME 198

4 CROSS SECTIONS STA. 102+50.00 TO 103+78.83

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		38	63

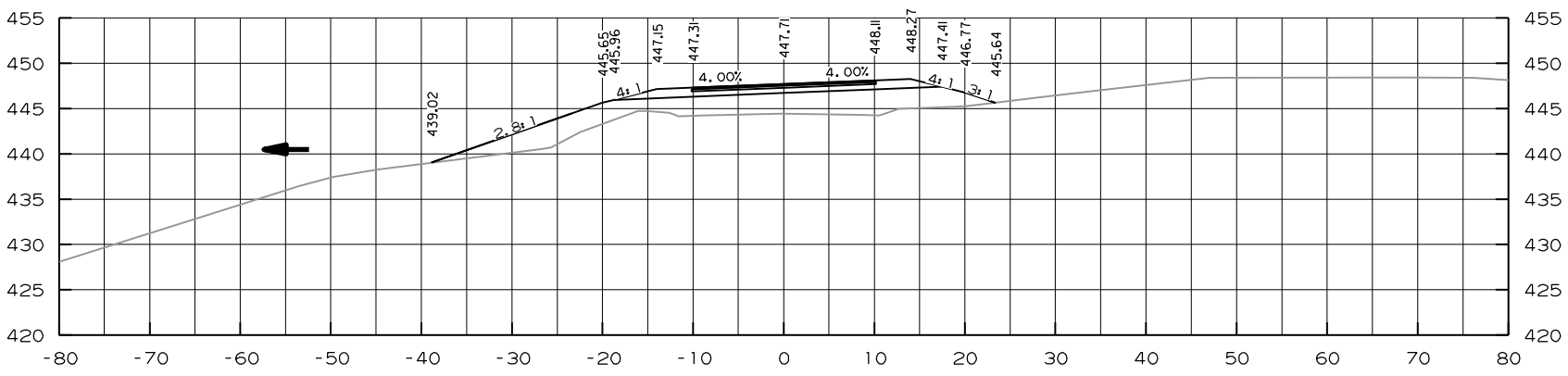
JOB NO. FA1108



AREA CUT 0.00
AREA FILL 137.19

105+00.00

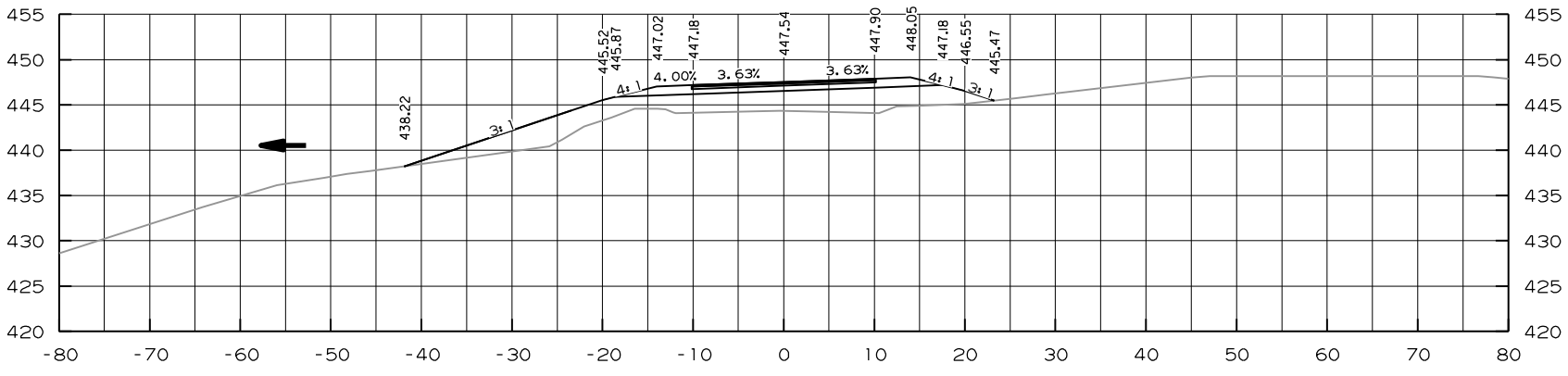
CUT VOLUME 0
FILL VOLUME 193



AREA CUT 0.00
AREA FILL 124.82

104+60.25

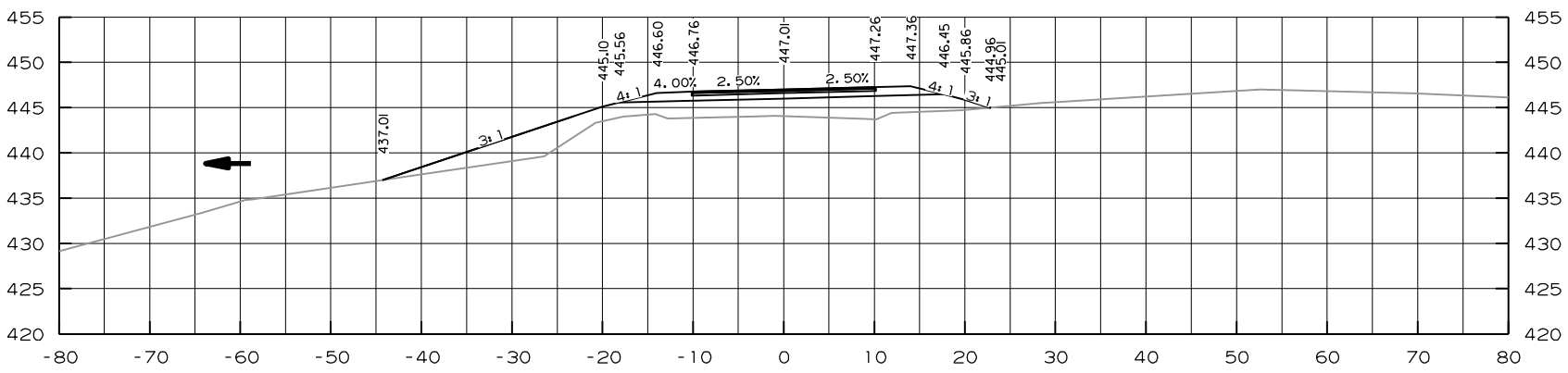
CUT VOLUME 0
FILL VOLUME 48



AREA CUT 0.00
AREA FILL 127.44

104+50.00

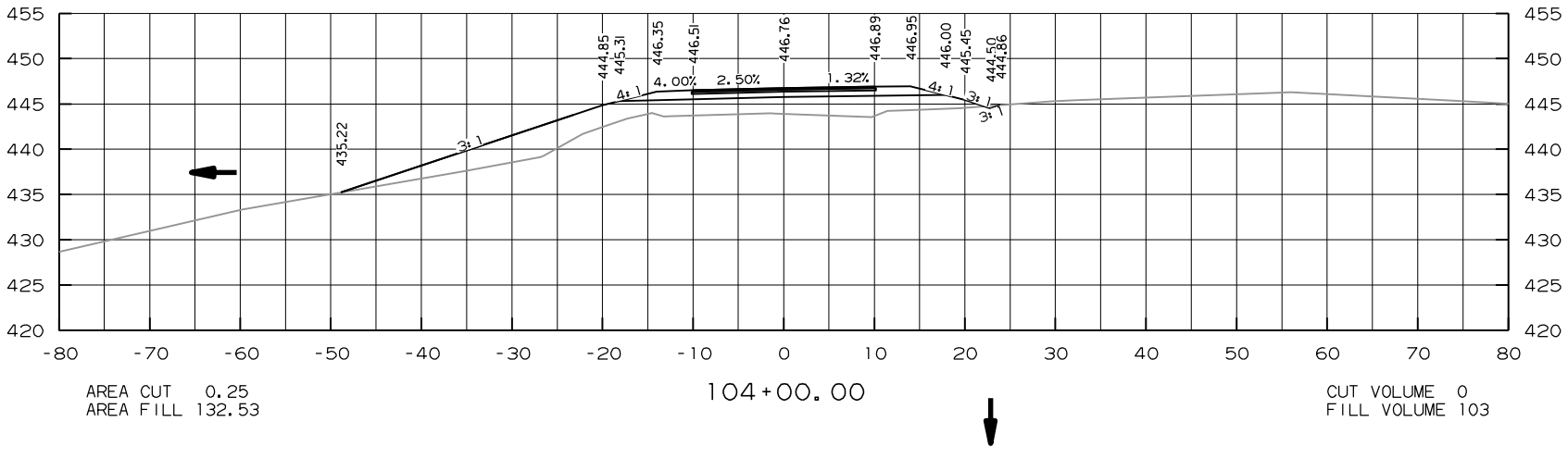
CUT VOLUME 0
FILL VOLUME 144



AREA CUT 0.00
AREA FILL 122.34

104+18.97

CUT VOLUME 0
FILL VOLUME 90



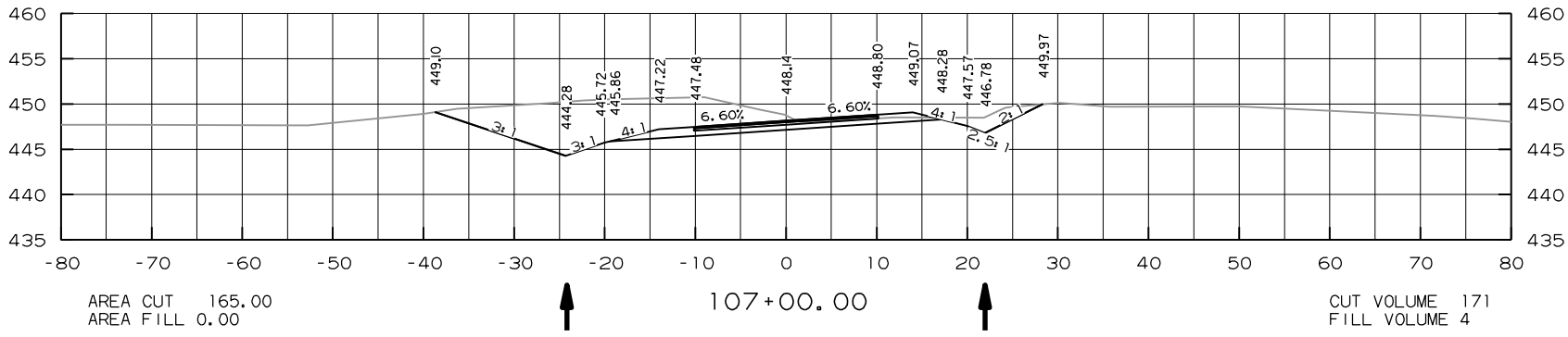
AREA CUT 0.25
AREA FILL 132.53

104+00.00

CUT VOLUME 0
FILL VOLUME 103

4 CROSS SECTIONS STA. 104+00.00 TO 105+00.00

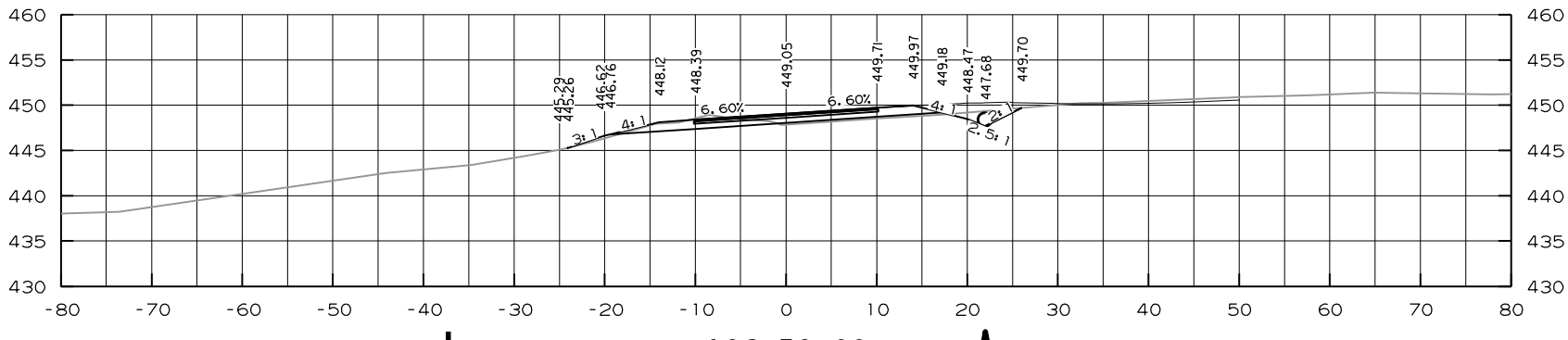
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		39	63
				JOB NO.		FA1108		



AREA CUT 165.00
AREA FILL 0.00

107+00.00

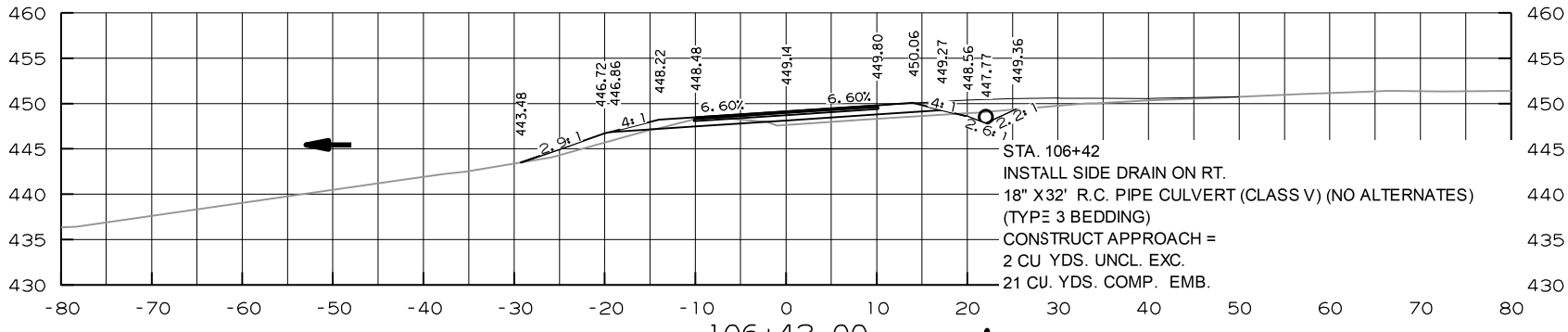
CUT VOLUME 171
FILL VOLUME 4



AREA CUT 19.63
AREA FILL 4.34

106+50.00

CUT VOLUME 4
FILL VOLUME 3

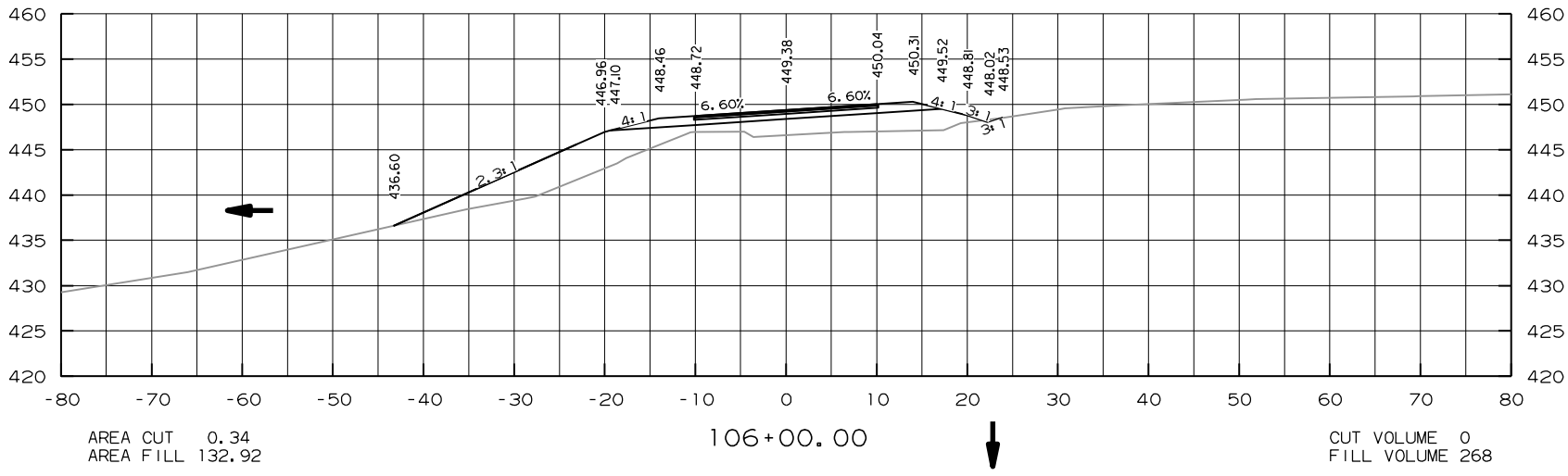


STA. 106+42
INSTALL SIDE DRAIN ON RT.
18" X32' R.C. PIPE CULVERT (CLASS V) (NO ALTERNATES)
(TYPE 3 BEDDING)
CONSTRUCT APPROACH =
2 CU YDS. UNCL. EXC.
21 CU. YDS. COMP. EMB.

AREA CUT 10.30
AREA FILL 18.44

106+42.00
DRIVE ON RT.

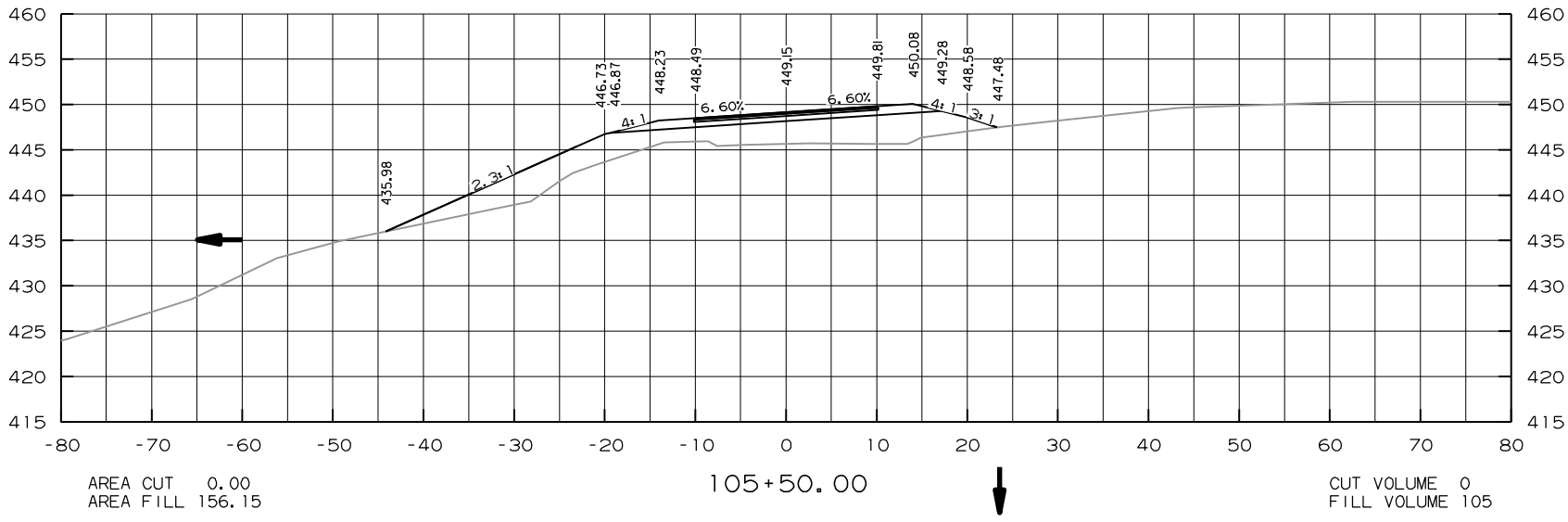
CUT VOLUME 8
FILL VOLUME 118



AREA CUT 0.34
AREA FILL 132.92

106+00.00

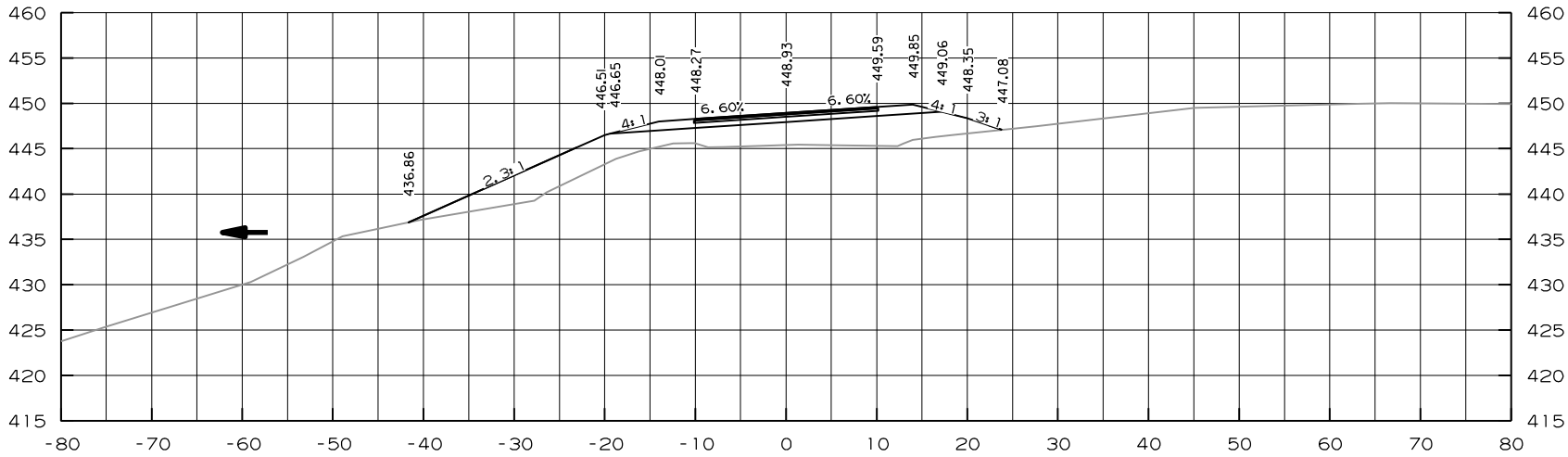
CUT VOLUME 0
FILL VOLUME 268



AREA CUT 0.00
AREA FILL 156.15

105+50.00

CUT VOLUME 0
FILL VOLUME 105



AREA CUT 0.00
AREA FILL 156.74

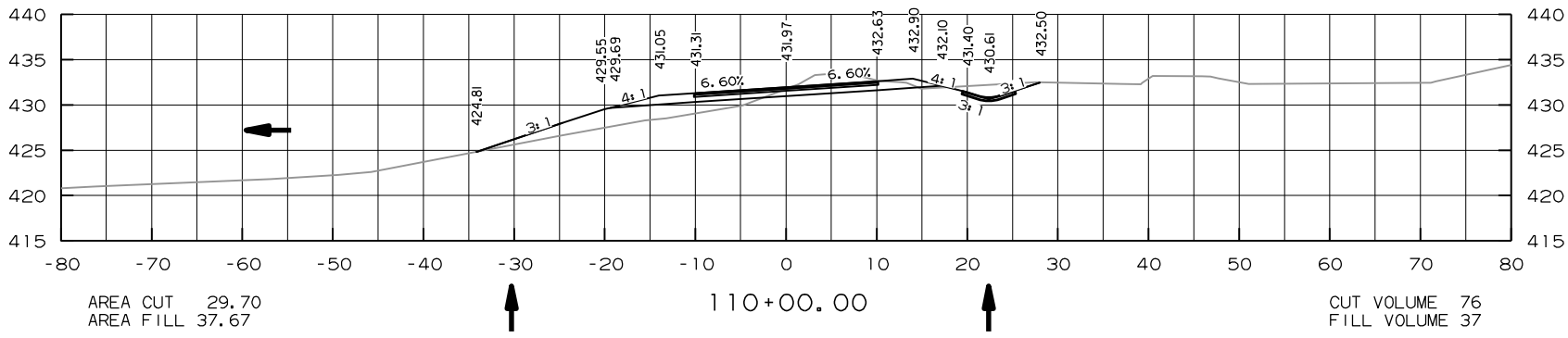
105+31.81
BEGIN MAX. SUPERELEVATION

CUT VOLUME 0
FILL VOLUME 173

DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED

4 CROSS SECTIONS STA. 105+31.81 TO 107+00.00

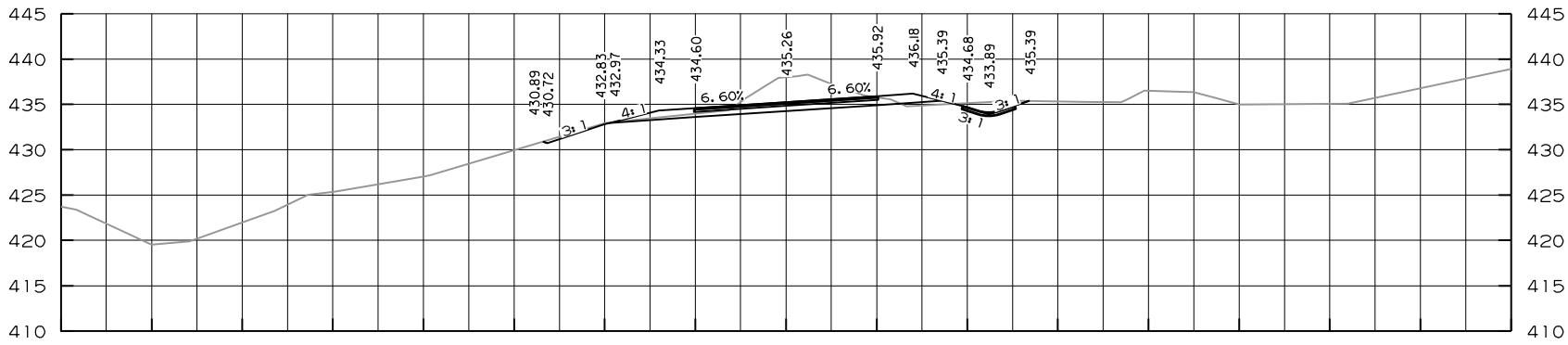
JOB NO.	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
FA1108	6	ARK.		40	63



AREA CUT 29.70
AREA FILL 37.67

110+00.00

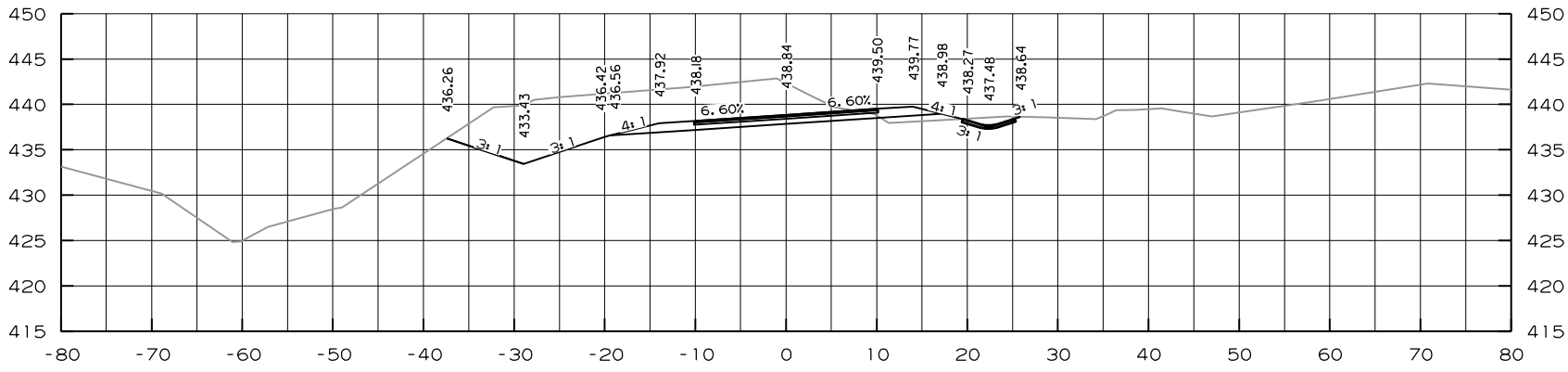
CUT VOLUME 76
FILL VOLUME 37



AREA CUT 52.84
AREA FILL 1.78

109+50.00

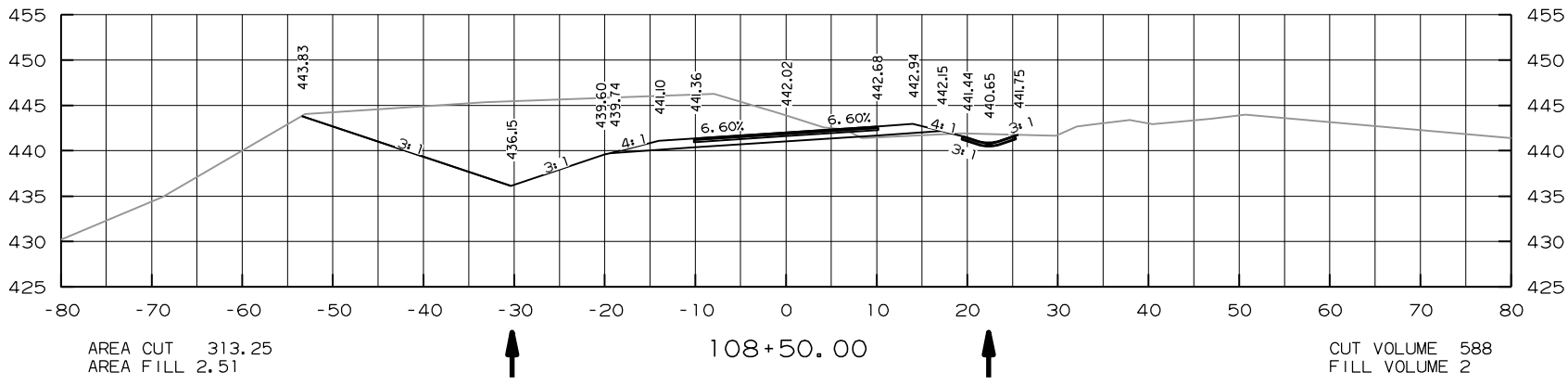
CUT VOLUME 239
FILL VOLUME 6



AREA CUT 205.22
AREA FILL 5.05

109+00.00

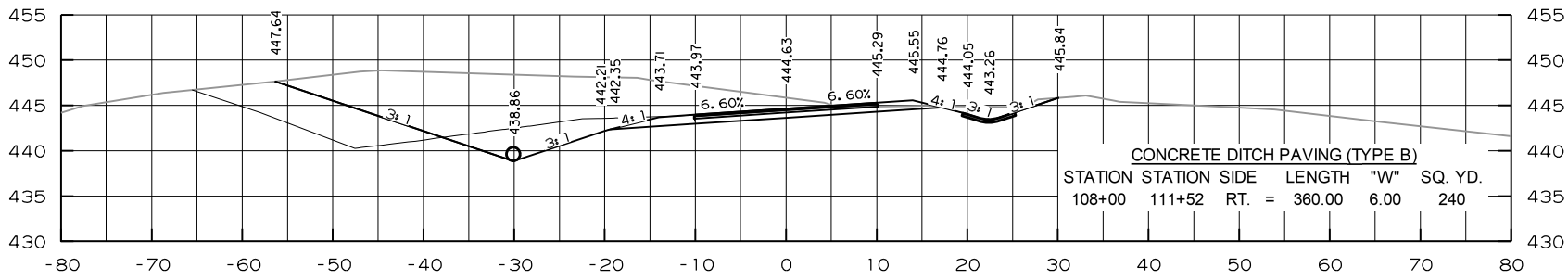
CUT VOLUME 480
FILL VOLUME 7



AREA CUT 313.25
AREA FILL 2.51

108+50.00

CUT VOLUME 588
FILL VOLUME 2



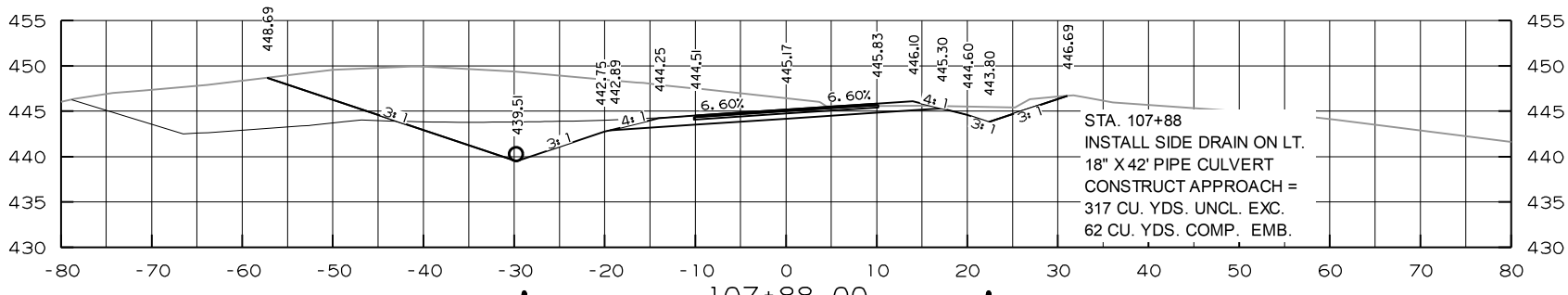
CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
108+00	111+52	RT.	=	360.00	6.00	240

AREA CUT 322.11
AREA FILL 0.00

108+00.00

CUT VOLUME 146
FILL VOLUME 0

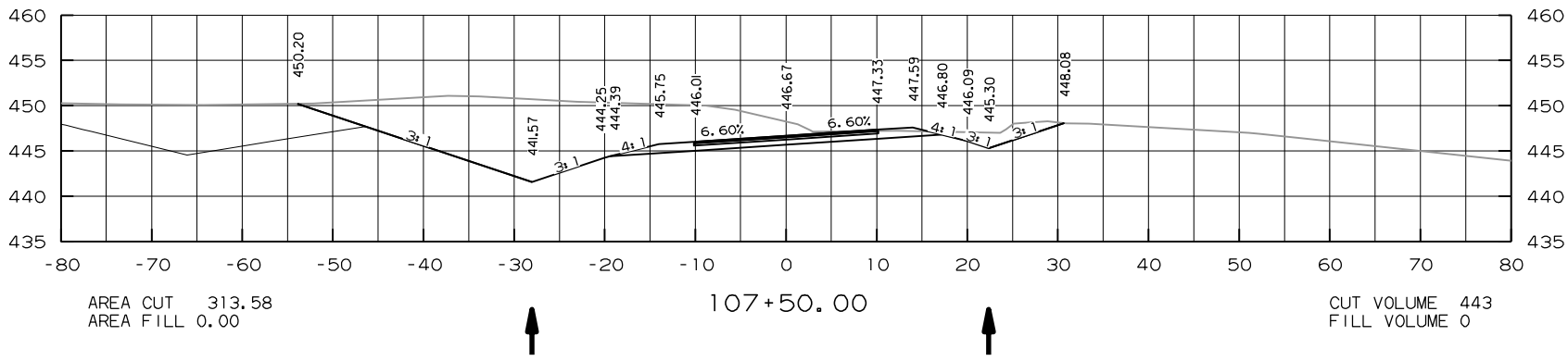


STA. 107+88
INSTALL SIDE DRAIN ON LT.
18" X 42' PIPE CULVERT
CONSTRUCT APPROACH =
317 CU. YDS. UNCL. EXC.
62 CU. YDS. COMP. EMB.

AREA CUT 334.10
AREA FILL 0.00

107+88.00
DRIVE ON LT.

CUT VOLUME 456
FILL VOLUME 0



AREA CUT 313.58
AREA FILL 0.00

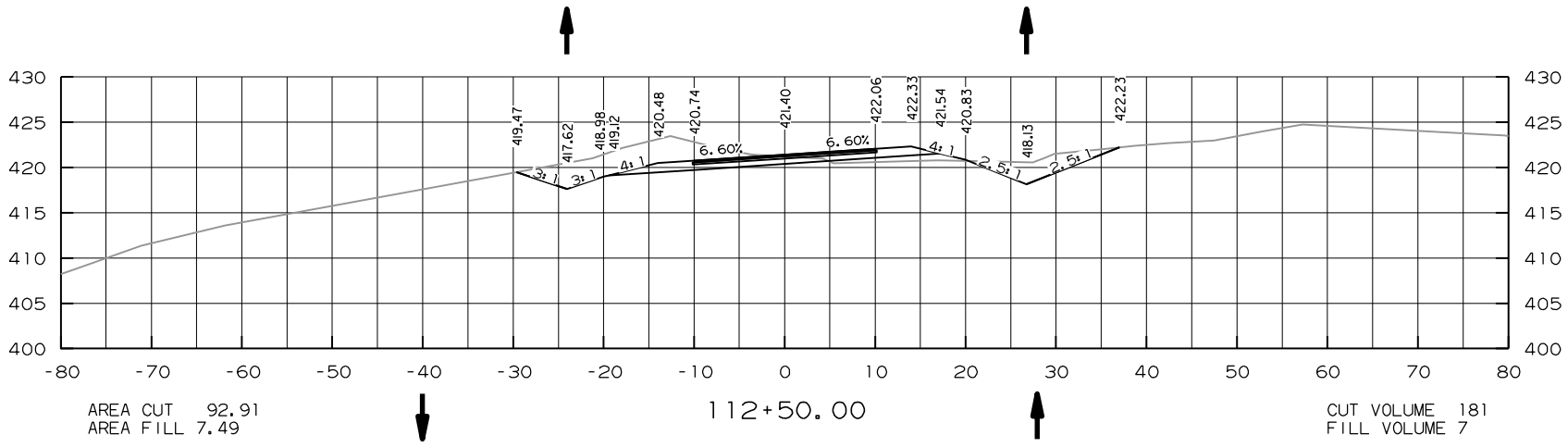
107+50.00

CUT VOLUME 443
FILL VOLUME 0

4 CROSS SECTIONS STA. 107+50.00 TO 110+00.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA1108	41	63

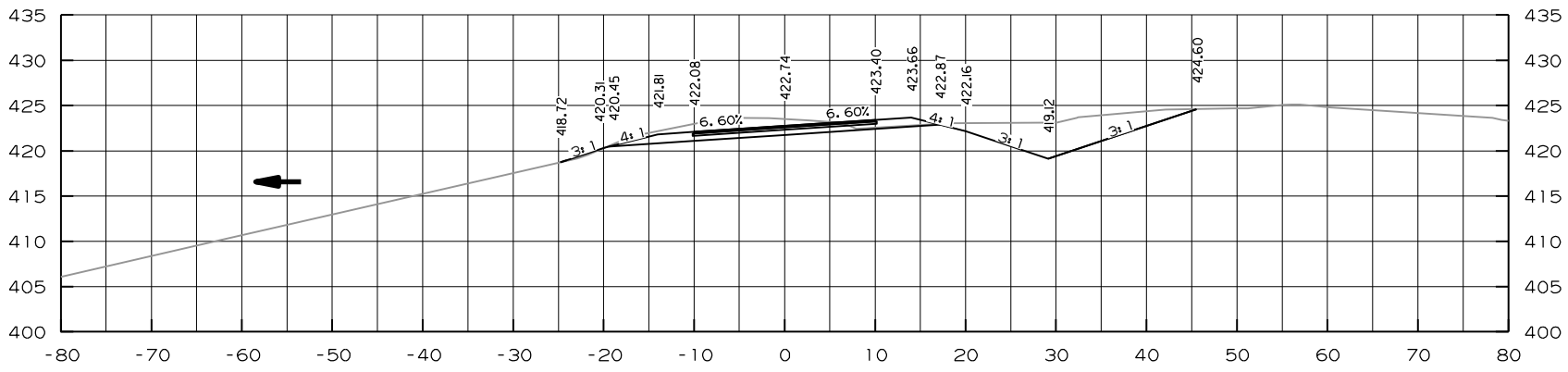
JOB NO.



AREA CUT 92.91
AREA FILL 7.49

112+50.00

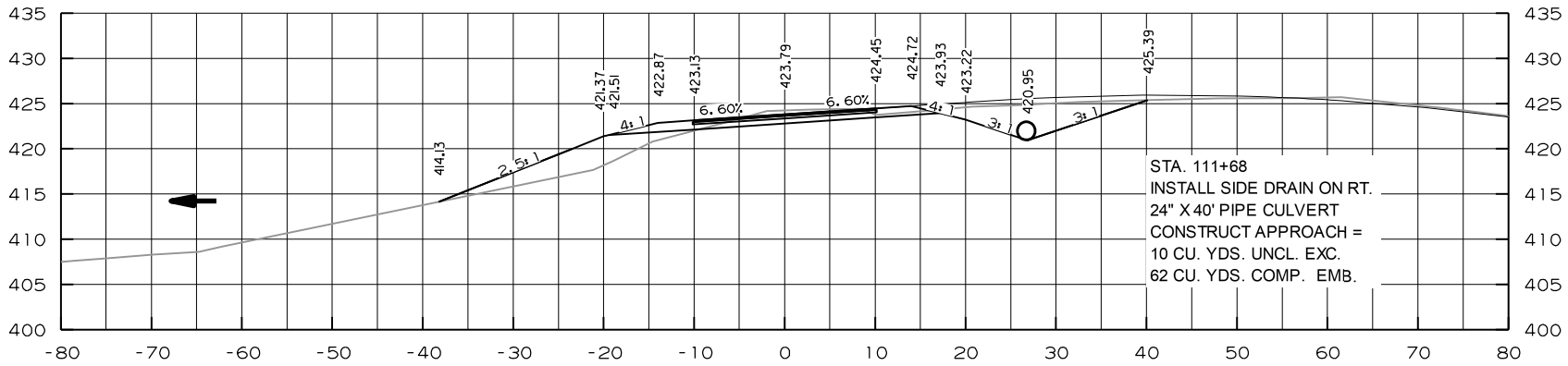
CUT VOLUME 181
FILL VOLUME 7



AREA CUT 102.49
AREA FILL 0.55

112+00.00

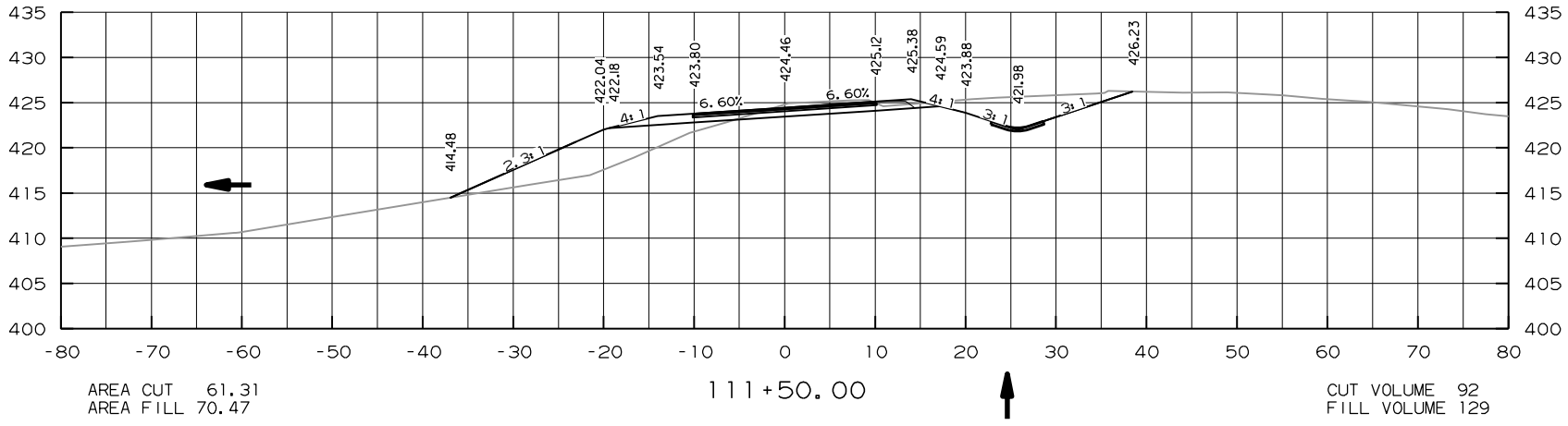
CUT VOLUME 102
FILL VOLUME 28



AREA CUT 70.18
AREA FILL 46.00

111+68.00
DRIVE ON RT.

