

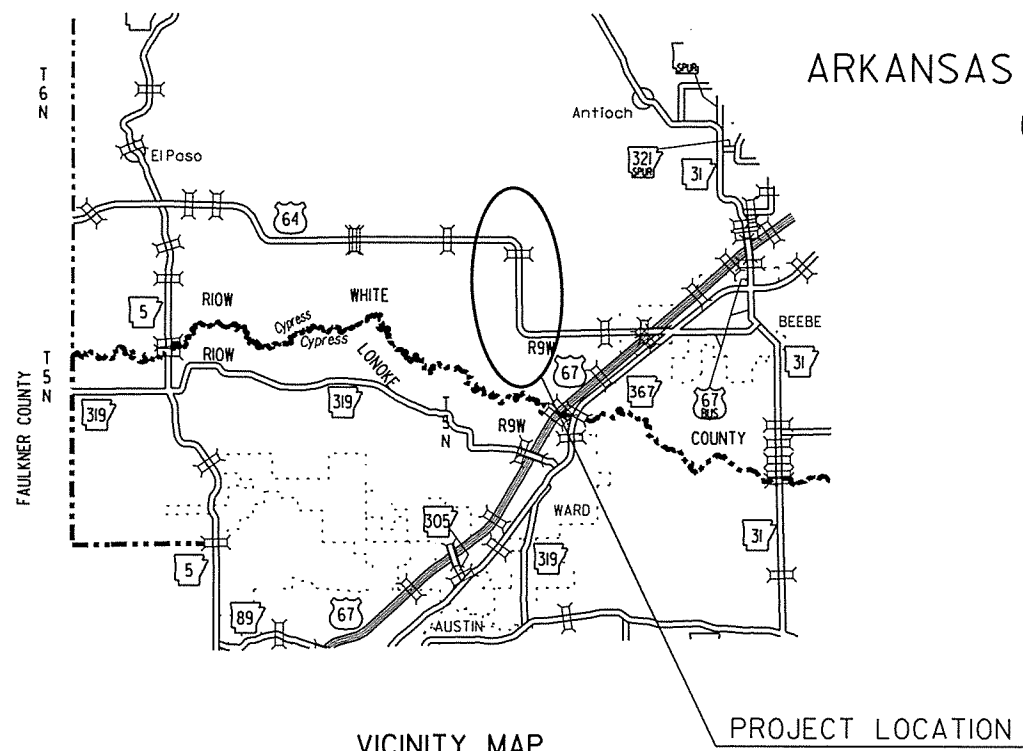
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		1	160
				(2)	BEEBE-WEST (F)			

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
CONSTRUCTION PLANS FOR STATE HIGHWAY

**BEEBE-WEST (F)**

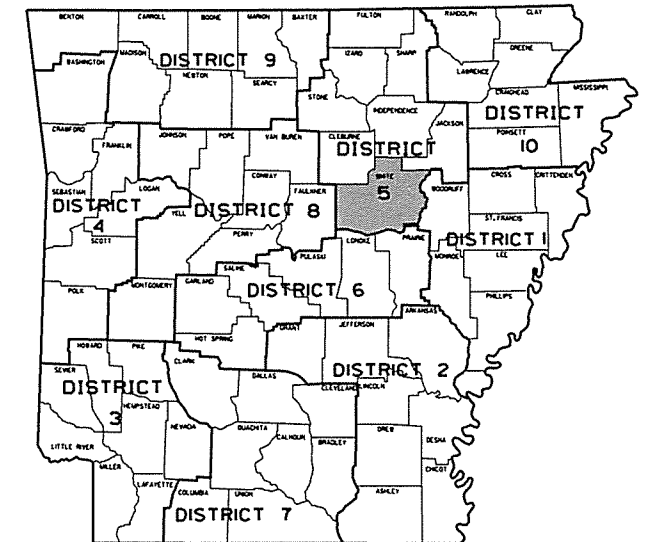
WHITE COUNTY  
ROUTE 64 SECTION 10  
FED. AID PROJECT NHPP-0073(58)

**JOB 050263**



VICINITY MAP

PROJECT LOCATION

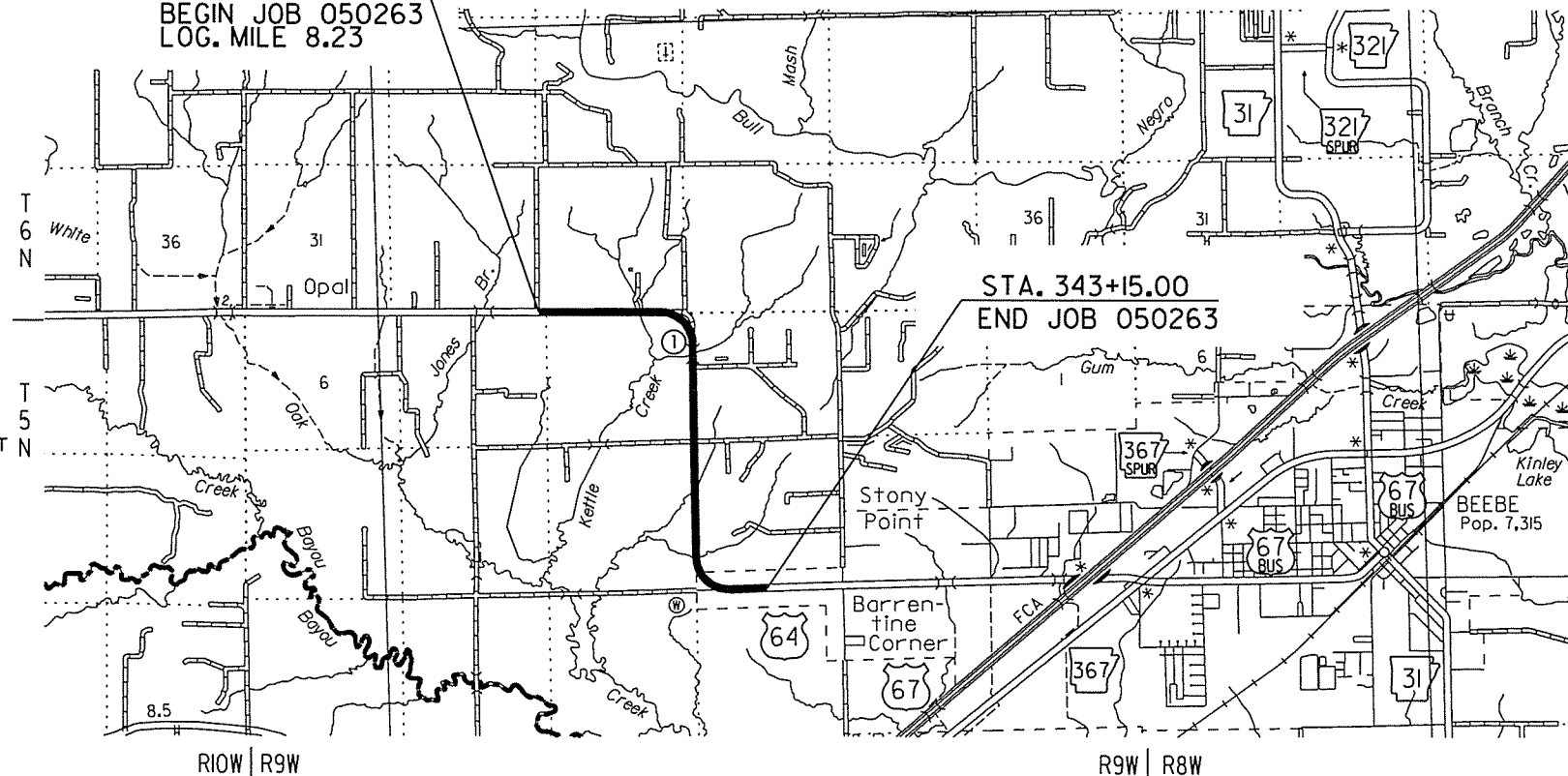


ARK. HWY. DIST. NO. 5

NOT TO SCALE

STA. 170+50.00  
BEGIN JOB 050263  
LOG. MILE 8.23

STA. 343+15.00  
END JOB 050263



STRUCTURES OVER 20'-0" SPAN

- ① STA. 235+87 IN PLACE DBL. 10' x 5' x 48' R.C. BOX CULV. T. WITH HDWLS. LT. & RT. REMOVE HDWLS. LT. & RT. AND EXTEND 38' LT. AND 36' RT. FOR A COMPLETED LENGTH OF 122' AND ADD DBL. 60' x 116' R.C. PIPE CULVERT N (CLASS IV) (TYPE 3 BEDDING) WITH F.E.S. LT. & RT. Q50=1250 CFS D.A.=917 ACRES 60' R.C. PIPE = 232 LIN. FT. 60' F.E.S. = 4 EACH SPAN = 21' - 11'

DESIGN TRAFFIC DATA

DESIGN YEAR	2036
2016 ADT	7,100
2036 ADT	9,600
2036 DHV	-1,056
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	17%
DESIGN SPEED	60 MPH



APPROVED



5-4-16

DEPUTY DIRECTOR  
AND CHIEF ENGINEER

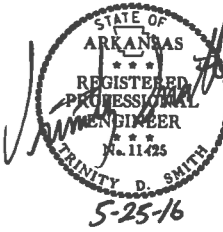
LENGTH COMPUTED ALONG HWY. 64 CENTERLINE

GROSS LENGTH OF PROJECT	17265.00	FEET OR	3.270	MILES
NET ROADWAY	17243.08		3.266	
NET BRIDGES	21.92		0.004	
NET PROJECT	17265.00		3.270	

BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE 35° 05' 48" N	LATITUDE 35° 05' 52" N	LATITUDE 35° 04' 09" N
LONGITUDE 91° 58' 51" W	LONGITUDE 92° 01' 52" W	LONGITUDE 91° 57' 13" W

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
5-25-16				6	ARK.			
						JOB NO. 050263	2	160

2 INDEX OF SHEETS



### INDEX OF SHEETS

SHEET NO.	TITLE	DRWG.NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS		
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
4 - 6	TYPICAL SECTIONS OF IMPROVEMENT		
7 - 10	SPECIAL DETAILS		
11 - 26	TEMPORARY EROSION CONTROL DETAILS		
27 - 31	MAINTENANCE OF TRAFFIC DETAILS		
32	PERMANENT PAVEMENT MARKING DETAILS		
33 - 38	QUANTITIES		
39 - 40	SUMMARY OF QUANTITIES AND REVISIONS		
41 - 49	SURVEY CONTROL DETAILS		
50	SOIL LOG		
51 - 63	PLAN AND PROFILE SHEETS		
64	CONCRETE DITCH PAVING	CDP-1	11-17-10
65	FLARED END SECTION	FES-1	10-18-96
66	FLARED END SECTION	FES-2	10-18-96
67	MAILBOX DETAILS	MB-1	11-18-04
68	PRECAST CONCRETE BOX CULVERTS	PBC-1	1-28-15
69	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	2-27-14
70	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	2-27-14
71	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	PCP-1	2-27-14
72	PLASTIC PIPE CULVERT (PVC F949)	PCP-2	2-27-14
73	PAVEMENT MARKING DETAILS	PM-1	5-12-16
74	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
75	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	7-26-12
76	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	RCB-2	11-20-03
77	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS	RCB-3	10-12-95
78	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10-18-96
79	DETAILS OF SPECIAL ITEMS	SI-1	9-12-13
80	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	9-02-15
81	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	9-02-15
82	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	9-02-15
83	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-4	2-27-14
84	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-5	10-15-09
85	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12-15-11
86	TEMPORARY EROSION CONTROL DEVICES	TEC-2	11-03-94
87	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11-03-94
88	WIRE FENCE WATER GAPS	WF-2	4-20-79
89	CHAIN LINK FENCE	WF-3	11-17-10
90	WIRE FENCE TYPE C AND D	WF-4	8-22-02
91	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X003-1	5-10-66
92	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X45	6-15-64
93	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X453-1	5-10-66
94	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-200X-0	2-15-63
95	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-200X-X1	10-15-62
96	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-245X-01	7-14-64
97 - 160	CROSS SECTIONS		

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

5/26/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5-19-16				6	ARK.			
6-9-16								
				JOB NO.	050263		3	160

2 GOVERNING SPECS. AND GENERAL NOTES



### GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB 050263
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
JOB 050263	BIDDING REQUIREMENTS AND CONDITIONS
JOB 050263	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 050263	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 050263	CARGO PREFERENCE ACT REQUIREMENTS
JOB 050263	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 050263	COORDINATION OF WORK
JOB 050263	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 050263	EXTENSION FOR PIPE CULVERTS
JOB 050263	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 050263	ISSUANCE OF PROPOSALS
JOB 050263	MANDATORY ELECTRONIC CONTRACT
JOB 050263	NESTING SITES OF MIGRATORY BIRDS
JOB 050263	PARTNERING REQUIREMENTS
JOB 050263	PLASTIC PIPE
JOB 050263	PROSECUTION AND PROGRESS - CALENDAR DAY CONTRACT WITH CPM
JOB 050263	RUMBLE STRIP REMOVAL
JOB 050263	SHORING FOR CULVERTS
JOB 050263	SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT
JOB 050263	SOIL STABILIZATION
JOB 050263	STORM WATER POLLUTION PREVENTION PLAN
JOB 050263	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 050263	UTILITY ADJUSTMENTS
JOB 050263	VALUE ENGINEERING
JOB 050263	WARM MIX ASPHALT
JOB 050263	WATER GATES

### GENERAL NOTES

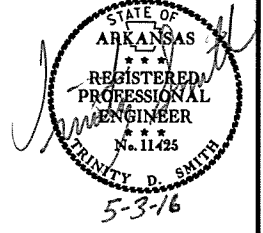
- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
- THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

5/26/2016

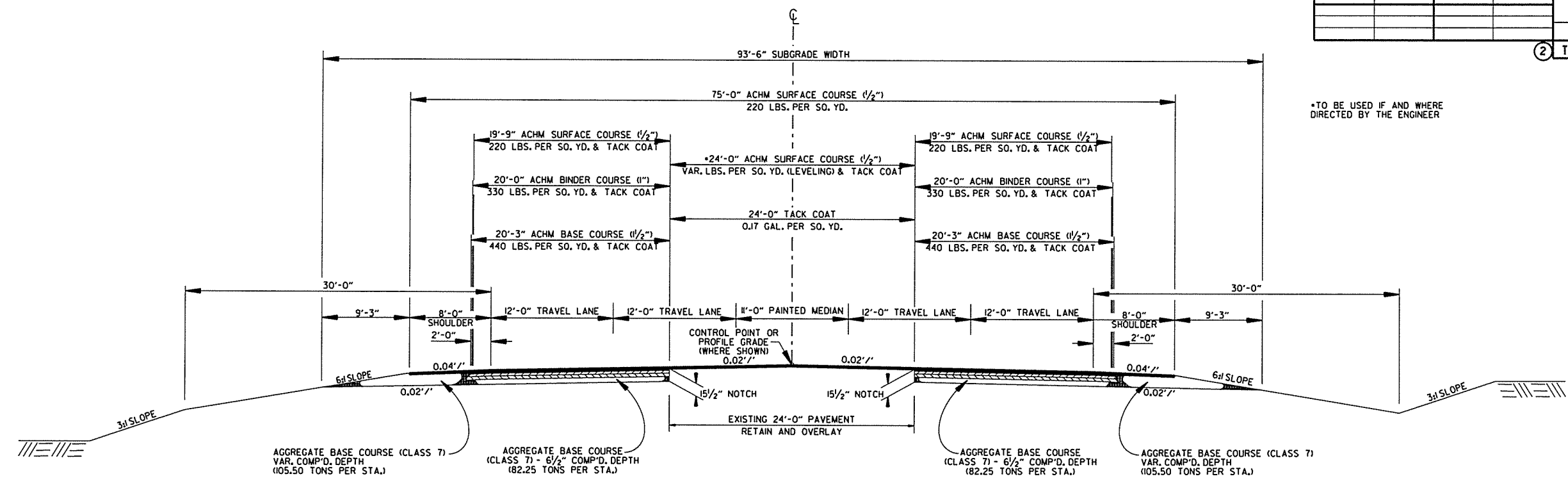
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		4	160

2 TYPICAL SECTIONS OF IMPROVEMENT



\*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



HWY. 64 - 5 LANE NOTCH AND WIDEN  
 STA. 170+50.00 TO STA. 310+00.00  
 STA. 322+00.00 TO STA. 332+50.00

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

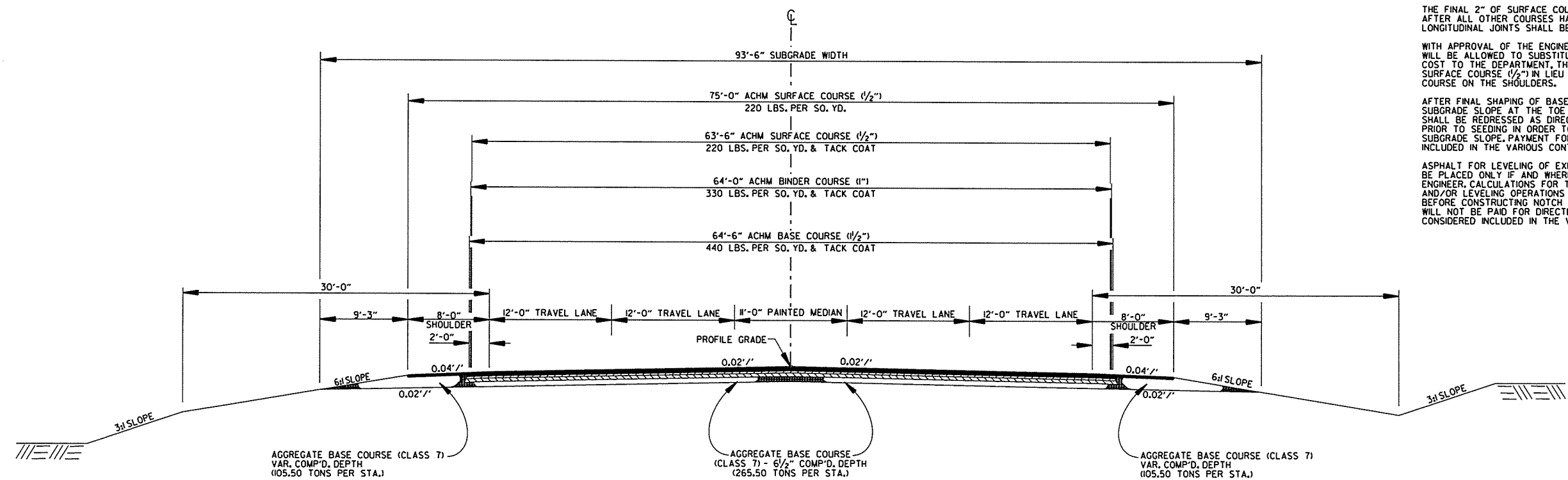
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.



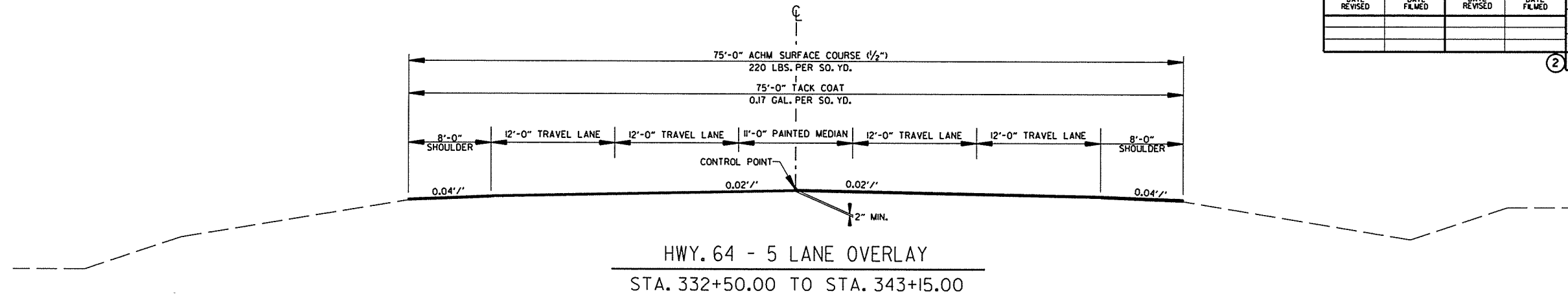
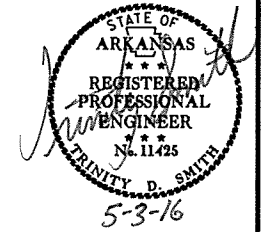
HWY. 64 - 5 LANE FULL DEPTH  
 STA. 310+00.00 TO STA. 322+00.00

TYPICAL SECTIONS OF IMPROVEMENT

4/28/2016  
 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		5	160

2 TYPICAL SECTIONS OF IMPROVEMENT



HWY. 64 - 5 LANE OVERLAY  
STA. 332+50.00 TO STA. 343+15.00

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

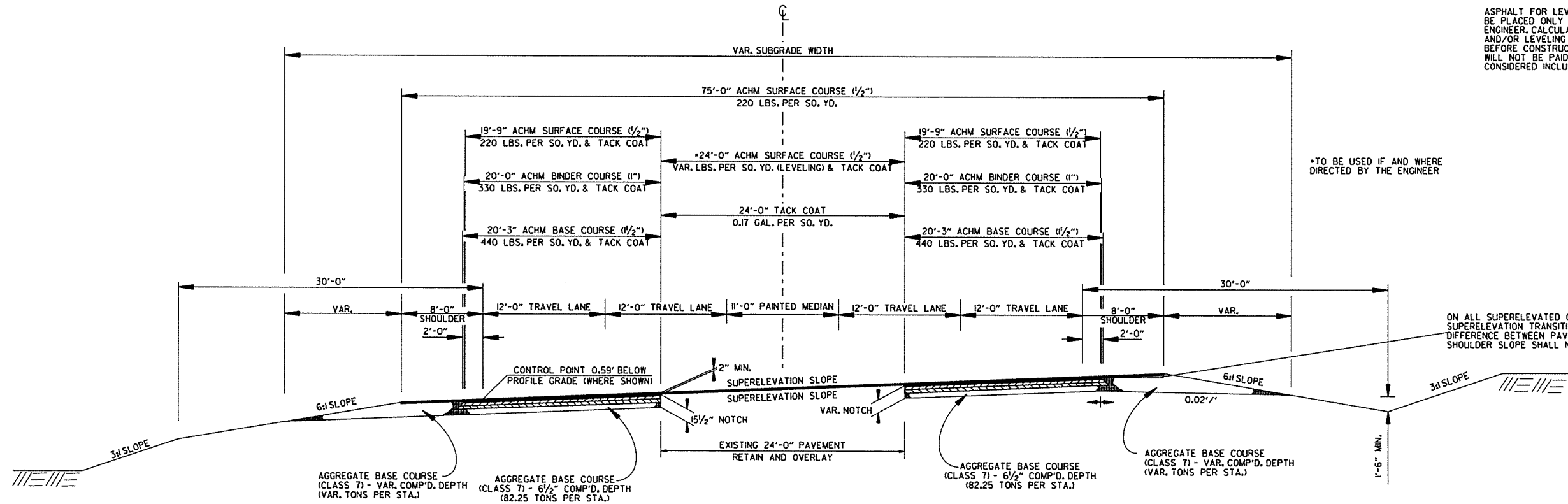
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.



HWY. 64 - 5 LANE SUPERELEVATION SECTION  
NOTCH AND WIDEN

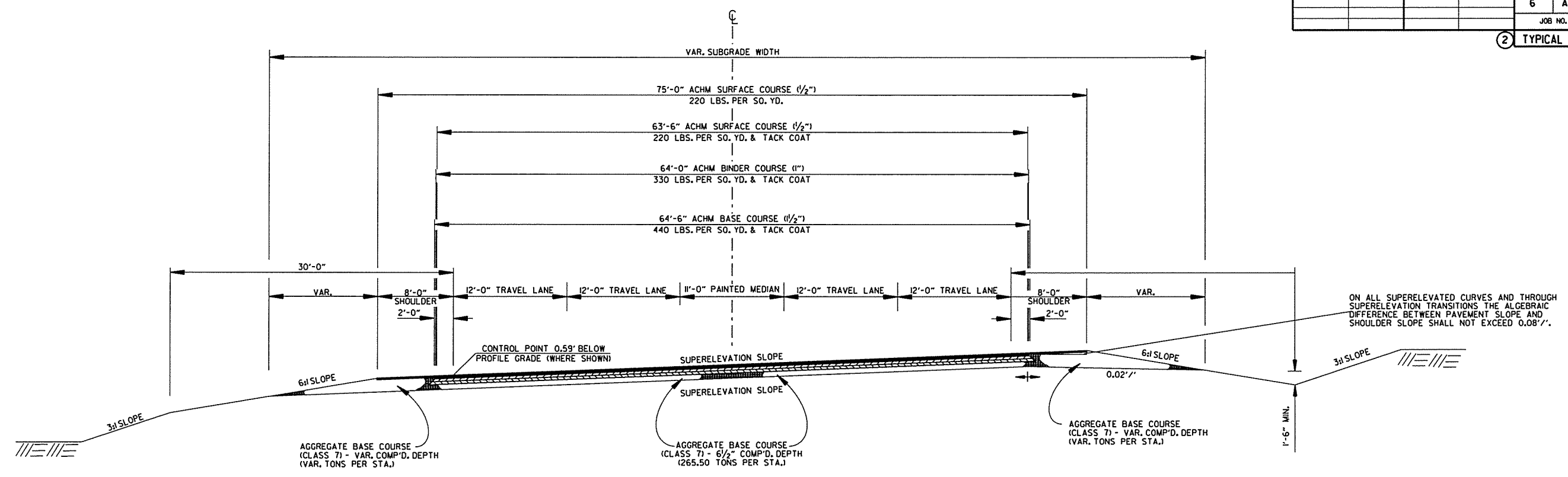
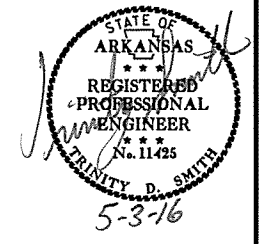
TYPICAL SECTIONS OF IMPROVEMENT

5/2/2016

R050263.DCN

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.	050263		6	160

2 TYPICAL SECTIONS OF IMPROVEMENT



HWY. 64 - 5 LANE SUPERELEVATION SECTION  
NOTCH AND WIDEN

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

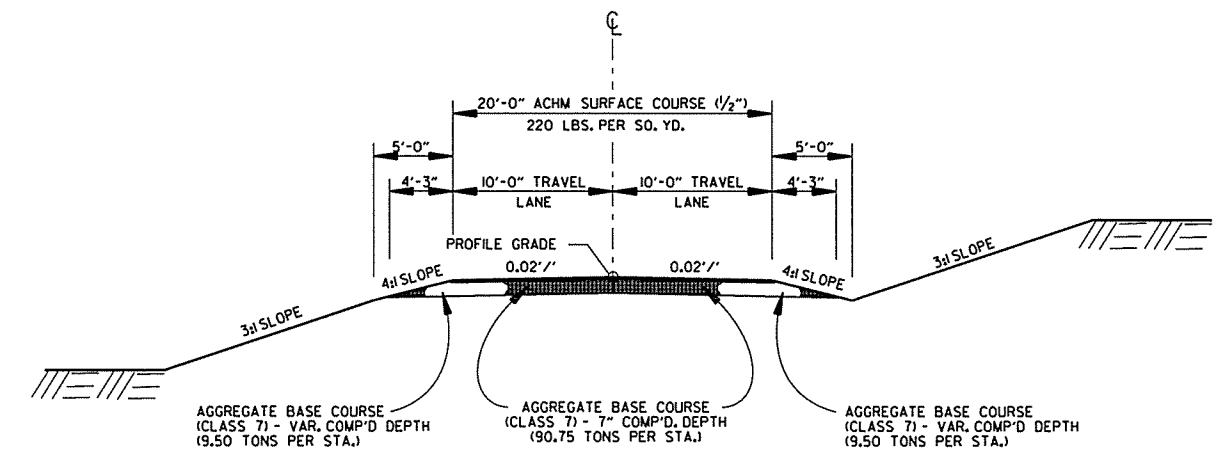
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

AFTER FINAL SHAPING OF BASE COURSE THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

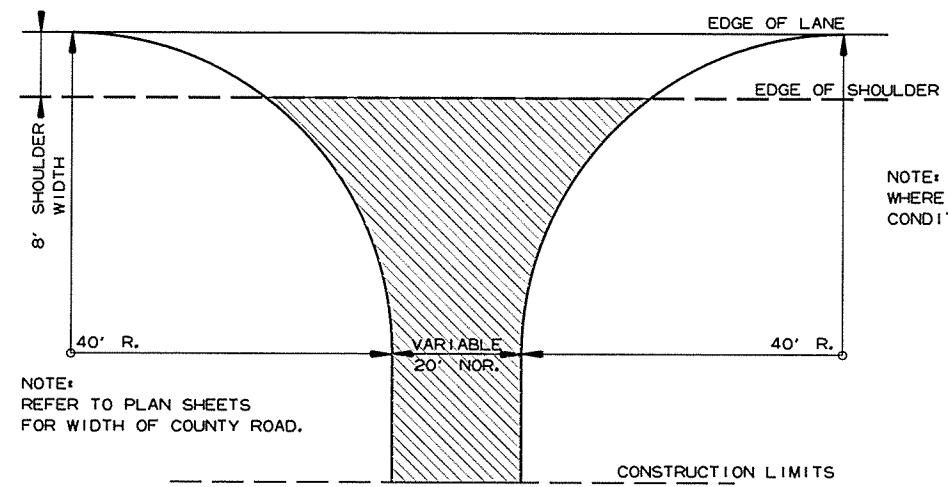
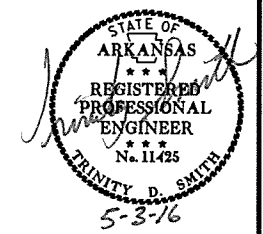


CONNECTOR ROAD NORMAL SECTION

STA. 10+37 TO STA. 13+45 - MARVIN FISHER RD.  
STA. 10+38 TO STA. 13+10 - ARTHUR KIRK RD.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		7	160

2 SPECIAL DETAILS

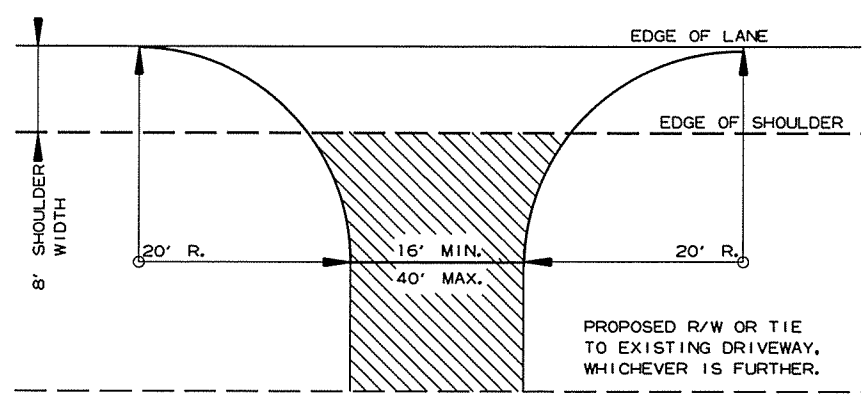


NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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

NOTE: REFER TO PLAN SHEETS FOR WIDTH OF COUNTY ROAD.

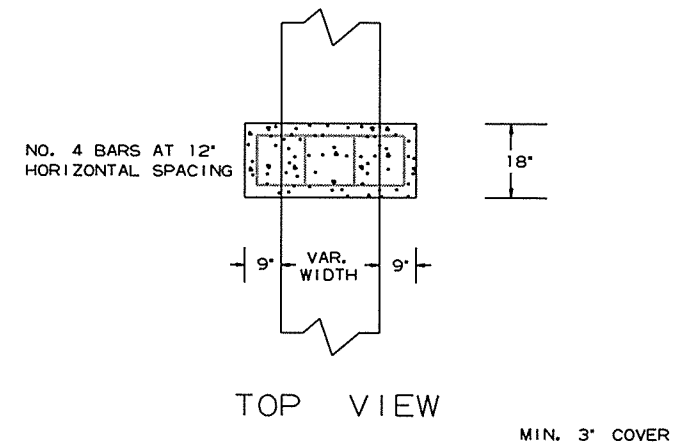
DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



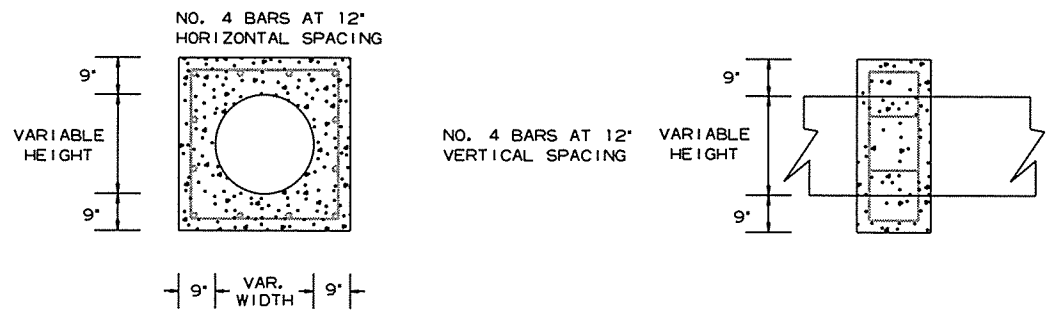
NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING; OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION



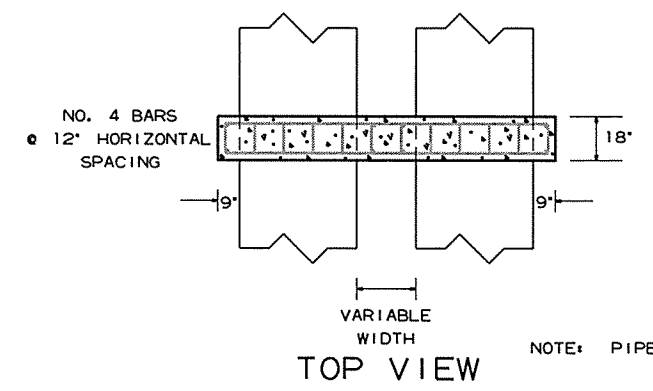
TOP VIEW



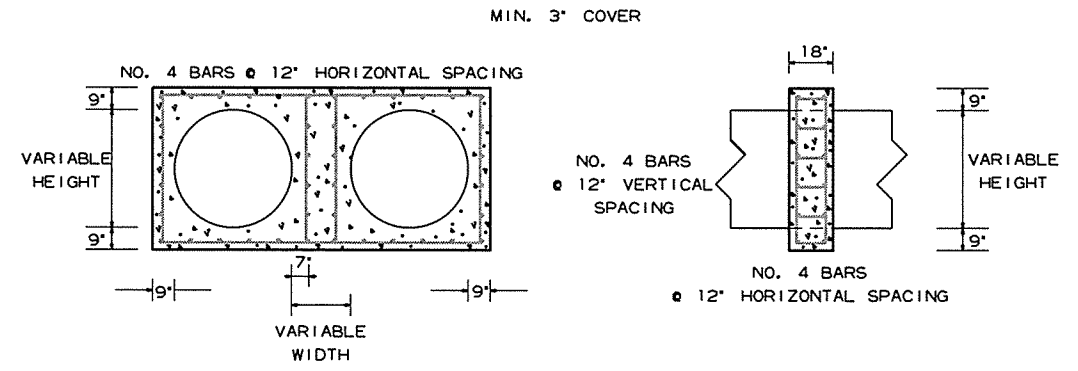
FRONT VIEW

SIDE VIEW

PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL



TOP VIEW



FRONT VIEW

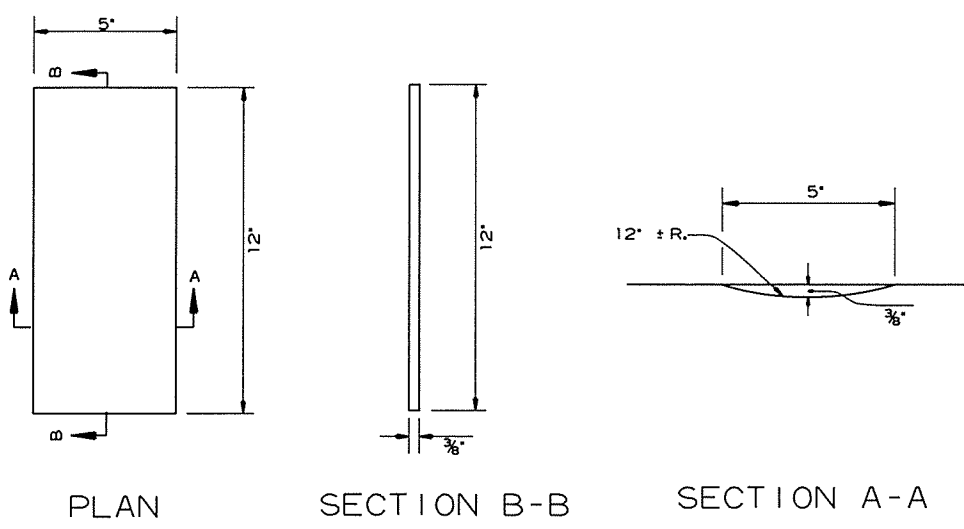
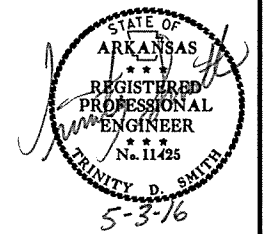
SIDE VIEW

PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL

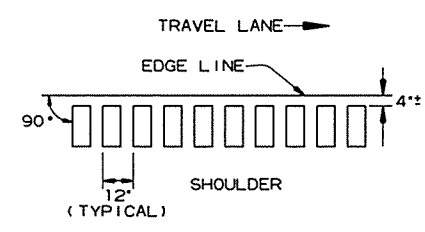
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		8	160
				JOB NO. 050263				

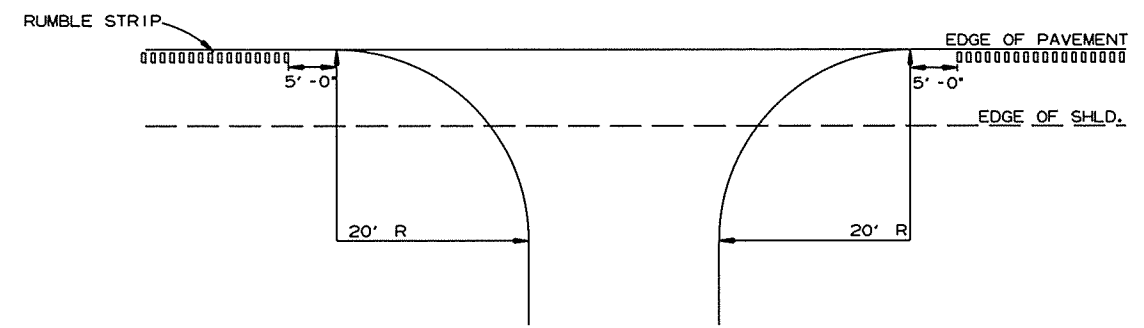
2 SPECIAL DETAILS



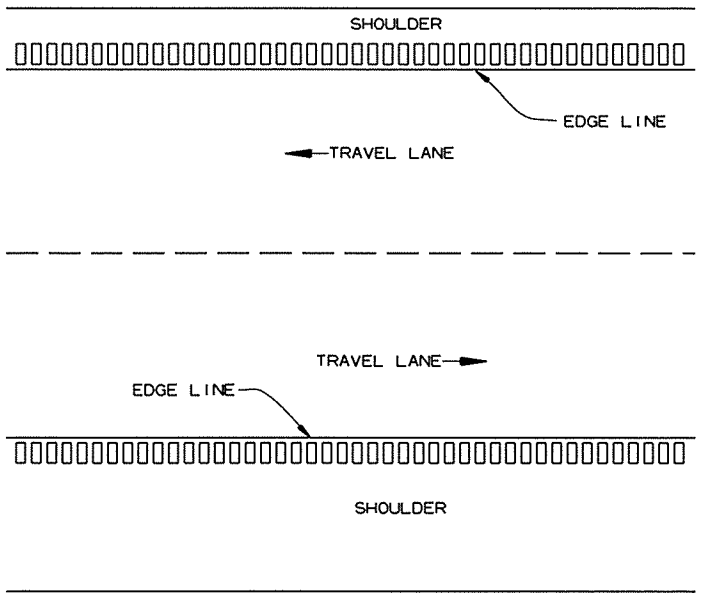
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS  
LEFT OR RIGHT SHOULDER



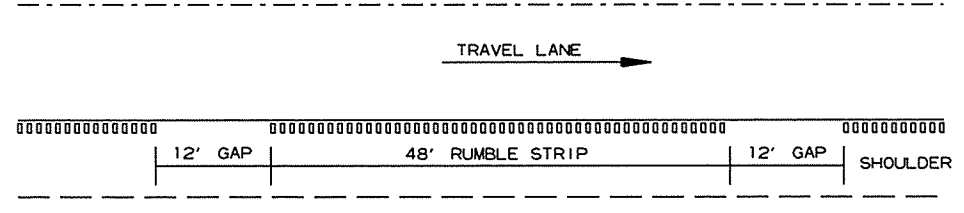
DETAIL FOR RUMBLE STRIP GAP  
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4' OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12' LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.



NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

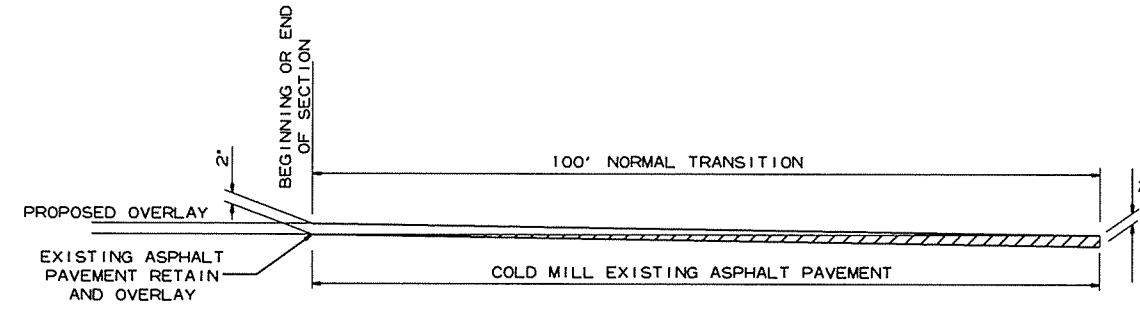
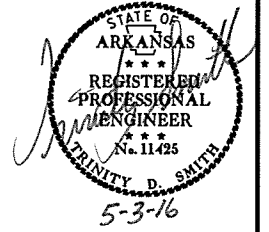
DETAIL FOR GAP PATTERN RUMBLE STRIP

4/28/2016 R050263.DGN

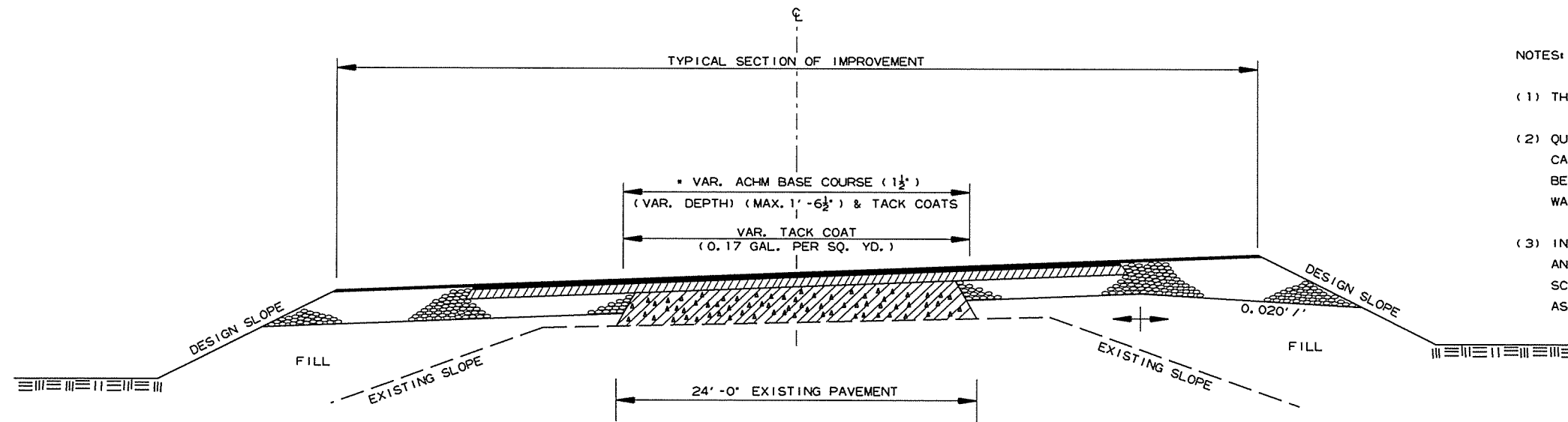


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		9	160

② SPECIAL DETAILS



DETAIL FOR TRANSITIONS



• 6 1/2" AGGREGATE BASE COURSE (CLASS 7)  
TO BE REPLACED WITH ACHM BASE COURSE (1-1/2")

METHOD OF RAISING GRADE

NOTES:

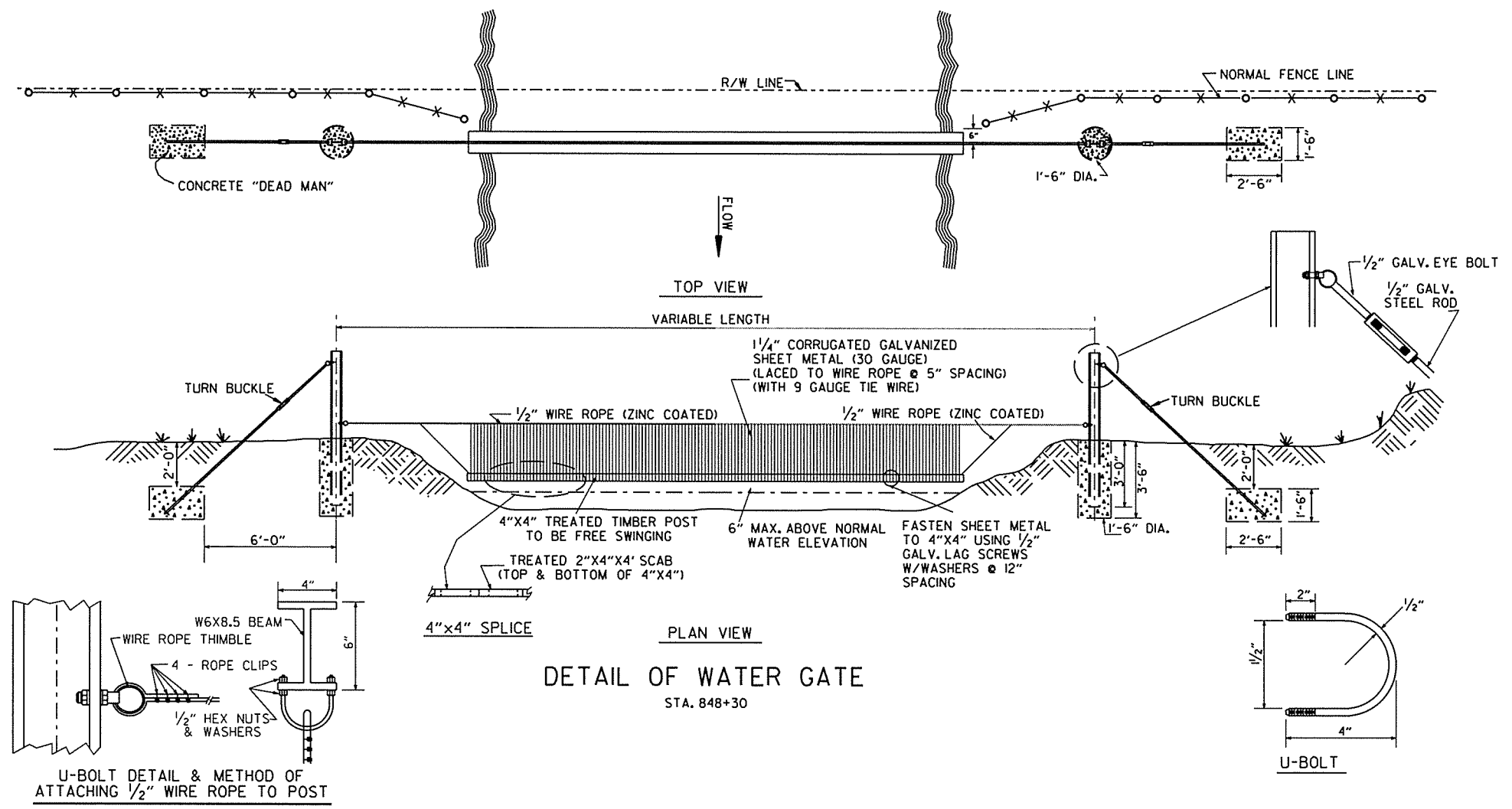
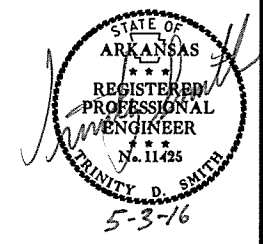
- (1) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.
- (2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
- (3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS.

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		10	160

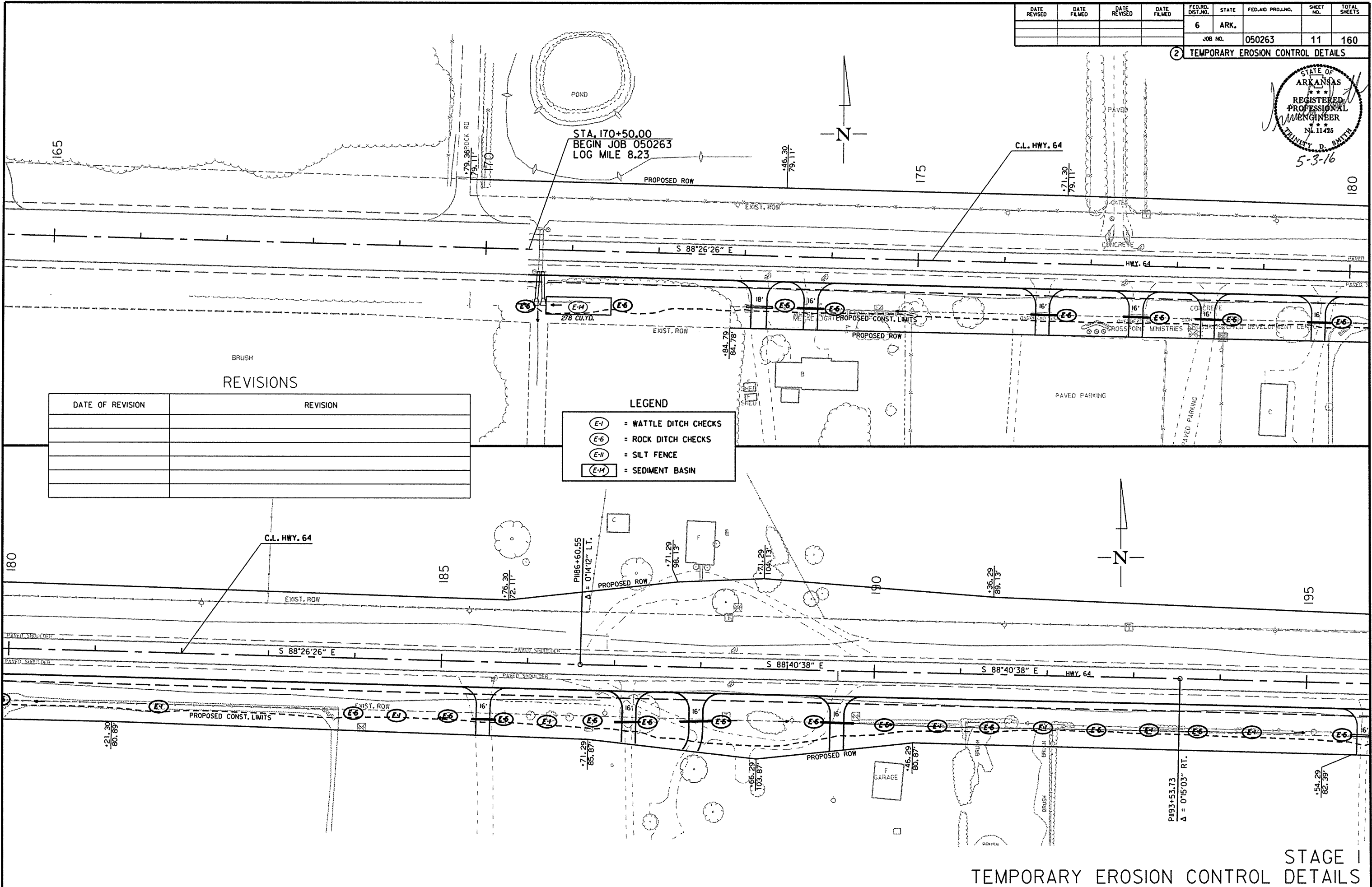
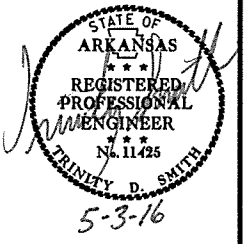
2 SPECIAL DETAILS



4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		11	160
				JOB NO.		050263		

② TEMPORARY EROSION CONTROL DETAILS



**REVISIONS**

DATE OF REVISION	REVISION

**LEGEND**

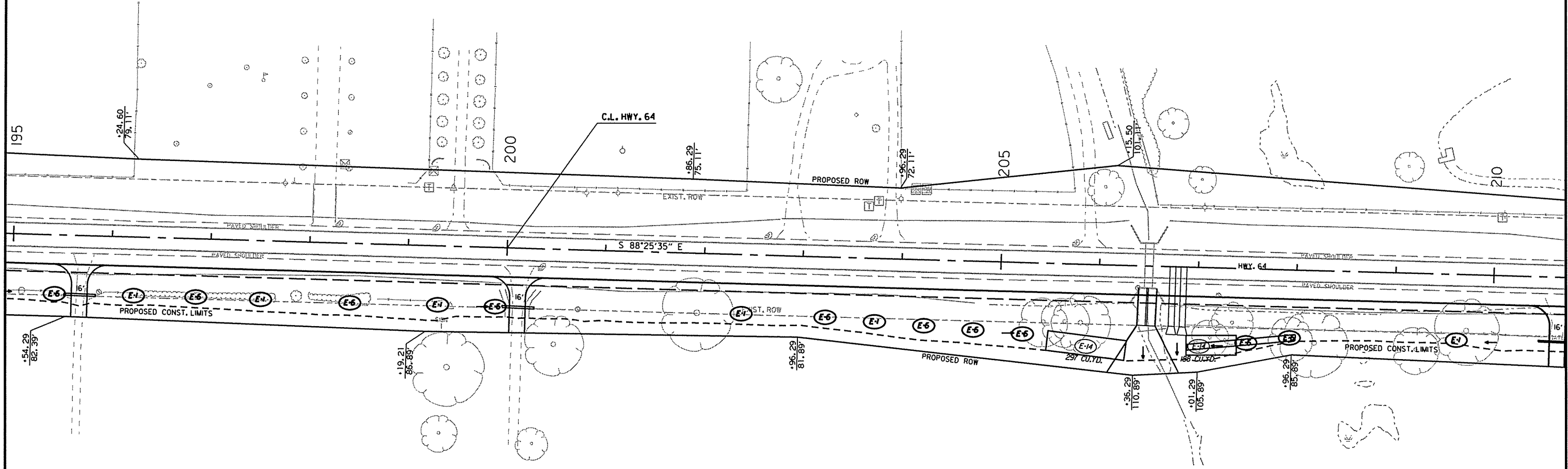
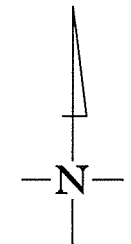
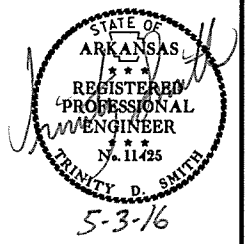
	= WATTLE DITCH CHECKS
	= ROCK DITCH CHECKS
	= SILT FENCE
	= SEDIMENT BASIN

R050263.DGN 4/28/2016

STAGE I  
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.	050263		12	160

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

LEGEND

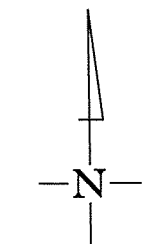
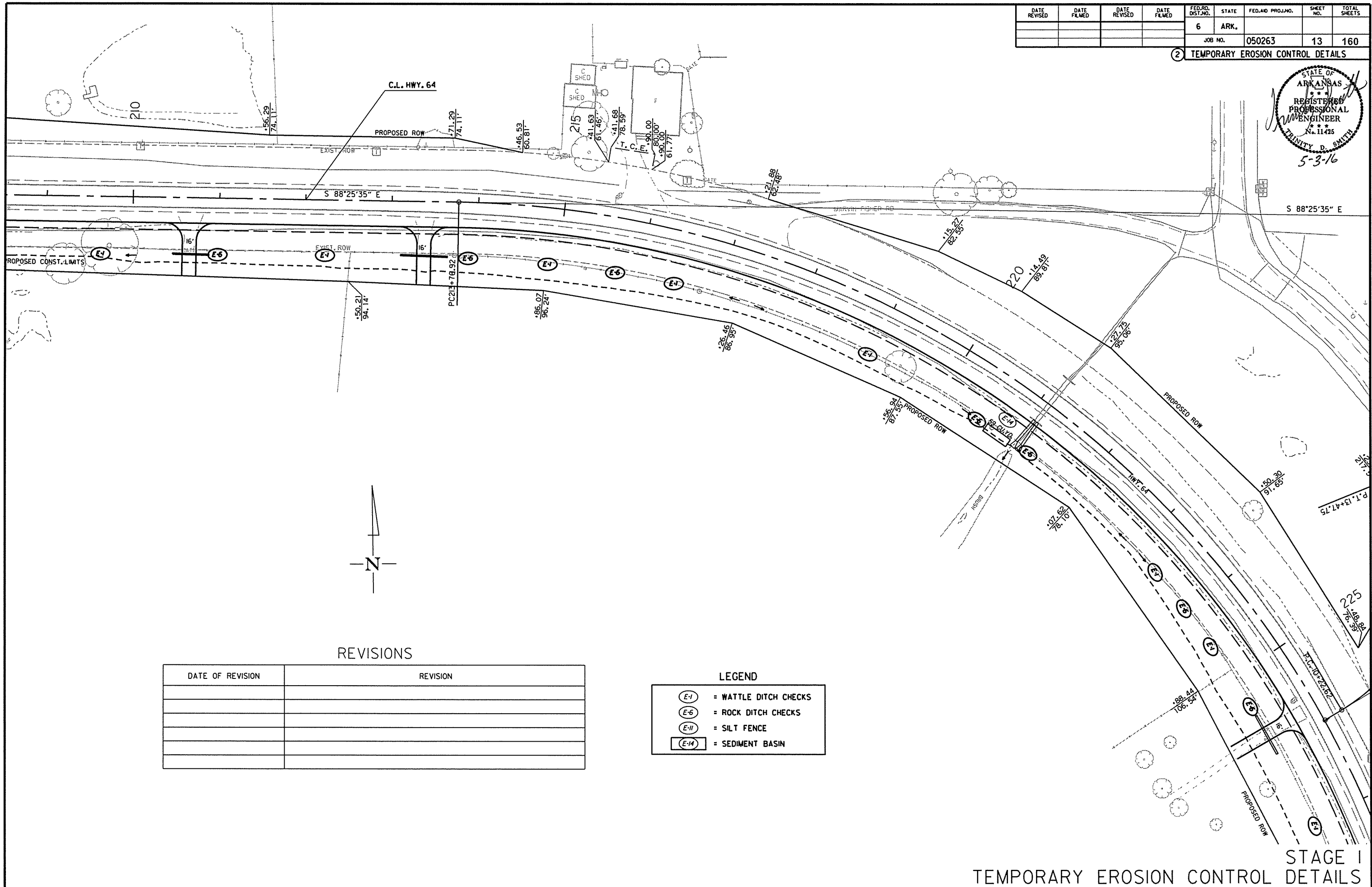
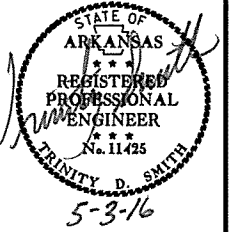
- E-1 = WATTLE DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		13	160
				JOB NO.		050263		

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

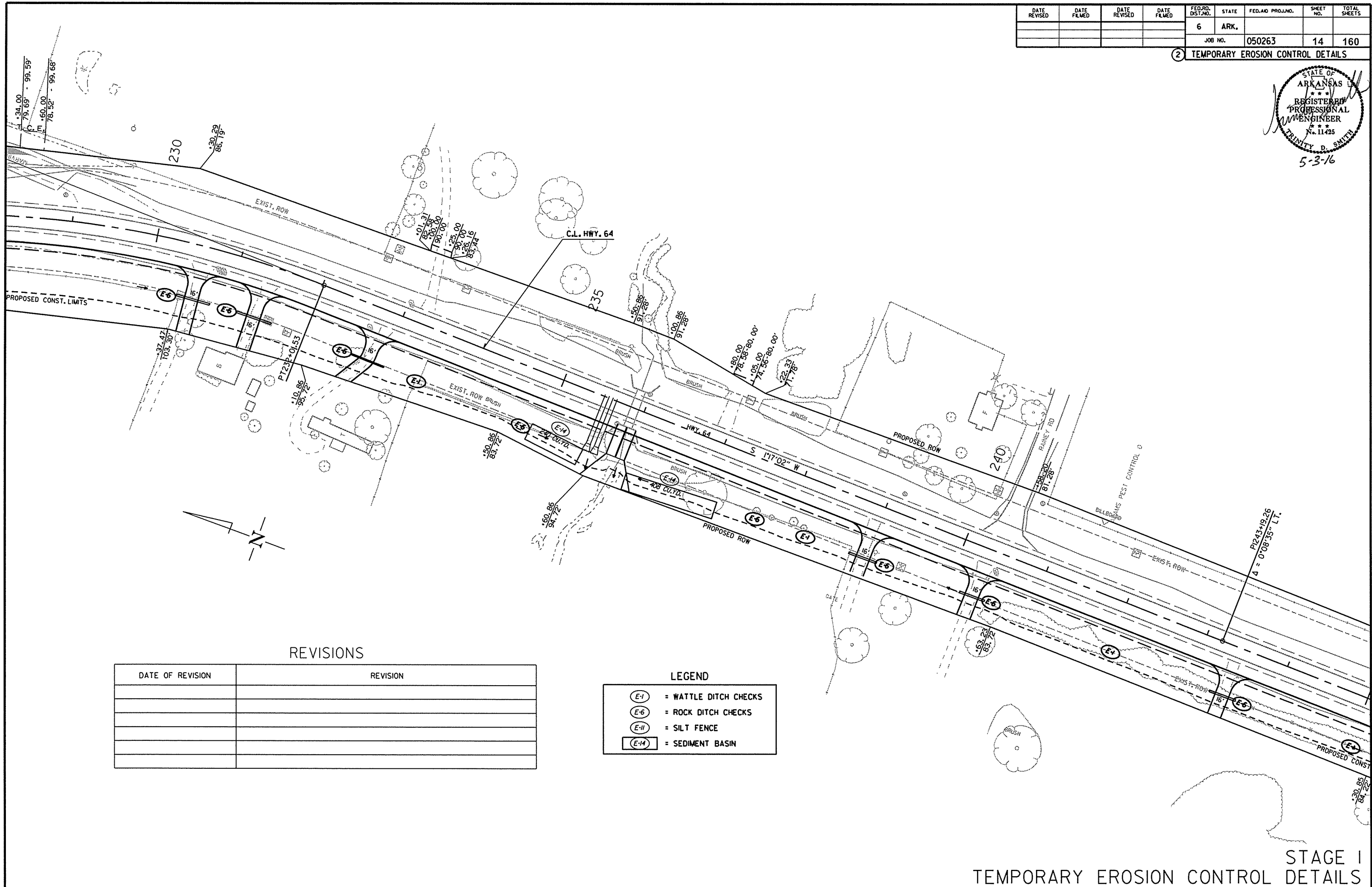
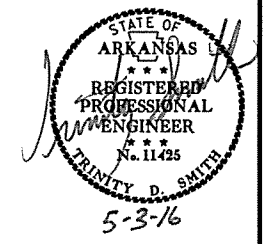
LEGEND

- E-1 = WATTLE DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN

STAGE I  
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. 050263			14	160

② TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-1 = WATTLE DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN

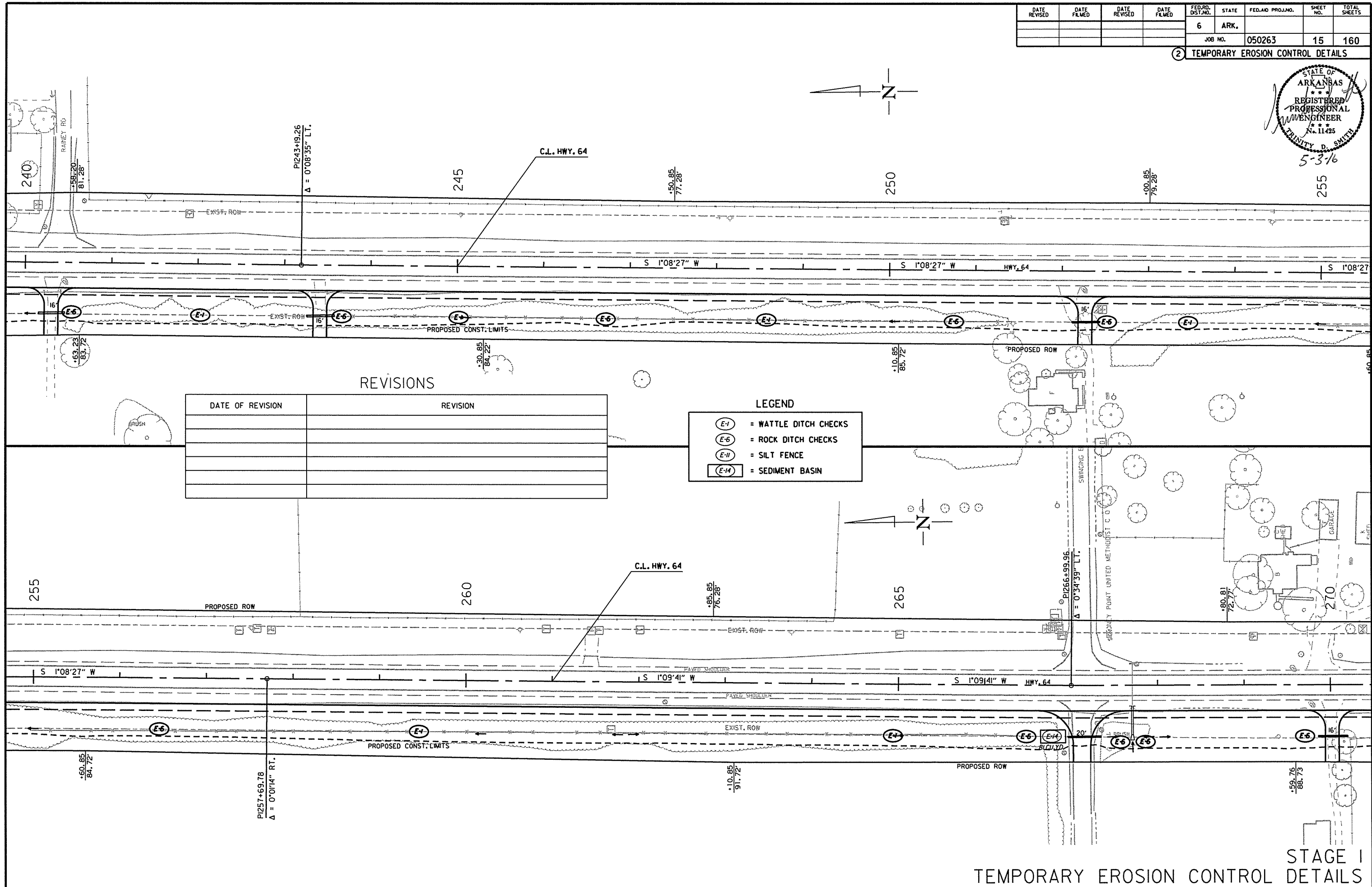
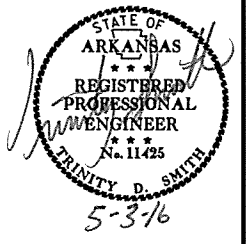
4/28/2016

R050263.DGN

STAGE I  
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.		15	160
				JOB NO.		050263		

② TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-1) = WATTLE DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN

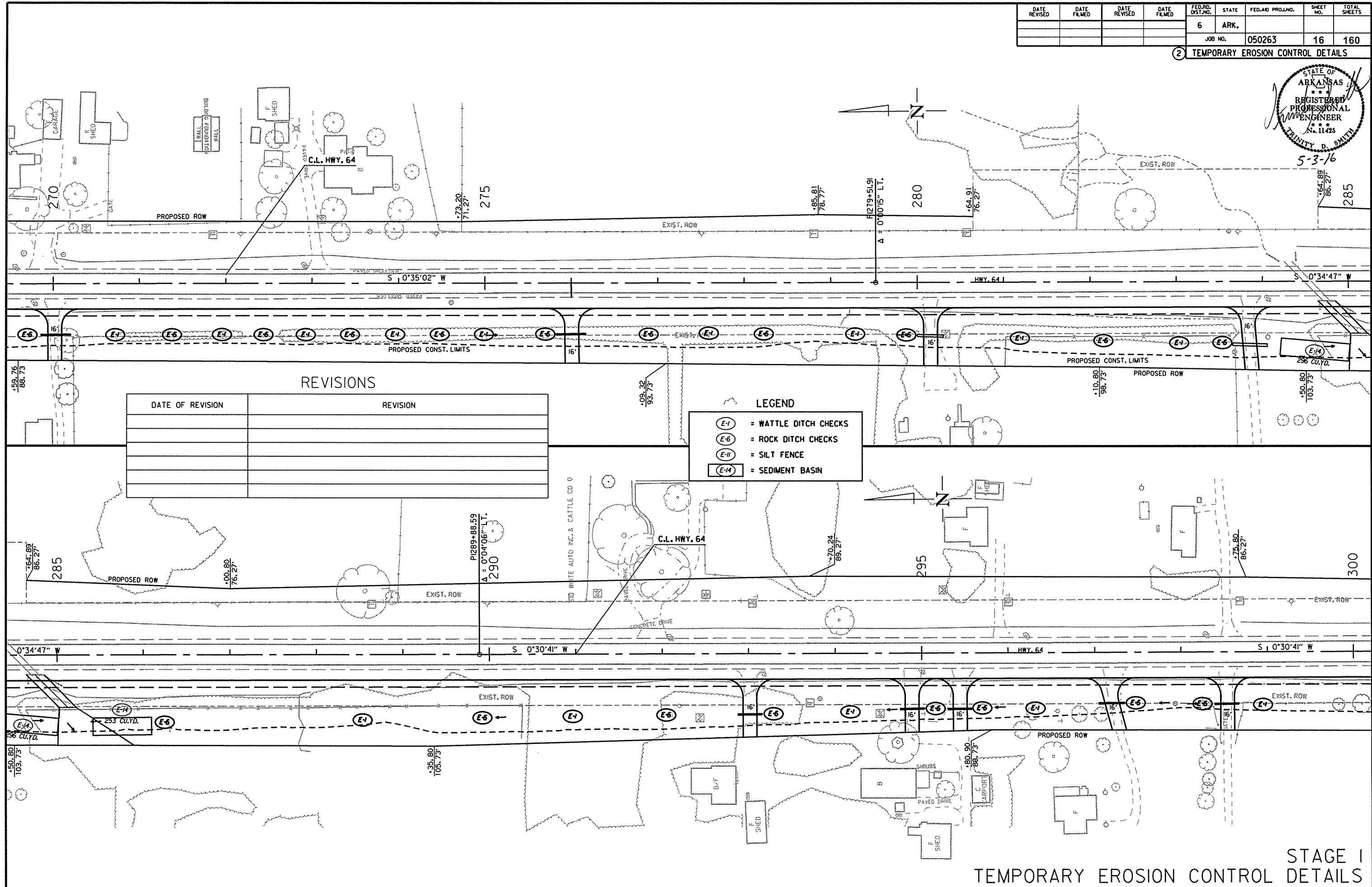
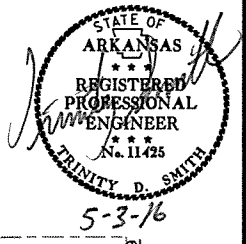
4/28/2016

R050263.DGN

STAGE I  
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		16	160
				JOB NO. 050263		16		160

② TEMPORARY EROSION CONTROL DETAILS



**REVISIONS**

DATE OF REVISION	REVISION

**LEGEND**

	= WATTLE DITCH CHECKS
	= ROCK DITCH CHECKS
	= SILT FENCE
	= SEDIMENT BASIN

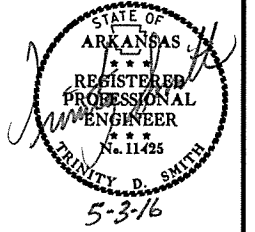
4/28/2016  
R050263.DGN

STAGE I  
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.		17	160
				JOB NO.		050263		

2 TEMPORARY EROSION CONTROL DETAILS

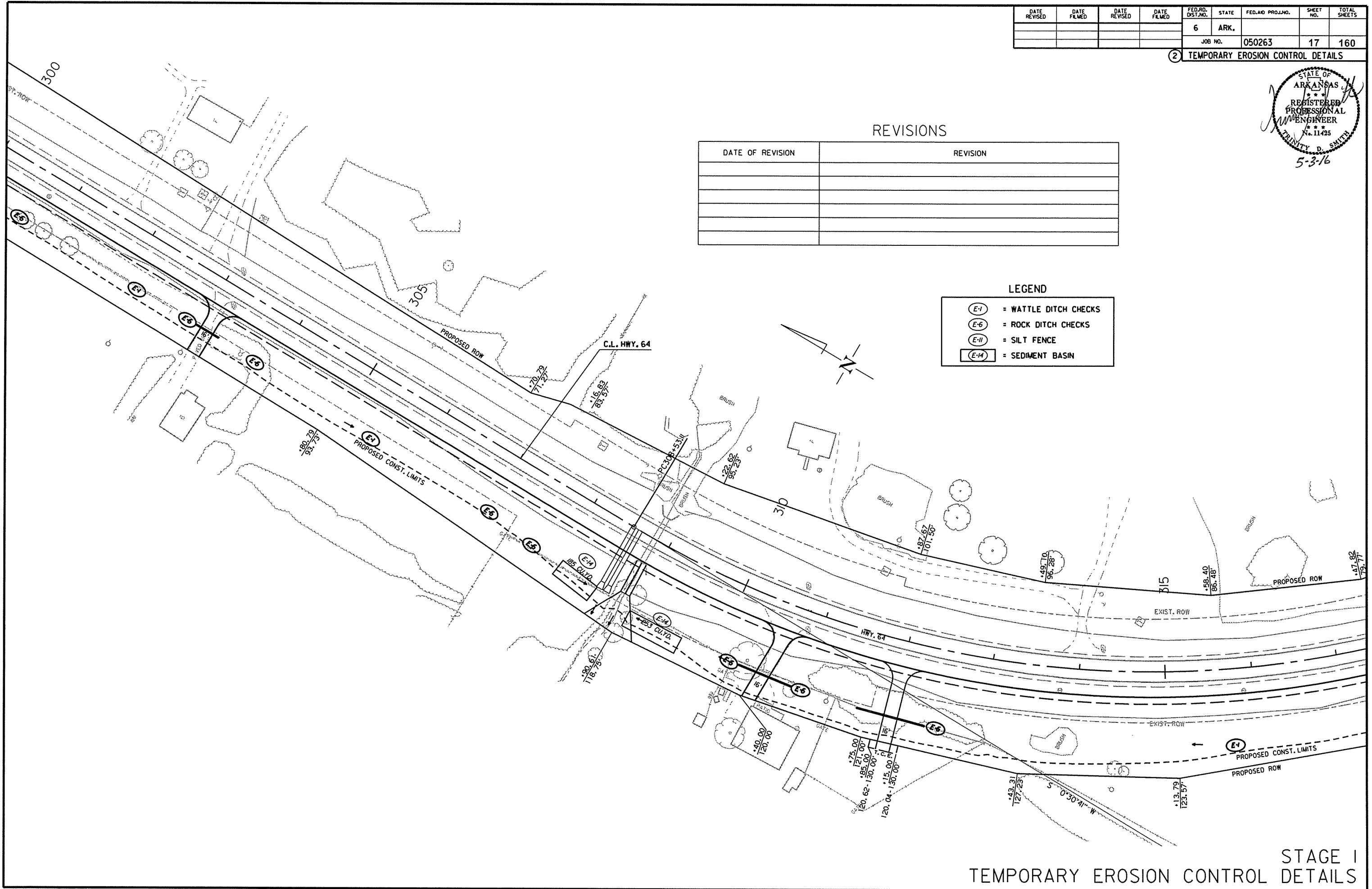


REVISIONS

DATE OF REVISION	REVISION

LEGEND

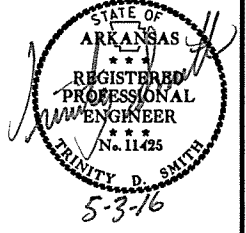
	= WATTLE DITCH CHECKS
	= ROCK DITCH CHECKS
	= SILT FENCE
	= SEDIMENT BASIN



STAGE I  
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.	050263		18	160

2 TEMPORARY EROSION CONTROL DETAILS

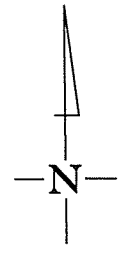
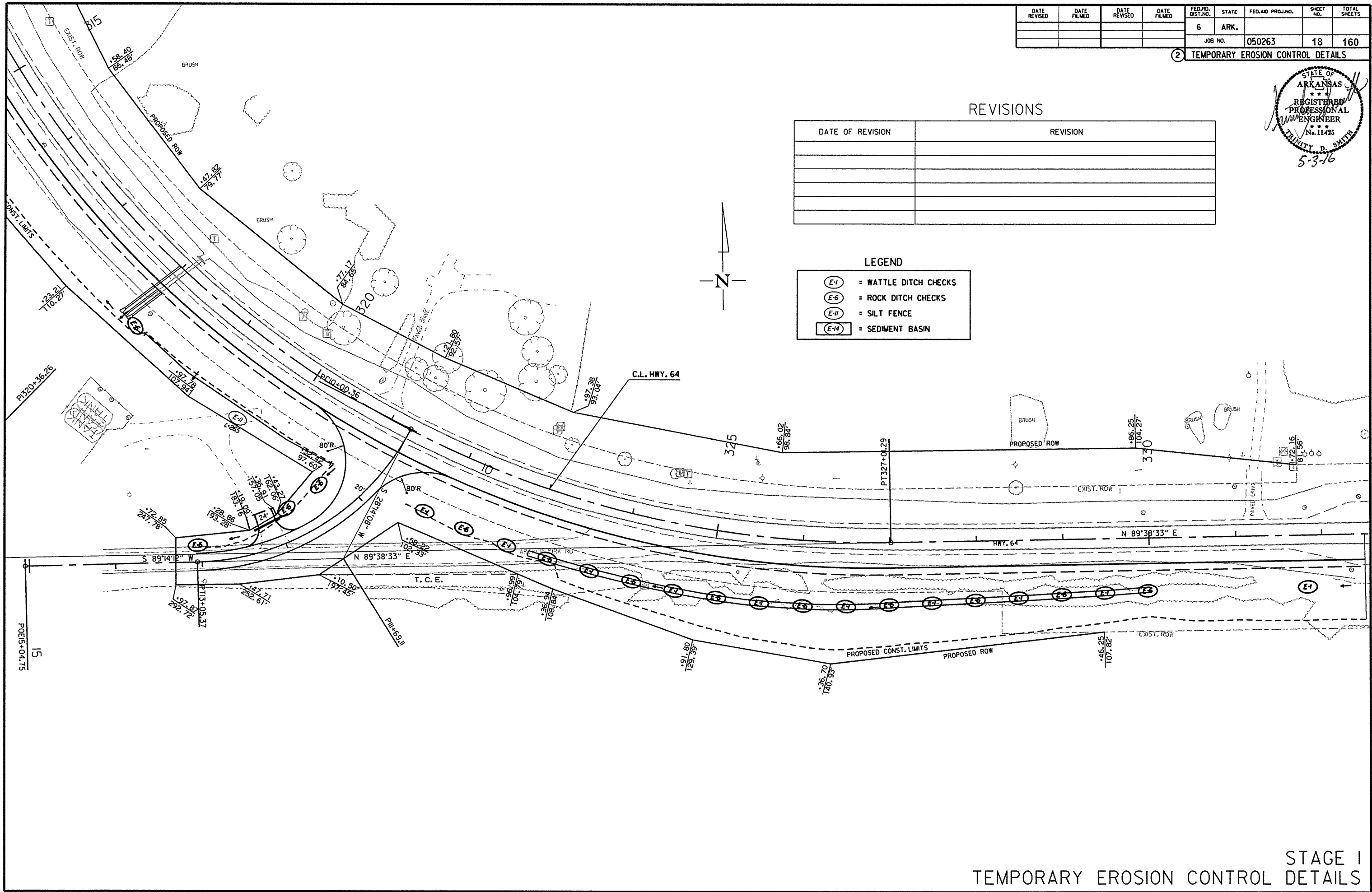


REVISIONS

DATE OF REVISION	REVISION

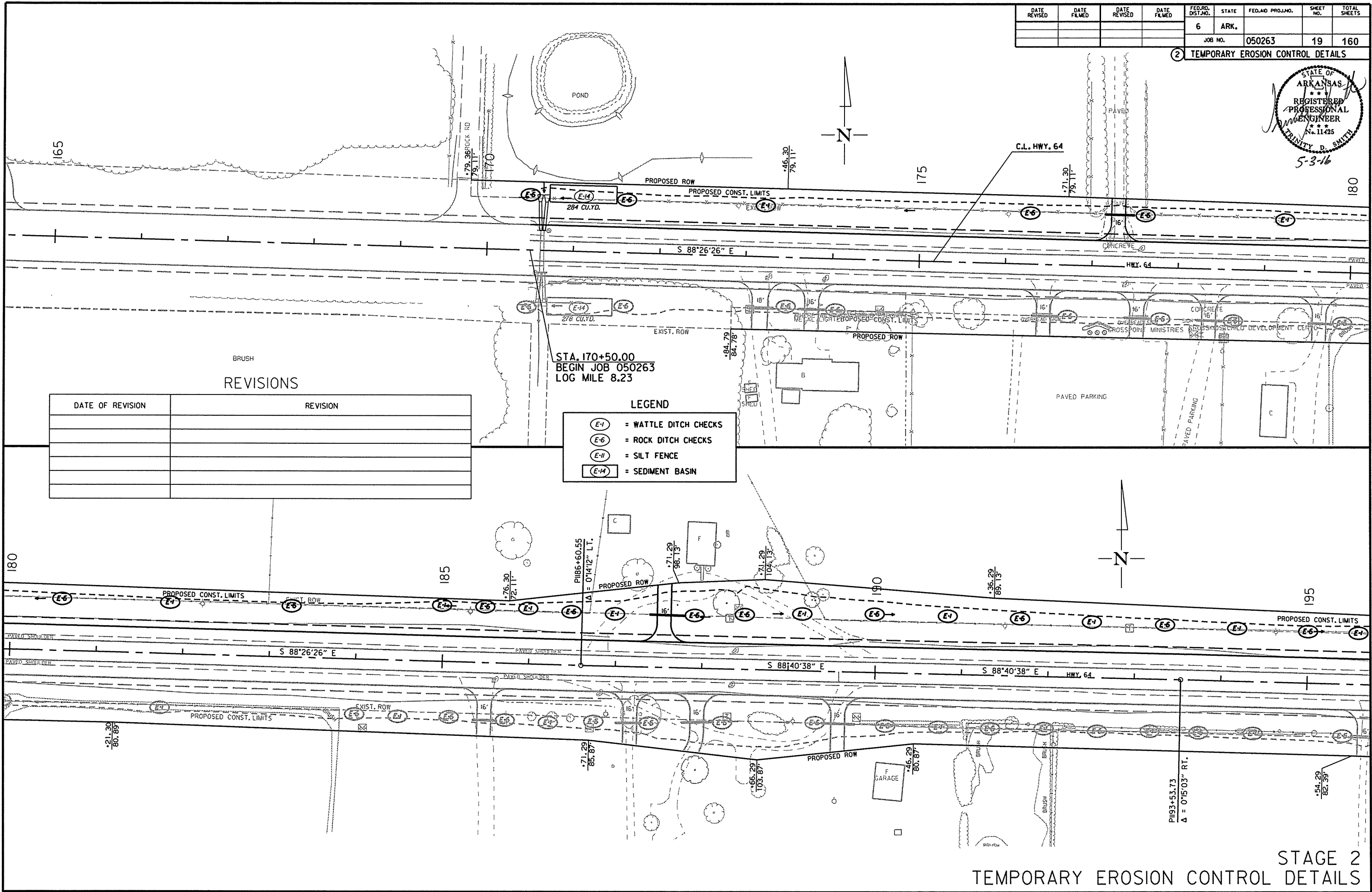
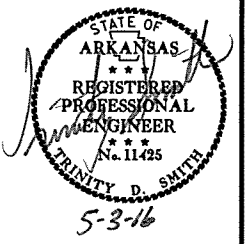
LEGEND

- (E-1) = WATTLE DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		19	160
				JOB NO. 050263				

2) TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

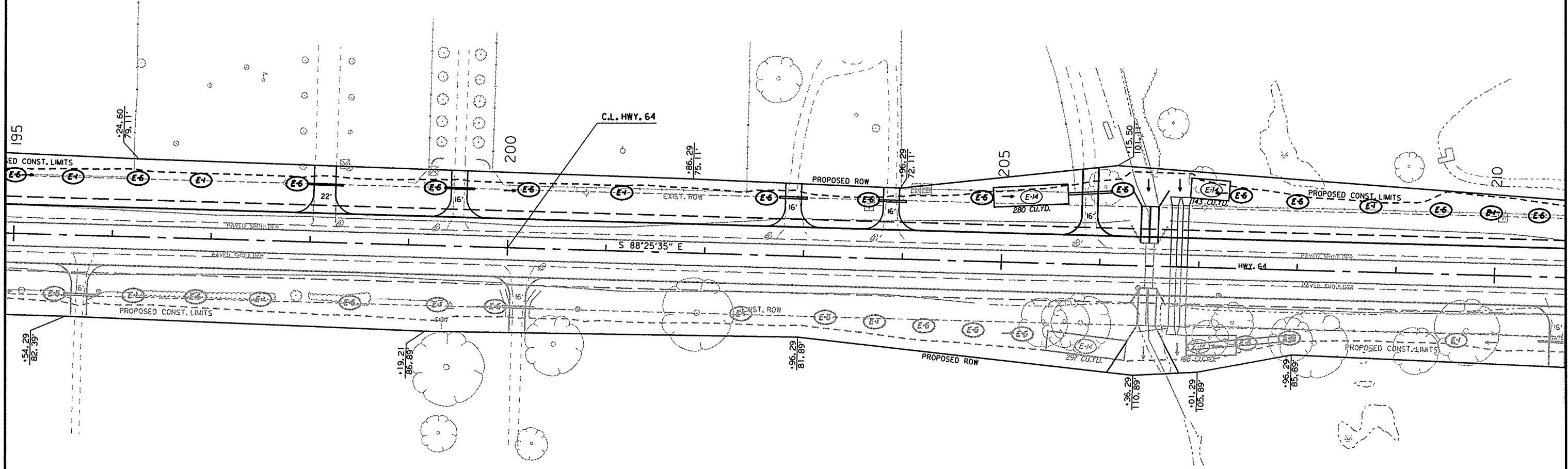
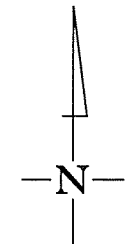
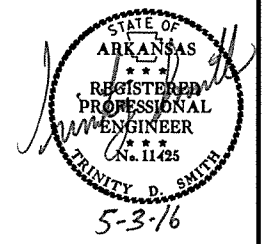
LEGEND

- E-1 = WATTLE DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN

R050263.DGN 4/28/2016

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.	050263		20	160

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-1 = WATTLE DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN

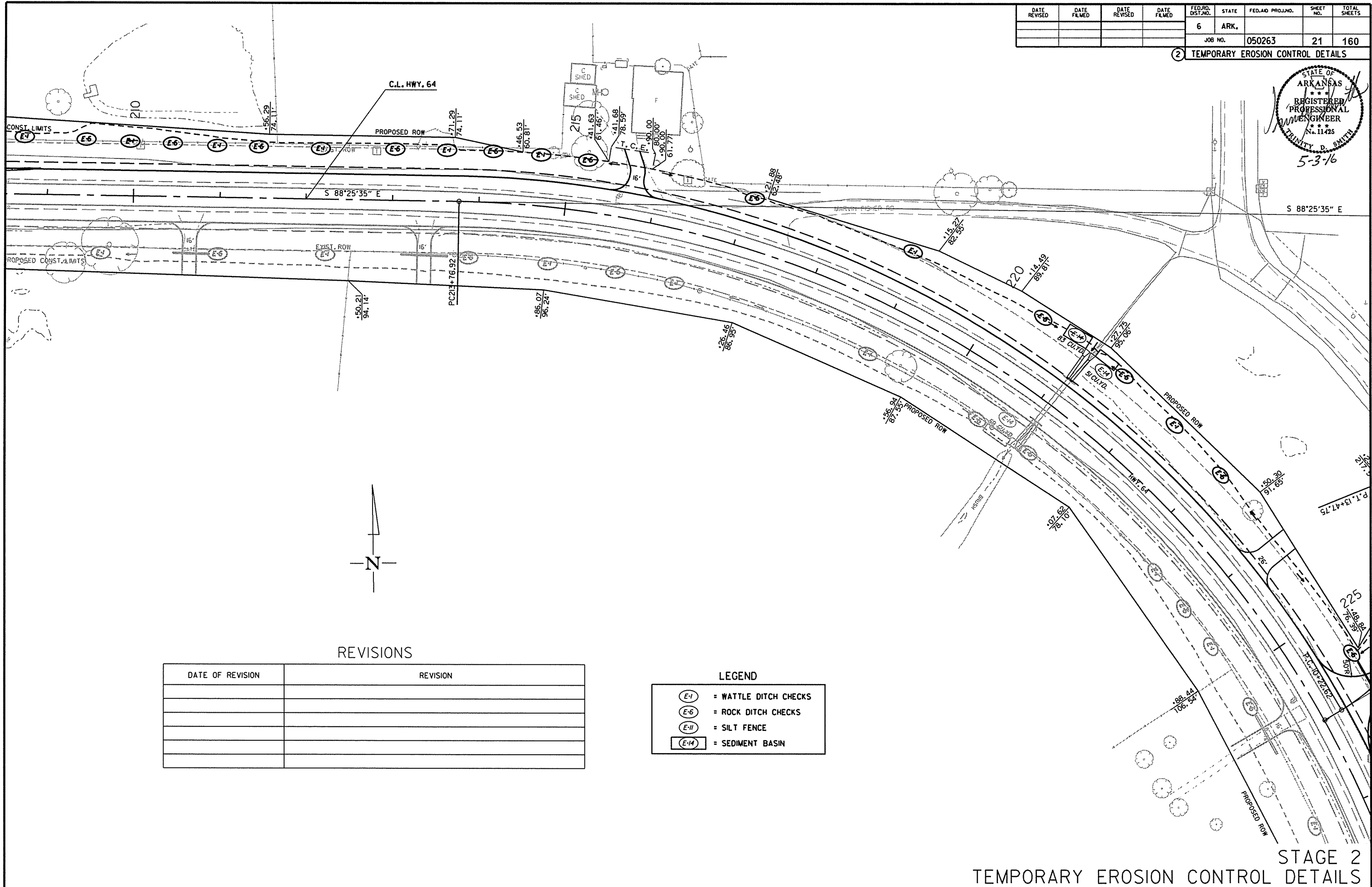
4/28/2016

R050263.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		21	160
				JOB NO.		050263		

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS  
 REGISTERED PROFESSIONAL ENGINEER  
 TRINITY D. SMITH  
 No. 11425  
 5-3-16



REVISIONS

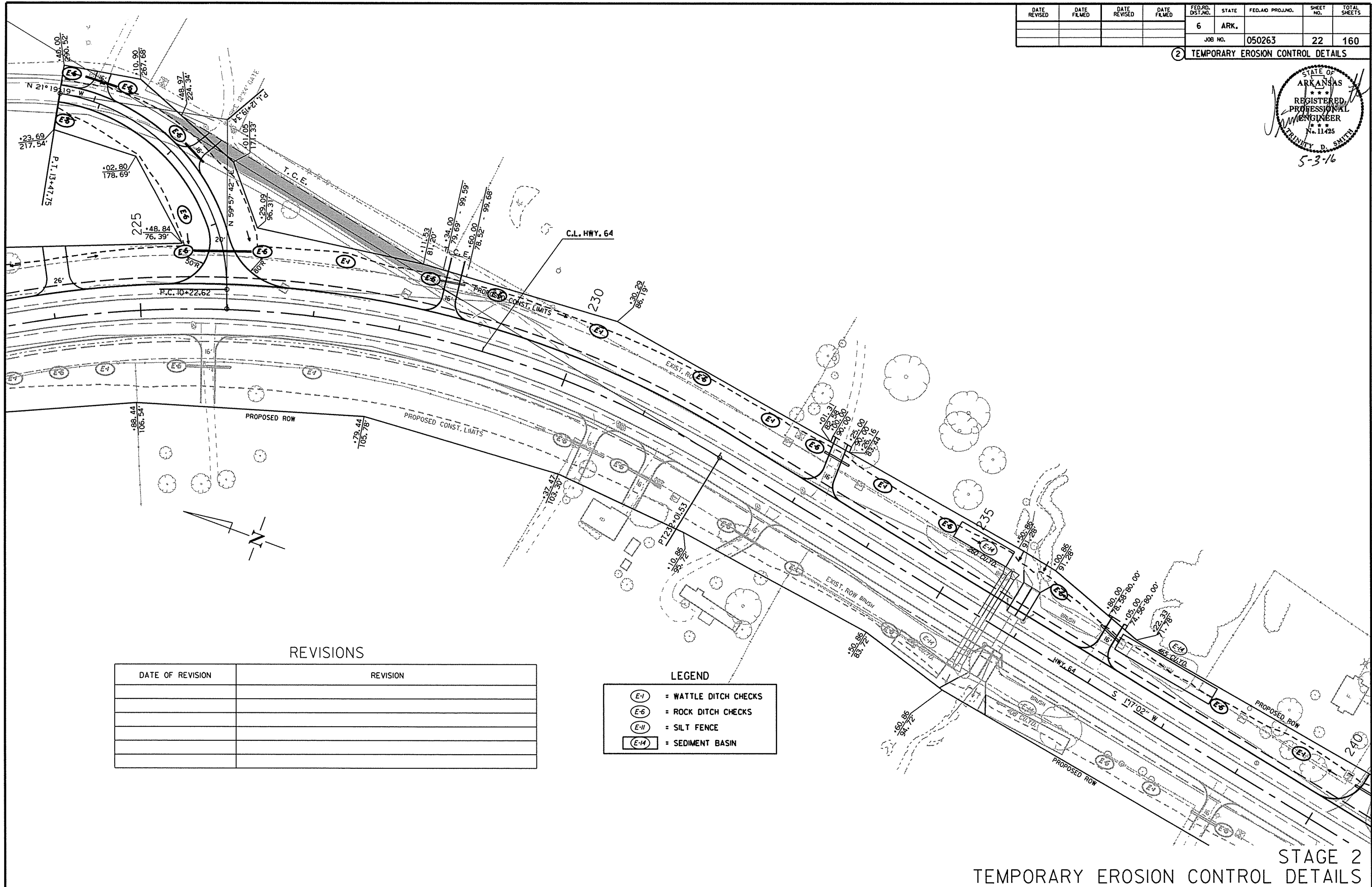
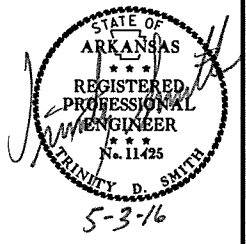
DATE OF REVISION	REVISION

LEGEND

- (E-1) = WATTLE DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		22	160
				JOB NO.		050263		

② TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

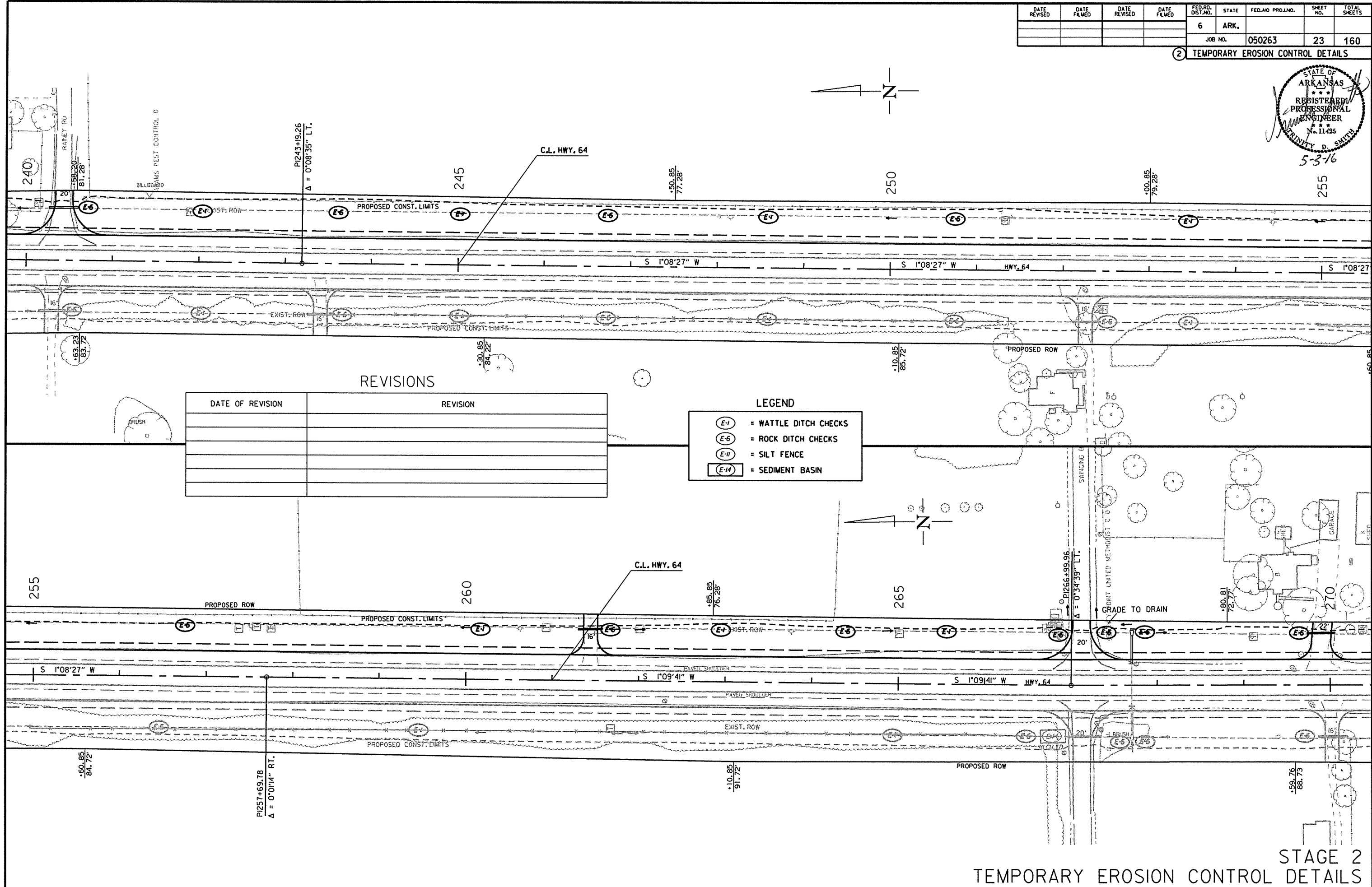
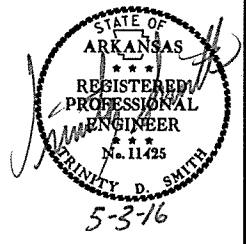
LEGEND

- E-1 = WATTLE DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN

R050263.DGN 4/28/2016

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		23	160
				JOB NO.		050263		

② TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

LEGEND

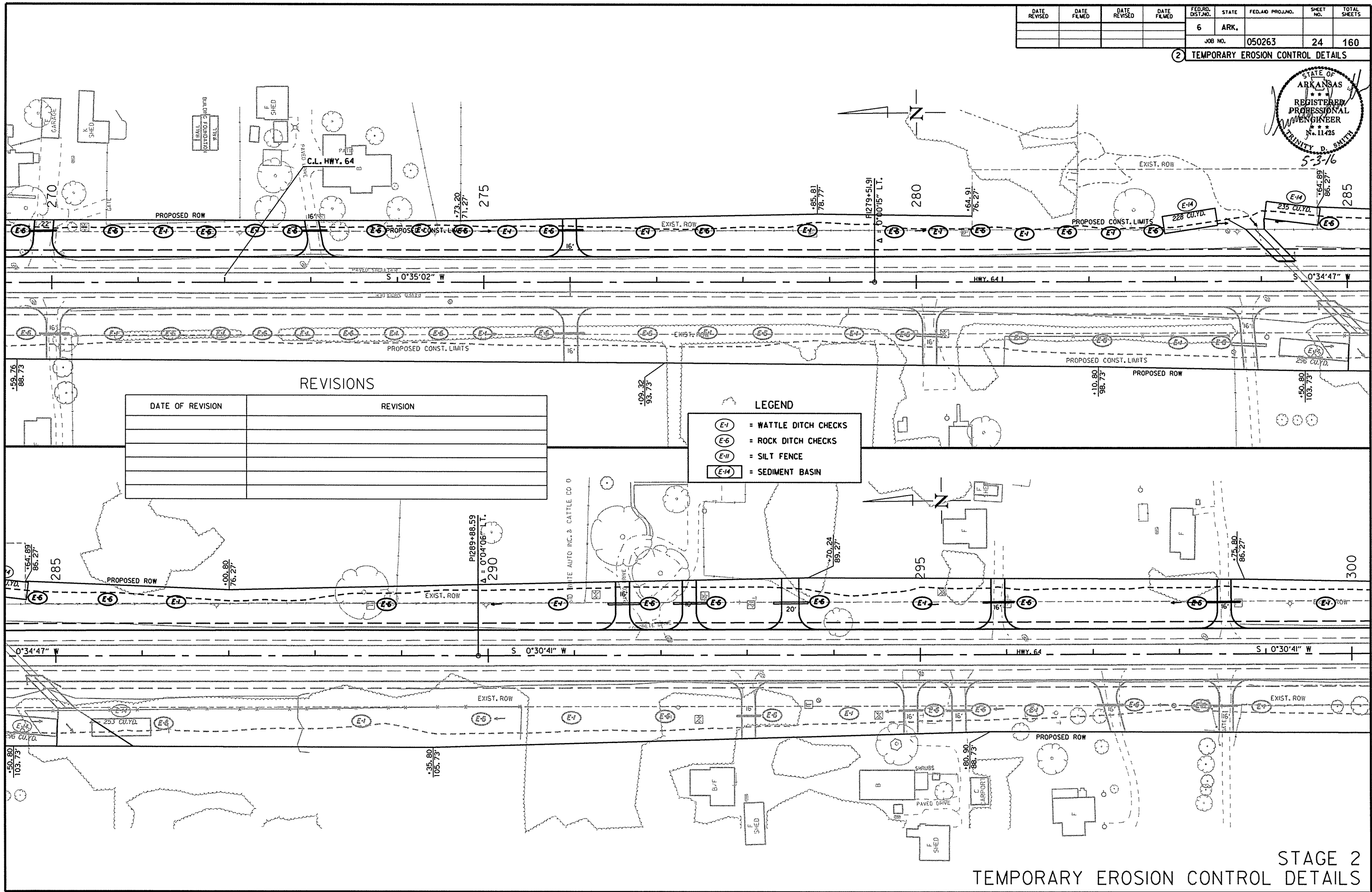
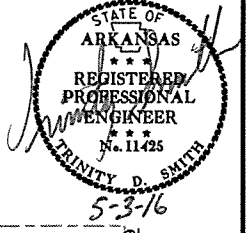
	= WATTLE DITCH CHECKS
	= ROCK DITCH CHECKS
	= SILT FENCE
	= SEDIMENT BASIN

