DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	1	88

(2) WEST OF RIVER BLUFF RD. - EAST (PASSING LANE)(S)

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

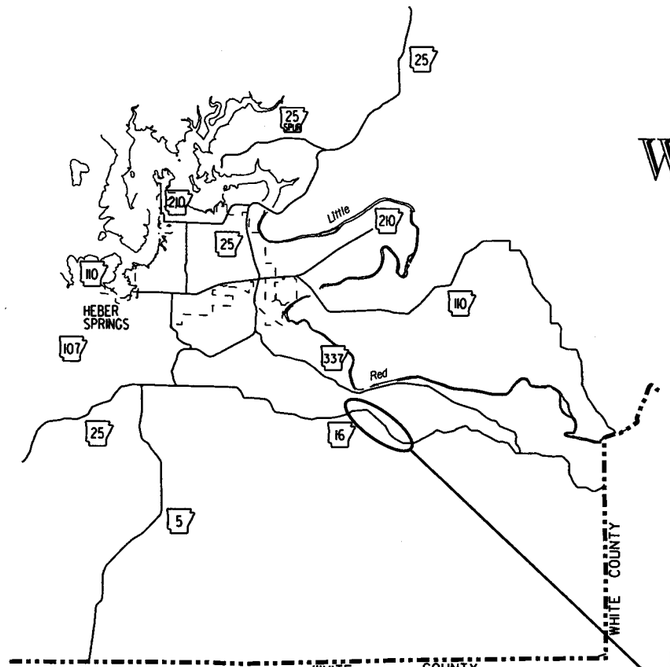
WEST OF RIVER BLUFF RD. - EAST (PASSING LANE) (S)

CLEBURNE COUNTY

ROUTE 16 SECTION 12

FEDERAL AID PROJ. STPF-0012(32)

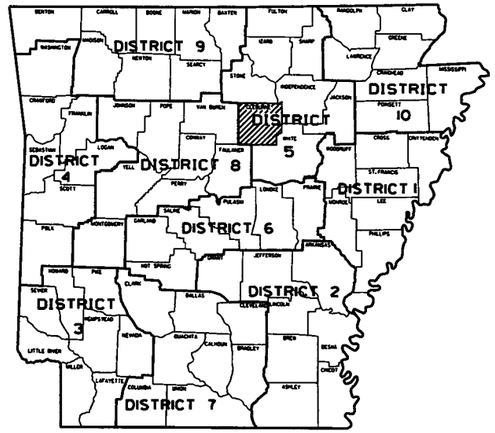
JOB 050315



VICINITY MAP

PROJECT LOCATION

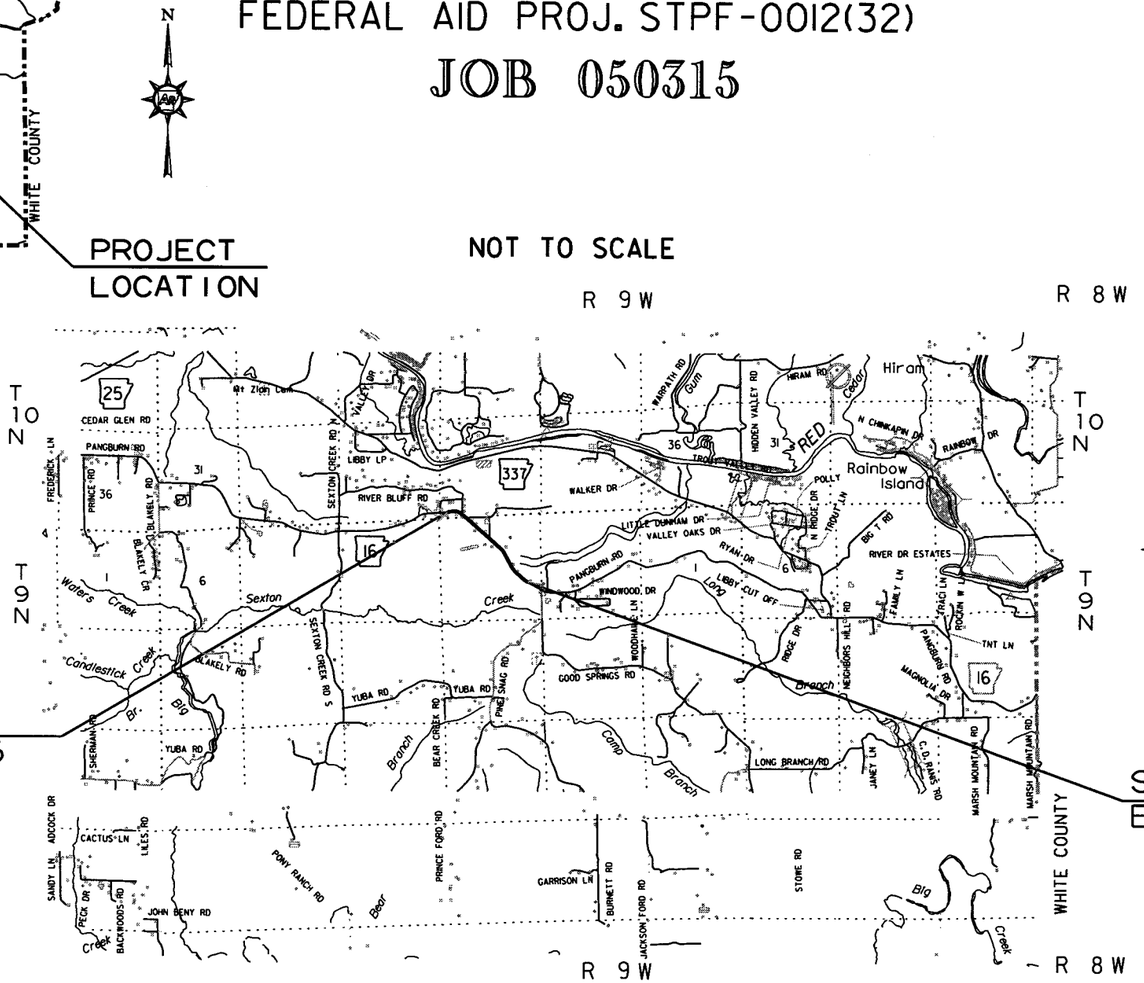
NOT TO SCALE



ARK. HWY. DIST. NO. 5

DESIGN TRAFFIC DATA

DESIGN YEAR	2038
2018 ADT	1800
2038 ADT	2800
2038 DHV	308
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	19%
AVG. RUNNING SPEED	50 MPH



STA. 254+00.00
BEGIN JOB 050315
L.M. 4.81

STA. 320+30.00
END JOB 050315

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 35°26'54"	N 35°26'42"	N 35°26'18"
LONGITUDE	W 91°57'28"	W 91°56'54"	W 91°56'28"

LENGTH OF PROJECT CALCULATED ALONG CENTERLINE

GROSS LENGTH OF	PROJECT	6630.00	FEET	OR	1.256	MILES
NET	ROADWAY	6630.00	"		1.256	MILES
NET	BRIDGES	0000.00	"		0.000	MILES
NET	PROJECT	6630.00	"		1.256	MILES

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7854
JIM E. BANKS

12-15-17

DEPUTY DIRECTOR
AND CHIEF ENGINEER

12/8/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	2	88

(2) INDEX OF SHEETS & STANDARD DRAWINGS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7468
MICHAEL D. FUGETT
12/12/17

INDEX OF SHEETS

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

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
MB-1	MAILBOX DETAILS	11-18-04
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	2-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	2-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	2-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	2-27-14
PM-1	PAVEMENT MARKING DETAILS	6-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	10-18-96
SI-1	DETAILS OF SPECIAL ITMES	9-12-13
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	4-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	9-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	9-02-15
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	6-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-2	WIRE FENCE WATER GAPS	4-20-79
WF-3	CHAIN LINK FENCE	11-17-10
WF-4	WIRE FENCE TYPE C AND D	8-22-02

11/30/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-18				6	ARK.			
				JOB NO.		050315	3	88

(2) GOVERNING SPEC. AND GENERAL NOTES

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER 16674 MICHAEL D. FUDGE 6/21/18

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1_____	AGGREGATE BASE COURSE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
505-1_____	PORTLAND CEMENT CONCRETE DRIVEWAY
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
605-1_____	CONCRETE DITCH PAVING
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
620-1_____	MULCH COVER
JOB 050315__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 050315__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 050315__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 050315__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 050315__	DELAY IN RIGHT OF WAY OCCUPANCY
JOB 050315__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 050315__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 050315__	LIQUID ANTI-STRIPPING ADDITIVE
JOB 050315__	MANDATORY ELECTRONIC CONTRACT
JOB 050315__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 050315__	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 050315__	PARTNERING REQUIREMENTS
JOB 050315__	PLASTIC PIPE
JOB 050315__	PROTECTION OF WATER QUALITY AND WETLANDS
JOB 050315__	RUMBLE STRIPS
JOB 050315__	SHORING FOR CULVERTS
JOB 050315__	SOIL STABILIZATION
JOB 050315__	STORM WATER POLLUTION PREVENTION PLAN
JOB 050315__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 050315__	UTILITY ADJUSTMENTS
JOB 050315__	VALUE ENGINEERING
JOB 050315__	WARM MIX ASPHALT

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

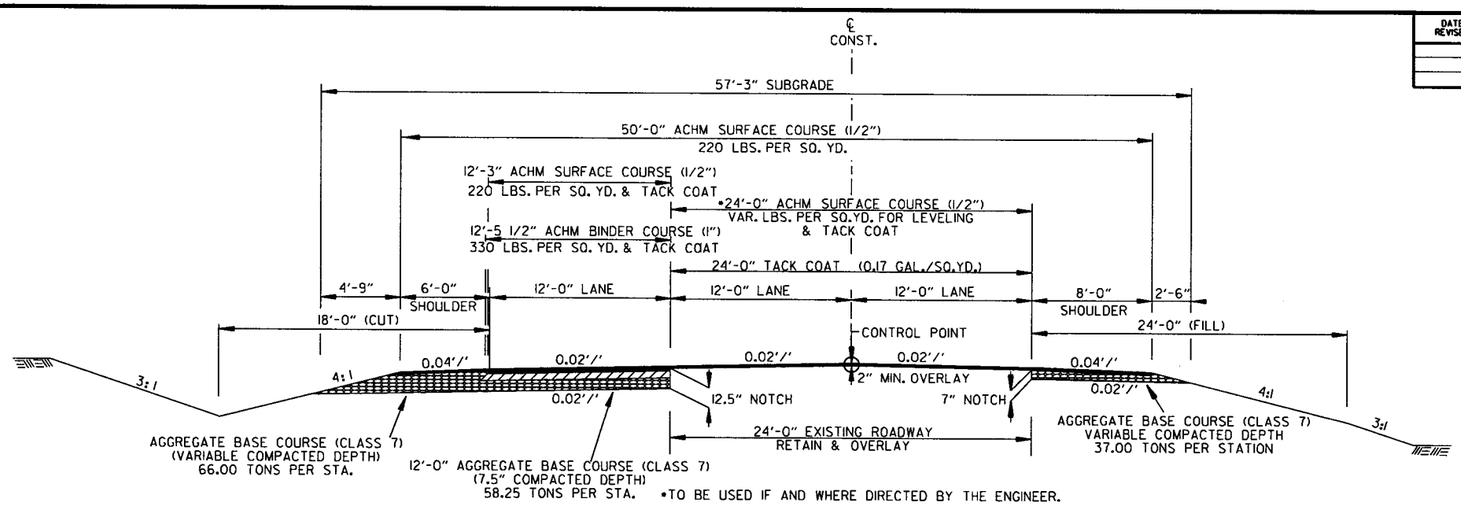
6/21/2018

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	4	88

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGSLEY
12/12/17



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - WESTBOUND PASSING LANE

STA. 260+60.00 - STA. 318+30.00

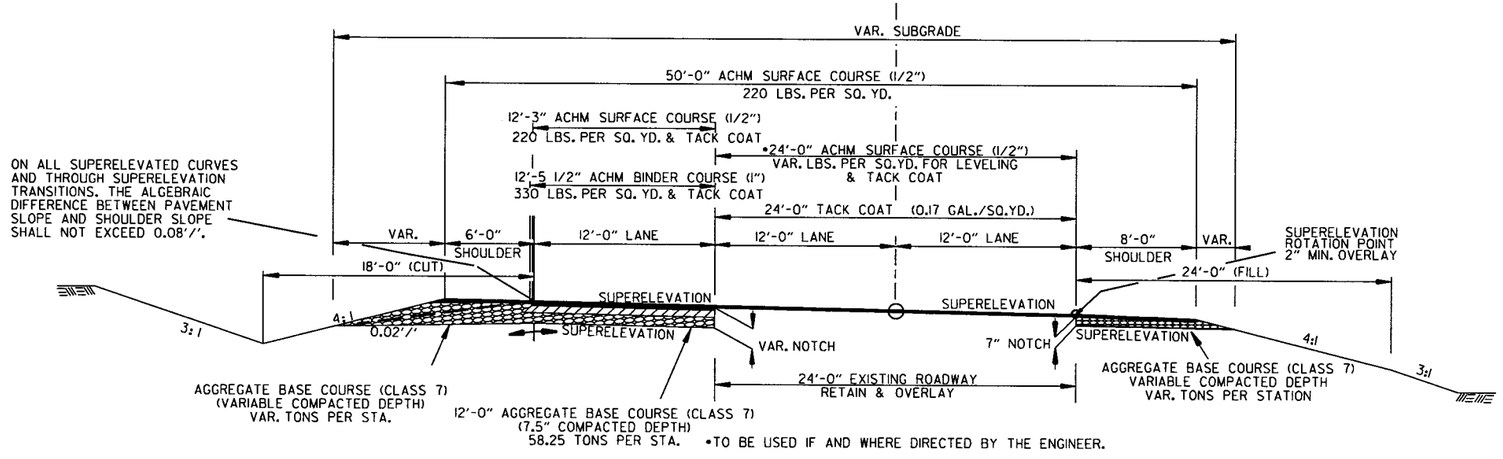
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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 WILL BE CONSIDERED TO BE 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.

AFTER PLACING FINAL 2" OF SURFACE COURSE, THE EXISTING SLOPE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION - WESTBOUND PASSING LANE

10/30/2017

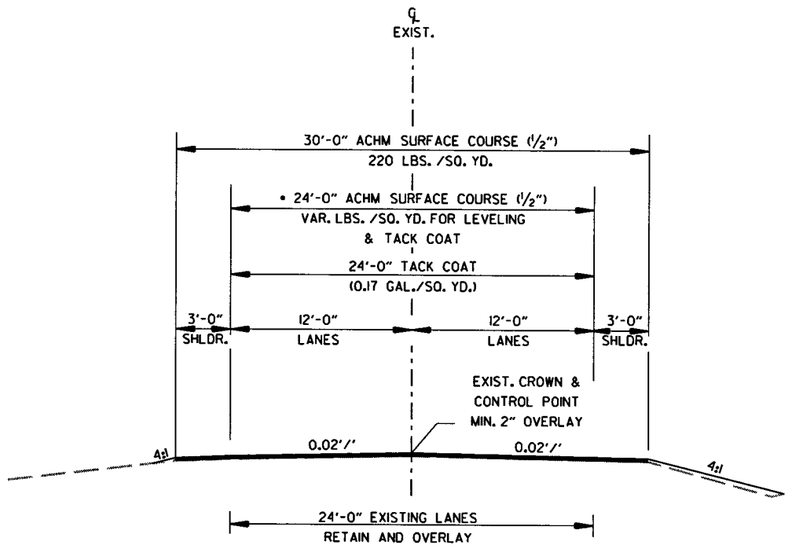
R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	5	88

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. PUGETT
12/12/17

TAPER 2 LANE TO 3 LANE
STA. 254+00.00 TO STA. 260+60.00
TAPER 3 LANE TO 2 LANE
STA. 318+30.00 TO STA. 320+30.00



•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TANGENT SECTION
2 LANE SECTION
TRANSITION

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.

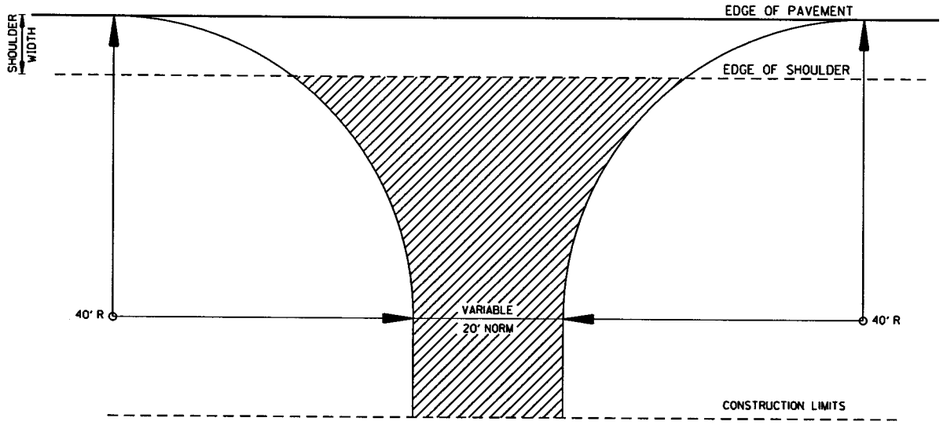
ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED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

AFTER PLACING FINAL 2" OF SURFACE COURSE, THE EXISTING SLOPE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.

10/30/2017

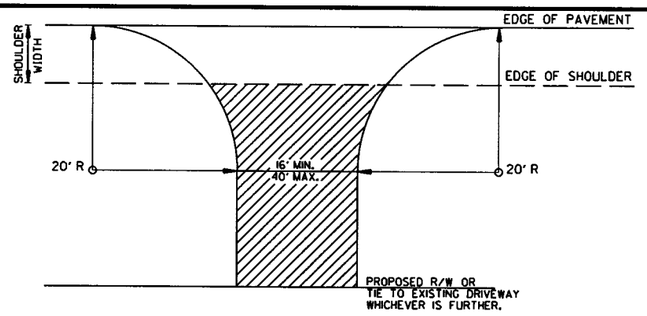
R050315.DGN



ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) (7" COMPACTED DEPTH)

NOTE:
REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUT



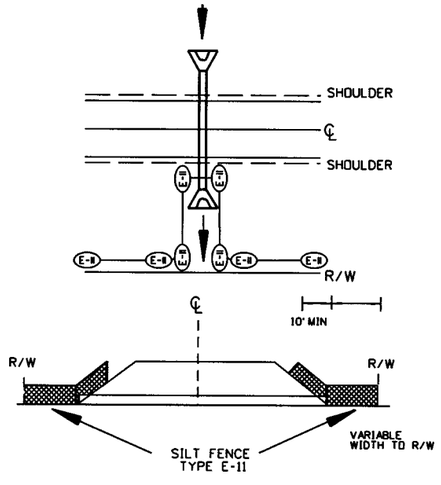
ACHM SURFACE COURSE (1/2")
(220 LBS./SQ. YD.) & AGGREGATE BASE
COURSE (CLASS 7) (7" COMPACTED DEPTH)
IF ASPHALT DRIVE EXISTS OR 6" CONCRETE
IF CONCRETE DRIVE EXISTS.

DETAIL FOR DRIVEWAY TURNOUTS

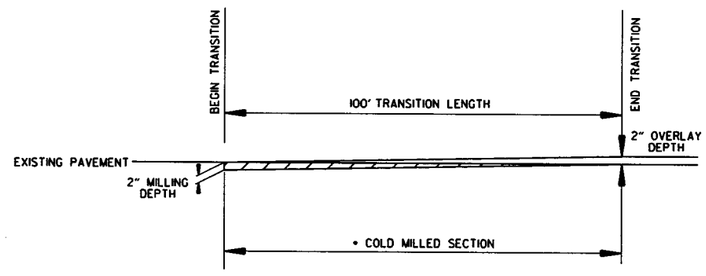
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	6	88

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7805
MICHAEL D. FUGETT
12/12/17



DETAILS OF SILT FENCE AT CROSS DRAINS



DETAIL SHOWING TRANSITION TO EXISTING PAVEMENT

• TO BE USED AS DIRECTED BY THE ENGINEER

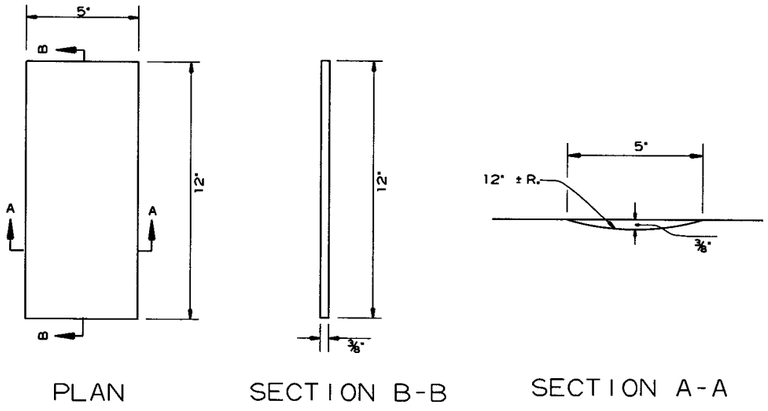
12/7/2017

R050315.DGN

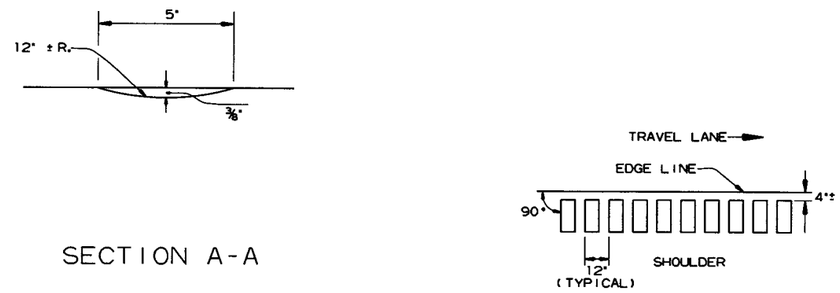
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	7	88

(2) SPECIAL DETAILS

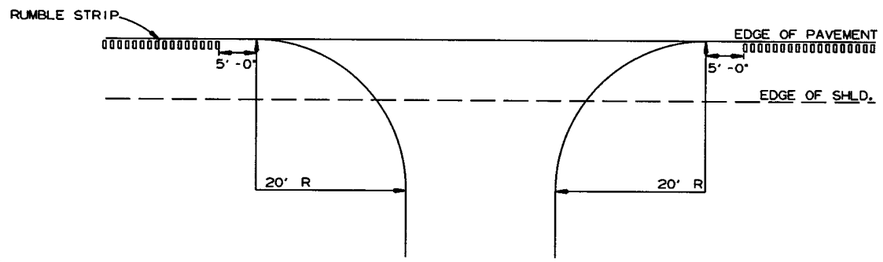
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



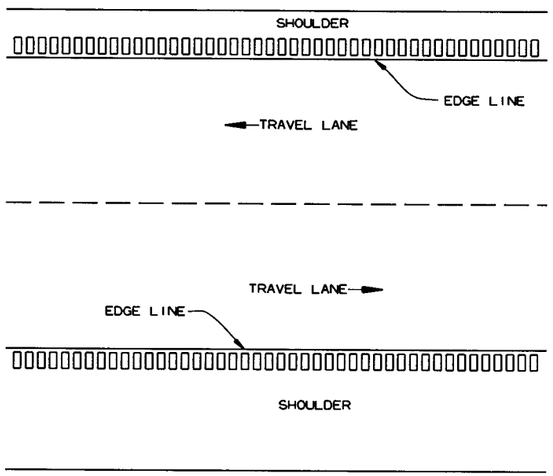
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



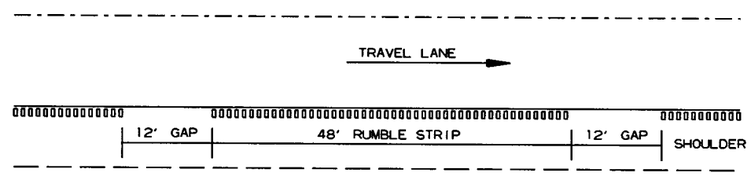
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

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



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

DETAIL FOR GAP PATTERN RUMBLE STRIP

12/7/2017

R050315.DGN

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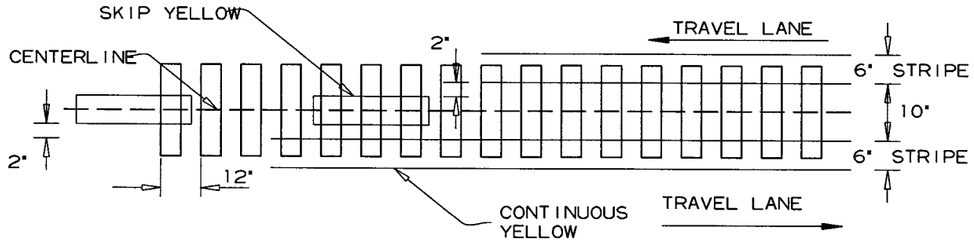
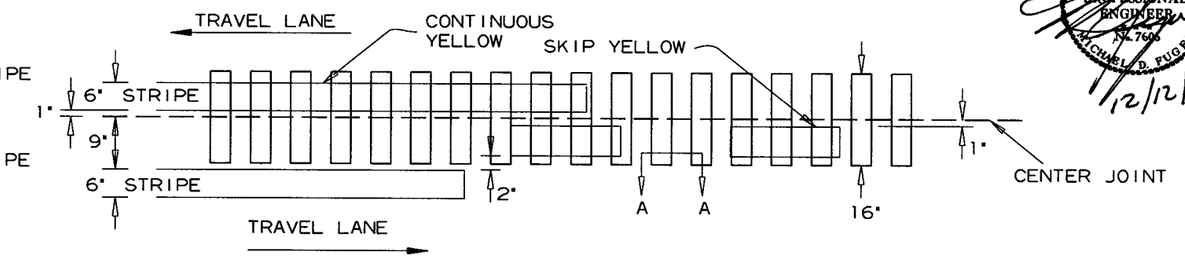
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

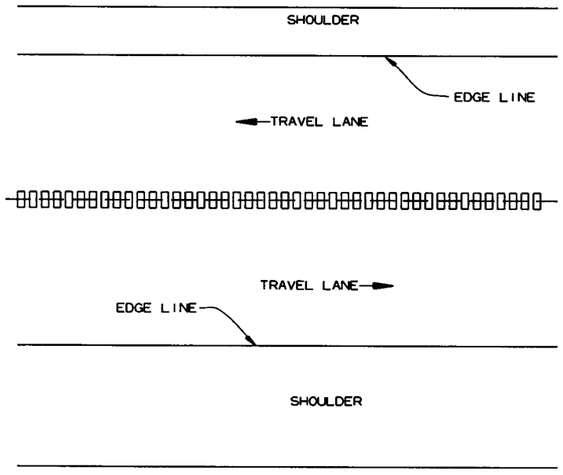


ASPHALT PAVEMENT

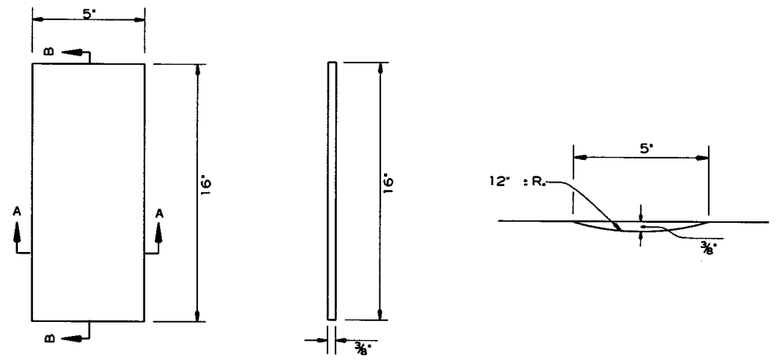


CONCRETE PAVEMENT

LOCATION PLAN OF CENTERLINE RUMBLE STRIPES



PLAN VIEW



PLAN SECTION B-B SECTION A-A

DETAILS OF CENTERLINE RUMBLE STRIPES

GENERAL NOTES

1. RUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE CENTERLINE.
3. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SLOPE BREAKS MAY BE NECESSARY.

12/7/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	9	88

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

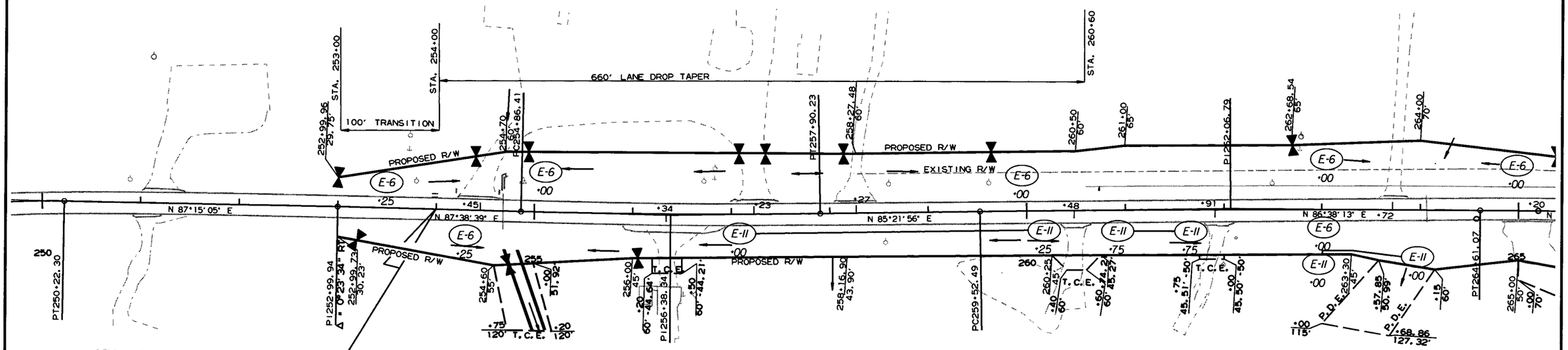
TEMPORARY EROSION CONTROL QUANTITIES - CLEARING AND GRUBBING

ROCK DITCH CHECKS (E-6) = 87 CU. YD.

SILT FENCE (E-11) = 2135 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020 '/'
Ls = 250'



STA. 254+00.00
BEGIN JOB 050315
LM 4.81

STA. 257+00 TO STA. 260+00
SILT FENCE ON RT. = 300 LIN. FT.

STA. 260+75 TO STA. 261+75
SILT FENCE ON RT. = 100 LIN. FT.

STA. 263+00 TO STA. 264+00
SILT FENCE ON RT. = 100 LIN. FT.

CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30

INFORMATION ONLY

REVISIONS

DATE OF REVISION	REVISION

CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

12/7/2017

R050315.DGN

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.		050315	10	88

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

STA. 265+50 TO STA. 269+00
SILT FENCE ON LT. = 460 LIN. FT.

STA. 270+00 TO STA. 276+25
SILT FENCE ON LT. = 400 LIN. FT.

CONST. C.L.
PI = 273+93.82
Δ = 2°53'01" LT.
D = 1°45'00"
T = 82.41'
L = 164.78'
PC = 273+11.41
PT = 274+76.19
e = 0.036'/'
Ls = 250'

CONST. C.L.
PI = 268+52.18
Δ = 49°46'18" RT.
D = 11°15'00"
T = 236.25'
L = 442.41'
PC = 266+15.93
PT = 270+58.34
e = 0.098'/'
Ls = 250'

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7805
MICHAEL D. FUGETT
12/12/17

REVISIONS

DATE OF REVISION	REVISION

12/7/2017

R050315.DGN

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.		050315	11	88

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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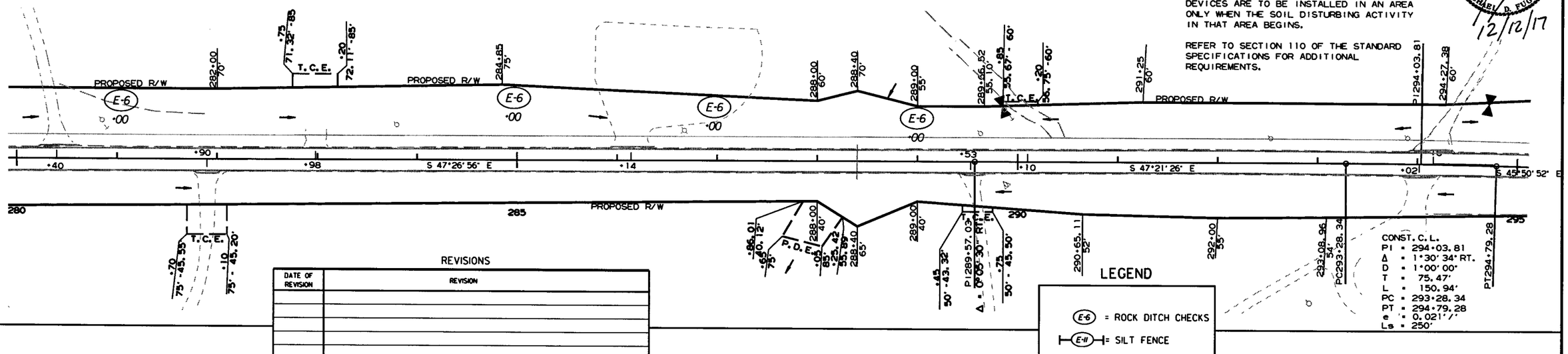
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



CONST. C. L.
PI = 294+03.81
Δ = 1°30'34" RT.
D = 1°00'00"
T = 75.47'
L = 150.94'
PC = 293+28.34
PT = 294+79.28
e = 0.021'/'
Ls = 250'

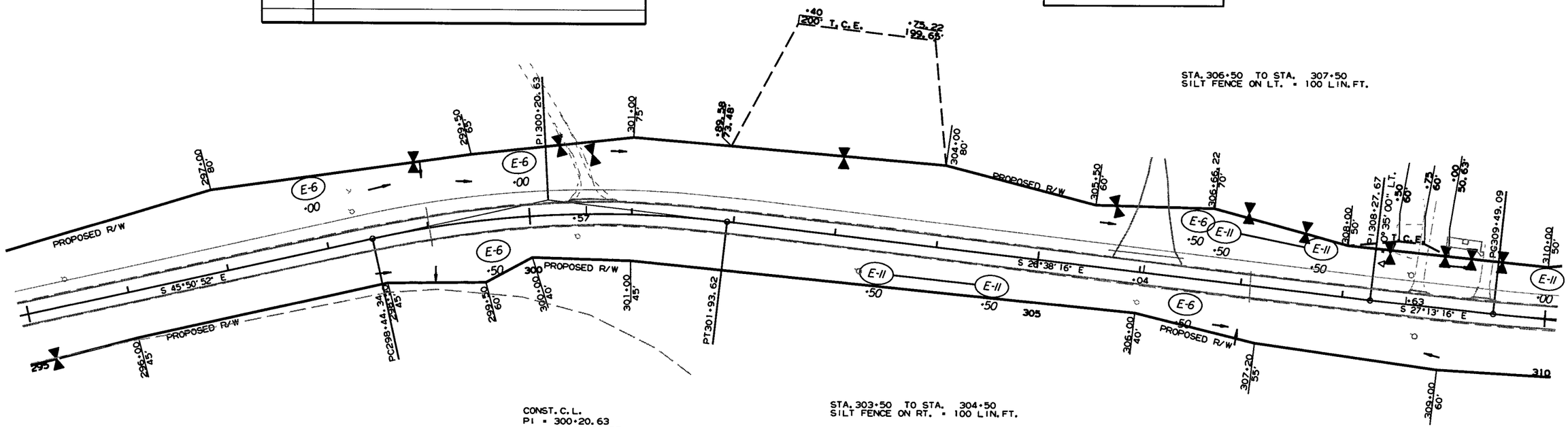
REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 = ROCK DITCH CHECKS

E-11 = SILT FENCE



CONST. C. L.
PI = 300+20.63
Δ = 19°12'36" RT.
D = 5°30'00"
T = 176.29'
L = 349.27'
PC = 298+44.34
PT = 301+93.62
e = 0.088'/'
Ls = 300'

STA. 303+50 TO STA. 304+50
SILT FENCE ON RT. = 100 LIN. FT.

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

12/8/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	12	88

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

CONST. C.L.
PI = 311+74.77
Δ = 20°06'09" LT.
D = 4°30'00"
T = 225.68'
L = 446.72'
PC = 309+49.09
PT = 313+95.81
e = 0.078'/'
Ls = 250'

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

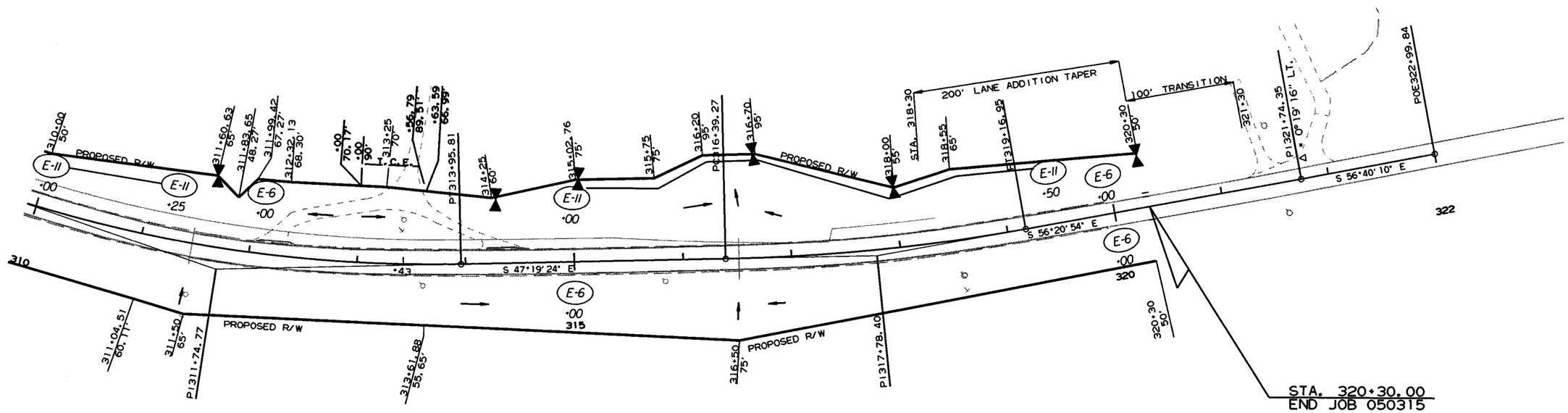
REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CONST. C.L.
PI = 317+78.40
Δ = 9°01'29" LT.
D = 3°15'00"
T = 139.13'
L = 277.69'
PC = 316+39.27
PT = 319+16.95
e = 0.061'/'
Ls = 250'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

STA. 310+00 TO STA. 311+25
SILT FENCE ON LT. = 125 LIN. FT.

STA. 315+00 TO STA. 319+50
SILT FENCE ON LT. = 450 LIN. FT.



STA. 320+30.00
END JOB 050315

REVISIONS

DATE OF REVISION	REVISION

12/7/2017

R050315.DGN

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.		050315	13	88

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

E-6 = ROCK DITCH CHECKS

E-11 = SILT FENCE

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

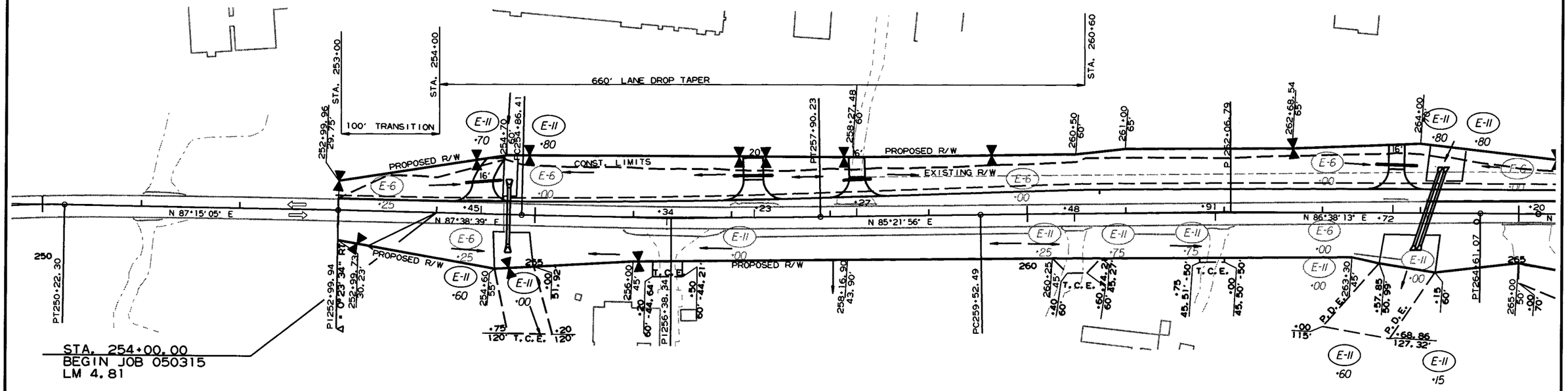
CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020 '/'
Ls = 250'

N

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7405
MICHAEL D. FUGETT
12/12/17

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 1
SILT FENCE (E-11) = 2060 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
ROCK DITCH CHECKS (E-6) = 87 CU. YD.
SILT FENCE (E-11) = 2135 LIN. FT.



CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30

INFORMATION ONLY

CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

REVISIONS

DATE OF REVISION	REVISION

12/7/2017

R050315.DGN

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.		050315	14	88

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 1
SILT FENCE (E-11) = 2060 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
ROCK DITCH CHECKS (E-6) = 87 CU. YD.
SILT FENCE (E-11) = 2135 LIN. FT.

LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE

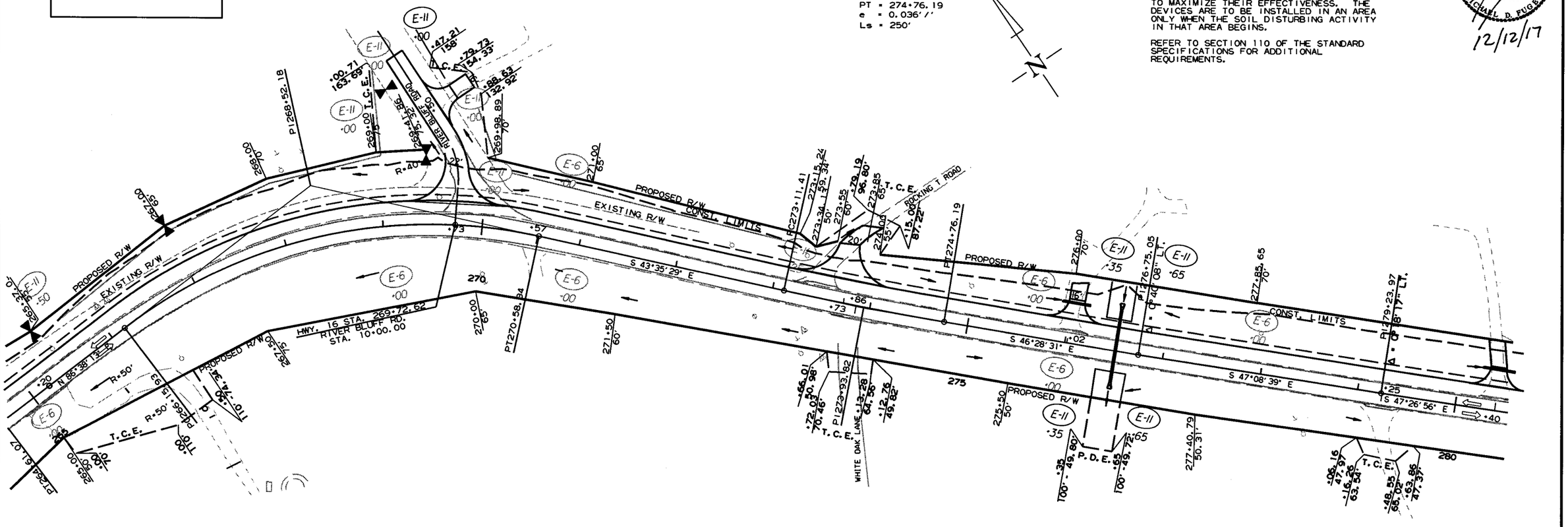
CONST. C.L.
PI = 273+93.82
Δ = 2°53'01" LT.
D = 1°45'00"
T = 82.41'
L = 164.78'
PC = 273+11.41
PT = 274+76.19
e = 0.036'/'
Ls = 250'

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 268+52.18
Δ = 49°46'18" RT.
D = 11°15'00"
T = 236.25'
L = 442.41'
PC = 266+15.93
PT = 270+58.34
e = 0.098 '/'
Ls = 250'

REVISIONS	
DATE OF REVISION	REVISION

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

12/7/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	15	88

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 1
SILT FENCE (E-11) = 2060 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
ROCK DITCH CHECKS (E-6) = 87 CU. YD.
SILT FENCE (E-11) = 2135 LIN. FT.

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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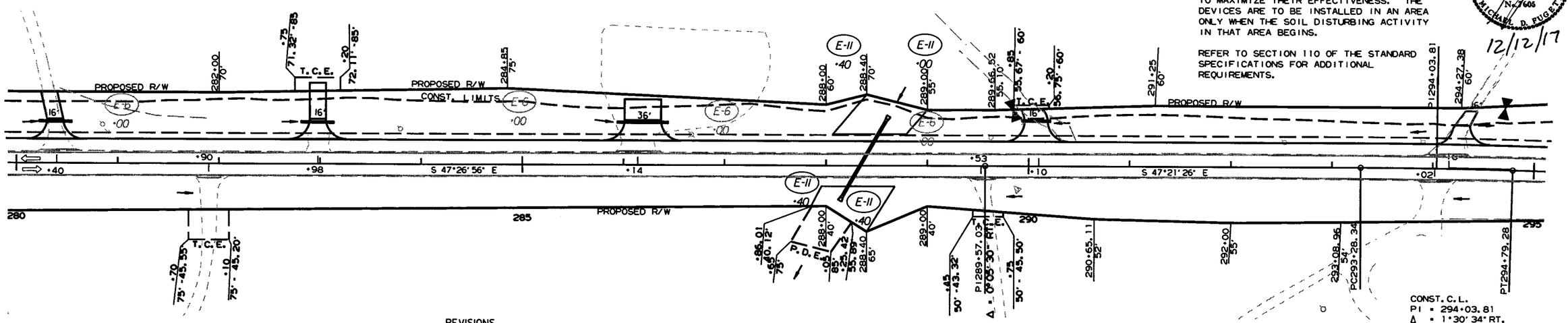
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. FUGETT
12/12/17



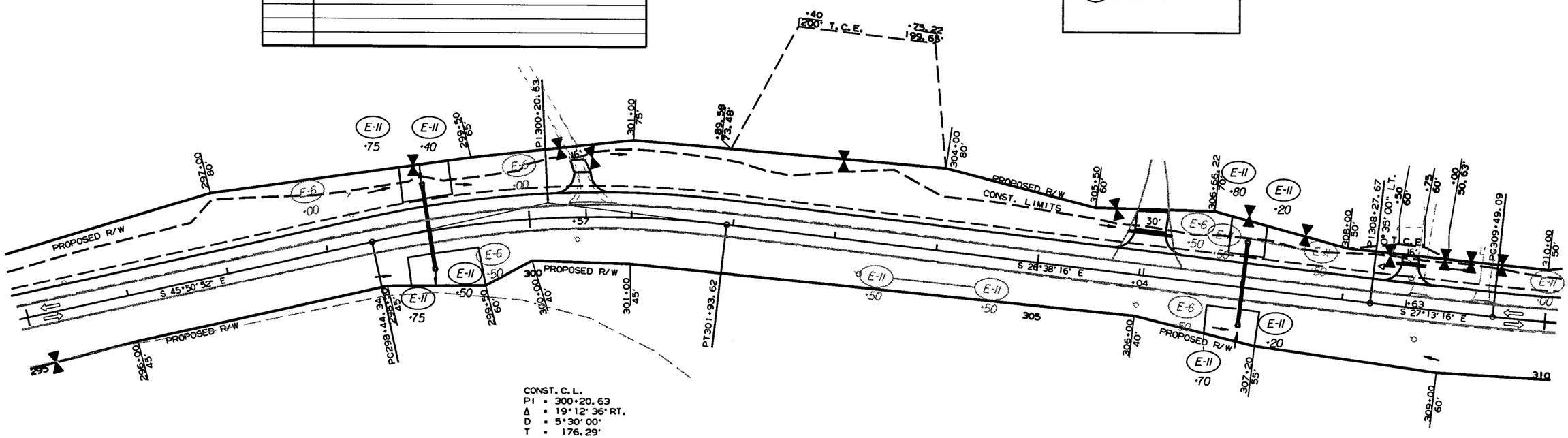
CONST. C.L.
PI = 294+03.81
Δ = 1°30'34" RT.
D = 1°00'00"
T = 75.47'
L = 150.94'
PC = 293+28.34
PT = 294+79.28
e = 0.021'/'
Ls = 250'

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE



CONST. C.L.
PI = 300+20.63
Δ = 19°12'36" RT.
D = 5°30'00"
T = 176.29'
L = 349.27'
PC = 298+44.34
PT = 301+93.62
e = 0.088'/'
Ls = 300'

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

12/8/2017
R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	16	88

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 1

SILT FENCE (E-11) = 2060 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN

ROCK DITCH CHECKS (E-6) = 87 CU. YD.

SILT FENCE (E-11) = 2135 LIN. FT.

