

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR PROPOSED COUNTY ROAD



HWY. 341 SOUTHEAST - STONE CO. LINE (PHASE 2) (S)

CO. RD. 73

BAXTER COUNTY

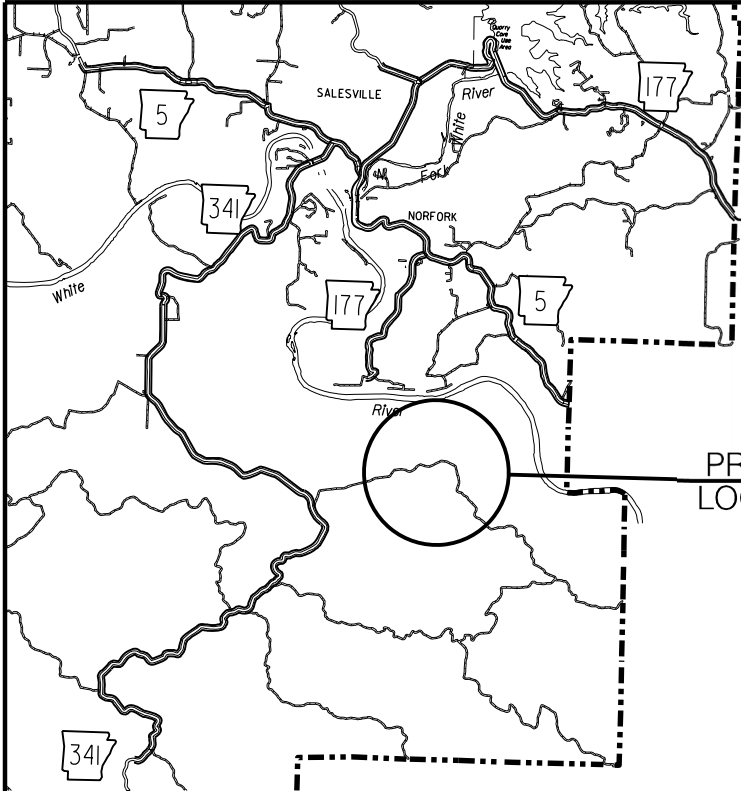
JOB FA0314

FED. AID PROJECT STPF-0003(63)

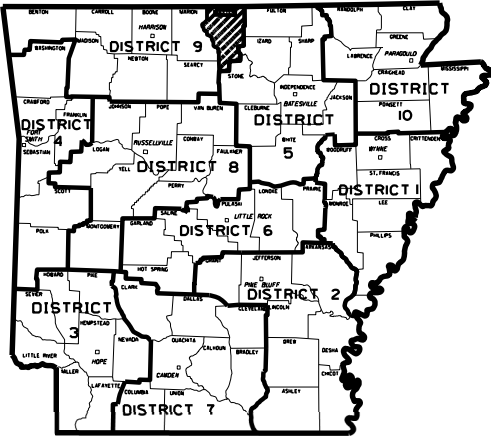
NOT TO SCALE

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.	FA0314	1
								72

(4) HWY. 341 SOUTHEAST - STONE CO. LINE (PHASE 2) (S)



VICINITY MAP



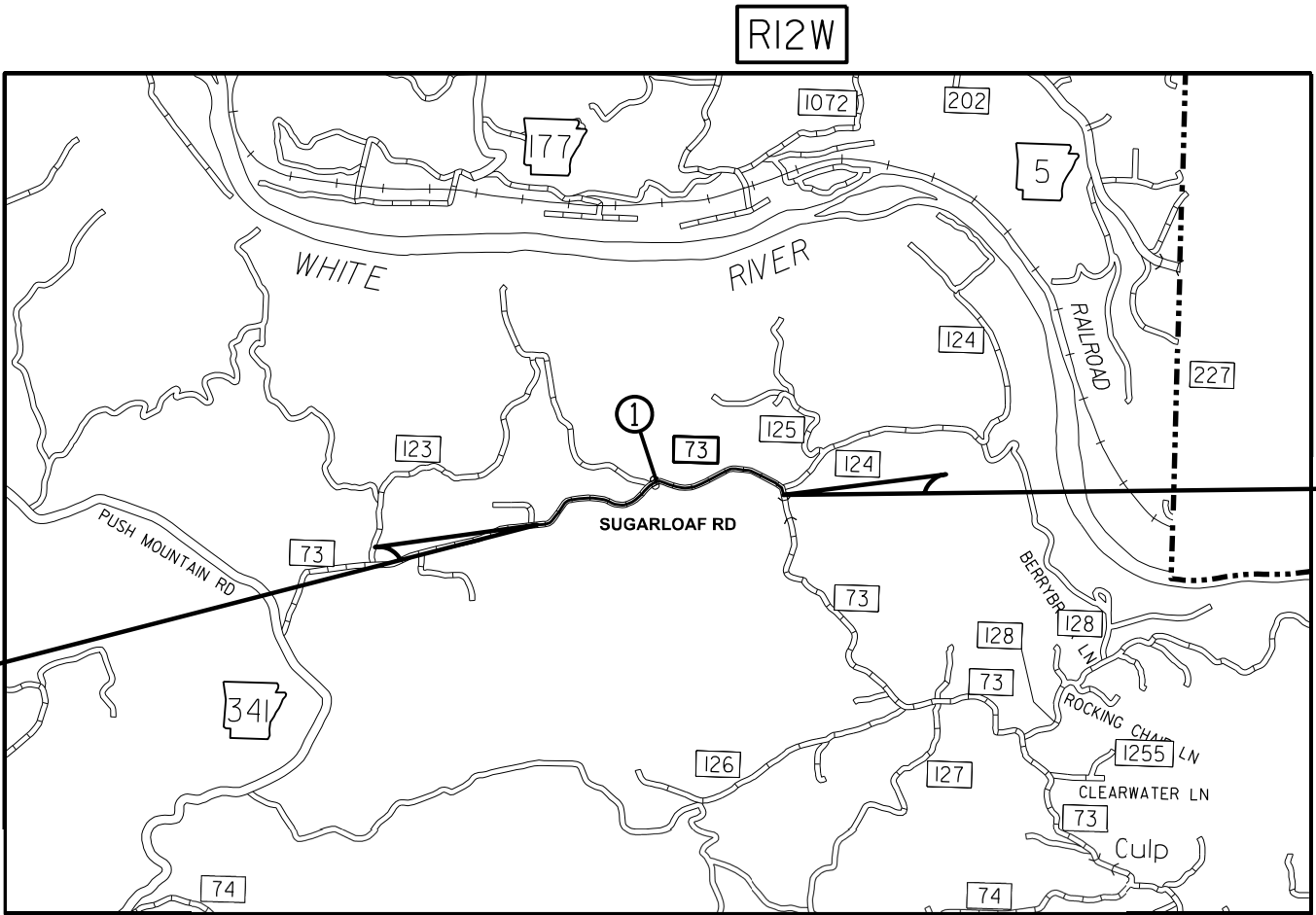
ARKANSAS HIGHWAY DISTRICT 9

DESIGN TRAFFIC DATA

DESIGN YEAR	2046
2026 ADT	75
2046 ADT	85
2046 DHV	13
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	2%
DESIGN SPEED	30 MPH

STRUCTURES OVER 20'-0" SPAN

- ① STA. 225+32 CONSTRUCT
DOUBLE 9' X 6' X 82'
THREE-SIDED CAST-IN-PLACE CULVERT
45° RT. FWD. SKEW
SPAN = 28' - 3 3/4"
Q25=860 CFS D.A. = 1.14 SQ. MI.



STA. 266+50.00
END JOB FA0314

APPROVED



Digitally signed by
Jones, Jessie
Date: 2026.09.14
14:54:15-05'00'

P.E. JOB FA0312

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N 36° 08' 15"	N 36° 08' 27"	N 36° 08' 23"
LONG.	W 92° 16' 34"	W 92° 15' 52"	W 92° 15' 9"

GROSS LENGTH OF PROJECT	8050.00 FEET OR 1.525 MILES
NET " " ROADWAY	8021.69 " " 1.519 "
NET " " BRIDGE	28.31 " " 0.005 "
NET " " PROJECT	8050.00 " " 1.525 "

CHIEF ENGINEER

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.	FA0314	2
								72
④ INDEX OF SHEETS AND STANDARD DRAWINGS								

INDEX OF SHEETS

SHEET NO.	TITLE	BRIDGE NO.	DRWG. NO.
1	TITLE SHEET		
2	INDEX OF SHEETS AND STANDARD DRAWINGS		
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
4 - 6	TYPICAL SECTIONS OF IMPROVEMENT		
7 - 9	SPECIAL DETAILS		
10 - 16	TEMPORARY EROSION CONTROL DETAILS		
17 - 19	QUANTITIES		
20	SUMMARY OF QUANTITIES AND REVISIONS		
21 - 26	SURVEY CONTROL DETAILS		
27 - 33	PLAN AND PROFILE SHEETS		
34	LAYOUT OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 1 OF 2	04954	68845
35	LAYOUT OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 2 OF 2	04954	68846
36	DETAILS OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 1 OF 6	04954	68847
37	DETAILS OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 2 OF 6	04954	68848
38	DETAILS OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 3 OF 6	04954	68849
39	DETAILS OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 4 OF 6	04954	68850
40	DETAILS OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 5 OF 6	04954	68851
41	DETAILS OF THREE-SIDED CAST-IN-PLACE CULVERT, SHEET 6 OF 6	04954	68852
42 - 72	CROSS SECTIONS		

Digitally signed
by Freeling,
Bryan E.
Date: 2026.09.21
14:39:02-05'00'



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
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1	PAVEMENT MARKING DETAILS	04-09-26
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
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
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-14-25
TC-1A	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	04-09-26
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	04-09-26
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-4	WIRE FENCE TYPE C AND D	08-22-02

INDEX OF SHEETS AND STANDARD DRAWINGS

GOVERNING SPECIFICATIONS

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

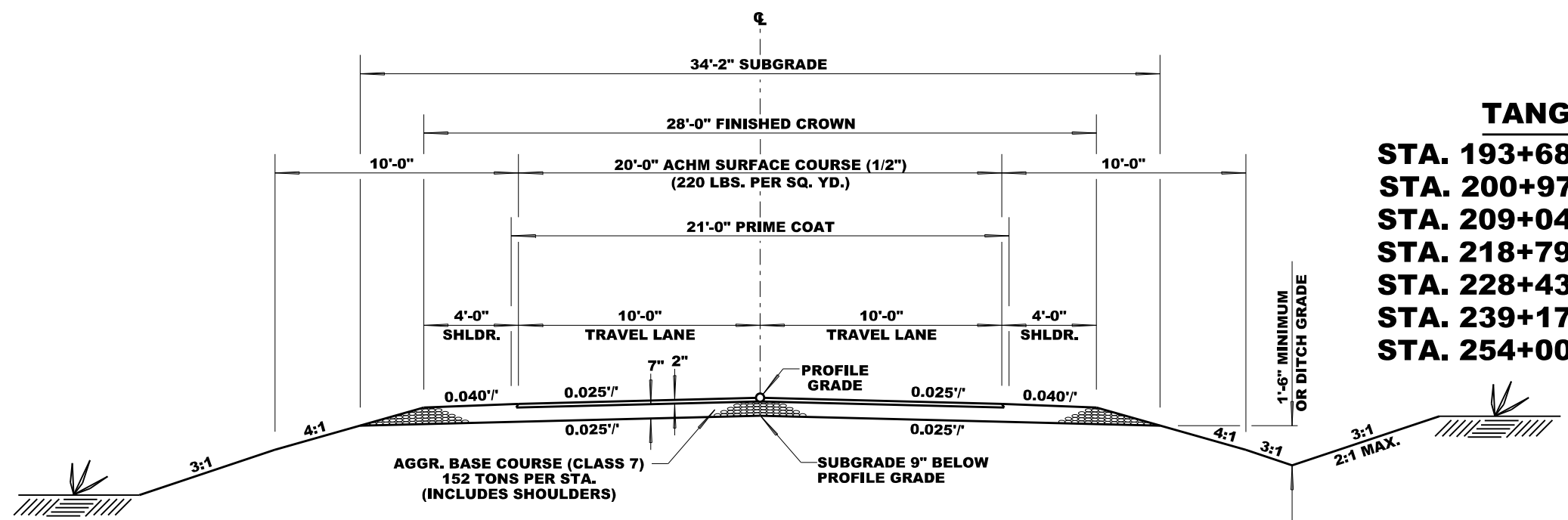
NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FWHA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FWHA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FWHA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FWHA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FWHA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FWHA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FWHA-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
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
600-2	INCIDENTAL CONSTRUCTION
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
621-1	FILTER SOCKS
723-1	GENERAL REQUIREMENTS FOR SIGNS
729-1	CHANNEL POST SIGN SUPPORT
800-1	STRUCTURES
802-3	CONCRETE FOR STRUCTURES
802-5	CONCRETE FOR STRUCTURES
804-2	REINFORCING STEEL FOR STRUCTURES
JOB FA0314	ARCHEOLOGICAL MONITORING
JOB FA0314	BIDDING REQUIREMENTS AND CONDITIONS
JOB FA0314	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB FA0314	BUY AMERICA - CONSTRUCTION MATERIALS
JOB FA0314	CARGO PREFERENCE ACT REQUIREMENTS
JOB FA0314	CAVE DISCOVERY
JOB FA0314	COORDINATION OF WORK
JOB FA0314	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB FA0314	DESIGN OF ASPHALT MIXTURES - AGGREGATES
JOB FA0314	DOCUMENTATION OF PAYMENTS MADE - PROMPT PAYMENT (SIGNET)
JOB FA0314	FOREST SERVICE REQUIREMENTS
JOB FA0314	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB FA0314	MANDATORY ELECTRONIC CONTRACT
JOB FA0314	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB FA0314	NESTING SITES OF MIGRATORY BIRDS
JOB FA0314	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB FA0314	PARTNERING REQUIREMENTS
JOB FA0314	PLASTIC PIPE
JOB FA0314	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB FA0314	PRICE ADJUSTMENT FOR FUEL
JOB FA0314	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB FA0314	RECYCLED ASPHALT SHINGLES
JOB FA0314	RESTRAINING CONDITIONS
JOB FA0314	SHORING FOR CULVERTS
JOB FA0314	SPECIAL SEEDING REQUIREMENTS
JOB FA0314	STORM WATER POLLUTION PREVENTION PLAN
JOB FA0314	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB FA0314	UTILITY ADJUSTMENTS
JOB FA0314	VALUE ENGINEERING
JOB FA0314	VENDOR REGISTRATION REQUIREMENT
JOB FA0314	WARM MIX ASPHALT
JOB FA0314	WATER POLLUTION CONTROL
JOB FA0314	WELLHEAD PROTECTION

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN IN PLANS
- UTILITIES INTERFERING WITH CONSTRUCTION SHALL BE MOVED BY THE OWNERS.
- 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.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- 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.
- THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR PERMIT REQUIREMENTS.
- 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.
- TEMPORARY EASEMENTS ARE PROVIDED FOR CONTRACTOR ACCESS. AREAS OUTSIDE THE CONSTRUCTION LIMITS SHALL NOT BE CLEARED OR GRUBBED UNLESS DIRECTED BY THE ENGINEER.
- SUPERELEVATION SHALL BE COMPUTED IN ACCORDANCE WITH STANDARD DRAWING SE-2 USING 30 M.P.H. DESIGN VALUES AND REVOLVE ABOUT THE INNER EDGE OF TRAVEL LANE UNLESS OTHERWISE SHOWN.
- THE ROAD SHALL BE MAINTAINED AND REMAIN OPEN TO TRAFFIC THROUGHOUT THE PROJECT.
- 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.
- INSTALLATION OF PERMANENT TRAFFIC SAFETY SIGNS NOT SHOWN IN THE PLANS IS THE RESPONSIBILITY OF BAXTER COUNTY.
- EDGE LINES SHALL NOT BE PLACED UNTIL AFTER ALL MATERIAL HAS BEEN PLACED OR PULLED UP AGAINST THE EDGE OF PAVEMENT.
- THE CONTRACTOR SHALL COORDINATE WITH NORTH ARKANSAS ELECTRIC AND BAXTER COUNTY FOR THE RELOCATION OF UTILITY POLES.



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.	FA0314	4	72	
TYPICAL SECTIONS OF IMPROVEMENT								



TANGENT SECTION

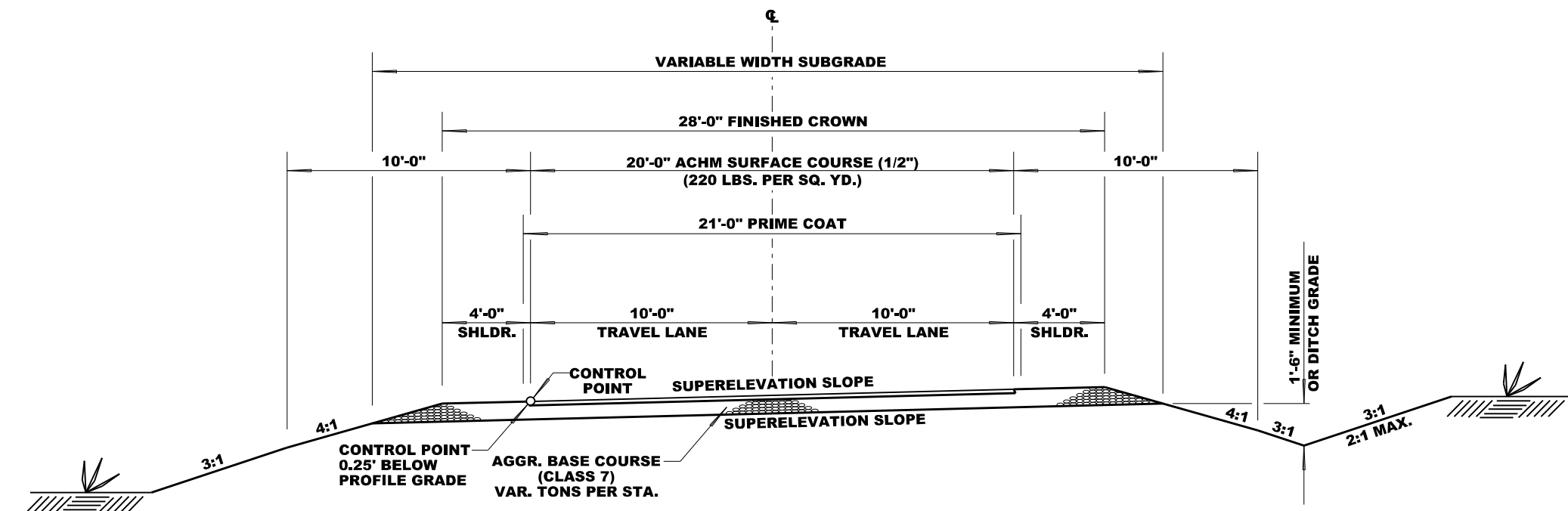
STA. 193+68.79 - STA. 193+86.57
STA. 200+97.38 - STA. 203+01.21
STA. 209+04.86 - STA. 210+01.90
STA. 218+79.43 - STA. 220+98.94
STA. 228+43.23 - STA. 228+43.25
STA. 239+17.06 - STA. 245+02.05
STA. 254+00.02 - STA. 259+59.68



TANGENT SECTION

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

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.



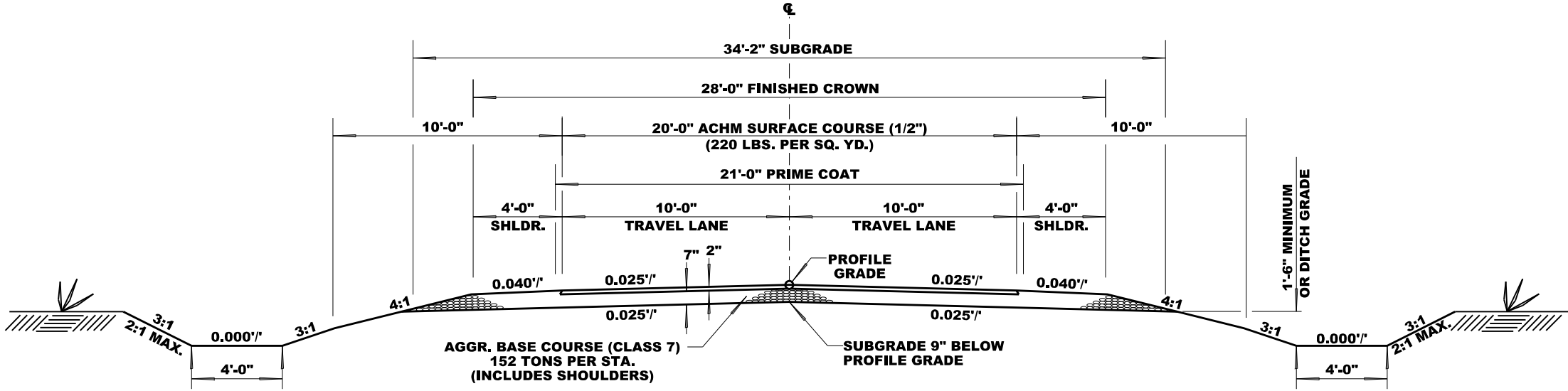
SUPERELEVATION SECTION

STA. 186+00.00 - STA. 193+68.79
STA. 193+86.57 - STA. 200+97.38
STA. 203+01.21 - STA. 209+04.86
STA. 210+01.90 - STA. 218+79.43
STA. 220+98.94 - STA. 228+43.23
STA. 228+43.25 - STA. 239+17.06
STA. 245+02.05 - STA. 254+00.02
STA. 259+59.68 - STA. 266+50.00

SUPERELEVATION SECTION

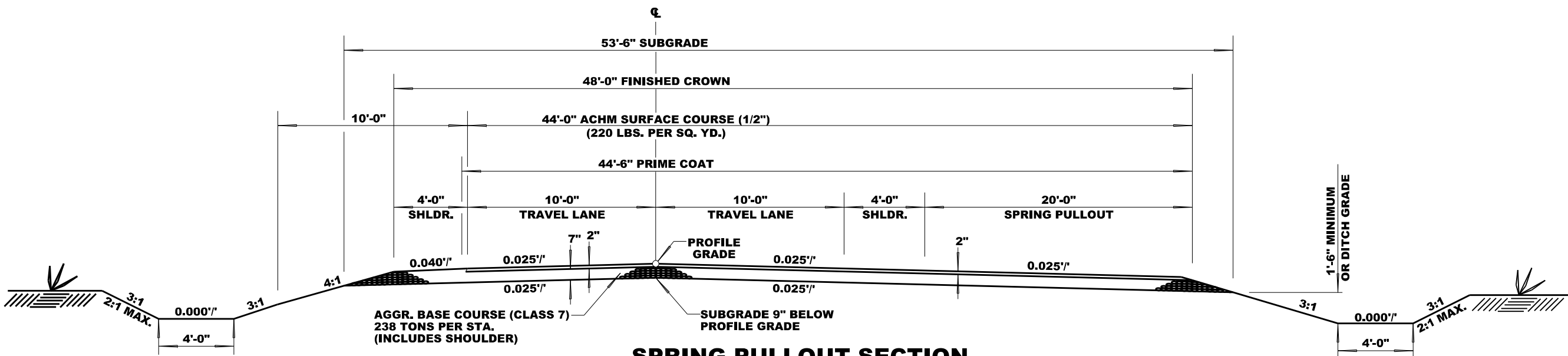
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	5	72
④ TYPICAL SECTIONS OF IMPROVEMENT								



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

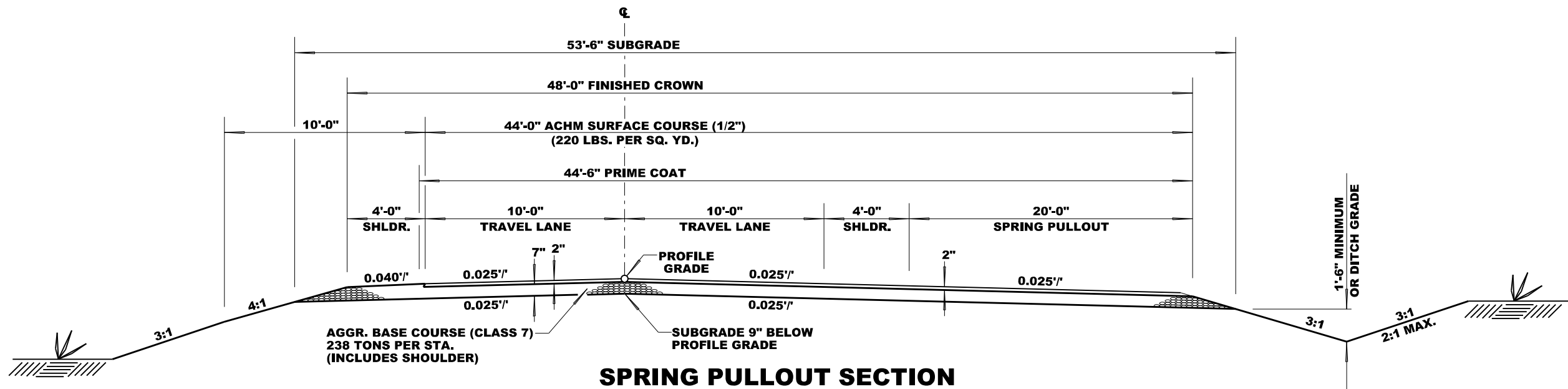
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGE SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.



SPRING PULLOUT SECTION
STA. 216+00 - STA. 217+00.00 TRANSITION
STA. 217+00 - STA. 220+00.00
STA. 220+00 - STA. 221+00.00 TRANSITION

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
				6	ARK.			
				JOB NO.	FA0314		6	72
TYPICAL SECTIONS OF IMPROVEMENT								



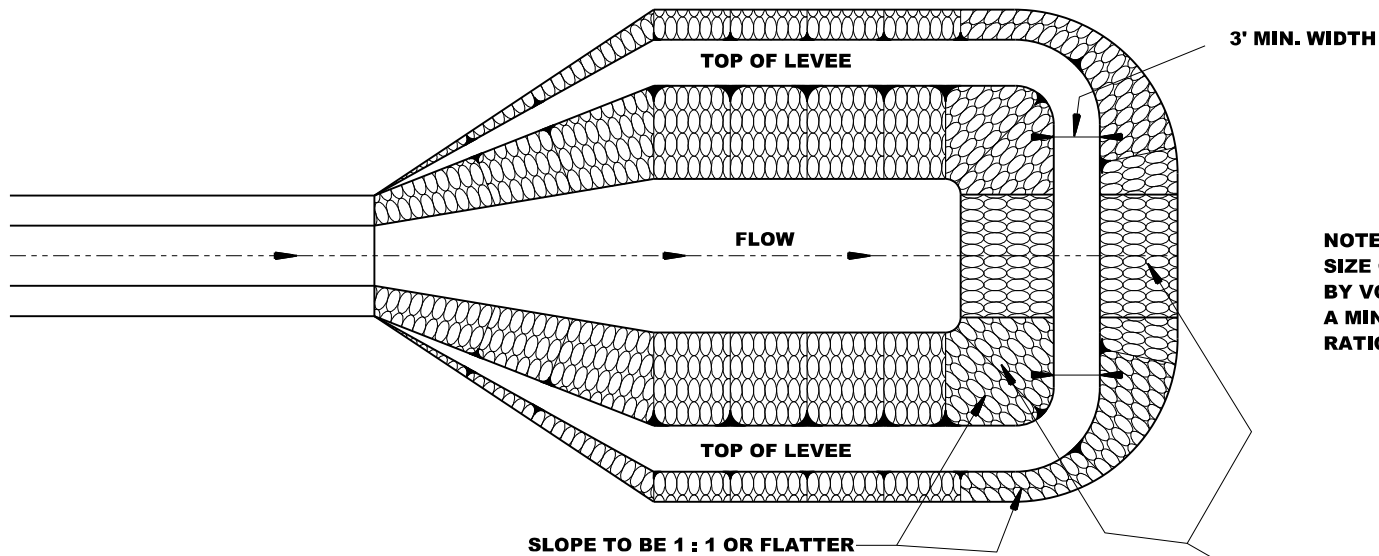
SPRING PULLOUT SECTION
STA. 216+00 - STA. 217+00.00 TRANSITION
STA. 217+00 - STA. 220+00.00
STA. 220+00 - STA. 221+00.00 TRANSITION

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

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 SECTIONS OF IMPROVEMENT

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.	FA0314	7
								72
SPECIAL DETAILS								

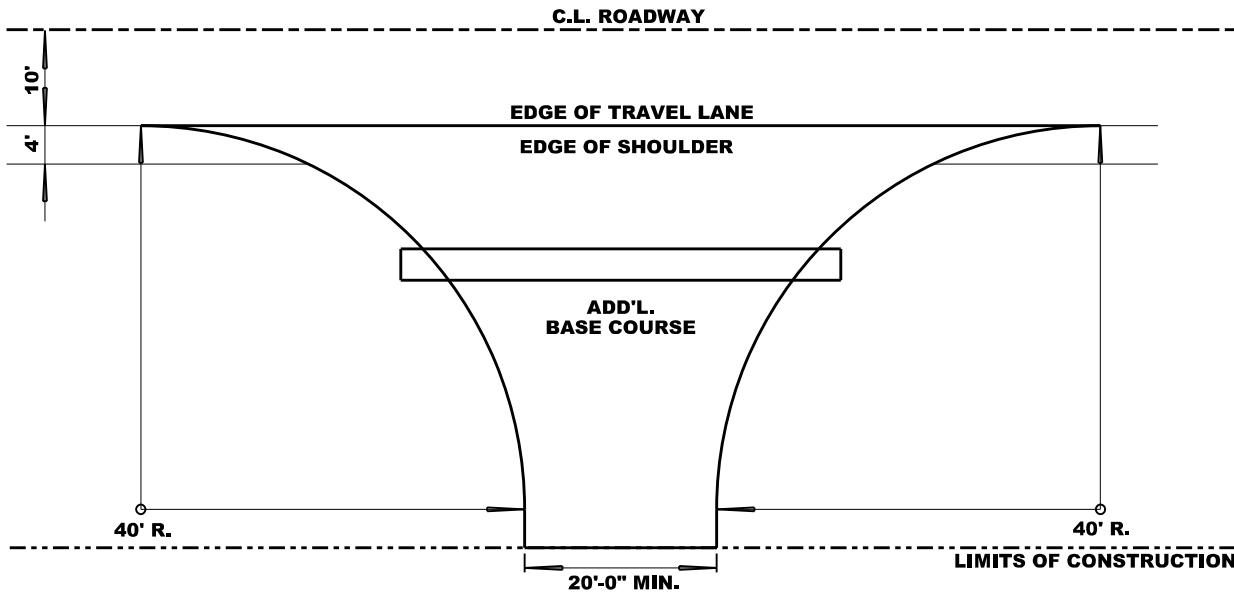
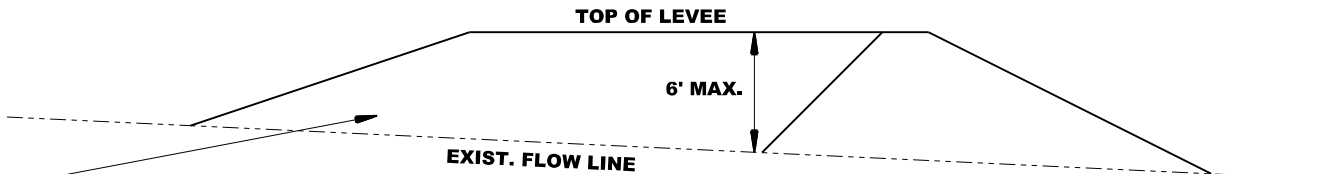


SPECIAL SEDIMENT BASIN

STA. 223+50 LT. & RT.

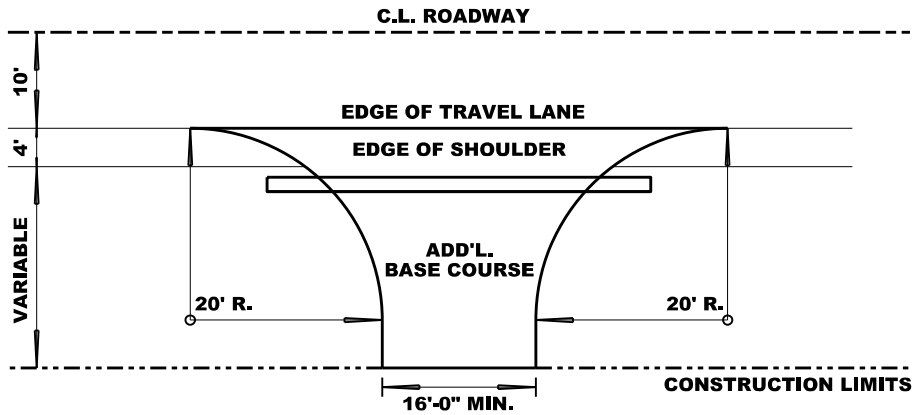
NOTE: SPECIAL SEDIMENT BASIN INCLUDED IN QUANTITIES FOR ROCK DITCH CHECKS (E-6).

ROCK
DITCH
CHECKS



DETAIL OF COUNTY ROAD TURNOUT

ADD'L. BASE COURSE
AND SURFACING
SEE QUANTITY BOX

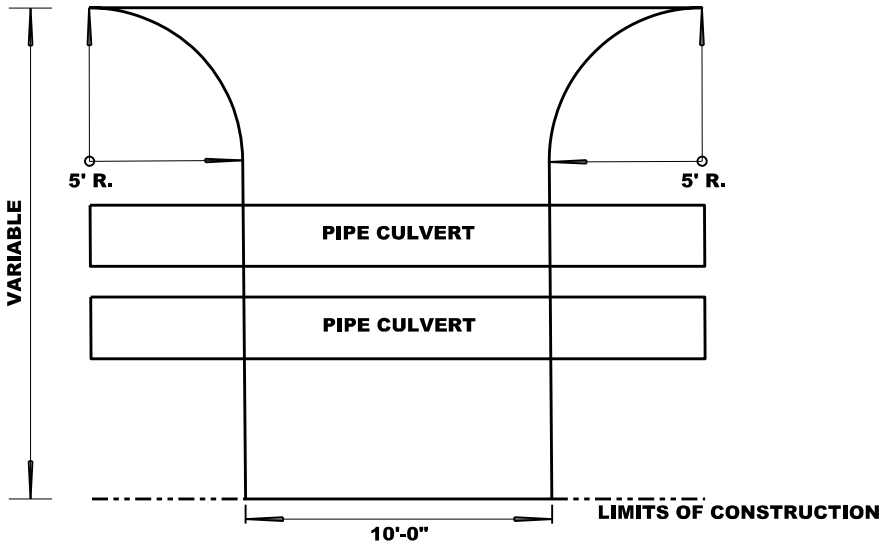


DETAIL OF PRIVATE ENTRANCES

ADD'L. BASE COURSE
AND SURFACING
SEE QUANTITY BOX

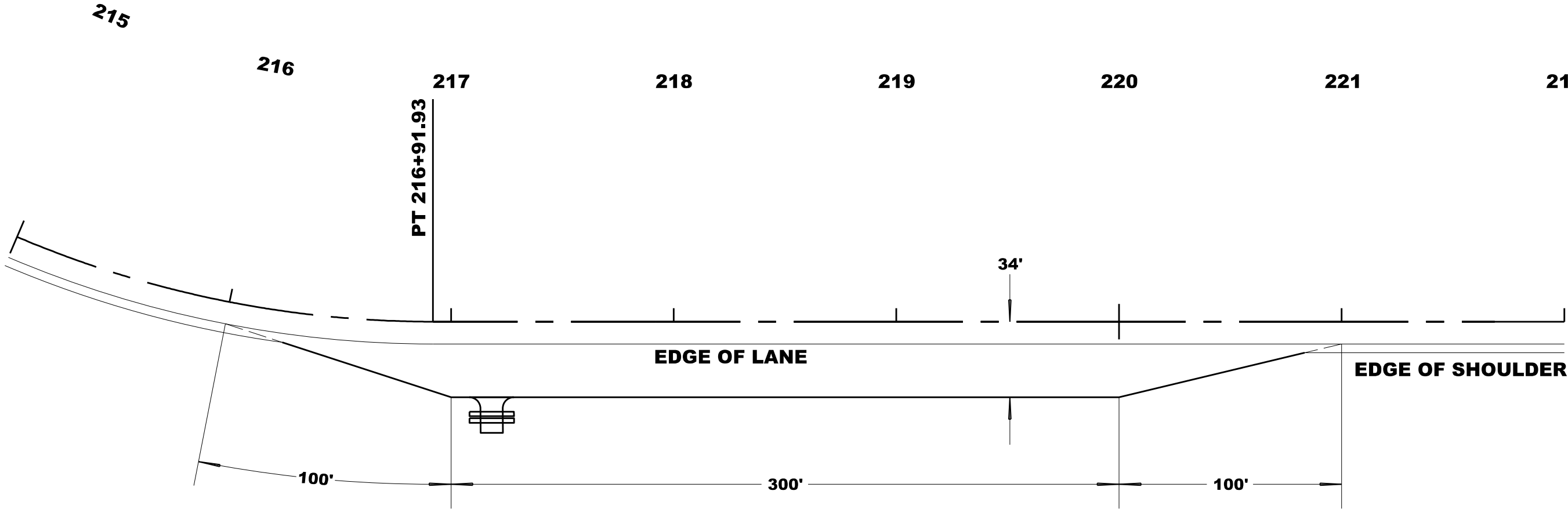
SPECIAL DETAILS

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				6	ARK.			
						FA0314	8	72
SPECIAL DETAILS								



DETAIL OF SPRING ACCESS WALK

ADDITIONAL BASE COURSE
AND SURFACING
SEE QUANTITY BOX



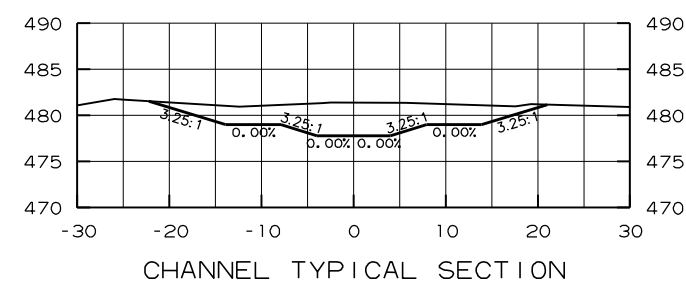
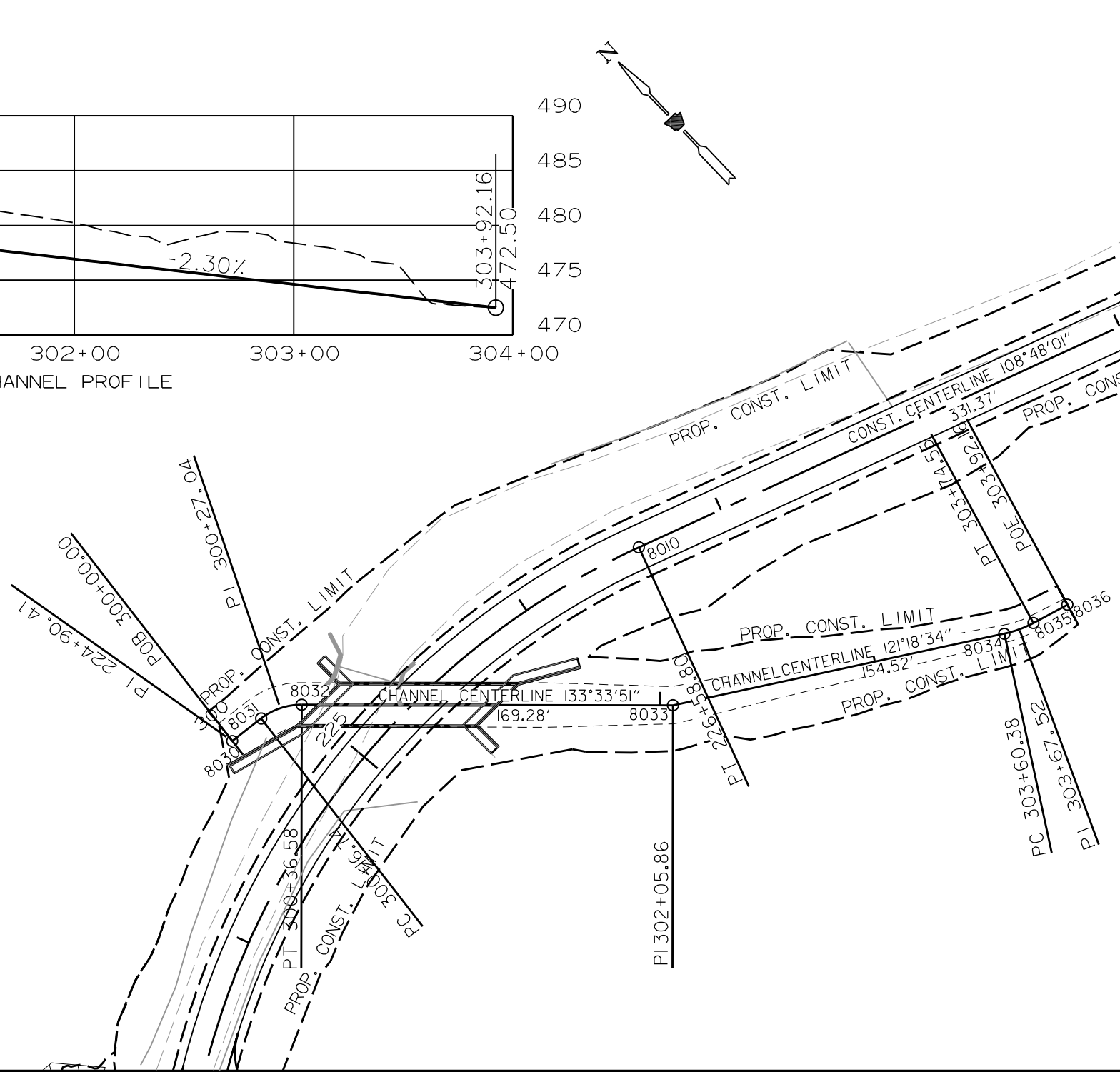
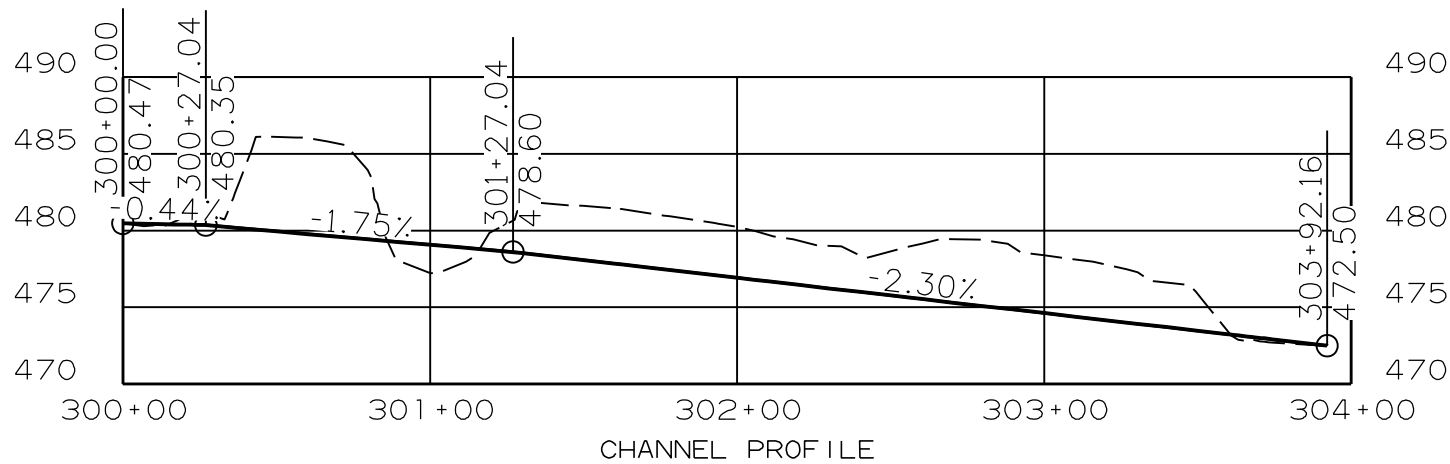
DETAIL OF SPRING PULLOUT

ADD'L. BASE COURSE
AND SURFACING
SEE QUANTITY BOX

SPECIAL DETAILS

STA. 225+41 IN PLACE
8' X 4' X 44' R.C. BOX CULVERT
30° RT. FORWARD SKEW
REMOVE AND CONSTRUCT @
STA. 225+32 CONSTRUCT
DBL. 9' X 6' X 82'
THREE-SIDED CAST-IN-PLACE CULVERT
ON 45° RT. FWD. SKEW
WITH 3:1 WINGS LT. AND RT.
TOTAL SPAN = 28'-3³/₄"
Q25= 860 CFS D.A. = 1.14 SQ. MI.

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				SPECIAL DETAILS				



SPECIAL DETAILS

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4 TEMPORARY EROSION CONTROL DETAILS								



LEGEND	
	= SAND BAG DITCH CHECK
	= ROCK DITCH CHECK
	= DIVERSION DITCH
	= SILT FENCE
	= SLOPE DRAIN
	= SEDIMENT BASIN

TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6)

STA. 186+00	LT. & RT.	= 6	CU. YD.
STA. 187+50	LT. & RT.	= 6	CU. YD.
STA. 190+50	LT. & RT.	= 6	CU. YD.
STA. 192+00	LT. & RT.	= 6	CU. YD.
STA. 193+50	LT. & RT.	= 6	CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.

REVISION NO.

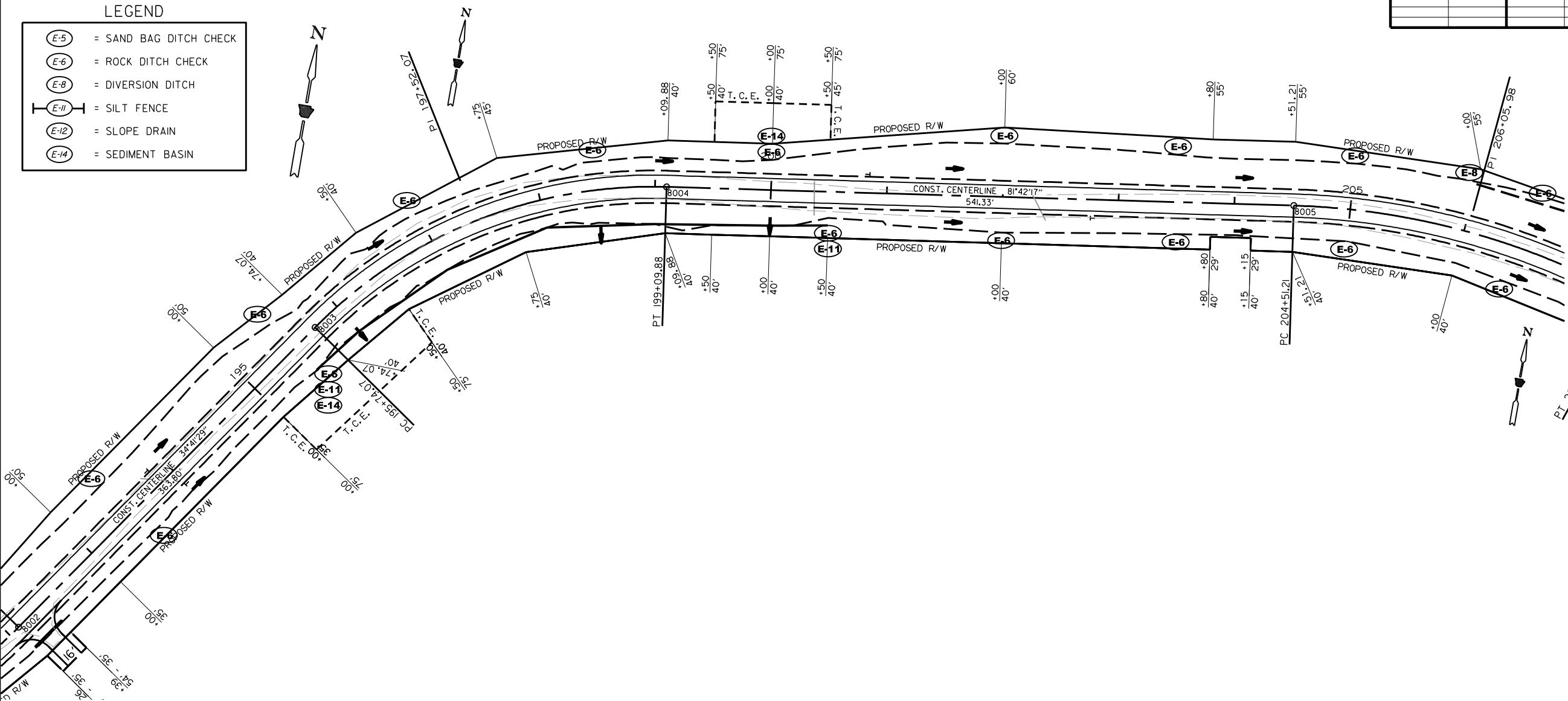
REVISION

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

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
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				JOB NO.		FA0314	11	72
④ TEMPORARY EROSION CONTROL DETAILS								



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6)

STA. 195+50	LT. & RT.	= 6	CU. YD.
STA. 197+00	LT.	= 3	CU. YD.
STA. 198+50	LT.	= 3	CU. YD.
STA. 200+00	LT.	= 3	CU. YD.
STA. 200+50	RT.	= 3	CU. YD.
STA. 202+00	LT. & RT.	= 6	CU. YD.
STA. 203+50	LT. & RT.	= 6	CU. YD.
STA. 205+00	LT. & RT.	= 6	CU. YD.

SILT FENCE (E-11)

STA. 195+50 - STA. 200+50 RT. = 479 LIN. FT.

SEDIMENT BASIN (E-14)

STA. 195+50	RT.	= 66	CU. YD.
STA. 200+00	LT.	= 117	CU. YD.

OBLIT. OF SED. BASIN = 183 CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

3	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

53 CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

66	CU. YD.
117	CU. YD.

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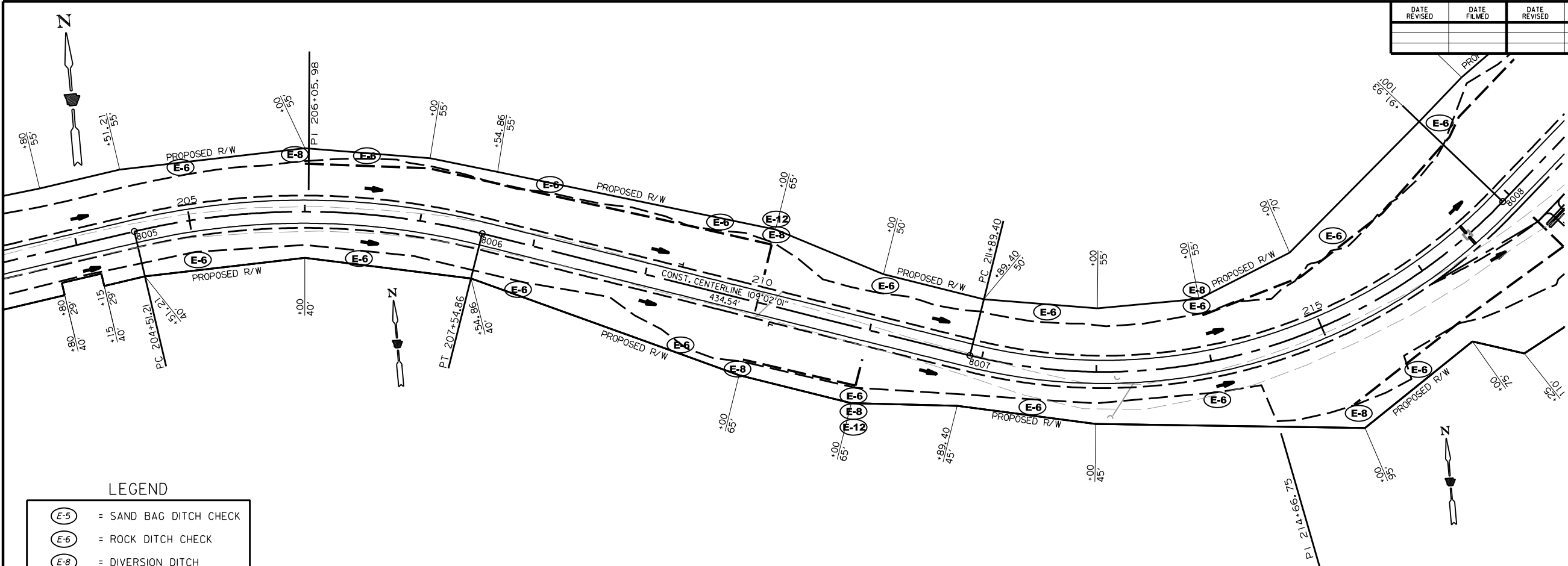
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TEMPORARY EROSION CONTROL DETAILS

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

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.	FA0314	12	72	
TEMPORARY EROSION CONTROL DETAILS								



LEGEND	
	= SAND BAG DITCH CHECK
	= ROCK DITCH CHECK
	= DIVERSION DITCH
	= SILT FENCE
	= SLOPE DRAIN
	= SEDIMENT BASIN

TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6)

STA. 206+50	LT. & RT.	= 6	CU. YD.
STA. 208+00	LT. & RT.	= 6	CU. YD.
STA. 209+50	LT. & RT.	= 6	CU. YD.
STA. 211+00	LT. & RT.	= 6	CU. YD.
STA. 212+50	LT. & RT.	= 6	CU. YD.
STA. 214+00	LT. & RT.	= 6	CU. YD.

DIVERSION DITCH (E-8)

STA. 206+00 - STA. 210+00 LT. = 412 LIN. FT.
STA. 210+00 - STA. 211+00 RT. = 100 LIN. FT.
STA. 214+00 - STA. 219+00 LT. = 470 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 210+00	LT.	= 35	LIN. FT.
STA. 211+00	RT.	= 33	LIN. FT.

SEDIMENT REMOVAL
AND DISPOSAL

3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.

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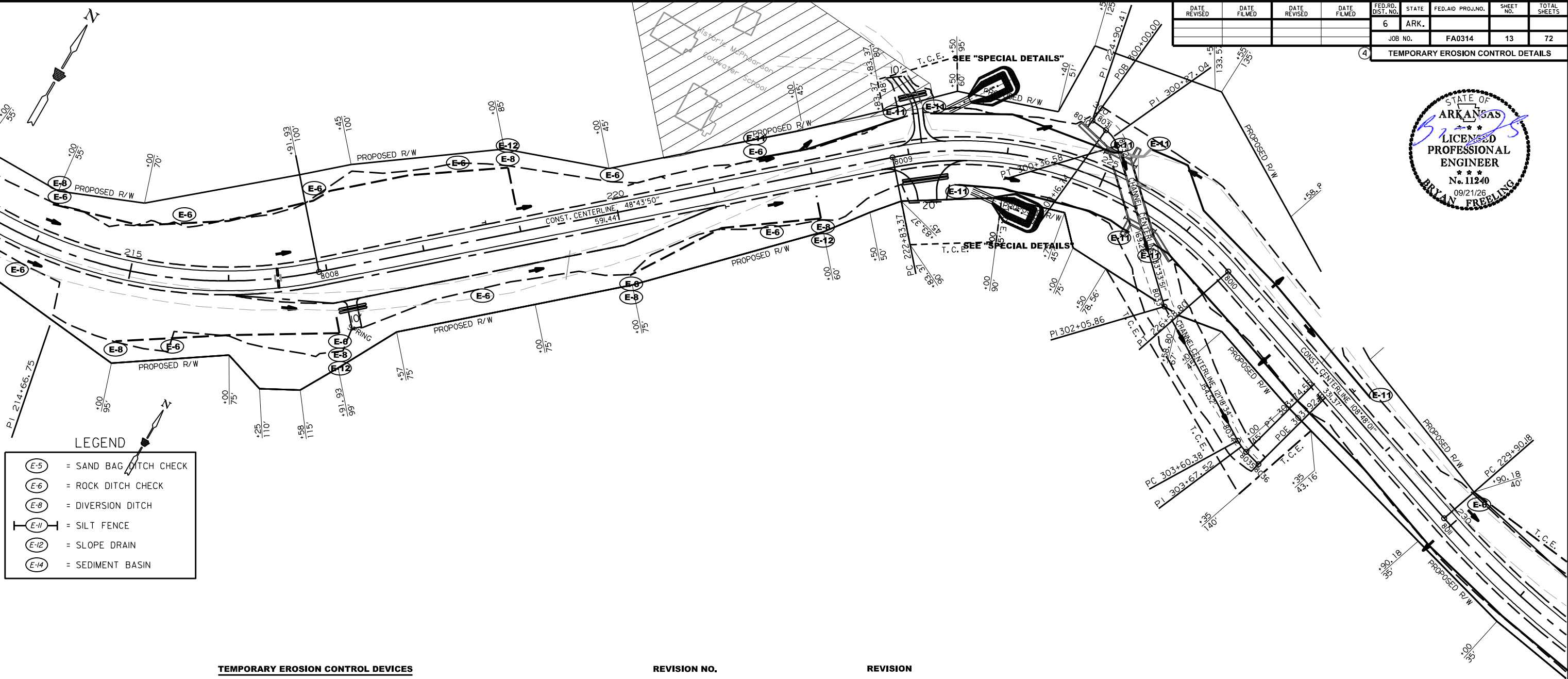
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REFER TO SURVEY CONTROL
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TEMPORARY EROSION CONTROL DETAILS

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.	FA0314	13	72	
TEMPORARY EROSION CONTROL DETAILS								



LEGEND	
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

TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6)

STA. 215+50	LT. & RT.	= 6	CU. YD.
STA. 217+00	LT. & RT.	= 6	CU. YD.
STA. 218+50	LT. & RT.	= 6	CU. YD.
STA. 220+00	LT. & RT.	= 6	CU. YD.
STA. 221+50	LT. & RT.	= 6	CU. YD.

SILT FENCE (E-11)

STA. 221+50 - STA. 223+00	LT. = 153 LIN. FT.
STA. 223+25 - STA. 225+08	LT. = 203 LIN. FT.
STA. 223+50 - STA. 225+51	RT. = 181 LIN. FT.
STA. 225+29 - STA. 228+50	LT. = 343 LIN. FT.
STA. 225+80 - STA. 235+00	RT. = 929 LIN. FT.

DIVERSION DITCH (E-8)

STA. 215+00 - STA. 217+00	RT. = 227 LIN. FT.
STA. 220+00 - STA. 222+00	RT. = 205 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 217+00	RT.	= 27	LIN. FT.
STA. 219+00	LT.	= 51	LIN. FT.
STA. 222+00	RT.	= 31	LIN. FT.

ROCK SEDIMENT BASIN

*STA. 223+50	LT. & RT.	= 90	CU. YD.
--------------	-----------	------	---------

*PAID FOR AS ROCK DITCH CHECKS

SEDIMENT REMOVAL AND DISPOSAL

3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

17	CU. YD.
23	CU. YD.
20	CU. YD.
38	CU. YD.
103	CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

90	CU. YD.
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TEMPORARY EROSION CONTROL DETAILS

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

4



- = SAND BAG DITCH CHECK
- = ROCK DITCH CHECK
- = DIVERSION DITCH
- = SILT FENCE
- = SLOPE DRAIN
- = SEDIMENT BASIN

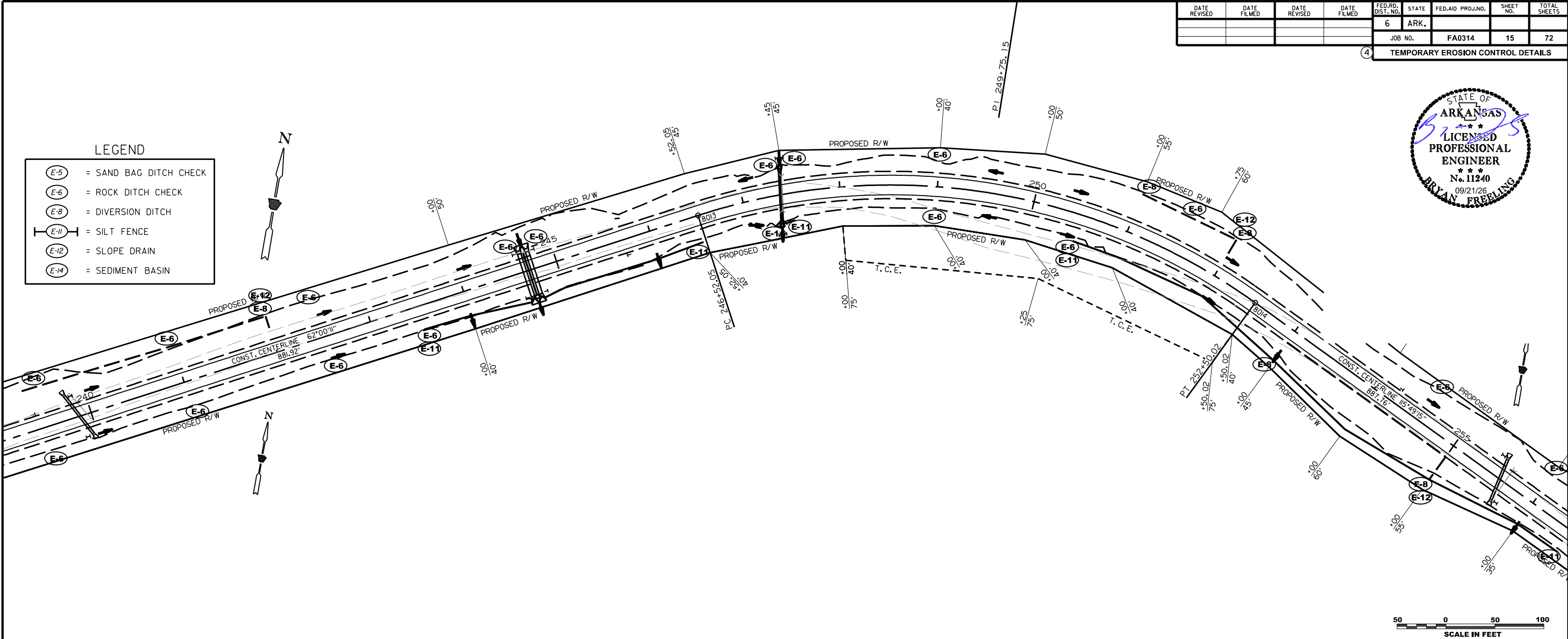
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TEMPORARY EROSION CONTROL DETAILS

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.		FA0314	15	72
④ TEMPORARY EROSION CONTROL DETAILS								



LEGEND	
(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



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6)

STA. 242+50	LT. & RT.	= 6	CU. YD.
STA. 243+50	RT.	= 3	CU. YD.
STA. 244+65	LT.	= 3	CU. YD.
STA. 244+75	LT.	= 3	CU. YD.
STA. 247+38	LT.	= 3	CU. YD.
STA. 247+48	LT.	= 3	CU. YD.
STA. 249+00	LT. & RT.	= 6	CU. YD.
STA. 250+50	RT.	= 3	CU. YD.
STA. 251+50	LT.	= 3	CU. YD.
STA. 253+00	LT.	= 3	CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

3	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
3	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.

SILT FENCE (E-11)

STA. 243+50 - STA. 246+50	RT. = 305 LIN. FT.
STA. 247+28 - STA. 247+50	RT. = 25 LIN. FT.
STA. 250+50 - STA. 256+50	RT. = 595 LIN. FT.

SEDIMENT REMOVAL AND DISPOSAL

34	CU. YD.
3	CU. YD.
66	CU. YD.

DIVERSION DITCH (E-8)

STA. 251+00 - STA. 252+00	LT. = 107 LIN. FT.
STA. 253+00 - STA. 255+00	RT. = 200 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 252+00	LT.	= 30	LIN. FT.
STA. 255+00	RT.	= 31	LIN. FT.

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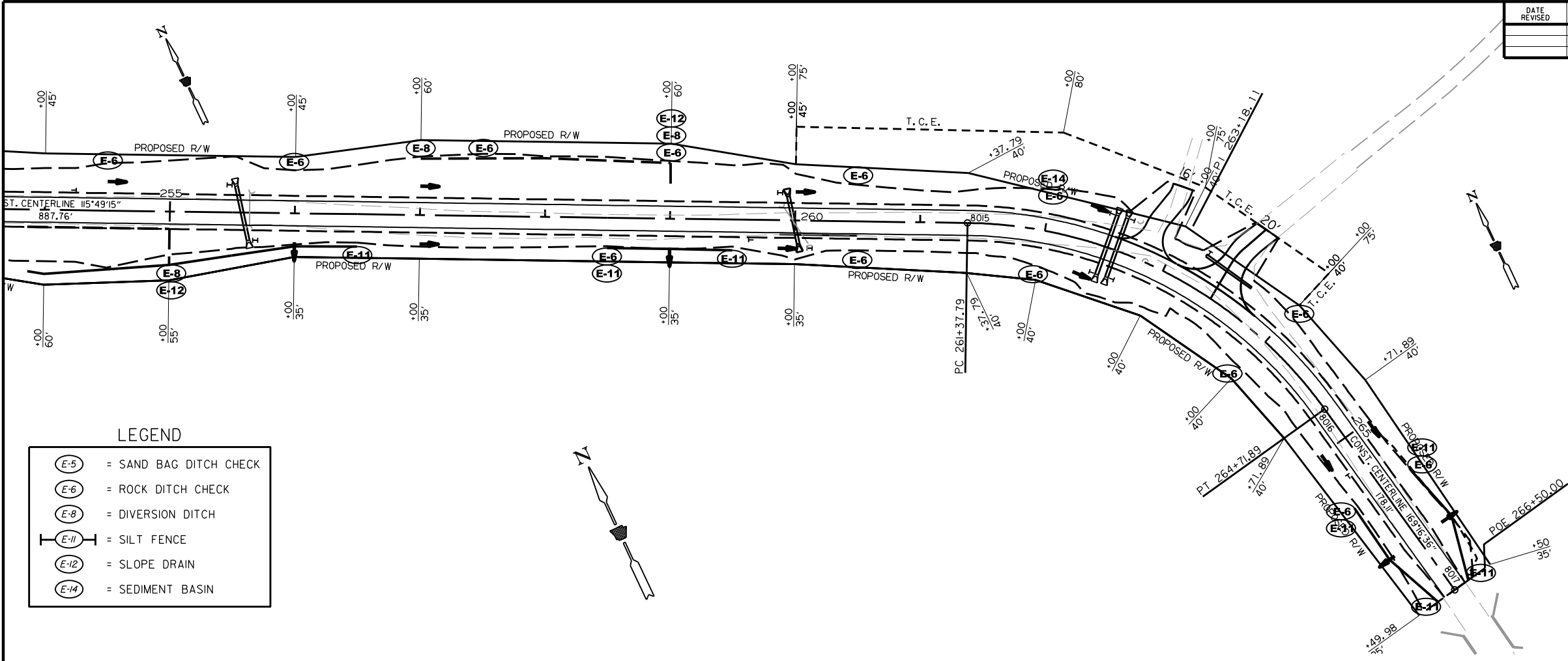
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DETAIL SHEETS FOR
HORIZONTAL AND VERTICAL
CONTROL DATA.

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.	FA0314	16	72	
4 TEMPORARY EROSION CONTROL DETAILS								



LEGEND

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



TEMPORARY EROSION CONTROL DEVICES

ROCK DITCH CHECKS (E-6)

STA. 254+50	LT.	= 3	CU. YD.
STA. 256+00	LT.	= 3	CU. YD.
STA. 257+50	LT.	= 3	CU. YD.
STA. 258+50	RT.	= 3	CU. YD.
STA. 259+00	LT.	= 3	CU. YD.
STA. 260+50	LT. & RT.	= 6	CU. YD.
STA. 262+00	LT. & RT.	= 6	CU. YD.
STA. 264+00	LT. & RT.	= 6	CU. YD.
STA. 265+50	LT. & RT.	= 6	CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
1.5	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.
3	CU. YD.

SILT FENCE (E-11)

STA. 258+50 - STA. 259+50	RT. = 100	LIN. FT.
STA. 265+50 - STA. 266+50	LT. = 104	LIN. FT.
STA. 265+50 - STA. 266+50	RT. = 101	LIN. FT.

SEDIMENT REMOVAL AND DISPOSAL

11	CU. YD.
11	CU. YD.
11	CU. YD.

DIVERSION DITCH (E-8)

STA. 257+00 - STA. 259+00 LT. = 200 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

STA. 259+00 LT. = 30 LIN. FT.

SEDIMENT BASIN (E-14)

STA. 262+00 LT. = 128 CU. YD.

OBLIT. OF SED. BASIN = 128 CU. YD.

SEDIMENT REMOVAL AND DISPOSAL

128 CU. YD.

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TEMPORARY EROSION CONTROL DETAILS

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

TRAFFIC CONTROL DEVICES																				
DESCRIPTION	W20-1								G20-1 (ROAD WORK NEXT XX MILES)		G20-2 (END ROAD WORK)		R2-6aP (FINES DOUBLE)		R2-11 (END HIGHER FINES ZONE)		WZ-4 (NO HAND-HELD PHONE USE BY DRIVER)		*TRAFFIC DRUMS	STANDARD DRAWING NUMBER
	1500 FT.		1000 FT.		500 FT.		AHEAD		NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	EACH	
	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.												
STA. 171+00	1	16.00											1	12.00						TC-1, TC-2, TC-3,TC-6
STA. 176+00			1	16.00													1	13.50		TC-1, TC-1A, TC-2, TC-3,TC-6
STA. 181+00											1	8.00				1	12.00			TC-1, TC-2, TC-3,TC-6
STA. 184+75					1	16.00				1	10.00									TC-1, TC-2, TC-3,TC-6
STA. 263+44							1	16.00												TC-1, TC-2, TC-3,TC-6
STA. 267+75										1	10.00									TC-1, TC-2, TC-3,TC-6
STA. 271+50					1	16.00						1	8.00			1	12.00			TC-1, TC-2, TC-3,TC-6
STA. 276+50			1	16.00														1	13.50	TC-1, TC-1A, TC-2, TC-3,TC-6
STA. 281+50	1	16.00												1	12.00					TC-1, TC-2, TC-3,TC-6
ENTIRE JOB																				TC-1, TC-2, TC-3,TC-6
ENTIRE PROJECT																			75*	TC-1, TC-2, TC-3
SUBTOTALS:	2	32.00	2	32.00	2	32.00	1	16.00	2	20.00	2	16.00	2	24.00	2	24.00	2	27.00	75*	
TOTALS:																	223.00	75*		

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.

BASE AND SURFACING													
STARTING STATION	ENDING STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		PRIME COAT				ACHM SURFACE COURSE (1/2")			
			FEET	TONS/STATION	TONS	WIDTH	SQ. YDS.	GAL./SQ.YD.	GALLONS	WIDTH	SQ. YDS.	LBS./SQ. YD.	TONS
186+00.	216+00.	MAIN LANES	3000	152.00	4560.0	21.00	7000.00	0.40	2800.00	20.00	6666.7	220.00	733.3
186+00.	266+50.	ADDITIONAL FOR SUPER	8050	VAR.	272.1								
216+00.	217+00.	SPRING PULLOUT TRANSITION	100	195.00	195.0	33.00	366.70	0.40	146.70	32.00	355.6	220.00	39.1
217+00.	220+00.	SPRING PULLOUT	300	238.00	714.0	44.50	1483.30	0.40	593.30	44.00	1466.7	220.00	161.3
220+00.	221+00.	SPRING PULLOUT TRANSITION	100	195.00	195.0	33.00	366.70	0.40	146.70	32.00	355.6	220.00	39.1
221+00.	266+00.	MAIN LANES	4500	152.00	6840.0	21.00	10500.00	0.40	4200.00	20.00	10000.0	220.00	1100.0
266+00.	266+50.	ENDING TRANSITION	50	VAR.	72.0	21.00	116.70	0.40	46.70	20.00	111.1	220.00	12.2
192+25.		PRIVATE DRIVE ON RT.			25.8	VAR.	63.20	0.40	25.30	VAR.	63.2	220.00	7.0
217+18.		SPRING ACCESS WALK ON RT.			7.7	11.00	26.50	0.40	10.60	10.00	19.0	220.00	2.1
223+14.		PRIVATE DRIVE ON LT.			62.6	VAR.	153.30	0.40	61.30	VAR.	153.3	220.00	16.9
223+14.		COUNTY ROAD TURNOUT ON RT.			48.6	VAR.	119.10	0.40	47.60	VAR.	119.1	220.00	13.1
262+81.		PRIVATE DRIVE ON LT.			56.6	VAR.	121.40	0.40	48.60	VAR.	121.4	220.00	13.4
263+44.		COUNTY ROAD TURNOUT ON LT.			84.5	VAR.	172.70	0.40	69.10	VAR.	172.7	220.00	19.0
MAINTENANCE OF TRAFFIC*		ENTIRE PROJECT			1000.0								
TOTALS:					14133.9				8195.90				2156.50
USE:					14134				8196				2157

BASIS OF ESTIMATE:
AGGREGATE BASE COURSE (CLASS 7) _____ 135 TONS / STA.(MAIN LANES)
AGGREGATE BASE COURSE (CLASS 7) _____ 195 TONS / STA.(SPRING PULLOUT TRANSITION)
AGGREGATE BASE COURSE (CLASS 7) _____ 237 TONS / STA.(SPRING PULLOUT)
AGGREGATE BASE COURSE (CLASS 7) _____ 144 TONS / STA.(ENDING TRANSITION)
PRIME COAT _____ 0.40 GAL. / SQ. YD.
ACHM SURFACE COURSE (1/2") _____ 220 LBS. PER SQ. YD.

VOLUME CONTROL:
ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2") _____ 5.8%
MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2") _____ 94.2%

NOTE: RATES MAY BE MODIFIED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

*QUANTITY ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

PAVEMENT MARKING			
STATION		REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4") CONTINUOUS	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4") CONTINUOUS
FROM	TO	LINEAR FEET	LINEAR FEET
186+00	266+50	16100	16100
TOTALS:		16100	16100

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

4" PIPE UNDERDRAIN		
LOCATION	4" PIPE UNDERDRAIN	UNDERDRAIN OUTLET PROTECTORS
	LIN. FT.	EACH
ENTIRE PROJECT	200	4
TOTALS:	200	4

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

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.	FA0314	17	72
QUANTITIES								

STATION	STATION	SIDE	WIRE FENCE (TYPE D)	20' GATE ALTERNATES	
				STEEL	ALUMINUM
			LIN. FT.	EACH	EACH
255+03	259+12	RT.	411		
263+01	265+10	RT.	190		
263+69	266+50	LT.	302		
265+20		RT.		1	1
265+30	266+50	RT.	128		
*AS DIRECTED			200		
TOTALS:			1231	1	1

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

STATION	STATION	CLEARING	GRUBBING
		STATION	STATION
186+00	266+50	81	81
TOTALS:		81	81

EARTHWORK							
STATION	STATION	DESCRIPTION	UNCLASSIFIED EXCAVATION			COMPACTED EMBANKMENT	
			NORMAL	ADD'L	TOTAL	NORMAL	ADD'L
			CUBIC YARDS				
186+00	266+50	MAIN LANES	27977		27977	18701	
192+25		ENTRANCE ON RT.				40	40
212+59	214+16	OBLITERATION OF EXISTING ROAD		30	30		
217+18		SPRING ACCESS ON RT.				45	45
217+87	219+55	OBLITERATION OF EXISTING ROAD		40	40		
223+14		ENTRANCE ON LT.				140	140
223+14		ENTRANCE ON RT.				75	75
225+66	235+29	OBLITERATION OF EXISTING ROAD		787	787		
262+81		ENTRANCE ON LT.				20	20
263+44		TURNOUT ON LT.				25	25
300+00	303+92	CHANNEL CHANGE		1217	1217	226	226
TOTALS:			27977	2074	30051	18701	571

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

NOTE: 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.

REINFORCED CONCRETE SPRING BOX			
STATION	CLASS S CONCRETE. ROADWAY	REINFORCING STEEL- ROADWAY (GRADE 60)	18" R.C.P.
	CU. YD.	POUND	LIN. FT.
216+50	3.31	168	16
TOTALS:	3.31	168	16

EXACT LOCATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER. PAYMENT FOR EXCAVATION WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.