R050263.DGN 4/28/2016

STAGE 2  
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.	050263		24	160

2) TEMPORARY EROSION CONTROL DETAILS



REVISIONS

DATE OF REVISION	REVISION

LEGEND

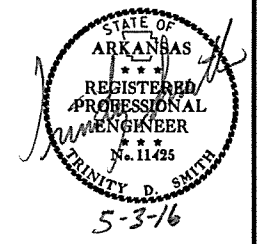
(E-1)	= WATTLE DITCH CHECKS
(E-6)	= ROCK DITCH CHECKS
(E-11)	= SILT FENCE
(E-14)	= SEDIMENT BASIN

R050263.DGN 4/28/2016



DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		25	160

2 TEMPORARY EROSION CONTROL DETAILS

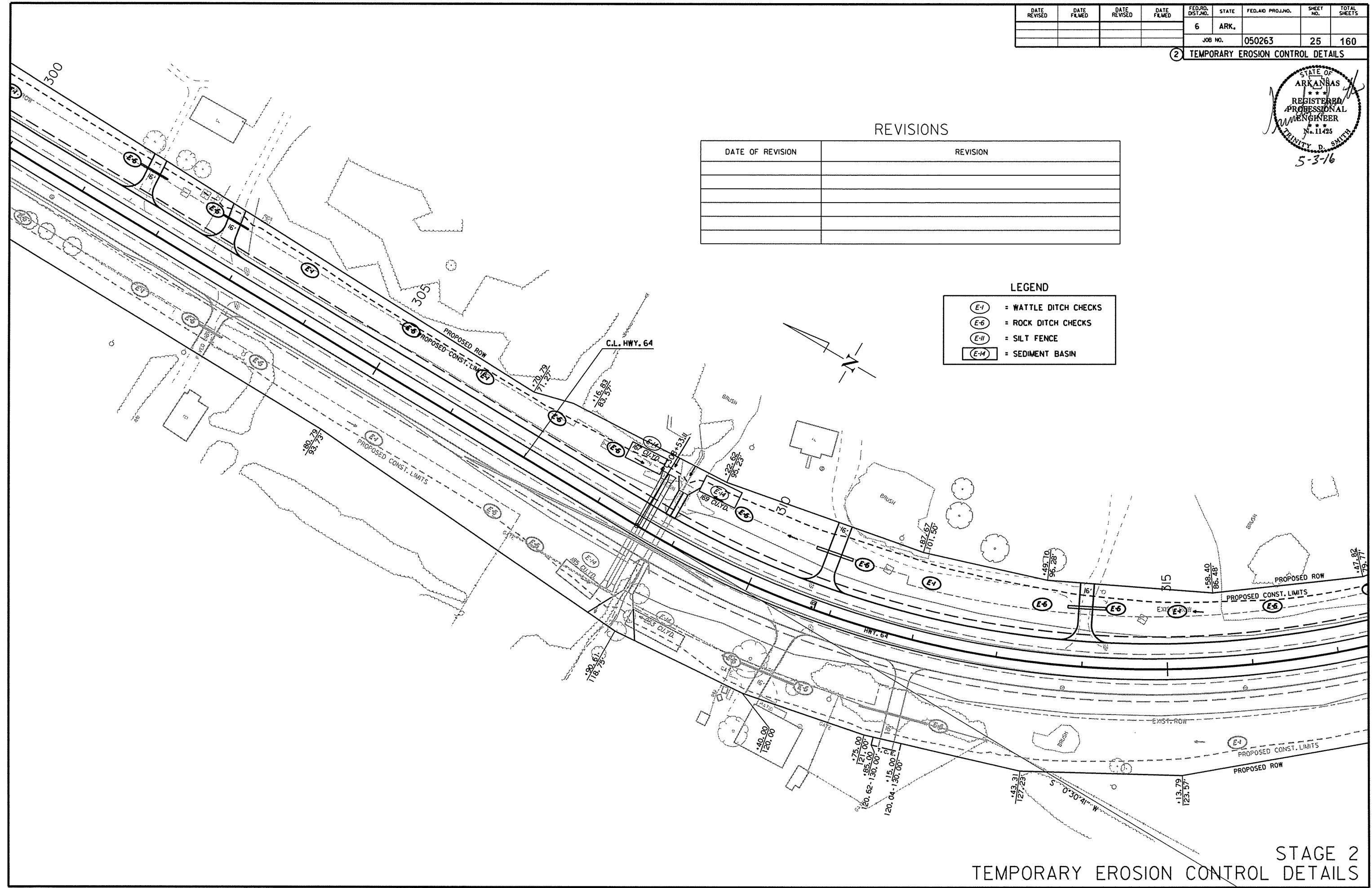


REVISIONS

DATE OF REVISION	REVISION

LEGEND

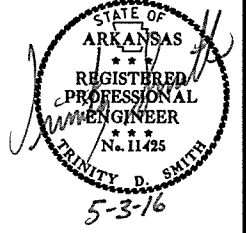
- (E-1) = WATTLE DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN



STAGE 2  
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.	050263		26	160

2 TEMPORARY EROSION CONTROL DETAILS

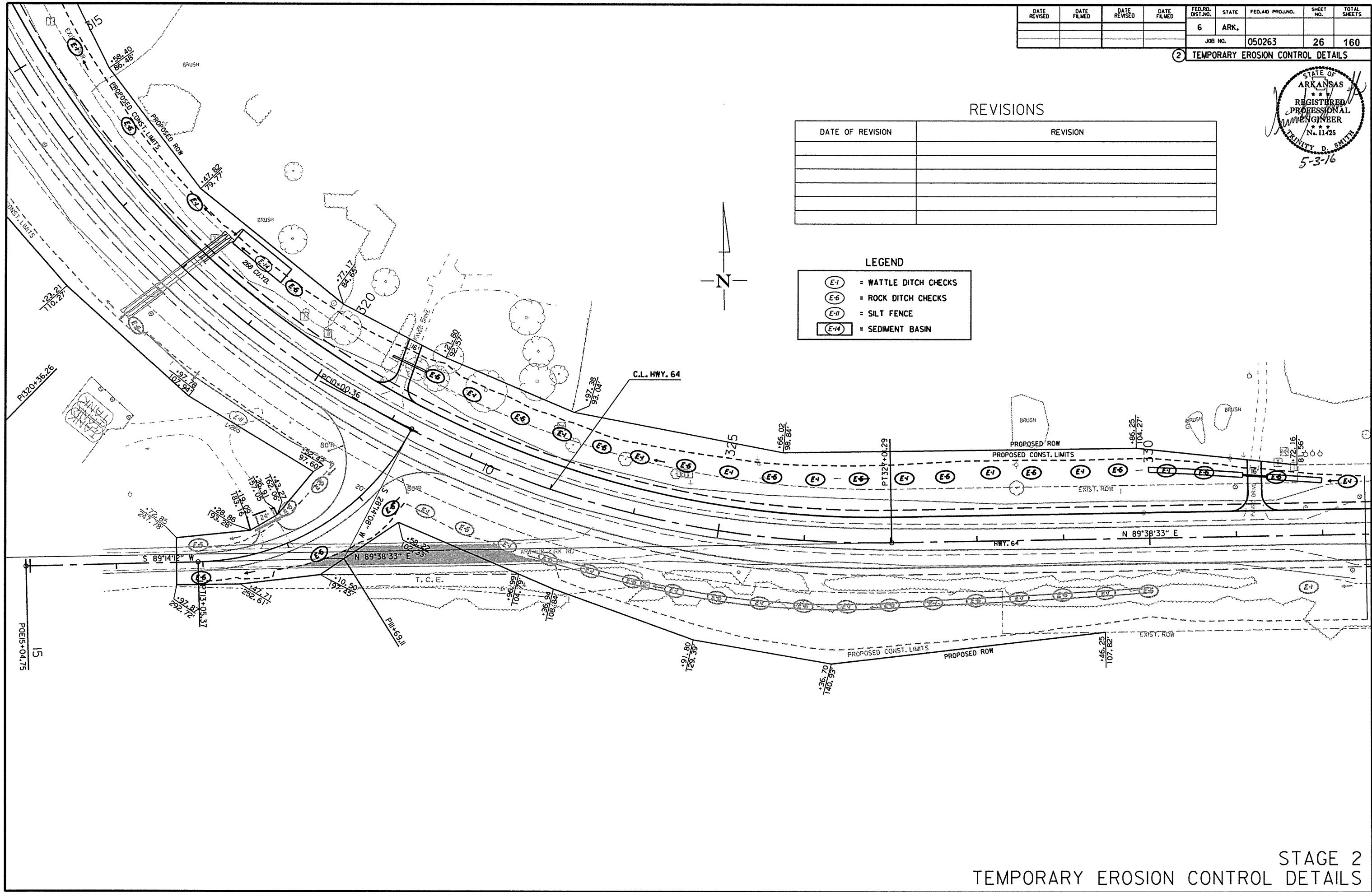


REVISIONS

DATE OF REVISION	REVISION

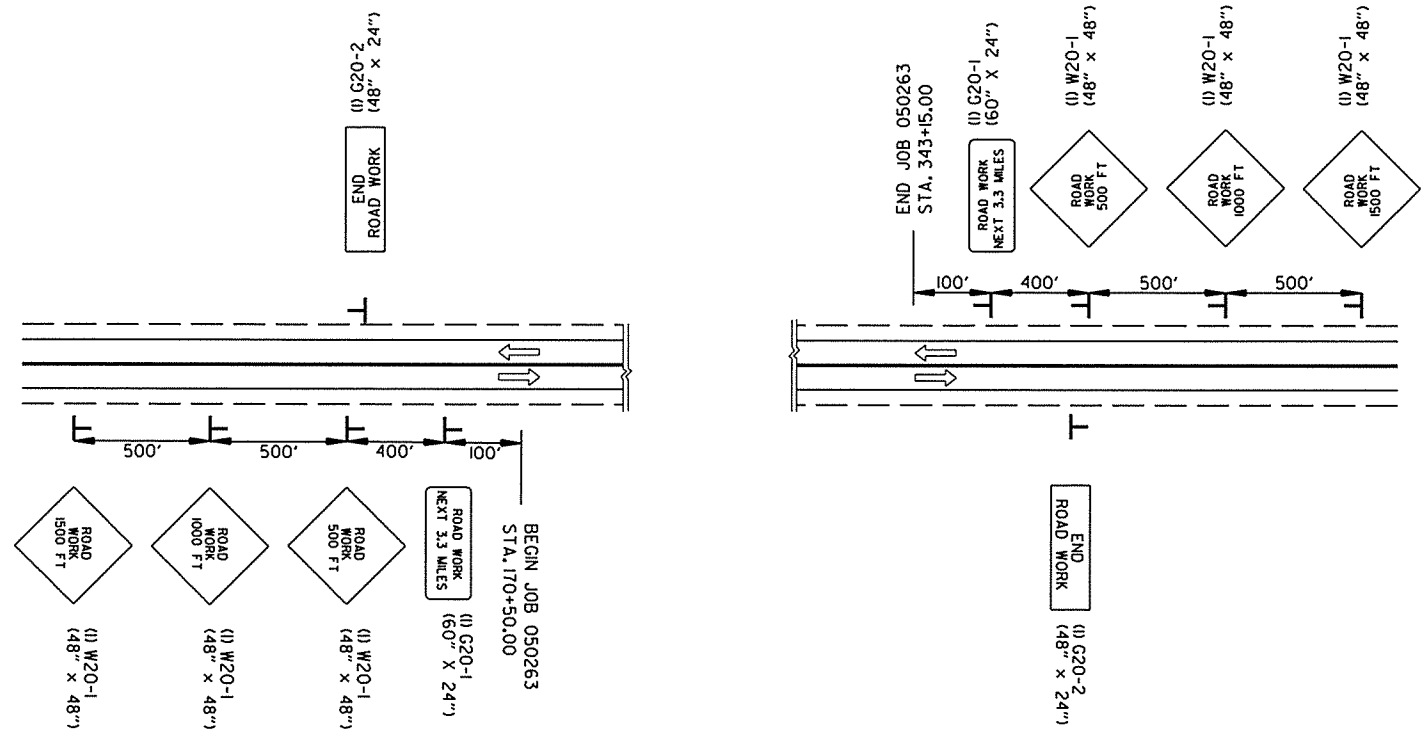
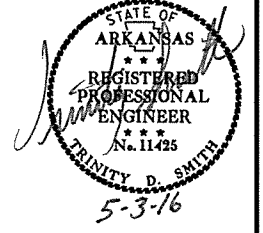
LEGEND

- (E-1) = WATTLE DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN

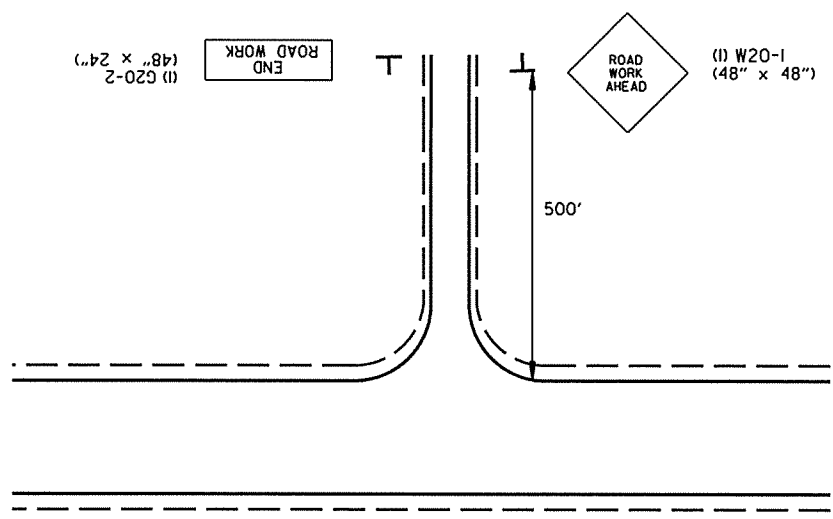


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		27	160
				JOB NO.		050263	27	160

② MAINTENANCE OF TRAFFIC DETAILS

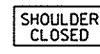




ADVANCE WARNING (ALL STAGES)



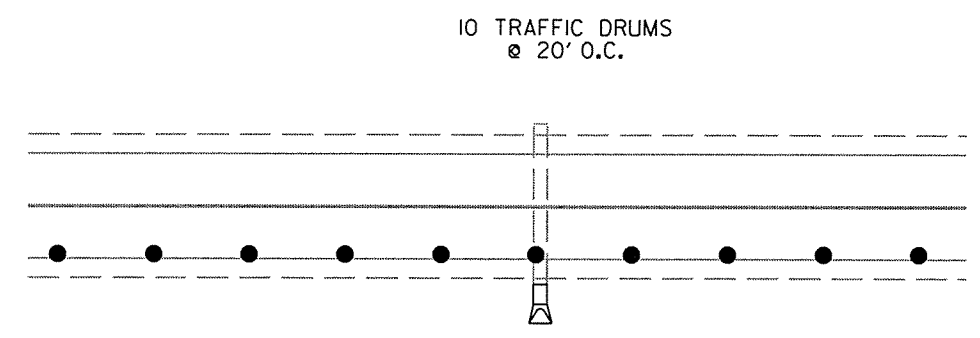
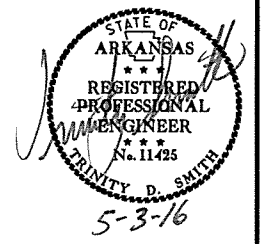
ADVANCE WARNING - SIDE ROADS (ALL STAGES)

STA. 217+00.00, MARVIN FISHER RD.  
 STA. 229+50.00, MARVIN FISHER RD.  
 STA. 321+24.90, ARTHUR KIRK RD.  
 NOTE: ALL STATIONS BASED OFF HWY. 64.

-  (3) RSP-1 (48" X 30") ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
-  (2) R4-1 (24" X 30") ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
-  (2) W8-1 (30" X 30") ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

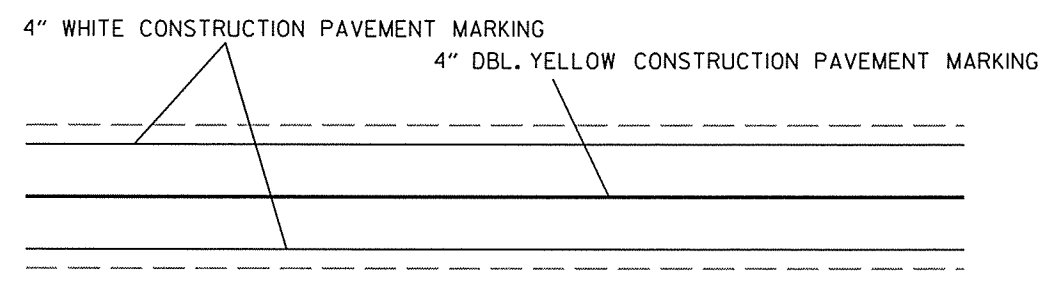
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		28	160

2 MAINTENANCE OF TRAFFIC DETAILS

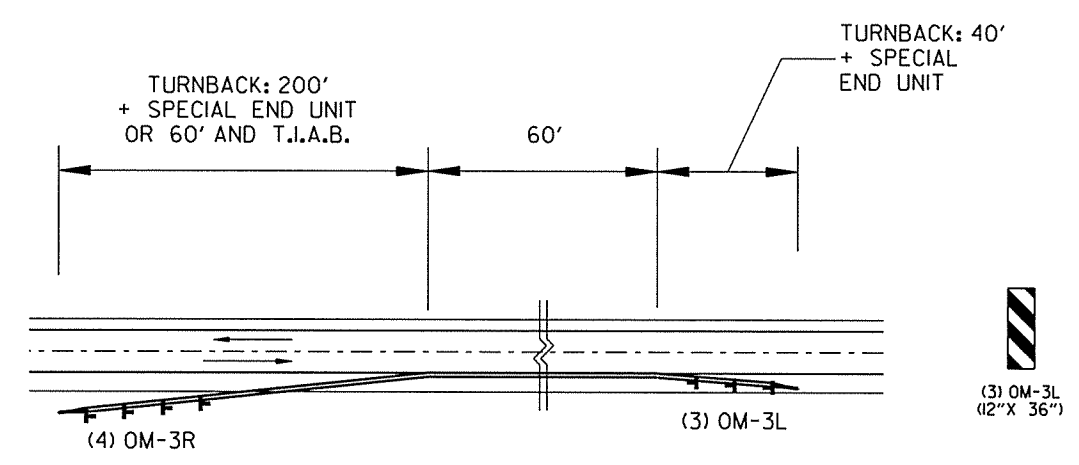


TRAFFIC DRUMS AND SIGNS ON EXISTING SHOULDER FOR EXTENDING/CONSTRUCTING PIPE CULVERTS LT. AND RT.

STA. 170+66      STA. 267+70  
 STA. 206+53      STA. 308+81  
 STA. 221+12      STA. 320+97  
 STA. 235+87



CONSTRUCTION PAVEMENT MARKING DETAIL  
(ALL STAGES)



REFER ALSO TO STANDARD DRAWING TC-5 FOR DETAILS OF PLACEMENT OF P.C.C.B. TURNBACKS.  
 NOTE: OM-3L & OM-3R SIGNS SHALL BE EQUALLY SPACED ALONG P.C.C.B. TURNBACK.

DETAIL OF OBJECT MARKERS AT PRECAST CONCRETE BARRIER TURNBACKS

STA. 206+53  
 STA. 235+87  
 STA. 284+52  
 STA. 308+81

CONSTRUCTION SEQUENCE

- STAGE 1:
- INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AS SHOWN ON THE ADVANCE WARNING DETAIL.
  - USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 50' O.C. TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.
  - NOTCH AND WIDEN HWY. 64 ON THE RIGHT.
  - APPLY LEVELING COURSE AND METHOD OF RAISING GRADE IF AND WHERE DIRECTED BY THE ENGINEER.
- CONSTRUCT ARTHUR KIRK ROAD RIGHT OF EXISTING AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAIL.
- STAGE 2:
- INSTALL CONSTRUCTION PAVEMENT MARKINGS AND TRAFFIC DRUMS AS SHOWN IN THE MAINTENANCE OF TRAFFIC DETAILS.
  - USE VERTICAL PANELS AND TRAFFIC DRUMS SPACED 50' O.C. TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.
  - NOTCH AND WIDEN HWY. 64 ON THE LEFT.
  - CONSTRUCT MARVIN FISHER ROAD AND FINISH CONSTRUCTION ON ARTHUR KIRK ROAD AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.
  - APPLY FINAL 2" LIFT OF ACHM SURFACE COURSE AND INSTALL PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKINGS DETAILS.

STAGE 1 QUANTITIES

- SIGNS = 360.5 SQ. FT.
- TRAFFIC DRUMS = 565 EACH
- VERTICAL PANELS = 212 EACH
- FURNISHING AND INSTALLING P.C.C.B. = 1111 LIN. FT.
- TYPE III BARRICADE-RT. = 16 LIN. FT.
- TYPE III BARRICADE-LT. = 16 LIN. FT.
- TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH
- TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 1 EACH
- CONSTRUCTION PAVEMENT MARKINGS = 71317 LIN. FT.

STAGE 2 QUANTITIES

- SIGNS = 380.5 SQ. FT.
- TRAFFIC DRUMS = 581 EACH
- VERTICAL PANELS = 212 EACH
- RELOCATING P.C.C.B. = 1111 LIN. FT.
- TYPE III BARRICADE-RT. = 32 LIN. FT.
- TYPE III BARRICADE-LT. = 32 LIN. FT.
- TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 1 EACH
- TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 1 EACH
- CONSTRUCTION PAVEMENT MARKINGS = 71317 LIN. FT.

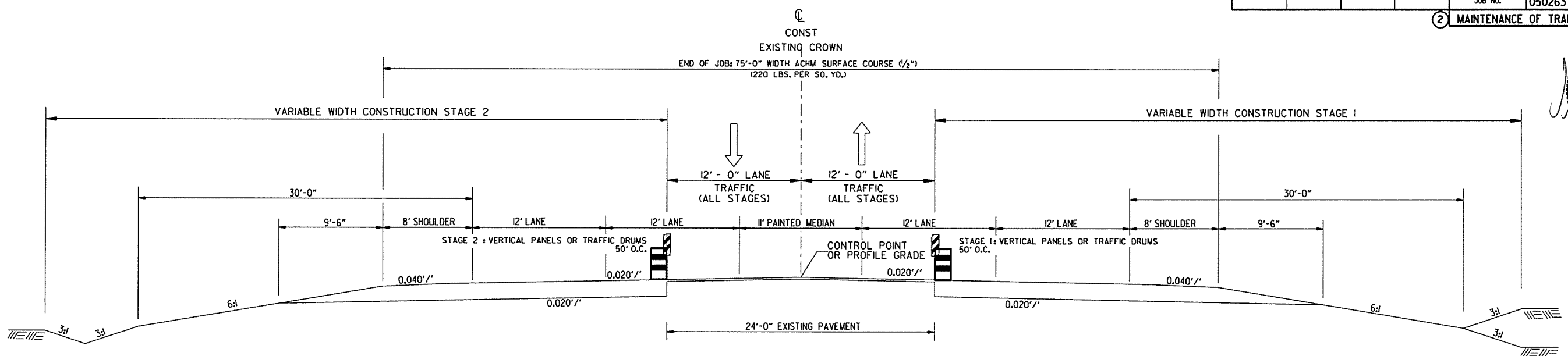
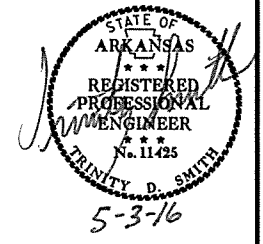
ALL STAGES  
MAINTENANCE OF TRAFFIC DETAILS

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		29	160

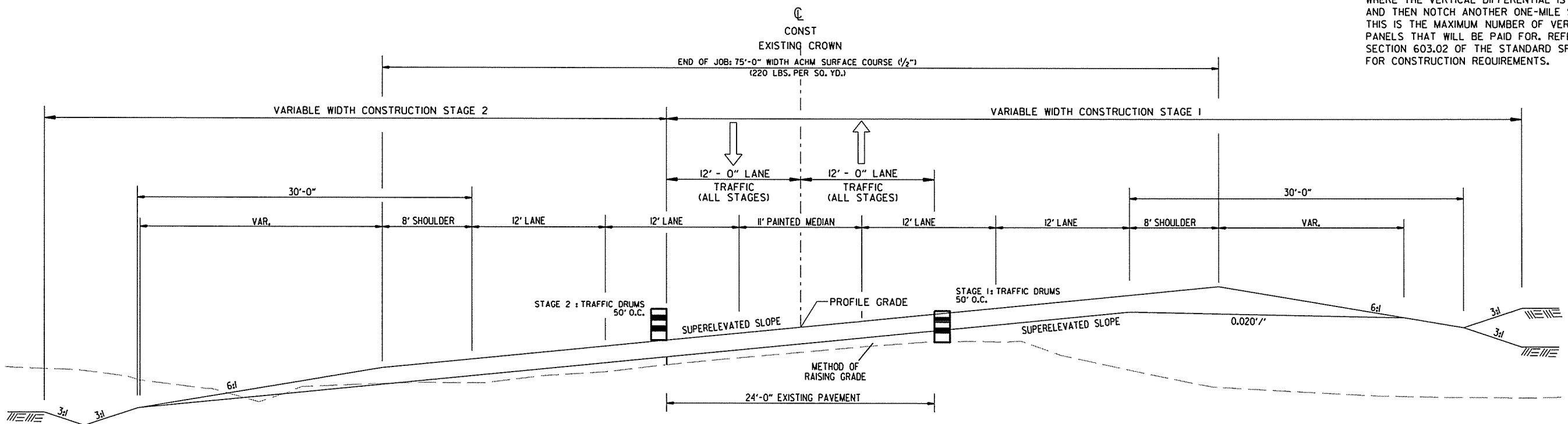
2 MAINTENANCE OF TRAFFIC DETAILS



**STAGE CONSTRUCTION**  
 STA. 170+50.00 TO STA. 310+00.00  
 STA. 322+00.00 TO STA. 343+15.00

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

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.



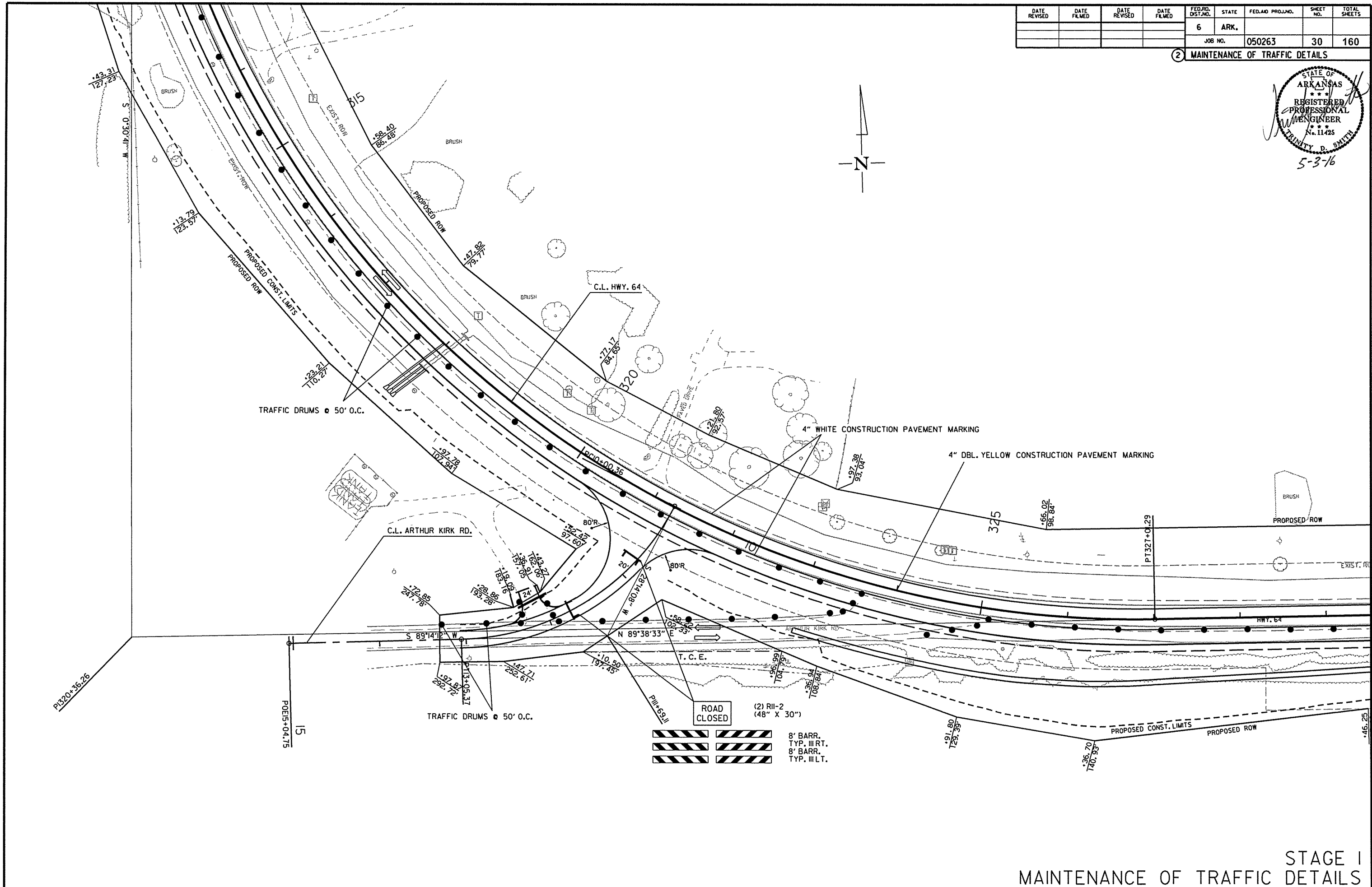
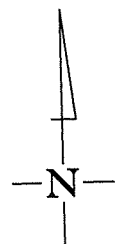
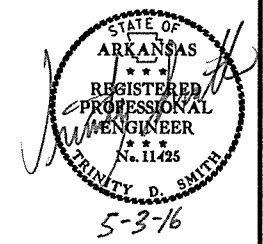
**STAGE CONSTRUCTION**  
 STA. 310+00.00 TO STA. 322+00.00

ALL STAGES  
 MAINTENANCE OF TRAFFIC DETAILS

4/28/2016 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		30	160

2 MAINTENANCE OF TRAFFIC DETAILS

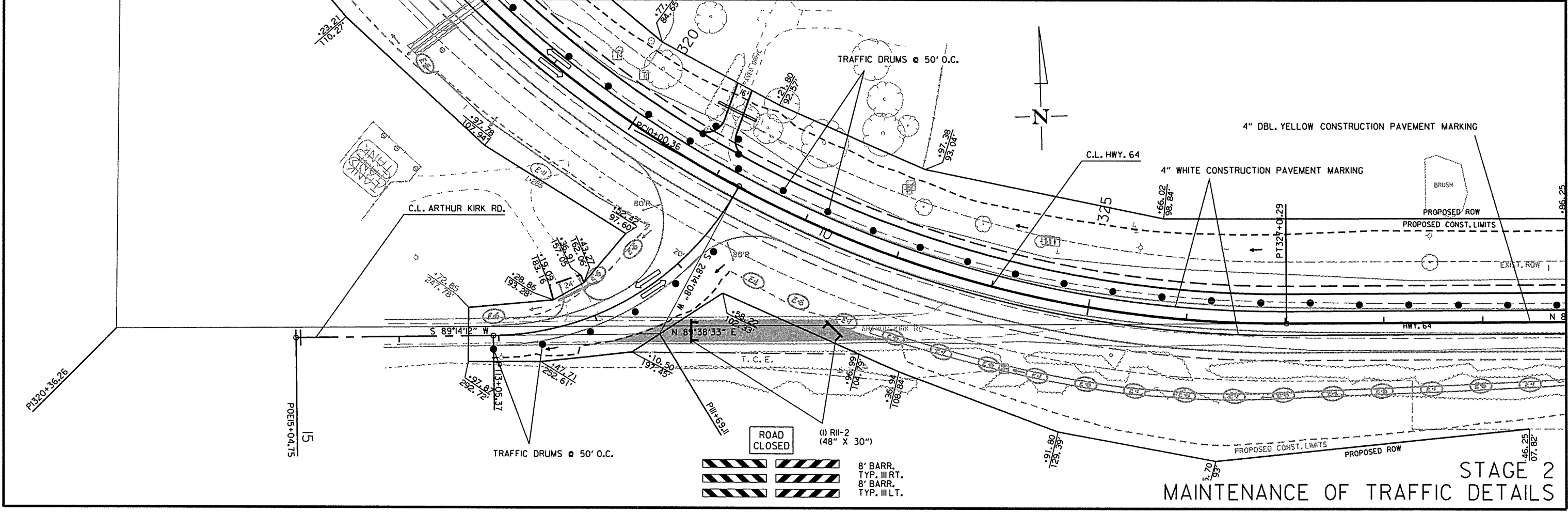
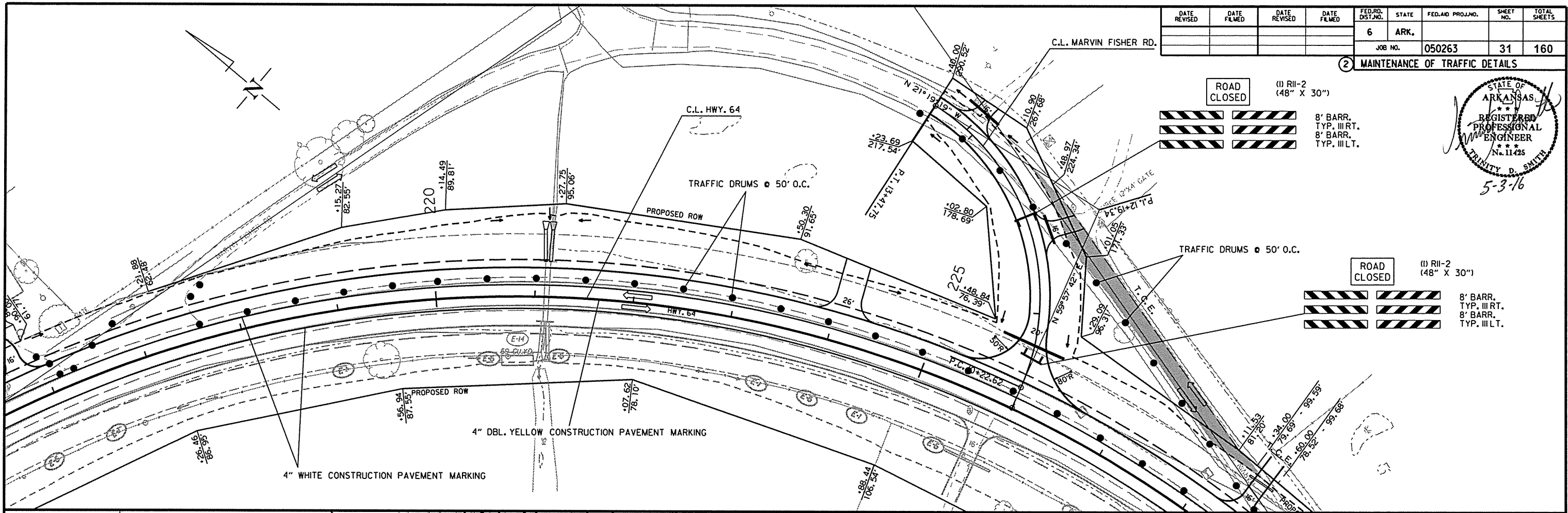
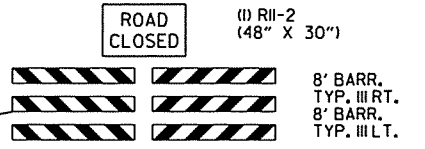
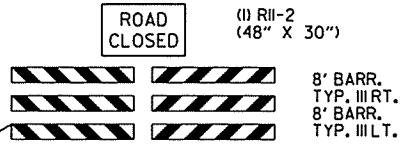
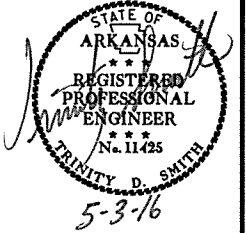


4/28/2016  
R050263.DCN

STAGE I  
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		31	160

2 MAINTENANCE OF TRAFFIC DETAILS



4/28/2016  
R050263.DGN

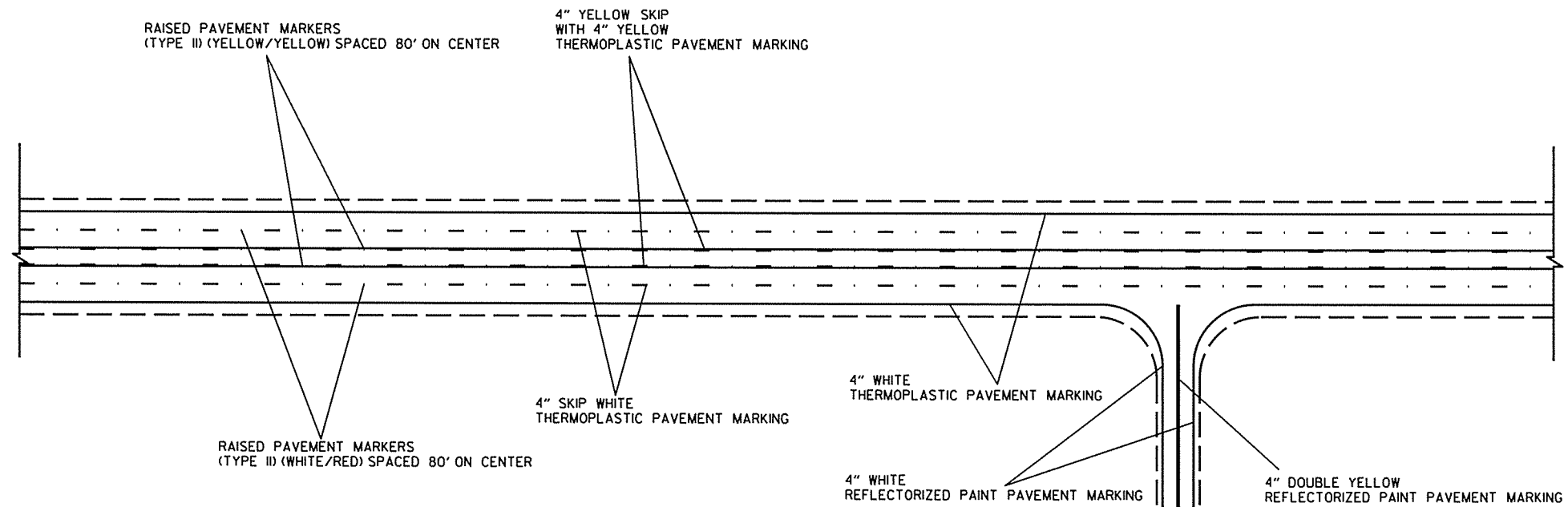
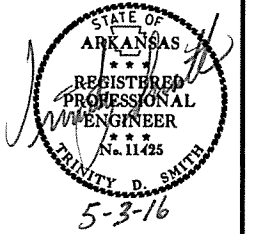
STAGE 2  
MAINTENANCE OF TRAFFIC DETAILS

PERMANENT PAVEMENT MARKINGS

THERMOPLASTIC PAVEMENT MARKINGS WHITE (4") = 4284 LIN. FT.  
 THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4") = 43163 LIN. FT.  
 REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (4") = 1342 LIN. FT.  
 REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (4") = 1191 LIN. FT.  
 RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) (80' O.C.) = 439 EACH  
 RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW) (80' O.C.) = 432 EACH

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.	050263		32	160

2 PERMANENT PAVEMENT MARKING DETAILS



TYPICAL PERMANENT PAVEMENT MARKING LAYOUT

4/28/2016

R050263.DGN



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		33	160

2 QUANTITIES



CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKER		THERMOPLASTIC PAVEMENT MARKING		REFLECTORIZED PAINT PAVEMENT MARKING	
					TYPE II		4"		4"	
					(WHITE/RED)	(YEL/YEL)	WHITE	YELLOW	WHITE	YELLOW
LIN. FT. - EACH					EACH		LIN. FT.		LIN. FT.	
CONSTRUCTION PAVEMENT MARKINGS	71317	71317		142634						
RAISED PAVEMENT MARKER TYPE II (WHITE/RED)			439		439					
RAISED PAVEMENT MARKER TYPE II (YEL/YEL)			432			432				
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			42841				42841			
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			43163					43163		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")			1342						1342	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")			1191							1191
<b>TOTALS:</b>				142634	439	432	42841	43163	1342	1191

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN. BARR. (REPAIR)	TEMP. IMPACT ATTEN. BARR. (RELOCATION)	
						NO.	SQ. FT.			EACH	RIGHT						LEFT
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	32.0										
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	32.0										
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	32.0										
W20-1	ROAD WORK AHEAD	48"x48"	3	3	3	3	48.0										
G20-2	END ROAD WORK	48"x24"	5	5	5	5	40.0										
G20-1	ROAD WORK NEXT 3.3 MILES	60"x24"	2	2	2	2	20.0										
R11-2	ROAD CLOSED	48"x30"	2	4	4	4	40.0										
OM-3L	OBJECT MARKER	12"x36"	12	12	12	12	36.0										
OM-3R	OBJECT MARKER	12"x36"	16	16	16	16	48.0										
R4-1	DO NOT PASS	24"x30"	2	2	2	2	10.0										
RSP-1	SHOULDER CLOSED	48"x30"	3	3	3	3	30.0										
W8-1	BUMP	30"x30"	2	2	2	2	12.5										
	VERTICAL PANELS		212	212	212			212									
	TRAFFIC DRUMS		565	581	581				581								
	TYPE III BARRICADE-RT. (8')		2	4	4					32							
	TYPE III BARRICADE-LT. (8')		2	4	4						32						
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		1111		1111						1111						
	RELOCATING PRECAST CONCRETE BARRIER			1111	1111							1111					
	TEMPORARY IMPACT ATTENUATION BARRIER		1		1								1				
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		1	1	2										2		
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)			1	1												1
<b>TOTALS:</b>							380.5	212	581	32	32	1111	1111	1	2		1

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

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

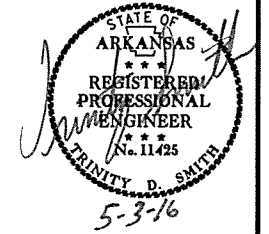
4/28/2016

R050263.DGN

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.	050263		34	160

② QUANTITIES



**REMOVAL AND DISPOSAL OF ITEMS**

STATION	LOCATION	POSTS	FLAG POLE	CONCRETE DRIVEWAYS	LUMINAIRE POLE AND FOUNDATION	SIGN FOUNDATIONS	RETAINING WALLS	WALLS	BRICK COLUMNS	SIGNS	PLANTERS
		EACH	EACH	SQ. YD.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH	EACH
172+87	RT. OF HWY. 64	2	2								
173+62	RT. OF HWY. 64					1				1	
173+77	RT. OF HWY. 64			47							
173+72	RT. OF HWY. 64		1								
173+90	RT. OF HWY. 64		1								
174+25	RT. OF HWY. 64					1				1	
176+30	RT. OF HWY. 64	1									
176+47	RT. OF HWY. 64	1									
177+00	RT. OF HWY. 64					1				1	
177+05	RT. OF HWY. 64					1		70		1	2
177+08	RT. OF HWY. 64					1				1	
177+29	LT. OF HWY. 64			84							
177+12	RT. OF HWY. 64					1				1	
177+40	RT. OF HWY. 64	1									
177+74	RT. OF HWY. 64	1									
178+15	RT. OF HWY. 64					1				1	
178+37	RT. OF HWY. 64			94							
178+57	RT. OF HWY. 64	1									
196+22	LT. OF HWY. 64	4									
198+00	LT. OF HWY. 64				1		40				1
198+30	LT. OF HWY. 64				1		40				1
199+20	LT. OF HWY. 64								1		
199+90	LT. OF HWY. 64								1		
240+42	LT. OF HWY. 64					3				2	
267+33	LT. OF HWY. 64	1				1					
267+42	LT. OF HWY. 64					2				1	
290+93	LT. OF HWY. 64					2				1	
291+65	LT. OF HWY. 64								1		
291+89	LT. OF HWY. 64			62							
292+15	LT. OF HWY. 64								1		
318+70	RT. OF HWY. 64					2				1	
326+35	LT. OF HWY. 64					2				1	
329+70	LT. OF HWY. 64					2				1	
TOTALS:		12	4	287	2	21	80	70	4	14	4

**CLEARING AND GRUBBING**

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
170+50	173+00	RT. SIDE MAIN LANES	3	3
174+00	176+00	RT. SIDE MAIN LANES	2	2
177+00	178+00	LT. SIDE MAIN LANES	1	1
179+00	180+00	RT. SIDE MAIN LANES	1	1
187+00	188+00	RT. SIDE MAIN LANES	1	1
188+00	189+00	LT. & RT. SIDE MAIN LANES	1	1
191+00	192+00	RT. SIDE MAIN LANES	1	1
198+00	199+00	RT. SIDE MAIN LANES	1	1
201+00	202+00	RT. SIDE MAIN LANES	1	1
205+00	206+00	RT. SIDE MAIN LANES	1	1
206+00	207+00	LT. SIDE MAIN LANES	1	1
207+00	210+00	RT. SIDE MAIN LANES	3	3
219+00	220+00	RT. SIDE MAIN LANES	1	1
223+00	224+00	LT. SIDE MAIN LANES	1	1
230+00	233+00	RT. SIDE MAIN LANES	3	3
236+00	238+00	LT. & RT. SIDE MAIN LANES	2	2
239+00	240+00	LT. SIDE MAIN LANES	1	1
240+00	267+00	RT. SIDE MAIN LANES	27	27
270+00	273+00	RT. SIDE MAIN LANES	3	3
273+00	274+00	LT. & RT. SIDE MAIN LANES	1	1
274+00	281+00	RT. SIDE MAIN LANES	7	7
281+00	283+00	LT. & RT. SIDE MAIN LANES	2	2
283+00	285+00	RT. SIDE MAIN LANES	2	2
285+00	287+00	LT. & RT. SIDE MAIN LANES	2	2
287+00	288+00	RT. SIDE MAIN LANES	1	1
288+00	289+00	LT. & RT. SIDE MAIN LANES	1	1
289+00	292+00	RT. SIDE MAIN LANES	3	3
292+00	294+00	LT. & RT. SIDE MAIN LANES	2	2
295+00	296+00	LT. SIDE MAIN LANES	1	1
296+00	297+00	RT. SIDE MAIN LANES	1	1
298+00	299+00	LT. SIDE MAIN LANES	1	1
300+00	302+00	RT. SIDE MAIN LANES	2	2
303+00	304+00	RT. SIDE MAIN LANES	1	1
308+00	309+00	LT. & RT. SIDE MAIN LANES	1	1
310+00	315+00	LT. & RT. SIDE MAIN LANES	5	5
318+00	323+00	LT. SIDE MAIN LANES	5	5
323+00	325+00	LT. & RT. SIDE MAIN LANES	2	2
325+00	332+00	RT. SIDE MAIN LANES	7	7
12+00	13+00	LT. SIDE ARTHUR KIRK RD.	1	1
TOTALS:			103	103

**REMOVAL AND DISPOSAL OF FENCE**

STATION	STATION	LOCATION	FENCE
			LIN. FT.
170+50	186+69	LT. SIDE MAIN LANES	1726
170+50	171+22	RT. SIDE MAIN LANES	112
173+30	174+94	RT. SIDE MAIN LANES	188
178+55	178+68	RT. SIDE MAIN LANES	34
179+77	183+83	RT. SIDE MAIN LANES	409
189+17	196+20	LT. SIDE MAIN LANES	47
191+06	199+38	RT. SIDE MAIN LANES	882
198+97	202+41	LT. SIDE MAIN LANES	303
203+97	205+73	LT. SIDE MAIN LANES	186
206+49	214+32	LT. SIDE MAIN LANES	842
201+75	220+90	RT. SIDE MAIN LANES	1915
221+30	230+40	RT. SIDE MAIN LANES	900
229+21	233+52	LT. SIDE MAIN LANES	137
233+40	238+81	RT. SIDE MAIN LANES	506
240+73	264+26	LT. SIDE MAIN LANES	2382
243+56	251+27	RT. SIDE MAIN LANES	771
254+96	266+79	RT. SIDE MAIN LANES	1183
270+22	273+05	RT. SIDE MAIN LANES	305
270+63	291+15	LT. SIDE MAIN LANES	2199
281+02	283+69	RT. SIDE MAIN LANES	330
284+63	290+39	RT. SIDE MAIN LANES	646
292+65	295+20	LT. SIDE MAIN LANES	282
298+29	302+63	RT. SIDE MAIN LANES	464
307+31	313+67	RT. SIDE MAIN LANES	702
TOTAL:			17451

**REMOVAL OF RUMBLE STRIP**

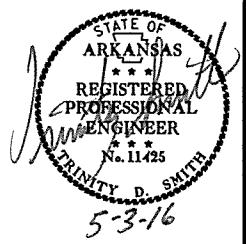
STATION	STATION	LOCATION	REMOVAL OF RUMBLE STRIP
			LIN. FT.
332+50	343+15	RT. SIDE OF MAIN LANES	1065
332+50	343+15	LT. SIDE OF MAIN LANES	1065
TOTAL:			2130

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

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.	050263
							SHEET NO.	35
							TOTAL SHEETS	160

② QUANTITIES



REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
173+18	24"X40' P.C. RT. SIDE DRAIN	1
173+77	18"X44' C.M. RT. SIDE DRAIN	1
176+45	18"X24' C.M. RT. SIDE DRAIN	1
177+29	18"X20' C.M. LT. SIDE DRAIN	1
177+53	18"X24' C.M. RT. SIDE DRAIN	1
178+37	18"X24' C.M. RT. SIDE DRAIN	1
179+65	18"X20' R.C. RT. SIDE DRAIN	1
185+50	18"X36' C.M. RT. SIDE DRAIN	1
186+82	6"X30' C.P. LT. SIDE DRAIN	1
189+67	6"X30' C.P. LT. SIDE DRAIN	1
189+58	18"X32' C.M. RT. SIDE DRAIN	1
195+68	24"X24' C.P. RT. SIDE DRAIN	1
198+14	18"X24' C.M. LT. SIDE DRAIN	1
199+50	18"X22' C.M. LT. SIDE DRAIN	1
200+12	24"X30' C.P. RT. SIDE DRAIN	1
202+88	24"X24' C.P. LT. SIDE DRAIN	1
203+87	24"X24' C.M. LT. SIDE DRAIN	1
205+89	24"X24' C.M. LT. SIDE DRAIN	1
210+66	18"X24' C.M. RT. SIDE DRAIN	1
213+37	18"X30' C.M. RT. SIDE DRAIN	1
225+79	24"X24' C.M. RT. SIDE DRAIN	1
230+56	24"X24' C.M. RT. SIDE DRAIN	1
231+35	24"X20' R.C. RT. SIDE DRAIN	1
232+80	18"X24' C.M. RT. SIDE DRAIN	1
233+28	24"X30' C.P. LT. SIDE DRAIN	1
236+93	18"X24' C.M. LT. SIDE DRAIN	1
238+97	24"X16' R.C. RT. SIDE DRAIN	1
240+30	24"X20' R.C. RT. SIDE DRAIN	1
240+44	24"X38' C.M. LT. SIDE DRAIN	1
243+41	2"X20' R.C. RT. SIDE DRAIN	1
252+27	18"X28' C.M. RT. SIDE DRAIN	1
261+44	18"X18' C.M. LT. SIDE DRAIN	1
267+12	18"X30' R.C. RT. SIDE DRAIN	1
270+02	18"X30' R.C. RT. SIDE DRAIN	1
273+14	18"X24' C.M. LT. SIDE DRAIN	1
280+16	30"X26' C.M. RT. SIDE DRAIN	1
283+79	36"X24' C.M. RT. SIDE DRAIN	1
291+89	24"X32' C.P. LT. SIDE DRAIN	1
293+02	18"X22' C.M. RT. SIDE DRAIN	1
293+73	24"X18' C.M.A. LT. SIDE DRAIN	1
294+89	18"X24' C.M. RT. SIDE DRAIN	1
295+45	18"X20' C.M. RT. SIDE DRAIN	1
295+90	18"X20' R.C. LT. SIDE DRAIN	1
297+20	18"X24' C.M. RT. SIDE DRAIN	1
298+52	18"X20' R.C. LT. SIDE DRAIN	1
298+54	18"X50' C.M. RT. SIDE DRAIN	1
301+65	18"X24' C.M. LT. SIDE DRAIN	1
302+81	18"X42' C.M. LT. SIDE DRAIN	1
303+11	18"X20' R.C. RT. SIDE DRAIN	1
310+70	18"X42' C.M. RT. SIDE DRAIN	1
314+00	36"X24' C.M. LT. SIDE DRAIN	1
320+97	24"X22' R.C. LT. SIDE DRAIN	1
331+22	18"X46' C.M. LT. SIDE DRAIN	1
12+13	18"X42' PLASTIC RT. SIDE DRAIN	1
<b>TOTAL:</b>		<b>54</b>

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.	CU. YD.	TON
ENTIRE PROJECT		STAGE 1-MAIN LANES	45208	41328	
ENTIRE PROJECT		STAGE 2-MAIN LANES	27271	29751	
ENTIRE PROJECT		APPROACHES	25	790	
ENTIRE PROJECT		TEMPORARY APPROACHES			
		MARVIN FISHER RD.	693	814	
		ARTHUR KIRK RD.	386	2893	
17+66.00		CHANNEL CHANGE	50		
284+52.00		CHANNEL CHANGE	10		
* ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			300
<b>TOTALS:</b>			<b>73643</b>	<b>75576</b>	<b>300</b>

\* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH LIN. FT.	"W" FEET	CONC. DITCH PAVING	SOLID SODDING	WATER
					(TYPE B) SQ. YD.	SQ. YD.	M. GAL.
206+40	208+00	RT. OF HWY. 64	160.00	6.33	112.53	71.11	0.90
323+00	330+00	RT. OF HWY. 64	700.00	6.33	492.33	311.11	3.92
330+00	331+08	LT. OF HWY. 64	108.00	6.33	75.96	48.00	0.60
331+36	332+00	LT. OF HWY. 64	64.00	6.33	45.01	28.44	0.36
<b>TOTALS:</b>					<b>725.83</b>	<b>458.66</b>	<b>5.78</b>

BASIS OF ESTIMATE: WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
185+00	187+00	LT. OF HWY. 64	400.0	355.6
203+00	206+40	RT. OF HWY. 64	340.0	302.2
204+00	208+00	LT. OF HWY. 64	400.0	355.6
209+00	211+00	LT. OF HWY. 64	200.0	177.8
220+00	221+12	LT. OF HWY. 64	112.0	99.6
235+87	237+00	LT. OF HWY. 64	113.0	100.4
283+00	284+00	LT. OF HWY. 64	100.0	88.9
322+00	330+00	LT. OF HWY. 64	800.0	711.1
<b>TOTAL:</b>				<b>2191.2</b>

NOTE: AVERAGE WIDTH = 8'-0"

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
206+53	WINGWALL OF R.C. BOX CULVERT	1
235+87	WINGWALL OF R.C. BOX CULVERT	1
284+52	WINGWALL OF R.C. BOX CULVERT	1
308+81	WINGWALL OF R.C. BOX CULVERT	1
<b>TOTAL:</b>		<b>4</b>

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
	EACH	
ENTIRE PROJECT	38	38
<b>TOTALS:</b>	<b>38</b>	<b>38</b>

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			8500	34
<b>TOTALS:</b>			<b>8500</b>	<b>34</b>

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE				* 5' CHAIN LINK FENCE	* 16'-0" GATES	WATER GATE
			(TYPE C)	(TYPE D)	(TYPE D-1)	(TYPE D-2)			
			LIN. FT.						
179+75	183+83	RT. SIDE MAIN LANES		410					
199+85	202+20	LT. SIDE MAIN LANES			256				
203+96	205+70	LT. SIDE MAIN LANES			175				
201+75	224+90	RT. SIDE MAIN LANES			2315		3	2	
224+90	230+41	RT. SIDE MAIN LANES	551				1		
232+53	235+45	LT. SIDE MAIN LANES				205	1		
233+40	238+80	RT. SIDE MAIN LANES			538		1	1	
238+14	240+15	LT. SIDE MAIN LANES				202			
240+58	258+10	LT. SIDE MAIN LANES			1735				
258+08	264+25	LT. SIDE MAIN LANES			618				
243+56	251+27	RT. SIDE MAIN LANES		771					
270+63	272+18	LT. SIDE MAIN LANES	155				1		
274+45	274+73	LT. SIDE MAIN LANES	28				1		
274+73	280+65	LT. SIDE MAIN LANES			592		1		
284+64	291+15	LT. SIDE MAIN LANES				650			
284+64	290+39	RT. SIDE MAIN LANES		478			1		
281+00	283+70	RT. SIDE MAIN LANES	270						
298+29	302+65	RT. SIDE MAIN LANES		436			1		
307+30	310+18	RT. SIDE MAIN LANES			310		1	1	
310+18	313+74	RT. SIDE MAIN LANES				356	2		
12+45	12+62	MARVIN FISHER RD.-RT.		26					
<b>TOTALS:</b>			<b>1004</b>	<b>2121</b>	<b>5516</b>	<b>1023</b>	<b>1413</b>	<b>14</b>	<b>4</b>

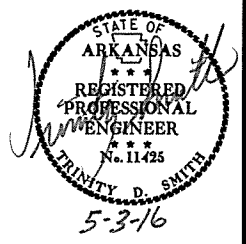
\* DENOTES ALTERNATE BID ITEM.

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		36	160

② QUANTITIES



**SELECTED PIPE BEDDING**

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	350
<b>TOTAL:</b>	<b>350</b>

NOTE: QUANTITY ESTIMATED.  
SEE SECTION 104.03 OF THE STD. SPECS.

**PAVEMENT REPAIR OVER CULVERTS (ASPHALT)**

STATION	LOCATION	WIDTH	LENGTH	TON
		FEET		
206+53	HWY. 64	14.00	24	29
235+87	HWY. 64	12.33	24	25
308+81	HWY. 64	12.33	24	25
318+04	HWY. 64	8.67	24	18
<b>TOTAL:</b>				<b>97</b>

AVG. DEPTH = 14"

**EROSION CONTROL**

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	WATTLE (20")	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-1) LIN. FT.	(E-5) BAG	(E-6) CU.YD.	(E-11) LIN. FT.	(E-14) CU.YD.	CU.YD.	CU. YD.
ENTIRE PROJECT	STAGE 1		11.93	23.86	11.93	1216.9	11.93	33.65	33.65	686.5	495		273	265	2538	2538	2694
ENTIRE PROJECT	STAGE 2		9.38	18.76	9.38	956.8	9.38	33.65	33.65	686.5	549		309		2635	2635	2799
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			5.33	10.66	5.33	543.7	5.33	16.83	16.83	343.3	261	1100	147	66			130
<b>TOTALS:</b>			<b>26.64</b>	<b>53.28</b>	<b>26.64</b>	<b>2717.4</b>	<b>26.64</b>	<b>84.13</b>	<b>84.13</b>	<b>1716.3</b>	<b>1305</b>	<b>1100</b>	<b>729</b>	<b>331</b>	<b>5173</b>	<b>5173</b>	<b>5623</b>

BASIS OF ESTIMATE:  
LIME .....2 TONS / ACRE OF SEEDING  
WATER.....102.0 M.G. / ACRE OF SEEDING.  
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.  
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION  
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION  
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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.

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

**STRUCTURES**

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT					SIDE DRAIN	FLARED END SECTIONS FOR R.C. PIPE CULVERTS				SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.	
		(CLASS III)		(CLASS IV)		(CLASS V)		24"	36"	60"	72"										
		24"	60"	24"	36"	72"															
170+66	EXTEND DBL. 36" R.C. PIPE CULVERT			148				4				8	7	76	136.86	19245	65	36	0.45	FES-1, FES-2, PCC-1	
206+53	EXTEND DBL. 8'X7' R.C. BOX CULVERT																	24	0.30	RCB-1, RCB-2, RCB-3, R-200X-0, W-X003-1	
206+53	ADD DBL. 72" R.C. PIPE CULVERT				248				4									134	1.69	FES-1, FES-2, PCC-1	
221+12	EXTEND DBL. 36" R.C. PIPE CULVERT			144				4										36	0.45	FES-1, FES-2, PCC-1	
226+00	INSTALL LT. SIDE DRAIN					66															
235+87	ADD DBL. 60" R.C. PIPE CULVERT		232						4									96	1.21	FES-1, FES-2, PCC-1	
267+70	EXTEND 24" R.C. PIPE CULVERT			74						2								16	0.20	FES-1, FES-2, PCC-1	
284+52	EXTEND DBL. 8'X5' R.C. BOX CULVERT ON 45° RT. FWD. SKEW										8	5	106	208.98	30519	78		26	0.33	RCB-1, RCB-2, RCB-3, R-200X-0, R-245X-01, W-X45, W-X453-1	
308+81	EXTEND DBL. 5'X6' R.C. BOX CULVERT										5	6	74	86.64	10534	40		20	0.25	RCB-1, RCB-2, RCB-3, R-200X-0, R-200X-X1, W-X003-1	
308+81	ADD DBL. 60" R.C. PIPE CULVERT		272						4									96	1.21	FES-1, FES-2, PCC-1	
318+04	EXTEND DBL. 24" R.C. PIPE CULVERT & ADD 24" R.C. PIPE CULVERT	322								6								20	0.25	FES-1, FES-2, PCC-1	
<b>SUBTOTALS:</b>		<b>322</b>	<b>504</b>	<b>74</b>	<b>292</b>	<b>248</b>	<b>66</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>4</b>			<b>432.48</b>	<b>60298</b>	<b>183</b>	<b>504</b>	<b>6.34</b>			
<b>STRUCTURES OVER 20' - 0" SPAN</b>																					
235+87	EXTEND DBL. 10'X5' R.C. BOX CULVERT										10	5	78	146.21	22790	76		24	0.30	RCB-1, RCB-2, RCB-3, R-200X-0, W-X003-1	
<b>SUBTOTALS:</b>														<b>146.21</b>	<b>22790</b>	<b>76</b>		<b>24</b>	<b>0.30</b>		
<b>TOTALS:</b>		<b>322</b>	<b>504</b>	<b>74</b>	<b>292</b>	<b>248</b>	<b>66</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>4</b>			<b>578.69</b>	<b>83088</b>	<b>259</b>	<b>528</b>	<b>6.64</b>			

BASIS OF ESTIMATE:  
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

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

4/28/2016

R050263.DGN

QUANTITIES

**DRIVEWAYS & TURNOUTS**

STATION	SIDE	LOCATION	WIDTH FEET	PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS			STANDARD DRAWINGS		
					SQ. YD.	TON		18" 24"	30" 36"	21"X15"			
173+18	RT.	HWY.64	18		122.60	13.49	50.06				PCC-1,PCM-1,PCP-1,PCP-2		
173+77	RT.	HWY.64	16	84.80	24.70	2.72	10.09	30			PCC-1,PCM-1,PCP-1,PCP-2		
176+45	RT.	HWY.64	16		109.20	12.01	44.59	30			PCC-1,PCM-1,PCP-1,PCP-2		
177+29	LT.	HWY.64	16		100.30	11.03	40.96	34			PCC-1,PCM-1,PCP-1,PCP-2		
177+53	RT.	HWY.64	16		109.20	12.01	44.59	30			PCC-1,PCM-1,PCP-1,PCP-2		
178+37	RT.	HWY.64	16	84.50	24.70	2.72	10.09	30			PCC-1,PCM-1,PCP-1,PCP-2		
179+65	RT.	HWY.64	16		100.30	11.03	40.96	28			PCC-1,PCM-1,PCP-1,PCP-2		
185+50	RT.	HWY.64	16		97.60	10.74	39.85	28			PCC-1,PCM-1,PCP-1,PCP-2		
187+18	RT.	HWY.64	16		100.40	11.04	41.00	30			PCC-1,PCM-1,PCP-1,PCP-2		
187+55	LT.	HWY.64	16		136.60	15.03	55.78	40			PCC-1,PCM-1,PCP-1,PCP-2		
187+96	RT.	HWY.64	16		127.30	14.00	51.98	38			PCC-1,PCM-1,PCP-1,PCP-2		
189+58	RT.	HWY.64	16		136.20	14.98	55.62	38			PCC-1,PCM-1,PCP-1,PCP-2		
195+68	RT.	HWY.64	16		109.20	12.01	44.59	32			PCC-1,PCM-1,PCP-1,PCP-2		
198+14	LT.	HWY.64	22		136.80	15.05	55.86	36			PCC-1,PCM-1,PCP-1,PCP-2		
199+50	LT.	HWY.64	16		100.60	11.07	41.08	30			PCC-1,PCM-1,PCP-1,PCP-2		
200+12	RT.	HWY.64	16		109.20	12.01	44.59	32			PCC-1,PCM-1,PCP-1,PCP-2		
202+88	LT.	HWY.64	16		91.60	10.08	37.40	28			PCC-1,PCM-1,PCP-1,PCP-2		
203+87	LT.	HWY.64	16		91.80	10.10	37.49	28			PCC-1,PCM-1,PCP-1,PCP-2		
205+89	LT.	HWY.64	16		127.70	14.05	52.14	44			PCC-1,PCM-1,PCP-1,PCP-2		
210+66	RT.	HWY.64	16		118.20	13.00	48.27	42			PCC-1,PCM-1,PCP-1,PCP-2		
213+37	RT.	HWY.64	16		135.90	14.95	55.49	54			PCC-1,PCM-1,PCP-1,PCP-2		
215+75	LT.	HWY.64	16		100.50	11.06	41.04	38			PCC-1,PCM-1,PCP-1,PCP-2		
224+10	LT.	HWY.64	26		190.60	20.97	77.83				PCC-1,PCM-1,PCP-1,PCP-2		
225+79	RT.	HWY.64	16		153.70	16.91	62.76	50			PCC-1,PCM-1,PCP-1,PCP-2		
228+47	LT.	HWY.64	16		134.70	14.82	55.00	50			PCC-1,PCM-1,PCP-1,PCP-2		
230+56	RT.	HWY.64	16		136.10	14.97	55.57	40			PCC-1,PCM-1,PCP-1,PCP-2		
231+35	RT.	HWY.64	16		136.00	14.96	55.53	42			PCC-1,PCM-1,PCP-1,PCP-2		
232+80	RT.	HWY.64	16		118.20	13.00	48.27	40			PCC-1,PCM-1,PCP-1,PCP-2		
233+28	LT.	HWY.64	16	85.00	24.70	2.72	10.09	32			PCC-1,PCM-1,PCP-1,PCP-2		
236+93	LT.	HWY.64	16		101.10	11.12	41.28	28			PCC-1,PCM-1,PCP-1,PCP-2		
238+97	RT.	HWY.64	16		109.50	12.05	44.71	34			PCC-1,PCM-1,PCP-1,PCP-2		
240+30	RT.	HWY.64	16		109.30	12.02	44.63	30			PCC-1,PCM-1,PCP-1,PCP-2		
240+44	LT.	RAINEY RD.	20		211.40	23.25	86.32	36			PCC-1,PCM-1,PCP-1,PCP-2		
243+41	RT.	HWY.64	16		109.20	12.01	44.59	32			PCC-1,PCM-1,PCP-1,PCP-2		
252+27	RT.	HWY.64	16		109.40	12.03	44.67	32			PCC-1,PCM-1,PCP-1,PCP-2		
261+44	LT.	HWY.64	16		100.70	11.08	41.12	28			PCC-1,PCM-1,PCP-1,PCP-2		
261+12	LT.	SWINGING BRIDGE RD.	20		177.70	19.55	72.56	28			PCC-1,PCM-1,PCP-1,PCP-2		
267+12	RT.	VERNON HARVEY RD.	20		211.00	23.21	86.16	40			PCC-1,PCM-1,PCP-1,PCP-2		
269+85	LT.	HWY.64	22		124.80	13.73	50.96	32			PCC-1,PCM-1,PCP-1,PCP-2		
270+02	RT.	HWY.64	16		109.30	12.02	44.63	34			PCC-1,PCM-1,PCP-1,PCP-2		
273+14	LT.	HWY.64	16		91.90	10.11	37.53	28			PCC-1,PCM-1,PCP-1,PCP-2		
276+00	RT.	HWY.64	16		105.90	11.65	43.24				PCC-1,PCM-1,PCP-1,PCP-2		
280+16	RT.	HWY.64	16		109.40	12.03	44.67	30		40	PCC-1,PCM-1,PCP-1,PCP-2		
283+79	RT.	HWY.64	16		127.30	14.00	51.98				PCC-1,PCM-1,PCP-1,PCP-2		
291+56	LT.	HWY.64	16		118.90	13.08	48.55	36			PCC-1,PCM-1,PCP-1,PCP-2		
292+33	LT.	HWY.64	16		118.30	13.01	48.31	38			PCC-1,PCM-1,PCP-1,PCP-2		
293+02	RT.	HWY.64	16		100.30	11.03	40.96	36			PCC-1,PCM-1,PCP-1,PCP-2		
293+50	LT.	HWY.64	20		158.00	17.38	64.52	40			PCC-1,PCM-1,PCP-1,PCP-2		
294+89	RT.	HWY.64	16		100.40	11.04	41.00	34			PCC-1,PCM-1,PCP-1,PCP-2		
295+45	RT.	HWY.64	16		100.40	11.04	41.00	34			PCC-1,PCM-1,PCP-1,PCP-2		
295+90	LT.	HWY.64	16		118.40	13.02	48.35	36			PCC-1,PCM-1,PCP-1,PCP-2		
297+20	RT.	HWY.64	16		100.50	11.06	41.04	30			PCC-1,PCM-1,PCP-1,PCP-2		
298+52	LT.	HWY.64	16		118.40	13.02	48.35	38			PCC-1,PCM-1,PCP-1,PCP-2		
298+54	RT.	HWY.64	16		118.30	13.01	48.31	28			PCC-1,PCM-1,PCP-1,PCP-2		
301+65	LT.	HWY.64	16		109.40	12.03	44.67	36			PCC-1,PCM-1,PCP-1,PCP-2		
302+81	LT.	HWY.64	16		100.40	11.04	41.00	34			PCC-1,PCM-1,PCP-1,PCP-2		
303+11	RT.	HWY.64	16		100.70	11.08	41.12	34		48	PCC-1,PCM-1,PCP-1,PCP-2		
310+70	RT.	HWY.64	16		162.10	17.83	66.19	66			PCC-1,PCM-1,PCP-1,PCP-2		
310+81	LT.	HWY.64	16		144.80	15.93	59.13				PCC-1,PCM-1,PCP-1,PCP-2		
312+00	RT.	HWY.64	16		127.20	13.99	51.94	42			PCC-1,PCM-1,PCP-1,PCP-2		
314+00	LT.	HWY.64	16		91.90	10.11	37.53	28			PCC-1,PCM-1,PCP-1,PCP-2		
320+97	LT.	HWY.64	16								PCC-1,PCM-1,PCP-1,PCP-2		
331+22	LT.	HWY.64	16								PCC-1,PCM-1,PCP-1,PCP-2		
11+80	RT.	MARVIN FISHER RD. DRIVE	16		119.20	13.11	48.67	30			PCC-1,PCM-1,PCP-1,PCP-2		
13+07	RT.	MARVIN FISHER RD. DRIVE	16		72.10	7.93	29.44			38	PCC-1,PCM-1,PCP-1,PCP-2		
12+13	RT.	ARTHUR KIRK RD. DRIVE	16		131.10	14.42	53.53	36			PCC-1,PCM-1,PCP-1,PCP-2		
* ENTIRE PROJECT TEMPORARY DRIVES													
				<b>TOTALS:</b>	<b>254.10</b>	<b>7583.30</b>	<b>834.15</b>	<b>3756.56</b>	<b>1394</b>	<b>648</b>	<b>30</b>	<b>132</b>	<b>38</b>

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

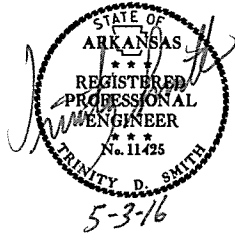
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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**

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AO PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050263	37	160



**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.	050263		38	160

2 QUANTITIES

**ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC**

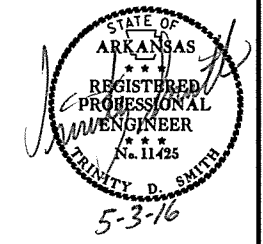
LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	77	154
<b>TOTALS:</b>	<b>77</b>	<b>154</b>

NOTE: QUANTITIES ESTIMATED.  
BASIS OF ESTIMATE:  
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE  
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

**COLD MILLING ASPHALT PAVEMENT**

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
169+50	170+50	HWY. 64	75	833.33
343+15	344+15	HWY. 64	75	833.33
<b>TOTAL:</b>				<b>1666.66</b>

NOTE: AVERAGE MILLING DEPTH 1".



**RUMBLE STRIPS IN ASPHALT SHOULDERS**

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
170+50	343+15	RT. SHOULDER	32174
170+50	343+15	LT. SHOULDER	32568
<b>TOTAL:</b>			<b>64742</b>

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

**ACHM PATCHING OF EXISTING ROADWAY**

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	100
<b>TOTAL:</b>	<b>100</b>

NOTE: QUANTITY ESTIMATED  
SEE SECTION 104.03 OF THE STD. SPECS.

**BASE AND SURFACING**

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)			TACK COAT					ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")											
				TON / STATION	TON	(0.17 GAL. PER SQ. YD.)			(0.05 GAL. PER SQ. YD.)		TOTAL GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	TOTAL PG 70-22 TON			
						TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.																			GALLON		
<b>MAIN LANES</b>																															
169+50.00	170+50.00	HWY. 64-TRANSITION	100.00			75.00	833.33	141.67				141.67																			
170+50.00	310+00.00	HWY. 64-NOTCH AND WIDEN SECTION	13950.00	375.50	52382.25	24.00	37200.00	6324.00	120.00	186000.00	9300.00	15624.00	40.50	62775.00	440.00	13810.50	40.00	62000.00	330.00	10230.00	39.50	61225.00	220.00	6734.75	75.00	116250.00	220.00	12787.50	19522.25		
310+00.00	322+00.00	HWY. 64-FULL DEPTH SECTION	1200.00	476.50	5718.00				192.00	25600.00	1280.00	1280.00	64.50	8600.00	440.00	1892.00	64.00	8533.33	330.00	1408.00	63.50	8466.67	220.00	931.33	75.00	10000.00	220.00	1100.00	2031.33		
322+00.00	332+50.00	HWY. 64-NOTCH AND WIDEN SECTION	1050.00	375.50	3942.75	24.00	2800.00	476.00	120.00	14000.00	700.00	1176.00	40.50	4725.00	440.00	1039.50	40.00	4666.67	330.00	770.00	39.50	4608.33	220.00	506.92	75.00	8750.00	220.00	962.50	1469.42		
332+50.00	343+15.00	HWY. 64-OVERLAY SECTION	1065.00			75.00	8875.00	1508.75				1508.75																			
343+15.00	344+15.00	HWY. 64-TRANSITION	100.00			75.00	833.33	141.67				141.67																			
10+37.00	13+45.00	MARVIN FISHER RD.	308.00	109.75	338.03																										
10+38.00	13+10.00	ARTHUR KIRK RD.	272.00	109.75	298.52																										
<b>ADDITIONAL FOR LEVELING AND GRADE RAISE</b>																															
170+50.00	310+00.00	HWY. 64-LEVELING	13950.00						24.00	37200.00	1860.00	1860.00																			
310+00.00	322+00.00	HWY. 64-GRADE RAISE	1200.00			24.00	3200.00	544.00	72.00	9600.00	480.00	1024.00	24.00	3200.00	VAR.	2431.99															
322+00.00	332+50.00	HWY. 64-LEVELING	1050.00						48.00	5600.00	280.00	280.00																			
<b>ADDITIONAL FOR SUPERELEVATION</b>																															
209+04.42	215+34.42	SUPERELEVATION TRANSITION	630.00	85.63	539.47																										
215+34.42	230+44.03	MAXIMUM SUPERELEVATION	1509.61	171.25	2585.21																										
230+44.03	236+74.03	SUPERELEVATION TRANSITION	630.00	85.63	539.47																										
303+80.61	310+10.61	SUPERELEVATION TRANSITION	630.00	85.63	539.47																										
310+10.61	325+43.79	MAXIMUM SUPERELEVATION	1533.18	171.25	2625.57																										
325+43.79	331+73.79	SUPERELEVATION TRANSITION	630.00	85.63	539.47																										
<b>TOTALS:</b>						70048.21		53741.66	9136.09		278000.00	13900.00	23036.09		79300.00		19173.99		75200.00		12408.00		114300.00		13915.99		146830.54		16151.37	30067.36	

BASIS OF ESTIMATE:  
ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% ASPHALT BINDER  
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER  
ACHM BASE COURSE (1 1/2").....95.9% MIN. AGGR.....4.1% ASPHALT BINDER  
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22

4/28/2016 R050263.DGN

QUANTITIES

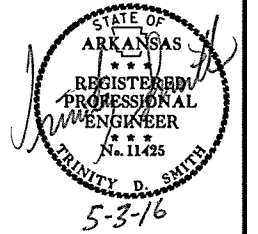
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						050263	39	160

2 SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	103	STATION
201	GRUBBING	103	STATION
202	REMOVAL AND DISPOSAL OF POSTS	12	EACH
202	REMOVAL AND DISPOSAL OF FLAG POLE	4	EACH
202	REMOVAL AND DISPOSAL OF FENCE	17451	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS	287	SQ. YD.
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION	2	EACH
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS	21	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	54	EACH
202	REMOVAL AND DISPOSAL OF RETAINING WALLS	80	LIN. FT.
202	REMOVAL AND DISPOSAL OF WALLS	70	LIN. FT.
202	REMOVAL AND DISPOSAL OF BRICK COLUMNS	4	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	14	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS	4	EACH
210	UNCLASSIFIED EXCAVATION	73643	CU. YD.
210	COMPACTED EMBANKMENT	75576	CU. YD.
SP & 210	SOIL STABILIZATION	300	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	73805	TON
SS & 401	TACK COAT	23190	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	18388	TON
SP & 405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")	786	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	11850	TON
SP, SS, & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")	558	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	29233	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	45	TON
SP, SS, & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	1624	TON
412	COLD MILLING ASPHALT PAVEMENT	1667	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	77	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY	100	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY	254.10	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	381	SQ. FT.
SS & 604	BARRICADES	64	LIN. FT.
SS & 604	TRAFFIC DRUMS	581	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	1111	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER	1111	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	142634	LIN. FT.
SS & 604	VERTICAL PANELS	212	EACH
605	CONCRETE DITCH PAVING (TYPE B)	726	SQ. YD.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	322	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	74	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	292	LIN. FT.
606	60" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	504	LIN. FT.
606	72" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	248	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN	1460	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN	648	LIN. FT.
SP, SS, & 606	30" SIDE DRAIN	30	LIN. FT.
SP, SS, & 606	36" SIDE DRAIN	132	LIN. FT.
SS & 606	21" X 15" SIDE DRAIN	38	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	8	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	8	EACH
606	60" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	8	EACH
606	72" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
606	SELECTED PIPE BEDDING	350	CU. YD.
611	UNDERDRAIN OUTLET PROTECTORS	34	EACH
611	4" PIPE UNDERDRAINS	8500	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)	97	TON
619	WIRE FENCE (TYPE C)	1004	LIN. FT.
619	WIRE FENCE (TYPE D)	2121	LIN. FT.
619	WIRE FENCE (TYPE D-1)	5516	LIN. FT.
619	WIRE FENCE (TYPE D-2)	1023	LIN. FT.
* 619	5' STEEL CHAIN LINK FENCE (ALTERNATE NO. 1)	1413	LIN. FT.
* 619	5' ALUMINUM CHAIN LINK FENCE (ALTERNATE NO. 2)	1413	LIN. FT.
* 619	16' STEEL GATES (ALTERNATE NO. 1)	14	EACH
* 619	16' ALUMINUM GATES (ALTERNATE NO. 2)	14	EACH

\* DENOTES ALTERNATE BID ITEMS.



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
5-19-16				6	ARK.			
5-25-16								
6-9-16								
				JOB NO.	050263		40	160

2 SUMMARY OF QUANTITIES AND REVISIONS



SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
620	LIME	53	TON
620	SEEDING	26.64	ACRE
SS & 620	MULCH COVER	110.77	ACRE
620	WATER	4446.1	M.GAL
621	TEMPORARY SEEDING	84.13	ACRE
621	SILT FENCE	331	LIN. FT.
621	SAND BAG DITCH CHECKS	1100	BAG
621	SEDIMENT BASIN	5173	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	5173	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	5623	CU. YD.
621	ROCK DITCH CHECKS	729	CU. YD.
621	WATTLE (20")	1305	LIN. FT.
623	SECOND SEEDING APPLICATION	26.64	ACRE
624	SOLID SODDING	987	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	2191	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	38	EACH
637	MAILBOX SUPPORTS (SINGLE)	38	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	64742	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")	1342	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	1191	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	42841	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	43163	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	871	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	1	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	2	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	1	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	183	CU. YD.
802	CLASS S CONCRETE-ROADWAY	432.48	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)	60298	POUND
SP	REMOVAL OF RUMBLE STRIP	2130	LIN. FT.
SP	WATER GATE	4	EACH
STRUCTURES OVER 20' SPAN			
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	76	CU. YD.
802	CLASS S CONCRETE-ROADWAY	146.21	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)	22790	POUND

REVISIONS

DATE	REVISION	SHEET NUMBER
5-19-16	REMOVED "MANDATORY ELECTRONIC DOCUMENT SUBMITTAL" SPECIAL PROVISION.	3, 40
5-25-16	REVISED STANDARD DRAWING PM-1.	2, 40, 73
6-9-16	ADDED THE SPECIAL PROVISION "ISSUANCE OF PROPOSALS".	3, 40

6/9/2016

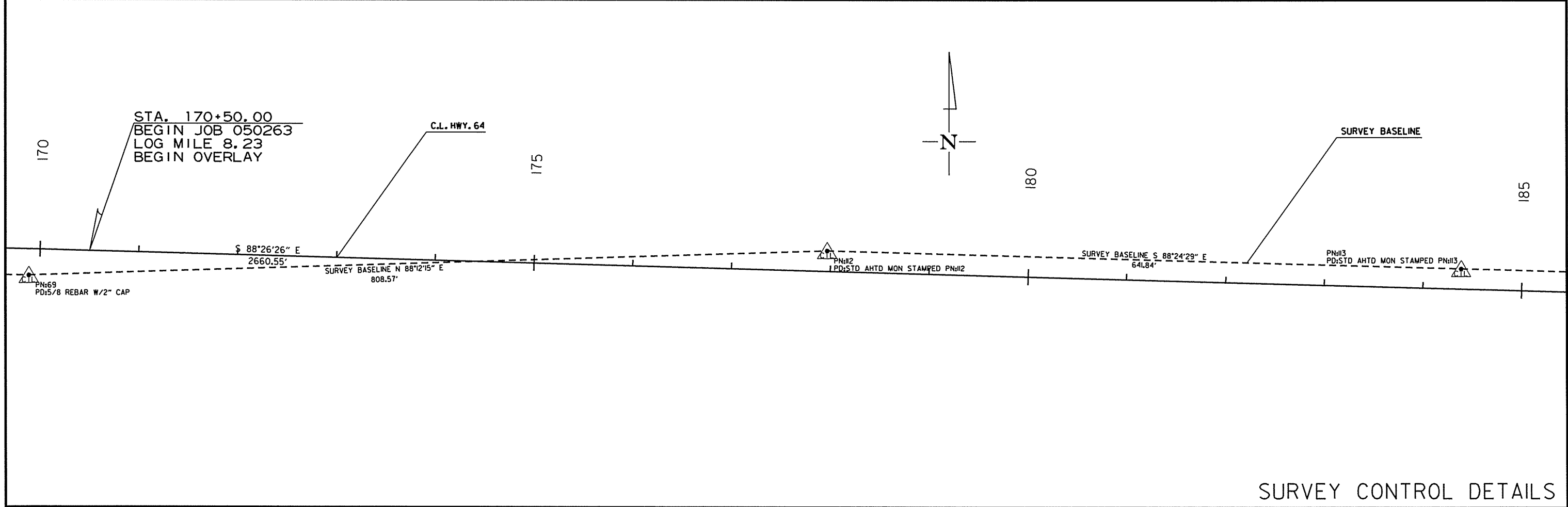
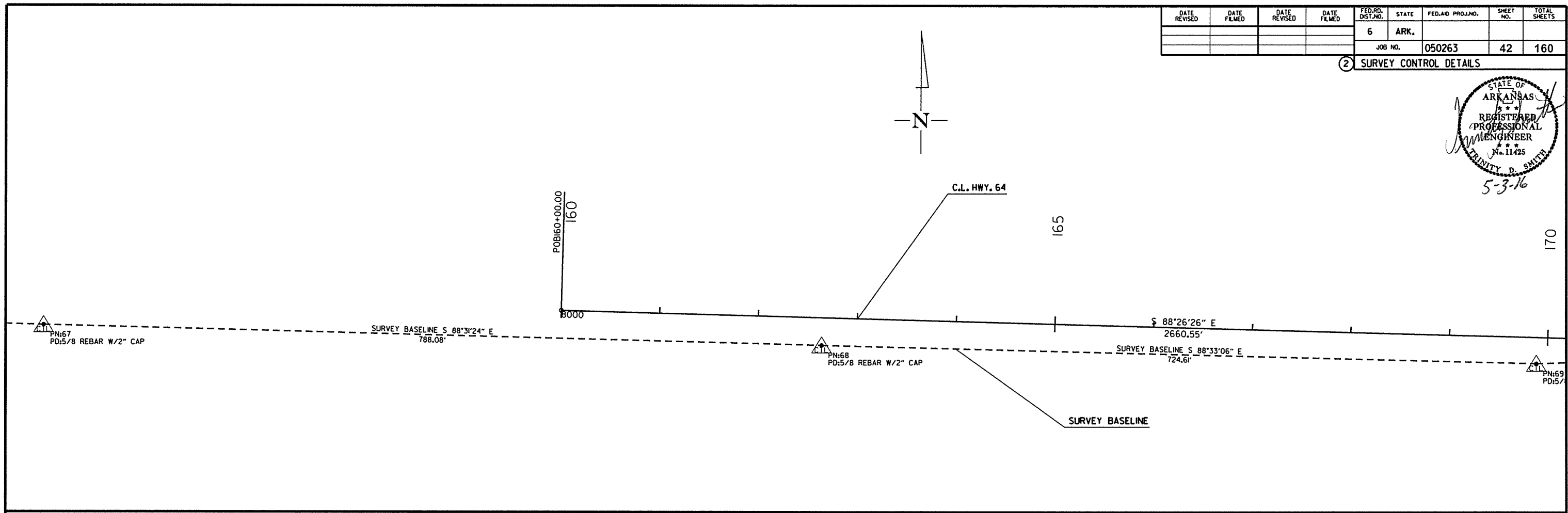
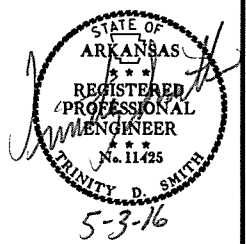
R050263.DGN





DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		42	160

2 SURVEY CONTROL DETAILS

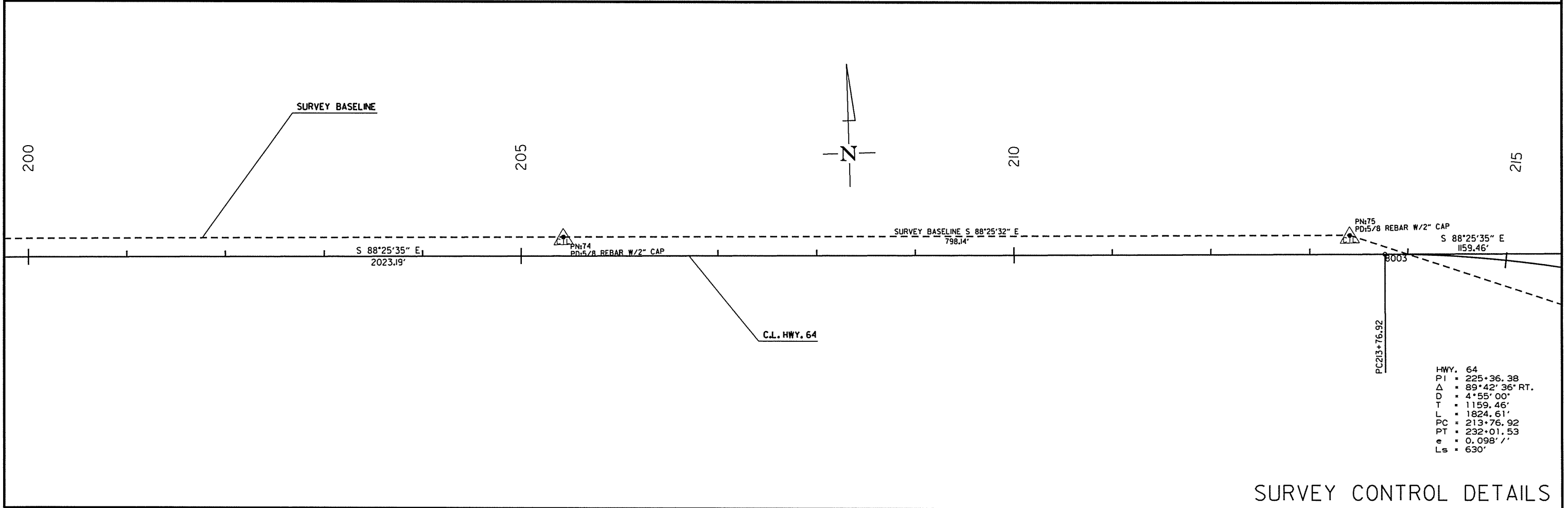
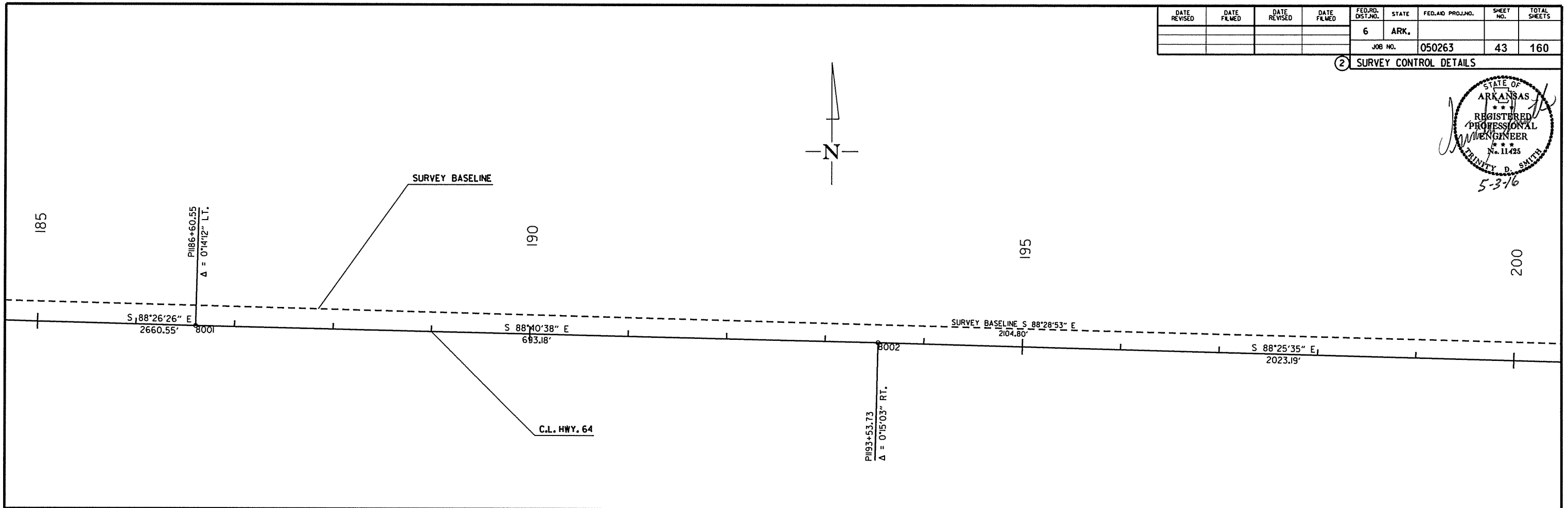
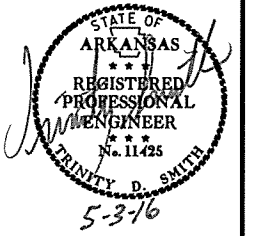


4/28/2016  
R050263.DGN

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.		050263	43	160

2 SURVEY CONTROL DETAILS



HWY. 64  
 PI = 225+36.38  
 Δ = 89°42'36" RT.  
 D = 4°55'00"  
 T = 1159.46'  
 L = 1824.61'  
 PC = 213+76.92  
 PT = 232+01.53  
 e = 0.098' /'  
 Ls = 630'

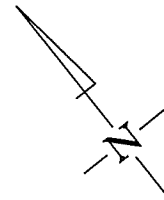
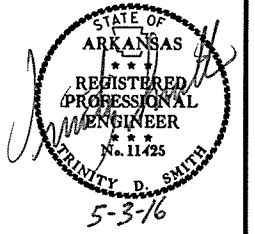
SURVEY CONTROL DETAILS

4/28/2016

R050263.DGN

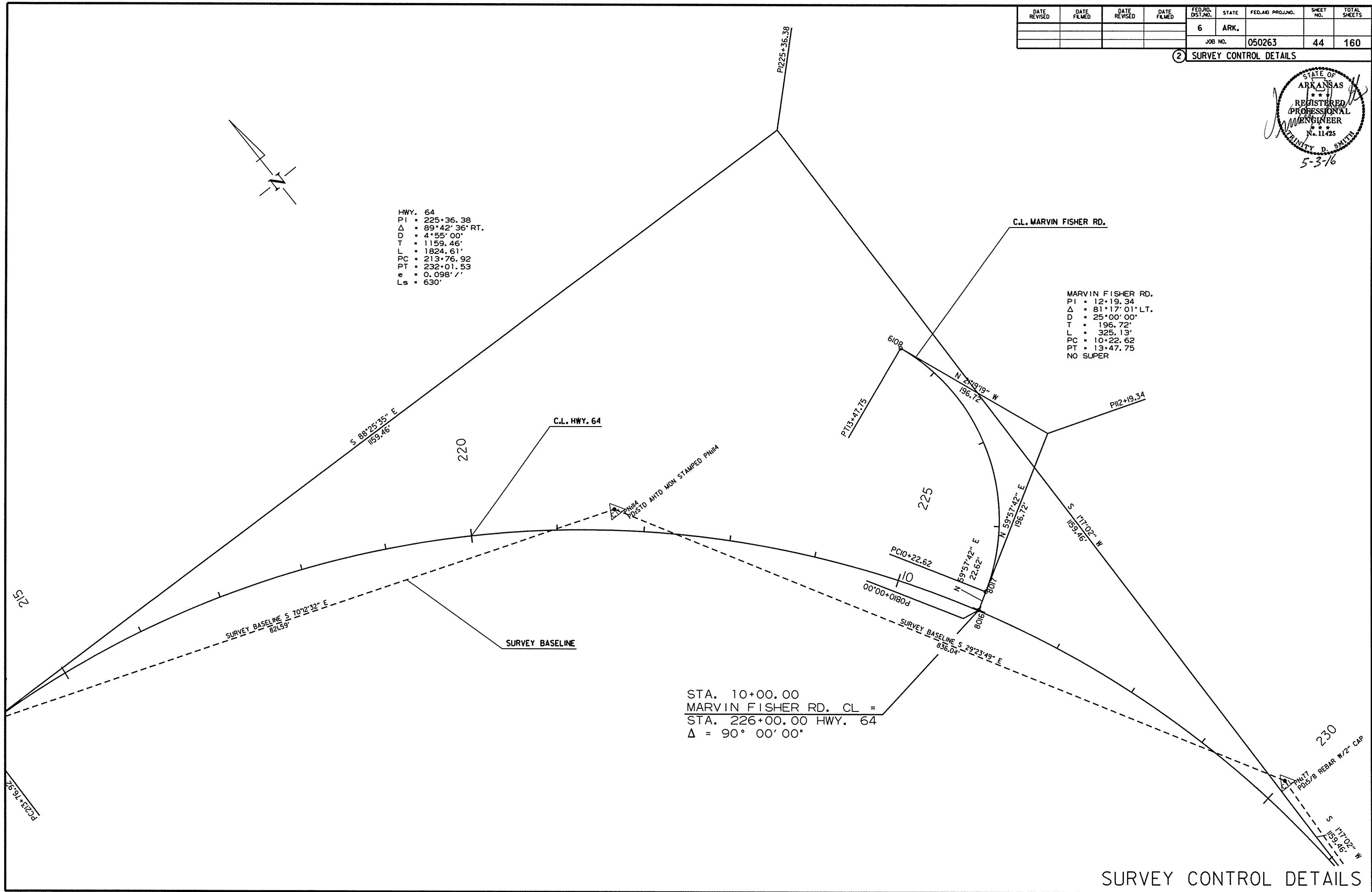
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		44	160

② SURVEY CONTROL DETAILS



HWY. 64  
 PI = 225+36.38  
 $\Delta$  = 89° 42' 36" RT.  
 D = 4' 55" 00"  
 T = 1159.46'  
 L = 1824.61'  
 PC = 213+76.92  
 PT = 232+01.53  
 e = 0.098' /'  
 Ls = 630'

MARVIN FISHER RD.  
 PI = 12+19.34  
 $\Delta$  = 81° 17' 01" LT.  
 D = 25' 00" 00"  
 T = 196.72'  
 L = 325.13'  
 PC = 10+22.62  
 PT = 13+47.75  
 NO SUPER



STA. 10+00.00  
 MARVIN FISHER RD. CL =  
 STA. 226+00.00 HWY. 64  
 $\Delta$  = 90° 00' 00"

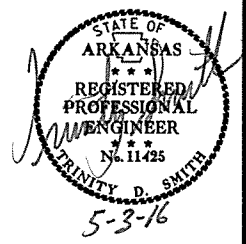
SURVEY CONTROL DETAILS

4/28/2016

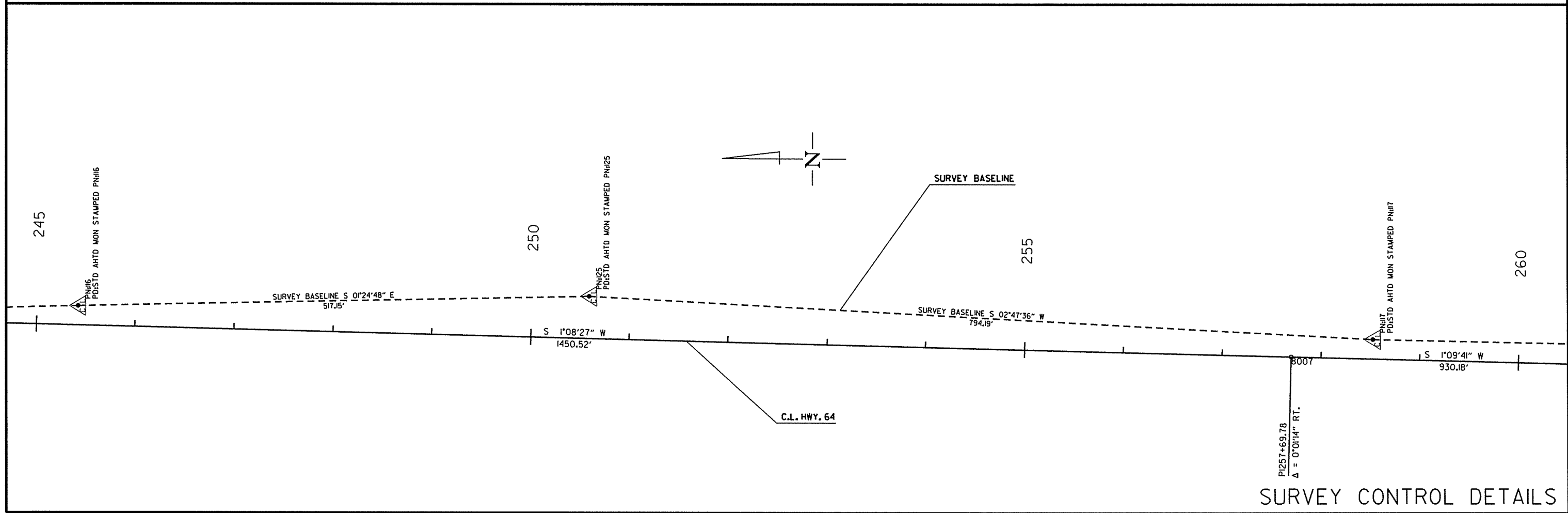
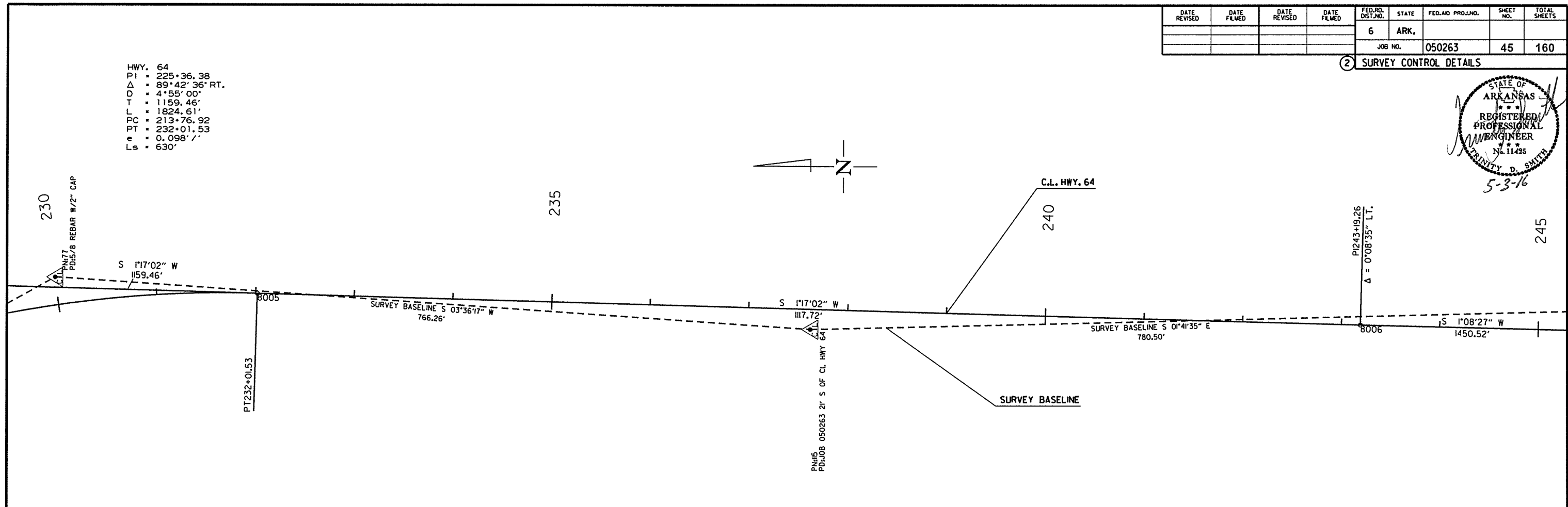
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		45	160