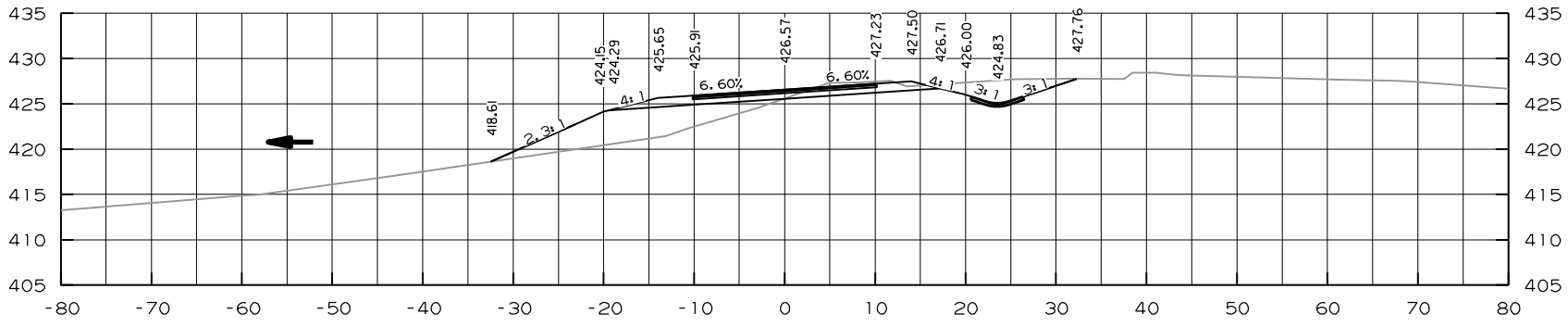
CUT VOLUME 44
FILL VOLUME 39



AREA CUT 61.31
AREA FILL 70.47

111+50.00

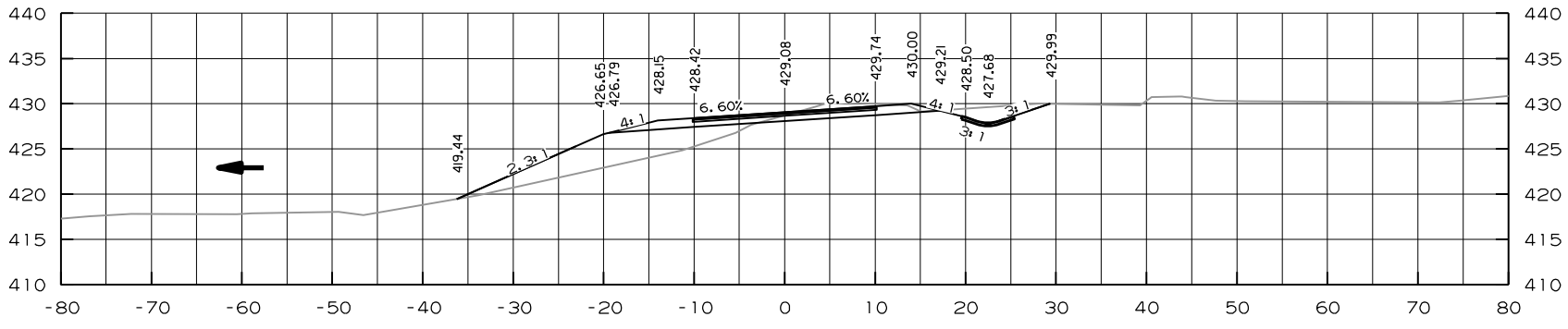
CUT VOLUME 92
FILL VOLUME 129



AREA CUT 37.83
AREA FILL 69.08

111+00.00

CUT VOLUME 64
FILL VOLUME 128



AREA CUT 30.92
AREA FILL 69.46

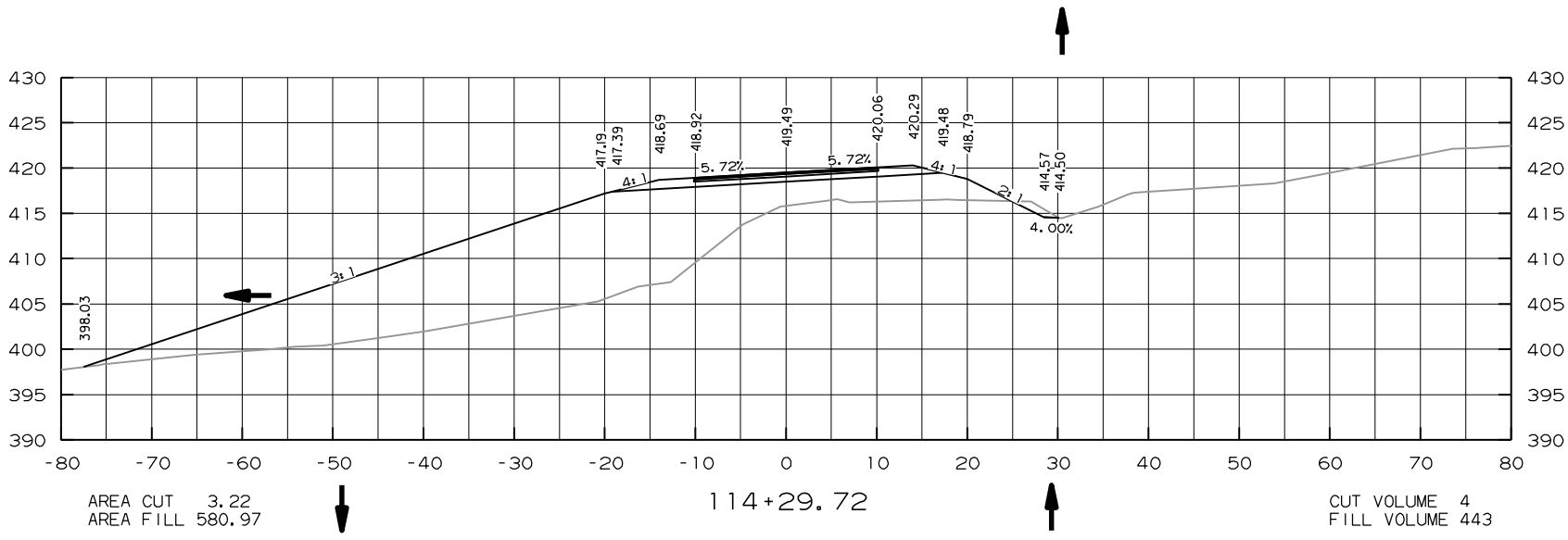
110+50.00

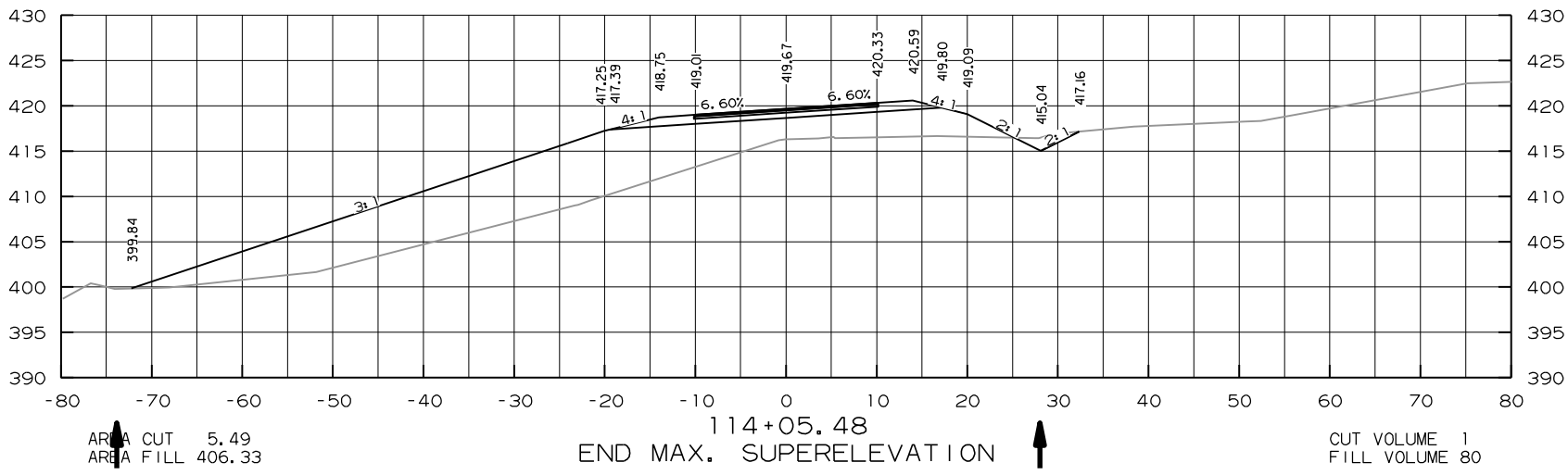
CUT VOLUME 56
FILL VOLUME 99

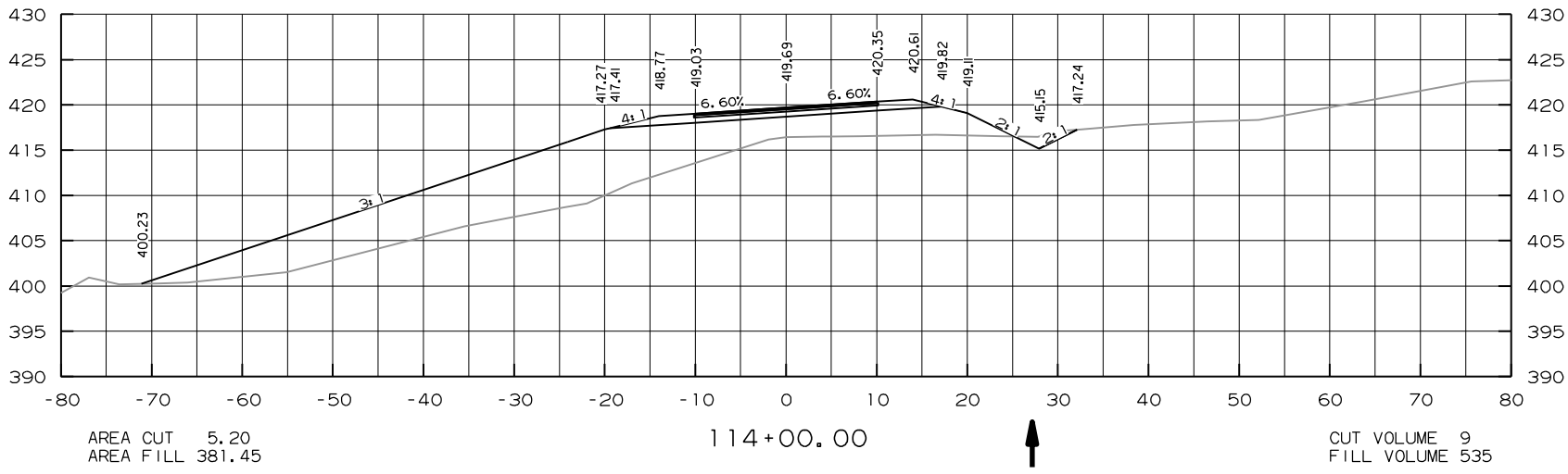
DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED

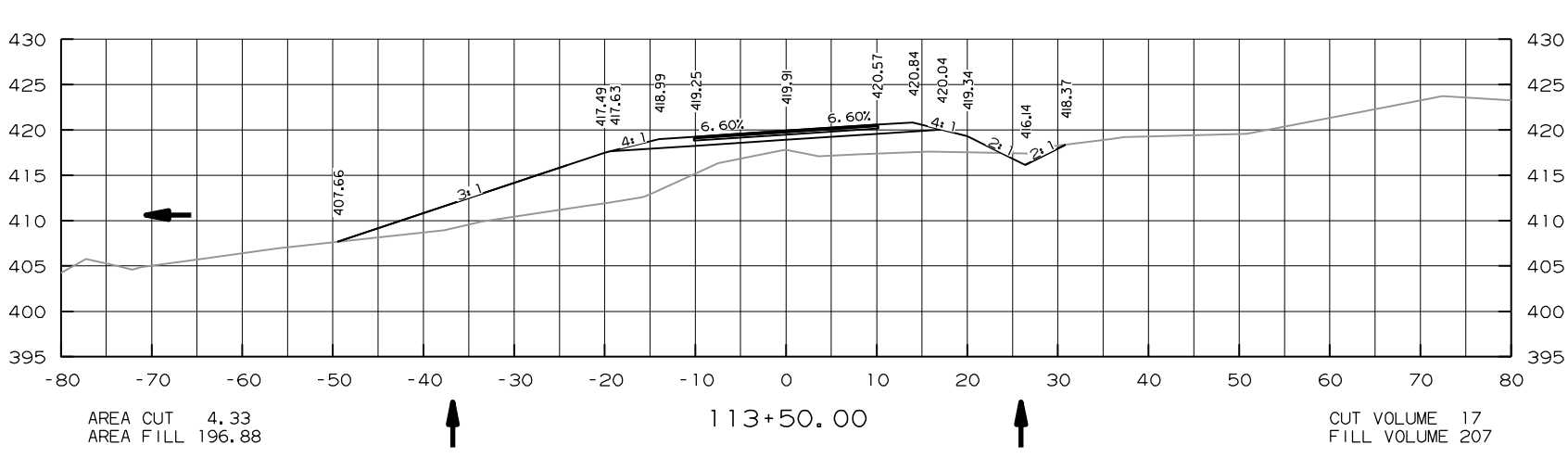
4 CROSS SECTIONS STA. 110+50.00 TO 112+50.00

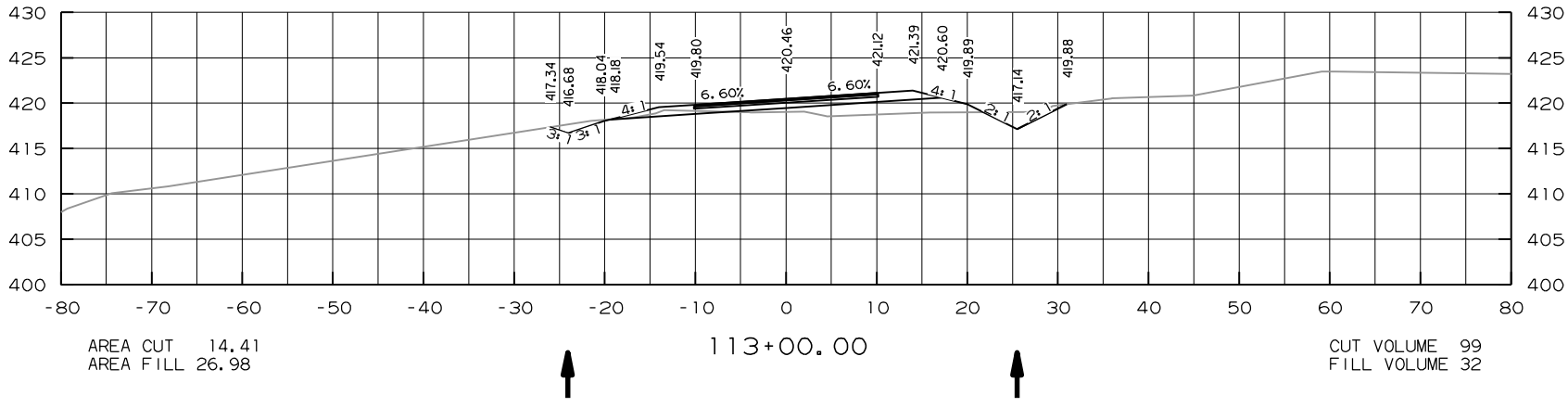
JOB NO.	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
FA1108	6	ARK.		42	63







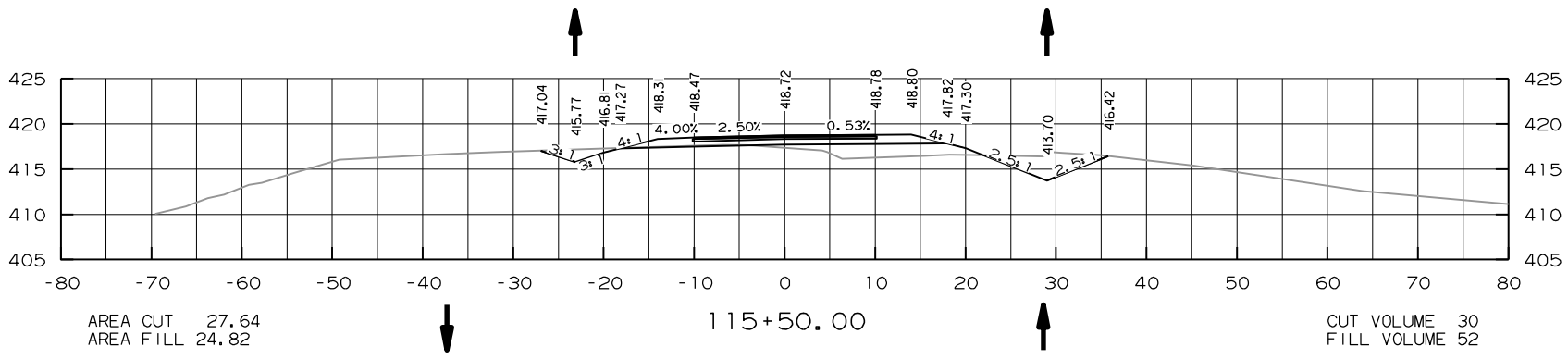




4 CROSS SECTIONS STA. 113+00.00 TO 114+29.72

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		43	63

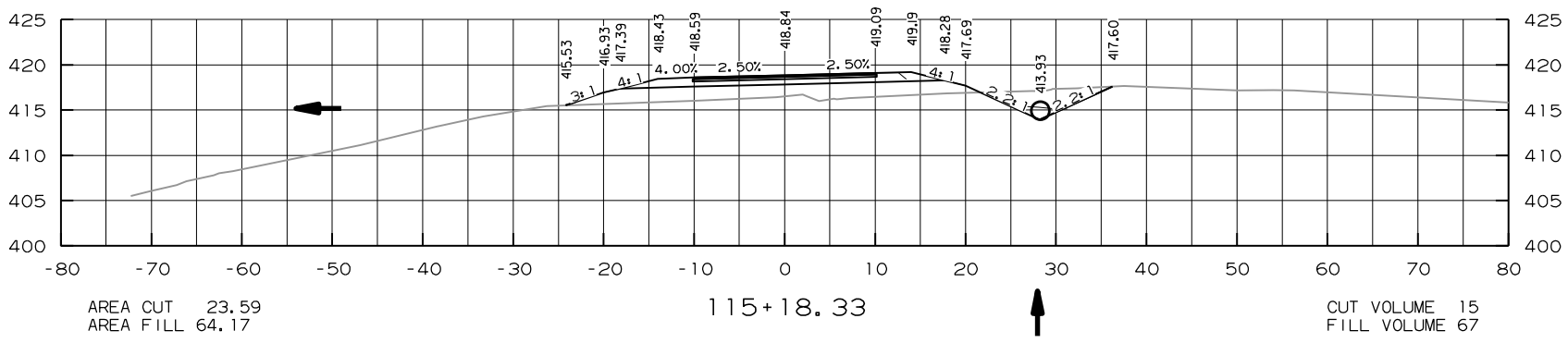
JOB NO. FA1108



AREA CUT 27.64
AREA FILL 24.82

115+50.00

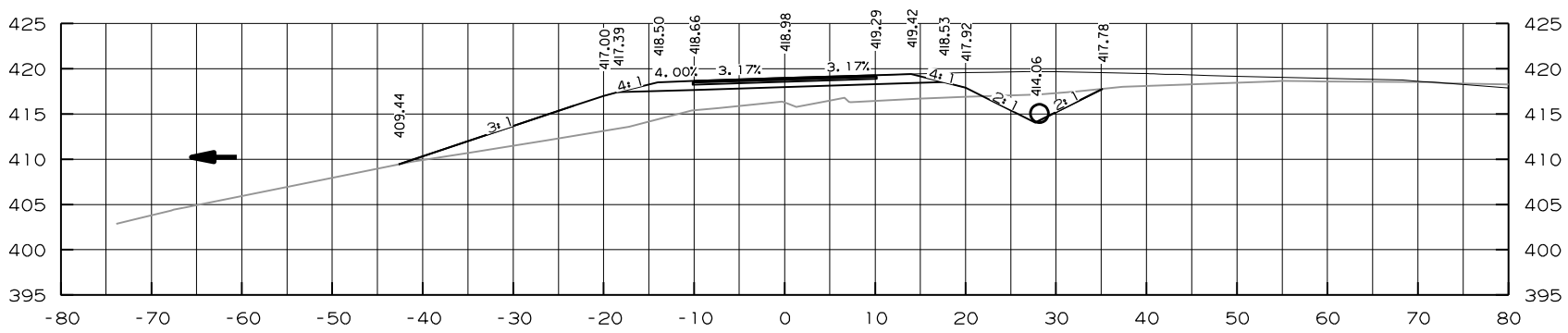
CUT VOLUME 30
FILL VOLUME 52



AREA CUT 23.59
AREA FILL 64.17

115+18.33

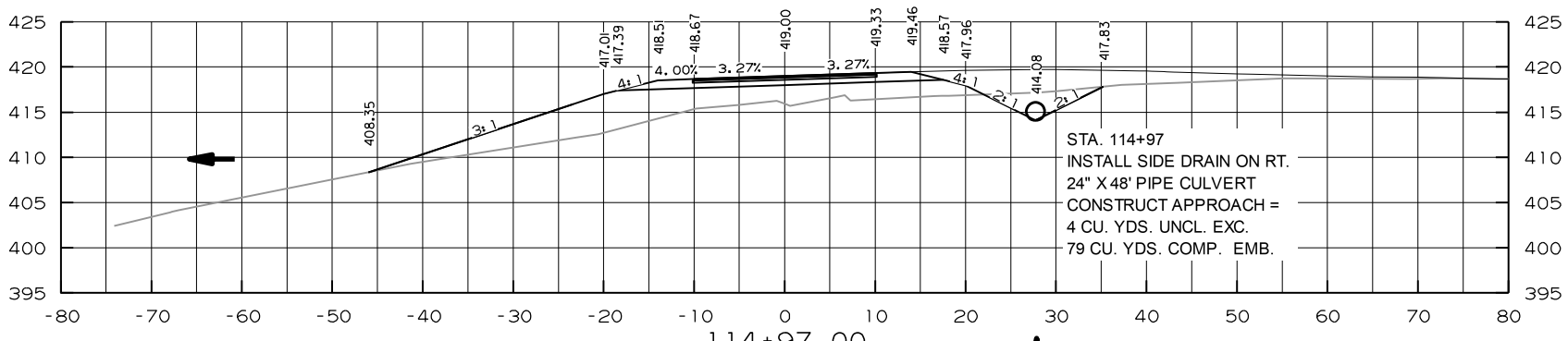
CUT VOLUME 15
FILL VOLUME 67



AREA CUT 20.22
AREA FILL 131.81

115+00.00

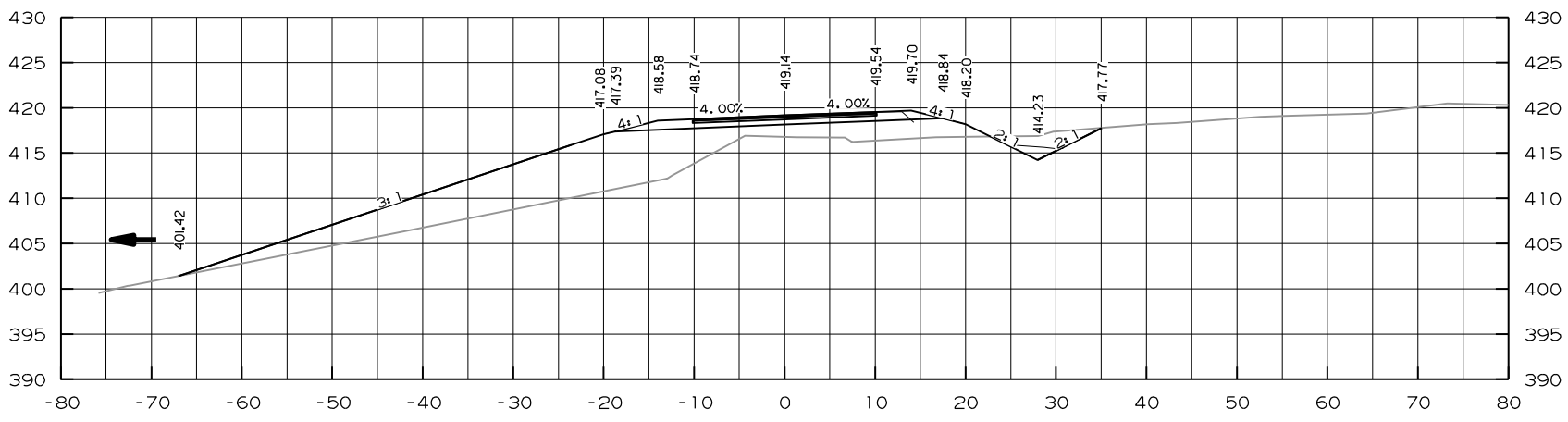
CUT VOLUME 2
FILL VOLUME 15



AREA CUT 20.19
AREA FILL 145.75

114+97.00
DRIVE ON RT.

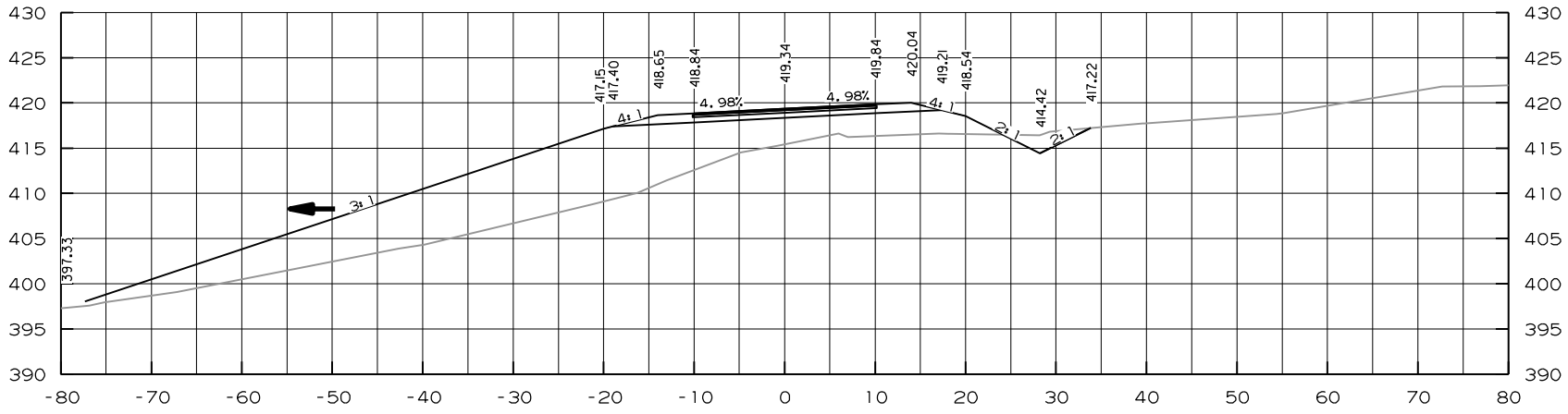
CUT VOLUME 14
FILL VOLUME 151



AREA CUT 17.18
AREA FILL 263.19

114+77.04

CUT VOLUME 14
FILL VOLUME 349



AREA CUT 10.36
AREA FILL 433.29

114+50.00

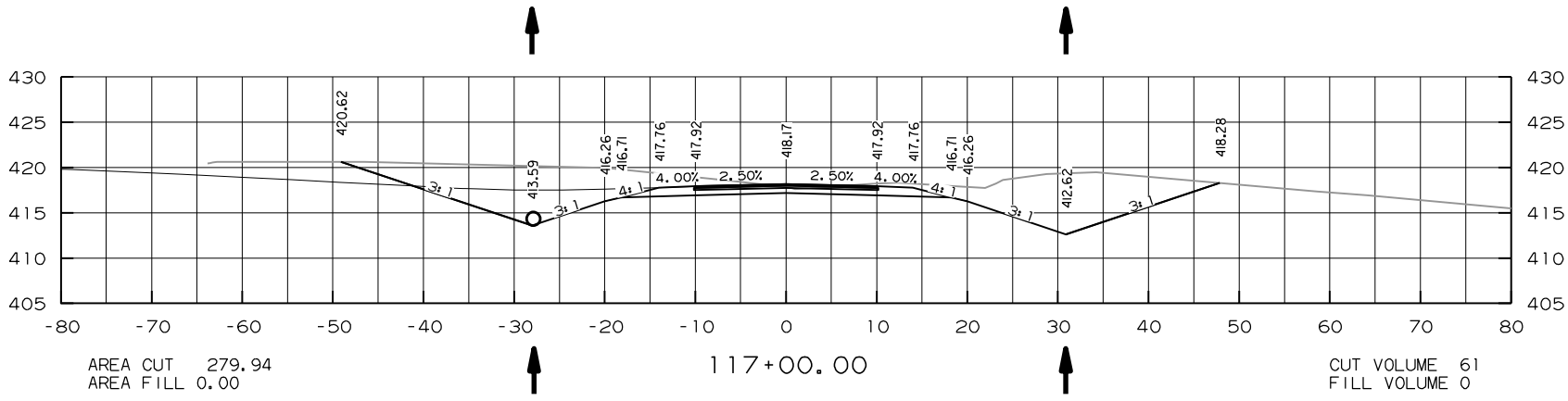
CUT VOLUME 5
FILL VOLUME 381

DATE REVISED
DATE FILMED
DATE REVISED
DATE FILMED

4 CROSS SECTIONS STA. 114+50.00 TO 115+50.00

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	FA1108	44	63

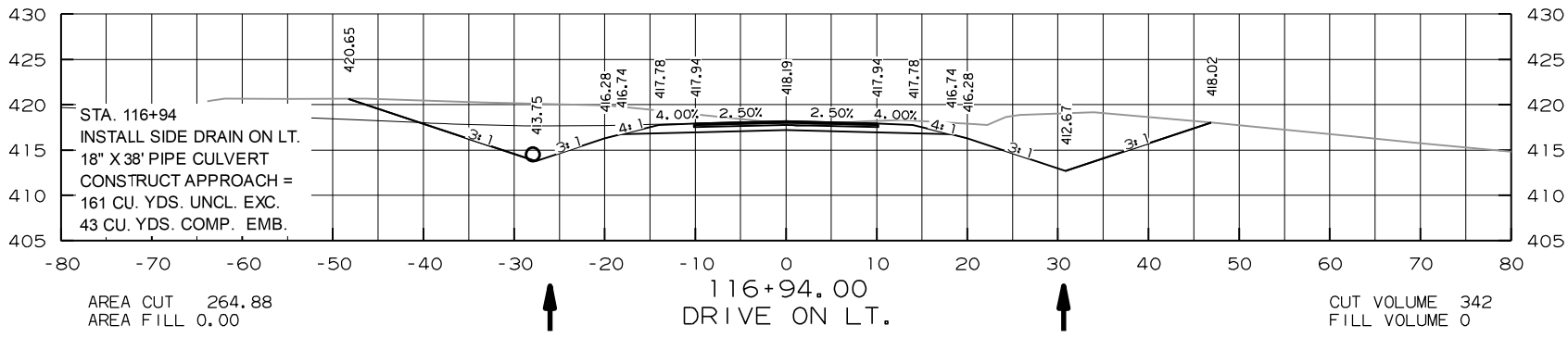
JOB NO.



AREA CUT 279.94
AREA FILL 0.00

117+00.00

CUT VOLUME 61
FILL VOLUME 0

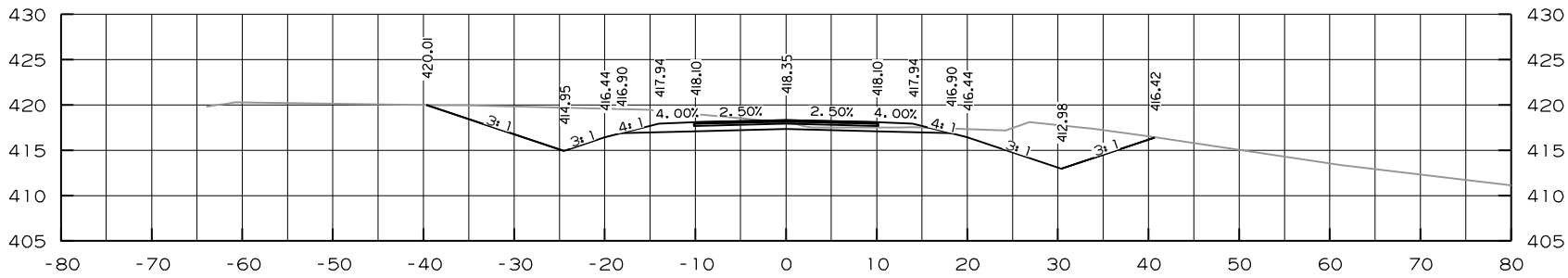


STA. 116+94
INSTALL SIDE DRAIN ON LT.
18" X 38' PIPE CULVERT
CONSTRUCT APPROACH =
161 CU. YDS. UNCL. EXC.
43 CU. YDS. COMP. EMB.

AREA CUT 264.88
AREA FILL 0.00

116+94.00
DRIVE ON LT.

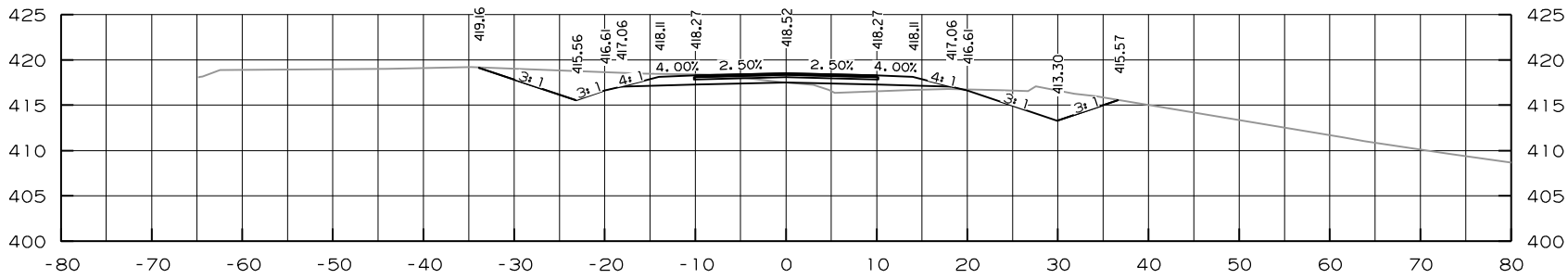
CUT VOLUME 342
FILL VOLUME 0



AREA CUT 155.15
AREA FILL 0.00

116+50.00

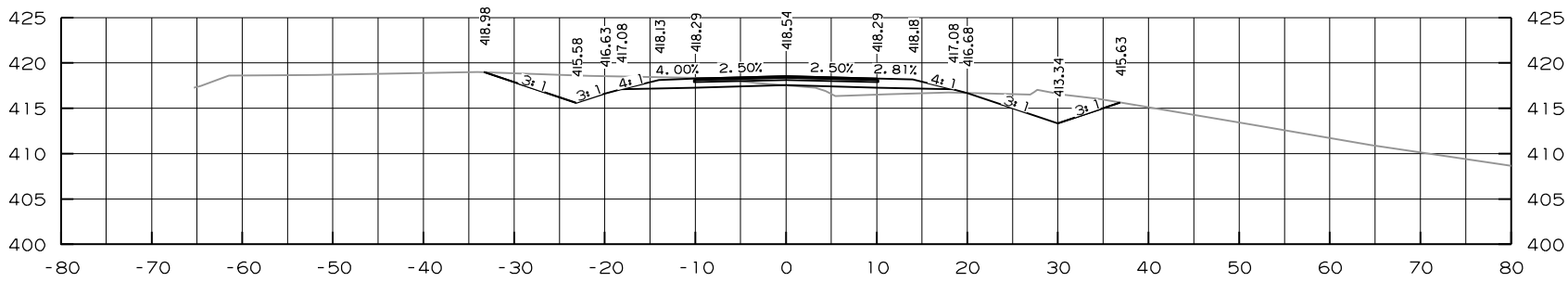
CUT VOLUME 189
FILL VOLUME 8



AREA CUT 74.55
AREA FILL 9.98

116+05.48
END SUPERELEVATION

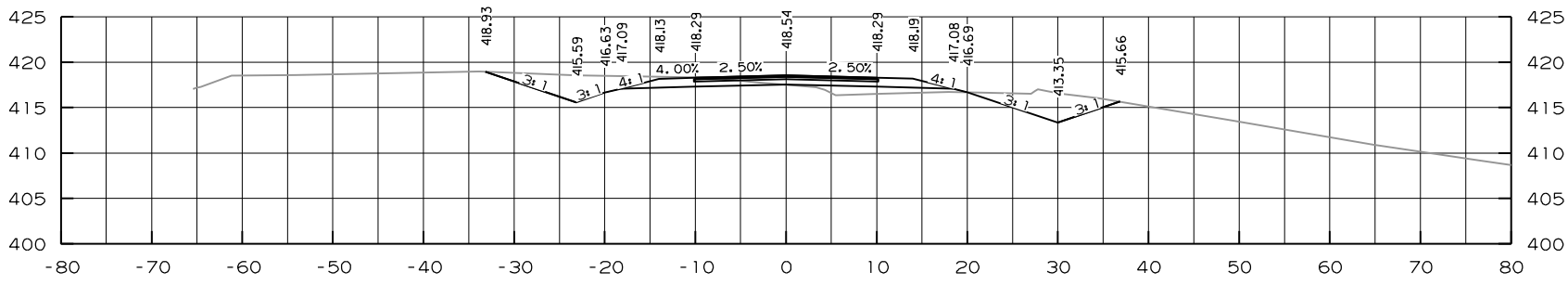
CUT VOLUME 15
FILL VOLUME 2



AREA CUT 69.54
AREA FILL 10.88

116+00.00

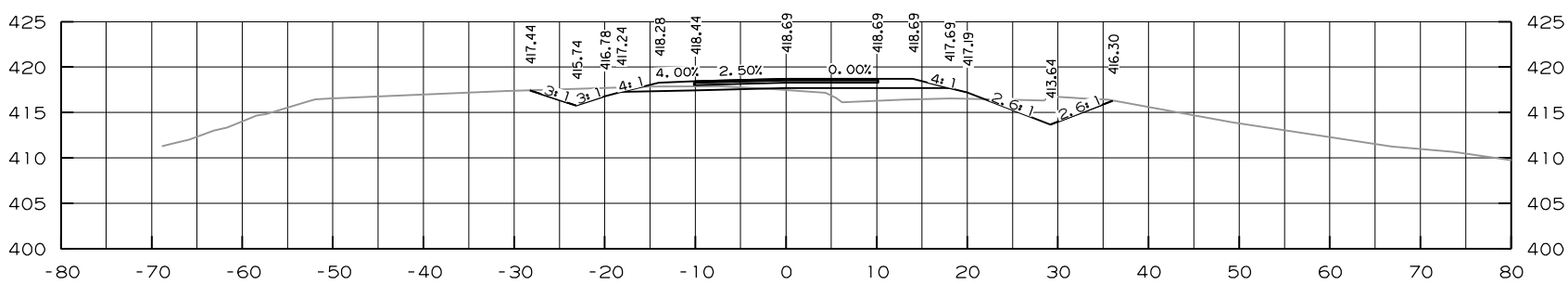
CUT VOLUME 4
FILL VOLUME 1



AREA CUT 68.37
AREA FILL 11.13

115+98.60

CUT VOLUME 79
FILL VOLUME 25



AREA CUT 37.34
AREA FILL 22.17

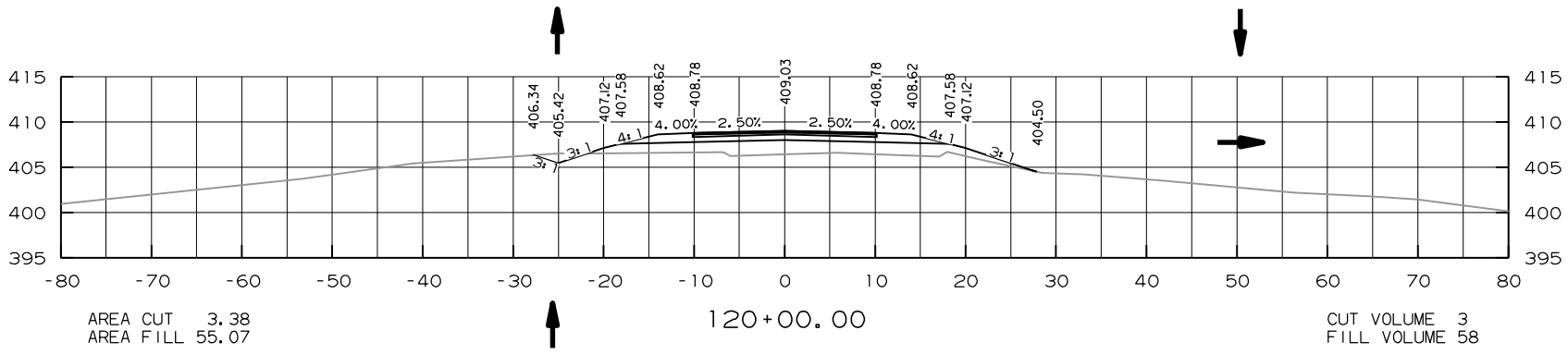
115+58.46

CUT VOLUME 10
FILL VOLUME 7

4 CROSS SECTIONS STA. 115+58.46 TO 117+00.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA1108	45	63

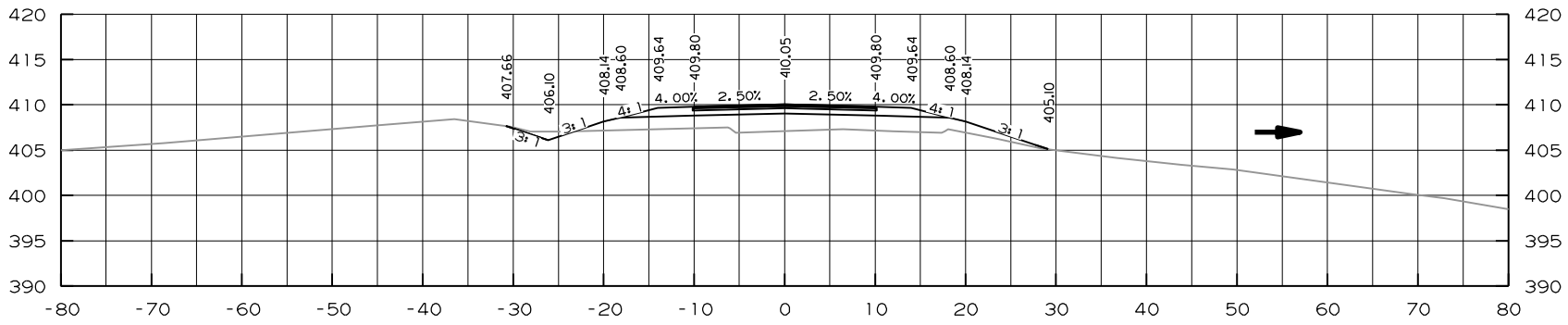
JOB NO.



AREA CUT 3.38
AREA FILL 55.07

120+00.00

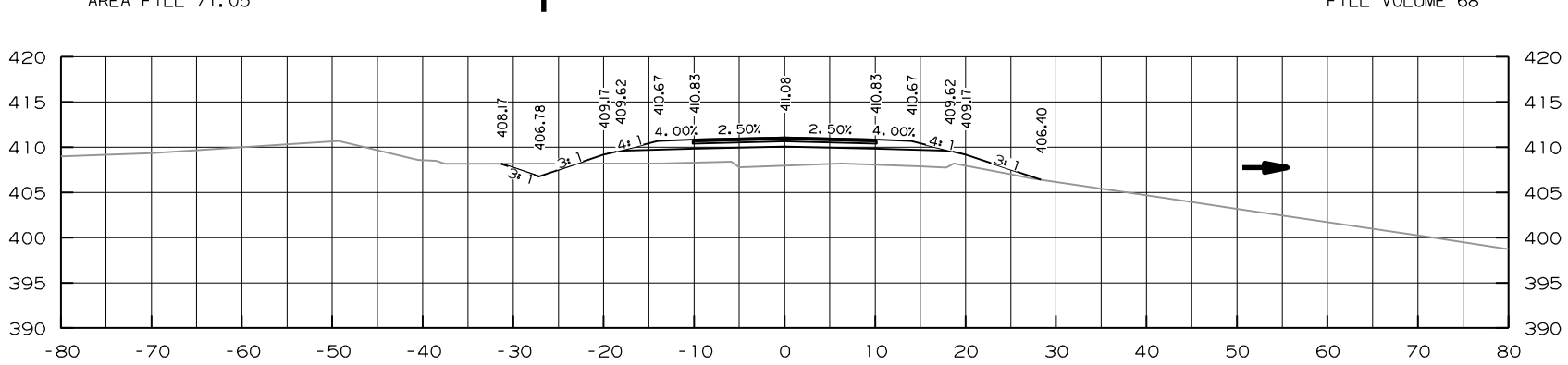
CUT VOLUME 3
FILL VOLUME 58



AREA CUT 2.98
AREA FILL 71.05

119+75.00

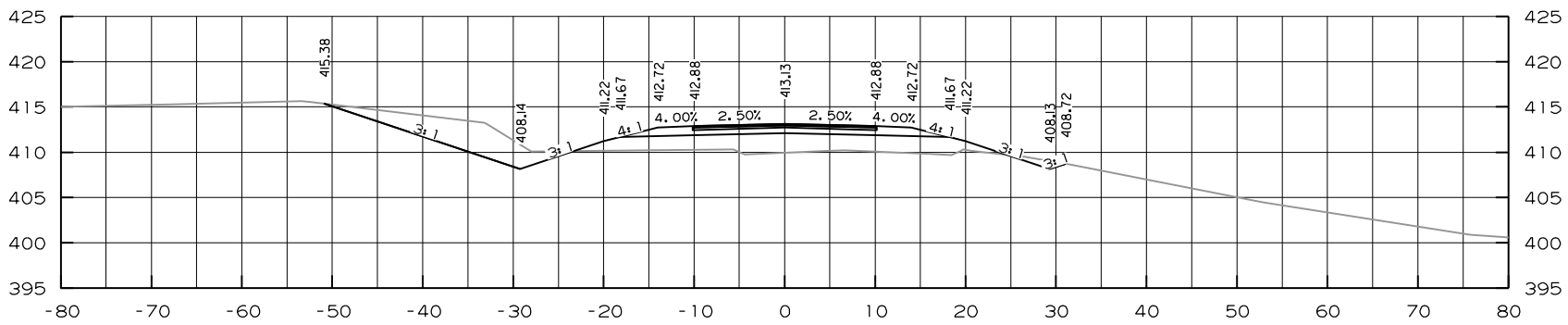
CUT VOLUME 4
FILL VOLUME 68



AREA CUT 5.85
AREA FILL 75.61

119+50.00

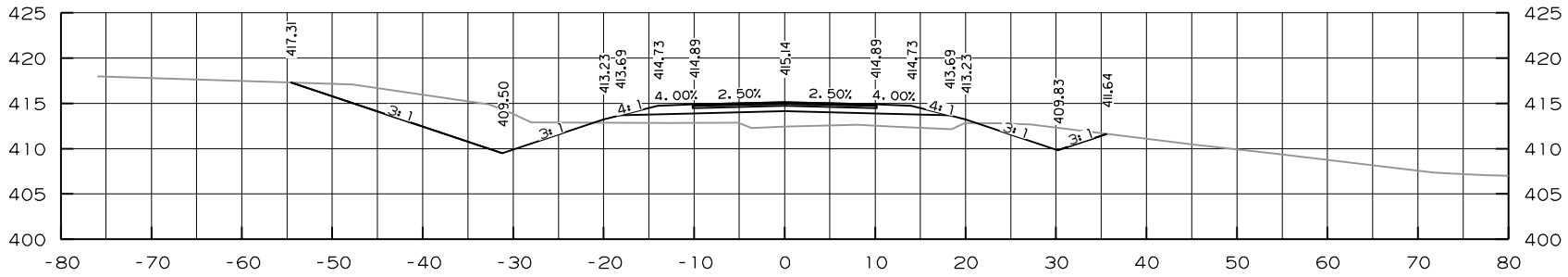
CUT VOLUME 57
FILL VOLUME 140



AREA CUT 55.82
AREA FILL 75.53

119+00.00

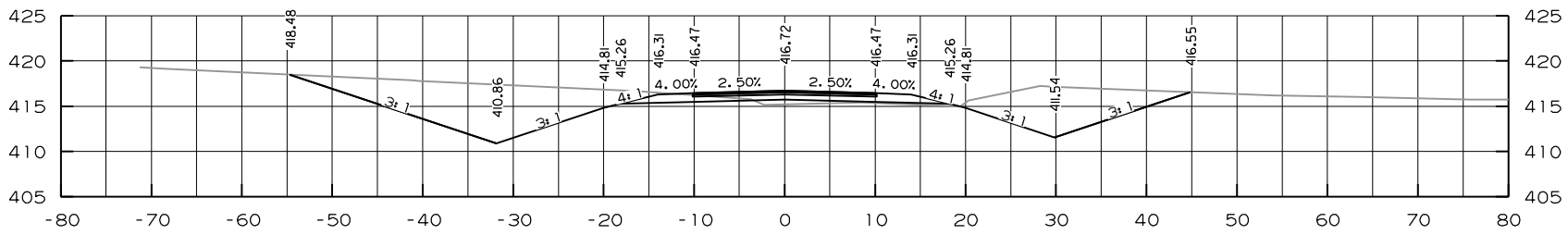
CUT VOLUME 149
FILL VOLUME 117



AREA CUT 104.83
AREA FILL 51.26

118+50.00

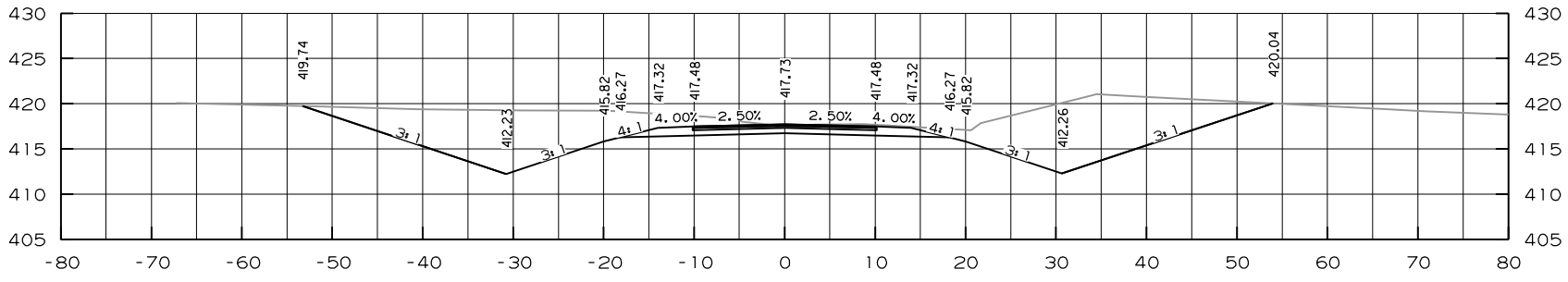
CUT VOLUME 297
FILL VOLUME 53



AREA CUT 215.88
AREA FILL 6.10

118+00.00

CUT VOLUME 523
FILL VOLUME 6



AREA CUT 349.17
AREA FILL 0.00

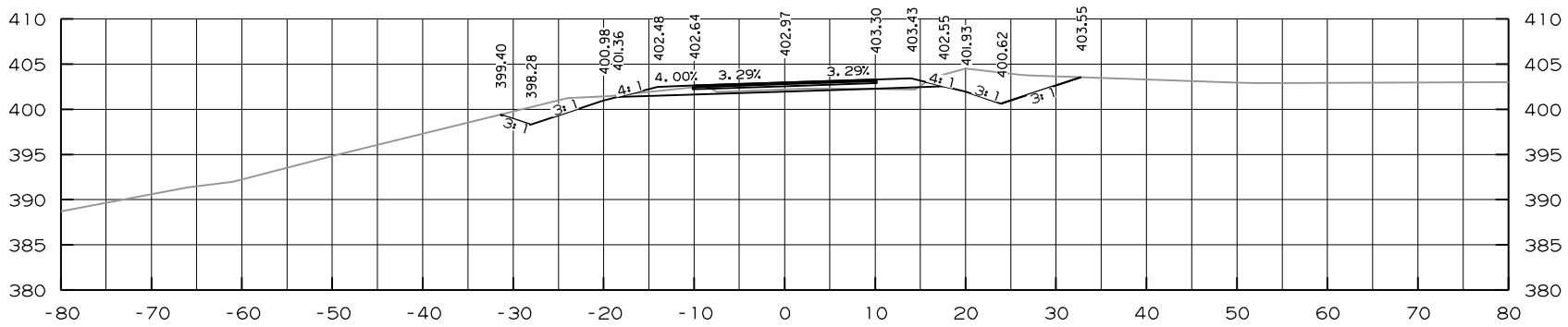
117+50.00

CUT VOLUME 583
FILL VOLUME 0

DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED

4 CROSS SECTIONS STA. 117+50.00 TO 120+00.00

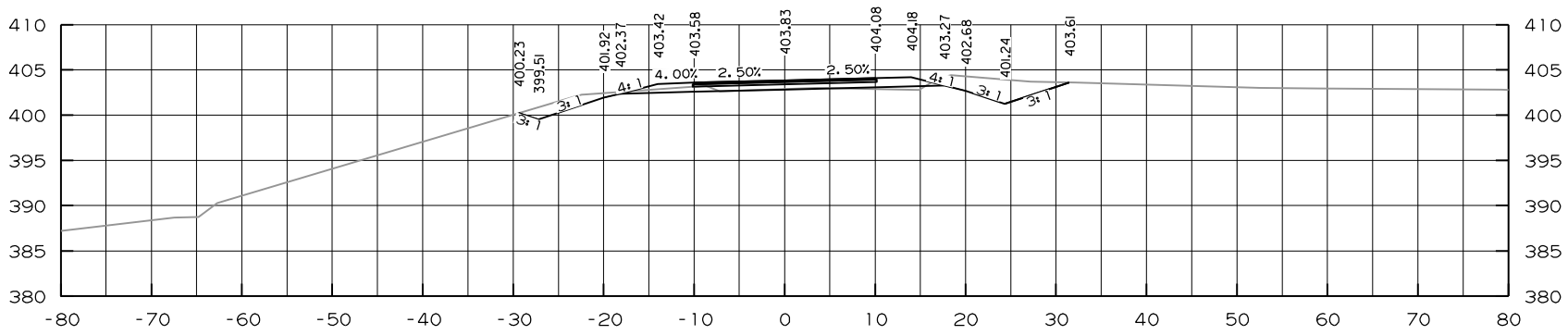
JOB NO.	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
FA1108	6	ARK.		46	63