CONST. C.L.
PI = 311+74.77
Δ = 20°06'09" LT.
D = 4°30'00"
T = 225.68'
L = 446.72'
PC = 309+49.09
PT = 313+95.81
e = 0.078'/'
Ls = 250'

CONST. C.L.
PI = 317+78.40
Δ = 9°01'29" LT.
D = 3°15'00"
T = 139.13'
L = 277.69'
PC = 316+39.27
PT = 319+16.95
e = 0.061'/'
Ls = 250'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

LEGEND

E-6 = ROCK DITCH CHECKS

E-11 = SILT FENCE

TEMPORARY EROSION CONTROL GENERAL NOTES

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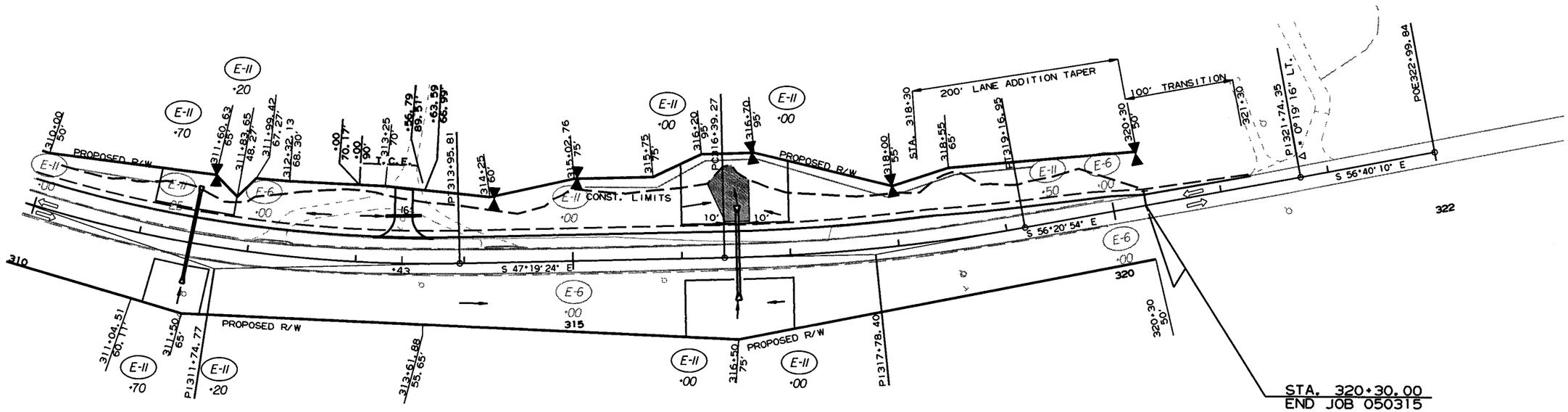


REVISIONS

DATE OF REVISION	REVISION

12/7/2017

R050315.DGN

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.		050315	17	88

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

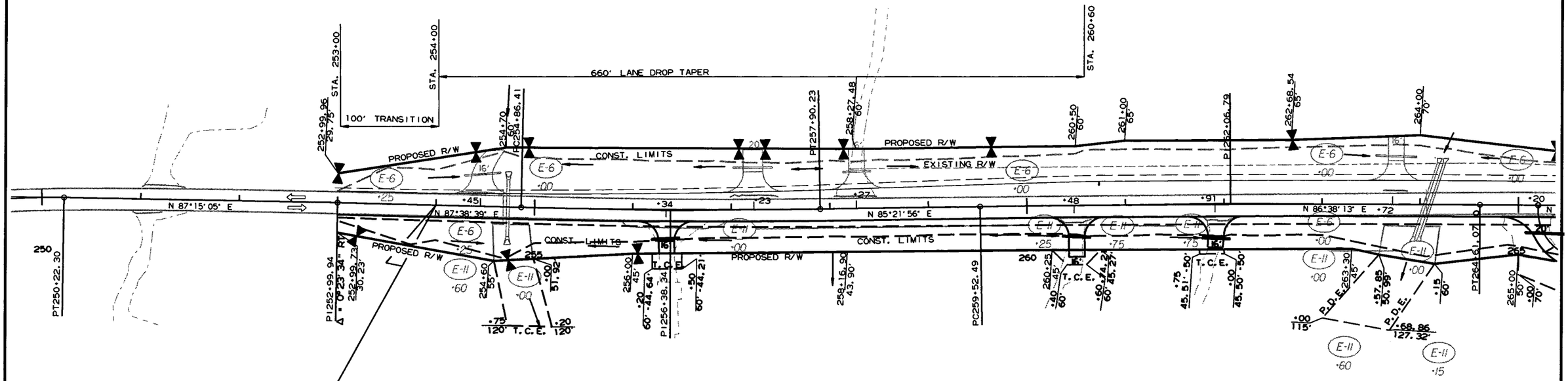
REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020 '/'
Ls = 250'

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2
ROCK DITCH CHECKS (E-6) = 6 CU. YD.
SILT FENCE (E-11) = 290 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
SILT FENCE (E-11) = 2060 LIN. FT.
ROCK DITCH CHECKS (E-6) = 87 CU. YD.
SILT FENCE (E-11) = 2135 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N. 7605
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30

INFORMATION ONLY

CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

REVISIONS

DATE OF REVISION	REVISION

12/7/2017

R050315.DGN

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.		050315	18	88

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2
ROCK DITCH CHECKS (E-6) = 6 CU. YD.
SILT FENCE (E-11) = 290 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN
SILT FENCE (E-11) = 2060 LIN. FT.
ROCK DITCH CHECKS (E-6) = 87 CU. YD.
SILT FENCE (E-11) = 2135 LIN. FT.

LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE

CONST. C.L.
PI = 273+93.82
Δ = 2°53'01" LT.
D = 1°45'00"
T = 82.41'
L = 164.78'
PC = 273+11.41
PT = 274+76.19
e = 0.036'/'
Ls = 250'

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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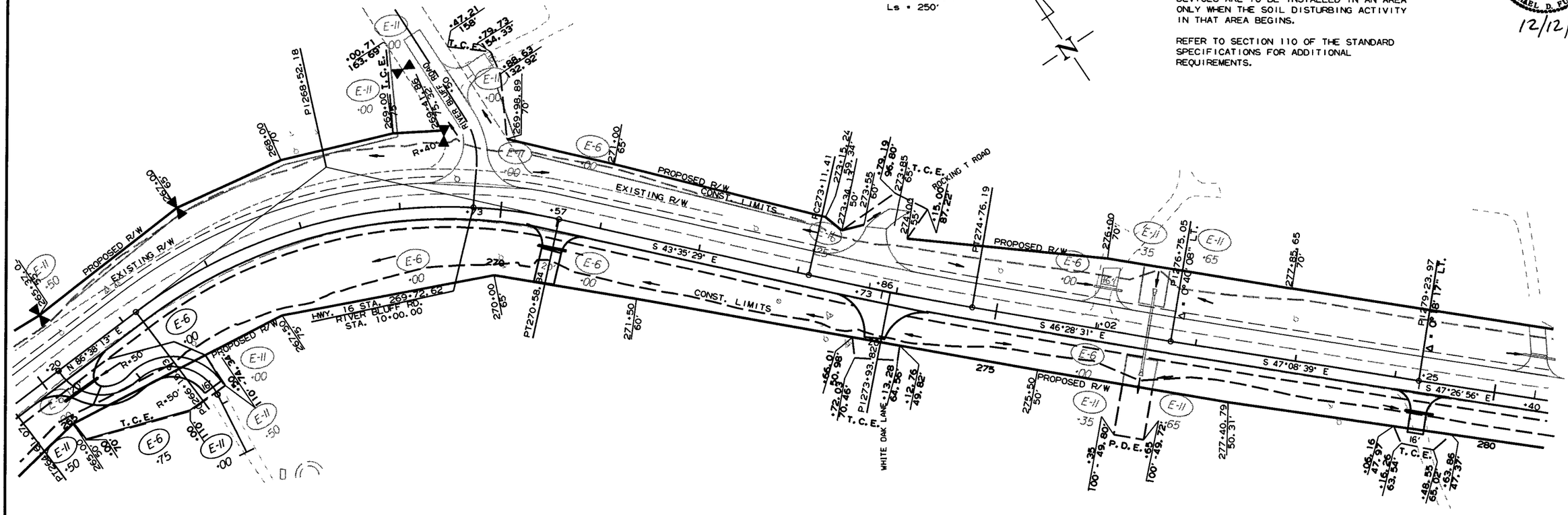
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14760
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 268+52.18
Δ = 49°46'18" RT.
D = 11°15'00"
T = 236.25'
L = 442.41'
PC = 266+15.93
PT = 270+58.34
e = 0.098 '/'
Ls = 250'

REVISIONS	
DATE OF REVISION	REVISION

12/7/2017

R050315.DGN

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.		050315	19	88

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2

ROCK DITCH CHECKS (E-6) = 6 CU. YD.

SILT FENCE (E-11) = 290 LIN. FT.

SEDIMENT BASIN (E-14) = 16 CU. YD.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN

SILT FENCE (E-11) = 2060 LIN. FT.

ROCK DITCH CHECKS (E-6) = 87 CU. YD.

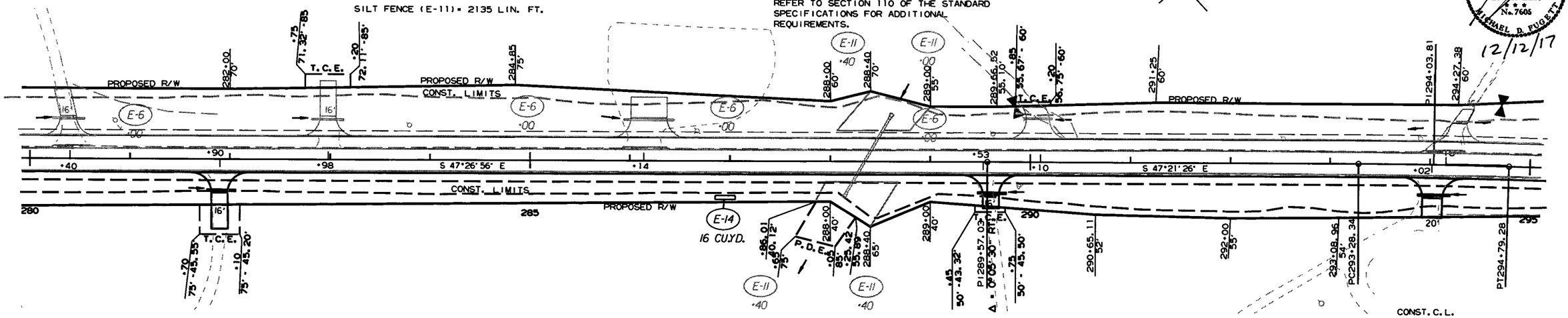
SILT FENCE (E-11) = 2135 LIN. FT.

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



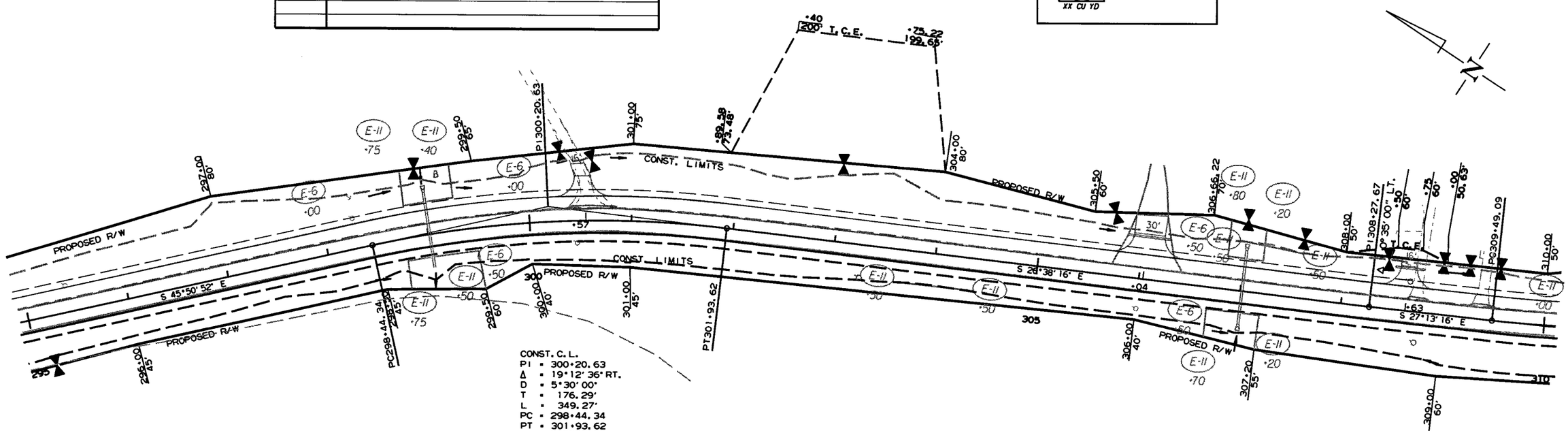
CONST. C. L.
PI = 294+03.81
Δ = 1°30'34" RT.
D = 1°00'00"
T = 75.47'
L = 150.94'
PC = 293+28.34
PT = 294+79.28
e = 0.021'/'
Ls = 250'

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 = ROCK DITCH CHECKS
E-11 = SILT FENCE
E-14 = SEDIMENT BASIN
XX CU YD



CONST. C. L.
PI = 300+20.63
Δ = 19°12'36" RT.
D = 5°30'00"
T = 176.29'
L = 349.27'
PC = 298+44.34
PT = 301+93.62
e = 0.088'/'
Ls = 300'

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

12/8/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	20	88

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

TEMPORARY EROSION CONTROL QUANTITIES - STAGE 2

ROCK DITCH CHECKS (E-6) = 6 CU. YD.

SILT FENCE (E-11) = 290 LIN. FT.

TEMPORARY EROSION CONTROL QUANTITIES - RETAIN

SILT FENCE (E-11) = 2060 LIN. FT.

ROCK DITCH CHECKS (E-6) = 87 CU. YD.

SILT FENCE (E-11) = 2135 LIN. FT.

CONST. C.L.
PI = 311+74.77
Δ = 20°06'09" LT.
D = 4°30'00"
T = 225.68'
L = 446.72'
PC = 309+49.09
PT = 313+95.81
e = 0.078'/'
Ls = 250'

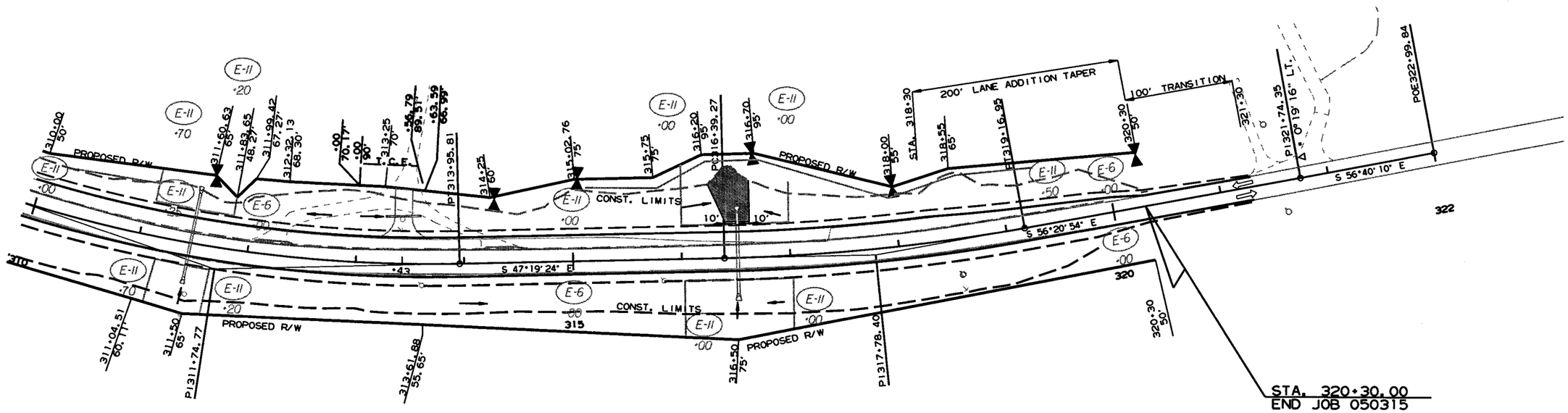
CONST. C.L.
PI = 317+78.40
Δ = 9°01'29" LT.
D = 3°15'00"
T = 139.13'
L = 277.69'
PC = 316+39.27
PT = 319+16.95
e = 0.061'/'
Ls = 250'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7905
MICHAEL D. FUGETT
12/12/17

TEMPORARY EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



REVISIONS

DATE OF REVISION	REVISION

12/8/2017

R050315.DGN

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.		050315	21	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

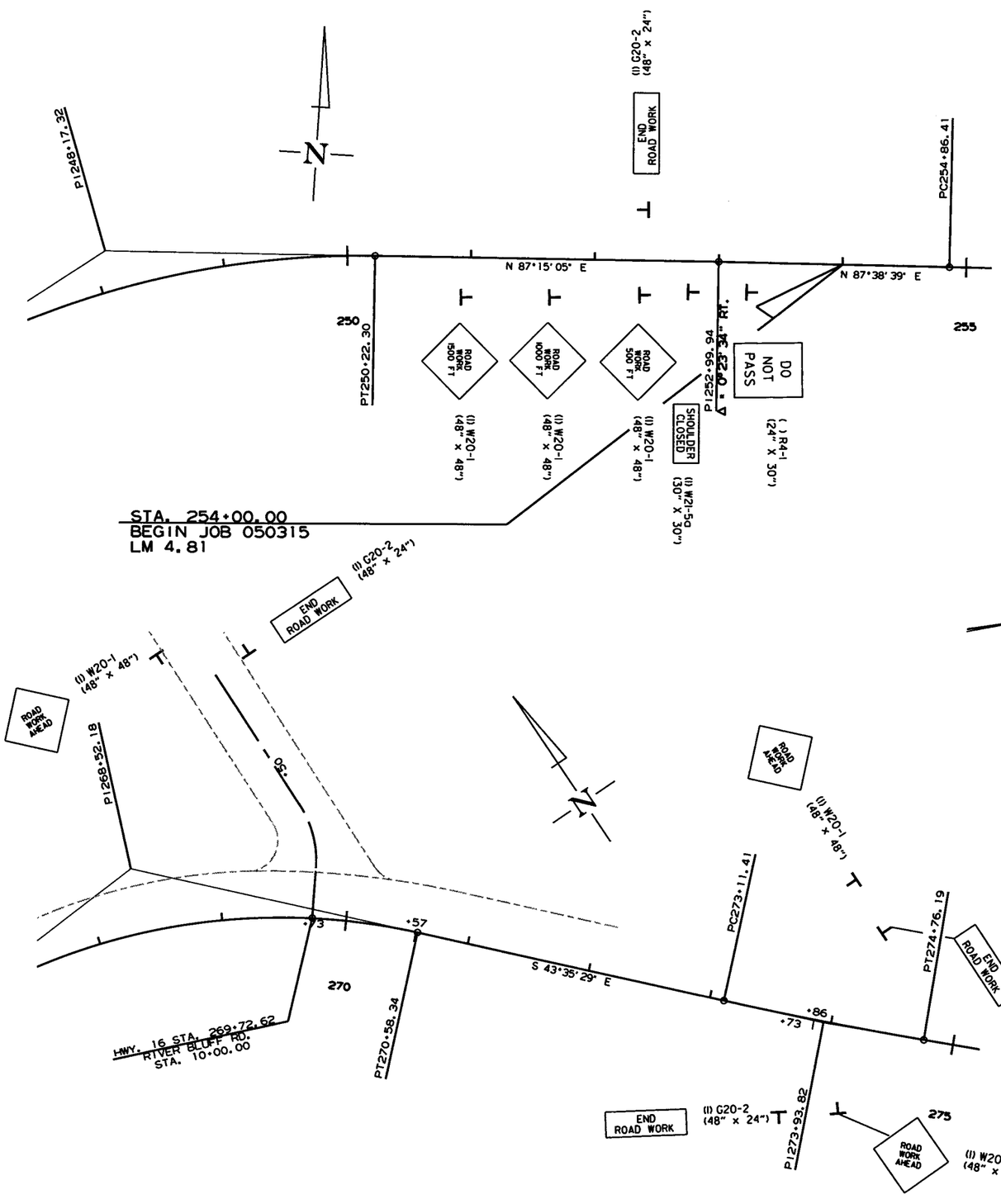
STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE.
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 27605
MICHAEL D. FUGETT
12/12/17



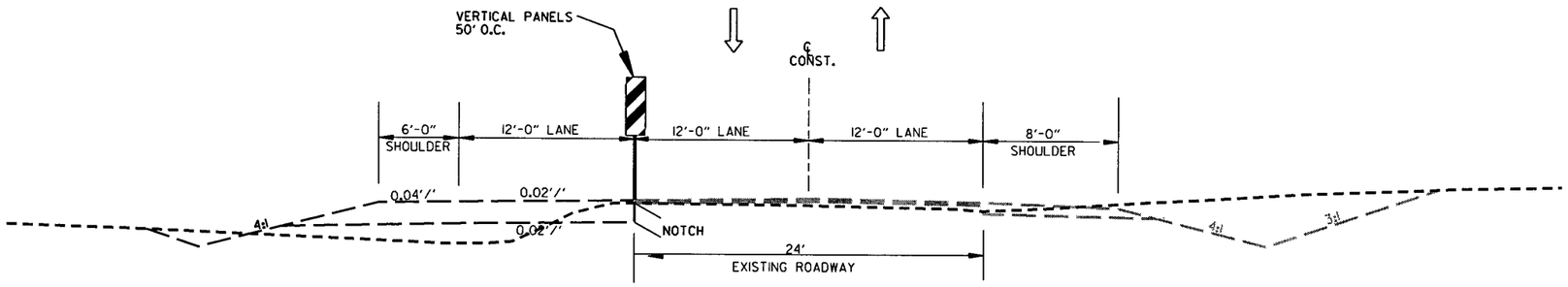
ADVANCE WARNING SIGNS
MAINTENANCE OF TRAFFIC

12/8/2017

R050315.DGN

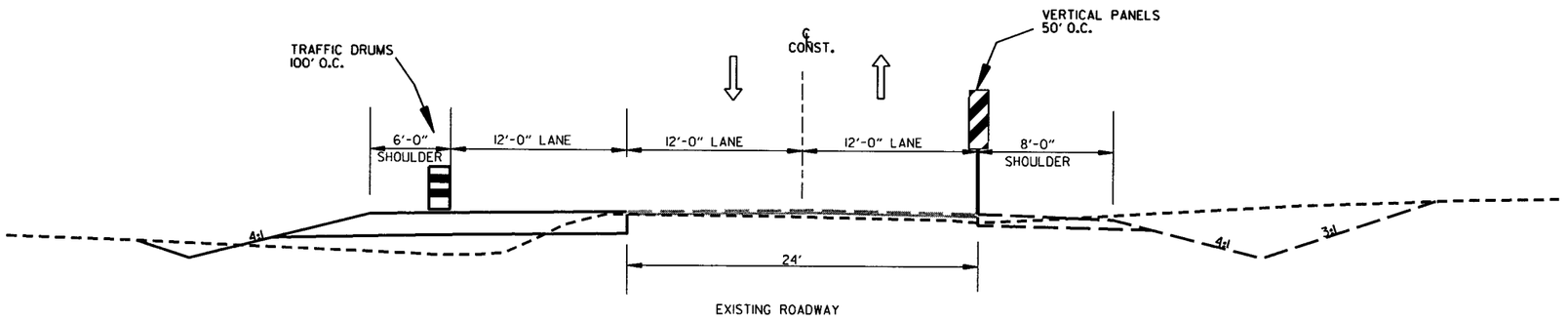
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	22	88

(2) MAINTENANCE OF TRAFFIC



STAGE 1

STA. 254+00.00 - STA. 320+30.00



STAGE 2

STA. 254+00.00 - STA. 320+30.00

SEQUENCE OF CONSTRUCTION

STAGE 1

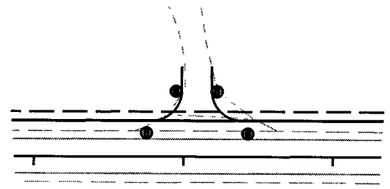
MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE.
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.



TRAFFIC DRUMS = 4 EACH

STANDARD DRIVEWAY/TRAFFIC DRUM DETAIL

12/7/2017

R050315.DGN

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.		050315	23	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

STAGE 2

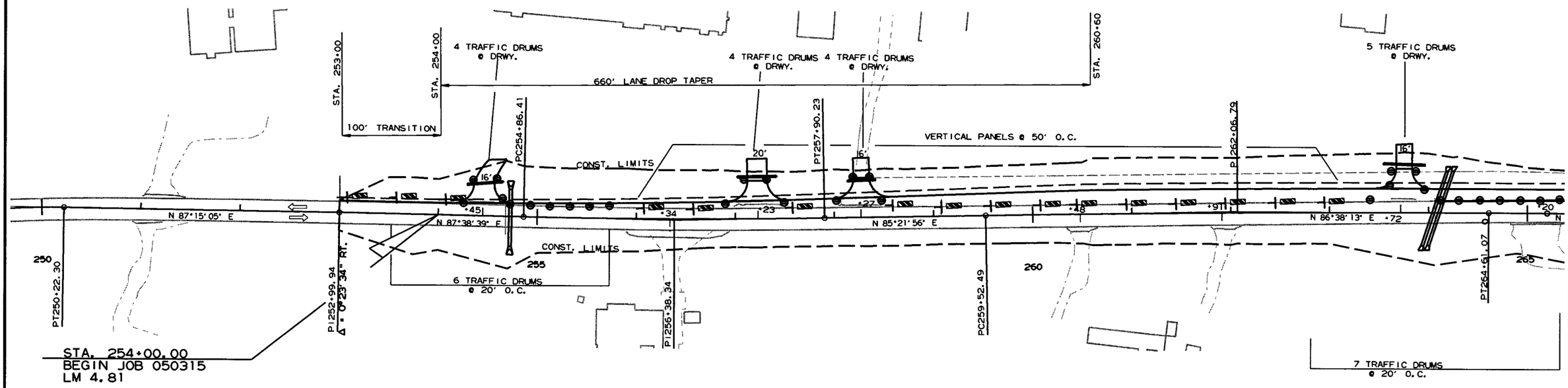
MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020 '/'
Ls = 250'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



STA. 254+00.00
BEGIN JOB 050315
LM 4.81

CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30

INFORMATION ONLY

CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

STAGE 1 QUANTITIES TOTALS

TRAFFIC DRUMS (20' O.C.)	=	76 EACH
TRAFFIC DRUMS @ DRWY.	=	101 EACH
VERTICAL PANELS (50' O.C.)	=	85 EACH
CONSTRUCTION PAVEMENT MARKINGS	=	26234 LIN.FT.
BARRICADE (TYPE III) RT. (16')	=	48 LIN. FT.
BARRICADE (TYPE III) LT. (16')	=	32 LIN. FT.
SIGNS	=	301.50 SQ.FT.

12/8/2017

R050315.DGN

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.		050315	24	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

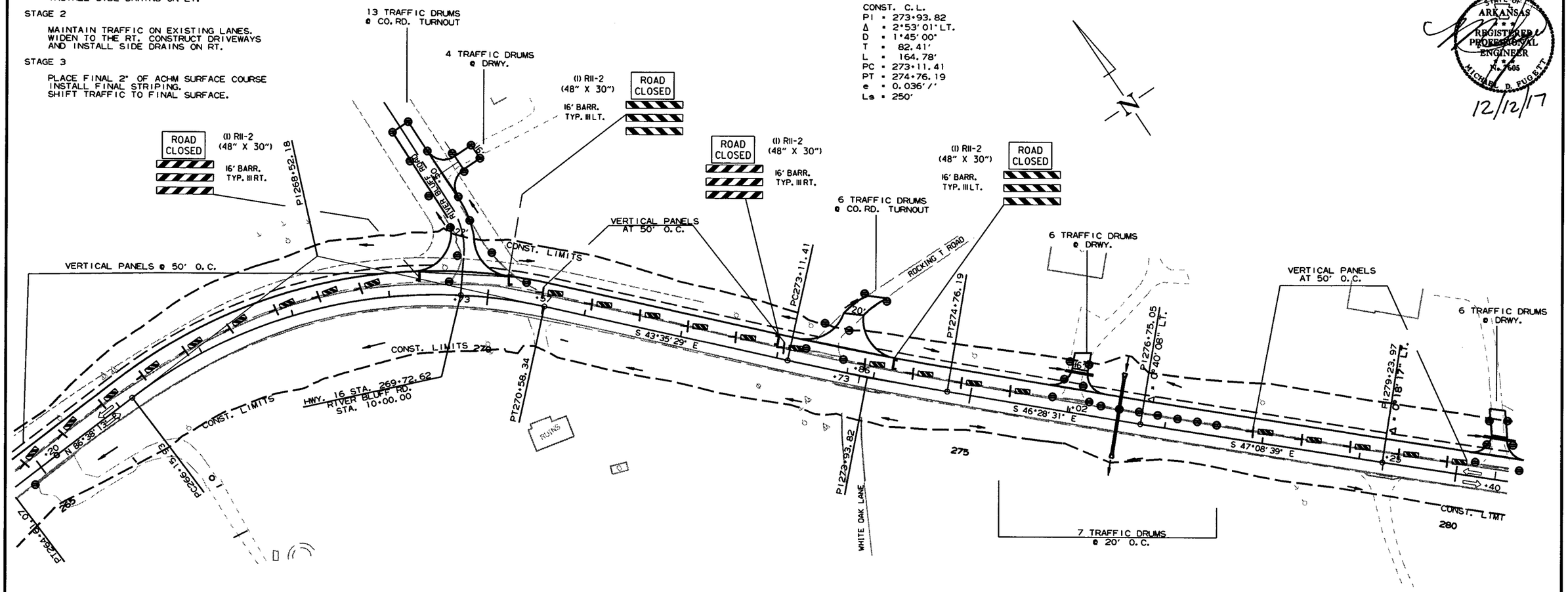
STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 273+93.82
Δ = 2°53'01" LT.
D = 1°45'00"
T = 82.41'
L = 164.78'
PC = 273+11.41
PT = 274+76.19
e = 0.036'/'
Ls = 250'

CONST. C.L.
PI = 268+52.18
Δ = 49°46'18" RT.
D = 11°15'00"
T = 236.25'
L = 442.41'
PC = 266+15.93
PT = 270+58.34
e = 0.098'/'
Ls = 250'

12/8/2017

R050315.DGN

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.		050315	25	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

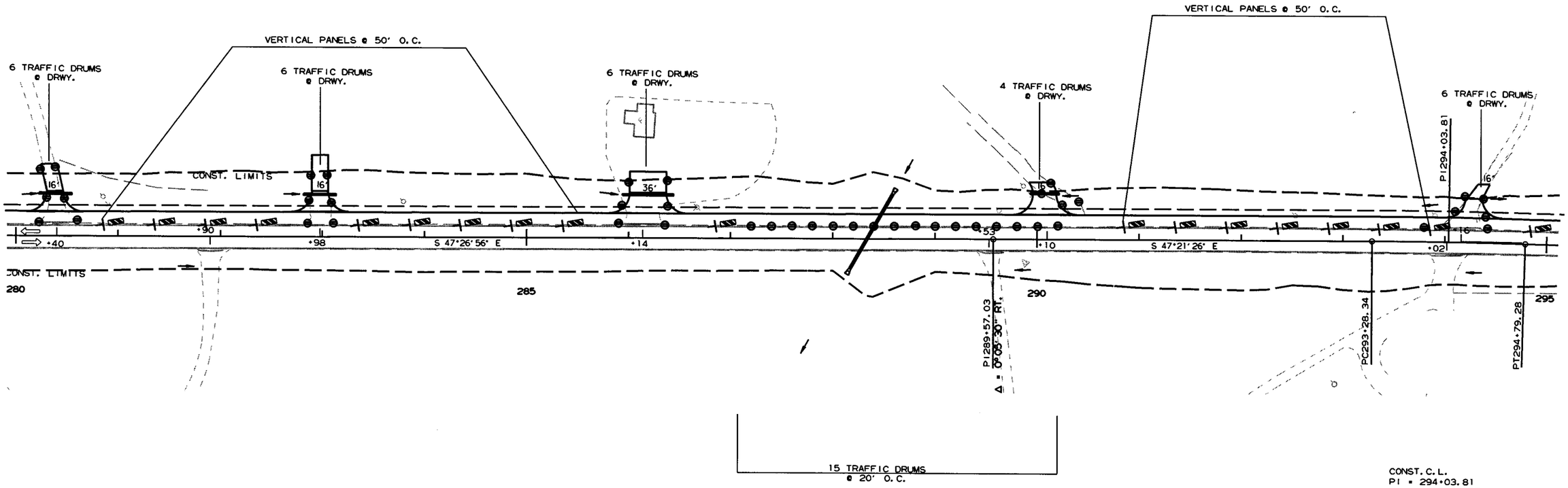
STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 294+03.81
Δ = 1°30'34" RT.
D = 1°00'00"
T = 75.47'
L = 150.94'
PC = 293+28.34
PT = 294+79.28
e = 0.021'/'
Ls = 250'

12/8/2017

R050315.DGN

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.		050315	26	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

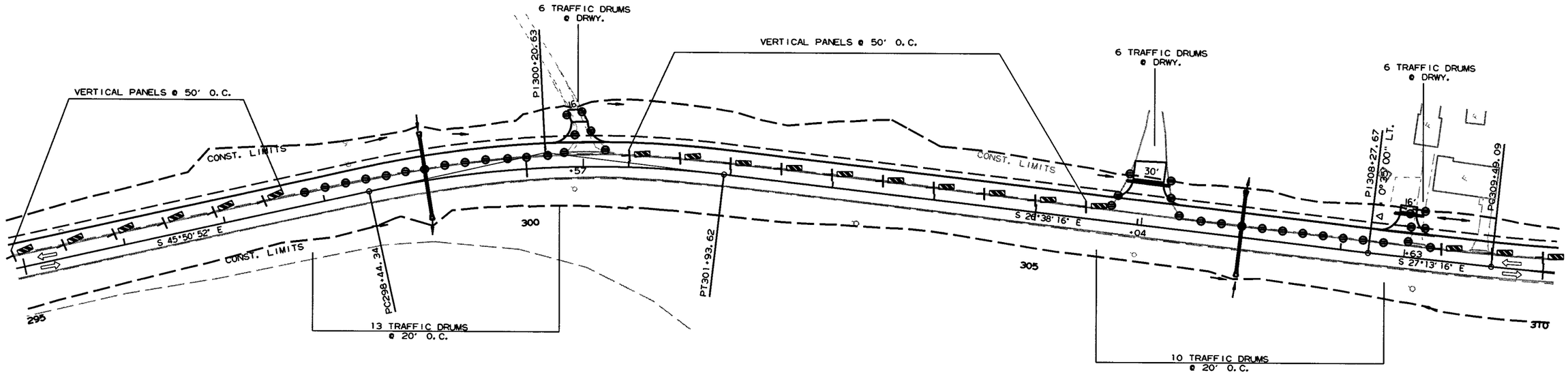
STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7905
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 300+20.63
Δ = 19°12'36" RT.
D = 5°30'00"
T = 176.29'
L = 349.27'
PC = 298+44.34
PT = 301+93.62
e = 0.088'/'
Ls = 300'

STAGE 1
MAINTENANCE OF TRAFFIC

12/8/2017
R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	27	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

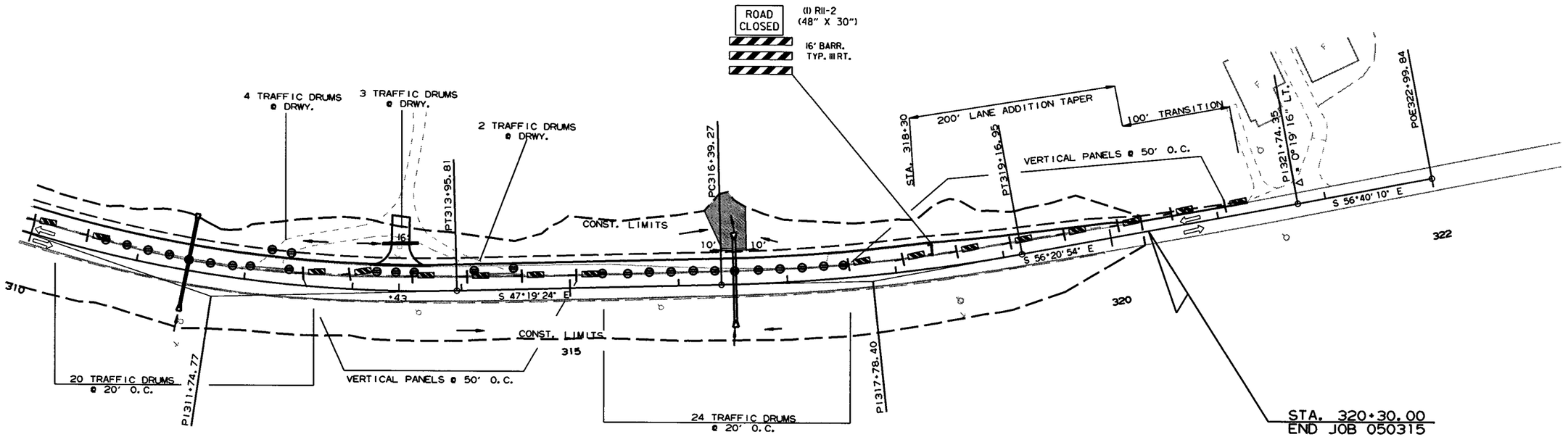
STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

CONST. C.L.
PI = 311+74.77
Δ = 20°06'09" LT.
D = 4°30'00"
T = 225.68'
L = 446.72'
PC = 309+49.09
PT = 313+95.81
e = 0.078'/'
Ls = 250'

CONST. C.L.
PI = 317+78.40
Δ = 9°01'29" LT.
D = 3°15'00"
T = 139.13'
L = 277.69'
PC = 316+39.27
PT = 319+16.95
e = 0.061'/'
Ls = 250'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7505
MICHAEL D. PUGETT
12/12/17



STAGE 1
MAINTENANCE OF TRAFFIC

12/8/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	28	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

STAGE 2

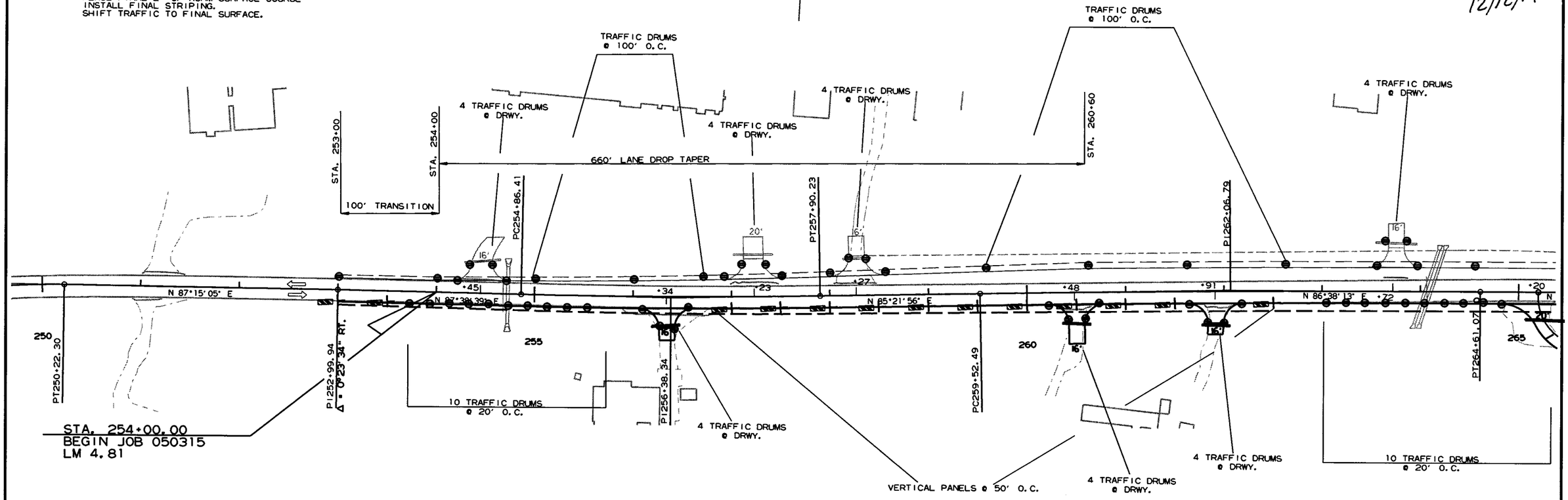
MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020 '/'
Ls = 250'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30

INFORMATION ONLY

TOTAL FOR STAGE 2 QUANTITIES

TRAFFIC DRUMS (20' O.C.)	=	80	EACH
TRAFFIC DRUMS @ DRWY.	=	134	EACH
TRAFFIC DRUMS @ (100' O.C.)	=	56	EACH
VERTICAL PANELS (50' O.C.)	=	82	EACH
CONSTRUCTION PAVEMENT MARKINGS	=	26234	LIN.FT.
SIGNS	=	251.50	SQ.FT.

CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

12/8/2017

R050315.DGN

STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	29	88

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

CONST. C.L.
PI = 273+93.82
Δ = 2°53'01" LT.
D = 1°45'00"
T = 82.41'
L = 164.78'
PC = 273+11.41
PT = 274+76.19
e = 0.036'/'
Ls = 250'

12 TRAFFIC DRUMS @ CO. RD. TURNOUT
4 TRAFFIC DRUMS @ DRWY.
TRAFFIC DRUMS @ 100' O.C.
6 TRAFFIC DRUMS @ CO. RD. TURNOUT
TRAFFIC DRUMS @ 100' O.C.
4 TRAFFIC DRUMS @ DRWY.
TRAFFIC DRUMS @ 100' O.C.
4 TRAFFIC DRUMS @ DRWY.
RIVER BLUFF RD.
ROCKING T ROAD
CONST. LIMITS
HWY. 16 STA. 269+72.62
RIVER BLUFF RD. STA. 10+00.00
P.I. 268+52.18
PC273+11.41
PT274+76.19
PT270+58.34
P.I. 273+93.82
P.I. 276+75.05
Δ = 0°40'08" LT.
P.I. 279+23.97
Δ = 0°18'17" LT.
S 43°35'29" E
S 46°28'31" E
S 47°08'39" E
N 85°38'13" E
RUINS
WHITE OAK LANE
4 TRAFFIC DRUMS @ DRWY.
VERTICAL PANELS @ 50' O.C.
4 TRAFFIC DRUMS @ CO. RD. TURNOUT
17 TRAFFIC DRUMS @ 20' O.C.
14 TRAFFIC DRUMS @ DRWY.
4 TRAFFIC DRUMS @ DRWY.
CONST. L'MT
275
280

CONST. C.L.
PI = 268+52.18
Δ = 49°46'18" RT.
D = 11°15'00"
T = 236.25'
L = 442.41'
PC = 266+15.93
PT = 270+58.34
e = 0.098 '/'
Ls = 250'

12/8/2017

R050315.DGN

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.		050315	30	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

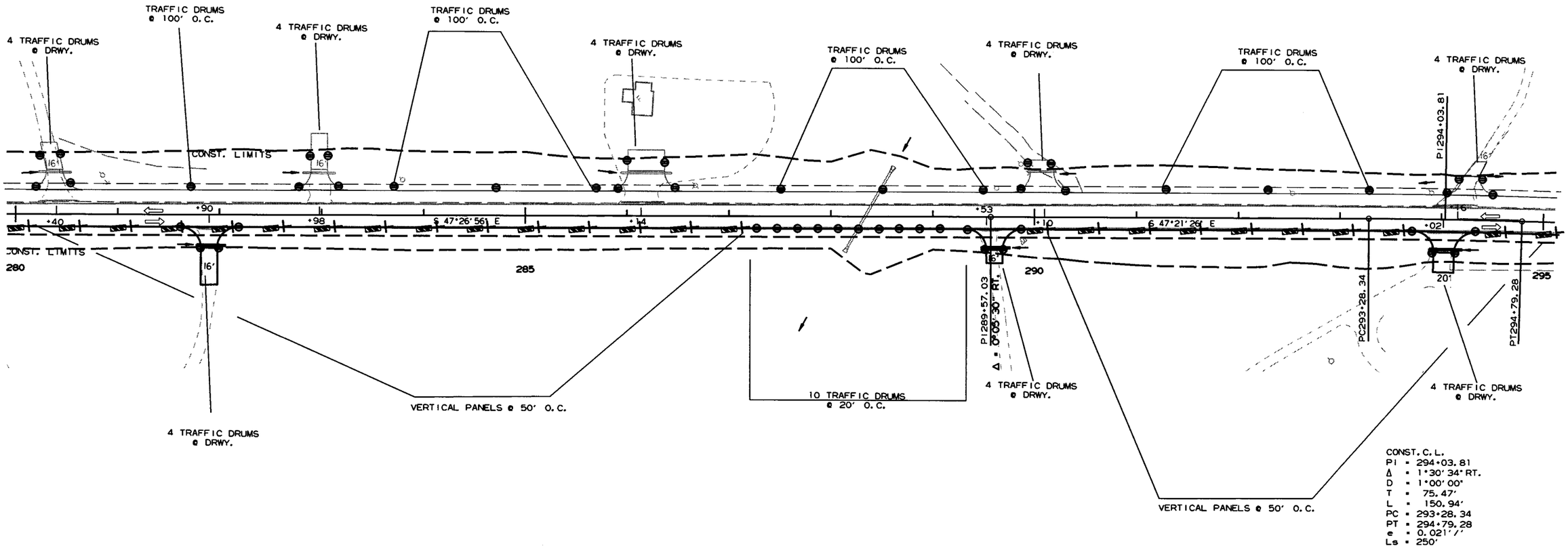
STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



CONST. C. L.
PI = 294+03.81
Δ = 1°30'34" RT.
D = 1°00'00"
T = 75.47'
L = 150.94'
PC = 293+28.34
PT = 294+79.28
e = 0.021'/'
Ls = 250'

STAGE 2
MAINTENANCE OF TRAFFIC

12/8/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	31	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

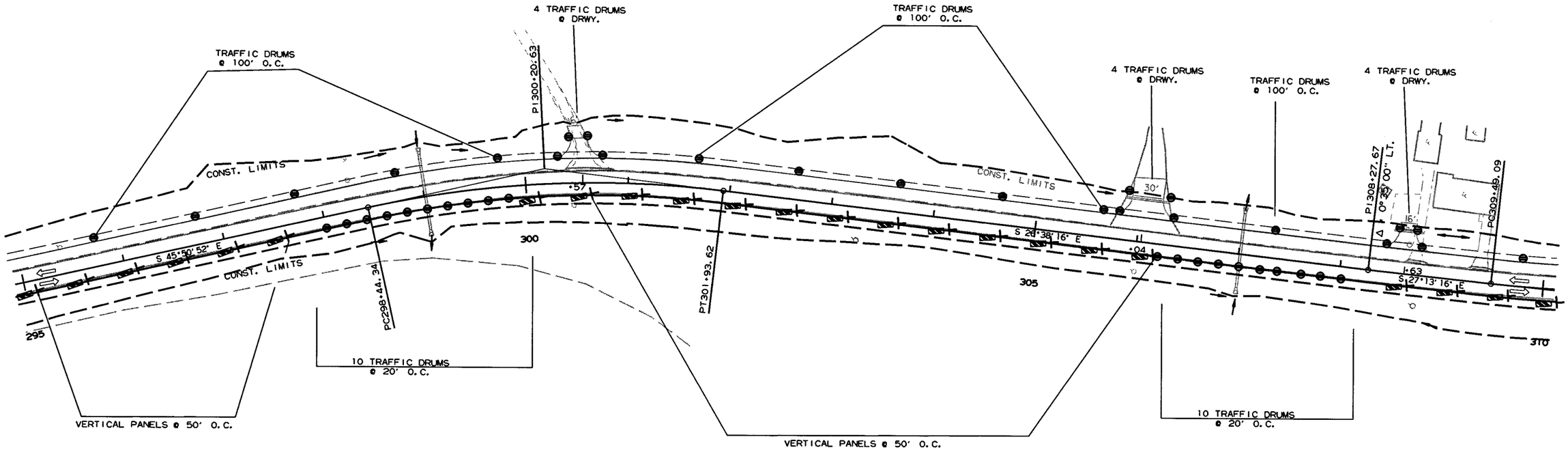
STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
12/12/17



CONST. C. L.
PI = 300+20.63
Δ = 19°12'36" RT.
D = 5°30'00"
T = 176.29'
L = 349.27'
PC = 298+44.34
PT = 301+93.62
e = 0.088'/'
Ls = 300'

12/8/2017

R050315.DGN

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.		050315	32	88

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION

STAGE 1

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN ON LT. AND PERFORM LEVELING OPERATIONS.
PLACE CONSTRUCTION PAVEMENT MARKINGS.
CONSTRUCT CROSS DRAINS AND DRIVEWAYS ON LT.
INSTALL SIDE DRAINS ON LT.

STAGE 2

MAINTAIN TRAFFIC ON EXISTING LANES.
WIDEN TO THE RT. CONSTRUCT DRIVEWAYS
AND INSTALL SIDE DRAINS ON RT.