2 SURVEY CONTROL DETAILS



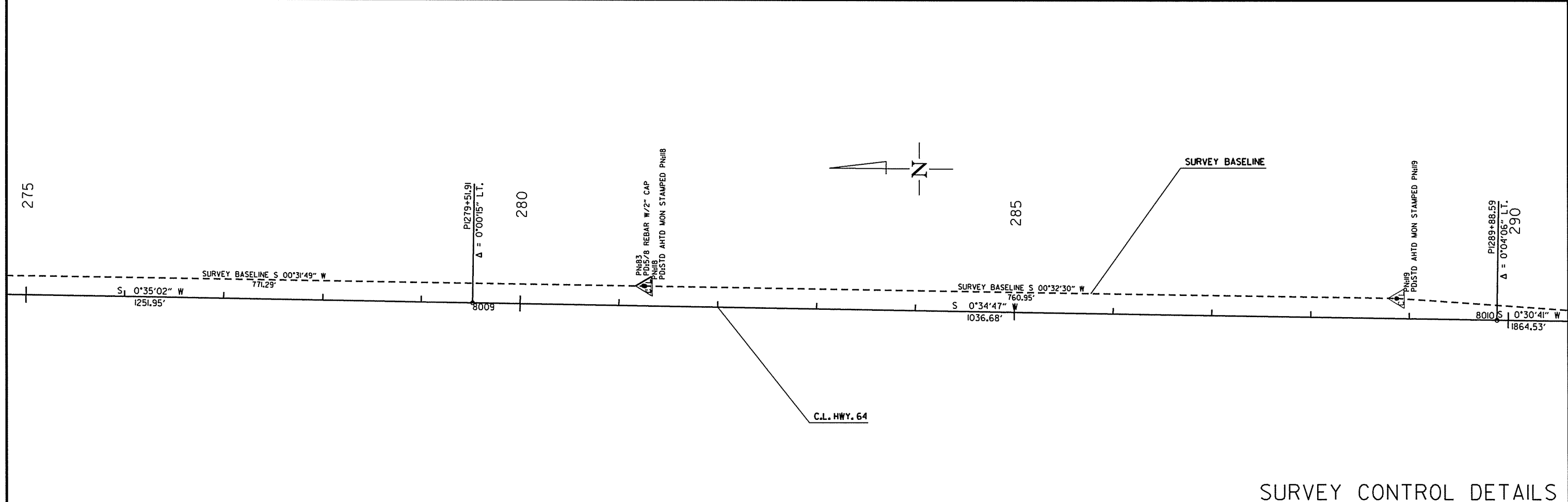
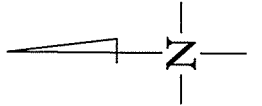
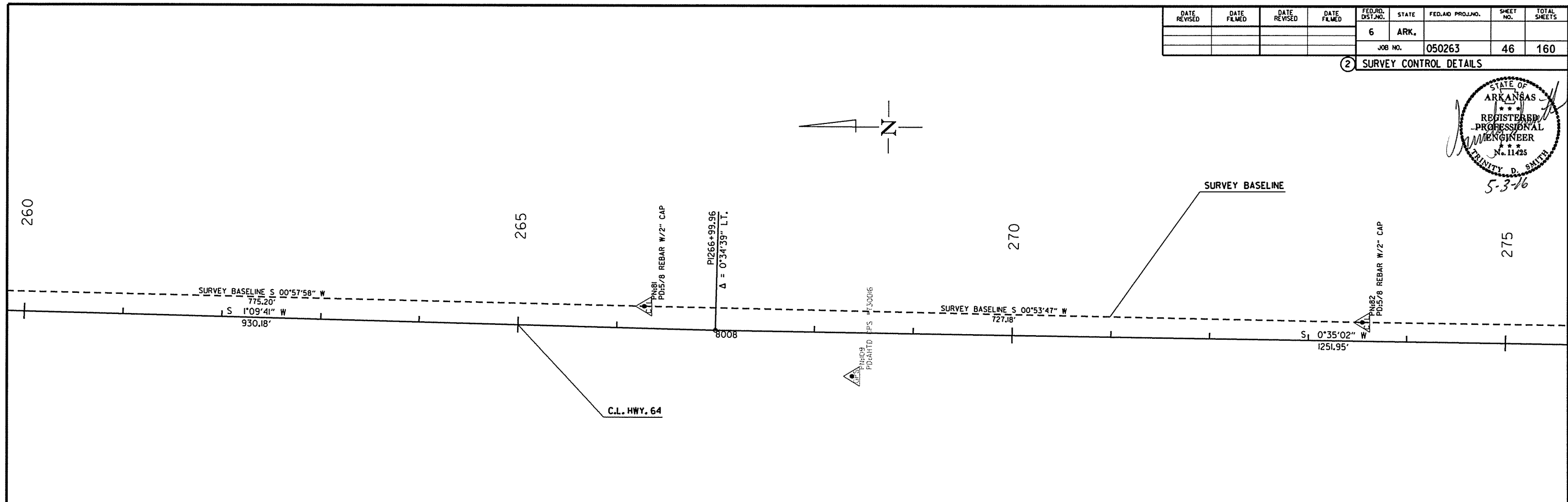
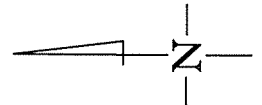
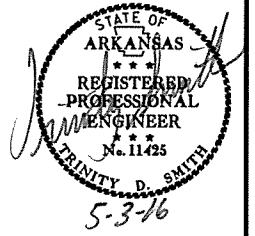
HWY. 64  
 PI = 225+36.38  
 $\Delta$  = 89°42'36" RT.  
 D = 4°55'00"  
 T = 1159.46'  
 L = 1824.61'  
 PC = 213+76.92  
 PT = 232+01.53  
 e = 0.098' /'  
 Ls = 630'



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.							050263	46	160

② SURVEY CONTROL DETAILS

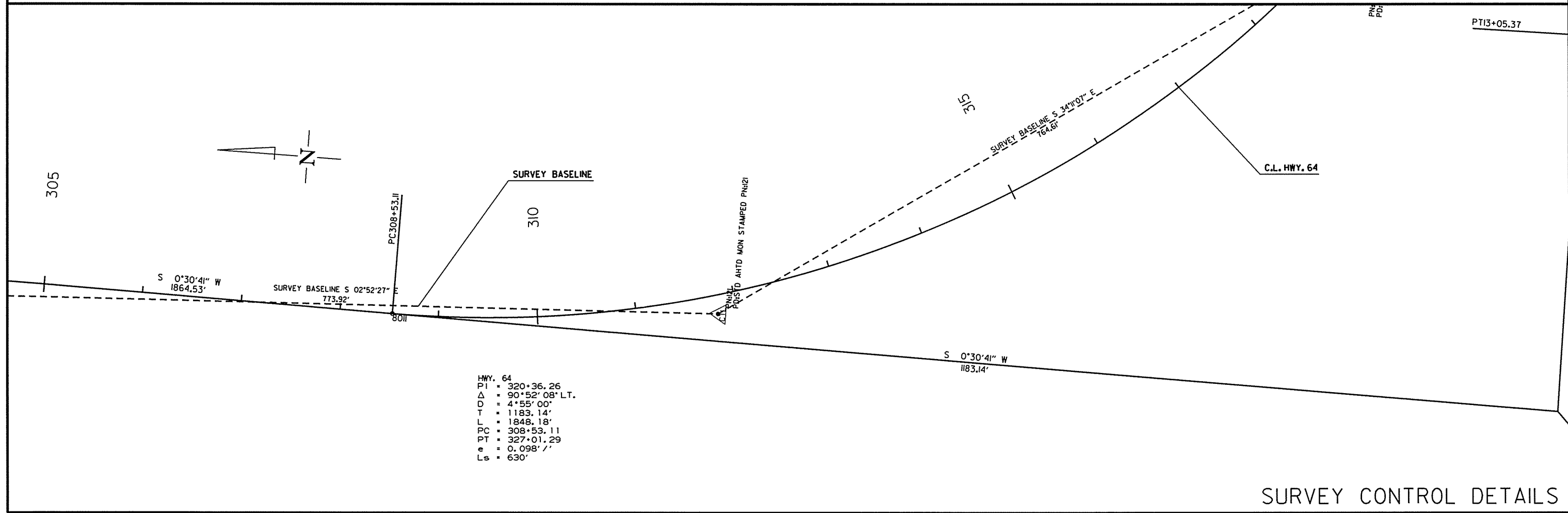
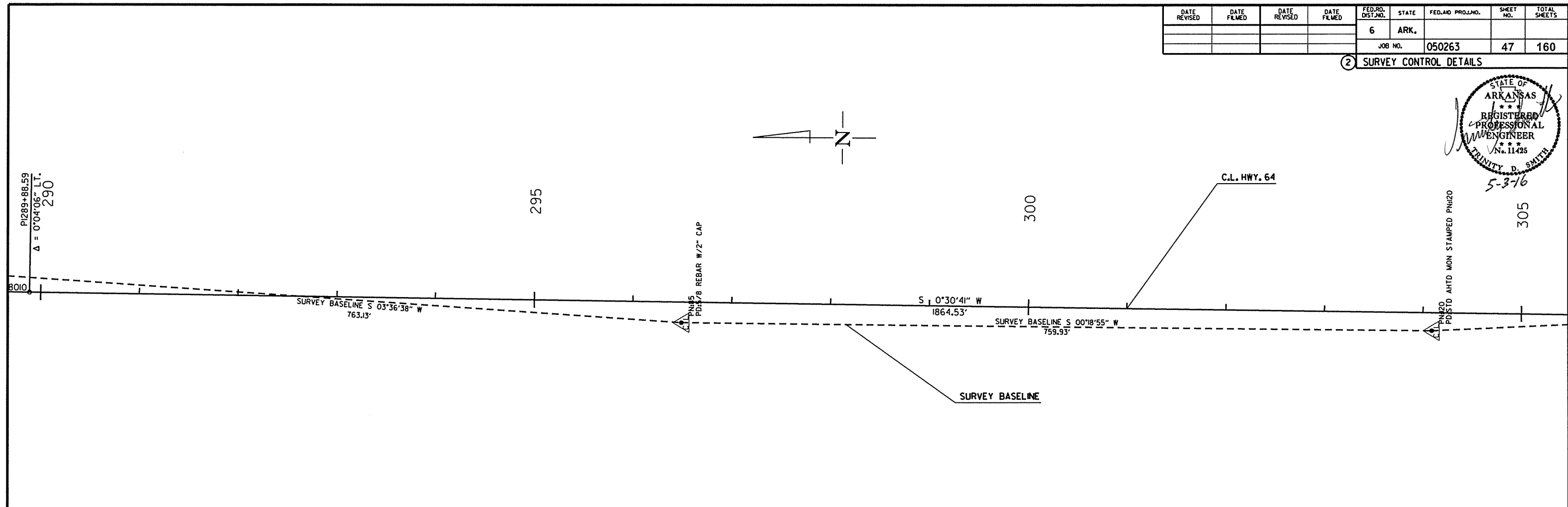
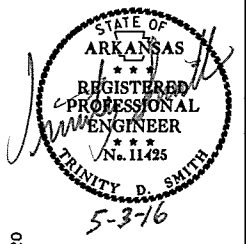


SURVEY CONTROL DETAILS

4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		47	160

② SURVEY CONTROL DETAILS



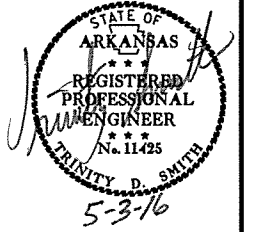
HWY. 64  
 PI = 320+36.26  
 $\Delta$  = 90°52'08" LT.  
 D = 4°55'00"  
 T = 1183.14'  
 L = 1848.18'  
 PC = 308+53.11  
 PT = 327+01.29  
 e = 0.098' / '  
 Ls = 630'

SURVEY CONTROL DETAILS

4/28/2016  
 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							48	160

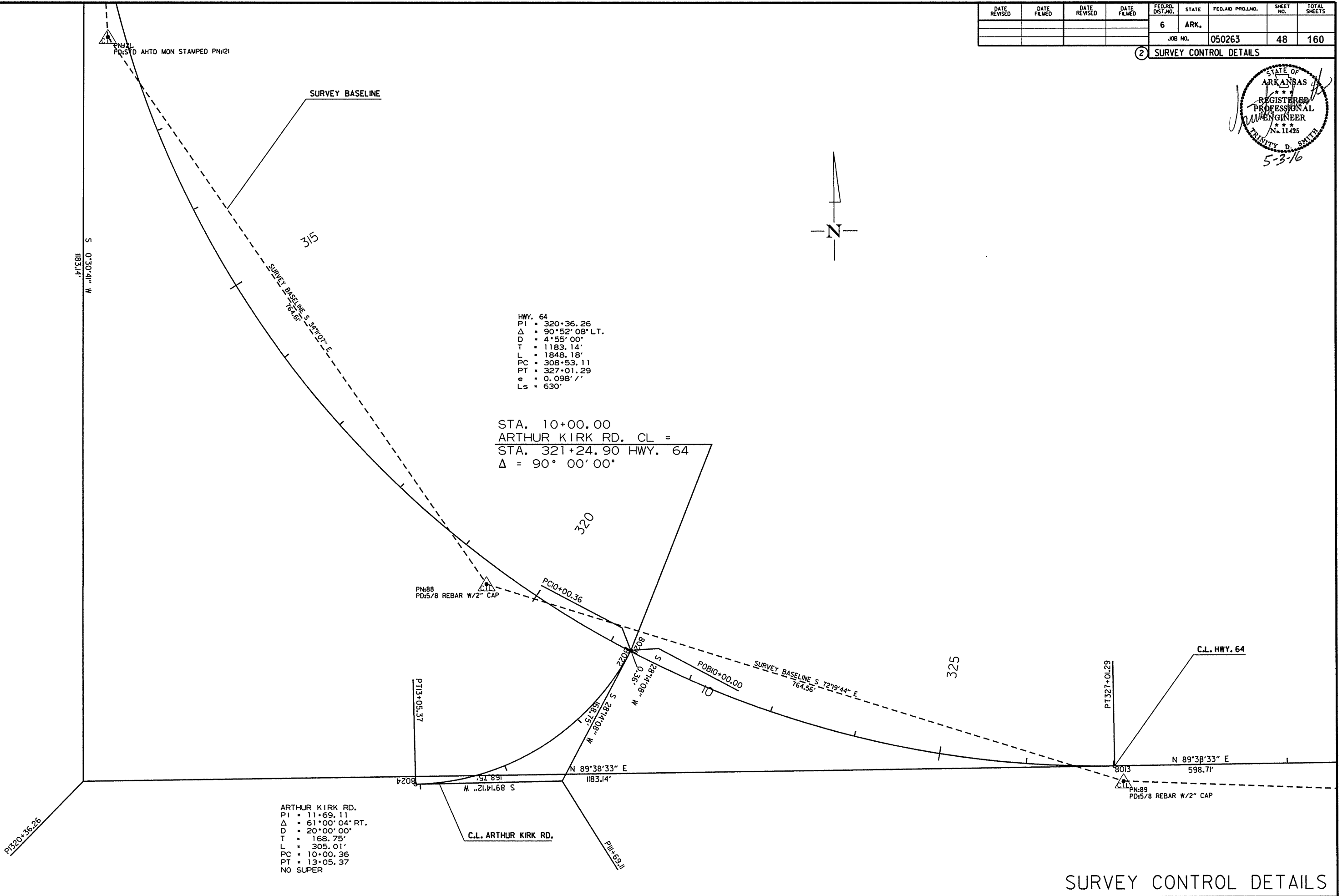
2 SURVEY CONTROL DETAILS



HWY. 64  
 PI = 320+36.26  
 $\Delta$  = 90° 52' 08" LT.  
 D = 4° 55' 00"  
 T = 1183.14'  
 L = 1848.18'  
 PC = 308+53.11  
 PT = 327+01.29  
 e = 0.098' /'  
 Ls = 630'

STA. 10+00.00  
 ARTHUR KIRK RD. CL =  
 STA. 321+24.90 HWY. 64  
 $\Delta$  = 90° 00' 00"

ARTHUR KIRK RD.  
 PI = 11+69.11  
 $\Delta$  = 61° 00' 04" RT.  
 D = 20° 00' 00"  
 T = 168.75'  
 L = 305.01'  
 PC = 10+00.36  
 PT = 13+05.37  
 NO SUPER



SURVEY CONTROL DETAILS

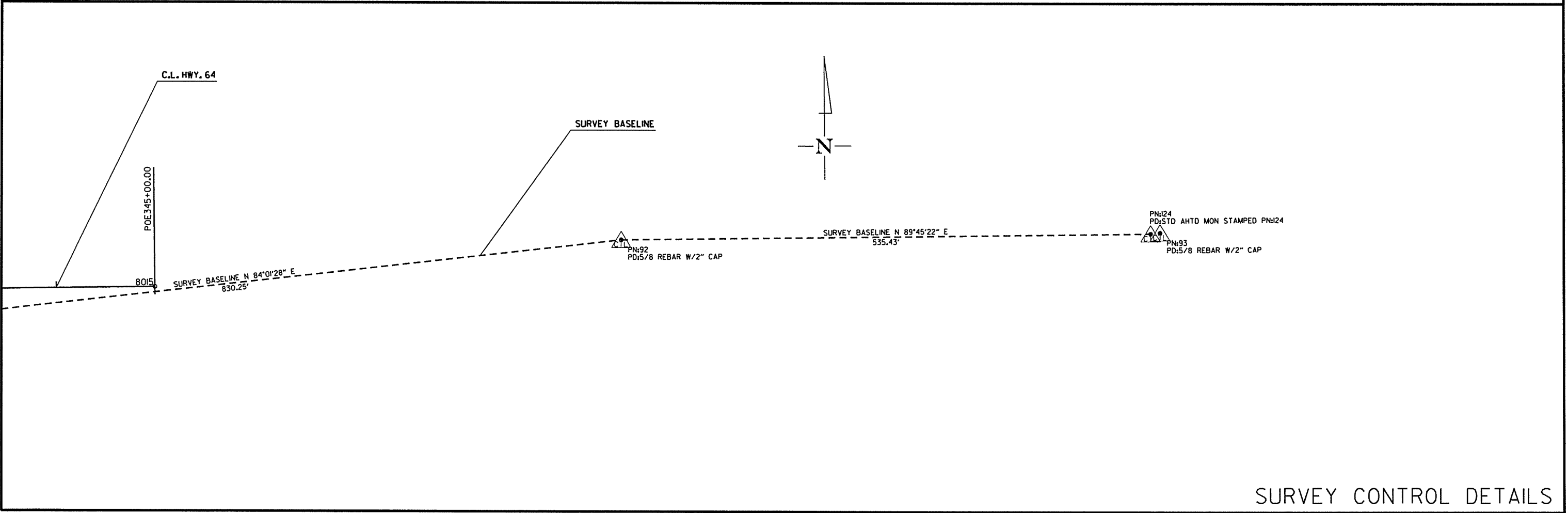
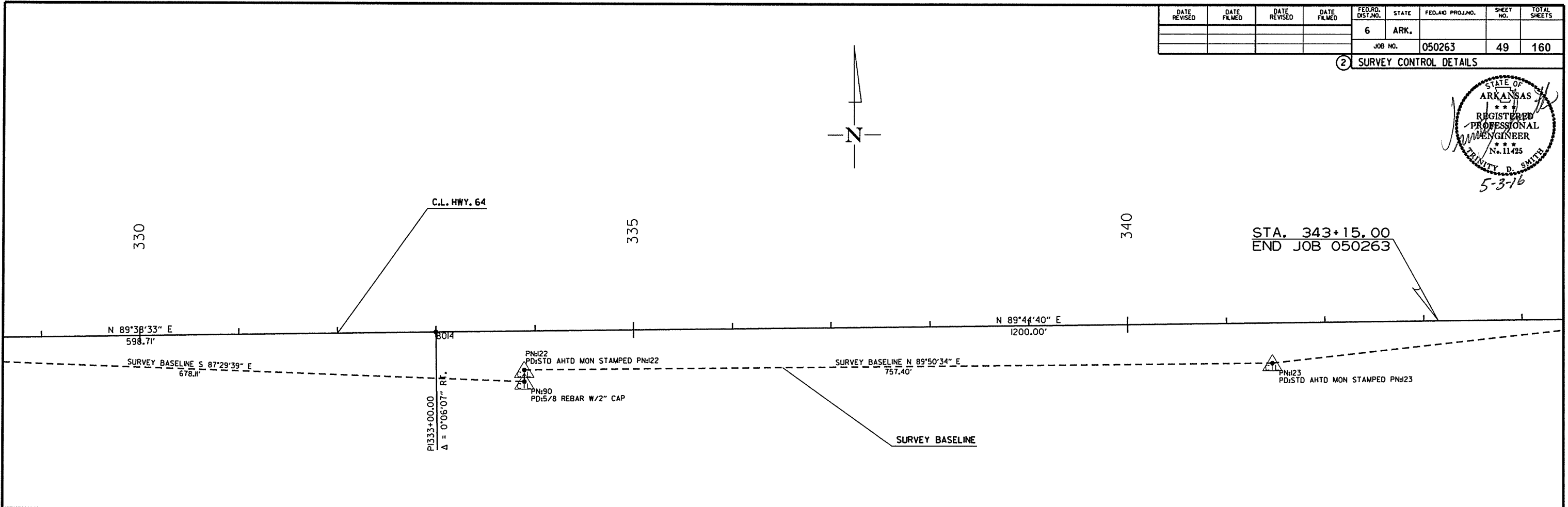
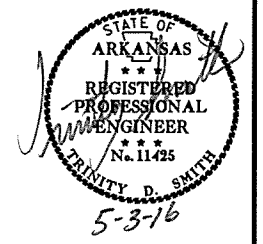
4/28/2016

R050263.DGN



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		49	160

② SURVEY CONTROL DETAILS



4/28/2016

R050263.DGN

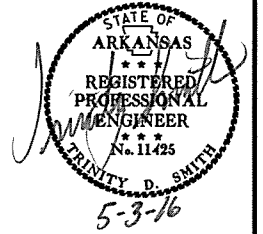
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		50	160

SOIL LOG

2 SOIL LOG

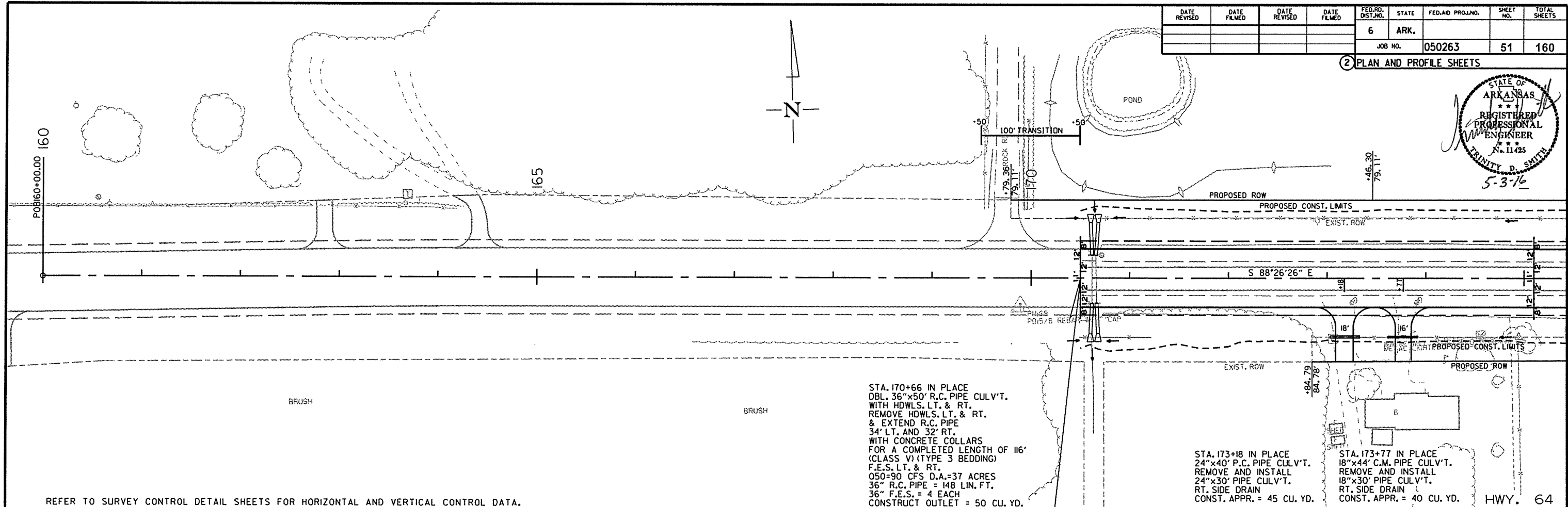
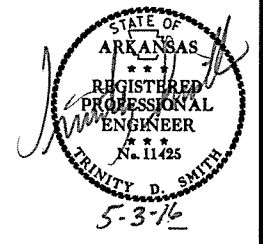
STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC						
171+00	35	5	48.50	91	58	49.30	26'RT	0-5	27	10	A-4(8)	BROWN
171+00	35	5	48.50	91	58	49.30	16'RT	0-5	21	6	A-4(2)	BROWN
171+00	35	5	48.50	91	58	49.30	6'RT	0-5	23	6	A-4(3)	BROWN
179+00	35	5	48.80	91	58	40.00	26'LT	0-5	32	15	A-6(12)	BROWN
179+00	35	5	48.70	91	58	40.00	16'LT	0-5	26	11	A-6(5)	BR/GR
179+00	35	5	48.60	91	58	40.00	6'LT	0-5	22	7	A-4(3)	BR/GR
187+00	35	5	48.10	91	58	30.10	25'RT	0-5	33	14	A-6(9)	BROWN
187+00	35	5	48.10	91	58	30.10	15'RT	0-5	29	12	A-6(6)	BROWN
187+00	35	5	48.20	91	58	30.10	6'RT	0-5	26	11	A-6(4)	BROWN
195+00	35	5	48.40	91	58	20.90	26'LT	0-5	28	10	A-4(8)	BROWN
195+00	35	5	48.10	91	58	20.90	6'LT	0-5	24	8	A-4(5)	BR/GR
195+00	35	5	48.20	91	58	20.90	15'LT	0-5	24	8	A-4(4)	BROWN
203+00	35	5	47.80	91	58	11.00	6'RT	0-5	24	8	A-4(4)	BR/GR
203+00	35	5	47.60	91	58	11.00	26'RT	0-5	31	15	A-6(8)	BROWN
203+00	35	5	47.70	91	58	11.00	15'RT	0-5	22	7	A-4(2)	BROWN
211+00	35	5	47.90	91	58	1.40	28'LT	0-5	28	11	A-6(6)	BROWN
211+00	35	5	47.80	91	58	1.40	15'LT	0-5	22	6	A-4(1)	BR/GR
211+00	35	5	47.70	91	58	1.40	6'LT	0-5	29	12	A-6(6)	BR/GR
219+00	35	5	46.00	91	57	52.20	26'RT	0-5	29	12	A-6(7)	BR/GR
219+00	35	5	46.10	91	57	52.10	14'RT	0-5	26	11	A-6(6)	BR/GR
219+00	35	5	46.20	91	57	52.00	6'RT	0-5	24	8	A-4(4)	BR/GR
227+00	35	5	40.60	91	57	45.50	15'LT	0-5	23	9	A-4(4)	BROWN
227+00	35	5	40.60	91	57	45.60	6'LT	0-5	21	11	A-6(5)	BR/GR
227+00	35	5	40.60	91	57	45.40	26'LT	0-5	24	9	A-4(4)	BROWN
235+00	35	5	32.80	91	57	45.10	30'RT	0-5	24	8	A-4(4)	BROWN
235+00	35	5	32.80	91	57	44.90	15'RT	0-5	23	8	A-4(2)	BR/GR
235+00	35	5	32.80	91	57	47.80	6'RT	0-5	21	7	A-4(2)	BR/GR
243+00	35	5	25.00	91	57	44.60	26'LT	0-5	30	13	A-6(8)	BROWN
243+00	35	5	25.00	91	57	44.70	15'LT	0-5	32	15	A-6(9)	BR/GR
243+00	35	5	25.00	91	57	44.90	6'LT	0-5	34	16	A-6(8)	BROWN
251+00	35	5	17.00	91	57	45.50	26'RT	0-5	36	16	A-6(12)	BR/GR
251+00	35	5	17.00	91	57	45.30	15'RT	0-5	36	17	A-6(10)	BR/GR
251+00	35	5	17.00	91	57	45.20	5'RT	0-5	35	16	A-6(12)	BR/GR
259+00	35	5	9.20	91	57	45.10	15'LT	0-5	19	3	A-4(0)	BR/GR
259+00	35	5	9.10	91	57	45.30	6'LT	0-5	26	10	A-4(5)	BR/GR
259+00	35	5	9.20	91	57	45.00	28'LT	0-5	29	11	A-6(7)	BROWN
267+00	35	5	1.50	91	57	45.70	17'RT	0-5	24	8	A-4(3)	BR/GR
267+00	35	5	1.50	91	57	45.80	28'RT	0-5	28	9	A-4(5)	BROWN
267+00	35	5	1.50	91	57	45.60	6'RT	0-5	24	6	A-4(2)	BR/GR
275+00	35	4	52.90	91	57	45.30	25'LT	0-5	34	14	A-6(10)	BROWN
275+00	35	4	52.90	91	57	45.60	6'LT	0-5	29	10	A-4(6)	BROWN
275+00	35	4	52.90	91	57	45.40	16'LT	0-5	22	5	A-4(2)	BROWN
283+00	35	4	45.10	91	57	45.80	6'RT	0-5	23	6	A-4(3)	GRAY
283+00	35	4	45.10	91	57	46.10	27'RT	0-5	22	4	A-4(1)	BROWN
283+00	35	4	45.20	91	57	45.90	16'RT	0-5	21	6	A-4(2)	BROWN
291+00	35	4	37.30	91	57	45.50	26'LT	0-5	28	12	A-6(7)	BROWN
291+00	35	4	37.30	91	57	45.60	16'LT	0-5	22	6	A-4(1)	BROWN
291+00	35	4	37.30	91	57	45.70	6'LT	0-5	25	9	A-4(4)	BROWN
299+00	35	4	29.60	91	57	46.20	26'RT	0-5	37	19	A-6(16)	BROWN
299+00	35	4	29.60	91	57	46.10	16'RT	0-5	24	7	A-4(3)	BROWN
299+00	35	4	29.60	91	57	46.00	6'RT	0-5	27	10	A-4(6)	BROWN
307+00	35	4	21.40	91	57	45.60	32'LT	0-5	22	5	A-4(2)	BROWN
307+00	35	4	21.40	91	57	45.80	17'LT	0-5	20	5	A-4(1)	BR/GR
307+00	35	4	9.30	91	57	45.90	6'LT	0-5	23	8	A-4(3)	BR/GR
315+00	35	4	13.70	91	57	44.20	31'RT	0-5	22	6	A-4(2)	BROWN
315+00	35	4	13.80	91	57	44.00	16'RT	0-5	21	7	A-4(2)	BROWN
315+00	35	4	13.80	91	57	43.90	6'RT	0-5	22	7	A-4(3)	BR/GR
323+00	35	4	9.30	91	57	36.80	15'LT	0-5	21	6	A-4(1)	BROWN
323+00	35	4	9.30	91	57	36.80	6'LT	0-5	19	5	A-4(0)	BROWN
323+00	35	4	9.50	91	57	36.70	27'LT	0-5	23	8	A-4(2)	BROWN
331+00	35	4	8.50	91	57	27.00	6'RT	0-5	39	18	A-6(13)	BROWN
331+00	35	4	8.40	91	57	27.00	16'RT	0-5	37	17	A-6(11)	BROWN
331+00	35	4	8.20	91	57	27.00	28'RT	0-5	44	21	A-7-6(20)	BROWN

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



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. 050263							51	160

2 PLAN AND PROFILE SHEETS

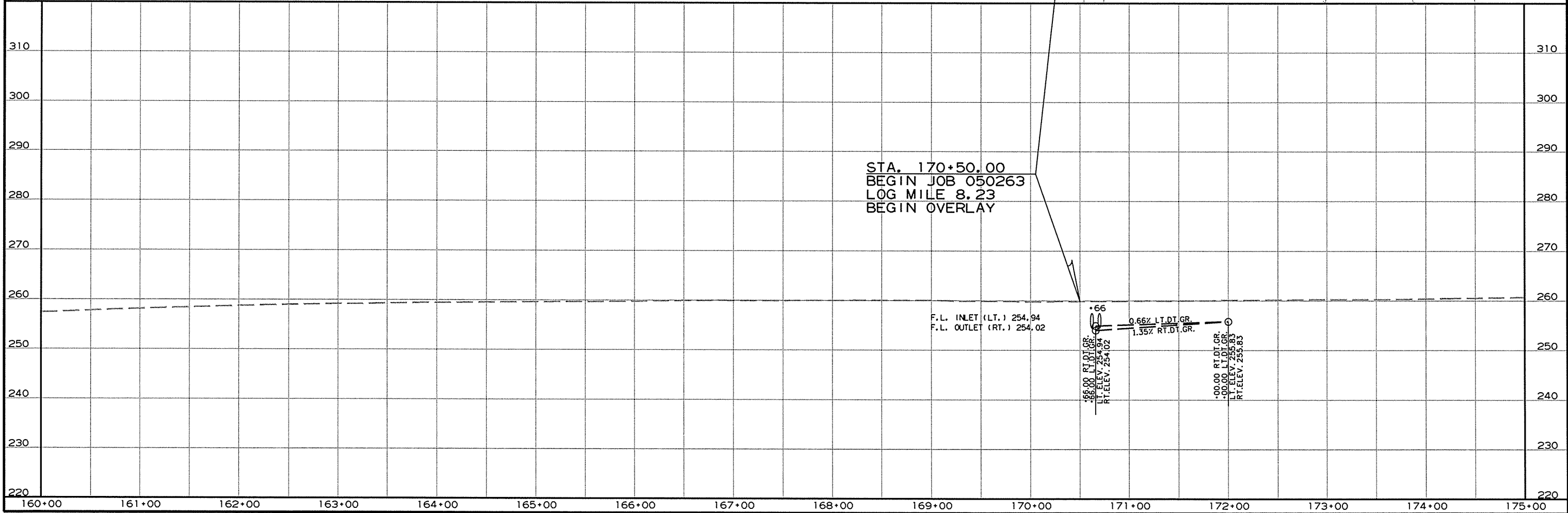


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 170+66 IN PLACE  
 DBL. 36"x50' R.C. PIPE CULV'T.  
 WITH HDWLS. LT. & RT.  
 REMOVE HDWLS. LT. & RT.  
 & EXTEND R.C. PIPE  
 34' LT. AND 32' RT.  
 WITH CONCRETE COLLARS  
 FOR A COMPLETED LENGTH OF 116'  
 (CLASS V) (TYPE 3 BEDDING)  
 F.E.S. LT. & RT.  
 050=90 CFS D.A.=37 ACRES  
 36" R.C. PIPE = 148 LIN. FT.  
 36" F.E.S. = 4 EACH  
 CONSTRUCT OUTLET = 50 CU. YD.

STA. 173+18 IN PLACE  
 24"x40' P.C. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x30' PIPE CULV'T.  
 RT. SIDE DRAIN  
 CONST. APPR. = 45 CU. YD.

STA. 173+77 IN PLACE  
 18"x44' C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 18"x30' PIPE CULV'T.  
 RT. SIDE DRAIN  
 CONST. APPR. = 40 CU. YD.



STA. 170+50.00  
 BEGIN JOB 050263  
 LOG MILE 8.23  
 BEGIN OVERLAY

F.L. INLET (LT.) 254.94  
 F.L. OUTLET (RT.) 254.02

0.66% LT. DI. GR.  
 1.35% RT. DI. GR.

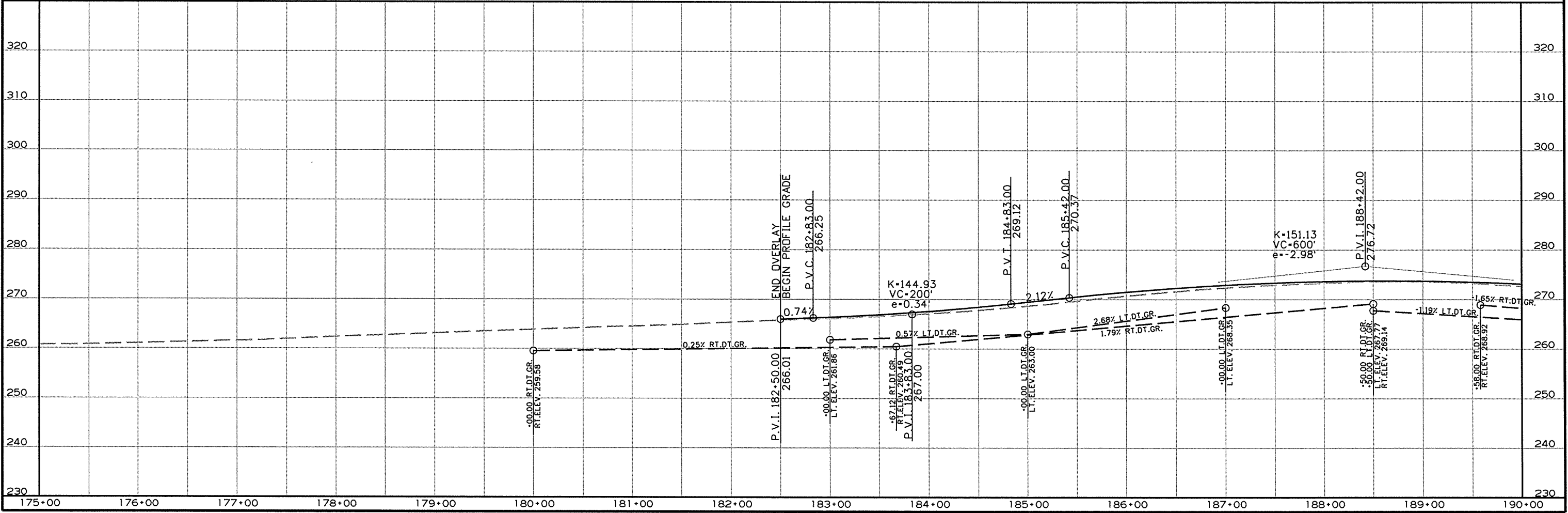
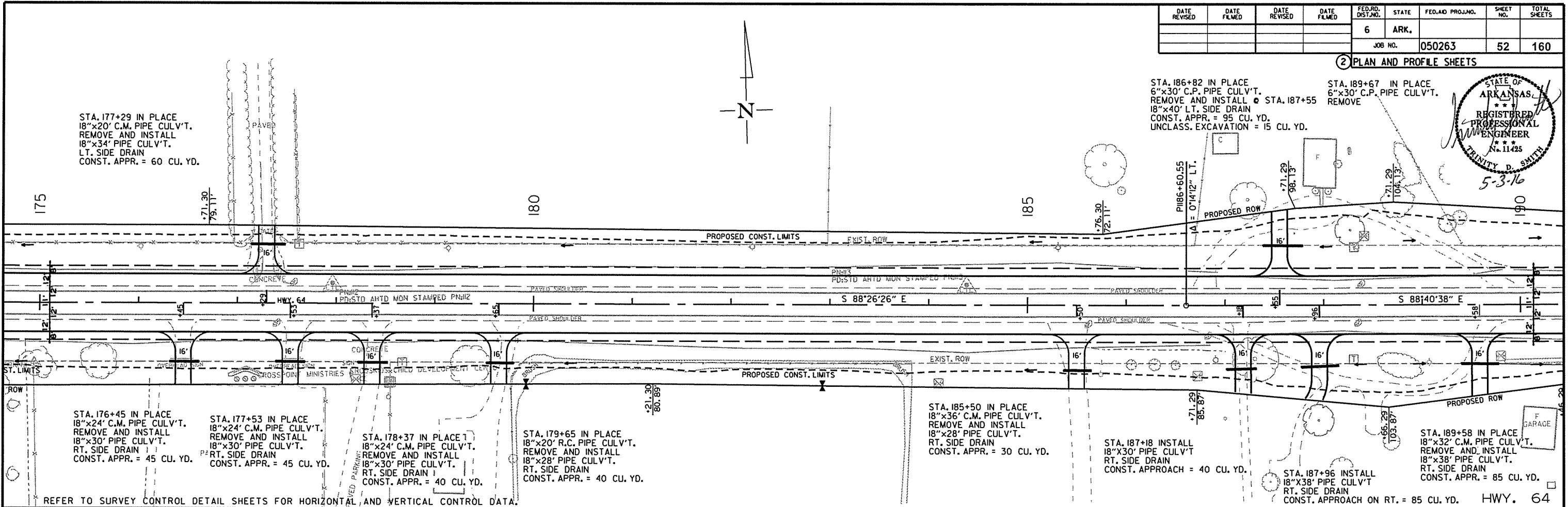
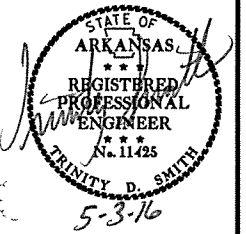
170+66  
 LT. ELEV. 254.94  
 RT. ELEV. 254.02

172+00  
 LT. ELEV. 255.83  
 RT. ELEV. 255.83

R050263.DGN 4/28/2016

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. 050263							52	160

2 PLAN AND PROFILE SHEETS



4/28/2016

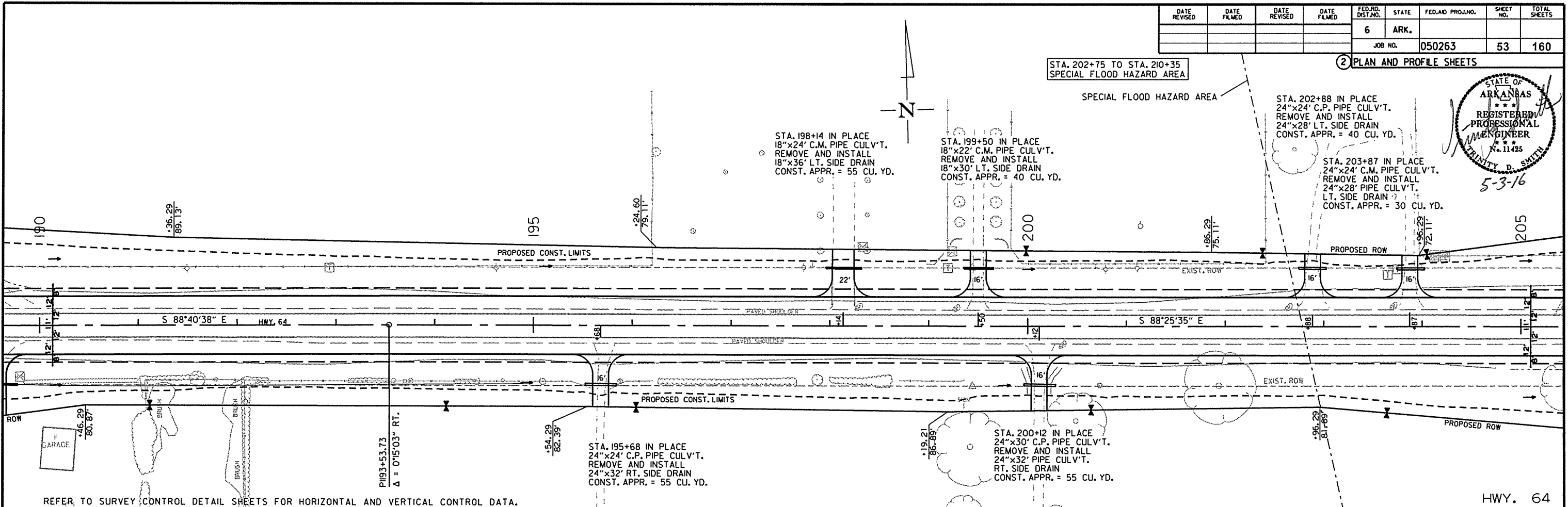
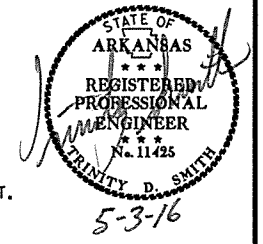
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		53	160
				JOB NO.		050263		

2 PLAN AND PROFILE SHEETS

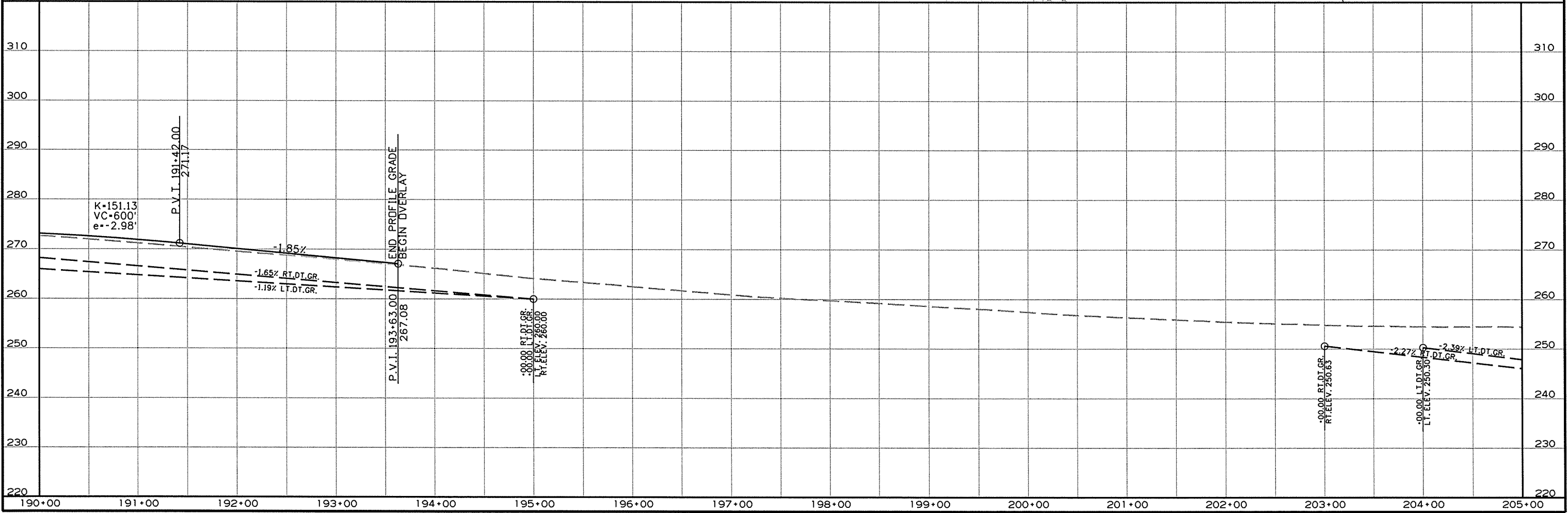
STA. 202+75 TO STA. 210+35  
SPECIAL FLOOD HAZARD AREA

SPECIAL FLOOD HAZARD AREA



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

HWY. 64

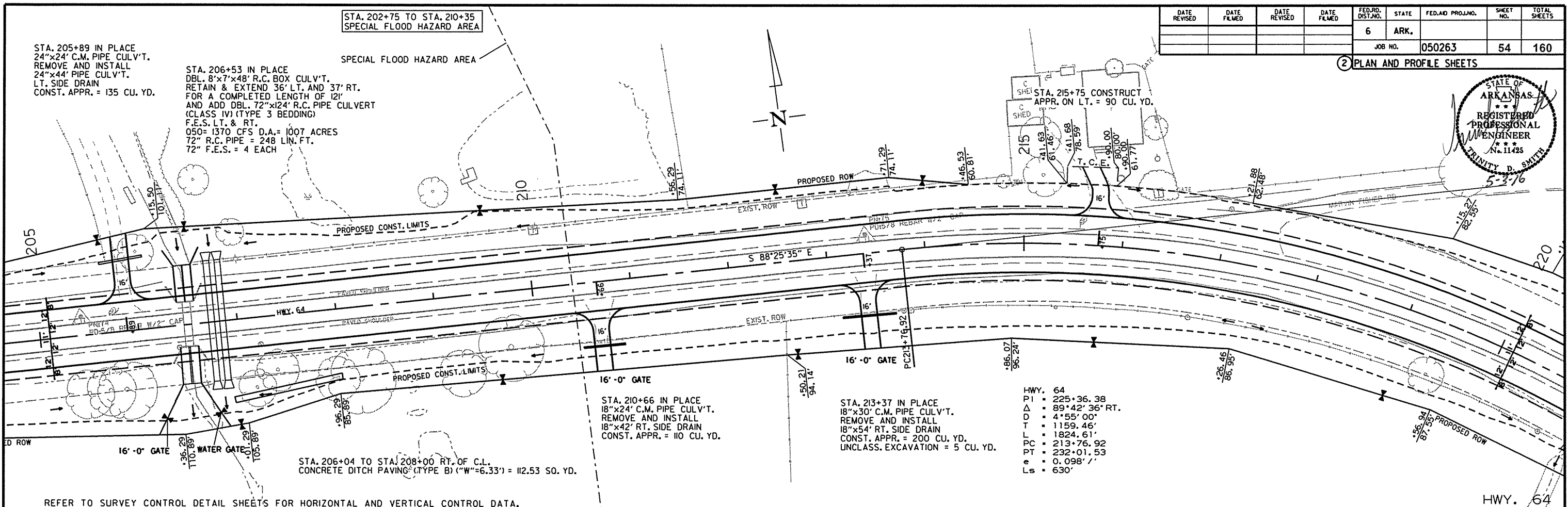


4/28/2016

R050263.DGN

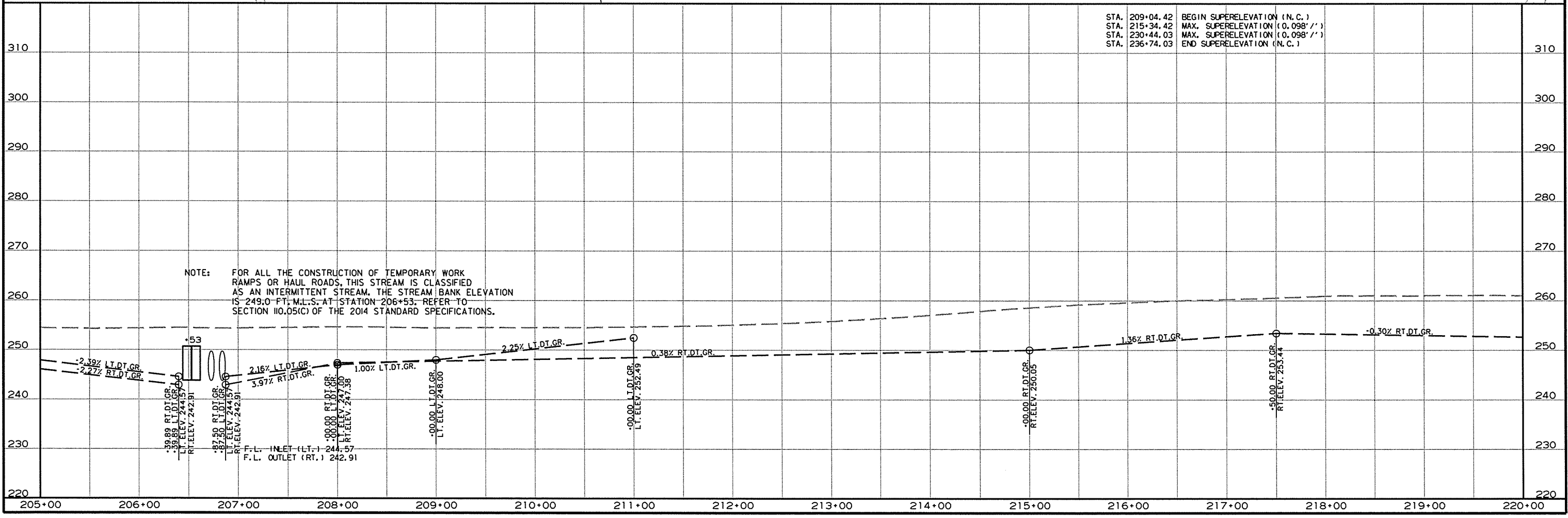
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							54	160

2 PLAN AND PROFILE SHEETS



HWY. 64  
 PI = 225+36.38  
 Δ = 89°42'36" RT.  
 D = 4°55'00"  
 T = 1159.46'  
 L = 1824.61'  
 PC = 213+76.92  
 PT = 232+01.53  
 e = 0.098'/'  
 Ls = 630'

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



NOTE: FOR ALL THE CONSTRUCTION OF TEMPORARY WORK RAMP OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 249.0 FT. M.L.S. AT STATION 206+53. REFER TO SECTION 110.05(C) OF THE 2014 STANDARD SPECIFICATIONS.

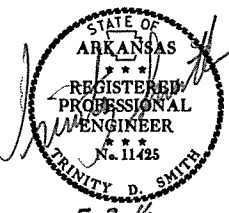
F.L. INLET (LT.) 244.57  
 F.L. OUTLET (RT.) 242.91

4/28/2016 R050263.DGN

STA. 231+25 TO STA. 238+50  
SPECIAL FLOOD HAZARD AREA

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. 050263							55	160

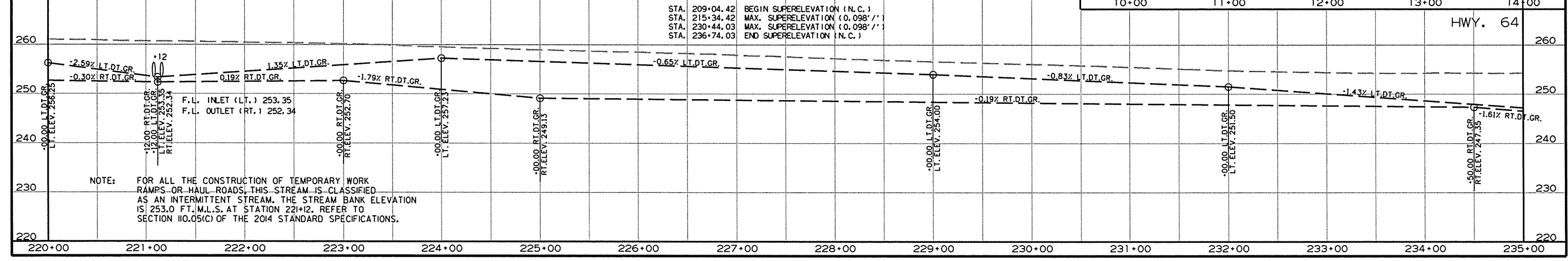
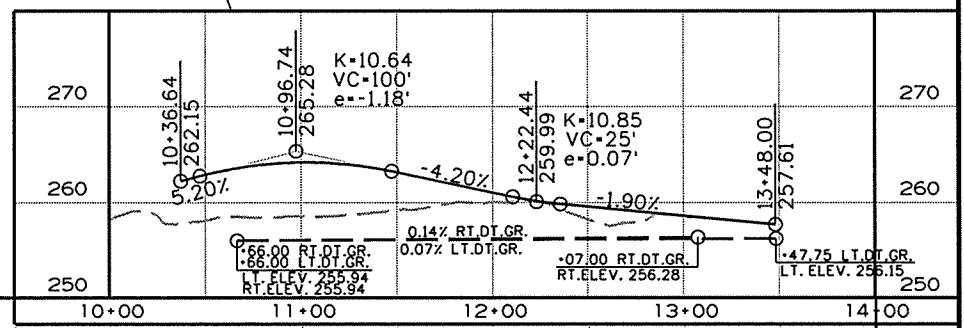
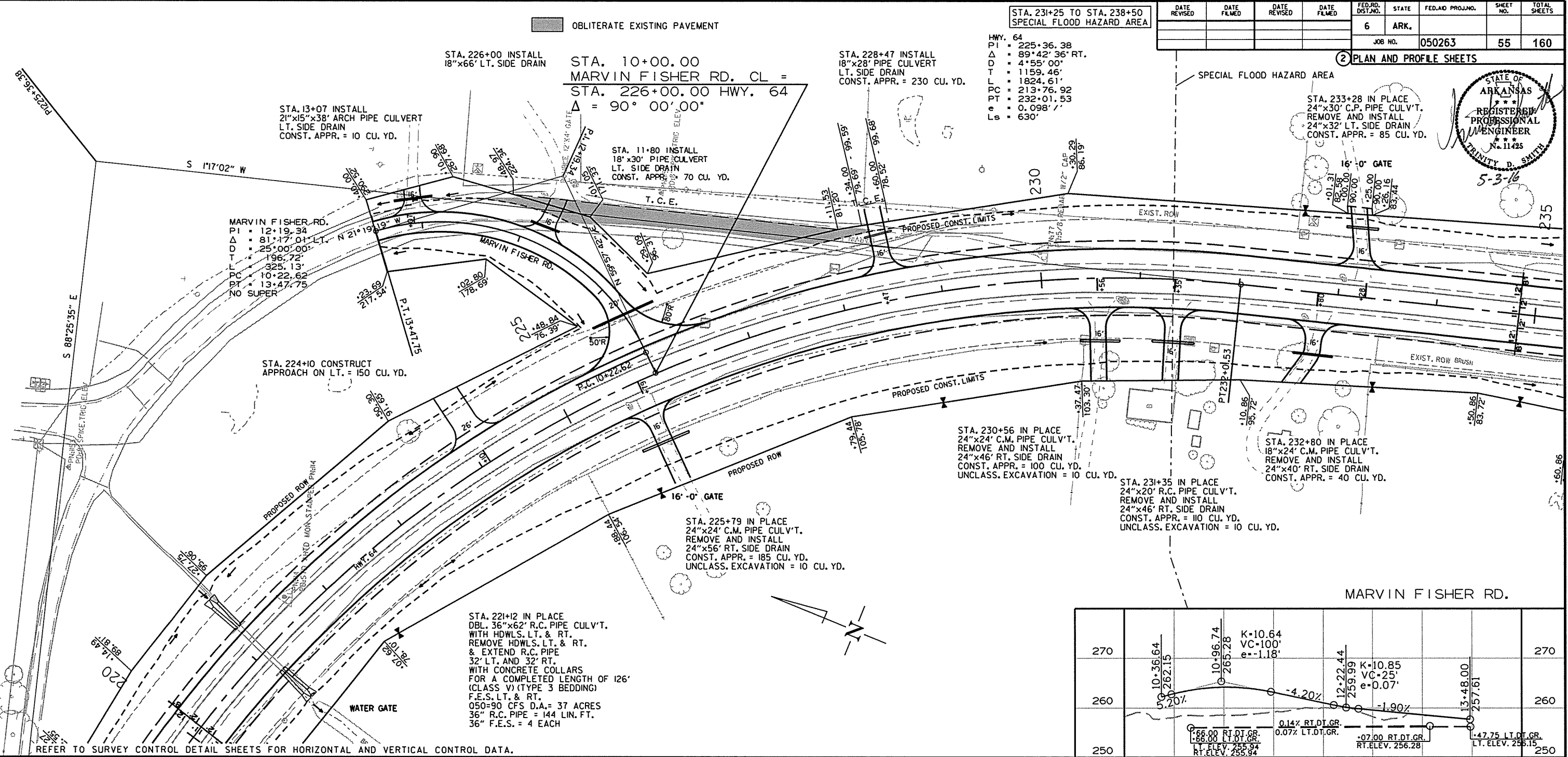
2 PLAN AND PROFILE SHEETS



HWY. 64  
 PI = 225+36.38  
 Δ = 89°42'36" RT.  
 D = 4°55'00"  
 T = 1159.46'  
 L = 1824.61'  
 PC = 213+76.92  
 PT = 232+01.53  
 e = 0.098' /'  
 Ls = 630'

SPECIAL FLOOD HAZARD AREA

STA. 233+28 IN PLACE  
 24"x30" C.P. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x32" LT. SIDE DRAIN  
 CONST. APPR. = 85 CU. YD.



R050263.DGN 4/28/2016

OBLITERATE EXISTING PAVEMENT

STA. 226+00 INSTALL  
 18"x66" LT. SIDE DRAIN

STA. 10+00.00  
 MARVIN FISHER RD. CL =  
 STA. 226+00.00 HWY. 64  
 Δ = 90° 00' 00"

STA. 228+47 INSTALL  
 18"x28" PIPE CULVERT  
 LT. SIDE DRAIN  
 CONST. APPR. = 230 CU. YD.

STA. 13+07 INSTALL  
 21"x15"x38" ARCH PIPE CULVERT  
 LT. SIDE DRAIN  
 CONST. APPR. = 10 CU. YD.

STA. 11+80 INSTALL  
 18"x30" PIPE CULVERT  
 LT. SIDE DRAIN  
 CONST. APPR. = 70 CU. YD.

MARVIN FISHER RD.  
 PI = 12+19.34  
 Δ = 81°17'01" LT.  
 D = 25°00'00"  
 T = 196.72'  
 L = 325.13'  
 PC = 10+22.62  
 PT = 13+47.75  
 NO SUPER

STA. 224+10 CONSTRUCT  
 APPROACH ON LT. = 150 CU. YD.

STA. 230+56 IN PLACE  
 24"x24" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x46" RT. SIDE DRAIN  
 CONST. APPR. = 100 CU. YD.  
 UNCLASS. EXCAVATION = 10 CU. YD.

STA. 232+80 IN PLACE  
 18"x24" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x40" RT. SIDE DRAIN  
 CONST. APPR. = 40 CU. YD.

STA. 225+79 IN PLACE  
 24"x24" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x56" RT. SIDE DRAIN  
 CONST. APPR. = 185 CU. YD.  
 UNCLASS. EXCAVATION = 10 CU. YD.

STA. 221+12 IN PLACE  
 DBL. 36"x62" R.C. PIPE CULV'T.  
 WITH HDWLS. LT. & RT.  
 REMOVE HDWLS. LT. & RT.  
 & EXTEND R.C. PIPE  
 32' LT. AND 32' RT.  
 WITH CONCRETE COLLARS  
 FOR A COMPLETED LENGTH OF 126'  
 (CLASS V) (TYPE 3 BEDDING)  
 F.E.S. LT. & RT.  
 050-90 CFS D.A. = 37 ACRES  
 36" R.C. PIPE = 144 LIN. FT.  
 36" F.E.S. = 4 EACH

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

STA. 209+04.42 BEGIN SUPERELEVATION (N.C.)  
 STA. 215+34.42 MAX. SUPERELEVATION (0.098' /')  
 STA. 230+44.03 MAX. SUPERELEVATION (0.098' /')  
 STA. 236+74.03 END SUPERELEVATION (N.C.)

NOTE: FOR ALL THE CONSTRUCTION OF TEMPORARY WORK  
 RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED  
 AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION  
 IS 253.0 FT. M.L.S. AT STATION 221+12. REFER TO  
 SECTION 110.05(C) OF THE 2014 STANDARD SPECIFICATIONS.

STA. 235+87 IN PLACE  
 DBL. 10'x5'x48' R.C. BOX CULV'T.  
 WITH HDWLS. LT. & RT.  
 REMOVE HDWLS. LT. & RT.  
 AND EXTEND 38' LT. AND 36' RT.  
 FOR A COMPLETED LENGTH OF 122'  
 AND ADD DBL. 60"x116" R.C. PIPE CULVERT  
 (CLASS IV) (TYPE 3 BEDDING)  
 WITH F.E.S. LT. & RT.  
 050=1250 CFS D.A.=917 ACRES  
 60" R.C. PIPE = 232 LIN. FT.  
 60" F.E.S. = 4 EACH  
 SPAN = 21'-11"

STA. 231+25 TO STA. 238+50  
 SPECIAL FLOOD HAZARD AREA

SPECIAL FLOOD HAZARD AREA

STA. 240+44 IN PLACE  
 24"x38" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x36" LT. SIDE DRAIN  
 CONST. APPR. = 55 CU. YD.

STA. 236+93 IN PLACE  
 18"x24" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x28" LT. SIDE DRAIN  
 CONST. APPR. = 40 CU. YD.

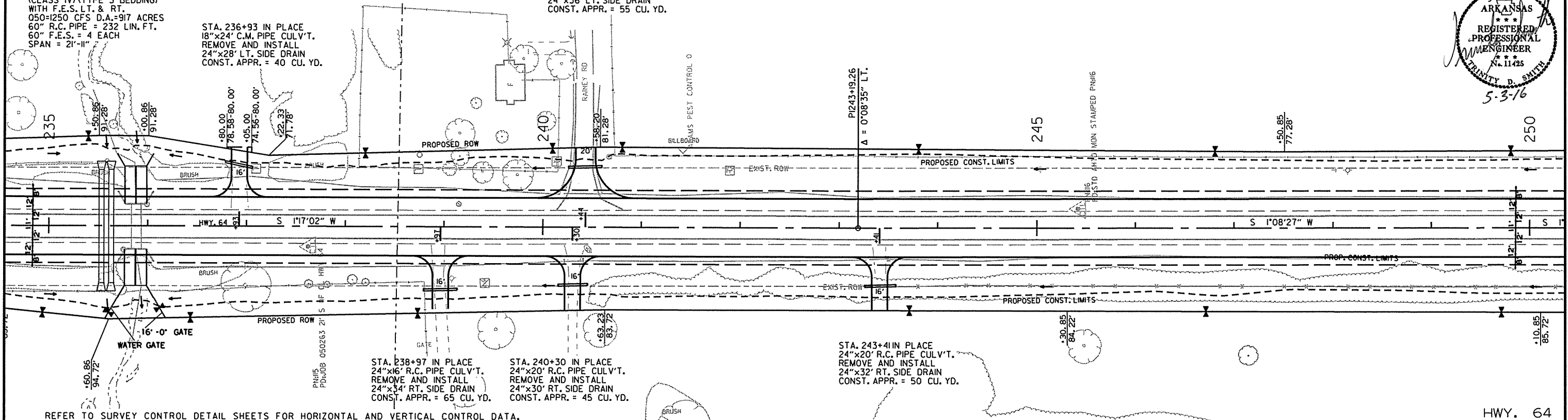
STA. 238+97 IN PLACE  
 24"x16" R.C. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x34' RT. SIDE DRAIN  
 CONST. APPR. = 65 CU. YD.

STA. 240+30 IN PLACE  
 24"x20" R.C. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x30' RT. SIDE DRAIN  
 CONST. APPR. = 45 CU. YD.

STA. 243+41 IN PLACE  
 24"x20" R.C. PIPE CULV'T.  
 REMOVE AND INSTALL  
 24"x32' RT. SIDE DRAIN  
 CONST. APPR. = 50 CU. YD.

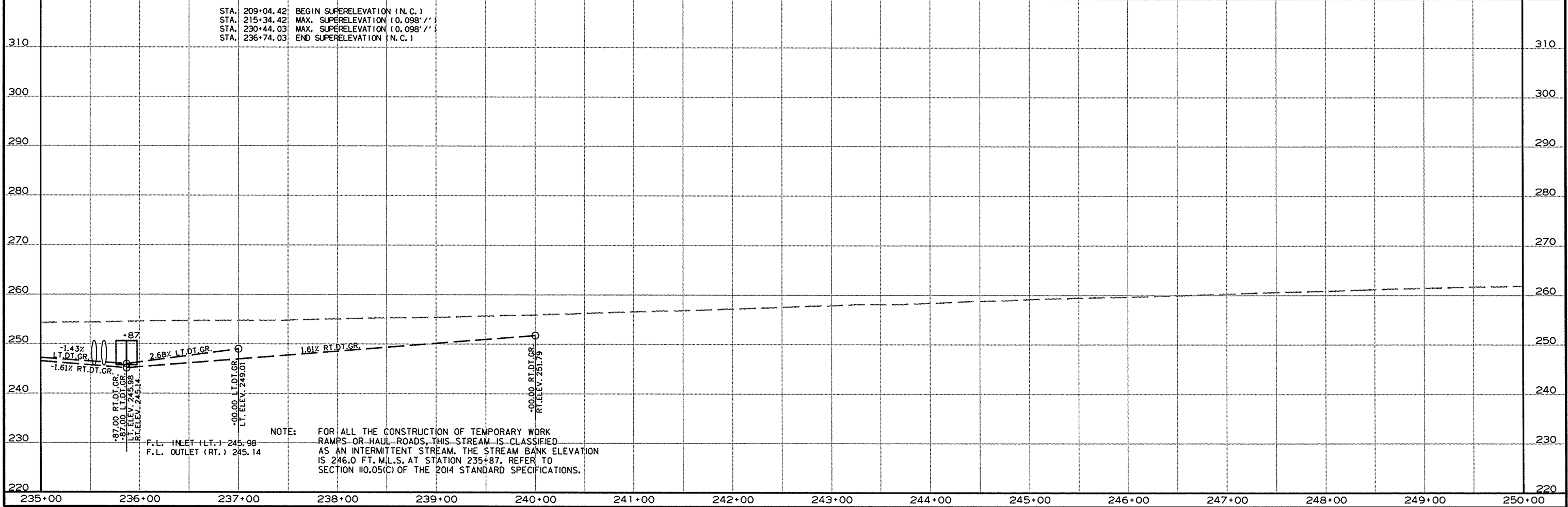
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		56	160

2 PLAN AND PROFILE SHEETS



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

HWY. 64



STA. 209+04.42 BEGIN SUPERELEVATION (N.C.)  
 STA. 215+34.42 MAX. SUPERELEVATION (0.098' /')

STA. 230+44.03 MAX. SUPERELEVATION (0.098' /')

STA. 236+74.03 END SUPERELEVATION (N.C.)

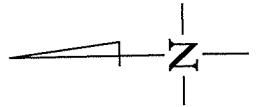
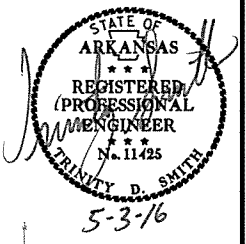
NOTE: FOR ALL THE CONSTRUCTION OF TEMPORARY WORK  
 RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED  
 AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION  
 IS 246.0 FT. M.L.S. AT STATION 235+87. REFER TO  
 SECTION 10.05(C) OF THE 2014 STANDARD SPECIFICATIONS.

R050263.DGN 4/28/2016

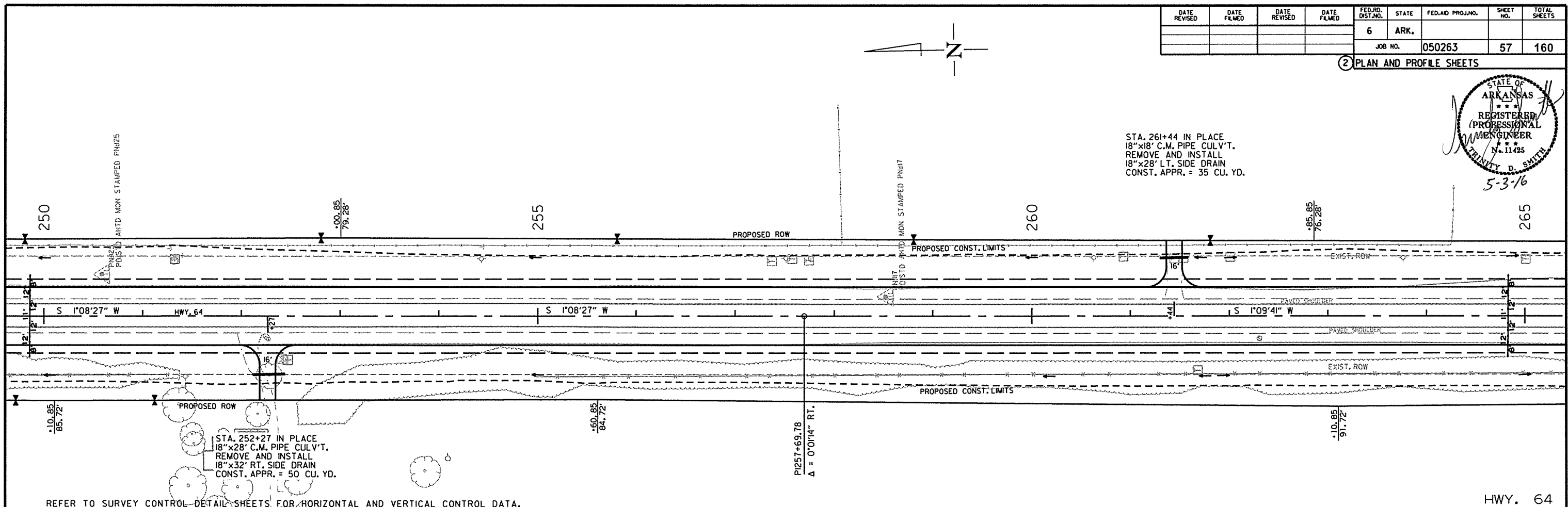


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		57	160

2 PLAN AND PROFILE SHEETS

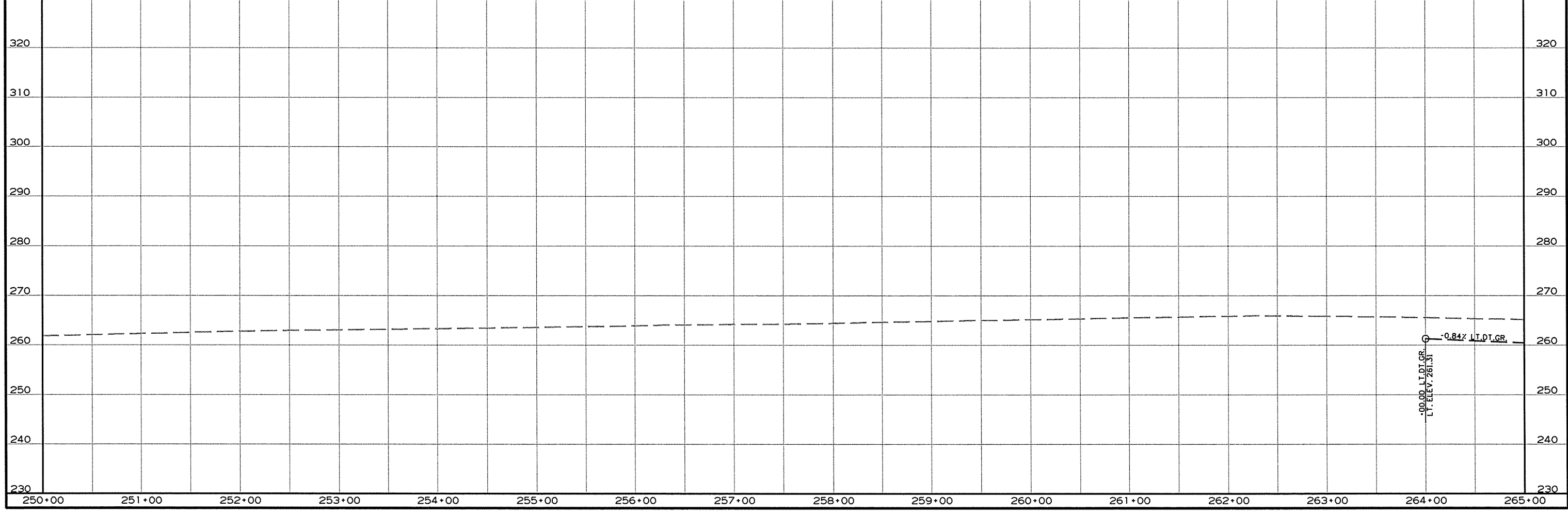


STA. 261+44 IN PLACE  
18"x18" C.M. PIPE CULV'T.  
REMOVE AND INSTALL  
18"x28" L.T. SIDE DRAIN  
CONST. APPR. = 35 CU. YD.



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

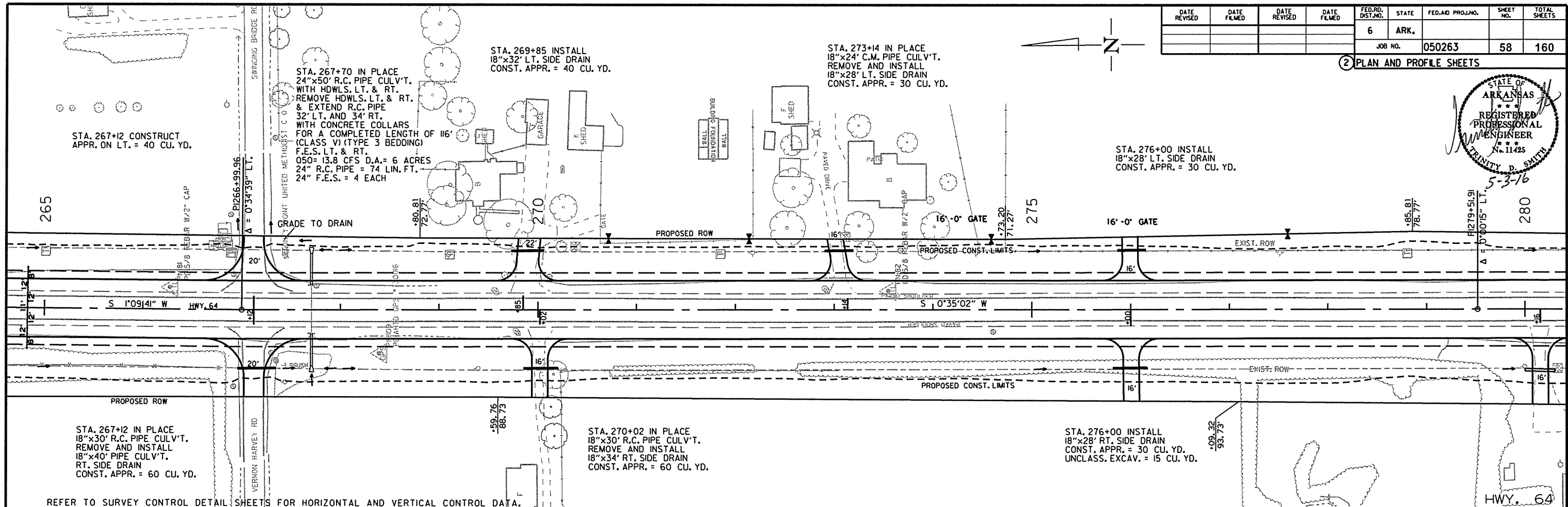
HWY. 64



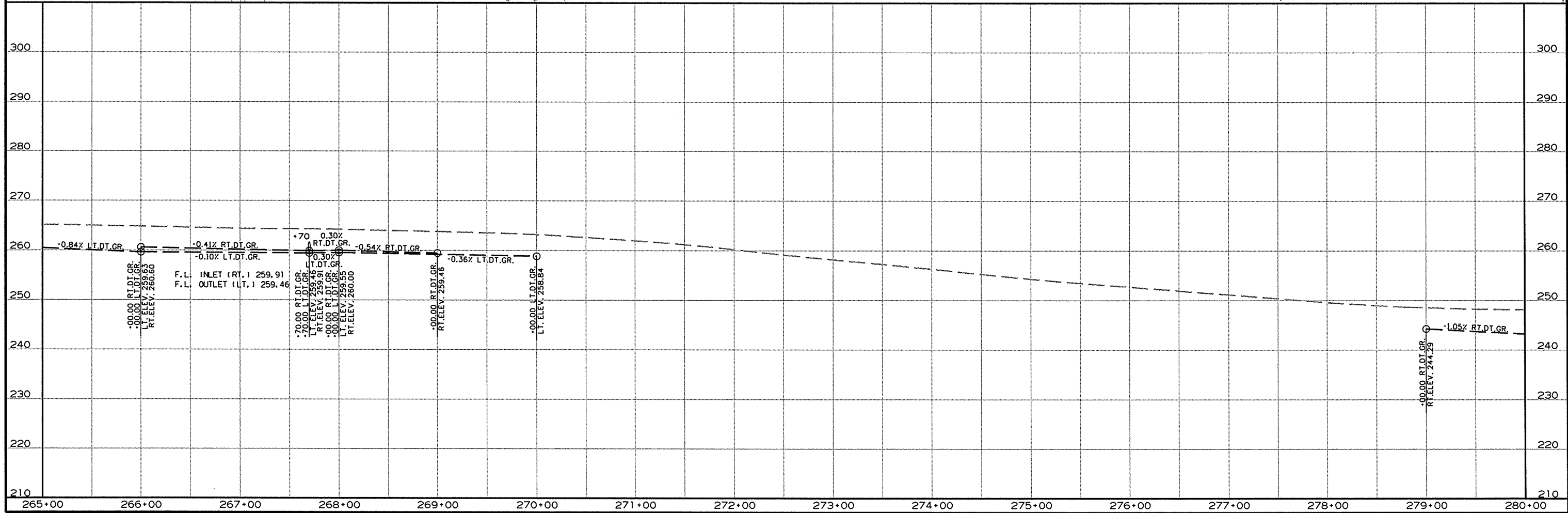
R050263.DGN 4/28/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		58	160

2 PLAN AND PROFILE SHEETS



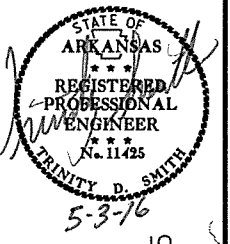
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



R050263.DGN 4/28/2016

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. 050263							59	160

2 PLAN AND PROFILE SHEETS

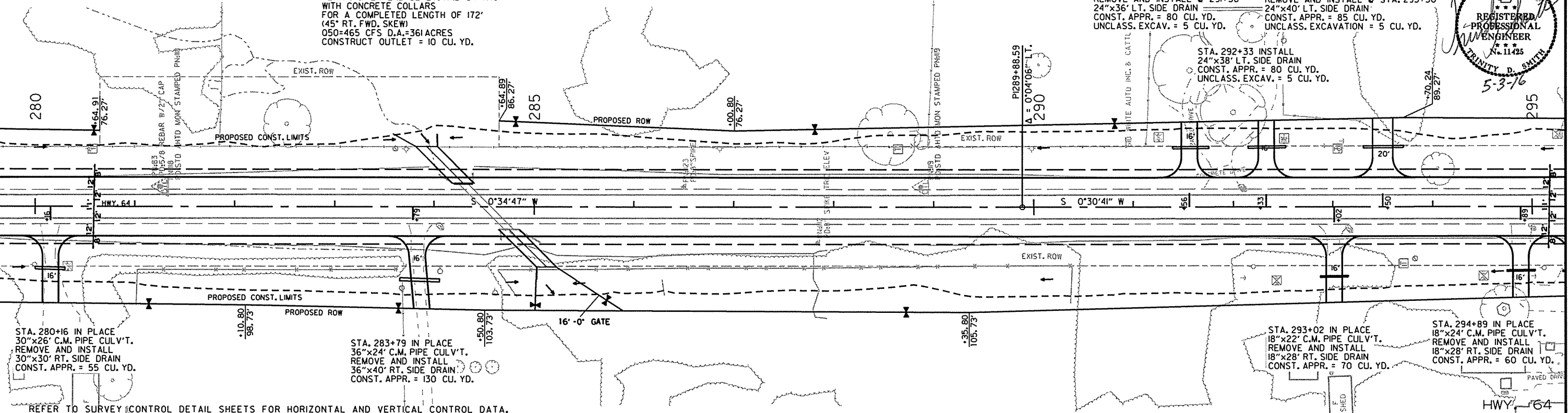


STA. 284+52 IN PLACE  
 DBL. 8'x5'x66' R.C. BOX CULV'T.  
 WITH 3:1 WINGS LT. & RT.  
 ON 45° RT. FWD. SKEW  
 RETAIN & EXTEND 52' LT. AND 54' RT.  
 WITH CONCRETE COLLARS  
 FOR A COMPLETED LENGTH OF 172'  
 (45° RT. FWD. SKEW)  
 Q50=465 CFS D.A.=361 ACRES  
 CONSTRUCT OUTLET = 10 CU. YD.

STA. 291+89 IN PLACE  
 24"x32' C.P. PIPE CULV'T.  
 REMOVE AND INSTALL @ STA. 291+56  
 24"x36' LT. SIDE DRAIN  
 CONST. APPR. = 80 CU. YD.  
 UNCLASS. EXCAV. = 5 CU. YD.

STA. 293+73 IN PLACE  
 24"x18" C.M.A. PIPE  
 REMOVE AND INSTALL @ STA. 293+50  
 24"x40' LT. SIDE DRAIN  
 CONST. APPR. = 85 CU. YD.  
 UNCLASS. EXCAVATION = 5 CU. YD.

STA. 292+33 INSTALL  
 24"x38' LT. SIDE DRAIN  
 CONST. APPR. = 80 CU. YD.  
 UNCLASS. EXCAV. = 5 CU. YD.



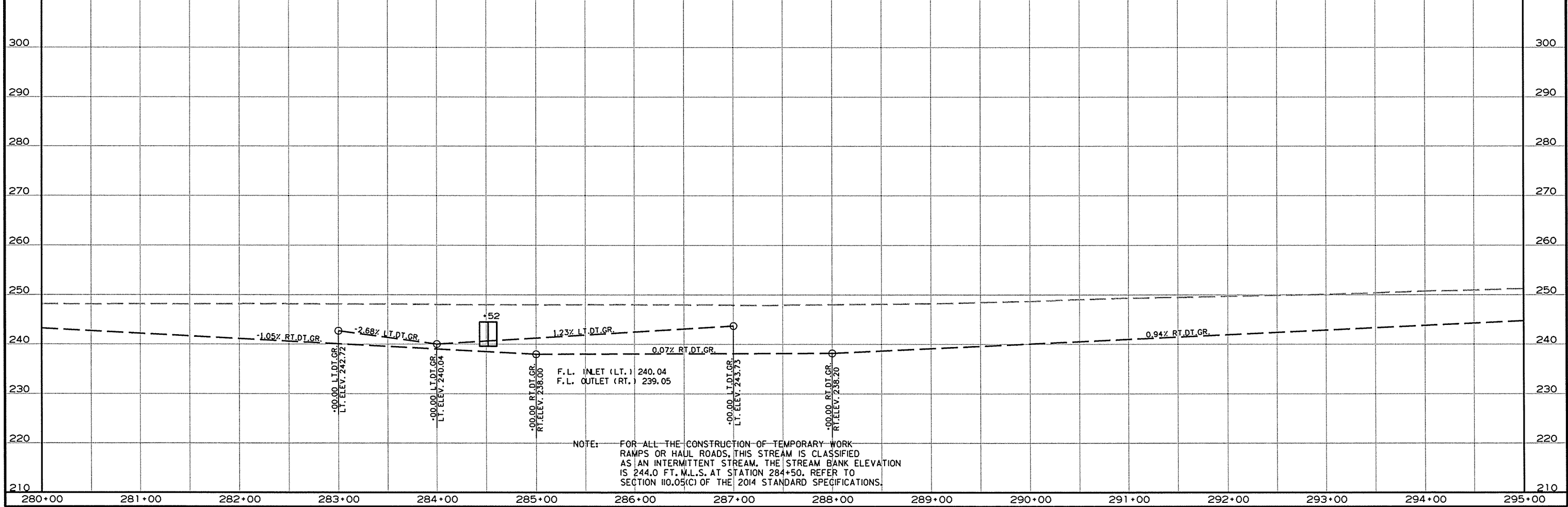
STA. 280+16 IN PLACE  
 30"x26' C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 30"x30' RT. SIDE DRAIN  
 CONST. APPR. = 55 CU. YD.

STA. 283+79 IN PLACE  
 36"x24' C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 36"x40' RT. SIDE DRAIN  
 CONST. APPR. = 130 CU. YD.

STA. 293+02 IN PLACE  
 18"x22' C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 18"x28' RT. SIDE DRAIN  
 CONST. APPR. = 70 CU. YD.

STA. 294+89 IN PLACE  
 18"x24' C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 18"x28' RT. SIDE DRAIN  
 CONST. APPR. = 60 CU. YD.

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



NOTE: FOR ALL THE CONSTRUCTION OF TEMPORARY WORK RAMP OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 244.0 FT. M.L.S. AT STATION 284+50. REFER TO SECTION 10.05(C) OF THE 2014 STANDARD SPECIFICATIONS.

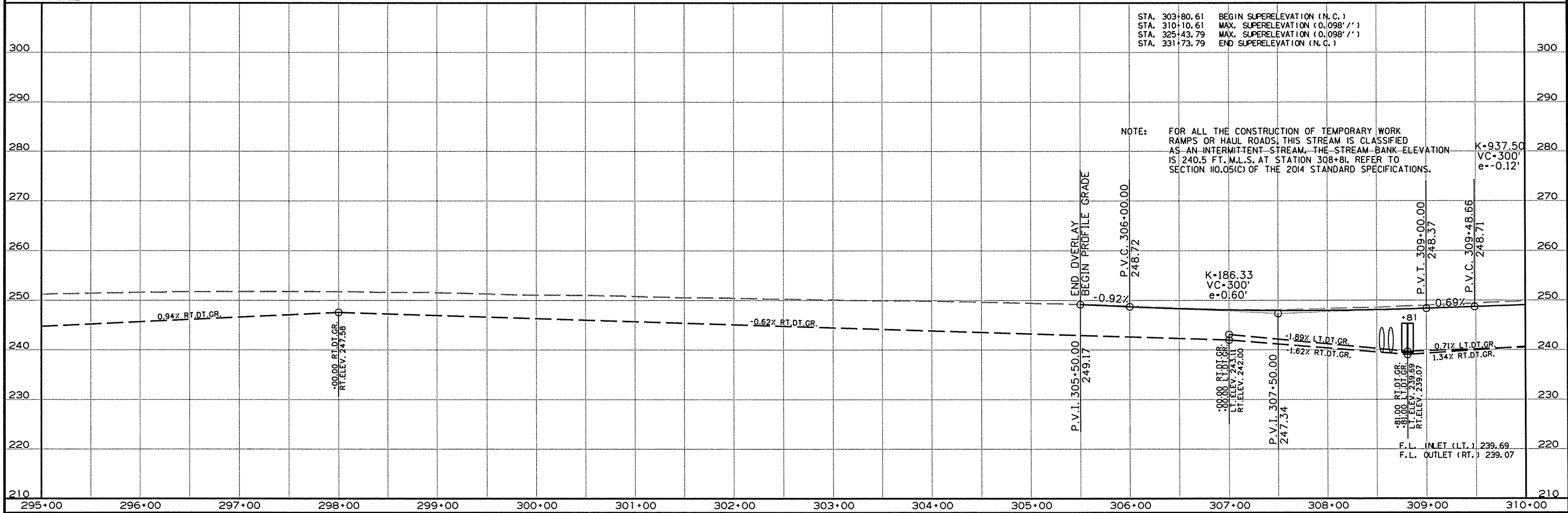
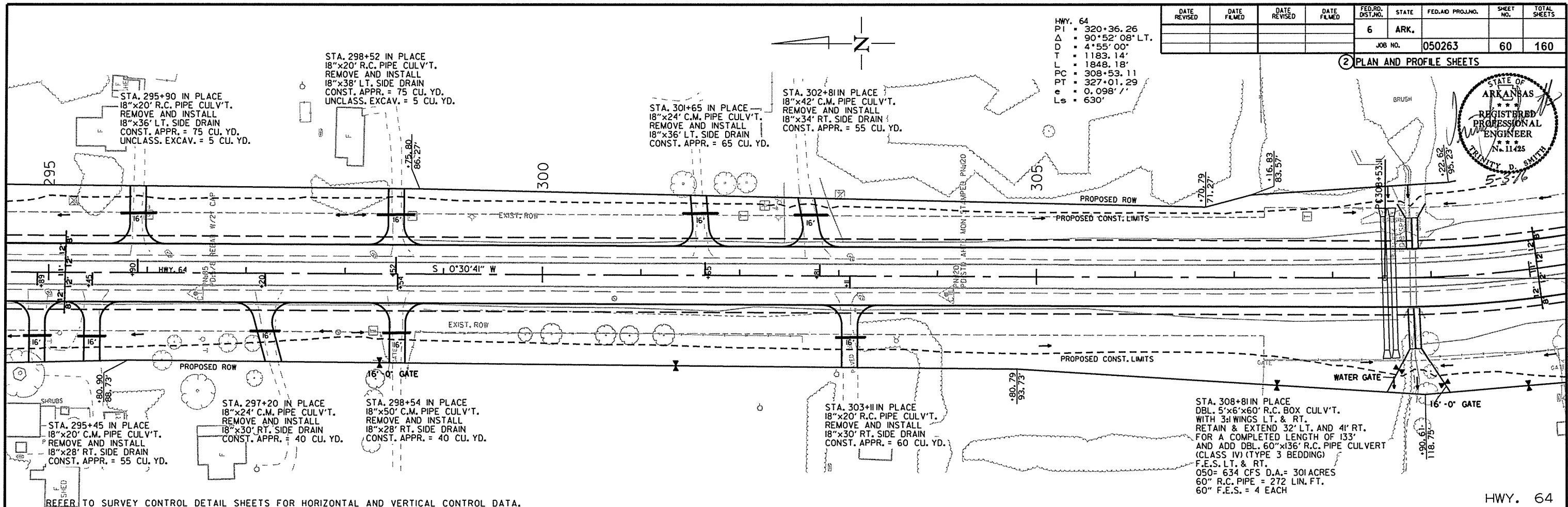
R050263.DGN 4/28/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		60	160

2 PLAN AND PROFILE SHEETS



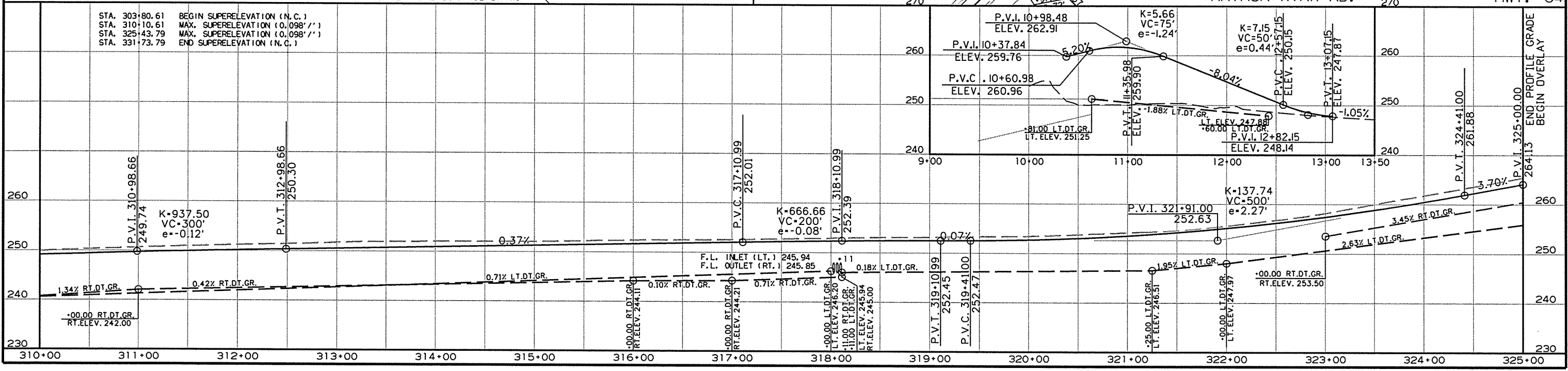
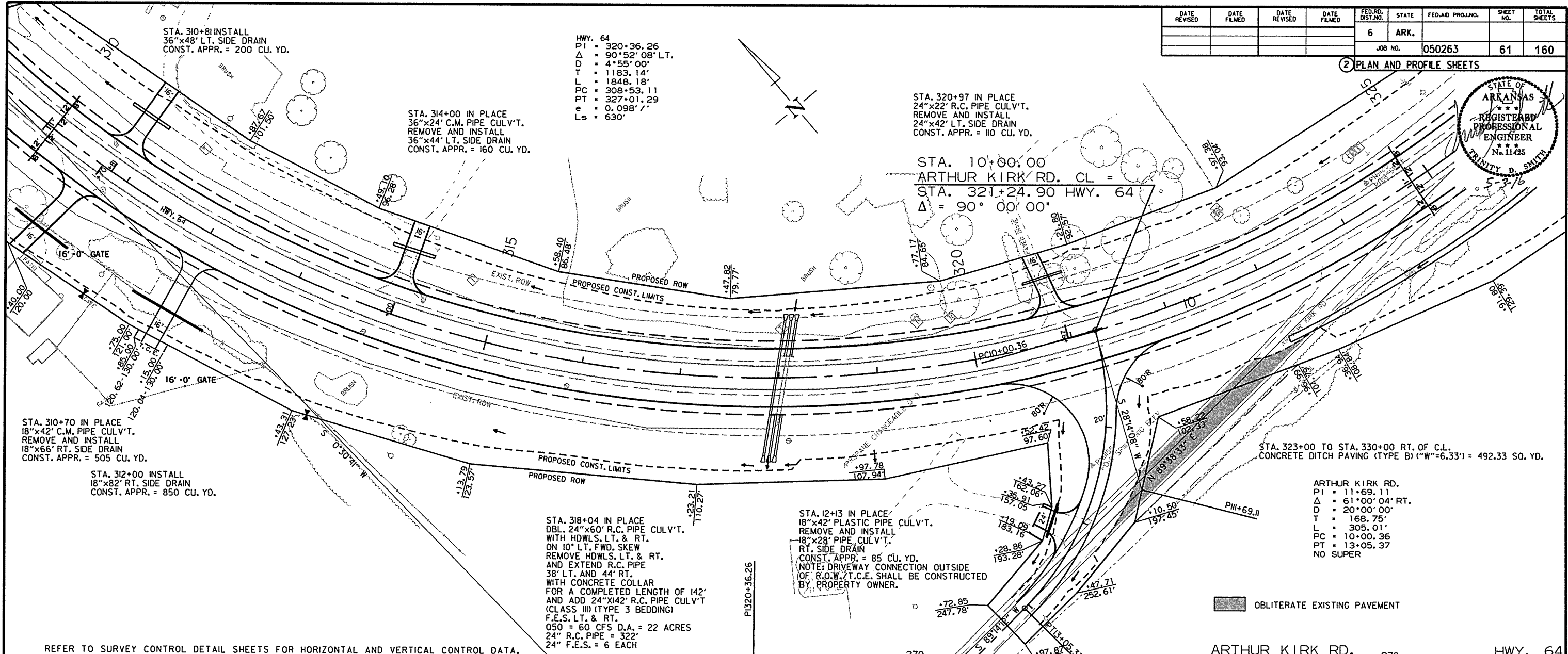
HWY. 64  
 PI = 320+36.26  
 Δ = 90°52'08" LT.  
 D = 4°55'00"  
 T = 1183.14'  
 L = 1848.18'  
 PC = 308+53.11  
 PT = 327+01.29  
 e = 0.098' / '  
 Ls = 630'



R050263.DGN 4/28/2016

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. 050263							61	160

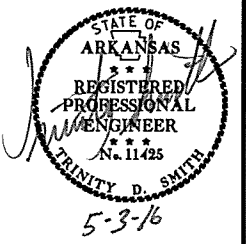
2 PLAN AND PROFILE SHEETS



4/28/2016  
 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 050263	62 160

② PLAN AND PROFILE SHEETS

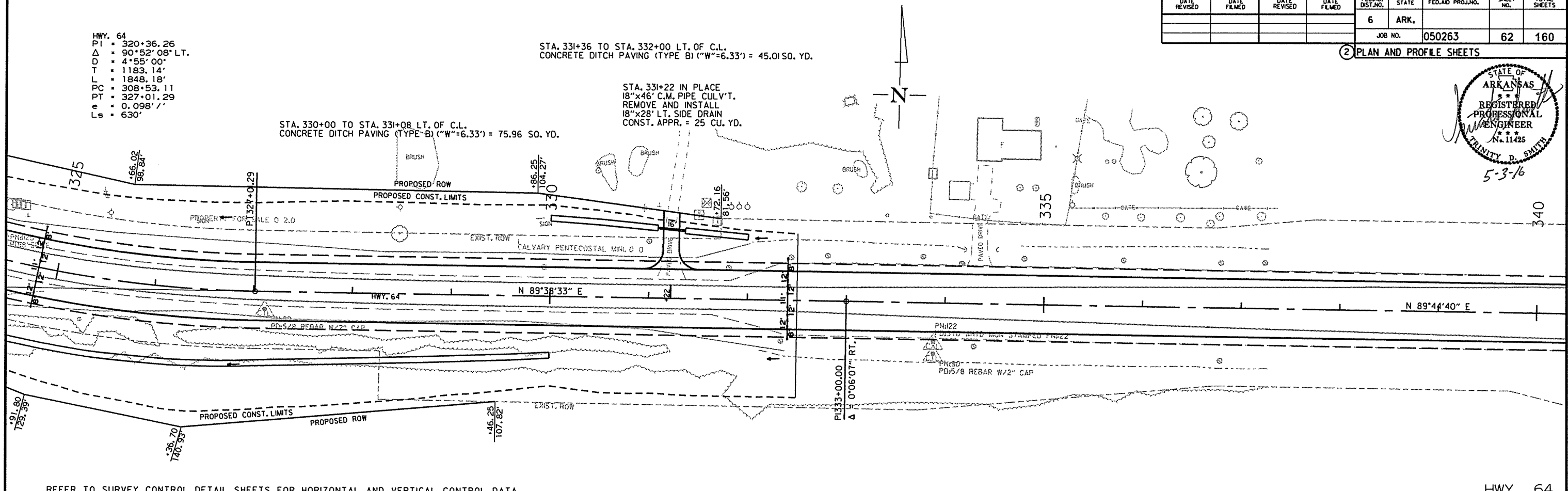


HWY. 64  
 PI = 320+36.26  
 $\Delta$  = 90°52'08" LT.  
 D = 4°55'00"  
 T = 1183.14'  
 L = 1848.18'  
 PC = 308+53.11  
 PT = 327+01.29  
 e = 0.098' /'  
 Ls = 630'

STA. 331+36 TO STA. 332+00 LT. OF C.L.  
 CONCRETE DITCH PAVING (TYPE B) ("W"=6.33') = 45.01 SQ. YD.

