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.		110502	1	271
				(2) CYPRESS CORNER - NORTH (S)				

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

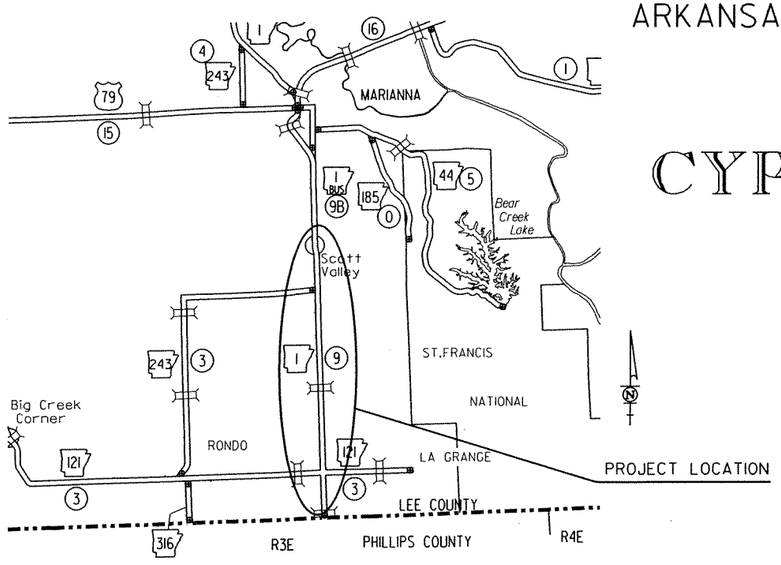
CYPRESS CORNER-NORTH (S)

LEE COUNTY

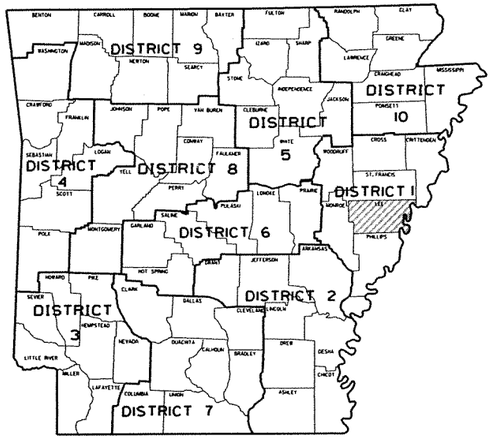
ROUTE 1 SECTION 9

FED. AID PROJ. NH-NHPP-HPP-0039(18)

JOB 110502



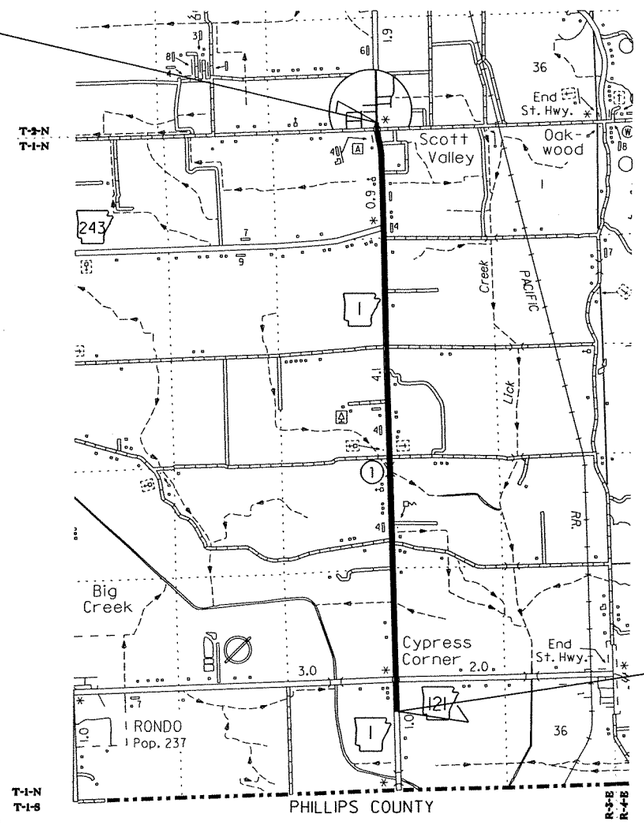
VICINITY MAP



ARK. HWY. DIST. NO. 1

"NOT TO SCALE"

END JOB 110502
STA. 400+00.41



BEGIN JOB 110502
STA. 115+00.00
LOG MILE 0.74

DESIGN TRAFFIC DATA

DESIGN YEAR	2033
2013 ADT	3500
2033 ADT	4000
2033 DHV	440
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	12%
DESIGN SPEED	60 MPH RURAL
	40 MPH URBAN

STRUCTURES OVER 20'-0" SPAN

(1) STA. 228+47 IN PLACE
DBL. 10' x 8' x 65' R.C BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN & EXTEND 25' LT. AND 27' RT.
TO A COMPLETED LENGTH OF 117'
Q50= 1172 CFS D.A. = 1433 ACRES
SPAN = 22.17'
L.M. 2.89

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 34°39'12.0"	N 34°41'37.4"	N 34°43'53.8"
LONGITUDE	W 90°46'4.4"	W 90°46'03.1"	W 90°46'0.34"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF	PROJECT	28500.41	FEET OR	5.398	MILES
NET	ROADWAY	28478.24		5.394	MILES
NET	BRIDGES	22.17		0.004	MILES
NET	PROJECT	28500.41		5.398	MILES

P.E. JOB R10069
NON-PART.

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOLLER

4/15/13

DEPUTY DIRECTOR
AND CHIEF ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	2	271

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

INDEX OF SHEETS

SHEET NO.	TITLE	DRWG.NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES		
3 - 5	TYPICAL SECTIONS OF IMPROVEMENT		
6 - 11	SPECIAL DETAILS		
12 - 41	TEMPORARY EROSION CONTROL DETAILS		
42 - 58	MAINTENANCE OF TRAFFIC		
59 - 61	PERMANENT PAVEMENT MARKING DETAILS		
62 - 69	QUANTITY SHEETS		
70	SUMMARY OF QUANTITIES AND REVISIONS		
71 - 81	SURVEY CONTROL DETAILS		
82 - 105	PLAN AND PROFILE SHEETS		
106	CONCRETE DITCH PAVING	CDP-1	11-17-10
107	CURBING DETAILS	CG-1	11-29-07
108	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	11-29-07
109	FLARED END SECTION	FES-1	10-18-96
110	FLARED END SECTION	FES-2	10-18-96
111	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8-22-02
112	DETAILS OF DROP INLET (TYPE MO)	FPC-9M	8-22-02
113	MAILBOX DETAILS	MB-1	11-18-04
114	PRECAST CONCRETE BOX CULVERTS	PBC-1	12-15-11
115	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	12-15-11
116	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	12-15-11
117	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	PCP-1	12-15-11
118	PLASTIC PIPE CULVERT (PVC F949)	PCP-2	12-15-11
119	PAVEMENT MARKING DETAILS	PM-1	11-17-10
120	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
121	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	7-26-12
122	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	RCB-2	11-20-03
123	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS	RCB-3	10-12-95
124	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10-18-96
125	DETAILS OF SPECIAL ITEMS	SI-1	7-26-12
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127	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
128	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
129	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-4	10-15-09
130	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-5	10-15-09
131	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12-15-11
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134	WIRE FENCE WATER GAPS	WF-2	4-20-79
135	CHAIN LINK FENCE	WF-3	11-17-10
136	WIRE FENCE TYPE C AND D	WF-4	8-22-02
137	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11-10-05
138	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X15	6-13-63
139	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X003-1	5-10-66
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141	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-100X-0	2-08-63
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143	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-115X-0	8-14-63
144 - 271	CROSS SECTIONS		

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

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.

2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.

3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.

5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.

6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED 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.

7. 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.

8. THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.

9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.

10. 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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

GOVERNING SPECIFICATIONS

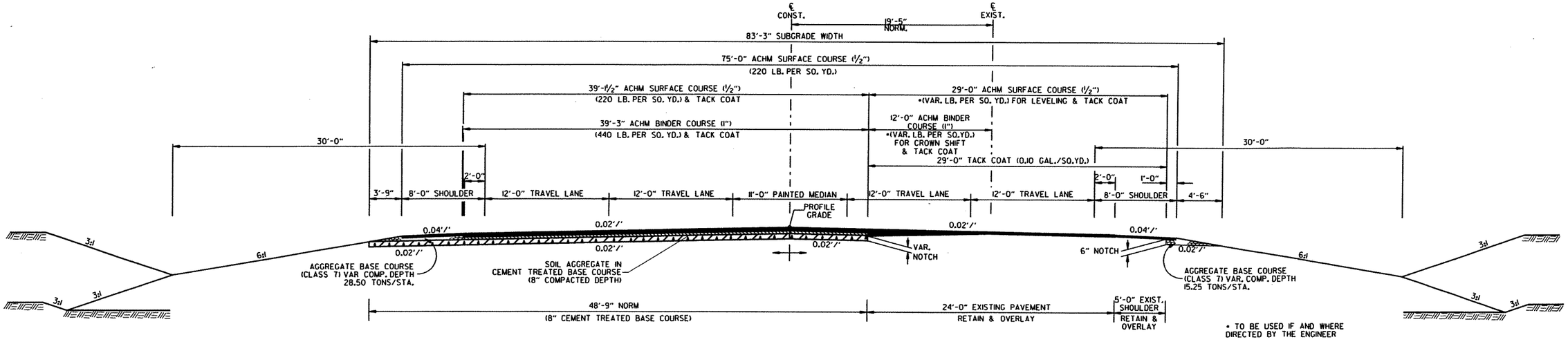
ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	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 110502
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
105-3	CONTROL OF WORK
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
404-2	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-2	INSPECTION OF TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 110502	ARCHEOLOGICAL MONITORING
JOB 110502	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 110502	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 110502	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 110502	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 110502	INTERNET BIDDING
JOB 110502	MAINTENANCE OF TRAFFIC
JOB 110502	PARTNERING REQUIREMENTS
JOB 110502	PLASTIC PIPE
JOB 110502	SOIL STABILIZATION EXPERIMENTAL FEATURE
JOB 110502	STORM WATER POLLUTION PREVENTION PLAN
JOB 110502	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 110502	TEMPORARY IMPACT ATTENUATION BARRIER
JOB 110502	UTILITY ADJUSTMENTS
JOB 110502	VALUE ENGINEERING
JOB 110502	WARM MIX ASPHALT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



* TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

OPEN SHOULDER
NOTCH & WIDENING ON LEFT
(REVERSE FOR WIDENING ON RIGHT)

STA. 115+00-170+94.73
STA. 342+86.57-382+64.94
STA. 397+71.27-400+00.41

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.

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.

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

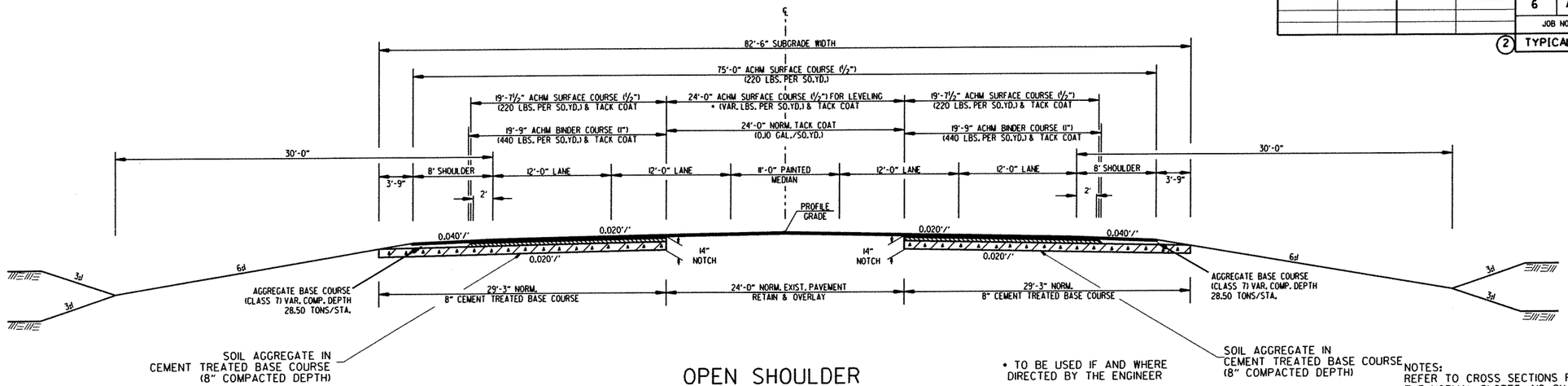
WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

TYPICAL SECTIONS OF IMPROVEMENT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
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•• STA. 234+70 - STA. 235+45 TRANSITION FROM "OPEN SHOULDER NOTCH & WIDEN" TO "CURB & GUTTER NOTCH & WIDEN"

•• STA. 272+20 - STA. 272+95 TRANSITION FROM "CURB & GUTTER - NOTCH AND WIDEN" TO "OPEN SHOULDER - NOTCH AND WIDEN"

OPEN SHOULDER NOTCH & WIDEN TANGENT

STA. 170+94.73-235+45.00
STA. 272+20.00-342+86.57

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

NOTES:

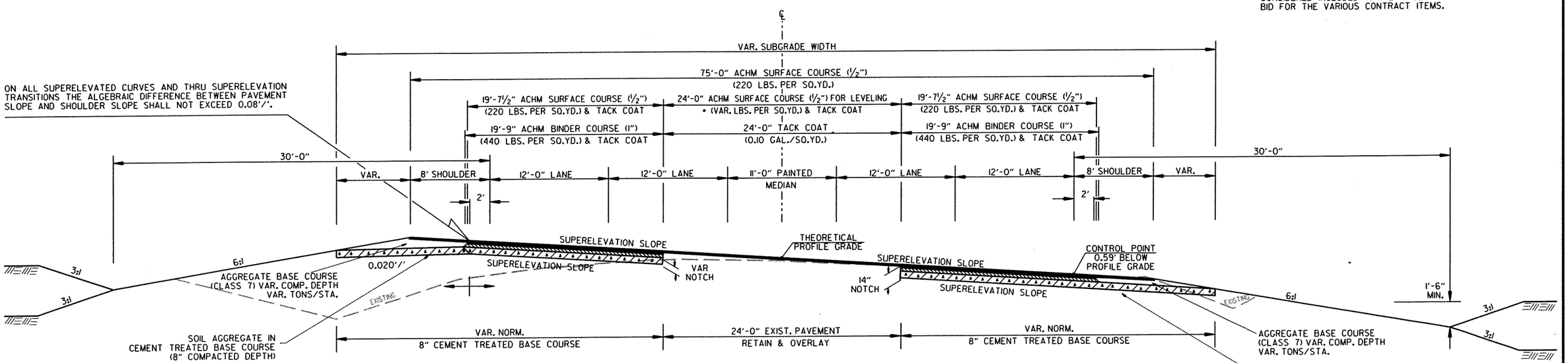
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WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

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

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.

CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE ON HIGH SIDE OF SUPERELEVATED SECTION TO PREVENT PONDING OF WATER AT PAVEMENT EDGE DURING CONSTRUCTION. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



OPEN SHOULDER NOTCH & WIDEN SUPERELEVATION

STA. 382+64.94-397+71.27

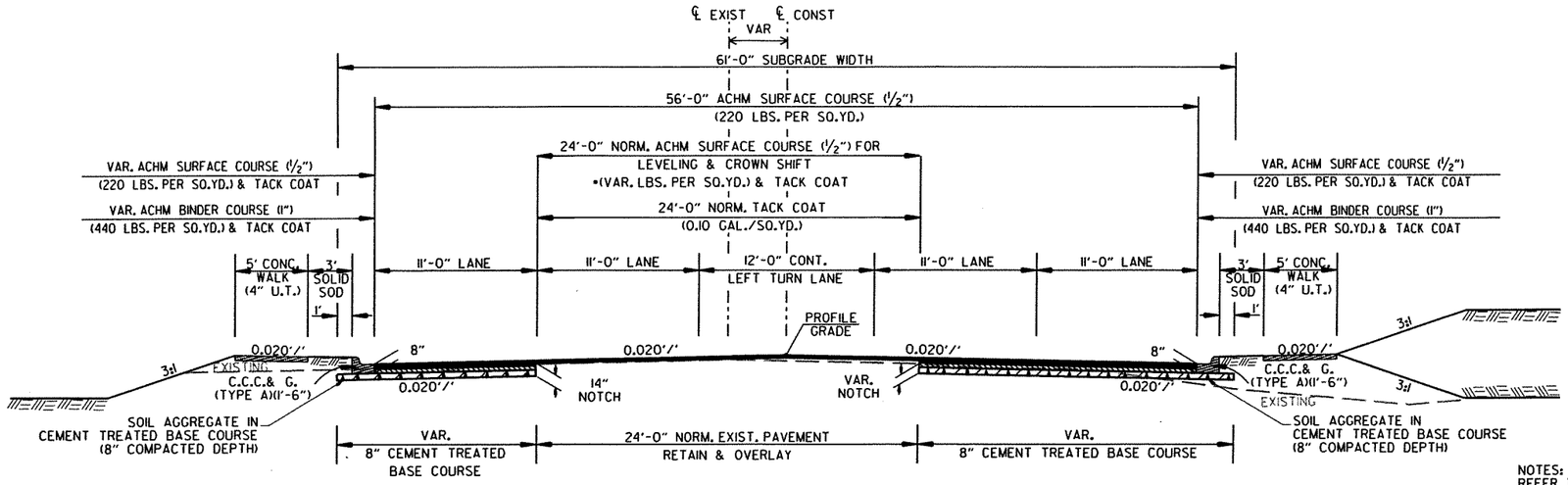
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TYPICAL SECTIONS OF IMPROVEMENT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
4-9-13



CURB & GUTTER NOTCH & WIDEN

STA.235+45-272+20

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

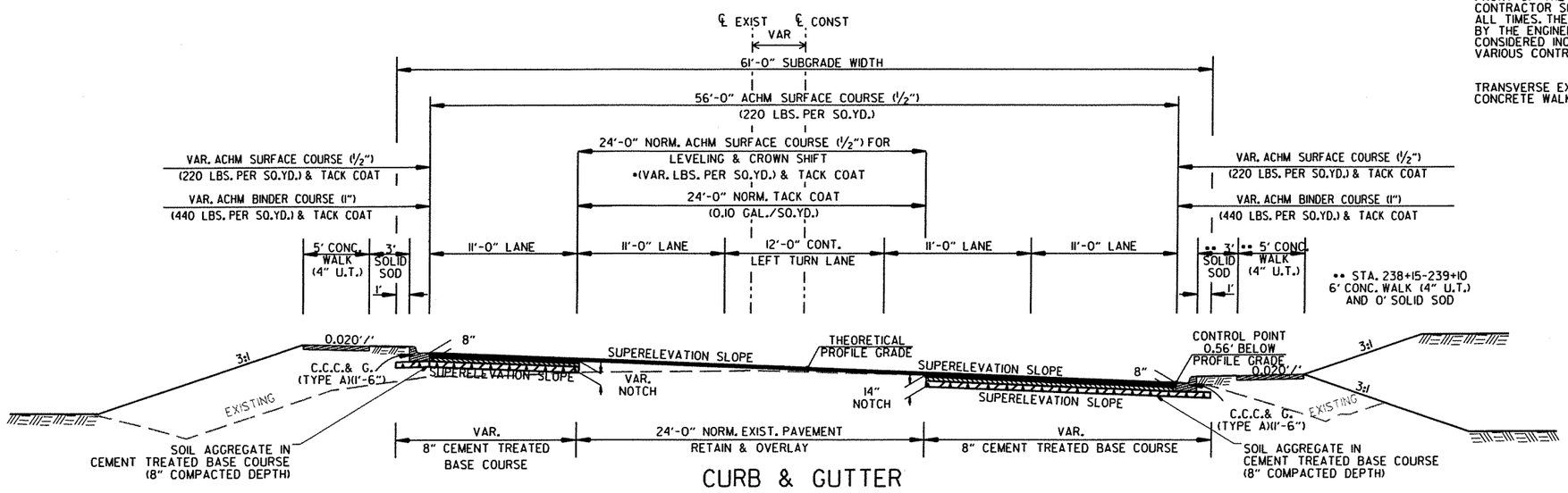
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ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT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

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

TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.



CURB & GUTTER NOTCH & WIDEN SUPERELEVATION

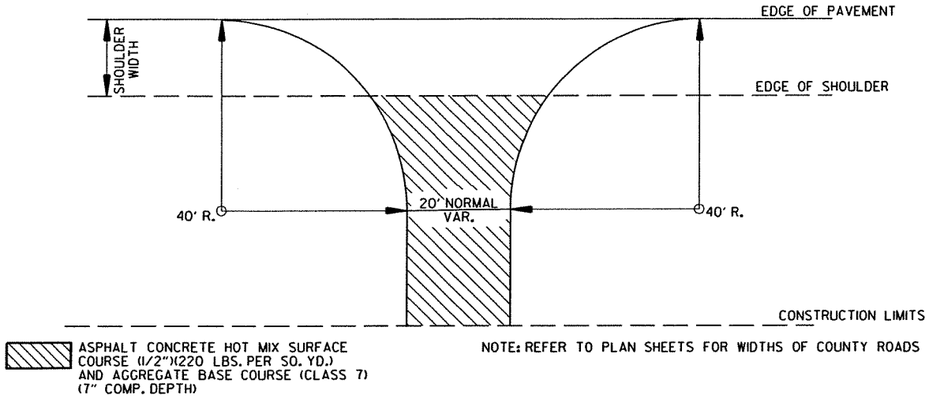
• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

TYPICAL SECTIONS OF IMPROVEMENT

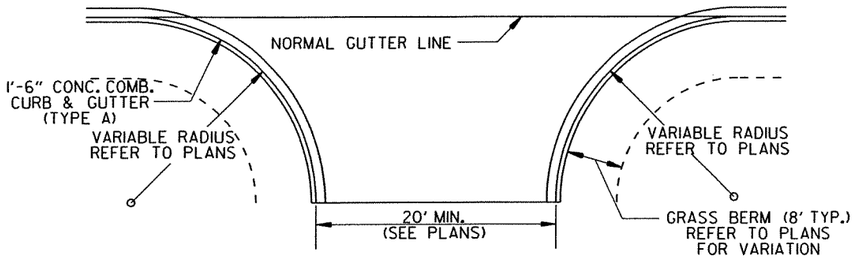
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



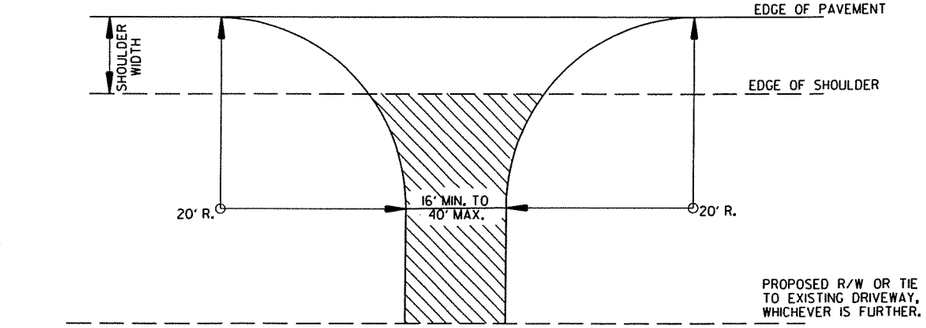
DETAIL FOR COUNTY RD. TURNOUT



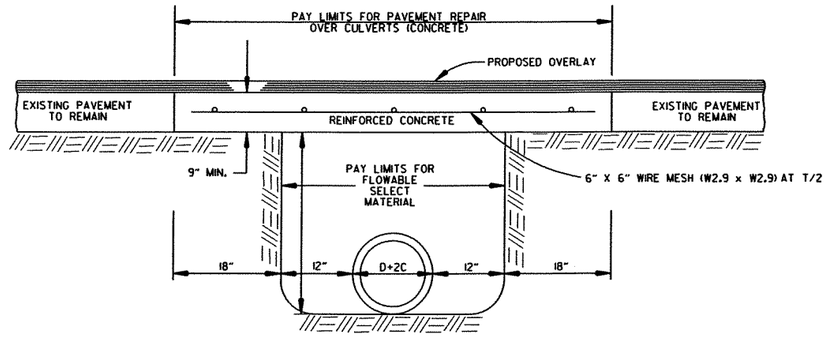
DETAIL OF TURNOUTS

ASPHALT STREETS & COUNTY ROADS

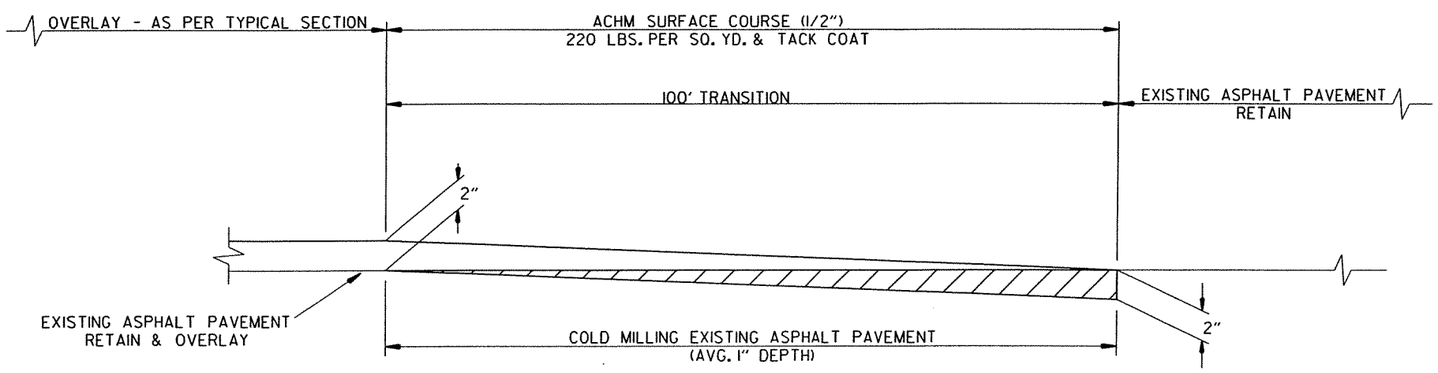
REFER TO TYPICALS FOR PAVEMENT STRUCTURE.



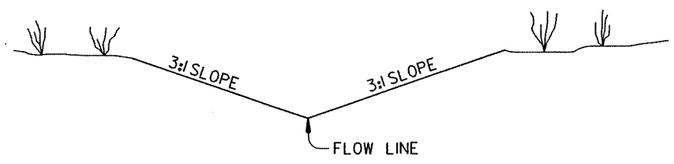
DETAIL FOR DRIVEWAY TURNOUT



PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



PAVEMENT TRANSITION

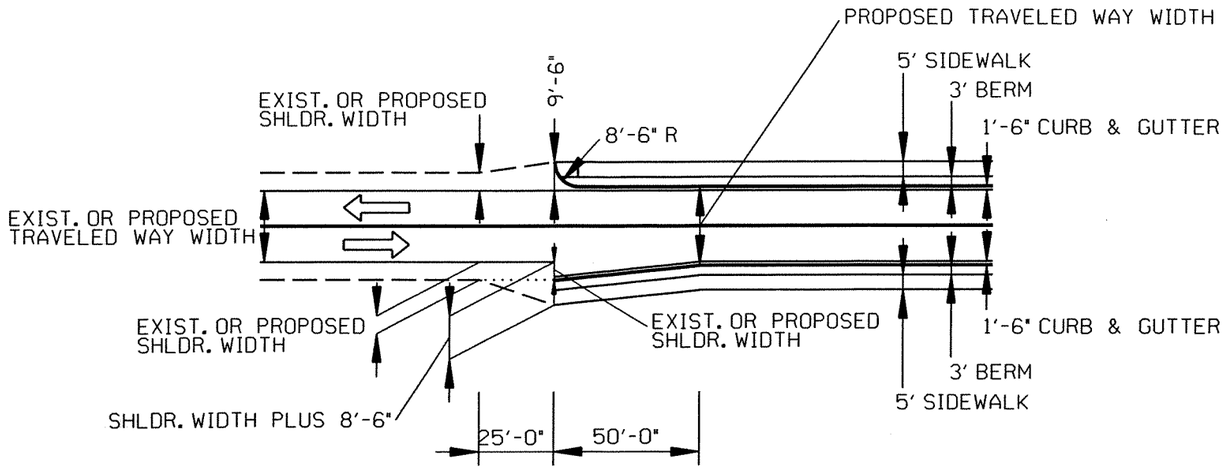


DETAIL OF STREAM RELOCATION

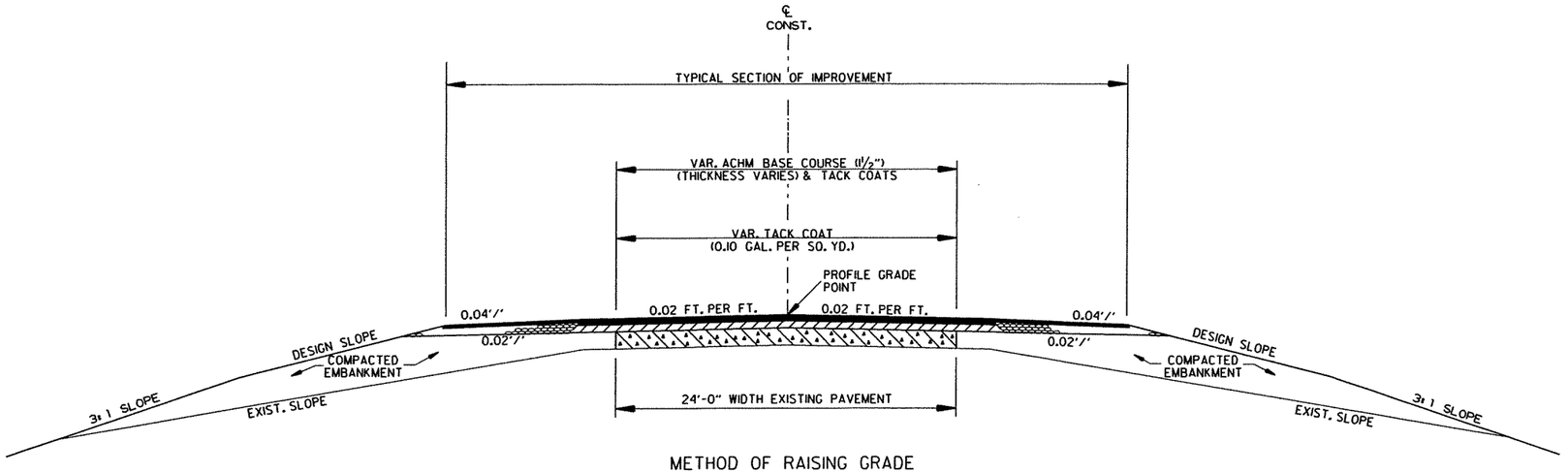
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	7	271

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



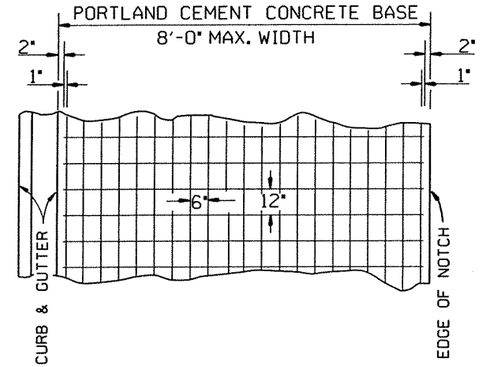
TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION



METHOD OF RAISING GRADE

NOTES:

1. THIS DETAIL TO BE USED IF & 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, EDITION OF 2003.



DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

6" X 12" MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ.YD.

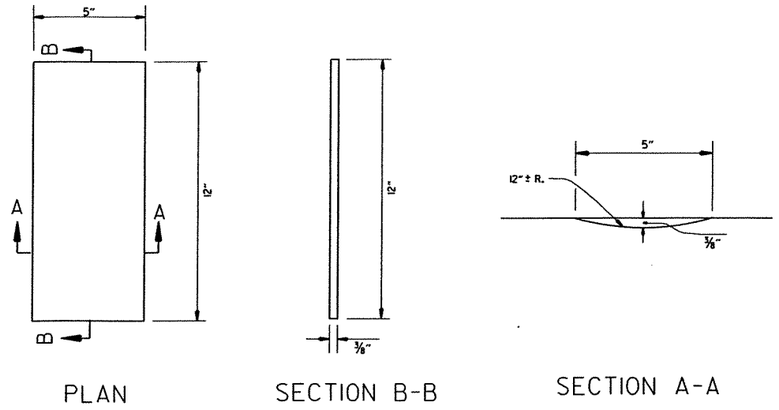
NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (8" U.T.).

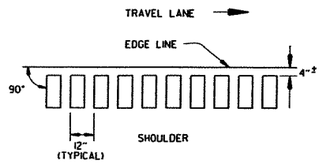
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	8	271

(2) SPECIAL DETAILS

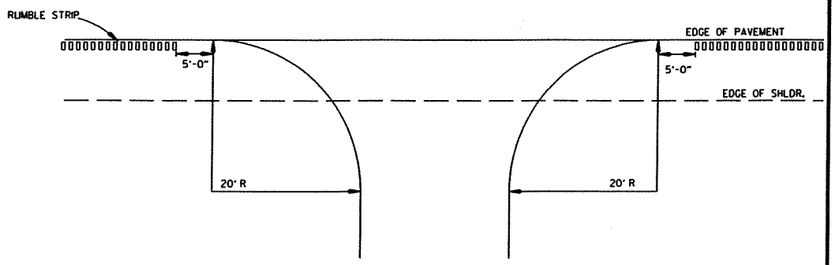
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



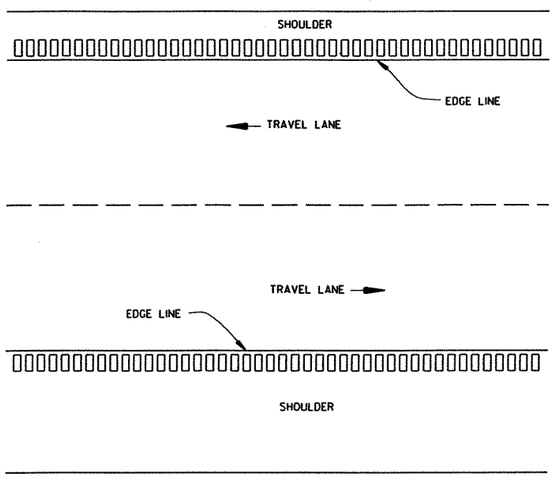
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



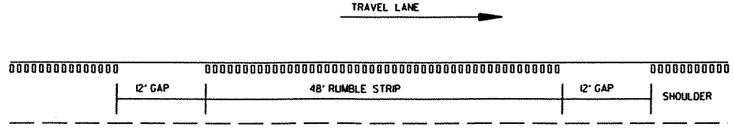
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



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.



DETAIL FOR GAP PATTERN RUMBLE STRIP

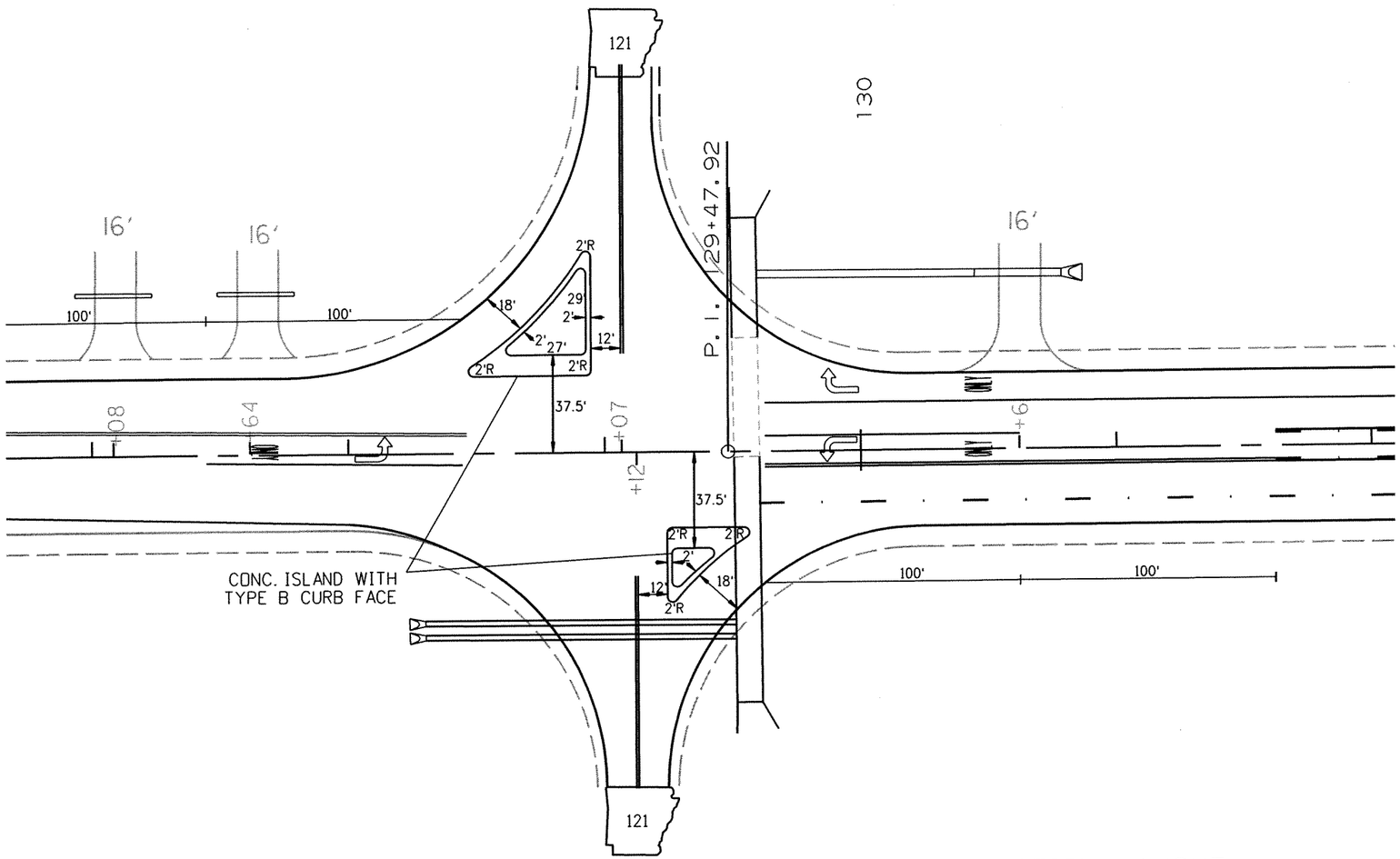
NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

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.			
				JOB NO.		110502	9	271

(2) SPECIAL DETAILS

STATE OF ARKANSAS
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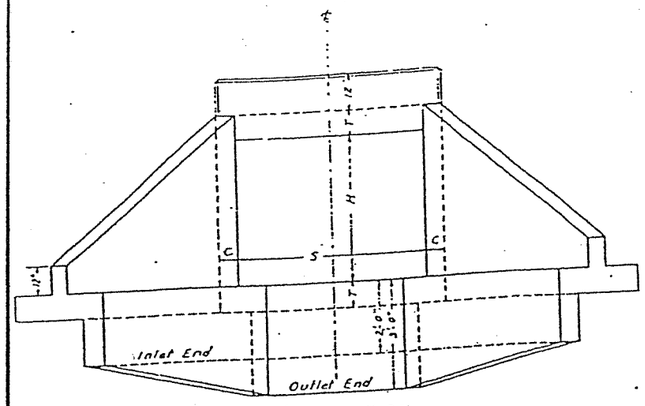


INTERSECTION LAYOUT HWY. 1 &HWY. 121

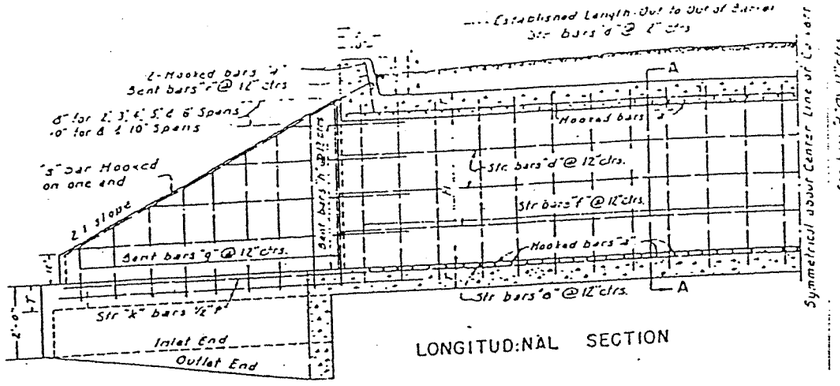
NOTE: SURFACING FOR HWY. 121 TO MATCH MAIN LANES SURFACING.

REVISED	FILED	REVISED	FILED					
				6	ARK.			
				JOB NO.	110502	10	271	

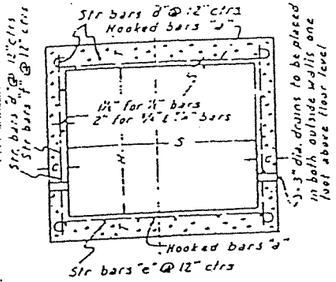
(2) SPECIAL DETAIL



END ELEVATION



LONGITUDINAL SECTION

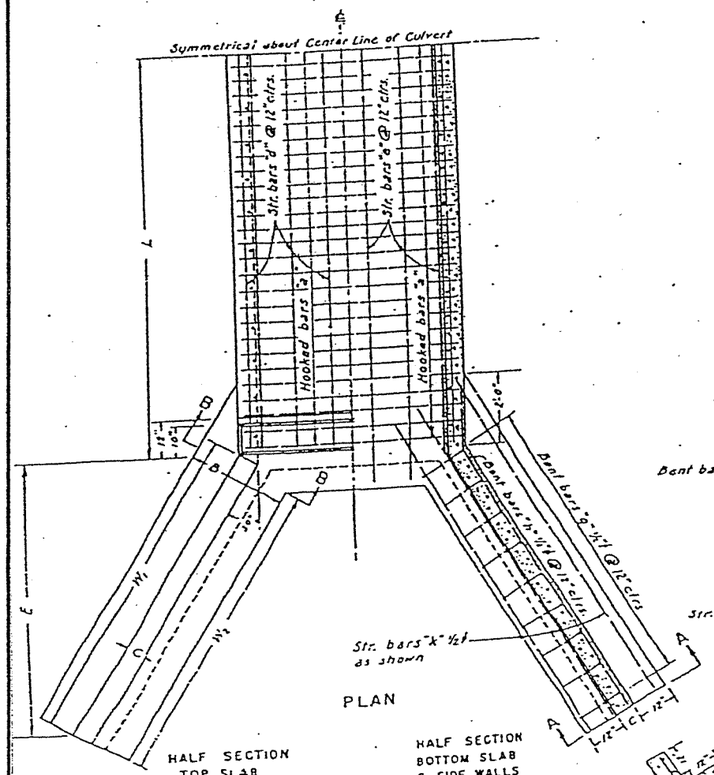


SECTION A - A

DIMENSIONS & QUANTITIES

SPAN	HEIGHT	DATA ASSUMING 30 PSF	MINIMUM DEPTH OF COVER	THICKNESS OF TOP & BOTTOM SLAB	THICKNESS OF SIDE WALLS & INTERIOR WALLS	WIDTH OF FOOTING	LENGTH OF FOOTING	LENGTH OF WING WALLS	LENGTH OF WING WALL FROM ℄ OF BARREL	CONCRETE CU YD		STEEL LB.			
										WINGWALLS & FOOTING	PER LINEAL FT. OF BARREL	WINGWALLS & FOOTING	PER LINEAL FT. OF BARREL	ADD STEEL FOR LAPS	
S	H	A	D	T	C	B	W_2	W_1	E						
2	2	2	2'-0"	6½"	6"	2'-6"	3'-4½"	3'-10"	3'-4"	2.36	1.96	155	117.91	8.9	
	3	4			6"		3'-4½"	3'-10"	3'-4"	2.65	2.47	164	122.77	11.1	
3	2	6	2'-0"	7"	6"	2'-6"	3'-4½"	3'-10"	3'-4"	4.10	2.84	243	125.43	13.2	
	3	9			6"		5'-10½"	6'-2"	5'-2"	4.10	2.84	243	125.43	13.2	
4	2	8	1'-6"	7½"	6"	2'-6"	3'-10½"	3'-10"	3'-4"	2.90	.306	173	128.28	13.2	
	3	12			6"		5'-10½"	6'-2"	5'-2"	4.36	.343	257	130.94	15.6	
	4	16			6"		8'-2½"	8'-5¾"	7'-4"	5.99	.380	332	133.60	17.8	
5	2	10	1'-0"	8"	6"	2'-6"	3'-4½"	3'-10"	3'-4"	3.15	.370	189	134.56	15.6	
	3	15			6"		5'-10½"	6'-2"	5'-2"	4.60	.407	267	137.22	17.8	
	4	20			6"		8'-2½"	8'-5¾"	7'-4"	6.29	.444	370	139.89	20.0	
	5	25			7"	2'-9"	10'-10½"	10'-9¾"	9'-6"	6.74	.521	478	142.55	22.3	
6	3	18	2'-6"	8½"	6"	2'-6"	5'-10½"	6'-2"	5'-2"	4.94	.478	278	141.88	20.0	
	4	24			6"		8'-2½"	8'-5¾"	7'-4"	6.61	.515	383	144.54	22.3	
	5	30			7"	2'-9"	10'-8"	10'-9¾"	9'-6"	9.14	.592	492	147.20	24.5	
	6	36			7"	3'-0"	13'-1"	13'-1"	11'-6"	11.58	.633	611	149.86	26.7	
8	3	24	3'-6"	10½"	7"	2'-7"	8'-5¾"	8'-10¾"	7'-8"	8.23	.767	429	163.47	26.7	
	4	32			7"	2'-7"	8'-5¾"	8'-10¾"	7'-8"	8.23	.767	429	163.47	26.7	
	5	40			7"	2'-8"	11'-0¾"	11'-2"	9'-8"	10.32	.810	536	166.13	28.9	
	6	48			7"	3'-0"	13'-5¾"	13'-5¾"	11'-8"	13.06	.853	673	168.80	31.2	
	7	56			7"	3'-4"	16'-0"	15'-9¾"	13'-8"	16.03	.897	976	171.46	33.4	
	8	64			8"	3'-10"	18'-8"	18'-1"	15'-8"	20.69	1.000	1168	174.81	35.6	
10	4	40	4'-6"	11¾"	7"	2'-7"	8'-5¾"	8'-10¾"	7'-8"	8.91	.843	505	190.62	31.2	
	5	50			7"	2'-9"	11'-0¾"	11'-2"	9'-8"	11.33	1.026	611	93.28	33.4	
	6	60			7"	3'-0"	13'-5¾"	13'-5¾"	11'-8"	13.99	1.067	748	95.94	35.6	
	7	70			7"	3'-4"	16'-0"	15'-9¾"	13'-8"	17.27	1.112	1060	98.60	37.9	
	8	80			8"	3'-10"	18'-8"	18'-1"	15'-8"	21.88	1.217	1253	101.26	40.1	
	9	90			9"	4'-3"	21'-2"	20'-4¾"	17'-8"	27.55	1.334	1740	111.86	42.3	
	10	100			10"	4'-9"	23'-9¾"	22'-8¾"	19'-8"	34.78	1.443	2181	115.27	44.5	

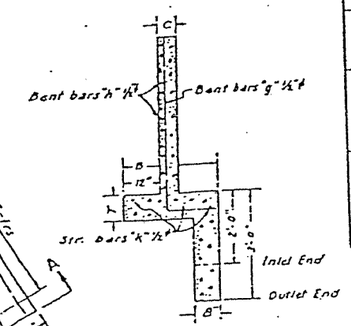
LAP NOTE:
In computing quantities of steel from the above table add one lap for culverts up to 50' in length and one lap for each additional 25' in length.



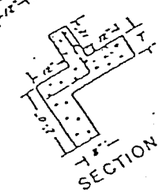
PLAN

HALF SECTION TOP SLAB

HALF SECTION BOTTOM SLAB & SIDE WALLS



SECTION B-B



SECTION A-A

NOTE:-
Angle of Wing-walls may be varied to conform to the natural or proposed inlet or outlet channel.

STEEL SCHEDULE
For Culvert 32' in Length Out to Out of Barrel

LENGTH OF SPAN	HEIGHT	"a" bars				"b" bars	"c" bars	"f" bars		"g" bars		"h" bars		"k" bars	"r" bars	"s" bars	
		3" for 2, 3, 4, 5, 6, & 8 Span 6" for 10" Span				½" ø bars spaced at 12" Centers STRAIGHT		STRAIGHT Vertical bars in Sidewalls		Vertical bars in Wingwalls		½" ø bars @ 12" Ctrs. Horizontal bars in Wingwalls		½" ø Bars STRAIGHT Top of Wing Footings	½" ø BENT Dowel Bar in Headwall	½" ø one in Top of Each Wingwall	
		2 in each headwall Balance in top and bottom slab at barrel				Top slab and Sidewalls	Top of Bottom Slab										
S	H	SIZE	SPACING	NUMBER	LENGTH	X	NUMBER	LENGTH	NUMBER	LENGTH	SIZE	SPACING	NUMBER	LENGTH	SIZE	SPACING	NUMBER	LENGTH	NUMBER	LENGTH	NUMBER	LENGTH
2	2	½" ø	6"	122	3'-7"	2'-3"	3		3		½" ø	12"	64	2'-10"	⅝" ø	12"	16	3'-4"	6	3'-2"	4	3'-3"
3	2			132	4'-1"	3'-0"	3		4				64	3'-11"			24	3'-4½"	8	3'-2"	4	3'-3"
	3			132	4'-1"	3'-0"	3		4		½" ø	12"	64	3'-0"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
4	2	½" ø	5¼"	144	5'-7"	4'-5"	5		5				64	4'-0"			24	3'-11"	8	3'-2"	4	3'-3"
	3			144	5'-7"	4'-5"	5		5		½" ø	12"	64	5'-0"	⅝" ø	12"	16	3'-4"	6	3'-2"	4	3'-3"
	4			144	5'-7"	4'-5"	5		5				64	5'-1"			24	3'-10"	8	3'-2"	4	3'-3"
5	2	½" ø	5"	158	6'-7"	5'-5"	6		6		½" ø	12"	64	4'-2"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	3			158	6'-7"	5'-5"	6		6				64	5'-3"			24	3'-11"	8	3'-2"	4	3'-3"
	4			158	6'-7"	5'-5"	6		6		½" ø	12"	64	6'-4"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	5			158	6'-7"	5'-5"	6		6				64	6'-7"			24	3'-11"	8	3'-2"	4	3'-3"
6	3	½" ø	5"	158	7'-7"	6'-5"	7		7		½" ø	12"	64	4'-2"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	4			158	7'-7"	6'-5"	7		7				64	5'-3"			24	3'-11"	8	3'-2"	4	3'-3"
	5			158	7'-7"	6'-5"	7		7		½" ø	12"	64	6'-4"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	6			158	7'-7"	6'-5"	7		7				64	7'-5"			24	4'-0"	8	3'-2"	4	3'-3"
8	3	½" ø	6"	132	9'-8"	8'-10"	9		9		½" ø	12"	64	4'-5"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	4			132	9'-8"	8'-10"	9		9				64	5'-5"			24	3'-11"	8	3'-2"	4	3'-3"
	5			132	9'-8"	8'-10"	9		9		½" ø	12"	64	6'-5"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	6			132	9'-8"	8'-10"	9		9				64	7'-5"			24	4'-0"	8	3'-2"	4	3'-3"
	7			132	9'-8"	8'-10"	9		9		½" ø	12"	64	8'-3"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	8			132	9'-8"	8'-10"	9		9				64	9'-5"			24	4'-0"	8	3'-2"	4	3'-3"
10	4	⅝" ø	9½"	86	12'-4"	10'-10"	11	31'-8" for 32'-0" Length	11	33'-9" for 32'-0" Length	½" ø	12"	64	5'-7"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	5			86	12'-4"	10'-10"	11		11				64	6'-8"			24	4'-0"	8	3'-2"	4	3'-3"
	6			86	12'-4"	10'-10"	11		11		½" ø	12"	64	7'-9"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	7			86	12'-4"	10'-10"	11		11				64	8'-9"			24	4'-0"	8	3'-2"	4	3'-3"
	8			86	12'-6"	11'-0"	11		11		½" ø	12"	64	9'-10"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"
	9			86	12'-8"	11'-2"	11		11				64	10'-11"			24	4'-0"	8	3'-2"	4	3'-3"
	10			86	12'-10"	11'-4"	11		11		½" ø	12"	64	11'-11"	⅝" ø	12"	16	3'-5"	6	3'-2"	4	3'-3"

	X				Y				Z					
	Min.		Max.		Min.		Max.		Min.		Max.			
SIZE	SPACING	NUMBER	LENGTH	SIZE	SPACING	NUMBER	LENGTH	SIZE	SPACING	NUMBER	LENGTH	SIZE	SPACING	NUMBER	LENGTH
½" ø	12"	64	2'-11"	⅝" ø	12"	16	3'-4"	½" ø	12"	12	4'-7"	½" ø	12"	6	3'-2"
		64	3'-11"			16	3'-4"			12	4'-7"		12"	8	3'-2"
½" ø	12"	64	3'-0"	⅝" ø	12"	16	3'-4"	½" ø	12"	16	5'-11"				
		64	4'-0"			24	3'-11"			12	4'-7"				
½" ø	12"	64	5'-0"	⅝" ø	12"	16	3'-4"	½" ø	12"	20	7'-2"				
		64	5'-1"			24	3'-10"			16	5'-11"				
½" ø	12"	64	6'-1"	⅝" ø	12"	16	3'-5"	½" ø	12"	20	7'-2"				
		64	6'-2"			24	3'-11"			16	5'-11"				
½" ø	12"	64	7'-2"	⅝" ø	12"	16	3'-5"	½" ø	12"	24	8'-3"				
		64	7'-3"			24	4'-0"			16	5'-11"				
½" ø	12"	64	8'-3"	⅝" ø	12"	16	3'-5"	½" ø	12"	24	8'-3"				
		64	8'-4"			24	4'-0"			16	5'-11"				
½" ø	12"	64	9'-4"	⅝" ø	12"	16	3'-5"	½" ø	12"	24	8'-3"				
		64	9'-5"			24	4'-0"			16	5'-11"				
½" ø	12"	64	10'-5"	⅝" ø	12"	16	3'-5"	½" ø	12"	24	8'-3"				
		64	10'-6"			24	4'-0"			16	5'-11"				
½" ø	12"	64	11'-6"	⅝" ø	12"	16	3'-5"	½" ø	12"	24	8'-3"				
		64	11'-7"			24	4'-0"			16	5'-11"				

NOTE: Lengths given above do not include lap.

SPECIFICATIONS:- Arkansas Standard Road and Bridge Specifications.
REINFORCING STEEL:- To be deformed bars of structural or intermediate grade.
CHAMFER:- All exposed corners to have ¾" Chamfer
CONCRETE:- All Concrete to be Class "S"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

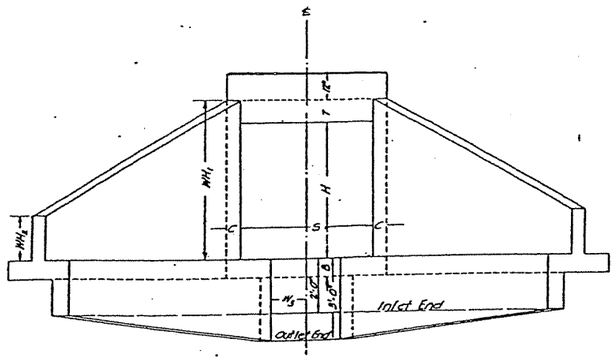
ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERTS

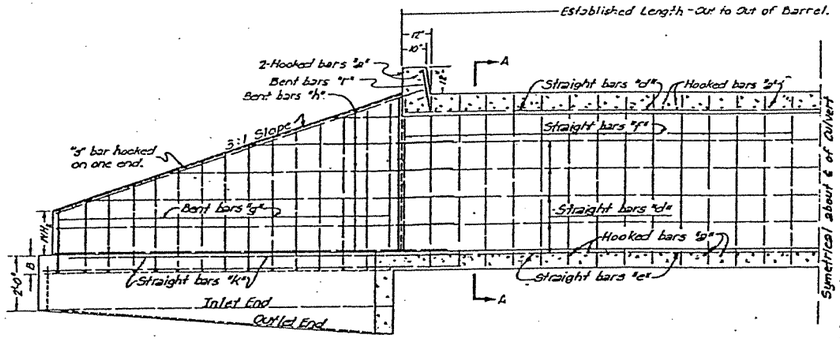
SINGLE

DATE REVISED	DATE FILED	FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		6	ARK.				
		JOB NO.	910502		11	27	

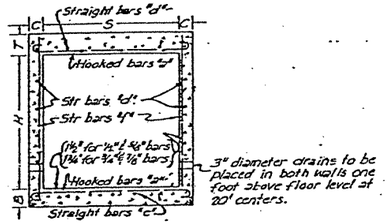
(2) SPECIAL DETAIL



END ELEVATION

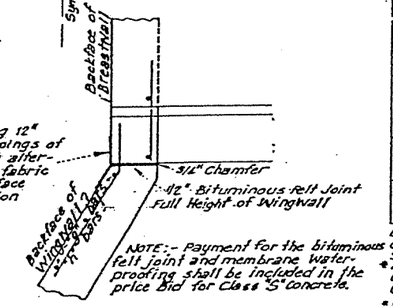


LONGITUDINAL SECTION



SECTION A-A

A membrane waterproofing 12" Wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the backface of abutment to cover expansion joint.



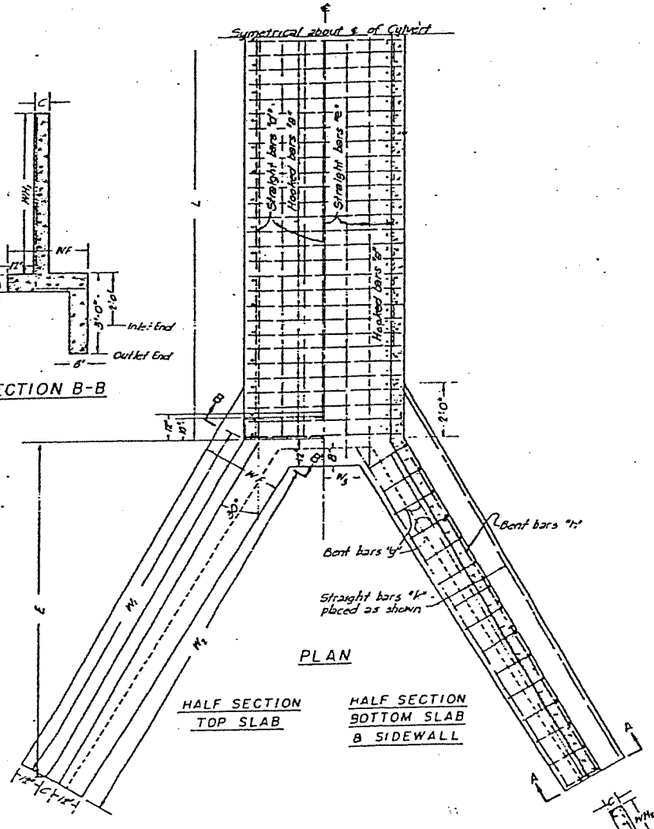
NOTE:- Payment for the bituminous felt joint and membrane waterproofing shall be included in the price bid for Class "S" concrete.

DETAIL OF EXPANSION JOINT

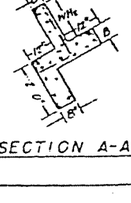
FOR CULVERTS WHEN HEIGHT "H" = 8' OR MORE

SCALE: 3/4" = 1'-0"

SECTION B-B



NOTE:-Angle of Wingwalls may be varied to conform to the natural or proposed inlet or outlet channel.



SECTION A-A

DIMENSIONS AND QUANTITIES

SPAN	HEIGHT	AREA OF OPENING SQ. FT.	MAXIMUM DEPTH FROM TOP OF SLAB TO FLOW LINE	THICKNESS OF SIDE WALLS & WINGWALLS AT TOP SLAB	THICKNESS OF SIDE WALLS & WINGWALLS AT BOTTOM SLAB	WINGWALL HEIGHTS AT HEADWALL	WINGWALL HEIGHTS AT WING END	MAXIMUM WIDTH OF WING FOOTING PERPENDICULAR DIST. FROM FACE OF HDWALL TO END OF WING	INSIDE LENGTH OF WING FOOTING	LENGTH OF WINGWALLS	FOOTING DIMENSION FROM ℄ OF BOX.	CONCRETE CU.YD. HEADWALLS, WINGWALLS & FOOTINGS	CONCRETE CU.YD. PER LINEAR FT. OF BARREL	STEEL LB. HEADWALLS, WINGWALLS & FOOTINGS	STEEL LB. PER LINEAR FT. OF BARREL	STEEL LB. ADD'L STEEL FOR LAPS
S	H	A	D	T	C	B	WH1	WH2	WE	E	W1	W2	W3			
3	2	6	3'-6"	8"	6"	6"	2'-9"	1'-0"	2'-6"	5'-3"	6'-0⅝"	5'-3¼"	6'-10⅛"	3.65	0.253	236	25.26	13.4
	3	9			6"	6½"	3'-9"	1'-0"	2'-6"	6'-3"	7'-6⅛"	5'-9¼"	8'-10⅛"	5.86	0.330	352	27.97	15.6
	4	12			6"		4'-9"	1'-6"	2'-6"	10'-3"	11'-6⅛"	6'-3¼"	10'-10⅛"	7.71	0.367	461	30.67	17.8
4	2	8	4'-6"	9"	6"	7½"	2'-9"	1'-0"	2'-6"	5'-3"	6'-0⅝"	5'-0⅛"	7'-6⅛"	4.02	0.329	246	31.22	15.6
	3	12			6"		3'-9"	1'-0"	2'-6"	8'-3"	9'-6⅛"	6'-3¼"	9'-10⅛"	6.30	0.366	363	33.93	17.8
	4	16			6"		4'-9"	1'-6"	2'-6"	10'-3"	11'-10"	6'-3¼"	11'-10⅛"	8.20	0.403	472	34.63	20.0
	6	24			7"		6'-9"	2'-0"	3'-03"	16'-3"	16'-5⅞"	10'-8⅛"	10'-5"	13.57	0.522	777	42.58	24.5
5	2	10	5'-6"	9"	6"	7½"	2'-10"	1'-0"	2'-6"	5'-6"	6'-2¼"	5'-4"	6'-10⅛"	4.56	0.326	289	40.34	17.8
	3	15			6"		3'-10"	1'-0"	2'-6"	8'-6"	9'-9⅜"	6'-6¼"	9'-10⅛"	6.82	0.455	607	43.04	20.0
	4	20			6"		4'-10"	1'-6"	2'-6"	10'-6"	12'-1⅜"	8'-0¼"	11'-10"	8.78	0.472	515	45.75	22.3
	5	25			6"		5'-10"	1'-8"	2'-9"	12'-6"	14'-5⅝"	9'-6¼"	13'-6⅛"	11.20	0.509	650	48.46	24.5
	7	35			7½"		7'-10"	2'-6"	3'-11"	16'-6"	19'-0⅝"	13'-7½"	0'-4"	19.17	0.662	1231	54.84	29.9
6	3	18	6'-6"	9"	6"	7½"	3'-10"	1'-0"	2'-6"	8'-6"	9'-9⅜"	6'-6¼"	9'-6⅛"	7.28	0.532	403	50.58	22.3
	4	24			6"		4'-10"	1'-6"	2'-6"	10'-6"	12'-1⅜"	8'-0¼"	11'-10"	9.28	0.569	527	53.18	24.5
	5	30			6"		5'-10"	1'-8"	2'-11"	12'-6"	14'-5⅝"	9'-6¼"	13'-6⅛"	11.80	0.606	664	55.99	26.7
	7	42			7½"		7'-10"	2'-6"	3'-11"	16'-6"	19'-0⅝"	13'-7½"	0'-4"	15.76	0.691	825	59.99	29.9
	8	48			8"		8'-10"	2'-8"	4'-5"	18'-6"	21'-4⅝"	14'-2¼"	0'-3⅝"	24.90	0.836	1500	72.76	33.4
8	7	56	8'-6"	11"	7½"	11"	8'-0"	2'-6"	3'-0"	17'-0"	19'-7⅝"	13'-7½"	20'-3"	20.58	0.966	1337	90.21	40.1
	8	64			8"		9'-0"	2'-8"	3'-6"	19'-0"	21'-10⅝"	15'-2½"	1'-2⅝"	27.57	1.043	1592	100.81	47.3
	10	80			10"		11'-0"	3'-4"	5'-6"	23'-0"	26'-5⅝"	18'-4½"	0'-2⅝"	43.93	1.289	2449	109.51	66.8
10	8	80	12'-6"	12½"	8"	12½"	9'-0"	2'-8"	4'-6"	19'-0"	21'-10⅝"	15'-2½"	1'-2⅝"	29.64	1.270	1628	130.98	66.5
	10	100			10"		11'-0"	3'-4"	5'-6"	23'-0"	26'-5⅝"	18'-4½"	0'-2⅝"	46.15	1.517	2430	139.76	99.0
	12	120			12"		13'-0"	4'-0"	6'-6"	27'-0"	31'-5"	22'-5⅝"	0'-3⅝"	68.41	1.815	3817	158.53	133.6

LAP NOTE -In computing quantities of Steel from the above table, add one Lap for culverts up to 50'-0" in length and one Lap for each additional 25'-0" in length.

SPECIFICATIONS :- Arkansas Standard Road and Bridge Specifications.

*REINFORCING STEEL :- To be deformed bars of structural or intermediate grade.

CHAMFER :- All exposed corners to have ¾" Chamfer.

CONCRETE :- All concrete to be Class "S"

*Reinforcing Steel to be Deformed Bars of Intermediate or Rail Grade on all Interstate Highways.

STEEL SCHEDULE

For Culverts 30'-0" in Length - Out to Out of Barrel

| SPAN | HEIGHT | "a" bars: SIZE | SHAPE | NUMBER | LENGTH | "X" | "b" bars: SIZE | SHAPE | NUMBER | LENGTH | "d" bars STRAIGHT In Bottom of Top Slab: SIZE | SHAPE | NUMBER | LENGTH | "d" bars STRAIGHT In Sidewalls | "e" bars In Top of Bottom Slab: SIZE | SHAPE | NUMBER | LENGTH | "f" bars STRAIGHT Vertical bars in Sidewalls: SIZE | SHAPE | NUMBER | LENGTH | "g" bars Vertical bars in back face of Wingwall bent into Bottom of footing: SIZE | SHAPE | NUMBER | LENGTH | X Min | X Max | Y Min | Y Max | "h" bars ½"ℓ bars @ 12" Ctrs: SIZE | SHAPE | NUMBER | LENGTH | Z Min | Z Max | "k" bars ½"ℓ bars STRAIGHT in Wing footings: SIZE | LENGTH | NUMBER | LENGTH | "r" bars ½"ℓ bars Dowels in Headwalls: SIZE | LENGTH | NUMBER | LENGTH | "s" bars ½"ℓ bars In Top of each Wingwall: SIZE | LENGTH | NUMBER | LENGTH | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---

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.		110502	12	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

REVISION BOX

DATE OF REVISION	REVISION

BEGIN JOB 110502
STA. 115+00.00
L.M.= 0.74

LEGEND

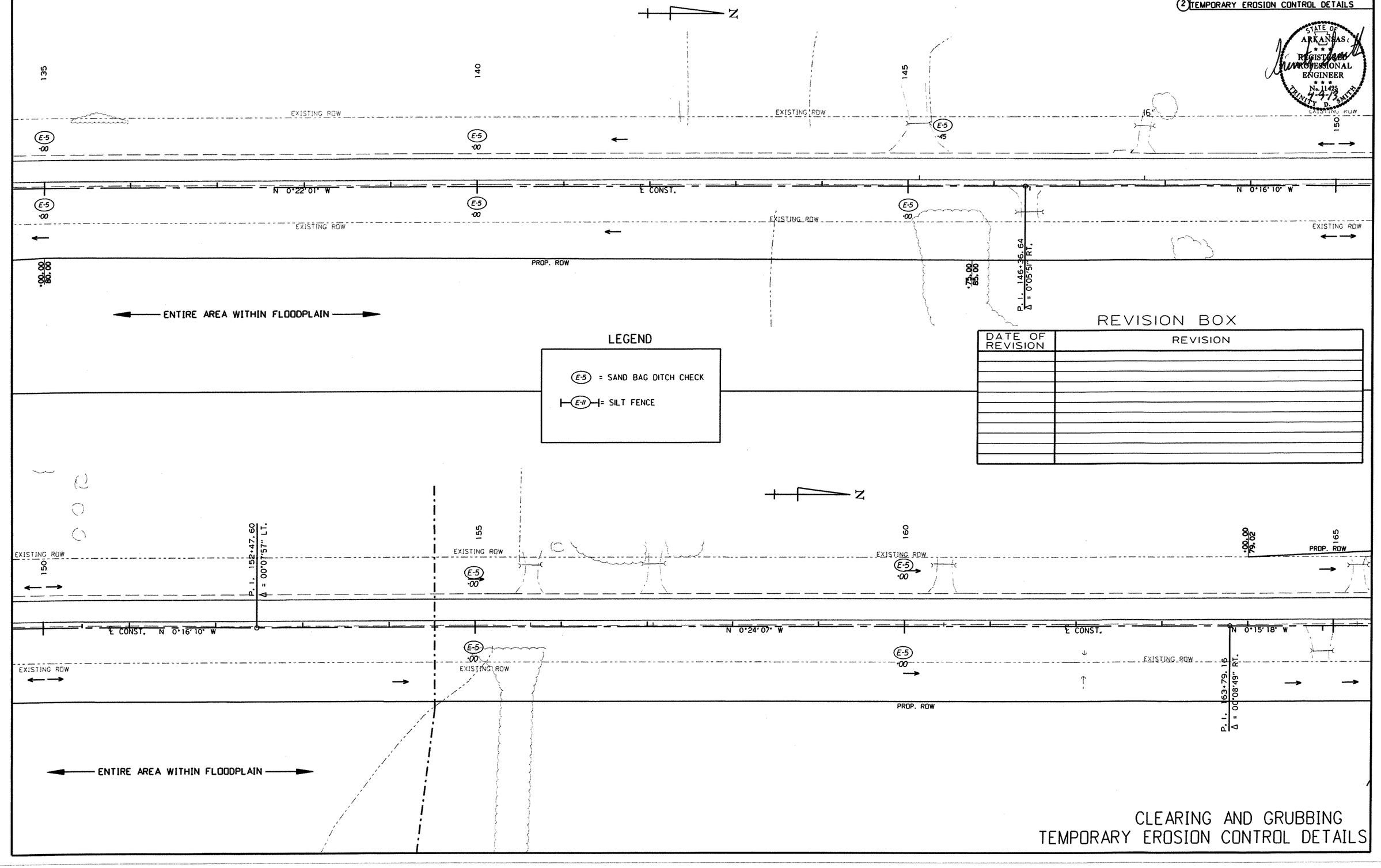
E-5 = SAND BAG DITCH CHECK

E-11 = SILT FENCE

CLEARING AND GRUBBING
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.		110502	13	271

(2) TEMPORARY EROSION CONTROL DETAILS



REVISION BOX

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
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.		110502	14	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 173+06.91
Δ = 02° 07' 18" LT.
D = 0°30'00"
T = 212.19'
L = 424.32'
PC = 170+94.73
PT = 175+19.05
NO SUPER

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECK

E-11 = SILT FENCE

CLEARING AND GRUBBING
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.		110502	15	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N. 11495
TRINITY D. SMITH

195 204+67 75.12 PROP. ROW 196+43.91 P. I. Δ = 00°12'38" LT. 60.00 85.00 PROP. ROW EXISTING ROW 200 100.00 80.00 E-5 ·00 EXISTING ROW 200+91.11 P. I. Δ = 00°05'06" LT. PROP. ROW 16' 50.00 80.00 205 E-5 ·00 EXISTING ROW E-5 ·50 PROP. ROW

N 0°11'30" W N 0°24'08" W ℄ CONST. N 0°29'14" W ℄ CONST.

E-5 ·00 EXISTING ROW E-5 ·00 EXISTING ROW E-5 ·00 EXISTING ROW E-5 ·00

ROW PROP. ROW 204+99 79.88 PROP. ROW 70.00 85.00 PROP. ROW 65.00 80.00 PROP. ROW

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECK

E-11 = SILT FENCE

210 PROP. ROW EXISTING ROW E-5 ·00 PROP. ROW 55.00 85.00 215 E-5 ·00 E-5 ·00 EXISTING ROW 100.00 85.00 E-5 ·00 E-5 ·50 N 0°29'14" W ℄ CONST. E-5 ·00 EXISTING ROW E-5 ·00 E-5 ·50 E-5 ·50 EXISTING ROW 218+83.44 P. I. Δ = 00°00'06" RT. 220 100.00 105.00 PROP. ROW E-5 ·80 E-5 ·00 E-5 ·80 E-5 ·00 N 0°29'08" W

225 PROP. ROW 46.77 85.00 PROP. ROW 55.00 75.00 PROP. ROW EXISTING ROW EXISTING ROW E-5 ·00 EXISTING ROW 224+83.54 P. I. Δ = 00°24'22" RT. E-5 ·00

50.00 85.00 PROP. ROW 60.00 90.00 PROP. ROW 110.00 90.00 105.00 80.00 90.00 PROP. ROW

CLEARING AND GRUBBING
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.		110502	16	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
4-9-13
TRINITY D. SMITH

N

PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'

RESTRAINING CONDITION
ARCHEOLOGICAL MONITORING

LICK CREEK

PROP. ROW
EXISTING ROW
℄ CONST.
N 0°04' 46" W
N 3°11' 38" E
N 0°58' 35" W

P. I. 224+83.54
Δ = 00°24'22" RT.
P. C. 230+22.06
P. I. 232+40.33
P. T. 234+58.49
P. C. 238+90.99
P. I. 240+30.06
P. T. 241+69.01
P. I. 240+30.06

PI = 232+40.33
Δ = 03° 16' 24" RT.
D = 00°45'00"
T = 218.27'
L = 436.43'
PC = 230+22.06
PT = 234+58.49
e = 0.023'/'
Ls = 540'

100' TRANSITION

T.C.E.

LEGEND

(E-5) = SAND BAG DITCH CHECK

(E-II) = SILT FENCE

REVISION BOX

DATE OF REVISION	REVISION

STA. 245+00-246+45
SILT FENCE - 145 LIN. FT.

STA. 246+70-247+30
SILT FENCE - 60 LIN. FT.

STA. 247+60-249+80
SILT FENCE - 220 LIN. FT.

CLEARING AND GRUBBING
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.		110502	17	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
4-9-13
TRINITY D. SMITH

PI = 264+24.69
Δ = 00° 43' 40" RT.
D = 1°00'00"
T = 36.39
L = 72.78
PC = 263+88.07
PT = 264+61.07
NO SUPER

STA. 265+00-270+00
SILT FENCE - 500 LIN. FT.

P.C. 263+88.30
P.T. 264+61.07
P.I. 264+24.69

N 0°58'35" W
N 1°42'15" W
N 0°27'31" W
N 0°11'40" E

℄ CONST.
EXISTING ROW
PROP. ROW
T.C.E.

LEGEND

(E-5) = SAND BAG DITCH CHECK
(E-11) = SILT FENCE

REVISION BOX

DATE OF REVISION	REVISION

PI = 272+35.82
Δ = 1° 14' 44" RT.
D = 1°00'00"
T = 62.28'
L = 124.56
PC = 271+73.53
PT = 272+98.10
NO SUPER

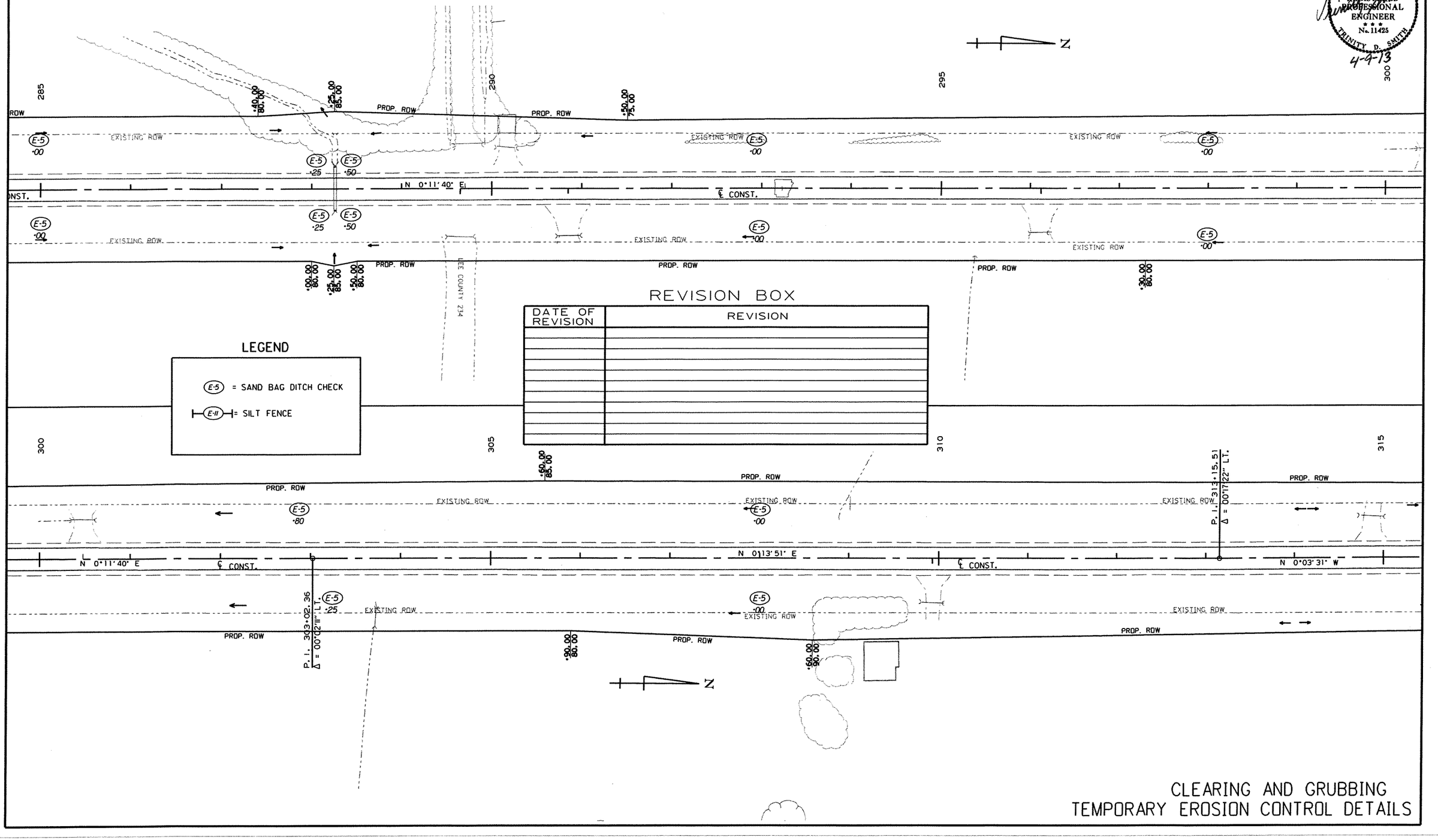
PI = 275+80.45
Δ = 00° 39' 11" RT.
D = 00°30'00"
T = 65.29'
L = 130.60
PC = 275+15.15
PT = 276+45.75
NO SUPER

CLEARING AND GRUBBING
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.		110502	18	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13



REVISION BOX

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECK

E-11 = SILT FENCE

CLEARING AND GRUBBING
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.		110502	19	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

N

315 320 325 330

+30.00 80.00 — PROP. ROW — EXISTING ROW — E-5 ·00 — P. I. 322+93.31 Δ = 00°00'13" LT. — +19.99 85.00 — E-5 ·50 — E-5 ·90 E-5 ·10

N 0°03'31" W — ℄ CONST. — N 0°03'44" W ℄ CONST.

EXISTING ROW — E-5 ·00 — E-5 ·50 — EXISTING ROW — E-5 ·90 E-5 ·10 — EXISTING ROW

+87.31 80.09 — PROP. ROW — PROP. ROW — +96.82 84.99

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECK

E-11 = SILT FENCE

N

PI = 334+99.91
Δ = 1° 51' 51" LT.
D = 00°30'00"
T = 186.42'
L = 372.82'
PC = 333+13.48
PT = 336+86.30
NO SUPERELEVATION

330 335 340 345

+64.99 90.02 — P. C. 333+13.48 — +52.48 82.33 — +69.38 99.85 — P. T. 336+86.29 — T.C.E — +99.85 145.34 — +95.11 76.75 — +74.51 85.16 — P. I. 341+00.28 — +70.22 90 — 243 — +50.83 88.21 — PROP. ROW — P. I. 345 37.73

XISTING ROW — EXISTING ROW — PROP. ROW — EXISTING ROW — PROP. ROW — EXISTING ROW — E-5 ·80 — E-5 ·20 — EXISTING ROW

℄ CONST. N 0°03'44" W — N 1°55'35" W — N 0°03'48" W

G ROW — EXISTING ROW — E-5 ·80 — PROP. ROW — EXISTING ROW — E-5 ·20 — EXISTING ROW

P. I. 334+99.90 — +30.21 80.06 — P. C. 339+13.95 — +69.99 90.00 — P. T. 342+86.57 — +89.91 80.13

PI = 341+00.28
Δ = 1° 51' 47" RT.
D = 00°30'00"
T = 186.33'
L = 372.62'
PC = 339+13.96
PT = 342+86.58
NO SUPERELEVATION

CLEARING AND GRUBBING
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.		110502	20	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

PI = 357+84.20
Δ = 00° 12' 20" LT.
D = 00°15'00"
T = 41.09'
L = 82.17'
PC = 357+43.11
PT = 538+25.28
NO SUPER

N

345 350 355 360

ROW PROP. ROW PROP. ROW PROP. ROW

P. I. 345+37.73 Δ = 00°04'35" LT.

EXISTING ROW EXISTING ROW EXISTING ROW EXISTING ROW

E-5 ·85 E-5 ·00 E-5 ·00 E-5 ·80

℄ CONST.

N 0°08' 23" W N 0°02' 19" W N 0°14' 39" W N 0°14'

P. C. 357+43.10 P. T. 358+25.28 ·10.03 80.00

P. I. 350+01.74 Δ = 00°06'04" RT.

E-5 ·85 E-5 ·00 E-5 ·00 E-5 ·00

EXISTING ROW EXISTING ROW EXISTING ROW

P. I. 357+84.19

E-5 ·00 EXISTING ROW

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECK

E-11 = SILT FENCE

N

360 365 370 375

ROW PROP. ROW PROP. ROW

P. I. 360+85.74 Δ = 00°13'22" LT.

·40.03 80.00 ·00.03 75.00

ING. ROW EXISTING ROW EXISTING ROW

E-5 ·00 E-5 ·00 E-5 ·00 E-5 ·00

N 0°14' 39" W N 0°28' 01" W ℄ CONST. N 0°20' 22" W

G ROW E-5 ·20 EXISTING ROW E-5 ·00 EXISTING ROW E-5 ·00

P. I. 368+61.25 Δ = 00°07'39" RT.

CLEARING AND GRUBBING
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.		110502	21	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 386+35.94
Δ = 10° 27' 10" LT.
D = 02°00'00"
T = 262.05'
L = 522.64'
PC = 383+73.89
PT = 388+96.53
e = 0.055'/'
Ls = 540'

N

375 380 385 390

PROP. ROW
EXISTING ROW
℄ CONST.
N 0°20' 22" W
N 10°47' 32" W
P.C. 383+73.89
P.T. 388+96.53
P.I. 386+35.93
E-5 ·00
E-11 ·50 ·30
·75.03 75.00
·65.53 71.61
·76.59 70.94
·49.99 78.00
·40.03 75.00

STA. 385+50-387+30
SILT FENCE - 180 LIN. FT.

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECK
E-11 = SILT FENCE

N

390 395 400 405

LEE COUNTY 3/4
EXISTING ROW
℄ CONST.
N 10°47'32" W
N 0°09'55" E
N 0°14'46" E
P.I. 393+89.21
P.C. 391+14.44
P.T. 396+62.31
P.I. 400+00.40
Δ = 00°04'51" RT.
E-5 ·60 ·90 ·00
·44.99 78.00
·93.49 80.00
·00.28 85.00
·00 100' TRANSTION ·00

PI = 393+89.21
Δ = 10° 57' 27" RT.
D = 02°00'00"
T = 274.77'
L = 547.87'
PC = 391+14.44
PT = 396+62.31
e = 0.055'/'
Ls = 540'

END JOB 110502
STA. 400+00.41

CLEARING AND GRUBBING
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.		110502	22	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-7-13

REVISION BOX

DATE OF REVISION	REVISION

BEGIN JOB 110502
STA. 115+00.00
L.M.= 0.74

N

114+02.80 POB
100' TRANSITION
EXISTING ROW
℄ CONST. N 0°10'28" W
E-5 ·00
E-14 8430 CU. FT.
CONST. LIMITS
PROP. ROW
50.00 41.23
80.00 80.00

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

N

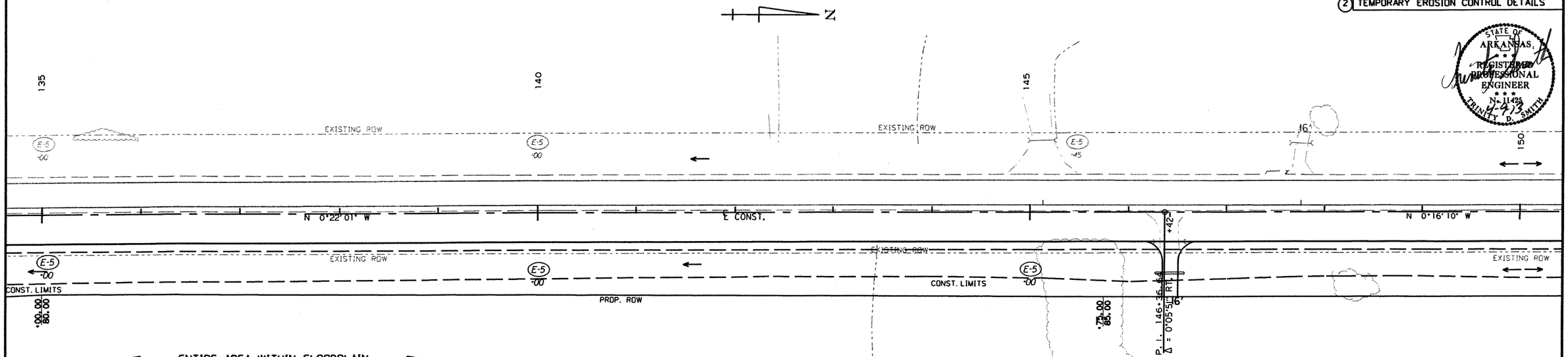
120 125 135
EXISTING ROW
50.00 69.41 100.00
PI. 129+47.92 Δ = 00°11'33" Rt.
49.56 125.49
80.79 118.41
80.73 75.49 130
GRADE TO DRAIN ·60
N 0°10'28" W ℄ CONST.
N 0°22'01" W ℄ CONST.
+12
E-5 ·00
EXISTING ROW
PROP. ROW
CONST. LIMITS
70.00 80.00
68.72 115.00
E-14 14796 CU. FT.
00.00 100.00
48.00 135.00
ENTIRE AREA WITHIN FLOODPLAIN

STAGE 1
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.		110502	23	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

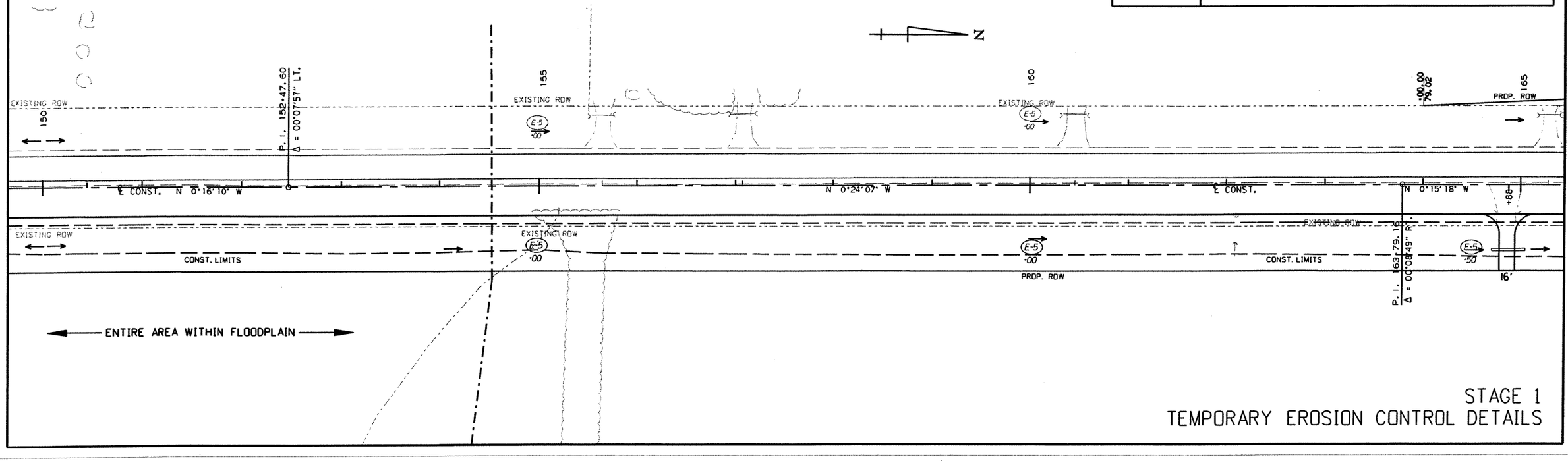


LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

REVISION BOX

DATE OF REVISION	REVISION



STAGE 1
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.		110502	24	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 173+06.91
Δ = 02° 07' 18" LT.
D = 0°30'00"
T = 212.19'
L = 424.32'
PC = 170+94.73
PT = 175+19.05
NO SUPER

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

PROP. ROW
EXISTING ROW
CONST. LIMITS
N 0°15' 18" W
N 0°02' 18" W
℄ CONST.
N 2°09' 36" W
N 0°11' 30" W
11808 CU. FT. E-14
20988 CU. FT. E-14
P.I. 169+15.95 Δ = 00°13'00" RT.
P.I. 173+06.91
P.C. 170+94.73
P.T. 175+19.05
P.I. 178+66.65
P.C. 176+69.78
P.D.E.
16'
18'

REVISION BOX

DATE OF REVISION	REVISION

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.		110502	25	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

N

195 · 04+67 75.12

P. I. 196+43.91
Δ = 00°10'38" LT.

· 60.00 85.00

PROP. ROW
EXISTING ROW
PROP. ROW

· 00.00 200 80.00

E-5 ·00

EXISTING ROW

P. I. 200+91.11
Δ = 00°05'06" LT.

PROP. ROW
16'

· 50.00 80.00

205

E-5 ·00

EXISTING ROW

E-5 ·50

PROP. ROW

N 0°11'30" W
N 0°24'08" W
℄ CONST.
N 0°29'14" W
℄ CONST.

ROW
EXISTING ROW
PROP. ROW
EXISTING ROW
E-5 ·00
PROP. ROW
16'
CONST. LIMITS
EXISTING ROW
E-5 ·00
CONST. LIMIT
PROP. ROW

· 04+99 79.88

· 70.00 85.00

· 65.00 80.00

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

N

210

PROP. ROW
EXISTING ROW
E-5 ·00

· 55.00 85.00

PROP. ROW
20'

215

· 00.00 85.00

E-5 ·00

EXISTING ROW

E-5 ·00

E-5 ·50

N 0°29'14" W
℄ CONST.

· 00.00 220 105.00

PROP. ROW

E-5 ·80
E-5 ·00

N 0°29'08" W

· 46.77 85.00

PROP. ROW

225

· 65.00 75.00

PROP. ROW
EXISTING ROW

CONST. LIMITS
EXISTING ROW
E-5 ·00

· 50.00 85.00

E-5 ·00

PROP. ROW

E-5 ·65

CONST. LIMITS

E-5 ·50

EXISTING ROW

· 60.00 90.00

16' PROP. ROW

· 10.00 110.00

P. I. 218+83.44
Δ = 00°00'06" RT.

E-14 16380 CU. FT.

· 90.00 105.00

· 80.00 90.00

EXISTING ROW

PROP. ROW

P. I. 224+83.54
Δ = 06°24'22" RT.

E-5 ·00

STAGE 1
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.		110502	26	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
4-9-13
TRINITY D. SMITH

N

LICK CREEK

PROP. ROW

EXISTING ROW

℄ CONST.

N 0°04' 46" W

N 3°11' 38" E

CONST. LIMITS

5022 CU. FT.

6408 CU. FT.

P. I. 224+83.54
Δ = 00°24'22" RT.

P. I. 232+40.33

P. C. 230+22.06

P. T. 234+58.49

PI = 232+40.33
Δ = 03° 16' 24" RT.
D = 00°45'00"
T = 218.27'
L = 436.43'
PC = 230+22.06
PT = 234+58.49
e = 0.023'/'
Ls = 540'

P. I. 238+90.99

PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'

LEE CO RD 238

LEE CO RD 242

RESTRAINING CONDITION

ARCHEOLOGICAL MONITORING

75' TRANSITION

P. I. 240+30.06

P. T. 241+69.01

P. C. E.

T. C. E.

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

STA. 245+00-246+45
SILT FENCE - 145 LIN. FT.

STA. 246+70-247+30
SILT FENCE - 60 LIN. FT.

STA. 247+60-249+80
SILT FENCE - 220 LIN. FT.

STAGE 1
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.		110502	27	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 264+24.69
Δ = 00° 43' 40" RT.
D = 1°00'00"
T = 36.39
L = 72.78
PC = 263+88.07
PT = 264+61.07
NO SUPER

STA. 265+00-270+00
SILT FENCE - 500 LIN. FT.

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN, XX CU FT

REVISION BOX

DATE OF REVISION	REVISION

PI = 272+35.82
Δ = 1° 14' 44" RT.
D = 1°00'00"
T = 62.28'
L = 124.56
PC = 271+73.53
PT = 272+98.10
NO SUPER

PI = 275+80.45
Δ = 00° 39' 11" RT.
D = 00°30'00"
T = 65.29'
L = 130.60
PC = 275+15.15
PT = 276+45.75
NO SUPER

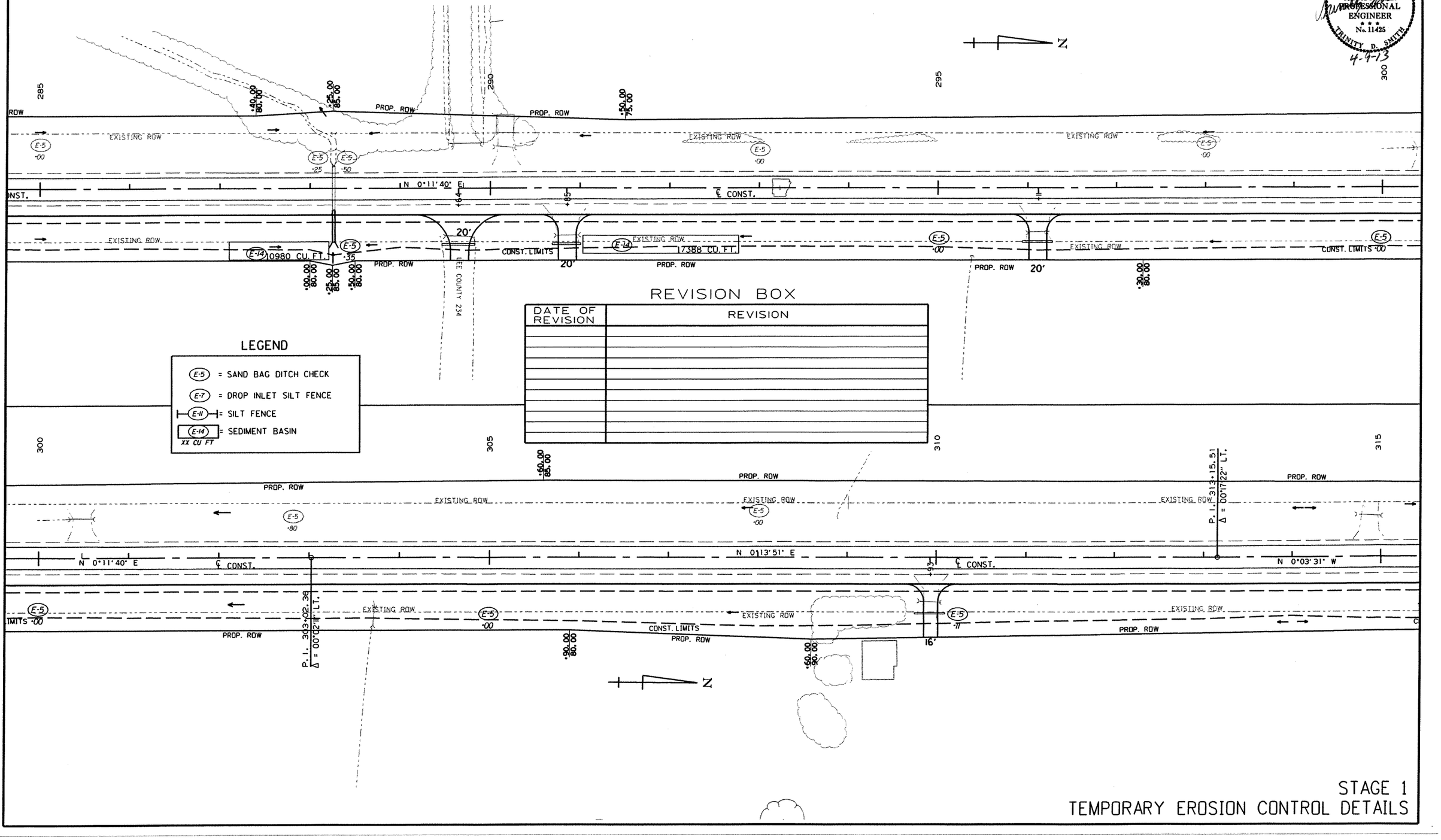
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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.		110502	28	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



STAGE 1
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.		110502	29	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

N

315 320 325 330

+30.00 80.00

PROP. ROW

EXISTING ROW

E-5 ·00

P. I. 322+93.31
Δ = 00°00'13" LT.

+19.99 85.00

E-5 ·50

E-5 ·90 E-5 ·10

PROP. ROW

EXISTING ROW

+58

N 0°03'31" W ℄ CONST.

N 0°03'44" W ℄ CONST.

CONST. LIMITS

EXISTING ROW

E-5 ·00

E-5 ·00

CONST. LIMITS

E-13 8172 CU. FT.

E-14 4896 CU. FT.

EXISTING ROW

E-5 ·00

+87.21 80.09

20'

PROP. ROW

PROP. ROW

+96.82 84.99

REVISION BOX

DATE OF REVISION	REVISION

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.		110502	30	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-03

PI = 357+84.20
Δ = 00° 12' 20" LT.
D = 00°15'00"
T = 41.09'
L = 82.17'
PC = 357+43.11
PT = 538+25.28
NO SUPER

N

345 350 355 360

P. I. 345+37.73 Δ = 00°04'35" LT.
P. I. 350+01.74 Δ = 00°06'04" RT.
P. C. 357+43.10
P. T. 358+25.28
P. T. 357+64.19
+10.03 80.00

PROP. ROW — EXISTING ROW — CONST. LIMITS — ℄ CONST.

N 0°08'23" W | N 0°02'19" W | N 0°14'39" W | N 0°14'

+85 +79 +36 +38 +50

E-14 1872 CU. FT.

E-5 ·00 E-5 ·85 E-5 ·00 E-5 ·00 E-5 ·80

16' 16' 16' 16' 16'

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

N

360 365 370 375

P. I. 360+85.74 Δ = 00°13'22" LT.
+40.03 80.00
+00.03 75.00
P. I. 368+61.25 Δ = 00°07'39" RT.

PROP. ROW — EXISTING ROW — CONST. LIMITS — ℄ CONST.

N 0°14'39" W | N 0°28'01" W | N 0°20'22" W

+44 +39 +06 +23 +66

E-5 ·00 E-5 ·20 E-5 ·00 E-5 ·00 E-5 ·00

16' 16' 16' 16' 20'

STAGE 1
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.		110502	31	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 386+35.94
Δ = 10° 27' 10" LT.
D = 02°00'00"
T = 262.05'
L = 522.64'
PC = 383+73.89
PT = 388+96.53
e = 0.055'/'
Ls = 540'

N

375 380 385 390

PROP. ROW

EXISTING ROW

℄ CONST.

N 0°20'22" W

CONST. LIMITS

P.C. 388+73.89

P.T. 388+96.53

N 10°47'32" W

P.I. 386+35.93

STA. 385+50-387+30
SILT FENCE - 180 LIN. FT.

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN XX CU FT

N

390 395 400 405

LEE COUNTY 3/4

P.I. 393+89.21

P.C. 391+14.44

P.T. 396+62.31

P.I. 400+00.41 Δ = 00°04'51" RT.

22'

3409 CU. FT.

100' TRANSITION

PI = 393+89.21
Δ = 10° 57' 27" RT.
D = 02°00'00"
T = 274.77'
L = 547.87'
PC = 391+14.44
PT = 396+62.31
e = 0.055'/'
Ls = 540'

END JOB 110502
STA. 400+00.41

STAGE 1
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.		110502	32	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

REVISION BOX

DATE OF REVISION	REVISION

BEGIN JOB 110502
STA. 115+00.00
L.M.= 0.74

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

ENTIRE AREA WITHIN FLOODPLAIN

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.		110502	33	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

N

135 140 145 150

EXISTING ROW — CONST. LIMITS — E-5 ·00 — E-5 ·50 — 20' — 16'

N 0°22'01" W — ℄ CONST. — N 0°16'10" W

PROP. ROW

·00.00 80.00 — ·75.00 85.00

P. I. 146+36.64
Δ = 0°05'51" RT.

ENTIRE AREA WITHIN FLOODPLAIN

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

REVISION BOX

DATE OF REVISION	REVISION

N

150 155 160 165

EXISTING ROW — CONST. LIMITS — E-5 ·00 — 16'

P. I. 152+47.60
Δ = 00°07'57" LT.

℄ CONST. N 0°16'10" W — N 0°24'07" W — ℄ CONST. N 0°15'18" W

·00.00 79.02 — PROP. ROW — E-14 10584 CU. FT.

P. I. 163+79.16
Δ = 00°08'49" RT.

PROP. ROW

ENTIRE AREA WITHIN FLOODPLAIN

P.O.E.

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.		110502	34	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

PI = 173+06.91
Δ = 02° 07' 18" LT.
D = 0°30'00"
T = 212.19'
L = 424.32'
PC = 170+94.73
PT = 175+19.05
NO SUPER

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

REVISION BOX

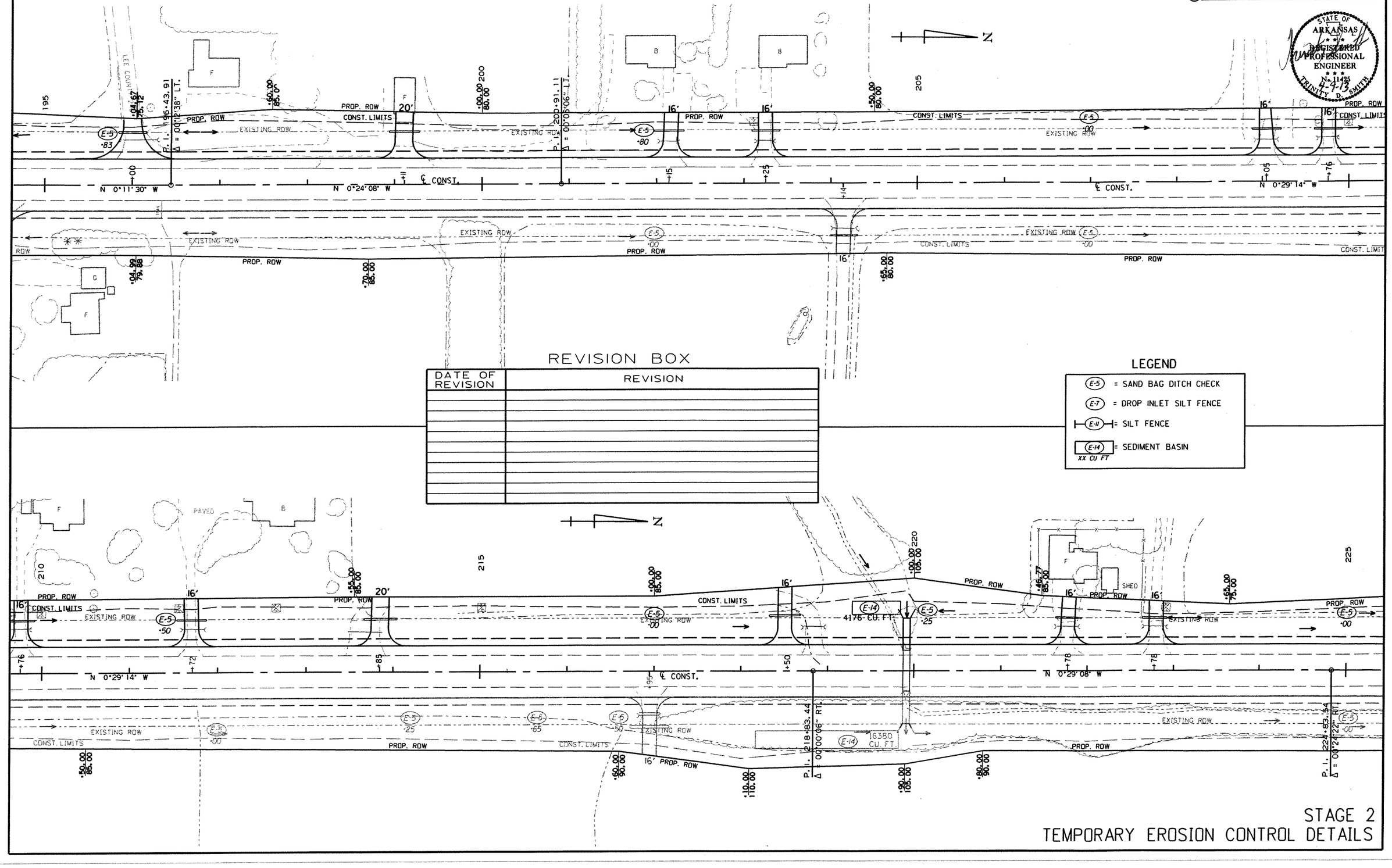
DATE OF REVISION	REVISION

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.		110502	35	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11435
4-4-13
TRINITY D. SMITH



REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = 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.		110502	36	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

N

LICK CREEK

PROP. ROW
CONST. LIMITS
EXISTING ROW
4896 CU FT
3636 CU. FT.
6408 CU. FT.
5022 CU. FT.
N 0°04'46" W
℄ CONST.
P.I. 224+83.54
Δ = 00°24'22" RT.
P.I. 232+40.33
P.C. 230+22.06
P.T. 234+58.49
PI = 232+40.33
Δ = 03° 16' 24" RT.
D = 00°45'00"
T = 218.27'
L = 436.43'
PC = 230+22.06
PT = 234+58.49
e = 0.023'/'
Ls = 540'
TRANSITION
LEE CO RD 238
PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'
PILGRIM M. B. CHURCH
PARKING
RESTRAINING CONDITION
ARCHEOLOGICAL MONITORING
P.C.C.
LEE CO RD 242
P.I. 240+30.06
N 3°11'38" E
N 0°58'35" W
TRI-CO
AUTO S

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

REVISION BOX

DATE OF REVISION	REVISION

ARCHEOLOGICAL MONITORING
RESTRAINING CONDITION
PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'
P.T. 241+69.01
P.I. 240+30.06
PARKING
TRI-COUNTY AUTO SALES
FOUNDATION
CONC.
PAVED
T.C.E.

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.		110502	37	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

PI = 264+24.69
Δ = 00° 43' 40" RT.
D = 1°00'00"
T = 36.39
L = 72.78
PC = 263+88.07
PT = 264+61.07
NO SUPER

PI = 272+35.82
Δ = 1° 14' 44" RT.
D = 1°00'00"
T = 62.28'
L = 124.56'
PC = 271+73.53
PT = 272+98.10
NO SUPER

PI = 275+80.45
Δ = 00° 39' 11" RT.
D = 00°30'00"
T = 65.29'
L = 130.60
PC = 275+15.15
PT = 276+45.75
NO SUPER

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN, XX CU FT

REVISION BOX

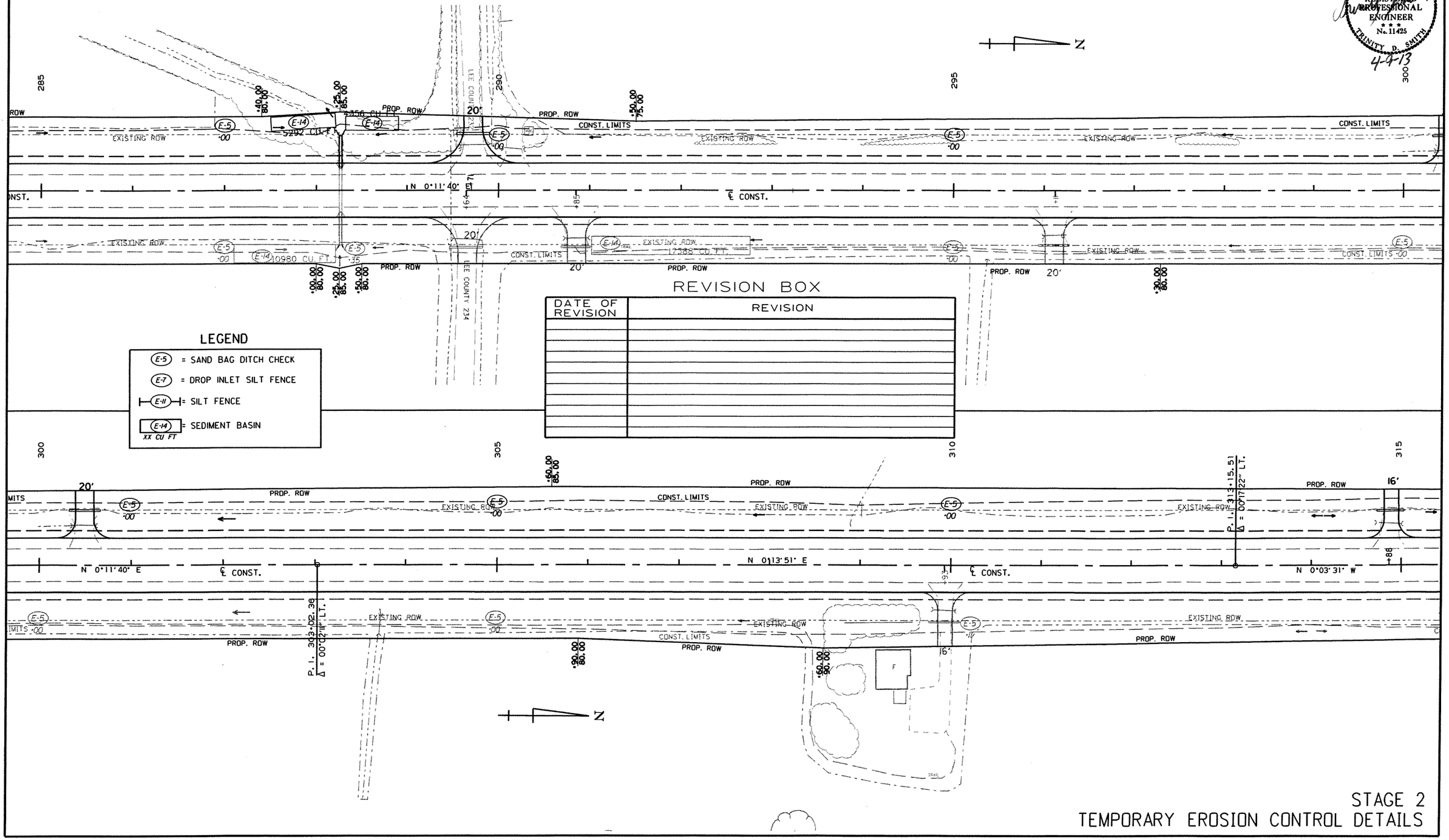
DATE OF REVISION	REVISION

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.		110502	38	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13



LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

REVISION BOX

DATE OF REVISION	REVISION

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.		110502	39	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

N

315 320 325 330

16' CONST. LIMITS EXISTING ROW PROP. ROW

+30.00 80.00

+19.99 85.00

P. I. 324+93.31
Δ = 00°00'13" LT.

9108 CU. FT. 4932 CU. FT.

+88 N 0°03'31" W ℄ CONST. N 0°03'44" W ℄ CONST.

PAVED SHOULDER

+50 20' SILT FENCE

+87.31 80.09

8172 CU. FT. 4896 CU. FT.

+26.82 84.99

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN XX CU FT

PI = 334+99.91
Δ = 1° 51' 51" LT.
D = 00°30'00"
T = 186.42'
L = 372.82'
PC = 333+13.48
PT = 336+86.30
NO SUPERELEVATION

330 335 340 345

+54.99 90.02

P. C. 333+13.48

5472 CU. FT.

P. T. 336+86.29

+52.48 82.33

+74.51 85.16

P. I. 341+00.28

+70.72 90.30

5148 CU. FT.

+50.83 86.21

P. I. 345+37.73

16' 18' 20' 20'

℄ CONST. N 0°03'44" W

N 1°55'35" W

N 0°03'48" W

+55 +24 +56 +96 +09 +09 +14 +15

P. I. 334+99.90

+50.21 80.06

P. C. 339+13.95

PI = 341+00.28
Δ = 1° 51' 47" RT.
D = 00°30'00"
T = 186.33'
L = 372.62'
PC = 339+13.96
PT = 342+86.58
NO SUPERELEVATION

+89.93 80.19

P. T. 342+86.57

+69.99 90.30

22' CLEAR ZONE

F F

EXISTING ROW PROP. ROW CONST. LIMITS

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.		110502	40	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-12

PI = 357+84.20
Δ = 00° 12' 20" LT.
D = 00°15'00"
T = 41.09'
L = 82.17'
PC = 357+43.11
PT = 538+25.28
NO SUPER

N

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = 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.		110502	41	271

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 386+35.94
Δ = 10° 27' 10" LT.
D = 02°00'00"
T = 262.05'
L = 522.64'
PC = 383+73.89
PT = 388+96.53
e = 0.055'/'
Ls = 540'

PI = 393+89.21
Δ = 10° 57' 27" RT.
D = 02°00'00"
T = 274.77'
L = 547.87'
PC = 391+14.44
PT = 396+62.31
e = 0.055'/'
Ls = 540'

REVISION BOX

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

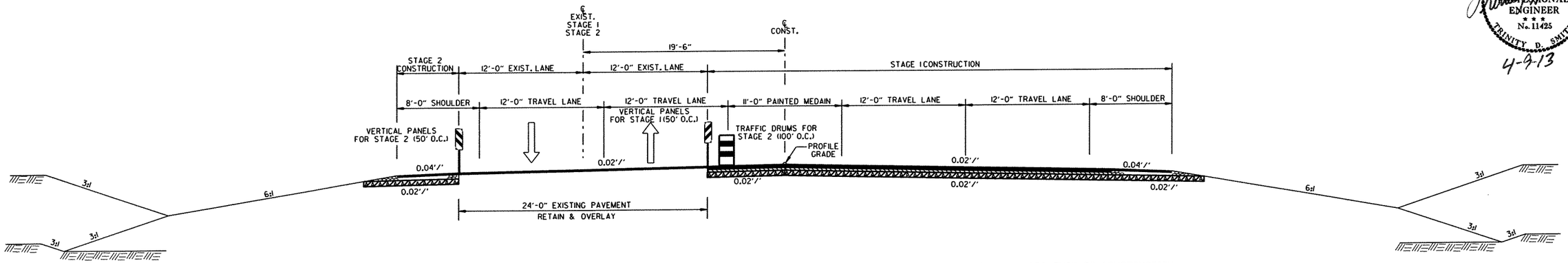
END JOB 110502
STA. 400+00.41

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.		110502	42	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13



MAINTENANCE OF TRAFFIC TYPICAL SECTION
STA. 115+00-174+00
STA. 389+00-400+00.41

SEQUENCE OF CONSTRUCTION:

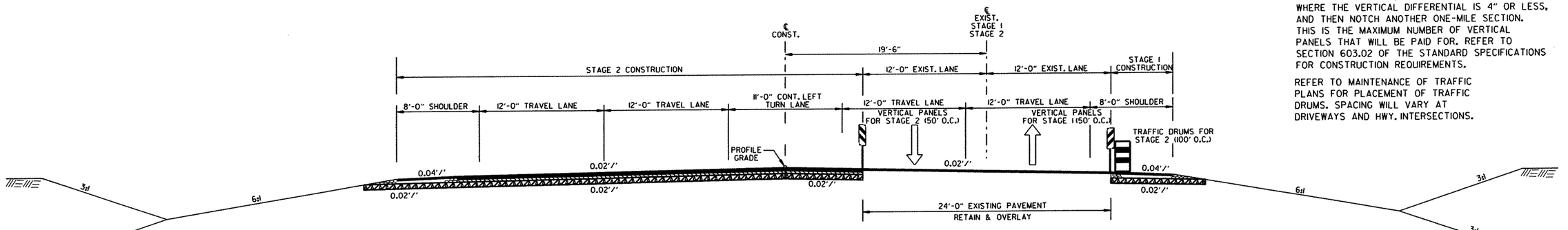
STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS

NOTES: 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.

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



MAINTENANCE OF TRAFFIC TYPICAL SECTION
STA. 342+00-380+00

ALL STAGES
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	43	271

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

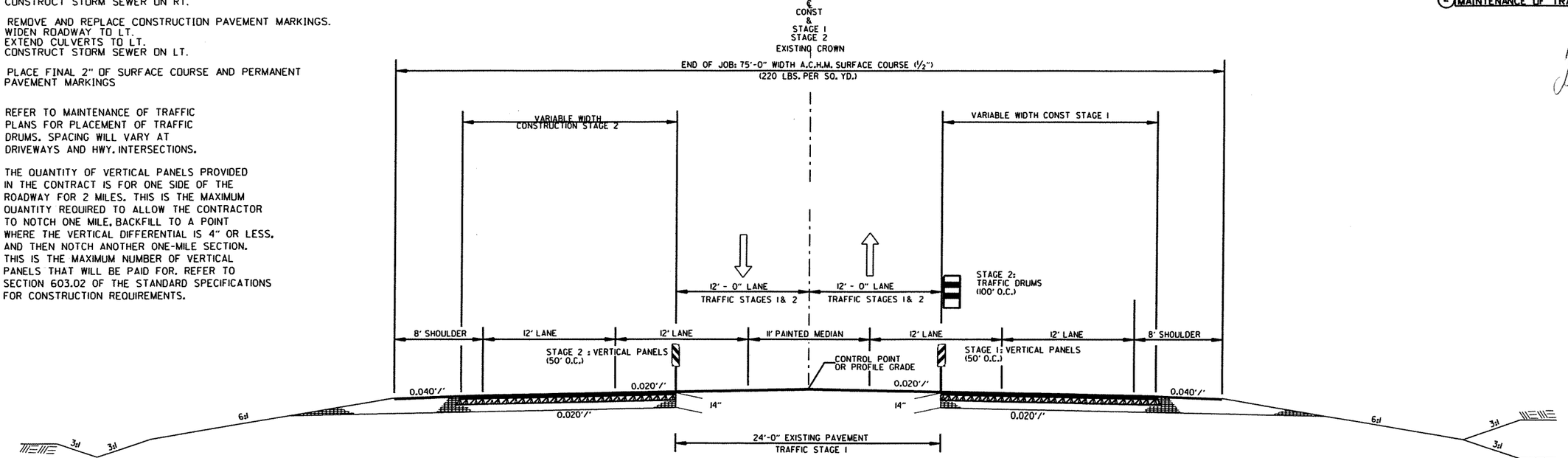
STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS

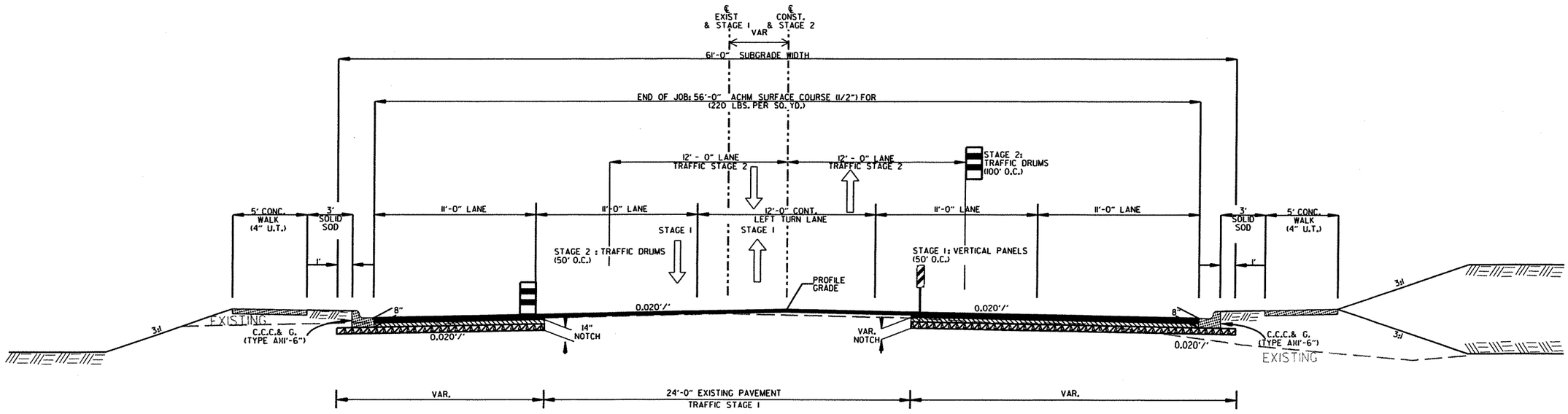
NOTES: REFER TO MAINTENANCE OF TRAFFIC PLANS FOR PLACEMENT OF TRAFFIC DRUMS. SPACING WILL VARY AT DRIVEWAYS AND HWY. INTERSECTIONS.

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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



MAINTENANCE OF TRAFFIC TYPICAL SECTION
STA. 174+00-235+45
STA. 272+20-342+00
STA. 380+00-389+00



MAINTENANCE OF TRAFFIC TYPICAL SECTION
CURB AND GUTTER

STA. 235+45-272+20

ALL STAGES
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	44	271

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS

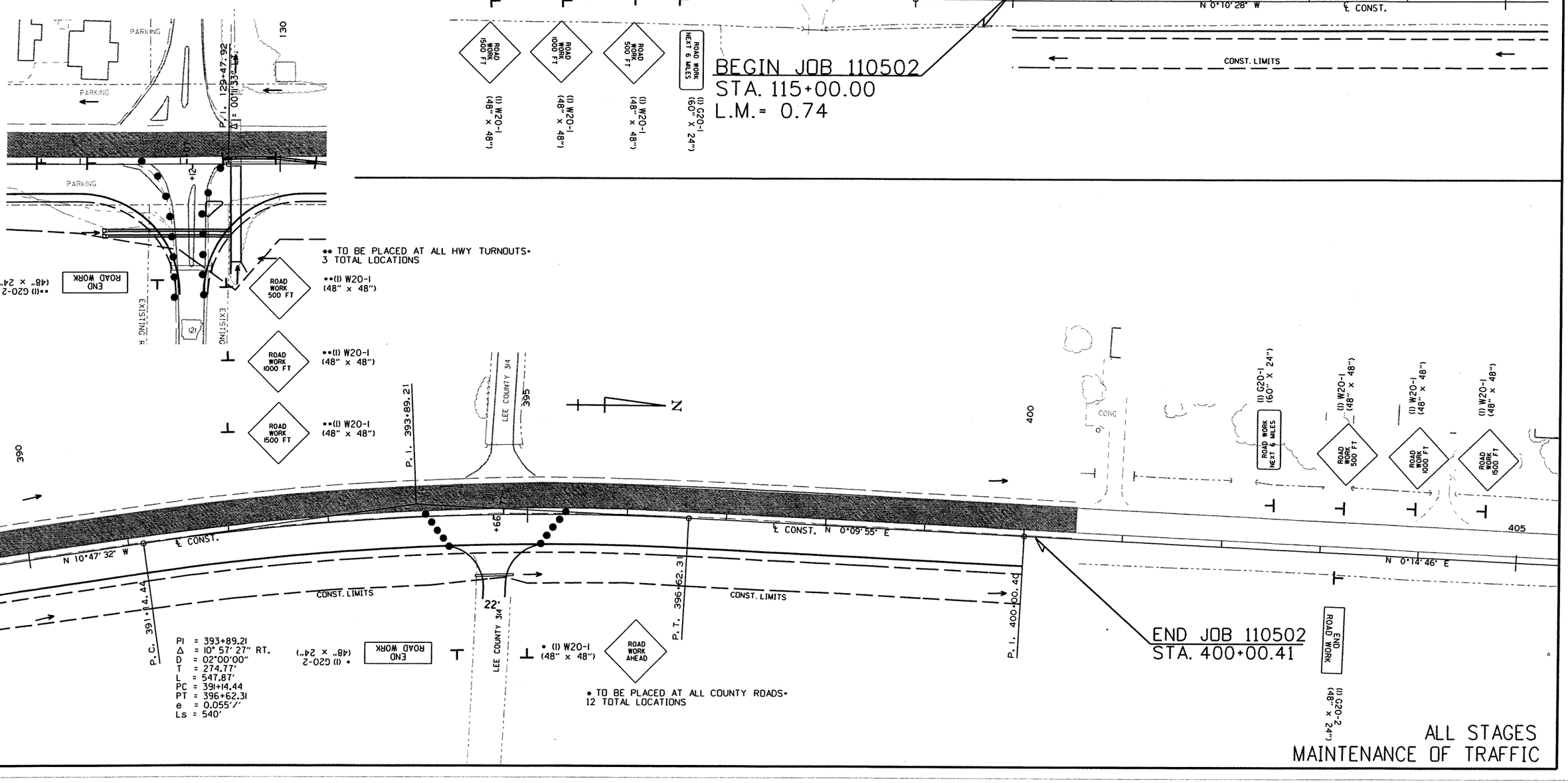
DO NOT PASS (22) R4-1 (24" X 30")

LOW SHOULDER (2) W8-9 (36" X 36")

SHOULDER CLOSED (2) RSP-1 (48" X 30")

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

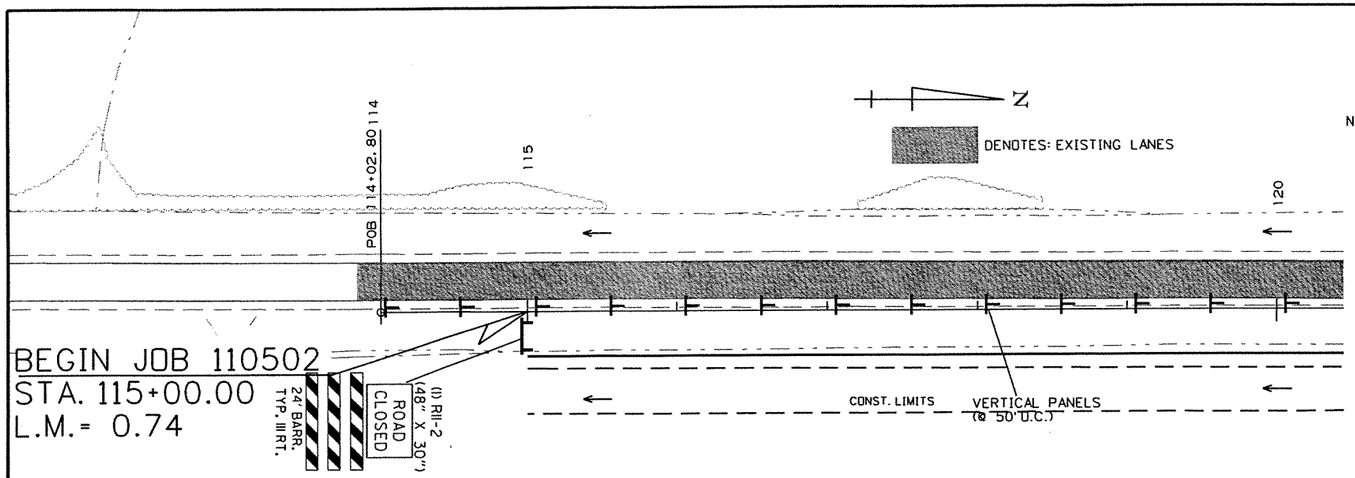
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 4-4-13



ALL STAGES
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	45	271

(2) MAINTENANCE OF TRAFFIC



NOTE: 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.

TRAFFIC DRUMS ON RT.
(@ 50' O.C.) - 570 EACH

TRAFFIC DRUMS ON RT. @ HWY. 121
(@ 20' O.C.) - 15 EACH

TRAFFIC DRUMS (@ 20' O.C.) AT 36 DRIVES
(@ 6 PER DRIVE) - 216 EACH

TRAFFIC DRUMS (@ 10' O.C.) AT 7 COUNTY ROADS
(@ 10 PER ROAD) - 70 EACH

VERTICAL PANELS ON RT. (@ 50' O.C.) - 211 EACH

CONSTRUCTION PAVEMENT MARKINGS

STATIONS 115+00-400+00.41
WHITE - 57,000 LIN.FT.
YELLOW - 57,000 LIN.FT.

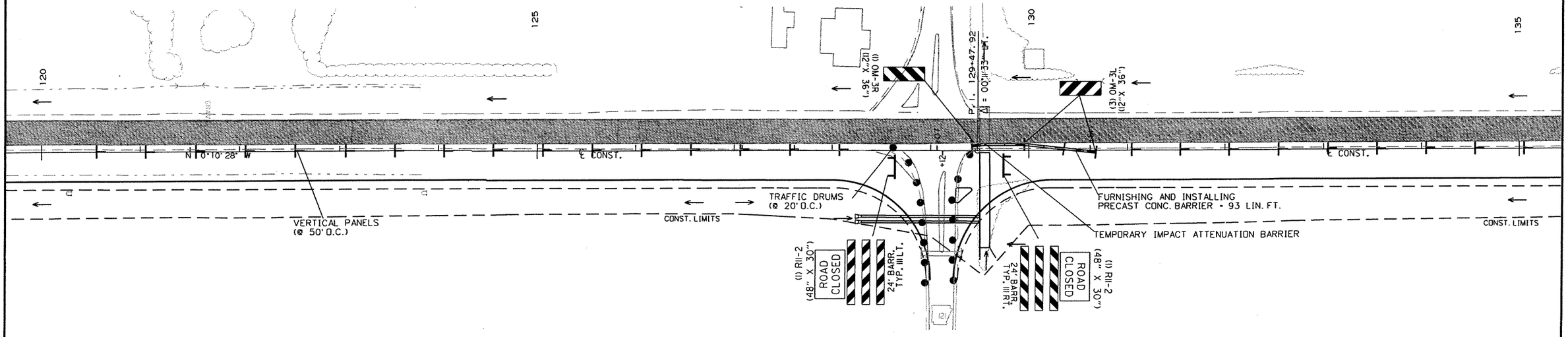
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.



STAGE 1
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	46	271

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DENOTES: EXISTING LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

135 140 145 150

N 0°22' 01" W — ℄ CONST. — N 0°16' 10" W

VERTICAL PANELS (@ 50' O.C.)

CONST. LIMITS — CONST. LIMITS

P.I. 146+35.60 +42
Δ = 01°05'58" RT.
16'

TRAFFIC DRUMS (@ 20' O.C.)

150 155 160 165

P.I. 152+47.60
Δ = 00°07'57" LT.

℄ CONST. N 0°16' 10" W — N 0°24' 07" W — ℄ CONST. — N 0°15' 18" W

VERTICAL PANELS (@ 50' O.C.)

CONST. LIMITS — CONST. LIMITS

P.I. 163+79.16
Δ = 00°08'49" RT.
+88
16'

TRAFFIC DRUMS (@ 20' O.C.)

PI = 173+06.91
Δ = 02° 07' 18" LT.
D = 0°30'00"
T = 212.19'
L = 424.32'
PC = 170+94.73
PT = 175+19.05
NO SUPER

165 170 175 180

P.C. 170+94.73 — P.T. 175+19.05 — P.I. 178+66.65

N 0°19' 18" W — N 0°02' 18" W — ℄ CONST. — N 0°01' 30" W

+88 — +17

(4) OM-3R (2"X 36")

(3) OM-3L (12"X 36")

16'

P.I. 169+15.98
Δ = 00°13'00" RT.

CONST. LIMITS — CONST. LIMITS

P.I. 173+06.91

VERTICAL PANELS (@ 50' O.C.)

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

P.C. 176+69.78

16'

TRAFFIC DRUMS (@ 20' O.C.)

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 226 LIN. FT.

STAGE 1
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	47	271

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

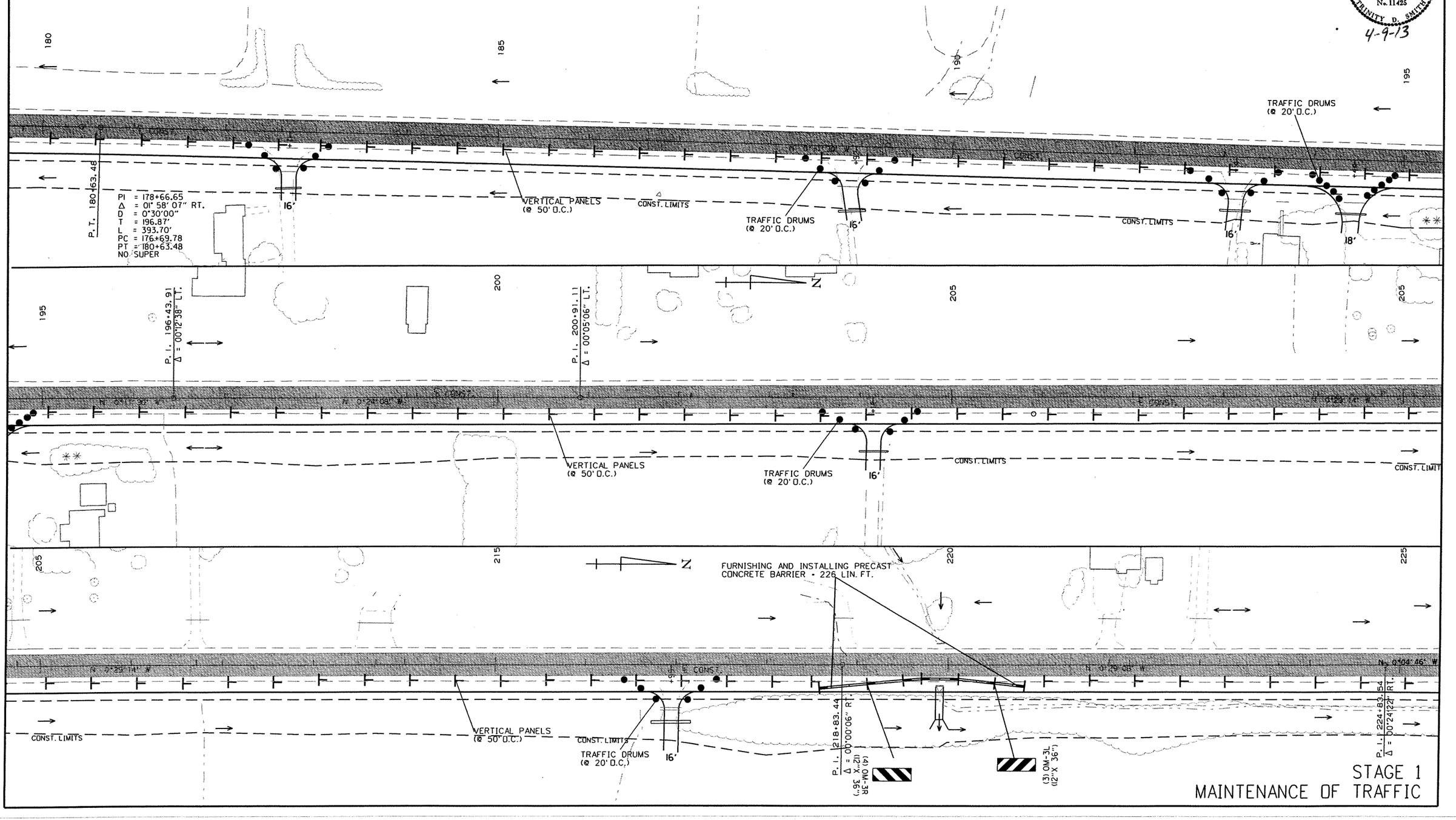
STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DENOTES: EXISTING LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



STAGE 1
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

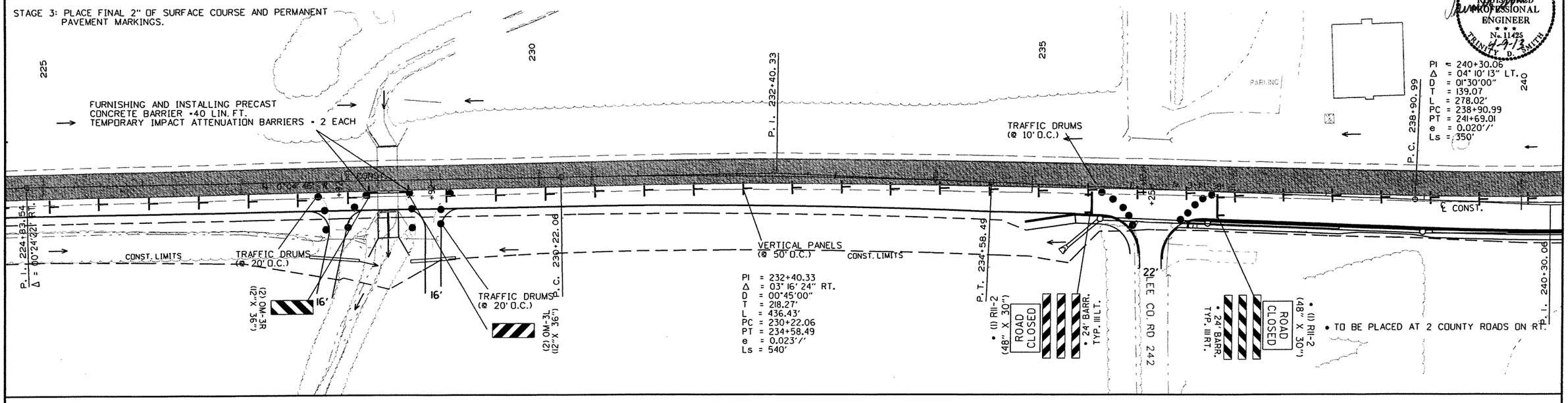
DENOTES: EXISTING LANES

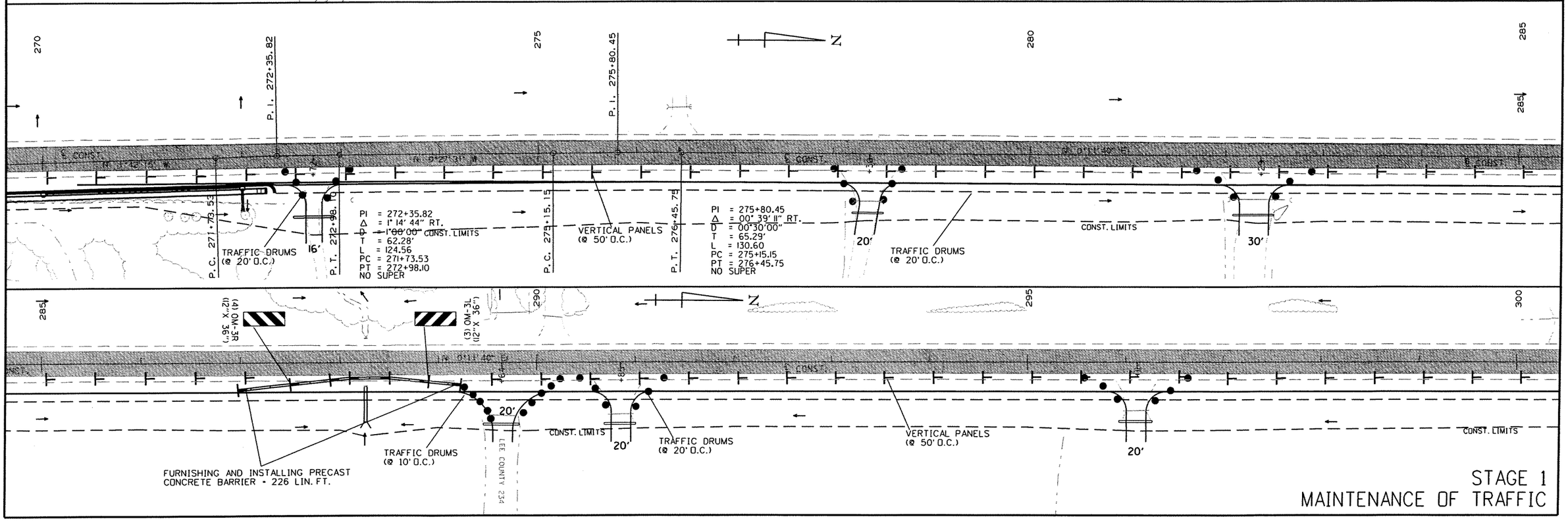
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	48	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
4-9-12
TRINITY D. SMITH





STAGE 1
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

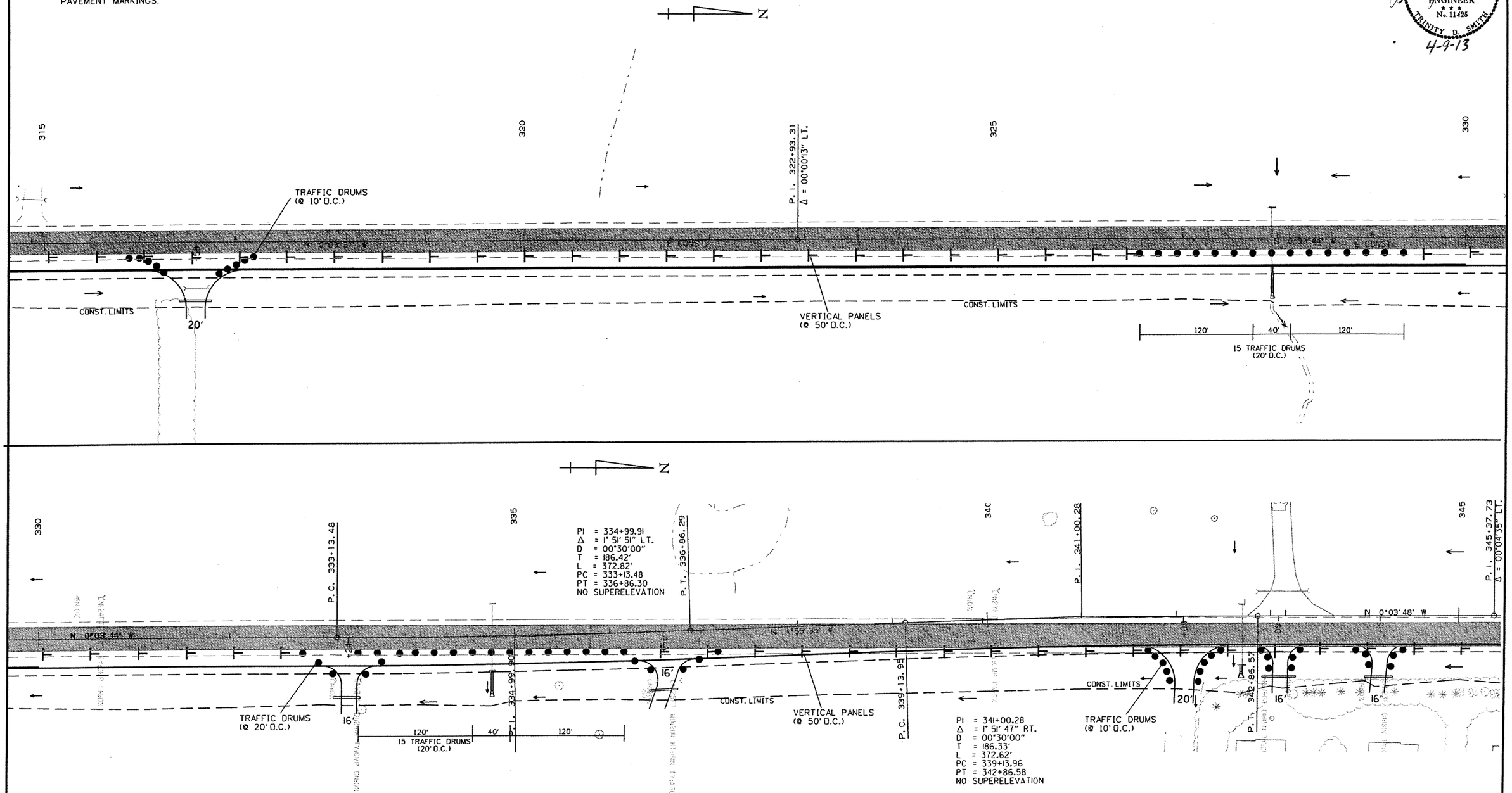
STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	49	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

DENOTES: EXISTING LANES



STAGE 1
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

N

DENOTES: EXISTING LANES

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.		110502	50	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 357+84.20
Δ = 00° 12' 20" LT.
D = 00°15'00"
T = 41.09'
L = 82.17'
PC = 357+43.11
PT = 538+25.28
NO SUPER

345 | 350 | 355 | 360

P. I. 345+37.73
Δ = 00°04'35" LT.

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 226 LIN. FT.

TRAFFIC DRUMS (@ 20' O.C.)

N 0°03' 48" W | N 0°08' 23" W | N 0°02' 19" W | N 0°14' 39" W | N 0°14'

P.C. 357+43.10 | P.T. 358+25.28

CONST. LIMITS | CONST. LIMITS

16' | 16' | 16' | 16' | 16' | 16'

PAVED

(4) OM-3R (12"X 36")

P. I. 350+97.74
Δ = 00°06'04" RT.

(3) OM-3L (12"X 36")

VERTICAL PANELS (@ 50' O.C.)

CONC

P.T. 357+84.19

390 | 395 | 400 | 405

P. I. 393+89.21

TRAFFIC DRUMS (@ 10' O.C.)

LEE COUNTY 314

CONC

N 10°47' 32" W | ℄ CONST. | N 0°09' 55" E | N 0°14' 46" E

CONST. LIMITS | CONST. LIMITS

22'

P.C. 391+14.44

P.T. 396+62.31

P. I. 400+00.41
Δ = 15°40'00" RT.

VERTICAL PANELS (@ 50' O.C.)

END JOB 110502
STA. 400+00.41

(1) RII-2 (48" X 30") ROAD CLOSED
• 24" BARR. TYP. III LT.

(1) RII-2 (48" X 30") ROAD CLOSED
• 24" BARR. TYP. III RT.

(1) RII-2 (48" X 30") ROAD CLOSED
24" BARR. TYP. III RT.