AREA CUT 57.26
AREA FILL 0.72

121+50.00

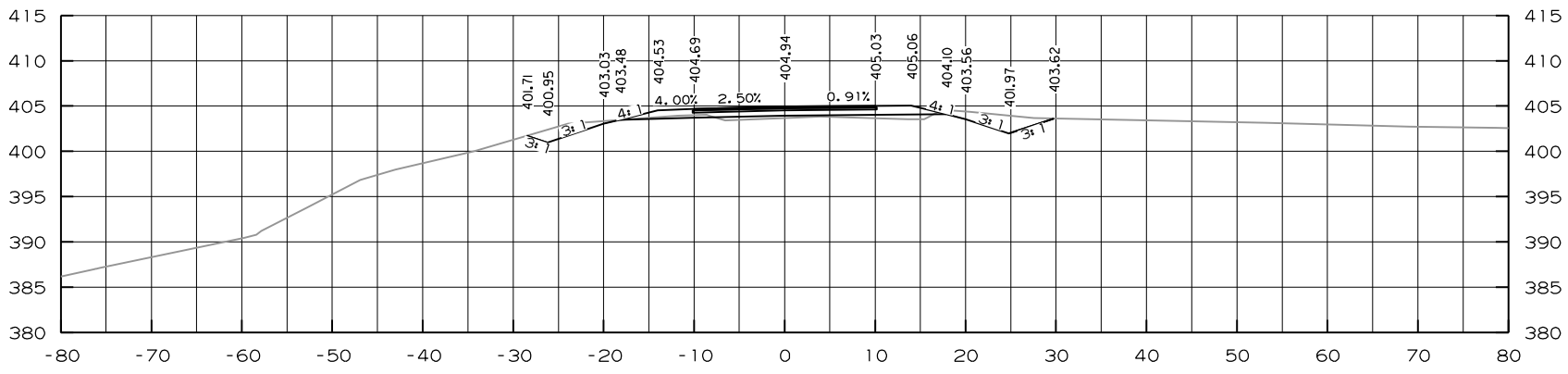
CUT VOLUME 40
FILL VOLUME 1



AREA CUT 38.03
AREA FILL 1.99

121+27.08

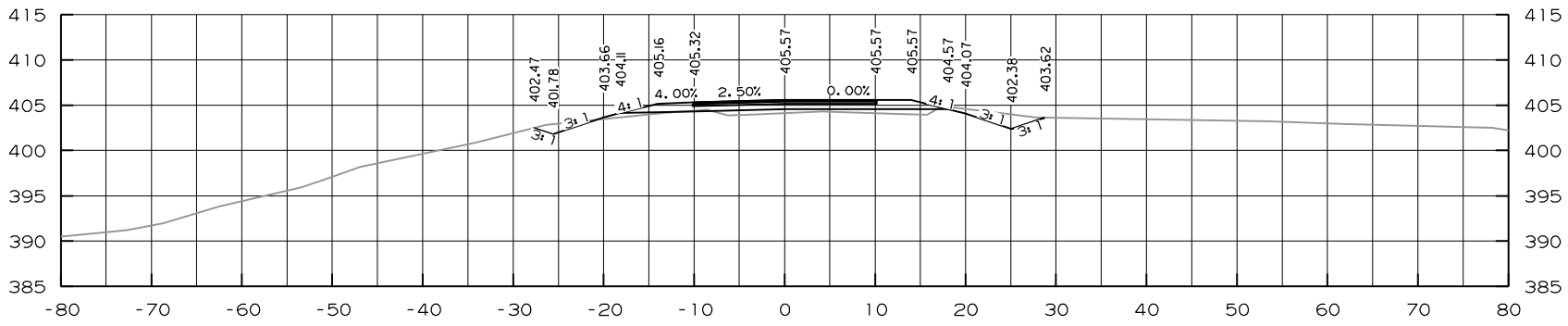
CUT VOLUME 31
FILL VOLUME 5



AREA CUT 23.38
AREA FILL 7.19

121+00.00

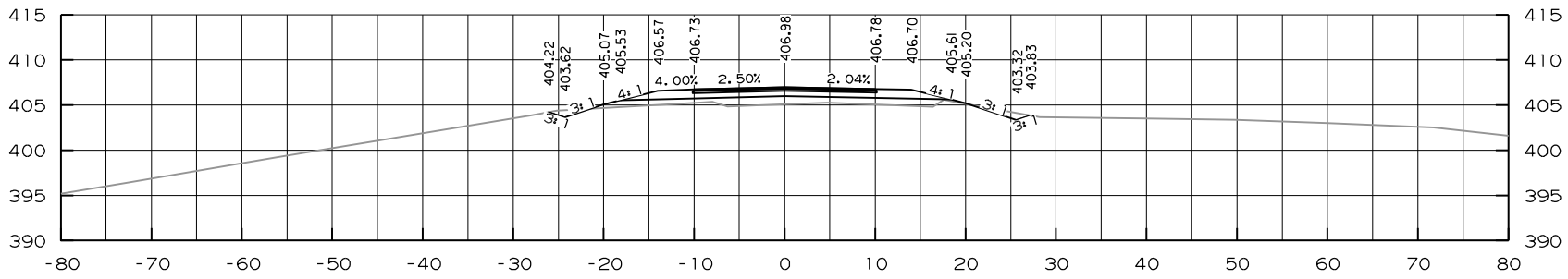
CUT VOLUME 10
FILL VOLUME 6



AREA CUT 13.40
AREA FILL 12.66

120+84.61

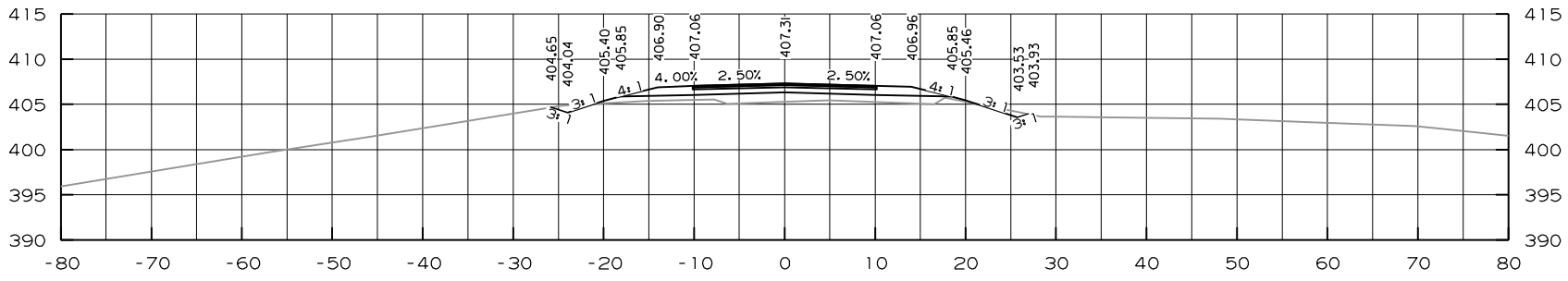
CUT VOLUME 12
FILL VOLUME 26



AREA CUT 4.60
AREA FILL 27.68

120+50.00

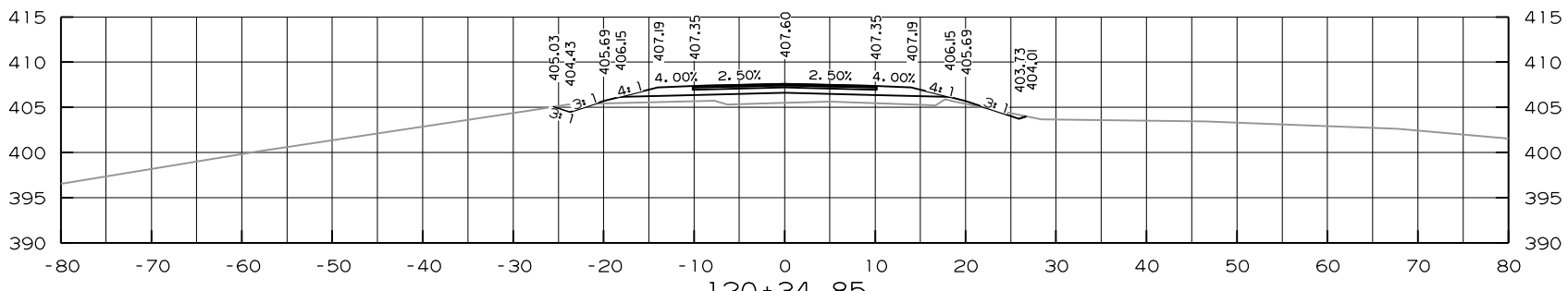
CUT VOLUME 1
FILL VOLUME 8



AREA CUT 3.93
AREA FILL 29.55

120+42.13

CUT VOLUME 1
FILL VOLUME 9



AREA CUT 3.11
AREA FILL 33.94

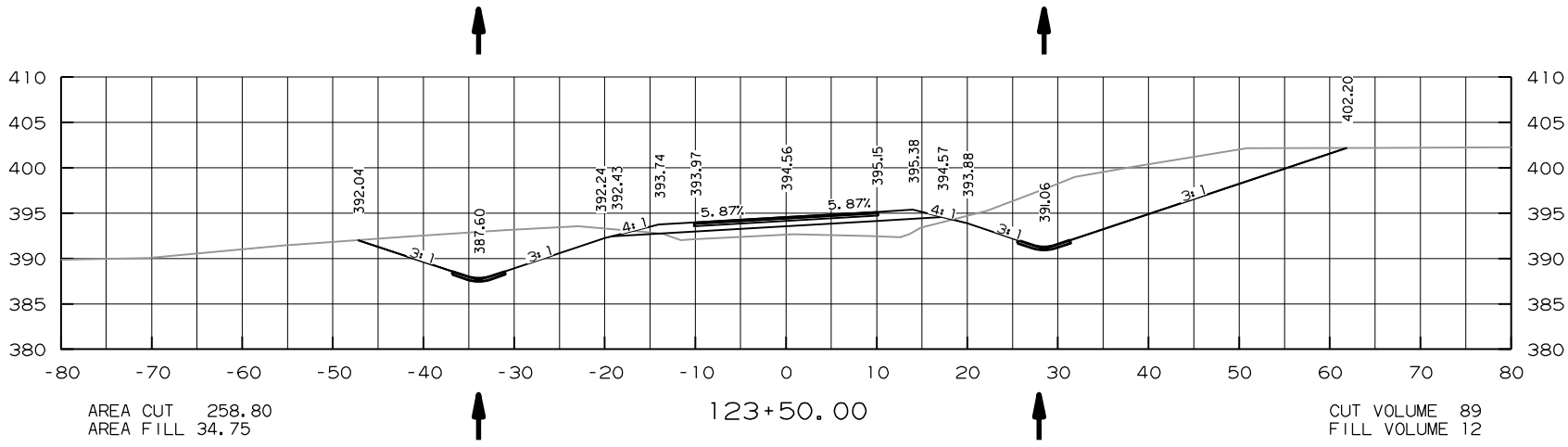
120+34.85
BEGIN SUPERELEVATION

CUT VOLUME 4
FILL VOLUME 57

4 CROSS SECTIONS STA. 120+34.85 TO 121+50.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		47	63

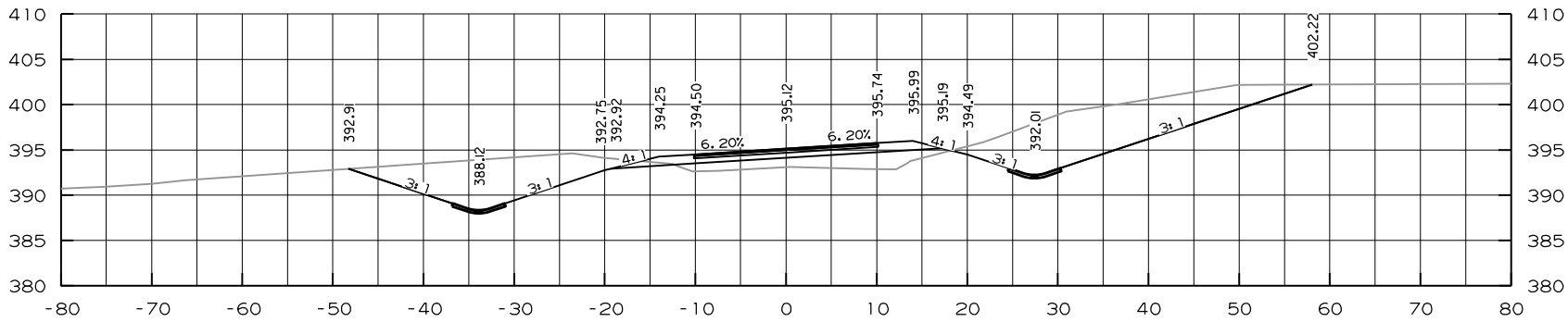
JOB NO. FA1108



AREA CUT 258.80
AREA FILL 34.75

123+50.00

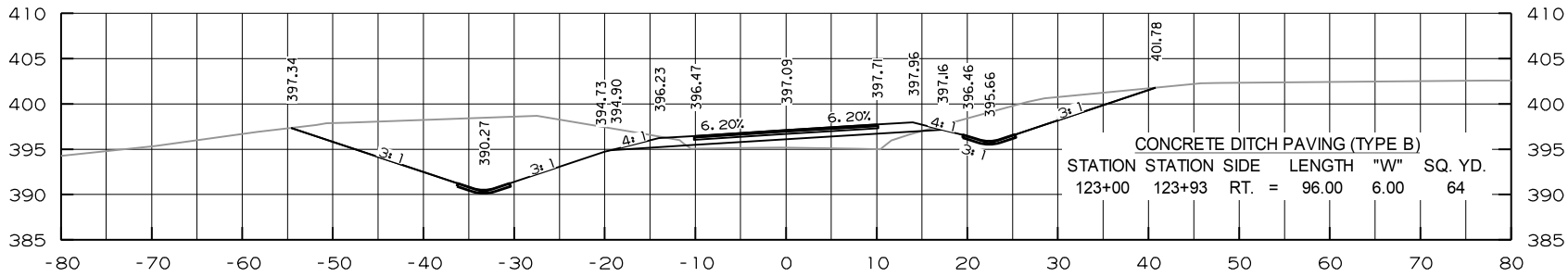
CUT VOLUME 89
FILL VOLUME 12



AREA CUT 239.51
AREA FILL 35.24

123+40.40
END MAX. SUPERELEVATION

CUT VOLUME 350
FILL VOLUME 44



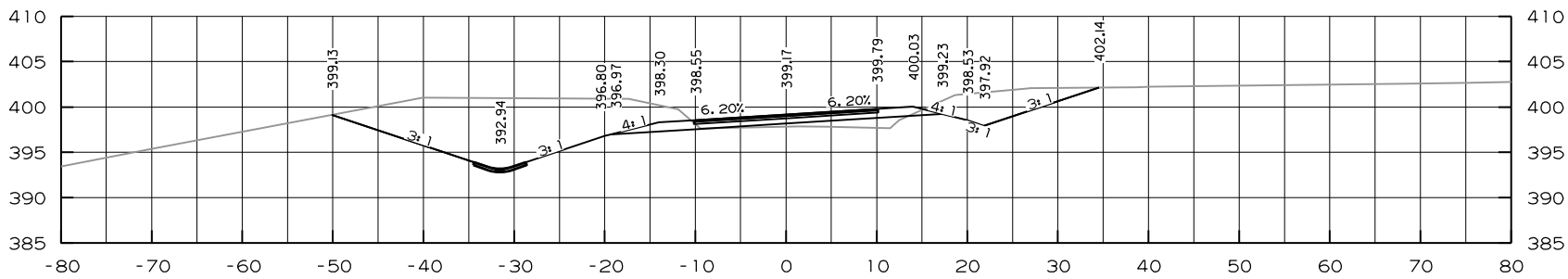
CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
123+00	123+93	RT.	=	96.00	6.00	64

AREA CUT 227.94
AREA FILL 23.51

123+00.00

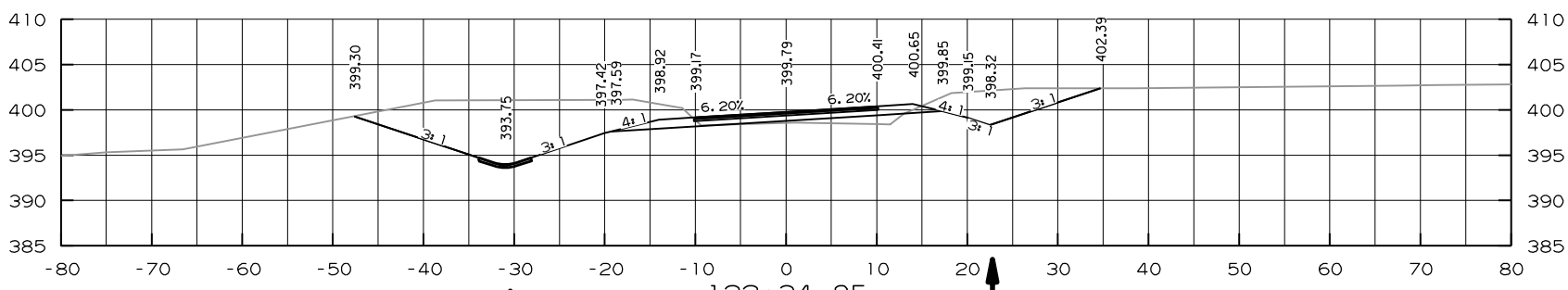
CUT VOLUME 417
FILL VOLUME 32



AREA CUT 222.96
AREA FILL 11.09

122+50.00

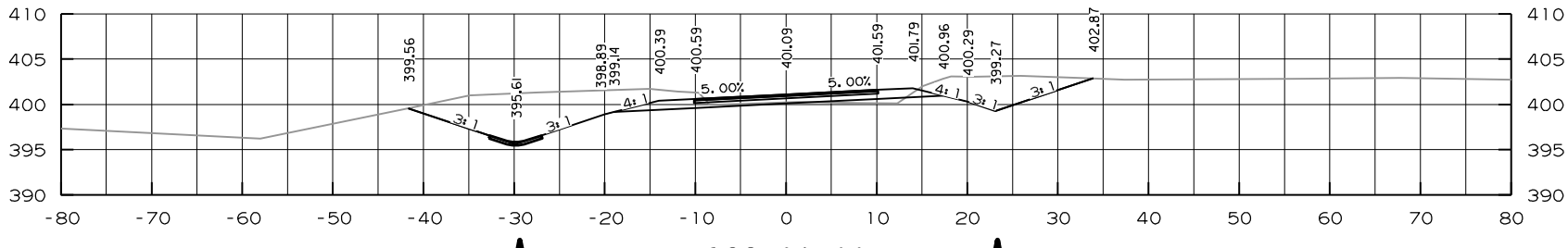
CUT VOLUME 118
FILL VOLUME 6



AREA CUT 198.18
AREA FILL 8.96

122+34.85
BEGIN MAX. SUPERELEVATION

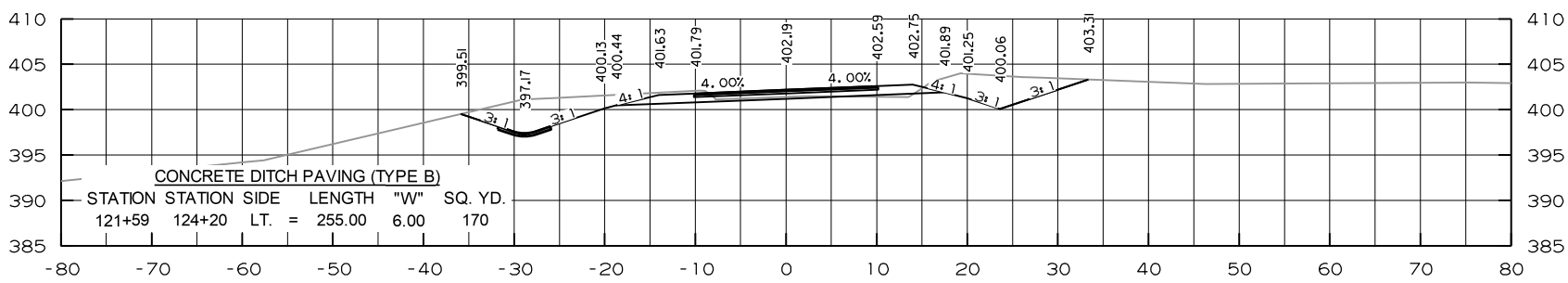
CUT VOLUME 222
FILL VOLUME 8



AREA CUT 145.17
AREA FILL 3.19

122+00.00

CUT VOLUME 129
FILL VOLUME 2



CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
121+59	124+20	LT.	=	255.00	6.00	170

AREA CUT 92.92
AREA FILL 1.43

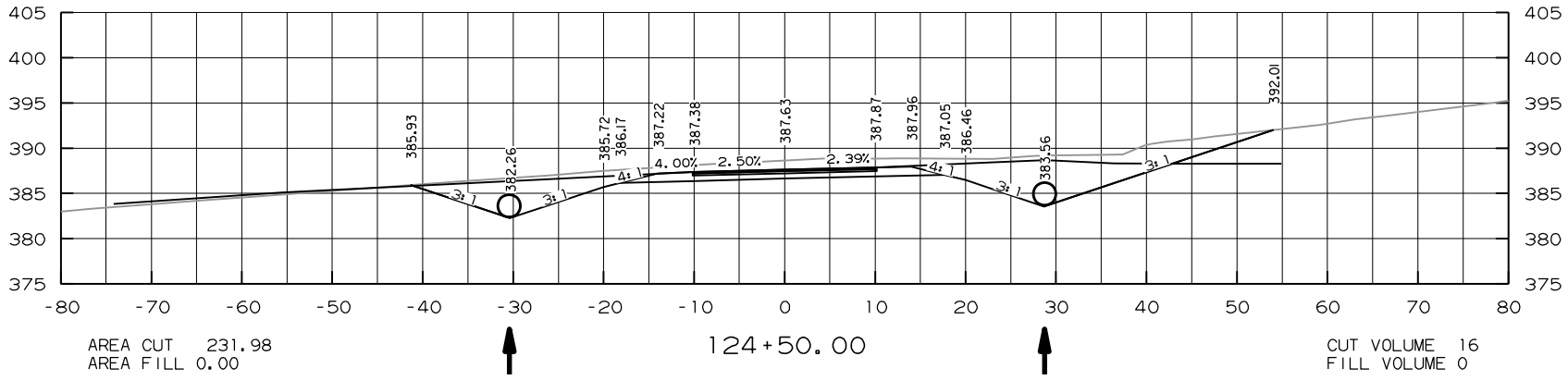
121+70.77

CUT VOLUME 58
FILL VOLUME 1

4 CROSS SECTIONS STA. 121+70.77 TO 123+50.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA1108	48	63

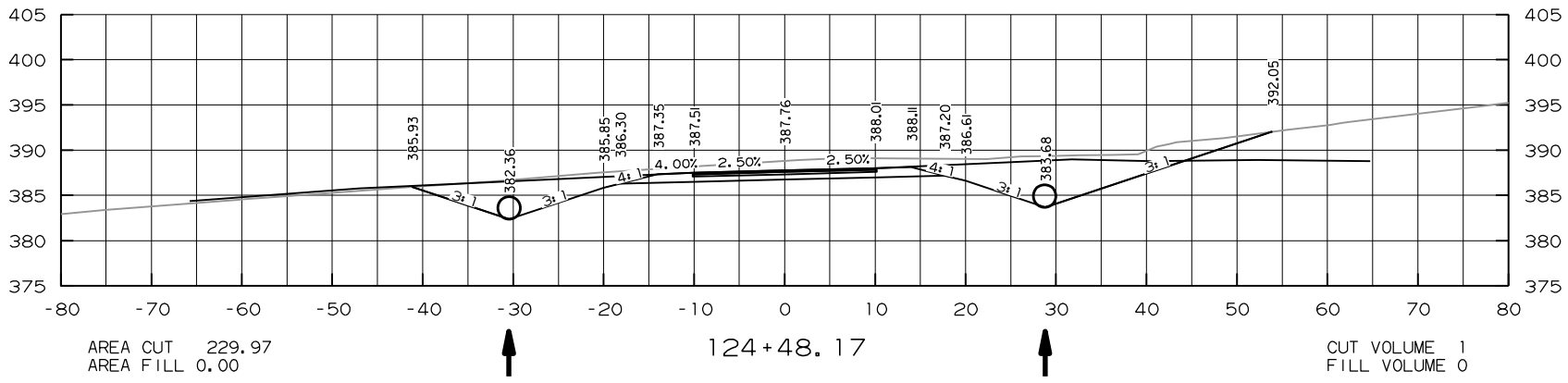
JOB NO.



AREA CUT 231.98
AREA FILL 0.00

124+50.00

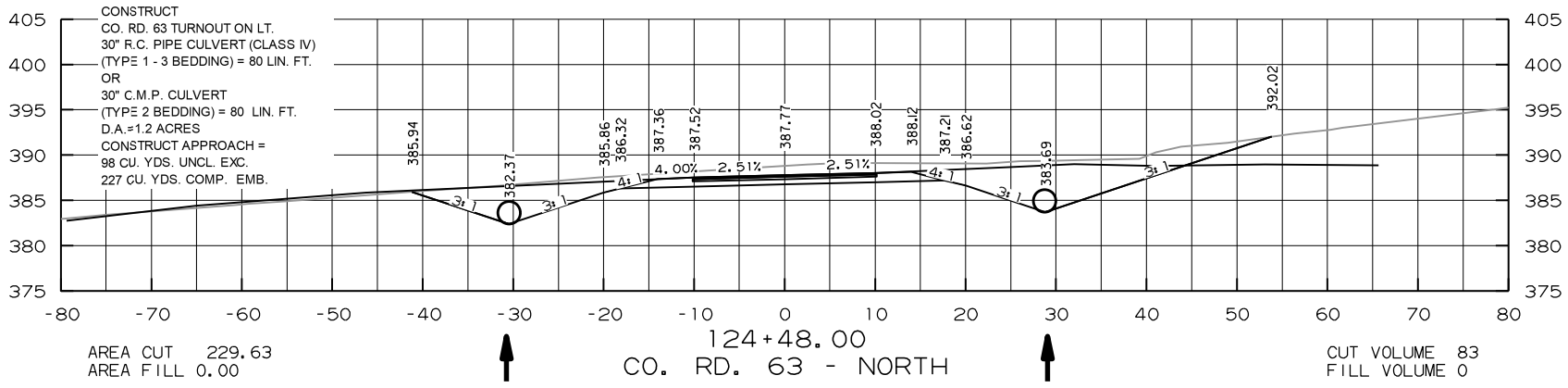
CUT VOLUME 16
FILL VOLUME 0



AREA CUT 229.97
AREA FILL 0.00

124+48.17

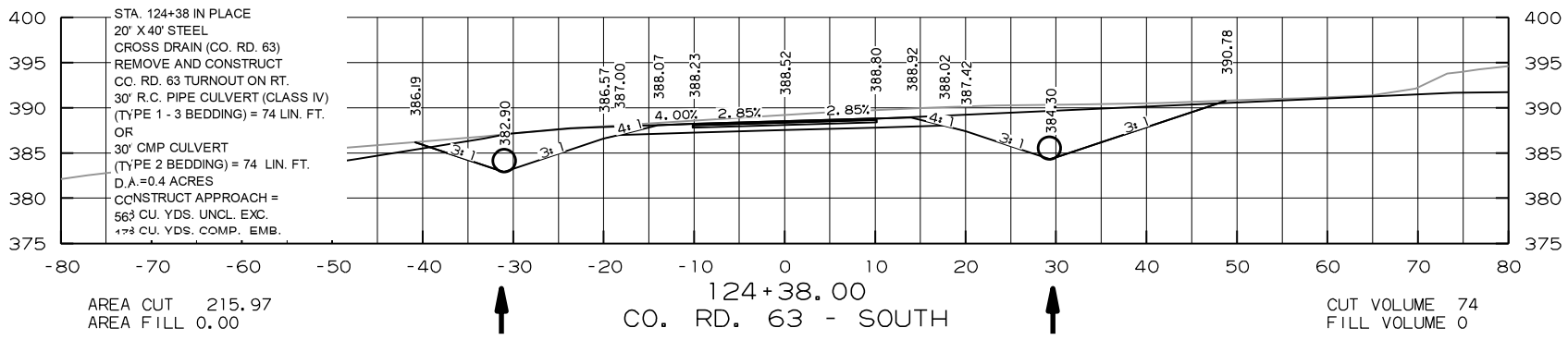
CUT VOLUME 1
FILL VOLUME 0



AREA CUT 229.63
AREA FILL 0.00

124+48.00
CO. RD. 63 - NORTH

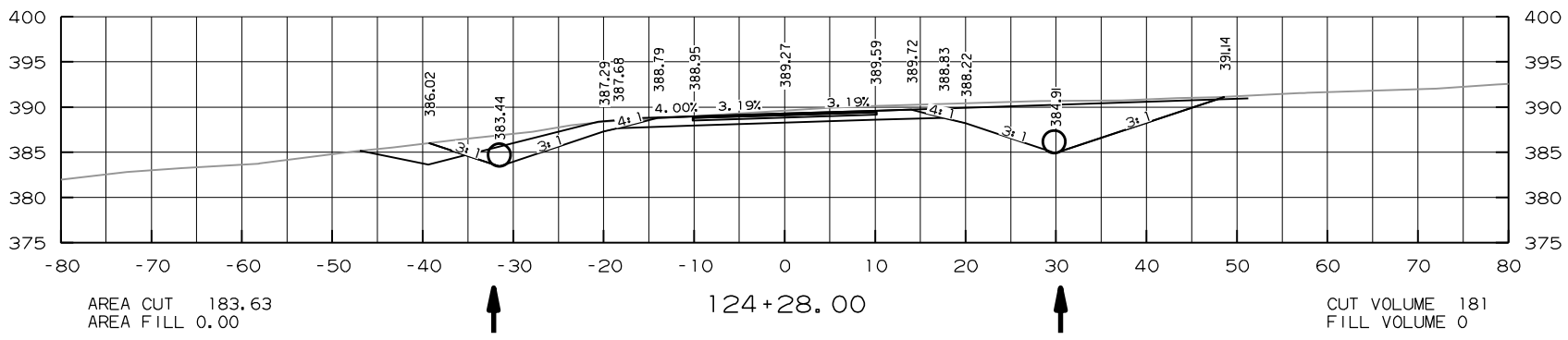
CUT VOLUME 83
FILL VOLUME 0



AREA CUT 215.97
AREA FILL 0.00

124+38.00
CO. RD. 63 - SOUTH

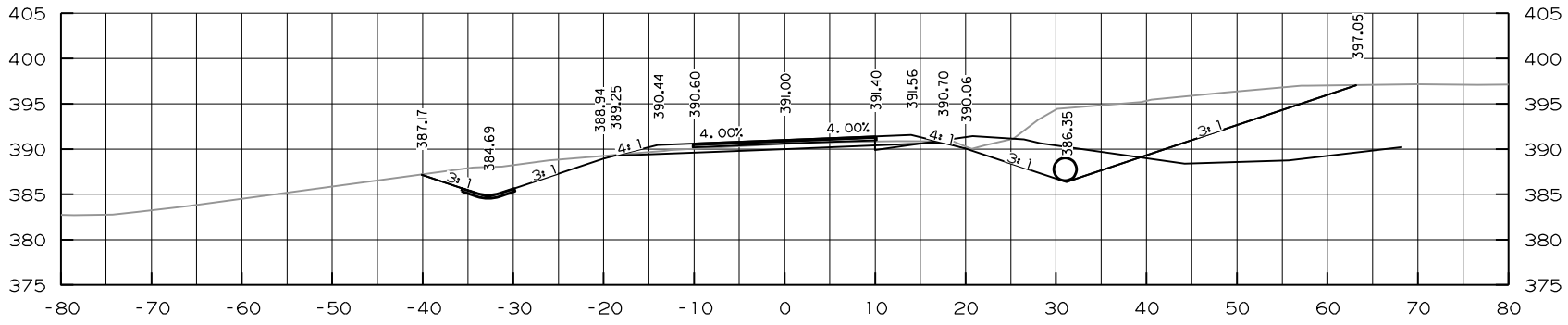
CUT VOLUME 74
FILL VOLUME 0



AREA CUT 183.63
AREA FILL 0.00

124+28.00

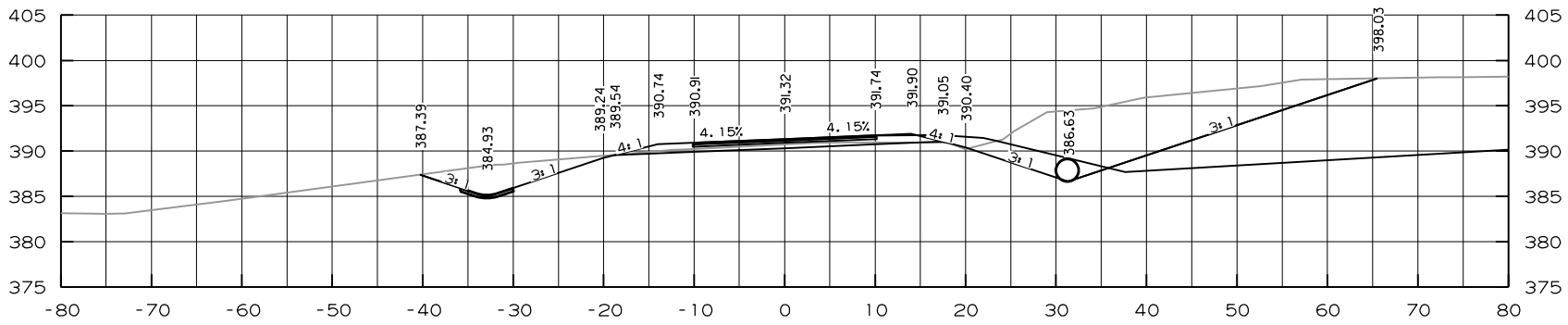
CUT VOLUME 181
FILL VOLUME 0



AREA CUT 231.54
AREA FILL 0.00

124+04.48

CUT VOLUME 39
FILL VOLUME 0



AREA CUT 238.64
AREA FILL 0.45

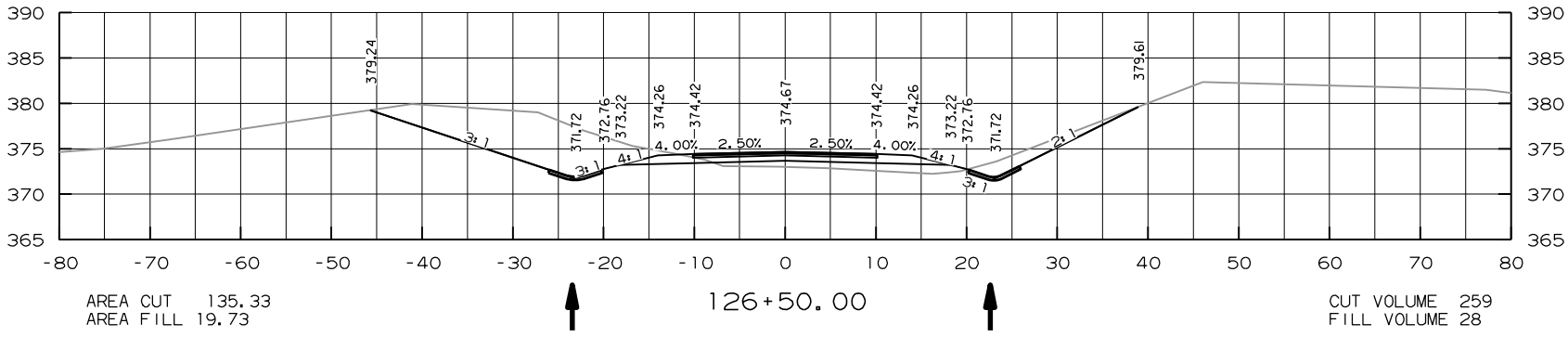
124+00.00

CUT VOLUME 461
FILL VOLUME 33

4 CROSS SECTIONS STA. 124+00.00 TO 124+50.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		49	63

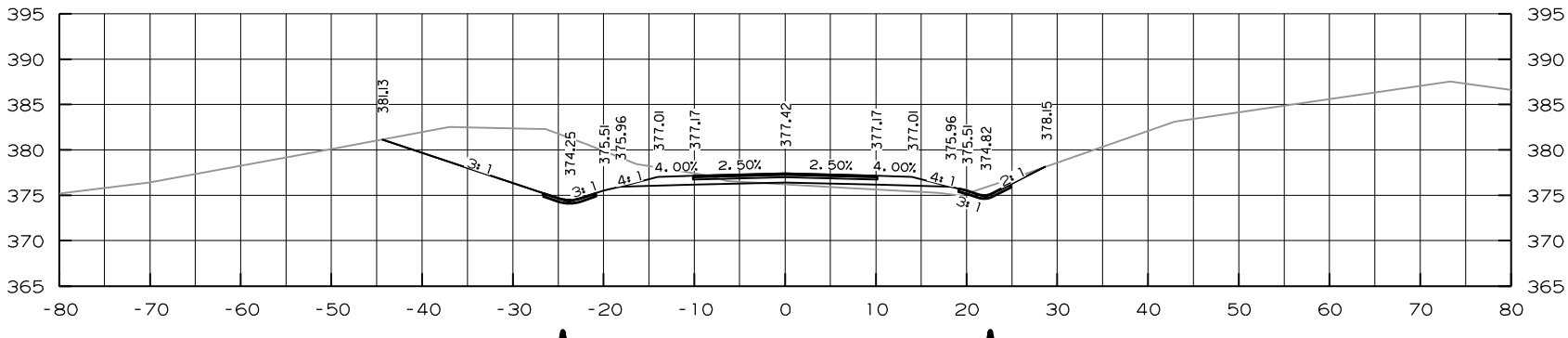
JOB NO. FA1108



AREA CUT 135.33
AREA FILL 19.73

126+50.00

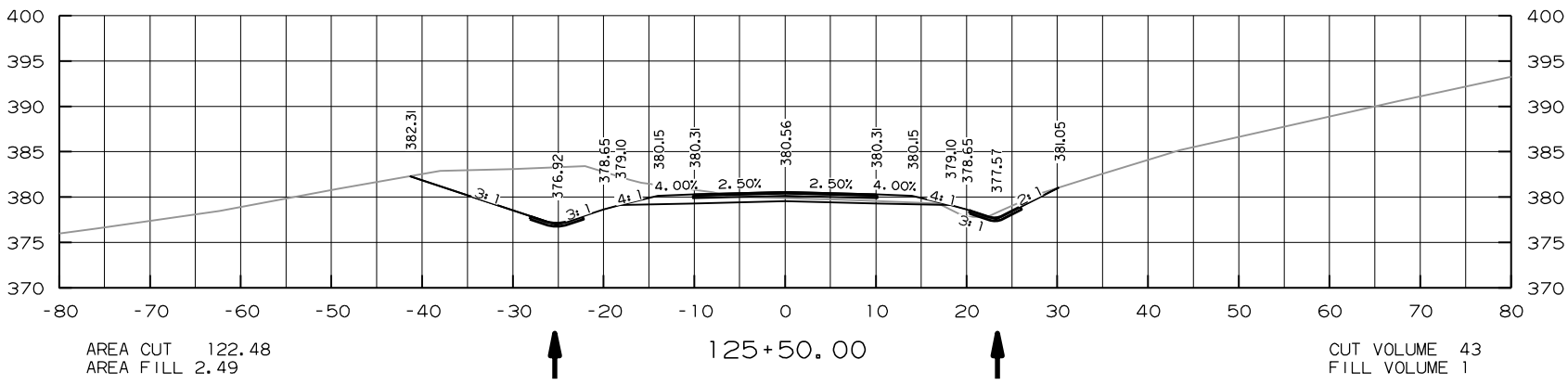
CUT VOLUME 259
FILL VOLUME 28



AREA CUT 144.80
AREA FILL 10.58

126+00.00

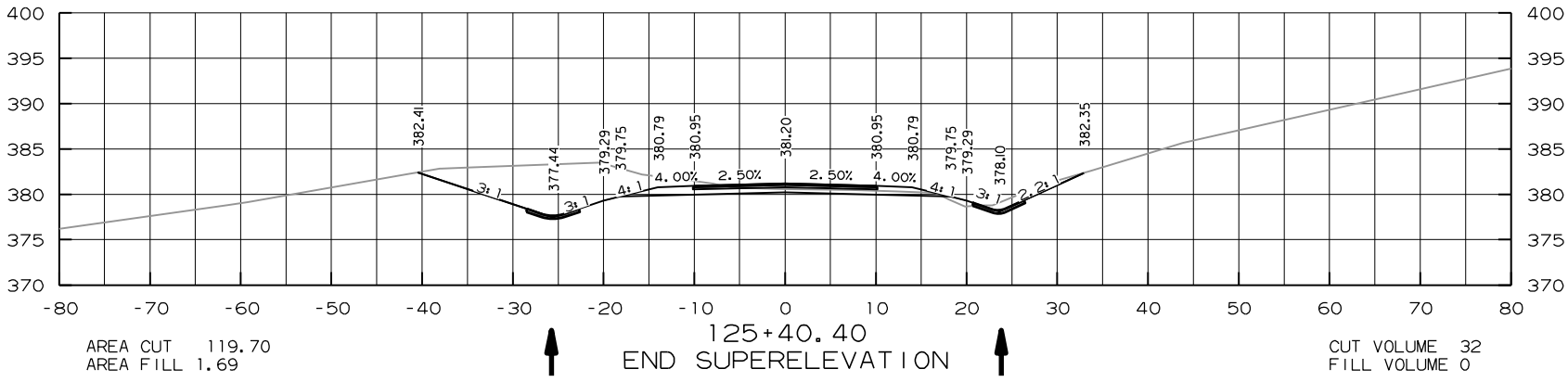
CUT VOLUME 247
FILL VOLUME 12



AREA CUT 122.48
AREA FILL 2.49

125+50.00

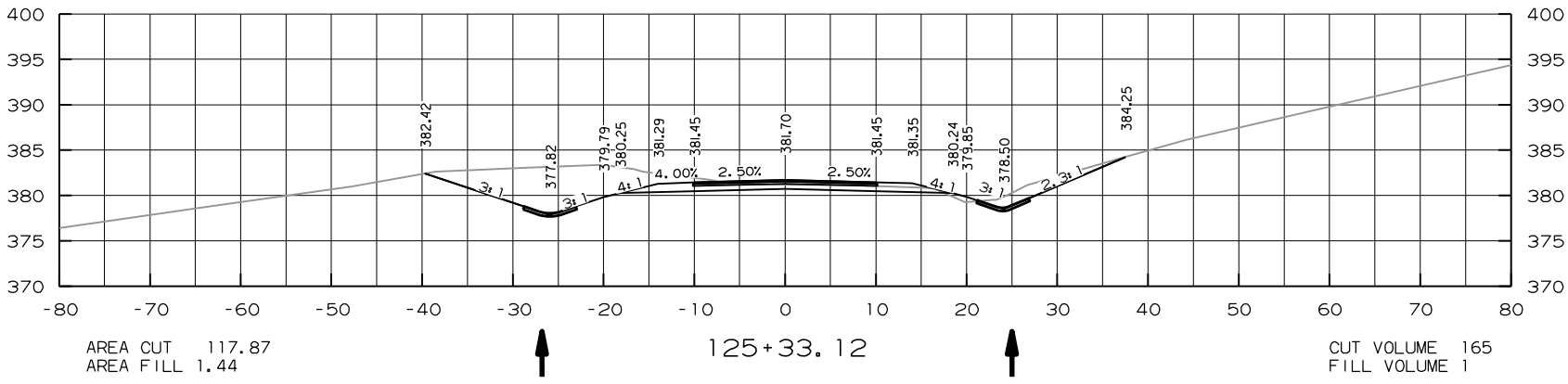
CUT VOLUME 43
FILL VOLUME 1



AREA CUT 119.70
AREA FILL 1.69

125+40.40
END SUPERELEVATION

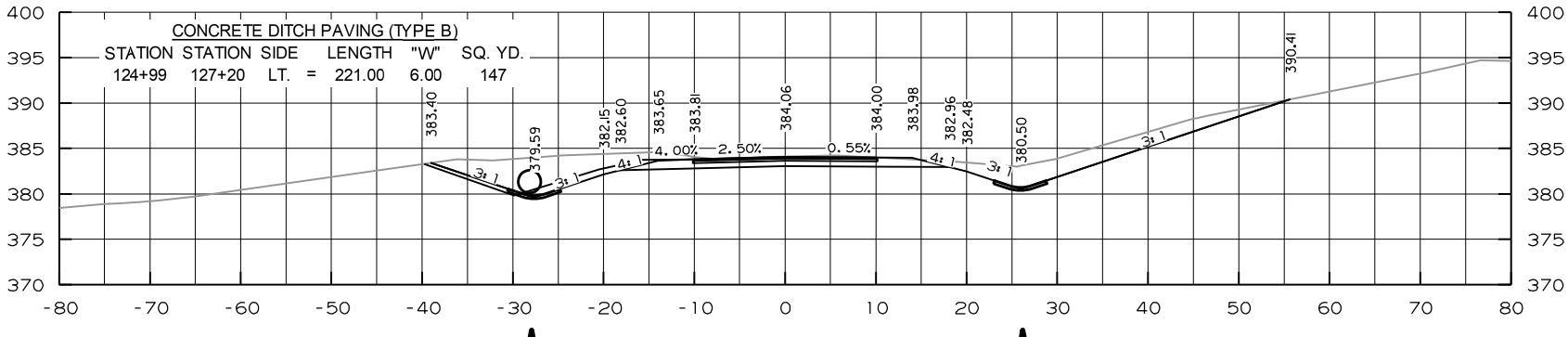
CUT VOLUME 32
FILL VOLUME 0



AREA CUT 117.87
AREA FILL 1.44

125+33.12

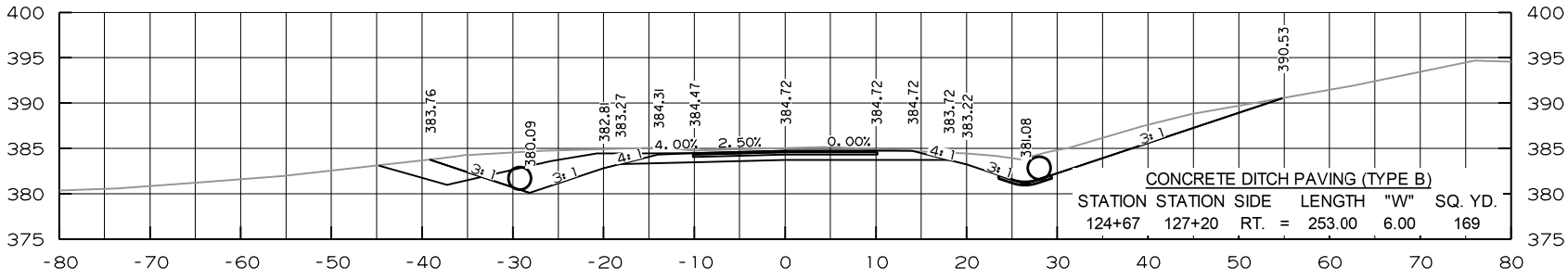
CUT VOLUME 165
FILL VOLUME 1



AREA CUT 151.82
AREA FILL 0.00

125+00.00

CUT VOLUME 55
FILL VOLUME 0



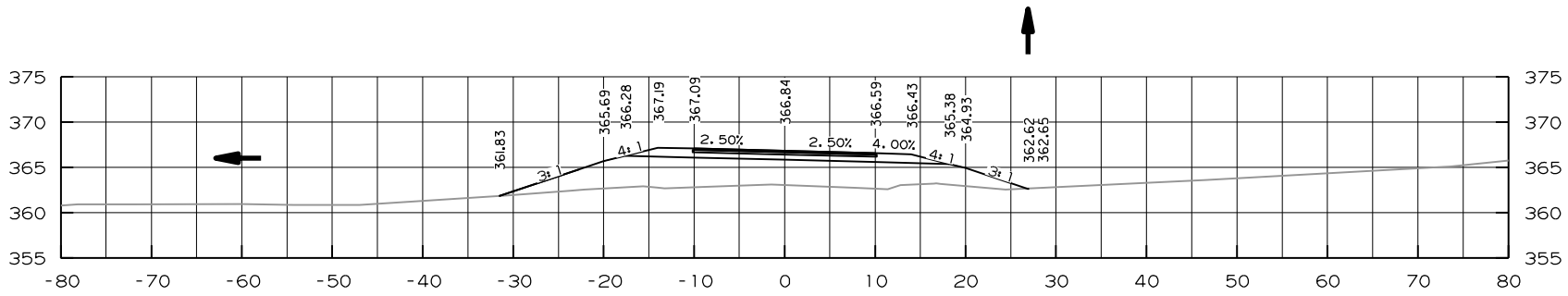
AREA CUT 167.38
AREA FILL 0.00

124+90.65

CUT VOLUME 301
FILL VOLUME 0

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA1108	50	63

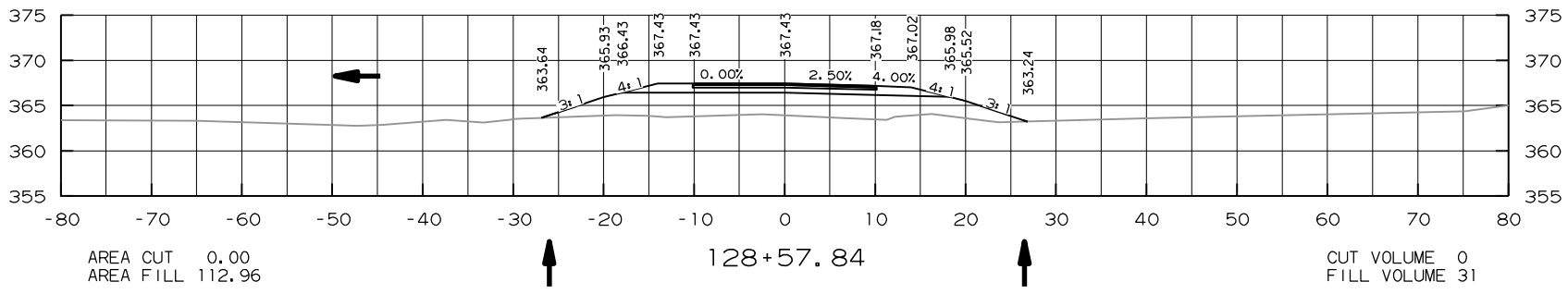
4 CROSS SECTIONS STA. 124+90.65 TO 126+50.00