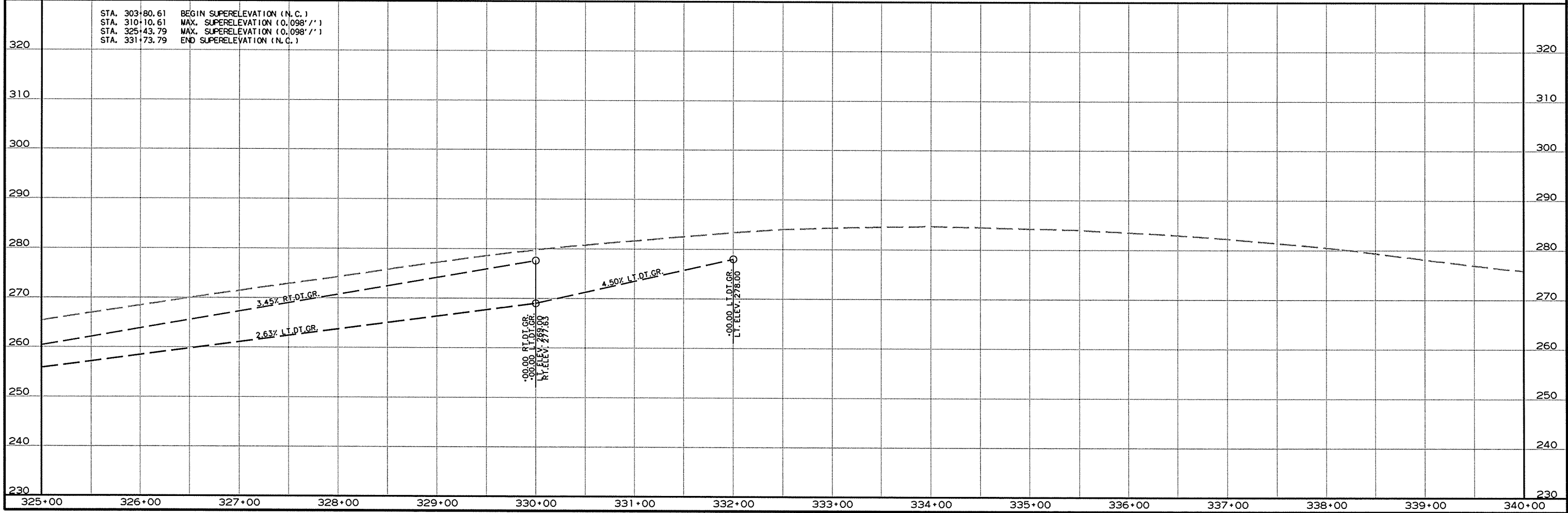
STA. 331+22 IN PLACE  
 18"x46" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 18"x28" LT. SIDE DRAIN  
 CONST. APPR. = 25 CU. YD.

STA. 330+00 TO STA. 331+08 LT. OF C.L.  
 CONCRETE DITCH PAVING (TYPE B) ("W"=6.33') = 75.96 SQ. YD.



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

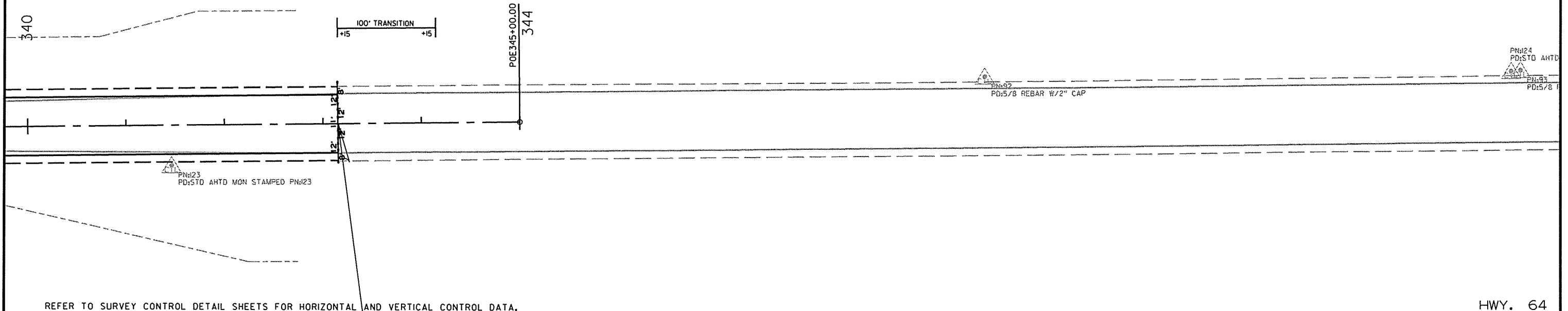
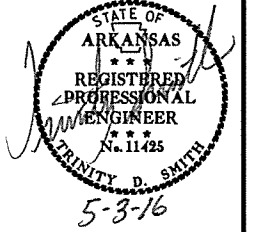
HWY. 64



R050263.DGN 4/28/2016

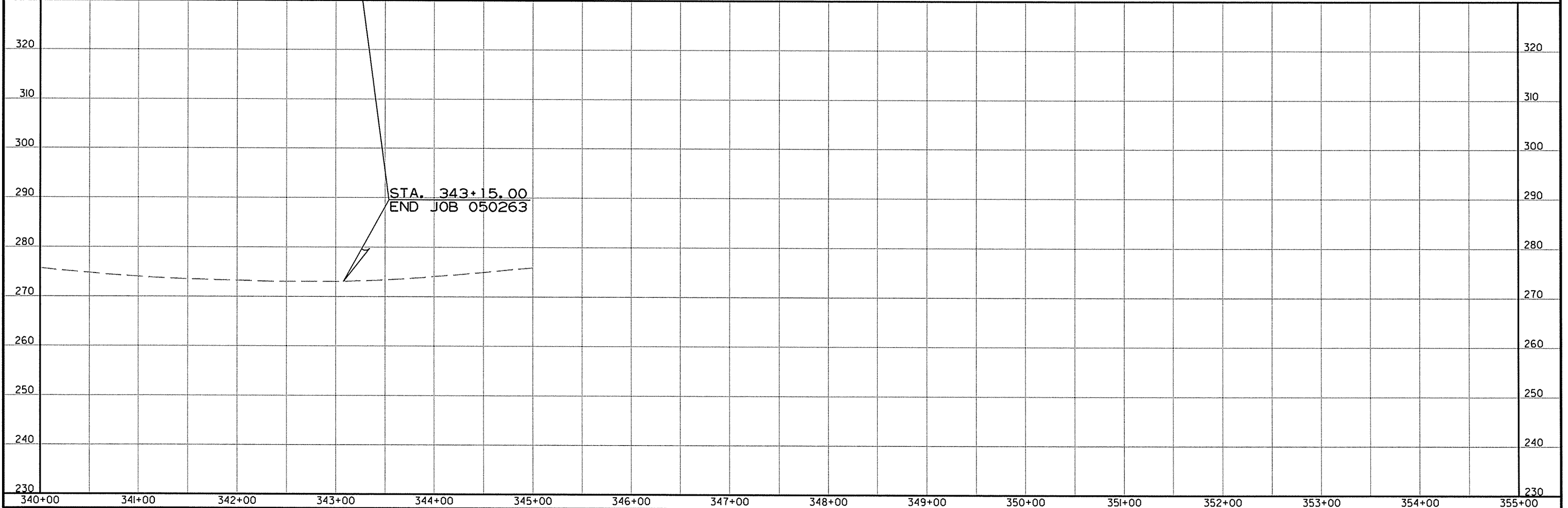
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							63	160

② PLAN AND PROFILE SHEETS



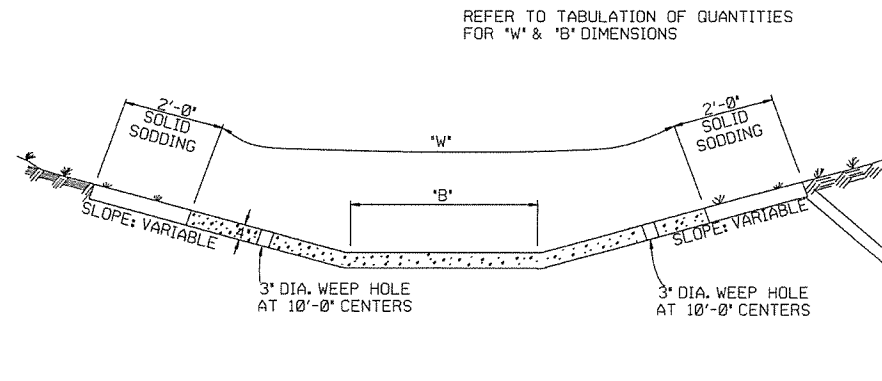
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 64

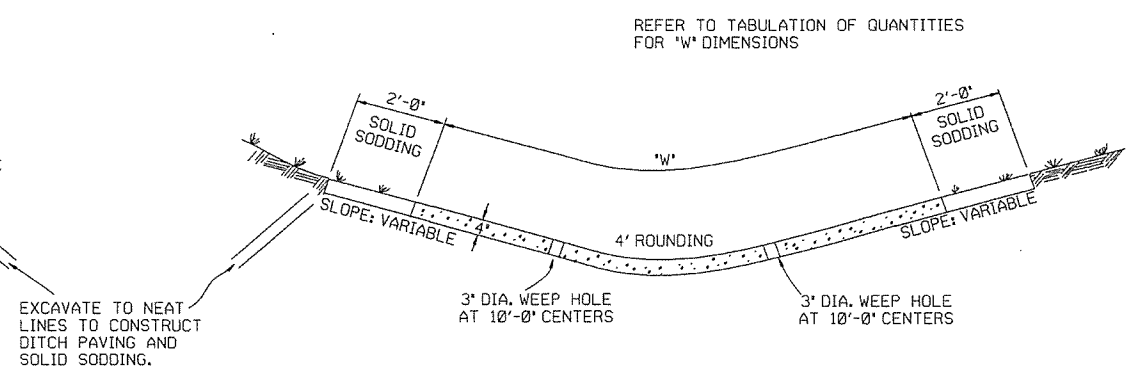


4/28/2016

RO50263.DGN

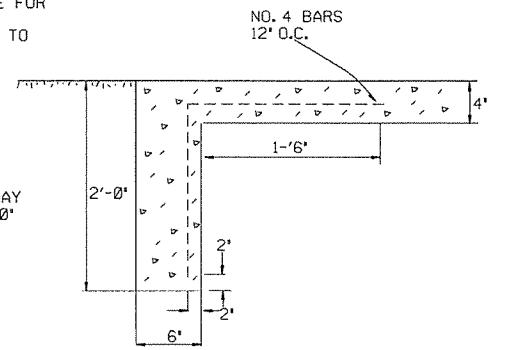


TYPE A

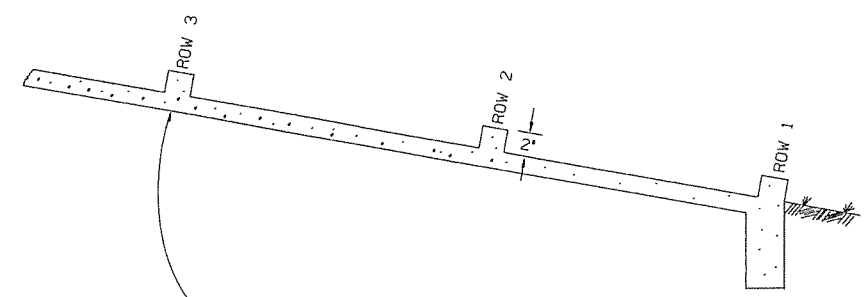


TYPE B

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.'

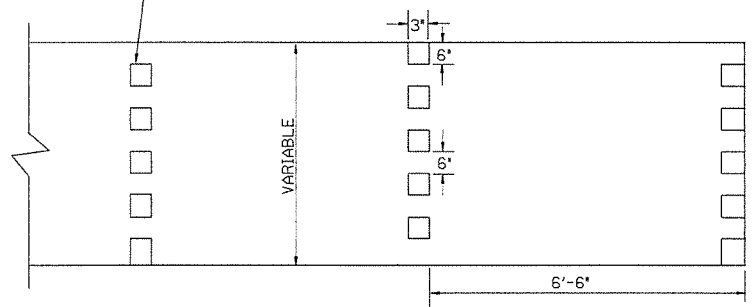


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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.

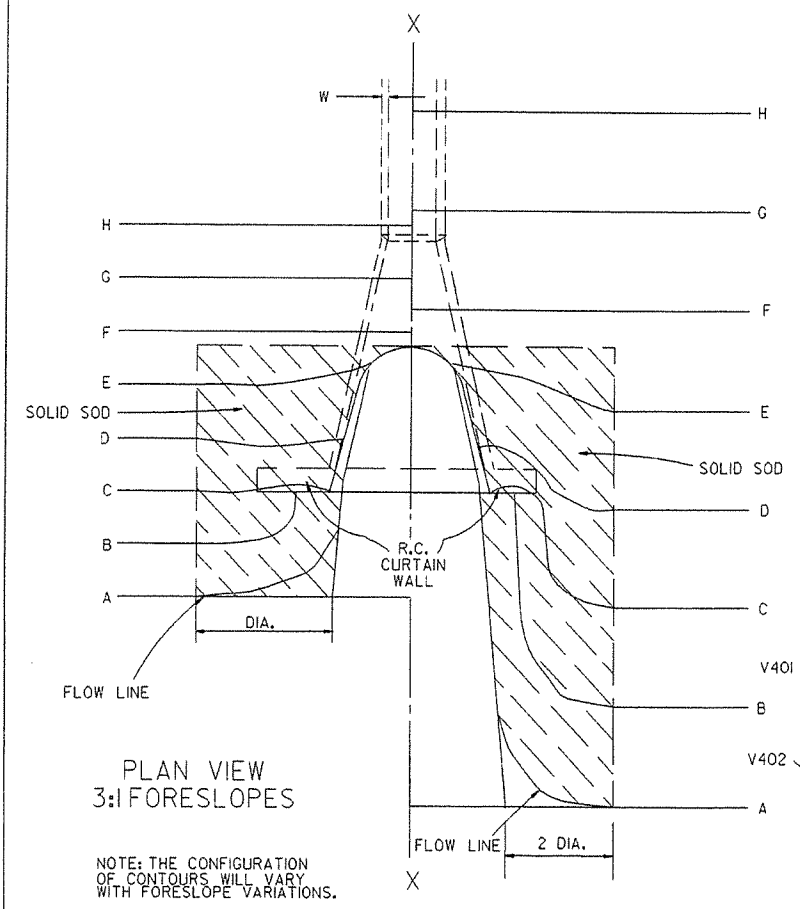
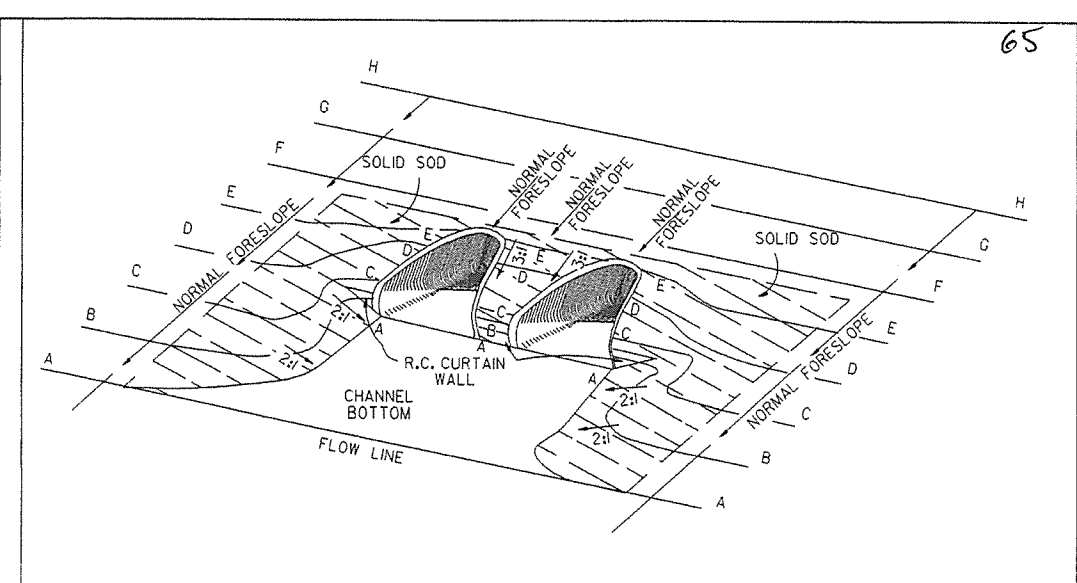
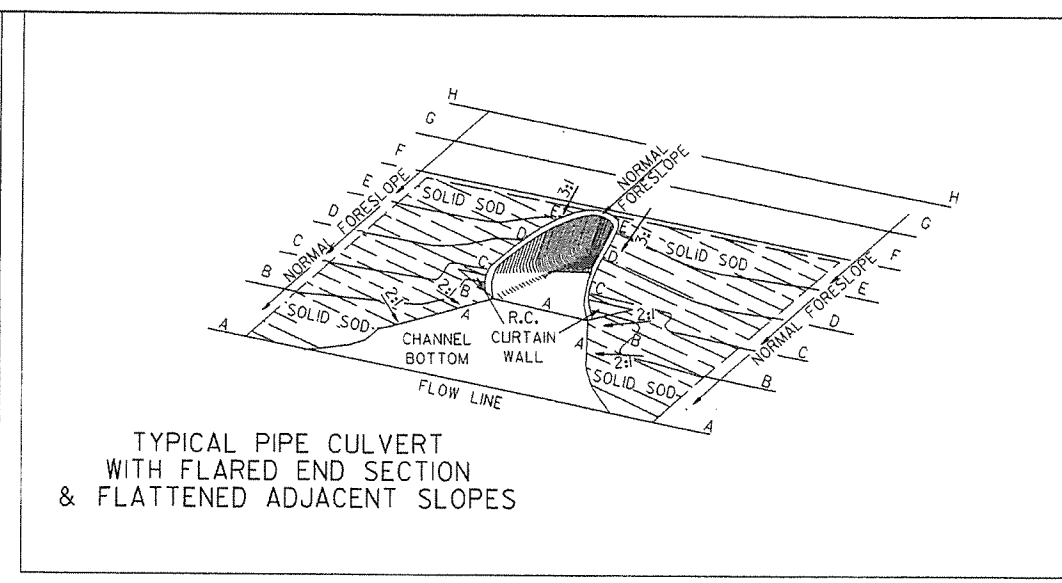
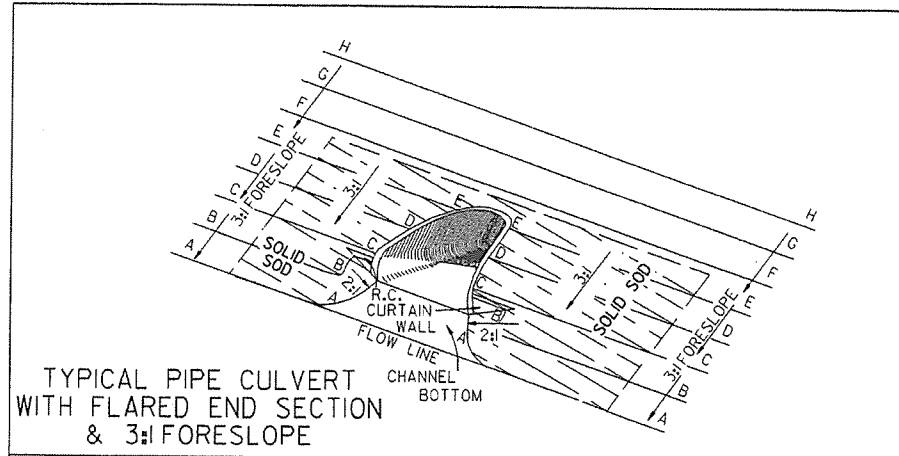


ENERGY DISSIPATORS  
(NO SCALE)

- 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.

			ARKANSAS STATE HIGHWAY COMMISSION
			CONCRETE DITCH PAVING
			STANDARD DRAWING CDP-1
11-17-10	ADDED GENERAL NOTE		
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING		
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89	
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88	
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87	
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87	
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86	
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84	
11-1-84	EXCAVATION DETAILS ADDED		
	TYPED A & B		
10-2-72	REVISED AND REDRAWN	508-10-2-72	
DATE	REVISION	DATE	FILM# D





R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

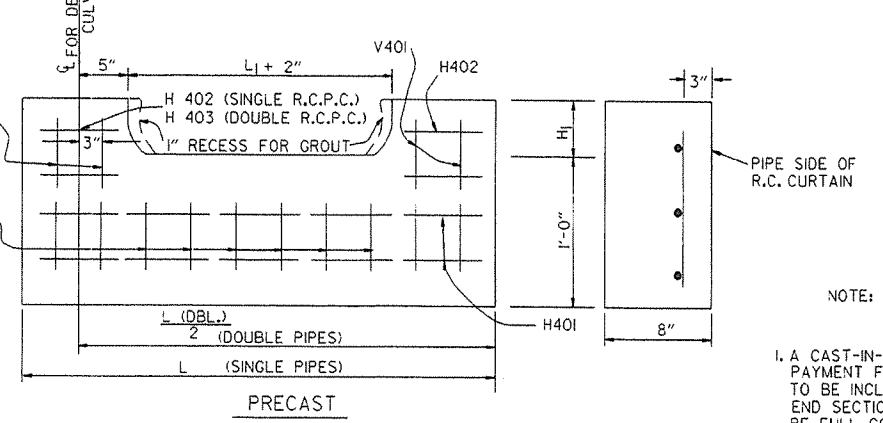
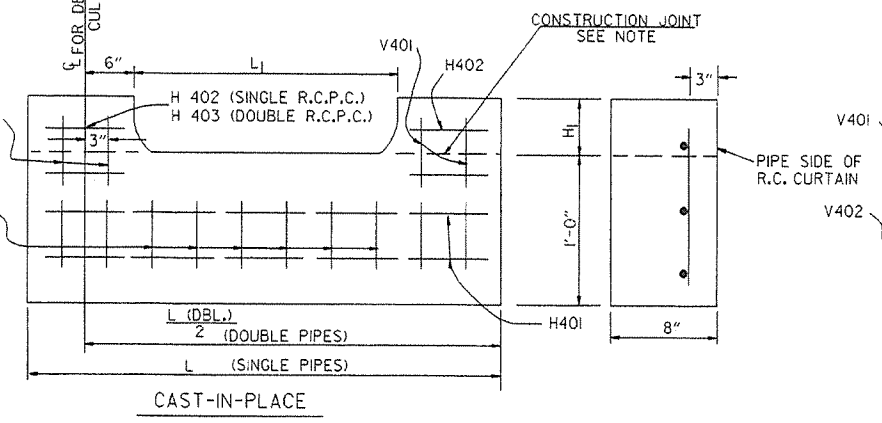
PIPE DIA.	H <sub>1</sub>	L <sub>1</sub>	L	L (DBL.) / 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	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.



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

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

R.C. CURTAIN WALL DETAILS

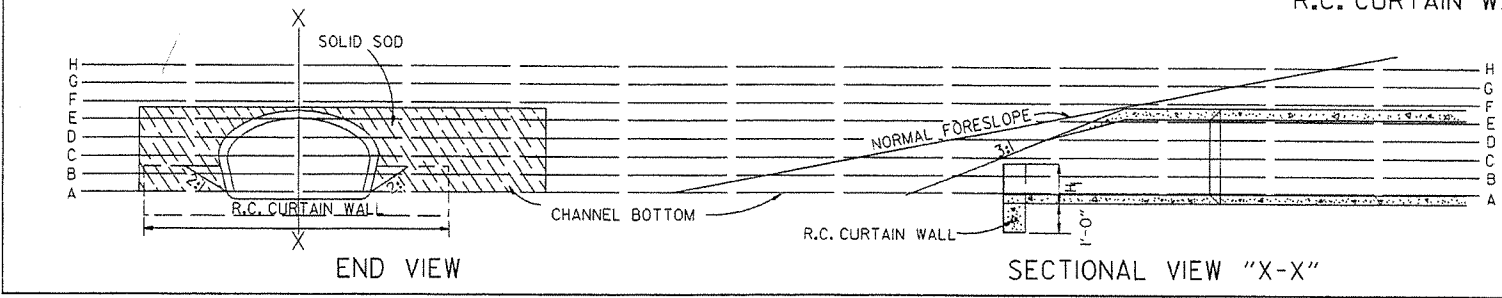
SOLID SODDING

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

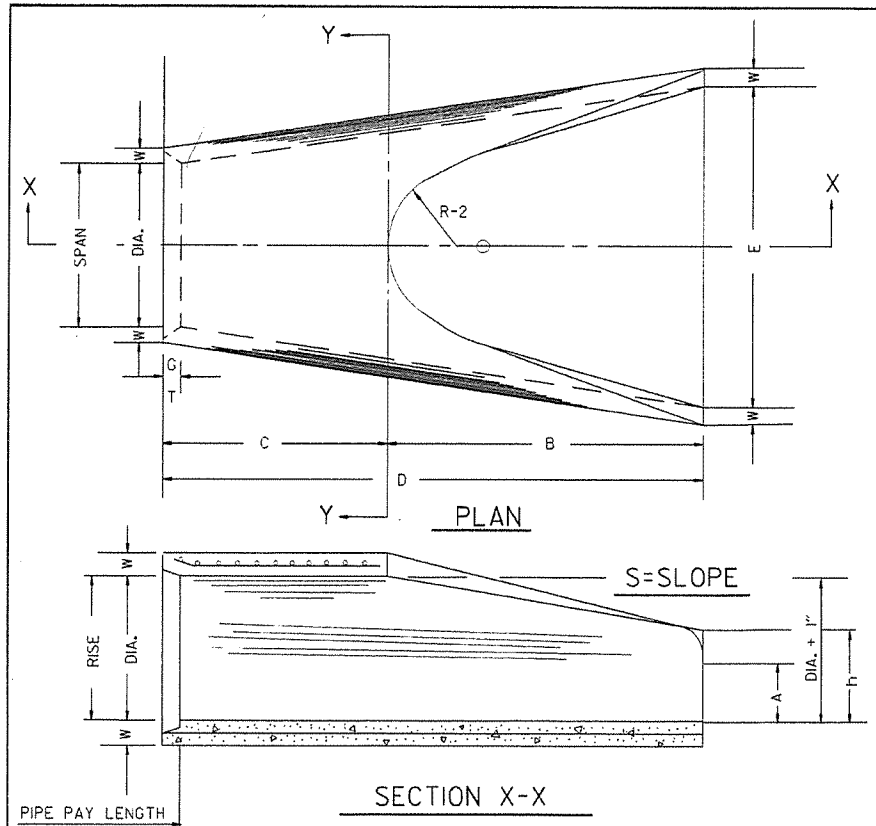
NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

- 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.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
- 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.
- WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.



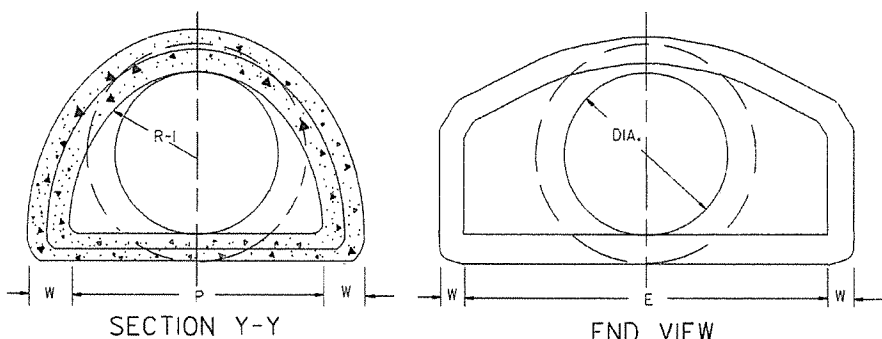
10-18-96	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING	10-18-96	
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL 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 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 3/4"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 3/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 3/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 1/8"	38 3/8"	24"	5"	13250	4'-6"

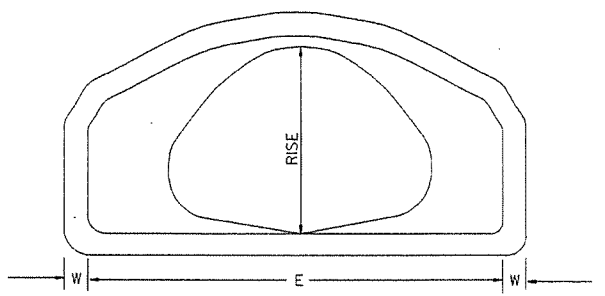


SECTION Y-Y and END VIEW. NOTE: TONGUE END ON UPSTREAM SECTION GROOVE END ON DOWNSTREAM SECTION

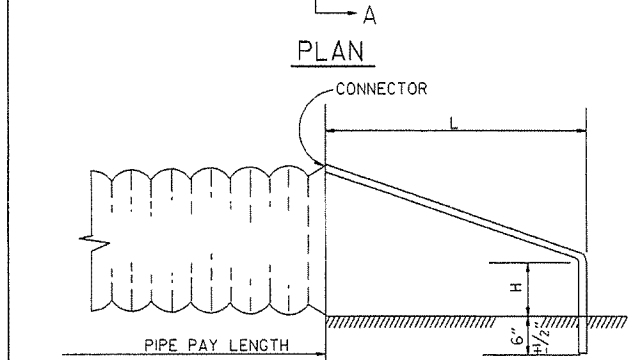
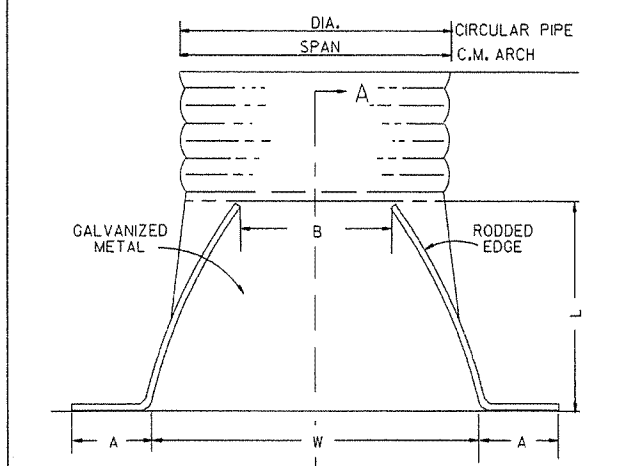
ARCH PIPE

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														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 3/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 3/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 3/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 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 3/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2 1/2:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/8"	24"	5"	2 1/2:1

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



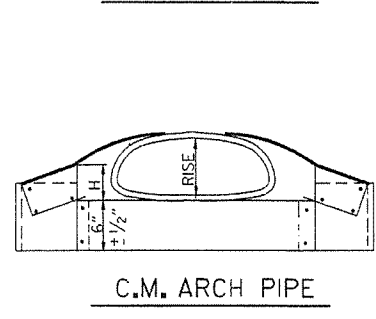
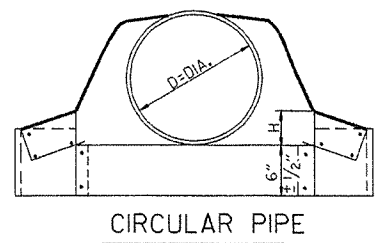
END VIEW CONCRETE ARCH PIPE



END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

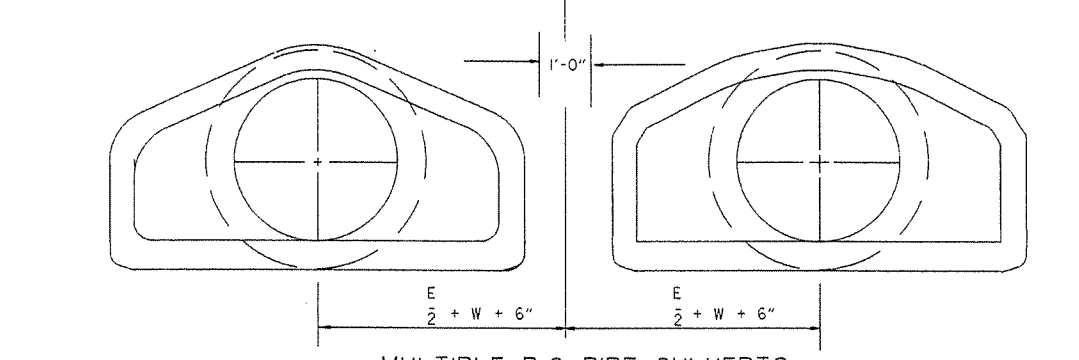
CIRCULAR PIPE

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

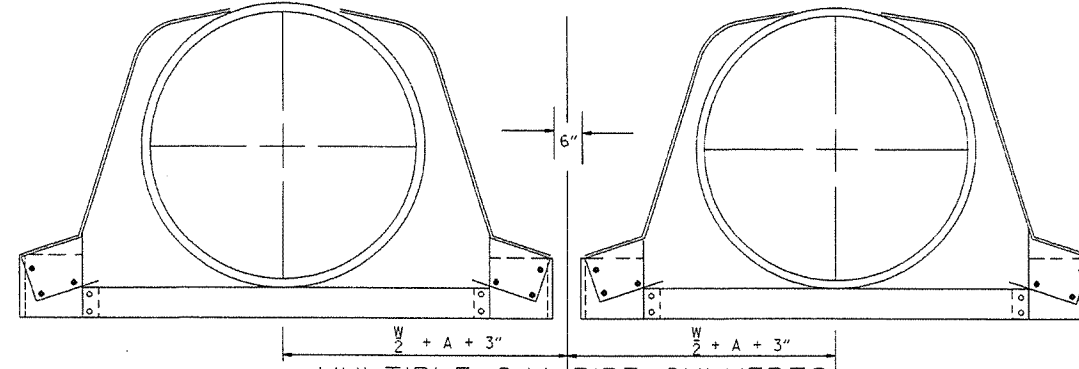


C.M. ARCH PIPE

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

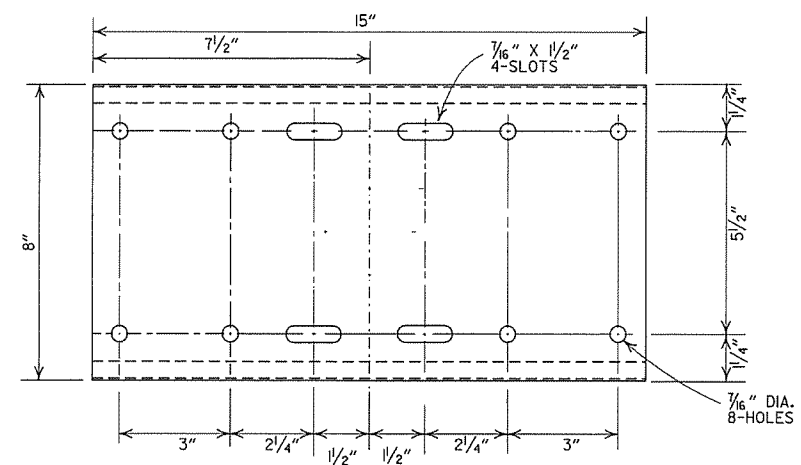


MULTIPLE R.C. PIPE CULVERTS

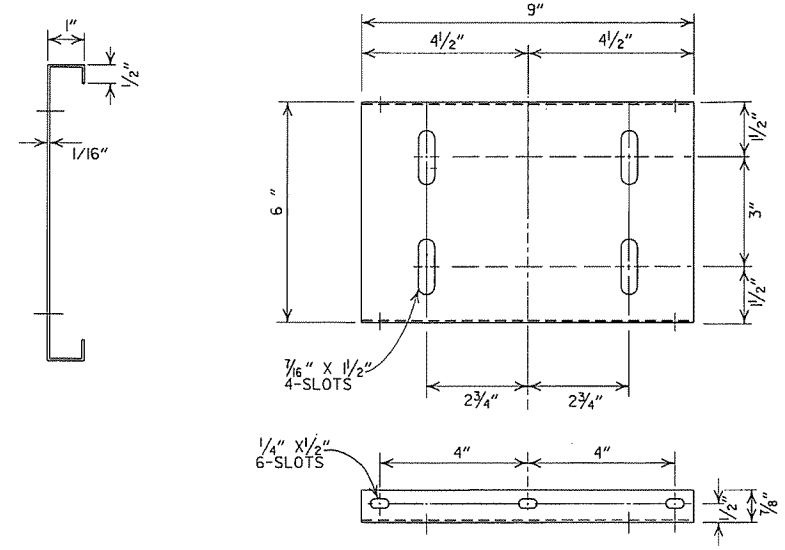


MULTIPLE C.M. PIPE CULVERTS

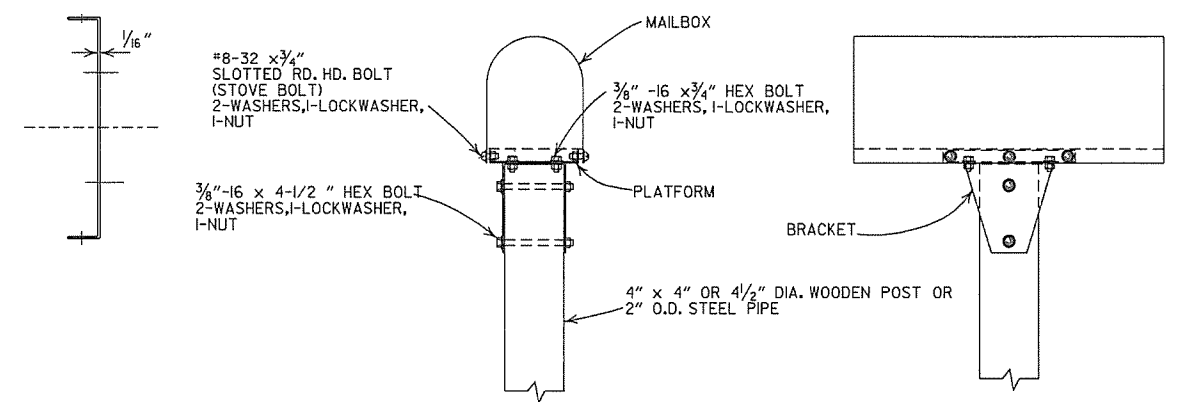
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	FLARED END SECTION
12-5-74	REMOVED NOTE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



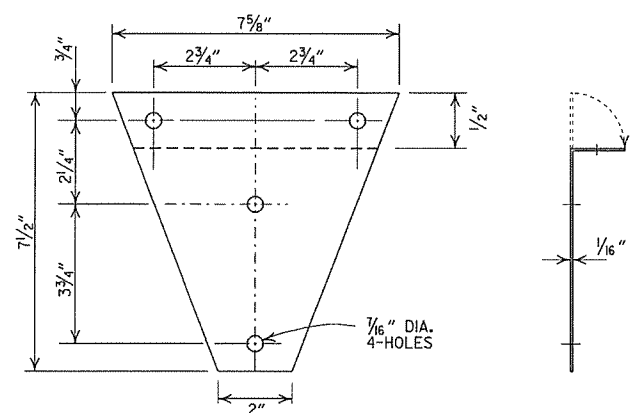
SHELF



PLATFORM

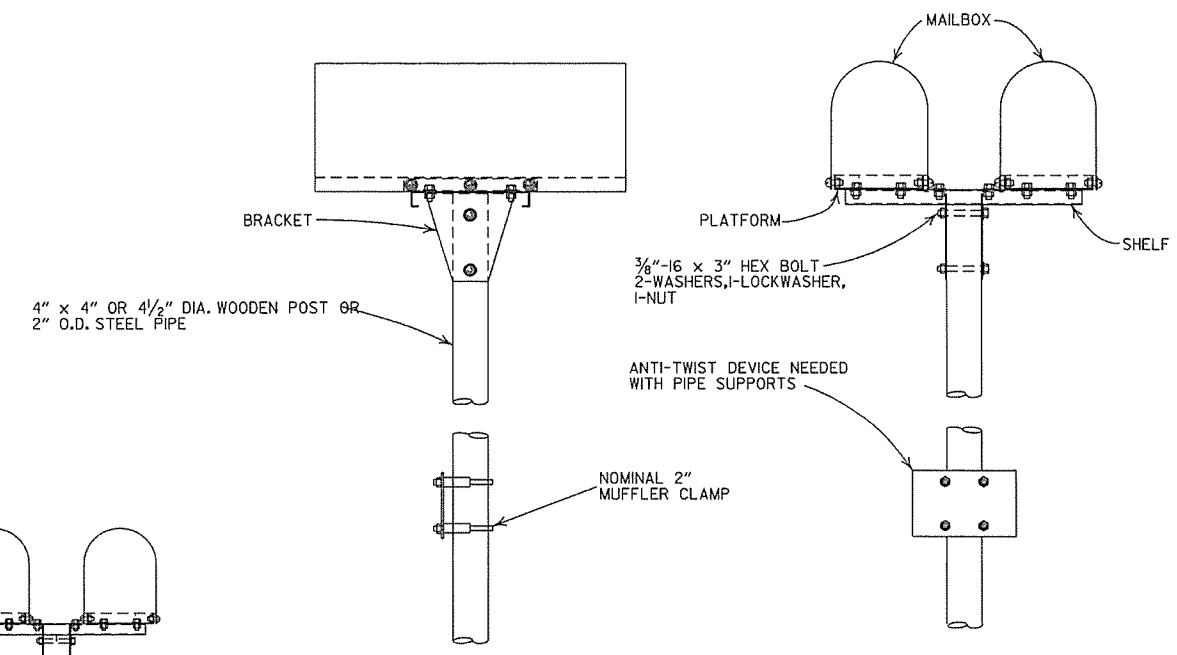


SINGLE INSTALLATION

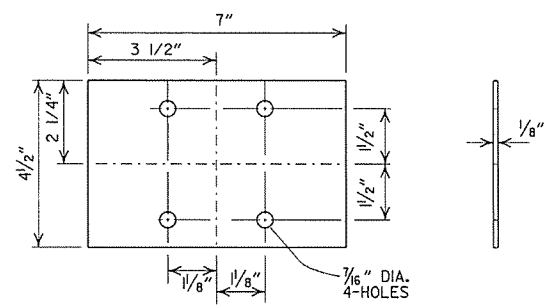


BRACKET

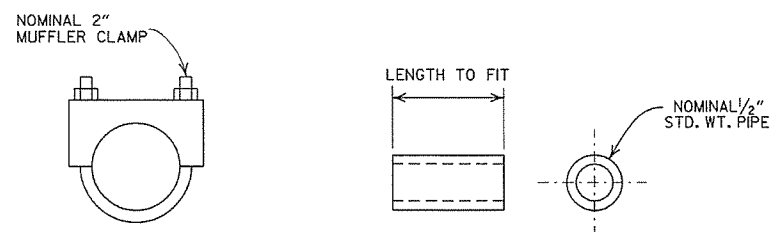
- GENERAL NOTES
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
  2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
  3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED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



DOUBLE INSTALLATION

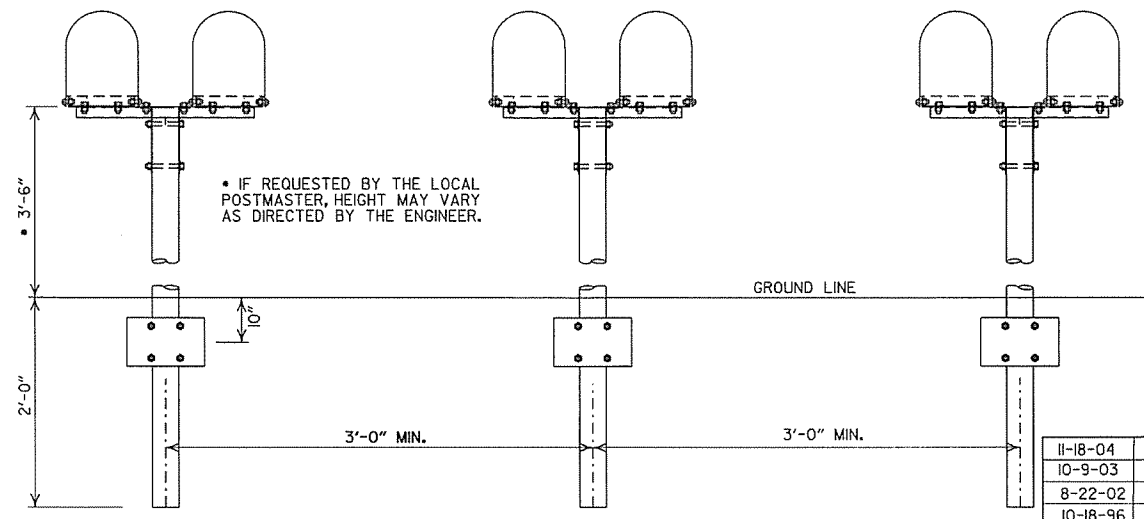


ANTI-TWIST PLATE



CLAMP

SPACER

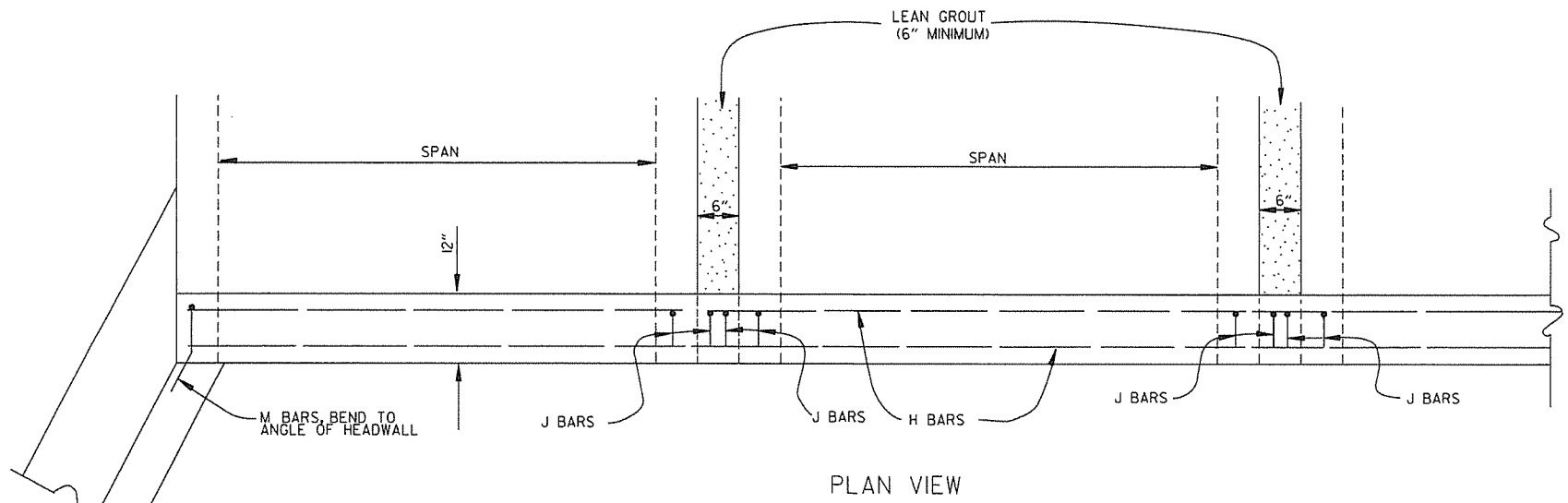


SPACING FOR MULTIPLE POST INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS  
STANDARD DRAWING MB-1



BAR LIST

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

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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

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

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

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

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

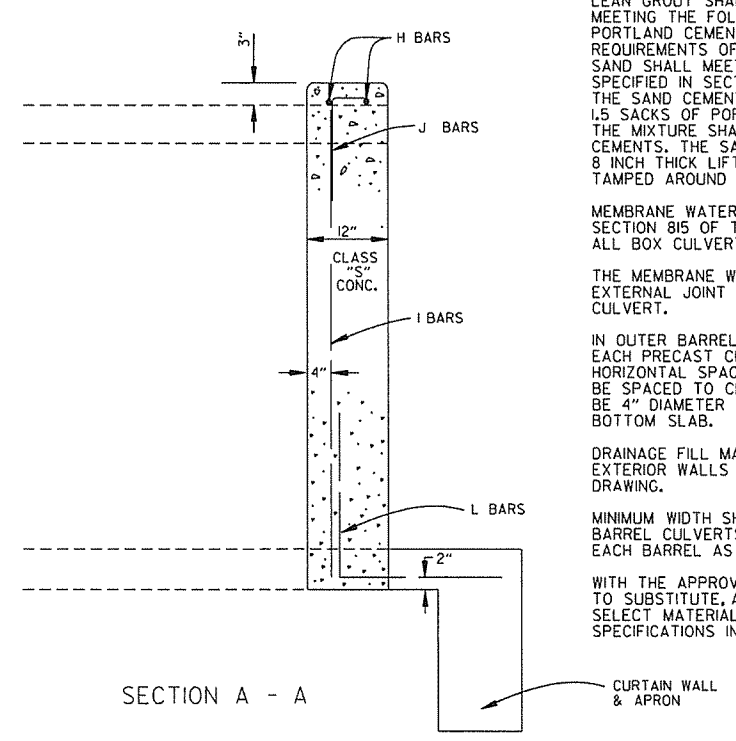
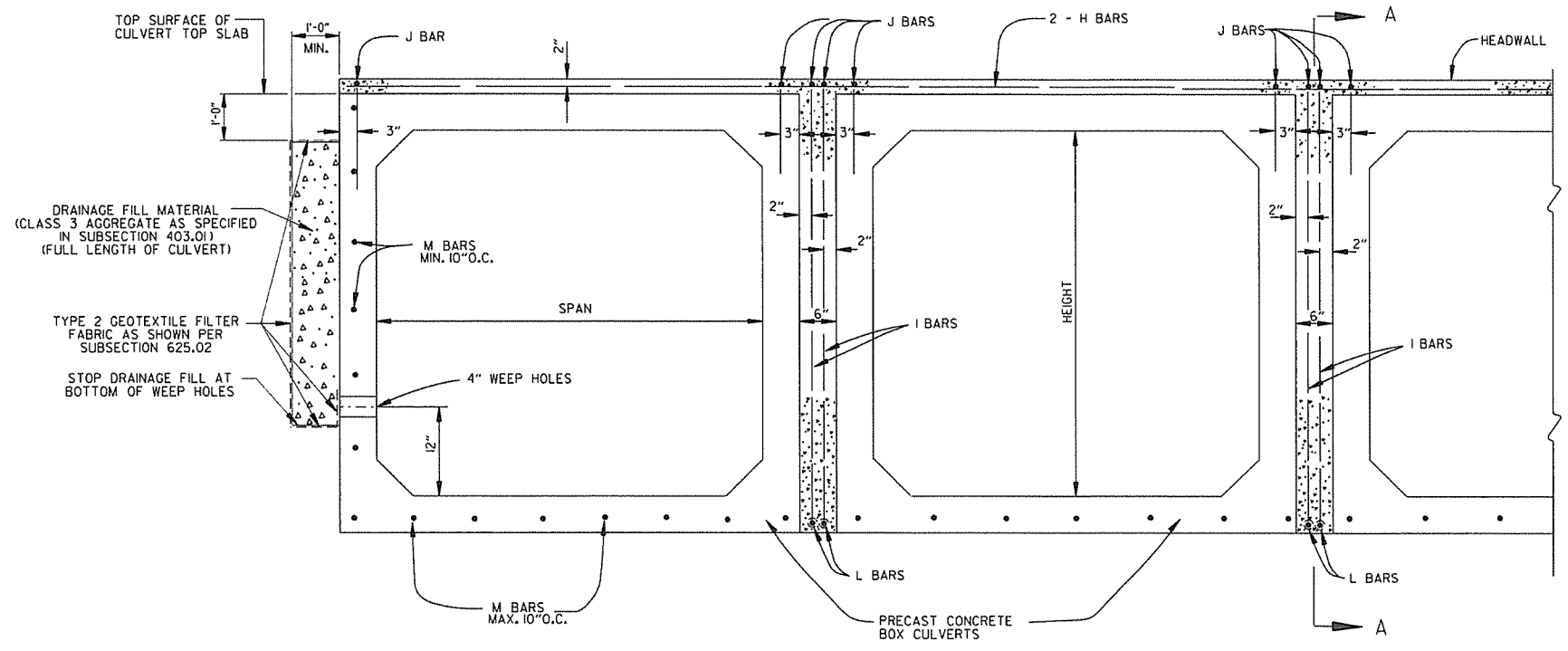
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

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

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

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



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

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

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

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

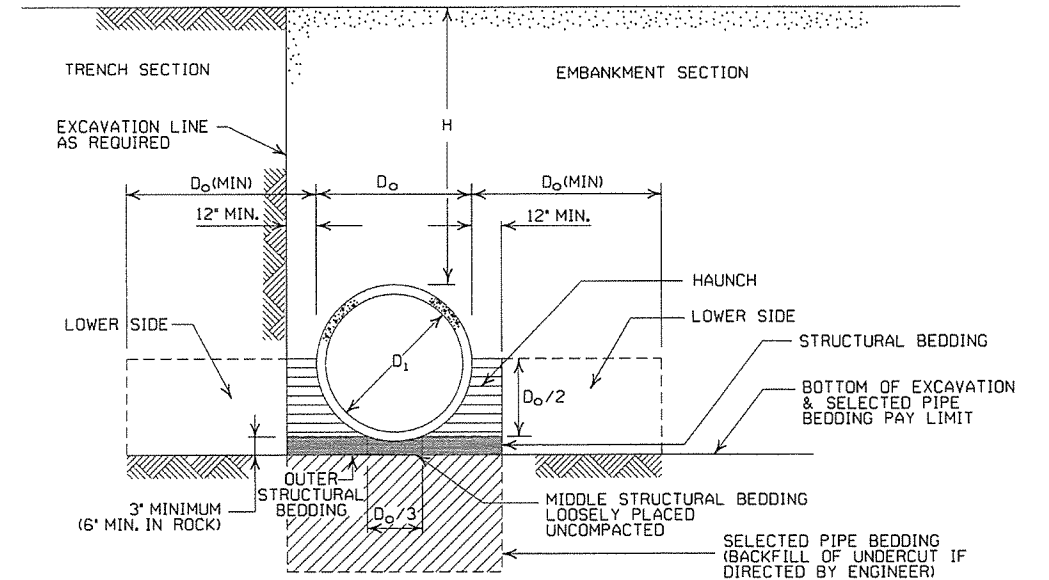
- LEGEND -

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

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

\* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M10, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT  
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

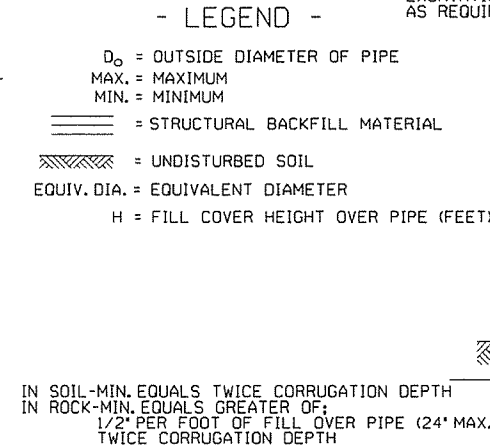
PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	36	47			
36	2	30	39	41		
42	2	24	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.



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

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

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		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	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2,25	15	0.060	2,25	15
24	28x20	3	0.064	2,5	15	0.075	2,5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3 1/2	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM								
			INSTALLATION		INSTALLATION			
			TYPE 2	TYPE 1	TYPE 2	TYPE 1		
36	40x31	5	0.079	3	2	12	15	
42	46x36	6	0.079	3	2	13	15	
48	53x41	7	0.079	3	2	13	15	
54	60x46	8	0.079	3	2	13	15	
60	66x51	9	0.079	3	2	13	15	
66	73x55	12	0.079	3	2	15	15	
72	81x59	14	0.079	3	2	15	15	
78	87x63	14	0.079	3	2	15	15	
84	95x67	16	0.109	3	2	15	15	
90	103x71	16	0.109	3	2	15	15	
96	112x75	18	0.109	3	2	15	15	
102	117x79	18	0.109	3	2	15	15	
108	128x83	18	0.138	3	2	15	15	

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT  
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1



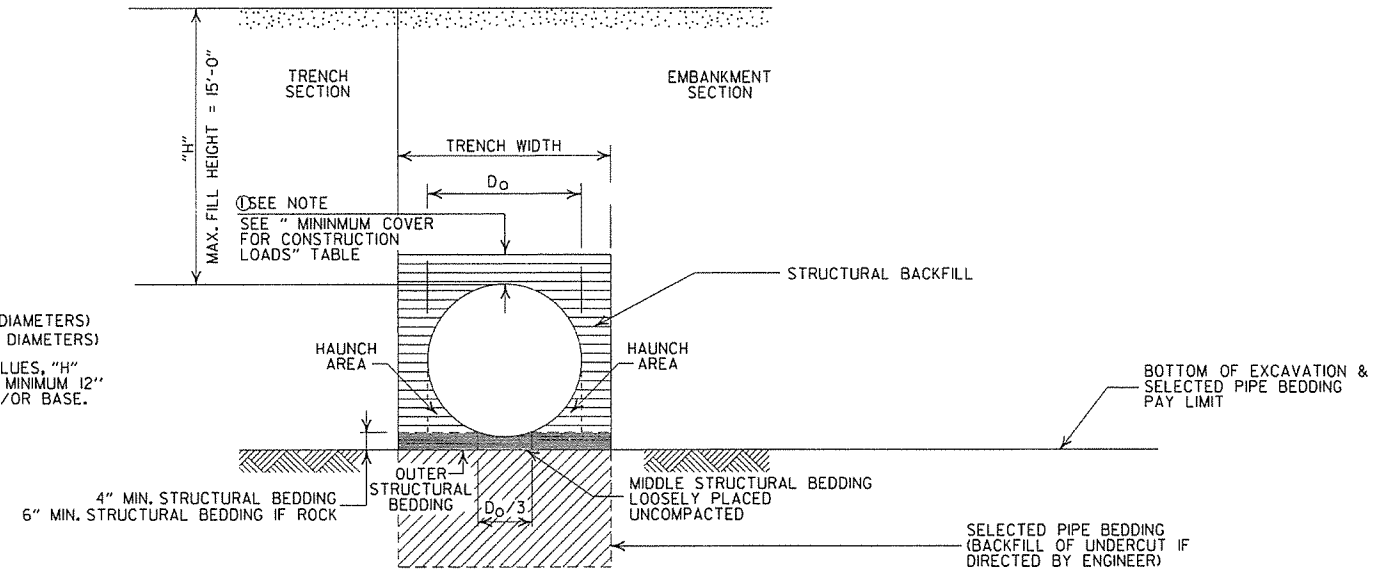
INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

CONSTRUCTION SEQUENCE

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

- LEGEND -

- H = FILL HEIGHT (FT.)
- D<sub>o</sub> = OUTSIDE DIAMETER OF PIPE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- ===== = STRUCTURAL BACKFILL MATERIAL
- ||||||| = UNDISTURBED SOIL

GENERAL NOTES

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

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

ARKANSAS STATE HIGHWAY COMMISSION	
PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	
STANDARD DRAWING PCP-1	

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

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.  
SM3 WILL NOT BE ALLOWED.

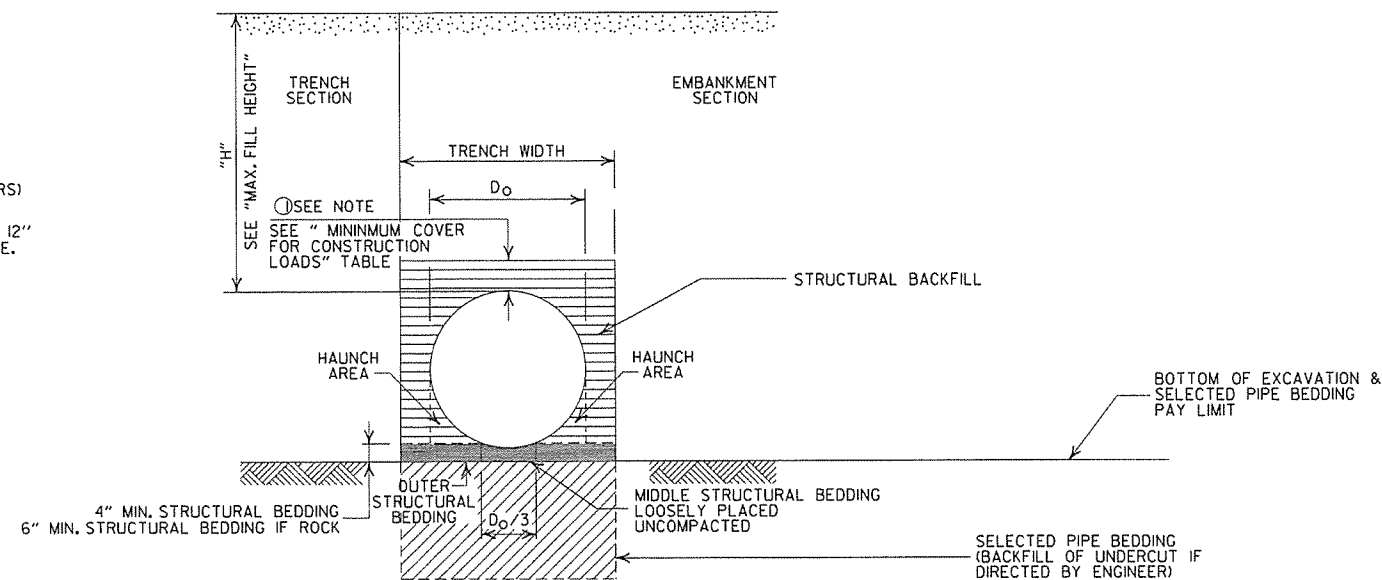
•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

### MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

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

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



### TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

### MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

### MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

### MULTIPLE INSTALLATION OF PVC PIPES

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

### CONSTRUCTION SEQUENCE

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

### GENERAL NOTES

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

### - LEGEND -

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

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

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

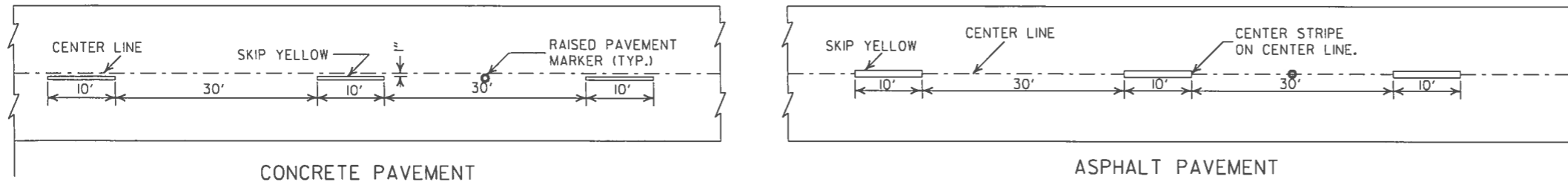
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT  
(PVC F949)

STANDARD DRAWING PCP-2

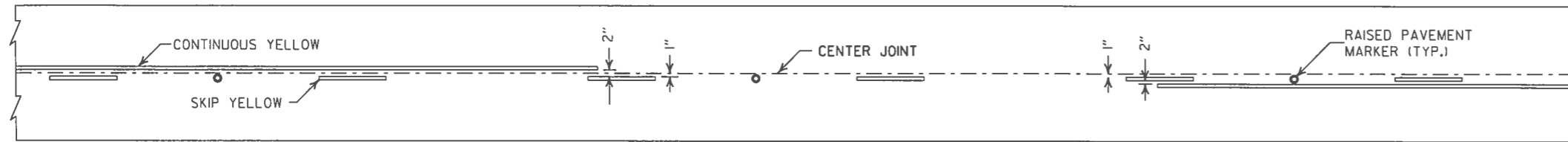




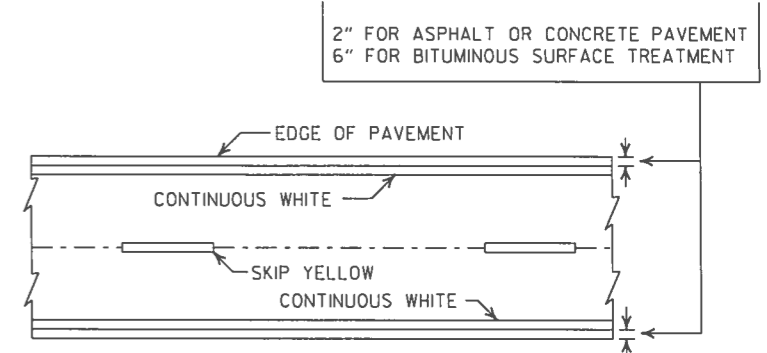


**BROKEN LINE STRIPING**

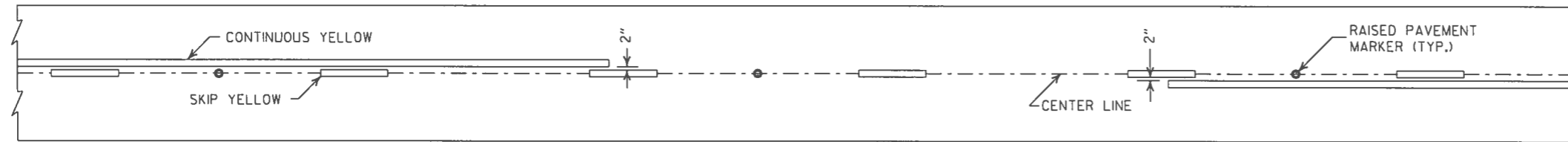
- NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
  2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
  3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN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



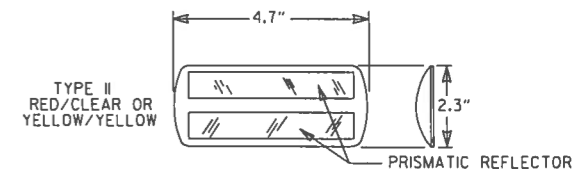
**SOLID LINE STRIPING ON CONCRETE PAVEMENT**



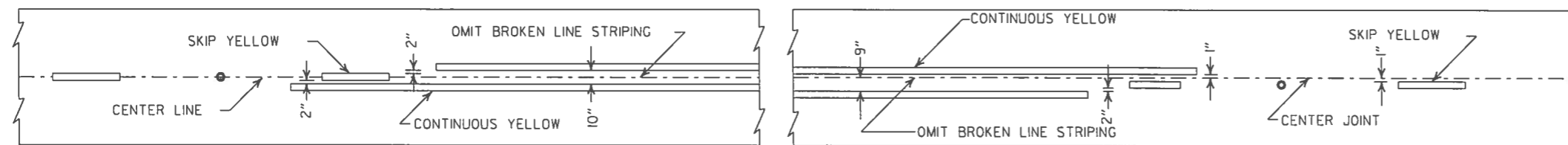
**PAVEMENT EDGE LINE MARKING**



**SOLID LINE STRIPING ON ASPHALT PAVEMENT**



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



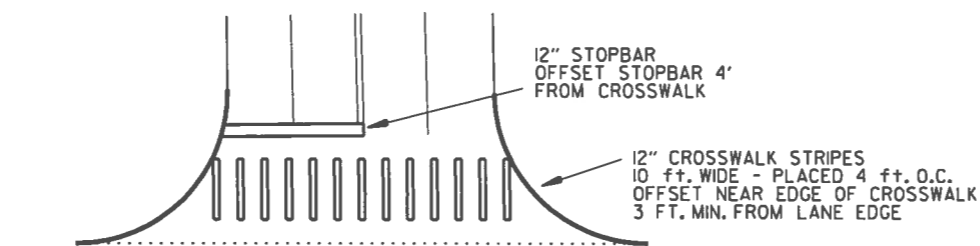
ASPHALT PAVEMENT

CONCRETE PAVEMENT

**STRIPING AT ADJACENT NO PASSING LANES**



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



**CROSSWALK AND STOPBAR DETAILS**

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

**ARKANSAS STATE HIGHWAY COMMISSION**

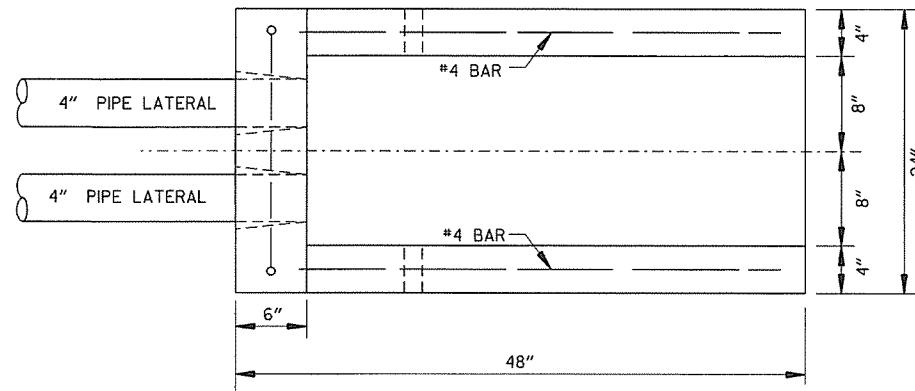
---

**PAVEMENT MARKING DETAILS**

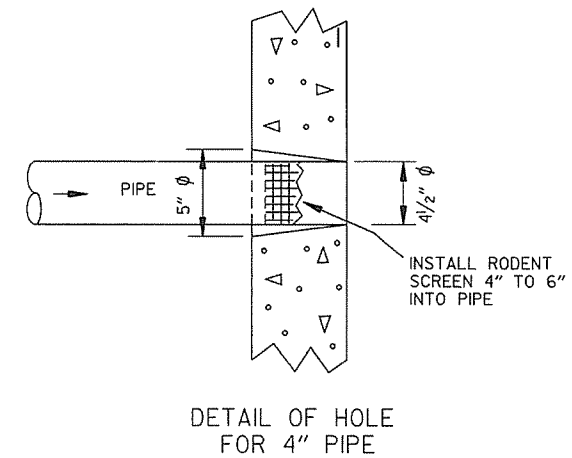
---

**STANDARD DRAWING PM-1**

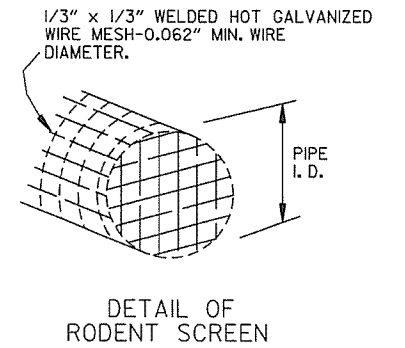
NOTE:  
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.  
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.  
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE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



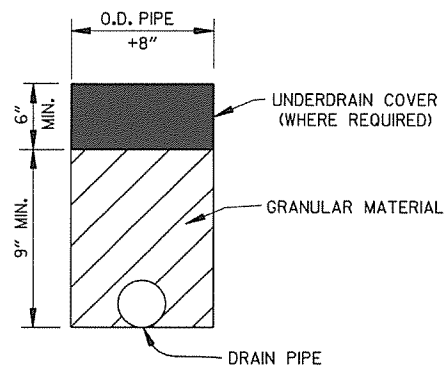
PLAN VIEW



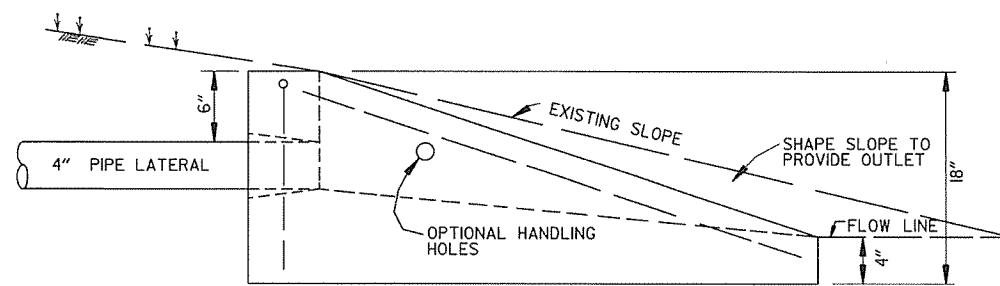
DETAIL OF HOLE FOR 4" PIPE



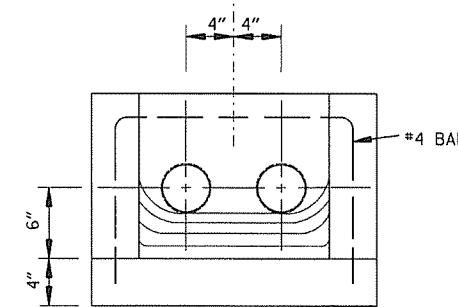
DETAIL OF RODENT SCREEN



DETAILS OF PIPE UNDERDRAIN



SIDE VIEW

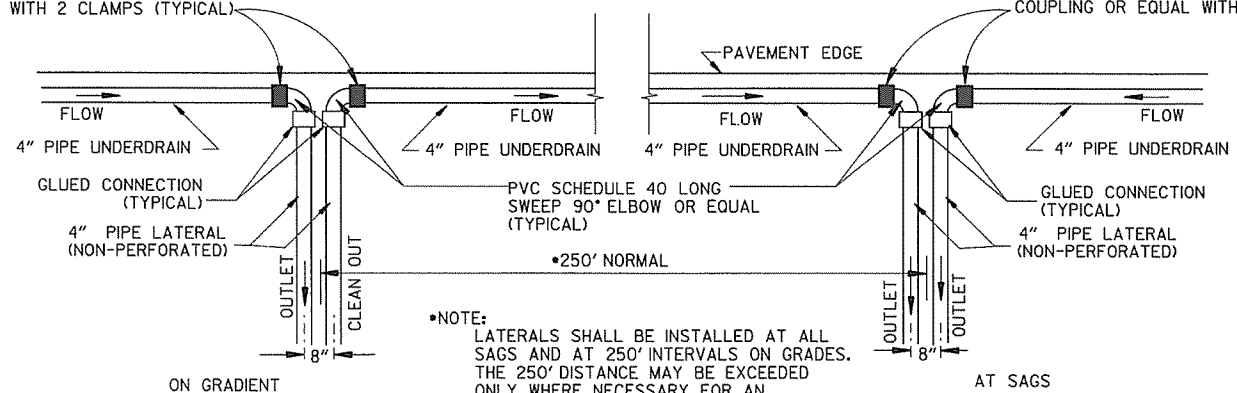


FRONT VIEW

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)



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
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

ARKANSAS STATE HIGHWAY COMMISSION

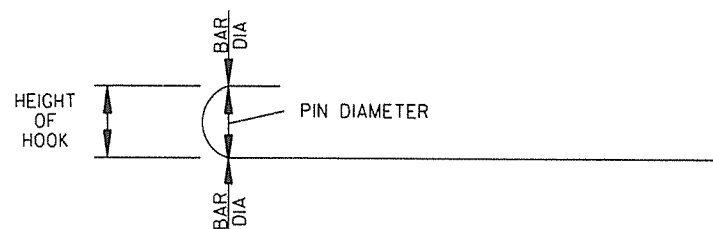
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

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

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2 1/4"	4"
4	3"	4 1/2"
5	3 3/4"	5"
6	4 1/2"	6"
7	5 1/4"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2 3/4 INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

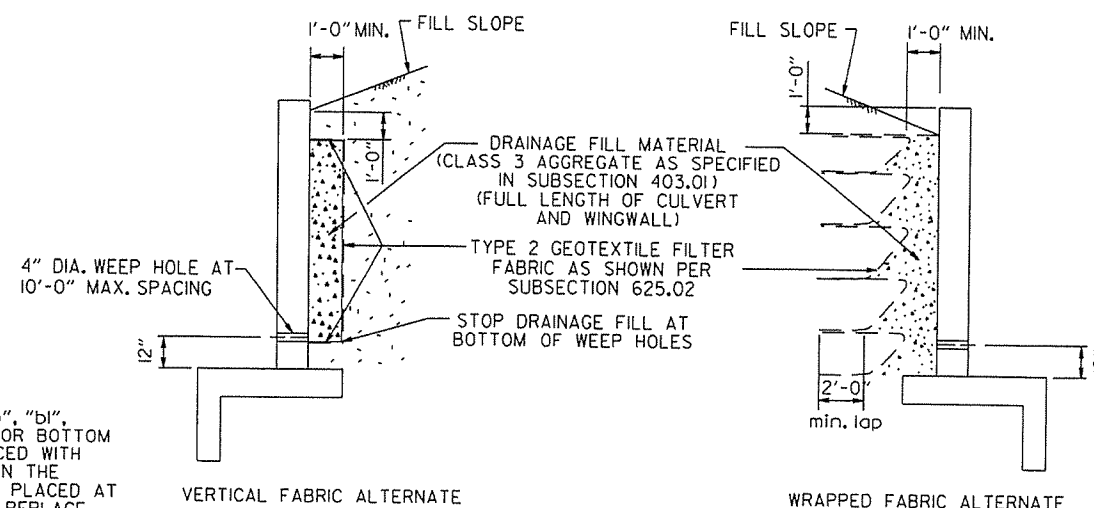
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE AASHTO M 31OR M 53, GRADE 60.

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

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

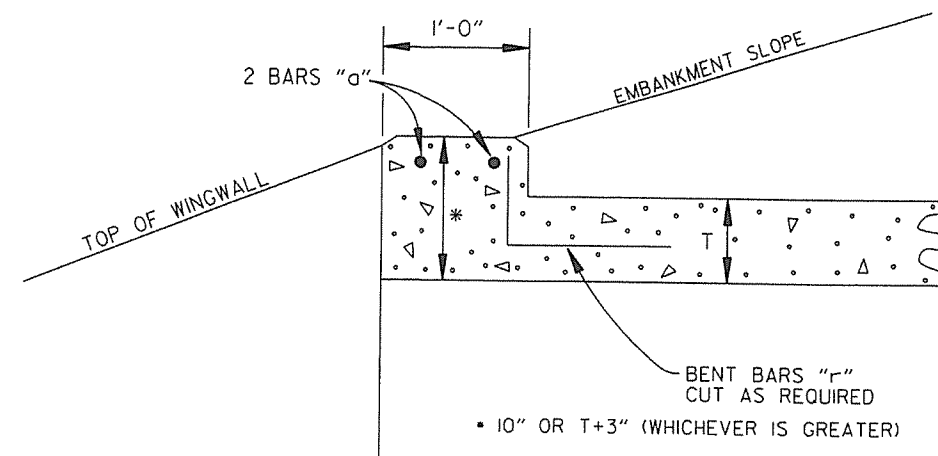
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS 1/2 INCH.

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

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

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



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

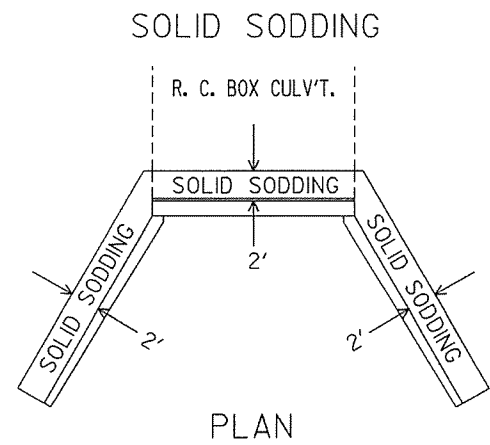
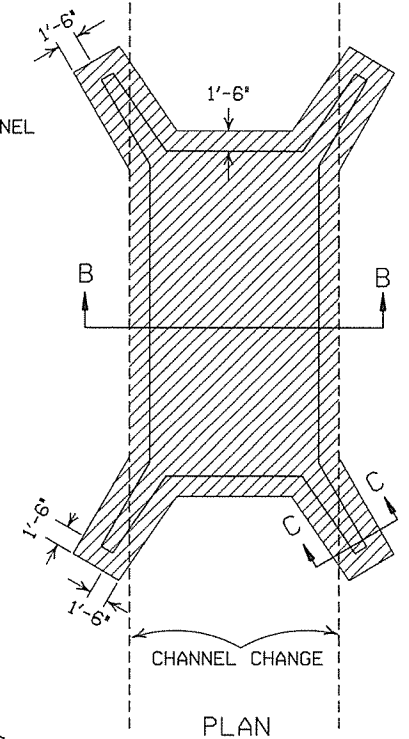
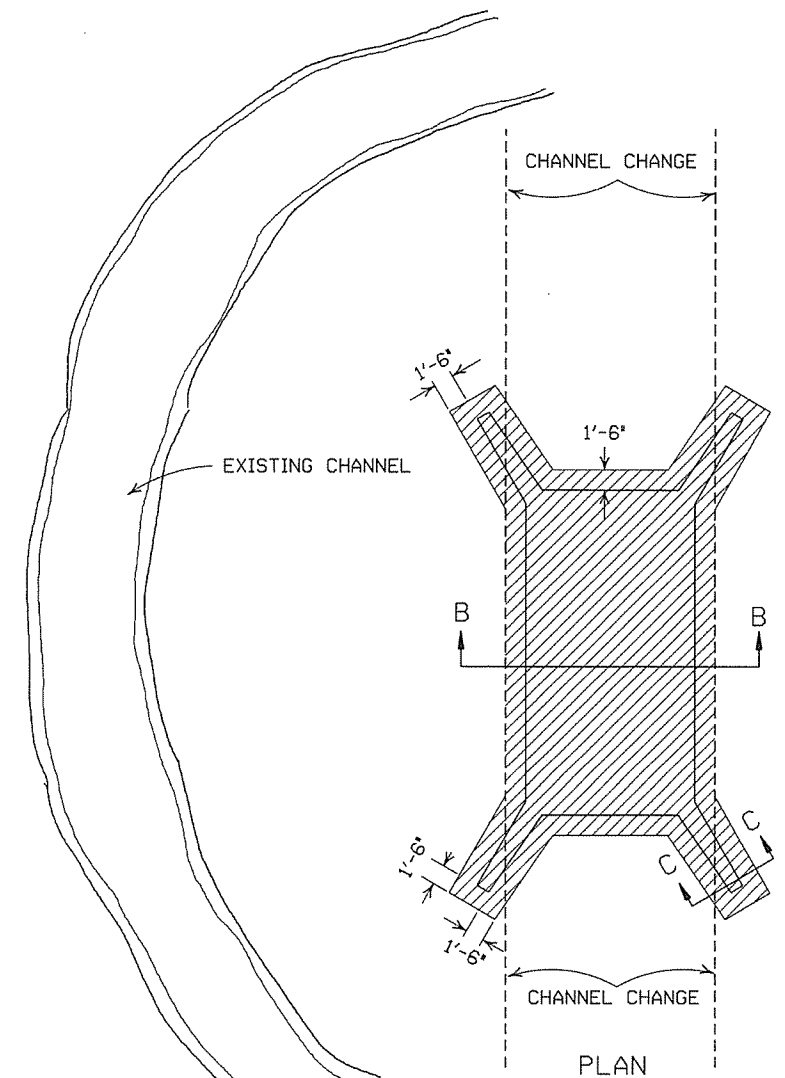
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

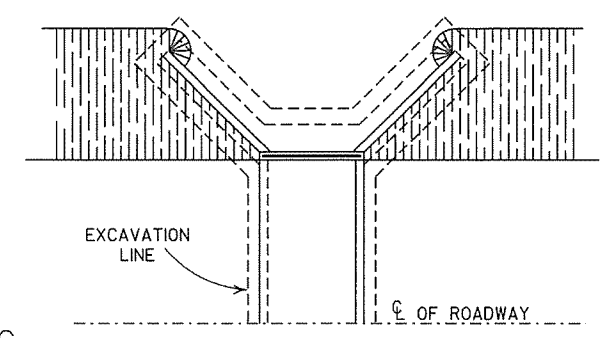
STANDARD DRAWING RCB-1



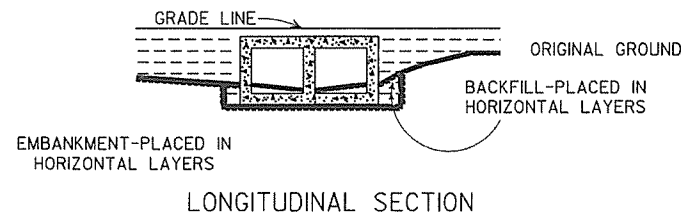
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

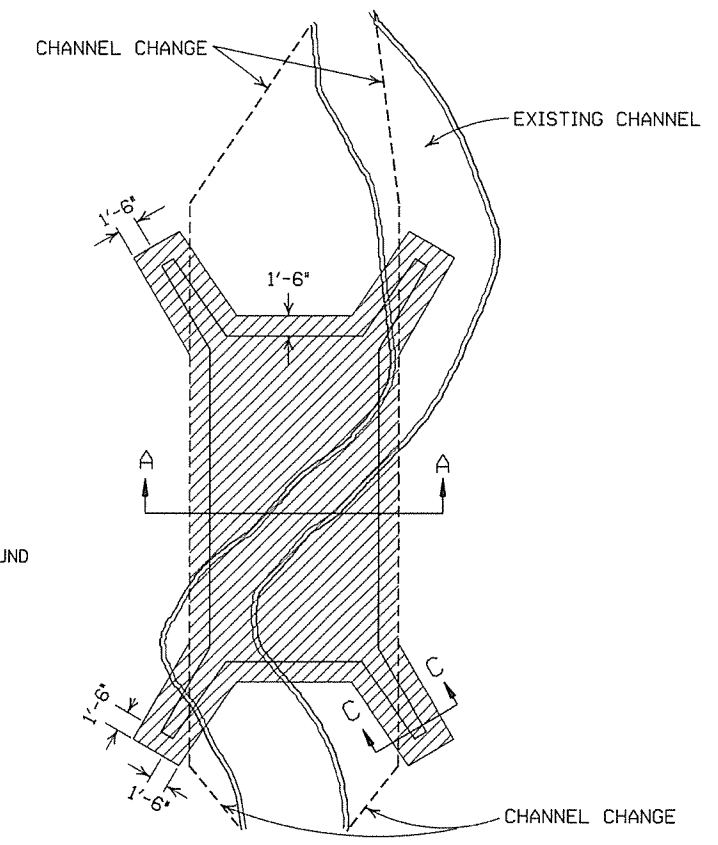


PLAN

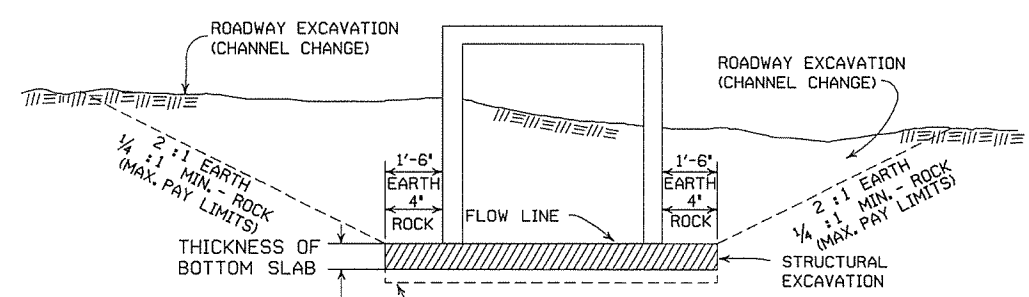


LONGITUDINAL SECTION

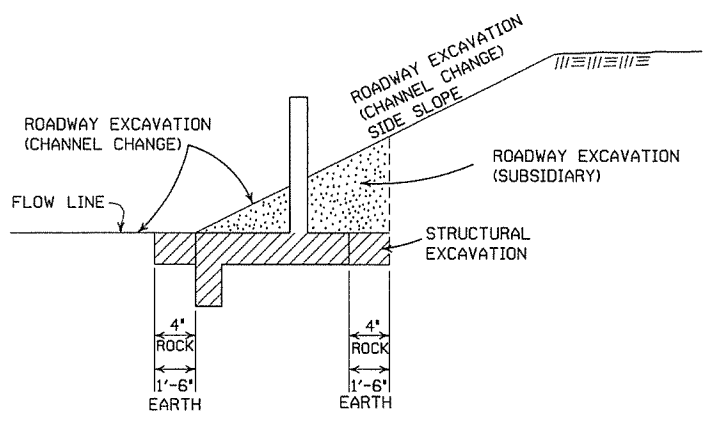
BACKFILL DETAILS FOR BOX CULVERT



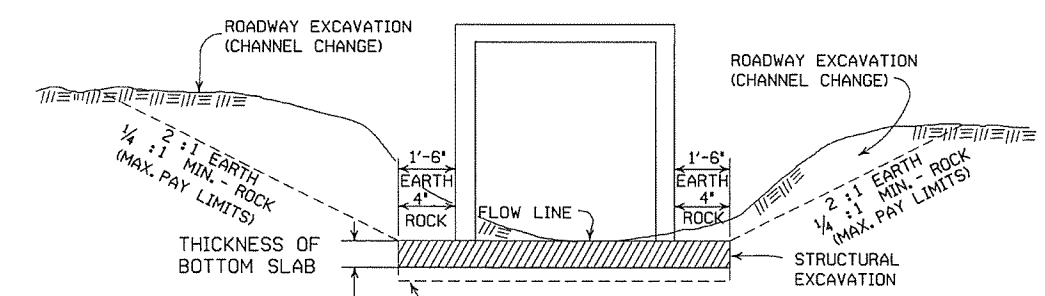
PLAN



SECTION B-B  
DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

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

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

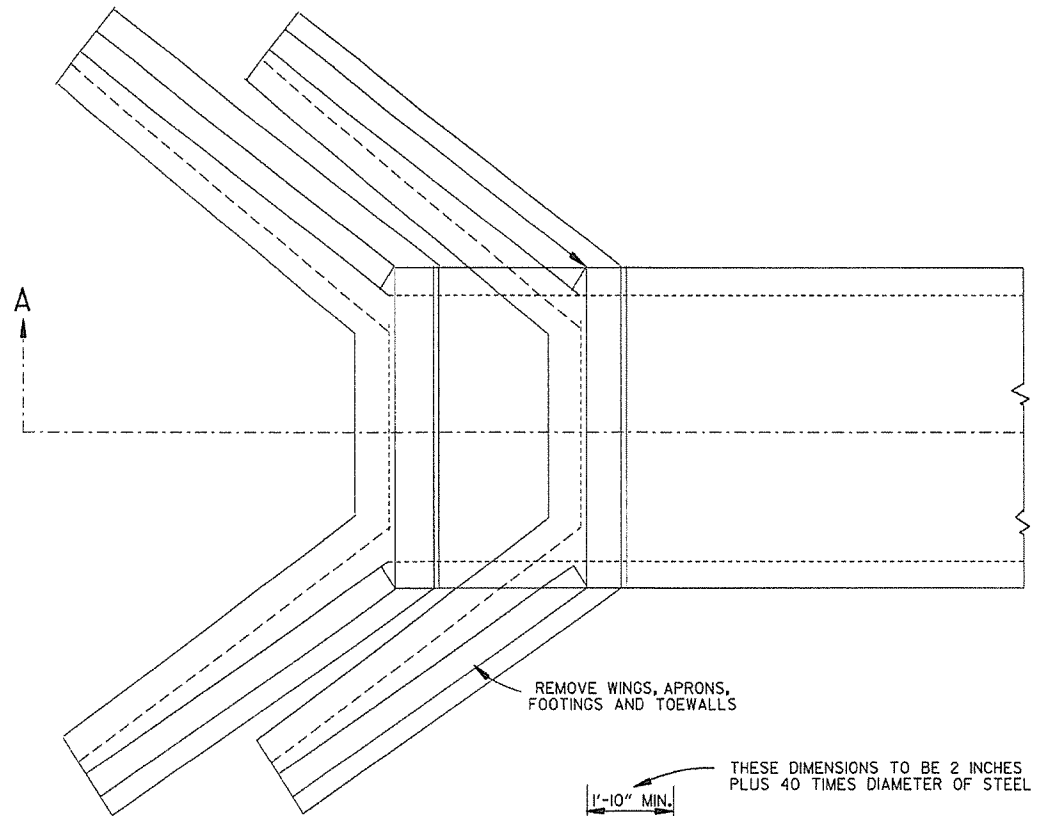
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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

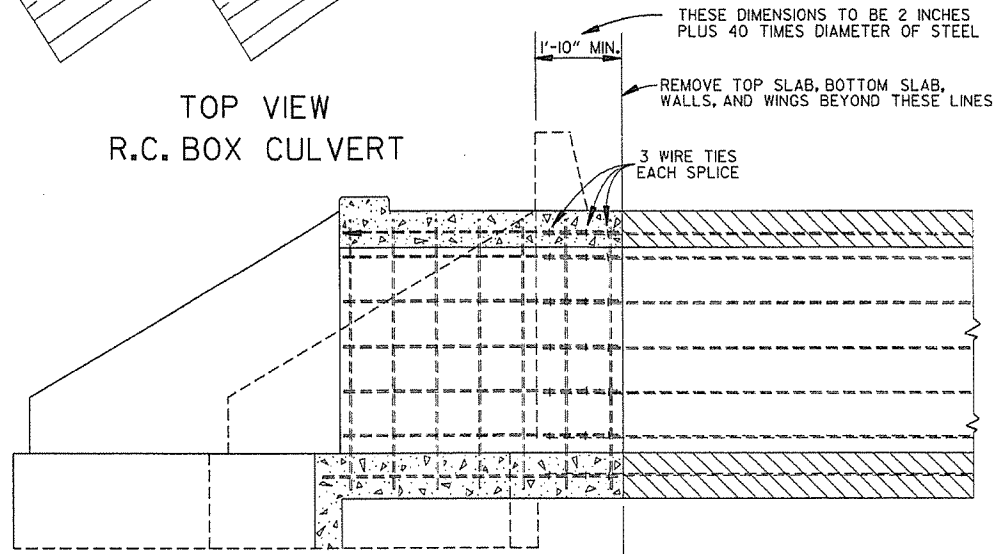
ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING RCB-2

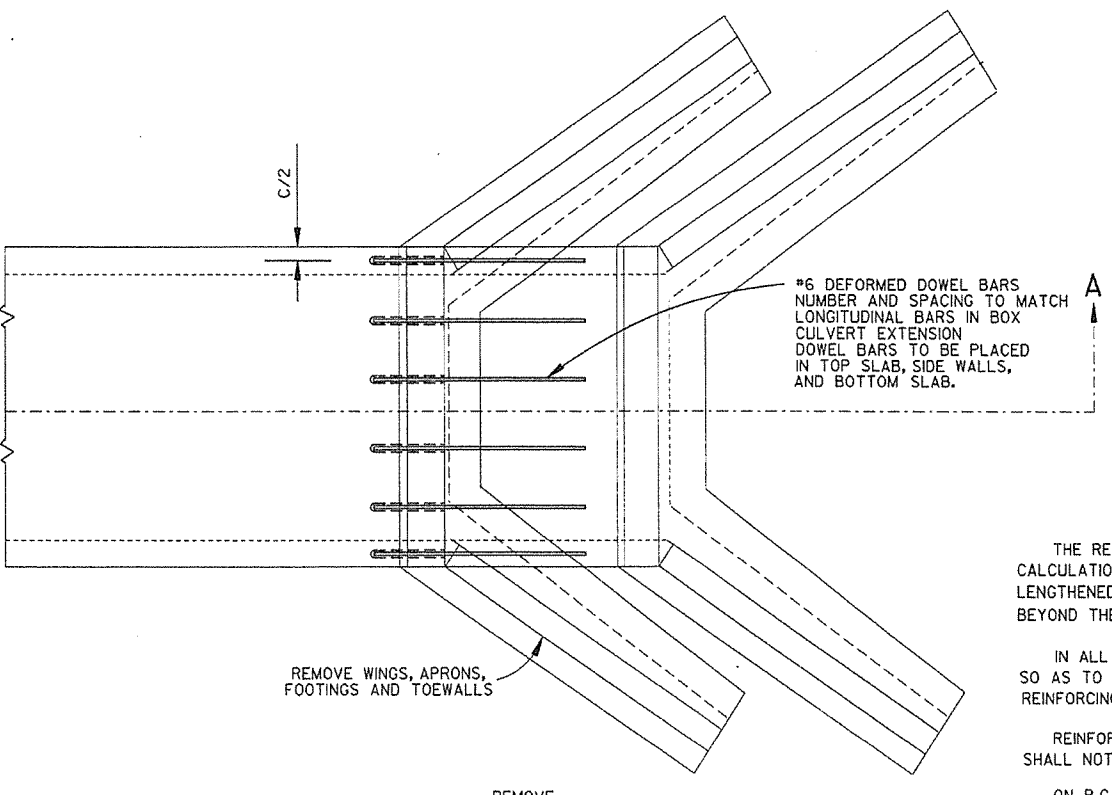


TOP VIEW  
R.C. BOX CULVERT

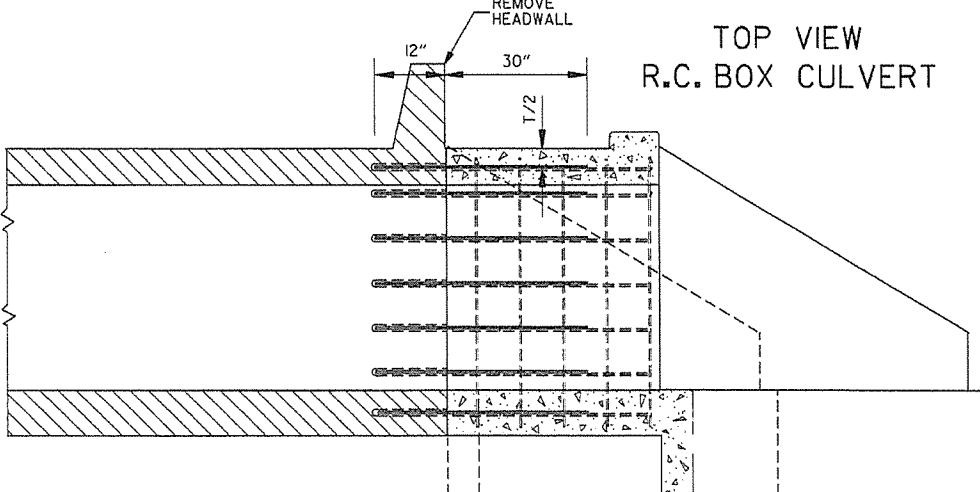


REINFORCING DETAILS AND CULVERT DIMENSIONS  
SAME AS STANDARD CULVERT DRAWINGS

SECTION A-A  
METHOD 1



TOP VIEW  
R.C. BOX CULVERT



REINFORCING DETAILS AND CULVERT DIMENSIONS  
SAME AS STANDARD CULVERT DRAWINGS

SECTION A-A  
METHOD 2

#6 DEFORMED DOWEL BARS  
NUMBER AND SPACING TO MATCH  
LONGITUDINAL BARS IN BOX  
CULVERT EXTENSION  
DOWEL BARS TO BE PLACED  
IN TOP SLAB, SIDE WALLS,  
AND BOTTOM SLAB.

GENERAL NOTES

THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.

IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.

REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.

ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.

DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.

THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2, REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.