PI = 393+89.21
Δ = 10° 57' 27" RT.
D = 02°00'00"
T = 274.77'
L = 547.87'
PC = 391+14.44
PT = 396+62.31
e = 0.055'/'
Ls = 540'

• TO BE PLACED AT 7 COUNTY ROADS ON RT.

STAGE 1
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	51	271

(2) MAINTENANCE OF TRAFFIC

NOTE: 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.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS STA. 225+00-273+00
WHITE - 9600 LIN. FT.
YELLOW - 9600 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS STA. 225+00-273+00
WHITE - 9600 LIN. FT.
YELLOW - 9600 LIN. FT.

STATE OF ARKANSAS
No. 11425
REGISTERED PROFESSIONAL ENGINEER
4-9-13
TRINITY D. SMITH

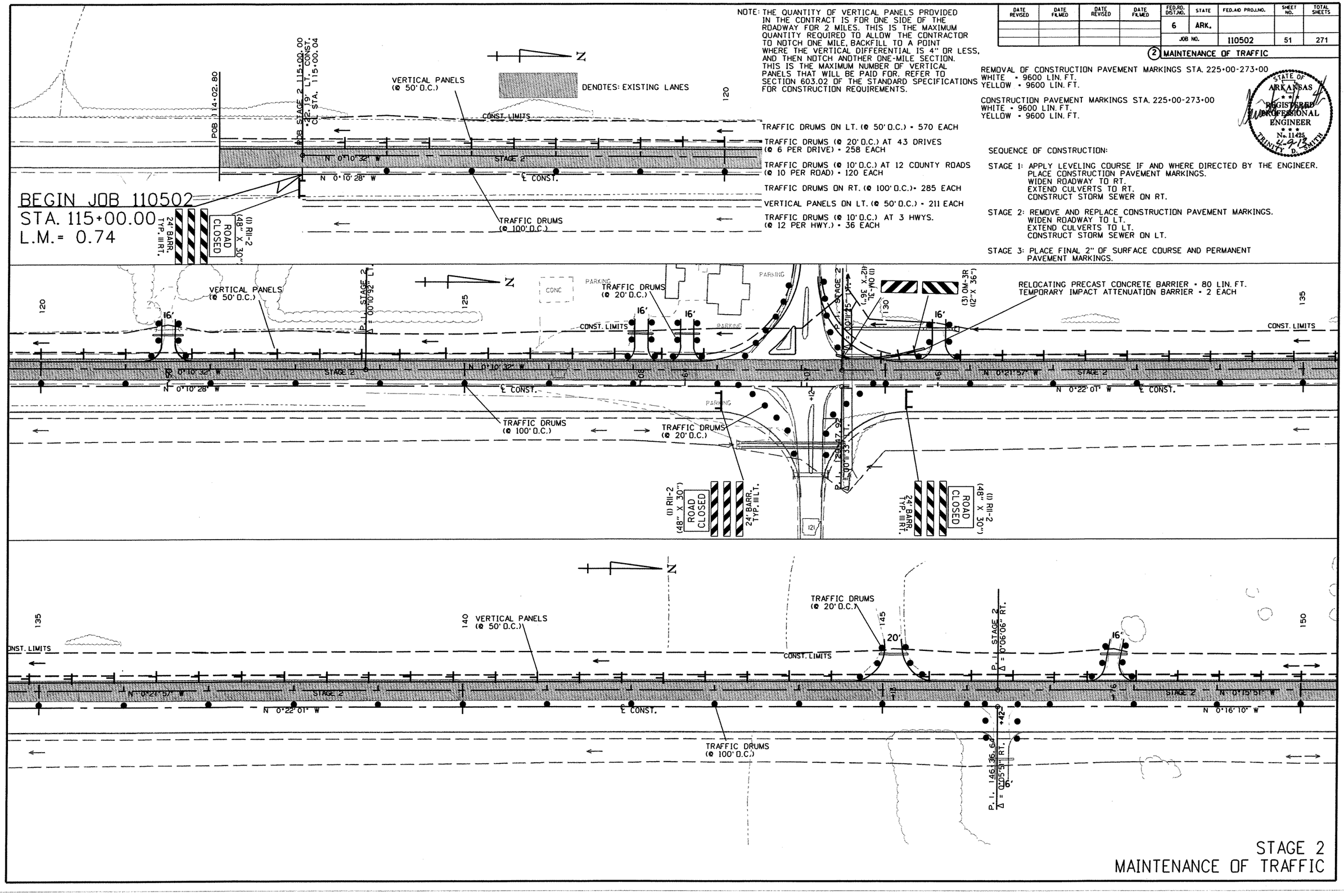
TRAFFIC DRUMS ON LT. (@ 50' O.C.) - 570 EACH
TRAFFIC DRUMS (@ 20' O.C.) AT 43 DRIVES (@ 6 PER DRIVE) - 258 EACH
TRAFFIC DRUMS (@ 10' O.C.) AT 12 COUNTY ROADS (@ 10 PER ROAD) - 120 EACH
TRAFFIC DRUMS ON RT. (@ 100' O.C.) - 285 EACH
VERTICAL PANELS ON LT. (@ 50' O.C.) - 211 EACH
TRAFFIC DRUMS (@ 10' O.C.) AT 3 HWYS. (@ 12 PER HWY.) - 36 EACH

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.



STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	52	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

N

DENOTES: EXISTING LANES

TRAFFIC DRUMS (@ 20' O.C.)
VERTICAL PANELS (@ 50' O.C.)
TRAFFIC DRUMS (@ 100' O.C.)
CONST. LIMITS
STAGE 2
℄ CONST.
N 0°15'51" W
N 0°16'10" W
N 0°24'17" W
N 0°24'07" W
N 0°15'26" W
N 0°15'18" W
P.I. STAGE 2 Δ = 00°09'27" LT.
P.I. 152+47.60 Δ = 00°07'57" LT.
P.I. STAGE 2 Δ = 00°08'52" RT.
P.I. 163+79.16 Δ = 00°08'49" RT.

RELOCATING PRECAST CONCRETE BARRIER - 226 LIN. FT.
(3) OM-3L (12" X 36")
(4) OM-3R (12" X 36")

PI = 173+06.91
Δ = 02° 07' 18" LT.
D = 0°30'00"
T = 212.19'
L = 424.32'
PC = 170+94.73
PT = 175+19.05
NO SUPER

P.I. STAGE 2 Δ = 00°08'02" RT.
P.C. 170+94.73
P.I. 169+15.98 Δ = 00°13'00" RT.
P.I. 173+06.91
N 0°15'25" W
N 0°15'18" W
N 0°02'18" W
N 0°04'59" W
N 0°08'45" W
P.C. 176+69.78
P.I. STAGE 2 Δ = 00°04'48" RT.

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	53	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-13

DENOTES: EXISTING LANES

TRAFFIC DRUMS (@ 20' O.C.)
VERTICAL PANELS (@ 50' O.C.)
TRAFFIC DRUMS (@ 100' O.C.)
TRAFFIC DRUMS (@ 10' O.C.)
P.T. 180+63.48
PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER
℄ CONST. STAGE 2
N 0°11' 30" W
CONST. LIMITS
P.I. STAGE 2 Δ = 00°12'38" LT.
P.I. STAGE 2 Δ = 00°05'06" LT.
N 0°24' 08" W
N 0°29' 14" W
P.I. STAGE 2 Δ = 00°00'06" RT. (.3E X .2I) 1E 1NO (E)
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 226 LIN. FT.
(4) OM-3R (12" X 36")
SHED
N 0°29' 08" W
N 0°4' 46" W
P.I. STAGE 2 Δ = 00°24'22" RT.
P.I. 218+83.44 Δ = 00°00'06" RT.
P.I. 224+83.54 Δ = 00°24'22" RT.
LEE COUNTY 246
P.I. 200+91.11 Δ = 00°05'06" LT.
P.I. 196+43.9 Δ = 00°12'38" LT.

STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

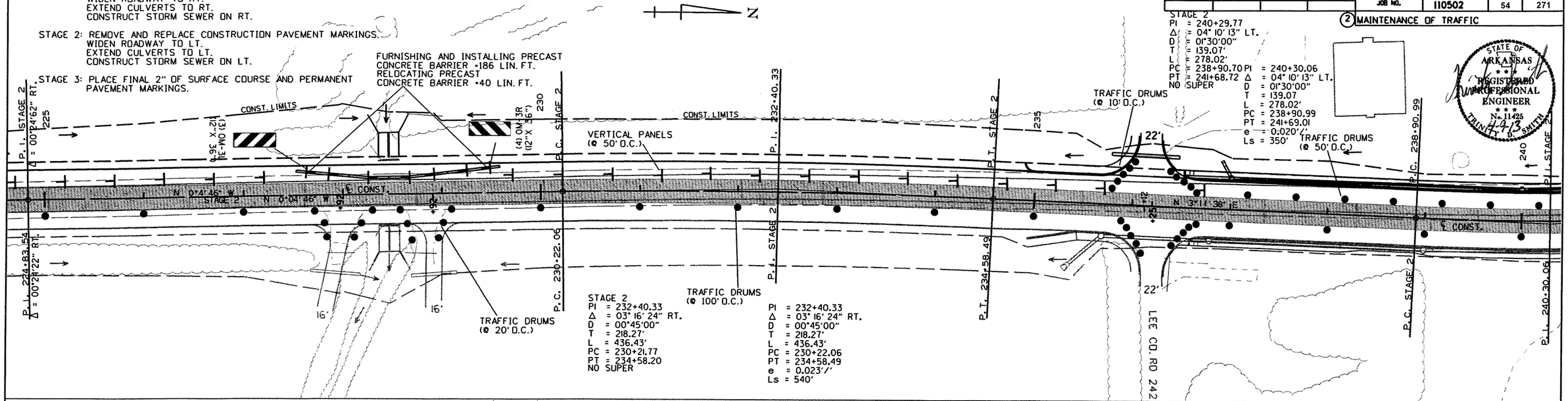
STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

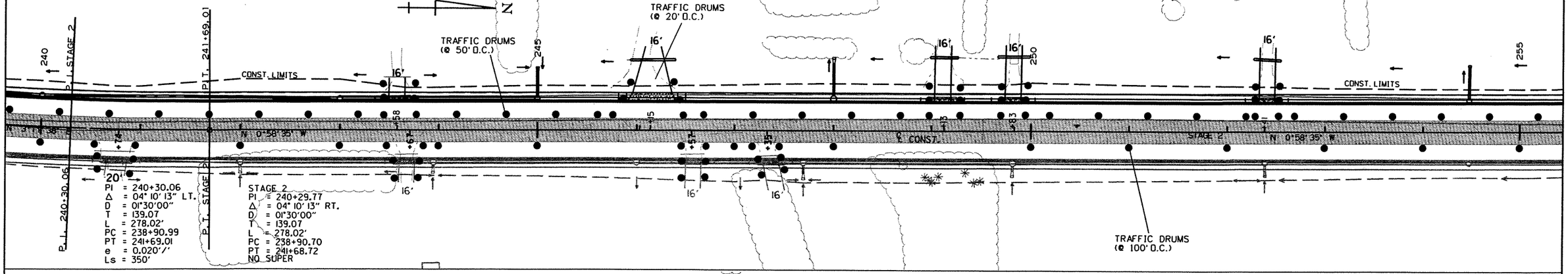
DENOTES: EXISTING LANES

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.		110502	54	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13





STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

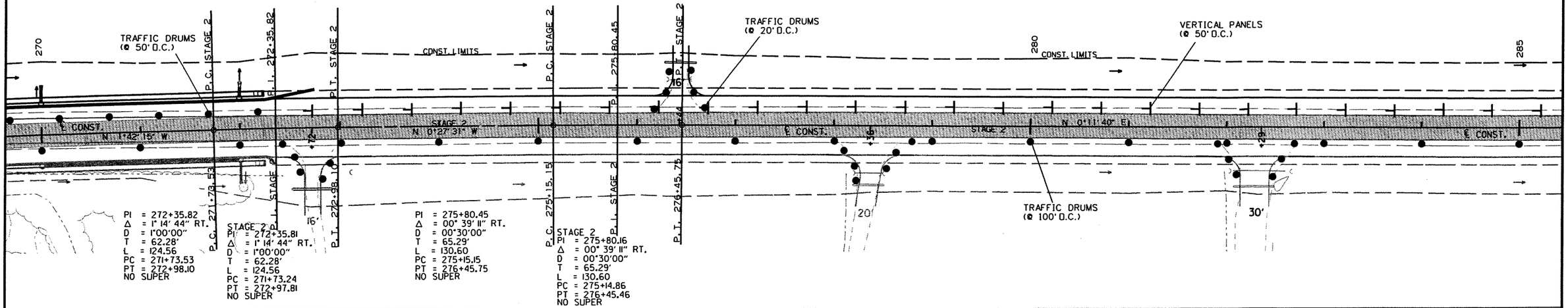
STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

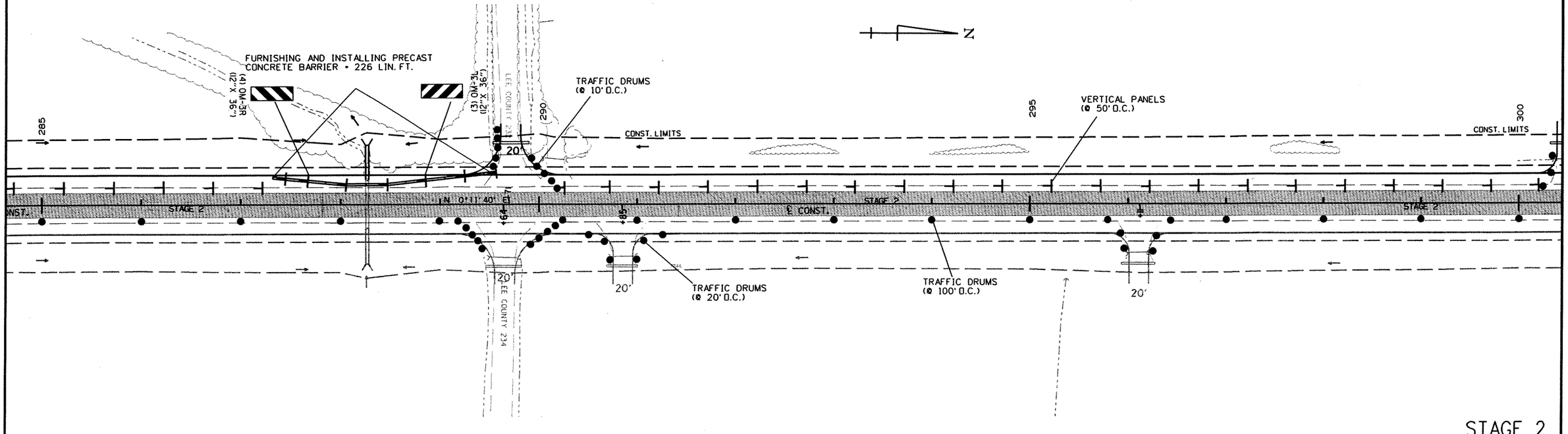
DENOTES: EXISTING LANES

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.		110502	55	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13





STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

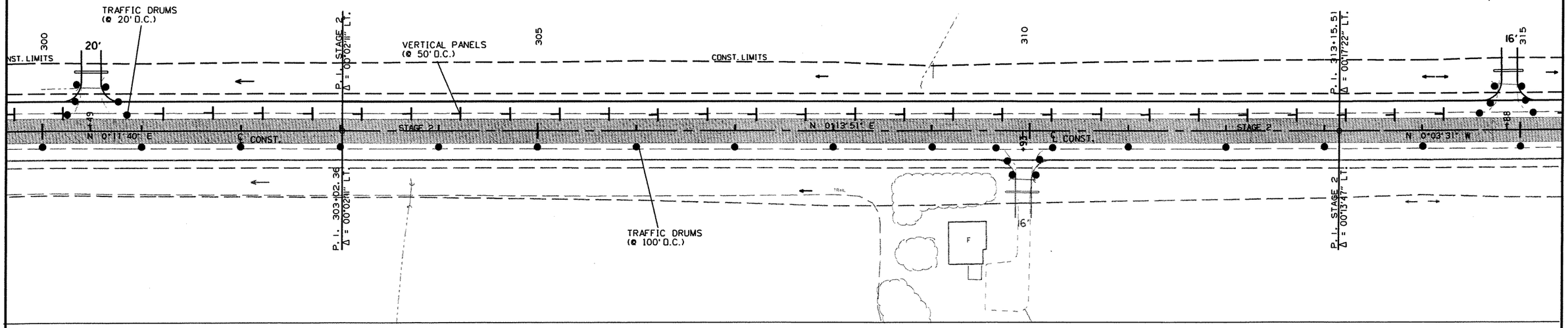
N

DENOTES: EXISTING LANES

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.		110502	56	271

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DENOTES: EXISTING LANES

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.		110502	57	271

(2) MAINTENANCE OF TRAFFIC

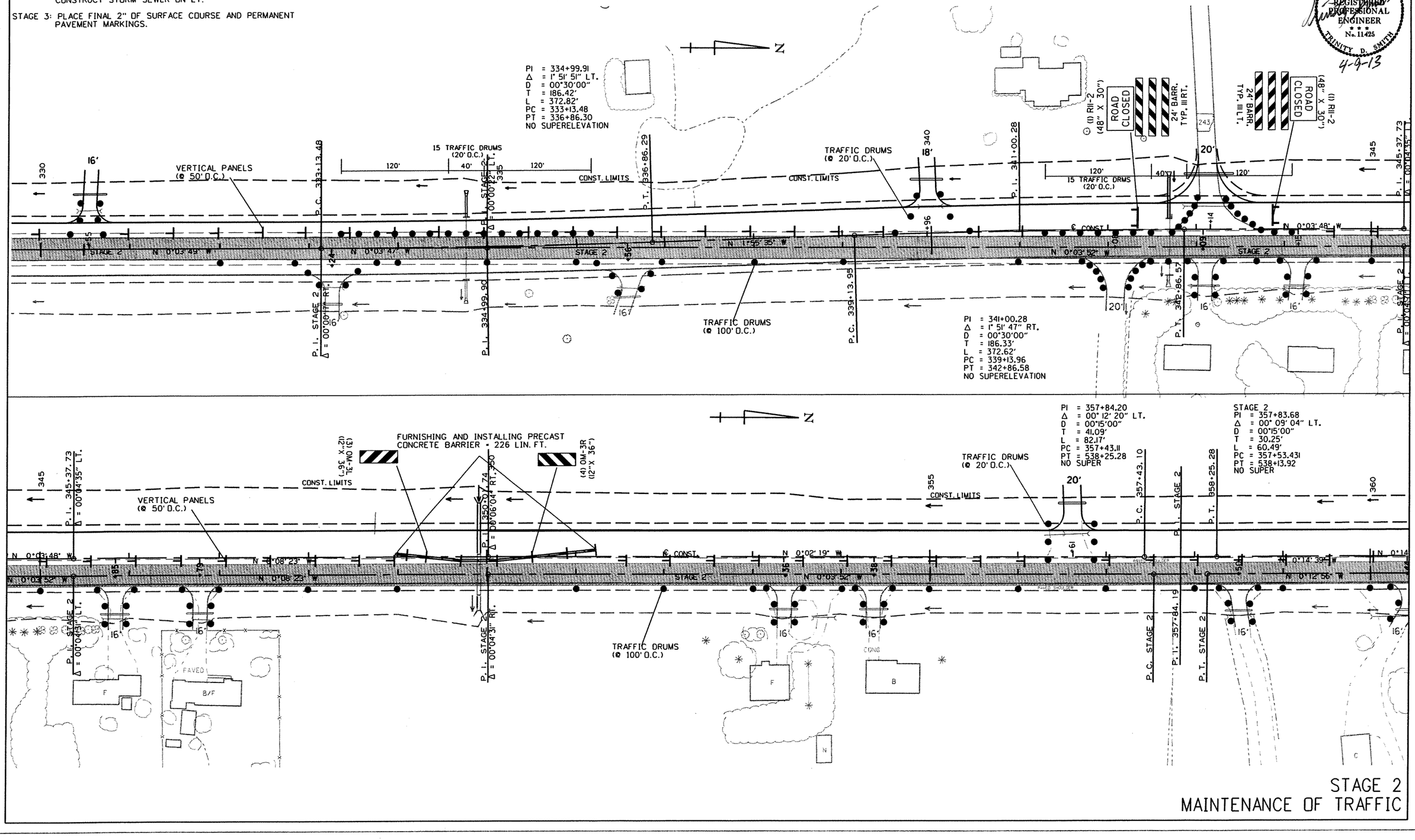
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

PI = 334+99.91
Δ = 1° 51' 51" LT.
D = 00°30'00"
T = 186.42'
L = 372.82'
PC = 333+13.48
PT = 336+86.30
NO SUPERELEVATION

PI = 341+00.28
Δ = 1° 51' 47" RT.
D = 00°30'00"
T = 186.33'
L = 372.62'
PC = 339+13.96
PT = 342+86.58
NO SUPERELEVATION

PI = 357+84.20
Δ = 00° 12' 20" LT.
D = 00°15'00"
T = 41.09'
L = 82.17'
PC = 357+43.11
PT = 538+25.28
NO SUPER

STAGE 2
PI = 357+83.68
Δ = 00° 09' 04" LT.
D = 00°15'00"
T = 30.25'
L = 60.49'
PC = 357+53.43
PT = 538+13.92
NO SUPER



STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	58	271

(2) MAINTENANCE OF TRAFFIC

DENOTES: EXISTING LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11493
TRINITY D. SMITH

PARKING

TRAFFIC DRUMS (@ 10' O.C.)

VERTICAL PANELS (@ 50' O.C.)

TRAFFIC DRUMS (@ 100' O.C.)

20' TRAFFIC DRUMS (@ 10' O.C.)

P.I. 360+85.18 Δ = 00°13'22" LT.

P.I. STAGE 2 Δ = 00°15'56" LT.

P.I. 368+61.25 Δ = 00°07'39" RT.

P.I. STAGE 2 Δ = 00°01'25" RT.

PI = 386+35.94
Δ = 10° 27' 10" LT.
D = 02°00'00"
T = 262.05'
L = 522.64'
PC = 383+73.89
PT = 388+96.53
e = 0.055'/'
Ls = 540'

STAGE 2
PI = 384+49.47
Δ = 10° 26' 40" LT.
D = 02°00'00"
T = 261.83'
L = 522.22'
PC = 381+87.63
PT = 387+09.85

P.C. 383+73.89

P.T. 388+96.53

P.C. STAGE 2

P.I. STAGE 2

P.I. 386+35.93

ROAD CLOSED (48" X 30") (1) R11-2

24" BARR. TYP. III LT.

24" BARR. TYP. III RT.

LEE COUNTY 314

P.I. 393+89.21

P.C. 391+14.44

P.T. STAGE 2

P.T. 396+62.31

P.I. 400+00.40 Δ = 00°04'51" RT.

PI = 393+89.21
Δ = 10° 57' 27" RT.
D = 02°00'00"
T = 274.77'
L = 547.87'
PC = 391+14.44
PT = 396+62.31
e = 0.055'/'
Ls = 540'

STAGE 2
PI = 393+90.20
Δ = 11° 10' 11" RT.
D = 02°00'00"
T = 280.13'
L = 558.48'
PC = 391+10.59
PT = 396+69.07

400+03.44 ℄ 18.94' LT. CONST. ℄ L. STA. 400+00.44

END JOB 110502
STA. 400+00.41

STAGE 2
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	59	271

(2) PERMANENT PAVEMENT MARKING DETAILS

FINAL STRIPING:

THERMOPLASTIC PAVEMENT MARKING 4" (YELLOW)
DOUBLE YELLOW
STATIONS 114+00-131+62 - 2,532 LIN. FT.

SOLID YELLOW
STATIONS 119+82-415+00 - 56,916 LIN.FT.

YELLOW SKIP
STATIONS 128+46-415+00 - 14,229 LIN.FT.

RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)
STATIONS 115+00-400+00.41 - 724 EACH

THERMOPLASTIC PAVEMENT MARKING 4" (WHITE)

WHITE EDGE
STATIONS 114+00-235+52 LT. - 11,807 LIN. FT.
STATIONS 272+36-415+00 LT. - 15,284 LIN. FT.
STATIONS 114+00-235+45 RT. - 12,149 LIN. FT.
STATIONS 272+25-415+00 RT. - 13,875 LIN. FT.

WHITE SKIP
STATIONS 133+00-417+75 LT. - 6,884 LIN. FT.
STATIONS 129+35-415+15 RT. - 7,404 LIN. FT.

RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)
STATIONS 137+00-417+75 LT. - 342 EACH
STATIONS 129+35-415+15 RT. - 358 EACH

REMOVAL OF PERMANENT PAVEMENT MARKINGS
DBL. YELLOW STATIONS 401+00-404+81 - 1,524 LIN. FT.
WHITE EDGE 401+00-415+00 RT. - 1,400 LIN. FT.
SOLID YELLOW 404+81-415+00 - 1,770 LIN. FT.
YELLOW SKIP 404+81-415+00 - 442 LIN. FT.

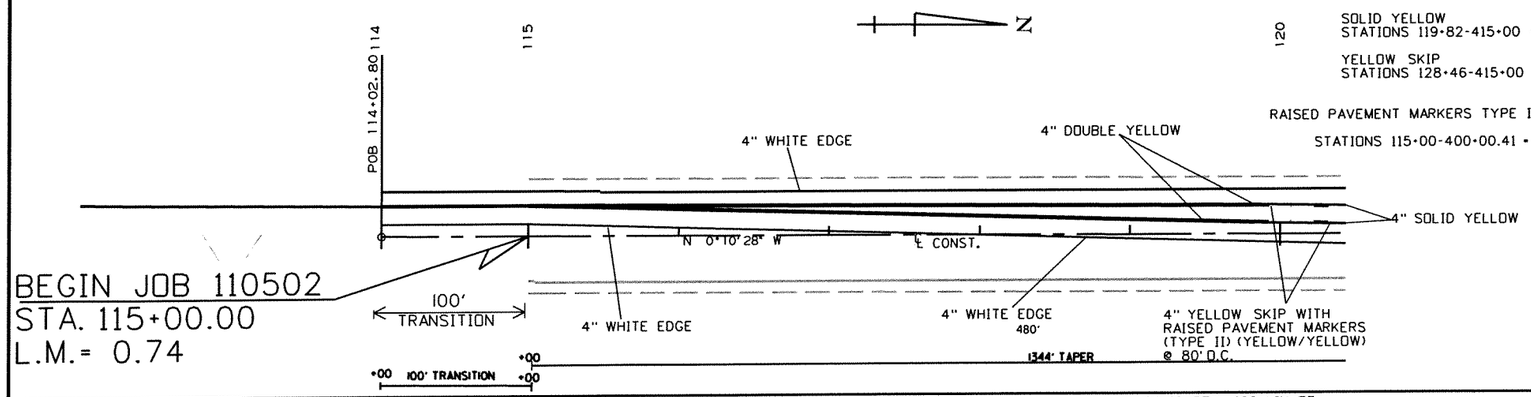
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

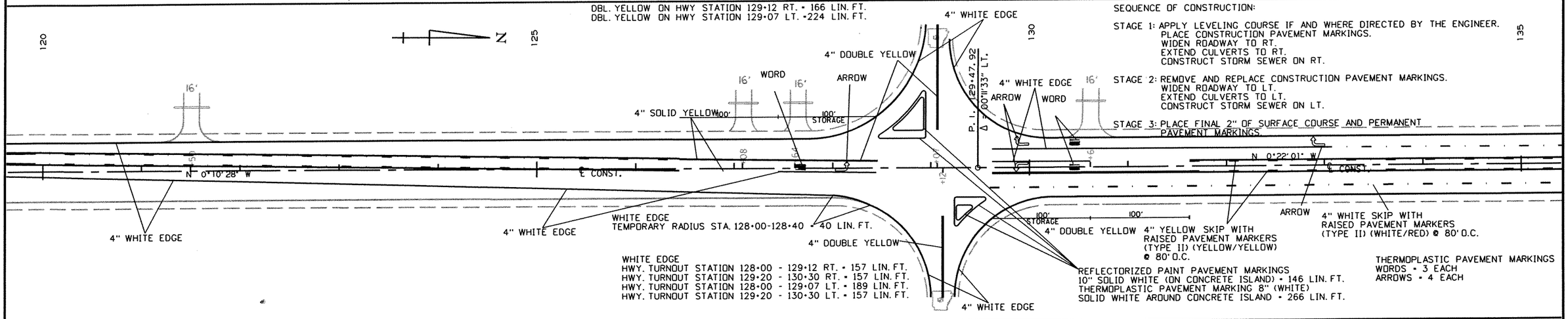
SEQUENCE OF CONSTRUCTION:

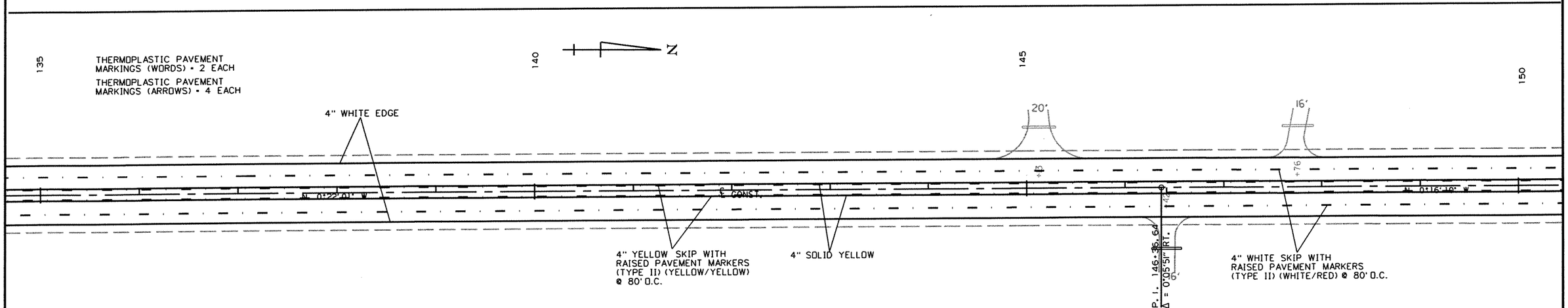
STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.







PERMANENT PAVEMENT MARKING DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

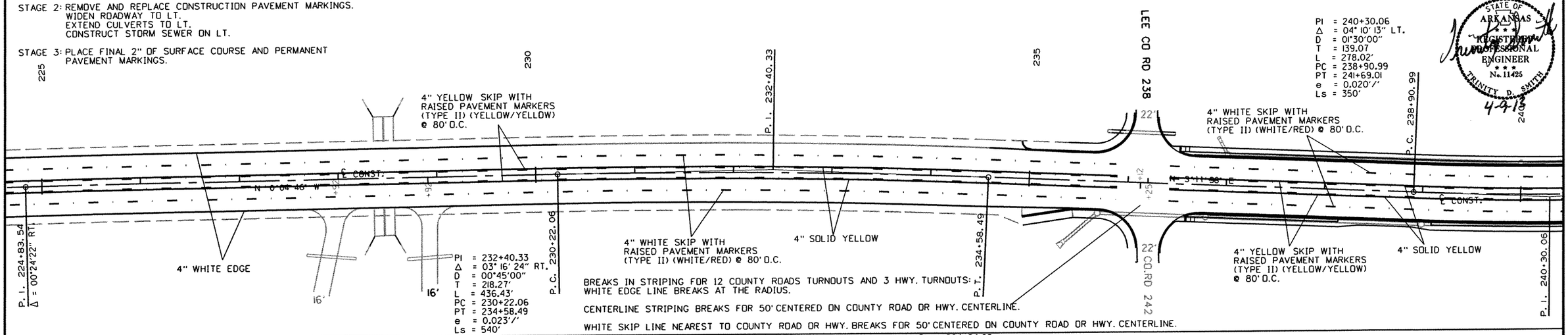
STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	60	271

(2) PERMANENT PAVEMENT MARKING DETAILS

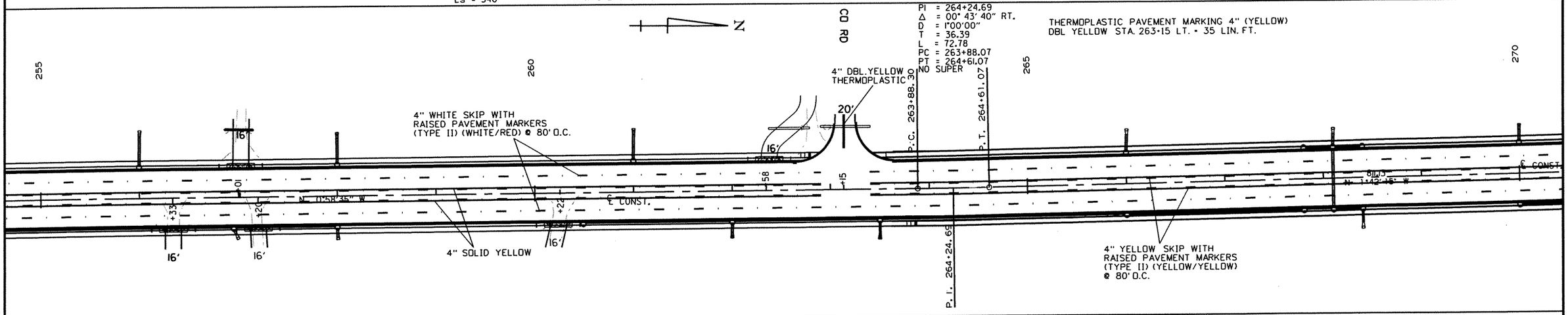
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

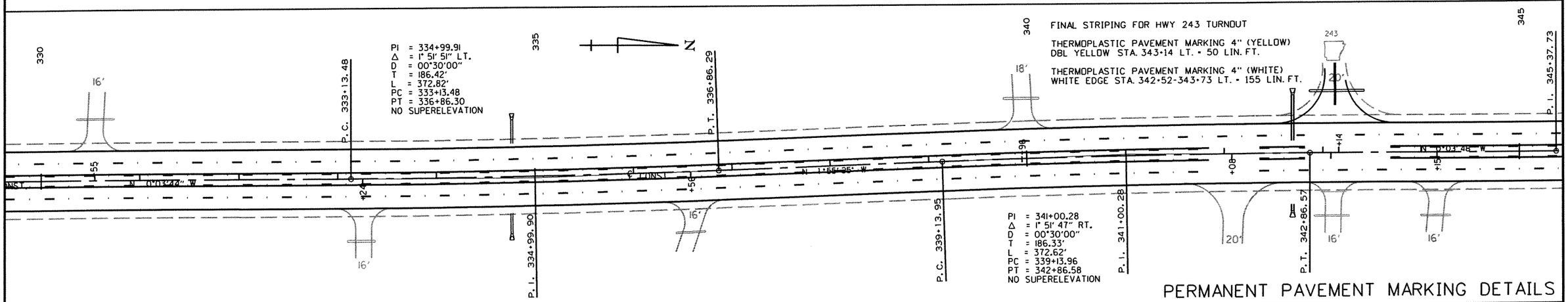


BREAKS IN STRIPING FOR 12 COUNTY ROADS TURNOUTS AND 3 HWY. TURNOUTS: WHITE EDGE LINE BREAKS AT THE RADIUS.

CENTERLINE STRIPING BREAKS FOR 50' CENTERED ON COUNTY ROAD OR HWY. CENTERLINE.

WHITE SKIP LINE NEAREST TO COUNTY ROAD OR HWY. BREAKS FOR 50' CENTERED ON COUNTY ROAD OR HWY. CENTERLINE.





PERMANENT PAVEMENT MARKING 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.		110502	61	271

(2) PERMANENT PAVEMENT MARKING DETAILS

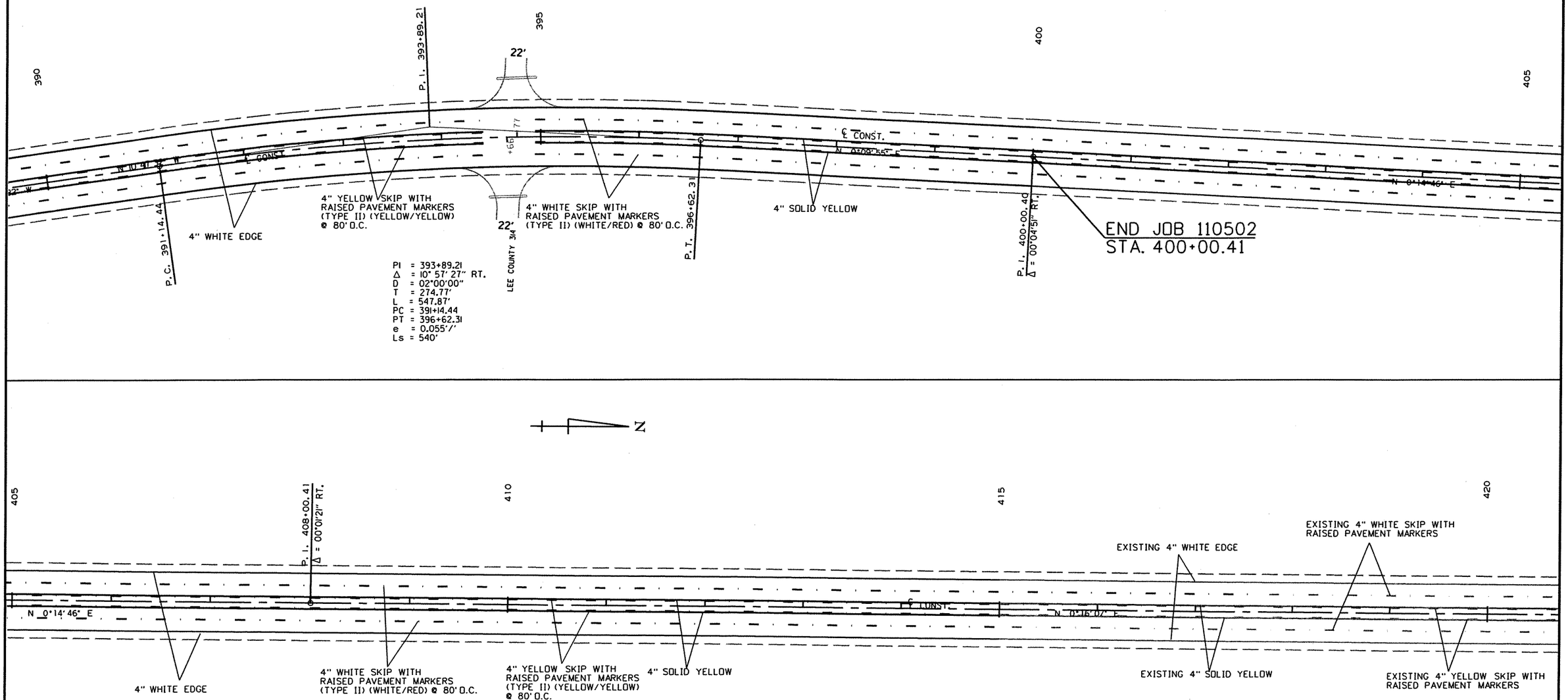
SEQUENCE OF CONSTRUCTION:

STAGE 1: APPLY LEVELING COURSE IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO RT.
EXTEND CULVERTS TO RT.
CONSTRUCT STORM SEWER ON RT.

STAGE 2: REMOVE AND REPLACE CONSTRUCTION PAVEMENT MARKINGS.
WIDEN ROADWAY TO LT.
EXTEND CULVERTS TO LT.
CONSTRUCT STORM SEWER ON LT.

STAGE 3: PLACE FINAL 2" OF SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



PERMANENT PAVEMENT MARKING 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.		110502	62	271

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

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)
										RIGHT	LEFT				
			LIN.FT. - EACH			NO.	SQ. FT.	EACH				LIN.FT.		EACH	
W20-1	ROAD WORK 1500 FT.	48" X 48"	5	5	5	5	80.0								
W20-1	ROAD WORK 1000 FT.	48" X 48"	5	5	5	5	80.0								
W20-1	ROAD WORK 500 FT.	48" X 48"	5	5	5	5	80.0								
W20-1	ROAD WORK AHEAD	48" X 48"	12	12	12	12	192.0								
G20-2	END ROAD WORK	48" X 24"	17	17	17	17	136.0								
G20-1	ROAD WORK NEXT XX MILES	60" X 24"	2	2	2	2	20.0								
R11-2	ROAD CLOSED	48" X 30"	14	12	14	14	140.0								
OM-3L	OBJECT MARKER	12" X 36"	21	16	21	21	63.0								
OM-3R	OBJECT MARKER	12" X 36"	15	23	23	23	69.0								
R4-1	DO NOT PASS	24" X 30"	22	22	22	22	110.0								
RSP-1	SHOULDER CLOSED	48" X 30"	2	2	2	2	20.0								
W8-9	LOW SHOULDER	36" X 36"	2	2	2	2	18.0								
	VERTICAL PANELS		211	211	211	211		211							
	TRAFFIC DRUMS		871	1314	1314	1314			1314						
	TYPE III BARRICADE-RT. (24')		7	5	7	7				168					
	TYPE III BARRICADE-LT. (24')		5	3	5	5					120				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		1037	186	1223							1223			
	RELOCATING PRECAST CONCRETE BARRIER			1024	1024								1024		
	TEMPORARY IMPACT ATTENUATION BARRIER		3	2	5									5	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		3	2	5										5
TOTALS:							1008.0	211	1314	168	120	1223	1024	5	5

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

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.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS					REFLECTORIZED PAINT PAVEMENT MARKINGS
							TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	8" WHITE	WORDS	ARROWS	10" WHITE
	LIN.FT. - EACH			LIN.FT.		LIN.FT.	EACH		LIN.FT.			EACH		LIN.FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS			4936	4936										
CONSTRUCTION PAVEMENT MARKINGS	114000	19200			133200									
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		19200				19200								
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			700				700							
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			724					724						
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")			67403						67403					
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")			73659							73659				
THERMOPLASTIC PAVEMENT MARKINGS ARROWS			4										4	
THERMOPLASTIC PAVEMENT MARKINGS WHITE (8")			266								266			
REFLECTORIZED PAVEMENT MARKINGS WHITE (10")			146											146
THERMOPLASTIC PAVEMENT MARKINGS WORDS			3									3		
TOTALS:				4936	133200	19200	700	724	67403	73659	266	3	4	146

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

NOTE: THERMOPLASTIC PAVEMENT MARKINGS MAY BE SUBSTITUTED FOR INVERTED PROFILE PAVEMENT MARKINGS AT INTERSECTIONS, ISLANDS, TURNOUTS, AND OTHER SIMILAR LOCATIONS AS 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.		110502	63	271
				(2) QUANTITY SHEETS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CONCRETE ISLANDS	CONCRETE DRIVEWAYS	WALKS	SIGN FOUNDATIONS	CATTLE GUARD	SIGNS	PLANTERS	FLAG POLE	WELL	CANOPY
			SQ. YD.	SQ. YD.	SQ. YD.	EACH	EACH	EACH	EACH	EACH	EACH	EACH
128+85		ISLAND ON LT.	22									
129+07		ISLAND ON LT.	33									
129+12		ISLAND ON RT.	44									
128+52		RT. OF HWY 1						1				
128+73		RT. OF HWY 1						1				
128+82		LT. OF HWY 1						1				
129+39		RT. OF HWY 1						1				
129+71		RT. OF HWY 1						1				
130+16		RT. OF HWY 1						1				
135+50		RT. OF HWY 1						1				
146+76		CONCRETE DRIVEWAY ON LT.		65								
182+47		LT. OF HWY 1						1				
182+80		LT. OF HWY 1									1	
193+65		RT. OF HWY 1			9							
194+74		RT. OF HWY 1						1				
195+74		LT. OF HWY 1				1						
195+74		LT. OF HWY 1						1				
199+00		CANOPY ATTACHED TO BLDG.										1
213+68		CONCRETE DRIVEWAY ON LT.		165								
236+00		LT. OF HWY 1						1				
236+42		RT. OF HWY 1						1				
236+57		RT. OF HWY 1						1				
240+46		RT. OF HWY 1						1				
246+56		RT. OF HWY 1					1					
247+35		RT. OF HWY 1					1					
249+83		LT. OF HWY 1		70								
251+94		RT. OF HWY 1						1				
256+96	257+12	BRICK WALL RT.							1			
257+26	257+42	BRICK WALL RT.							1			
282+00		RT. OF HWY 1						1				
289+56		LT. OF HWY 1						1				
289+53		LT. OF HWY 1						1				
289+97		LT. OF HWY 1						1				
289+93		RT. OF HWY 1						1				
334+64		RT. OF HWY 1						1				
339+25		LT. OF HWY 1						2				
339+42		RT. OF HWY 1						2				
342+17		LT. OF HWY 1						1				
342+94		LT. OF HWY 1						1				
342+96		LT. OF HWY 1						1				
343+82		LT. OF HWY 1						1				
347+19		LT. OF HWY 1						3				
358+89		RT. OF HWY 1						1				
370+90		LT. OF HWY 1				1		1		1		
383+12		LT. OF HWY 1						1				
384+00		RT. OF HWY 1						1				
384+86		RT. OF HWY 1						1				
385+77		RT. OF HWY 1						1				
387+74		LT. OF HWY 1				1		1				1
394+51		LT. OF HWY 1						1				1
394+88		RT. OF HWY 1						1				
394+90		RT. OF HWY 1						1				
394+99		RT. OF HWY 1						1				
TOTALS:			99	300	9	3	2	43	2	1	1	3

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
115+00	116+00	MAIN LANES	1	1
117+00	119+00	MAIN LANES	2	2
121+00	126+00	MAIN LANES	5	5
129+00	131+00	MAIN LANES	2	2
132+00	133+00	MAIN LANES	1	1
135+00	136+00	MAIN LANES	1	1
145+00	146+00	MAIN LANES	1	1
148+00	149+00	MAIN LANES	1	1
154+00	158+00	MAIN LANES	4	4
165+00	168+00	MAIN LANES	3	3
170+00	171+00	MAIN LANES	1	1
181+00	184+00	MAIN LANES	3	3
187+00	191+00	MAIN LANES	4	4
193+00	198+00	MAIN LANES	5	5
199+00	204+00	MAIN LANES	5	5
209+00	211+00	MAIN LANES	2	2
217+00	236+00	MAIN LANES	19	19
241+00	250+00	MAIN LANES	9	9
253+00	254+00	MAIN LANES	1	1
261+00	273+00	MAIN LANES	12	12
287+00	291+00	MAIN LANES	4	4
292+00	295+00	MAIN LANES	3	3
297+00	299+00	MAIN LANES	2	2
308+00	310+00	MAIN LANES	2	2
316+00	317+00	MAIN LANES	1	1
333+00	334+00	MAIN LANES	1	1
335+00	337+00	MAIN LANES	2	2
342+00	347+00	MAIN LANES	5	5
353+00	354+00	MAIN LANES	1	1
360+00	361+00	MAIN LANES	1	1
386+00	388+00	MAIN LANES	2	2
TOTALS:			106	106

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
186+80	187+00	RT. OF MAIN LANES	17	
219+00	221+41	LT. OF MAIN LANES	241	
243+66	249+60	RT. OF MAIN LANES	594	
222+00	223+00	LT. OF MAIN LANES	22	
278+00	279+00	RT. OF MAIN LANES	100	
282+13	282+45	RT. OF MAIN LANES		2
309+00	310+00	RT. OF MAIN LANES	76	
334+00	336+00	RT. OF MAIN LANES	124	
371+00	372+00	LT. OF MAIN LANES	18	
TOTALS:			1192	2

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
	EACH		
ENTIRE PROJECT	24	20	2
TOTALS:	24	20	2

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
121+50	18" X 24' C.M. PIPE CLVT. ON LT.	1
130+61	36" X 32' C.M. ARCH PIPE CLVT. ON LT.	1
142+35	24' X 15" CORR. PLASTIC. PIPE CLVT. ON LT.	1
145+13	24" X 34' C.M. PIPE CLVT. ON LT.	1
146+42	24" X 30' C.M. PIPE CLVT. ON RT.	1
147+76	24" X 21' C.M. ARCH PIPE CLVT. ON LT.	1
154+98	PVC IRRIGATION PIPE ON RT.	1
155+44	PVC IRRIGATION PIPE ON RT.	1
155+60	PVC IRRIGATION PIPE ON RT.	1
155+65	I5" X 24' C.M. ARCH PIPE CLVT. ON LT.	1
157+07	18" X 24' C.M. PIPE CLVT. ON LT.	1
160+45	36" X 24" X 23' C.M. ARCH PIPE CLVT. ON LT.	1
164+88	30" X 24" X 24' C.M. ARCH PIPE CLVT. ON RT.	1
165+28	18" X 23' R.C. PIPE CLVT. ON LT.	1
174+51	DBL. 36" X 30' C.M. PIPE CLVT, ON LT.	2
177+83	18" X 24' C.M. ARCH PIPE CLVT. ON RT.	1
182+62	44" X 27" X 24' C.M. ARCH PIPE CLVT. ON LT.	1
182+71	18" X 24' C.M. PIPE CLVT. ON RT.	1
188+87	24" X 26' C.M. PIPE CLVT. ON RT.	1
190+86	24" X 18' C.M. PIPE CLVT. ON LT.	1
193+14	18" X 24' C.M. PIPE CLVT. ON RT.	1
193+65	15"X 15' C.M. ARCH PIPE CLVT. ON RT.	1
194+44	18" X 24' C.M. PIPE CLVT. ON RT.	1
196+00	15" X 24' C.M. ARCH PIPE CLVT. ON LT.	1
202+15	18" X 20' C.M. PIPE CLVT. ON LT.	1
203+25	18" X 20' C.M. PIPE CLVT. ON LT.	1
204+14	18" X 25' R.C. PIPE CLVT. ON RT.	1
209+05	18" X 24' C.M. PIPE CLVT. ON LT.	1
209+76	21" X 15" X 24' C.M. ARCH PIPE CLVT. ON LT.	1
211+72	18" X 26' R.C. PIPE CLVT. ON LT.	1
213+68	24" X 40' C.M. PIPE CLVT. ON LT.	1
216+95	28" X 20" X 23' C.M. ARCH PIPE CLVT. ON RT.	1
216+95	15" X 21" X 24' C.M. ARCH PIPE CLVT. ON RT.	1
218+84	21" X 15" X 24' C.M. ARCH PIPE CLVT. ON LT.	1
221+78	21" X 15" X 25' C.M. ARCH PIPE CLVT. ON LT.	1
222+78	24" X 26' C.M. ARCH PIPE CLVT. ON LT.	1
227+97	30" X 28' C.M. PIPE CLVT. ON RT.	1
228+78	15" X 38' C.M. PIPE CLVT. ON RT.	1
236+18	29" X 18" X 40' C.M. ARCH PIPE CLVT. ON LT.	1
236+25	24" X 33' R.C. PIPE CLVT. ON RT.	1
236+41	18"X 35' C.M. PIPE ON RT.	1
240+74	24" X 41' C.M. PIPE CLVT. ON RT.	1
243+67	18" X 25' C.M. PIPE CLVT. ON RT.	1
246+03	29" X 18" X 27' C.M. ARCH PIPE CLVT. ON LT.	1
246+57	24" X 25' C.M. PIPE CLVT. ON RT.	1
247+35	18" X 25' C.M. PIPE CLVT. ON RT.	1
249+13	24" X 26' C.M. PIPE CLVT. ON LT.	1
249+83	24" X 6' R.C. PIPE CLVT. ON LT.	1
252+41	18" X 24' C.M. PIPE CLVT. ON LT.	1
256+33	18" X 30' C.M. PIPE CLVT. ON RT.	1
257+01	18" X 21' R.C. PIPE CLVT. ON LT.	1
257+20	18" X 25' C.M. PIPE CLVT. ON RT.	1
260+22	18" X 24' C.M. PIPE CLVT. ON RT.	1
262+84	24" X 24' R.C. PIPE CLVT. ON LT.	1
263+13	24" X 25' R.C. PIPE CLVT. ON LT.	1
272+72	18" X 23' C.M. PIPE CLVT. ON RT.	1
276+44	18" X 23' C.M. PIPE CLVT. ON LT.	1
278+36	18" X 29' C.M. PIPE CLVT. ON RT.	1
282+34	18" X 54' C.M. PIPE CLVT. ON RT.	1
289+64	24" X 30' C.M. PIPE CLVT. ON RT.	1
289+71	30" X 36' C.M. PIPE CLVT. ON LT.	1
290+15	18" X 21' C.M. PIPE CLVT. ON LT.	1
290+85	24" X 26' C.M. PIPE CLVT. ON RT.	1
295+25	18" CORR. PLASTIC PIPE	1
296+11	24" X 27' C.M. PIPE CLVT. ON RT.	1
300+49	24" X 26' C.M. PIPE CLVT. ON LT.	1
303+71	18" X 21' CORR. PLASTIC PIPE CLVT. ON RT.	1
309+00	18" X 16' CORR. PLASTIC PIPE CLVT. ON LT.	1
309+93	18" X 25' C.M. PIPE CLVT. ON RT.	1
314+88	24" X 26' C.M. PIPE CLVT. ON LT.	1
316+60	24" X 23' C.M. PIPE CLVT. ON RT.	1
330+55	18" X 24' C.M. PIPE CLVT. ON LT.	1
333+24	24" X 26' C.M. PIPE CLVT. ON RT.	1
336+57	21" X 15" X 25' C.M. ARCH PIPE CLVT. ON RT.	1
339+98	24" X 27' C.M. PIPE CLVT. ON LT.	1
343+09	18" X 25' C.M. PIPE CLVT. ON RT.	1
343+13	24" X 53' R.C. PIPE CLVT. ON LT.	1
344+12	18" X 23' C.M. PIPE CLVT. ON RT.	1
345+84	18" X 24' C.M. PIPE CLVT. ON RT.	1
346+82	18" X 20' C.M. PIPE CLVT. ON RT.	1
348+74	25" X 18' CORR. PLASTIC PIPE CLVT. ON LT.	1
353+35	18" X 24' C.M. PIPE CLVT. ON RT.	1
353+82	21" X 15" X 24' C.M. ARCH PIPE CLVT. ON RT.	1
354+38	18" X 24' C.M. PIPE CLVT. ON RT.	1
356+54	24" X 50' C.M. PIPE CLVT. ON LT.	1
358+52	18" X 24' C.M. PIPE CLVT. ON RT.	1
360+92	29" X 18" X 177' ARCH PIPE CLVT. ON RT.	1
362+41	18" X 92' R.C. PIPE CLVT. ON RT.	1
363+50	18" CORR. PLASTIC PIPE	1
364+08	18" X 24' CMP PIPE CLVT. ON RT.	1
368+24	18" X 24' C.M. PIPE CLVT. ON RT.	1
368+54	18" X 34' C.M. PIPE CLVT. ON LT.	1
369+45	18" X 31' R.C. PIPE CLVT. ON LT.	1
371+78	18" X 30' C.M. PIPE CLVT. ON LT.	1
373+63	18" X 40' C.M. PIPE CLVT. ON RT.	1
381+40	18" X 56' R.C. PIPE CLVT. ON LT.	1
385+33	18" X 24' C.M. PIPE CLVT. ON LT.	1
394+77	24" X 18" X 32' C.M. PIPE CLVT. ON RT.	1
397+02	2" ALUM IRRIGATION PIPE ON RT.	1
TOTAL:		100

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

STA. 129+12 DBL. 24" X 44' R.C. PIPE CULV'T ON RT.
TO BE PLUGGED AND ABANDONED.

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
125+00	34	39	21.90	90	46	4.10	CL	0-5	40.00	20	A-6(20)	BROWN
125+00	34	39	21.90	90	46	4.30	35'LT	0-5	25.00	5	A-4(3)	GRAY
125+00	34	39	21.90	90	46	4.40	26'LT	0-5	24.00	5	A-4(2)	GRAY
129+55	34	39	29.80	90	46	4.20	50'RT	0-5	26.00	8	A-4(4)	GRAY
133+00	34	39	29.80	90	46	4.60	81'LT	0-5	32.00	13	A-6(10)	GRAY
133+00	34	39	29.80	90	46	4.60	56'LT	0-5	25.00	7	A-4(3)	GRAY
133+00	34	39	29.80	90	46	4.20	47'LT	0-5	24.00	5	A-4(2)	GRAY
137+00	34	39	33.50	90	46	4.00	CL	0-5	38.00	17	A-6(17)	BROWN
140+00	34	39	36.70	90	46	4.40	35'LT	0-5	20.00	4	A-4(0)	BR/GR
140+00	34	39	36.70	90	46	4.20	25'LT	0-5	18.00	3	A-4(0)	BR/GR
145+00	34	39	40.70	90	46	3.90	CL	0-5	42.00	23	A-7-6(24)	GRAY
149+00	34	39	45.70	90	46	4.60	45'LT	0-5	21.00	6	A-4(1)	GRAY
149+00	34	39	45.70	90	46	4.80	80'LT	0-5	25.00	7	A-4(3)	GR/BR
149+00	34	39	45.70	90	46	4.50	56'LT	0-5	20.00	5	A-4(0)	GRAY
153+00	34	39	49.60	90	46	3.90	CL	0-5	38.00	17	A-6(18)	BROWN
157+00	34	39	52.10	90	46	4.00	35'LT	0-5	19.00	4	A-4(0)	GR/BR
157+00	34	39	53.69	90	46	4.10	27'LT	0-5	22.00	6	A-4(0)	GRAY
161+00	34	39	57.60	90	46	3.90	CL	0-5	35.00	14	A-6(14)	GR/BR
161+00	34	39	57.60	90	46	3.90	CL	0-5	35.00	13	A-6(13)	GR/BR
165+00	34	40	1.50	90	46	4.60	80'LT	0-5	31.00	9	A-4(8)	BROWN
165+00	34	40	1.60	90	46	4.50	57'LT	0-5	26.00	9	A-4(5)	GR/BR
165+00	34	40	1.60	90	46	4.30	45'LT	0-5	24.00	7	A-4(2)	GR/BR
169+00	34	40	5.50	90	46	3.80	CL	0-5	30.00	9	A-4(8)	GR/BR
173+00	34	40	9.40	90	46	3.90	35'LT	0-5	32.00	15	A-6(8)	BROWN
173+00	34	40	9.40	90	46	3.90	27'LT	0-5	24.00	6	A-4(3)	BROWN
177+00	34	40	12.70	90	46	3.70	CL	0-5	34.00	15	A-6(13)	GR/BR
181+00	34	40	17.40	90	46	4.30	57'LT	0-5	19.00	3	A-4(0)	BROWN
181+00	34	40	17.50	90	46	4.30	45'LT	0-5	18.00	2	A-4(0)	GR/BR
189+00	34	40	25.30	90	46	3.80	4'RT	0-5	24.00	6	A-4(3)	GR/BR
193+00	34	40	29.30	90	46	4.40	43'LT	0-5	41.00	22	A-7-6(23)	BROWN
193+00	34	40	29.30	90	46	4.20	15'LT	0-5	24.00	7	A-4(3)	BROWN
193+00	34	40	29.30	90	46	4.10	5'LT	0-5	23.00	6	A-4(2)	GR/BR
201+00	34	40	37.20	90	46	3.60	16'RT	0-5	18.00	4	A-4(0)	GR/BR
201+00	34	40	36.90	90	46	3.70	5'RT	0-5	ND	NP	A-4(0)	GRAY
201+00	34	40	37.20	90	46	3.60	35'RT	0-5	ND	NP	A-4(0)	BROWN
209+00	34	40	45.10	90	46	4.20	39'LT	0-5	31.00	14	A-6(13)	BROWN
209+00	34	40	45.00	90	46	4.10	17'LT	0-5	22.00	5	A-4(1)	BROWN
209+00	34	40	45.10	90	46	3.90	6'LT	0-5	27.00	10	A-4(6)	BROWN
217+00	34	40	52.90	90	46	3.40	16'RT	0-5	ND	NP	A-4(0)	BROWN
217+00	34	40	45.10	90	46	4.20	6'RT	0-5	20.00	4	A-4(0)	GR/BR
217+00	34	40	52.90	90	46	3.30	45'RT	0-5	24.00	5	A-4(2)	BROWN
217+00	34	40	52.90	90	46	3.30	45'RT	0-5	31.00	8	A-4(8)	BROWN
225+00	34	41	0.90	90	46	4.10	45'LT	0-5	26.00	4	A-4(3)	BROWN
225+00	34	41	0.90	90	46	4.00	15'LT	0-5	ND	NP	A-4(0)	GRAY
225+00	34	41	0.80	90	46	3.90	6'LT	0-5	15.00	2	A-4(0)	GRAY
233+00	34	41	8.80	90	46	3.40	14'RT	0-5	23.00	3	A-4(1)	GRAY
233+00	34	41	8.80	90	46	3.50	5'RT	0-5	25.00	4	A-4(2)	GRAY
233+00	34	41	8.80	90	46	3.10	35'RT	0-5	29.00	8	A-4(7)	BR/GR
241+00	34	41	16.60	90	46	3.50	30'LT	0-5	25.00	5	A-4(1)	BROWN
241+00	34	41	16.60	90	46	3.40	16'LT	0-5	26.00	9	A-4(5)	BROWN
241+00	34	41	16.60	90	46	3.30	6'LT	0-5	25.00	8	A-4(5)	BR/GR
249+00	34	41	24.50	90	46	3.10	16'RT	0-5	20.00	4	A-4(0)	BR/GR
249+00	34	41	24.50	90	46	3.20	6'RT	0-5	21.00	5	A-4(2)	BR/GR
249+00	34	41	24.50	90	46	2.80	44'RT	0-5	25.00	6	A-4(4)	GRAY
257+00	34	41	32.40	90	46	3.70	39'LT	0-5	26.00	5	A-4(3)	BROWN
257+00	34	41	32.40	90	46	3.50	15'LT	0-5	24.00	7	A-4(3)	BROWN
257+00	34	41	32.50	90	46	3.40	5'LT	0-5	ND	NP	A-4(0)	GRAY
265+00	34	41	40.30	90	46	3.10	15'RT	0-5	22.00	4	A-4(1)	BROWN
265+00	34	41	40.20	90	46	3.20	5'RT	0-5	19.00	2	A-4(0)	BROWN
265+00	34	41	40.30	90	46	2.90	40'RT	0-5	27.00	6	A-4(5)	GR/BR
273+00	34	41	48.20	90	46	3.70	39'LT	0-5	32.00	11	A-6(11)	BROWN
273+00	34	41	48.10	90	46	3.50	16'LT	0-5	26.00	9	A-4(6)	BROWN
273+00	34	41	48.20	90	46	3.30	5'LT	0-5	29.00	12	A-6(7)	BROWN
273+00	34	41	48.20	90	46	3.70	39'LT	0-5	36.00	14	A-6(15)	BR0WN
281+00	34	41	56.20	90	46	2.90	16'RT	0-5	23.00	5	A-4(2)	BROWN
281+00	34	41	56.20	90	46	2.90	6'RT	0-5	23.00	7	A-4(4)	BROWN
281+00	34	41	50.20	90	46	2.70	39'RT	0-5	28.00	7	A-4(5)	BROWN
289+00	34	42	4.10	90	46	3.40	39'LT	0-5	26.00	10	A-4(6)	BROWN
289+00	34	42	4.10	90	46	3.20	16'LT	0-5	19.00	5	A-4(0)	BROWN
289+00	34	42	4.10	90	46	3.10	6'LT	0-5	18.00	3	A-4(0)	GRAY
297+00	34	42	11.90	90	46	2.60	15'RT	0-5	20.00	6	A-4(1)	GRAY
297+00	34	42	11.90	90	46	2.70	5'RT	0-5	19.00	5	A-4(1)	GRAY
297+00	34	42	11.40	90	46	2.40	43'RT	0-5	30.00	13	A-6(11)	GRAY
305+00	34	42	19.80	90	46	3.10	35'LT	0-5	38.00	15	A-6(16)	BROWN
305+00	34	42	19.80	90	46	2.90	15'LT	0-5	26.00	8	A-4(4)	GR/BR
305+00	34	42	19.30	90	46	2.80	5'LT	0-5	24.00	7	A-4(3)	GRAY
313+00	34	42	27.70	90	46	2.30	16'RT	0-5	26.00	7	A-4(5)	BROWN
313+00	34	42	27.40	90	46	2.40	6'RT	0-5	35.00	16	A-6(15)	BROWN
313+00	34	42	27.70	90	46	2.20	40'RT	0-5	33.00	12	A-6(12)	BROWN
321+00	34	42	35.60	90	46	2.80	38'LT	0-5	19.00	2	A-4(0)	BROWN
321+00	34	42	35.60	90	46	2.60	16'LT	0-5	20.00	3	A-4(0)	GRAY
321+00	34	42	30.90	90	46	2.40	6'LT	0-5	18.00	3	A-4(0)	GRAY
329+00	34	42	43.50	90	46	2.10	15'RT	0-5	35.00	14	A-6(13)	BROWN
329+00	34	42	43.50	90	46	2.00	5'RT	0-5	37.00	16	A-6(15)	BROWN
329+00	34	42	43.50	90	46	1.90	38'RT	0-5	38.00	15	A-6(16)	BROWN
329+00	34	42	43.50	90	46	1.90	38'RT	0-5	35.00	11	A-6(12)	BROWN
337+00	34	42	51.40	90	46	2.60	37'LT	0-5	16.00	3	A-4(0)	BROWN
337+00	34	42	51.40	90	46	2.40	16'LT	0-5	16.00	2	A-4(0)	GRAY
337+00	34	42	50.20	90	46	2.30	6'LT	0-5	ND	NP	A-4(0)	GRAY
345+00	34	42	59.30	90	46	1.90	16'RT	0-5	28.00	8	A-4(6)	BROWN
345+00	34	42	57.40	90	46	2.10	7'RT	0-5	30.00	10	A-4(8)	BROWN
345+00	34	42	59.30	90	46	1.70	42'RT	0-5	29.00	8	A-4(7)	BROWN
353+00	34	43	7.40	90	46	2.40	36'LT	0-5	ND	NP	A-4(0)	BROWN
353+00	34	43	7.40	90	46	2.20	15'LT	0-5	19.00	5	A-4(0)	BROWN
353+00	34	43	7.20	90	46	2.10	6'LT	0-5	17.00	4	A-4(0)	BROWN
361+00	34	43	15.30	90	46	1.60	16'RT	0-5	24.00	5	A-4(2)	GRAY
361+00	34	43	13.20	90	46	1.80	6'RT	0-5	26.00	6	A-4(4)	GRAY
361+00	34	43	15.30	90	46	1.40	45'RT	0-5	32.00	10	A-4(8)	BROWN
369+00	34	43	23.20	90	46	2.30	38'LT	0-5	32.00	9	A-4(9)	BROWN
369+00	34	43	23.20	90	46	2.10	16'LT	0-5	29.00	8	A-4(7)	BR0WN
369+00	34	43	23.10	90	46	1.90	6'LT	0-5	27.00	8	A-4(6)	BROWN
377+00	34	43	31.10	90	46	1.60	15'RT	0-5	25.00	5	A-4(3)	BR0WN
377+00	34	43	31.10	90	46	1.60	6'RT	0-5	29.00	9	A-4(8)	BROWN
377+00	34	43	31.10	90	46	1.50	39'RT	0-5	36.00	14	A-6(15)	BROWN
385+00	34	43	38.90	90	46	2.30	45'LT	0-5	26.00	6	A-4(4)	BROWN
385+00	34	43	38.90	90	46	2.30	45'LT	0-5	30.00	9	A-4(7)	BROWN
385+00	34	43	38.90	90	46	2.20	25'LT	0-5	23.00	5	A-4(2)	BR0WN
385+00	34	43	39.00	90	46	2.10	15'LT	0-5	30.00	11	A-6(10)	BROWN
393+00	34	43	46.80	90	46	3.10	18'RT	0-5	35.00	11	A-6(12)	BROWN
393+00	34	43	46.40	90	46	3.30	14'LT	0-5	27.00	9	A-4(7)	BR0WN
393+00	34	43	38.90	90	46	2.30	5'LT	0-5	28.00	10	A-4(7)	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.
NP - NON-PLASTIC
ND - NOT DETERMINABLE

QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11405
TIMOTHY D. SMITH
4-9-13

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DES.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		64	271

JOB NO. 110502

(2) QUANTITY SHEETS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
5/22/13				6	ARK.			
				JOB NO.		110502	65	271

(2) QUANTITY SHEETS

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION			COMPACTED EMBANKMENT			* SOIL STABILIZATION ADDITIVE	SOIL STABILIZATION
			NORM.	ADDL.	TOTAL	NORM.	SM-3	TOTAL		
			CU. YD.			CU. YD.			TON	TON
ENTIRE	PROJECT	STAGE 1-MAIN LANES	34765		34765	34972		34972		
ENTIRE	PROJECT	STAGE 2-MAIN LANES	36665		36665	19172		19172		
ENTIRE	PROJECT	APPROACHES	25		25	5350		5350		
ENTIRE	PROJECT	TEMPORARY APPROACHES								
236+12		CO. RD. 238	80		80	20		20		
236+25		CO. RD. 242	15		15	20		20		
263+15		LEE CO. RD	30		30	20		20		
129+55		CHANNEL CHANGE	350		350					
166+53		CHANNEL CHANGE	72		72	65		65		
219+91		CHANNEL CHANGE	350		350					
228+47		CHANNEL CHANGE	12		12	102		102		
288+25		CHANNEL CHANGE	34		34	75		75		
349+90		CHANNEL CHANGE	134		134	2		2		
ENTIRE	PROJECT	ADDL. FOR COMP. EMB. AT R.C. BOX					241	241		
* ENTIRE	PROJECT	ADDL. FOR UNDERCUT		13000	13000		13000	13000		
		TO BE USED IF AND WHERE								
		DIRECTED BY THE ENGINEER								
* ENTIRE	PROJECT	TO BE USED IF AND WHERE							375	1125
		DIRECTED BY THE ENGINEER								
TOTALS:			72532	13000	85532	59798	13241	73039	375	1125

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

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	"B"	CONC. DITCH PAVING (TYPE A)	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	FEET	SQ. YD.	SQ. YD.	SQ. YD.	M. GAL.
166+00	167+00	LT. DITCH	100.00	6.5			72.22	44.44	0.56
188+00	188+72	RT. DITCH	72.00	6.5			52.00	32.00	0.40
189+02	192+98	RT. DITCH	396.00	9.25			407.00	176.00	2.22
188+00	193+00	LT. DITCH	500.00	9.25			513.89	222.22	2.80
227+01	227+67	RT. DITCH	66.00	9.25			67.83	29.33	0.37
227+65	229+00	LT. DITCH	135.00	6.5			97.50	60.00	0.76
	228+47	OUTLET ON RT.		28.5			158.33		
228+17	228+69	RT. DITCH AND FLAT BOTTOM	52.00	10.5	4	60.67		23.11	0.29
271+00	272+52	RT. DITCH	152.00	9.25			156.22	67.56	0.85
				28.5					
TOTALS:						60.67	1524.99	654.66	8.25

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.
* ENTIRE	PROJECT	IF AND WHERE	2250.0	2000.0
		DIRECTED BY THE ENGINEER		
TOTAL:				2000.0

NOTE: AVERAGE WIDTH = 8'-0"
* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF STD. SPECS.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL AND DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	LIN.FT.	LIN.FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING									2860		1105			
ENTIRE	PROJECT	STAGE 1	14.28	28.56	14.28	1456.6	14.28	43.03	43.03	877.8	1342	630	545	4792	4792	4897
ENTIRE	PROJECT	STAGE 2	14.01	28.02	14.01	1429.0	14.01	39.00	39.00	795.6	1474	480		2997	2997	3082
* ENTIRE	PROJECT	IF AND WHERE DIRECTED BY THE ENGINEER						10.00	10.00	204.0	220	100	200			100
TOTALS:			28.29	56.58	28.29	2885.6	28.29	92.03	92.03	1877.4	5896	1210	1850	7789	7789	8079

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.
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 ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

DUMPED RIPRAP AND FILTER BLANKET

STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
		CU. YDS.	SQ. YDS.
129+55	OUTLET OF BOX CULVERT	27	53
219+91	OUTLET OF BOX CULVERT	31	62
228+47	INLET OF BOX CULVERT	98	195
288+25	OUTLET OF BOX CULVERT	19	37
349+91	OUTLET OF BOX CULVERT	12	24
	*TO BE USED IF AND WHERE	100	200
	DIRECTED BY THE ENGINEER		
TOTALS:		287	571

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

NOTE: FILTER BLANKET SHALL BE GEOTEXTILE FABRIC (TYPE 5).

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS	*SOLID SODDING	WATER
			LIN.FT.	SQ.YD.	SQ.YD.	M. GAL
235+40	236+16	MAIN LANES RT.	76	42	25	0.32
236+35	272+34	MAIN LANES RT.	3599	1999	1200	15.12
235+43	236+05	MAIN LANES LT.	62	34	21	0.26
236+17	263+05	MAIN LANES LT.	2688	1493	896	11.29
263+25	272+35	MAIN LANES LT.	910	506	303	3.82
TOTALS:				4074	2445	30.81

* SOLID SODDING IS TO BE USED IN THE 3' WIDTH BETWEEN THE SIDEWALK AND CURB.

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	* 4' CHAIN LINK FENCE	* 16'-0" GATES
			LIN.FT.			EACH
186+80	187+00	RT. OF MAIN LANES			20	
219+00	221+41	LT. OF MAIN LANES		241		
222+00	223+00	LT. OF MAIN LANES	100			
243+59	247+17	RT. OF MAIN LANES		326		2
247+17	249+60	RT. OF MAIN LANES	227			1
278+00	279+00	RT. OF MAIN LANES		68		2
282+13	282+45	RT. OF MAIN LANES	32			2
309+00	310+00	RT. OF MAIN LANES		100		
334+00	336+00	RT. OF MAIN LANES		200		
371+00	372+00	LT. OF MAIN LANES		100		1
TOTALS:			359	1035	20	8

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
129+55	LT. R.C. BOX CULVERT	1
166+53	RT. R.C. BOX CULVERT	1
219+91	LT. R.C. BOX CULVERT	1
228+47	RT. R.C. BOX CULVERT	1
288+25	LT. R.C. BOX CULVERT	1
349+91	RT. R.C. BOX CULVERT	1
TOTAL:		6

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-22-13

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
234+94	236+16	MAIN LANES RT.	122
236+34	238+15	MAIN LANES RT.	181
238+15	239+10	MAIN LANES RT. (BREAKS TO 6' PER TYPICAL)	95
239+10	272+33	MAIN LANES RT.	3323
234+91	236+05	MAIN LANES LT.	114
236+27	263+05	MAIN LANES LT.	2678
263+24	272+74	MAIN LANES LT.	950
TOTAL:			7463

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 3
		SQ.YD.
236+51	LT. OF HWY. 121	9.1
236+65	RT. OF HWY. 121	9.6
262+74	LT. OF HWY. 121	9.6
263+58	LT. OF HWY. 121	11.5
272+19	LT. OF HWY. 121	
272+19	RT. OF HWY. 121	9.9
TOTAL:		49.7

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND SQ.YD.
128+53	HWY. TURNOUT LT.	B	55
129+35	HWY. TURNOUT RT.	B	13
TOTAL:			68

QUANTITY SHEETS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	66	271

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	RUMBLE STRIPS
			LIN. FT.
115+00	127+95	RT. SHOULDER	1036
115+00	121+17	LT. SHOULDER	494
121+83	126+79	LT. SHOULDER	397
130+24	146+10	RT. SHOULDER	1269
130+94	144+80	LT. SHOULDER	1109
145+49	147+40	LT. SHOULDER	153
146+76	164+54	RT. SHOULDER	1422
148+07	155+41	LT. SHOULDER	587
155+97	156+85	LT. SHOULDER	70
157+41	160+13	LT. SHOULDER	218
160+79	164+96	LT. SHOULDER	334
165+62	174+28	LT. SHOULDER	693
165+20	177+48	RT. SHOULDER	982
178+14	182+38	RT. SHOULDER	339
174+84	182+26	LT. SHOULDER	594
182+96	195+55	LT. SHOULDER	1007
183+04	188+56	RT. SHOULDER	442
189+22	192+81	RT. SHOULDER	287
193+47	193+88	RT. SHOULDER	41
194+96	203+82	RT. SHOULDER	709
196+56	198+75	LT. SHOULDER	175
199+35	201+82	LT. SHOULDER	198
202+48	202+91	LT. SHOULDER	43
203+57	208+82	LT. SHOULDER	420
204+48	216+62	RT. SHOULDER	971
209+38	209+43	LT. SHOULDER	5
210+09	211+37	LT. SHOULDER	102
212+03	213+24	LT. SHOULDER	97
214+03	218+49	LT. SHOULDER	357
219+15	221+44	LT. SHOULDER	183
217+28	227+62	RT. SHOULDER	827
228+29	228+59	RT. SHOULDER	30
222+10	222+46	LT. SHOULDER	36
223+12	234+86	LT. SHOULDER	939
229+25	234+89	RT. SHOULDER	451
272+75	276+11	LT. SHOULDER	269
273+09	278+03	RT. SHOULDER	395
276+78	289+14	LT. SHOULDER	989
278+43	281+91	RT. SHOULDER	278
282+75	289+14	RT. SHOULDER	511
290+20	290+51	RT. SHOULDER	31
290+27	300+14	LT. SHOULDER	790
291+22	295+76	RT. SHOULDER	363
296+36	309+61	RT. SHOULDER	1060
300+84	314+56	LT. SHOULDER	1098
315+22	330+22	LT. SHOULDER	1200
310+27	316+13	RT. SHOULDER	469
317+13	332+93	RT. SHOULDER	1264
333+71	336+26	RT. SHOULDER	204
336+96	341+54	RT. SHOULDER	366
342+64	342+73	RT. SHOULDER	9
339+62	340+34	LT. SHOULDER	58
342+47	343+77	LT. SHOULDER	104
343+77	356+26	LT. SHOULDER	999
343+43	343+83	RT. SHOULDER	40
344+49	345+54	RT. SHOULDER	84
346+18	346+46	RT. SHOULDER	28
347+12	353+03	RT. SHOULDER	473
353+69	354+04	RT. SHOULDER	35
354+69	358+16	RT. SHOULDER	278
356+96	368+21	LT. SHOULDER	900
358+83	360+11	RT. SHOULDER	102
360+86	361+06	RT. SHOULDER	20
361+72	363+73	RT. SHOULDER	161
364+39	367+89	RT. SHOULDER	280
368+55	373+23	RT. SHOULDER	374
368+87	369+17	LT. SHOULDER	30
369+90	371+37	LT. SHOULDER	118
372+10	381+09	LT. SHOULDER	719
374+23	387+32	RT. SHOULDER	1047
381+79	385+04	LT. SHOULDER	260
385+71	386+48	LT. SHOULDER	62
387+95	394+10	RT. SHOULDER	492
387+81	387+96	LT. SHOULDER	15
388+66	394+23	LT. SHOULDER	446
395+32	400+00	LT. SHOULDER	374
395+25	400+00	RT. SHOULDER	380
TOTAL:			34192

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

PORTLAND CEMENT CONCRETE BASE

STATION	LOCATION	PORTLAND CEMENT CONCRETE BASE	
		AVG. WID.	8" U.T.
		FEET	SQ. YD.
128+85	ON LT.	VAR.	22.0
129+07	ON LT.	VAR.	33.0
129+12	ON RT.	VAR.	44.0
TOTAL:			99.0

ACHM PATCHING OF EXISTING ROADWAY

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

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

FLOWABLE SELECT MATERIAL

STATION	LOCATION	CU. YD.
129+12	CONST. DBL. R.C. PIPE CULV'T ON RT.	78
TOTAL:		78

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
115+00	116+00	MAIN LANES	24	266.67
399+00	400+00	MAIN LANES	75	833.33
TOTAL:				1100.00

NOTE: AVERAGE MILLING DEPTH 1".

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	150	300
DIRECTED BY THE ENGINEER		
TOTALS:	150	300

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC: PATCHING = 25 TONS PER MILE
TACK COAT = 50 GAL. PER MILE

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	600
ENGINEER	
TOTALS:	600

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

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
129+12	RT. OF MAIN LANES	14.00	30.00	15.56
268+10	MAIN LANES	8.50	24.00	7.56
TOTAL:				23.12

AVG. DEPTH = 1'-0"

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.		110502	67	271

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE (CLASS III)				PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2			FLARED END SECTIONS FOR R.C. PIPE CULVERTS				DROP INLETS			SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
													TYPE	EXT.										
		18"	24"	30"	36"	18"	24"	30"	18"	24"	30"	36"	MO	4'	8'									
		LIN. FT.							EACH				EACH			LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
129+12	CONST. DBL. R.C. PIPE CULVERT		244							4												18	0.23	FES-1, FES-2, PCC-1
129+55	R.C. BOX CULVERT RETAIN AND EXTEND 46' LT. AND 94' RT.															10	4	145	150.19	13649	79	18	0.23	SPECIAL DETAIL, RCB-1,RCB-2, RCB-3
130+61	CONST. R.C. PIPE CULVERT				32							1										8	0.10	FES-1, FES-2, PCC-1
166+53	R.C. BOX CULVERT RETAIN AND EXTEND 17' LT. AND 59' RT. (15° L.F.S.)															6	4	81	47.88	6054	29	15	0.19	R-115X-0,R-100X-0,W-X15,W-X003-1, W-X153-1, RCB-1,RCB-2, RCB-3
219+91	R.C. BOX CULVERT RETAIN AND EXTEND 37' LT. AND 36' RT.															8	4	78	61.58	7898	38	16	0.20	R-100X-0, W-X003-1, RCB-1,RCB-2, RCB-3
235+70	CONST. DROP INLET ON RT. (5'- 0" X 5'- 0" X H = 5'- 7")			41							1		1									13	0.16	FES-1, FES-2, FPC-9M, PCC-1
236+80	CONST. DROP INLET ON RT. (4'- 0" X 5'- 0" X H = 4'- 5")							105					1	1										FPC-9M, PCC-1, PCM-1
237+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 4'- 5")		14							1			1	1								8	0.10	FES-1, FES-2, FPC-9M, PCC-1
239+00	CONST. DROP INLET ON RT. (4'- 0" X 5'- 0" X H = 4'- 10")							215					1	1										FPC-9M, PCC-1, PCM-1
240+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 4'- 5")					295							1	1										FPC-9M, PCC-1, PCM-1
242+00	CONST. DROP INLET ON RT. (4'- 0" X 5'- 0" X H = 5'- 0")	4						297	1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
243+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 4'- 5")					295							1	1										FES-1, FES-2, FPC-9M, PCC-1, PCM-1
243+95	CONST. DROP INLET ON RT. (4'- 0" X 5'- 0" X H = 5'- 10")	5						190	1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
245+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 4'- 10")	18				196			1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
246+00	CONST. DROP INLET ON RT. (4'- 0" X 5'- 0" X H = 6'- 2")							200					1											FPC-9M, PCC-1, PCM-1
247+70	CONST. DROP INLET ON RT. (4'- 0" X 5'- 0" X H = 6'- 2")	9						165	1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
248+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 4'- 6")	14							1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1
249+82	CONST. DROP INLET ON RT. (4'- 0" X 3'- 5" X H = 6'- 2")	9						207	1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
252+39	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 4'- 11")	8					253		1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
254+48	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 3'- 8")	21							1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1
254+48	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 3'- 8")					205							1											FPC-9M, PCC-1, PCM-1
256+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 3'- 6")	19							1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1
256+95	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 3'- 6")	5				243			1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
258+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 3'- 6")	20							1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
258+00	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 3'- 6")	3				101			1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1
260+49	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 3'- 11")					147							1											FPC-9M, PCC-1, PCM-1
261+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 3'- 6")	18							1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1
262+00	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 4'- 10")	10				146			1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
263+50	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 4'- 7")	11				246			1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
266+00	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 5'- 11")					176							1	1										FPC-9M, PCC-1, PCM-1
266+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 3'- 8")	11							1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1
267+80	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 5'- 2")					26							1											FPC-9M, PCC-1, PCM-1
267+80	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H =6'- 0")						26						1											FPC-9M, PCC-1, PCM-1
268+10	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 6'- 12")		15							1			1		1							8	0.10	FES-1, FES-2, FPC-9M, PCC-1
268+10	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 6'- 0")		59										1		1									FPC-9M, PCC-1, PCM-1
268+40	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 5'- 2")	26				26							1											FPC-9M, PCC-1, PCM-1
268+40	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 3'- 7")	5				26			1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1, PCM-1
270+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 4'- 3")	14							1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1
270+00	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 3'- 9")					196							1	1										FPC-9M, PCC-1, PCM-1
272+00	CONST. DROP INLET ON LT. (4'- 0" X 4'- 0" X H = 3'- 6")	15							1				1	1								5	0.06	FES-1, FES-2, FPC-9M, PCC-1
272+00	CONST. DROP INLET ON RT. (4'- 0" X 4'- 0" X H = 4'- 10")	12							1				1									5	0.06	FES-1, FES-2, FPC-9M, PCC-1
288+25	R.C. BOX CULVERT RETAIN AND EXTEND 35' LT. AND 35' RT.															3	2	75	22.54	2149	20	8	0.10	SPECIAL DETAIL, RCB-1,RCB-2, RCB-3
327+94	R.C. PIPE CULVERT 24" X 61' EXTEND 26' LT. AND 28' RT.		62				62			2												16	0.20	FES-1, FES-2, PCC-1
334+76	R.C. PIPE CULVERT 24" X 70' EXTEND 24' LT. AND 22' RT.		54				54			2												16	0.20	FES-1, FES-2, PCC-1
342+70	R.C. PIPE CULVERT 30" X 63' EXTEND 46' LT. AND 8' RT.			62				62			2											26	0.33	FES-1, FES-2, PCC-1
349+91	R.C. BOX CULVERT RETAIN AND EXTEND 56' LT. AND 16' RT.															4	2	78	26.36	3408	21	10	0.13	R-100X-0, W-X003-1, RCB-1, RCB-2, RCB-3
SUBTOTALS:		**257**	**448**	**103**	**32**	**2324**	**395**	**1441**	**20**	**10**	**3**	**1**	**36**	**15**	**2**				**308.55**	**33158**	**187**	**280**	**3.47**	
		STRUCTURES OVER 20' - 0" SPAN																						
228+47	EXTEND DBL. 10' X 8' X 65' R.C. BOX CLVT. 25'LT. AND 27'RT.															22.17	8	59	142.91	19662	72	30	0.38	R-200X-0, W-X003-1,RCB-1, RCB-2, RCB-3
SUBTOTALS:																			**142.91**	**19662**	**72**	**30**	**0.38**	
TOTALS:		**257**	**448**	**103**	**32**	**2324**	**395**	**1441**	**20**	**10**	**3**	**1**	**36**	**15**	**2**				**451.46**	**52820**	**259**	**310**	**3.85**	

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.

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

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS									STANDARD DRAWINGS
										18"	24"	30"	36"	42"	28" X 20"	35" X 24"	42" X 29"	64" X 43"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.									
121+50	LT.	DRIVEWAY	16				77.4	8.5	31.6	36									PCC-1, PCM-1, PCP-1,PCP-2
127+08	LT.	DRIVEWAY	16				73.3	8.1	29.9	30									PCC-1, PCM-1, PCP-1,PCP-2
127+64	LT.	DRIVEWAY	16				73.3	8.1	29.9	32									PCC-1, PCM-1, PCP-1,PCP-2
130+61	LT.	DRIVEWAY	16				73.1	8.0	29.8				32						PCC-1, PCM-1, PCP-1,PCP-2
145+13	LT.	DRIVEWAY	20				116.0	12.8	47.4		34								PCC-1, PCM-1, PCP-1,PCP-2
146+42	RT.	DRIVEWAY	16				87.8	9.7	35.9		30								PCC-1, PCM-1, PCP-1,PCP-2
147+76	LT.	DRIVEWAY	16			78.60					30								PCC-1, PCM-1, PCP-1,PCP-2
155+65	LT.	DRIVEWAY	16				95.8	10.5	39.1	32									PCC-1, PCM-1, PCP-1,PCP-2
157+07	LT.	DRIVEWAY	16				78.1	8.6	31.9	34									PCC-1, PCM-1, PCP-1,PCP-2
160+45	LT.	DRIVEWAY	16				77.6	8.5	31.7			36							PCC-1, PCM-1, PCP-1,PCP-2
164+86	RT.	DRIVEWAY	16				89.0	9.8	36.3			32							PCC-1, PCM-1, PCP-1,PCP-2
165+29	LT.	DRIVEWAY	16				88.7	9.8	36.2			38							PCC-1, PCM-1, PCP-1,PCP-2
174+51	LT.	DRIVEWAY	16				92.8	10.2	37.9									36	PCC-1, PCM-1, PCP-1,PCP-2
177+83	RT.	DRIVEWAY	16				71.7	7.9	29.3		40								PCC-1, PCM-1, PCP-1,PCP-2
182+62	LT.	DRIVEWAY	20				183.0	20.1	74.7								32		PCC-1, PCM-1, PCP-1,PCP-2
182+71	RT.	DRIVEWAY	16				63.0	6.9	25.7		32								PCC-1, PCM-1, PCP-1,PCP-2
188+92	RT.	DRIVEWAY	16				75.0	8.3	30.6		30								PCC-1, PCM-1, PCP-1,PCP-2
189+60	RT.	DRIVEWAY	32				129.9	14.3	53.0		40								PCC-1, PCM-1, PCP-1,PCP-2
193+14	RT.	DRIVEWAY	16				73.6	8.1	30.1		32								PCC-1, PCM-1, PCP-1,PCP-2
194+44	RT.	DRIVEWAY	18				153.2	16.9	62.6	32									PCC-1, PCM-1, PCP-1,PCP-2
196+00	LT.	LEE COUNTY 246	20				152.1	16.7	62.1		34								PCC-1, PCM-1, PCP-1,PCP-2
199+11	LT.	DRIVEWAY	20				95.9	10.5	39.2	36									PCC-1, PCM-1, PCP-1,PCP-2
202+15	LT.	DRIVEWAY	16				73.6	8.1	30.1	32									PCC-1, PCM-1, PCP-1,PCP-2
203+25	LT.	DRIVEWAY	16				73.7	8.1	30.1	32									PCC-1, PCM-1, PCP-1,PCP-2
204+14	RT.	DRIVEWAY	16				74.3	8.2	30.3	34									PCC-1, PCM-1, PCP-1,PCP-2
209+05	LT.	DRIVEWAY	16				77.8	8.6	31.8		32								PCC-1, PCM-1, PCP-1,PCP-2
209+76	LT.	DRIVEWAY	16				78.8	8.7	32.2		34								PCC-1, PCM-1, PCP-1,PCP-2
211+72	LT.	DRIVEWAY	16				82.1	9.0	33.5		34								PCC-1, PCM-1, PCP-1,PCP-2
213+85	LT.	DRIVEWAY	20			93.90					40								PCC-1, PCM-1, PCP-1,PCP-2
216+95	RT.	DRIVEWAY	16				91.1	10.0	37.2				42						PCC-1, PCM-1, PCP-1,PCP-2
218+50	LT.	DRIVEWAY	16				91.2	10.0	37.2		36								PCC-1, PCM-1, PCP-1,PCP-2
221+78	LT.	DRIVEWAY	16				78.4	8.6	32.0		32								PCC-1, PCM-1, PCP-1,PCP-2
222+78	LT.	DRIVEWAY	16				71.2	7.8	29.1		28								PCC-1, PCM-1, PCP-1,PCP-2
227+97	RT.	DRIVEWAY	16				127.3	14.0	52.0				50						PCC-1, PCM-1, PCP-1,PCP-2
228+92	RT.	DRIVEWAY	16				129.3	14.2	52.8					46					PCC-1, PCM-1, PCP-1,PCP-2
236+12	LT.	LEE COUNTY RD 238											70						PCC-1, PCM-1, PCP-1,PCP-2
240+74	RT	DRIVEWAY	20	240+50	240+98	28.40	10.6	1.2	4.3										PCC-1, PCM-1, PCP-1,PCP-2
243+58	LT.	DRIVEWAY	16	243+36	243+80	24.90	8.1	0.9	3.3										PCC-1, PCM-1, PCP-1,PCP-2
243+67	RT.	DRIVEWAY	16	243+45	243+89	24.90	14.6	1.6	6.0										PCC-1, PCM-1, PCP-1,PCP-2
246+15	LT.	DRIVEWAY	40	245+81	246+49	46.20	129.7	14.3	53.0		46								PCC-1, PCM-1, PCP-1,PCP-2
246+57	RT.	DRIVEWAY	16	246+35	246+79	24.90	27.5	3.0	11.2										PCC-1, PCM-1, PCP-1,PCP-2
247+35	RT.	DRIVEWAY	16	247+13	247+57	24.90	10.2	1.1	4.2										PCC-1, PCM-1, PCP-1,PCP-2
249+13	LT.	DRIVEWAY	16	248+91	249+35	24.90	53.4	5.9	21.8		28								PCC-1, PCM-1, PCP-1,PCP-2
249+83	LT.	DRIVEWAY	16	249+61	250+05	82.30					28								PCC-1, PCM-1, PCP-1,PCP-2
252+41	LT.	DRIVEWAY	16	252+19	252+63	24.90	54.8	6.0	22.4	28									PCC-1, PCM-1, PCP-1,PCP-2
256+33	RT.	DRIVEWAY	16	256+11	256+55	24.90	12.5	1.4	5.1										PCC-1, PCM-1, PCP-1,PCP-2
257+01	LT.	DRIVEWAY	16	256+79	257+23	24.90	42.9	4.7	17.5	28									PCC-1, PCM-1, PCP-1,PCP-2
257+20	RT.	DRIVEWAY	16	256+98	257+42	24.90													PCC-1, PCM-1, PCP-1,PCP-2
260+22	RT.	DRIVEWAY	16	260+00	260+44	24.90	10.0	1.1	4.1										PCC-1, PCM-1, PCP-1,PCP-2
262+38	LT.	DRIVEWAY	16	262+16	262+60	24.90	74.5	8.2	30.4		42								PCC-1, PCM-1, PCP-1,PCP-2
263+15	LT.	LEE COUNTY RD									42								PCC-1, PCM-1, PCP-1,PCP-2
272+72	RT.	DRIVEWAY	16				83.3	9.2	34.0		40								PCC-1, PCM-1, PCP-1,PCP-2
276+44	LT.	DRIVEWAY	16				75.5	8.3	30.8		30								PCC-1, PCM-1, PCP-1,PCP-2
278+36	RT.	DRIVEWAY	20				94.0	10.3	38.4		30								PCC-1, PCM-1, PCP-1,PCP-2
282+29	RT.	DRIVEWAY	30				135.1	14.9	55.2		42								PCC-1, PCM-1, PCP-1,PCP-2
289+64	RT.	LEE COUNTY 234	20				105.3	11.6	43.0		36								PCC-1, PCM-1, PCP-1,PCP-2
289+71	LT.	LEE COUNTY 232	20				105.3	11.6	43.0								36		PCC-1, PCM-1, PCP-1,PCP-2
290+85	RT.	DRIVEWAY	20				91.3	10.0	37.3		30								PCC-1, PCM-1, PCP-1,PCP-2
296+11	RT.	DRIVEWAY	20				85.9	9.4	35.1		32								PCC-1, PCM-1, PCP-1,PCP-2
300+49	LT.	DRIVEWAY	20				94.1	10.4	38.4		32								PCC-1, PCM-1, PCP-1,PCP-2
309+93	RT.	DRIVEWAY	16				87.6	9.6	35.8	34									PCC-1, PCM-1, PCP-1,PCP-2
314+88	LT.	DRIVEWAY	16				71.1	7.8	29.0		34								PCC-1, PCM-1, PCP-1,PCP-2
316+58	RT.	LEE COUNTY 226	20				105.3	11.6	43.0		36								PCC-1, PCM-1, PCP-1,PCP-2
330+55	LT.	DRIVEWAY	16				89.1	9.8	36.4		38								PCC-1, PCM-1, PCP-1,PCP-2
333+24	RT.	DRIVEWAY	16				69.8	7.7	28.5		32								PCC-1, PCM-1, PCP-1,PCP-2
336+56	RT.	DRIVEWAY	16				73.8	8.1	30.1		32								PCC-1, PCM-1, PCP-1,PCP-2
339+96	LT.	DRIVEWAY	18				92.0	10.1	37.6		36								PCC-1, PCM-1, PCP-1,PCP-2
342+08	RT.	LEE COUNTY RD 224	20				105.3	11.6	43.0										
343+09	RT.	DRIVEWAY	16				91.1	10.0	37.2		36								PCC-1, PCM-1, PCP-1,PCP-2
343+13	LT.	HWY. DO NOT PUT IN D	20																
344+15	RT.	DRIVEWAY	16				73.4	8.1	30.0		32								PCC-1, PCM-1, PCP-1,PCP-2
345+85	RT.	DRIVEWAY	16				73.5	8.1	30.0		32								PCC-1, PCM-1, PCP-1,PCP-2
346+79	RT.	DRIVEWAY	16				73.6	8.1	30.1		32								PCC-1, PCM-1, PCP-1,PCP-2
353+36	RT.	DRIVEWAY	16				73.1	8.0	29.8		30								PCC-1, PCM-1, PCP-1,PCP-2
354+38	RT.	DRIVEWAY	16				72.9	8.0	29.8	28									PCC-1, PCM-1, PCP-1,PCP-2
356+61	LT.	DRIVEWAY	20				91.8	10.1	37.5		32								PCC-1, PCM-1, PCP-1,PCP-2
358+50	RT.	DRIVEWAY	16				71.1	7.8	29.0	28									PCC-1, PCM-1, PCP-1,PCP-2
360+44	RT.	DRIVEWAY	16				65.8	7.2	26.9	28									PCC-1, PCM-1, PCP-1,PCP-2
361+39	RT.	DRIVEWAY	16				70.4	7.7	28.7	28									PCC-1, PCM-1, PCP-1,PCP-2
364+06	RT.	DRIVEWAY	16				71.2	7.8	29.1	34									PCC-1, PCM-1, PCP-1,PCP-2
368+23	RT.	DRIVEWAY	16				72.2	7.9	29.5	32									PCC-1, PCM-1, PCP-1,PCP-2
368+55	LT.	DRIVEWAY	16				73.3	8.1	29.9	28									PCC-1, PCM-1, PCP-1,PCP-2
369+55	LT.	DRIVEWAY	18				77.8	8.6	31.8	34									PCC-1, PCM-1, PCP-1,PCP-2
371+73	LT.	DRIVEWAY	24				98.9	10.9	40.4	34									PCC-1, PCM-1, PCP-1,PCP-2
373+66	RT.	LEE COUNTY RD 218	20				105.3	11.6	43.0	40									PCC-1, PCM-1, PCP-1,PCP-2
381+45	LT.	DRIVEWAY	20				82.4	9.1	33.6	30									PCC-1, PCM-1, PCP-1,PCP-2
385+33	LT.	DRIVEWAY	16				69.2	7.6	28.3	28									PCC-1, PCM-1, PCP-1,PCP-2
386+77	LT.	DRIVEWAY	16				59.0	6.5	24.1	28									PCC-1, PCM-1, PCP-1,PCP-2
387+35	LT.	DRIVEWAY	20				79.3	8.7	32.4	30									PCC-1, PCM-1, PCP-1,PCP-2
387+67	RT.	DRIVEWAY	16				64.0	7.0	26.1	28									PCC-1, PCM-1, PCP-1,PCP-2
388+29	LT.	DRIVEWAY	20				89.7	9.9	36.6	30									PCC-1, PCM-1, PCP-1,PCP-2
394+66	RT.	LEE COUNTY RD 314	22				112.4	12.4	45.9						36				PCC-1, PCM-1, PCP-1,PCP-2
394+77	LT.	LEE COUNTY RD 314	22				112.4	12.4	45.9		40								PCC-1, PCM-1, PCP-1,PCP-2
* ENTIRE PROJECT TEMPORARY DRIVES- IF AND WHERE DIRECTED BY THE ENGINEER									3500.0										
TOTALS:						**603.30**	**7005.5**	**770.6**	**6360.7**	**908**	**1438**	**106**	**194**	**46**	**36**	**36**	**32**	**36**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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.

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

** FOR INFORMATION ONLY

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.

QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11435
TIMOTHY D. SMITH
4-9-13

DATE REVISED	DATE PLANS	DATE REVISED	DATE PLANS

(2) QUANTITY SHEETS

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	110502	68	271

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.		110502	69	271

(2) QUANTITY SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		CEMENT TREATED BASE COURSE				TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				
				TON / STATION	TON	TOTAL WIDTH	PROCESS. (8" U.T.)	CEMENT	SOIL AGGR. (8" COMP. DEPTH.)	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22
			FEET			FEET	SQ YD.	TON	SQ. YD.	FEET				FEET			TON	FEET			TON	TON
MAIN LANES																						
114+00	115+00	TRANSITION	100.00							24.00	266.67	0.10	26.67					24.00	266.67	220.00	29.33	
115+00.00	170+94.73	MAIN LANES CROWN SHIFT	5594.73							12.00	7459.64	0.03	223.79	12.00	7459.64	VAR.	1230.84					
115+00.00	170+94.73	NOTCH & WIDENING ON RT. - MAIN LANES	5594.73			48.75	30304.79	1025.51	30304.79	107.38	66751.35	0.03	2002.54	39.25	24399.24	440.00	5367.83	39.13	24324.64	220.00	2675.71	
170+94.73	235+45.00	NOTCH & WIDENING - MAIN LANES	6450.27			58.50	41926.76	1418.80	41926.76	102.75	73640.58	0.03	2209.22	39.50	28309.52	440.00	6228.09	39.25	28130.34	220.00	3094.34	
235+45.00	272+20.00	MAIN LANES CROWN SHIFT	3675.00							12.00	4900.00	0.03	147.00	12.00	4900.00	VAR.	808.50					
235+45.00	272+20.00	NOTCH & WIDENING - CURB & GUTTER	3675.00			37.00	15108.33	511.27	15108.33	88.00	35933.33	0.03	1078.00	32.00	13066.67	440.00	2874.67	88.00	35933.33	440.00		7905.33
272+20.00	342+86.57	NOTCH & WIDENING - MAIN LANES	7066.57			58.50	45932.71	1554.36	45932.71	102.75	80676.67	0.03	2420.30	39.50	31014.39	440.00	6823.17	39.25	30818.10	220.00	3389.99	
342+86.57	382+64.94	MAIN LANES CROWN SHIFT	3978.37							12.00	5304.49	0.03	159.13	12.00	5304.49	VAR.	875.24					
342+86.57	382+64.94	NOTCH & WIDENING ON LT. - MAIN LANES	3978.37			48.75	21549.50	729.24	21549.50	107.38	47466.37	0.03	1423.99	39.25	17350.11	440.00	3817.02	39.13	17297.07	220.00	1902.68	
382+64.94	397+71.27	NOTCH & WIDENING - MAIN LANES	1506.33			58.50	9791.15	331.33	9791.15	102.75	17197.27	0.03	515.92	39.50	6611.12	440.00	1454.45	39.25	6569.27	220.00	722.62	
397+71.27	400+00.41	MAIN LANES CROWN SHIFT	229.14							12.00	305.52	0.03	9.17	12.00	305.52	VAR.	50.41					
397+71.27	400+00.41	NOTCH & WIDENING ON RT. - MAIN LANES	229.14			48.75	1241.18	42.00	1241.18	107.38	2733.89	0.03	82.02	39.25	999.31	440.00	219.85	39.13	996.25	220.00	109.59	
400+00.41	401+00.41	TRANSITION	100.00							24.00	266.67	0.10	26.67					24.00	266.67	220.00	29.33	
SHOULDERS																						
115+00.00	170+94.73	NOTCH & WIDENING ON RT. - OVERLAY & SHO.	5594.73	43.75	2447.69													75.00	46622.75	220.00	5128.50	
170+94.73	235+45.00	NOTCH & WIDENING - OVERLAY & SHO.	6450.27	57.00	3676.65													75.00	53752.25	220.00	5912.75	
272+20.00	342+86.57	NOTCH & WIDENING - OVERLAY & SHO.	7066.57	57.00	4027.94													75.00	58888.08	220.00	6477.69	
342+86.57	382+64.94	NOTCH & WIDENING ON LT. - OVERLAY & SHO.	3978.37	43.75	1740.54													75.00	33153.08	220.00	3646.84	
382+64.94	397+71.27	NOTCH & WIDENING - OVERLAY & SHO.	1506.33	57.00	858.61													75.00	12552.75	220.00	1380.80	
397+71.27	400+00.41	NOTCH & WIDENING ON RT. - OVERLAY & SHO.	229.14	43.75	100.25													75.00	1909.50	220.00	210.05	
HWY. AND CO. RD. TURNOUTS																						
	129+07.00	HWY. 121 ON LT.	245.00							VAR.	141.05	0.03	4.23	VAR.	70.5	440.00	15.51	VAR.	70.55	440.00	15.52	
	129+12.00	HWY. 121 ON RT.	224.00							VAR.	123.50	0.03	3.71	VAR.	61.5	440.00	13.53	VAR.	62.00	440.00	13.64	
	236+25.00	CO. RD 242 RT.	102.00							VAR.	62.34	0.03	1.87	VAR.	31.17	440.00	6.86	VAR.	31.17	440.00	6.86	
	236+12.00	CO. RD 238 LT.	102.00							VAR.	57.92	0.03	1.74	VAR.	28.96	440.00	6.37	VAR.	28.96	440.00	6.37	
	263+15.00	LEE CO. RD LT.	252.00							VAR.	69.72	0.03	2.09	VAR.	34.86	440.00	7.67	VAR.	34.86	440.00	7.67	
	343+15.00	HWY. 243 LT.	262.00							VAR.	46.46	0.03	1.39	VAR.	23.0	440.00	5.06	VAR.	23.46	440.00	5.16	
LEVELING AND GRADE RAISE																						
115+00.00	170+94.73	MAIN LANES LEVELING	5594.73							29.00	18027.46	0.10	1802.75					29.00	18027.46	220.00	1983.02	
170+94.73	235+45.00	MAIN LANES LEVELING	6450.27							24.00	17200.72	0.10	1720.07					24.00	17200.72	220.00	1892.08	
235+45.00	272+20.00	MAIN LANES LEVELING	3675.00							24.00	9800.00	0.10	980.00					24.00	9800.00	220.00	1078.00	
272+20.00	342+86.57	MAIN LANES LEVELING	7066.57							24.00	18844.19	0.10	1884.42					24.00	18844.19	220.00	2072.86	
342+86.57	382+64.94	MAIN LANES LEVELING	3978.37							41.00	18123.69	0.10	1812.37	12.00	5304.49	VAR.	875.24	29.00	12819.19	220.00	1410.11	
382+64.94	397+71.27	MAIN LANES LEVELING	1506.33							24.00	4016.88	0.10	401.69					24.00	4016.88	220.00	441.86	
397+71.27	400+00.41	MAIN LANES LEVELING	229.14							41.00	1043.86	0.10	104.39	12.00	305.52	VAR.	50.41	29.00	738.34	220.00	81.22	
ENTIRE	PROJECT	ADDITIONAL FOR LEVELING																			560.00	
ENTIRE	PROJECT	ADDITIONAL FOR SUPER		VAR.	241.00																	
TOTALS:					**13092.68**		**165854.42**	**5612.51**	**165854.42**		**430460.24**		**19045.14**		**145580.01**		**30730.72**		**433178.53**		**44284.59**	**7905.3**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
CEMENT IN CEMENT TREATED BASE COURSE IS 12% OF TOTAL VOLUME (67.68 LBS. PER SQ. YD.)
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
5/22/13			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		110502	70	271

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
5-22-13

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	106	STATION
201	GRUBBING	106	STATION
202	REMOVAL AND DISPOSAL OF WELL	1	EACH
202	REMOVAL AND DISPOSAL OF FENCE	1192	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES	2	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	100	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS	300	SQ. YD.
202	REMOVAL AND DISPOSAL OF WALKS	9	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS	3	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS	99	SQ. YD.
202	REMOVAL AND DISPOSAL OF CATTLE GUARD	2	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	43	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS	2	EACH
202	REMOVAL AND DISPOSAL OF FLAG POLE	1	EACH
202	REMOVAL AND DISPOSAL OF CANOPY	3	EACH
206	FLOWABLE SELECT MATERIAL	78	CU. YD.
210	UNCLASSIFIED EXCAVATION	85532	CU. YD.
210	COMPACTED EMBANKMENT	73039	CU. YD.
SP & 210	SOIL STABILIZATION	1125	TON
SP & 210	SOIL STABILIZATION ADDITIVE	375	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	19453	TON
307	PROCESSING CEMENT TREATED BASE COURSE (8" UNIFORM THICKNESS)	165654	SQ. YD.
307	SOIL AGGREGATE IN CEMENT TREATED BASE COURSE (8" COMPACTED DEPTH)	165654	SQ. YD.
309	CEMENT IN TREATED BASE COURSE	5613	TON
309	PORTLAND CEMENT CONCRETE BASE (8" UNIFORM THICKNESS)	99	SQ. YD.
401	TACK COAT	19345	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	29440	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	1291	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	50100	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	2433	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	427	TON
412	COLD MILLING ASPHALT PAVEMENT	1100	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	150	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	100	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY	603.30	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP, SS, & 603	MAINTENANCE OF TRAFFIC	1	EACH
SS & 604	SIGNS	1.00	LUMP SUM
SS & 604	BARRICADES	1008	SQ. FT.
SS & 604	TRAFFIC DRUMS	288	LIN. FT.
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	1314	EACH
SS & 604	RELOCATING PRECAST CONCRETE BARRIER	1223	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS	1024	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	133200	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	19200	LIN. FT.
SS & 604	VERTICAL PANELS	4936	LIN. FT.
605	CONCRETE DITCH PAVING (TYPE A)	211	EACH
605	CONCRETE DITCH PAVING (TYPE B)	61	SQ. YD.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	1525	SQ. YD.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	257	LIN. FT.
606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 1)	2324	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	2324	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	448	LIN. FT.
606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 1)	395	LIN. FT.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	395	LIN. FT.
606	30" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 1)	103	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	1441	LIN. FT.
606	36" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 1)	1441	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN	32	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN	908	LIN. FT.
SP, SS, & 606	30" SIDE DRAIN	1438	LIN. FT.
SP, SS, & 606	36" SIDE DRAIN	196	LIN. FT.
SP, SS, & 606	42" SIDE DRAIN	194	LIN. FT.
SS & 606	28" X 20" SIDE DRAIN	46	LIN. FT.
SS & 606	35" X 24" SIDE DRAIN	36	LIN. FT.
SS & 606	42" X 29" SIDE DRAIN	36	LIN. FT.
SS & 606	64" X 43" SIDE DRAIN	32	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	36	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	20	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	10	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	3	EACH
606	SELECTED PIPE BEDDING	1	EACH
609	DROP INLETS (TYPE MO)	600	CU. YD.
609	DROP INLET EXTENSIONS (4')	36	EACH
609	DROP INLET EXTENSIONS (8')	15	EACH
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	2	EACH
619	WIRE FENCE (TYPE C)	23.1	CU. YD.
619	WIRE FENCE (TYPE D)	359	LIN. FT.
619	4' STEEL CHAIN LINK FENCE	1035	LIN. FT.
619	4' ALUMINUM CHAIN LINK FENCE	20	LIN. FT.
619	16' STEEL GATES	20	LIN. FT.
619	16' ALUMINUM GATES	8	EACH
620	LIME	8	EACH
620	SEEDING	57	TON
620	MULCH COVER	28.29	ACRE
SS & 620	WATER	120.32	ACRE
621	TEMPORARY SEEDING	4805.9	M.GAL.
621	SILT FENCE	92.03	ACRE
621	SAND BAG DITCH CHECKS	1850	LIN. FT.
621	DROP INLET SILT FENCE	5896	BAG
621	SEDIMENT BASIN	1210	LIN. FT.
621	OBLITERATION OF SEDIMENT BASIN	7789	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	7789	CU. YD.
623	SECOND SEEDING APPLICATION	8079	CU. YD.
624	SOLID SODDING	28.29	ACRE
626	EROSION CONTROL MATTING (CLASS 3)	3410	SQ. YD.
632	CONCRETE ISLAND	2000	SQ. YD.
633	CONCRETE WALKS	68	SQ. YD.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1'-6")	4074	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	7463	LIN. FT.
637	MAILBOXES	1.00	LUMP SUM
637	MAILBOX SUPPORTS (SINGLE)	24	EACH
637	MAILBOX SUPPORTS (DOUBLE)	20	EACH
641	WHEELCHAIR RAMPS (TYPE 3)	2	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	50	SQ. YD.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	34192	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	146	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	67403	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	266	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	73659	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	4	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	3	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	1424	EACH
802	CLASS S CONCRETE-ROADWAY	187	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	308.55	POUNDS
816	FILTER BLANKET	33158	POUNDS
816	DUMPED RIPRAP	571	SQ. YD.
SP	TEMPORARY IMPACT ATTENUATION BARRIER	287	CU. YD.
SP	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	5	EACH
		5	EACH
	STRUCTURES OVER 20' SPAN		
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	72	CU. YD.
802	CLASS S CONCRETE-ROADWAY	142.91	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	19662	POUNDS

REVISIONS

DATE	REVISION	SHEET NUMBER
5/22/2013	REVISED COMPACTED EMBANKMENT QUANTITY FROM 86039 CU.YD. TO 73039 CU.YD.	65,70

SUMMARY OF QUANTITIES AND REVISIONS

SURVEY CONTROL COORDINATES

Project Name: all0502
Date: 9/8/2010
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	121342.0747	1682826.6674	202.145	CTL	5/8" Rebar with 2" Aluminum Cap
2	122511.4406	1682821.3917	203.382	CTL	5/8" Rebar with 2" Aluminum Cap
3	123725.6475	1682812.6259	203.449	CTL	5/8" Rebar with 2" Aluminum Cap
4	124970.3654	1682809.0013	205.688	CTL	5/8" Rebar with 2" Aluminum Cap
5	126685.5924	1682803.1898	224.417	CTL	5/8" Rebar with 2" Aluminum Cap
6	127883.1200	1682795.0192	225.027	CTL	5/8" Rebar with 2" Aluminum Cap
7	129370.4472	1682744.6401	215.590	CTL	5/8" Rebar with 2" Aluminum Cap
8	130521.1457	1682776.5478	215.529	CTL	5/8" Rebar with 2" Aluminum Cap
9	131726.6504	1682796.1145	226.917	CTL	5/8" Rebar with 2" Aluminum Cap
10	132887.1332	1682776.0614	228.738	CTL	5/8" Rebar with 2" Aluminum Cap
11	134080.4107	1682723.2970	230.205	CTL	5/8" Rebar with 2" Aluminum Cap
12	135356.8424	1682756.3650	227.441	CTL	5/8" Rebar with 2" Aluminum Cap
13	136523.4358	1682761.4116	227.551	CTL	5/8" Rebar with 2" Aluminum Cap
14	137715.0536	1682766.8115	229.089	CTL	5/8" Rebar with 2" Aluminum Cap
15	141586.2163	1682715.2624	230.399	CTL	CPS
16	142778.2639	1682773.4892	230.717	CTL	5/8" Rebar with 2" Aluminum Cap
17	143948.8935	1682758.8259	233.804	CTL	5/8" Rebar with 2" Aluminum Cap
18	145215.5723	1682749.9093	235.429	CTL	5/8" Rebar with 2" Aluminum Cap
19	146372.9193	1682623.4557	235.739	CTL	5/8" Rebar with 2" Aluminum Cap
20	147552.4590	1682569.7479	232.386	CTL	5/8" Rebar with 2" Aluminum Cap
21	148695.2172	1682573.8587	229.146	CTL	5/8" Rebar with 2" Aluminum Cap
22	149918.9246	1682578.3856	225.388	CTL	5/8" Rebar with 2" Aluminum Cap
23	151159.2217	1682544.5871	220.823	CTL	5/8" Rebar with 2" Aluminum Cap
24	152635.4810	1682552.3250	228.419	CTL	5/8" Rebar with 2" Aluminum Cap
25	154024.8518	1682599.6053	230.860	CTL	5/8" Rebar with 2" Aluminum Cap
26	155649.2806	1682612.3392	223.670	CTL	5/8" Rebar with 2" Aluminum Cap
100	120166.7871	1682905.6246	201.666	GPS	AHTD GPS 390006
101	118622.0789	1682855.9579	200.994	GPS	AHTD GPS 390006A
102	138649.7332	1682804.4643	231.185	GPS	390008"· Rebar with 2" Aluminum Cap
103	140395.7771	1682690.2016	229.269	GPS	NGS JONES TRI STA.
104	158351.1147	1681555.2373	222.004	GPS	390001 RESET"· Rebar with 2" Aluminum Cap
105	159668.9115	1680608.0843	218.993	GPS	390001A"· Rebar with 2" Aluminum Cap
106	176976.5662	1673150.2869	213.457	GPS	AHTD GPS 390009
107	175226.0936	1672893.0778	216.385	GPS	AHTD GPS 390009A
108	195092.5584	1674417.2530	-99999.000	GPS	AHTD GPS 390010
109	196959.0857	1674421.3868	-99999.000	GPS	AHTD GPS 390010A
150	163059.1220	1683008.1338	0.000	GPS	NGS PT MARIANNA MUNICIPAL TANK, PID EH2891
151	163758.1065	1681889.5498	0.000	GPS	NGS PT MARIANNA FED COMP CP WATER TK, PID EH2890
152	162656.1167	1685514.9553	228.005	GPS	NGS PT MARIANNA, PID EH2893
153	152463.6043	1674061.4915	0.000	GPS	NGS PT MARIANNA RAD STA KZOT N MAST, PID EH2869
154	154772.5050	1695845.8153	370.734	GPS	NGS PT LANGUILLE, PID EH2829
155	140395.8451	1682690.2696	229.133	GPS	NGS PT JONES, PID EH2868
156	143396.2986	1695614.9640	0.000	GPS	NGS PT MARIANNA RAD STA KLN 71 TOWER, PID EH2865
157	127581.2145	1683063.0063	0.000	GPS	NGS PT LAGRANGE RAD STA KBL 62 MAST, PID EH2867
158	120820.1577	1666218.5860	214.409	GPS	NGS PT RONDO, PID EH0874
159	120814.9150	1666336.8125	216.036	GPS	NGS PT C 15, PID EH0875
160	191792.2628	1673190.0126	216.535	GPS	NGS PT CANAAN, PID EH2889
161	186450.8300	1653362.7144	206.692	GPS	NGS PT WESTOR, PID EH2887
162	162501.8588	1653375.2908	203.412	GPS	NGS PT BRISON, PID EH2888
900	130118.2880	1682790.7534	214.591	BM	AHTD CAP HDWL RT C/L
901	120253.0801	1682836.8308	202.900	BM	NGS PT Z 171 RESET
902	121771.4810	1682749.8323	200.771	BM	SQ CUT CONCRETE BASE OF TB
903	123946.2890	1682814.5828	205.098	BM	SQ CUT HD RT C/L
904	125787.4774	1682727.7673	209.130	BM	SQ CUT TB BASE
905	127425.5083	1682720.6797	225.789	BM	CPS CP LT C\L
906	129284.4669	1682741.5522	216.116	BM	SQ CUT HDWL LT C/L
907	130931.2454	1682814.1633	215.914	TBM	SQ CUT RCP RT C/L
908	132749.0224	1682699.3167	227.885	BM	CPS CP LT C\L
909	134546.0984	1682679.4656	229.819	BM	CPS CP LT C\L
910	136118.5068	1682763.5712	227.871	BM	SQ CUT HDWL RT C\L
911	137957.8504	1682689.8856	230.974	BM	CPS PP LT C/L
912	140086.7294	1682716.4099	227.973	BM	SQ CUT HDWL LT C/L
913	141555.9542	1682714.0375	229.014	BM	SQ CUT HDWL LT C\L
914	143219.9848	1682691.5450	233.781	BM	CPS CP LT C\L
915	144644.1982	1682794.7967	234.984	BM	CPS PP RT C\L
916	146780.1329	1682488.2645	234.339	BM	SQ CUT CONCRETE BASE TB
917	148535.2863	1682494.0897	229.736	BM	CPS CP LT C/L
918	150205.9262	1682501.8678	227.005	BM	CPS CP LT C\L
919	151084.9499	1682541.6180	221.132	BM	SQ CUT HDWL LT C\L
920	152759.0846	1682512.6238	231.083	BM	CPS CP LT C\L
921	154824.0971	1682643.3718	227.819	BM	CPS CP RT C/L
922	156905.1334	1682568.1323	224.275	BM	SQ CUT HDWL RT C/L
969	204727.8267	1674381.9687	224.770	BM	NGS PT E 82, PID EH1024
970	205132.1939	1674377.0099	222.188	BM	NGS PT M 13 3, PID EH1026
971	205132.1939	1674377.0099	222.178	BM	NGS PT M 13 3 RM, PID EH1025
972	209484.2417	1674740.1160	220.013	BM	NGS PT RV 786, PID EH1027
973	211751.7065	1674720.2559	221.545	BM	NGS PT RV 787, PID EH1028
974	215751.9164	1674663.1596	221.105	BM	NGS PT F 82, PID EH1029
975	218987.8660	1674706.6976	219.980	BM	NGS PT RV 788, PID EH1030
976	202805.0430	1674238.9203	224.179	BM	NGS PT RV 785, PID EH1023
977	200885.2803	1674179.1581	220.659	BM	NGS PT RV 784, PID EH1022
978	196534.2944	1674065.7923	217.913	BM	NGS PT D 82, PID EH1021
979	192588.6538	1673864.0947	208.481	BM	NGS PT RV 783, PID EH1020
980	120205.7753	1682854.3380	202.926	BM	NGS PT Z 171, PID EH0880
981	119969.6882	1688204.4423	204.396	BM	NGS PT Y 171, PID EH0882
982	120039.0850	1677592.8544	199.209	BM	NGS PT H 172, PID EH0878
983	120225.1954	1692378.6414	207.342	BM	NGS PT R 56, PID EH0883
984	120830.1577	1666218.5860	214.409	BM	NGS PT RONDO AZ MK, PID EH0874
985	120015.1961	1667316.7200	213.356	BM	NGS PT RONDO AZ MK, PID EH0876
986	120609.7565	1666307.0369	214.763	BM	NGS PT RONDO RM 1, PID EH0873
987	120814.9150	1666336.8125	216.036	BM	NGS PT C 15, PID EH0875
988	114950.1675	1691025.7702	206.145	BM	NGS PT X 171, PID EH0884
989	187023.5024	1673515.4239	202.067	BM	NGS PT C 82, PID EH1019
990	162716.9619	1685491.9184	225.800	BM	NGS PT Y 56, PID EH3130
991	160977.6597	1685359.7196	230.899	BM	NGS PT Z 56, PID EH1011
992	163673.2934	1682143.4800	234.822	BM	NGS PT RV 780, PID EH1014
993	162656.1167	1685514.9553	228.005	BM	NGS PT MARIANNA, PID EH2893
994	169859.3140	1675475.8598	215.702	BM	NGS PT A 82, PID EH1015
995	170259.5864	1675138.3155	213.845	BM	NGS PT RV 781, PID EH1016
996	174385.9776	1673586.5536	215.636	BM	NGS PT B 82, PID EH1017
997	141202.7672	1689852.2868	213.389	BM	NGS PT W 56, PID EH1008
998	182067.9576	1673409.2703	200.343	BM	NGS PT RV 782, PID EH1018
999	130839.9211	1692242.3817	227.778	BM	NGS PT V 56, PID EH1007
1500	120179.2173	1683668.8823	200.891	CTL	24'5/8" Rebar with 2" Aluminum Cap
1501	120182.2482	1683486.4522	200.888	CTL	24'5/8" Rebar with 2" Aluminum Cap
1502	120184.3299	1683301.8021	200.772	CTL	24'5/8" Rebar with 2" Aluminum Cap
1503	120187.4625	1683103.8644	200.650	CTL	24'5/8" Rebar with 2" Aluminum Cap
1504	126883.6280	1682628.1778	224.465	CTL	24'5/8" Rebar with 2" Aluminum Cap
1505	126876.1877	1682477.3204	223.845	CTL	24'5/8" Rebar with 2" Aluminum Cap
1506	126860.7924	1682336.7652	222.573	CTL	24'5/8" Rebar with 2" Aluminum Cap
1507	126843.2215	1682181.6875	221.278	CTL	24'5/8" Rebar with 2" Aluminum Cap
1508	130977.6597	1682854.0217	220.867	CTL	24'5/8" Rebar with 2" Aluminum Cap
1509	130956.3322	1682658.8349	214.738	CTL	24'5/8" Rebar with 2" Aluminum Cap
1510	131190.4793	1682712.1333	223.393	CTL	24'5/8" Rebar with 2" Aluminum Cap
1511	131440.0859	1682726.9208	227.780	CTL	24'5/8" Rebar with 2" Aluminum Cap
1512	136242.4690	1682897.7340	225.243	CTL	24'5/8" Rebar with 2" Aluminum Cap
1513	136234.8251	1683080.5404	225.774	CTL	24'5/8" Rebar with 2" Aluminum Cap
1514	136229.0111	1683239.5099	226.217	CTL	24'5/8" Rebar with 2" Aluminum Cap
1515	136241.4568	1683414.8606	226.801	CTL	24'5/8" Rebar with 2" Aluminum Cap
1516	141608.9401	1682496.6333	229.083	CTL	24'5/8" Rebar with 2" Aluminum Cap
1517	141569.0818	1682329.3636	229.094	CTL	24'5/8" Rebar with 2" Aluminum Cap
1518	141538.4214	1682159.7826	229.534	CTL	24'5/8" Rebar with 2" Aluminum Cap
1519	141547.5165	1681940.8055	229.914	CTL	24'5/8" Rebar with 2" Aluminum Cap
1520	146719.4246	1682739.0572	234.263	CTL	24'5/8" Rebar with 2" Aluminum Cap
1521	146718.1104	1682898.7500	234.111	CTL	24'5/8" Rebar with 2" Aluminum Cap
1522	146716.7500	1683064.6531	233.147	CTL	24'5/8" Rebar with 2" Aluminum Cap
1523	146718.4682	1683271.8655	232.444	CTL	24'5/8" Rebar with 2" Aluminum Cap

*Note - Rebar and Cap - Standard -" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 1.000046468! HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME 110228gi.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS:
CONVERGENCE ANGLE: 00-43-02.2217 RIGHT AT LT: 34-42-19.2 LG: 90-46-02.4
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 1 CONST

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	114+02.80	118695.8182	1682839.8462
8001	PI	129+47.92	120240.9362	1682835.1394
8002	PI	146+36.64	121929.6221	1682824.3255
8003	PI	152+47.60	122540.5740	1682821.4509
8004	PI	163+79.16	123672.1018	1682813.5155
8005	PI	169+15.98	124208.9226	1682811.1256
8006	PC	170+94.73	124387.6659	1682811.0057
8008	PT	175+19.05	124811.8856	1682802.8660
8009	PC	176+69.78	124962.5128	1682797.1847
8011	PT	180+63.48	125356.1071	1682789.1064
8012	PI	196+43.91	126936.5309	1682783.8227
8031	PI	200+91.11	127383.7230	1682780.6840
8032	PI	218+83.44	129175.9887	1682765.4423
8033	PI	224+83.54	129776.0606	1682760.3564
8034	PC	230+22.06	130314.5785	1682759.6103
8036	PT	234+58.49	130750.7875	1682771.4688
8037	PC	238+90.99	131182.6154	1682795.5651
8039	PT	241+69.01	131460.5216	1682800.9434
8046	PC	263+88.30	133679.4936	1682763.1232
8048	PT	264+61.07	133752.2478	1682761.4209
8049	PC	271+73.53	134464.3883	1682740.2328
8051	PT	272+98.10	134588.9341	1682737.8820
8052	PC	275+15.15	134805.9801	1682736.1451
8054	PT	276+45.75	134936.5734	1682735.8441
8055	PI	303+02.36	137593.1695	1682744.8590
8056	PI	313+15.51	138606.3173	1682748.9386
8057	PI	322+93.31	139584.1164	1682747.9378
8058	PC	333+13.48	140604.2774	1682746.8274
8060	PT	336+86.29	140977.0198	1682740.3576
8061	PC	339+13.95	141204.5511	1682732.7045
8063	PT	342+86.57	141577.1007	1682726.2350
8064	PI	345+37.73	141828.2537	1682725.9574
8065	PI	350+01.74	142292.2695	1682724.8259
8066	PC	357+43.10	143033.6305	1682724.3250
8068	PT	358+25.28	143115.8004	1682724.1222
8069	PI	360+85.74	143376.2656	1682723.0123
8074	PI	368+61.25	144151.7481	1682716.6930
8075	PC	383+73.89	145664.3574	1682707.7336
8081	PT	388+96.53	146183.8133	1682657.1137
8082	PC	391+14.44	146397.8667	1682616.3111
8084	PT	396+62.31	146942.5528	1682565.6529
8085	PI	400+00.40	147280.6494	1682566.6280
8086	PI	408+00.41	148080.6492	1682570.0625
8087	POE	458+85.79	153166.0254	1682575.7846

STAGE 2

POINT NO.	TYPE	STATION	NORTHING	EASTING
8088	POB	115+00.00	118792.9973	1682817.3587
8089	PI	123+83.17	119676.1721	1682817.3587
8098	PI	129+47.94	120240.9362	1682815.6285
8099	PI	146+36.67	121929.6266	1682804.8448
8100	PI	152+47.54	122540.4939	1682802.0289
8101	PI	163+79.05	123671.9784	1682794.0327
8102	PI	169+16.00	124208.9226	1682791.6232
8103	PI	178+66.32	125159.2406	1682789.7646
8012	PI	196+43.62	126936.5309	1682783.8227
8031	PI	200+90.83	127383.7230	1682780.6840
8032	PI	218+83.16	129175.9887	1682765.4423
8033	PI	224+83.25	129776.0606	1682760.3564
8034	PC	230+21.77	130314.5785	1682759.6103
8036	PT	234+58.20	130750.7875	1682771.4688
8037	PC	238+90.70	131182.6154	1682795.5651
8039	PT	241+68.72	131460.5216	1682800.9434
8046	PC	263+88.01	133679.4936	1682763.1232
8048	PT	264+60.79	133752.2478	1682761.4209
8049	PC	271+73.24	134464.3883	1682740.2328
8051	PT	272+97.81	134588.9341	1682737.8820
8052	PC	275+14.86	134805.9801	1682736.1451
8054	PT	276+45.46	134936.5734	1682735.8441
8055	PI	303+02.07	137593.1695	1682744.8590
8056	PI	313+15.23	138606.3173	1682748.9386
8057	PI	322+93.03	139584.1164	1682747.9378
8104	PI	333+13.19	140604.2774	1682746.8103
8105	PI	334+99.61	140790.7012	1682746.6245
8106	PI	345+37.16	141828.2537	1682745.4574
8107	PI	350+01.18	142292.2695	1682744.3260
8108	PC	357+53.43	143044.5145	1682743.4814
8110	PT	358+13.92	143105.0102	1682743.3337
8111	PI	360+85.18	143376.2656	1682742.3131
8112	PI	368+60.69	144151.7481	1682735.8008
8113	PC	381+87.63	145478.6471	1682725.2024
8115	PT	387+09.85	145997.5848	1682673.5900
8116	PC	391+10.59	146391.0874	1682597.7988
8118	PT	396+69.07	146946.2899	1682546.1262
8119	POE	400+03.44	147280.6494	1682547.6883

SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11435
TIMOTHY D. SMITH
4-9-13

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DESIG.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		71	271

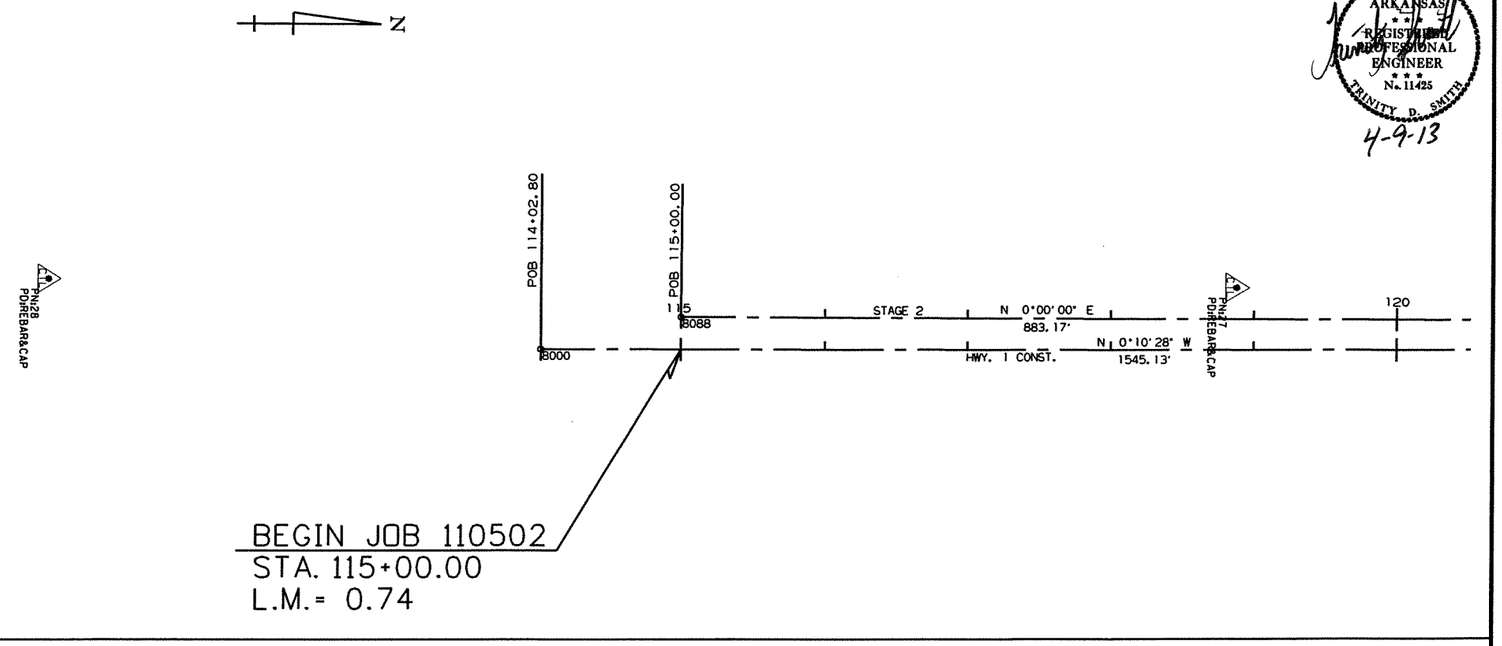
JOB NO. 110502

(2) SURVEY CONTROL DETAILS

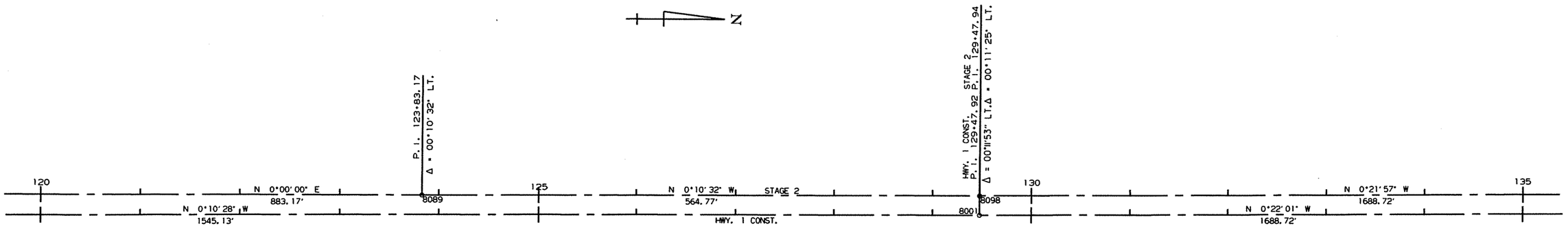
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	72	271

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



BEGIN JOB 110502
STA. 115+00.00
L.M.= 0.74

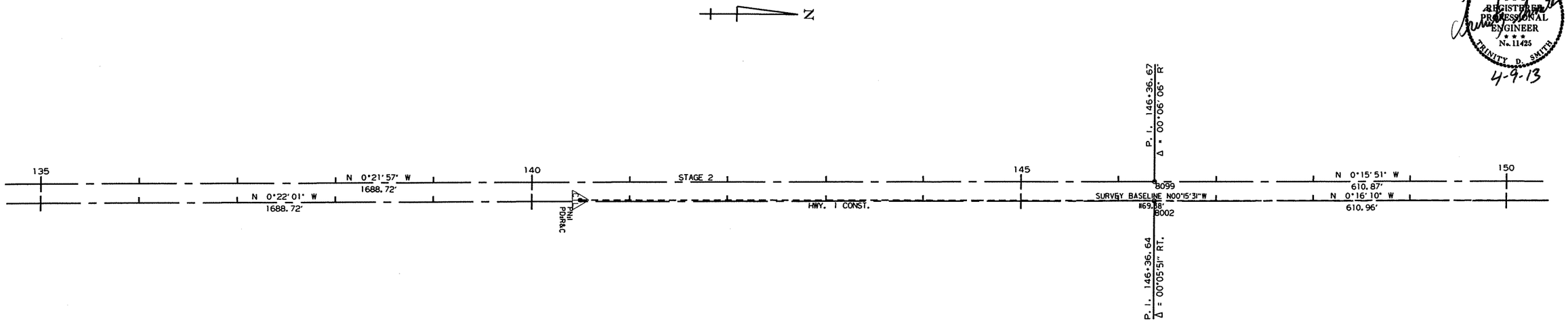


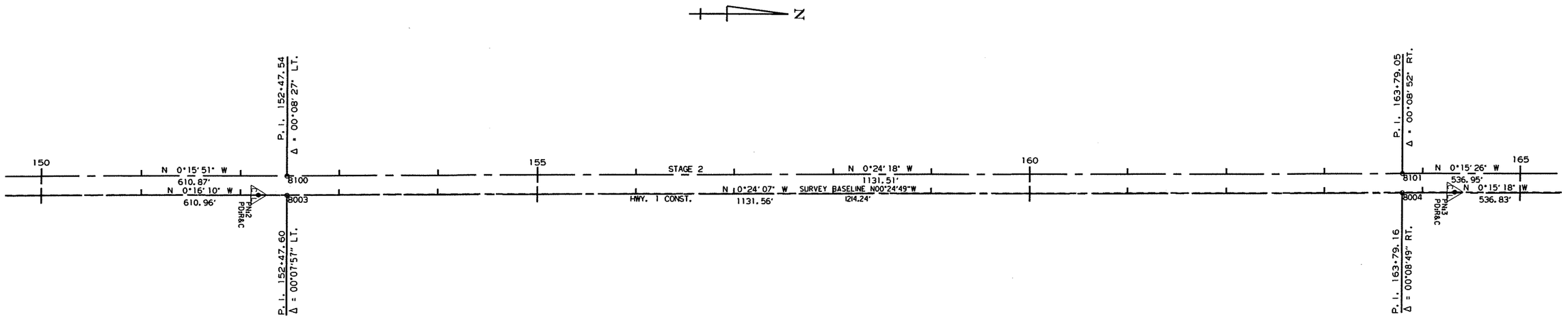
SURVEY CONTROL DETAILS

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.		110502	73	271

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



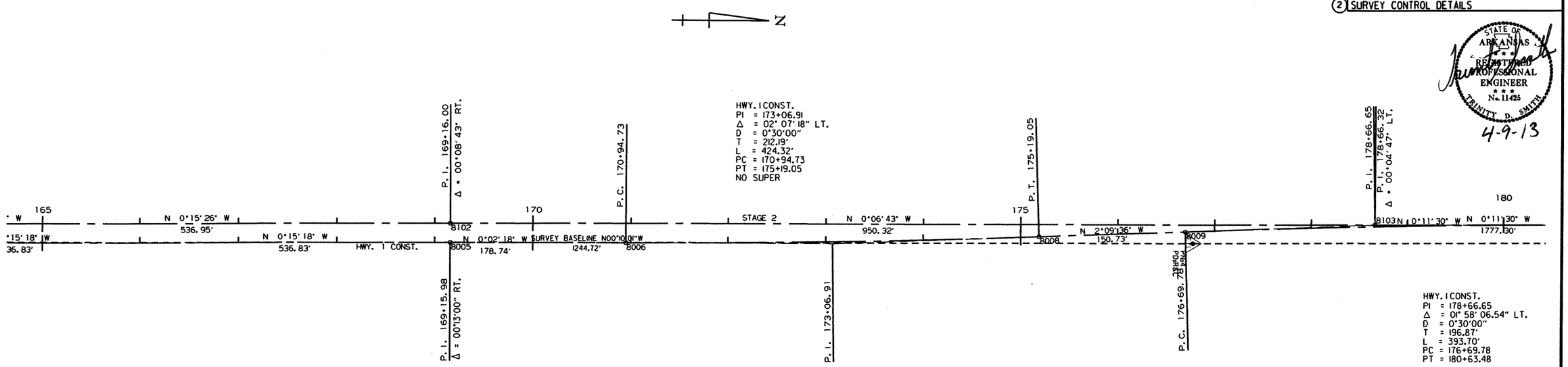


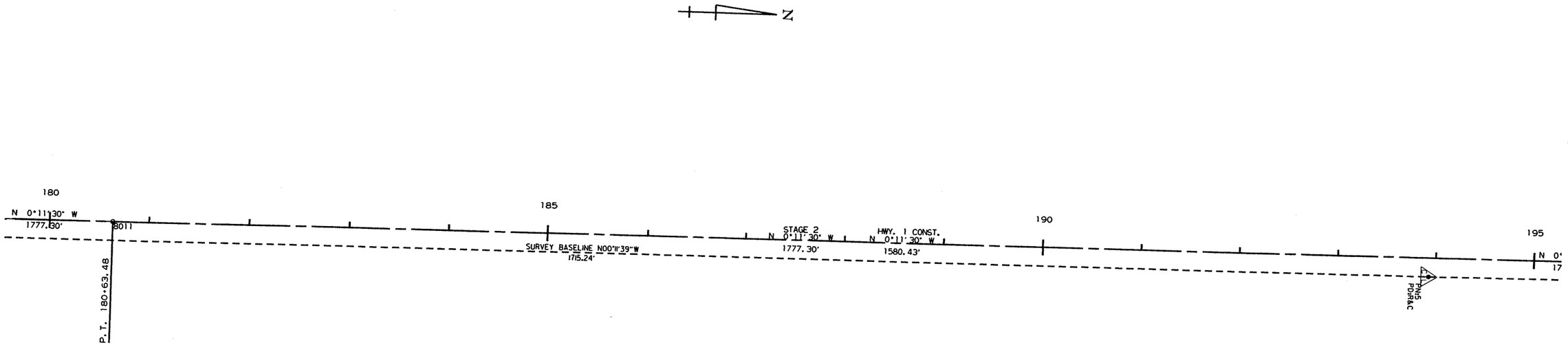
SURVEY CONTROL DETAILS

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.		110502	74	271

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13



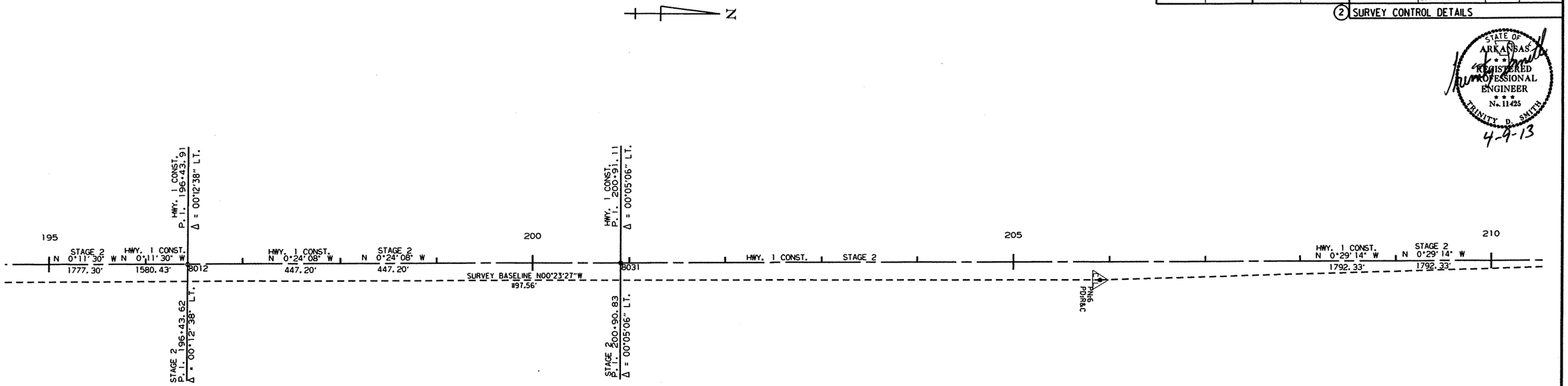


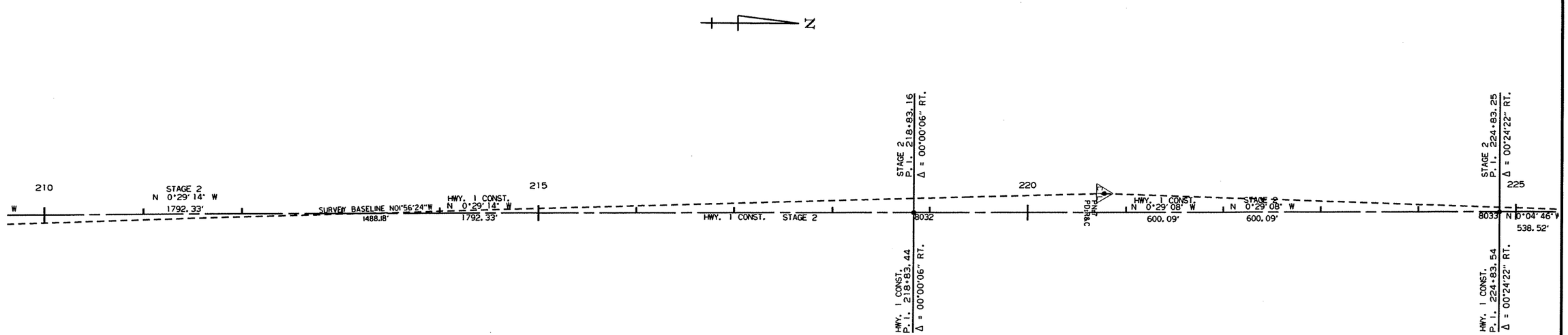
SURVEY CONTROL DETAILS

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.		110502	75	271

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

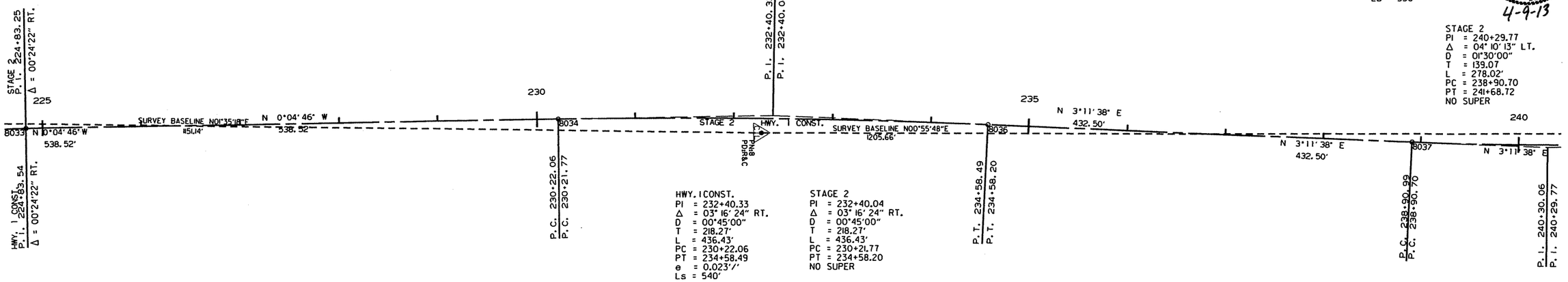




SURVEY CONTROL DETAILS

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.		110502	76	271

(2) SURVEY CONTROL DETAILS



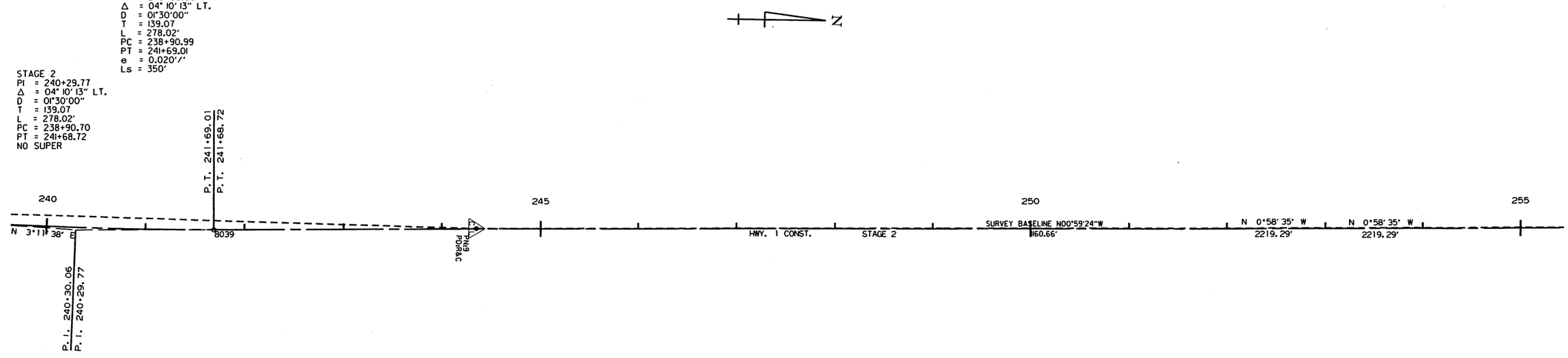
HWY. I CONST.
PI = 232+40.33
Δ = 03° 16' 24" RT.
D = 00°45'00"
T = 218.27'
L = 436.43'
PC = 230+22.06
PT = 234+58.49
e = 0.023'/'
Ls = 540'

STAGE 2
PI = 232+40.04
Δ = 03° 16' 24" RT.
D = 00°45'00"
T = 218.27'
L = 436.43'
PC = 230+21.77
PT = 234+58.20
NO SUPER

HWY. I CONST.
PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

STAGE 2
PI = 240+29.77
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.70
PT = 241+68.72
NO SUPER



HWY. I CONST.
PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'

STAGE 2
PI = 240+29.77
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.70
PT = 241+68.72
NO SUPER

SURVEY CONTROL DETAILS

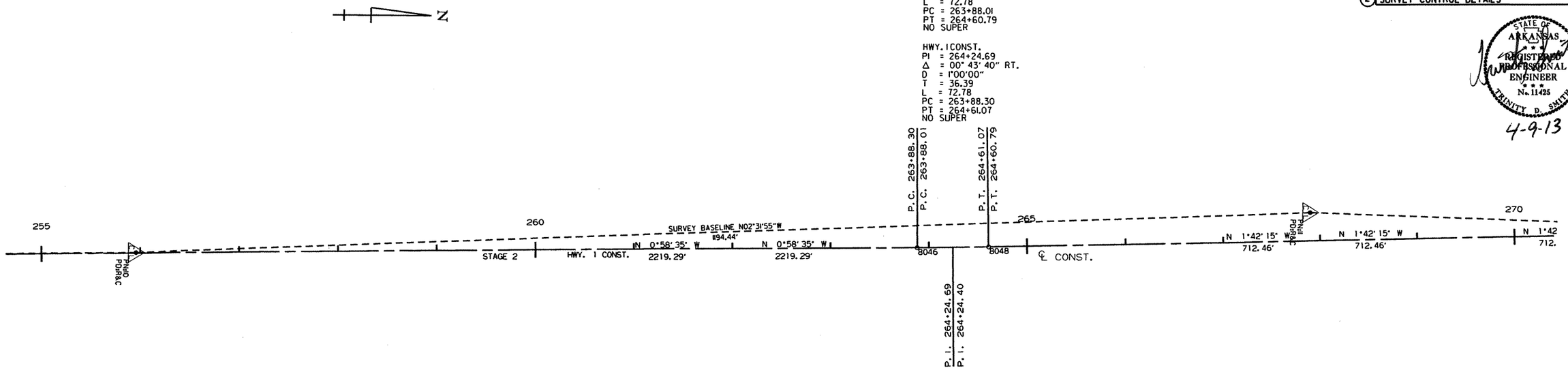
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	77	271

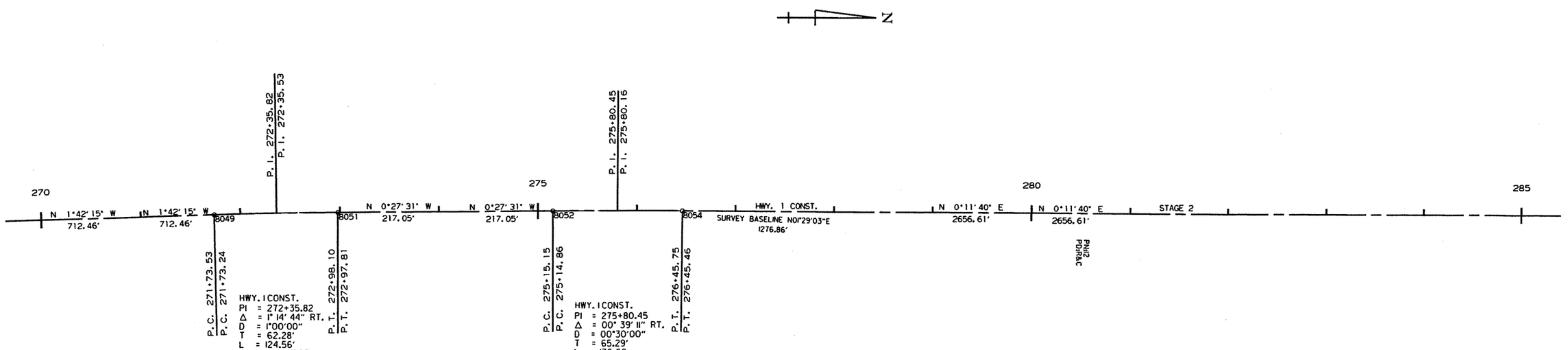
(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

STAGE 2
PI = 264+24.40
Δ = 00° 43' 40" RT.
D = 1°00'00"
T = 36.39
L = 72.78
PC = 263+88.01
PT = 264+60.79
NO SUPER

HWY. 1 CONST.
PI = 264+24.69
Δ = 00° 43' 40" RT.
D = 1°00'00"
T = 36.39
L = 72.78
PC = 263+88.30
PT = 264+61.07
NO SUPER





HWY. 1 CONST.
PI = 272+35.82
Δ = 1° 14' 44" RT.
D = 1°00'00"
T = 62.28'
L = 124.56'
PC = 271+73.53
PT = 272+98.10
NO SUPER

STAGE 2
PI = 272+35.53
Δ = 1° 14' 44" RT.
D = 1°00'00"
T = 62.28'
L = 124.56'
PC = 271+73.24
PT = 272+97.81
NO SUPER

HWY. 1 CONST.
PI = 275+80.45
Δ = 00° 39' 11" RT.
D = 00°30'00"
T = 65.29'
L = 130.60
PC = 275+15.15
PT = 276+45.75
NO SUPER

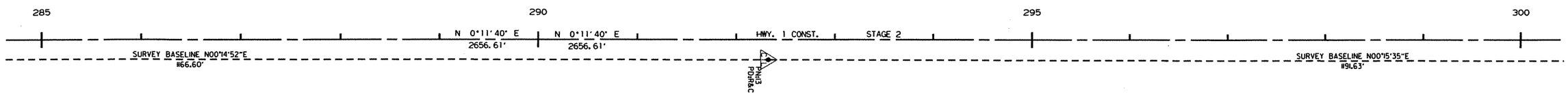
STAGE 2
PI = 275+80.16
Δ = 00° 39' 11" RT.
D = 00°30'00"
T = 65.29'
L = 130.60
PC = 275+14.86
PT = 276+45.46
NO SUPER

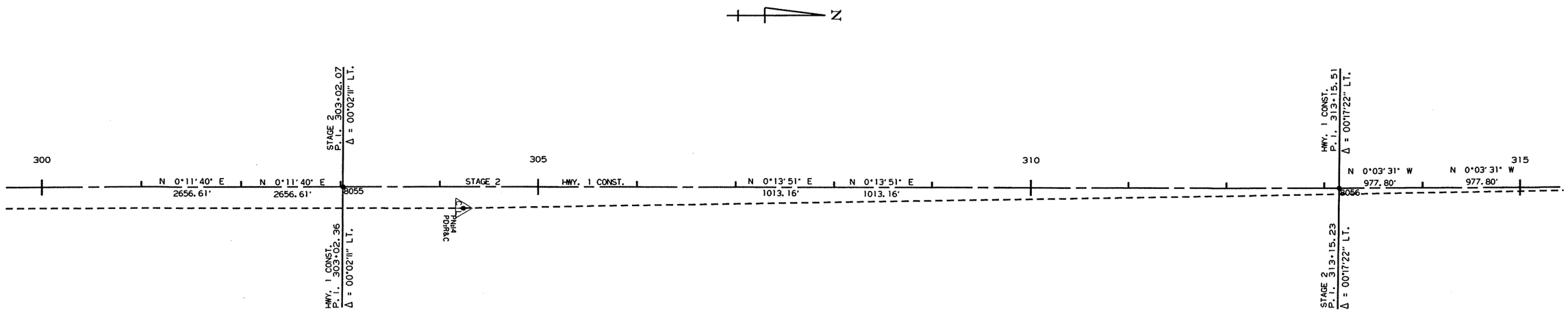
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	78	271

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13



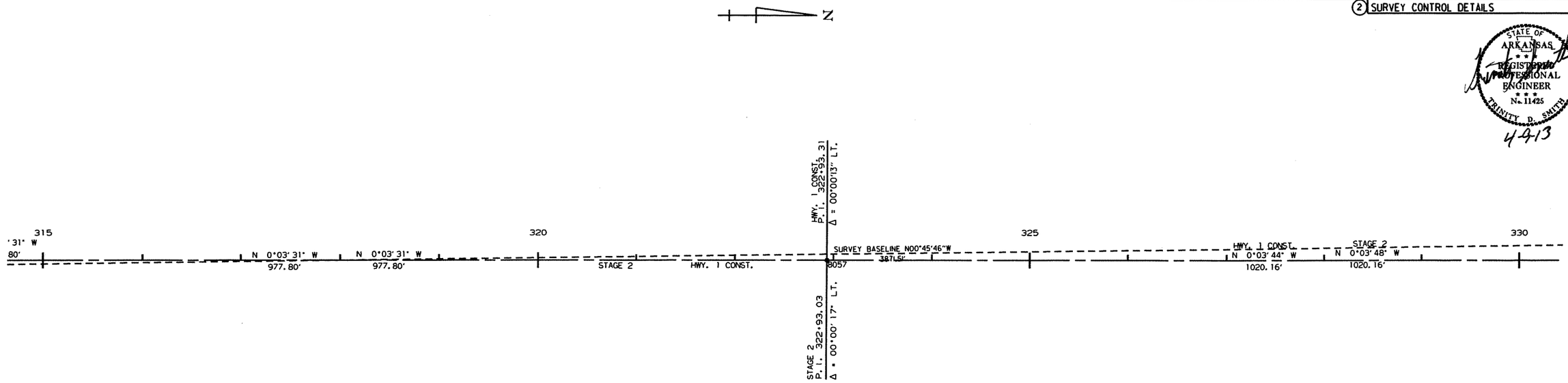


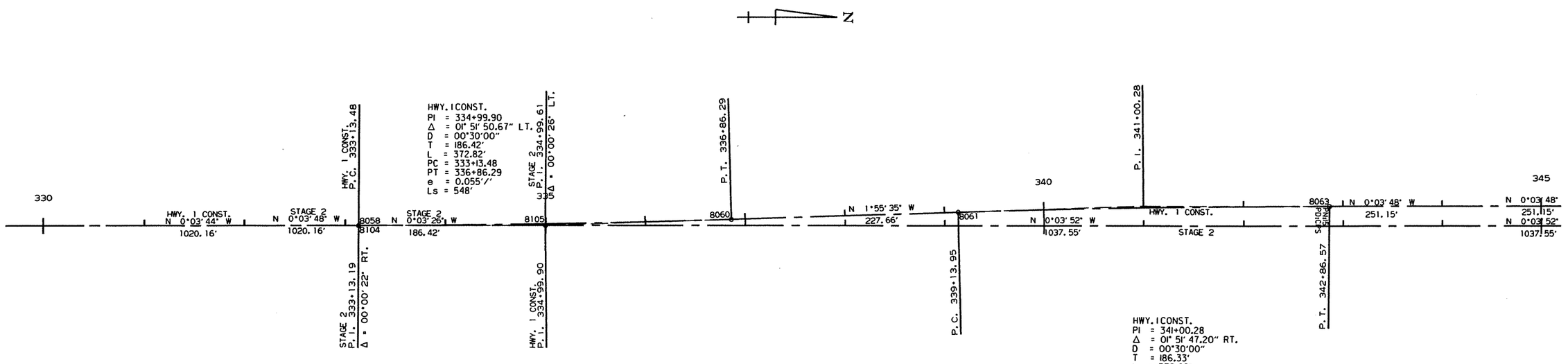
SURVEY CONTROL DETAILS

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.		110502	79	271

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

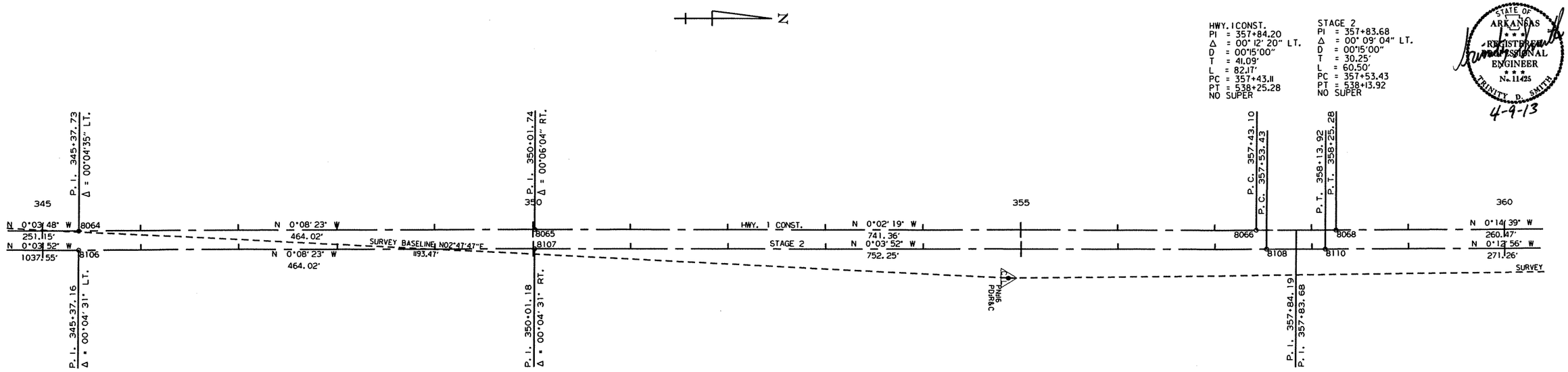


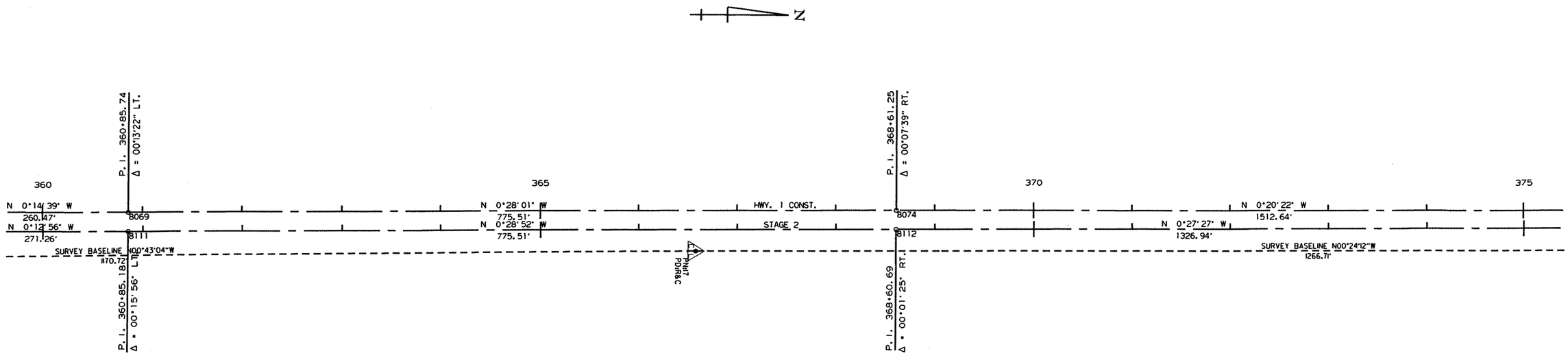


SURVEY CONTROL DETAILS

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.		110502	80	271

(2) SURVEY CONTROL DETAILS



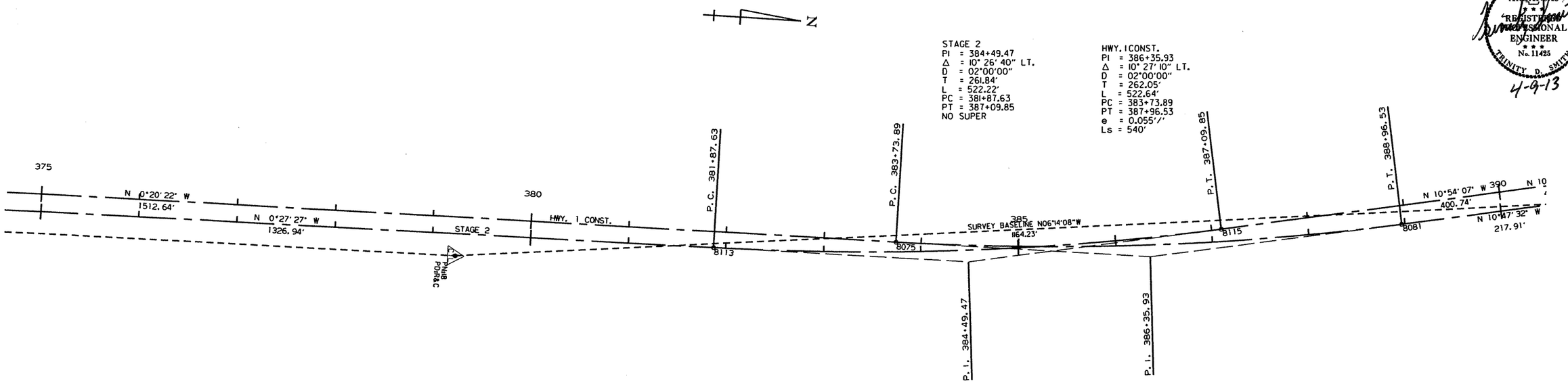


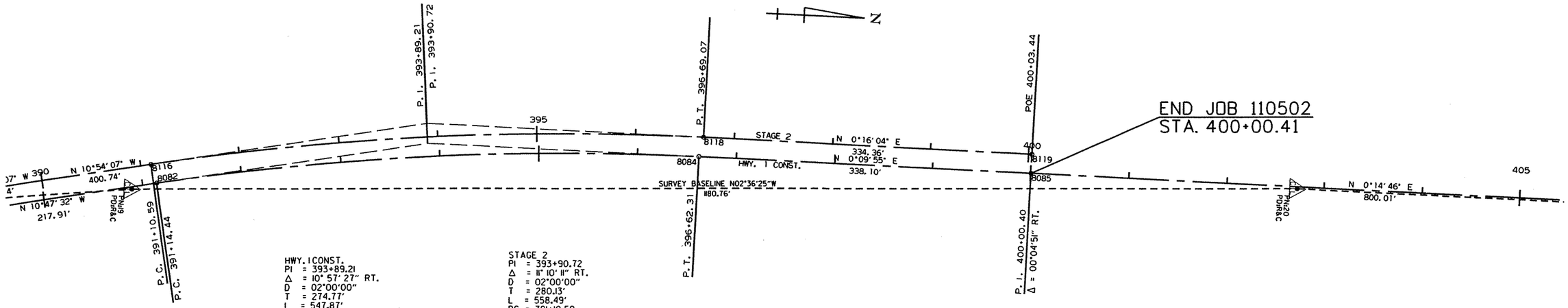
SURVEY CONTROL DETAILS

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.		110502	81	271

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13





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.		110502	82	271

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

N

CULTIVATED FIELD

CULTIVATED FIELD

100' TRANSITION

POB 114+02.80

115

120

EXISTING ROW

CONST. LIMITS

PN28
PG:REBAR&CAP

PN27
PG:REBAR&CAP

EXISTING ROW

CONST. LIMITS

PROP. ROW

50.00
41.29

00.00
108

ENTIRE AREA WITHIN FLOODPLAIN

CULTIVATED FIELD

CULTIVATED FIELD

BEGIN JOB 110502
STA. 115+00.00
L.M.= 0.74

P.V.I. 115+00.00
ELEV. 202.93

ELEV. 203.23

0.06%

RT. DITCH GRADE 0.11%
LT. DITCH GRADE 0.16%

115+00.00 RT.
197.80

115+00.00 LT.
197.20

240
230
220
210
200
190
180

105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+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.		110502	83	271

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
4-4-13
TRINITY D. SMITH

STA. 121+50 IN PLACE
18" x 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 65 CU. YDS.