QUANTITIES

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES																	
STATION	SIDE	STANDARD SIGN NUMBER												SUPPORT ASSEMBLIES		STANDARD DRAWING NUMBER	
		R1-1 (STOP)		W1-2R		W1-2L		W8-3		OM-3L		OM-3R		TYPE A	TYPE C		
		NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.	NO.	SQ. FT.				EACH
186+00	RT.					1	6.25								1		SHS 1&2
193+85	LT.			1	6.25										1		SHS 1&2
193+99	RT.			1	6.25										1		SHS 1&2
200+85	LT.					1	6.25								1		SHS 1&2
202+76	RT.			1	6.25										1		SHS 1&2
209+30	LT.					1	6.25								1		SHS 1&2
210+14	RT.					1	6.25								1		SHS 1&2
218+67	LT.			1	6.25										1		SHS 1&2
221+08	RT.			1	6.25										1		SHS 1&2
224+91	LT.									1	3.00					1	SHS 1&2
225+21	LT.												1	3.00		1	SHS 1&2
225+43	RT.												1	3.00		1	SHS 1&2
225+77	RT.									1	3.00					1	SHS 1&2
228+15	RT.					1	6.25								1		SHS 1&2
228+34	LT.					1	6.25								1		SHS 1&2
235+61	LT.			1	6.25					1	3.00*	1	3.00*	1	1		SHS 1&2
235+61	RT.			1	6.25					1	3.00*	1	3.00*	1	1		SHS 1&2
239+45	LT.			1	6.25										1		SHS 1&2
239+79	LT.			1	6.25					1	3.00*	1	3.00*	1	1		SHS 1&2
239+96	RT.			1	6.25					1	3.00*	1	3.00*	1	1		SHS 1&2
244+62	LT.									1	3.00	1	3.00			2	SHS 1&2
244+78	RT.									1	3.00	1	3.00			2	SHS 1&2
245+72	RT.			1	6.25										1		SHS 1&2
247+36	LT.									1	3.00*	1	3.00*			1	SHS 1&2
247+42	RT.									1	3.00*	1	3.00*			1	SHS 1&2
254+25	LT.					1	6.25								1		SHS 1&2
255+53	LT.									1	3.00*	1	3.00*			1	SHS 1&2
255+63	RT.									1	3.00*	1	3.00*			1	SHS 1&2
259+63	RT.			1	6.25										1		SHS 1&2
259+94	LT.									1	3.00*	1	3.00*			1	SHS 1&2
260+03	RT.									1	3.00*	1	3.00*			1	SHS 1&2
262+47	LT.									1	3.00	1	3.00			2	SHS 1&2
262+63	RT.									1	3.00	1	3.00			2	SHS 1&2
263+25	LT.	1	6.25												1		SHS 1&2
265+25	RT.							1	9.00						1		SHS 1&2
266+47	LT.					1	6.25								1		SHS 1&2
SUBTOTALS:		1	6.25	12	75.00	8	50.00	1	9.00	16	48.00	16	48.00	22	36		
TOTALS:													236.25	22	36		

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

*TWO OM-3'S PLACED BACK TO BACK ON EACH SIDE OF A SINGLE TYPE C SUPPORT ASSEMBLY.

STATION	STATION	LOCATION	SPECIAL TEMPORARY SEEDING	SPECIAL SECOND SEEDING APPLICATION	WATER	FILTER SOCK (18")	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	DIVERSION DITCH	SILT FENCE	PIPE FOR SLOPE DRAINS	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL AND DISPOSAL
			ACRES	ACRES	M. GALS	(E-3) LIN. FT.	(E-5) BAGS	(E-6) CU. YDS.	(E-8) LIN. FT.	(E-11) LIN. FT.	(E-12) LIN. FT.	(E-14) CU. YD.	CU. YD.	CU. YDS
186+00	266+50	MAIN LANES	13.70*	13.70*	559.0*			333	2321*	3518*	292	311	311	913*
ENTIRE PROJECT AS DIRECTED						200*	110*			270*				15*
TOTALS:			13.70*	13.70*	559.0*	200*	110*	333*	2321*	3788*	292*	311*	311*	928*

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

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

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

LOCATION	LIME	SPECIAL SEEDING	SPECIAL MULCH COVER	WATER
	TONS	ACRES	ACRES	M. GALS.
ENTIRE JOB	27	13.7	13.7	1397.4
TOTALS:	27	13.7	13.7	1397.4

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

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.		FA0314	18	72
				QUANTITIES				

4

STATION	STATION	LOCATION / DESCRIPTION	REMOVAL AND DISPOSAL OF FENCE	REMOVAL AND DISPOSAL OF GATES	REMOVAL AND DISPOSAL OF PIPE CULVERTS	REMOVAL AND DISPOSAL OF BOX CULVERTS
			LIN. FT.	EACH	EACH	EACH
193+87		1.8' X 1.2' X 35' CULVERT			1	
200+38		1.8' X 1.2' X 30' CULVERT			1	
202+31		1.8' X 1.2' X 28' CULVERT			1	
210+10		15" X 35' CULVERT			1	
213+22		18" X 34' CULVERT			1	
219+40		2.2' X 1.5' X 29' CULVERT			1	
225+41		8' X 4' X 44' R. C. BOX CULVERT				1
227+88		15" X 12" X 36' CULVERT			1	
234+38		15" X 27' CULVERT			1	
235+73		36" X 35' CULVERT			1	
239+92		22" X 15" X 45' CULVERT			1	
244+70		18" X 37' CULVERT			1	
247+41		24" X 36' CULVERT			1	
254+83	259+12	FENCE ON RT.	471			
255+64		18" X 28' CULVERT			1	
260+01		36' CULVERT			1	
262+77		28' CULVERT			1	
263+01	265+10	FENCE ON RT.	213			
263+69	266+50	FENCE ON LT.	292			
265+20		20' GATE ON RT.		1		
265+30	266+50	FENCE ON RT.	255			
TOTALS:			1231	1	15	1

STATION	SIDE	DESCRIPTION	REMOVAL AND RELOCATION OF SIGN
			EACH
221+70	LT.	HISTORIC MCPHEARSON COLDWATER SCHOOL SIGN	1
263+65	LT.	GAME & FISH PUBLIC ACCESS SIGN	1
TOTAL:			2



STATION	STATION	SIDE	FILTER BLANKET	DUMPED RIPRAP
			SQ. YDS.	CU. YDS.
186+00	221+25	LT.	2350.0	1175.0
186+00	192+09	RT.	406.0	203.0
192+39	195+25	RT.	190.7	95.4
200+75	217+04	RT.	1086.0	543.0
217+32	222+91	RT.	372.7	186.4
223+37	225+48	RT.	140.7	70.4
224+75	225+93	LT.	78.7	39.4
226+25	226+75	RT.	33.3	16.7
237+80	244+59	LT.	452.7	226.4
244+88	246+98	LT.	140.0	70.0
254+26	263+35	LT.	606.0	303.0
256+50	258+50	RT.	133.3	66.7
259+50	265+50	RT.	400.0	200.0
TOTALS:			6390.1	3195.4

USE: 6390 3195
NOTE: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	19	72
				④	QUANTITIES			

STRUCTURES OVER 20'-0" SPAN												
STATION	DESCRIPTION	R.C. BOX CULVERTS			CLASS "S" CONCRETE - BRIDGE	REINFORCING STEEL - ROADWAY (GRADE 60)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	BRIDGE NAME PLATE (TYPE C)	CONCRETE D'CH PAVING (TYPE B)	FILTER BLANKET	DUMPED RIPRAP	STANDARD DRAWING NUMBERS
		SPAN	HEIGHT	LENGTH								
		LIN. FT.										
225+32	THREE-SIDED CAST-IN-PLACE CULVERT DBL. 9' X 6' X 82' ON 45° RT. FWD. SKEW	9	6	82	328.31	47140	210	1	79.0	26	13	RCB-1 & RCB-2
TOTALS:					328.31	47140	210	1	79.0	26	13	



STRUCTURES																									
STATION	DESCRIPTION	SIDE DRAINS			PIPE CULVERT ALT.					ARCH PIPE CULVERTS ALT.				FLARED END SECTION ALT.				FLARED END SECTIONS FOR ARCH PIPE CULVERT ALT.				SELECTED PIPE BEDDING*	FLTER BLANKET	DUMPED RIPRAP	STANDARD DRAWING NUMBERS
					30"			42"		29" X 18"	28" X 20"	44" X 27"	42" X 29"	30"		42"		29" X 18"	28" X 20"	44" X 27"	42" X 29"				
		R.C.P. (CLASS IV)	R.C.P. (CLASS V)	C.M.P.	R.C.P. (CLASS V)	C.M.P.	R.C.P. (CLASS IV)	C.M.P.	R.C.P. (CLASS IV)	C.M.P.	R.C.P.	C.M.P.	R.C.P.	C.M.P.	R.C.P.	C.M.P.	R.C.P.	C.M.P.	R.C.P.	C.M.P.					
		24"	21" X 15"	28" X 20"	LINEAR FT.					LINEAR FT.				EACH				EACH							
192+25	SIDE DRAIN ON RT.		30																						PCM-1, PCC-1
217+18	DBL. SIDE DRAIN ON RT.	56																							PCM-1, PCC-1
223+14	DBL. SIDE DRAIN ON LT.			56																					PCM-1, PCC-1
223+14	DBL. SIDE DRAIN ON RT.			92																					PCM-1, PCC-1
235+60	CROSS DRAIN											100	112					2	2	2	2	6	34	17	PCM-1, PCC-1, FES-1, FES-2
239+89	CROSS DRAIN									46	52						2	2			4	16	8		PCM-1, PCC-1, FES-1, FES-3
244+70	DBL. CROSS DRAIN							96	108							4	4				8	92	46		PCM-1, PCC-1, FES-1, FES-4
247+39	CROSS DRAIN				50		56							2	2						4	26	13		PCM-1, PCC-1, FES-1, FES-5
255+58	CROSS DRAIN									44	50						2	2			4	16	8		PCM-1, PCC-1, FES-1, FES-6
259+99	CROSS DRAIN									40	46						2	2			4	16	8		PCM-1, PCC-1, FES-1, FES-7
262+62	DBL. CROSS DRAIN					96	108							4	4						8	52	26		PCM-1, PCC-1, FES-1, FES-8
263+44	SIDE DRAIN ON LT.			44																					PCM-1, PCC-1
TOTALS:		56	30	192	50	96	164	96	108	130	148	100	112	6	6	4	4	6	6	2	2	38	252	126	

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
*QUANTITIES ARE ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	FA0314	20	72

4 SUMMARY OF QUANTITIES AND REVISIONS



ITEM NO.	ITEM	QUANTITY	UNT
201	CLEARING	81	STATION
201	GRUBBING	81	STATION
202	REMOVAL AND DISPOSAL OF FENCE	1231	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES	1	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	15	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS	1	EACH
202	REMOVAL AND RELOCATION OF SIGN	2	EACH
SP, SS, & 210	UNCLASSIFIED EXCAVATION	30051	CU. YD.
SP & 210	COMPACTED EMBANKMENT	19272	CU. YD.
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)	14134	TON
SS & 401	PRIME COAT	8196	GAL.
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	2032	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	125	TON
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	223	SQ. FT.
SS & 604	TRAFFIC DRUMS	75	EACH
SP, SS, & 605	CONCRETE DITCH PAVING (TYPE B)	79	SQ. YD.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	16	LIN. FT.
* SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV) (ALTERNATE NO. 1)	50	LIN. FT.
* SS & 606	30" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE) (ALTERNATE NO. 2)	56	LIN. FT.
* SS & 606	30" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE) (ALTERNATE NO. 3)	56	LIN. FT.
* SS & 606	30" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (16 GAUGE) (ALTERNATE NO. 4)	56	LIN. FT.
* SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS V) (ALTERNATE NO. 1)	96	LIN. FT.
* SS & 606	30" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE) (ALTERNATE NO. 2)	108	LIN. FT.
* SS & 606	30" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE) (ALTERNATE NO. 3)	108	LIN. FT.
* SS & 606	30" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (16 GAUGE) (ALTERNATE NO. 4)	108	LIN. FT.
* SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS V) (ALTERNATE NO. 1)	96	LIN. FT.
* SS & 606	42" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE) (ALTERNATE NO. 2)	108	LIN. FT.
* SS & 606	42" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE) (ALTERNATE NO. 3)	108	LIN. FT.
* SS & 606	42" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (14 GAUGE) (ALTERNATE NO. 4)	108	LIN. FT.
* SS & 606	29" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV) (ALTERNATE NO. 1)	130	LIN. FT.
* SS & 606	28" X 20" ALUMINUM COATED CORRUGATED STEEL ARCH PIPE CULVERTS (16 GAUGE) (ALTERNATE NO. 2)	148	LIN. FT.
* SS & 606	28" X 20" ASPHALT COATED CORRUGATED STEEL ARCH PIPE CULVERTS (16 GAUGE) (ALTERNATE NO. 3)	148	LIN. FT.
* SS & 606	28" X 20" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL ARCH PIPE CULVERT (16 GAUGE) (ALTERNATE NO. 4)	148	LIN. FT.
* SS & 606	44" X 27" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV) (ALTERNATE NO. 1)	100	LIN. FT.
* SS & 606	42" X 29" ALUMINUM COATED CORRUGATED STEEL ARCH PIPE CULVERTS (14 GAUGE) (ALTERNATE NO. 2)	112	LIN. FT.
* SS & 606	42" X 29" ASPHALT COATED CORRUGATED STEEL ARCH PIPE CULVERTS (14 GAUGE) (ALTERNATE NO. 3)	112	LIN. FT.
* SS & 606	42" X 29" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL ARCH PIPE CULVERT (14 GAUGE) (ALTERNATE NO. 4)	112	LIN. FT.
* SS & 606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS (ALTERNATE NO. 1)	6	EACH
* SS & 606	30" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS (ALTERNATE NO. 2)	6	EACH
* SS & 606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS (ALTERNATE NO. 1)	4	EACH
* SS & 606	42" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS (ALTERNATE NO. 2)	4	EACH
* SS & 606	29" X 18" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS (ALTERNATE NO. 1)	6	EACH
* SS & 606	28" X 20" FLARED END SECTIONS FOR CORRUGATED STEEL ARCH PIPE CULVERT (ALTERNATE NO. 2)	6	EACH
* SS & 606	44" X 27" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS (ALTERNATE NO. 1)	2	EACH
* SS & 606	42" X 29" FLARED END SECTIONS FOR CORRUGATED STEEL ARCH PIPE CULVERTS (ALTERNATE NO. 2)	2	EACH
SP, SS, & 606	24" SIDE DRAIN	56	LIN. FT.
SS & 606	21" X 15" SIDE DRAIN	30	LIN. FT.
SS & 606	28" X 20" SIDE DRAIN	192	LIN. FT.
SS & 606	SELECTED PIPE BEDDING	38	CU. YD.
SS & 611	4" PIPE UNDERDRAINS	200	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	4	EACH
SS & 619	WIRE FENCE (TYPE D)	1231	LIN. FT.
* SS & 619	20' STEEL GATES (ALTERNATE NO. 1)	1	EACH
* SS & 619	20' ALUMINUM GATES (ALTERNATE NO. 2)	1	EACH
620	LIME	27	TON
SP & 620	SPECIAL SEEDING	13.70	ACRE
SP, SS, & 620	SPECIAL MULCH COVER	13.70	ACRE
620	WATER	1956.4	M. GAL.
621	SILT FENCE	3788	LIN. FT.
621	SAND BAG DITCH CHECKS	110	BAG
621	DIVERSION DITCH	2321	LIN. FT.
621	SEDIMENT BASIN	311	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	311	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	928.0	CU. YD.
621	PIPE FOR SLOPE DRAINS	292	LIN. FT.
621	ROCK DITCH CHECKS	333	CU. YD.
SS & 621	FILTER SOCK (18")	200	LIN. FT.
SP & 621	SPECIAL TEMPORARY SEEDING	13.70	ACRE
SP & 623	SPECIAL SECOND SEEDING APPLICATION	13.70	ACRE
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")	16100	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	16100	LIN. FT.
SS & 726	STANDARD SIGN	236.25	SQ. FT.
SS & 729	CHANNEL POST SIGN SUPPORT (TYPE A)	22	EACH
SS & 729	CHANNEL POST SIGN SUPPORT (TYPE C)	36	EACH
SP, SS, & 802	CLASS S CONCRETE-ROADWAY	3.31	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	168	POUND
SS & 816	FILTER BLANKET	6668	SQ. YD.
SS & 816	DUMPED RIPRAP	3334	CU. YD.

* DENOTES ALTERNATE BID ITEMS

STRUCTURES OVER 20'-0" SPAN

ITEM NO.	ITEM	QUANTITY	UNIT
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	210	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-BRIDGE	328.31	CU. YD.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	47140	POUND
812	BRIDGE NAME PLATE (TYPE C)	1	EACH

* DENOTES ALTERNATE BID ITEMS

REVISIONS

DATE	REVISION	SHEET NUMBER

SUMMARY OF QUANTITIES AND REVISIONS

JOB SURVEYED BY CLS INC.- 9-2011, JOB PROCESSED AND BUILT BY LLC/EDR 9-26-2011.
SURVEY CONTROL COORDINATES

Project Name: sfa0312
Date: 9/21/2011
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
Units: U.S. SURVEY FOOT

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.		FA0314	21	72
				④ SURVEY CONTROL DETAILS				



CONSTRUCTION CENTERLINE COORDINATES FOR COUNTY ROAD 73

POINT NAME	NORTHING	EASTING	DESCRIPTION	STATION
8000	656803.5065	1230431.4933	POB	181+44.77
8001	656863.5932	1231042.3075	PC	187+58.53
	656887.2040	1231282.3237	PI	189+99.71
8002	657085.5049	1231419.5898	PT	192+10.26
8003	657384.6345	1231626.6508	PC	195+74.07
	657530.9962	1231727.9641	PI	197+52.07
8004	657556.6779	1231904.1076	PT	199+09.88
8005	657634.7779	1232439.7742	PC	204+51.21
	657657.1076	1232592.9275	PI	206+05.98
8006	657606.6328	1232739.2382	PT	207+54.86
8007	657464.9193	1233150.0214	PC	211+89.40
	657374.4691	1233412.2085	PI	214+66.75
8008	657557.4097	1233620.6696	PT	216+91.93
8009	657947.5248	1234065.2064	PC	222+83.37
	658084.0876	1234220.8200	PI	224+90.41
8010	658017.3654	1234416.8127	PT	226+58.80
8011	657910.5737	1234730.5074	PC	229+90.18
	657777.4102	1235121.6676	PI	234+03.38
8012	657971.3781	1235486.5172	PT	237+70.13
8013	658385.3723	1236265.2317	PC	246+52.05
	658537.0420	1236550.5194	PI	249+75.15
8014	658396.3138	1236841.3601	PT	252+50.02
8015	658009.6413	1237640.4900	PC	261+37.79
	657931.0997	1237802.8106	PI	263+18.11
8016	657753.9246	1237836.3626	PT	264+71.89
8017	657578.9212	1237869.5033	POE	266+50.00

CONSTRUCTION CENTERLINE COORDINATES FOR CHANNEL

POINT NAME	NORTHING	EASTING	DESCRIPTION	STATION
8030	658080.8575	1234221.5471	POB	300+00.00
8031	658079.2058	1234238.2032	PC	300+16.74
	658078.1893	1234248.4538	PI	300+27.04
8032	658071.0903	1234255.9179	PT	300+36.58
8033	657954.4284	1234378.5783	PI	302+05.86
8034	657874.1312	1234510.5947	PC	303+60.38
	657870.4235	1234516.6905	PI	303+67.52
8035	657868.5688	1234523.5801	PT	303+74.55
8036	657863.9932	1234540.5766	POE	303+92.16

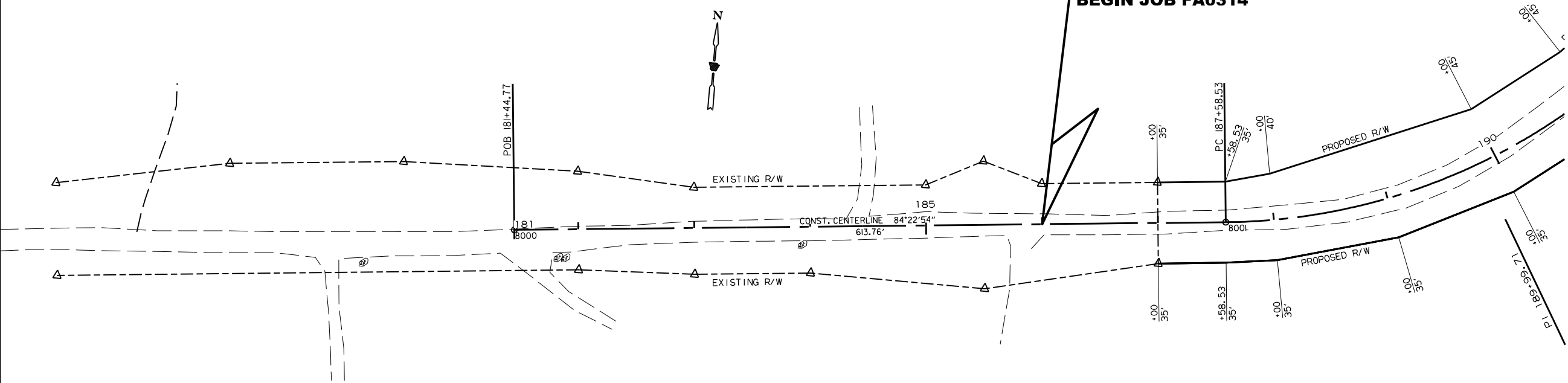
Point Name	Northing	Easting	Elev	Feature	Description
1	656803.5065	1230431.4933			POB
2	656863.5932	1231042.3075			PC
3	656887.2040	1231282.3237			PI
4	657085.5049	1231419.5898			PT
5	657384.6345	1231626.6508			PC
6	657530.9962	1231727.9641			PI
7	657556.6779	1231904.1076			PT
8	657634.7779	1232439.7742			PC
9	657657.1076	1232592.9275			PI
10	657606.6328	1232739.2382			PT
11	657464.9193	1233150.0214			PC
12	657374.4691	1233412.2085			PI
13	657557.4097	1233620.6696			PT
14	657947.5248	1234065.2064			PC
15	658084.0876	1234220.8200			PI
16	658017.3654	1234416.8127			PT
17	657910.5737	1234730.5074			PC
18	657777.4102	1235121.6676			PI
19	657971.3781	1235486.5172			PT
20	658385.3723	1236265.2317			PC
21	658537.0420	1236550.5194			PI
22	658396.3138	1236841.3601			PT
23	658009.6413	1237640.4900			PC
24	657931.0997	1237802.8106			PI
25	657753.9246	1237836.3626			PT
26	657578.9212	1237869.5033			POE
27	658080.8575	1234221.5471			POB
28	658079.2058	1234238.2032			PC
29	658078.1893	1234248.4538			PI
30	658071.0903	1234255.9179			PT
31	657954.4284	1234378.5783			PI
32	657874.1312	1234510.5947			PC
33	657870.4235	1234516.6905			PI
34	657868.5688	1234523.5801			PT
35	657863.9932	1234540.5766			POE
36	658079.2058	1234238.2032			PC
37	658078.1893	1234248.4538			PI
38	658071.0903	1234255.9179			PT
39	657954.4284	1234378.5783			PI
40	657874.1312	1234510.5947			PC
41	657870.4235	1234516.6905			PI
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72	657874.1312	1234510.5947			PC
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78	658071.0903	1234255.9179			PT
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89	657870.4235	1234516.6905			PI
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108	658079.2058	1234238.2032			PC
109	658078.1893	1234248.4538			PI
110	658071.0903	1234255.9179			PT
111	657954.4284	1234378.5783			PI
112	657874.1312	1234510.5947			PC
113	657870.4235	1234516.6905			PI
114	657868.5688	1234523.5801			PT
115	657863.9932	1234540.5766			POE
116	658079.2058	1234238.2032			PC
117	658078.1893	1234248.4538			PI
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119	657954.4284	1234378.5783			PI
120	657874.1312	1234510.5947			PC
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136	657874.1312	1234510.5947			PC
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140	658079.2058	1234238.2032			PC
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157	658078.1893	1234248.4538			PI
158	658071.0903	1234255.9179			PT
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160	657874.1312	1234510.5947			PC
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164	658079.2058	1234238.2032			PC
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178	657868.5688	1234523.5801			PT
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194	657868.5688	1234523.5801			PT
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196	658079.2058	1234238.2032			PC
197	658078.1893	1234248.4538			PI
198	658071.0903	1234255.9179			PT
199	657954.4284	1234378.5783			PI
200	657874.1312	1234510.5947			PC
201	657870.4235	1234516.6905			PI
202	657868.5688	1234523.5801			PT
203	657863.9932	1234540.5766			POE
204	658079.2058	1234238.2032			PC
205	658078.1893	1234248.4538			PI
206	658071.0903	1234255.9179			PT
207	657954.4284	1234378.5783			PI
208	657874.1312	1234510.5947			PC
209	657870.4235	1234516.6905			PI
210	657868.5688	1234523.5801			PT
211	657863.9932	1234			

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.		FA0314	22	72
				SURVEY CONTROL DETAILS				

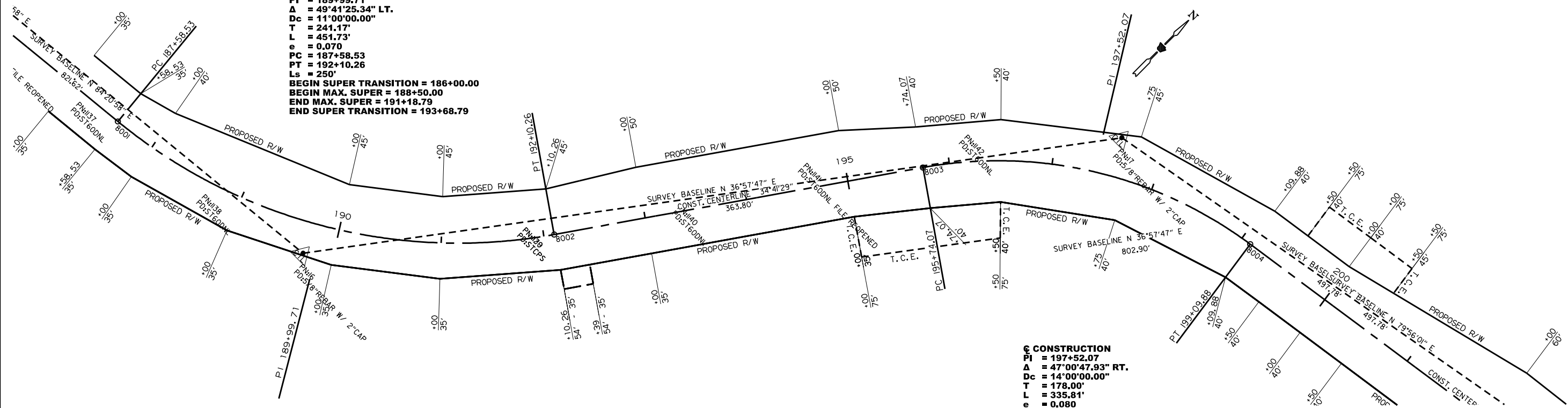
4



STA. 186+00.00
BEGIN JOB FA0314



CONSTRUCTION
PI = 189+99.71
Δ = 49°41'25.34" LT.
Dc = 11°00'00.00"
T = 241.17'
L = 451.73'
e = 0.070
PC = 187+58.53
PT = 192+10.26
Ls = 250'
BEGIN SUPER TRANSITION = 186+00.00
BEGIN MAX. SUPER = 188+50.00
END MAX. SUPER = 191+18.79
END SUPER TRANSITION = 193+68.79

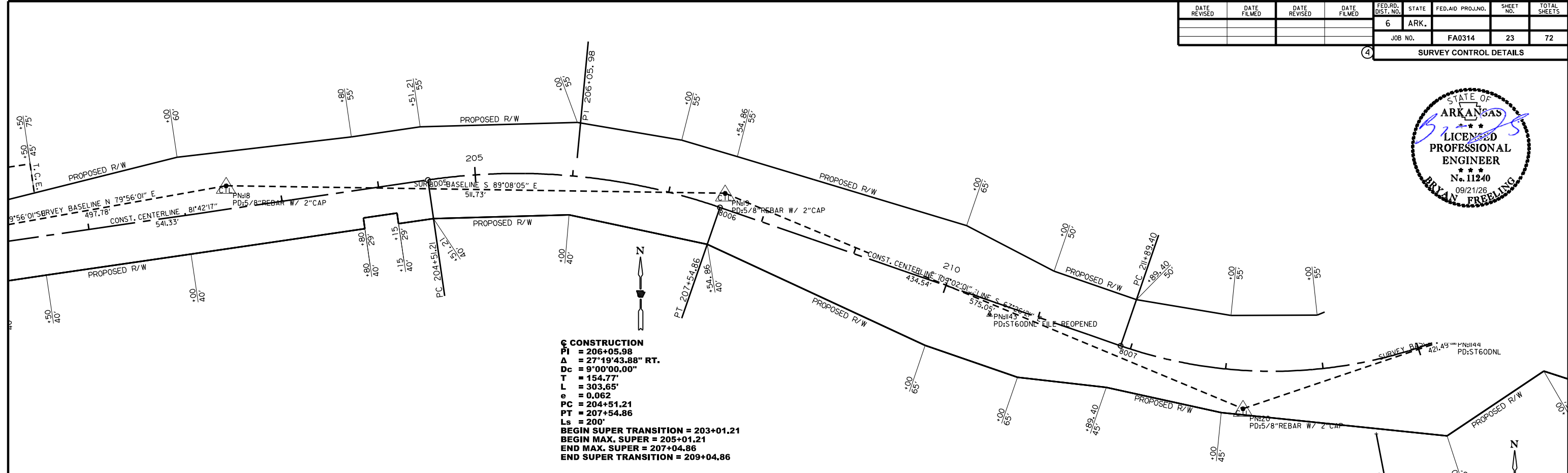


CONSTRUCTION
PI = 197+52.07
Δ = 47°00'47.93" RT.
Dc = 14°00'00.00"
T = 178.00'
L = 335.81'
e = 0.080
PC = 195+74.07
PT = 199+09.88
Ls = 250'
BEGIN SUPER TRANSITION = 193+86.57
BEGIN MAX. SUPER = 196+36.57
END MAX. SUPER = 198+47.38
END SUPER TRANSITION = 200+97.38

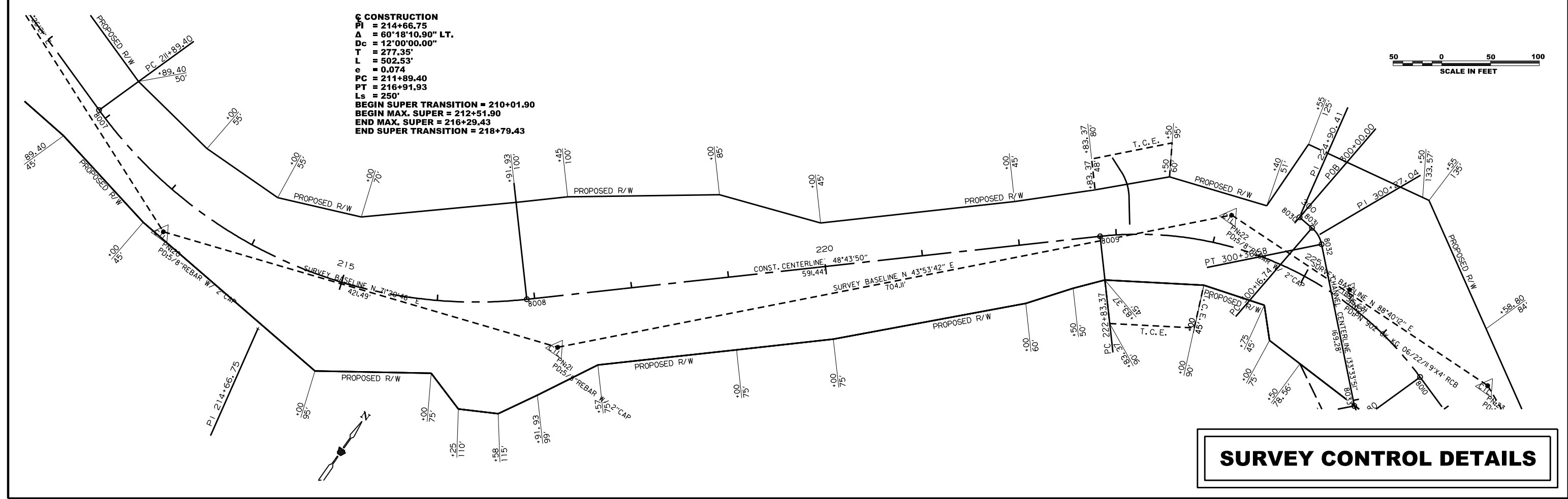
SURVEY CONTROL DETAILS

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.	FA0314	23	72	
SURVEY CONTROL DETAILS								

4

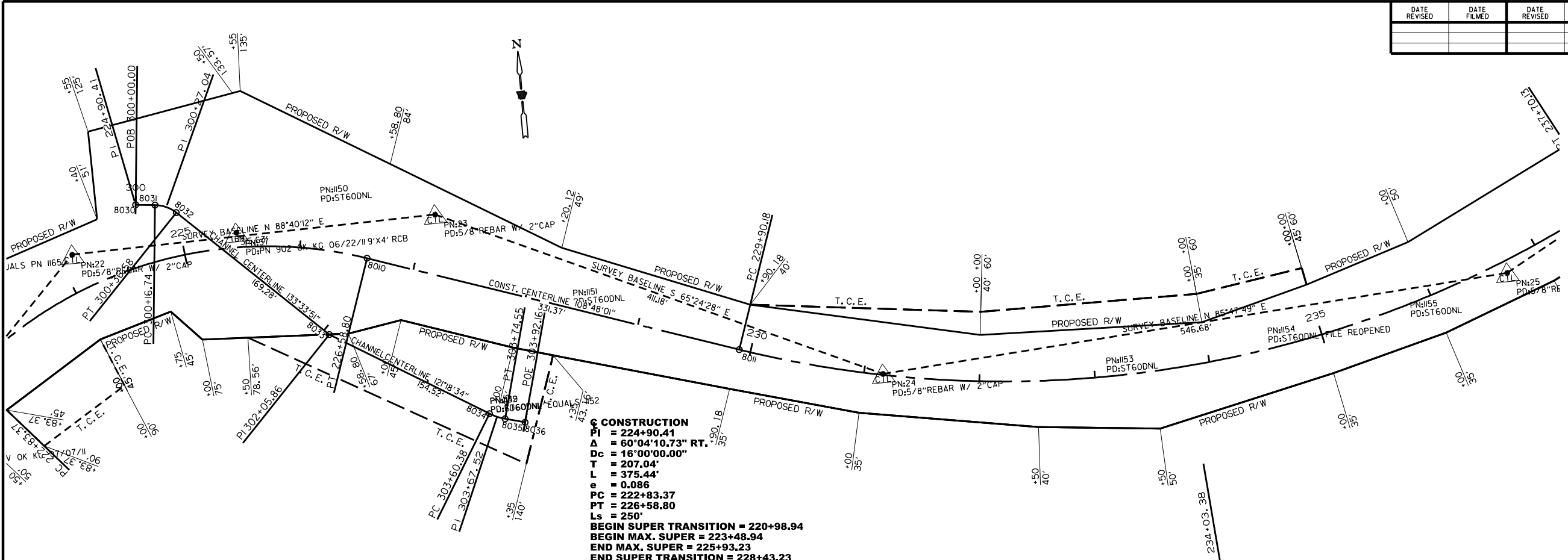


CONSTRUCTION
PI = 214+66.75
Delta = 60°18'10.90" LT.
Dc = 12°00'00.00"
T = 277.35'
L = 502.53'
e = 0.074
PC = 211+89.40
PT = 216+91.93
Ls = 250'
BEGIN SUPER TRANSITION = 210+01.90
BEGIN MAX. SUPER = 212+51.90
END MAX. SUPER = 216+29.43
END SUPER TRANSITION = 218+79.43

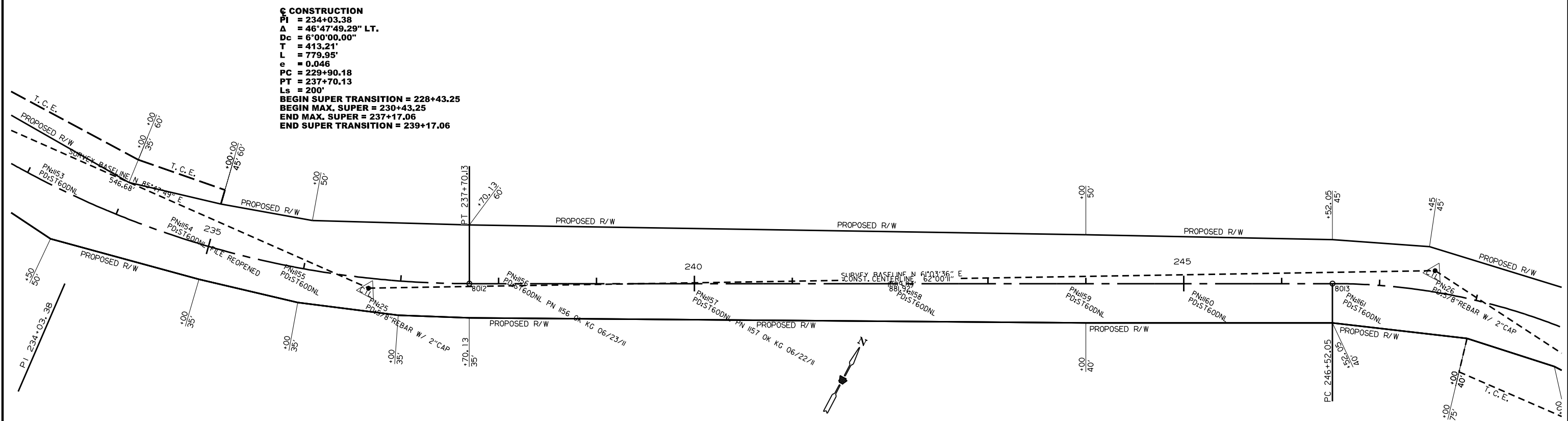


SURVEY CONTROL DETAILS

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.	FA0314	24	72	
SURVEY CONTROL DETAILS								



☛ CONSTRUCTION
PI = 224+90.41
Δ = 60°04'10.73" RT.
Dc = 16°00'00.00"
T = 207.04'
L = 375.44'
e = 0.086
PC = 222+83.37
PT = 226+58.80
Ls = 250'
BEGIN SUPER TRANSITION = 220+98.94
BEGIN MAX. SUPER = 223+48.94
END MAX. SUPER = 225+93.23
END SUPER TRANSITION = 228+43.23



☛ CONSTRUCTION
PI = 234+03.38
Δ = 46°47'49.29" LT.
Dc = 6°00'00.00"
T = 413.21'
L = 779.95'
e = 0.046
PC = 229+90.18
PT = 237+70.13
Ls = 200'
BEGIN SUPER TRANSITION = 228+43.25
BEGIN MAX. SUPER = 230+43.25
END MAX. SUPER = 237+17.06
END SUPER TRANSITION = 239+17.06

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.		FA0314	25	72
④ SURVEY CONTROL DETAILS								

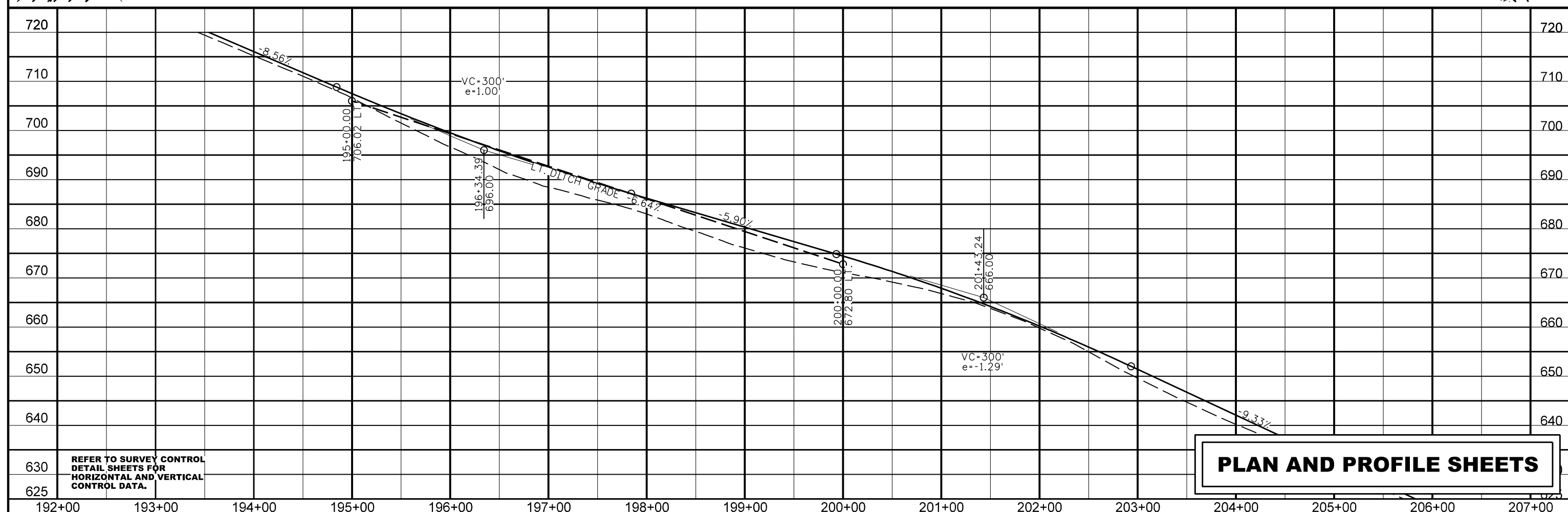
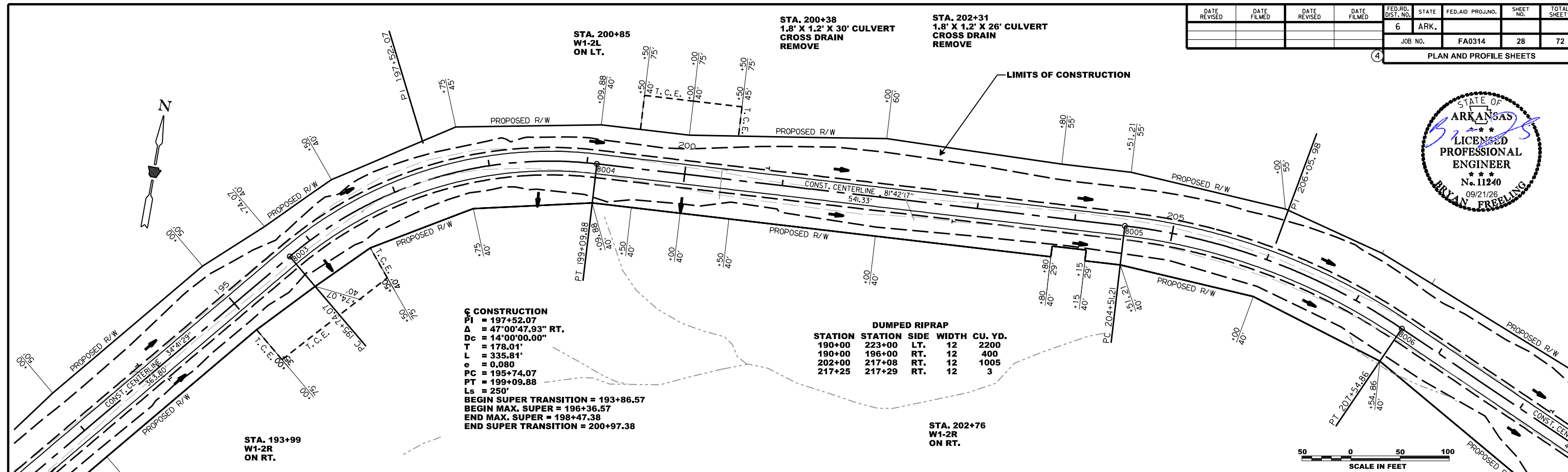


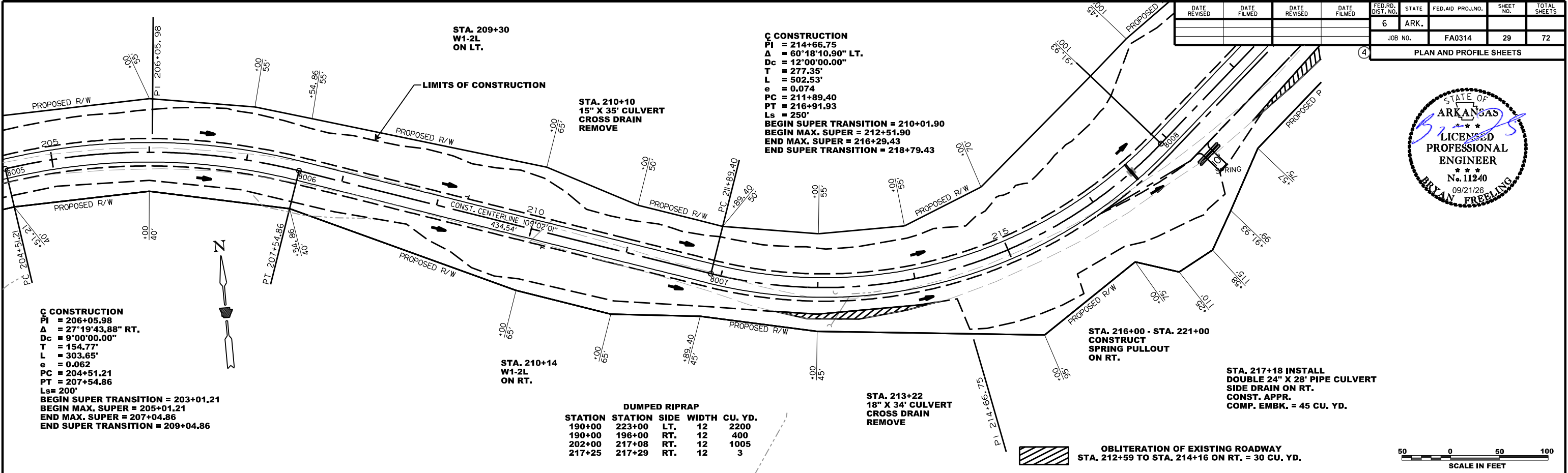
CONSTRUCTION
PI = 249+75.15
Δ = 53°49'03.40" RT.
Dc = 9°00'00.00"
T = 323.10'
L = 597.97'
e = 0.062
PC = 246+52.05
PT = 252+50.02
Ls = 200'
BEGIN SUPER TRANSITION = 245+02.05
BEGIN MAX. SUPER = 247+02.05
END MAX. SUPER = 252+00.02
END SUPER TRANSITION = 254+00.02

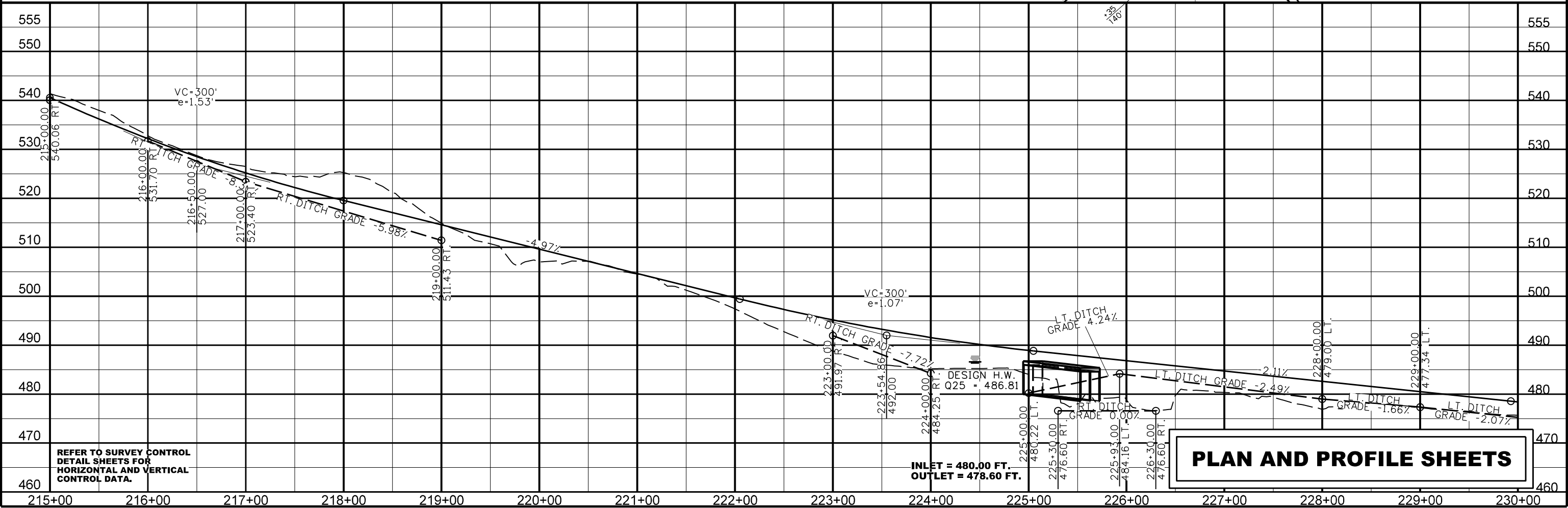
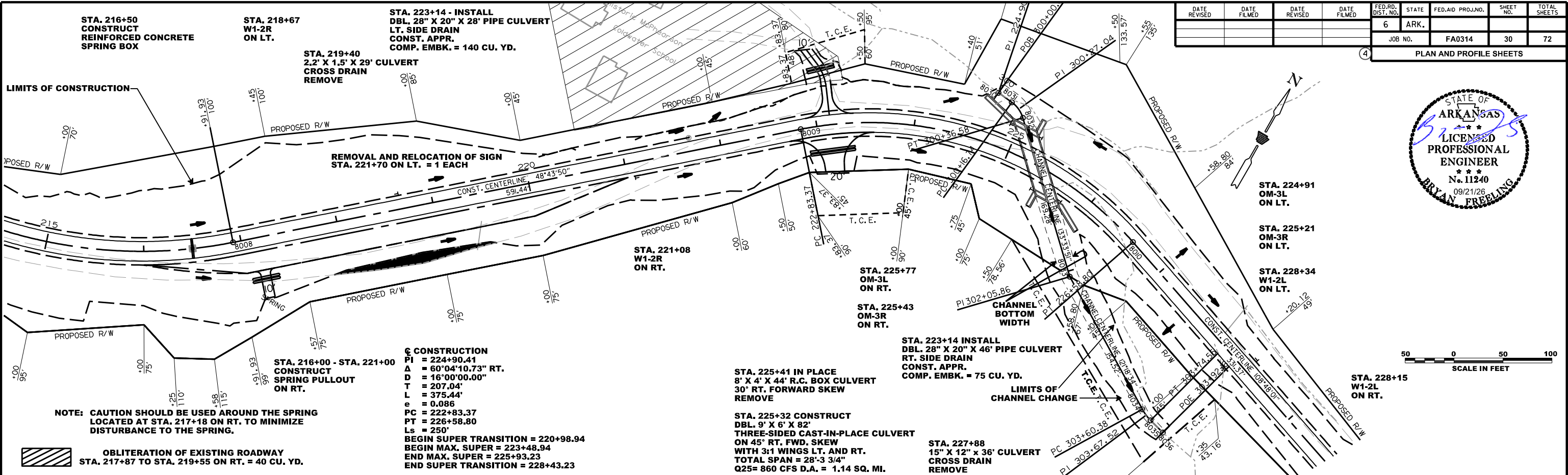
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEET
				6	ARK.			
				JOB NO.	FA0314	28	72	

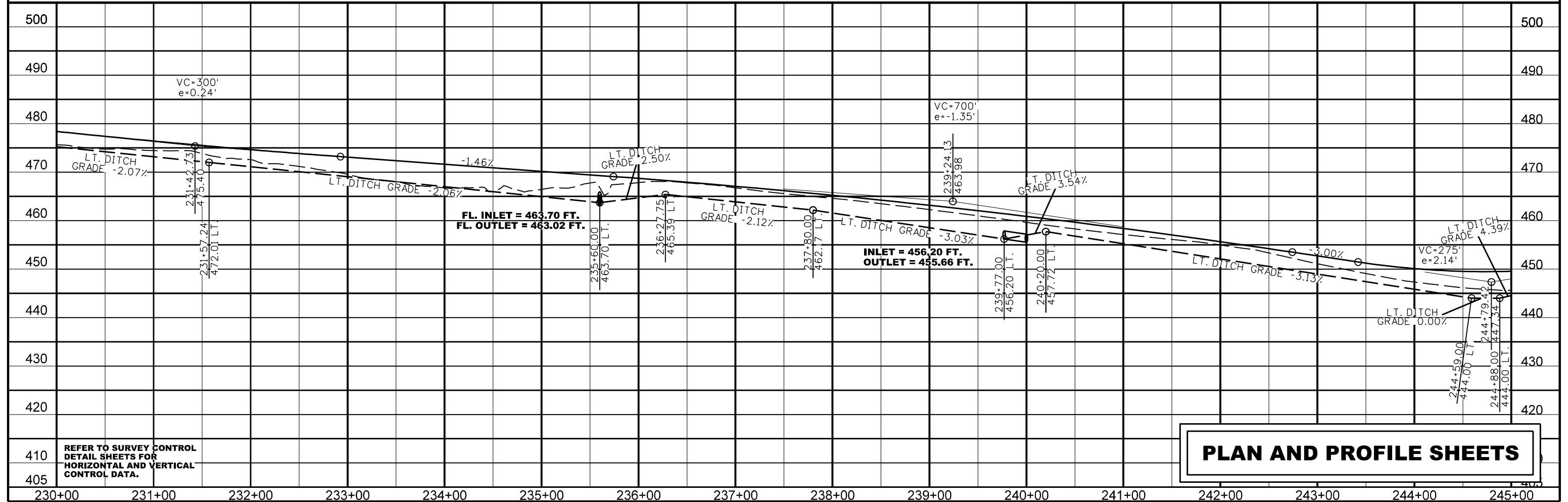
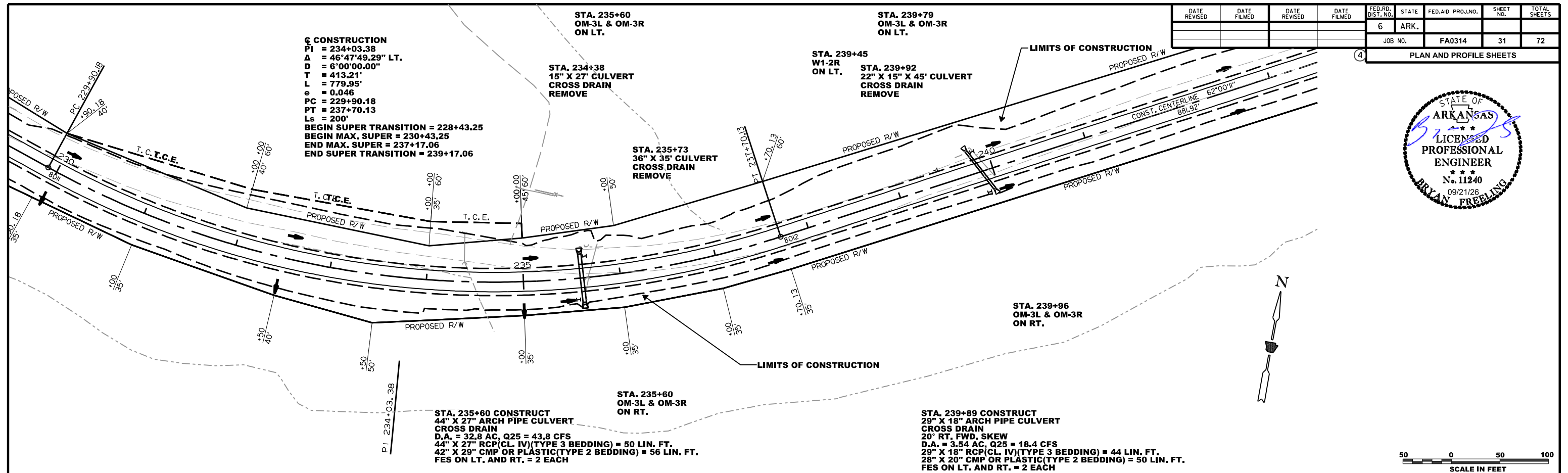
4 PLAN AND PROFILE SHEETS

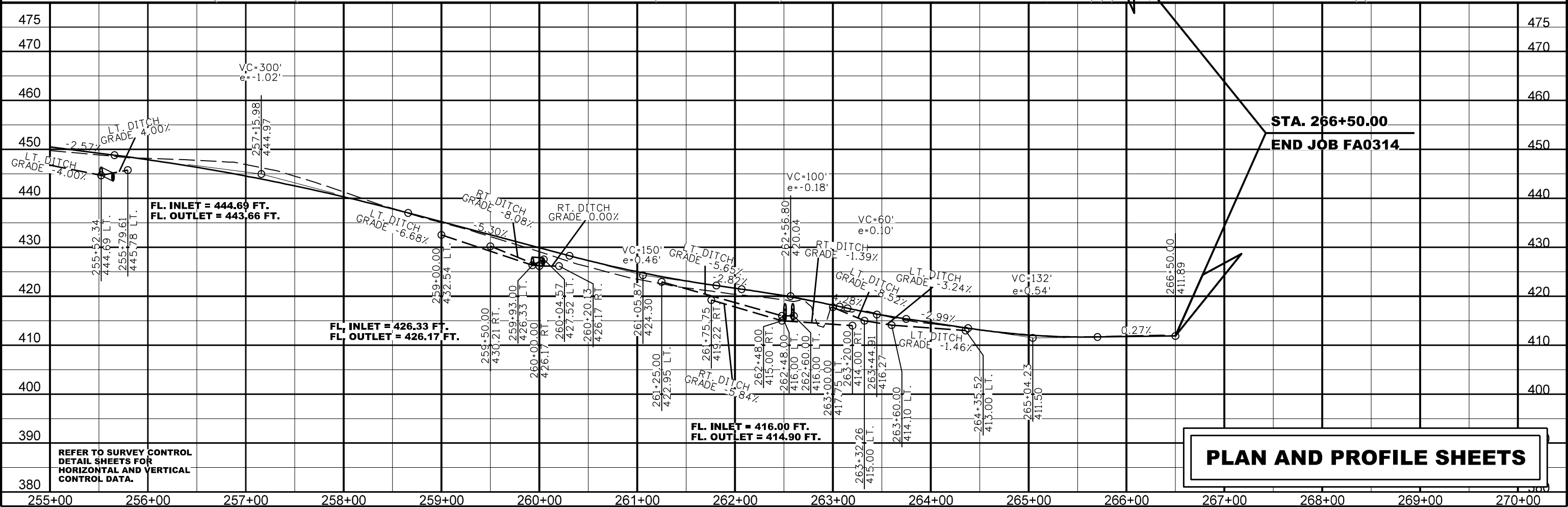
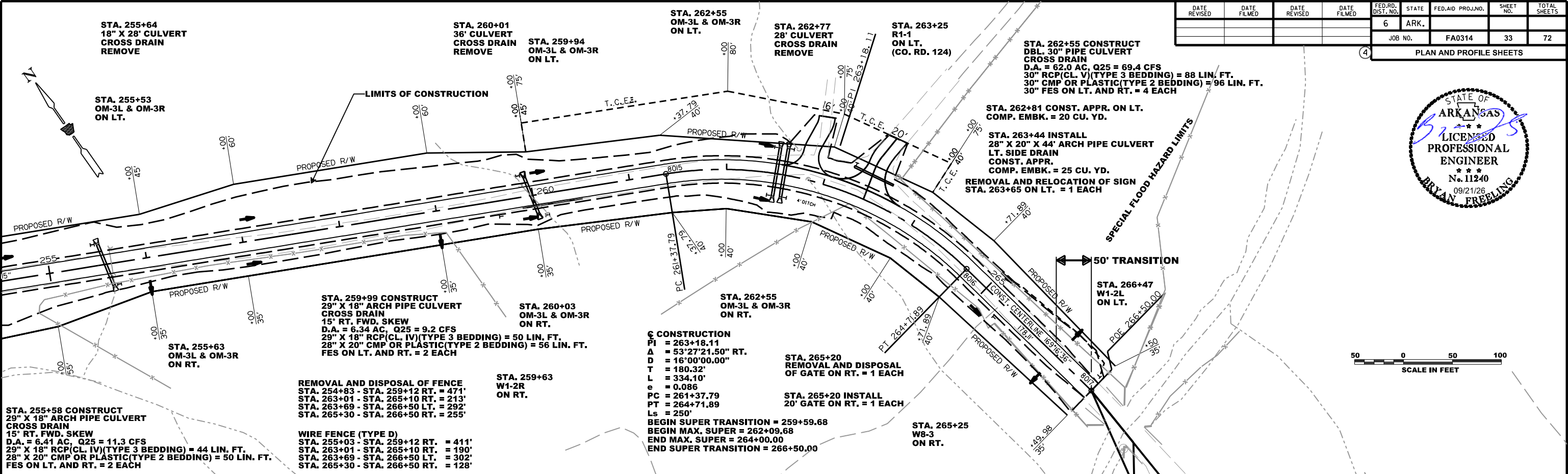






DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	31	72
				(4)	PLAN AND PROFILE SHEETS			





PLAN AND PROFILE SHEETS

GENERAL NOTES:

BENCHMARK: Vertical Control data are shown on the Survey Control Data Sheets.

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, Ninth Edition (2020).

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 $\frac{3}{4}$ " chamfers.

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

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. culvert and to the construction joint between wingwalls and R.C. culvert walls. Membrane Waterproofing will not be paid for directly, but shall be considered subsidiary to the item "Class S Concrete".

Weep Holes in culvert walls and in wingwalls 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 finished ground. There shall be a minimum of two (2) weep holes in each wingwall.

The barrel components of the culvert may be constructed using continuous pours. The Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by 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. All longitudinal construction joints shall be submitted to the Engineer for approval.

FOOTINGS: Footings shall be keyed a minimum of 1'-0" into competent rock as determined in the field. The top of the footings shall be set 2' below the channel bottom as determined by the lowest channel elevation with the footprint of the footing. Foundations for footings shall be prepared in accordance with Subsection 801.04. Rock excavations shall be made to neat lines of the concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings keyed into rock shall be poured directly against excavated surfaces of rock. Excavations shall be backfilled and compacted to the channel flow line using stone backfill meeting the requirements of Section 207, except the gradation should ensure that the rock size (D_{50}) is equal to or greater than 9". The maximum piece size shall not be greater than 18". The stone may be dumped into the excavation limits without regard to depth of layer. This work and materials are considered subsidiary to various bid items.

REMOVAL AND SALVAGE: The Contractor shall remove existing culvert in accordance with Section 205. All material from existing structure shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Notes

SCHEDULE OF BRIDGE QUANTITIES

	ITEM 605	ITEM 801	ITEM SS & 802	ITEM SS & 804	ITEM 812	ITEM SS & 816	ITEM SS & 816
	CONCRETE DITCH PAVING (TYPE B)	EXCAVATION FOR STRUCTURES - BRIDGE	CLASS 5 CONCRETE - BRIDGE	REINFORCING STEEL - BRIDGE (GRADE 60)	BRIDGE NAME PLATE (TYPE C)	FILTER BLANKET	DUMPED RIPRAP
UNIT	SQ. YD.	CU. YD.	CU. YD.	LB.	EACH	SQ. YD.	CU. YD.
	79	① 210	① 328.31	① 47,140	1	26	13

① Estimated quantities shown. Actual quantities will be determined in the field.

② Name Plate Title = COLDWATER CREEK

③ See "TYPICAL SECTION A-A" on Dwg. No. 68847 for additional information.

⑥ Stage 1 to be constructed after partial removal of existing culvert. For more information on the staged construction joint, see Roadway Notes and "STAGED CONSTRUCTION JOINT DETAIL" on Drawing No. 68846

④ Heights based on bottom of wingwall elevation measured from 2'-0" below channel bottom. See "TABLE OF VARIABLES" on Dwg. No. 68851 for additional information. Wingwall dimensions shall be field verified by the Contractor prior to fabrication of cast-in-place wingwalls.

⑤ Total minimum culvert area shall be 108 square feet.
Min. Culvert Low Chord at Inlet = 486.00
Min. Culvert Low Chord at Outlet = 484.60

SHEET 1 OF 2
LAYOUT OF THREE-SIDED CAST-IN-PLACE CULVERT
CO. RD. 73 OVER COLDWATER CREEK
HWY. 341 SOUTHEAST - STONE CO.
LINE (PHASE 2) (S)
BAXTER COUNTY

CO. RD. 73
ARKANSAS STATE HIGHWAY COMMISSION

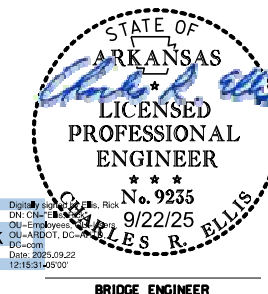
LITTLE ROCK, ARK.

DRAWN BY: BAB/CPK **DATE:** 5/10/2023 **FILENAME:** bFA0314_l1.dgn

CHECKED BY: DPT DATE: 7/5/2023 SCALE: As Shown

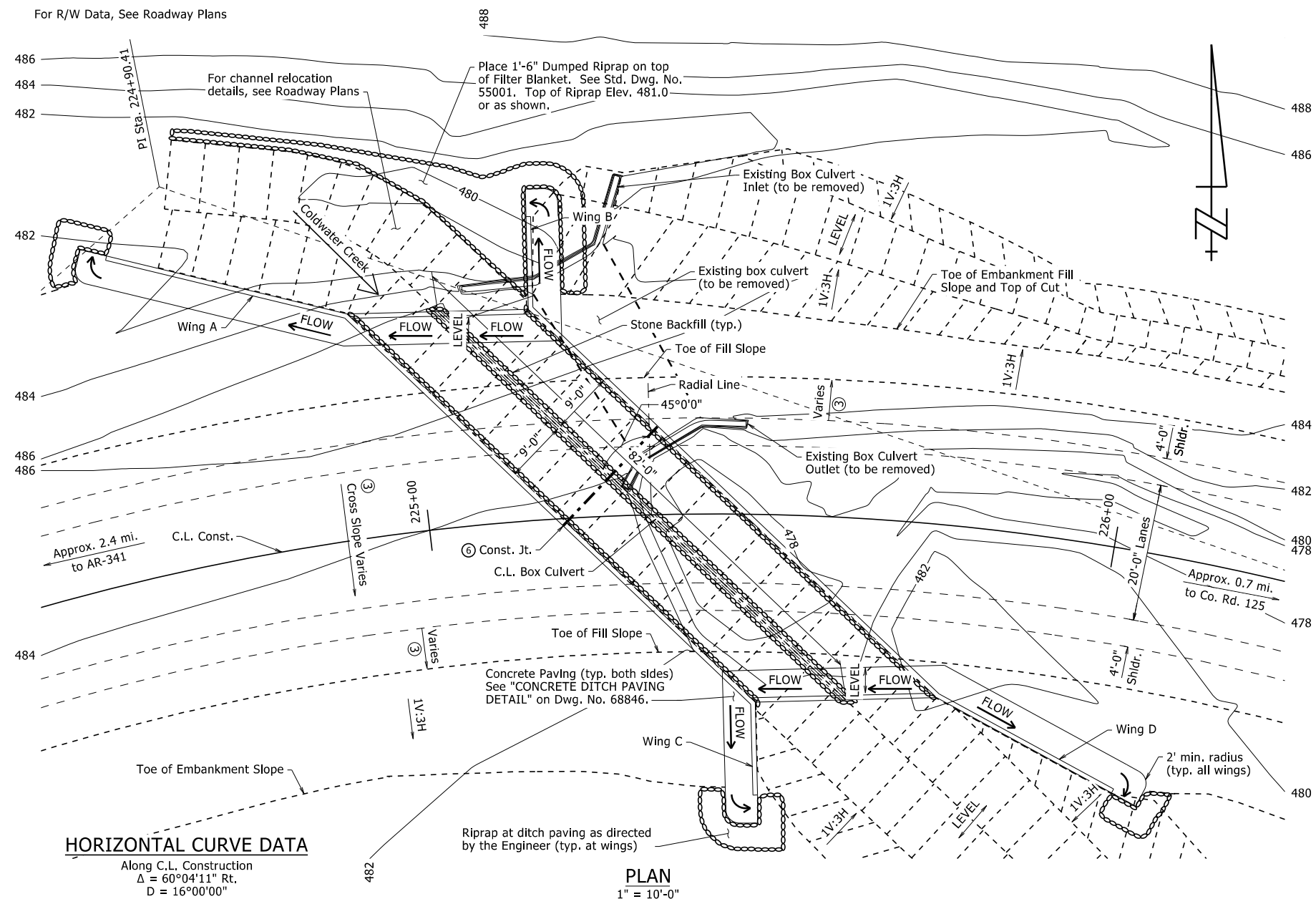
DESIGNED BY: BAB DATE: 5/2023

BRIDGE NO. 04954 DRAWING NO. 68845



Ellis, Rick

BRIDGE ENGINEER



HORIZONTAL CURVE DATA

Along C.L. Construction
 $\Delta = 60^{\circ}04'11''$ Rt.
 $D = 16^{\circ}00'00''$
 $T = 207.04'$
 $L = 375.44'$
 $R = 358.10'$
P.I. Sta. = 224+90.41

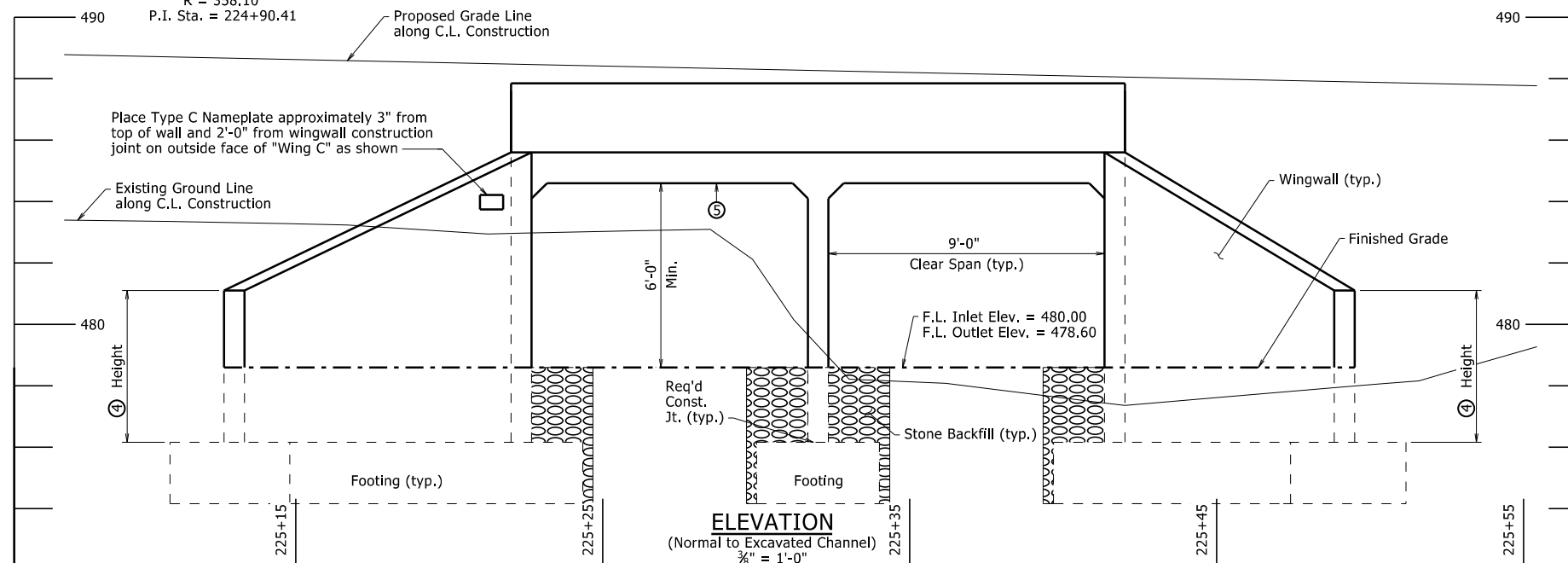
✓ Proposed Grade Line
along C.L. Construction

Place Type C Nameplate approximately 3" from top of wall and 2'-0" from wingwall construction joint on outside face of "Wing C" as shown —

Existing Ground Line
along C.L. Construction

Riprap at ditch paving as directed
by the Engineer (typ. at wings)

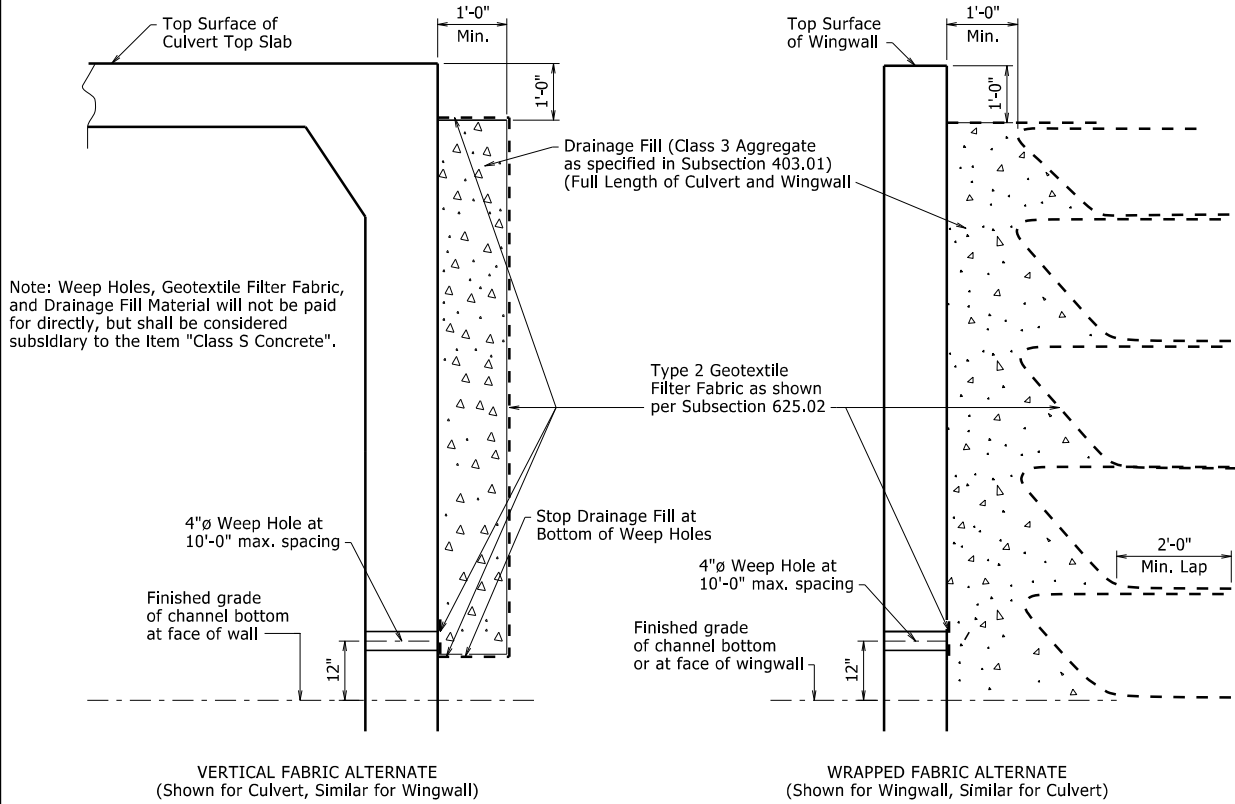
PLAN
 $1'' = 10'-0''$



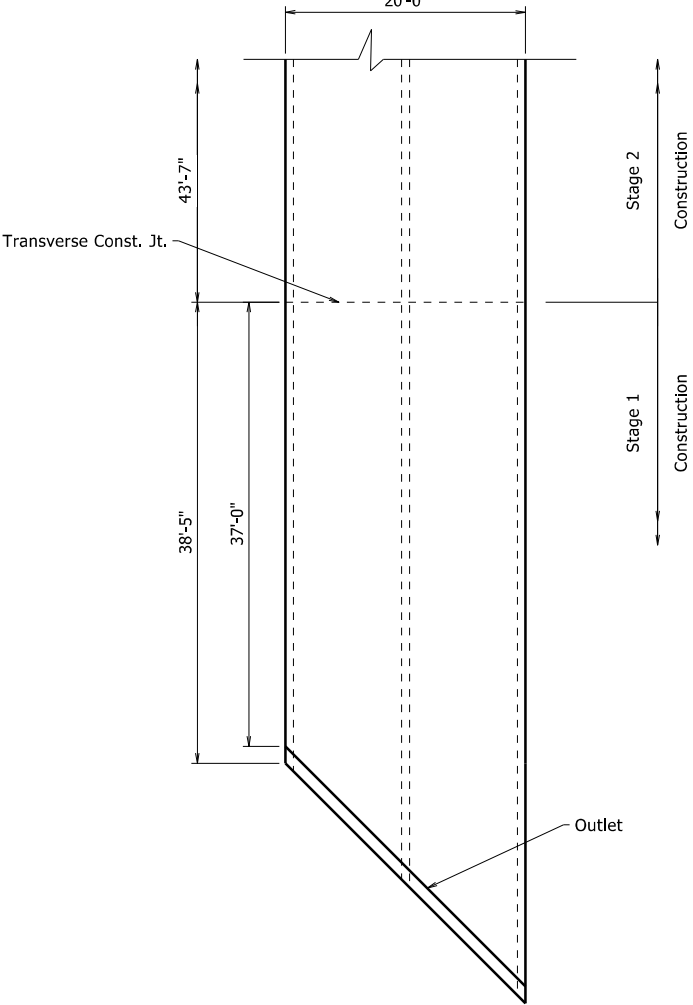
ELEVATION

(Normal to Excavated Channel)
 $\frac{3}{8}'' = 1'-0''$

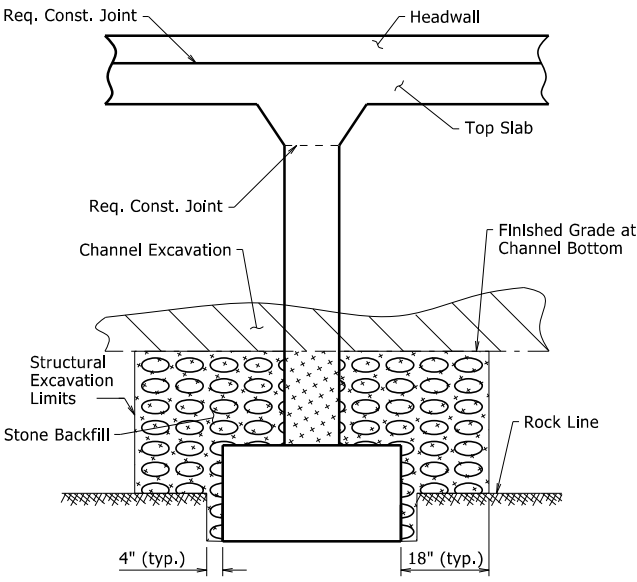
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	FA0314	35	72
04954 - LAYOUT - 68846						



WINGWALL & CULVERT DRAINAGE DETAIL



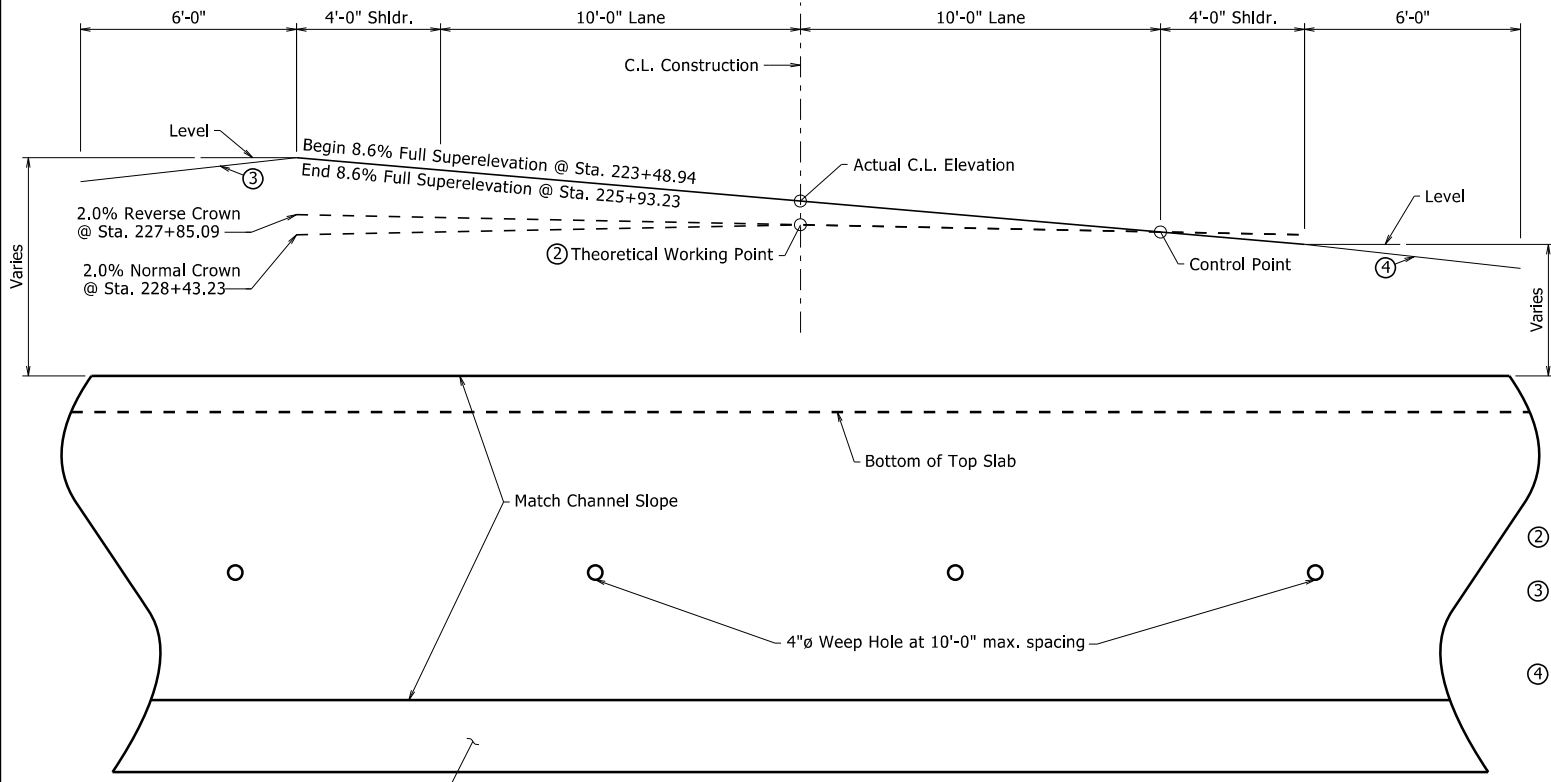
STAGED CONSTRUCTION JOINT DETAIL



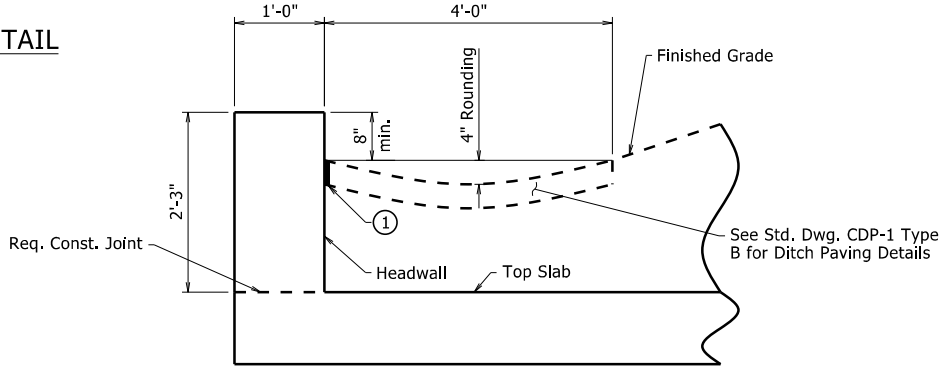
LIMITS OF PAY FOR EXCAVATION

UNIT SHOWN
WINGWALLS SIMILAR

- ① ½" Preformed Joint Filler (AASHTO M153, Type 1) per Subsection 501.02(h)(1). Seal with ½" x 1" Type 3 or 4 Joint Sealer per Subsection 501.02(h)(2).