AREA CUT 0.00
AREA FILL 141.87

128+95.88

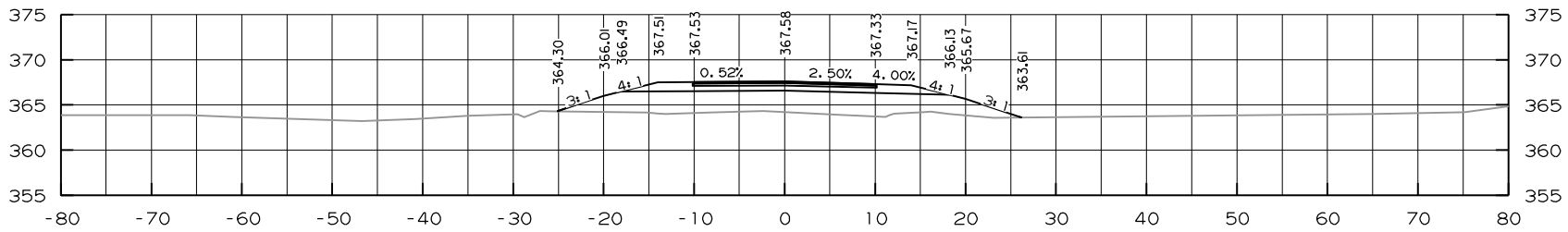
CUT VOLUME 0
FILL VOLUME 180



AREA CUT 0.00
AREA FILL 112.96

128+57.84

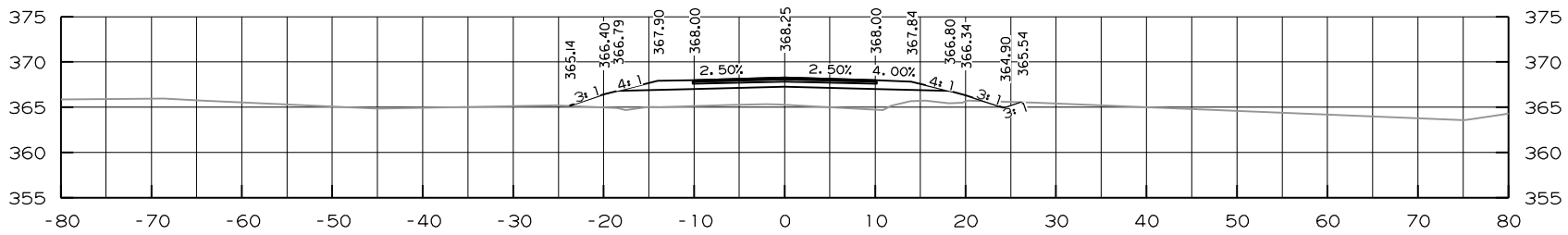
CUT VOLUME 0
FILL VOLUME 31



AREA CUT 0.00
AREA FILL 103.86

128+50.00

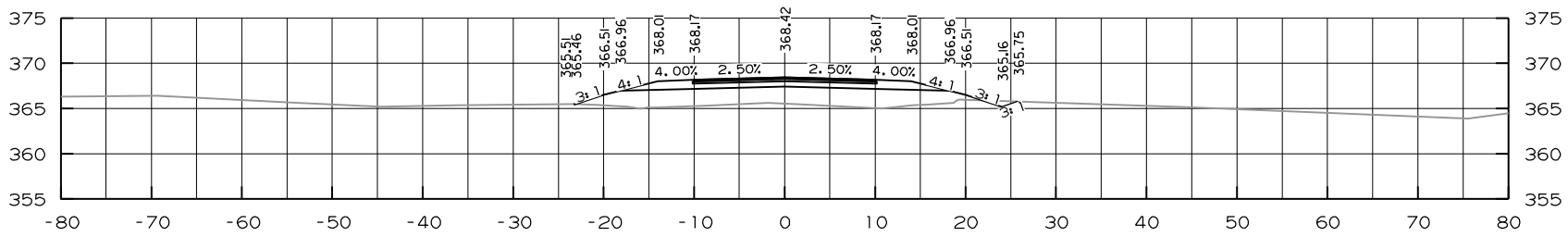
CUT VOLUME 1
FILL VOLUME 101



AREA CUT 1.50
AREA FILL 76.42

128+19.80

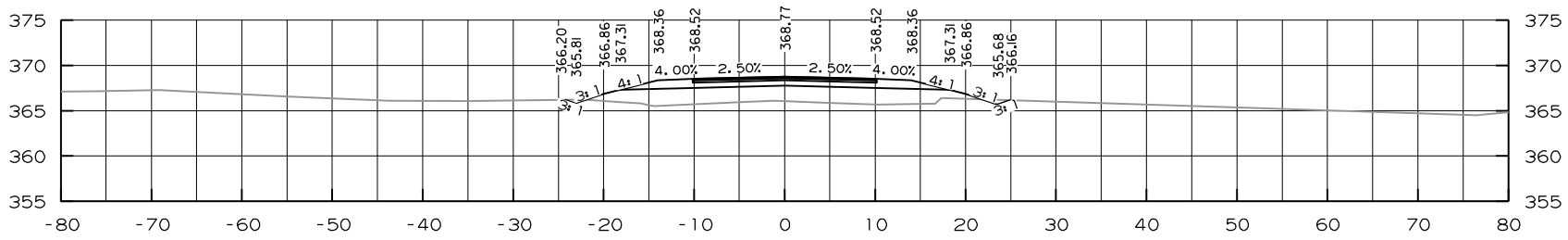
CUT VOLUME 0
FILL VOLUME 18



AREA CUT 1.27
AREA FILL 75.21

128+13.28
BEGIN SUPERELEVATION

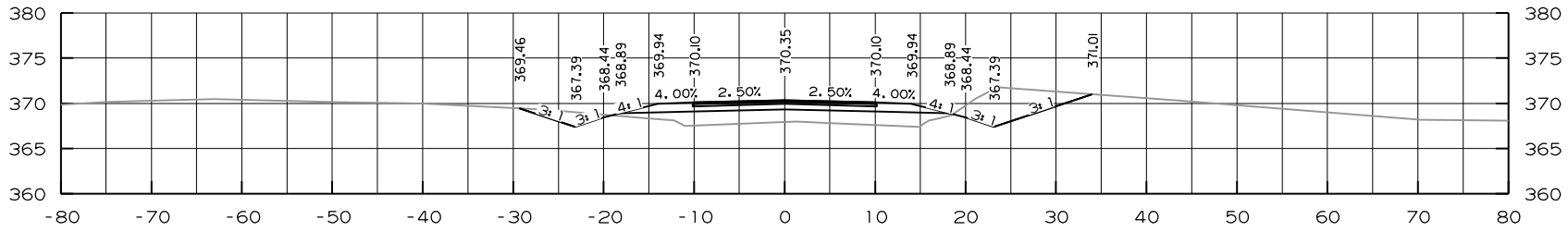
CUT VOLUME 1
FILL VOLUME 35



AREA CUT 1.33
AREA FILL 66.66

128+00.00

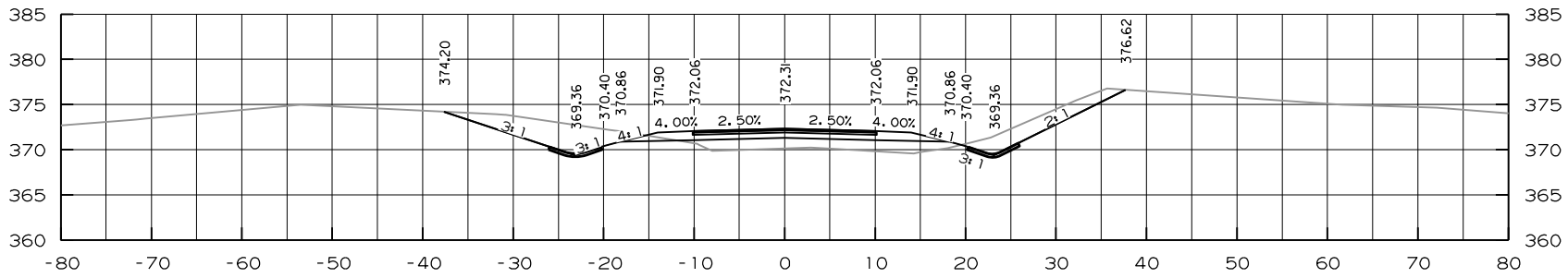
CUT VOLUME 40
FILL VOLUME 104



AREA CUT 41.70
AREA FILL 46.09

127+50.00

CUT VOLUME 101
FILL VOLUME 73



AREA CUT 67.85
AREA FILL 32.73

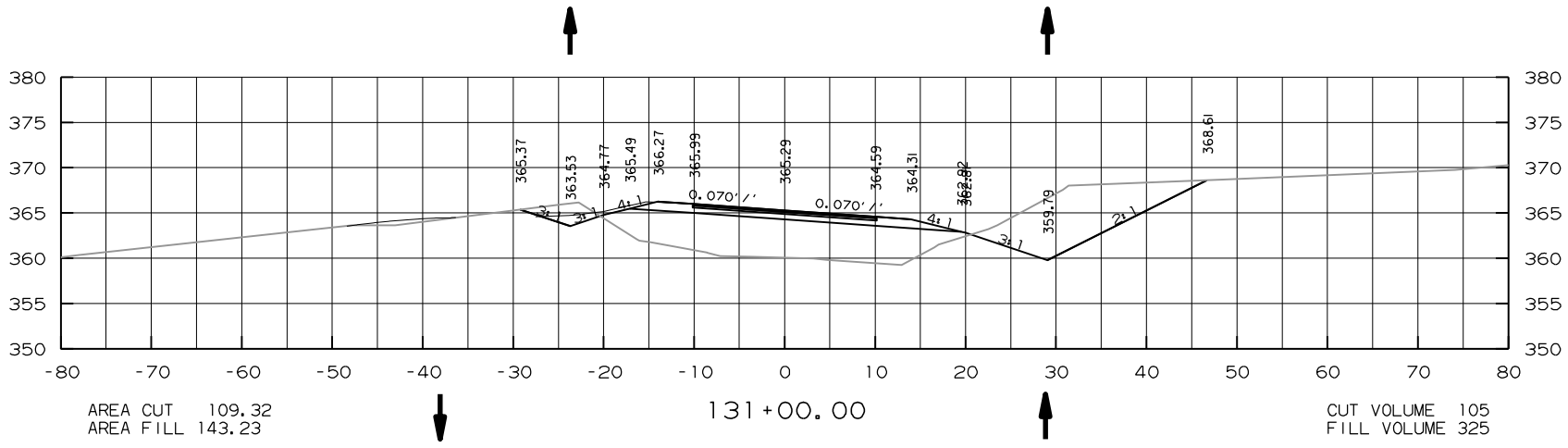
127+00.00

CUT VOLUME 188
FILL VOLUME 49

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		51	63

JOB NO. FA1108

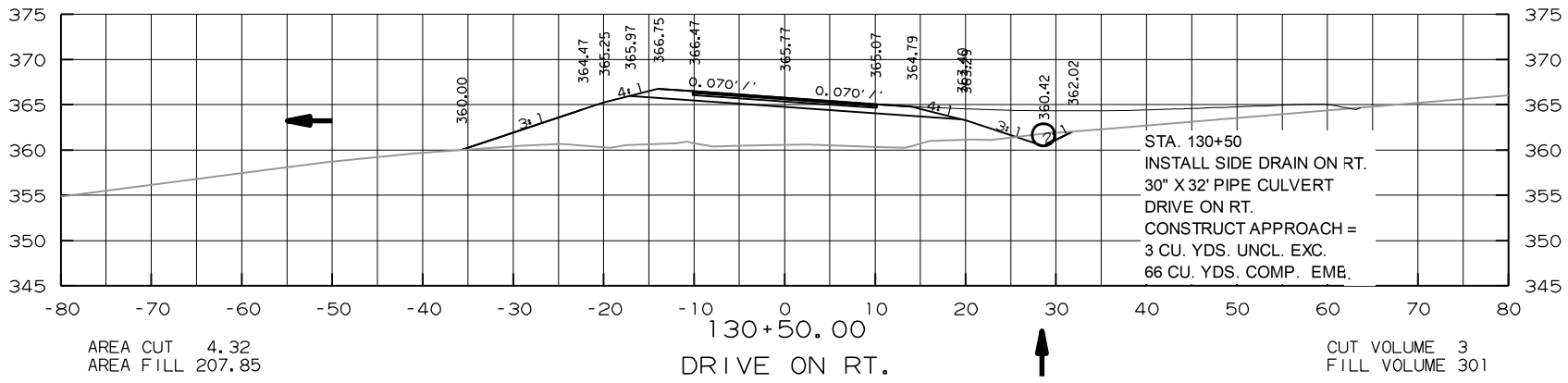
4 CROSS SECTIONS STA. 127+00.00 TO 128+95.88



AREA CUT 109.32
AREA FILL 143.23

131+00.00

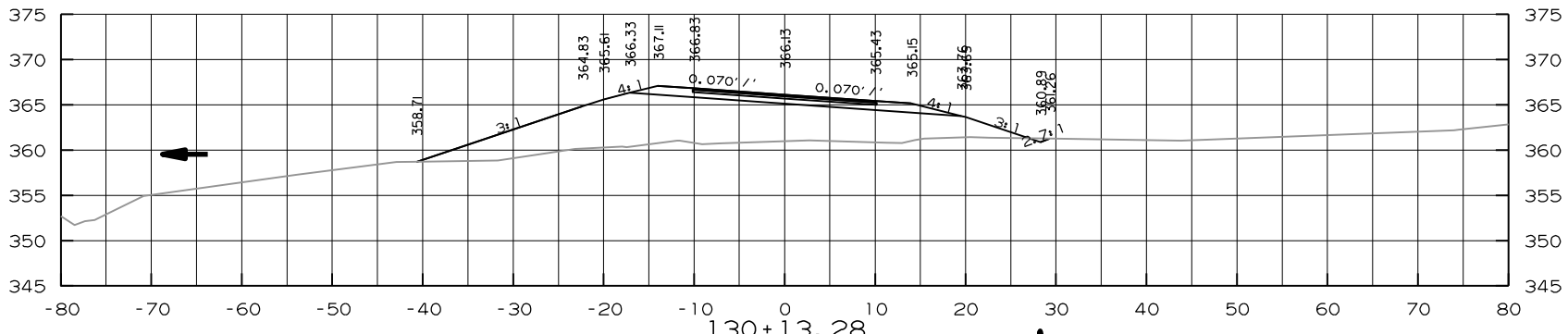
CUT VOLUME 105
FILL VOLUME 325



AREA CUT 4.32
AREA FILL 207.85

130+50.00
DRIVE ON RT.

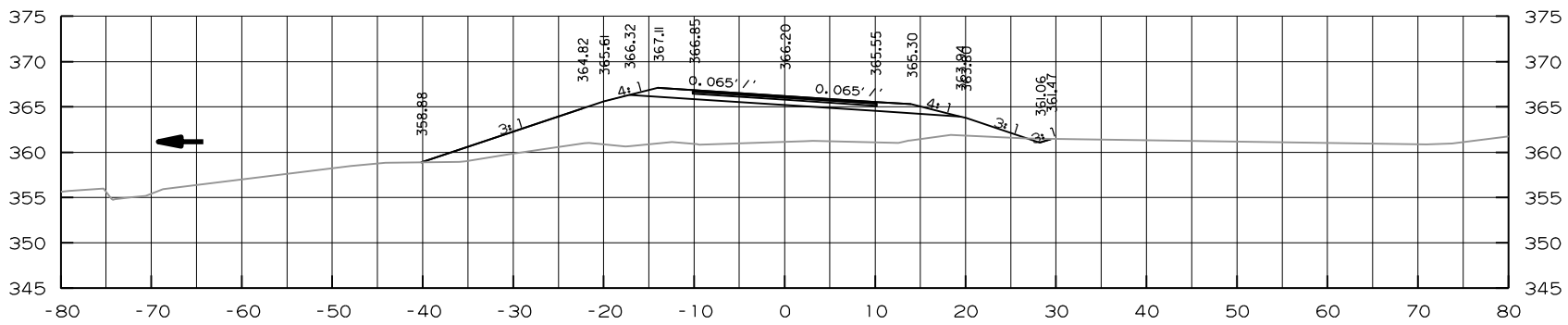
CUT VOLUME 3
FILL VOLUME 301



AREA CUT 0.43
AREA FILL 235.10

130+13.28
BEGIN MAX. SUPERELEVATION

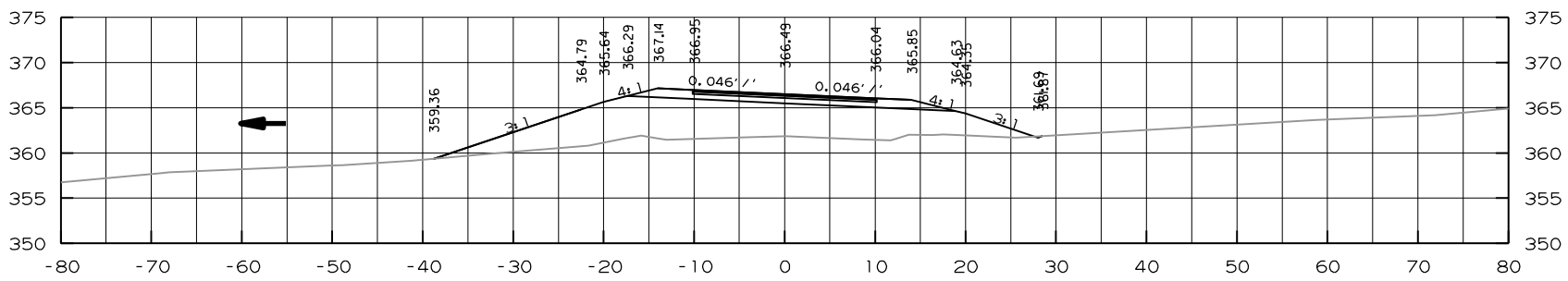
CUT VOLUME 0
FILL VOLUME 111



AREA CUT 0.55
AREA FILL 217.13

130+00.00

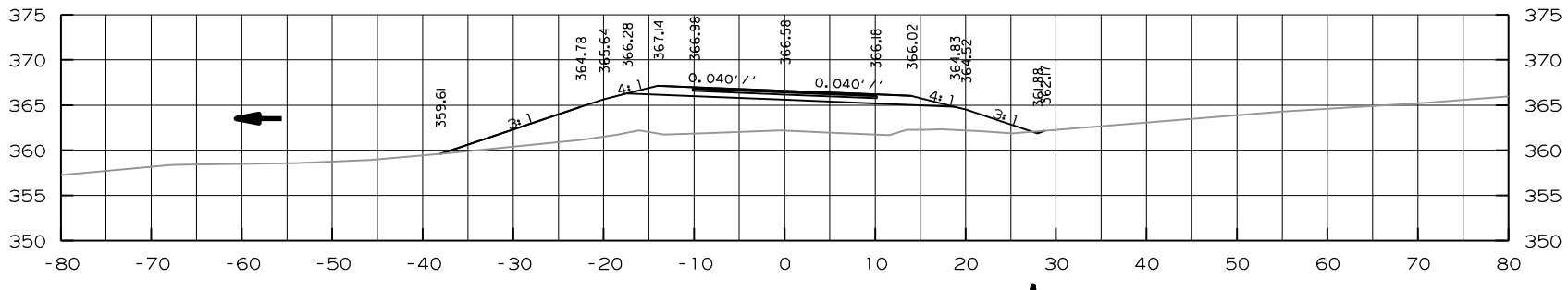
CUT VOLUME 1
FILL VOLUME 390



AREA CUT 0.07
AREA FILL 204.36

129+50.00

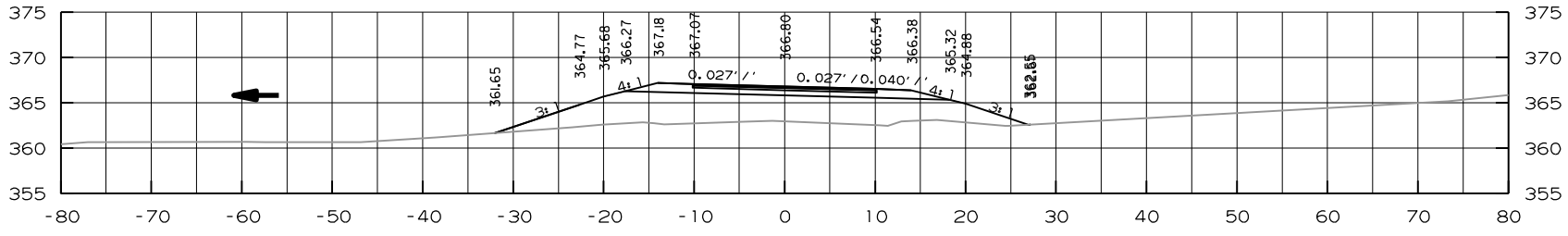
CUT VOLUME 0
FILL VOLUME 110



AREA CUT 0.15
AREA FILL 190.37

129+35.02

CUT VOLUME 0
FILL VOLUME 218



AREA CUT 0.01
AREA FILL 145.67

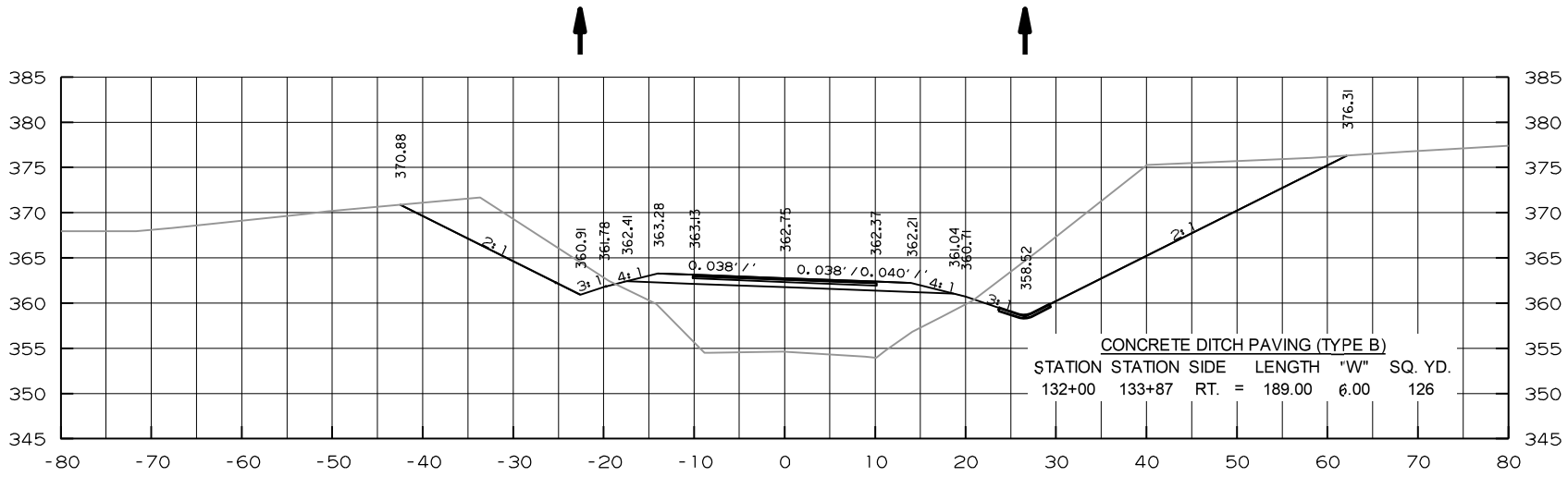
129+00.00

CUT VOLUME 0
FILL VOLUME 22

4 CROSS SECTIONS STA. 129+00.00 TO 131+00.00

JOB NO.	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
FA1108	6	ARK.		52	63

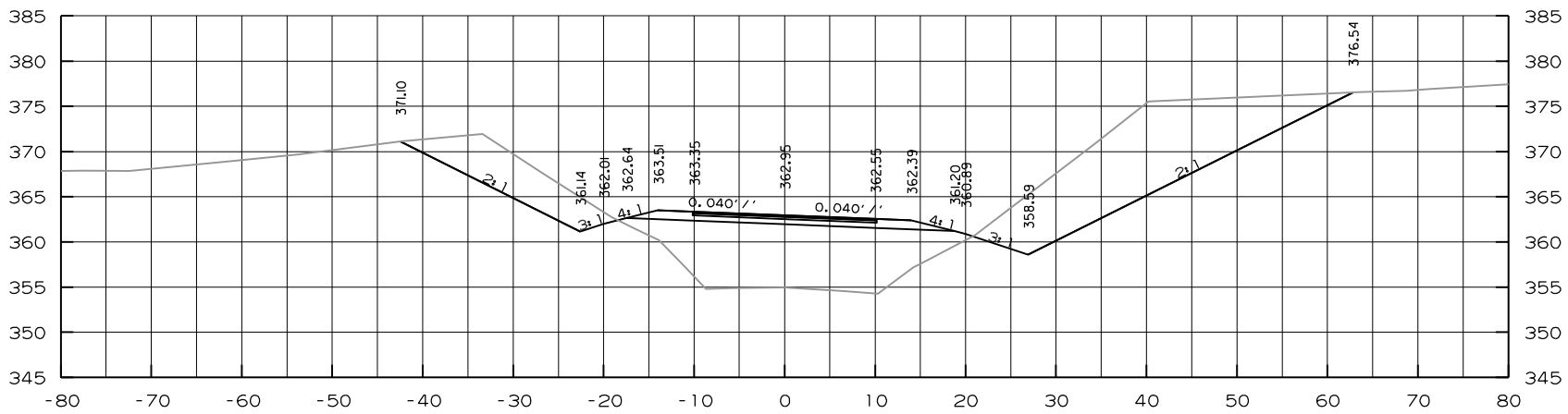
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED



AREA CUT 314.95
AREA FILL 211.21

132+00.00

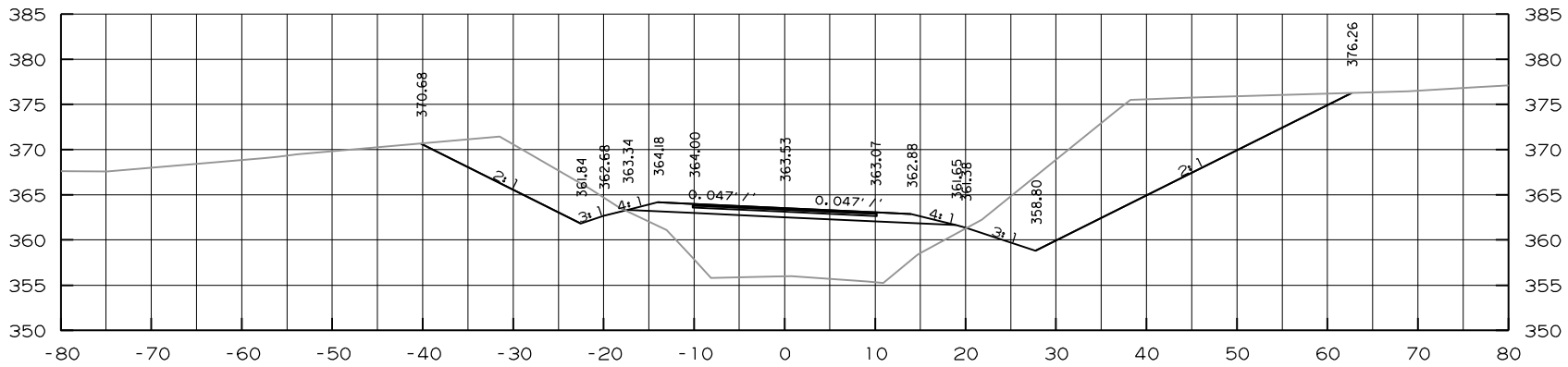
CUT VOLUME 64
FILL VOLUME 42



AREA CUT 329.95
AREA FILL 204.79

131+94.61

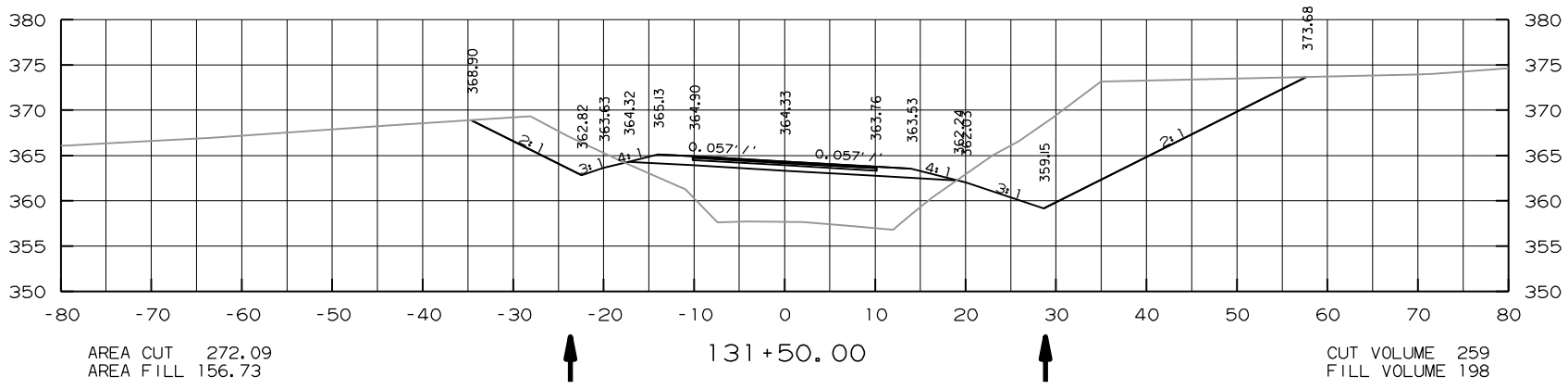
CUT VOLUME 215
FILL VOLUME 123



AREA CUT 349.47
AREA FILL 184.06

131+77.51

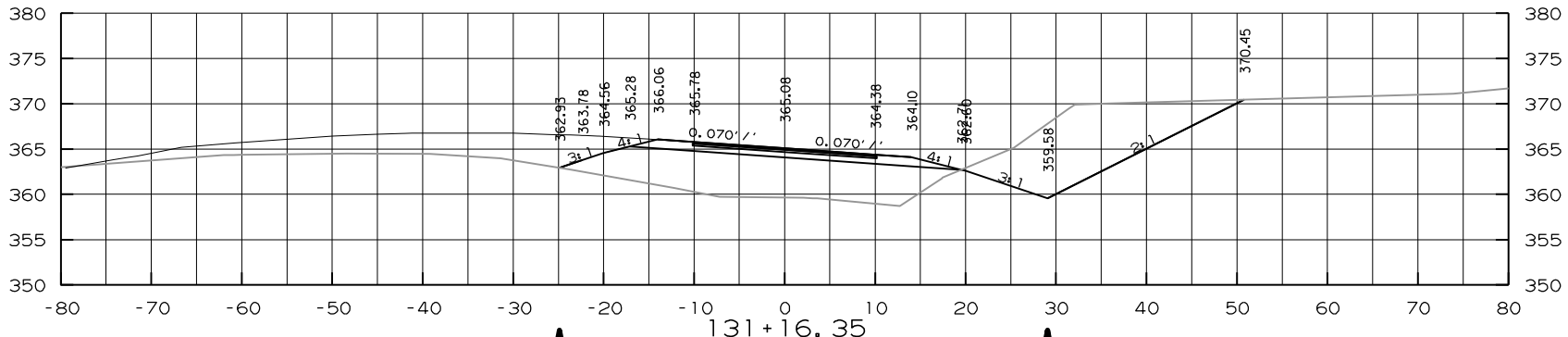
CUT VOLUME 317
FILL VOLUME 174



AREA CUT 272.09
AREA FILL 156.73

131+50.00

CUT VOLUME 259
FILL VOLUME 198

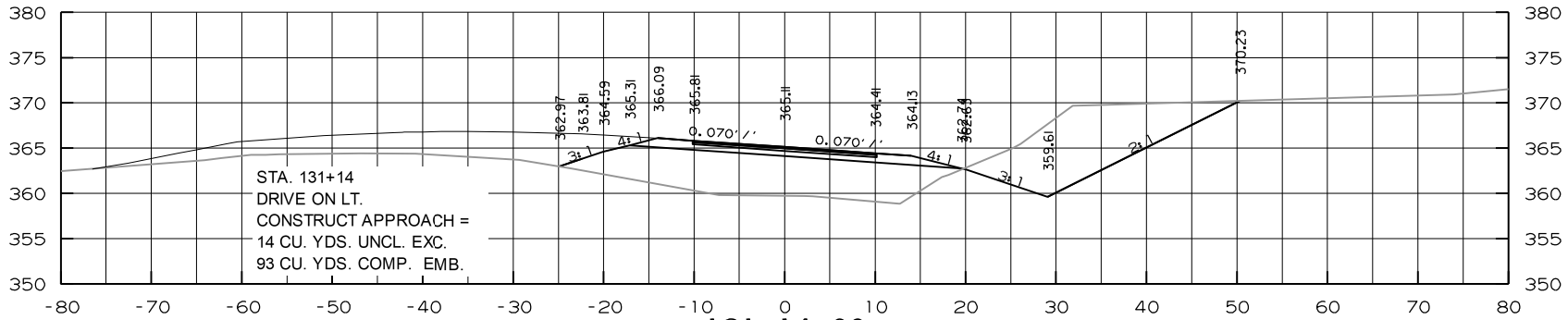


AREA CUT 144.08
AREA FILL 160.71

131+16.35

END MAX. SUPERELEVATION

CUT VOLUME 12
FILL VOLUME 14



AREA CUT 137.73
AREA FILL 159.50

131+14.00

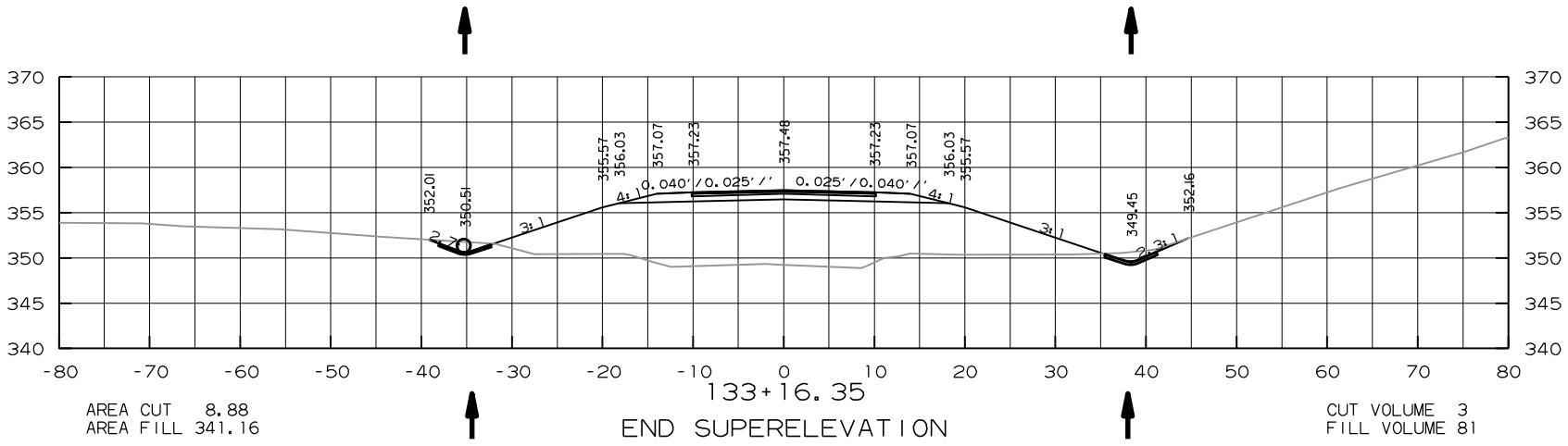
DRIVE ON LT.

CUT VOLUME 64
FILL VOLUME 78

CROSS SECTIONS STA. 131+14.00 TO 132+00.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		53	63

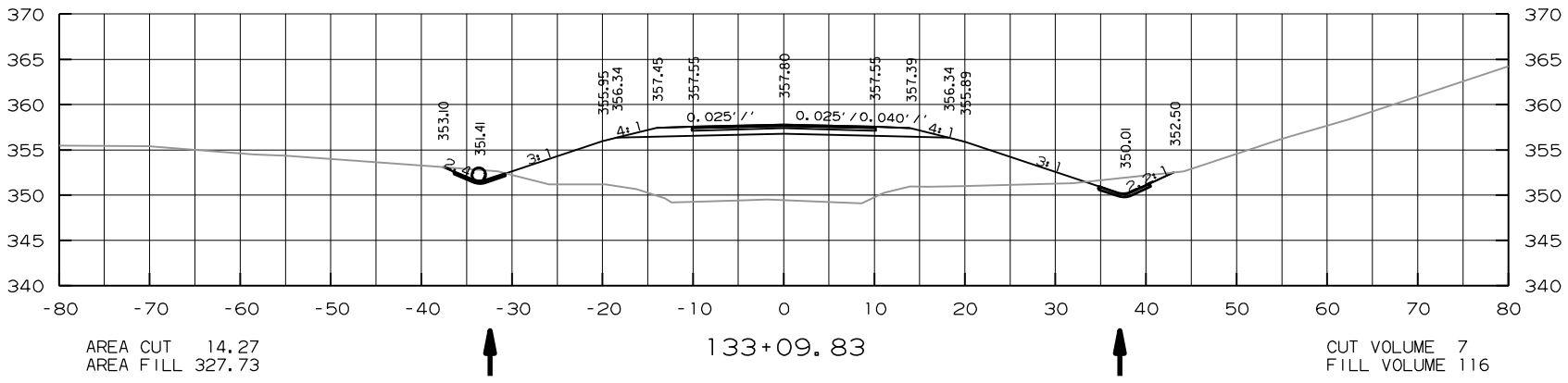
JOB NO. FA1108



AREA CUT 8.88
AREA FILL 341.16

133+16.35
END SUPERELEVATION

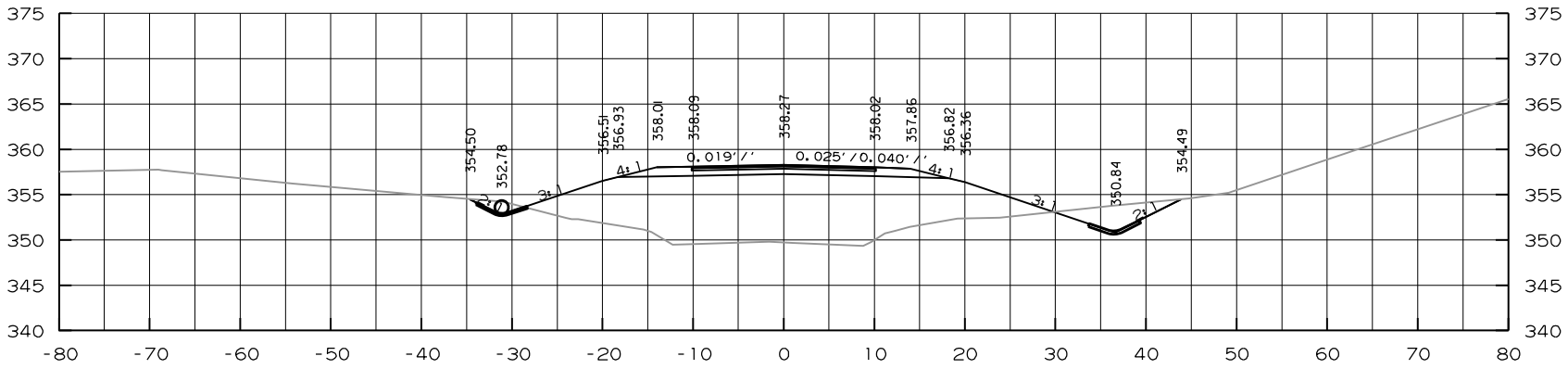
CUT VOLUME 3
FILL VOLUME 81



AREA CUT 14.27
AREA FILL 327.73

133+09.83

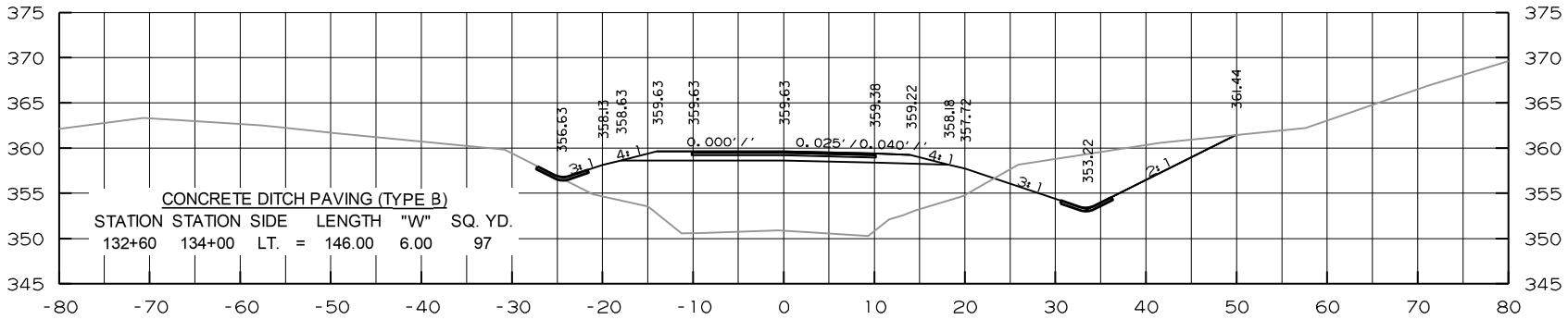
CUT VOLUME 7
FILL VOLUME 116



AREA CUT 25.52
AREA FILL 308.25

133+00.00

CUT VOLUME 59
FILL VOLUME 307



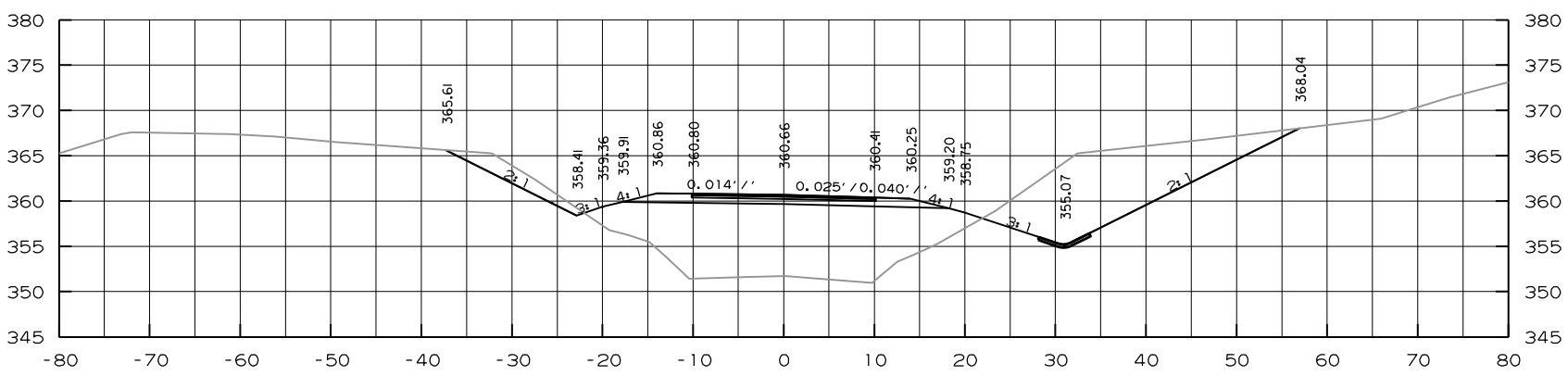
CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
132+60	134+00	LT.	=	146.00	6.00	97

AREA CUT 87.52
AREA FILL 279.21

132+71.79

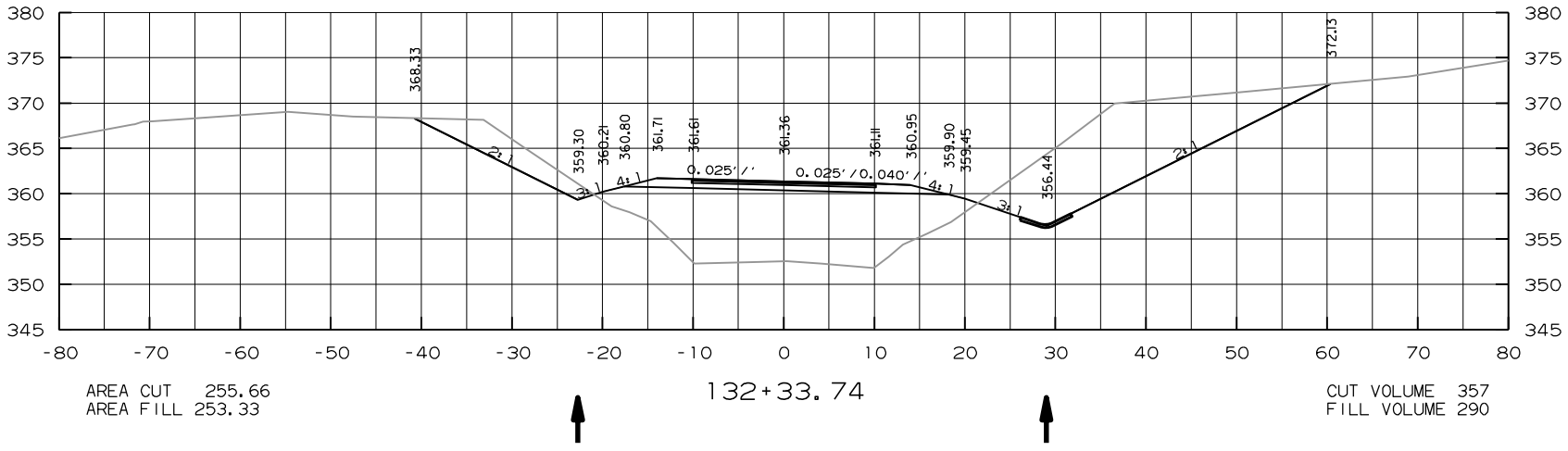
CUT VOLUME 112
FILL VOLUME 220



AREA CUT 190.32
AREA FILL 265.94

132+50.00

CUT VOLUME 134
FILL VOLUME 156



AREA CUT 255.66
AREA FILL 253.33

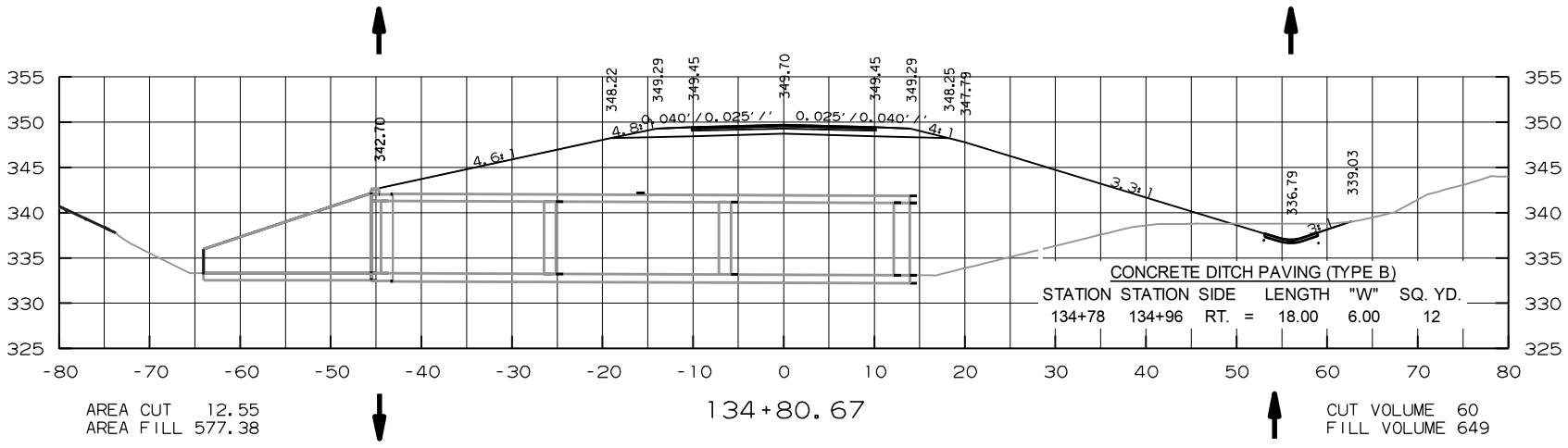
132+33.74

CUT VOLUME 357
FILL VOLUME 290

CROSS SECTIONS STA. 132+33.74 TO 133+16.35

JOB NO.	FED.RD. DIST.NO.	DATE REVISED	DATE FILMED
FA1108	6		
	STATE	DATE REVISED	DATE FILMED
	ARK.		
	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
		54	63

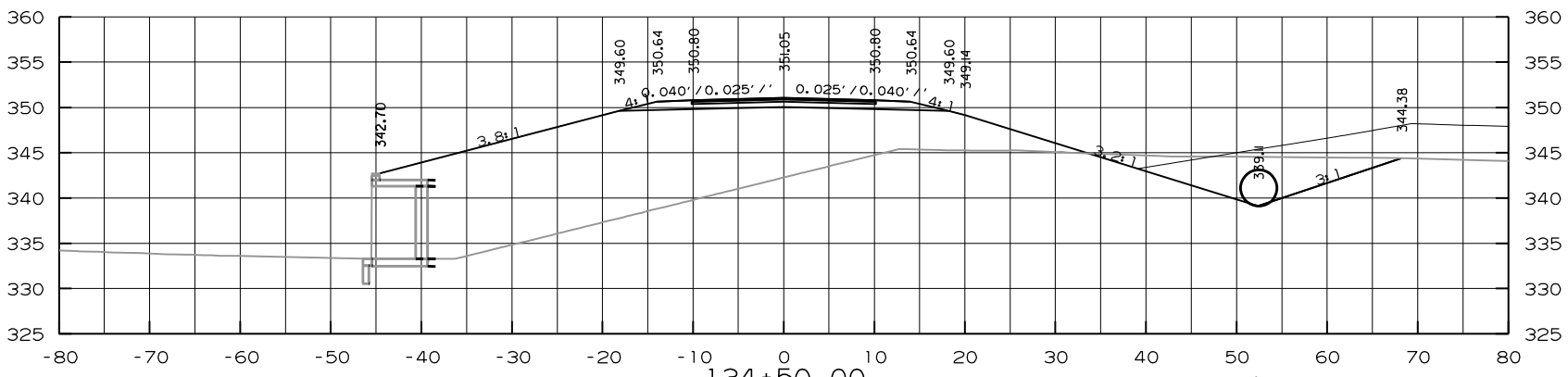
4



AREA CUT 12.55
AREA FILL 577.38

134+80.67

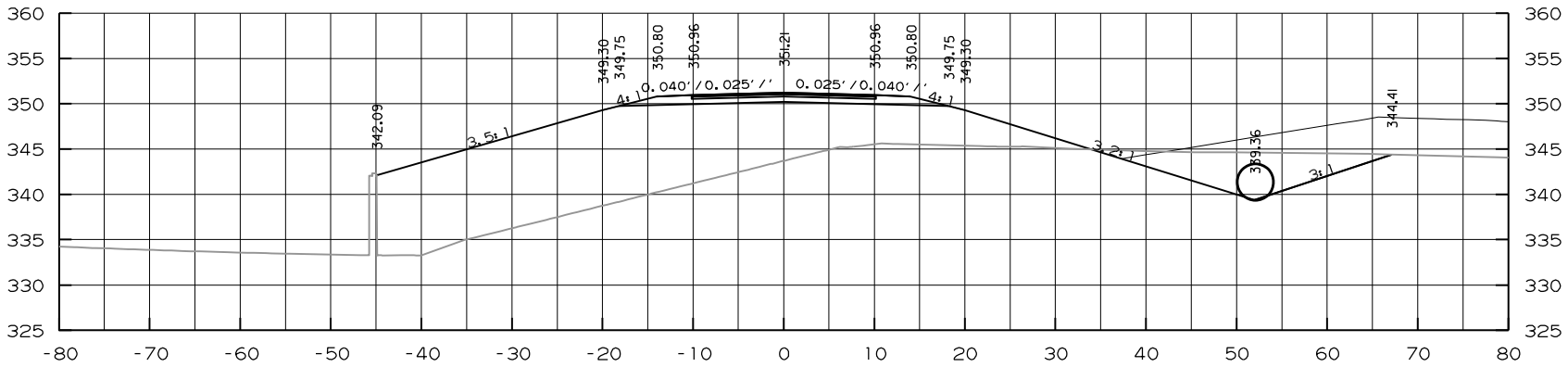
CUT VOLUME 60
FILL VOLUME 649



AREA CUT 92.68
AREA FILL 565.71

134+50.00
INLET ELEVATION 333.30 (LT.)

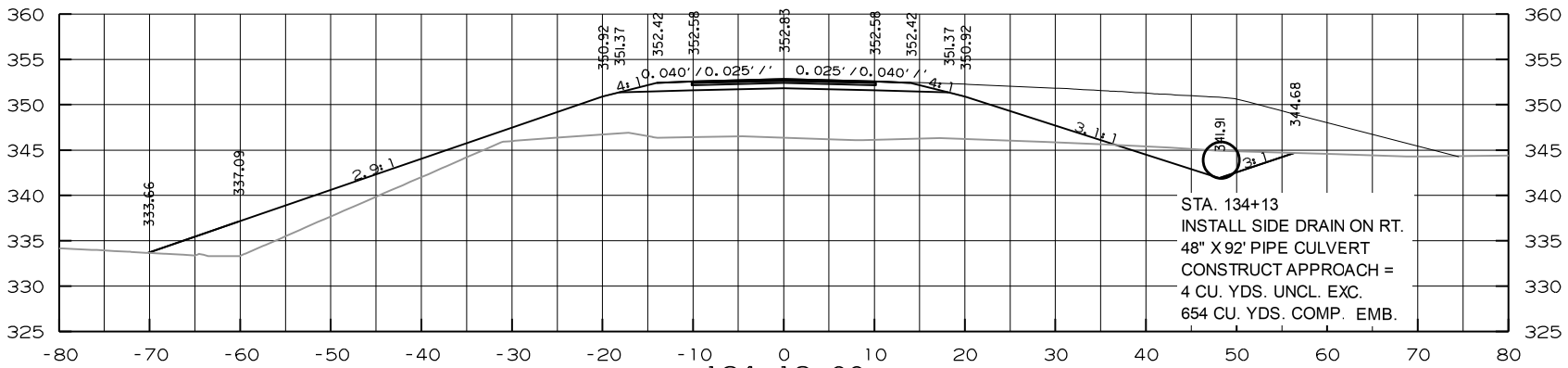
CUT VOLUME 11
FILL VOLUME 68



AREA CUT 86.28
AREA FILL 548.22

134+46.69

CUT VOLUME 72
FILL VOLUME 573

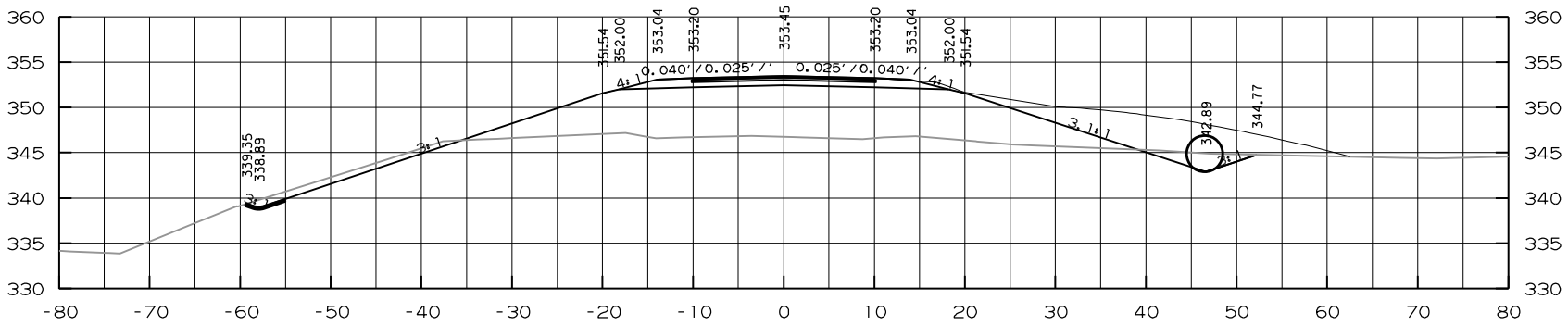


134+13.00

AREA CUT 29.72
AREA FILL 369.56

DRIVE ON RT.