STA. 127+64 INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS.

STA. 127+08 INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 40 CU. YDS.

STA. 129+07
CONST. ST. HWY. 121 - 70 CU. YD

STA. 130+61 IN PLACE
36" x 32' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
36" x 32' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) WITH
FES - 1 EACH ON INLET
OUTLET TO R.C. BOX CULVERT
CONSTRUCT APPROACH - 70 CU. YDS.

WOOD MOTOR CO.

120' RADIUS

100' RADIUS

GRADE TO DRAIN

CONST. LIMITS

EXISTING ROW

PROP. ROW

℄ CONST.

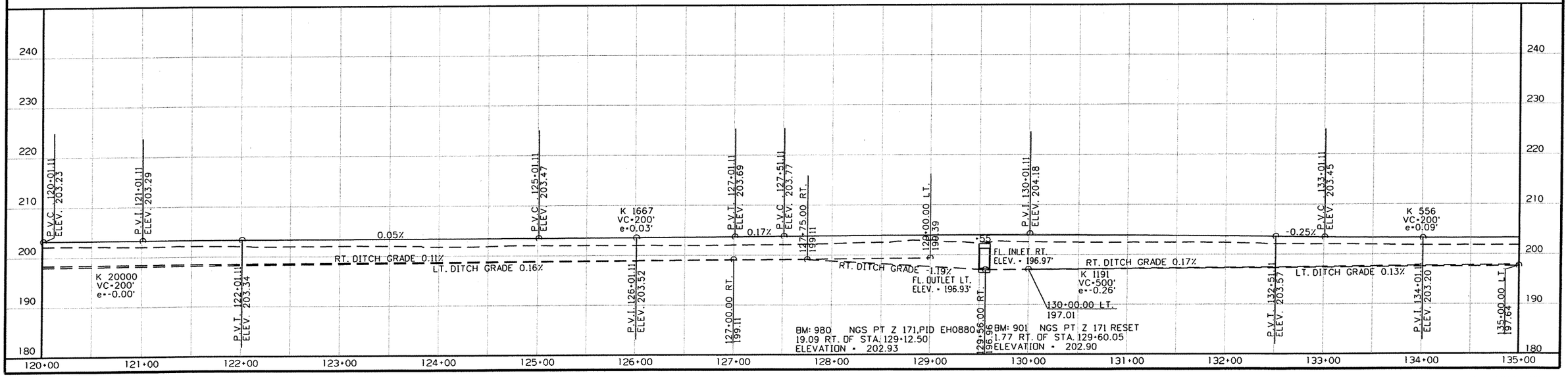
N 0° 10' 28" W

CONCRETE ISLAND WITH TYPE B CURB FACE

ENTIRE AREA WITHIN FLOODPLAIN

STA. 129+12 IN PLACE
DBL. 24" x 41' R.C. PIPE CULVERT
RT. SIDE DRAIN
PLUG AND ABANDON AND CONSTRUCT
DBL. 24" x 122' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) WITH
FES - 2 EACH ON INLET
OUTLET TO R.C. BOX CULVERT
CONST. ST. HWY. 121 - 210 CU. YD.

STA. 129+55 IN PLACE
10'x 4'x 46' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 46' LT. AND 94' RT.
USING 3:1 WINGS
TO A COMPLETED LENGTH OF 186'
Q50= 94.8 CFS D.A. = 94.0 ACRES



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(2) PLAN & PROFILE SHEETS

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TRINITY D. SMITH
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STA. 142+35 IN PLACE
24' x 15" CORR. PLASTIC PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 145+13 IN PLACE
24" x 34' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 50 CU. YDS.

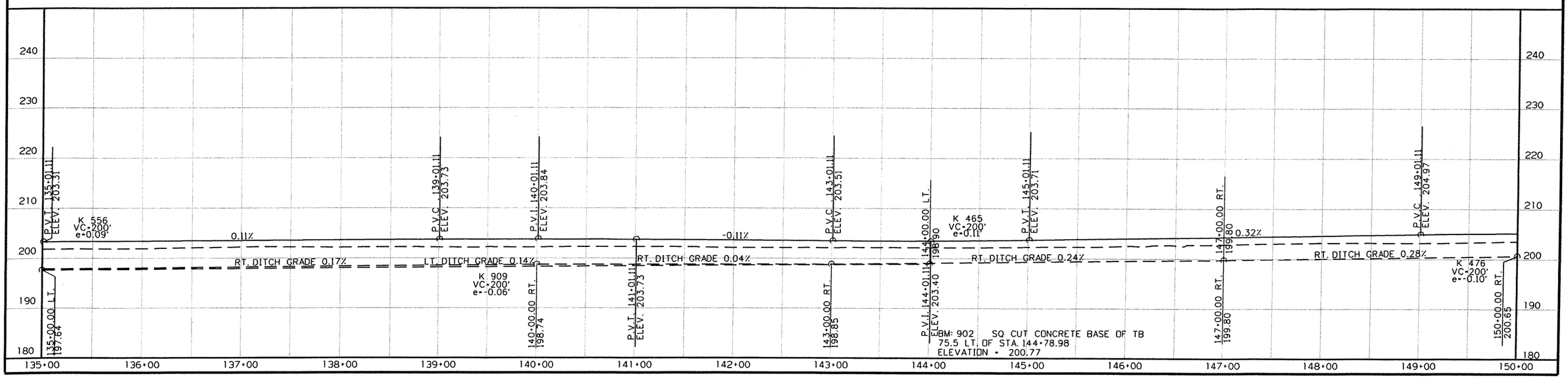
STA. 147+76 IN PLACE
24" x 21' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS.

N

EXISTING ROW
CONST. LIMITS
PROP. ROW
℄ CONST.
N 0°22' 01" W
N 0°16' 10" W
20'
16'
15'
CONCRETE BASE
SQ CUT
TB
PINK PORA
CULTIVATED FIELD
P.I. 146+36.64
Δ = 0°05' 51" RT.
D = 0°57' 18"
R = 100.00'
T = 5.11'
L = 10.21'
+13
+76
+42.5
135
140
145
80.00
85.00

STA. 146+42 IN PLACE
24" x 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS.

ENTIRE AREA WITHIN FLOODPLAIN



BM: 902 SQ CUT CONCRETE BASE OF TB
75.5 LT. OF STA. 144+78.98
ELEVATION - 200.77

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(2) PLAN & PROFILE SHEETS

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STA. 155+65 IN PLACE
15" x 24' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 50 CU. YDS.

STA. 157+07 IN PLACE
18" x 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 60 CU. YDS.

STA. 160+45 IN PLACE
36" x 24" x 23' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
30" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 80 CU. YDS.

FLOODPLAIN LIMIT

CULTIVATED FIELD

EXISTING ROW

CONST. LIMITS

P. I. 152+47.60
Δ = 00°07'57" LT.

℄ CONST. N 0°16'10" W

PROP. ROW

℄ CONST. N 0°24'07" W

℄ CONST.

P. I. 169+79.49
Δ = 000°29'49" RT.

N 0°16'18" W

16'

ENTIRE AREA WITHIN FLOODPLAIN

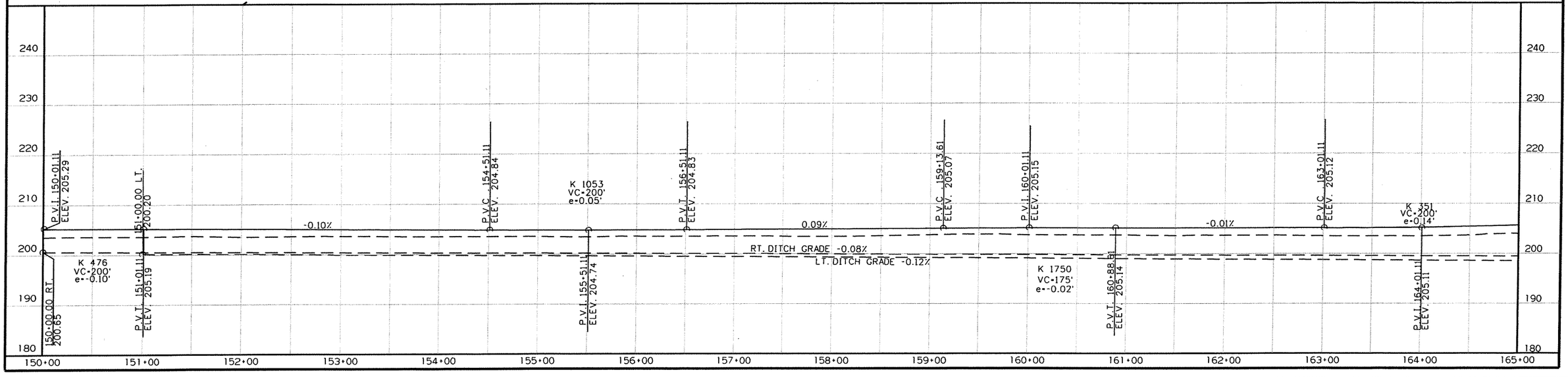
STA. 154+98 IN PLACE
6" PVC RT. IRRIGATION PIPE
REMOVE

STA. 155+44 IN PLACE
8" PVC RT. IRRIGATION PIPE
REMOVE

STA. 155+60 IN PLACE
6" PVC RT. IRRIGATION PIPE
REMOVE

STA. 164+88 IN PLACE
30" x 24" x 24' C.M. ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
30" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 65 CU. YDS.

P.O.E.



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(2) PLAN & PROFILE SHEETS

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STA. 165+29 IN PLACE
18" x 23' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
30" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 95 CU. YDS.

PI = 173+06.91
Δ = 02° 07' 18" LT.
D = 0°30'00"
T = 212.19'
L = 424.32'
PC = 170+94.73
PT = 175+19.05
NO SUPER

STA. 174+51 IN PLACE
DBL. 36" x 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
64" x 43" x 36' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 95 CU. YDS.

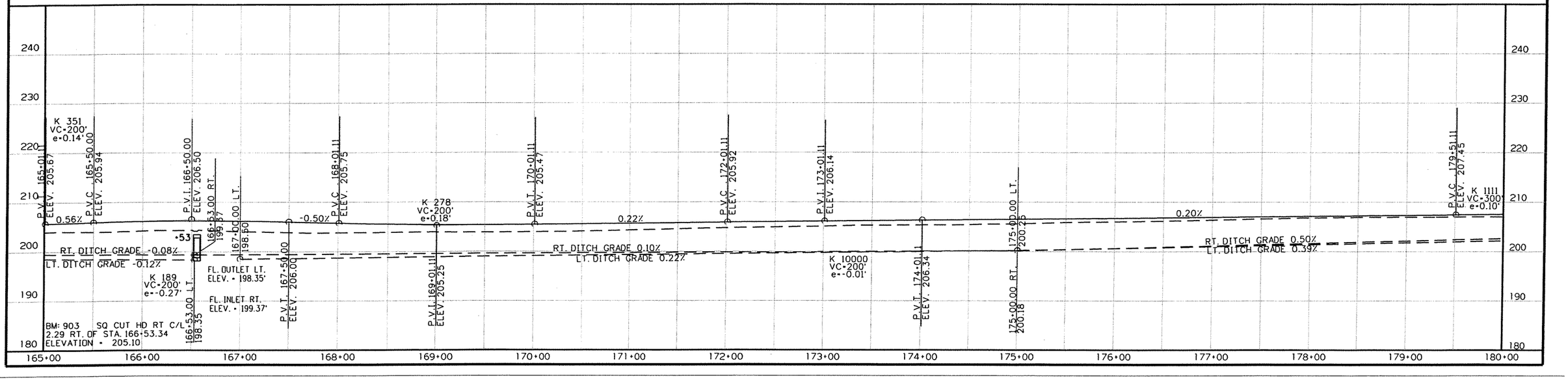
PROP. ROW
EXISTING ROW
CONST. LIMITS
P.C. 170+94.73
P.T. 175+19.05
P.I. 169+15.98
Δ = 00°13'00" RT.
P.I. 173+06.9
N 0°15'18" W
N 0°02'18" W
N 2°89'36" W
N 0°11'30" W
E CONST.
CULTIVATED FIELD
P.O.E.

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

STA. 166+53 IN PLACE
6' x 4' x 46' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 17' LT. AND 59' RT. AT 15° L.F.S.
TO A COMPLETED LENGTH OF 122'
Q50= 130 CFS D.A. = 80.17 ACRES

STA. 169+00 IN PLACE
RT. SIDE DRAIN
REMOVE

STA. 177+83 IN PLACE
18" x 24' C.M. ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 105 CU. YDS.



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CULTIVATED FIELD

STA. 182+62 IN PLACE
44" x 27" x 24' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
42" x 29" x 32' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 70 CU. YDS.

CULTIVATED FIELD

STA. 189+60 IN PLACE
24" x 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 75 CU. YDS.

STA. 190+86 IN PLACE
24" x 18' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

CULTIVATED FIELD

PROP. ROW
CONST. LIMITS
EXISTING ROW
℄ CONST.
N 0°17' 30" W
SQ CUT TB BASE
CULTIVATED FIELD
CULTIVATED FIELD
CULTIVATED FIELD
CULTIVATED FIELD
OPEN STOR

PI = 178+66.65
Δ = 01° 58' 07" RT.
D = 0°30'00"
T = 196.87'
L = 393.70'
PC = 176+69.78
PT = 180+63.48
NO SUPER

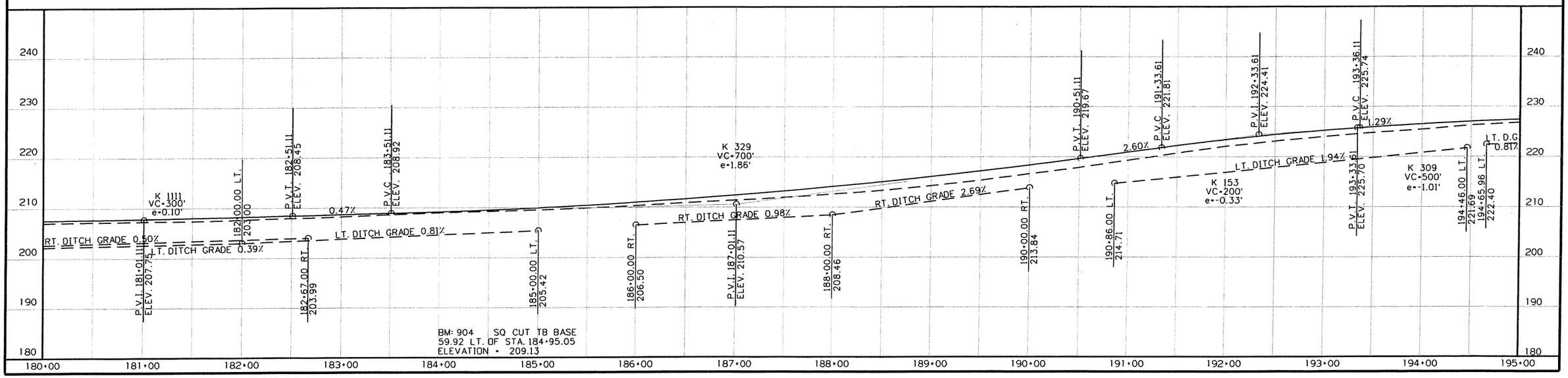
STA. 182+71 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 65 CU. YDS.

STA. 188+87 IN PLACE
24" x 26' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +92
24" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 50 CU. YDS.

STA. 193+65 IN PLACE
15" x 15' C.M.
ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 193+14 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 60 CU. YDS.

STA. 194+44 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 60 CU. YDS.



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(2) PLAN & PROFILE SHEETS

STA. 196+00 IN PLACE
15" x 24' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 40 CU. YDS.

STA. 199+11 INSTALL
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 55 CU. YDS.

STA. 202+15 IN PLACE
18" x 20' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 50 CU. YDS.

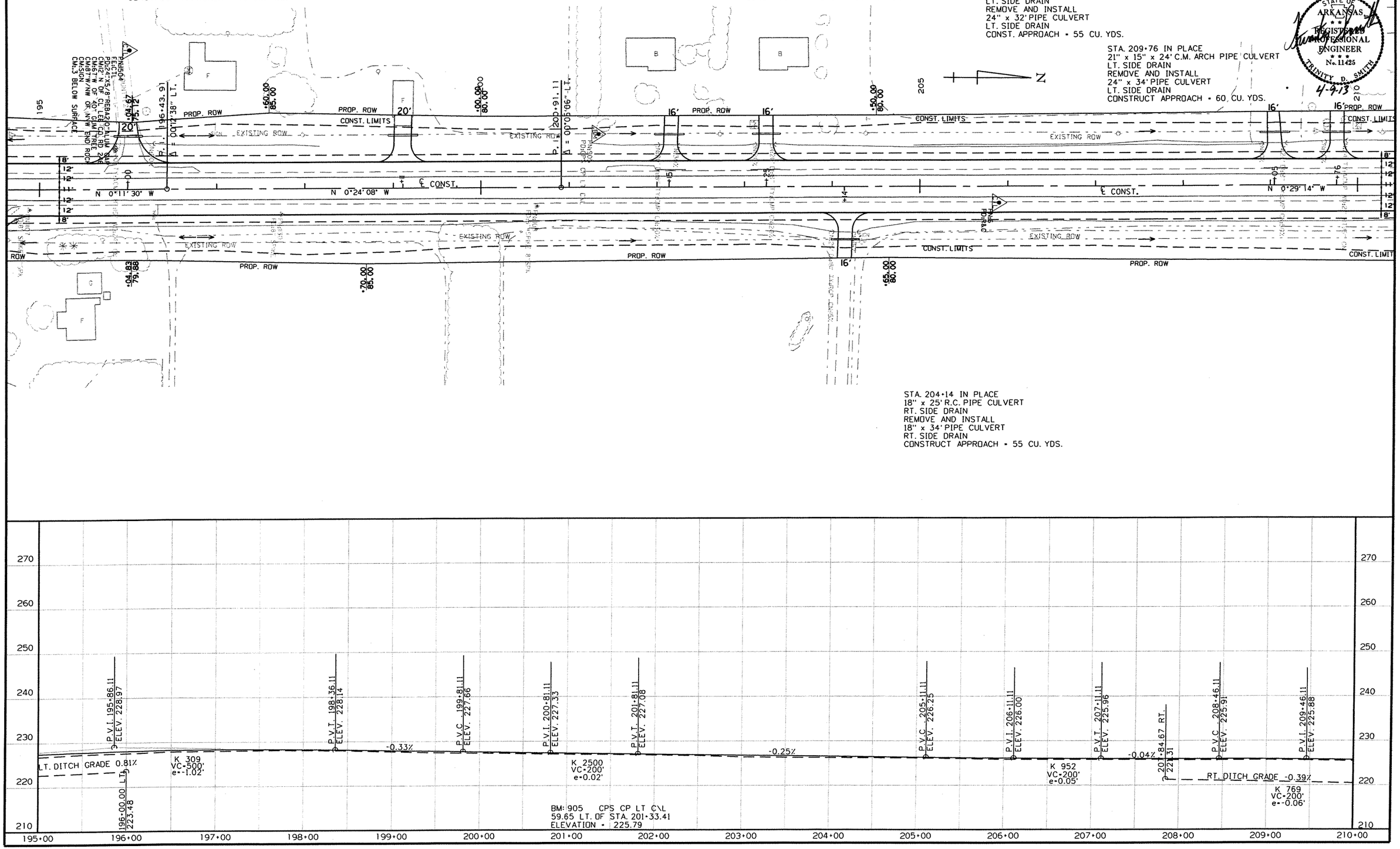
STA. 203+25 IN PLACE
18" x 20' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 50 CU. YDS.

STA. 209+05 IN PLACE
18" x 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONST. APPROACH - 55 CU. YDS.

STA. 209+76 IN PLACE
21" x 15" x 24' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 60 CU. YDS.

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STA. 204+14 IN PLACE
18" x 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 55 CU. YDS.



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(2) PLAN & PROFILE SHEETS

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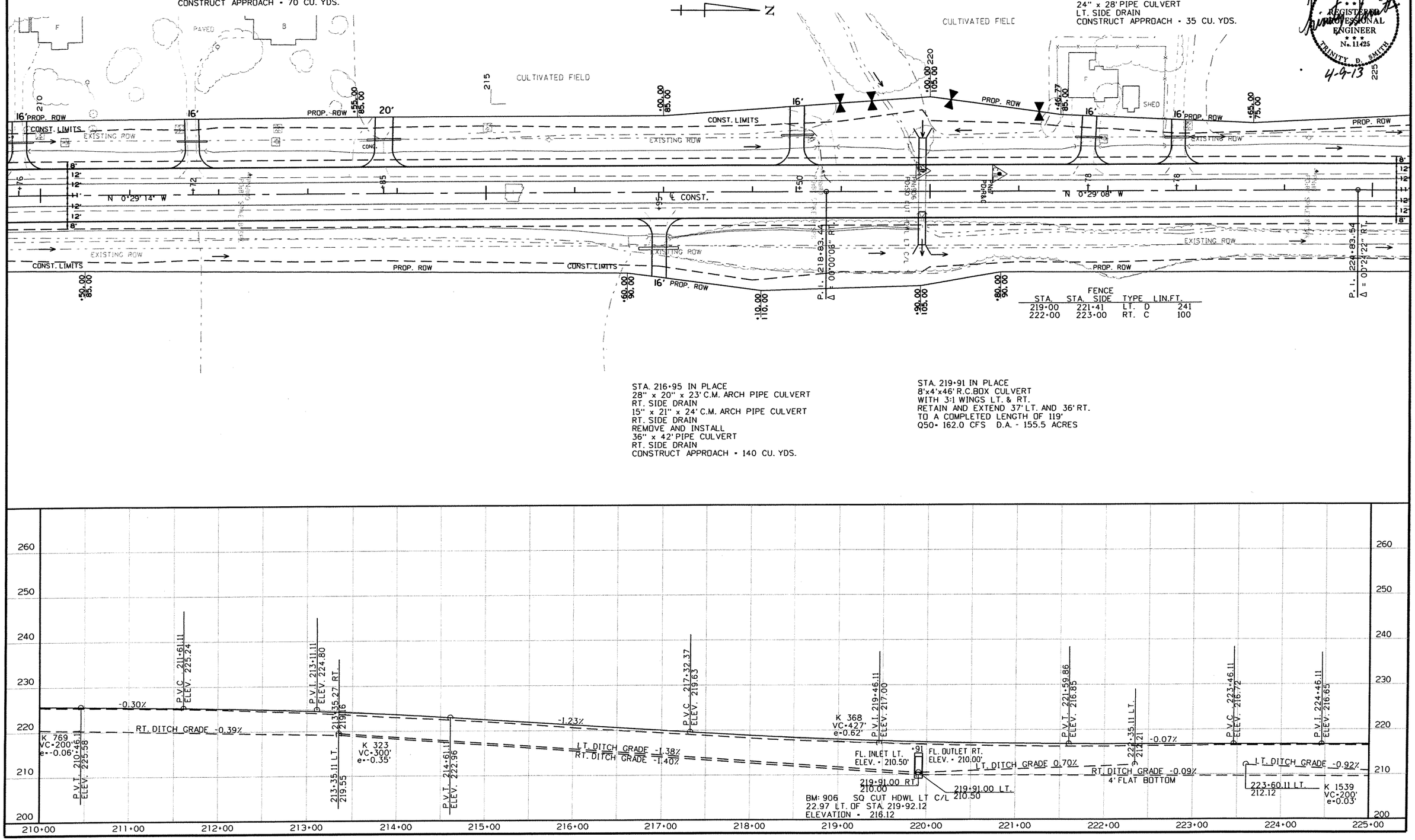
STA. 211+72 IN PLACE
18" x 26' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 70 CU. YDS.

STA. 213+68 IN PLACE
24" x 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @-85
24" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 80 CU. YDS.

STA. 218+84 IN PLACE
21" x 15" x 24' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @-50
24" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 90 CU. YDS.

STA. 221+78 IN PLACE
21" x 15" x 25' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 55 CU. YDS.

STA. 222+78 IN PLACE
24" x 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 35 CU. YDS.



FENCE

STA.	STA.	SIDE	TYPE	LIN.FT.
219+00	221+41	LT.	D	241
222+00	223+00	RT.	C	100

STA. 216+95 IN PLACE
28" x 20" x 23' C.M. ARCH PIPE CULVERT
RT. SIDE DRAIN
15" x 21" x 24' C.M. ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
36" x 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 140 CU. YDS.

STA. 219+91 IN PLACE
8'x4'x46' R.C.BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 37' LT. AND 36' RT.
TO A COMPLETED LENGTH OF 119'
Q50= 162.0 CFS D.A. - 155.5 ACRES

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N

STA. 236+18 IN PLACE
29" x 18" x 40' C. M. ARCH PIPE
REMOVE AND INSTALL @ +12
36" x 70' PIPE CULVERT
LT. SIDE DRAIN
CONST. CO. RD. 238 - 65 CU. YD.

STA. 237+00 CONSTRUCT
DROP INLET ON LT. H=4'-5"
WITH 4' EXTENSION AND 24" X 14'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET - 4' DIA.
TYPE C DROP INLET - 4' X 3'

STA. 236+51 CONSTRUCT
TYPE (3) WHEELCHAIR RAMP - 9.12 SQ. YDS.

PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'

ARCHEOLOGICAL MONITORING
RESTRAINING CONDITION

PI = 232+40.33
Δ = 03° 16' 24" RT.
D = 00°45'00"
T = 218.27'
L = 436.43'
PC = 230+22.06
PT = 234+58.49
e = 0.023'/'
Ls = 540'

STA. 236+65 CONSTRUCT
TYPE (3) WHEELCHAIR RAMP - 9.63 SQ. YDS.

STA. 235+70 CONSTRUCT
DROP INLET ON RT. H=5'-7"
WITH 30" X 41'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET-5' DIA.
TYPE C DROP INLET - 4' X 4'

STA. 236+80 CONSTRUCT
DROP INLET ON RT. H=4'-10"
WITH 4' EXTENSION & OPENING IN BACK &
WITH 30" X 105'
PIPE CULVERT TO DROP INLET @ 235+70
TYPE MO DROP INLET-5' DIA.
TYPE C DROP INLET-4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)-105 LIN.FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)-105 LIN.FT.

STA. 227+97 IN PLACE
30" x 28' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +92
36" x 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 250 CU. YDS.
UNCLASS EXCAV. - 20 CU. YDS.

STA. 228+47 IN PLACE
DBL. 10'x 8'x 65' R.C.BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 26' LT. AND 28' RT.
TO A COMPLETED LENGTH OF 119'
Q50- 1172 CFS D.A.- 1433 ACRES
SPAN - 22.17'

STA. 228+78 IN PLACE
15" x 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
42" x 46' PIPE CULVERT @ +92
RT. SIDE DRAIN
CONSTRUCT APPROACH - 190 CU. YDS.

STA. 236+41 IN PLACE
18" x 35' C.M. PIPE ON RT.
REMOVE

STA. 236+25 IN PLACE
24" x 33' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE & CONSTRUCT
CO. RD. 242 - 10 CU. YD.

STA. 239+00 CONSTRUCT
DROP INLET ON RT. H=4'-9"
WITH 4' EXTENSION AND 30" X 215'
PIPE CULVERT TO DROP INLET @ 236+80
TYPE MO DROP INLET-5' DIA.
TYPE C DROP INLET-4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)-215 LIN.FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)-215 LIN.FT.

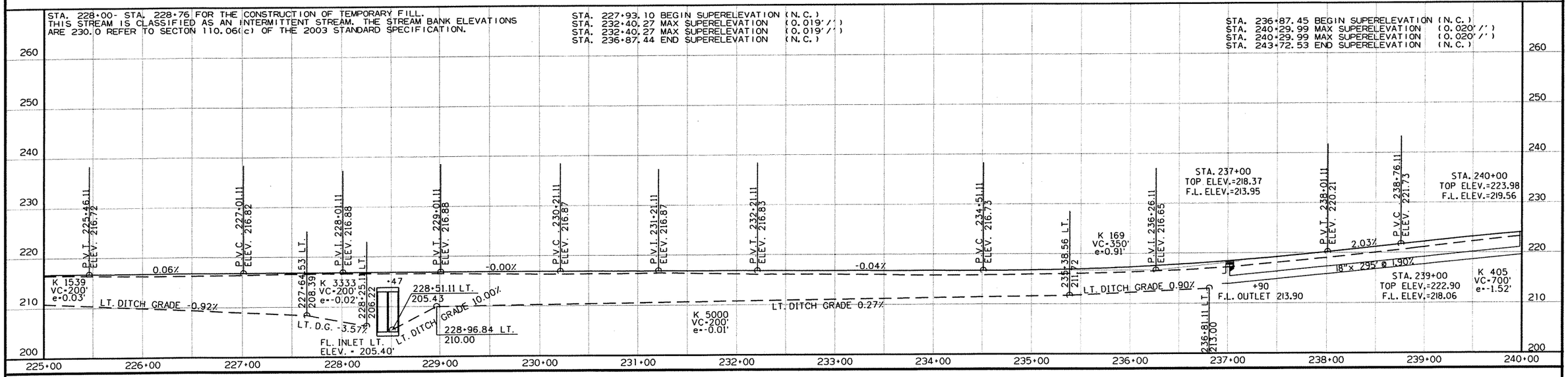
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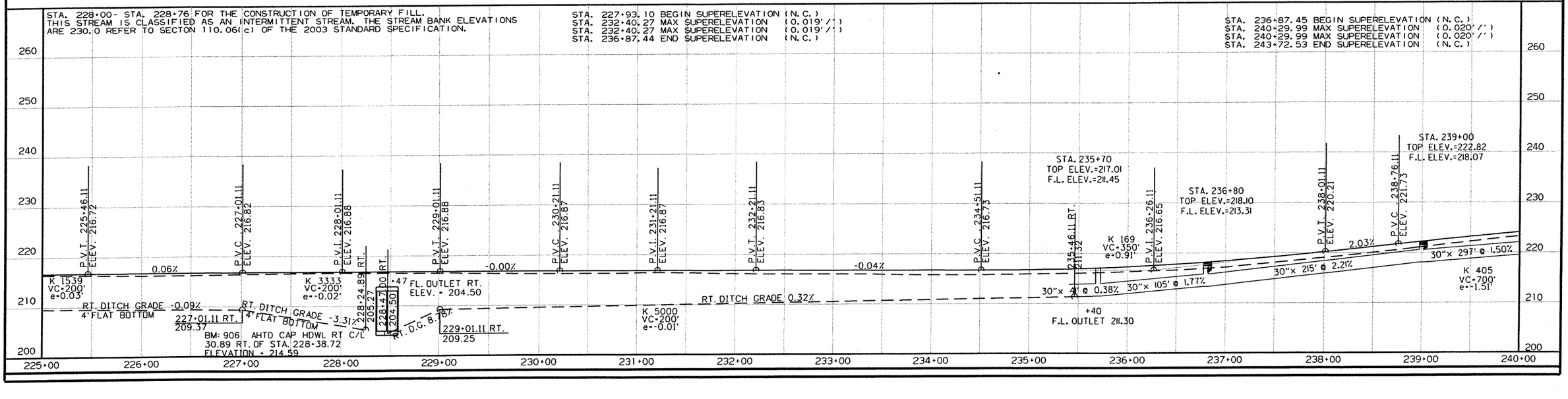
(2) PLAN AND PROFILE SHEETS

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HWY. 1 LT. SIDE STORM SEWER



HWY. 1 RT. SIDE STORM SEWER



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(2) PLAN AND PROFILE SHEETS

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STA. 240+00 CONSTRUCT
DROP INLET ON LT. H=4'-5"
WITH 4' EXTENSION AND 18" X 295'
PIPE CULVERT TO DROP INLET @ 237+00
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=295 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=295 LIN.FT.

STA. 243+58 IN PLACE
24'x28" C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN & CONSTRUCT
APPROACH = 5 CU. YDS.

STA. 245+00 CONSTRUCT
DROP INLET ON LT. H=4'-10"
WITH 4' EXTENSION AND 18" X 18'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
with 18" X 196'
PIPE CULVERT TO DROP INLET @ 243+00
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 214 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 196 LIN.FT.

STA. 246+03 IN PLACE
29" x 18" x 27' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL @+15
24" x 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

STA. 248+00 CONSTRUCT
DROP INLET ON LT. H=4'-6"
WITH 18" X 14'
R.C. PIPE (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'

STA. 249+13 IN PLACE
24" x 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

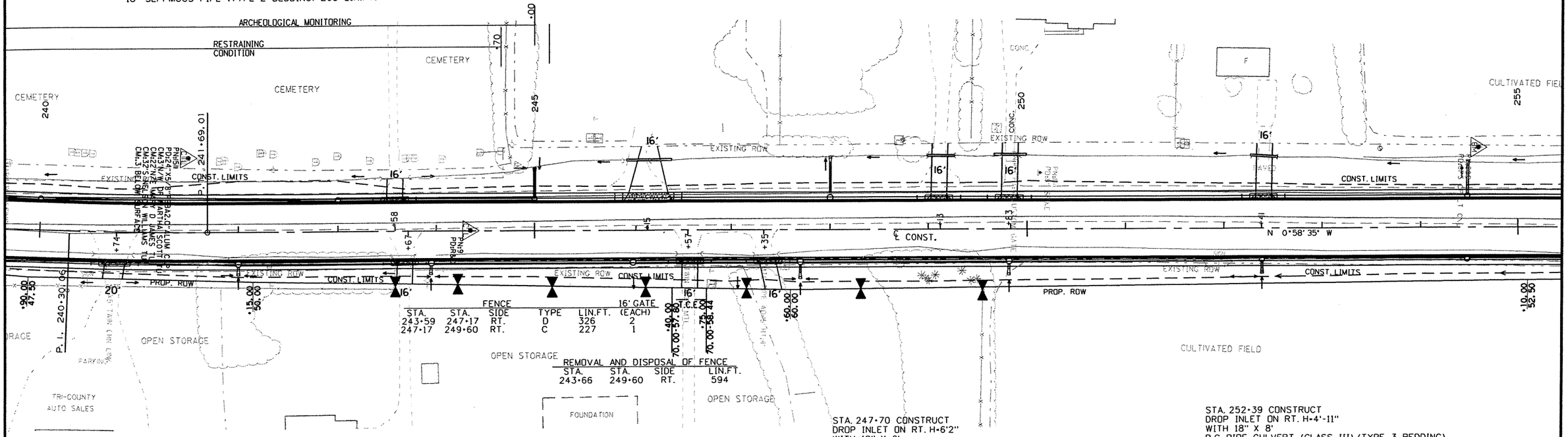
STA. 252+41 IN PLACE
18" x 24' C. M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONST APPR.= 35 CU. YD.

PI = 240+30.06
Δ = 04° 10' 13" LT.
D = 01°30'00"
T = 139.07
L = 278.02'
PC = 238+90.99
PT = 241+69.01
e = 0.020'/'
Ls = 350'

STA. 243+00 CONSTRUCT
DROP INLET ON LT. H=4'-5"
WITH 4' EXTENSION AND 18" X 295'
PIPE CULVERT TO DROP INLET @ 240+00
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=295 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=295 LIN.FT.

STA. 249+83 IN PLACE
24" X 6' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
24" X 28' PIPE CULVERT
LT. SIDE DRAIN.
CONSTRUCT APPROACH = 45 CU. YD.

STA. 254+48 CONSTRUCT
DROP INLET ON LT. H=3'-8"
WITH 18" X 21'
PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'



STA. 240+74 IN PLACE
24" x 41' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE & CONSTRUCT
APPROACH = 5 CU. YDS.

STA. 246+00 CONSTRUCT
DROP INLET ON RT. H=6'-2"
WITH 30" X 200'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET=5' DIA.
TYPE C DROP INLET=4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=200 LIN.FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)=200 LIN.FT.

STA. 247+70 CONSTRUCT
DROP INLET ON RT. H=6'2"
WITH 18" X 9'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
WITH 30" X 165'
PIPE CULVERT TO DROP INLET @ 246+00
TYPE MO DROP INLET=5' DIA.
TYPE C DROP INLET=4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=165 LIN.FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)=165 LIN.FT.

STA. 252+39 CONSTRUCT
DROP INLET ON RT. H=4'-11"
WITH 18" X 8'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
WITH 24" X 253'
PIPE CULVERT TO DROP INLET @ 249+82
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 3'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 253 LIN.FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)= 253 LIN.FT.

STA. 242+00 CONSTRUCT
DROP INLET ON RT. H=5'-0"
WITH 4' EXTENSION AND 30" X 297'
PIPE CULVERT TO DROP INLET @ 239+00
WITH 18" X 4'
R.C. PIPE (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET=5' DIA.
TYPE C DROP INLET= 4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=297 LIN.FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)=297 LIN.FT.

STA. 243+67 IN PLACE
18" x 25' C.M.PIPE CULVERT
RT. SIDE DRAIN
REMOVE & CONSTRUCT
APPROACH = 5 CU. YDS.

STA. 243+95 CONSTRUCT
DROP INLET ON RT. H=5'-10"
WITH 4' EXTENSION AND 18" X 5'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
WITH 30" X 190'
PIPE CULVERT TO DROP INLET @ 242+00
TYPE MO DROP INLET=5' DIA.
TYPE C DROP INLET=4' X 4'
30" SLPPMCCS PIPE (TYPE 2 BEDDING)= 190 LIN.FT.
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 190 LIN.FT.

STA. 246+57 IN PLACE
24" x 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE & CONSTRUCT
APPROACH = 30 CU. YD.

STA. 247+35 IN PLACE
18" x 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 15 CU. YD.

STA. 249+82 CONSTRUCT
DROP INLET ON RT. H=6'-2"
WITH 30" X 207'
PIPE CULVERT TO DROP INLET @ 247+70
WITH 18" X 9'
R.C. PIPE CULVERT INLET WITH FES.
TYPE MO DROP INLET=5' DIA.
TYPE C DROP INLET=4' X 4'
30" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 207 LIN.FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)= 207 LIN.FT.

STA. 254+48 CONSTRUCT
DROP INLET ON RT. H=3'-8"
WITH 18" X 205'
PIPE CULVERT TO DROP INLET @ 252+39
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=205 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=205 LIN.FT.

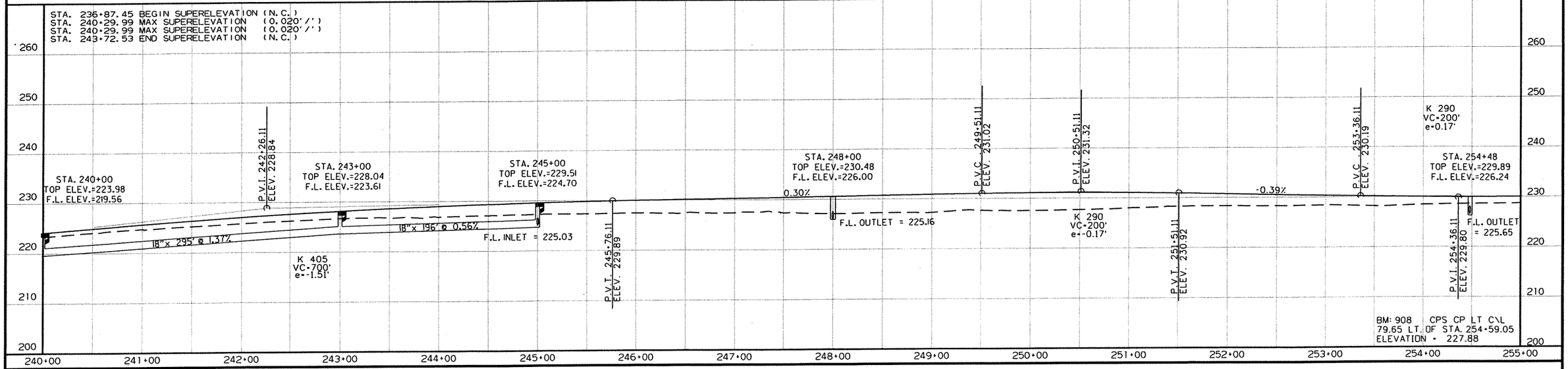
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	93	271

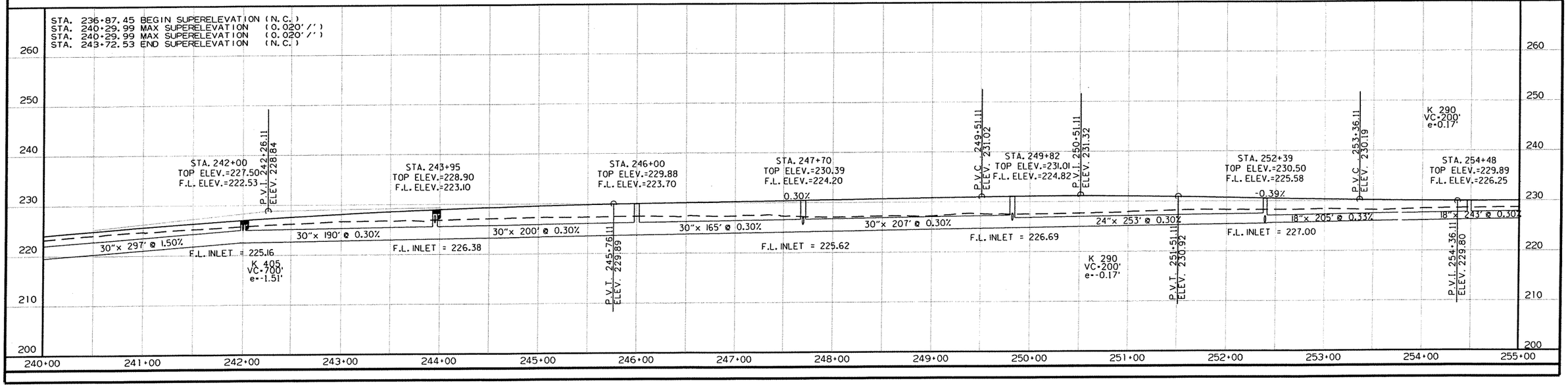
(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

HWY. 1 LT. SIDE STORM SEWER



HWY. 1 RT. SIDE STORM SEWER



R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

STA. 256+00 CONSTRUCT
DROP INLET ON LT. H=3'-6"
WITH 18" X 19'
PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 3'

STA. 261+00 CONSTRUCT
DROP INLET ON LT. H=3'-6"
WITH 4'EXTENSION AND 18" X 18'
PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 3'

STA. 266+00 CONSTRUCT
DROP INLET ON LT. H=3'-8"
WITH 4'EXTENSION AND 18" X 11'
PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'

STA. 257+01 IN PLACE
18" x 21' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YD.

STA. 262+84 IN PLACE
24" x 24' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL @ =38
24" x 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.

STA. 267+80 CONSTRUCT
DROP INLET ON LT. H=5'-2"
WITH 18" X 26'
PIPE CULVERT TO DROP INLET @ 268+10
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=26 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=26 LIN.FT.

STA. 268+40 CONSTRUCT
DROP INLET ON LT. H=5'-2"
WITH 18" X 26'
PIPE CULVERT TO DROP INLET @ 268+10
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4 'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=26 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=26 LIN.FT.

STA. 258+00 CONSTRUCT
DROP INLET ON LT. H=3'-6"
WITH 4'EXTENSION AND 18" X 20'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'

STA. 263+13 IN PLACE
24" x 25' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ =15
24" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT CO. RD.= 30 CU. YDS.

STA. 268+10 CONSTRUCT
DROP INLET ON LT. H=6'-2"
WITH 8'EXTENSION AND 24" X 15'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'

STA. 270+00 CONSTRUCT
DROP INLET ON LT. H=4'-3"
WITH 4'EXTENSION AND 18" X 14'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'

STA. 262+74 CONSTRUCT
TYPE (3) WHEELCHAIR RAMP = 9.67 SQ. YDS.

STA. 263+58 CONSTRUCT
TYPE (3) WHEELCHAIR RAMP = 11.53 SQ. YDS.

CULTIVATED FIELD

EXISTING ROW

CONST. LIMITS

PROP. ROW

℄ CONST.

N 0°58'35" W

N 1°42' 15" W

CO. RD.

GARDEN

CONC.

PAVED DRIVE

T.C.E.

P.C. 263+88.30

P.T. 264+61.07

P.I. 264+24.69

PI = 264+24.69
Δ = 00° 43' 40" RT.
D = 1°00'00"
T = 36.39
L = 72.78
PC = 263+88.30
PT = 264+61.07
NO SUPER

STA. 256+33 IN PLACE
18" x 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE & CONSTRUCT
APPROACH = 5 CU. YD.

STA. 257+20 IN PLACE
18"x 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE & CONSTRUCT
APPROACH = 5 CU. YD.

STA. 260+22 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE & CONSTRUCT
APPROACH = 15 CU. YD.

CULTIVATED FIELD

STA. 262+00 CONSTRUCT
DROP INLET ON RT. H= 4'-10"
WITH 18" X 10'
R.C. PIPE (CLASS III) (TYPE 3 BEDDING)
WITH FES.
WITH 18" X 146'
PIPE CULVERT TO DROP INLET ON RT. @ 263+50
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 156 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 156 LIN.FT.

STA. 267+80 CONSTRUCT
DROP INLET ON RT. H=6'-0"
WITH 24" X 26'
PIPE CULVERT TO DROP INLET @ 268+10
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4'X 3'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=26 LIN.FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)=26 LIN.FT.

STA. 268+10 CONSTRUCT
DROP INLET ON RT. H=6'-0"
WITH 8'EXTENSION 24" X 59'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'

STA. 256+95 CONSTRUCT
DROP INLET ON RT. H=3'-6"
WITH 18" X 243'
PIPE TO DROP INLET @ 254+48
WITH 18" X 5'
R.C. PIPE CULVERT (CLASS III (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 248 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 243 LIN.FT.

STA. 260+49 CONSTRUCT
DROP INLET ON RT. H=3'-11"
WITH 18" X 147'
PIPE CULVERT TO DROP INLET ON RT. @ 262+00
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 147 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 147 LIN.FT.

STA. 263+50 CONSTRUCT
DROP INLET ON RT. H=4'-7"
WITH 18" X 246'
PIPE CULVERT TO DROP INLET @ 266+00
WITH 18" X 11'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 257 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 257 LIN. FT.

STA. 266+00 CONSTRUCT
DROP INLET ON RT. H=5'-11"
WITH 4'EXTENSION AND 18" X 176'
PIPE CULVERT TO DROP INLET @ 267+80
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4'X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 176 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 176 LIN.FT.

STA. 268+40 CONSTRUCT
DROP INLET ON RT. H=3'-7"
WITH 18" X 5'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
WITH 18" X 26'
PIPE CULVERT TO DROP INLET @ 268+10
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=31 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=31 LIN.FT.

STA. 270+00 CONSTRUCT
DROP INLET ON RT. H=3'-9"
WITH 4'EXTENSION AND 18" X 196'
PIPE CULVERT TO DROP INLET @ 272+00
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET= 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=196 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=196 LIN.FT.

STA. 258+00 CONSTRUCT
DROP INLET ON RT. H=3'-6"
WITH 18" X 3'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
WITH 18" X 101'
PIPE CULVERT TO DROP INLET @ 256+95
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 104 LIN.FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 104 LIN.FT.

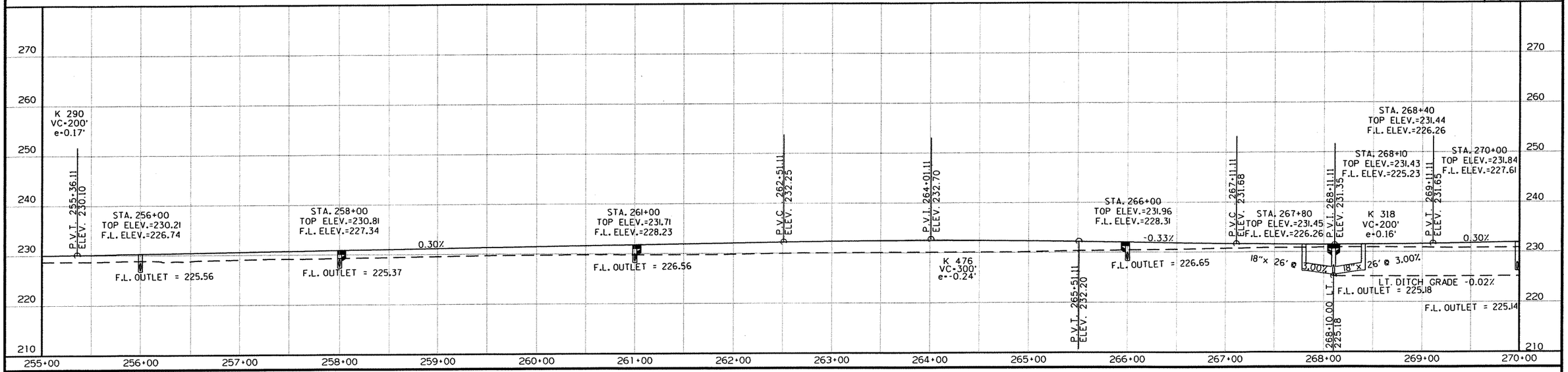
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				6	ARK.			
				JOB NO.		110502	95	271

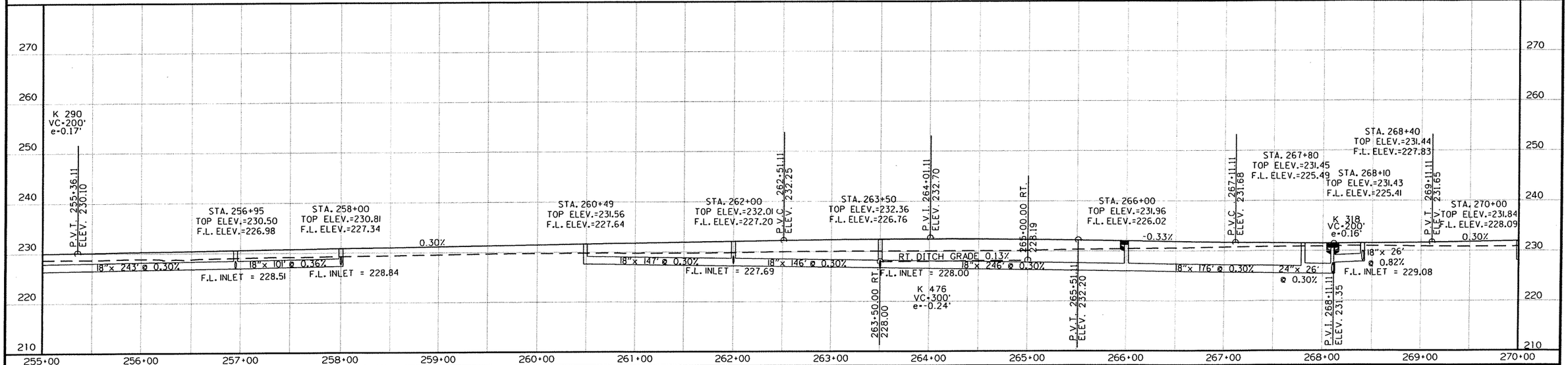
(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

HWY. 1 LT. SIDE STORM SEWER



HWY. 1 RT. SIDE STORM SEWER



R110502.DGN 10/12/2011

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				JOB NO.		110502	96	271

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

STA. 276+44 IN PLACE
18" x 23' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 50 CU. YDS.

STA. 272+00 CONSTRUCT
DROP INLET ON LT. H=4'-6"
WITH 4' EXTENSION AND 18" X 15'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MD DROP INLET- 4' DIA.
TYPE C DROP INLET- 4' X 3'

N

STA. 272+19 CONSTRUCT
TYPE (3) WHEELCHAIR RAMP - SQ. YDS.

CULTIVATED FIELD

+20 75' +95
TRANSITION

270 275 280 285

PROP. ROW
EXISTING ROW
CONST. LIMITS
℄ CONST.
N 1°42' 15" W
N 0°27' 31" W
N 0°11' 40" E
P.I. 272+35.82
+40.88
84.29
P.I. 275+80.45
+20.00
80.00
16'
20'
30'
12" RCP
18" RCP
24" RCP
P.C. 271+73.53
P.T. 272+98.10
+00.00
56.66
+30.00
85.00
+30.00
85.72
+30.00
80.00
+29
+36
+44
+75
+15

PI = 272+35.82
Δ = 1° 14' 44" RT.
D = 1°00'00"
T = 62.28'
L = 124.56'
PC = 271+73.53
PT = 272+98.10
NO SUPER

PI = 275+80.45
Δ = 00° 39' 11" RT.
D = 00°30'00"
T = 65.29'
L = 130.60'
PC = 275+15.15
PT = 276+45.75
NO SUPER

FENCE STA.	STA.	SIDE	TYPE	LIN.FT.	16' GATE (EACH)
278+00	279+00	RT.	D	68	2

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN.FT.
278+00	279+00	RT.	100

FENCE STA.	STA.	SIDE	16' GATE (EACH)
282+13	282+45	RT.	2

REMOVAL AND DISPOSAL OF GATES

STA.	STA.	SIDE	EACH
282+13	282+45	RT.	2

STA. 272+19 CONSTRUCT
TYPE (3) WHEELCHAIR RAMP - 9.67 SQ. YDS.

STA. 272+00 CONSTRUCT
DROP INLET ON RT. H=4'-10"
WITH 18" X 12'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH FES.
TYPE MD DROP INLET- 4' DIA.
TYPE C DROP INLET- 4' X 3'

STA. 272+72 IN PLACE
18" x 23' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 115 CU. YDS.

STA. 278+36 IN PLACE
18" x 29' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 35 CU. YDS.

STA. 282+34 IN PLACE
18" x 54' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +29
24" x 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 60 CU. YDS.

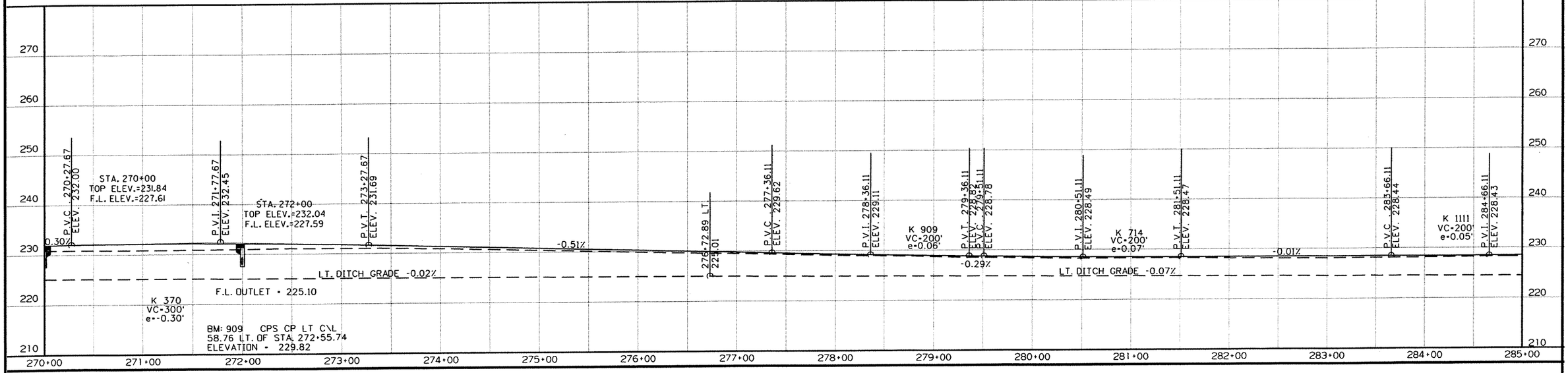
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				JOB NO.		110502	97	271

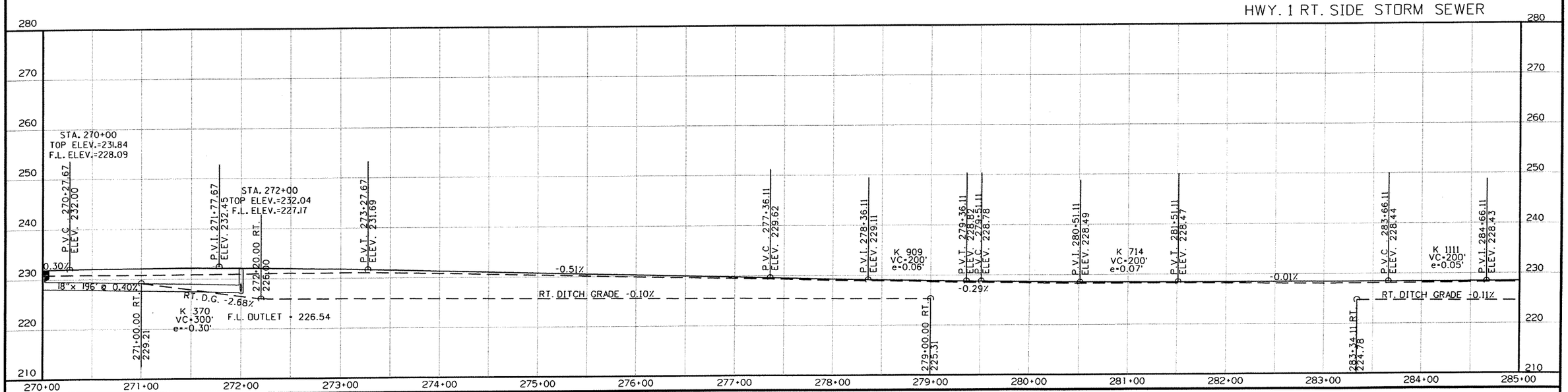
(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

HWY. 1 LT. SIDE STORM SEWER



HWY. 1 RT. SIDE STORM SEWER



R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	98	271

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

STA. 289+71 IN PLACE
30" x 36' C.M PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
35"x 24" x 36' ARCH PIPE CULVERT
LT. SIDE DRAIN
CO. RD. 232 APPROACH - 40 CU. YDS

STA. 290+15 IN PLACE
18" x 21' C.M PIPE CULVERT
LT. SIDE DRAIN
REMOVE

CULTIVATED FIELD

N

285 290 295 300

+40.00 80.00 +25.00 85.00 +50.00 75.00 +00.00 80.00 +25.00 85.00 +50.00 80.00 +30.00 80.00

PROP. ROW PROP. ROW PROP. ROW PROP. ROW PROP. ROW

CONST. LIMITS CONST. LIMITS CONST. LIMITS

EXISTING ROW EXISTING ROW EXISTING ROW EXISTING ROW EXISTING ROW

20' 20' 20' 20'

8' 12' 12' 11' 12' 12' 8'

℄ CONST. ℄

N 0°11' 40" E

LEE COUNTY 234

CULTIVATED FIELD CULTIVATED FIELD CULTIVATED FIELD

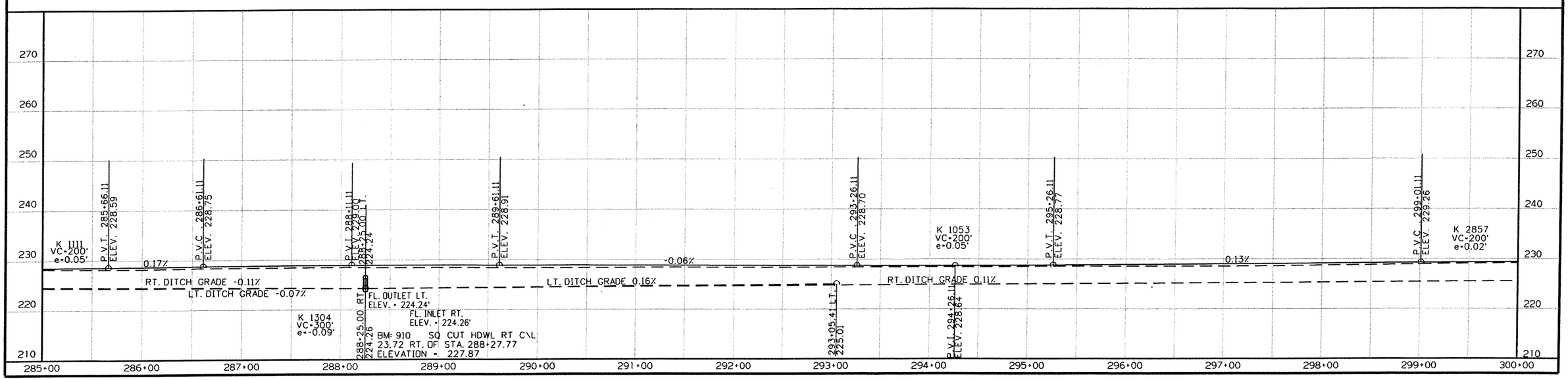
STA. 288+25 IN PLACE
3'x 2'x 48' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN & EXTEND 35' LT. AND 35' RT.
TO A COMPLETED LENGTH OF 118'
Q50= 15.8 CFS D.A.= 21.4 ACRES

STA. 289+64 IN PLACE
24" x 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 36' PIPE CULVERT
RT. SIDE DRAIN
CO. RD. 234 APPROACH - 50 CU. YDS.

STA. 290+85 IN PLACE
24" x 26' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 35 CU. YDS

STA. 295+25 IN PLACE
18" CORR. PLASTIC PIPE
RT. SIDE DRAIN
REMOVE

STA. 296+11 IN PLACE
24" x 27' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 50 CU. YDS



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.		110502	99	271

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

STA. 300+49 IN PLACE
24" x 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 40 CU. YDS

N

STA. 309+00 IN PLACE
18" x 16' CORR. PLASTIC PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 314+88 IN PLACE
24" x 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 30 CU. YDS

300 305 310 315

+60.00 85.00

20' PROP. ROW

NST. LIMITS

EXISTING ROW

CONST. LIMITS

PROP. ROW

16'

P.I. 313+15.51
Δ = 30°17'22" LT.

8' 12' 12' 11' 12' 12' 8'

P.I. 300+49
N 0°11'40" E

℄ CONST.

N 0°13'51" E

P.I. 313+88
N 0°03'31" W

℄ CONST.

T. LIMITS

EXISTING ROW

CONST. LIMITS

PROP. ROW

P.I. 303+02.96
Δ = 00°02'11" L.T.

-30.00 80.00

+60.00 90.00

16'

FENCE

STA.	STA.	SIDE	TYPE	LIN.FT.
309+00	310+00	RT.	D	100

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN.FT.
309+00	310+00	RT.	100

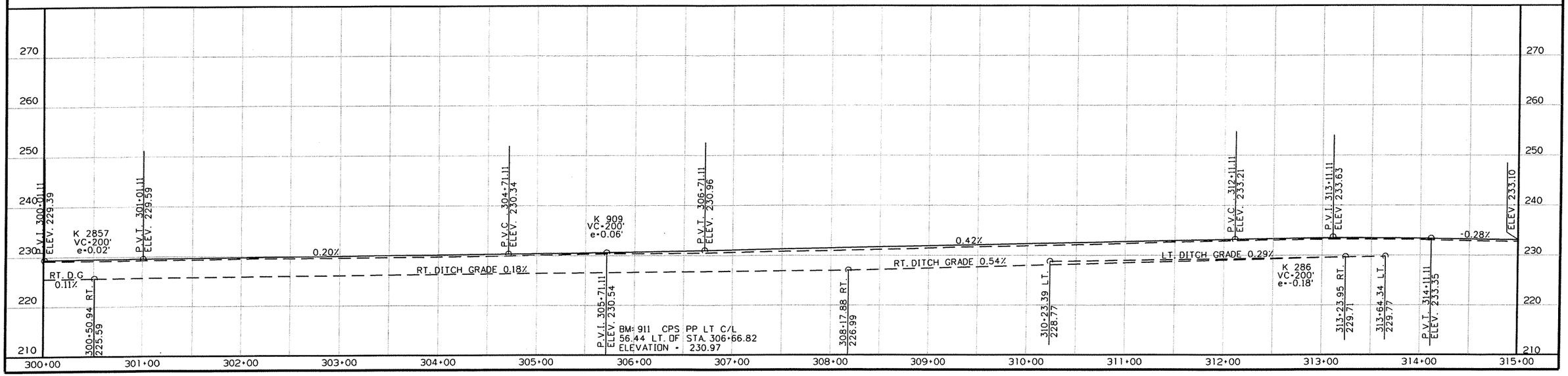
STA. 303+71 IN PLACE
18"x21' CORR. PLASTIC PIPE CULVERT
RT. SIDE DRAIN
REMOVE

CULTIVATED FIELD

CULTIVATED FIELD

CULTIVATED FIELD

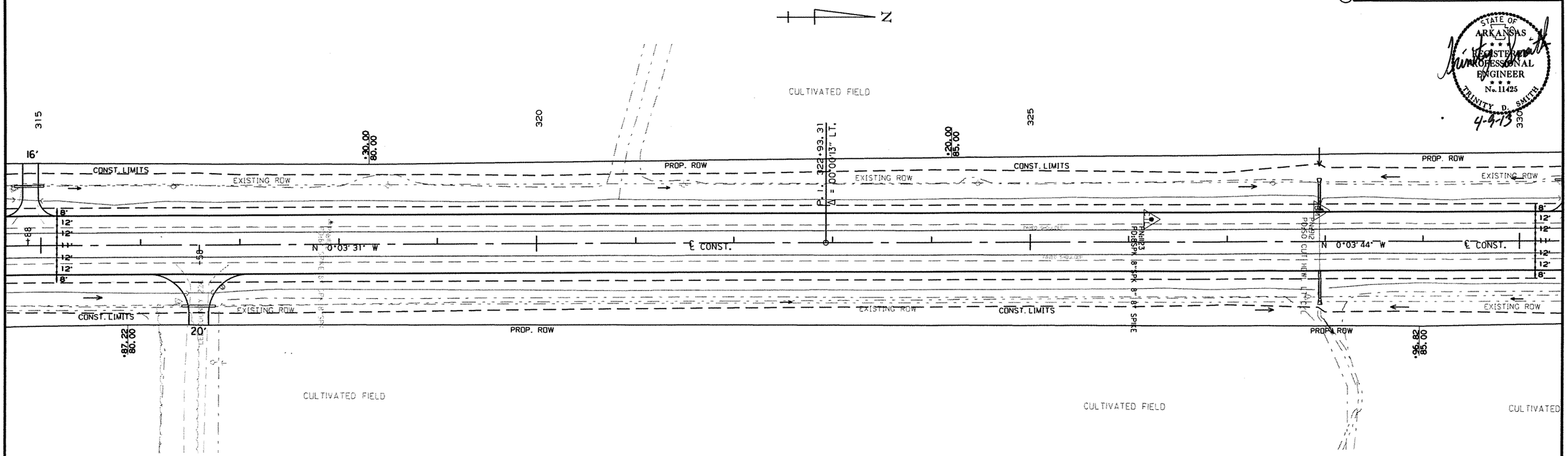
STA. 309+93 IN PLACE
18" x 25' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 60 CU. YDS



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.		110502	100	271

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13


N
315
320
325
330
16'
CONST. LIMITS
EXISTING ROW
PROP. ROW
CULTIVATED FIELD
P.I. 322+93.31
Δ = 00°00'13" LT.
N 0°03'31" W
℄ CONST.
N 0°03'44" W
℄ CONST.
20'
PROP. ROW
CULTIVATED FIELD
CULTIVATED FIELD
CULTIVATED
EXISTING ROW
CONST. LIMITS
PROP. ROW
EXISTING ROW
CONST. LIMITS
EXISTING ROW
CONST. LIMITS
PROP. ROW
EXISTING ROW

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.		110502	101	271

(2) PLAN & PROFILE SHEETS

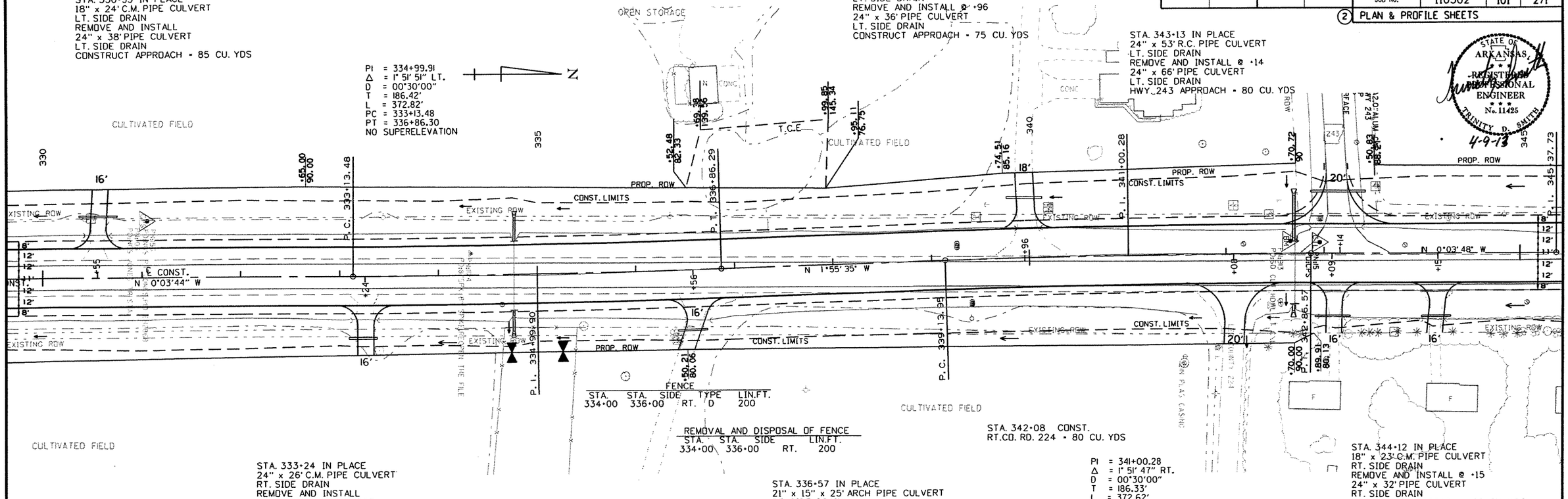
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 4-9-13

STA. 330+55 IN PLACE
18" x 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 85 CU. YDS

PI = 334+99.91
Δ = 1° 51' 51" LT.
D = 00°30'00"
T = 186.42'
L = 372.82'
PC = 333+13.48
PT = 336+86.30
NO SUPERELEVATION

STA. 339+98 IN PLACE
24" x 27' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +96
24" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 75 CU. YDS

STA. 343+13 IN PLACE
24" x 53' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +14
24" x 66' PIPE CULVERT
LT. SIDE DRAIN
HWY. 243 APPROACH - 80 CU. YDS


OPEN STORAGE
CONC
CULTIVATED FIELD
T.C.E.
PROP. ROW
CONST. LIMITS
EXISTING ROW
P.C. 333+13.48
P.T. 336+86.29
P.I. 334+99.90
P.I. 339+13.99
P.I. 341+00.28
P.C. 339+13.99
P.T. 342+86.57
N 0°03'44" W
N 1°55'35" W
N 0°03'48" W
℄ CONST.
16'
18'
20'
+24
+56
+96
+14
+09
+08
+15
+45
+50
+70
+74
+92
+99
+52
+55
330
335
340
345
243
F
F
CULTIVATED FIELD
CULTIVATED FIELD
CULTIVATED FIELD
CONC
CONC
CONC

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.		110502	102	271

(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-4-13

CULTIVATED FIELD

STA. 348+74 IN PLACE
18" x 25' CORR. PLASTIC PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 356+54 IN PLACE
24"x 50' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +61
24" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS

PI = 357+84.20
Δ = 00° 12' 20" LT.
D = 00°15'00"
T = 41.09'
L = 82.17'
PC = 357+43.11
PT = 538+25.28
NO SUPER

PROP. ROW
CONST. LIMITS
EXISTING ROW
P.I. 345+37.73
Δ = 00°04'35" LT.
P.I. 350+81.74
Δ = 00°06'04" RT.
N 0°08'23" W
N 0°02'19" W
N 0°14'39" W
P.C. 357+43.10
P.T. 358+25.28
20'
+34.93
80.00
+10.00
80.00
PAVED DITCH
PAVED SHOULDER
CONC.
CULTIVATED FIELD
EXISTING ROW

STA. 345+84 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +85
24" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 55 CU. YDS

STA. 346+82 IN PLACE
18" x 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +79
24" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 55 CU. YDS

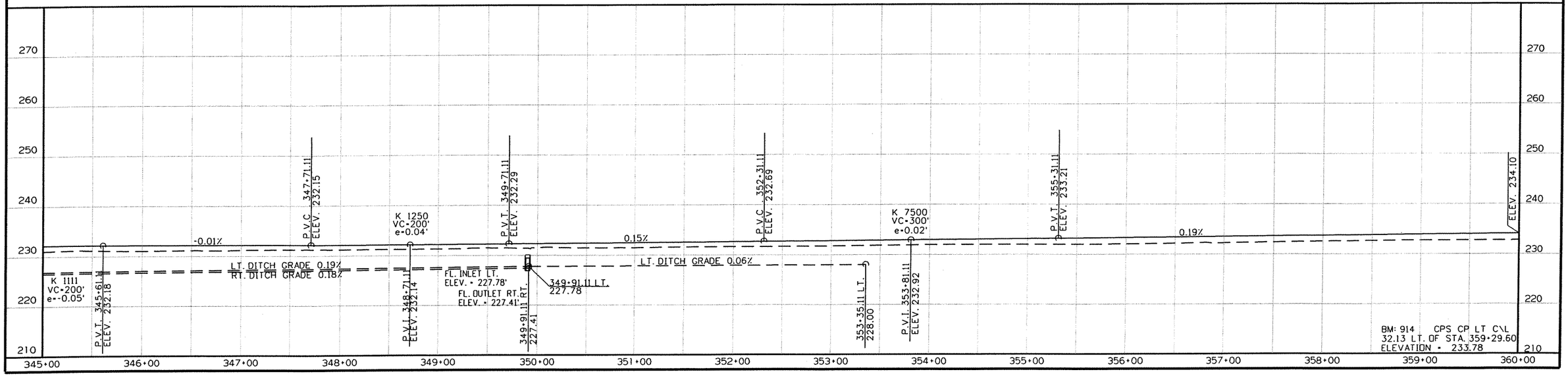
STA. 349+91 IN PLACE
4'x 2'x 46' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN & EXTEND 56' LT. AND 17' RT.
TO COMPLETED LENGTH OF 119'
Q50= 47.0 CFS D.A.= 52.2 ACRES

STA. 353+35 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +36
24" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS

STA. 353+82 IN PLACE
21" x 15" x 24' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 354+38 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 35 CU. YDS

STA. 358+52 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +50
18" x 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 25 CU. YDS



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(2) PLAN & PROFILE SHEETS

N

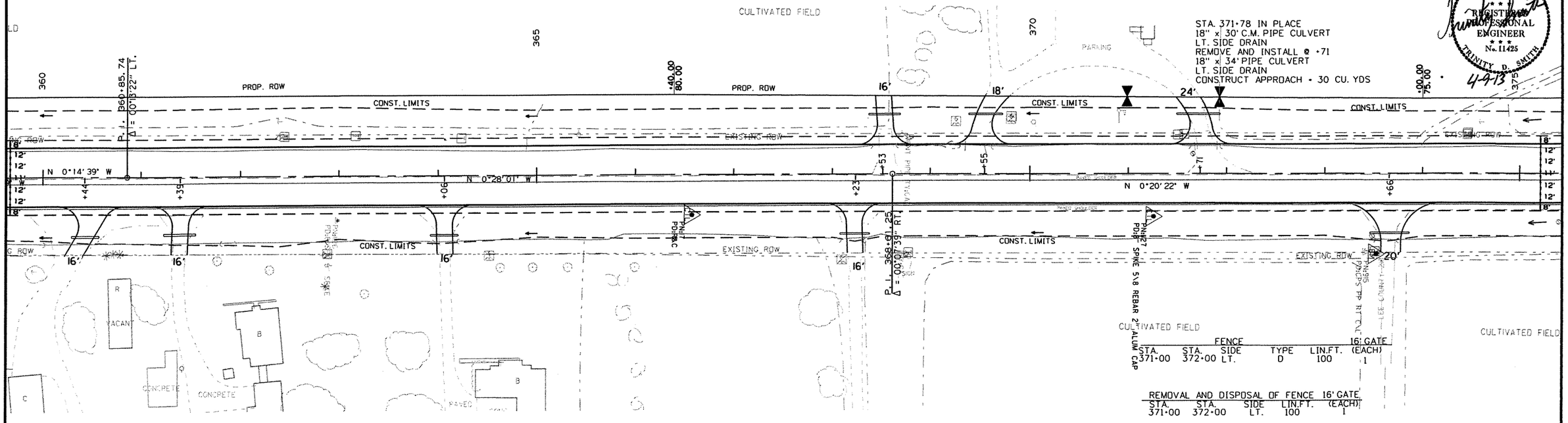
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
4-9-13

STA. 363+50 IN PLACE
18" CORR. PLASTIC PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 368+54 IN PLACE
18" x 34' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +53
18" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS

STA. 369+45 IN PLACE
18" x 31' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +55
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS

STA. 371+78 IN PLACE
18" x 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +71
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 30 CU. YDS



FENCE

STA.	STA.	SIDE	TYPE	LIN.FT.	16' GATE (EACH)
371+00	372+00	LT.	D	100	1

REMOVAL AND DISPOSAL OF FENCE 16' GATE

STA.	STA.	SIDE	LIN.FT.	(EACH)
371+00	372+00	LT.	100	1

STA. 360+92 IN PLACE
29" X 18" X 177' ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +44
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 25 CU. YDS

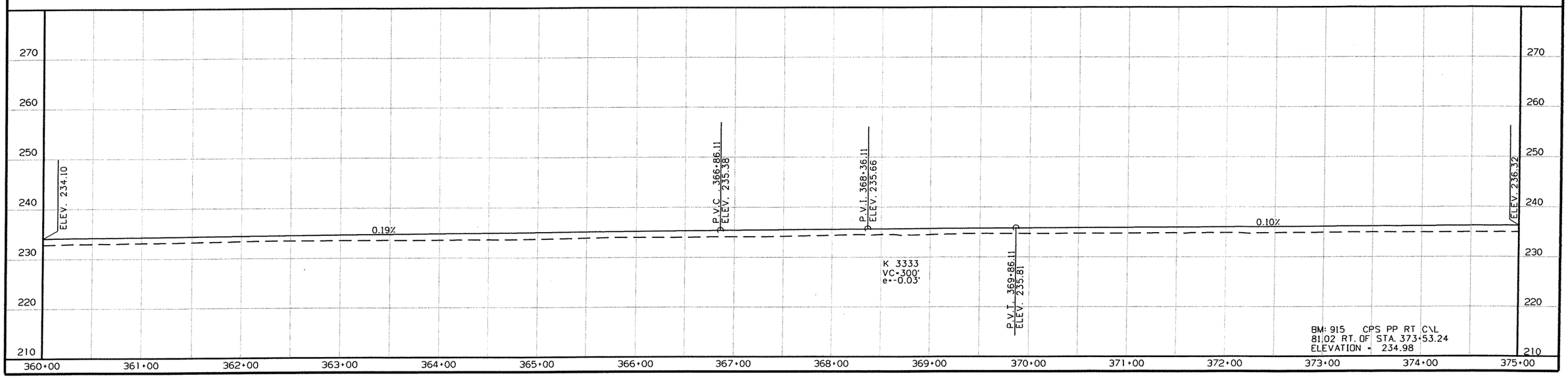
STA. 361+39 INSTALL
18" x 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 30 CU. YDS

STA. 362+41 IN PLACE
18" x 92' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 364+08 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +06
18" x 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 40 CU. YDS

STA. 368+24 IN PLACE
18" x 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +23
18" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 45 CU. YDS

STA. 373+63 IN PLACE
18" x 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +66
18" x 40' PIPE CULVERT
RT. SIDE DRAIN
CO. RD. 218 APPROACH - 50 CU. YDS



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(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11435
TRINITY D. SMITH
9-4-13

STA. 381+41 IN PLACE
18" x 56' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +45
18" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 30 CU. YDS

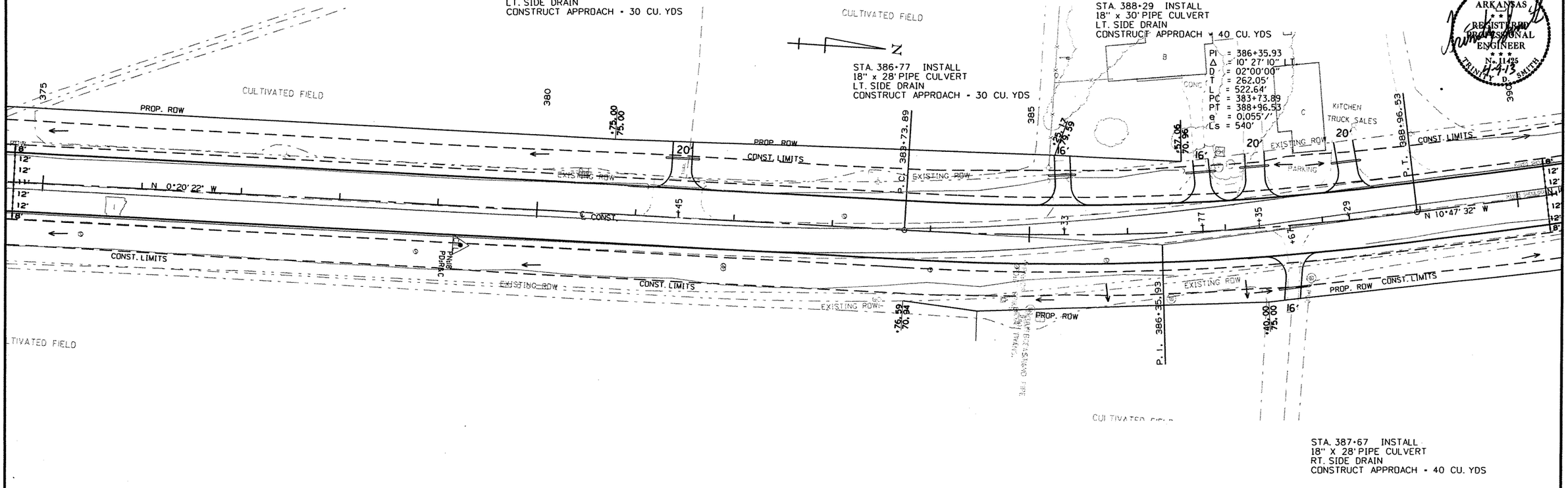
STA. 385+33 IN PLACE
18" x 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 25 CU. YDS

STA. 386+77 INSTALL
18" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 30 CU. YDS

STA. 387+35 INSTALL
18" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 35 CU. YDS

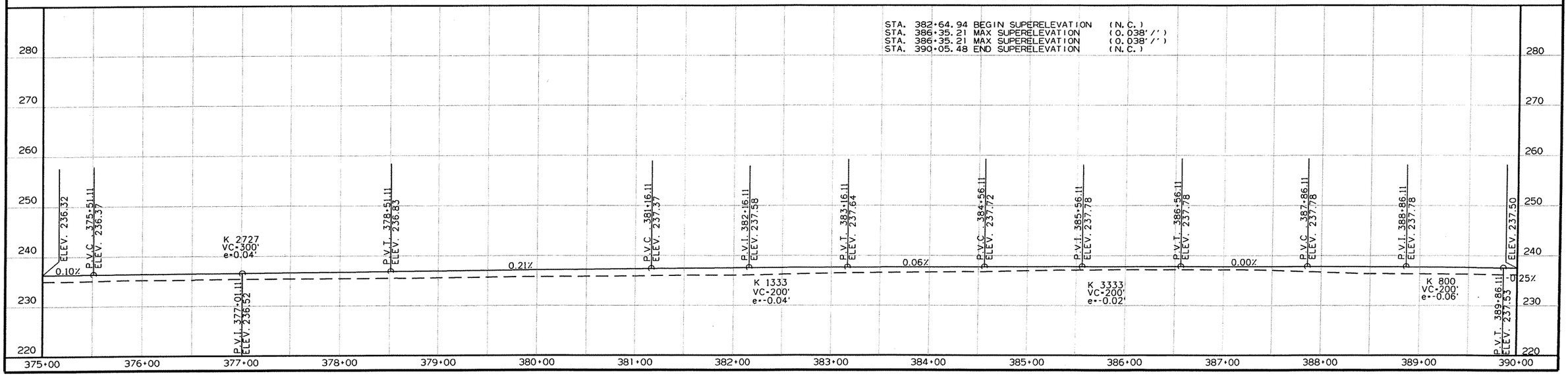
STA. 388+29 INSTALL
18" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH - 40 CU. YDS

PI = 386+35.93
Δ = 10° 27' 10" LT.
D = 02°00'00"
T = 262.05'
L = 522.64'
PC = 383+73.89
PT = 388+96.53
e = 0.055'/'
Ls = 540'



STA. 387+67 INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH - 40 CU. YDS

STA. 382+64.94 BEGIN SUPERELEVATION (N.C.)
STA. 386+35.21 MAX SUPERELEVATION (0.038'/')
STA. 386+35.21 MAX SUPERELEVATION (0.038'/')
STA. 390+05.48 END SUPERELEVATION (N.C.)



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) PLAN & PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY B. SMITH
4-4-13

STA. 394+77 IN PLACE
24" x 18"x 32' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 40' PIPE CULVERT
LT. SIDE DRAIN
CO. RD. 314 APPROACH - 60 CU. YDS

CULTIVATED FIELD

P.I. 393+89.21

EXISTING ROW

CONST. LIMITS

22'

LEE COUNTY 314

CONCRETE BASE

+65.77

℄ CONST.

N 0°09'55" E

8' 12' 12' 12' 12' 8'

BEGIN N 10°40'32" LT.

PNH20 POR R&C

P.C. 391+14.44

+44.75
78.00

EXISTING ROW

CONST. LIMITS

22'

+93.49
80.00

P.T. 396+62.31

PROP. ROW

P.I. 400+00.41

Δ = 00°04'51" RT.

+00.28
85.00

100' TRANSITION

+00.41

N 0°14'46" E

PI = 393+89.21
Δ = 10°57'27" RT.
D = 02°00'00"
T = 274.77'
L = 547.87'
PC = 391+14.44
PT = 396+62.31
e = 0.055'/'
Ls = 540'

PN520
PD24"X5/8"REBAR
CM#2'S OF CL LEE
CM#3'SW OF PP
CM#78'/SW OF PP
CM#.4' BELOW SURF.

CULTIVATED FIELD

CULTIVATED FIELD

CULTIVATED FIELD

EXISTING ROW

CULTIVATED FIELD

END JOB 110502
STA. 400+00.41

STA. 397+02 IN PLACE
2" ALUM. IRRIGATION PIPE
REMOVE

STA. 394+66 INSTALL
28" x 20" x 36' ARCH PIPE CULVERT
RT. SIDE DRAIN
CO. RD. 216 APPROACH - 35 CU. YDS

STA. 390+05.49 BEGIN SUPERELEVATION (N.C.)
STA. 393+88.38 MAX SUPERELEVATION (0.039'/')
STA. 393+88.38 MAX SUPERELEVATION (0.039'/')
STA. 397+71.27 END SUPERELEVATION (N.C.)

ELEV. 237.50

P.V.C. 390+91.11
ELEV. 237.27

P.V.I. 391+91.11
ELEV. 237.02

-0.25%

P.V.C. 395+31.11
ELEV. 235.88

-0.33%

K 2222
VC-200'
e-0.02'

P.V.T. 397+31.11
ELEV. 235.31

-0.24%

P.V.C. 397+83.69
ELEV. 235.19

P.V.I. 398+83.69
ELEV. 234.95

-0.30%

LT. DITCH GRADE -0.16%

K 2500
VC-200'
e--0.02'

P.V.T. 392+91.11
ELEV. 236.68

396+02.11 LT.
232.00

P.V.I. 396+31.11
ELEV. 235.55

K 3333
VC-200'
e--0.02'

P.V.T. 399+83.69
ELEV. 234.65

P.V.I. 400+00.41
ELEV. 234.60

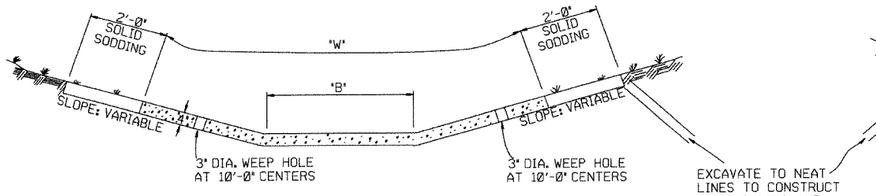
390+00.00 LT.
232.96

BM: 916 SQ CUT CONCRETE BASE TB
81.41 LT. OF STA. 395+04.08
ELEVATION - 234.34

270 260 250 240 230 220 210

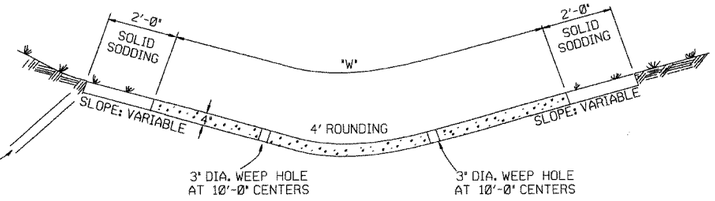
390+00 391+00 392+00 393+00 394+00 395+00 396+00 397+00 398+00 399+00 400+00 401+00 402+00 403+00 404+00 405+00

REFER TO TABULATION OF QUANTITIES
FOR "W" & "B" DIMENSIONS



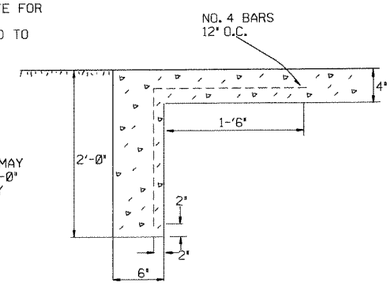
TYPE A

REFER TO TABULATION OF QUANTITIES
FOR "W" DIMENSIONS



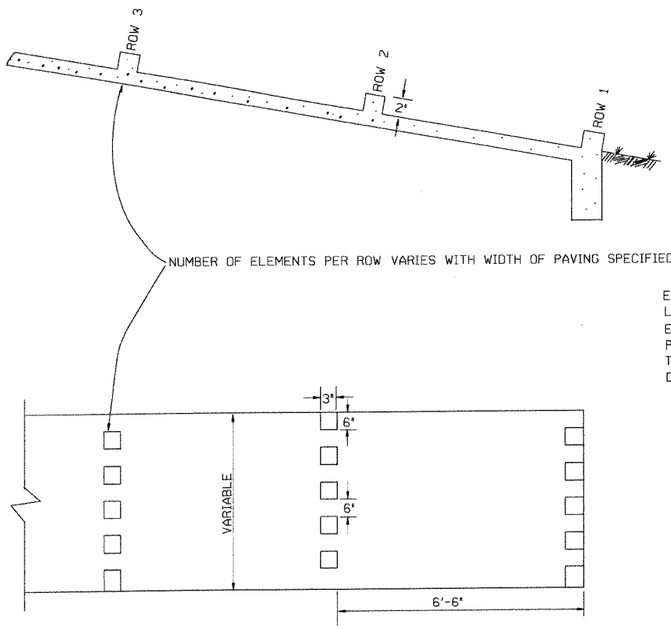
TYPE B

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



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

TOE WALL DETAIL FOR
CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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 UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

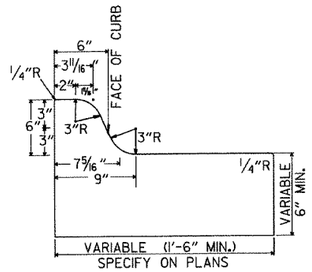
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	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.	932-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

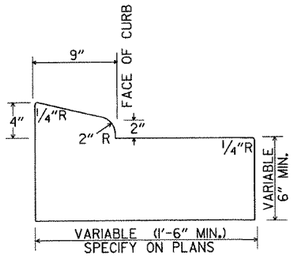
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

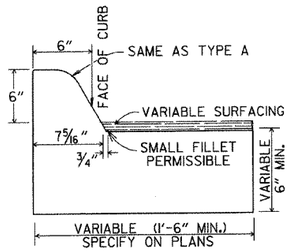
STANDARD DRAWING CDP-1



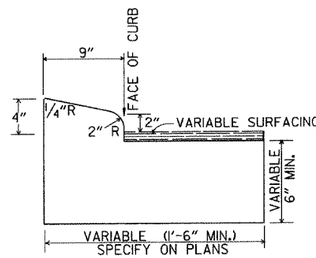
TYPE A



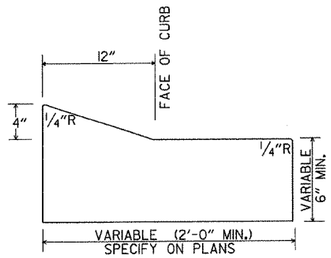
TYPE B-I



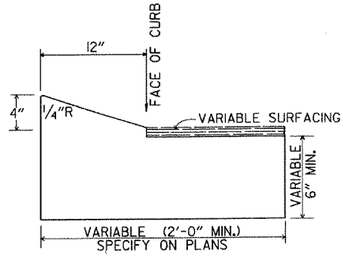
TYPE C



TYPE B-2

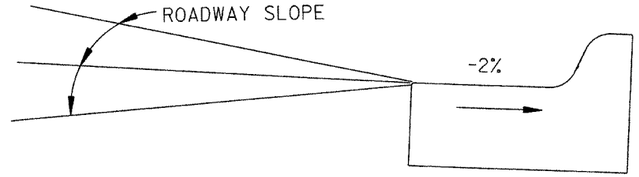


TYPE E-1



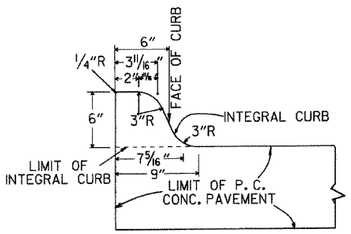
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

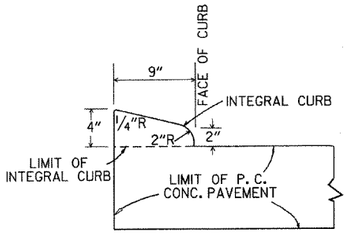


DETAIL OF GUTTER SLOPE

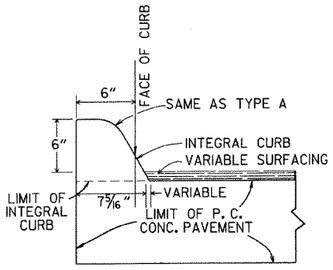
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

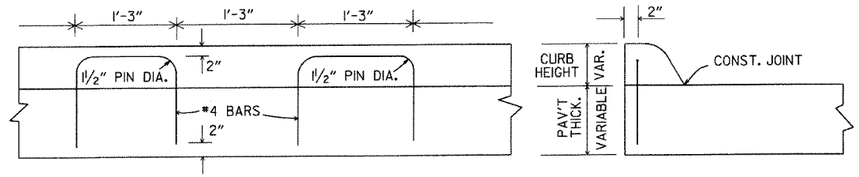


TYPE B



TYPE C

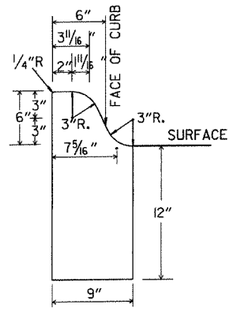
INTEGRAL CURB



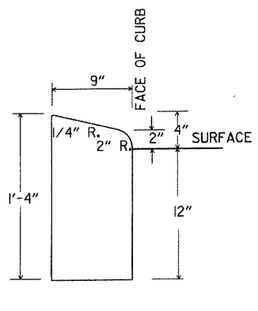
LONGITUDINAL SECTION

ELEVATION

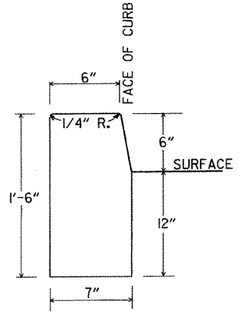
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



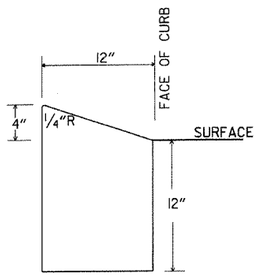
TYPE A



TYPE B

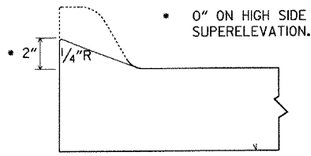


TYPE D



TYPE E

CONCRETE CURB



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

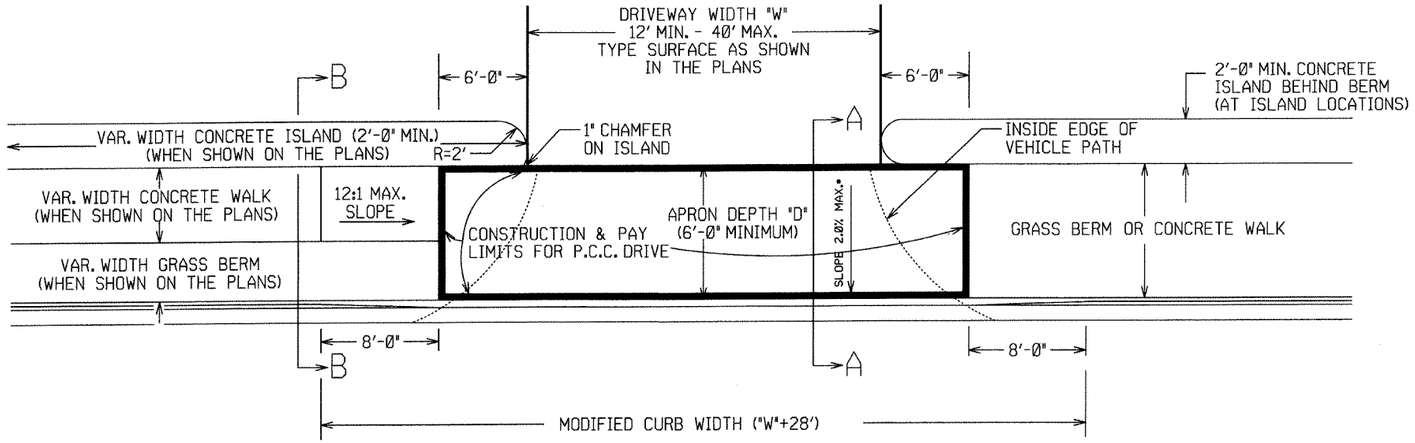
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-19-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

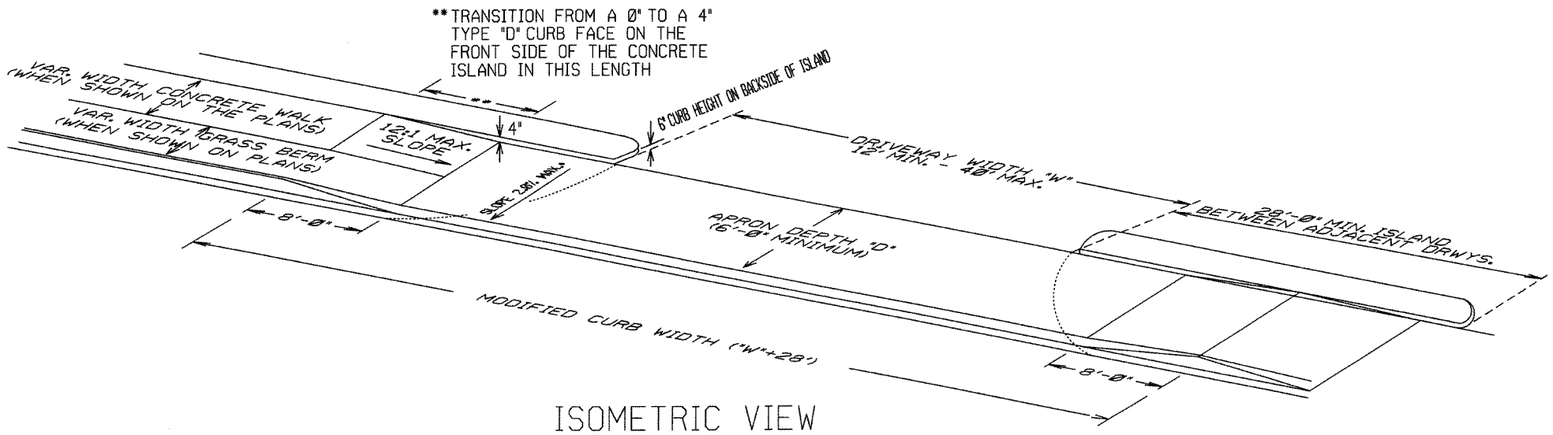
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

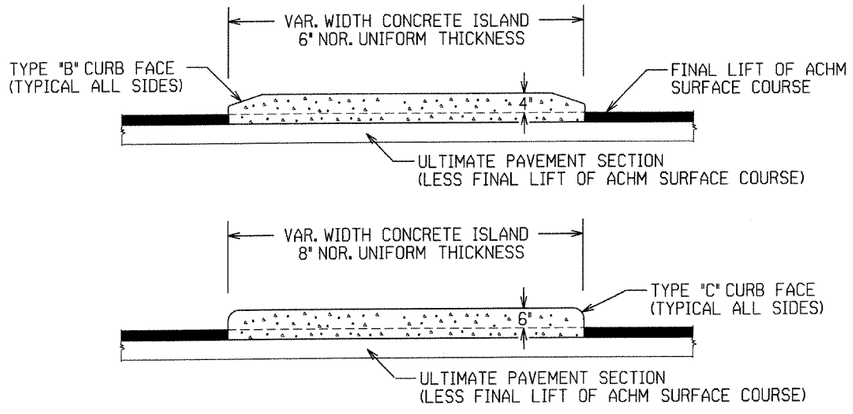
STANDARD DRAWING CG-1



PLAN VIEW

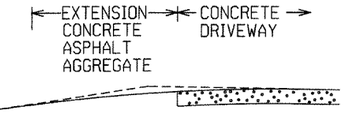


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

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



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

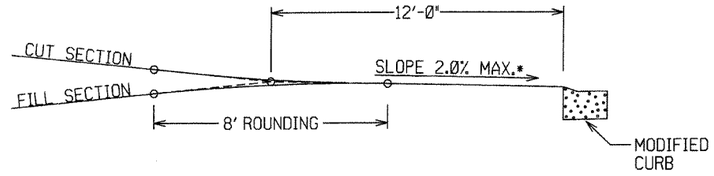
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

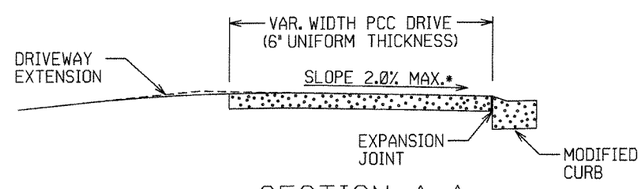
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

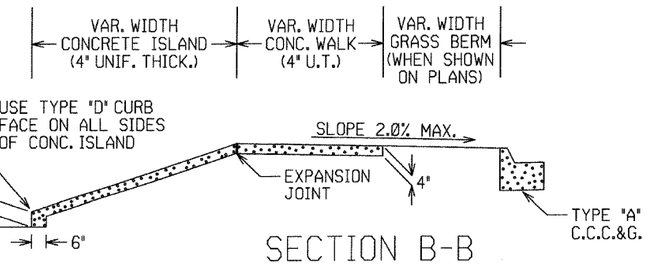


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



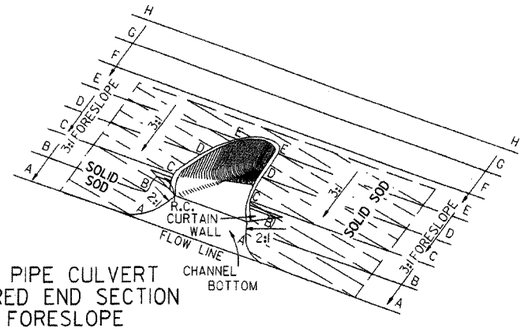
SECTION A-A



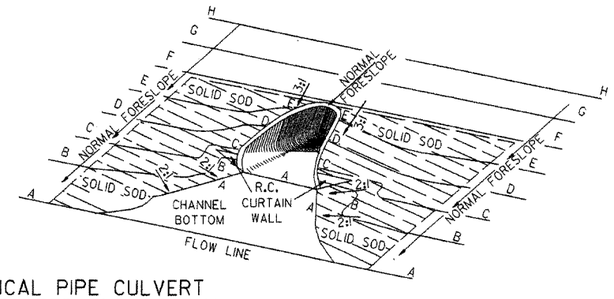
SECTION B-B
CURBED ISLAND BEHIND WALK

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

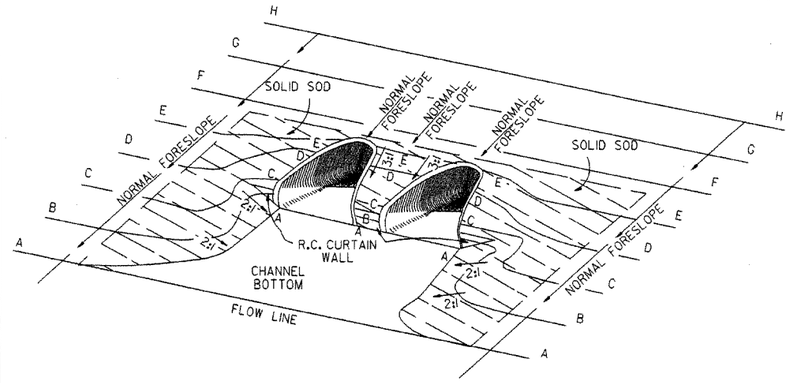
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

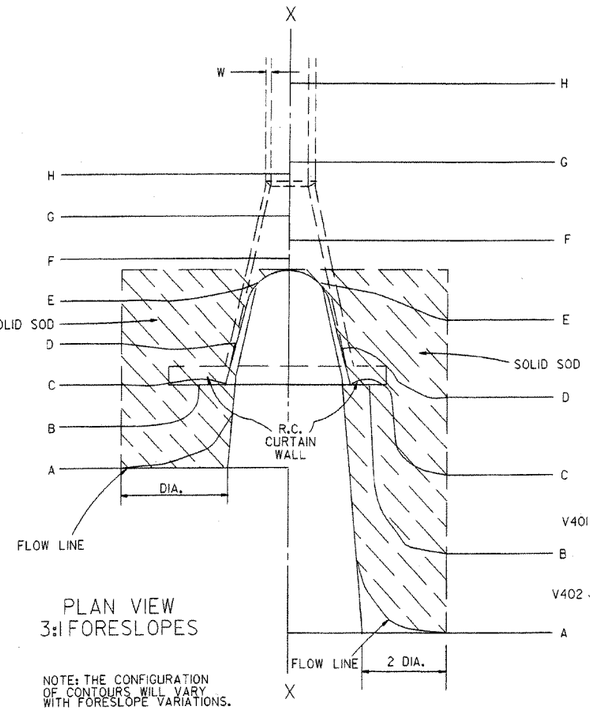
PIPE DIA.	H_1	L_1	L	L (DBL.) / 2	SINGLE R.C.P.C. CONC. CU. YDS.	SINGLE R.C.P.C. REINF. STEEL LBS.	DOUBLE R.C.P.C. CONC. CU. YDS.	DOUBLE R.C.P.C. REINF. STEEL LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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

REINFORCING STEEL SCHEDULE

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

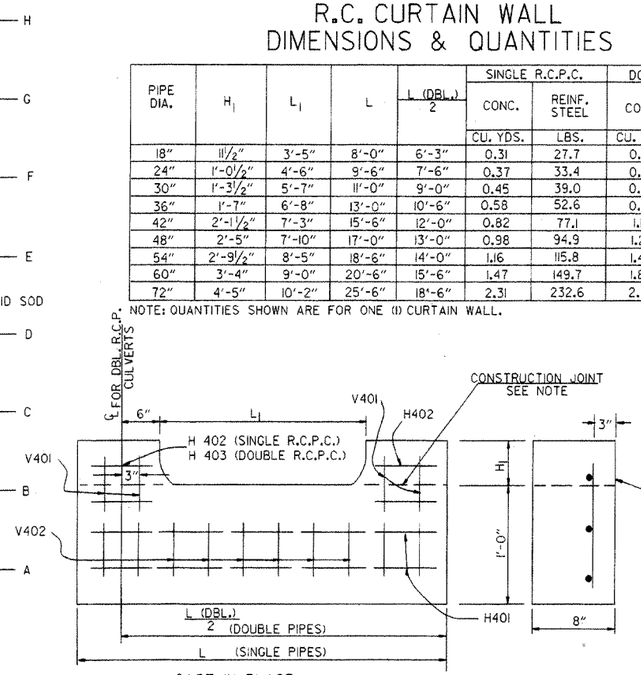
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

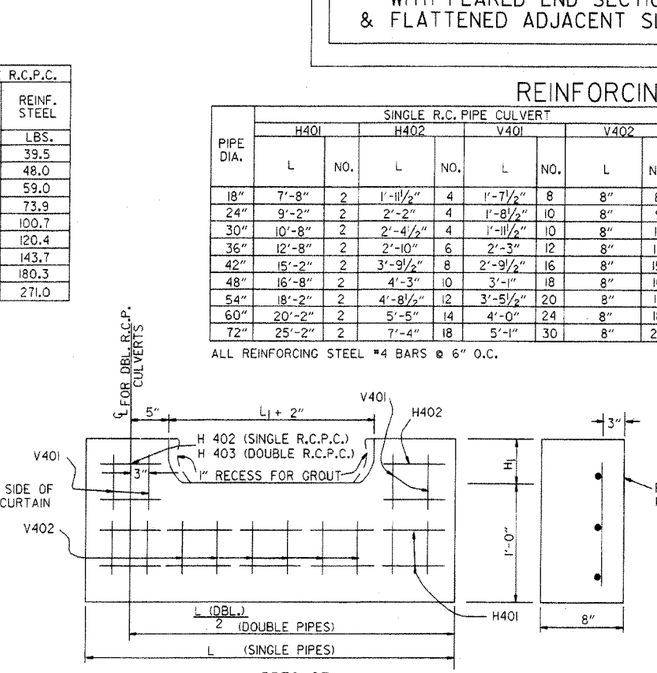
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

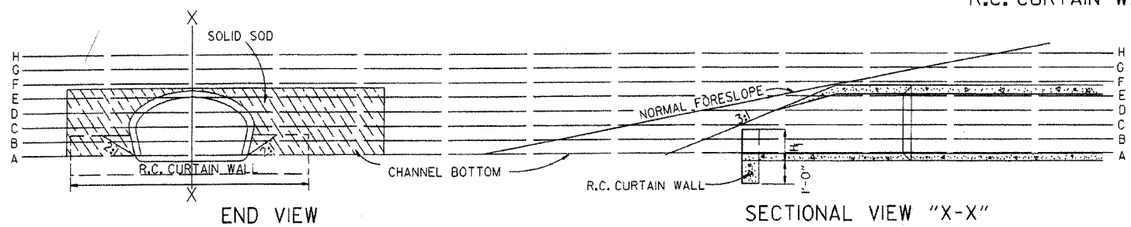
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

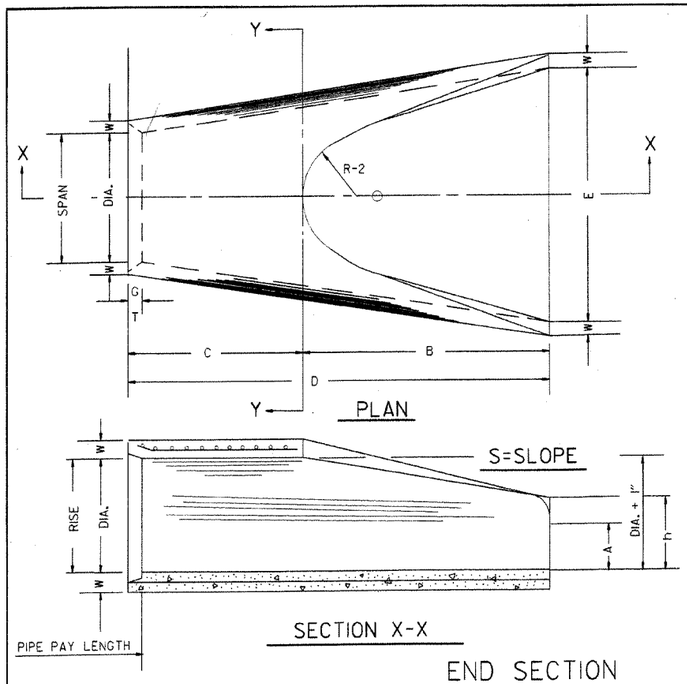
SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

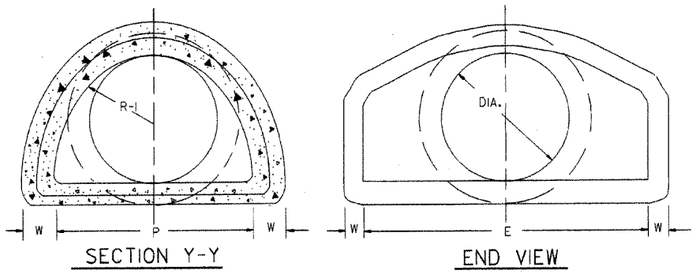
STANDARD DRAWING FES-1



END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-11½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47 1/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33 1/16"	24"	4"	8750	2'-10½"
60"	6"	2'-:0"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 1/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 15/16"	24"	5"	13250	4'-6"

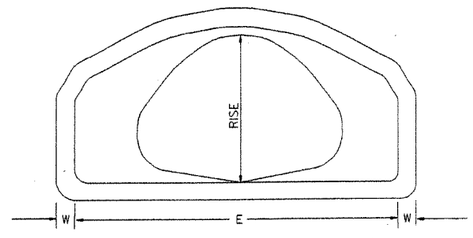


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

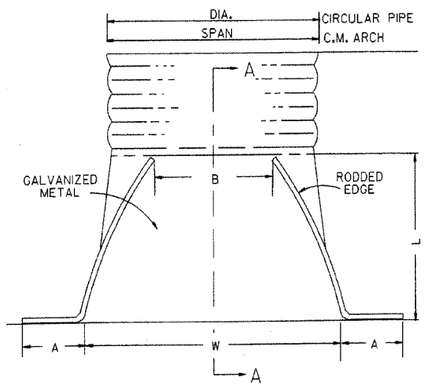
ARCH PIPE

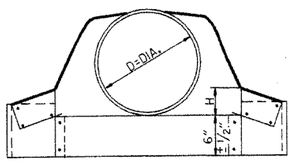
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"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

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

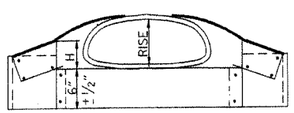


END VIEW
CONCRETE ARCH PIPE





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

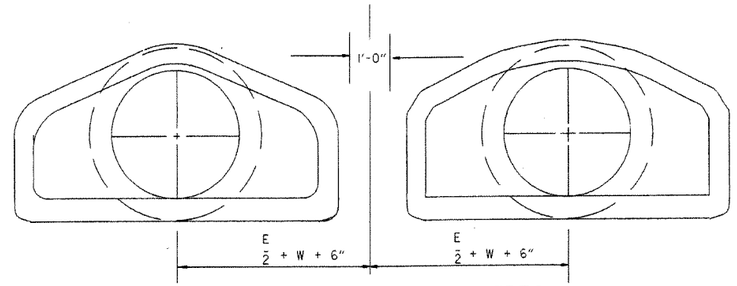
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12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

C.M. ARCH PIPE

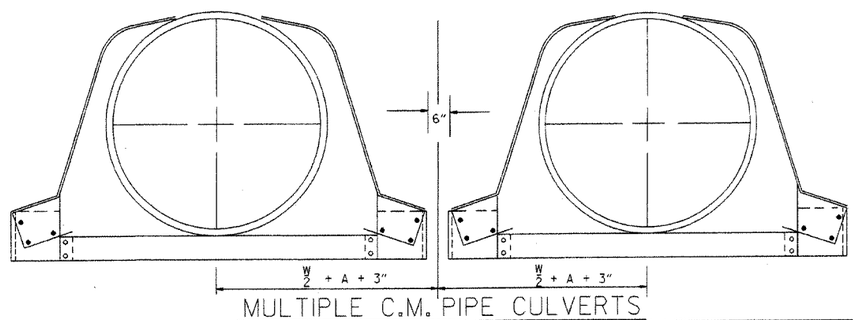
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

DATE	REVISION	BY	
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96	ARKANSAS STATE HIGHWAY COMMISION
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	FLARED END SECTION
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74	STANDARD DRAWING FES-2
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73	
10-2-72	REVISED AND REDRAWN	760-10-2-72	

stdfes2.dgn

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

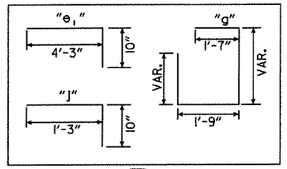
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

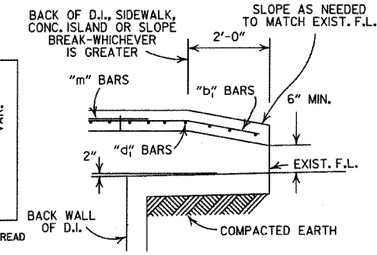
DROP INLET EXTENSION

4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET		
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

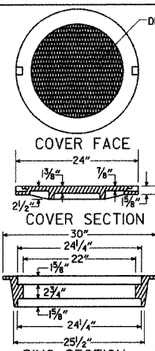
BAR DIAGRAM





BACK OPENING

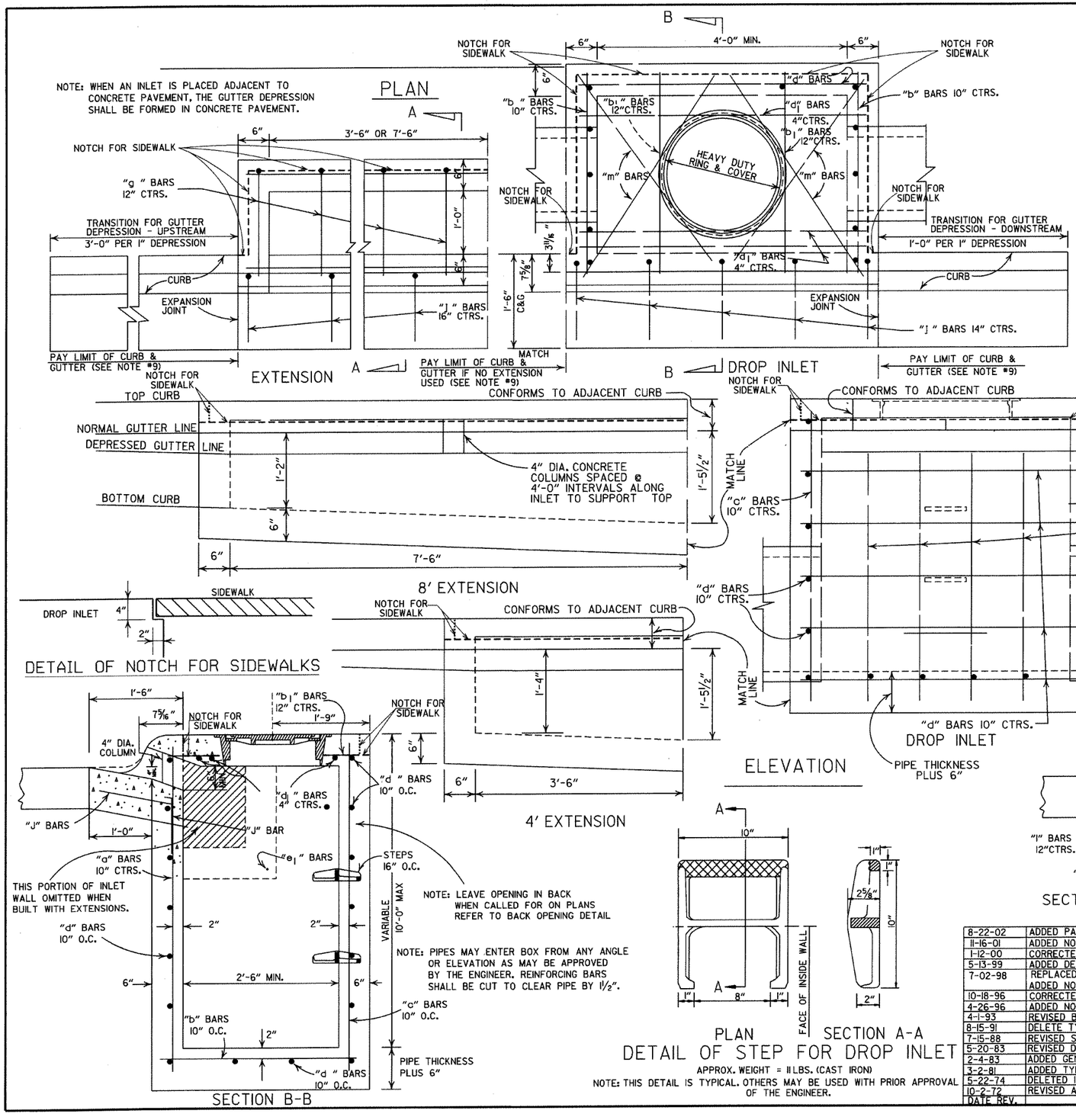
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).



APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



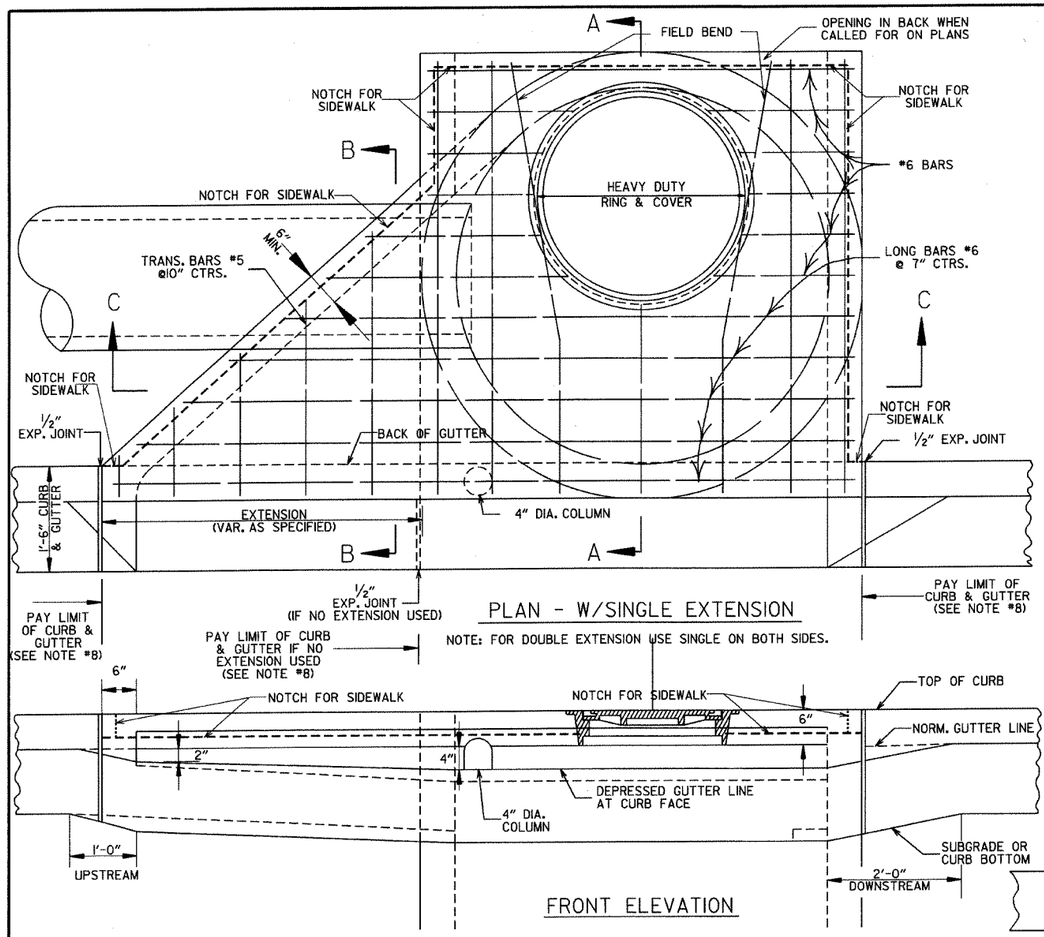
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

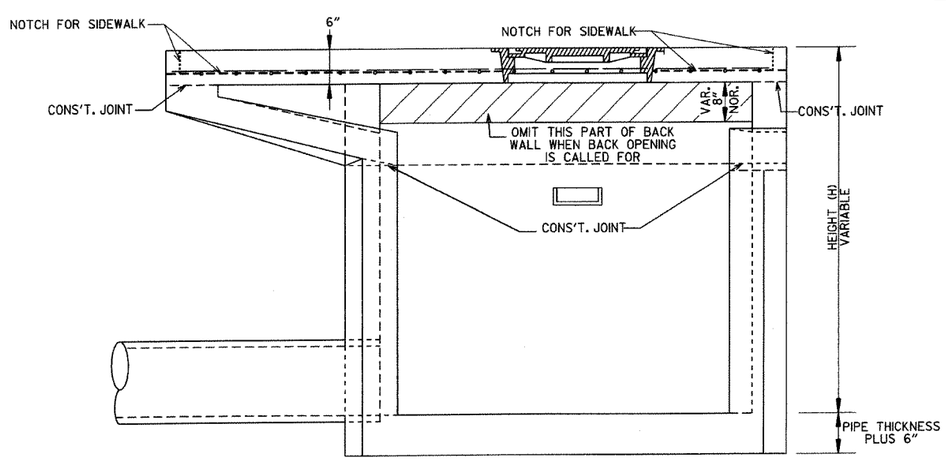
STANDARD DRAWING FPC-9E



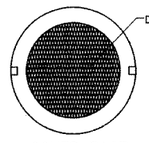
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

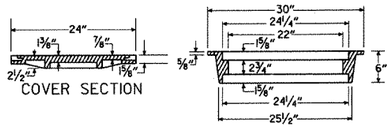
FRONT ELEVATION



SECTION C-C



COVER FACE



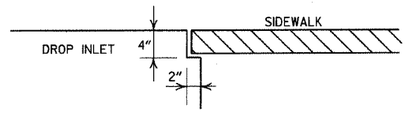
COVER SECTION

RING SECTION

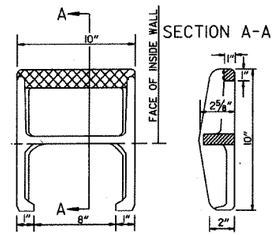
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS



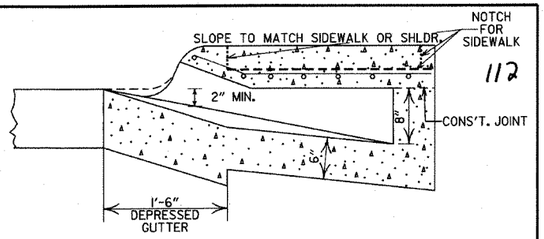
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

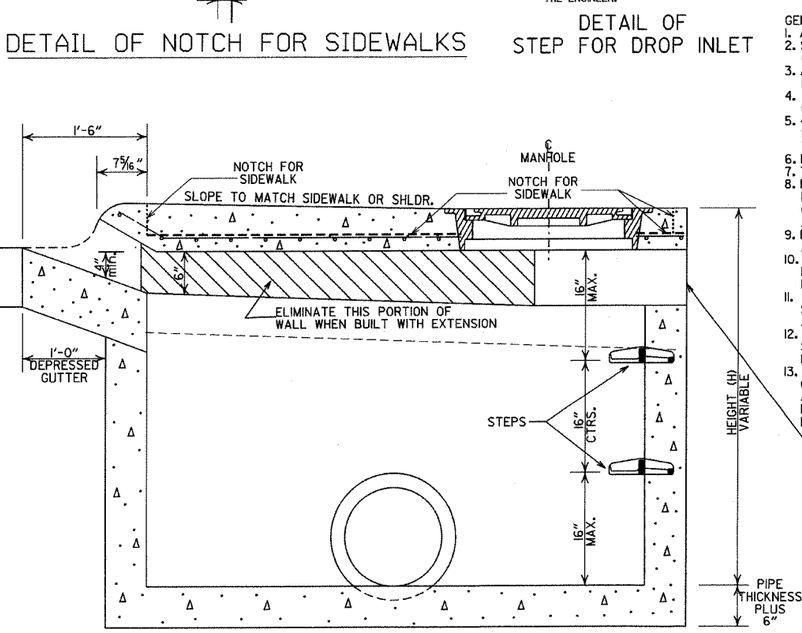
PLAN

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

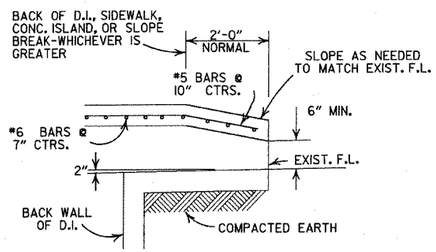
DETAIL OF STEP FOR DROP INLET



SECTION B-B



SECTION A-A



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

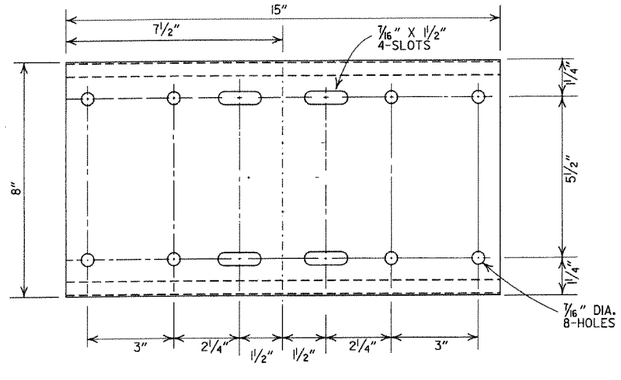
		MINIMUM WALL THICKNESS	
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11 & ADJ. OPENING DIMENSION	
10-12-95	CORRECTED *6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	TYPE P TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN. DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 12	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	5A-5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	6A9-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-9-2-87

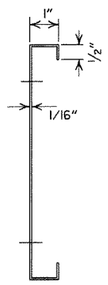
ARKANSAS STATE HIGHWAY COMMISSION

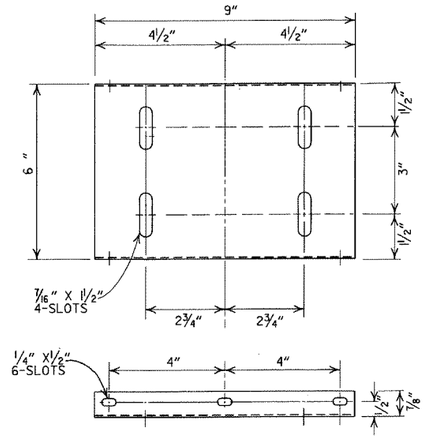
DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M

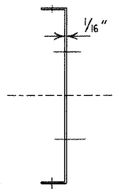


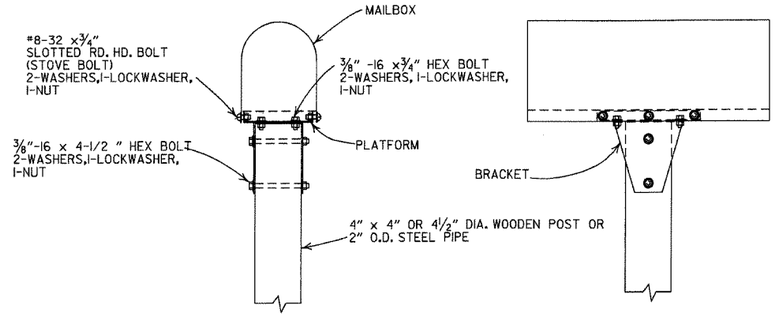
SHELF



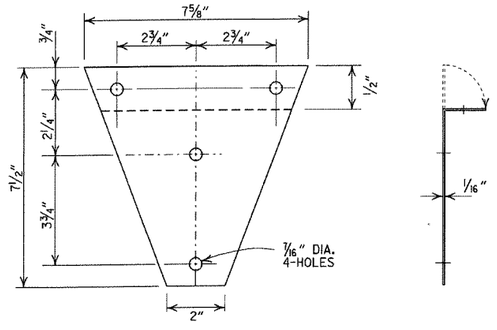


PLATFORM





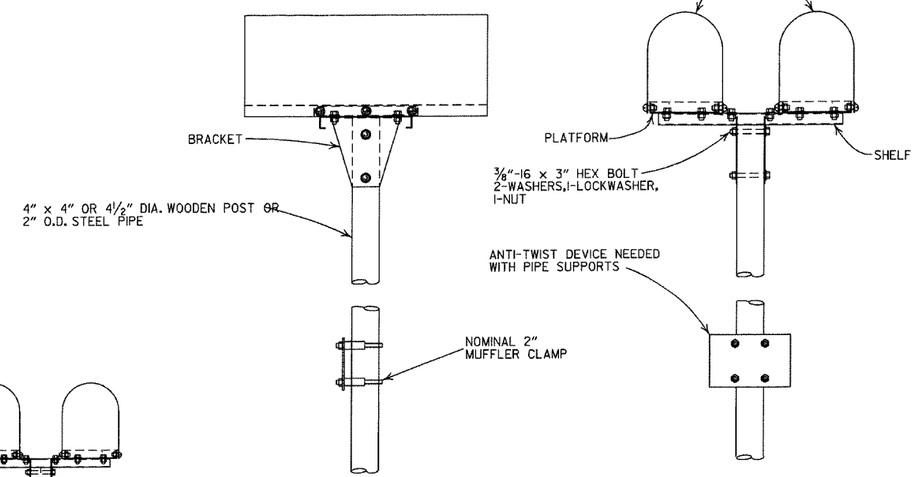
SINGLE INSTALLATION



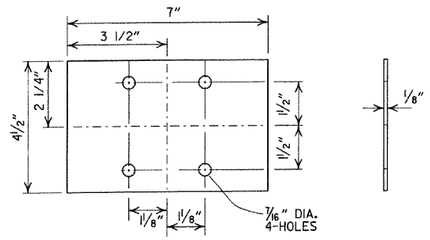
BRACKET

GENERAL NOTES

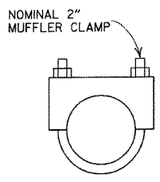
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X¾" 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.



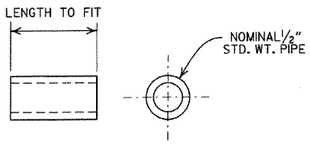
DOUBLE INSTALLATION



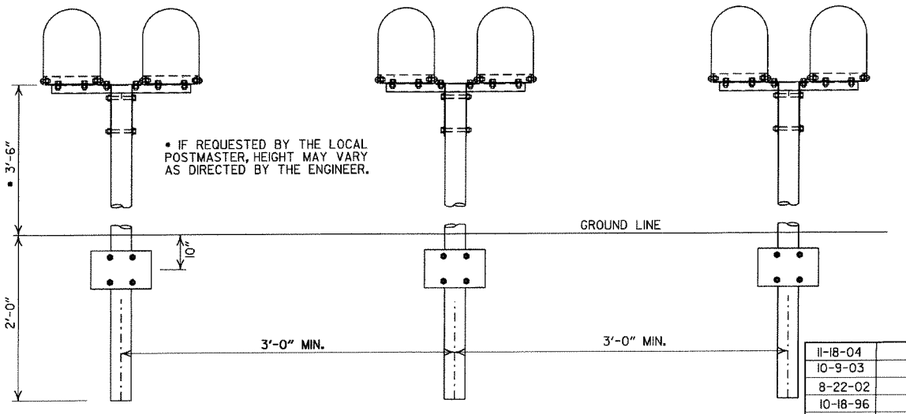
ANTI-TWIST PLATE



CLAMP



SPACER



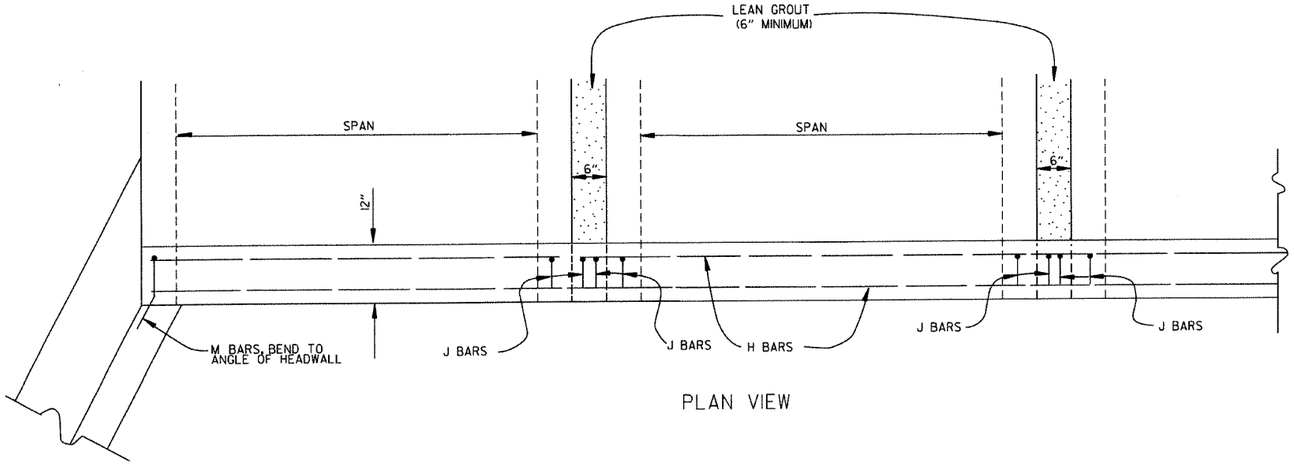
SPACING FOR MULTIPLE POST INSTALLATION

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

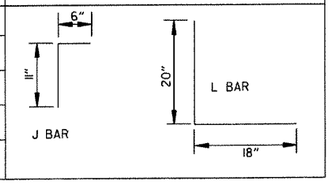
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

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



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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

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

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

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

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

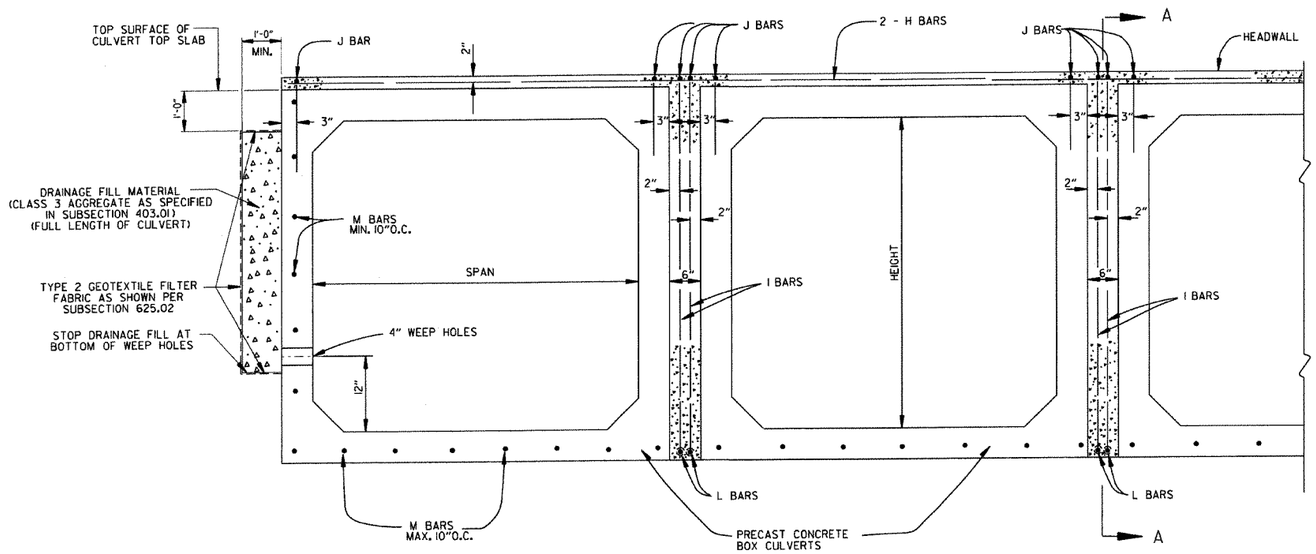
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

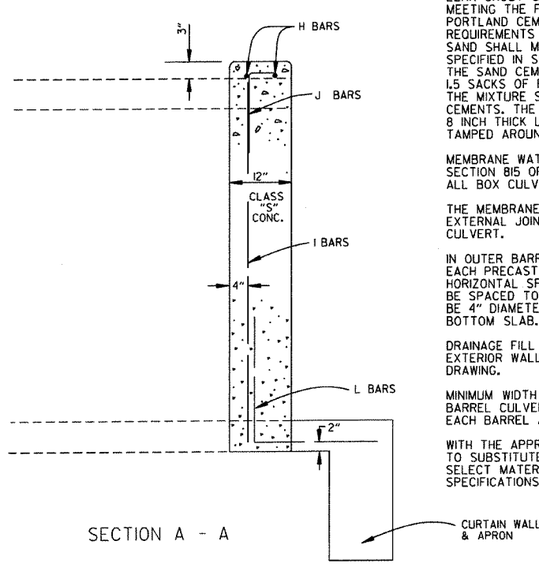
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

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

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



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
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	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

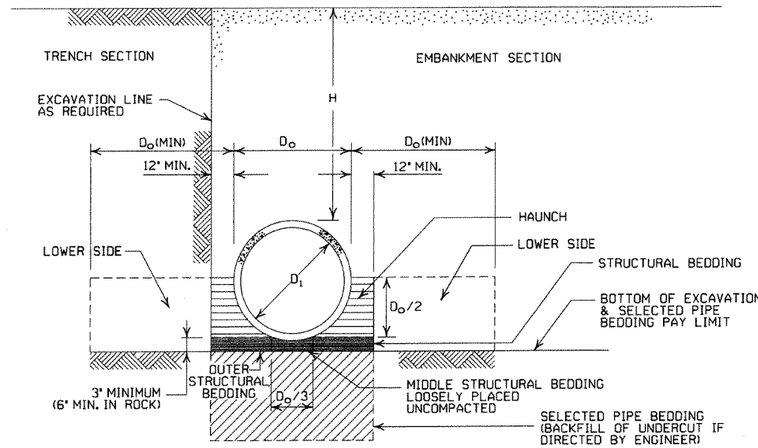
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION		INSTALLATION		INSTALLATION		INSTALLATION
				TYPE 1		TYPE 1		TYPE 1		TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2		15	0.060	2		15
18	21x15	3	0.064	2		15	0.060	2		15
21	24x18	3	0.064	2.25		15	0.060	2.25		15
24	28x20	3	0.064	2.5		15	0.075	2.5		15
30	35x24	3	0.079	3		12	0.075	3		12
36	42x29	3½	0.079	3		12	0.105	3		12
42	49x33	4	0.079	3		12	0.105	3		12
48	57x38	5	0.109	3		13	0.135	3		13
54	64x43	6	0.109	3		14	0.135	3		14
60	71x47	7	0.138	3		15	0.164	3		15
66	77x52	8	0.168	3		15				
72	83x57	9	0.168	3		15				
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

CONSTRUCTION SEQUENCE

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

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

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

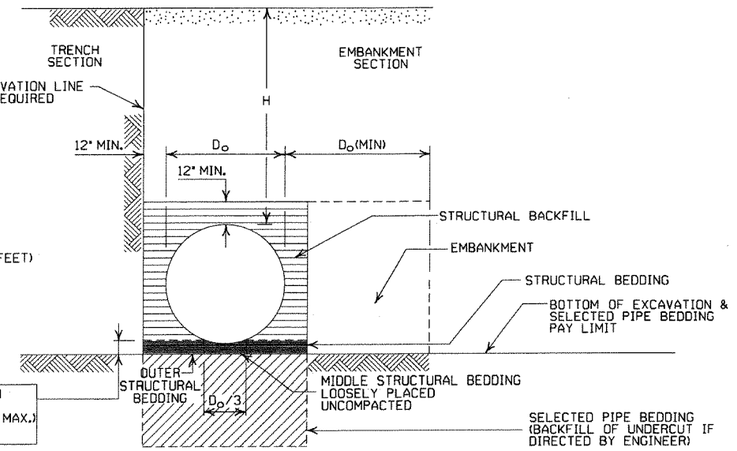
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

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



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

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

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

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

SM3 WILL NOT BE ALLOWED.

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

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

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 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"

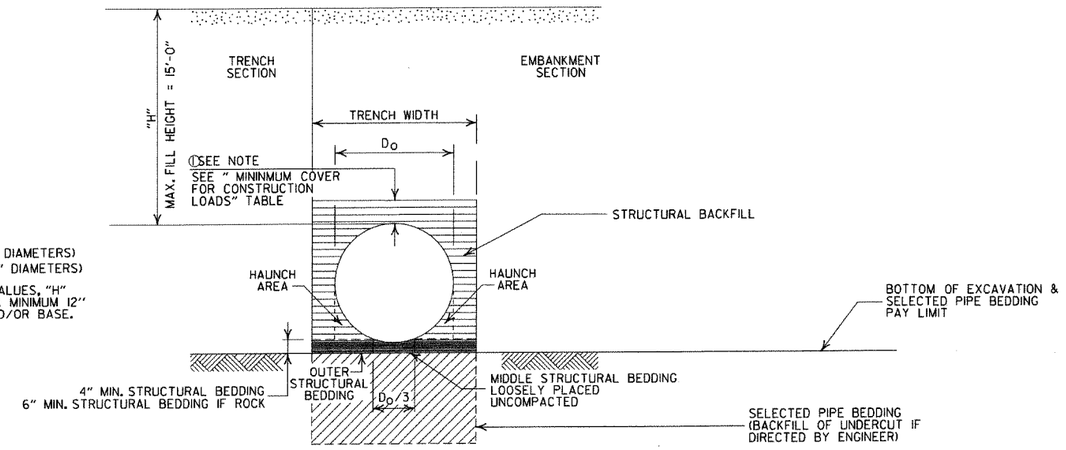
①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

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

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.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

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

SM3 WILL NOT BE ALLOWED.

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

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

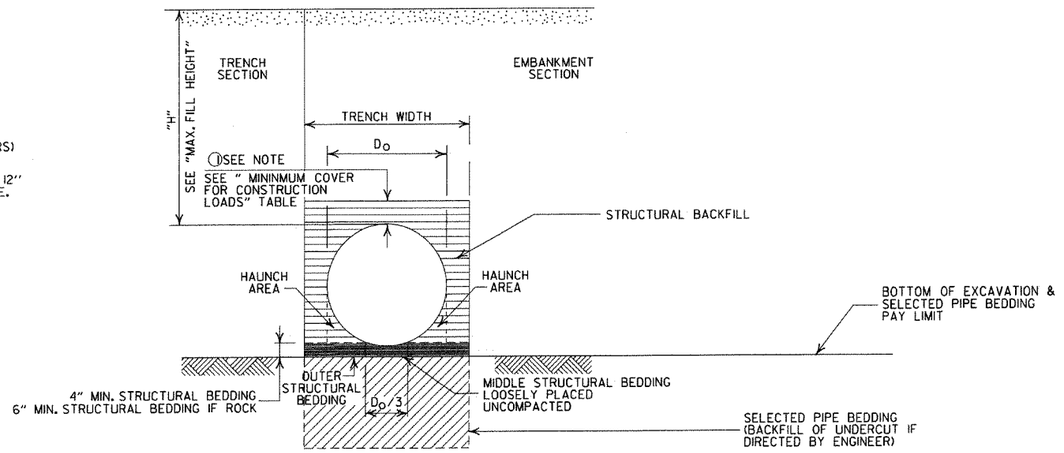
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

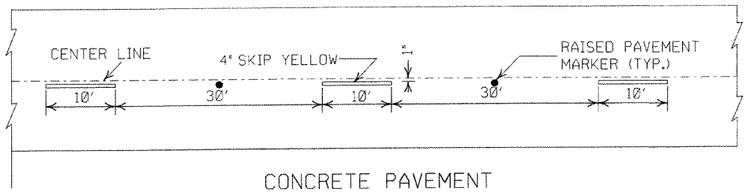
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

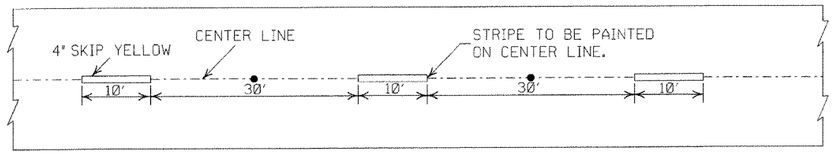
STANDARD DRAWING PCP-2

NOTES:

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

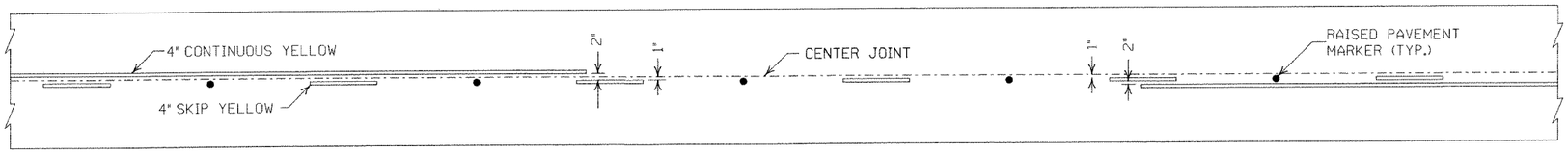


CONCRETE PAVEMENT

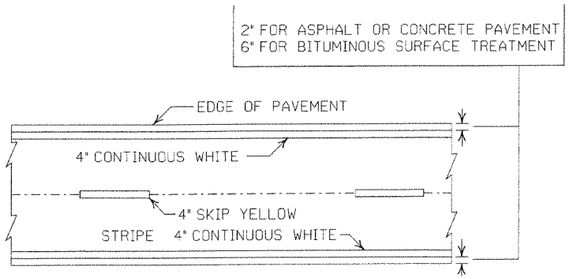


ASPHALT PAVEMENT

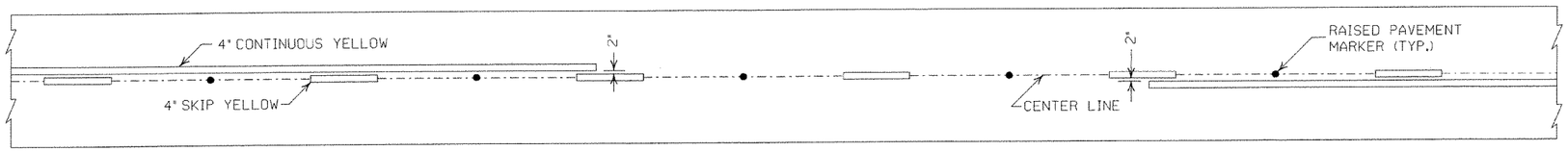
BROKEN LINE STRIPING



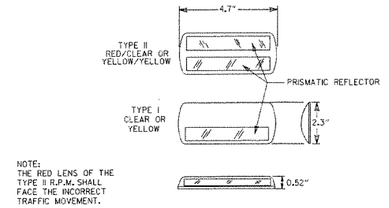
SOLID LINE STRIPING ON CONCRETE PAVEMENT



PAVEMENT EDGE LINE MARKING

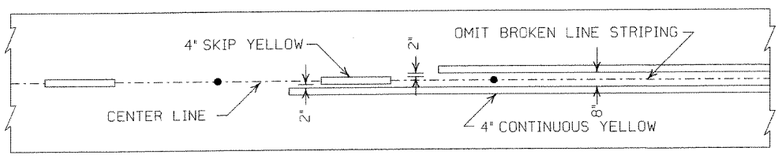


SOLID LINE STRIPING ON ASPHALT PAVEMENT

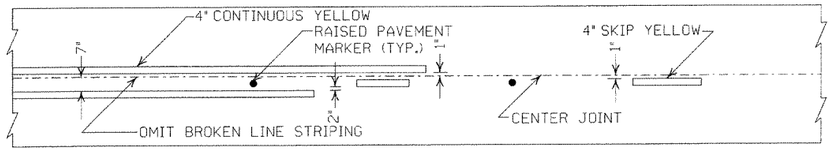


NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS



ASPHALT PAVEMENT



CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

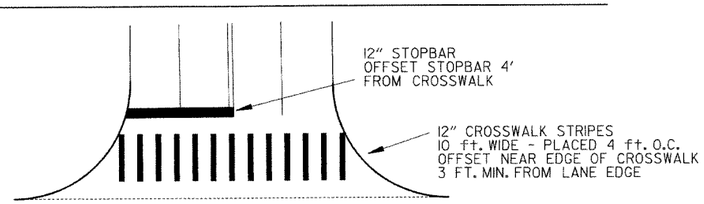
GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:

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



CROSSWALK AND STOPBAR DETAILS

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

ARKANSAS STATE HIGHWAY COMMISSION

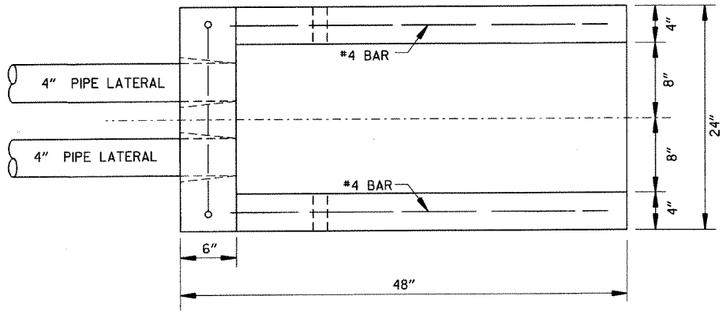
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

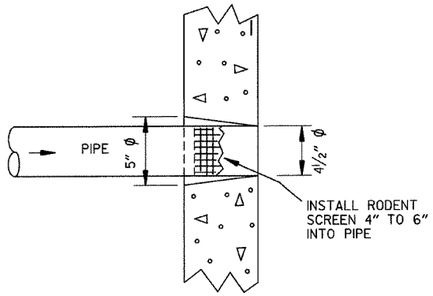
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

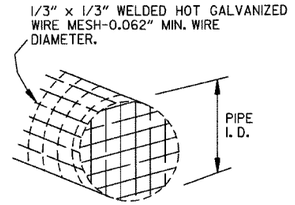
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



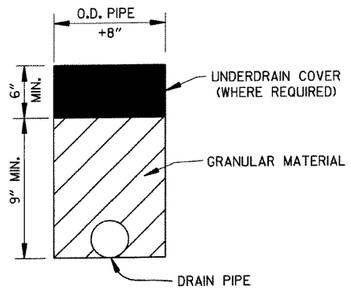
PLAN VIEW

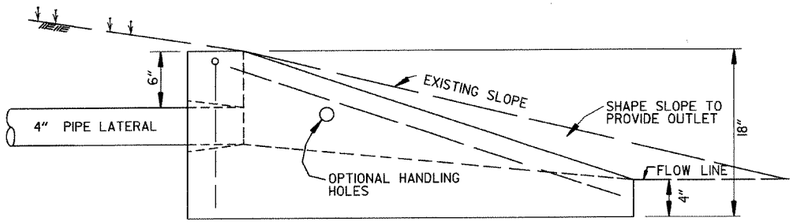


DETAIL OF HOLE FOR 4" PIPE

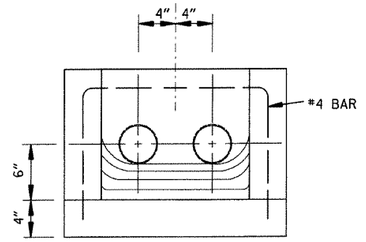


DETAIL OF RODENT SCREEN

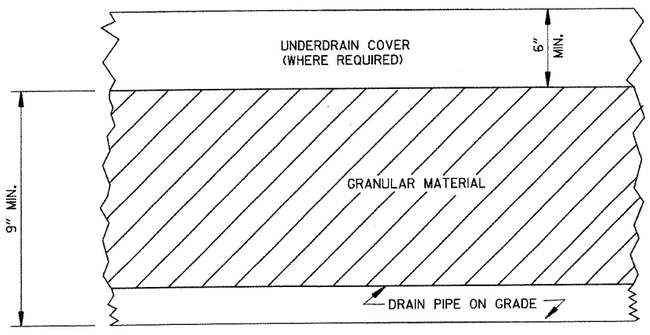




SIDE VIEW

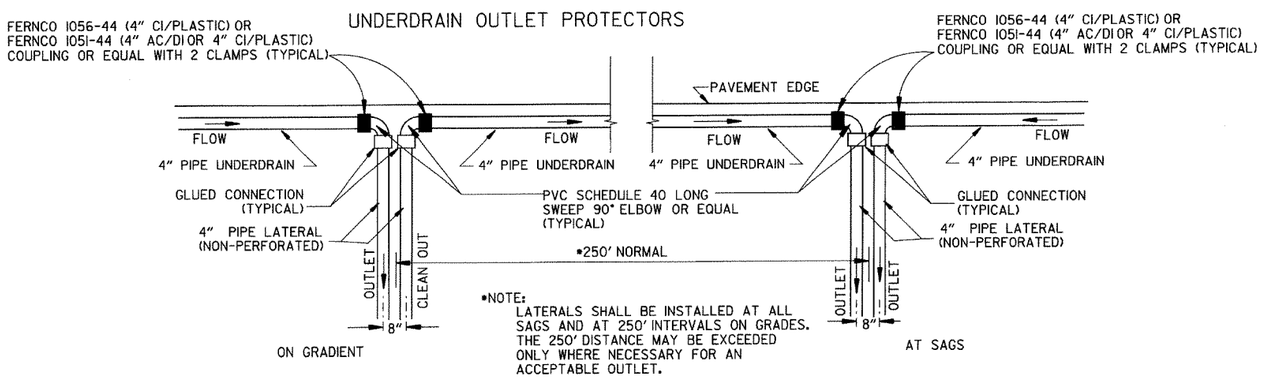


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



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; 5½" 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 POLYEDTHYLENE 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

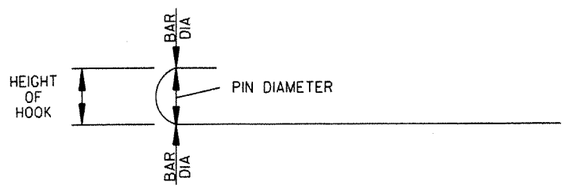
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

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

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

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



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

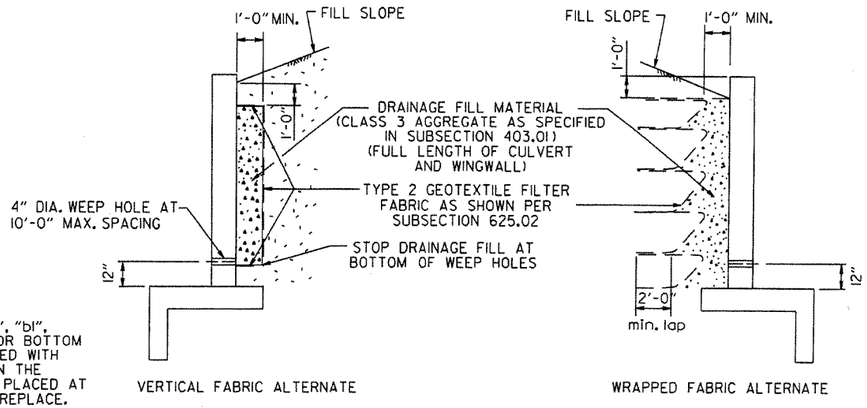
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

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

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

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

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

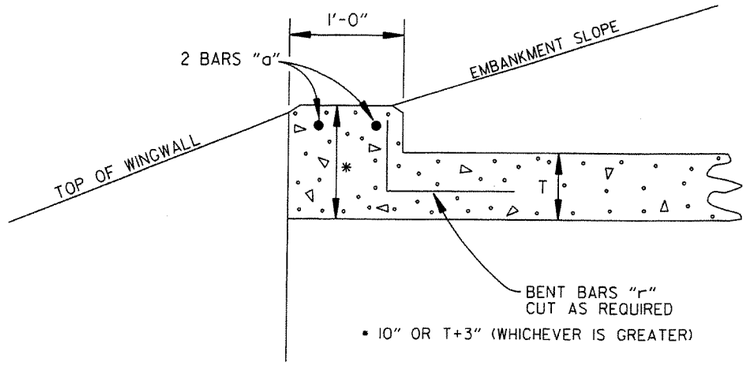
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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

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

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

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



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

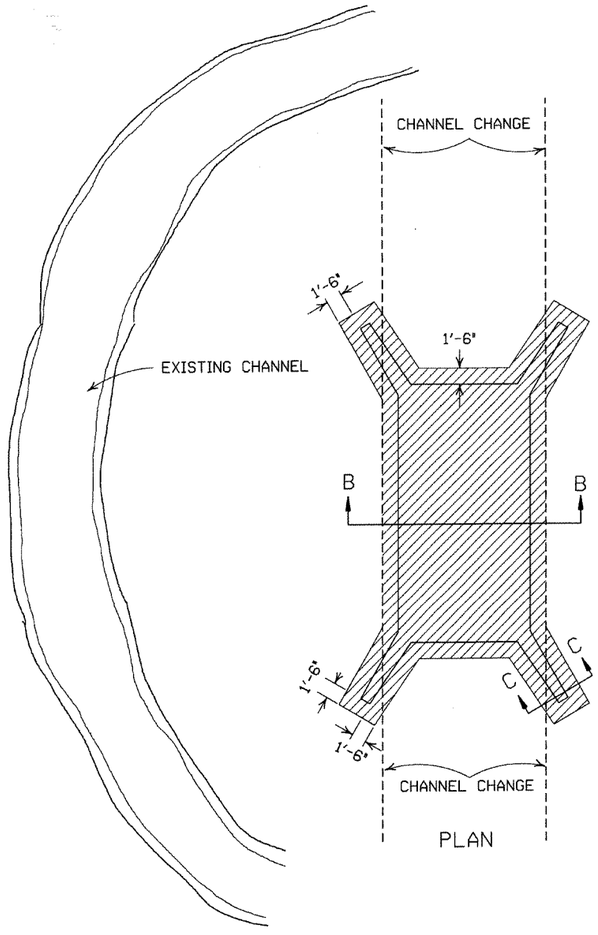
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

ARKANSAS STATE HIGHWAY COMMISSION

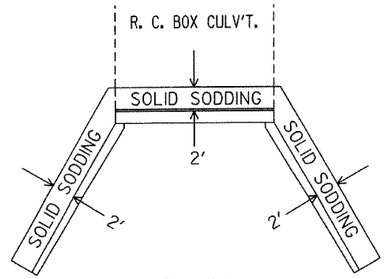
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

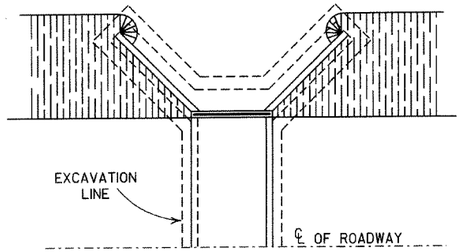
SOLID SODDING



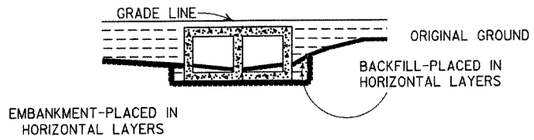
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

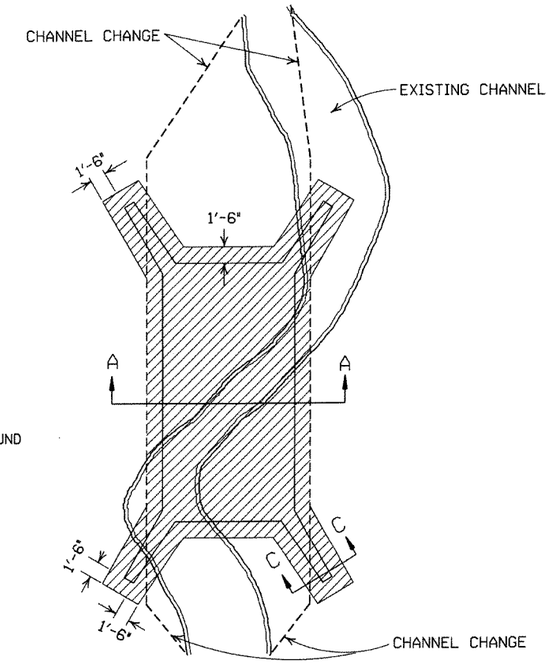


PLAN

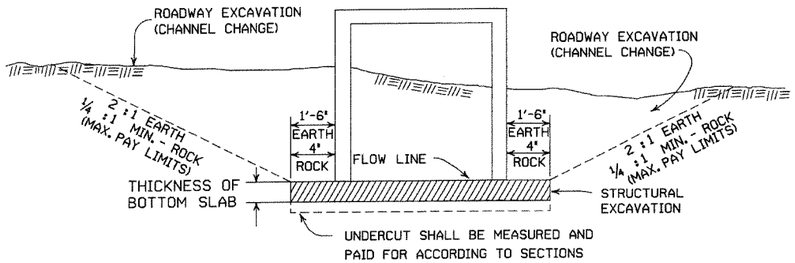


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

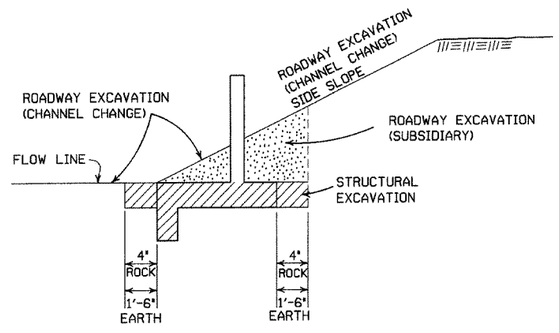


PLAN

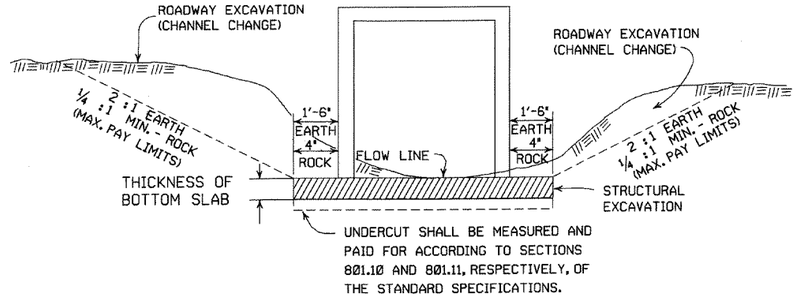


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

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

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

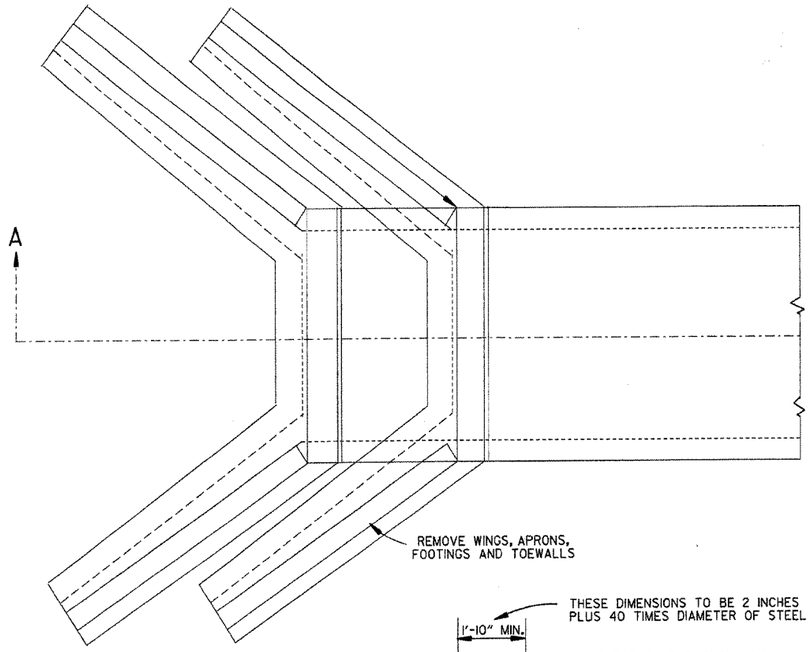
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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

ARKANSAS STATE HIGHWAY COMMISSION

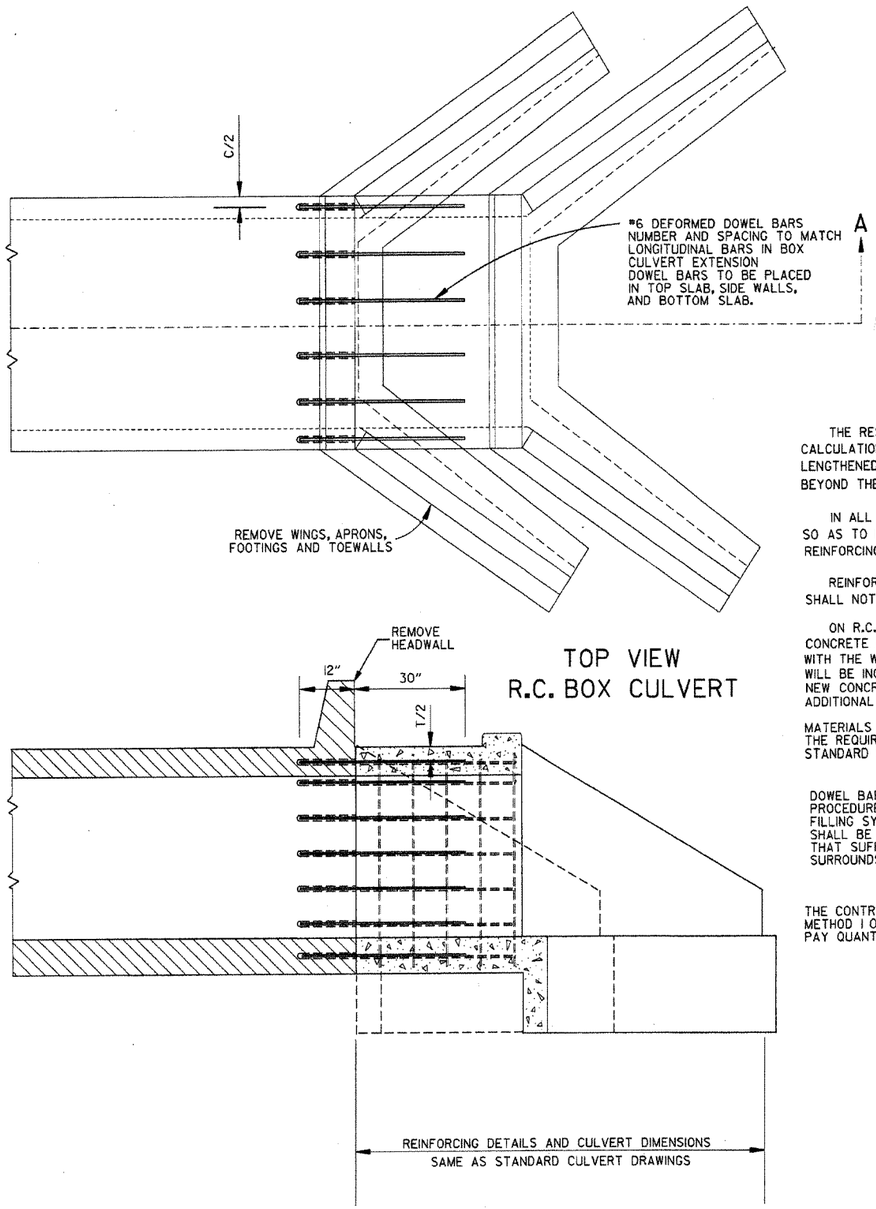
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2



TOP VIEW
R.C. BOX CULVERT

SECTION A-A
METHOD 1



TOP VIEW
R.C. BOX CULVERT

SECTION A-A
METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
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.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
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.	2
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.	1&2

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.

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

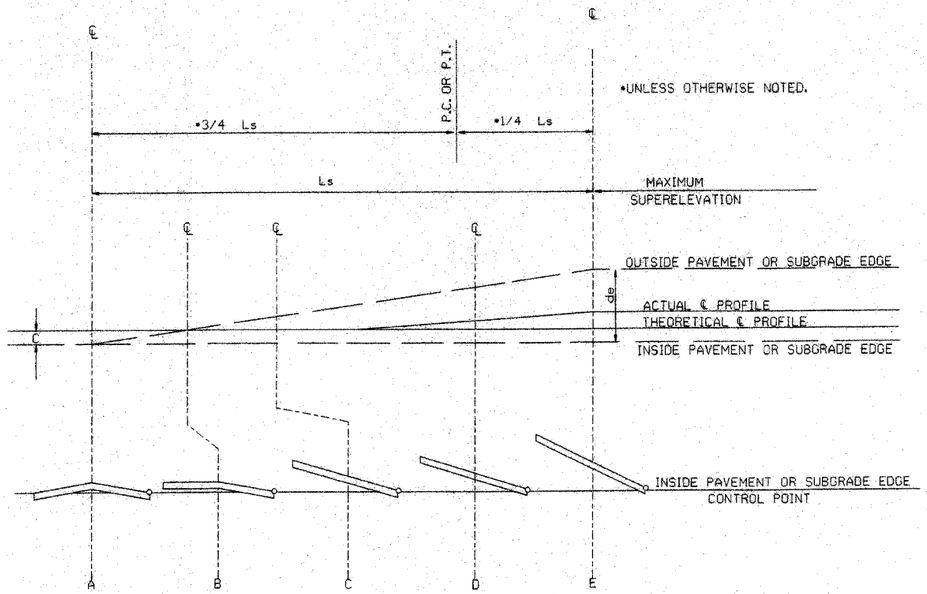
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) 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.			R.C.			0.022			0.023			0.028		
1° 00′	N.C.			R.C.			0.021			0.026			0.030			0.037		
1° 15′	N.C.			0.021			0.026			0.032			0.037			0.046		
1° 30′	N.C.			0.025	175		0.031	200		0.037	225		0.043	250		0.054	275	300
1° 45′	N.C.			0.028			0.036			0.043			0.049			0.062		
2° 00′	R.C.			0.031			0.040			0.048			0.055			0.070		
2° 15′	R.C.			0.034			0.045			0.053			0.061			0.078	300	
2° 30′	0.021			0.037			0.049			0.058			0.067			0.085	315	350
2° 45′	0.023			0.040			0.053			0.063			0.072			0.091	335	
3° 00′	0.025			0.043			0.057			0.067	230		0.077	260		0.096	350	
3° 15′	0.027	150		0.046			0.061			0.072	245		0.082	275		0.098	360	400
3° 30′	0.029			0.049			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031		200	0.051			0.069	215		0.080	265		0.090	295	350			
4° 00′	0.033			0.056			0.072	225		0.083	270		0.093	305				
4° 30′	0.037			0.061			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.066	185		0.083	250		0.091	295		0.098	320				
5° 30′	0.043			0.070	190		0.088	260		0.094	300	350						
6° 00′	0.046			0.074	200		0.092	270		0.096	305							
6° 30′	0.050			0.078	210		0.095	280	300	0.100	315							
7° 00′	0.053			0.081	215		0.098	285										
7° 30′	0.056			0.084	220		0.099	290										
8° 00′	0.058			0.087	225	250	0.100	290										
8° 30′	0.061			0.089	230													
9° 00′	0.063			0.094	235													
10° 00′	0.068	160		0.097	250													
11° 00′	0.072	170		0.099	250													
12° 00′	0.076	175		0.100	250													
13° 00′	0.080	180																
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	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

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



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

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

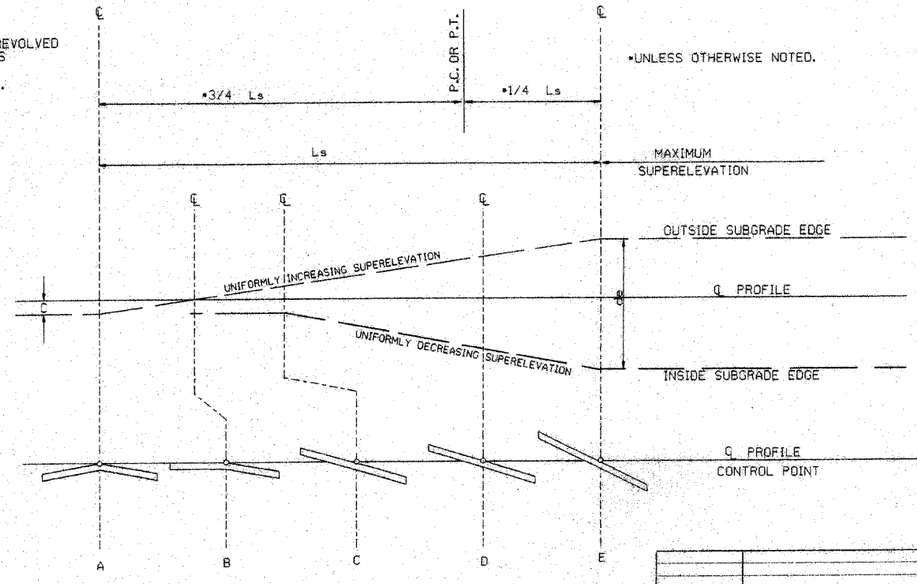
GENERAL NOTES

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

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

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

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

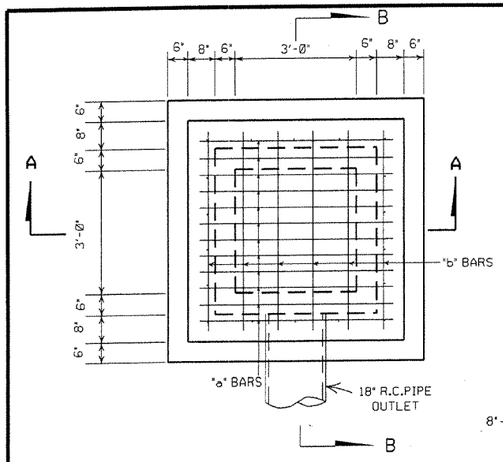
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

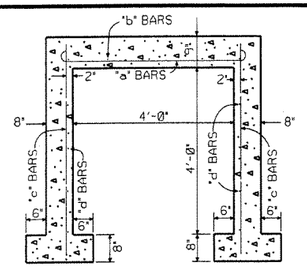
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

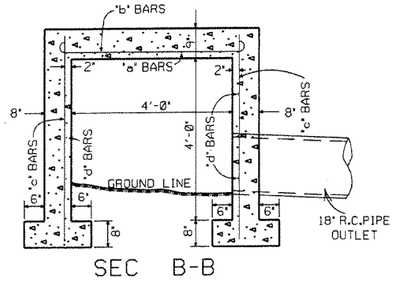
STANDARD DRAWING SE-2

FILE STDSE2.DGN





SEC A-A

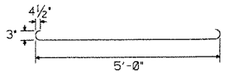


SEC B-B

STEEL SCHEDULE

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

ALL STEEL TO BE #4 BARS



"a" & "b" BARS

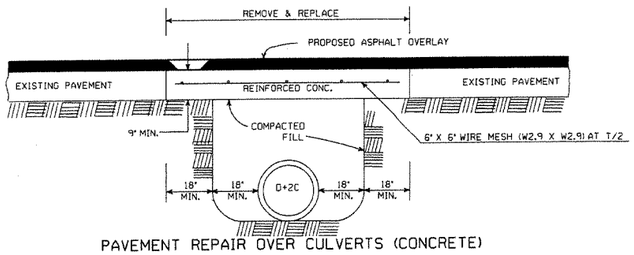
QUANTITIES

CONCRETE 3.40 CU. YDS.
REINFORCING STEEL 176 LB.

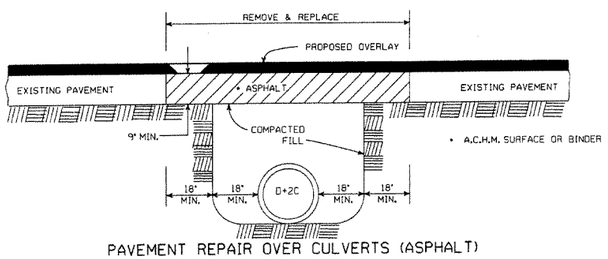
GENERAL NOTE:

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

REINFORCED CONCRETE SPRING BOX



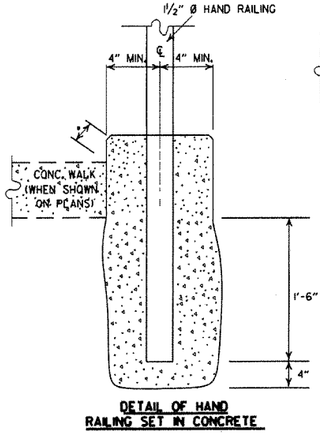
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



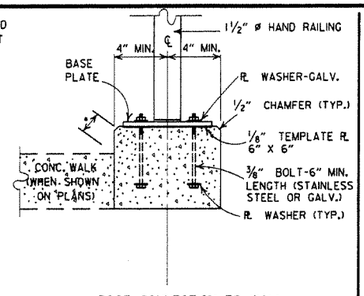
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

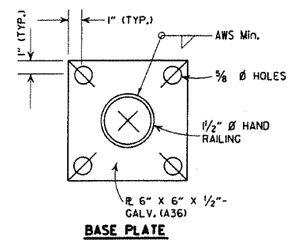
• A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

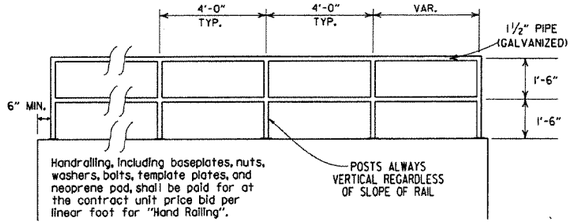


POST CONNECTION TO WALL

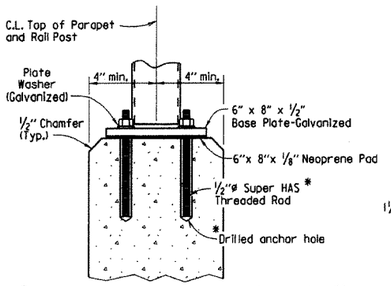


BASE PLATE

POST CONNECTION DETAILS



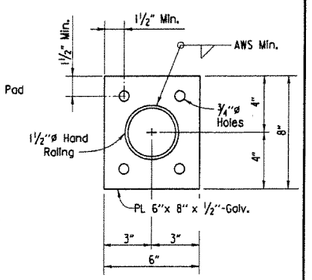
Hand railing shall conform to Section 633.



*HILTI HIT RE 500 Epoxy Adhesive Anchor System with 4½" embedment or approved equal.

The Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.

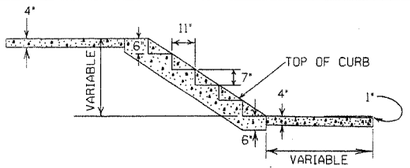
POST CONNECTION TO WALL

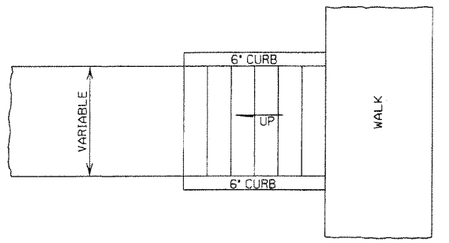


BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS





GENERAL NOTES

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

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
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	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

R1-1



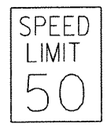
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



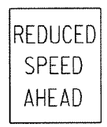
STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



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

R2-5A



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

R2-5C



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

R4-1



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

R4-2



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

R5-1



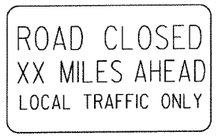
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



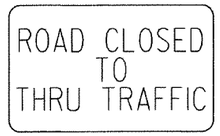
48"X30"

RII-3A



60"X30"

RII-4



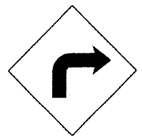
60"X30"

RSP-1



48"X30"

WI-1



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

WI-2



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

WI-3



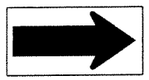
STD. 48"X48"

WI-4



STD. 48"X48"

WI-6



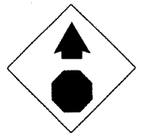
STD. 48"X24"
SPECIAL 60"X30"

WI-8



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

W3-1



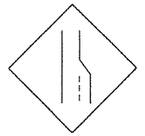
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



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

W9-2



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

WI3-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



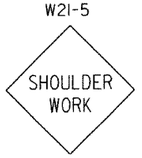
STD. 36"X36"
FWY. 48"X48"

W21-2



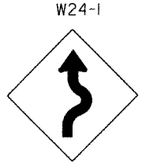
STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

WI-4b



STD. 48"X48"

R56-1



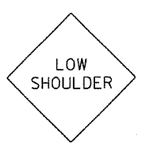
STD. 18"X18"

W8-11



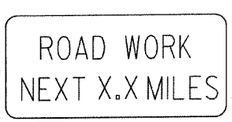
STD. 36"X36"
FWY. 48"X48"

W8-9



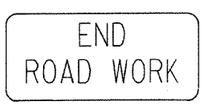
STD. 36"X36"
FWY. 48"X48"

G20-1



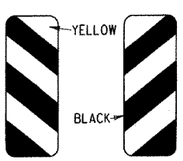
60"X24"

G20-2



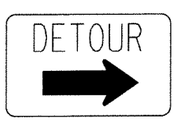
48"X24"

OM-3L OM-3R



12"X36"

M4-9



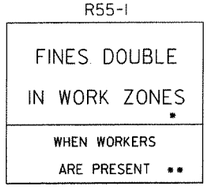
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10



48"X18"

R55-1



36"X60"

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

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

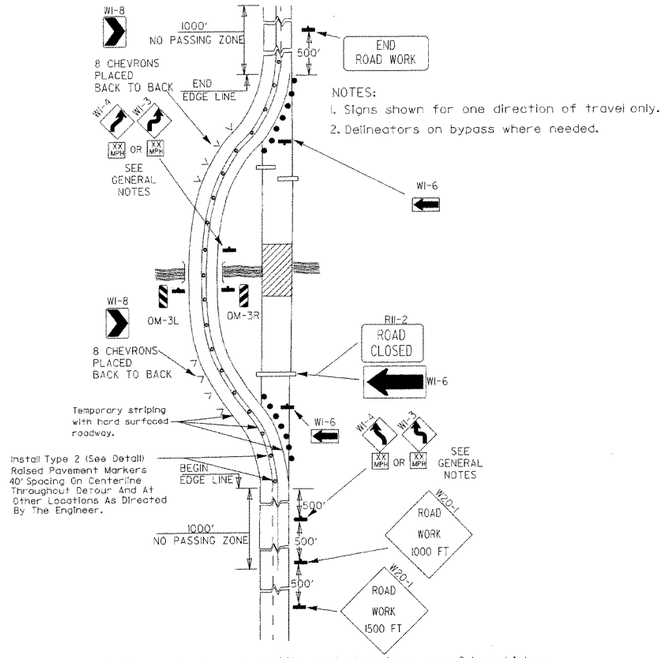
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

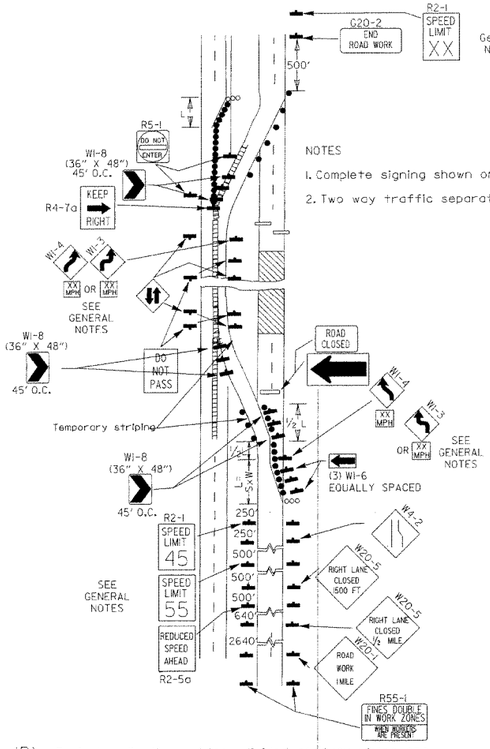
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

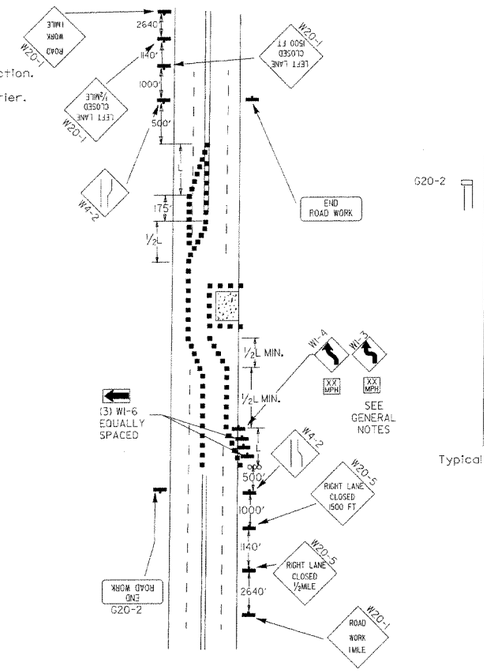
STANDARD DRAWING TC-1



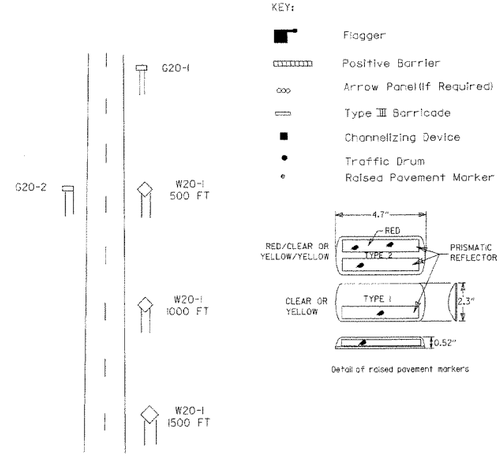
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



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



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



Typical advance warning sign placement

Taper formulae:

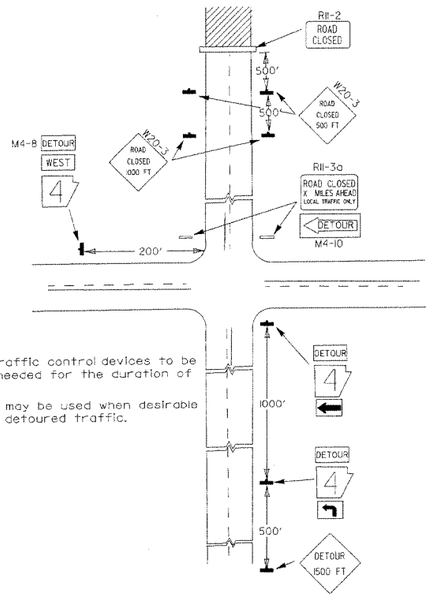
L=SxW for speeds of 45mph or more.

$L=\frac{WS^2}{60}$ for speeds of 40mph or less.

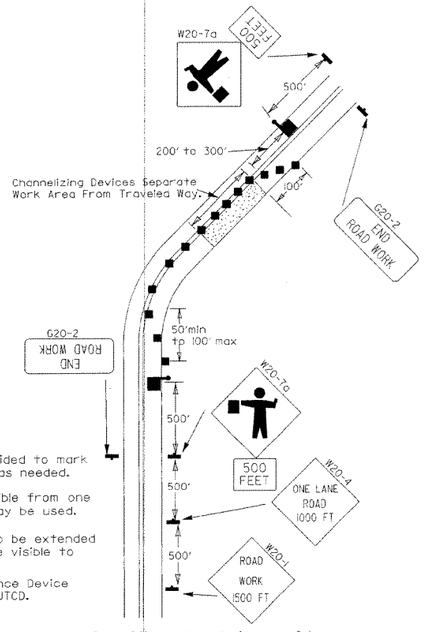
Where:
L= Minimum length of taper.
S= Numerical value of posted speed limit prior to work or 85th percentile speed.
W= Width of offset.

GENERAL NOTES:

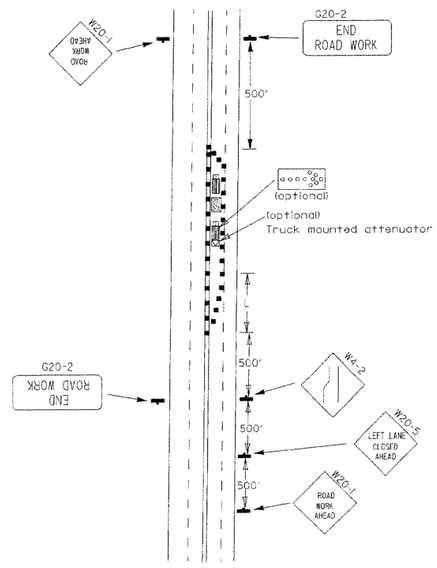
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



(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.



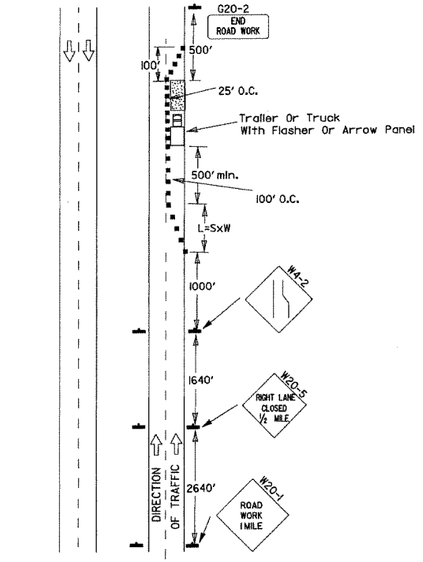
(F) Typical application - 4-lane undivided roadway with inside lane closed.

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

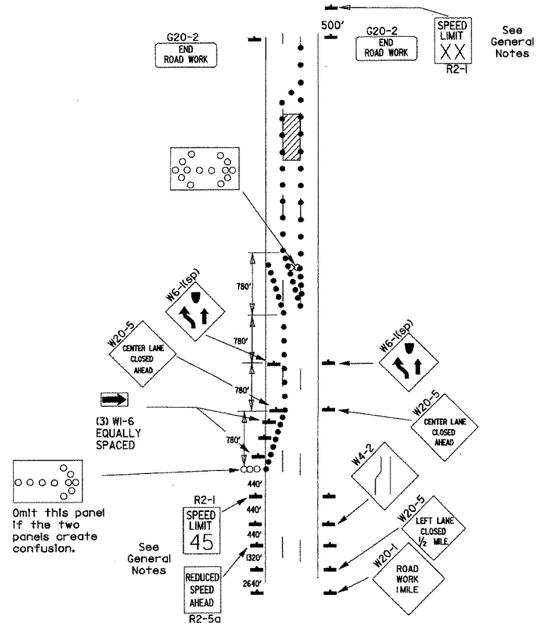
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



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



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

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

KEY:

○○○ Arrow Panel (If Required)

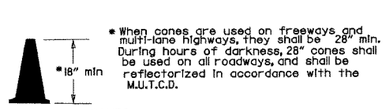
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph 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.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. 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.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

Channelizing devices



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

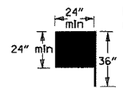
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

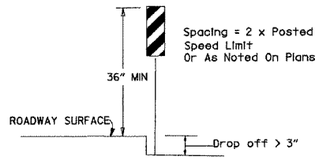
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

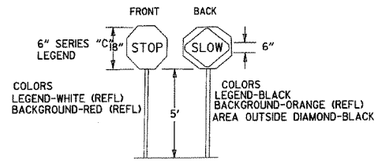


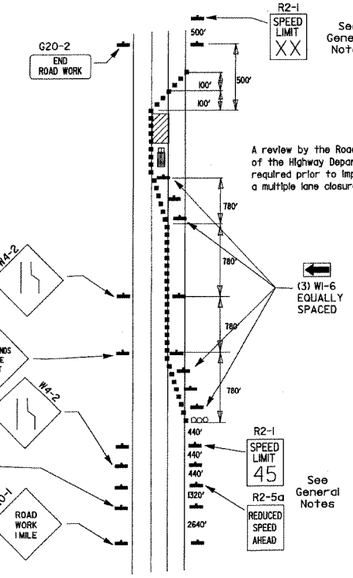
Flag shall be of good grade red material

VERTICAL PANEL PLACEMENT



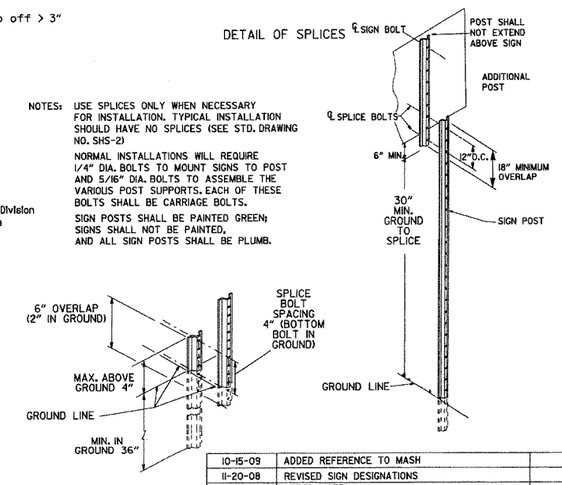
STOP SLOW PADDLE





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

DETAIL OF SPLICES



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

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

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

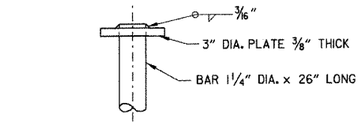
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

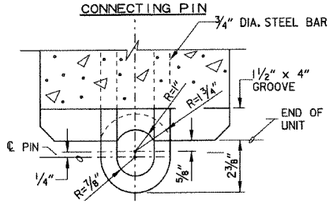
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9"; 2 3/16" R; 12°; 9 1/2"; 2'-1 3/8"; 4 3/8"

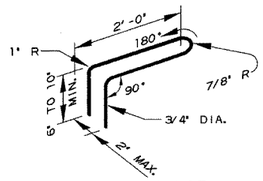


CONNECTING PIN

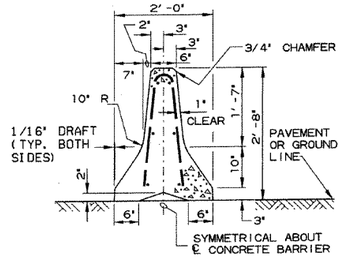


SECTION E-E

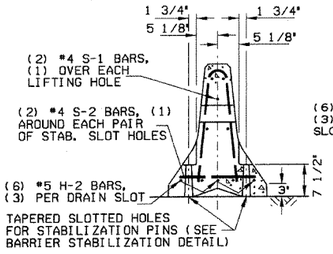
CONNECTION DETAILS



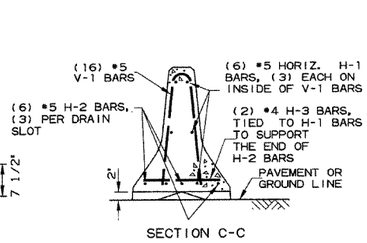
CONNECTION LOOP



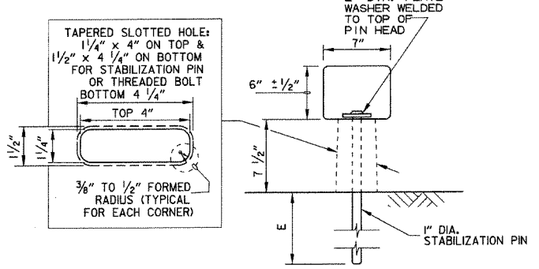
SECTION A-A



SECTION B-B



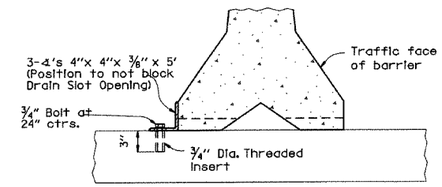
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

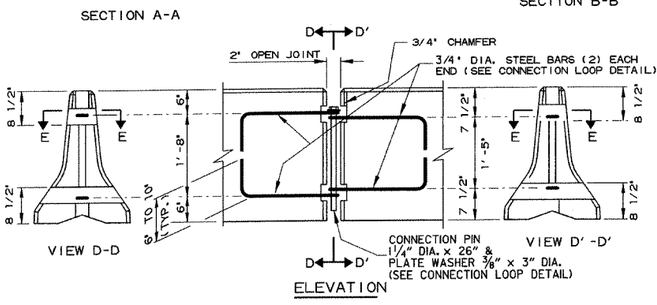
Ⓔ 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

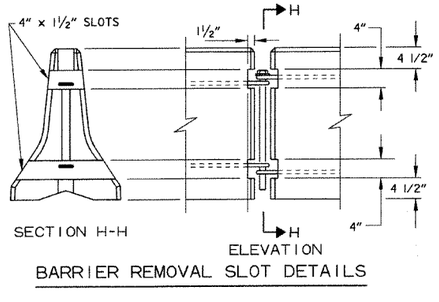
BRIDGE DECKS



VIEW D-D

VIEW D'-D'

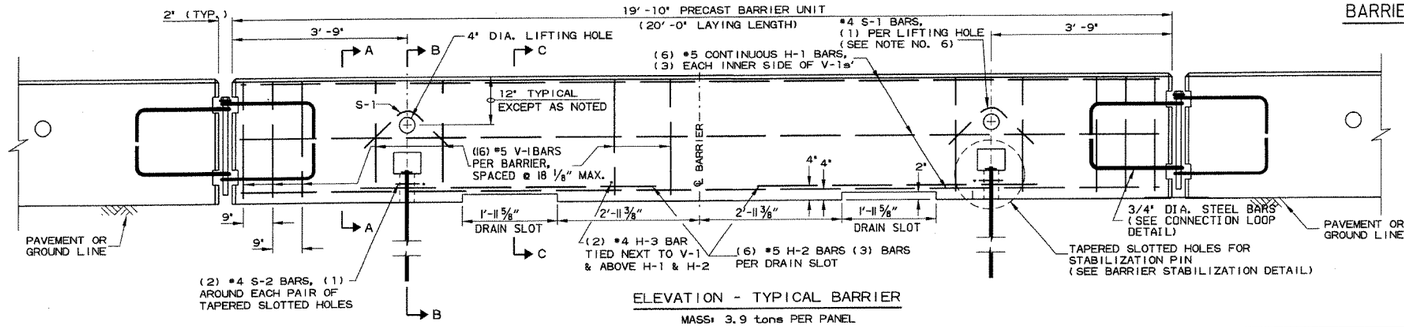
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

1. 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.

2. 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 wall is 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 on Uniform Traffic Control Devices.
   Payment for delineators shall be considered included in the price bid per Lin. 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.

3. 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.

4. 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.

5. Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

6. A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

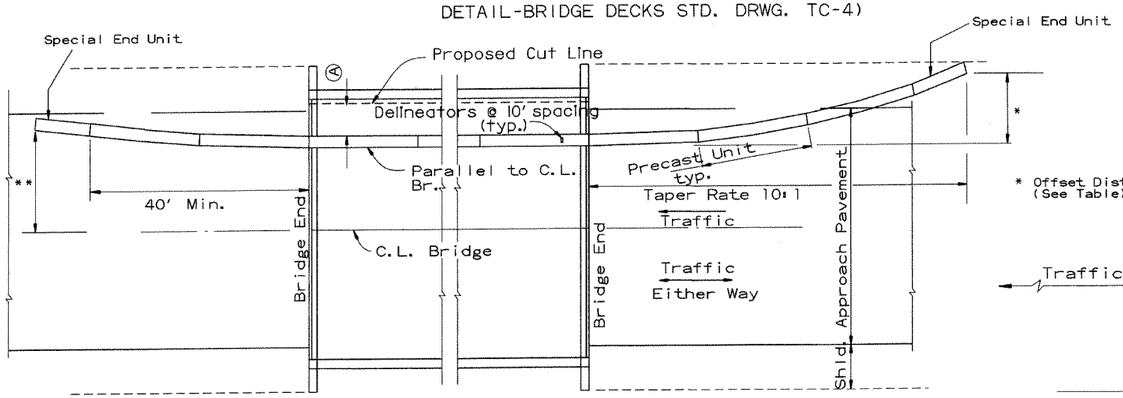
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

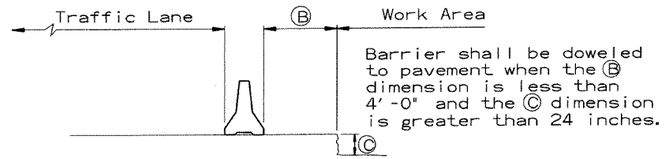
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



* Offset Distance (See Table)

BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

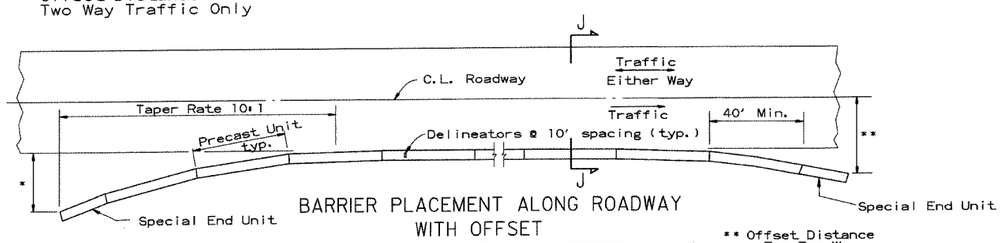


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

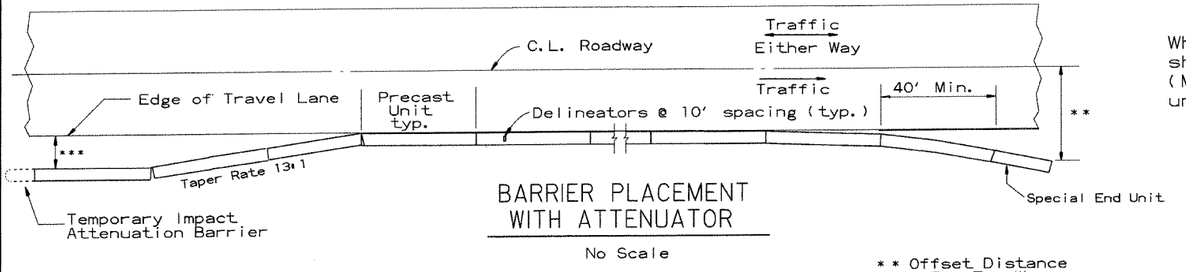
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

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

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

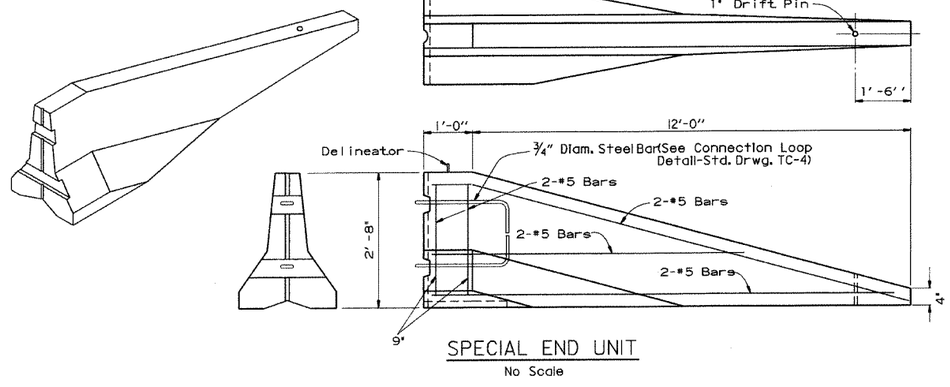


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

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



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."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

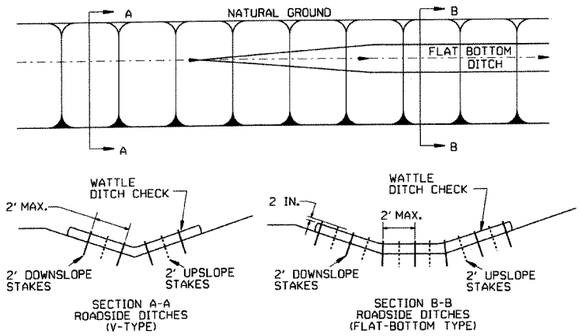
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

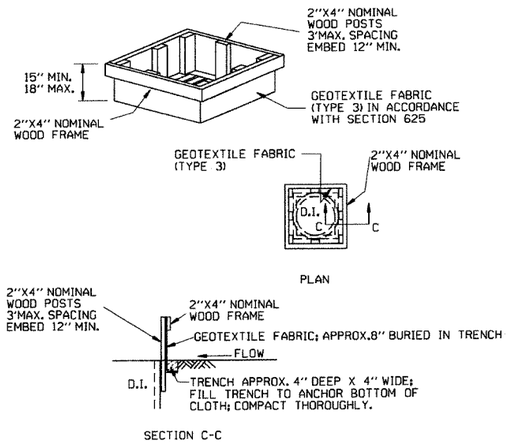
STANDARD DRAWING TC-5

GENERAL NOTES

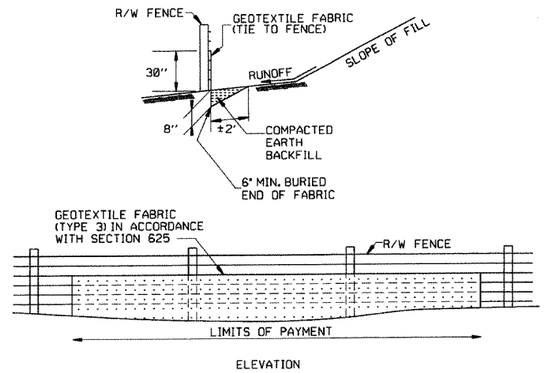
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

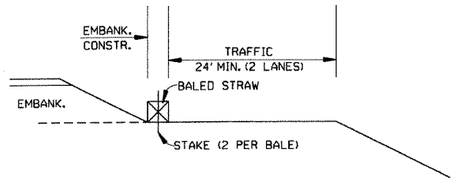
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

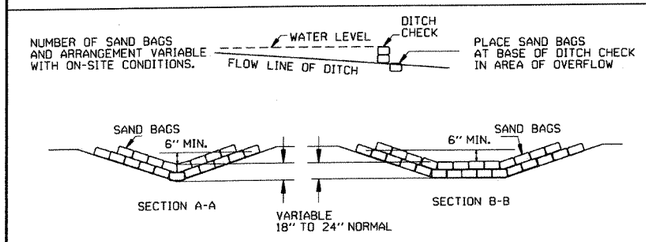
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

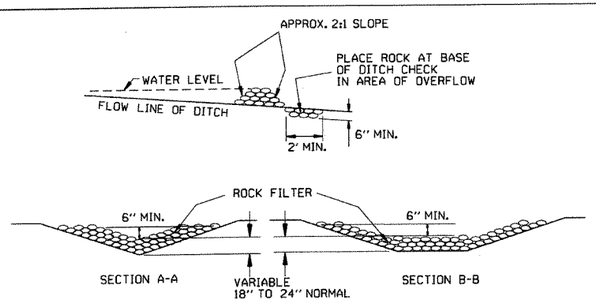
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



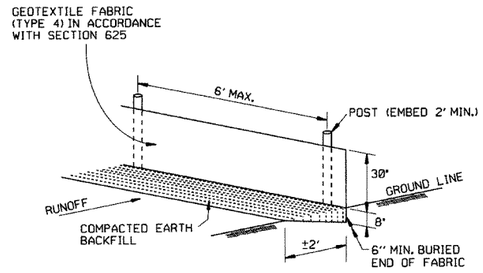
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

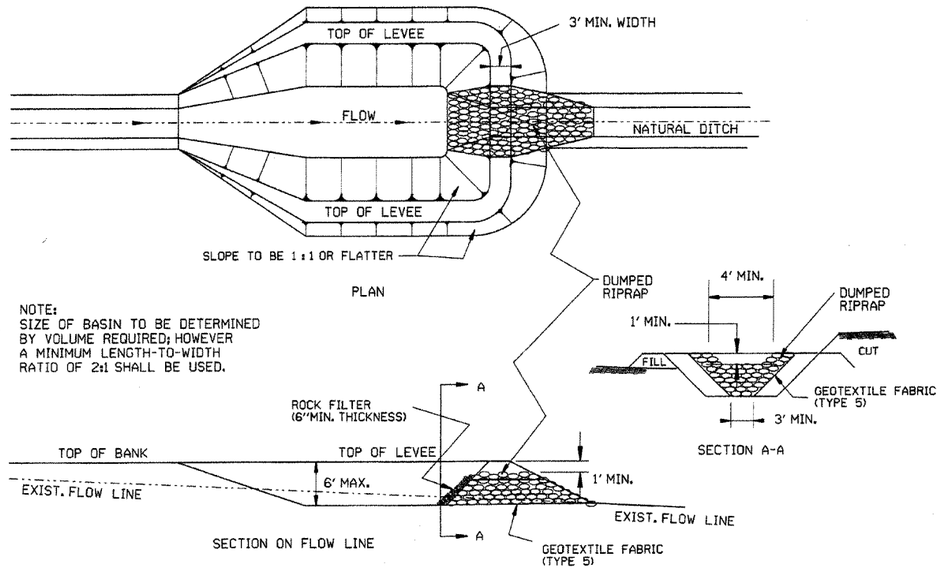
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
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

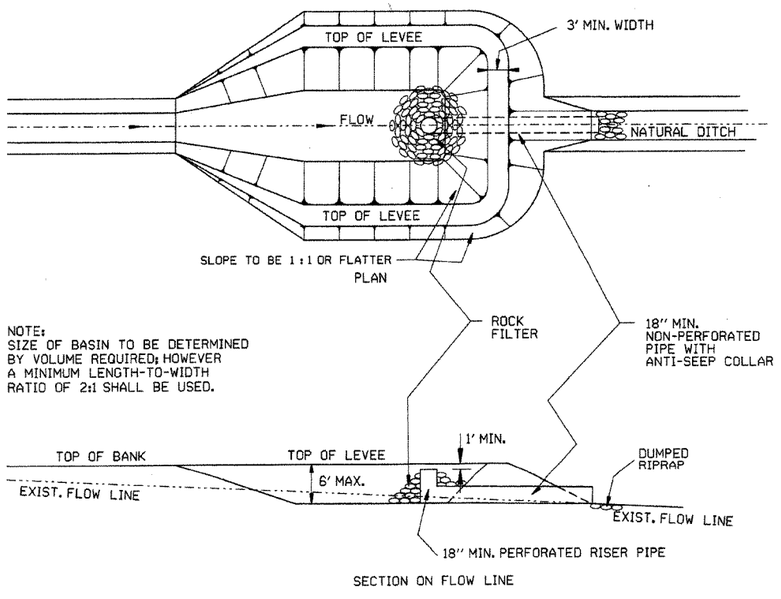
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

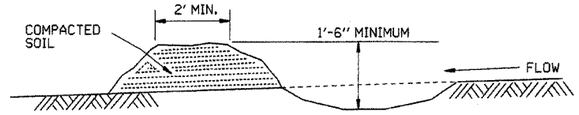
STANDARD DRAWING TEC-1



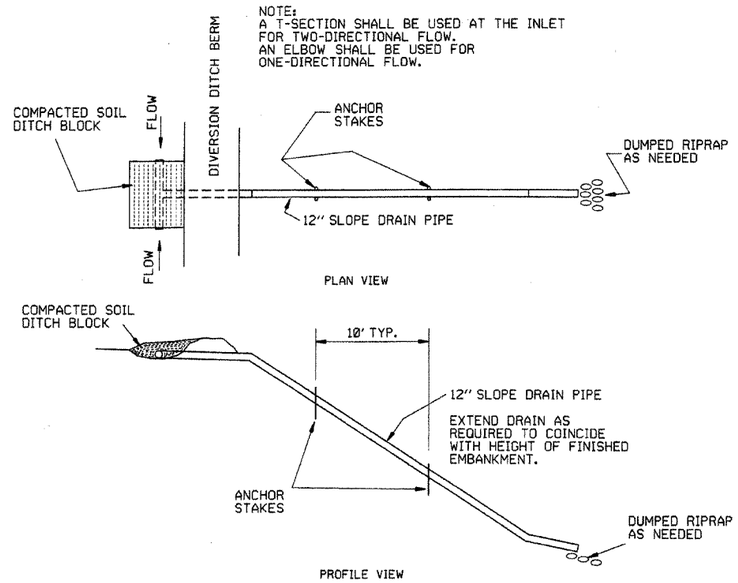
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



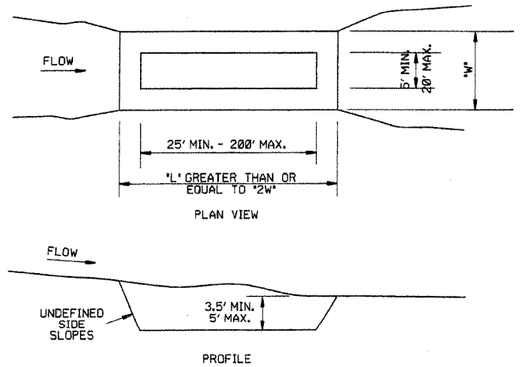
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

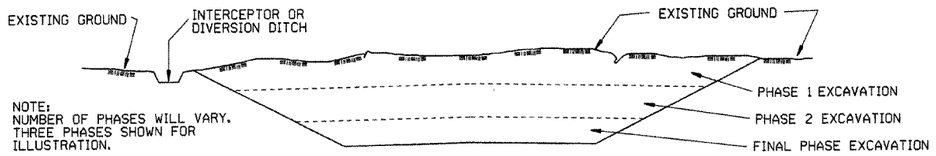
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



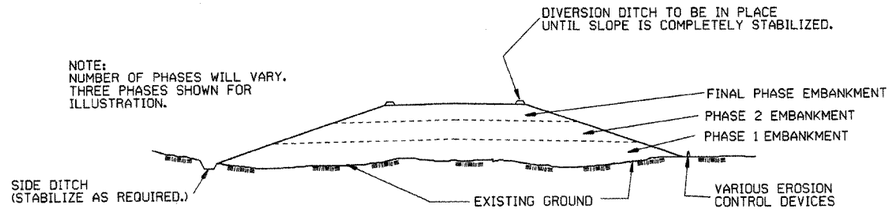
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

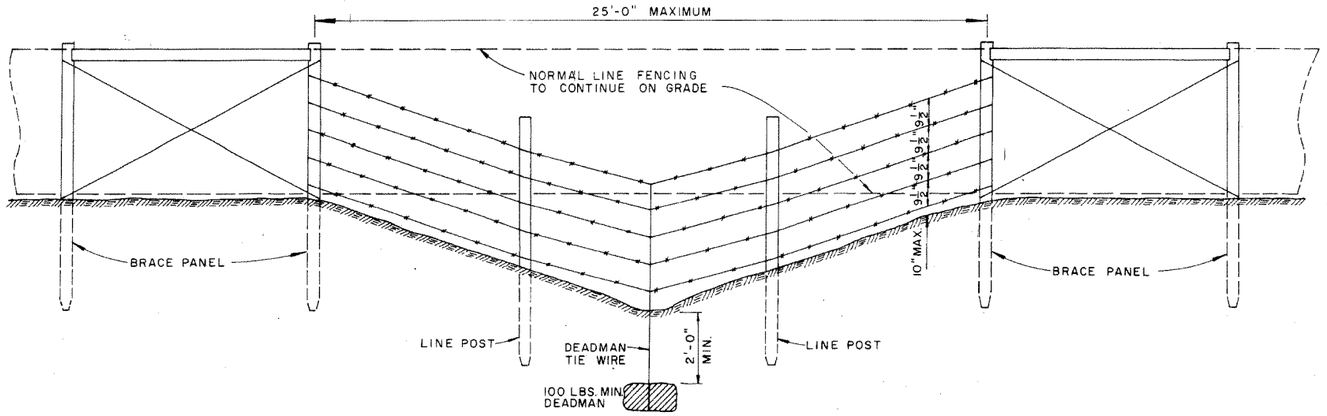
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

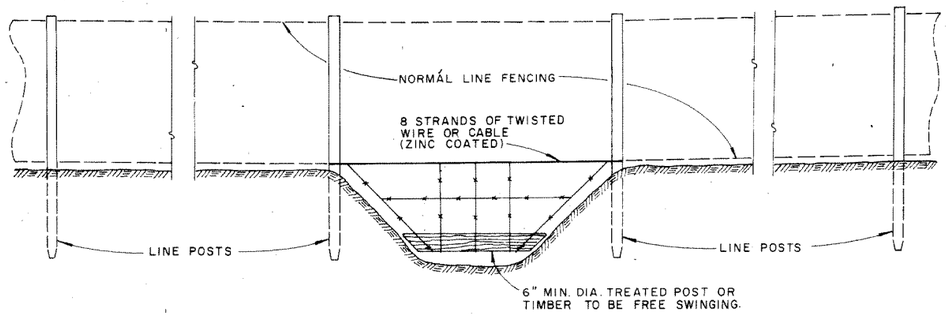
ARKANSAS STATE HIGHWAY COMMISSION

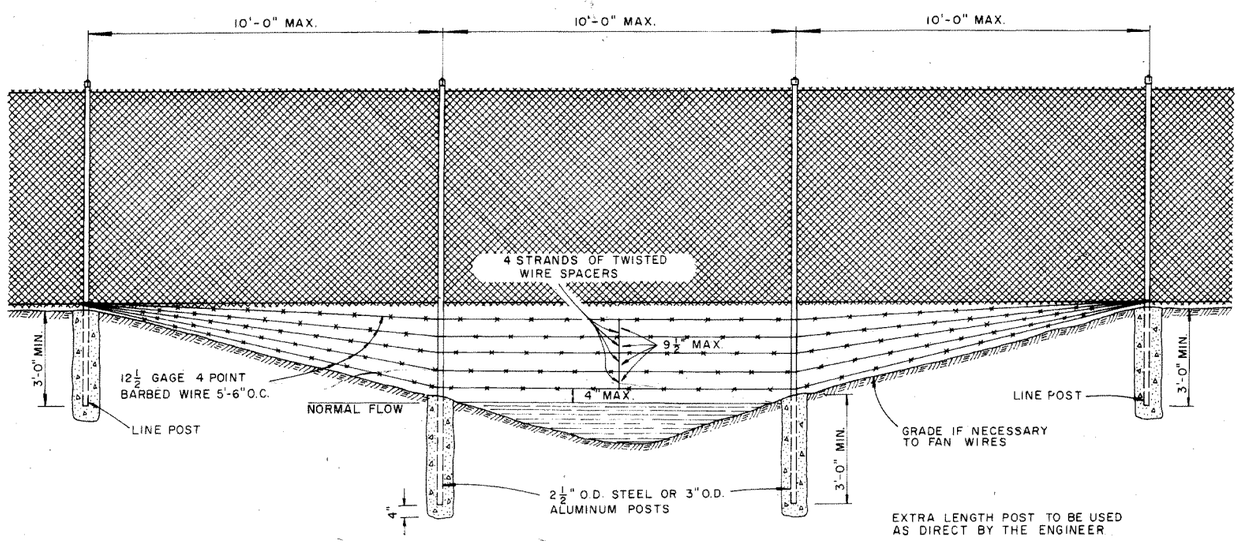
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

stdtec3.dgn







GENERAL NOTES:

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

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

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

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

DATE	REVISION	DATE FILM'D.
4-20-79	REVISED TOP RAIL & TENSION WIRE	696 4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72

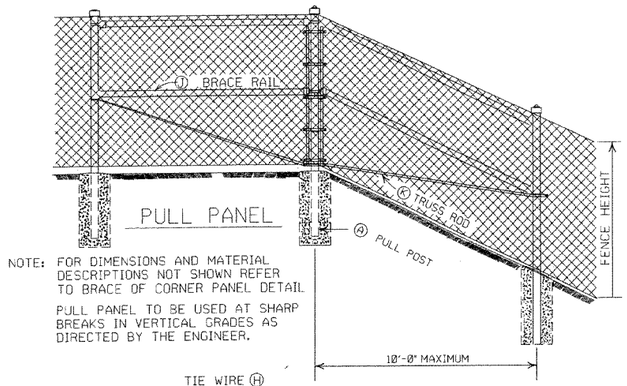
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING

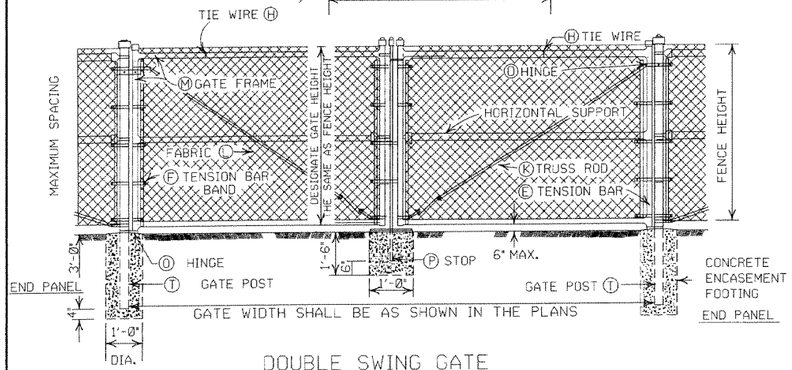
WF-2

1M--11-71--67001--PP&SCo



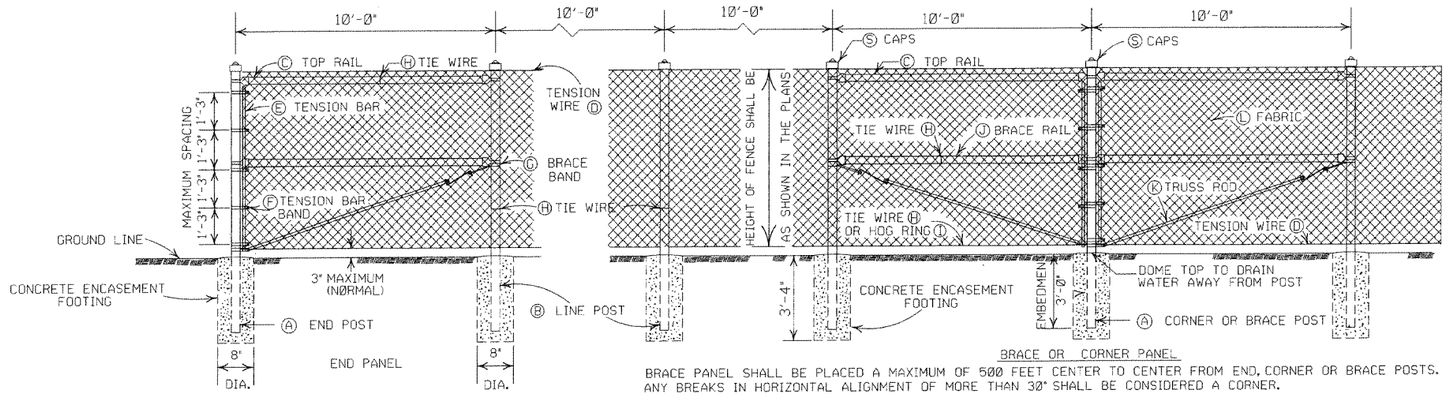
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL.

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



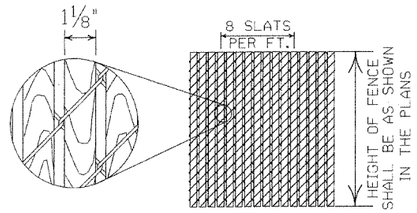
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

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 HALFWAY 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.

(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.

HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF 3/16" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3 " O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE TYPE 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅝" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3' O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" 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 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" 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.

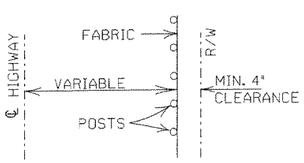
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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.

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	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
2½	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
3½	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	6.56

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

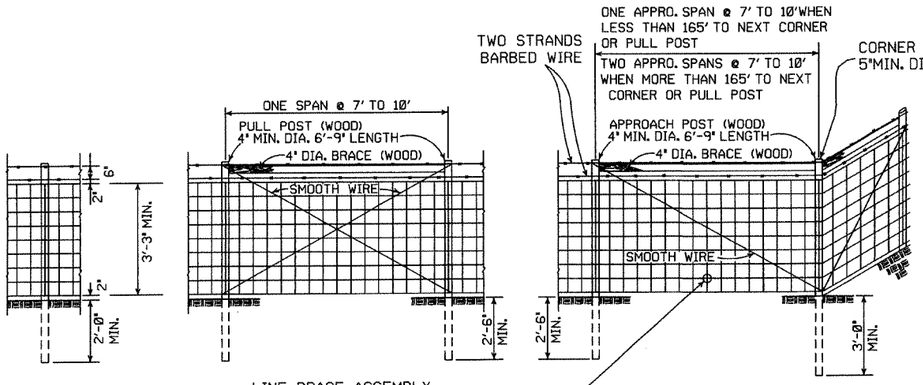
TYPICAL INSTALLATION DIAGRAM

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	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 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

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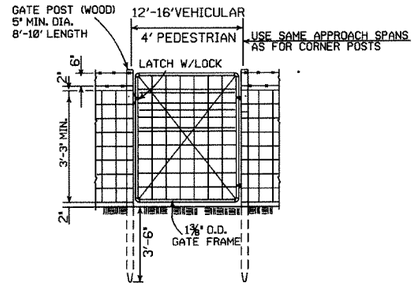
CHAIN LINK FENCE

STANDARD DRAWING WF-3



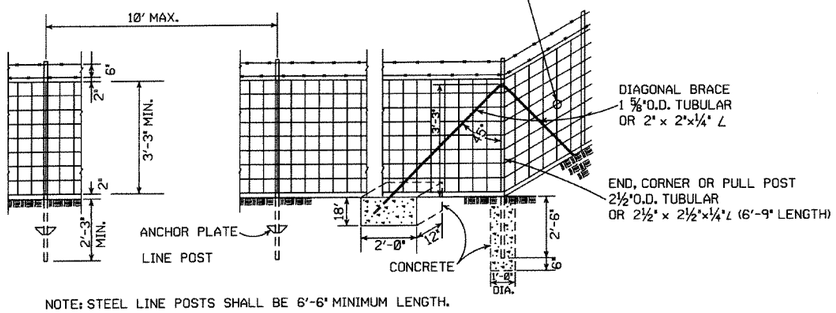
LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"

LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'

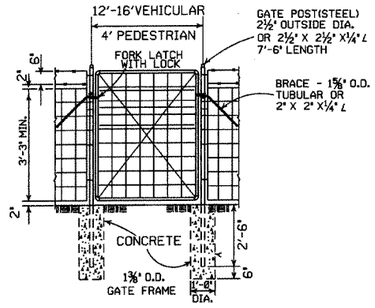


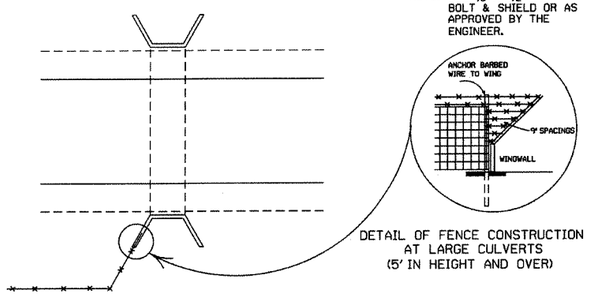
TYPE C FENCE (WOOD POSTS)

OTHER APPROVED TIES WILL BE PERMITTED



NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

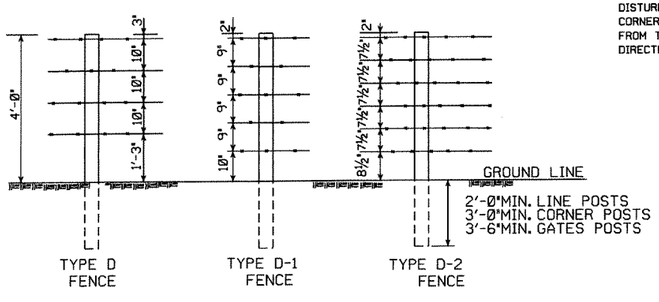




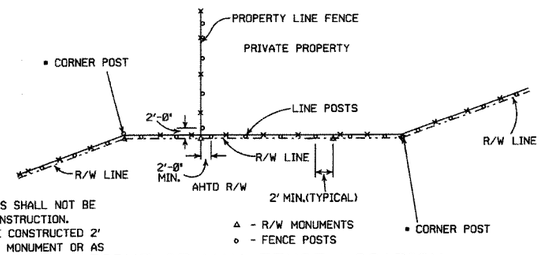
DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

TYPE C FENCE (STEEL POSTS)

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

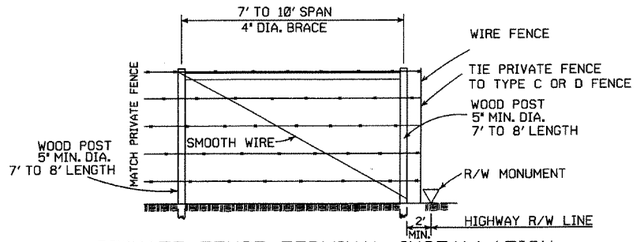


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



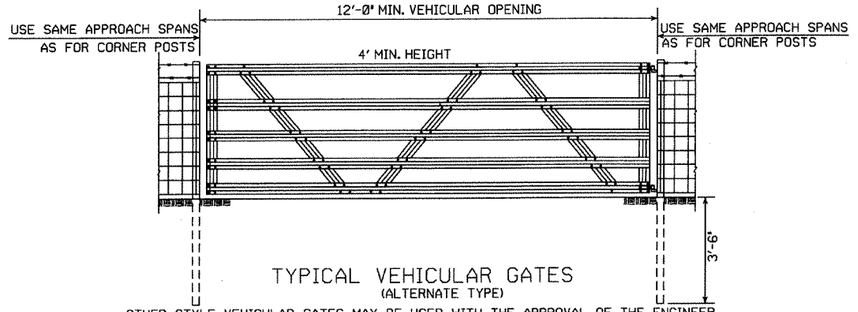
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

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



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

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

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.

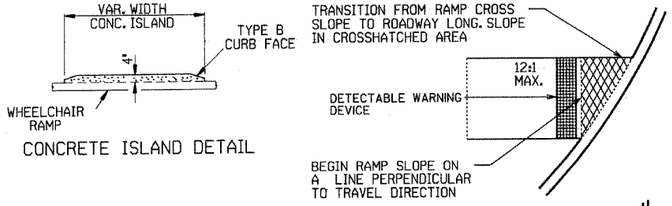
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

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

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WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4

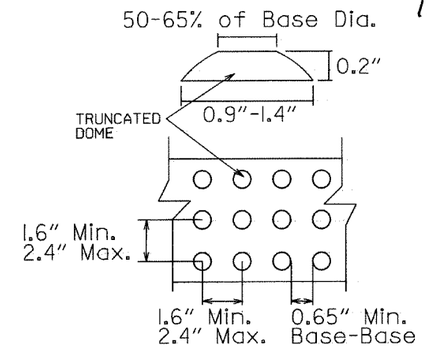


TYPE 1 RAMP DIMENSIONS AND QUANTITIES

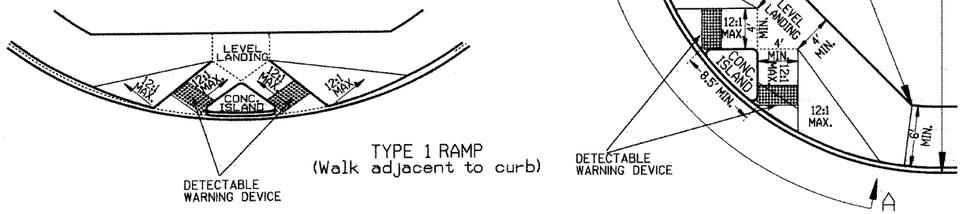
RADIUS 'R' FEET	DISTANCE 'X' FEET	DISTANCE 'Y' FEET	LENGTH 'L' FEET	RAMP AREA 'A' SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

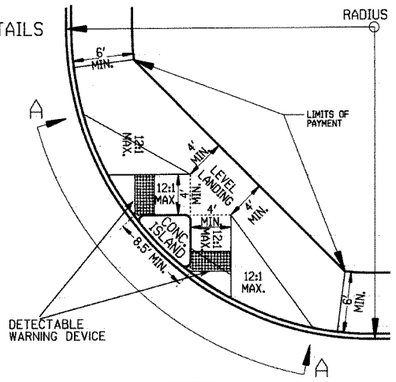
GENERAL NOTES FOR DETECTABLE WARNING DEVICES

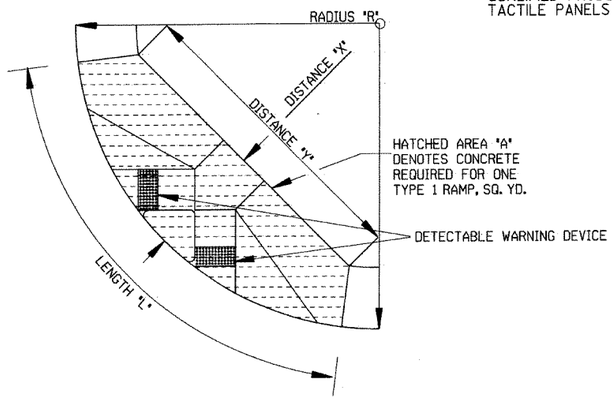
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL







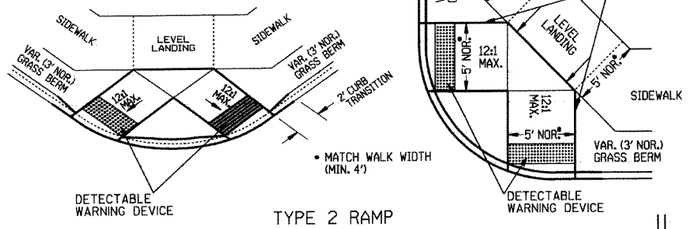


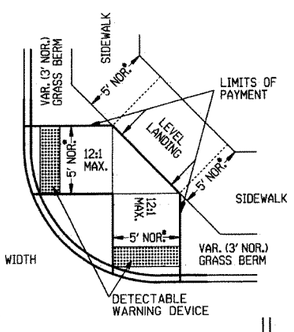
SECTION A-A

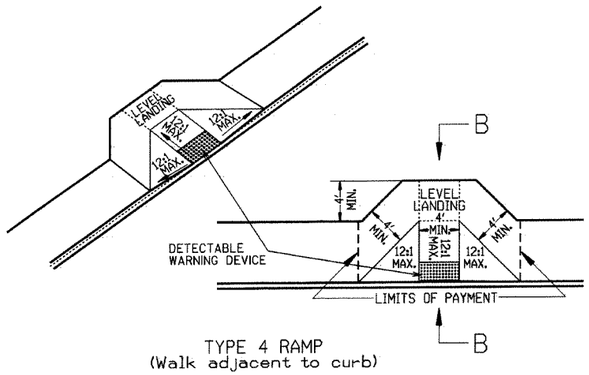
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

GENERAL NOTES:

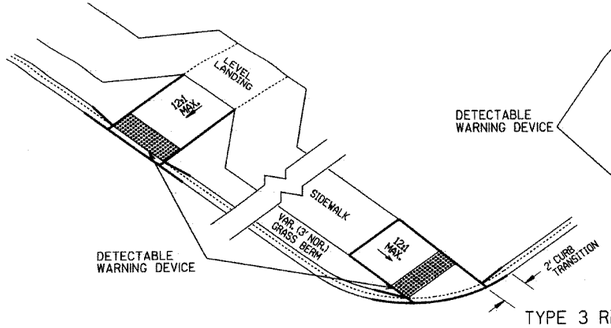
IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

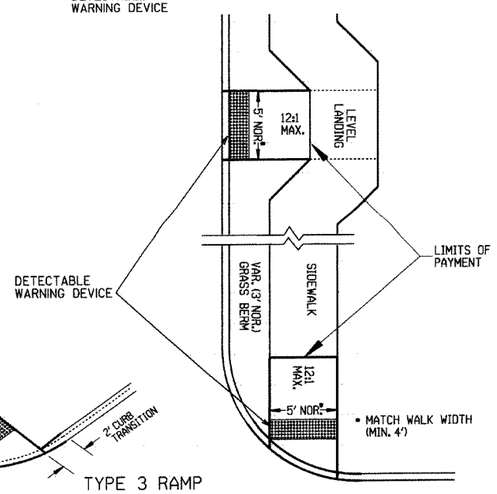


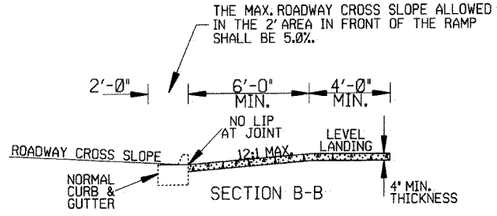




TYPE 4 RAMP
(Walk adjacent to curb)







SECTION B-B

RAMP SELECTION CRITERIA

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

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.
AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

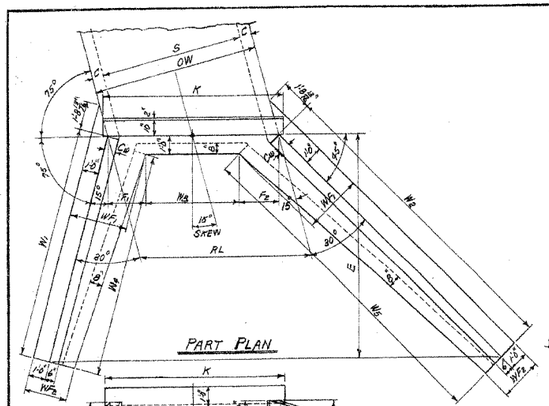
DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.	
8-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8:1TO12:1MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

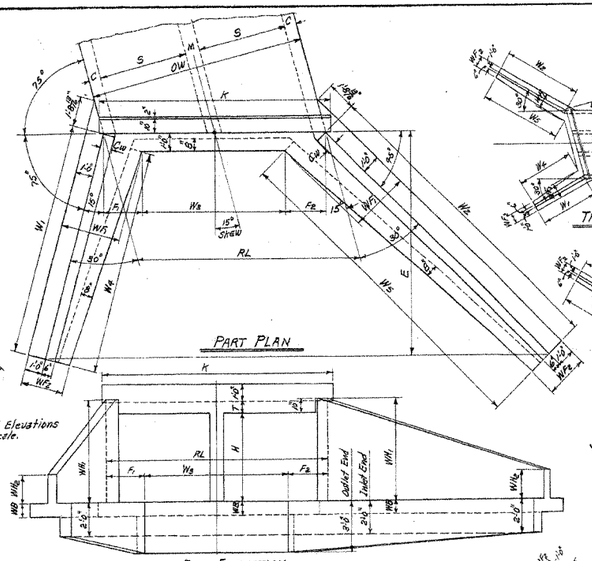
STANDARD DRAWING WR-1

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			138	
JOB No.					



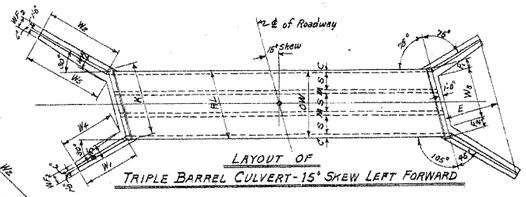
SINGLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

Details of Culvert with 15° Skew Left Forward is reversed, see Layout below.

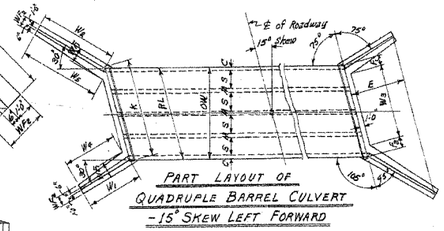


DOUBLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

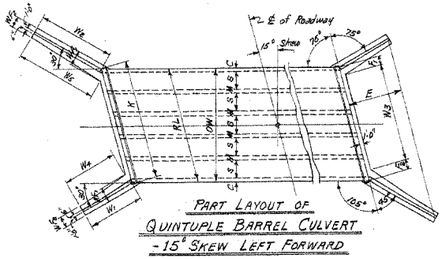
Details of Culvert with 15° Skew Left Forward is reversed, see Layout below.



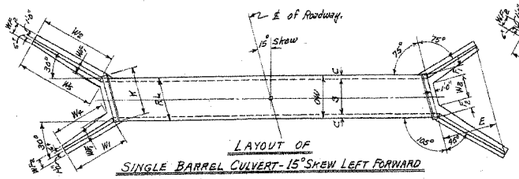
LAYOUT OF TRIPLE BARREL CULVERT - 15° SKEW LEFT FORWARD



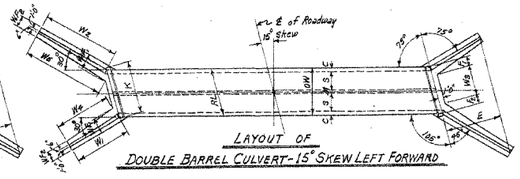
PART LAYOUT OF QUADRUPLE BARREL CULVERT - 15° SKEW LEFT FORWARD



PART LAYOUT OF QUINTUPLE BARREL CULVERT - 15° SKEW LEFT FORWARD

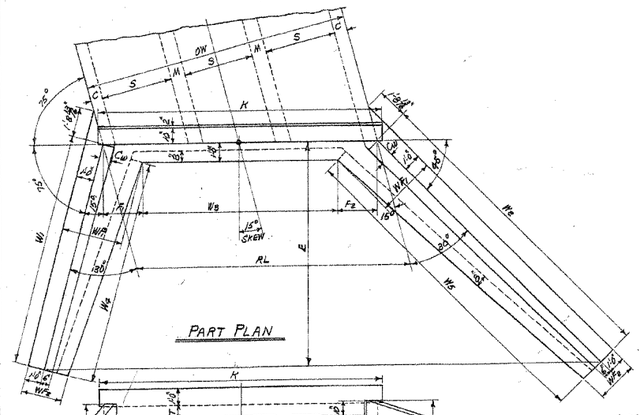


LAYOUT OF SINGLE BARREL CULVERT - 15° SKEW LEFT FORWARD



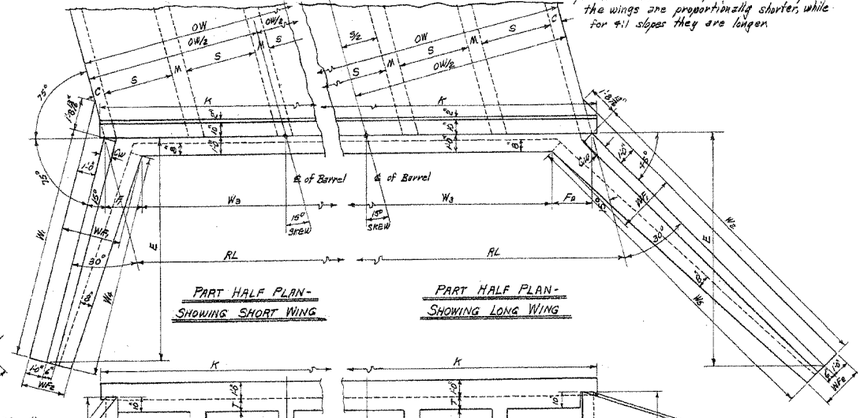
LAYOUT OF DOUBLE BARREL CULVERT - 15° SKEW LEFT FORWARD

NOTE:- The length of the wings for the Plans, Elevations, and Layouts, as drawn, are proportioned for 3:1 slopes. For 2:1 slopes the wings are proportionally shorter, while for 4:1 slopes they are longer.



TRIPLE BARREL CULVERT - 15° SKEW RIGHT FORWARD

Details of Culvert with 15° Skew Left Forward is reversed, see Layout at top center of sheet.



QUADRUPLE BARREL CULVERT - 15° SKEW RT. FWD.

Details of Culvert with 15° Skew Left Forward is reversed, see Layout at above center.

QUINTUPLE BARREL CULVERT - 15° SKEW RT. FWD.

Details of Culvert with 15° Skew Left Forward is reversed, see Layout above.

ROADWAY LENGTH RL — HEADWALL LENGTH K — APRON DIMENSION W_3

$RL = OW \times 1.035276$ — $K = RL + (6\frac{1}{2}'')$ — $W_3 = RL - (F_1 + F_2)$

USE WITH DRAWING No.	CLEAR SPAN	SUM OF FOOTING DIMENSIONS	SINGLE BARREL CULVERT				DOUBLE BARREL CULVERT				TRIPLE BARREL CULVERT				QUADRUPLE BARREL CULVERT				QUINTUPLE BARREL CULVERT			
	S	H	$F_1 \& F_2$	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3	OW	RL	K	W_3
W-X152-1, W-X153-1 or W-X154-1. (FOR H=8'0" OR LESS)	4'	2'	2'-0"	5'-0"	5'-2⅜"	5'-8⅜"	3'-2⅜"	9'-8"	10'-0"	10'-6⅜"	8'-0"	14'-4"	14'-10⅝"	15'-4⅝"	12'-10"	19'-0"	19'-8"	20'-2⅝"	17'-8"	23'-8"	24'-6"	25'-0⅝"	22'-6"
		3'	2'-9⅜"	5'-0"	"	"	2'-9⅜"	9'-8"	"	"	7'-2⅜"	14'-4"	"	"	10'-6⅜"	19'-0"	"	"	16'-0⅛"	23'-8"	"	"	21'-8"
		4'	3'-7⅛"	5'-0"	"	"	2'-7"	9'-8"	"	"	6'-7⅛"	14'-4"	"	"	9'-11⅝"	19'-0"	"	"	15'-2⅜"	23'-8"	"	"	20'-10⅝"
		5'	4'-5⅝"	5'-0"	"	"	1'-9⅝"	9'-8"	"	"	6'-0⅝"	14'-4"	"	"	9'-1⅜"	19'-0"	"	"	14'-5⅝"	23'-8"	"	"	20'-0⅛"
		6'	5'-3⅞"	5'-2"	5'-7⅝"	5'-10⅝"	0'-7"	9'-11"	10'-3⅝"	10'-9⅜"	5'-0"	14'-8"	15'-2⅜"	15'-8⅜"	9'-11"	19'-5"	20'-1⅛"	20'-7⅝"	14'-10"	24'-2"	25'-0⅛"	25'-6⅜"	19'-9"
	5'	3'	2'-9⅜"	6'-0"	6'-2⅝"	6'-9"	3'-9⅜"	11'-8"	12'-1"	12'-7½"	9'-3⅜"	17'-4"	17'-11⅜"	18'-5⅜"	15'-1⅝"	23'-0"	23'-9⅝"	24'-5⅛"	21'-0"	28'-8"	29'-8⅛"	30'-2⅝"	26'-10⅛"
		4'	3'-7⅛"	6'-0"	"	"	2'-7"	11'-8"	"	"	8'-7⅝"	17'-4"	"	"	14'-3⅜"	23'-0"	"	"	20'-3⅛"	28'-8"	"	"	25'-2⅝"
		5'	4'-5⅝"	6'-0"	"	"	1'-9⅝"	11'-8"	"	"	7'-7⅝"	17'-4"	"	"	13'-6⅜"	23'-0"	"	"	19'-4⅝"	28'-8"	"	"	24'-10⅛"
		6'	5'-3⅞"	6'-2"	6'-7⅝"	6'-11⅝"	1'-1¾"	11'-11"	12'-4"	12'-10⅝"	7'-0⅜"	17'-8"	18'-3⅜"	18'-10"	13'-0⅝"	23'-5"	24'-2⅜"	24'-9¼"	18'-1⅝"	28'-2"	29'-2⅜"	30'-3⅝"	24'-11⅛"
		7'	6'-5⅜"	6'-3"	6'-7⅝"	7'-0⅜"	Ⓐ 0"	12'-1"	12'-6⅝"	13'-0⅜"	6'-0⅝"	17'-11"	18'-6⅝"	19'-1"	12'-0⅜"	23'-9"	24'-5"	25'-1½"	18'-1⅝"	29'-7"	30'-7⅜"	31'-4"	24'-1⅞"
	6'	3'	2'-9⅜"	7'-0"	7'-3"	7'-9½"	4'-3⅜"	13'-8"	14'-1⅝"	14'-8⅝"	11'-0"	20'-0"	21'-0⅝"	21'-7"	18'-2⅝"	27'-0"	27'-11⅜"	28'-5⅝"	25'-1⅜"	33'-8"	34'-10⅝"	35'-4½"	32'-0⅛"
		4'	3'-7⅛"	7'-0"	"	"	3'-7⅜"	13'-8"	"	"	10'-6⅝"	20'-0"	"	"	17'-5"	27'-0"	"	"	23'-9⅜"	33'-8"	"	"	31'-2⅝"
		5'	4'-5⅝"	7'-0"	"	"	2'-9⅜"	13'-8"	"	"	9'-8⅜"	20'-0"	"	"	16'-7⅝"	27'-0"	"	"	23'-0"	33'-8"	"	"	30'-4⅝"
		6'	5'-3⅜"	7'-8"	7'-11⅝"	8'-2⅝"	2'-1⅞"	13'-11"	14'-5"	14'-11⅝"	9'-1⅜"	20'-8"	21'-4⅜"	21'-11¼"	16'-1⅛"	27'-5"	28'-2⅜"	28'-11"	23'-1⅝"	34'-2"	35'-1½"	35'-11"	30'-1⅛"
		7'	6'-5⅜"	7'-3"	7'-6"	8'-0¼"	1'-0⅝"	14'-1"	14'-7⅜"	15'-1⅝"	8'-1⅛"	20'-11"	21'-7⅜"	22'-2¼"	15'-8"	27'-9"	28'-8⅜"	29'-3⅜"	22'-3"	34'-7"	35'-6⅜"	36'-4"	29'-3⅝"
		8'	7'-5⅝"	7'-6"	7'-9⅜"	8'-1⅝"	Ⓐ 0"	14'-2"	14'-8"	15'-2⅜"	6'-11⅜"	21'-2"	21'-8⅝"	22'-3⅝"	14'-10⅝"	27'-10"	28'-8⅜"	29'-4"	21'-4⅛"	34'-8"	35'-6⅜"	36'-5"	28'-2"
	7'	4'	3'-7⅛"	8'-0"	8'-3⅜"	8'-8⅜"	4'-7⅜"	15'-8"	16'-2⅝"	16'-9"	12'-7"	23'-0"	23'-8⅛"	24'-3⅛"	20'-6"	31'-0"	32'-1½"	32'-7½"	26'-5⅛"	38'-8"	40'-0⅝"	40'-6⅜"	36'-4⅝"
		5'	4'-5⅝"	8'-0"	"	"	3'-11⅝"	15'-8"	"	"	11'-3⅝"	23'-0"	"	"	19'-1⅝"	31'-0"	"	"	27'-1⅝"	38'-8"	"	"	35'-7"
		6'	5'-3⅜"	8'-2"	8'-5⅝"	9'-0"	3'-2⅝"	16'-1"	16'-5⅝"	17'-0⅛"	11'-2⅝"	23'-4"	23'-10⅝"	24'-5⅝"	19'-2⅝"	31'-5"	32'-4⅝"	33'-0⅛"	27'-3"	39'-2"	40'-6⅝"	41'-1"	35'-3⅝"
		7'	6'-5⅜"	8'-3"	8'-6⅝"	9'-1"	2'-5⅜"	16'-1"	16'-7⅜"	17'-2⅝"	10'-4"	23'-11"	24'-5⅝"	25'-0⅝"	18'-3⅜"	31'-10"	32'-11½"	33'-6"	25'-8"	39'-7"	40'-11⅜"	41'-6⅝"	33'-6"
		8'	7'-5⅝"	8'-3"	8'-7⅜"	9'-2⅝"	0'-11"	16'-2"	16'-8⅝"	17'-3⅜"	9'-10⅝"	24'-0"	24'-10⅝"	25'-5½"	17'-1⅛"	32'-3"	33'-4⅝"	34'-0⅛"	24'-0"	40'-0"	41'-5⅜"	42'-0⅝"	32'-0⅝"
	8'	4'	3'-7⅛"	9'-0"	9'-3⅜"	9'-10⅝"	5'-8⅜"	17'-8"	18'-2⅝"	18'-10"	14'-8"	26'-0"	27'-3⅛"	27'-9½"	22'-7½"	35'-0"	36'-2⅝"	36'-9⅜"	32'-7½"	43'-8"	45'-2⅝"	45'-9"	41'-7"
		5'	4'-5⅝"	9'-2"	9'-5⅜"	10'-0⅝"	5'-0⅝"	17'-11"	18'-5⅝"	19'-1"	14'-11⅝"	26'-2"	27'-7⅛"	28'-1⅝"	22'-8"	35'-5"	36'-8"	37'-2⅝"	32'-0⅝"	43'-8"	45'-2⅝"	45'-9"	40'-6⅝"
		6'	5'-3⅜"	9'-2"	"	"	4'-2⅜"	17'-11"	"	"	13'-3⅜"	26'-2"	"	"	21'-3"	35'-5"	"	"	31'-0⅝"	43'-8"	"	"	40'-1⅝"
		7'	6'-5⅜"	9'-3"	9'-6⅝"	10'-1⅛"	3'-1"	18'-1"	18'-5⅝"	19'-1⅝"	12'-2⅝"	26'-11"	27'-10⅜"	28'-4⅝"	21'-6⅛"	35'-9"	37'-1⅛"	37'-7½"	29'-11⅝"	44'-2"	45'-8⅜"	46'-3⅛"	39'-3⅜"
		8'	7'-5⅝"	9'-4"	9'-8"	10'-2⅝"	1'-11⅝"	18'-2"	18'-8⅝"	19'-4⅝"	11'-1⅜"	27'-0"	27'-11⅜"	28'-5⅝"	20'-8⅝"	35'-10"	37'-2⅛"	37'-8⅝"	28'-10⅝"	44'-3"	45'-9⅜"	46'-4⅛"	38'-4⅜"
	9'	5'	4'-5⅝"	10'-2"	10'-6⅝"	11'-0⅝"	6'-1"	19'-11"	20'-7⅛"	21'-2"	16'-2"	29'-8"	30'-8⅝"	31'-3"	26'-3⅜"	39'-5"	40'-9⅜"	41'-4⅛"	36'-4½"	49'-2"	50'-10⅜"	51'-5⅝"	46'-2⅝"
		6'	5'-3⅜"	10'-3"	10'-7⅝"	11'-1⅝"	5'-1⅝"	20'-1"	20'-8⅝"	21'-3"	16'-6"	29'-11"	30'-11⅝"	31'-6"	25'-8⅜"	39'-7"	41'-1⅛"	41'-8⅛"	35'-10⅜"	49'-7"	51'-4"	51'-10⅝"	46'-6⅜"
		7'	6'-5⅜"	10'-3"	"	"	4'-1⅝"	20'-1"	"	"	15'-5⅜"	29'-11"	30'-11⅝"	31'-6"	25'-0⅝"	39'-9"	41'-1⅛"	41'-8⅛"	35'-0⅛"	49'-7"	51'-4"	51'-10⅝"	46'-0⅛"
		8'	7'-5⅝"	10'-4"	10'-8⅜"	11'-2⅝"	3'-1⅝"	20'-2"	20'-8⅝"	21'-3"	15'-2⅝"	30'-0"	31'-0⅝"	31'-7½"	24'-10⅝"	39'-10"	41'-2⅜"	41'-9⅛"	33'-10⅝"	49'-8"	51'-5"	51'-11⅝"	45'-10⅝"
	10'	5'	4'-5⅝"	11'-2"	11'-6⅝"	12'-1⅝"	7'-1⅝"	21'-11"	22'-8⅛"	23'-2⅝"	18'-5"	32'-8"	33'-10⅜"	34'-4⅝"	29'-4⅝"	43'-5"	44'-11⅛"	45'-6"	39'-6"	54'-2"	56'-1"	56'-7½"	51'-7½"
		6'	5'-3⅜"	11'-3"	11'-7⅝"	12'-2⅝"	6'-1⅝"	22'-1"	22'-10⅛"	23'-4⅝"	17'-7⅝"	32'-11"	34'-1"	34'-7½"	28'-8⅜"	43'-9"	45'-3⅜"	45'-10⅛"	39'-0"	54'-7"	56'-6"	57'-0⅝"	51'-2"
		7'	6'-5⅜"	11'-3"	"	"	5'-1⅜"	22'-1"	"	"	16'-9⅜"	32'-11"	"	"	27'-11"	43'-9"	"	"	38'-3⅝"	54'-7"	"	"	50'-10⅝"
		8'	7'-5⅝"	11'-4"	11'-8⅜"	12'-3⅝"	4'-1⅛"	22'-2"	22'-10⅝"	23'-5⅜"	15'-10⅝"	33'-0"	34'-2"	34'-8⅜"	26'-10⅝"	43'-10"	45'-4⅛"	45'-11"	37'-10"	54'-8"	56'-7½"	57'-1⅜"	49'-10⅝"
	11'	6'	5'-3⅜"	12'-0"	12'-4⅝"	12'-11⅝"	7'-11⅝"	23'-8"	24'-4⅝"	24'-11"	19'-3⅜"	35'-6"	36'-8"	37'-2⅜"	31'-2⅜"	47'-1"	48'-6⅜"	49'-1⅛"	42'-11⅝"	58'-10"	60'-9"	61'-3⅜"	55'-3⅜"
		7'	6'-5⅜"	12'-0"	"	"	6'-11⅜"	24'-8"	"	"	18'-6⅝"	36'-6"	"	"	30'-9⅝"	48'-2"	"	"	43'-2⅝"	59'-10"	"	"	55'-10⅝"
		8'	7'-5⅝"	12'-1"	12'-5⅜"	13'-0⅝"	6'-0⅝"	24'-8"	"	"	17'-8⅝"	36'-6"	"	"	29'-8⅝"	48'-3"	"	"	41'-9⅝"	59'-10"	"	"	54'-7"
	12'	6'	5'-3⅜"	13'-0"	13'-4⅝"	13'-11⅝"	8'-11⅝"	26'-2"	27'-1"	27'-7⅝"	21'-10"	39'-0"	40'-2⅝"	40'-11"	34'-1⅜"	51'-10"	53'-3"	54'-2½"	46'-7⅛"	64'-7"	—	—	—
		7'	6'-5⅜"	13'-0"	"	"	7'-11⅜"	26'-2"	"	"	20'-7⅛"	39'-0"	"	"	32'-9⅜"	51'-10"	"	"	46'-7⅛"	64'-7"	—	—	—
		8'	7'-5⅝"	13'-0"	"	"	6'-11"	26'-2"	"	"	19'-7⅝"	39'-0"	"	"	32'-8"	51'-10"	"	"	45'-11⅝"	—	—	—	—
W-X152-2, W-X153-2 or W-X154-2 (FOR H=9'0" & OVER)	7'	3'	8'-11⅛"	8'-6"	8'-10⅜"	9'-4"	Ⓐ 0"	16'-5"	17'-0"	17'-6⅜"	8'-0⅜"	26'-9"	25'-6⅛"	26'-0⅝"	16'-3"	32'-8"	33'-6⅛"	33'-11"	26'-5⅛"	40'-8"	41'-7"	42'-1½"	32'-7⅜"
	8'	4'	3'-7⅛"	9'-6"	9'-10⅜"	10'-4⅝"	5'-0⅛"	18'-5"	19'-0⅛"	19'-7⅜"	10'-1⅝"	27'-9"	28'-7⅛"	29'-1⅝"	20'-10"	34'-6"	35'-7⅛"	36'-2"	28'-1⅜"	42'-11"	44'-3⅛"	44'-9"	34'-9⅜"
		5'	4'-5⅝"	9'-8"	10'-0⅜"	10'-6⅝"	Ⓐ 0"	18'-8"	19'-3⅝"	19'-10⅛"	9'-2"	28'-1"	28'-7⅜"	29'-2⅛"	18'-5⅜"	34'-9"	35'-11⅛"	36'-6"	27'-9⅜"	43'-5"	44'-9"	45'-4⅜"	35'-7⅛"
	9'	6'	5'-3⅜"	10'-6"	10'-10⅜"	11'-5"	6'-1⅛"	20'-5"	21'-1⅜"	21'-8⅜"	12'-2⅜"	30'-8"	31'-9⅜"	32'-3⅛"	21'-11⅝"	39'-0"	40'-4⅜"	40'-11⅛"	31'-11⅝"	49'-3"	50'-9"	51'-5"	40'-2⅝"
		7'	6'-5⅜"	10'-6"	"	"	5'-1⅜"	20'-5"	"	"	11'-2⅜"	30'-8"	31'-9⅜"	32'-3⅛"	21'-5"	39'-0"	40'-4⅜"	40'-11⅛"	31'-6⅜"	49'-3"	50'-9"	51'-5"	39'-8"
		8'	7'-5⅝"	10'-7"	10'-11⅜"	11'-5⅞"	4'-1⅛"	20'-6"	21'-1⅝"	21'-8⅜"	11'-2⅜"	30'-8"	31'-9⅜"	32'-3⅛"	20'-10⅝"	39'-0"	40'-4⅜"	40'-11⅛"	30'-10⅝"	49'-3"	50'-9"	51'-5"	39'-3⅛"
	10'	6'	5'-3⅜"	11'-0"	11'-4⅜"	11'-11⅝"	6'-11⅝"	21'-8"	22'-3⅝"	22'-9⅜"	13'-3⅛"	32'-6"	33'-8⅛"	34'-2⅝"	23'-7⅜"	41'-6"	42'-10⅛"	43'-5"	34'-0⅝"	52'-1"	53'-10"	54'-5"	42'-8⅜"
		7'	6'-5⅜"	11'-0"	"	"	5'-11⅜"	21'-8"	"	"	12'-3⅜"	32'-6"	"	"	23'-6⅝"	41'-6"	"	"	33'-10⅝"	52'-1"	"	"	42'-7⅜"
		8'	7'-5⅝"	11'-1"	11'-5⅜"	12'-0⅝"	4'-11⅝"	21'-9"	22'-4⅛"	22'-10"	12'-3⅜"	32'-6"	33'-8⅛"	34'-2⅝"	23'-6⅝"	41'-7"	42'-10⅝"	43'-5⅜"	33'-10⅝"	52'-1"	53'-10"	54'-5"	42'-7⅜"
	11'	6'	5'-3⅜"	11'-9"	12'-1⅜"	12'-8⅝"	8'-8⅝"	23'-5"	24'-0⅛"	24'-6⅝"	16'-10⅜"	34'-4"	35'-6⅛"	36'-0⅝"	26'-4⅜"	44'-3"	45'-7⅛"	46'-2"	36'-7⅝"	55'-10"	57'-9"	58'-3⅜"	45'-5⅜"
		7'	6'-5⅜"	11'-9"	"	"	7'-8⅜"	23'-5"	"	"	15'-9⅜"	34'-4"	"	"	26'-3⅝"	44'-3"	"	"	36'-7⅝"	55'-10"	"	"	45'-4⅜"
		8'	7'-5⅝"	11'-10"	12'-2⅜"	12'-9⅛"	7'-7⅛"	23'-6"	24'-1⅛"	24'-7⅝"	15'-9⅜"	34'-4"	35'-6⅛"	36'-0⅝"	26'-3⅝"	44'-4"	45'-7⅛"	46'-2⅜"	36'-7⅝"	55'-10"	57'-9"	58'-3⅜"	45'-4⅜"
	12'	6'	5'-3⅜"	12'-9"	13'-1⅜"	13'-8⅝"	9'-8⅝"	25'-2"	26'-1"	26'-7⅝"	20'-10"	37'-6"	38'-8⅝"	39'-3"	32'-6⅜"	49'-9"	51'-2⅜"	51'-11"	43'-6⅝"	61'-11"	—	—	—
		7'	6'-5⅜"	12'-9"	"	"	8'-8⅜"	25'-2"	"	"	19'-7⅜"	37'-6"	"	"	31'-5⅜"	49'-9"	"	"	43'-6⅝"	61'-11"	—	—	—
		8'	7'-5⅝"	12'-10"	13'-2⅜"	13'-9⅛"	8'-7⅛"	25'-3"	26'-2⅛"	26'-8⅝"	19'-7⅜"	37'-6"	38'-8⅝"	39'-3"	31'-5⅜"	49'-10"	51'-3⅜"	52'-0"	43'-6⅝"	62'-0"	—	—	—

Ⓐ *Special case for these boxes, See Detail "A" and Table "A" for revised values of F_1, F_2, W_2 and W_3, when apron width is more than 1'-0 and W_3=0'. For Detail "A" and Table "A" for each slope, see Drawing Nos. W-X152-1, W-X152-2, or W-X153-1, W-X153-2, or W-X154-1, W-X154-2.*

NOTE:- *This drawing to be used in conjunction with Standard Wing Drawings for 15° Skews for each slope as listed below.*

2:1 Slopes	3:1 Slopes	4:1 Slopes
W-X152-1 or W-X152-2	W-X153-1 or W-X153-2	W-X154-1 or W-X154-2.

This drawing to be used in conjunction with Std. Barrel Sections, Drawing Nos.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-115X-0	R-215X-0	R-315X-0	R-415X-0	R-515X-0
R-115X-1	R-215X-1	R-315X-1	R-415X-1	R-515X-1
	R-215X-2	R-315X-2		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 15° SKEW

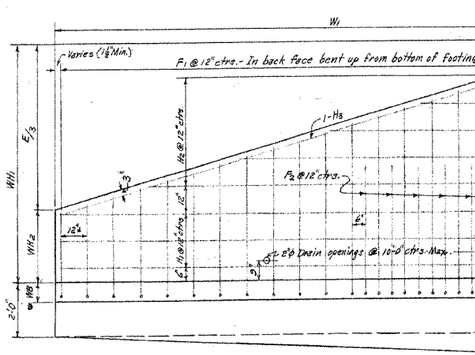
4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS — 2:1, 3:1 & 4:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER H=2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12.

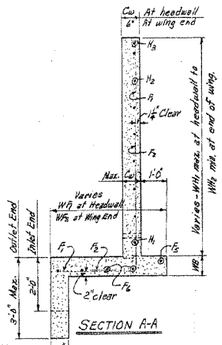
STANDARD DRAWING NO. W-X15

Designed by:- W.C.H. 5-22-63. Checked by:- Checked by:- J.E.M. 6-20-63
Traced by:- W.C.H. 6-13-63 Checked by:-
Quantities by:-

FED. ROAD DIV.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.		139	
JOB NO.				

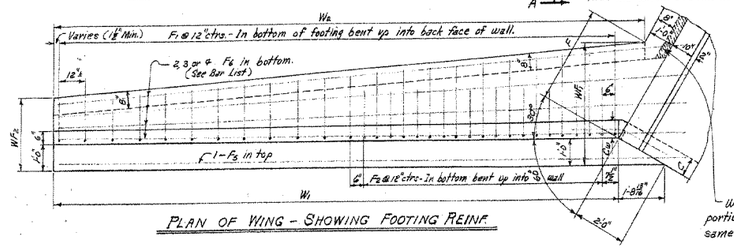


REAR ELEVATION OF WING - SHOWING BACK FACE REINF.

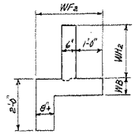


SECTION A-A

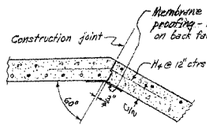
WB may be more, equal to, or less than the bottom slab thickness B.



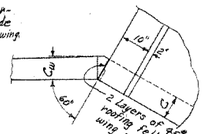
PLAN OF WING - SHOWING FOOTING REINF.



END VIEW OF WING



SECTION B-B THRU CONSTRUCTION JOINT



DETAIL AT TOP OF WING

NOTE:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

WING DIMENSIONS

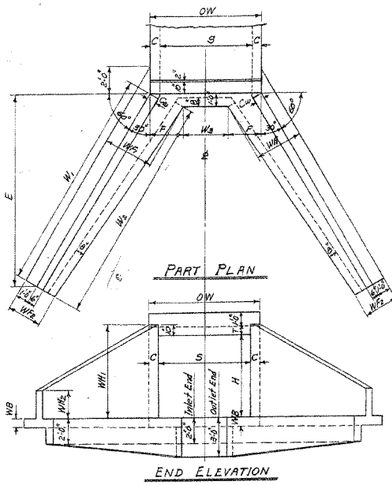
CLEAR HEIGHT OF BOX H	THICKNESS OF WING FOOTING WB	THICKNESS OF WING AT HEADWALL = C Cw	WINGWALL HEIGHTS AT HEADWALL WH1	WINGWALL HEIGHTS AT END OF WING WH2	WIDTHS OF WING FOOTINGS AT HEADWALL W5	WIDTHS OF WING FOOTINGS AT END OF WING W5	PERPENDICULAR FOOTING DIMENSION F	PERPENDICULAR DIST. FROM HEAD TO END OF WING E	LENGTH OF WING WALLS W1	INSIDE FOOTING DIMENSION W2	* QUANTITY PER WING CLASS S CONCRETE INLET END CU.YD.	* QUANTITY PER WING CLASS S CONCRETE OUTLET END CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	0'-11½"	6'-6"	7'-6"	7'-1½"	0.889	0.986
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-3½"	8'-6"	9'-3½"	9'-7½"	1.338	1.466
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-5"	10'-6"	12'-1½"	12'-1½"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1½"	12'-6"	14'-5½"	14'-7½"	2.478	2.668
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1½"	12'-6"	14'-5½"	14'-7½"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1½"	3.490	3.661
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1½"	3.811	3.782
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1½"	3.582	3.803
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1½"	16'-6"	19'-0½"	19'-8½"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1½"	16'-6"	19'-0½"	19'-8½"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	18'-6"	21'-0½"	22'-0"	5.761	6.049

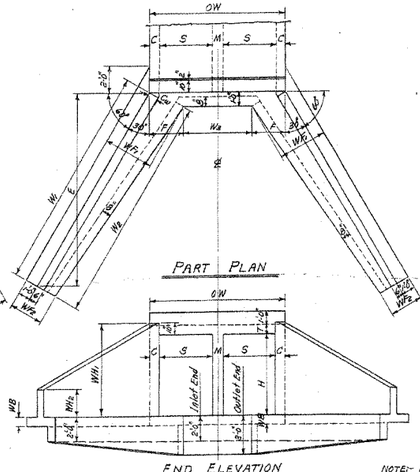
* Quantity per wing does not include headwall or that portion of apron or facewall for the length W3.