NOTE:  
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.  
SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

USE FOR METHOD

1

1

1&2

1&2

2

2

1&2

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING * FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING  
EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)	
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
0° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 45'	N.C.		N.C.		N.C.		0.022		0.023		0.028	
1° 00'	N.C.		N.C.		0.021		0.026		0.030		0.037	
1° 15'	N.C.		R.C.		0.026		0.032		0.037		0.046	
1° 30'	N.C.		0.021		0.031	200	0.037		0.043	250	0.054	300
1° 45'	N.C.		0.025		0.036		0.043	225	0.049		0.062	
2° 00'	R.C.		0.028		0.040		0.048	300	0.055		0.070	
2° 15'	N.C.		0.031	175	0.045		0.053		0.061	300	0.078	300
2° 30'	0.021		0.034		0.049	250	0.058		0.067		0.085	315
2° 45'	0.023		0.037		0.053		0.063		0.072		0.091	335
3° 00'	0.025	150	0.040	200	0.057		0.067	230	0.077	260	0.096	350
3° 15'	0.027		0.043		0.061		0.072	245	0.082	275	0.098	360
3° 30'	0.029		0.046		0.065	205	0.076	255	0.086	285	0.100	360
3° 45'	0.031	200	0.049		0.069	215	0.080	265	0.090	295		
4° 00'	0.033		0.051		0.072	225	0.083	270	0.093	305		
4° 30'	0.037		0.056		0.078	240	0.087	280	0.096	315		
5° 00'	0.040		0.061		0.083	250	0.091	295	0.098	320		
5° 30'	0.043		0.066	185	0.088	260	0.094	300				
6° 00'	0.046		0.070	190	0.092	270	0.096	305				
6° 30'	0.050		0.074	200	0.095	280	0.100	315				
7° 00'	0.053		0.078	210	0.098	285						
7° 30'	0.056		0.081	215	0.099	290						
8° 00'	0.058		0.084	220	0.100	290						
8° 30'	0.061		0.087	225								
9° 00'	0.063		0.089	230								
10° 00'	0.068	160	0.094	235								
11° 00'	0.072	170	0.097	250								
12° 00'	0.076	175	0.099	250								
13° 00'	0.080	180	0.100	250								
14° 00'	0.083	190										
15° 00'	0.086	195										
16° 00'	0.089	200										
17° 00'	0.091	200										
18° 00'	0.093	205										
19° 00'	0.095	210										
20° 00'	0.097	215										
21° 00'	0.098	215										
22° 00'	0.099	215										
23° 00'	0.099	215										
24° 00'	0.100	220										

D MAX = 24' 45'

ABBREVIATIONS

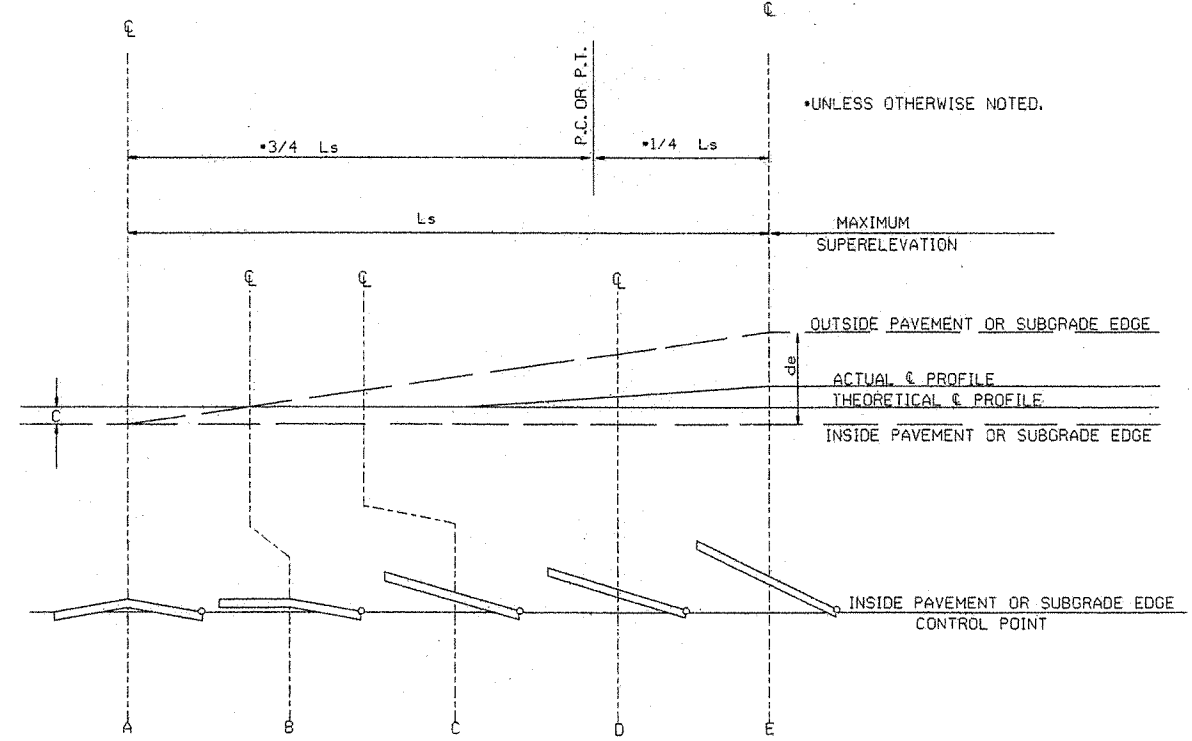
- NC - NORMAL CROWN
- RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
- e - RATE OF SUPERELEVATION (FT. PER FT.)
- Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
- L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
- d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)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

GENERAL NOTES

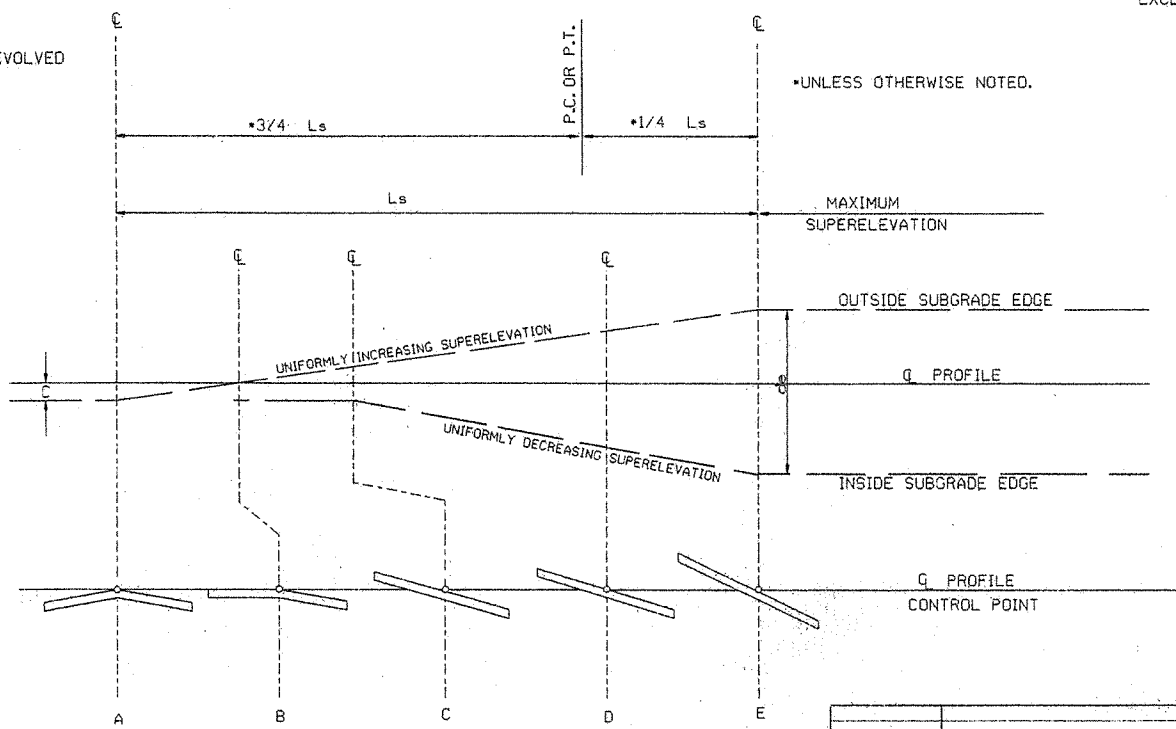
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED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

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

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



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



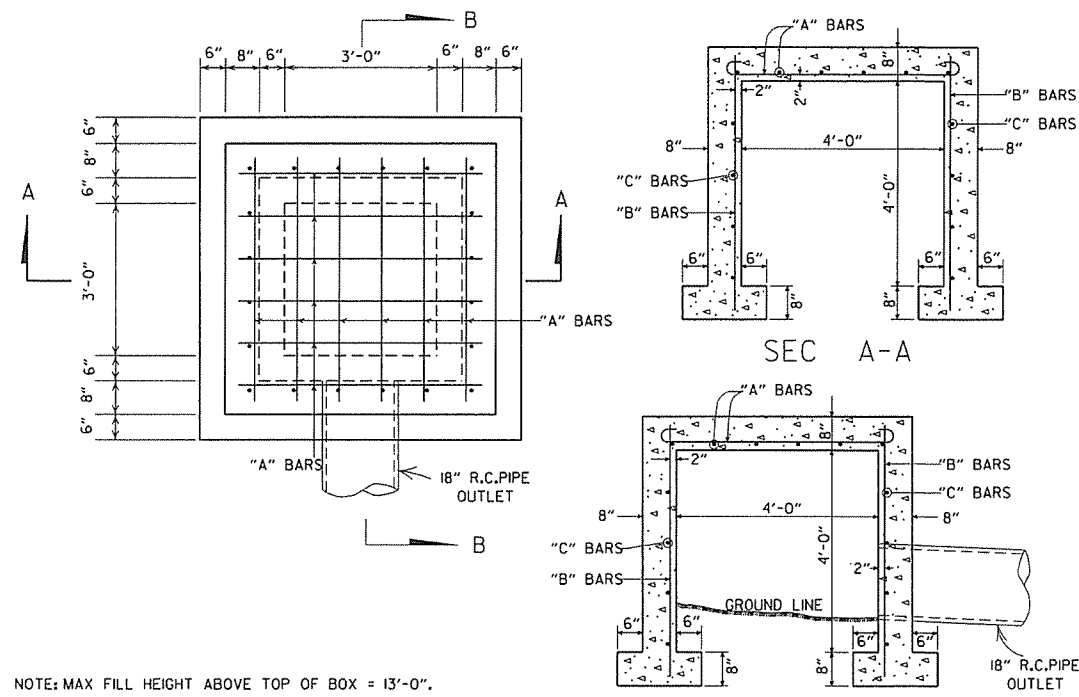
SUPERELEVATION FORMULA =  $\frac{Lde}{Ls}$

10-16-96	ADDED FORMULA	16-18-96
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

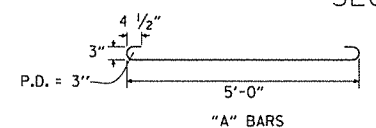
STANDARD DRAWING SE-2



NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

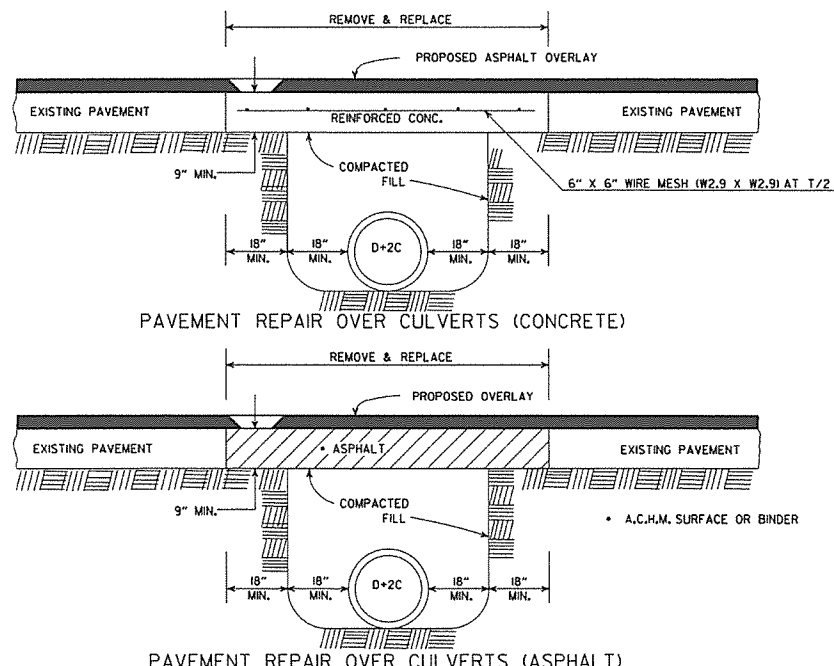
BAR	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 1/2"
"C"	16	5'-0"	12"



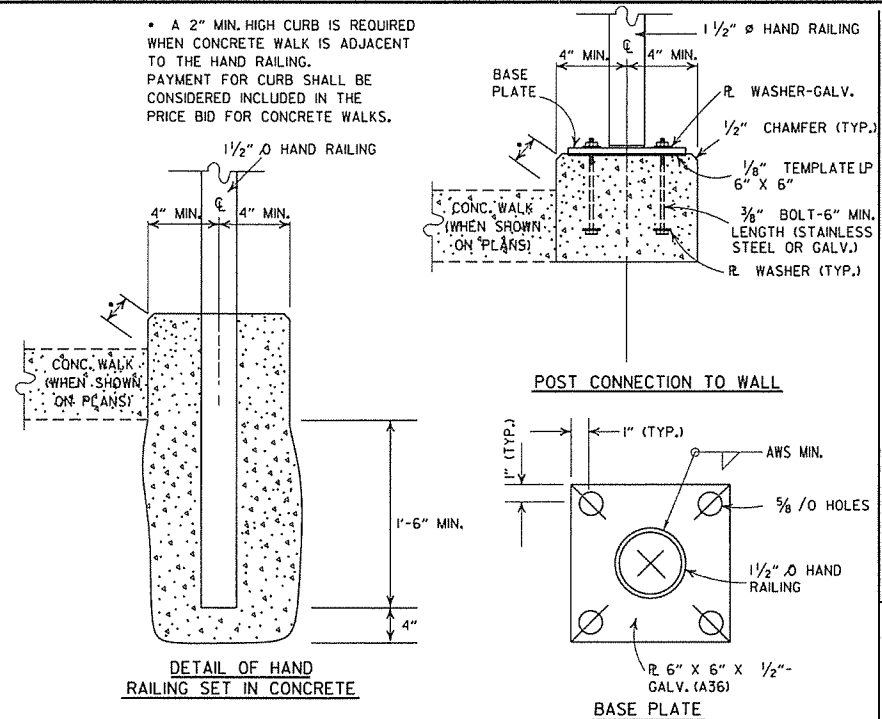
QUANTITIES  
CONCRETE 3.31 CU. YDS.  
REINFORCING STEEL 168 LB.

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

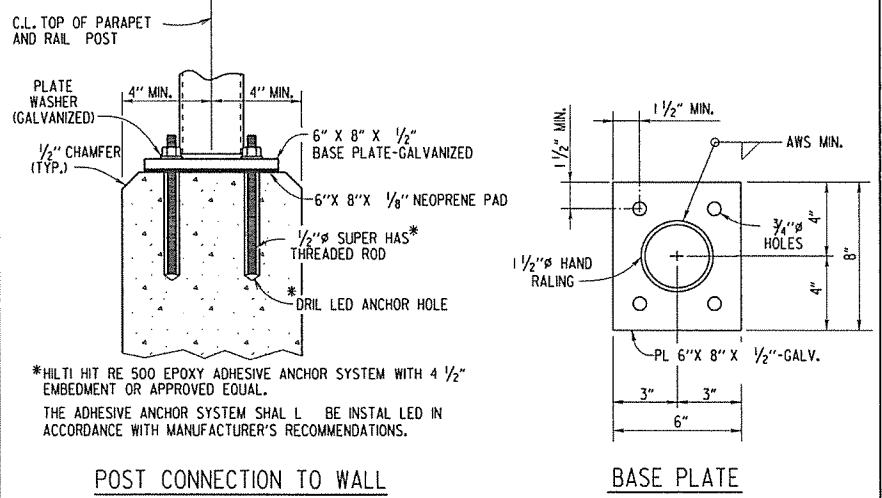
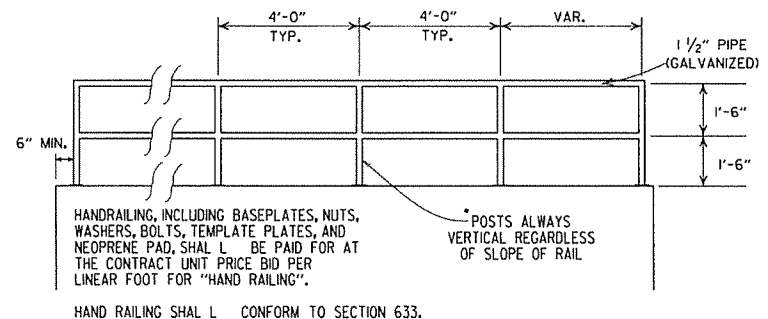
REINFORCED CONCRETE SPRING BOX



DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

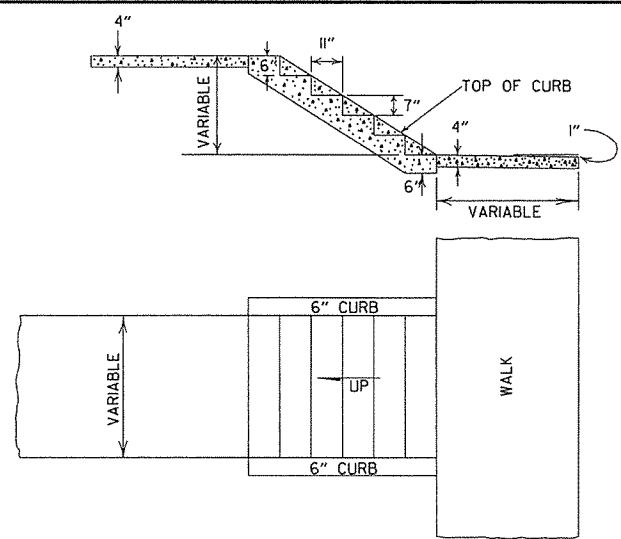


POST CONNECTION DETAILS



DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS




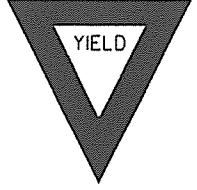

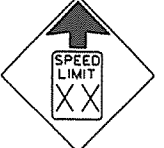

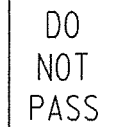



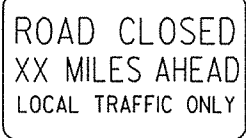
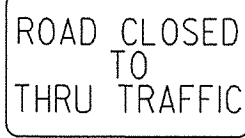
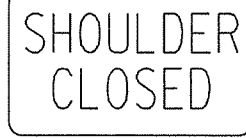
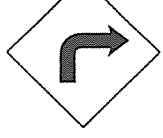


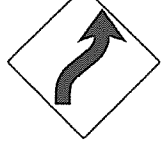
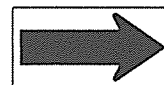
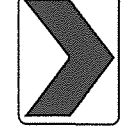
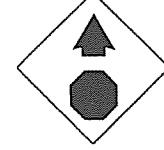
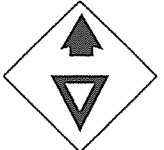
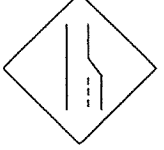



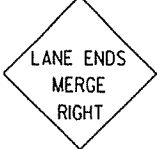
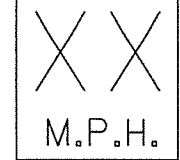












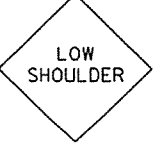
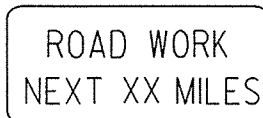
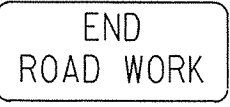
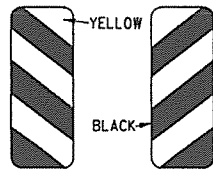
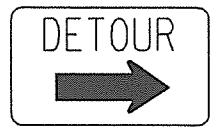

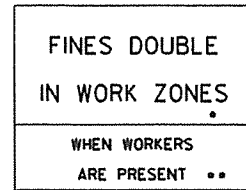
DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
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 HDWL 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
	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET & PAVEMENT REPAIR	674-4-20-79
2-2-76	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REV. 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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>500 FEET 24" W6-2</p> <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>W1-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>• USE 6" C LETTERS •• USE 4" D LETTERS</p>

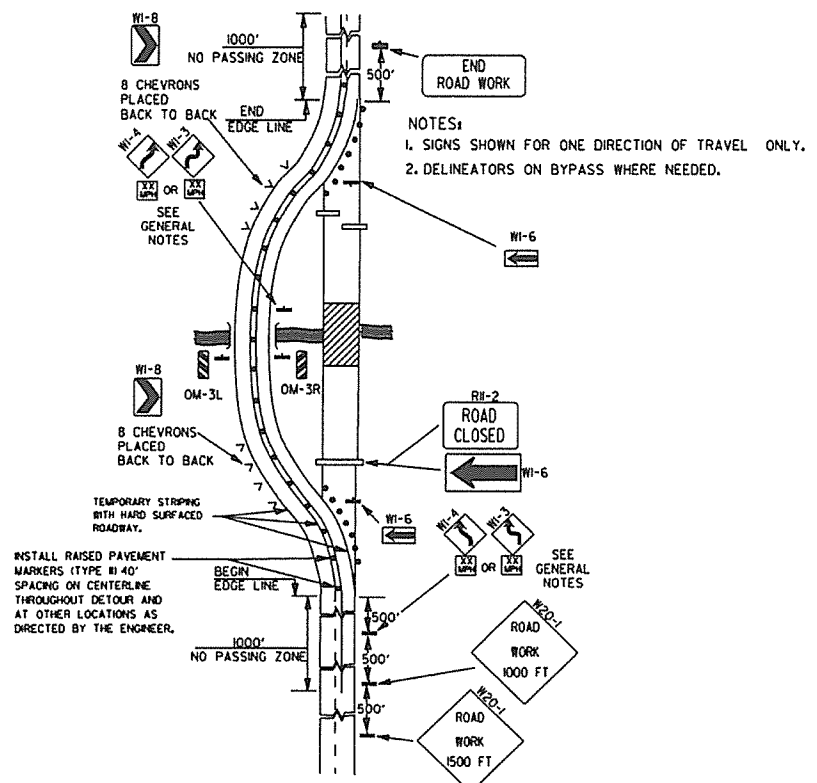
ADVANCE DISTANCES (XXXX)

500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

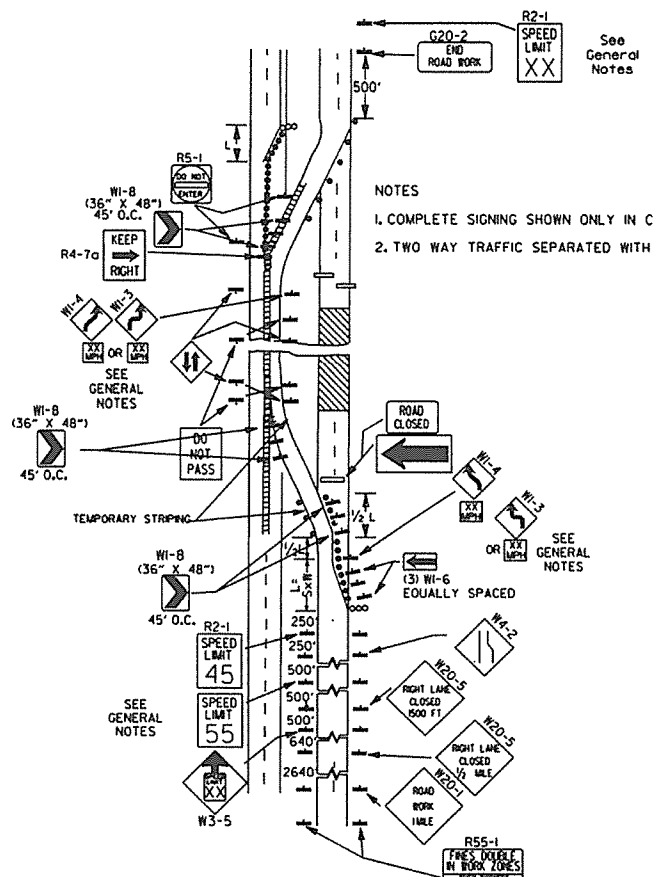
- GENERAL NOTES:
- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
  - TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
  - EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
  - SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
  - SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
  - POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
  - ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
  - FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
  - MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
  - R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-8	REVISED W24-1	
1-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
1-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
1-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-94	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

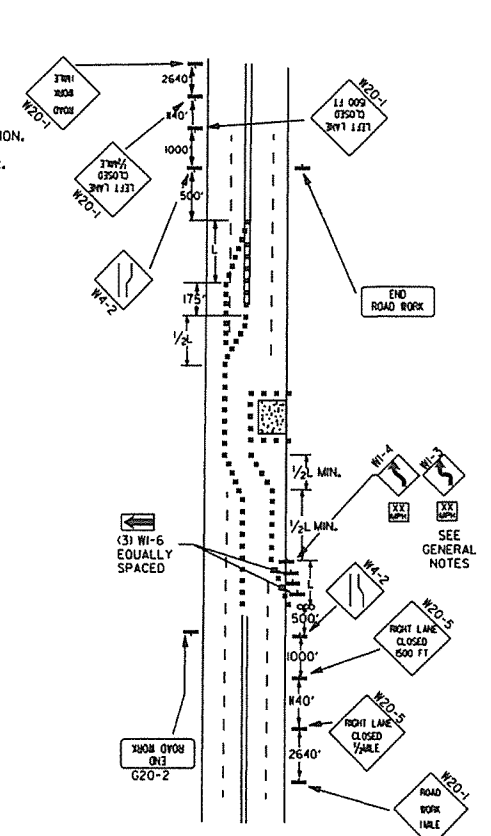




(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

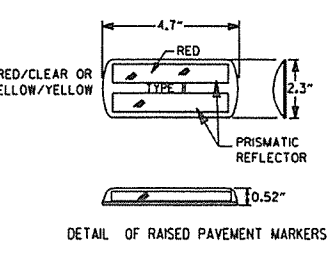


(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



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

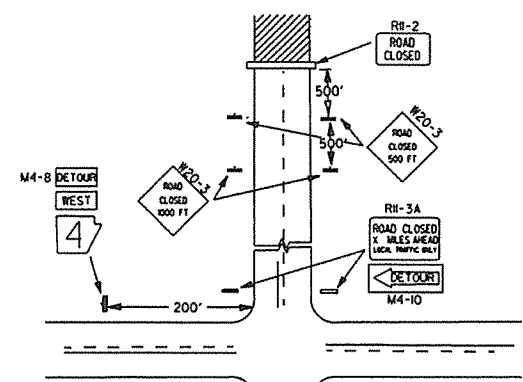
- KEY:
- FLAGGER
  - POSITIVE BARRIER
  - ARROW PANEL (IF REQUIRED)
  - CHANNELIZING DEVICE
  - TRAFFIC DRUM
  - RAISED PAVEMENT MARKER



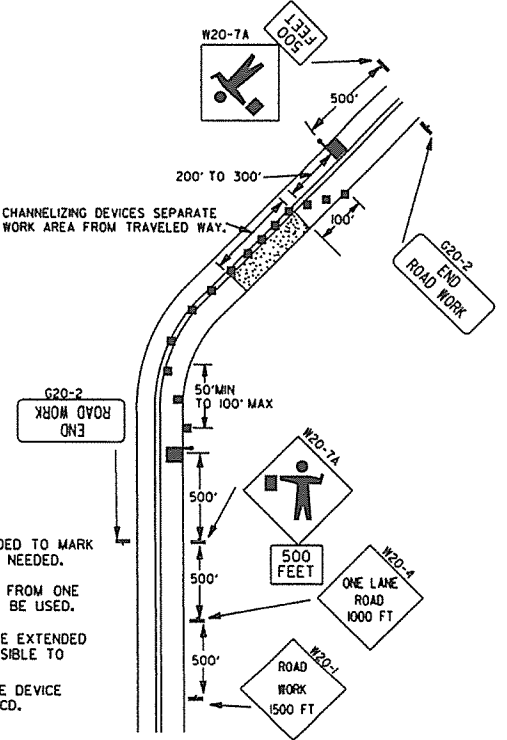
TYPICAL ADVANCE WARNING SIGN PLACEMENT

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.

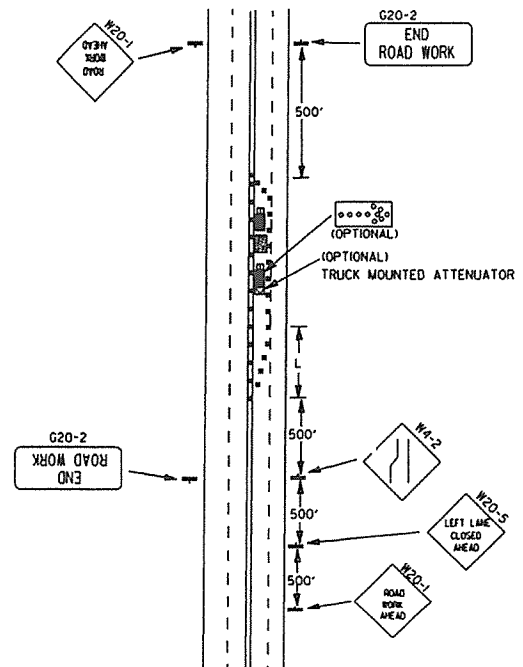
- GENERAL NOTES:
- ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
  - WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
  - WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(65) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
  - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
  - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
  - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
  - 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.
  - DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



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



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

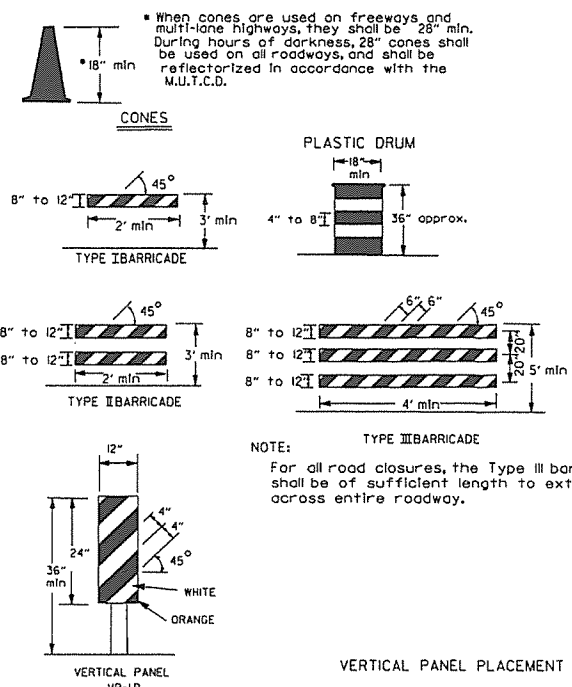


(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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

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

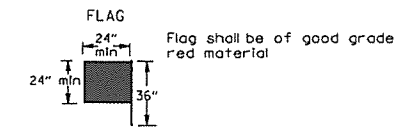
Channelizing devices



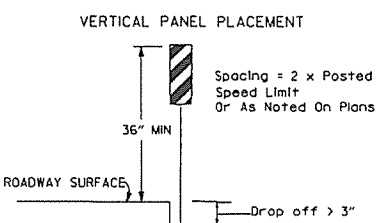
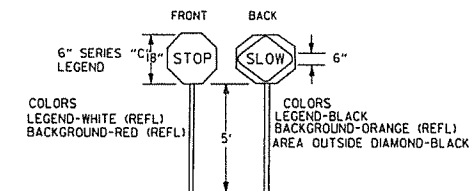
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

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

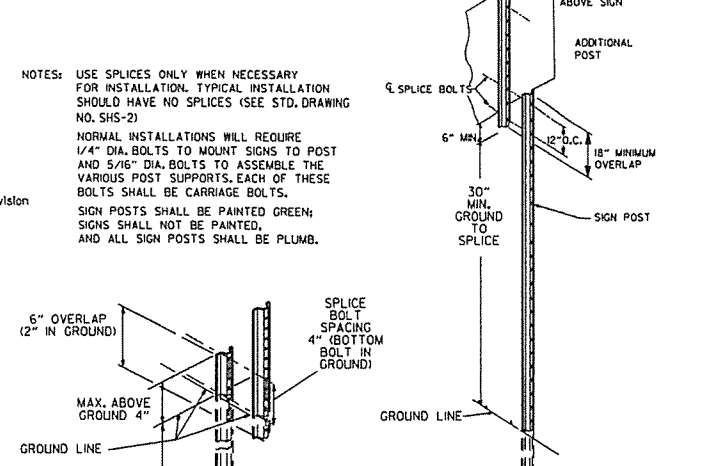
\* When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



STOP SLOW PADDLE

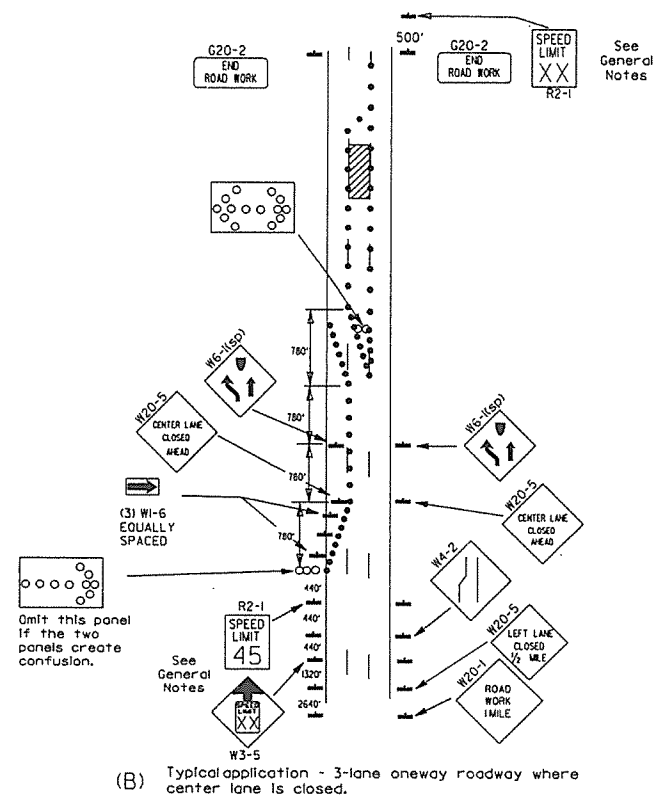
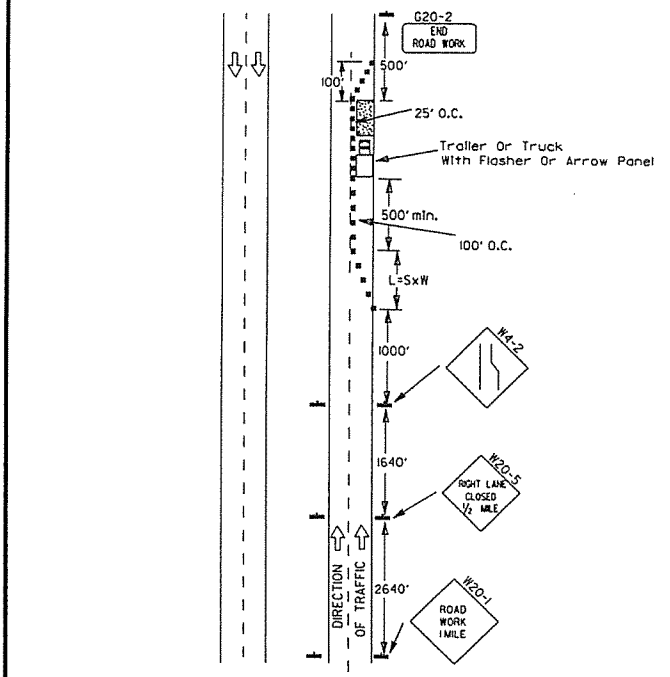


DETAIL OF SPLICES



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

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

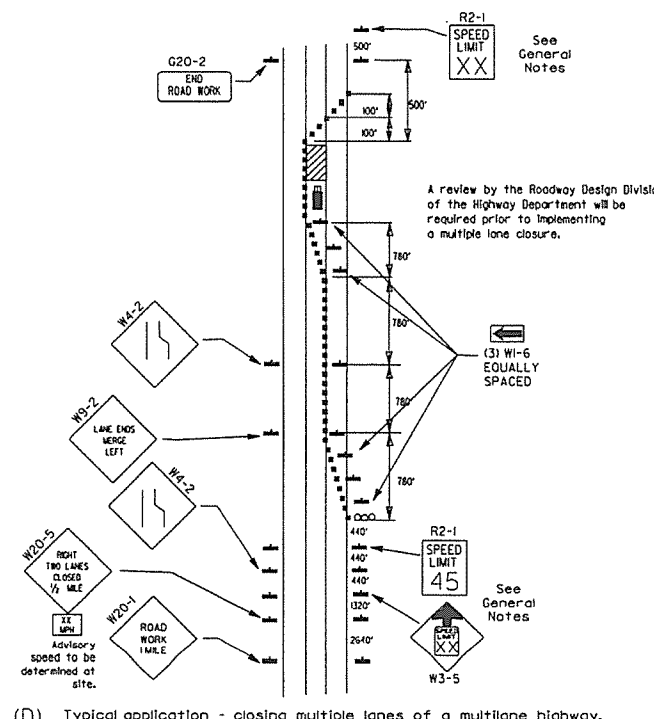
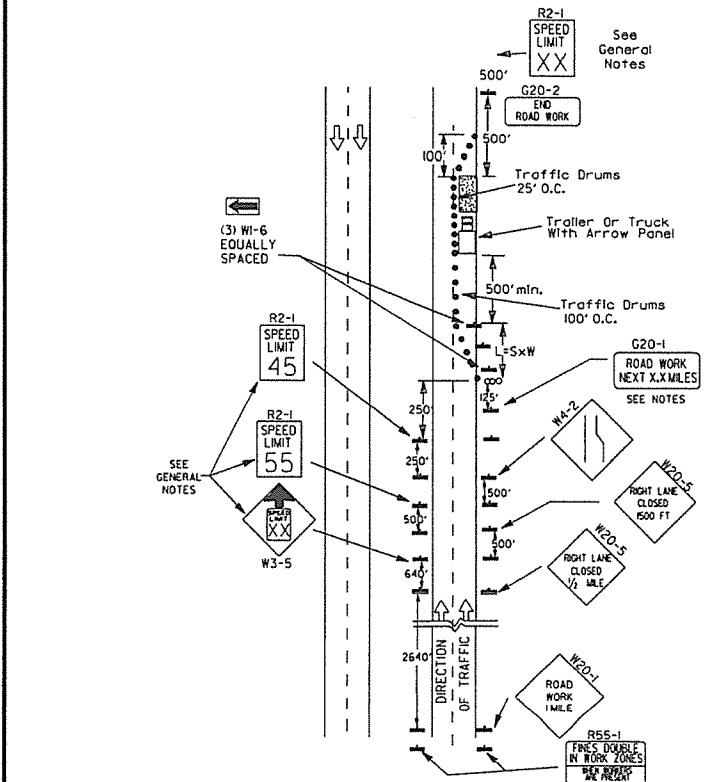


- KEY:**
- Arrow Panel (if Required)
  - Channelizing Device
  - Traffic drum

GENERAL NOTES:

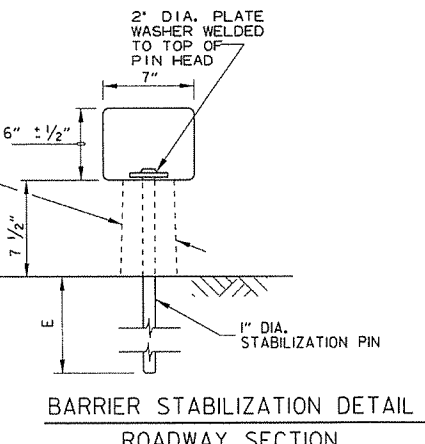
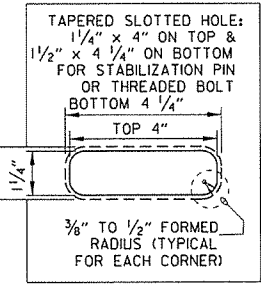
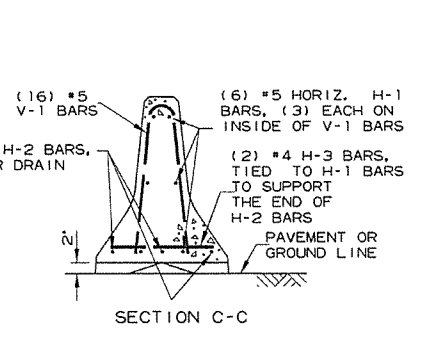
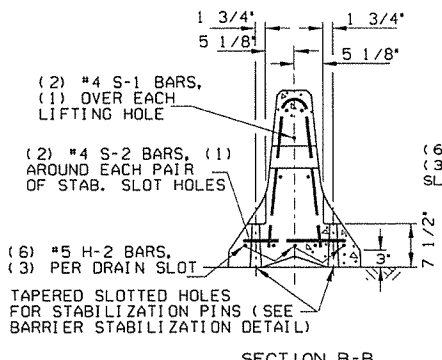
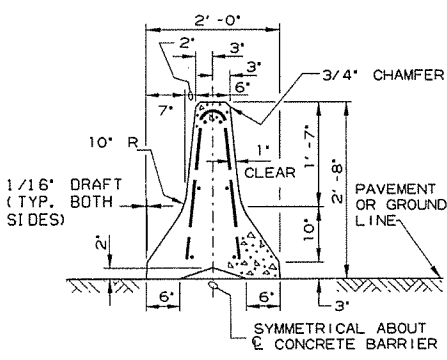
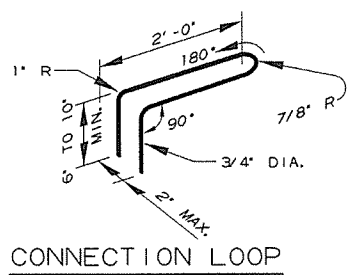
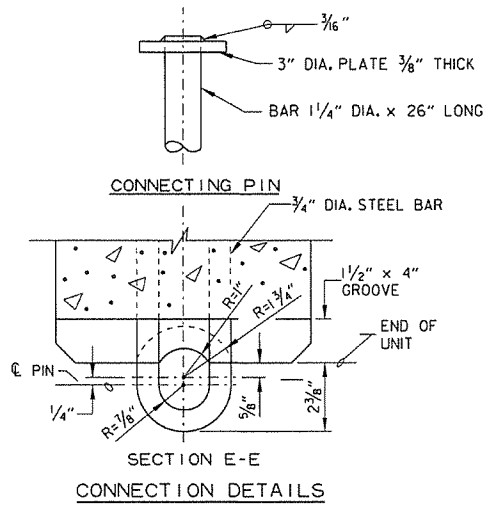
- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1(45) speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1(55) speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1(1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
- Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

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

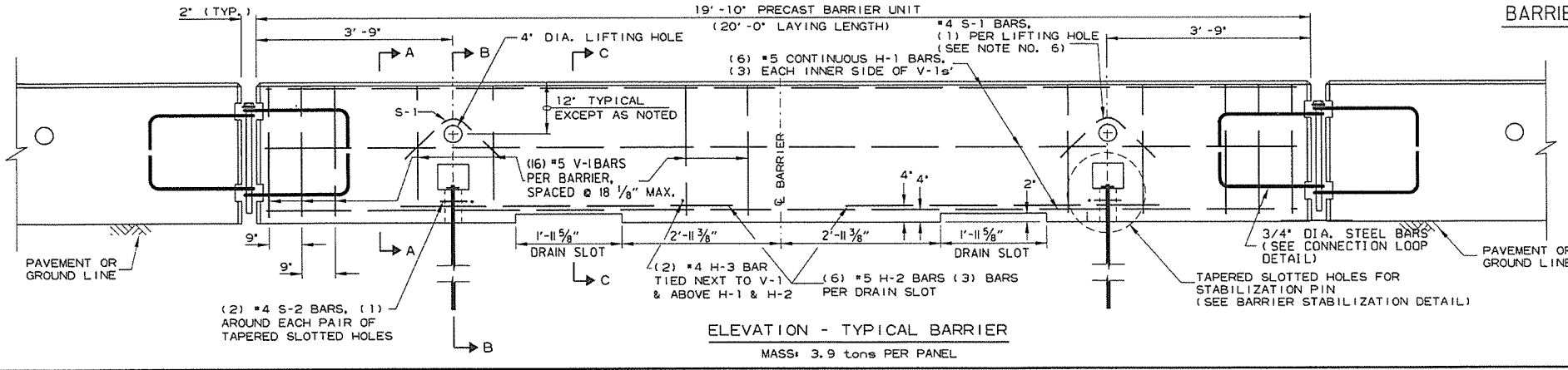
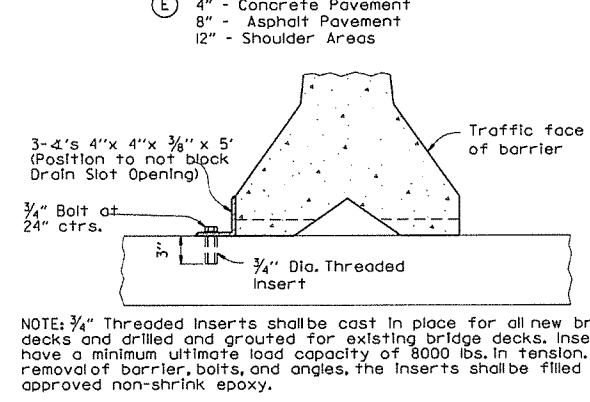
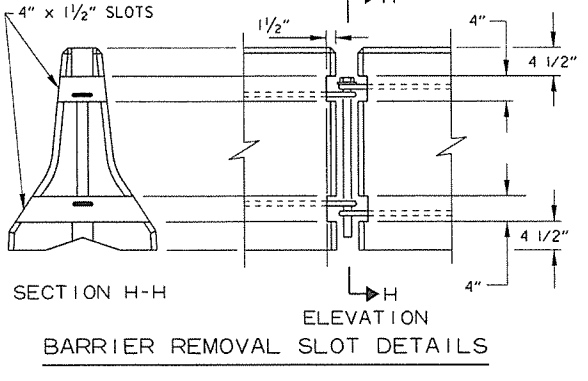
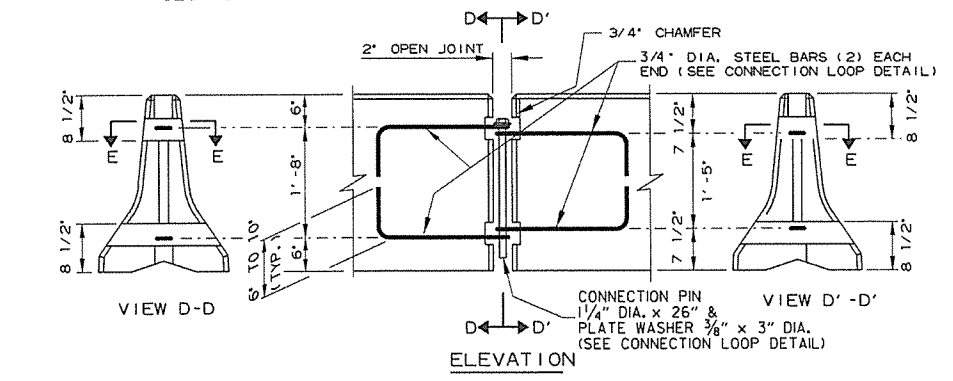


(D) Typical application - closing multiple lanes of a multilane highway.

REINFORCING BAR TABLE PER BARRIER UNIT			
MARK	LOCATION	BAR SIZE	(NO. BARS)
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)
S-1	OVER LIFT HOLES	#4	(2)
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)



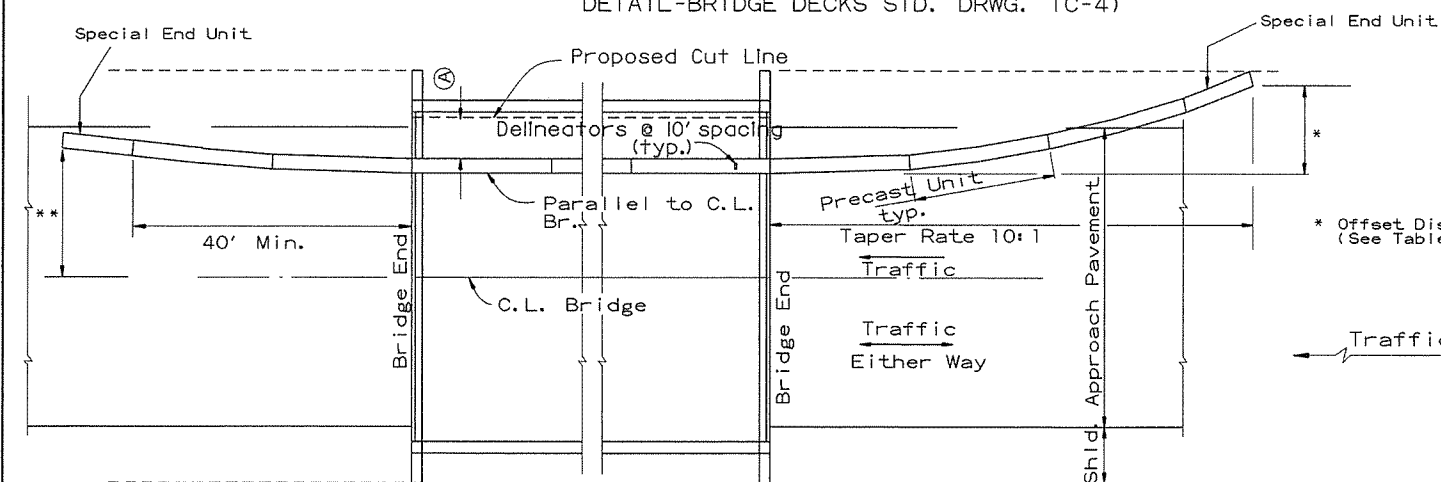
- General Notes**
- The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
  - Materials shall meet the following minimum requirements:  
 Concrete: 2500 psi compressive strength at 28 days.  
 Reinforcing Steel: AASHTO M 31 or M 53, Grade 60  
 Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.  
 Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.  
 In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers. Delineator color shall be in accordance with the Manual Uniform Traffic Control Devices. Payment for delineators shall be considered included in the price bid per Ln. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.
  - Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
  - Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.
  - Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
  - A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.



DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION  
 STANDARD TRAFFIC CONTROLS  
 FOR HIGHWAY CONSTRUCTION -  
 TEMPORARY PRECAST BARRIER  
 STANDARD DRAWING TC-4

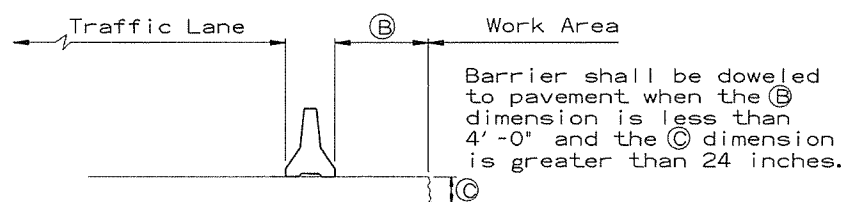
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

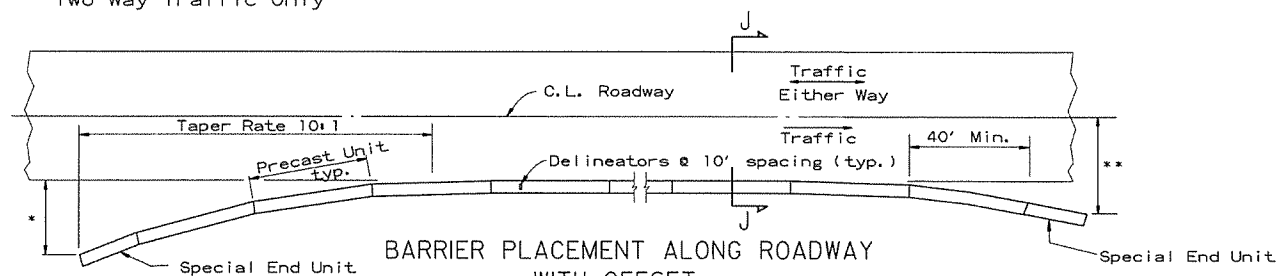
No Scale

\*\* Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

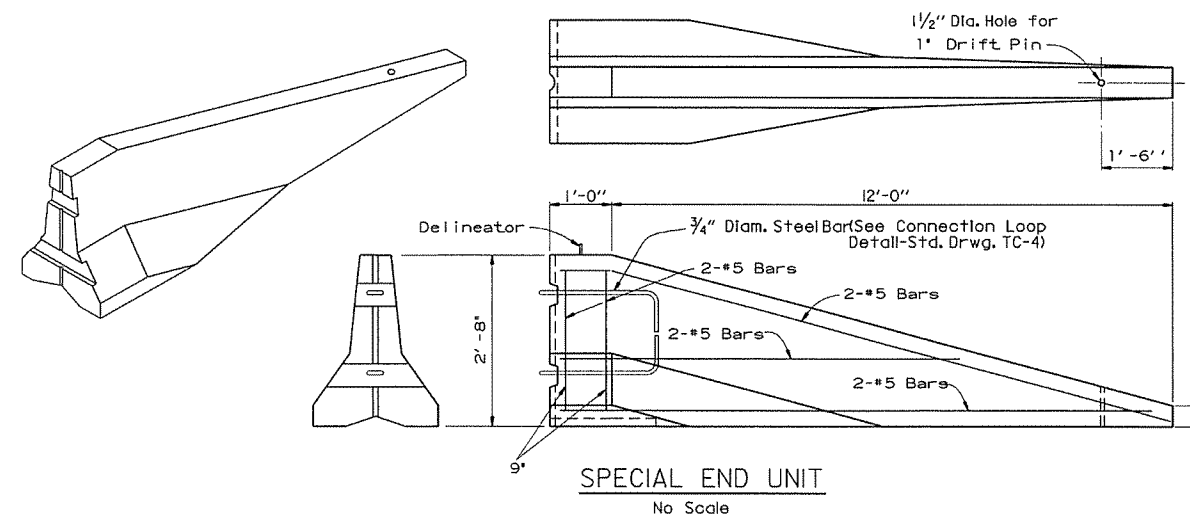
No Scale

\* Offset Distance (See Table)

\*\* Offset Distance For Two Way Traffic Only

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

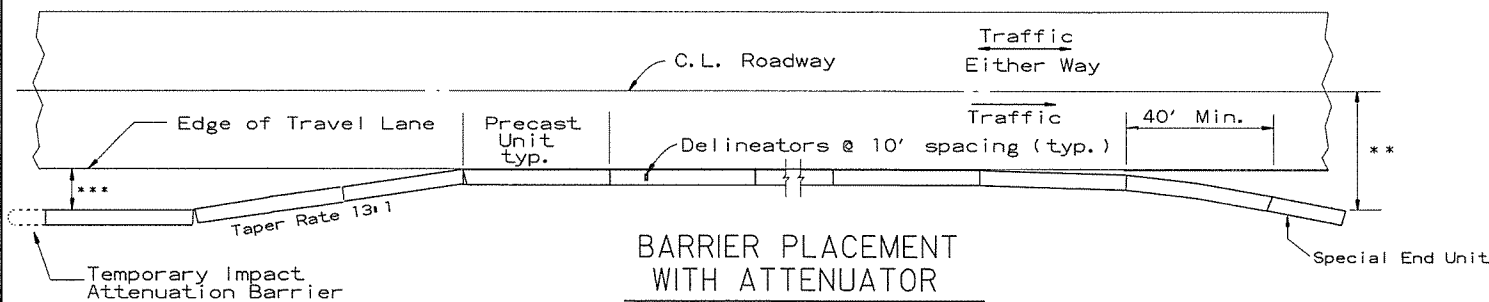


SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."



BARRIER PLACEMENT WITH ATTENUATOR

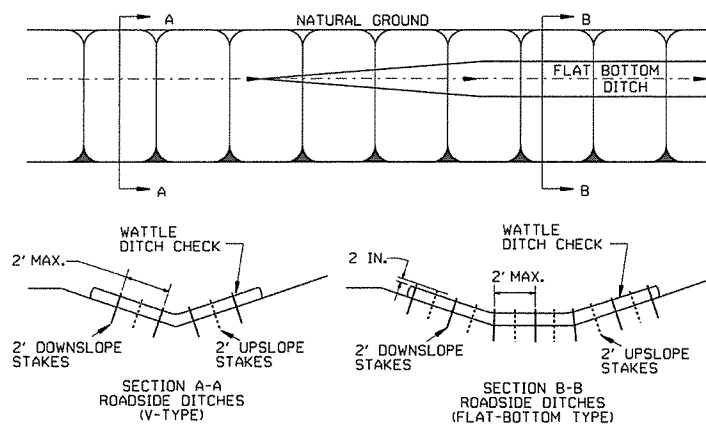
No Scale

\*\* Offset Distance For Two Way Traffic Only

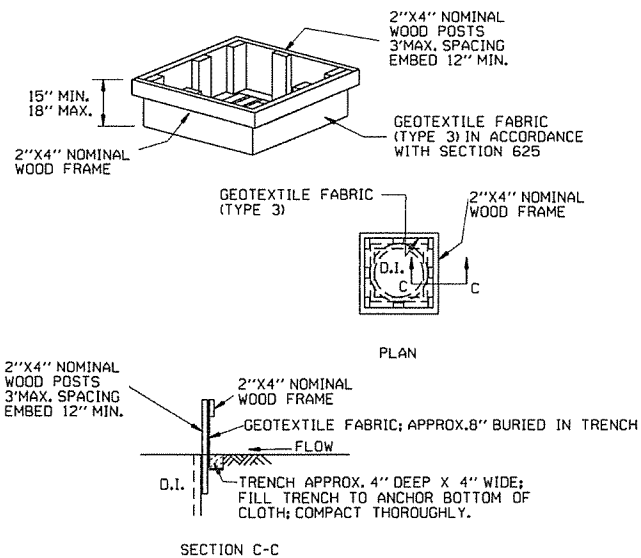
\*\*\* Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

			ARKANSAS STATE HIGHWAY COMMISSION
			STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
			STANDARD DRAWING TC-5
10-15-09	ADDED REFERENCE TO MASH		
5-25-06	REVISED BARRIER PLACEMENT		
8-22-02	ISSUED NEW DRAWING		
DATE	REVISION	FILMED	

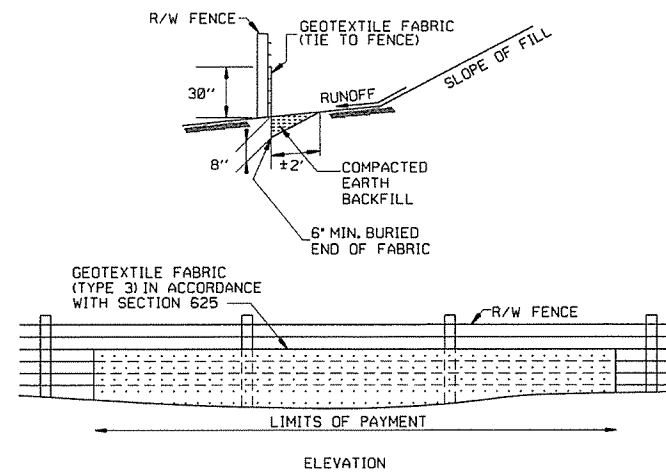
GENERAL NOTES  
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



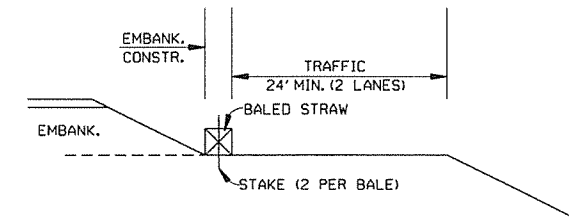
DROP INLET SILT FENCE (E-7)



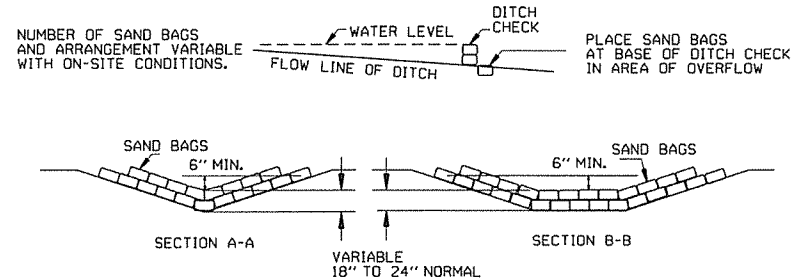
SILT FENCE ON R/W FENCE (E-4)

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

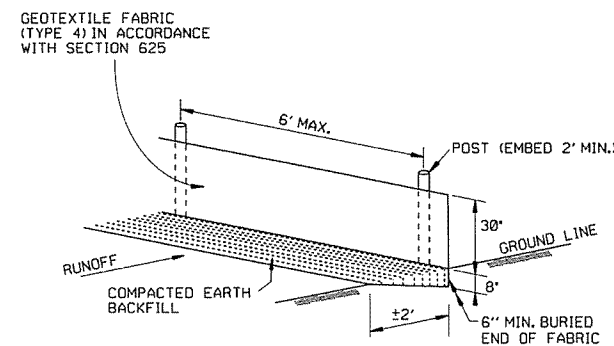
GENERAL NOTES  
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.  
2. NO GAPS SHALL BE LEFT BETWEEN BALES.  
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED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



BALED STRAW FILTER BARRIER (E-2)

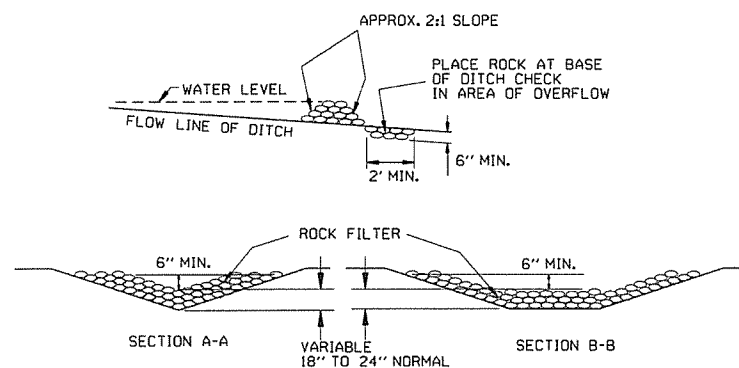


SAND BAG DITCH CHECK (E-5)



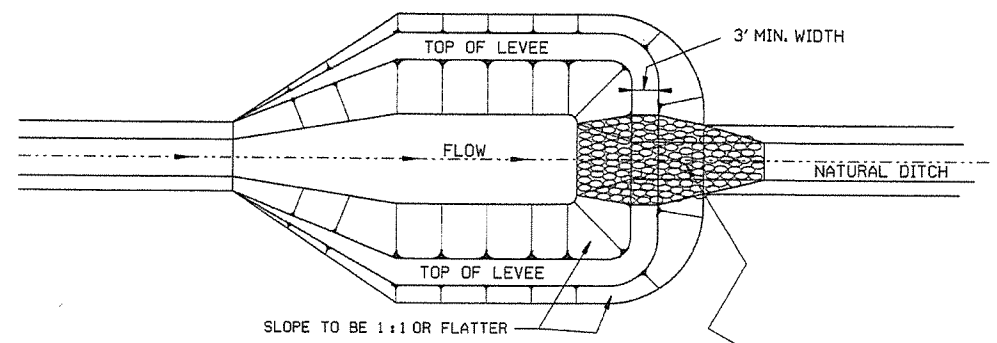
SILT FENCE (E-11)

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

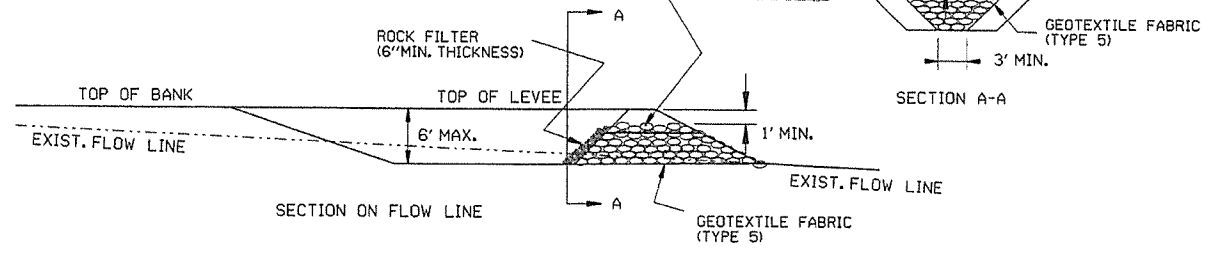


ROCK DITCH CHECK (E-6)

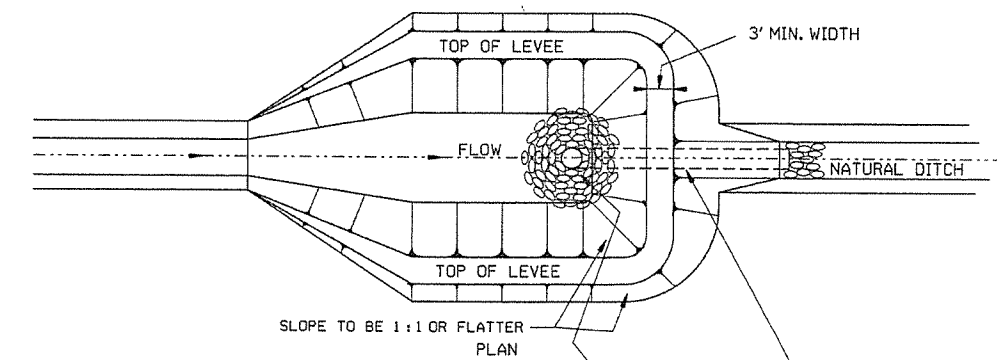
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
11-18-98	ADDED NOTES		
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC		
6-2-94	REVISED E-1, 4,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



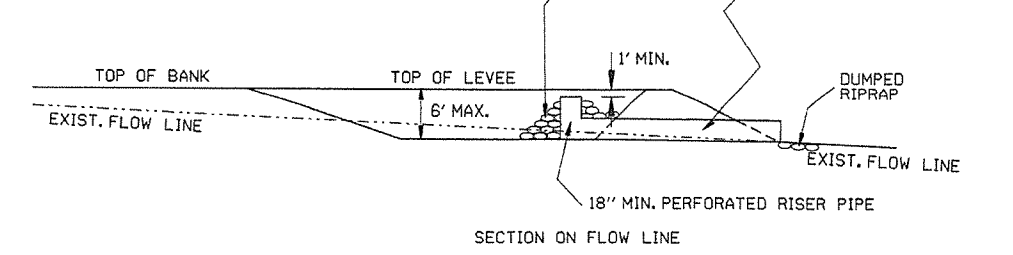
NOTE:  
SIZE OF BASIN TO BE DETERMINED  
BY VOLUME REQUIRED; HOWEVER  
A MINIMUM LENGTH-TO-WIDTH  
RATIO OF 2:1 SHALL BE USED.



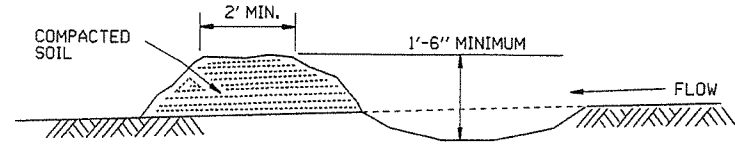
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



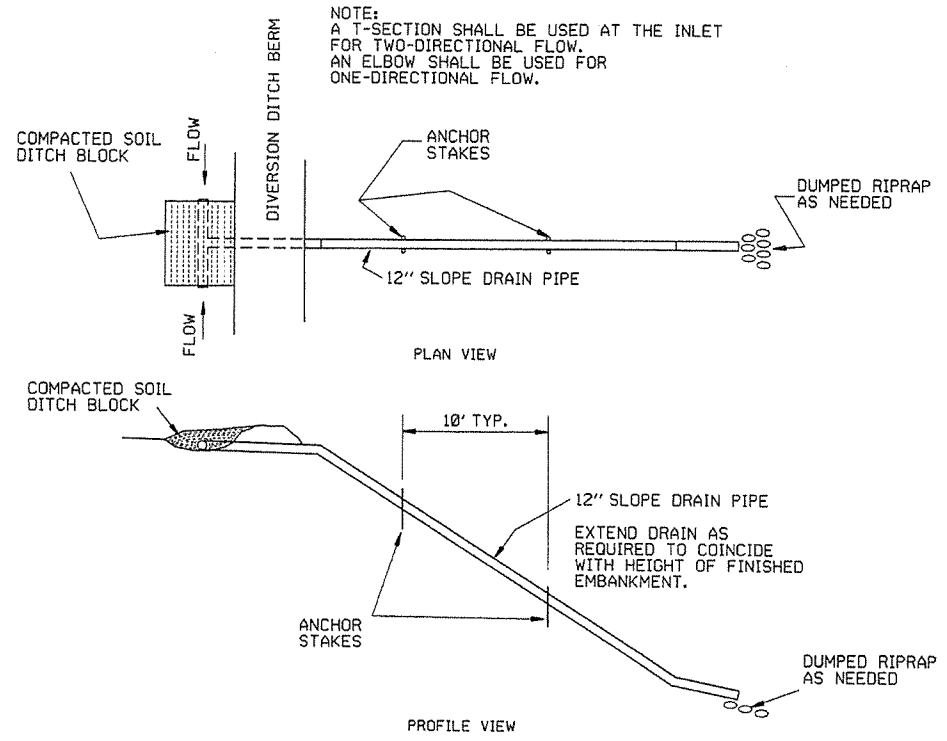
NOTE:  
SIZE OF BASIN TO BE DETERMINED  
BY VOLUME REQUIRED; HOWEVER  
A MINIMUM LENGTH-TO-WIDTH  
RATIO OF 2:1 SHALL BE USED.



SEDIMENT BASIN WITH PIPE OUTLET (E-10)

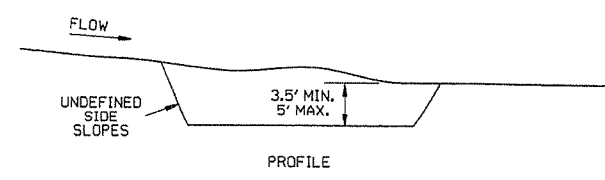
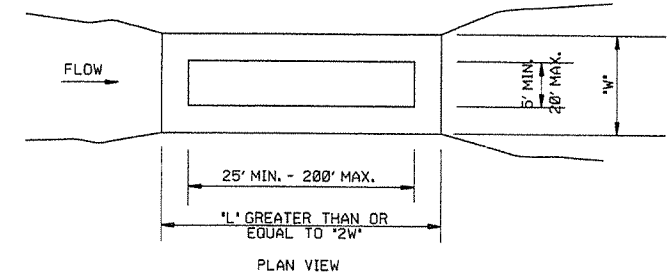


DIVERSION DITCH (E-8)



NOTE:  
A T-SECTION SHALL BE USED AT THE INLET  
FOR TWO-DIRECTIONAL FLOW.  
AN ELBOW SHALL BE USED FOR  
ONE-DIRECTIONAL FLOW.

SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

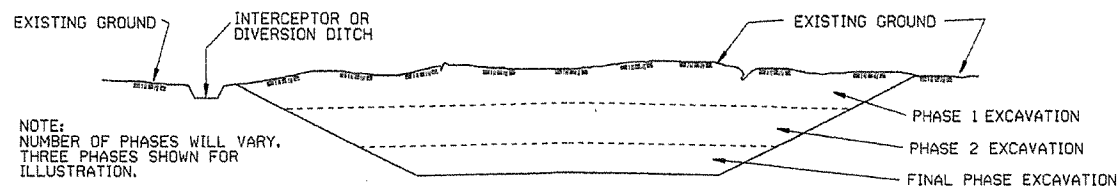
ARKANSAS STATE HIGHWAY COMMISSION  
 TEMPORARY EROSION  
 CONTROL DEVICES  
 STANDARD DRAWING TEC-2

### CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

### EXCAVATION

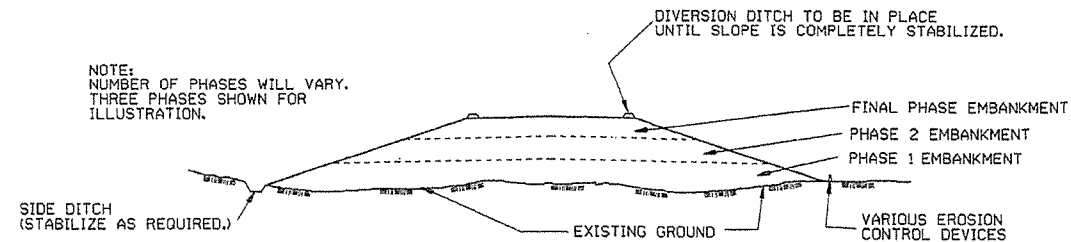


GENERAL NOTE  
ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

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

### EMBANKMENT

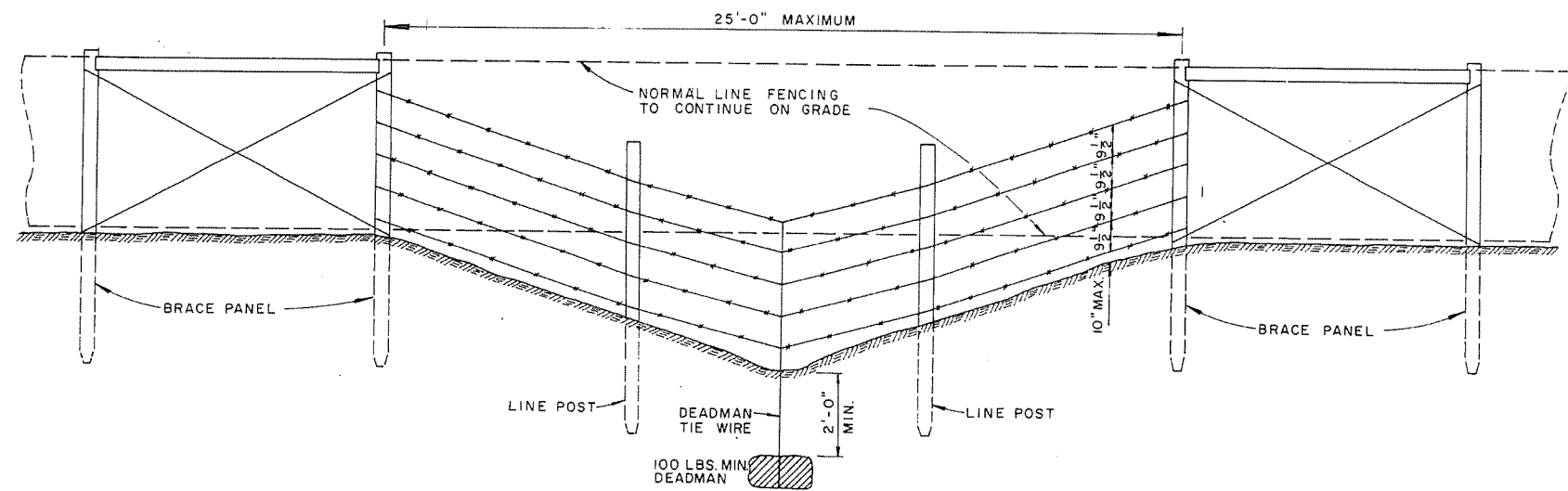


GENERAL NOTE  
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

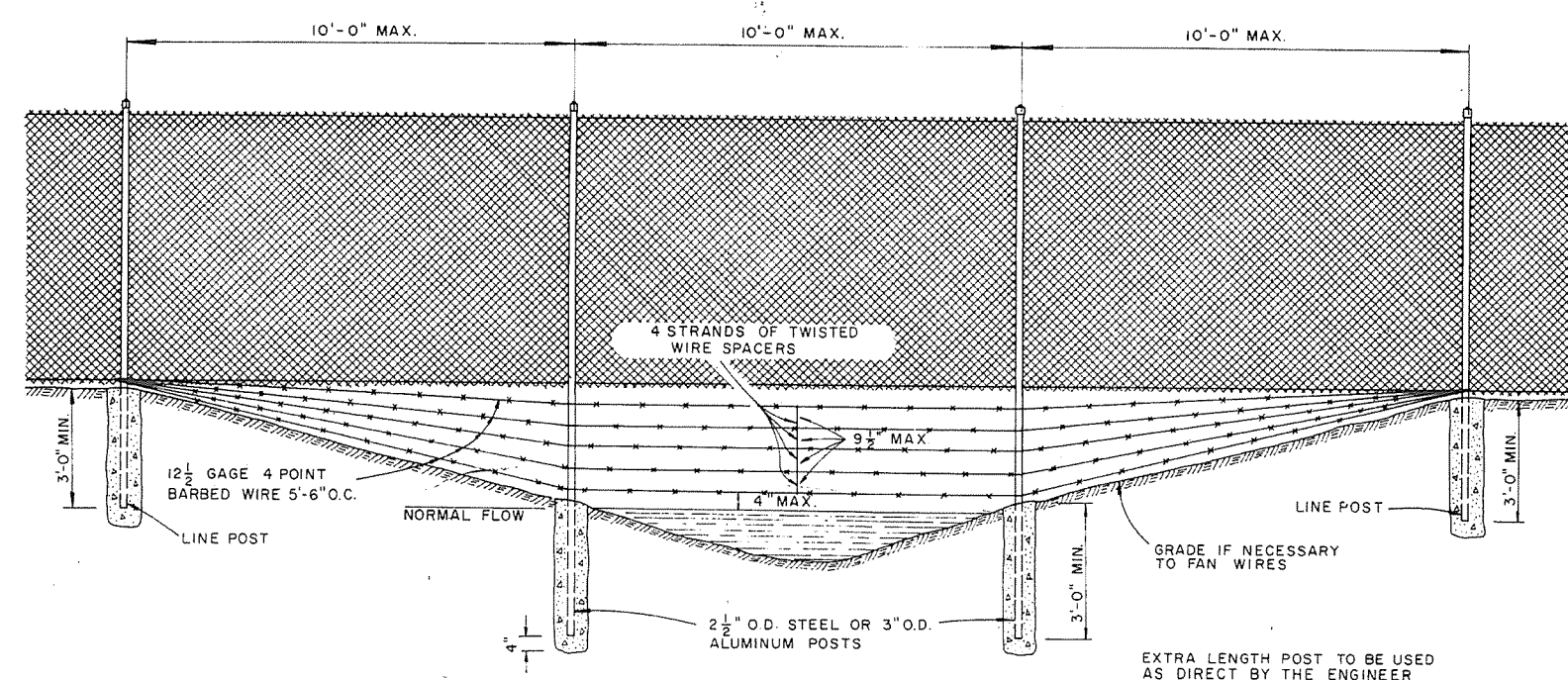
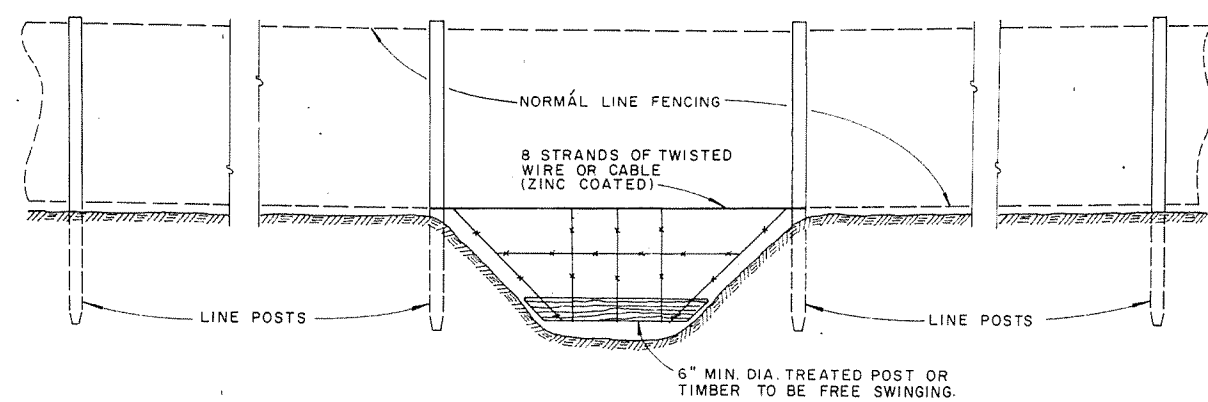
CONSTRUCTION SEQUENCE

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

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



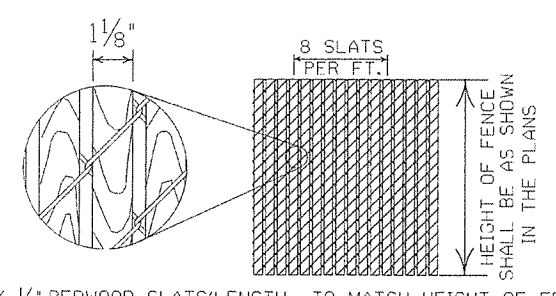
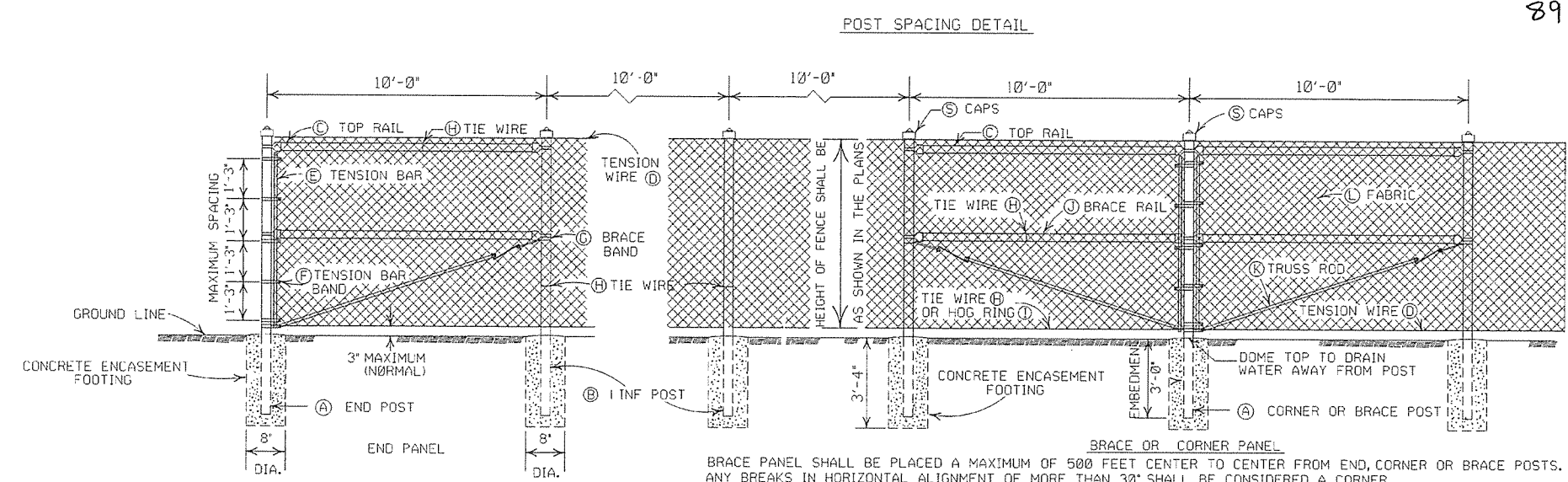
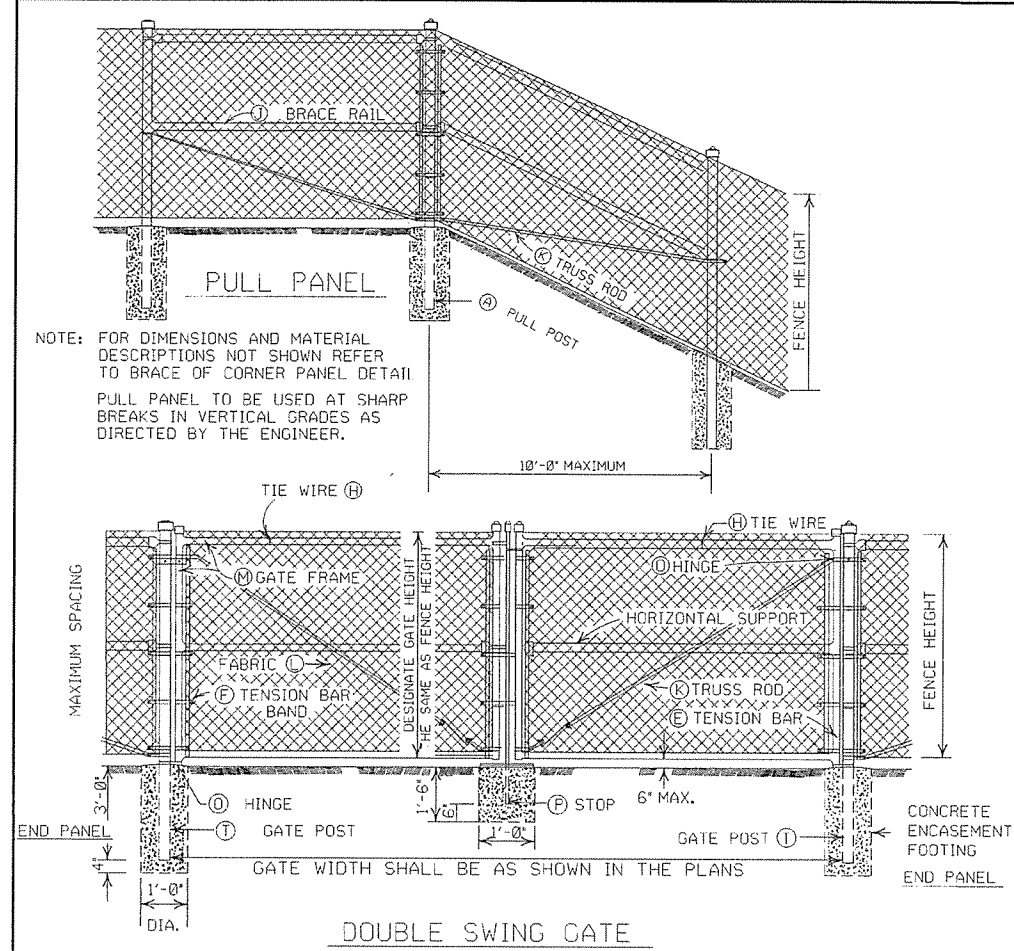
GENERAL NOTES:  
 THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.  
 WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR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



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

WF-2





- GENERAL NOTES:**
- (C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.
  - (D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.
  - (J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALF WAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.
  - (L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST		(B) LINE POSTS		(C) TOP RAIL			(D) TENSION WIRE		(E) TENSION BAR		(F) TENSION BAR BAND			(G) BRACE BAND	
	SIZE	TIE SPACING	SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. LENGTH	SIZE	TIE SPACING	SIZE	LENGTH	SIZE	BOLT SIZE	SPACING	SIZE	BOLT SIZE
6' AND LESS	2 1/2" O.D.	2' O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1 1/2" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	3/8" x 3/4"	MIN. OF 2" LESS THAN FABRIC HEIGHT	3/4" x 1 1/2"	1 BAND AT TOP AND BOTTOM	15" MAX. INTERVAL BETWEEN BANDS	MIN. OF 3/4" x 1 1/2"	3/8" x 1 1/4"	
OVER 6' TO 12' INCL.	3" O.D.	2 1/2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1 1/2" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	3/8" x 3/4"	MIN. OF 2" LESS THAN FABRIC HEIGHT	3/4" x 1 1/2"	1 BAND AT TOP AND BOTTOM	15" MAX. INTERVAL BETWEEN BANDS	MIN. OF 3/4" x 1 1/2"	3/8" x 1 1/4"	

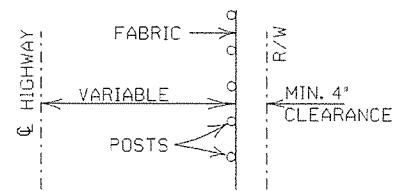
HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL		(K) TRUSS ROD	(L) FABRIC		(M) GATE FRAME	(N) HORIZONTAL SUPPORT	(O) HINGE	(P) GATE POST		
	SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. OF 3/8" ROUND WITH TIGHTENERS AND FITTINGS	SIZE	MESH SELVAGE	SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. OF 180° SWING	GATE WIDTH OVER 12' AND LESS 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1 1/2" O.D.	1 TIE EVERY 2'-0"	3/8"	2' x 2'	KNUCKLING AND/OR TWISTING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3' O.D.
OVER 6' TO 12' INCL.	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1 1/2" O.D.	1 TIE EVERY 2'-0"	3/8"	2' x 2'	KNUCKLING AND/OR TWISTING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	4' O.D.

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 2 1/2" FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3 1/2" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3 1/2" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.

- (M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.
- (O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.
- (P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.
- (S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626. CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE. POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS. EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.



TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY				GRADE 2		
	O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.		O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
			STEEL	ALUMINUM			
1 1/2"	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2"	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2 1/2"	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3"	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3 1/2"	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4"	4.000	0.226	9.11	3.151	4.000	0.160	6.50

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-07	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-19-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

STANDARD DRAWING WF-3

GENERAL NOTES:

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

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

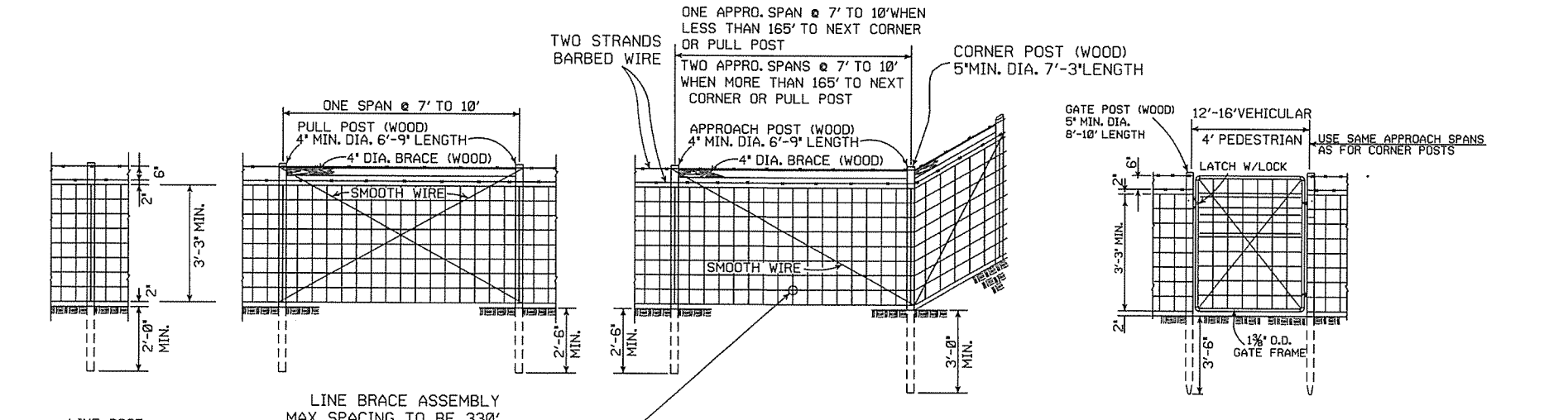
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED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

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

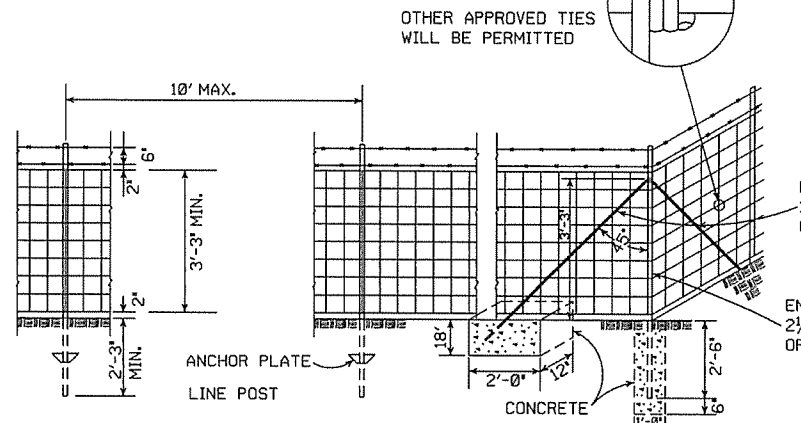
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

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

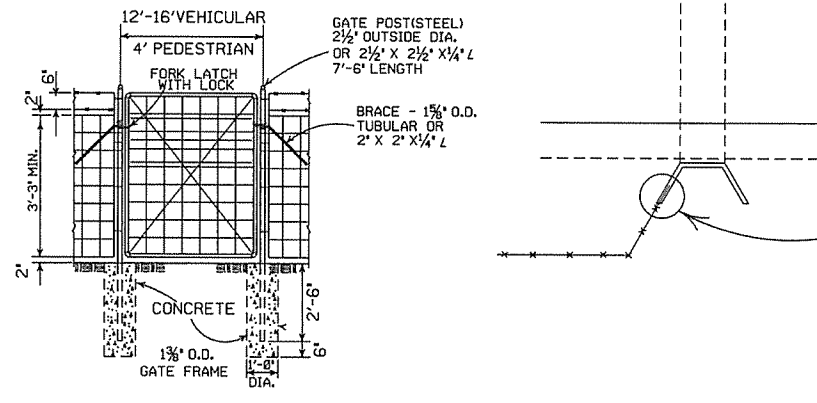
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.



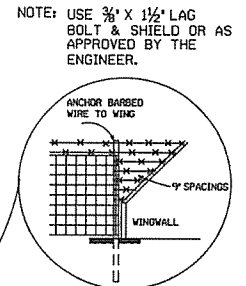
TYPE C FENCE (WOOD POSTS)



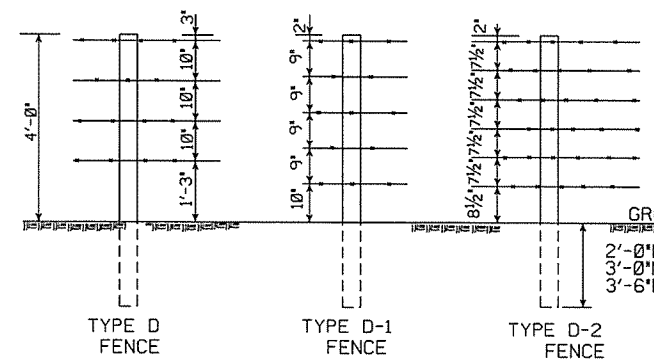
TYPE C FENCE (STEEL POSTS)



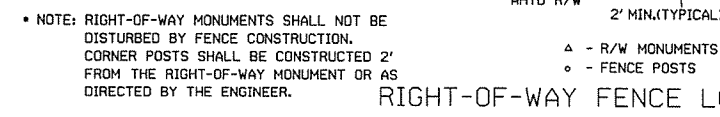
DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)



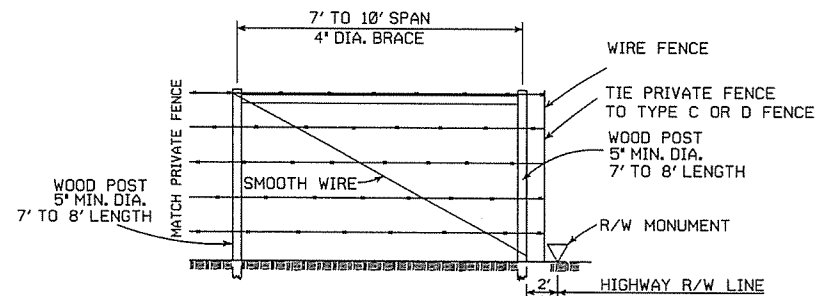
- 4 STRANDS BARBED WIRE (D)
- 5 STRANDS BARBED WIRE (D-1)
- 6 STRANDS BARBED WIRE (D-2)



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.

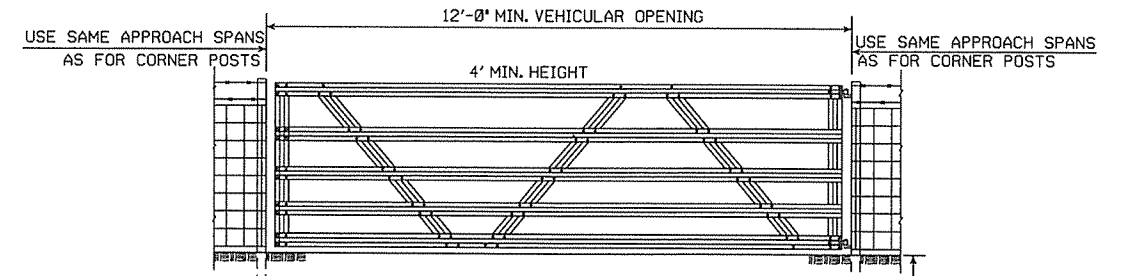


RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

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



TYPICAL VEHICULAR GATES (ALTERNATE TYPE)

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

8-22-02	REVISED GENERAL NOTES	
10-10-96	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

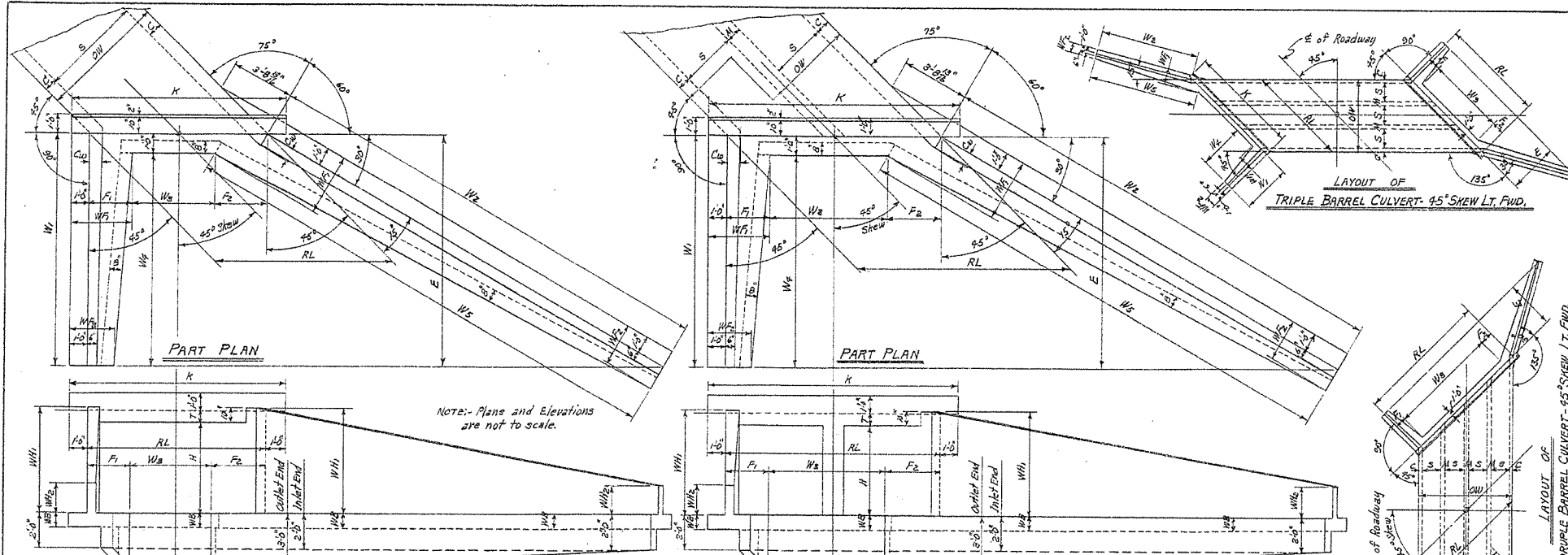
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE  
TYPE C AND D

STANDARD DRAWING WF-4

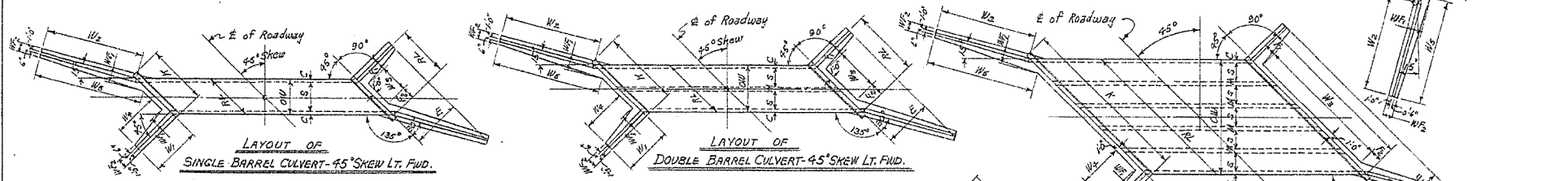


Table with columns: FED. ROAD No., STATE, FED. AID PROJECT, FISCAL YEAR, SHEET No., TOTAL SHEETS



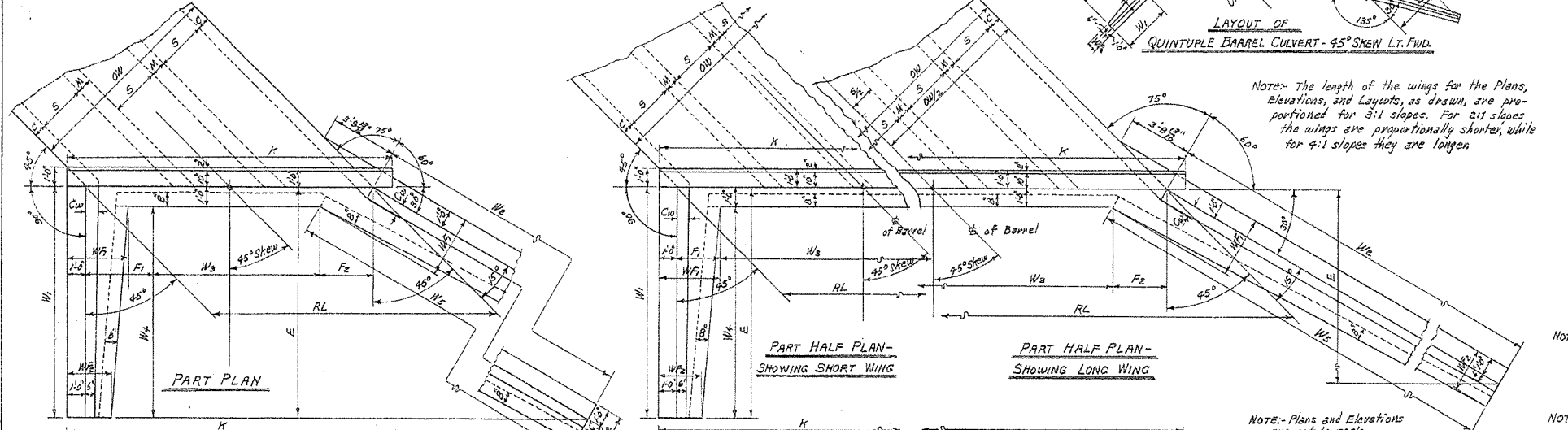
SINGLE BARREL CULVERT - 45° SKEW RIGHT FORWARD
Details of Culvert with 45° Skew Left Forward is reversed, see Layout below.

DOUBLE BARREL CULVERT - 45° SKEW RIGHT FORWARD
Details of Culvert with 45° Skew Left Forward is reversed, see Layout below.



LAYOUT OF SINGLE BARREL CULVERT - 45° SKEW LT. FWD.

LAYOUT OF DOUBLE BARREL CULVERT - 45° SKEW LT. FWD.



TRIPLE BARREL CULVERT - 45° SKEW RIGHT FORWARD
Details of Culvert with 45° Skew Left Forward is reversed, see Layout at top center of sheet.

QUADRUPEL BARREL CULVERT - 45° SKEW RT. FWD.
Details of Culvert with 45° Skew Left Forward is reversed, see Layout at above center.

QUINTUPLE BARREL CULVERT - 45° SKEW RT. FWD.
Details of Culvert with 45° Skew Left Forward is reversed, see Layout above.

Table with columns: USE WITH DRAWING NO., CLEAR SPAN, CLEAR HEIGHT, ROADWAY LENGTH RL, HEADWALL LENGTH K, APRON DIMENSION W3. Includes formulas RL = OW x L/4121, K = RL + (2\*0), and W3 = RL - (F1 + F2).

NOTE: This drawing to be used in conjunction with Standard Wing Drawings for 45° Skews for each slope as listed below.

NOTE: This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.: SINGLES, DOUBLES, TRIPLES, QUADRUPLES, QUINTUPLES.

- CLASS 3 CONCRETE
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF STANDARD WINGS
FOR REINFORCED CONCRETE BOX CULVERTS 45° SKEW

4', 5', 6', 7', 8', 9', 10', 11', 12' SPANS
2:1, 3:1 & 4:1 SLOPES
SINGLES, DOUBLES, TRIPLES, ALL DEPTHS OF COVER
QUADRUPLES & QUINTUPLES H = 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Designed by: W.C.M. 5-16-63
Drawn by: W.C.H. 6-15-64
Checked by: J.E.M. 6-23-64
Checked by: G.M.H. 8-11-64

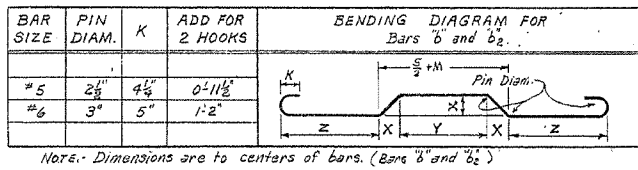
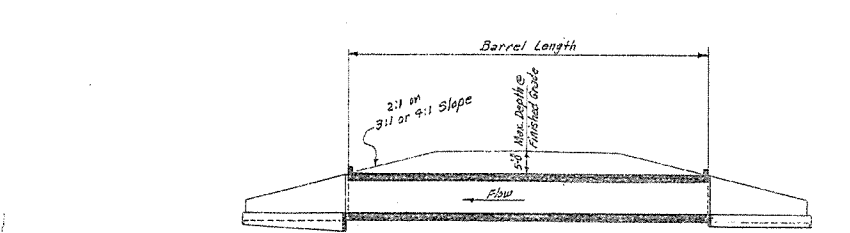
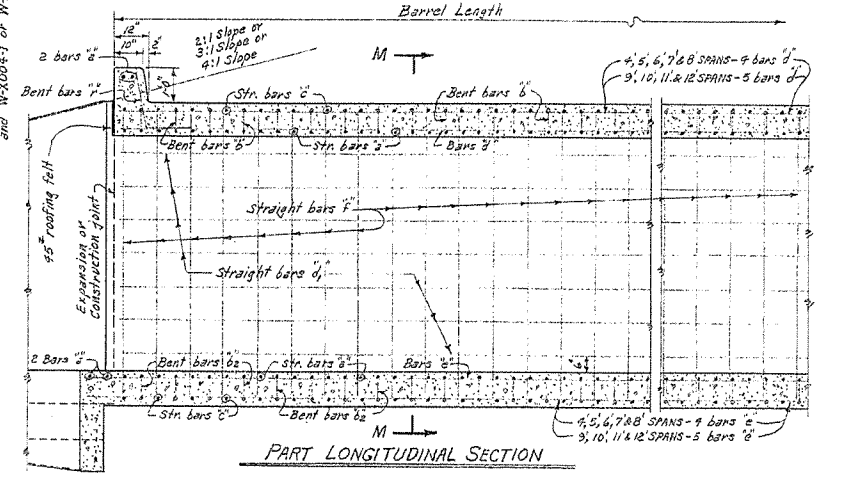
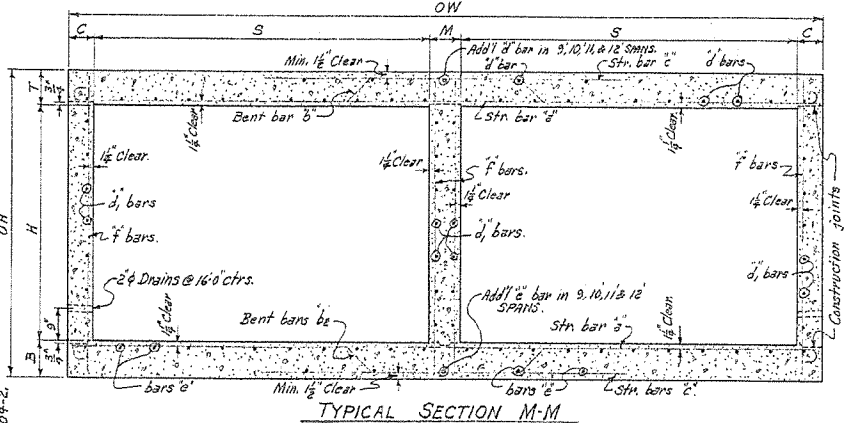


FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			94	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEARSPAN	CLEAR HEIGHT	BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH																																			
			5' bars			6' bars			6 1/2' bars			6' bars			7' bars			7 1/2' bars			8' bars																	
			STRAIGHT	BENT - See Diagram below.		BENT - See Diagram below.		STRAIGHT		STRAIGHT		STRAIGHT		STRAIGHT		STRAIGHT		STRAIGHT																				
D	S	H	SIZE	SPACING	NUMBER REQ'D	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D	LENGTH	X	Y	Z	
			In Top and Bottom Slab of Barrel.			In Bottom of Top Slab bent up over Division Wall - hooked.			In Top of Bottom Slab bent down under Division Wall - hooked.			In Top and Bottom Slab of Barrel.			Longitudinal in Top Slab of Barrel			Longitudinal in Sidelwalls and Division Walls.			Longitudinal in Bottom Slab of Barrel.			Vertical in Sidelwalls and Division Walls.														
			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.			Alternate with #5 and #6 bars.		