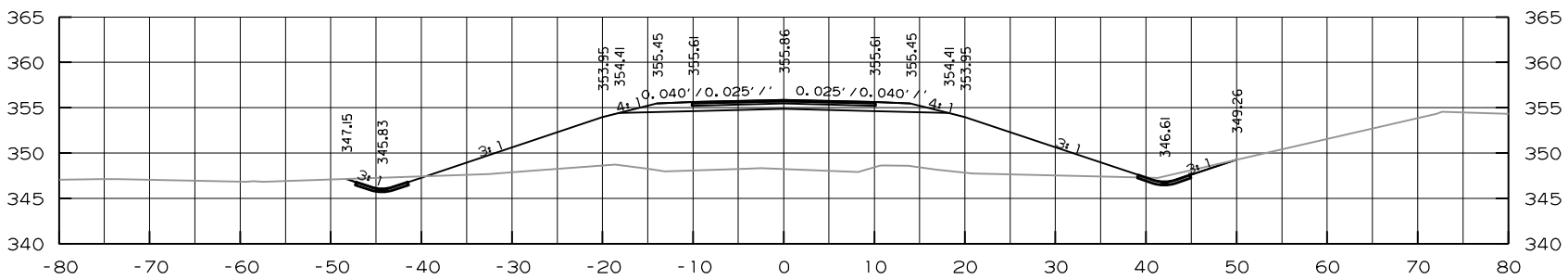
CUT VOLUME 14
FILL VOLUME 162



AREA CUT 29.37
AREA FILL 304.47

134+00.00

CUT VOLUME 37
FILL VOLUME 624



AREA CUT 10.36
AREA FILL 369.95

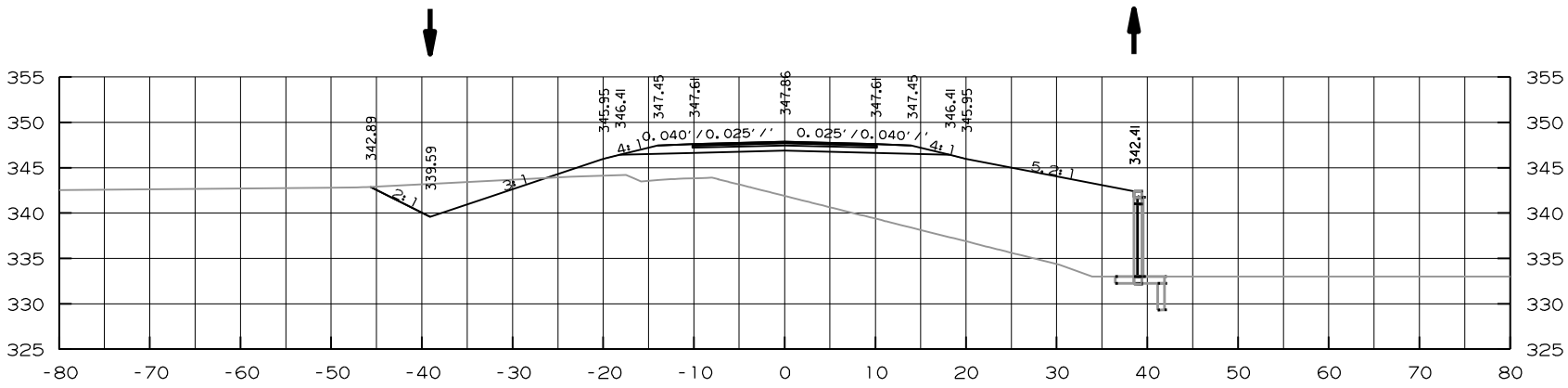
133+50.00

CUT VOLUME 12
FILL VOLUME 443

4 CROSS SECTIONS STA. 133+50.00 TO 134+80.67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		55	63

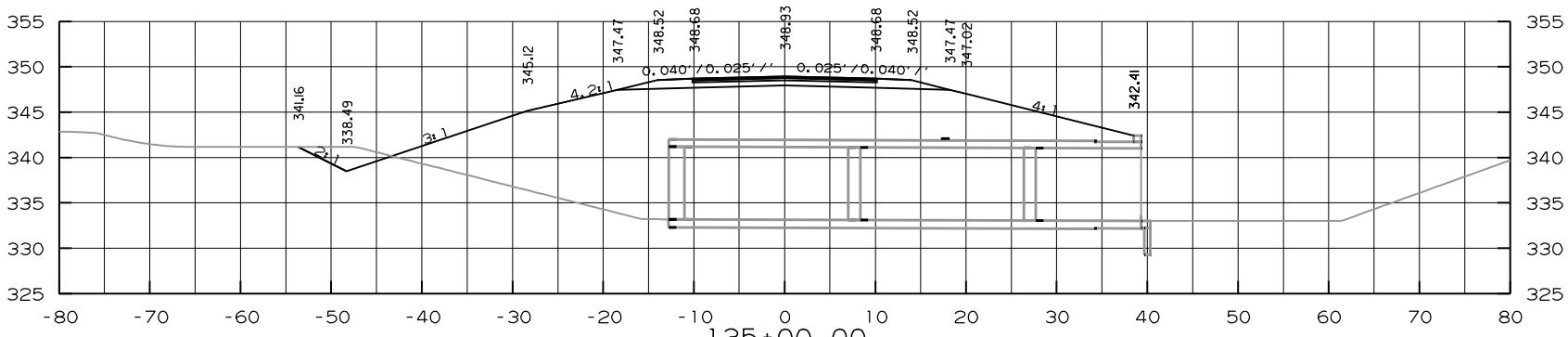
JOB NO. FA1108



AREA CUT 35.17
AREA FILL 390.80

135+29.20

CUT VOLUME 27
FILL VOLUME 481

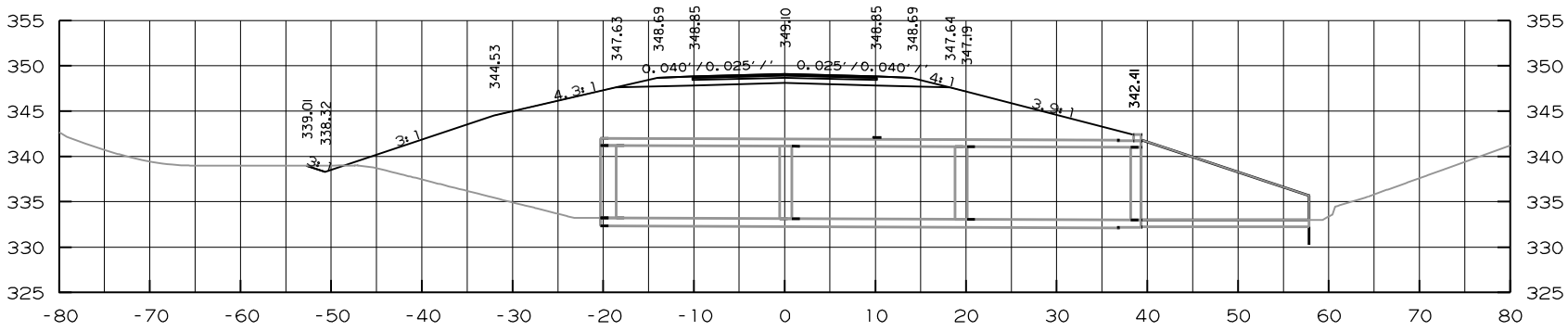


AREA CUT 14.36
AREA FILL 499.32

135+00.00

OUTLET ELEVATION: 333.00 (RT.)

CUT VOLUME 1
FILL VOLUME 80

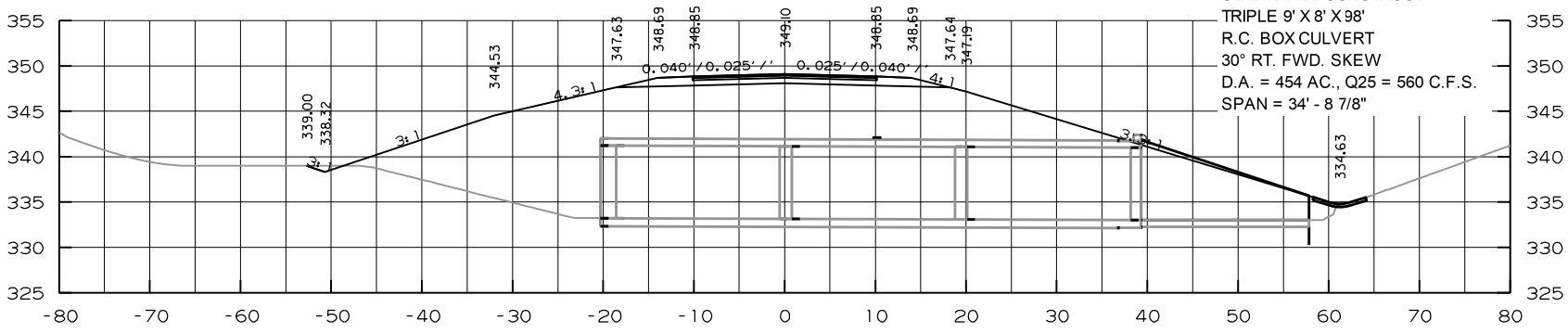


AREA CUT 1.41
AREA FILL 502.64

134+95.67

CUT VOLUME 0
FILL VOLUME 0

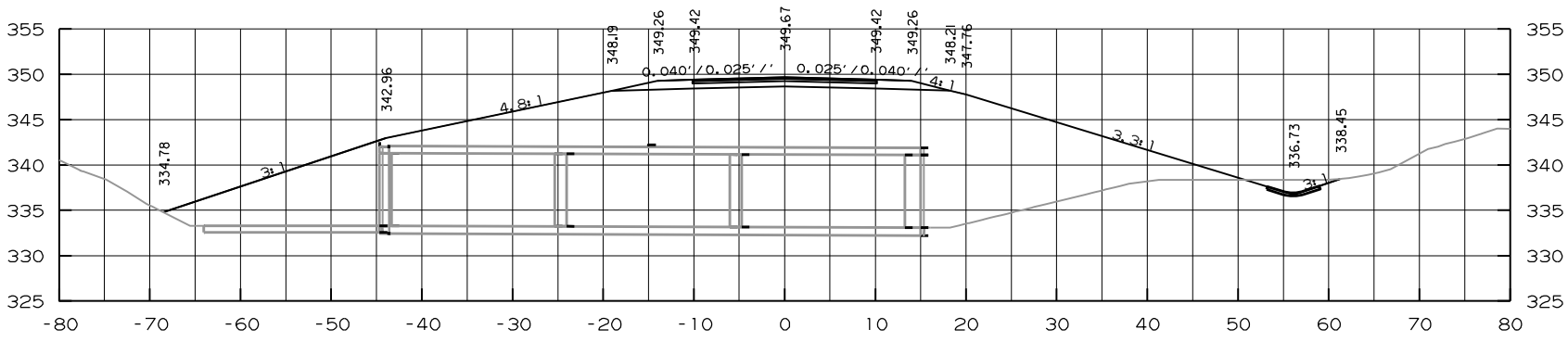
STA. 134+90 CONSTRUCT
TRIPLE 9' X 8' X 98'
R.C. BOX CULVERT
30° RT. FWD. SKEW
D.A. = 454 AC., Q25 = 560 C.F.S.
SPAN = 34' - 8 7/8"



AREA CUT 2.27
AREA FILL 601.86

134+95.65

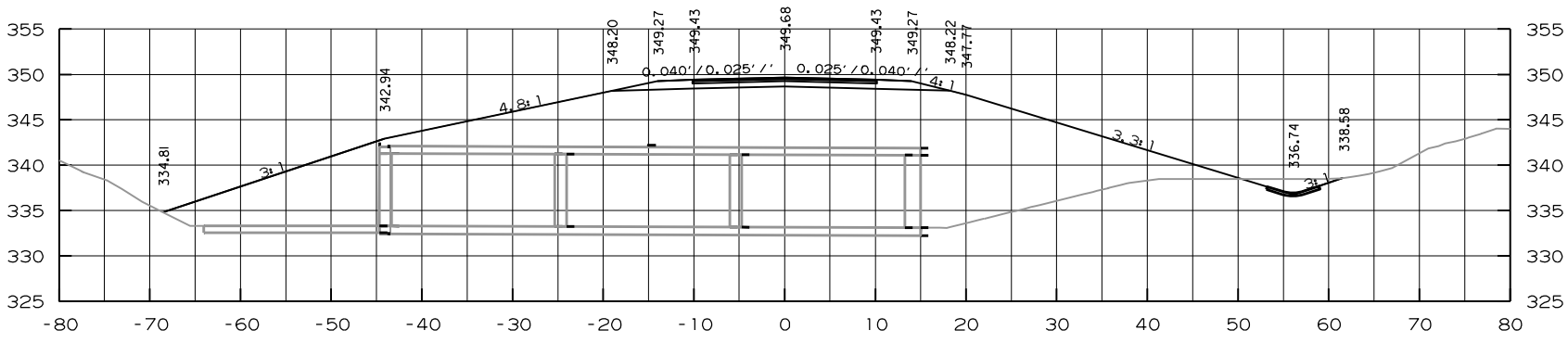
CUT VOLUME 3
FILL VOLUME 343



AREA CUT 8.39
AREA FILL 706.27

134+81.50

CUT VOLUME 0
FILL VOLUME 5



AREA CUT 9.31
AREA FILL 704.67

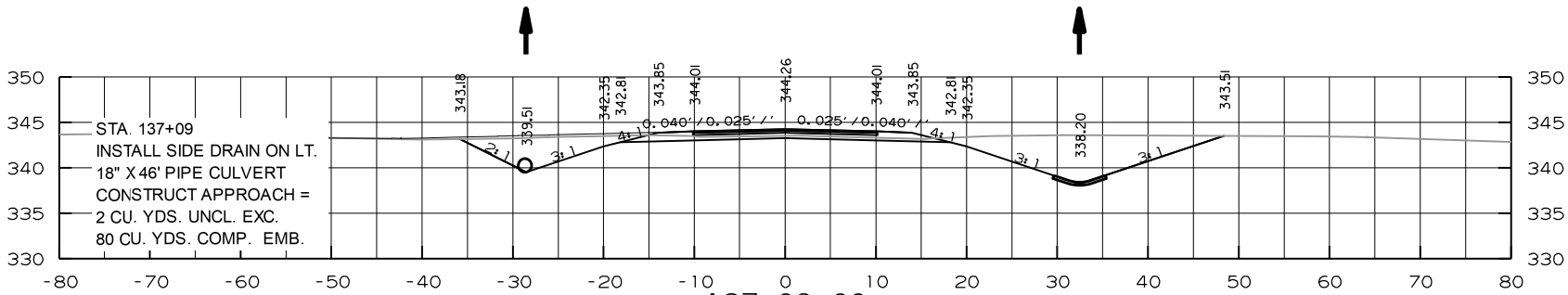
134+81.30

CUT VOLUME 0
FILL VOLUME 15

4 CROSS SECTIONS STA. 134+81.30 TO 135+29.20

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		56	63

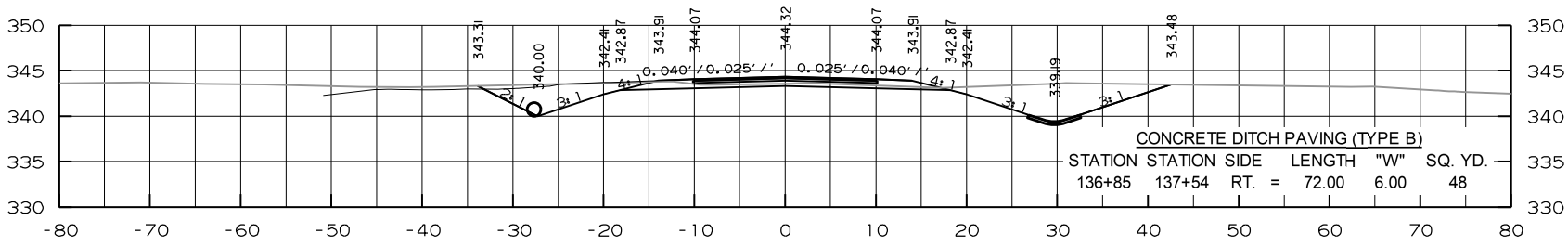
JOB NO. FA1108



137+09.00
DRIVE ON LT.

AREA CUT 135.43
AREA FILL 0.00

CUT VOLUME 39
FILL VOLUME 0



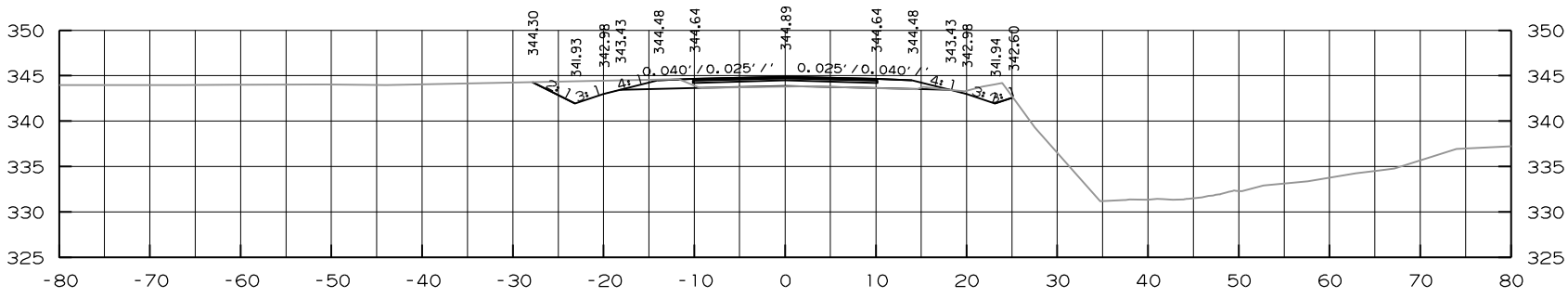
CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
136+85	137+54	RT.	=	72.00	6.00	48

137+00.00

AREA CUT 100.22
AREA FILL 0.00

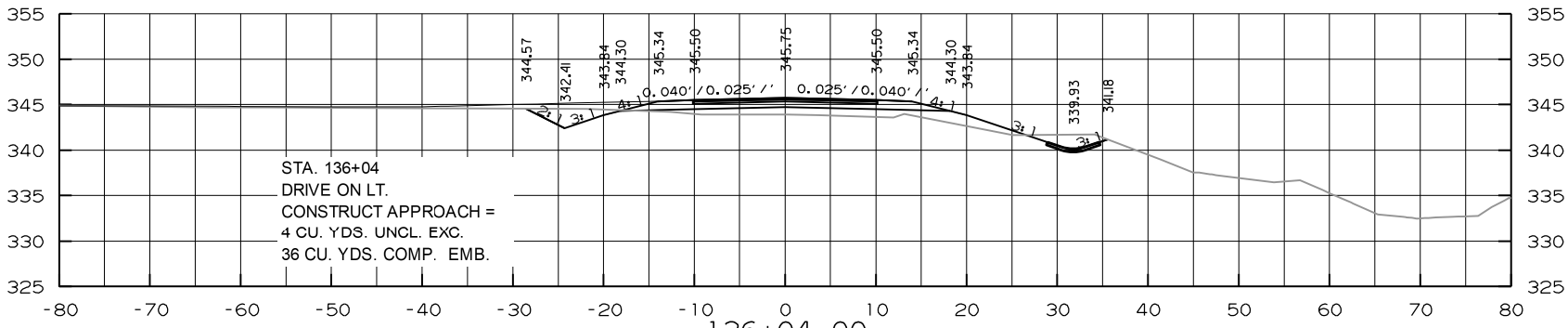
CUT VOLUME 120
FILL VOLUME 1



136+50.00

AREA CUT 29.83
AREA FILL 0.75

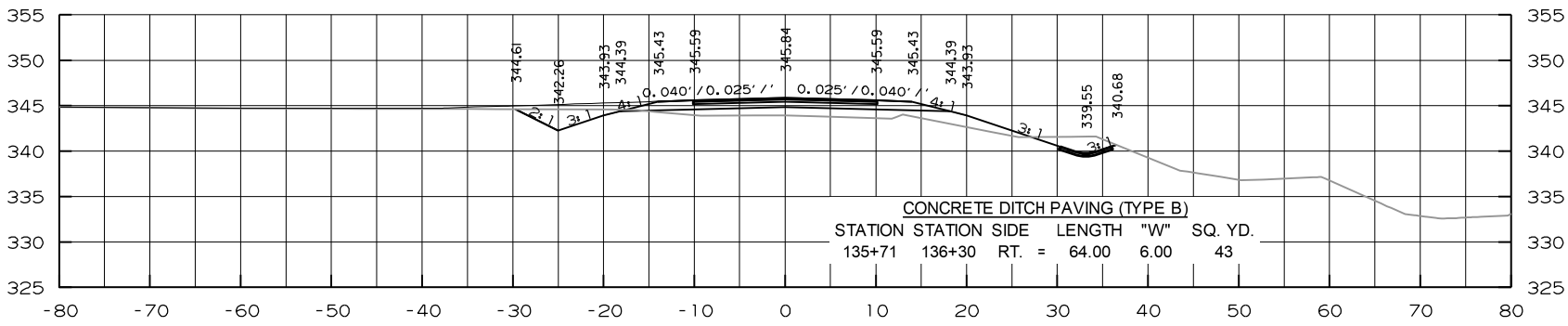
CUT VOLUME 42
FILL VOLUME 27



136+04.00
DRIVE ON LT.

AREA CUT 20.03
AREA FILL 30.66

CUT VOLUME 3
FILL VOLUME 5



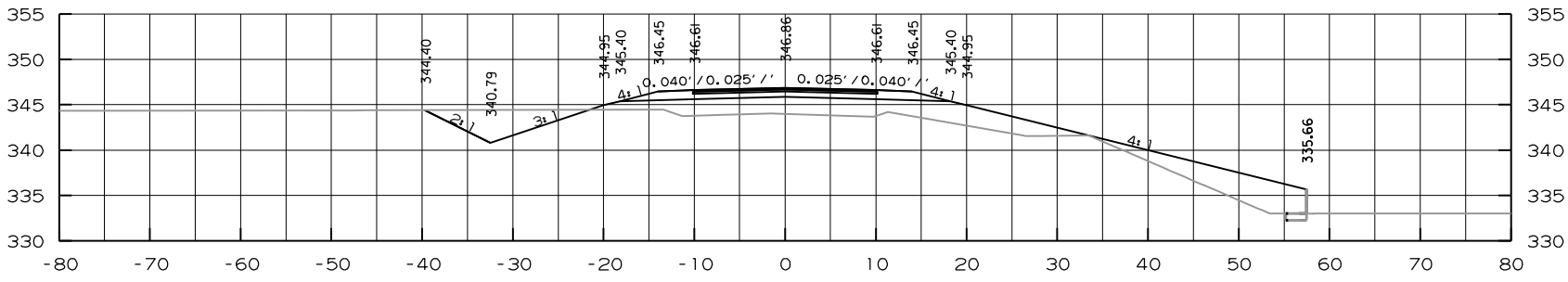
CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
135+71	136+30	RT.	=	64.00	6.00	43

136+00.00

AREA CUT 24.07
AREA FILL 34.65

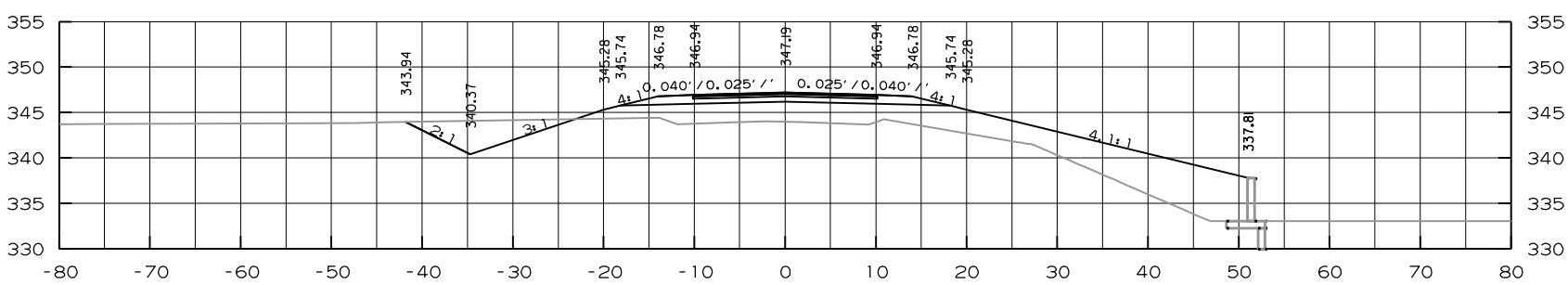
CUT VOLUME 41
FILL VOLUME 124



135+61.08

AREA CUT 33.03
AREA FILL 137.49

CUT VOLUME 14
FILL VOLUME 69



135+50.00

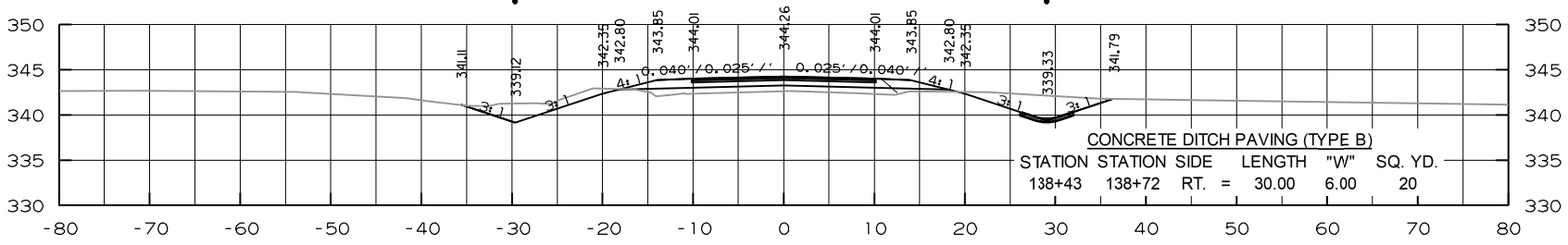
AREA CUT 34.60
AREA FILL 198.98

CUT VOLUME 27
FILL VOLUME 227

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		57	63

JOB NO. FA1108

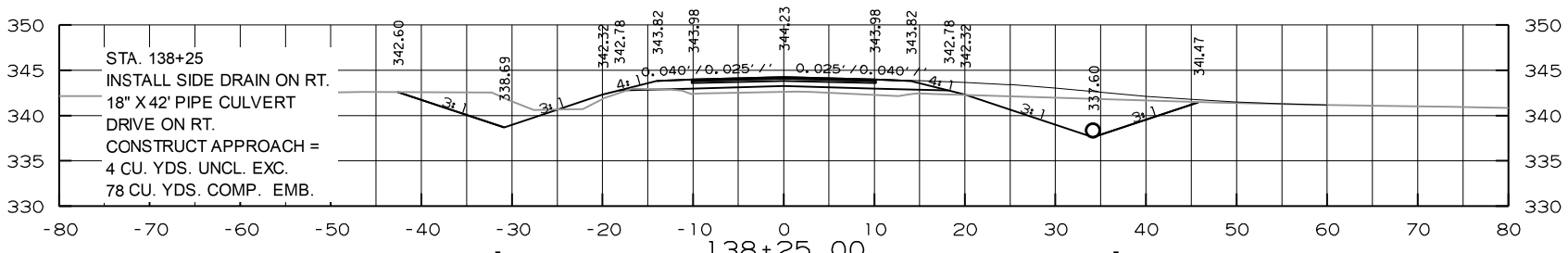
4 CROSS SECTIONS STA. 135+50.00 TO 137+09.00



AREA CUT 41.78
AREA FILL 19.94

138+50.00

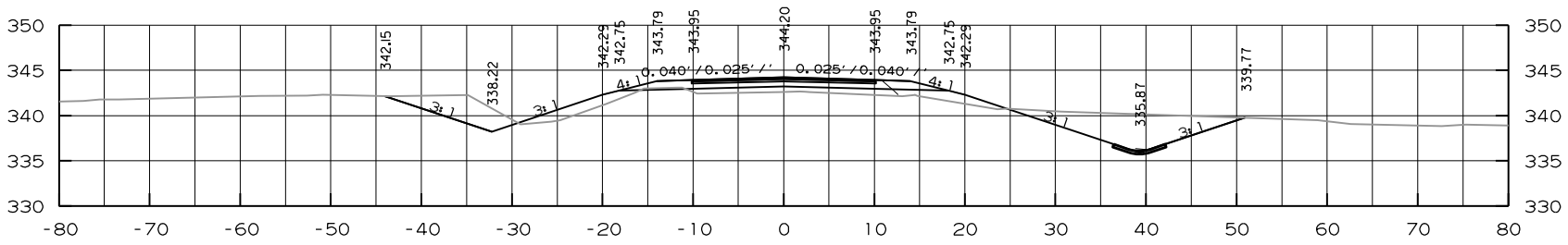
CUT VOLUME 58
FILL VOLUME 19



AREA CUT 84.11
AREA FILL 21.71

138+25.00
DRIVE ON RT.

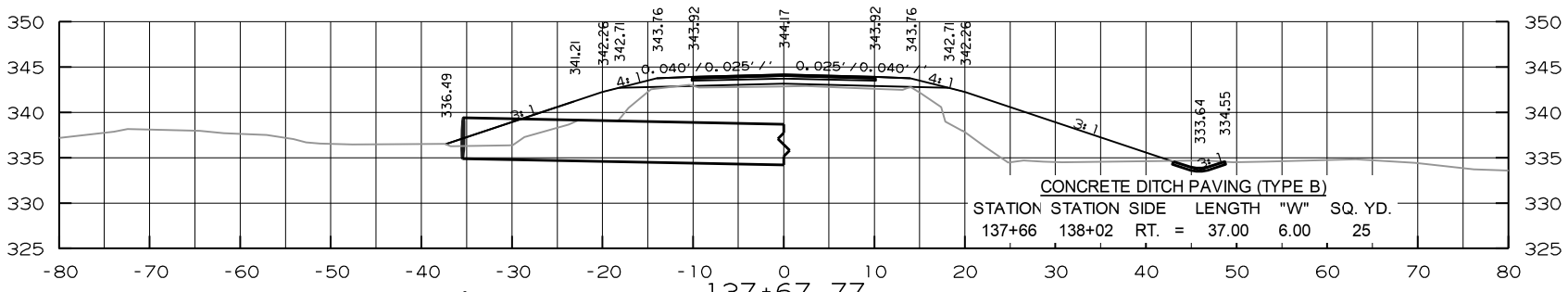
CUT VOLUME 77
FILL VOLUME 26



AREA CUT 82.35
AREA FILL 34.87

138+00.00

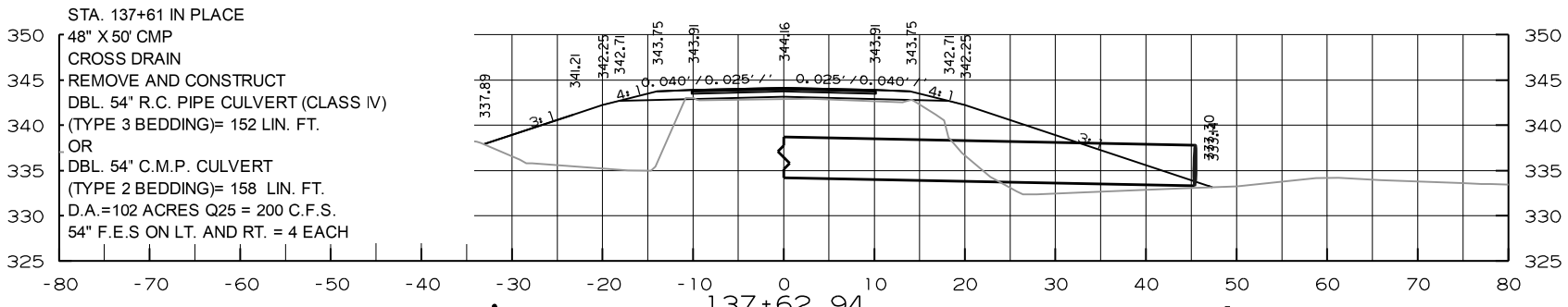
CUT VOLUME 51
FILL VOLUME 109



AREA CUT 3.16
AREA FILL 148.15

137+67.77
INLET ELEVATION 335.00

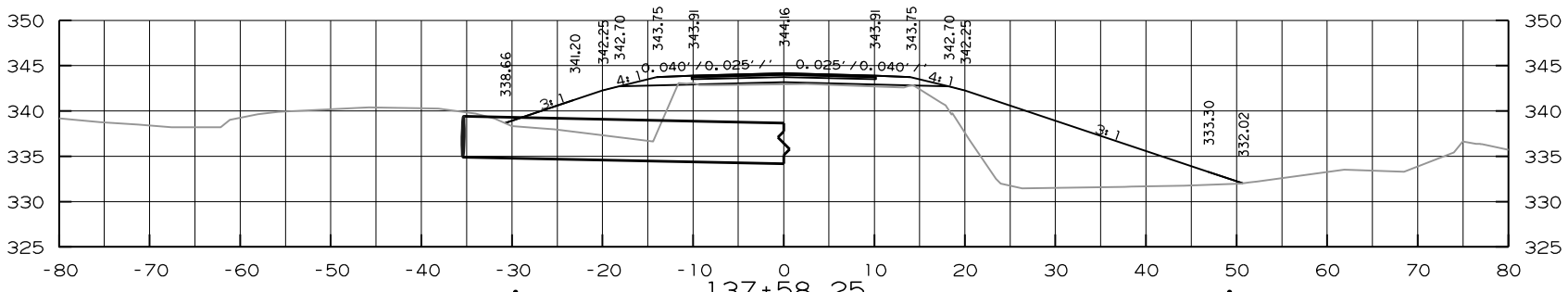
CUT VOLUME 0
FILL VOLUME 36



AREA CUT 0.11
AREA FILL 254.49

137+62.94
OUTLET ELEVATION 333.30

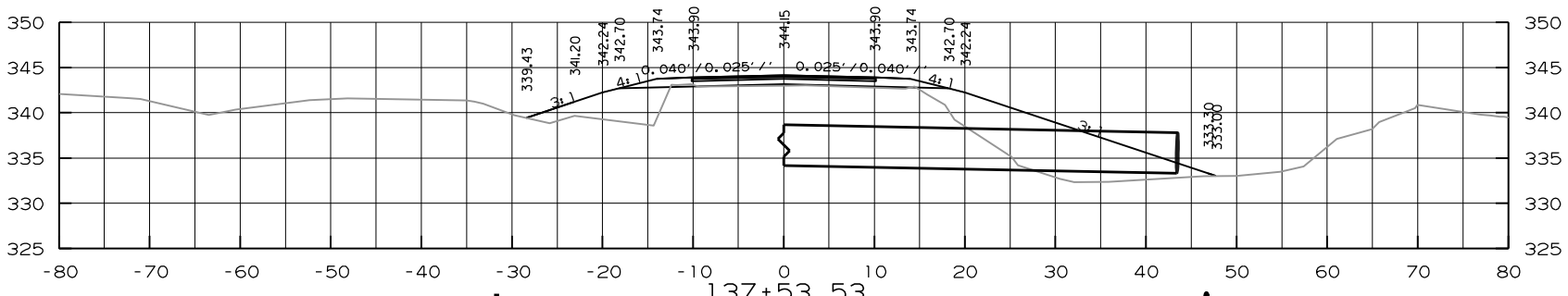
CUT VOLUME 0
FILL VOLUME 43



AREA CUT 0.29
AREA FILL 237.55

137+58.25
INLET ELEVATION 335.00

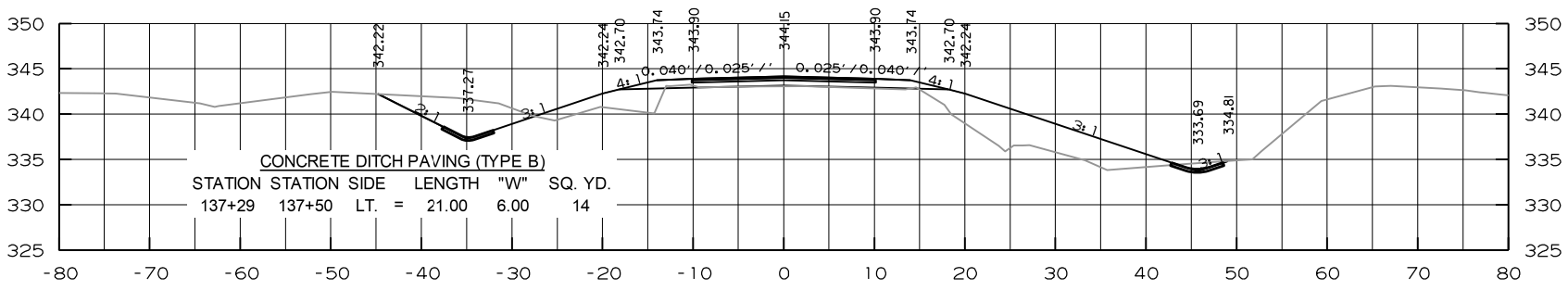
CUT VOLUME 0
FILL VOLUME 35



AREA CUT 0.66
AREA FILL 161.65

137+53.53
OUTLET ELEVATION 333.30

CUT VOLUME 3
FILL VOLUME 17



AREA CUT 43.49
AREA FILL 99.36

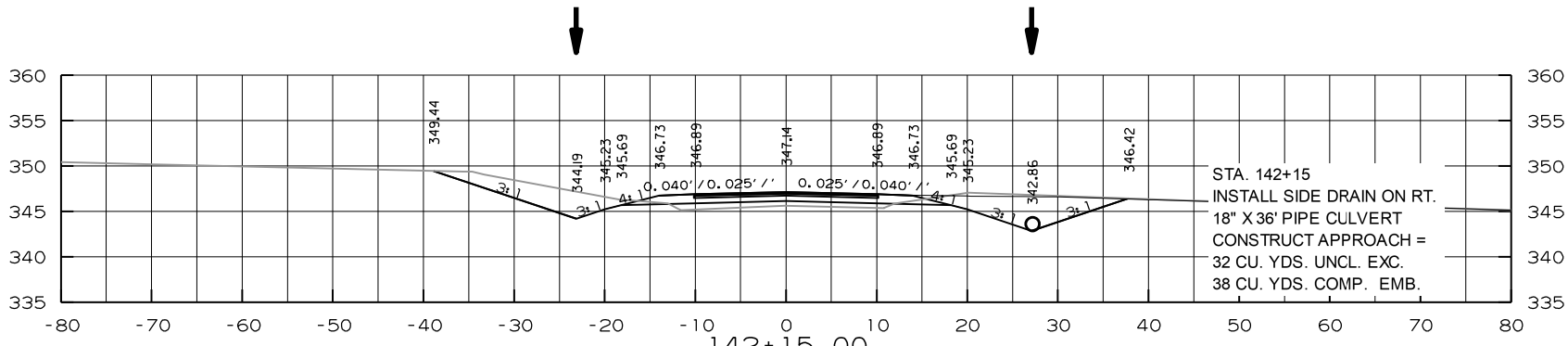
137+50.00

CUT VOLUME 136
FILL VOLUME 75

4 CROSS SECTIONS STA. 137+50.00 TO 138+50.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	FA1108	58	63

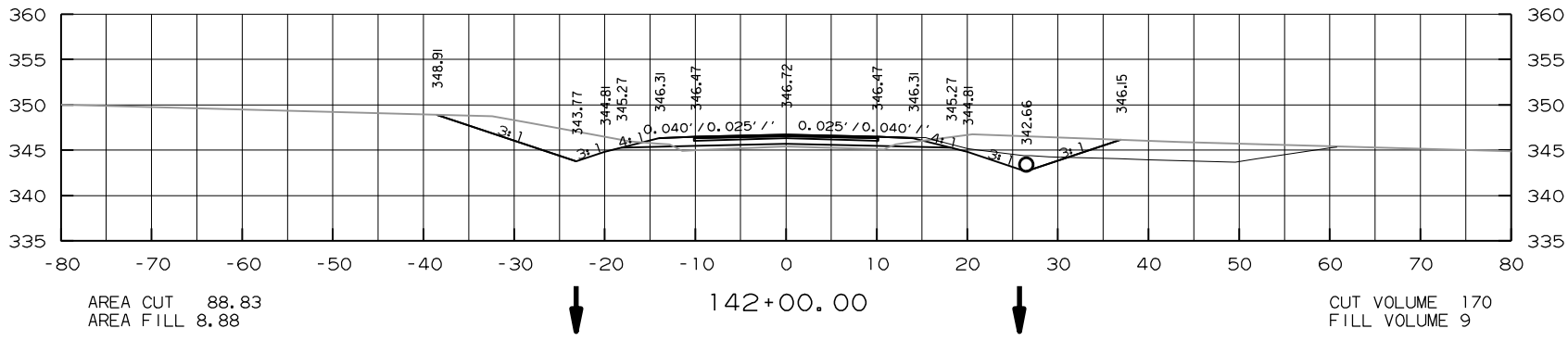
JOB NO.



AREA CUT 85.33
AREA FILL 13.35

142+15.00
DRIVE ON RT.

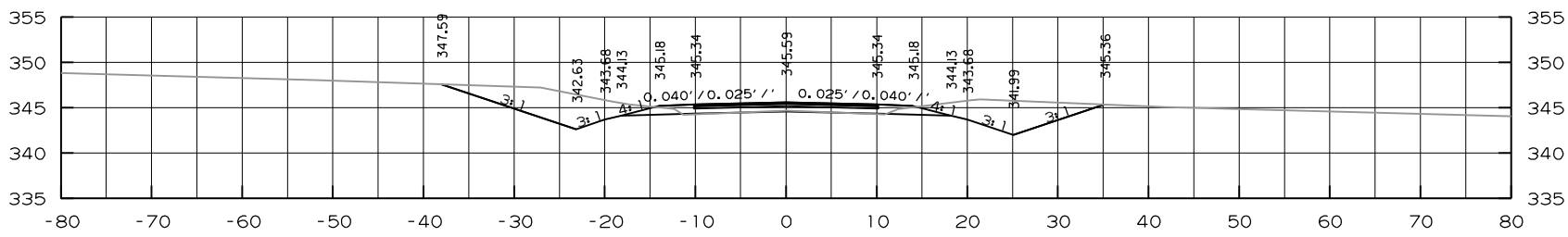
CUT VOLUME 48
FILL VOLUME 6



AREA CUT 88.83
AREA FILL 8.88

142+00.00

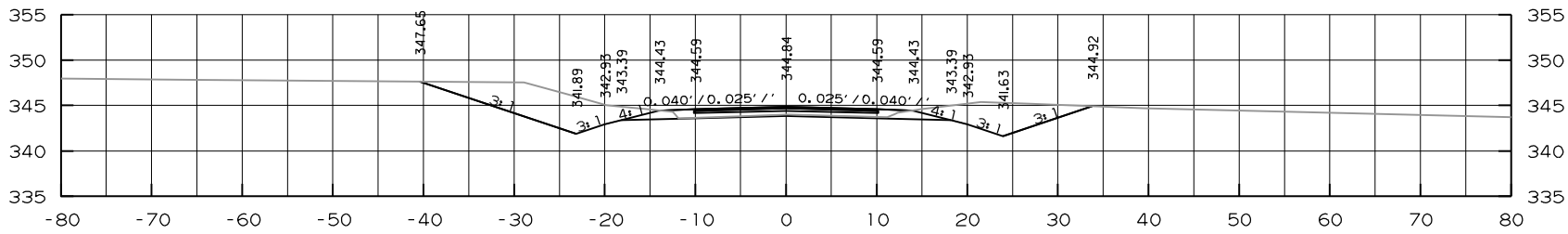
CUT VOLUME 170
FILL VOLUME 9



AREA CUT 94.64
AREA FILL 0.32

141+50.00

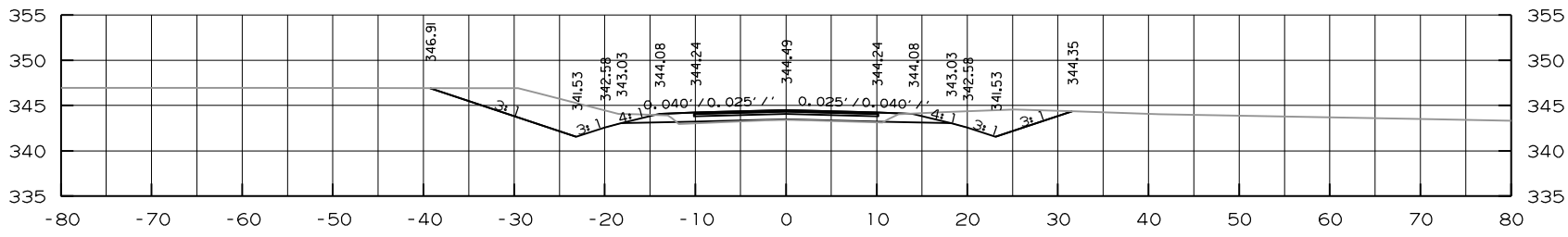
CUT VOLUME 187
FILL VOLUME 0



AREA CUT 107.76
AREA FILL 0.00

141+00.00

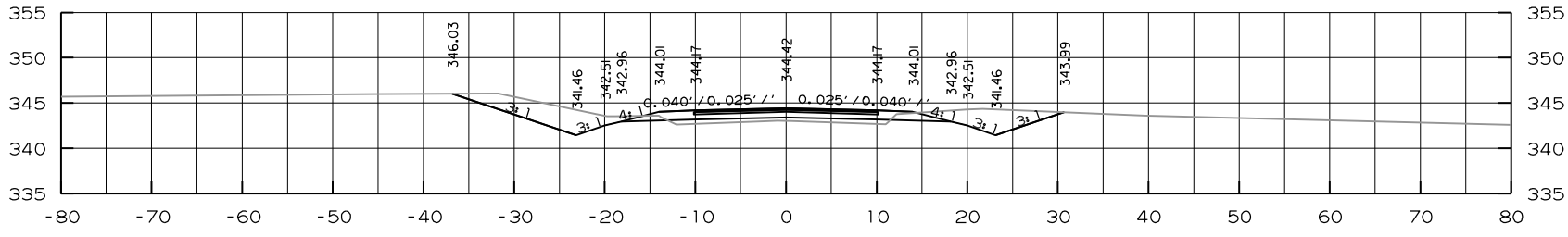
CUT VOLUME 178
FILL VOLUME 2



AREA CUT 84.79
AREA FILL 2.51

140+50.00

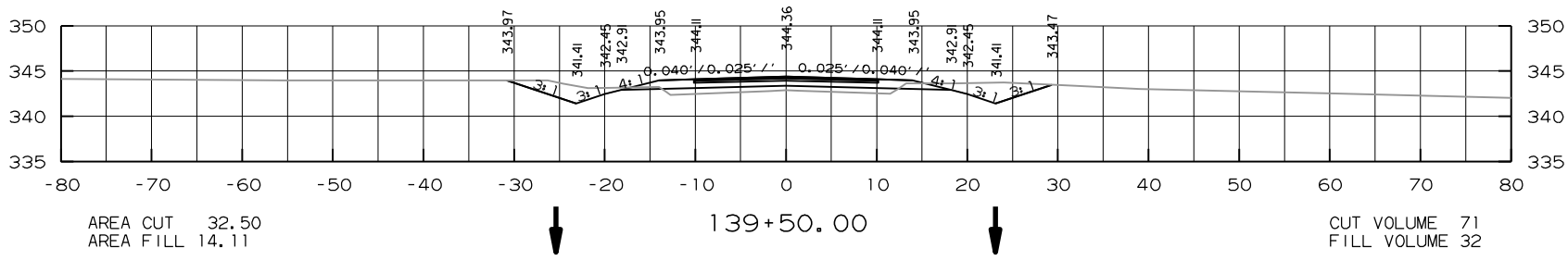
CUT VOLUME 134
FILL VOLUME 12



AREA CUT 60.05
AREA FILL 10.42

140+00.00

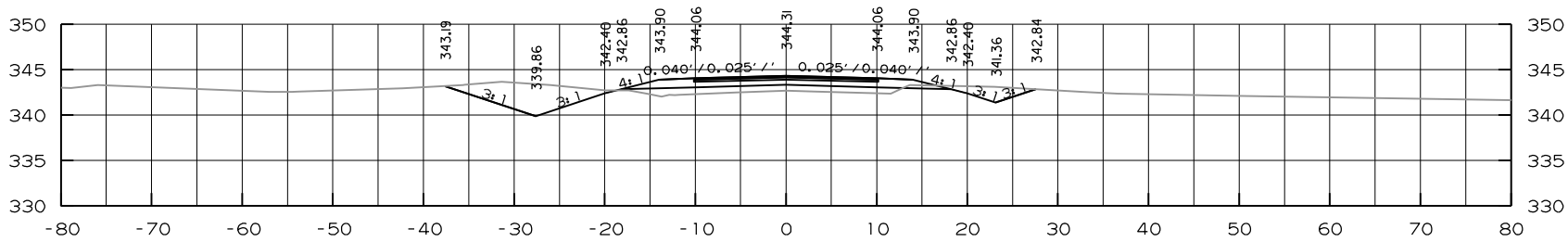
CUT VOLUME 86
FILL VOLUME 23



AREA CUT 32.50
AREA FILL 14.11

139+50.00

CUT VOLUME 71
FILL VOLUME 32



AREA CUT 44.70
AREA FILL 20.01

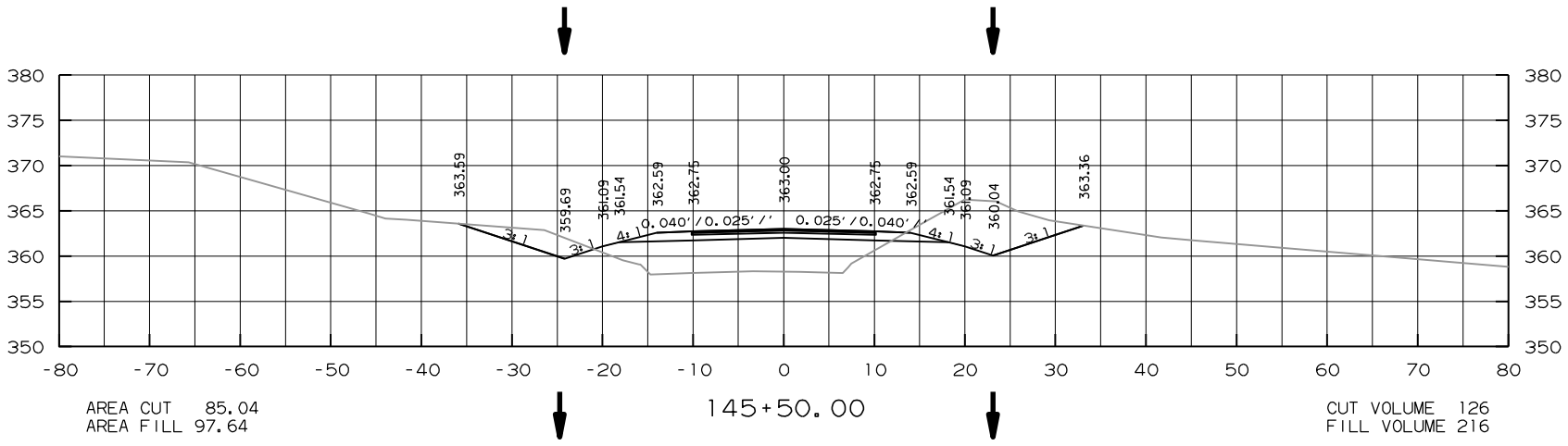
139+00.00

CUT VOLUME 80
FILL VOLUME 37

4 CROSS SECTIONS STA. 139+00.00 TO 142+15.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		59	63

JOB NO. FA1108



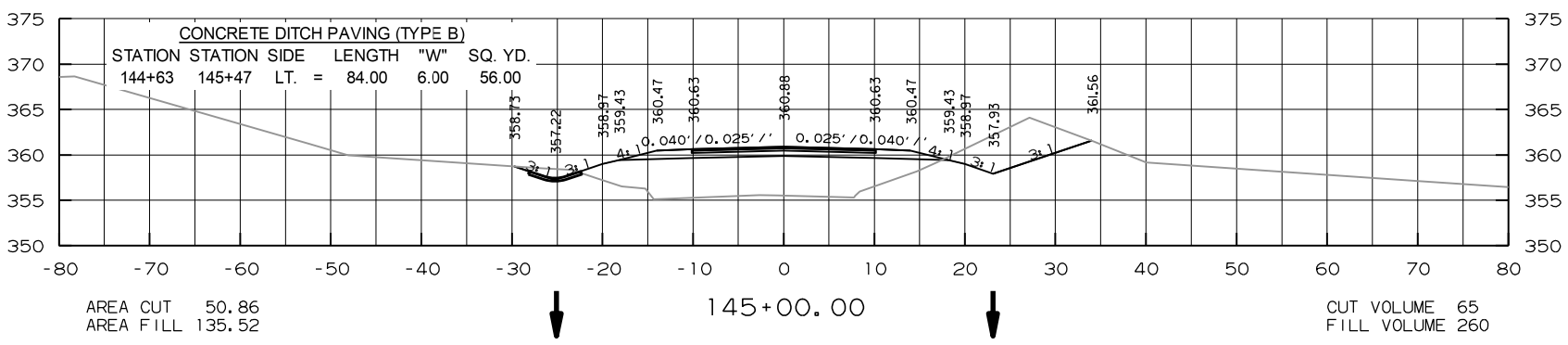
AREA CUT 85.04
AREA FILL 97.64

145+50.00

CUT VOLUME 126
FILL VOLUME 216

CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
144+63	145+47	LT.	=	84.00	6.00	56.00

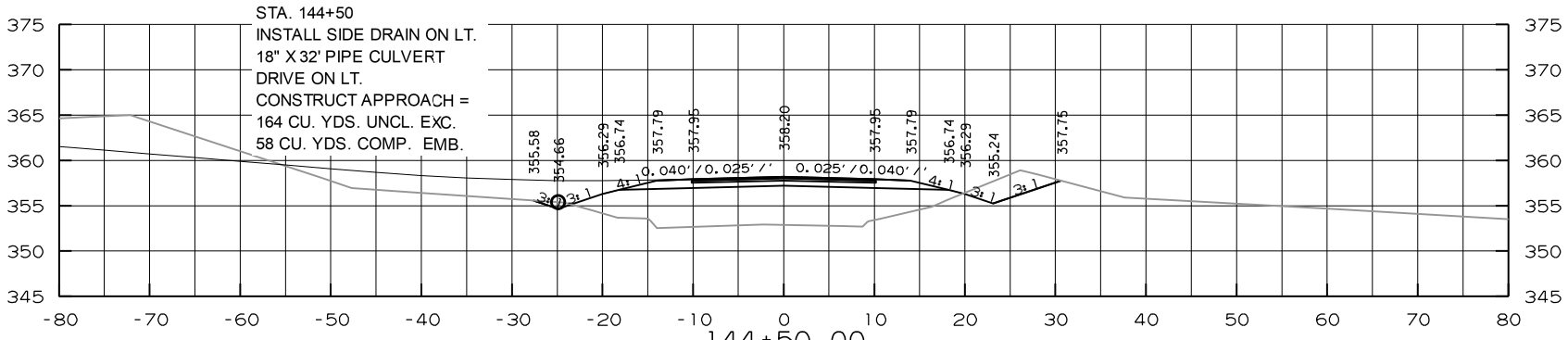


AREA CUT 50.86
AREA FILL 135.52

145+00.00

CUT VOLUME 65
FILL VOLUME 260

STA. 144+50
INSTALL SIDE DRAIN ON LT.
18" X 32' PIPE CULVERT
DRIVE ON LT.
CONSTRUCT APPROACH =
164 CU. YDS. UNCL. EXC.
58 CU. YDS. COMP. EMB.