APRON DIMENSION W3

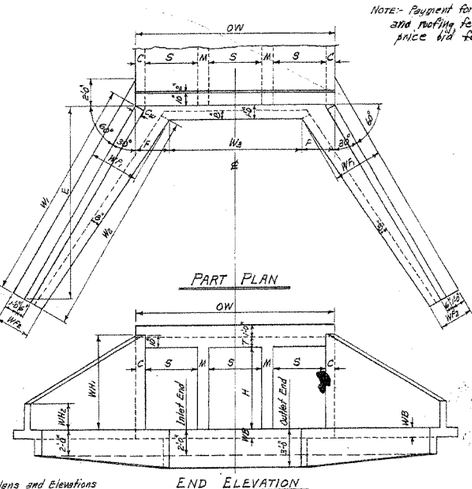
W3 = (OW - 2F)

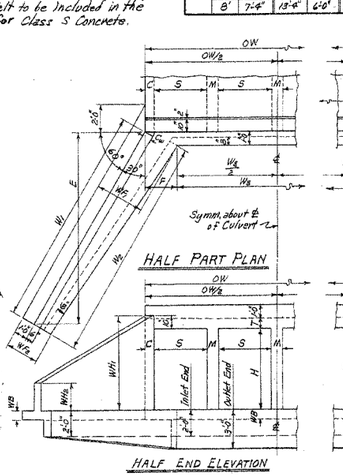
CLEAR SPAN S	CLEAR HEIGHT H	FOOTING DIMENSION 2F	SINGLE BARREL CULVERT OW	SINGLE BARREL CULVERT W3	DOUBLE BARREL CULVERT OW	DOUBLE BARREL CULVERT W3	TRIPLE BARREL CULVERT OW	TRIPLE BARREL CULVERT W3	QUADRUPLE BARREL CULVERT QW	QUADRUPLE BARREL CULVERT W3	QUINTUPLE BARREL CULVERT OW	QUINTUPLE BARREL CULVERT W3
4'	2'	1'-11½"	5'-0"	3'-0½"	9'-8"	7'-8½"	14'-4"	12'-4½"	19'-0"	17'-0½"	23'-8"	21'-8½"
	3'	2'-8½"	5'-0"	2'-3½"	9'-8"	6'-11½"	14'-4"	11'-7½"	19'-0"	15'-3½"	23'-8"	20'-1½"
	4'	3'-6"	5'-0"	1'-6"	9'-8"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-2"
	5'	4'-3½"	5'-0"	0'-8½"	9'-8"	5'-4½"	14'-4"	10'-0½"	19'-0"	14'-8½"	23'-8"	19'-9½"
	6'	5'-0½"	5'-2"	0'-1½"	9'-11"	4'-10½"	14'-8"	9'-7½"	19'-5"	14'-0½"	24'-2"	19'-1½"
5'	3'	2'-8½"	6'-0"	3'-3½"	11'-8"	8'-11½"	17'-4"	14'-7½"	23'-0"	20'-3½"	28'-8"	25'-1½"
	4'	3'-6"	6'-0"	2'-6"	11'-8"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3½"	6'-0"	1'-8½"	11'-8"	7'-4½"	17'-4"	13'-0½"	23'-0"	18'-8½"	28'-8"	24'-9½"
	6'	5'-0½"	6'-2"	1'-1½"	11'-11"	6'-10½"	17'-8"	12'-7½"	23'-5"	18'-0½"	29'-2"	24'-1½"
	7'	6'-2½"	6'-3"	0'-0½"	12'-1"	5'-10½"	17'-11"	11'-8½"	23'-9"	17'-1½"	29'-7"	23'-0½"
6'	3'	2'-8½"	7'-0"	4'-3½"	13'-8"	10'-11½"	20'-4"	17'-7½"	27'-0"	24'-3½"	33'-8"	30'-11½"
	4'	3'-6"	7'-0"	3'-6"	13'-8"	10'-2"	20'-4"	16'-10"	27'-0"	23'-6"	33'-8"	30'-2"
	5'	4'-3½"	7'-0"	2'-8½"	13'-8"	9'-5½"	20'-4"	16'-0½"	27'-0"	22'-8½"	33'-8"	29'-4½"
	6'	5'-0½"	7'-2"	2'-1½"	13'-11"	8'-10½"	20'-8"	15'-7½"	27'-5"	22'-0½"	34'-2"	29'-1½"
	7'	6'-2½"	7'-3"	1'-0½"	14'-1"	7'-10½"	20'-11"	14'-8½"	27'-9"	21'-0½"	34'-7"	28'-0½"
	8'	7'-4"	7'-4"	0'-0"	14'-2"	6'-10"	21'-0"	13'-8"	27'-10"	20'-0"	34'-8"	27'-0"
7'	4'	3'-6"	8'-0"	4'-6"	15'-8"	12'-2"	23'-4"	19'-10"	31'-0"	27'-6"	38'-8"	35'-2"
	5'	4'-3½"	8'-0"	3'-8½"	15'-8"	11'-4½"	23'-4"	19'-0½"	31'-0"	26'-8½"	38'-8"	34'-4½"
	6'	5'-0½"	8'-2"	3'-1½"	15'-11"	10'-10½"	23'-8"	18'-7½"	31'-5"	26'-0½"	39'-2"	34'-1½"
	7'	6'-2½"	8'-3"	2'-0½"	16'-1"	9'-10½"	23'-11"	17'-8½"	31'-9"	25'-0½"	39'-7"	33'-0½"
	8'	7'-4"	8'-4"	1'-0"	16'-2"	8'-10"	24'-0"	16'-8"	31'-10"	24'-0"	39'-8"	32'-0"
8'	5'	4'-3½"	9'-0"	5'-0"	17'-8"	14'-2"	26'-4"	22'-10"	35'-6"	31'-4"	43'-8"	40'-2"
	6'	5'-0½"	9'-2"	4'-3½"	17'-11"	13'-7½"	26'-8"	22'-1½"	35'-5"	31'-1½"	44'-2"	39'-10½"
	7'	6'-2½"	9'-2"	3'-1½"	17'-11"	12'-10½"	26'-8"	21'-2½"	35'-5"	30'-1½"	44'-2"	39'-1½"
	8'	7'-4"	9'-3"	2'-0"	18'-1"	11'-10½"	26'-11"	20'-2½"	35'-9"	29'-1½"	44'-7"	38'-1½"
9'	5'	4'-3½"	10'-2"	5'-10½"	19'-11"	15'-7½"	29'-8"	25'-4½"	39'-5"	35'-1½"	49'-2"	44'-10½"
	6'	5'-0½"	10'-3"	5'-2½"	20'-1"	15'-0½"	29'-11"	24'-6½"	39'-9"	34'-3½"	49'-7"	44'-1½"
	7'	6'-2½"	10'-3"	4'-1½"	20'-1"	14'-0½"	29'-11"	23'-6½"	39'-9"	33'-3½"	49'-7"	43'-1½"
	8'	7'-4"	10'-4"	3'-0"	20'-2"	12'-10"	30'-0"	22'-3"	39'-10"	32'-1½"	49'-8"	41'-10"
10'	5'	4'-3½"	11'-2"	6'-10½"	21'-11"	17'-7½"	32'-8"	28'-4½"	43'-5"	39'-1½"	54'-2"	49'-10½"
	6'	5'-0½"	11'-3"	6'-2½"	22'-1"	17'-0½"	32'-11"	27'-10½"	43'-9"	38'-3½"	54'-7"	49'-1½"
	7'	6'-2½"	11'-3"	5'-1½"	22'-1"	15'-10½"	32'-11"	26'-10½"	43'-9"	37'-1½"	54'-7"	47'-9½"
	8'	7'-4"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-8"	43'-10"	36'-1½"	54'-8"	47'-8"
11'	6'	5'-0½"	12'-4"	7'-3½"	24'-2"	19'-1½"	36'-0"	30'-11"	47'-10"	42'-1½"		
	7'	6'-2½"	12'-4"	6'-1½"	24'-2"	17'-11½"	36'-0"	29'-10½"	47'-10"	41'-1½"		
	8'	7'-4"	12'-5"	5'-0"	24'-2"	16'-10"	36'-0"	28'-8"	47'-10"	40'-6"		
12'	6'	5'-0½"	13'-6"	8'-3½"	26'-2"	21'-1½"	39'-0"	33'-11½"	51'-10"	46'-9½"		
	7'	6'-2½"	13'-6"	7'-1½"	26'-2"	19'-11½"	39'-0"	32'-10½"	51'-10"	45'-7½"		
	8'	7'-4"	13'-6"	6'-0"	26'-2"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		

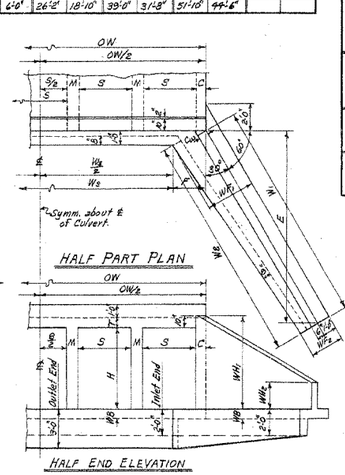




NOTE:- Plans and Elevations are not to scale.





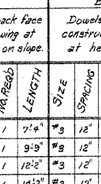


MEMBRANE:- A membrane waterproofing 12" wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT H	F1 Bent: In bottom of footing, bent up into back face of wing. One bar of each length. SIZE	F1 SPACING	F1 NO. REQD	F1 LENGTHS VARY MIN.	F1 MAX.	F1 X MIN.	F1 X MAX.	F1 Y MIN.	F1 Y MAX.	F2 Bent: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. SIZE	F2 SPACING	F2 NO. REQD	F2 LENGTH	F2 X	F2 Y	F3 Straight: Longitudinal in top of wing footing heel. SIZE	F3 NO. REQD	F3 LENGTH	F4 Straight: Longitudinal in bottom of wing footing toe. SIZE	F4 NO. REQD	F4 LENGTH	H1 Straight: Horizontal in back face of wing. SIZE	H1 SPACING	H1 NO. REQD	H1 LENGTH	H2 Straight: Horizontal in back face of wing. One bar of each length. SIZE	H2 SPACING	H2 NO. REQD	H2 LENGTHS VARY MAX.	H2 MIN.	H3 Straight: In back face of wing at top - on slope. SIZE	H3 NO. REQD	H3 LENGTH	H4 Bent: Dowels thru construction joint at headwall. SIZE	H4 SPACING	H4 NO. REQD	H4 LENGTH	H4 X	QUANTITY REINFORCING STEEL PER WING LB.
2'	#3	12"	8	1'-6"	3'-10"	0'-8"	1'-0"	0'-11"	2'-11"	—	—	—	—	—	—	#3	1	9'-8"	#3	2	8'-6"	#3	12"	1	7'-6"	#3	12"	1	—	9'-0"	#3	1	9'-9"	#3	12"	2	2'-8"	1'-4"	27.0
3'	#3	12"	10	2'-2"	5'-2"	0'-10"	1'-3"	1'-5"	4'-0"	—	—	—	—	—	—	#3	1	12'-0"	#3	2	11'-0"	#3	12"	1	9'-6"	#3	12"	2	7'-6"	9'-0"	#8	1	9'-9"	#3	12"	3	2'-8"	1'-4"	41.1
4'	#3	12"	13	2'-9"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—	#3	1	14'-9"	#3	3	13'-6"	#3	12"	1	11'-10"	#3	12"	3	10'-11"	9'-0"	#3	1	12'-2"	#3	12"	4	2'-8"	1'-9"	63.7
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	1'-11"	6'-0"	#3	12"	4	3'-6"	1'-1"	2'-6"	#3	1	16'-8"	#3	3	16'-0"	#8	12"	2	14'-2"	#3	12"	4	14'-4"	9'-0"	#3	1	14'-7"	#3	12"	5	2'-8"	1'-9"	89.5
6'	#4	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	2'-1"	7'-1"	#3	12"	4	4'-6"	1'-6"	3'-3"	#3	1	19'-0"	#3	3	18'-6"	#3	12"	2	16'-4"	#3	12"	4	16'-9"	9'-0"	#3	1	17'-0"	#3	12"	6	2'-8"	1'-9"	145.8
7'	#4	12"	20	3'-9"	10'-9"	1'-3"	2'-9"	2'-1"	8'-1"	#4	12"	7	5'-6"	1'-7"	4'-0"	#4	1	21'-6"	#4	4	21'-0"	#4	12"	2	18'-9"	#4	12"	5	17'-3"	9'-0"	#4	1	19'-5"	#4	12"	7	3'-6"	1'-9"	283.7
8'	#4	12"	22	4'-4"	12'-3"	1'-5"	3'-2"	2'-1"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	23'-8"	#4	4	23'-9"	#4	12"	3	21'-1"	#4	12"	5	17'-9"	9'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"	356.4

BAR BENDING DIAGRAMS



NOTE:- Dimensions are to bar centers.

REVISIONS:- Membrane added. 5-10-66 W.C.H.

QUANTITIES

CLASS S CONCRETE - & WINGS

CLEAR SPAN S	CLEAR HEIGHT H	THICKNESS OF WING AT HEADWALL Cw	THICKNESS OF WING FOOTING WB	REINFORCING ® STEEL - LB. FOR & WINGS	CLASS S CONCRETE - & WINGS HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS: SINGLE BARREL CULVERT CU.YD.	DOUBLE BARREL CULVERT CU.YD.	TRIPLE BARREL CULVERT CU.YD.	QUADRUPLE BARREL CULVERT CU.YD.	QUINTUPLE BARREL CULVERT CU.YD.
4'	2'	6"	7"	108.0	4.50	5.96	6.92	7.36	8.34
	3'	6"	7"	164.9	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	254.6	8.33	9.28	10.24	11.20	12.16
	5'	6"	7"	357.8	10.72	11.68	12.69	13.60	14.56
	6'	7"	8"	583.1	14.55	15.53	16.52	17.51	18.49
5'	3'	6"	7"	164.9	6.97	7.68	8.79	9.96	11.12
	4'	6"	7"	254.6	8.56	9.70	10.87	12.03	13.20
	5'	6"	7"	357.8	10.96	12.10	13.26	14.98	15.59
	6'	7"	8"	583.1	14.77	15.96	17.15	18.34	19.54
	7'	7½"	8½"	1134.6	18.99	20.15	21.37	22.59	23.80
6'	3'	6"	7"	164.9	6.63	8.06	9.92	10.80	12.18
	4'	6"	7"	254.6	8.75	10.19	11.99	12.87	14.25
	5'	6"	7"	357.8	11.15	12.53	13.89	15.27	16.65
	6'	7"	8"	583.1	14.99	16.39	17.78	19.18	20.59
	7'	7½"	8½"	1134.6	19.15	20.58	22.00	23.43	24.86
	8'	8"	9"	1925.6	24.09	25.53	26.96	28.39	29.83
7'	4'	6"	7"	254.6	8.97	10.58	12.15	13.76	15.35
	5'	6"	7"	357.8	11.36	12.97	14.54	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7½"	8½"	1134.6	19.38	21.02	22.64	24.28	25.92
	8'	8"	9"	1925.6	24.32	25.97	27.60	29.25	30.89
8'	4'	6"	7"	254.6	9.19	11.03	12.82	14.65	16.45
	5'	7"	7"	357.8	12.03	13.89	15.70	17.55	19.36
	6'	7"	8"	583.1	15.92	17.27	19.09	20.93	22.75
	7'	7½"	8½"	1134.6	19.59	21.46	23.30	25.16	26.99
	8'	8"	9"	1925.6	24.54	26.91	28.24	30.11	31.96
9'	5'	7"	7"	357.8	12.26	13.84	16.87	18.45	20.47
	6'	7½"	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7½"	8½"	1134.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	1925.6	24.76	26.86	28.91	31.00	33.05
10'	5'	7"	7"	357.8	12.49	14.80	17.05	19.26	21.52
	6'	7½"	8"	583.1	16.17	18.50	20.77	22.99	25.28
	7'	7½"	8½"	1134.6	20.04	22.37	24.64	26.87	29.15
	8'	8"	9"	1925.6	24.98	27.31	29.58	31.91	34.10
11'	6'	8"	8"	583.1	16.69	19.27	21.76	24.23	
	7'	8"	8½"	1134.6	20.64	23.22	25.71	28.18	
	8'	8"	9"	1925.6	25.19	27.77	30.27	32.79	
12'	6'	8"	8"	583.1	16.92	19.75	22.95	25.16	
	7'	8"	8½"	1134.6	20.87	23.69	26.90	29.13	
	8'	8"	9"	1925.6	25.42	28.25	30.96	33.69	

® For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾ chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS

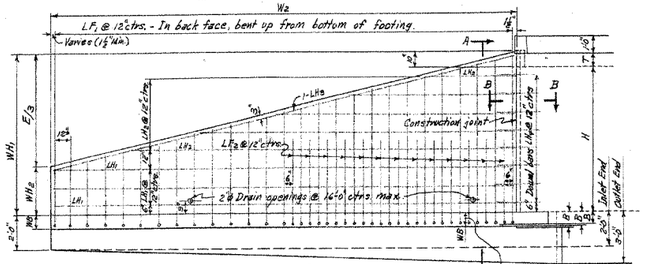
4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

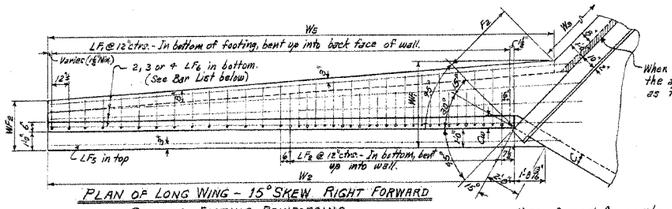
STANDARD DRAWING NO. W-X003-1

Designed By:- W.C.H. 8-20-62. Checked By:- R.W.S. 1-9-63
Drawn By:- W.C.H. 12-4-62. Checked By:- R.W.S. 1-31-63
Quantities By:- W.C.H. 12-17-62. Checked By:- R.W.S. 2-22-63
Reviewed By:- R.W.S. 3-22-63

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			140	
JOB No.					

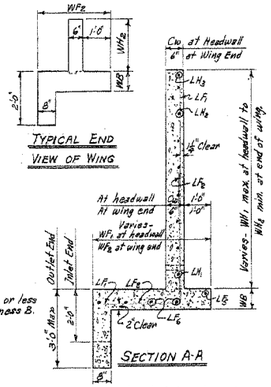


REAR ELEVATION OF LONG WING - 15° SKEW RIGHT FORWARD
SHOWING BACK FACE REINFORCING



PLAN OF LONG WING - 15° SKEW RIGHT FORWARD
SHOWING FOOTING REINFORCING.

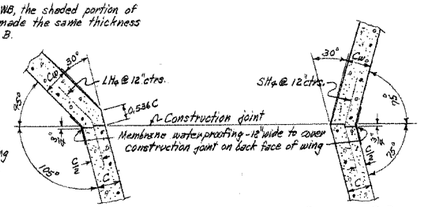
When B is more than WB, the shaded portion of the apron shall be made the same thickness as the bottom slab B.



TYPICAL END VIEW OF WING

SECTION A-A

SECTION C-C

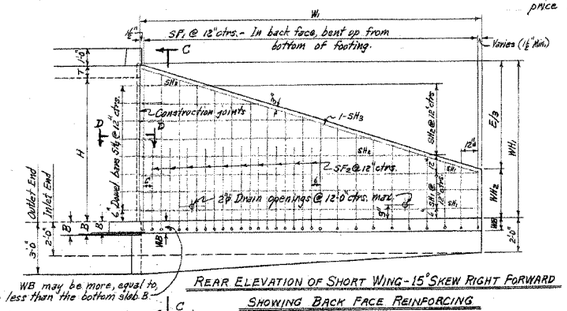


SECTION B-B

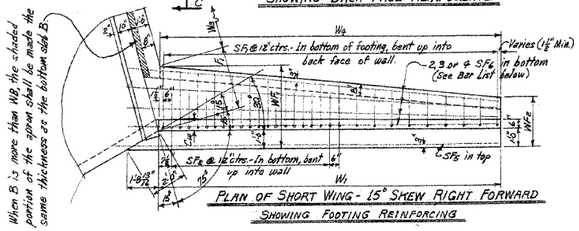
SECTION D-D

SECTIONS THRU CONSTRUCTION JOINTS

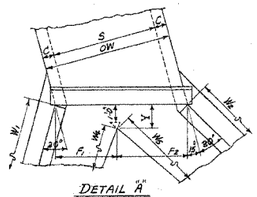
Note:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.



REAR ELEVATION OF SHORT WING - 15° SKEW RIGHT FORWARD
SHOWING BACK FACE REINFORCING



PLAN OF SHORT WING - 15° SKEW RIGHT FORWARD
SHOWING FOOTING REINFORCING



DETAIL "A"

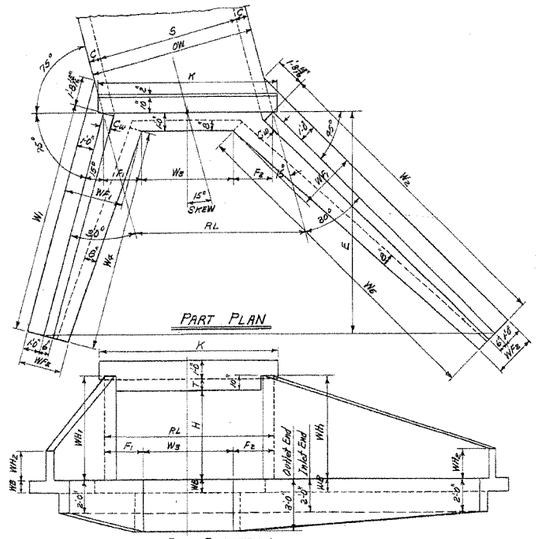
TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F_1	F_2	W_4	W_5	W_3	Y
5'	7'	3'-0"	3'-5⅝"	16'-10⅝"	25'-0⅝"	0"	1'-0⅝"
6'	8'	3'-6"	4'-1⅛"	19'-0⅛"	28'-3⅛"	0"	1'-1"

REGULAR WING DIMENSIONS - 3:1 SLOPES

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADW'L = C	WINGWALL HEIGHTS: PT HEADWALL	WINGWALL HEIGHTS: AT END OF WING	WIDTHS OF WING FOOTINGS: AT HEADWALL	WIDTHS OF WING FOOTINGS: AT END OF WING	FOOTING DIMENSION PARALL. WITH HEADWALL: SHORT WING	FOOTING DIMENSION PARALL. WITH HEADWALL: LONG WING	PERPENDICULAR DIST. TO END OF WING	LENGTHS OF WINGWALLS: SHORT WING	LENGTHS OF WINGWALLS: LONG WING	INSIDE FOOTING DIMENSIONS: SHORT WING	INSIDE FOOTING DIMENSIONS: LONG WING	* QUANTITY PER WING, CLASS S CONCRETE: INLET END, SHORT WING	INLET END, LONG WING	OUTLET END, SHORT WING	OUTLET END, LONG WING
H	WB	C_W	WH_1	WH_2	WF_1	WF_2	F_1	F_2	E	W_1	W_2	W_4	W_5	CU.YD.	CU.YD.	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	1'-1⅜"	0'-10⅝"	6'-6"	6'-8⅜"	9'-2⅝"	6'-0⅝"	9'-1⅝"	0.789	1.094	0.876	1.212
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-4½"	1'-5⅝"	1'-4⅜"	8'-6"	8'-3⅜"	12'-0⅛"	8'-2⅝"	12'-3⅛"	1.186	1.650	1.300	1.808
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-8"	1'-9⅜"	1'-8"	10'-6"	10'-10⅝"	14'-10⅛"	10'-9⅛"	15'-5⅛"	1.656	2.305	1.797	2.502
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-9½"	2'-1⅜"	2'-0⅝"	12'-6"	12'-11⅛"	17'-8⅝"	12'-6⅝"	18'-7⅛"	2.196	3.059	2.363	3.295
		7"	5'-10"	1'-8"	3'-4"	2'-9½"	2'-1⅜"	2'-0⅝"	12'-6"	12'-11⅛"	17'-8⅝"	12'-6⅝"	18'-7⅛"	2.287	3.188	2.455	3.429
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅜"	2'-4⅝"	14'-6"	15'-0⅝"	20'-6"	14'-8⅝"	21'-9"	3.052	4.242	3.296	4.517
		7⅝"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅜"	2'-4⅝"	14'-6"	15'-0⅝"	20'-6"	14'-8⅝"	21'-9"	3.114	4.329	3.309	4.605
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅜"	2'-4⅝"	14'-6"	15'-0⅝"	20'-6"	14'-8⅝"	21'-9"	3.177	4.417	3.371	4.693
@ 7'	8⅛"	7⅛"	7'-10"	2'-4"	4'-2"	2'-11½"	3'-0⅜"	3'-0⅝"	16'-6"	17'-1"	23'-4"	16'-10⅝"	25'-1"	3.998	5.560	4.220	5.877
		8"	7'-10"	2'-4"	4'-2"	2'-11½"	3'-0⅜"	3'-0⅝"	16'-6"	17'-1"	23'-4"	16'-10⅝"	25'-1"	4.079	5.675	4.301	5.991
@ 8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-4⅜"	4'-2⅝"	18'-6"	19'-1⅜"	26'-2"	19'-1⅛"	28'-5"	5.111	7.111	5.360	7.470

* Quantity per wing does not include headwall or that portion of apron or toewall for the length W_3.
@ See Table "A" for special values of F_1 & F_2 and W_4 & W_5 for Single 5'x5' and 6'x6' Box Culverts.



PART PLAN

END ELEVATION

SINGLE BARREL CULVERT - 15° SKEW RIGHT FORWARD
Details of Culvert with 15° Skew Left Forward is reversed, see Drwg. No. W-X.15

TYPICAL WING DETAILS

Note:- For remainder of General Plans and Elevations of Single, Double, Triple, Quadruple and Quintuple Span Culverts, see Std. Drawing No. W-X.15. For values of RL, K, and W_3 for each box, see the above Std. also.

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric, shall be applied to the back face of wing to cover the construction joints in wings.

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING STEEL - FOR 4 WINGS @	CLASS S CONCRETE - 4 WINGS: HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS: SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	C_W	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	5'	6"	7"	117	4.79	5.78	6.77	7.77	8.76
	6'	6"	7"	176	6.63	7.99	9.35	10.72	10.62
	7'	6"	7"	267	8.85	9.86	10.84	11.83	12.82
	8'	6"	7"	379	11.90	12.38	13.38	14.37	15.34
	9'	7"	8"	626	15.95	16.96	17.98	18.51	19.53
5'	5'	6"	7"	176	6.87	8.07	9.28	10.48	11.69
	6'	6"	7"	267	9.08	10.28	11.49	12.69	13.90
	7'	6"	7"	379	11.41	12.81	14.02	15.23	16.44
	8'	7"	8"	626	15.67	16.90	18.14	19.38	20.61
	9'	7⅞"	8⅛"	1210	20.11	21.36	22.62	23.88	25.14
6'	5'	6"	7"	176	7.09	8.52	9.92	11.36	12.78
	6'	6"	7"	267	9.29	10.79	12.18	13.54	14.98
	7'	6"	7"	379	11.83	13.26	14.67	16.10	17.53
	8'	7"	8"	626	15.85	17.35	18.79	20.25	21.70
	9'	7⅞"	8⅛"	1210	20.33	21.81	23.28	24.76	26.24
	10'	8"	9"	1533	25.56	27.05	28.53	30.02	31.50
7'	6'	6"	7"	267	9.52	11.18	12.81	14.47	16.09
	7'	6"	7"	379	12.05	13.72	15.35	17.01	18.63
	8'	7"	8"	626	16.12	17.80	19.45	21.13	22.78
	9'	7⅞"	8⅛"	1210	20.56	22.26	23.94	25.64	27.33
	10'	8"	9"	1533	25.80	27.50	29.20	30.90	32.60
8'	6'	7"	7"	267	9.75	11.65	13.51	15.41	17.23
	7'	7"	7"	379	12.74	14.68	16.55	18.47	20.31
	8'	7"	8"	626	16.39	18.26	20.14	22.06	23.90
	9'	7⅞"	8⅛"	1210	20.78	22.72	24.62	26.55	28.42
	10'	8"	9"	1533	26.03	27.96	29.86	31.80	33.71
9'	6'	7"	7"	379	12.99	15.15	17.25	19.40	21.45
	7'	7⅞"	8"	626	16.83	19.07	21.19	23.36	25.42
	8'	7⅞"	8⅛"	1210	21.01	23.19	25.31	27.48	29.54
	9'	8"	9"	1533	26.25	28.42	30.55	32.72	34.78
10'	5'	7"	7"	379	18.23	16.42	17.95	20.24	22.53
	6'	7⅞"	8"	626	17.13	19.59	21.89	24.20	26.56
	7'	7⅞"	8⅛"	1210	21.44	23.66	26.01	28.32	30.68
	8'	8"	9"	1533	26.48	28.89	31.25	33.56	35.92
11'	6'	8"	8"	626	17.67	20.39	22.92	25.98	—
	7'	8"	8⅛"	1210	21.88	24.55	27.13	29.69	—
	8'	8"	9"	1533	26.70	29.37	31.96	34.52	—
12'	6'	8"	8"	626	17.91	20.84	23.64	26.76	—
	7'	8"	8⅛"	1210	22.11	25.04	27.85	30.67	—
	8'	8"	9"	1533	26.93	29.86	32.67	35.49	—

@ For reinforcing steel in Headwalls and Aprons, see Drawings listed below.

GENERAL NOTES:-
CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.
REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.
CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.
UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

NOTE:-
This drawing to be used in conjunction with Std. Barrel Sections, Drawing Nos.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-115X-0	R-215X-0	R-315X-0	R-415X-0	R-515X-0
R-115X-1	R-215X-1	R-315X-1	R-415X-1	R-515X-1
	R-215X-2	R-315X-2		

BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

CLEAR HEIGHT	WING LOCATION	SF1 & LF1 BENT: In bottom of footing, bent up into back face of wing. One bar of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MIN.	LENGTHS VARY MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	SF2 & LF2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. SIZE	SPACING	NO. REQD	LENGTH	X	Y	SF3 & LF3 STRAIGHT: Longitudinal in top of wing footing heel. SIZE	NO. REQD	LENGTH	SF4 & LF4 STRAIGHT: Longitudinal in bottom of wing footing toe. SIZE	NO. REQD	LENGTH	SH1 & LH1 STRAIGHT: Horizontal in back face of wing. SIZE	SPACING	NO. REQD	LENGTH	SH2 & LH2 STRAIGHT: Horizontal in back face of wing. One bar of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MAX.	LENGTHS VARY MIN.	SH3 & LH3 STRAIGHT: In back face of wing at top - on slope. SIZE	NO. REQD	LENGTH	SH4 & LH4 BENT: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQD	LENGTH	X	BAR BENDING DIAGRAM	QUANTITY: REINFORCING STEEL PER WING - LBS. SHORT WING	LONG WING
H	Short or Long				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.																																						
2'	Short	#8	12"	7	1'-7"	3'-11"	2'-8"	1'-0"	1'-0"	3'-0"	—	—	—	—	—	—	#3	1	3'-2"	#8	2	7'-10"	#3	12"	1	6'-5"	#8	12"	1	—	3'-6"	#3	1	6'-10"	#3	12"	2	2'-8"	1'-6"					24.9	33.4
	Long	#8	12"	10	1'-7"	3'-11"	2'-8"	1'-0"	0'-10"	3'-0"	—	—	—	—	—	—	#3	1	11'-8"	#8	2	10'-10"	#8	12"	1	8'-11"	#8	12"	1	—	4'-8"	#3	1	9'-1"	#3	12"	3	"	"					37.7	50.3
3'	Short	#8	12"	9	2'-2"	5'-8"	0'-10"	1'-8"	1'-5"	4'-0"	—	—	—	—	—	—	#3	1	19'-6"	#8	2	19'-10"	#8	12"	1	11'-9"	#8	12"	2	8'-11"	4'-8"	#3	1	13'-0"	#3	12"	3	"	"					57.3	76.4
	Long	#8	12"	13	1'-11"	5'-2"	0'-10"	1'-3"	1'-2"	4'-0"	—	—	—	—	—	—	#3	1	17'-8"	#8	3	19'-10"	#8	12"	1	14'-7"	#8	12"	3	11'-8"	4'-8"	#3	1	16'-11"	#8	12"	4	"	"					81.1	108.4
4'	Short	#8	12"	11	2'-7"	6'-7"	0'-11"	1'-8"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	17'-6"	#8	3	19'-10"	#8	12"	2	12'-6"	#8	12"	3	9'-8"	3'-6"	#3	1	13'-10"	#3	12"	5	"	"					134.8	178.1
	Long	#8	12"	15	2'-6"	6'-6"	0'-11"	1'-7"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	23'-0"	#8	3	29'-6"	#8	12"	3	17'-6"	#8	12"	4	12'-5"	3'-6"	#3	1	17'-10"	#8	12"	6	"	"					253.5	345.2
5'	Short	#8	12"	13	3'-1"	7'-11"	1'-1"	2'-0"	2'-1"	6'-0"	#8	12"	4	3'-6"	1'-1"	2'-6"	#8	1	20'-2"	#8	3	20'-9"	#8	12"	3	17'-6"	#8	12"	4	12'-5"	3'-6"	#8	1	17'-10"	#8	12"	5	"	"					328.0	438.3
	Long	#8	12"	18	3'-1"	7'-11"	1'-1"	2'-0"	2'-0"	6'-0"	#8	12"	5	3'-6"	1'-1"	2'-6"	#8	1	27'-6"	#8	3	29'-6"	#8	12"	4	23'-3"	#8	12"	5	16'-10"	3'-6"	#8	1	23'-6"	#8	12"	7	3'-6"	1'-9"						
6'	Short	#8	12"	16	3'-6"	9'-6"	1'-2"	2'-4"	2'-5"	7'-1"	#8	12"	4	9'-6"	1'-4"	3'-3"	#8	1	23'-0"	#8	3	29'-6"	#8	12"	4	20'-3"	#8	12"	6	16'-10"	3'-6"	#8	1	23'-6"	#8	12"	6	2'-8"	1'-4"						
	Long	#8	12"	21	3'-5"	9'-5"	1'-2"	2'-3"	2'-4"	7'-1"	#8	12"	5	9'-6"	1'-4"	3'-5"	#8	1	33'-0"	#8	3	38'-6"	#8	12"	5	26'-11"	#8	12"	7	21'-8"	4'-8"	#8	1	30'-6"	#8	12"	8	3'-6"	1'-9"						
7'	Short	#8	12"	18	3'-9"	10'-10"	1'-3"	2'-10"	2'-7"	8'-1"	#8	12"	7	5'-6"	1'-7"	4'-10"	#8	1	33'-0"	#8	4	38'-6"	#8	12"	6	26'-11"	#8	12"	8	21'-8"	4'-8"	#8	1	30'-6"	#8	12"	9	4'-0"	2'-0"						
	Long	#8	12"	24	3'-10"	10'-8"	1'-3"	2'-8"	2'-8"	8'-1"	#8	12"	9	5'-6"	1'-7"	4'-10"	#8	1	45'-0"	#8	4	48'-6"	#8	12"	7	33'-11"	#8	12"	9	26'-8"	4'-8"	#8	1	36'-9"	#8	12"	11	4'-0"	2'-0"						
8'	Short	#8	12"	20	4'-0"	12'-5"	1'-5"	3'-2"	3'-0"	9'-2"	#8	12"	10	6'-6"	1'-10"	5'-9"	#8	1	45'-0"	#8	4	48'-6"	#8	12"	8	33'-11"	#8	12"	10	26'-8"	4'-8"	#8	1	36'-9"	#8	12"	13	4'-0"	2'-0"						
	Long	#8	12"	27	4'-4"	12'-8"	1'-5"	3'-2"	3'-0"	9'-2"	#8	12"	13	6'-6"	1'-10"	5'-9"	#8	1	58'-3"	#8	4	61'-3"	#8	12"	9	42'-9"	#8	12"	12	33'-8"	4'-8"	#8	1	46'-3"	#8	12"	15	4'-0"	2'-0"						

NOTE:- Bars for short wing shall be marked with prefix letter "S", while those for long wing shall be marked with letter "L".

Note:- Dimensions are to bar centers.

REVISIONS:- Membrane Added. 5-10-66 W.C.H.

Designed By:- W.C.H. 5-13-63 Checked By:- BMS - 8-7-63
Drawn By:- W.C.H. 4-30-63 Checked By:-
Quantities By:- W.C.H. 9-23-63 Checked By:-

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 15° SKEW

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

CLASS S CONCRETE

STANDARD DRAWING NO. W-X153-1

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			141	
JOB No.					

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

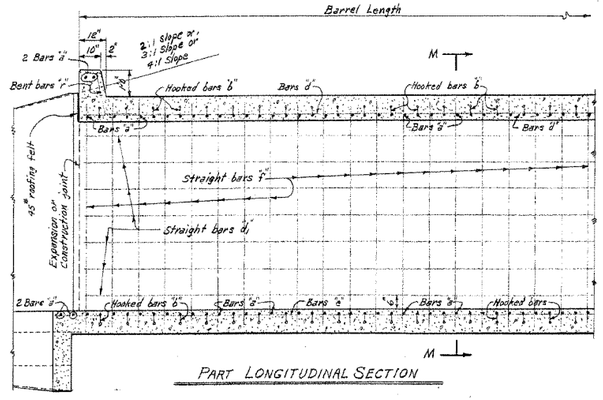
DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	'a' bars STRAIGHT In Top and Bottom Slabs of Barrel. 2 Addl' in Apron and Headwall- Each.					'b' bars BENT - See Diagram below. In Top and Bottom Slabs of Barrel. Alternate with 'a' bars.						'd' bars STRAIGHT Longitudinal in Top Slab of Barrel			'd1' bars STRAIGHT Longitudinal in Sidewalls			'e' bars. STRAIGHT Longitudinal in Bottom Slab of Barrel			'f' bars STRAIGHT Verticals in Sidewalls				
					NUMBER REQ'D					NUMBER REQ'D															NUMBER REQ'D		
D	S	H	SIZE	SPACING	3:1	4:1	LENGTH	SIZE	SPACING	3:1	4:1	LENGTH	X	SIZE	SPACING	NO. RODS	LENGTH	SIZE	SPACING	NO. RODS	LENGTH	SIZE	SPACING	NO. RODS	LENGTH	SIZE	SPACING	3:1	4:1	LENGTH
0'-0" TO 5'-0" MAXIMUM	1 @ 4'	2'	#5	13"	120	120	4'-9"	#6	19"	110	110	5'-10"	4'-8"	#5	10½"	6	2 @ 30'-6" For 60'-0 Length Barrel. (1'-6" Lap)	#4	12"	4	2 @ 30'-6" For 60'-0 Length Barrel. (1'-3" Lap)	#4	12"	5	2 @ 30'-6" For 60'-0 Length Barrel. (1'-3" Lap)	#4	12"	120	120	2'-11"
		3'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				6				5				120	120	3'-11"
		4'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				8				5				120	120	4'-11"
		5'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				10				5				120	120	5'-11"
		6'			120	120	4'-11"			110	110	6'-0"	4'-10"			6				12				5				120	120	6'-11"
	1 @ 5'	3'			120	120	5'-9"			110	110	6'-10"	5'-8"			7				6				6				120	120	5'-0"
		4'			120	120	5'-9"			110	110	6'-10"	5'-8"			8				6				6				120	120	5'-0"
		5'	#6	13"	120	120	5'-9"	#6	13"	110	110	6'-10"	5'-8"	#5	10½"	7		#4	12"	10		#4	12"	6		#4	12"	120	120	6'-0"
		6'			120	120	5'-11"			110	110	7'-0"	5'-10"			7				12				6				120	120	7'-0"
		7'			120	120	6'-0"			110	110	7'-1"	5'-11"			7				14				6				120	120	8'-0"
		3'			128	128	6'-9"			118	118	7'-10"	6'-8"			8				6				7				120	120	4'-1"
		4'			128	128	6'-9"			118	118	7'-10"	6'-8"			8				8				7				120	120	5'-1"
	1 @ 6'	5'	#6	12"	128	128	6'-9"	#6	12"	118	118	7'-10"	6'-8"	#5	10½"	8		#4	12"	10		#4	12"	7		#4	12"	120	120	6'-1"
		6'			128	128	6'-11"			118	118	8'-0"	6'-10"			8				12				7				120	120	7'-1"
		7'			128	128	7'-0"			118	118	8'-1"	6'-11"			8				14				7				120	120	8'-1"
		8'			128	128	7'-1"			118	118	8'-2"	7'-0"			8				16				7		#5	12"	120	120	9'-1"
		4'			140	140	7'-9"			130	130	8'-10"	7'-8"			9				8				8				120	120	5'-12"
	1 @ 7'	5'			140	140	7'-9"			130	130	8'-10"	7'-8"			9				10				8				120	120	6'-12"
		6'	#6	11"	140	140	7'-11"	#6	11"	130	130	9'-0"	7'-10"	#5	10½"	9		#4	12"	12		#4	12"	8		#4	12"	120	120	7'-12"
		7'			140	140	8'-0"			130	130	9'-1"	7'-11"			9				14				8				120	120	8'-12"
		8'			140	140	8'-1"			130	130	9'-2"	8'-0"			9				16				8				10"	144	9'-2"
		9'			140	140	8'-3"			130	130	9'-3"	8'-2"			9				18				8		#5	12"	120	120	10'-2"
		4'			128	128	8'-9"			118	118	9'-10"	8'-8"			9				8				9				120	120	5'-9"
		5'			128	128	8'-11"			118	118	10'-0"	8'-10"			10				10				9				120	120	6'-9"
	1 @ 8'	6'			128	128	8'-11"			118	118	10'-0"	8'-10"			11				12				9		#4	12"	120	120	7'-9"
		7'	#7	12"	128	128	9'-0"	#6	12"	118	118	10'-1"	8'-11"	#5	10"	11		#4	12"	14		#4	12"	9				120	120	8'-9"
		8'			128	128	9'-1"			118	118	10'-2"	9'-0"			11				16				9				10"	144	9'-10"
		9'			128	128	9'-3"			118	118	10'-4"	9'-2"			11				18				9		#5	12"	120	120	10'-6"
		10'			128	128	9'-5"			118	118	10'-6"	9'-4"			11				20				9				11"	132	11'-9"
		5'			140	140	9'-11"			130	130	11'-0"	9'-10"			12				10				10				120	120	6'-5"
		6'			140	140	10'-0"			130	130	11'-1"	9'-11"			12				12				10		#4	12"	120	120	7'-5"
	1 @ 9'	7'			140	140	10'-0"			130	130	11'-1"	9'-11"			12				14				10				120	120	8'-5"
		8'	#7	11"	140	140	10'-1"	#6	11"	130	130	11'-2"	10'-0"	#5	10"	12		#4	12"	16		#4	12"	10				10"	144	9'-5"
		9'			140	140	10'-3"			130	130	11'-4"	10'-2"			12				18				10		#5	12"	120	120	10'-5"
		10'			140	140	10'-5"			130	130	11'-6"	10'-4"			12				20				10				11"	132	11'-5"
		11'			140	140	10'-7"			130	130	11'-8"	10'-6"			12				22				10				10"	144	12'-5"
		5'			128	128	10'-11"			118	118	12'-2"	10'-10"			13				10				11				120	120	6'-6"
		6'			128	128	11'-0"			118	118	12'-3"	10'-11"			13				12				11		#4	18"	120	120	7'-6"
	1 @ 10'	7'			128	128	11'-0"			118	118	12'-3"	10'-11"			13				14				11				120	120	8'-6"
		8'			128	128	11'-1"			118	118	12'-5"	11'-0"			13				16				11				10"	144	9'-6"
		9'	#7	12"	128	128	11'-3"	#7	12"	118	118	12'-6"	11'-2"	#5	10"	13		#4	12"	18		#4	12"	11				10"	144	10'-6"
		10'			128	128	11'-5"			118	118	12'-8"	11'-4"			13				20				11		#5	12"	132	132	11'-6"
		11'			128	128	11'-7"			118	118	12'-10"	11'-6"			13				22				11				10"	144	12'-6"
		12'			128	128	11'-9"			118	118	13'-0"	11'-8"			13				24				11		#6	18"	120	120	13'-6"
		6'			140	140	12'-1"			130	130	13'-4"	12'-0"			15				12				12				120	120	7'-7"
		7'			140	140	12'-1"			130	130	13'-4"	12'-0"			15				14				12		#4	18"	120	120	8'-7"
	1 @ 11'	8'			140	140	12'-1"			130	130	13'-4"	12'-0"			15				16				12				10"	144	9'-7"
		9'	#7	11"	140	140	12'-3"	#7	11"	130	130	13'-5"	12'-2"	#5	9½"	15		#4	12"	18		#4	12"	12				10"	144	10'-7"
		10'			140	140	12'-5"			130	130	13'-5"	12'-4"			15				20				12		#5	18"	120	120	10'-7"
		11'			140	140	12'-7"			130	130	13'-10"	12'-6"			15				22				12				11"	132	11'-5"
		12'			140	140	12'-9"			130	130	14'-0"	12'-8"			15				24				12		#6	18"	120	120	13'-7"
		6'			128	128	13'-1"			118	118	14'-4"	13'-0"			16				12				18				120	120	7'-9"
		7'			128	128	13'-1"			118	118	14'-5"	13'-0"			16				14				13		#4	18"	120	120	8'-9"
	1 @ 12'	8'			128	128	13'-1"			118	118	14'-5"	13'-0"			16				16				13				10"	144	9'-9"
		9'	#8	12"	128	128	13'-3"	#7	12"	118	118	14'-6"	13'-2"	#5	9½"	16		#4	12"	18		#4	12"	13				12"	132	11'-9"
		10'			128	128	13'-5"			118	118	14'-8"	13'-4"			16				20				13		#5	18"	120	120	10'-9"
		11'			128	128	13'-7"			118	118	14'-10"	13'-6"			16				22				13				10"	144	12'-9"
		12'			128	128	13'-9"			118	118	15'-0"	13'-8"			16				24				13		#6	18"	120	120	13'-9"

DIMENSIONS — QUANTITIES

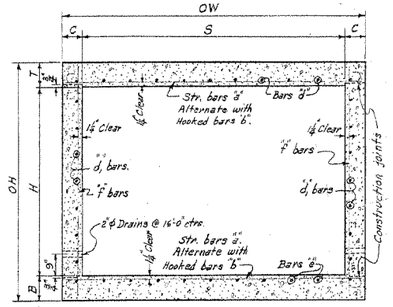
MAX. DESIGN DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	BARREL DIMENSIONS: SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES: CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL: PER LIN. FT. OF BARREL	REINFORCING STEEL: ADDITIONAL PER LAP	REINFORCING STEEL: ADDITIONAL TWO HEADWALLS & APRONS
D	S	H	A	OW	T	C	B	OH	CU.YD	LB.	LB	LB.
5'-0"	1 @ 4'	2'	8	5'-0"	7"	6"	6½"	3'-1½"	0.282	41.99	17.95	66.35
		3'	12	5'-0"		6"		3'-7½"	0.319	44.16	19.62	66.35
		4'	16	5'-0"		6"		4'-1½"	0.356	46.33	21.29	66.35
		5'	20	5'-0"		6"		4'-7½"	0.394	49.50	22.96	66.35
		6'	24	5'-2"		7"		5'-1½"	0.474	52.96	24.63	67.75
	1 @ 5'	3'	15	6'-0"	7½"	6"	7"	4'-2½"	0.380	55.55	22.19	101.27
		4'	20	6'-0"		6"		4'-8½"	0.417	58.23	23.86	101.27
		5'	25	6'-0"		6"		5'-2½"	0.454	60.90	25.53	101.27
		6'	30	6'-2"		7"		5'-8½"	0.535	64.99	27.20	103.27
		7'	35	6'-3"		7½"		6'-2½"	0.604	67.63	28.87	104.27
	1 @ 6'	3'	18	7'-0"	8"	6"	7½"	4'-3½"	0.496	66.23	24.76	118.94
		4'	24	7'-0"		6"		5'-3½"	0.983	68.96	26.43	118.94
		5'	30	7'-0"		6"		6'-3½"	0.520	71.64	28.10	118.96
		6'	36	7'-2"		7"		7'-3½"	0.602	75.31	29.77	120.96
		7'	42	7'-3"		7½"		8'-3½"	0.671	78.98	31.44	121.97
		8'	48	7'-4"		8"		9'-3½"	0.746	88.47	33.11	122.97
	1 @ 7'	4'	28	8'-0"	8½"	6"	8"	5'-5"	0.568	81.32	29.01	136.88
		5'	35	8'-0"		6"		6'-5"	0.605	84.00	30.68	136.88
		6'	42	8'-2"		7"		7'-5"	0.688	87.76	32.35	138.88
		7'	49	8'-3"		7½"		8'-5"	0.757	90.98	34.02	139.88
		8'	56	8'-4"		8"		9'-5"	0.832	96.65	35.69	140.88
		9'	63	8'-6"		9"		10'-5"	0.996	105.59	37.36	142.89
	1 @ 8'	4'	32	9'-0"	9"	6"	8½"	5'-7"	0.676	95.26	38.32	194.07
		5'	40	9'-2"		7"		6'-7"	0.758	99.12	39.99	196.80
		6'	48	9'-2"		7"		7'-7"	0.797	101.79	36.66	196.80
		7'	56	9'-3"	9½"	7½"	9½"	8'-7"	0.867	105.05	38.33	198.16
		8'	64	9'-4"		8"		9'-7"	0.992	110.81	40.00	199.52
		9'	72	9'-6"		9"		10'-7"	1.057	119.92	41.67	202.25
		10'	80	9'-8"		10"		11'-7"	1.189	126.67	43.34	204.97
	1 @ 9'	5'	45	10'-2"	10"	7"	10"	6'-8"	0.844	119.72	37.56	219.61
		6'	54	10'-3"		7½"		7'-8"	0.910	118.04	39.23	220.97
		7'	63	10'-3"		7½"		8'-8"	0.957	120.71	40.90	220.97
		8'	72	10'-4"		8"		9'-8"	1.033	126.54	42.57	222.33
		9'	81	10'-6"		9"		10'-8"	1.148	135.80	44.24	225.06
		10'	90	10'-8"		10"		11'-8"	1.276	142.68	45.91	227.78
		11'	99	10'-10"		11"		12'-8"	1.416	150.40	47.58	230.51
	1 @ 10'	5'	50	11'-2"	11"	7"	11½"	6'-9½"	0.957	130.69	40.13	242.69
		6'	60	11'-3"		7½"		7'-9½"	1.024	133.99	41.80	244.00
		7'	70	11'-3"		7½"		8'-9½"	1.071	136.66	43.47	244.00
		8'	80	11'-4"	10½"	8"	11"	9'-9½"	1.147	142.55	45.14	245.36
		9'	90	11'-6"		9"		10'-9½"	1.263	151.92	46.81	248.09
		10'	100	11'-8"		10"		11'-9½"	1.391	158.89	48.98	250.81
		11'	110	11'-10"		11"		12'-9½"	1.532	166.71	50.15	253.54
		12'	120	12'-0"		12"		13'-9½"	1.685	170.67	51.82	256.26
	1 @ 11'	6'	66	12'-9"	11"	8"	11½"	7'-10½"	1.153	156.16	46.12	268.62
		7'	77	12'-9"		8"		8'-10½"	1.202	157.83	47.79	268.62
		8'	88	12'-9"		8"		9'-10½"	1.252	162.06	49.46	268.62
		9'	99	12'-8"		9"		10'-10½"	1.368	172.60	51.13	271.34
		10'	110	12'-8"		10"		11'-10½"	1.497	179.70	52.80	274.07
		11'	121	12'-8"		11"		12'-10½"	1.638	187.67	54.47	276.79
		12'	132	13'-0"		12"		13'-10½"	1.792	193.79	56.14	279.52
	1 @ 12'	6'	72	13'-9"	11½"	8"	12"	8'-0"	1.284	172.20	48.69	357.62
		7'	84	13'-9"		8"		9'-0"	1.333	174.87	50.36	357.62
		8'	96	13'-9"		9"		10'-0"	1.383	180.15	52.03	357.62
		9'	108	13'-6"		9"		11'-0"	1.500	183.85	53.70	361.18
		10'	120	13'-8"		10"		12'-0"	1.630	187.07	55.37	364.74
		11'	132	13'-10"		11"		13'-0"	1.772	205.16	57.04	368.30
		12'	144	14'-0"		12"		14'-0"	1.926	217.95	58.71	371.86

W-X002-1, W-X003-1 or W-X004-1, W-X003-2, W-X004-2.

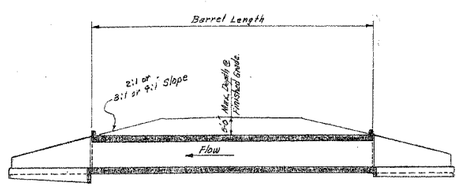
Note- For details of wings and bar bends, see Drawing Nos. W-X002-1 or W-X003-1 or W-X004-1 and W-X002-2.



PART LONGITUDINAL SECTION



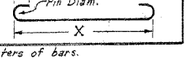
TYPICAL SECTION M-M



LONGITUDINAL SECTION

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#6	3"	5"	1'-2"
#7	3½"	5¾"	1'-4"

BENDING DIAGRAM Bars 'b'.

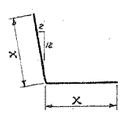


NOTE:- Dimensions are to centers of bars.

DOWEL BARS FOR TWO HEADWALLS

SPAN	SIZE	SPACING	NO. RODS	LENGTH	X
4'	#4	11"/4	12	2'-6"	1'-3"
5'	#4	11"/2	14	2'-7"	1'-3⅜"
6'	#4	11"/4	16	2'-8"	1'-4"
7'	#4	11"/2	18	2'-9"	1'-4⅜"
8'	#4	11⅝"/4	20	2'-11"	1'-5½"
9'	#4	11⅝"/4	22	3'-0"	1'-6"
10'	#4	11⅝"/4	24	3'-1"	1'-6⅝"
11'	#4	12"/4	26	3'-2"	1'-7"
12'	#4	12"/4	28	3'-3"	1'-7⅝"

Bars 'f' Dowel bars in Headwalls.



GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" 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 35'-0" length of barrel over 32'-6". Lap longitudinal bars 30 diameters.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls 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 24,000 Lb. Axles @ 9'-0" ctrs.

UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

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

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 SINGLES — 3:1 OR 4:1 SLOPES UNDER 5'-0" COVER

STANDARD DRAWING NO. R-100X-0

Designed By:- W.C.H. 1-23-63. Checked By:- 12345-5-24-63
Drawn By:- W.C.H. 2-8-63. Checked By:- 12345-5-24-63
Quantities By:- W.C.H. 2-12-63. Checked By:- 12345-5-24-63

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			142	
JOB No.					

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

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	'a' bars STRAIGHT: In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each.					'b' bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with 'a' and 'c' bars.								'b2' bars BENT - See Diagram below. In Top of Bottom Slab bent down under Division Wall - hooked. Alternate with 'a' and 'c' bars.								'c' bars STRAIGHT: In Top and Bottom Slab of Barrel. Alternate with 'b' and 'b2' bars.				'd' bars STRAIGHT: Longitudinal in Top Slab of Barrel		'd1' bars STRAIGHT: Longitudinal in Sidewalls and Division Walls.			'e' bars STRAIGHT: Longitudinal in Bottom Slab of Barrel.			'f' bars STRAIGHT: Vertical in Sidewalls and Division Walls.			
			SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
D	S	H																																							
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-4"			59	59	10'-6"	0'-2½"	2'-3½"	3'-6"			59	59	10'-6"	0'-2½"	2'-3½"	3'-6"			120	120	6'-8"			14			240	240	2'-10"
		3'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-4"			59	59	10'-6"	0'-2½"	2'-3½"	3'-6"			59	59	10'-6"	0'-2½"	2'-3½"	3'-6"			120	120	6'-8"			12			240	240	3'-10"
		4'			128	128	9'-5"	#5	12"	59	59	10'-6"	0'-3"	2'-2½"	3'-4"	#5	12"	59	59	10'-6"	0'-2½"	2'-3½"	3'-6"	#5	12"	59	59	10'-6"	0'-2½"	2'-3½"	3'-6"	#5	12"	120	120	6'-8"	#4	12"	16	#4	12"	240	240	4'-10"
		5'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-4"			59	59	10'-6"	0'-2½"	2'-3½"	3'-6"			59	59	10'-6"	0'-2½"	2'-3½"	3'-6"			120	120	6'-8"			20			240	240	5'-10"
		6'			128	128	9'-6"			59	59	10'-9"	0'-3"	2'-3½"	3'-5"			59	59	10'-9"	0'-2½"	2'-3½"	3'-6"			59	59	10'-9"	0'-2½"	2'-3½"	3'-6"			120	120	6'-8"			24			240	240	6'-10"
	2 @ 5'-0"	3'			128	128	11'-5"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"			120	120	5'-8"			16			240	240	5'-10"
		4'			128	128	11'-5"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"			120	120	5'-8"			16			240	240	5'-11"
		5'			128	128	11'-5"	#5	12"	59	59	12'-7"	0'-3½"	2'-7½"	4'-1"	#5	12"	59	59	12'-6"	0'-3"	2'-8½"	4'-1"	#5	12"	59	59	12'-6"	0'-3"	2'-8½"	4'-1"	#5	12"	120	120	5'-8"	#4	12"	16	#4	12"	240	240	6'-0"
		6'			128	128	11'-8"			59	59	12'-10"	0'-3½"	2'-8½"	4'-2"			59	59	12'-9"	0'-3"	2'-8½"	4'-2"			59	59	12'-9"	0'-3"	2'-8½"	4'-2"			120	120	5'-8"			20			240	240	6'-2"
		7'			128	128	11'-10"			59	59	13'-0"	0'-3½"	2'-9½"	4'-2½"			59	59	12'-11"	0'-3"	2'-10½"	4'-2½"			59	59	12'-11"	0'-3"	2'-10½"	4'-2½"			120	120	5'-10"			24			240	240	6'-10"
		8'			128	128	12'-1"			59	59	13'-3"	0'-3½"	2'-10½"	4'-3"			59	59	13'-2"	0'-3"	2'-11½"	4'-3"			59	59	13'-2"	0'-3"	2'-11½"	4'-3"			120	120	5'-10"			28			240	240	7'-10"
		3'			140	140	13'-5"			65	65	14'-7"	0'-4"	3'-1½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			132	132	6'-8"			18			240	240	4'-10"
		4'			140	140	13'-5"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			132	132	6'-8"			12			240	240	5'-0"
	2 @ 5'-6"	5'			140	140	13'-5"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			132	132	6'-8"			16			240	240	5'-0"
		6'			140	140	13'-5"	#5	11"	65	65	14'-7"	0'-4"	3'-2½"	4'-10"	#5	11"	65	65	14'-7"	0'-4"	3'-2½"	4'-10"	#5	11"	65	65	14'-7"	0'-4"	3'-2½"	4'-10"	#5	11"	132	132	6'-8"	#4	12"	20	#4	12"	240	240	6'-0"
		7'			140	140	13'-5"			65	65	14'-10"	0'-4"	3'-2½"	4'-11"			65	65	14'-10"	0'-4"	3'-2½"	4'-11"			65	65	14'-10"	0'-4"	3'-2½"	4'-11"			132	132	6'-8"			24			240	240	6'-0"
		8'			140	140	13'-6"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			132	132	6'-10"			28			240	240	6'-0"
		4'			128	128	15'-5"			58	59	16'-9"	0'-4½"	3'-5"	5'-2"			59	59	16'-8"	0'-4½"	3'-5"	5'-2"			59	59	16'-8"	0'-4½"	3'-5"	5'-2"			120	120	7'-8"			16			240	240	5'-11"
		5'			128	128	15'-5"			59	59	16'-8"	0'-4½"	3'-5"	5'-2"			59	59	16'-8"	0'-4½"	3'-5"	5'-2"			59	59	16'-8"	0'-4½"	3'-5"	5'-2"			120	120	7'-8"			20			240	240	6'-1"
	2 @ 6'-0"	6'			128	128	15'-8"			59	59	17'-0"	0'-4½"	3'-6"	5'-3"			59	59	17'-0"	0'-4½"	3'-6"	5'-3"			59	59	17'-0"	0'-4½"	3'-6"	5'-3"			120	120	7'-9"			20			240	240	7'-1"
		7'			128	128	15'-8"	#6	12"	59	59	17'-2"	0'-4½"	3'-7"	5'-3½"	#6	12"	59	59	17'-2"	0'-4½"	3'-7"	5'-3½"	#6	12"	59	59	17'-2"	0'-4½"	3'-7"	5'-3½"	#6	12"	120	120	7'-10"	#4	12"	24	#4	12"	240	240	7'-1"
		8'			128	128	15'-11"			59	59	17'-3"	0'-4½"	3'-7"	5'-3"			59	59	17'-3"	0'-4½"	3'-7"	5'-3"			59	59	17'-3"	0'-4½"	3'-7"	5'-3"			120	120	7'-10"			28			240	240	8'-1"
		9'			128	128	16'-2"			59	59	17'-6"	0'-4½"	3'-8"	5'-4"			59	59	17'-6"	0'-4½"	3'-8"	5'-4"			59	59	17'-6"	0'-4½"	3'-8"	5'-4"			120	120	7'-11"			32			240	240	8'-2"
		4'			140	140	17'-5"			65	65	18'-10"	0'-5"	3'-10"	6'-4"			65	65	18'-10"	0'-5"	3'-10"	6'-4"			65	65	18'-10"	0'-5"	3'-10"	6'-4"			132	132	8'-8"			16			240	240	5'-2"
		5'			140	140	17'-8"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			132	132	8'-9"			20			240	240	6'-2"
	2 @ 6'-6"	6'			140	140	17'-8"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			132	132	8'-9"			24			240	240	7'-2"
		7'			140	140	17'-10"	#6	11"	65	65	19'-3"	0'-5"	4'-0"	6'-5½"	#6	11"	65	65	19'-3"	0'-5"	4'-0"	6'-5½"	#6	11"	65	65	19'-3"	0'-5"	4'-0"	6'-5½"	#6	11"	132	132	8'-10"	#4	12"	28	#4	12"	240	240	8'-2"
		8'			140	140	17'-11"			65	65	19'-4"	0'-5"	4'-0"	6'-6"			65	65	19'-4"	0'-5"	4'-0"	6'-6"			65	65	19'-4"	0'-5"	4'-0"	6'-6"			132	132	8'-11"			32			240	240	8'-2"
		9'			140	140	18'-2"			65	65	19'-7"	0'-5"	4'-1"	6'-7"			65	65	19'-7"	0'-5"	4'-1"	6'-7"			65	65	19'-7"	0'-5"	4'-1"	6'-7"			132	132	9'-0"			36			240	240	8'-3"
		10'			140	140	18'-5"			65	65	19'-10"	0'-5"	4'-2"	6'-8"			65	65	19'-10"	0'-5"	4'-2"	6'-8"			65	65	19'-10"	0'-5"	4'-2"	6'-8"			132	132	9'-0"			40			240	240	8'-3"
		5'			140	140	19'-8"			65	65	21'-1"	0'-5½"	4'-4"	7'-2"			65	65	21'-1"	0'-5½"	4'-4"	7'-2"			65	65	21'-1"	0'-5½"	4'-4"	7'-2"			132	132	9'-10"			20			240	240	7'-3"
		6'			140	140	19'-10"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			132	132	9'-10"			24			240	240	7'-3"
	2 @ 6'-9"	7'			140	140	19'-10"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			132	132	9'-10"			28			240	240	7'-4"
		8'			140	140	19'-11"	#6	11"	65	65	21'-4"	0'-5½"	4'-5"	7'-3"	#6	11"	65	65	21'-4"	0'-5½"	4'-5"	7'-3"	#6	11"	65	65	21'-4"	0'-5½"	4'-5"	7'-3"	#6	11"	132	132	9'-10"	#4	12"	32	#4	12"	240	240	8'-3"
		9'			140	140	20'-0"			65	65	21'-7"	0'-5½"	4'-6"	7'-4"			65	65	21'-7"	0'-5½"	4'-6"	7'-4"			65	65	21'-7"	0'-5½"	4'-6"	7'-4"			132	132	10'-0"			36			240	240	8'-3"
		10'			140	140	20'-5"			65	65	21'-10"	0'-5½"	4'-7"	7'-5"			65	65	21'-10"	0'-5½"	4'-7"	7'-5"			65	65	21'-10"	0'-5½"	4'-7"	7'-5"			132	132	10'-0"			40			240	240	8'-4"
		11'			140	140	20'-7"			65	65	22'-0"	0'-5½"	4'-7"	7'-6"			65	65	22'-0"	0'-5½"	4'-7"	7'-6"			65	65	22'-0"	0'-5½"	4'-7"	7'-6"			132	132	10'-0"			44			240	240	8'-4"
		5'			128	128	21'-8"			59	59	23'-2"	0'-6"	4'-9"	7'-11"			59	59	23'-2"	0'-6½"	4'-8"	7'-11"			59	59	23'-2"	0'-6½"	4'-8"	7'-11"			120	120	10'-9"			20			240	240	6'-4"
		6'			128	128	21'-10"			59	59	23'-4"	0'-6"	4'-10"	7'-11½"			59	59	23'-4"	0'-6½"	4'-9"	7'-11½"			59	59	23'-4"	0'-6½"	4'-9"	7'-11½"			120	120	10'-10"			24			240	240	7'-4"
		7'			128	128	21'-10"			59	59	23'-6"	0'-6"	4'-10"	7'-11½"			59	59	23'-6"	0'-6½"	4'-9"	7'-11½"			59	59	23'-6"	0'-6½"	4'-9"	7'-11½"			120	120	10'-10"			28			240	240	7'-5"
	2 @ 10'-0"	8'			128	128	21'-11"			59	59	23'-8"	0'-6"	4'-11"	8'-0"			59	59	23'-8"	0'-6½"	4'-10"	8'-0"			59	59	23'-8"	0'-6½"	4'-10"	8'-0"			120	120	10'-10"			32			240	240	7'-5"
		9'			128	128	22'-1"	#7	12"	59	59	23'-10"	0'-6"	5'-0"	8'-0½"	#6	12"	59	59	23'-10"	0'-6½"	4'-10"	8'-0½"	#6	12"	59	59	23'-10"	0'-6½"	4'-10"	8'-0½"	#7	12"	120	120	10'-10"	#5	11½"	36	#4	12"	240	240	8'-4"
		10'			128	128	22'-3"			59	59	24'-0"	0'-6"	5'-0"	8'-1"			59	59	24'-0"	0'-6½"	4'-11"	8'-1"			59	59	24'-0"	0'-6½"	4'-11"	8'-1"			120	120	11'-0"			40			240	240	8'-4"
		11'			128	128	22'-5"			59	59	24'-2"	0'-6"	5'-0"	8'-2"			59	59	24'-1"	0'-6½"	4'-11"	8'-2"			59	59	24'-1"	0'-6½"	4'-11"	8'-2"			120	120	11'-0"			44			240	240	8'-5"
		12'			128	128	22'-8"			59	59	24'-3"	0'-6"	5'-0"	8'-3"			59	59	24'-3"	0'-6½"	5'-0"	8'-3"			59	59	24'-3"	0'-6½"	5'-0"	8'-3"			120	120	11'-0"			48			240	240	8'-5"
		6'			128	128	23'-11"			59	59	25'-5"	0'-6½"	5'-3"	8'-9"			59	59	25'-4"	0'-7"	5'-2"	8'-9"			59	59	25'-4"	0'-7"	5'-2"	8'-9"			120	120	11'-10"			24			240	240	8'-6"
		7'			128	128	23'-11"			59	59	25'-5"	0'-6½"	5'-3"	8'-9"			59	59	25'-4"	0'-7"	5'-2"	8'-9"			59	59	25'-4"	0'-7"	5'-2"	8'-9"			120	120	11'-10"			28			240	240	8'-6"
	2 @ 11'-0"	8'			128	128	23'-11"			59	59	25'-5"	0'-6½"	5'-3"	8'-9"			59	59	25'-4"	0'-7"	5'-2"	8'-9"			59	59	25'-4"	0'-7"	5'-2"	8'-9"			120	120	11'-10"			32			240	240	8'-6"
		9'			128	128	24'-2"	#7	12"	59	59	25'-8"	0'-6½"	5'-4"	8'-10"	#6	12"	59	59	25'-7"	0'-7"	5'-3"	8'-10"	#6	12"	59	59	25'-7"	0'-7"	5'-3"	8'-10"	#7	12"	120	120	11'-10"	#5	11½"	36	#4	12"	240	240	8'-7"
		10'			128	128	24'-5"			59	59	25'-11"	0'-6½"	5'-5"	8'-11"			59	59	26'-0"	0'-7"	5'-3"	8'-11"			59	59	26'-0"	0'-7"	5'-3"	8'-11"			120	120	12'-0"			40			240	240	8'-7"
		11'			128	128	24'-7"			59	59	26'-1"	0'-6½"	5'-5"	9'-0"			59	59	26'-2"	0'-7"	5'-3"	9'-0"			59	59	26'-2"	0'-7"	5'-3"	9'-0"			120	120	12'-0"			44			240	240	8'-7"
		12'			128	128	24'-9"			59	59	26'-3"	0'-6½"	5'-5"	9'-1"			59	59	26'-3"	0'-7"	5'-3"	9'-1"			59	59	26'-3"	0'-7"	5'-3"	9'-1"			120	120	12'-0"			48			240	240	8'-7"
		6'			140	140	25'-11"			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-5"	0'-8½"	5'-5"	9'-6"			65	65	27'-5"	0'-8½"	5'-5"	9'-6"			132	132	12'-10"			24			240	240	7'-7"
		7'			140	140	25'-11"			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"			132	132	12'-10"			28			240	240	8'-7"
	2 @ 11'-6"	8'			140	140	25'-11"			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"			132	132	12'-10"			32			240	240	8'-7"
		9'			140	140	26'-2"	#7	11"	65	65	27'-8"	0'-7"	5'-8"	9'-7"	#6	11"	65	65	27'-10"	0'-8½"	5'-6"	9'-7"	#7	11"	65	65	27'-10"	0'-8½"	5'-6"	9'-7"	#5	11½"	132	132	12'-11"	#5	11½"	32	#4	12"	240	240	8'-8"
		10'			140	140	26'-5"			65	65	27'-11"	0'-7"	5'-8"	9'-8"			65	65	28'-1"	0'-8½"	5'-6"	9'-8"			65	65	28'-1"	0'-8½"	5'-6"	9'-8"			132	132	13'-0"			36			240	240	8'-8"
		11'			140	140	26'-7"			65	65	28'-1"	0'-7"	5'-10"	9'-9"			65	65	28'-3"	0'-8½"	5'-7"	9'-9"			65	65	28'-3"	0'-8½"	5'-7"	9'-9"			132	132	13'-0"			40			240	240	8'-9"
		12'			140	140	26'-9"			65	65	28'-3"	0'-7"	5'-10"	9'-10"			65	65	28'-5"	0'-8½"	5'-7"	9'-10"			65	65	28'-5"	0'-8½"	5'-7"	9'-10"			132	132	13'-0"			44			240	240	8'-9"

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK			143	
JOB No.					

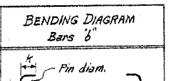
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slabs of Barrel. SIZE	SPACING	NO. REQD	LENGTH	"b" bars BENT- See Diagram. In Top and Bottom Slabs of Barrel. Alternate with "a" bars SIZE	SPACING	NO. REQD	LENGTH	X	"d" bars STRAIGHT Longitudinal in Top Slab of Barrel. SIZE	SPACING	NO. REQD	LENGTH	"d1" bars STRAIGHT Longitudinal in Sidewalls SIZE	SPACING	NO. REQD	LENGTH	"e" bars STRAIGHT Longitudinal in Slab of Barrel SIZE	SPACING	NO. REQD	LENGTH	"f" bars STRAIGHT Verticals in Sidewalls SIZE	SPACING	NO. REQD	LENGTH	"k" bars STRAIGHT 2 in Top of Headwalls and Aprons-Each. SIZE	NO. REQD	LENGTH
D	S	H																											
0'-0" TO 5'-0" MAXIMUM	4' @ 4'	2'	#5	13"	112	4'-1"	#6	13"	110	6'-0"	4'-10"					#4	12"	120	2'-11"					#5	12"	120	2'-11"	#5	8	5'-5"
		3'			112	4'-6"			110	6'-0"	4'-10"							120	3'-11"							120	3'-11"		8	5'-5"
		4'			112	4'-11"			110	6'-0"	4'-10"							120	4'-11"							120	4'-11"		8	5'-5"
		5'			112	4'-11"			110	6'-0"	4'-10"							120	5'-11"							120	5'-11"		8	5'-5"
		6'			112	5'-1"			110	6'-6"	5'-0"							120	6'-11"							120	6'-11"		8	5'-7"
	5' @ 5'	3'	#6	13"	112	5'-11"	#6	13"	110	7'-1"	5'-11"	#5	10½"	7	7	#4	12"	120	4'-5"	#5	12"	6	6	#5	12"	120	5'-0"	#5	8	6'-6"
		4'			112	5'-11"			110	7'-1"	5'-11"			7	8			120	5'-0"			6	6			120	5'-0"		8	6'-6"
		5'			112	5'-11"			110	7'-1"	5'-11"			7	10			120	6'-0"			6	6			120	6'-0"		8	6'-6"
		6'			112	6'-1"			110	7'-3"	6'-1"			7	12			120	7'-0"			6	6			120	7'-0"		8	6'-8"
		7'			112	6'-8"			110	7'-4"	6'-2"			7	14			120	8'-0"			6	6			120	8'-0"		8	6'-9"
	6' @ 6'	3'	#6	12"	120	7'-0"	#6	12"	118	8'-1"	6'-11"	#5	10½"	8	6	#4	12"	120	4'-1"	#5	12"	6	7	#6	12"	120	4'-1"	#6	8	7'-6"
		4'			120	7'-0"			118	8'-1"	6'-11"			8	8			120	5'-1"			6	7			120	5'-1"		8	7'-6"
		5'			120	7'-0"			118	8'-1"	6'-11"			8	10			120	6'-1"			6	7			120	6'-1"		8	7'-6"
		6'			120	7'-2"			118	8'-3"	7'-1"			8	12			120	7'-1"			6	7			120	7'-1"		8	7'-8"
		7'			120	7'-5"			118	8'-6"	7'-3"			8	14			120	8'-1"			6	7			120	8'-1"		8	7'-9"
		8'			120	7'-9"			118	8'-5"	7'-3"			8	16			120	9'-1"			6	7			120	9'-1"		8	7'-10"
	7' @ 7'	4'	#6	11"	132	8'-0"	#6	11"	130	9'-1"	7'-11"	#5	10½"	9	8	#4	12"	120	5'-2"	#5	12"	8	8	#6	12"	120	5'-2"	#6	8	8'-3"
		5'			132	8'-0"			130	9'-1"	7'-11"			9	10			120	6'-2"			8	8			120	6'-2"		8	8'-7"
		6'			132	8'-2"			130	9'-3"	8'-1"			9	12			120	7'-2"			8	8			120	7'-2"		8	8'-9"
		7'			132	8'-3"			130	9'-4"	8'-2"			9	14			120	8'-2"			8	8			120	8'-2"		8	8'-10"
		8'			132	8'-6"			130	9'-5"	8'-3"			9	16			120	9'-2"			8	8			120	9'-2"		8	8'-11"
		9'			132	8'-6"			130	9'-7"	8'-5"			9	18			120	10'-2"			8	8			120	10'-2"		8	9'-1"
	8' @ 8'	4'	#7	12"	120	9'-1"	#6	11"	118	10'-2"	9'-0"	#5	10½"	11	8	#4	12"	120	5'-4"	#5	12"	8	9	#6	12"	120	5'-4"	#6	8	9'-7"
		5'			120	9'-3"			118	10'-4"	9'-2"			11	10			120	6'-4"			8	9			120	6'-4"		8	9'-9"
		6'			120	9'-5"			118	10'-6"	9'-4"			11	12			120	7'-4"			8	9			120	7'-4"		8	9'-11"
		7'			120	9'-6"			118	10'-6"	9'-3"			11	14			120	8'-4"			8	9			120	8'-4"		8	9'-11"
		8'			120	9'-5"			118	10'-6"	9'-4"			11	16			144	9'-4"			8	9			144	9'-4"		8	9'-11"
		9'			120	9'-7"			118	10'-8"	9'-6"			11	18			120	10'-4"			8	9			120	10'-4"		8	10'-1"
		10'			120	9'-9"			118	10'-10"	9'-8"			11	20			132	11'-4"			8	9			132	11'-4"		8	10'-3"
	9' @ 9'	5'	#7	11"	132	10'-3"	#6	11"	130	11'-4"	10'-2"	#5	10½"	12	10	#4	12"	120	6'-5"	#5	12"	8	10	#7	12"	120	6'-5"	#7	8	10'-9"
		6'			132	10'-9"			130	11'-5"	10'-3"			12	12			120	7'-5"			8	10			120	7'-5"		8	10'-11"
		7'			132	10'-4"			130	11'-5"	10'-3"			12	14			120	8'-5"			8	10			120	8'-5"		8	10'-10"
		8'			132	10'-5"			130	11'-6"	10'-4"			12	16			144	9'-5"			8	10			144	9'-5"		8	10'-11"
		9'			132	10'-7"			130	11'-8"	10'-6"			12	18			120	10'-5"			8	10			120	10'-5"		8	11'-2"
		10'			132	10'-8"			130	11'-10"	10'-8"			12	20			132	11'-5"			8	10			132	11'-5"		8	11'-4"
		11'			132	10'-11"			130	12'-0"	10'-10"			12	22			144	12'-5"			8	10			144	12'-5"		8	11'-6"
	10' @ 10'	5'	#7	11"	120	11'-3"	#7	12"	118	12'-7"	11'-3"	#5	10½"	13	10	#4	12"	120	6'-6"	#5	12"	8	11	#7	12"	120	6'-6"	#7	8	11'-10"
		6'			120	11'-9"			118	12'-8"	11'-4"			13	12			120	7'-6"			8	11			120	7'-6"		8	11'-11"
		7'			120	11'-5"			118	12'-8"	11'-4"			13	14			120	8'-6"			8	11			120	8'-6"		8	11'-11"
		8'			120	11'-5"			118	12'-9"	11'-5"			13	16			144	9'-6"			8	11			144	9'-6"		8	12'-0"
		9'			120	11'-8"			118	12'-11"	11'-7"			13	18			120	10'-6"			8	11			120	10'-6"		8	12'-0"
		10'			120	11'-10"			118	13'-1"	11'-9"			13	20			132	11'-6"			8	11			132	11'-6"		8	12'-4"
		11'			120	12'-0"			118	13'-3"	11'-11"			13	22			144	12'-6"			8	11			144	12'-6"		8	12'-6"
		12'			120	12'-2"			118	13'-5"	12'-1"			13	24			144	12'-6"			8	11			144	12'-6"		8	12'-8"
	11' @ 11'	6'	#7	11"	132	12'-6"	#7	11"	130	13'-9"	12'-5"	#5	10½"	15	12	#4	12"	120	7'-7"	#5	12"	8	12	#7	12"	120	7'-7"	#7	8	13'-0"
		7'			132	12'-6"			130	13'-9"	12'-5"			15	14			120	8'-7"			8	12			120	8'-7"		8	13'-0"
		8'			132	12'-6"			130	13'-9"	12'-5"			15	16			144	9'-7"			8	12			144	9'-7"		8	13'-0"
		9'			132	12'-8"			130	13'-11"	12'-7"			15	18			120	10'-7"			8	12			120	10'-7"		8	13'-2"
		10'			132	12'-10"			130	14'-1"	12'-9"			15	20			132	11'-7"			8	12			132	11'-7"		8	13'-4"
		11'			132	13'-0"			130	14'-3"	12'-11"			15	22			144	12'-7"			8	12			144	12'-7"		8	13'-7"
		12'			132	13'-2"			130	14'-5"	13'-1"			15	24			144	13'-7"			8	12			144	13'-7"		8	13'-9"
	12' @ 12'	6'	#8	12"	180	13'-6"	#7	11"	118	14'-10"	13'-4"	#5	9½"	16	12	#4	12"	120	7'-8"	#5	12"	8	13	#8	12"	120	7'-8"	#8	8	14'-1"
		7'			180	13'-6"			118	14'-10"	13'-6"			16	14			120	8'-8"			8	13			120	8'-8"		8	14'-1"
		8'			180	13'-6"			118	14'-10"	13'-6"			16	16			144	9'-8"			8	13			144	9'-8"		8	14'-3"
		9'			180	13'-8"			118	15'-0"	13'-8"			16	18			120	10'-8"			8	13			120	10'-8"		8	14'-3"
		10'			180	13'-10"			118	15'-2"	13'-10"			16	20			132	11'-8"			8	13			132	11'-8"		8	14'-5"
		11'			180	14'-0"			118	15'-4"	14'-0"			16	22			144	12'-8"			8	13			144	12'-8"		8	14'-7"
		12'			180	14'-2"			118	15'-6"	14'-2"			16	24			144	13'-8"			8	13			144	13'-8"		8	14'-9"

NOTE:- The "a" and "b" bars are to be placed parallel with the headwalls, spacing to be parallel with barrel.

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#6	3"	5"	1'-2"
#7	3½"	5¾"	1'-4"

BENDING DIAGRAM Bars "b"

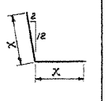


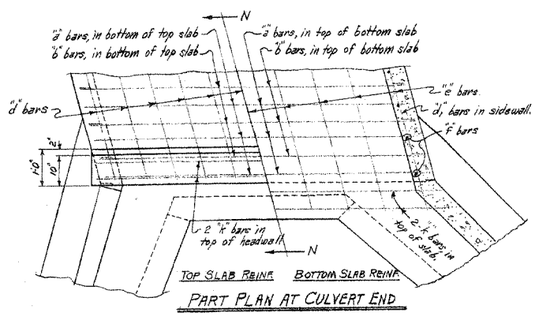
NOTE:-Dimensions are to centers of bars.

DOWEL BARS FOR TWO HEADWALLS

SPAN @	SIZE	SPACING	NO REQD	LENGTH	X
4'	#4	11½	12	2'-6"	1'-8"
5'	#4	11½	14	2'-7"	1'-3½"
6'	#4	11½	16	2'-8"	1'-9"
7'	#4	11½	18	2'-9"	1'-9½"
8'	#4	11½	20	2'-11"	1'-5½"
9'	#4	11½	22	3'-0"	1'-6"
10'	#4	12½	24	3'-1"	1'-6½"
11'	#4	12½	26	3'-2"	1'-7"
12'	#4	12½	28	3'-3"	1'-7½"

Bars "f" Dowel bars in headwalls

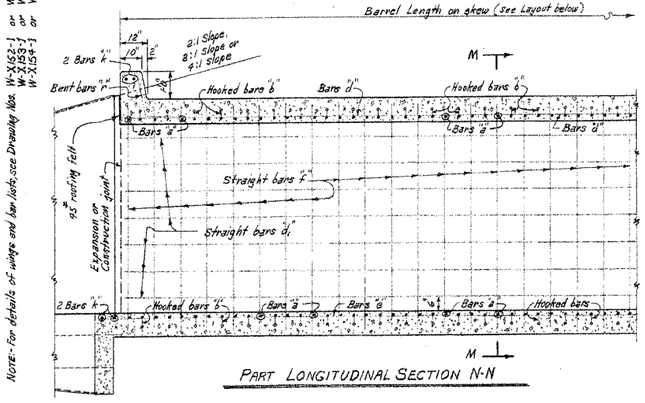




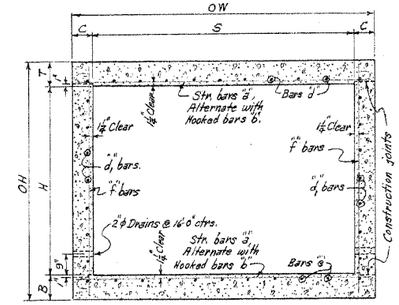
PART PLAN AT CULVERT END

DIMENSIONS — QUANTITIES

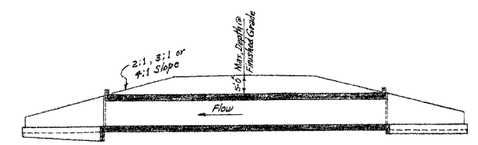
MAX. DESIGN DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	BARREL DIMENSIONS SQ. FT. OF OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	ROADWAY LENGTH	LENGTH OF HEADWALL	UNIT QUANTITIES CLASS S CONC. PER BARREL CU.YD.	REINFORCING STEEL PER LIN. FT. OF BARREL LB.	ADDITIONAL PER LAP LB.	ADDITIONAL TWO HEADWALLS & APRONS LB.
D	S	H	A	OW	T	C	B	OH	RL	K	CU.YD.	LB.	LB.	LB.
5'-0"	4' @ 4'	2'	8	5'-0"	7"	6"	6½"	3'-1½"	5'-2½"	5'-8½"	0.282	92.27	17.95	71.92
		3'	12	5'-0"		6"		4'-1½"	"	"	0.319	94.99	19.62	71.92
		4'	16	5'-0"		6"		5'-1½"	"	"	0.356	97.62	21.29	71.92
		5'	20	5'-0"		6"		6'-1½"	"	"	0.396	50.29	22.96	71.92
		6'	24	5'-2"		7"		7'-1½"	5'-4½"	5'-10⅝"	0.479	53.74	24.63	73.31
	5' @ 5'	3'	15	6'-0"	7½"	6"	7"	4'-2½"	4'-2½"	6'-5"	0.380	56.71	22.19	110.28
		4'	20	6'-0"		6"		5'-2½"	"	"	0.417	59.38	23.86	110.28
		5'	25	6'-0"		6"		6'-2½"	"	"	0.454	62.05	25.53	110.28
		6'	30	6'-2"		7"		7'-2½"	6'-4⅝"	6'-11⅝"	0.535	65.65	27.20	112.28
		7'	35	6'-3"		7½"		8'-2½"	6'-5⅝"	7'-0⅝"	0.606	68.78	28.87	113.28
	6' @ 6'	3'	18	7'-0"	8"	6"	7½"	4'-3½"	3'-8"	7'-3⅝"	0.446	67.79	24.76	127.97
		4'	24	7'-0"		6"		5'-3½"	"	"	0.483	70.47	26.93	127.97
		5'	30	7'-0"		6"		6'-3½"	"	"	0.520	73.19	28.10	127.97
		6'	36	7'-2"		7"		7'-3½"	7'-5"	7'-11⅝"	0.602	76.81	29.77	129.98
		7'	42	7'-3"		7½"		8'-3½"	7'-6"	8'-0⅝"	0.671	79.98	31.99	130.98
		8'	48	7'-4"		8"		9'-3½"	7'-7⅝"	8'-1⅝"	0.746	83.97	33.11	131.98
	7' @ 7'	4'	28	8'-0"	8½"	6"	8½"	5'-5"	8'-3⅝"	8'-3⅝"	0.568	82.96	29.01	196.89
		5'	35	8'-0"		6"		6'-5"	"	"	0.605	85.63	30.68	196.89
		6'	42	8'-2"		7"		7'-5"	8'-5½"	9'-0"	0.688	89.40	32.35	198.89
		7'	49	8'-3"		7½"		8'-5"	8'-6½"	9'-1"	0.757	92.62	34.02	199.90
		8'	56	8'-4"		8"		9'-5"	8'-7½"	9'-2"	0.832	98.28	35.69	150.90
		9'	63	8'-6"		9"		10'-5"	8'-8½"	9'-4"	0.946	107.22	37.36	152.90
	8' @ 8'	4'	32	9'-0"	9½"	6"	9½"	5'-7"	9'-3⅝"	9'-10⅝"	0.676	97.69	33.32	207.70
		5'	40	9'-2"		7"		6'-7"	9'-5⅝"	10'-0⅝"	0.754	101.98	34.99	210.92
		6'	48	9'-2"		7"		7'-7"	"	"	0.797	104.15	36.66	210.92
		7'	56	9'-3"		7½"		8'-7"	9'-6⅝"	10'-1⅝"	0.867	107.92	38.33	211.79
		8'	64	9'-4"		8"		9'-7"	9'-8"	10'-3⅝"	0.942	113.17	40.00	213.15
		9'	72	9'-6"		9"		10'-7"	9'-10"	10'-5⅝"	1.057	122.28	41.67	215.87
		10'	80	9'-8"		10"		11'-7"	10'-0⅝"	10'-7⅝"	1.189	129.04	43.34	218.60
	9' @ 9'	5'	45	10'-2"	10"	7"	10"	6'-8"	10'-1⅝"	11'-0⅝"	0.894	117.30	37.56	233.23
		6'	54	10'-3"		7½"		7'-8"	10'-3⅝"	11'-1⅝"	0.910	120.62	39.23	234.60
		7'	63	10'-3"		7½"		8'-8"	"	"	0.957	123.29	40.90	234.60
		8'	72	10'-6"		8"		9'-8"	10'-5⅝"	11'-3⅝"	1.033	129.12	42.57	235.96
		9'	81	10'-6"		9"		10'-8"	10'-10⅝"	11'-5"	1.149	139.38	44.24	240.05
		10'	90	10'-8"		10"		11'-8"	11'-0⅝"	11'-7"	1.276	145.26	45.91	242.77
		11'	99	10'-10"		11"		12'-8"	11'-2⅝"	11'-9"	1.916	152.28	47.58	245.50
	10' @ 10'	5'	50	11'-2"	10½"	7"	11"	6'-9½"	10'-11⅝"	12'-1⅝"	0.957	133.20	40.13	257.63
		6'	60	11'-3"		7½"		7'-9½"	11'-1⅝"	12'-3⅝"	1.024	137.06	41.80	258.99
		7'	70	11'-3"		7½"		8'-9½"	"	"	1.071	139.73	43.47	258.99
		8'	80	11'-4"		8"		9'-9½"	11'-3⅝"	12'-3⅝"	1.147	145.62	45.14	260.35
		9'	90	11'-6"		9"		10'-9½"	11'-10⅝"	12'-5⅝"	1.263	155.33	46.81	263.08
		10'	100	11'-8"		10"		11'-9½"	12'-1⅝"	12'-7⅝"	1.391	162.30	48.48	265.80
		11'	110	11'-10"		11"		12'-9½"	12'-3"	12'-9⅝"	1.532	170.12	50.15	268.53
		12'	120	12'-0"		12"		13'-9½"	12'-5⅛"	12'-11⅝"	1.685	182.08	51.82	271.25
	11' @ 11'	6'	66	12'-4"	11"	8"	11½"	7'-10½"	12'-3⅝"	13'-3⅝"	1.153	158.87	46.12	283.61
		7'	77	12'-4"		8"		8'-10½"	"	"	1.202	161.55	47.79	283.61
		8'	88	12'-4"		8"		9'-10½"	"	"	1.252	166.78	49.46	283.61
		9'	99	12'-6"		9"		10'-10½"	12'-1⅛"	13'-5⅝"	1.368	176.31	51.13	286.33
		10'	110	12'-8"		10"		11'-10½"	12'-3⅛"	13'-7⅝"	1.497	183.92	52.80	289.06
		11'	121	12'-10"		11"		12'-10½"	12'-5⅛"	13'-10"	1.638	191.38	54.47	293.15
		12'	132	13'-0"		12"		13'-10½"	12'-5½"	14'-0"	1.792	203.51	56.14	295.87
	12' @ 12'	6'	72	13'-6"	11½"	8"	12½"	8'-0"	13'-5⅝"	14'-4"	1.284	176.47	48.69	378.98
		7'	84	13'-6"		8"		9'-0"	"	"	1.333	179.16	50.36	378.98
		8'	96	13'-6"		8"		10'-0"	"	"	1.388	184.42	52.03	378.98
		9'	108	13'-6"		9"		11'-0"	13'-11⅝"	14'-6⅝"	1.500	194.12	53.70	382.54
		10'	120	13'-8"		10"		12'-0"	14'-1⅝"	14'-8⅝"	1.630	201.94	55.37	386.10
		11'	132	13'-10"		11"		13'-0"	14'-3⅝"	14'-10⅝"	1.772	209.48	57.04	389.66
		12'	144	14'-0"		12"		14'-0"	14'-5⅝"	15'-0⅝"	1.926	221.72	59.71	393.22



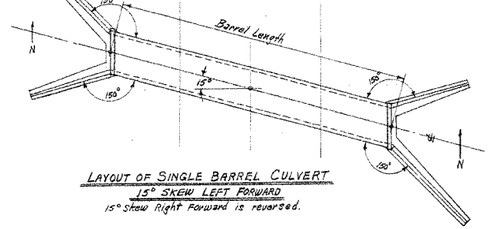
PART LONGITUDINAL SECTION N-N



TYPICAL SECTION M-M



LONGITUDINAL SECTION N-N



LAYOUT OF SINGLE BARREL CULVERT
15° SKEW LEFT FORWARD
15° Skew Right Forward is reversed.

NOTE:- For details of wings and bar lists, see Drawing Nos. W-X152-1 or W-X152-2 and W-X15 W-X153-1 or W-X153-2 " " W-X154-1 or W-X154-2 " "

GENERAL NOTES:-
CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" 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 38'-0" length of barrel over 38'-0. Lap longitudinal bars 30 diameters.
CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls 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 24,000 Lb. Axles @ 4'-0" ctrs.

UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

NOTE:- This drawing to be used in conjunction with Standard Drawing Nos. W-X152-1 or W-X152-2 ; W-X153-1 or W-X153-2 and W-X154-1 or W-X154-2. Also W-X15.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS 15° SKEW

4',5',6',7',8',9',10',11' & 12' SPANS 2:1, 3:1 OR 4:1 SLOPES
SINGLES UNDER 5'-0" COVER

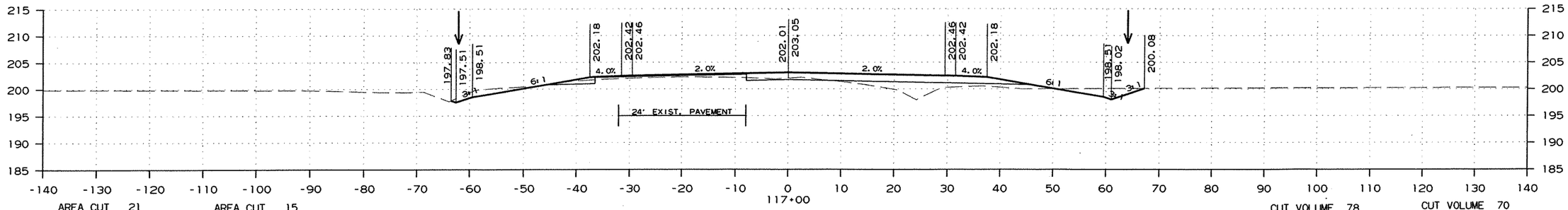
STANDARD DRAWING NO. R-115X-0

Designed By:- W.C.H. 1-23-63 Checked By:- A.H.S. 5-8-63
Drawn By:- W.C.H. 8-14-63 Checked By:- [illegible] 10-7-63
Quantities By:- W.C.H. 8-21-63 Checked By:- R. G. 12-10-63.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	144	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

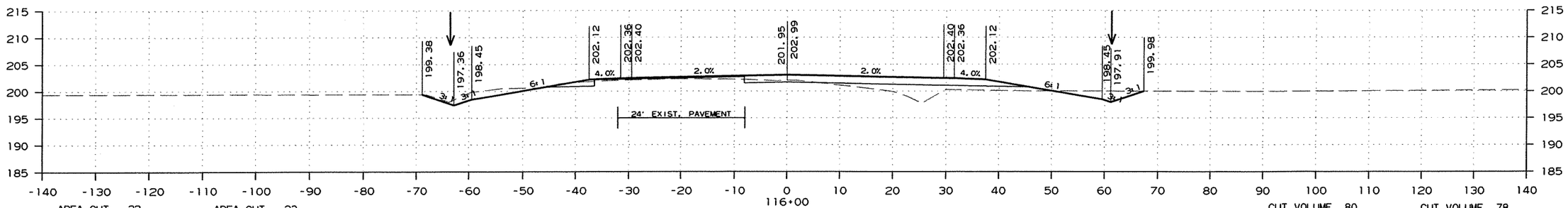


AREA CUT 21
AREA FILL 41

AREA CUT 15
AREA FILL 0

CUT VOLUME 78
FILL VOLUME 158

CUT VOLUME 70
FILL VOLUME 0

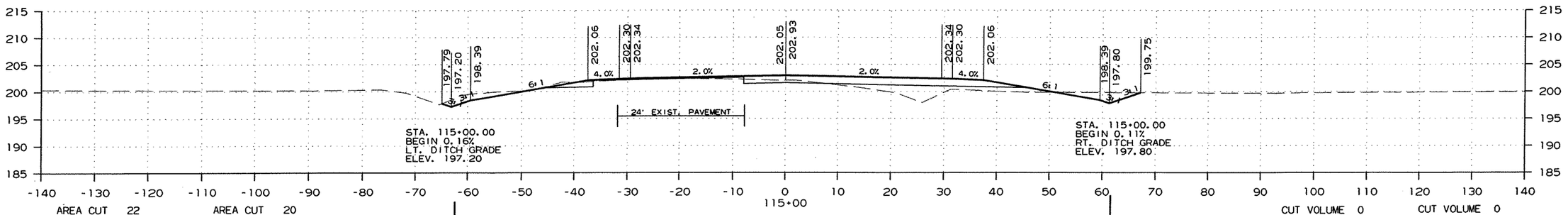


AREA CUT 22
AREA FILL 45

AREA CUT 23
AREA FILL 0

CUT VOLUME 80
FILL VOLUME 165

CUT VOLUME 78
FILL VOLUME 0



STA. 115+00.00
BEGIN 0.16%
LT. DITCH GRADE
ELEV. 197.20

STA. 115+00.00
BEGIN 0.11%
RT. DITCH GRADE
ELEV. 197.80

AREA CUT 22
AREA FILL 44

AREA CUT 20
AREA FILL 0

CUT VOLUME 0
FILL VOLUME 0

CUT VOLUME 0
FILL VOLUME 0

STA. 115+00.00 BEGIN JOB 110502

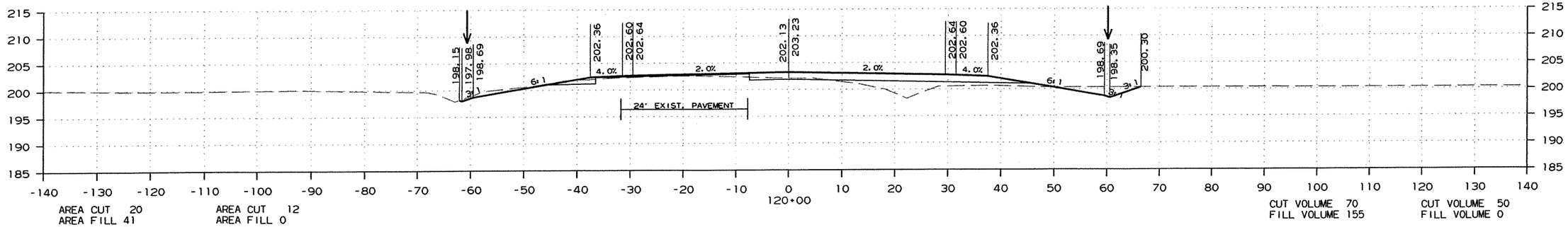
CROSS SECTION STA. 115+00 TO STA. 117+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	145	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



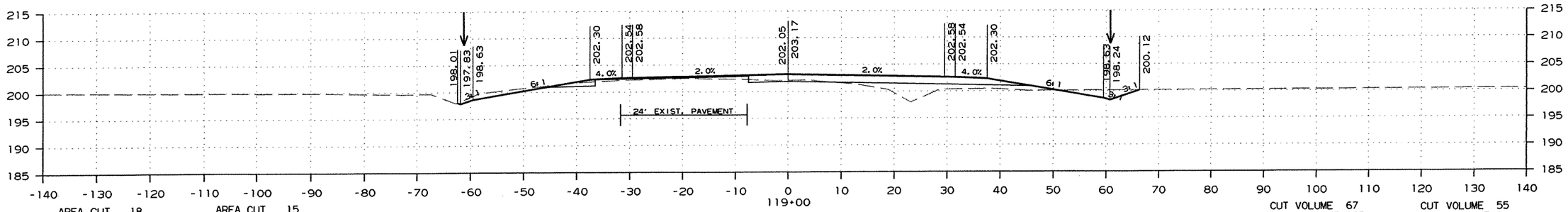
AREA CUT 20
AREA FILL 41

AREA CUT 12
AREA FILL 0

STAGE 1 STAGE 2

CUT VOLUME 70
FILL VOLUME 155

CUT VOLUME 50
FILL VOLUME 0

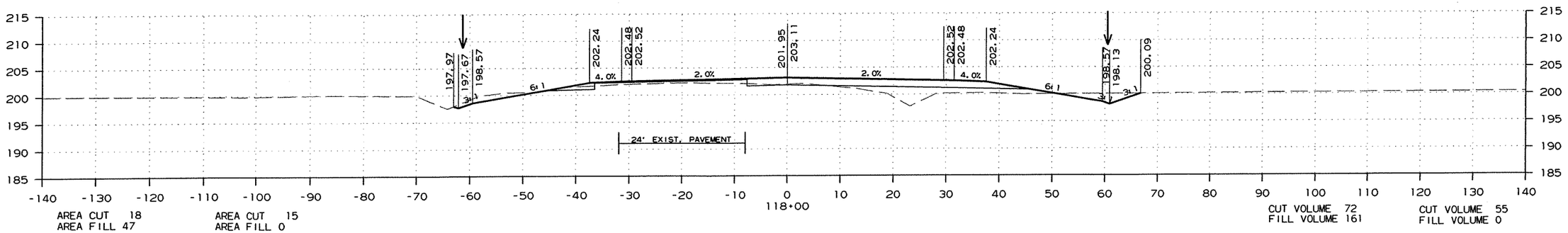


AREA CUT 18
AREA FILL 43

AREA CUT 15
AREA FILL 0

CUT VOLUME 67
FILL VOLUME 165

CUT VOLUME 55
FILL VOLUME 0



AREA CUT 18
AREA FILL 47

AREA CUT 15
AREA FILL 0

CUT VOLUME 72
FILL VOLUME 161

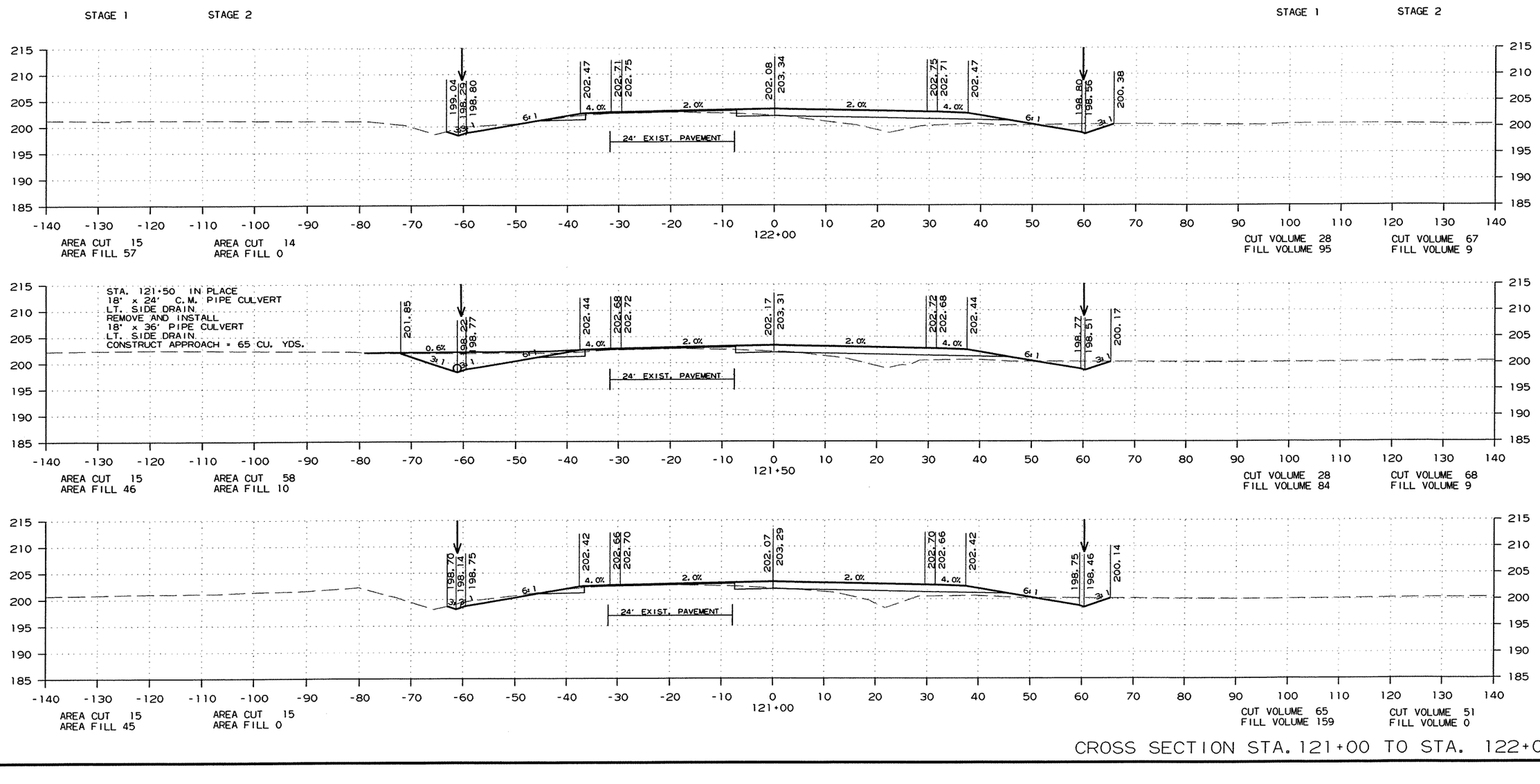
CUT VOLUME 55
FILL VOLUME 0

CROSS SECTION STA. 118+00 TO STA. 120+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	146	271

(2) CROSS SECTIONS

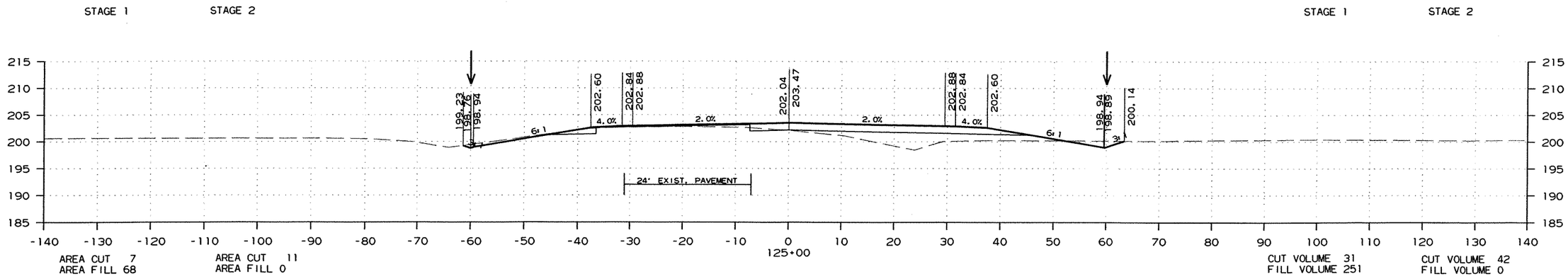


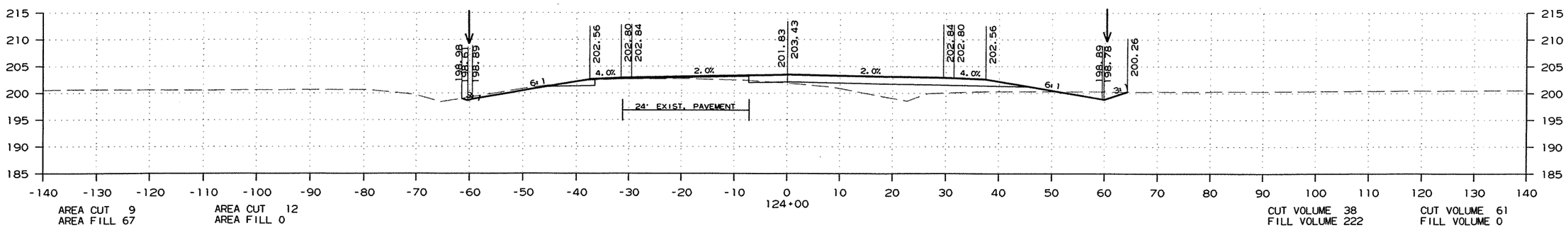
CROSS SECTION STA. 121+00 TO STA. 122+00

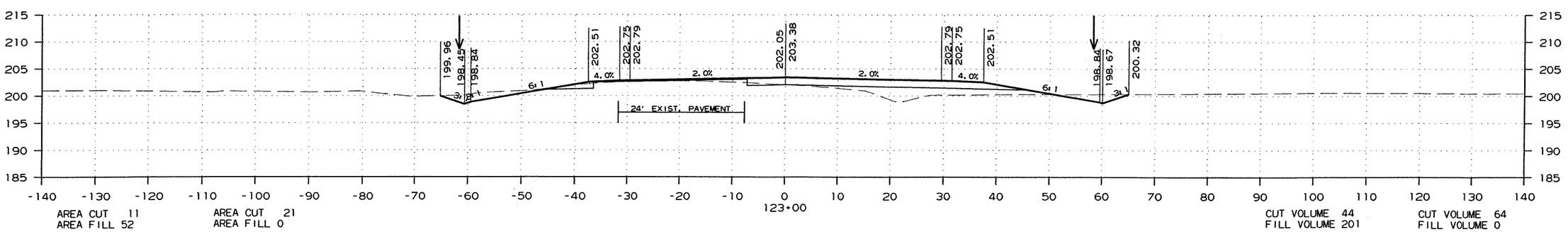
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	147	271

(2) CROSS SECTIONS





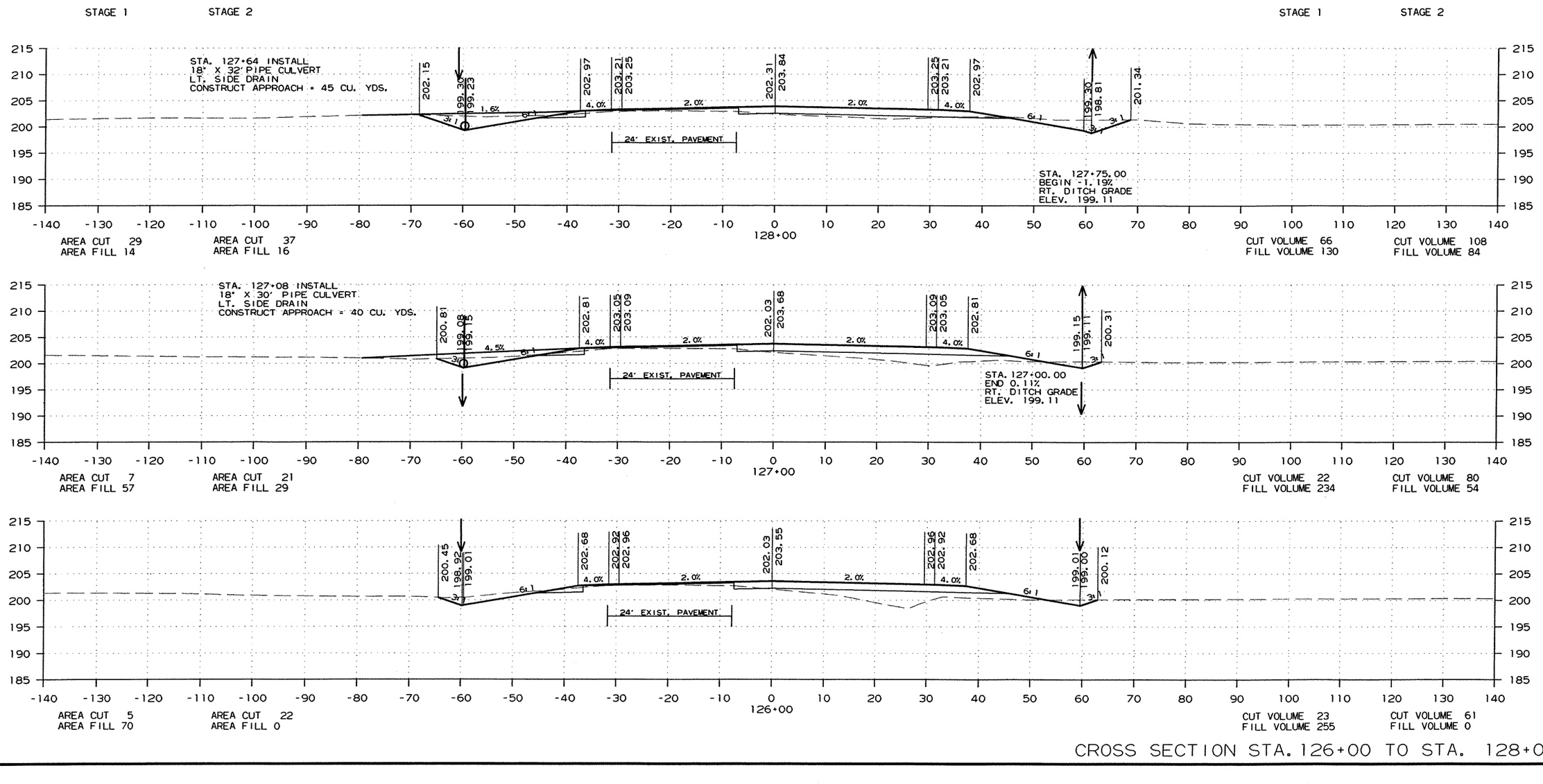


CROSS SECTION STA. 123+00 TO STA. 125+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	148	271

(2) CROSS SECTIONS

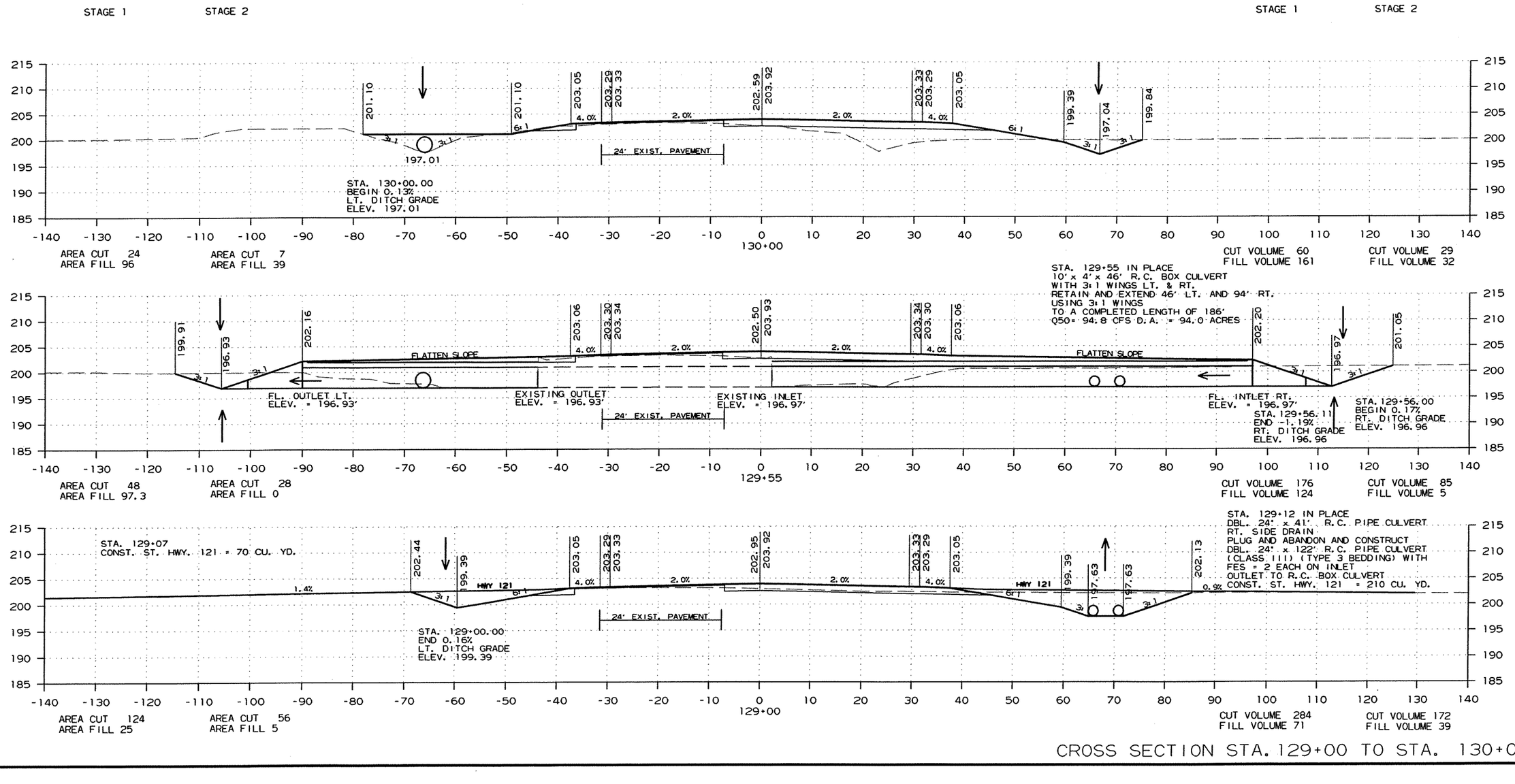


CROSS SECTION STA. 126+00 TO STA. 128+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	149	271

(2) CROSS SECTIONS

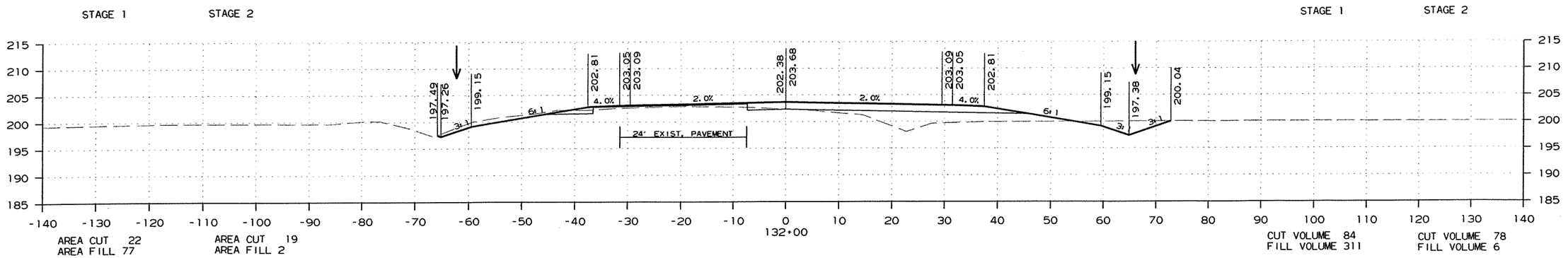


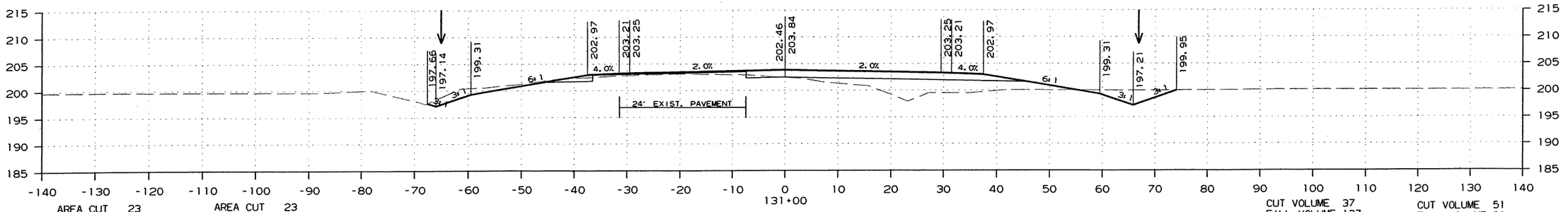
CROSS SECTION STA. 129+00 TO STA. 130+00

R110502.DGN 10/12/2011

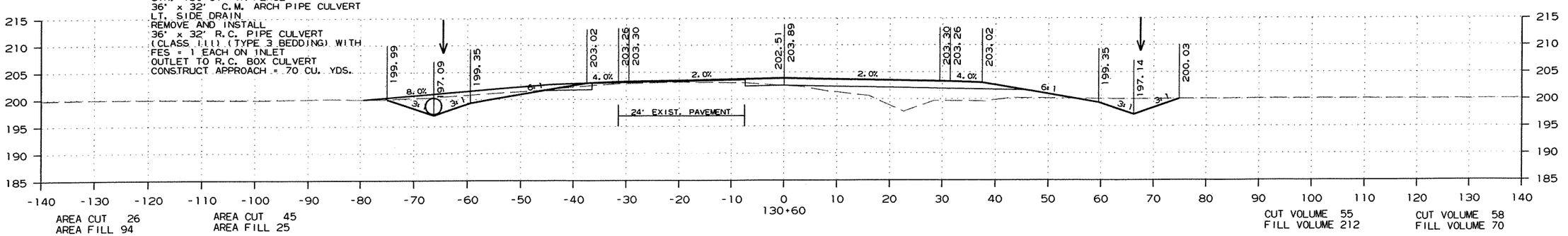
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	150	271

(2) CROSS SECTIONS





STA. 130+61 IN PLACE
36" x 32" C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
36" x 32" R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) WITH
FES = 1 EACH ON INLET
OUTLET TO R.C. BOX CULVERT
CONSTRUCT APPROACH = 70 CU. YDS.

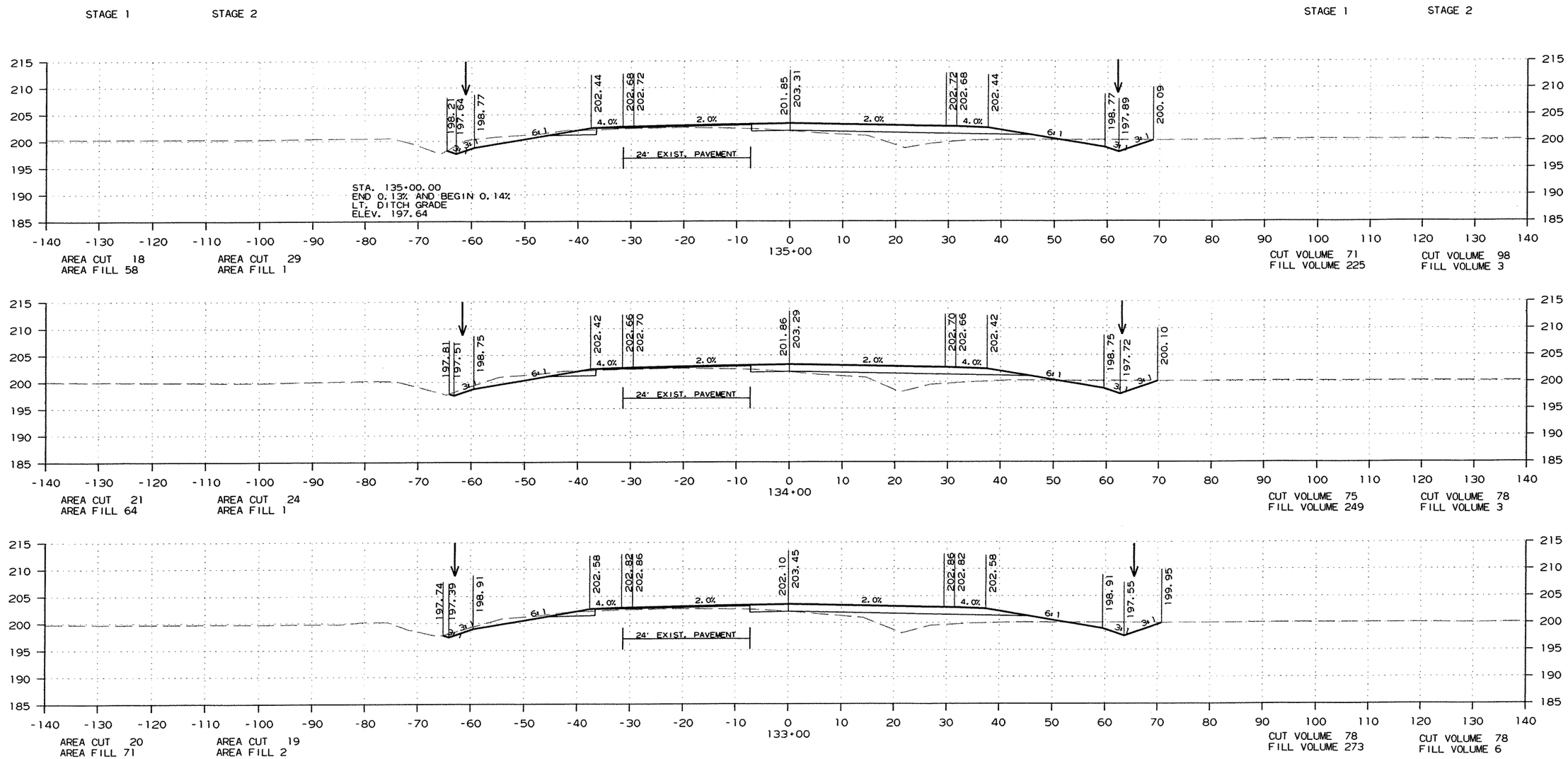


CROSS SECTION STA. 130+60 TO STA. 132+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	151	271

(2) CROSS SECTIONS

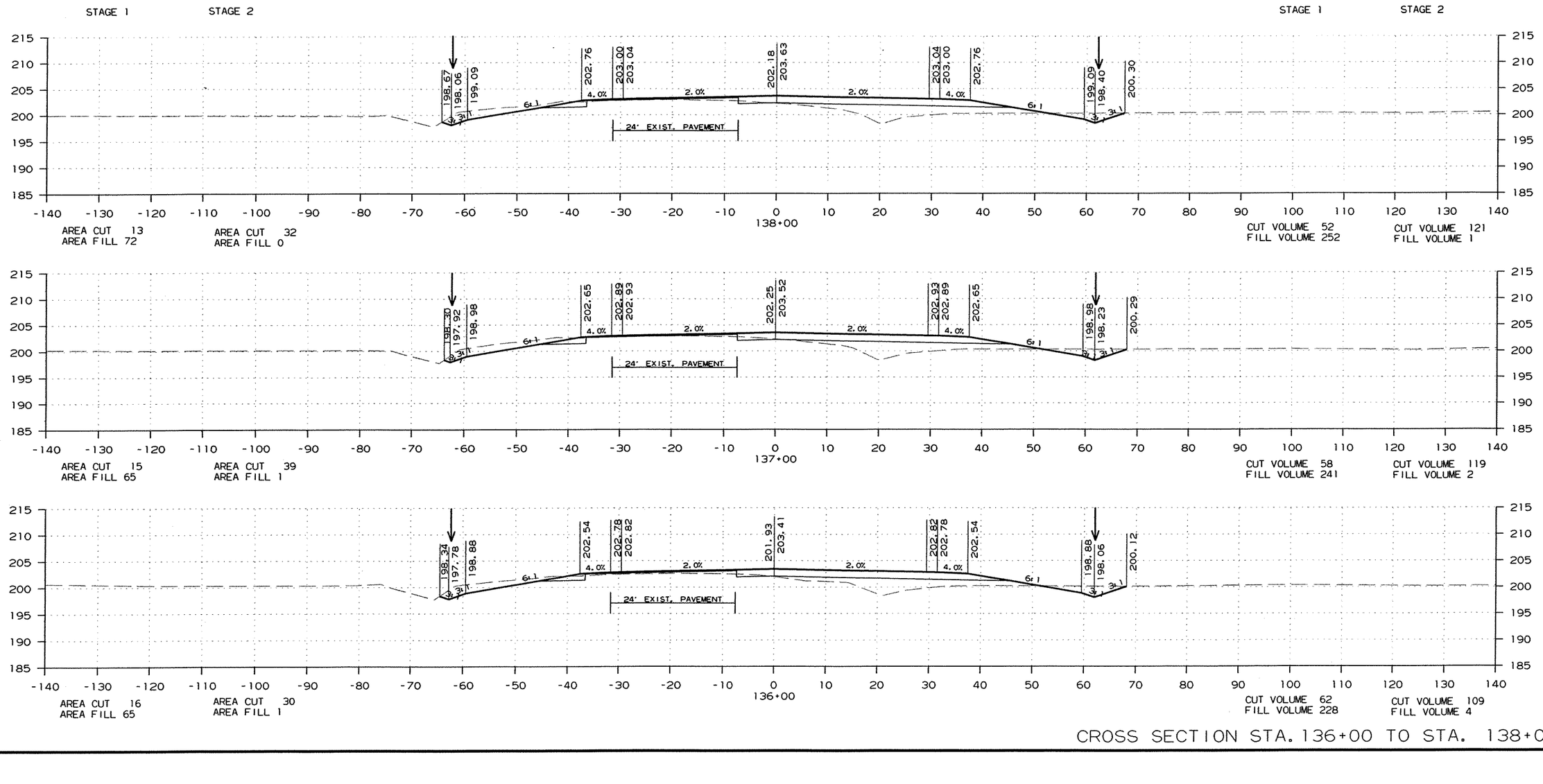


CROSS SECTION STA. 133+00 TO STA. 135+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	152	271

(2) CROSS SECTIONS



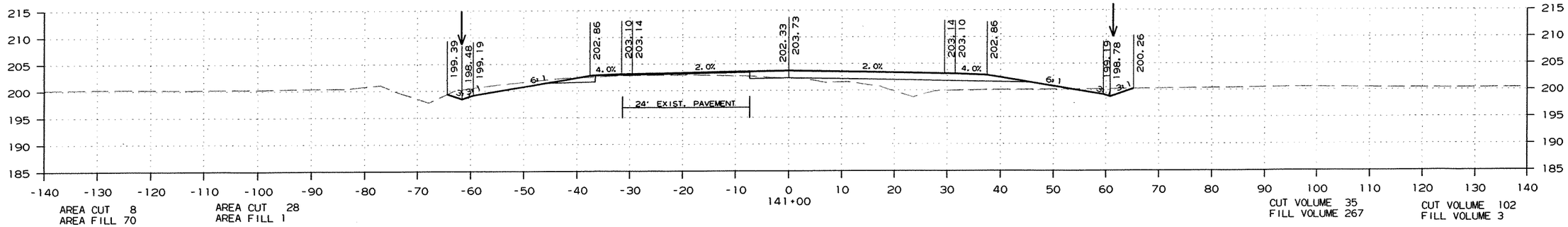
CROSS SECTION STA. 136+00 TO STA. 138+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	153	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



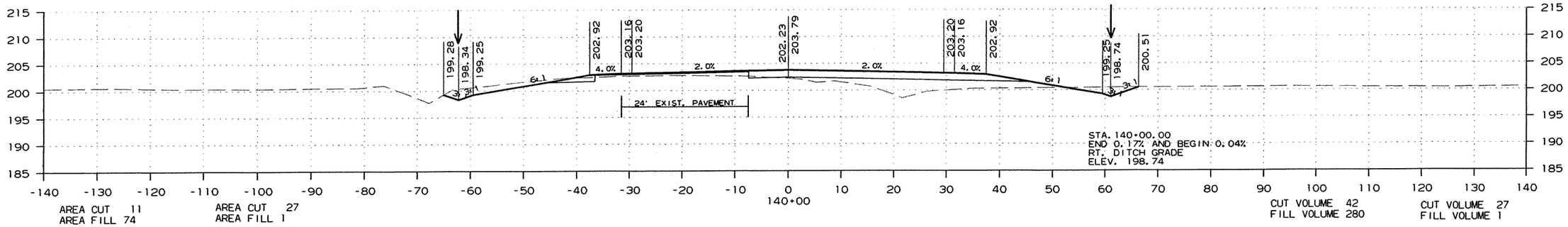
AREA CUT 8
AREA FILL 70

AREA CUT 28
AREA FILL 1

CUT VOLUME 35
FILL VOLUME 267

CUT VOLUME 102
FILL VOLUME 3

STAGE 1 STAGE 2



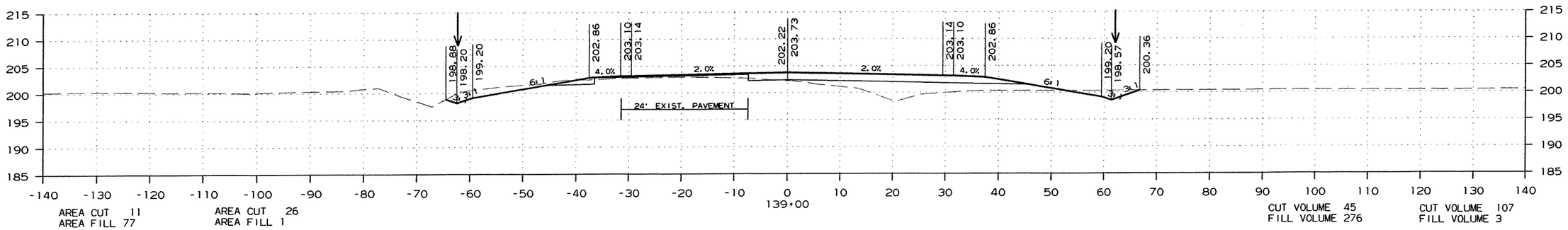
STA. 140+00.00
END 0.17% AND BEGIN 0.04%
RT. DITCH GRADE
ELEV. 198.74

AREA CUT 11
AREA FILL 74

AREA CUT 27
AREA FILL 1

CUT VOLUME 42
FILL VOLUME 280

CUT VOLUME 27
FILL VOLUME 1



AREA CUT 11
AREA FILL 77

AREA CUT 26
AREA FILL 1

CUT VOLUME 45
FILL VOLUME 276

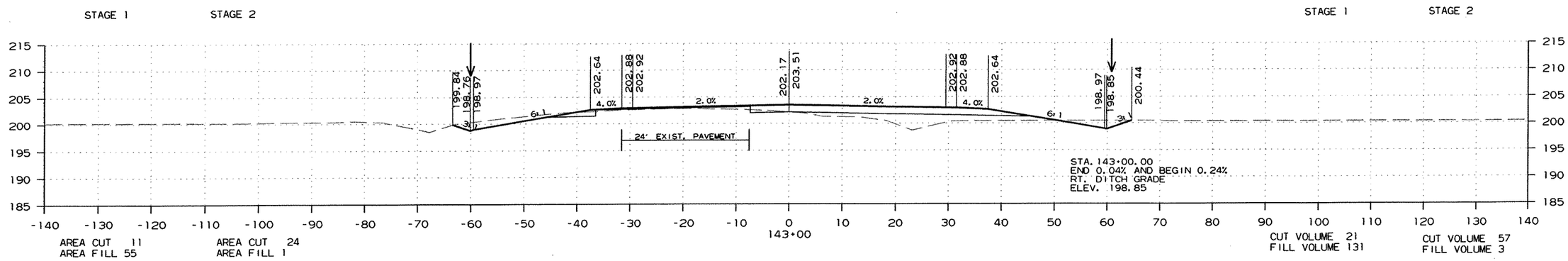
CUT VOLUME 107
FILL VOLUME 3

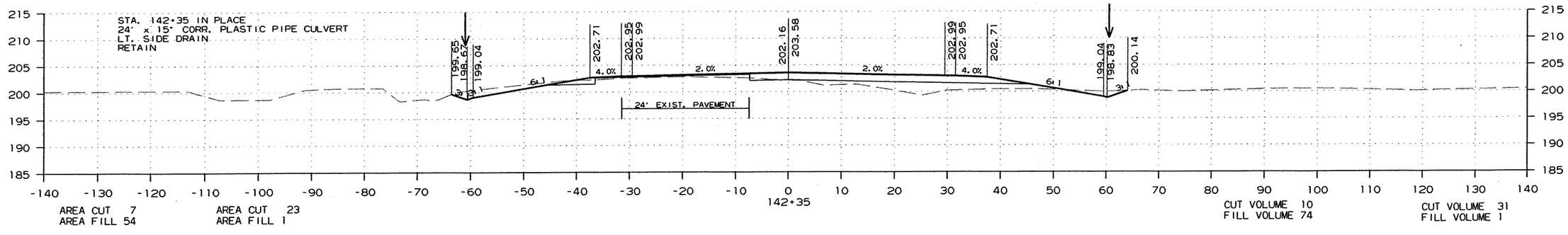
CROSS SECTION STA. 139+00 TO STA. 141+00

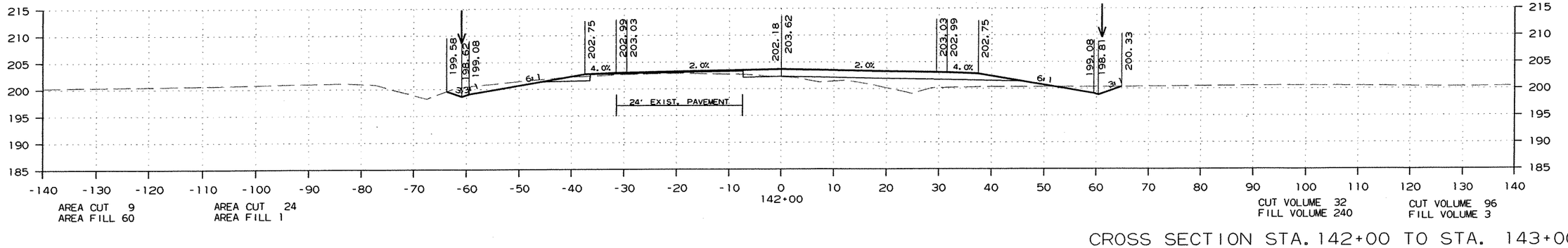
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	154	271

(2) CROSS SECTIONS





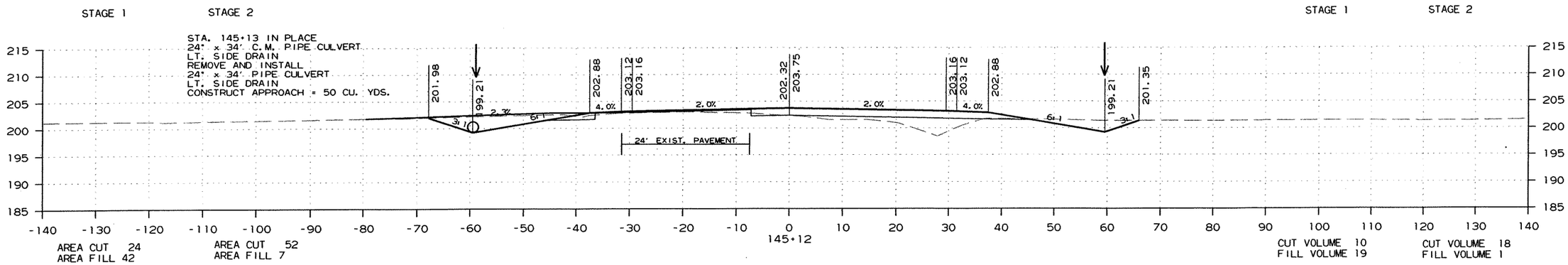


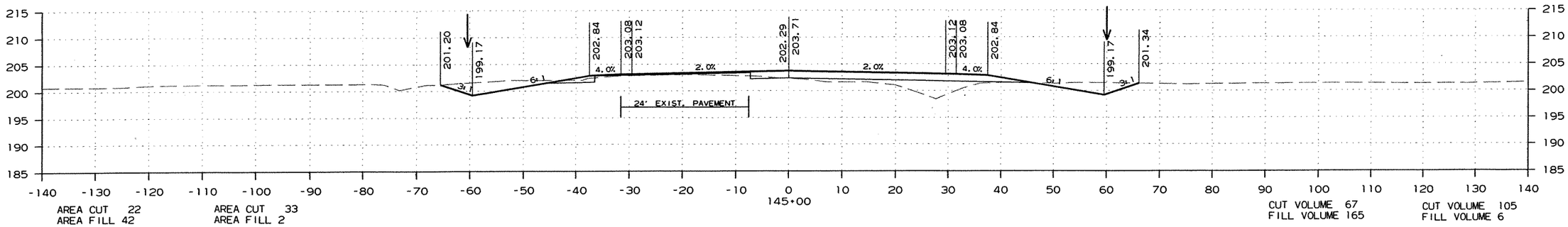
CROSS SECTION STA. 142+00 TO STA. 143+00

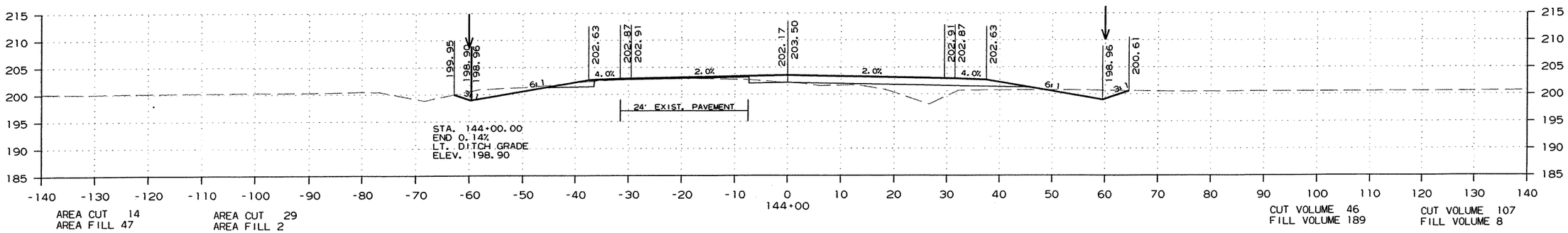
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	155	271

(2) CROSS SECTIONS





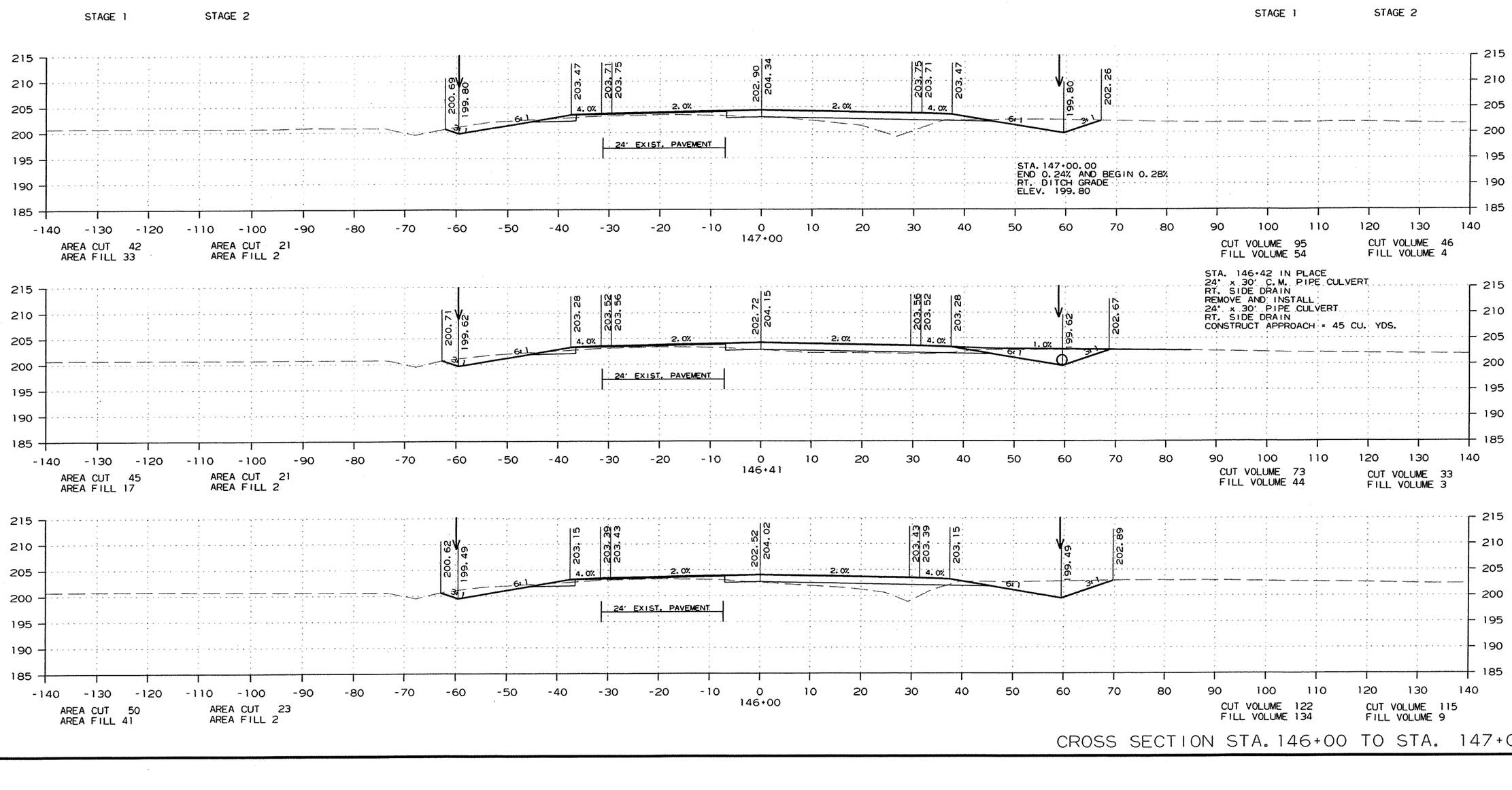


CROSS SECTION STA. 144+00 TO STA. 145+12

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	156	271

(2) CROSS SECTIONS

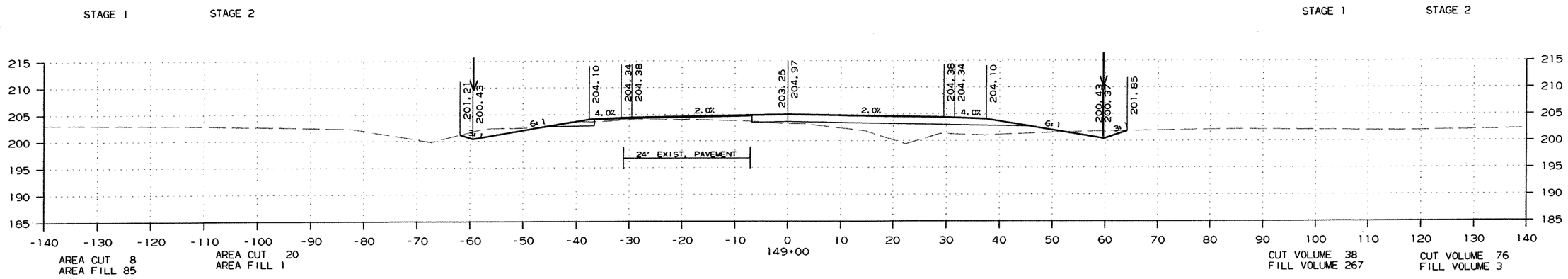


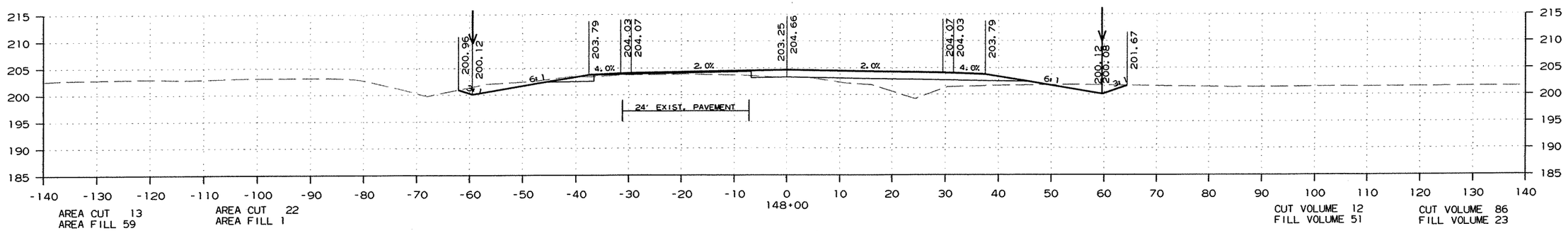
CROSS SECTION STA. 146+00 TO STA. 147+00