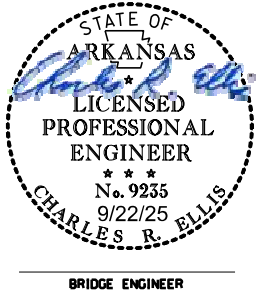
TYPICAL SECTION
Looking Ahead



CONCRETE DITCH PAVING DETAIL

For the Headwall reinforcement, see Dwg. No. 68847

- ② See Roadway Plans for Roadway Profile and Additional Information
- ③ 1V:4H @ Sta. 224+02.72
1V:50H @ Sta. 224+52.72
1V:50H @ Sta. 225+27.07
1V:4H @ Sta. 225+77.07
- ④ 1V:4H @ Sta. 224+88.65
1V:50H @ Sta. 225+38.65
1V:50H @ Sta. 226+16.04
1V:4H @ Sta. 226+66.04

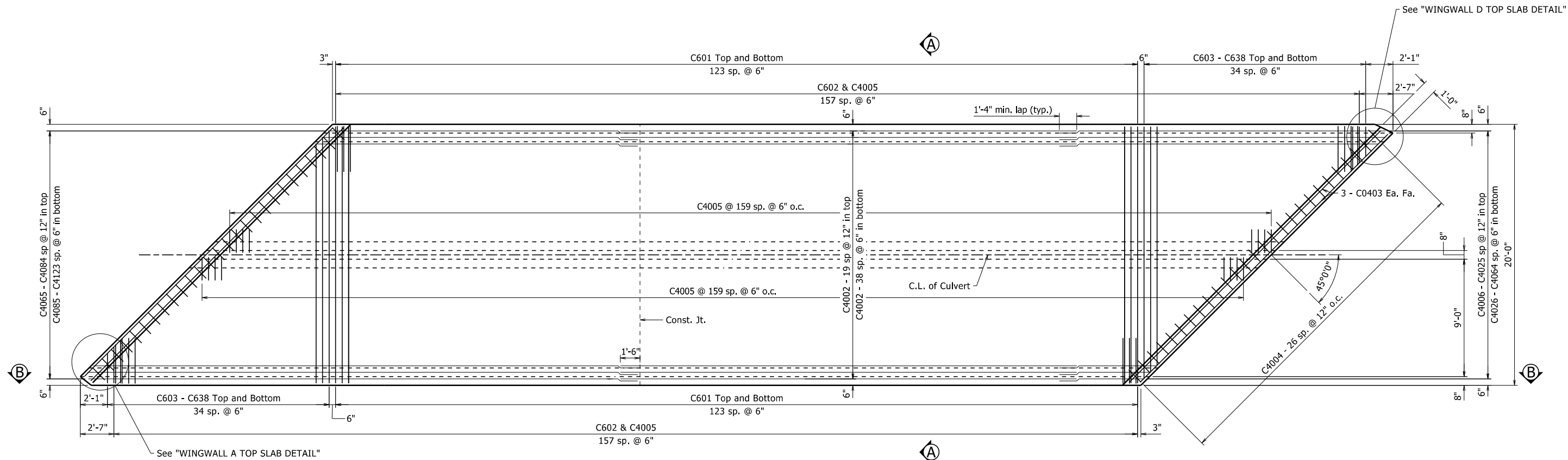


SHEET 2 OF 2
LAYOUT OF THREE-SIDED CAST-IN-PLACE CULVERT
CO. RD. 73 OVER COLDWATER CREEK
HWY. 341 SOUTHEAST - STONE CO.
LINE (PHASE 2) (S)
BAXTER COUNTY

CO. RD. 73
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

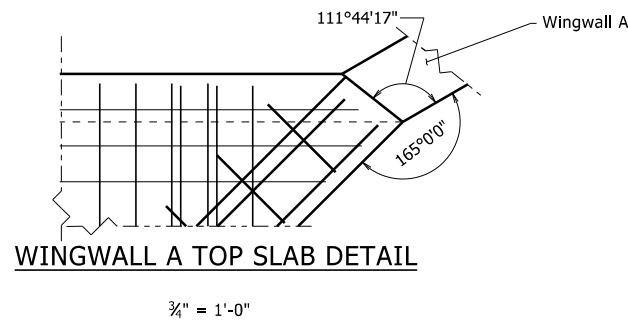
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CHECKED BY: DPT DATE: 7/5/2023 SCALE: No Scale
DESIGNED BY: BAB DATE: 5/2023
BRIDGE NO. 04954 DRAWING NO. 68846

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	FA0314	37	72
04954 - Three-Sided Culvert - 68848						

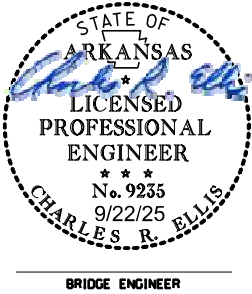
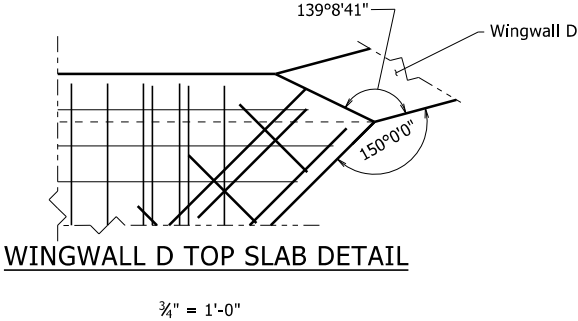


TOP SLAB REINFORCEMENT

For "SECTION A-A" and "SECTION B-B", see Dwg. No. 68847.



WINGWALL A TOP SLAB DETAIL depicts the variation of the top slab at the inlet
WINGWALL D TOP SLAB DETAIL depicts the variation of the top slab at the outlet



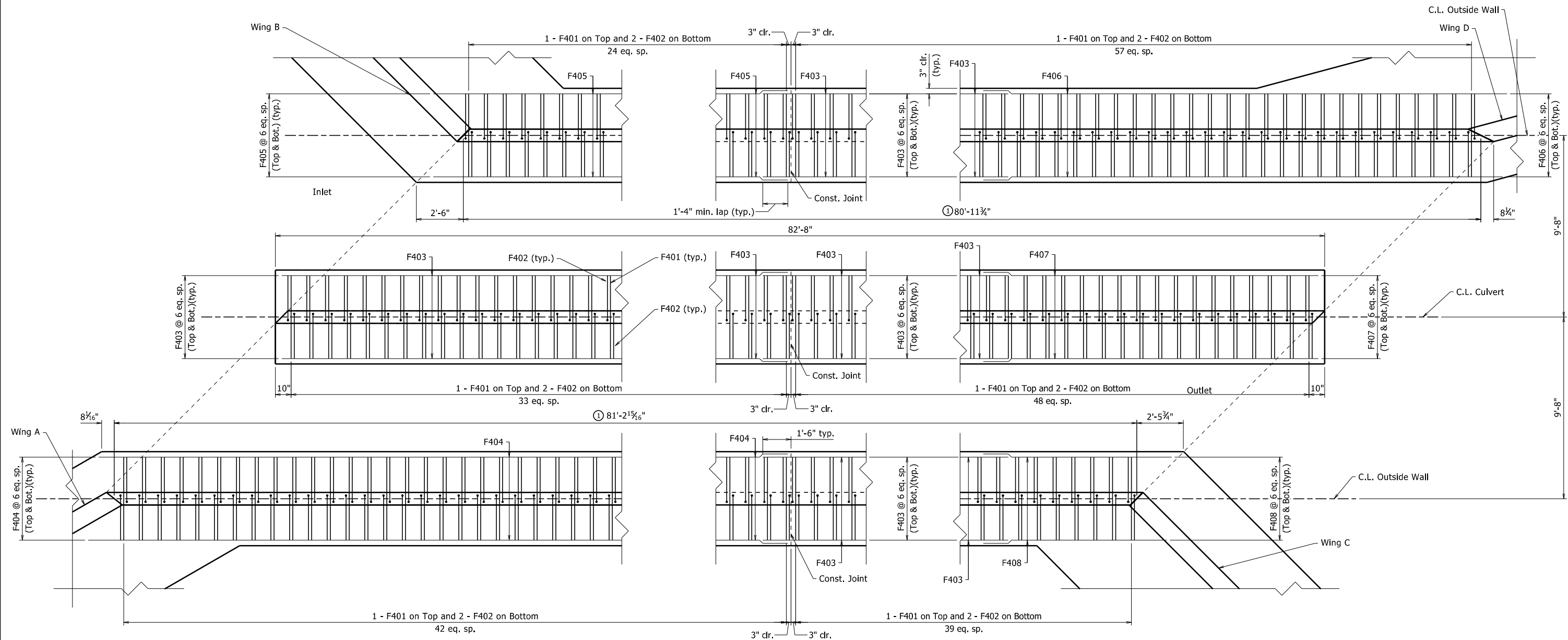
SHEET 2 OF 6
DETAILS OF THREE-SIDED
CAST-IN-PLACE CULVERT

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CPK DATE: 10/2024 FILENAME: FA0314.dgn
CHECKED BY: DPT DATE: 02/10/2025 SCALE: 3/4" = 1'-0"
DESIGNED BY: DPT DATE: 9/2024

BRIDGE NO. 04954 DRAWING NO. 68848

DATE REVISED	DATE REVISED	FED. NO. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	FA0314	38	72
04954 - Three-Sided Culvert - 68849						



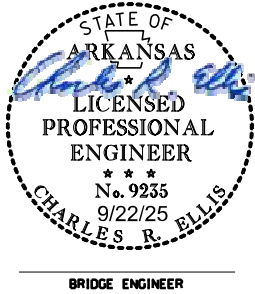
General Notes:

F401 and F402 are tied together, but bar separation is shown for clarity.

See Dwg. No. 68847, "SECTION A-A", and "SECTION B-B" for more information.

① Measured along centerline of wall

FOOTING PLAN VIEW

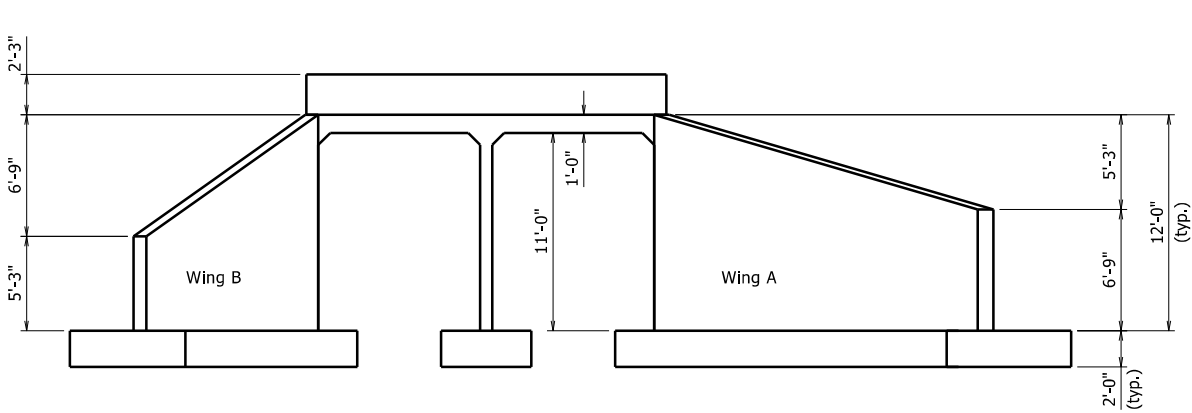


SHEET 3 OF 6
DETAILS OF THREE-SIDED
CAST-IN-PLACE CULVERT

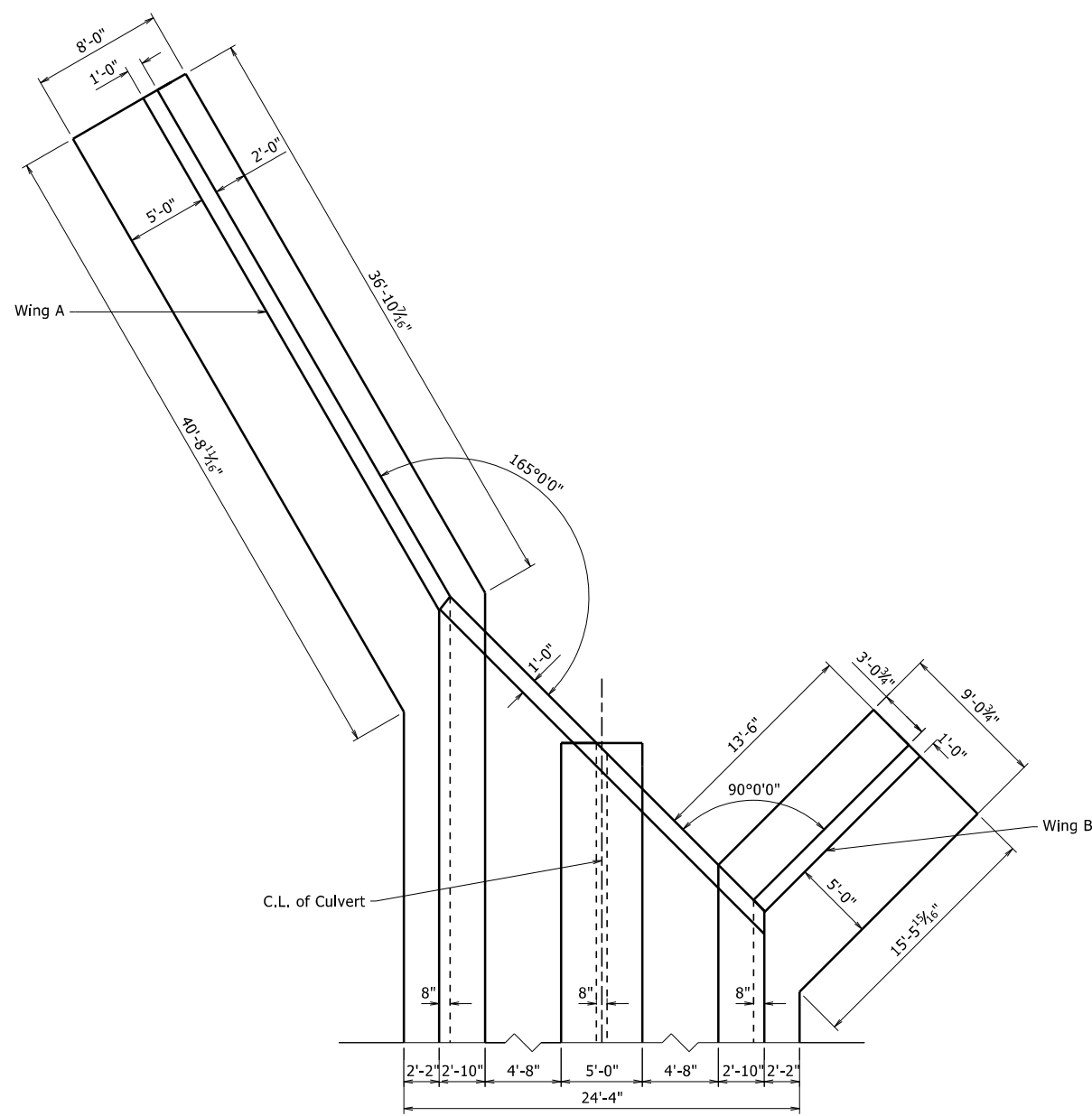
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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CHECKED BY: DPT DATE: 03/13/2025 SCALE: 3/8" = 1'-0"
DESIGNED BY: DPT DATE: 09/20/24
BRIDGE NO. 04954 DRAWING NO. 68849

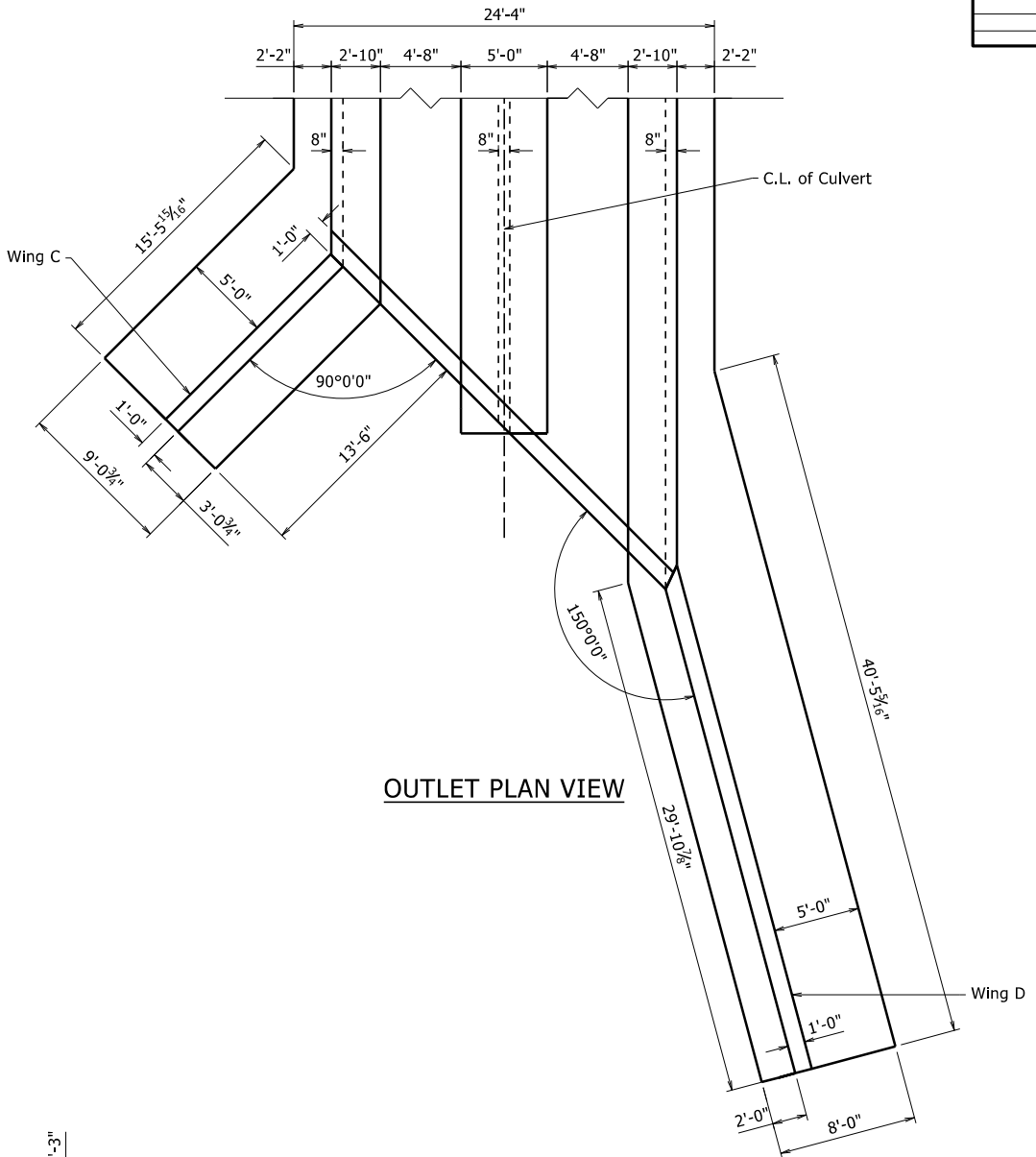
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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04954 - Three-Sided Culvert - 68850						



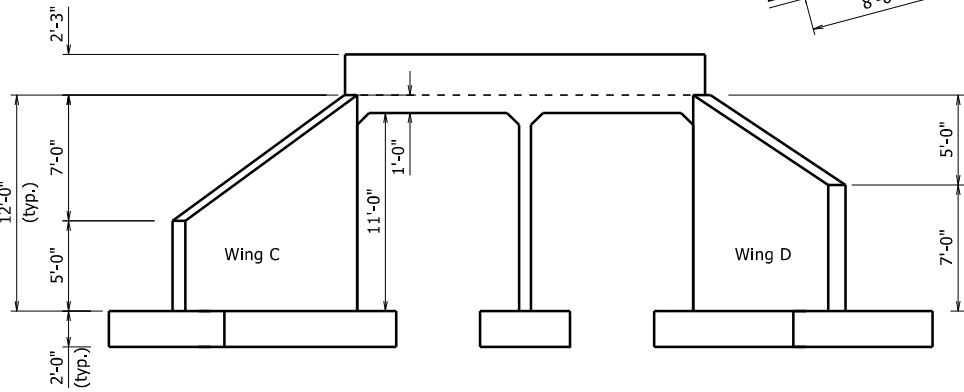
INLET ELEVATION



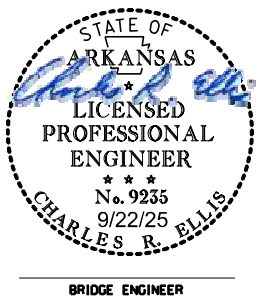
INLET PLAN VIEW



OUTLET PLAN VIEW



OUTLET ELEVATION



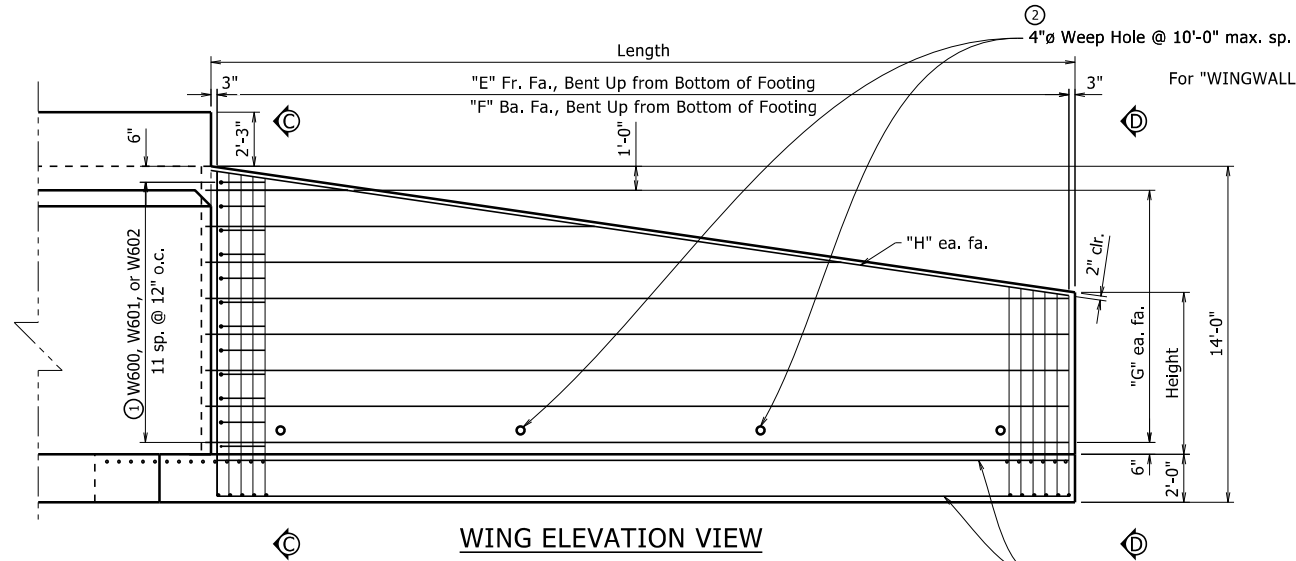
SHEET 4 OF 6
DETAILS OF THREE-SIDED
CAST-IN-PLACE CULVERT

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

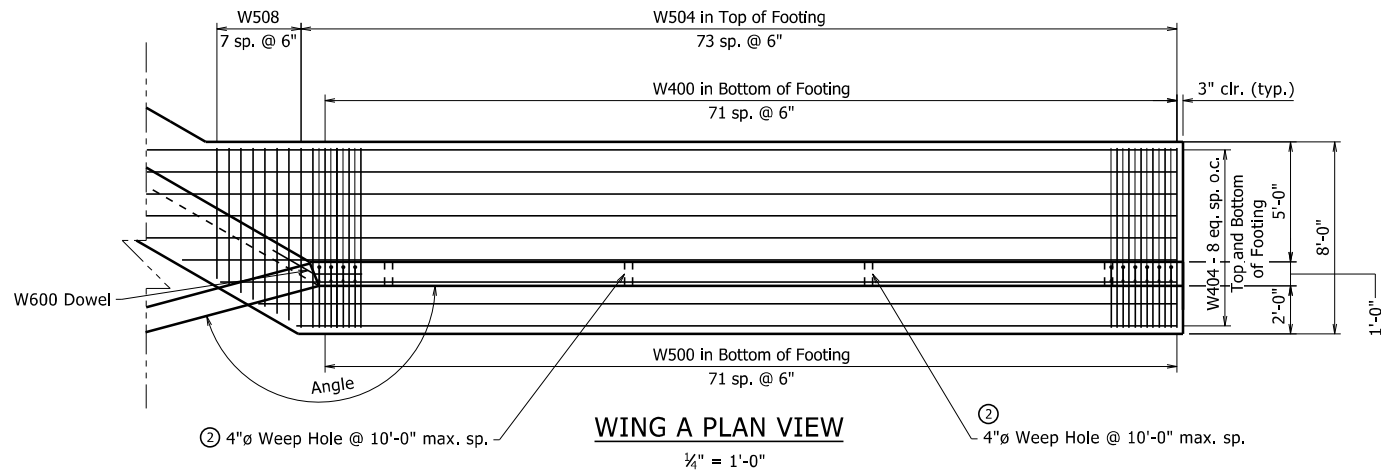
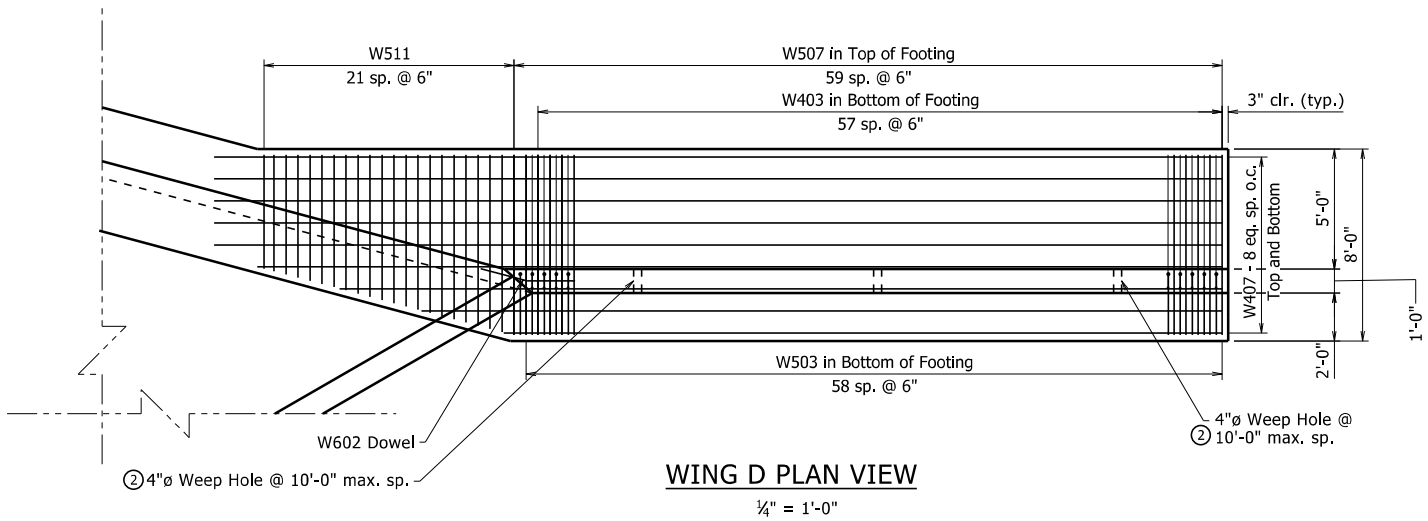
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CHECKED BY: DPT DATE: 02/10/2024 SCALE: 3/16" = 1'-0"
DESIGNED BY: DPT DATE: 09/2024
BRIDGE NO. 04954 DRAWING NO. 68850

Height is estimated from field survey to where rock is assumed.
Actual heights to be determined in the field.

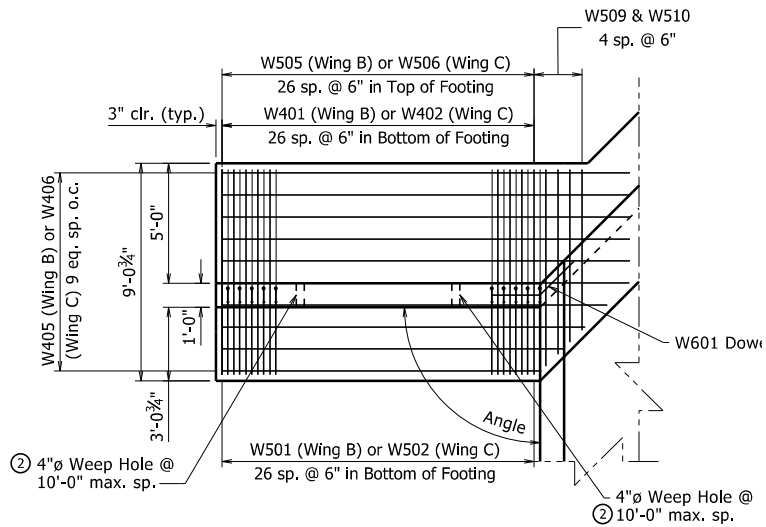
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	FA0314	40	72
04954 - Three-Sided Culvert - 68851						



For "WINGWALL SECTION C-C" and "WINGWALL VIEW D-D", see Dwg. No. 68852.



Height is estimated from field survey to where rock is assumed.
Actual heights to be determined in the field.

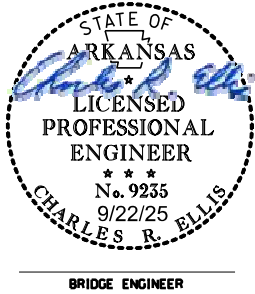


- ① See Dwg. No. 68852 for "CONSTRUCTION JOINTS" Detail.
② See Dwg. No. 68846 for "WINGWALL & CULVERT DRAINAGE DETAIL".

TABLE OF VARIABLES

		Length	Height	Angle	"E"	"F"	"G"	"H"
Wings	A	36'-0"	6'-9"	165°	W400 71 sp. @ 6"	W500 71 sp. @ 6"	W408 7 sp. @ 18"	W412
	B	13'-6"	5'-3"	90°	W401 26 sp. @ 6"	W501 26 sp. @ 6"	W409 7 sp. @ 18"	W413
	C	13'-6"	5'-0"	90°	W402 26 sp. @ 6"	W502 26 sp. @ 6"	W410 7 sp. @ 18"	W414
	D	29'-0"	7'-0"	150°	W403 57 sp. @ 6"	W503 58 sp. @ 6"	W411 7 sp. @ 18"	W415

Height is estimated from field survey to where rock is assumed.
Actual heights to be determined in the field.



SHEET 5 OF 6
DETAILS OF THREE-SIDED
CAST-IN-PLACE CULVERT

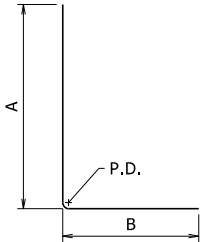
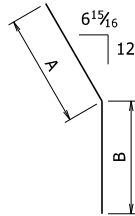
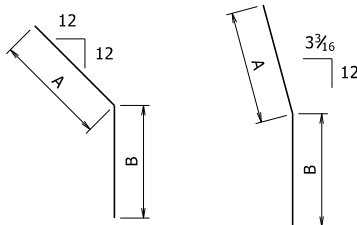
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CPK DATE: 11/18/2024 FILENAME: bfa0314_c2.dgn
CHECKED BY: DPT DATE: 02/10/2025 SCALE: As Noted
DESIGNED BY: DPT DATE: 09/20/24
BRIDGE NO. 04954 DRAWING NO. 68851

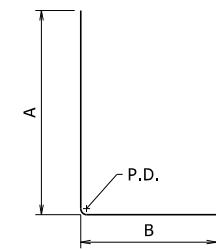
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	FA0314	41	72
		04954 - Three-Sided Culvert - 68852				

WINGWALL BAR LIST

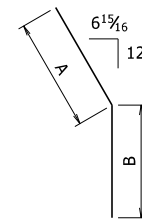
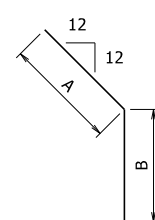
① Bar Lengths and number of bars may need to be adjusted based on site conditions.

	MARK	NO. REQ'D	A	B	LENGTH	P.D.	BENDING DIAGRAM
①	W400	72	8'-5" to 13'-7"	5'-7"	14'-1" to 19'-3"	3"	 W400 - W403 & W500 - W503
①	W401	27	7'-0" to 13'-7"	5'-7"	12'-8" to 19'-2"	3"	
①	W402	27	6'-9" to 13'-7"	5'-7"	12'-5" to 19'-2"	3"	
①	W403	58	8'-5" to 13'-7"	5'-7"	14'-1" to 19'-3"	3"	
	W404	18	-	-	36'-7" to 42'-3"	Str.	
	W405	20	-	-	13'-2" to 17'-0"	Str.	
	W406	20	-	-	13'-2" to 17'-0"	Str.	
W407	18	-	-	29'-8" to 42'-0"	Str.		
①	W408	16	-	-	5'-10" to 36'-0"	Str.	
①	W409	16	-	-	1'-6" to 13'-2"	Str.	
①	W410	16	-	-	1'-6" to 13'-2"	Str.	
①	W411	16	-	-	5'-5" to 29'-5"	Str.	
	W412	2	-	-	36'-2"	Str.	
	W413	2	-	-	14'-9"	Str.	
	W414	2	-	-	14'-10"	Str.	
	W415	2	-	-	29'-3"	Str.	
①	W500	72	8'-5" to 13'-7"	2'-7"	13'-11" to 19'-1"	3¾"	 W600
①	W501	27	7'-0" to 13'-7"	3'-8"	12'-6" to 19'-1"	3¾"	
①	W502	27	6'-9" to 13'-7"	3'-8"	12'-3" to 19'-1"	3¾"	
①	W503	59	8'-5" to 13'-7"	2'-7"	13'-11" to 19'-1"	3¾"	
	W504	74	-	-	7'-6"	Str.	
	W505	27	-	-	8'-7"	Str.	
	W506	27	-	-	8'-7"	Str.	
W507	60	-	-	7'-6"	Str.		
W508	7	-	-	5'-6" to 7'-3"	Str.		
W509	4	-	-	6'-10" to 8'-4"	Str.		
W510	4	-	-	6'-10" to 8'-4"	Str.		
W511	21	-	-	4'-10" to 7'-5"	Str.		
①	W600	12	2'-0"	2'-0"	4'-0"	4½"	 W601 W602
①	W601	24	2'-0"	2'-0"	4'-0"	4½"	
①	W602	12	2'-0"	2'-0"	4'-0"	4½"	

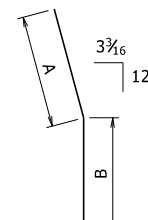
Dimensions are out to out of bars.



W400 - W403 & W500 - W503

W600

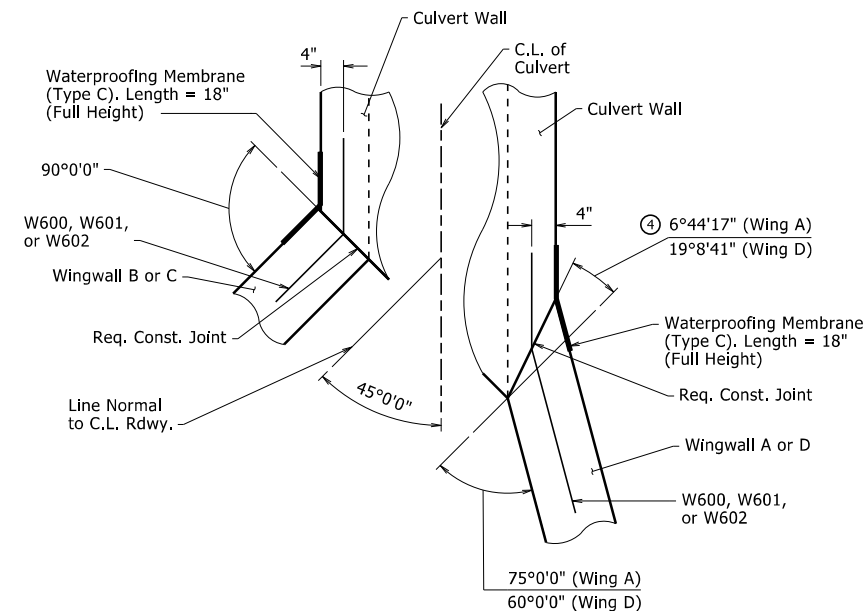
W601



W602

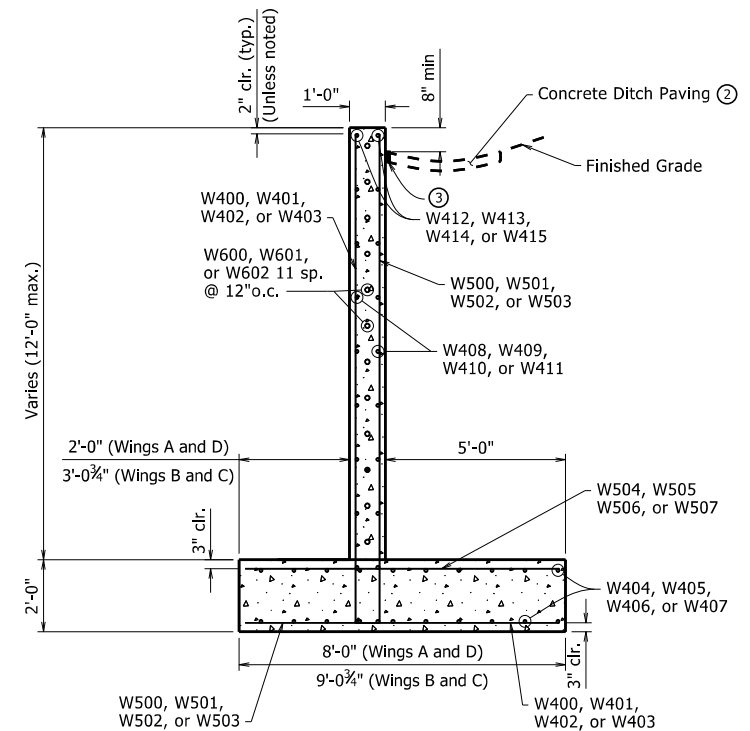
Dimensions are out to out of bars.

- ② See Dwg. No. 68846 for "CONCRETE DITCH PAVING DETAIL"
- ③ ½" Performed Joint Filler (AASHTO M153, Type 1)
per Subsection 501.02(h)(1). Seal with ½" x 1"
Type 3 or 4 Joint Sealer per Subsection 501.02(h)(2).
- ④ See Dwg. No. 68848 for "WINGWALL A TOP SLAB DETAIL"
and "WINGWALL D TOP SLAB DETAIL" for more information.

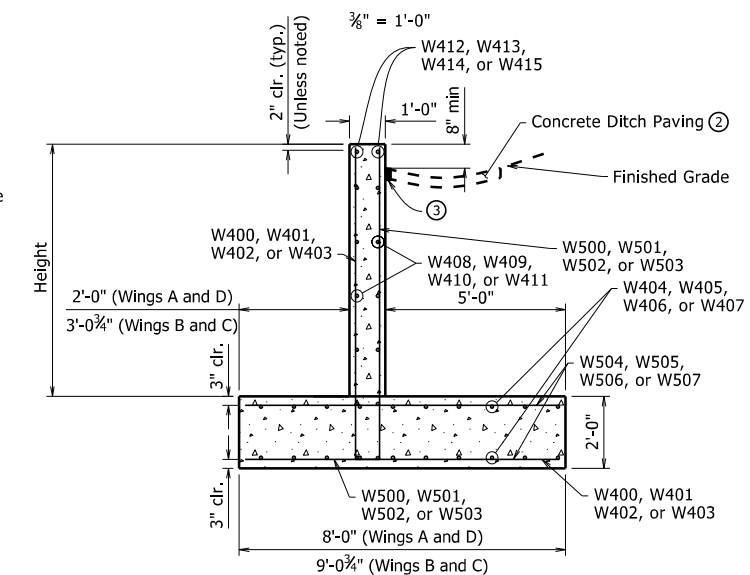


CONSTRUCTION JOINTS

$$\frac{3}{4}'' = 1'-0''$$



WINGWALL SECTION C-C



WINGWALL VIEW D-D

For "Height" see
"TABLE OF
VARIABLES" on
Dwg. No. 68851.

$$\frac{3}{8}'' = 1'-0''$$

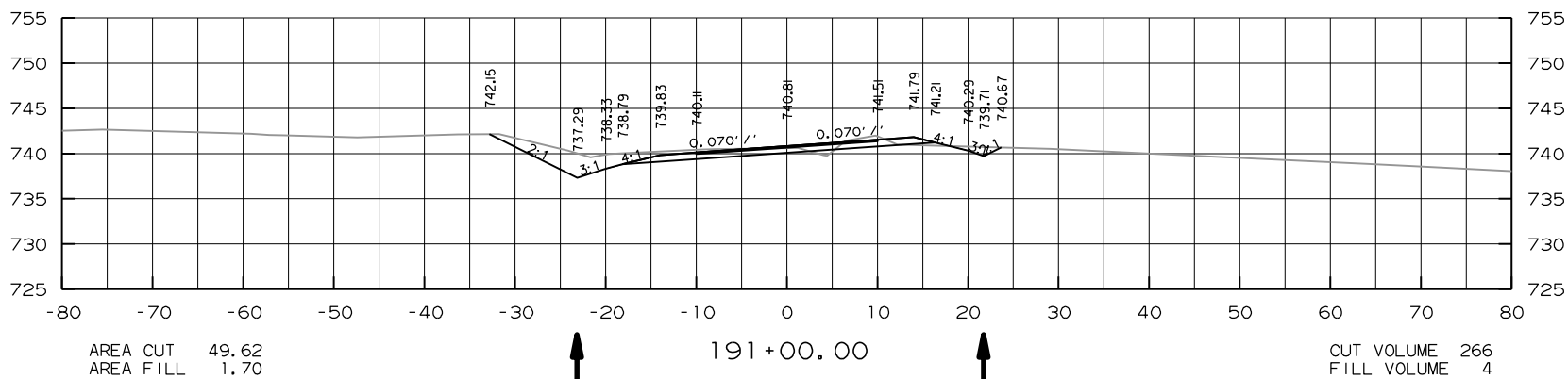
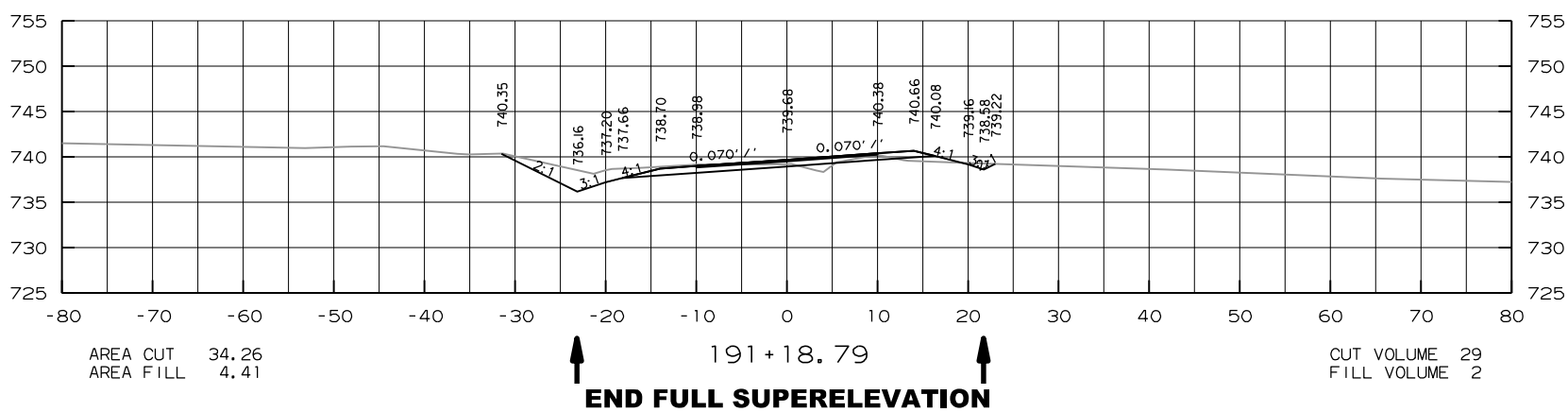
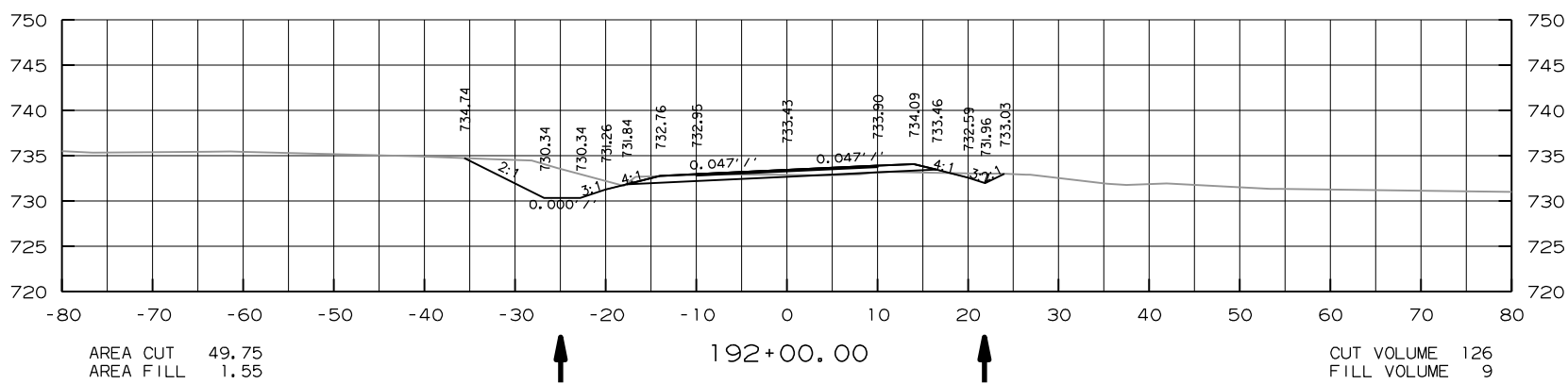
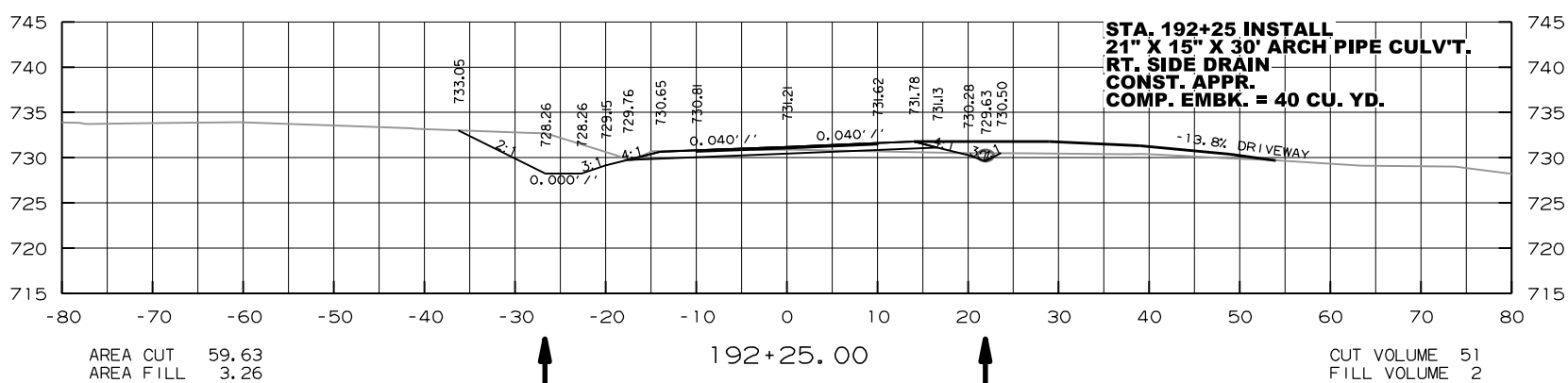
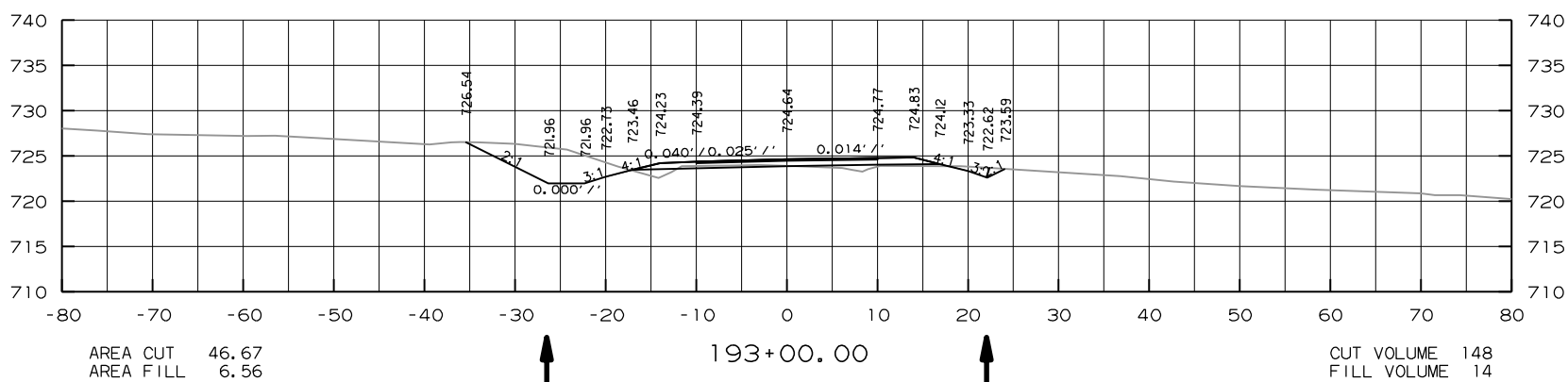
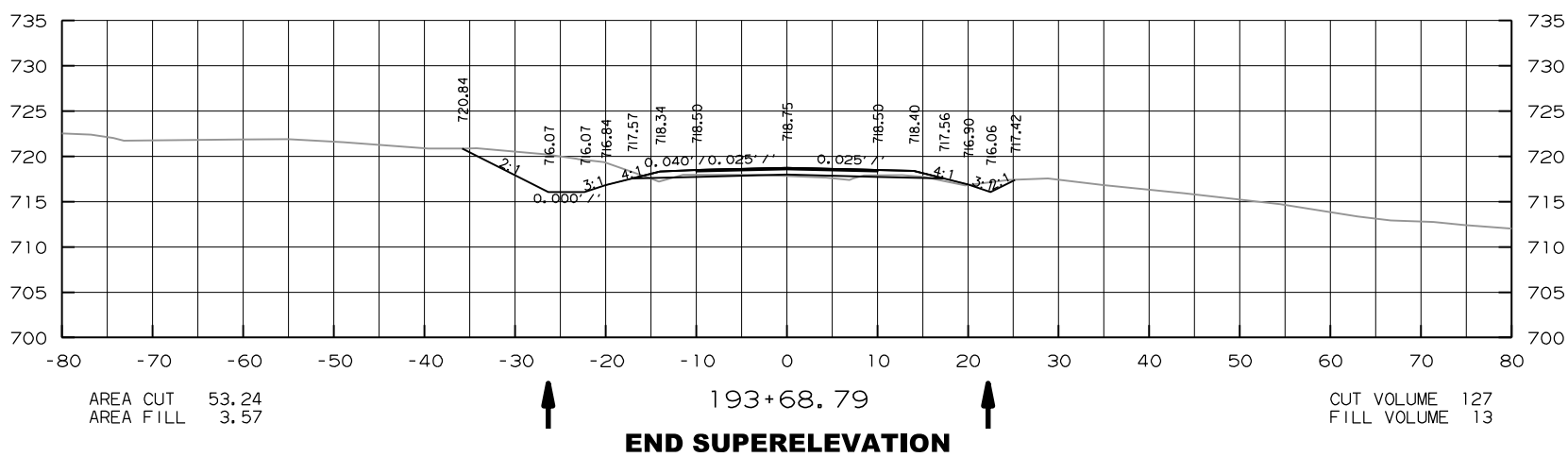
Height is estimated from field survey to where rock is assumed.
Actual heights to be determined in the field.

SHEET 6 OF 6
DETAILS OF THREE-SIDED
CAST-IN-PLACE CULVERT

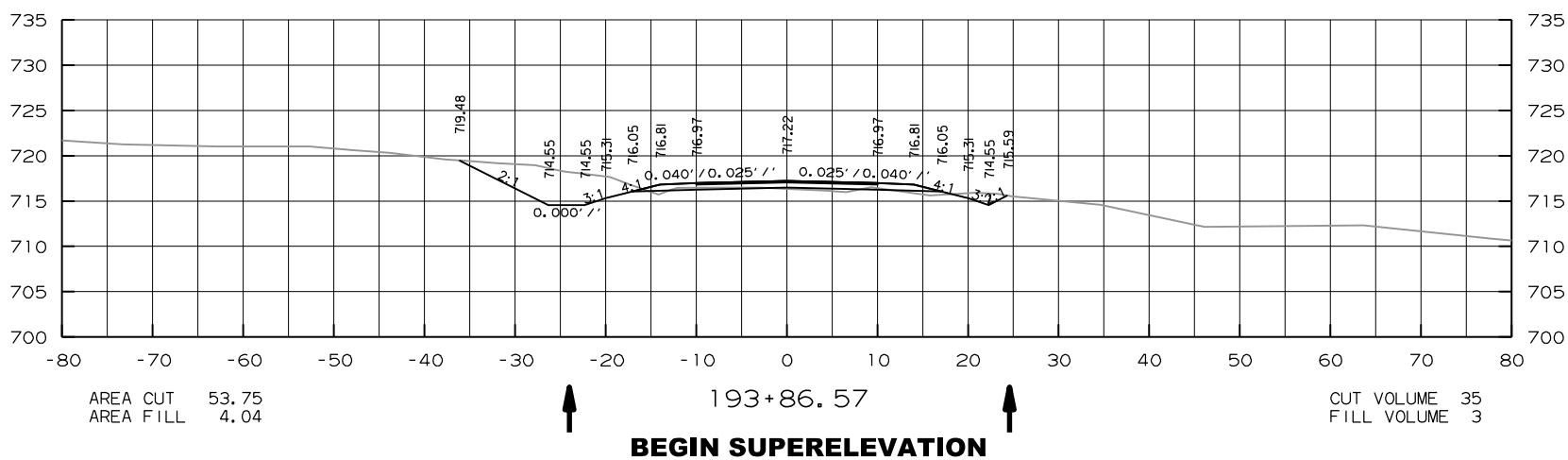
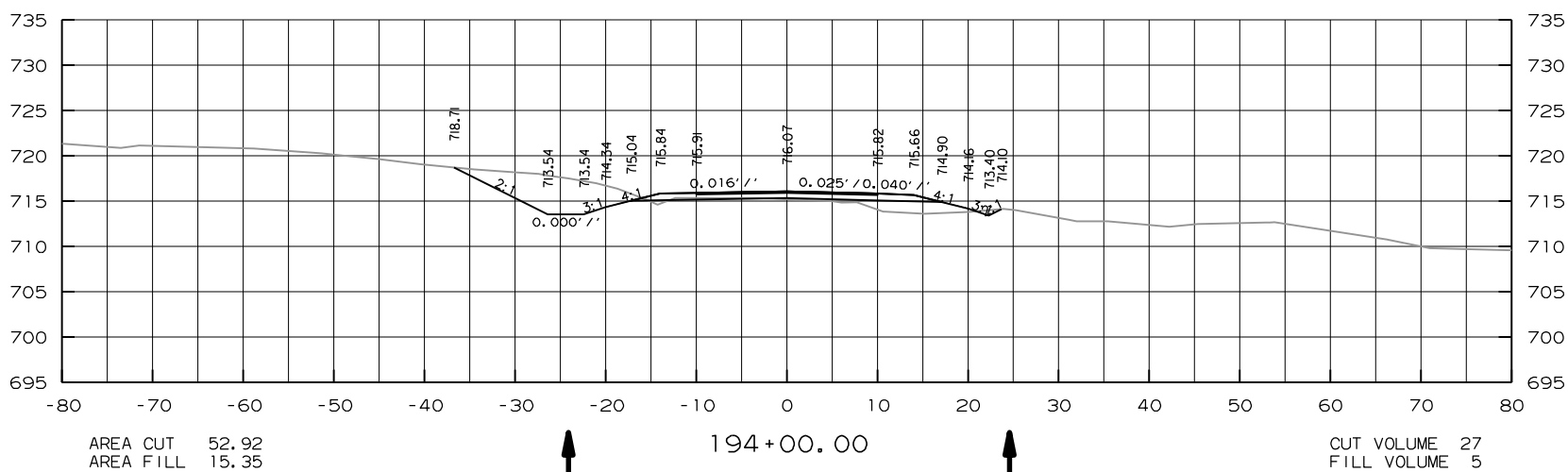
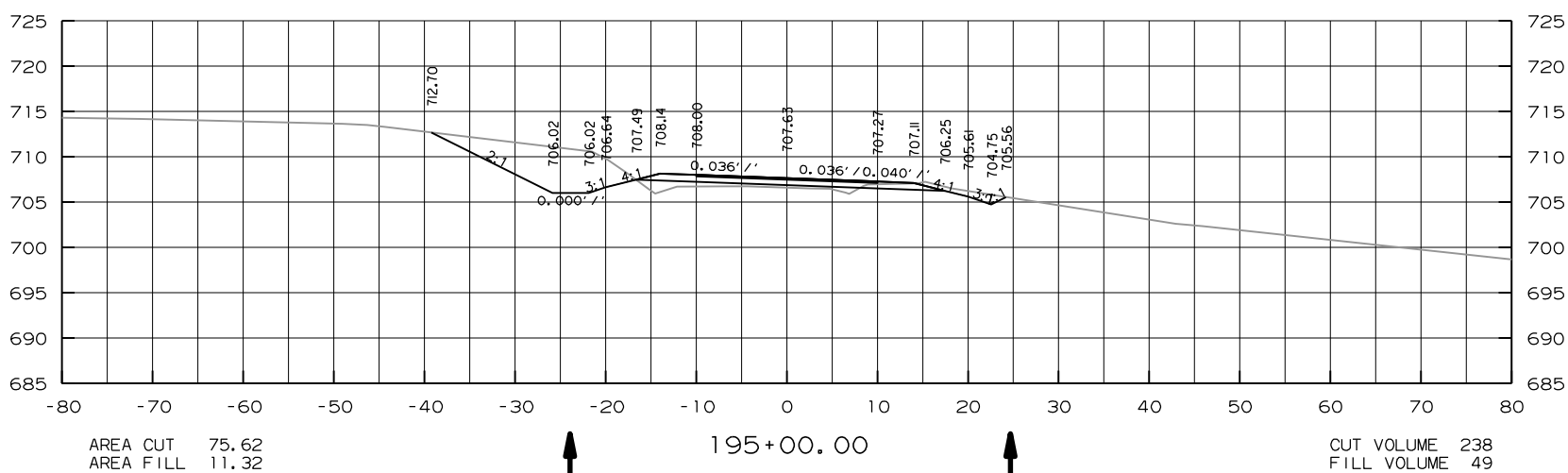
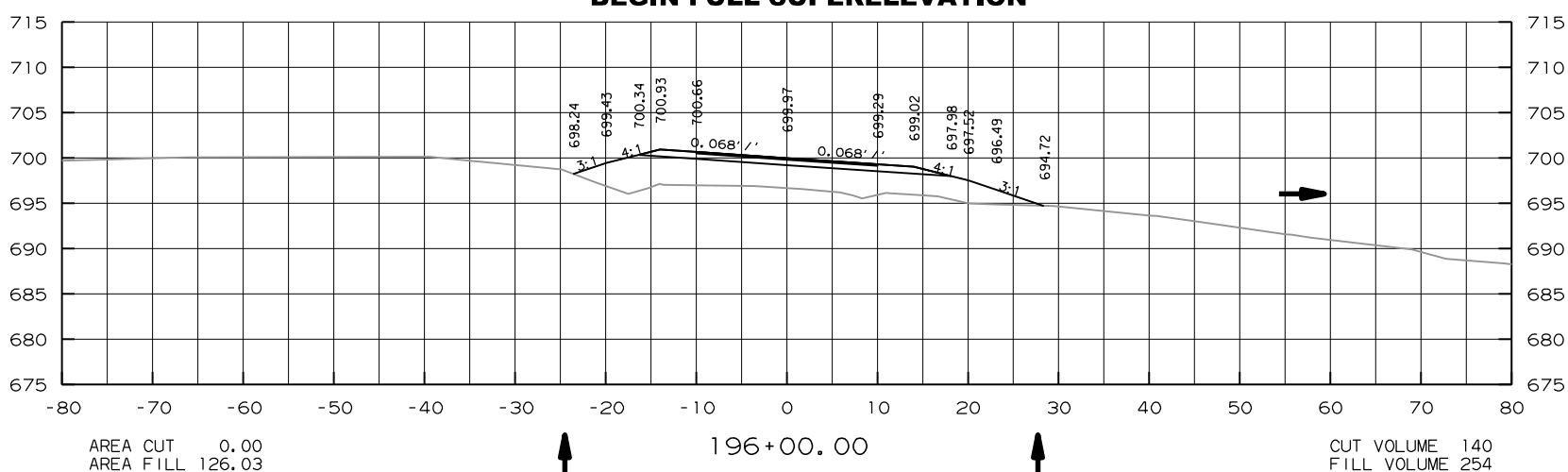
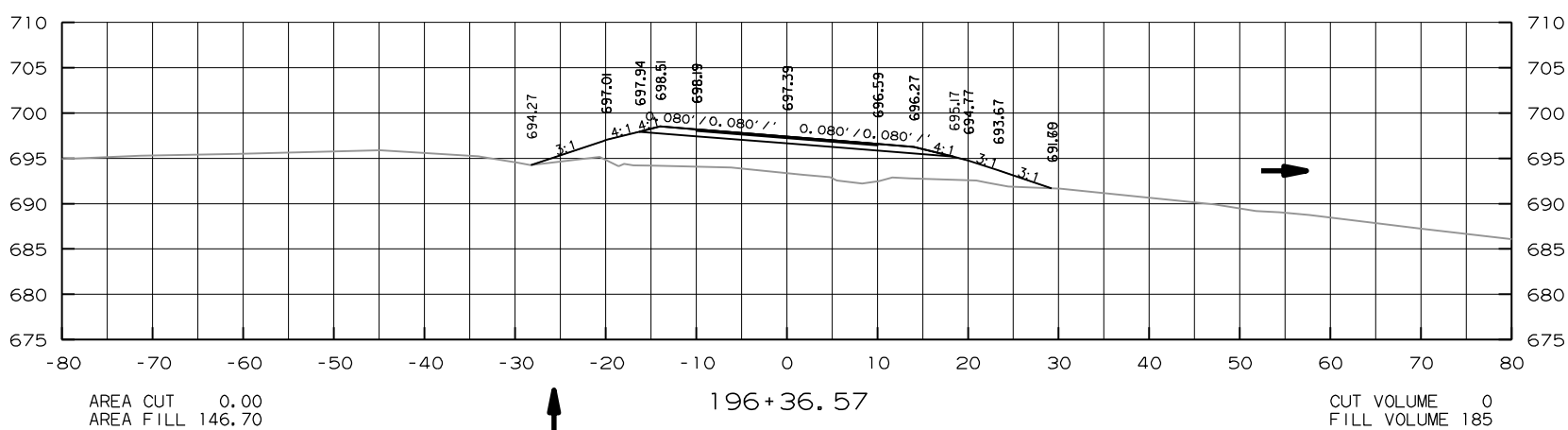
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION

DRAWN BY: CPK DATE: 11/21/2024 FILENAME: bfa0314_c2.dgn
 CHECKED BY: DPT DATE: 02/10/2025 SCALE: As Noted
 DESIGNED BY: DPT DATE: 09/2024
 BRIDGE NO. 04954 DRAWING NO. 68852