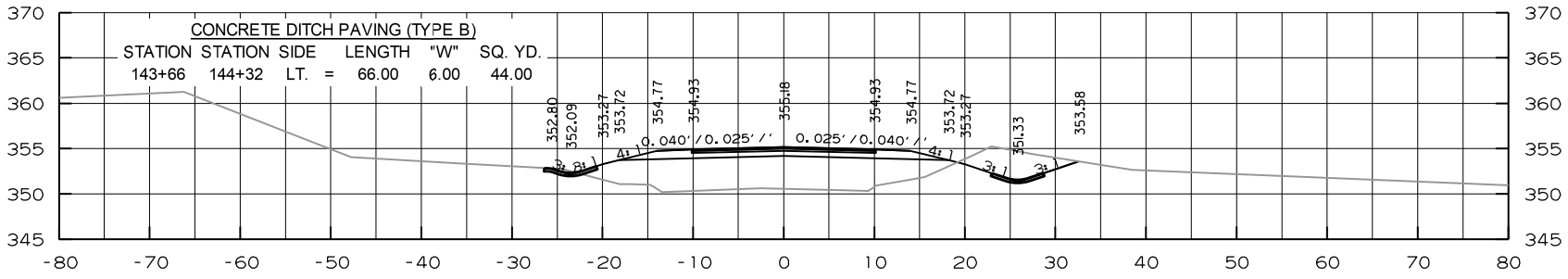
AREA CUT 19.31
AREA FILL 144.89

144+50.00
DRIVE ON LT.

CUT VOLUME 42
FILL VOLUME 247

CONCRETE DITCH PAVING (TYPE B)

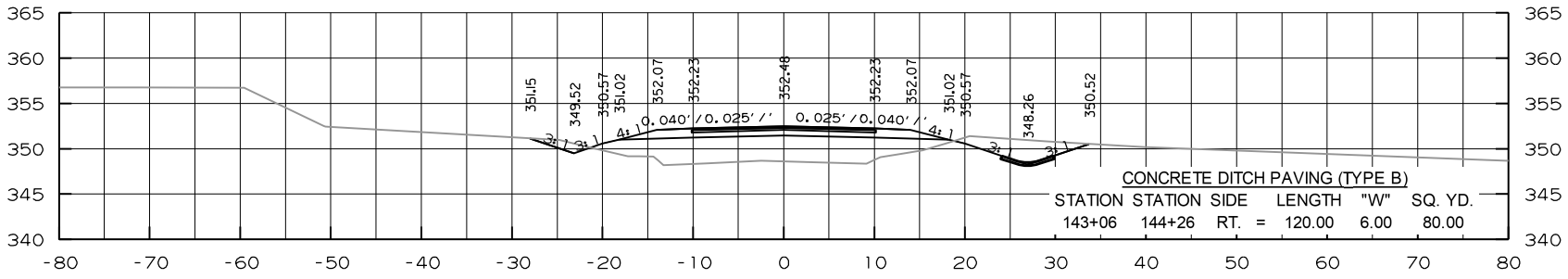
STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
143+66	144+32	LT.	=	66.00	6.00	44.00



AREA CUT 26.55
AREA FILL 121.78

144+00.00

CUT VOLUME 48
FILL VOLUME 197



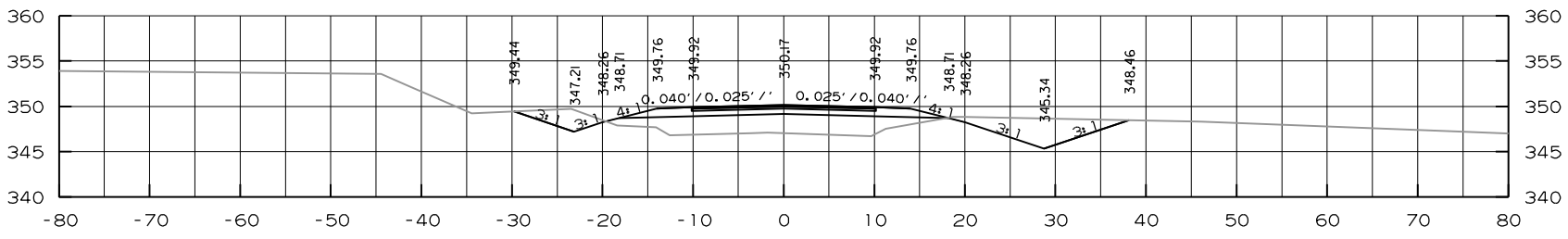
CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
143+06	144+26	RT.	=	120.00	6.00	80.00

AREA CUT 25.65
AREA FILL 90.78

143+50.00

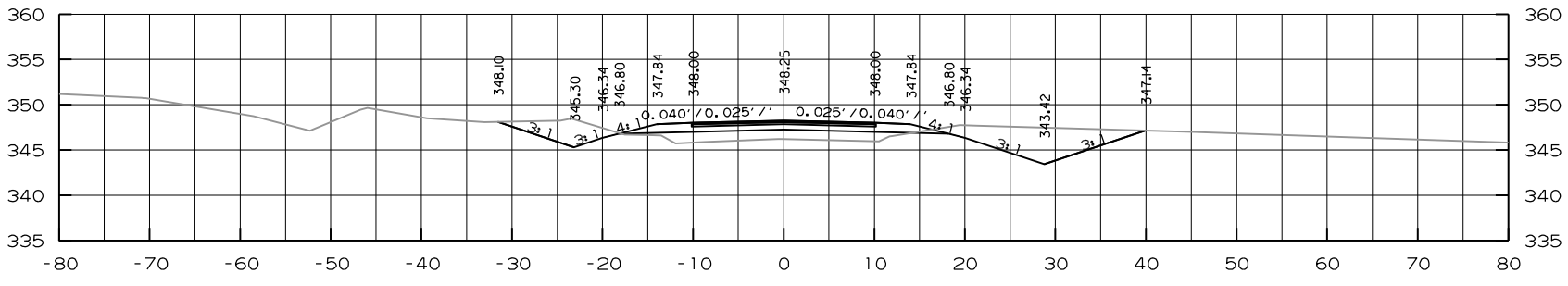
CUT VOLUME 66
FILL VOLUME 141



AREA CUT 45.54
AREA FILL 61.35

143+00.00

CUT VOLUME 107
FILL VOLUME 83



AREA CUT 70.46
AREA FILL 27.90

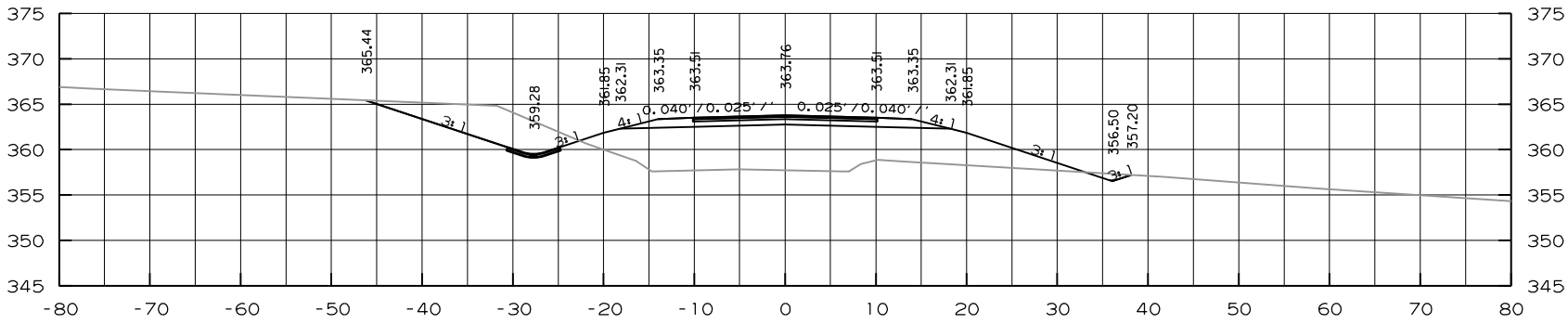
142+50.00

CUT VOLUME 101
FILL VOLUME 27

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		60	63

JOB NO. FA1108

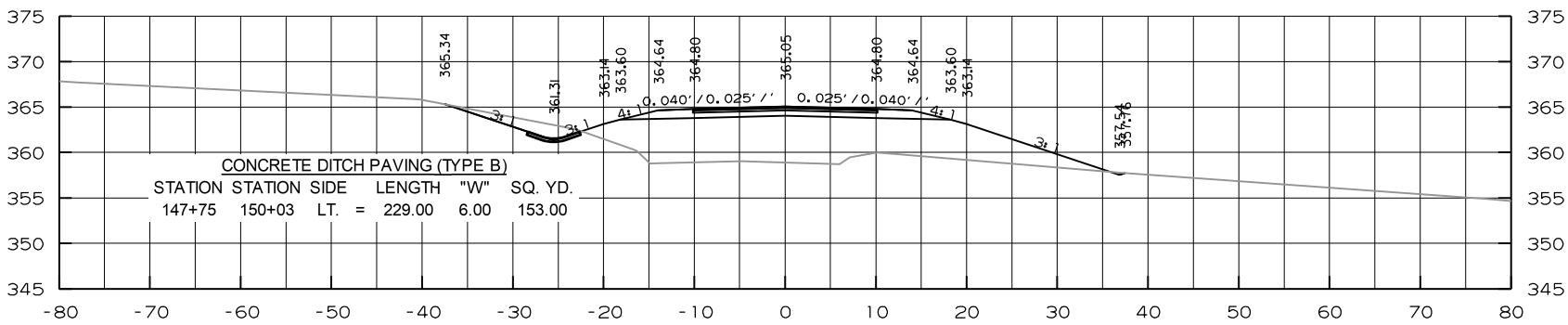
4 CROSS SECTIONS STA. 142+50.00 TO 145+50.00



AREA CUT 58.53
AREA FILL 199.75

148+50.00

CUT VOLUME 67
FILL VOLUME 381



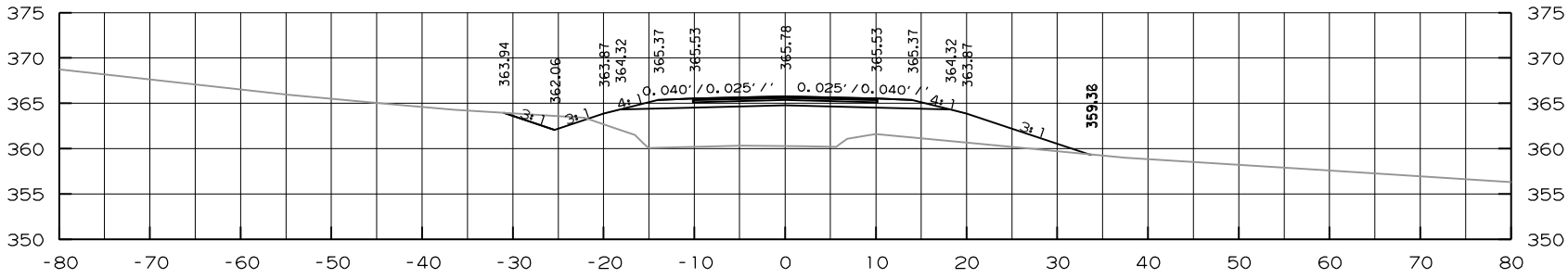
CONCRETE DITCH PAVING (TYPE B)

STATION	STATION	SIDE		LENGTH	"W"	SQ. YD.
147+75	150+03	LT.	=	229.00	6.00	153.00

AREA CUT 13.42
AREA FILL 211.31

148+00.00

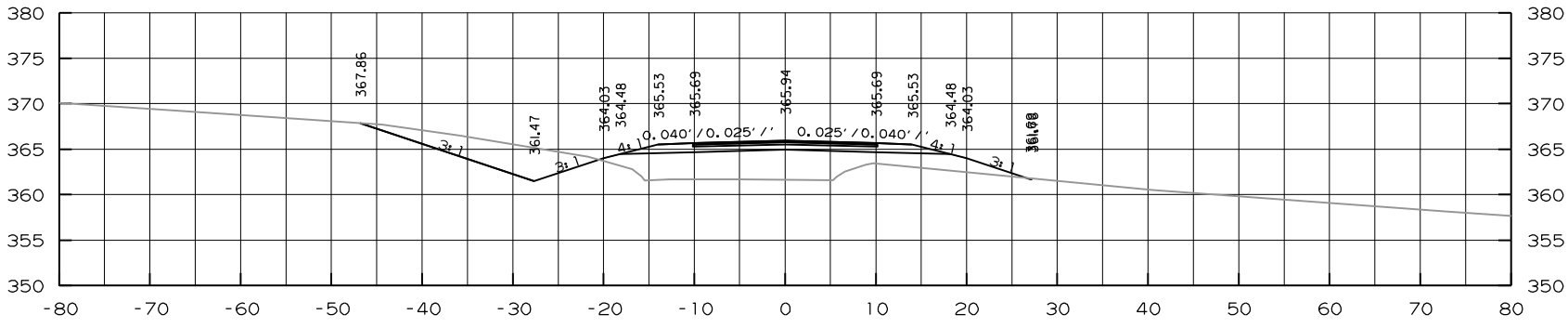
CUT VOLUME 19
FILL VOLUME 356



AREA CUT 7.31
AREA FILL 173.13

147+50.00

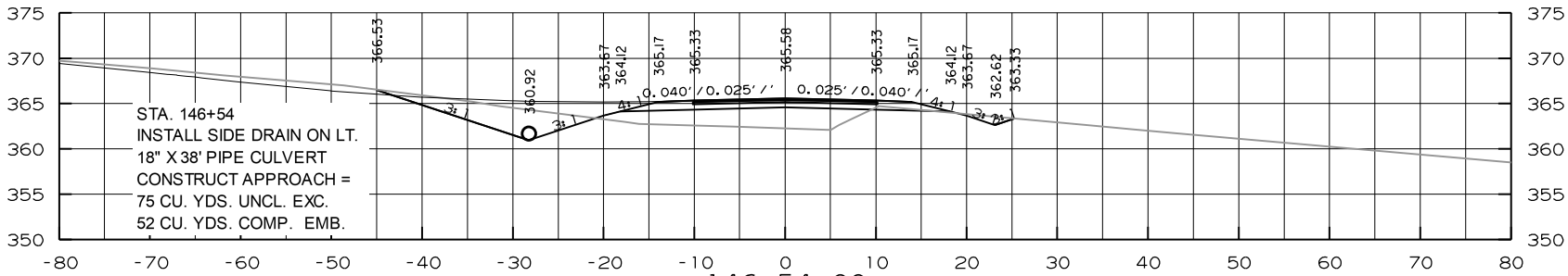
CUT VOLUME 54
FILL VOLUME 255



AREA CUT 51.48
AREA FILL 101.91

147+00.00

CUT VOLUME 82
FILL VOLUME 130

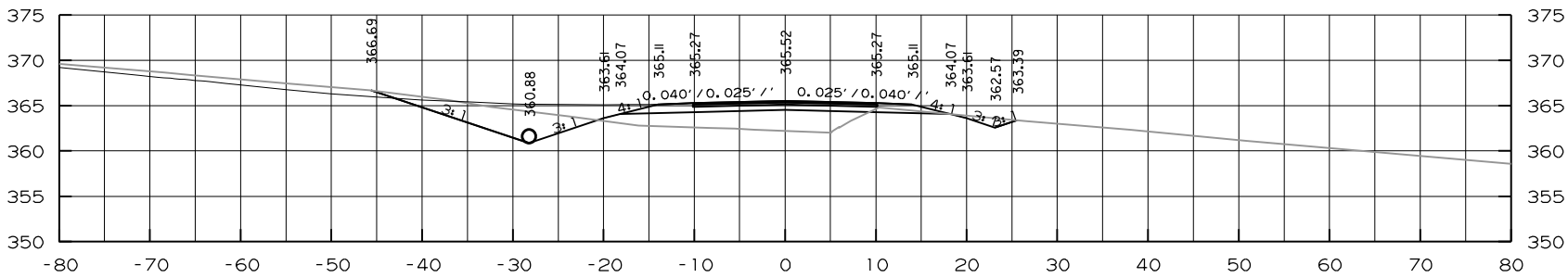


STA. 146+54
INSTALL SIDE DRAIN ON LT.
18" X 38' PIPE CULVERT
CONSTRUCT APPROACH =
75 CU. YDS. UNCL. EXC.
52 CU. YDS. COMP. EMB.

AREA CUT 45.18
AREA FILL 51.02

146+54.00
DRIVE ON LT.

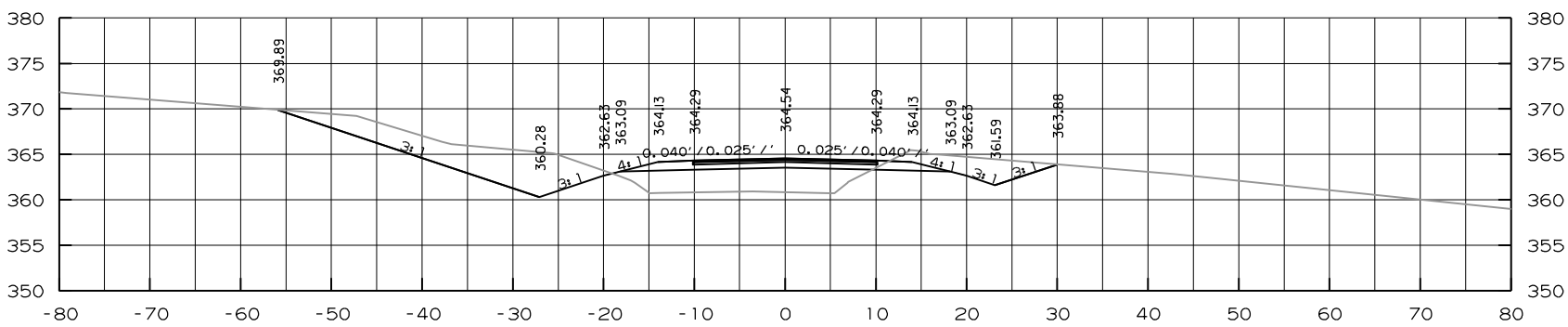
CUT VOLUME 7
FILL VOLUME 7



AREA CUT 49.43
AREA FILL 49.43

146+50.00

CUT VOLUME 162
FILL VOLUME 103



AREA CUT 126.01
AREA FILL 61.96

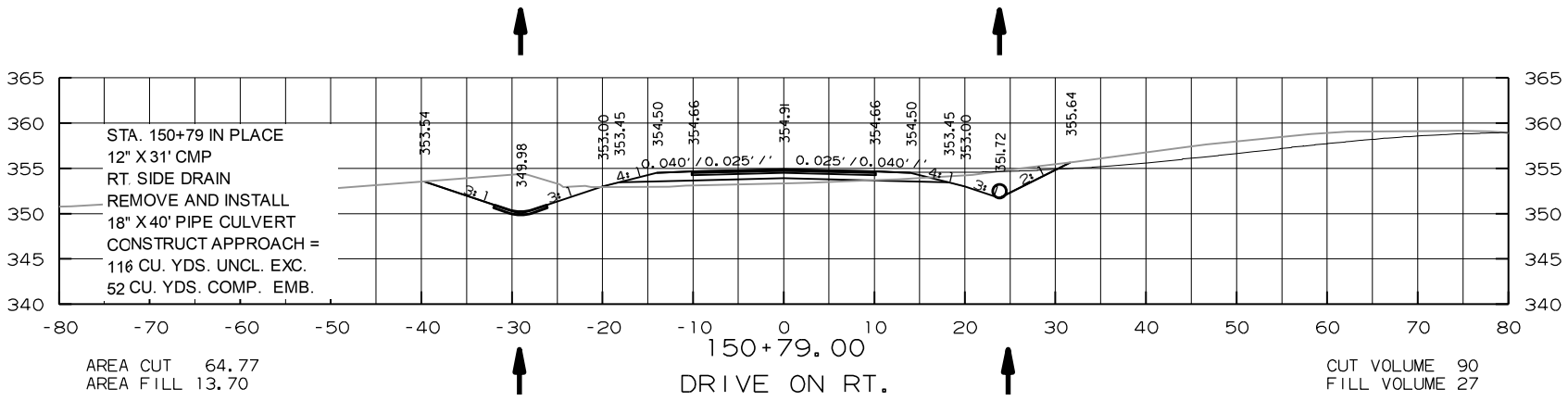
146+00.00

CUT VOLUME 195
FILL VOLUME 148

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

4 CROSS SECTIONS STA. 146+00.00 TO 148+50.00

JOB NO.		FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
	6	ARK.		61	63	
FA1108						



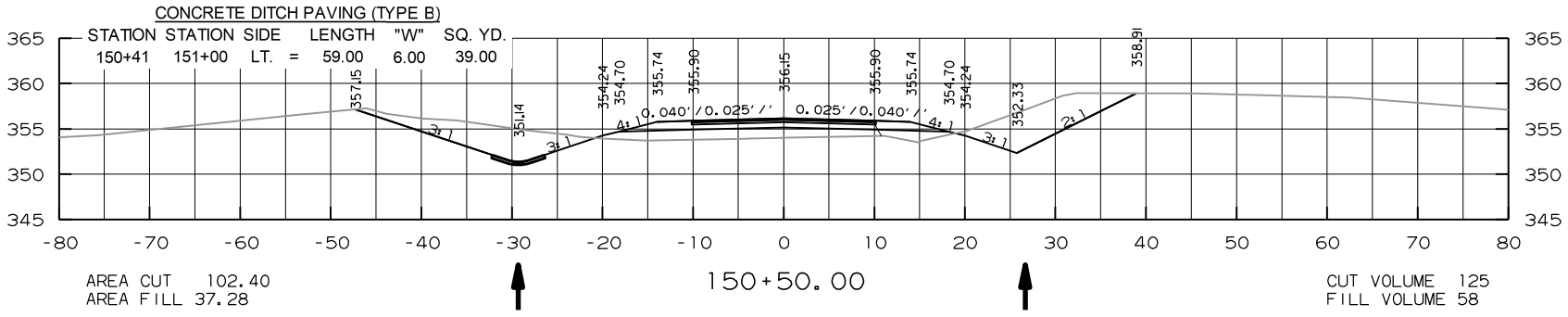
AREA CUT 64.77
AREA FILL 13.70

150+79.00
DRIVE ON RT.

CUT VOLUME 90
FILL VOLUME 27

CONCRETE DITCH PAVING (TYPE B)

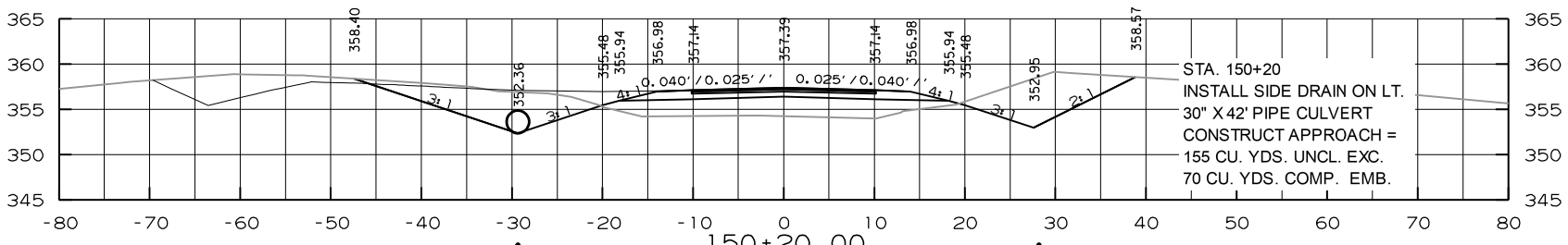
STATION	STATION	SIDE	LENGTH	"W"	SQ. YD.
150+41	151+00	LT. =	59.00	6.00	39.00



AREA CUT 102.40
AREA FILL 37.28

150+50.00

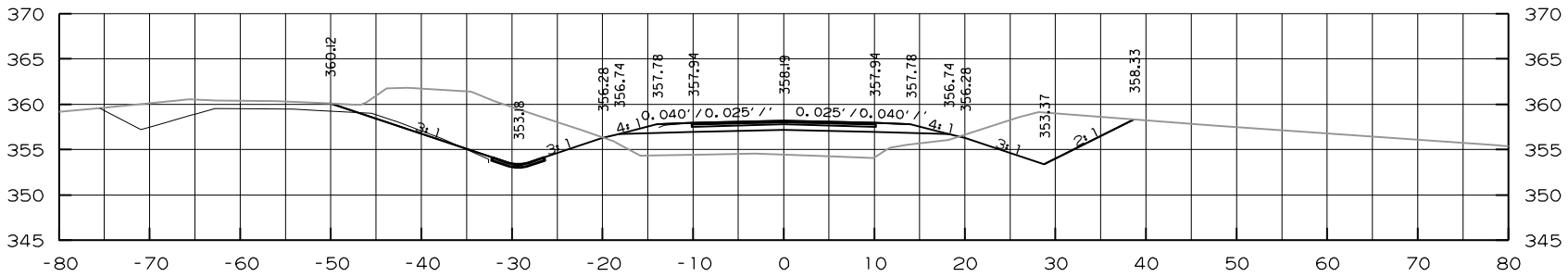
CUT VOLUME 125
FILL VOLUME 58



AREA CUT 122.44
AREA FILL 67.45

150+20.00
DRIVE ON LT.

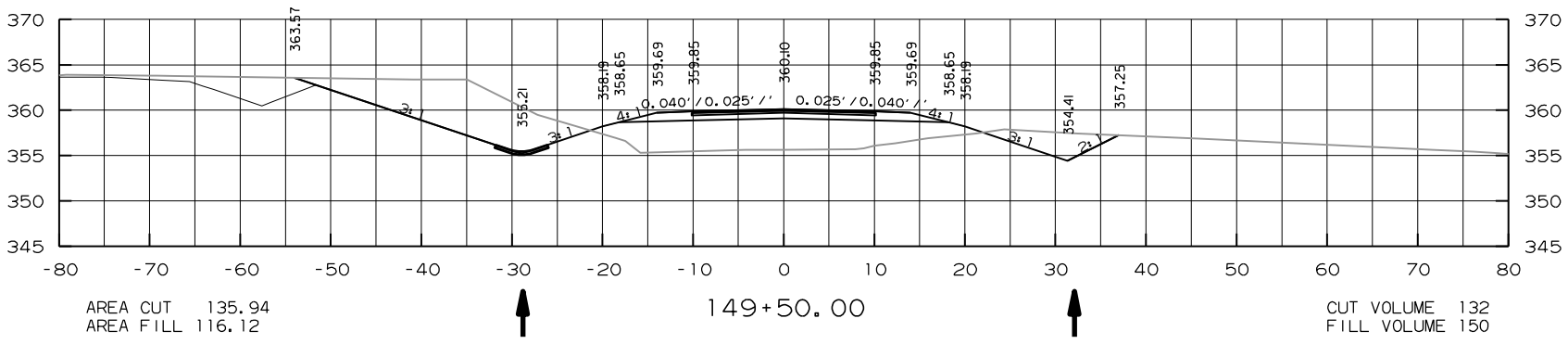
CUT VOLUME 110
FILL VOLUME 57



AREA CUT 175.66
AREA FILL 85.23

150+00.00

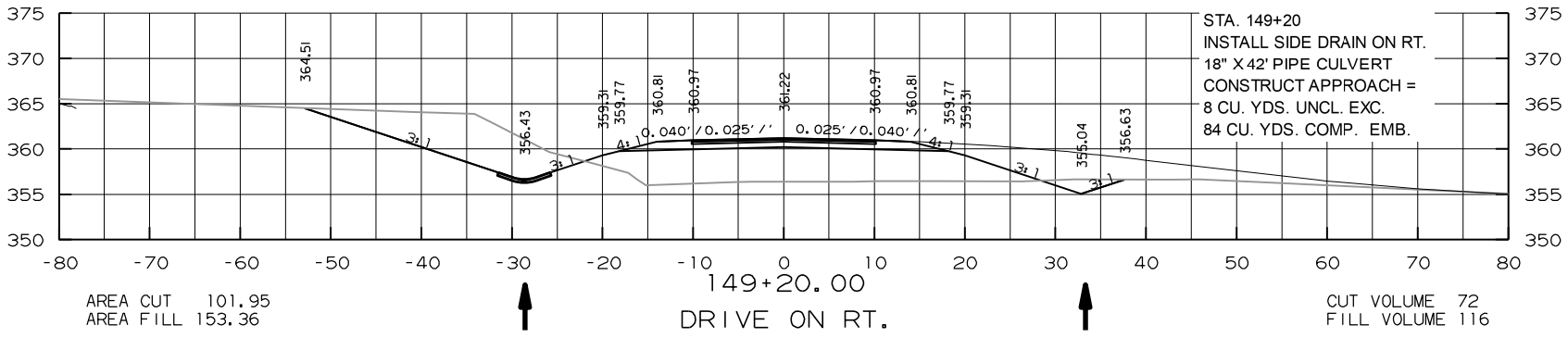
CUT VOLUME 289
FILL VOLUME 186



AREA CUT 135.94
AREA FILL 116.12

149+50.00

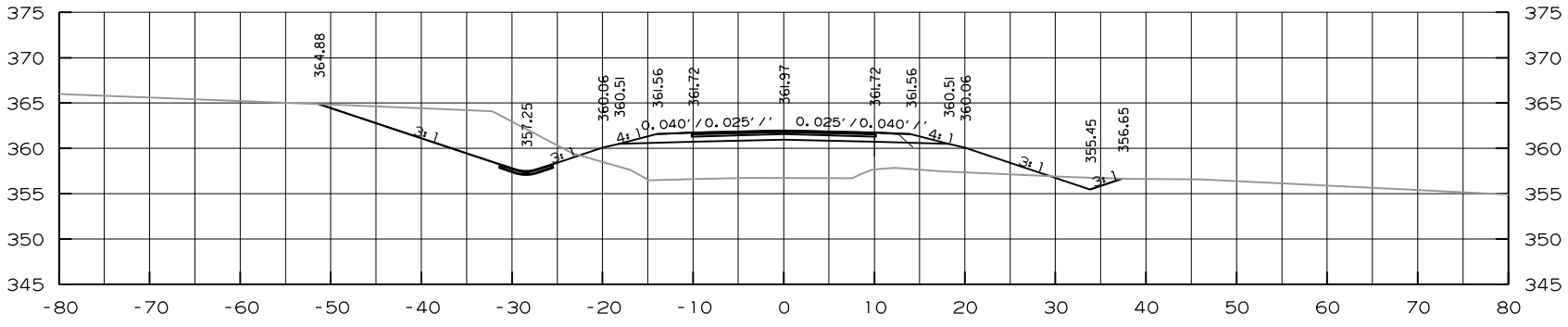
CUT VOLUME 132
FILL VOLUME 150



AREA CUT 101.95
AREA FILL 153.36

149+20.00
DRIVE ON RT.

CUT VOLUME 72
FILL VOLUME 116



AREA CUT 92.50
AREA FILL 160.17

149+00.00

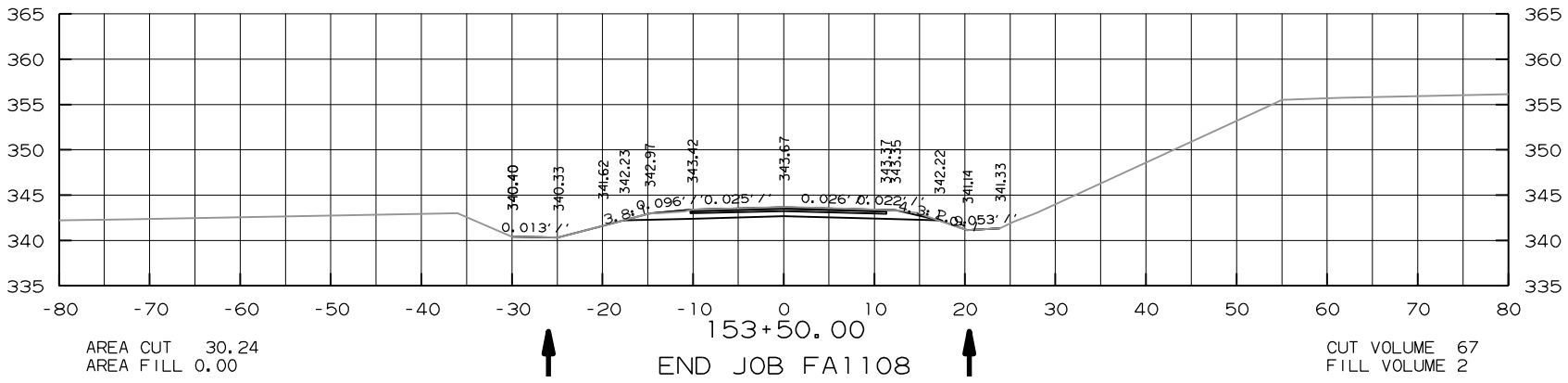
CUT VOLUME 140
FILL VOLUME 333

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

4 CROSS SECTIONS STA. 149+00.00 TO 150+79.00

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	FA1108	62	63

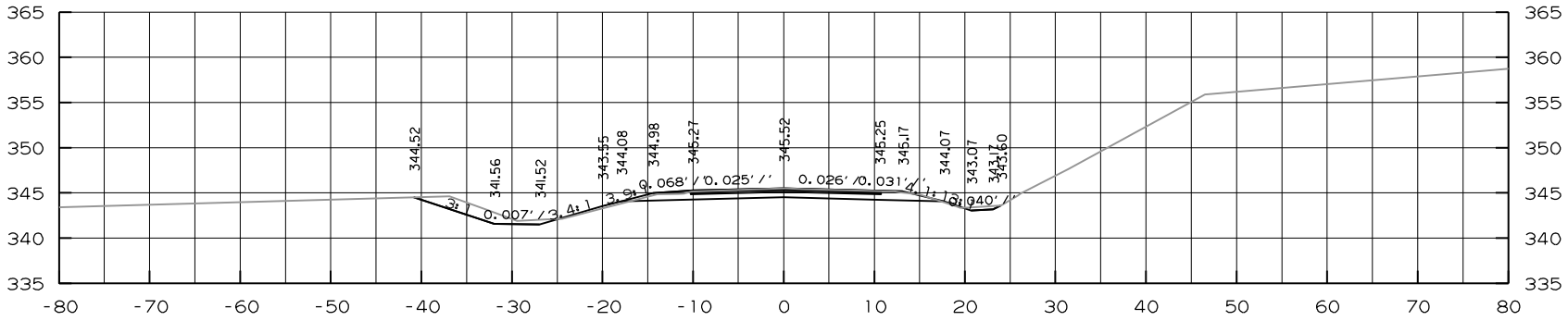
JOB NO.



AREA CUT 30.24
AREA FILL 0.00

153+50.00
END JOB FA1108

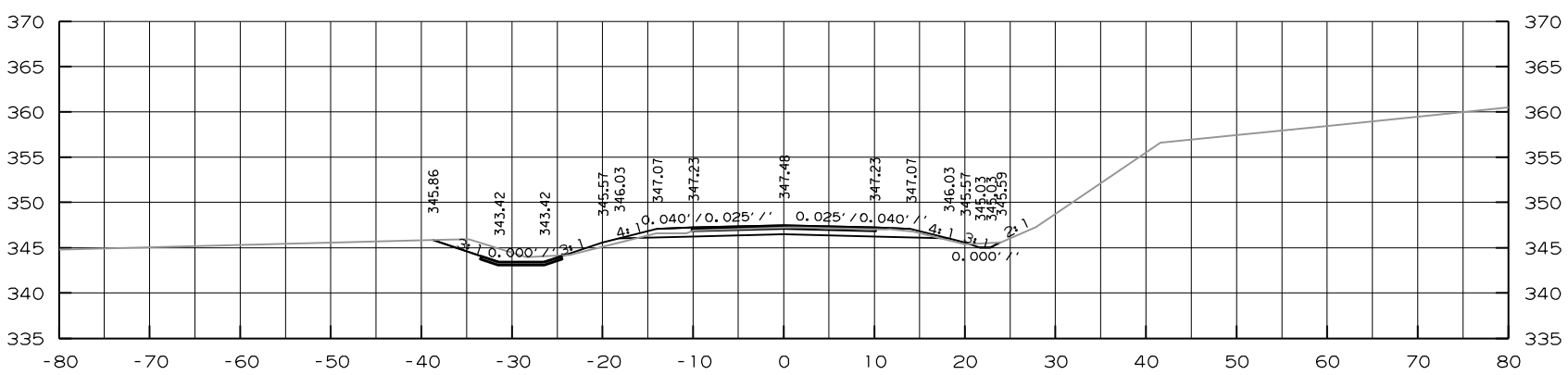
CUT VOLUME 67
FILL VOLUME 2



AREA CUT 41.96
AREA FILL 1.78

153+00.00

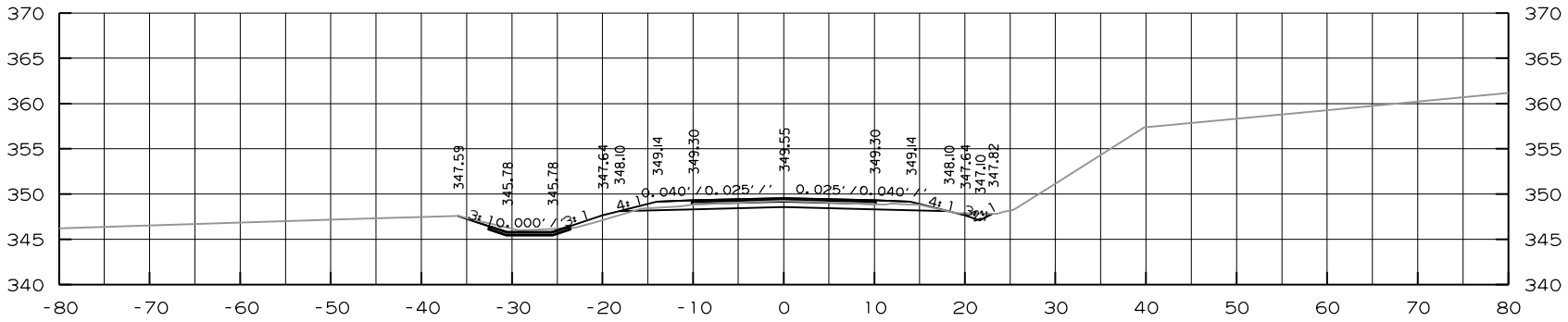
CUT VOLUME 72
FILL VOLUME 4



AREA CUT 35.34
AREA FILL 2.92

152+50.00

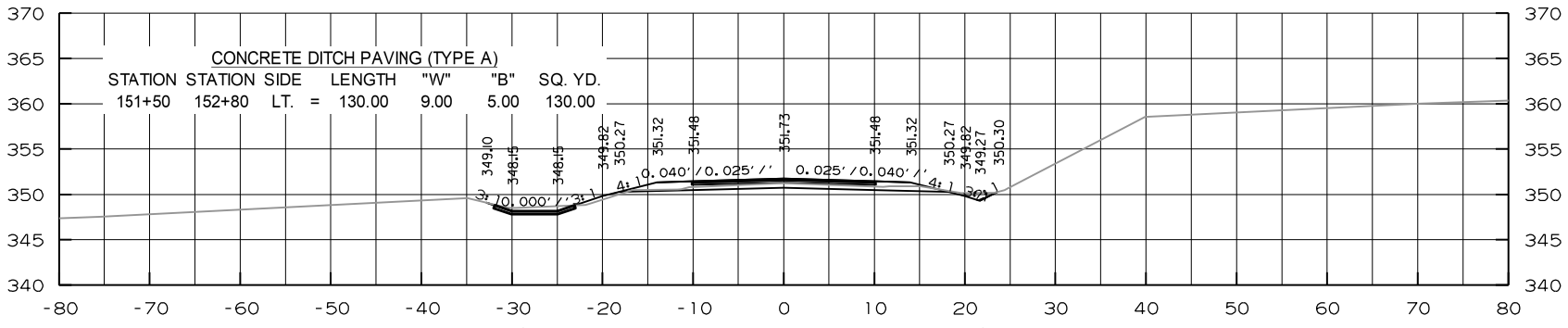
CUT VOLUME 54
FILL VOLUME 5



AREA CUT 23.12
AREA FILL 2.74

152+00.00

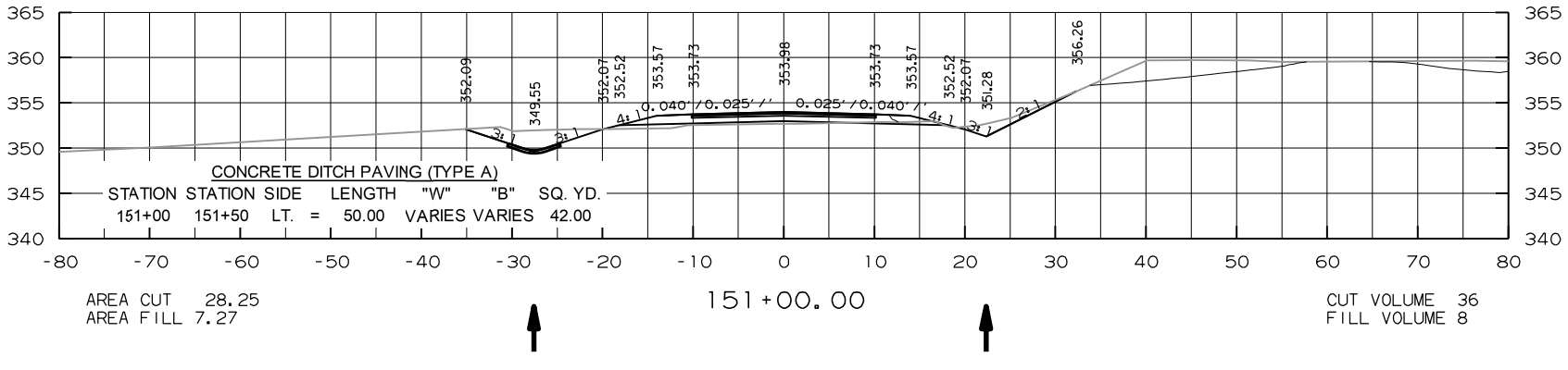
CUT VOLUME 39
FILL VOLUME 4



AREA CUT 18.71
AREA FILL 1.69

151+50.00

CUT VOLUME 43
FILL VOLUME 8



AREA CUT 28.25
AREA FILL 7.27

151+00.00

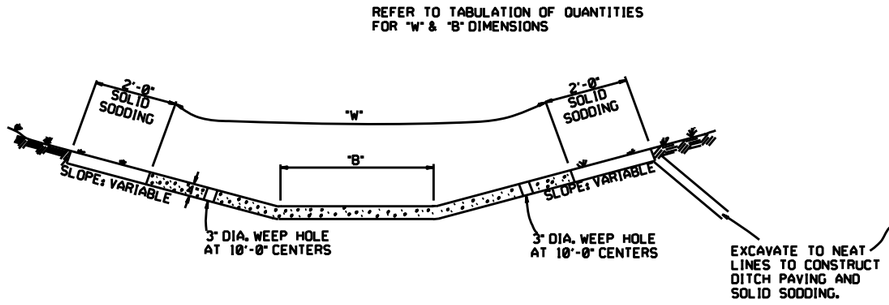
CUT VOLUME 36
FILL VOLUME 8

DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED

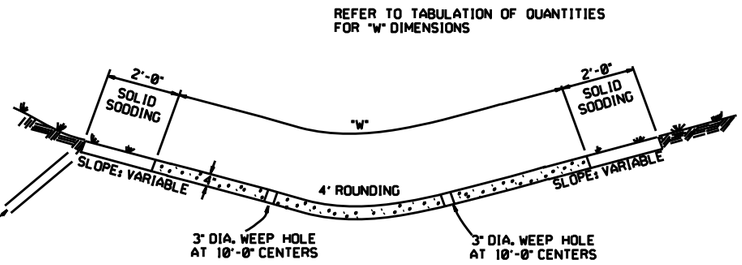
4 CROSS SECTIONS STA. 151+00.00 TO 153+50.00

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	FA1108	63	63

JOB NO.

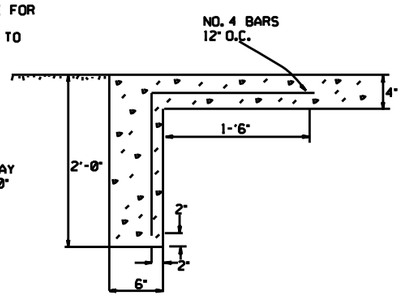


TYPE A



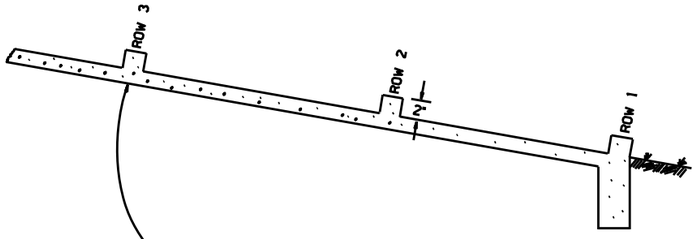
TYPE B

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

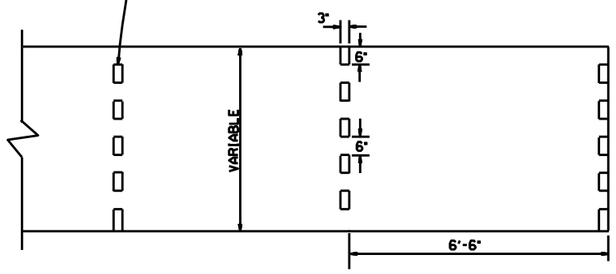


TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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.

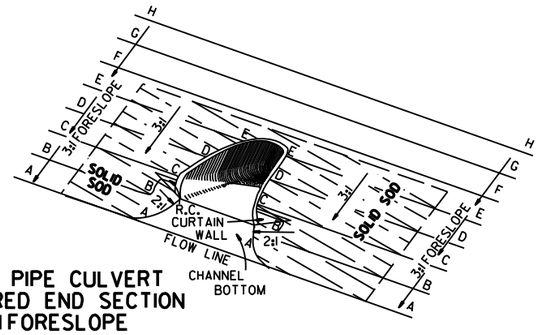
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
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.	595-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

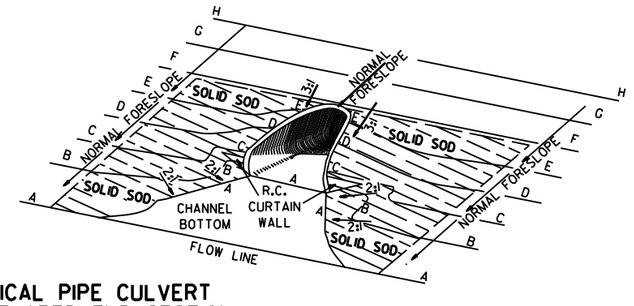
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

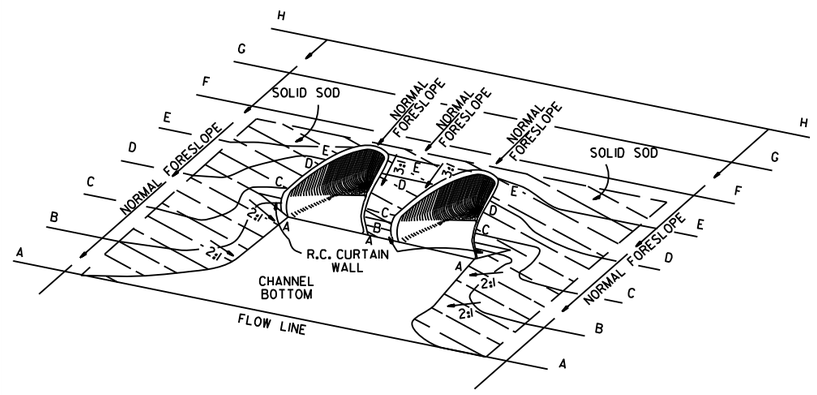
STANDARD DRAWING CDP-1



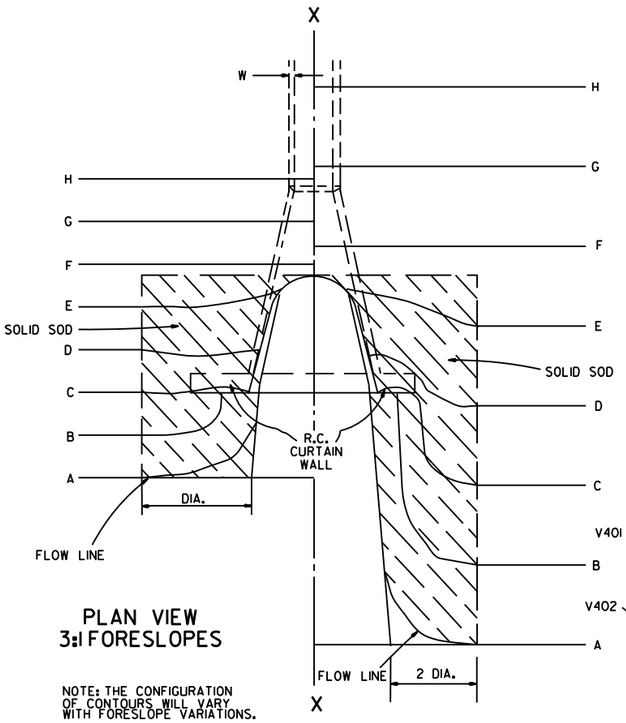
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



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

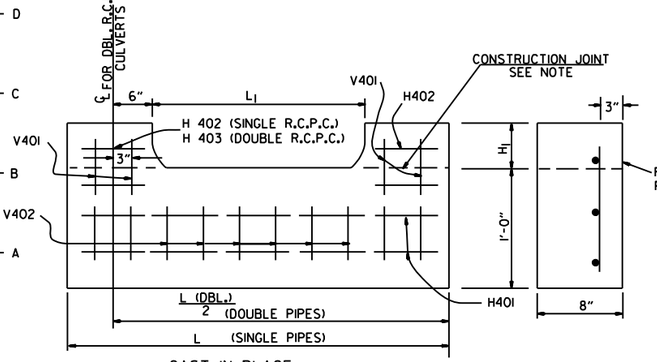
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

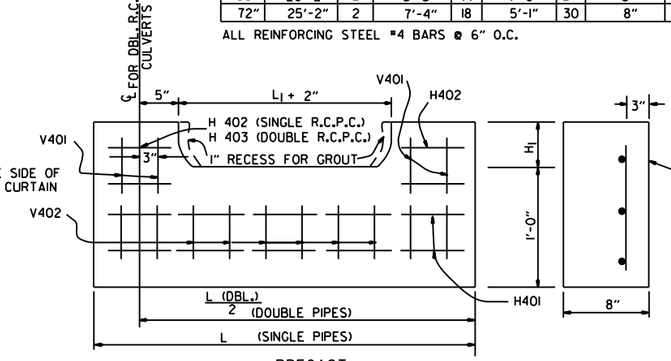
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	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'-9½"	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.