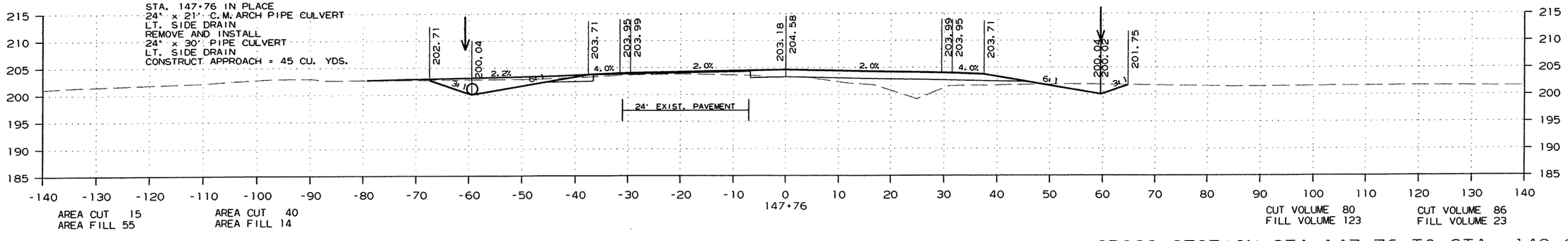
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	157	271

(2) CROSS SECTIONS







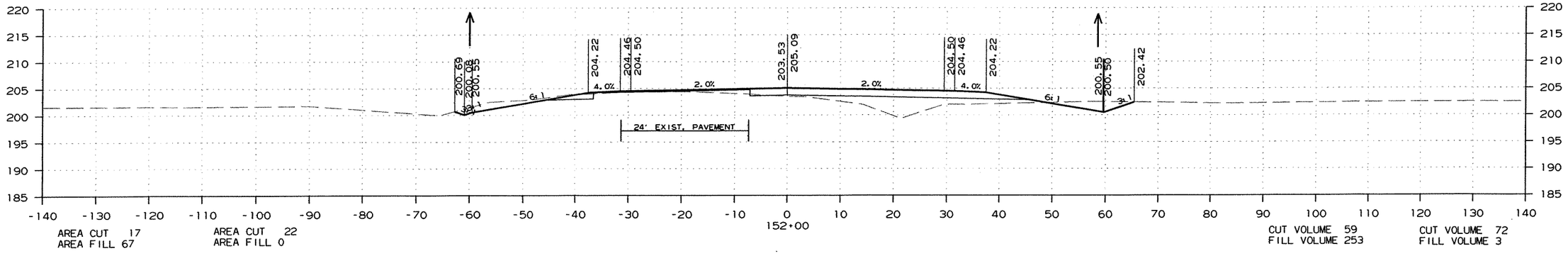
CROSS SECTION STA. 147+76 TO STA. 149+00

R110502.DGN 10/12/2011

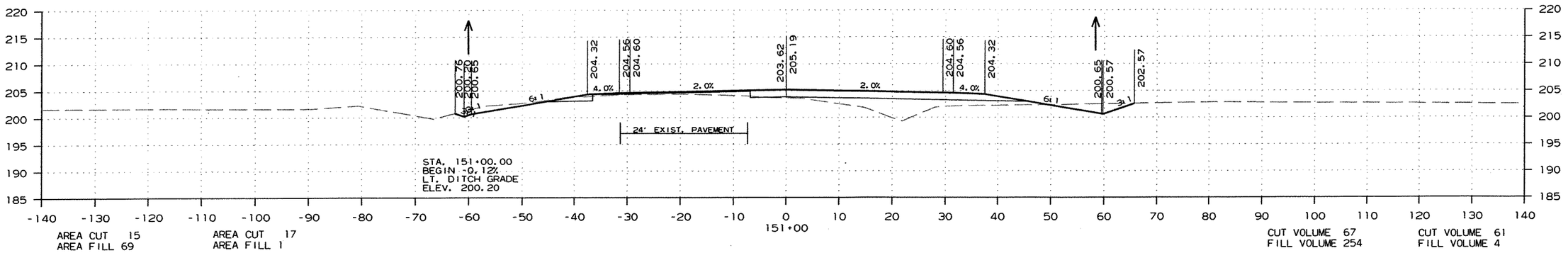
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	158	271

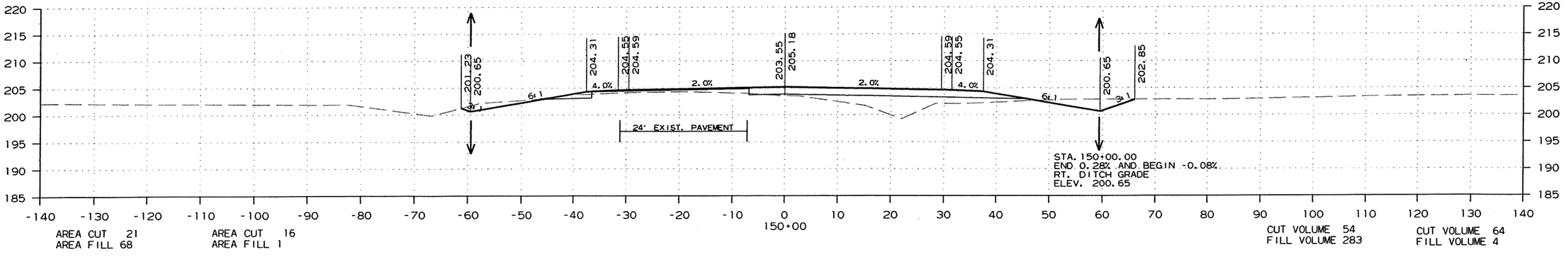
(2) CROSS SECTIONS

STAGE 1 STAGE 2



STAGE 1 STAGE 2





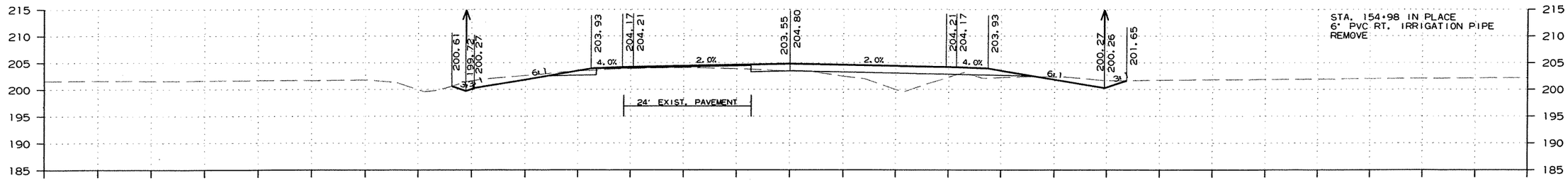
CROSS SECTION STA. 150+00 TO STA. 152+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	159	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

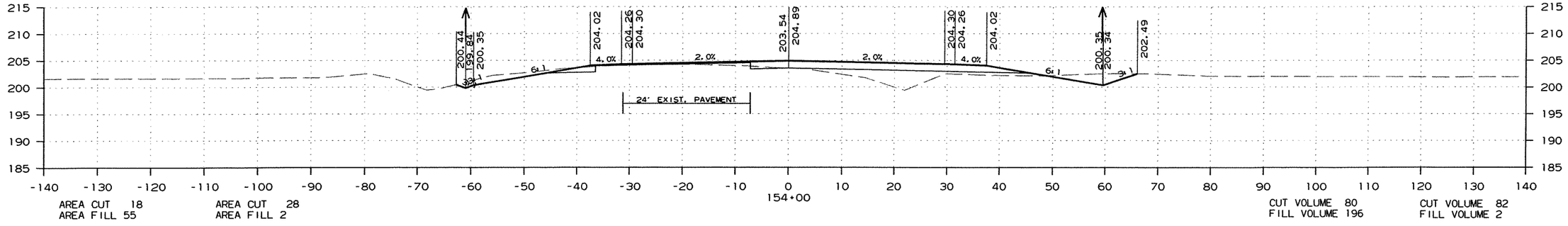


AREA CUT 14
AREA FILL 46

AREA CUT 25
AREA FILL 1

CUT VOLUME 60
FILL VOLUME 188

CUT VOLUME 87
FILL VOLUME 3

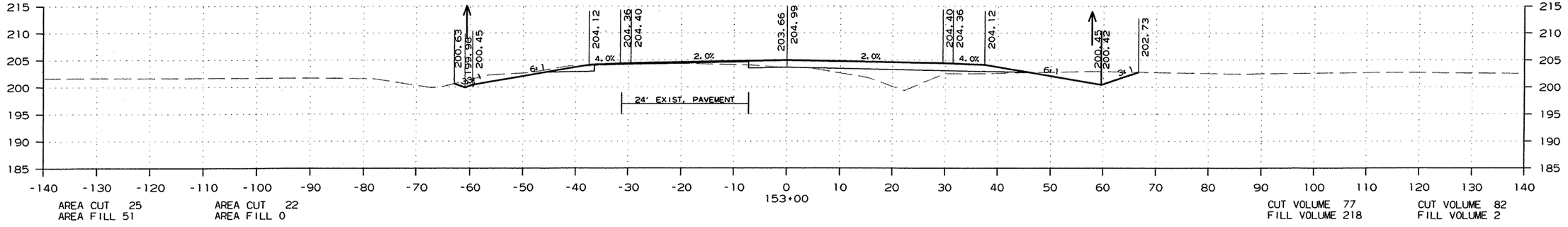


AREA CUT 18
AREA FILL 55

AREA CUT 28
AREA FILL 2

CUT VOLUME 80
FILL VOLUME 196

CUT VOLUME 82
FILL VOLUME 2



AREA CUT 25
AREA FILL 51

AREA CUT 22
AREA FILL 0

CUT VOLUME 77
FILL VOLUME 218

CUT VOLUME 82
FILL VOLUME 2

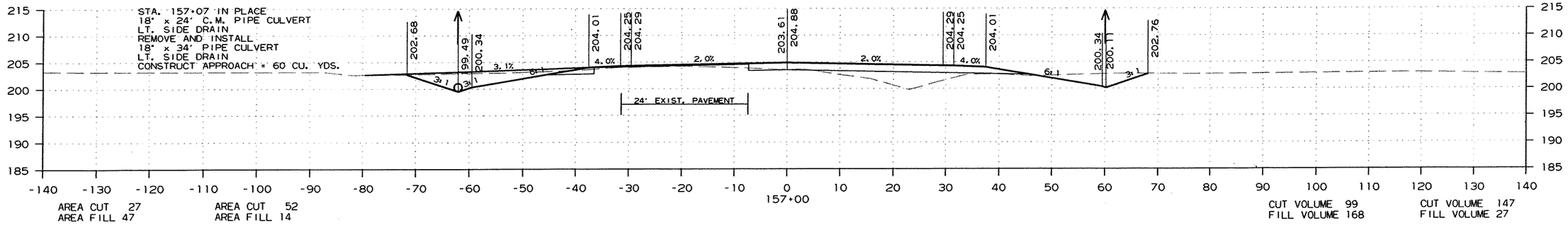
CROSS SECTION STA. 153+00 TO STA. 155+00

R110502.DGN 10/12/2011

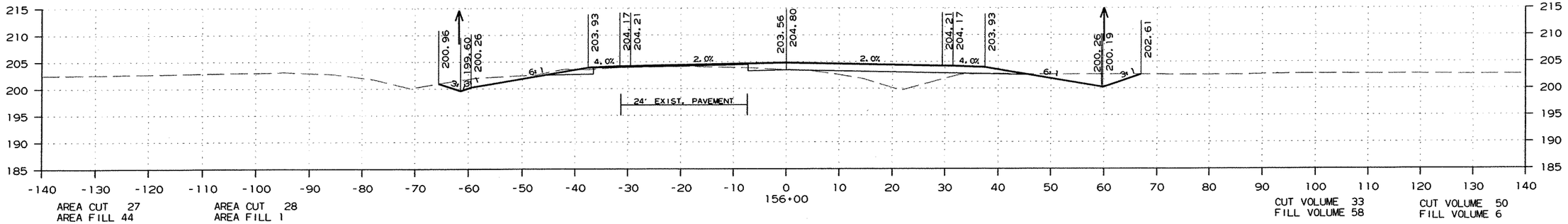
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	160	271

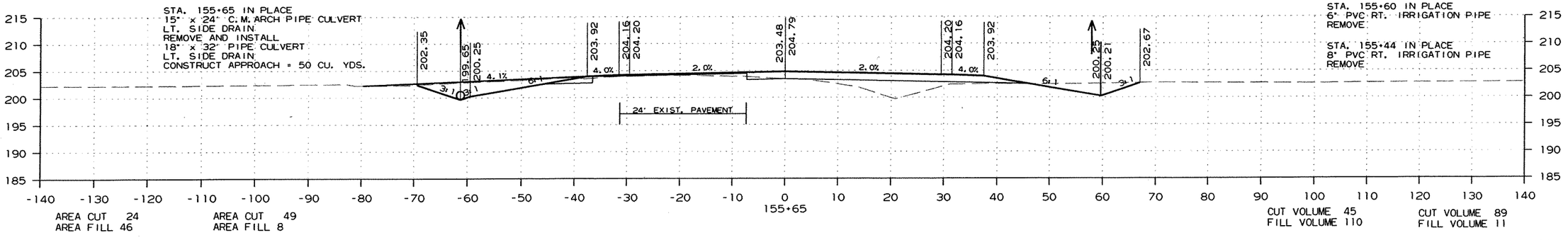
(2) CROSS SECTIONS

STAGE 1 STAGE 2



STAGE 1 STAGE 2



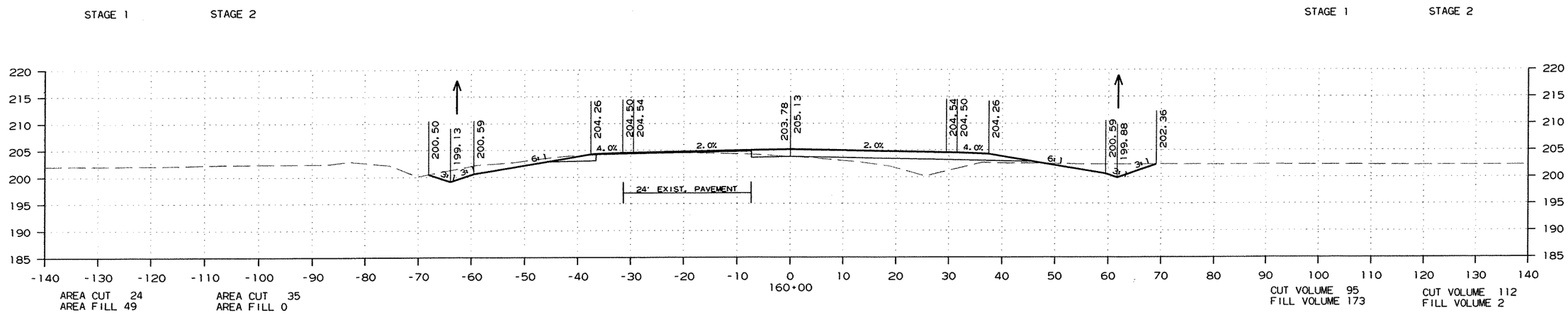


CROSS SECTION STA. 155+65 TO STA. 157+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	161	271

(2) CROSS SECTIONS



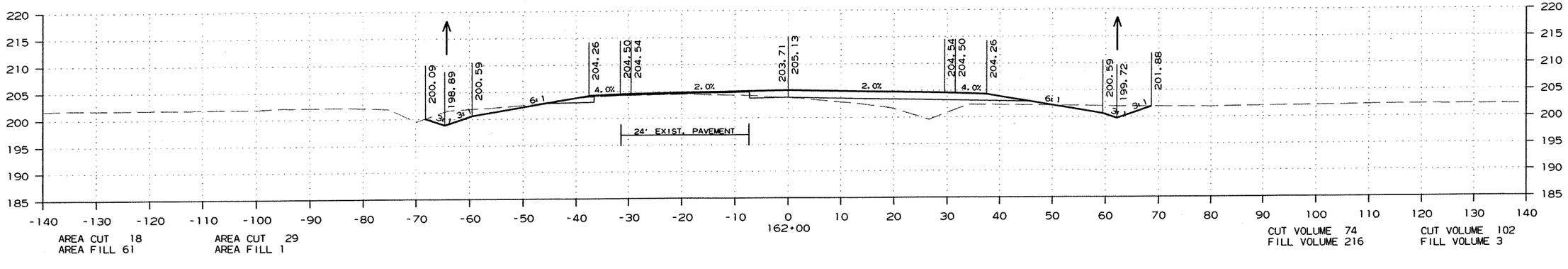
CROSS SECTION STA. 158+00 TO STA. 160+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	162	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



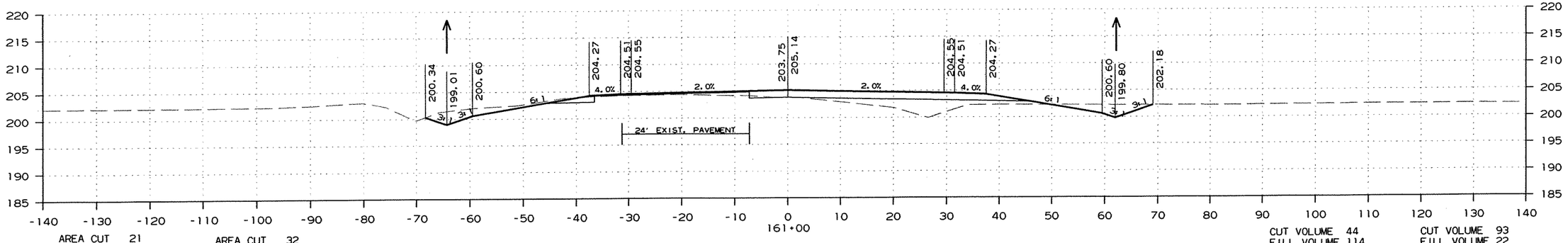
AREA CUT 18
AREA FILL 61

AREA CUT 29
AREA FILL 1

CUT VOLUME 74
FILL VOLUME 216

CUT VOLUME 102
FILL VOLUME 3

STAGE 1 STAGE 2

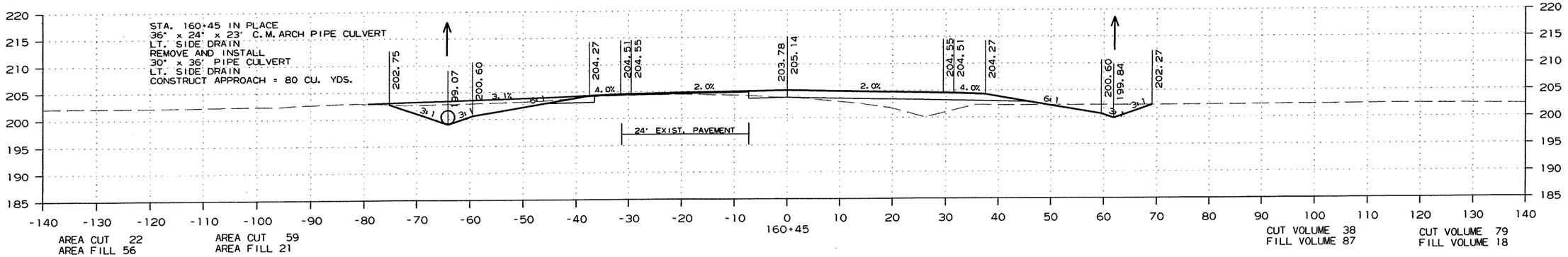


AREA CUT 21
AREA FILL 56

AREA CUT 32
AREA FILL 1

CUT VOLUME 44
FILL VOLUME 114

CUT VOLUME 93
FILL VOLUME 22



AREA CUT 22
AREA FILL 56

AREA CUT 59
AREA FILL 21

CUT VOLUME 38
FILL VOLUME 87

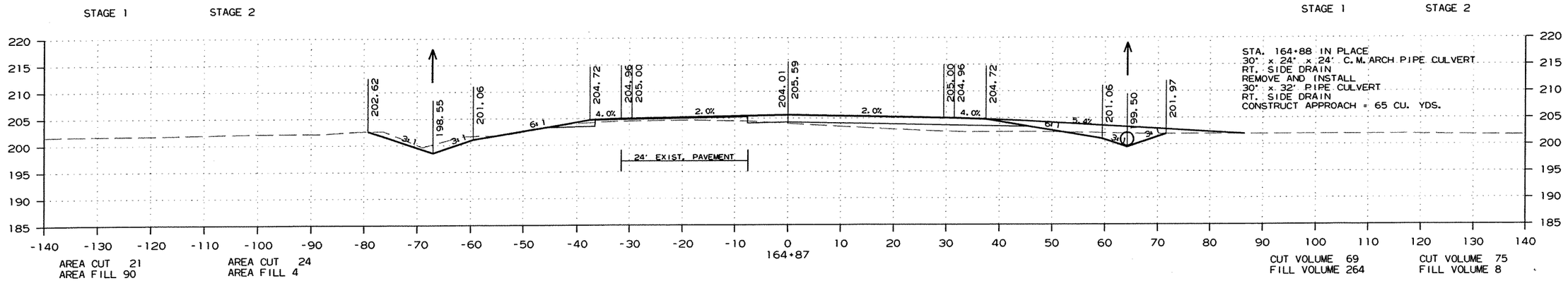
CUT VOLUME 79
FILL VOLUME 18

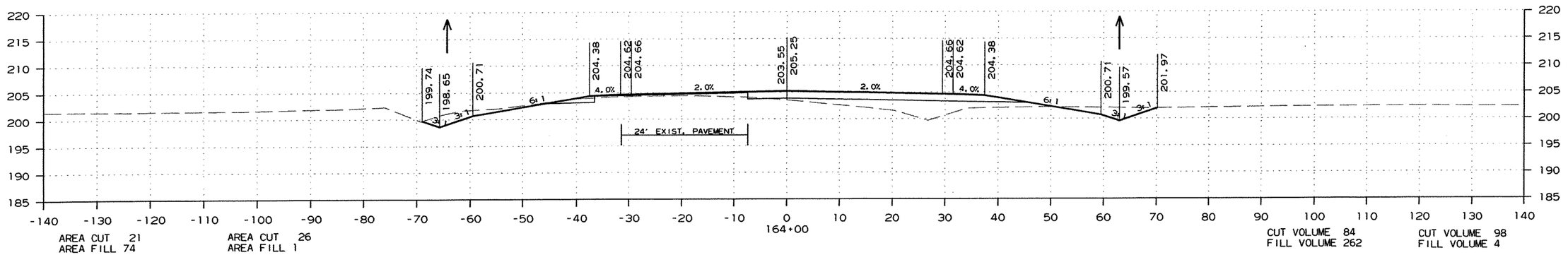
CROSS SECTION STA. 160+45 TO STA. 162+00

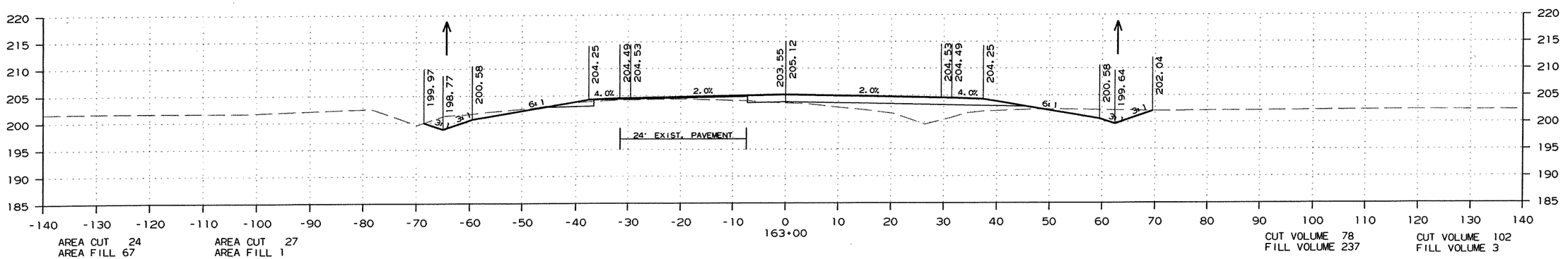
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	163	271

(2) CROSS SECTIONS





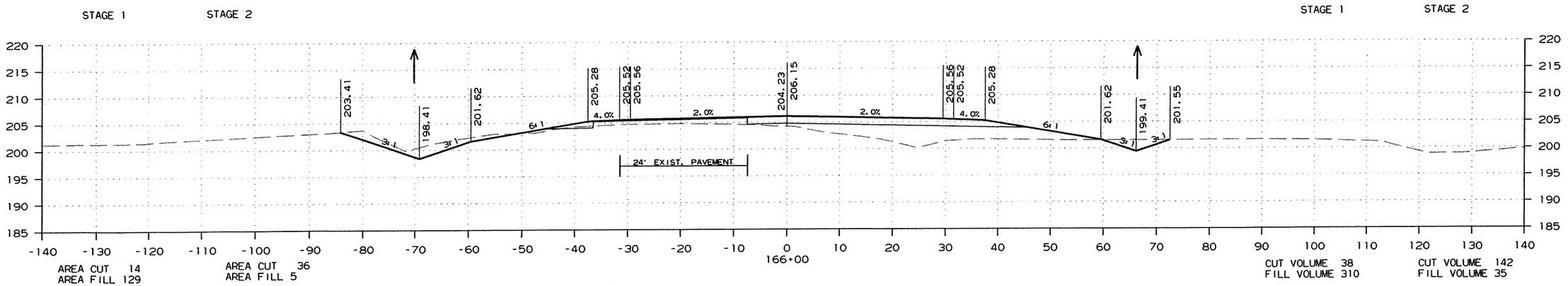


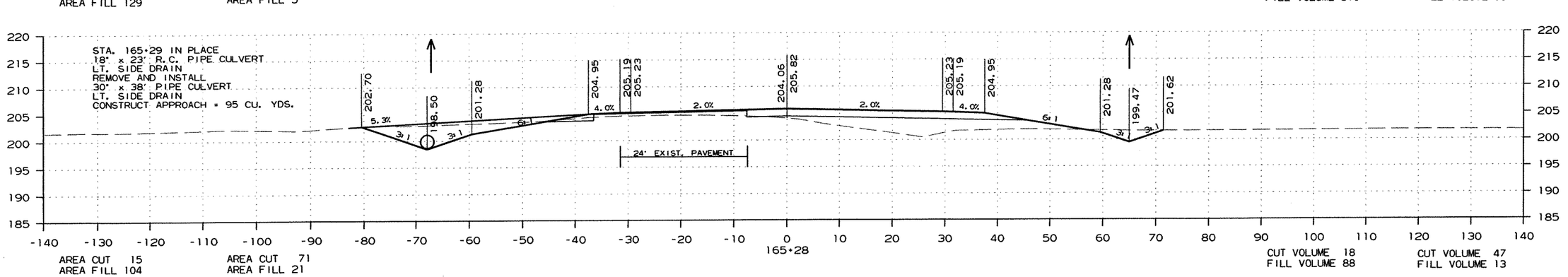
CROSS SECTION STA. 163+00 TO STA. 164+87

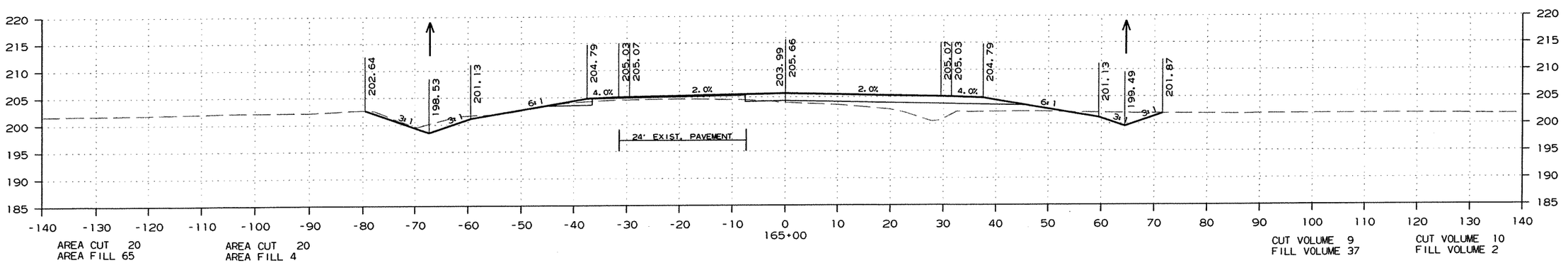
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	164	271

(2) CROSS SECTIONS





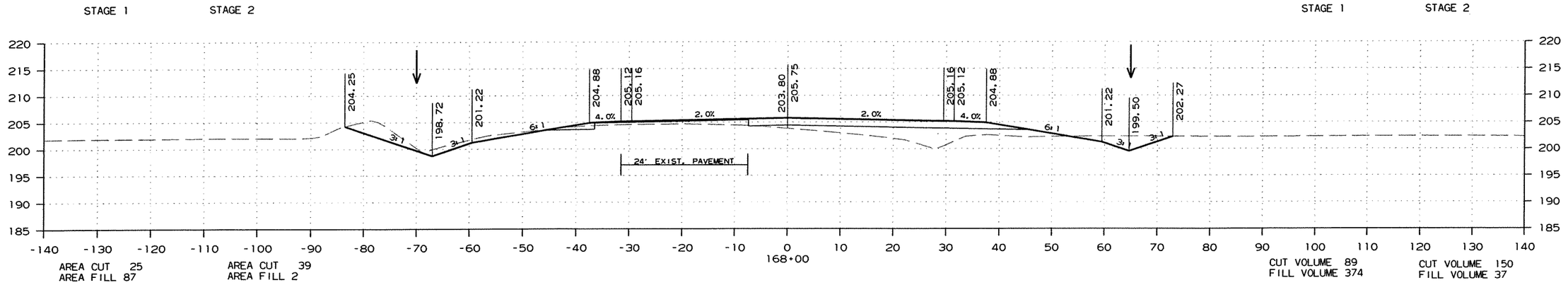


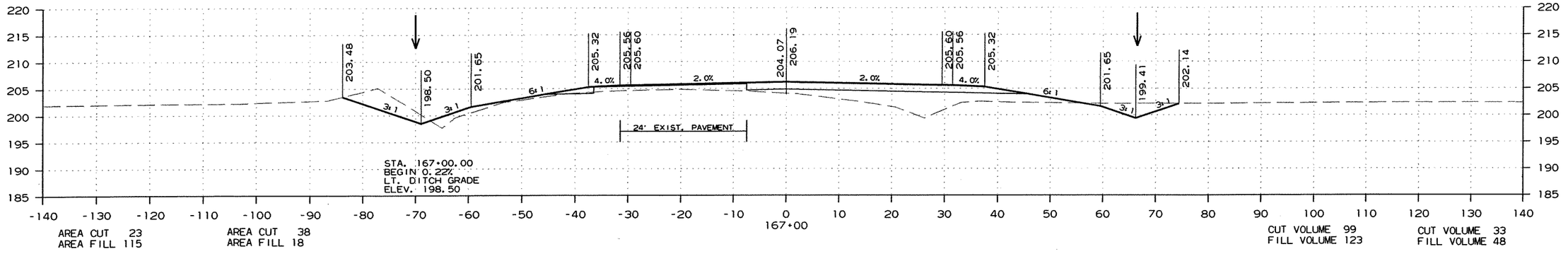
CROSS SECTION STA. 165+00 TO STA. 166+00

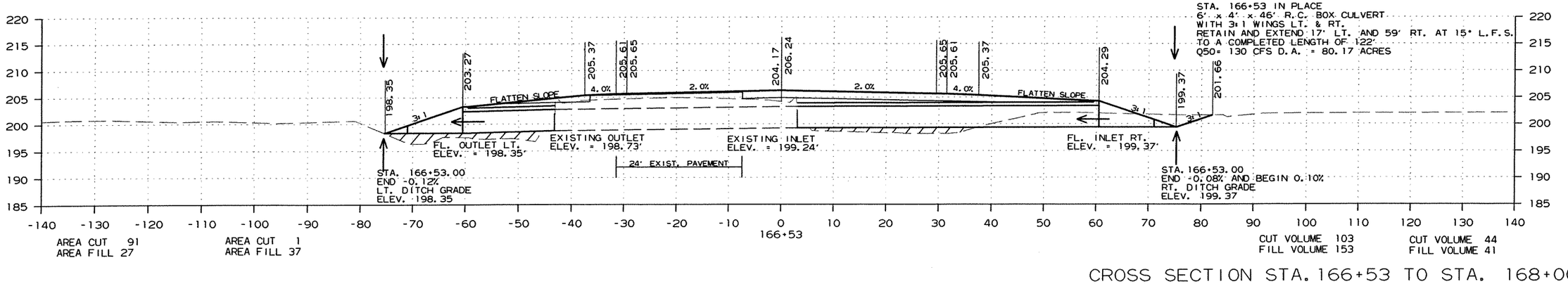
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	165	271

(2) CROSS SECTIONS





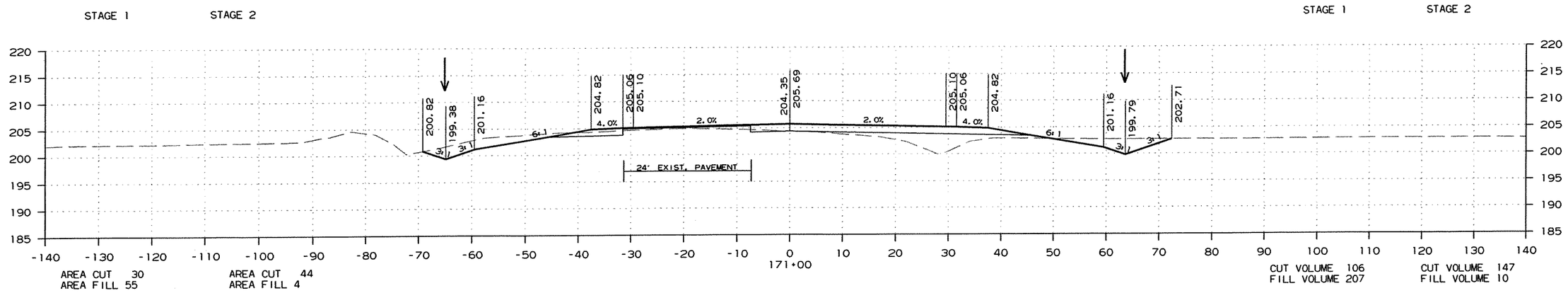


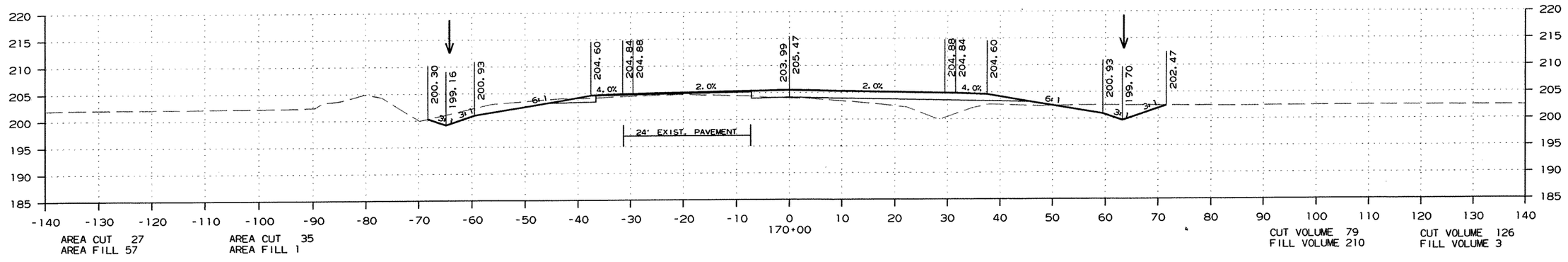
CROSS SECTION STA. 166+53 TO STA. 168+00

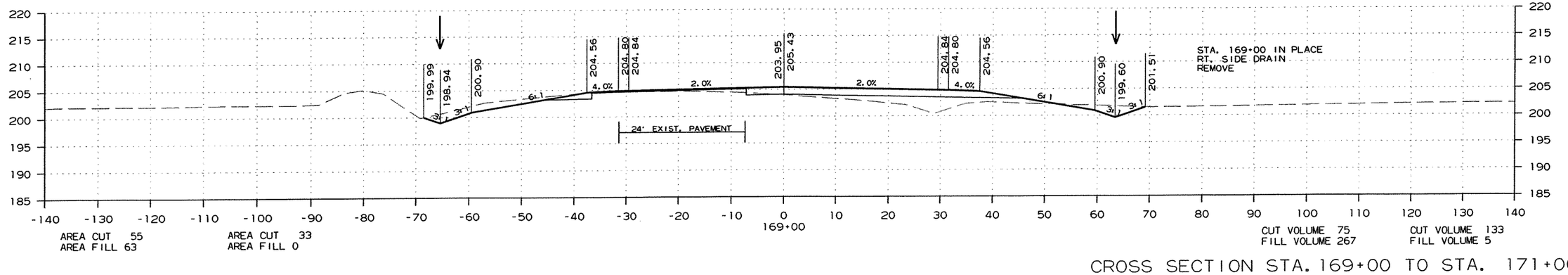
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	166	271

(2) CROSS SECTIONS





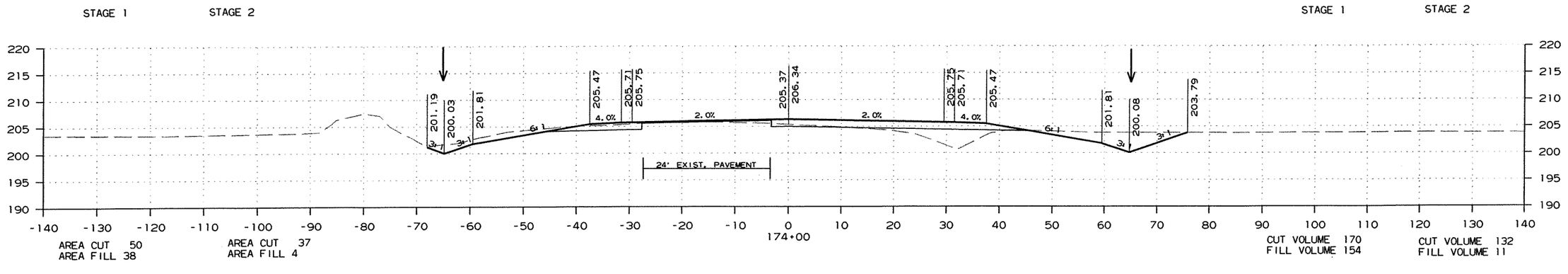


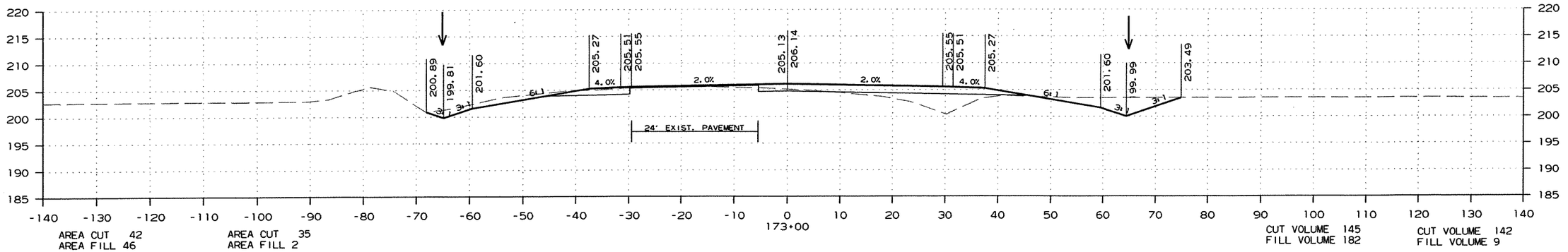
CROSS SECTION STA. 169+00 TO STA. 171+00

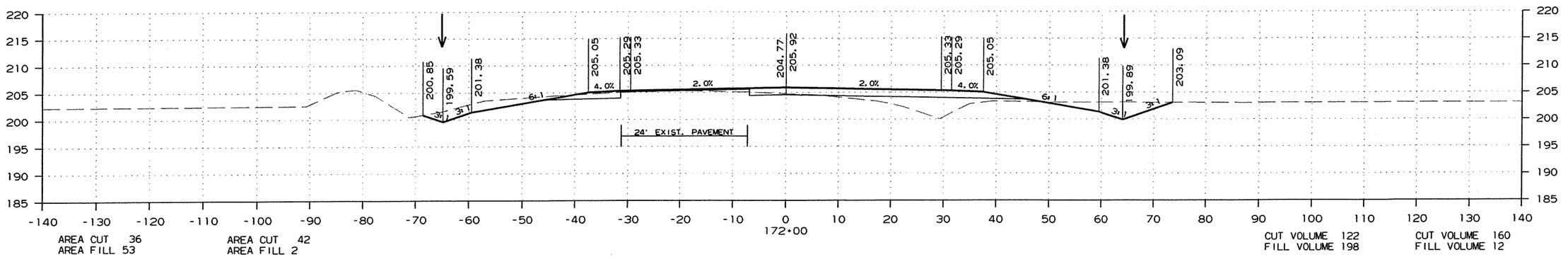
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	167	271

(2) CROSS SECTIONS





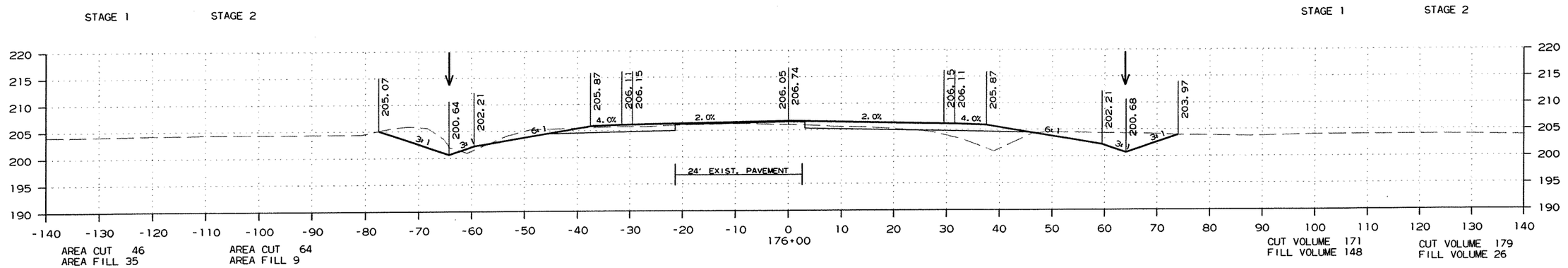


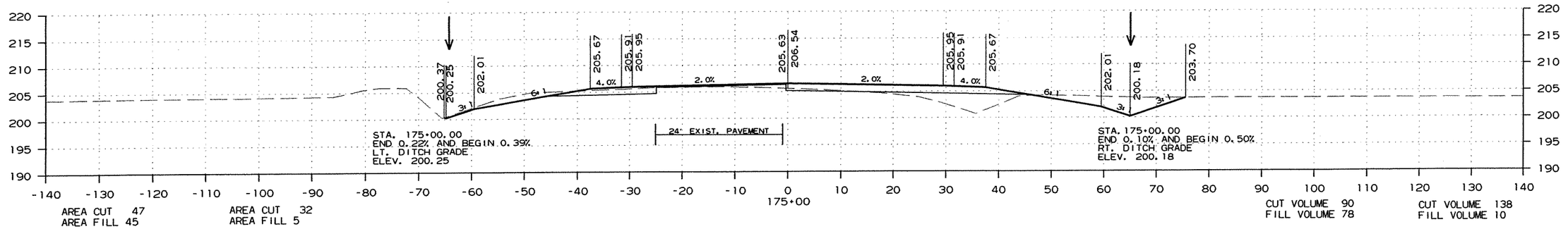
CROSS SECTION STA. 172+00 TO STA. 174+00

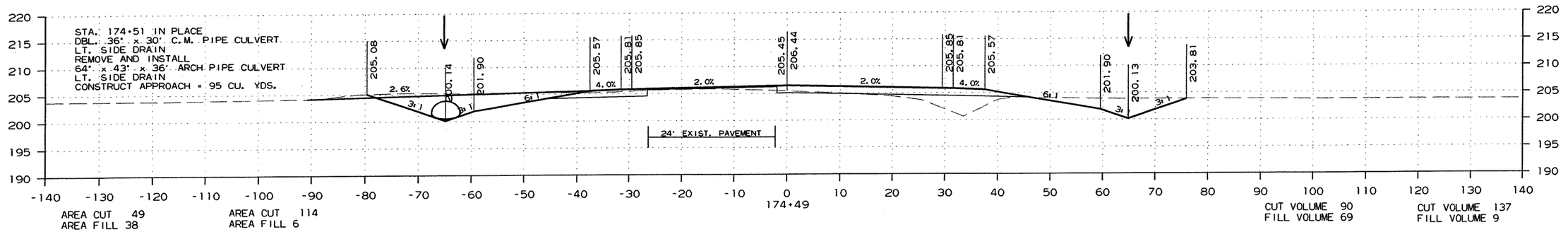
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	168	271

(2) CROSS SECTIONS





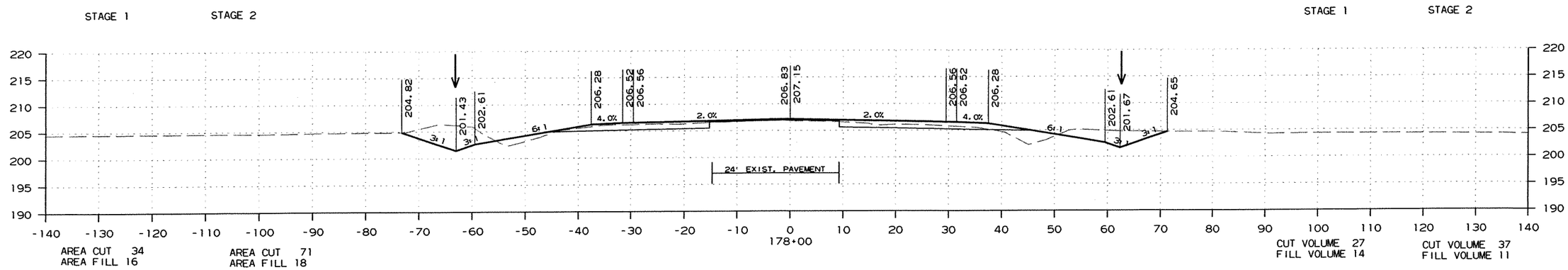


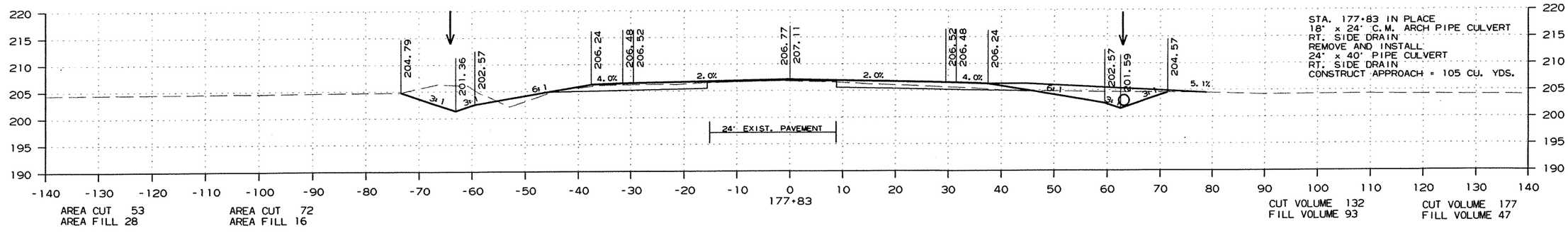
CROSS SECTION STA. 174+49 TO STA. 176+00

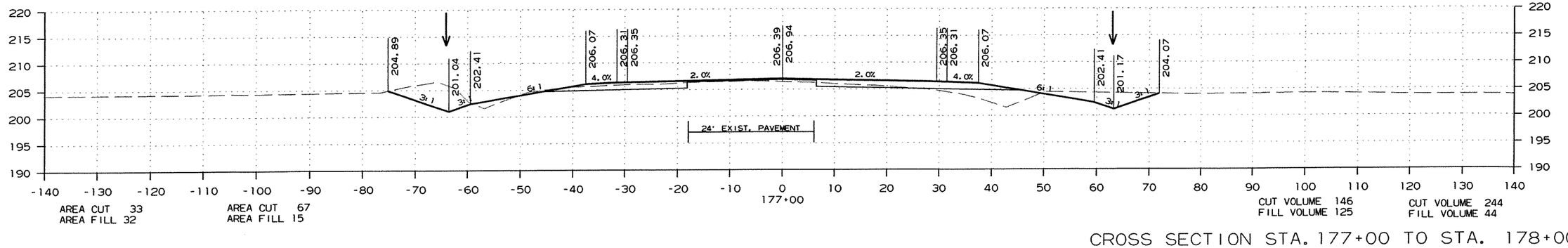
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	169	271

(2) CROSS SECTIONS





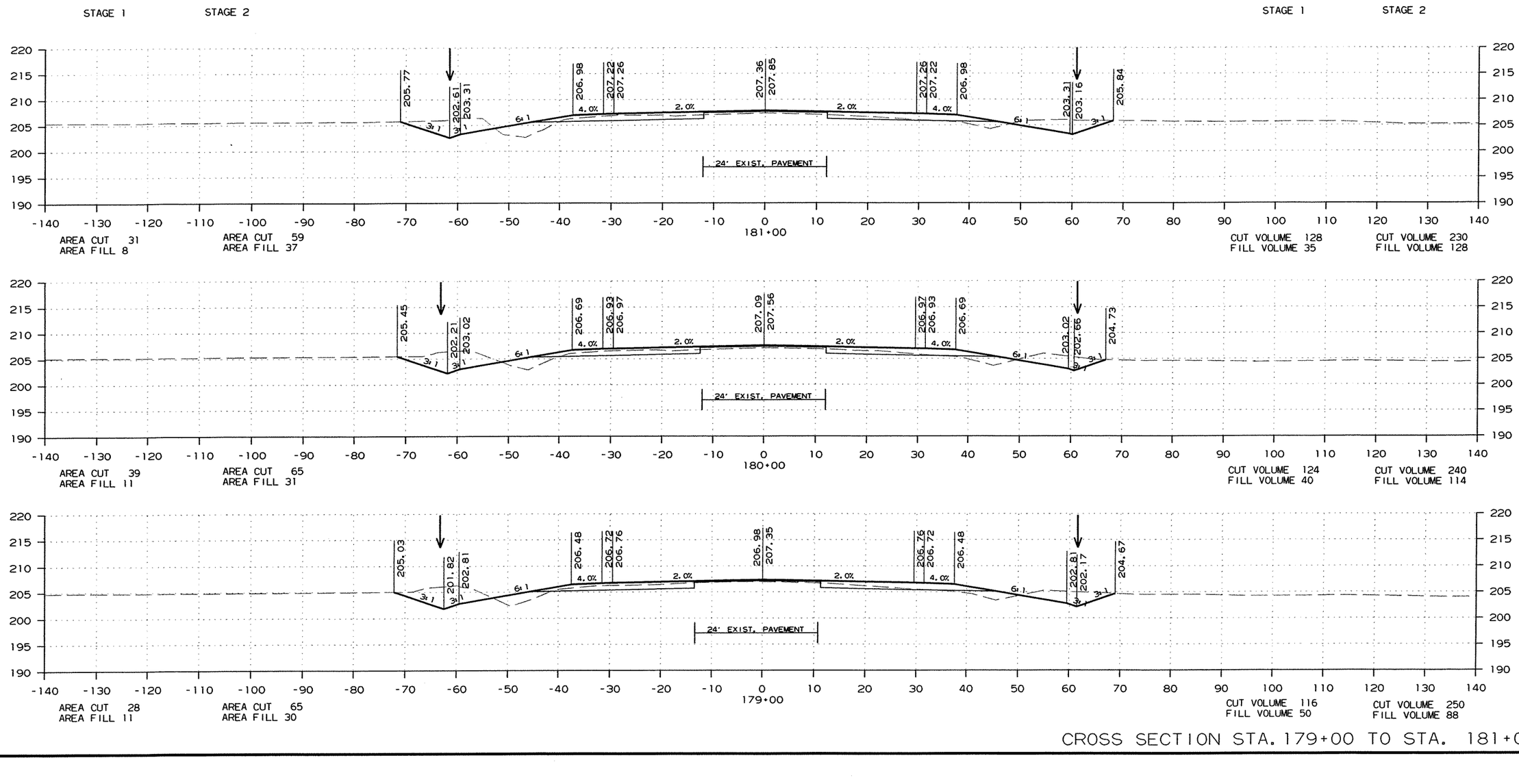


CROSS SECTION STA. 177+00 TO STA. 178+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	170	271

(2) CROSS SECTIONS

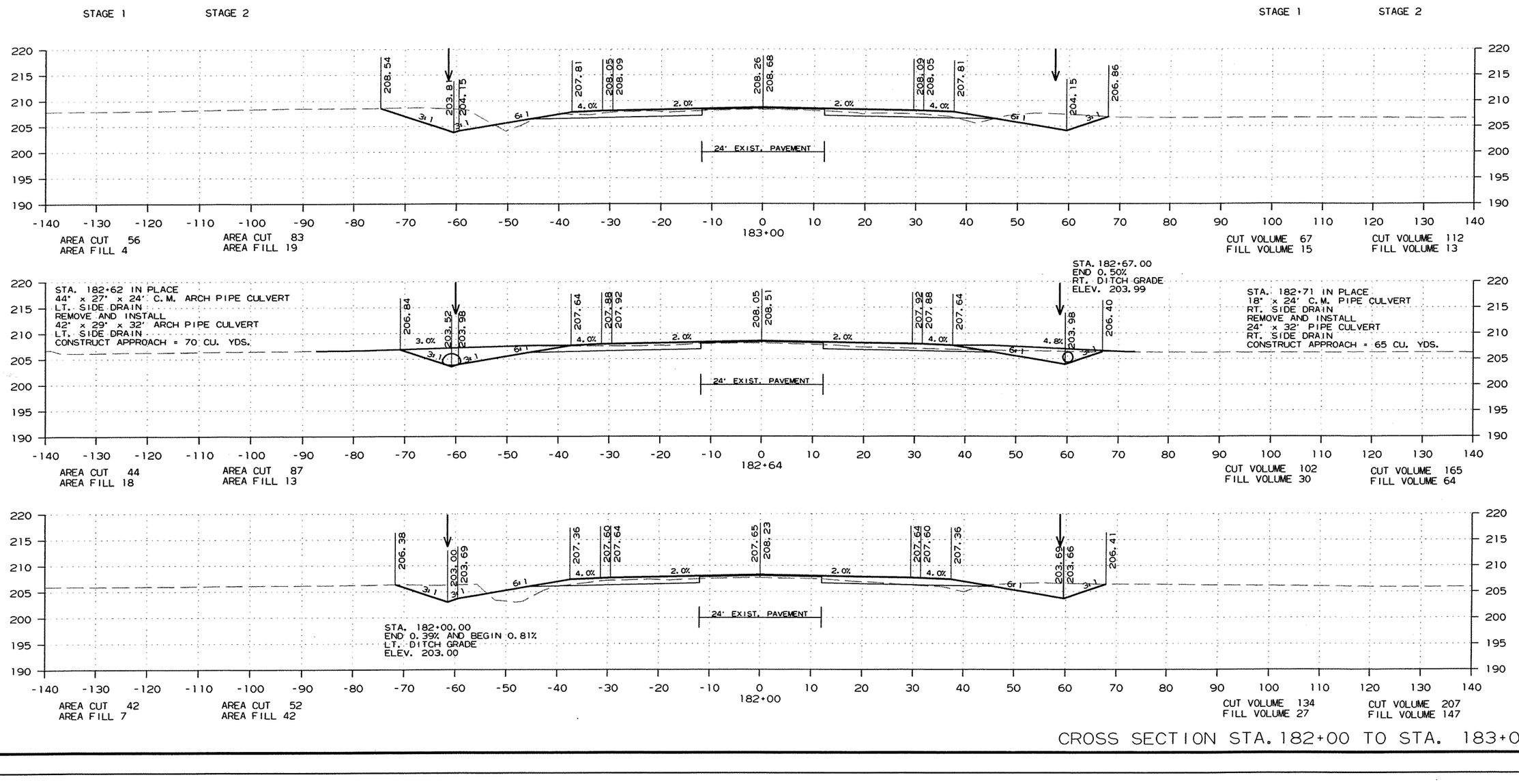


CROSS SECTION STA. 179+00 TO STA. 181+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	171	271

(2) CROSS SECTIONS



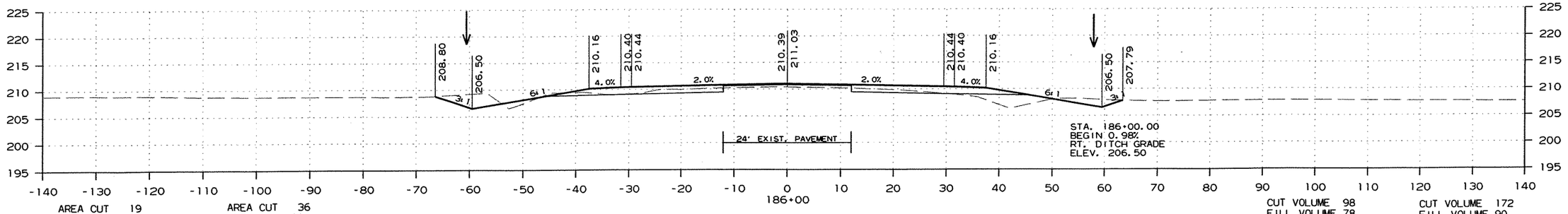
CROSS SECTION STA. 182+00 TO STA. 183+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	172	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

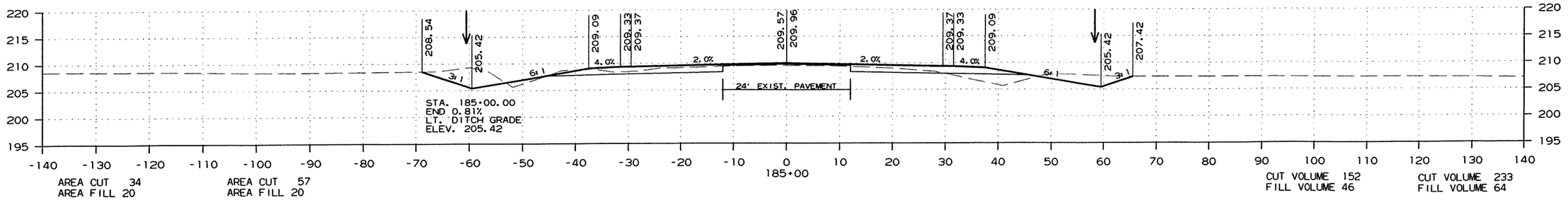


AREA CUT 19
AREA FILL 23

AREA CUT 36
AREA FILL 29

CUT VOLUME 98
FILL VOLUME 78

CUT VOLUME 172
FILL VOLUME 90

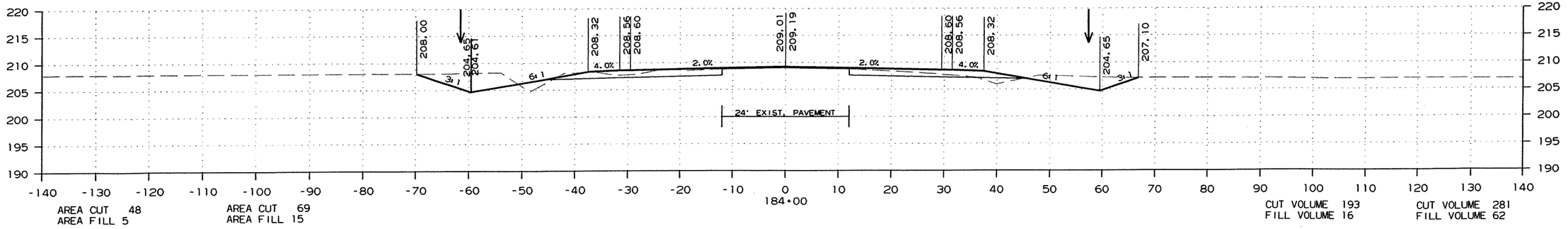


AREA CUT 34
AREA FILL 20

AREA CUT 57
AREA FILL 20

CUT VOLUME 152
FILL VOLUME 46

CUT VOLUME 233
FILL VOLUME 64



AREA CUT 48
AREA FILL 5

AREA CUT 69
AREA FILL 15

CUT VOLUME 193
FILL VOLUME 16

CUT VOLUME 281
FILL VOLUME 62

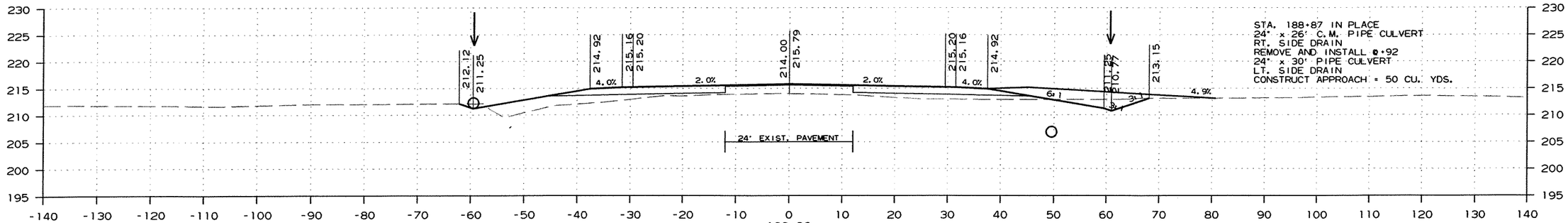
CROSS SECTION STA. 184+00 TO STA. 186+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	173	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

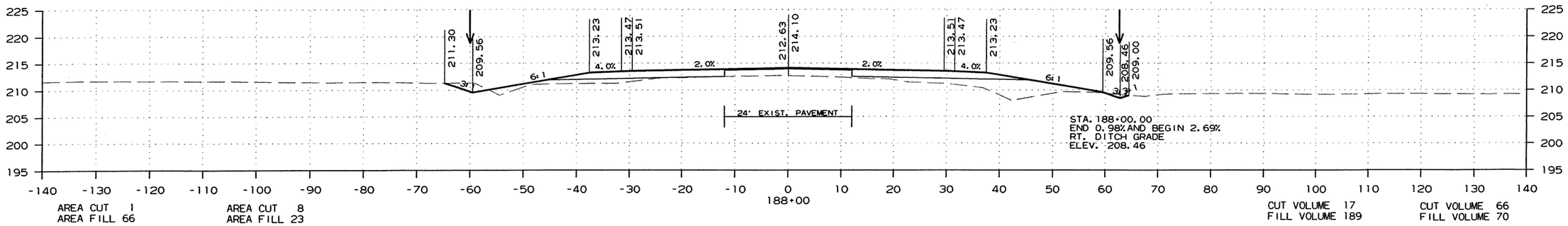


AREA CUT 18
AREA FILL 66

AREA CUT 3
AREA FILL 53

CUT VOLUME 32
FILL VOLUME 211

CUT VOLUME 16
FILL VOLUME 121

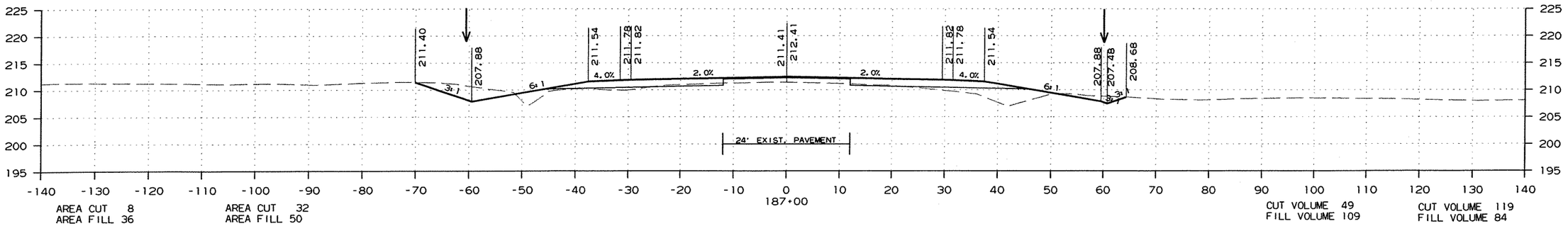


AREA CUT 1
AREA FILL 66

AREA CUT 8
AREA FILL 23

CUT VOLUME 17
FILL VOLUME 189

CUT VOLUME 66
FILL VOLUME 70



AREA CUT 8
AREA FILL 36

AREA CUT 32
AREA FILL 50

CUT VOLUME 49
FILL VOLUME 109

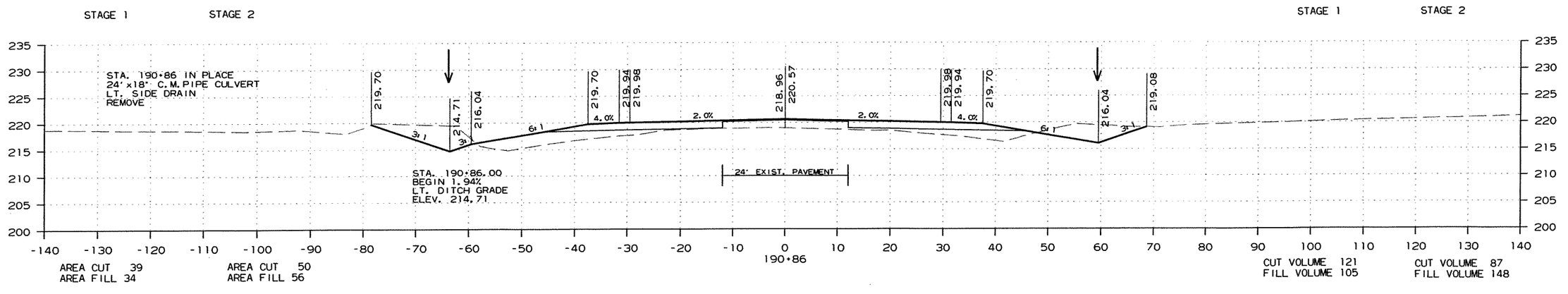
CUT VOLUME 119
FILL VOLUME 84

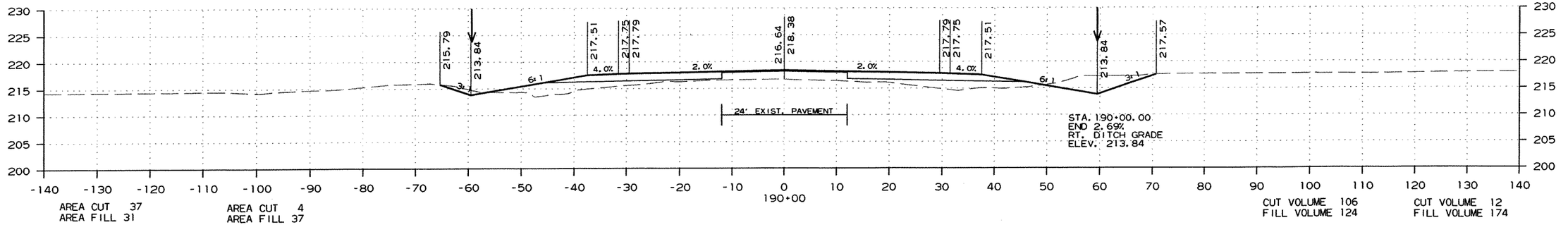
CROSS SECTION STA. 187+00 TO STA. 188+86

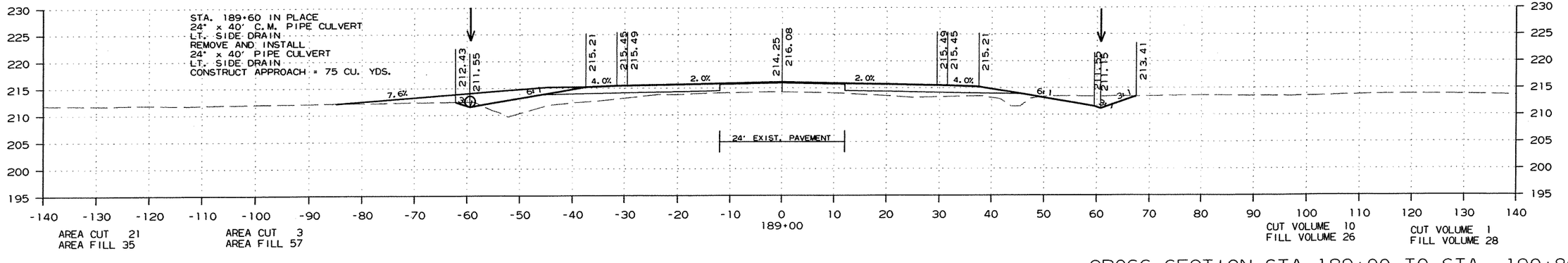
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	174	271

(2) CROSS SECTIONS





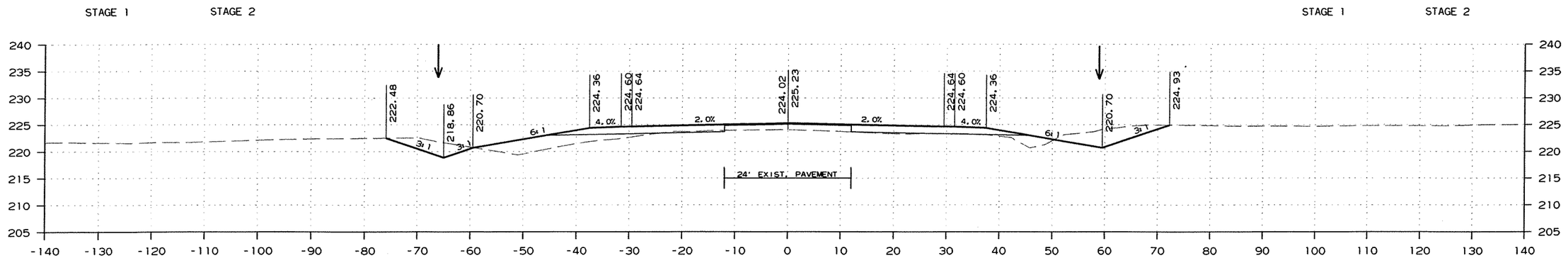


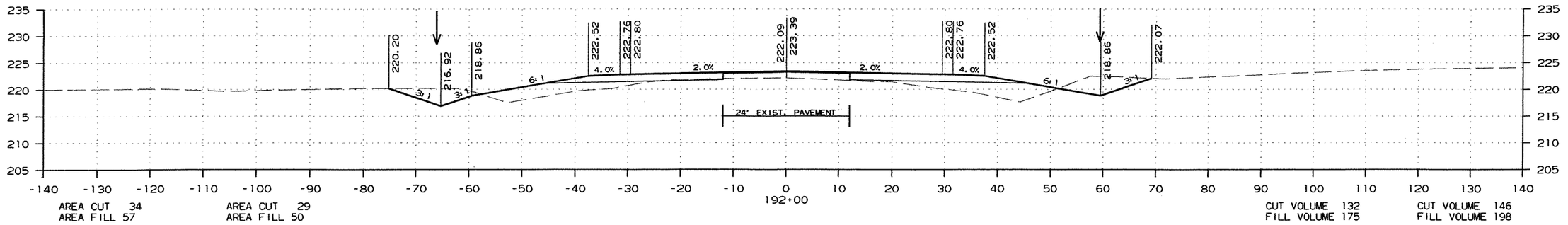
CROSS SECTION STA. 189+00 TO STA. 190+86

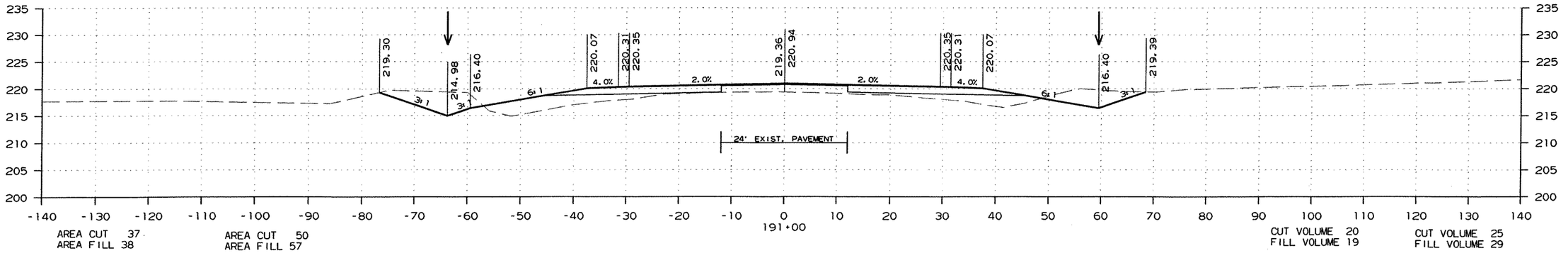
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	175	271

(2) CROSS SECTIONS





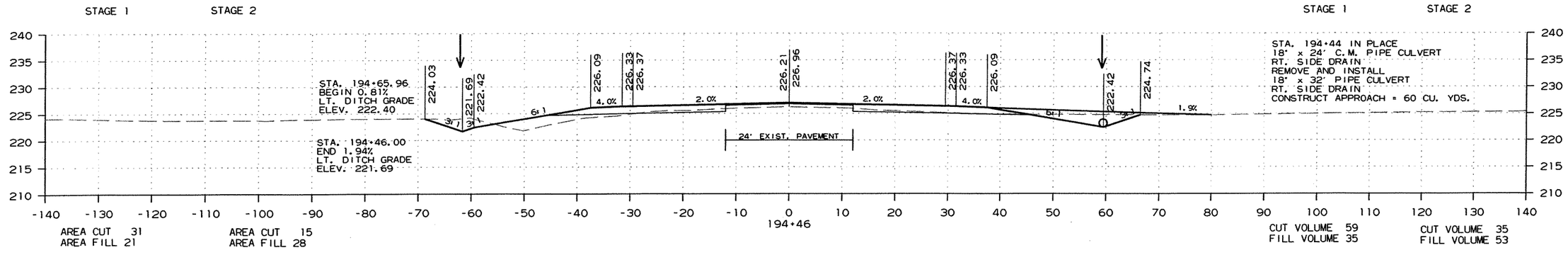


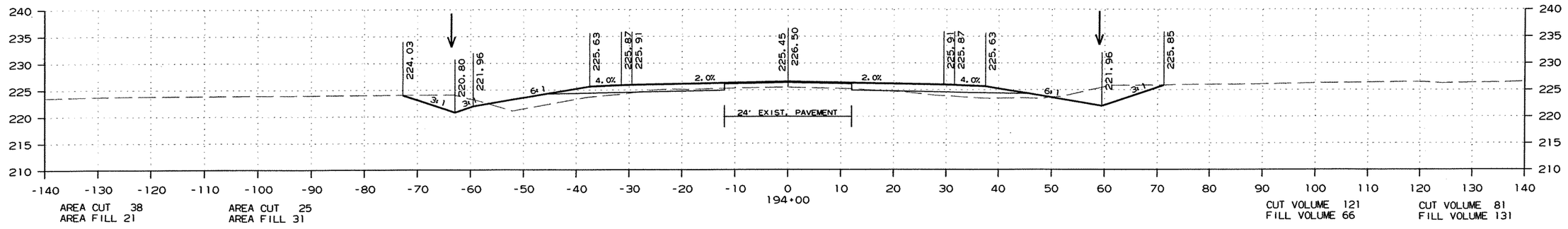
CROSS SECTION STA. 191+00 TO STA. 193+00

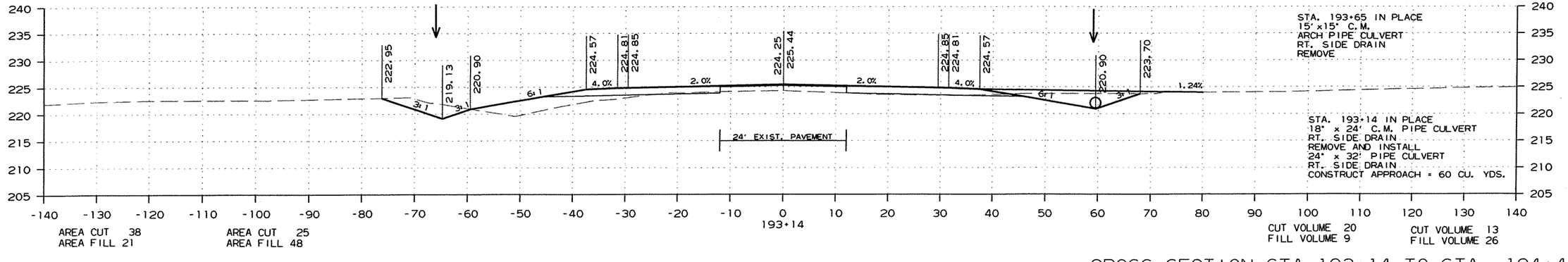
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	176	271

(2) CROSS SECTIONS







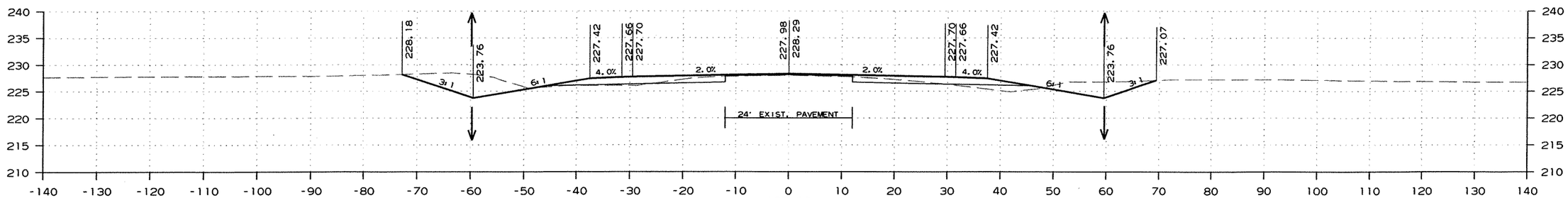
CROSS SECTION STA. 193+14 TO STA. 194+46

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	177	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



AREA CUT 45
AREA FILL 12

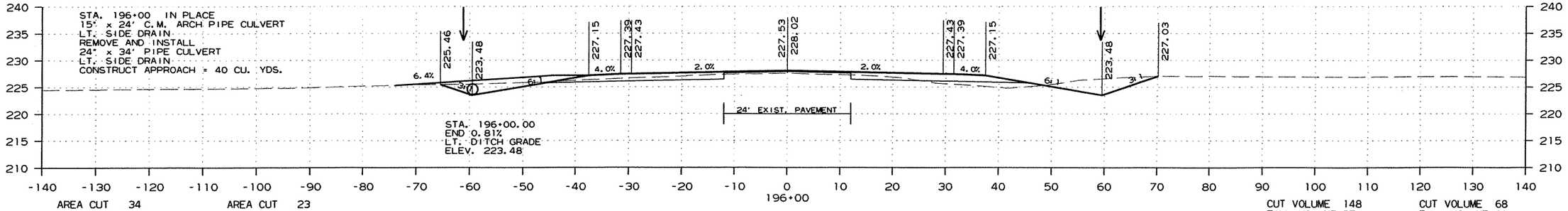
AREA CUT 57
AREA FILL 4

CUT VOLUME 147
FILL VOLUME 51

CUT VOLUME 147
FILL VOLUME 46

STA. 196+00 IN PLACE
15' x 24' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24' x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 196+00.00
END 0.81%
LT. DITCH GRADE
ELEV. 223.48

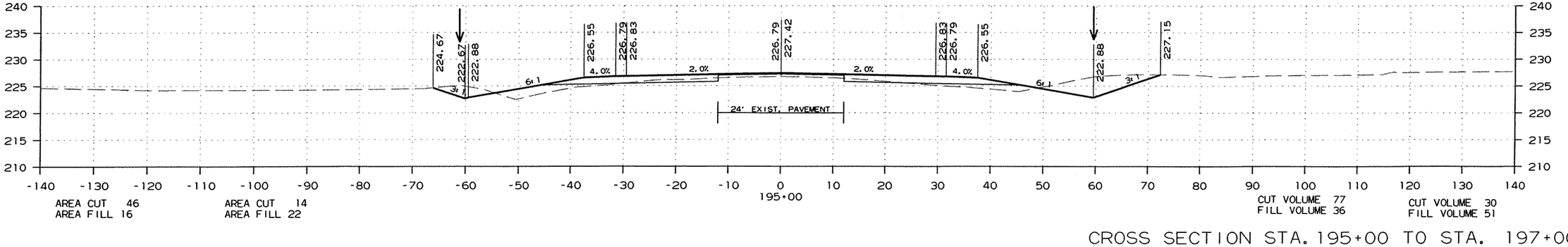


AREA CUT 34
AREA FILL 15

AREA CUT 23
AREA FILL 21

CUT VOLUME 148
FILL VOLUME 57

CUT VOLUME 68
FILL VOLUME 81



AREA CUT 46
AREA FILL 16

AREA CUT 14
AREA FILL 22

CUT VOLUME 77
FILL VOLUME 36

CUT VOLUME 30
FILL VOLUME 51

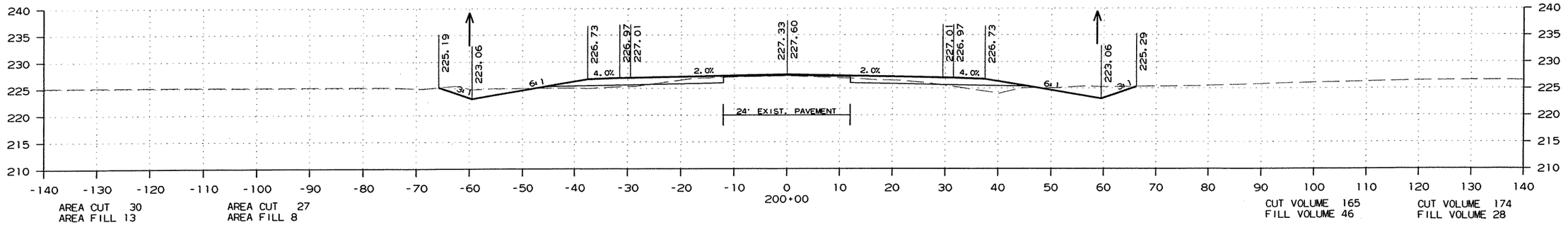
CROSS SECTION STA. 195+00 TO STA. 197+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	178	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



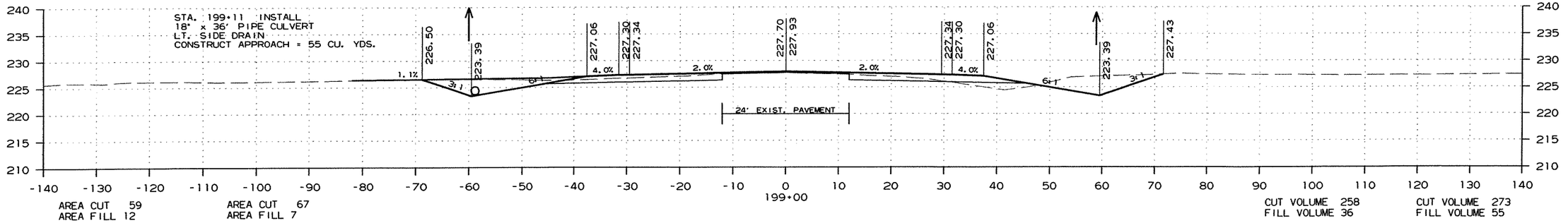
AREA CUT 30
AREA FILL 13

AREA CUT 27
AREA FILL 8

CUT VOLUME 165
FILL VOLUME 46

CUT VOLUME 174
FILL VOLUME 28

STA. 199+11 INSTALL
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

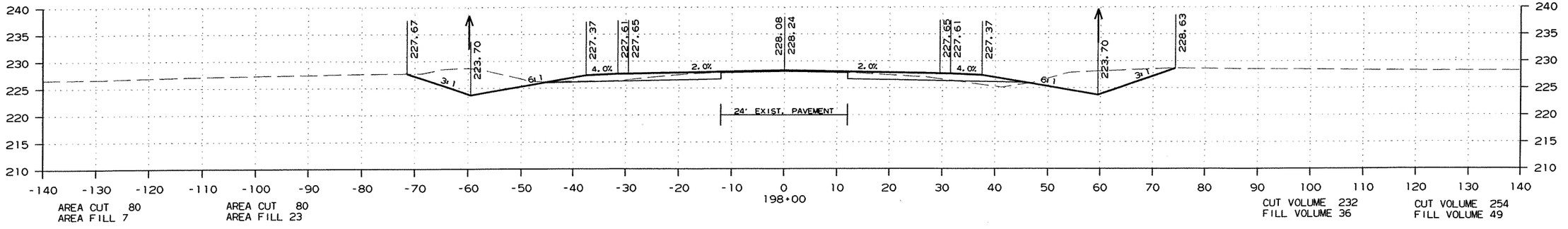


AREA CUT 59
AREA FILL 12

AREA CUT 67
AREA FILL 7

CUT VOLUME 258
FILL VOLUME 36

CUT VOLUME 273
FILL VOLUME 55



AREA CUT 80
AREA FILL 7

AREA CUT 80
AREA FILL 23

CUT VOLUME 232
FILL VOLUME 36

CUT VOLUME 254
FILL VOLUME 49

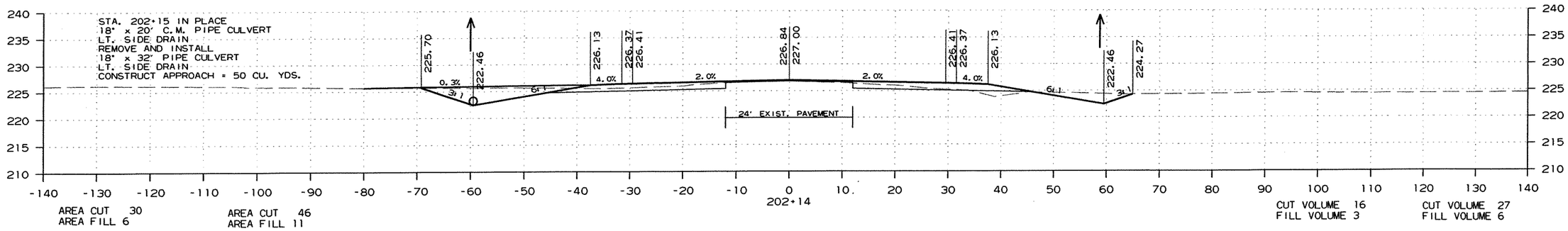
CROSS SECTION STA. 198+00 TO STA. 200+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	179	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

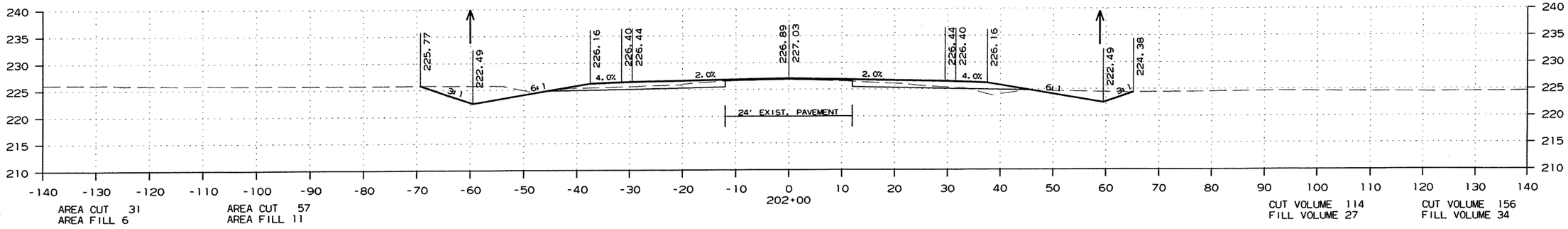


AREA CUT 30
AREA FILL 6

AREA CUT 46
AREA FILL 11

CUT VOLUME 16
FILL VOLUME 3

CUT VOLUME 27
FILL VOLUME 6

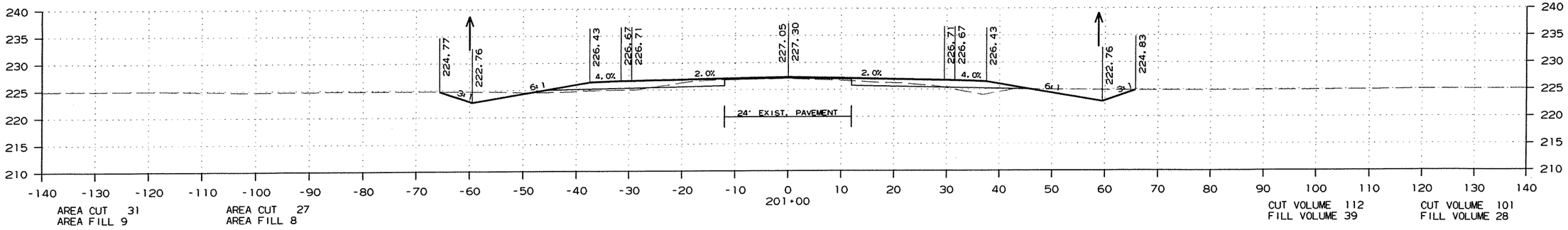


AREA CUT 31
AREA FILL 6

AREA CUT 57
AREA FILL 11

CUT VOLUME 114
FILL VOLUME 27

CUT VOLUME 156
FILL VOLUME 34



AREA CUT 31
AREA FILL 9

AREA CUT 27
AREA FILL 8

CUT VOLUME 112
FILL VOLUME 39

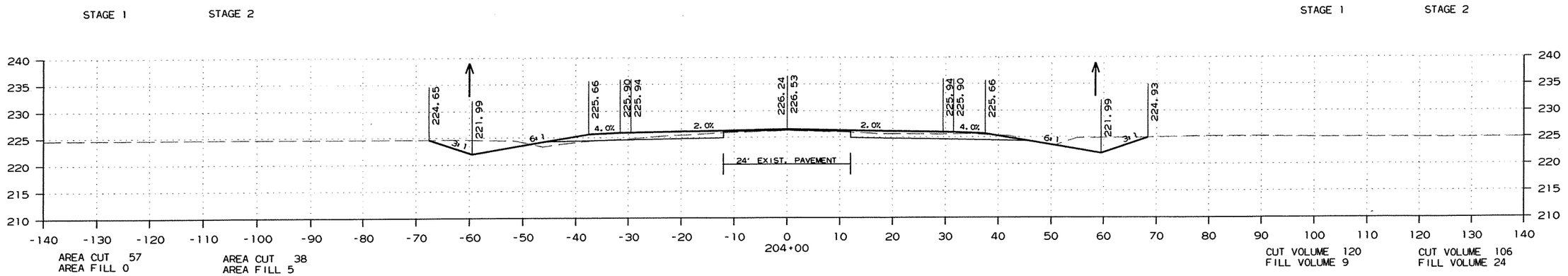
CUT VOLUME 101
FILL VOLUME 28

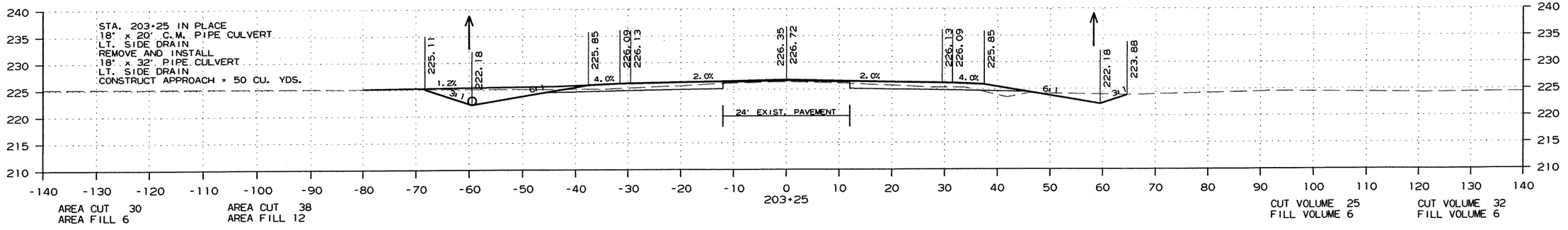
CROSS SECTION STA. 201+00 TO STA. 202+14

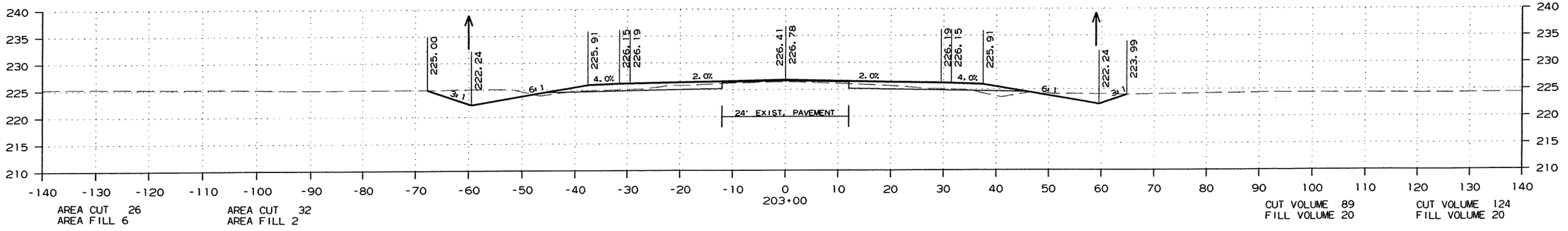
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	180	271

(2) CROSS SECTIONS







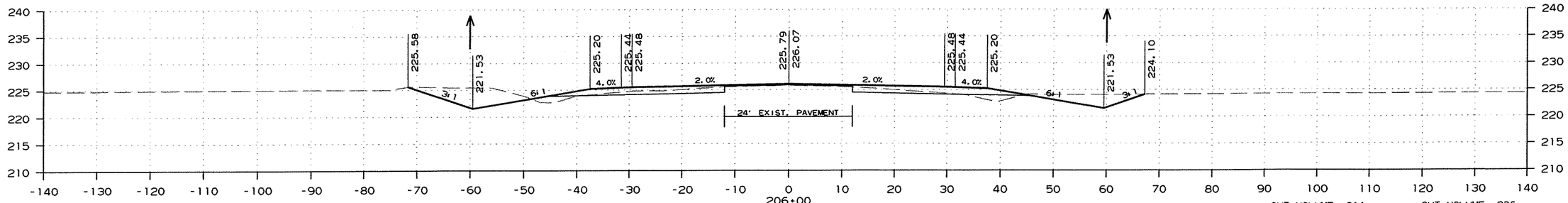
CROSS SECTION STA. 203+00 TO STA. 204+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	181	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



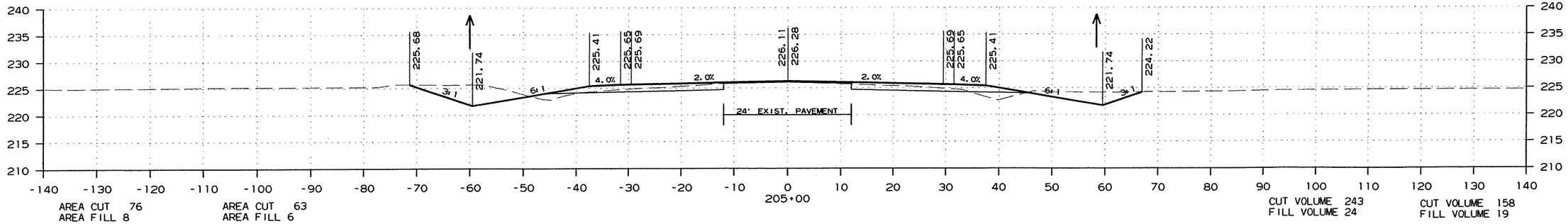
AREA CUT 39
AREA FILL 7

AREA CUT 64
AREA FILL 6

CUT VOLUME 214
FILL VOLUME 27

CUT VOLUME 236
FILL VOLUME 22

STAGE 1 STAGE 2

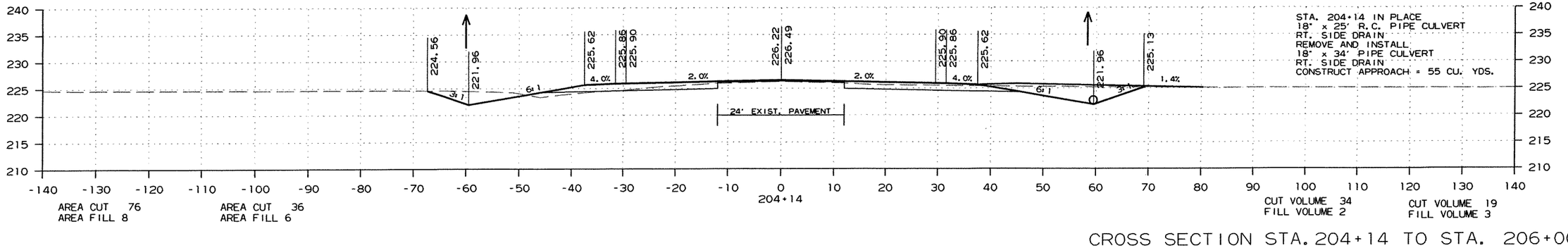


AREA CUT 76
AREA FILL 8

AREA CUT 63
AREA FILL 6

CUT VOLUME 243
FILL VOLUME 24

CUT VOLUME 158
FILL VOLUME 19



STA. 204+14 IN PLACE
18" x 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

AREA CUT 76
AREA FILL 8

AREA CUT 36
AREA FILL 6

CUT VOLUME 34
FILL VOLUME 2

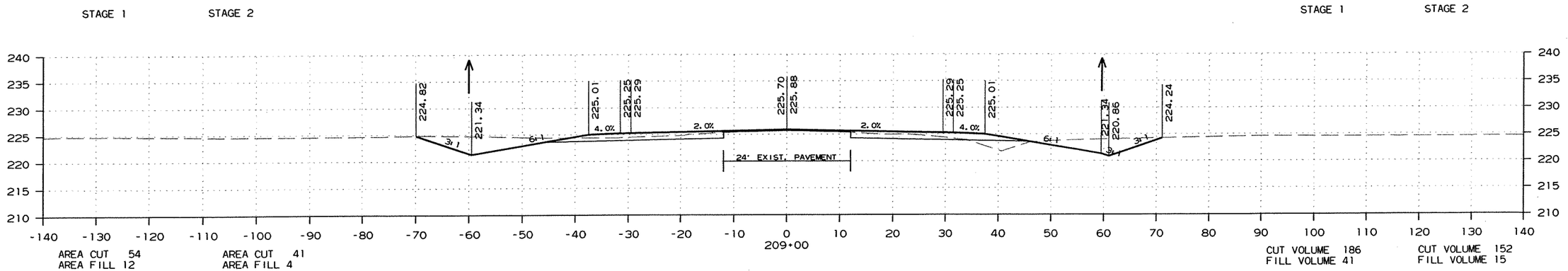
CUT VOLUME 19
FILL VOLUME 3

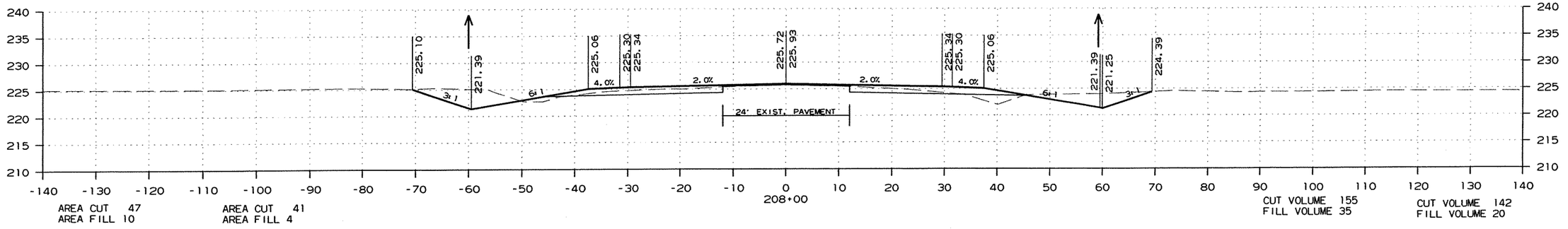
CROSS SECTION STA. 204+14 TO STA. 206+00

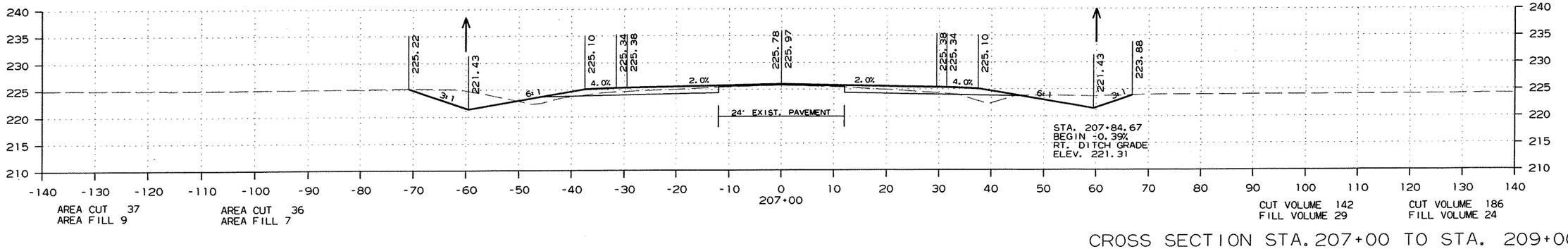
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	182	271

(2) CROSS SECTIONS





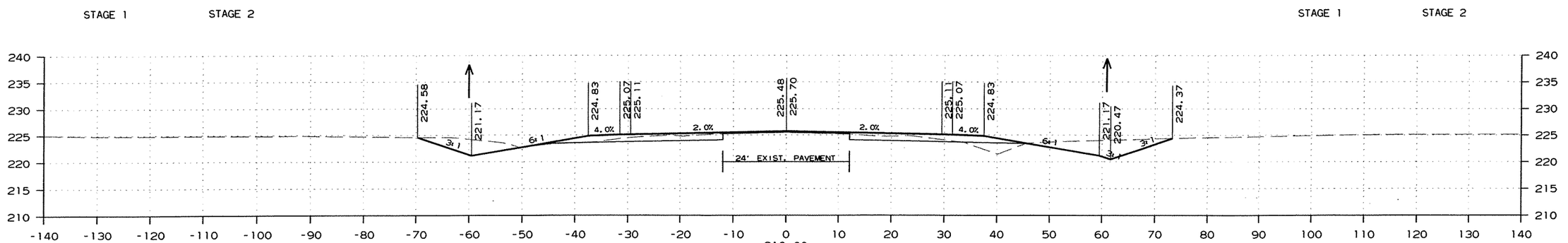


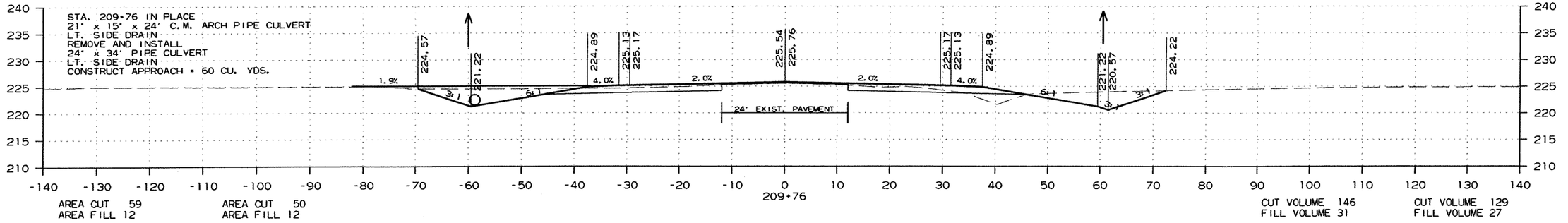
CROSS SECTION STA. 207+00 TO STA. 209+00

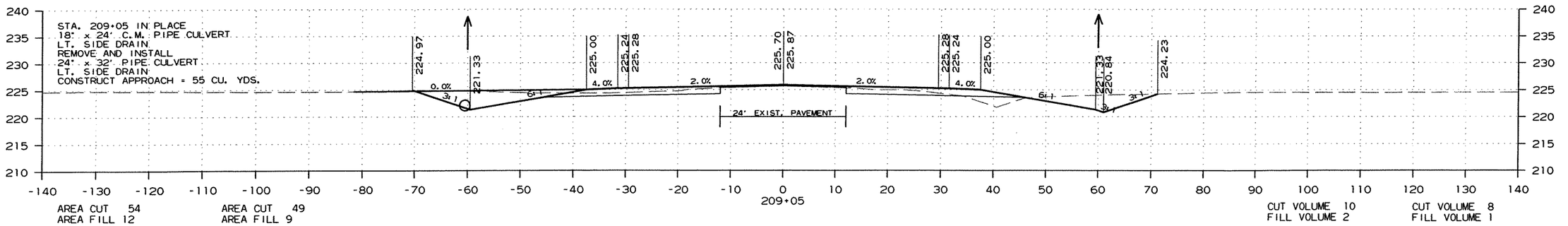
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	183	271

(2) CROSS SECTIONS







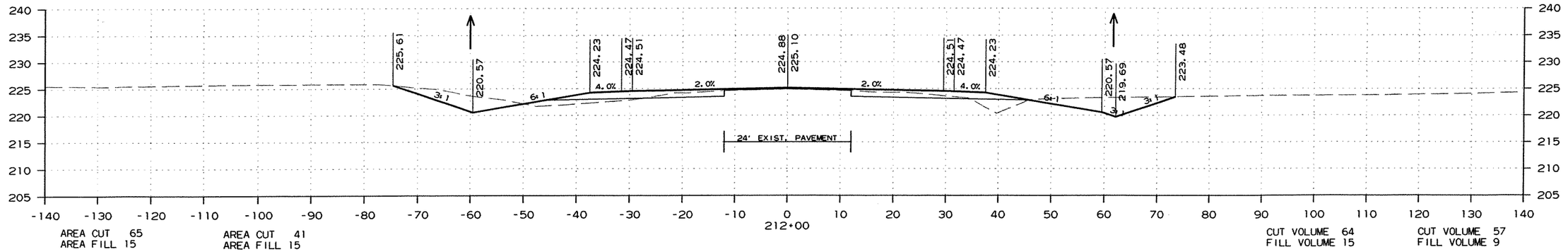
CROSS SECTION STA. 209+05 TO STA. 210+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	184	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



AREA CUT 65
AREA FILL 15

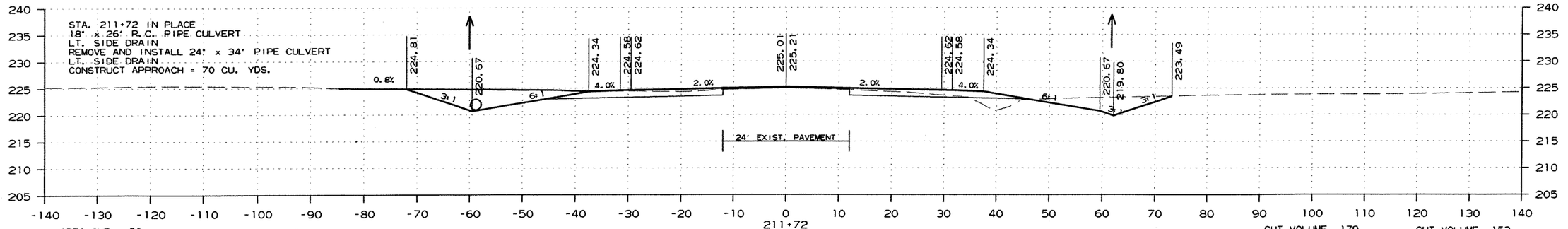
AREA CUT 41
AREA FILL 15

CUT VOLUME 64
FILL VOLUME 15

CUT VOLUME 57
FILL VOLUME 9

STAGE 1 STAGE 2

STA. 211+72 IN PLACE
18' x 26' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL 24' x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.

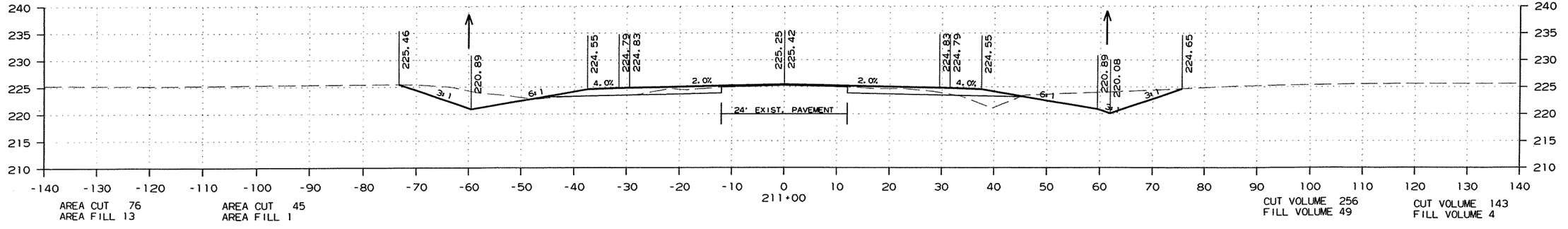


AREA CUT 59
AREA FILL 14

AREA CUT 70
AREA FILL 3

CUT VOLUME 179
FILL VOLUME 36

CUT VOLUME 153
FILL VOLUME 5



AREA CUT 76
AREA FILL 13

AREA CUT 45
AREA FILL 1

CUT VOLUME 256
FILL VOLUME 49

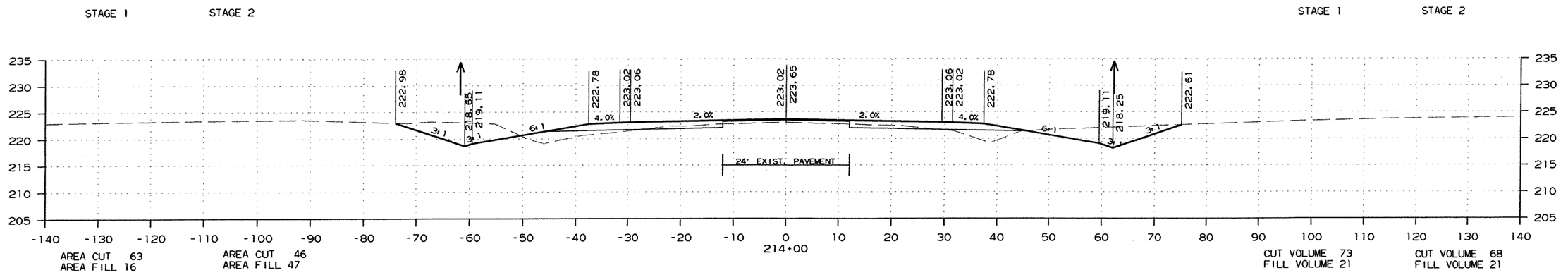
CUT VOLUME 143
FILL VOLUME 4

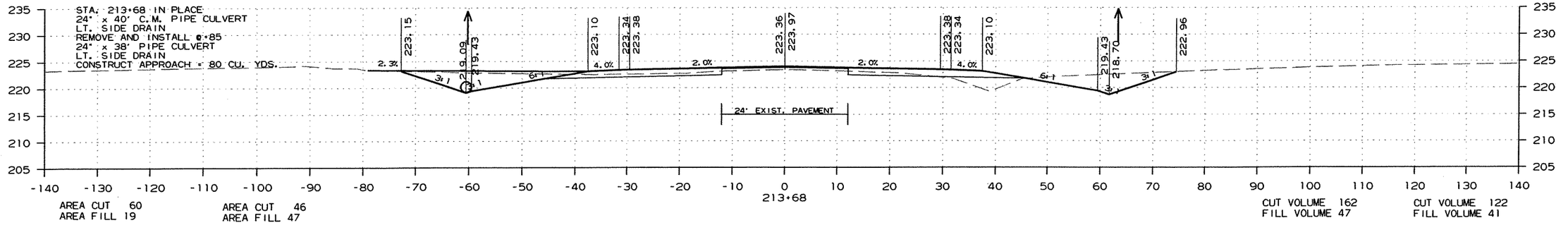
CROSS SECTION STA. 211+00 TO STA. 212+00

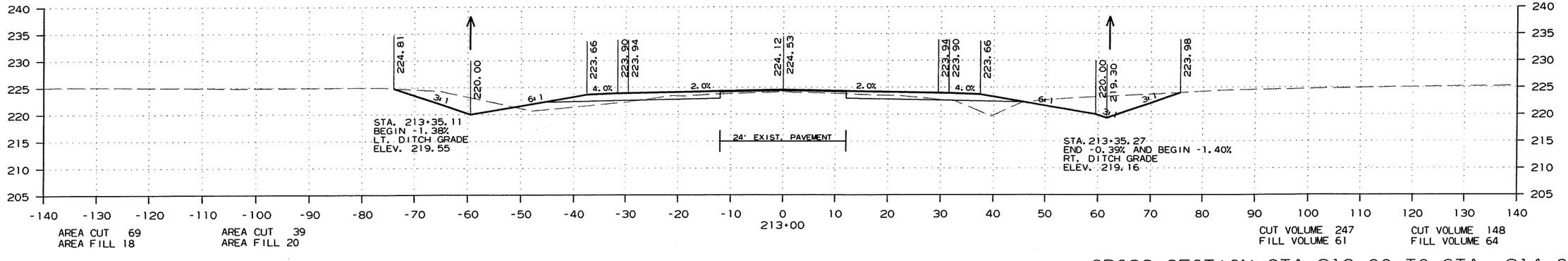
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	185	271

(2) CROSS SECTIONS







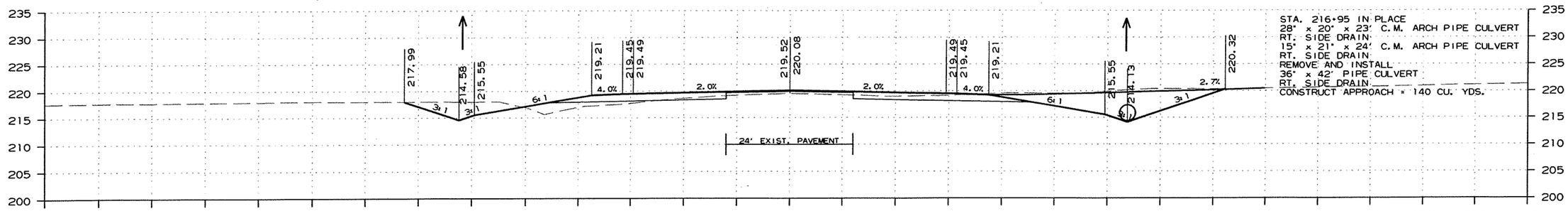
CROSS SECTION STA. 213+00 TO STA. 214+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	186	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



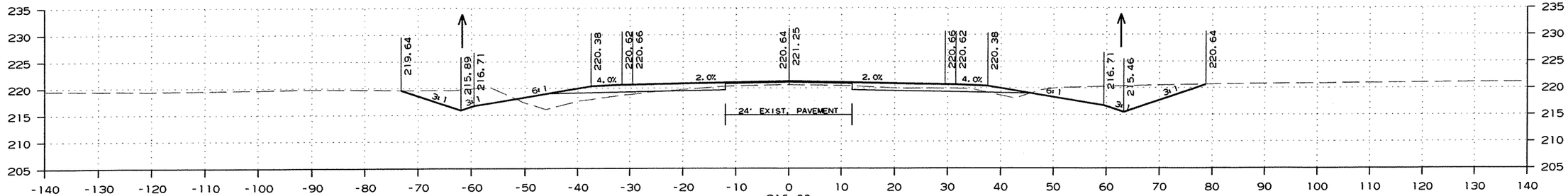
STA. 216+95 IN PLACE
28" x 20" x 23' C.M. ARCH PIPE CULVERT
RT. SIDE DRAIN
15" x 21" x 24' C.M. ARCH PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
36" x 42" PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 140 CU. YDS.

AREA CUT 156
AREA FILL 0

AREA CUT 46
AREA FILL 47

CUT VOLUME 443
FILL VOLUME 8

CUT VOLUME 150
FILL VOLUME 99

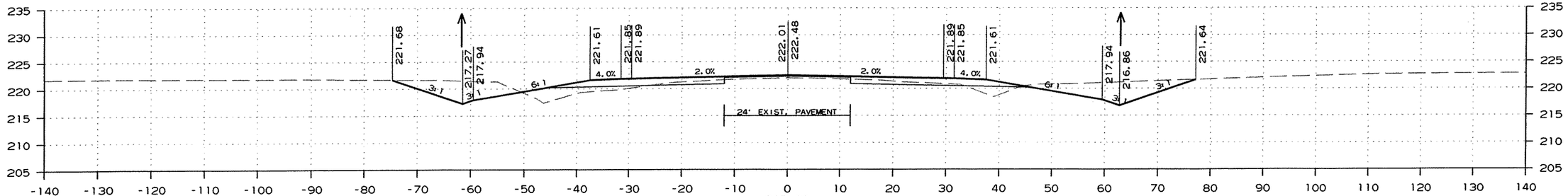


AREA CUT 96
AREA FILL 4

AREA CUT 46
AREA FILL 34

CUT VOLUME 325
FILL VOLUME 27

CUT VOLUME 188
FILL VOLUME 113



AREA CUT 79
AREA FILL 10

AREA CUT 55
AREA FILL 27

CUT VOLUME 262
FILL VOLUME 49

CUT VOLUME 208
FILL VOLUME 93

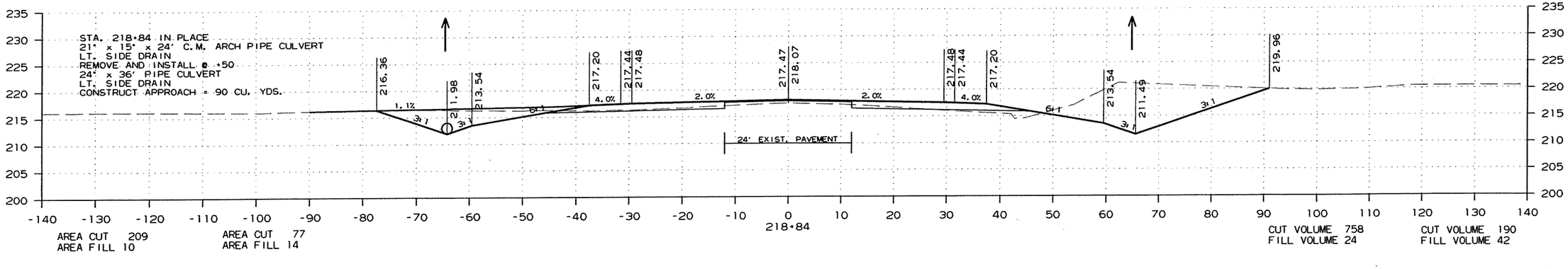
CROSS SECTION STA. 215+00 TO STA. 216+95

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	187	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



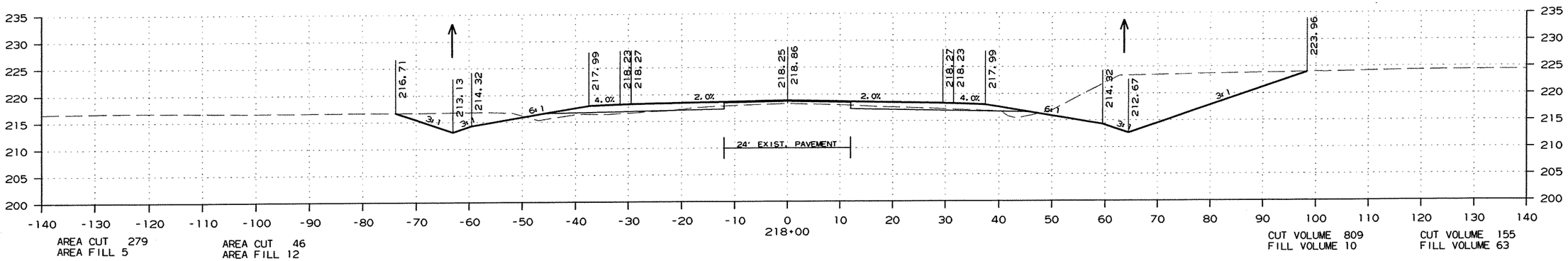
AREA CUT 209
AREA FILL 10

AREA CUT 77
AREA FILL 14

CUT VOLUME 758
FILL VOLUME 24

CUT VOLUME 190
FILL VOLUME 42

STAGE 1 STAGE 2

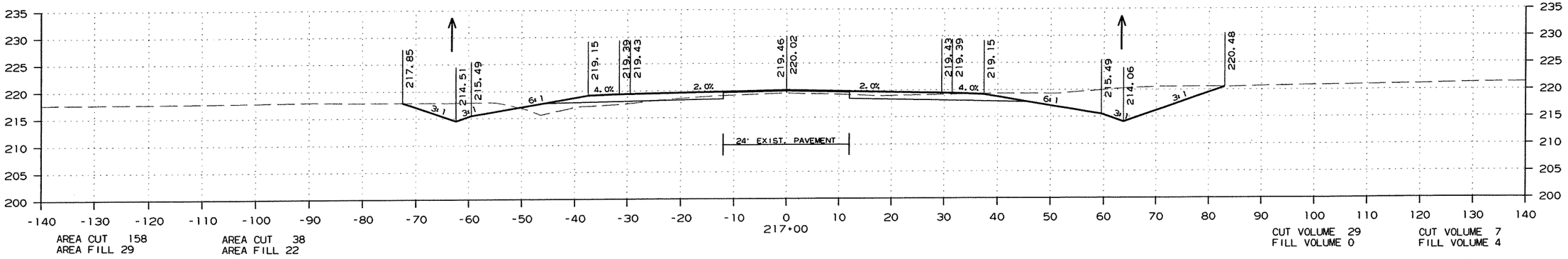


AREA CUT 279
AREA FILL 5

AREA CUT 46
AREA FILL 12

CUT VOLUME 809
FILL VOLUME 10

CUT VOLUME 155
FILL VOLUME 63



AREA CUT 158
AREA FILL 29

AREA CUT 38
AREA FILL 22

CUT VOLUME 29
FILL VOLUME 0

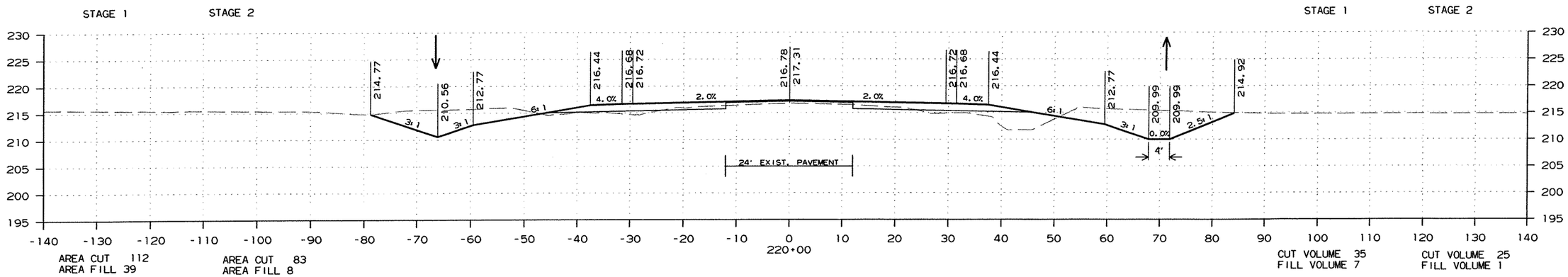
CUT VOLUME 7
FILL VOLUME 4

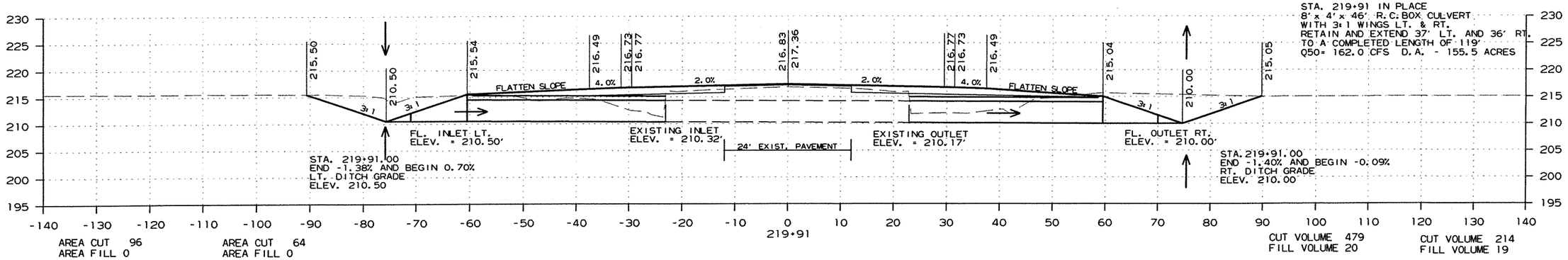
CROSS SECTION STA. 217+00 TO STA. 218+84

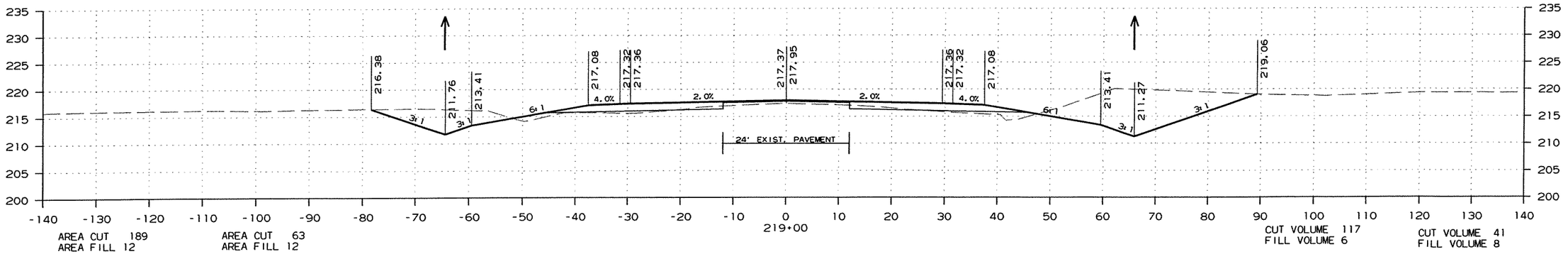
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				6	ARK.			
				JOB NO.		110502	188	271

(2) CROSS SECTIONS







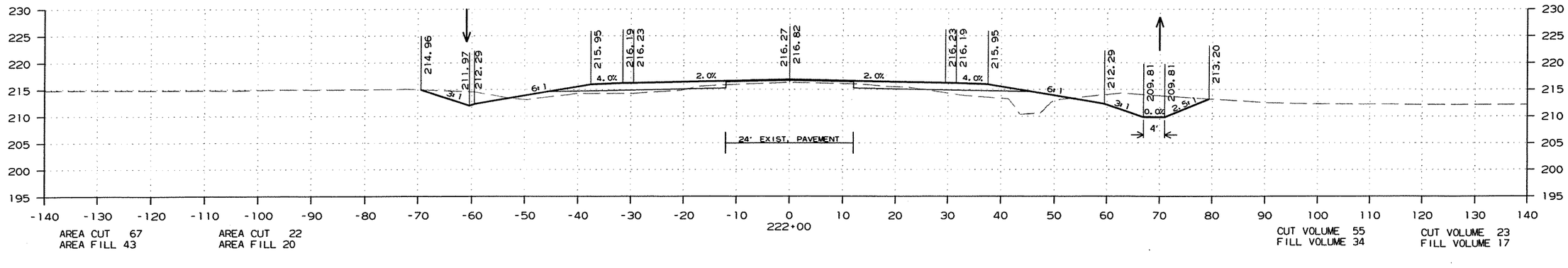
CROSS SECTION STA. 219+00 TO STA. 220+00

R110502.DGN 10/12/2011

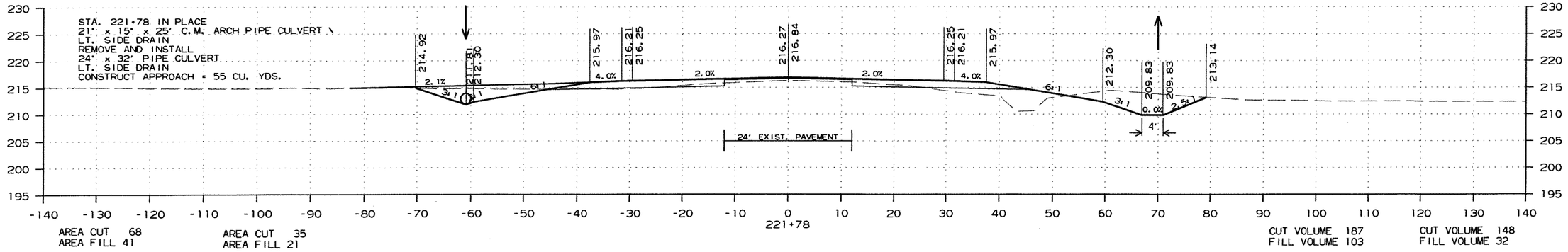
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	189	271

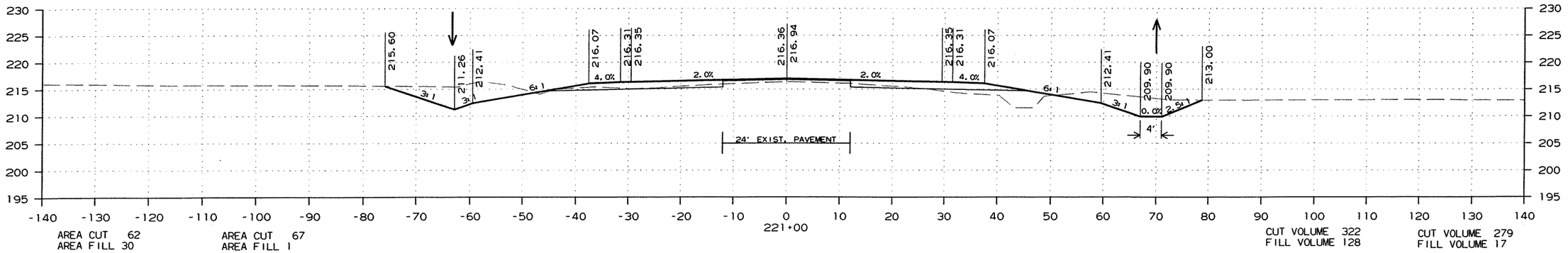
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



STA. 221+78 IN PLACE
21" x 15" x 25' C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.





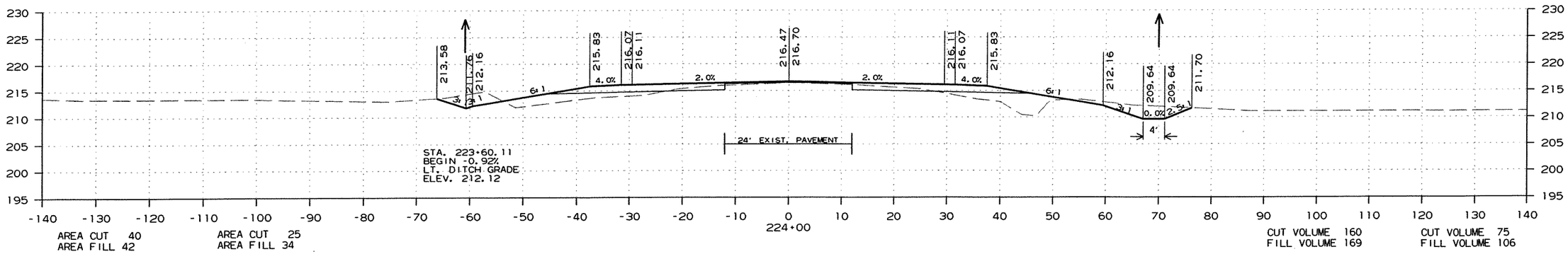
CROSS SECTION STA. 221+00 TO STA. 222+00

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				6	ARK.			
				JOB NO.		110502	190	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

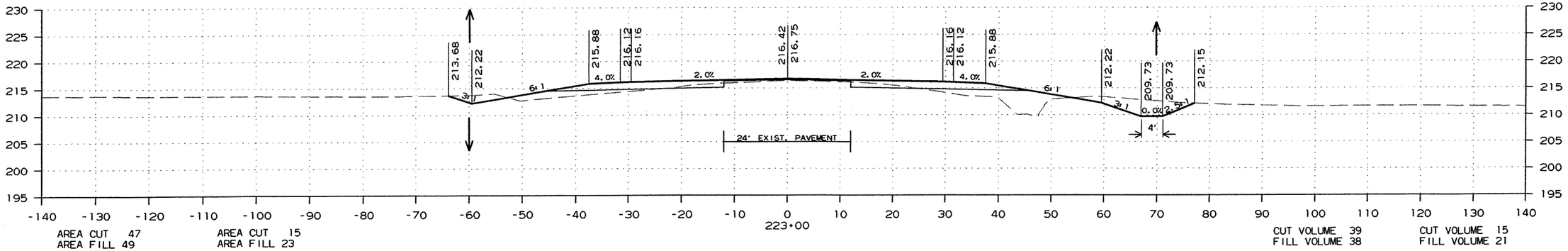


AREA CUT 40
AREA FILL 42

AREA CUT 25
AREA FILL 34

CUT VOLUME 160
FILL VOLUME 169

CUT VOLUME 75
FILL VOLUME 106



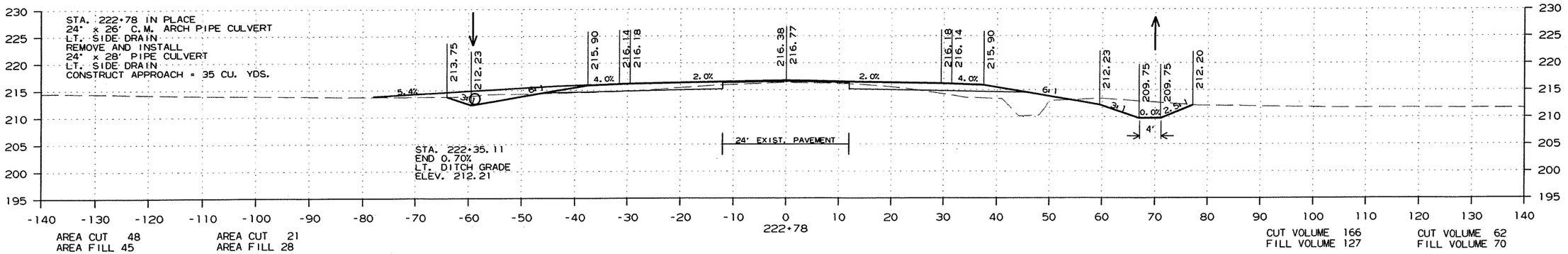
AREA CUT 47
AREA FILL 49

AREA CUT 15
AREA FILL 23

CUT VOLUME 39
FILL VOLUME 38

CUT VOLUME 15
FILL VOLUME 21

STA. 222+78 IN PLACE
24" x 26" C.M. ARCH PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 28" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.