PRINT DATE: 9/22/2025

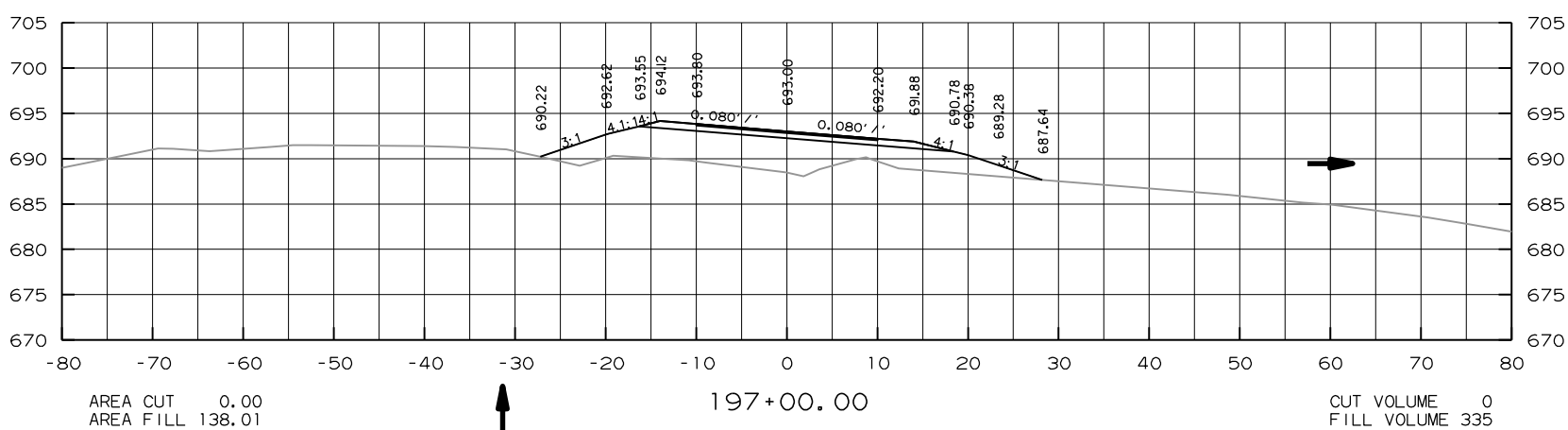
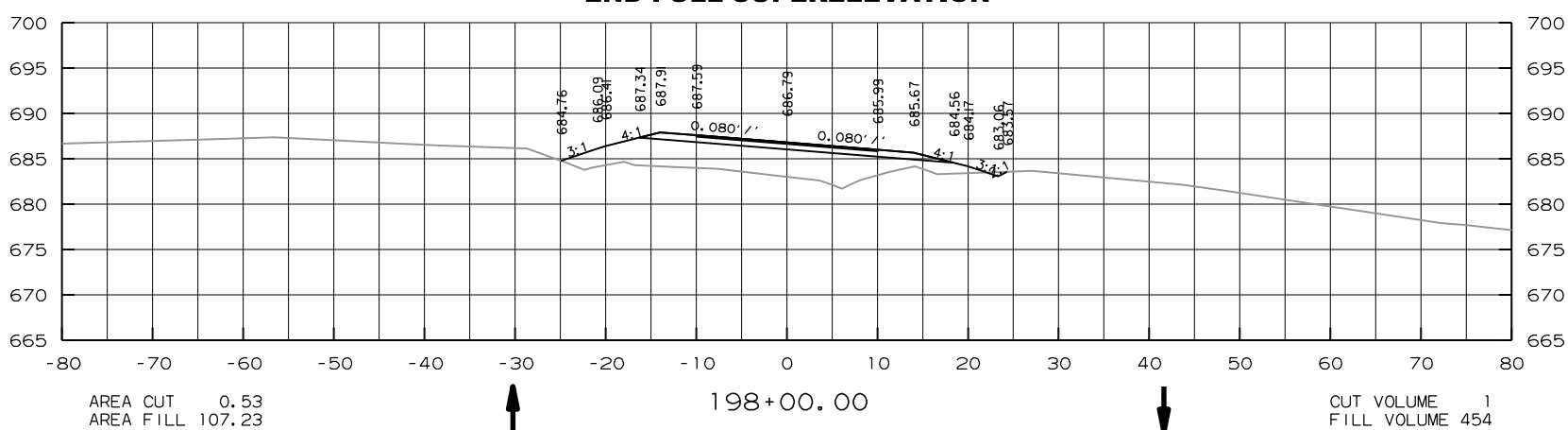
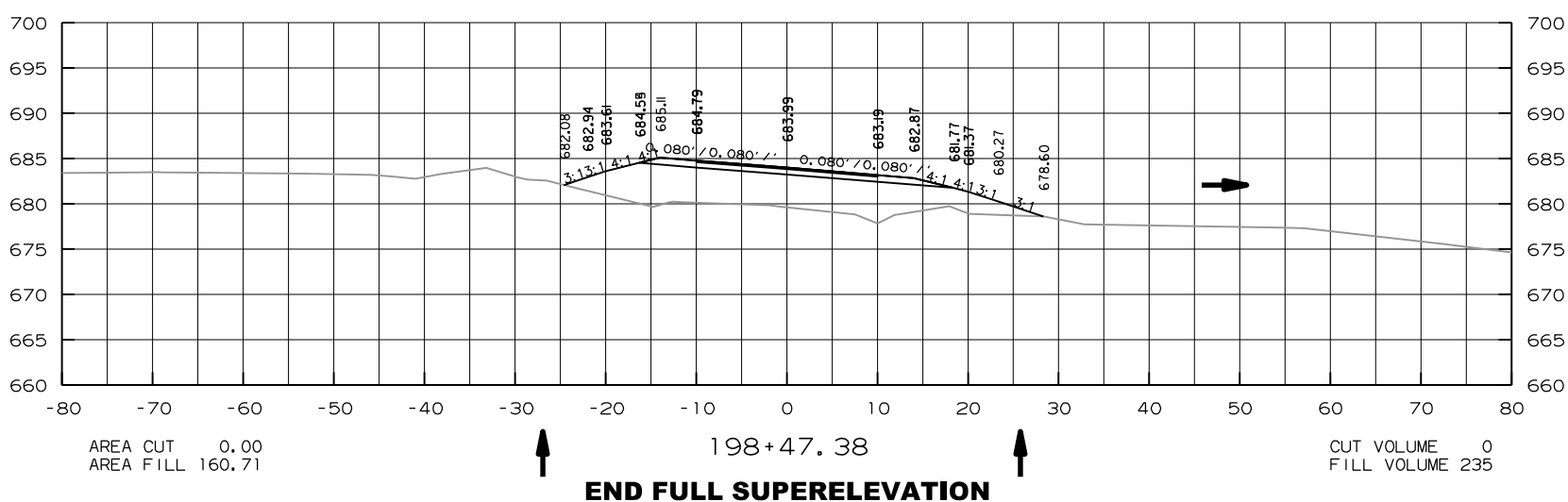
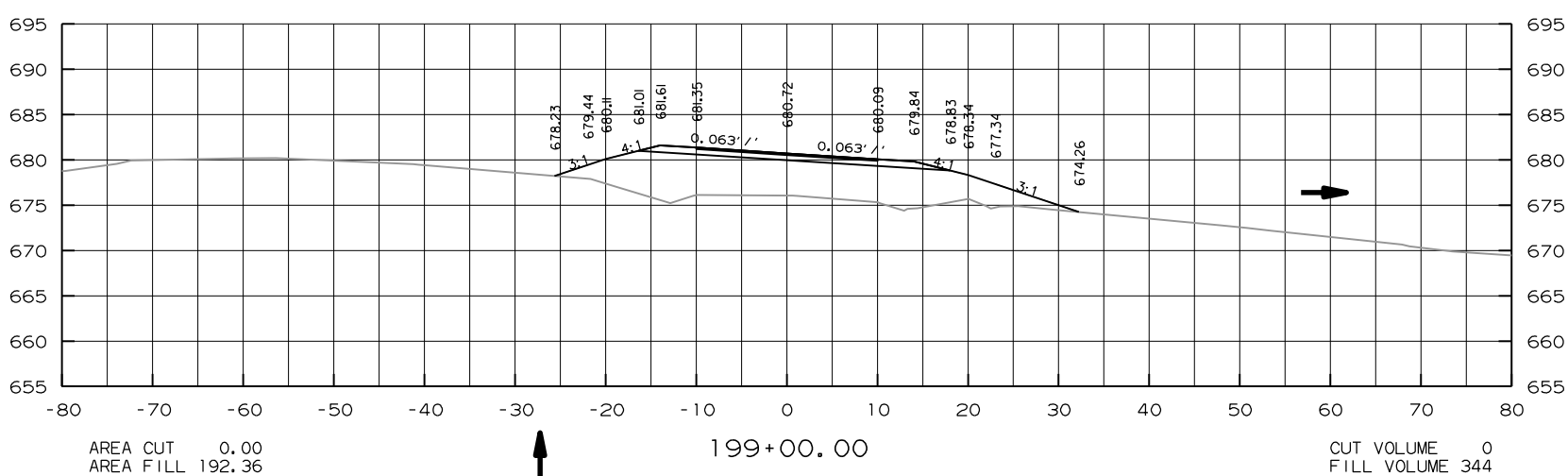
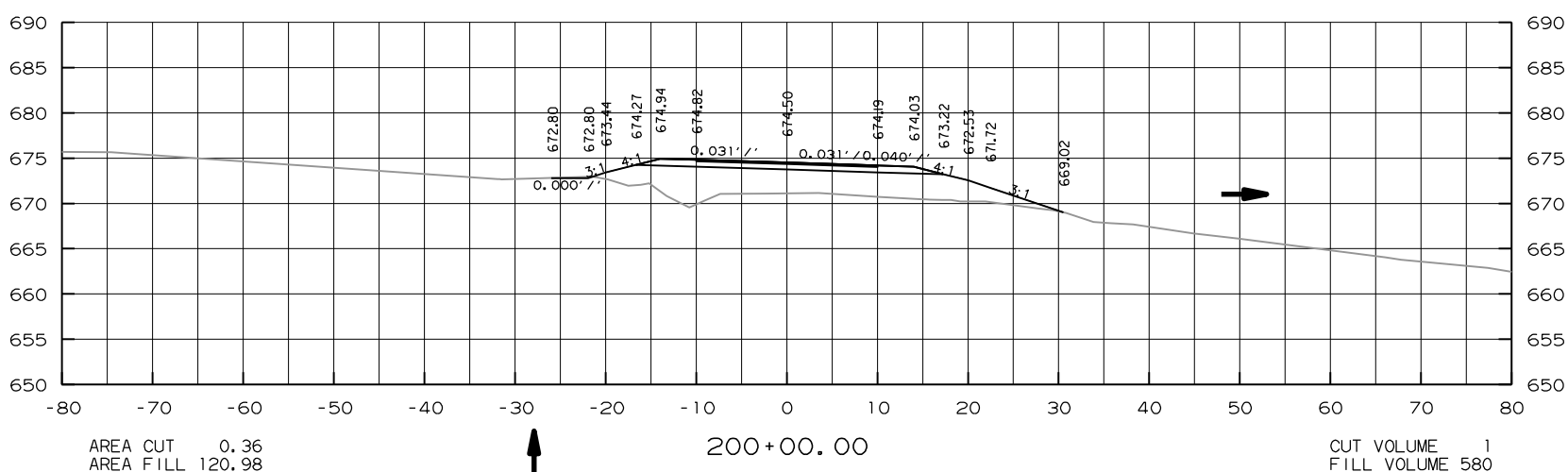


	DATE FILMED	DATE REVIEWED	DATE FILMED	DATE REVIEWED	SAC, INCH.	SHEETS
6						
ARK.						
JOB NO.	FA0314	43	72			
(4) CROSS SECTIONS STA. 191+00.00 TO 193+68.75						



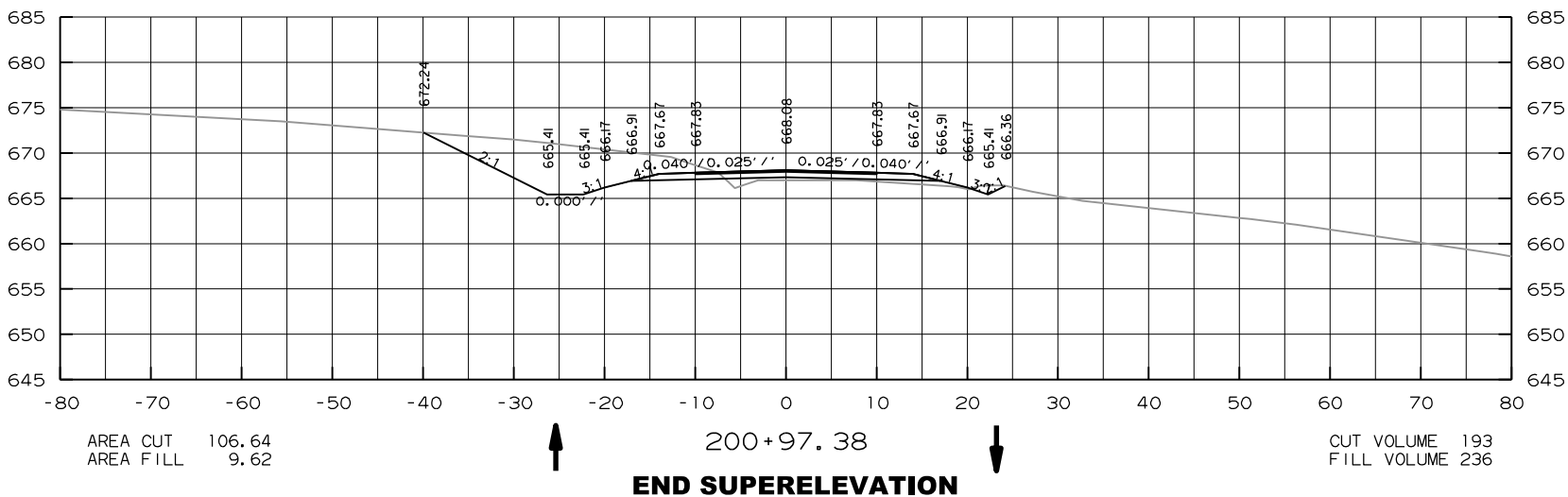
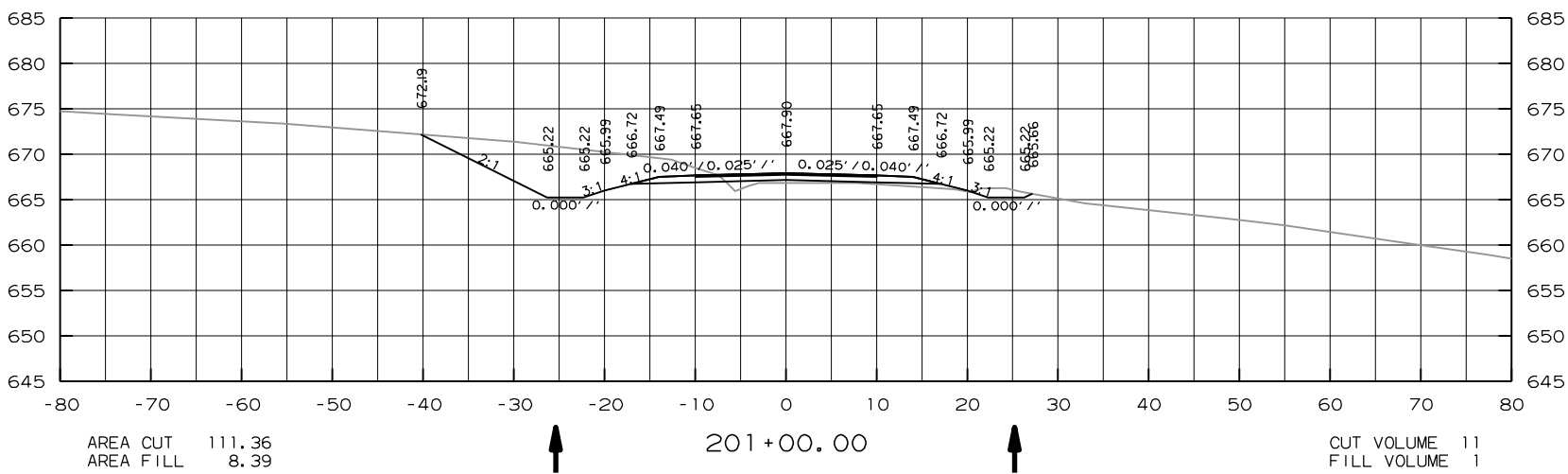
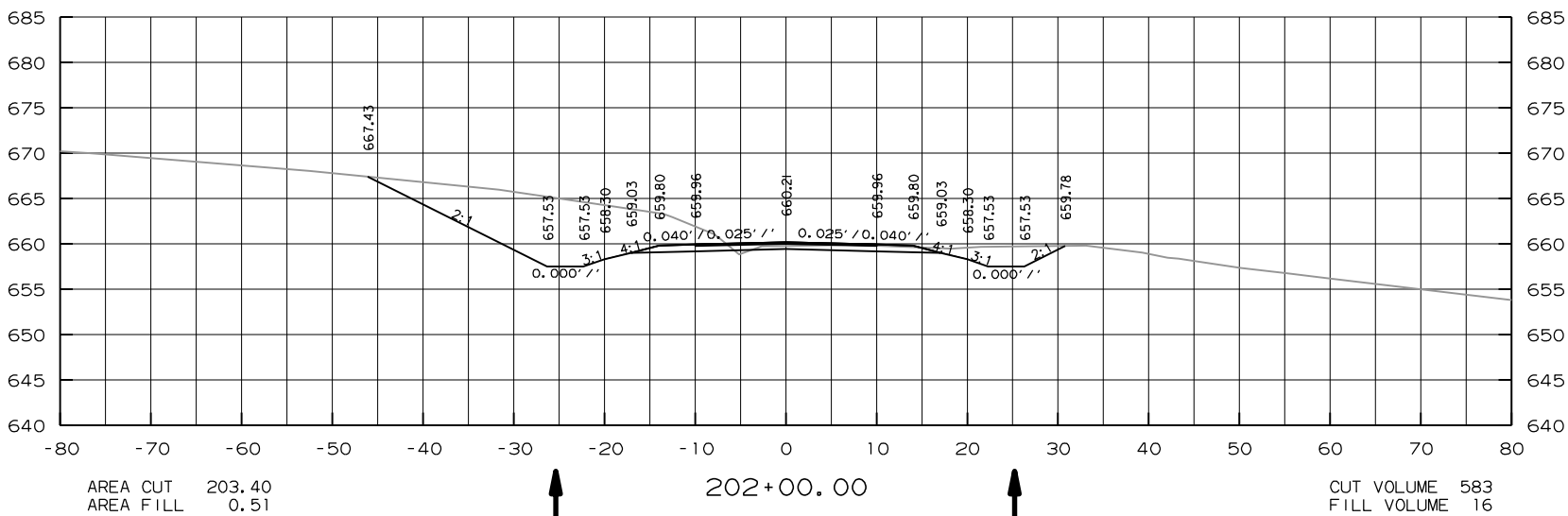
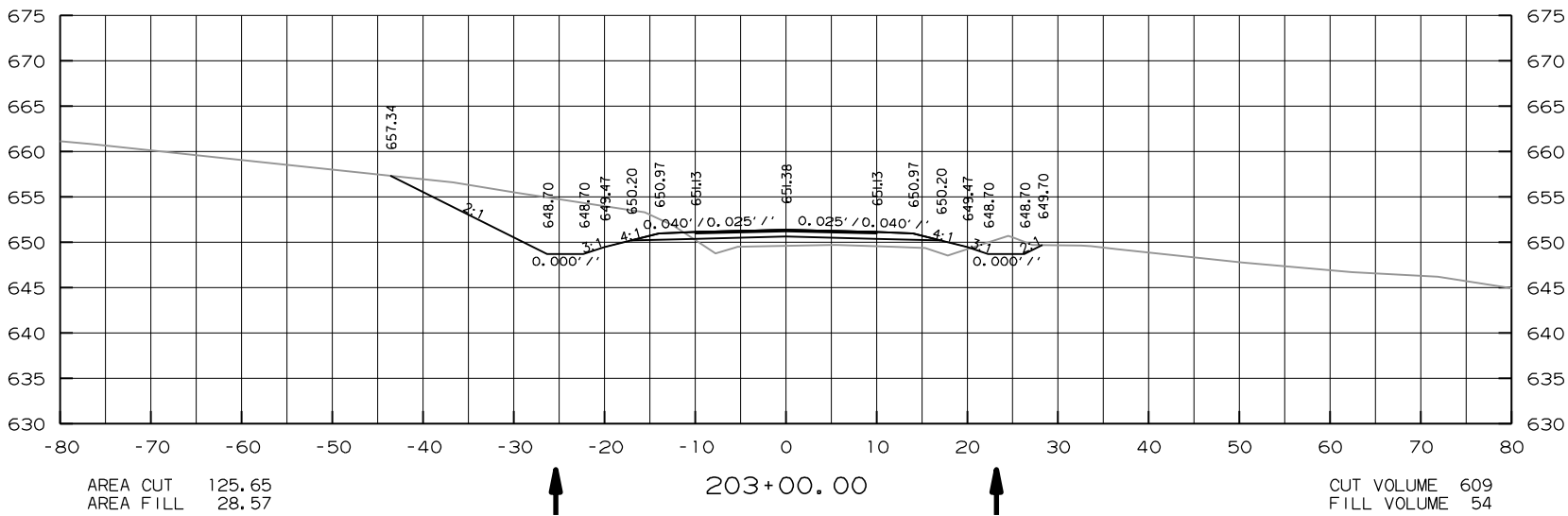
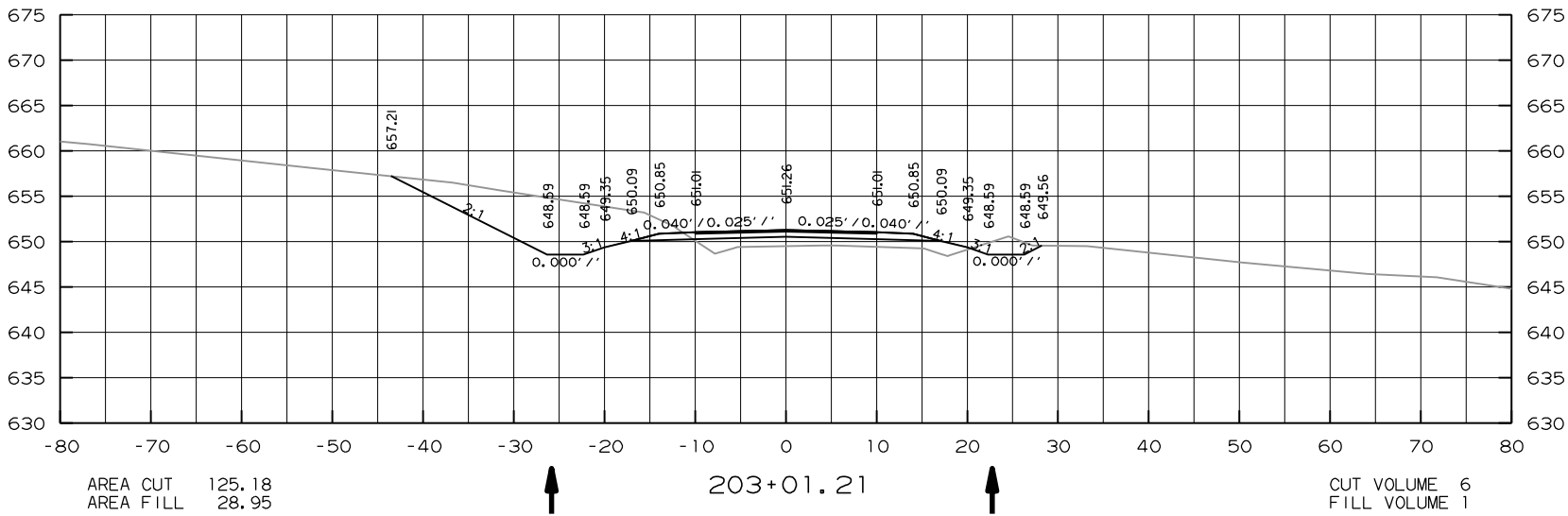
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

6	ARK.				
JOB NO.	FA0314	44	72		
CROSS SECTIONS STA. 193+86.57 TO 196+36.57					

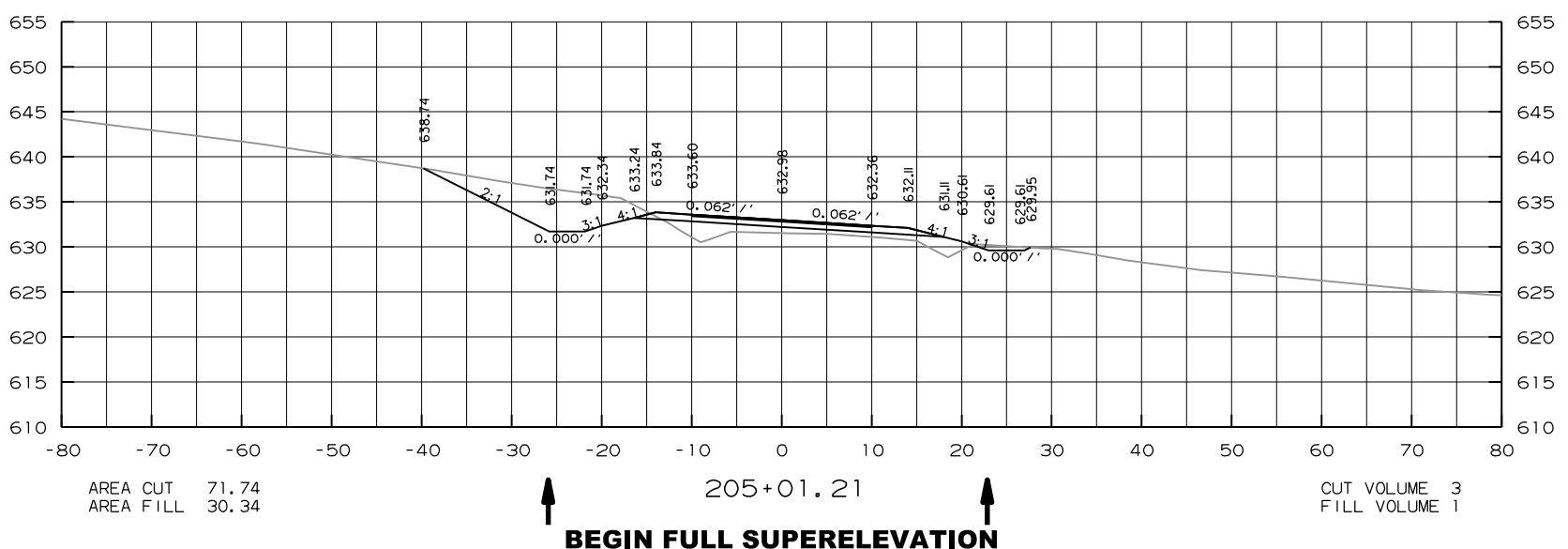
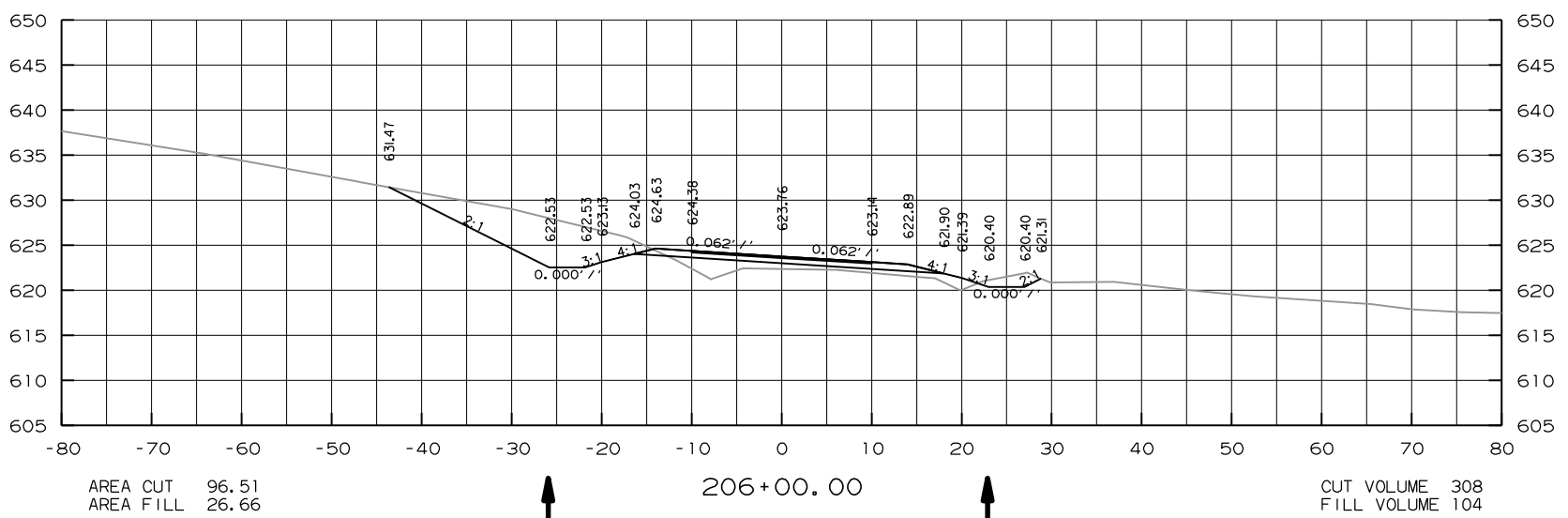


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ID. NO.	STATE	FED. ACQ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	FA0314	45	72	

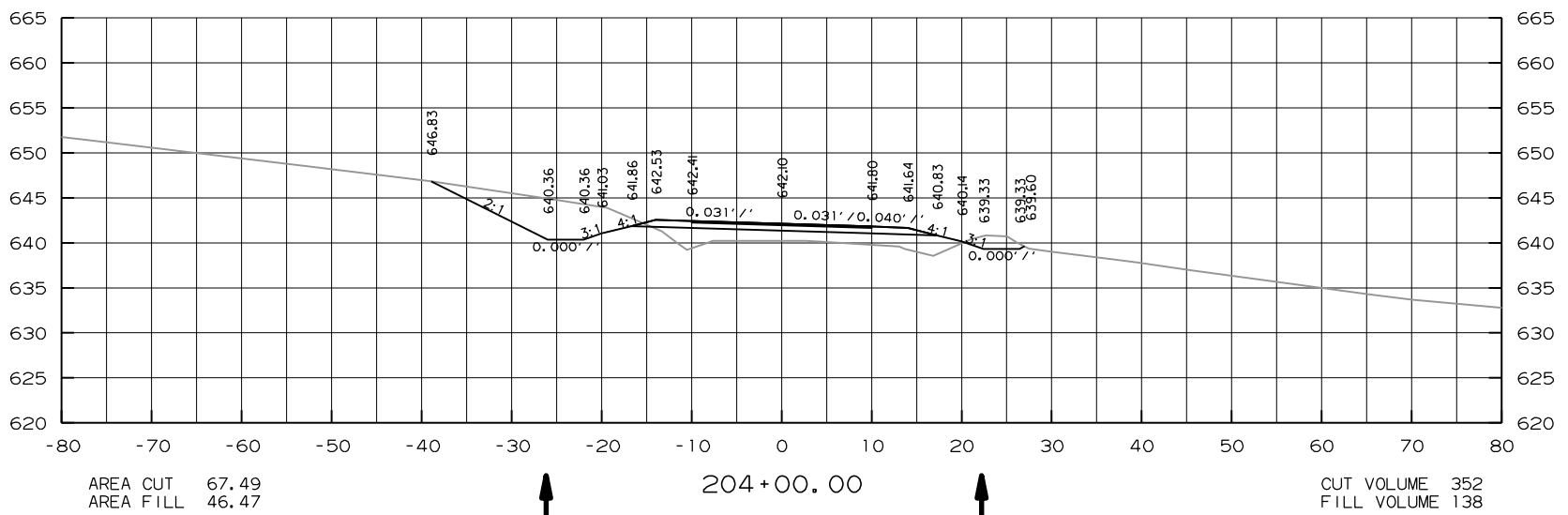
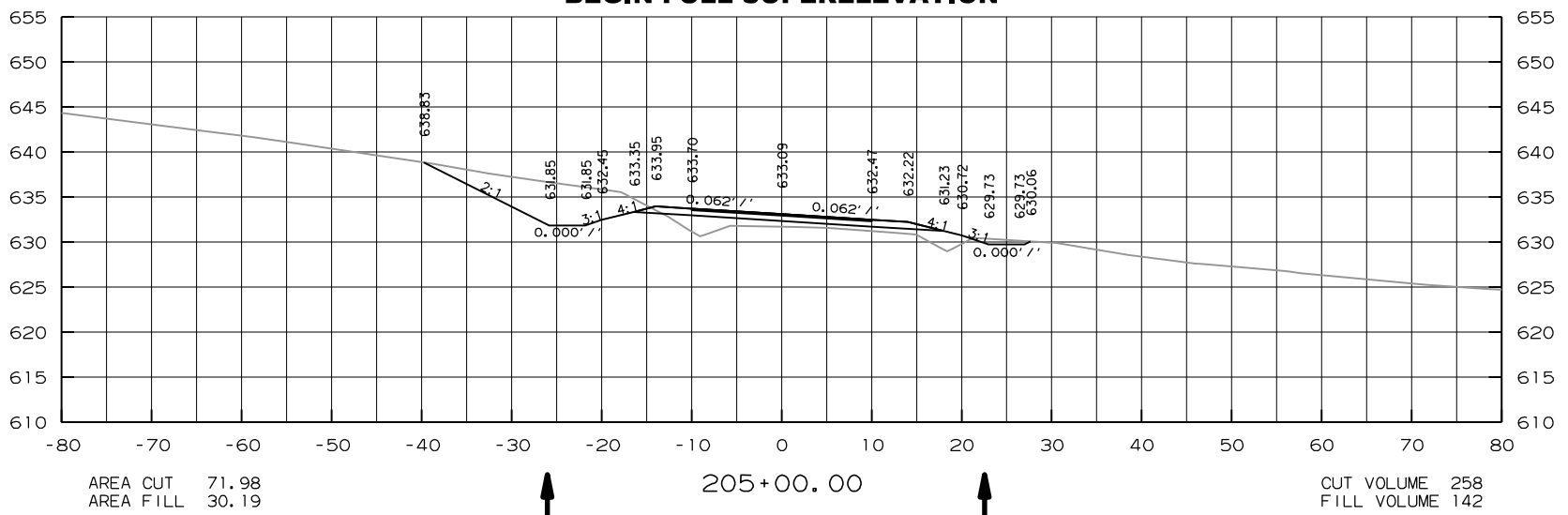
4 CROSS SECTIONS STA. 197+00.00 TO 200+00.00



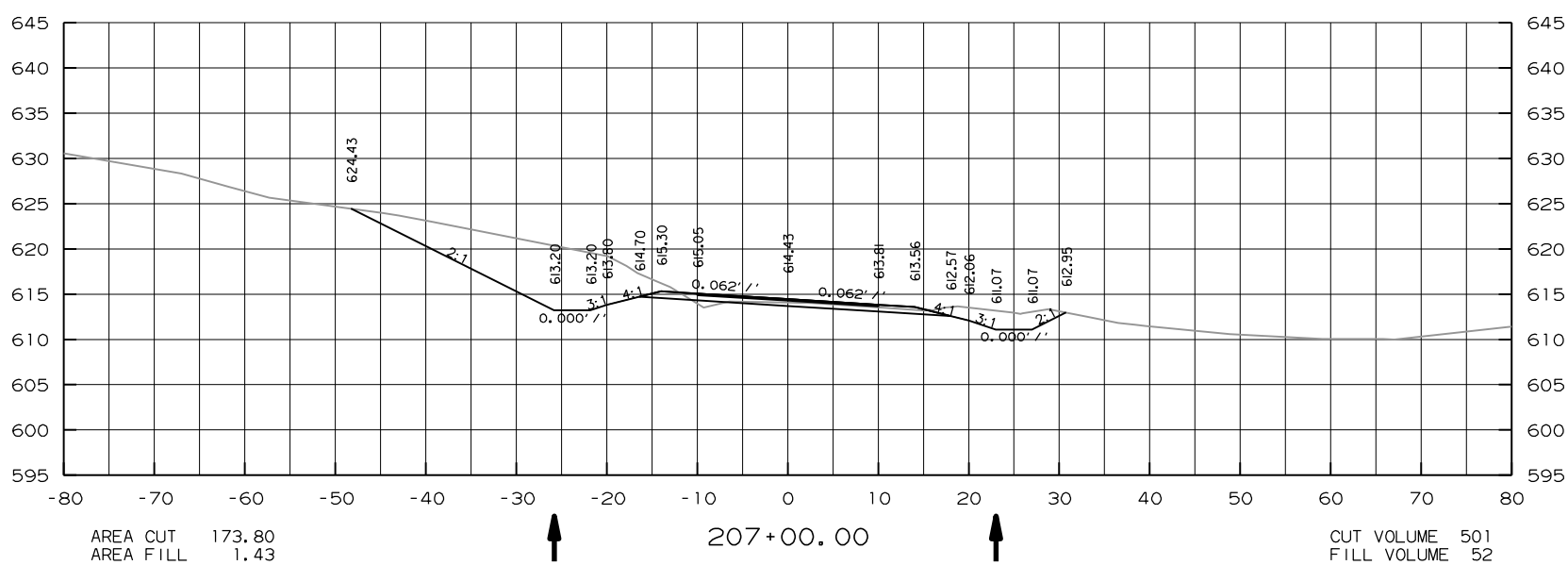
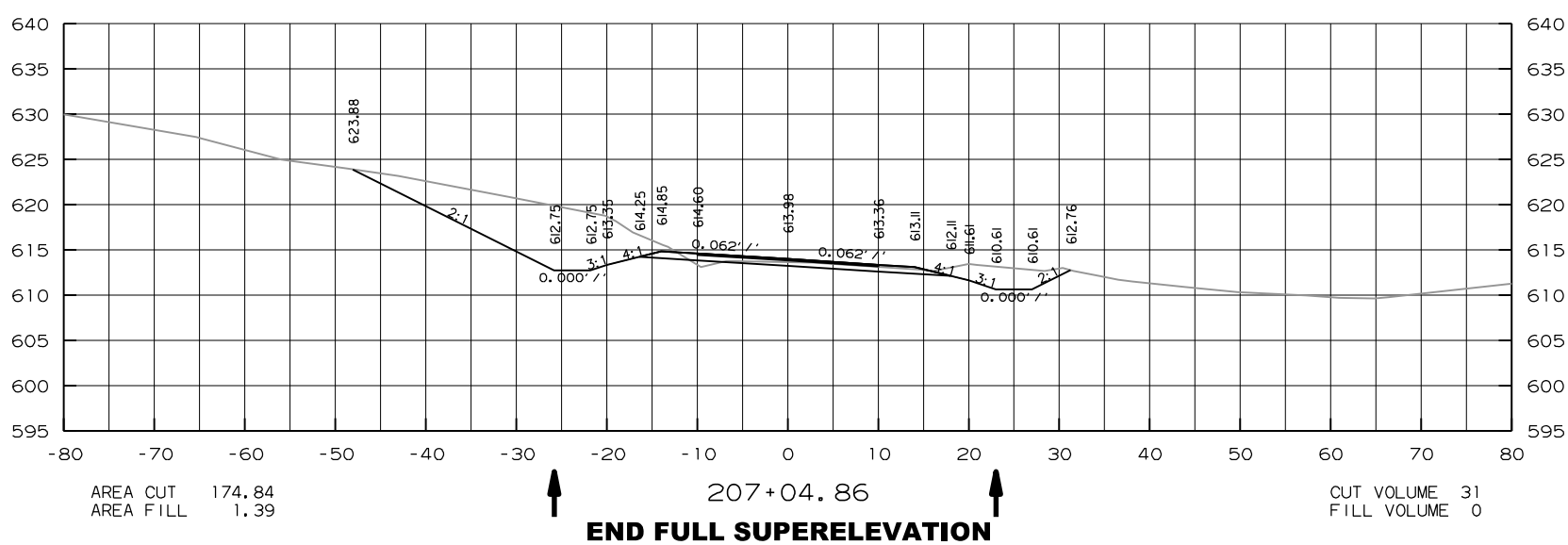
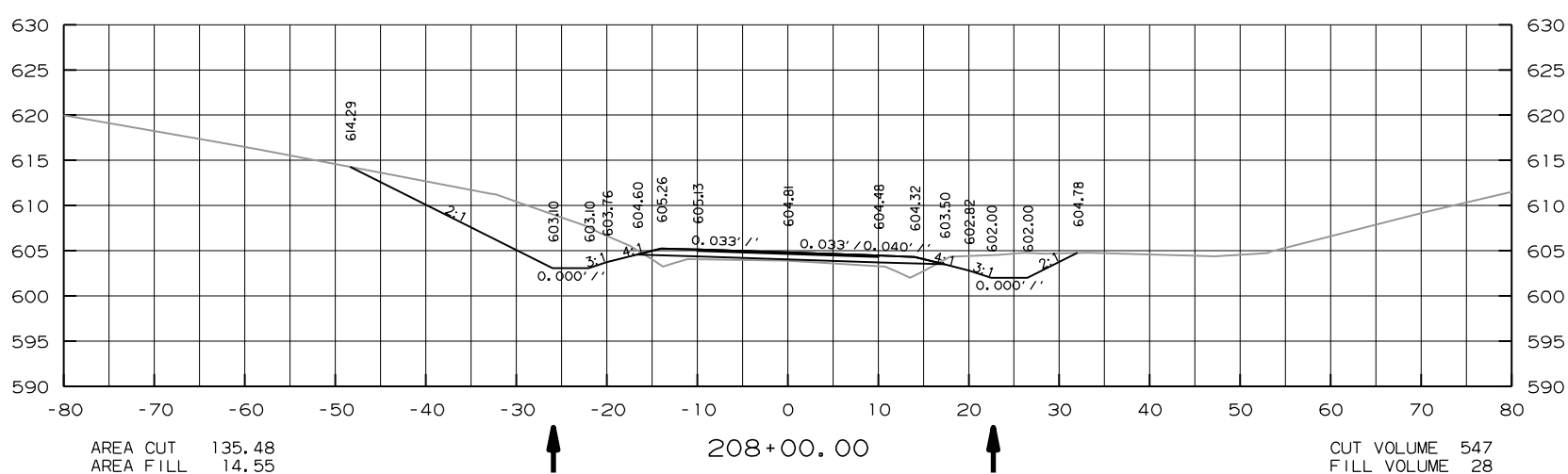
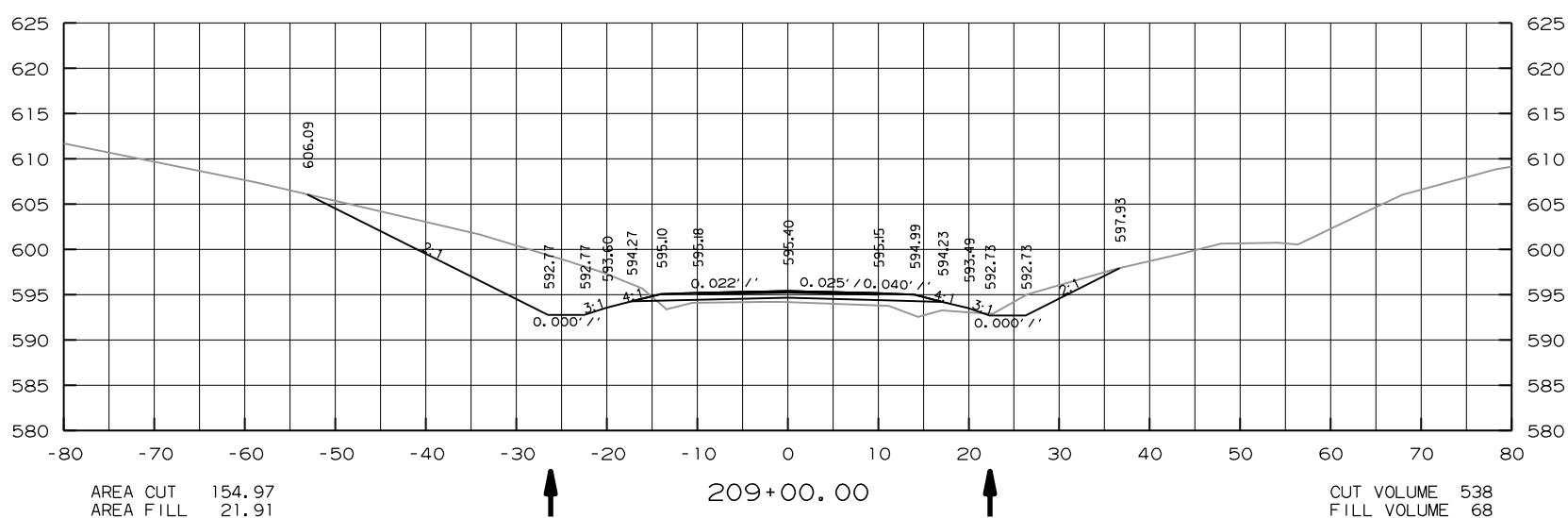
DATE	DATE	DATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
REVISED	FILED	REVISED	STATE	NO.	
			ARK.		
			FA0314	46	72
CROSS SECTIONS STA. 200+97.38 TO 203+01.21					



BEGIN FULL SUPERELEVATION



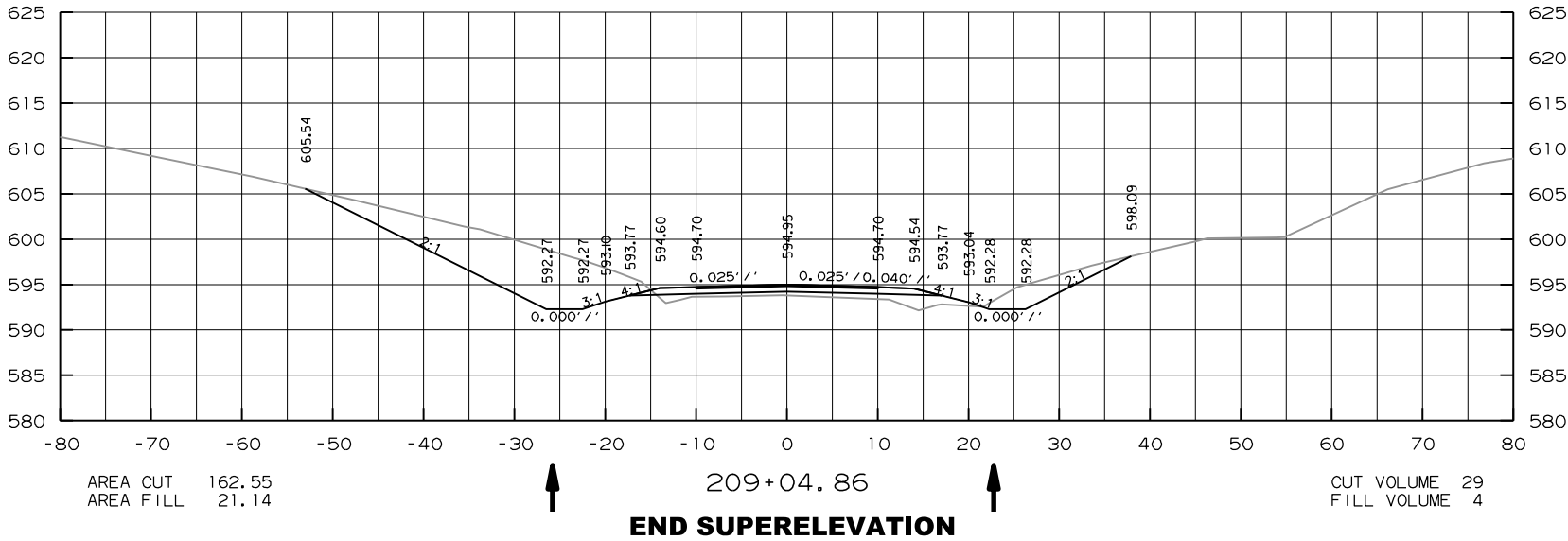
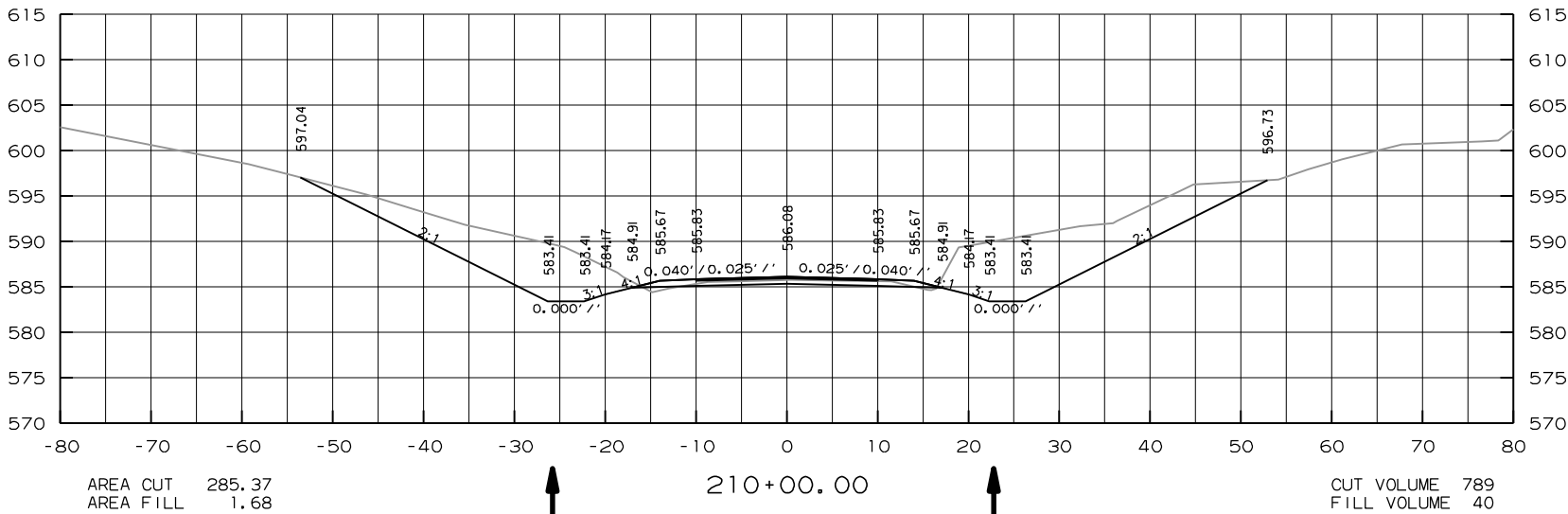
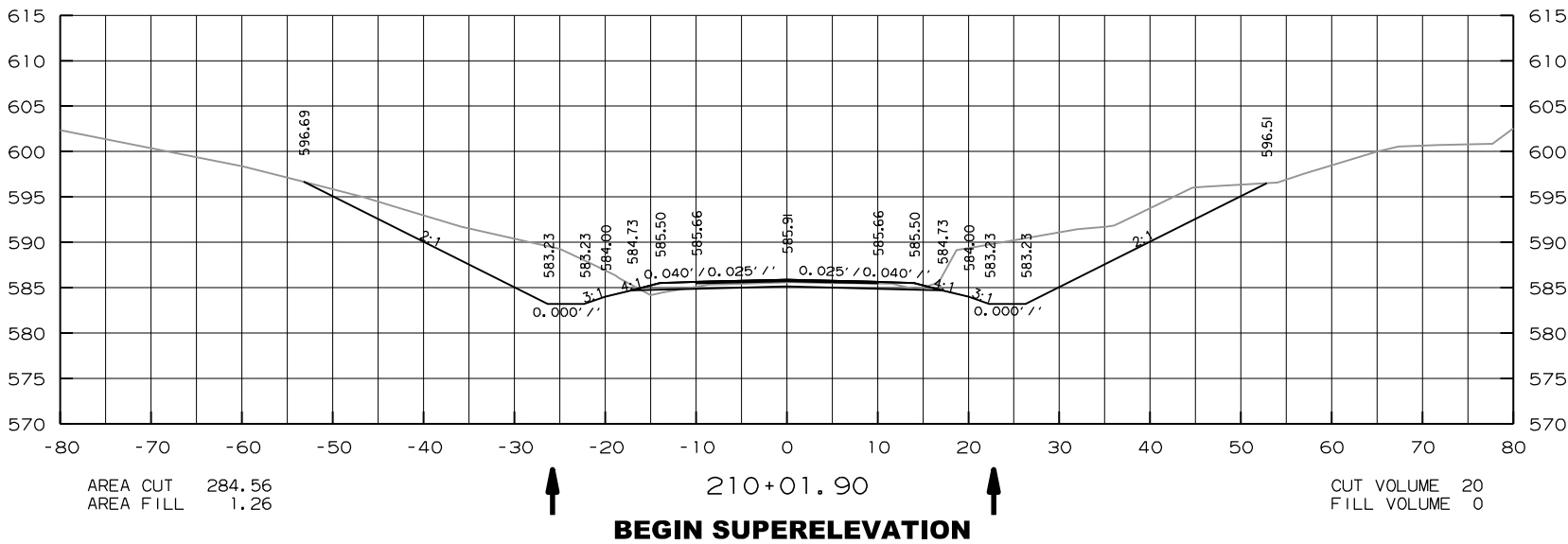
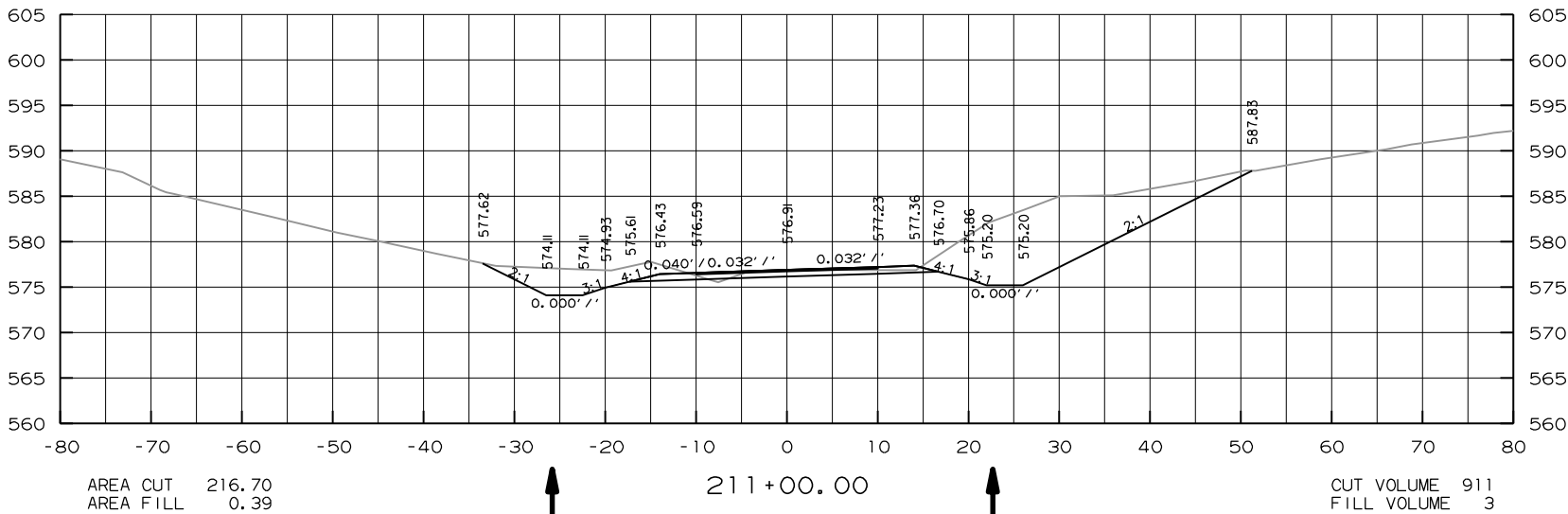
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	47	72



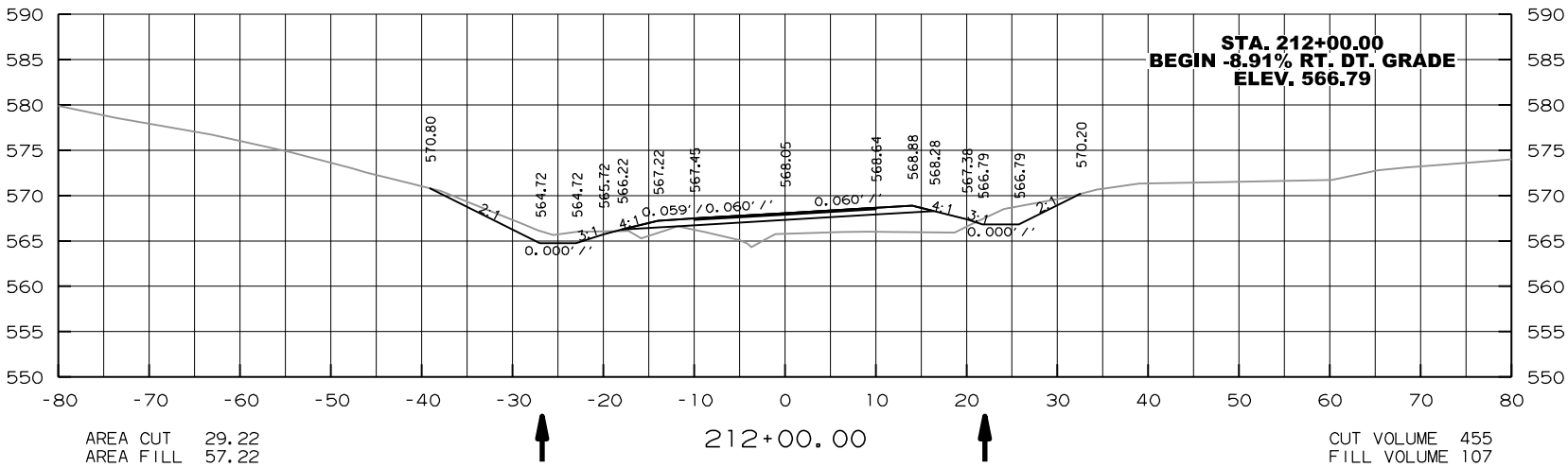
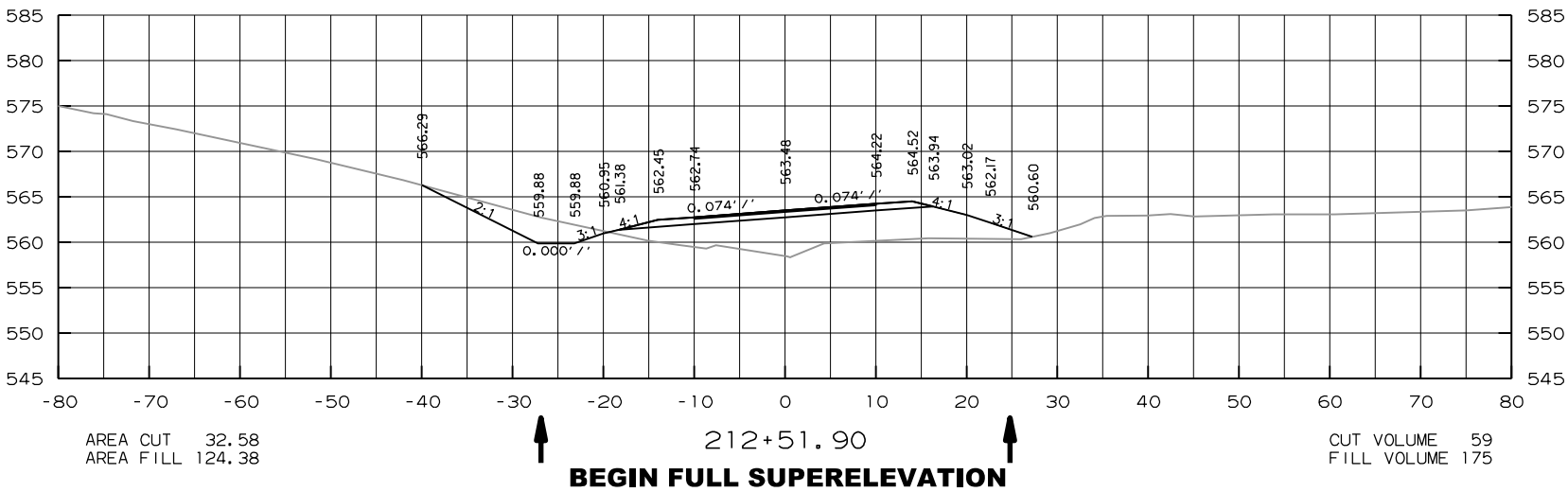
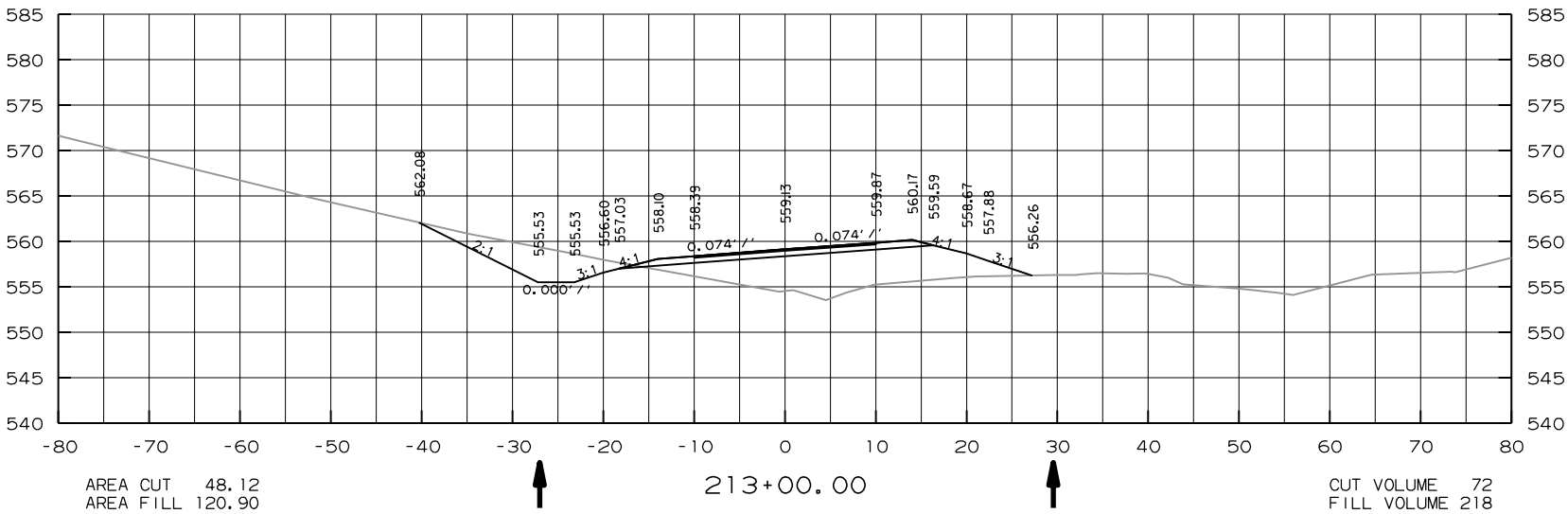
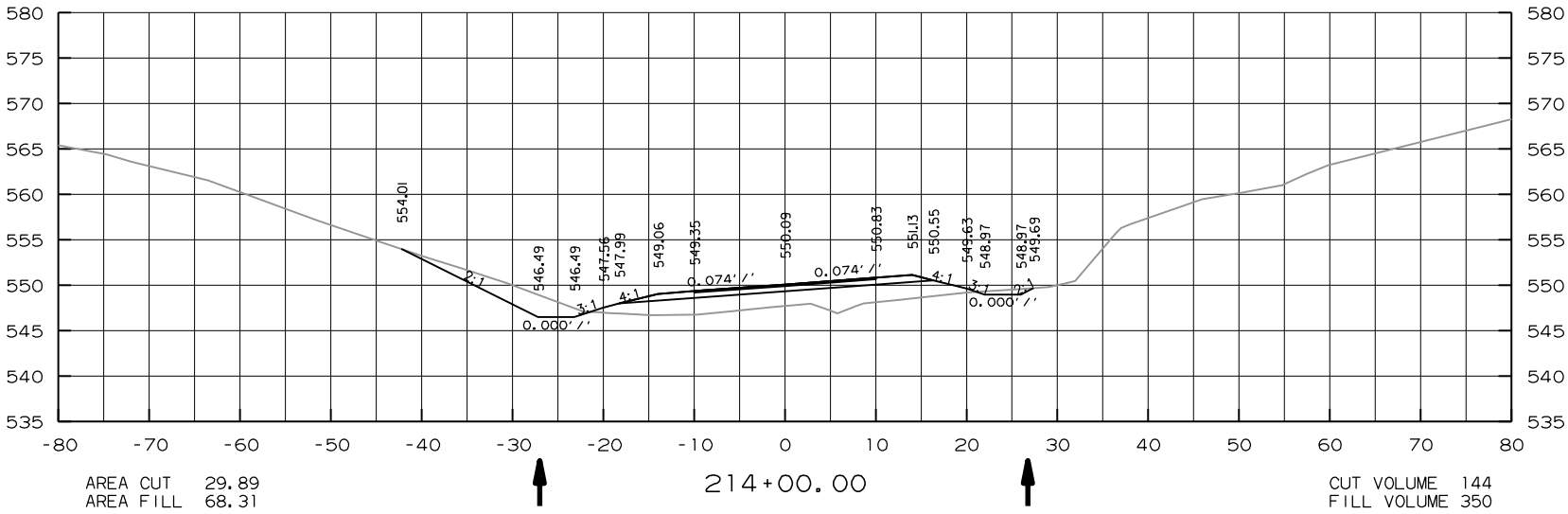
DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED

6	ARK.	JOB NO.	FA0314	48	72

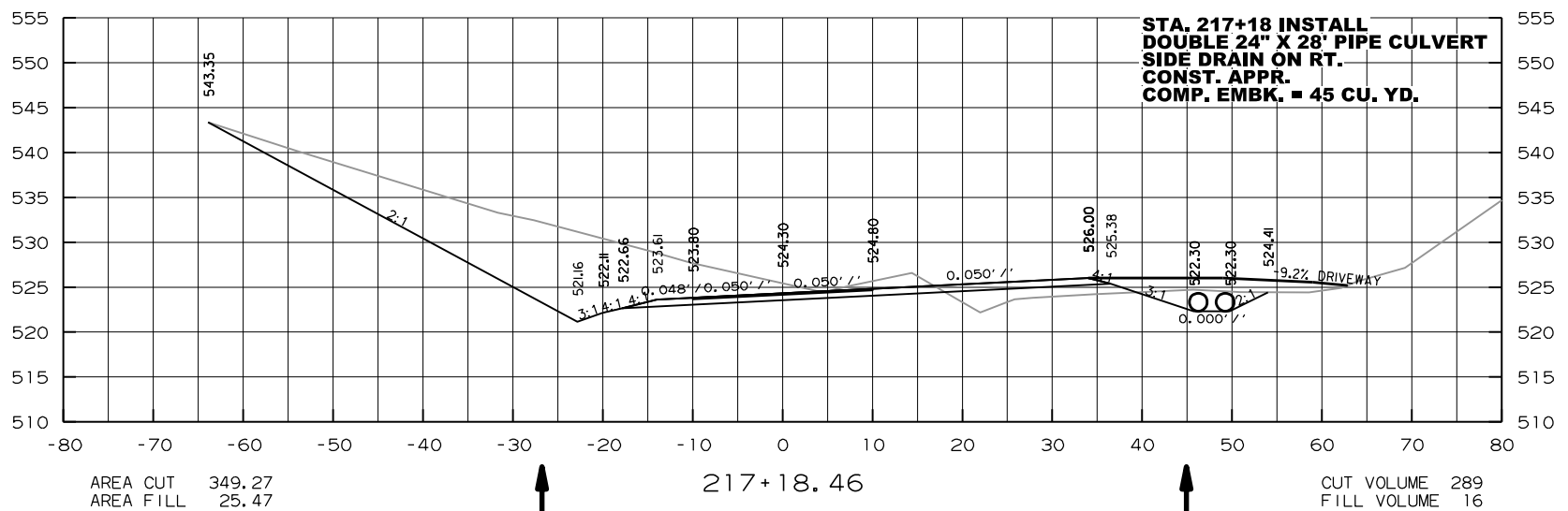
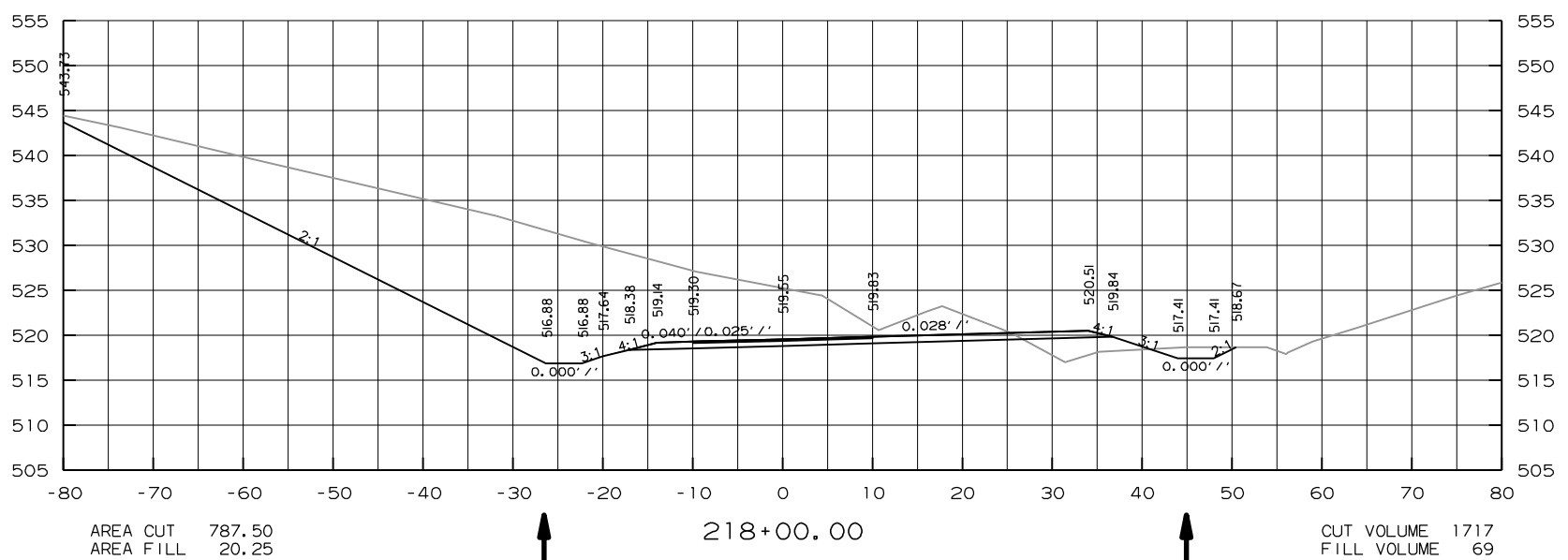
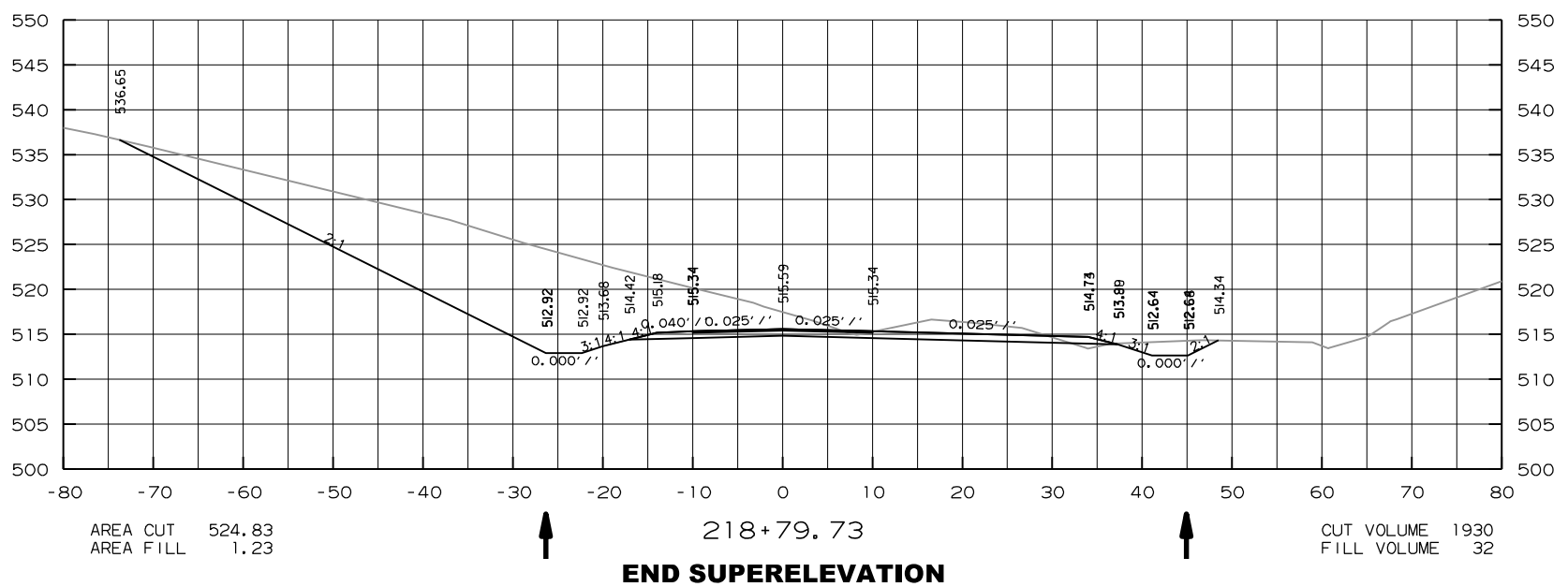
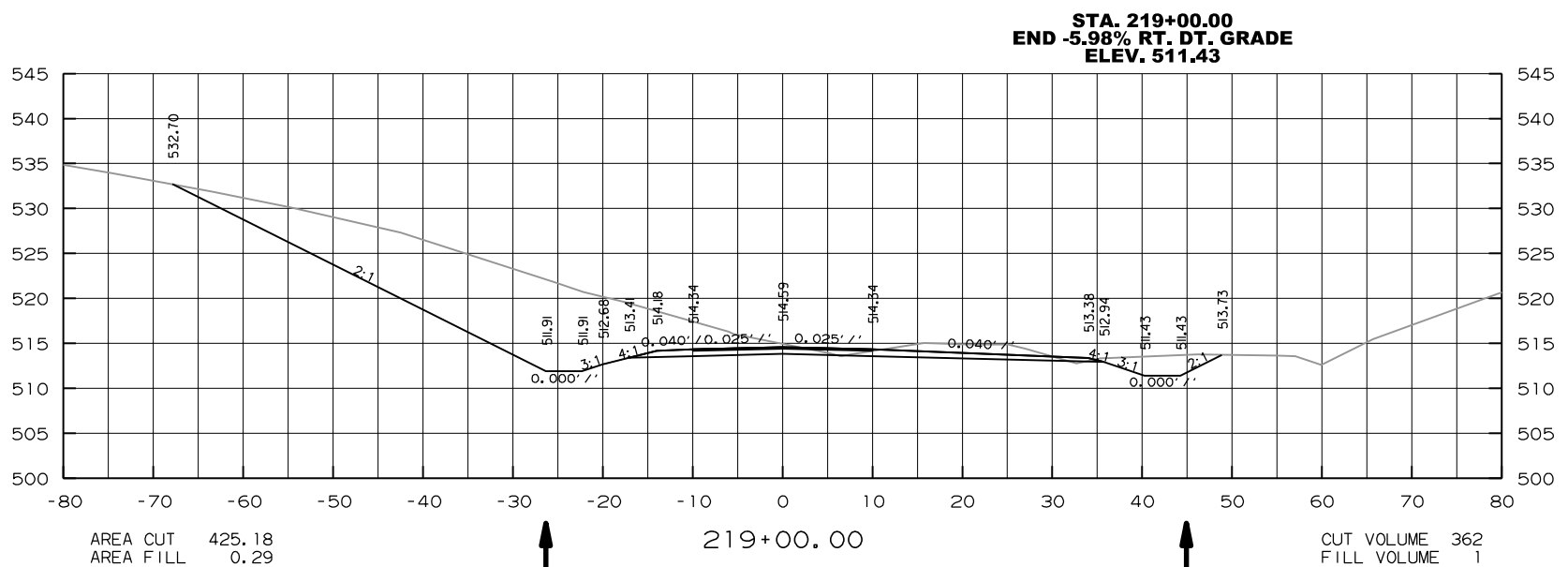
④ CROSS SECTIONS STA. 207+00.00 TO 209+00.00