DIMENSIONS										QUANTITIES																										
BARREL DIMENSIONS					UNIT QUANTITIES					REINFORCING STEEL					ADDITIONAL																					
D	S	H	A	OW	T	C	M	B	OH	CUYD.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	LB.	
4 @ 2	2	12	12	12	12	12	12	12	12	0.496	88.15	4271	129.56																							



DOWEL BARS FOR TWO HEADWALLS				
SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH
4'	#4	12"	20	2'-8"
5'	#4	12"	24	2'-6"
6'	#4	12"	28	2'-7"
7'	#4	12"	32	2'-8"
8'	#4	12"	36	2'-9"
9'	#4	12"	40	2'-10"
10'	#4	12"	44	2'-11"
11'	#4	12"	50	3'-0"
12'	#4	12"	54	3'-1"

GENERAL NOTES:-  
 CONCRETE- All concrete to be Class S, and shall be poured in the dry.  
 All exposed corners to have 3/8 chamfers.  
 REINFORCING STEEL- Reinforcing to be deformed bars of intermediate or hard grade.  
 BAR LAP- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of bars over 32'-0". Lap longitudinal bars 30 diameters.  
 CONSTRUCTION JOINTS- Construction joints between wingwalls, sidelwalls, division walls and slabs shall be only where shown on plans.  
 SPECIFICATIONS- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

NOTE- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also including Nos. W-X002-1 or W-X002-2.

DESIGN LIVE LOAD  
 H20-S16 LOADING A.A.S.H.O. 1961  
 AND  
 SPECIAL MILITARY LOADING  
 Two 24,000 Lb. Axles @ 4'-0" cts.  
 UNIT STRESSES:-  
 Class S Concrete (f'c=10) 12000 psi  
 Reinforcing Steel 20,000 psi

CLASS S CONCRETE  
 ARKANSAS STATE HIGHWAY COMMISSION  
 DETAILS OF STANDARD BARREL SECTIONS  
 FOR  
 REINFORCED CONCRETE BOX CULVERTS  
 4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS 3:1 OR 4:1 SLOPES  
 UNDER 5'-0" COVER  
 DOUBLES UNDER 5'-0" COVER  
 STANDARD DRAWING NO. R-200X-0.

Designed by: W.C.H. 1-17-63.  
 Drawn by: W.C.H. 2-15-63.  
 Checked by: W.C.H. 2-19-63.  
 Quantities by: W.C.H. 2-19-63.

BAR LIST FOR VARIOUS SECTIONS OF BARREL

Main table with columns for SECTION & BAR GROUP, DEPTH OF COVER, CLEAR SPANS, CLEAR HEIGHT, and various bar specifications (a, b, c, d, e, f bars) including straight and bent bar details.

DIMENSIONS QUANTITIES

Table with columns for MAX. DESIGN DEPTH OF COVER, CLEAR SPANS, CLEAR HEIGHT, BARRELS DIMENSIONS, and UNIT QUANTITIES (REINFORCING STEEL, PER LAP, PER LIN. FT. OF BARREL).

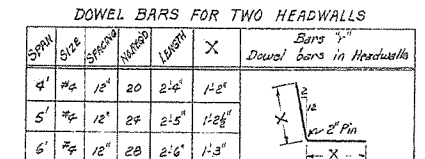
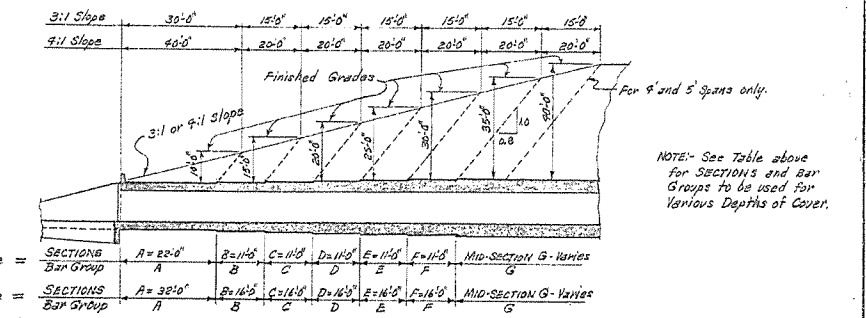


Table with columns for FED. ROAD No., STATE, FED. AID PROJECT, FISCAL YEAR, SHEET No., TOTAL SHEETS, and JOB No.

Table titled 'SECTIONS AND BAR GROUPS TO BE USED FOR VARIOUS DEPTHS OF COVER' with columns for DEPTHS OF COVER, SECTIONS & BAR GROUPS, and MID-SECTION AND BAR GROUP.



TYPICAL LONGITUDINAL SECTION-SHOWING SECTIONS AND BAR GROUPS FOR VARIOUS DEPTHS OF COVER

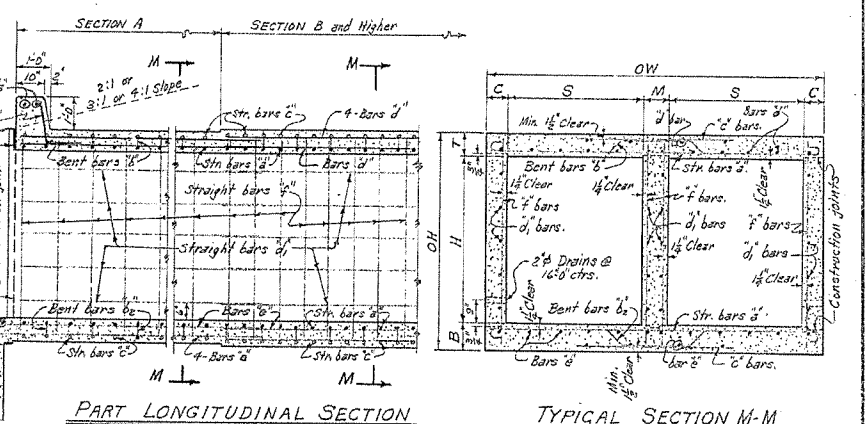


Table titled 'LENGTH OF SECTIONS FOR SKEWED CULVERTS' with columns for SKEW ANGLE, SECTION A, SECTION B, SECTION C, SECTION D, SECTION E, SECTION F.

DESIGN LIVE LOAD AND SPECIAL MILITARY LOADING. Two 24,000 Lb. Axles @ 4'0" cts.

UNIT STRESSES: Class 5 Concrete (n=10) 1200 psi, Reinforcing Steel 20,000 psi.

GENERAL NOTES: CONCRETE- All concrete to be Class 5, and shall be poured in the dry. All exposed corners to have 3/4 chamfers. REINFORCING STEEL- Reinforcing to be deformed bars of intermediate or hard grade. BAR LAP- In computing the quantities of steel from the tables add one lap for each additional 33 1/3 length of barrel over 32'0" Lap longitudinal bars so diameter.

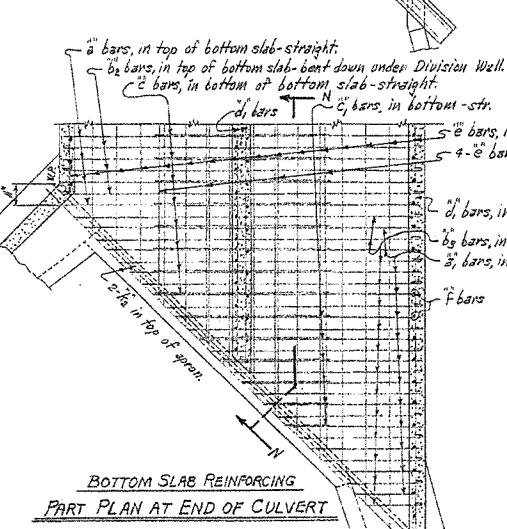
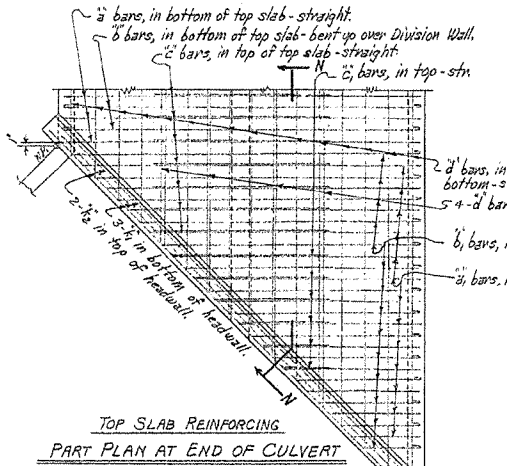
Designed by: W.C.H. 9-17-42, Checked by: W.C.H. 10-19-42, Quantities by: W.C.H. 11-9-42

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			96	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH - TWO 45° SKEWED ENDS

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	a bars		b bars		c bars		d bars		e bars		f bars		g bars		h bars		i bars		j bars																	
			SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING														
0'-0" TO 5'-0" MAXIMUM	4'-0"	9'-5"	10#	9'-5"	2#	8'-5"	2#	2'-5"	14	3'-6"	3'-4"	8'-0"	2'-0"	52	10'-6"	0'-2"	2'-5"	3'-4"	14	3'-6"	3'-4"	8'-0"	2'-0"	112	4'-8"	8	4'-7"	3'-1"	14	8	2#	2'-0"	2#	2'-0"	4	13'-3"	8	15'-5"

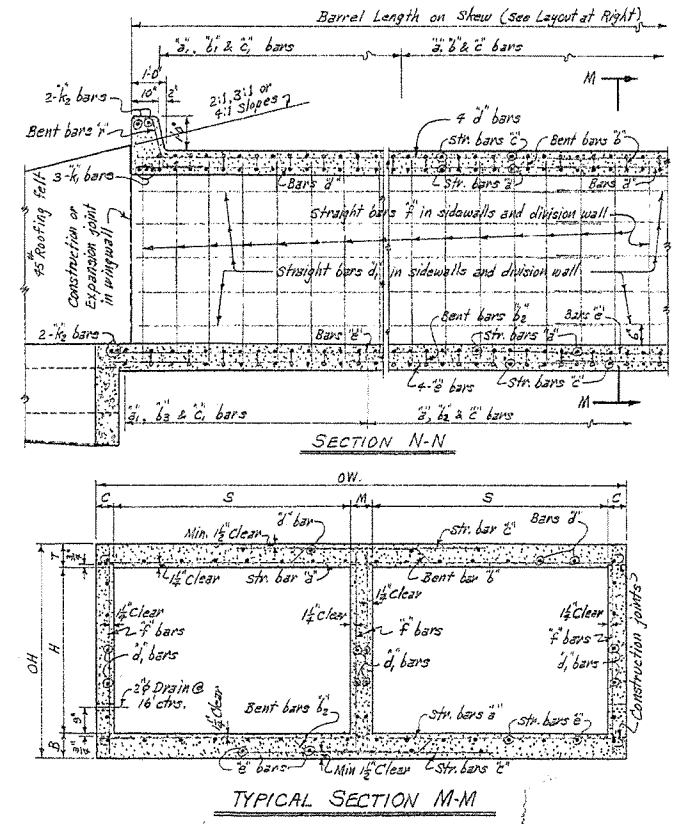
MAX. DESIGN DEPTH OF COVER	BARREL DIMENSIONS										QUANTITIES																												
	D	S	H	A	OW	T	C	M	B	OH	RL	K	CLYD.	LB.	LB.	LB.																							
5'-0"	2	16	9'-5"	6"	8'	13'-8"	15'-8"	0.996	5.587	88.15	42.71	3'-0"	13'-8"	15'-8"	0.996	5.587	88.15	42.71	3'-0"	13'-8"	15'-8"	0.996	5.587	88.15	42.71	3'-0"	13'-8"	15'-8"	0.996	5.587	88.15	42.71	3'-0"	13'-8"	15'-8"	0.996	5.587	88.15	42.71



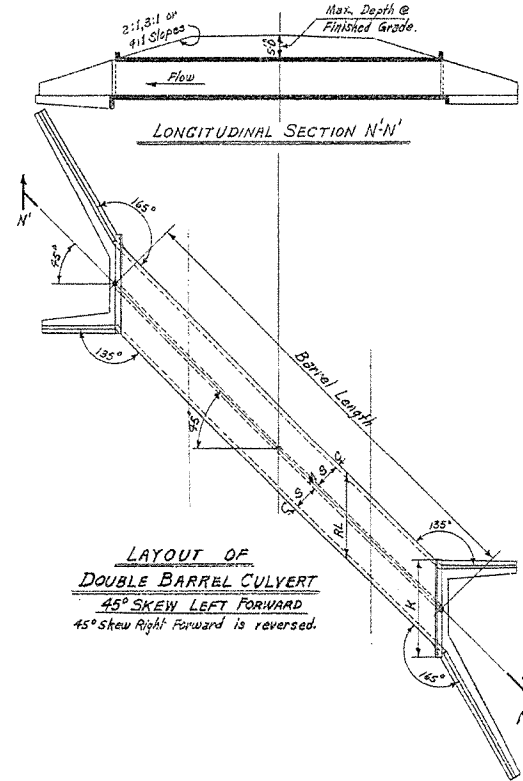
BAR SIZE	PIN	K	ADD FOR 2 HOOKS	BENDING DIAGRAM FOR BARS b AND c	BAR SIZE	PIN	K	ADD FOR 1 HOOK	BENDING DIAGRAM FOR BARS d AND e
2#	2 1/2"	4 1/2"	0-1/2"		5#	2 1/2"	4 1/2"	0-3/4"	
4#	3"	5"	1-2"		6#	3"	5"	0-7/8"	

Notes: Dimensions are to centers of bars (b, d, e, & f). The X, Y & Z values for b bars are same as for d bars and for e bars same as for f bars.

Notes: For Details of Standard Wings and bar lists, see Drawing No. W-X452-1 or W-X452-2; W-X453-1 or W-X453-2, and W-X454-1 or W-X454-2. Also W-X45.



These bars are in the skewed portion of barrel only. The length of a and c bars and overall length L of b and d bars vary by 1/8" for 12" spacing and 0-1/4" for 11" spacing. In the regular portion of the barrel begin and end with a set of a and c bars. If the spacing is such that the last set of bars would be b and d bars, use a set of a and c bars instead.



\* For quantities in wings see Standard Wing Drawings listed below. Total steel quantities listed above include one lap of longitudinal bars.

**GENERAL NOTES**  
 CONCRETE: All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/8" chamfers.  
 REINFORCING STEEL: Reinforcing to be deformed bars of intermediate or hard grade.  
 BAR LAP: In computing the quantities of steel from the tables add one lap for each add'l 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diam. min.  
 CONSTRUCTION JOINTS: Construction joints between wingwalls, sidewalls, division wall and slabs shall be only where shown on plans.  
 SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

**DESIGN LIVE LOAD**  
 H20-S16 LOADING A.A.S.H.O. 1961  
 AND  
 SPECIAL MILITARY LOADING  
 Two 28000 Lb. Axles @ 4'-0" cts.  
**UNIT STRESSES:**  
 Class S Concrete (n=10) 1200#/in²  
 Reinforcing Steel 20,000#/in²

NOTE: This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X452-1 or W-X452-2, W-X453-1 or W-X453-2, and W-X454-1 or W-X454-2. Also W-X45.

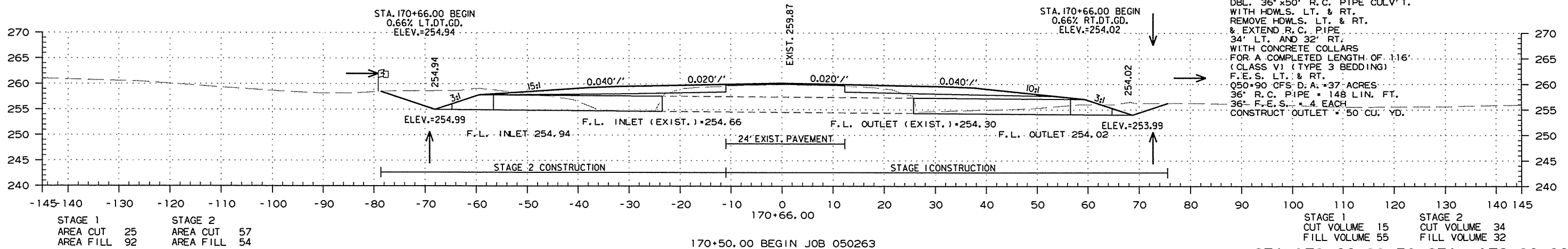
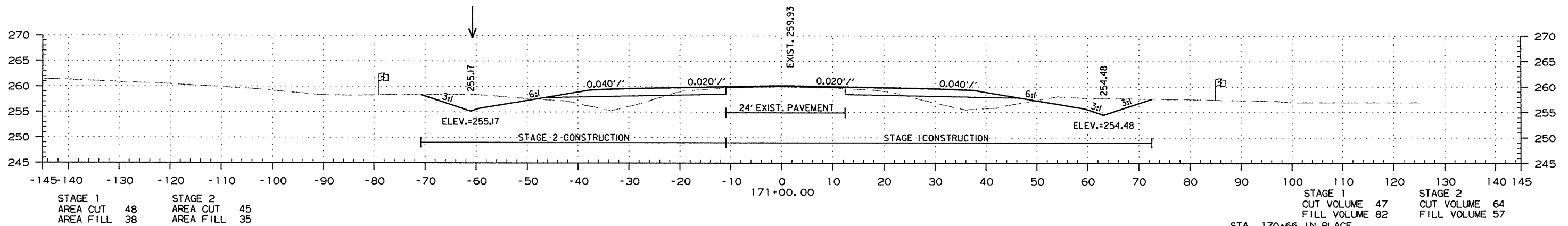
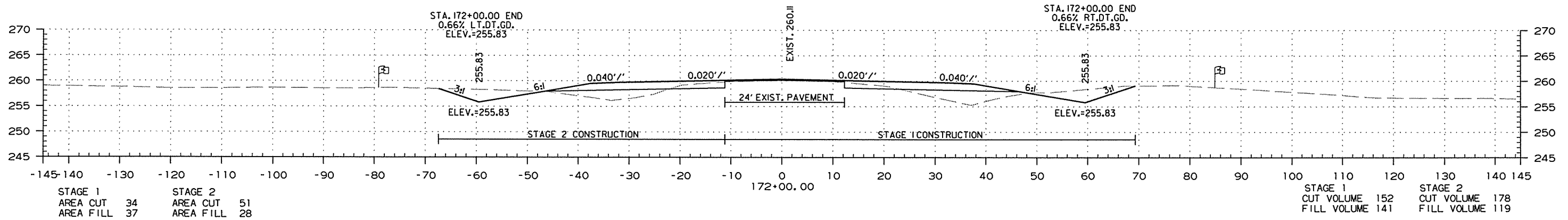
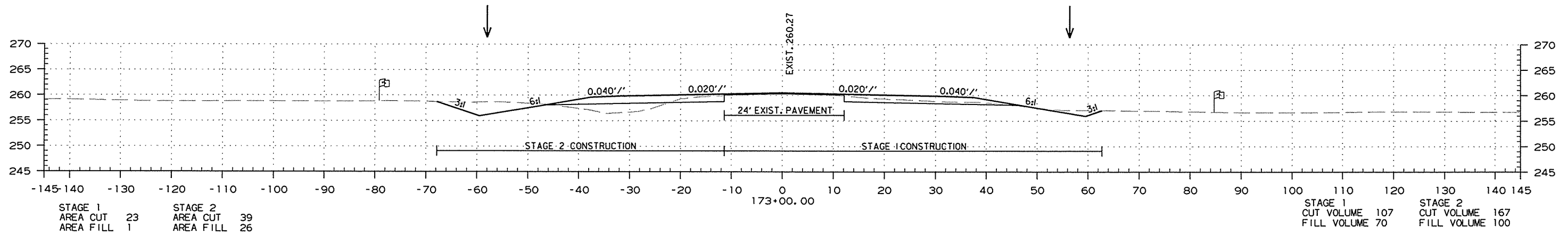
**CLASS S CONCRETE**  
 ARKANSAS STATE HIGHWAY COMMISSION  
 DETAILS OF STANDARD BARREL SECTIONS  
 FOR  
 REINFORCED CONCRETE BOX CULVERTS  
 45° SKEW  
 4', 5', 6', 7' AND 8' SPANS 2:1, 3:1 OR 4:1 SLOPES  
 DOUBLES UNDER 5'-0" COVER  
 STANDARD DRAWING No. R-245X-01

Checked by: R.H.S. 5-14-63  
 Checked by: W.C.H. 1-17-68  
 Checked by: W.C.H. 7-18-69  
 Checked by: W.C.H. 10-1-69  
 Designed by: W.C.H. 1-17-68  
 Drawn by: W.C.H. 7-18-69  
 Quantities by: W.C.H. 10-1-69



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. 050263							97	160

2 CROSS SECTIONS

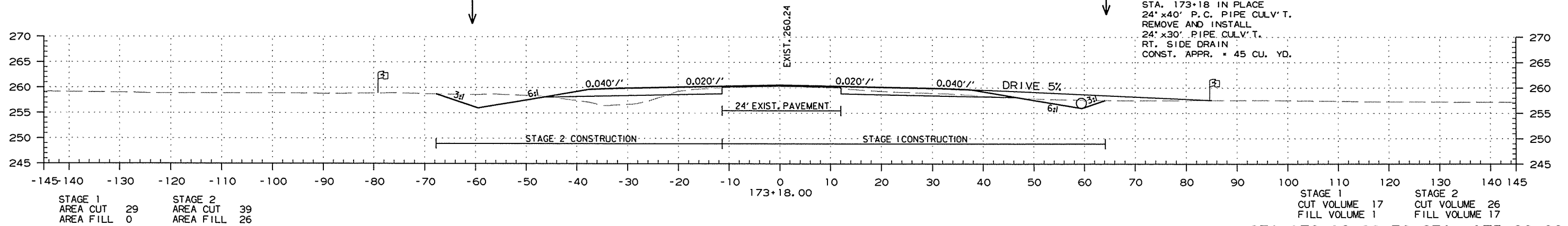
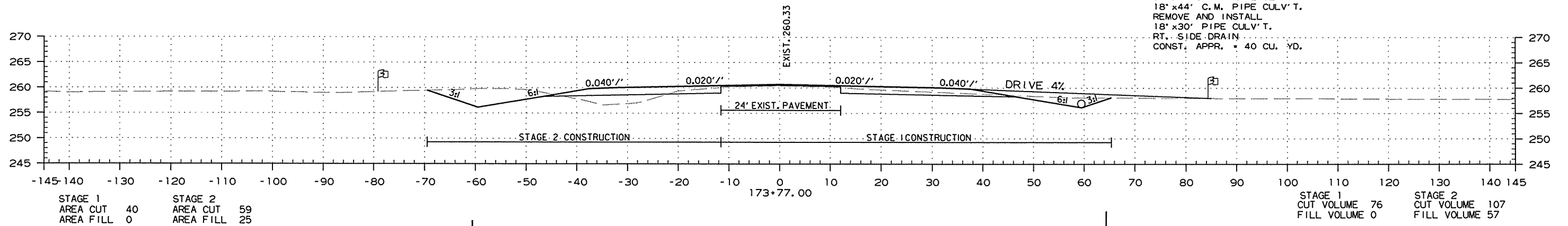
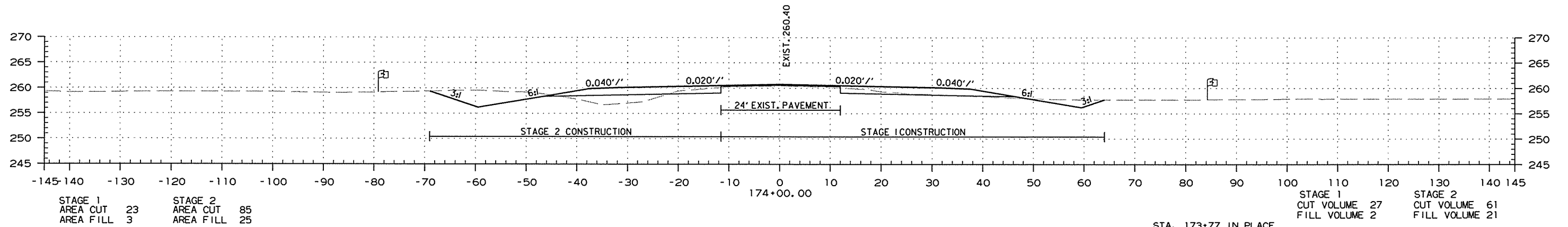
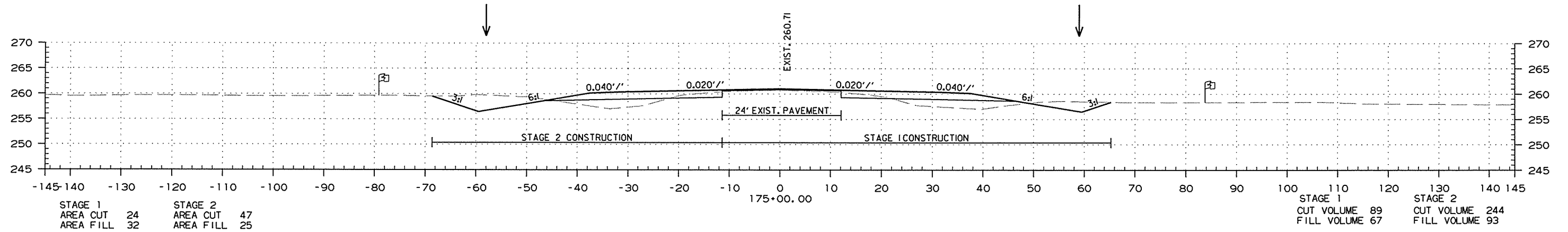


4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						050263	98	160

② CROSS SECTIONS



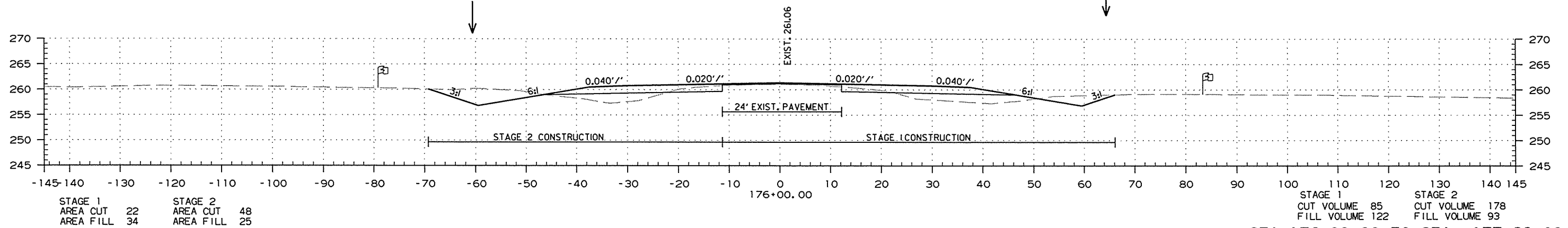
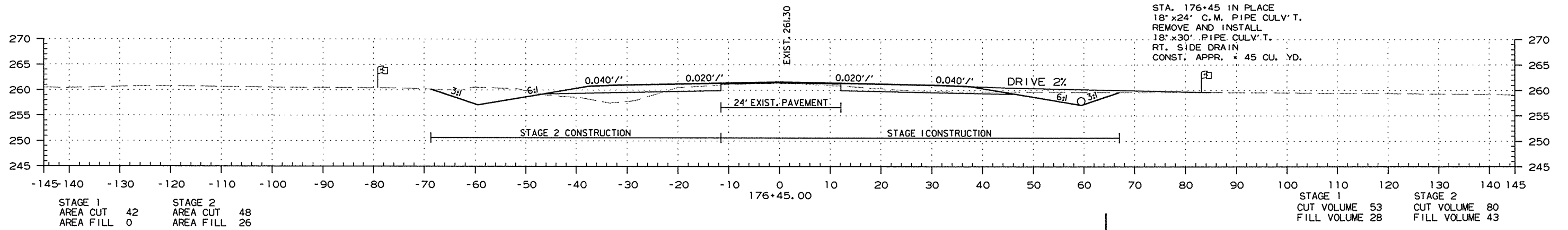
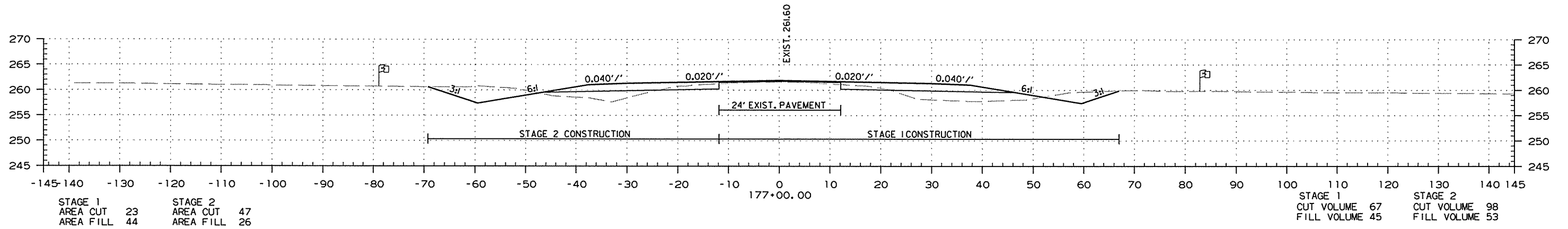
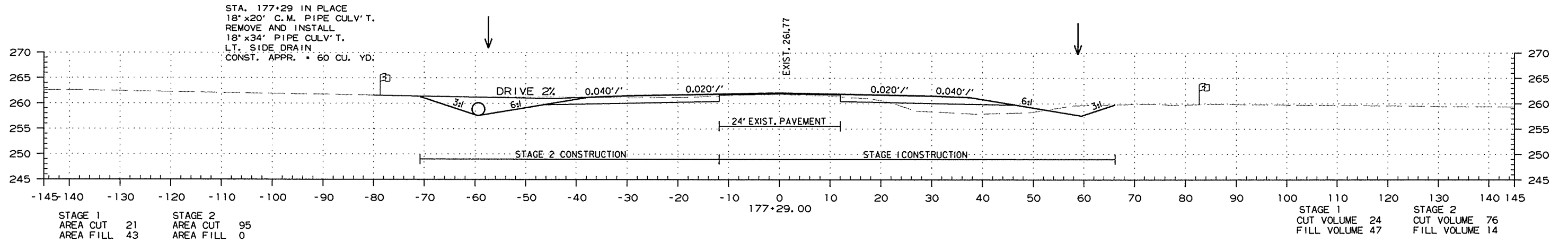
STA. 173+18.00 TO STA. 175+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		99	160

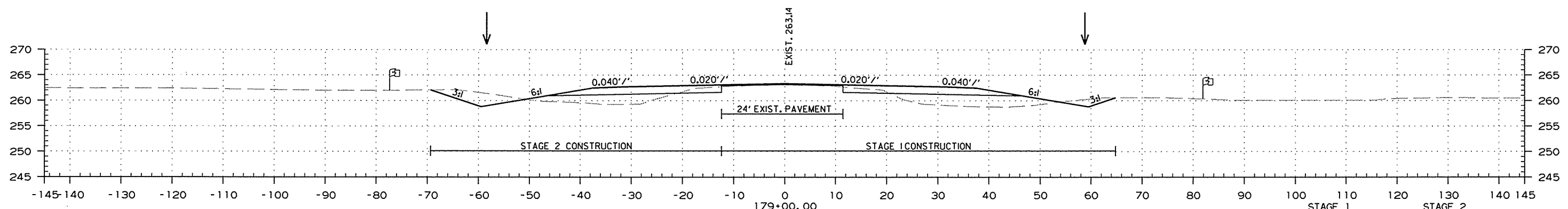
2 CROSS SECTIONS



STA. 176+00.00 TO STA. 177+29.00

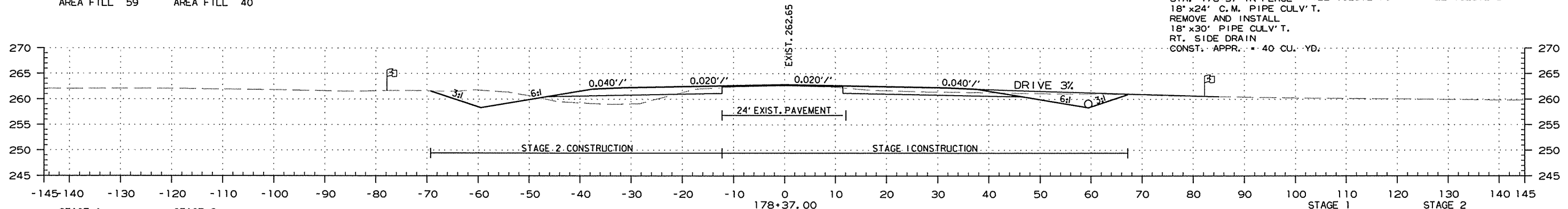
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							100	160

2 CROSS SECTIONS



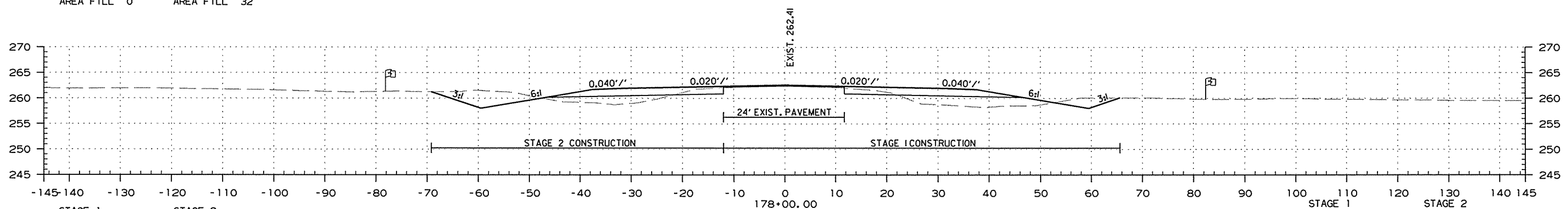
STAGE 1	STAGE 2
AREA CUT 15	AREA CUT 34
AREA FILL 59	AREA FILL 40

STA. 178+37 IN PLACE  
 18" x 24" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 18" x 30" PIPE CULV'T.  
 RT. SIDE DRAIN  
 CONST. APPR. = 40 CU. YD.



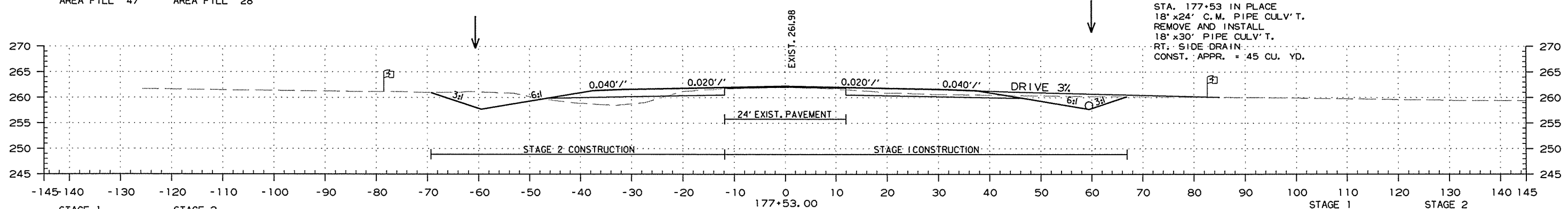
STAGE 1	STAGE 2
AREA CUT 56	AREA CUT 45
AREA FILL 0	AREA FILL 32

STAGE 1	STAGE 2
CUT VOLUME 53	CUT VOLUME 63
FILL VOLUME 33	FILL VOLUME 41



STAGE 1	STAGE 2
AREA CUT 21	AREA CUT 47
AREA FILL 47	AREA FILL 28

STAGE 1	STAGE 2
CUT VOLUME 61	CUT VOLUME 85
FILL VOLUME 42	FILL VOLUME 47



STAGE 1	STAGE 2
AREA CUT 49	AREA CUT 50
AREA FILL 0	AREA FILL 25

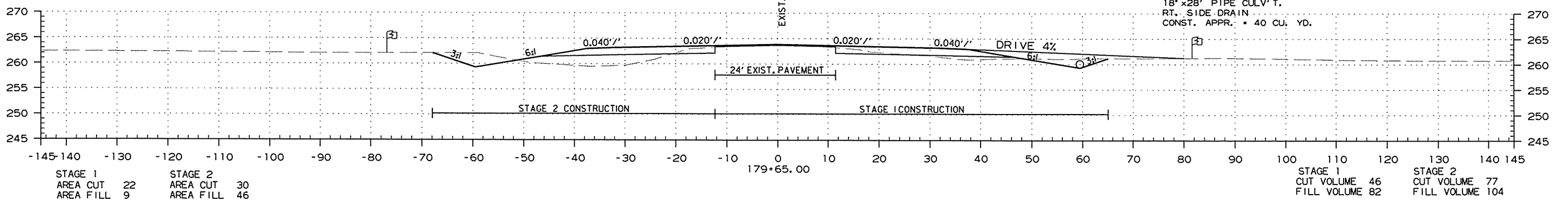
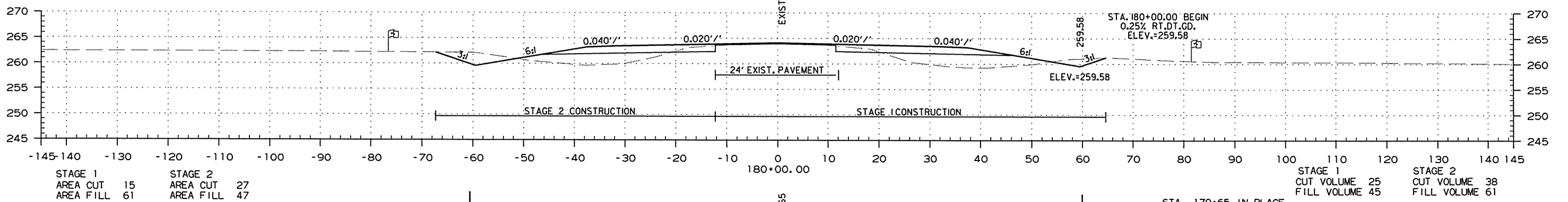
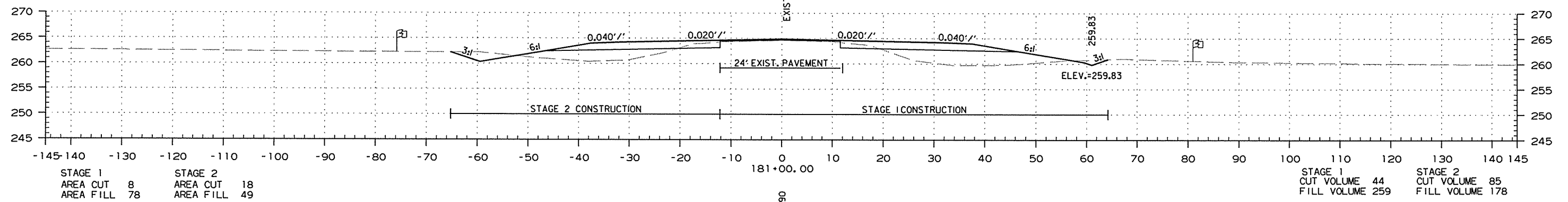
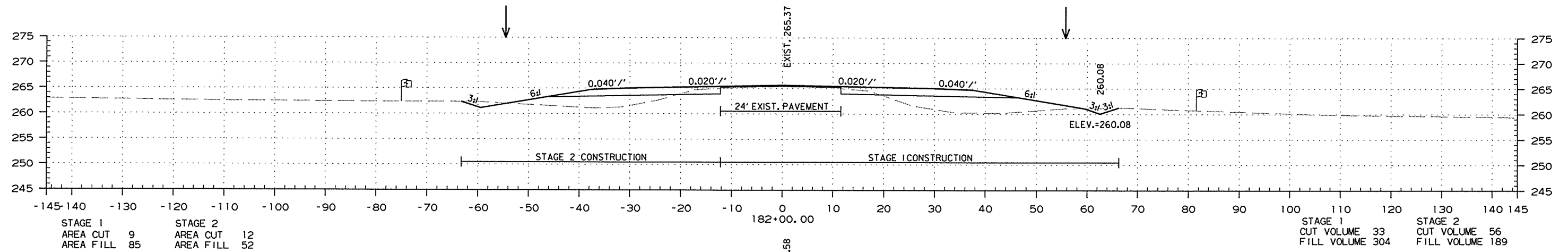
STA. 177+53 IN PLACE  
 18" x 24" C.M. PIPE CULV'T.  
 REMOVE AND INSTALL  
 18" x 30" PIPE CULV'T.  
 RT. SIDE DRAIN  
 CONST. APPR. = 45 CU. YD.

STA. 177+53.00 TO STA. 179+00.00

4/28/2016 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							101	160

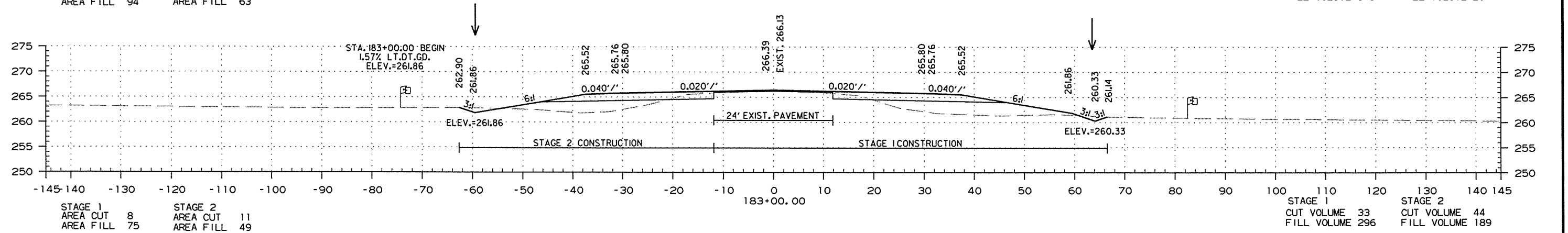
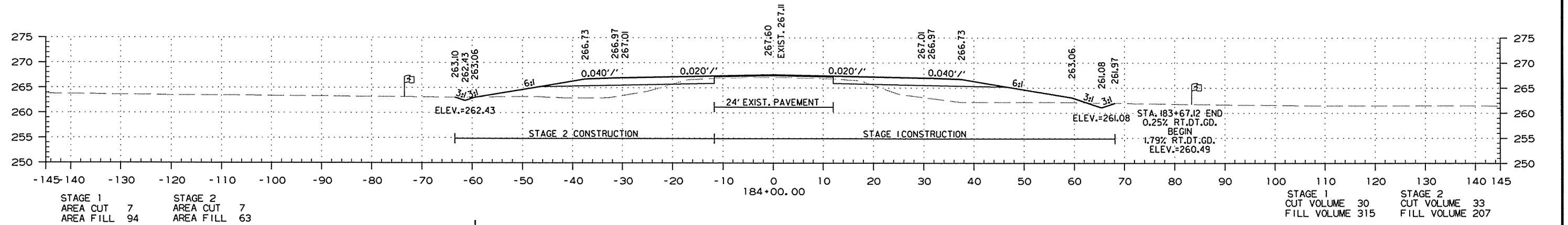
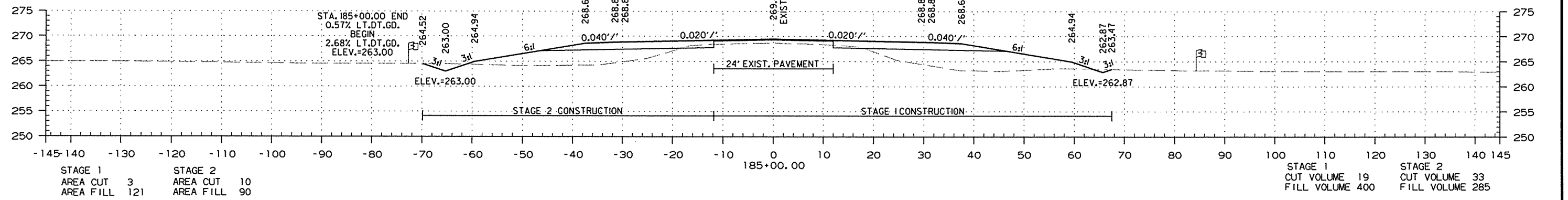
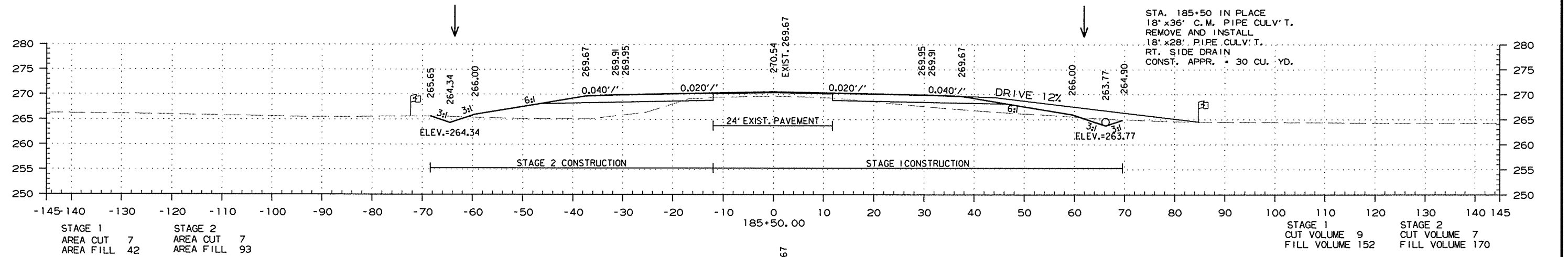
2 CROSS SECTIONS



STA. 179+65.00 TO STA. 182+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.			
				JOB NO.	050263		102	160

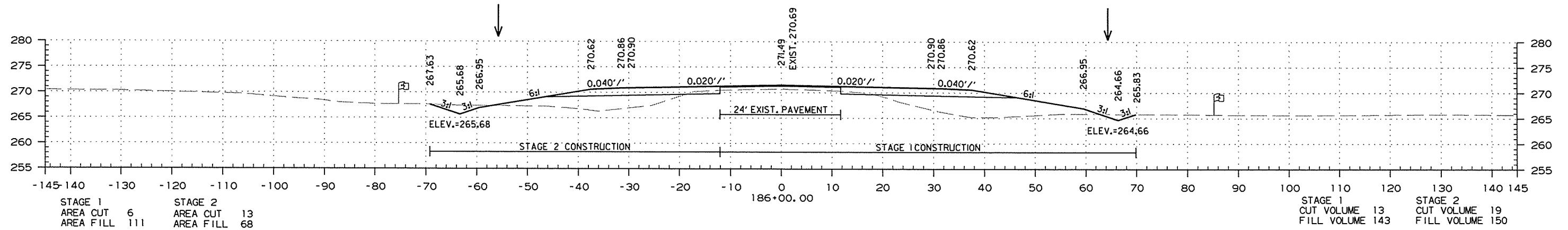
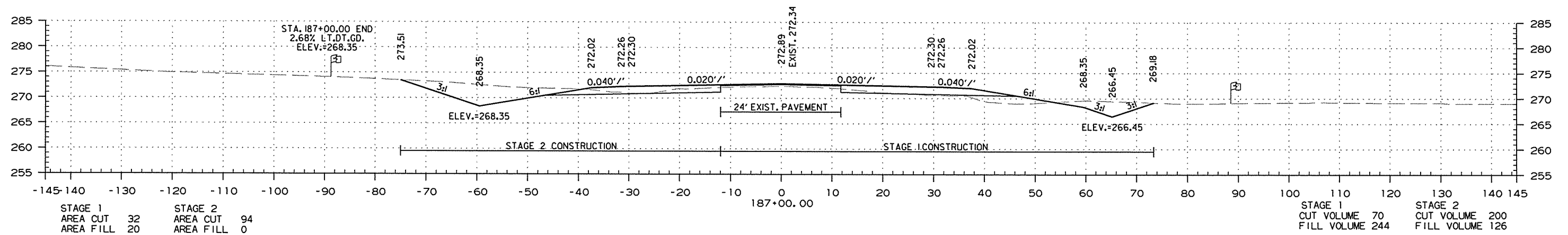
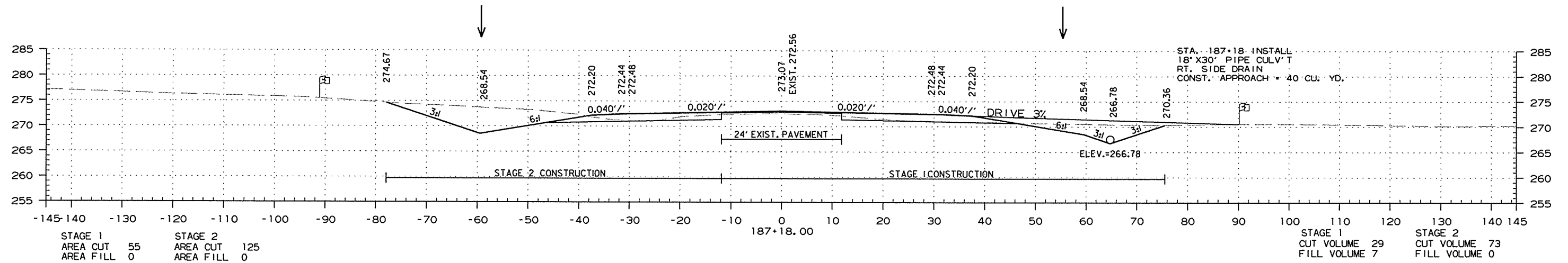
2 CROSS SECTIONS



STA. 183+00.00 TO STA. 185+50.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							103	160

② CROSS SECTIONS



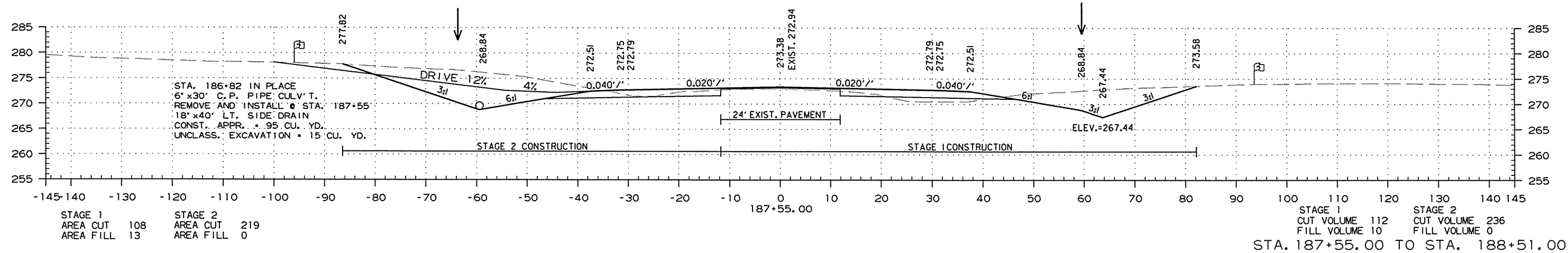
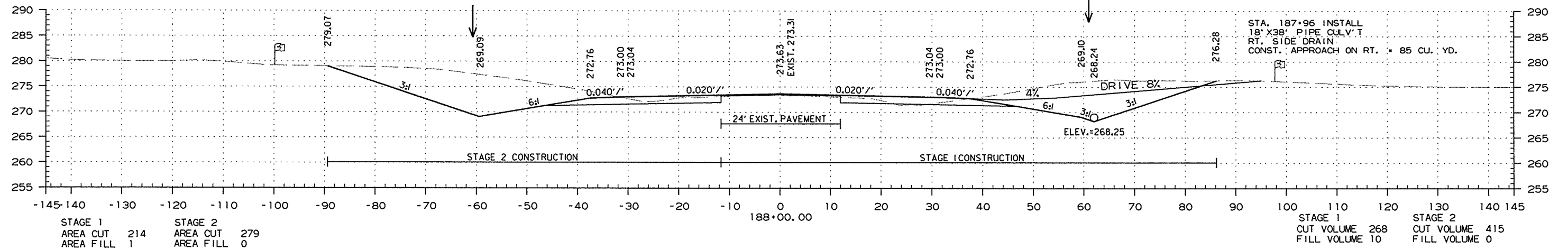
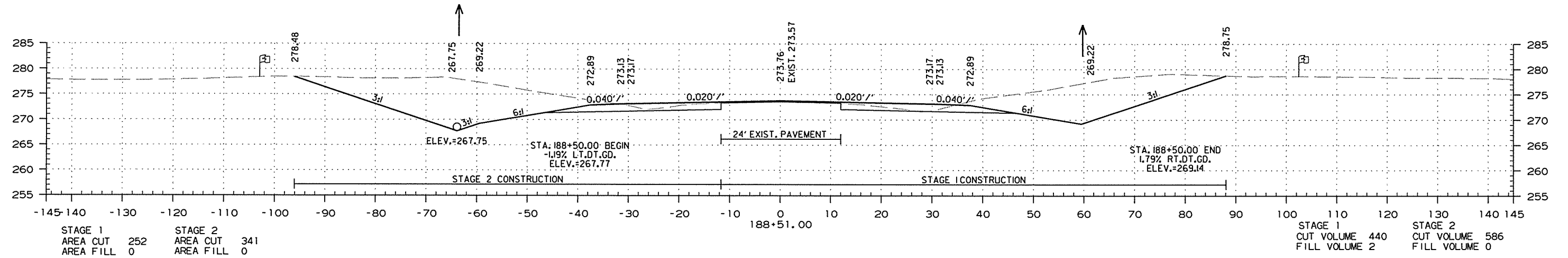
STA. 186+00.00 TO STA. 187+18.00

4/28/2016

R050263.DCN

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. 050263							104	160

2 CROSS SECTIONS

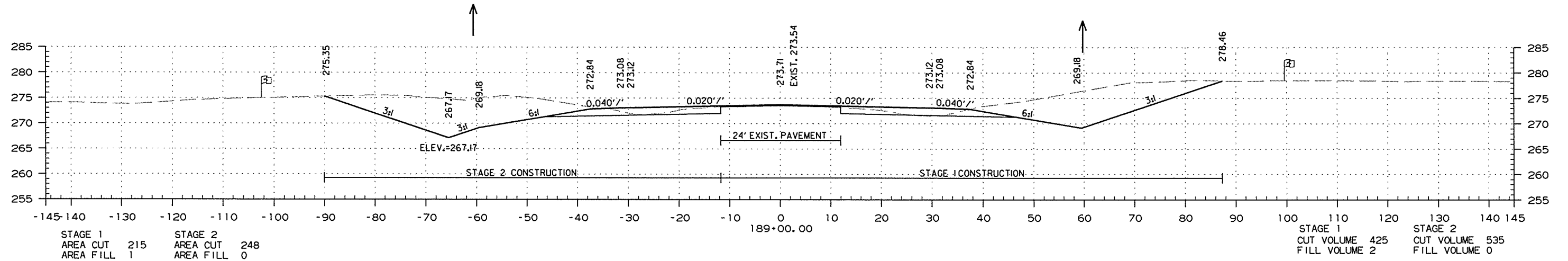
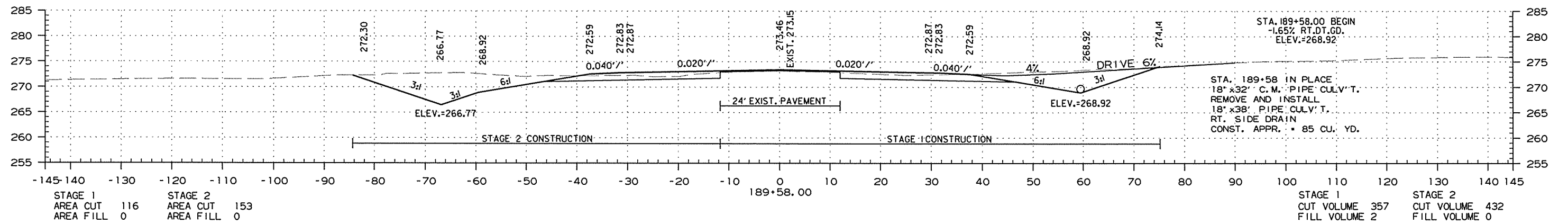
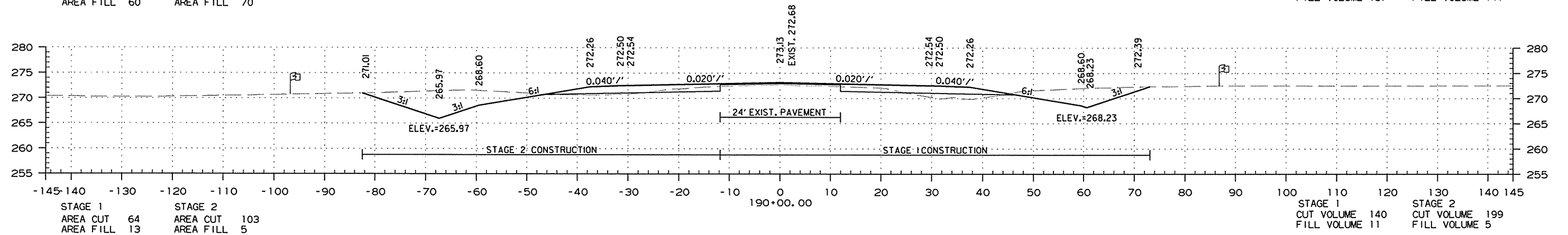
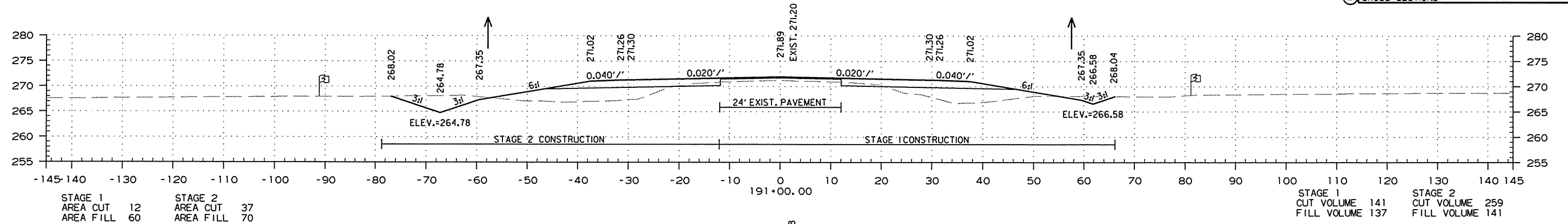


STA. 187+55.00 TO STA. 188+51.00



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							105	160

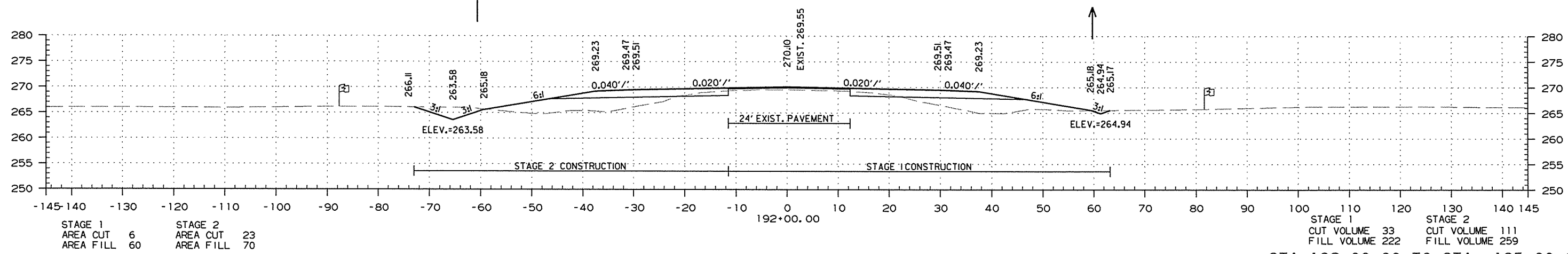
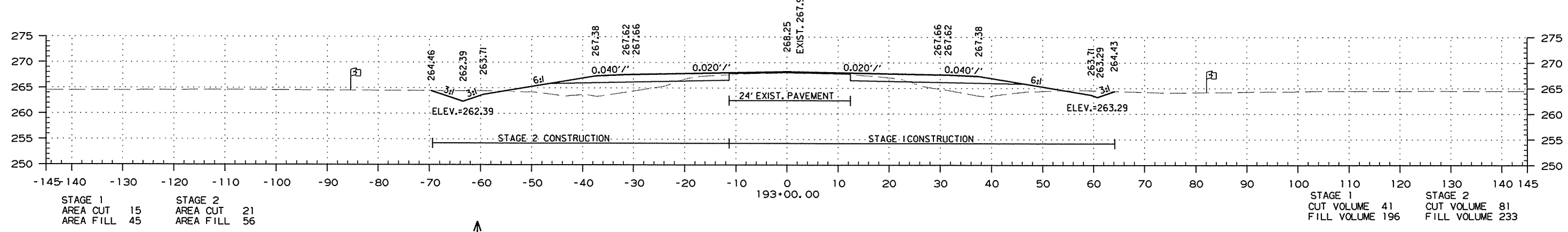
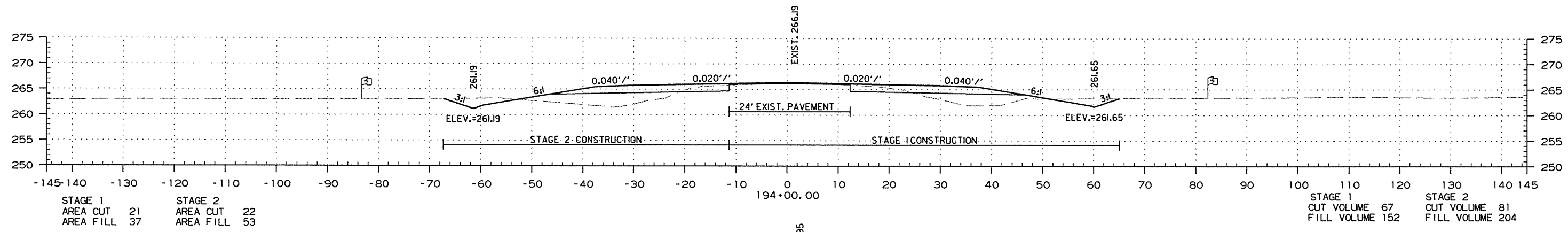
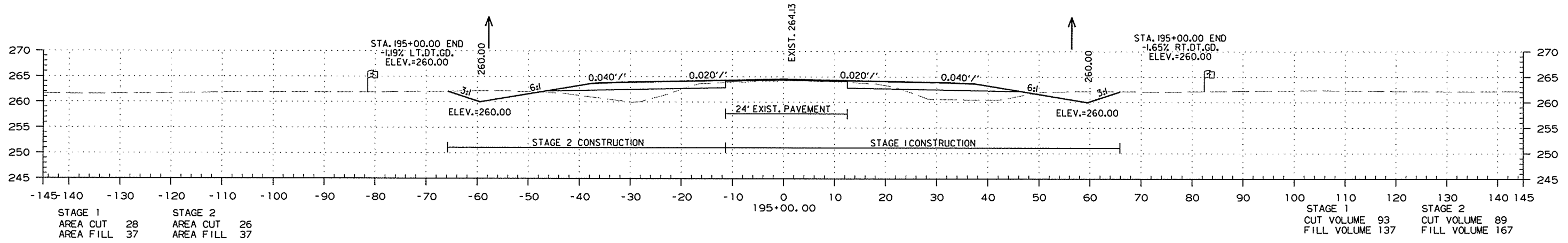
2 CROSS SECTIONS



STA. 189+00.00 TO STA. 191+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.			
				JOB NO.	050263		106	160

2 CROSS SECTIONS

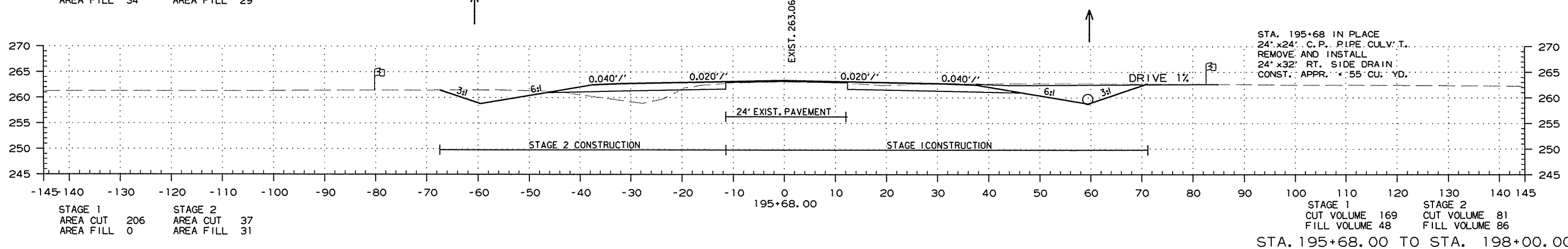
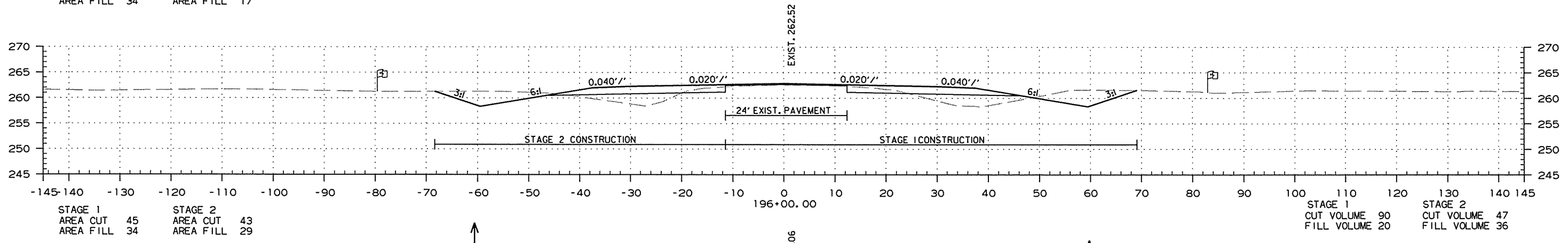
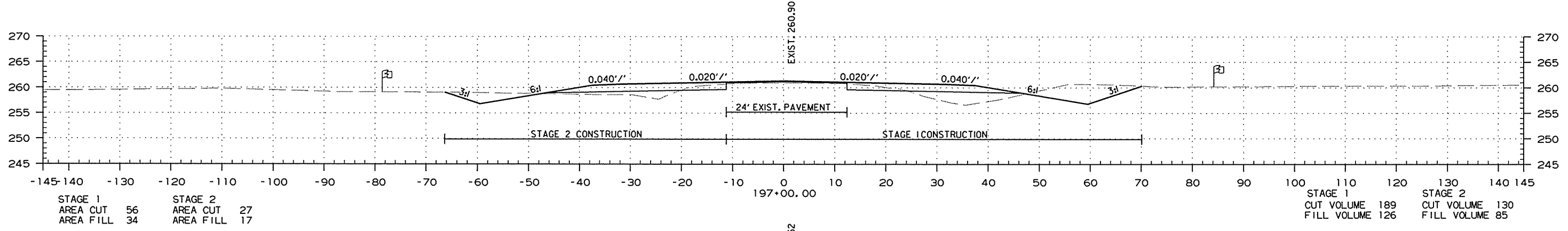
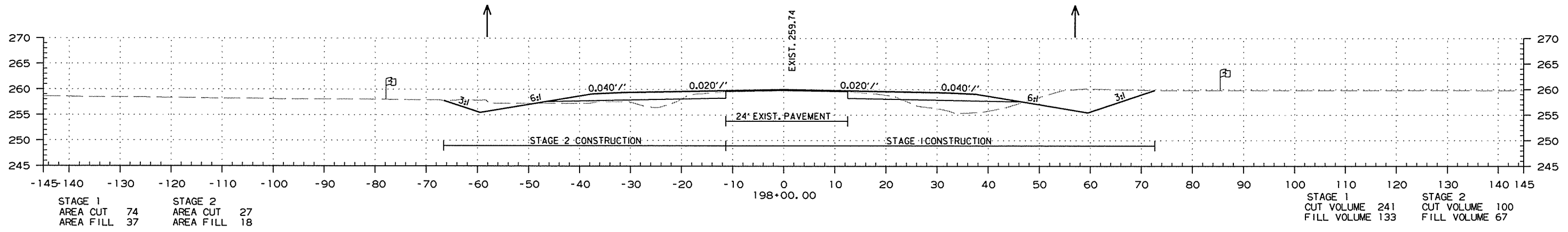


STA. 192+00.00 TO STA. 195+00.00

4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							107	160

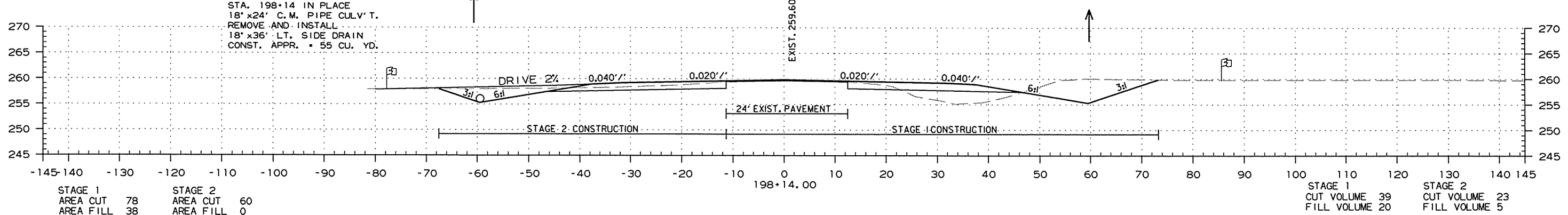
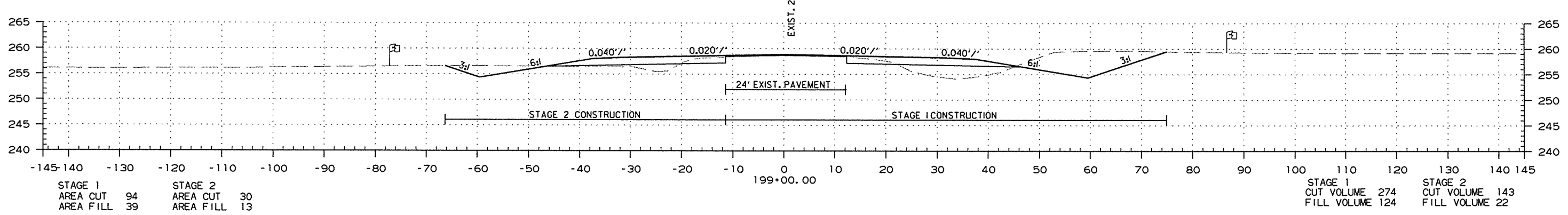
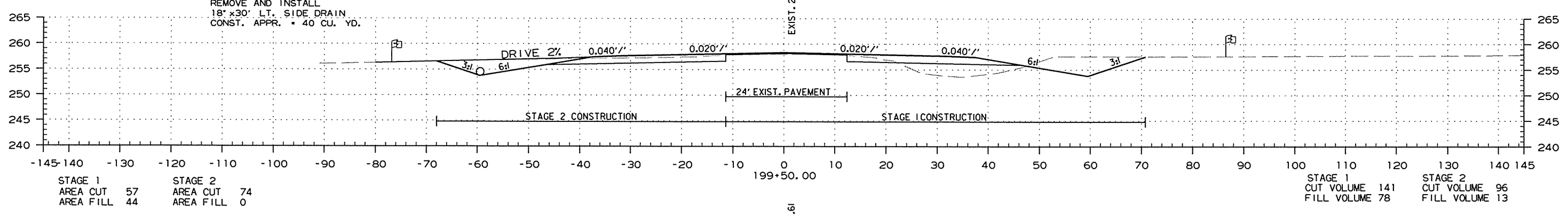
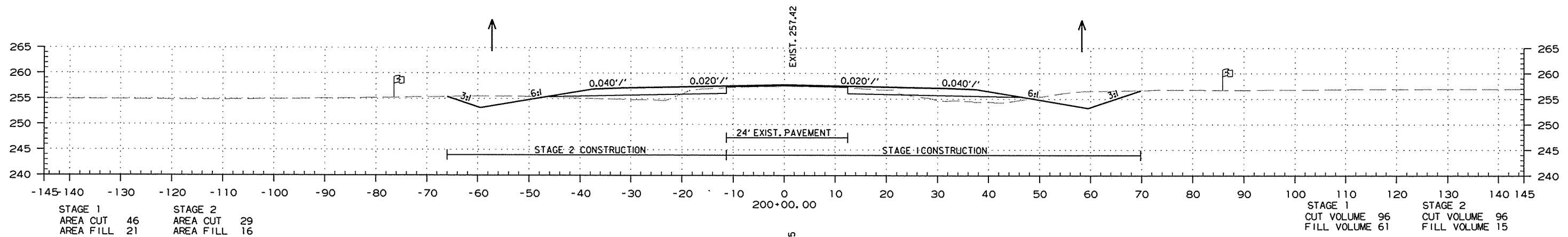
2 CROSS SECTIONS



4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		108	160

2 CROSS SECTIONS

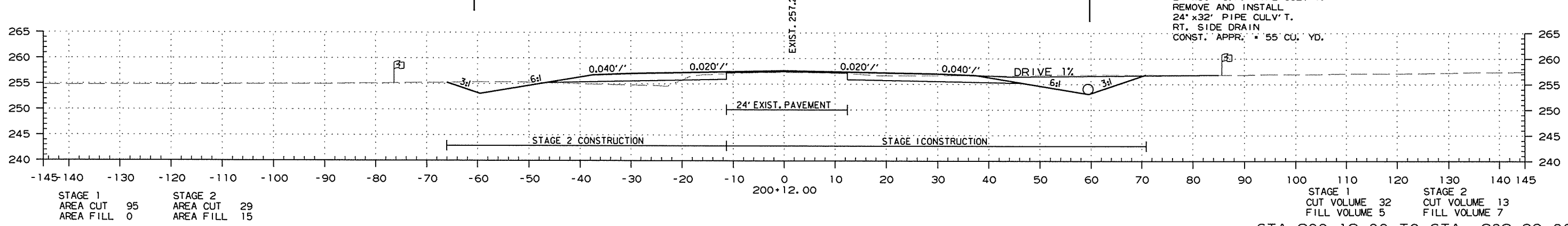
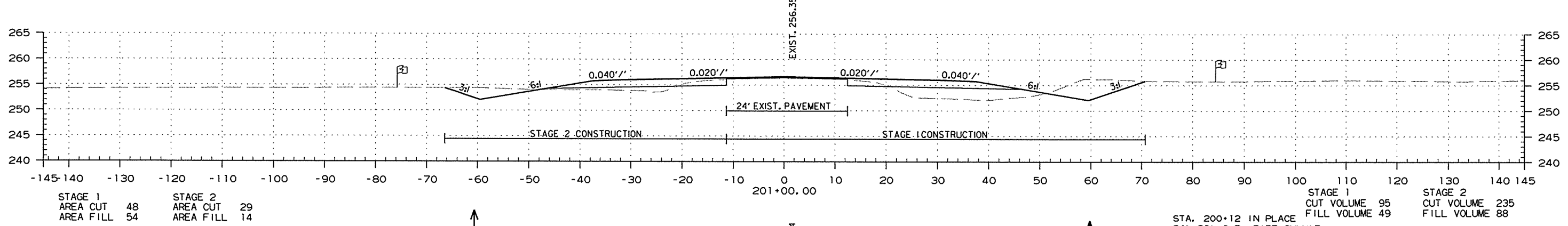
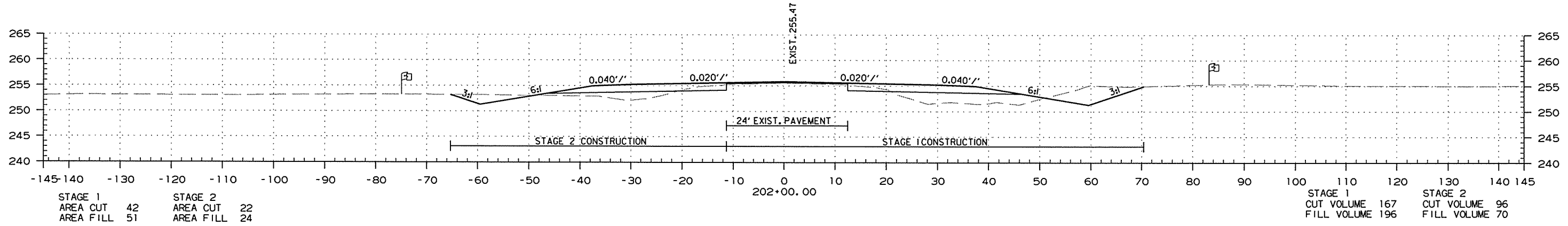
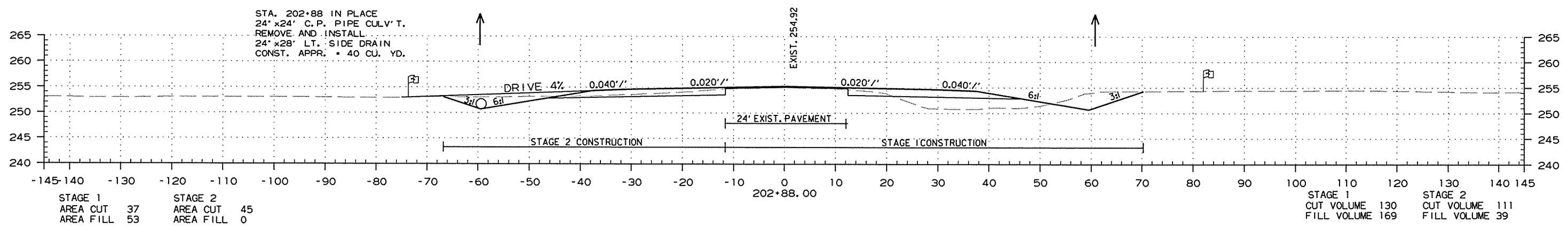


STA. 198+14.00 TO STA. 200+00.00

4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		109	160

2 CROSS SECTIONS

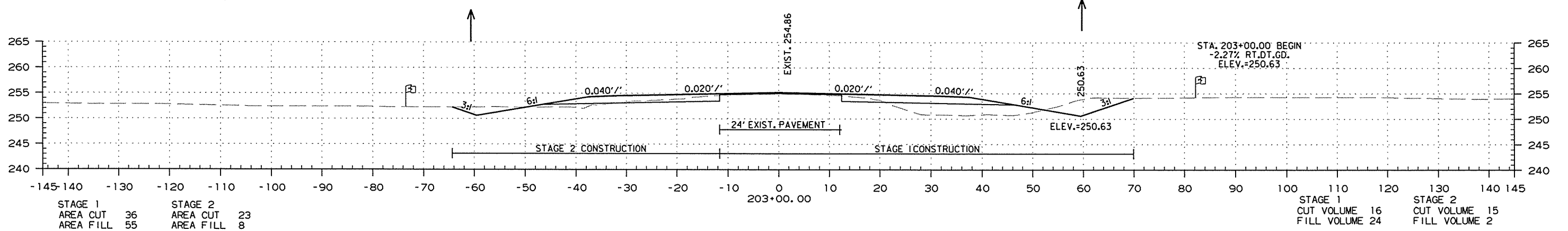
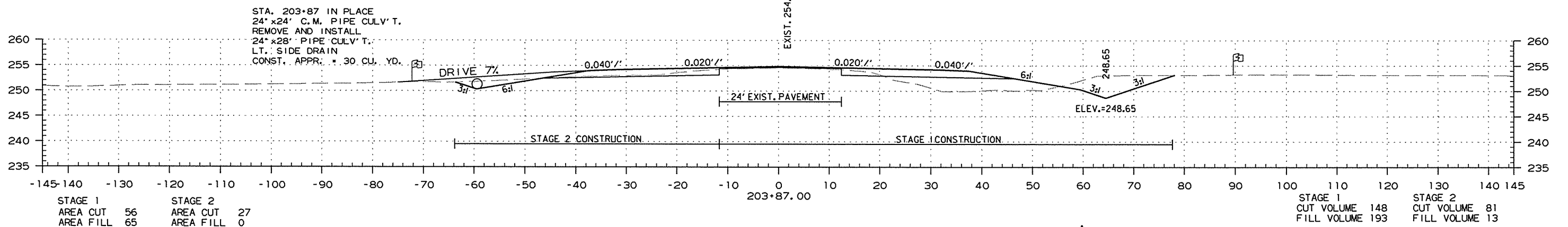
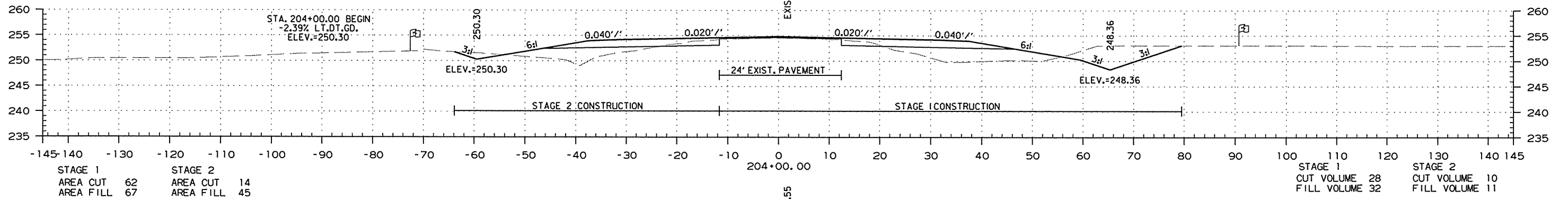
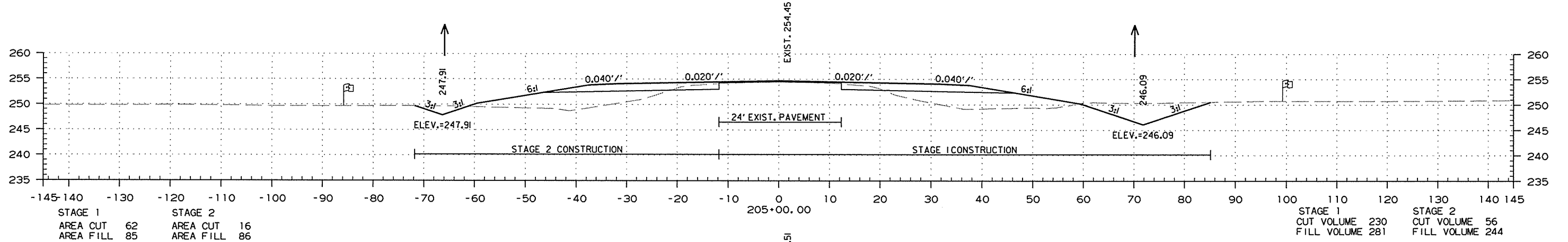


STA. 200+12.00 TO STA. 202+88.00

4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							110	160

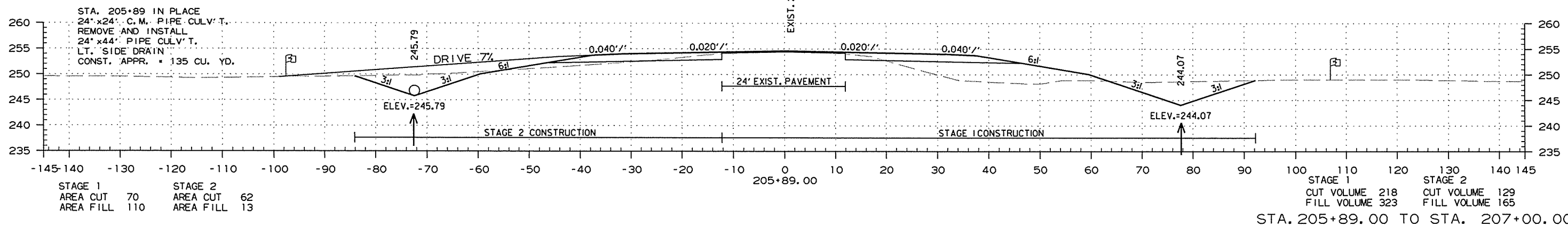
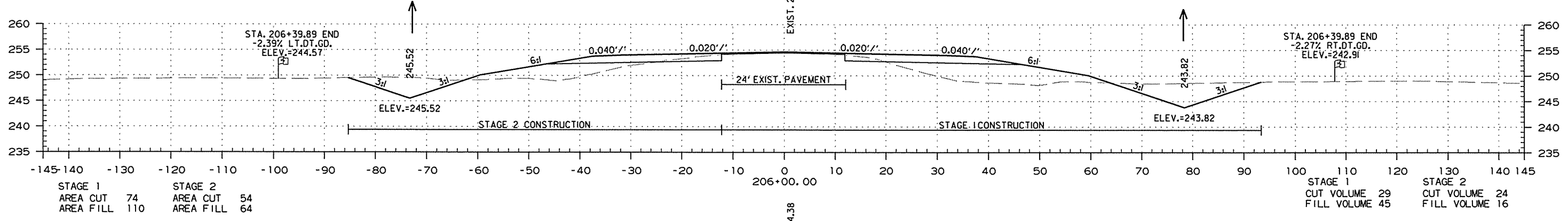
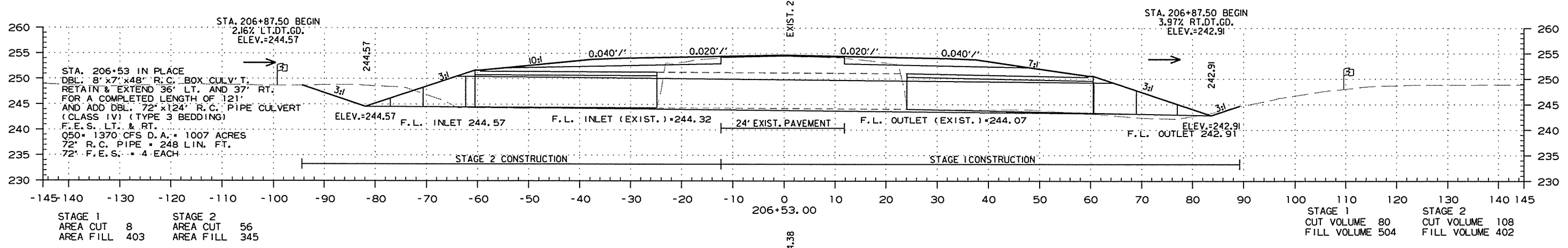
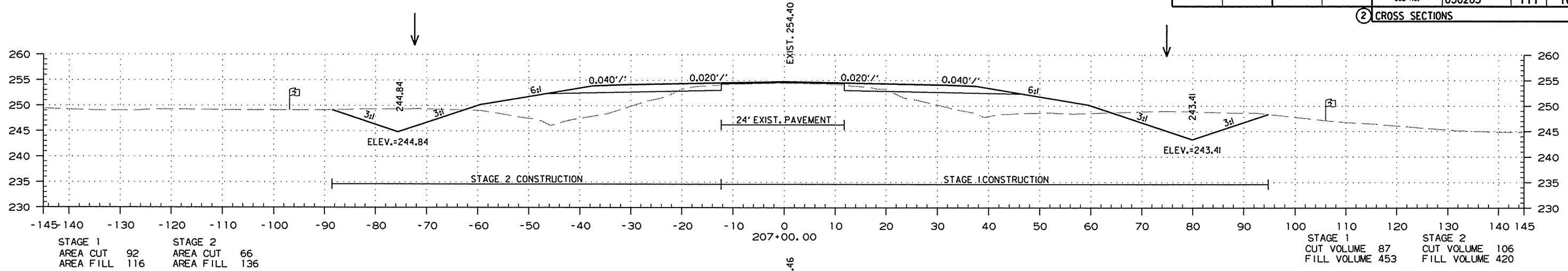
2 CROSS SECTIONS



STA. 203+00.00 TO STA. 205+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.			
JOB NO. 050263							111	160

2 CROSS SECTIONS

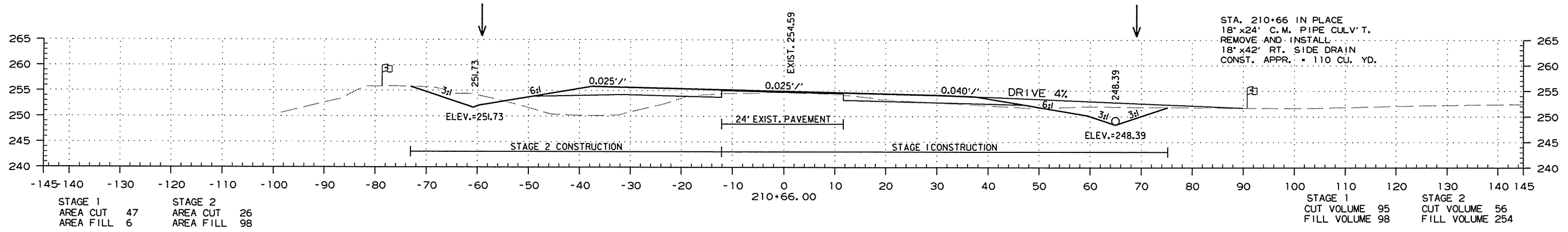


STA. 205+89.00 TO STA. 207+00.00

4/28/2016 R050263.DGN

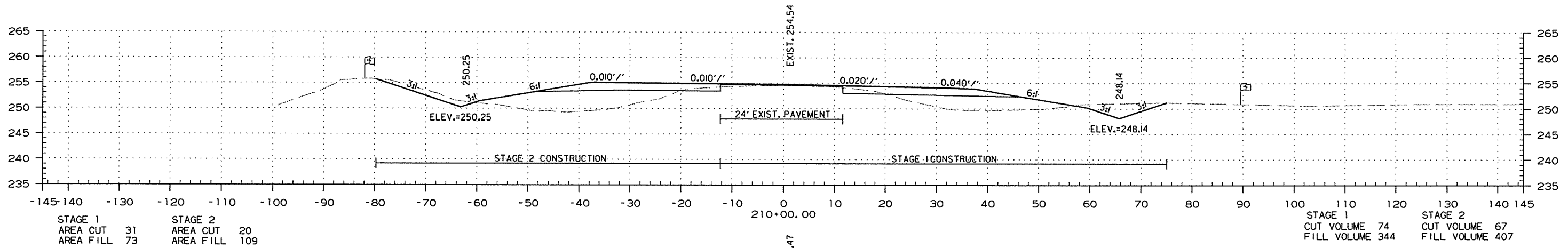
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		112	160

2 CROSS SECTIONS



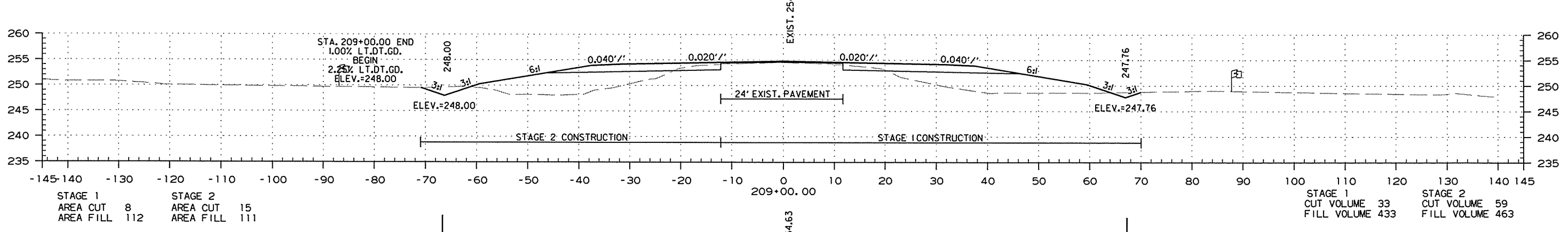
STAGE	AREA CUT	AREA FILL
STAGE 1	47	6
STAGE 2	26	98

STAGE	CUT VOLUME	FILL VOLUME
STAGE 1	95	98
STAGE 2	56	254



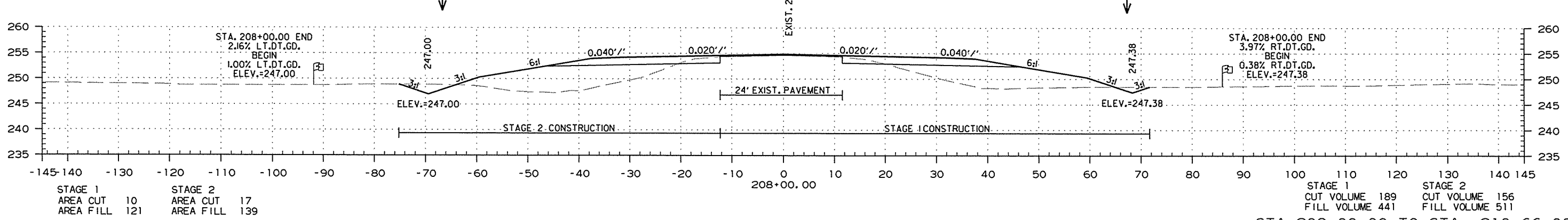
STAGE	AREA CUT	AREA FILL
STAGE 1	31	73
STAGE 2	20	109

STAGE	CUT VOLUME	FILL VOLUME
STAGE 1	74	344
STAGE 2	67	407



STAGE	AREA CUT	AREA FILL
STAGE 1	8	112
STAGE 2	15	111

STAGE	CUT VOLUME	FILL VOLUME
STAGE 1	33	433
STAGE 2	59	463



STAGE	AREA CUT	AREA FILL
STAGE 1	10	121
STAGE 2	17	139

STAGE	CUT VOLUME	FILL VOLUME
STAGE 1	189	441
STAGE 2	156	511

STA. 208+00.00 TO STA. 210+66.00

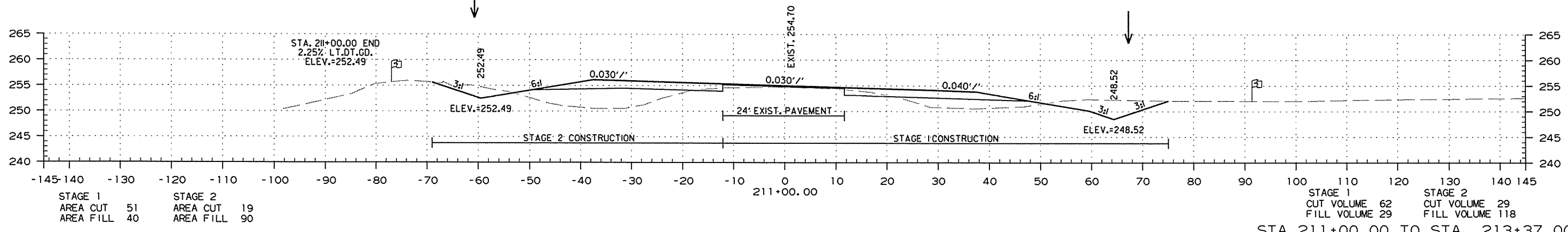
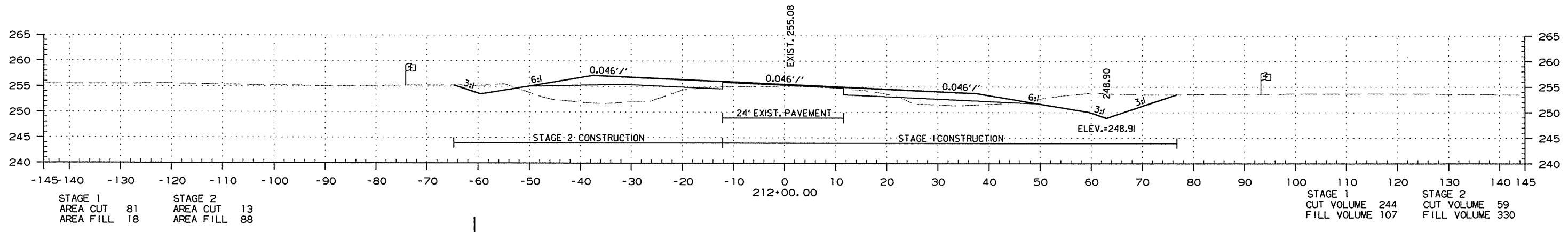
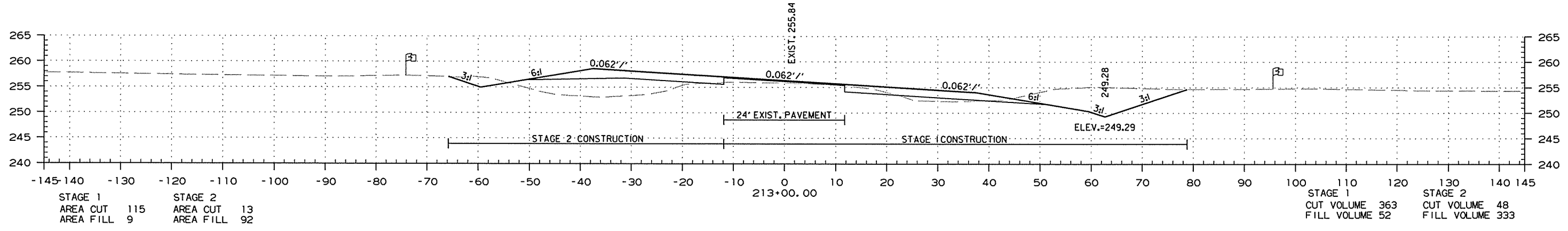
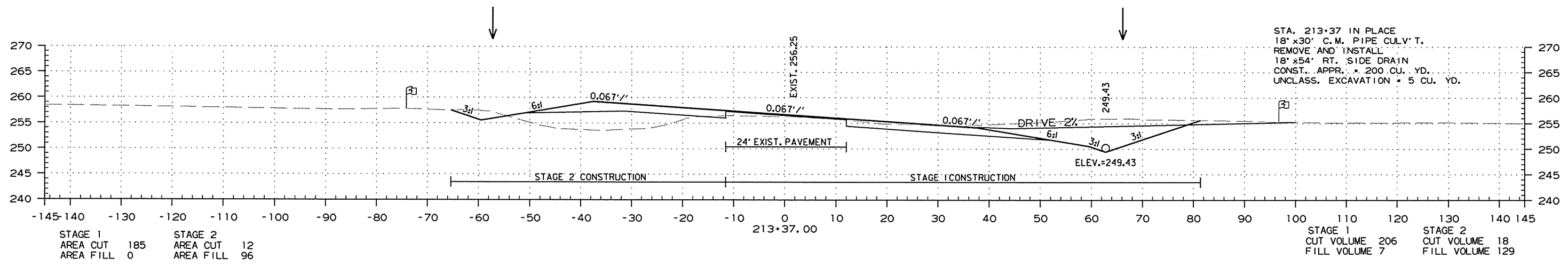
4/28/2016

R050263.DGN



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		113	160

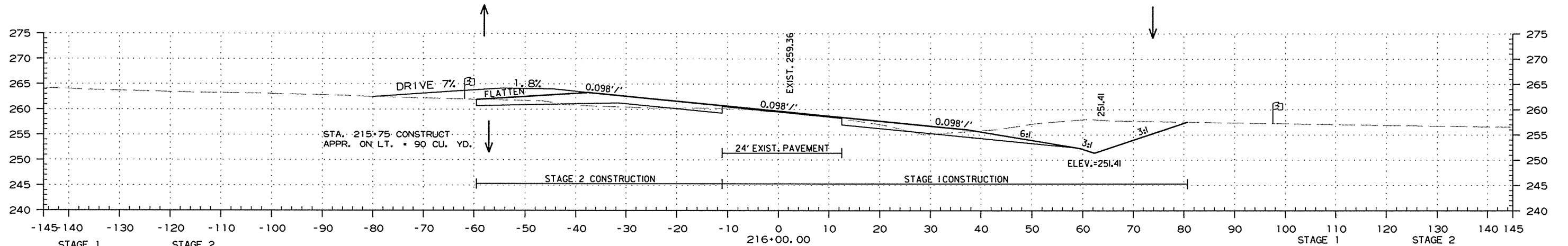
2 CROSS SECTIONS



R050263.DGN 4/28/2016

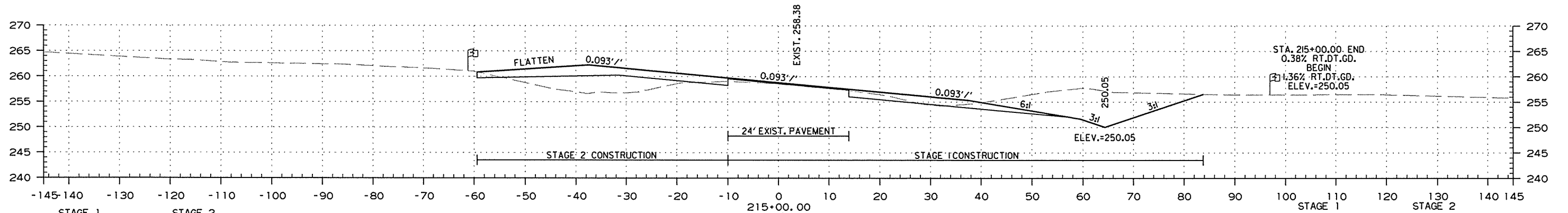
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							114	160