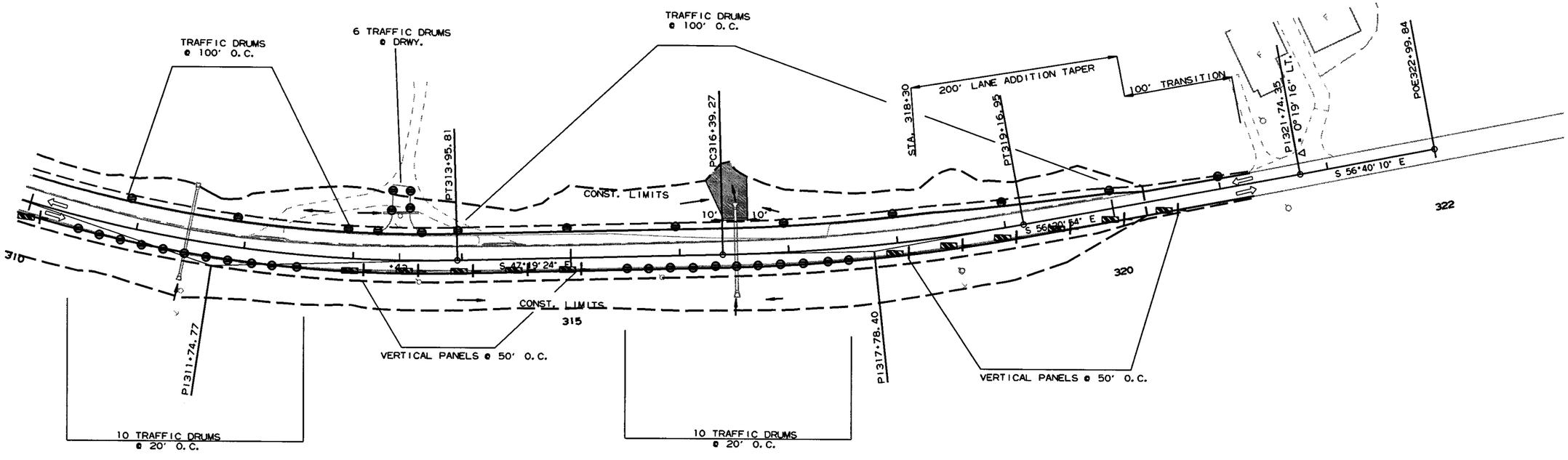
STAGE 3

PLACE FINAL 2" OF ACHM SURFACE COURSE
INSTALL FINAL STRIPING.
SHIFT TRAFFIC TO FINAL SURFACE.

CONST. C.L.
PI = 311+74.77
Δ = 20°06'09" LT.
D = 4°30'00"
T = 225.68'
L = 446.72'
PC = 309+49.09
PT = 313+95.81
e = 0.078'/'
Ls = 250'

CONST. C.L.
PI = 317+78.40
Δ = 9°01'29" LT.
D = 3°15'00"
T = 139.13'
L = 277.69'
PC = 316+39.27
PT = 319+16.95
e = 0.061'/'
Ls = 250'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7695
MICHAEL D. PUGETT
12/12/17



STAGE 2
MAINTENANCE OF TRAFFIC

12/8/2017

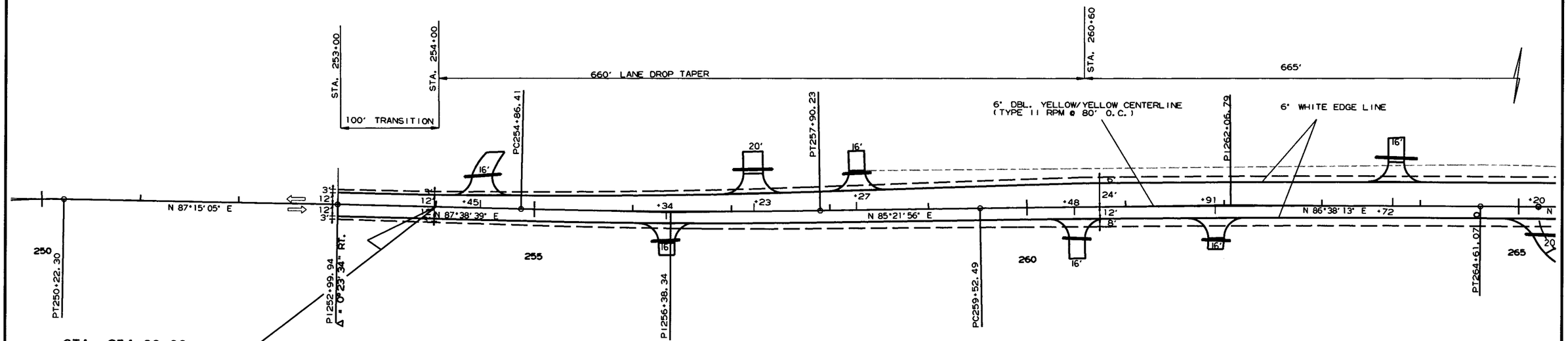
R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	33	88

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020 '/'
Ls = 250'



STA. 254+00.00
BEGIN JOB 050315
LM 4.81

* THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

THERMOPLASTIC PAVEMENT MARKINGS

6" WHITE SOLID	=	12974	LIN. FT.
6" WHITE SKIP	=	1276	LIN. FT.
6" DBL. YELLOW	=	13260	LIN. FT.

RAISED PAVEMENT MARKERS (TYPE II)

YELLOW/YELLOW	=	83 EACH (80' O.C.)
WHITE/RED	=	72 EACH (80' O.C.)

CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30

INFORMATION ONLY

CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

12/7/2017

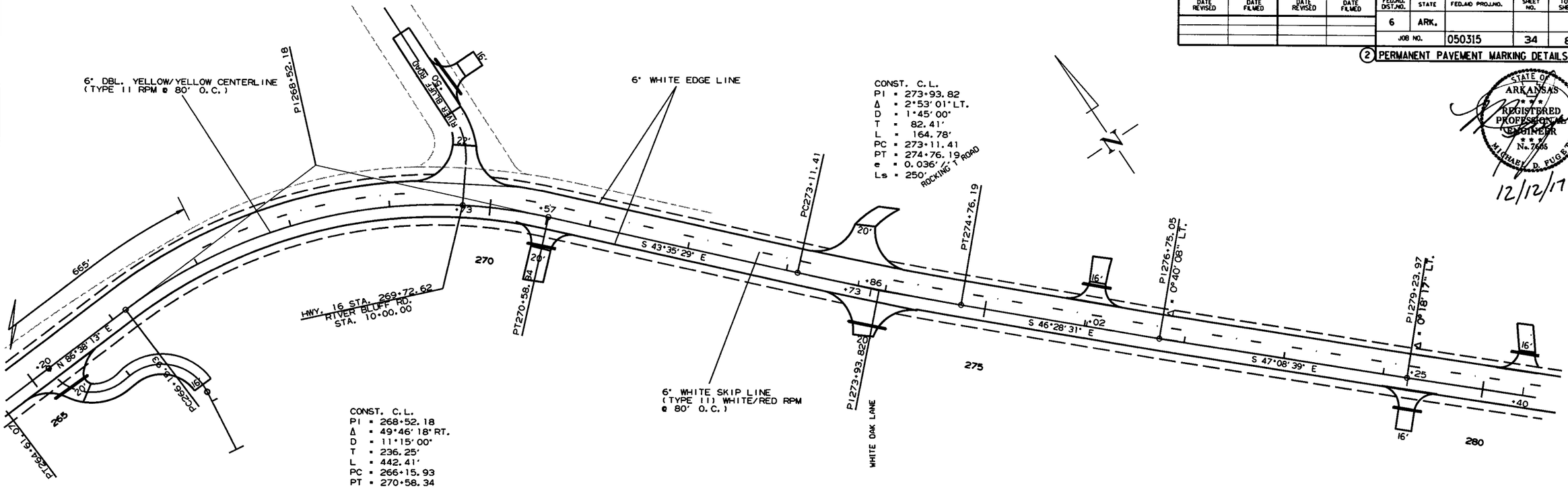
R050315.DGN

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.		050315	34	88

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



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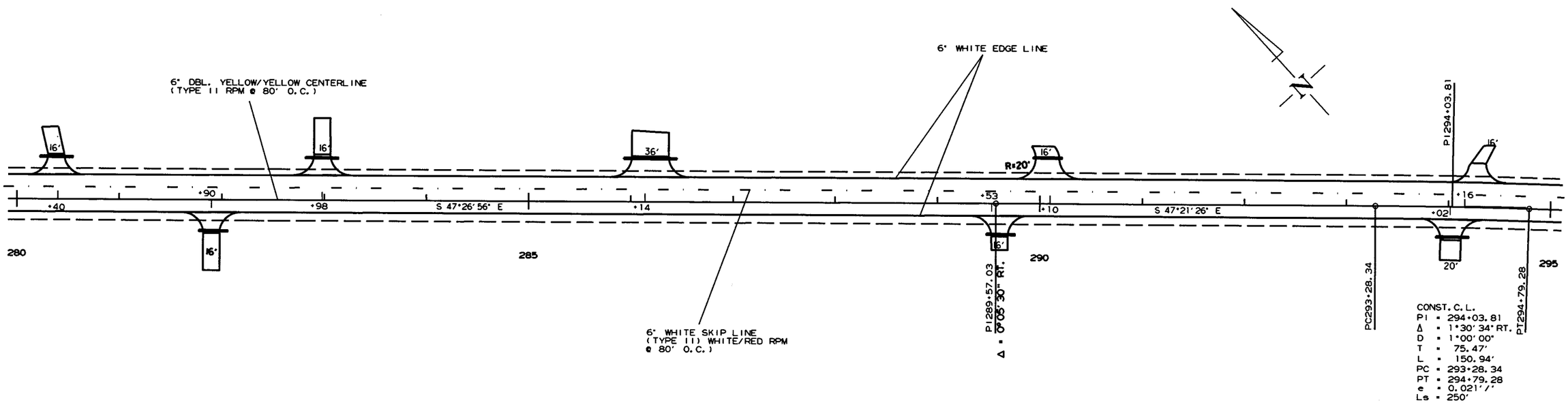


12/7/2017

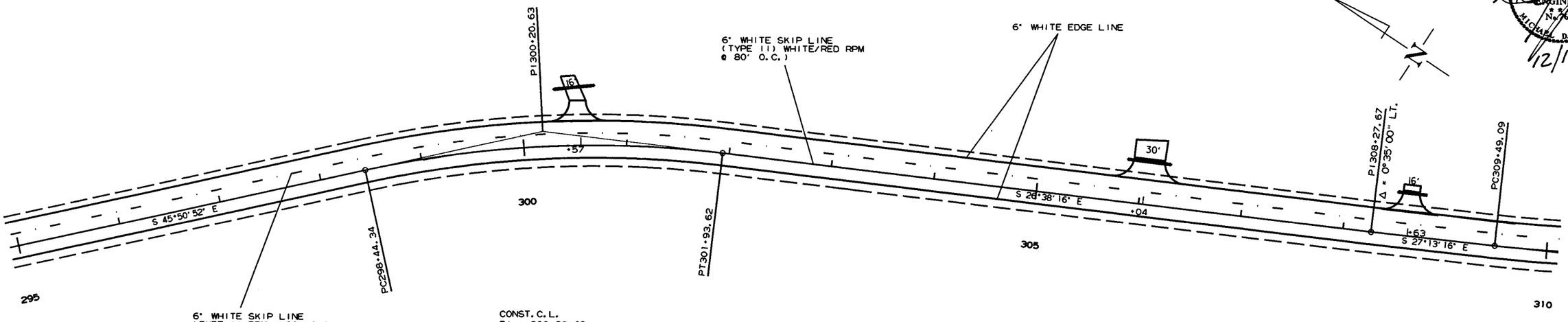
R050315.DGN

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.		050315	35	88

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

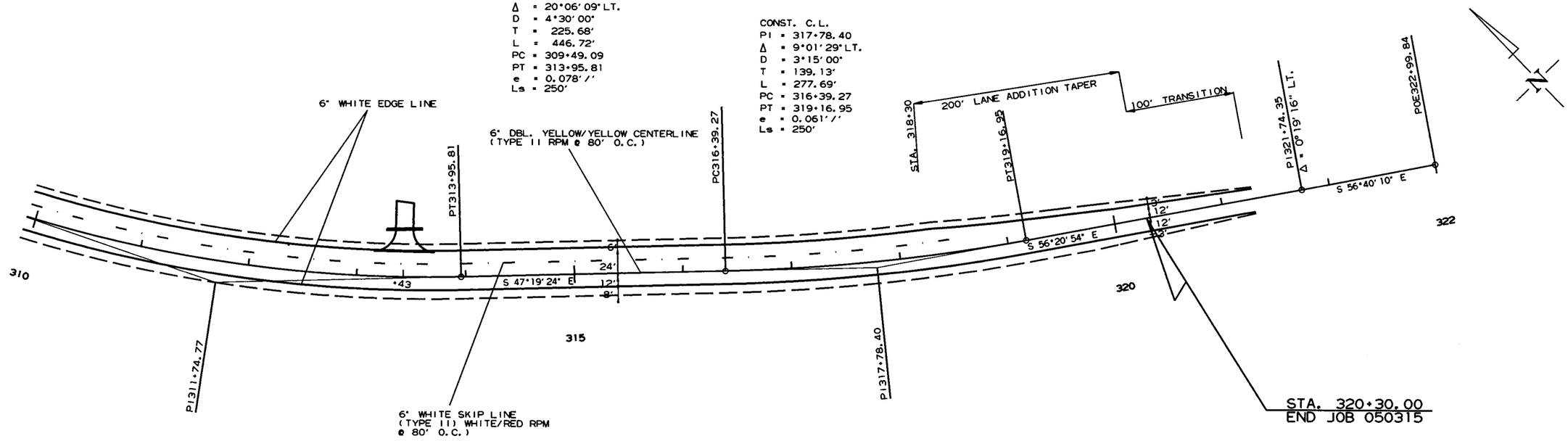


CONST. C.L.
PI = 300+20.63
Δ = 19°12'36" RT.
D = 5°30'00"
T = 176.29'
L = 349.27'
PC = 298+44.34
PT = 301+93.62
e = 0.088'/'
Ls = 300'

* THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

CONST. C.L.
PI = 311+74.77
Δ = 20°06'09" LT.
D = 4°30'00"
T = 225.68'
L = 446.72'
PC = 309+49.09
PT = 313+95.81
e = 0.078'/'
Ls = 250'

CONST. C.L.
PI = 317+78.40
Δ = 9°01'29" LT.
D = 3°15'00"
T = 139.13'
L = 277.69'
PC = 316+39.27
PT = 319+16.95
e = 0.061'/'
Ls = 250'



12/7/2017

R050315.DGN

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.		050315	36	88

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)	
											RIGHT	LEFT
			LIN. FT. - EACH				NO.	SQ. FT.	EACH		LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK AHEAD	48"x48"	3	3	3	3	3	48.0				
G20-2	END ROAD WORK	48"x24"	5	5	5	5	5	40.0				
R4-1	DO NOT PASS	24"x30"	6	6	6	6	6	30.0				
W21-5a	SHOULDER CLOSED	30"X30"	6	6	6	6	6	37.5				
R11-2	ROAD CLOSED	48"X30"	5		5	5	5	50.0				
	TYPE III BARRICADE-RT. (16')		3		3	3					48	
	TYPE III BARRICADE-LT. (16')		2		2	2						32
	VERTICAL PANELS		85	82		85			85			
	TRAFFIC DRUMS		177	270		270				270		
TOTALS:								301.5	85	270	48	32

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

ROADWAY FOR THE FULL LENGTH OF THE JOB. 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 3	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF PERMANENT PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING	
					TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	6" WHITE	6" YELLOW
	LIN. FT. - EACH		LIN. FT.	LIN. FT.	EACH		LIN. FT.	
CONSTRUCTION PAVEMENT MARKINGS	26234	26234	52468					
REMOVAL OF PERMANENT PAVEMENT MARKINGS	200			200				
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		72			72			
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)		83				83		
THERMOPLASTIC PAVEMENT MARKING WHITE (6")		14250					14250	
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")		13260						13260
TOTALS:			52468	200	72	83	14250	13260

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

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING.
CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

11/30/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	37	88

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
254+00	320+30	MAIN LANES	67	67
TOTALS:			67	67

REMOVAL AND DISPOSAL OF ITEMS

STATION	LOCATION	SIGN FOUNDATIONS	POSTS	SIGNS	PLANTERS
		EACH	EACH	EACH	EACH
254+33	LT.				1
254+80	LT.				1
254+40	LT.		1		
254+75	LT.		1		
255+85	LT.	2		1	1
256+90	LT.		1		1
257+40	LT.		1		
257+45	LT.				1
305+65	LT.	2		1	
TOTALS:		4	4	2	5

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS	STANDARD DRAWINGS
								18"	
			FEET	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.	
254+45	LT.		16		74.87	8.24	30.57	32	PCC-1, PCM-1, PCP-1, PCP-2
256+34	RT.		16		47.84	5.26	19.53	28	PCC-1, PCM-1, PCP-1, PCP-2
257+23	LT.		20		89.98	9.90	36.74	40	PCC-1, PCM-1, PCP-1, PCP-2
258+27	LT.		16		64.21	7.06	26.22	30	PCC-1, PCM-1, PCP-1, PCP-2
260+48	RT.		16		60.29	6.63	24.62	28	PCC-1, PCM-1, PCP-1, PCP-2
261+91	RT.		16		44.73	4.92	18.26	28	PCC-1, PCM-1, PCP-1, PCP-2
263+72	LT.		16		74.87	8.24	30.57	38	PCC-1, PCM-1, PCP-1, PCP-2
265+20	RT.		20		578.59	63.64	236.26	40	PCC-1, PCM-1, PCP-1, PCP-2
269+50	LT.		16		80.36	8.84	32.81	44	PCC-1, PCM-1, PCP-1, PCP-2
269+73	LT.	RIVER BLUFF RD. TURNOUT	22		736.12	80.97	300.58		
270+57	RT.		16		81.62	8.98	33.33	30	PCC-1, PCM-1, PCP-1, PCP-2
273+73	LT.	ROCKING T RD. TURNOUT	20		182.78	20.11	74.64		
273+86	RT.	WHITE OAK LANE TURNOUT	20	113.81				38	PCC-1, PCM-1, PCP-1, PCP-2
276+02	LT.		16		76.65	8.43	31.30	32	PCC-1, PCM-1, PCP-1, PCP-2
279+25	RT.		16		60.29	6.63	24.62	28	PCC-1, PCM-1, PCP-1, PCP-2
280+40	LT.		16		78.79	8.67	32.17	32	PCC-1, PCM-1, PCP-1, PCP-2
281+90	RT.		16		89.17	9.81	36.41	28	PCC-1, PCM-1, PCP-1, PCP-2
282+98	LT.		16		93.10	10.24	38.02	34	PCC-1, PCM-1, PCP-1, PCP-2
286+14	LT.		36		168.54	18.54	68.82	52	PCC-1, PCM-1, PCP-1, PCP-2
289+53	RT.		16		48.29	5.31	19.72	28	PCC-1, PCM-1, PCP-1, PCP-2
290+10	LT.		16		53.10	5.84	21.68	28	PCC-1, PCM-1, PCP-1, PCP-2
294+02	RT.		16		59.40	6.53	24.26	28	PCC-1, PCM-1, PCP-1, PCP-2
294+29	LT.		16		67.76	7.45	27.67		
300+57	LT.		16		78.87	8.68	32.21	40	PCC-1, PCM-1, PCP-1, PCP-2
306+04	LT.		30		125.54	13.81	51.26	42	PCC-1, PCM-1, PCP-1, PCP-2
308+63	LT.		16		41.81	4.60	17.07	28	PCC-1, PCM-1, PCP-1, PCP-2
313+43	LT.		16		73.72	8.11	30.10	34	PCC-1, PCM-1, PCP-1, PCP-2
* ENTIRE PROJECT TEMPORARY DRIVES							200.00		
TOTALS:				113.81	3231.29	355.44	1519.44	810	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

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.

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24"	(CLASS III) 30"	(CLASS IV) 30"	(CLASS IV) 36"	FLARED END SECTIONS FOR R.C. PIPES 24"	30"	36"	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.				EACH			SQ.YD.	M.GAL.	
254+73	CONST. 36" X 54" R.C. PIPE CULVERT				54			2	17	0.21	PCC-1, FES-1, FES-2
264+06	CONST. DBL. 30"X 76' ON 15^ LT. FWD. SKEW R.C. PIPE CULVERT			152			4		14	0.18	PCC-1, FES-1, FES-2
276+51	CONST. 24"X70' RC PIPE CULVERT	70				2			8	0.10	PCC-1, FES-1, FES-2
288+40	CONST. 24"X72' ON 30^ LT. FWD. SKEW RC PIPE CULVERT	84				2			8	0.10	PCC-1, FES-1, FES-2
299+01	CONST. 24"X68' RC PIPE CULVERT	68				2			8	0.10	PCC-1, FES-1, FES-2
307+09	CONST. 24"X70' RC PIPE CULVERT	70				2			8	0.10	PCC-1, FES-1, FES-2
311+47	CONST. 24"X70' RC PIPE CULVERT	70				2			8	0.10	PCC-1, FES-1, FES-2
316+53	CONST. 30"X76' RC PIPE CULVERT		76				2		13	0.16	PCC-1, FES-1, FES-2
TOTALS:		362	76	152	54	10	6	2	84	1.05	

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.

SOIL LOG

STATION	LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
255+00	6' RT.	0-3.5Z	24	10	A-4(3)	BR/GR
263+00	6' LT.	0-5	ND	NP	A-4(0)	BROWN
263+00	18' LT.	0-5	24	8	A-4(1)	BROWN
271+00	6' RT.	0-5	34	16	A-6(8)	BROWN
271+00	21' RT.	0-3.5Z	28	12	A-6(7)	BROWN
279+00	6' LT.	0-5	26	10	A-4(2)	RD/BR
279+00	18' LT.	0-5	ND	NP	A-4((0)	RD/BR
287+00	6' RT.	0-5	24	7	A-4(1)	BR/GR
287+00	18' RT.	0-2.5Z	25	6	A-4(0)	BR/GR
295+00	6' LT.	0-4.5Z	38	12	A-6(6)	BROWN
295+00	18' LT.	2.0Z	34	14	A-6(6)	BROWN
303+00	6' RT.	0-4.5Z	23	6	A-4(0)	BROWN
303+00	18' RT.	0-2.8Z	ND	NP	A-4(0)	BROWN
311+00	6' LT.	0-5	19	6	A-4(0)	BROWN
311+00	21' LT.	0-5	24	6	A-2-4(0)	BROWN
311+00	21' LT.	0-5	18	2	A-4(0)	BROWN

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

11/30/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	38	88

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	CU.YD.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						5.90	5.90	120.4	87	2135			106
ENTIRE	PROJECT	STAGE 1	5.90	11.80	5.90	601.8	5.90	3.06	3.06	62.4		2060	16		92
ENTIRE	PROJECT	STAGE 2	3.06	6.12	3.06	312.1	3.06	2.84	2.84	57.9	6	290		16	13
ENTIRE	PROJECT	STAGE 3	2.84	5.68	2.84	289.7	2.84								
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.											18	200	16	16	29
TOTALS:			11.80	23.60	11.80	1203.6	11.80	11.80	11.80	240.7	111	4685	32	32	240

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
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
290+00.00	293+70.00	CONSTRUCT ON RT.	370.00	4.00	164.44	164.44	2.07
TOTALS:					164.44	164.44	2.07

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
253+00.00	254+00.00	MAIN LANES	24.00	266.67
320+30.00	321+30.00	MAIN LANES	24.00	266.67
TOTAL:				533.34

NOTE: AVERAGE MILLING DEPTH 1".

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	50
DIRECTED BY THE ENGINEER	
TOTAL:	50

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
		EACH	
ENTIRE PROJECT	17	11	3
TOTALS:	17	11	3

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	STAGE 1-MAIN LANES	13223	4058	100
ENTIRE	PROJECT	STAGE 2-MAIN LANES	7998	1321	100
ENTIRE	PROJECT	APPROACHES	520	1145	
TOTALS:			21739	6524	200

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

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

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
252+99	253+65	LT. OF MAIN LANES	75	
253+20	254+74	RT. OF MAIN LANES	180	
253+65	258+12	LT. OF MAIN LANES	450	
254+53		LT. OF MAIN LANES		2
254+65	256+12	RT. OF MAIN LANES	140	
257+16		LT. OF MAIN LANES		2
259+60	262+65	LT. OF MAIN LANES	375	
265+34	269+58	LT. OF MAIN LANES	480	
294+67	300+50	LT. OF MAIN LANES	620	
295+14	318+38	RT. OF MAIN LANES	2330	
300+65	305+65	LT. OF MAIN LANES	560	
306+45	308+65	LT. OF MAIN LANES	230	
308+80	312+05	LT. OF MAIN LANES	340	
309+37		LT. OF MAIN LANES		2
314+25	314+85	LT. OF MAIN LANES	75	
TOTALS:			5855	6

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* 254+00	320+30	MAIN LANES - ENTIRE PROJECT TO BE	6630	28
		USED IF AND WHERE DIRECTED BY		
		THE ENGINEER		
TOTALS:			6630	28

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

11/30/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	39	88

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7606
MICHAEL D. PUGETT
12/12/17

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
254+45	18"X 45' CM PIPE CULVERT ON LT.	1
254+68	36"X 36' CM PIPE ON CULVERT	1
255+01	24"X 29' CM PIPE CULVERT ON LT.	1
257+23	18"X 44' CM PIPE CULVERT ON LT.	1
260+48	18'X24' CM PIPE CULVERT ON RT.	1
261+91	18" X 19' CM PIPE CULVERT ON RT.	1
263+72	18"X 24' PLASTIC PIPE CULVERT ON LT.	1
264+02	24"X 27' RC PIPE CULVERT W / HDWL.	1
265+09	18"X 51' CM PIPE CULVERT ON RT.	1
270+57	18'X 20' CM PIPE CULVERT ON RT.	1
276+02	18"X 24' CM PIPE CULVERT ON LT.	1
276+51	24"X 31' CM PIPE CULVERT W / HDWL.	1
280+40	18"X 32' CM PIPE CULVERT ON LT.	1
281+90	18"X31' PLASTIC PIPE CULVERT ON RT.	1
282+98	18"X24' CM PIPE CULVERT ON LT.	1
286+14	18"X 40' CM PIPE CULVERT ON LT.	1
288+40	24"X 35' CM PIPE CULVERT W / HDWL.	1
289+53	18"X23 CM PIPE CULVERT ON RT.	1
299+01	18"X 39' RC PIPE CULVERT W / HDWL.	1
306+04	18"X 74' CM PIPE CULVERT ON LT.	1
307+09	24"X30' RC PIPE CULVERT W / HDWL.	1
311+47	24"X 33' CM PIPE CULVERT W / HDWL.	1
316+53	30"X38' RC PIPE CULVERT W / HDWL.	1
TOTAL:		23

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	* 4' CHAIN LINK FENCE	* 16'-0" GATES
			LIN. FT.			EACH
253+20	254+90	RT. OF MAIN LANES		200		
254+45		LT. OF MAIN LANES				2
254+90	255+12	RT. OF MAIN LANES			25	
254+70	256+05	RT. OF MAIN LANES		135		
257+23		LT. OF MAIN LANES				2
259+66	262+70		310			
265+38	269+44	LT. OF MAIN LANES	550			
294+70	300+32	LT. OF MAIN LANES	575			
308+63		LT. OF MAIN LANES				1
314+29	320+30	LT. OF MAIN LANES		525		
TOTALS:			1435	860	25	5

* DENOTES ALTERNATE BID ITEM.

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
* ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	50
ENGINEER	
TOTAL:	50

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

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	LOCATION	WIDTH	LENGTH	TON
		FEET		
254+73	MAIN LANES	9.67	54	29
264+06	MAIN LANES	15.67	150	129
276+51	MAIN LANES	8.50	70	33
288+40	MAIN LANES	8.50	72	34
299+01	MAIN LANES	8.50	68	32
307+09	MAIN LANES	8.50	70	33
311+47	MAIN LANES	8.50	70	33
316+53	MAIN LANES	9.08	76	38
TOTAL:				361

AVG. DEPTH = 9"

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS	* CENTERLINE RUMBLE STRIPES IN ASPHALT ROADWAYS
			LIN.FT.	
254+00	320+30	LT. OF MAIN LANES	4352	
254+00	320+30	RT. OF MAIN LANES	4768	
254+00	320+30	CENTERLINE		6328
TOTAL:			9120	6328

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

DUMPED RIPRAP AND FILTER BLANKET

STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
		CU. YD.	SQ. YD.
254+73	OUTLET OF PIPE CULVERT	12	24
264+06	OUTLET OF PIPE CULVERT	20	40
276+51	OUTLET OF PIPE CULVERT	8	16
288+40	OUTLET OF PIPE CULVERT	8	16
299+01	OUTLET OF PIPE CULVERT	8	15
307+09	OUTLET OF PIPE CULVERT	8	16
311+47	OUTLET OF PIPE CULVERT	8	16
316+53	OUTLET OF PIPE CULVERT	82	164
	TO BE USED IF AND WHERE	10	20
	DIRECTED BY THE ENGINEER		
TOTALS:		164	327

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

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	50	100
DIRECTED BY THE ENGINEER		
TOTALS:	50	100

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

12/12/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	40	88

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	AVG. 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	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																						
253+00.00	254+00.00	100' TRANSITION	100.00	42.00	42.00	24.00	266.67	0.17	45.33							220.00		30.00	333.33	220.00	36.67	36.67
254+00.00	260+60.00	TAPER 2 LANE TO 3 LANE	660.00	132.13	872.06	40.00	2933.33	0.05	146.67	6.23	456.87	330.00	75.38	6.23	456.87	220.00	50.26	40.00	2933.33	220.00	322.67	372.93
260+60.00	318+30.00	NOTCH AND WIDEN	5770.00	161.25	9304.13	48.71	31228.52	0.05	1561.43	12.46	7988.24	330.00	1318.06	12.46	7988.24	220.00	878.71	50.00	32055.56	220.00	3526.11	4404.82
318+30.00	320+30.00	TAPER 3 LANE TO 2	200.00	132.13	264.26	40.00	888.89	0.05	44.44	6.23	138.44	330.00	22.84	6.23	138.44	220.00	15.23	40.00	888.89	220.00	97.78	113.01
320+30.00	321+30.00	100' TRANSITION	100.00	42.00	42.00	24.00	266.67	0.17	45.33							220.00		30.00	333.33	220.00	36.67	36.67
ADDITIONAL FOR LEVELING																						
253+00.00	254+00.00	100' TRANSITION	100.00			24.00	266.67	0.17	45.33					24.00	266.67	220.00	29.33					29.33
254+00.00	260+60.00	TAPER	660.00			24.00	1760.00	0.05	88.00					24.00	1760.00	220.00	193.60					193.60
260+60.00	318+30.00	NOTCH AND WIDEN	5770.00			24.00	15386.67	0.05	769.33					24.00	15386.67	220.00	1692.53					1692.53
318+30.00	320+30.00	TAPER	200.00			24.00	533.33	0.05	26.67					24.00	533.33	220.00	58.67					58.67
320+30.00	321+30.00	100' TRANSITION	100.00			24.00	266.67	0.17	45.33					24.00	266.67	220.00	29.33					29.33
ADDITIONAL FOR SUPERELEVATION																						
ENTIRE	PROJECT	MAIN LANES	4037.00	VAR.	810.00																	
TOTALS:					11334.45		53797.42		2817.86		8583.55		1416.28		26796.89		2947.66		36544.44		4019.90	6967.56

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

11/30/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-18				6	ARK.			
9-07-18				JOB NO.		050315	41	88

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7006
MICHAEL D. ROGERS
9/7/18

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		67	STATION
201	GRUBBING		67	STATION
202	REMOVAL AND DISPOSAL OF FENCE		5855	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES		6	EACH
202	REMOVAL AND DISPOSAL OF POSTS		4	EACH
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		4	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		23	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		2	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS		5	EACH
210	UNCLASSIFIED EXCAVATION		21739	CU. YD.
210	COMPACTED EMBANKMENT		6524	CU. YD.
SP & 210	SOIL STABILIZATION		200	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		12854	TON
SS & 401	TACK COAT		2918	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		1355	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		61	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		6935	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		388	TON
412	COLD MILLING ASPHALT PAVEMENT		533	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		50	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		50	TON
SS & 505	PORTLAND CEMENT CONCRETE DRIVEWAY		113.81	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
SS & 604	SIGNS		302	SQ. FT.
SS & 604	BARRICADES		80	LIN. FT.
SS & 604	TRAFFIC DRUMS		270	EACH
604	CONSTRUCTION PAVEMENT MARKINGS		52468	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		200	LIN. FT.
SS & 604	VERTICAL PANELS		85	EACH
SS & 605	CONCRETE DITCH PAVING (TYPE B)		164	SQ. YD.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		362	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		76	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		152	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		54	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN		810	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		10	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		6	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
606	SELECTED PIPE BEDDING		50	CU. YD.
611	UNDERDRAIN OUTLET PROTECTORS		28	EACH
611	4" PIPE UNDERDRAINS		6630	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)		361	TON
619	WIRE FENCE (TYPE C)		1435	LIN. FT.
619	WIRE FENCE (TYPE D)		860	LIN. FT.
* 619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	25	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	25	LIN. FT.
* 619	16' STEEL GATES	(ALTERNATE NO. 1)	5	EACH
* 619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	5	EACH
620	LIME		24	TON
620	SEEDING		11.80	ACRE
SS & 620	MULCH COVER		23.60	ACRE
620	WATER		1447.4	M. GAL.
621	TEMPORARY SEEDING		11.80	ACRE
621	SILT FENCE		4685	LIN. FT.
621	SEDIMENT BASIN		32	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		32	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		240	CU. YD.
621	ROCK DITCH CHECKS		111	CU. YD.
623	SECOND SEEDING APPLICATION		11.80	ACRE
624	SOLID SODDING		248	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		17	EACH
637	MAILBOX SUPPORTS (SINGLE)		11	EACH
637	MAILBOX SUPPORTS (DOUBLE)		3	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS		9120	LIN. FT.
SP & 642	CENTERLINE RUMBLE STRIPES IN ASPHALT ROADWAYS		6328	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")		14250	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")		13260	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		155	EACH
816	FILTER BLANKET		327	SQ. YD.
816	DUMPED RIPRAP		164	CU. YD.

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
8/24/2018	ADDED - LIQUID ANTI-STRIPPING ADDITIVE SPECIAL PROVISION	3 & 41
9/7/2018	REVISED SPECIAL PROVISIONS - DELAY IN RIGHT OF WAY OCCUPANCY, UTILITY ADJUSTMENTS	41

9/7/2018

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	42	88

(2) SURVEY CONTROL DETAILS

SURVEY CONTROL COORDINATES
Project Name: 050315
Date: 7/15/2015
Coordinate System: Arkansas State Plane Coordinates
Based on AHTD GPS PTS : *120018A & 120020*
Based on NGS PTS : *N 207 (2ND ORDER)*
Projected to Ground Coordinates
Units: U.S. Survey Foot

COORDINATES LISTED BELOW ARE GROUND (Localized) COORDINATES !!!!

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description
1	405214.2978	0.0340	1322597.7129	0.0380	871.97	0.006	CTL	PD:STD AHTD MON. STAMPED PN:1
2	405368.0163	0.0360	1323394.4160	0.0390	871.93	0.006	CTL	PD:STD AHTD MON. STAMPED PN:2
3	405589.3083	0.0310	1324088.8698	0.0240	885.69	0.007	CTL	PD:STD AHTD MON. STAMPED PN:3
4	405889.0658	0.0290	1324513.8683	0.0340	861.73	0.007	CTL	PD:STD AHTD MON. STAMPED PN:4
5	405939.1767	0.0300	1324908.4080	0.0320	862.59	0.007	CTL	PD:STD AHTD MON. STAMPED PN:5
6	405967.8837	0.0310	1325583.8841	0.0270	858.64	0.007	CTL	PD:STD AHTD MON. STAMPED PN:6
7	406011.9767	0.0290	1326405.7754	0.0360	874.80	0.008	CTL	PD:STD AHTD MON. STAMPED PN:7
8	405773.3710	0.0240	1326768.8473	0.0280	891.58	0.008	CTL	PD:STD AHTD MON. STAMPED PN:8
9	405266.0653	0.0260	1327293.2477	0.0320	899.73	0.008	CTL	PD:STD AHTD MON. STAMPED PN:9
10	404755.2277	0.0290	1327795.0031	0.0320	876.89	0.008	CTL	PD:STD AHTD MON. STAMPED PN:10
11	404214.0491	0.0230	1328442.1957	0.0210	897.10	0.009	CTL	PD:STD AHTD MON. STAMPED PN:11
12	403831.9566	0.0380	1328810.8211	0.0370	886.55	0.009	CTL	PD:STD AHTD MON. STAMPED PN:12
13	403081.9354	0.0330	1329214.4506	0.0290	872.79	0.003	CTL	PD:STD AHTD MON. STAMPED PN:13
100	400709.2557	0.0001	1330758.8463	0.0001	877.31	0.000	GPS	PD:AHTD GPS MON 120018A
101	405096.0996	0.0001	1320219.1707	0.0001	868.05	0.000	GPS	PD:AHTD GPS MON 120020
102	405115.1908	0.0001	1321494.9628	0.0001	874.22	0.000	GPS	PD:AHTD GPS MON 120021
900	405166.9521	30	1317995.8596	30	834.71	0.089	TBM	PD:CH SQ CONC NE COR PD:CATTLE GUARD
911	404595.1935	30	1327980.7480	30	874.44	0.008	TBM	PD:CHISELED SQ ON 24" RCP
912	405953.8244	30	1325132.9213	30	859.67	0.007	TBM	PD:CHISELED SQ ON FLUME
913	405373.6419	30	1323146.5295	30	860.16	0.001	TBM	PD:CHISELED SQ SE COR PARKING
914	405172.6497	30.0000	1320722.2362	30.0000	864.88	0.005	TBM	PD:CHISELED SQ ON 24" RCP

*Standard Primary Control Monument - Rebar and Cap - Standard - 5/8"x 24" Rebar with 2"Aluminum Cap stamped: *"(include all common information here)"* plus other markings indicated in the point description of the individual point. AHTD monuments will be stamped "Arkansas Hwy & Trans Dept" with "PN: ###" & "Job ######". Monuments that are set by Consultants will be stamped "Arkansas Hwy & Trans Dept" with "PN:###", "Job######", & "PS####". The consultant Professional Surveyor in charge will stamp his/her PS license number on the cap.

**Standard GPS Control Point Monument - 5/8" x 48" Rebar with 2.5"Aluminum Cap stamped: *"(include all common information here)"* plus other markings indicated in the point description of the individual point. These monuments will be stamped "Ark. State Hwy Trans. Dept.", "GPS Survey", & "Point No. ######".

SX, SY, SZ – Represents the standard error estimate of the coordinate values of each point at the 67% confidence level (one sigma) based on the least squares analysis of the control network. See the AASHTO SDMS Technical Data Guide data tag definition for SX:, SY:, and SZ: for additional information. These values shall be used when control points are added and the entire network is reprocessed using least square analysis. A value of 0.001 is defined as fixed (no adjustment) in the least square analysis process. A value of 30 is defined as location by handheld GPS device or scaled from USGS Quadmap.

Reference Control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall not be used for vertical control unless the elevation has been established from the project datum with 3-wire level techiniques.

All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. New survey control shall not be independent of the survey control listed above. This includes horizontal coordinates and elevations.

Positional Accuracy:
- Horizontal - GPS (1.0 cm± 1PPM) *PN: 100-102*
- Horizontal - Primary (2.0cm± 20PPM): *PN:1-13*
- Horizontal - Secondary (3 cm ± 50PPM): *PN:N/A*
- Vertical - NGS 1st Order (±4mm x Vdist in km) *PN:N/A*
- Vertical - NGS 2nd Order (±6mm x Vdist in km) *PN:N 207*
- Vertical - NGS 3rd Order (±8mm x Vdist in km) *PN:1-914*

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0301 - North Zone
The adjustment year is based on metadata in the SDMS Control file
A project CAF of: 0.999909518 has been used to compute the above coordinates.
The project CAF shall have a minimum precision of 9 digits right of the decimal.
This CAF is intended for use within the project limits only.
Grid Distance = Ground Distance X CAF
If Coordinates are listed as Ground:
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0
If Coordinates are listed as Grid:
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM: N 207 (2ND ORDER)
A project Elevation Factor of: 0.999582607 has been computed and incorporated in the above CAF.
This is based on the average elevation of the project: 872.64 Feet
3-Wire Leveling techniques have been used to establish elevations on
Points: 1-13, 100-102, 910-914 From NGS BM: N 207

Basis of Bearing: Grid Bearings based on AHTD GPS points: *120018A & 120020*
Convergence Angle is: 0°20'46.38" Right at PN: 7
LT: 35-26-55.33 N LG: 091-57-11.36 W
Grid Azimuth = Astronomical Azimuth - Convergence Angle

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7685
MICHAEL D. FUGETT
12/12/17

CONST.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	237+60.00	405427.6383	1323542.3039
8001	PC	240+80.06	405505.6030	1323852.7204
8003	PT	243+79.58	405632.9325	1324121.7124
8004	PC	245+99.62	405764.0133	1324298.4516
8006	PT	250+22.30	405904.1349	1324690.7508
8007	PI	252+99.94	405917.4482	1324968.0676
8008	PC	254+86.41	405925.1136	1325154.3822
8010	PT	257+90.23	405943.6347	1325457.6142
8011	PC	259+52.49	405956.7455	1325619.3461
8013	PT	264+61.07	405992.2111	1326126.6773
8014	PC	266+15.93	406001.2957	1326281.2699
8016	PT	270+58.34	405844.0427	1326680.0167
8017	PC	273+11.41	405660.7508	1326854.5115
8019	PT	274+76.19	405544.3145	1326971.0833
8020	PI	276+75.05	405407.3688	1327115.2687
8021	PI	279+23.97	405238.0616	1327297.7464
8022	PI	289+57.03	404539.4574	1328058.7772
8023	PC	293+28.34	404287.9261	1328331.9050
8025	PT	294+79.28	404184.2241	1328441.5761
8026	PC	298+44.34	403929.9304	1328703.5082
8028	PT	301+93.62	403649.5542	1328909.0341
8029	PI	308+27.67	403082.8034	1329193.3099
8030	PC	309+49.09	402974.8269	1329248.8523
8032	PT	313+95.81	402621.1621	1329518.0018
8033	PC	316+39.27	402456.1330	1329696.9889
8035	PT	319+16.95	402284.7238	1329915.0916
8036	PI	321+74.35	402142.0858	1330129.3585
8037	POE	322+99.84	402073.1366	1330234.2012

COUNTY RD 2

POINT NO.	TYPE	STATION	NORTHING	EASTING
8100	POB	0+00.00	405995.6682	1326185.5063
8101	PC	0+03.26	405992.4047	1326185.6023
8102	PT	0+85.22	405944.1137	1326240.4598
8103	PC	0+93.42	405944.9142	1326248.6243
8104	PT	1+82.99	405889.0331	1326303.1275
8105	POE	2+46.51	405825.9903	1326295.3529

RIVER BLUFF RD.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8200	POB	1+76.06	405895.9419	1326303.4972
8201	PC	1+72.06	405899.9363	1326303.2741
8202	PT	1+66.42	405905.5085	1326302.4193
8203	POE	1+52.92	405918.1772	1326297.8868

12/8/2017

R050315.DGN

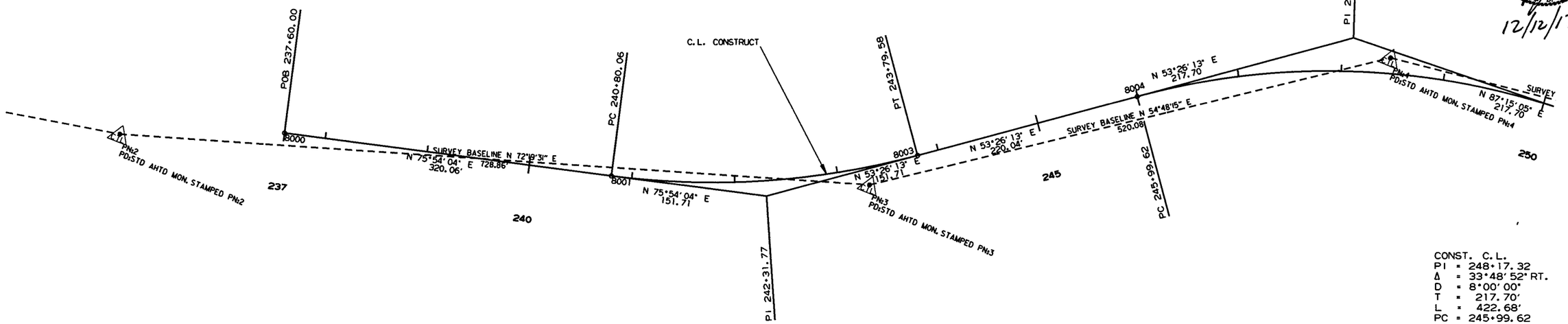
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	43	88

(2) SURVEY CONTROL DETAILS

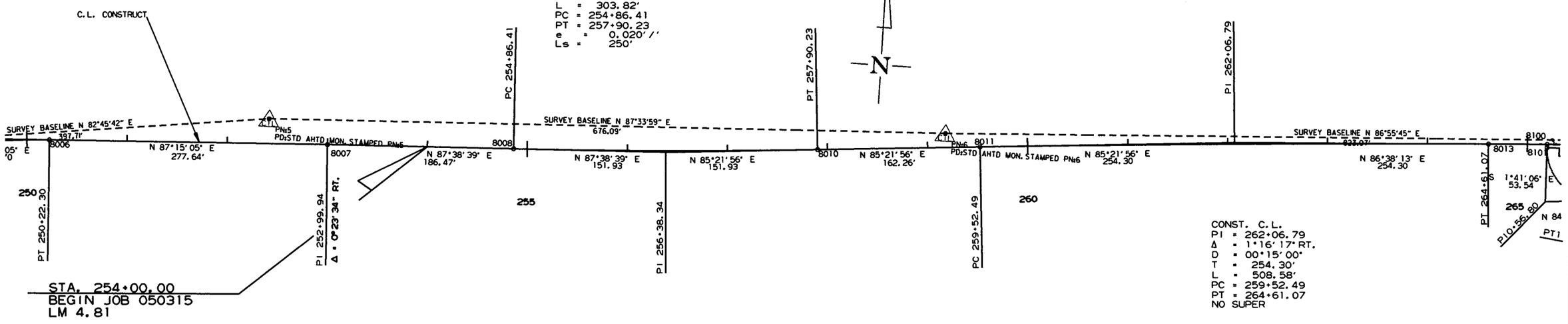
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7685
MICHAEL D. FUGETT
12/12/17

CONST. C.L.
PI = 242+31.77
Δ = 22°27'51" LT.
D = 7°30'00"
T = 141.71'
L = 299.52'
PC = 240+80.06
PT = 243+79.58
INFORMATION ONLY



CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30
INFORMATION ONLY

CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020'/'
Ls = 250'



CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

12/8/2017
R050315.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	44	88

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7695
MICHAEL D. FUGETT
12/12/17

RIVER BLUFF RD. C.L.
PI = 10+67.48
Δ = 37°33'11" LT.
D = 71°37'11"
T = 27.30'
L = 52.43'
PC = 10+40.29
PT = 10+92.72

CONST. C.L.
PI = 273+93.82
Δ = 2°53'01" LT.
D = 1°45'00"
T = 82.41'
L = 164.78'
PC = 273+11.41
PT = 274+76.19
e = 0.036'/'
Ls = 250'

CONST. C.L.
PI = 268+52.18
Δ = 49°46'18" RT.
D = 11°15'00"
T = 236.25'
L = 442.41'
PC = 266+15.93
PT = 270+58.34
e = 0.098'/'
Ls = 250'

DRIVEWAY C.L.
PI = 0+56.80
Δ = 93°54'54" LT.
D = 114°35'30"
T = 53.54'
L = 81.96'
PC = 0+03.26
PT = 0+85.22

DRIVEWAY C.L.
PI = 1+55.87
Δ = 102°37'49" RT.
D = 114°35'30"
T = 62.44'
L = 89.56'
PC = 0+93.42
PT = 1+82.99

CONST. C.L.
PI = 294+03.81
Δ = 1°30'34" RT.
D = 1°00'00"
T = 75.47'
L = 150.94'
PC = 293+28.34
PT = 294+79.28
e = 0.021'/'
Ls = 250'

12/8/2017

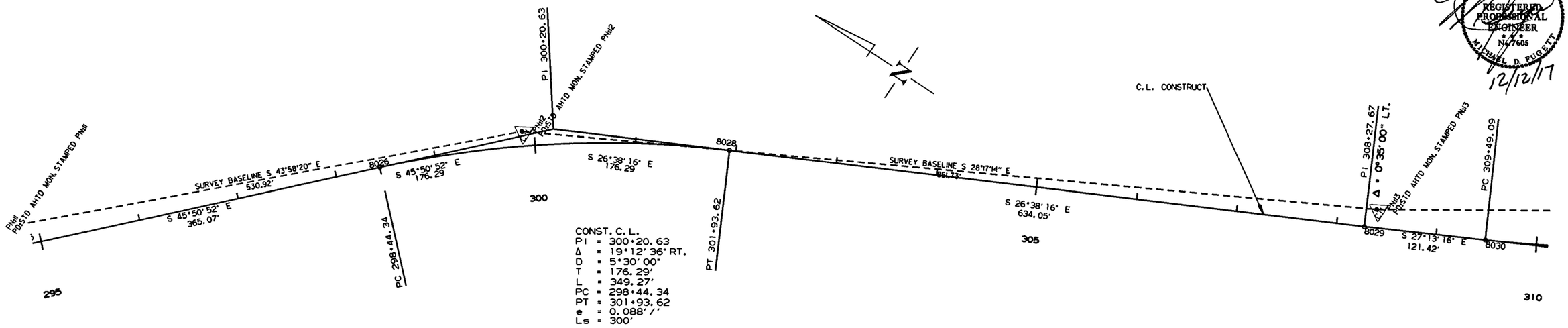
R050315.DGN

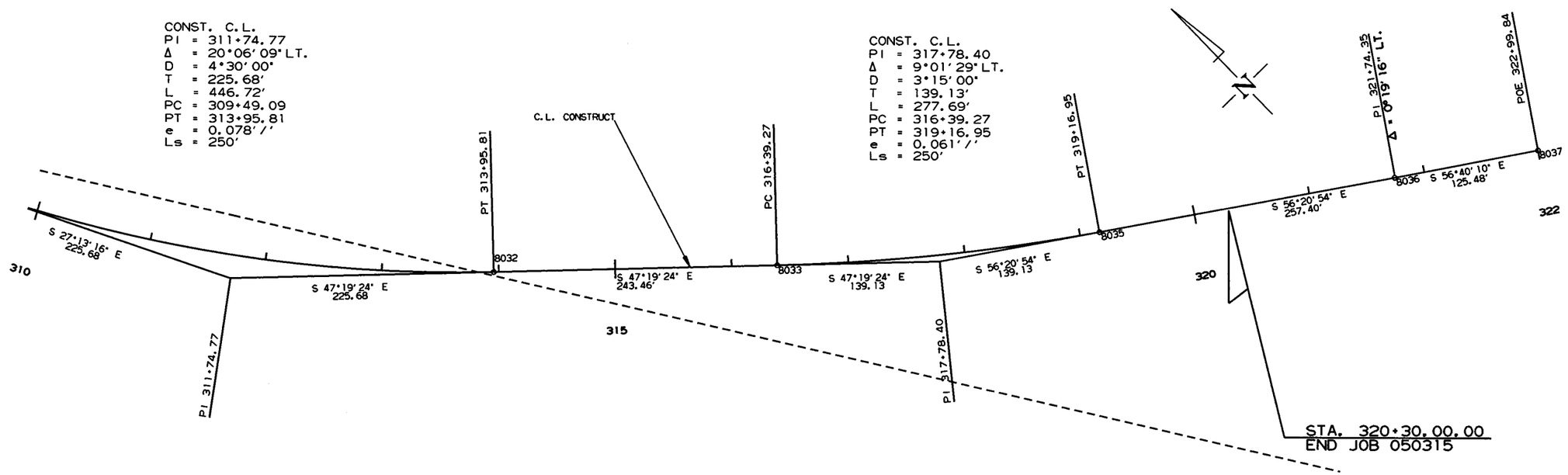
SURVEY CONTROL DETAILS

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.		050315	45	88

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 17605
MICHAEL D. FUGETT
12/12/17





12/8/2017

R050315.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	46	88

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7685
MICHAEL D. FUGETT
12/12/17

STA. 254+45 IN PLACE
18" X 45' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. 20 CU. YD.