AREA CUT 48
AREA FILL 45

AREA CUT 21
AREA FILL 28

CUT VOLUME 166
FILL VOLUME 127

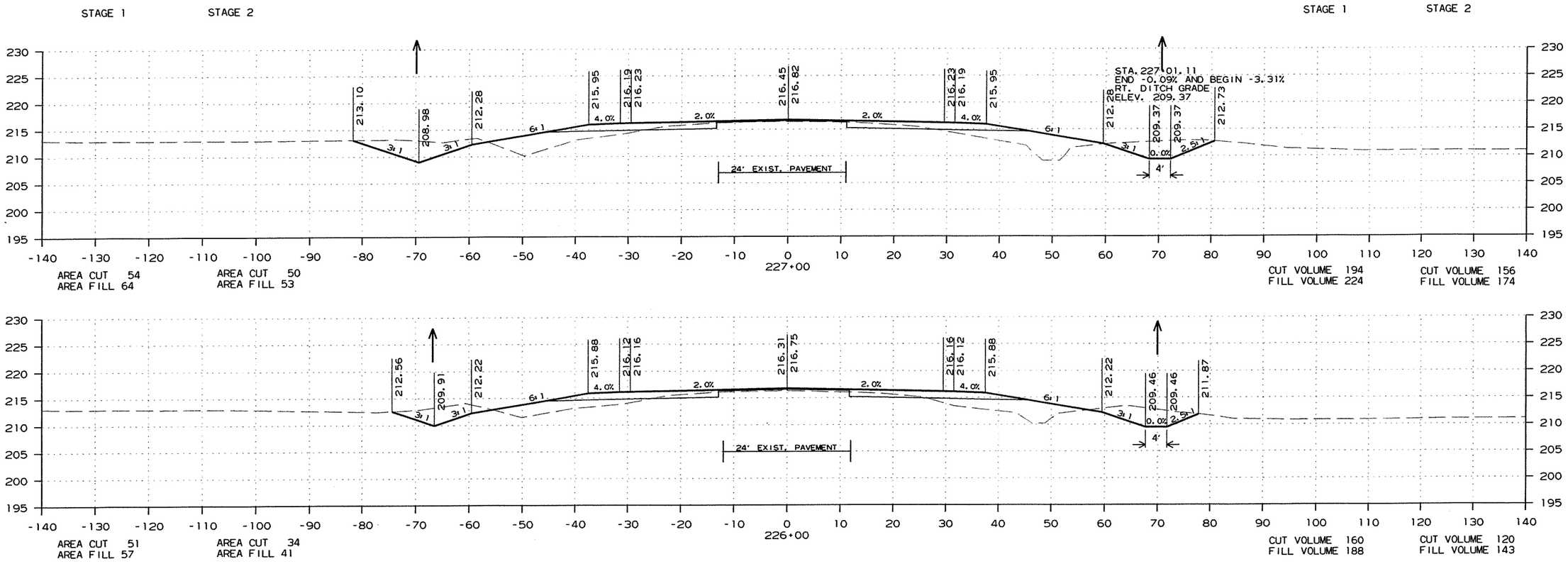
CUT VOLUME 62
FILL VOLUME 70

CROSS SECTION STA. 222+78 TO STA. 224+00

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				6	ARK.			
				JOB NO.		110502	191	271

(2) CROSS SECTIONS

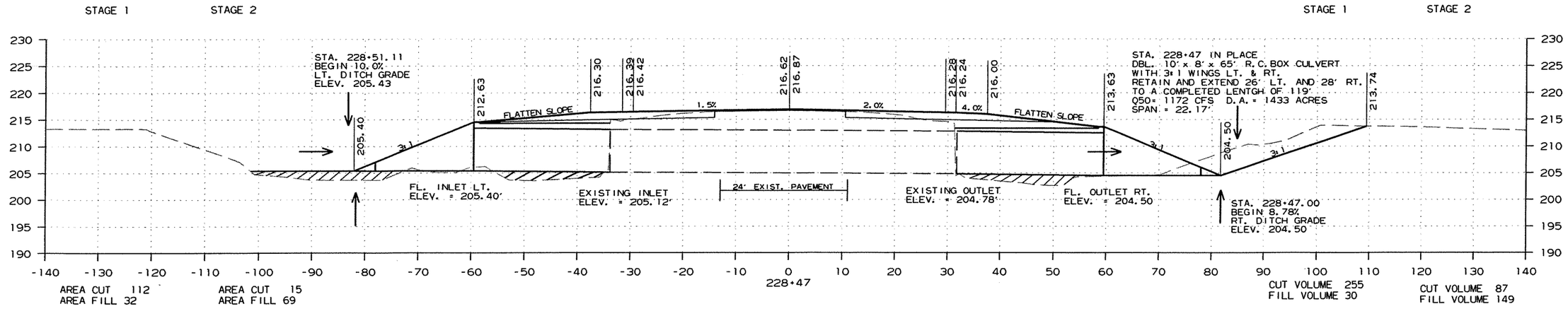


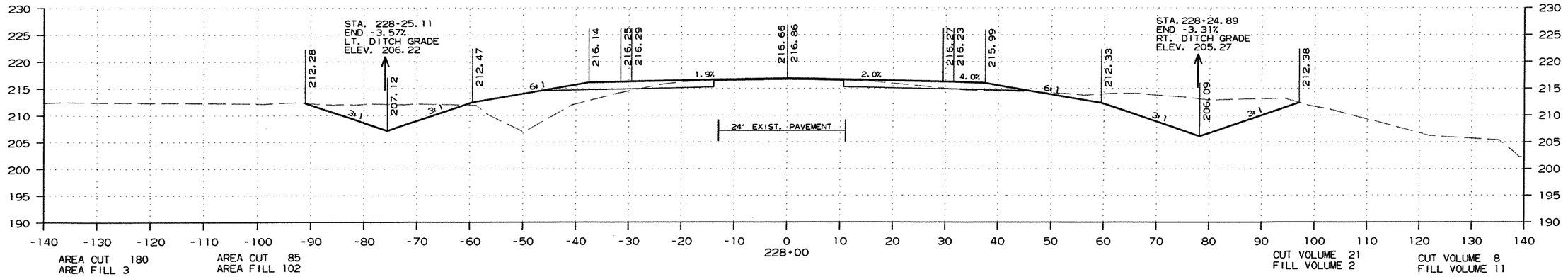
CROSS SECTION STA. 225+00 TO STA. 227+00

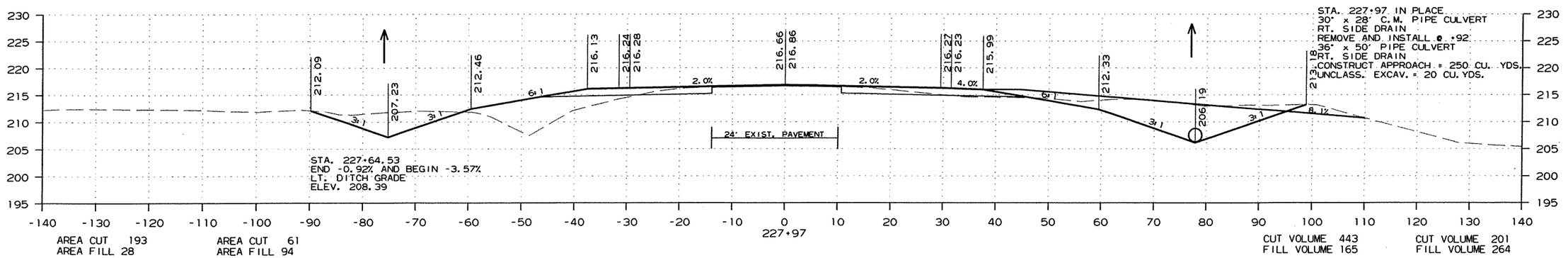
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	192	271

(2) CROSS SECTIONS





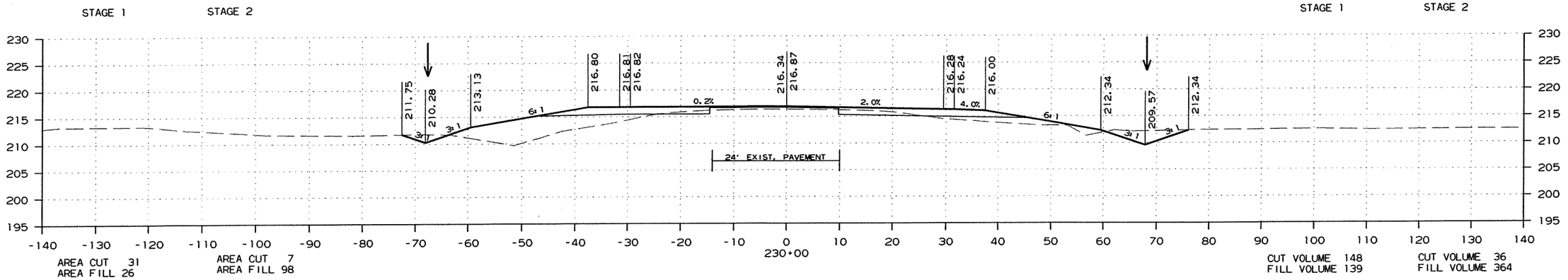


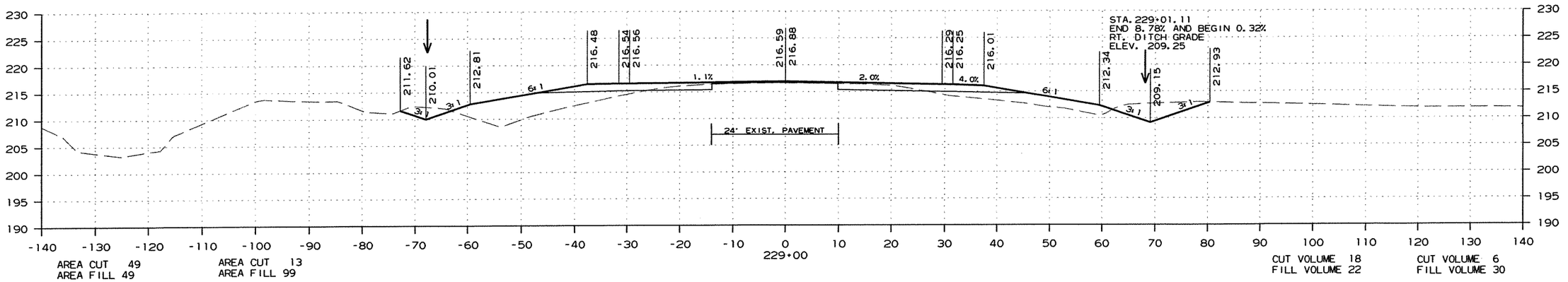
CROSS SECTION STA. 227+97 TO STA. 228+47

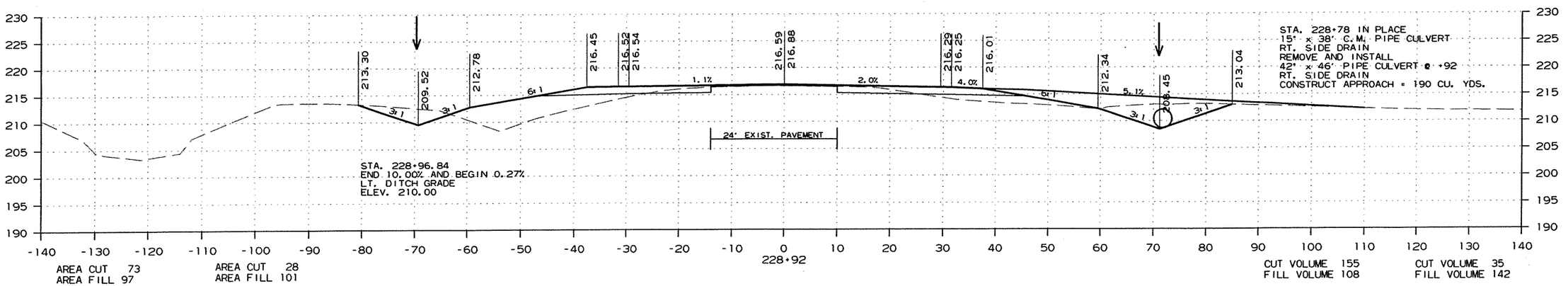
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	193	271

(2) CROSS SECTIONS





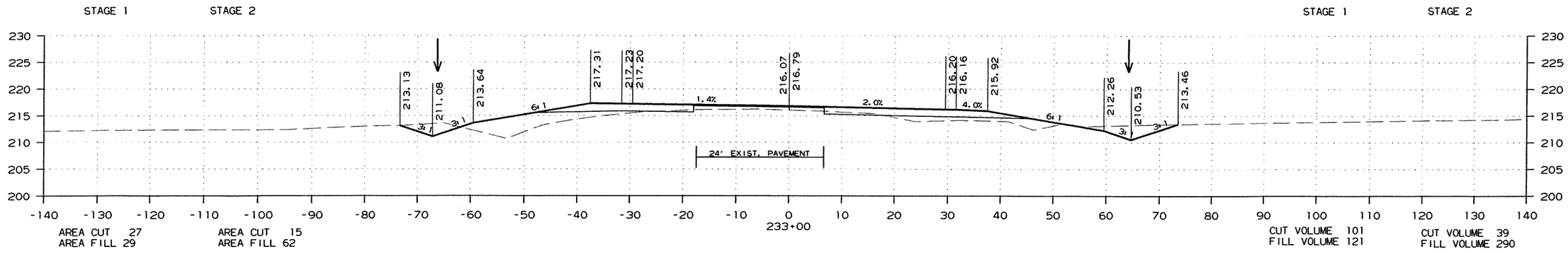


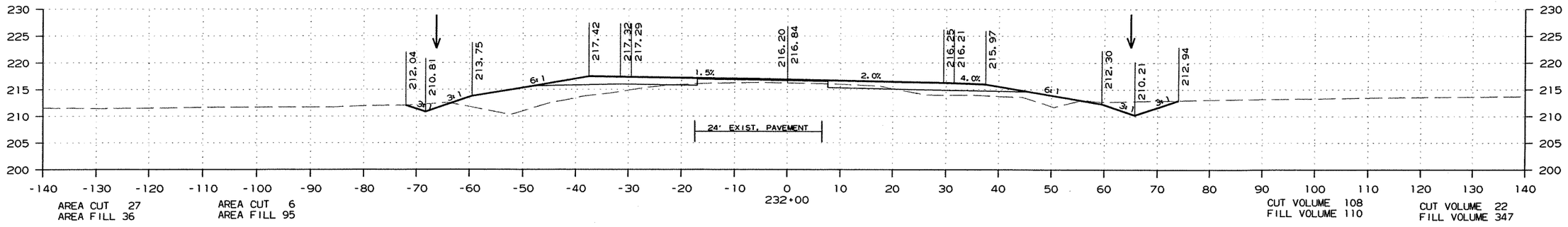
CROSS SECTION STA. 228+92 TO STA. 230+00

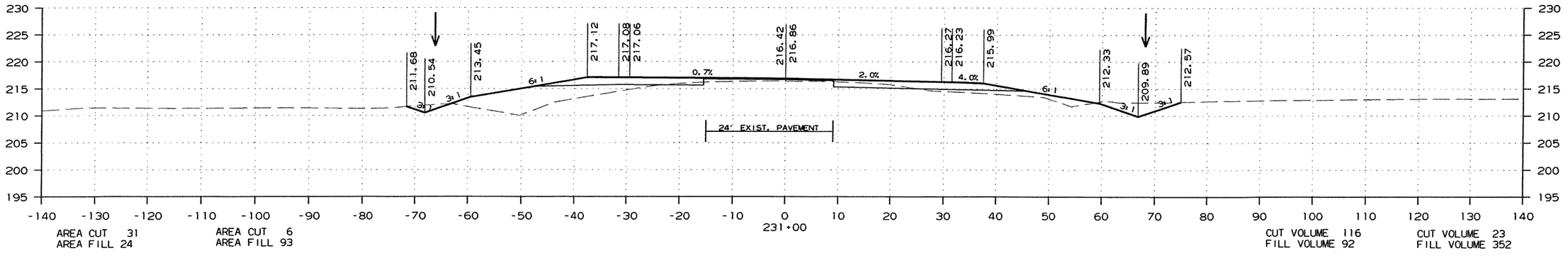
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	194	271

(2) CROSS SECTIONS





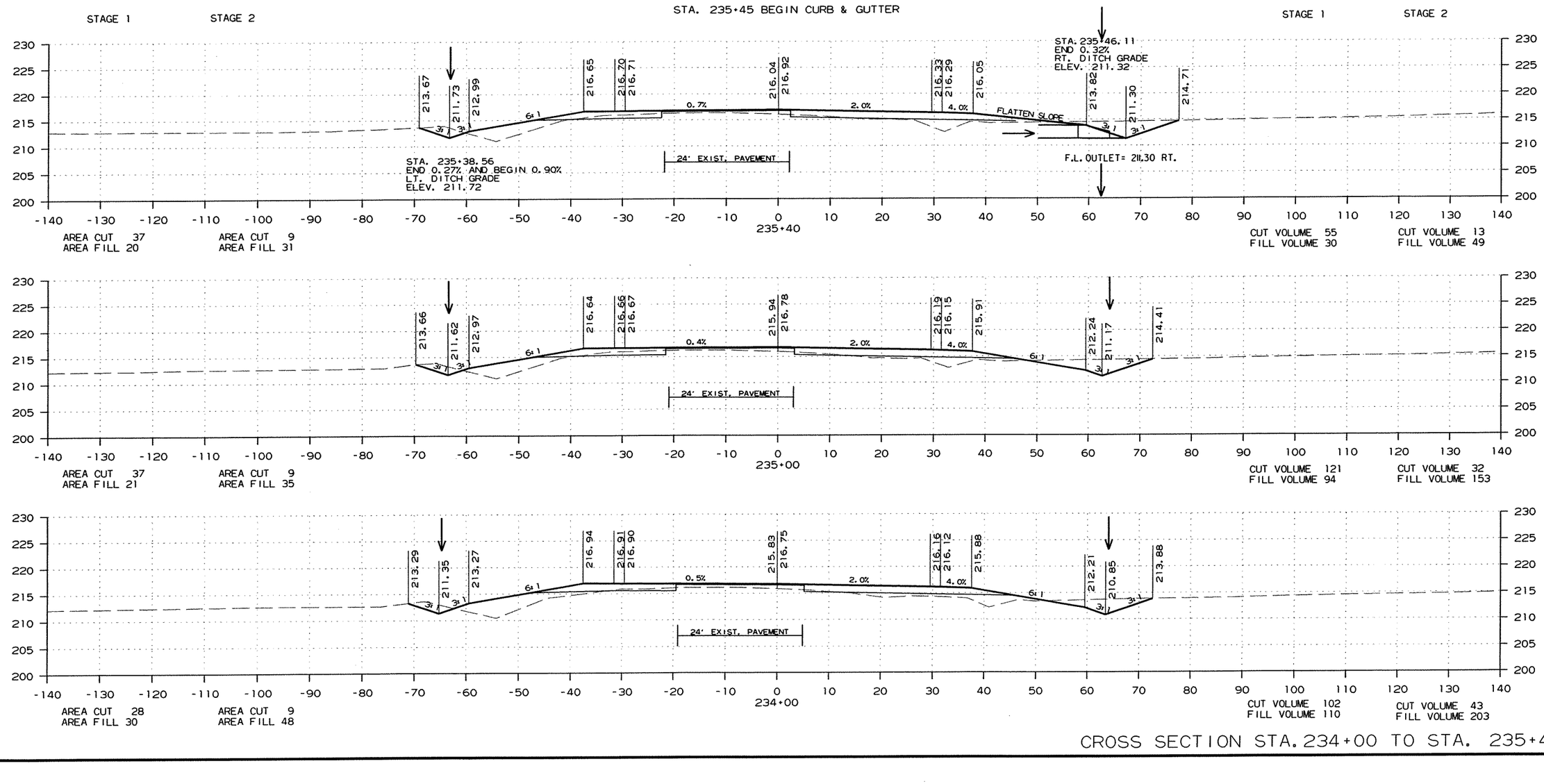


CROSS SECTION STA. 231+00 TO STA. 233+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	195	271

(2) CROSS SECTIONS

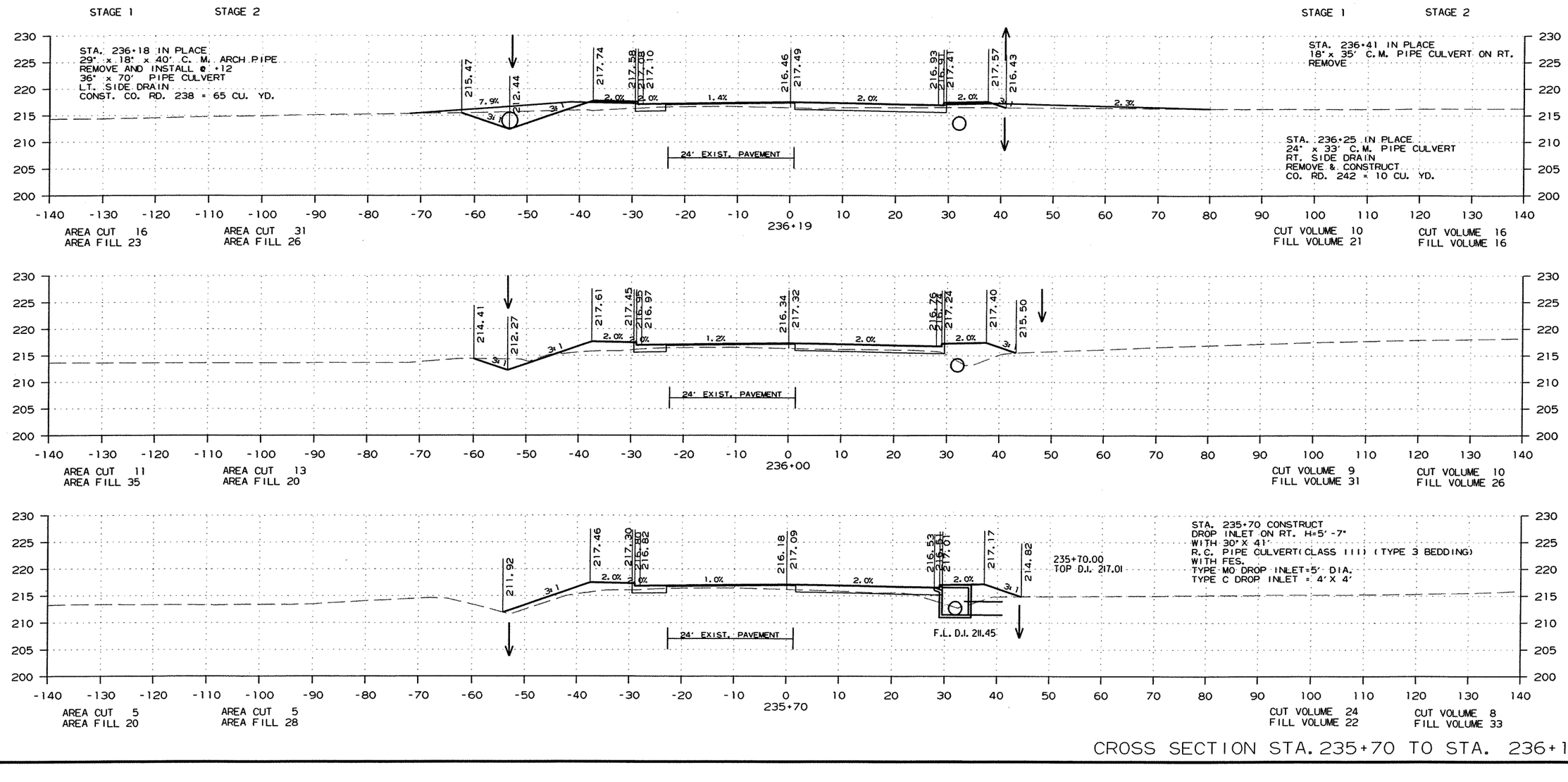


CROSS SECTION STA. 234+00 TO STA. 235+40

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	196	271

(2) CROSS SECTIONS

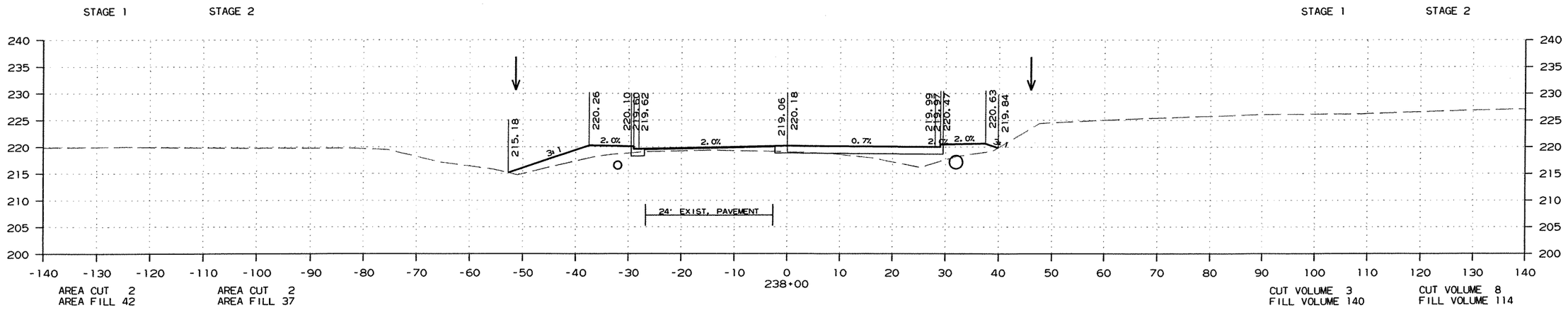


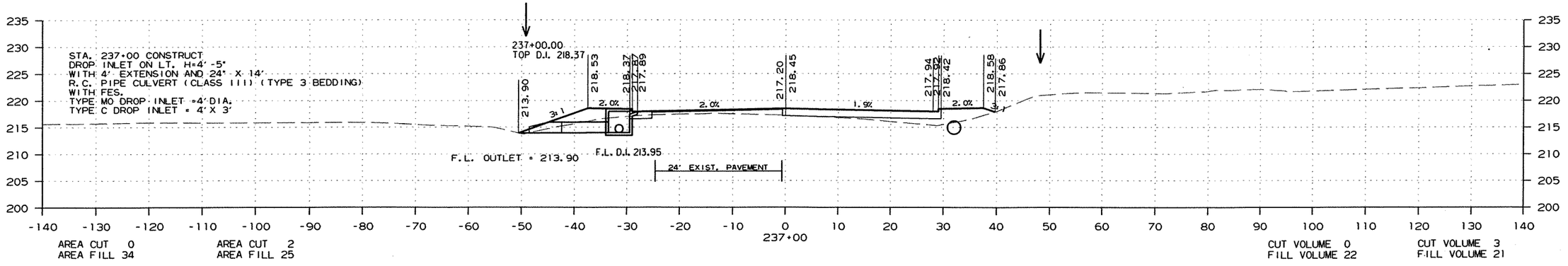
CROSS SECTION STA. 235+70 TO STA. 236+19

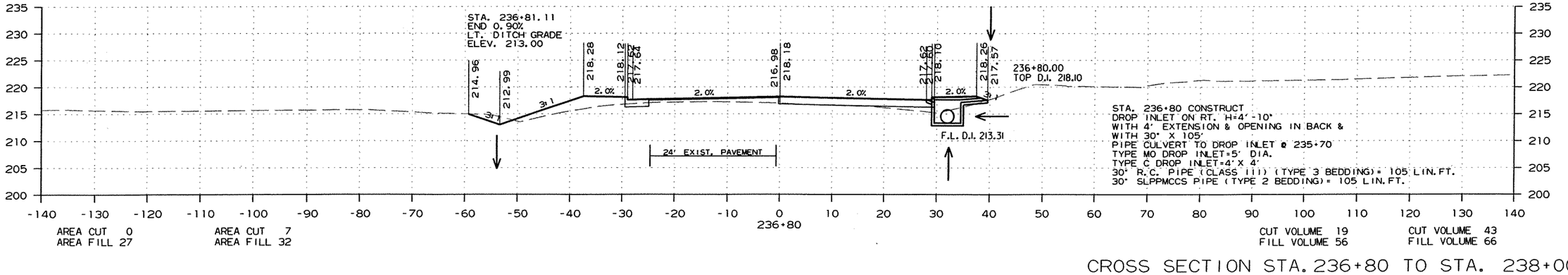
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	197	271

(2) CROSS SECTIONS





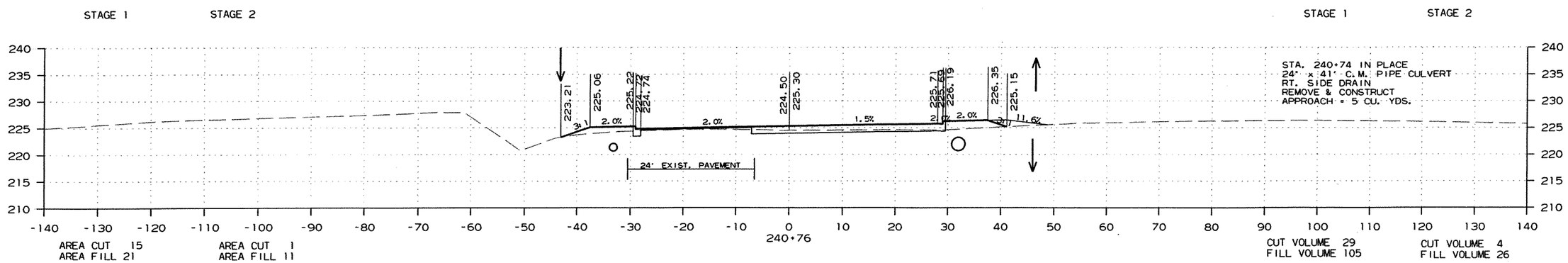


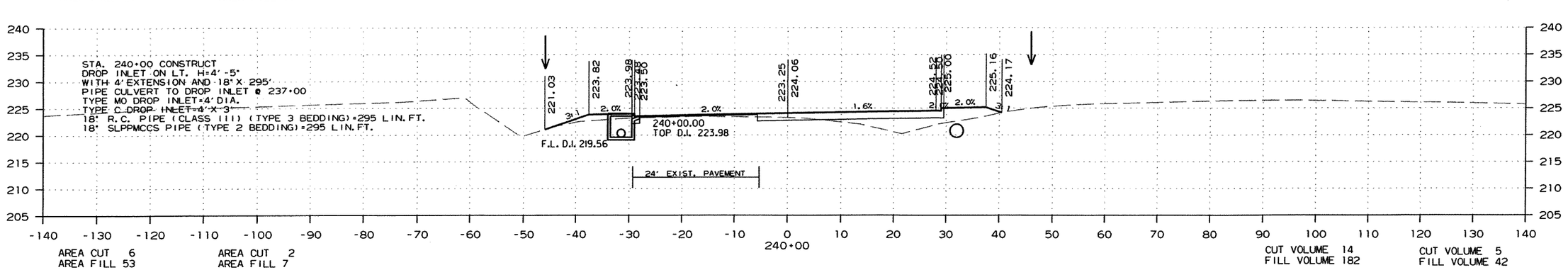
CROSS SECTION STA. 236+80 TO STA. 238+00

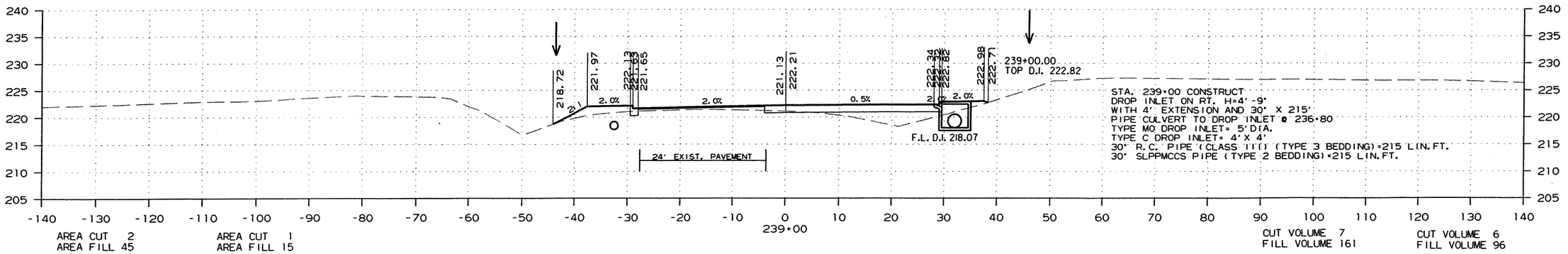
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	198	271

(2) CROSS SECTIONS





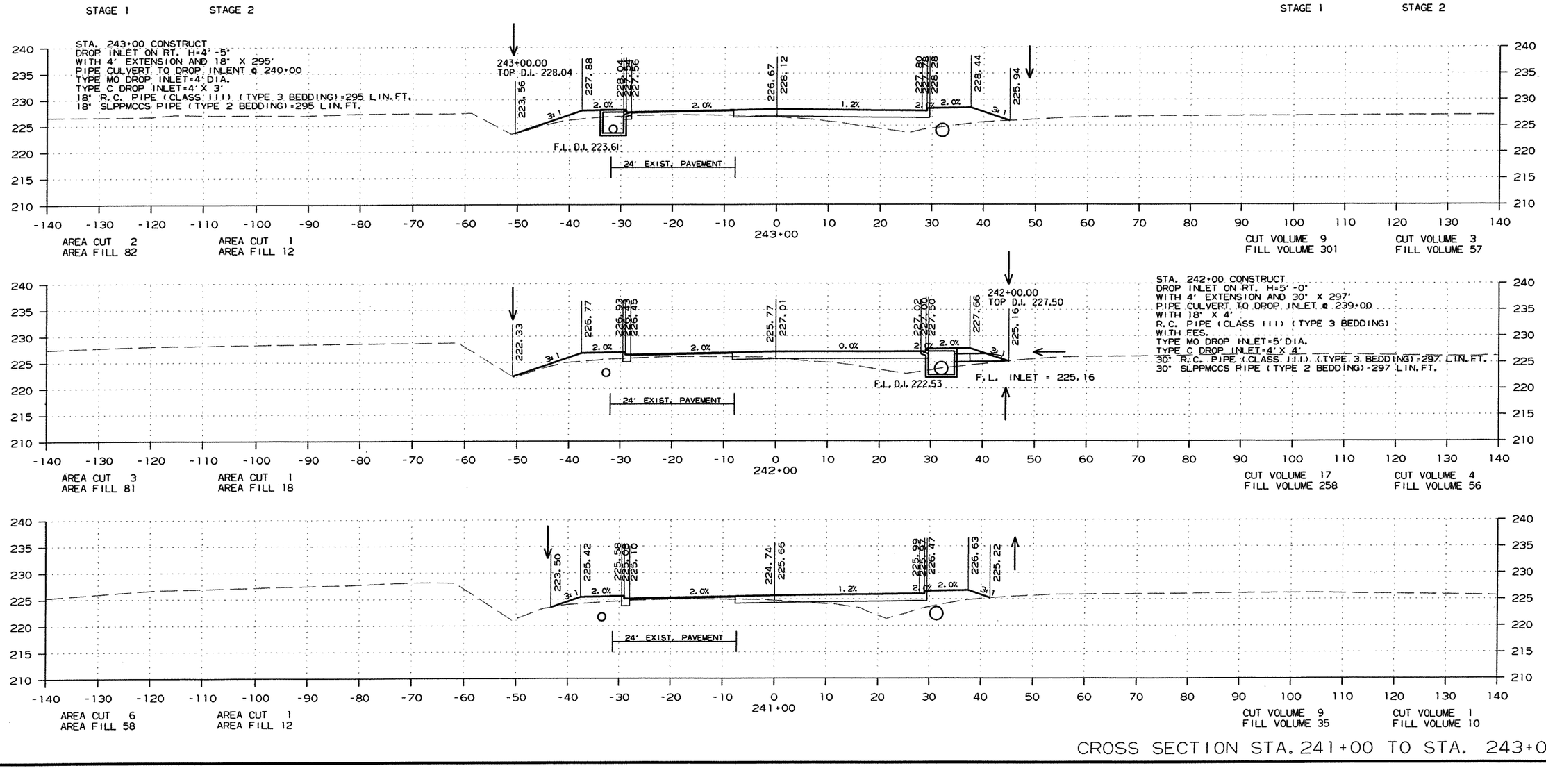


CROSS SECTION STA. 239+00 TO STA. 240+76

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	199	271

(2) CROSS SECTIONS



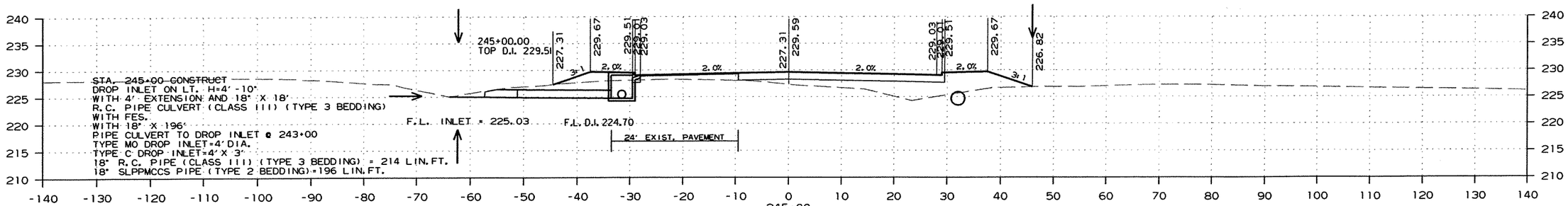
CROSS SECTION STA. 241+00 TO STA. 243+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	200	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



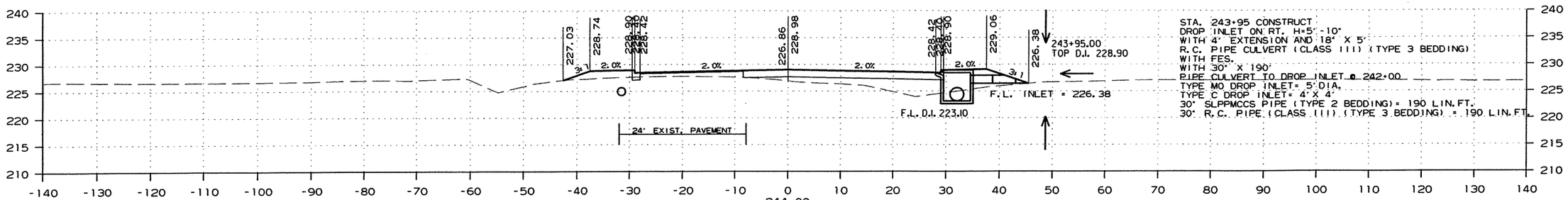
AREA CUT 0
AREA FILL 108

AREA CUT 1
AREA FILL 13

CUT VOLUME 1
FILL VOLUME 384

CUT VOLUME 3
FILL VOLUME 50

STAGE 1 STAGE 2

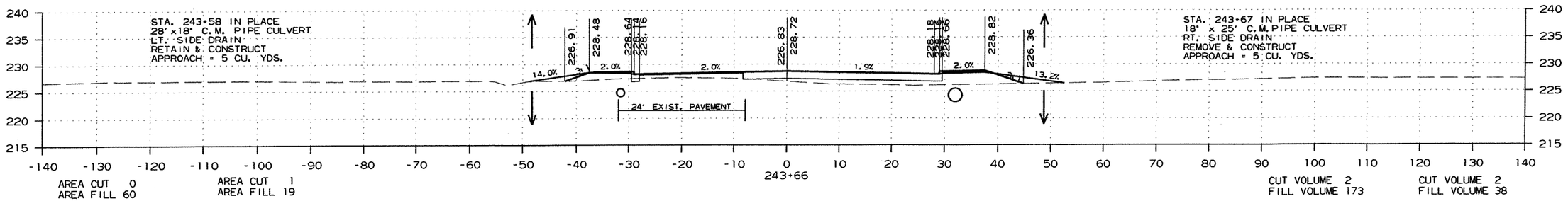


AREA CUT 0
AREA FILL 100

AREA CUT 1
AREA FILL 15

CUT VOLUME 0
FILL VOLUME 101

CUT VOLUME 1
FILL VOLUME 21



AREA CUT 0
AREA FILL 60

AREA CUT 1
AREA FILL 19

CUT VOLUME 2
FILL VOLUME 173

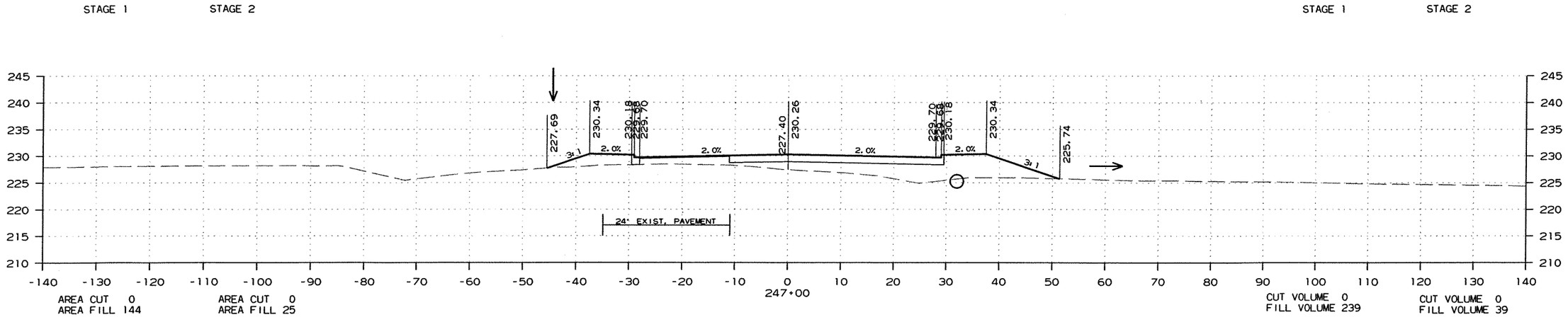
CUT VOLUME 2
FILL VOLUME 38

CROSS SECTION STA. 243+66 TO STA. 245+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	201	271

(2) CROSS SECTIONS

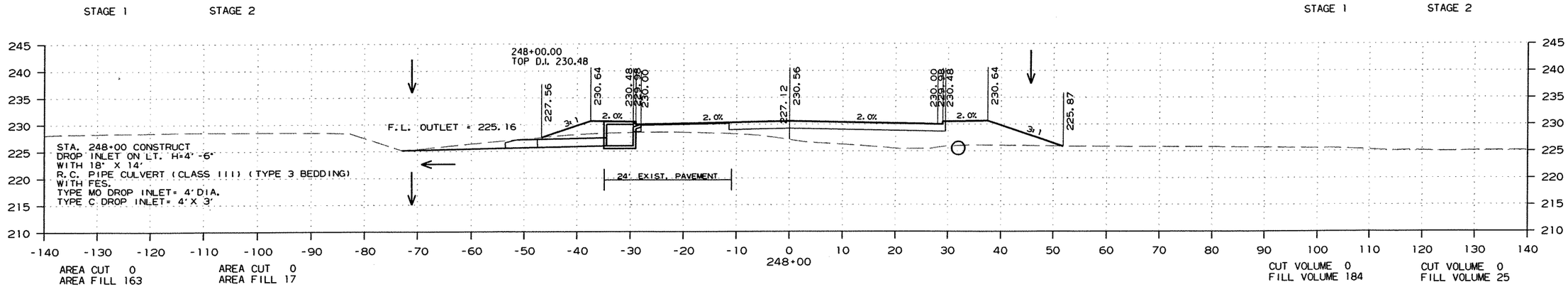


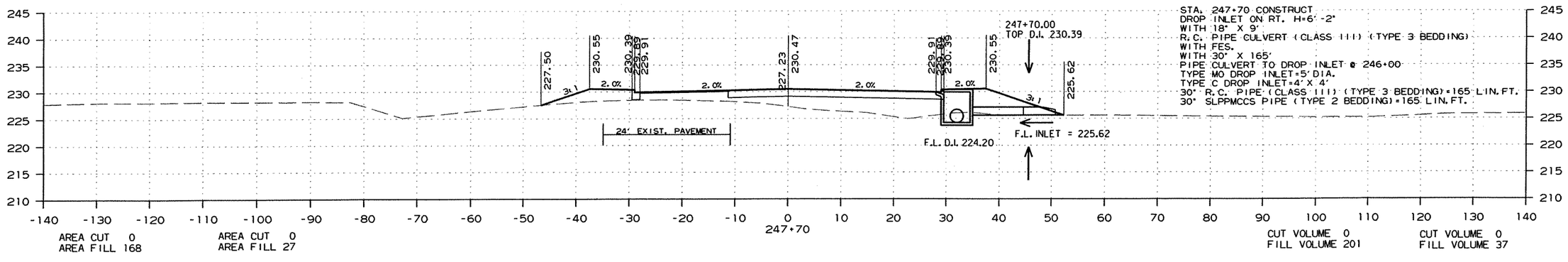
CROSS SECTION STA. 246+00 TO STA. 247+00

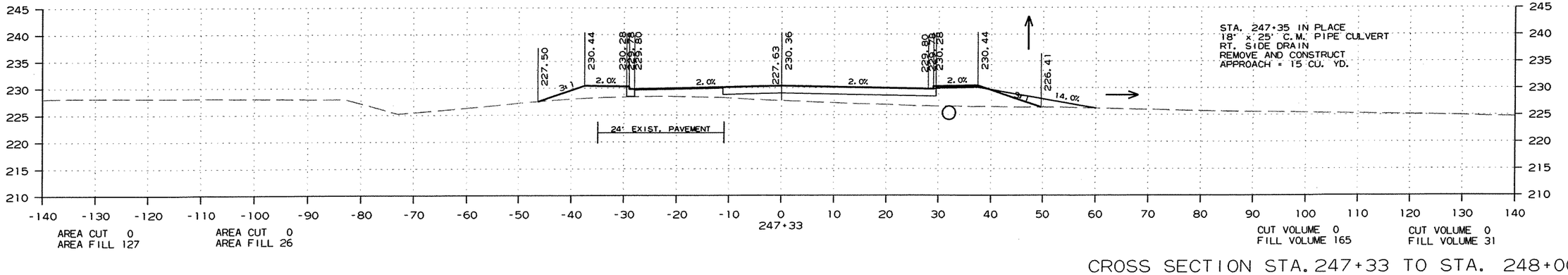
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	202	271

(2) CROSS SECTIONS







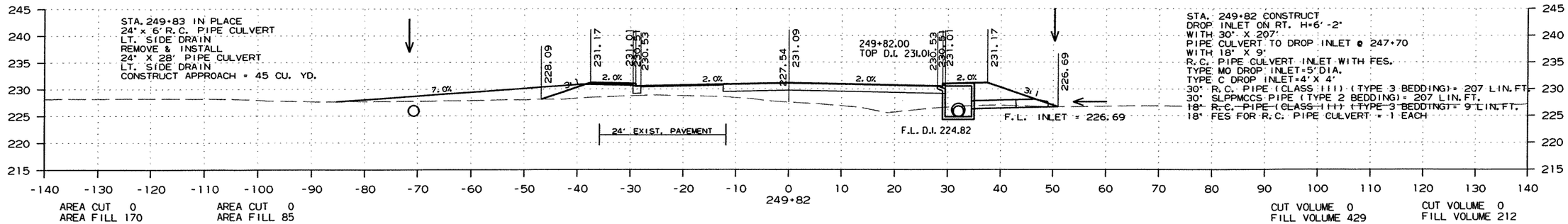
CROSS SECTION STA. 247+33 TO STA. 248+00

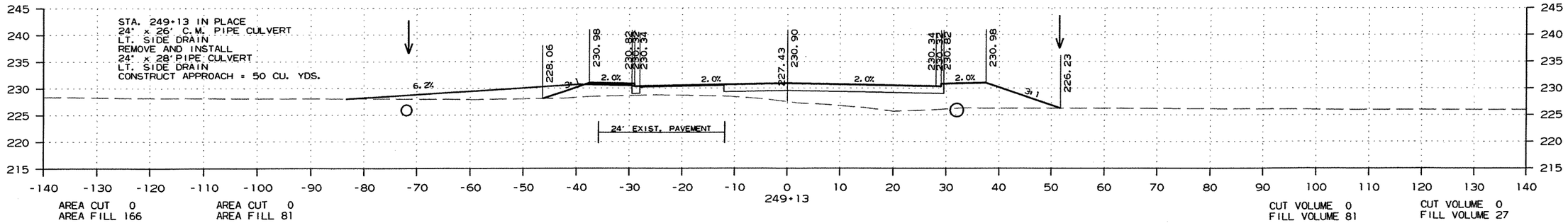
R110502.DGN 10/12/2011

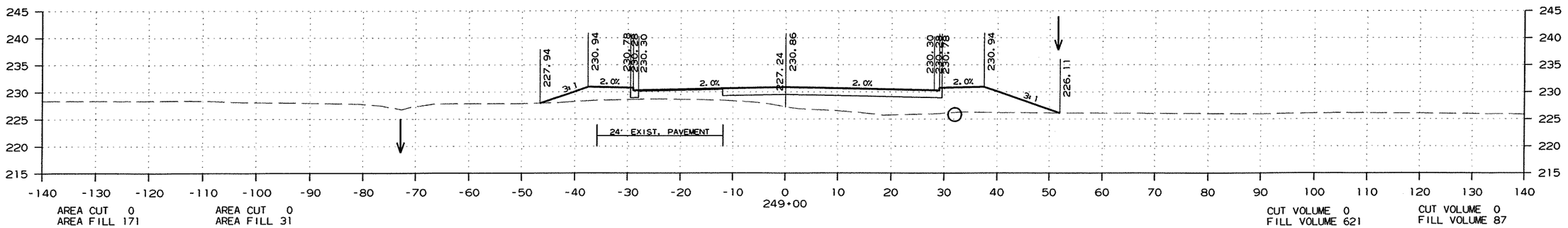
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	203	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2







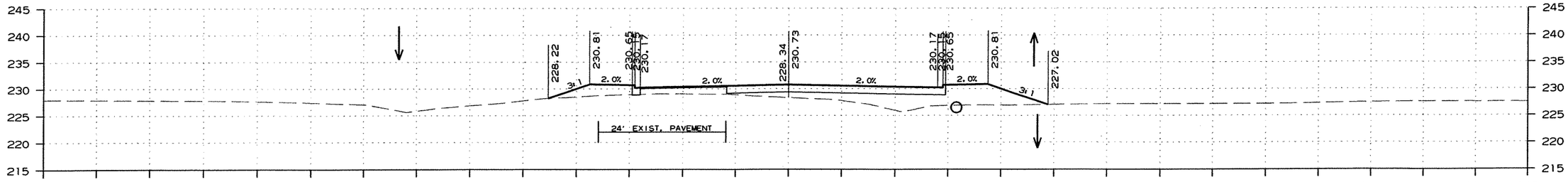
CROSS SECTION STA. 249+00 TO STA. 249+82

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	204	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



252+00

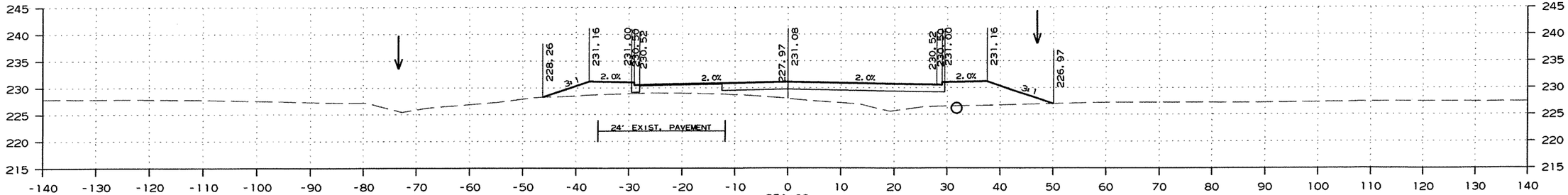
AREA CUT 0
AREA FILL 107

AREA CUT 0
AREA FILL 24

CUT VOLUME 0
FILL VOLUME 417

CUT VOLUME 0
FILL VOLUME 100

STAGE 1 STAGE 2



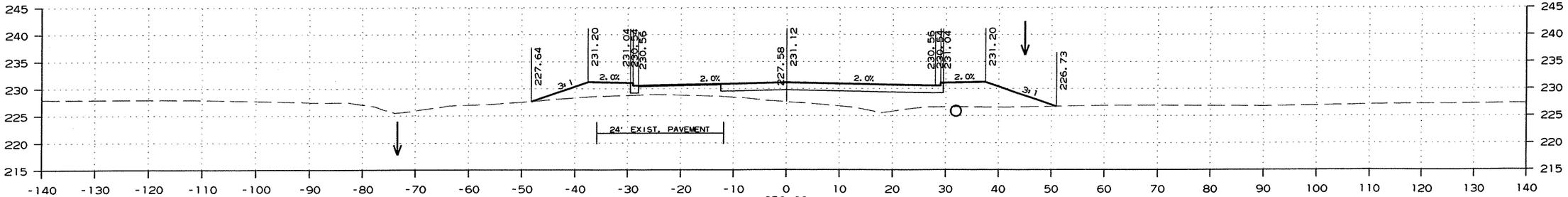
251+00

AREA CUT 0
AREA FILL 118

AREA CUT 0
AREA FILL 30

CUT VOLUME 0
FILL VOLUME 509

CUT VOLUME 0
FILL VOLUME 119



250+00

AREA CUT 0
AREA FILL 157

AREA CUT 0
AREA FILL 34

CUT VOLUME 0
FILL VOLUME 109

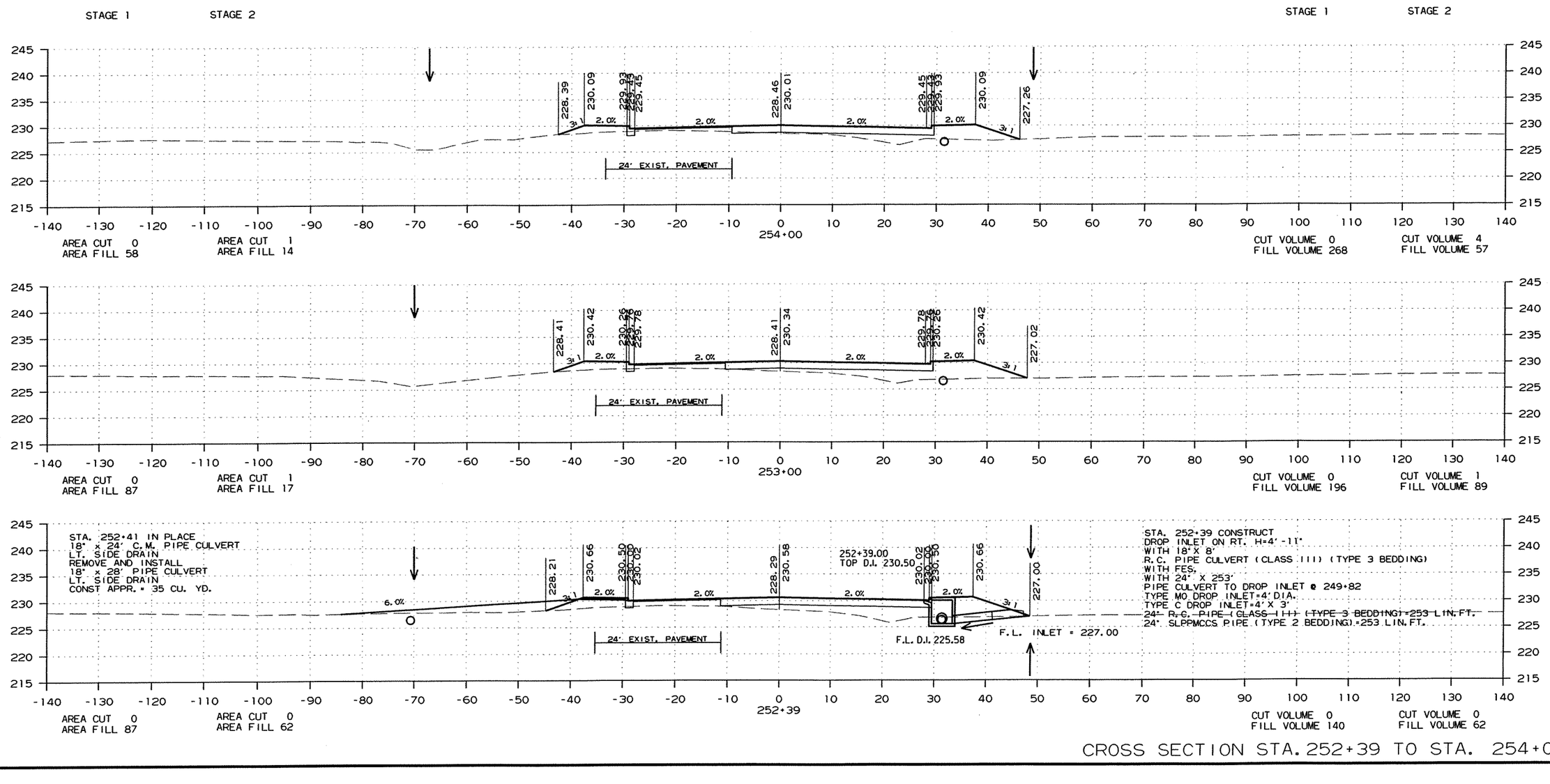
CUT VOLUME 0
FILL VOLUME 40

CROSS SECTION STA. 250+00 TO STA. 252+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	205	271

(2) CROSS SECTIONS

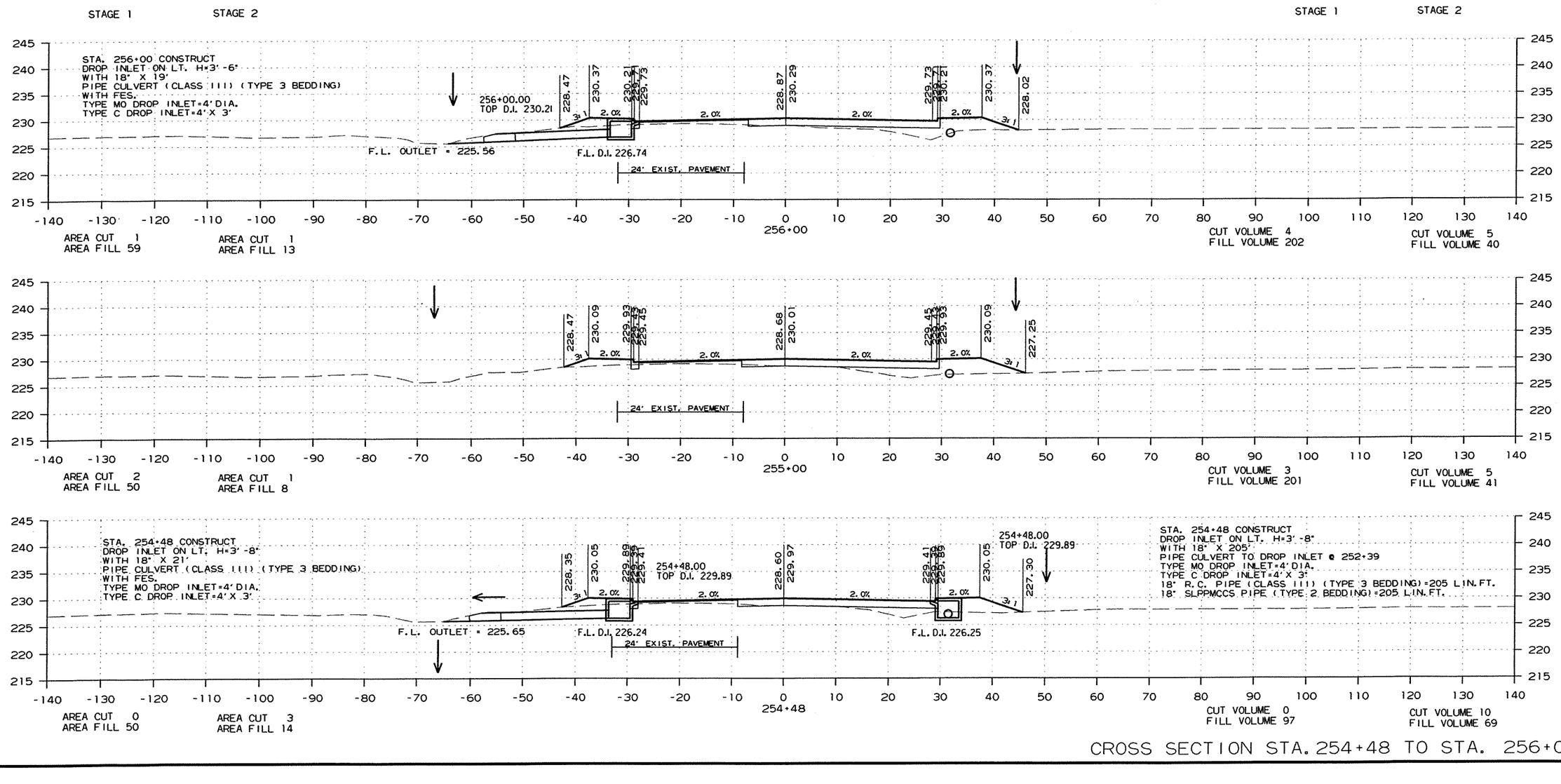


CROSS SECTION STA. 252+39 TO STA. 254+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	206	271

(2) CROSS SECTIONS



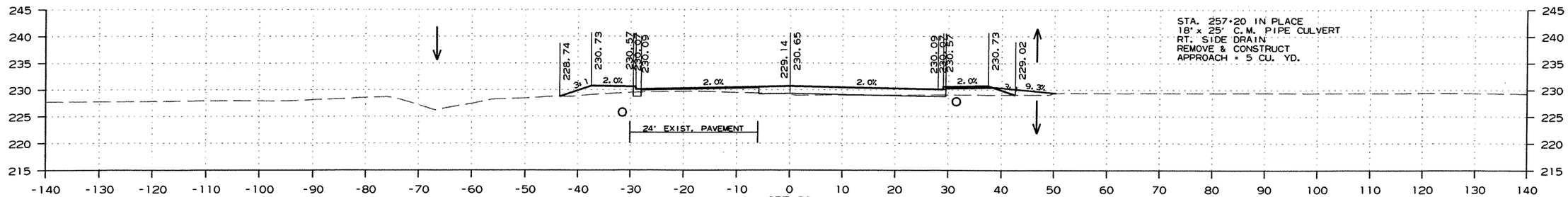
CROSS SECTION STA. 254+48 TO STA. 256+00

R110502.DGN 10/12/2011

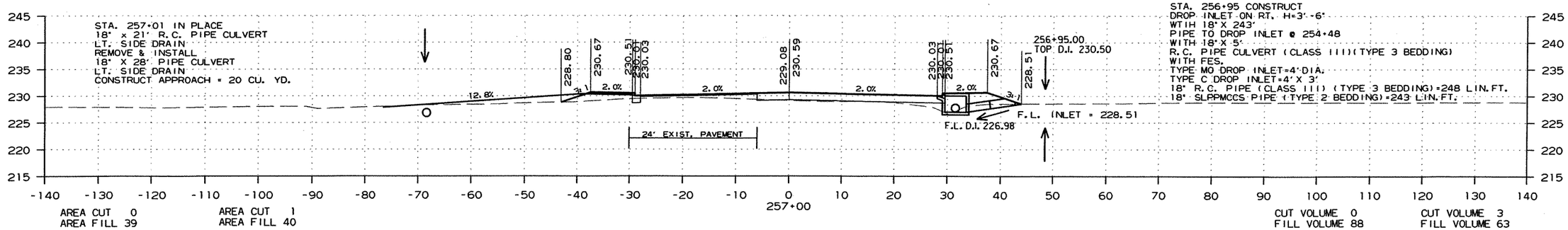
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	207	271

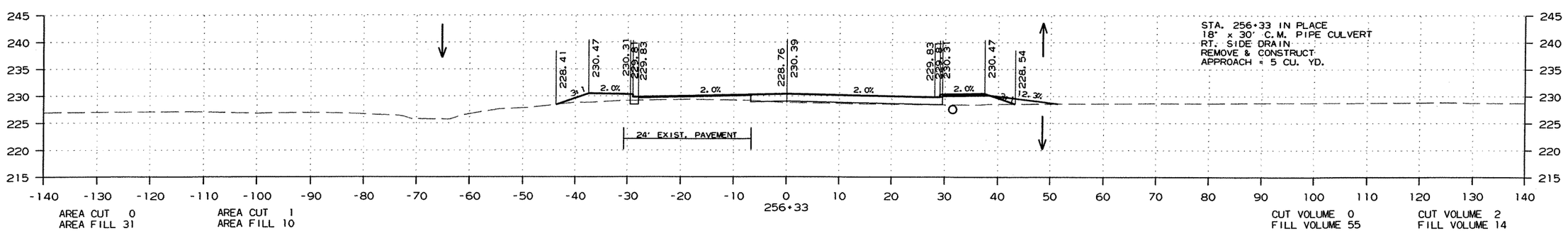
(2) CROSS SECTIONS

STAGE 1 STAGE 2



STAGE 1 STAGE 2



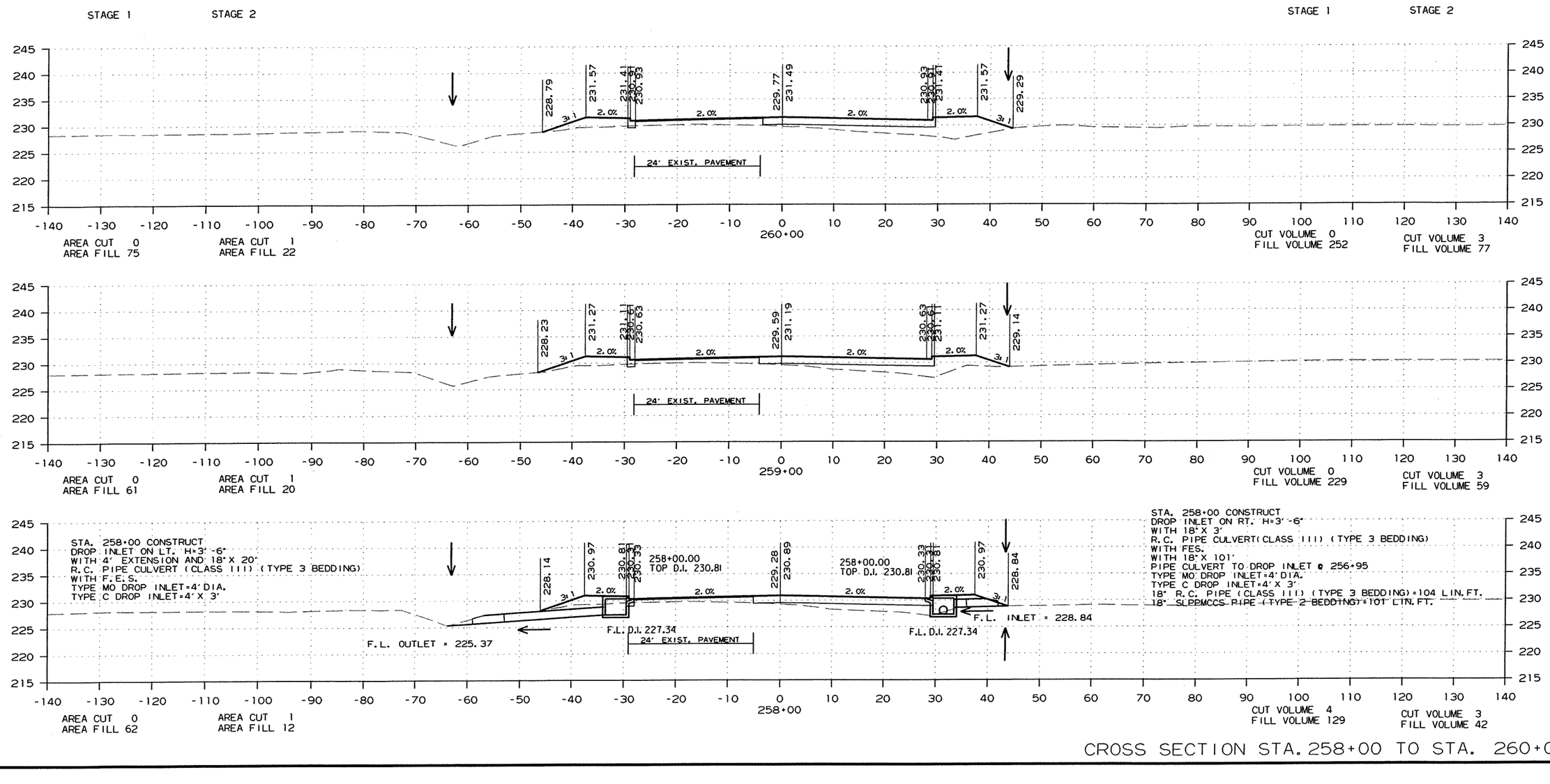


CROSS SECTION STA. 256+33 TO STA. 257+20

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	208	271

(2) CROSS SECTIONS

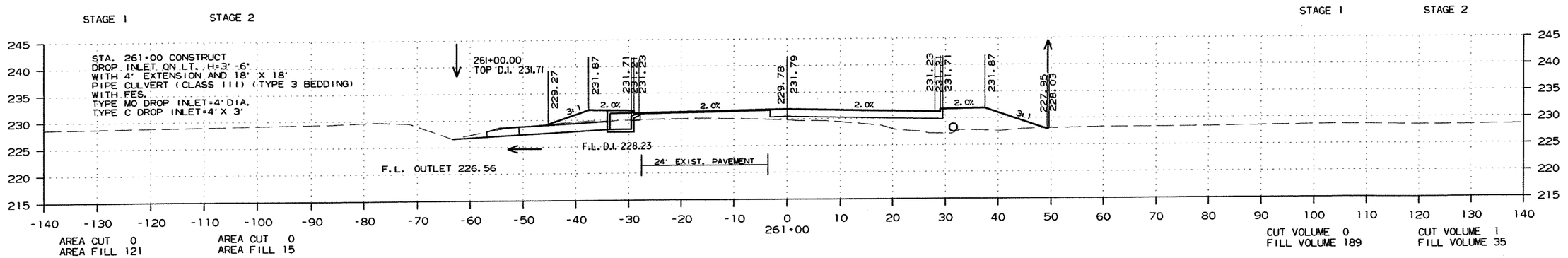


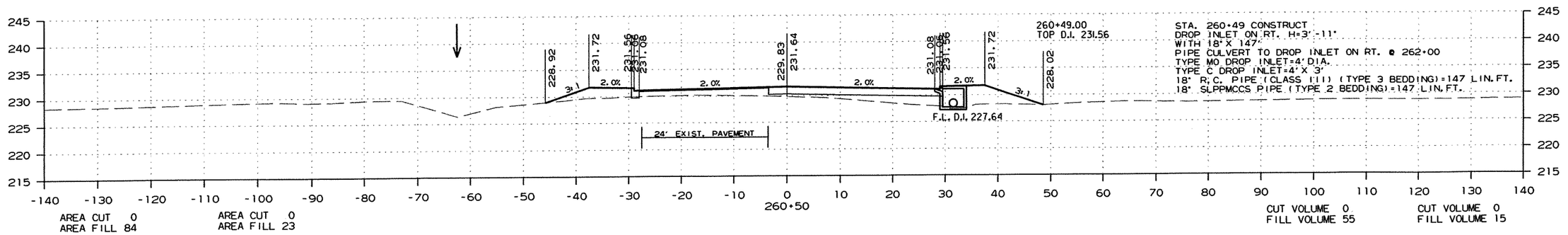
CROSS SECTION STA. 258+00 TO STA. 260+00

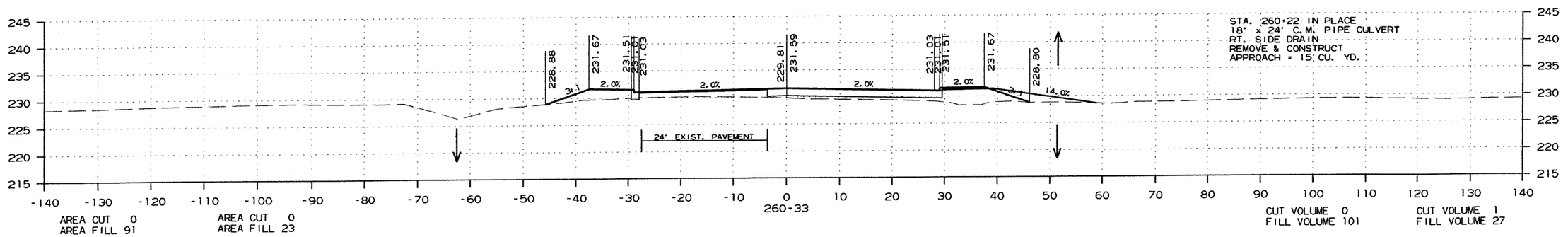
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	209	271

(2) CROSS SECTIONS







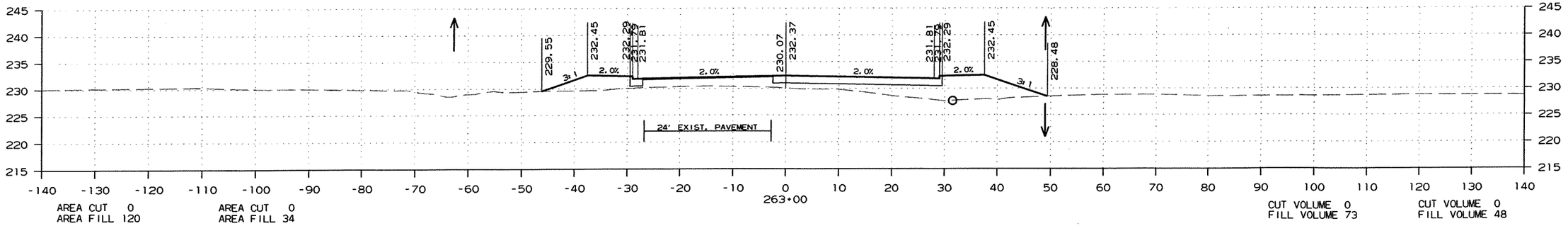
CROSS SECTION STA. 260+33 TO STA. 261+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	210	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



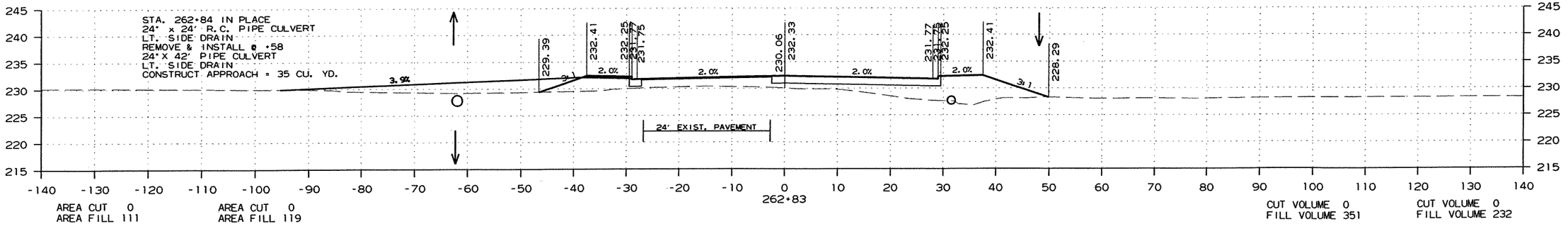
AREA CUT 0
AREA FILL 120

AREA CUT 0
AREA FILL 34

CUT VOLUME 0
FILL VOLUME 73

CUT VOLUME 0
FILL VOLUME 48

STAGE 1 STAGE 2

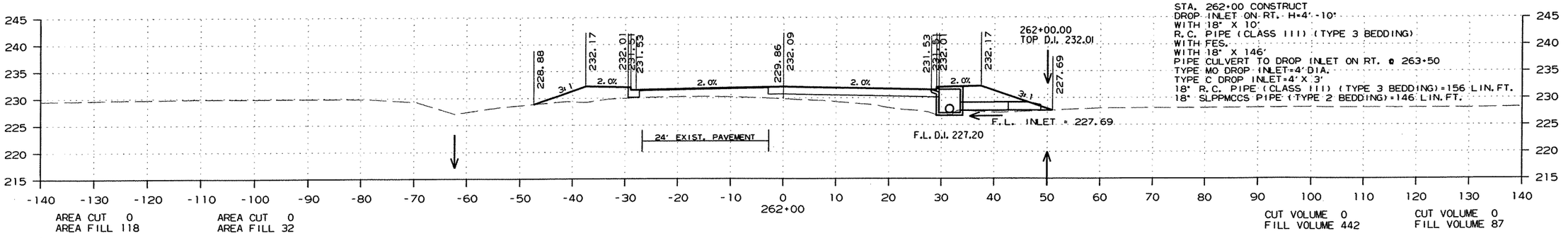


AREA CUT 0
AREA FILL 111

AREA CUT 0
AREA FILL 119

CUT VOLUME 0
FILL VOLUME 351

CUT VOLUME 0
FILL VOLUME 232



AREA CUT 0
AREA FILL 118

AREA CUT 0
AREA FILL 32

CUT VOLUME 0
FILL VOLUME 442

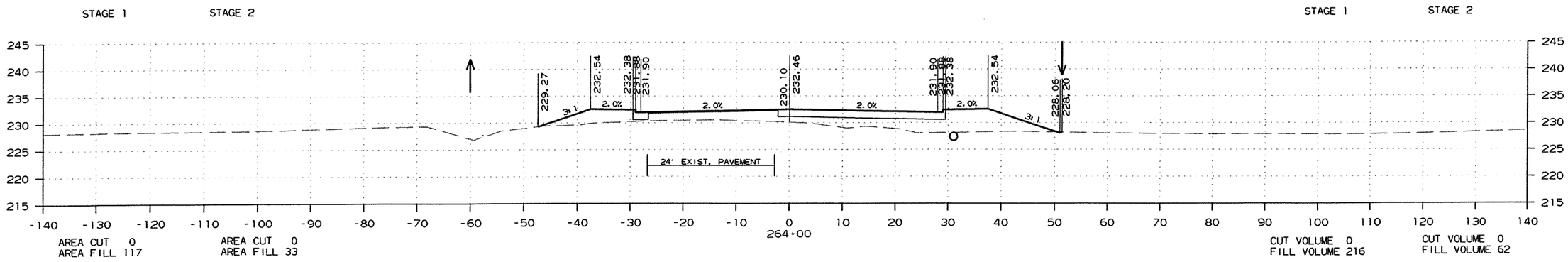
CUT VOLUME 0
FILL VOLUME 87

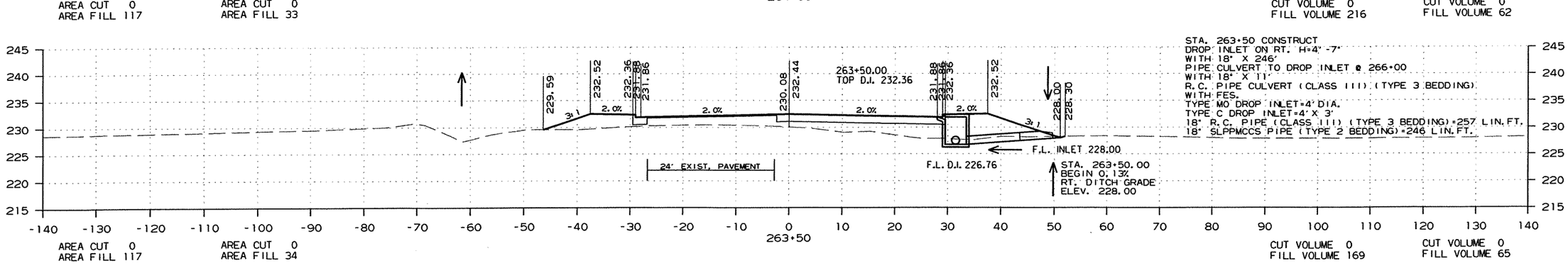
CROSS SECTION STA. 262+00 TO STA. 263+00

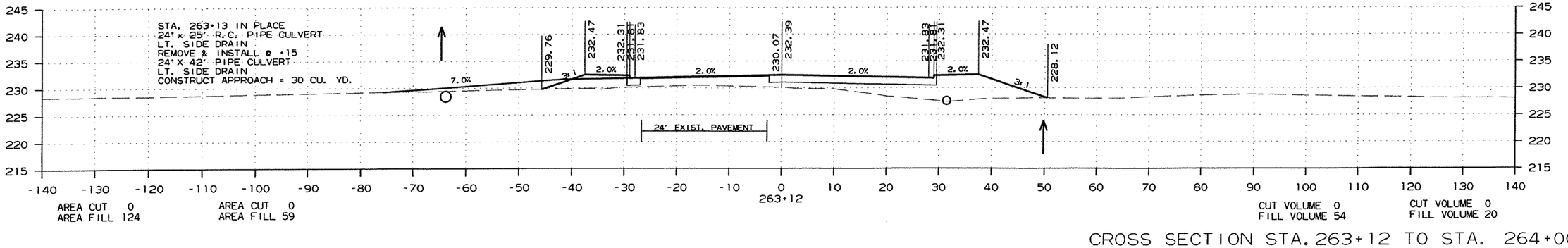
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	211	271

(2) CROSS SECTIONS





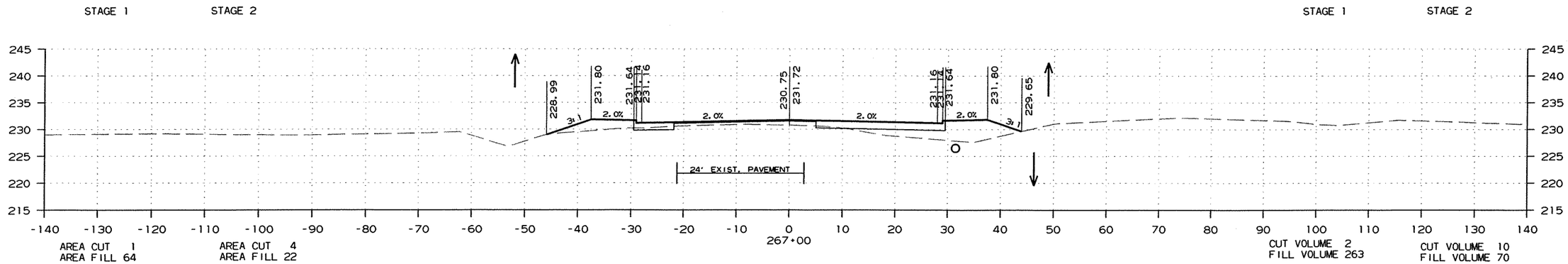


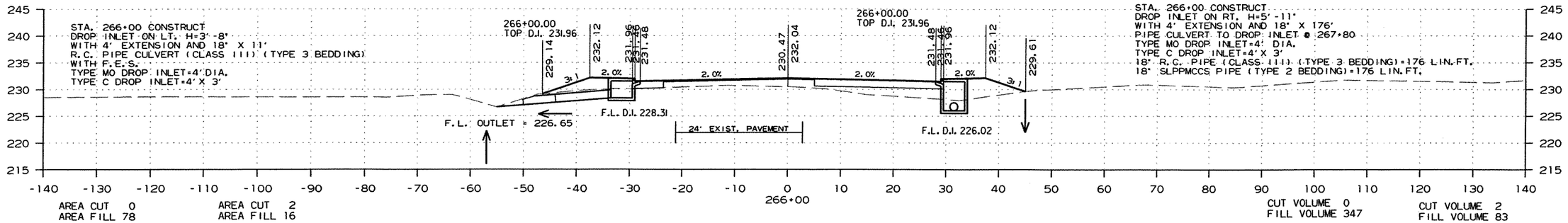
CROSS SECTION STA. 263+12 TO STA. 264+00

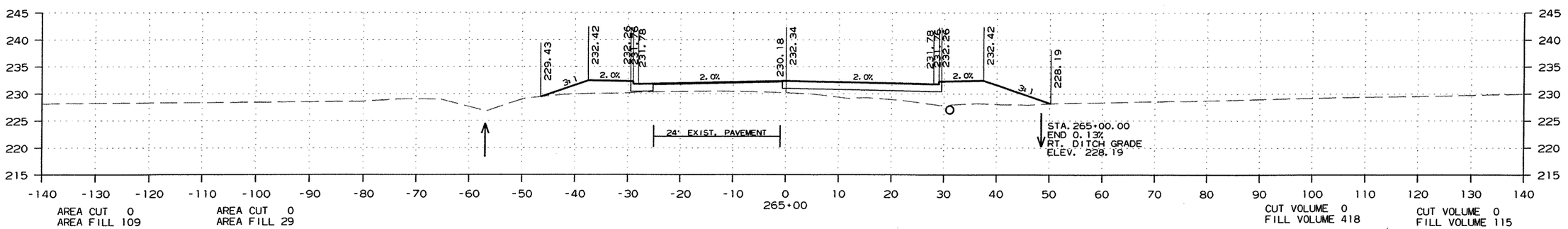
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	212	271

(2) CROSS SECTIONS





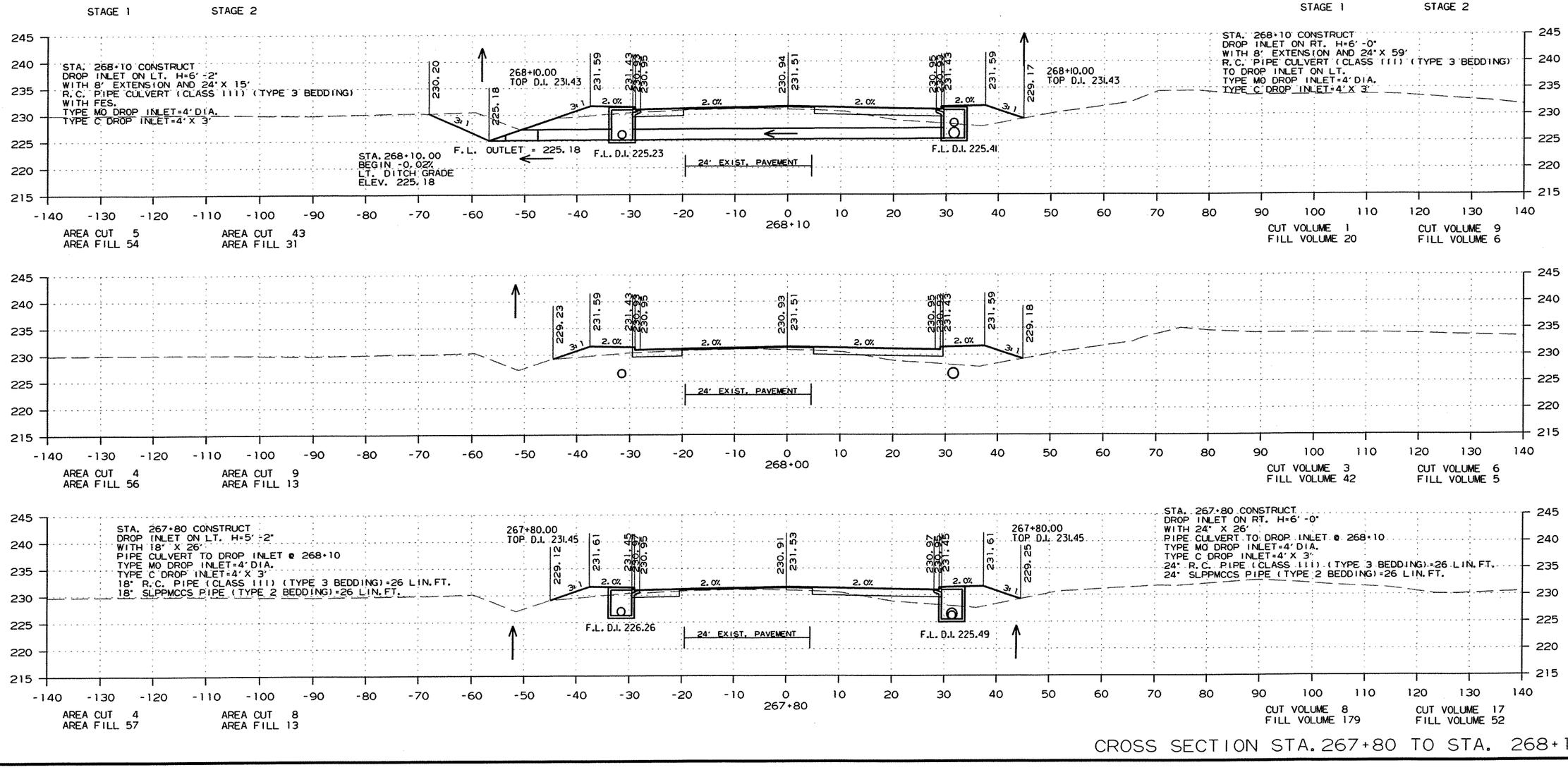


CROSS SECTION STA. 265+00 TO STA. 267+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	213	271

(2) CROSS SECTIONS



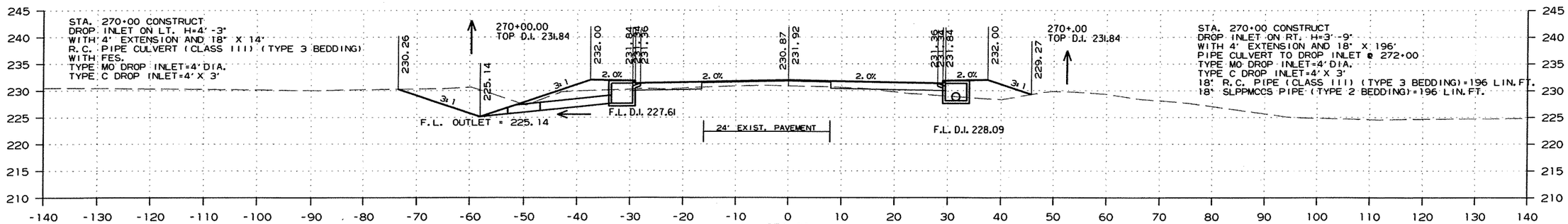
CROSS SECTION STA. 267+80 TO STA. 268+10

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	214	271

(2) CROSS SECTIONS

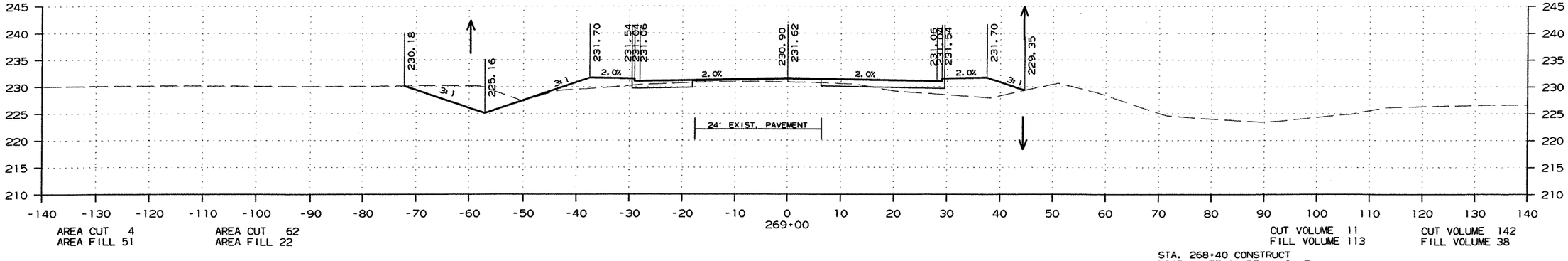
STAGE 1 STAGE 2



AREA CUT 1 AREA CUT 64
AREA FILL 50 AREA FILL 17

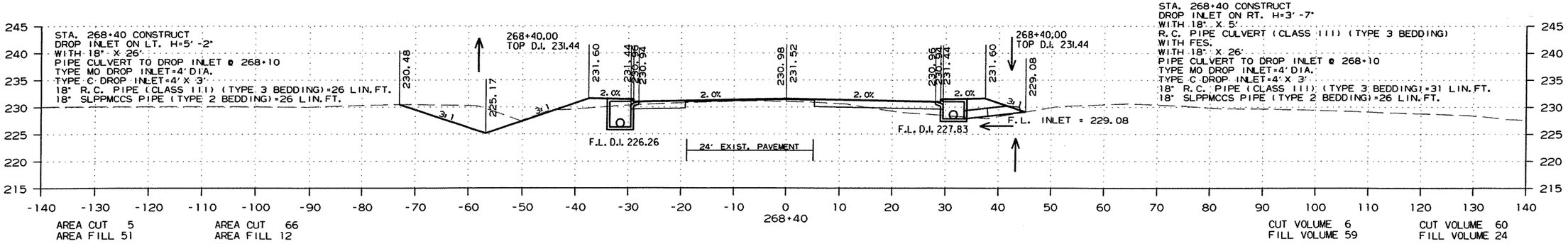
CUT VOLUME 10 CUT VOLUME 233
FILL VOLUME 187 FILL VOLUME 73

STAGE 1 STAGE 2



AREA CUT 4 AREA CUT 62
AREA FILL 51 AREA FILL 22

CUT VOLUME 11 CUT VOLUME 142
FILL VOLUME 113 FILL VOLUME 38



AREA CUT 5 AREA CUT 66
AREA FILL 51 AREA FILL 12

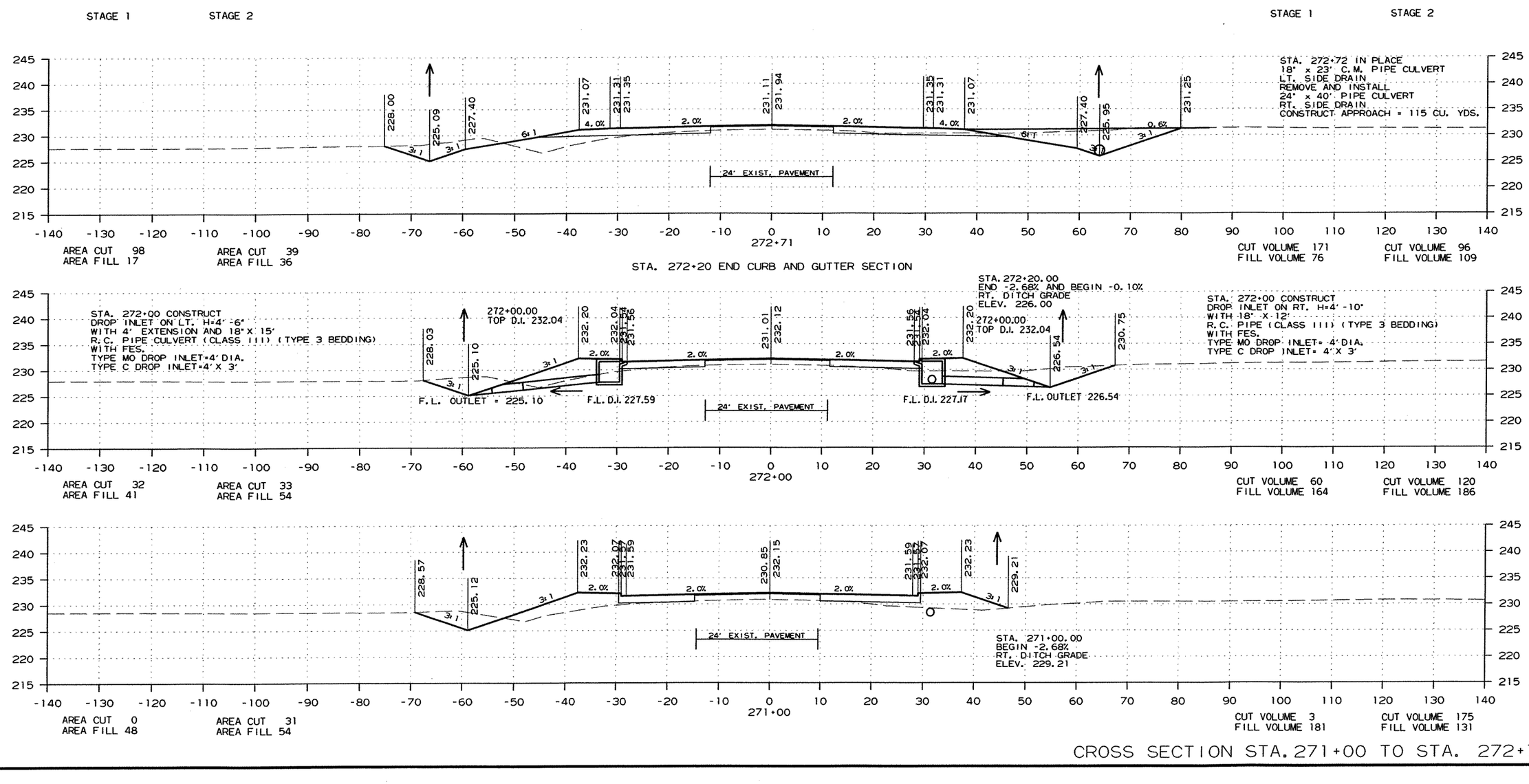
CUT VOLUME 6 CUT VOLUME 60
FILL VOLUME 59 FILL VOLUME 24

CROSS SECTION STA. 268+40 TO STA. 270+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		110502	215	271

(2) CROSS SECTIONS

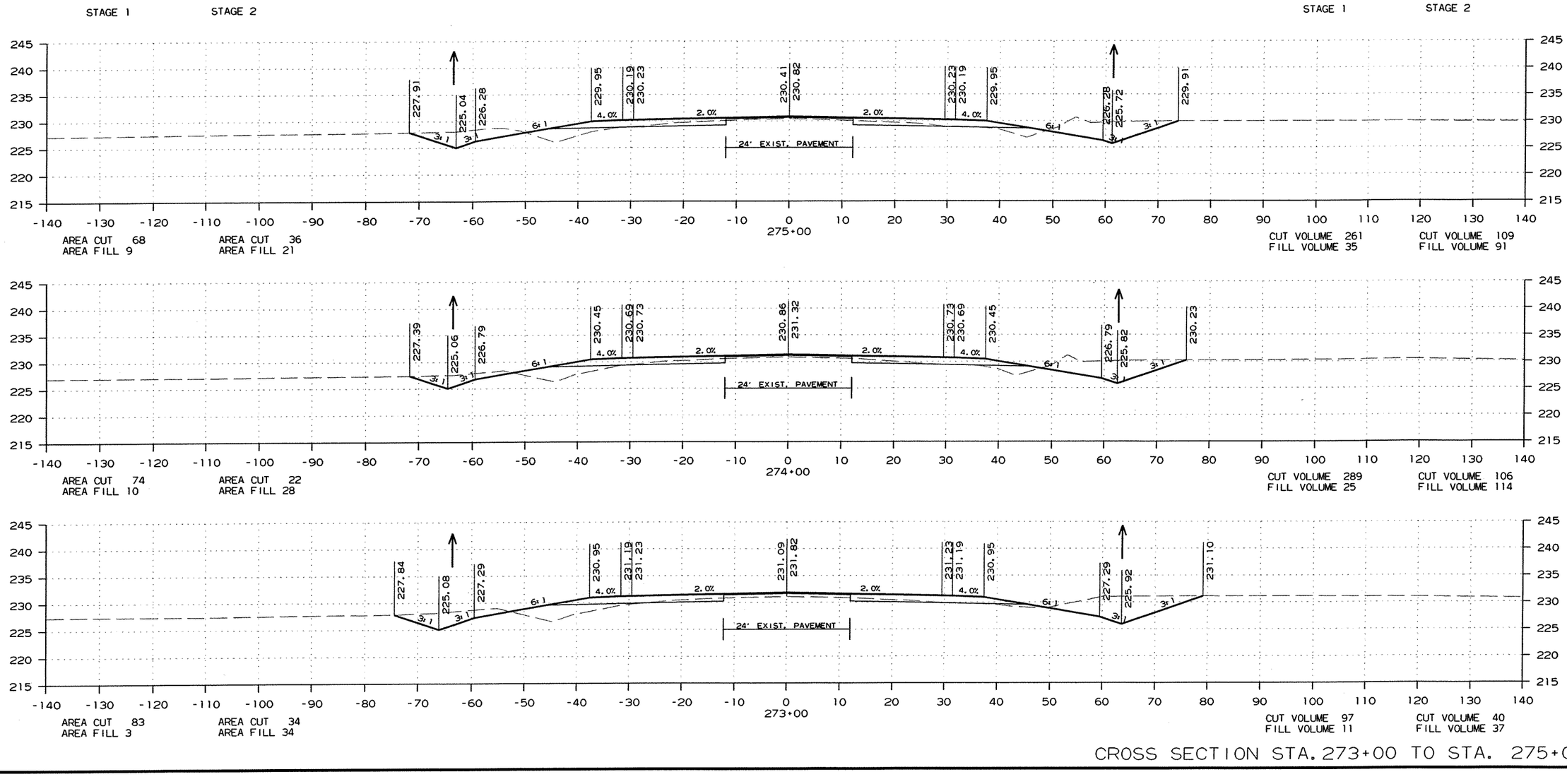


CROSS SECTION STA. 271+00 TO STA. 272+71

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		110502	216	271

(2) CROSS SECTIONS

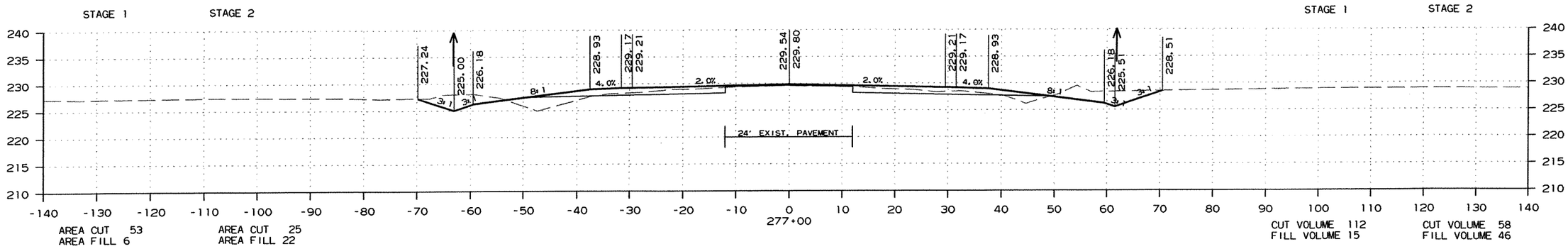


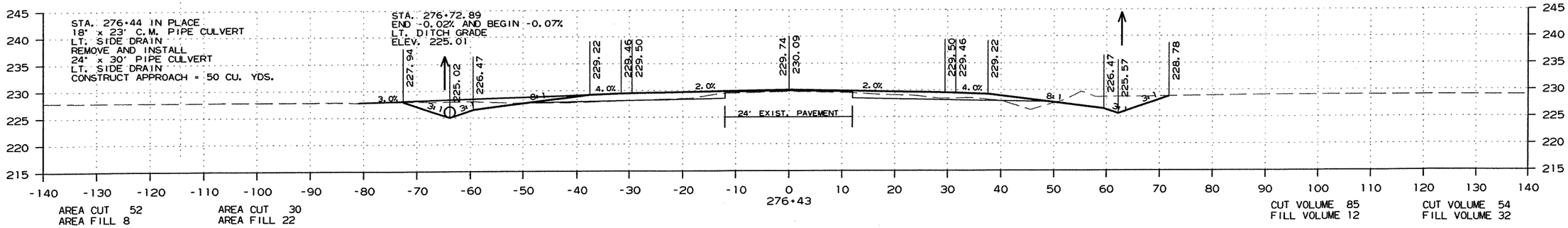
CROSS SECTION STA. 273+00 TO STA. 275+00

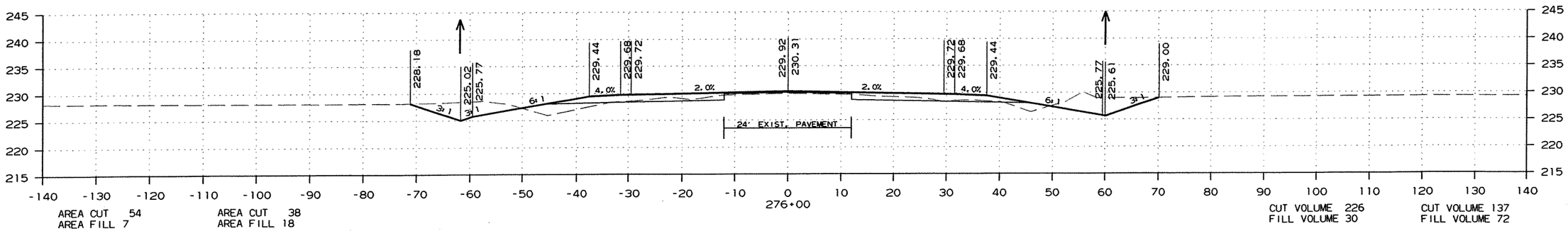
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	217	271

(2) CROSS SECTIONS





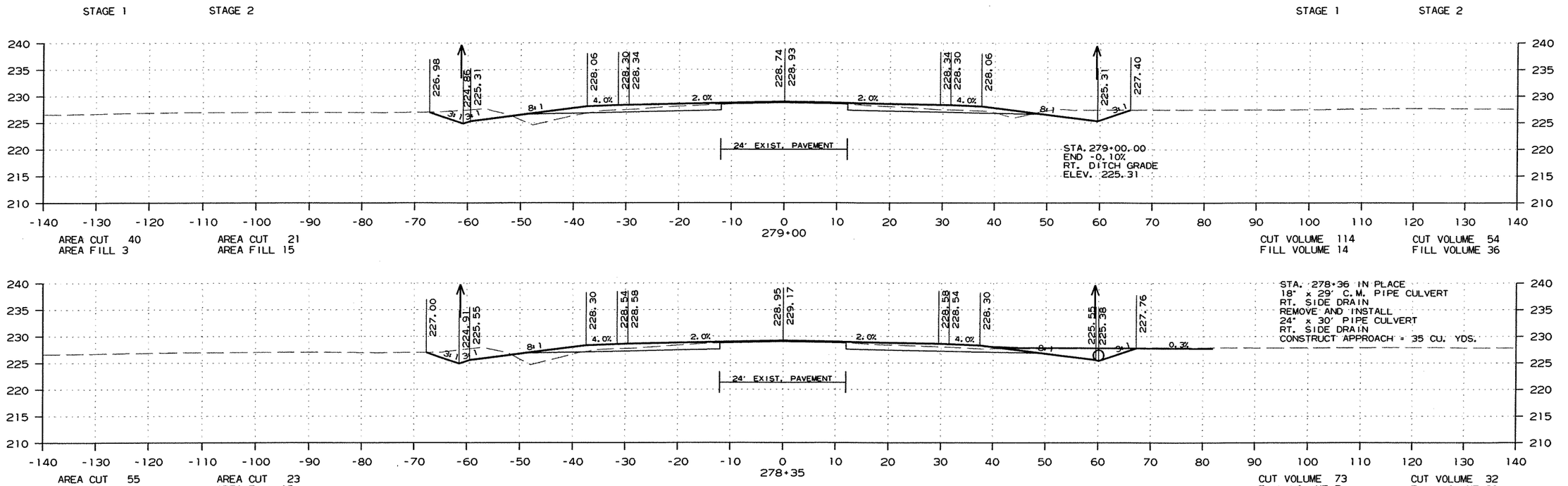


CROSS SECTION STA. 276+00 TO STA. 277+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	218	271

(2) CROSS SECTIONS

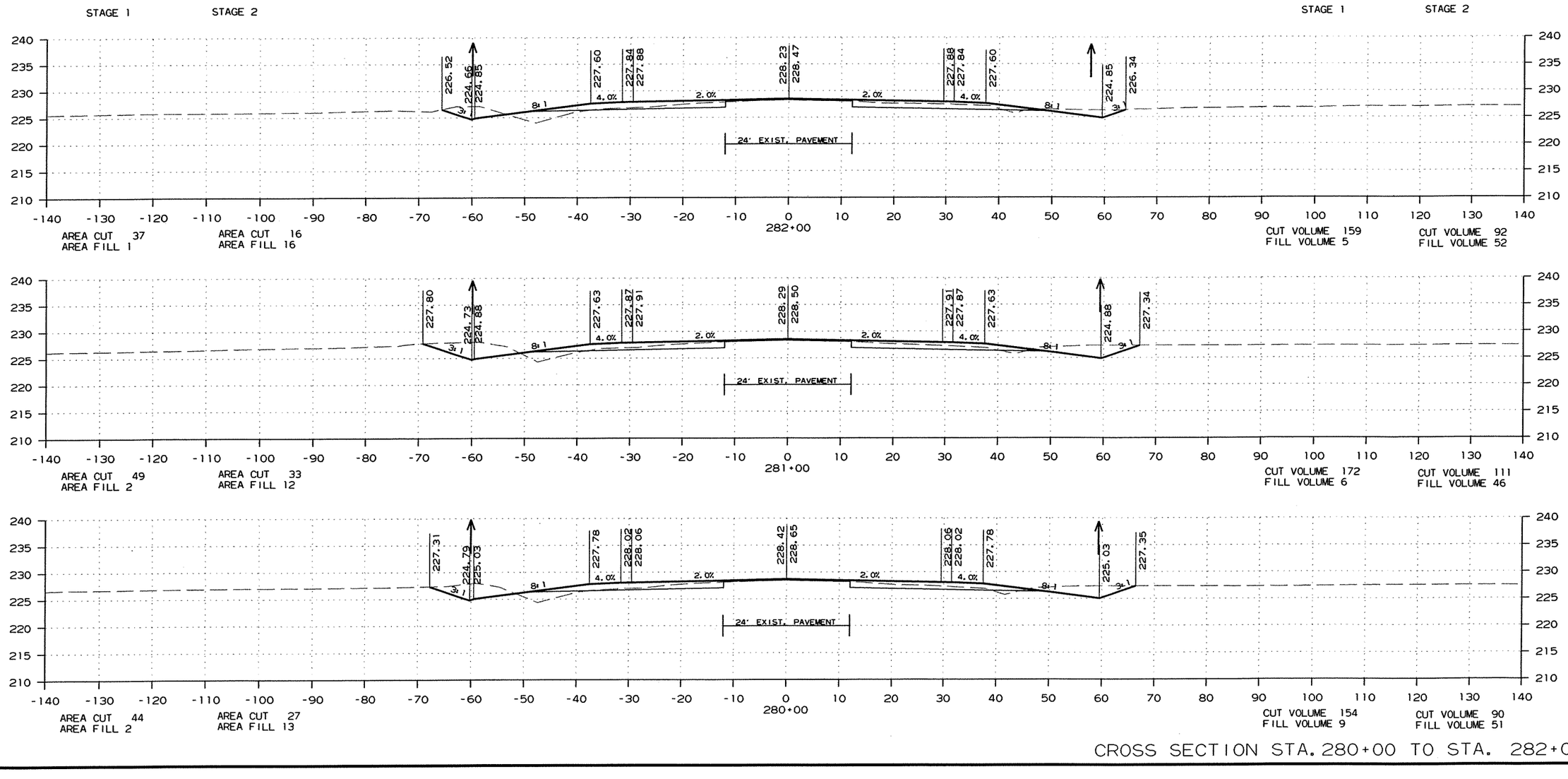


CROSS SECTION STA. 278+00 TO STA. 279+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	219	271

(2) CROSS SECTIONS

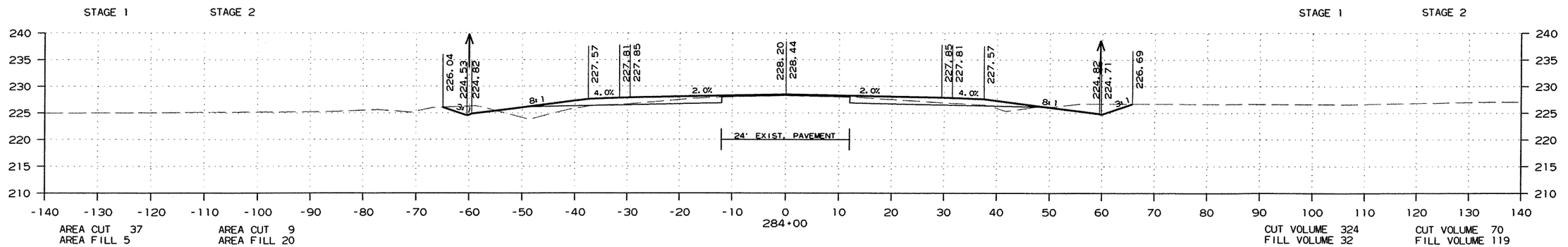


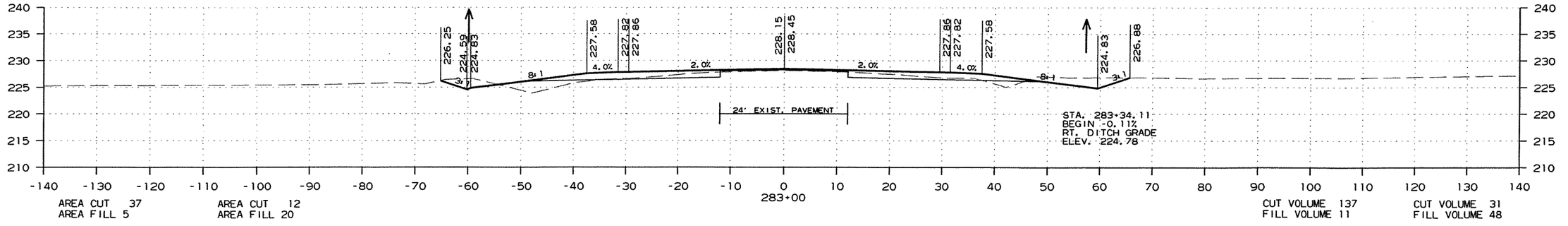
CROSS SECTION STA. 280+00 TO STA. 282+00

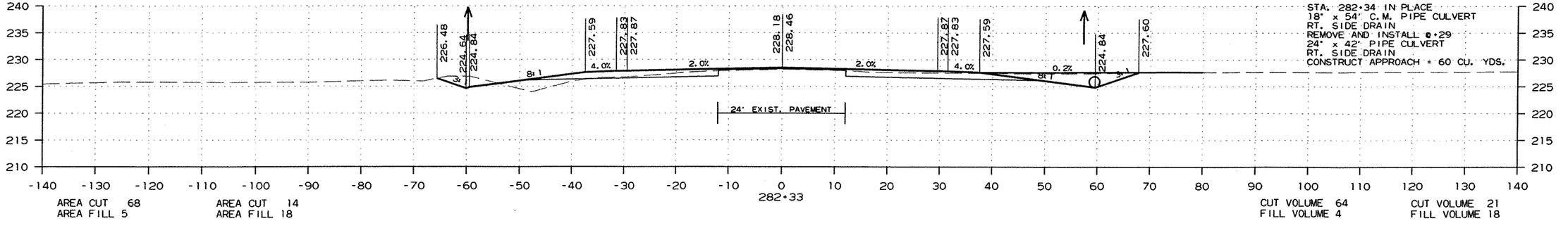
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	220	271

(2) CROSS SECTIONS





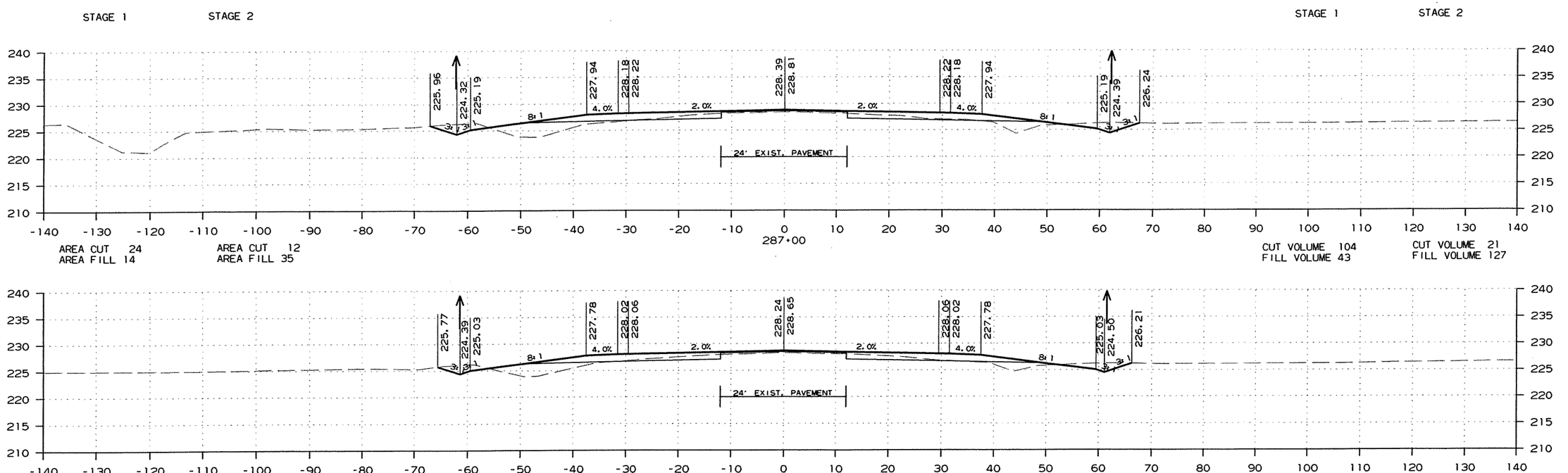


CROSS SECTION STA. 282+33 TO STA. 284+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	221	271

(2) CROSS SECTIONS

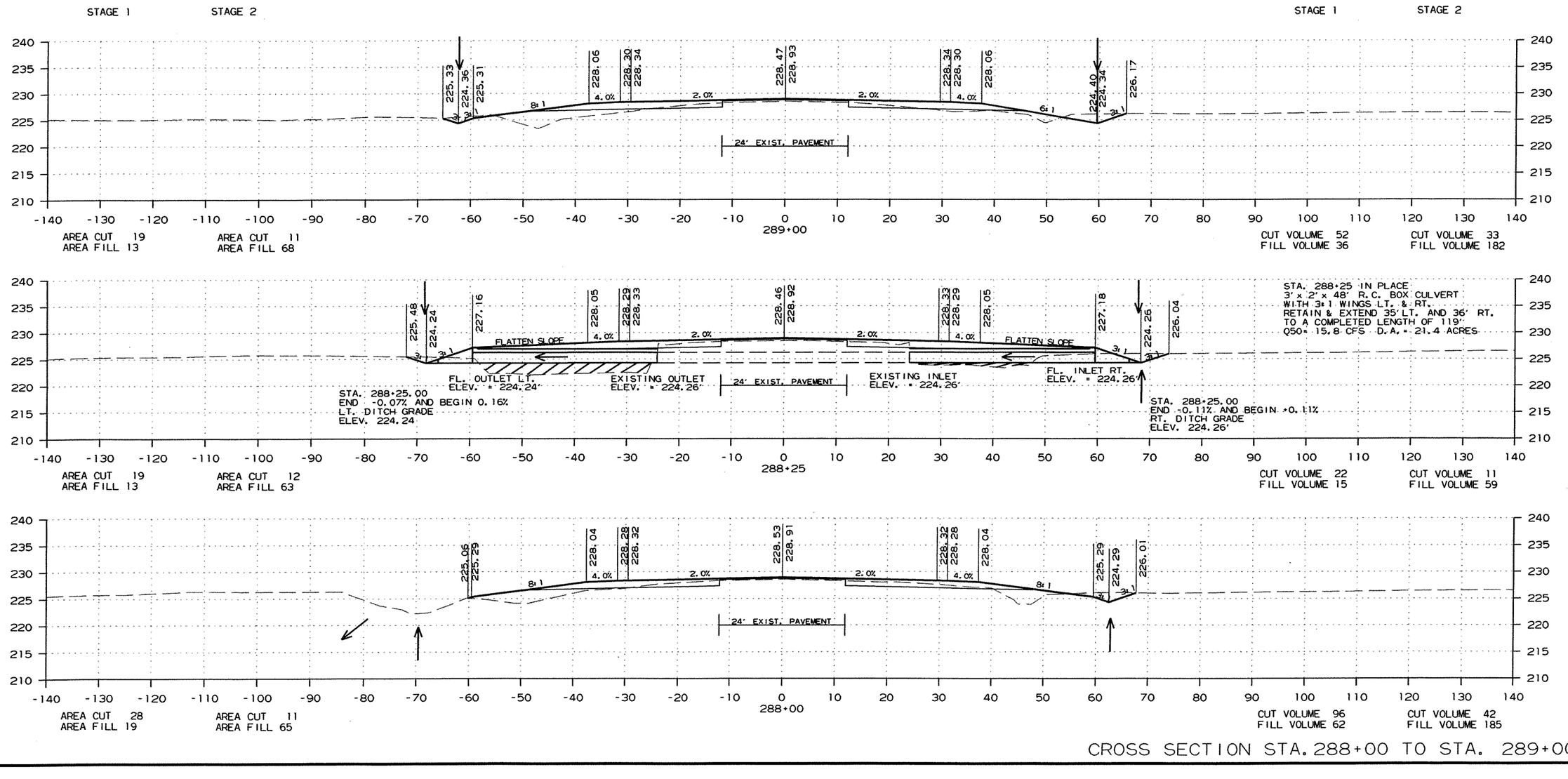


CROSS SECTION STA. 285+00 TO STA. 287+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	222	271

(2) CROSS SECTIONS

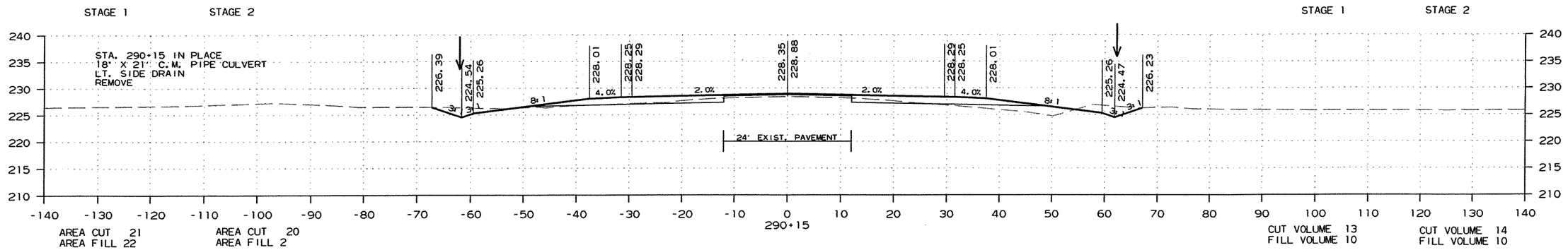


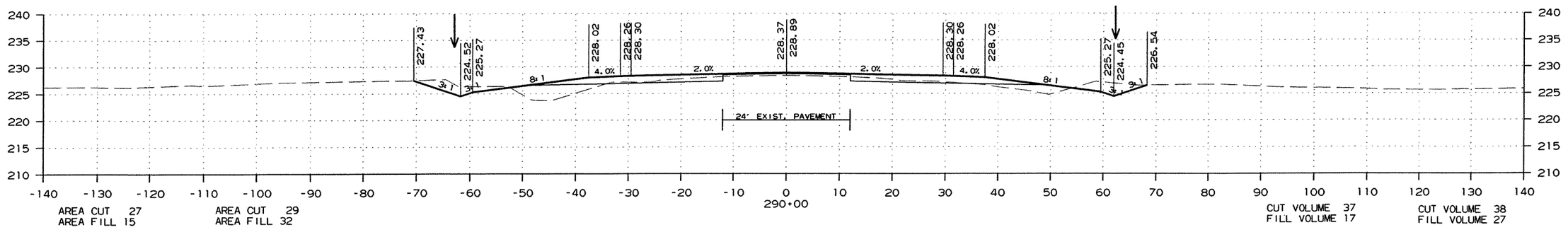
CROSS SECTION STA. 288+00 TO STA. 289+00

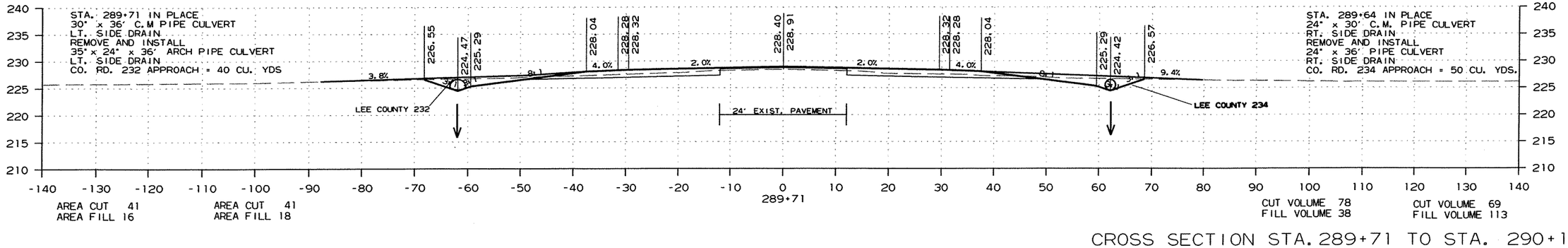
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	223	271

(2) CROSS SECTIONS





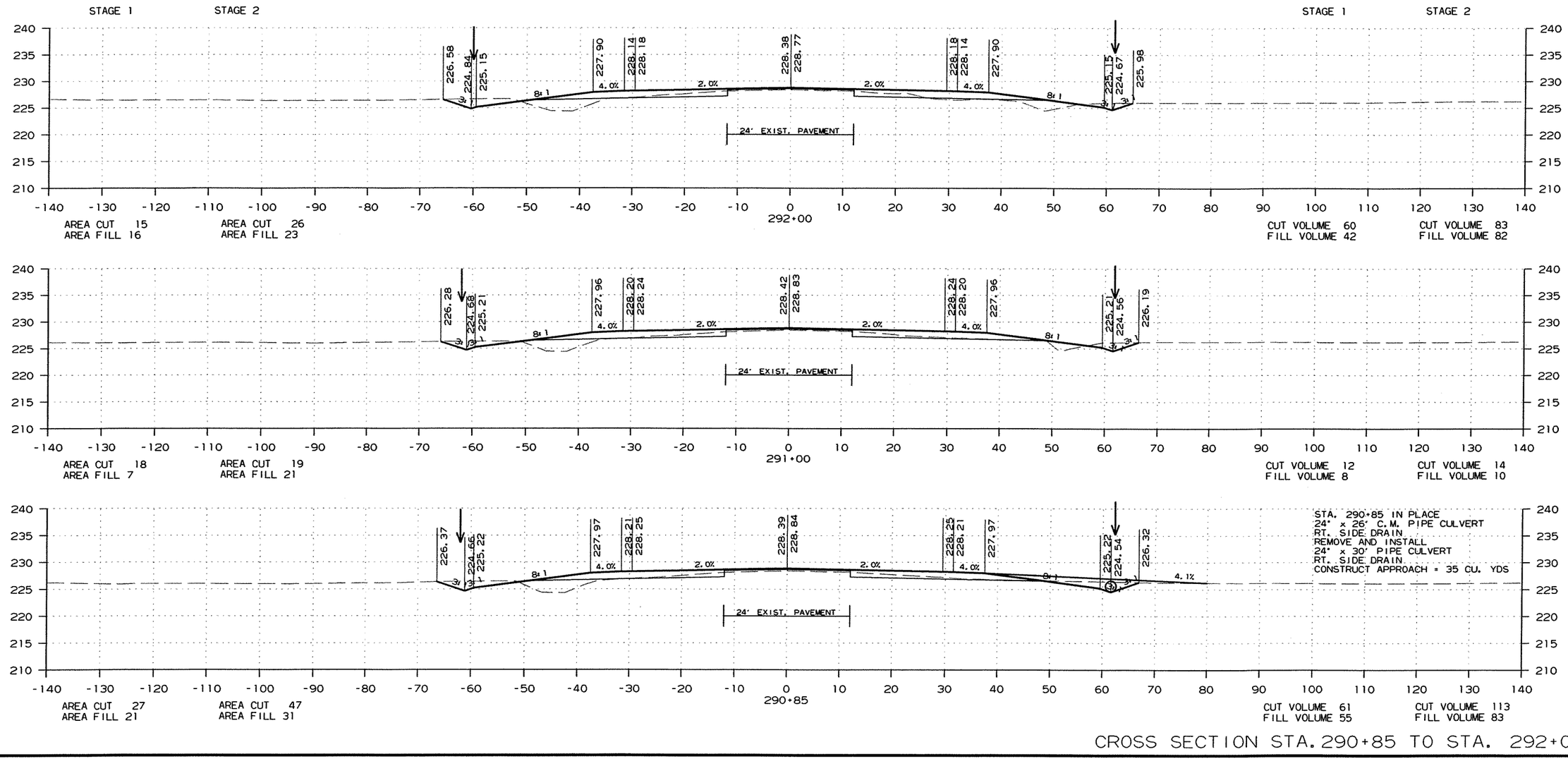


CROSS SECTION STA. 289+71 TO STA. 290+15

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	224	271

(2) CROSS SECTIONS



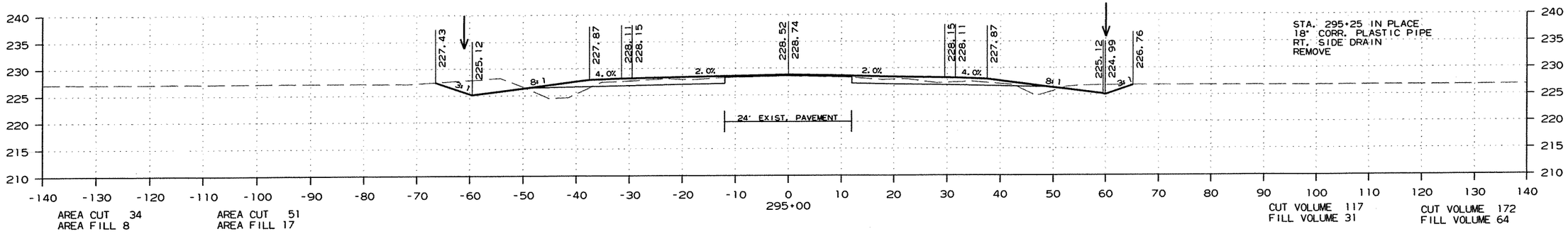
CROSS SECTION STA. 290+85 TO STA. 292+00

R110502.DGN 10/12/2011

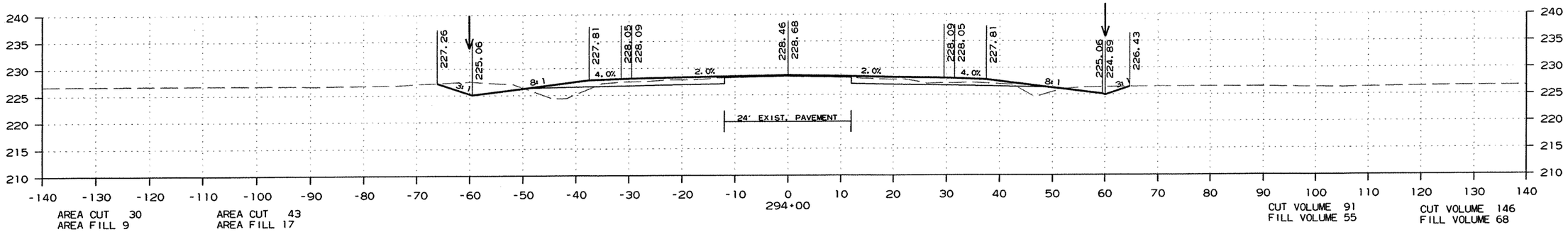
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	225	271

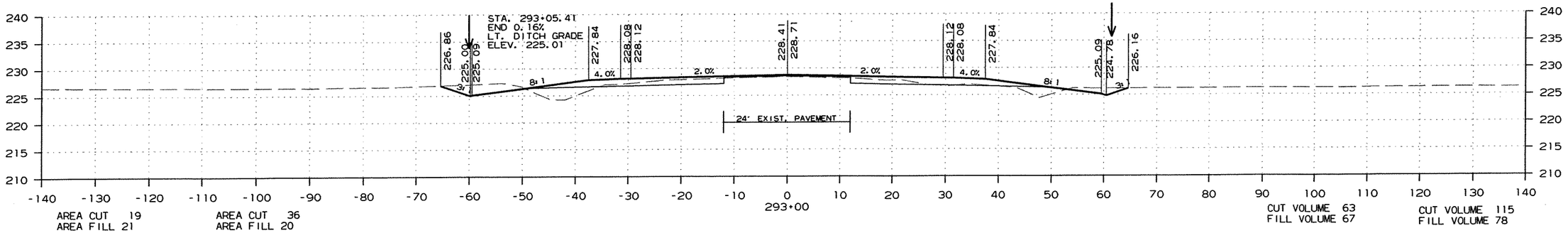
(2) CROSS SECTIONS

STAGE 1 STAGE 2



STAGE 1 STAGE 2



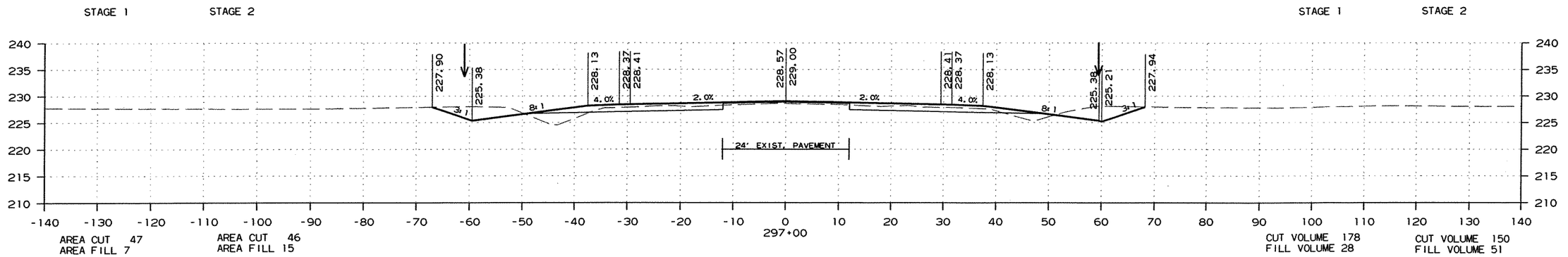


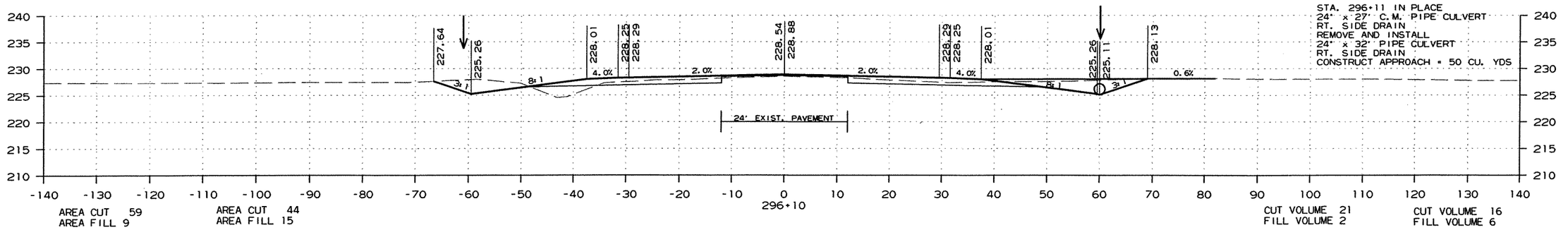
CROSS SECTION STA. 293+00 TO STA. 295+00

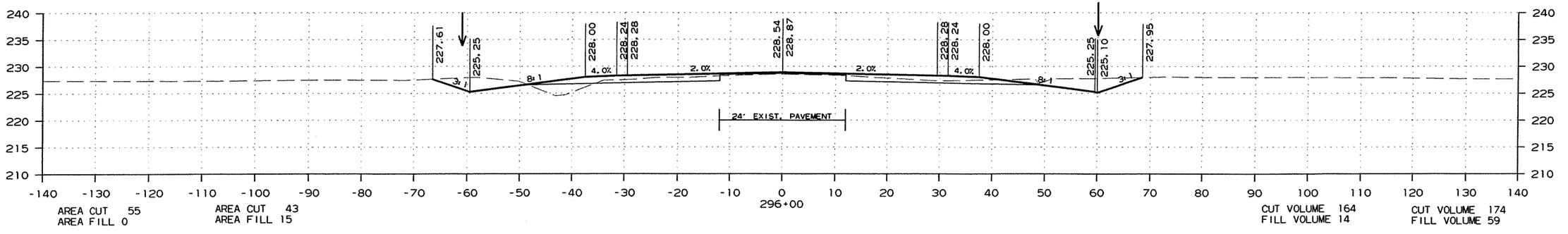
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	226	271

(2) CROSS SECTIONS





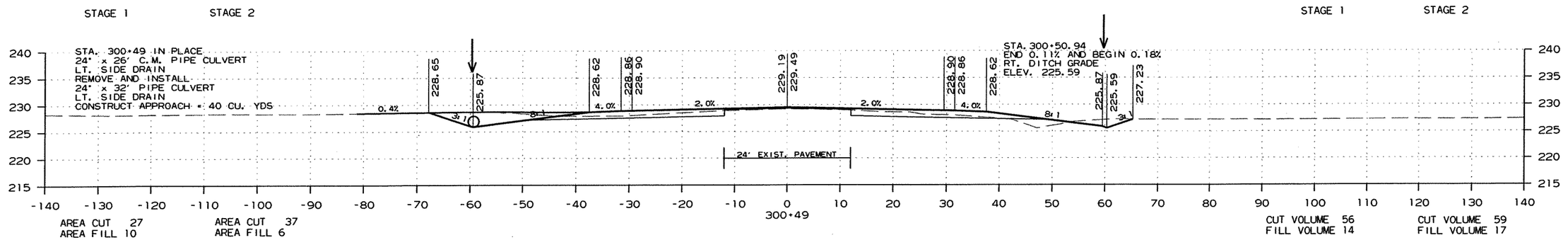


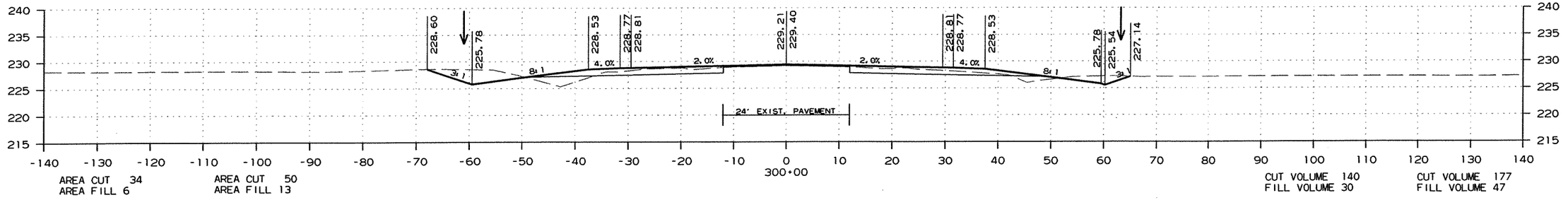
CROSS SECTION STA. 296+00 TO STA. 297+00

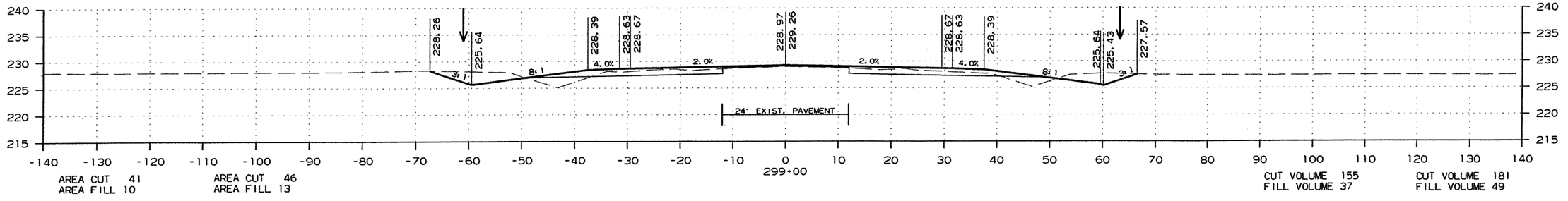
R110502.DGN 10/12/2011

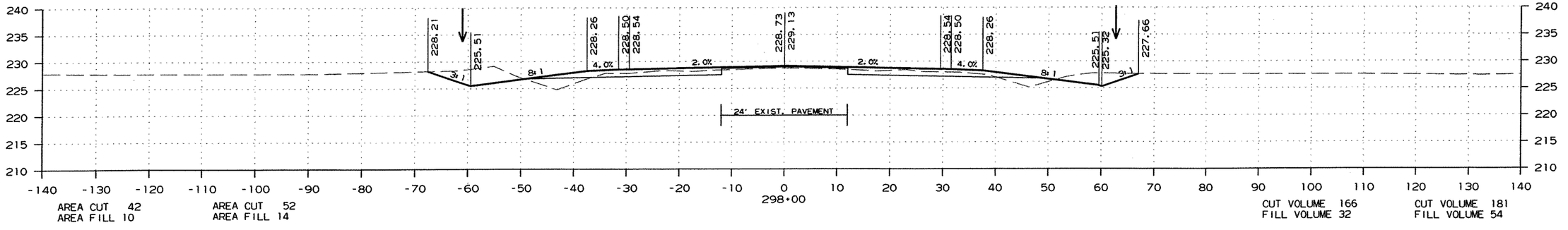
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	227	271

(2) CROSS SECTIONS







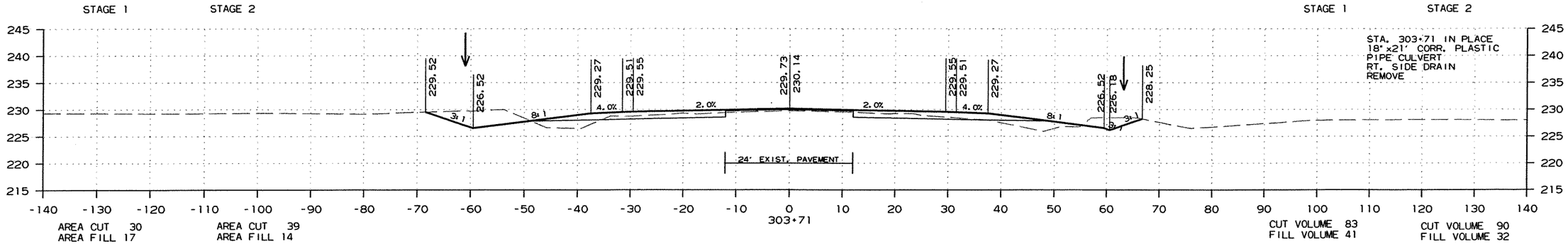


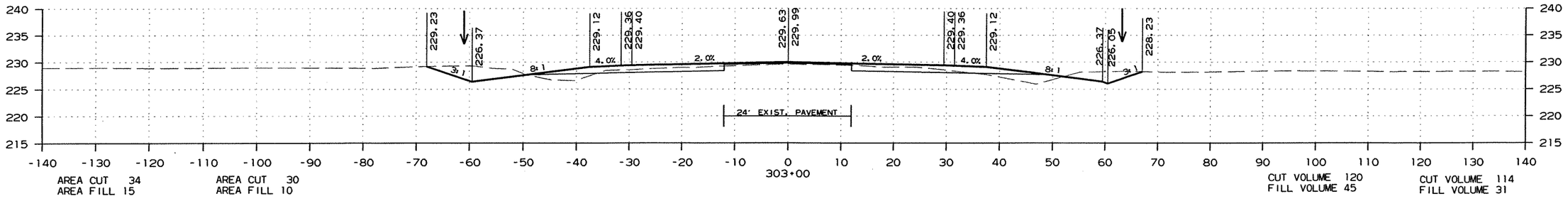
CROSS SECTION STA. 298+00 TO STA. 300+49

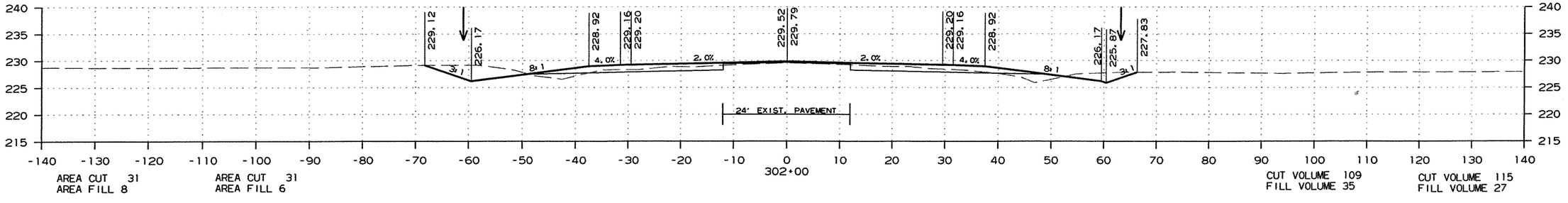
R110502.DGN 10/12/2011

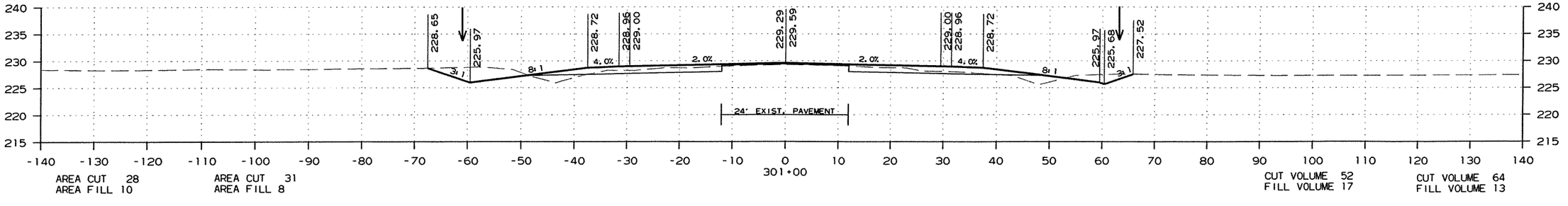
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	228	271

(2) CROSS SECTIONS







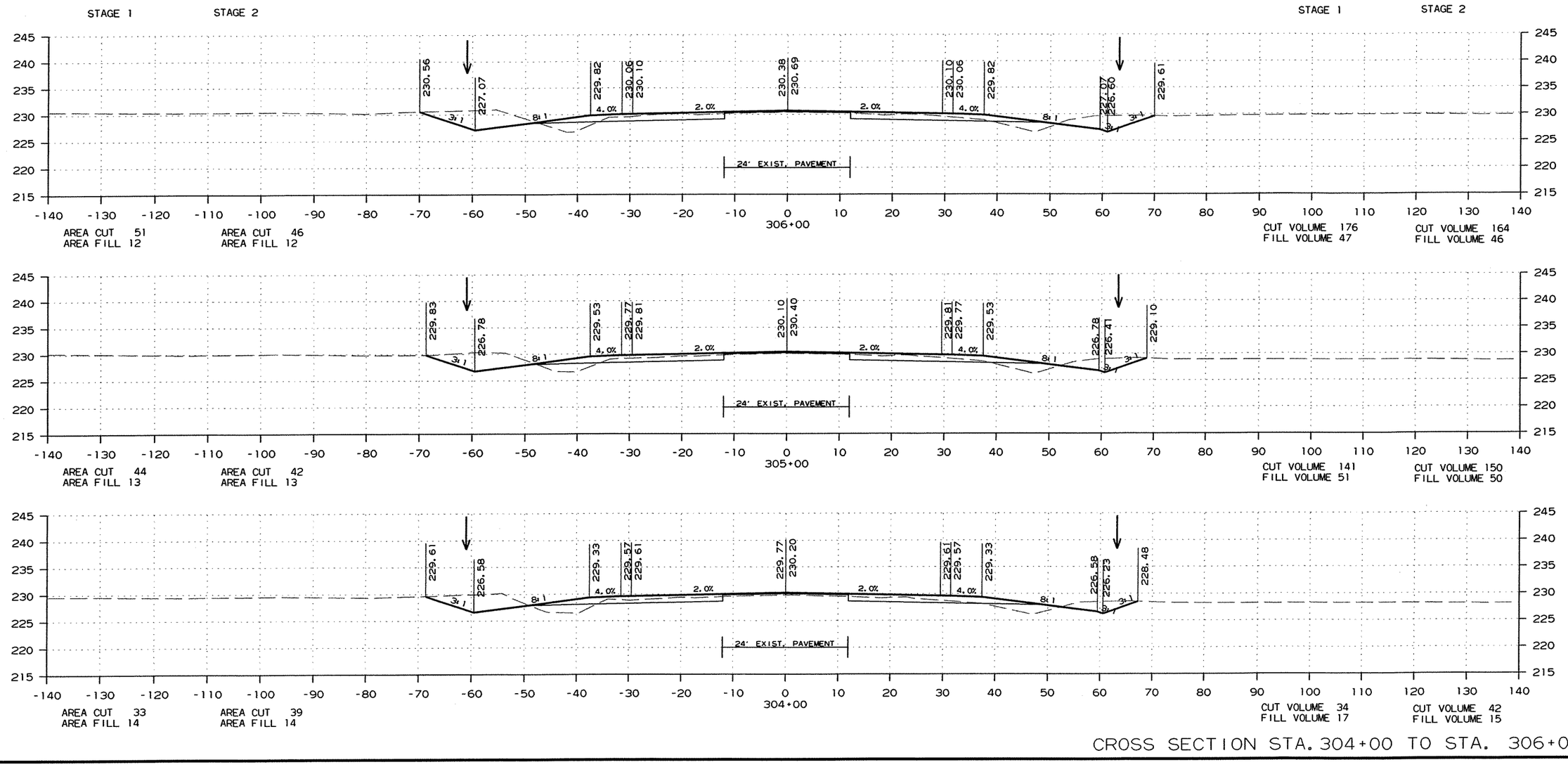


CROSS SECTION STA. 301+00 TO STA. 303+71

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	229	271

(2) CROSS SECTIONS



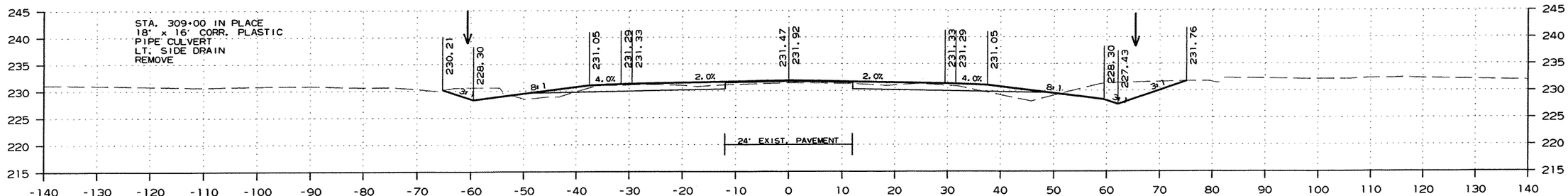
CROSS SECTION STA. 304+00 TO STA. 306+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	230	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

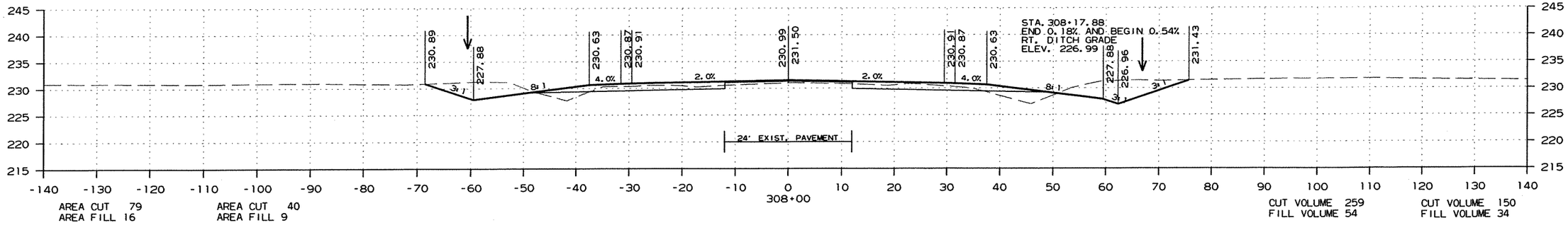


AREA CUT 69
AREA FILL 12

AREA CUT 18
AREA FILL 9

CUT VOLUME 274
FILL VOLUME 52

CUT VOLUME 108
FILL VOLUME 32

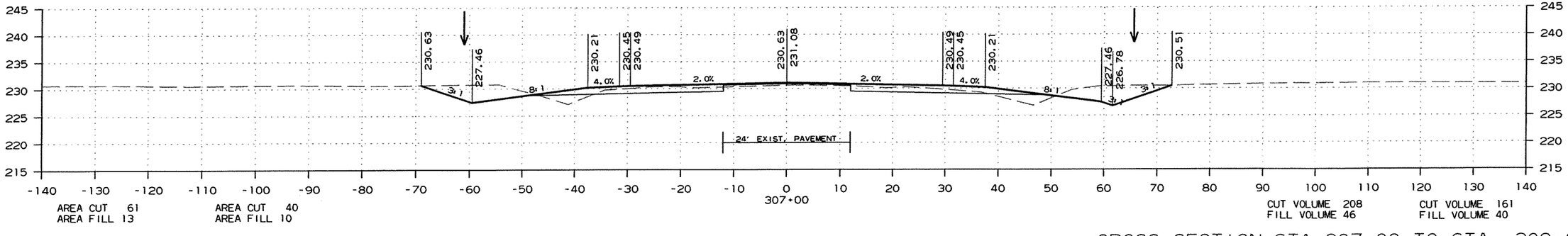


AREA CUT 79
AREA FILL 16

AREA CUT 40
AREA FILL 9

CUT VOLUME 259
FILL VOLUME 54

CUT VOLUME 150
FILL VOLUME 34



AREA CUT 61
AREA FILL 13

AREA CUT 40
AREA FILL 10

CUT VOLUME 208
FILL VOLUME 46

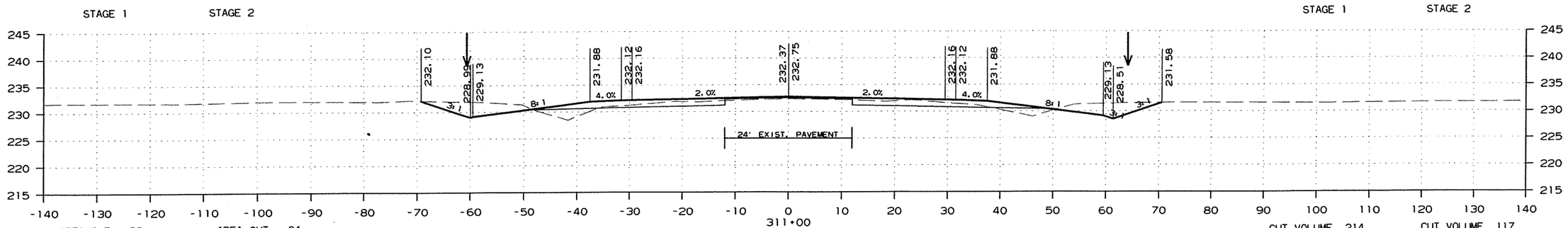
CUT VOLUME 161
FILL VOLUME 40

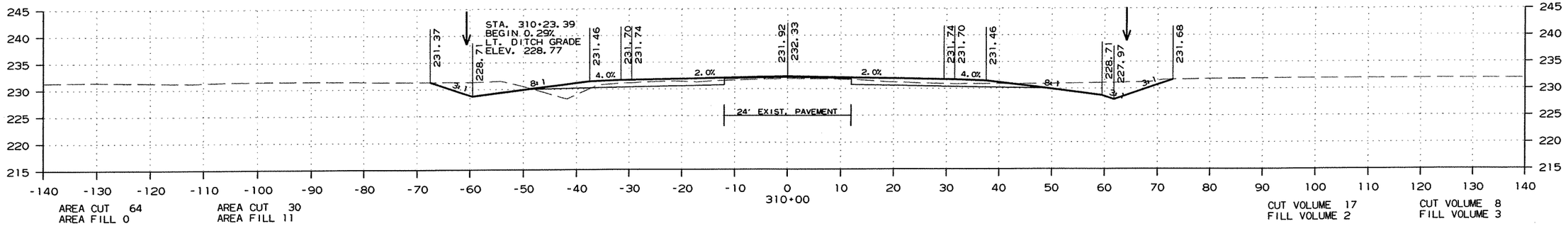
CROSS SECTION STA. 307+00 TO STA. 309+00

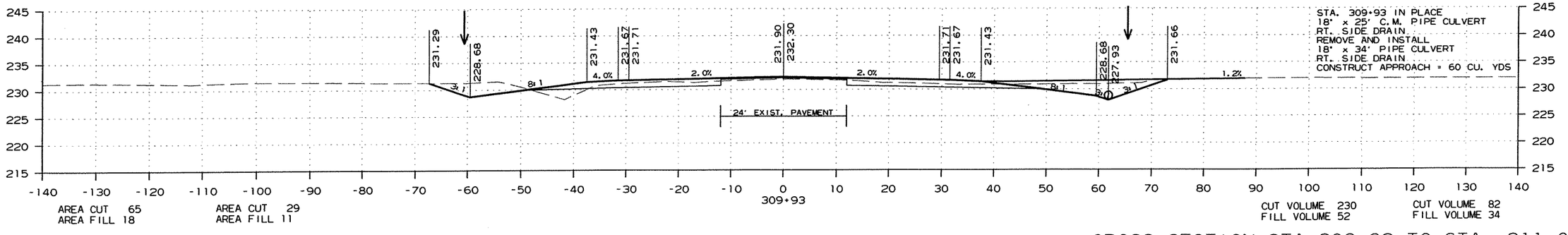
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		110502	231	271

(2) CROSS SECTIONS





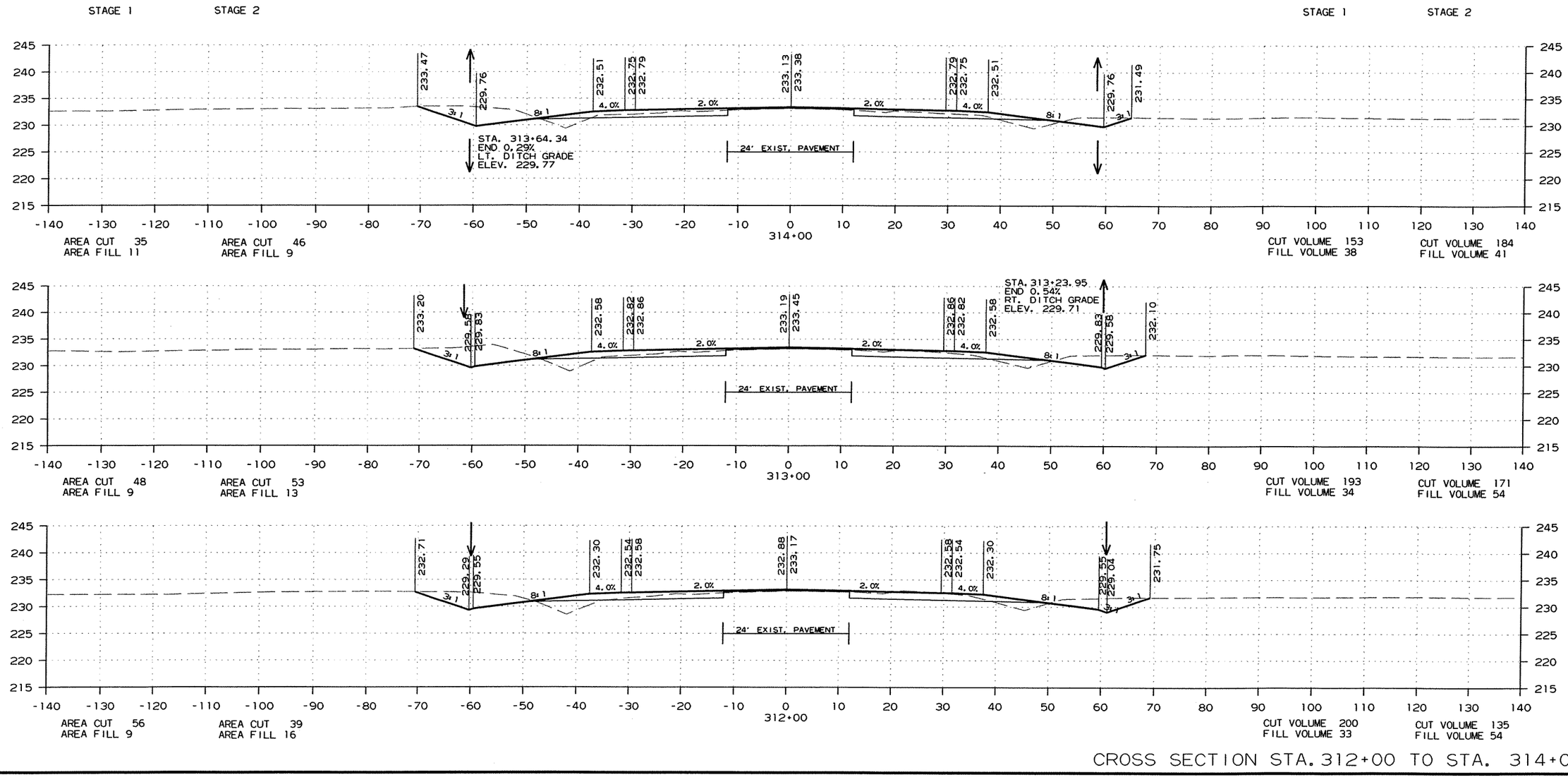


CROSS SECTION STA. 309+93 TO STA. 311+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	232	271