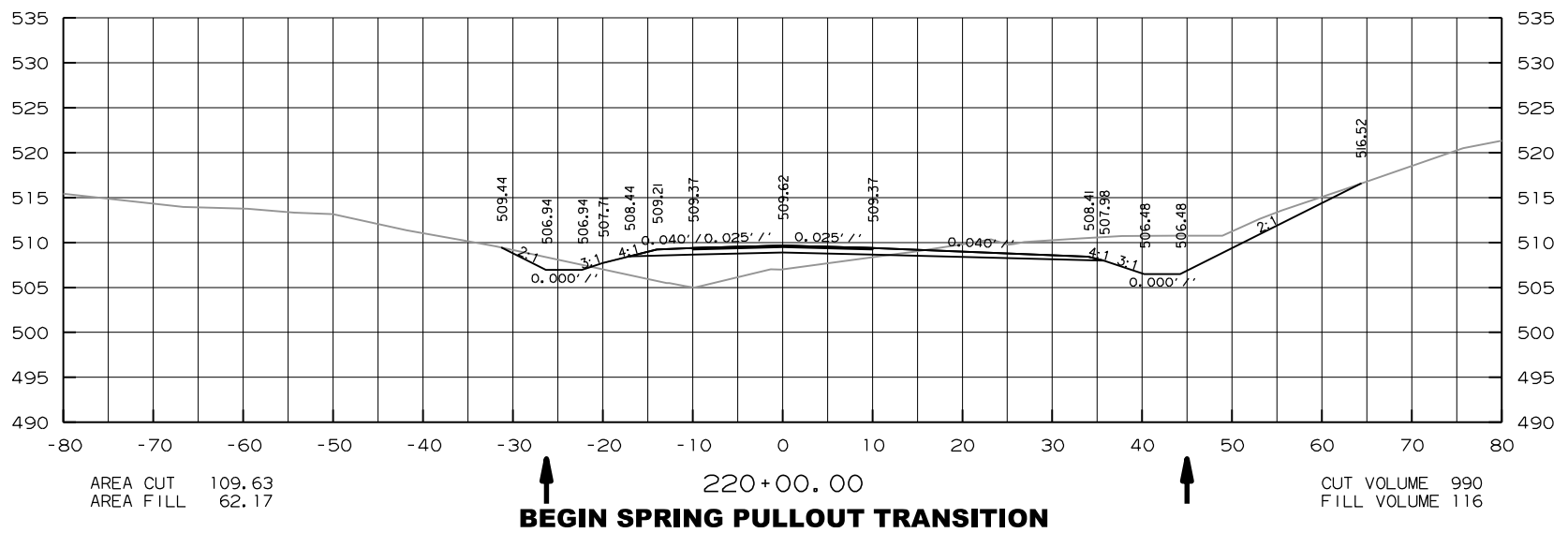
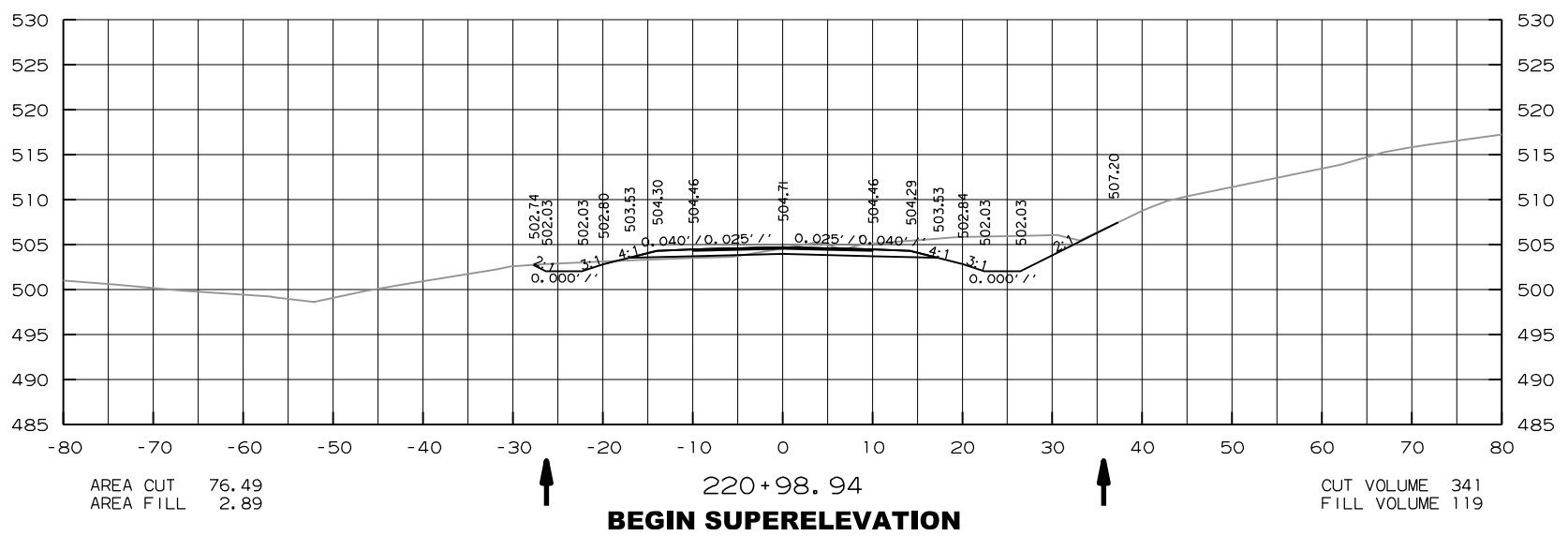
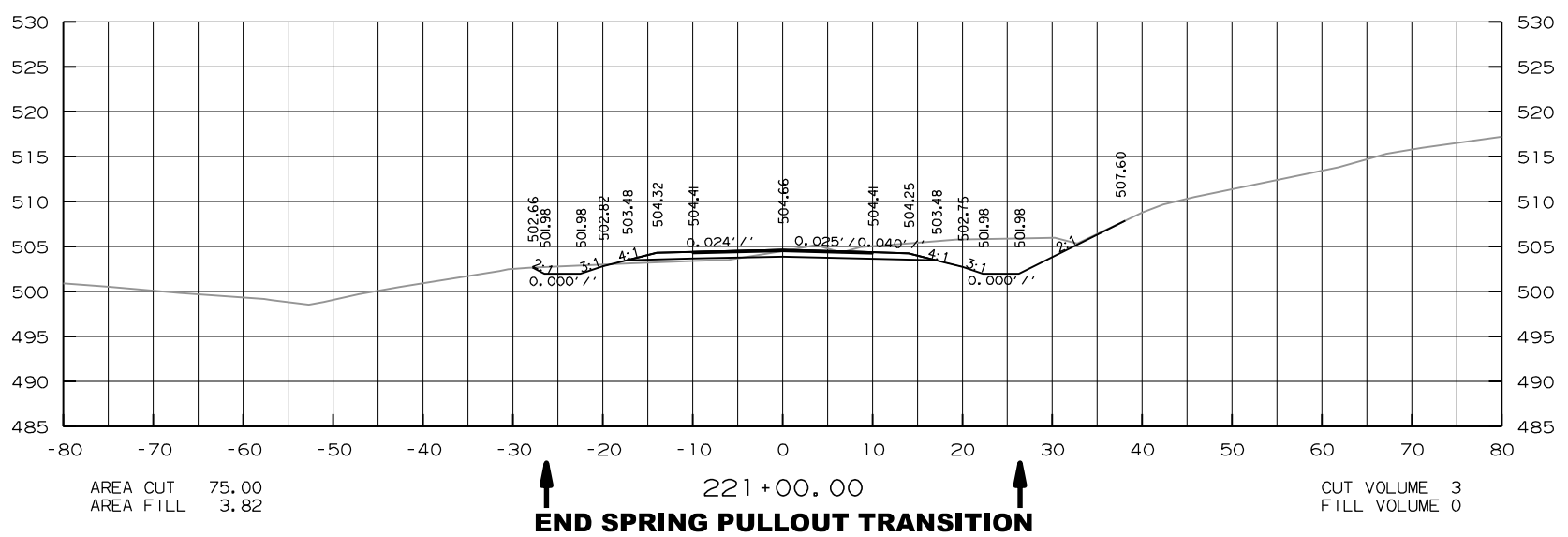
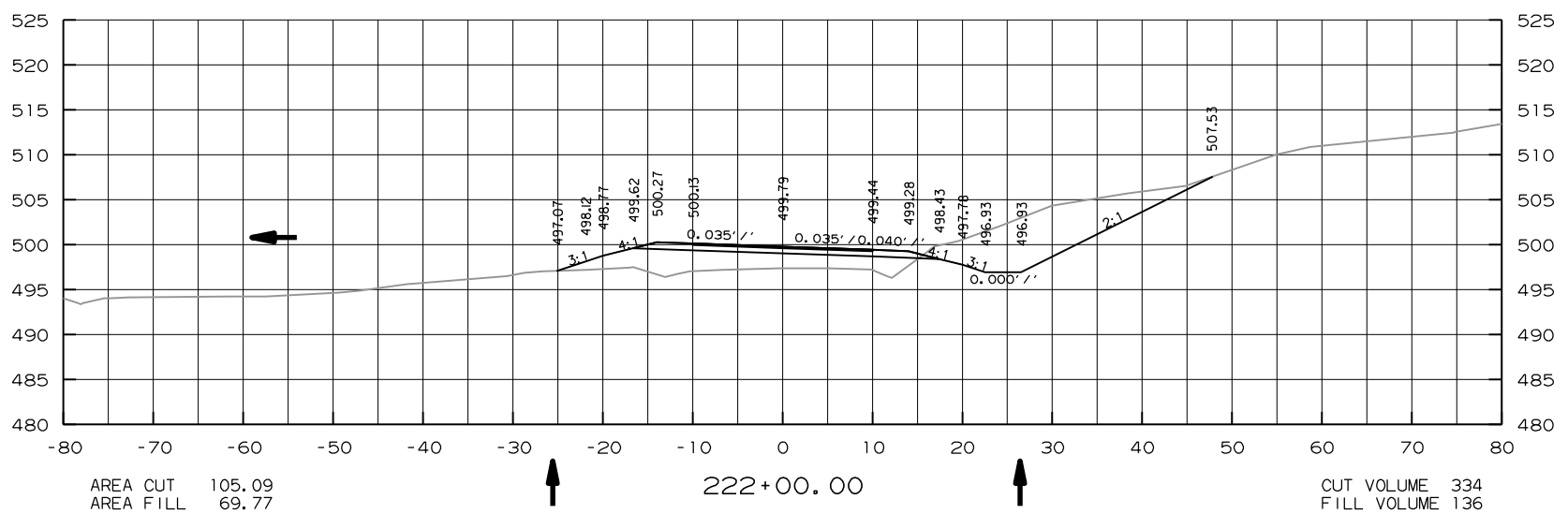


DATE	DATE	DATE	DATE	DATE	DATE
REVISED	FILED	REVISED	FILED	REVISED	FILED
6	ARK.	FA0314	49	72	
CROSS SECTIONS STA. 209+04.86 TO 211+00.00					

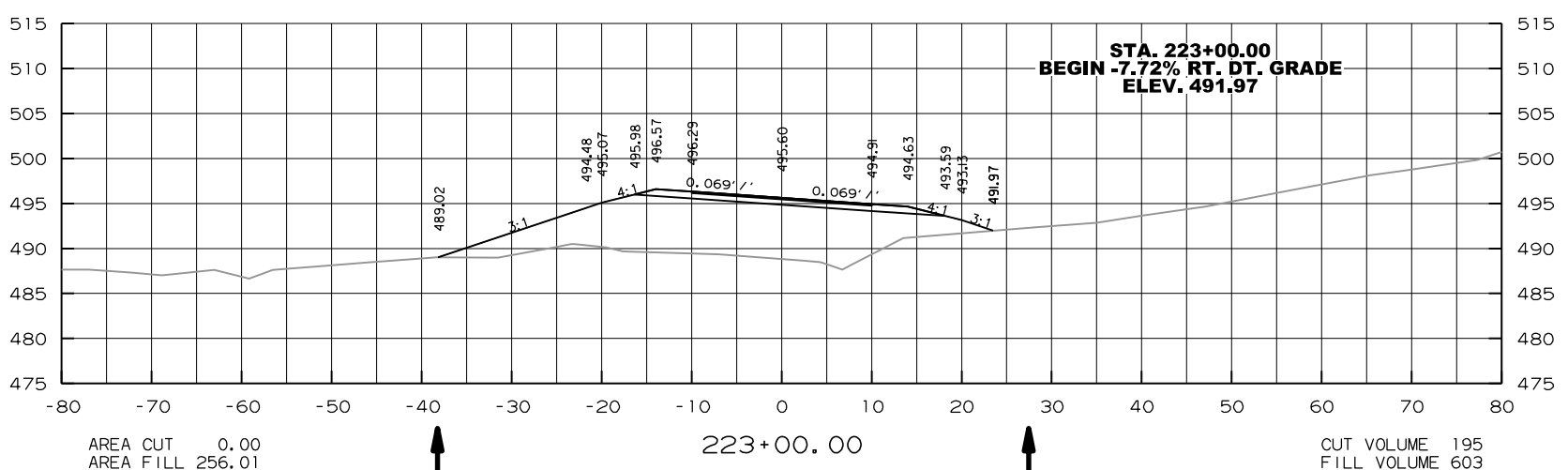
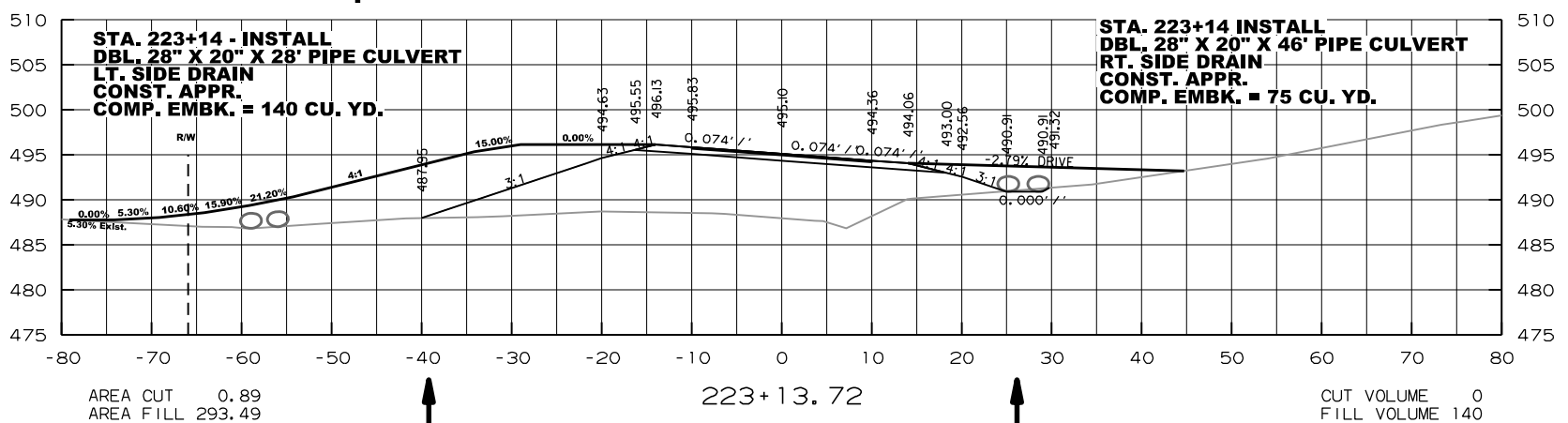
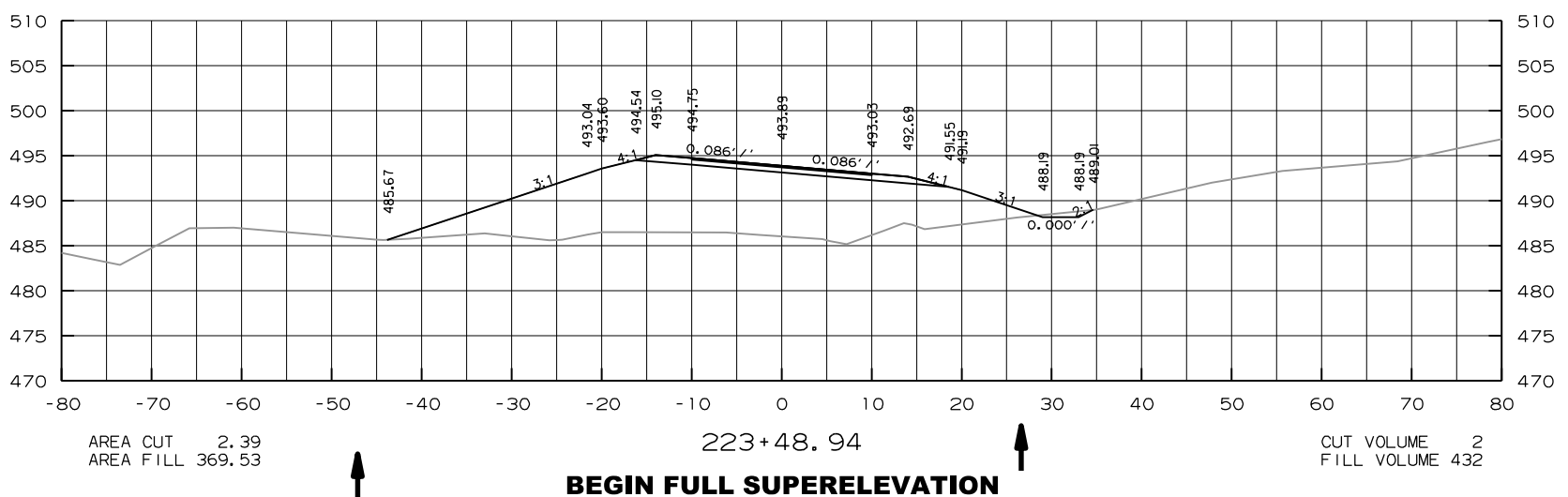
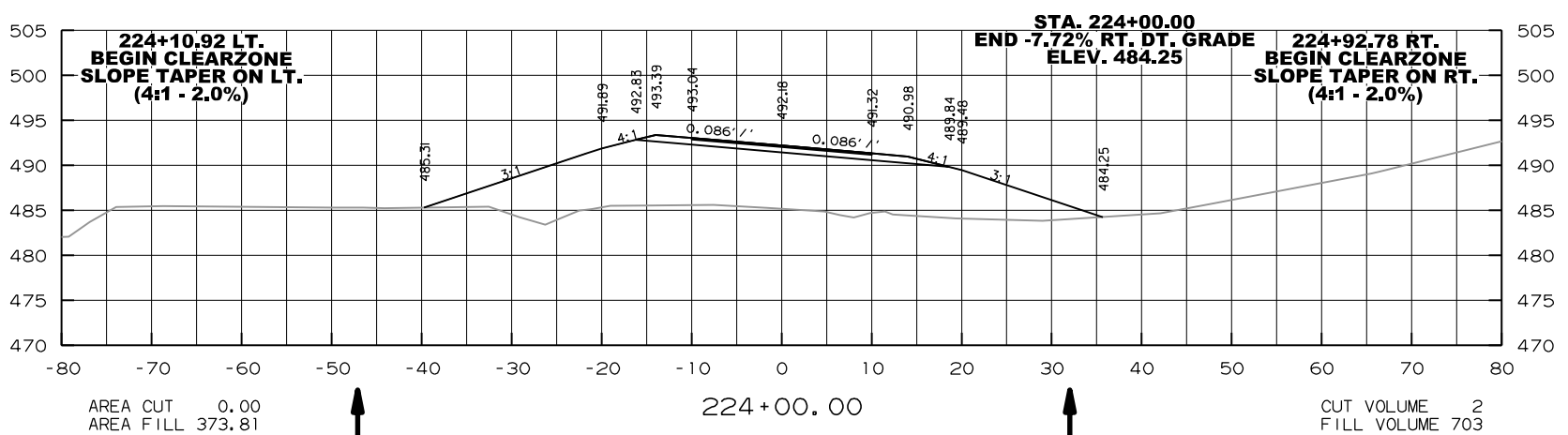
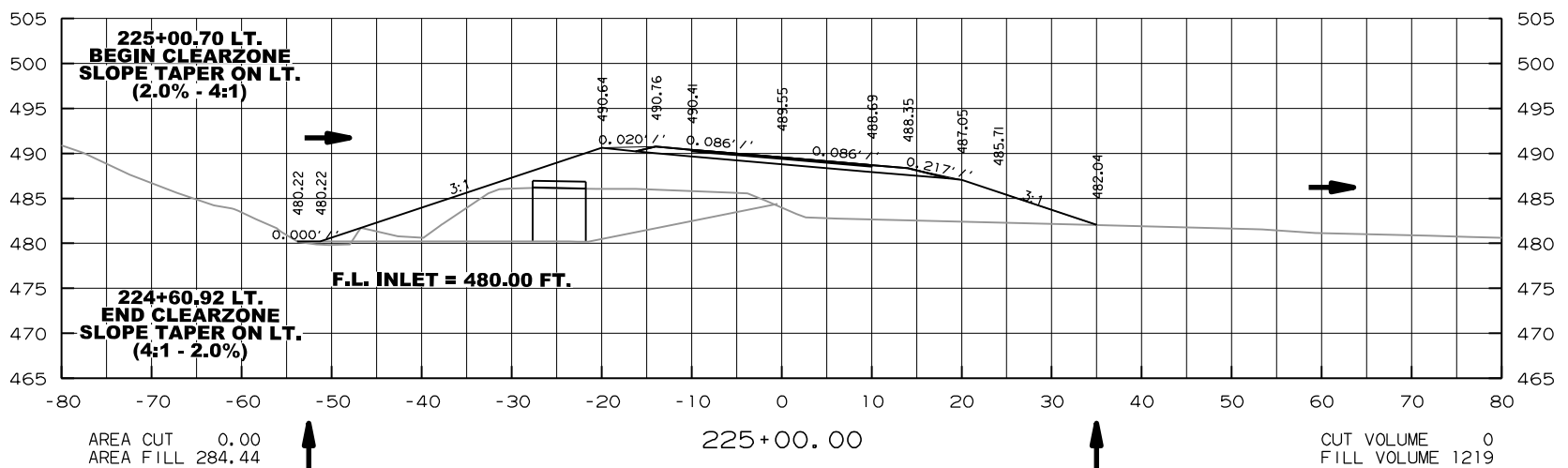


DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. PROJ. DIST. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	50	72
④ CROSS SECTIONS STA. 212+00.00 TO 214+00.00								

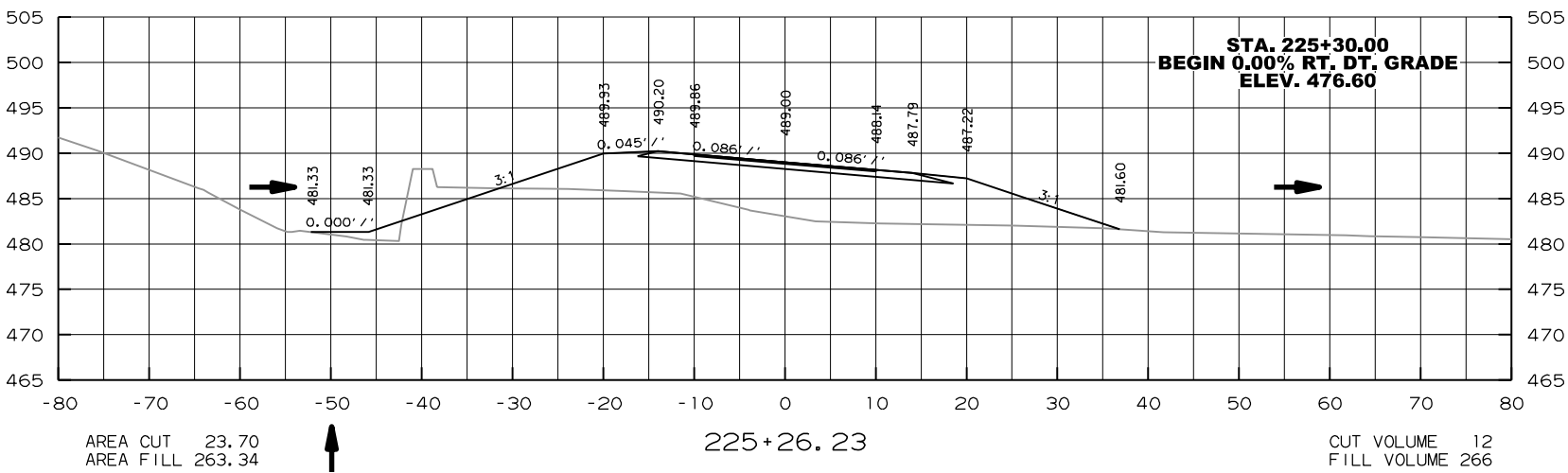
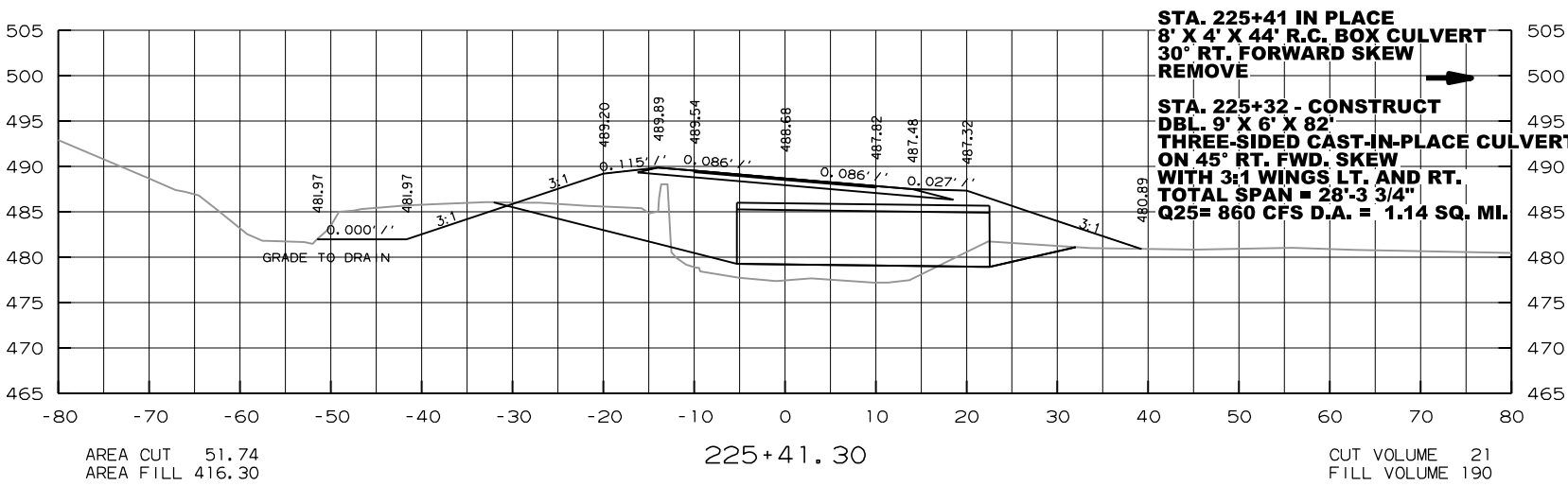
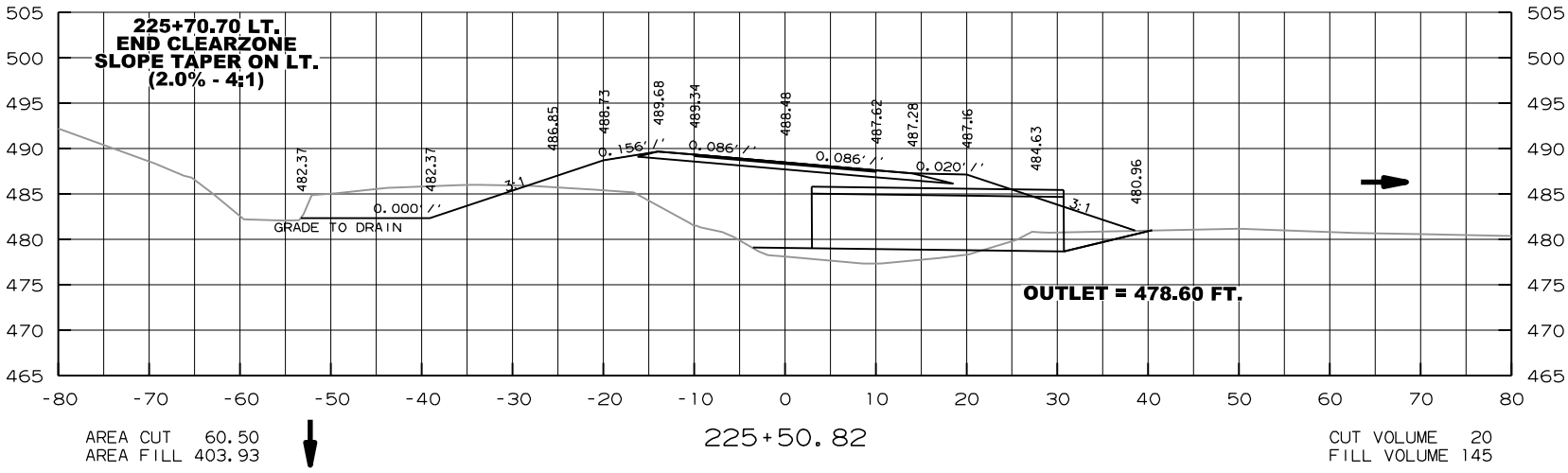
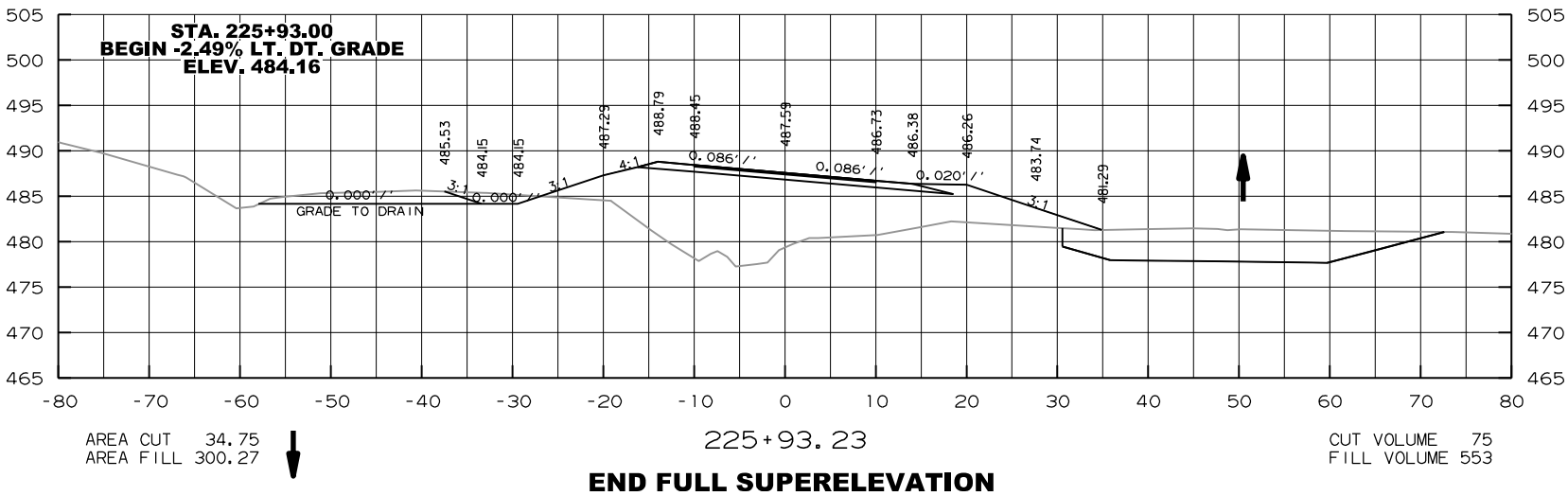
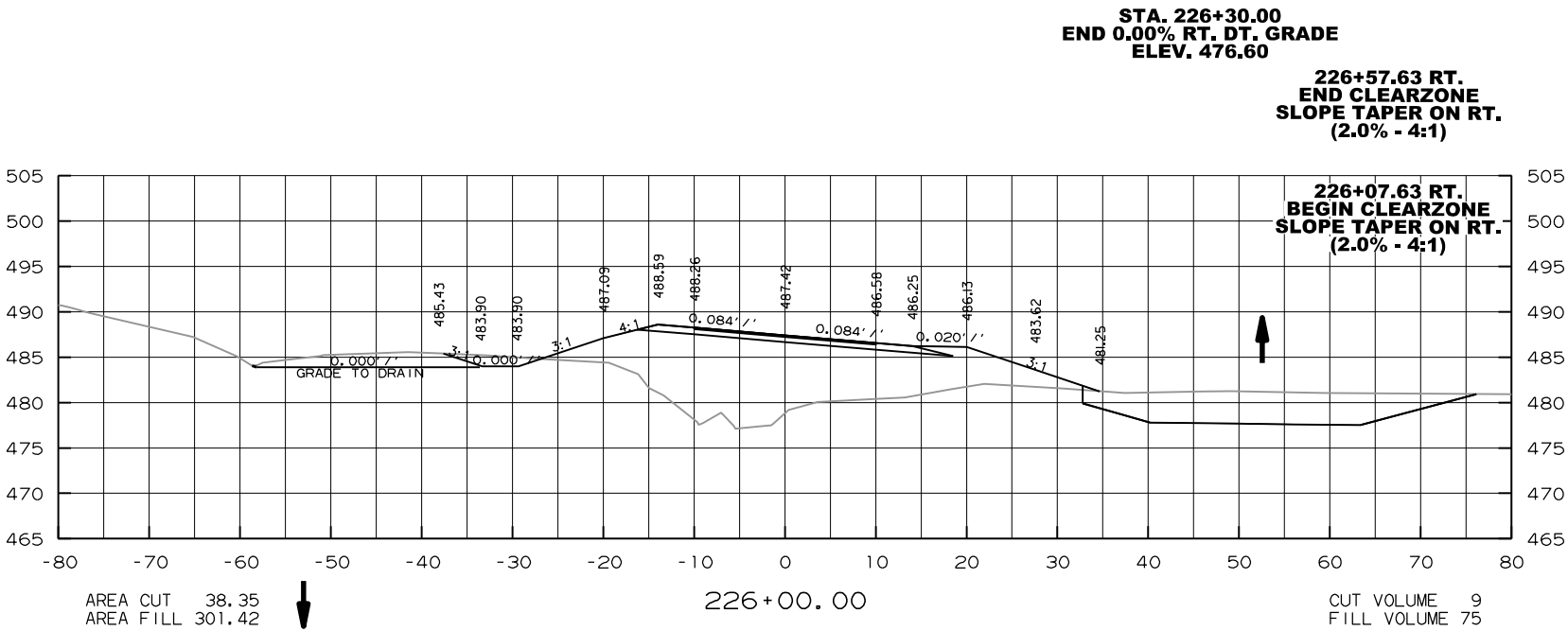




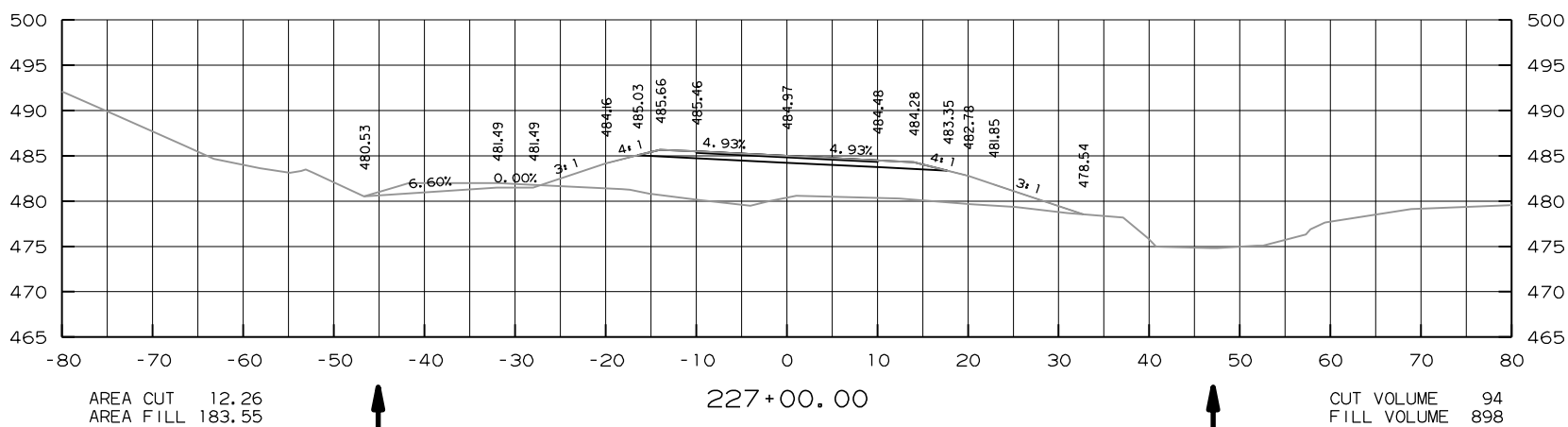
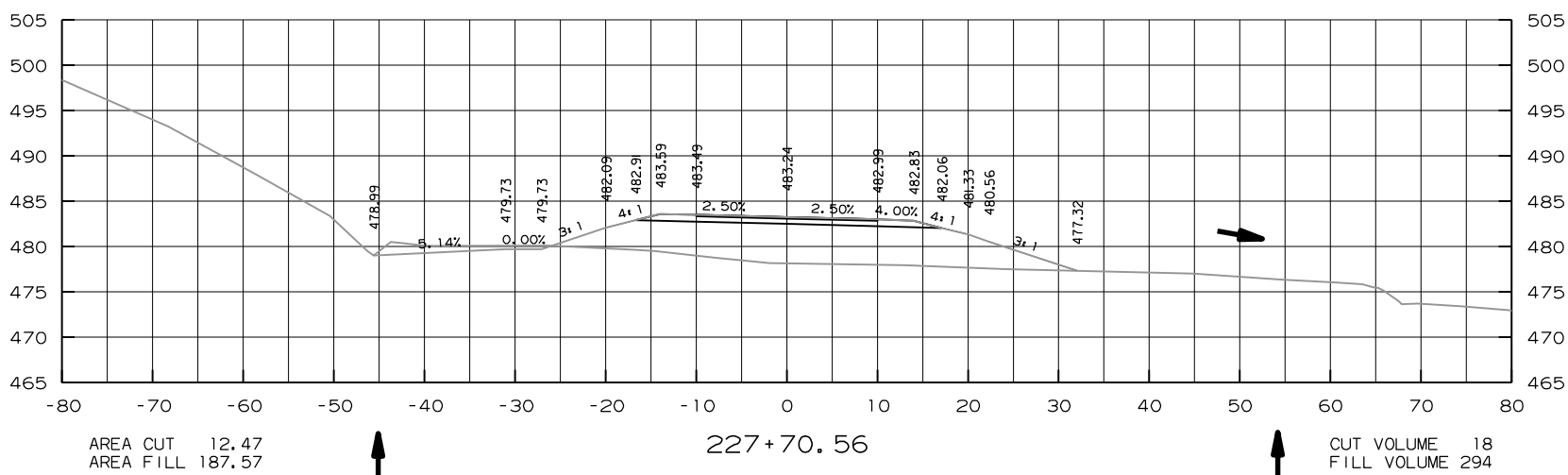
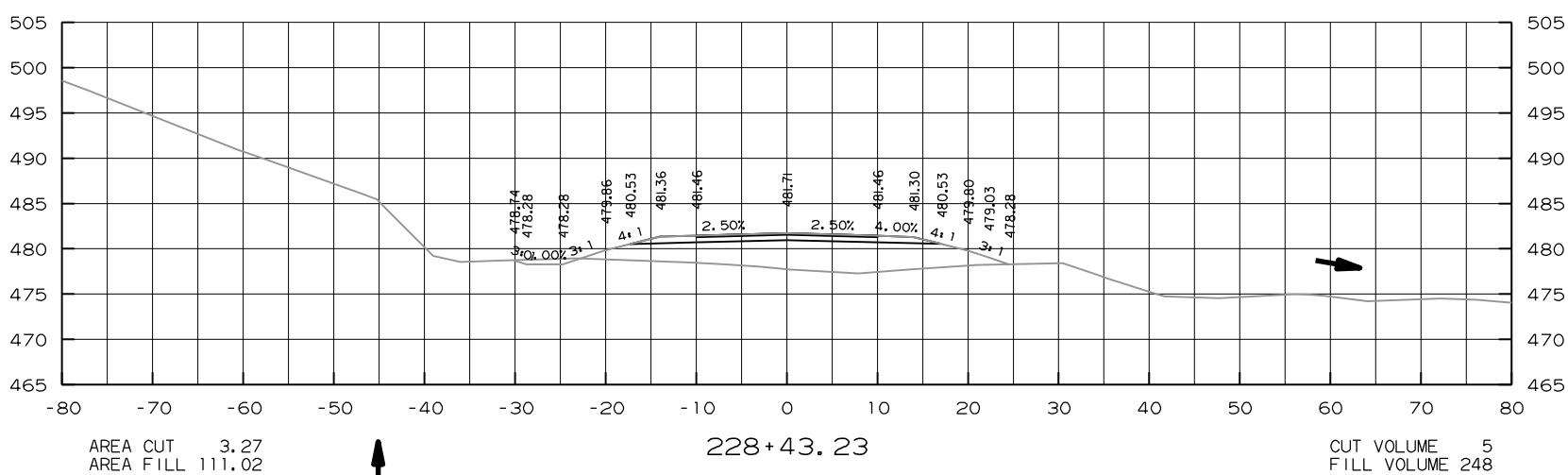
DATE REVISED	DATE FILMED	DATE REMOVED	DATE FILMED	FED. NO. DFA0314	STATE ARK.	FED. NO. PROLNO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	53	72
4 GROSS SECTIONS STA. 220+00.00 TO 2222+00.00								

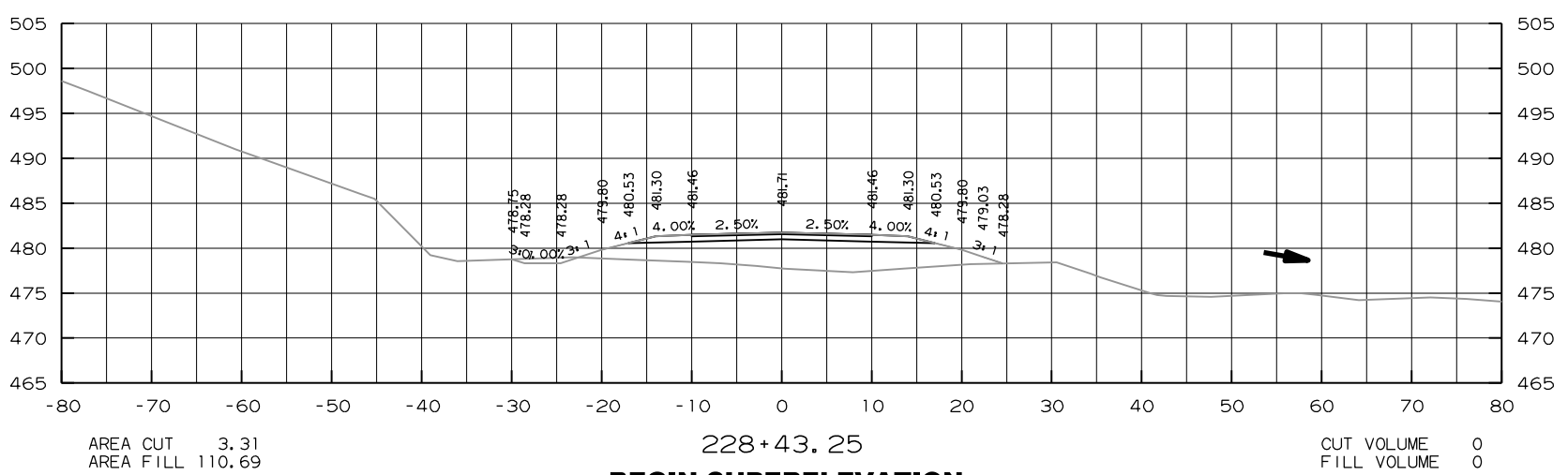
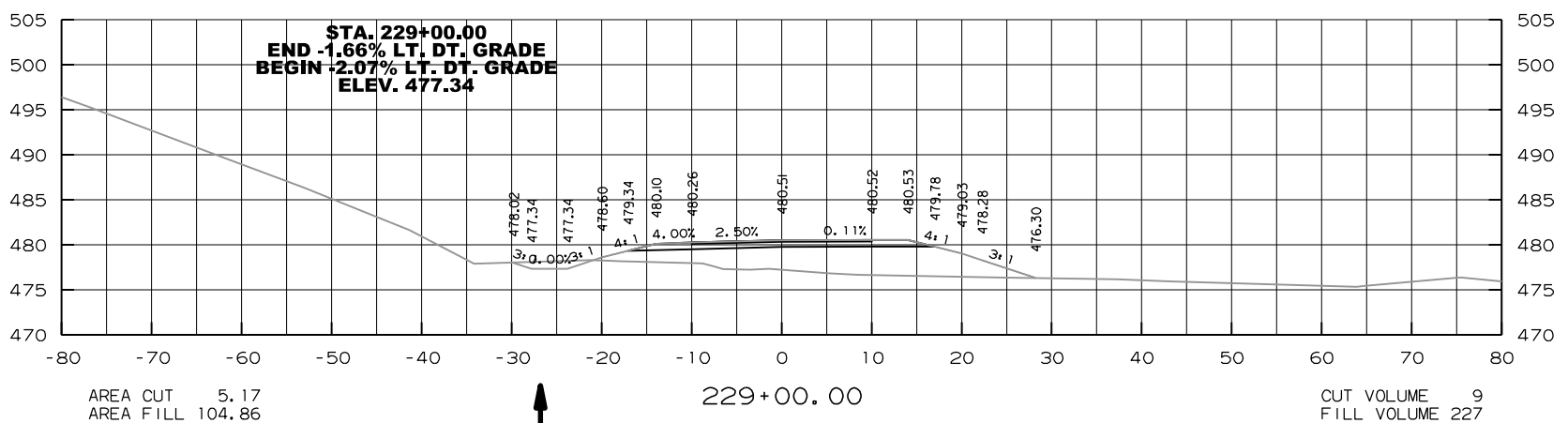
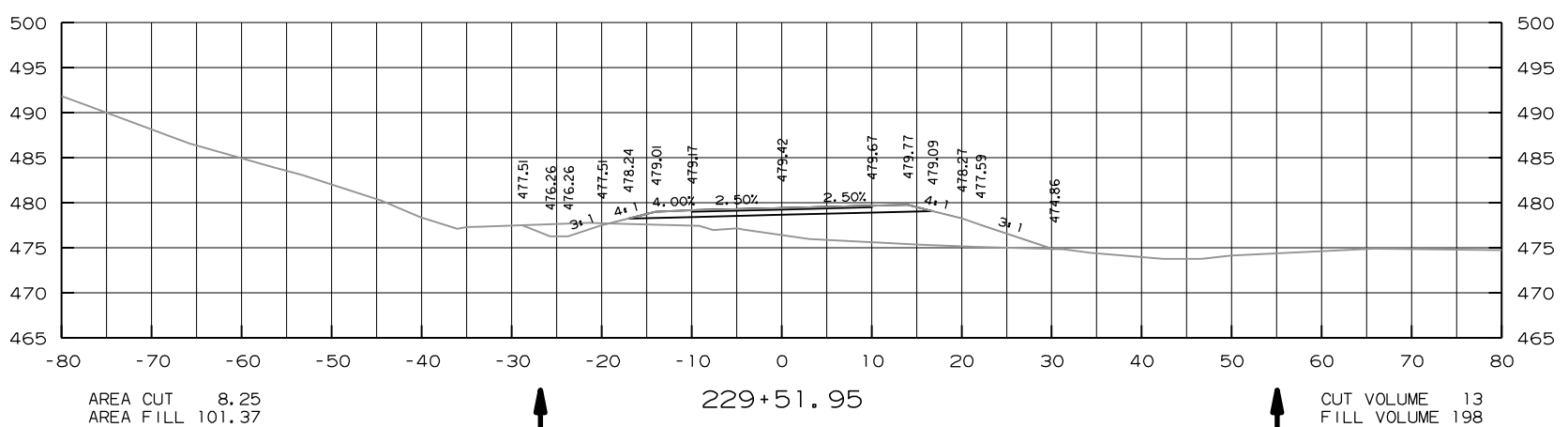
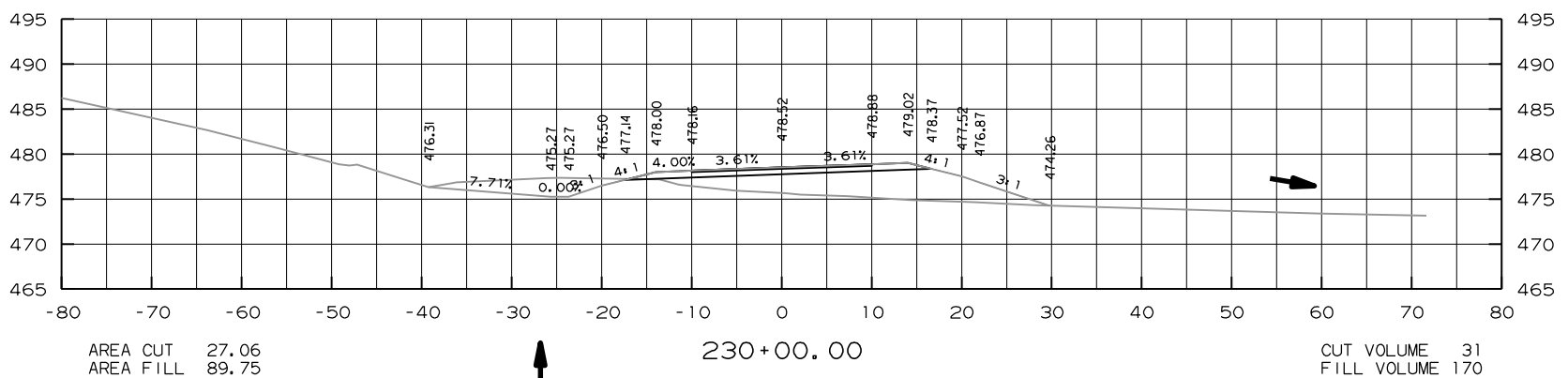
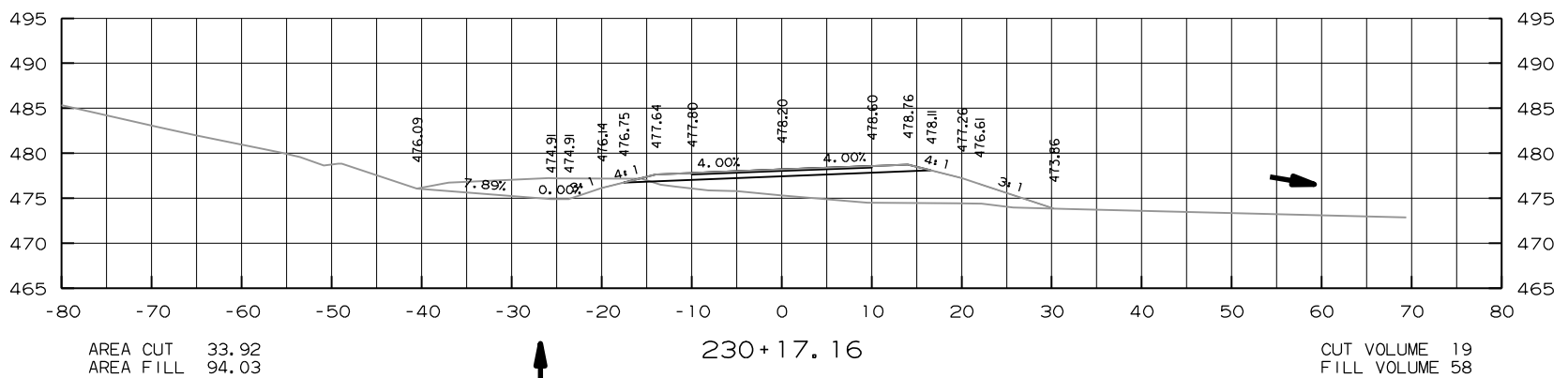
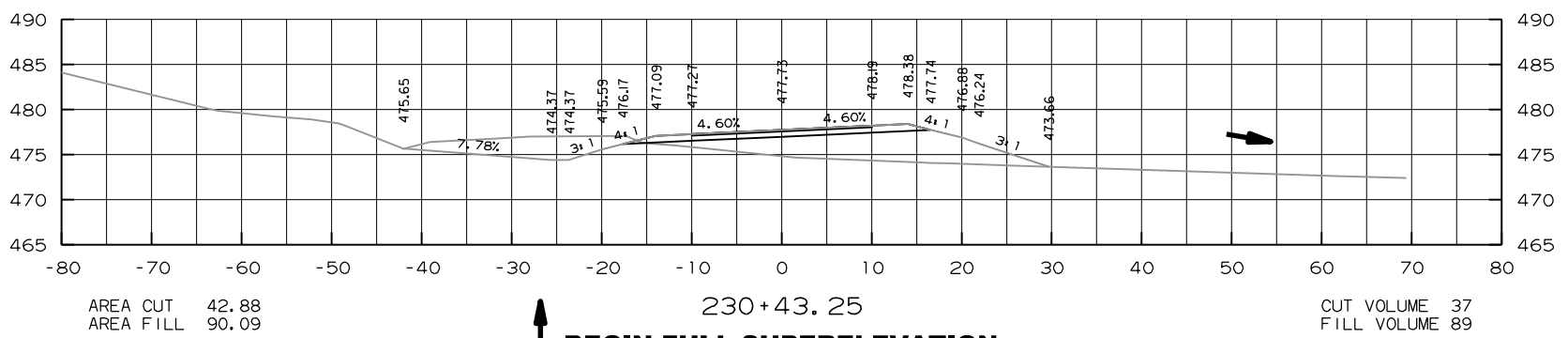


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						FA0314	54	72
(4) CROSS SECTIONS STA. 223+00.00 TO 225+00.00								

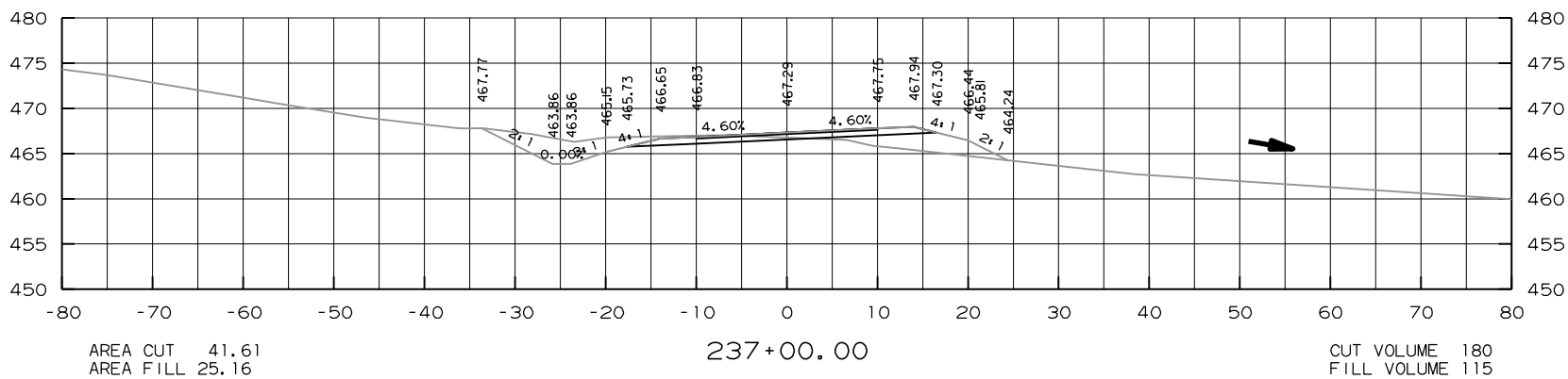
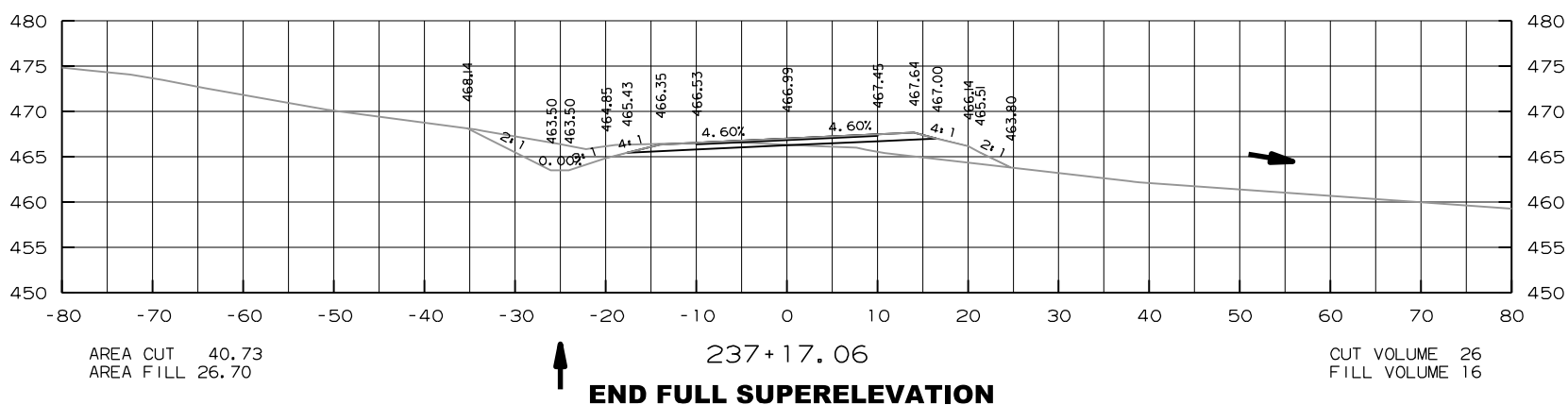
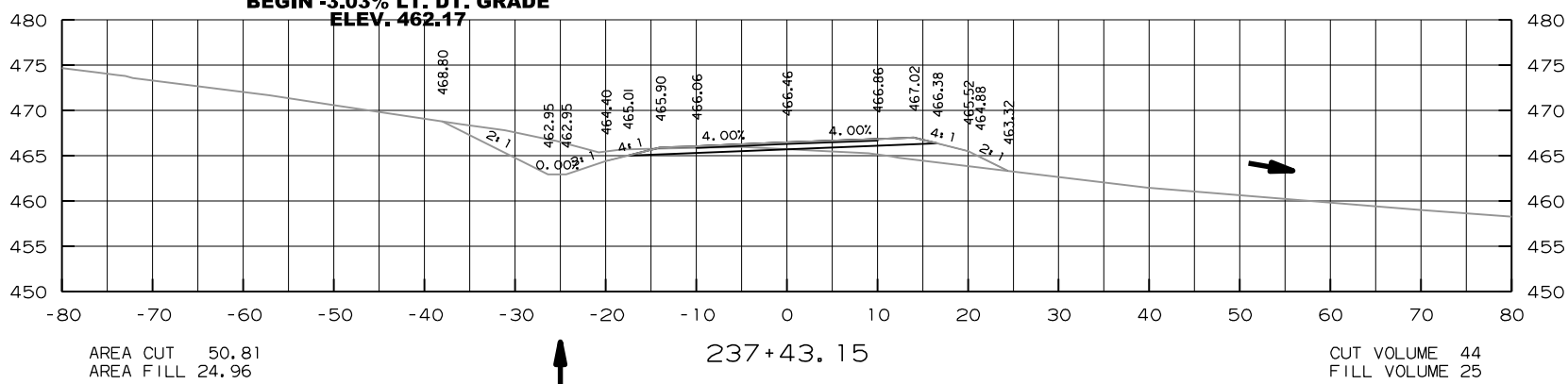
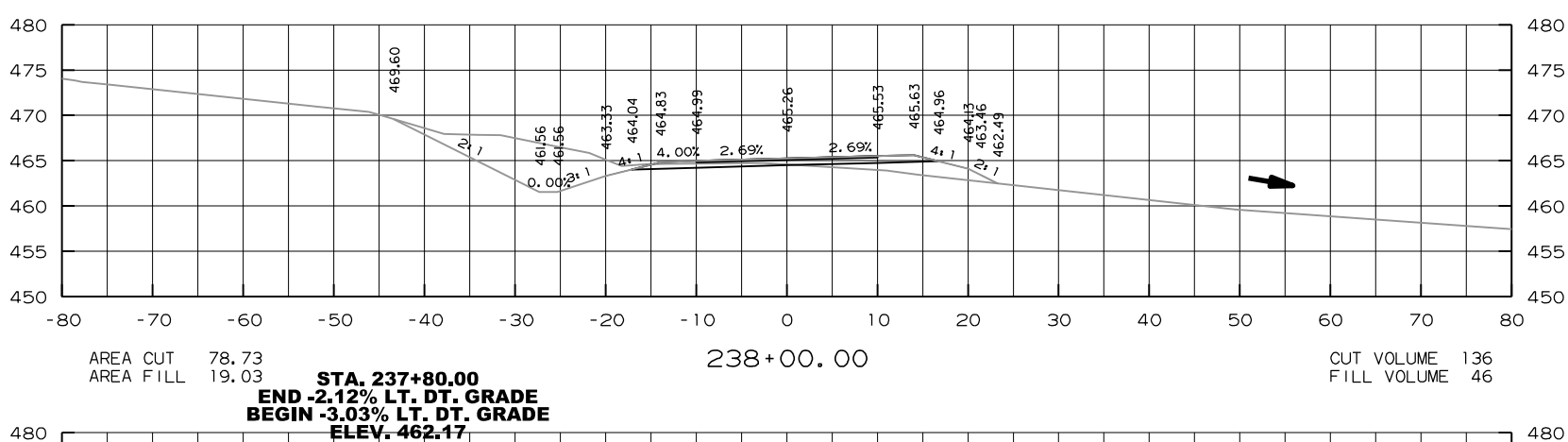
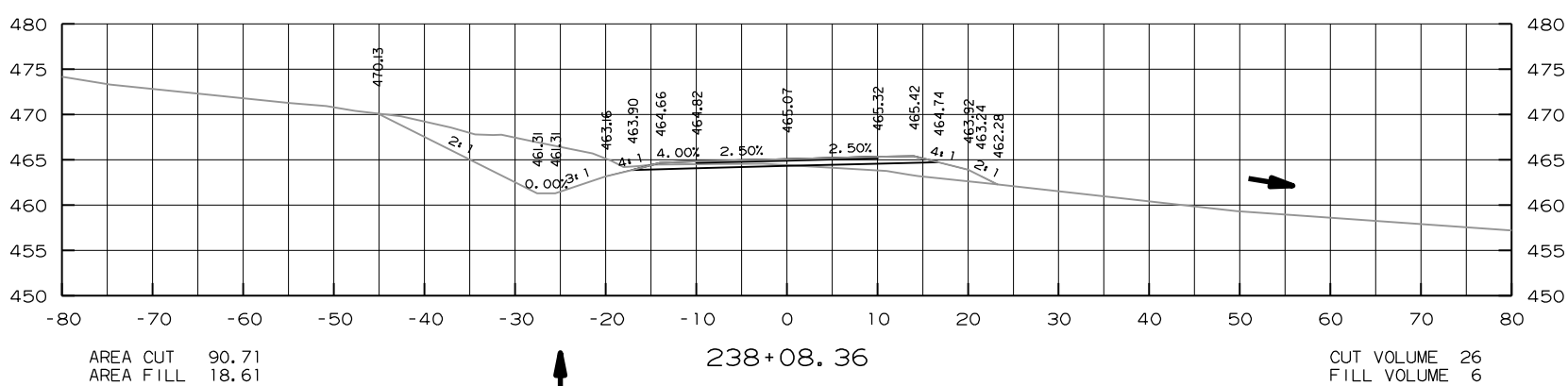
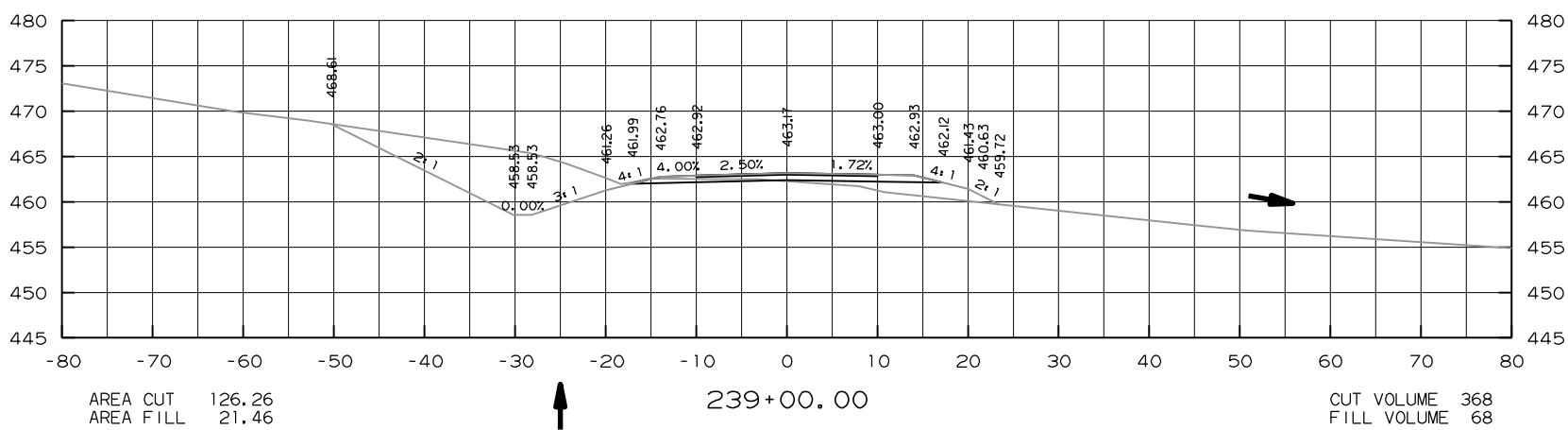


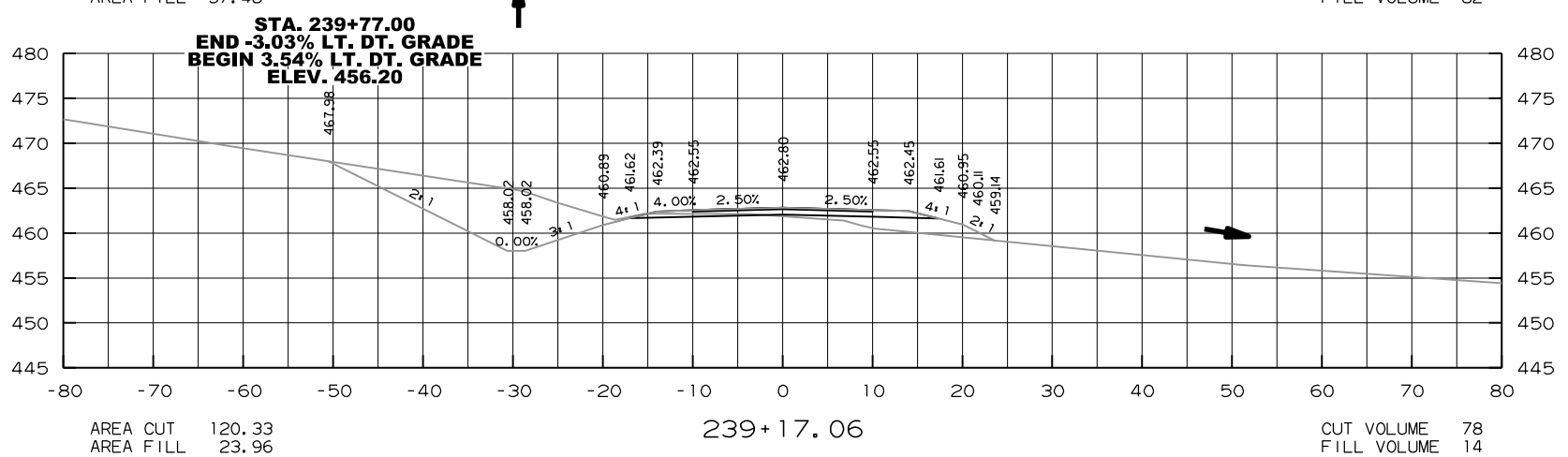
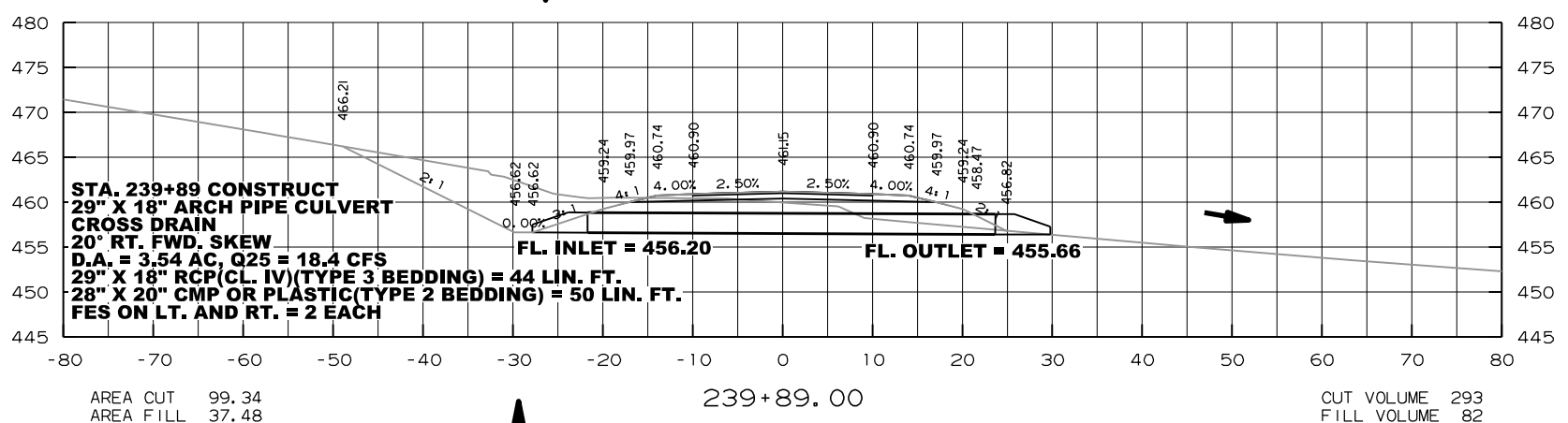
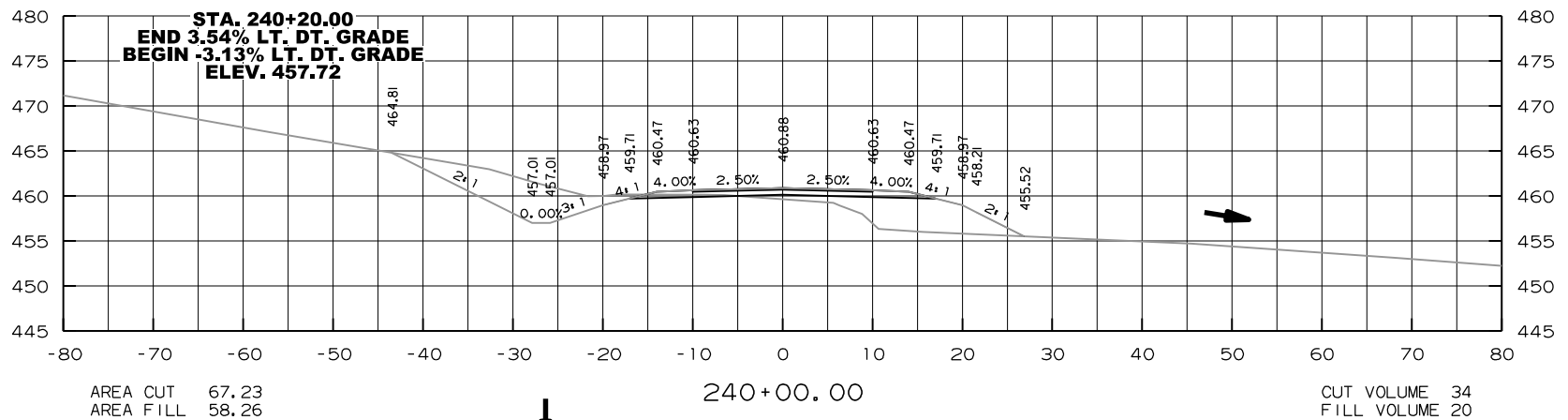
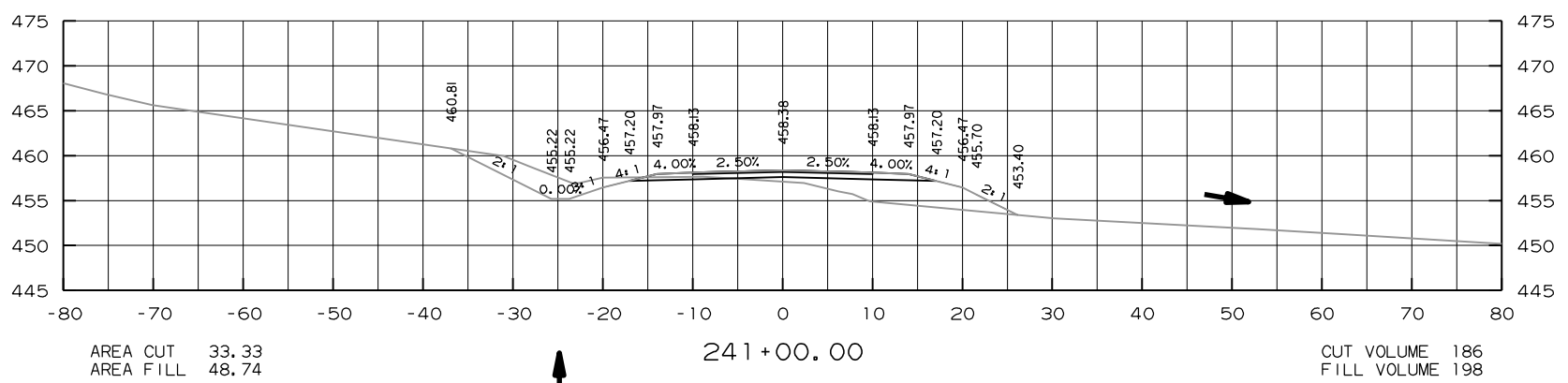
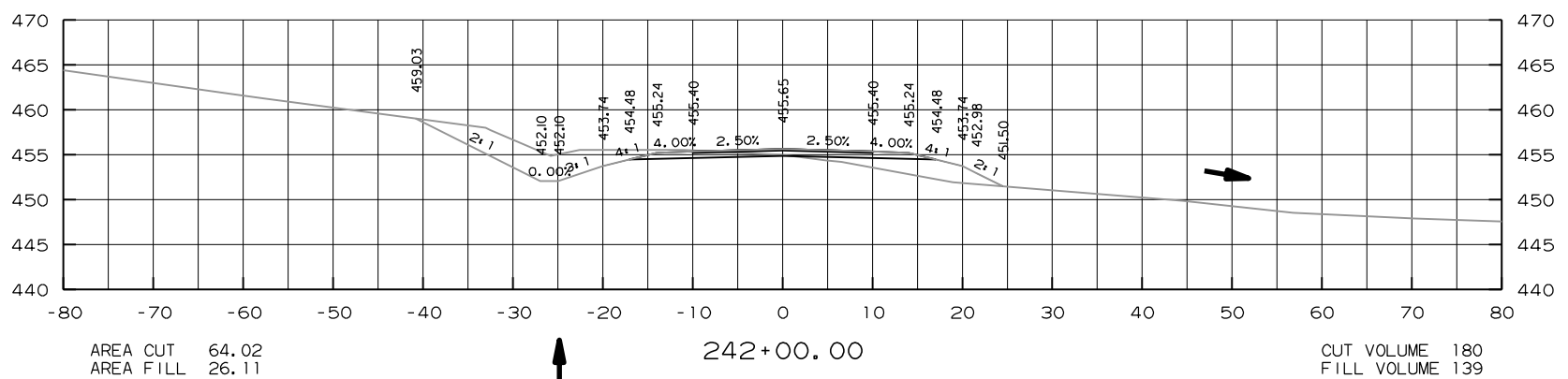
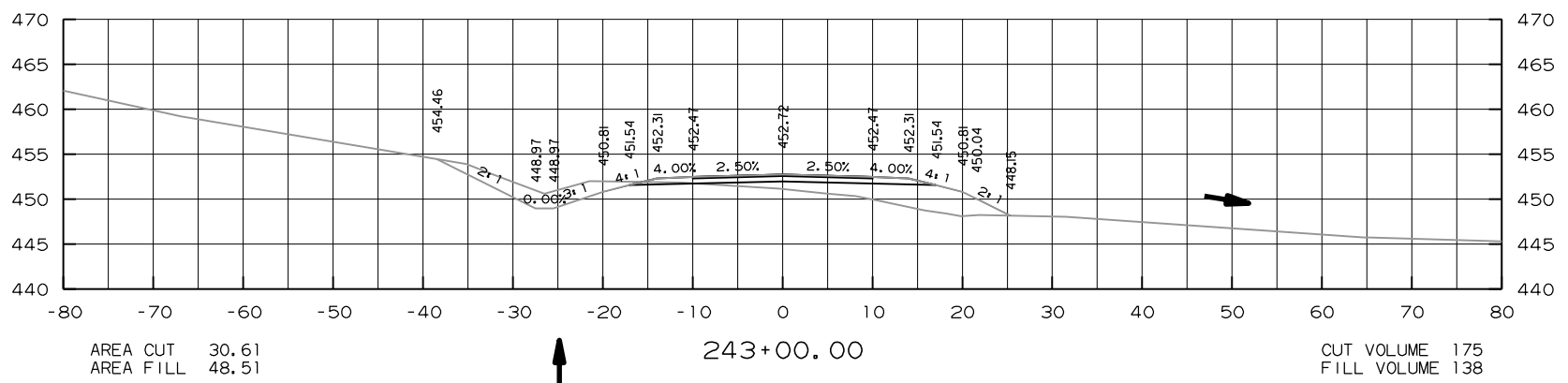
DATE	DATE	DATE	DATE	DATE	DATE
REVISED	FILED	REVISED	FILED	REVISED	FILED
6	ARK.	FA0314	55	72	
CROSS SECTIONS STA. 225+26.23 TO 226+00.00					
4					