2 CROSS SECTIONS



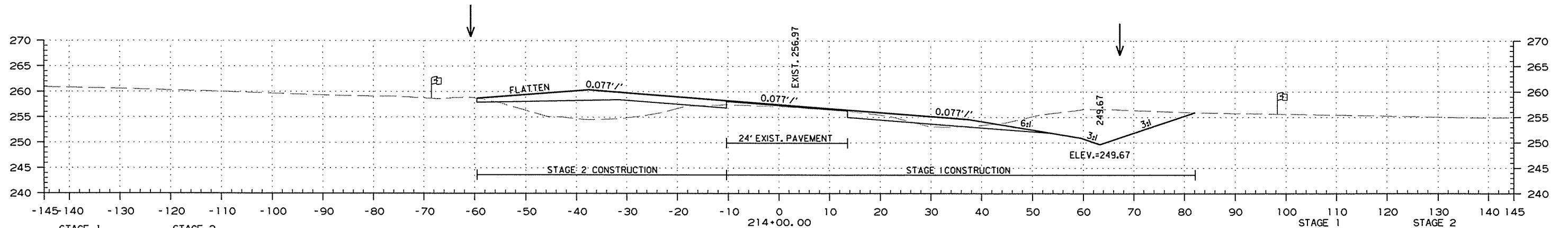
STAGE 1	STAGE 2
AREA CUT 165	AREA CUT 18
AREA FILL 1	AREA FILL 10

STAGE 1	STAGE 2
CUT VOLUME 652	CUT VOLUME 44
FILL VOLUME 4	FILL VOLUME 170



STAGE 1	STAGE 2
AREA CUT 187	AREA CUT 5
AREA FILL 1	AREA FILL 81

STAGE 1	STAGE 2
CUT VOLUME 637	CUT VOLUME 15
FILL VOLUME 7	FILL VOLUME 330



STAGE 1	STAGE 2
AREA CUT 157	AREA CUT 3
AREA FILL 3	AREA FILL 96

STAGE 1	STAGE 2
CUT VOLUME 399	CUT VOLUME 19
FILL VOLUME 5	FILL VOLUME 224

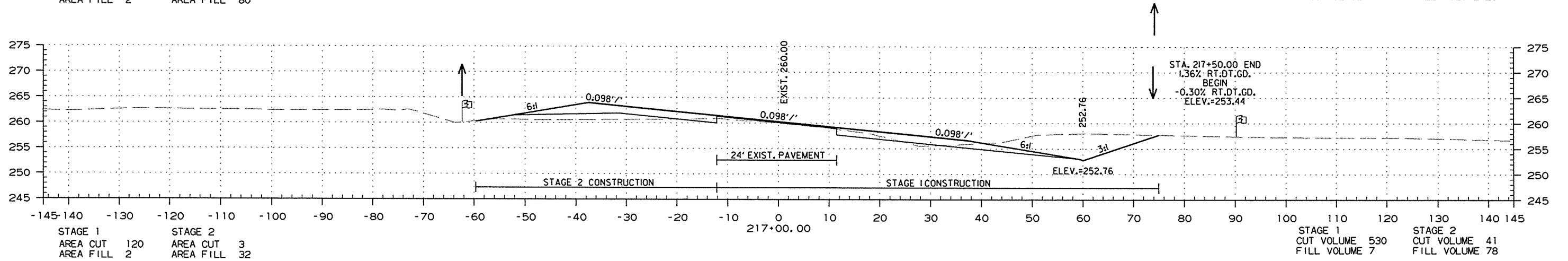
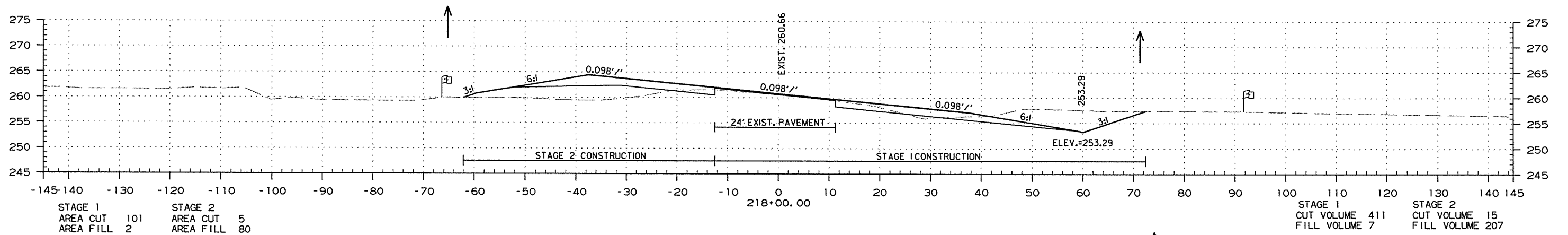
STA. 214+00.00 TO STA. 216+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							115	160

2 CROSS SECTIONS



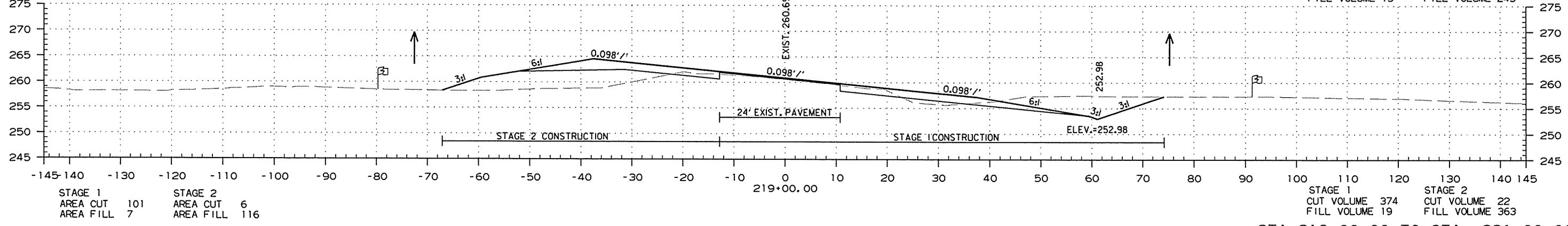
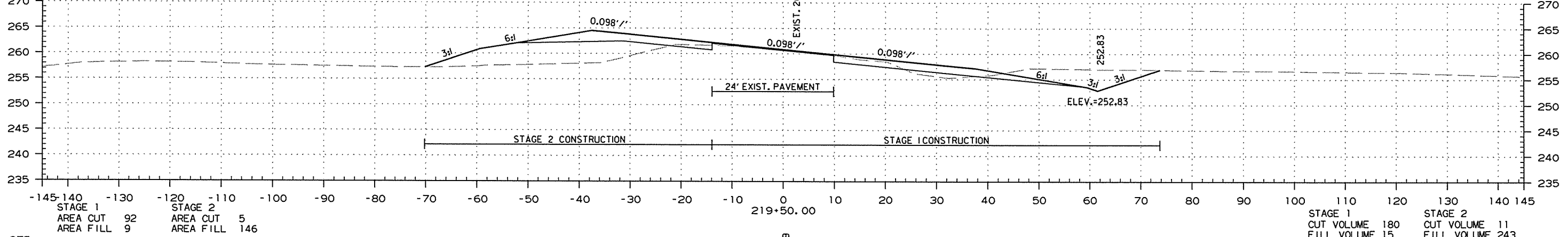
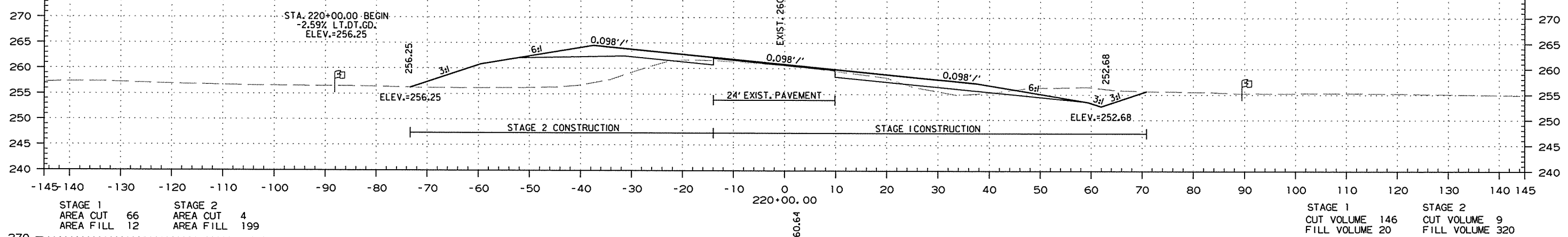
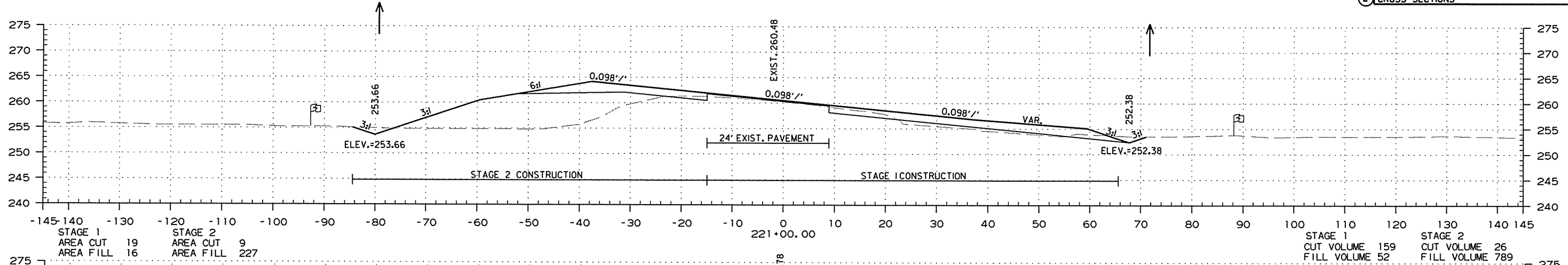
STA. 217+00.00 TO STA. 218+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							116	160

2 CROSS SECTIONS



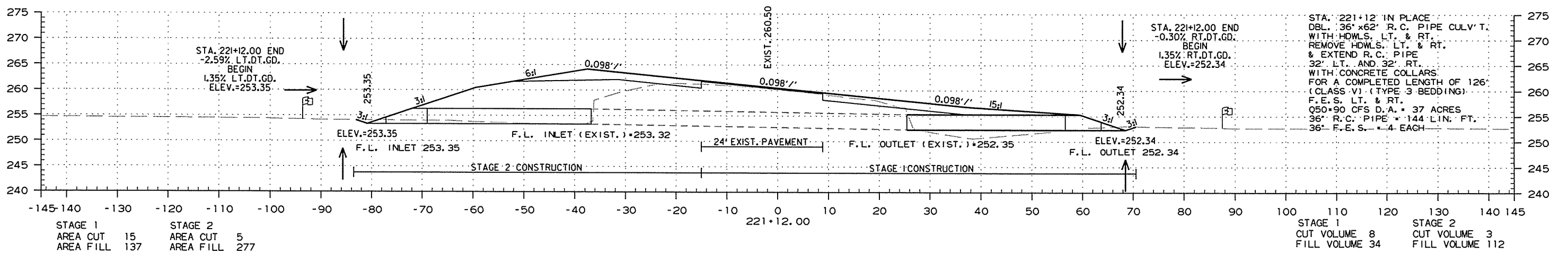
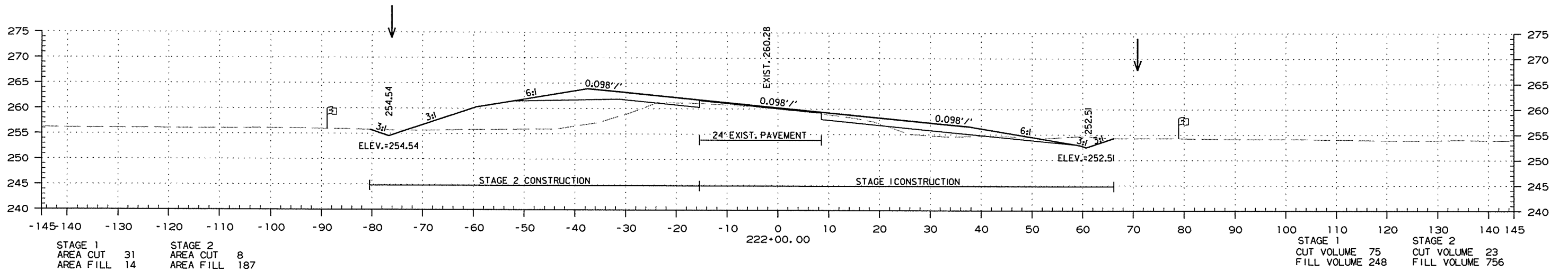
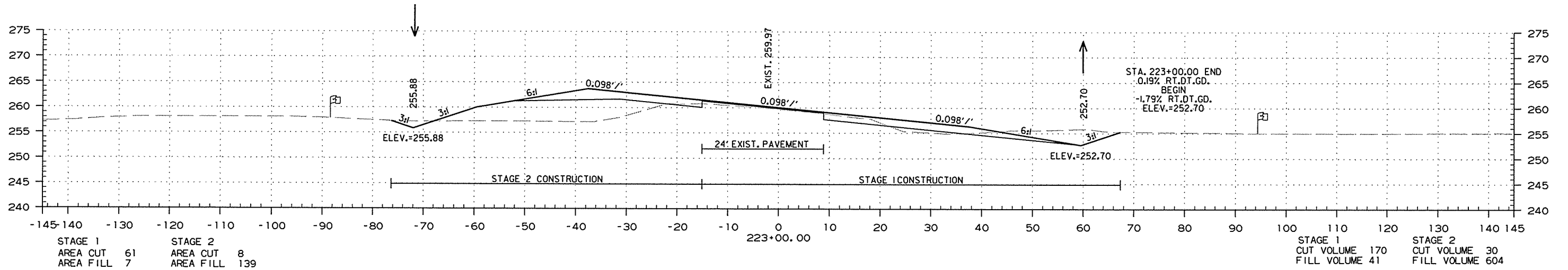
STA. 219+00.00 TO STA. 221+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							117	160

2 CROSS SECTIONS



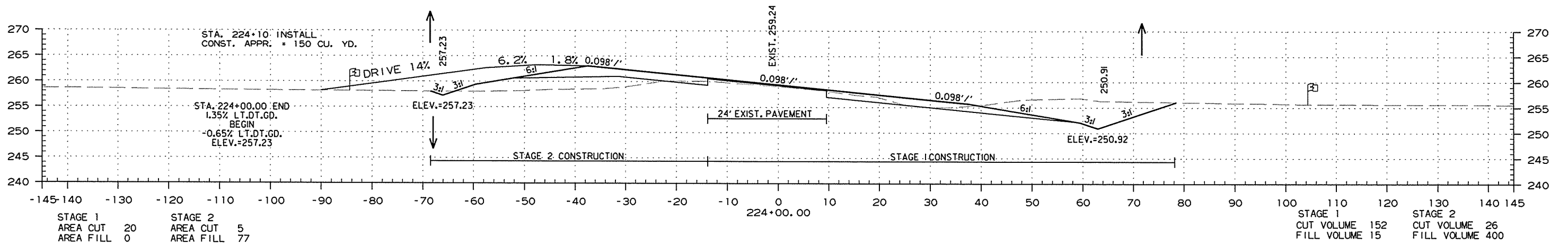
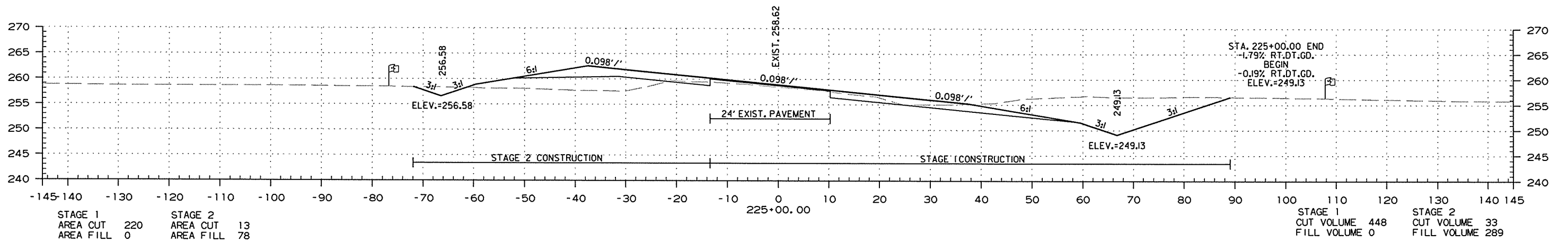
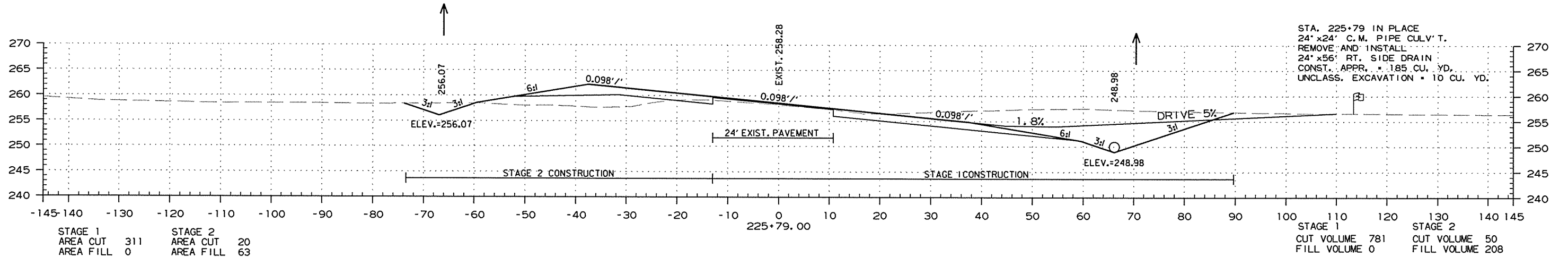
STA. 221+12.00 TO STA. 223+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							118	160

2 CROSS SECTIONS



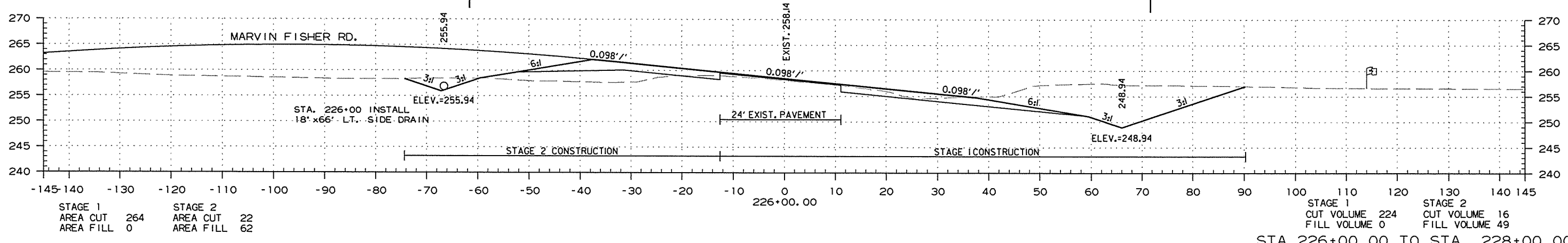
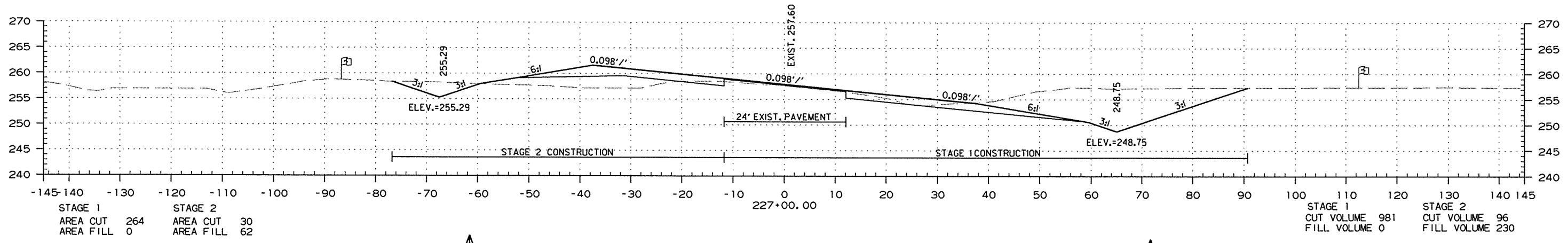
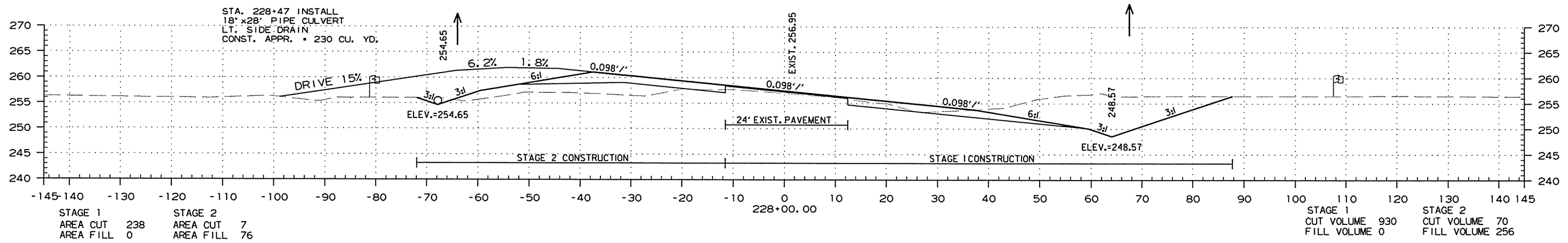
STA. 224+00.00 TO STA. 225+79.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							119	160

2 CROSS SECTIONS

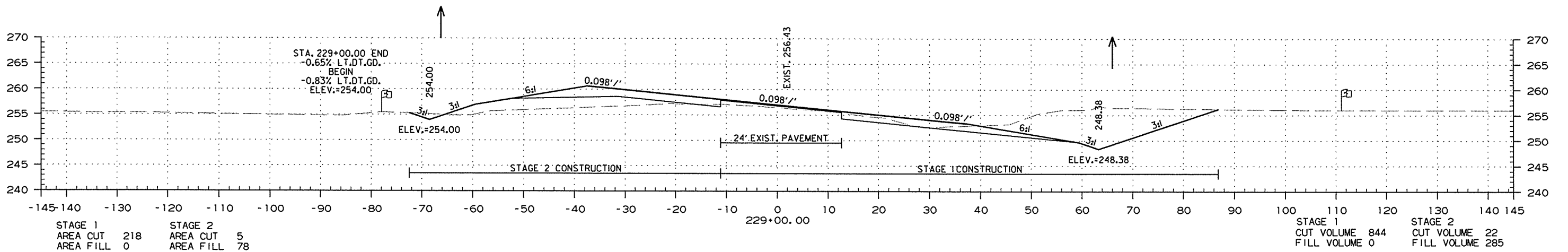
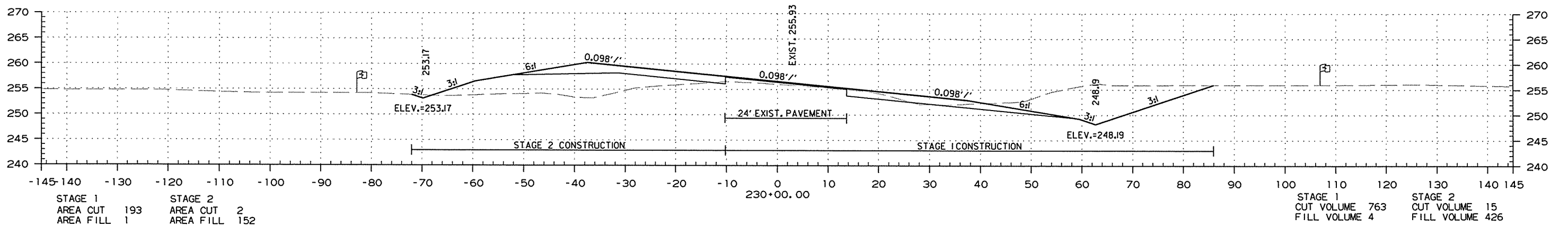
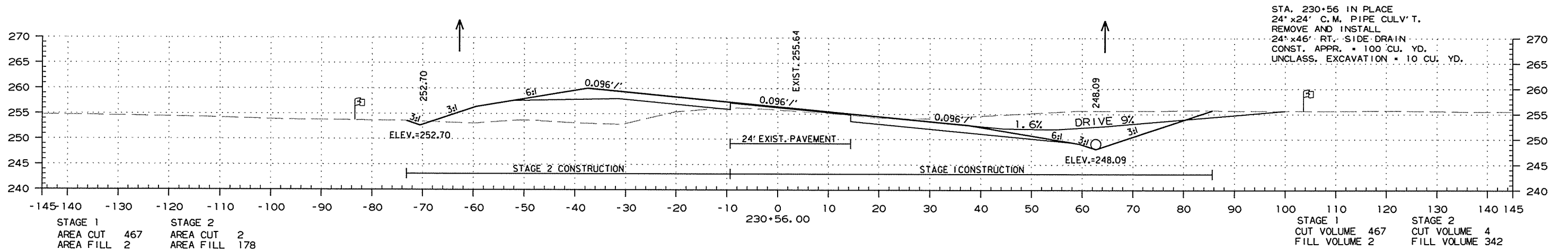


STA. 226+00.00 TO STA. 228+00.00

4/28/2016 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							120	160

2 CROSS SECTIONS

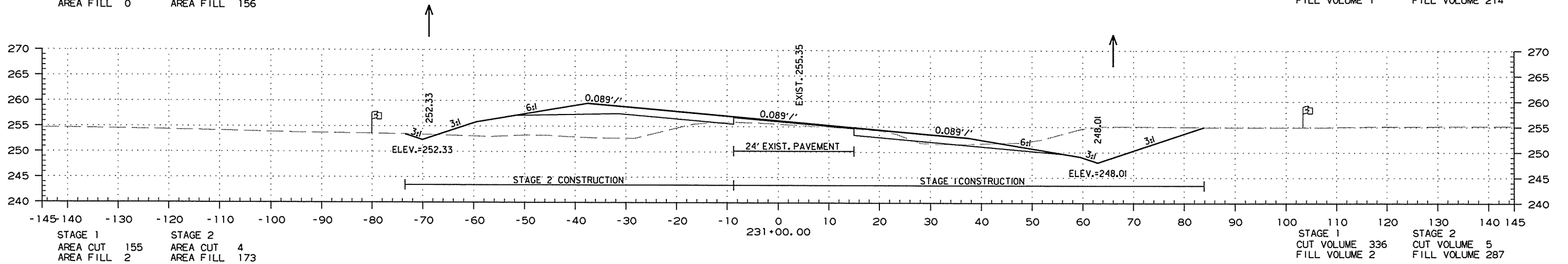
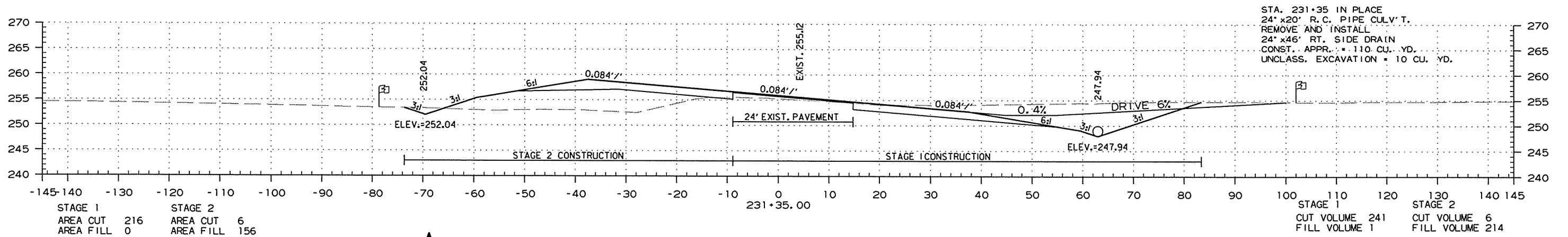
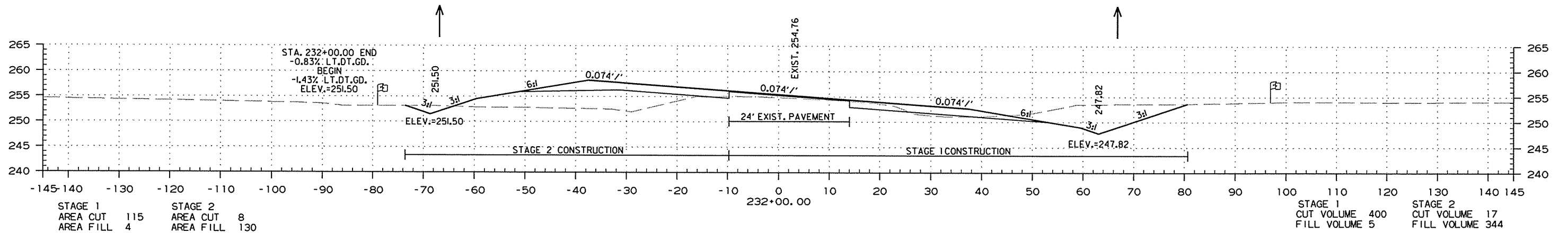


STA. 229+00.00 TO STA. 230+56.00



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							121	160

2 CROSS SECTIONS



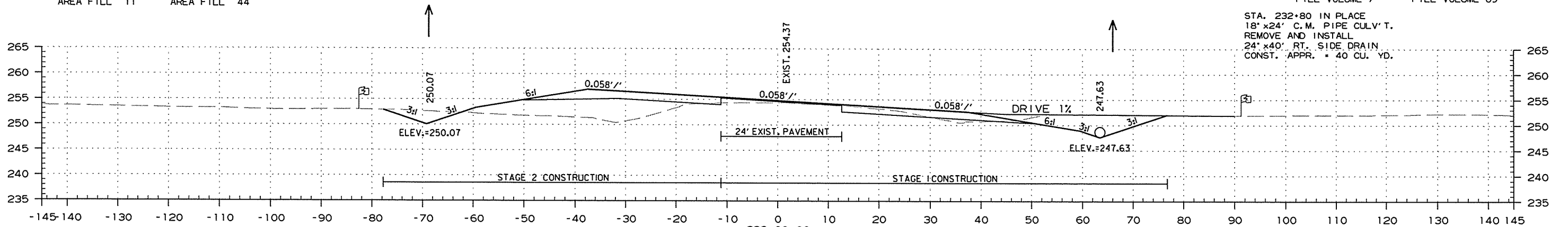
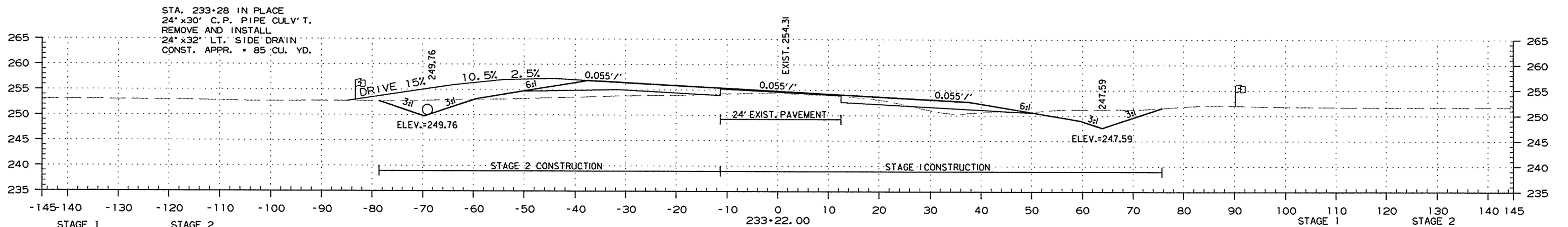
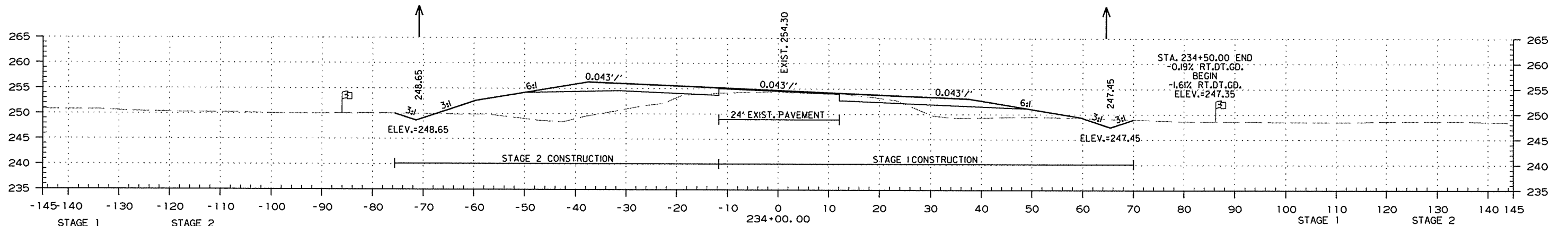
STA. 231+00.00 TO STA. 232+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		122	160

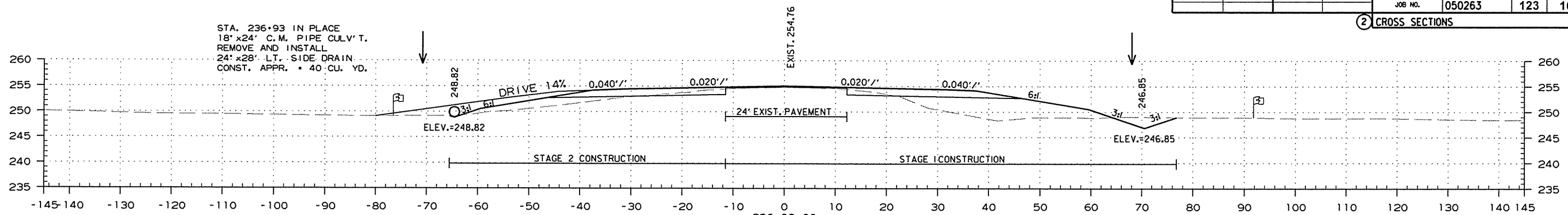
2 CROSS SECTIONS



STA. 233+00.00 TO STA. 234+00.00

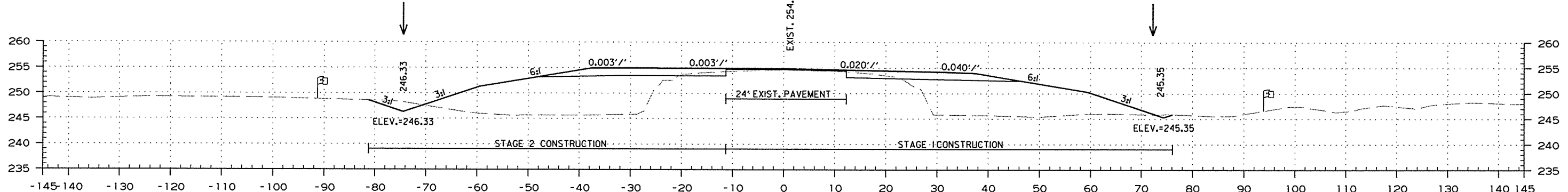
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050263	123	160

2 CROSS SECTIONS



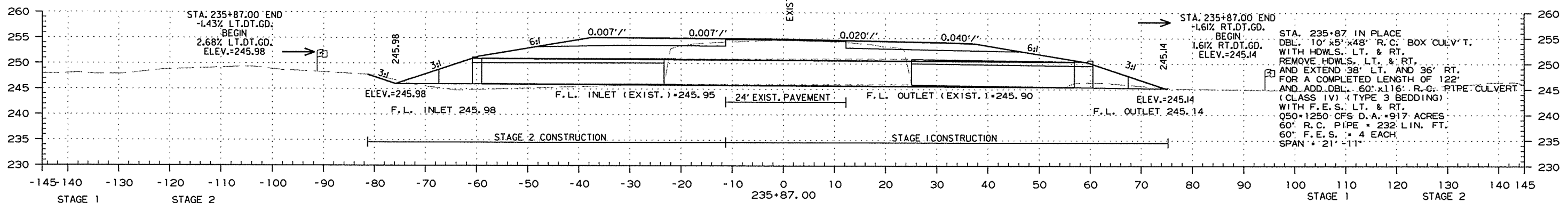
STAGE 1	STAGE 2
AREA CUT 20	AREA CUT 10
AREA FILL 112	AREA FILL 33

STAGE 1	STAGE 2
CUT VOLUME 48	CUT VOLUME 45
FILL VOLUME 603	FILL VOLUME 537



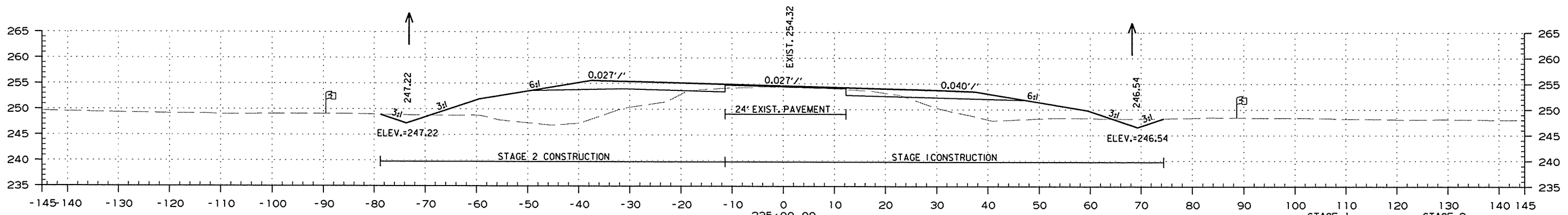
STAGE 1	STAGE 2
AREA CUT 8	AREA CUT 16
AREA FILL 238	AREA FILL 278

STAGE 1	STAGE 2
CUT VOLUME 4	CUT VOLUME 6
FILL VOLUME 118	FILL VOLUME 148



STAGE 1	STAGE 2
AREA CUT 7	AREA CUT 7
AREA FILL 254	AREA FILL 338

STAGE 1	STAGE 2
CUT VOLUME 39	CUT VOLUME 29
FILL VOLUME 570	FILL VOLUME 873



STAGE 1	STAGE 2
AREA CUT 17	AREA CUT 10
AREA FILL 100	AREA FILL 203

STAGE 1	STAGE 2
CUT VOLUME 67	CUT VOLUME 30
FILL VOLUME 289	FILL VOLUME 700

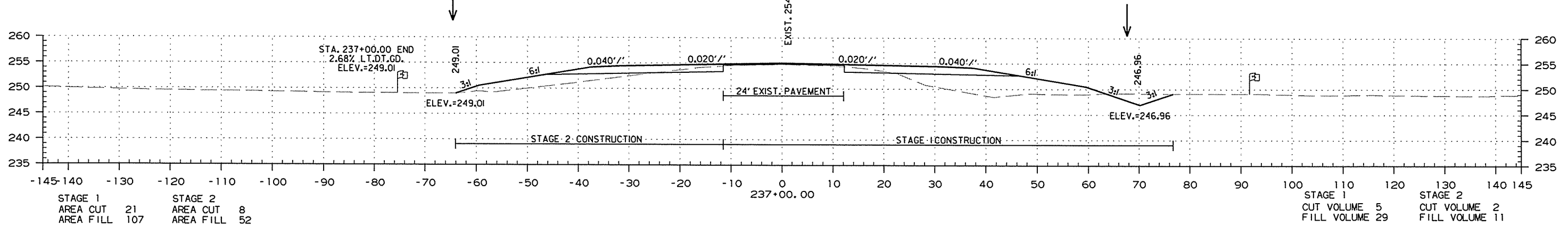
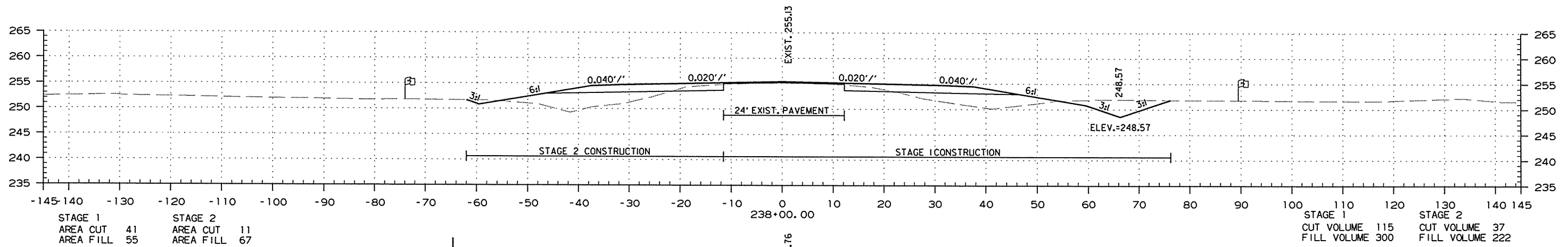
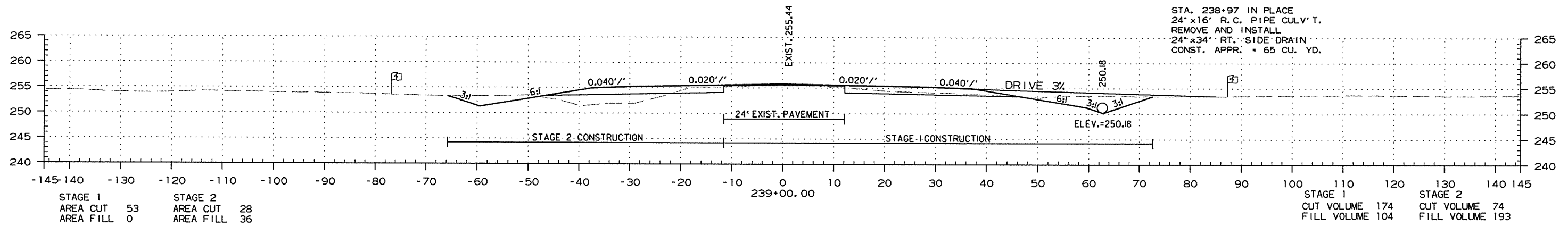
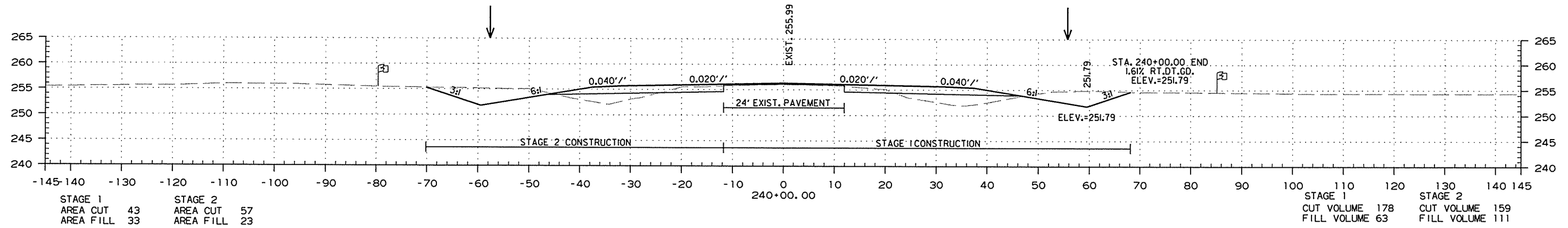
STA. 235+00.00 TO STA. 236+93.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							124	160

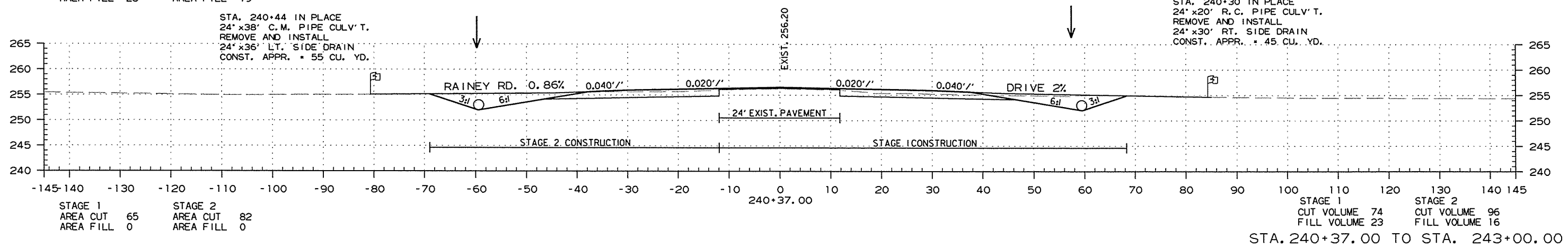
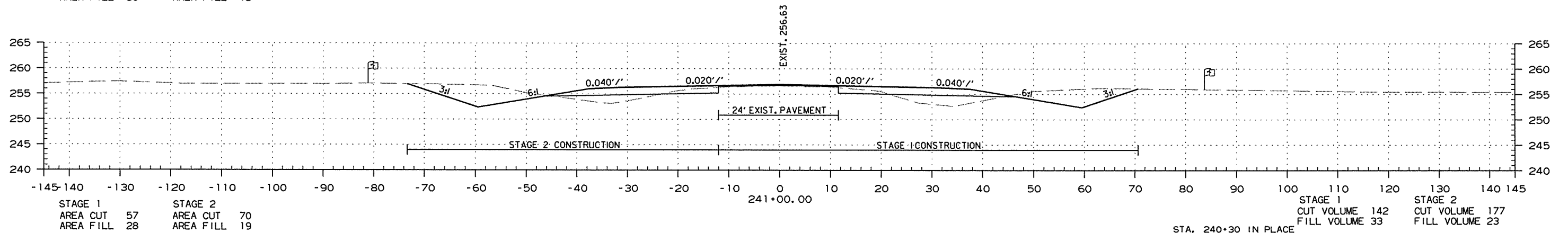
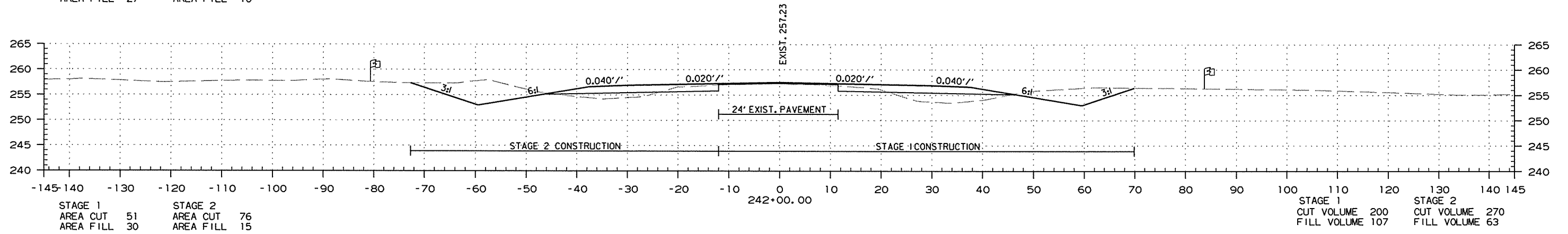
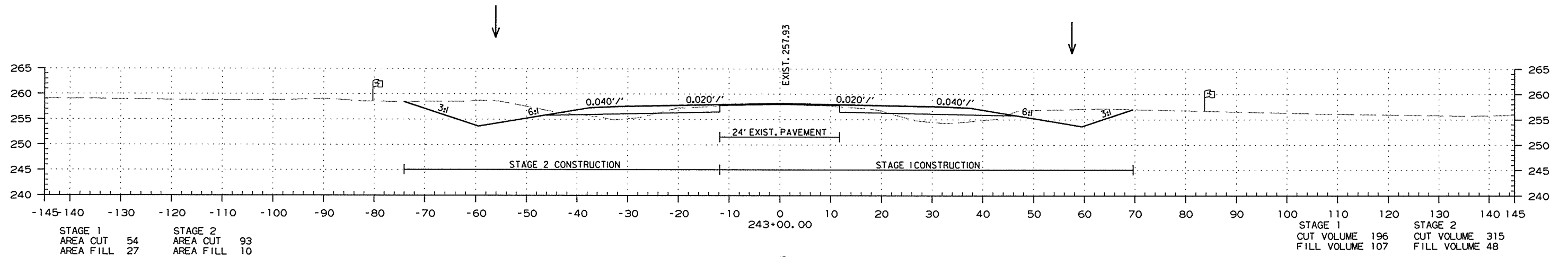
2 CROSS SECTIONS



STA. 237+00.00 TO STA. 240+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.			
JOB NO. 050263							125	160

② CROSS SECTIONS

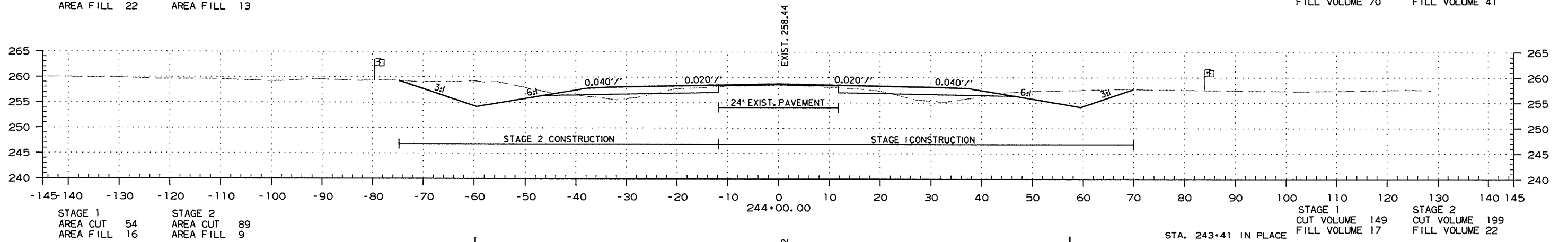
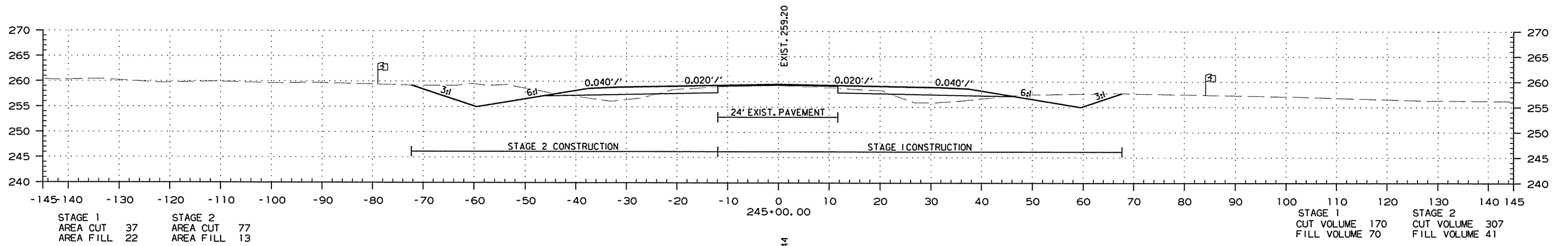
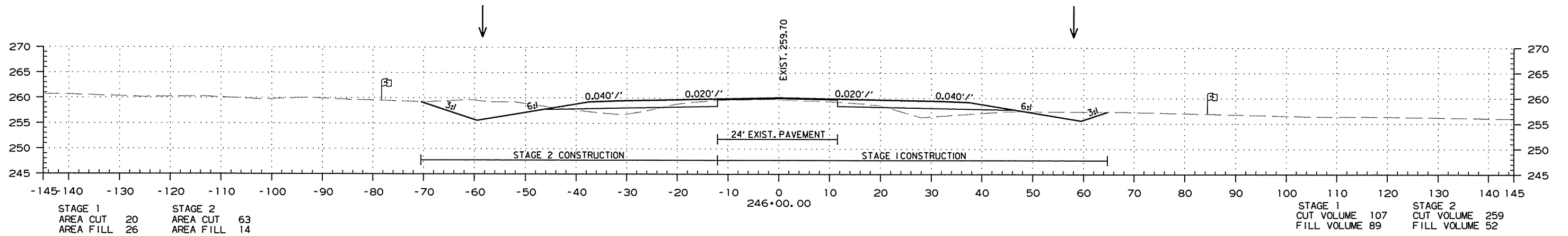


4/28/2016

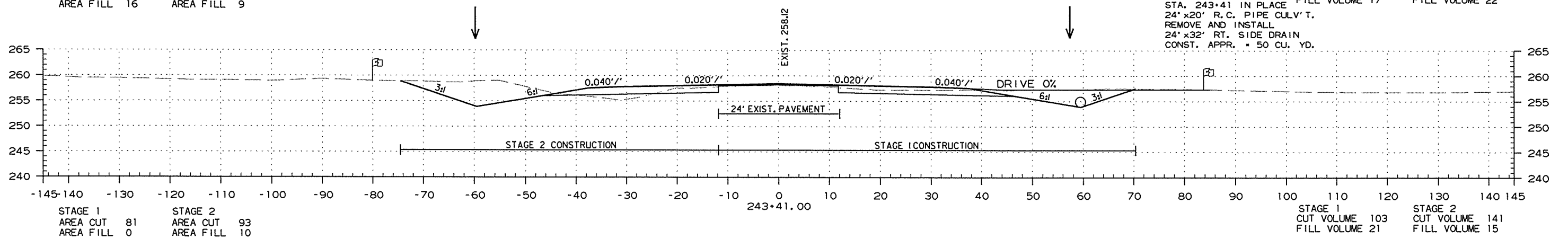
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							126	160

2 CROSS SECTIONS



STA. 243+41 IN PLACE  
24" x 20" R.C. PIPE CULV'T.  
REMOVE AND INSTALL  
24" x 32" RT. SIDE DRAIN  
CONST. APPR. = 50 CU. YD.



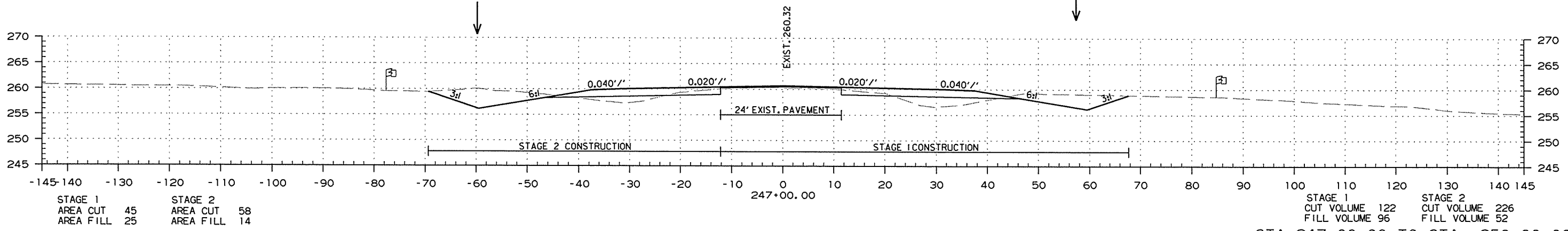
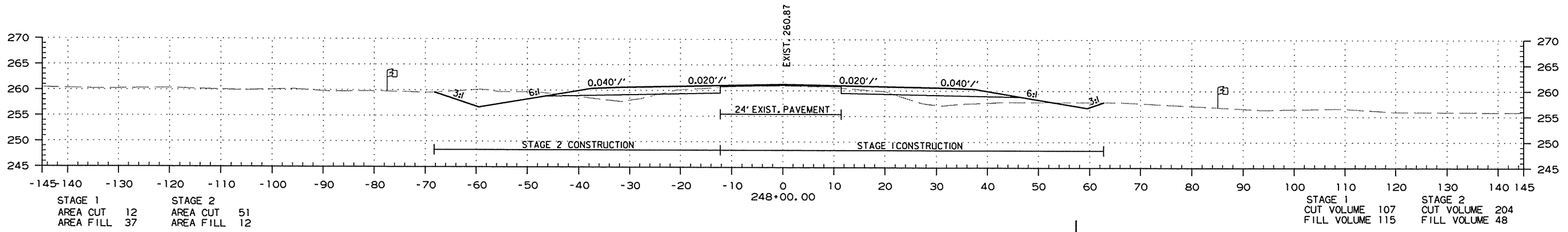
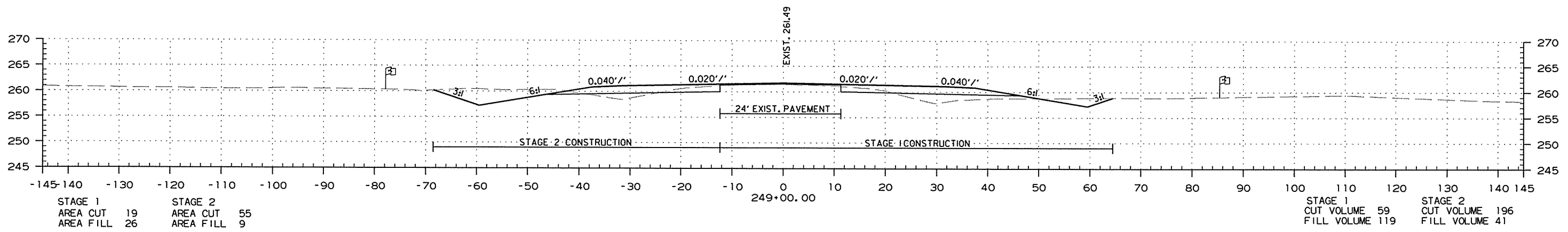
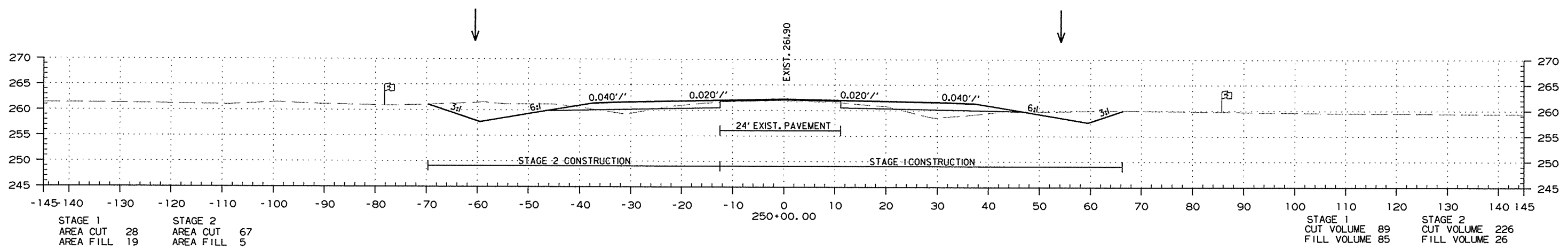
STA. 243+41.00 TO STA. 246+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		127	160

2 CROSS SECTIONS

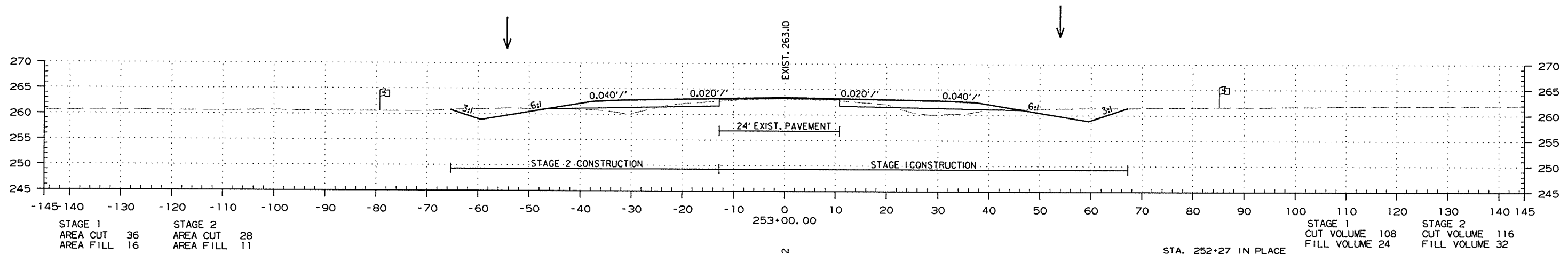


STA. 247+00.00 TO STA. 250+00.00

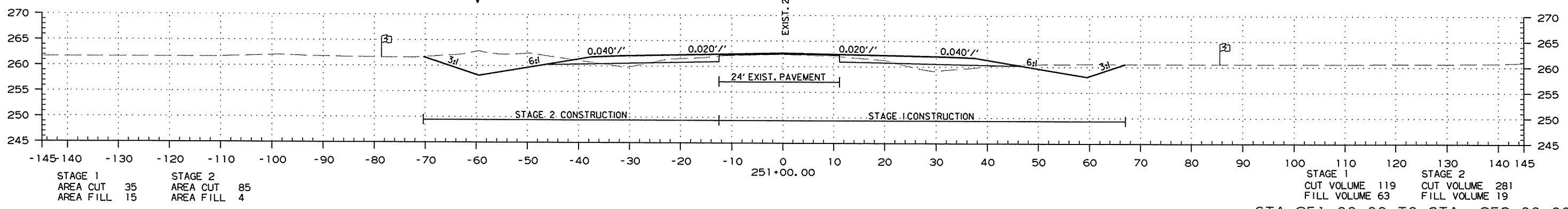
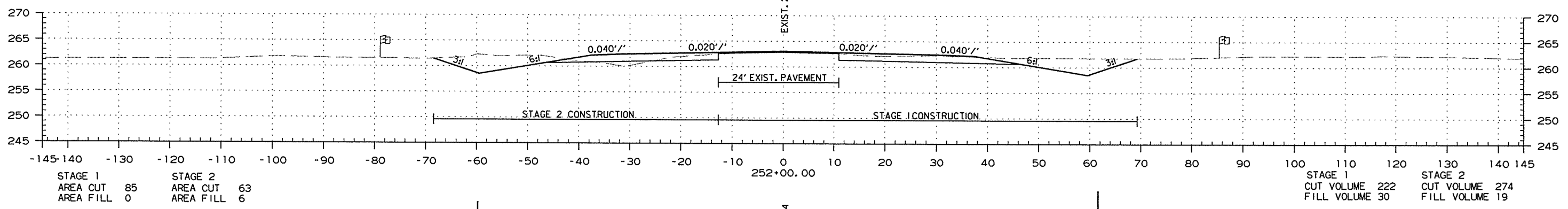
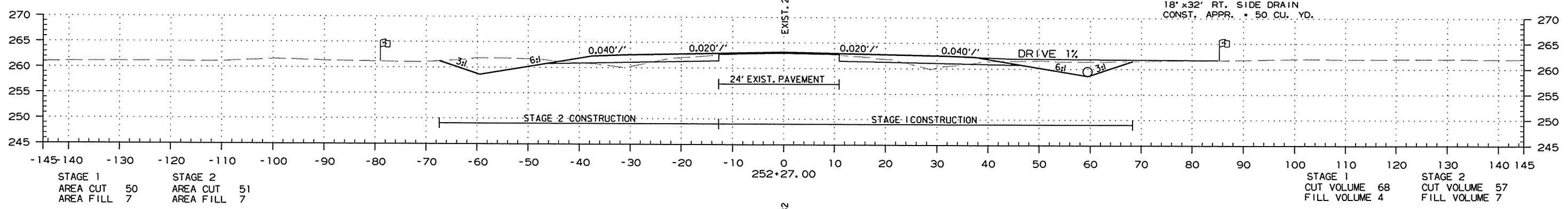
4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		128	160

2 CROSS SECTIONS



STA. 252+27 IN PLACE  
18" x 28' C.M. PIPE CULV'T.  
REMOVE AND INSTALL  
18" x 32' RT. SIDE DRAIN  
CONST. APPR. = 50 CU. YD.



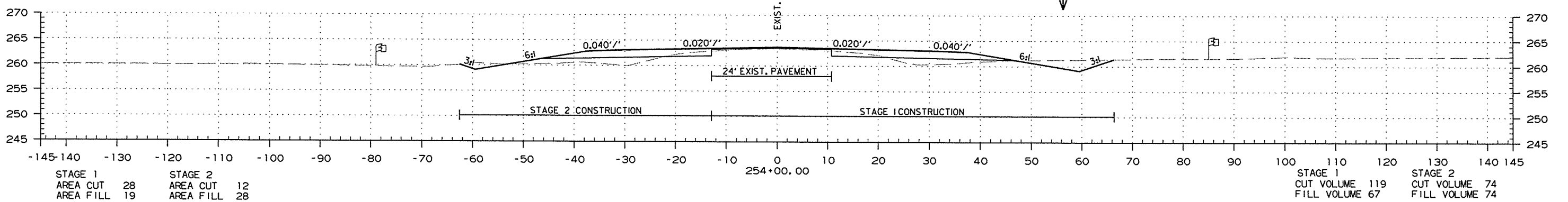
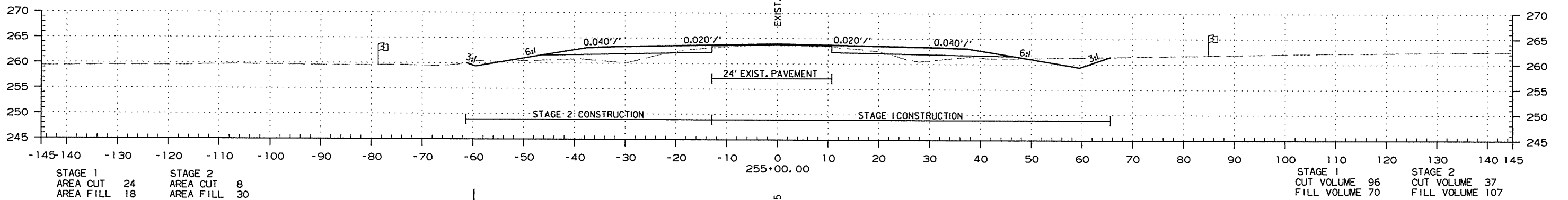
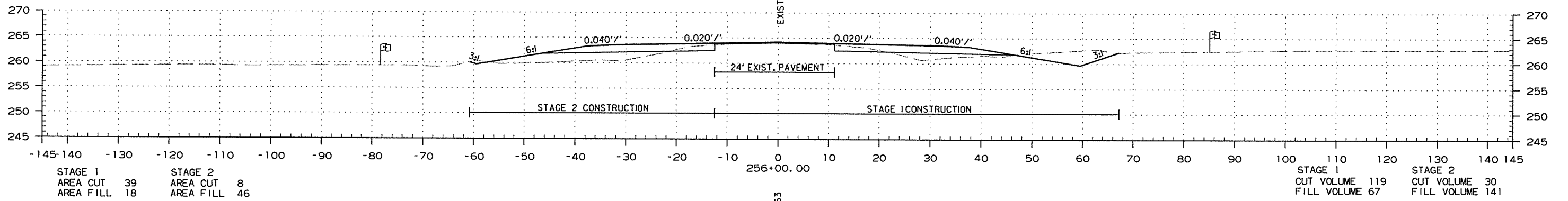
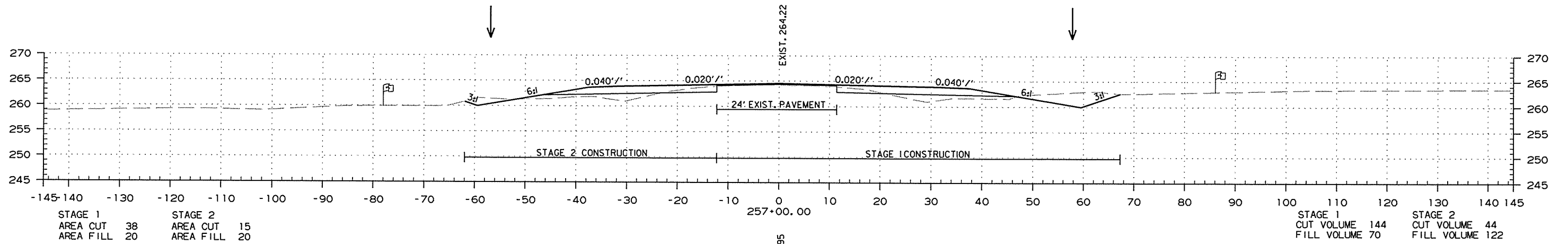
STA. 251+00.00 TO STA. 253+00.00

4/28/2016 R050263.DGN



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							129	160

② CROSS SECTIONS



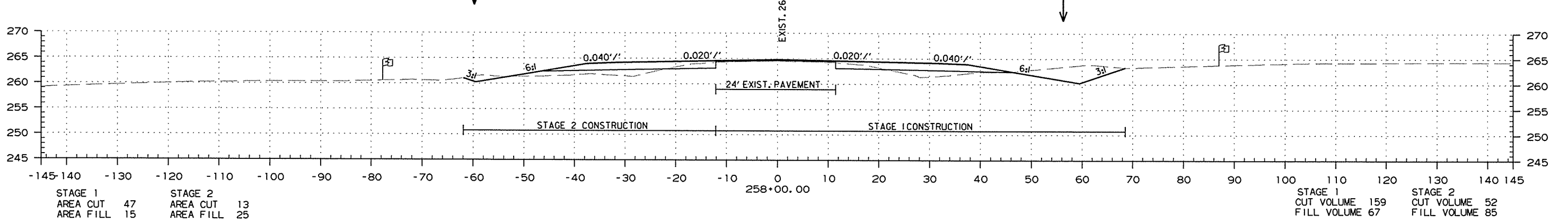
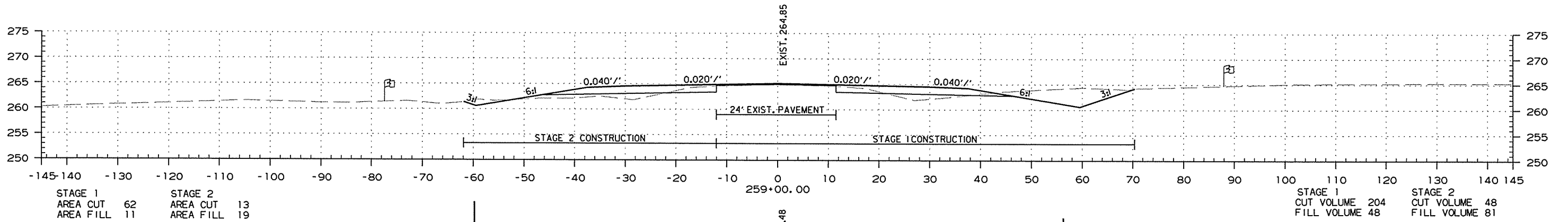
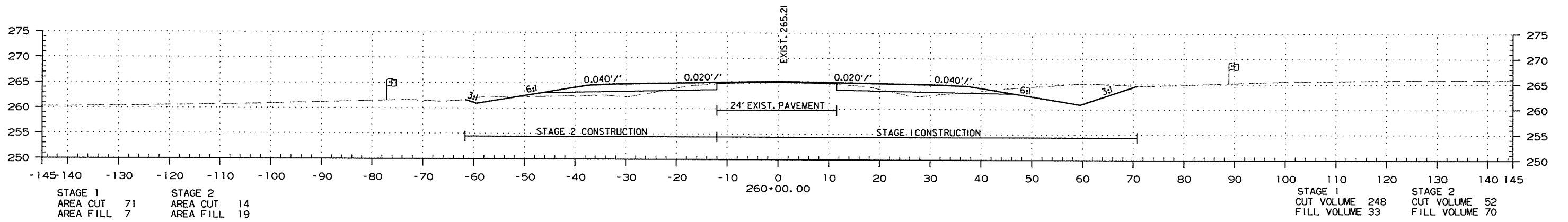
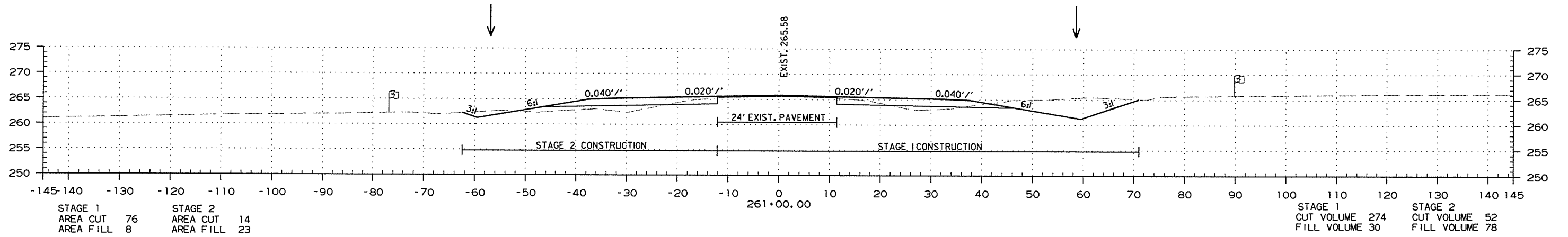
STA. 254+00.00 TO STA. 257+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						050263	130	160

2 CROSS SECTIONS



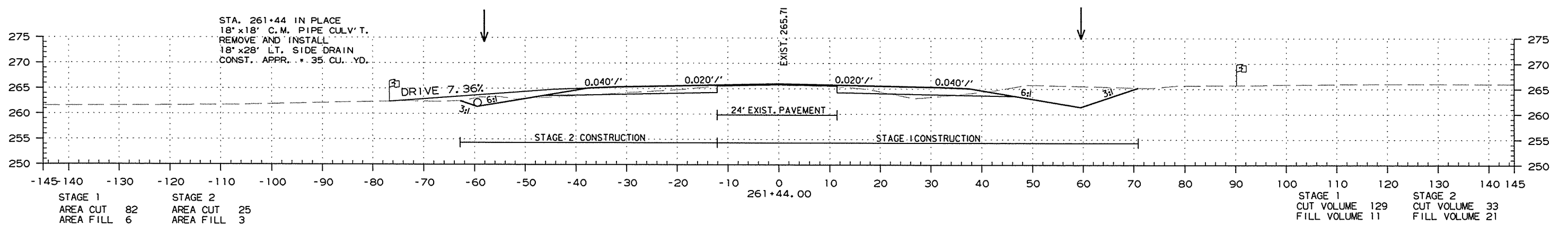
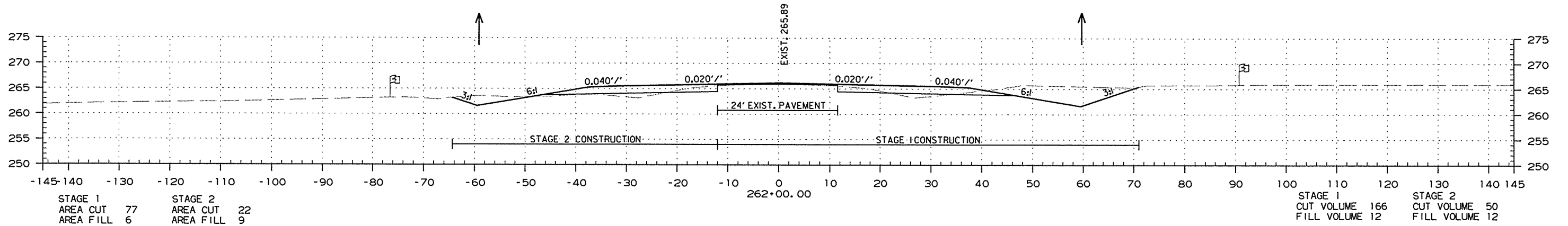
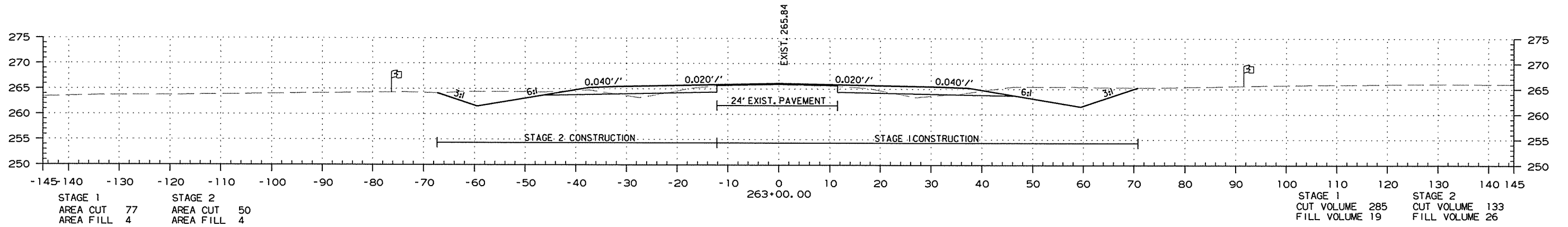
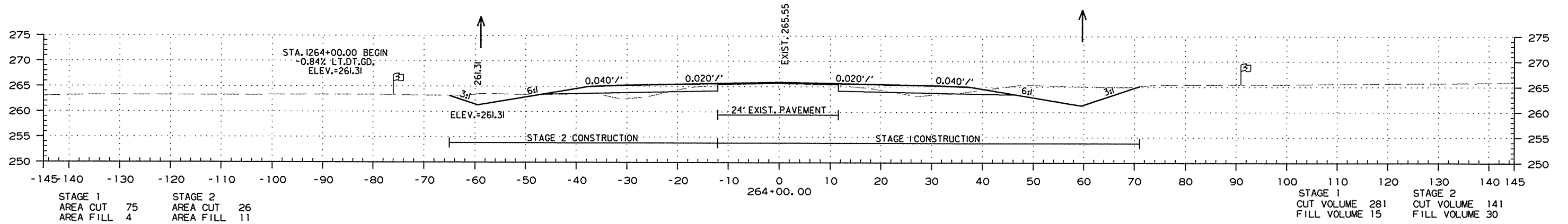
STA. 258+00.00 TO STA. 261+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							131	160

2 CROSS SECTIONS



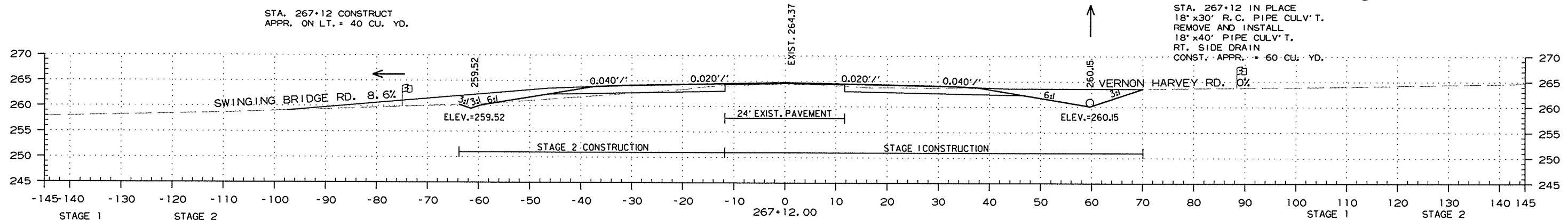
STA. 261+44.00 TO STA. 264+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							132	160

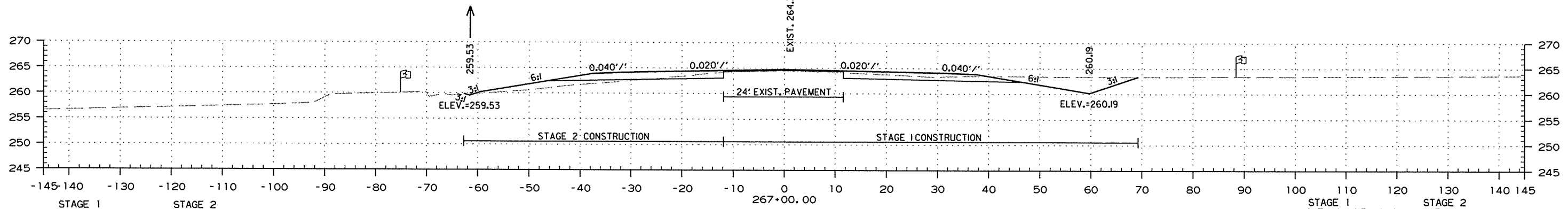
2 CROSS SECTIONS



STA. 267+12 IN PLACE  
18" x 30" R.C. PIPE CULV'T.  
REMOVE AND INSTALL  
18" x 40" PIPE CULV'T.  
RT. SIDE DRAIN  
CONST. APPR. = 60 CU. YD.

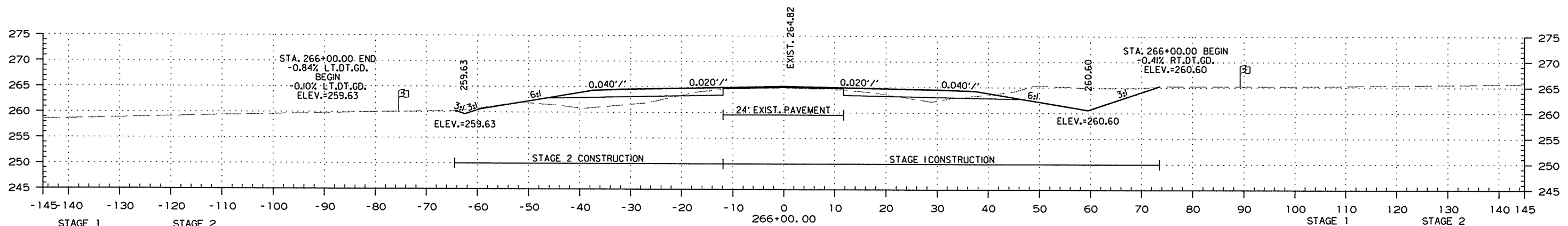
STAGE 1	STAGE 2
AREA CUT 87	AREA CUT 11
AREA FILL 0	AREA FILL 15

STAGE 1	STAGE 2
CUT VOLUME 36	CUT VOLUME 4
FILL VOLUME 0	FILL VOLUME 9



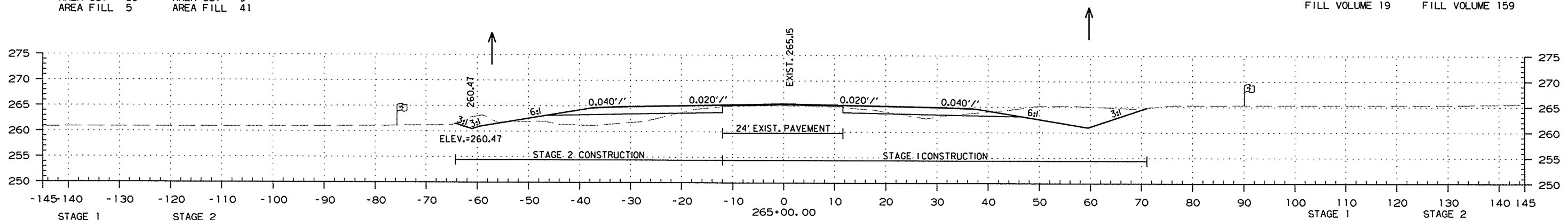
STAGE 1	STAGE 2
AREA CUT 74	AREA CUT 8
AREA FILL 0	AREA FILL 24

STAGE 1	STAGE 2
CUT VOLUME 304	CUT VOLUME 33
FILL VOLUME 11	FILL VOLUME 122



STAGE 1	STAGE 2
AREA CUT 89	AREA CUT 9
AREA FILL 5	AREA FILL 41

STAGE 1	STAGE 2
CUT VOLUME 311	CUT VOLUME 52
FILL VOLUME 19	FILL VOLUME 159



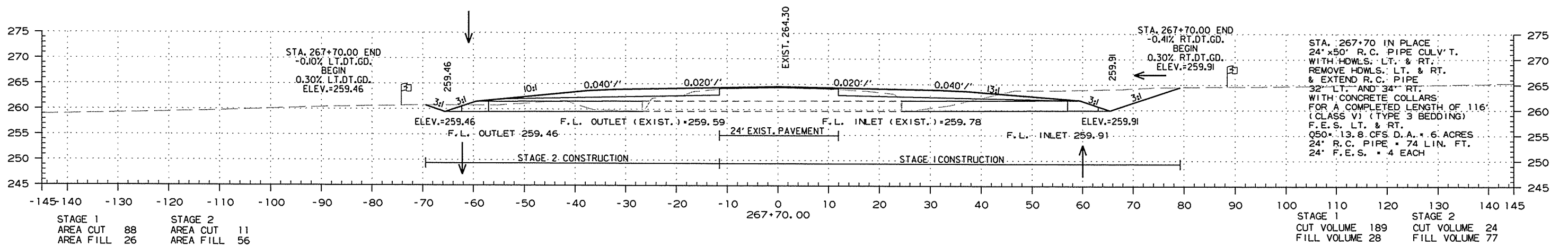
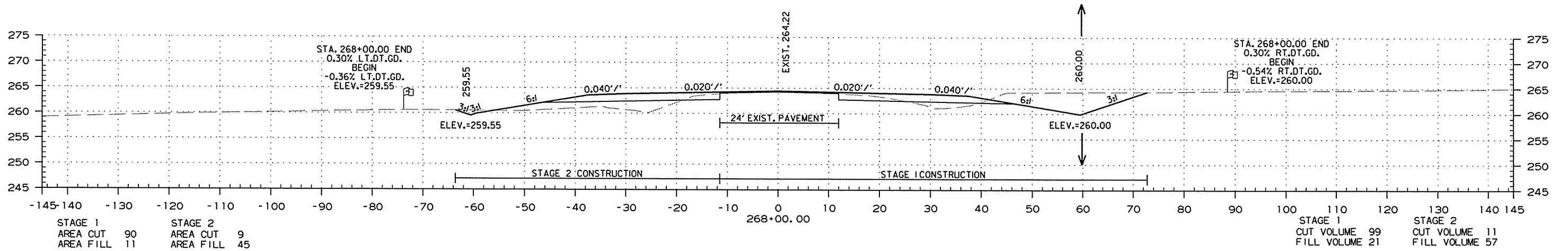
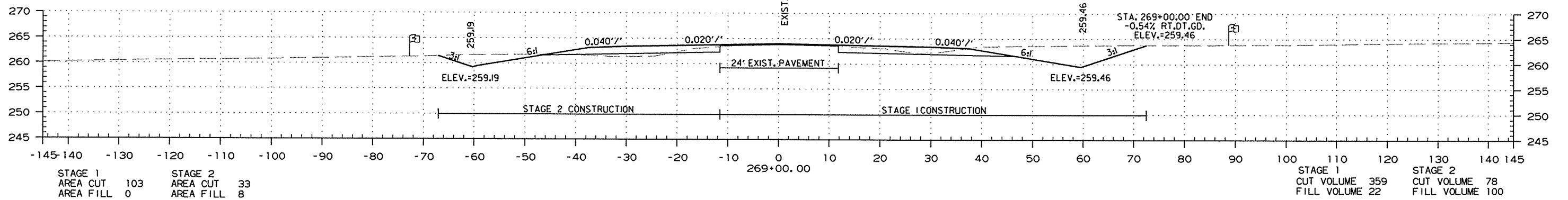
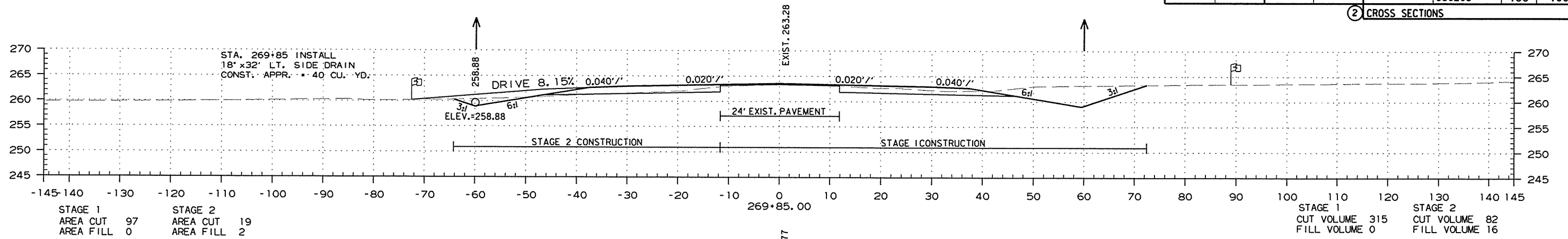
STAGE 1	STAGE 2
AREA CUT 79	AREA CUT 18
AREA FILL 4	AREA FILL 45

STAGE 1	STAGE 2
CUT VOLUME 285	CUT VOLUME 81
FILL VOLUME 15	FILL VOLUME 104

STA. 265+00.00 TO STA. 267+12.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							133	160

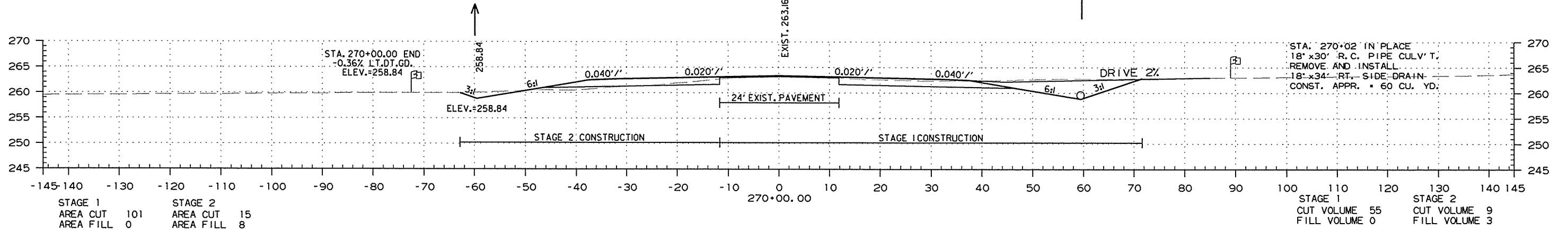
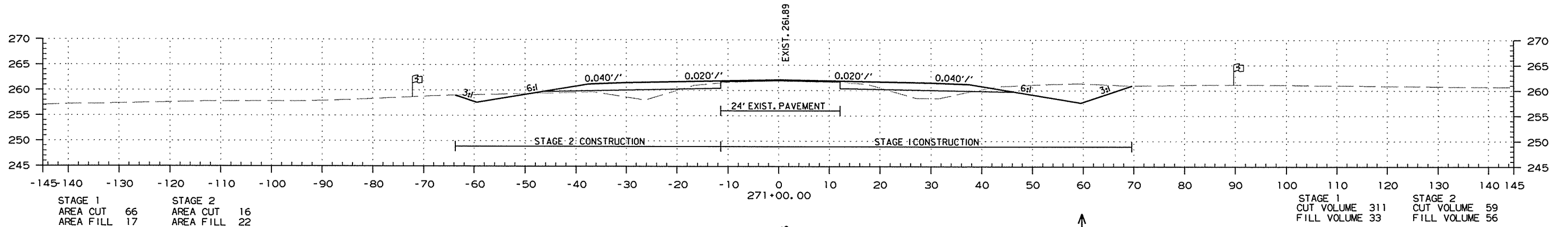
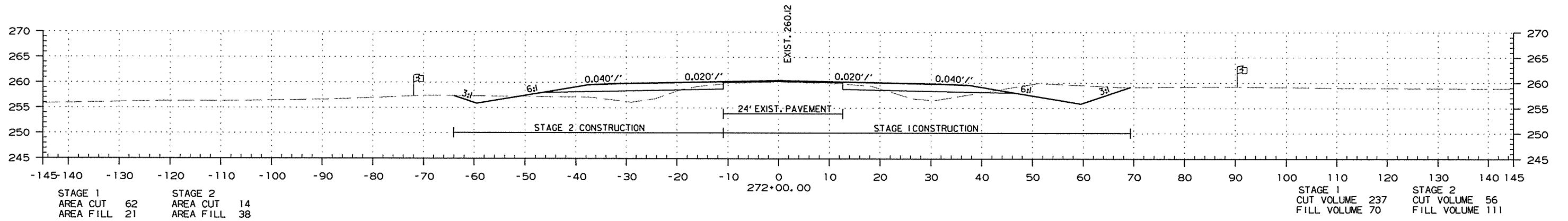
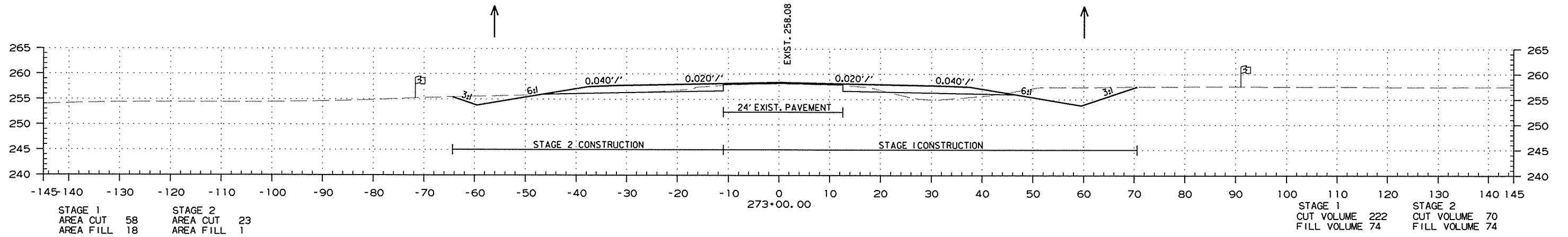
2 CROSS SECTIONS



STA. 267+70.00 TO STA. 269+85.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							134	160

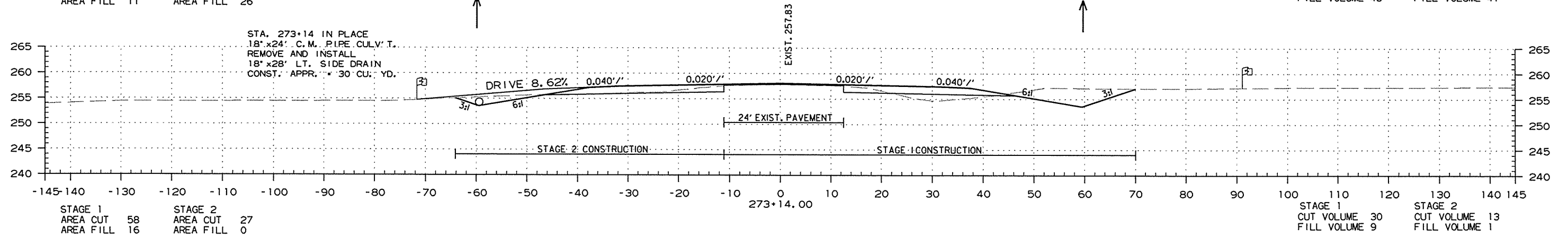
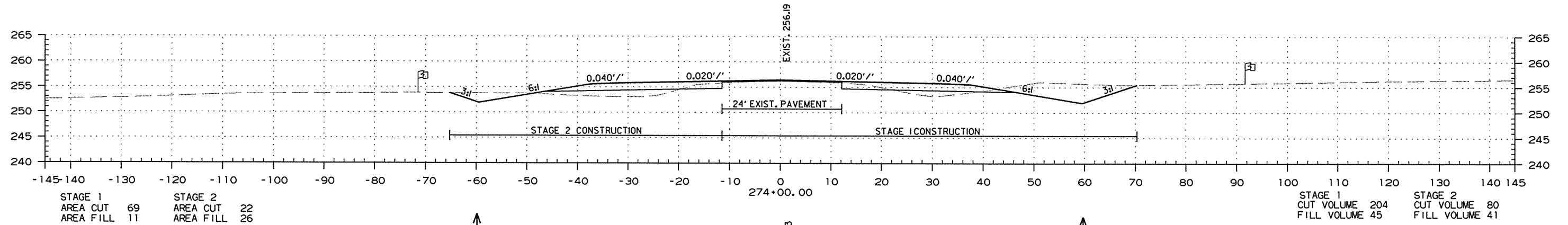
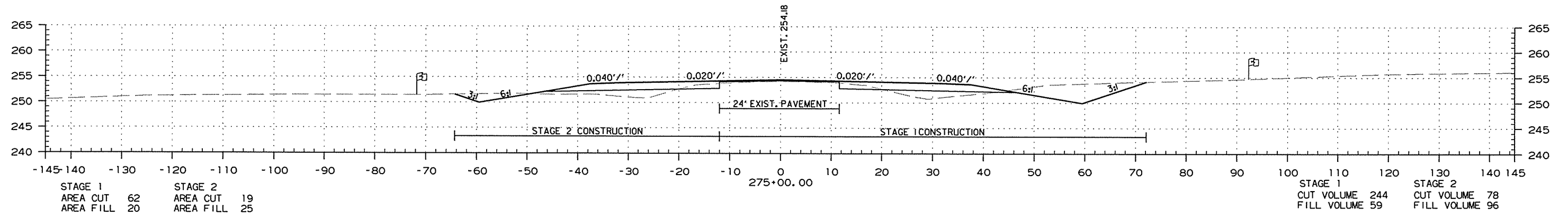
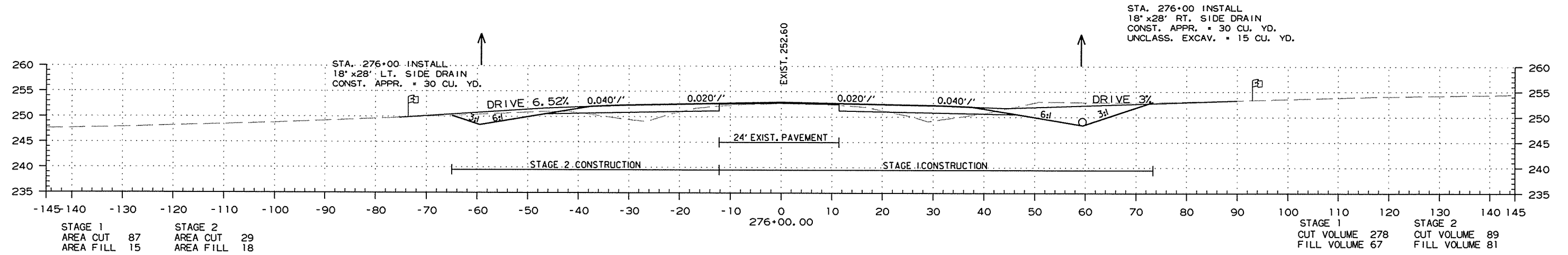
2 CROSS SECTIONS



STA. 270+00.00 TO STA. 273+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.			
JOB NO. 050263							135	160

② CROSS SECTIONS



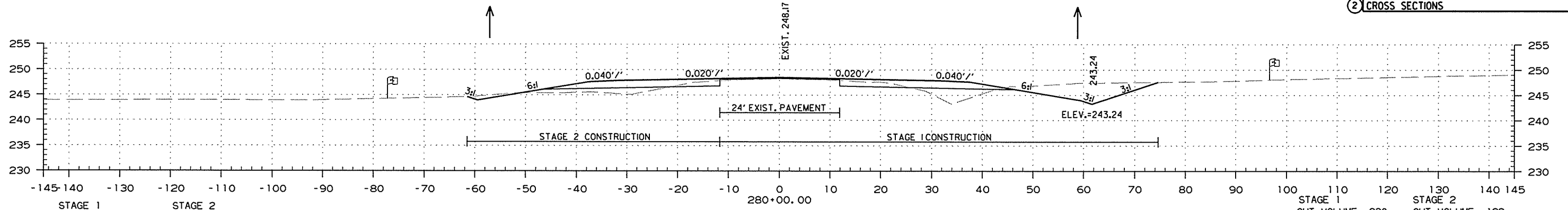
STA. 273+14.00 TO STA. 276+00.00

4/28/2016

R050263.DGN

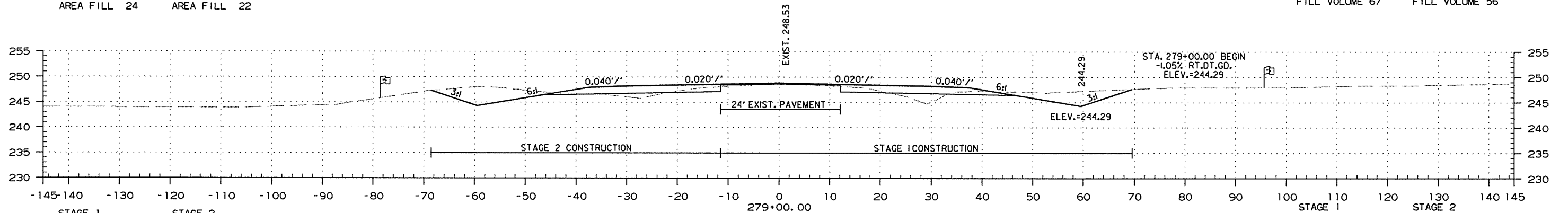
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							136	160

2 CROSS SECTIONS



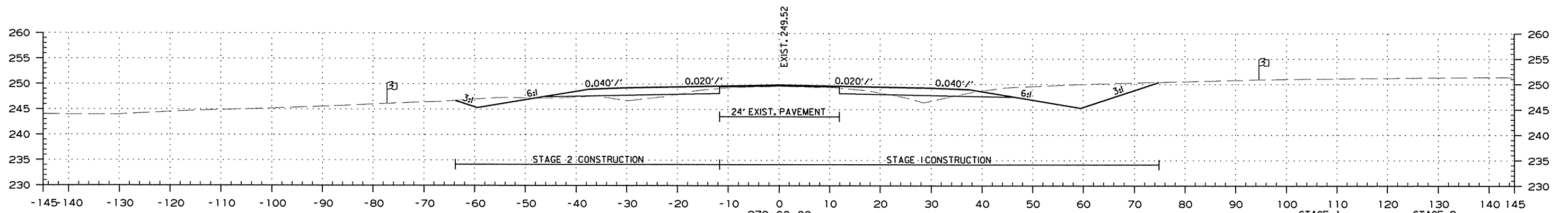
STAGE 1	STAGE 2
AREA CUT 73	AREA CUT 11
AREA FILL 24	AREA FILL 22

STAGE 1	STAGE 2
CUT VOLUME 230	CUT VOLUME 122
FILL VOLUME 67	FILL VOLUME 56



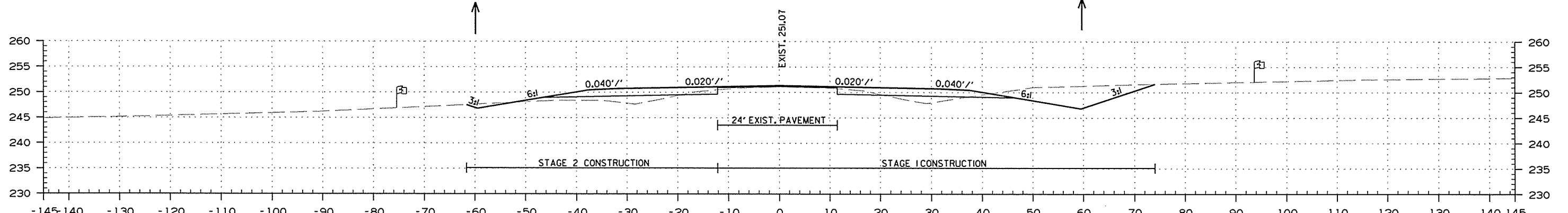
STAGE 1	STAGE 2
AREA CUT 51	AREA CUT 54
AREA FILL 11	AREA FILL 7

STAGE 1	STAGE 2
CUT VOLUME 281	CUT VOLUME 137
FILL VOLUME 37	FILL VOLUME 37



STAGE 1	STAGE 2
AREA CUT 100	AREA CUT 20
AREA FILL 9	AREA FILL 12

STAGE 1	STAGE 2
CUT VOLUME 348	CUT VOLUME 52
FILL VOLUME 41	FILL VOLUME 70



STAGE 1	STAGE 2
AREA CUT 87	AREA CUT 8
AREA FILL 13	AREA FILL 26

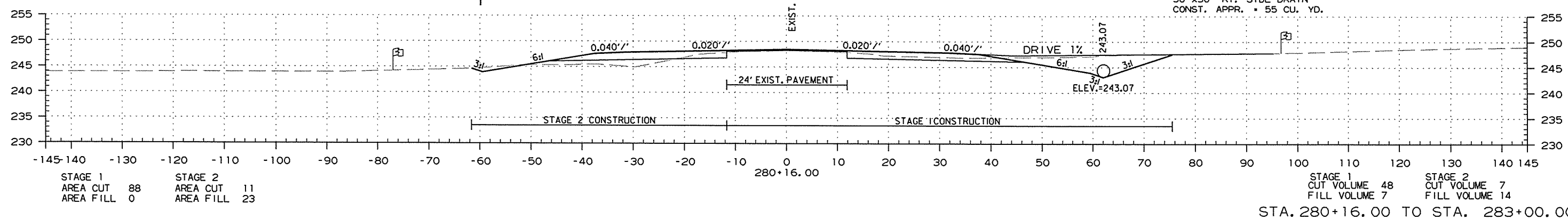
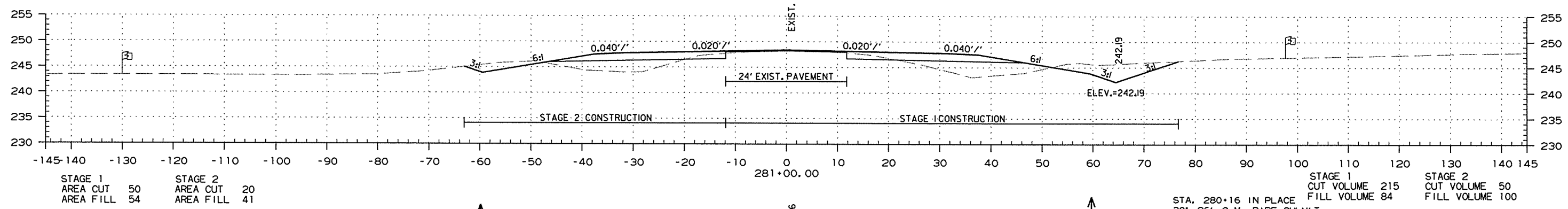
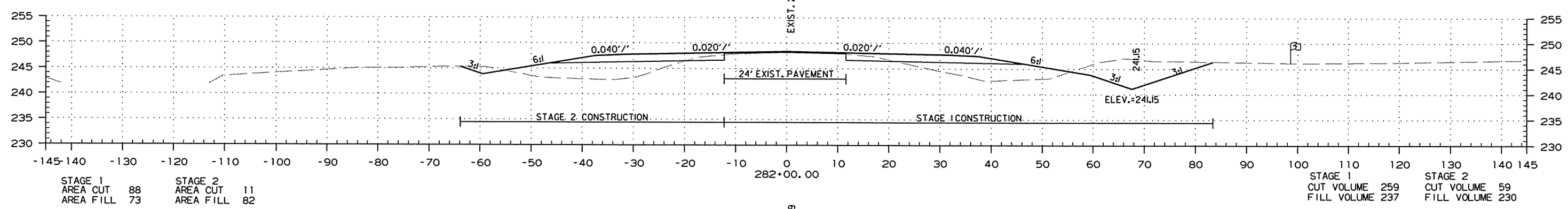
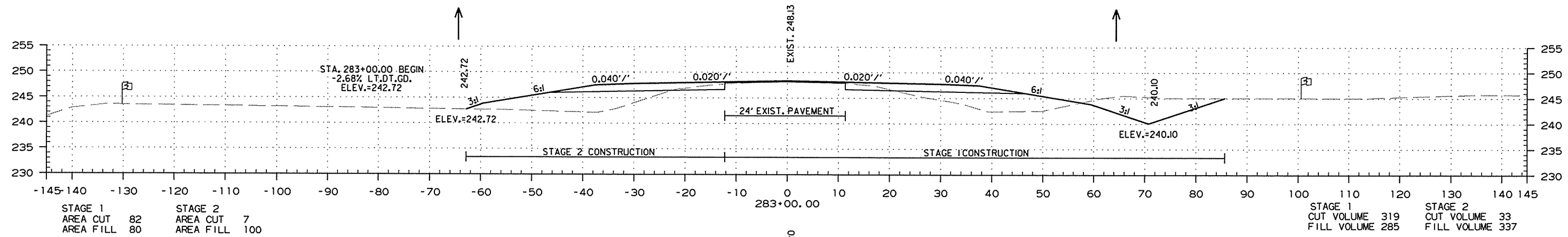
STAGE 1	STAGE 2
CUT VOLUME 322	CUT VOLUME 70
FILL VOLUME 52	FILL VOLUME 81