STA. 254+73 CONSTRUCT
36" X 54' R.C. PIPE CULVERT
W/FES LT. & RT.
(CLASS IV) (TYPE 3 BEDDING)
Q50 = 22.1 CFS, D.A. = 15.5 ACRES
36" R.C. PIPE = 54 LIN. FT.
36" FES = 2 EACH

STA. 254+68 IN PLACE
36" X 36' C.M. PIPE CULVERT
REMOVE

FENCE ITEMS

STA.	STA.	SIDE	GATES	CHAIN LINK	TYPE C	TYPE D
253+20	254+90	RT.				200'
254+45		LT.	2			
254+90	255+12	RT.		25'		
254+70	256+05	RT.				135'
257+23		LT.	2			
259+66	262+70	LT.			310'	

CONST. C.L.
PI = 256+38.34
Δ = 2°16'43" LT.
D = 00°45'00"
T = 151.93'
L = 303.82'
PC = 254+86.41
PT = 257+90.23
e = 0.020 '/'
Ls = 250'

STA. 255+37 IN PLACE
24" X 34' CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 255+01 IN PLACE
24" X 72' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE 29' & RETAIN
REMAINING PIPE CULVERT

STA. 257+23 IN PLACE
18" X 44' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 35 CU. YD.

STA. 263+72 IN PLACE
18" X 24' PLASTIC PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. =50 CU. YD.

STA. 258+27 INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 20 CU. YD.

STA. 264+06 IN PLACE
24" X 27' R.C. PIPE CULVERT
REMOVE & CONSTRUCT
DBL. 30" X 76" R.C. PIPE CULVERT
ON 15° LT. FWD. SKEW
(CLASS IV) (TYPE 3 BEDDING)
W/F.E.S. LT. & RT.
Q50=46.6 CFS, D.A. = 19.8 AC
30" R.C. PIPE = 152 LIN. FT.
30" R.C. FES = 4 EACH

660' LANE DROP TAPER

100' TRANSITION

PROPOSED R/W

EXISTING R/W

CONST. LIMITS

RET. WALL

N 87°15'05" E

N 87°38'39" E

N 85°21'56" E

N 86°38'13" E

PNS PD STD AHTD MON STAMPED PNS

CONST. C.L.
PI = 248+17.32
Δ = 33°48'52" RT.
D = 8°00'00"
T = 217.70'
L = 422.68'
PC = 245+99.62
PT = 250+22.30

INFORMATION ONLY

STA. 254+00.00
BEGIN JOB 050315
LM 4.81

STA. 254+73 INSTALL
DUMPED RIPRAP ON RT. 12 CU. YD.

STA. 256+34 INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. = 15 CU. YD.

STA. 260+48 IN PLACE
18" X 24' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. = 10 CU. YD.

STA. 261+91 IN PLACE
18" X 19' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. = 10 CU. YD.

REMOVAL AND DISPOSAL OF FENCE ITEMS

STA.	STA.	SIDE	FENCE (LIN. FT.)
252+99	253+65	LT.	75
253+20	254+74	RT.	180
253+65	258+12	LT.	450
254+65	256+12	LT.	140
259+60	262+65	LT	375

CONST. C.L.
PI = 262+06.79
Δ = 1°16'17" RT.
D = 00°15'00"
T = 254.30'
L = 508.58'
PC = 259+52.49
PT = 264+61.07
NO SUPER

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

STA. 253+88.32 BEGIN SUPERELEVATION
STA. 256+38.32 MAX. SUPERELEVATION (0.020'/')
STA. 256+38.32 MAX. SUPERELEVATION (0.020'/')
STA. 258+88.32 END SUPERELEVATION

INLET FL. 854.70 LT.
OUTLET FL. 853.57 RT.

RT. DITCH GRADE 0.50%

LT. DITCH GRADE 0.40%

254+73.00 LT. 854.75
255+00.00 RT. 855.49
256+00.00 RT. 855.99
258+27.00 LT. 856.17
262+00.00 LT. 855.61
264+00.00 LT. 854.65
264+06.00 LT. 854.65

LT. DITCH GRADE -0.48%

LT. DITCH GRADE 4.03%

INLET FL. 853.64 LT.
OUTLET FL. 853.23 RT.

250+00 251+00 252+00 253+00 254+00 255+00 256+00 257+00 258+00 259+00 260+00 261+00 262+00 263+00 264+00 265+00

900 890 880 870 860 850 840 830

12/7/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	47	88

(2) PLAN AND PROFILE SHEETS

STA. 269+73 CONSTRUCT COUNTY RD. TURNOUT (RIVER BLUFF RD.) CONSTRUCT APPR. = 325 CU. YD.

REMOVAL AND DISPOSAL OF FENCE ITEMS

STA.	STA.	SIDE	FENCE (LIN. FT.)
265+34	269+58	LT	480

STA. 269+50 126' LT. INSTALL 18" X 44' PIPE CULVERT LT. SIDE DRAIN CONSTRUCT APPR. = 10 CU. YD.

STA. 273+73 CONSTRUCT COUNTY RD. TURNOUT (ROCKING T RD.) CONSTRUCT APPR. = 40 CU. YD.

STA. 276+02 IN PLACE 18" X 24' CM PIPE CULVERT LT. SIDE DRAIN
REMOVE & INSTALL 18" X 32' PIPE CULVERT LT. SIDE DRAIN CONSTRUCT APPR. = 20 CU. YD.

RIVER BLUFF RD. C.L.
PI = 10+67.48
Δ = 37°33'11" LT.
D = 71°37'11"
T = 27.30'
L = 52.43'
PC = 10+40.29
PT = 10+92.72

CONST. C.L.
PI = 273+93.82
Δ = 2°53'01" LT.
D = 1°45'00"
T = 82.41'
L = 164.78'
PC = 273+11.41
PT = 274+76.19
e = 0.036 '/'
Ls = 250'

STA. 276+51 IN PLACE 24" X 31' C.M. PIPE CULVERT REMOVE & CONSTRUCT 24" X 70' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) W/F.E.S. LT. & RT. Q50 = 6.55 CFS, D.A. = 3.0 AC 24" R.C. PIPE = 70 LIN. FT. 24" R.C. FES = 2 EACH

STA. 280+40 IN PLACE 18" X 32' CM PIPE CULVERT RT. SIDE DRAIN REMOVE & INSTALL 18" X 32' PIPE CULVERT LT. SIDE DRAIN CONSTRUCT APPR. 25 CU. YD.

FENCE ITEMS

STA.	STA.	SIDE	TYPE C
265+38	269+44	LT.	550'

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7405 MICHAEL D. PUGETT 12/12/17

CONST. C.L.
PI = 268+52.18
Δ = 49°46'18" RT.
D = 11°15'00"
T = 236.25'
L = 442.41'
PC = 266+15.93
PT = 270+58.34
e = 0.098 '/'
Ls = 250'

DRIVEWAY C.L.
PI = 0+56.80
Δ = 93°54'54" LT.
D = 114°35'30"
T = 53.54'
L = 81.96'
PC = 0+03.26
PT = 0+85.22

DRIVEWAY C.L.
PI = 1+55.87
Δ = 102°37'49" RT.
D = 114°35'30"
T = 62.44'
L = 89.56'
PC = 0+93.42
PT = 1+82.99

STA. 270+57 IN PLACE 18" X 20' CM PIPE CULVERT RT. SIDE DRAIN REMOVE & INSTALL 18" X 30' PIPE CULVERT RT. SIDE DRAIN CONSTRUCT APPR. = 20 CU. YD.

STA. 265+09 IN PLACE 18" X 51' CM PIPE CULVERT RT. SIDE DRAIN REMOVE

STA. 265+20 INSTALL 18" X 40' PIPE CULVERT RT. SIDE DRAIN CONSTRUCT APPR. = 260 CU. YD.

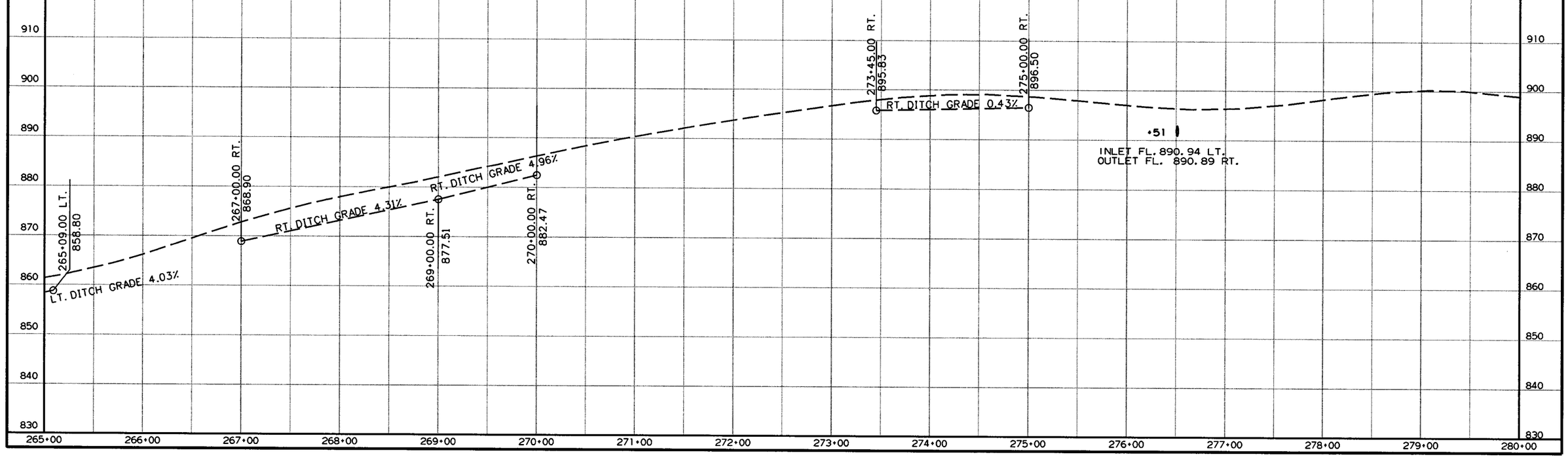
STA. 273+86 INSTALL 18" X 38' PIPE CULVERT RT. SIDE DRAIN (WHITE OAK LANE) CONSTRUCT TURNOUT = 20 CU. YD.

STA. 279+25 INSTALL 18" X 28' PIPE CULVERT RT. SIDE DRAIN CONSTRUCT APPR. = 10 CU. YD.

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

STA. 264+89.40 BEGIN SUPERELEVATION
STA. 267+39.40 MAX. SUPERELEVATION (0.098 '/')
STA. 269+34.87 MAX. SUPERELEVATION (0.098 '/')
STA. 271+84.87 END SUPERELEVATION

STA. 271+84.87 BEGIN SUPERELEVATION
STA. 273+93.80 MAX. SUPERELEVATION (0.030 '/')
STA. 273+93.80 MAX. SUPERELEVATION (0.030 '/')
STA. 276+02.73 END SUPERELEVATION



12/8/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	050315	48	88

(2) PLAN AND PROFILE SHEETS

STA. 280+40 IN PLACE
18" X 32' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. 25 CU. YD.

STA. 282+98 IN PLACE
18" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 30 CU. YD.

STA. 286+14 IN PLACE
18" X 40' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 52' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. 30 CU. YD.

STA. 288+40 IN PLACE
24" X 35' C.M. PIPE CULVERT
REMOVE & CONSTRUCT
24" X 84' R.C. PIPE CULVERT
ON 30° LT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING)
W/F.E.S. LT. & RT.
Q50 = 28.5 CFS, D.A. =11.7 AC
24" R.C. PIPE = 84 LIN. FT.
24" R.C. FES = 2 EACH

REMOVAL AND DISPOSAL OF FENCE ITEMS

STA.	STA.	SIDE	FENCE
294+67	300+50	LT.	620

FENCE ITEMS

STA.	STA.	SIDE	TYPE C
294+70	300+32	LT.	575'

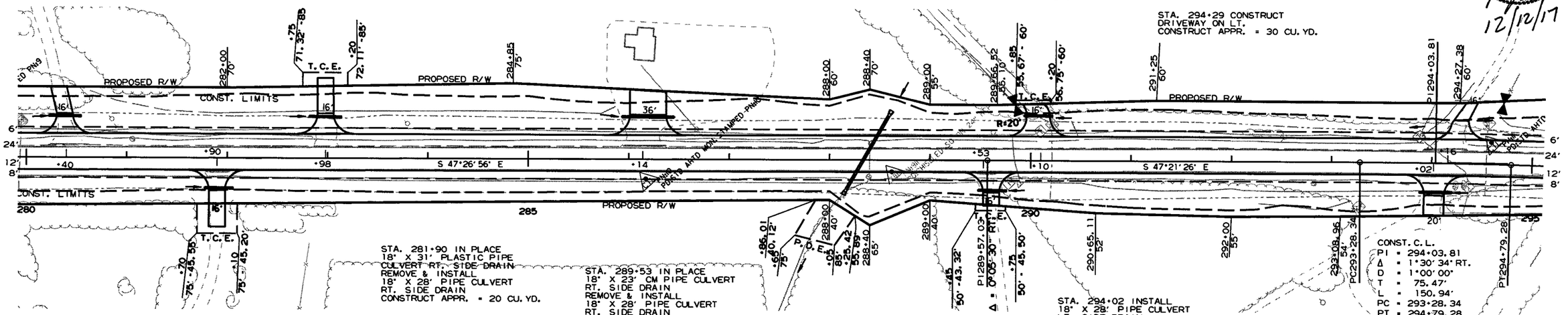
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	TYPE B (W=4')
290+00	293+70	RT.	370'

STA. 290+10 INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 10 CU. YD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7405
MICHAEL D. FUGETT
12/12/17

STA. 294+29 CONSTRUCT
DRIVEWAY ON LT.
CONSTRUCT APPR. = 30 CU. YD.



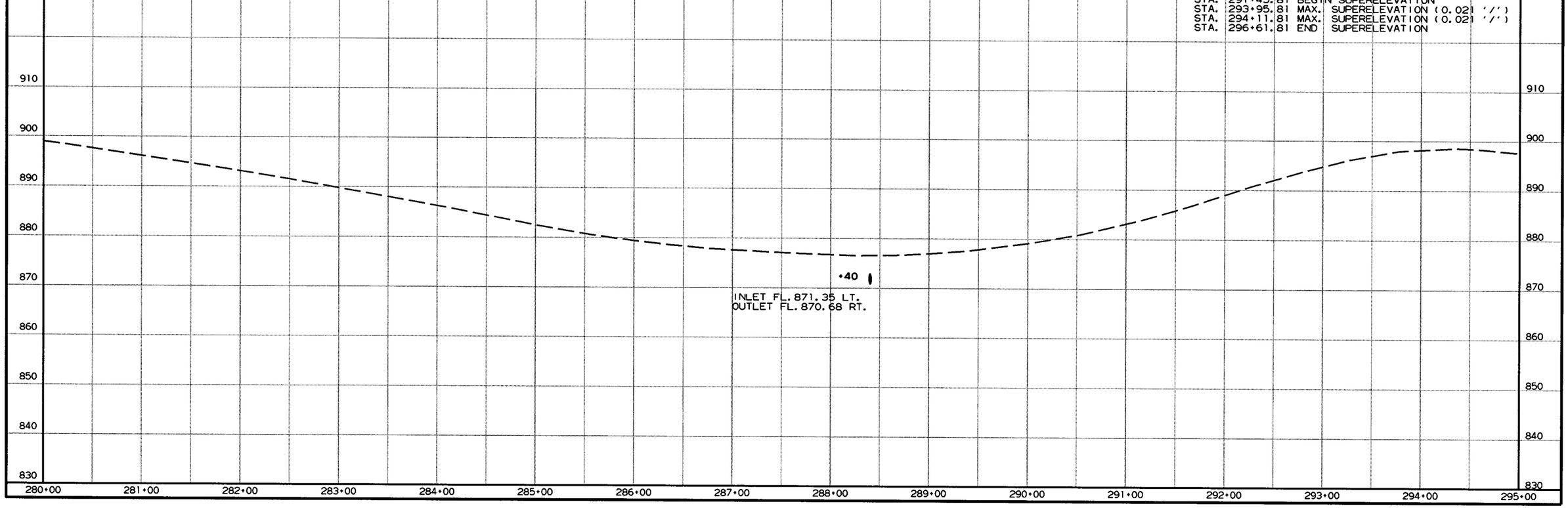
STA. 281+90 IN PLACE
18" X 31' PLASTIC PIPE
CULVERT RT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. = 20 CU. YD.

STA. 289+53 IN PLACE
18" X 23' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. = 10 CU. YD.

STA. 294+02 INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 20 CU. YD.

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

STA.	291+45.81	BEGIN	SUPERELEVATION
STA.	293+95.81	MAX.	SUPERELEVATION (0.021 '/')
STA.	294+11.81	MAX.	SUPERELEVATION (0.021 '/')
STA.	296+61.81	END	SUPERELEVATION



12/7/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	49	88

(2) PLAN AND PROFILE SHEETS

FENCE ITEMS

STA.	STA.	SIDE	GATES TYPE C	TYPE D
294+70	300+32	LT.	575'	
308+63		LT.	1	
314+29	320+30	LT.		525'

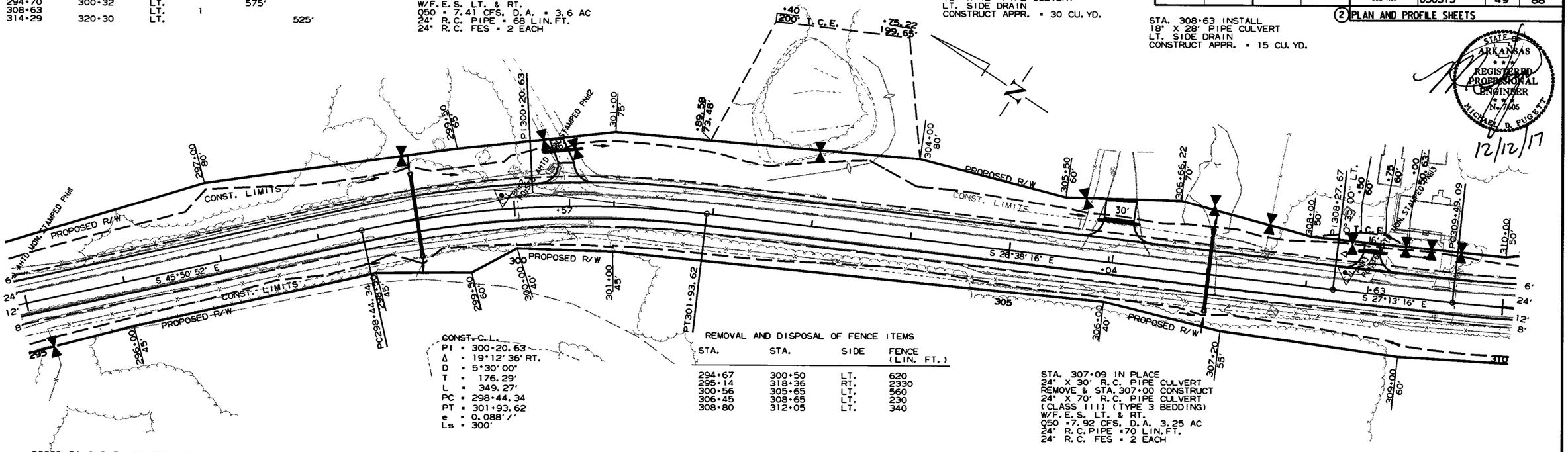
STA. 299+01 IN PLACE
18" X 39' R.C. PIPE CULVERT
REMOVE & CONSTRUCT
24" X 68' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
W/F.E.S. LT. & RT.
Q50 = 7.41 CFS, D.A. = 3.6 AC
24" R.C. PIPE = 68 LIN.FT.
24" R.C. FES = 2 EACH

STA. 300+57 INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 20 CU. YD.

STA. 306+04 IN PLACE
18" X 74' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 30 CU. YD.

STA. 308+63 INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 15 CU. YD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7405
MICHAEL D. FUGETT
12/12/17



CONST. C.L.
PI = 300+20.63
Δ = 19°12' 36" RT.
D = 5°30' 00"
T = 176.29'
L = 349.27'
PC = 298+44.34
PT = 301+93.62
e = 0.088'/'
Ls = 300'

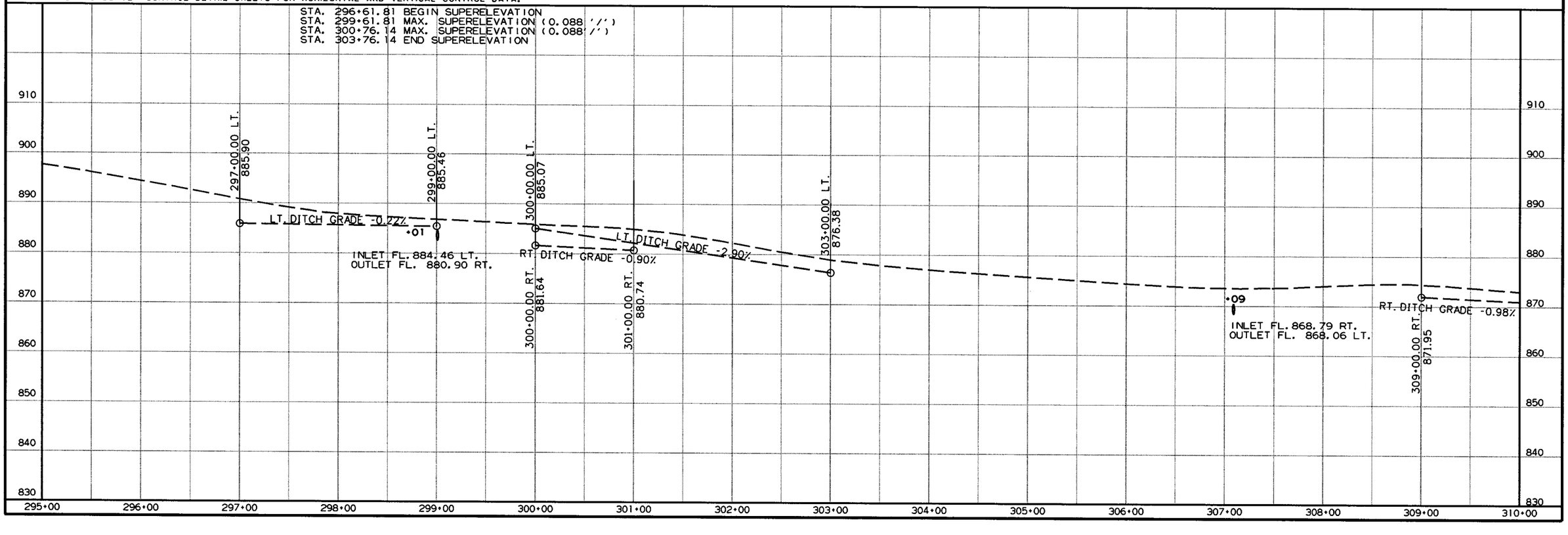
REMOVAL AND DISPOSAL OF FENCE ITEMS

STA.	STA.	SIDE	FENCE (LIN. FT.)
294+67	300+50	LT.	620
295+14	318+36	RT.	2330
300+56	305+65	LT.	560
306+45	308+65	LT.	230
308+80	312+05	LT.	340

STA. 307+09 IN PLACE
24" X 30' R.C. PIPE CULVERT
REMOVE & STA. 307+00 CONSTRUCT
24" X 70' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
W/F.E.S. LT. & RT.
Q50 = 7.92 CFS, D.A. 3.25 AC
24" R.C. PIPE = 70 LIN.FT.
24" R.C. FES = 2 EACH

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

STA. 296+61.81 BEGIN SUPERELEVATION
STA. 299+61.81 MAX. SUPERELEVATION (0.088 '/')
STA. 300+76.14 MAX. SUPERELEVATION (0.088 '/')
STA. 303+76.14 END SUPERELEVATION



12/7/2017

R050315.DGN

REMOVAL AND DISPOSAL OF FENCE ITEMS

STA.	STA.	SIDE	FENCE (LIN. FT.)
314+25	314+85	LT.	75

CONST. C.L.
PI = 311+74.77
Δ = 20°06'09" LT.
D = 4°30'00"
T = 225.68'
L = 446.72'
PC = 309+49.09
PT = 313+95.81
e = 0.078'/'
Ls = 250'

STA. 313+43 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 25 CU. YD.

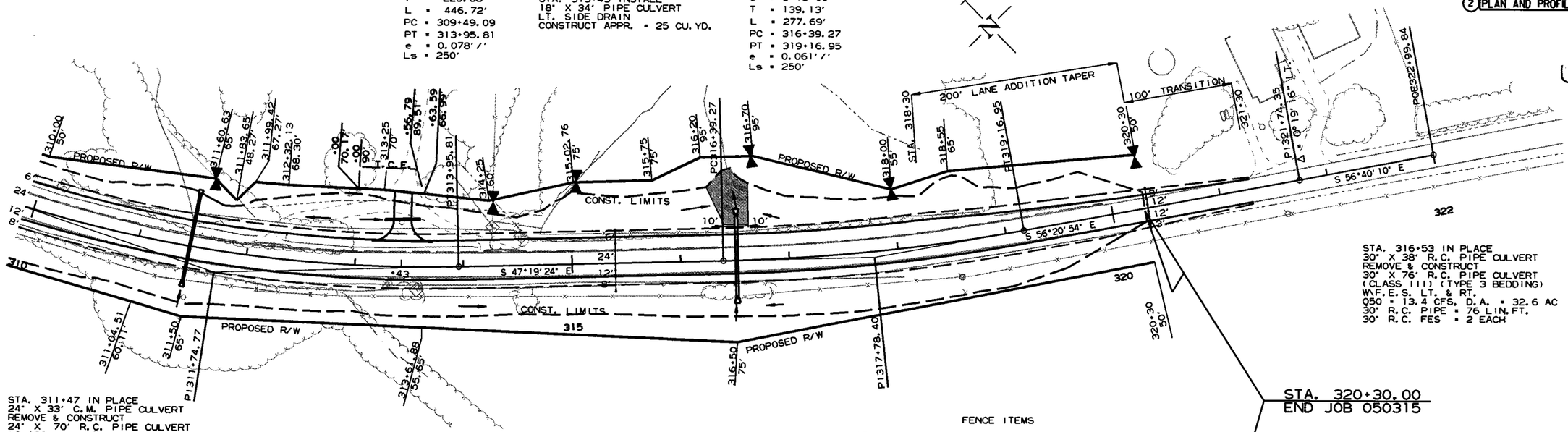
CONST. C.L.
PI = 317+78.40
Δ = 9°01'29" LT.
D = 3°15'00"
T = 139.13'
L = 277.69'
PC = 316+39.27
PT = 319+16.95
e = 0.061'/'
Ls = 250'

STA. 316+53 INSTALL
DUMPED RIPRAP AT OUTLET
CONST. = 82 CU. YD.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	50	88

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
12/12/17



STA. 316+53 IN PLACE
30" X 38' R.C. PIPE CULVERT
REMOVE & CONSTRUCT
30" X 76' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
W/F.E.S. LT. & RT.
Q50 = 13.4 CFS. D.A. = 32.6 AC
30" R.C. PIPE = 76 LIN.FT.
30" R.C. FES = 2 EACH

STA. 320+30.00
END JOB 050315

STA. 311+47 IN PLACE
24" X 33' C.M. PIPE CULVERT
REMOVE & CONSTRUCT
24" X 70' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
W/F.E.S. LT. & RT.
Q50 = 6.5 CFS. D.A. = 12.0 AC
24" R.C. PIPE = 70 LIN.FT.
24" R.C. FES = 2 EACH

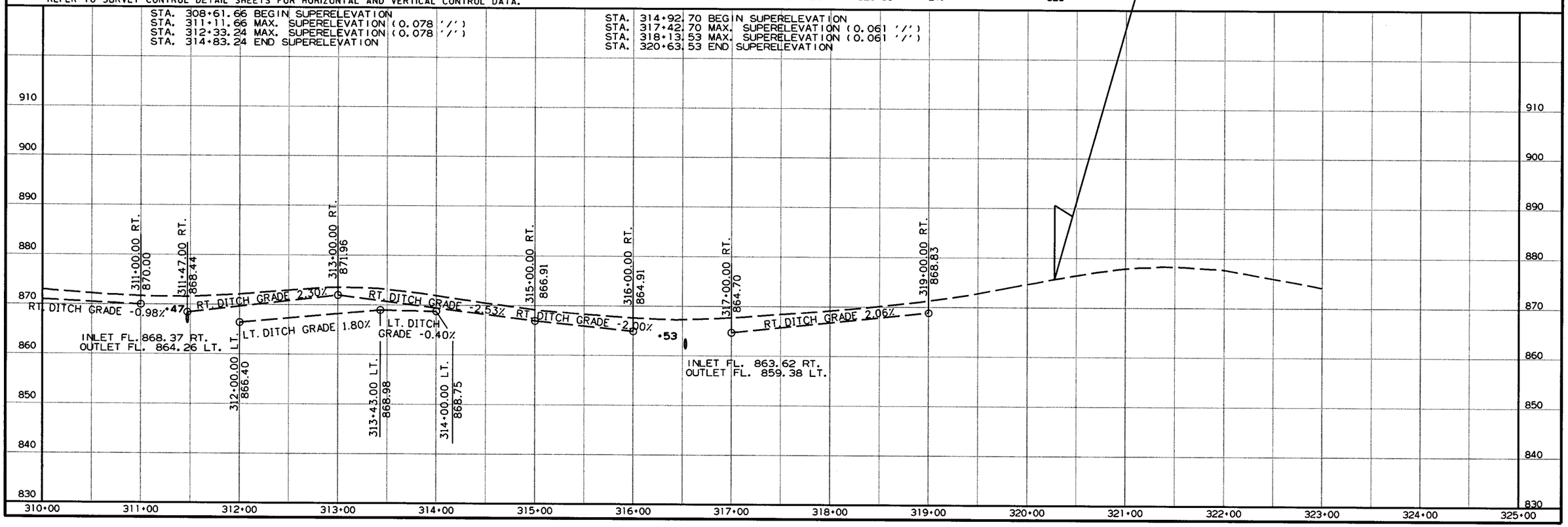
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

FENCE ITEMS

STA.	STA.	SIDE	TYPE C	TYPE D
294+70	300+32	LT.	575'	
295+17	313+16	RT.		1810'
313+16	320+30	RT.		730'
314+29	320+30	LT.		525'

STA. 308+61.66 BEGIN SUPERELEVATION
STA. 311+11.66 MAX. SUPERELEVATION (0.078 '/')
STA. 312+33.24 MAX. SUPERELEVATION (0.078 '/')
STA. 314+83.24 END SUPERELEVATION

STA. 314+92.70 BEGIN SUPERELEVATION
STA. 317+42.70 MAX. SUPERELEVATION (0.061 '/')
STA. 318+13.53 MAX. SUPERELEVATION (0.061 '/')
STA. 320+63.53 END SUPERELEVATION



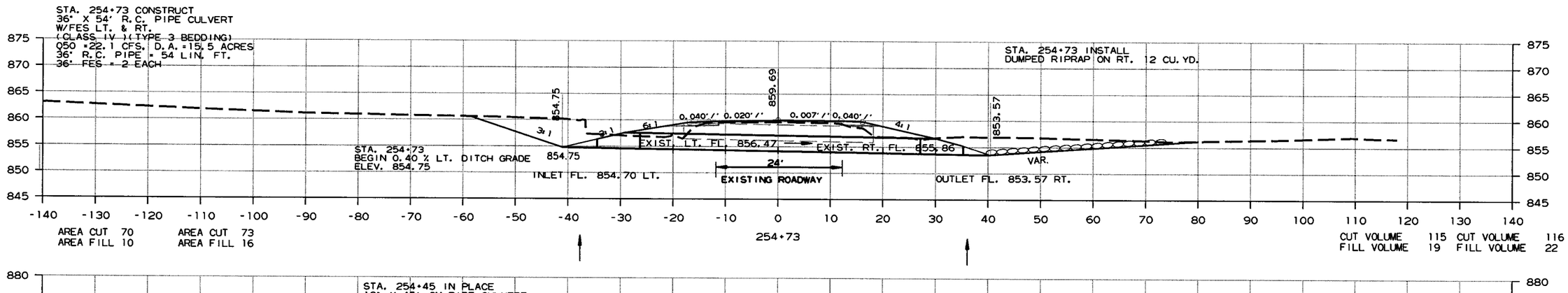
R050315.DGN 12/7/2017

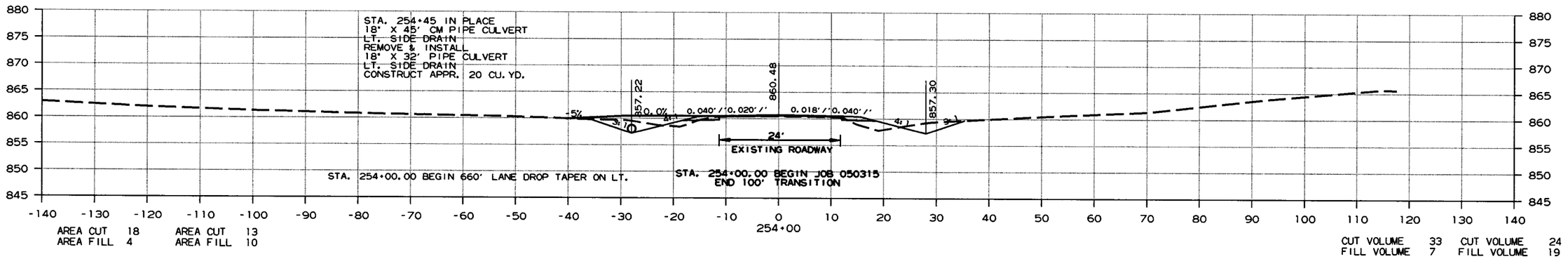
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	51	88

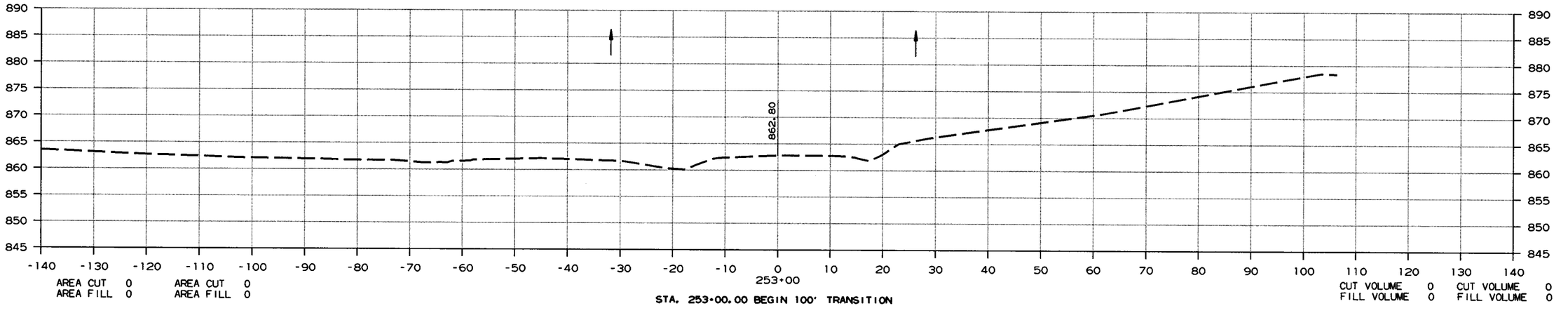
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 253+00 TO STA. 254+73

10/31/2017

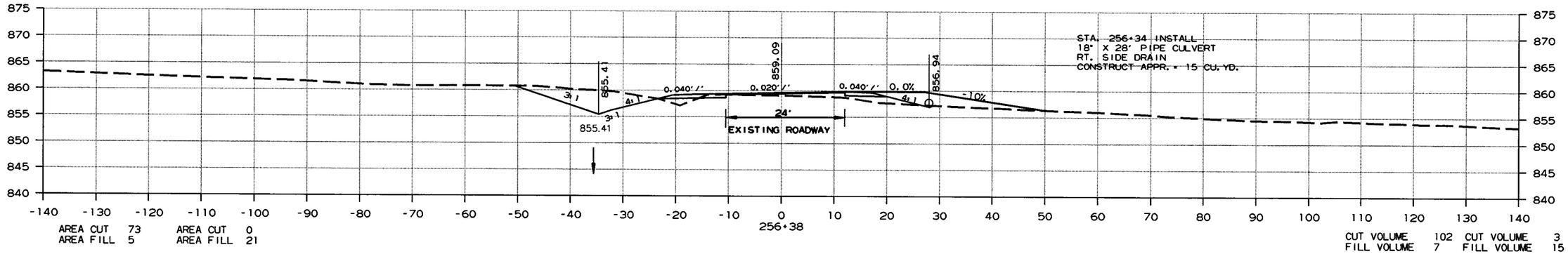
R050315.DGN

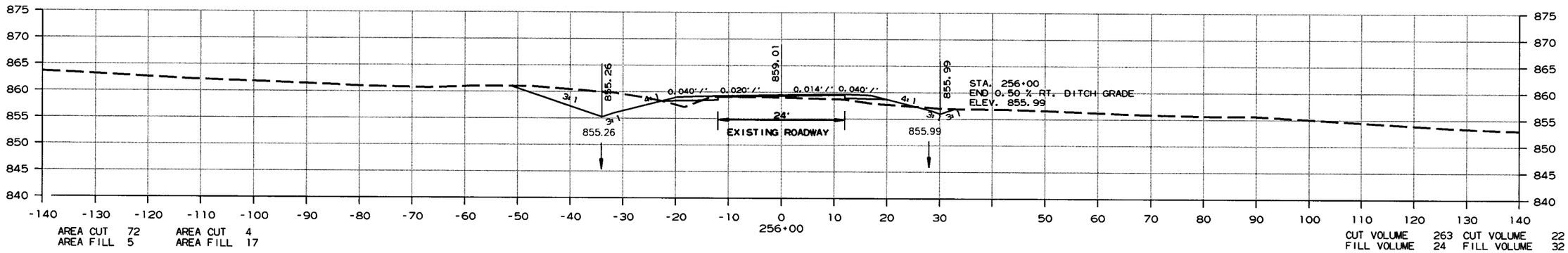
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	52	88

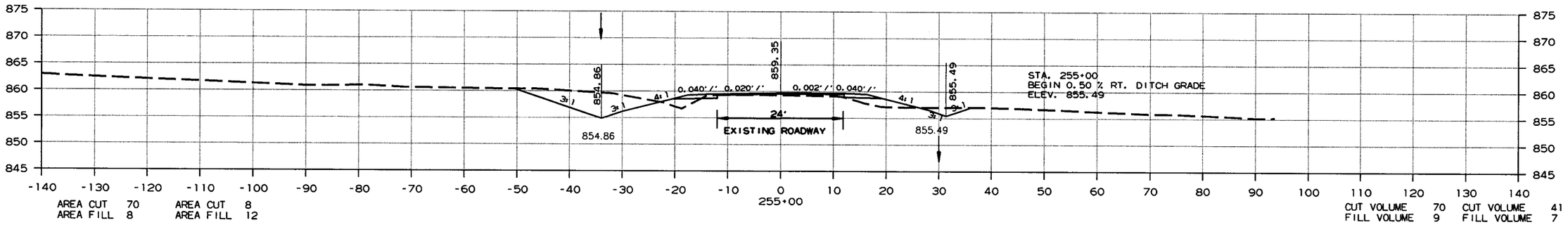
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 255+00 TO STA. 256+38

10/31/2017

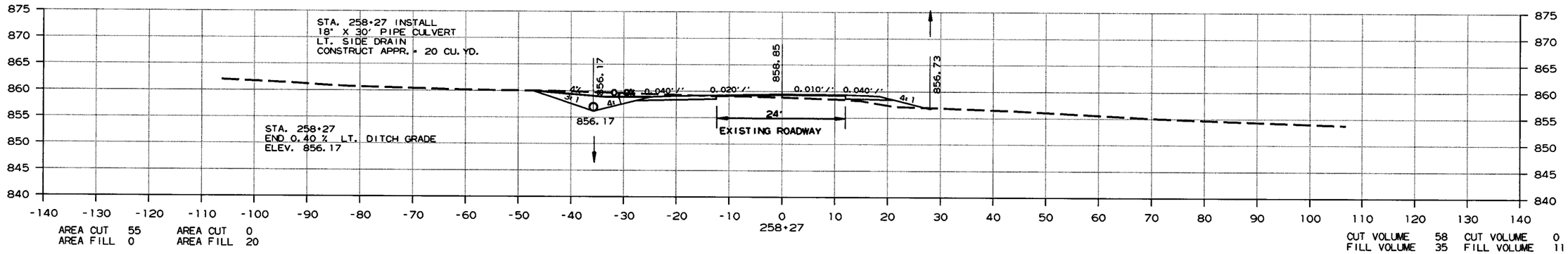
R050315.DGN

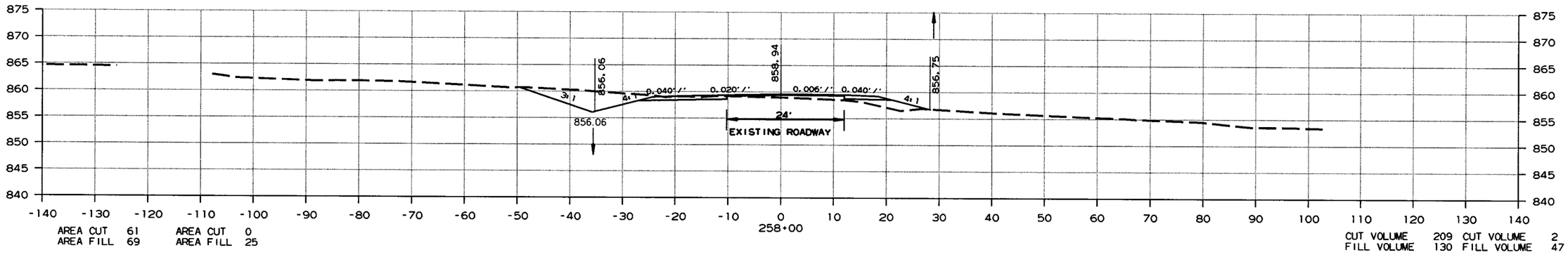
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	53	88

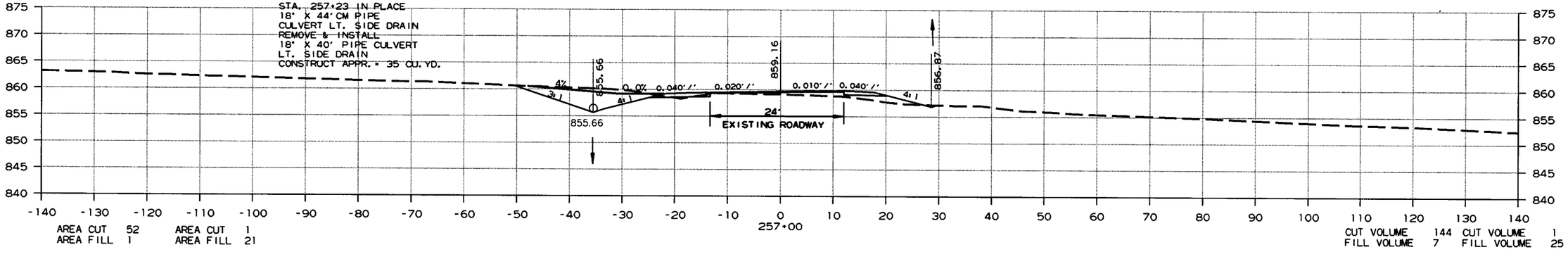
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 257+00 TO STA. 258+27

10/31/2017

R050315.DGN

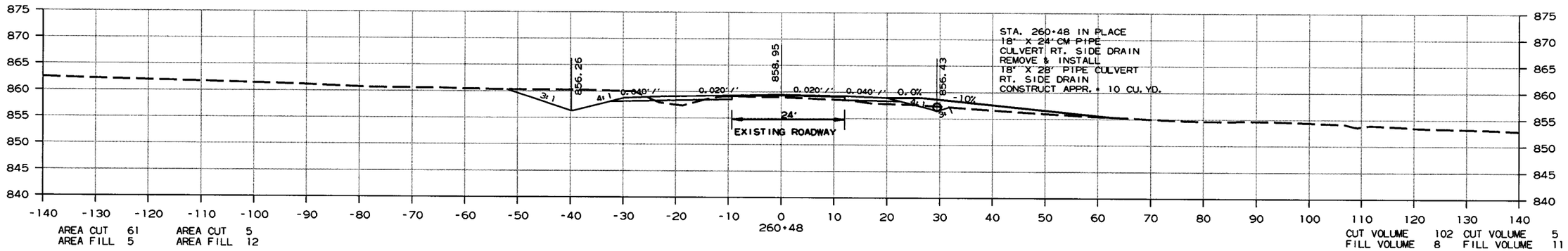
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	54	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

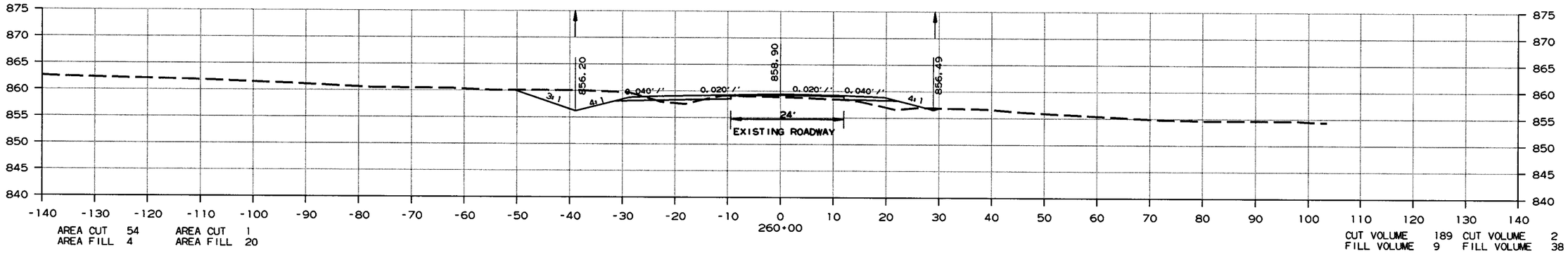
STAGE 1 - LT. STAGE 2 - RT.