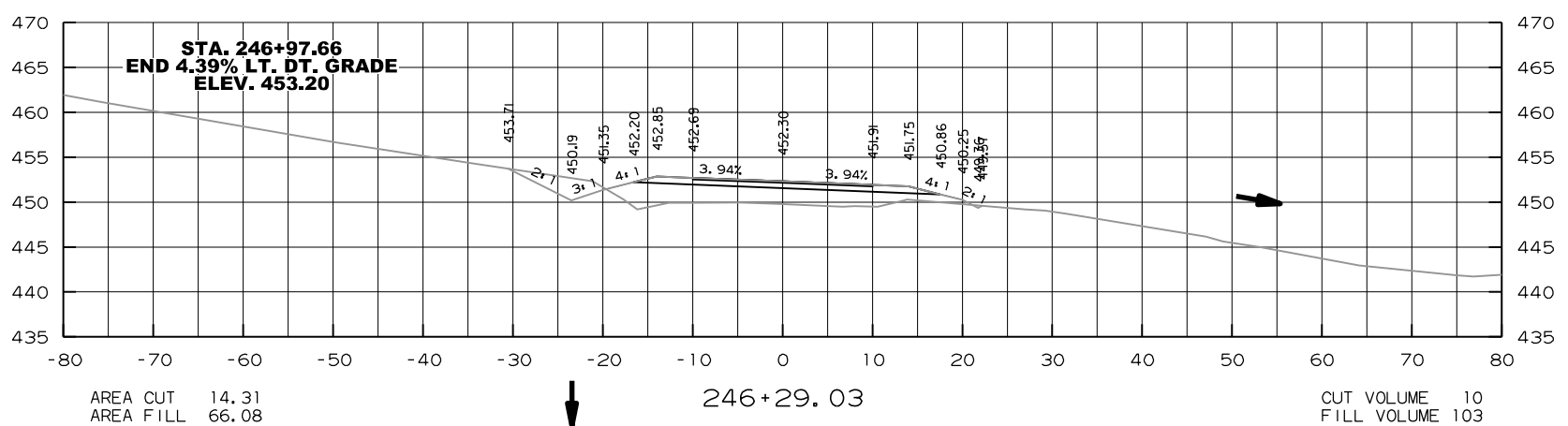
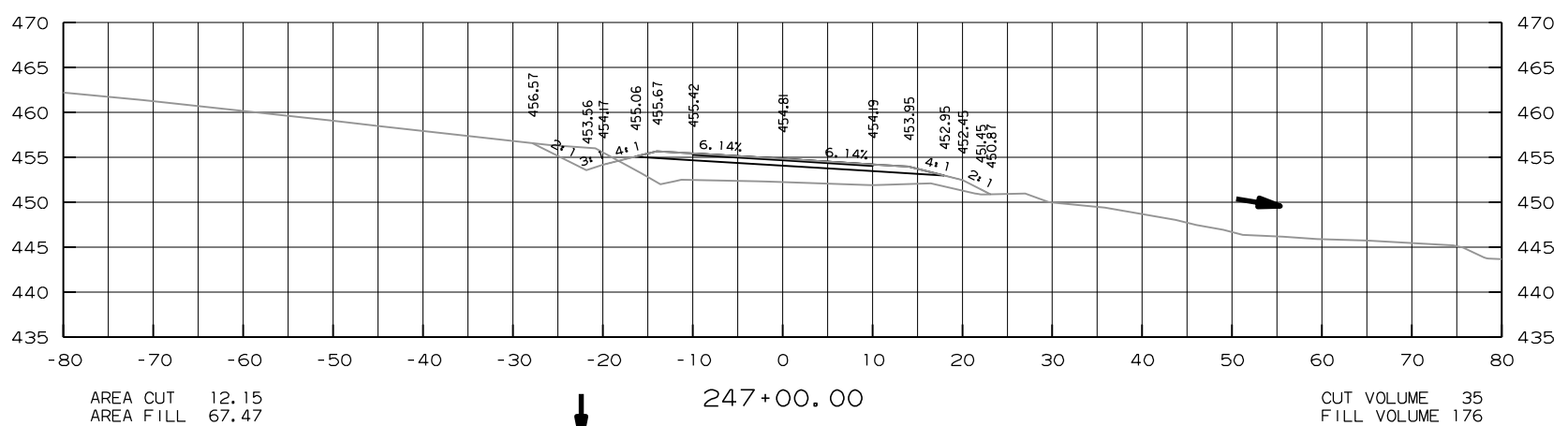
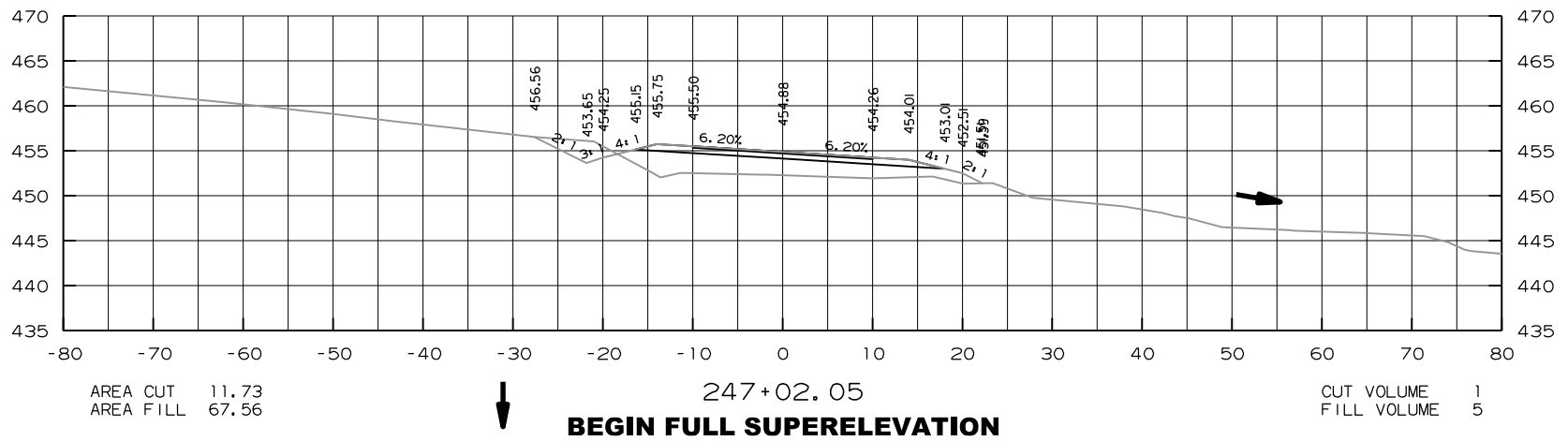
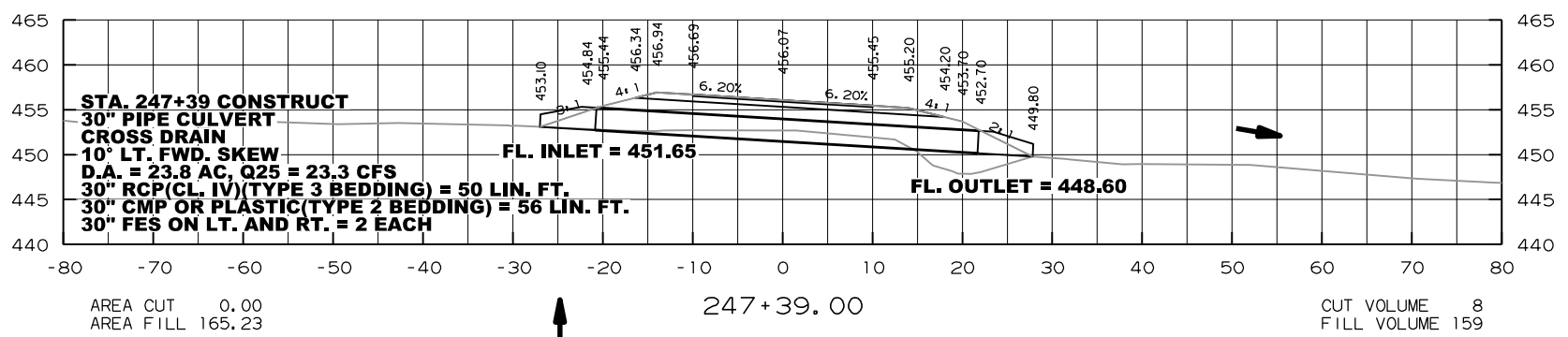
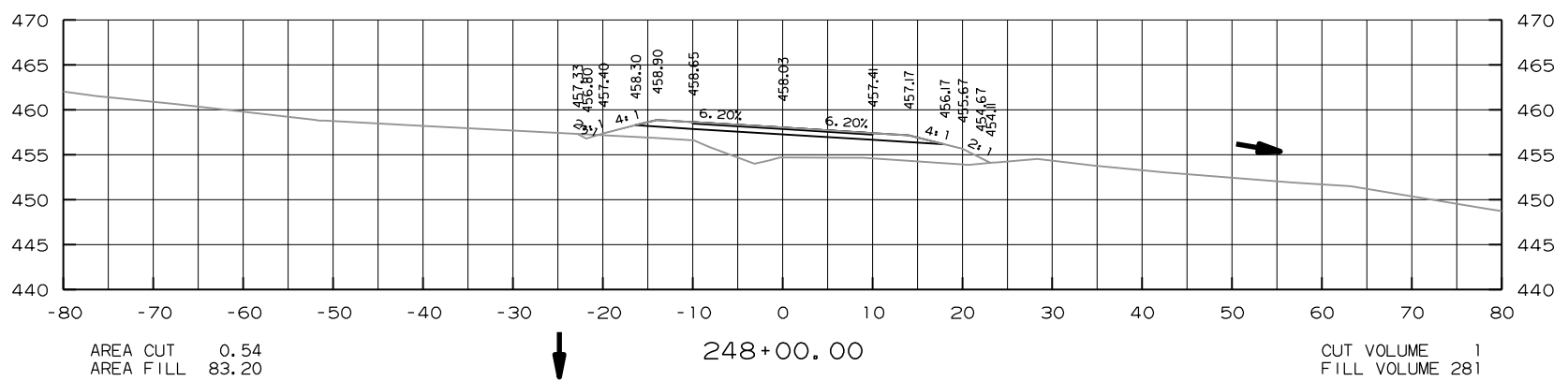
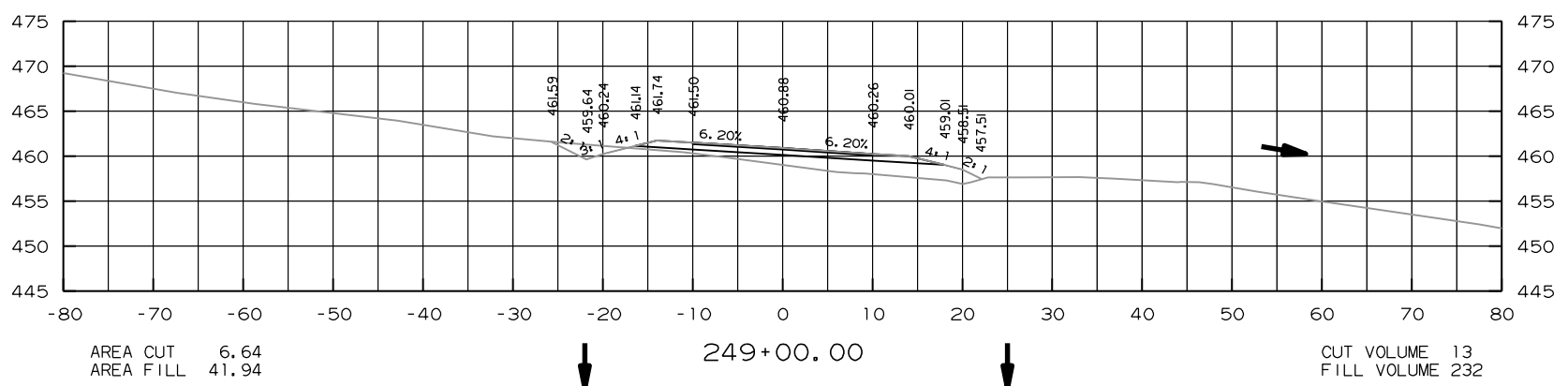
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RES. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	57	72

[illegible]



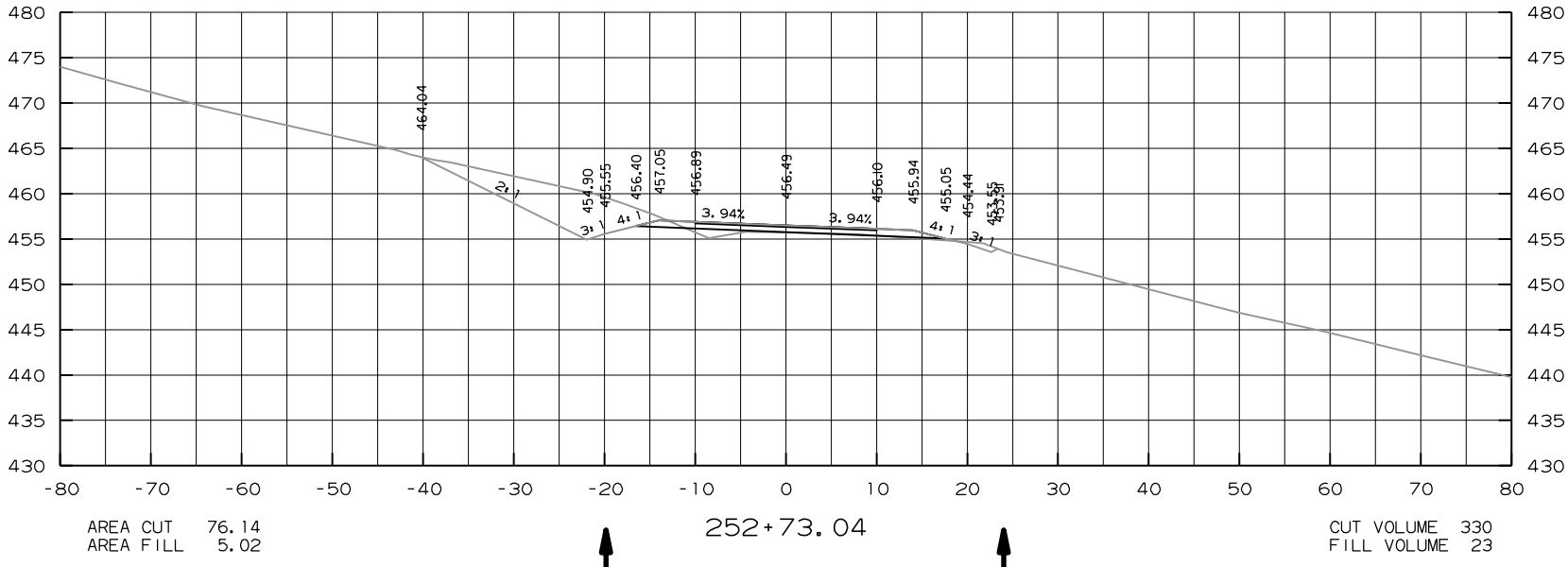
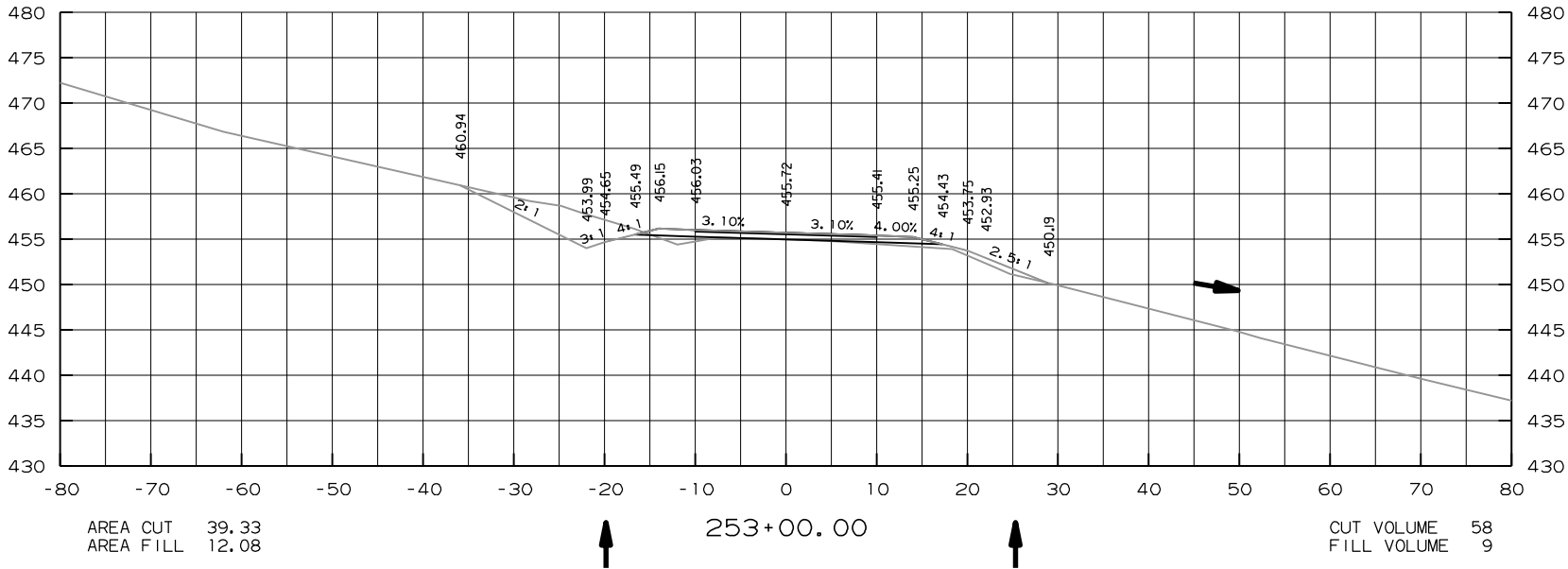
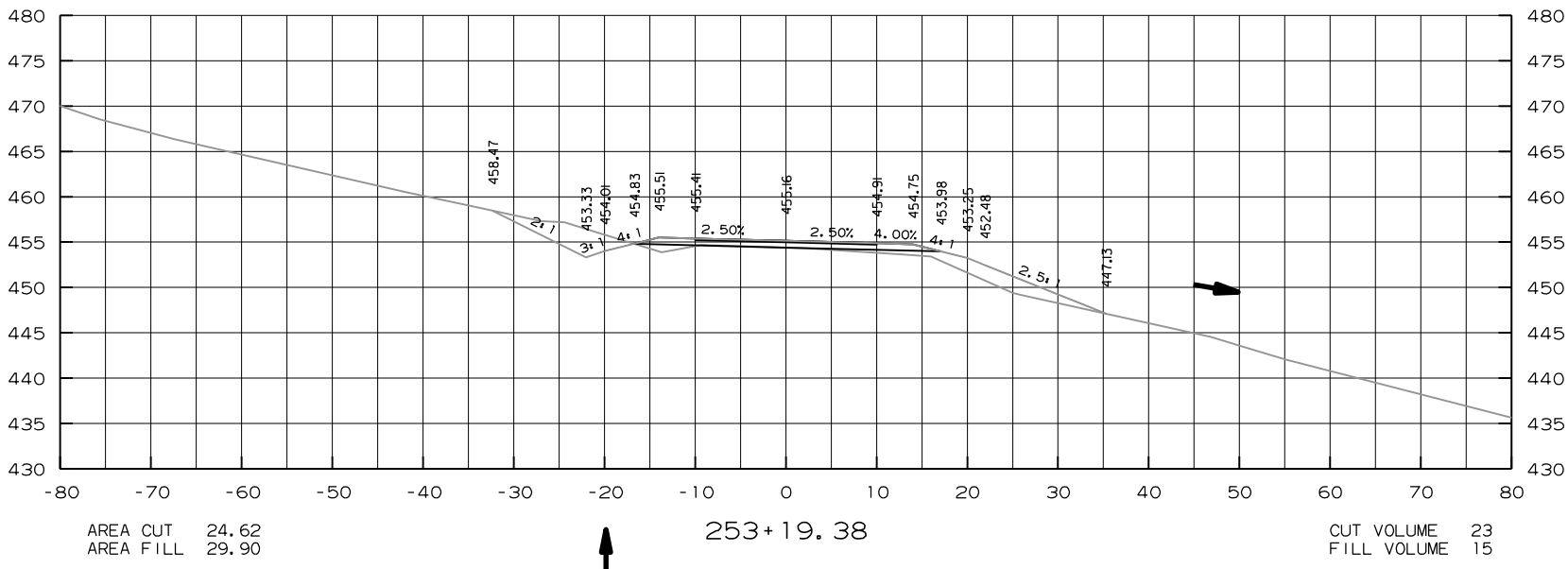
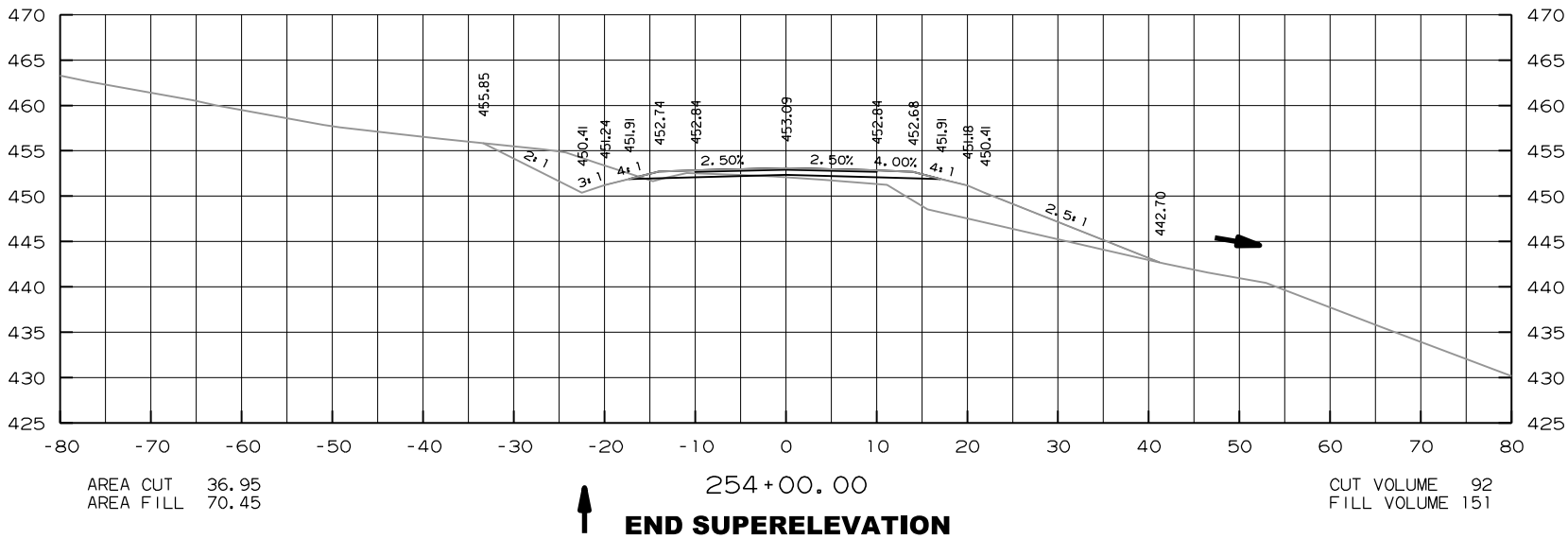
END SUPERELEVATION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ID. DIST. NO.	STATE	FED. AD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	60	72

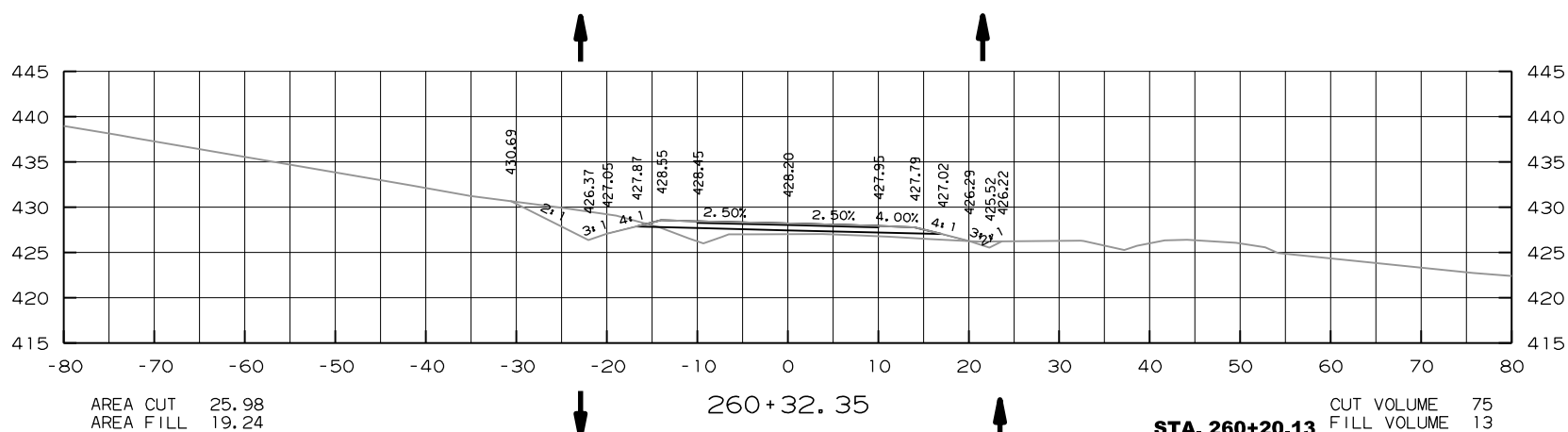


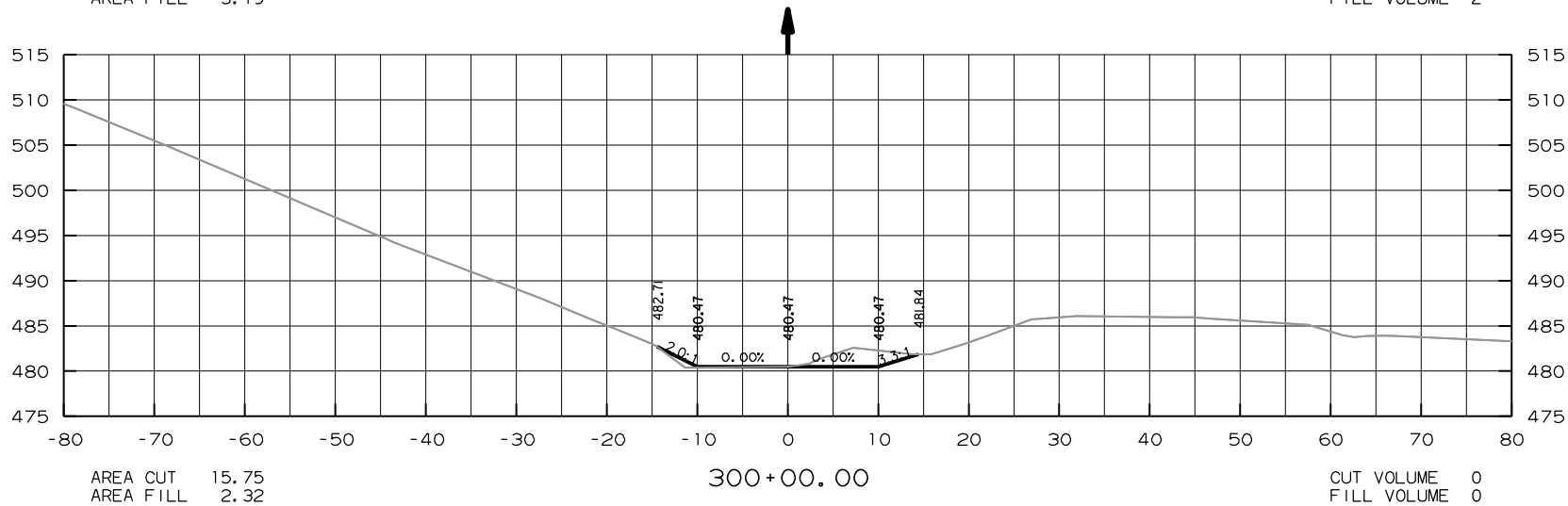
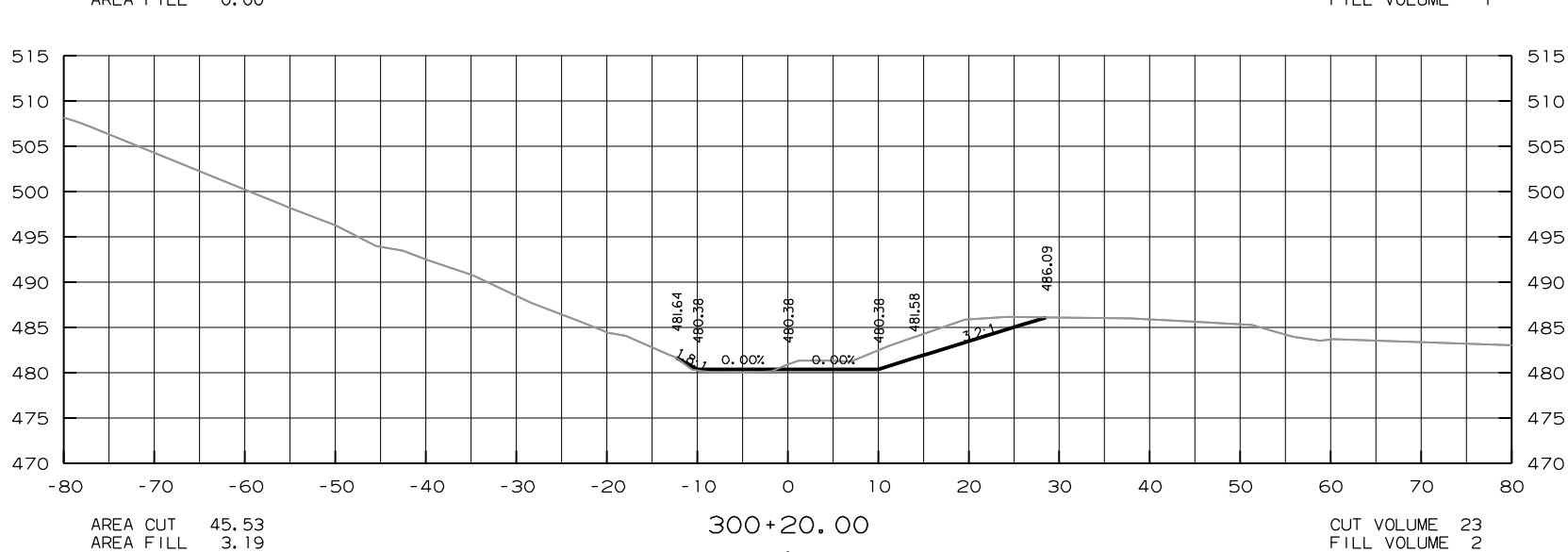
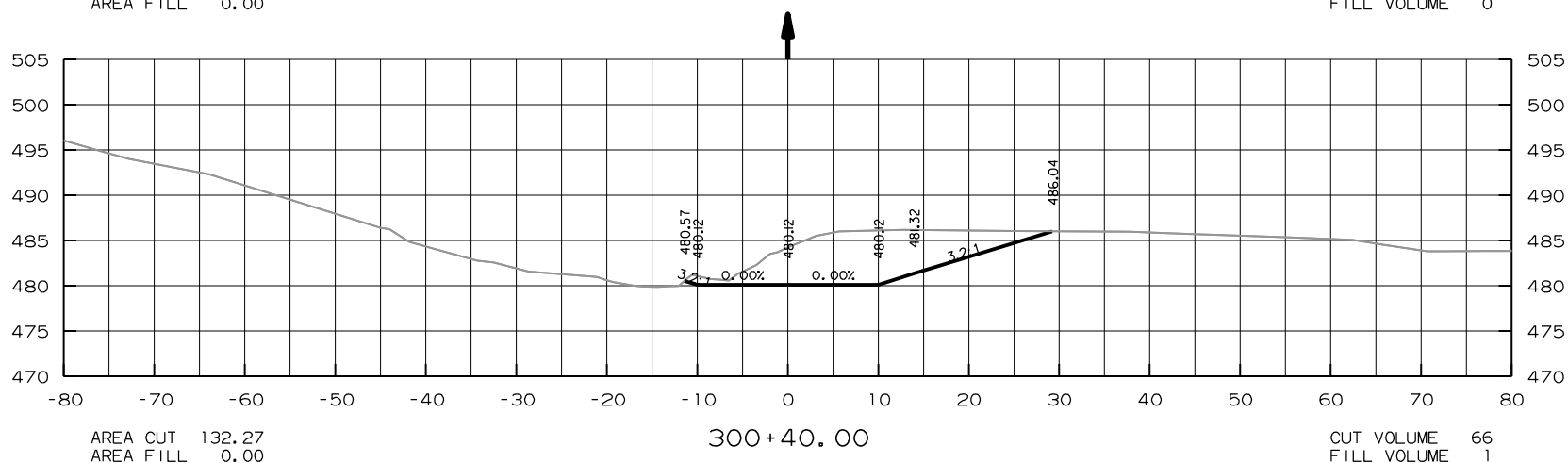
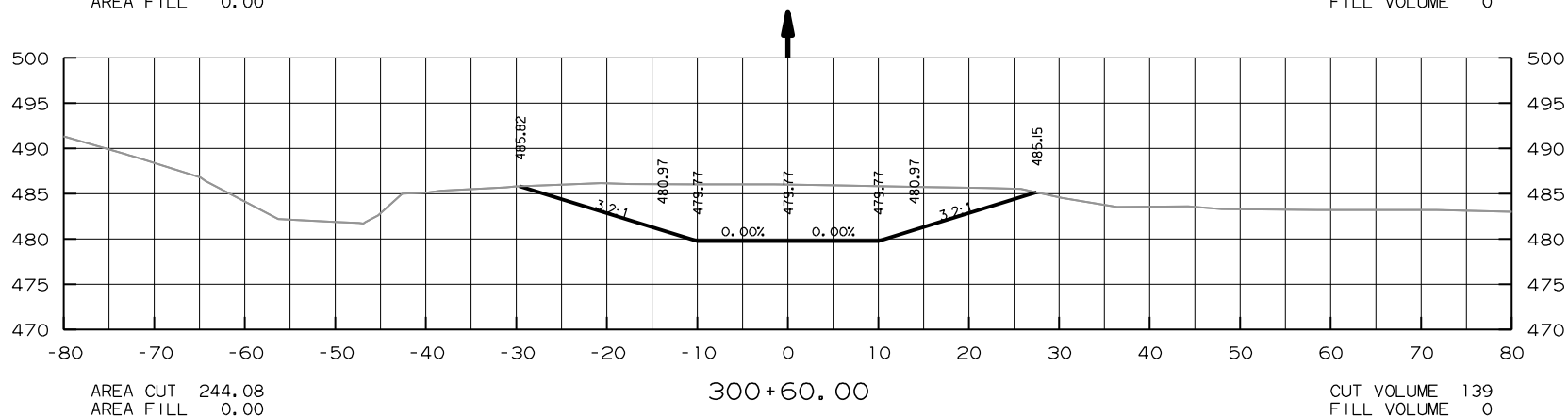
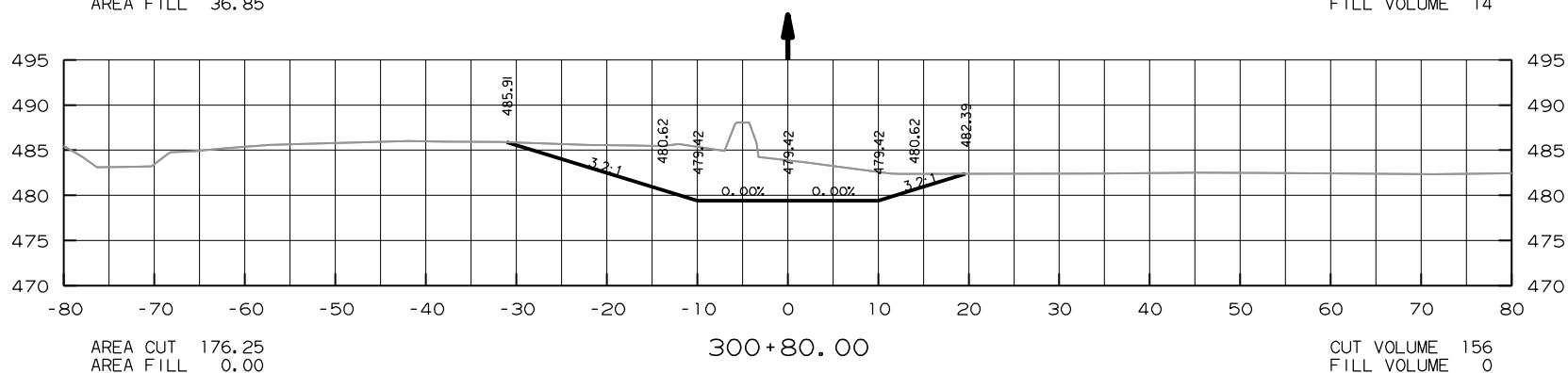
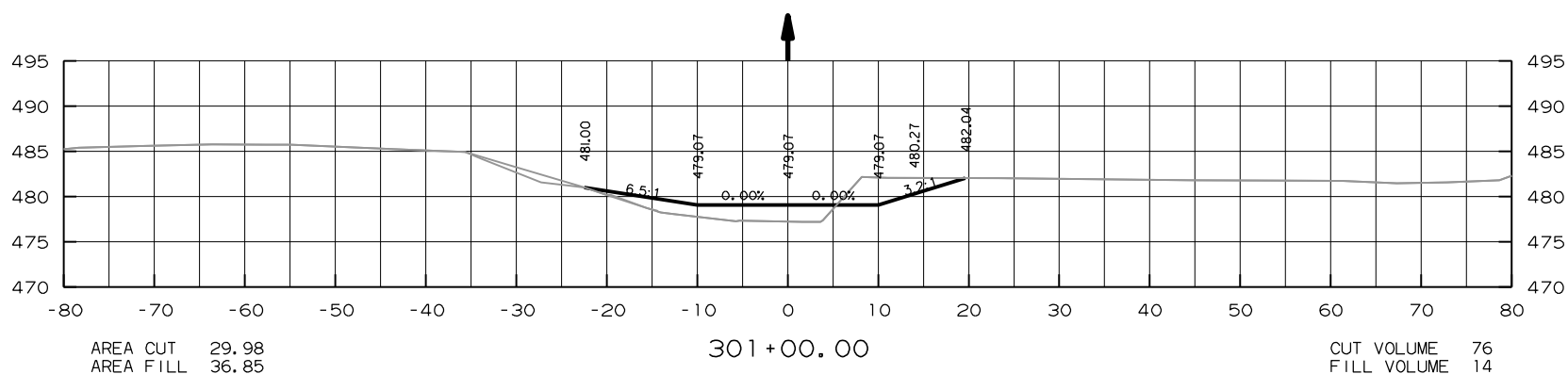
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	ED. NO.	STATE	FED. AD. PROLONG.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						FA0314	62	72

4 CROSS SECTIONS STA. 246+29.03 TO 249+00.00



DATE	DATE	DATE	DATE	DATE	DATE
REVISED	FILED	REVISED	FILED	REVISED	FILED
6	ARK.	FA0314	64	72	
CROSS SECTIONS STA. 252+73.04 TO 254+00.00					

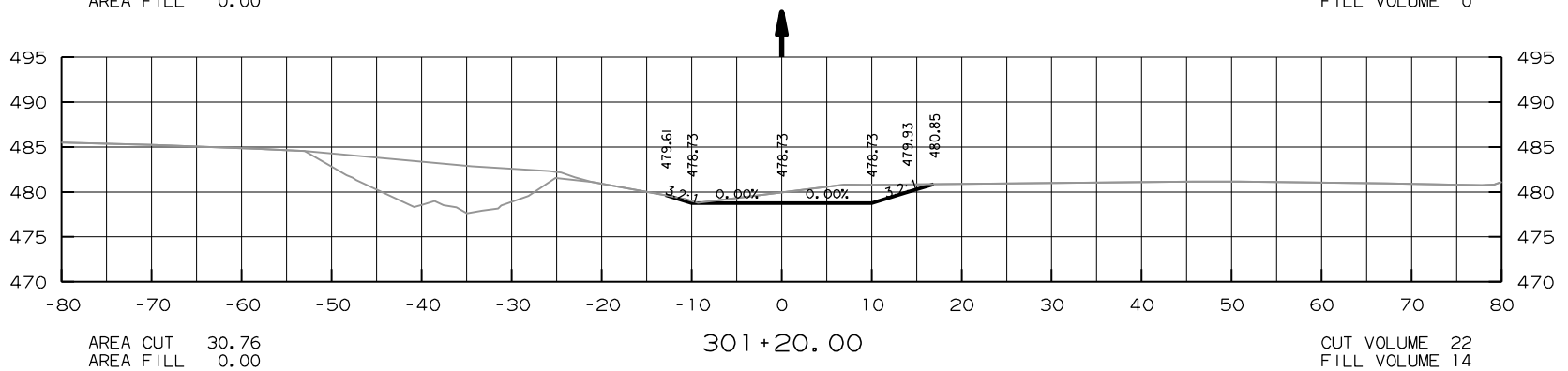
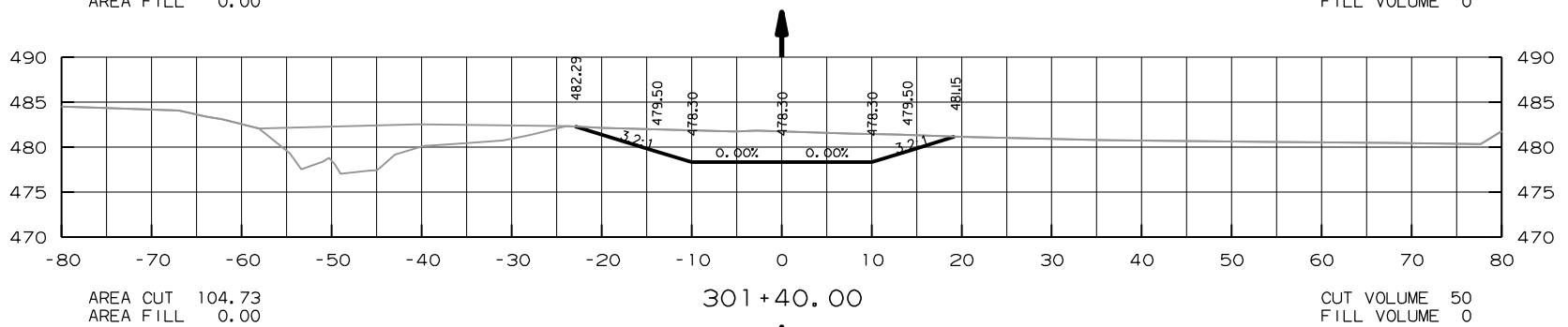
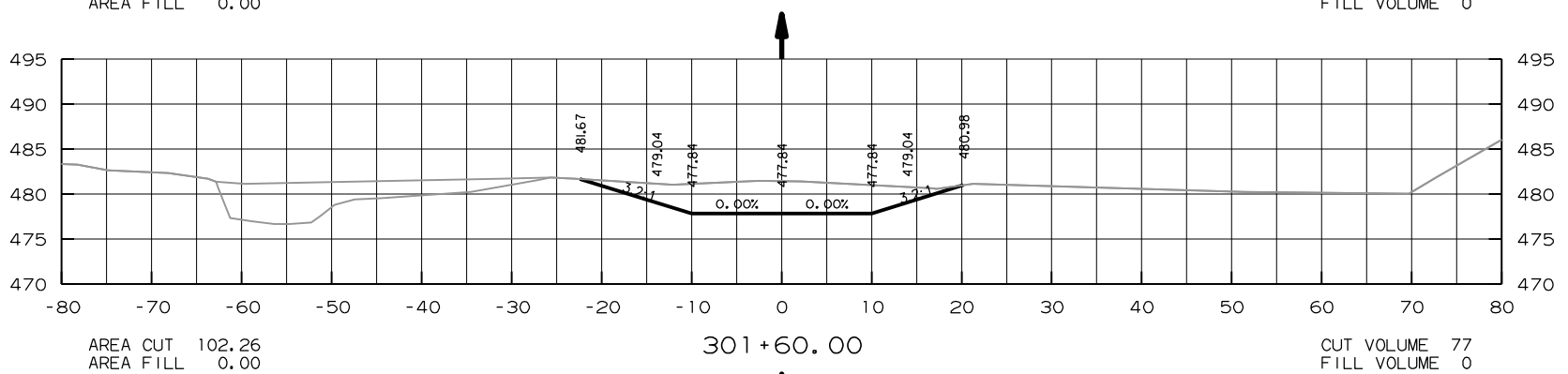
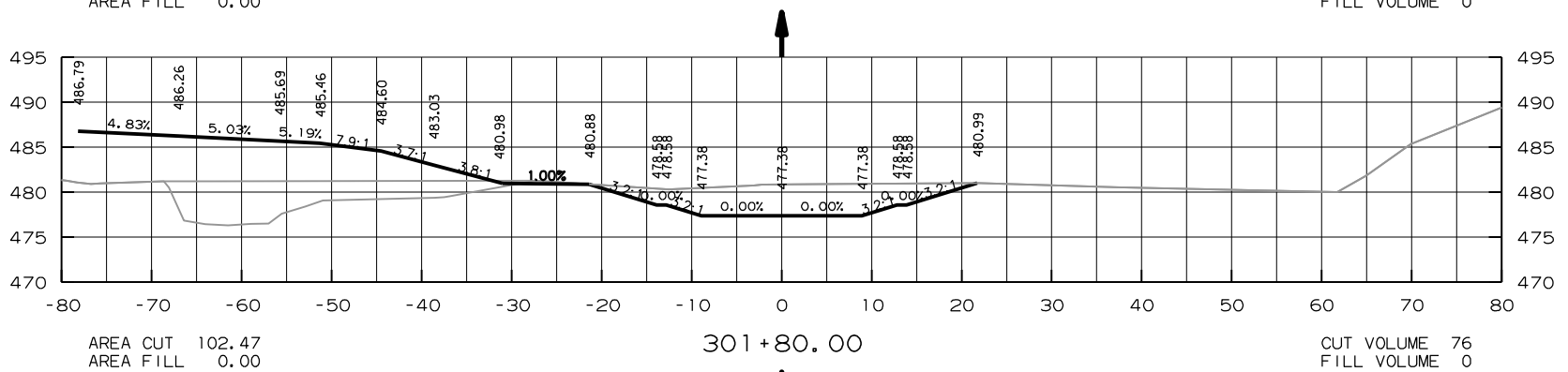
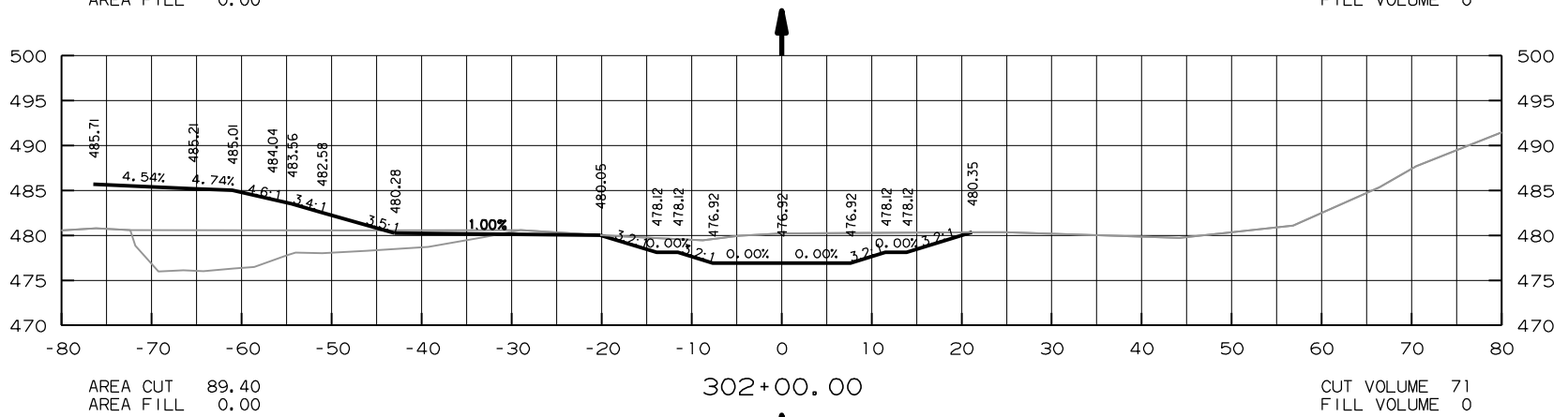
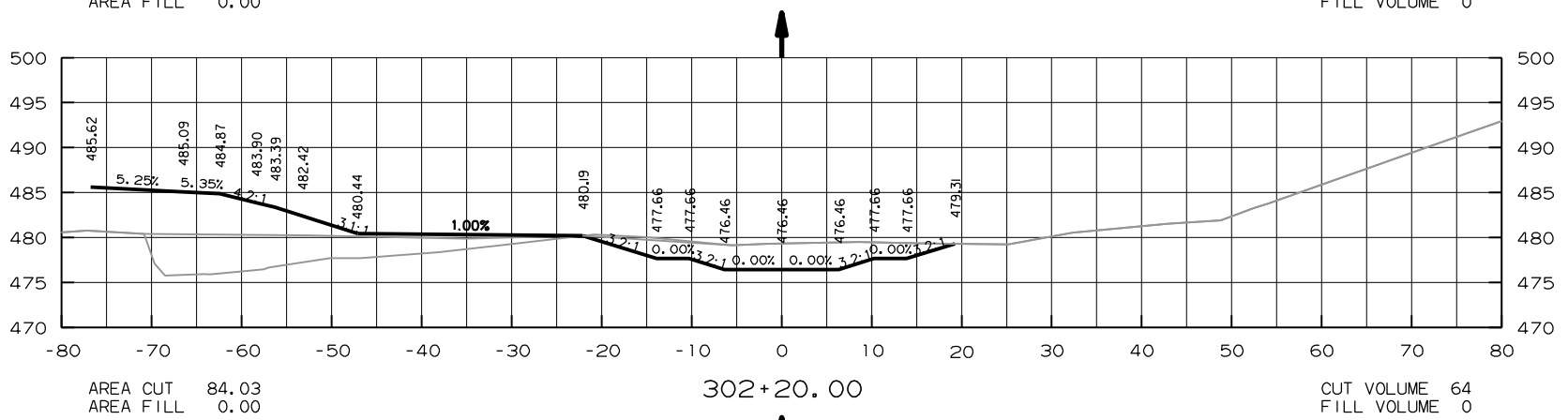
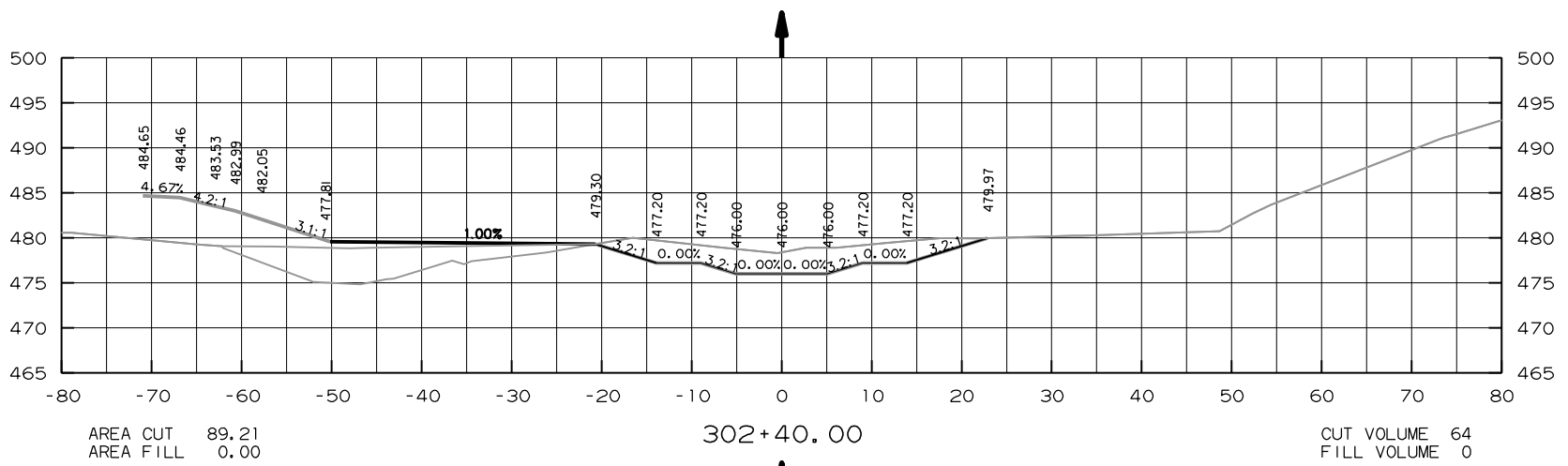




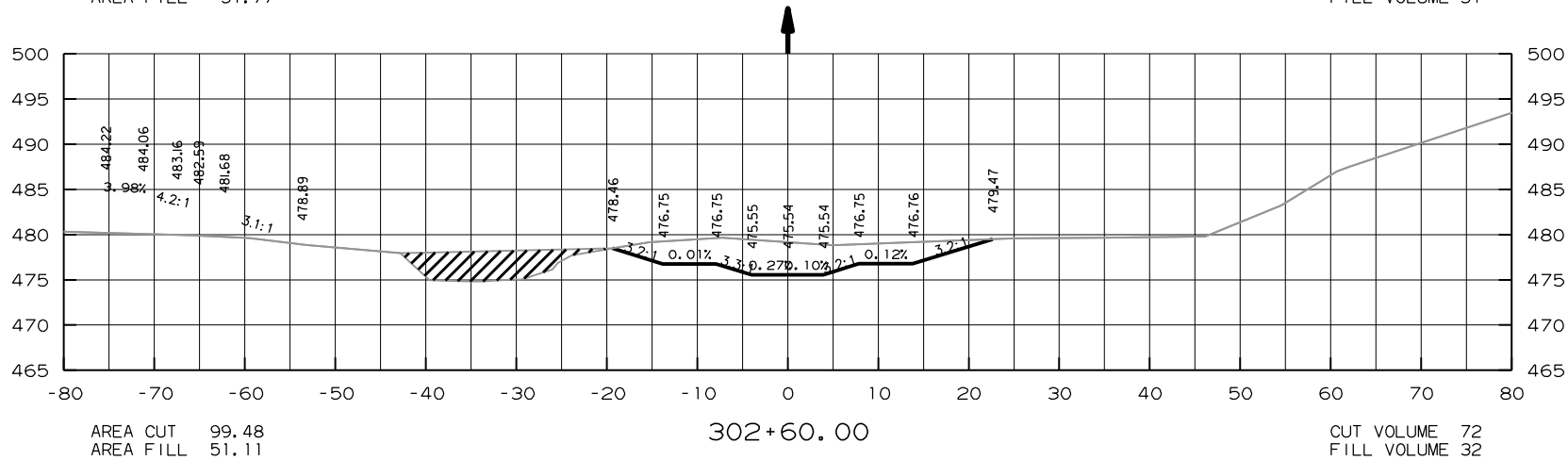
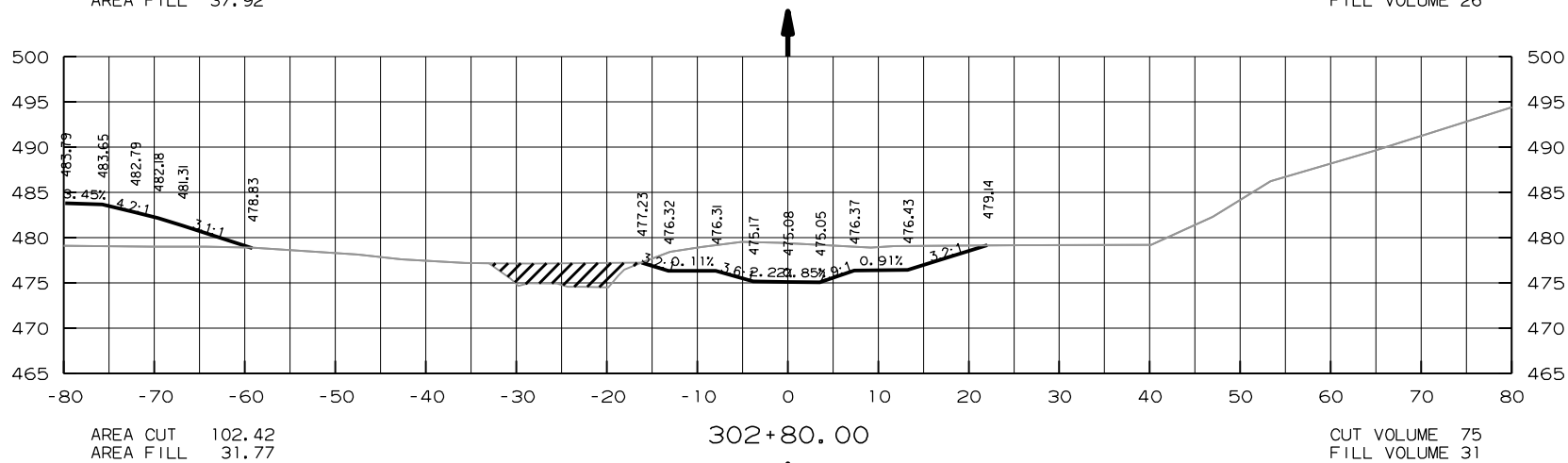
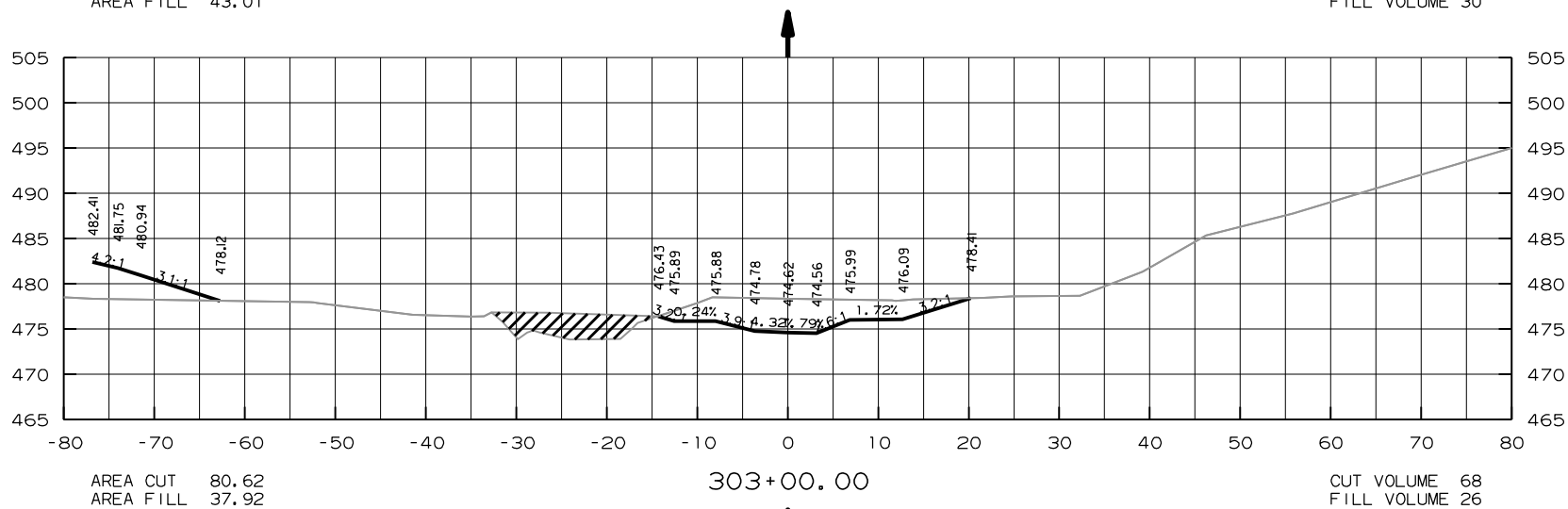
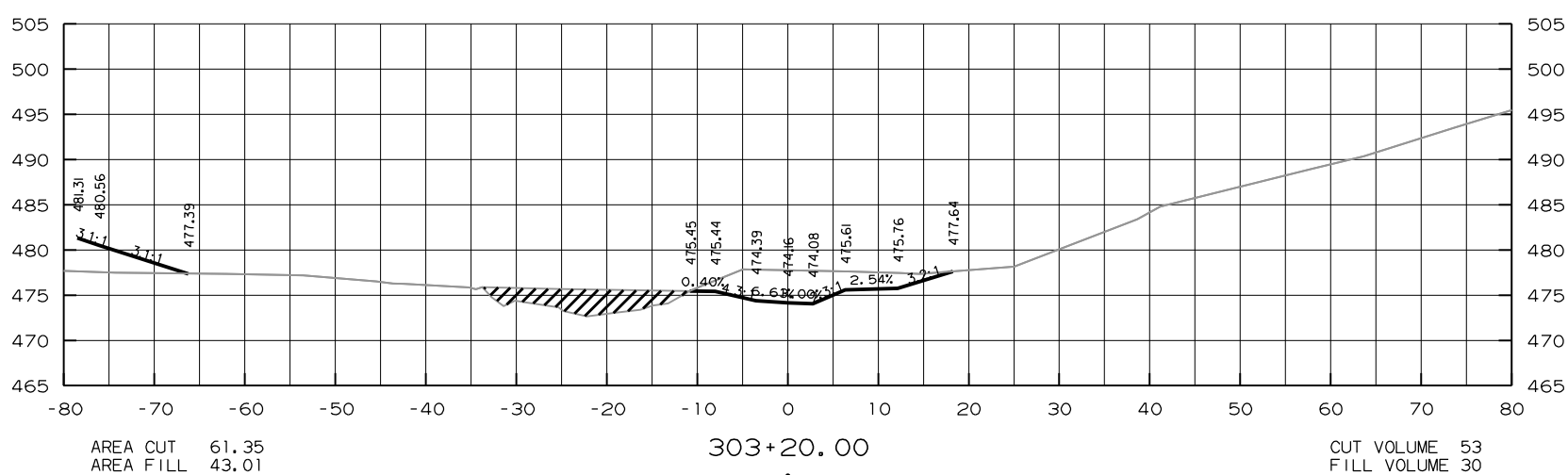
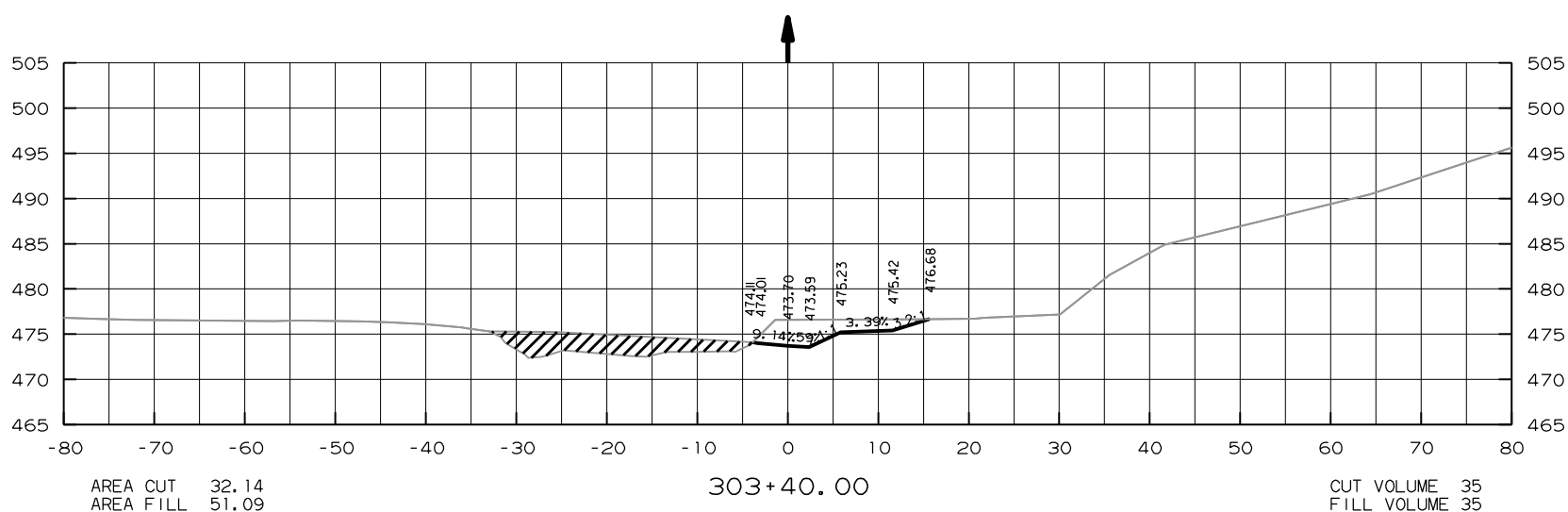
DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED

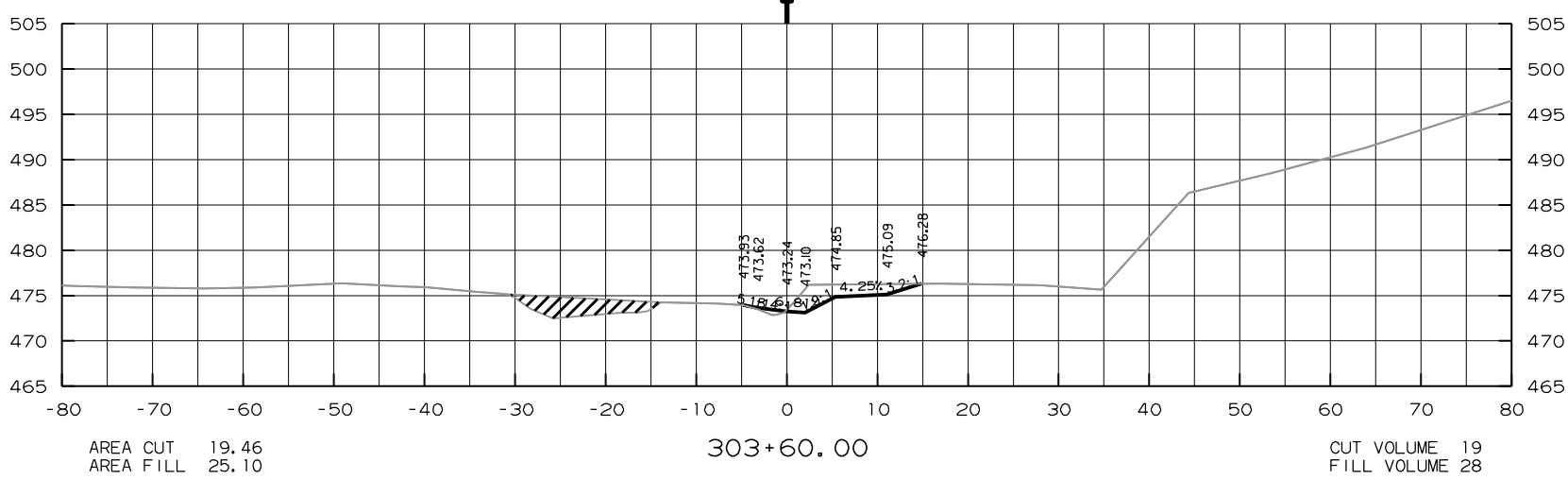
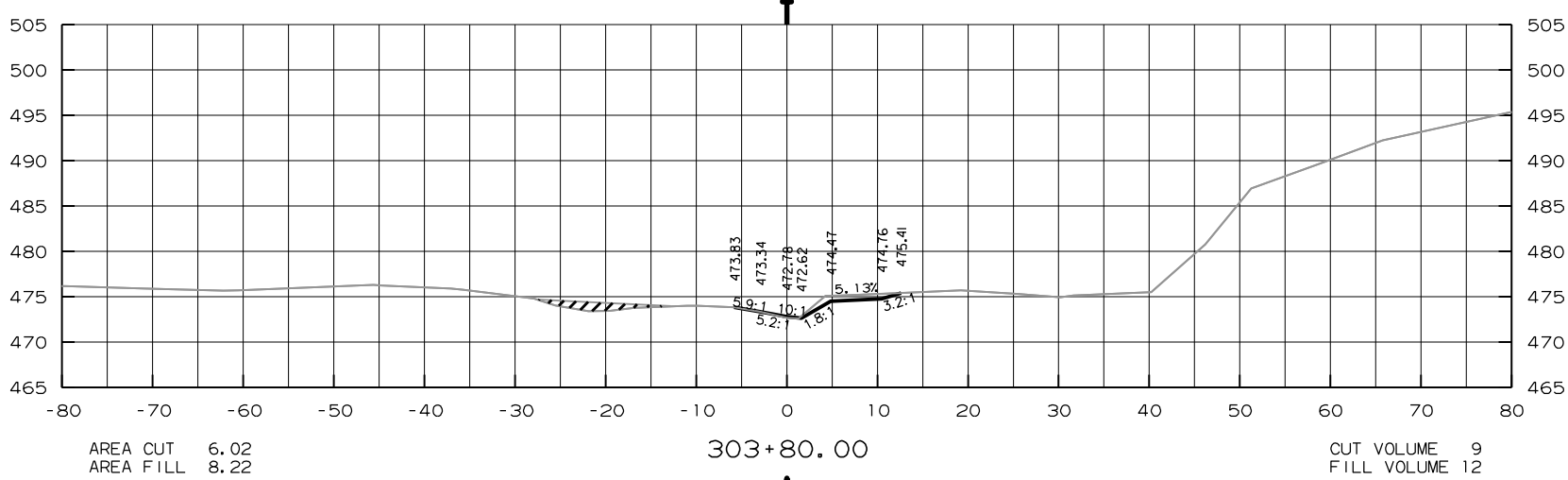
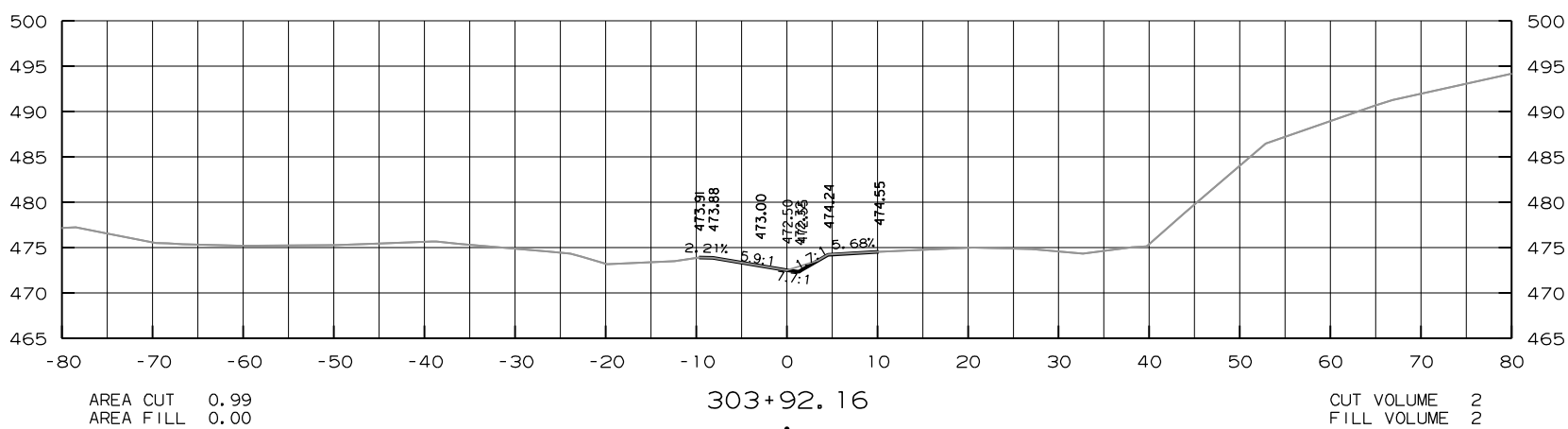
6	ARK.	JOB NO.	FA0314	69	72

④ CROSS SECTIONS STA. 300+00.00 TO 301+00.00



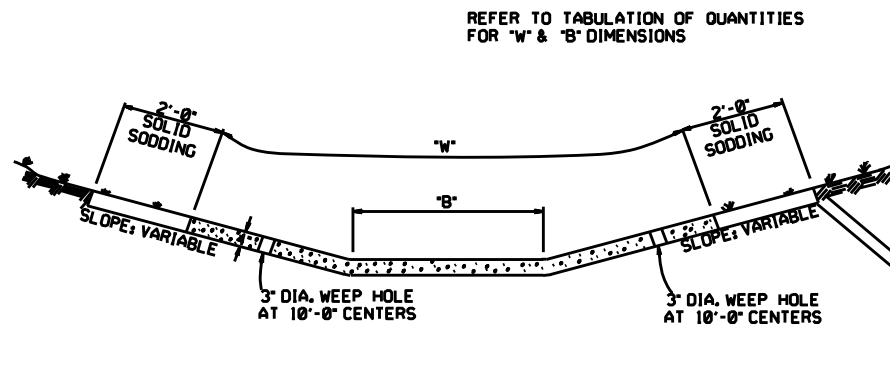
DATE RECEIVED	DATE FILMED	DATE RECEIVED	DATE FILMED	REC'D NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		FA0314	70	72
4 GROSS SECTIONS STA. 301+20.00 TO 302+40.00								

[illegible]

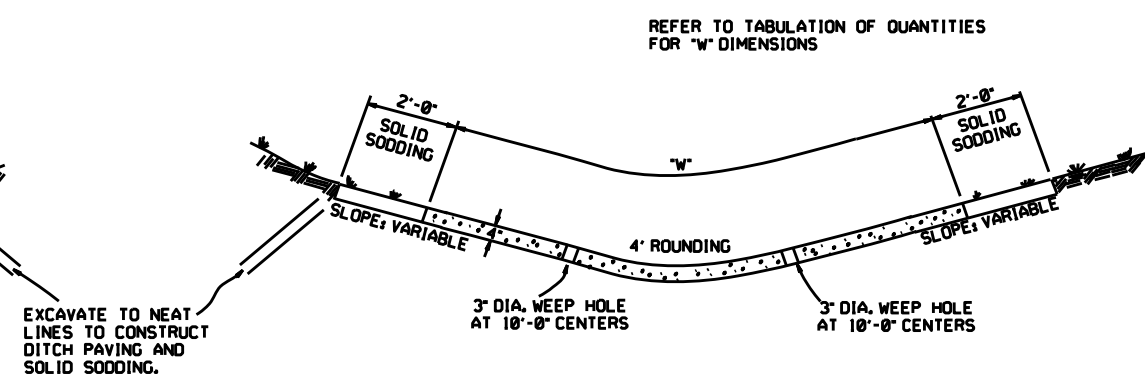


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	EDS NO.	STATE	FED. AND PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOS NO.	FA0314		72	72

4 CROSS SECTIONS STA. 303+60.00 TO 303+92.16

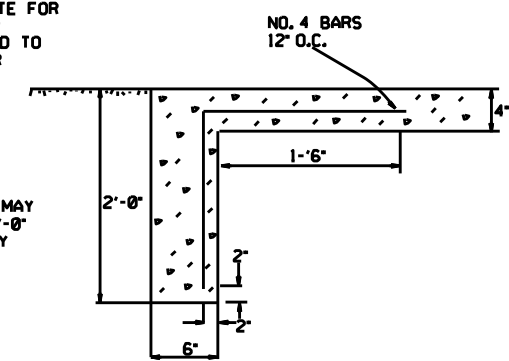


TYPE A

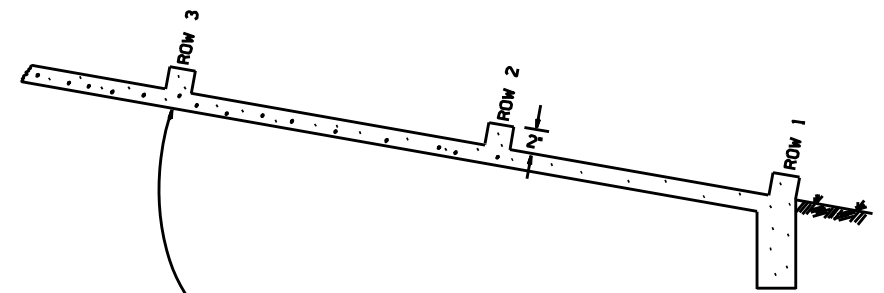


TYPE B

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.'