(2) CROSS SECTIONS

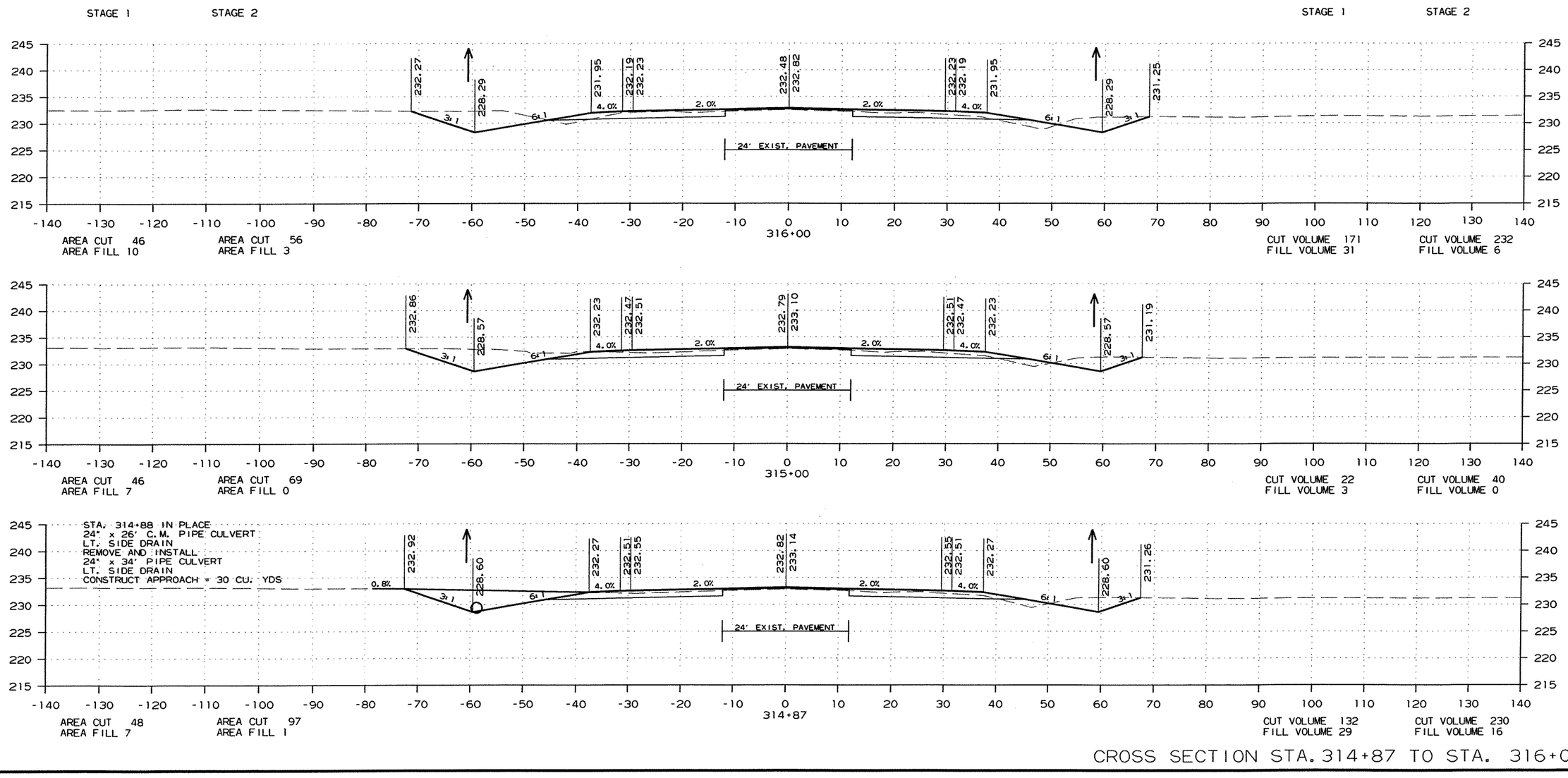


CROSS SECTION STA. 312+00 TO STA. 314+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	233	271

(2) CROSS SECTIONS

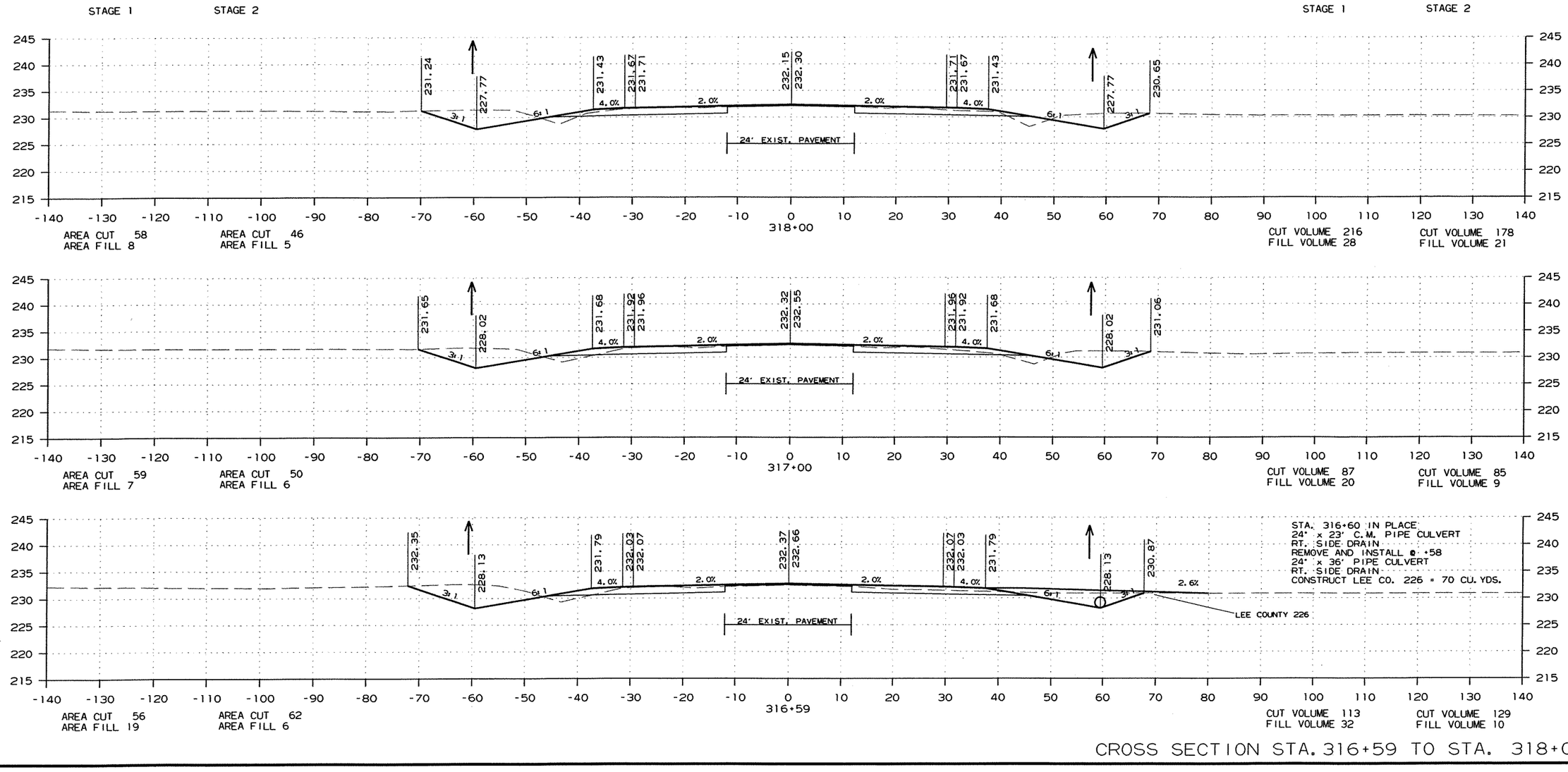


CROSS SECTION STA. 314+87 TO STA. 316+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	234	271

(2) CROSS SECTIONS

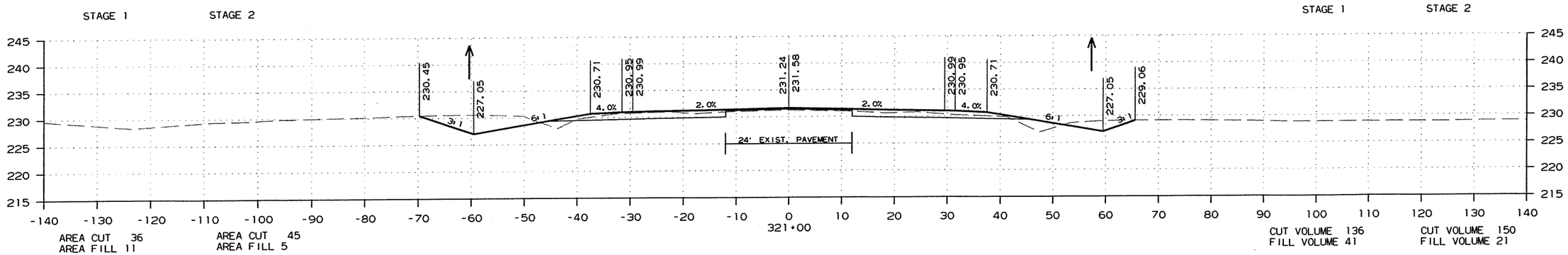


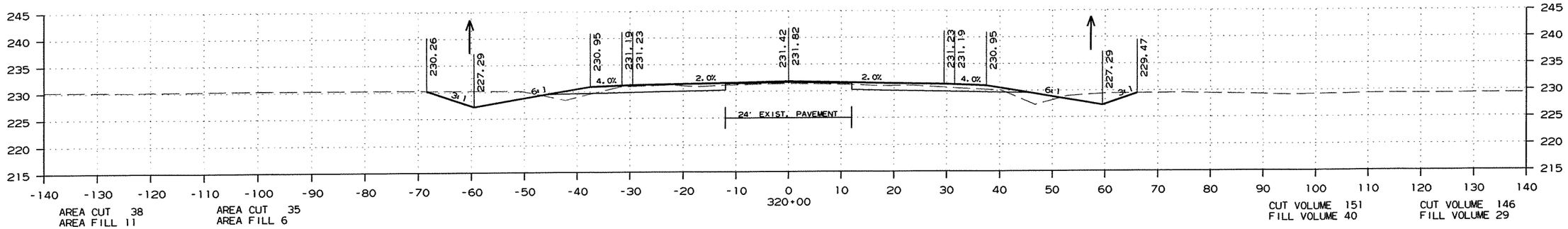
CROSS SECTION STA. 316+59 TO STA. 318+00

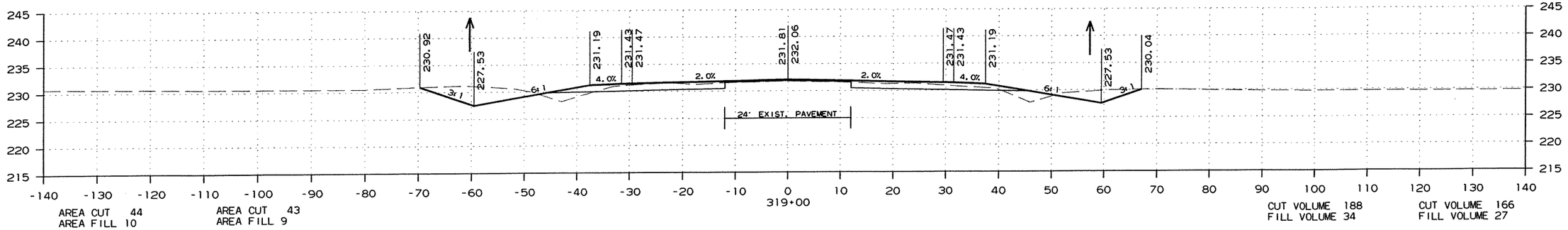
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	235	271

(2) CROSS SECTIONS





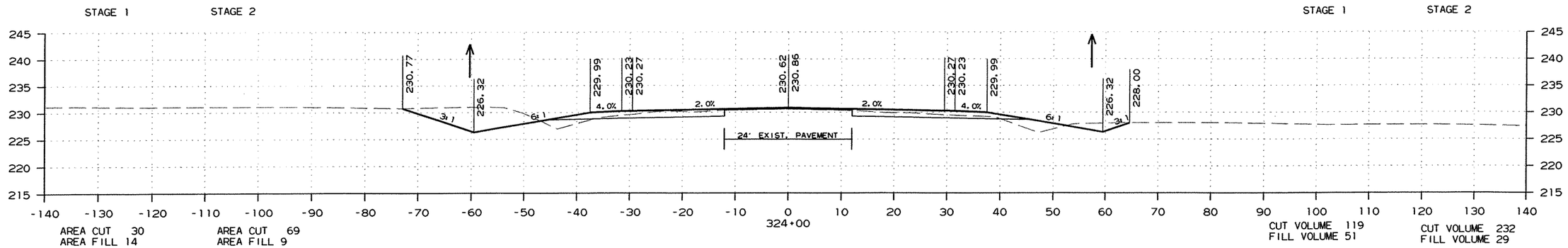


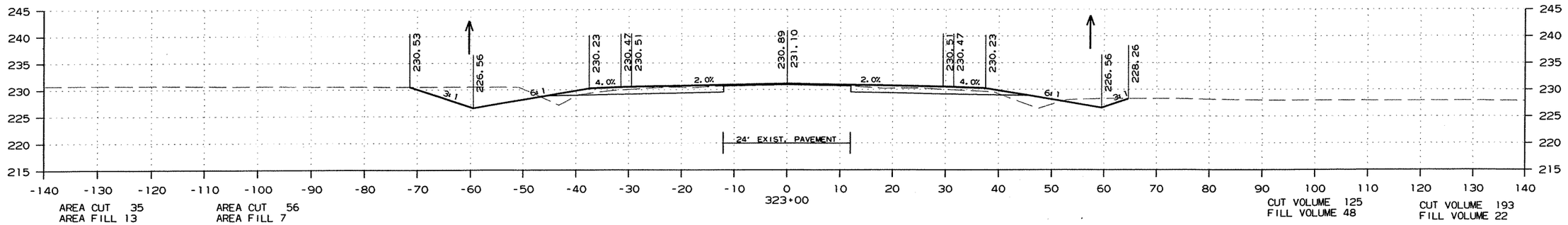
CROSS SECTION STA. 319+00 TO STA. 321+00

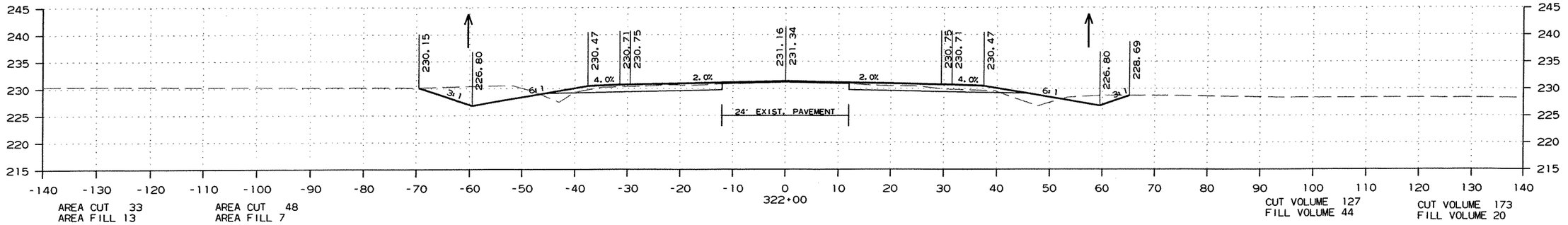
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	236	271

(2) CROSS SECTIONS





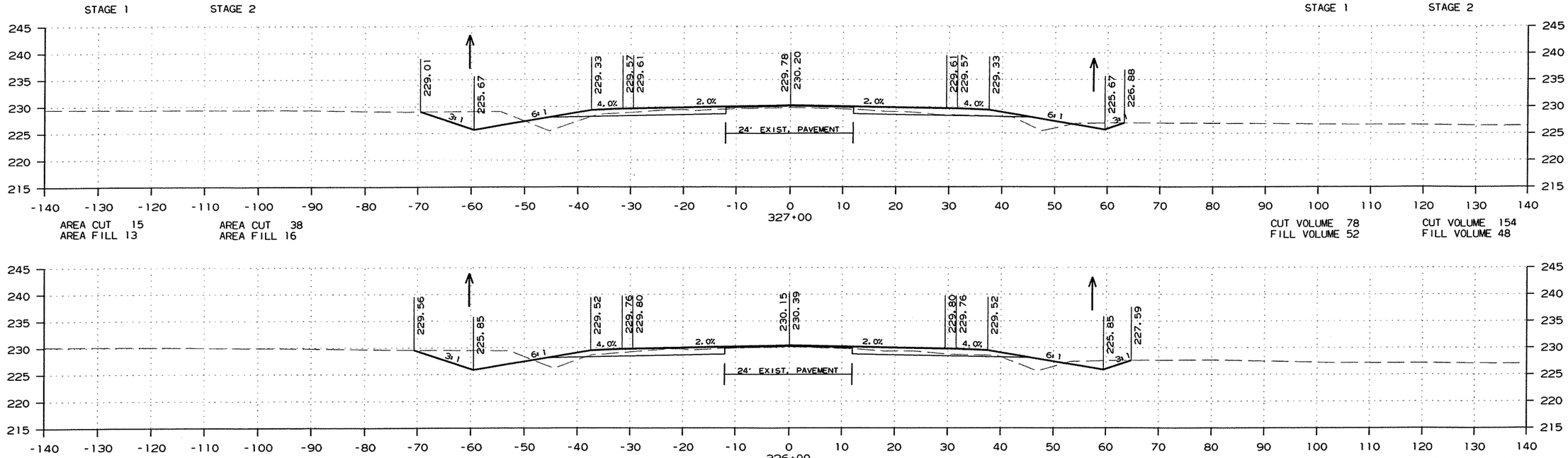


CROSS SECTION STA. 322+00 TO STA. 324+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	237	271

(2) CROSS SECTIONS

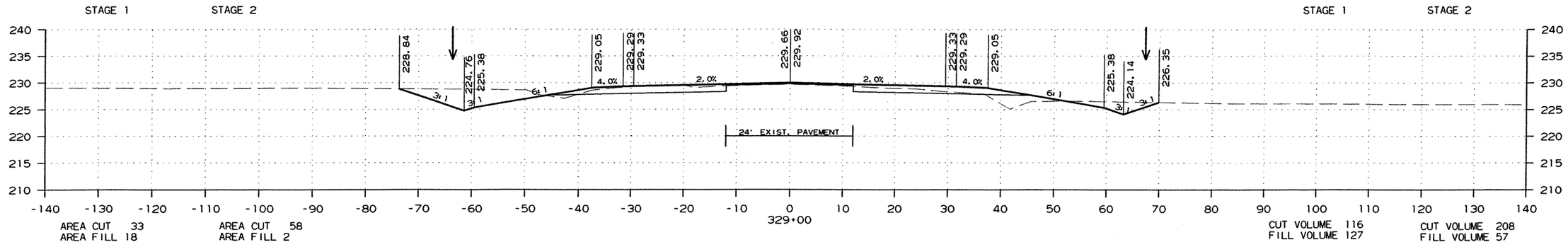


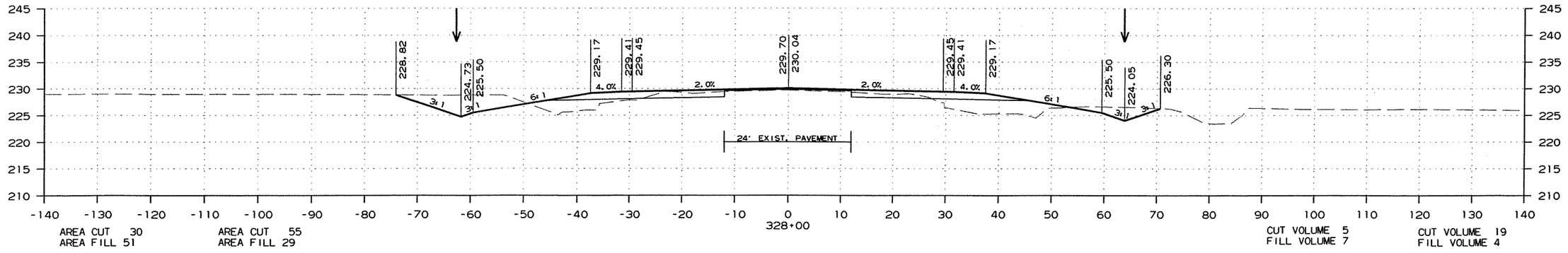
CROSS SECTION STA. 325+00 TO STA. 327+00

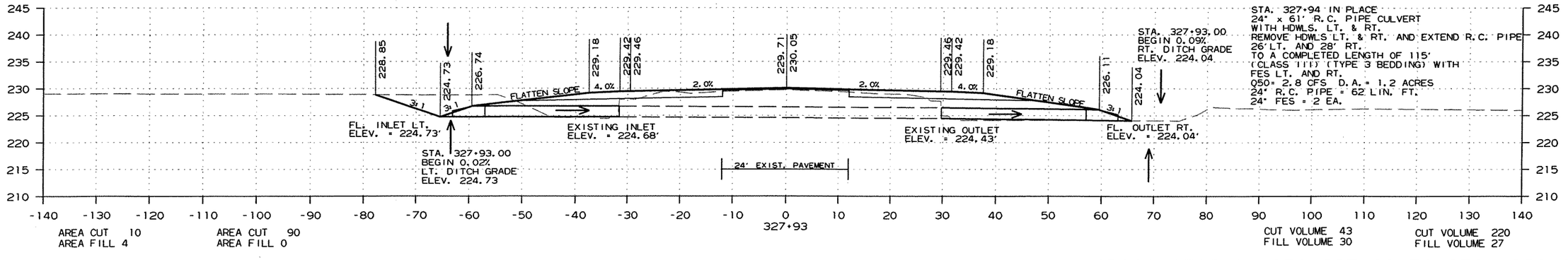
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	238	271

(2) CROSS SECTIONS





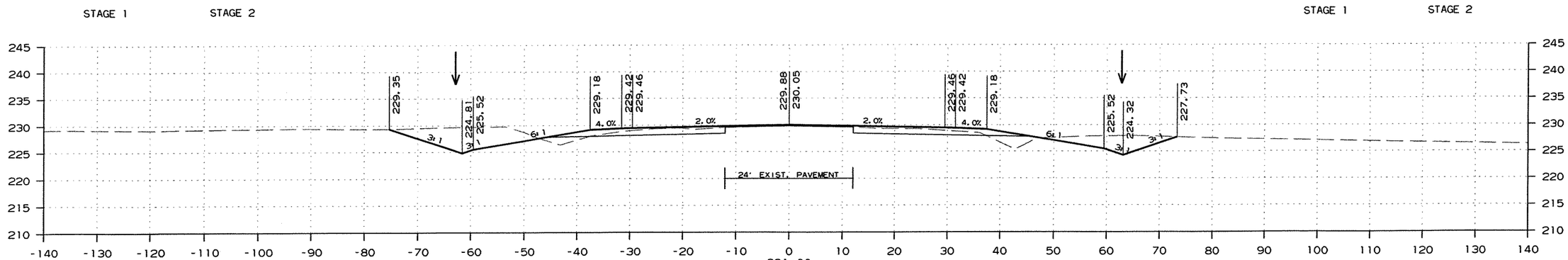


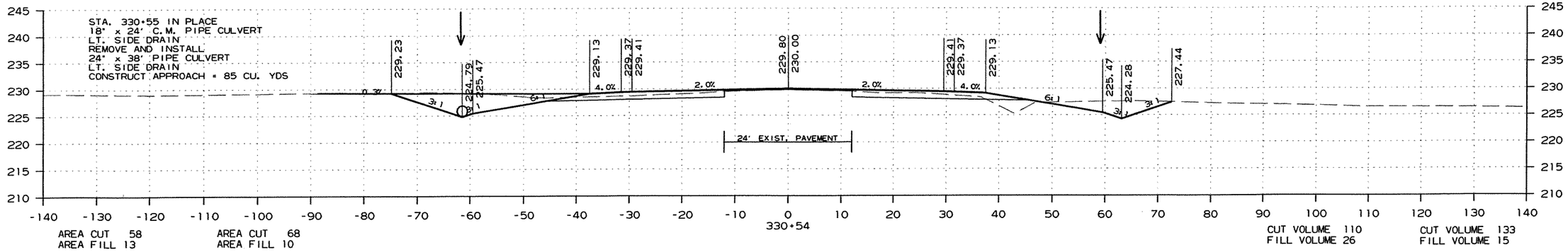
CROSS SECTION STA. 327+93 TO STA. 329+00

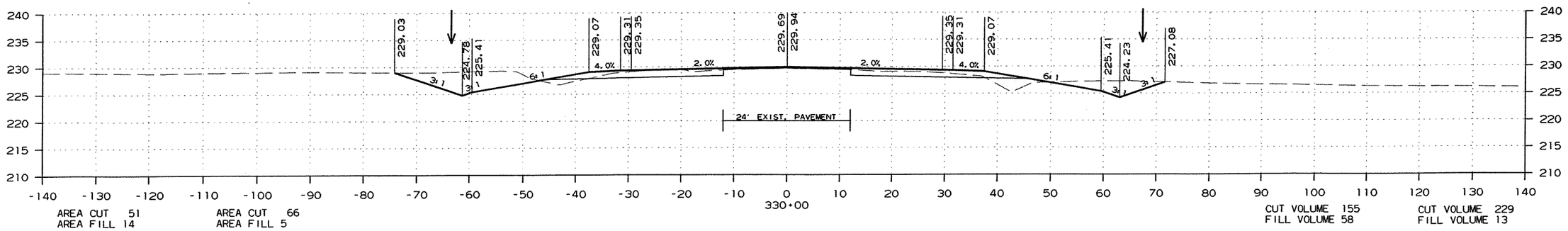
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	239	271

(2) CROSS SECTIONS





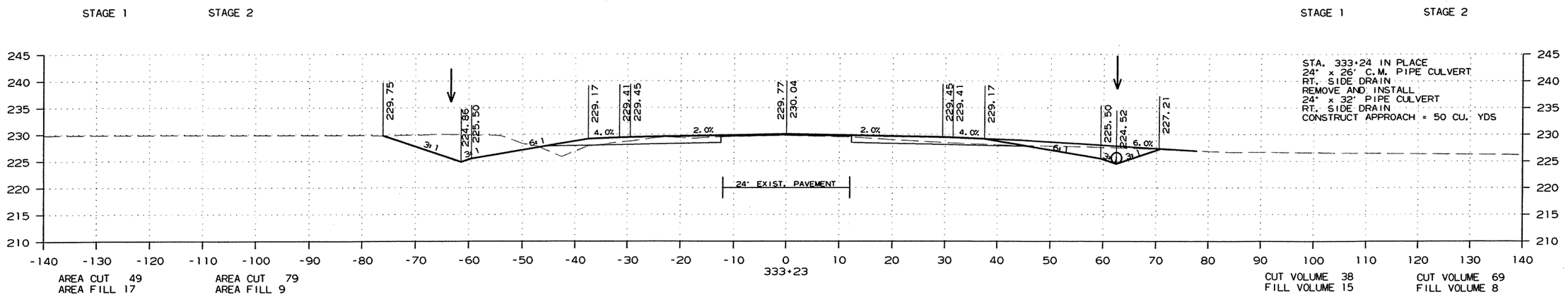


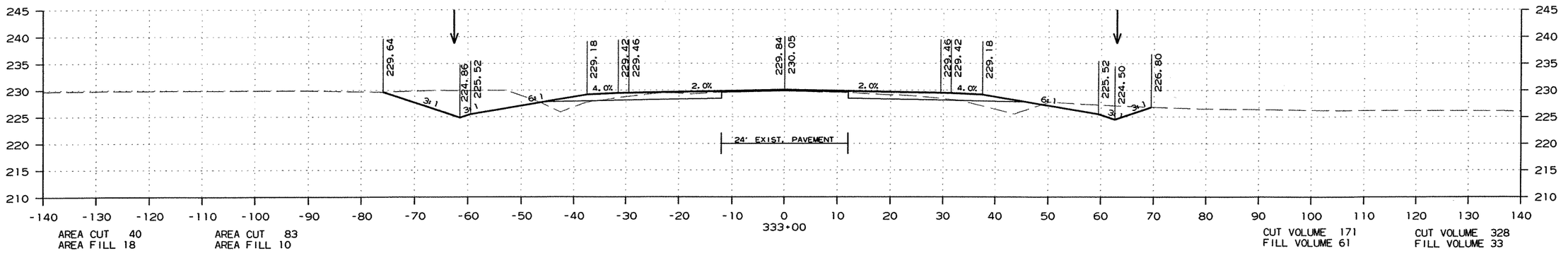
CROSS SECTION STA. 330+00 TO STA. 331+00

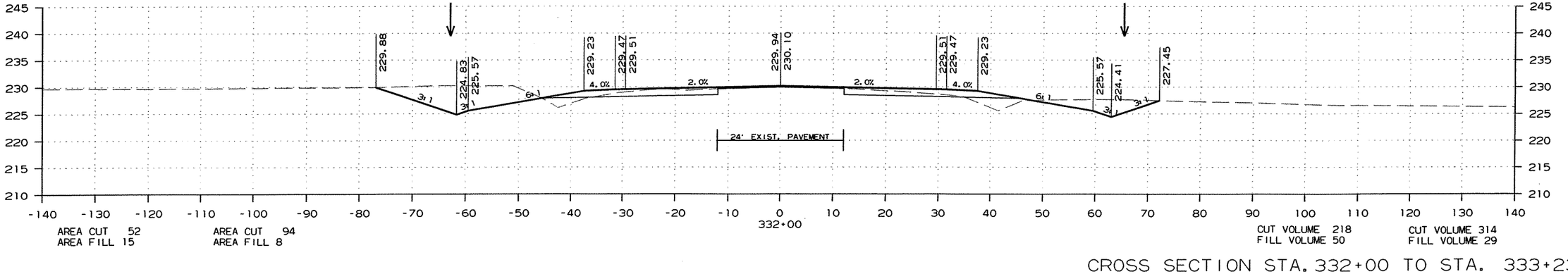
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	240	271

(2) CROSS SECTIONS







CROSS SECTION STA. 332+00 TO STA. 333+23

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	241	271

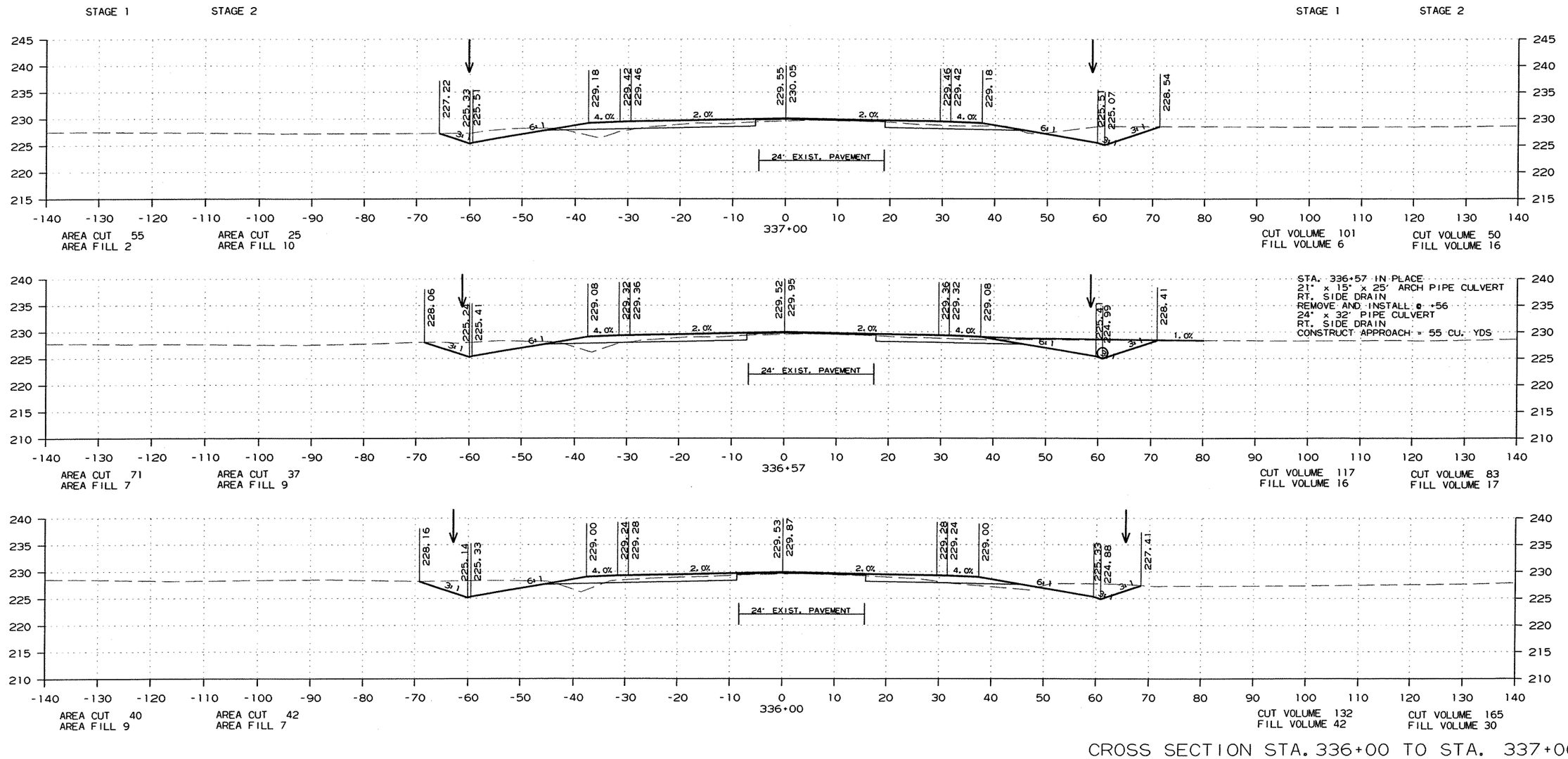
(2) CROSS SECTIONS

CROSS SECTION STA. 334+00 TO STA. 335+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	242	271

(2) CROSS SECTIONS

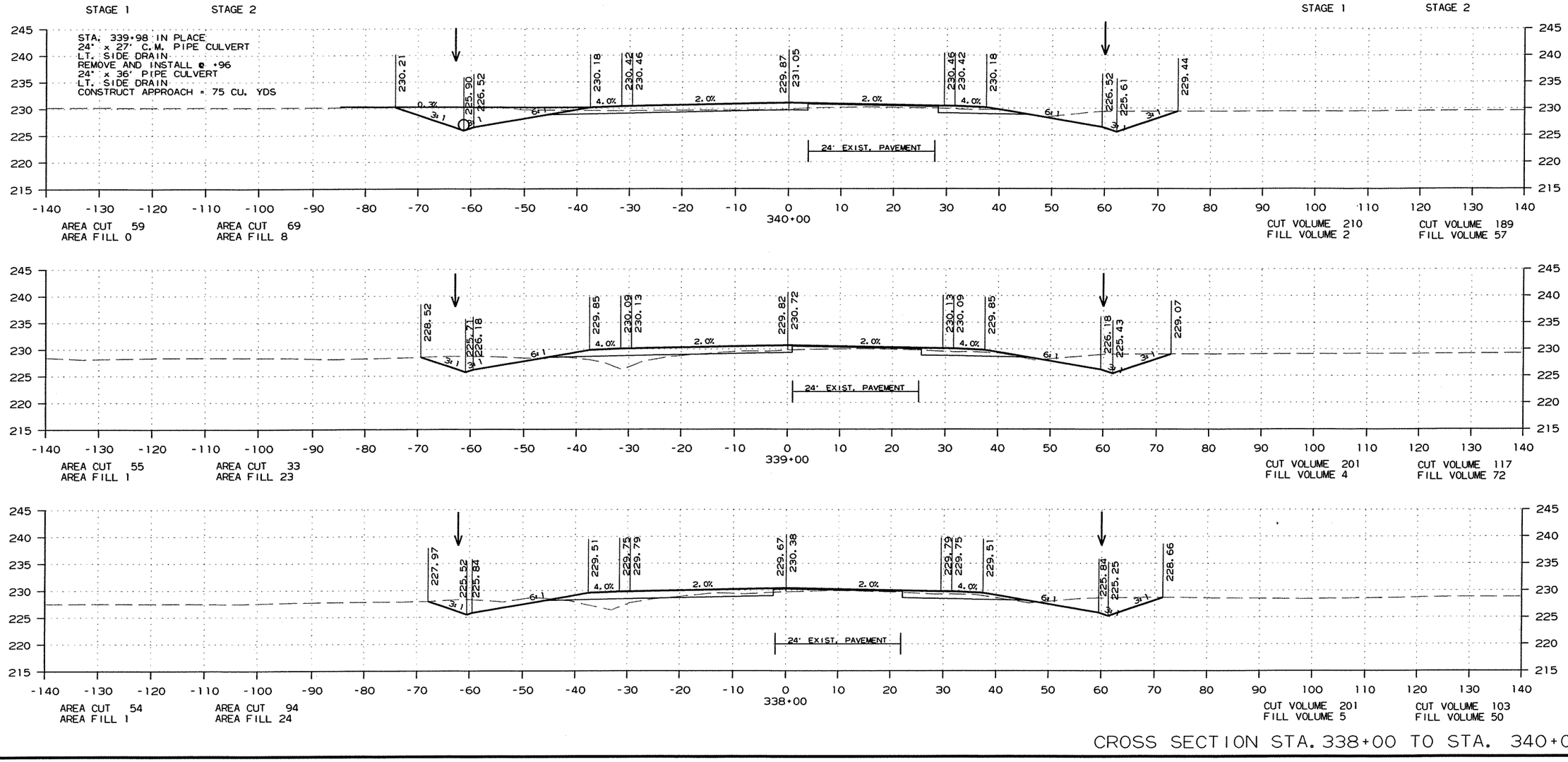


CROSS SECTION STA. 336+00 TO STA. 337+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	243	271

(2) CROSS SECTIONS

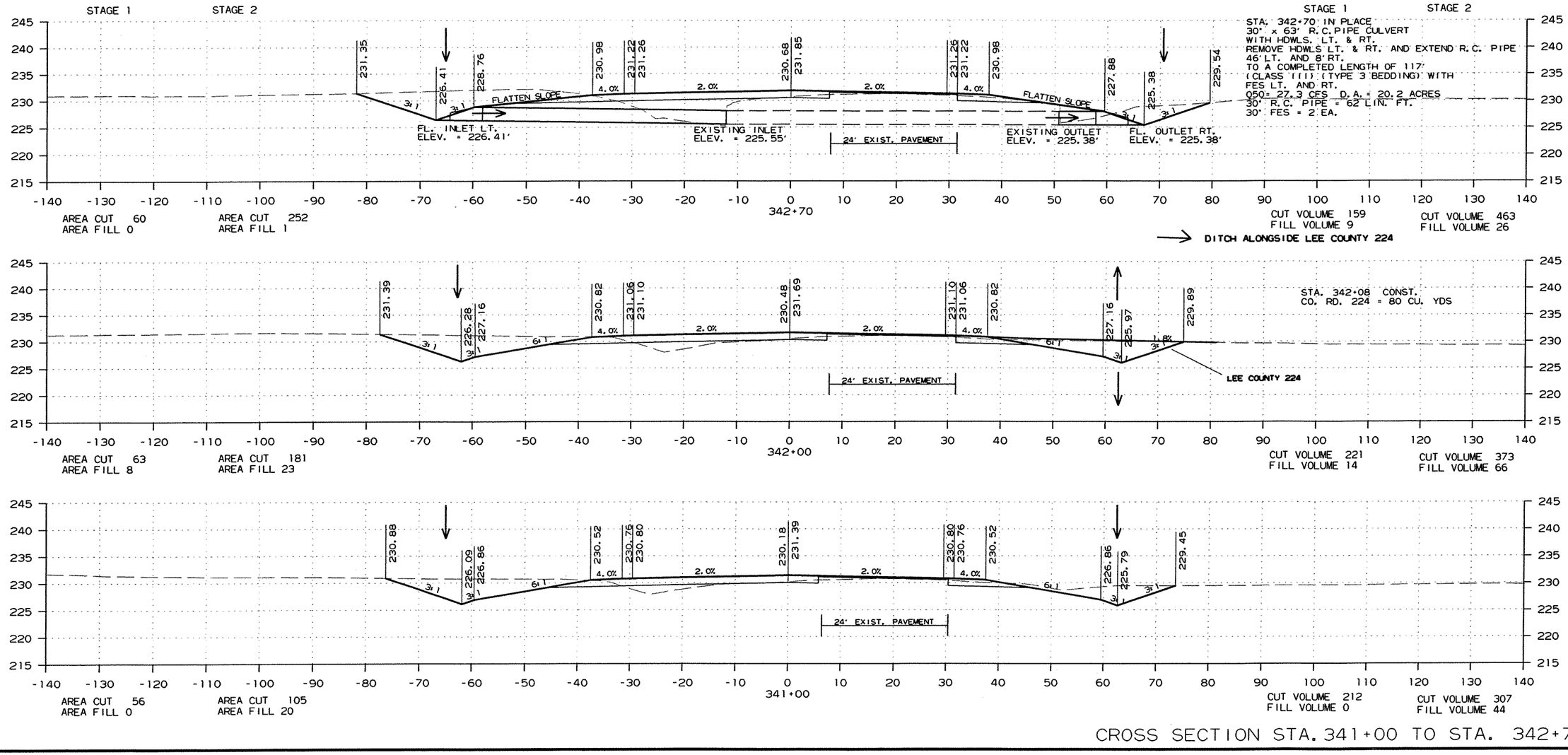


CROSS SECTION STA. 338+00 TO STA. 340+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	244	271

(2) CROSS SECTIONS

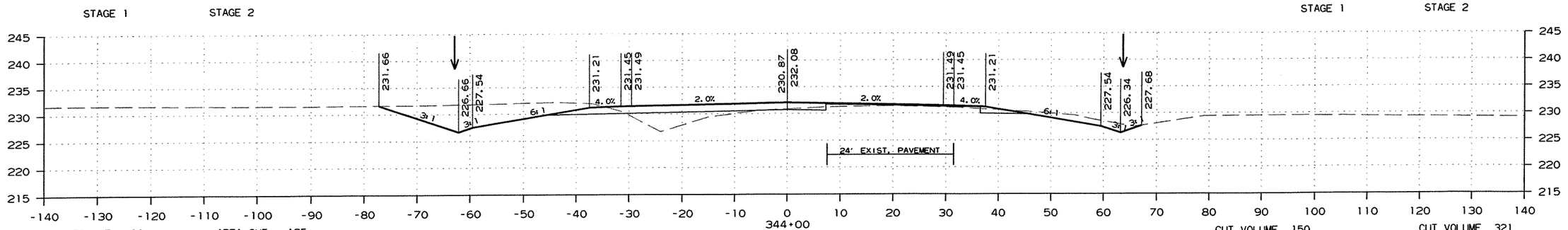


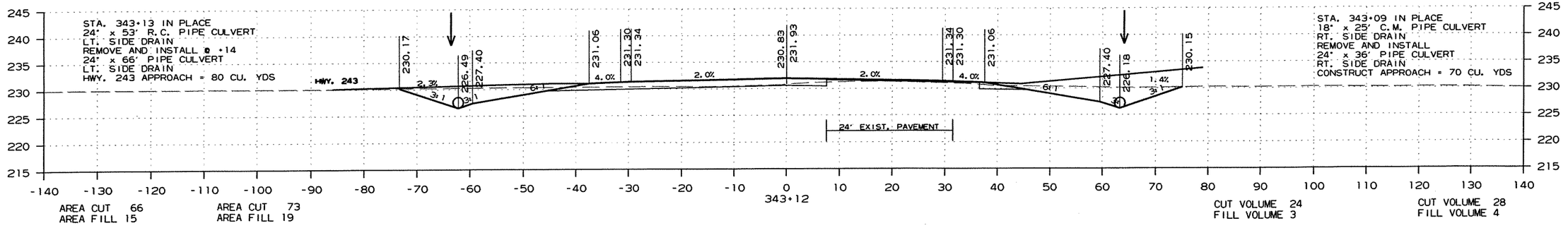
CROSS SECTION STA. 341+00 TO STA. 342+70

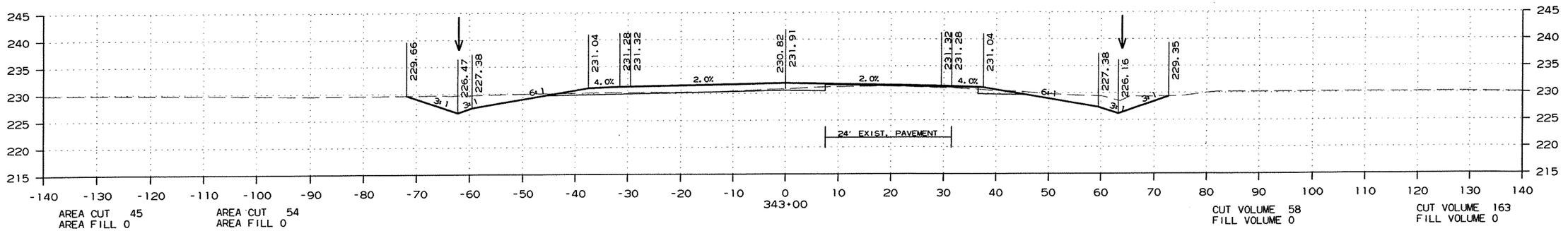
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	245	271

(2) CROSS SECTIONS





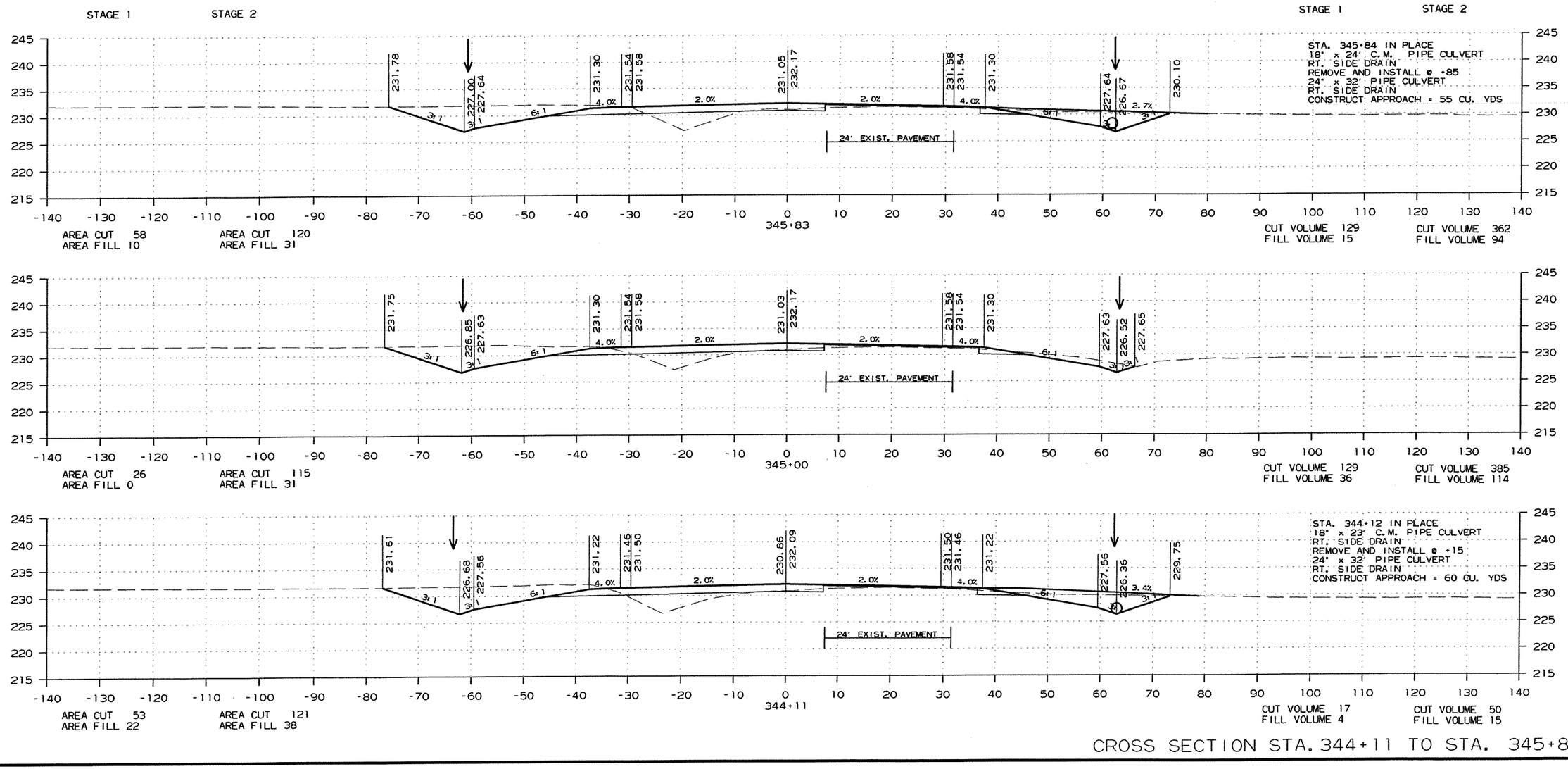


CROSS SECTION STA. 343+00 TO STA. 344+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	246	271

(2) CROSS SECTIONS

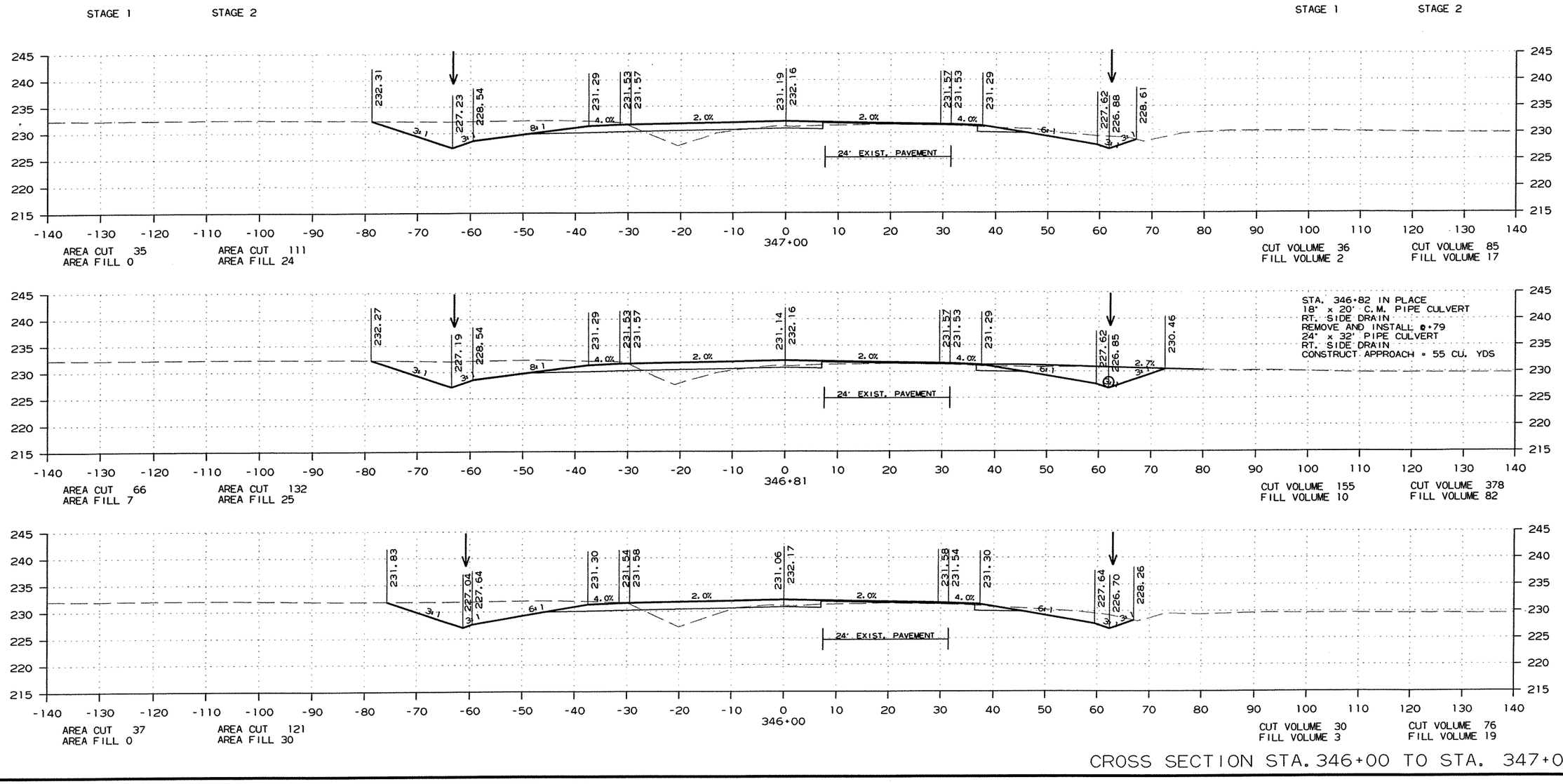


CROSS SECTION STA. 344+11 TO STA. 345+83

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		110502	247	271

(2) CROSS SECTIONS

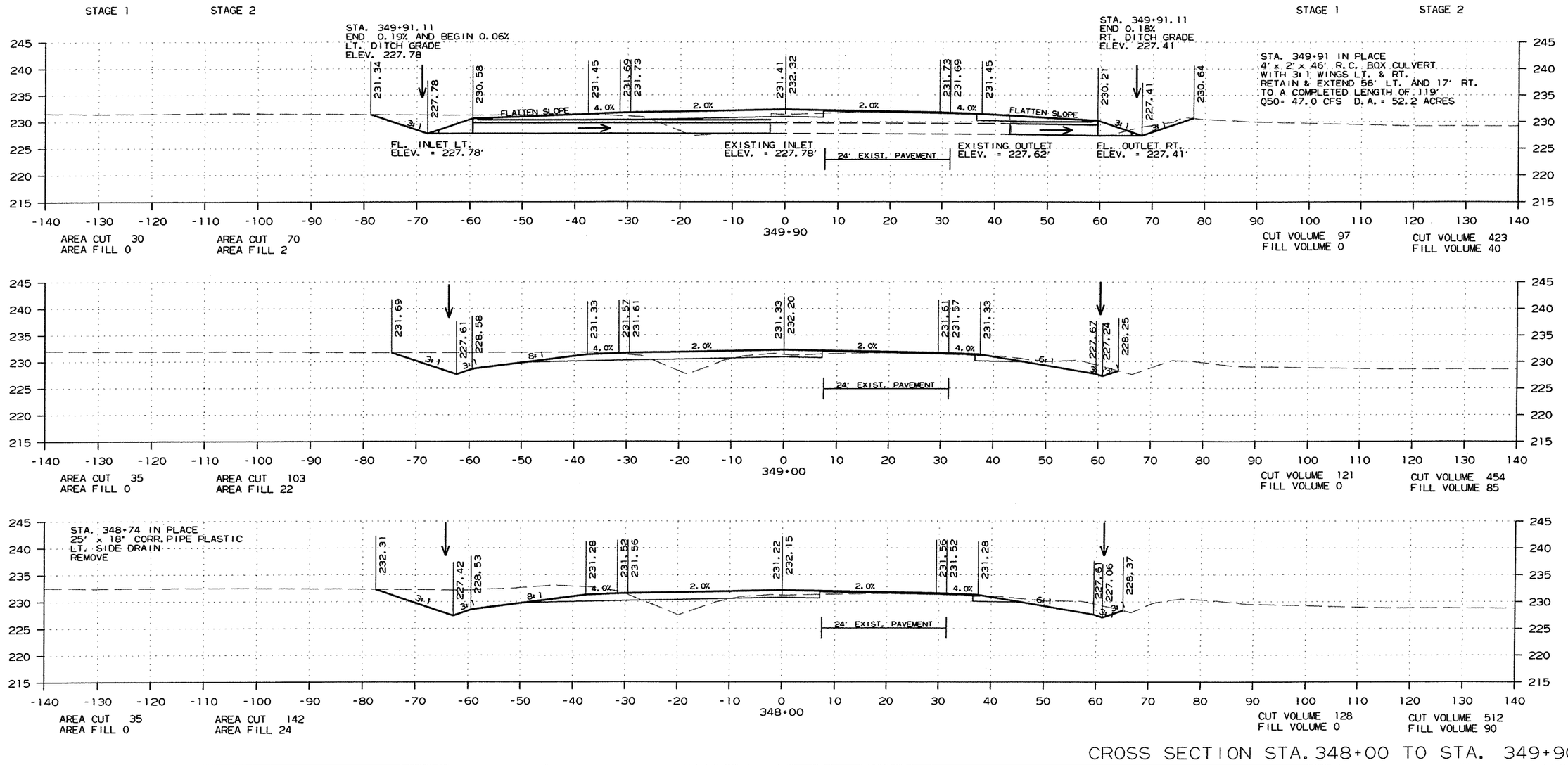


CROSS SECTION STA. 346+00 TO STA. 347+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	248	271

(2) CROSS SECTIONS

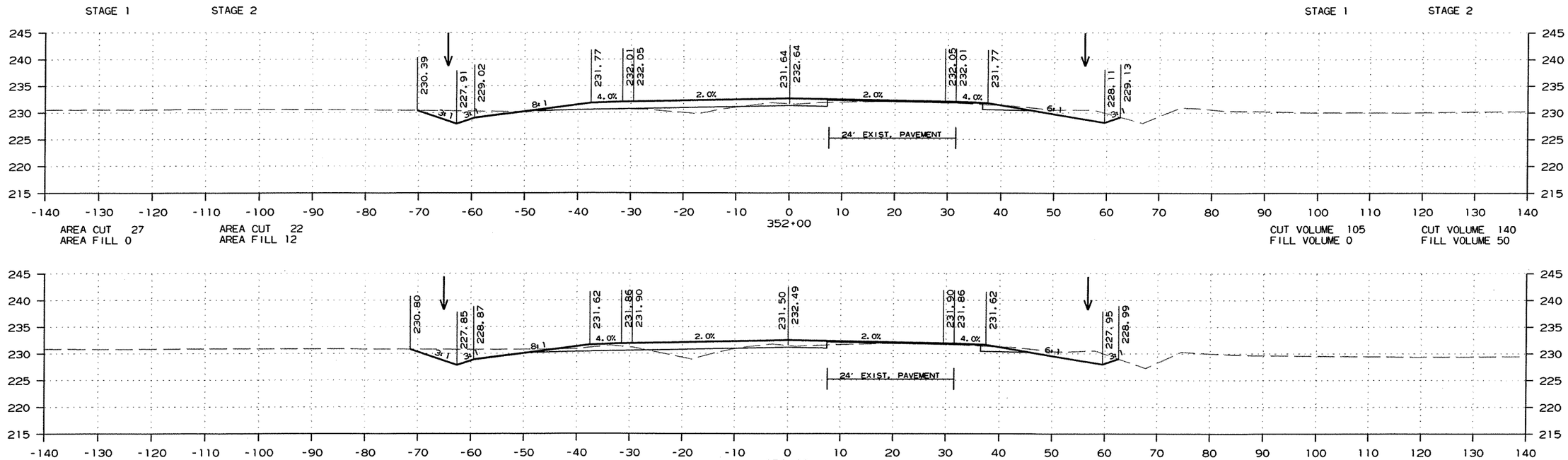


CROSS SECTION STA. 348+00 TO STA. 349+90

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	249	271

(2) CROSS SECTIONS

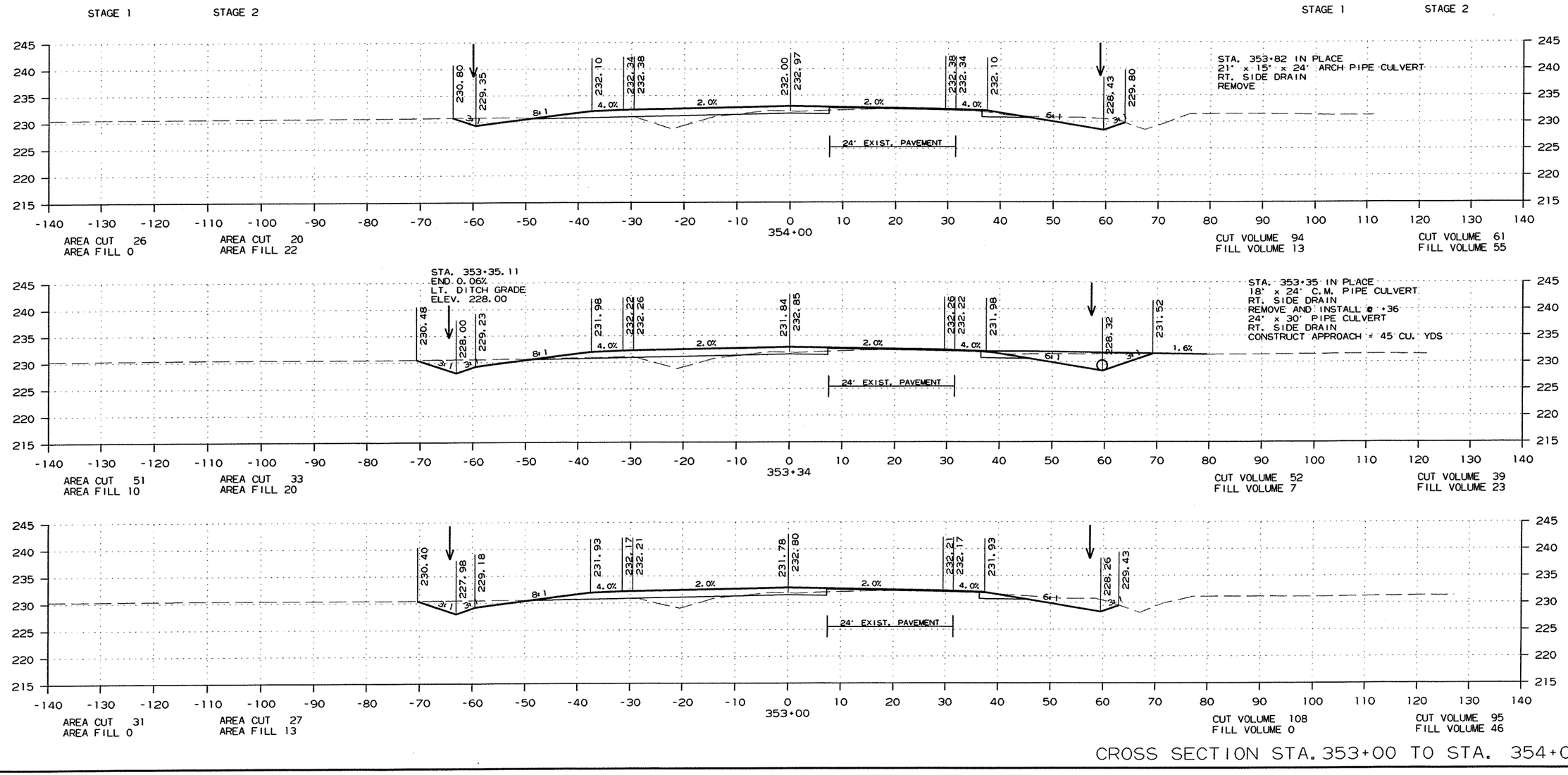


CROSS SECTION STA. 350+00 TO STA. 352+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

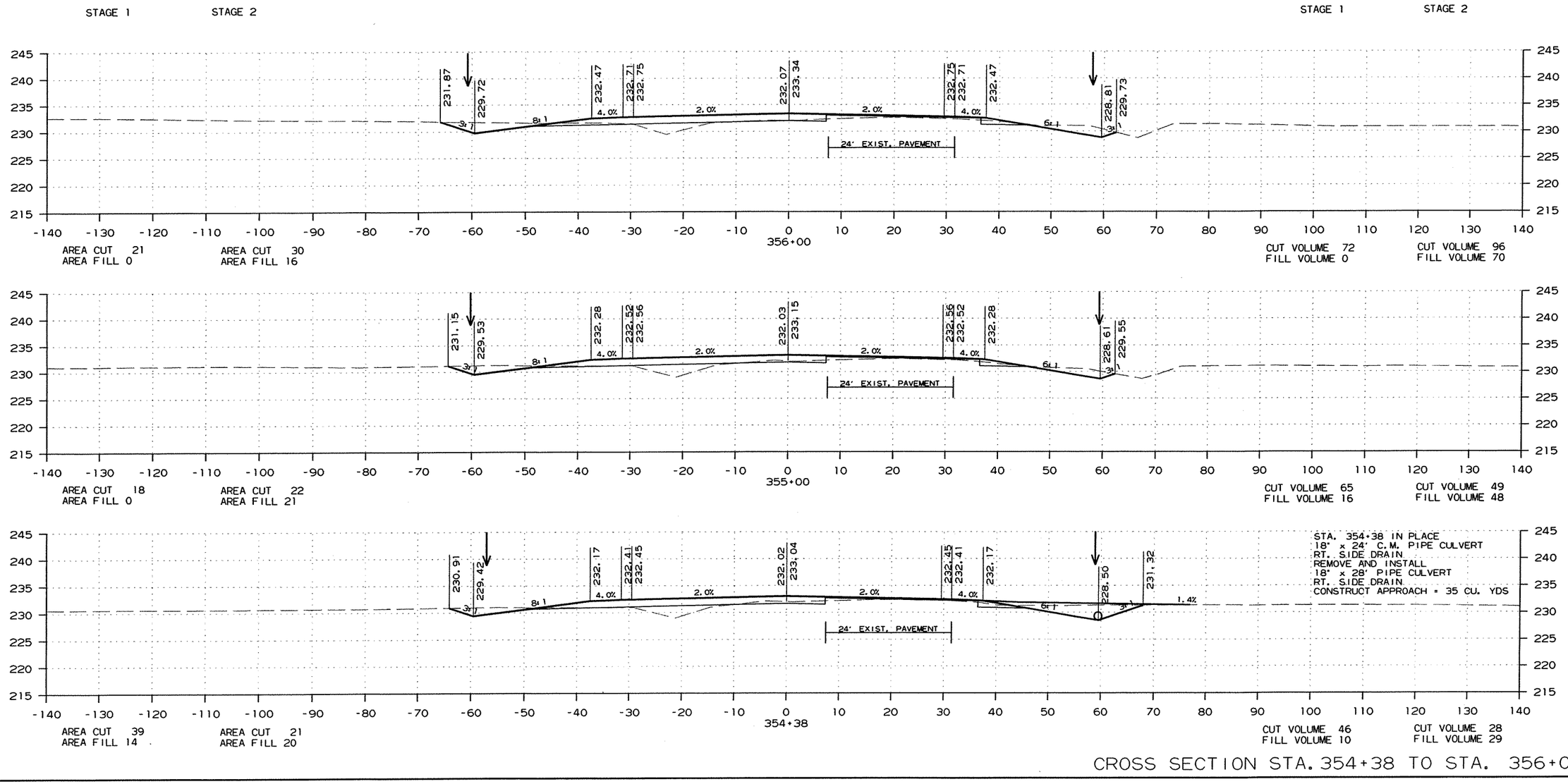


CROSS SECTION STA. 353+00 TO STA. 354+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	251	271

(2) CROSS SECTIONS

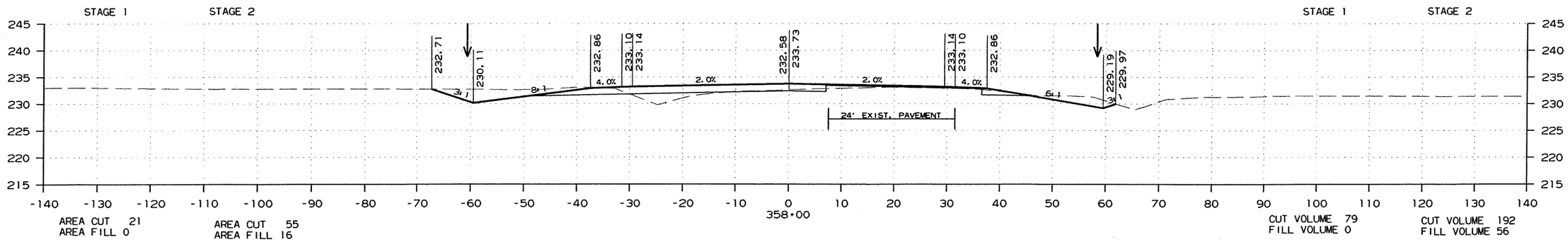


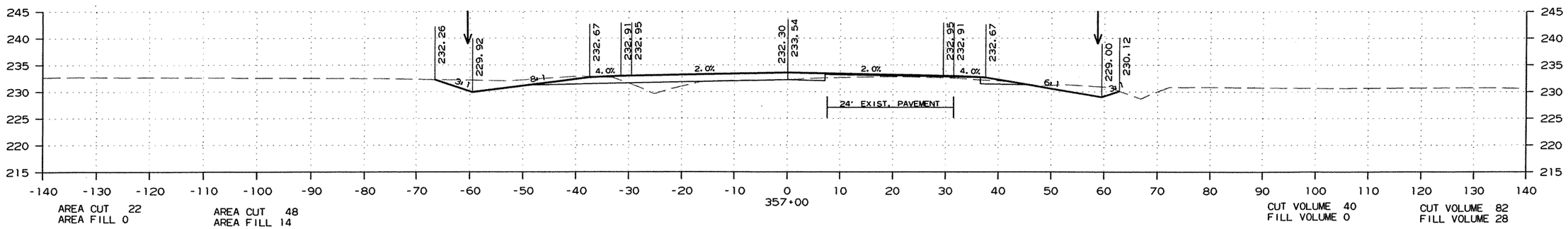
CROSS SECTION STA. 354+38 TO STA. 356+00

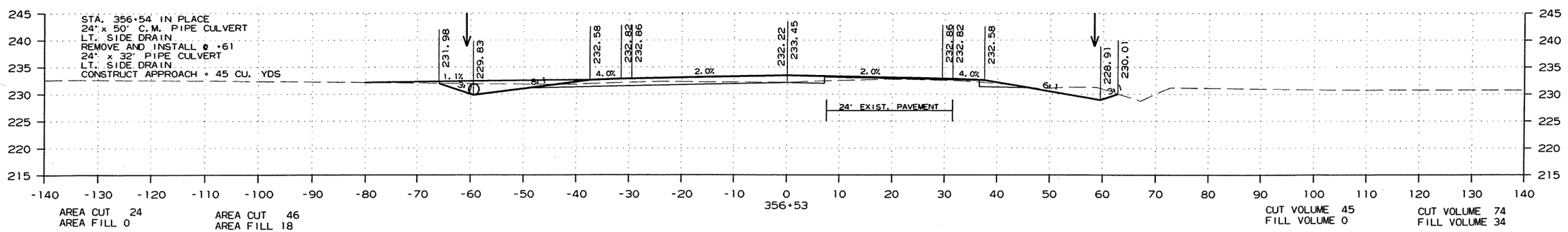
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	252	271

(2) CROSS SECTIONS





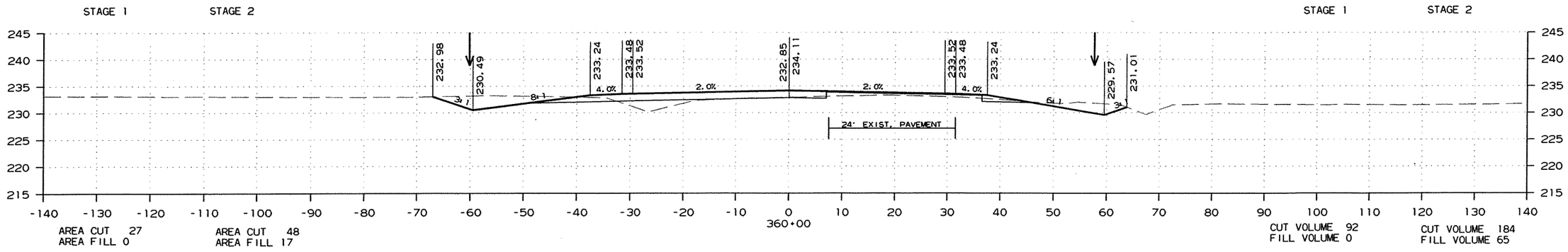


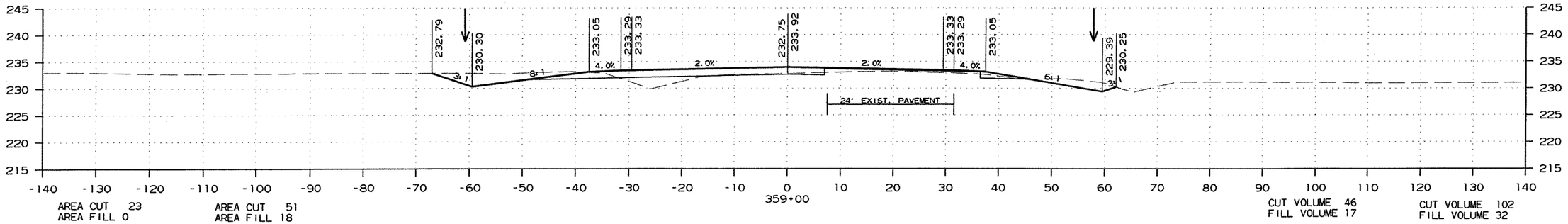
CROSS SECTION STA. 356+53 TO STA. 358+00

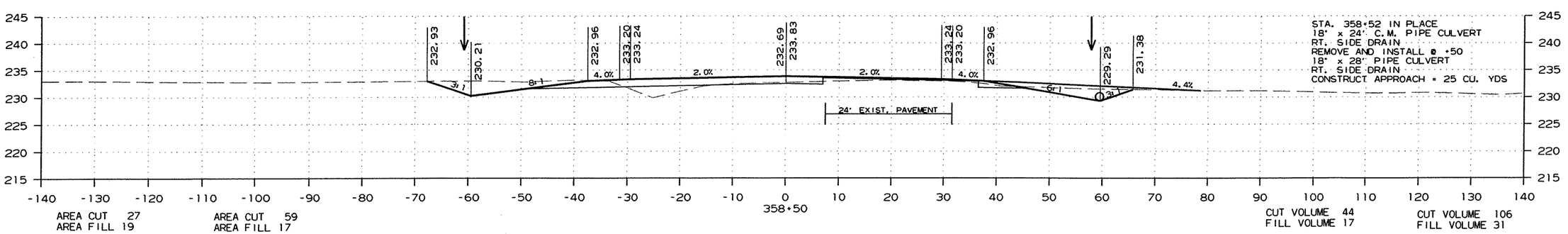
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	253	271

(2) CROSS SECTIONS





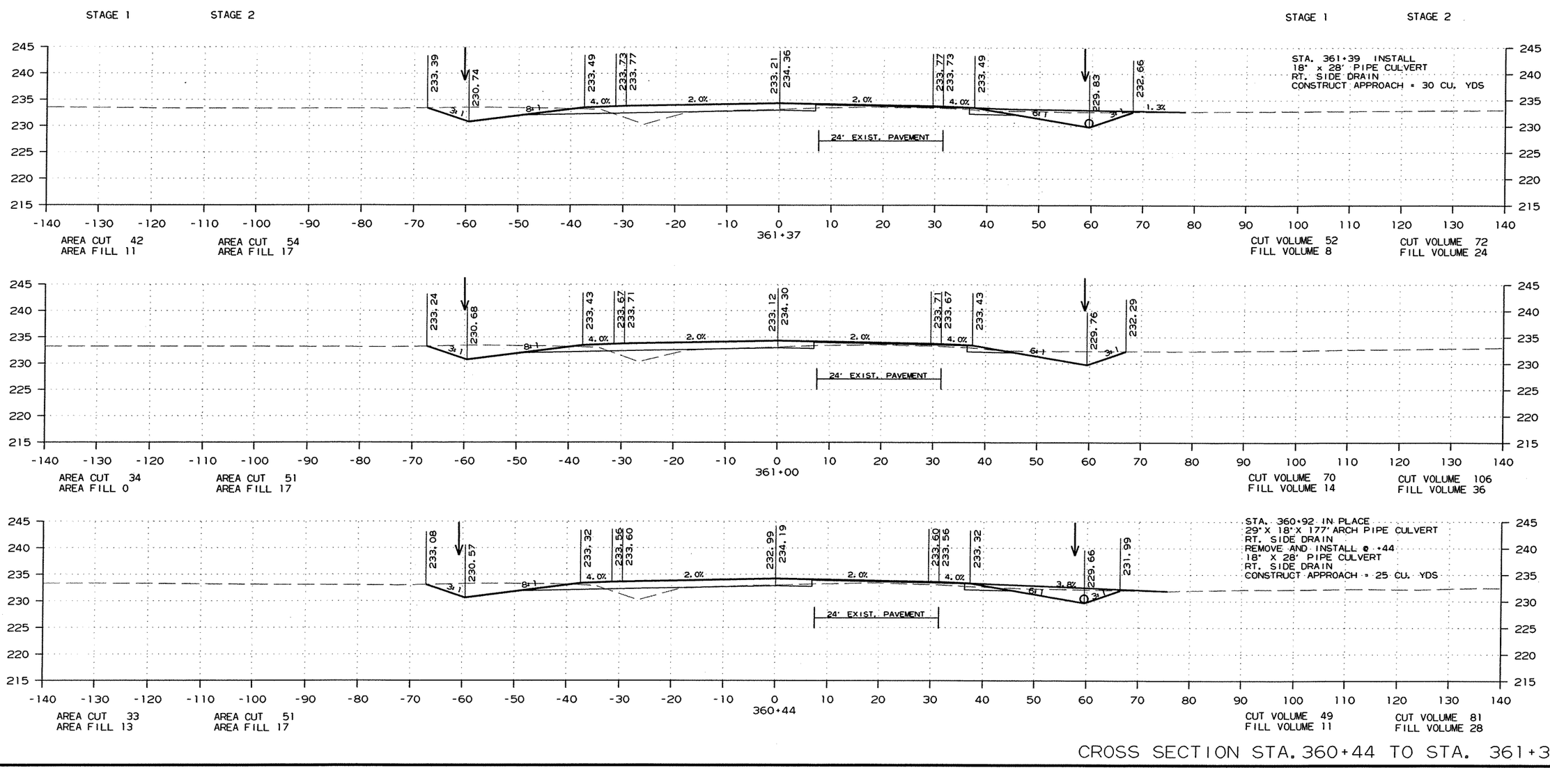


CROSS SECTION STA. 358+50 TO STA. 360+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		110502	254	271

(2) CROSS SECTIONS

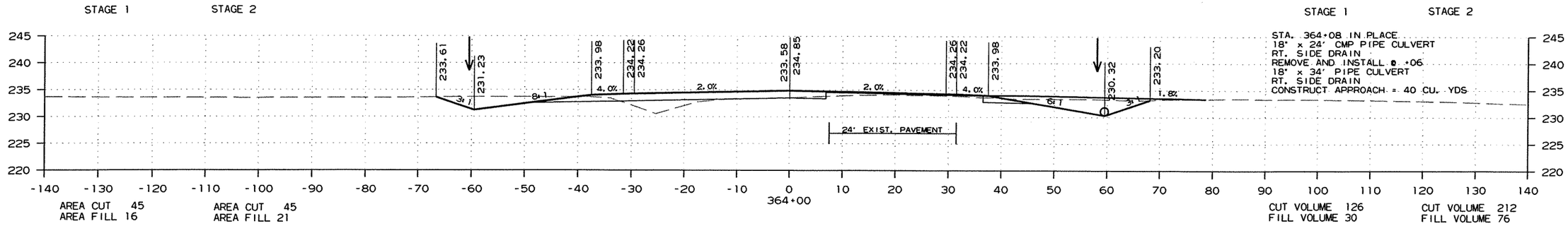


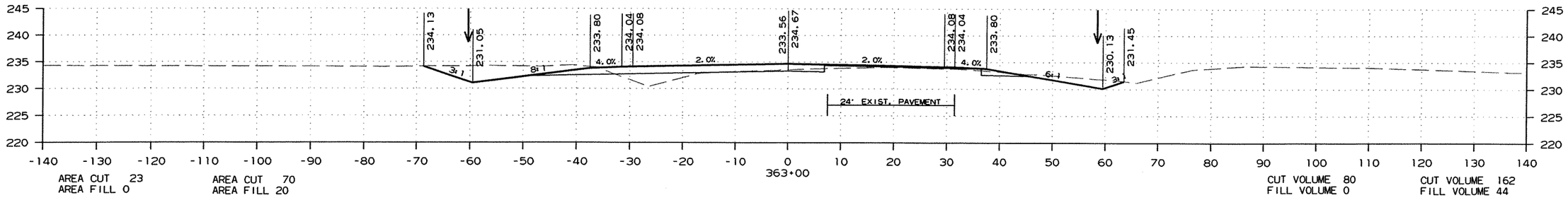
CROSS SECTION STA. 360+44 TO STA. 361+37

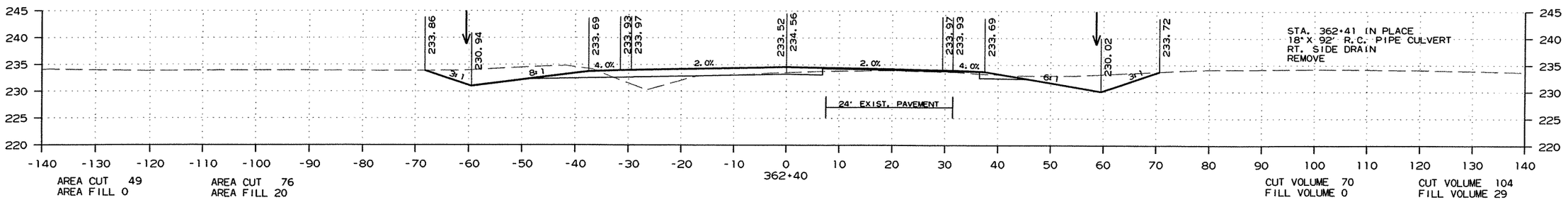
R110502.DGN 10/12/2011

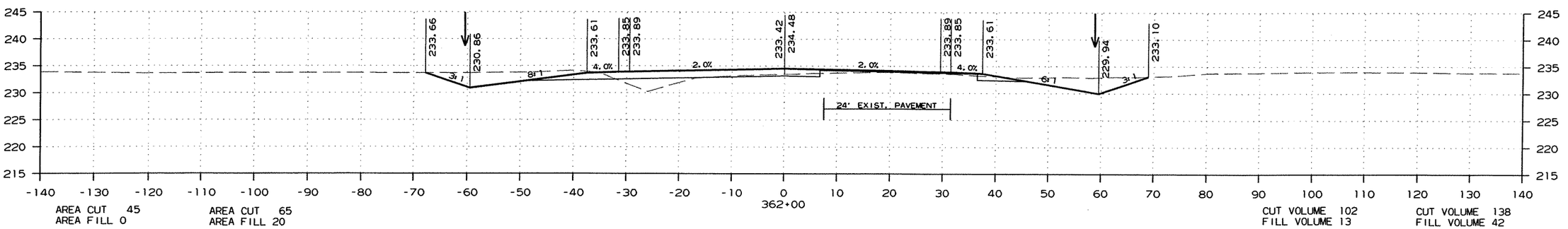
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	255	271

(2) CROSS SECTIONS







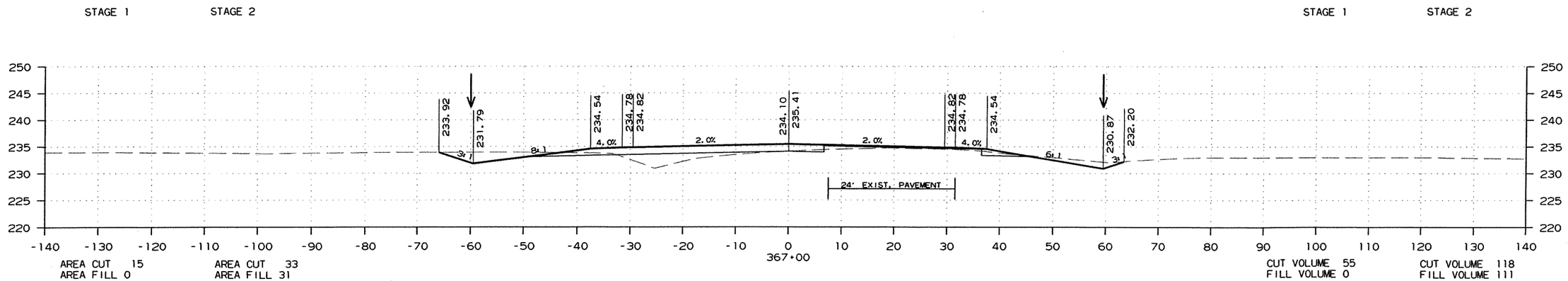


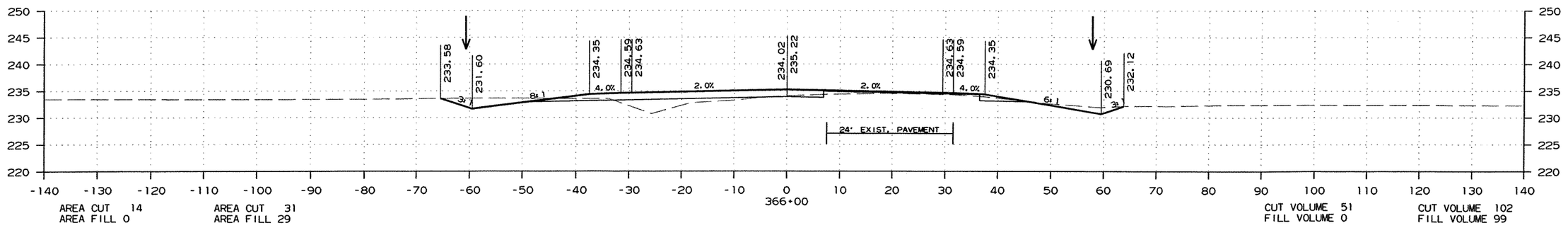
CROSS SECTION STA. 362+00 TO STA. 364+00

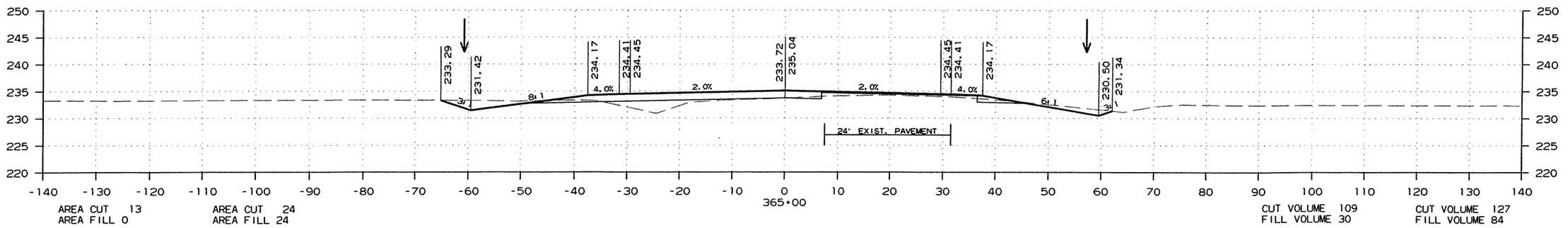
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	256	271

(2) CROSS SECTIONS





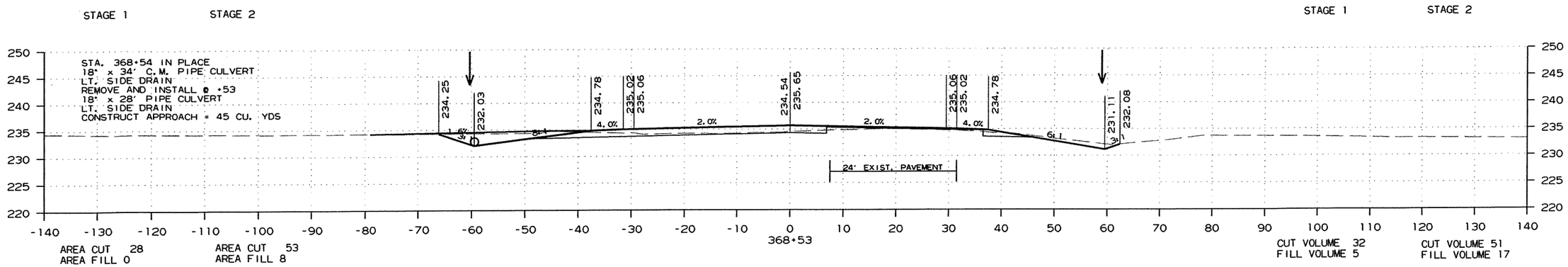


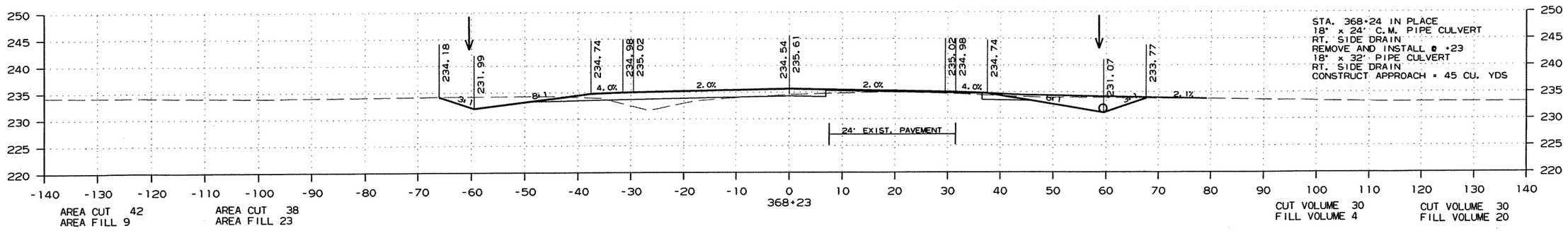
CROSS SECTION STA. 365+00 TO STA. 367+00

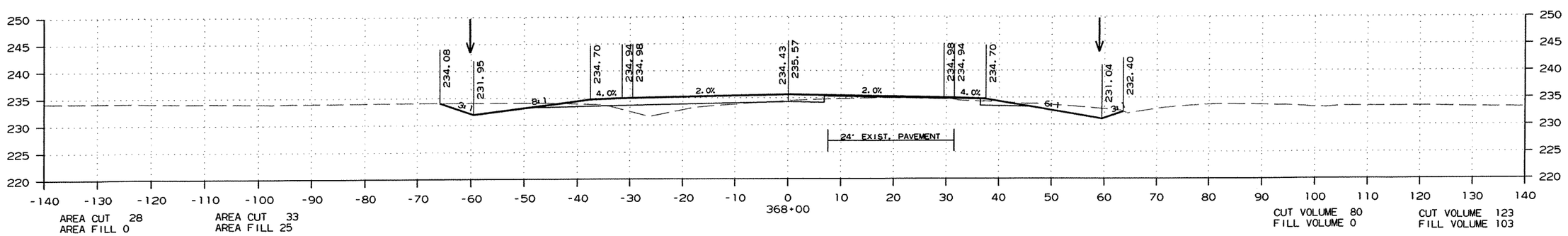
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	257	271

(2) CROSS SECTIONS





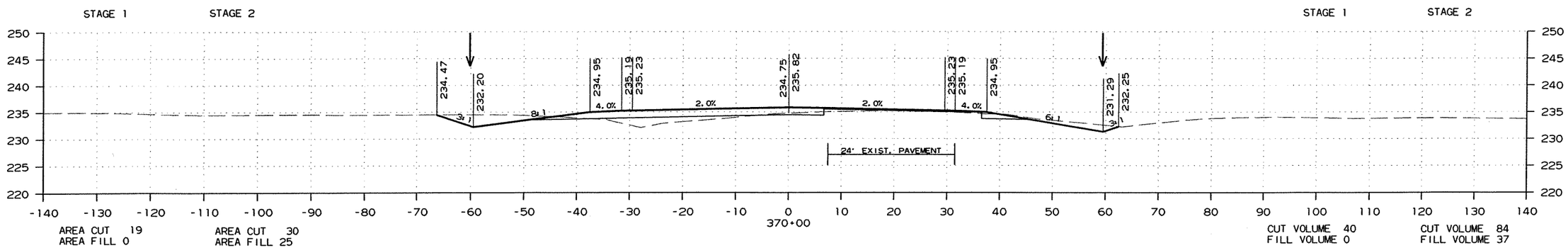


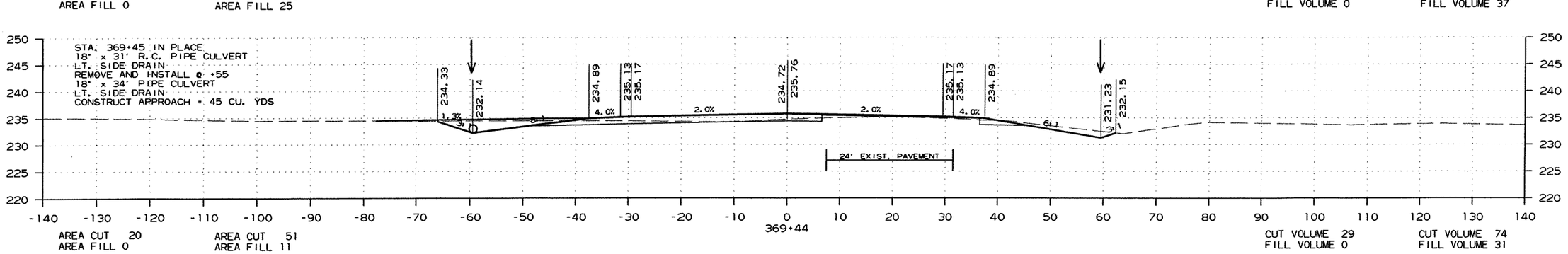
CROSS SECTION STA. 368+00 TO STA. 368+53

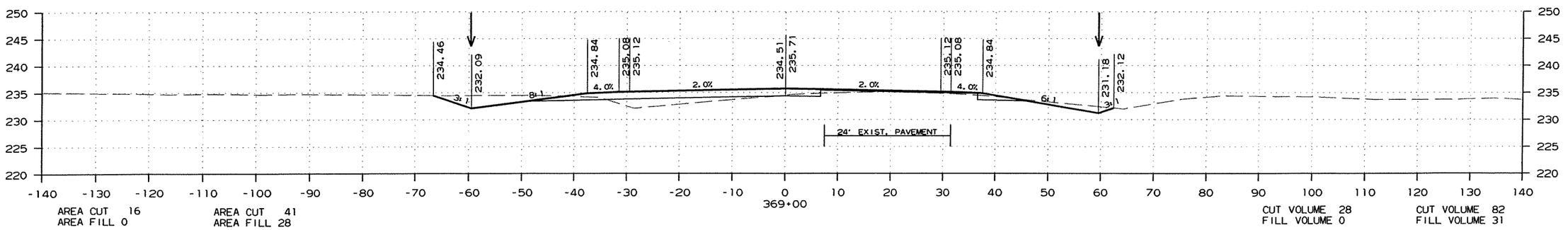
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	258	271

(2) CROSS SECTIONS





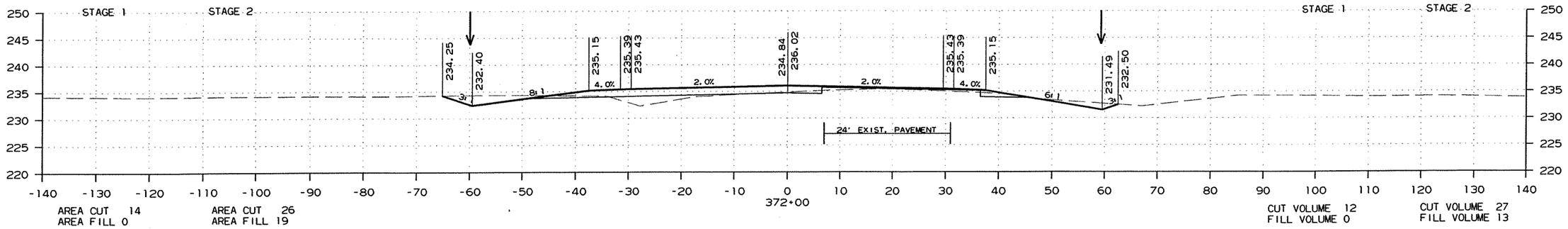


CROSS SECTION STA. 369+00 TO STA. 370+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	259	271

(2) CROSS SECTIONS

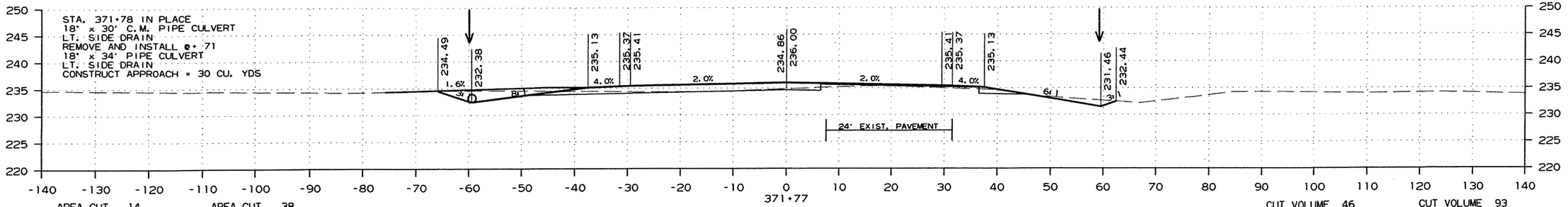


AREA CUT 14
AREA FILL 0

AREA CUT 26
AREA FILL 19

CUT VOLUME 12
FILL VOLUME 0

CUT VOLUME 27
FILL VOLUME 13

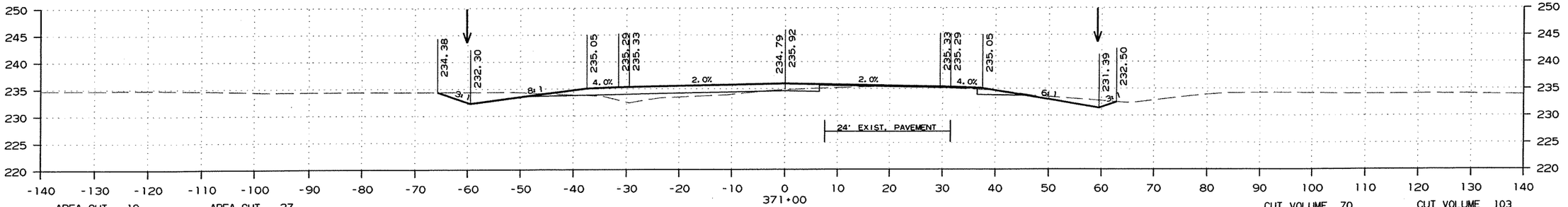


AREA CUT 14
AREA FILL 0

AREA CUT 38
AREA FILL 21

CUT VOLUME 46
FILL VOLUME 0

CUT VOLUME 93
FILL VOLUME 48



AREA CUT 19
AREA FILL 0

AREA CUT 27
AREA FILL 23

CUT VOLUME 70
FILL VOLUME 0

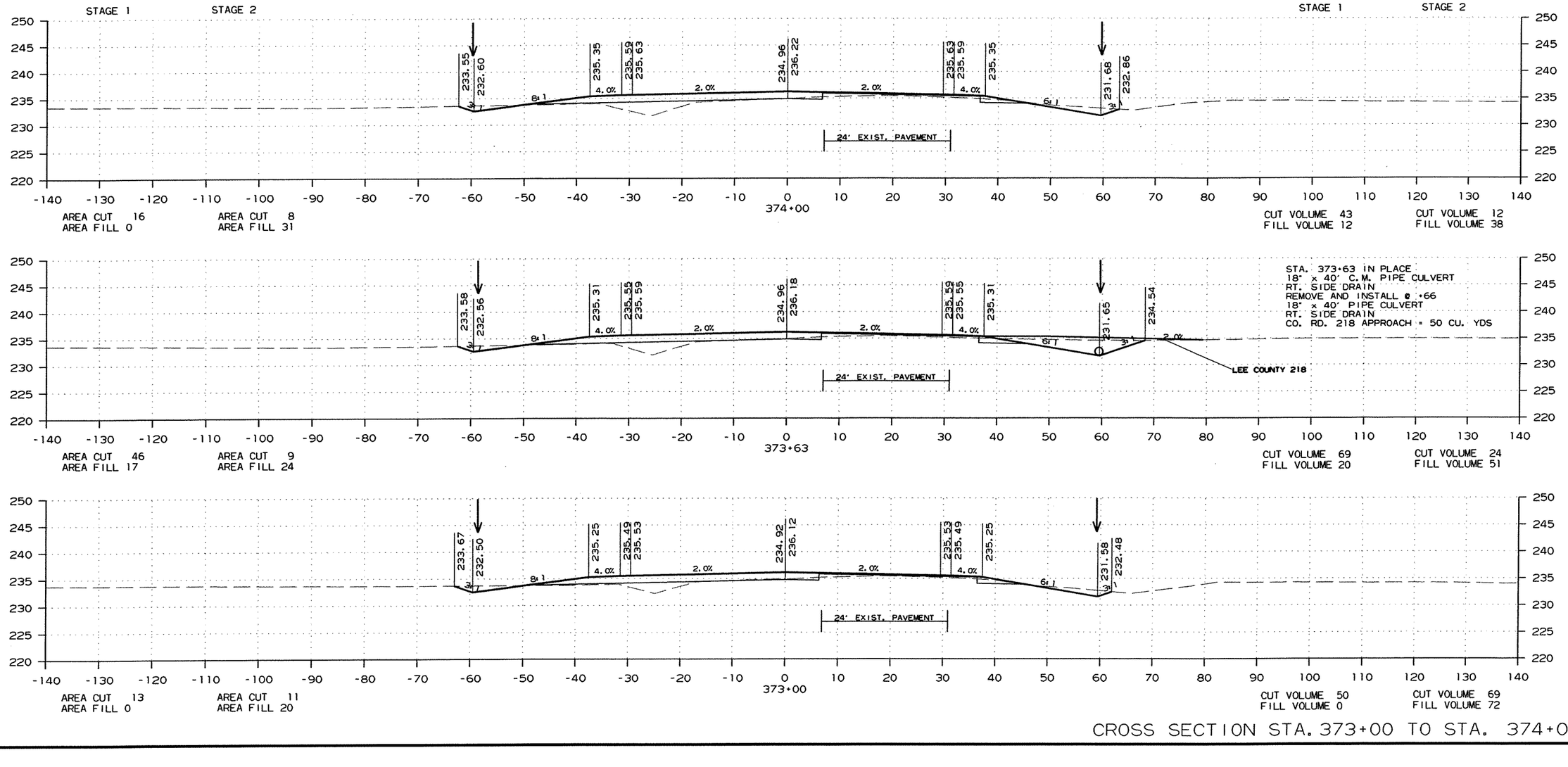
CUT VOLUME 103
FILL VOLUME 88

CROSS SECTION STA. 371+00 TO STA. 372+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	260	271

(2) CROSS SECTIONS

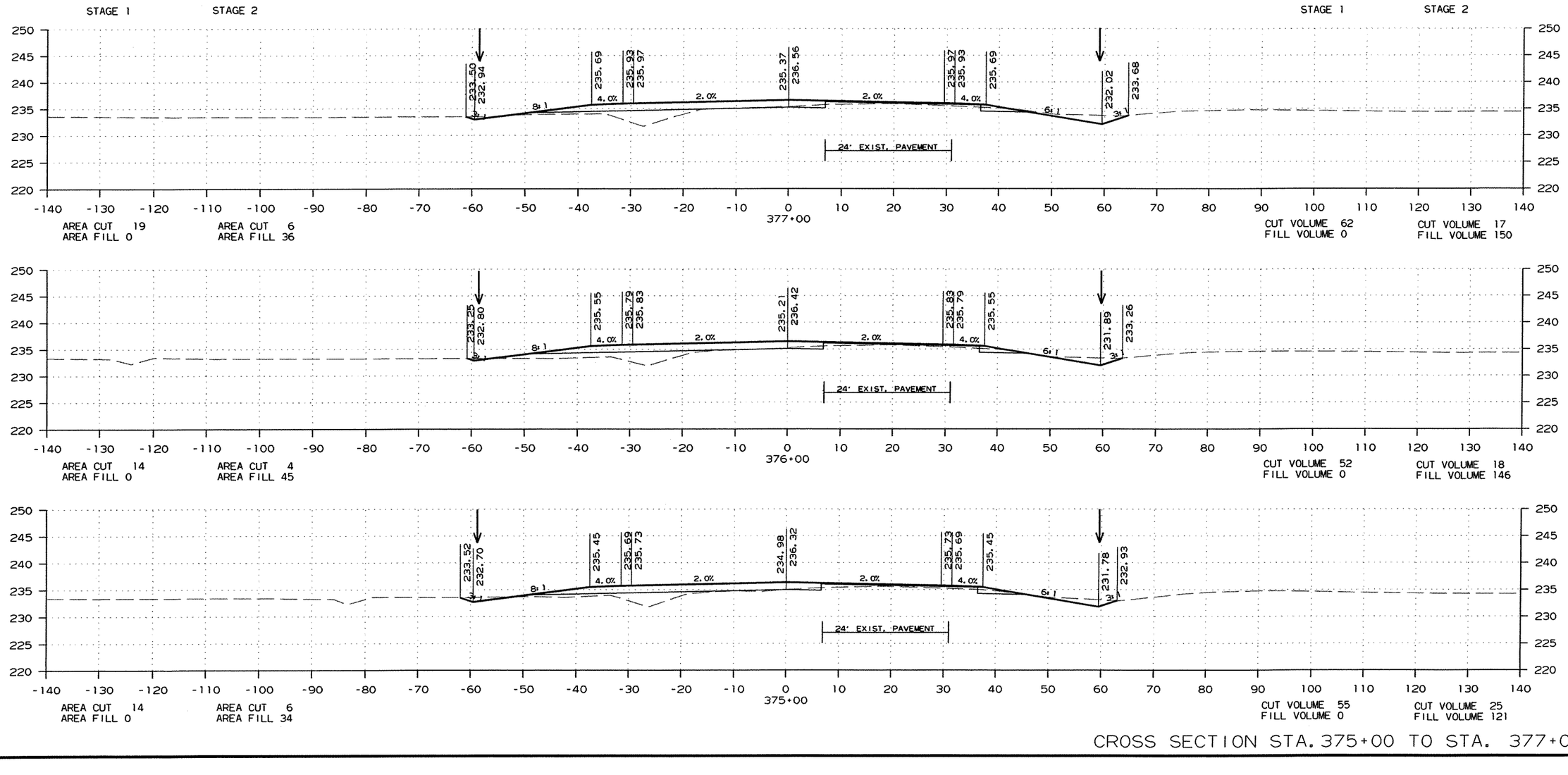


CROSS SECTION STA. 373+00 TO STA. 374+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	261	271

(2) CROSS SECTIONS

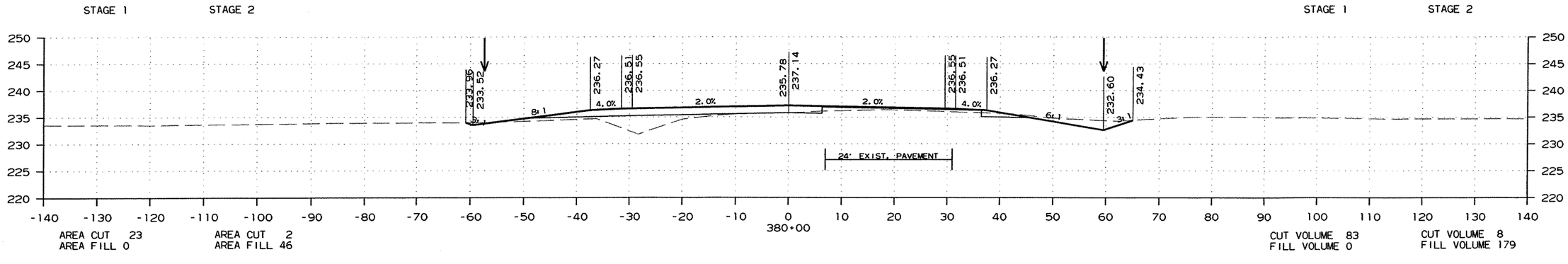


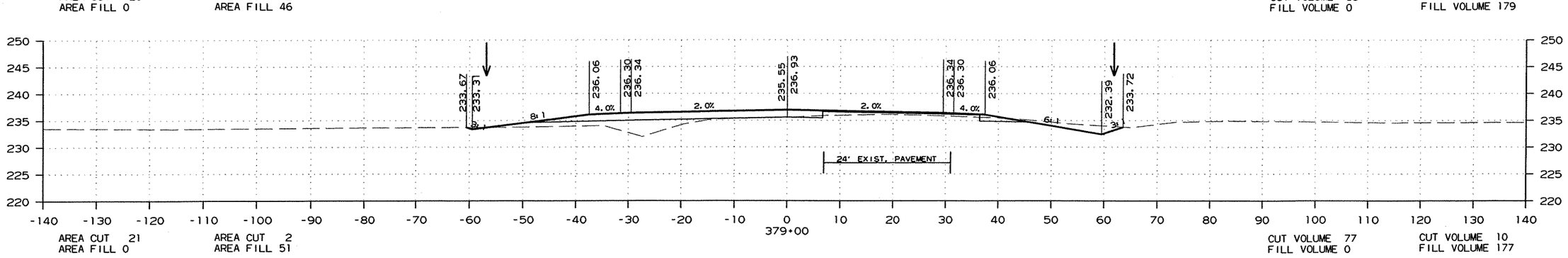
CROSS SECTION STA. 375+00 TO STA. 377+00

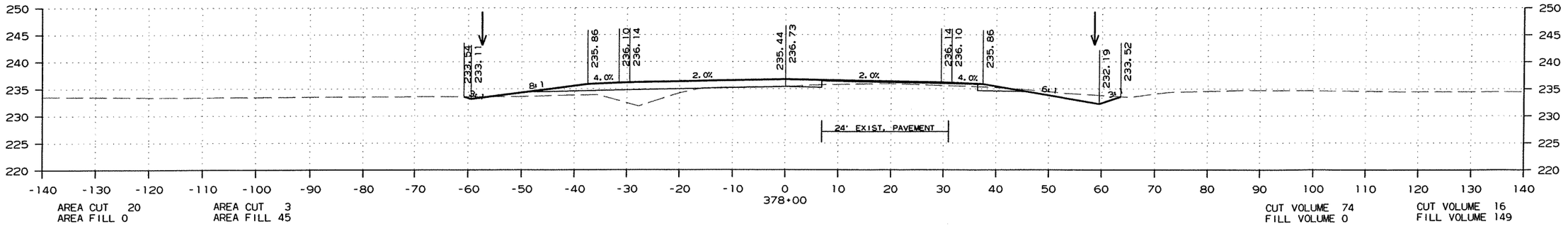
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	262	271

(2) CROSS SECTIONS





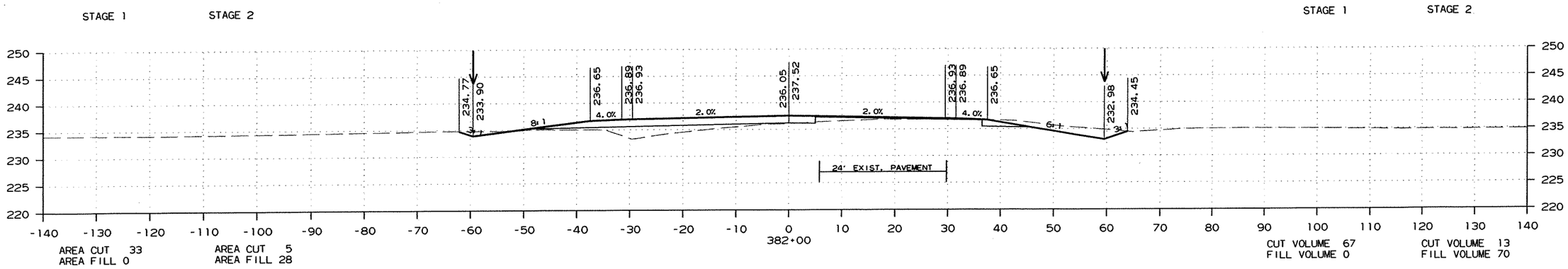


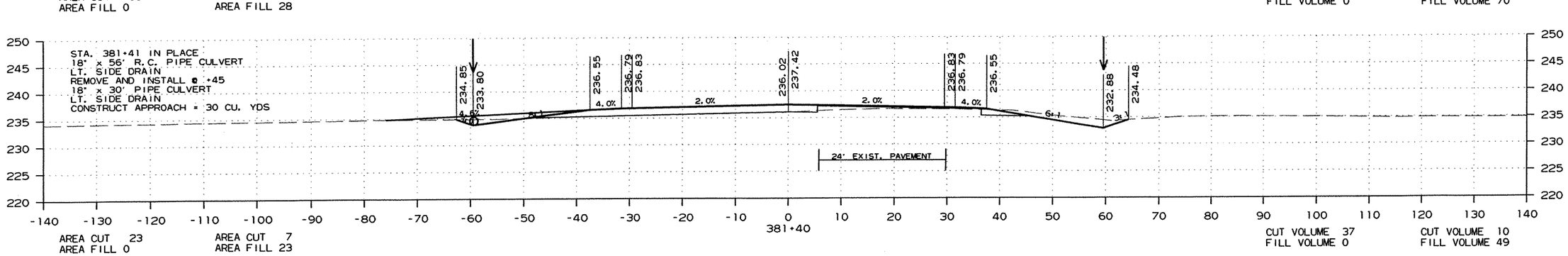
CROSS SECTION STA. 378+00 TO STA. 380+00

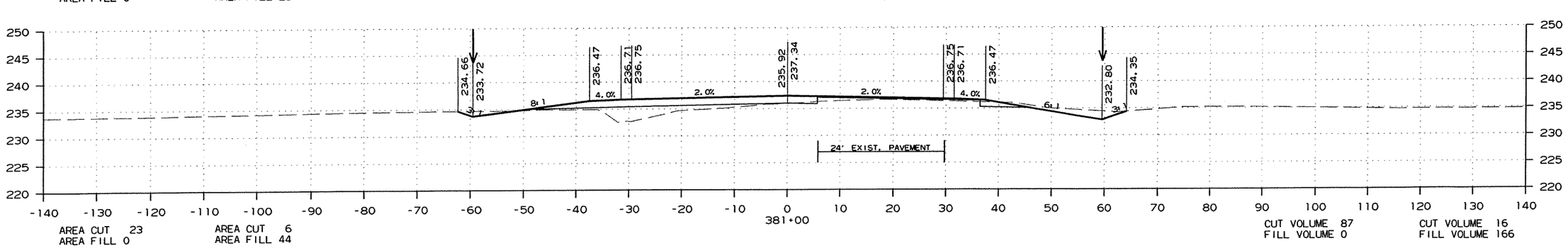
R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	263	271

(2) CROSS SECTIONS





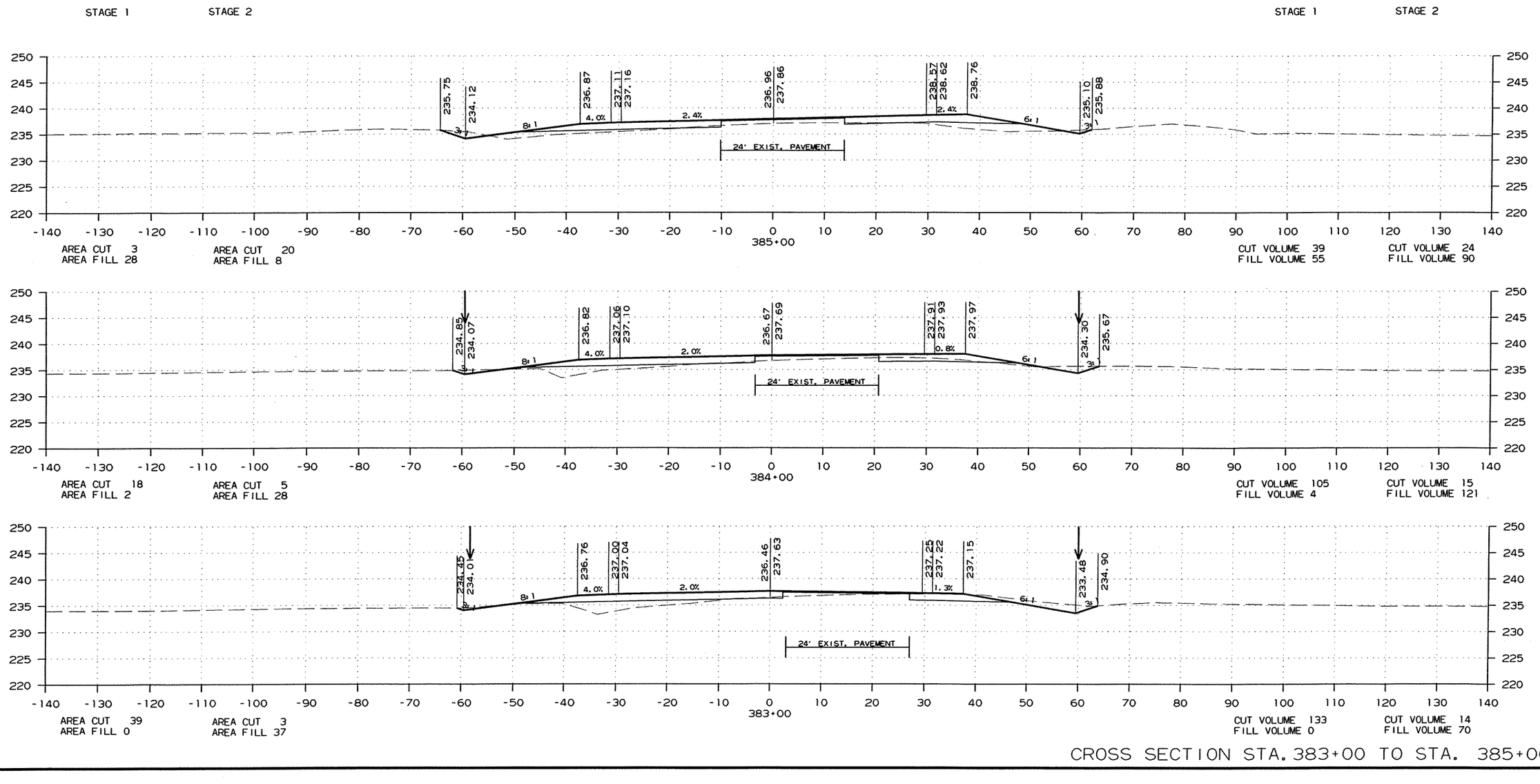


CROSS SECTION STA. 381+00 TO STA. 382+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	264	271

(2) CROSS SECTIONS



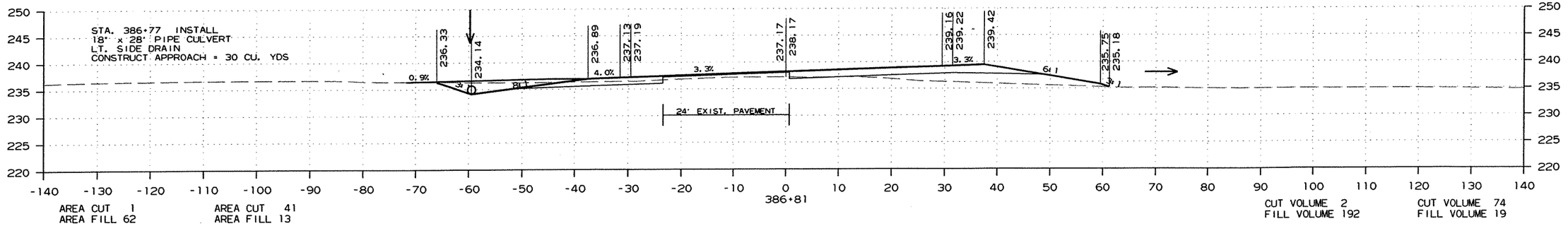
CROSS SECTION STA. 383+00 TO STA. 385+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	265	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



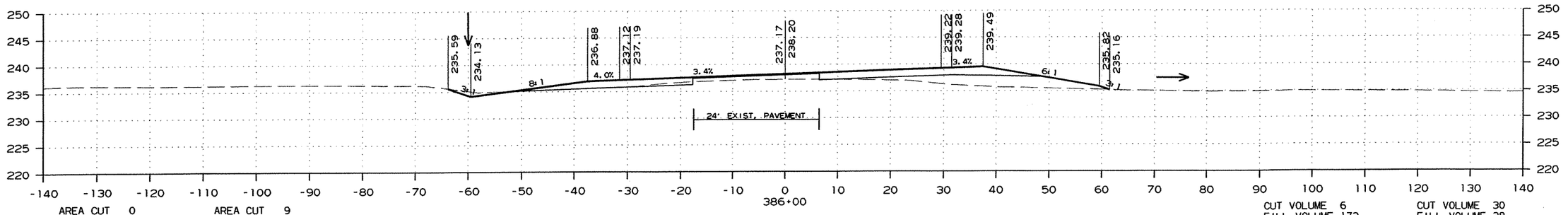
AREA CUT 1
AREA FILL 62

AREA CUT 41
AREA FILL 13

CUT VOLUME 2
FILL VOLUME 192

CUT VOLUME 74
FILL VOLUME 19

STAGE 1 STAGE 2

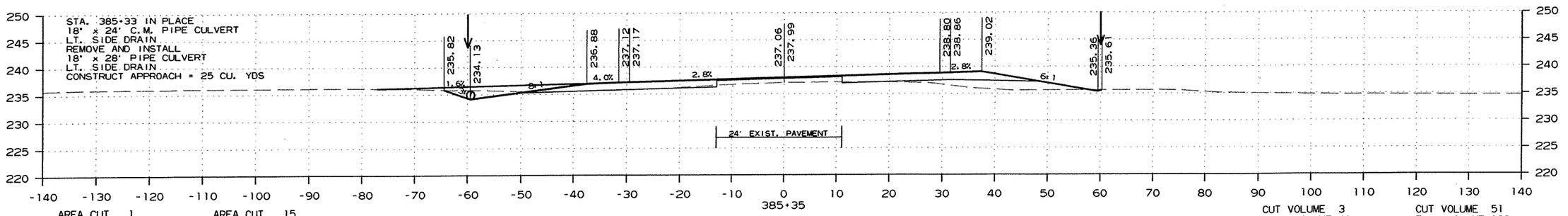


AREA CUT 0
AREA FILL 66

AREA CUT 9
AREA FILL 1

CUT VOLUME 6
FILL VOLUME 173

CUT VOLUME 30
FILL VOLUME 38



AREA CUT 1
AREA FILL 38

AREA CUT 15
AREA FILL 23

CUT VOLUME 3
FILL VOLUME 43

CUT VOLUME 51
FILL VOLUME 128

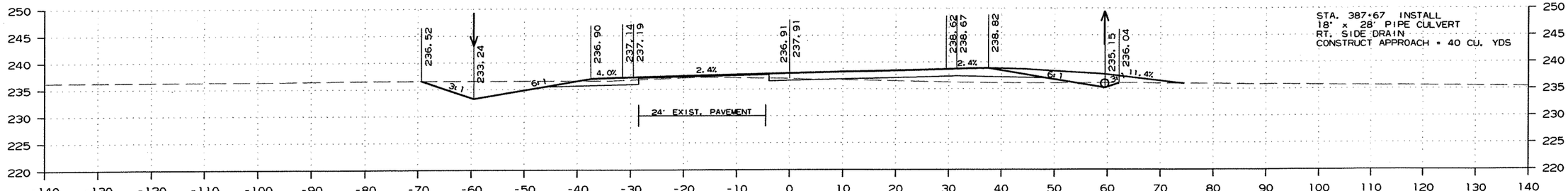
CROSS SECTION STA. 385+35 TO STA. 386+81

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	266	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

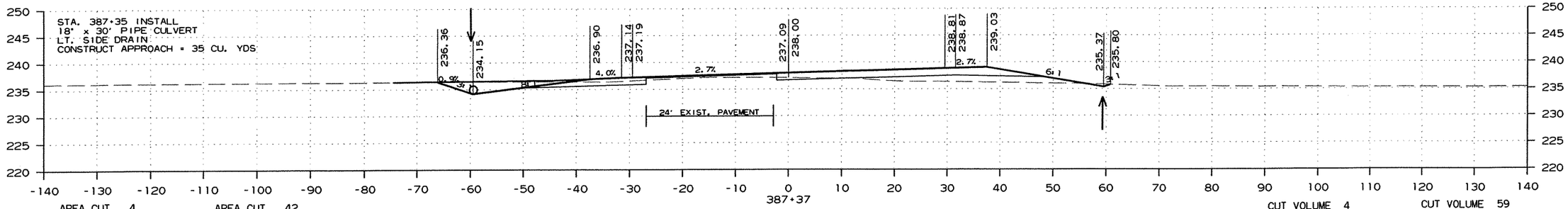


AREA CUT 7
AREA FILL 73

AREA CUT 48
AREA FILL 12

CUT VOLUME 6
FILL VOLUME 65

CUT VOLUME 59
FILL VOLUME 6

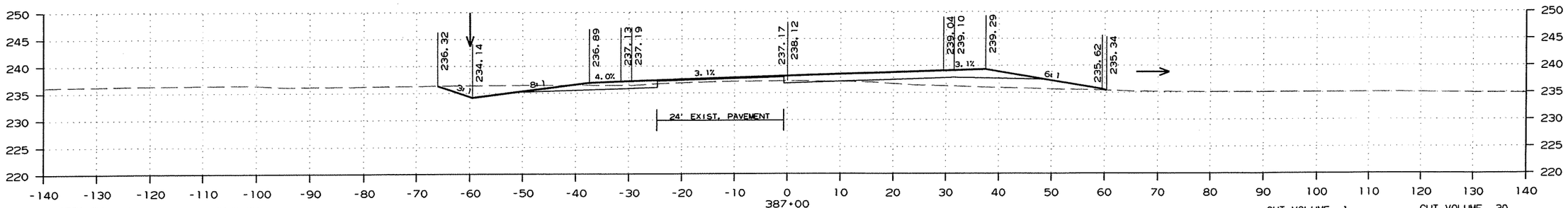


AREA CUT 4
AREA FILL 40

AREA CUT 42
AREA FILL 5

CUT VOLUME 4
FILL VOLUME 67

CUT VOLUME 59
FILL VOLUME 3



AREA CUT 2
AREA FILL 58

AREA CUT 44
AREA FILL 0

CUT VOLUME 1
FILL VOLUME 43

CUT VOLUME 30
FILL VOLUME 4

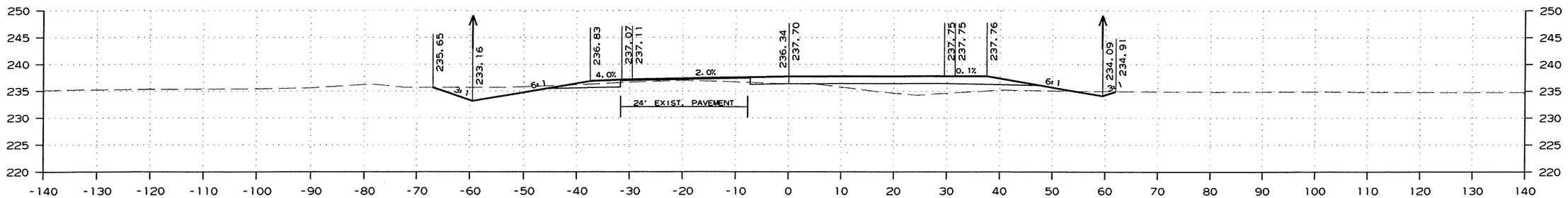
CROSS SECTION STA. 387+00 TO STA. 387+68

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	267	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2

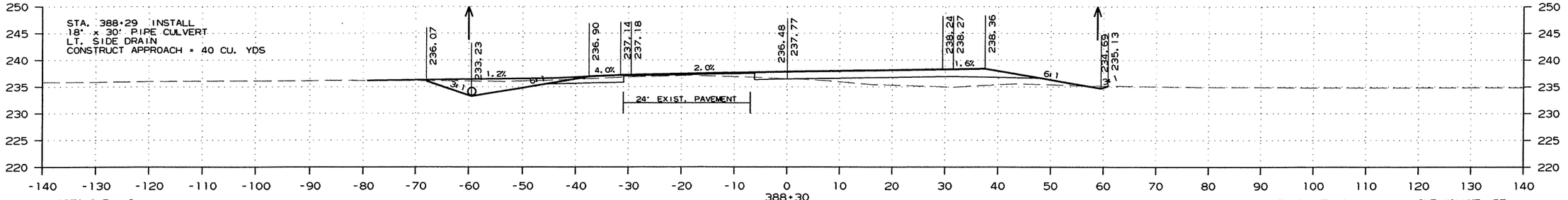


AREA CUT 4
AREA FILL 60

AREA CUT 37
AREA FILL 0

CUT VOLUME 9
FILL VOLUME 160

CUT VOLUME 108
FILL VOLUME 16

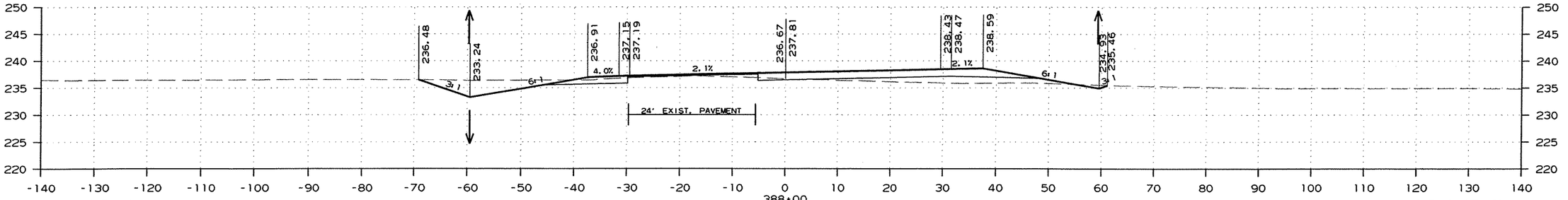


AREA CUT 3
AREA FILL 63

AREA CUT 46
AREA FILL 12

CUT VOLUME 3
FILL VOLUME 58

CUT VOLUME 57
FILL VOLUME 7



AREA CUT 4
AREA FILL 40

AREA CUT 56
AREA FILL 0

CUT VOLUME 6
FILL VOLUME 68

CUT VOLUME 69
FILL VOLUME 3

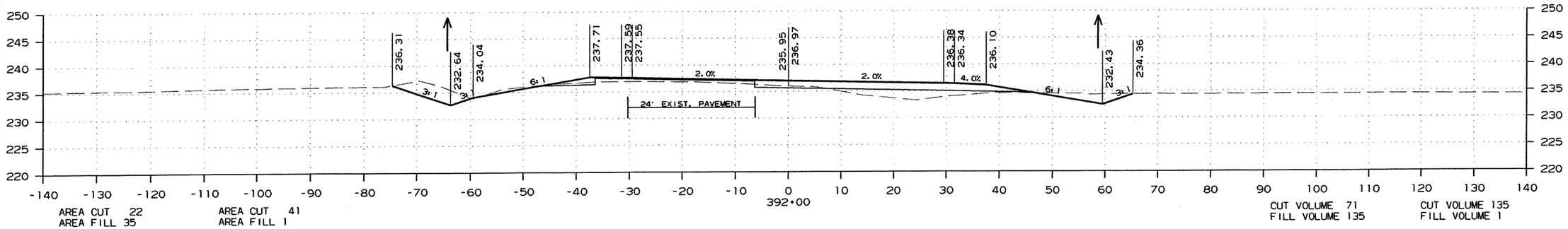
CROSS SECTION STA. 388+00 TO STA. 389+00

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	268	271

(2) CROSS SECTIONS

STAGE 1 STAGE 2



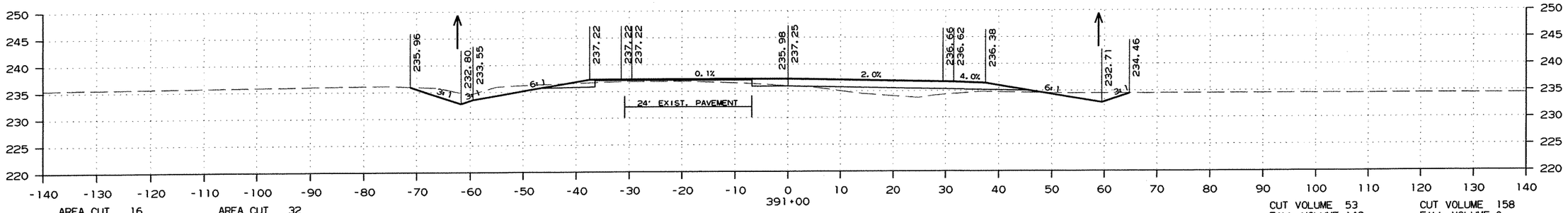
AREA CUT 22
AREA FILL 35

AREA CUT 41
AREA FILL 1

CUT VOLUME 71
FILL VOLUME 135

CUT VOLUME 135
FILL VOLUME 1

STAGE 1 STAGE 2

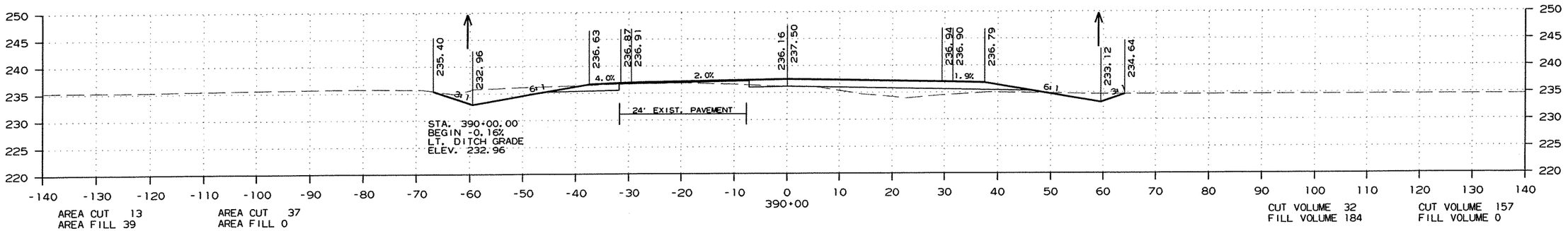


AREA CUT 16
AREA FILL 38

AREA CUT 32
AREA FILL 1

CUT VOLUME 53
FILL VOLUME 143

CUT VOLUME 158
FILL VOLUME 0



AREA CUT 13
AREA FILL 39

AREA CUT 37
AREA FILL 0

CUT VOLUME 32
FILL VOLUME 184

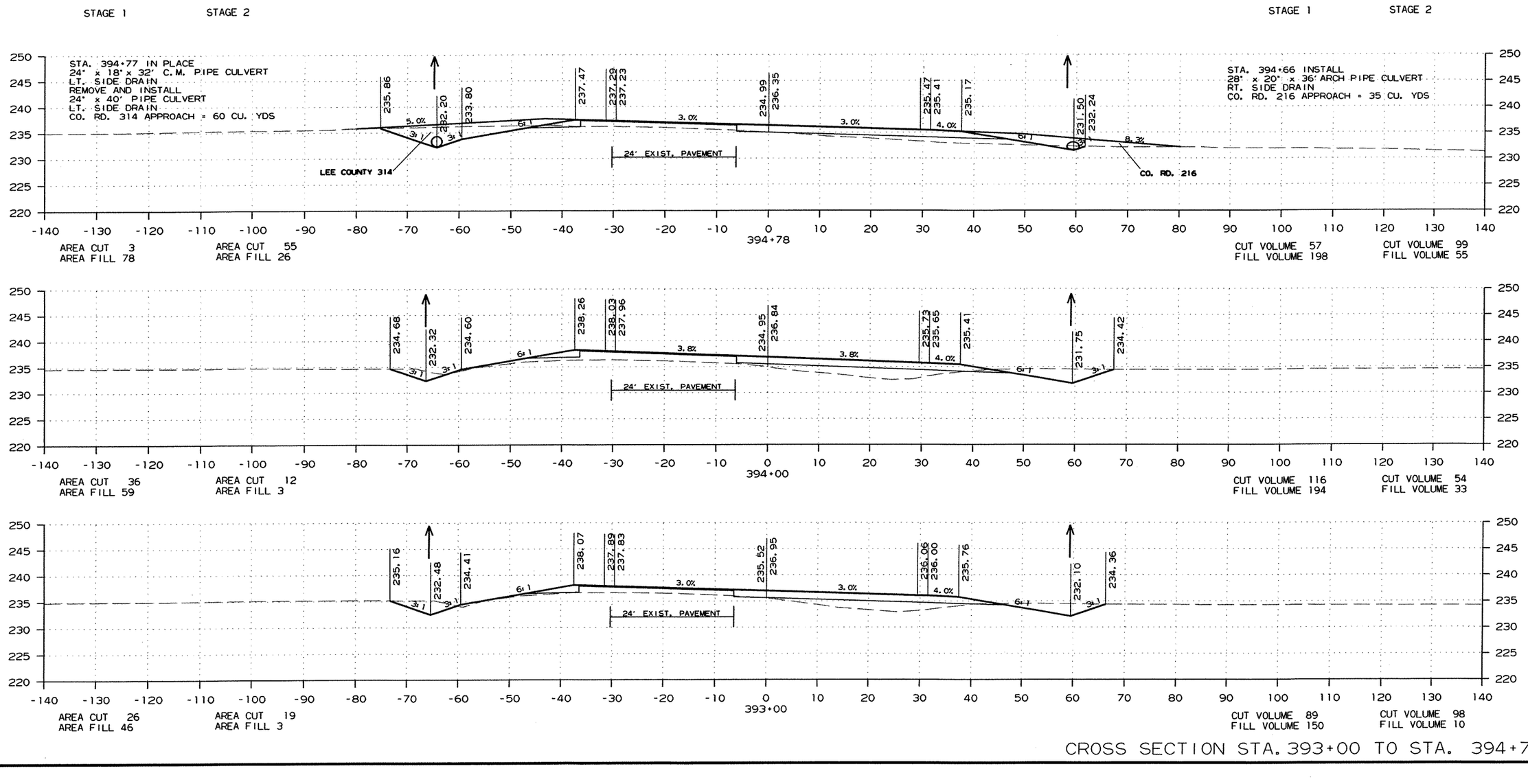
CUT VOLUME 157
FILL VOLUME 0

CROSS SECTION STA. 390+00 TO STA. 392+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	269	271

(2) CROSS SECTIONS

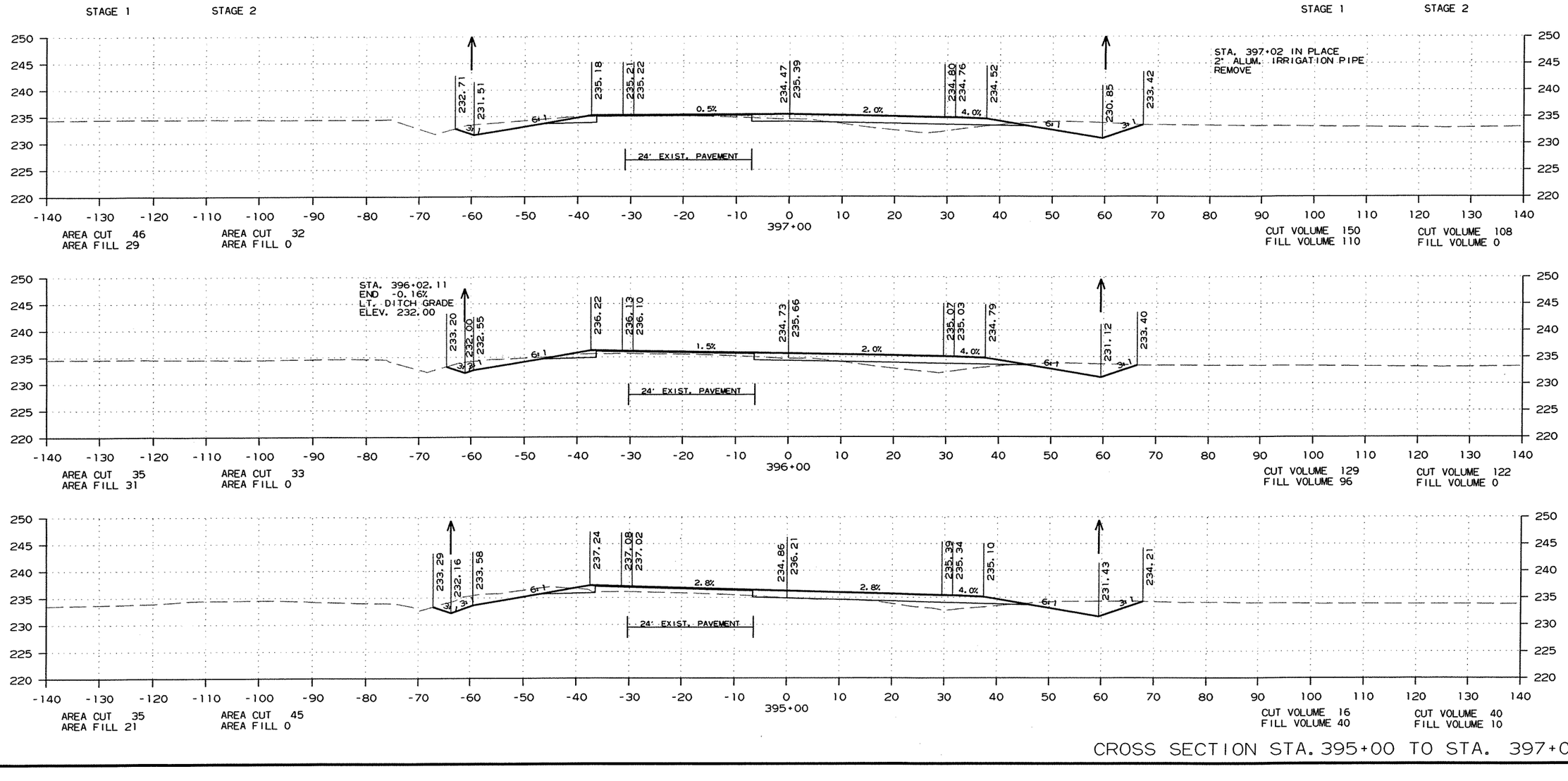


CROSS SECTION STA. 393+00 TO STA. 394+78

R110502.DGN 10/12/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	270	271

(2) CROSS SECTIONS



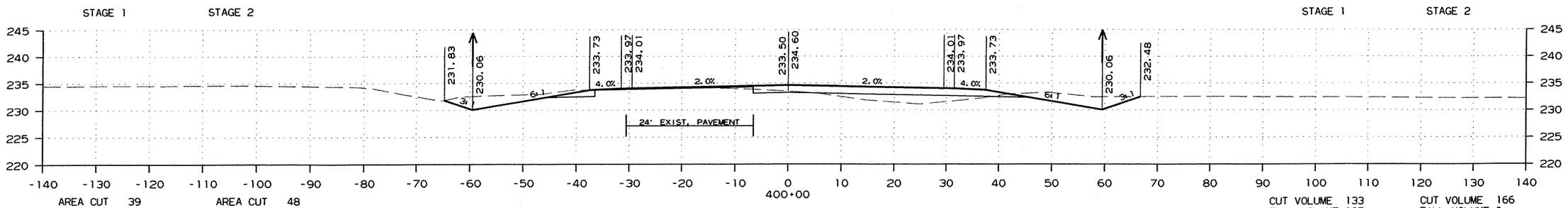
CROSS SECTION STA. 395+00 TO STA. 397+00

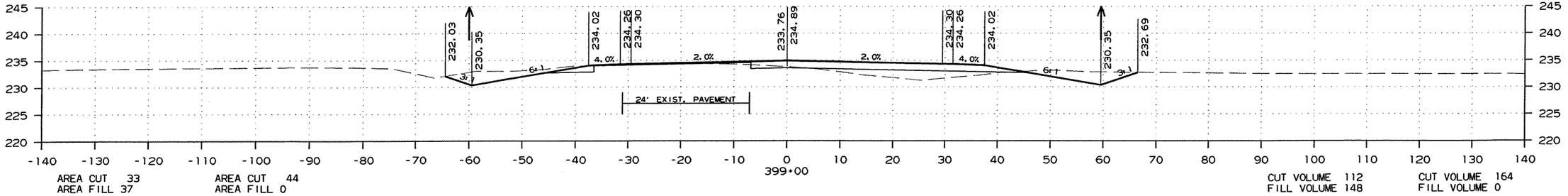
R110502.DGN 10/12/2011

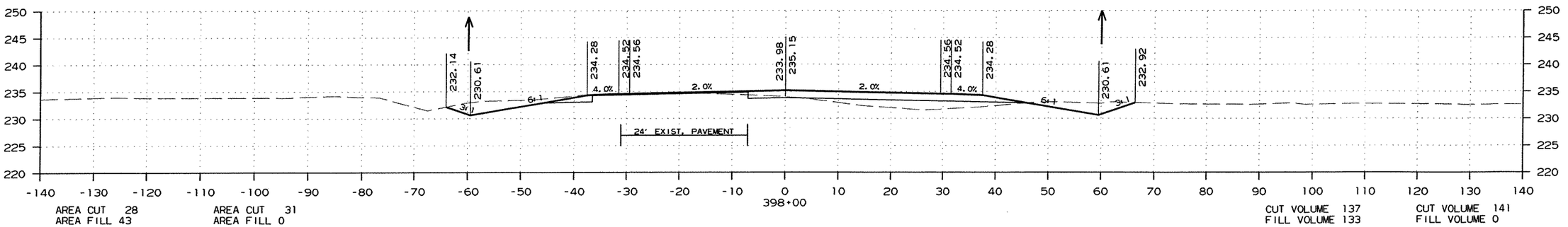
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110502	271	271

(2) CROSS SECTIONS

STA. 400+00.41 END JOB 110502







CROSS SECTION STA. 398+00 TO STA. 400+00

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