STA. 260+60.00 END LANE DROP TAPER



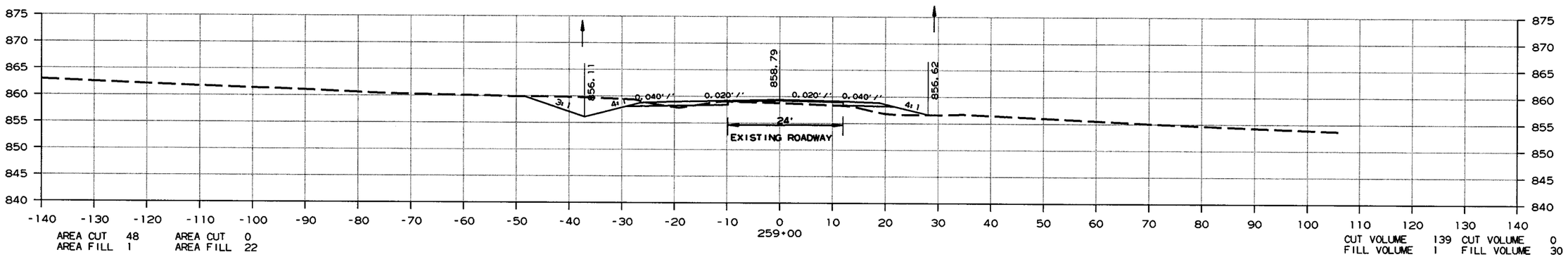
AREA CUT 61 AREA CUT 5
AREA FILL 5 AREA FILL 12

CUT VOLUME 102 CUT VOLUME 5
FILL VOLUME 8 FILL VOLUME 11



AREA CUT 54 AREA CUT 1
AREA FILL 4 AREA FILL 20

CUT VOLUME 189 CUT VOLUME 2
FILL VOLUME 9 FILL VOLUME 38



AREA CUT 48 AREA CUT 0
AREA FILL 1 AREA FILL 22

CUT VOLUME 139 CUT VOLUME 0
FILL VOLUME 1 FILL VOLUME 30

CROSS SECTION STA. 259+00 TO STA. 260+48

10/31/2017

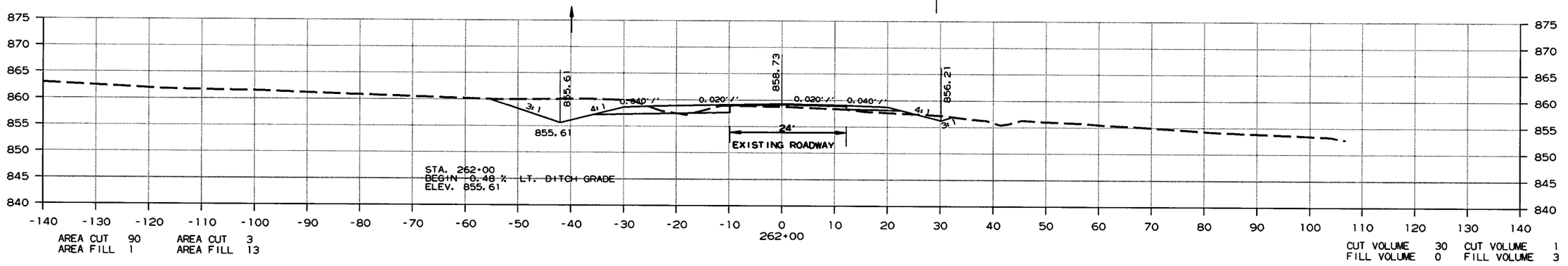
R050315.DGN

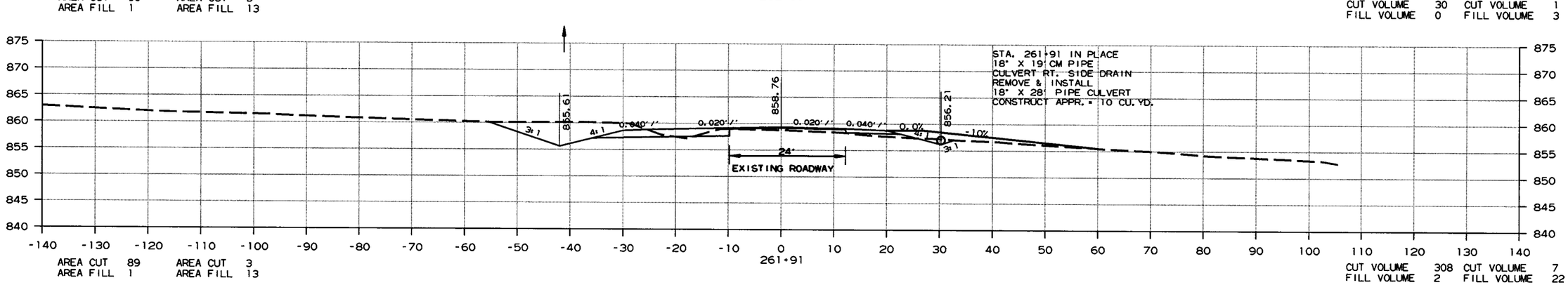
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	55	88

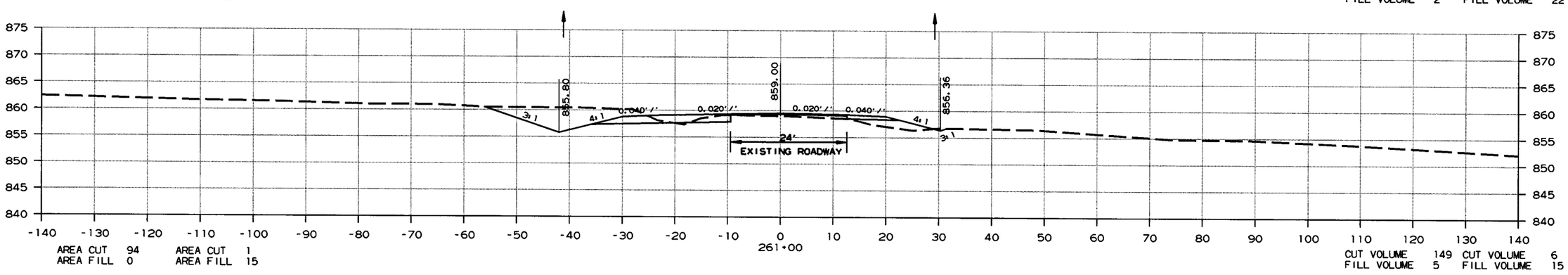
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 261+00 TO STA. 262+00

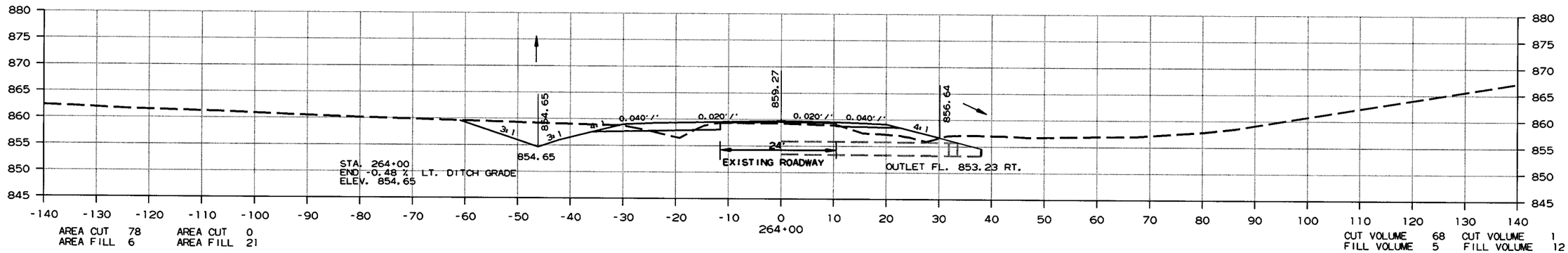
10/31/2017

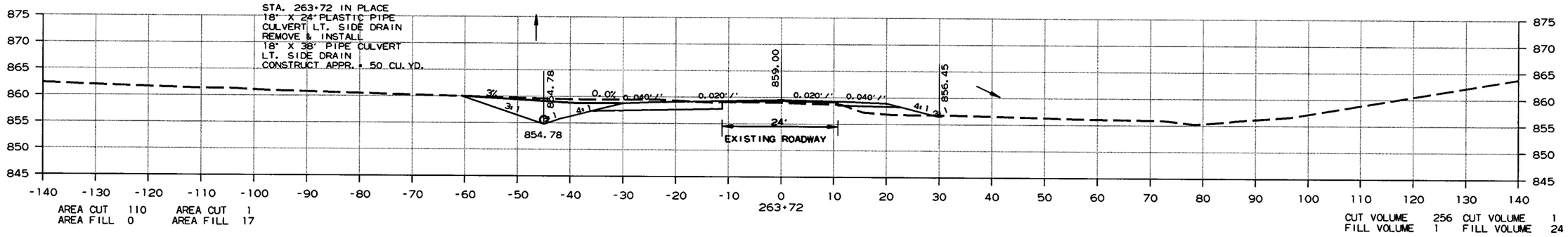
R050315.DGN

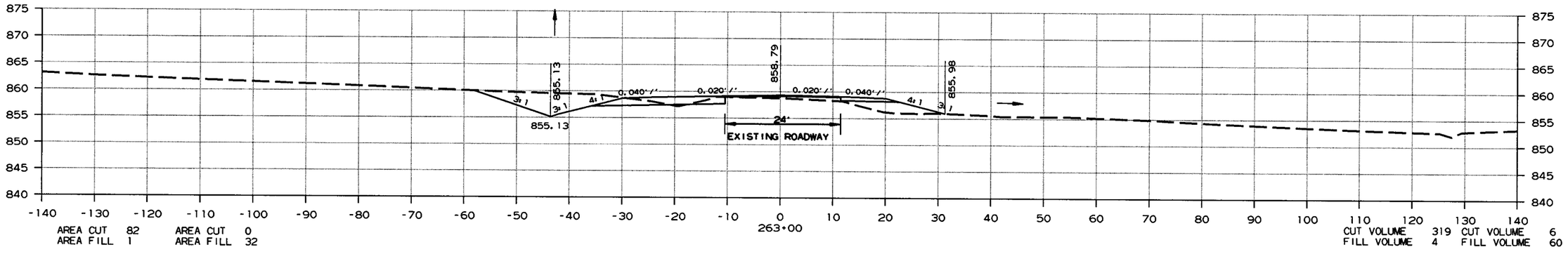
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	56	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 263+00 TO STA. 264+00

10/31/2017

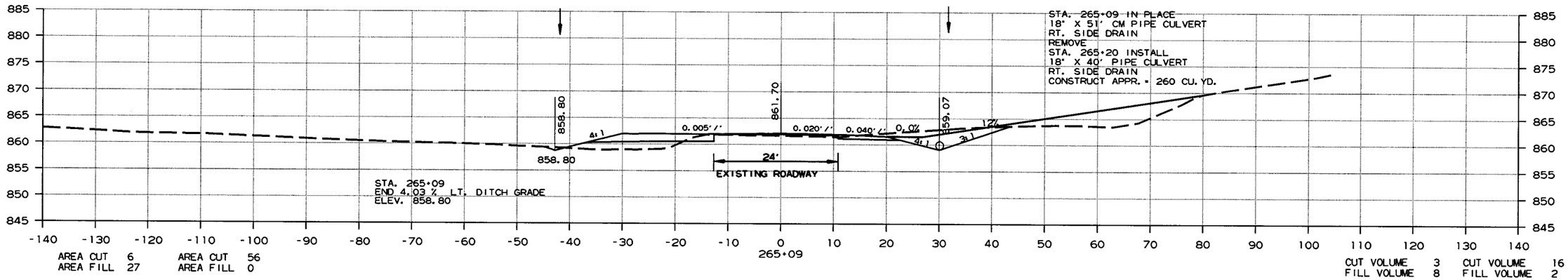
R050315.DGN

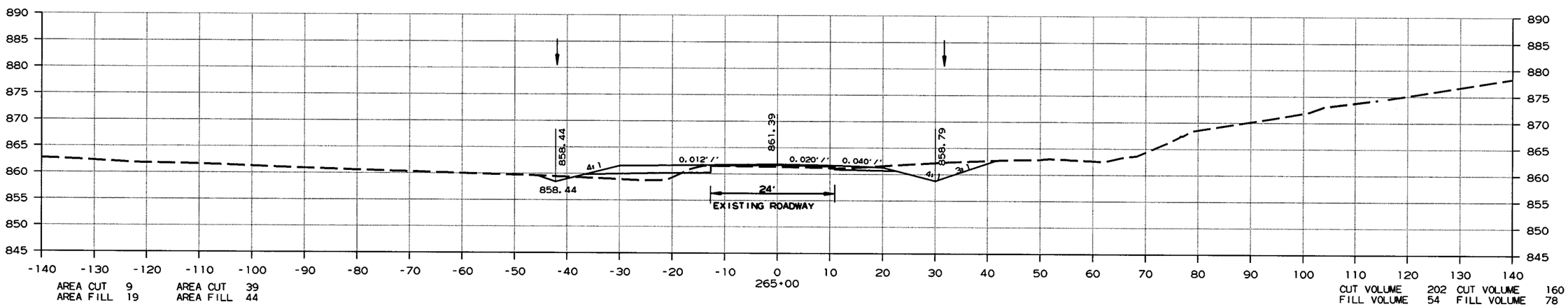
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	57	88

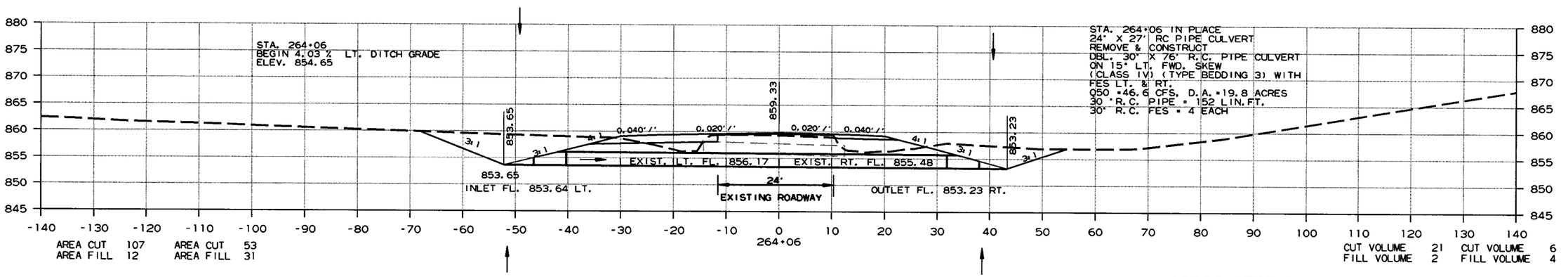
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 264+06 TO STA. 265+09

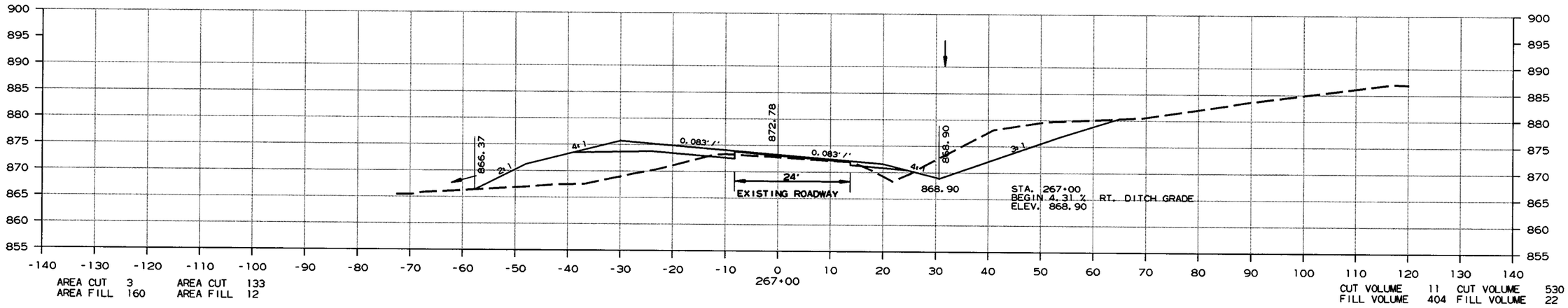
10/31/2017

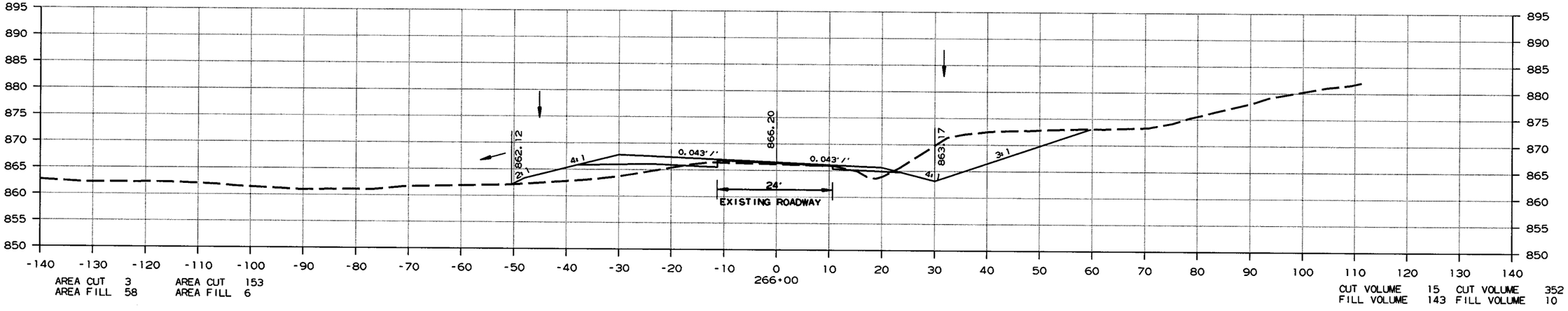
R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	58	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.





CROSS SECTION STA. 266+00 TO STA. 267+00

10/31/2017

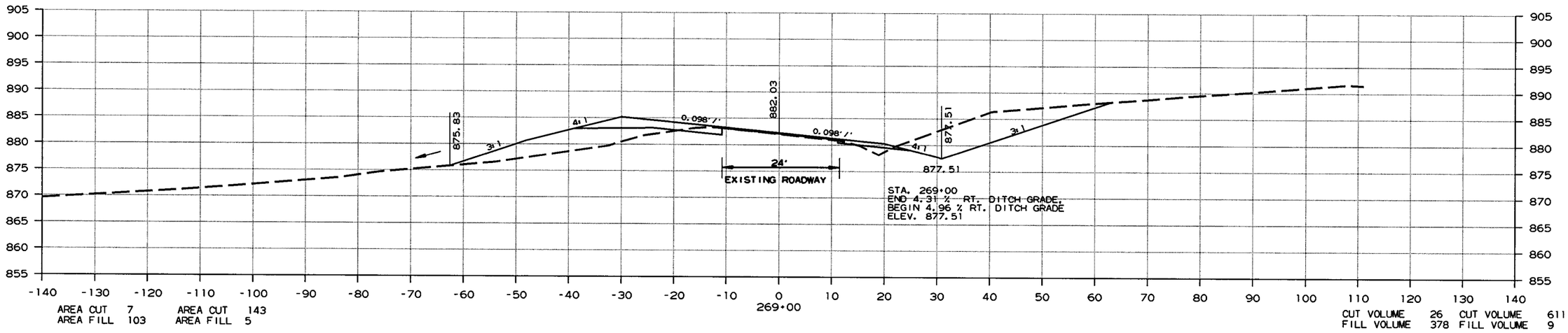
R050315.DGN

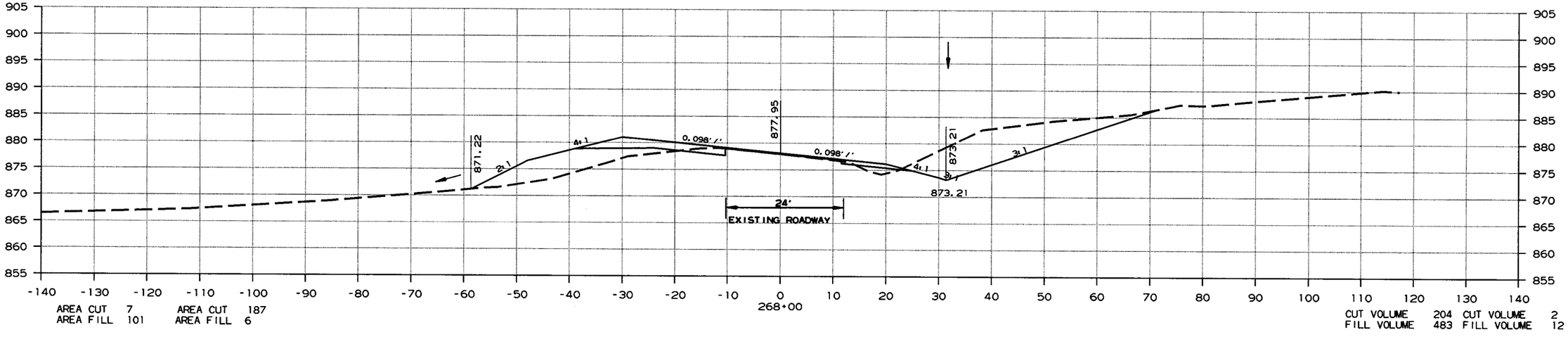
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	59	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.





CROSS SECTION STA. 268+00 TO STA. 269+00

10/31/2017

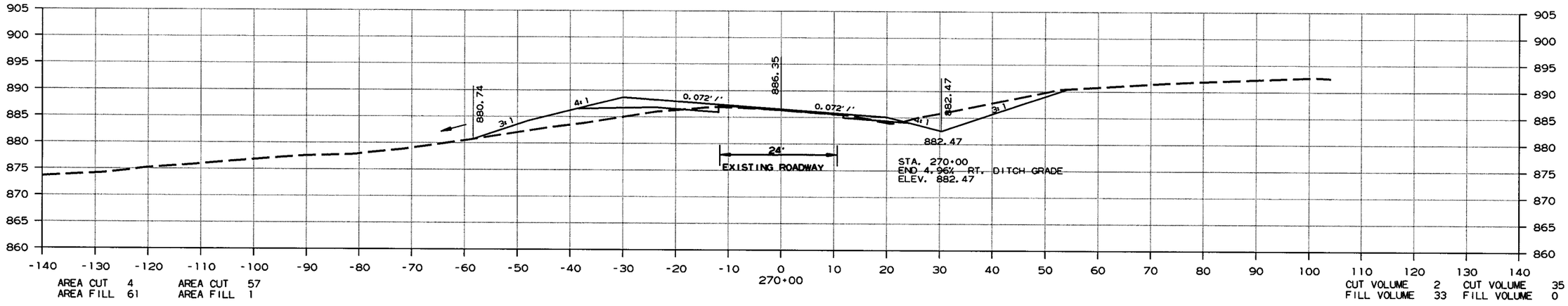
R050315.DGN

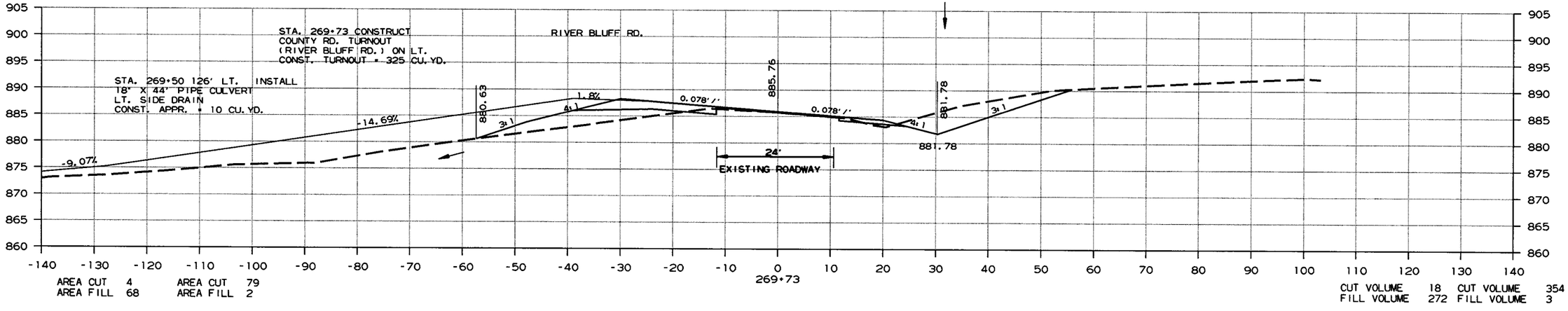
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	60	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.





CROSS SECTION STA. 269+73 TO STA. 270+00

10/31/2017

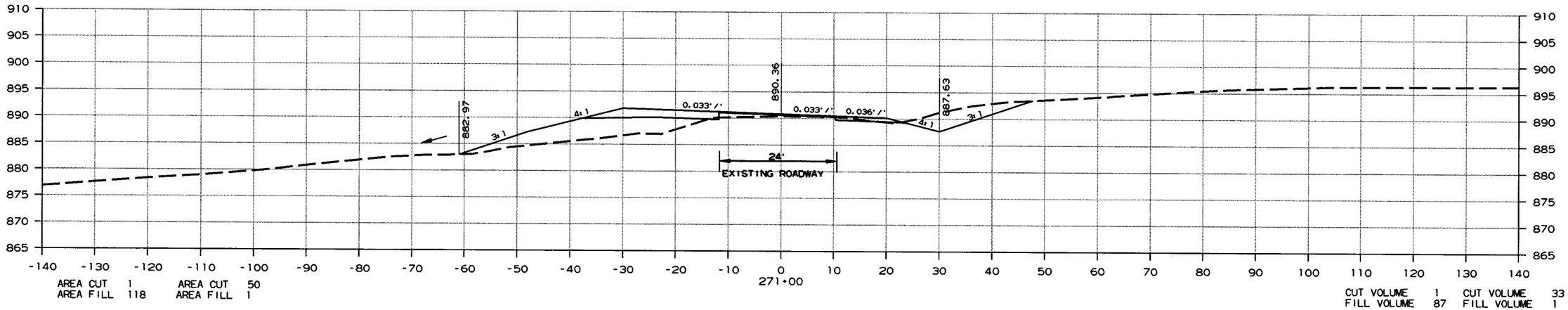
R050315.DGN

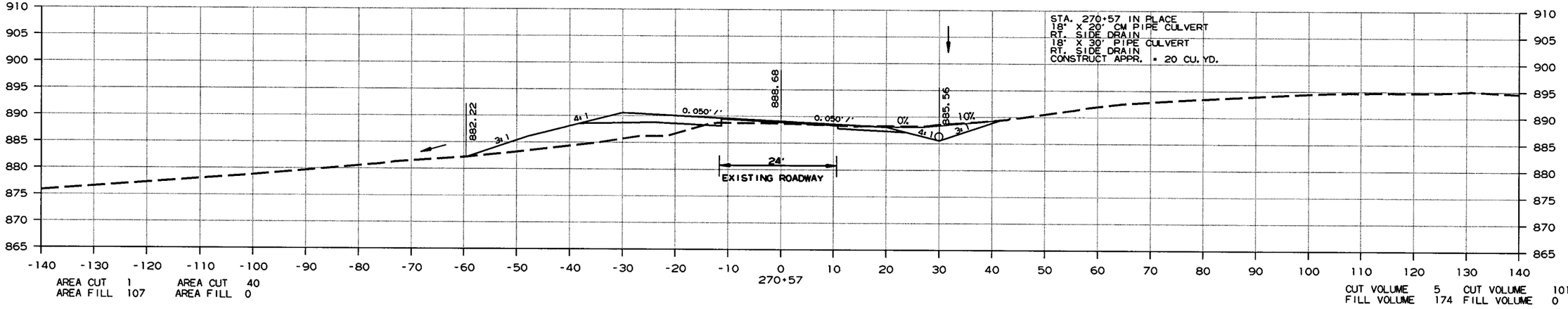
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	61	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.





STA. 270+57 IN PLACE
18" X 20' CM PIPE CULVERT
RT. SIDE DRAIN
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. = 20 CU. YD.

CROSS SECTION STA. 270+57 TO STA. 271+00

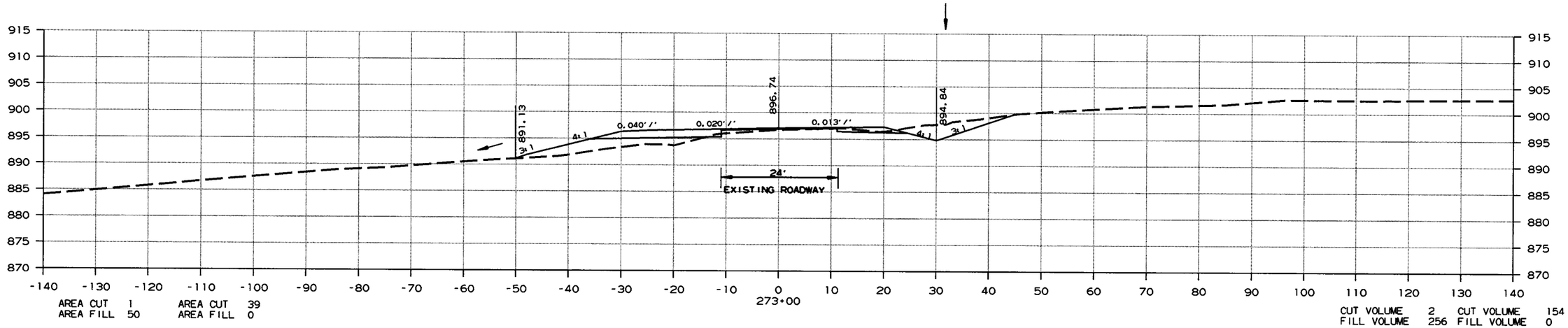
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	62	88

(2) CROSS SECTIONS

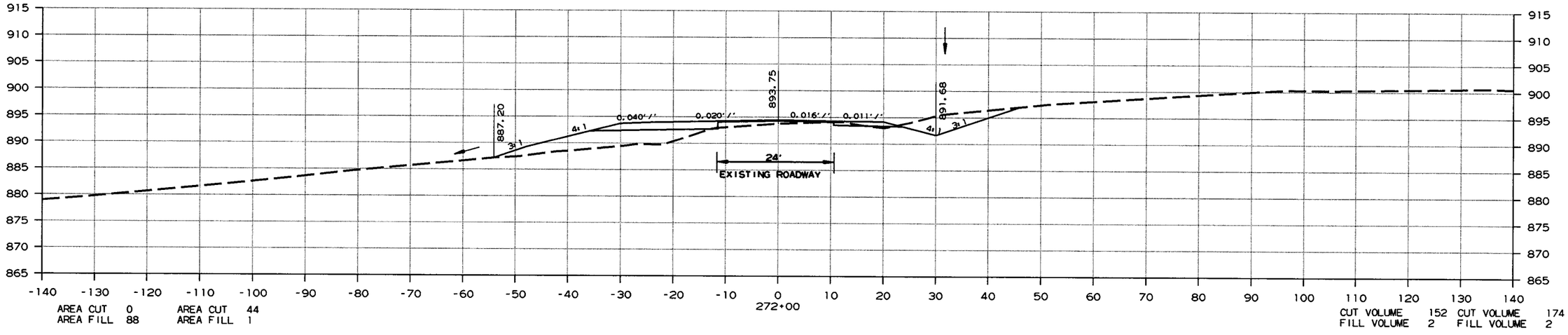
STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 1 AREA CUT 39
AREA FILL 50 AREA FILL 0

CUT VOLUME 2 CUT VOLUME 154
FILL VOLUME 256 FILL VOLUME 0

STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 0 AREA CUT 44
AREA FILL 88 AREA FILL 1

CUT VOLUME 152 CUT VOLUME 174
FILL VOLUME 2 FILL VOLUME 2

CROSS SECTION STA. 272+00 TO STA. 273+00

10/31/2017

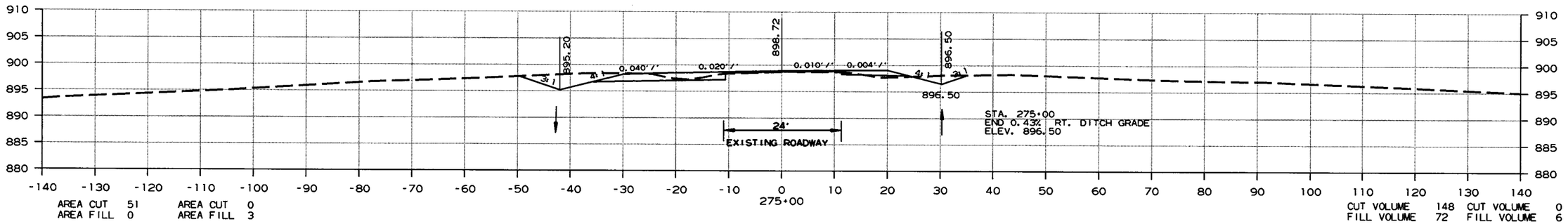
R050315.DGN

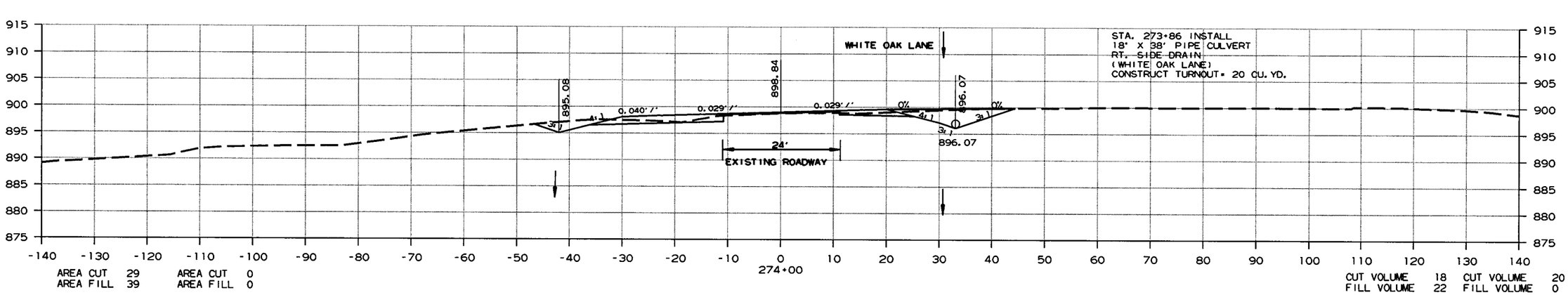
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	63	88

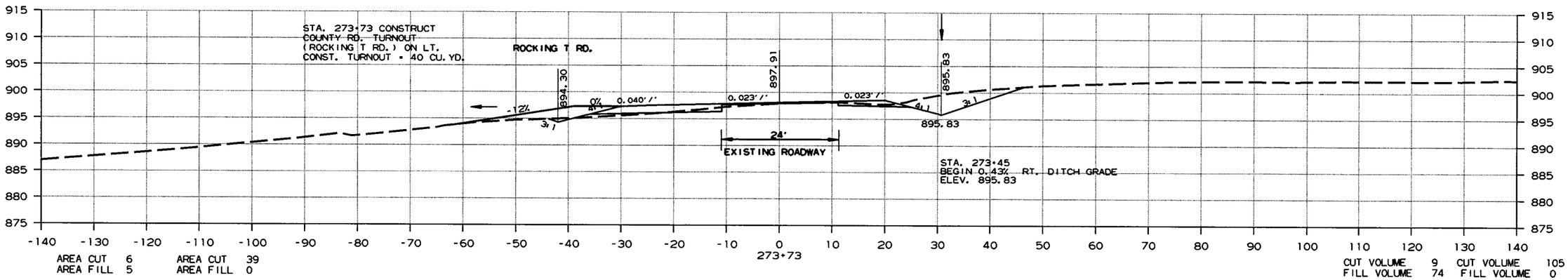
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 273+73 TO STA. 275+00

10/31/2017

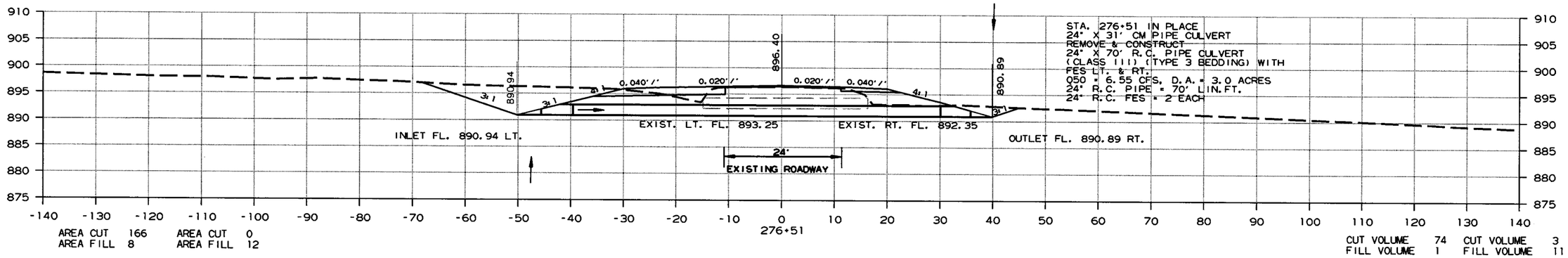
R050315.DGN

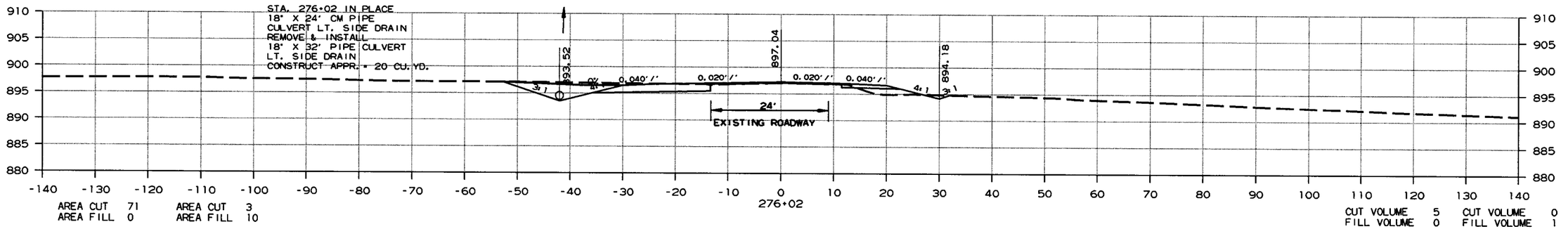
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	64	88

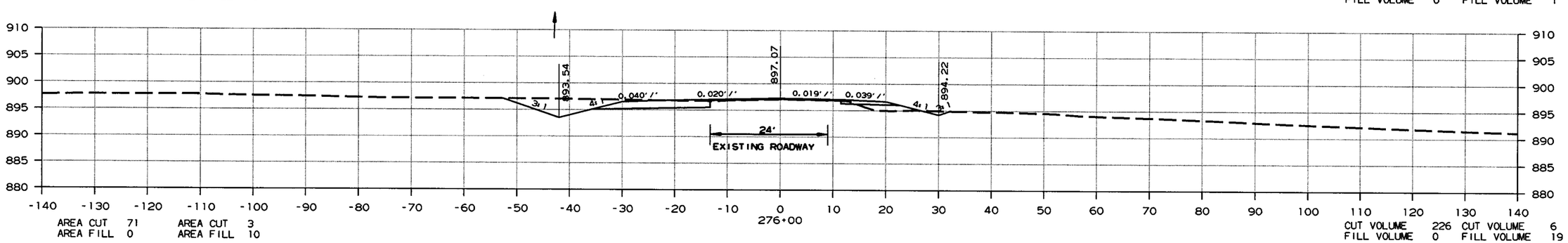
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 276+00 TO STA. 276+51

10/31/2017

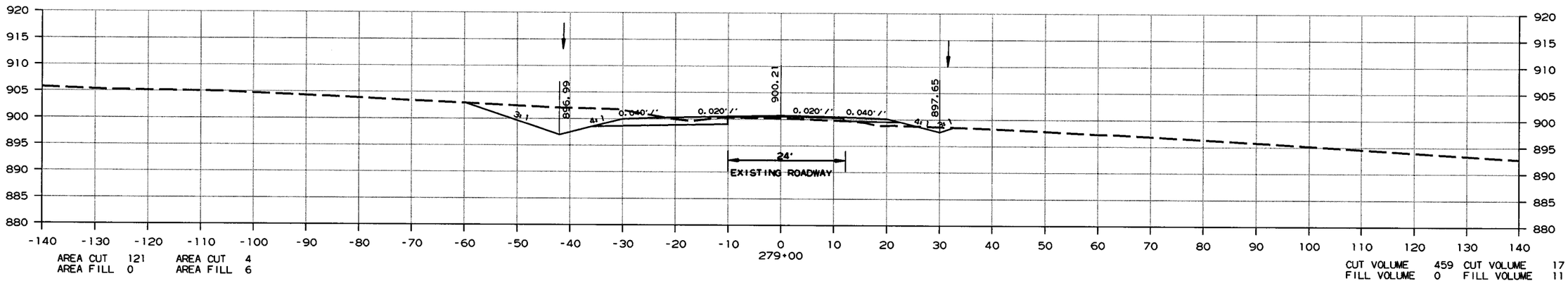
R050315.DGN

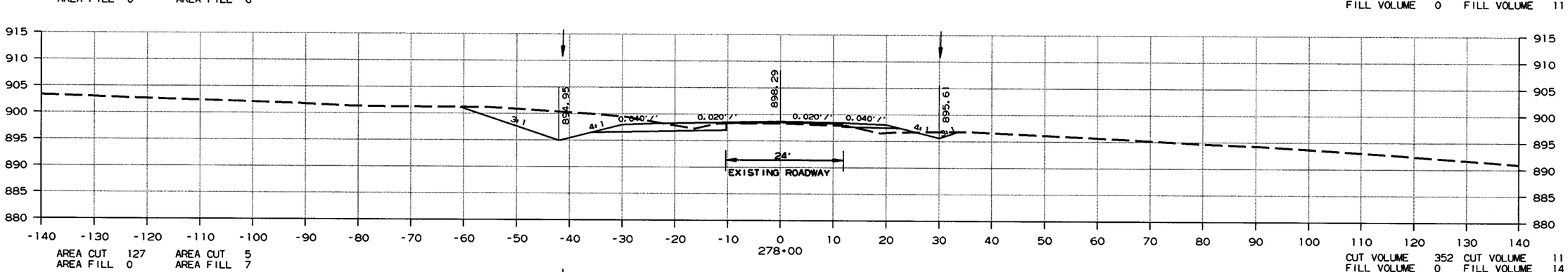
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	65	88

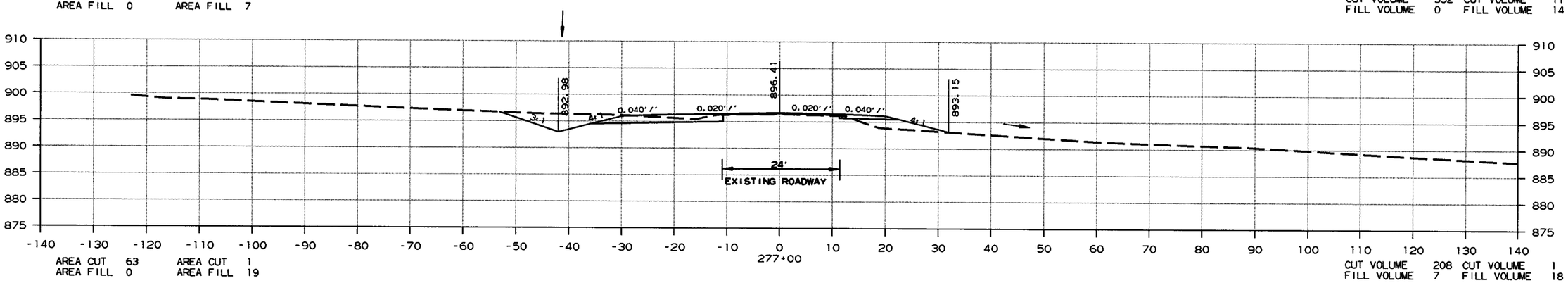
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 277+00 TO STA. 279+00

10/31/2017

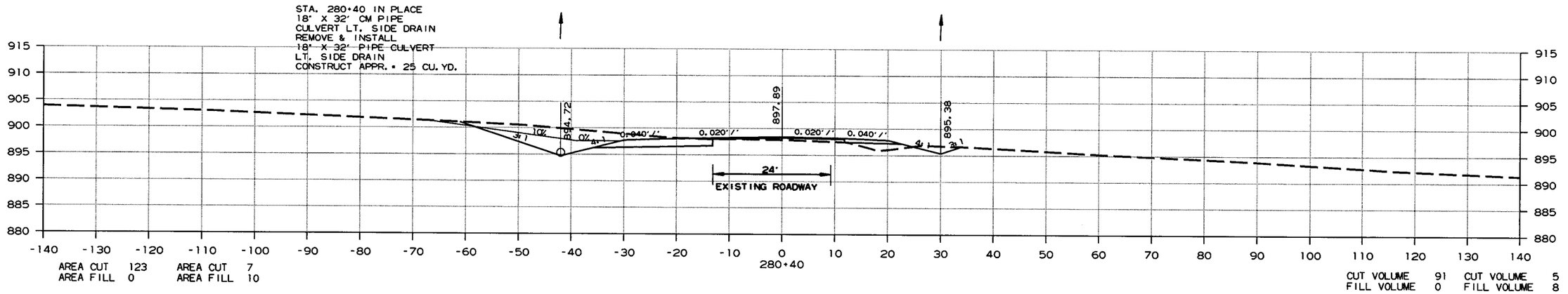
R050315.DGN

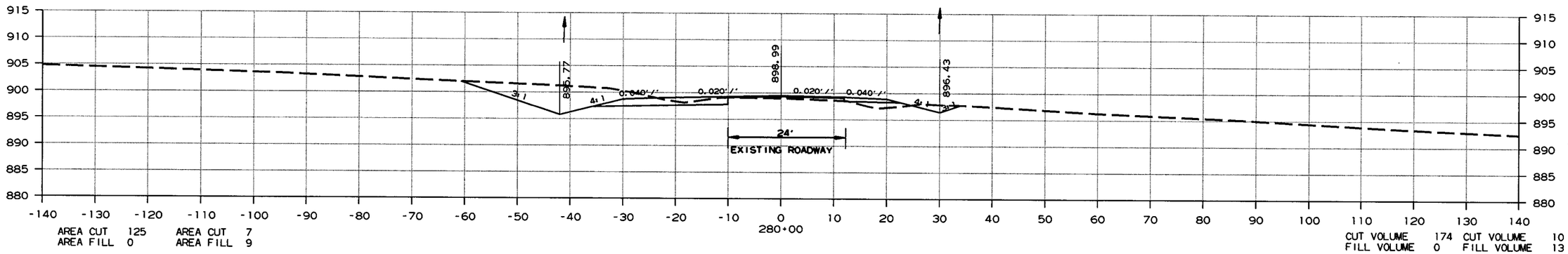
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	66	88

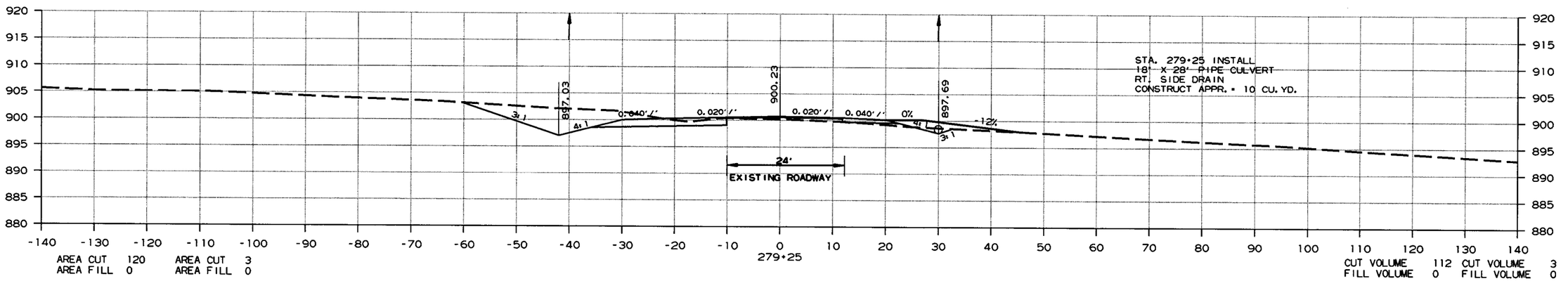
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 279+25 TO STA. 280+40

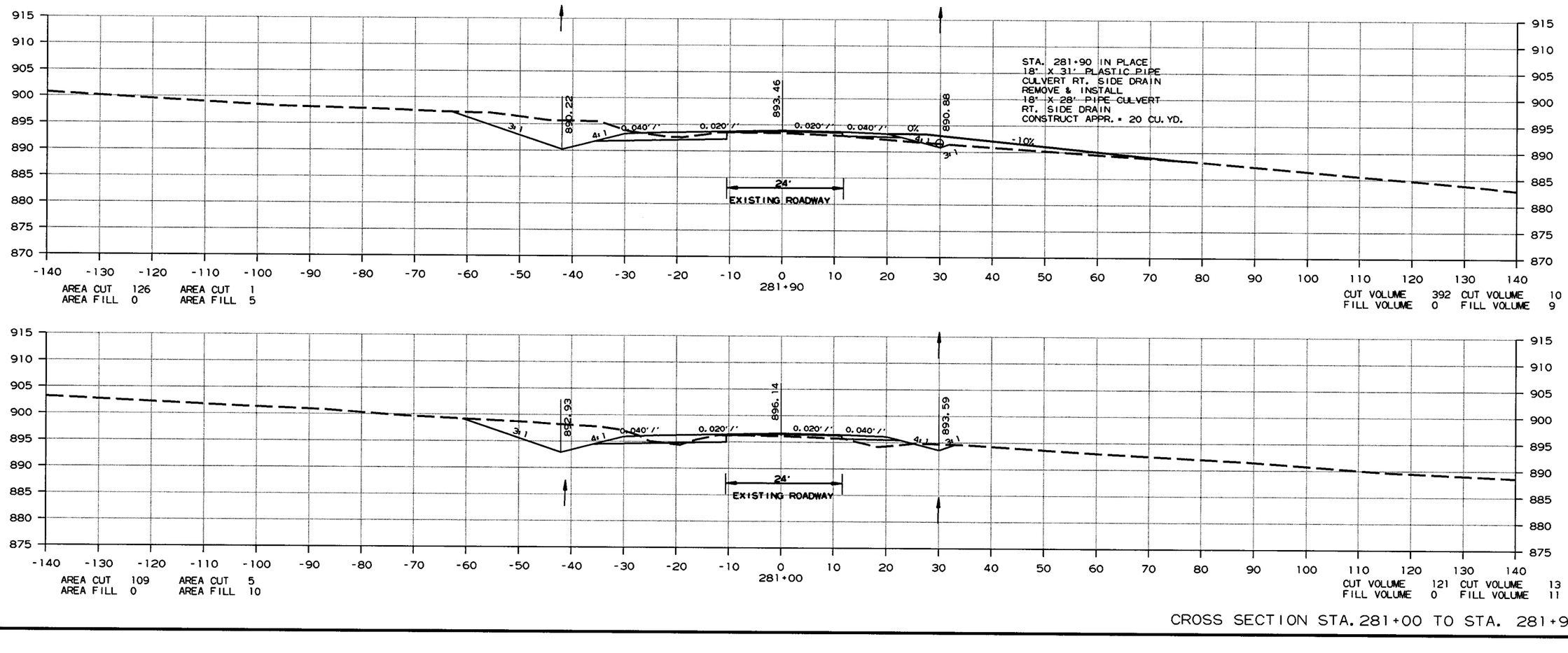
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	67	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.