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.

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

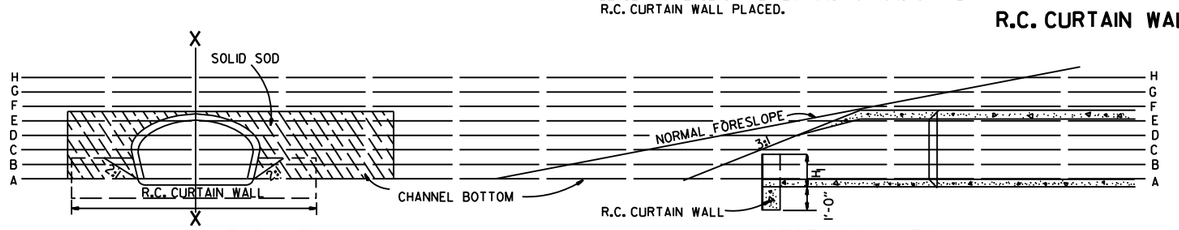
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
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 W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

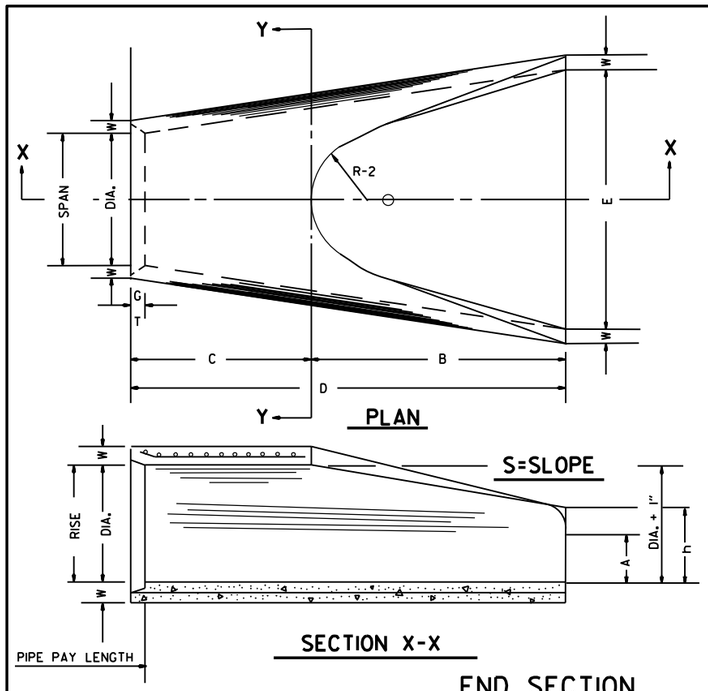
SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	
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	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

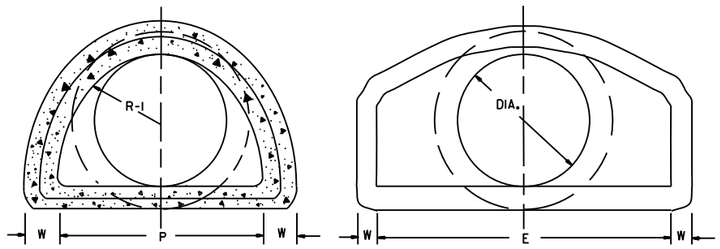
STANDARD DRAWING FES-1



END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4 5/16"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47 1/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/8"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 15/16"	24"	5"	13250	4'-6"

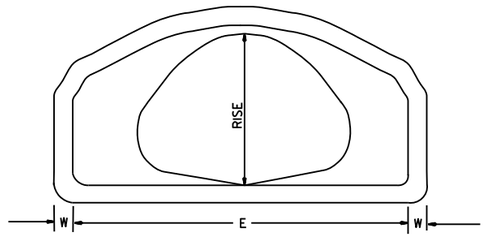


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

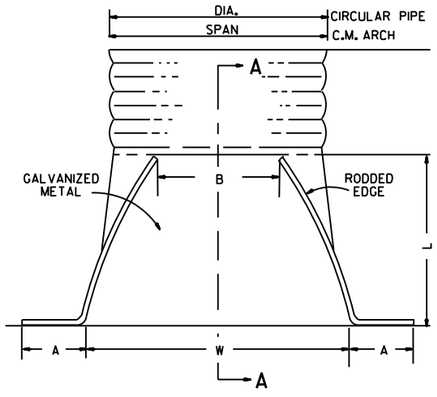
ARCH PIPE

EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 1/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/16"	24"	5"	2¼:1

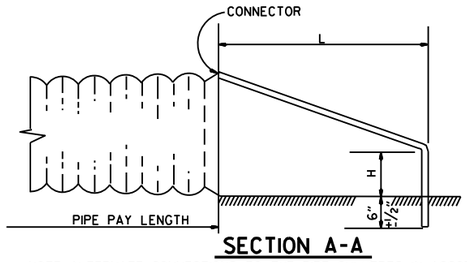
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



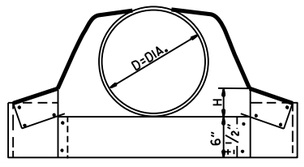
END VIEW
CONCRETE ARCH PIPE



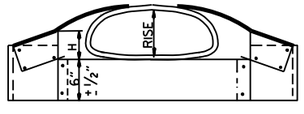
PLAN



SECTION A-A



CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

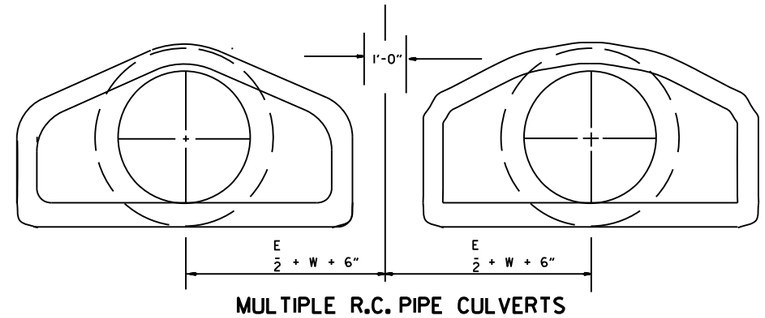
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

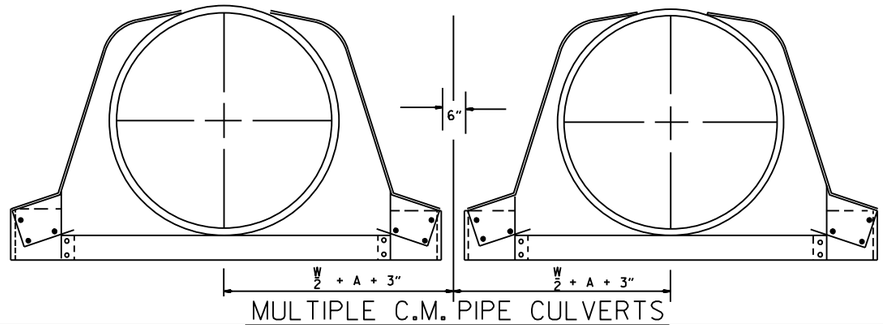
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	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



MULTIPLE R.C. PIPE CULVERTS



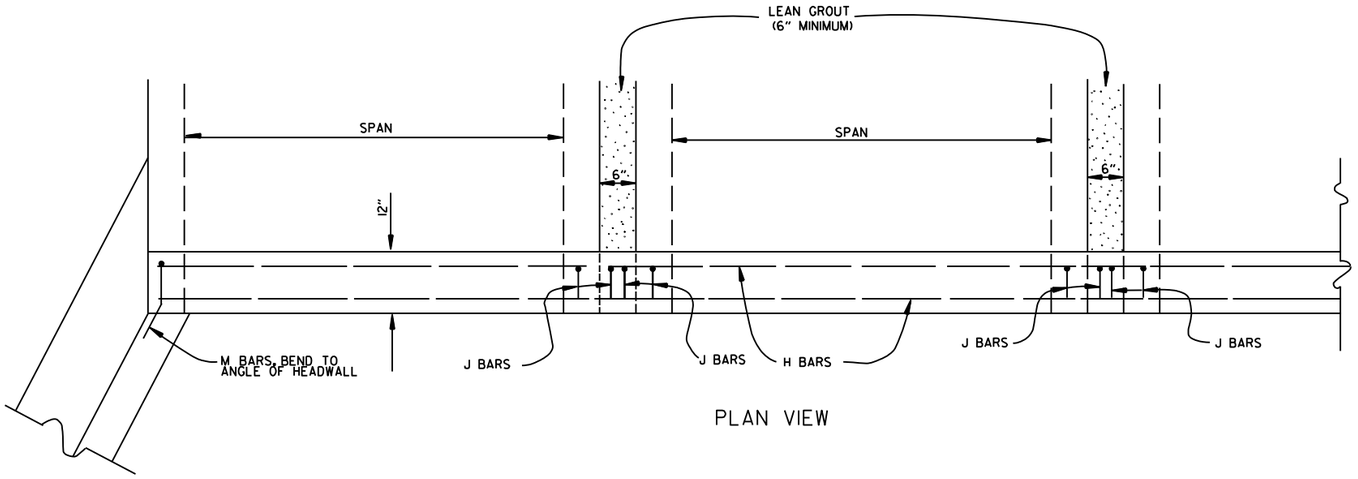
MULTIPLE C.M. PIPE CULVERTS

DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	
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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

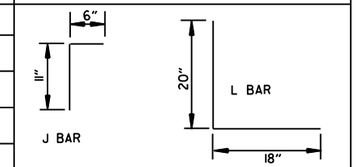
STANDARD DRAWING FES-2



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

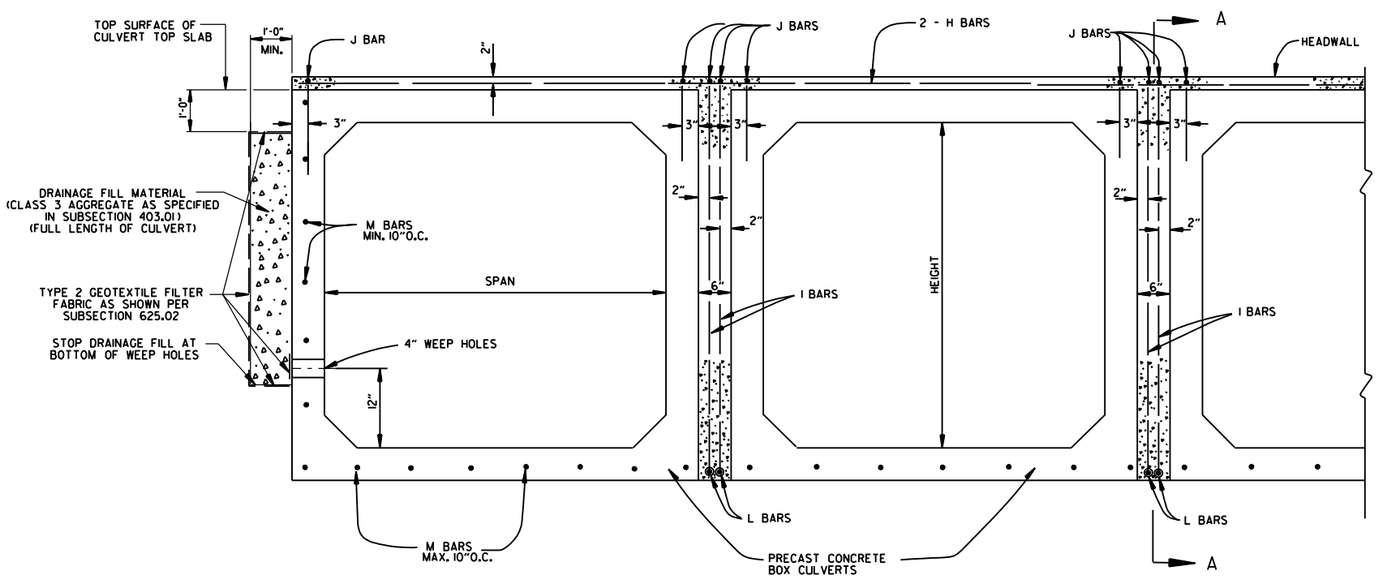
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

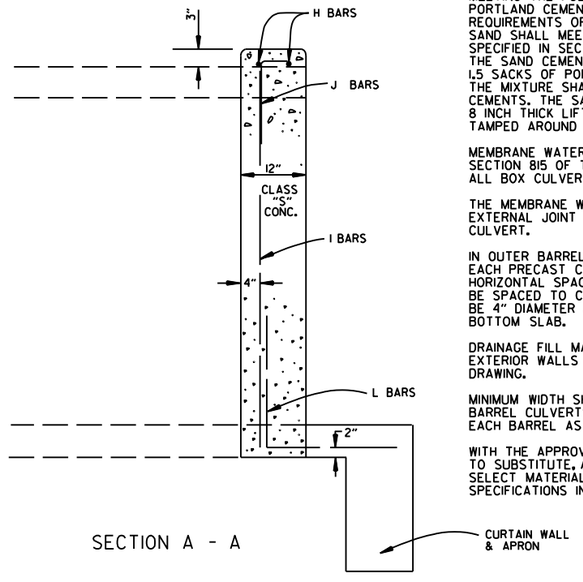
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED: JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT 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	43⅜	44	26⅝	27
42	51⅛	51	31⅝	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	87⅛	87
120	154	154	96⅞	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.

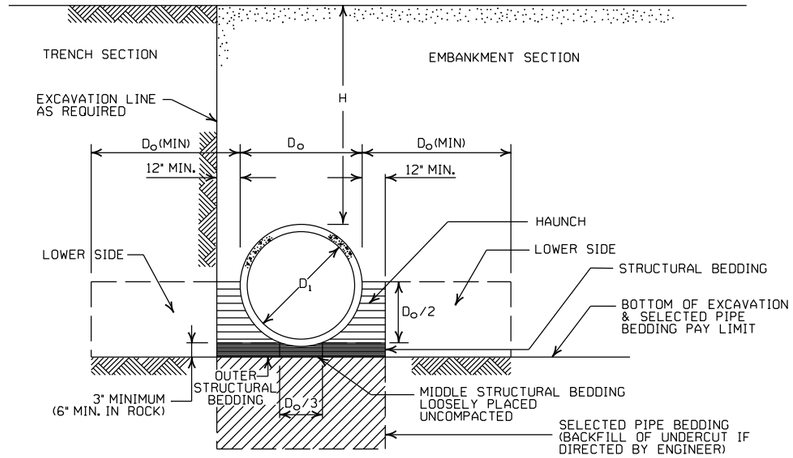
- LEGEND -

D_1 = 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.

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

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

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

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

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	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.

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 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.

GENERAL NOTES

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

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM 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
		2⅔ INCH BY ½ 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

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM 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 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	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

CONSTRUCTION SEQUENCE

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

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

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

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

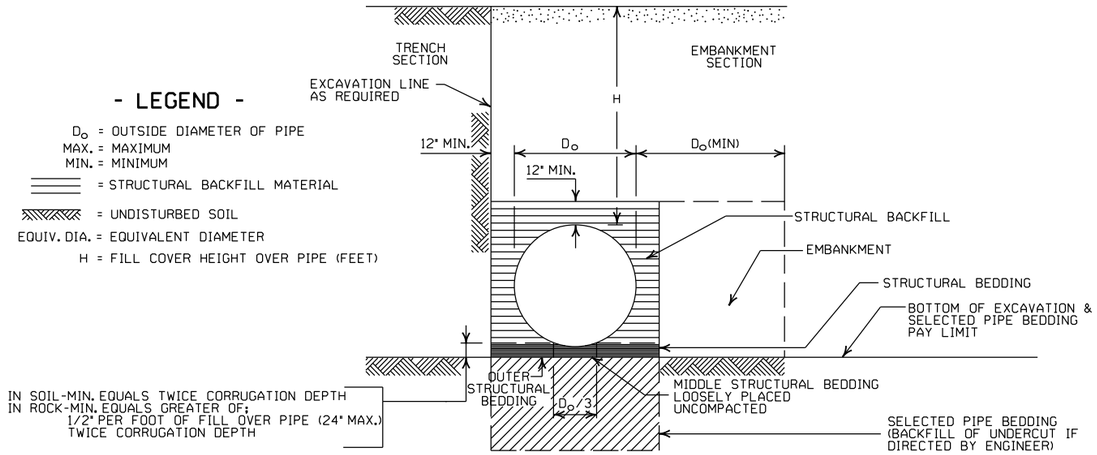
METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM 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 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ⅔ INCH BY ½ 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	3½	0.079	3	12		0.105	3	12	
42	49x33	4	0.079	3	12		0.105	3	12	
48	57x38	5	0.109	3	13		0.135	3	13	
54	64x43	6	0.109	3	14		0.135	3	14	
60	71x47	7	0.138	3	15		0.164	3	15	
66	77x52	8	0.168	3	15					
72	83x57	9	0.168	3	15					
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

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

② WHERE THE STANDARD 2 2/3"x ½" 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.



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. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" 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 DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

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

SM3 WILL NOT BE ALLOWED.

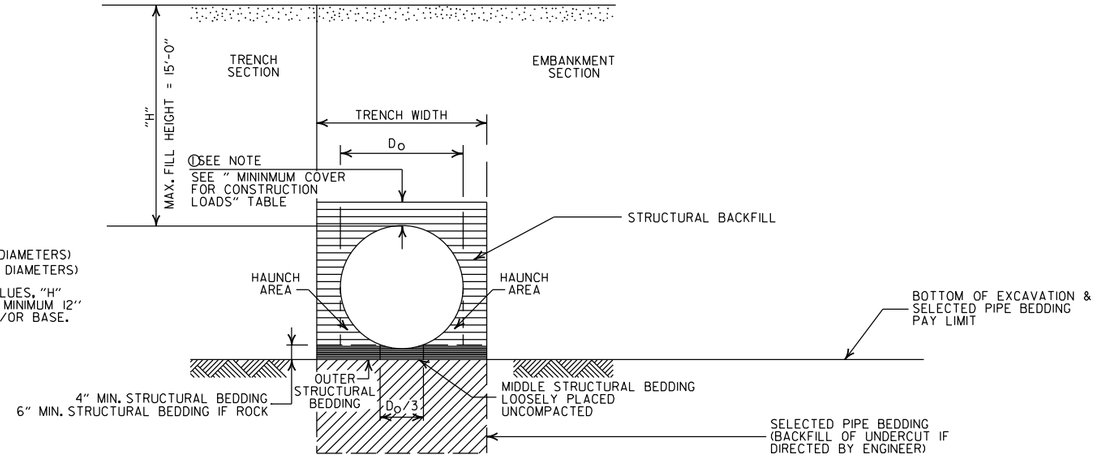
•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

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

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

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

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

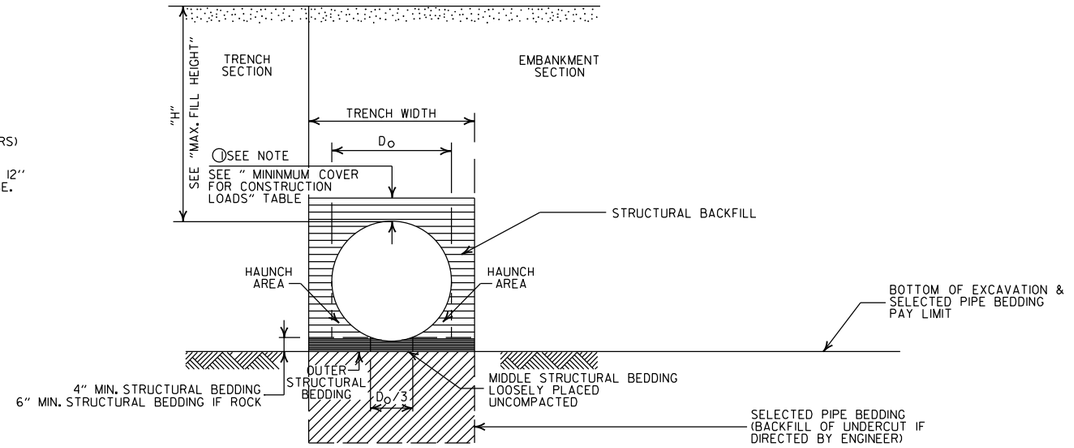
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

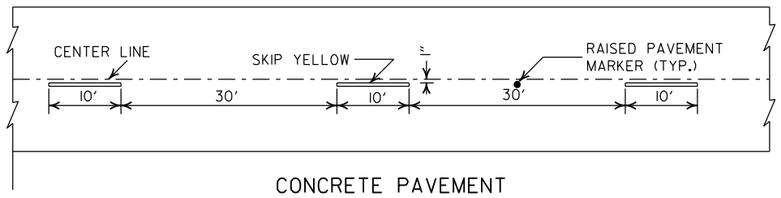
= UNDISTURBED SOIL

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

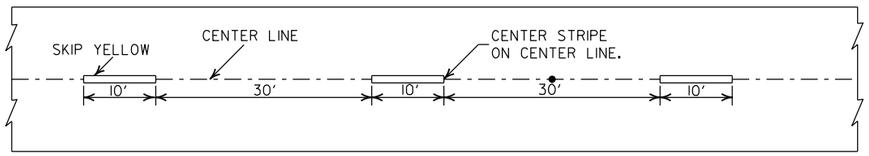
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT
(PVC F949)

STANDARD DRAWING PCP-2

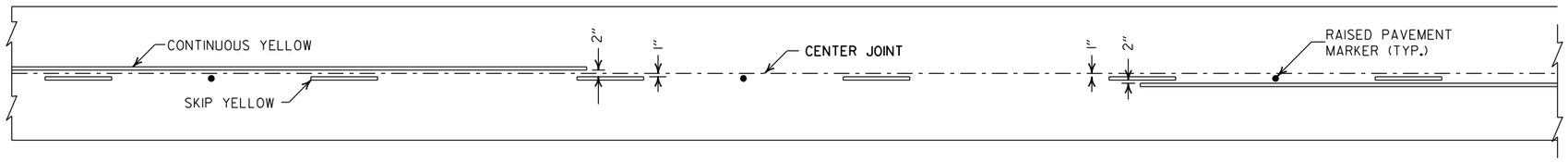


CONCRETE PAVEMENT

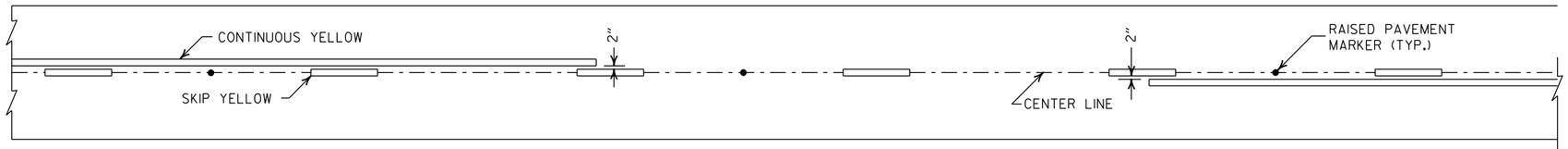


ASPHALT PAVEMENT

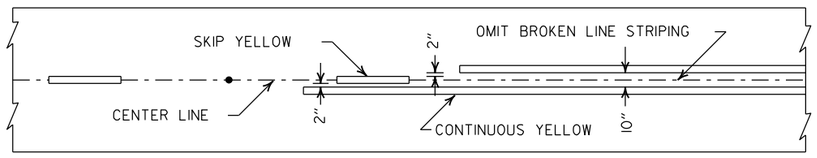
BROKEN LINE STRIPING



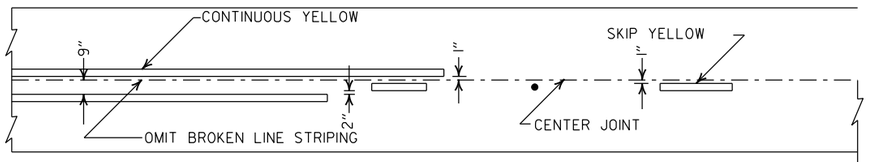
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

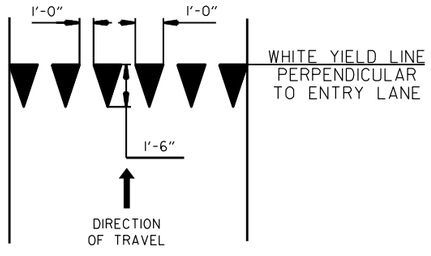


ASPHALT PAVEMENT

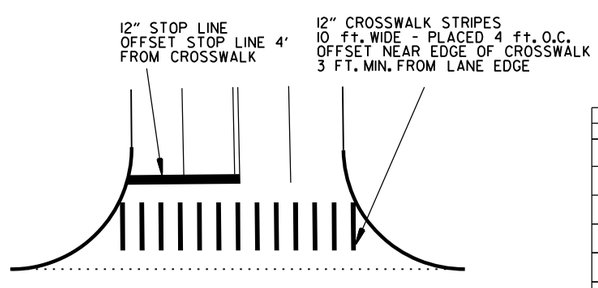


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

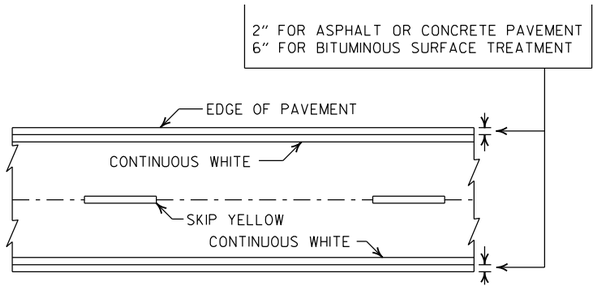


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

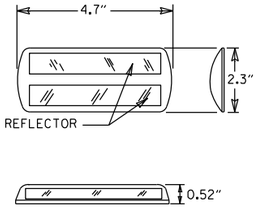
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.



PAVEMENT EDGE LINE MARKING

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

TYPE II RED/CLEAR OR YELLOW/YELLOW



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 ARDOT QUALIFIED PRODUCTS LIST.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	I-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

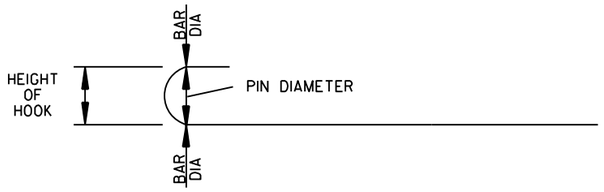
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

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

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

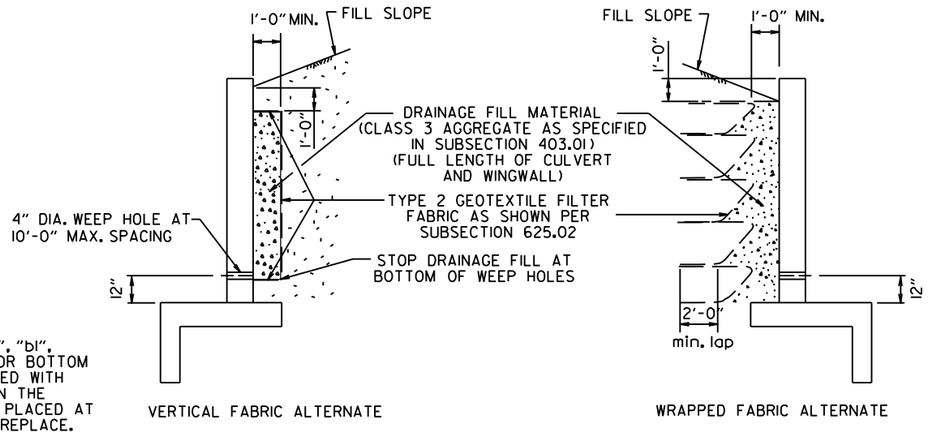
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

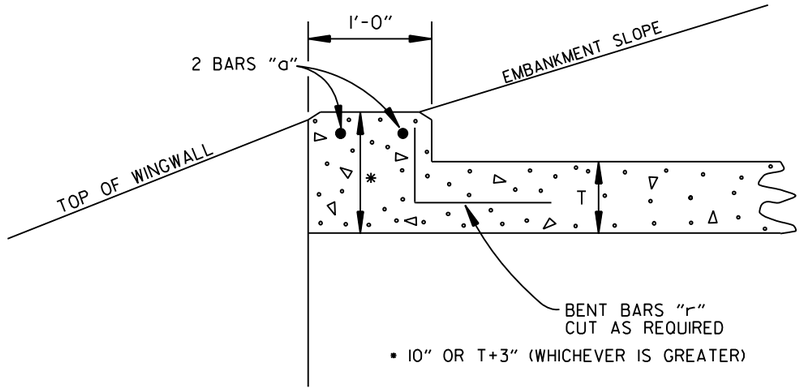
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



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

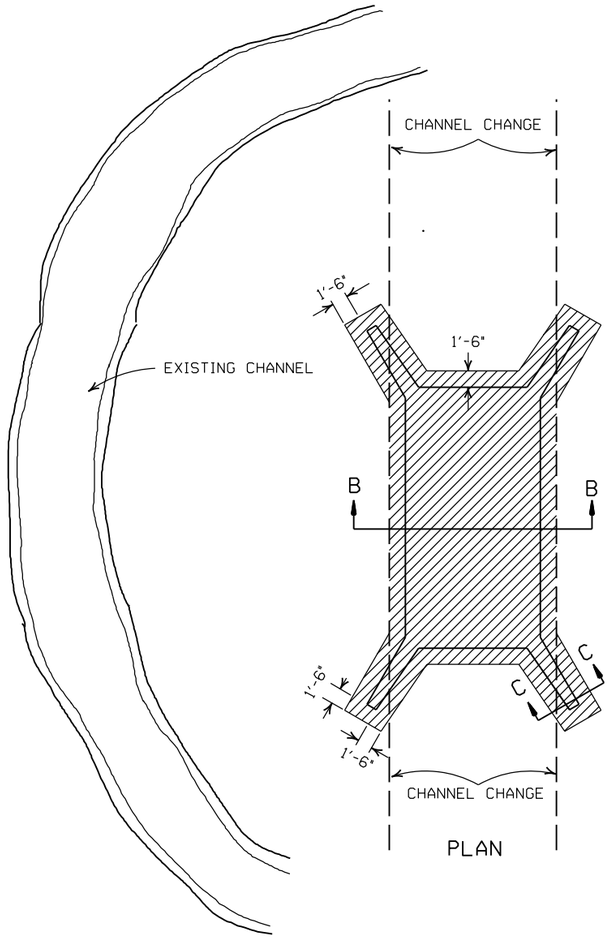
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

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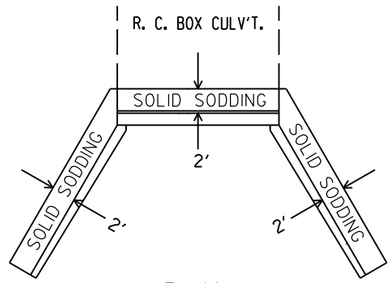
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

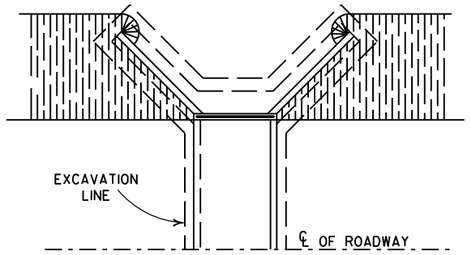
SOLID SODDING



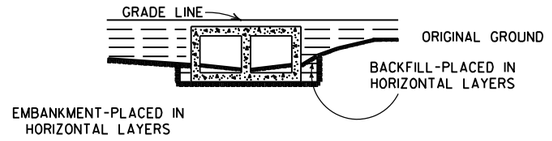
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

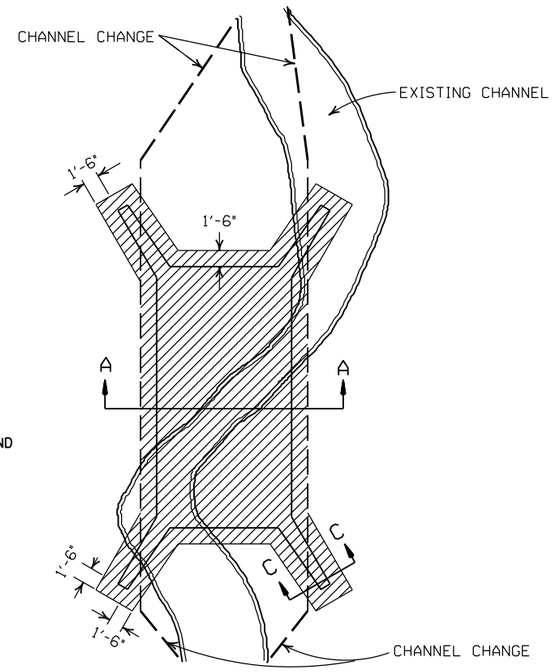


PLAN

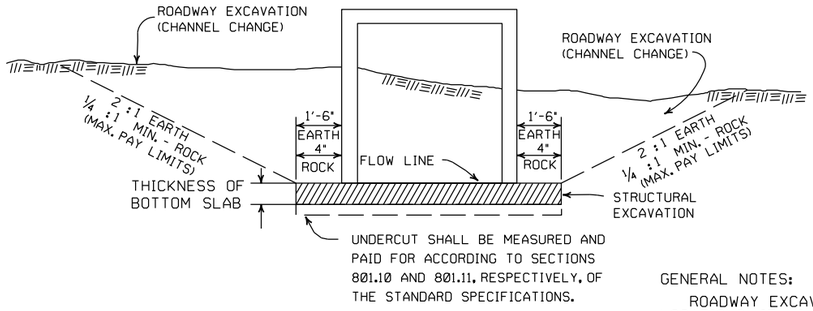


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

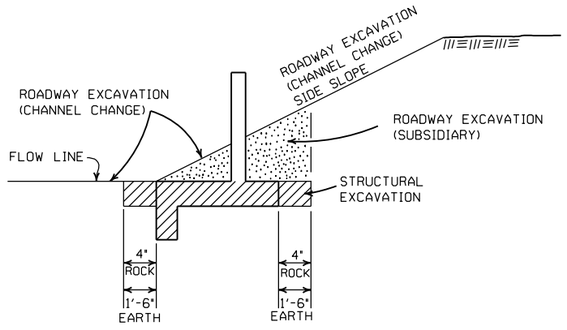


PLAN

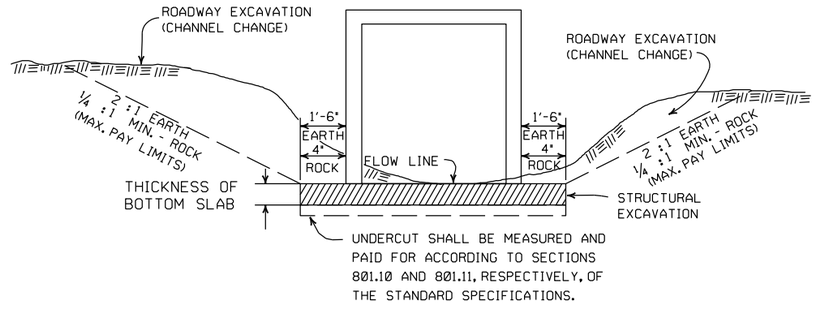


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			NC			RC	96		RC	96		RC	96		0.022	101	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139	300	0.042	149	300
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158		0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168	300	0.056	182		0.062	197	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168	300	0.056	182		0.064	202		0.070	216	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.080	240	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178	300	0.062	197		0.070	216		0.078	235		0.088	259	350
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187		0.068	211		0.076	230	350	0.086	254		0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149	200	0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	400
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187	250	0.068	211		0.078	235		0.088	259		0.098	283	400	D MAX = 2° 45'		
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288				
3° 30'	0.030	90		0.038	113		0.046	139	200	0.056	171		0.066	206		0.076	230		0.086	254		0.096	278	350	D MAX = 3° 30'					
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.098	283							
4° 00'	0.034	97		0.042	121	200	0.052	151		0.062	185		0.072	221		0.084	250		0.094	274	350	0.100	288		D MAX = 4° 15'					
4° 15'	0.036	100		0.044	125		0.054	155		0.064	189		0.076	230		0.086	254		0.096	278										
4° 30'	0.036	100	200	0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283										
4° 45'	0.038	104		0.048	133		0.060	168		0.070	203		0.082	245		0.092	269	350	0.100	288										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		D MAX = 5° 15'										
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221	250	0.088	259		0.098	283												
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.100	288												
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278	300	D MAX = 6° 30'													
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283															
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.100	288															
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257	300	D MAX = 8°25'																
8° 30'	0.060	144		0.072	179		0.086	223	250	0.096	261																		
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266																		
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270																		
10° 00'	0.066	155		0.080	195		0.094	240		D MAX = 10° 30'																			
11° 00'	0.070	162		0.084	203		0.096	244																					
12° 00'	0.074	169		0.088	211	250	0.098	248																					
13° 00'	0.076	173		0.090	215		0.100	252	300																				
14° 00'	0.080	180		0.094	222		D MAX = 13° 45'																						
15° 00'	0.082	184		0.096	226																								
16° 00'	0.086	191		0.098	230																								
17° 00'	0.088	194		0.100	234																								
18° 00'	0.090	198	250	D MAX = 19° 30'																									
19° 00'	0.092	202																											
20° 00'	0.094	205																											
21° 00'	0.096	209																											
22° 00'	0.096	209																											
23° 00'	0.098	212																											
24° 00'	0.098	212																											
25° 00'	0.100	216																											
D MAX = 28° 30'																													

ABBREVIATIONS

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

GENERAL NOTES

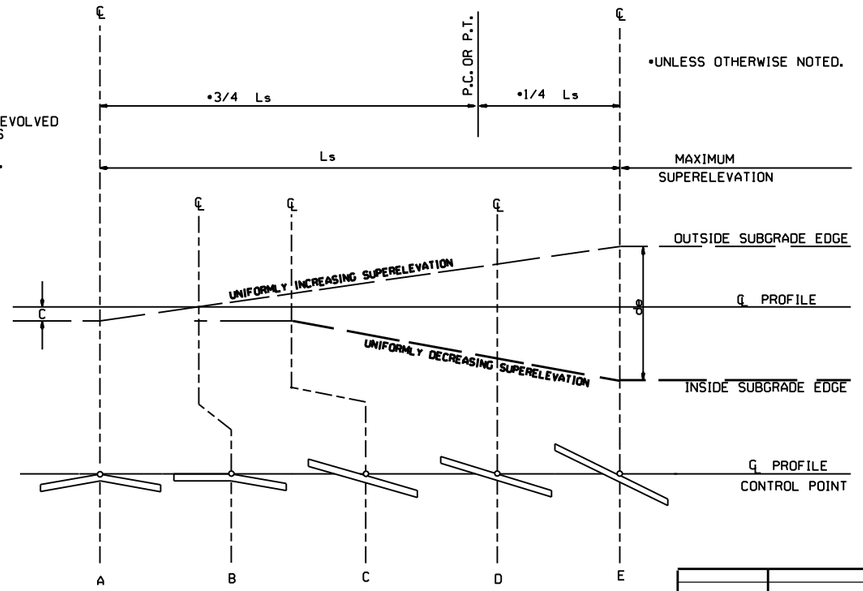
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED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

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

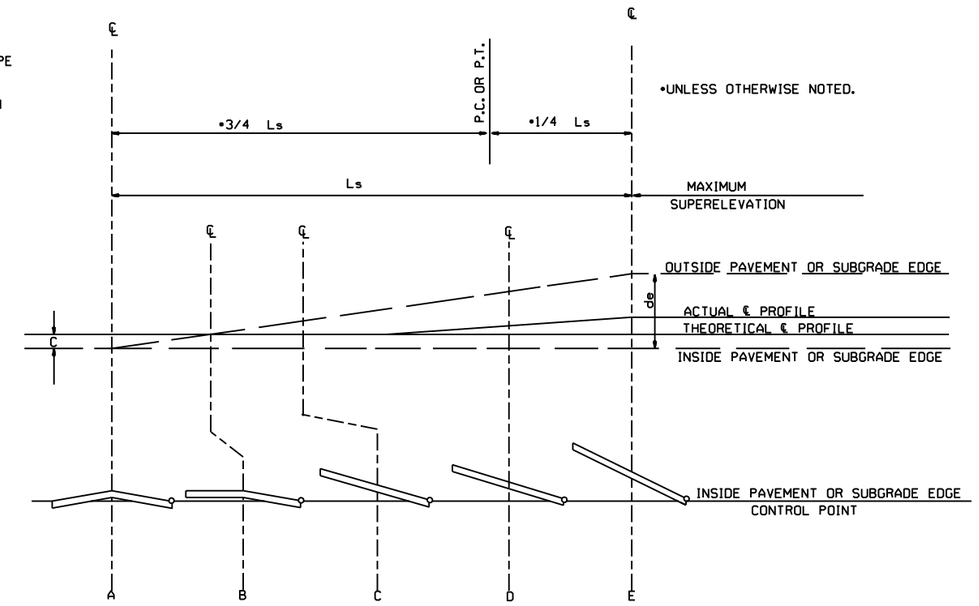
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

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



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.

DATE	REVISION	DATE FILLMED
11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

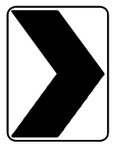
STANDARD DRAWING SE-2



R1-1
30"X30"



W1-3
30"X30"
(LT. OR RT.)



W1-8
18"X24"



W2-5
30"X30"



W3-1
36"X36"



W5-1
36"X36"



M6-3
21"X15"



R1-2
36"X36"X36"



W1-4
30"X30"
(LT. or RT.)



W2-1
30"X30"



S1-1
36"X36"

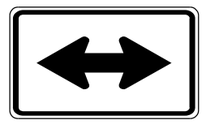


W3-2
36"X36"



County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.



M6-4
21"X15"



R2-1
24"X30"



W1-5
30"X30"
(LT. or RT.)



W2-2
30"X30"



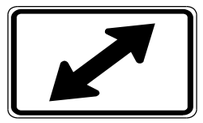
W5-2
36"X36"



W8-3
36"X36"



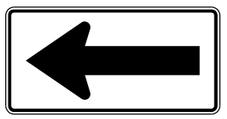
R1-3P
18"X6"



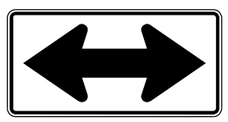
M6-5
21"X15"



W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"



W1-7
48"X24"



W1-2
30"X30"
(LT. or RT.)



W2-3
30"X30"
(LT. or RT.)



W2-4
30"X30"



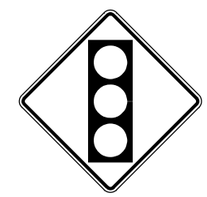
W5-3
36"X36"



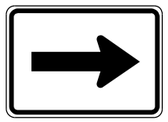
W10-1
36" DIAMETER



W13-1P
18"X18"

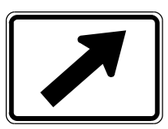


W3-3
36"X36"

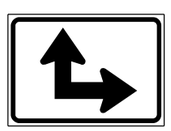


M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.



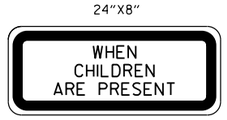
M6-2
21"X15"



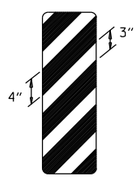
M6-6
21"X15"



S4-3P
24"X8"



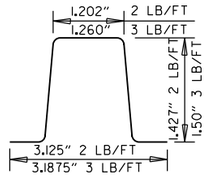
S4-2P
24"X10"



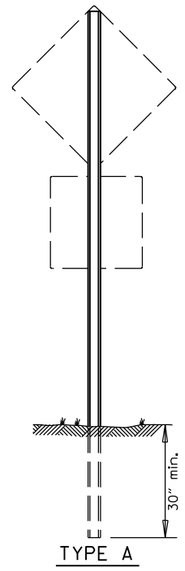
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

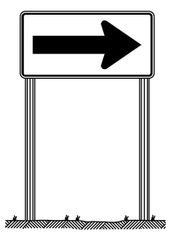


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES

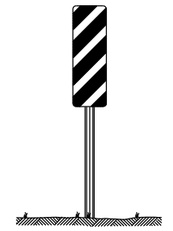


TYPE A

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



TYPE B



TYPE C

MINIMUM WEIGHT

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

STANDARD HIGHWAY SIGNS

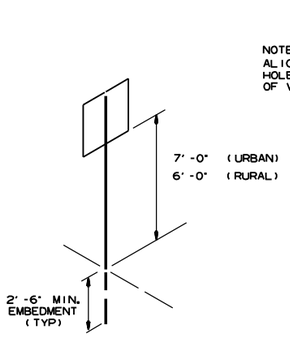
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED WI-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED WI4-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

SUPPORT ASSEMBLIES

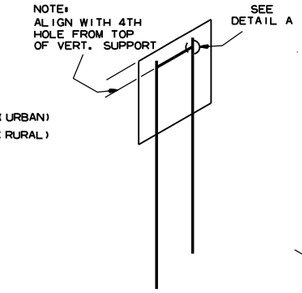
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

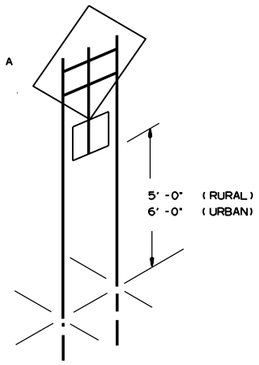
STANDARD DRAWING SHS-1



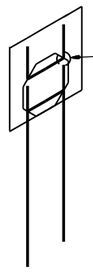
U-1



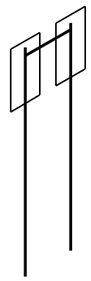
U-2



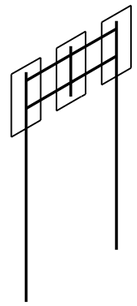
U-2 (A)



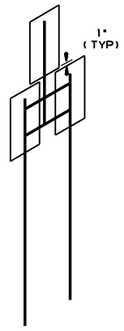
U-2 (B)



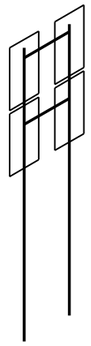
U-2 (1)



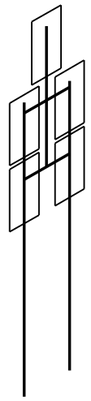
U-2 (2)



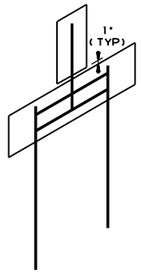
U-2 (3)



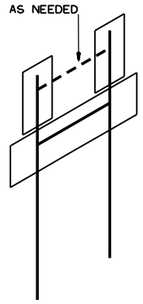
U-2 (4)



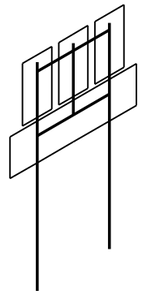
U-2 (5)



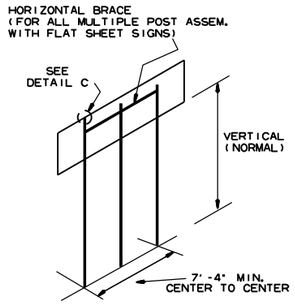
U-2 (6)



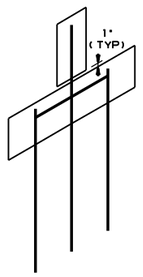
U-2 (7)



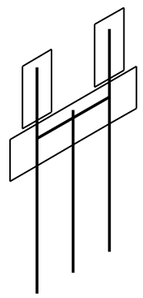
U-2 (8)



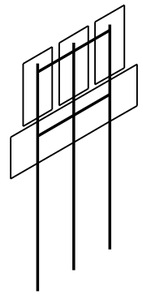
U-3



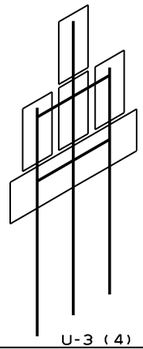
U-3 (1)



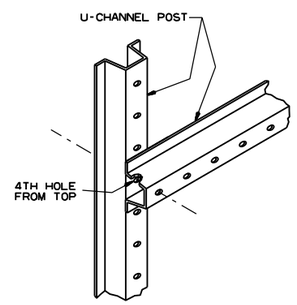
U-3 (2)



U-3 (3)

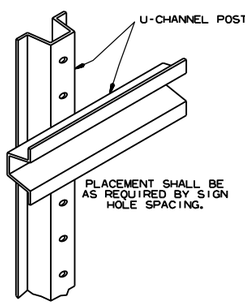


U-3 (4)



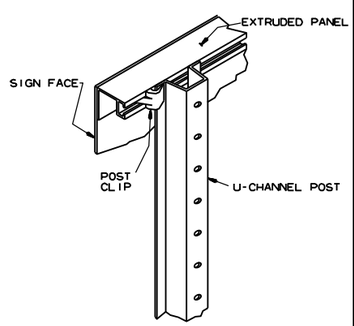
DETAIL A

SHOWING HORIZONTAL BRACE



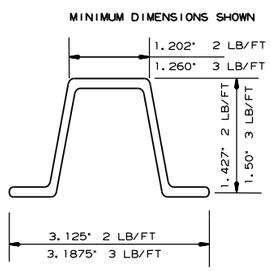
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



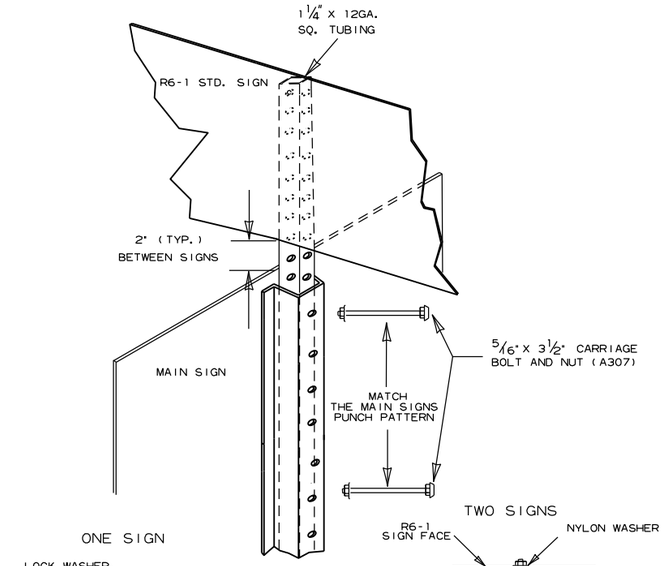
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



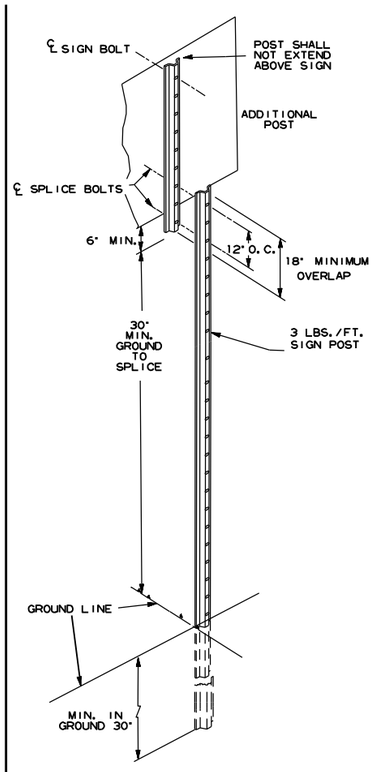
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

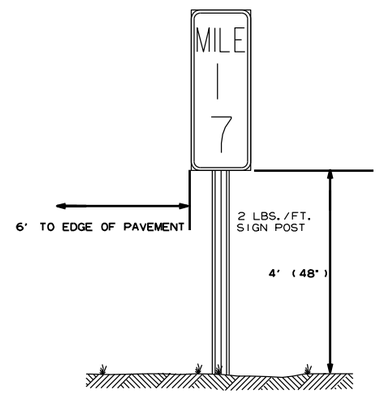
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

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

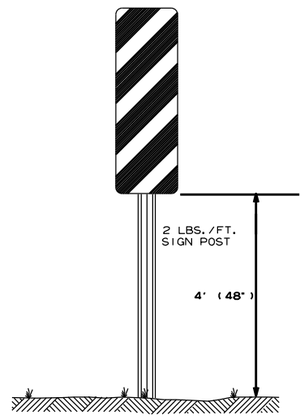
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

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



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

DATE	REVISION	FILMED
7-25-19	REVISED CARRIAGE BOLT WITH MATERIAL REQUIREMENT	
2-27-14	REVISED NOTES.	
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

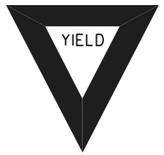
STANDARD DRAWING SHS-2

R1-1



STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-6aP



48"X36"

*USE 6" C LETTERS
**USE 4" D LETTERS

R5-1



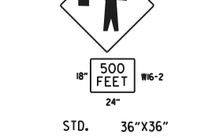
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



48"X30"

RII-3A



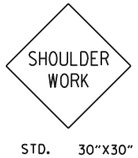
60"X30"

RII-4



60"X30"

W21-5a



STD. 36"X36"
FWY. 48"X48"

WI-1



STD. 36"X36"
FWY. 48"X48"

WI-2



STD. 36"X36"
FWY. 48"X48"

R2-11

36"X48"

WI-3



STD. 48"X48"

WI-4



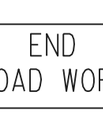
STD. 48"X48"

WI-6



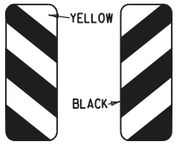
STD. 48"X24"
SPECIAL 60"X30"

WI-8



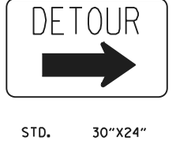
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

R56-1

STD. 18"X18"

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"

WI3-1

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

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"

WI-4b

STD. 48"X48"

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"

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. R2-6aP PLAQUES SHALL BE MOUNTED BELOW AN APPLICABLE ADVANCE WARNING SIGN THAT IS LOCATED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE PLAQUE SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE W3-5 "REDUCED SPEED AHEAD" SIGN. R2-11 SIGNS SHALL BE INSTALLED AT OR NEAR THE DOWNSTREAM END OF THE WORK ZONE. SEE STANDARD DRAWINGS TC-2, TC-3, AND TC-6 FOR TYPICAL PLACEMENT LOCATIONS.