STA. 277+00.00 TO STA. 280+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.			
JOB NO. 050263							137	160

2 CROSS SECTIONS

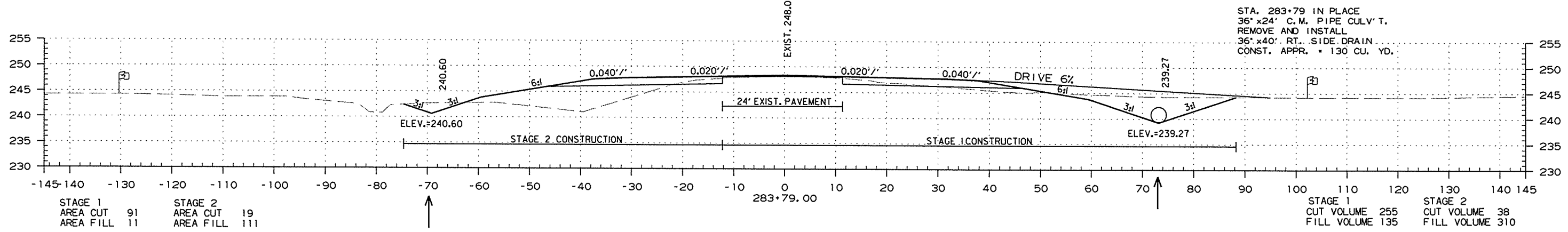
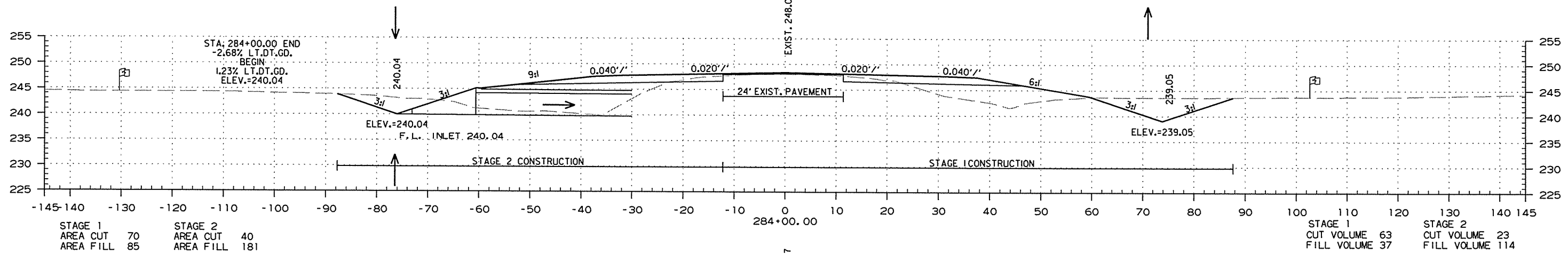
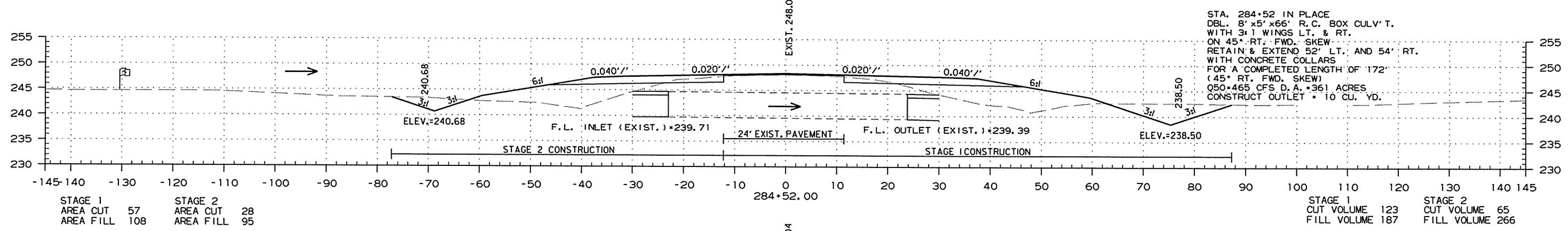
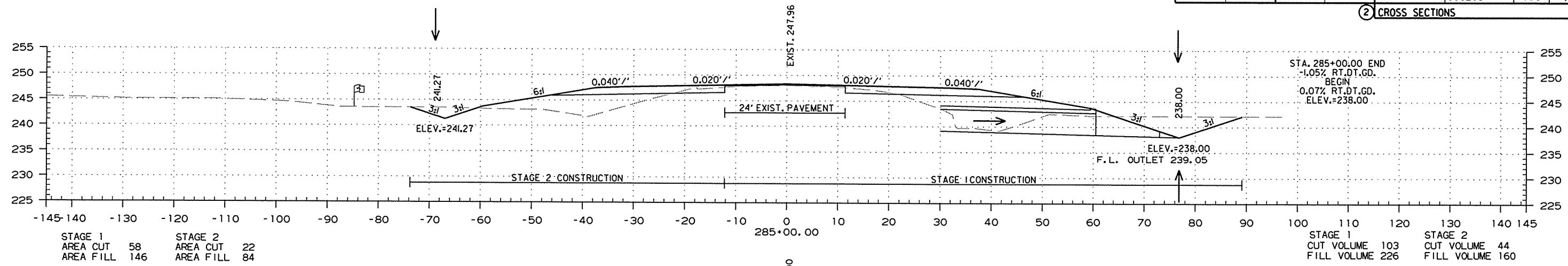


STA. 280+16.00 TO STA. 283+00.00

R050263.DGN 4/28/2016

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. 050263							138	160

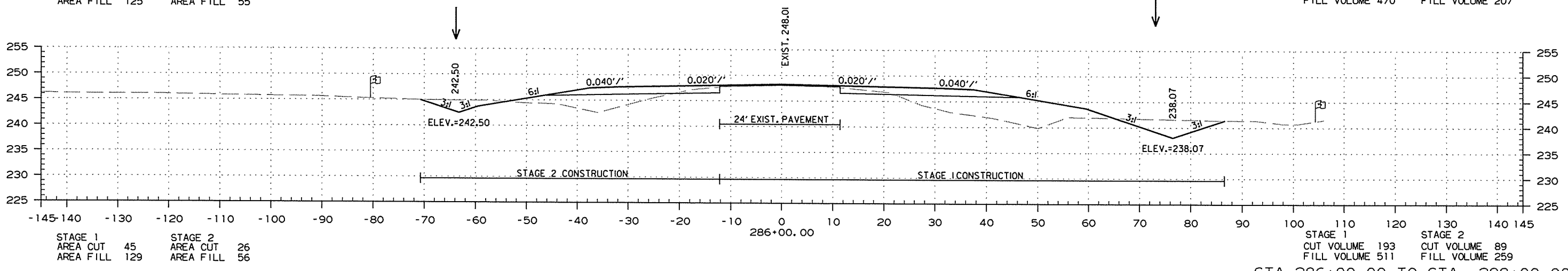
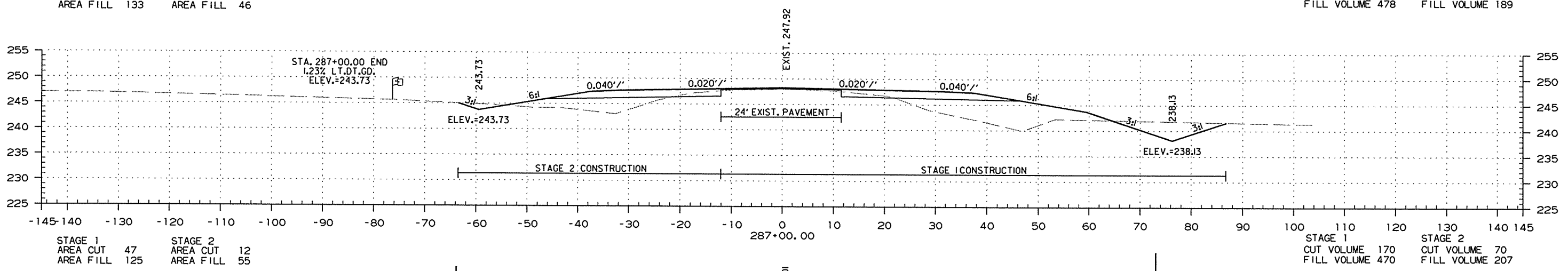
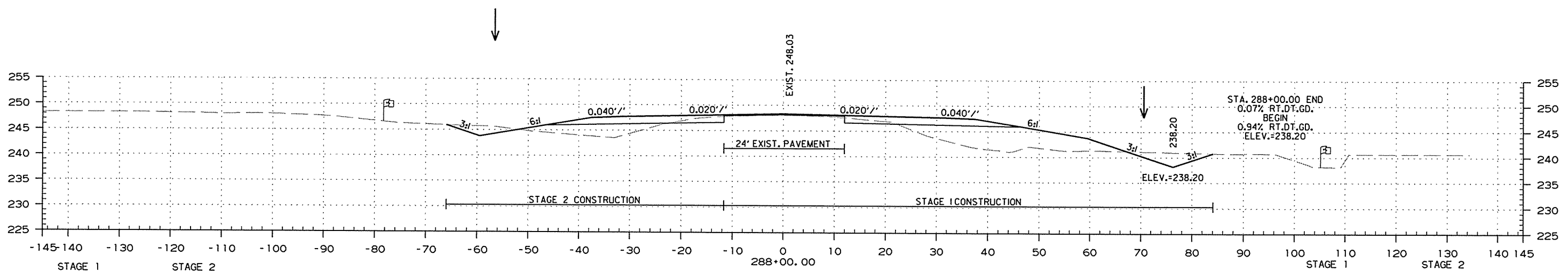
2 CROSS SECTIONS



STA. 283+79.00 TO STA. 285+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.			
				JOB NO.	050263		139	160

2 CROSS SECTIONS

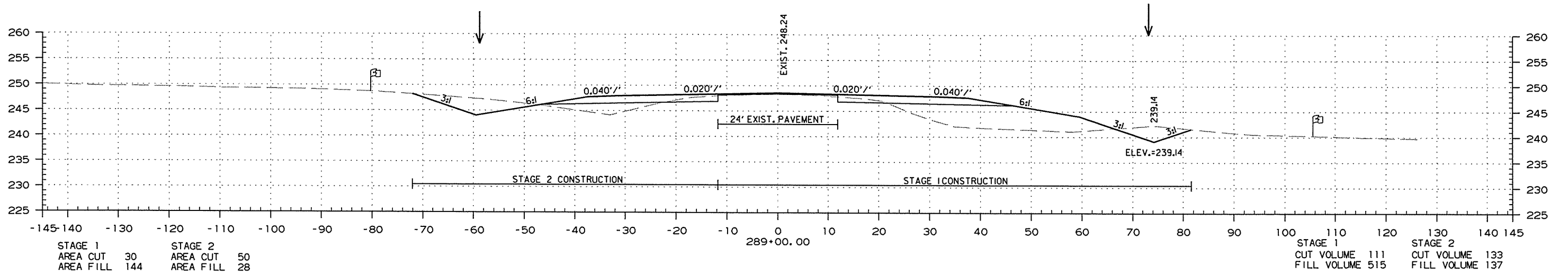
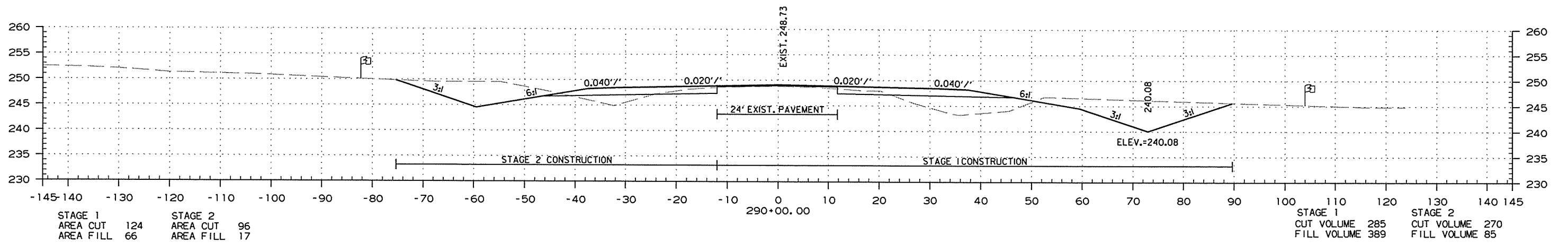
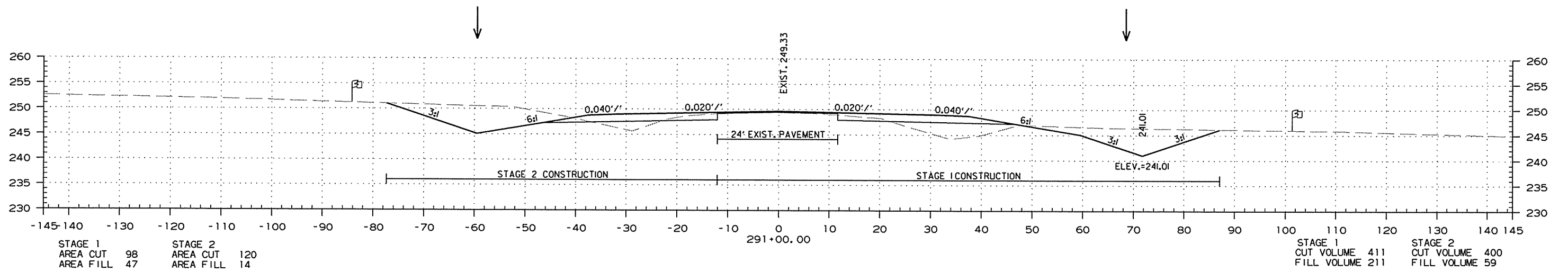


STA. 286+00.00 TO STA. 288+00.00

4/28/2016 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							140	160

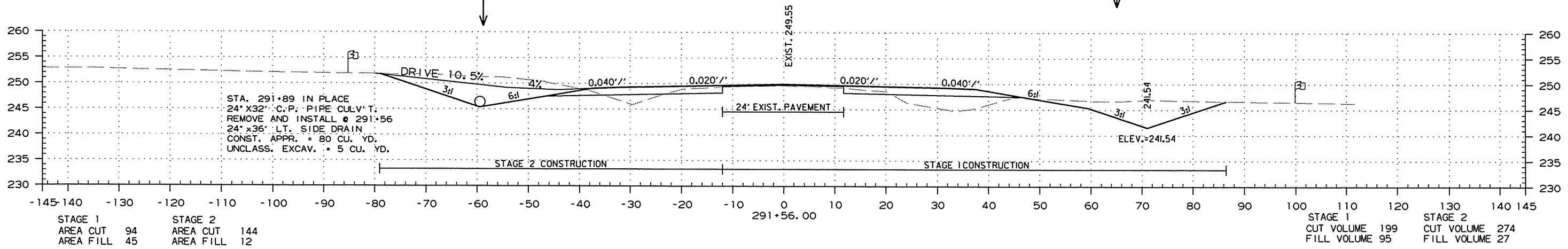
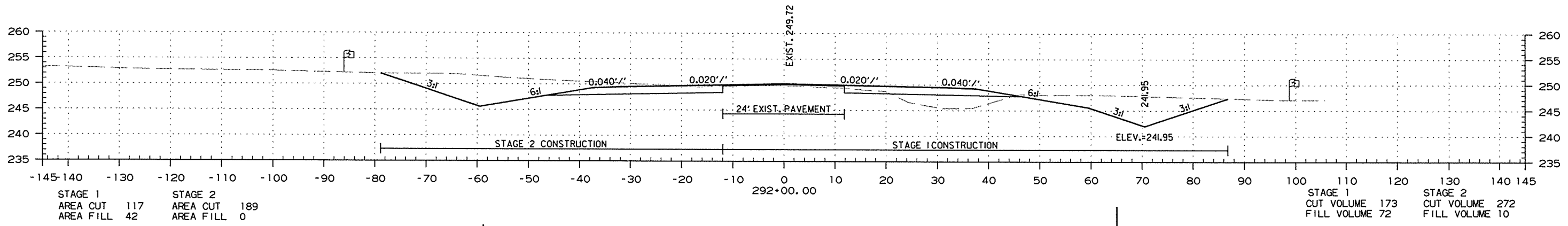
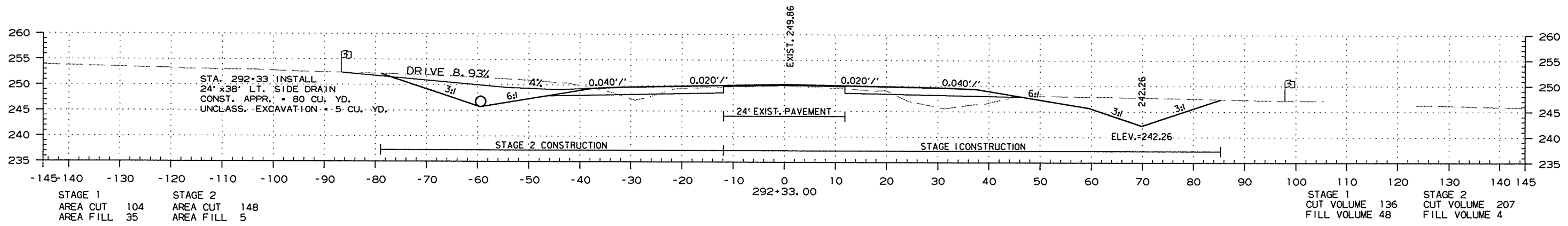
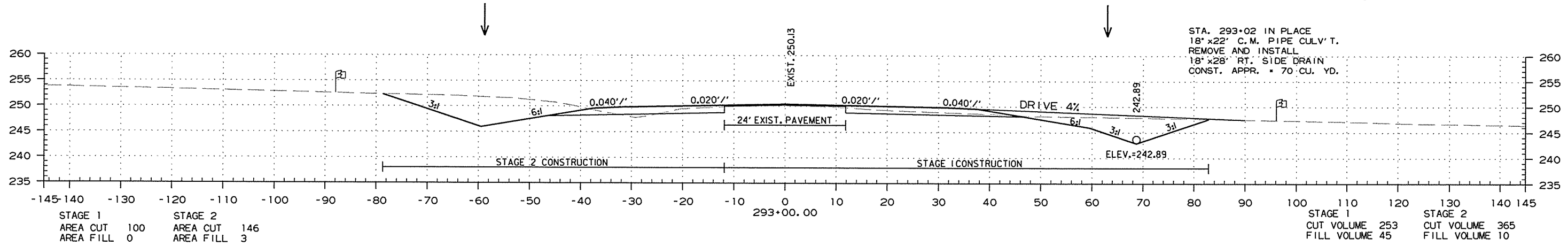
2 CROSS SECTIONS



STA. 289+00.00 TO STA. 291+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.			
						JOB NO. 050263	141	160

2 CROSS SECTIONS

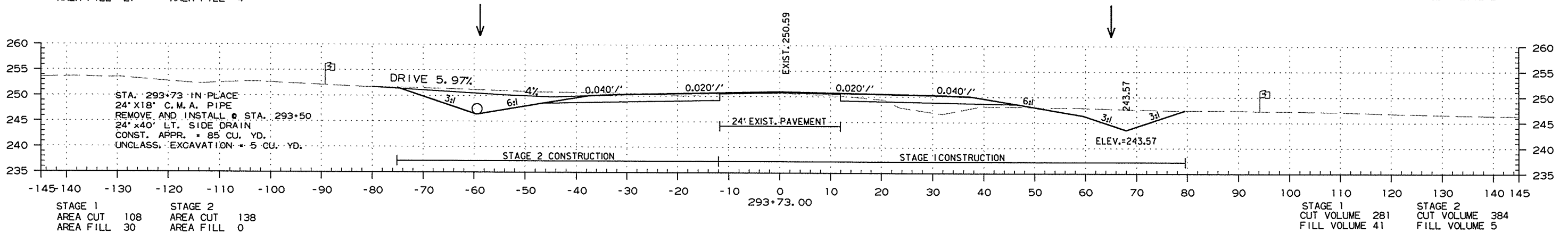
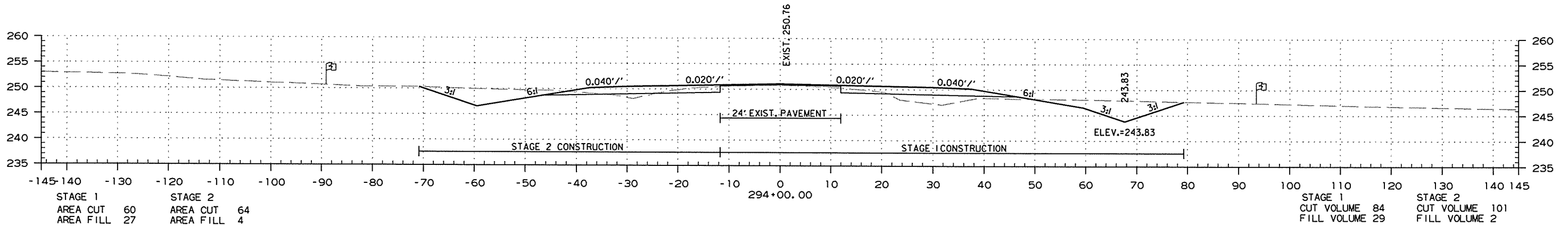
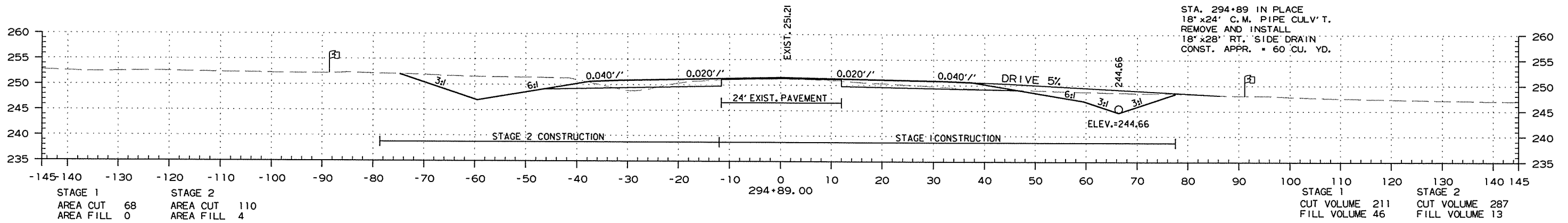
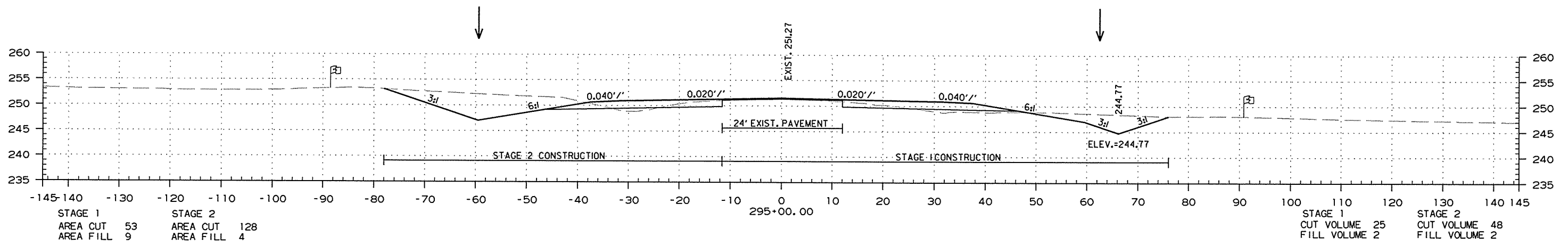


STA. 291+56.00 TO STA. 293+00.00

4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		142	160

2 CROSS SECTIONS



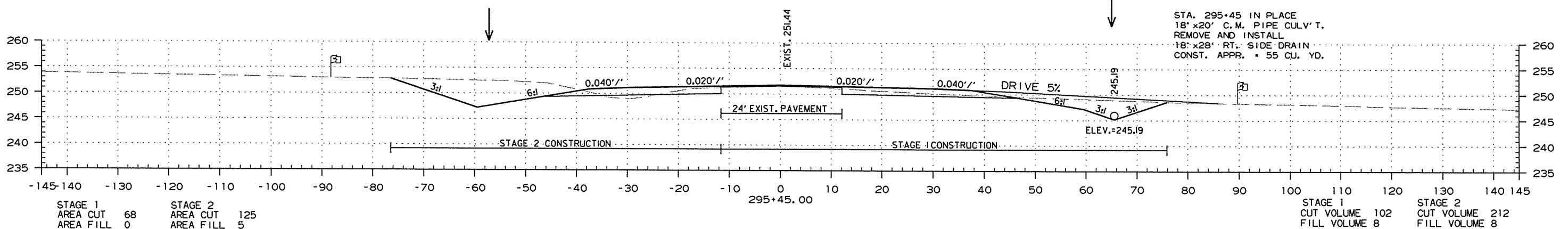
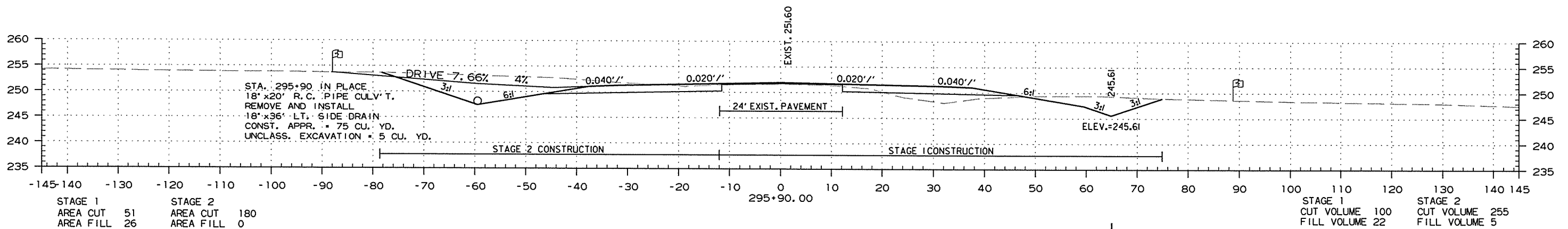
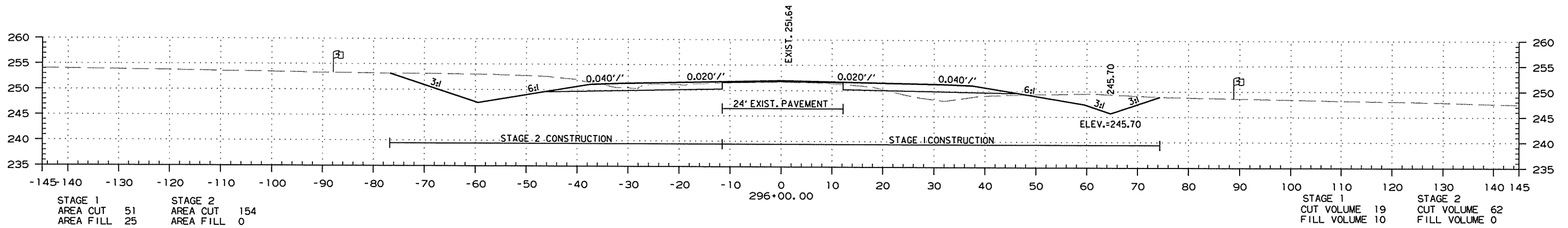
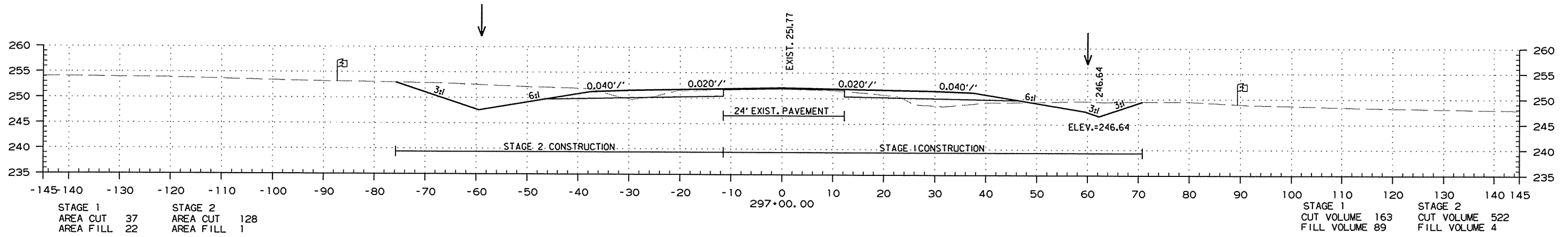
STA. 293+73.00 TO STA. 295+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		143	160

2 CROSS SECTIONS



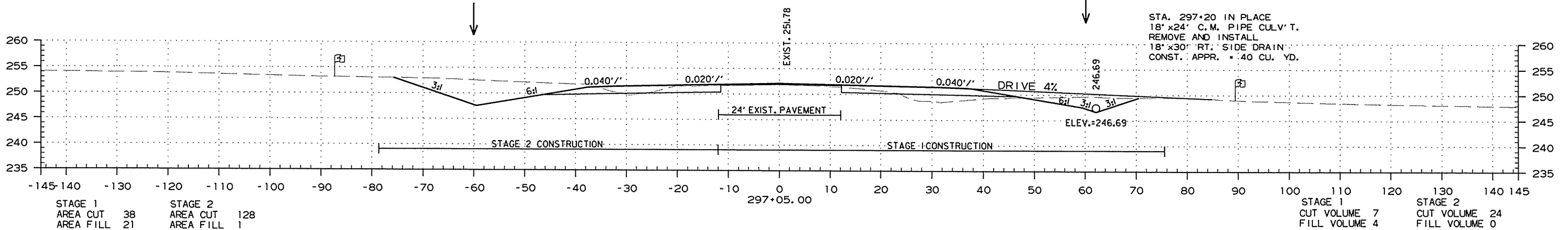
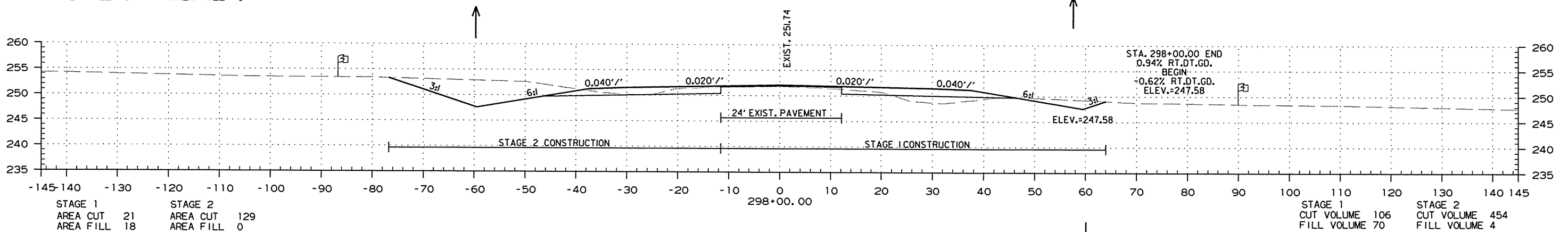
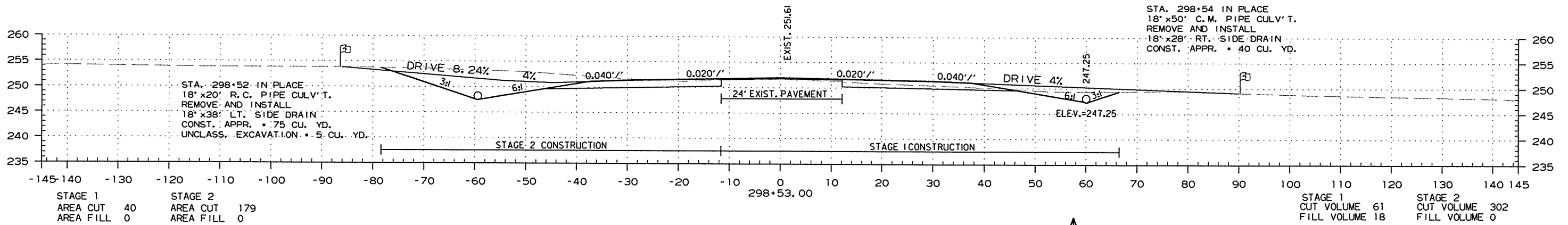
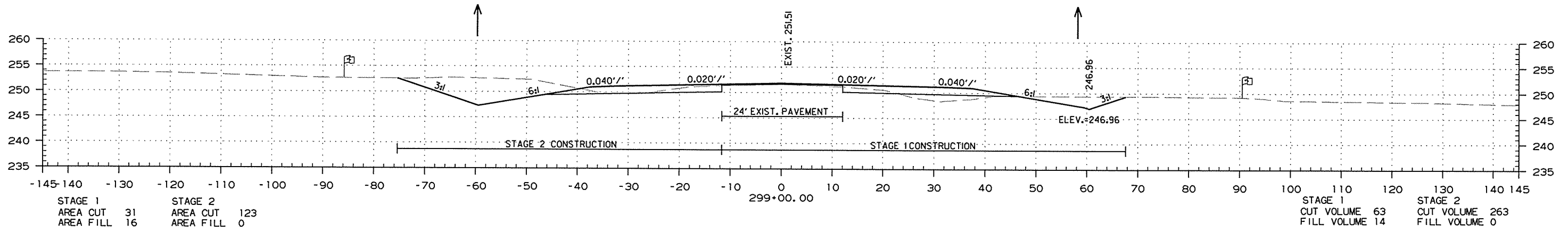
STA. 295+45.00 TO STA. 297+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		144	160

2 CROSS SECTIONS



STA. 297+05.00 TO STA. 299+00.00

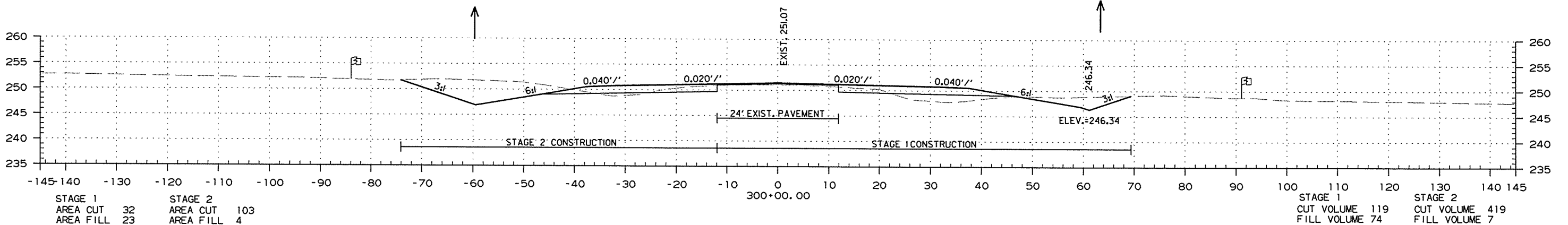
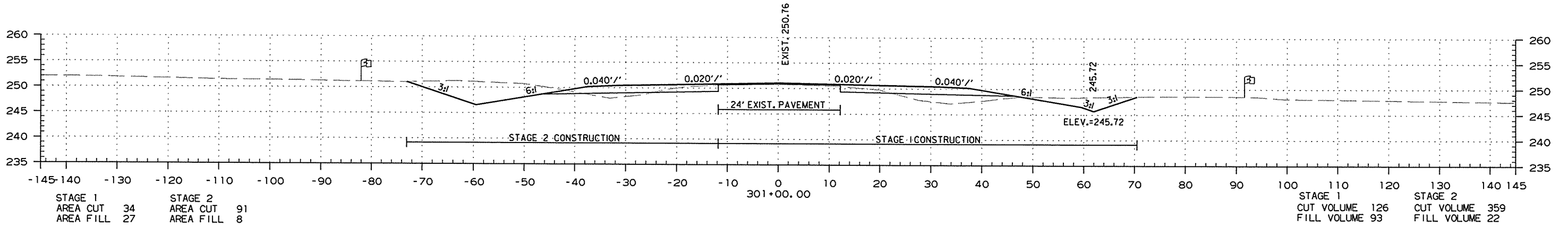
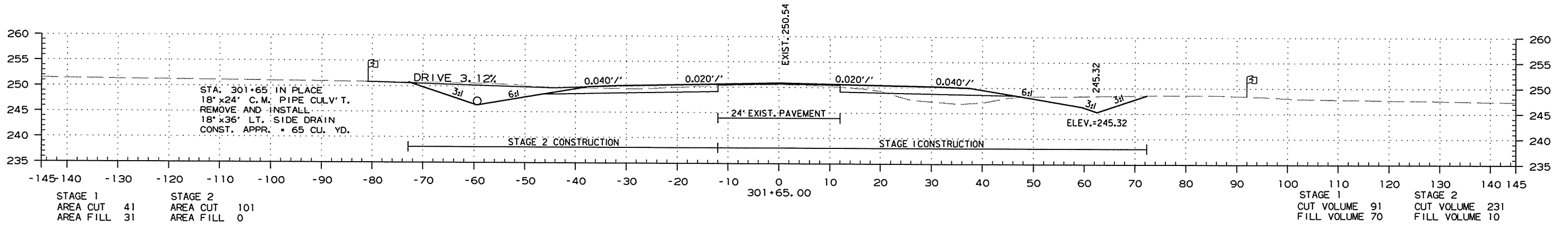
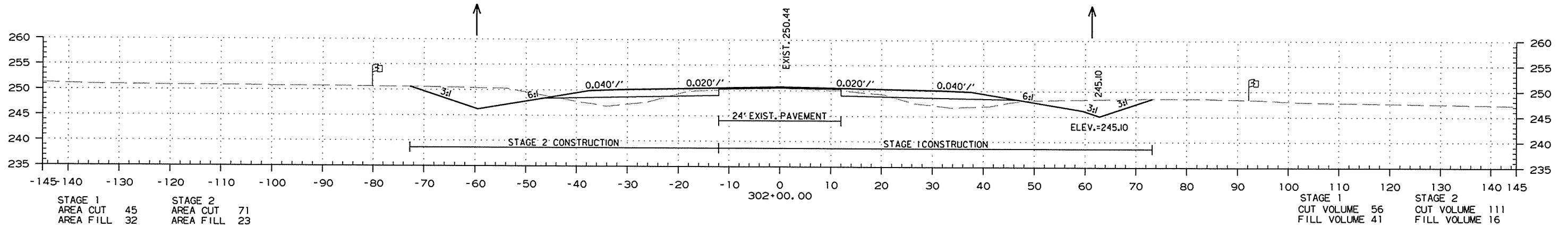
4/28/2016

R050263.DGN



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		145	160

2 CROSS SECTIONS



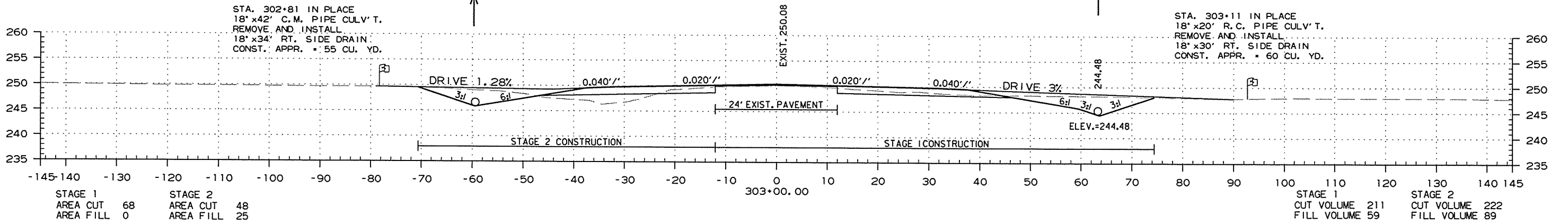
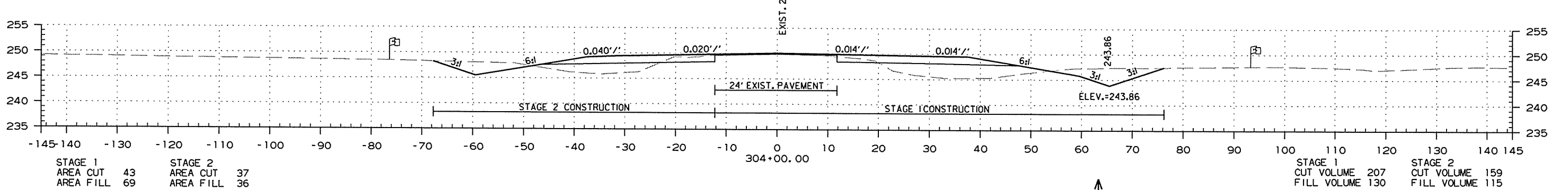
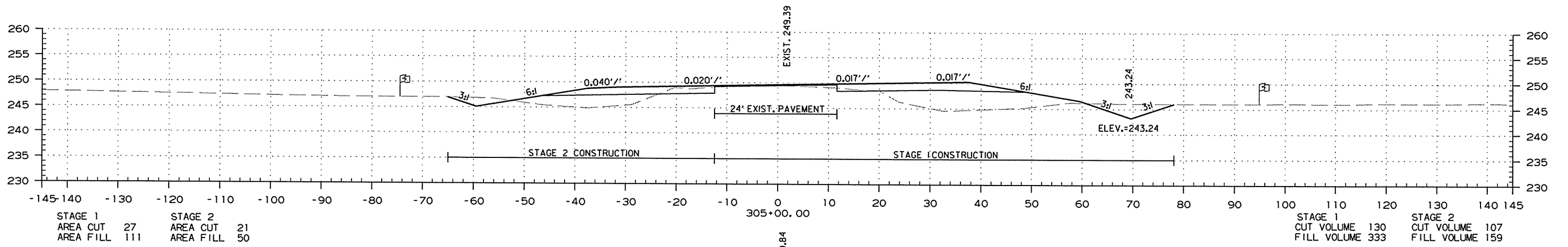
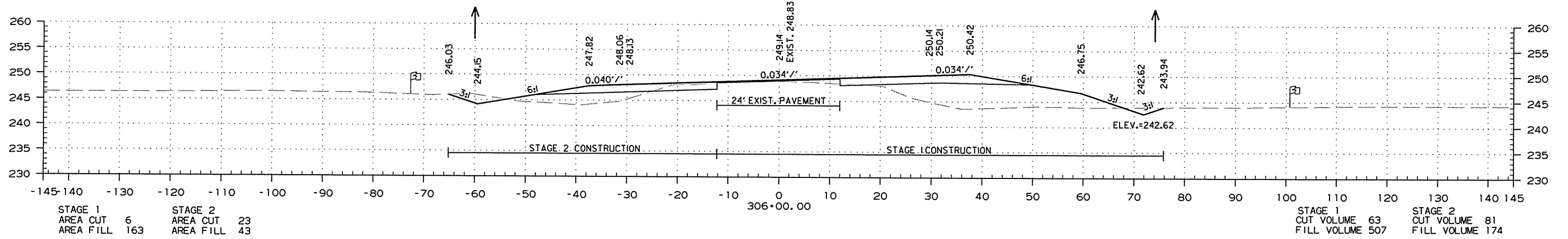
STA. 300+00.00 TO STA. 302+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							146	160

2 CROSS SECTIONS



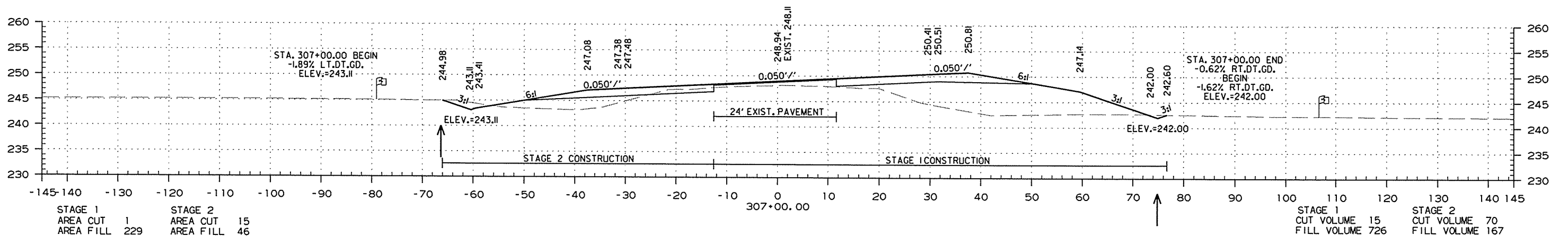
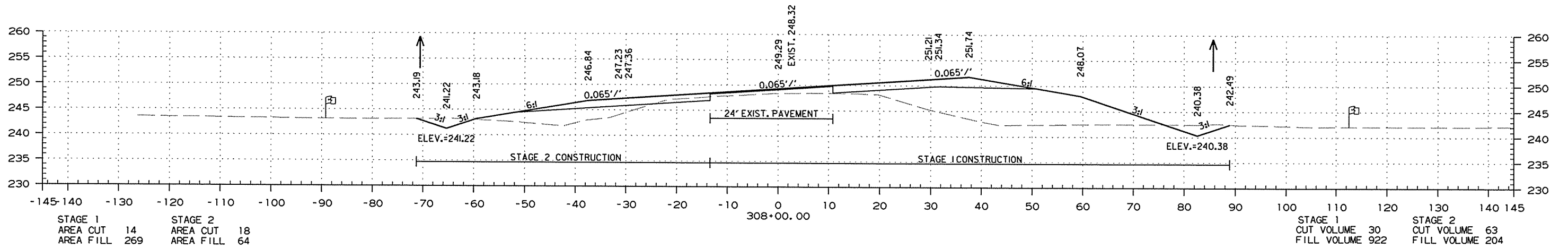
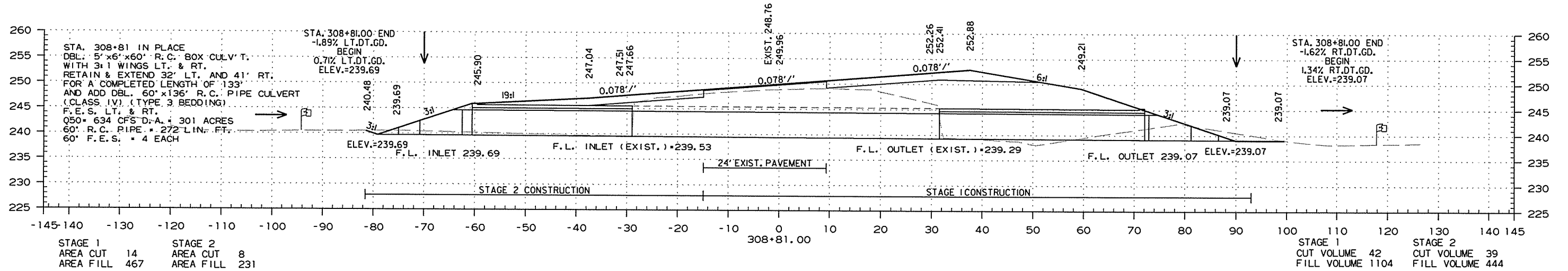
STA. 303+00.00 TO STA. 306+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							147	160

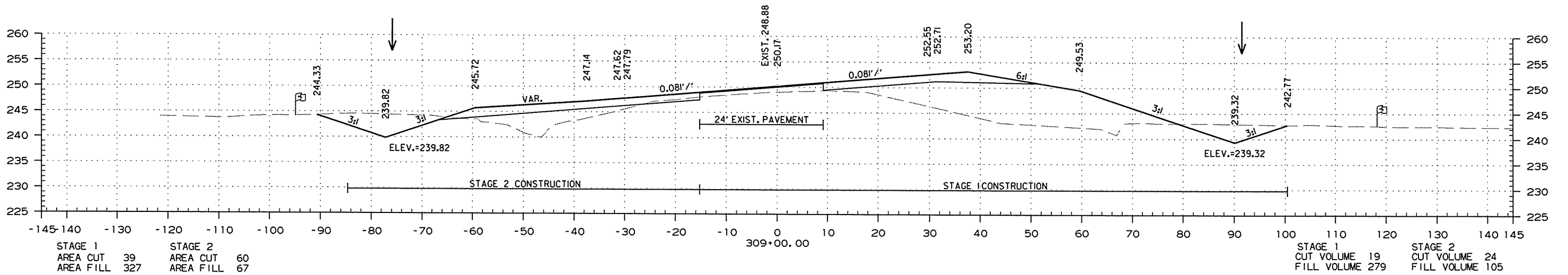
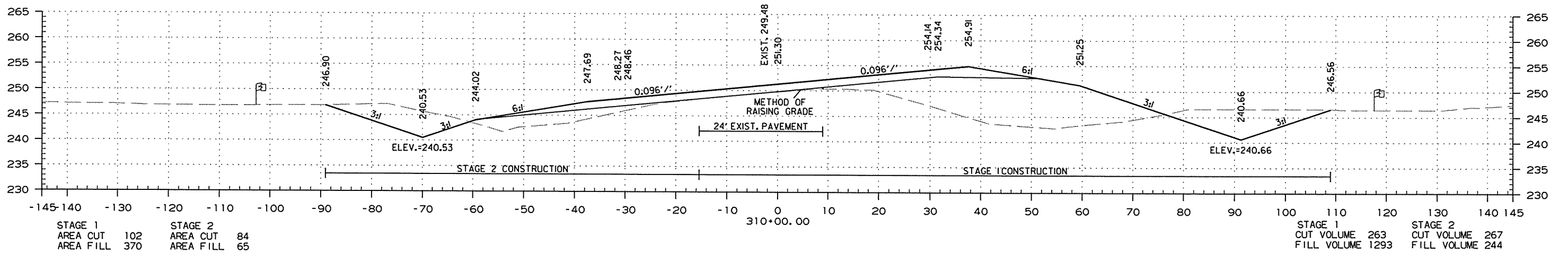
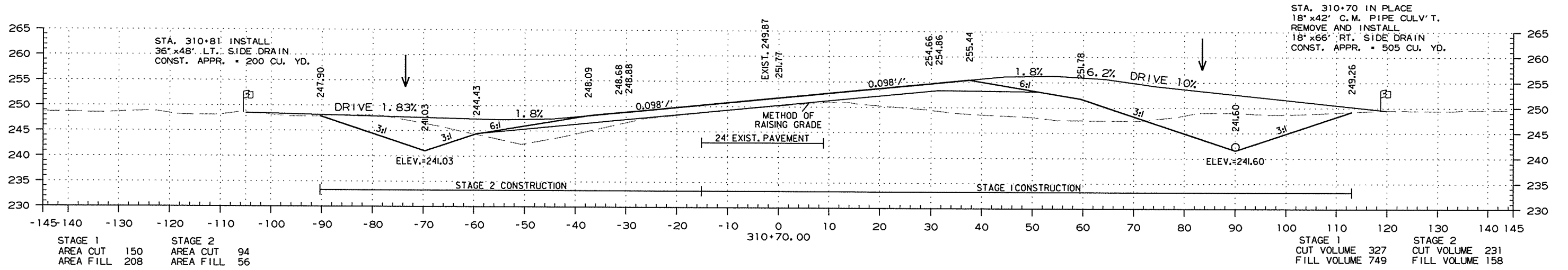
2 CROSS SECTIONS



STA. 307+00.00 TO STA. 308+81.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							148	160

2 CROSS SECTIONS



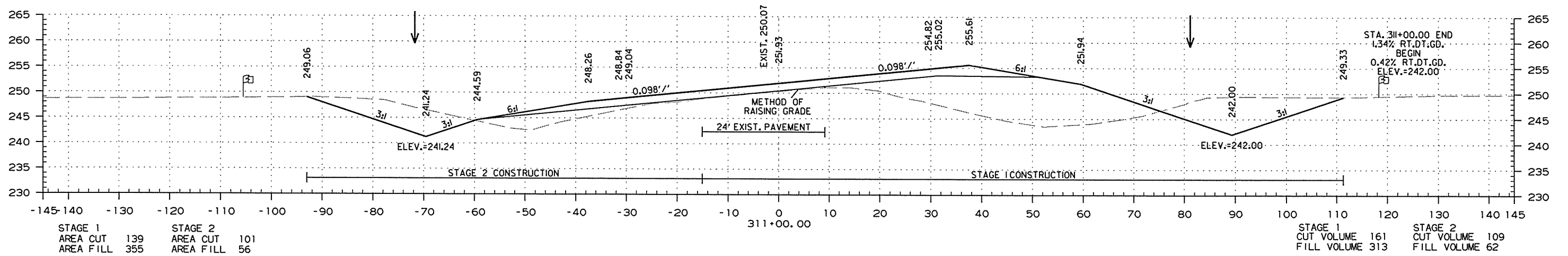
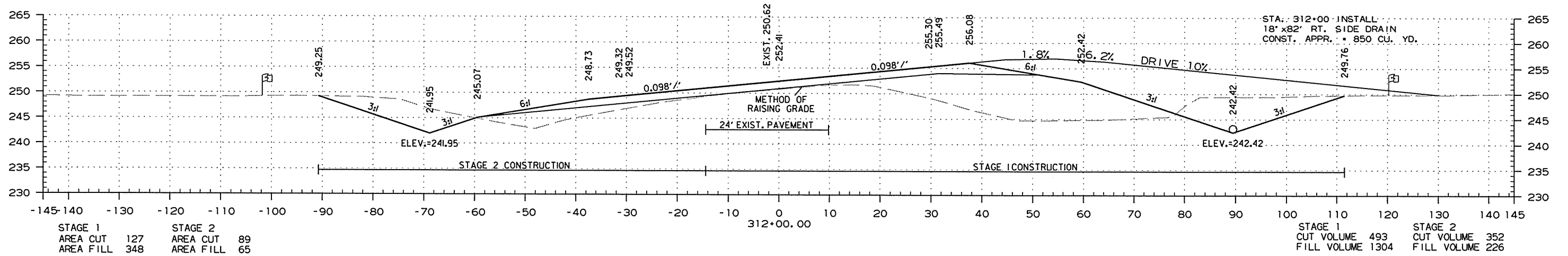
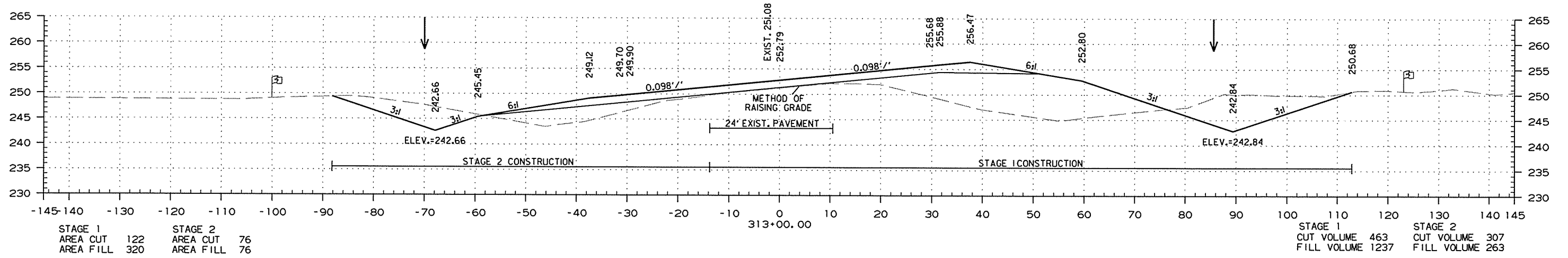
STA. 309+00.00 TO STA. 310+70.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							149	160

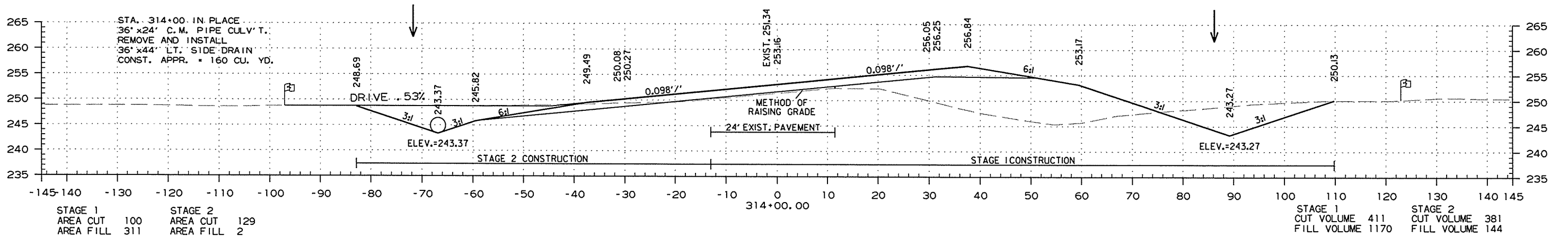
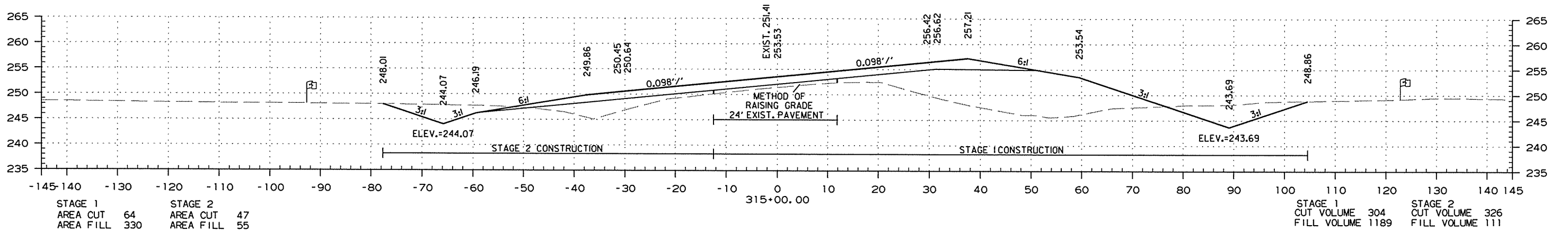
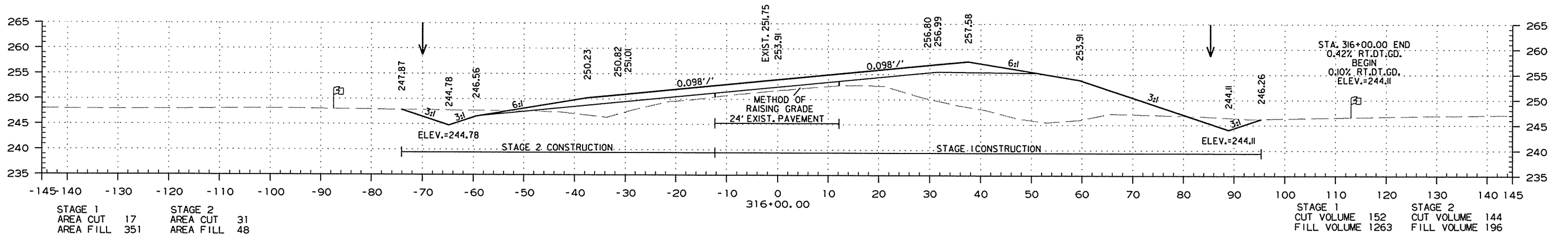
2 CROSS SECTIONS



STA. 311+00.00 TO STA. 313+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.			
JOB NO. 050263							150	160

2 CROSS SECTIONS



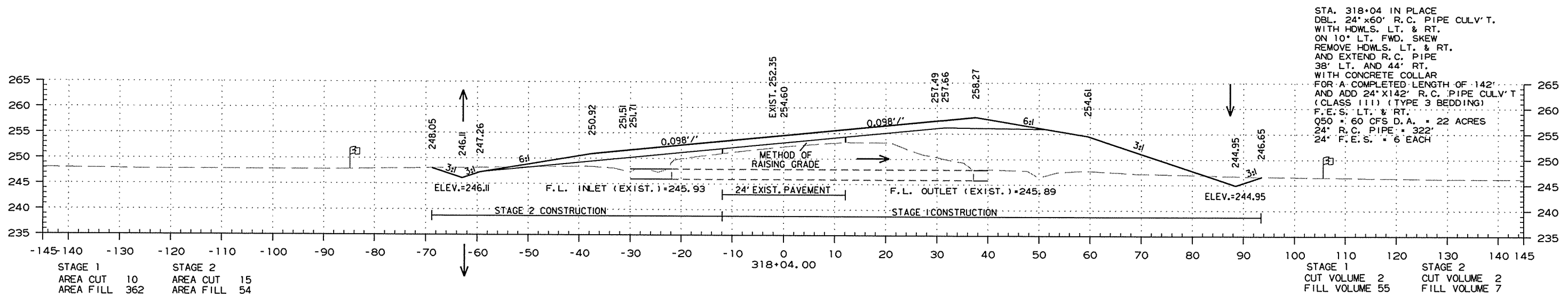
STA. 314+00.00 TO STA. 316+00.00

4/28/2016

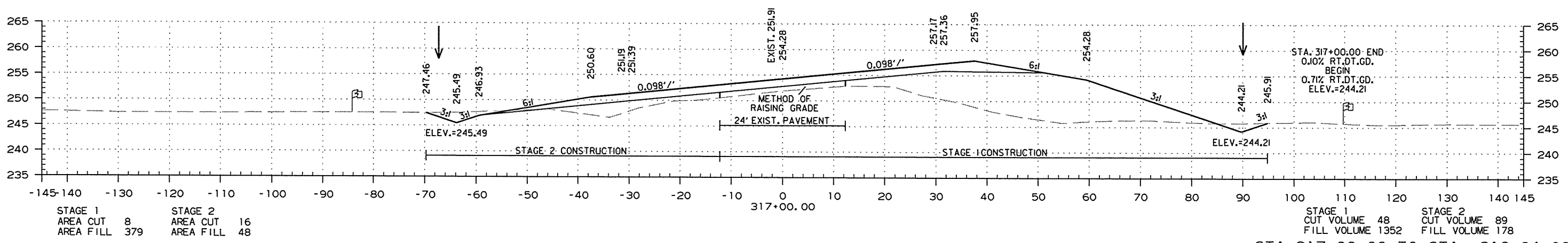
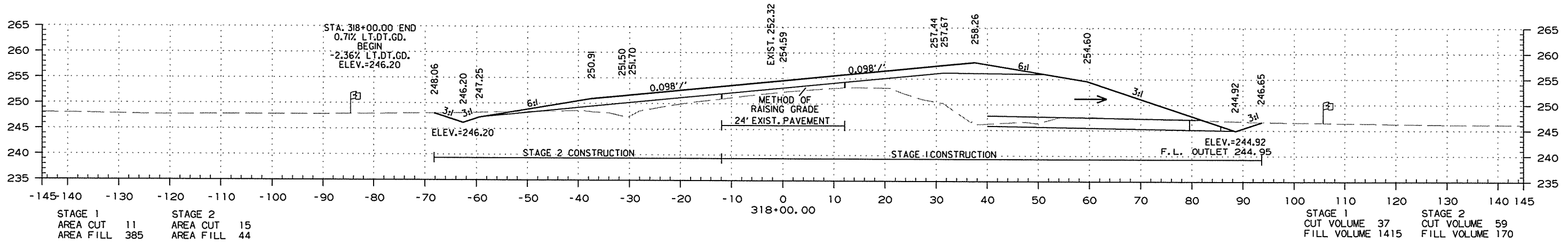
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							151	160

2 CROSS SECTIONS



STA. 318+04 IN PLACE  
 DBL. 24" x 60" R.C. PIPE CULV'T.  
 WITH HDWLS. LT. & RT.  
 ON 10' LT. FWD. SKEW  
 REMOVE HDWLS. LT. & RT.  
 AND EXTEND R.C. PIPE  
 38' LT. AND 44' RT.  
 WITH CONCRETE COLLAR  
 FOR A COMPLETED LENGTH OF 142'  
 AND ADD 24" x 142" R.C. PIPE CULV'T  
 (CLASS III) (TYPE 3 BEDDING)  
 F.E.S. LT. & RT.  
 Q50 - 60 CFS D.A. = 22 ACRES  
 24" R.C. PIPE = 322'  
 24" F.E.S. = 6' EACH

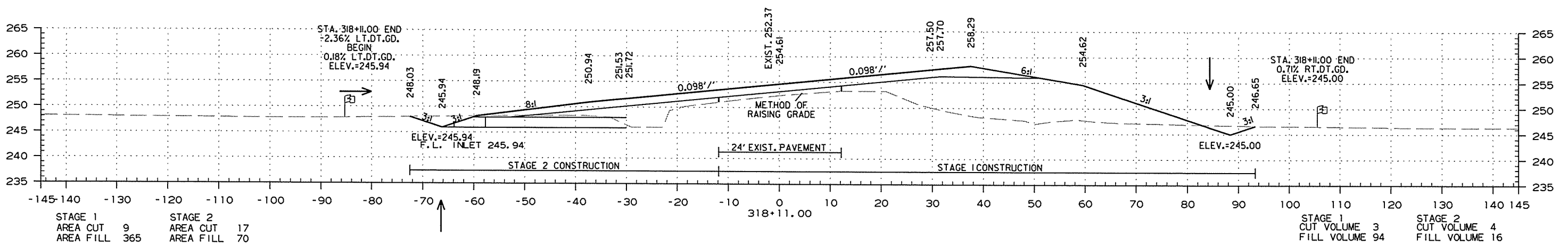
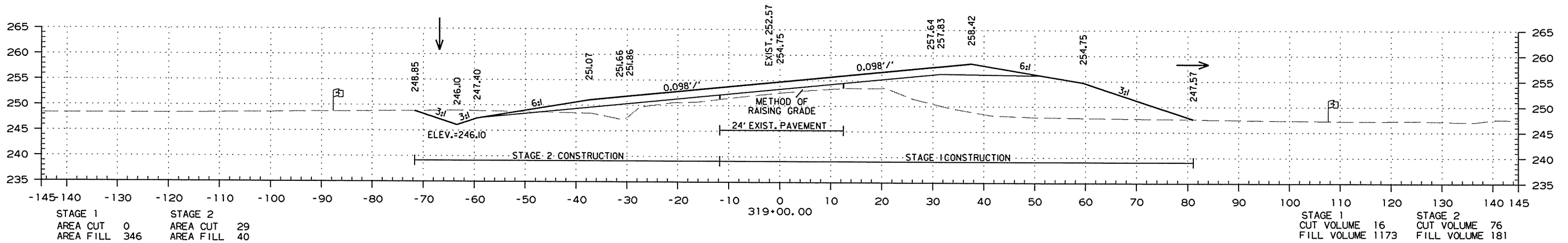
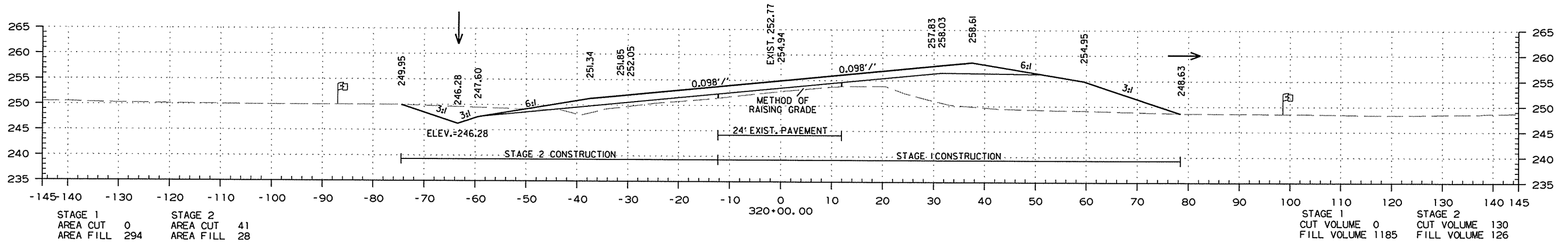


STA. 317+00.00 TO STA. 318+04.00

4/28/2016 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263							152	160

2 CROSS SECTIONS

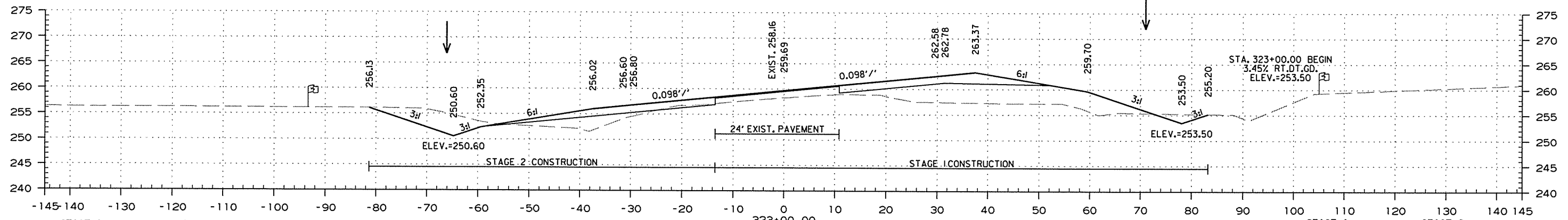


STA. 318+11.00 TO STA. 320+00.00

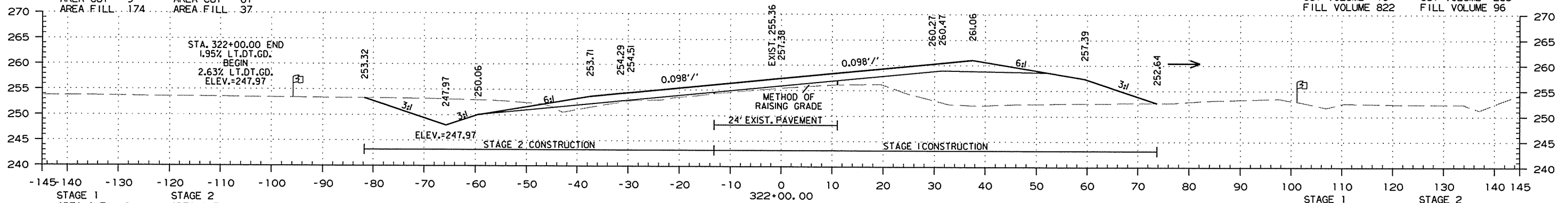


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO.						050263	153	160

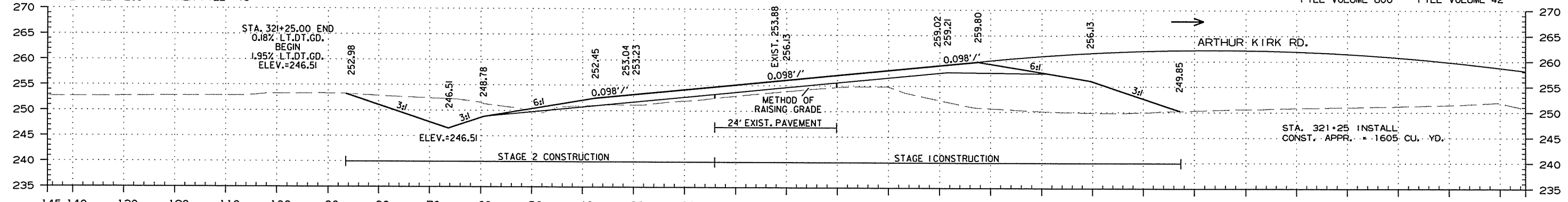
2 CROSS SECTIONS



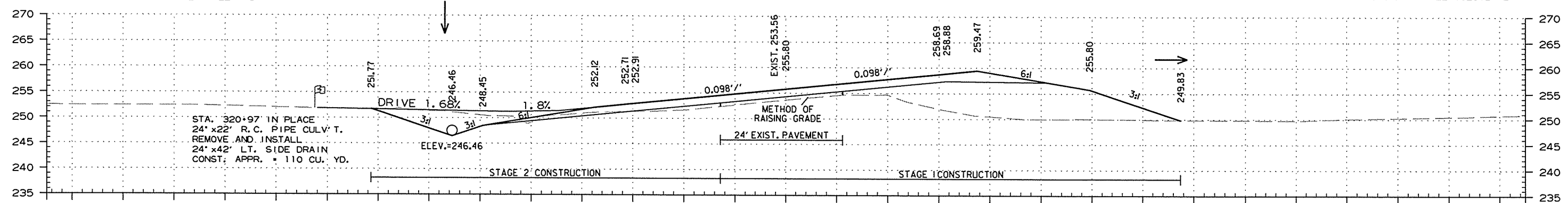
STAGE 1	STAGE 2	STAGE 1	STAGE 2
AREA CUT 9	AREA CUT 61	CUT VOLUME 19	CUT VOLUME 285
AREA FILL 174	AREA FILL 37	FILL VOLUME 822	FILL VOLUME 96



STAGE 1	STAGE 2	STAGE 1	STAGE 2
AREA CUT 0	AREA CUT 92	CUT VOLUME 0	CUT VOLUME 269
AREA FILL 269	AREA FILL 15	FILL VOLUME 806	FILL VOLUME 42



STAGE 1	STAGE 2	STAGE 1	STAGE 2
AREA CUT 0	AREA CUT 102	CUT VOLUME 0	CUT VOLUME 83
AREA FILL 310	AREA FILL 15	FILL VOLUME 280	FILL VOLUME 12

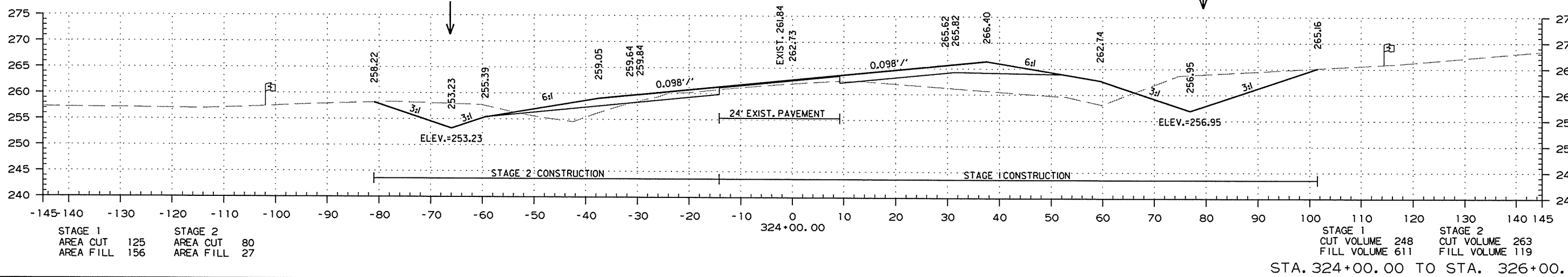
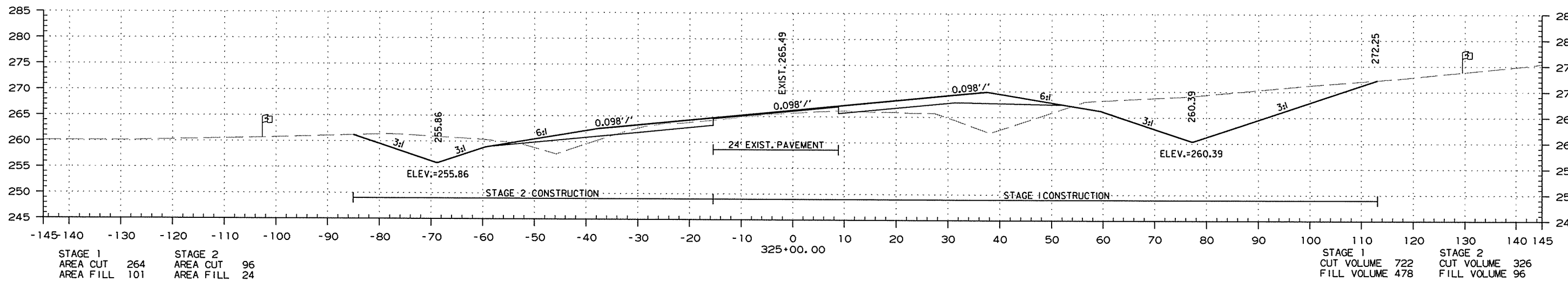
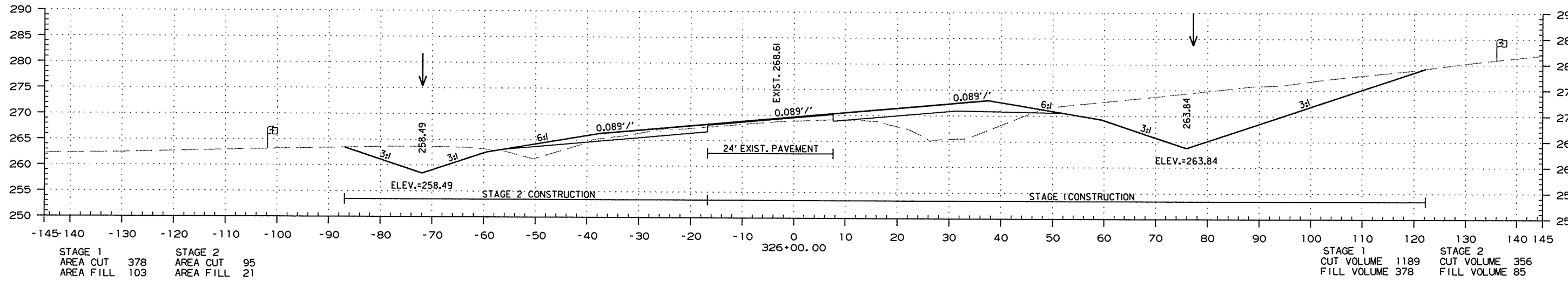


STAGE 1	STAGE 2	STAGE 1	STAGE 2
AREA CUT 0	AREA CUT 78	CUT VOLUME 0	CUT VOLUME 222
AREA FILL 294	AREA FILL 10	FILL VOLUME 1089	FILL VOLUME 70

STA. 321+00.00 TO STA. 323+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.			
JOB NO.						050263	154	160

2 CROSS SECTIONS



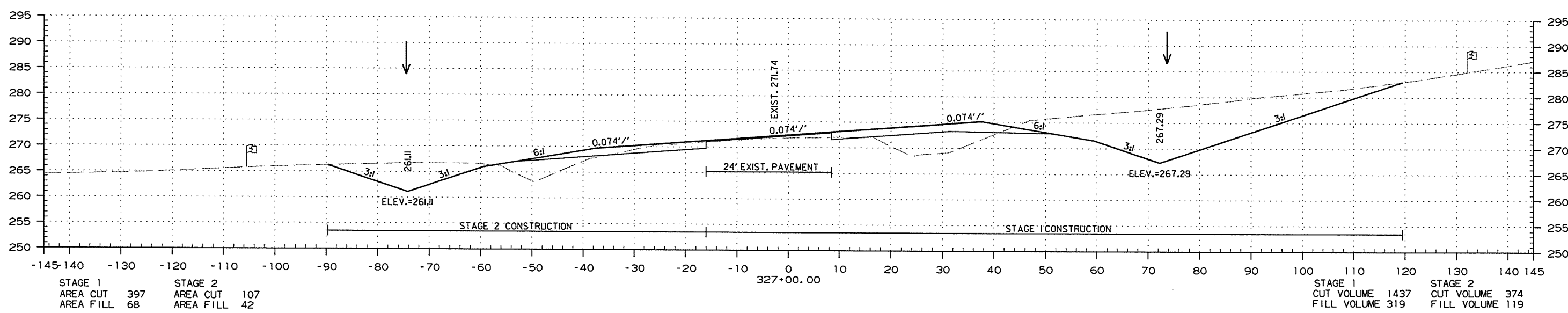
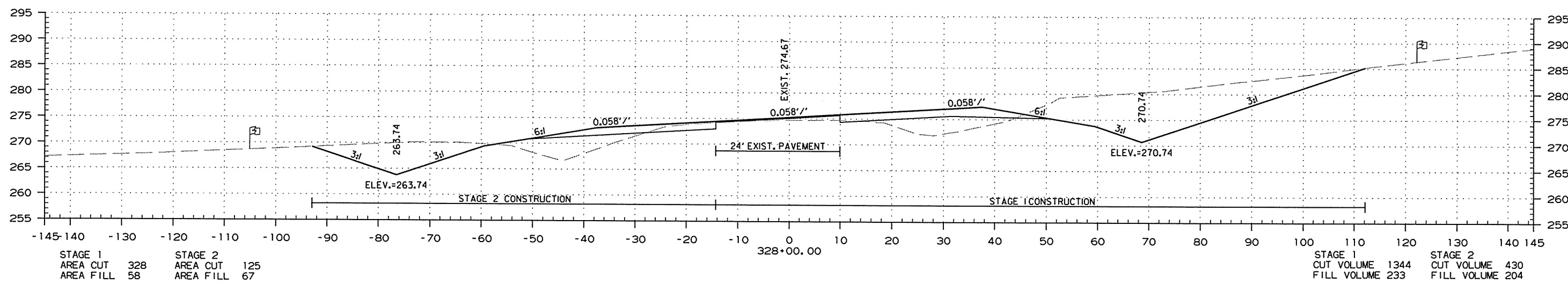
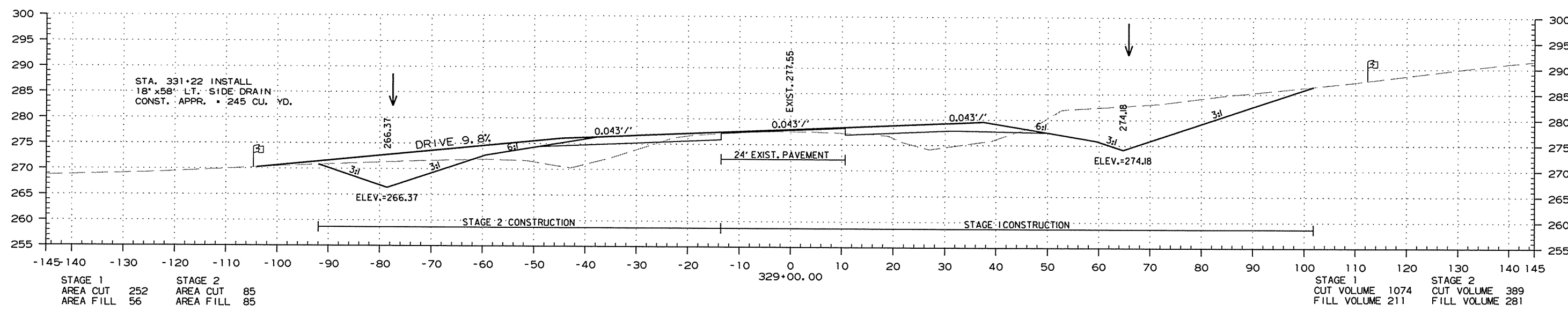
STA. 324+00.00 TO STA. 326+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO.						050263	155	160

2 CROSS SECTIONS

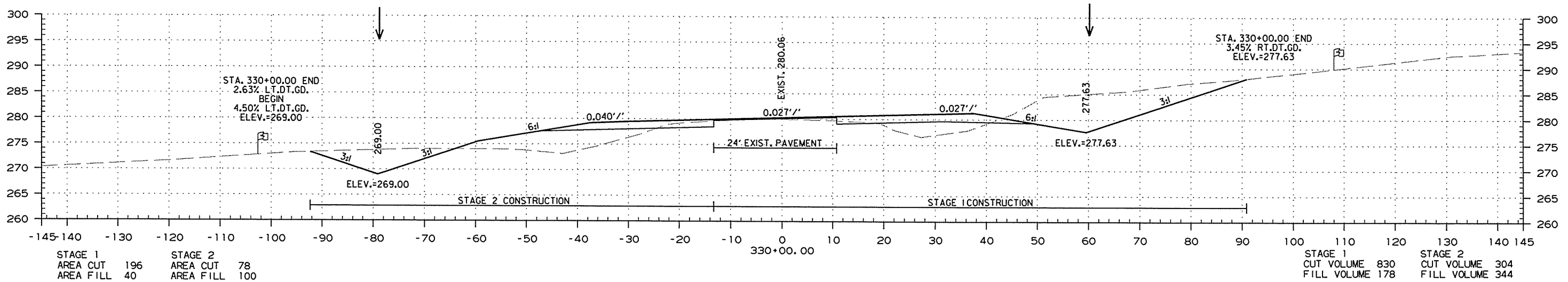
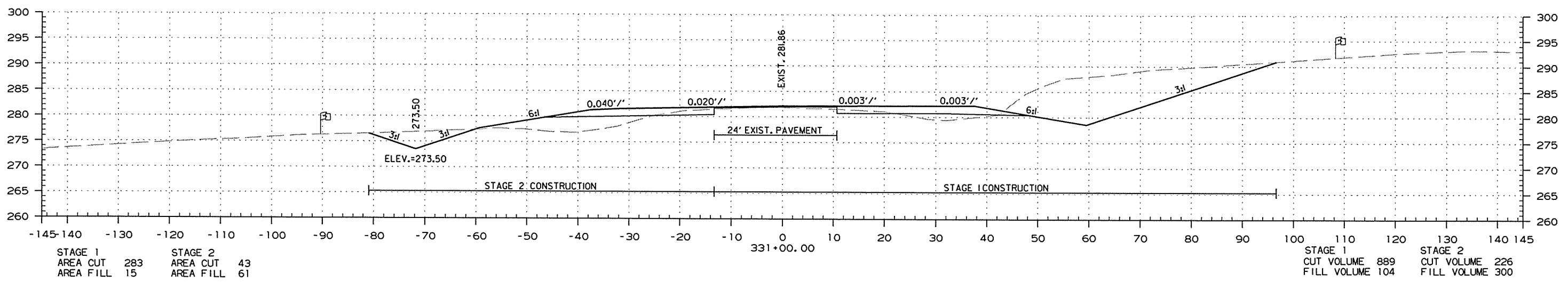
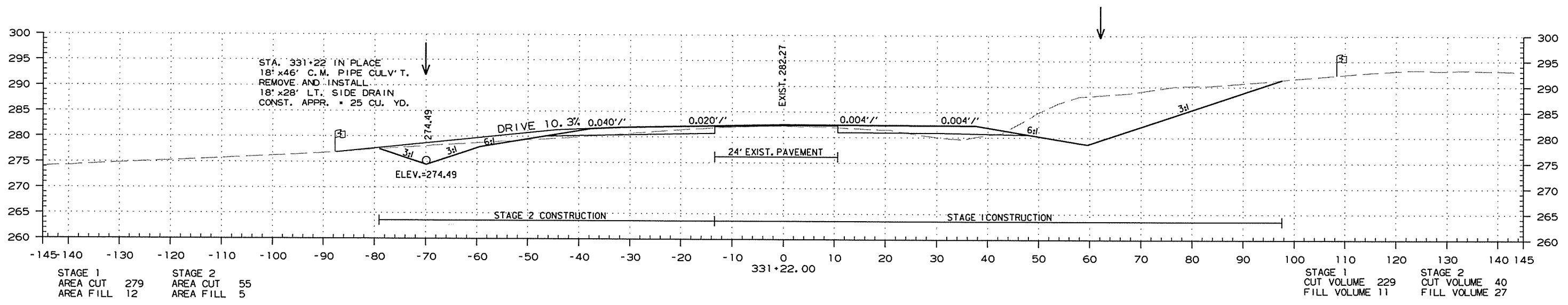


STA. 327+00.00 TO STA. 329+00.00

4/28/2016 R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050263						156	160	

2 CROSS SECTIONS

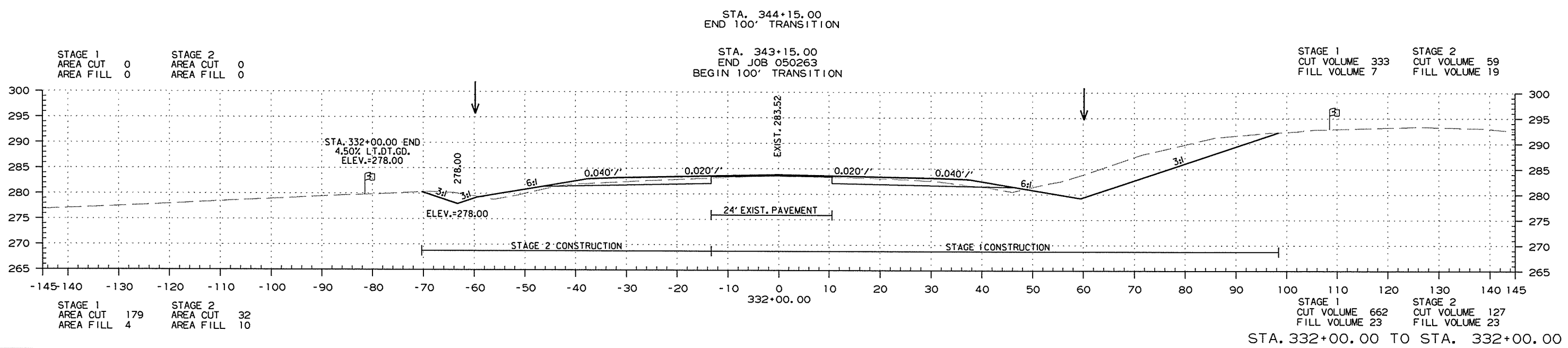


STA. 330+00.00 TO STA. 331+22.00

4/28/2016  
R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050263		157	160

② CROSS SECTIONS



4/28/2016

R050263.DGN

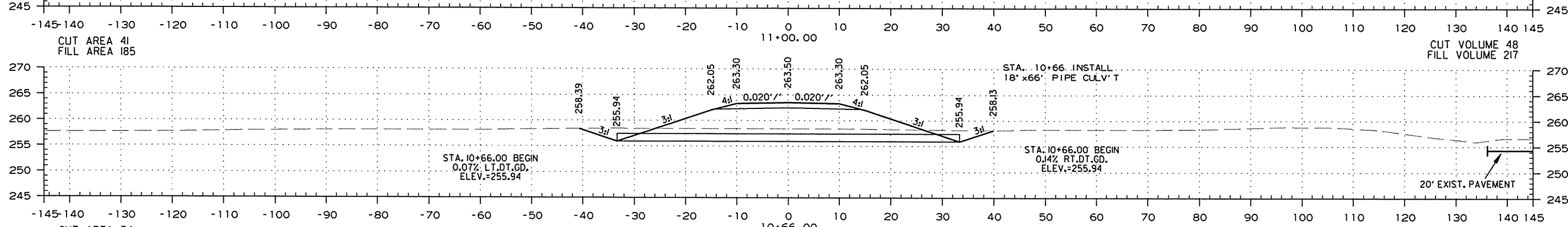
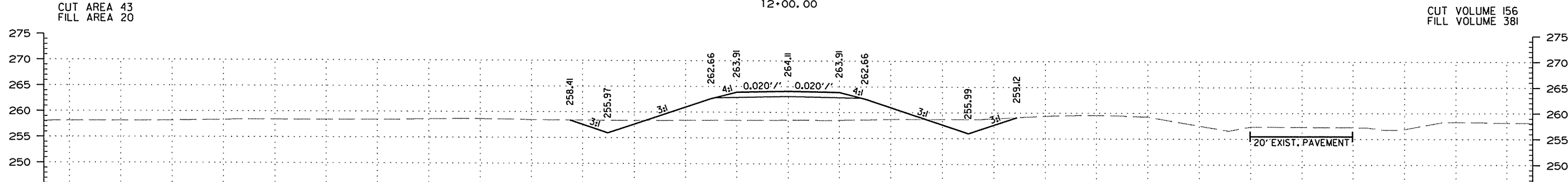
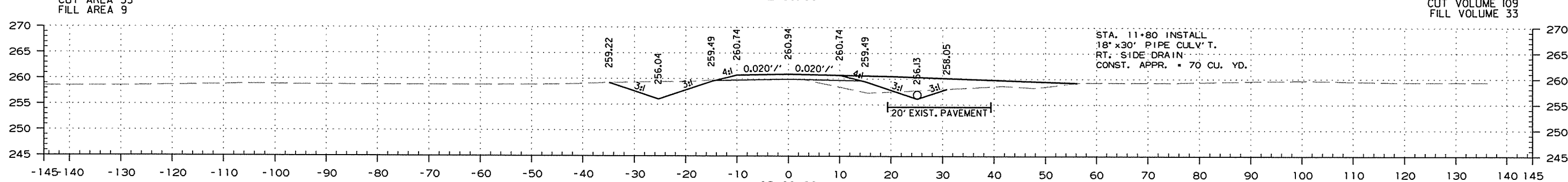
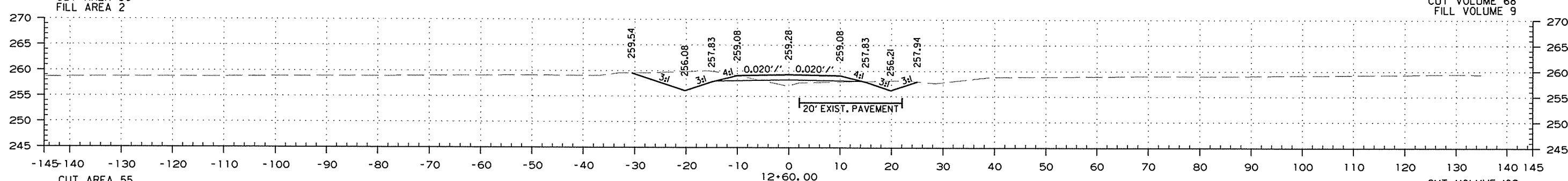
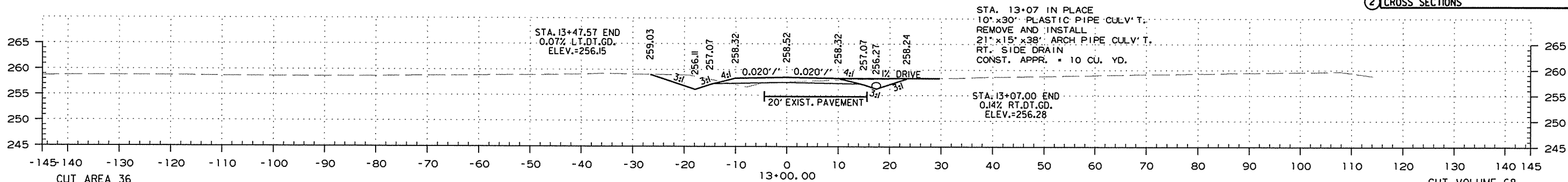
CUT AREA 36  
FILL AREA 2

13+48.00 END MARVIN FISHER RD.

CUT VOLUME 36  
FILL VOLUME 4

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.	050263		158	160

2 CROSS SECTIONS



MARVIN FISHER STA. 10+00.00 = HWY. 64 STA. 226+00.00

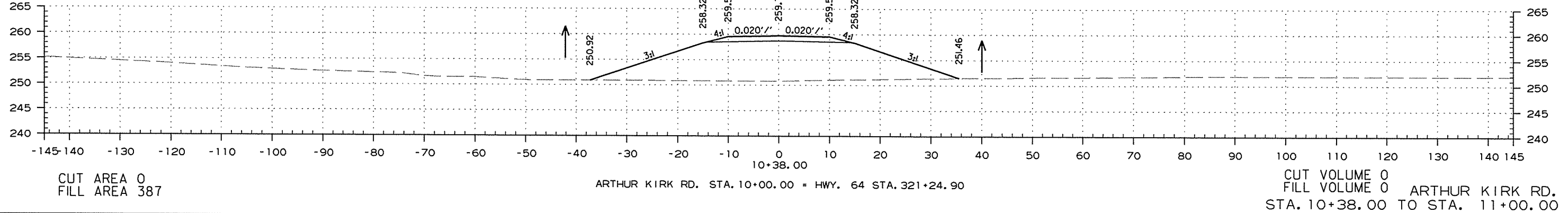
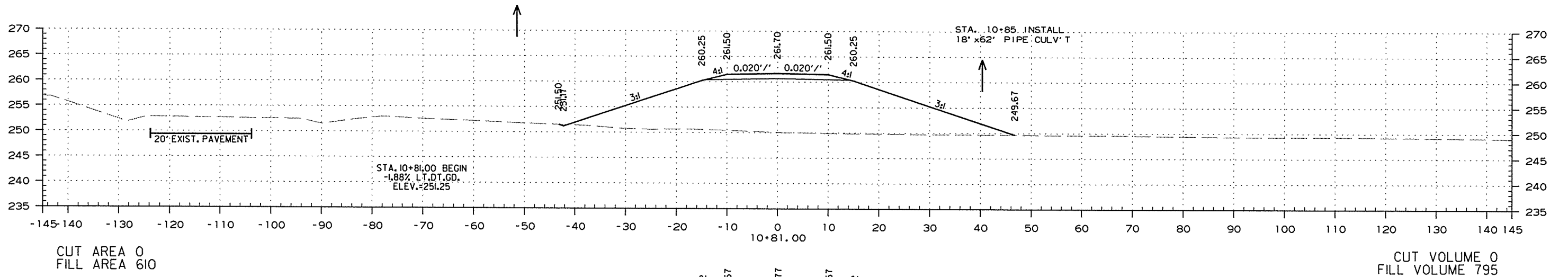
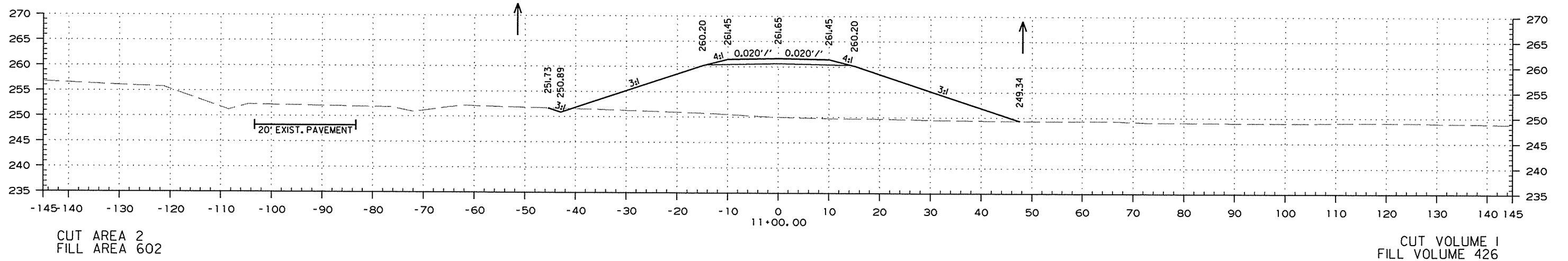
CUT VOLUME 37  
FILL VOLUME 170.  
MARVIN FISHER RD.  
STA. 10+66.00 TO STA. 13+00.00

4/28/2016

R050263.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050263	159	160

2 CROSS SECTIONS



4/28/2016

R050263.DGN

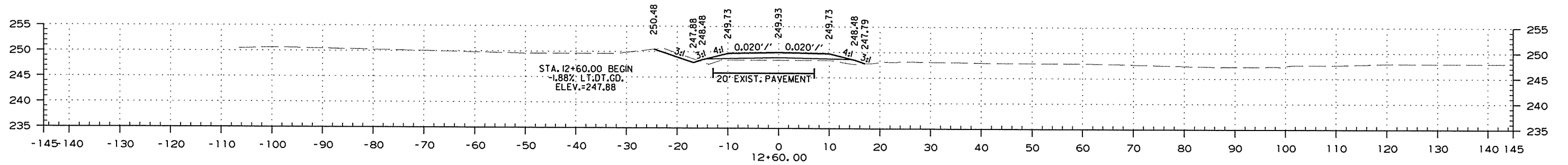
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050263	160	160

2 CROSS SECTIONS

CUT AREA 6  
FILL AREA 16

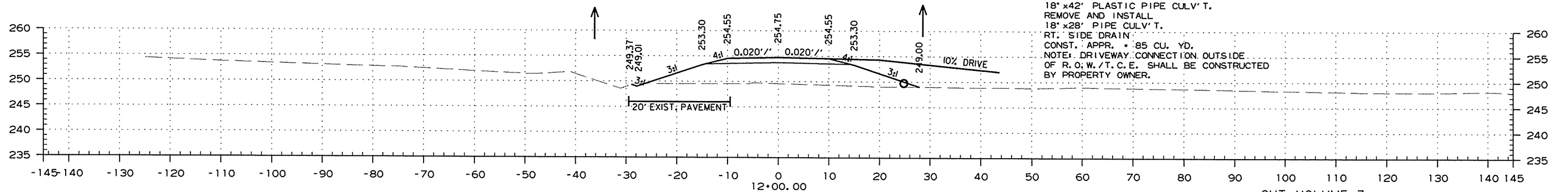
13+10.00 END ARTHUR KIRK RD.

CUT VOLUME II  
FILL VOLUME 30



CUT AREA 6  
FILL AREA 16

CUT VOLUME 9  
FILL VOLUME 209



CUT AREA 1  
FILL AREA 171

CUT VOLUME 7  
FILL VOLUME 1433  
ARTHUR KIRK RD.  
STA. 12+00.00 TO STA. 12+60.00

4/28/2016

R050263.DGN