CROSS SECTION STA. 281+00 TO STA. 281+90

10/31/2017

R050315.DGN

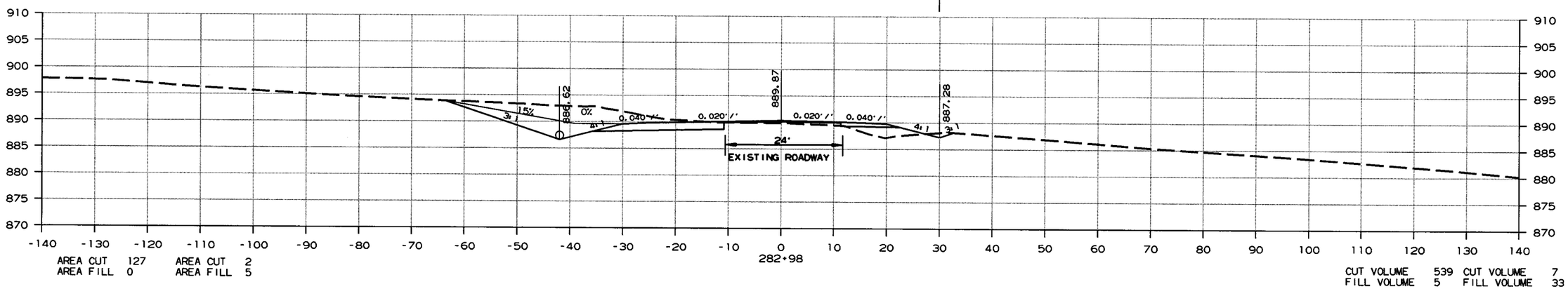
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	68	88

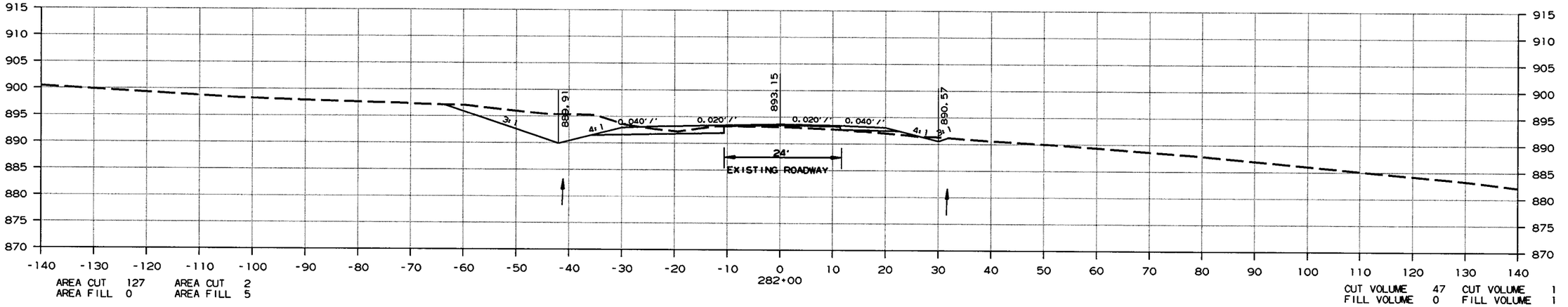
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.

STA. 282+98 IN PLACE
18" X 24' CM PIPE
CULVERT LT. SIDE DRAIN
REMOVE & INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 30 CU. YD.





CROSS SECTION STA. 282+00 TO STA. 282+98

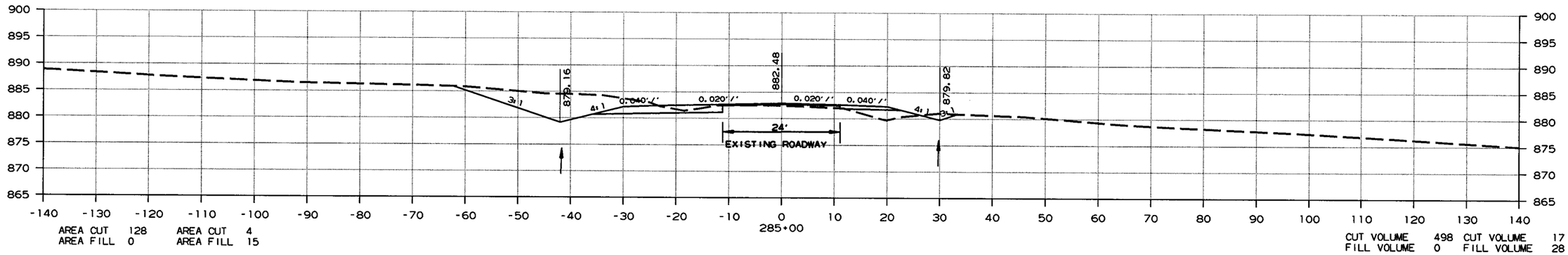
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	69	88

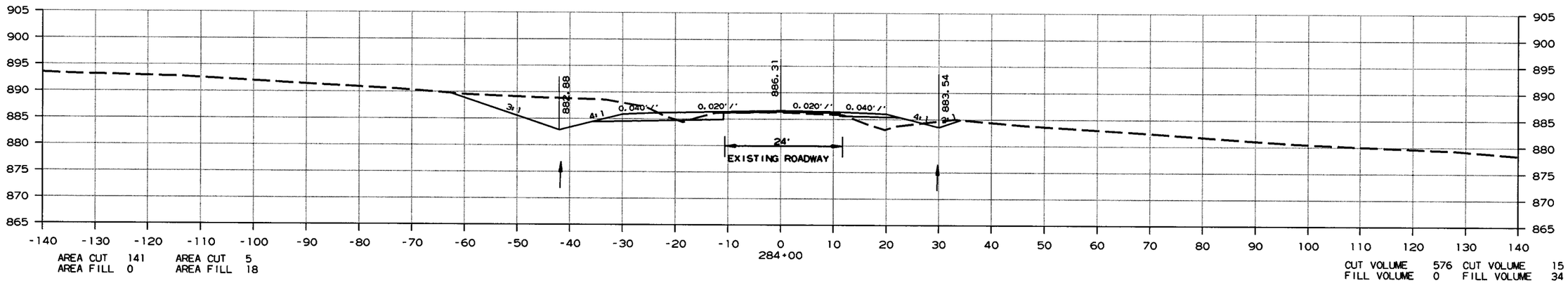
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.



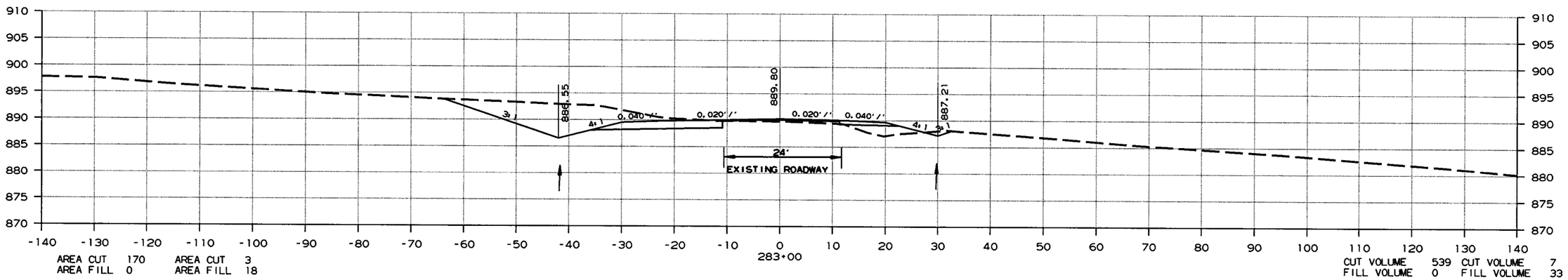
AREA CUT 128 AREA CUT 4
AREA FILL 0 AREA FILL 15

CUT VOLUME 498 CUT VOLUME 17
FILL VOLUME 0 FILL VOLUME 28



AREA CUT 141 AREA CUT 5
AREA FILL 0 AREA FILL 18

CUT VOLUME 576 CUT VOLUME 15
FILL VOLUME 0 FILL VOLUME 34



AREA CUT 170 AREA CUT 3
AREA FILL 0 AREA FILL 18

CUT VOLUME 539 CUT VOLUME 7
FILL VOLUME 0 FILL VOLUME 33

CROSS SECTION STA. 283+00 TO STA. 285+00

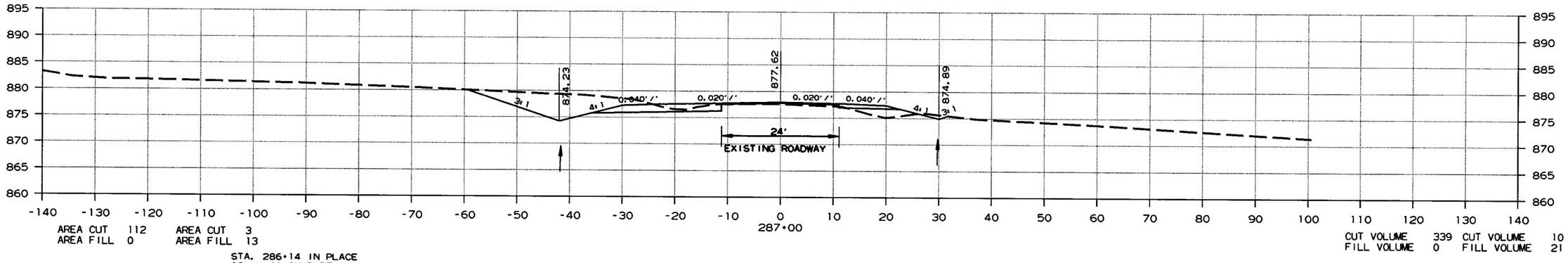
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	70	88

(2) CROSS SECTIONS

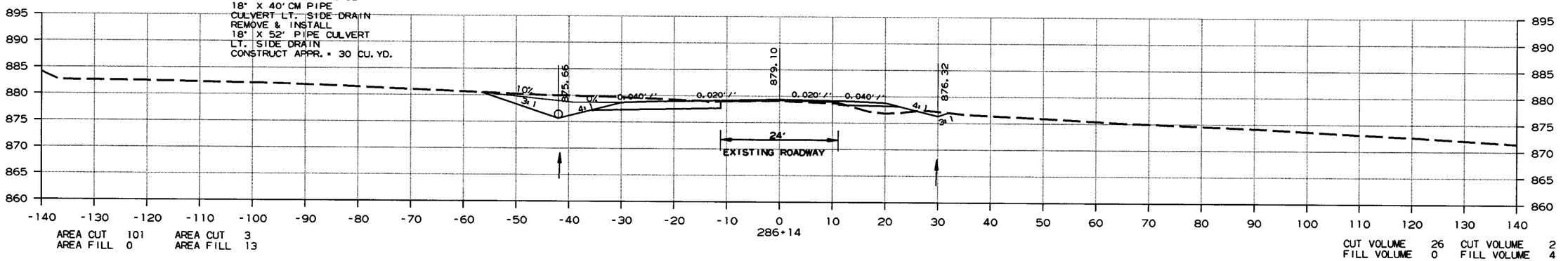
STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 112 AREA CUT 3
AREA FILL 0 AREA FILL 13

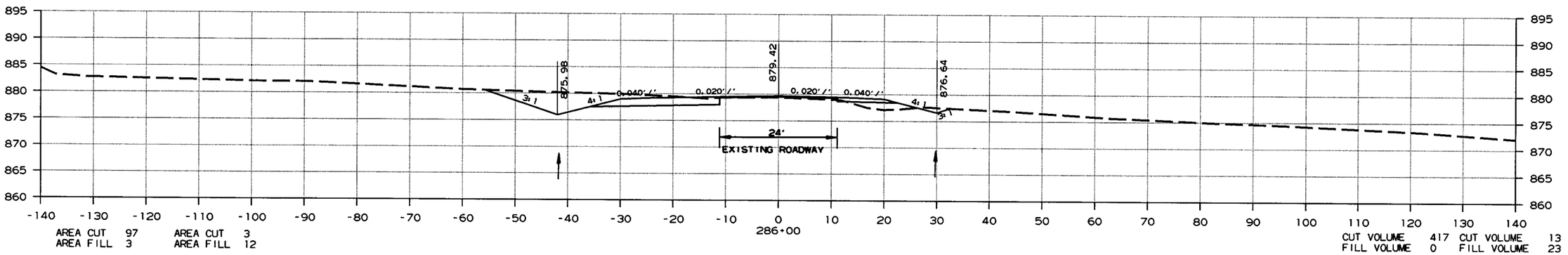
CUT VOLUME 339 CUT VOLUME 10
FILL VOLUME 0 FILL VOLUME 21

STA. 286+14 IN PLACE
18" X 40' CM PIPE
CULVERT LT. SIDE DRAIN
REMOVE & INSTALL
18" X 52' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. = 30 CU. YD.



AREA CUT 101 AREA CUT 3
AREA FILL 0 AREA FILL 13

CUT VOLUME 26 CUT VOLUME 2
FILL VOLUME 0 FILL VOLUME 4



AREA CUT 97 AREA CUT 3
AREA FILL 3 AREA FILL 12

CUT VOLUME 417 CUT VOLUME 13
FILL VOLUME 0 FILL VOLUME 23

CROSS SECTION STA. 286+00 TO STA. 287+00

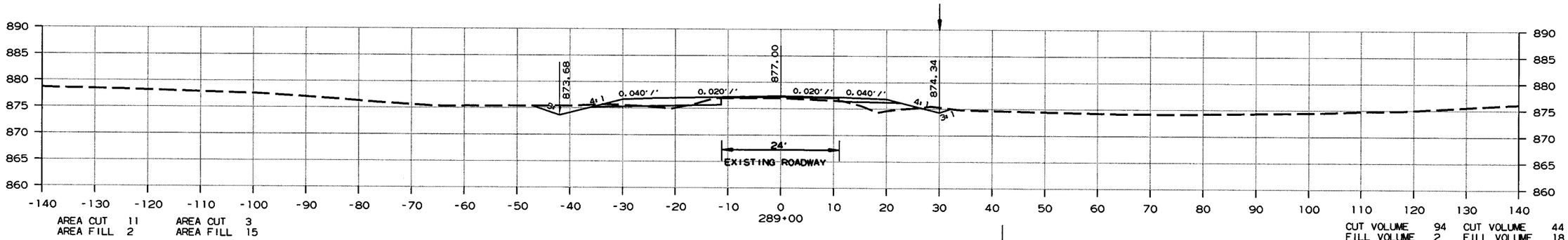
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	71	88

(2) CROSS SECTIONS

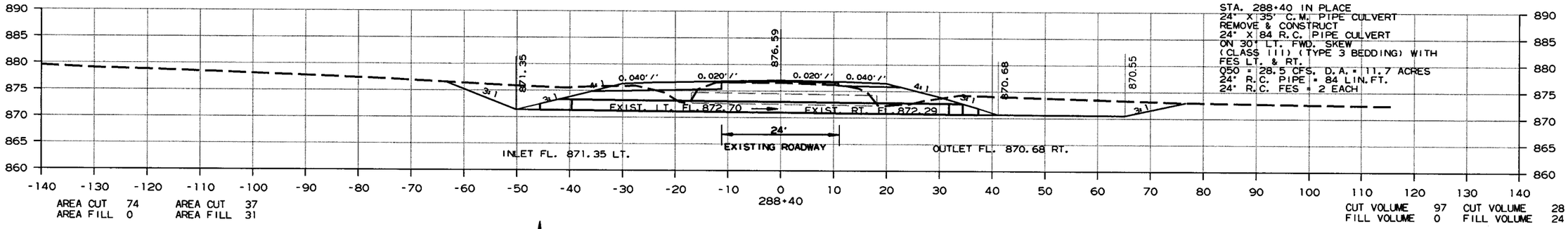
STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 11 AREA CUT 3
AREA FILL 2 AREA FILL 15

CUT VOLUME 94 CUT VOLUME 44
FILL VOLUME 2 FILL VOLUME 18

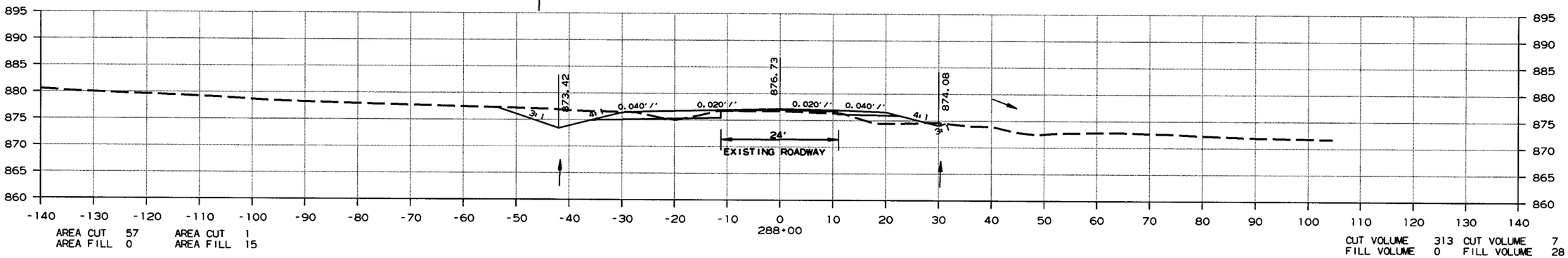
STAGE 1 - LT. STAGE 2 - RT.



STA. 288+40 IN PLACE
24" X 35' C.M. PIPE CULVERT
REMOVE & CONSTRUCT
24" X 84 R.C. PIPE CULVERT
ON 30° LT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT.
Q50 = 28.5 CFS, D.A. = 11.7 ACRES
24" R.C. PIPE = 84 LIN.FT.
24" R.C. FES = 2 EACH

AREA CUT 74 AREA CUT 37
AREA FILL 0 AREA FILL 31

CUT VOLUME 97 CUT VOLUME 28
FILL VOLUME 0 FILL VOLUME 24



AREA CUT 57 AREA CUT 1
AREA FILL 0 AREA FILL 15

CUT VOLUME 313 CUT VOLUME 7
FILL VOLUME 0 FILL VOLUME 28

CROSS SECTION STA. 288+00 TO STA. 289+00

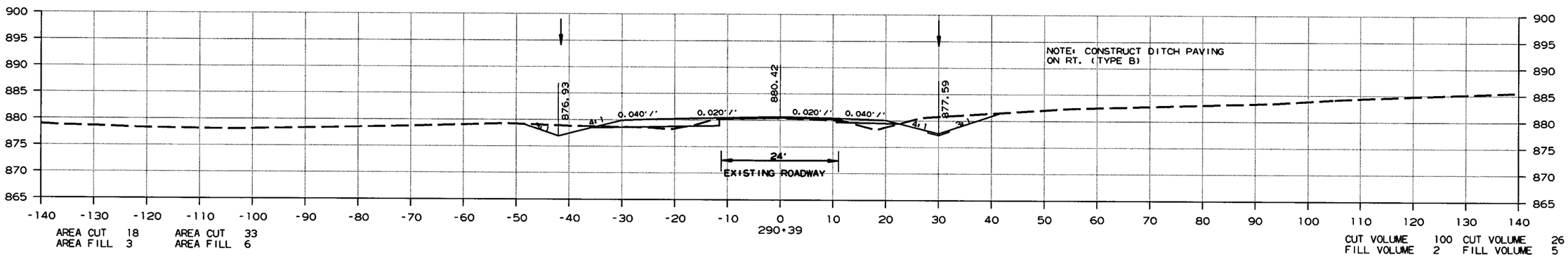
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	72	88

(2) CROSS SECTIONS

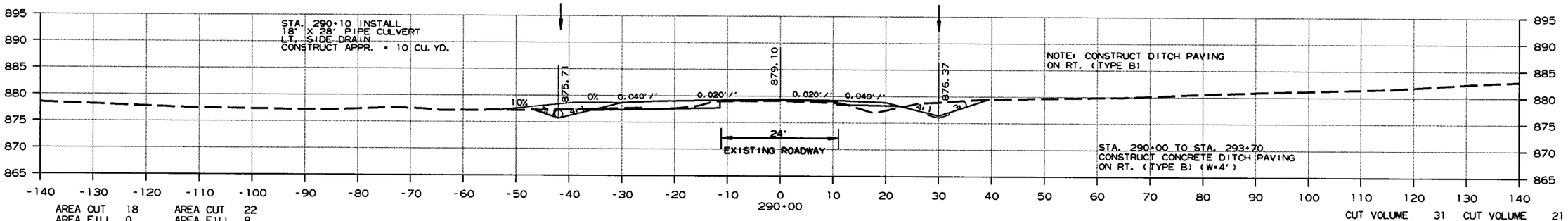
STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 18 AREA CUT 33
AREA FILL 3 AREA FILL 6

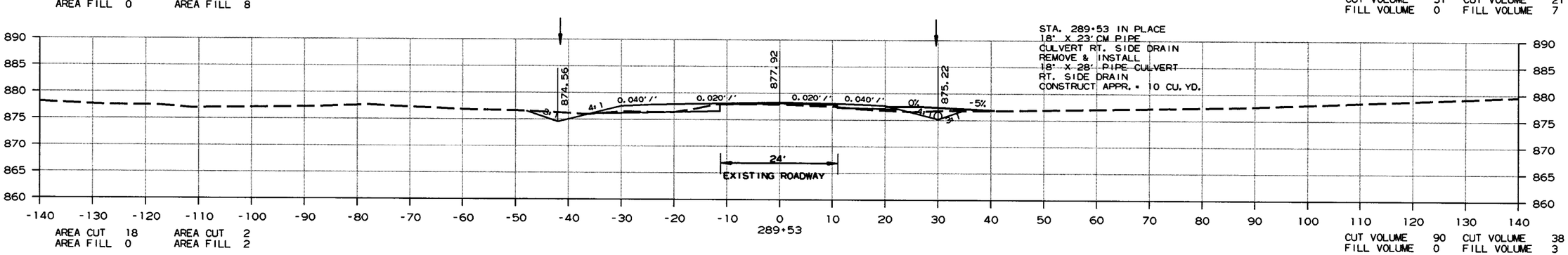
CUT VOLUME 100 CUT VOLUME 26
FILL VOLUME 2 FILL VOLUME 5

STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 18 AREA CUT 22
AREA FILL 0 AREA FILL 8

CUT VOLUME 31 CUT VOLUME 21
FILL VOLUME 0 FILL VOLUME 7



AREA CUT 18 AREA CUT 2
AREA FILL 0 AREA FILL 2

CUT VOLUME 90 CUT VOLUME 38
FILL VOLUME 0 FILL VOLUME 3

CROSS SECTION STA. 289+53 TO STA. 290+39

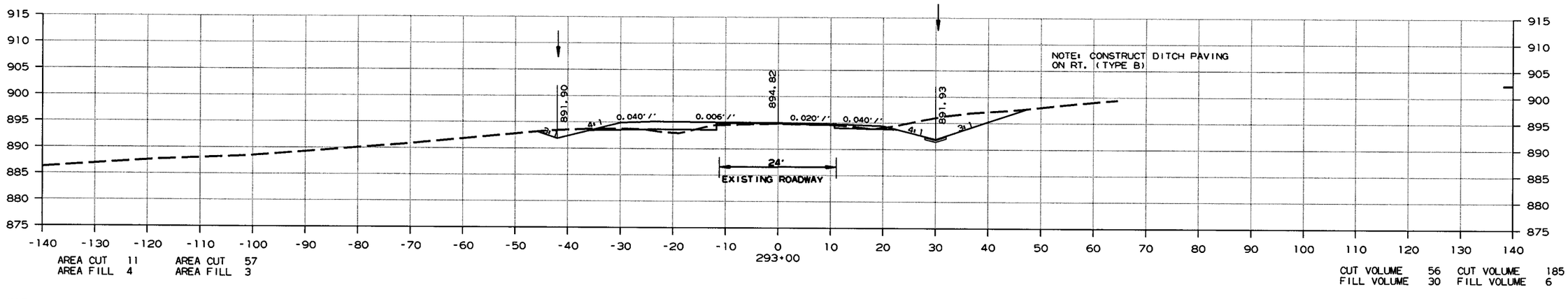
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	73	88

(2) CROSS SECTIONS

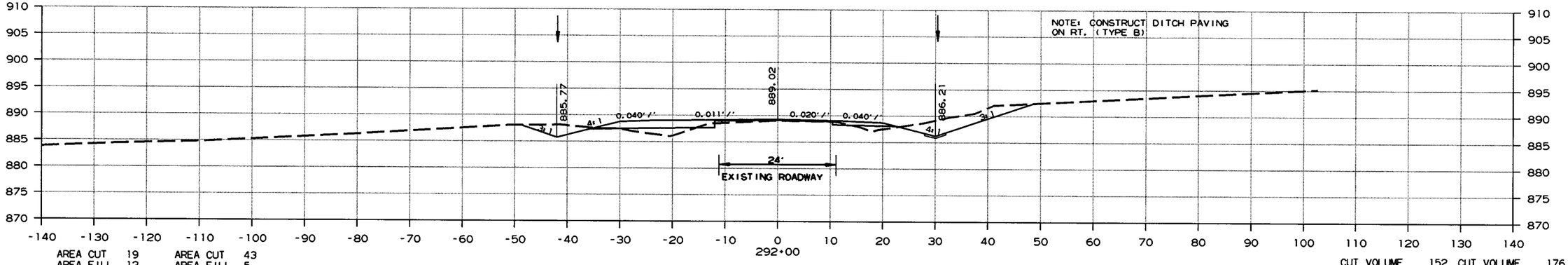
STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 11 AREA CUT 57
AREA FILL 4 AREA FILL 3

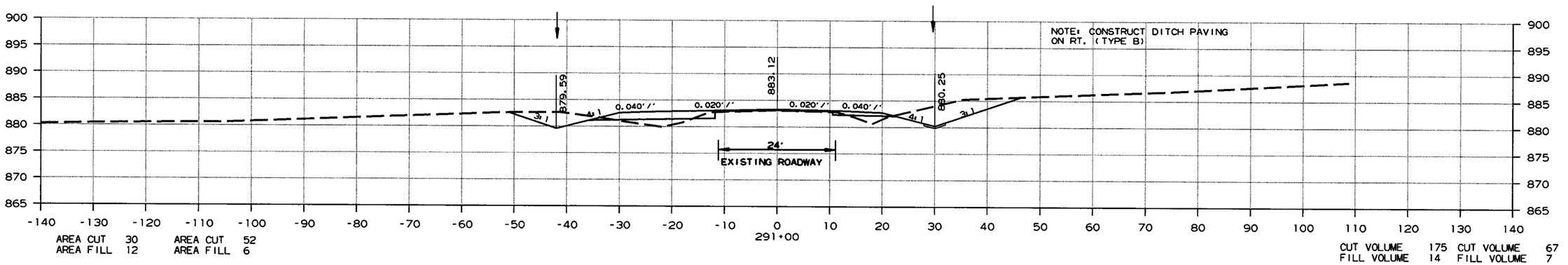
CUT VOLUME 56 CUT VOLUME 185
FILL VOLUME 30 FILL VOLUME 6

STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 19 AREA CUT 43
AREA FILL 12 AREA FILL 5

CUT VOLUME 152 CUT VOLUME 176
FILL VOLUME 2 FILL VOLUME 9



AREA CUT 30 AREA CUT 52
AREA FILL 12 AREA FILL 6

CUT VOLUME 175 CUT VOLUME 67
FILL VOLUME 14 FILL VOLUME 7

CROSS SECTION STA. 291+00 TO STA. 293+00

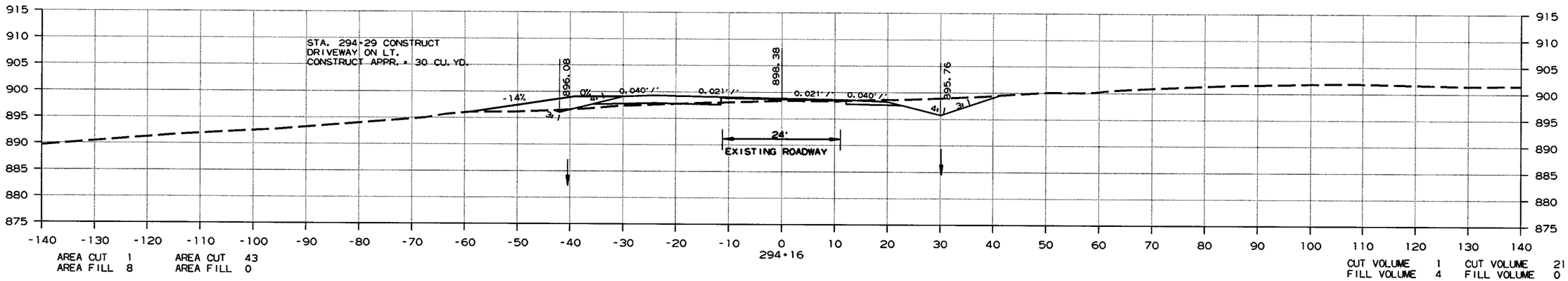
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	74	88

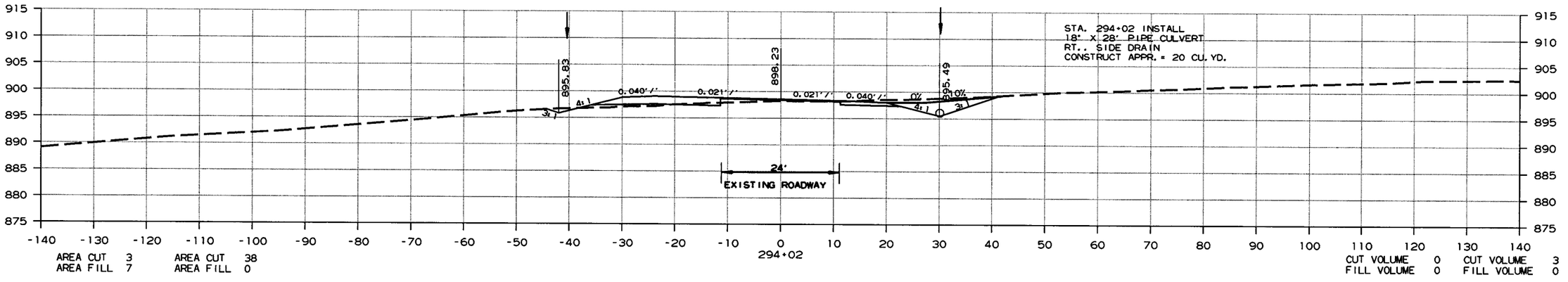
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.



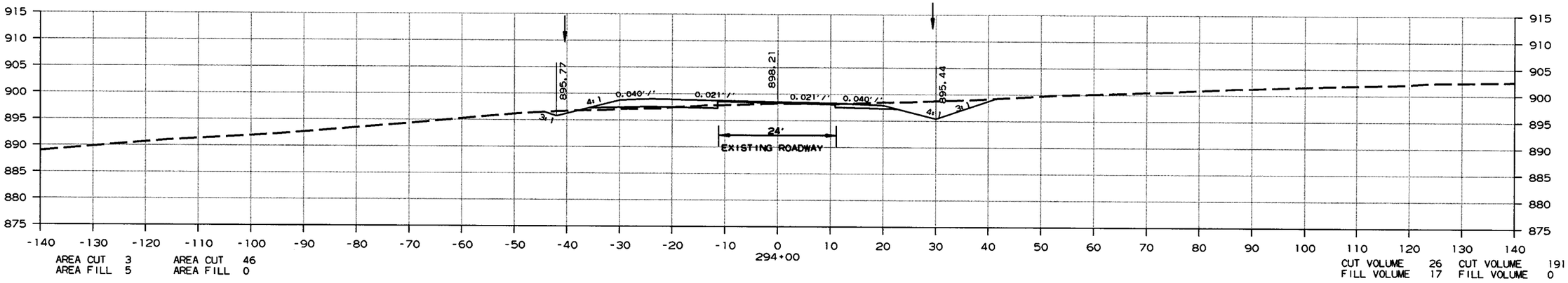
AREA CUT 1 AREA CUT 43
AREA FILL 8 AREA FILL 0

CUT VOLUME 1 CUT VOLUME 21
FILL VOLUME 4 FILL VOLUME 0



AREA CUT 3 AREA CUT 38
AREA FILL 7 AREA FILL 0

CUT VOLUME 0 CUT VOLUME 3
FILL VOLUME 0 FILL VOLUME 0



AREA CUT 3 AREA CUT 46
AREA FILL 5 AREA FILL 0

CUT VOLUME 26 CUT VOLUME 191
FILL VOLUME 17 FILL VOLUME 0

CROSS SECTION STA. 294+00 TO STA. 294+16

10/31/2017

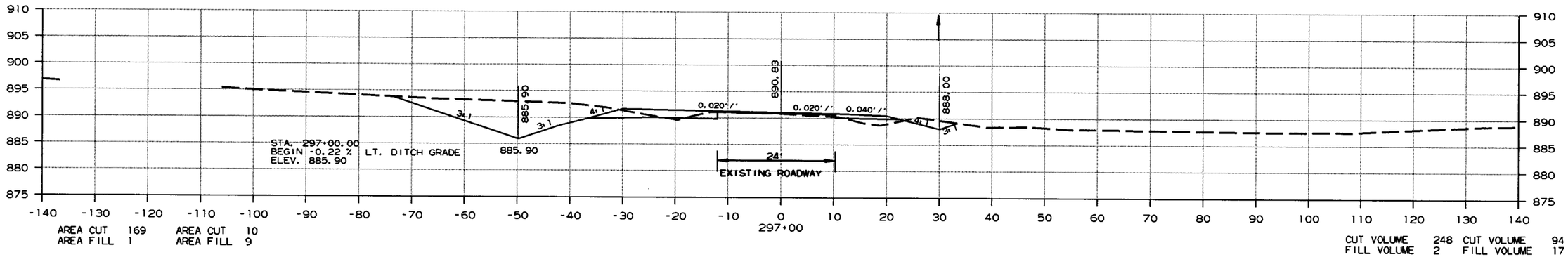
R050315.DGN

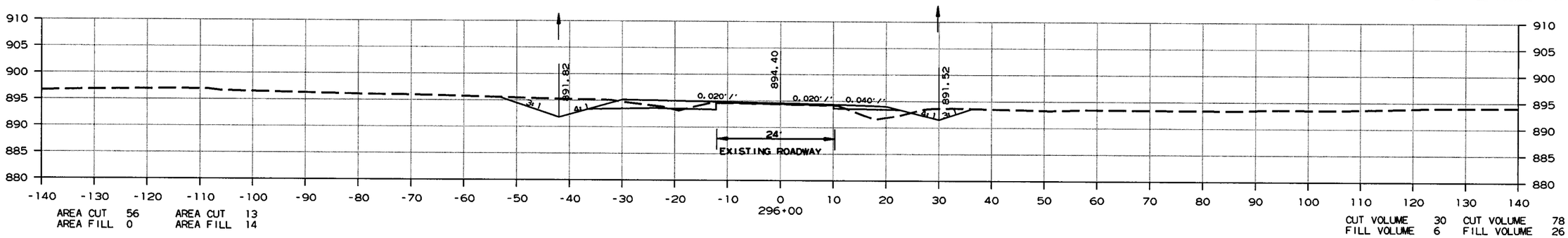
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	75	88

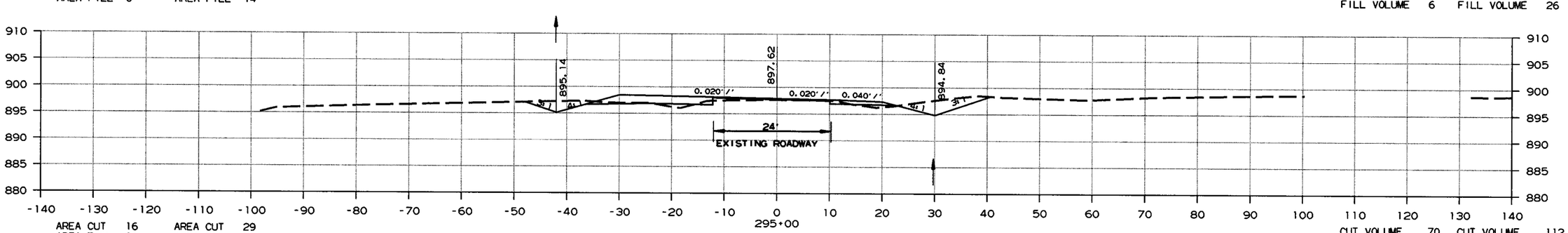
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 295+00 TO STA. 297+00

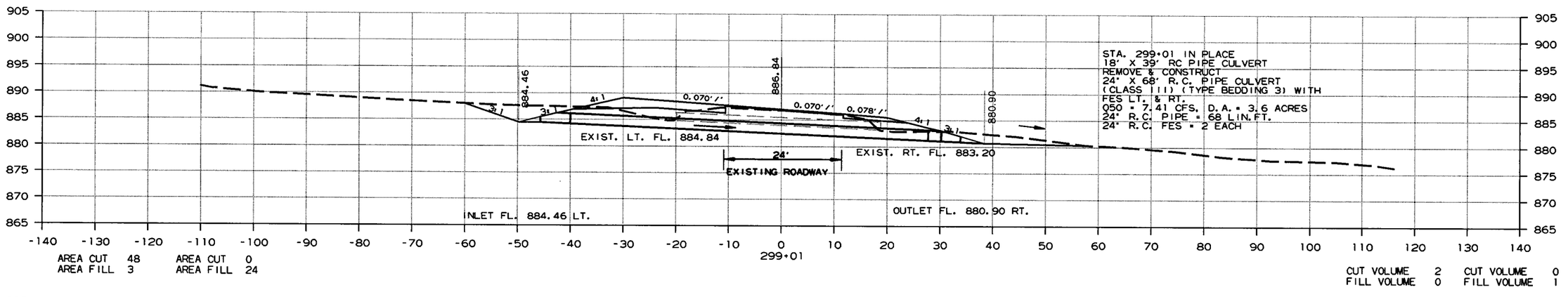
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	76	88

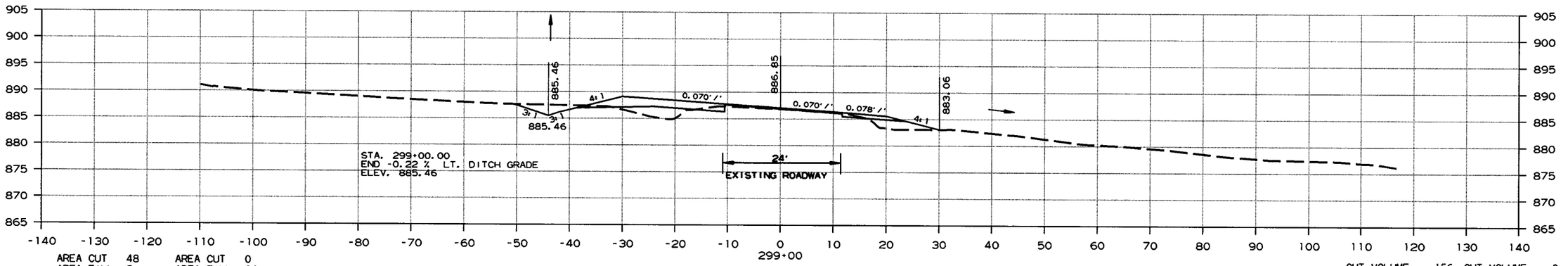
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.



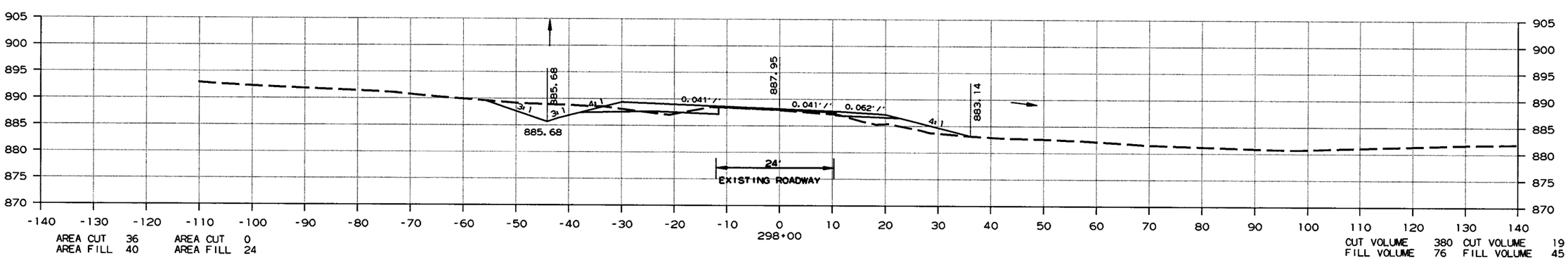
AREA CUT 48 AREA CUT 0
AREA FILL 3 AREA FILL 24

CUT VOLUME 2 CUT VOLUME 0
FILL VOLUME 0 FILL VOLUME 1



AREA CUT 48 AREA CUT 0
AREA FILL 3 AREA FILL 24

CUT VOLUME 156 CUT VOLUME 0
FILL VOLUME 80 FILL VOLUME 45



AREA CUT 36 AREA CUT 0
AREA FILL 40 AREA FILL 24

CUT VOLUME 380 CUT VOLUME 19
FILL VOLUME 76 FILL VOLUME 45

CROSS SECTION STA. 298+00 TO STA. 299+01

10/31/2017

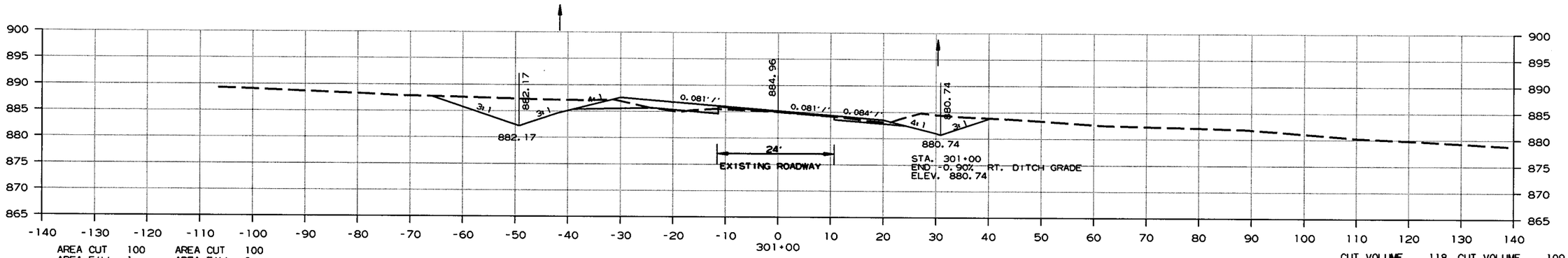
R050315.DGN

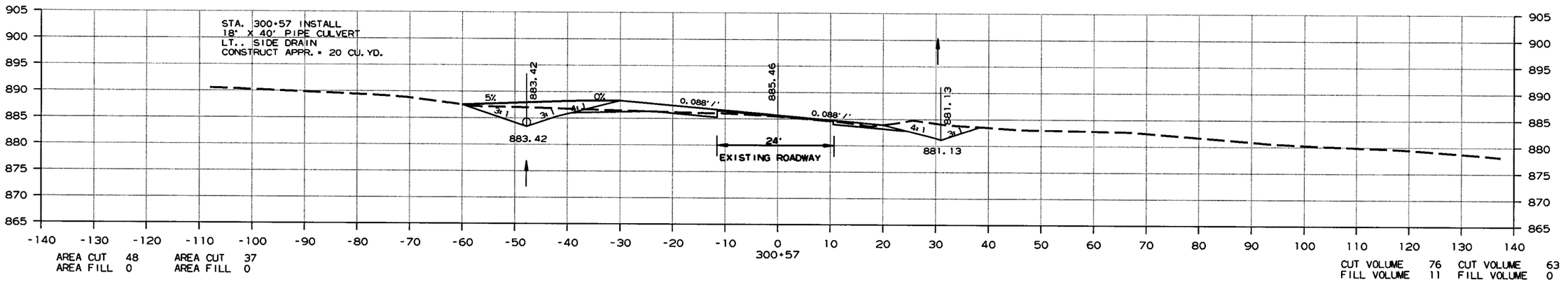
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	77	88

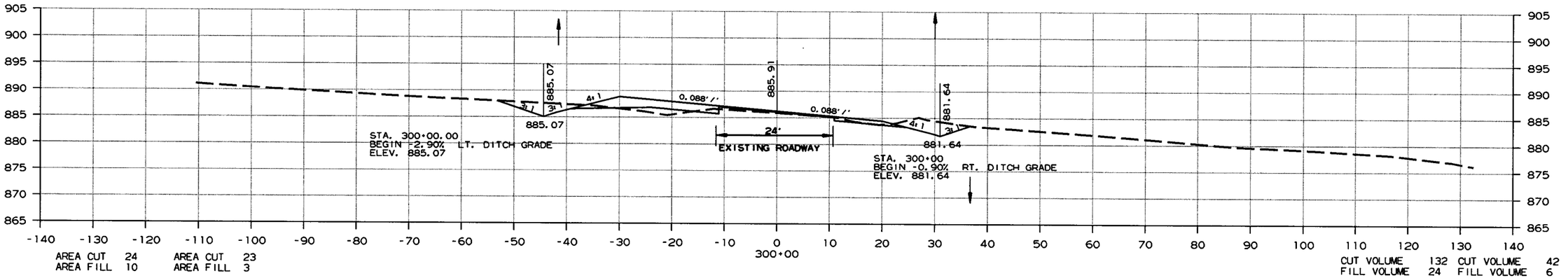
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 300+00 TO STA. 301+00

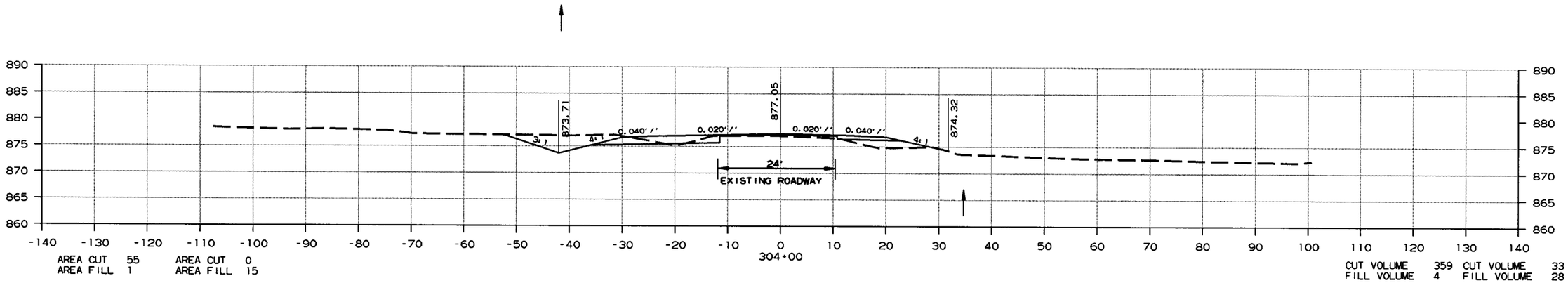
10/31/2017

R050315.DGN

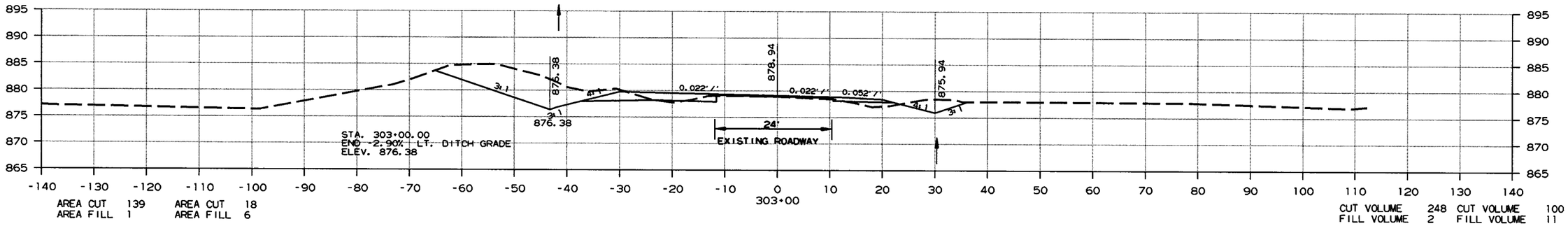
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	78	88

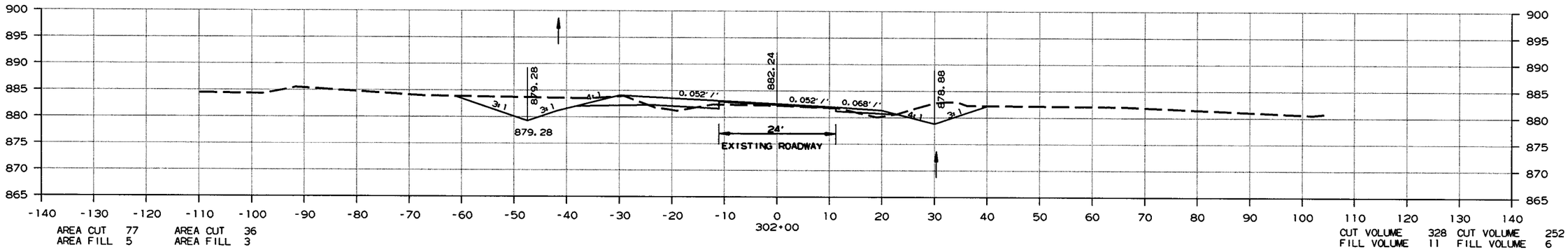
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.