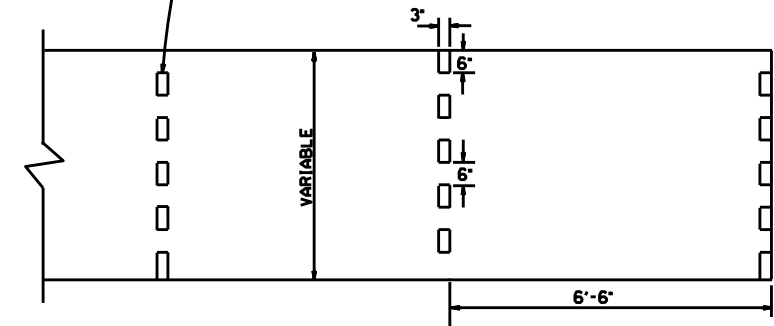


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

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



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

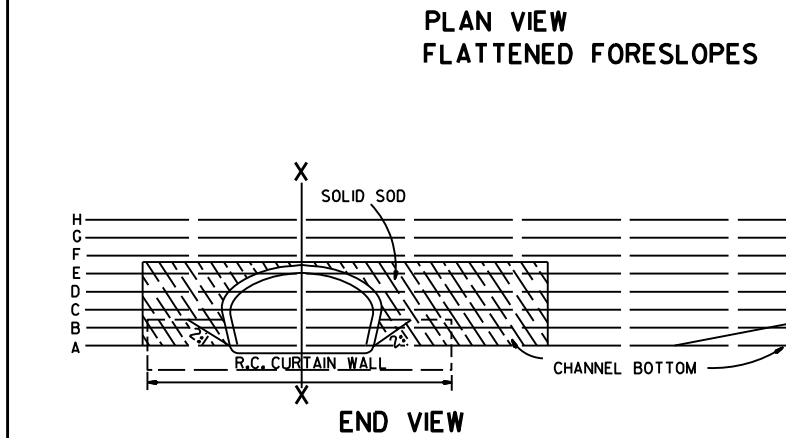
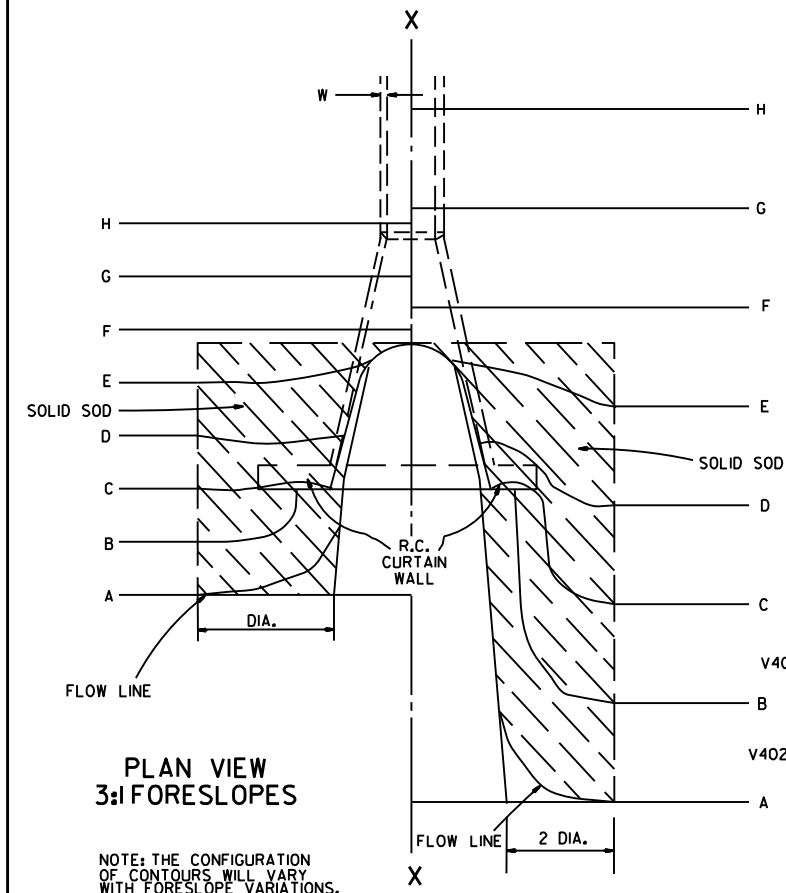
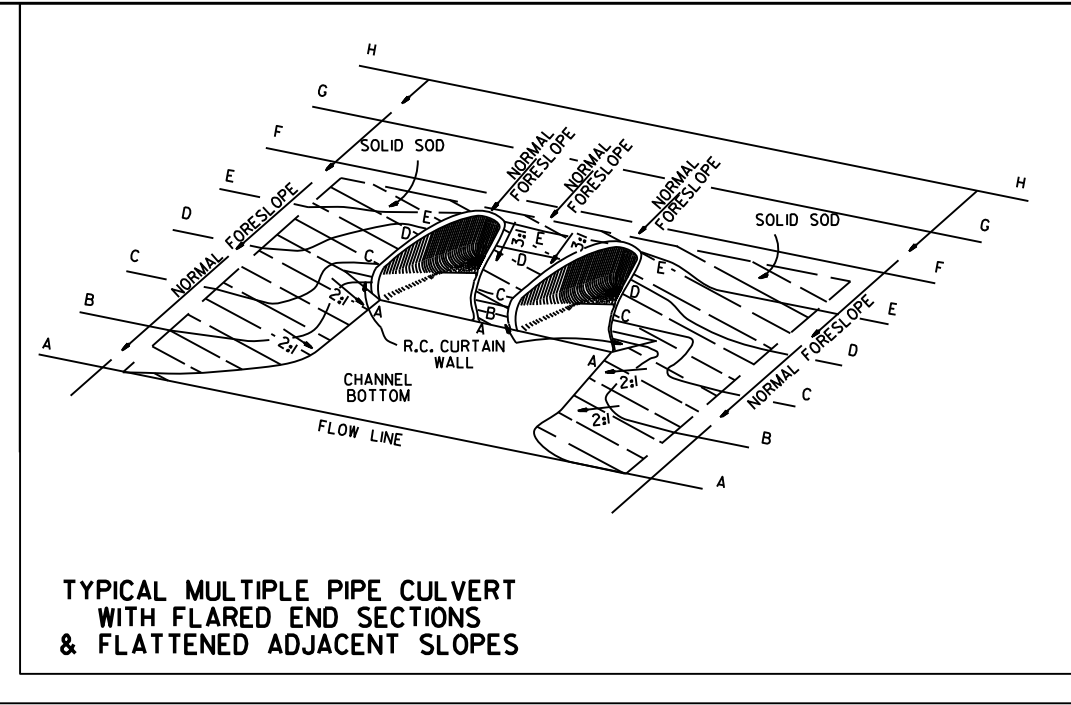
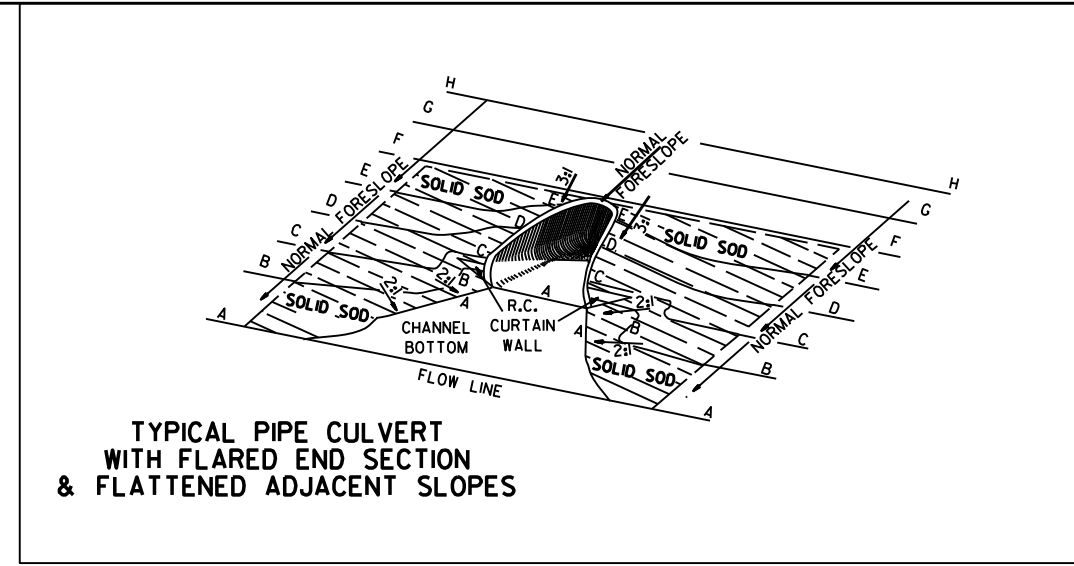
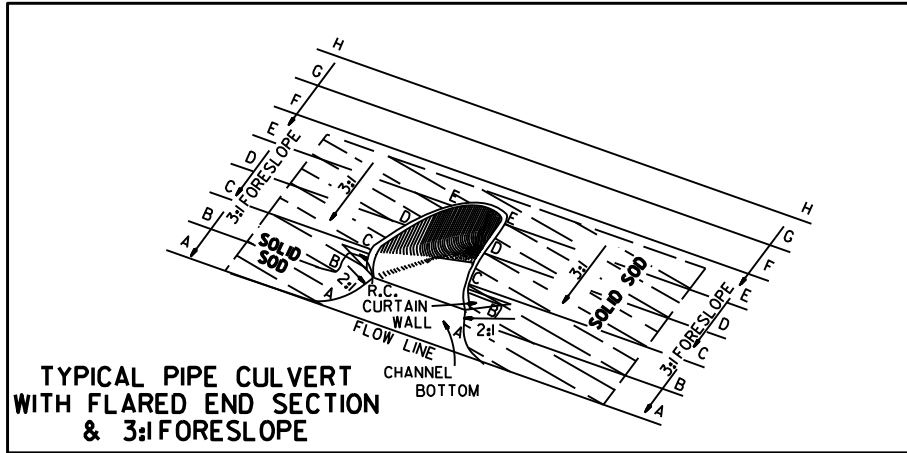
- THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.
- TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.
- SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.
- 1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED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

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-7-10	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
1-4-87	MODIFIED NOTE ON ENERGY DISS.	532-1-4-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED	
10-2-72	TYPED A & B	
	REVISED AND REDRAWN	508-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

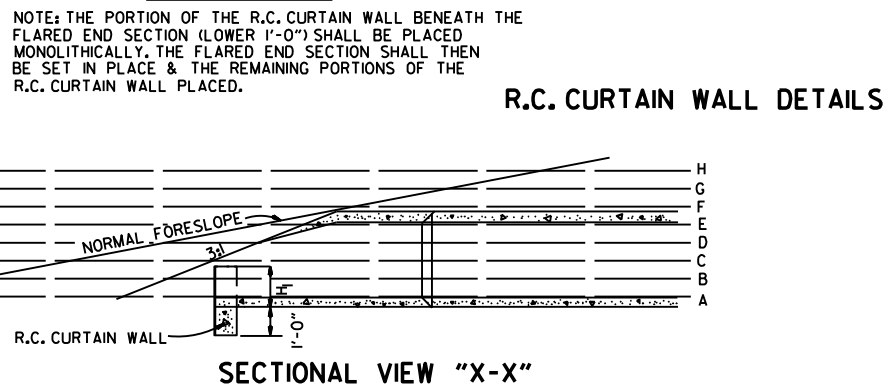
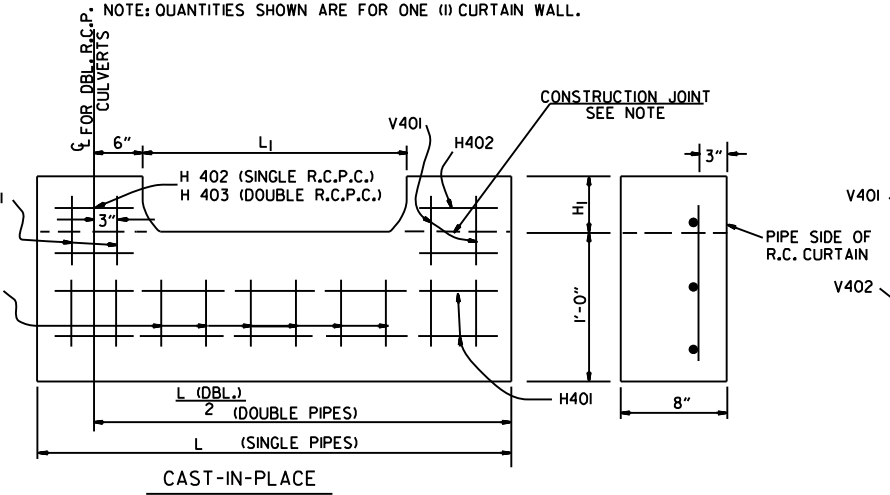
STANDARD DRAWING CDP-1



R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

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

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



REINFORCING STEEL SCHEDULE

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

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

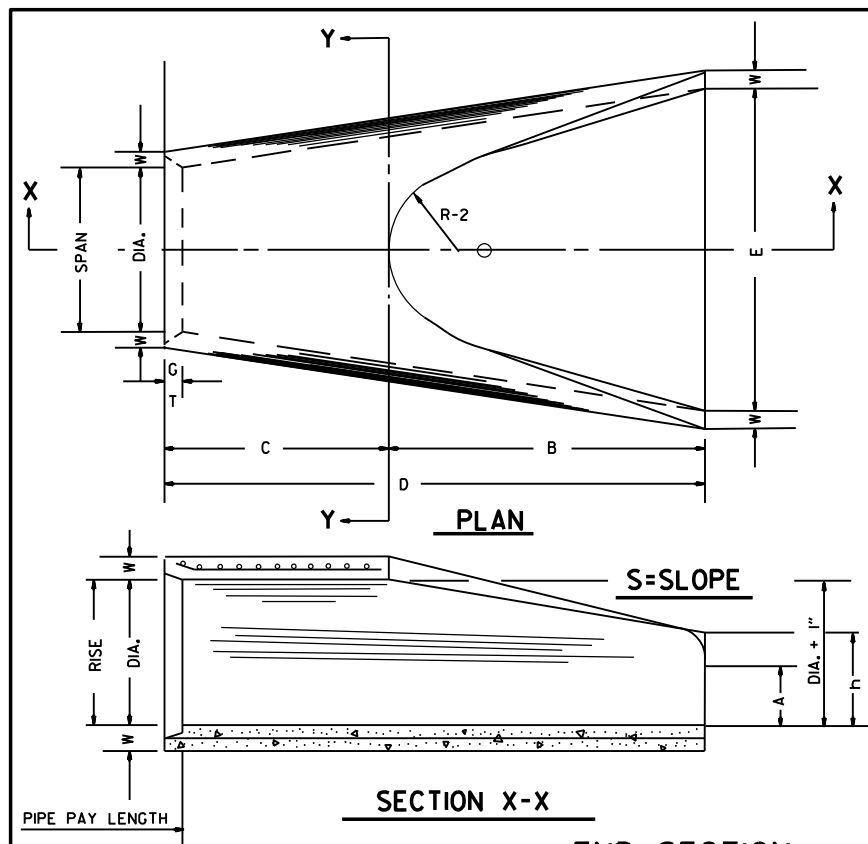
SOLID SODDING

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

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

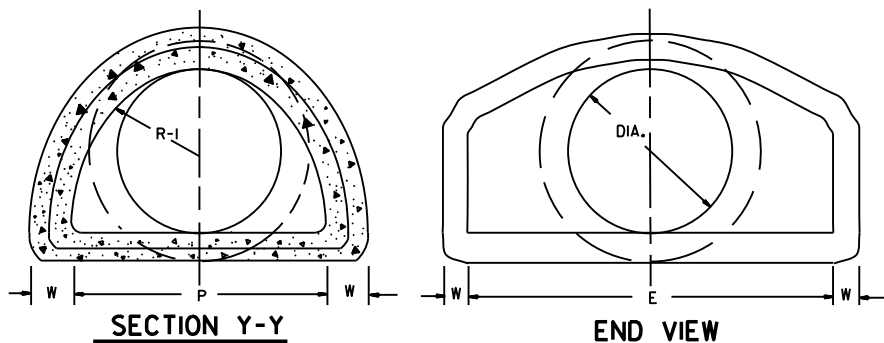
- GENERAL NOTES**
1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING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

10-18-98	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING		
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	STANDARD DRAWING FES-1



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"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"	
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 3/8"	14"	2 1/2"	1600	1'-1 1/2"	
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"	
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 1/8"	20"	3 1/2"	4100	1'-8"	
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"	
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"	
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"	
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"	
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 3/8"	38 5/8"	24"	5"	13250	4'-6"	

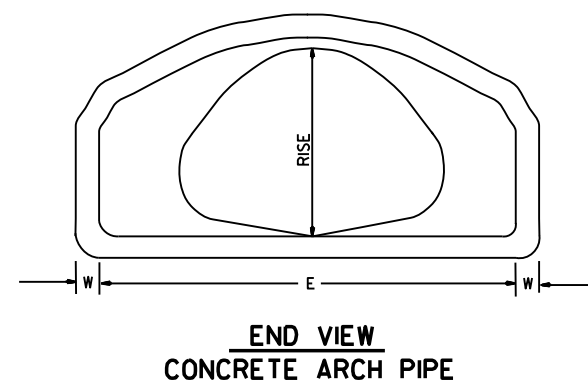


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

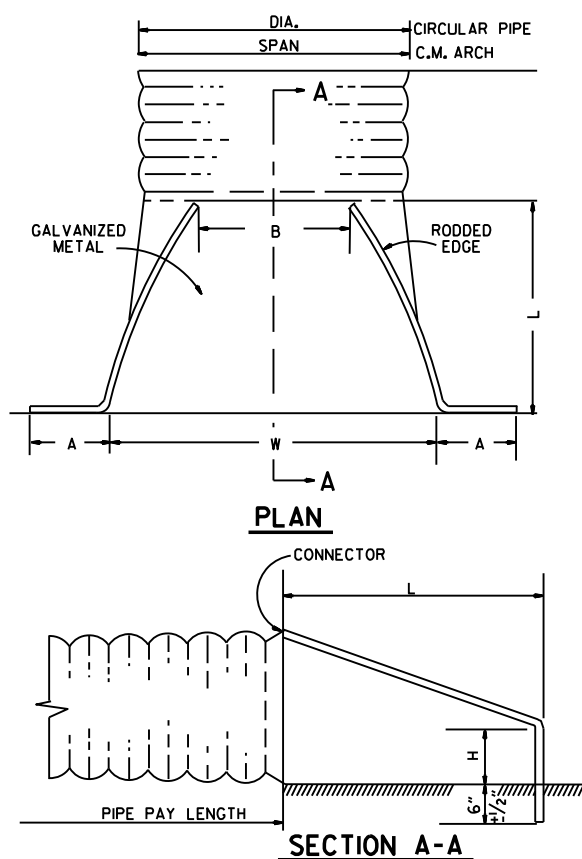
ARCH PIPE

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

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



END VIEW
CONCRETE ARCH PIPE



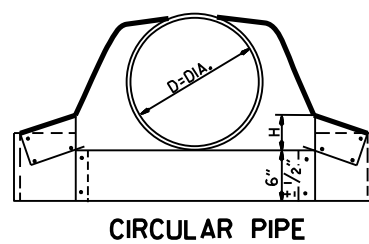
SECTION A-A

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

CIRCULAR PIPE

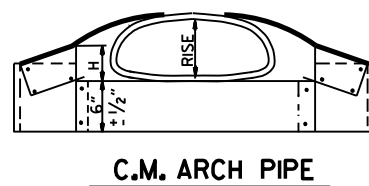
D. DIA.	GAUGE	A 1" $\pm$	B. MAX.	H 1" $\pm$	L 1 1/2" $\pm$	W 2" $\pm$	S
12	16	6	6	6	21	24	2 1/2:1
15	16	7	8	6	26	30	2 1/2:1
18	16	8	10	6	31	36	2 1/2:1
21	16	9	12	6	36	42	2 1/2:1
24	16	10	13	6	41	48	2 1/2:1
30	14	12	16	8	51	60	2 1/2:1
36	14	14	19	9	60	72	2 1/2:1
42	12	16	22	11	69	84	2 1/2:1
48	12	18	27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



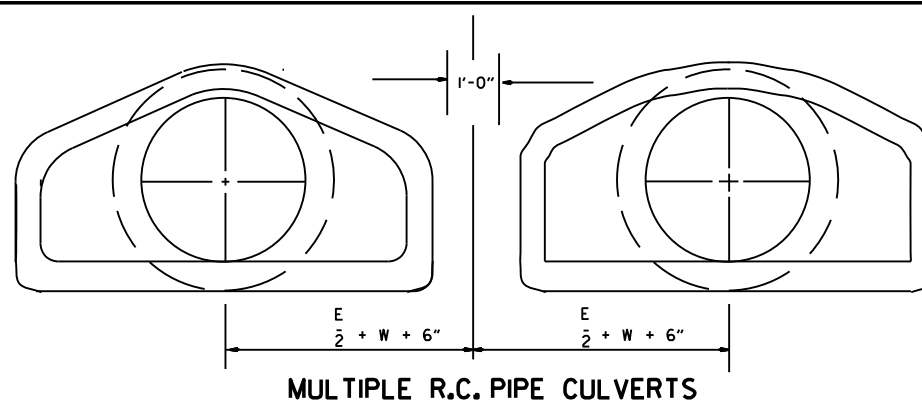
CIRCULAR PIPE

C.M. ARCH PIPE

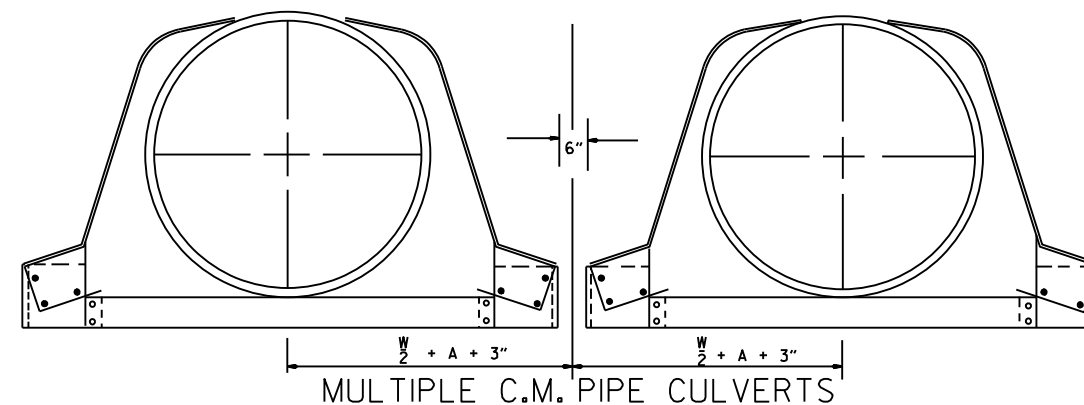
EQUIV. DIA.	SPAN	RISE	A 1" $\pm$	B. MAX.	H 1" $\pm$	L 1 1/2" $\pm$	W 2" $\pm$	S	GAUGE
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33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



C.M. ARCH PIPE



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

10-18-96	REVISED ASTM REF. TO AASHTO	664-5-15-80	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	752-7-14-78	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	517-8-22-75	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	500-12-5-74	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	627-5-24-73	
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	760-10-2-72	STANDARD DRAWING FES-2
10-2-72	REVISED AND REDRAWN	FILED	
DATE	REVISION		

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	43¾	44	26¾	27
42	51½	51	31½	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

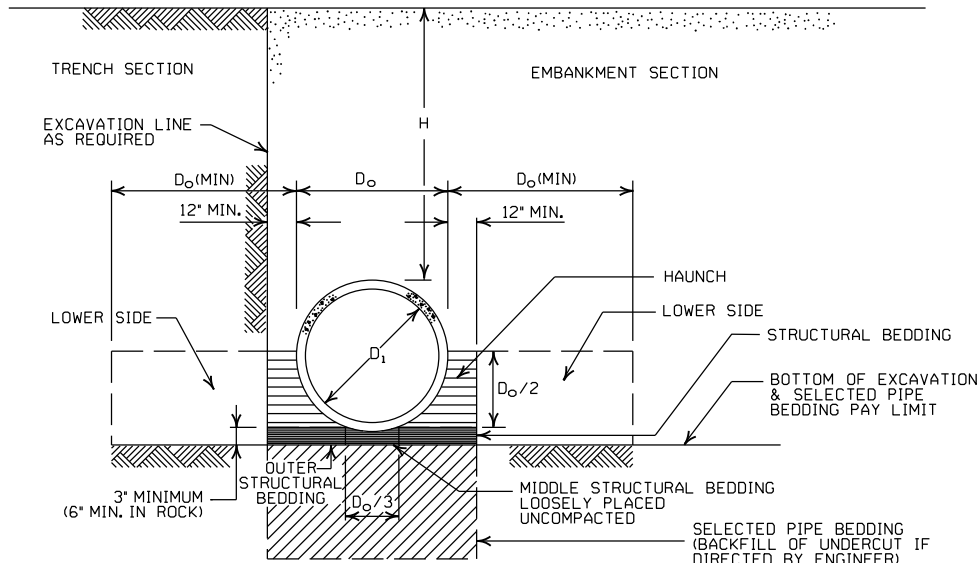
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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."

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.

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION		
CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING		
STANDARD DRAWING PCC-1		
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	

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CONSTRUCTION SEQUENCE

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

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

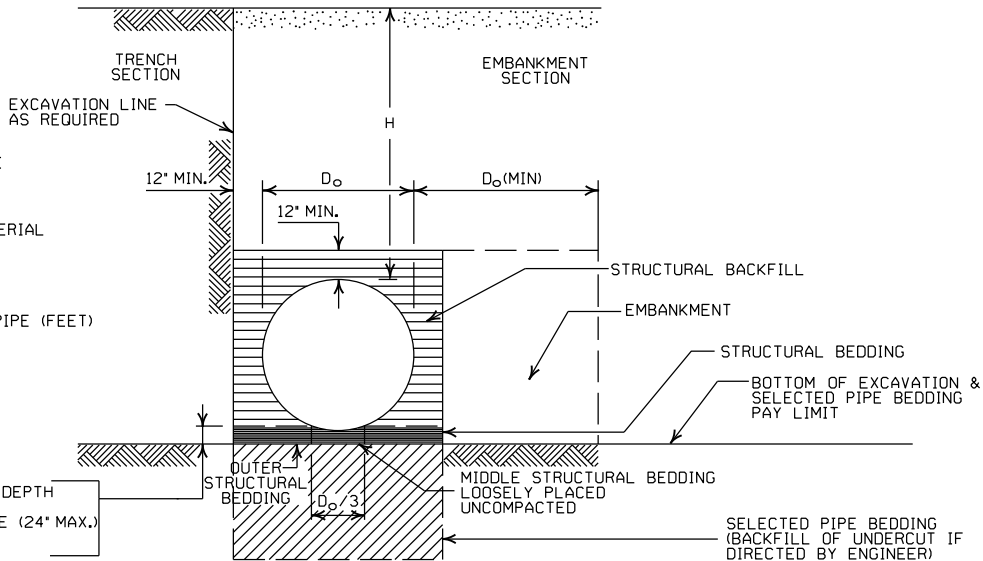
INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

- LEGEND -

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

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



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/8" x 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" x 1" OR 5" x 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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."

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
2 3/8 INCH BY 1/2 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

EQUIVALENT METAL THICKNESSES AND GAUGES

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

CORRUGATED METAL PIPE ARCHES

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

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

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

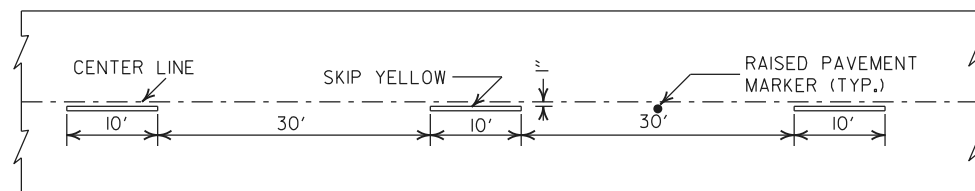
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

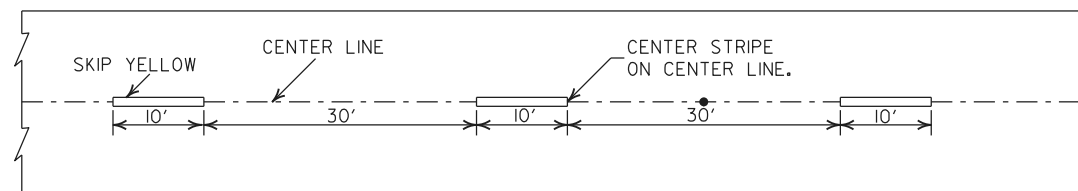
METAL PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1



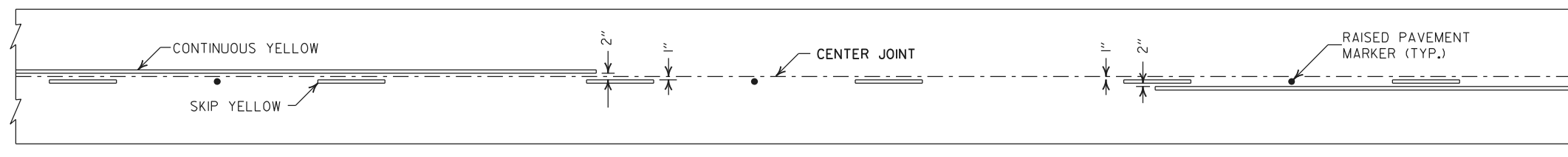


CONCRETE PAVEMENT

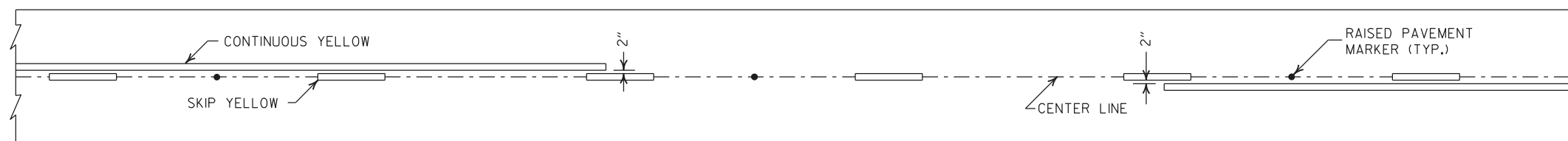


ASPHALT PAVEMENT

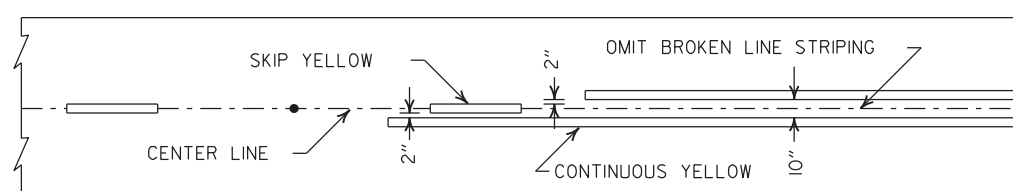
BROKEN LINE STRIPING



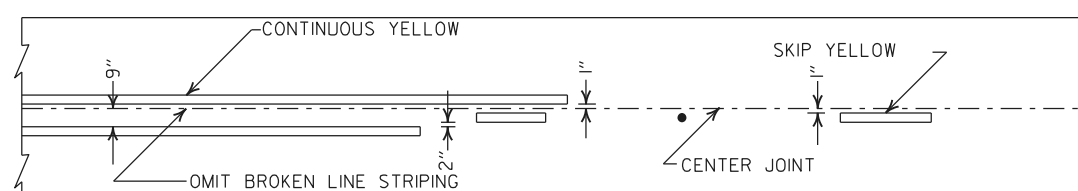
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

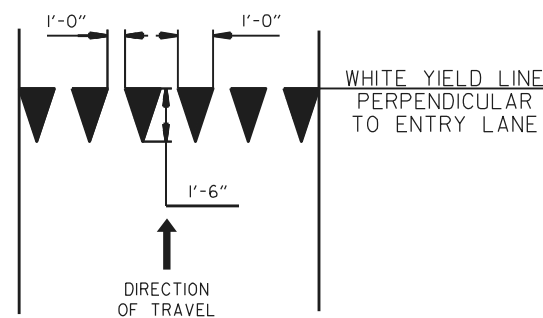


ASPHALT PAVEMENT

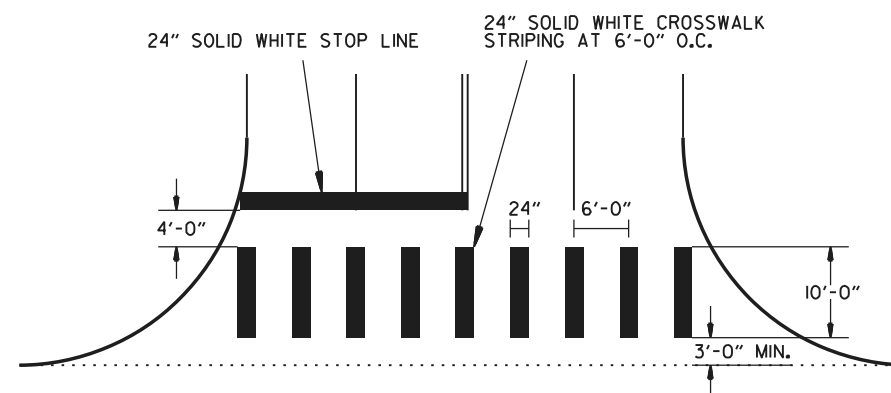


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



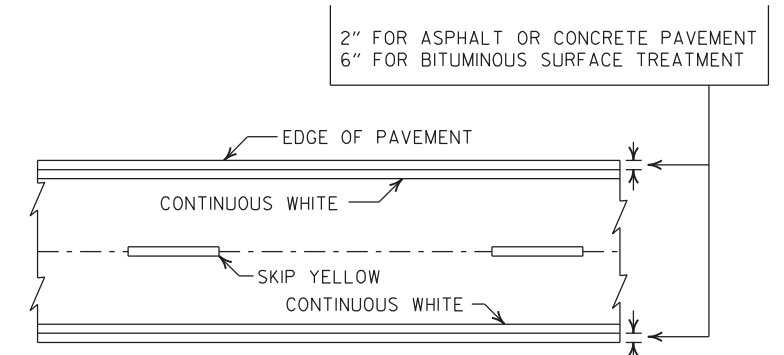
YIELD LINE DETAIL



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.



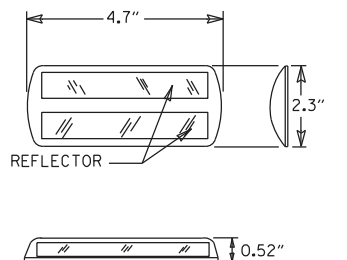
PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW

PRISMATIC REFLECTOR

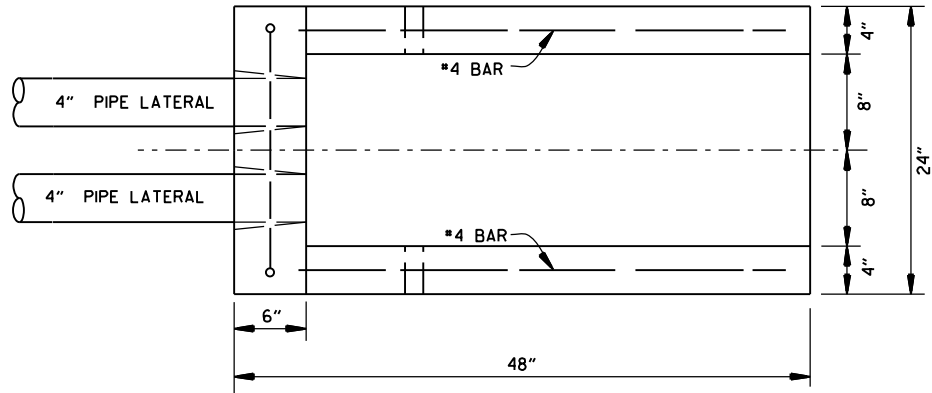
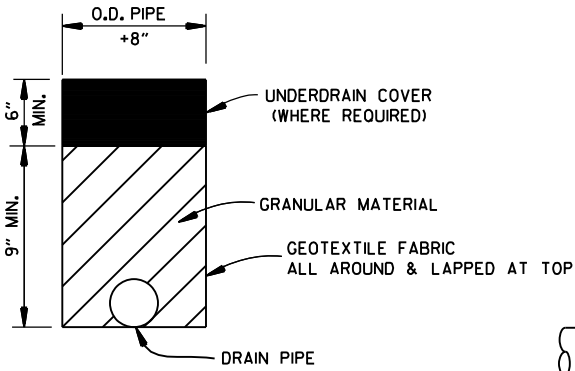
NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.



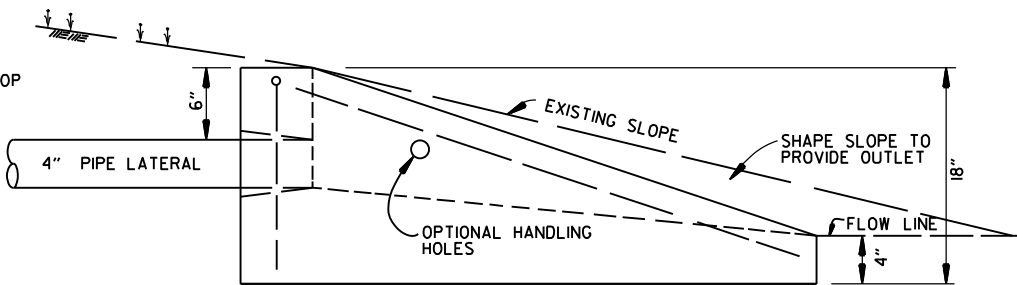
DETAIL OF STANDARD RAISED PAVEMENT MARKERS

REV. CROSSWALK & STOP LINE DETAILS		REV. STOP LINE DETAILS		REV. YIELD LINE DETAIL		REVISED LINE WIDTHS, SPACING, & NOTES.		REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS		DESCRIPTION				ARKANSAS STATE HIGHWAY COMMISSION			
PAVEMENT MARKING DETAILS																	
04-09-26		02-27-20		06-01-17		05-12-16		09-12-13		DATE REV		DATE EFFECTIVE		STANDARD DRAWING		PM-1	
												04-09-2026					

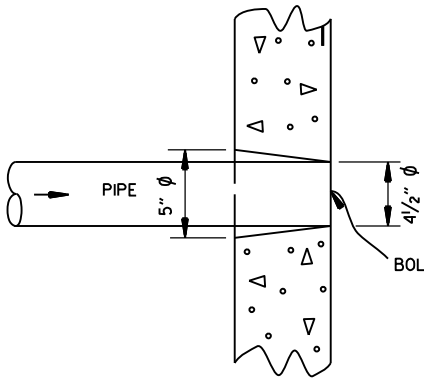
NOTE:
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



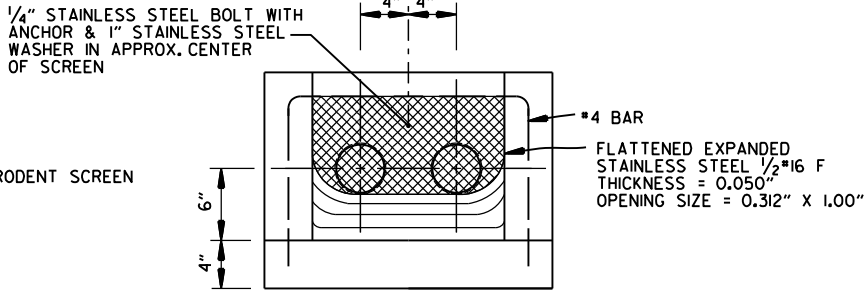
PLAN VIEW



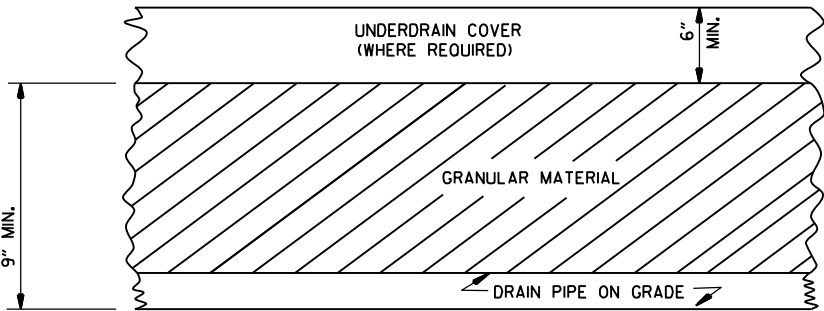
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE



FRONT VIEW (DETAIL OF RODENT SCREEN)

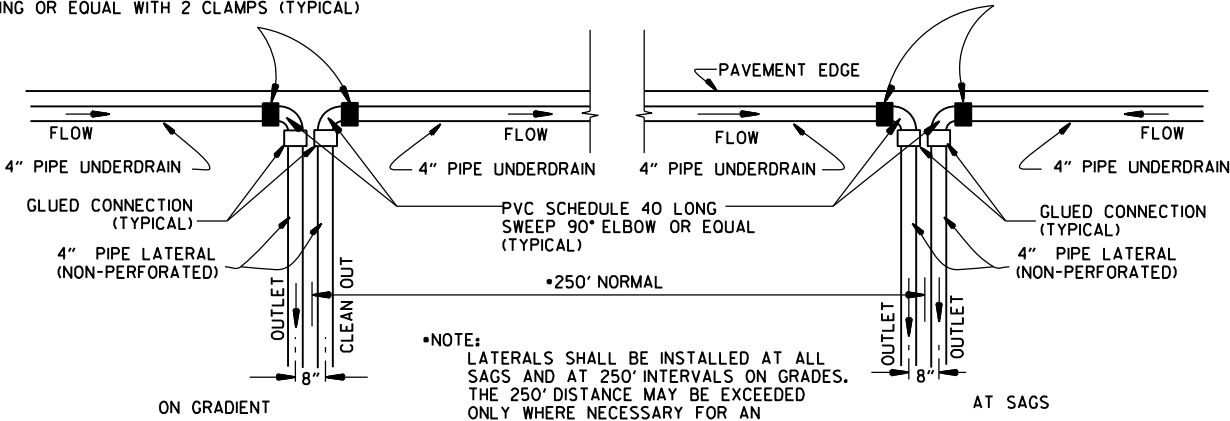


DETAILS OF PIPE UNDERDRAIN

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

UNDERDRAIN OUTLET PROTECTORS

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



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

NOTES FOR PIPE UNDERDRAINS

- GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE I. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
- 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
- EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."
- THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
- PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."
- ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."
- AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE: 5 1/2" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11-3-94	REVISED FOR DUAL LATERALS	11-3-94
10-1-92	SUBSTITUTED GEOTEXTILE	10-1-92
8-15-91	ADDED POLYETHYLENE PIPE	8-15-91
11-8-90	DELETED ALTERNATE NOTE	11-8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			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		RC	96	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.026	110		0.030	120	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.038	139		0.042	149		0.046	158	
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.044	154		0.050	168		0.056	182	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168		0.056	182		0.064	202	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168		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		0.078	235	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178		0.062	197		0.070	216		0.078	235		0.086	254	
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		0.086	254		0.092	269	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149		0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.098	283	
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187		0.068	211		0.078	235		0.088	259		0.098	283		0.100	288	
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		0.098	283		0.100	288	
3° 30'	0.030	90		0.038	113		0.046	139		0.056	171		0.066	206		0.076	230		0.086	254		0.096	278		0.098	283		0.100	288	
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		0.100	288		0.100	288	
4° 00'	0.034	97		0.042	121		0.052	151		0.062	185		0.072	221		0.084	250		0.094	274		0.098	283		0.100	288		0.100	288	
4° 15'	0.036	100		0.044	125		0.054	155		0.064	189		0.076	230		0.086	254		0.096	278		0.098	283		0.100	288		0.100	288	
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283		0.098	283		0.100	288		0.100	288	
4° 45'	0.038	104		0.048	133		0.060	168		0.070	203		0.082	245		0.092	269		0.098	283		0.098	283		0.100	288		0.100	288	
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		0.098	283		0.098	283		0.100	288		0.100	288	
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221		0.088	259		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
8° 30'	0.060	144		0.072	179		0.086	223		0.096	261		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
10° 00'	0.066	155		0.080	195		0.094	240		0.100	275		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
11° 00'	0.070	162		0.084	203		0.096	244		0.100	278		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
12° 00'	0.074	169		0.088	211		0.098	248		0.100	282		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
13° 00'	0.076	173		0.090	215		0.094	242		0.100	277		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
14° 00'	0.080	180		0.094	222		0.094	242		0.100	277		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
15° 00'	0.082	184		0.096	226		0.096	244		0.100	279		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
16° 00'	0.086	191		0.098	230		0.098	248		0.100	282		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
17° 00'	0.088	194		0.100	234		0.100	282		0.100	282		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
18° 00'	0.090	198		0.094	222		0.094	242		0.100	277		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
19° 00'	0.092	202		0.096	226		0.096	244		0.100	279		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
20° 00'	0.094	205		0.098	230		0.098	248		0.100	282		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
21° 00'	0.096	209		0.098	234		0.098	250		0.100	284		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
22° 00'	0.096	209		0.098	234		0.098	250		0.100	284		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
23° 00'	0.098	212		0.098	234		0.098	250		0.100	284		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
24° 00'	0.098	212		0.098	234		0.098	250		0.100	284		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	
25° 00'	0.100	216		0.100	234		0.100	250		0.100	284		0.098	283		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288	

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.)

ABBREVIATIONS

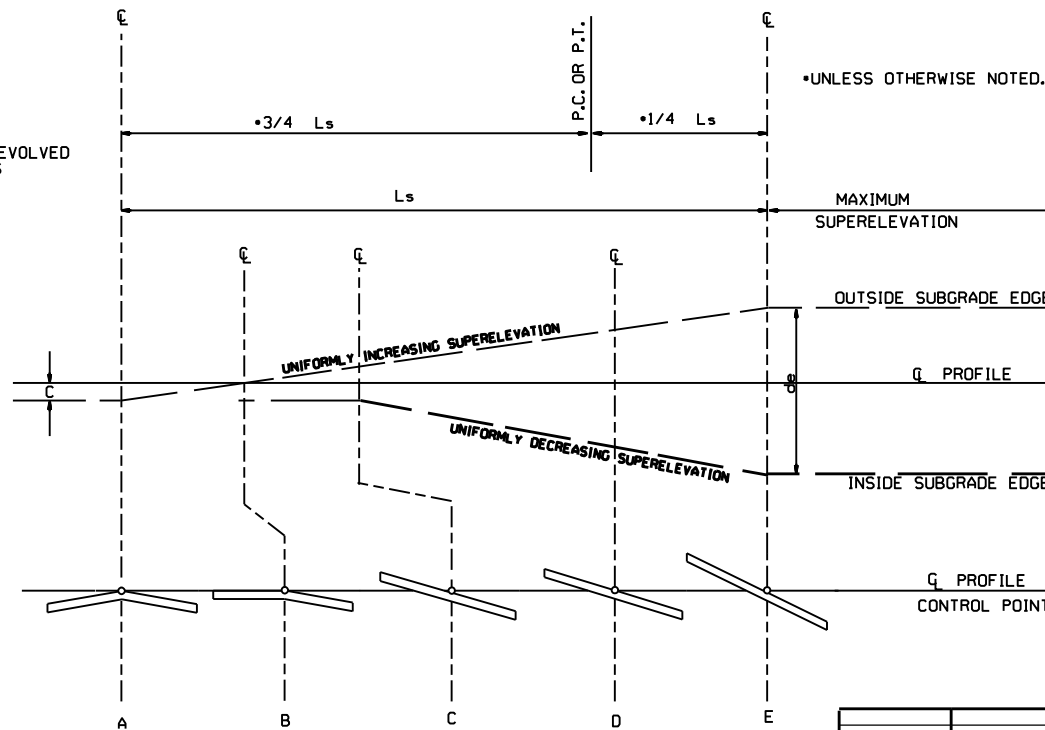
GENERAL NOTES

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

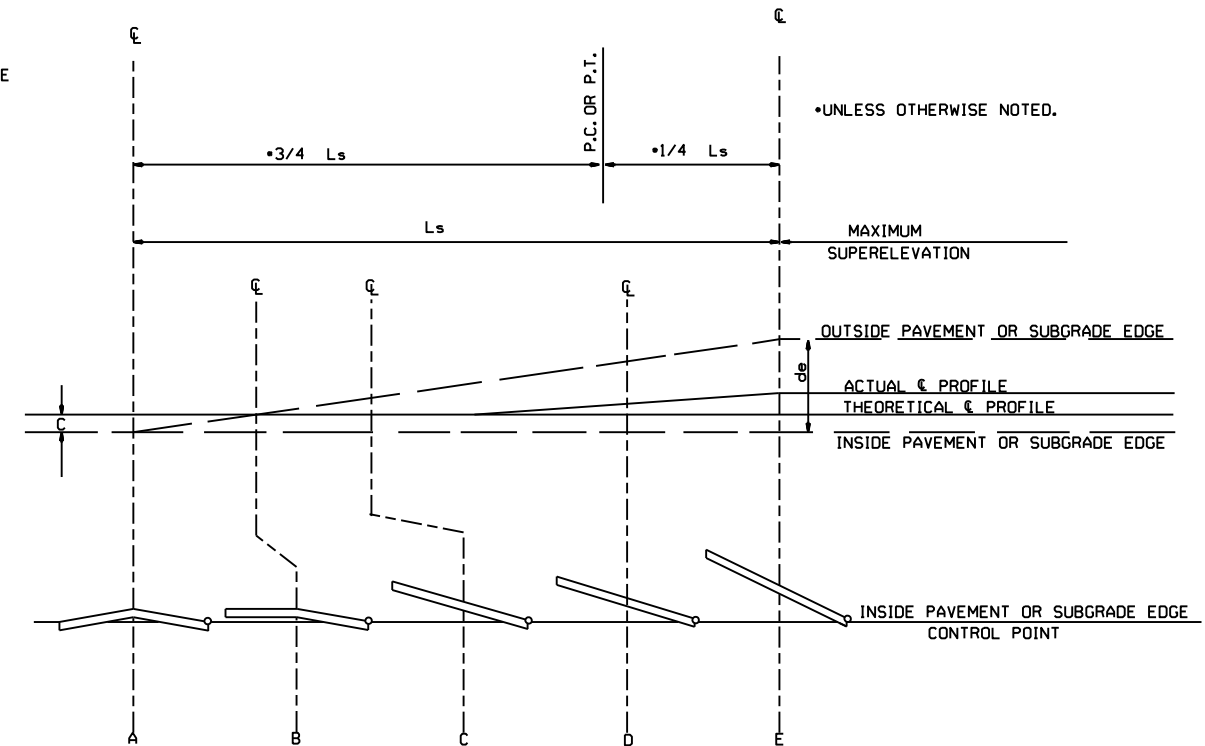
- 3 LANE UNDIVIDED - - - - - +20%
- 4 LANE UNDIVIDED - - - - - +50%
- 5 LANE UNDIVIDED - - - - - +80%
- 6 LANE UNDIVIDED - - - - - +100%

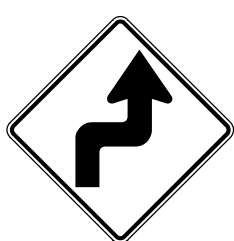
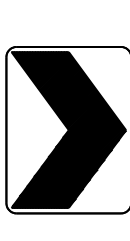
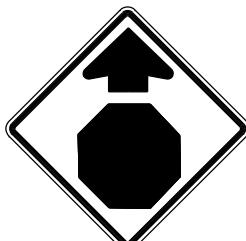
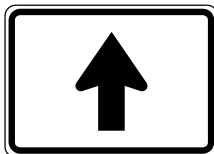
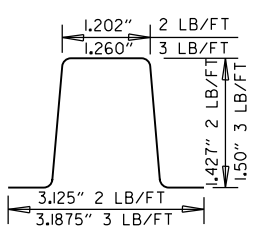
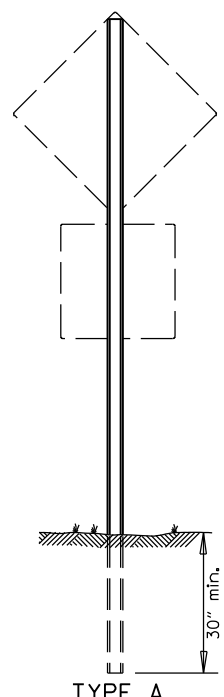
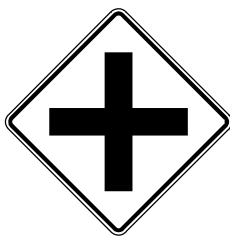
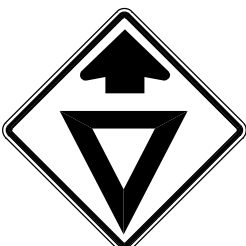
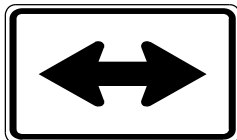
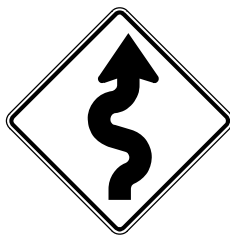
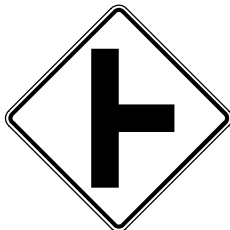
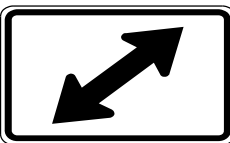
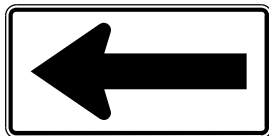
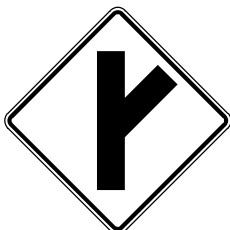
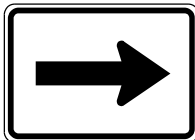
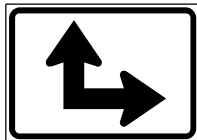
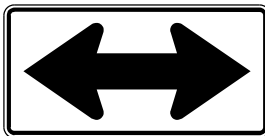
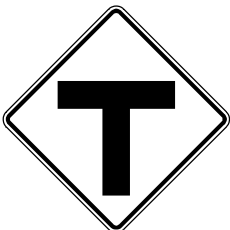
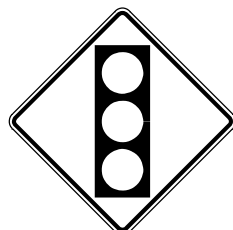
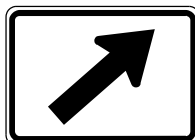
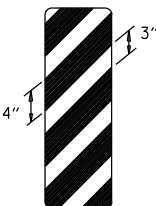
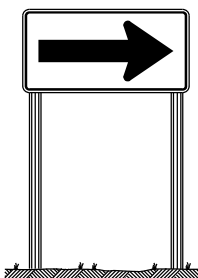
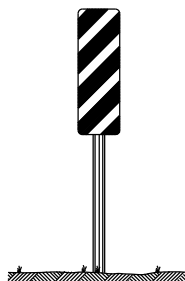
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.
RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

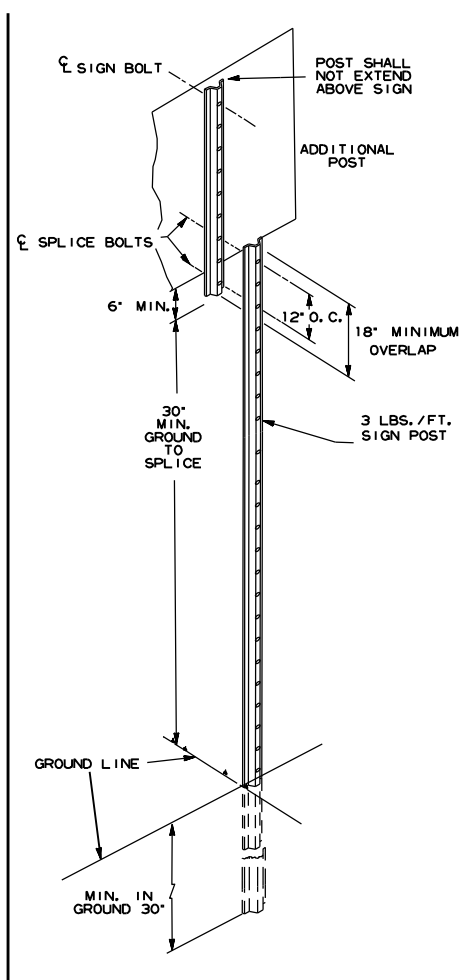
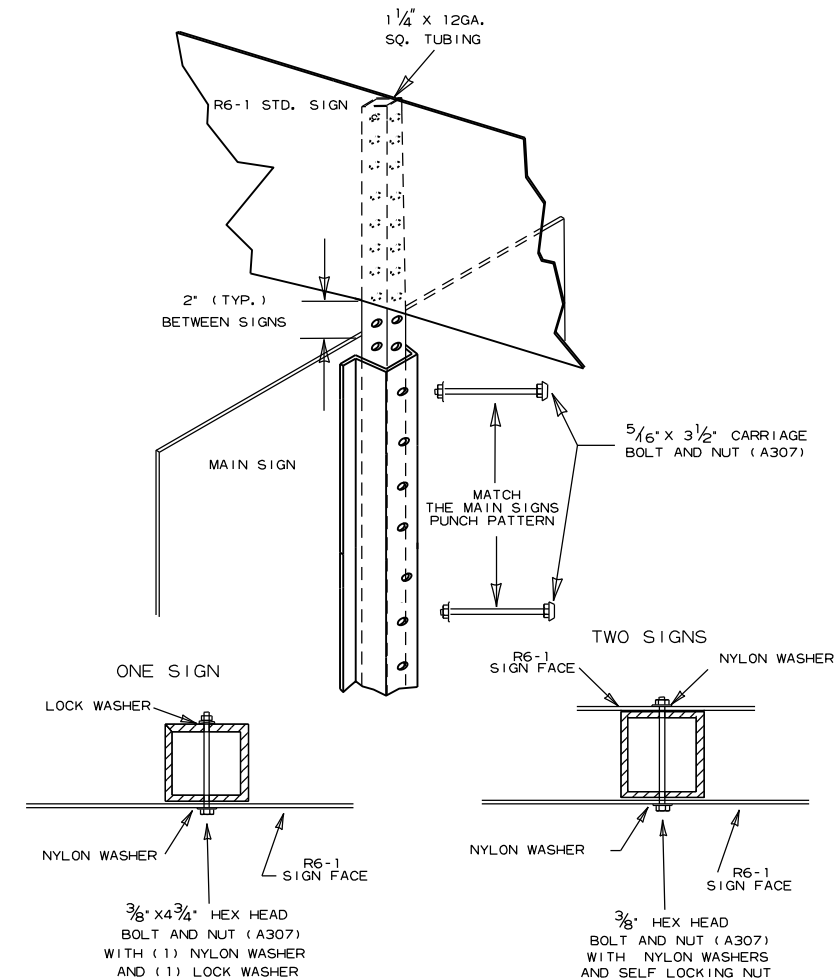
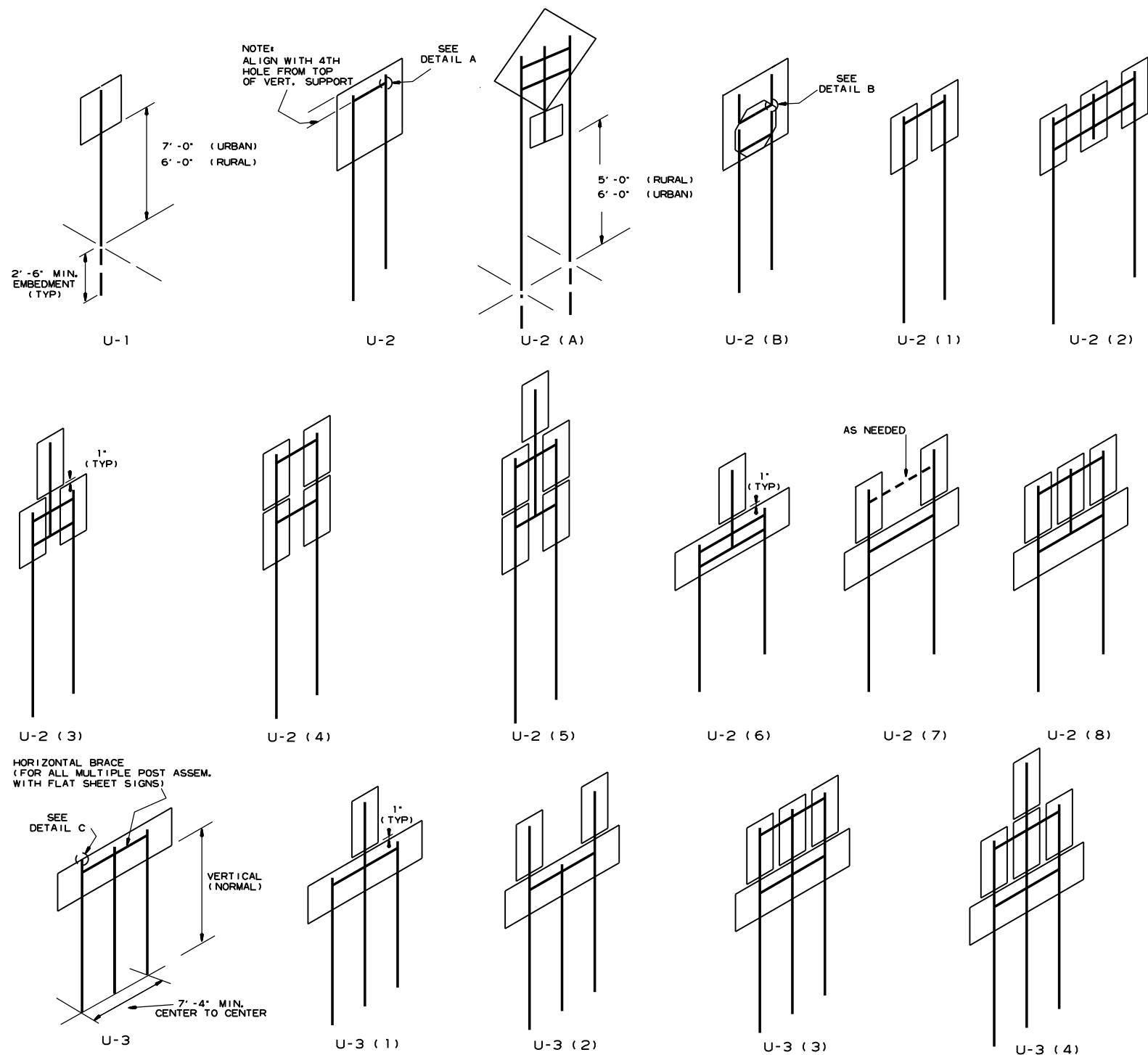
SUPERELEVATION FORMULA = $\frac{Lde}{L_s}$



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



 RI-1 30"x30"	 WI-3 30"x30" (LT. OR RT.)	 WI-8 18"x24"	 W2-5 30"x30"	 W3-1 36"x36"	 W5-1 36"x36"	 M6-3 21"x15"		MINIMUM DIMENSIONS SHOWN SUPPORT SECTION  (U-CHANNEL) STANDARD SUPPORT ASSEMBLIES 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 A																															
 RI-2 36"x36"x36"	 WI-4 30"x30" (LT. OR RT.)	 W2-1 30"x30"	 SI-1 36"x36"	 W3-2 36"x36"	LASSEN 16 COUNTY County Route Marker MI-6 24"x24" NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.	 M6-4 21"x15"																																	
 R2-1 24"x30"	 WI-5 30"x30" (LT. OR RT.)	 W2-2 30"x30"	 W5-2 36"x36"	 W8-3 36"x36"	ALL WAY RI-3P 18"x6"	 M6-5 21"x15"																																	
 WI-1 30"x30" (LT. OR RT.)	 WI-6 48"x24"	 W2-3 30"x30" (LT. OR RT.)	 W5-3 36"x36"	35 M.P.H. W13-1P 18"x18" NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.	 M6-1 21"x15"	 M6-6 21"x15"																																	
 WI-2 30"x30" (LT. OR RT.)	 WI-7 48"x24"	 W2-4 30"x30"	 W10-1 36" DIAMETER	 W3-3 36"x36"	 M6-2 21"x15"	SCHOOL S4-3P 24"x8" WHEN CHILDREN ARE PRESENT S4-2P 24"x10"	 OM-3 12"x36" (LT. OR RT.)	 TYPE B  TYPE C MINIMUM WEIGHT TYPE A & B = 3 LBS./FT. TYPE C = 2 LBS./FT.																															
STANDARD HIGHWAY SIGNS						SUPPORT ASSEMBLIES																																	
						ARKANSAS STATE HIGHWAY COMMISSION STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES STANDARD DRAWING SHS-1																																	
						<table><tr><td>9-12-13</td><td>DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P</td><td></td></tr><tr><td>4-17-08</td><td>REVISED SIGN DESIGNATION - W3-1 & W3-2</td><td></td></tr><tr><td>4-10-03</td><td>REVISED W5-2, W8-3, OM-3; ADDED WI-8</td><td></td></tr><tr><td>1-5-81</td><td>REDRAWN</td><td>960-1-15-81</td></tr><tr><td>9-15-78</td><td>ADDED W14-3</td><td>877-9-15-78</td></tr><tr><td>9-2-76</td><td>POST WT.</td><td>623-9-3-76</td></tr><tr><td>5-3-76</td><td>STEEL POST WT. FROM 2*3*; ADDED S4-2 & S4-3</td><td>504-5-3-76</td></tr><tr><td>8-12-74</td><td>REV. HT. TYPE "C" ASSEMBLY</td><td>500-8-21-74</td></tr><tr><td>12-21-72</td><td>ADDED M6-2,3,4,5,6</td><td>500-12-21-72</td></tr><tr><td>12-1-72</td><td>ISSUED</td><td>562-12-1-72</td></tr><tr><td>DATE</td><td>REVISION</td><td>DATE FILMED</td></tr></table>	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 W14-3	877-9-15-78	9-2-76	POST WT.	623-9-3-76	5-3-76	STEEL POST WT. FROM 2*3*; ADDED S4-2 & S4-3	504-5-3-76	8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74	12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72	12-1-72	ISSUED	562-12-1-72	DATE	REVISION	DATE FILMED
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12-1-72	ISSUED	562-12-1-72																																					
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NOTES:

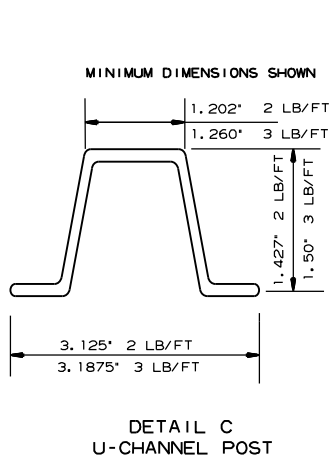
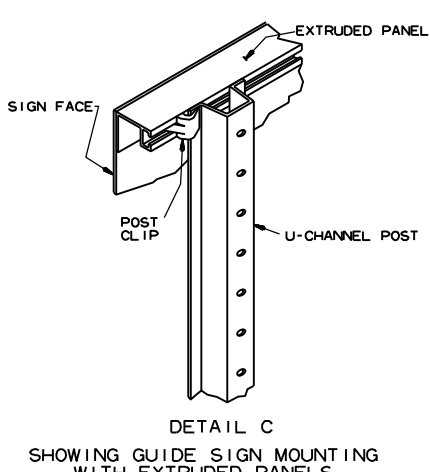
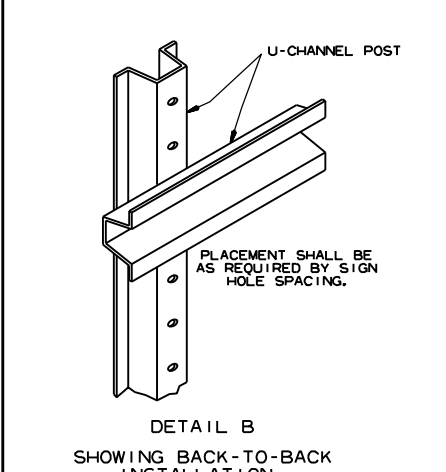
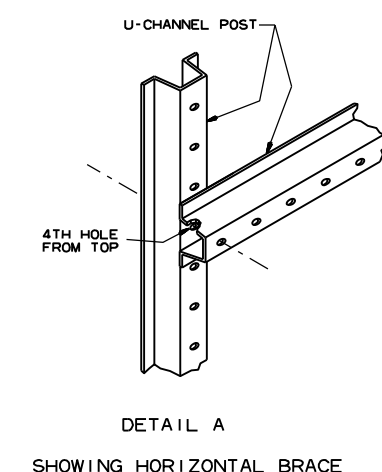
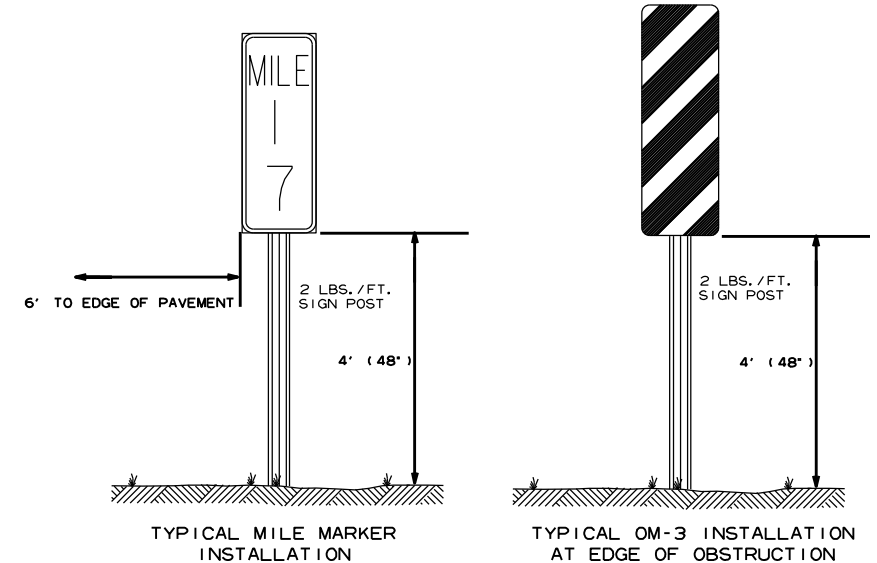
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

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

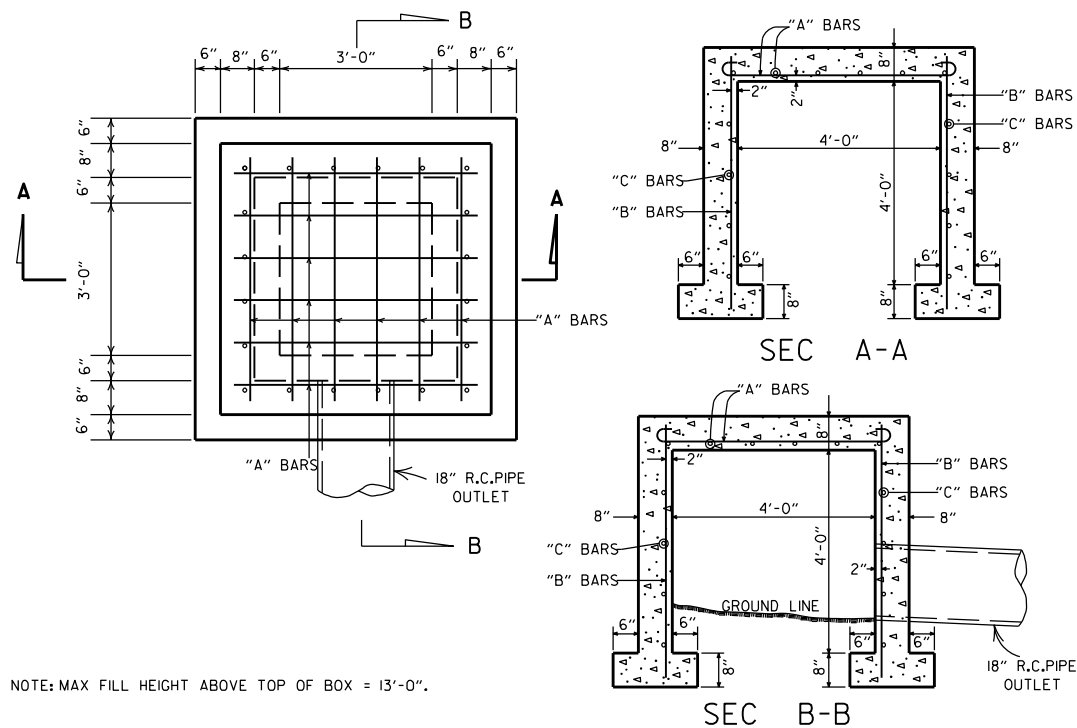
NORMAL INSTALLATIONS WILL REQUIRE 3/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

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



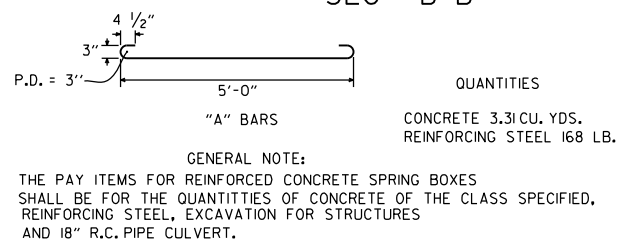
7-25-19	REVISED CARRIAGE BOLT WITH MATERIAL REQUIREMENT		ARKANSAS STATE HIGHWAY COMMISSION
2-27-14	REVISED NOTES.		
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS		U-CHANNEL POST ASSEMBLIES
10-9-03	REMOVED ROUND POST & REVISED SPACING		
10-12-95	MOVED UPPER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



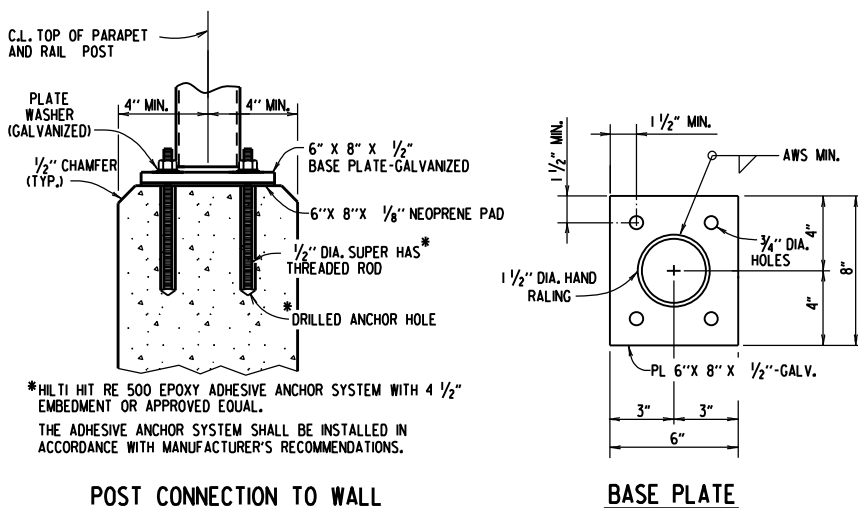
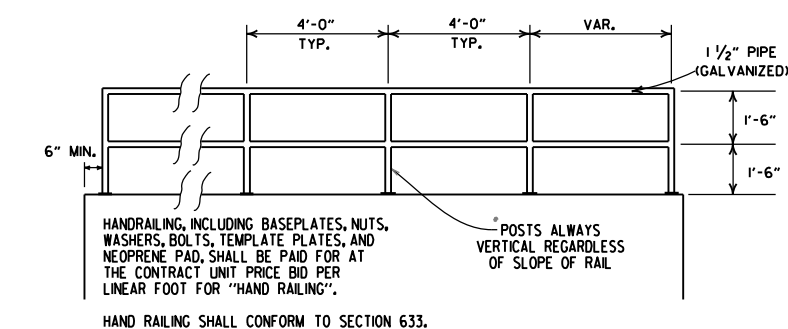
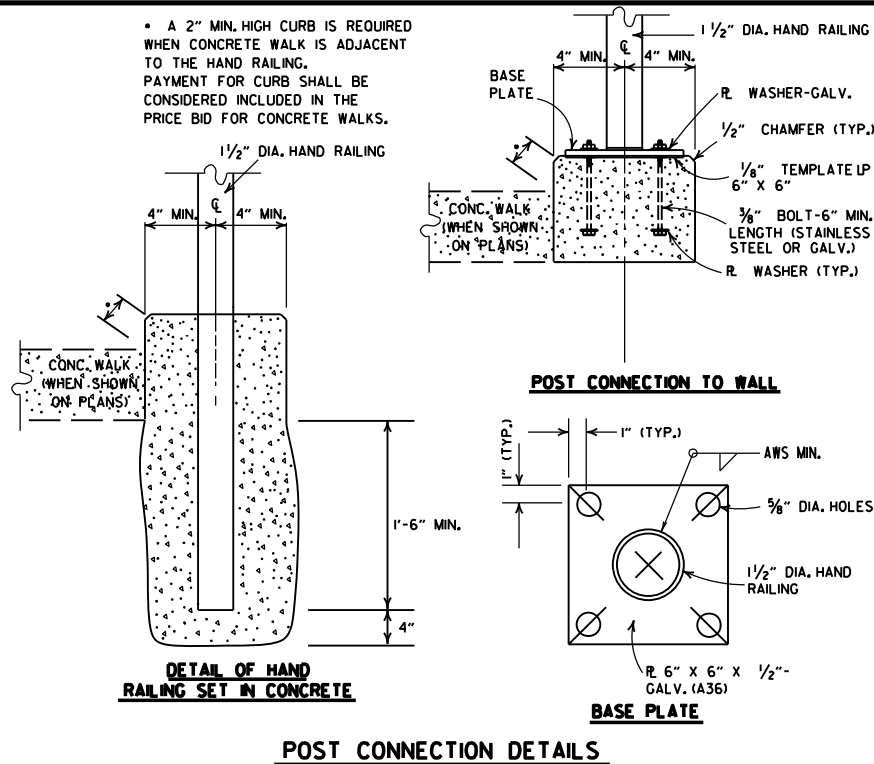
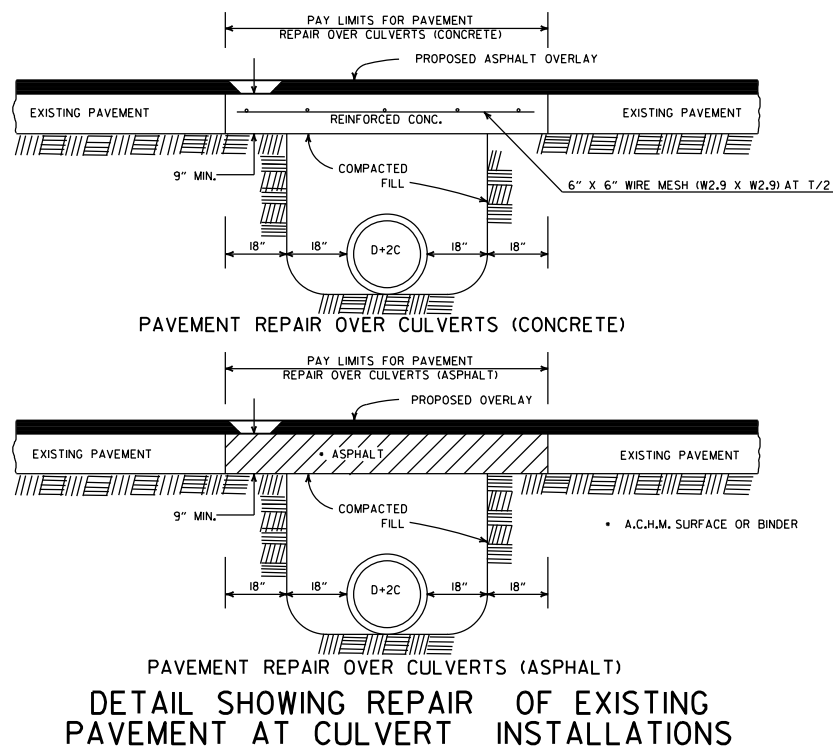
BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 1/2"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS

REINFORCED CONCRETE SPRING BOX

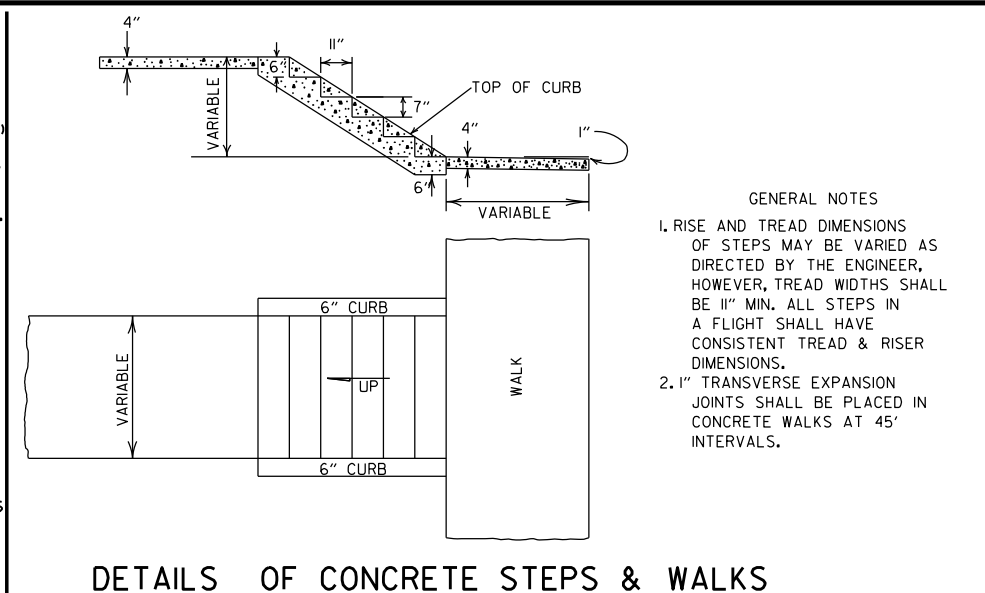


GENERAL NOTE:
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.



DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



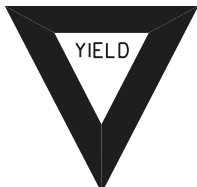
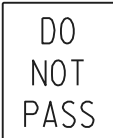
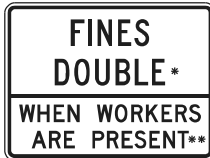
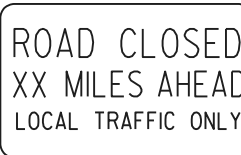
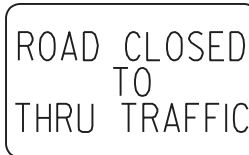
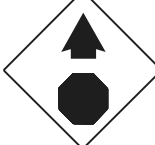
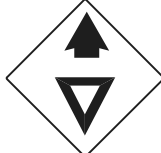
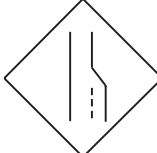
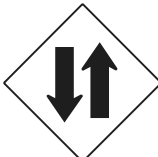
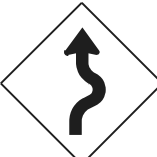
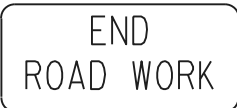
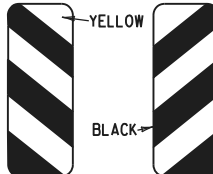
GENERAL NOTES
1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

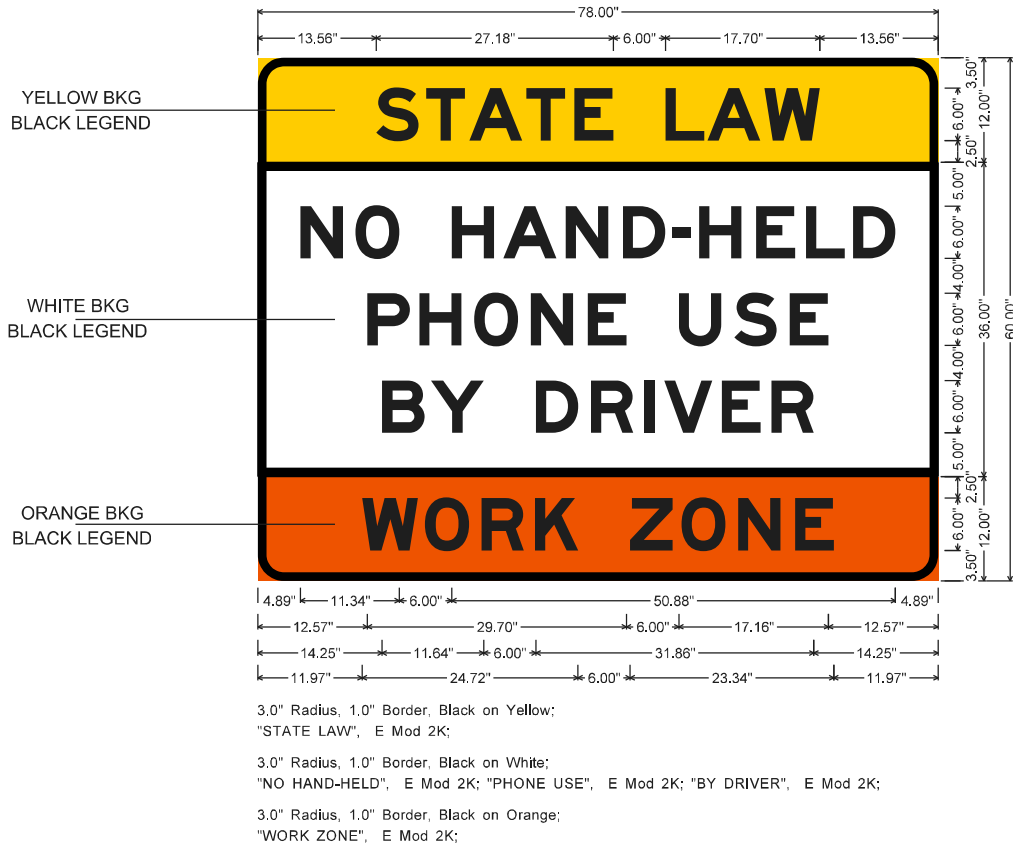
10-25-18	REVISED DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS	
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HOWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
11-1-84	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
1-4-83	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET & PAVEMENT REPAIR	674-4-20-79
2-2-76	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

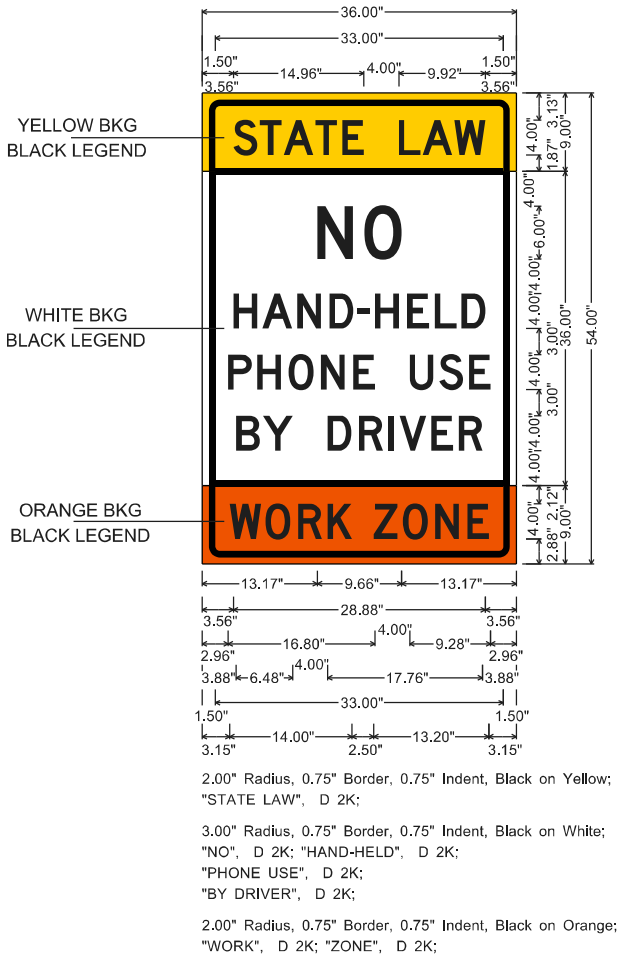
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - I

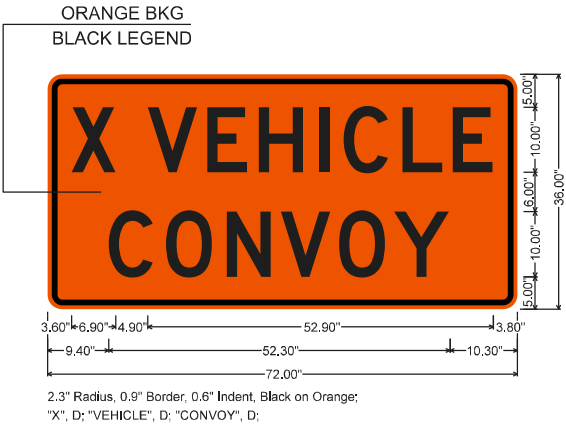
RI-I  STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"	RI-2  STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"	R2-I  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	W3-5  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	W3-5a  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	R4-I  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R4-2  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R2-6aP  48"x36" *USE 6" C LETTERS **USE 4" D LETTERS	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 SO. 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 1MILE 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-II 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.												
R5-I  STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"	RII-2  48"x30"	RII-3A  60"x30"	RII-4  60"x30"	W2I-5a  STD. 36"x36" FWY. 48"x48"	WI-I  STD. 36"x36" FWY. 48"x48"	WI-2  STD. 36"x36" FWY. 48"x48"	R2-II  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-I  STD. 36"x36" SPECIAL 48"x48"	W3-2  STD. 36"x36" SPECIAL 48"x48"	W4-2  STD. 36"x36" FWY. 48"x48"	R56-I  STD. 18"x18"													
W5-I  STD. 36"x36" SPECIAL 48"x48"	W6-3  EXPWY. 36"x36" SPECIAL 48"x48"	W8-7  EXPWY. 36"x36" FWY. 48"x48"	W9-2  STD. 36"x36" FWY. 48"x48"	W13-I  STD. 24"x24"	W20-I  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  18" 500 FEET W16-2 24" STD. 36"x36" FWY. 48"x48"	W2I-2  STD. 30"x30" SPECIAL 36"x36"	W2I-5  STD. 30"x30" SPECIAL 36"x36"	W24-I  STD. 36"x36"	WI-4b  STD. 48"x48"														
W8-II  STD. 36"x36" FWY. 48"x48"	W8-9  STD. 36"x36" FWY. 48"x48"	G20-I  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"														
<table><tr><td rowspan="2">08-14-25</td><td rowspan="2">11-07-19</td><td rowspan="2">04-13-17</td><td rowspan="2">09-02-15</td><td rowspan="2">12-15-11</td><td rowspan="2">DATE</td><td rowspan="2">REV</td><td rowspan="2">DESCRIPTION</td><td colspan="3">  ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION </td></tr><tr><td>DATE EFFECTIVE</td><td>STANDARD DRAWING</td><td>TC-1</td></tr></table>							08-14-25	11-07-19	04-13-17	09-02-15	12-15-11	DATE	REV	DESCRIPTION	 ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION			DATE EFFECTIVE	STANDARD DRAWING	TC-1
08-14-25	11-07-19	04-13-17	09-02-15	12-15-11	DATE	REV									DESCRIPTION	 ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION				
							DATE EFFECTIVE	STANDARD DRAWING	TC-1											



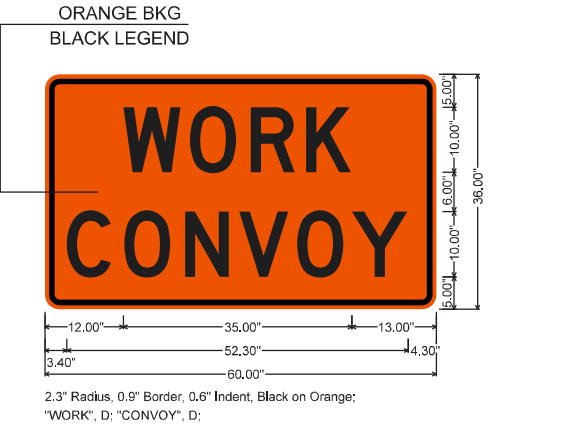
WZ-4 (INTERSTATE) SIGN



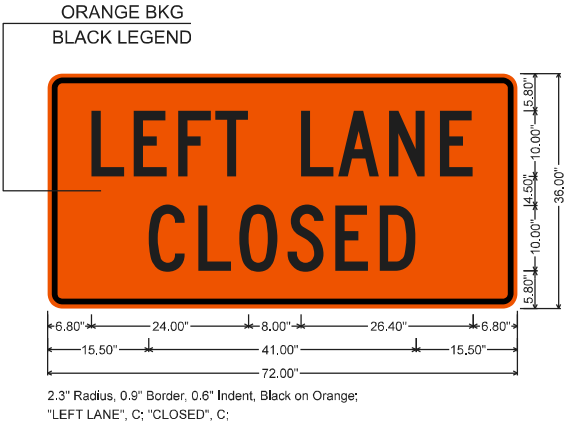
WZ-4 (NON-INTERSTATE) SIGN



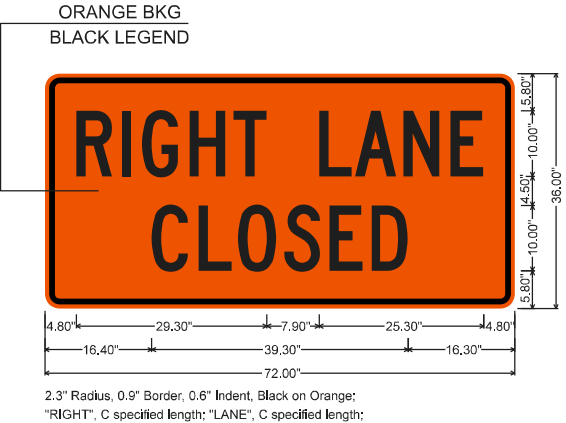
WZ-2 SIGN



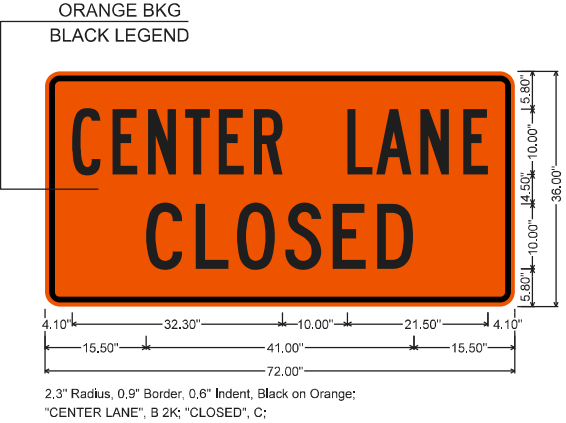
WZ-3 SIGN



WZ-W20-5L SIGN



WZ-W20-5R SIGN



WZ-W20-5C SIGN

MOBILE WORK ZONE SIGNS

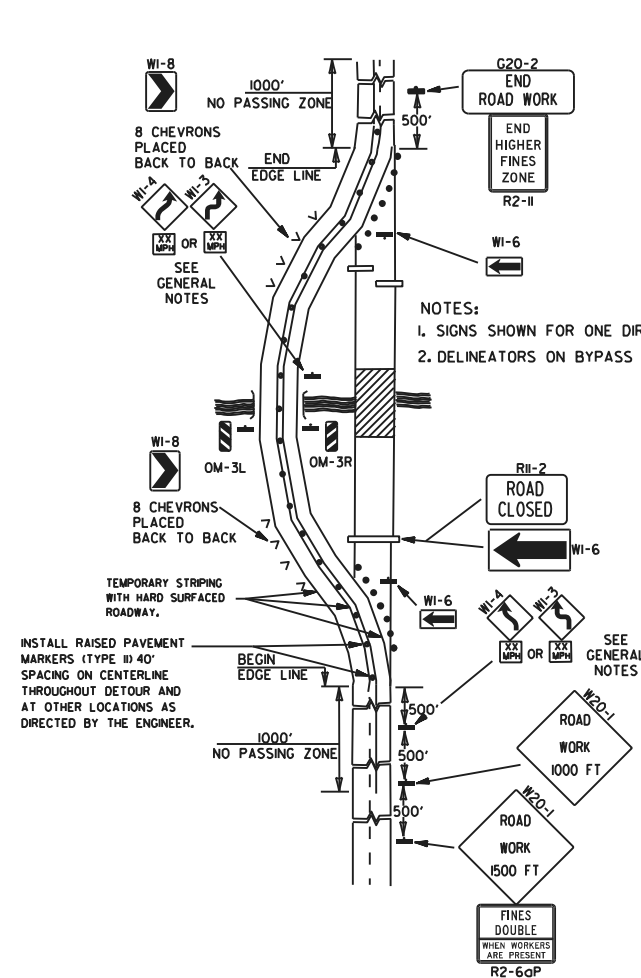


CONSTRUCTION PROJECT INFORMATION SIGN

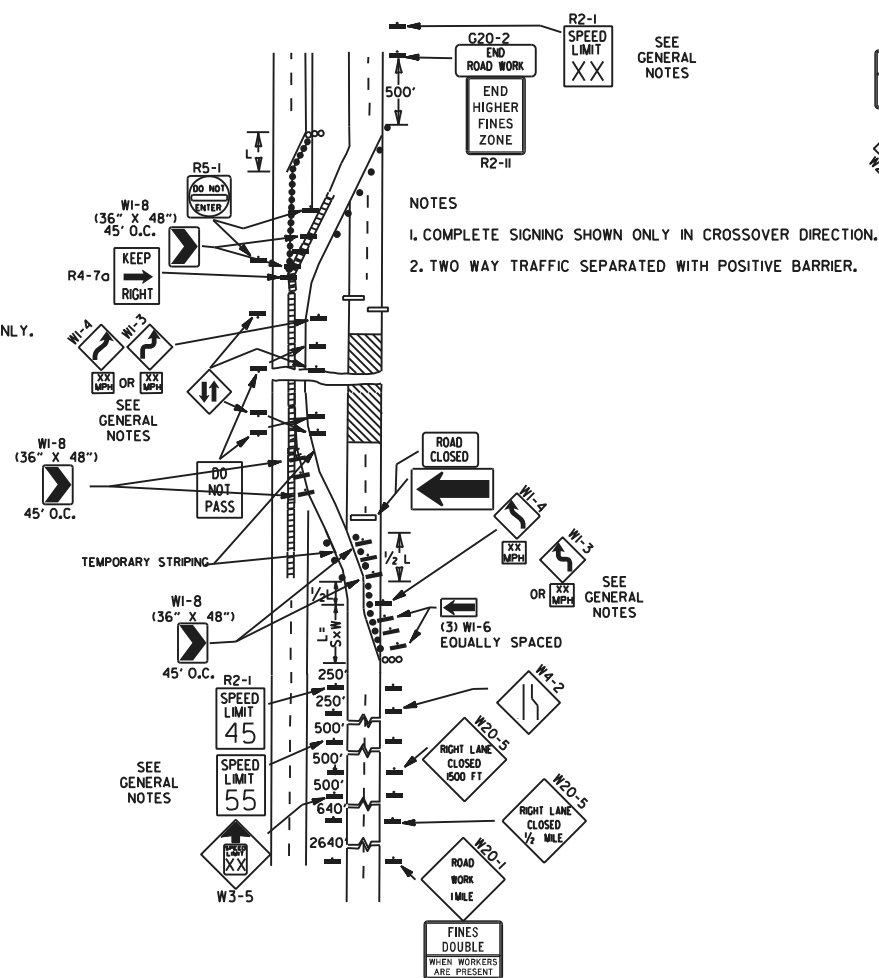


WZ-1 (INTERSTATE) SIGN

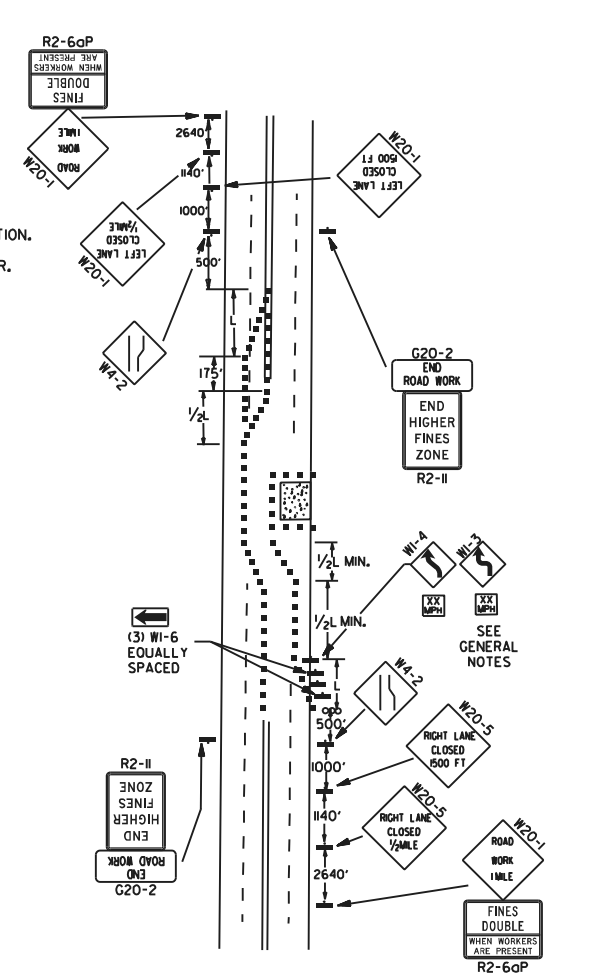
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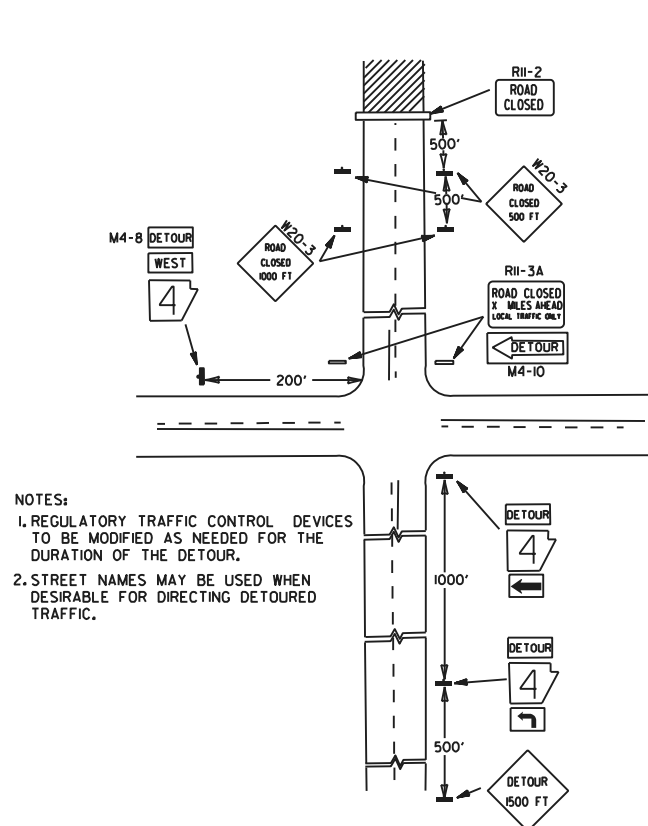
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



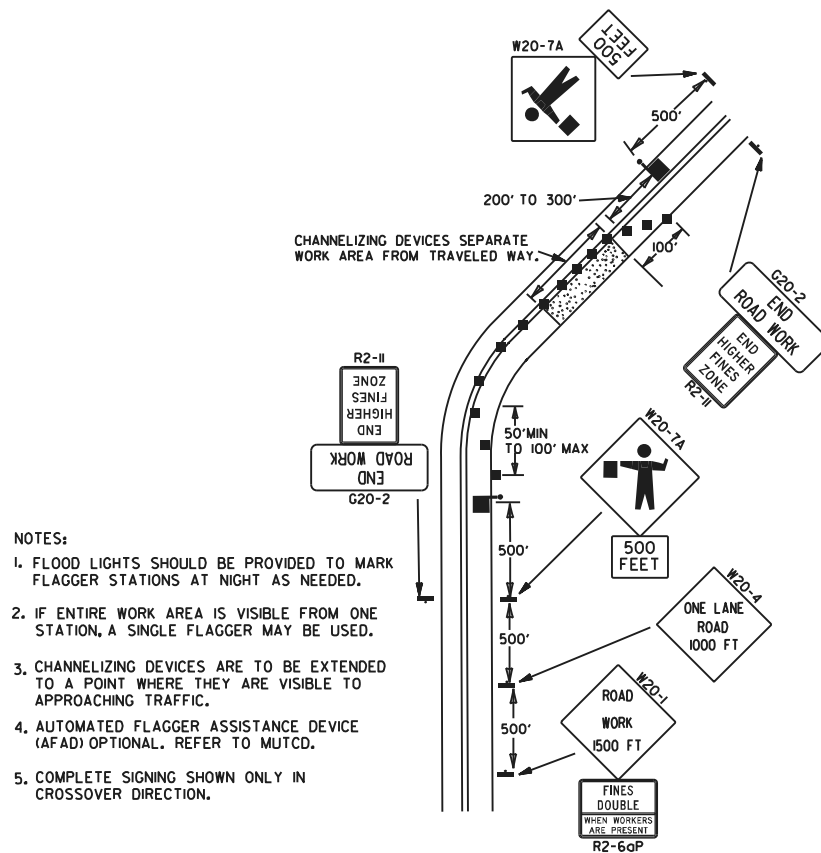
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



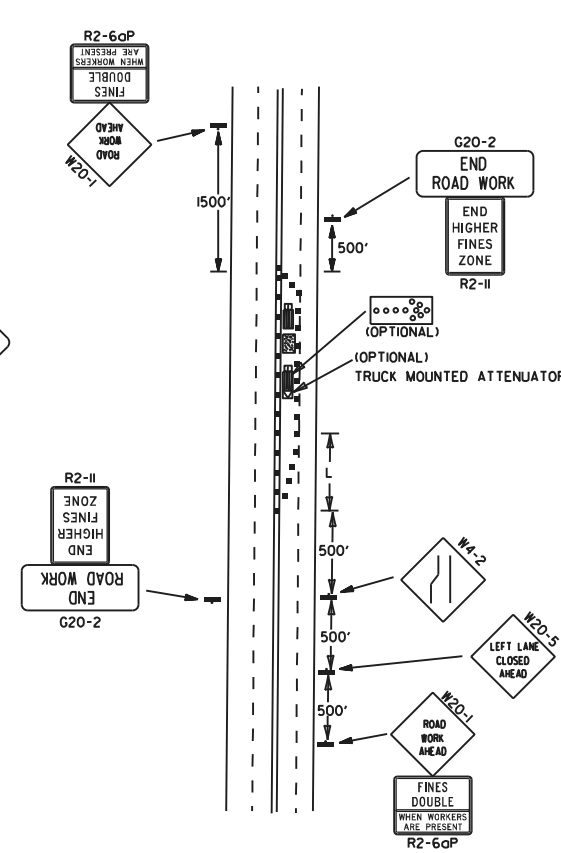
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



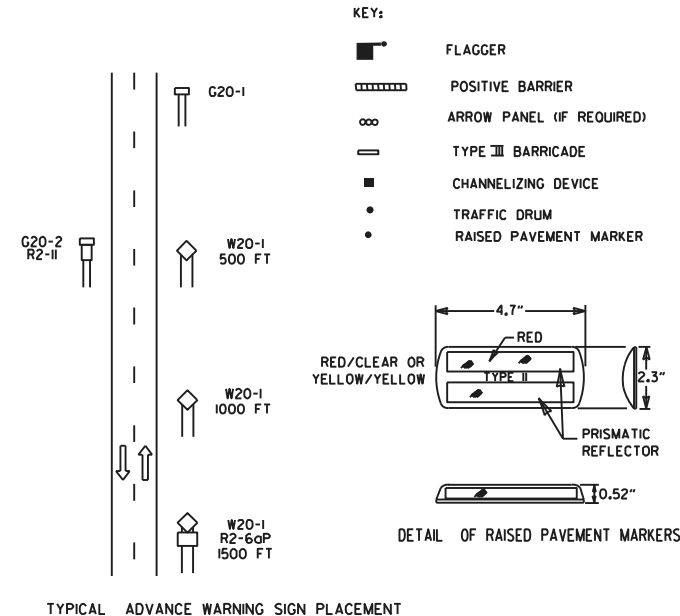
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



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



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



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

$L = SXW$ FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:
L = MINIMUM LENGTH OF TAPER.

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

W = WIDTH OF OFFSET.

GENERAL NOTES:

1. 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 W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-155 SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1XX 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 R2-165 SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1XX 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 ADOT 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).

REVISIONS		DESCRIPTION	DATE	REV
DATE	REV			
08-14-25	ADDED R2-6aP AND R2-11			
05-20-21	REVISED NOTE 7			
11-07-19	ADDED NOTE 1, 8, 9			
09-02-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5			
09-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS			
AR DOT ARKANSAS DEPARTMENT OF TRANSPORTATION ARKANSAS STATE HIGHWAY COMMISSION			STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	
DATE EFFECTIVE		STANDARD DRAWING		TC-2
08-14-2025				

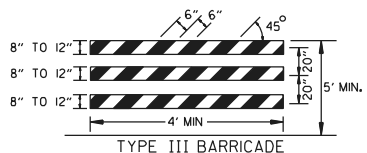
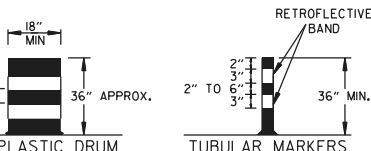
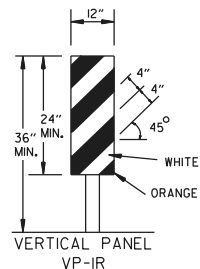
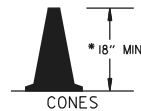
(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

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

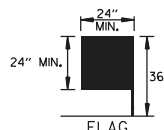
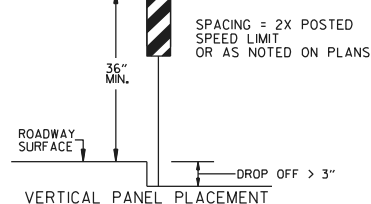
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

CHANNELIZING DEVICES

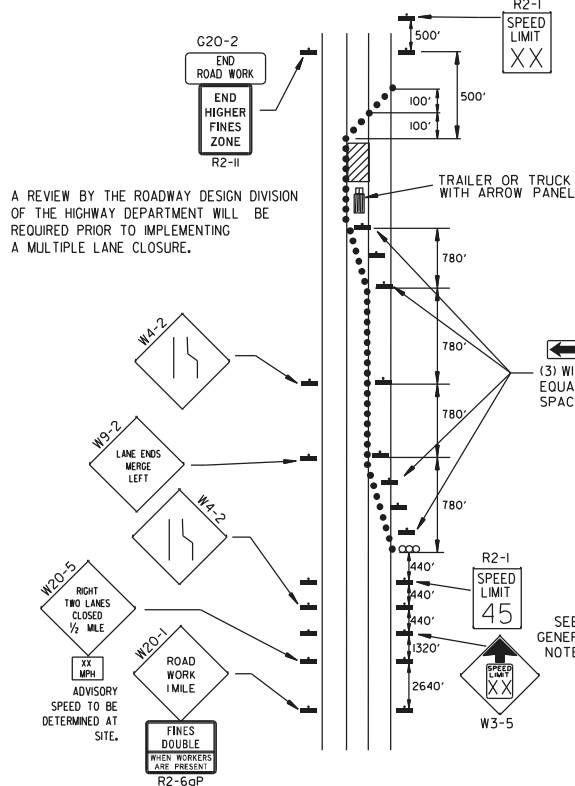
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.



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



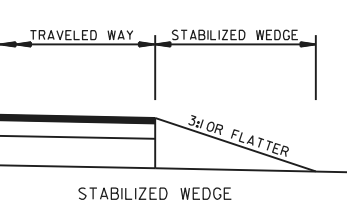
(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

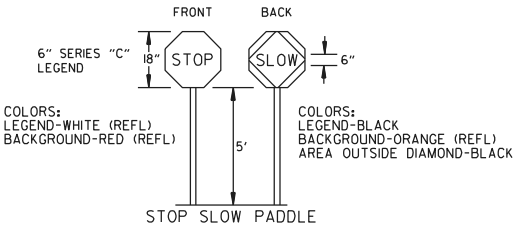
VERTICAL DIFFERENTIAL	LOCATION	NON-INTERSTATE	
		TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE ⁽⁶⁾	STANDARD LANE CLOSURE ⁽⁶⁾
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS ⁽¹⁾	W8-9 AND TRAFFIC DRUMS ⁽¹⁾
> 3"	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"	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"	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

VERTICAL DIFFERENTIAL	LOCATION	INTERSTATE	
		TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17 EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES	PRECAST CONCRETE BARRIER & EDGE LINES

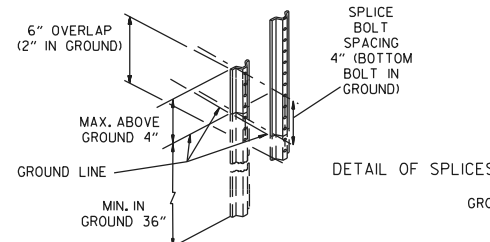
FORESLOPE	HEIGHT	INTERSTATE AND NON-INTERSTATE	
		TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
1:1	≥ 2 FT	PRECAST CONCRETE BARRIER	PRECAST CONCRETE BARRIER
2:1	≥ 5 FT	TRAFFIC DRUMS	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS	TRAFFIC DRUMS



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



NOTES:
1. USE SPICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPICES (SEE STD. DRAWING NO. SHS-2)
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.
3. SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



08-14-25
REVISED TRAFFIC CONTROL DEVICES AND NOTES, ADDED NOTE 12

05-22-25
REVISED TRAFFIC CONTROL DEVICES AND NOTES

08-12-21
REVISED TRAFFIC CONTROL DEVICES AND NOTES

05-20-21
REVISED TRAFFIC CONTROL DEVICES AND NOTES

02-27-20
REVISED TRAFFIC CONTROL DEVICES AND NOTES

DATE
REV

DESCRIPTION

ARKANSAS STATE HIGHWAY COMMISSION

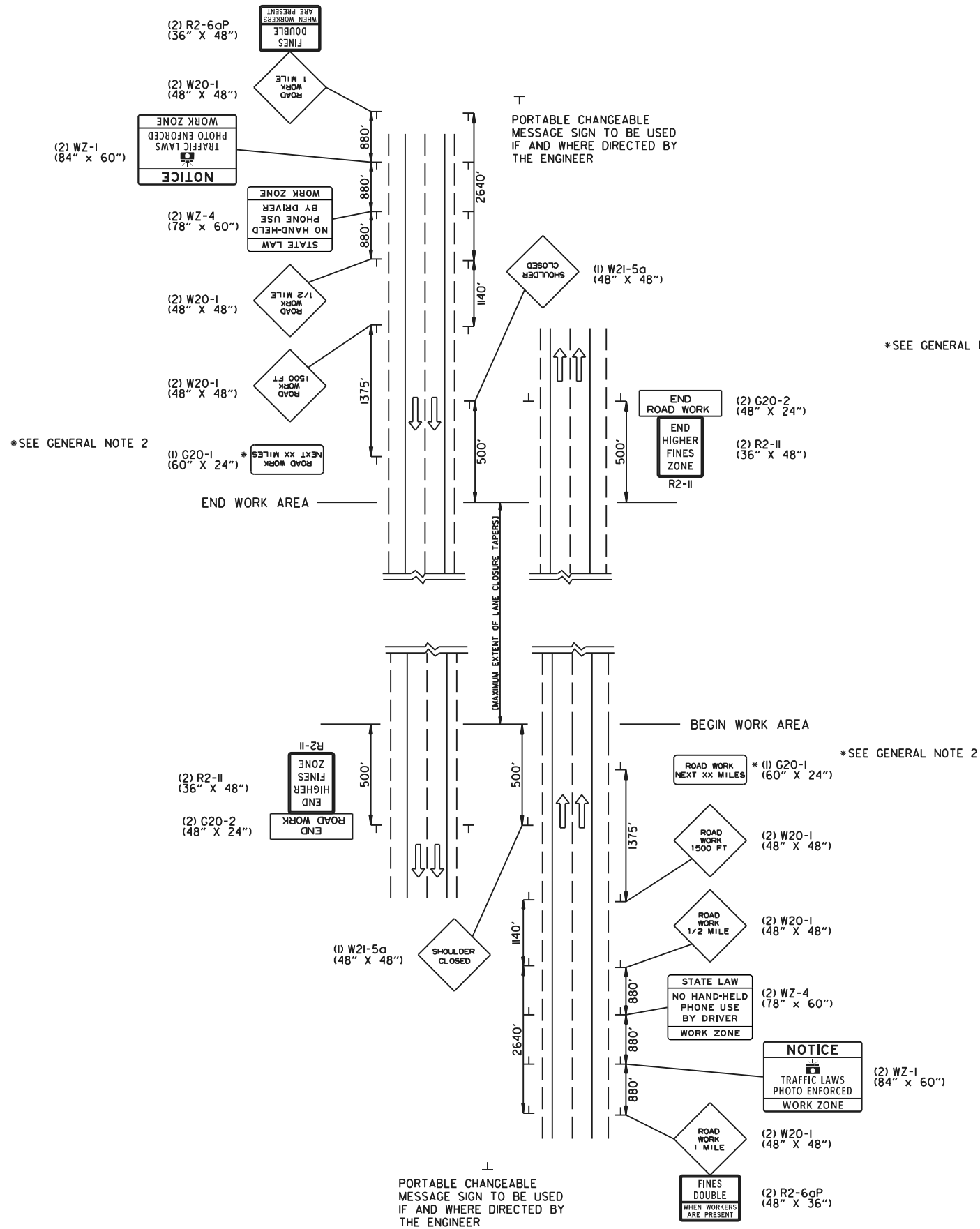
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

DATE EFFECTIVE
08-14-2025

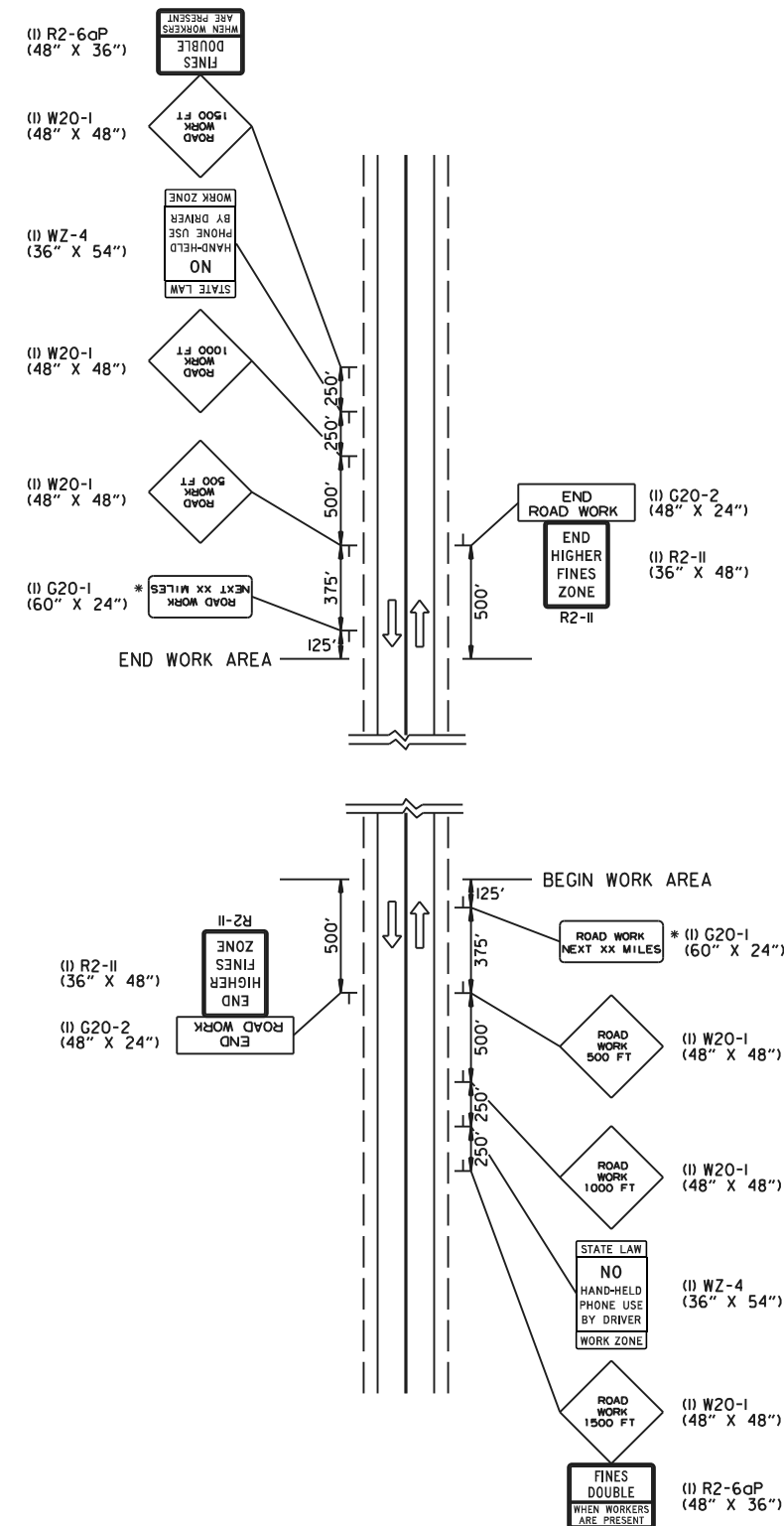
STANDARD DRAWING

TC-3

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



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

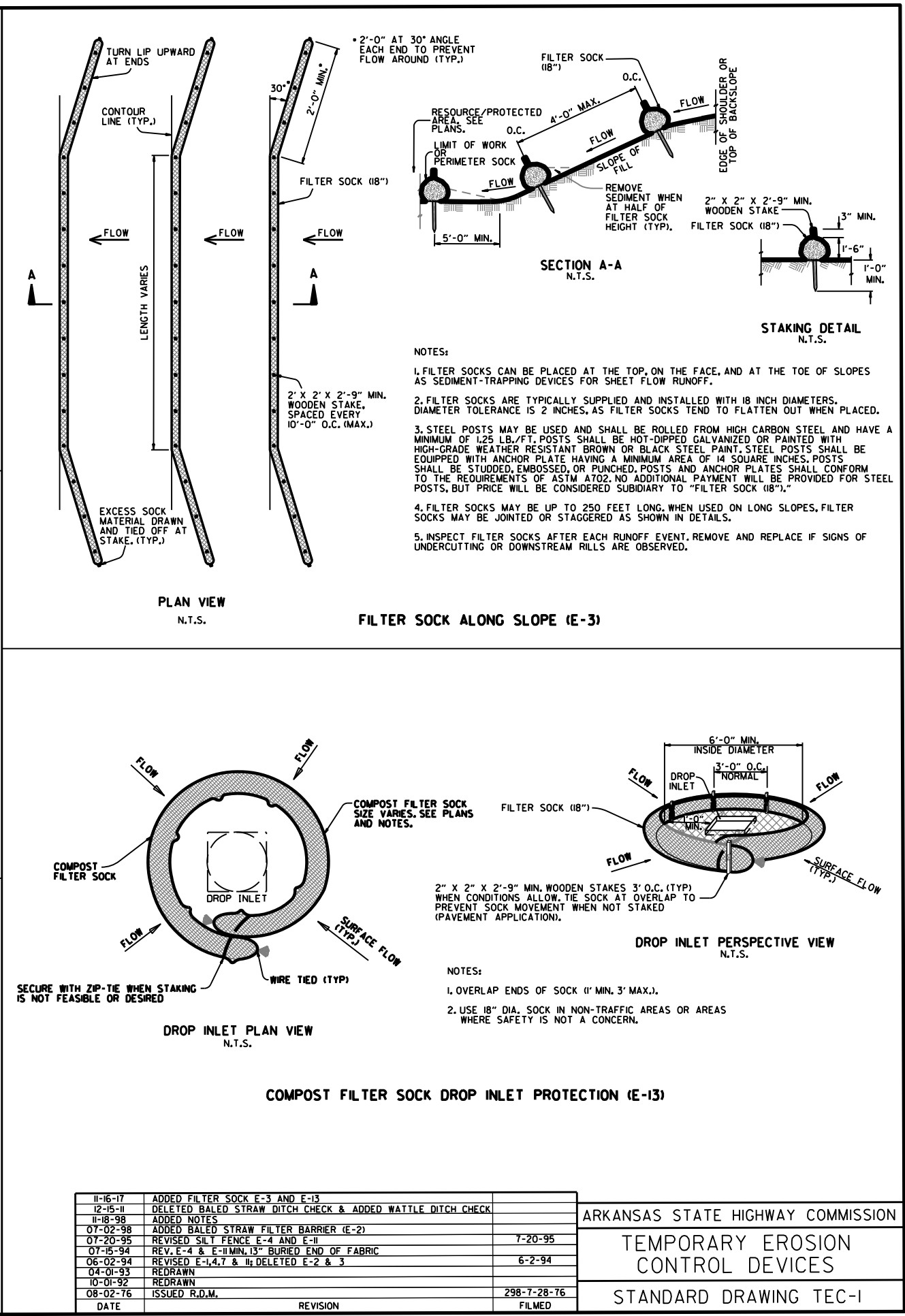
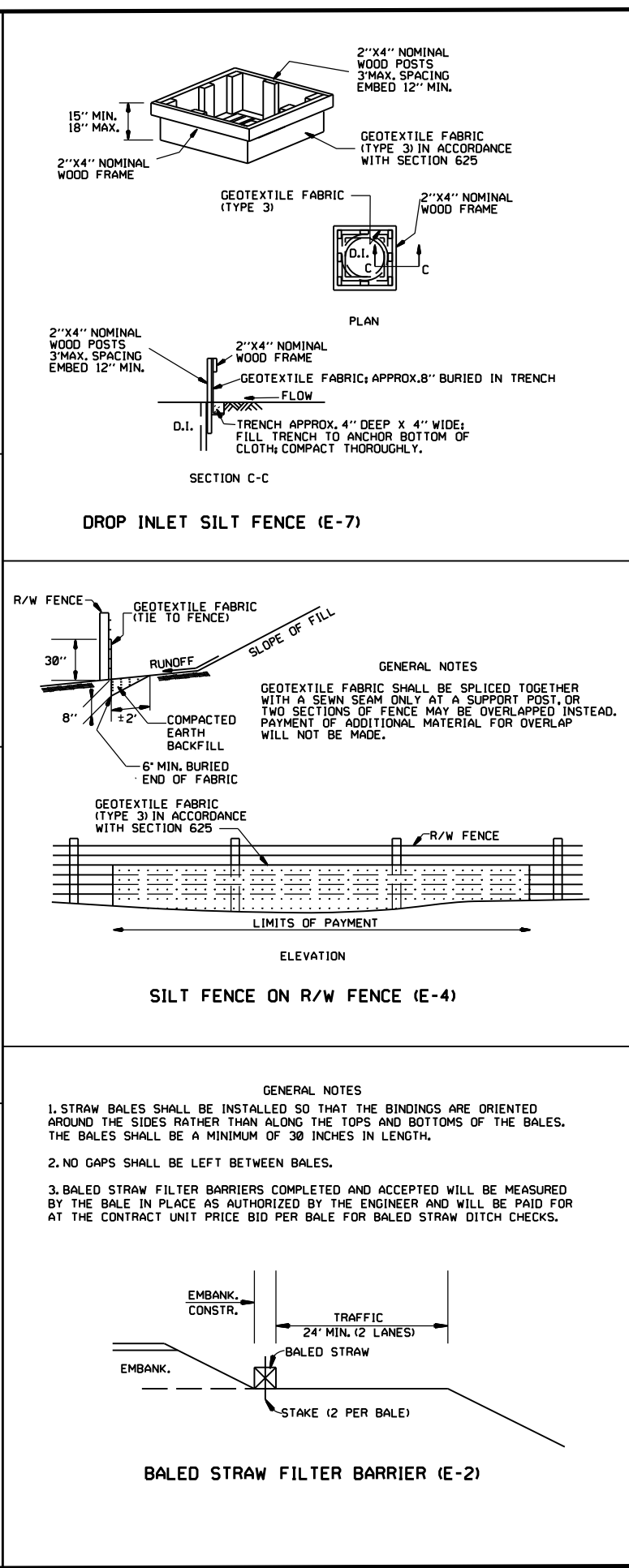
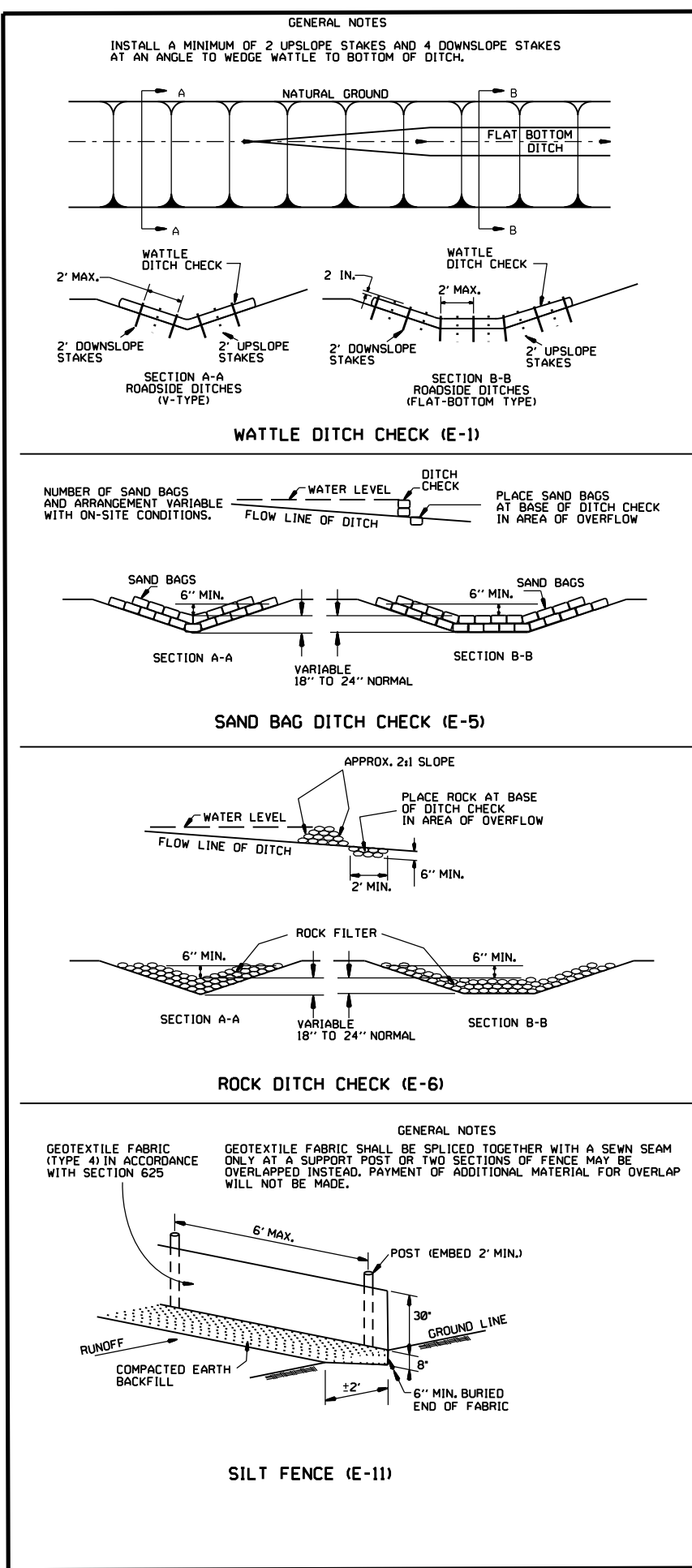


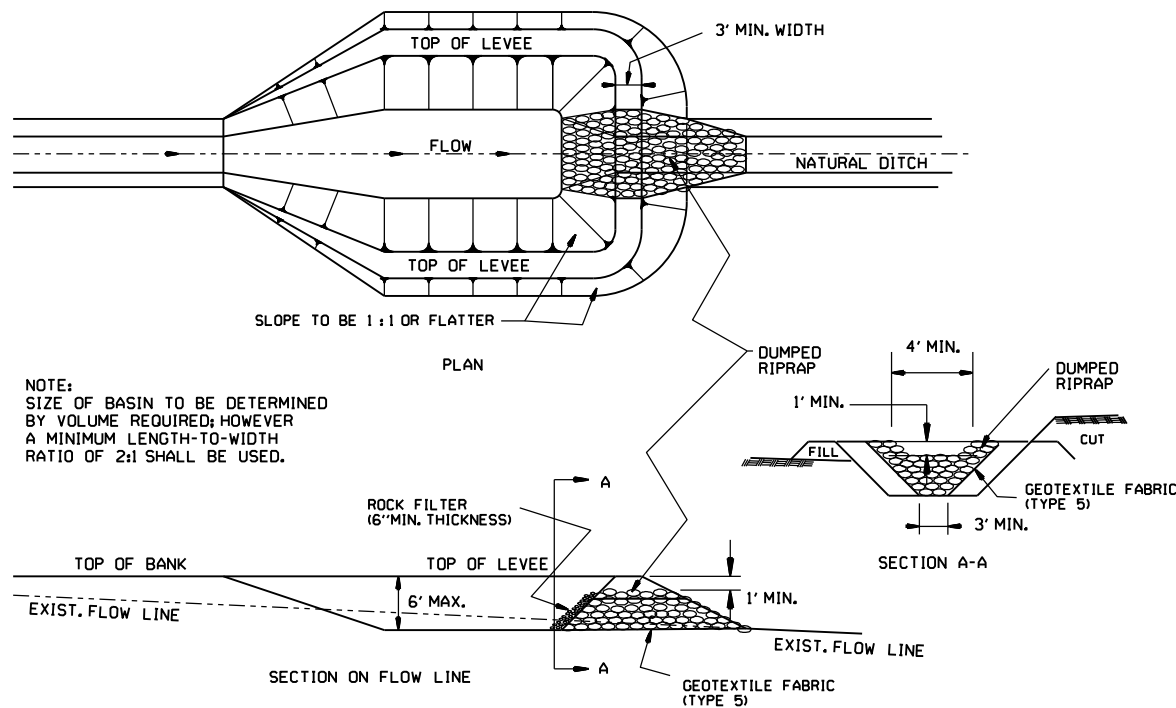
(B) TYPICAL APPLICATION - ADVANCE WARNING SIGNS AT BEGINNING AND
END OF JOB (NON-FULLY CONTROLLED ACCESS FACILITIES) (ALL STAGES)

GENERAL NOTES:

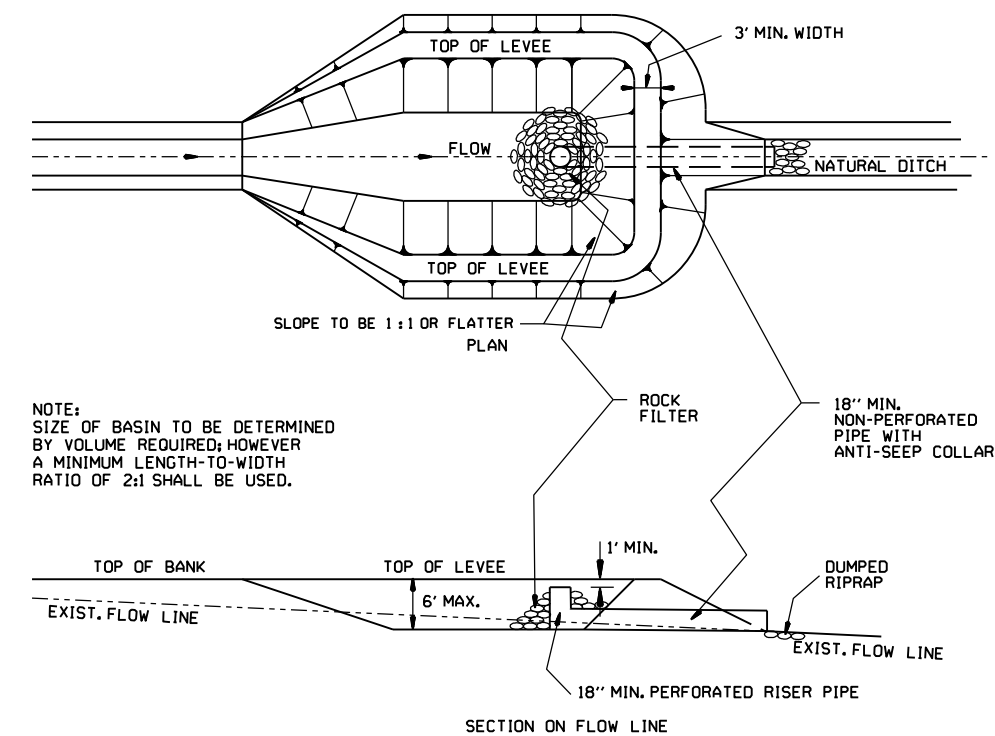
1. FLAGS MAY BE MOUNTED TO SIGNS AT NIGHT AS NEEDED.
2. THE G20-1 SIGN SHOULD BE INSTALLED ON JOBS OF OVER TWO MILES IN LENGTH, WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE OR 1500 FT) SIGNS ARE 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).

04-09-26	CORRECTED WZ-4 SIGN DIMENSIONS	ADDED WZ-4 AND REVISED GENERAL NOTE 1	REPLACED "SPEED" WITH "TRAFFIC LAWS" ON WZ-1	ISSUED	DESCRIPTION	 ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
04-09-26	DATE EFFECTIVE	04-09-2026	STANDARD DRAWING	TC-6		

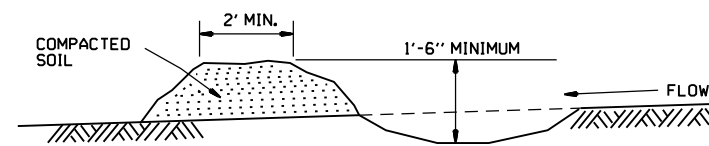




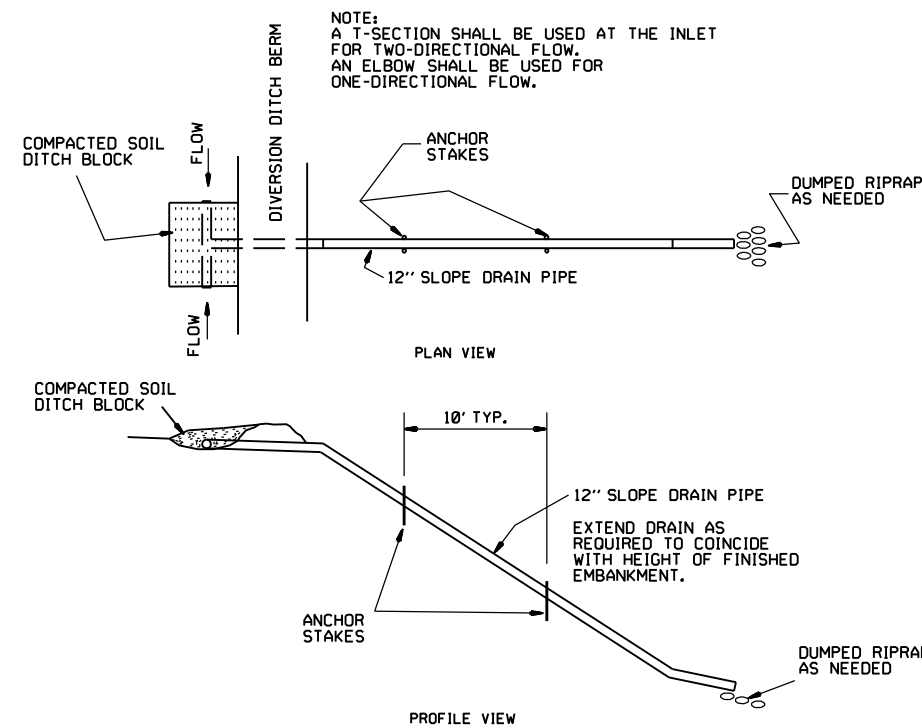
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



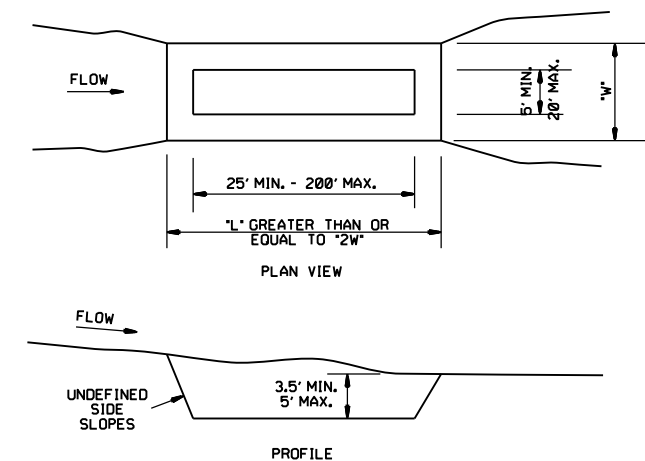
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



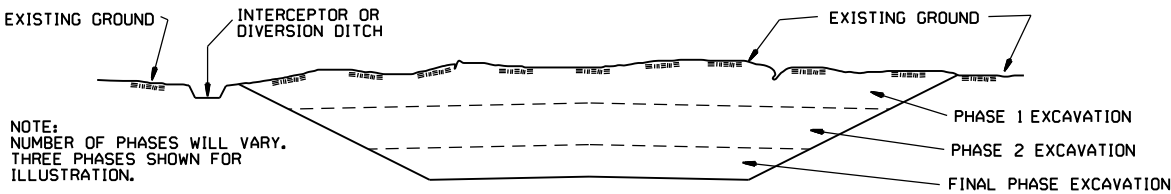
SEDIMENT BASIN (E-14)

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

CLEARING AND GRUBBING

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

EXCAVATION



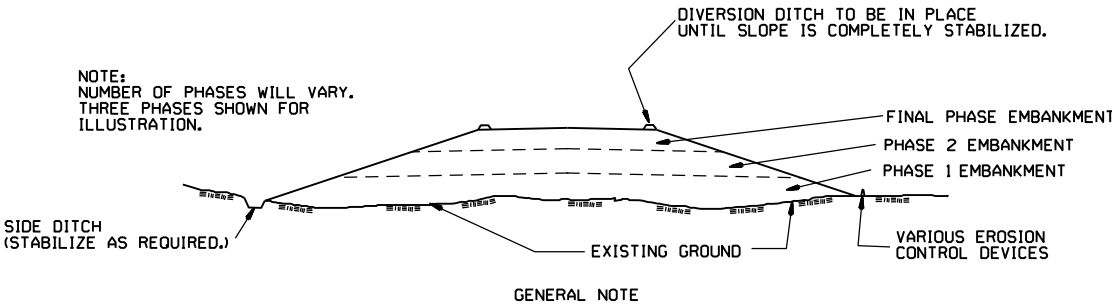
NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

GENERAL NOTE

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

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

EMBANKMENT



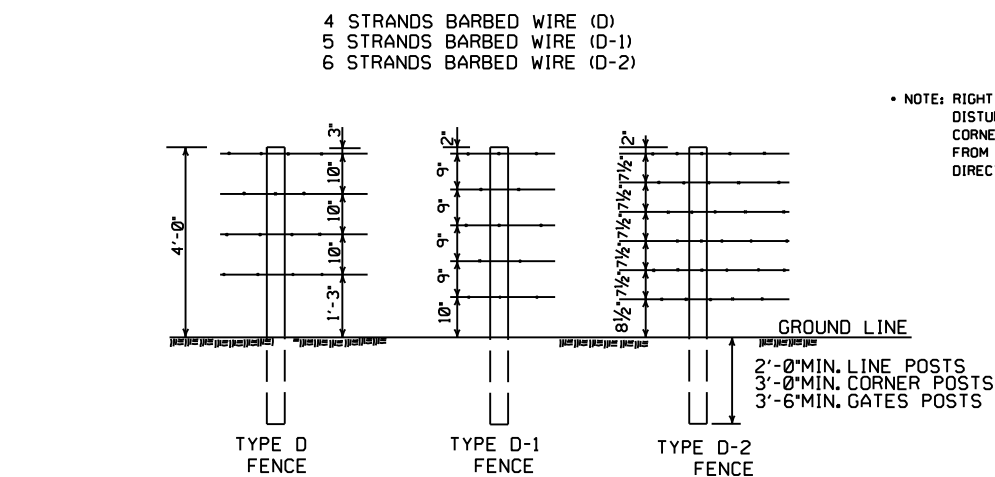
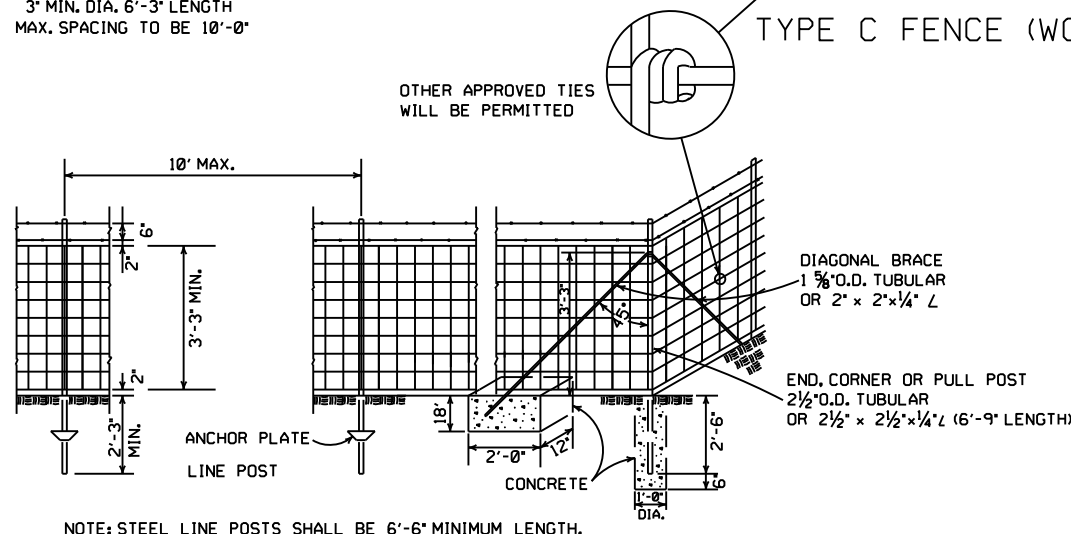
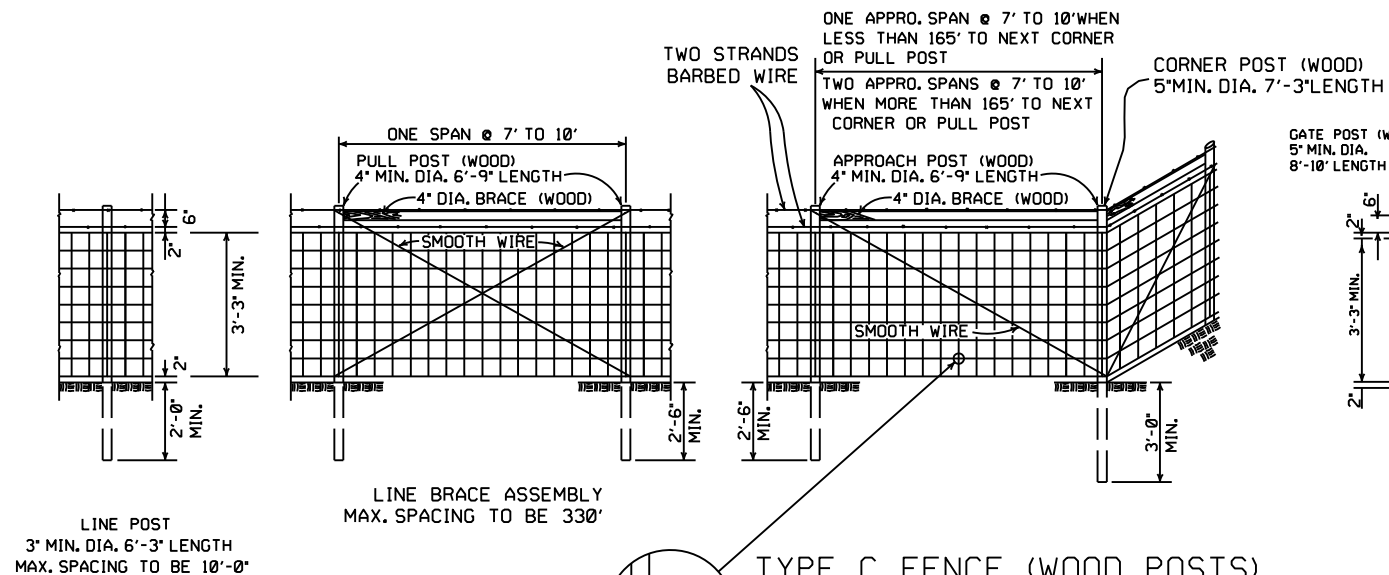
NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

GENERAL NOTE

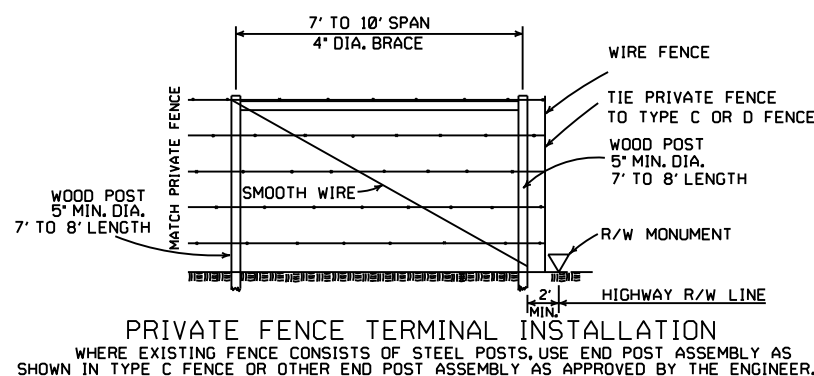
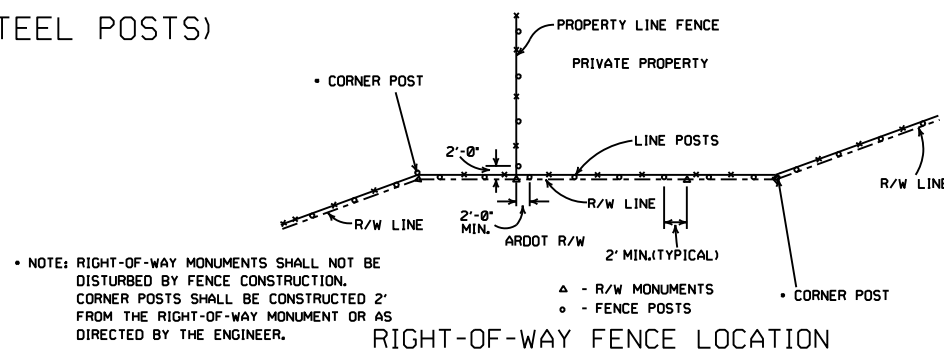
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

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

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



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.



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'.

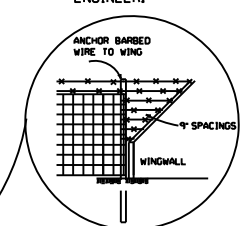
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

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.

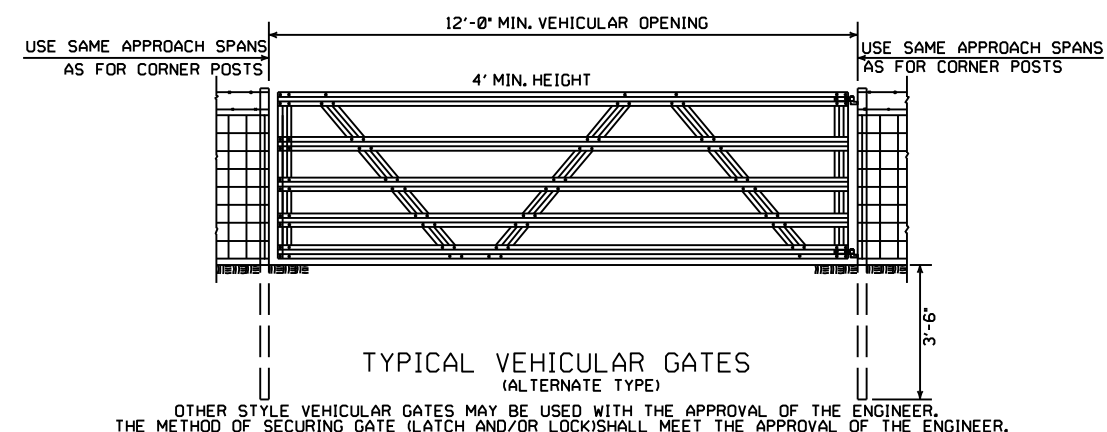
NOTE: USE 3/8" x 1 1/2" LAG BOLT & SHIELD OR AS APPROVED BY THE ENGINEER.



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.



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
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4