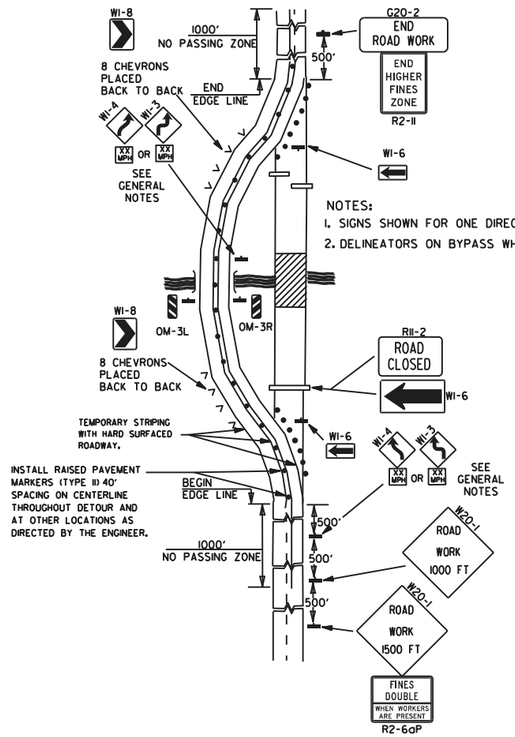
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

DATE REV	DESCRIPTION
08-14-25	REPLACED R55-1 WITH R2-6aP, ADDED R2-11 & REVISED NOTE 10
11-07-19	REVISED FOR MASH
04-13-17	DELETED RSP-1 & ADDED W21-5a
09-02-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES
12-15-11	REVISED W24-1

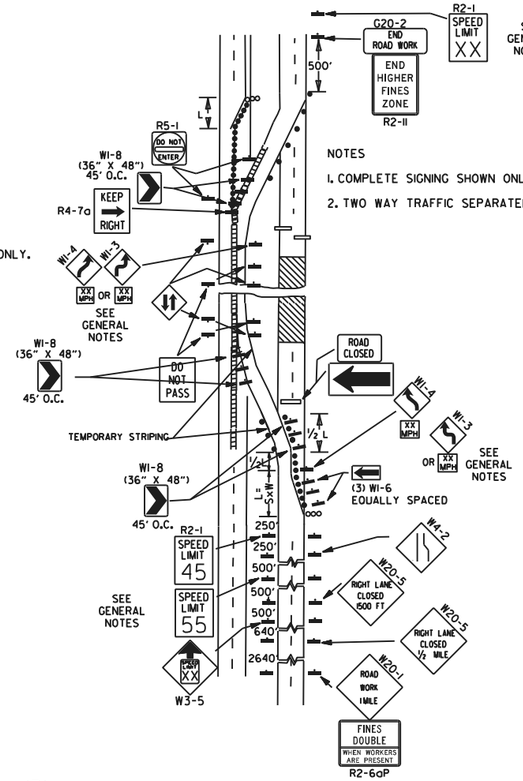
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

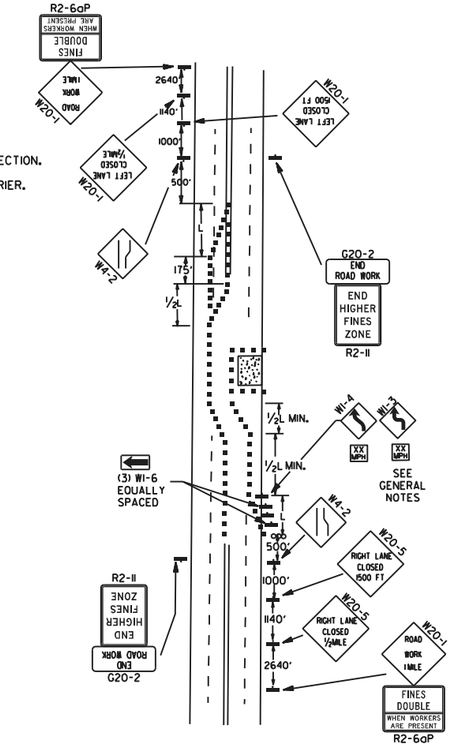
DATE EFFECTIVE	STANDARD DRAWING	TC-1
08-14-2025		



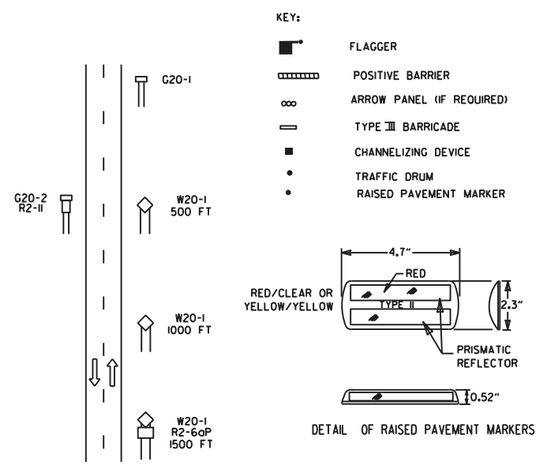
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



(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.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:

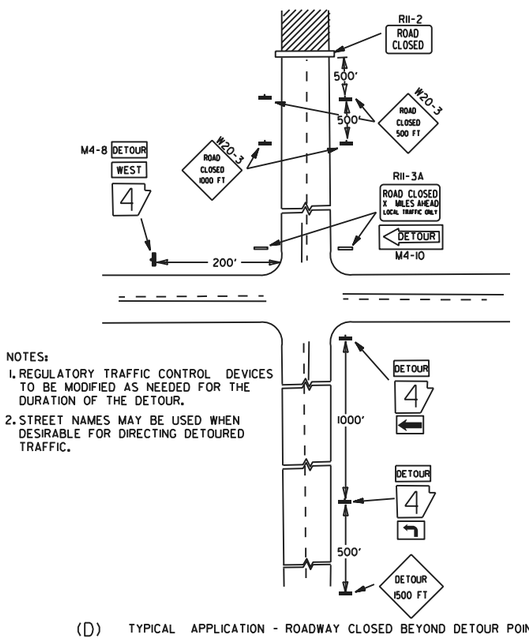
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

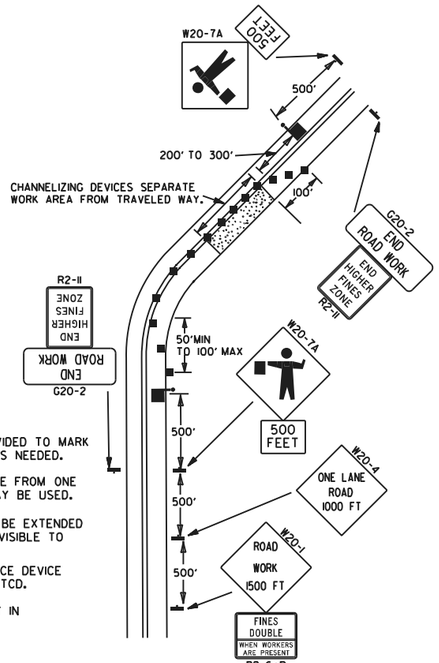
W= WIDTH OF OFFSET.

GENERAL NOTES:

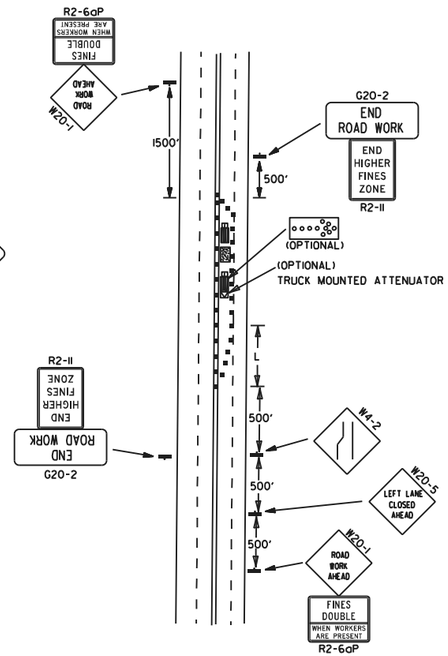
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



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



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



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

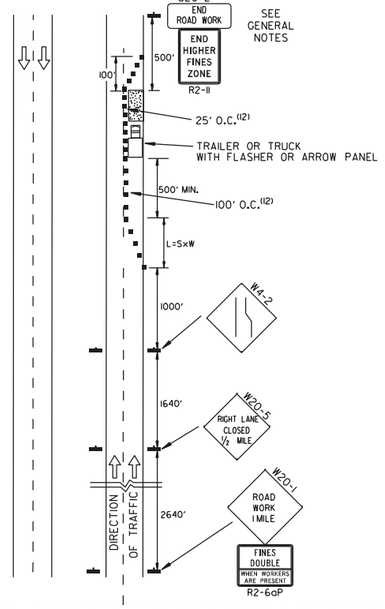
DATE REV	DESCRIPTION
08-14-25	ADDED R2-6aP AND R2-11
05-20-21	REVISED NOTE 7
11-07-19	REVISED NOTE 1. ADDED NOTE 9
09-02-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (AT & REPLACED R2-5A WITH W3-5
09-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKINGS

ARDOT ARKANSAS DEPARTMENT OF TRANSPORTATION

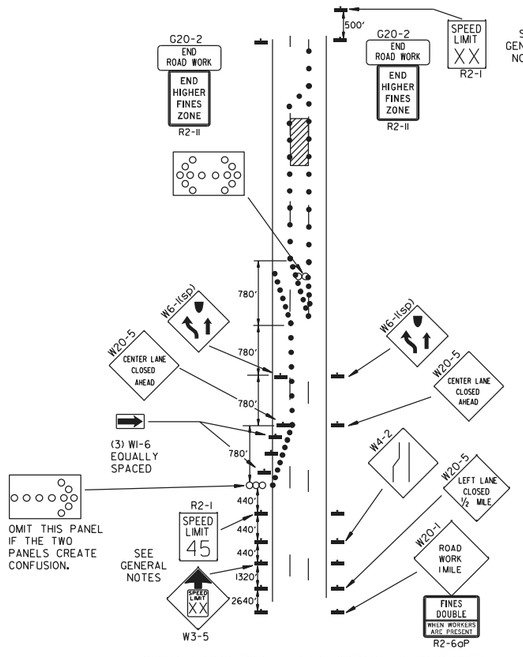
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

DATE EFFECTIVE	STANDARD DRAWING	TC-2
08-14-2025		



(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 ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

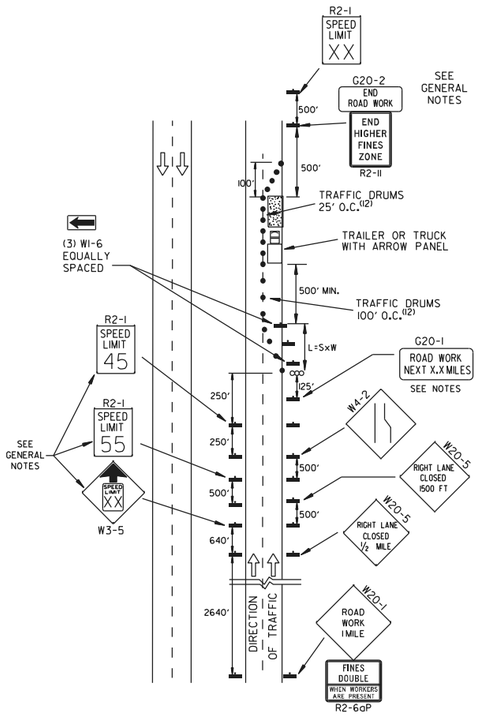
○○○ ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

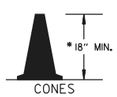
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-I(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-I 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-I(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-I(45) SHALL BE OMITTED. ADDITIONAL R2-I 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-I(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN SHOULD BE INSTALLED 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. THE DISTANCE DISPLAYED ON THE G20-1 SIGN SHALL BE STATED TO THE NEAREST WHOLE MILE.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. 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. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
12. ONLY WHERE SPACE RESTRICTIONS DO NOT ALLOW FOR TRAFFIC DRUMS, TUBULAR MARKERS MAY BE USED AT 50' O.C. IN STABILIZATION ZONES AND AT 10' O.C. DIRECTLY ADJACENT TO CONSTRUCTION OPERATIONS AND AT EXIT TAPERS. TUBULAR MARKERS SHALL BE STABILIZED WITH WEIGHTED BASES IN ACCORDANCE WITH THE M.U.T.C.D.

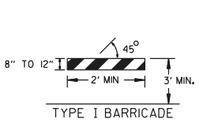


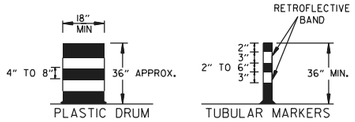
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

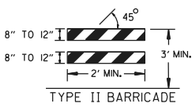
CHANNELIZING DEVICES

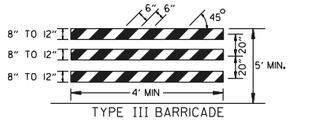


* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

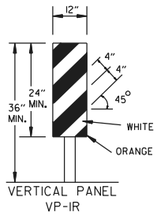


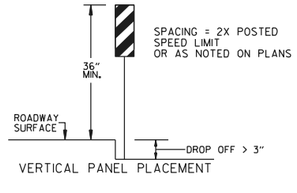


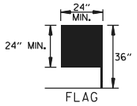




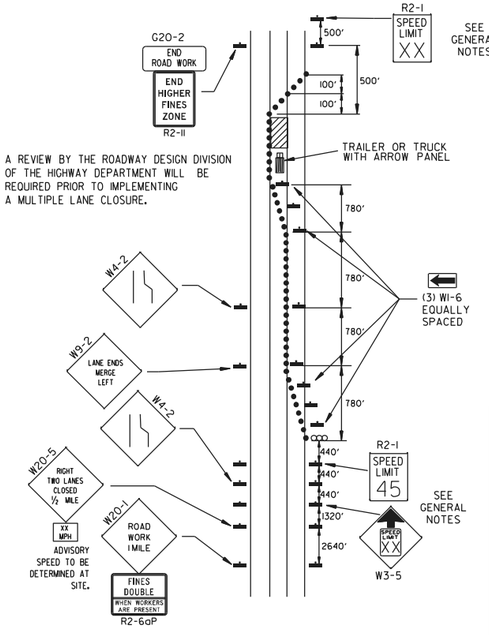
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.







FLAG SHALL BE OF GOOD GRADE RED MATERIAL



(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17 EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17 EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17 EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[3]
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[4] & EDGE LINES	PRECAST CONCRETE BARRIER[4] & EDGE LINES

INTERSTATE

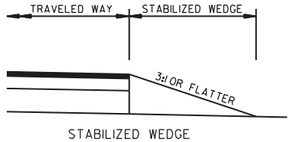
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17 EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

INTERSTATE AND NON-INTERSTATE

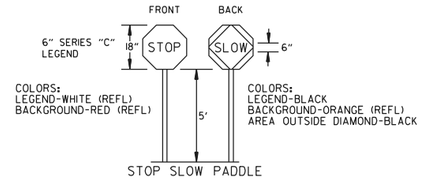
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).



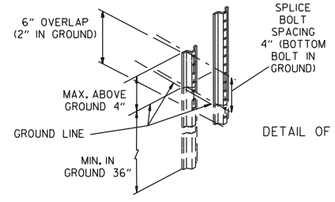
NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

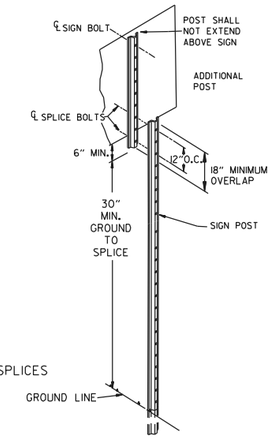


NOTES:
USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

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.





DATE REV	DESCRIPTION
08-14-25	ADDED R2-6aP AND R2-11
05-22-25	REVISED TRAFFIC CONTROL DEVICES AND NOTES. ADDED NOTE 12.
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES
05-20-21	REVISED NOTE 10
02-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS

ARKANSAS STATE HIGHWAY COMMISSION

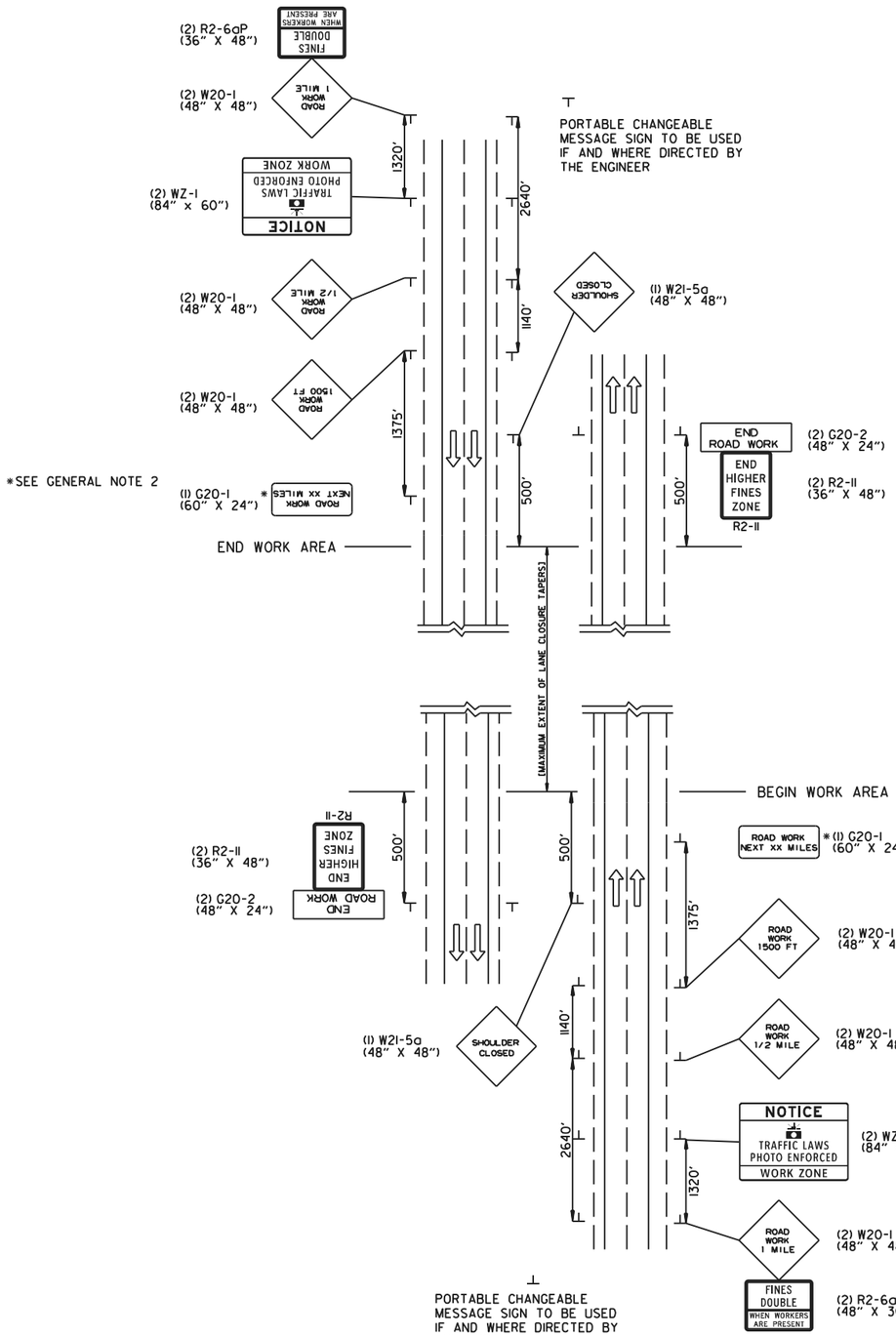
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

DATE EFFECTIVE 08-14-2025

STANDARD DRAWING

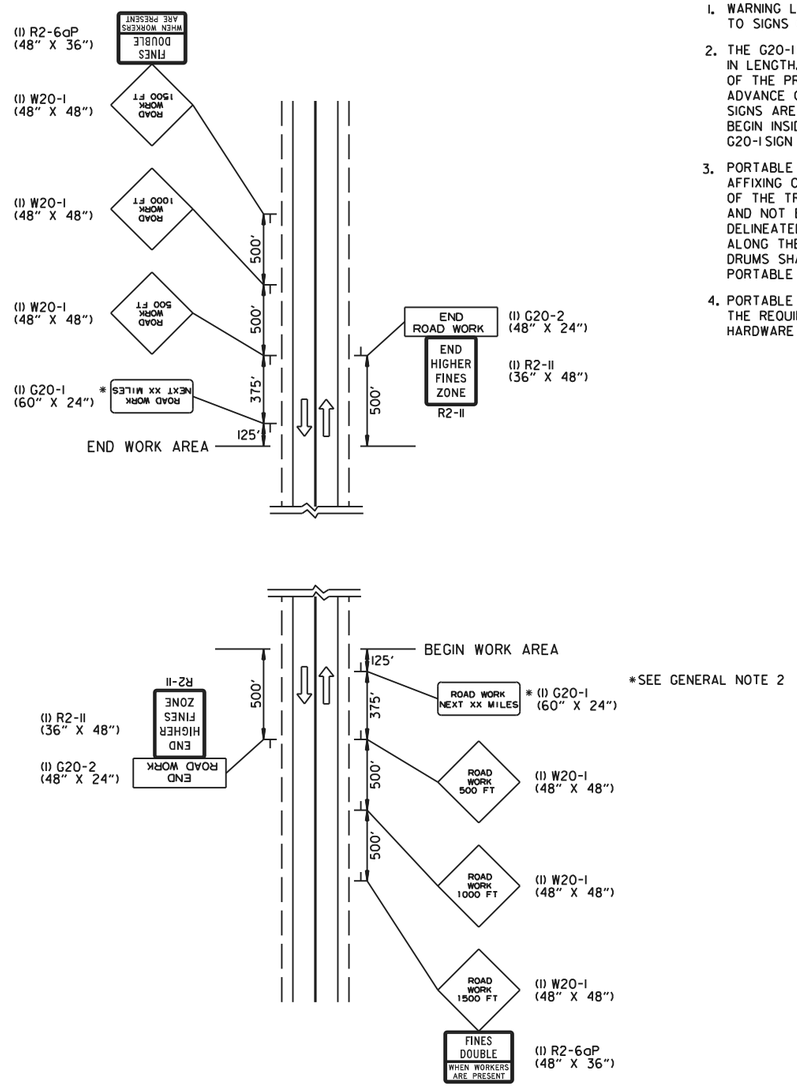
TC-3

NOTE : W20-1 (VARIOUS DISTANCE) ADVANCE SIGNS TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS AS WORKING AREA SHIFTS.



PORTABLE CHANGEABLE MESSAGE SIGN TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

(A) TYPICAL APPLICATION - ADVANCE WARNING SIGNS AT BEGINNING AND END OF JOB (FULLY CONTROLLED ACCESS FACILITIES) (ALL STAGES)



(B) TYPICAL APPLICATION - ADVANCE WARNING SIGNS AT BEGINNING AND END OF JOB (NON-FULLY CONTROLLED ACCESS FACILITIES) (ALL STAGES)

NOTE : W20-1 (VARIOUS DISTANCE) ADVANCE SIGNS TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS AS WORKING AREA SHIFTS.

GENERAL NOTES:

1. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
2. THE G20-1 SIGN SHOULD BE INSTALLED 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 OR 1500 FT) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS. THE DISTANCE DISPLAYED ON THE G20-1 SIGN SHALL BE STATED TO THE NEAREST WHOLE MILE.
3. 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, THIS DEVICE SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR PORTABLE CHANGEABLE MESSAGE SIGNS.
4. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

DATE REV	DESCRIPTION
08-14-25	ISSUED
11-06-25	REPLACED "SPEED" WITH "TRAFFIC LAWS" ON WZ-1

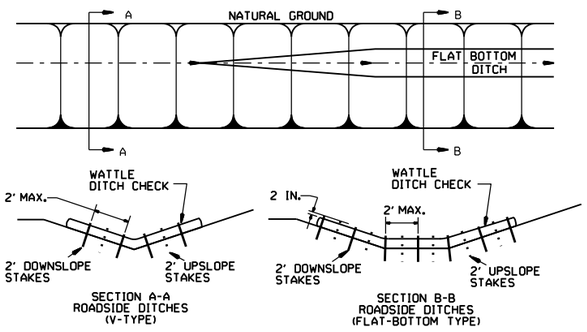
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

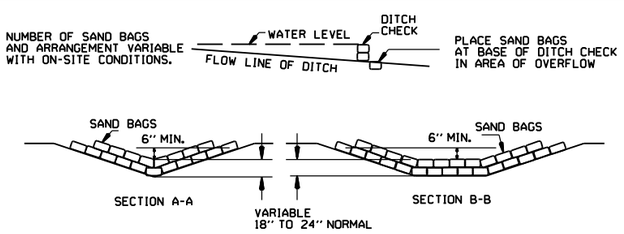
DATE EFFECTIVE	STANDARD DRAWING	TC-6
11-06-2025		

GENERAL NOTES

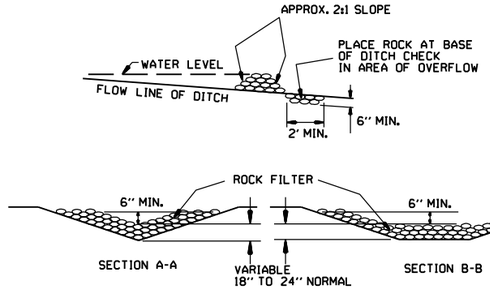
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

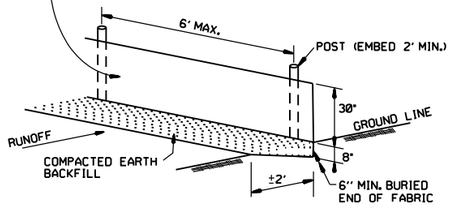


ROCK DITCH CHECK (E-6)

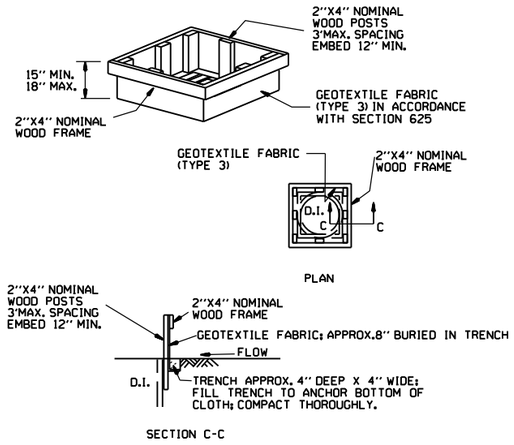
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

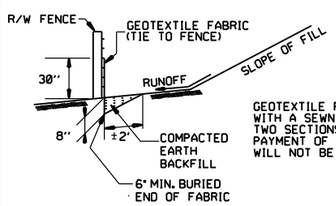
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)

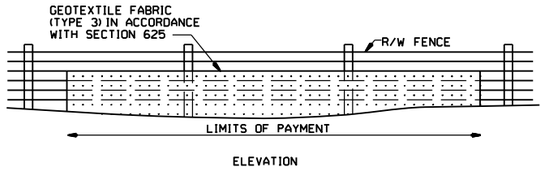


DROP INLET SILT FENCE (E-7)



GENERAL NOTES

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



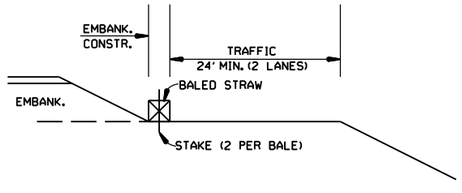
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

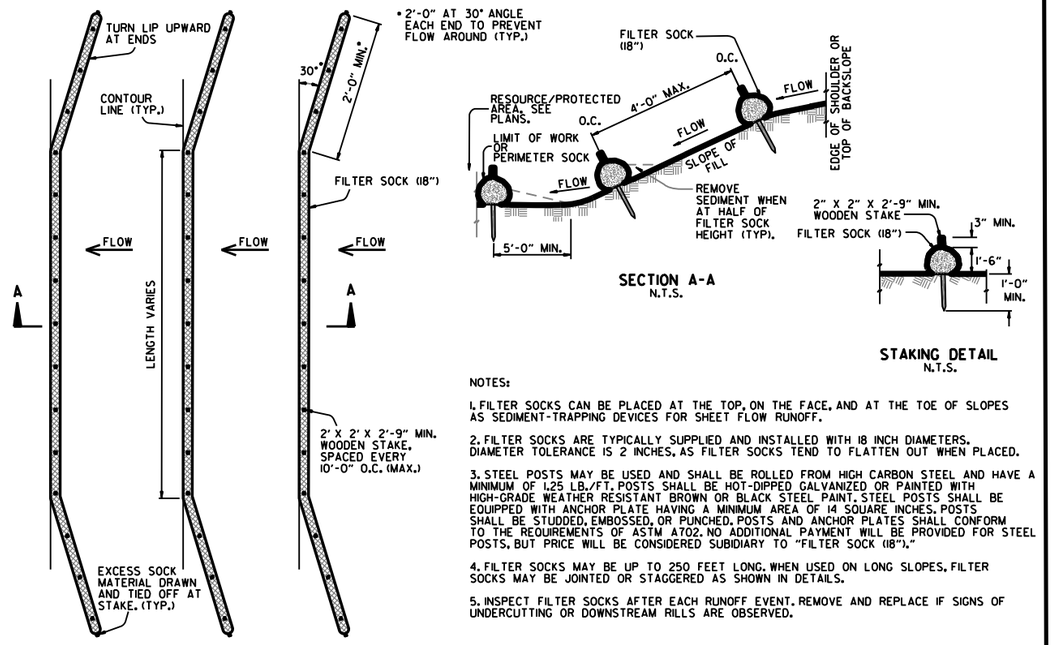
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

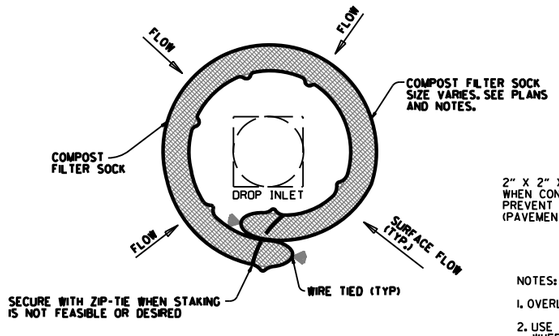
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

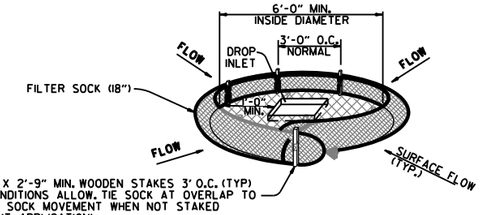
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



DROP INLET PLAN VIEW
N.T.S.



DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

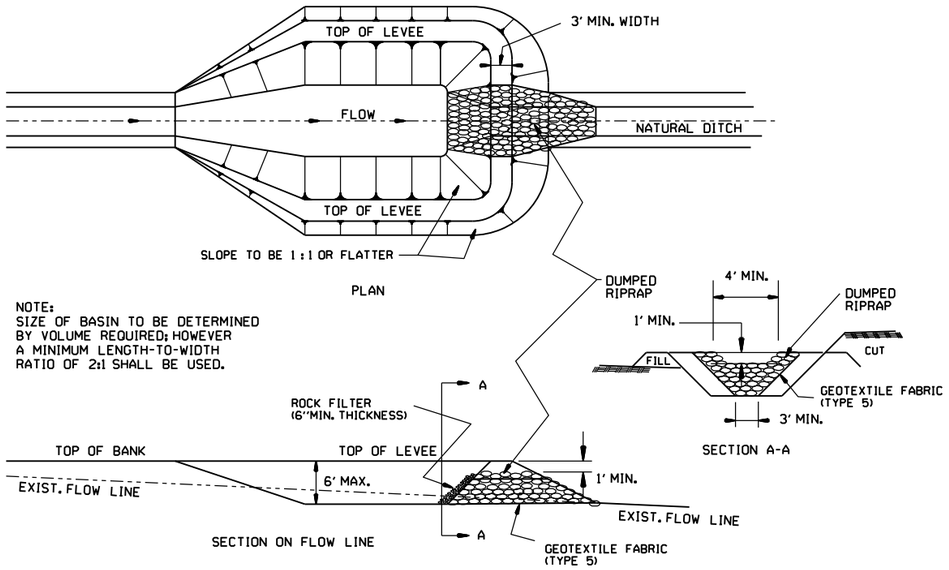
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

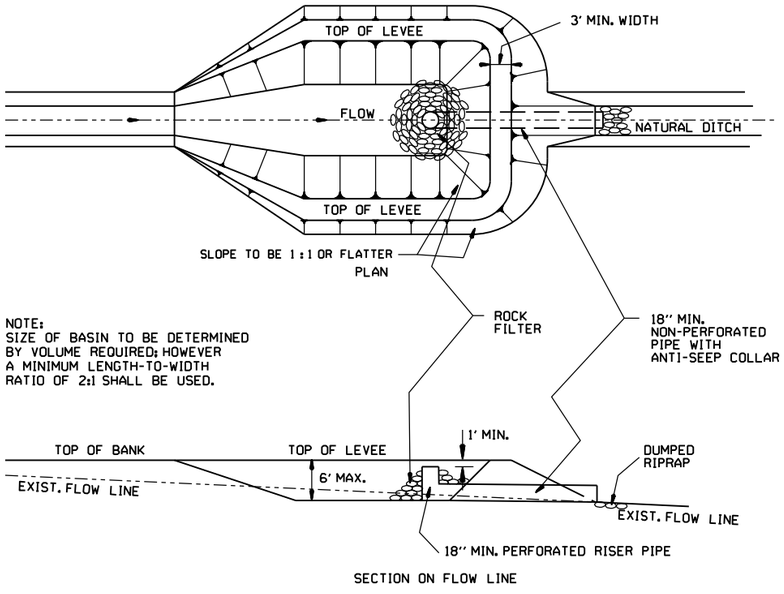
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

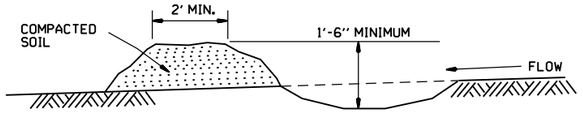
STANDARD DRAWING TEC-1



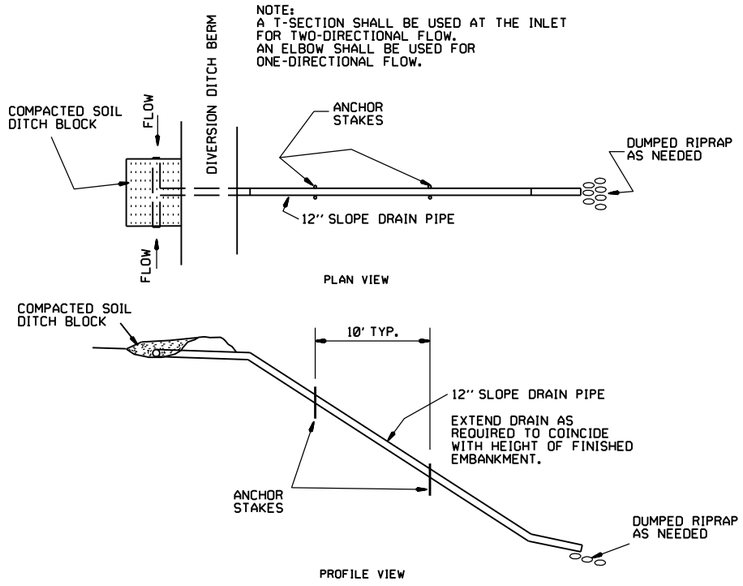
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



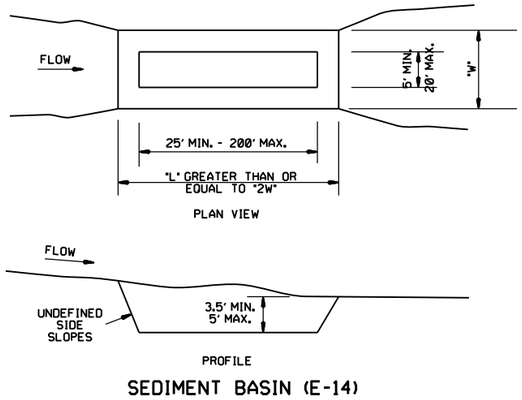
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

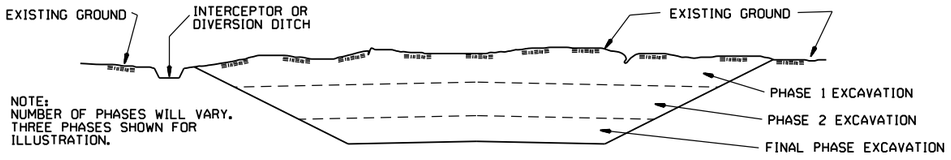
STANDARD DRAWING TEC-2

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



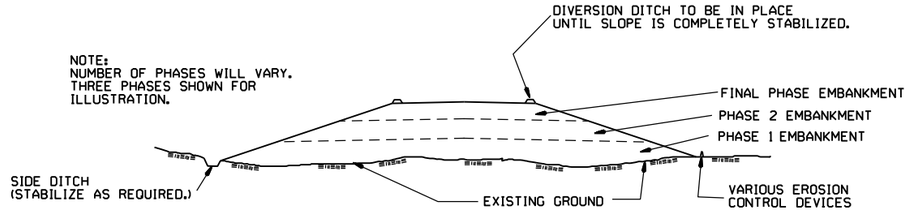
GENERAL NOTE

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

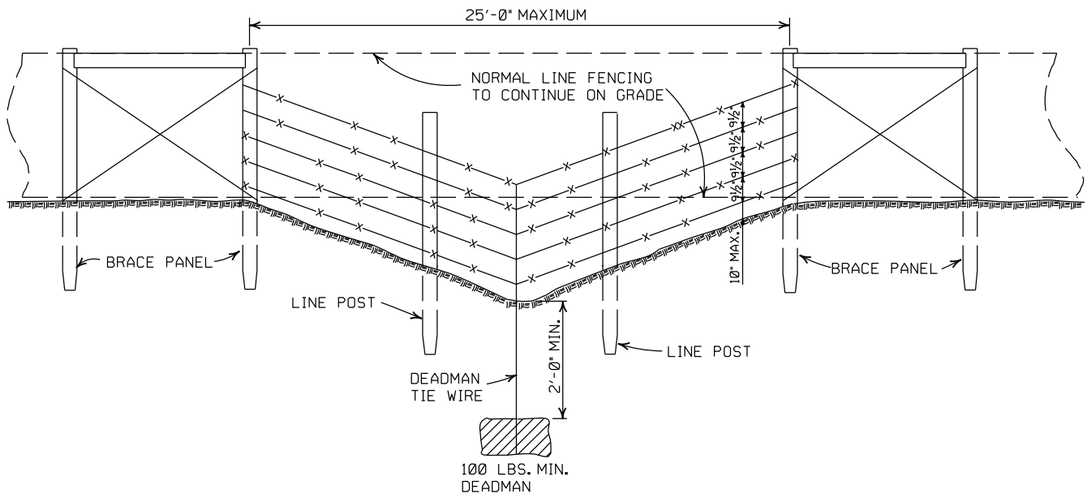
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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.

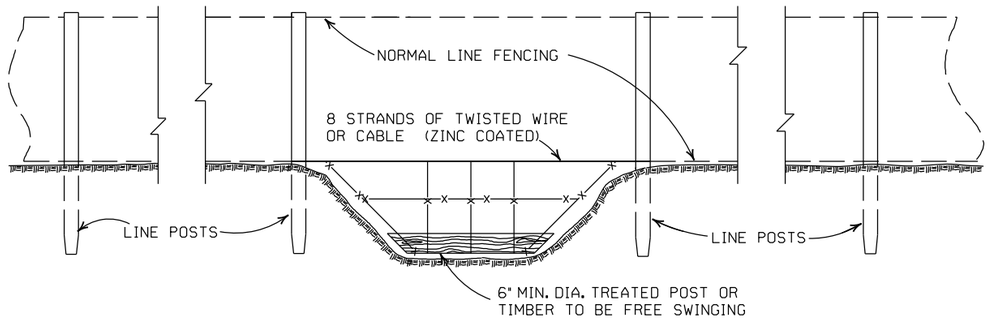
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

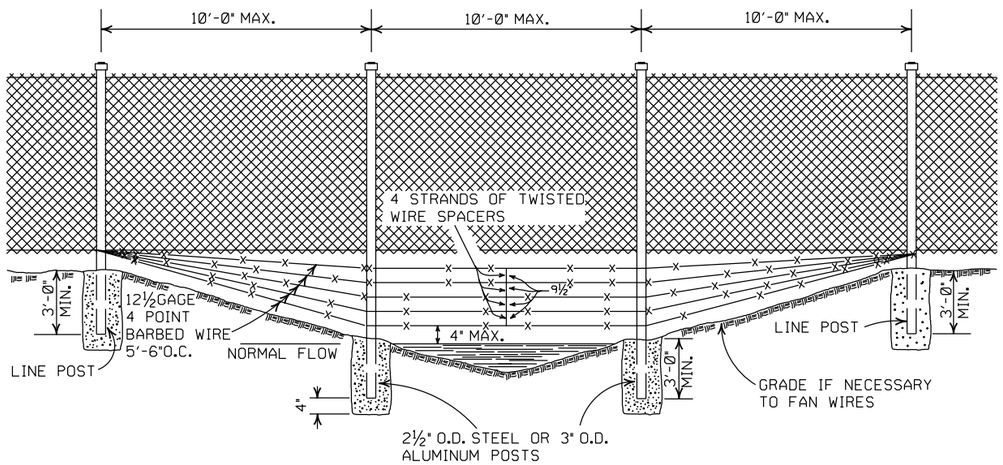
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

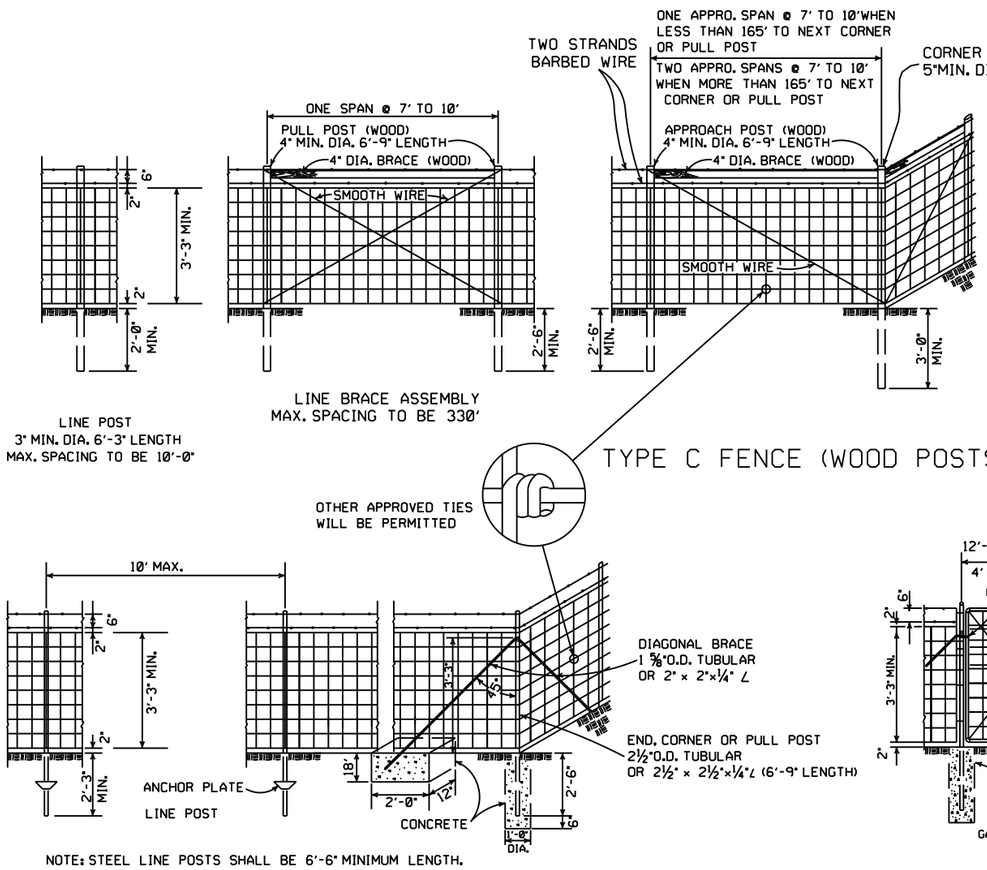
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

DATE	REVISION	FILMED
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED AND REDRAWN	529-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING WF-2



GENERAL NOTES:

STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED.
TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

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

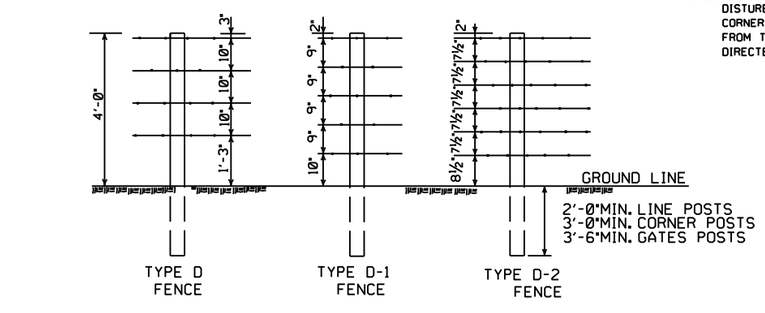
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED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

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

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

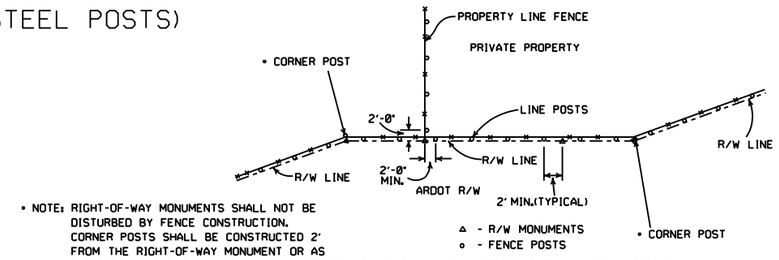
SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.



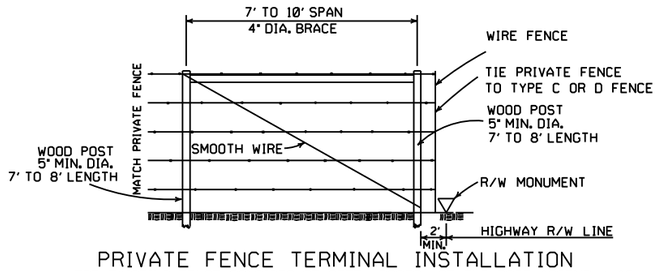
NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.

TYPE C FENCE (STEEL POSTS)



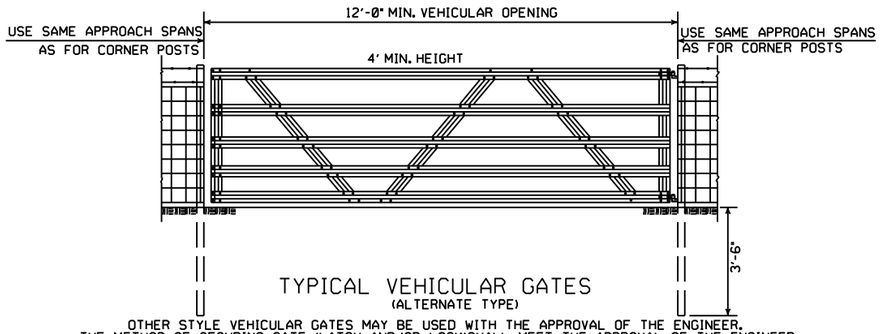
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES

(ALTERNATE TYPE)

OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4