STAGE 1 - LT. STAGE 2 - RT.





CROSS SECTION STA. 302+00 TO STA. 304+00

10/31/2017

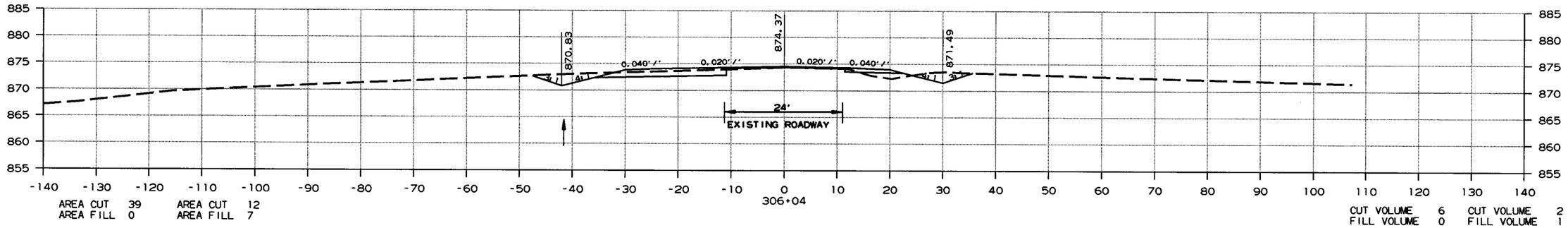
R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	79	88

(2) CROSS SECTIONS

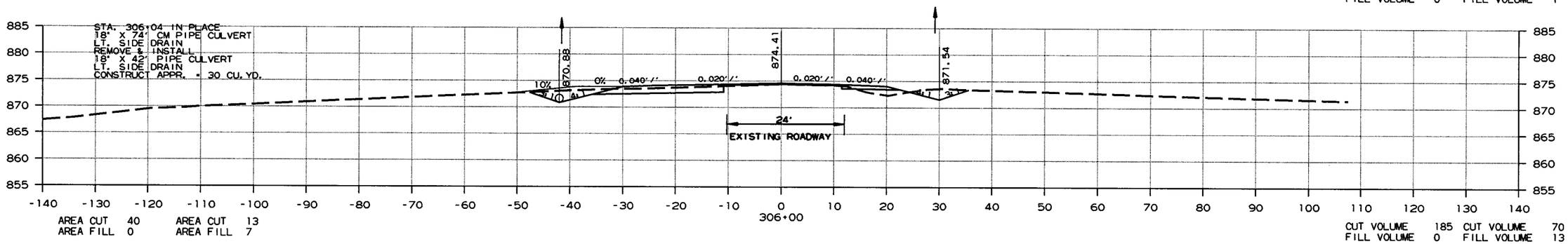
STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.



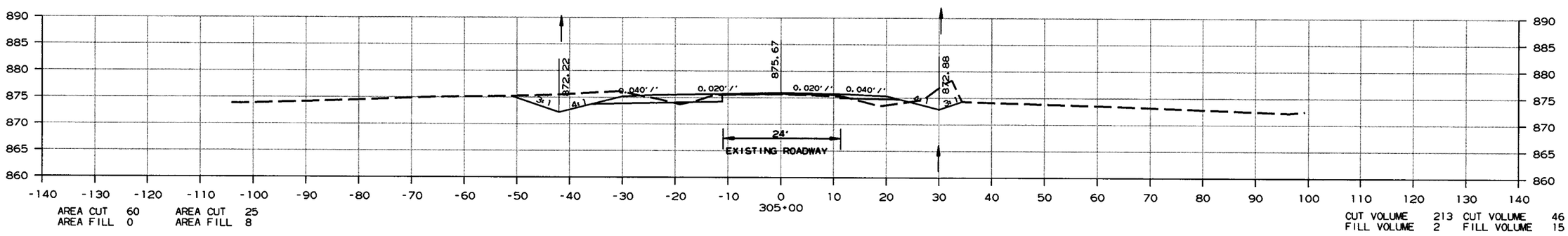
AREA CUT 39 AREA CUT 12
AREA FILL 0 AREA FILL 7

CUT VOLUME 6 CUT VOLUME 2
FILL VOLUME 0 FILL VOLUME 1



AREA CUT 40 AREA CUT 13
AREA FILL 0 AREA FILL 7

CUT VOLUME 185 CUT VOLUME 70
FILL VOLUME 0 FILL VOLUME 13



AREA CUT 60 AREA CUT 25
AREA FILL 0 AREA FILL 8

CUT VOLUME 213 CUT VOLUME 46
FILL VOLUME 2 FILL VOLUME 15

CROSS SECTION STA. 305+00 TO STA. 306+04

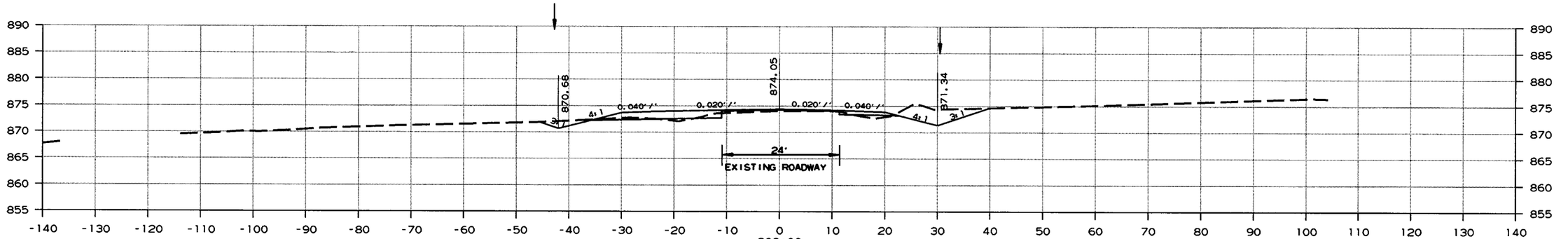
10/31/2017

R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	80	88

(2) CROSS SECTIONS

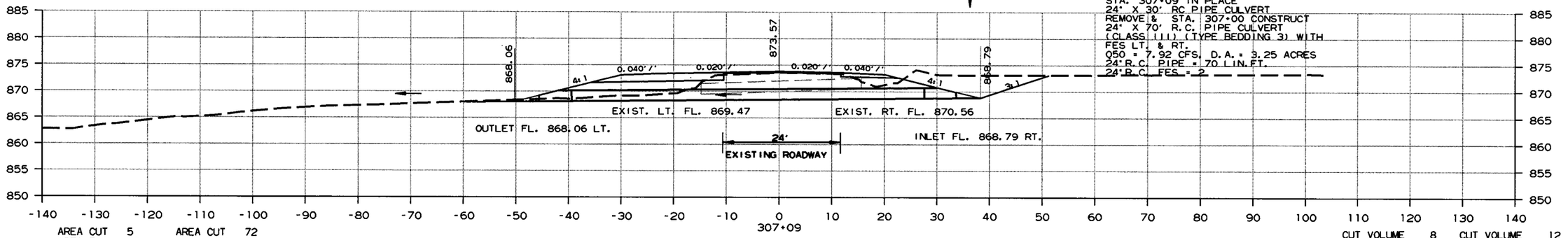
STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 13 AREA CUT 35
AREA FILL 2 AREA FILL 3

CUT VOLUME 8 CUT VOLUME 121
FILL VOLUME 67 FILL VOLUME 5

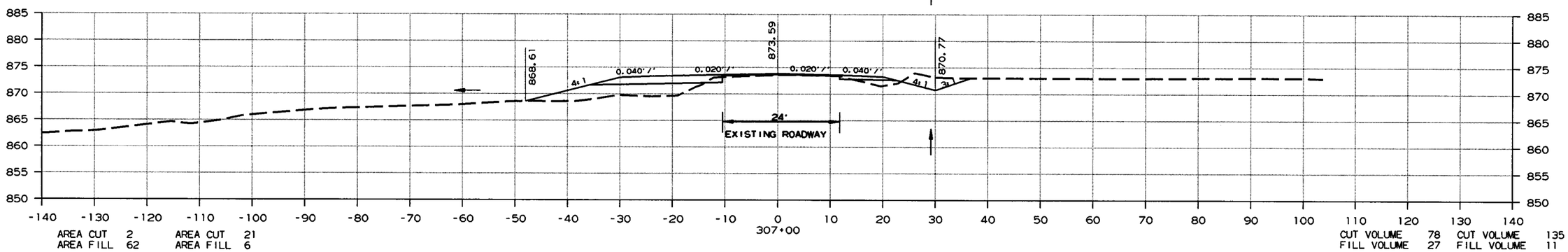
STAGE 1 - LT. STAGE 2 - RT.



STA. 307+09 IN PLACE
24" X 30' RC PIPE CULVERT
REMOVE & STA. 307+00 CONSTRUCT
24" X 70' R.C. PIPE CULVERT
(CLASS III) (TYPE BEDDING 3) WITH
FES LT. & RT.
Q50 = 7.92 CFS, D.A. = 3.25 ACRES
24" R.C. PIPE = 70 LIN.FT.
24" R.C. FES = 2

AREA CUT 5 AREA CUT 72
AREA FILL 38 AREA FILL 10

CUT VOLUME 8 CUT VOLUME 12
FILL VOLUME 17 FILL VOLUME 2



AREA CUT 2 AREA CUT 21
AREA FILL 62 AREA FILL 6

CUT VOLUME 78 CUT VOLUME 135
FILL VOLUME 27 FILL VOLUME 11

CROSS SECTION STA. 307+00 TO STA. 308+00

10/31/2017

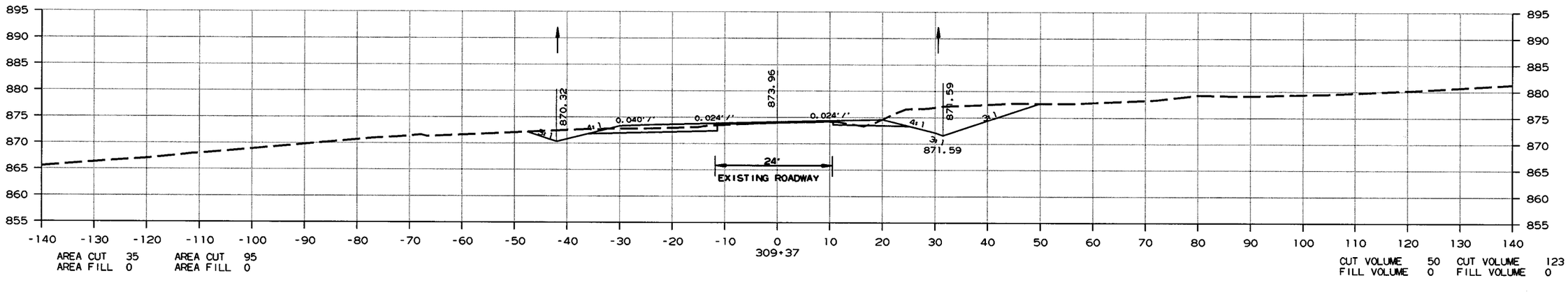
R050315.DGN

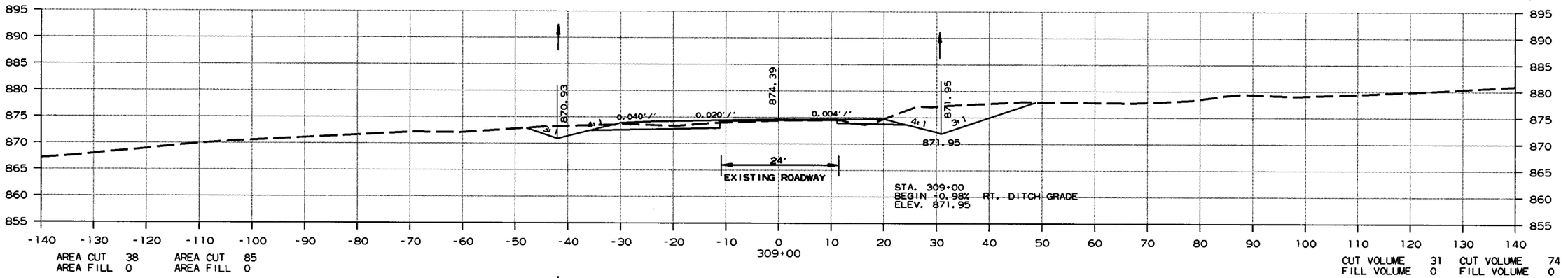
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	81	88

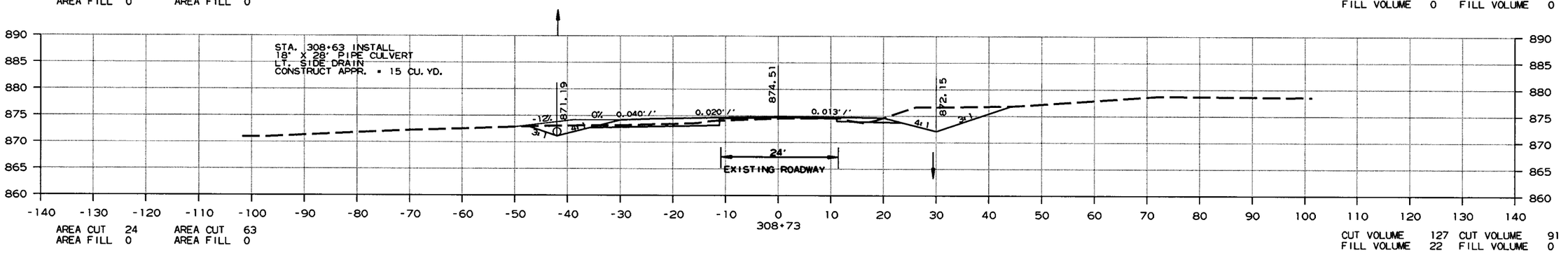
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 308+73 TO STA. 309+37

10/31/2017

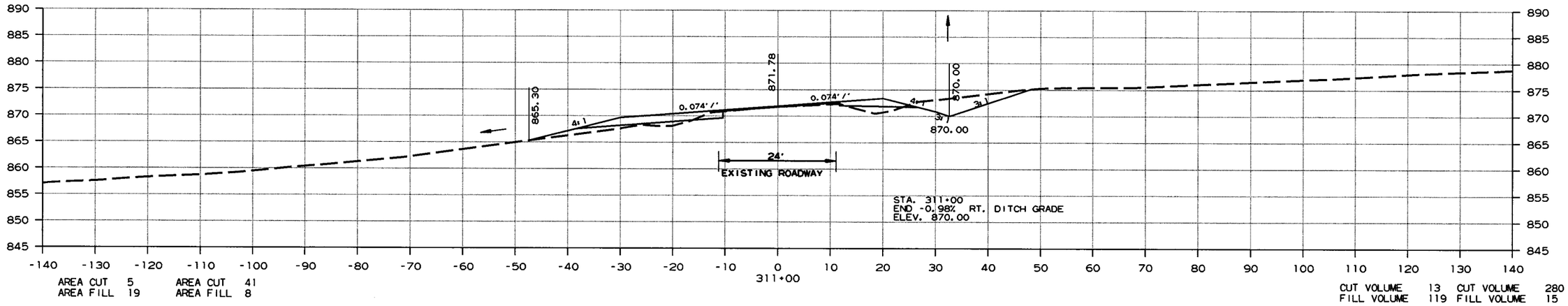
R050315.DGN

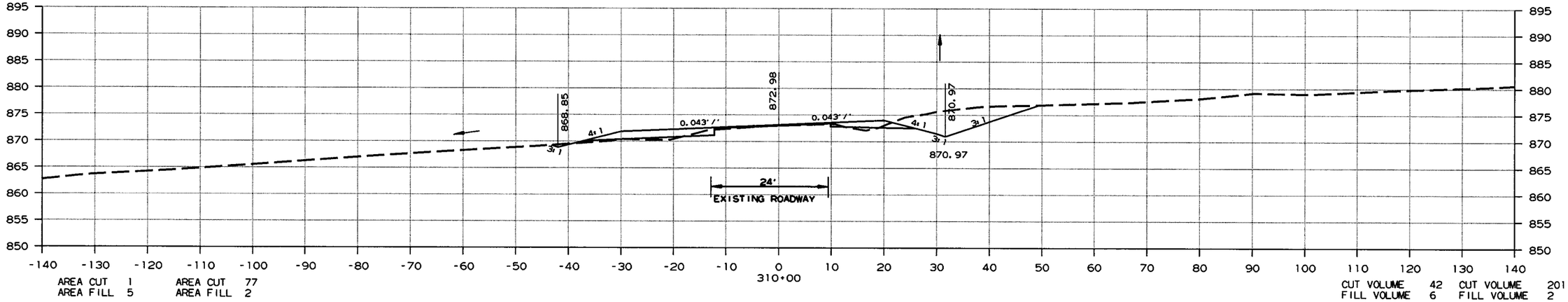
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	82	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.





CROSS SECTION STA. 310+00 TO STA. 311+00

10/31/2017

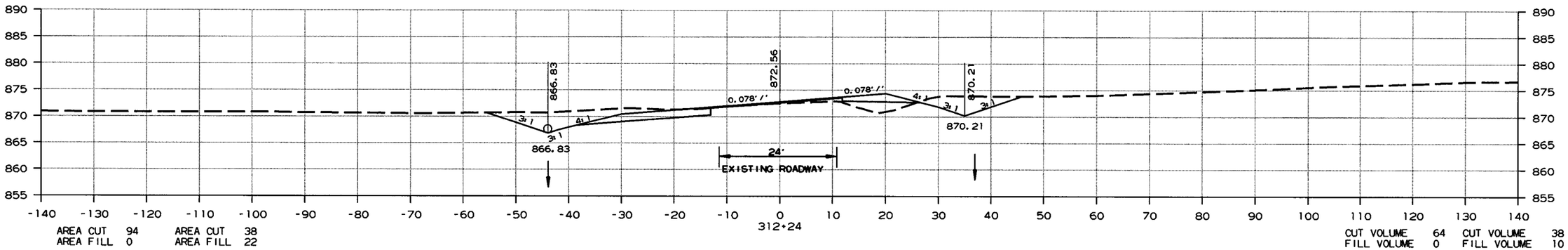
R050315.DGN

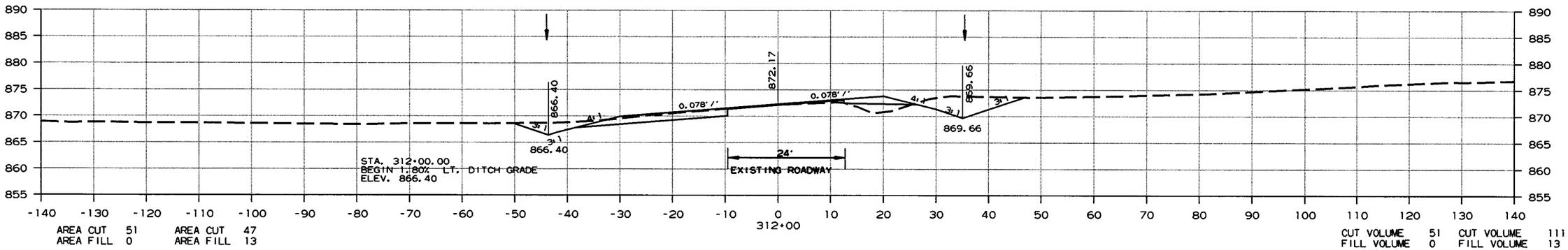
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	83	88

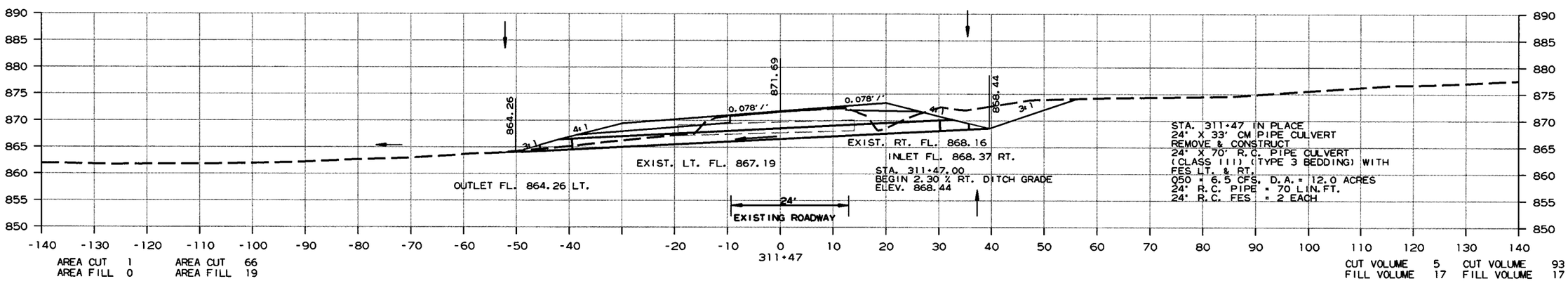
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.







CROSS SECTION STA. 311+47 TO STA. 312+24

10/31/2017

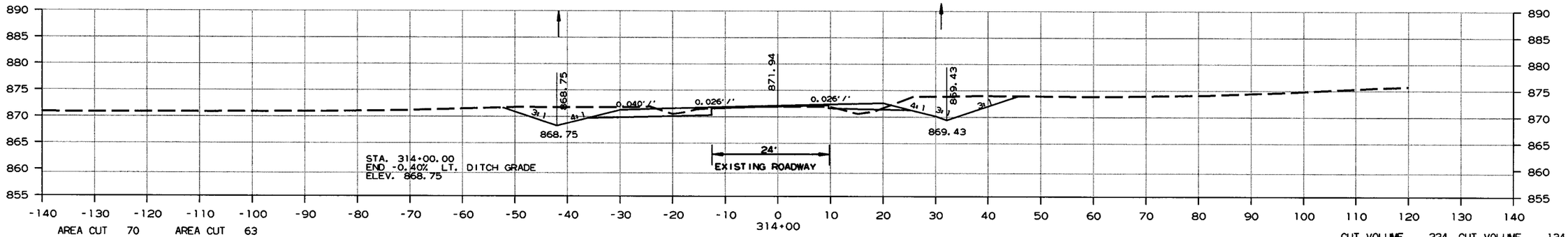
R050315.DGN

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.		050315	84	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

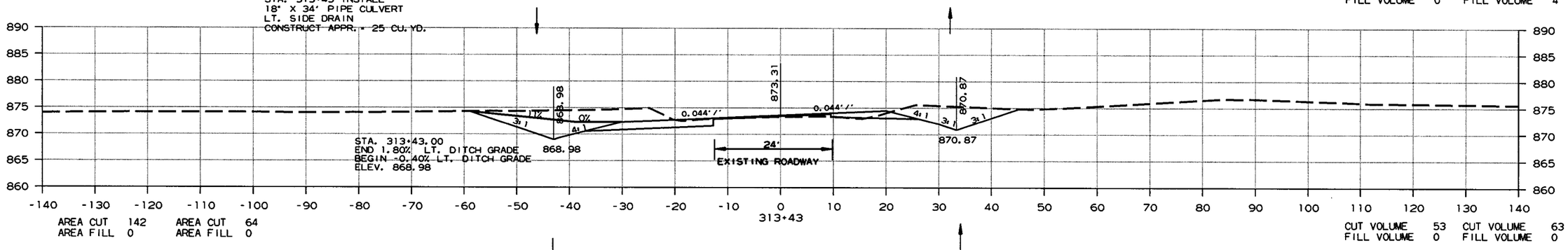
STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 70 AREA CUT 63
AREA FILL 0 AREA FILL 4

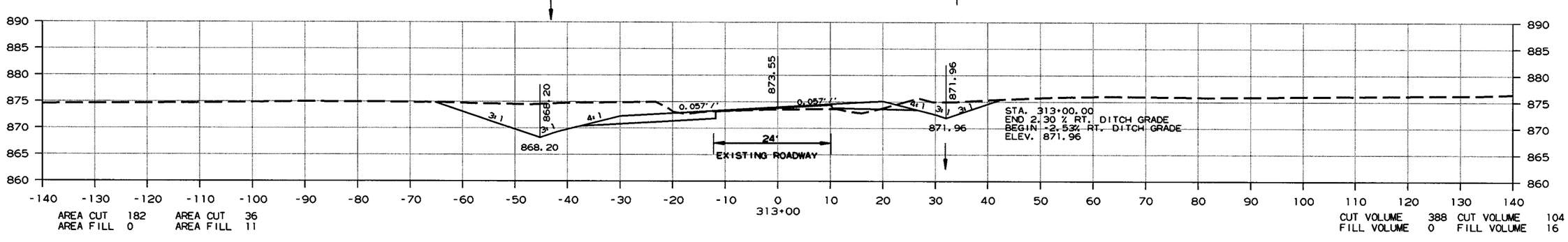
CUT VOLUME 224 CUT VOLUME 134
FILL VOLUME 0 FILL VOLUME 4

STA. 313+43 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. - 25 CU. YD.



AREA CUT 142 AREA CUT 64
AREA FILL 0 AREA FILL 0

CUT VOLUME 53 CUT VOLUME 63
FILL VOLUME 0 FILL VOLUME 0



AREA CUT 182 AREA CUT 36
AREA FILL 0 AREA FILL 11

CUT VOLUME 388 CUT VOLUME 104
FILL VOLUME 0 FILL VOLUME 16

CROSS SECTION STA. 313+00 TO STA. 314+00

10/31/2017

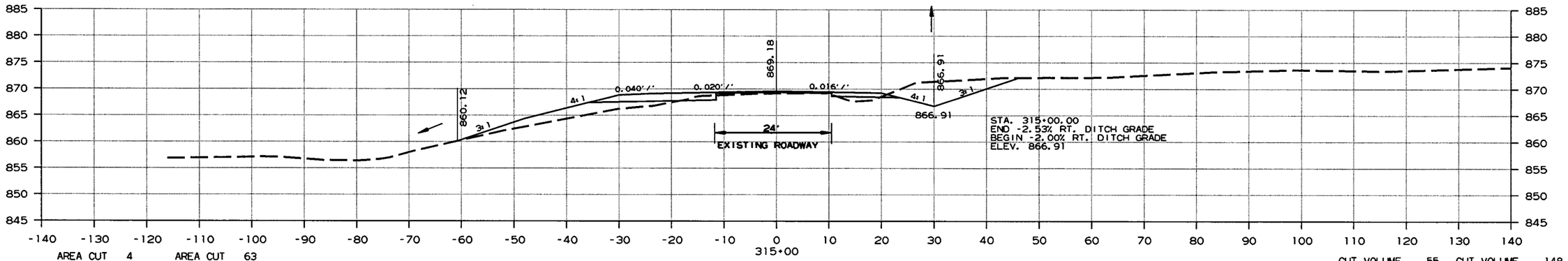
R050315.DGN

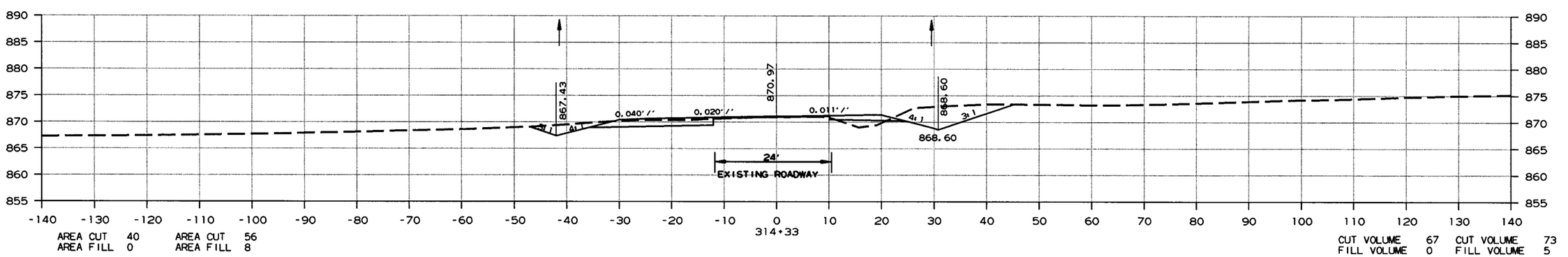
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	85	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.





CROSS SECTION STA. 314+33 TO STA. 315+00

10/31/2017

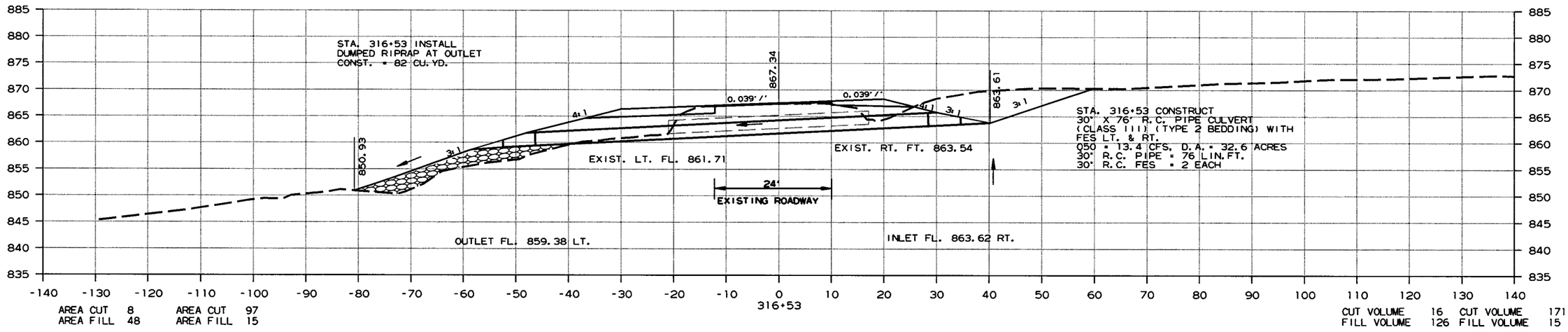
R050315.DGN

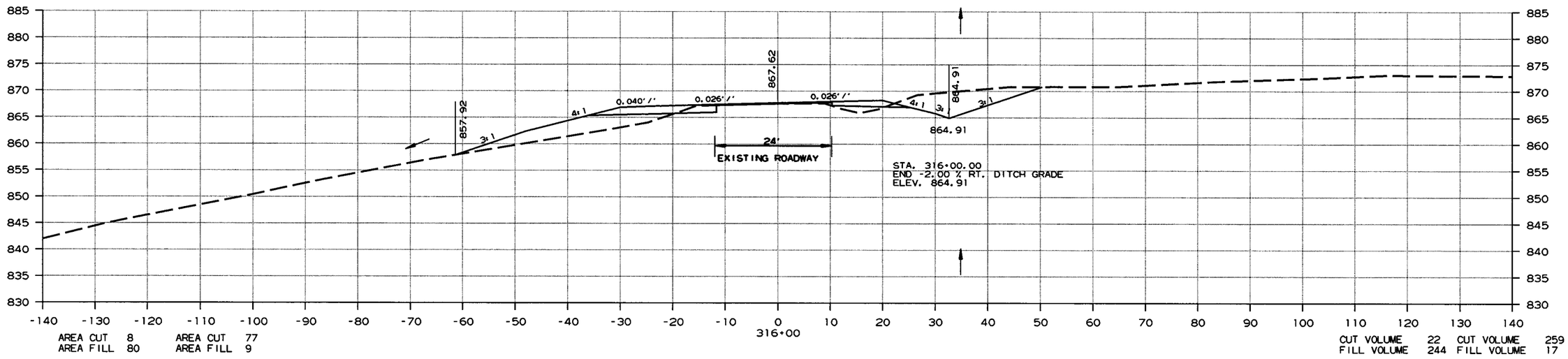
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	86	88

(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.





CROSS SECTION STA. 316+00 TO STA. 316+53

10/31/2017

R050315.DGN

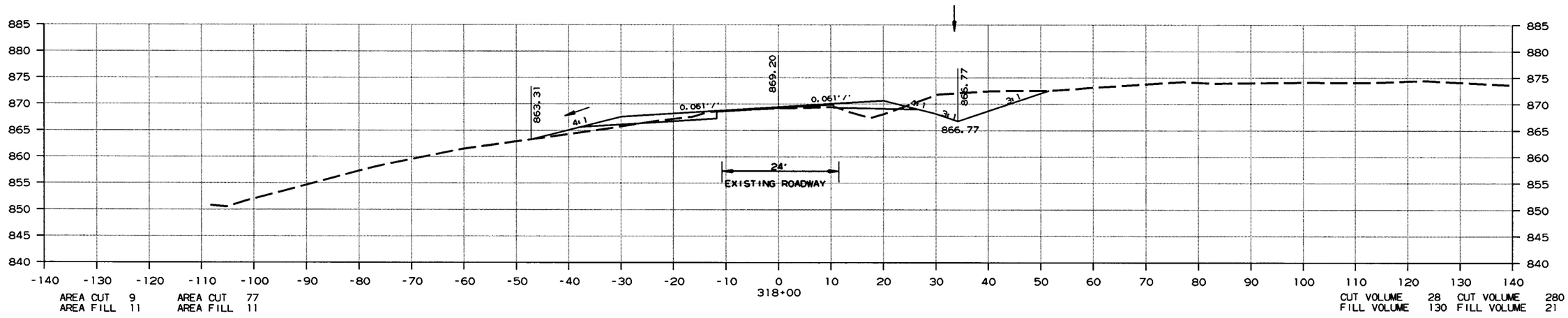
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	87	88

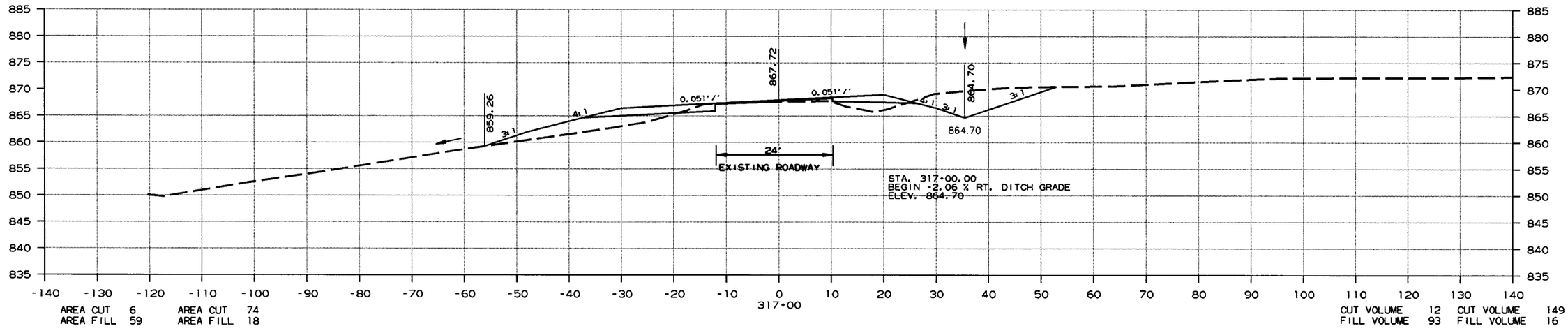
(2) CROSS SECTIONS

STAGE 1 - LT. STAGE 2 - RT.

STAGE 1 - LT. STAGE 2 - RT.

STA. 318+30.00 BEGIN 200' LANE ADDITION





CROSS SECTION STA. 317+00 TO STA. 318+00

10/31/2017

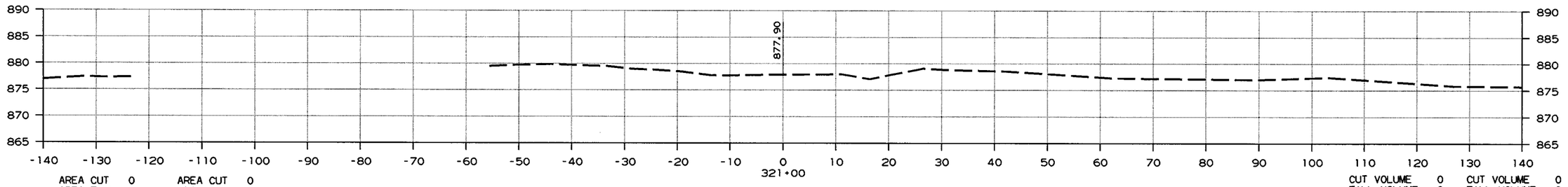
R050315.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		050315	88	88

(2) CROSS SECTIONS

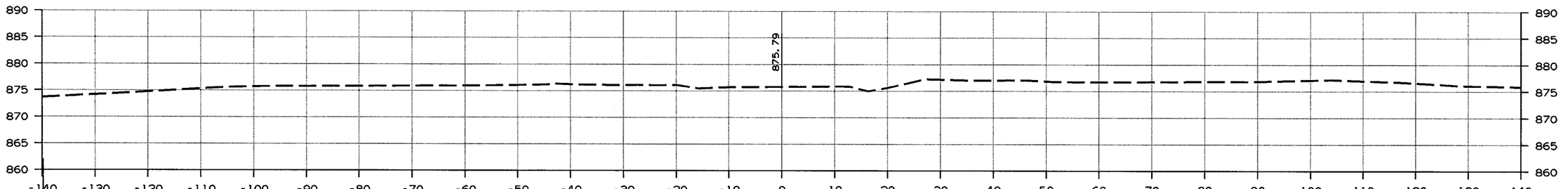
STA. 321+30.00 END 100' TRANSITION

STAGE 1 - LT. STAGE 2 - RT.



AREA CUT 0 AREA CUT 0
AREA FILL 0 AREA FILL 0

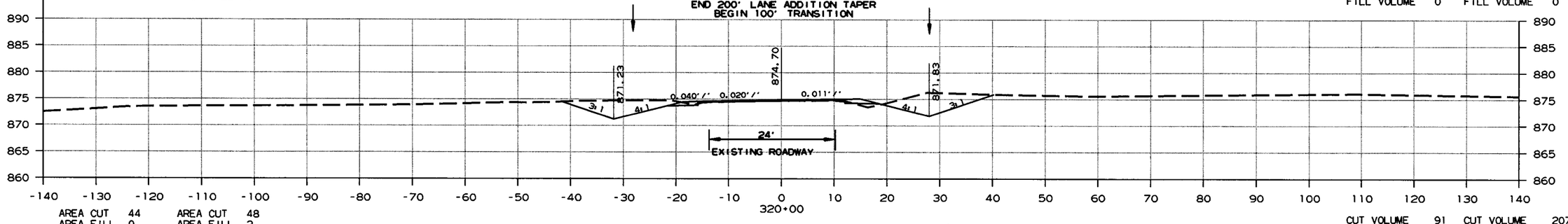
CUT VOLUME 0 CUT VOLUME 0
FILL VOLUME 0 FILL VOLUME 0



AREA CUT 0 AREA CUT 0
AREA FILL 0 AREA FILL 0

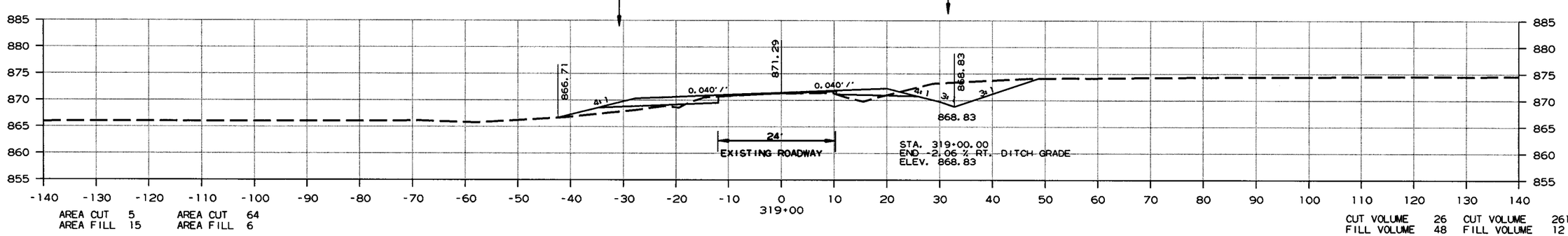
CUT VOLUME 24 CUT VOLUME 27
FILL VOLUME 0 FILL VOLUME 0

STA. 320+30.00 END JOB 050315
END 200' LANE ADDITION TAPER
BEGIN 100' TRANSITION



AREA CUT 44 AREA CUT 48
AREA FILL 0 AREA FILL 2

CUT VOLUME 91 CUT VOLUME 207
FILL VOLUME 28 FILL VOLUME 4



STA. 319+00.00
END -2.06 % RT. DITCH GRADE
ELEV. 868.83

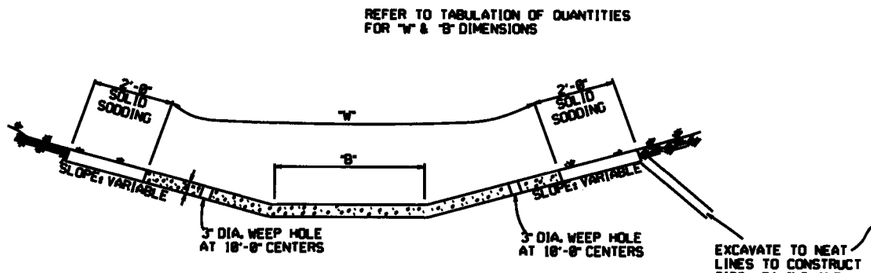
AREA CUT 5 AREA CUT 64
AREA FILL 15 AREA FILL 6

CUT VOLUME 26 CUT VOLUME 261
FILL VOLUME 48 FILL VOLUME 12

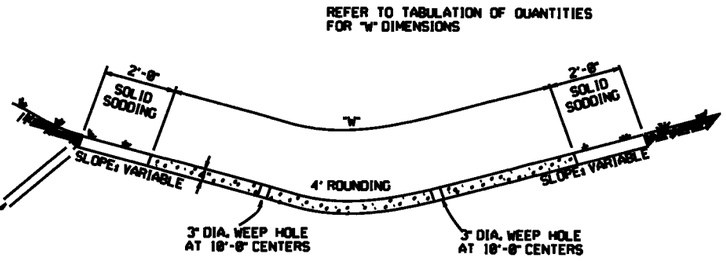
CROSS SECTION STA. 319+00 TO STA. 321+00

10/31/2017

R050315.DGN

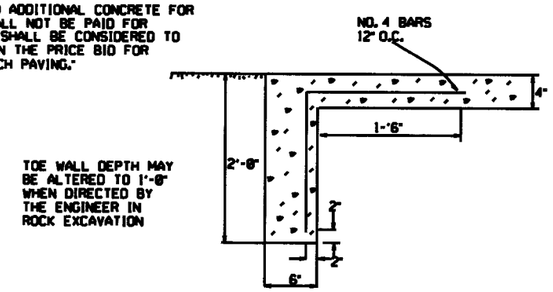


TYPE A

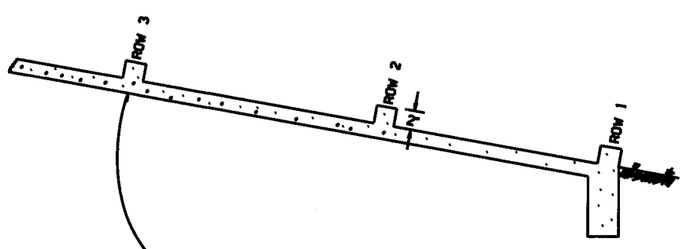


TYPE B

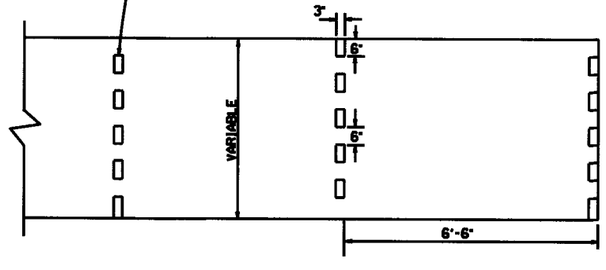
THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."



TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

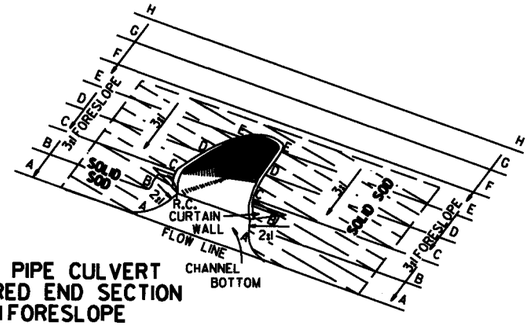
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

12-8-15	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
1-30-89	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-19-88	REVISED DISSIPATOR NOTE	853-7-19-88
4-1-87	REVISED ENERGY DISSIPATOR	874-4-1-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	842-1-9-87
11-1-86	ADDED NOTE TO ENERGY DISS.	809-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPES A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72
DATE	REVISION	DATE FILM'D

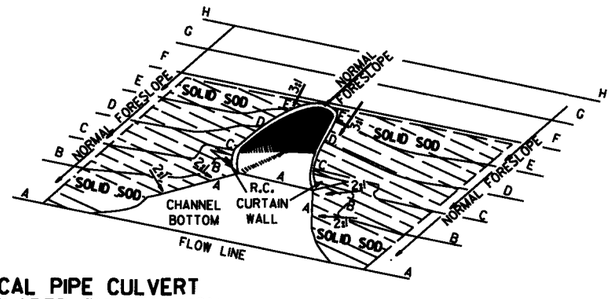
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

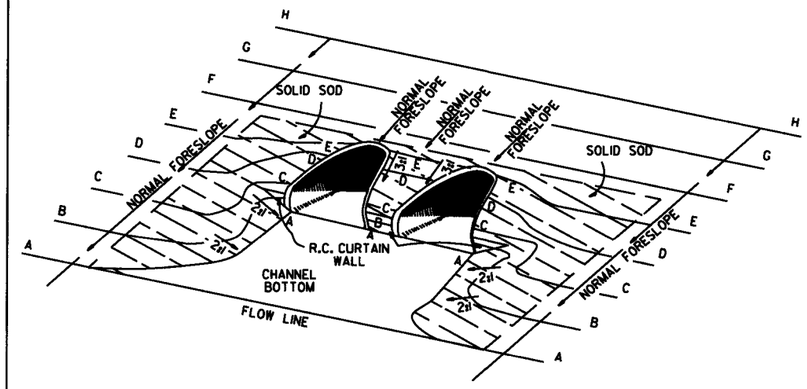
STANDARD DRAWING CDP-1



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

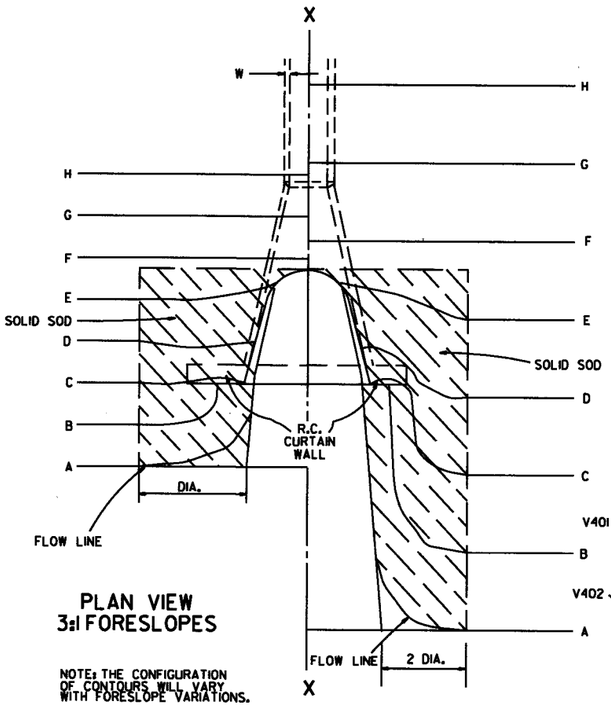
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0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

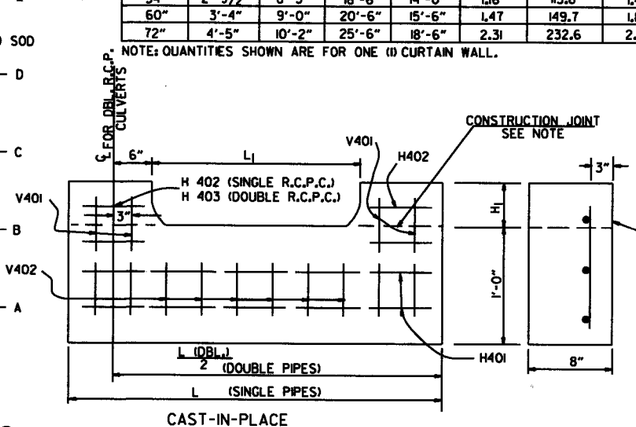
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

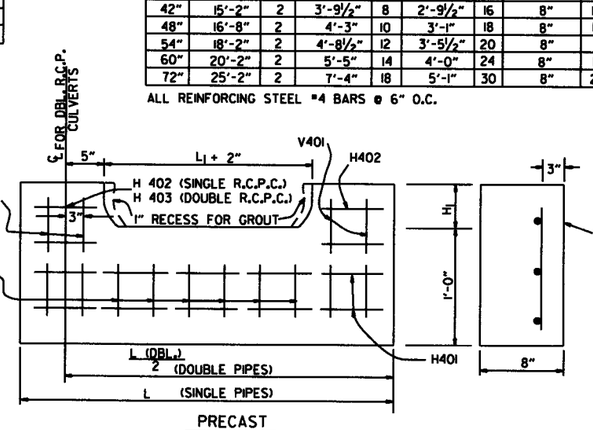
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

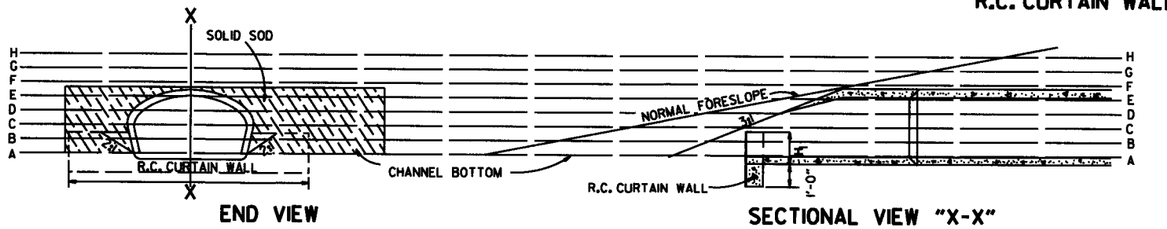
NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



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



END VIEW

SECTIONAL VIEW "X-X"

SOLID SODDING

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

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

GENERAL NOTES

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

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
5-2-80	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

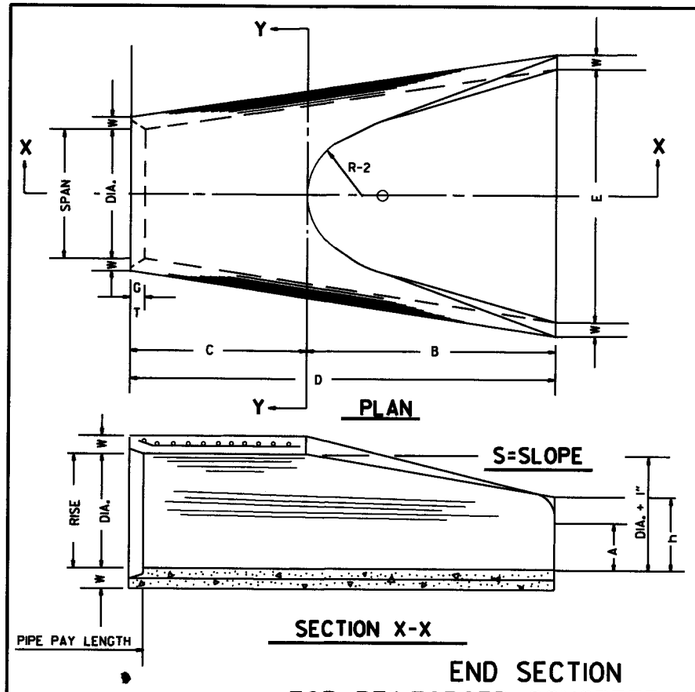


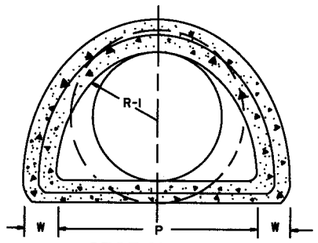
TABLE OF DIMENSIONS

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"	3sl	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3sl	25"	33 3/16"	16 9/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3sl	31"	37"	18½"	15"	3¼"	1940	1'-4 5/16"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3sl	37"	47 5/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3sl	43"	53 1/16"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3sl	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3sl	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3sl	61"	72½"	36 5/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3sl	73"	77 5/16"	38 5/16"	24"	5"	13250	4'-6"

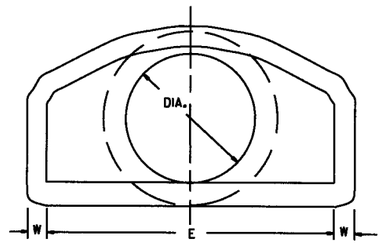
ARCH PIPE

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"	2½sl
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½sl
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½sl
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 5/16"	15"	2½"	2½sl
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 5/16"	20"	3"	2½sl
36	43¾	44	26 5/16	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½sl
42	51⅝	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½sl
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½sl
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2½sl
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 5/16"	24"	5"	2½sl

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

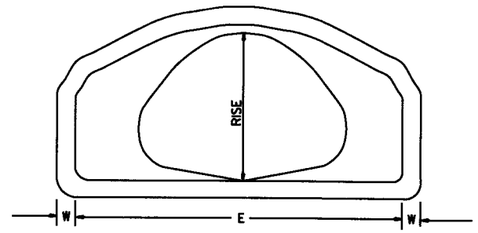


SECTION Y-Y



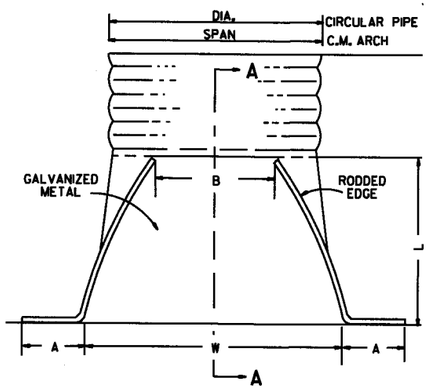
END VIEW

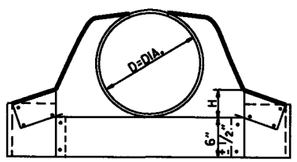
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION



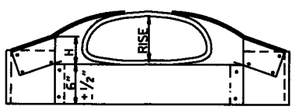
END VIEW
CONCRETE ARCH PIPE

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

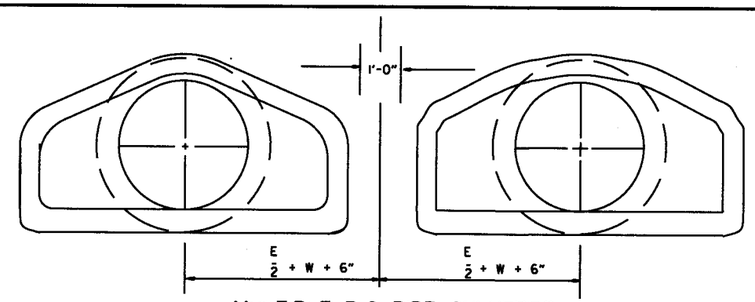
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½sl
15	16	7	8	6	26	30	2½sl
18	16	8	10	6	31	36	2½sl
21	16	9	12	6	36	42	2½sl
24	16	10	13	6	41	48	2½sl
30	14	12	16	8	51	60	2½sl
36	14	14	19	9	60	72	2½sl
42	12	16	22	11	69	84	2½sl
48	12	18	27	12	78	90	2½sl
54	12	18	30	12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

C.M. ARCH PIPE

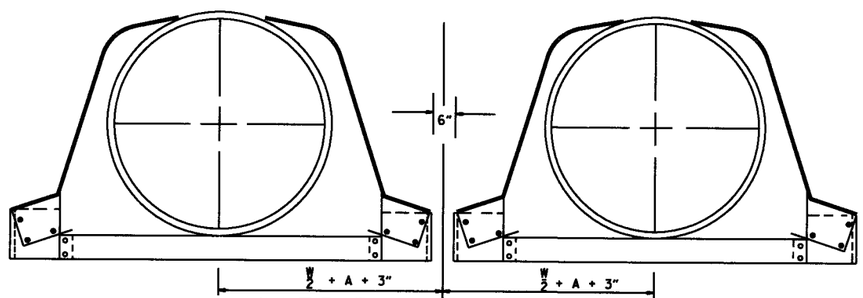
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½sl	16
18"	21	15	7	10	6	23	36	2½sl	16
21"	24	18	8	12	6	28	42	2½sl	16
24"	28	20	9	14	6	32	48	2½sl	16
30"	35	24	10	16	6	39	60	2½sl	14
36"	42	29	12	18	8	46	75	2½sl	14
42"	49	33	13	21	9	53	85	2½sl	12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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



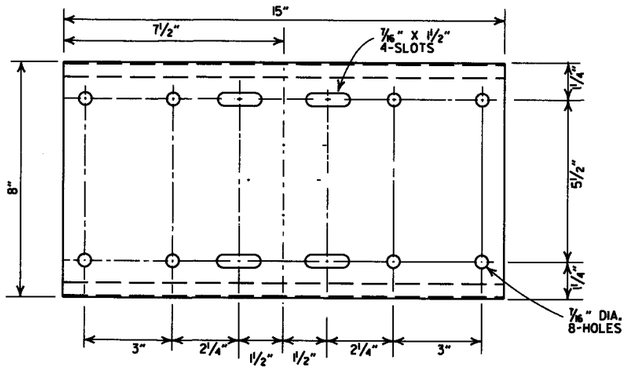
MULTIPLE C.M. PIPE CULVERTS

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

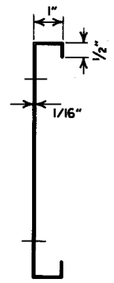
ARKANSAS STATE HIGHWAY COMMISSION

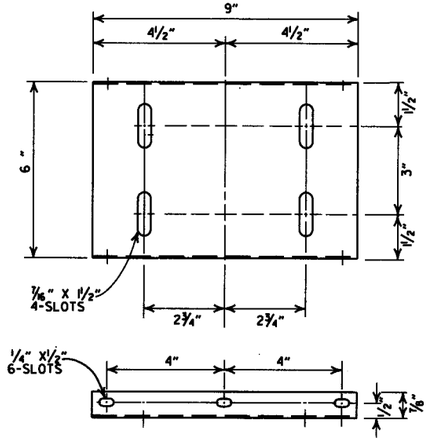
FLARED END SECTION

STANDARD DRAWING FES-2

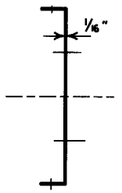


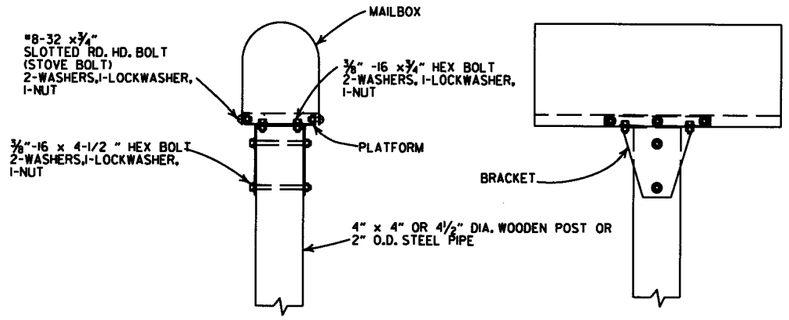
SHELF



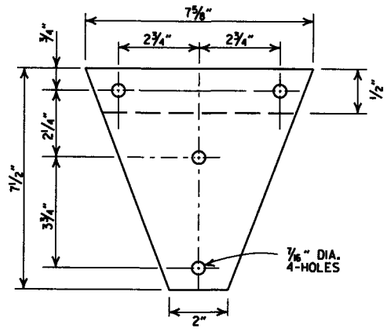


PLATFORM

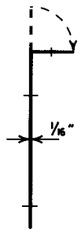




SINGLE INSTALLATION

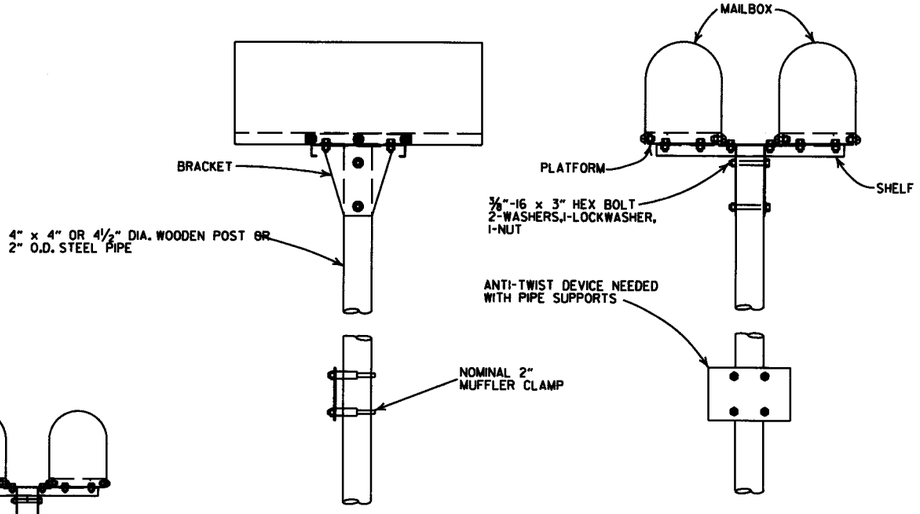


BRACKET

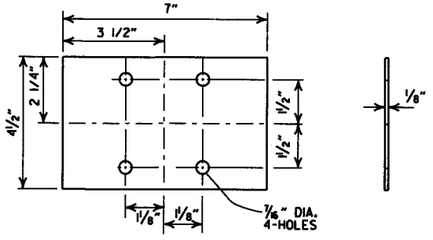


GENERAL NOTES

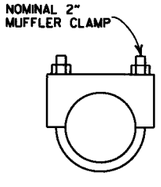
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED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



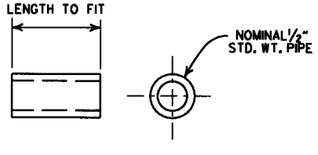
DOUBLE INSTALLATION



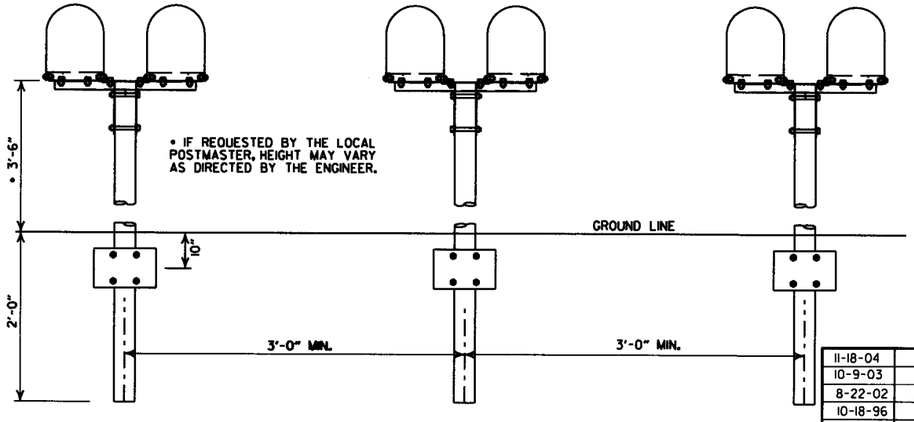
ANTI-TWIST PLATE



CLAMP



SPACER



SPACING FOR MULTIPLE POST INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	20-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-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	26⅞	27
42	51⅛	51	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

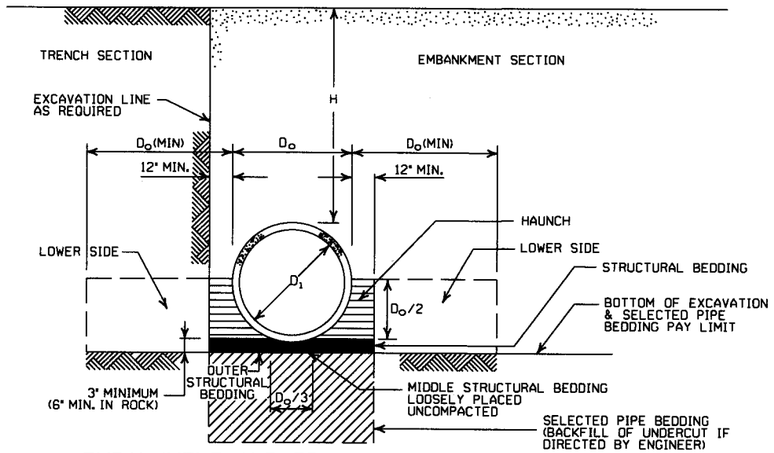
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CONSTRUCTION SEQUENCE

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

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

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

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

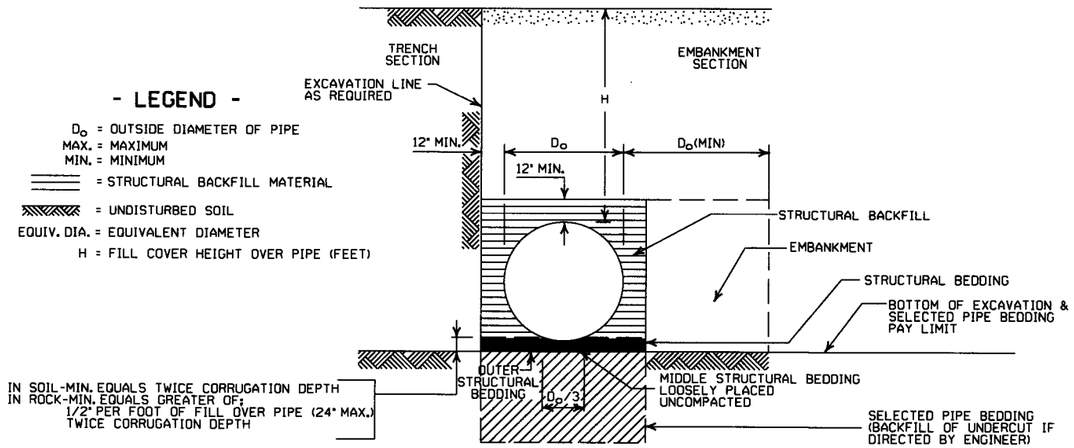
METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION 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 TYPE 2	INSTALLATION TYPE 1		INSTALLATION TYPE 2	INSTALLATION TYPE 1
36	40x31	5	0.079	3	2	12		15
42	46x36	6	0.079	3	2	13		15
48	53x41	7	0.079	3	2	13		15
54	60x46	8	0.079	3	2	13		15
60	66x51	9	0.079	3	2	13		15
66	73x55	12	0.079	3	2	15		15
72	81x59	14	0.079	3	2	15		15
78	87x63	14	0.079	3	2	15		15
84	95x67	16	0.109	3	2	15		15
90	103x71	16	0.109	3	2	15		15
96	112x75	18	0.109	3	2	15		15
102	117x79	18	0.109	3	2	15		15
108	128x83	18	0.138	3	2	15		15

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

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

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

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

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

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

SM3 WILL NOT BE ALLOWED.

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

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

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"

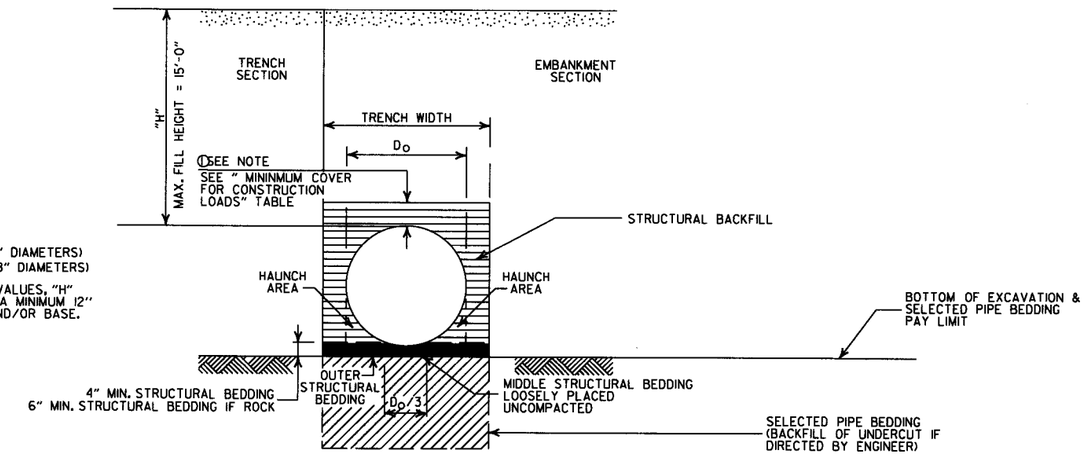
①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

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

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

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

SM3 WILL NOT BE ALLOWED.

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

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

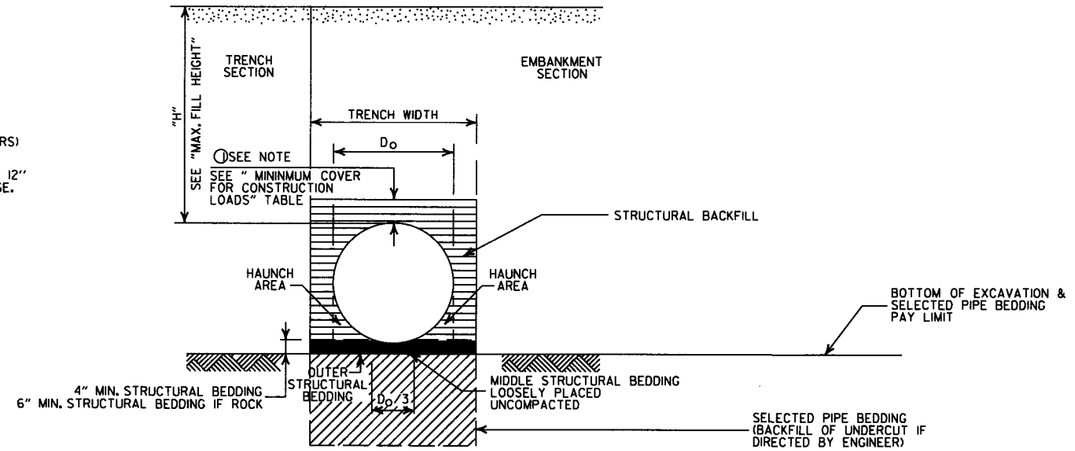
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

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

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

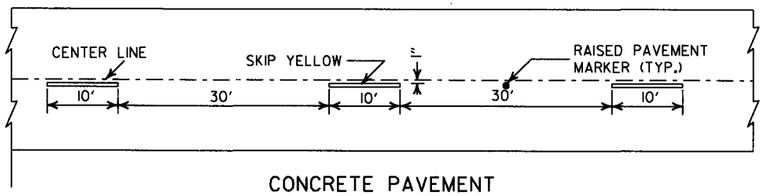
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

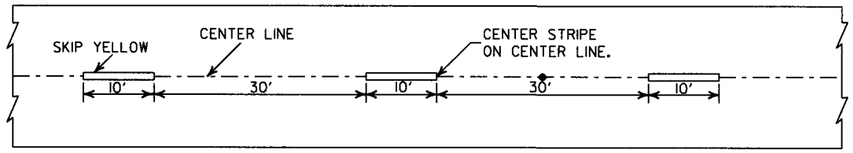
PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

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

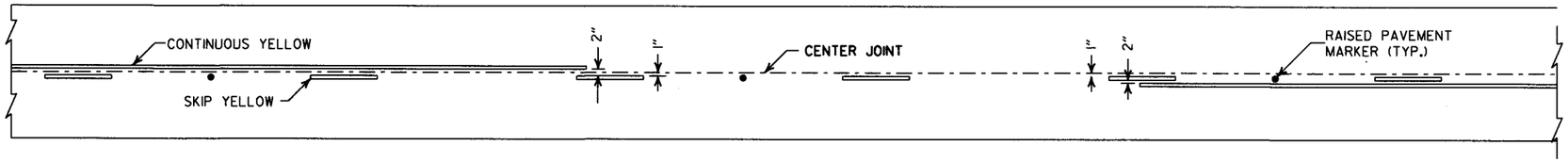


CONCRETE PAVEMENT

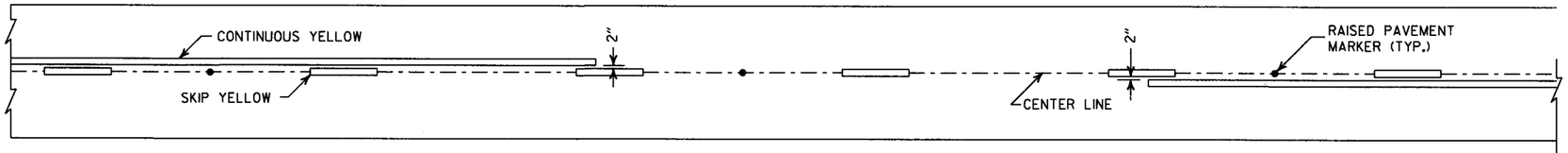


ASPHALT PAVEMENT

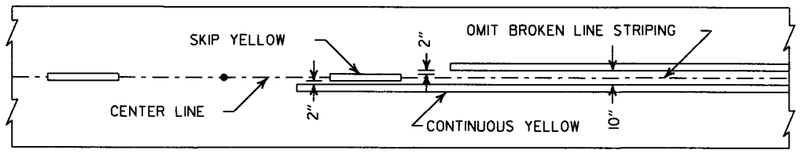
BROKEN LINE STRIPING



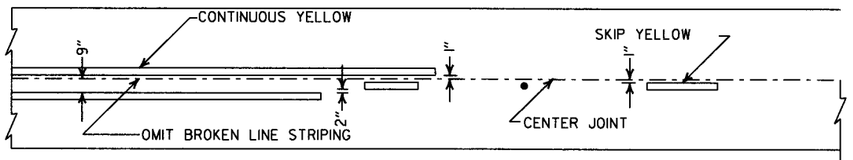
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

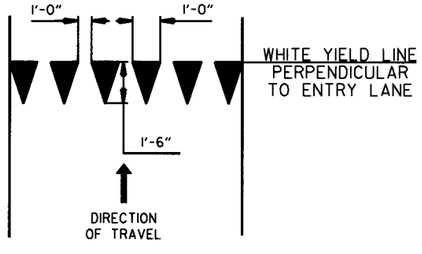


ASPHALT PAVEMENT

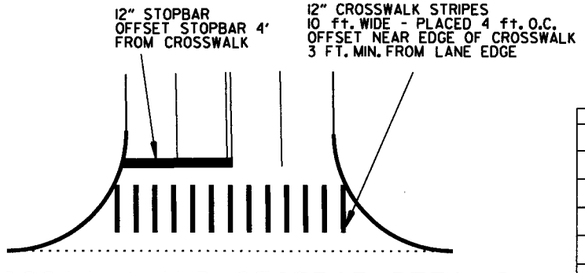


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

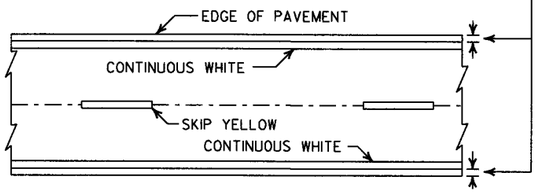


YIELD LINE DETAIL



CROSSWALK AND STOPBAR DETAILS

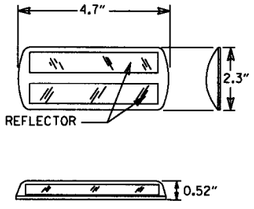
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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

DETAIL OF STANDARD
RAISED PAVEMENT MARKERS

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

ARKANSAS STATE HIGHWAY COMMISSION

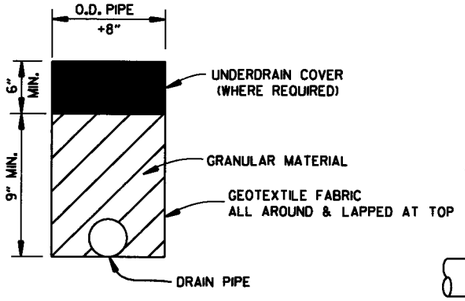
PAVEMENT MARKING DETAILS

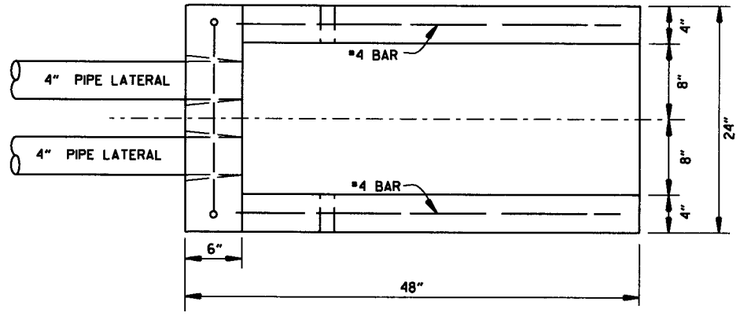
STANDARD DRAWING PM-1

NOTE:

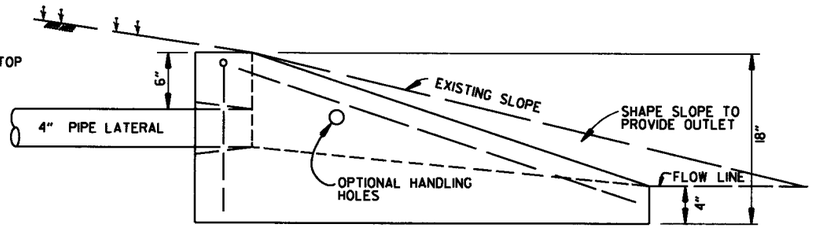
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

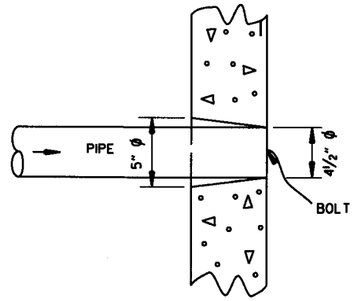




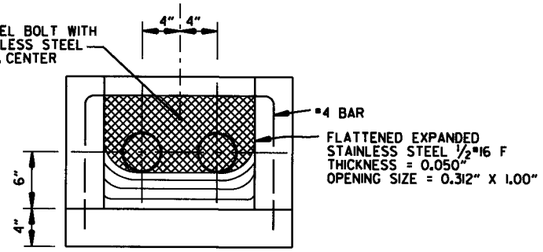
PLAN VIEW



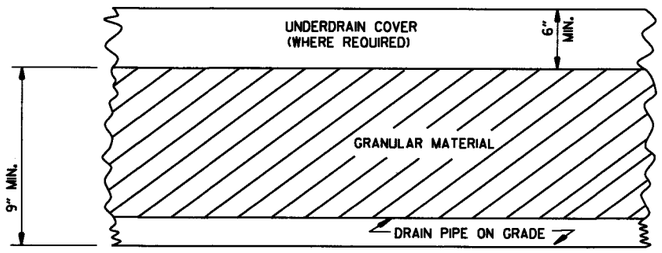
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE

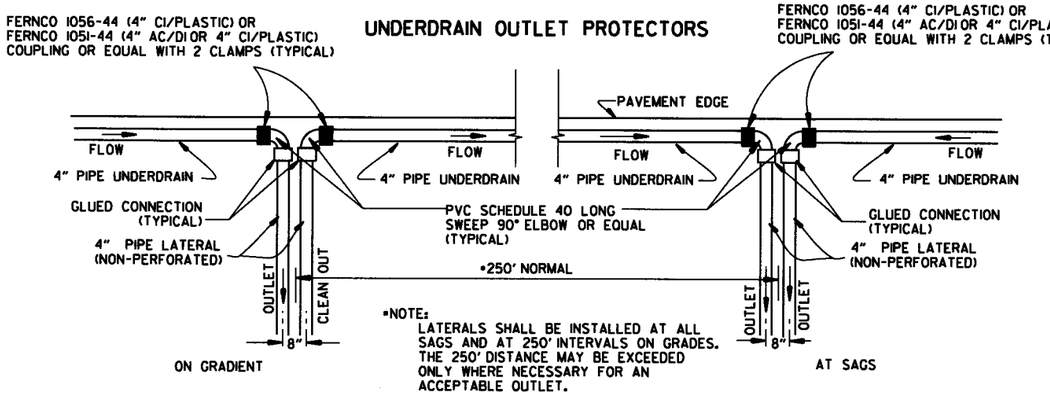


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

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.

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE I. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 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

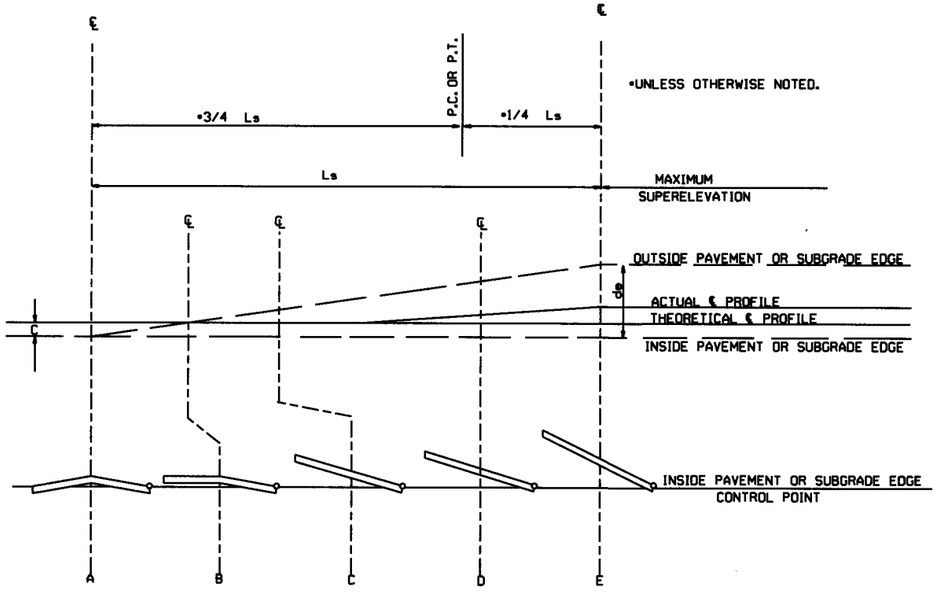
STANDARD DRAWING PU-1

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.			N.C.			0.021			0.026			0.030			0.037		
1° 15'	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30'	N.C.			0.021			0.031	200		0.037	225		0.043	250		0.054	275	
1° 45'	N.C.			0.025			0.036			0.043			0.049			0.062		300
2° 00'	R.C.			0.028	175		0.040			0.048			0.055			0.070		
2° 15'	R.C.			0.031			0.045			0.053			0.061			0.078	300	
2° 30'	0.021			0.034			0.049			0.058			0.067			0.085	315	350
2° 45'	0.023			0.037			0.053			0.063			0.072			0.091	335	
3° 00'	0.025			0.040			0.057			0.067	230		0.077	260		0.096	350	
3° 15'	0.027	150		0.043		200	0.061			0.072	245		0.082	275		0.098	360	400
3° 30'	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45'	0.031			0.049			0.069	215		0.080	265		0.090	295				
4° 00'	0.033		200	0.051			0.072	225		0.083	270		0.093	305	350			
4° 30'	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00'	0.040			0.061			0.083	250		0.091	295	350	0.098	320				
5° 30'	0.043			0.066	185		0.088	260		0.094	300							
6° 00'	0.046			0.070	190		0.092	270		0.096	305							
6° 30'	0.050			0.074	200		0.095	280		0.100	315							
7° 00'	0.053			0.078	210		0.098	285	300									
7° 30'	0.056			0.081	215		0.099	290										
8° 00'	0.058			0.084	220		0.100	290										
8° 30'	0.061			0.087	225	250												
9° 00'	0.063			0.089	230													
10° 00'	0.068	160		0.094	235													
11° 00'	0.072	170		0.097	250													
12° 00'	0.076	175		0.099	250													
13° 00'	0.080	180		0.100	250													
14° 00'	0.083	190																
15° 00'	0.086	195																
16° 00'	0.089	200																
17° 00'	0.091	200																
18° 00'	0.093	205																
19° 00'	0.095	210																
20° 00'	0.097	215	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.

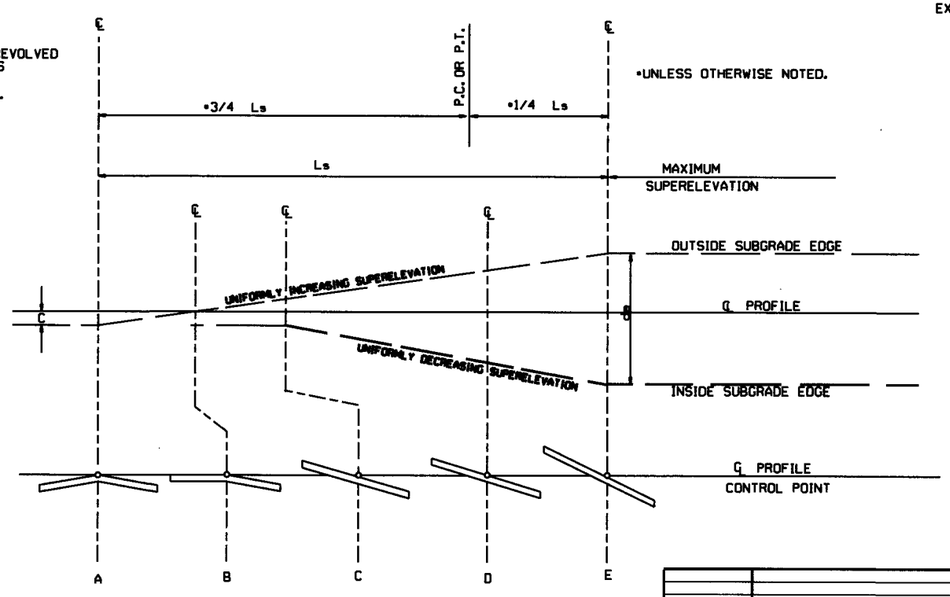
GENERAL NOTES

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

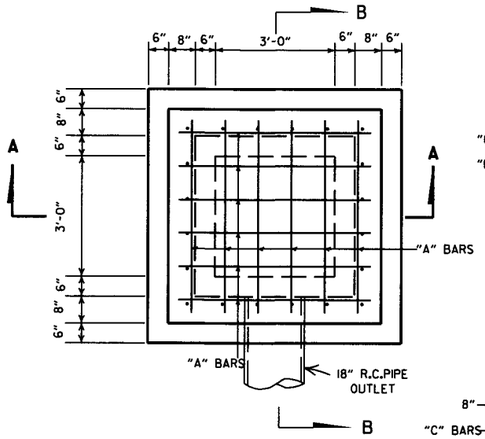
$$\text{SUPERELEVATION FORMULA} = \frac{Lde}{Ls}$$

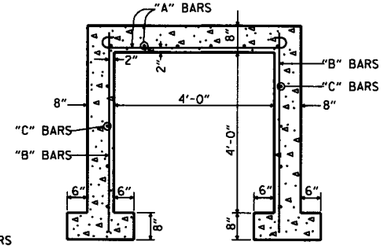
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

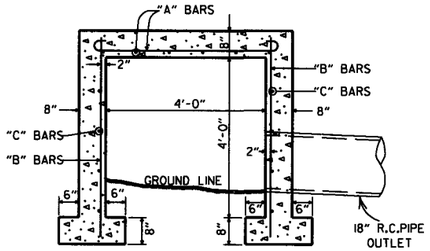
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2





SEC A-A



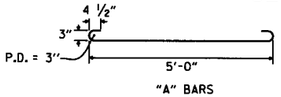
SEC B-B

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

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



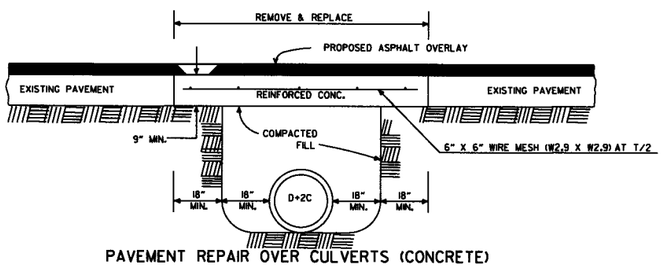
QUANTITIES

CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

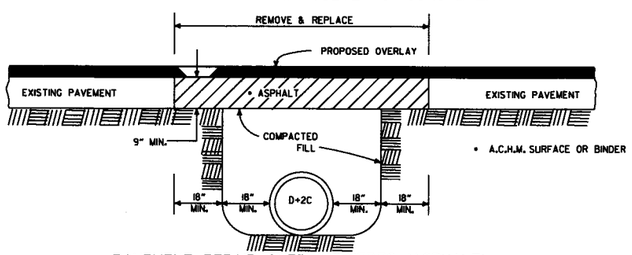
GENERAL NOTE:

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

REINFORCED CONCRETE SPRING BOX



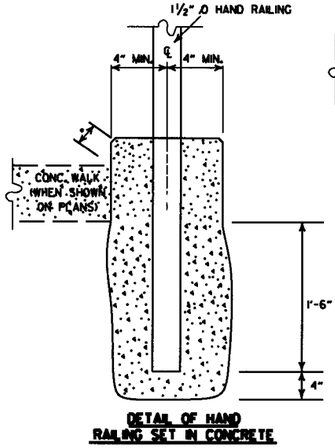
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



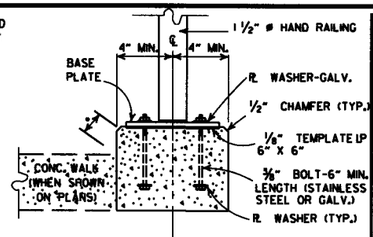
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

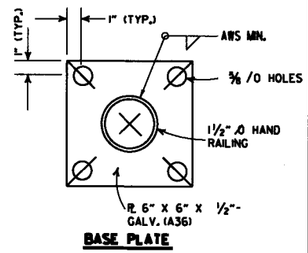
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

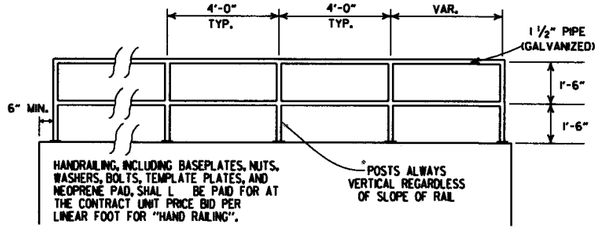


POST CONNECTION TO WALL

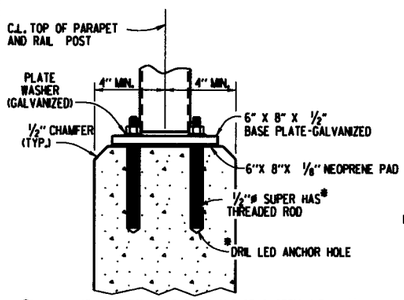


BASE PLATE

POST CONNECTION DETAILS



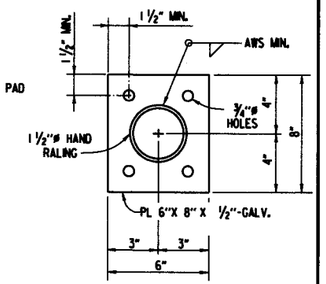
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

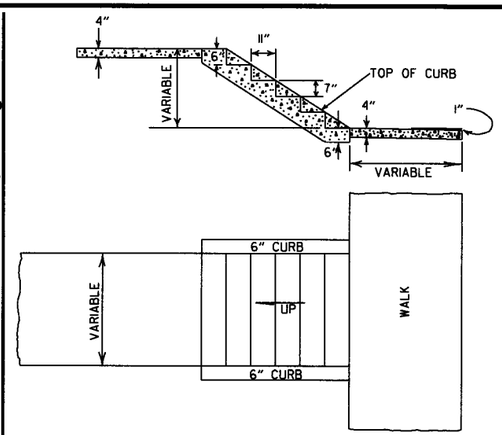
POST CONNECTION TO WALL



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
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
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

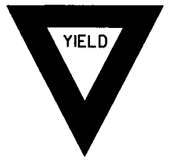
DETAILS OF SPECIAL ITEMS

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"

W3-5

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

W3-5a

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

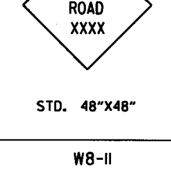
R4-1

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

R4-2

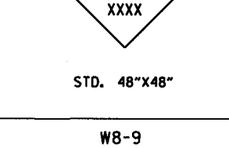
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



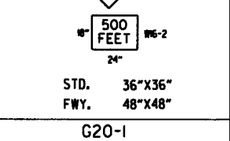
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



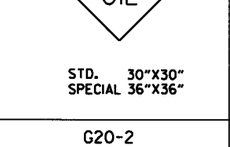
48"X30"

R11-3A



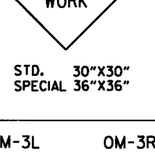
60"X30"

R11-4



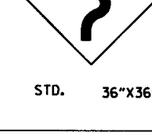
60"X30"

W21-5a



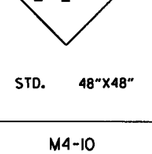
STD. 36"X36"
FWY. 48"X48"

W1-1



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

W1-2

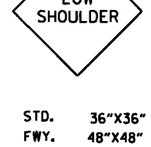


STD. 36"X36"
FWY. 48"X48"

W1-3

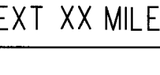
STD. 48"X48"

W1-4



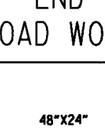
STD. 48"X48"

W1-6



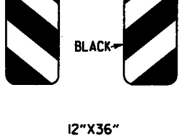
STD. 48"X24"
SPECIAL 60"X30"

W1-8



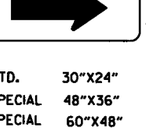
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2

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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

W8-9

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

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ 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.

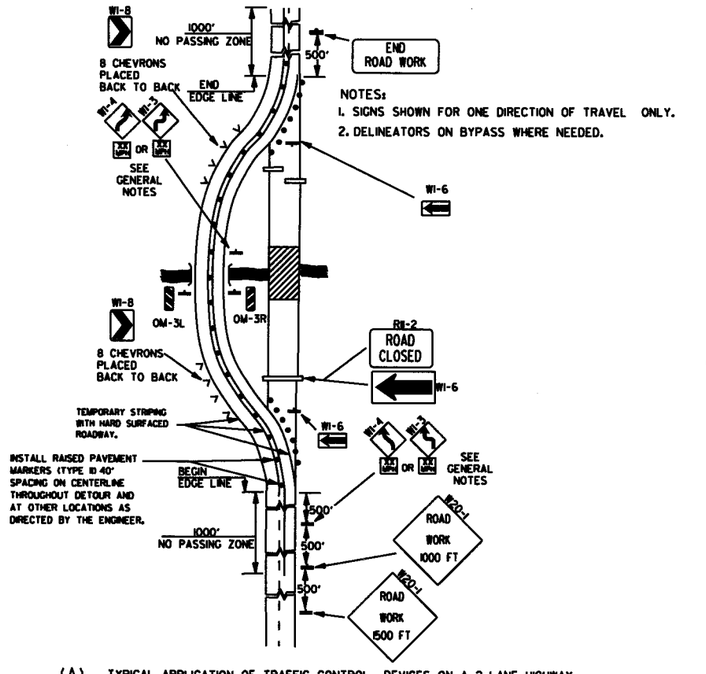
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
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	

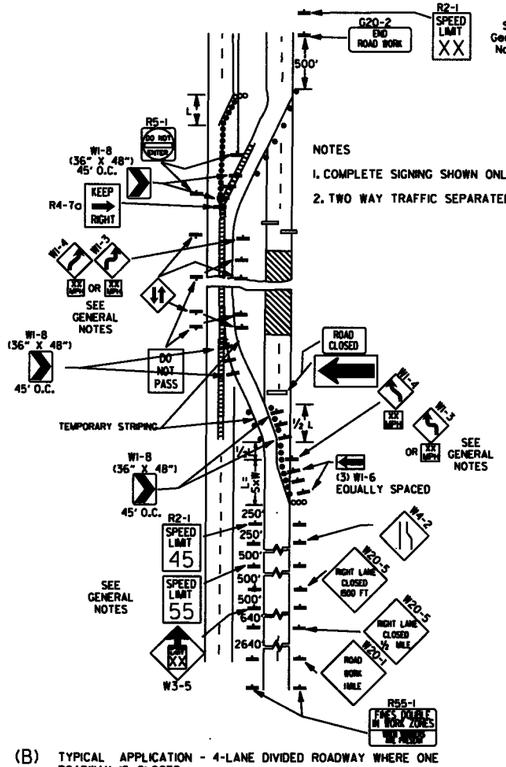
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

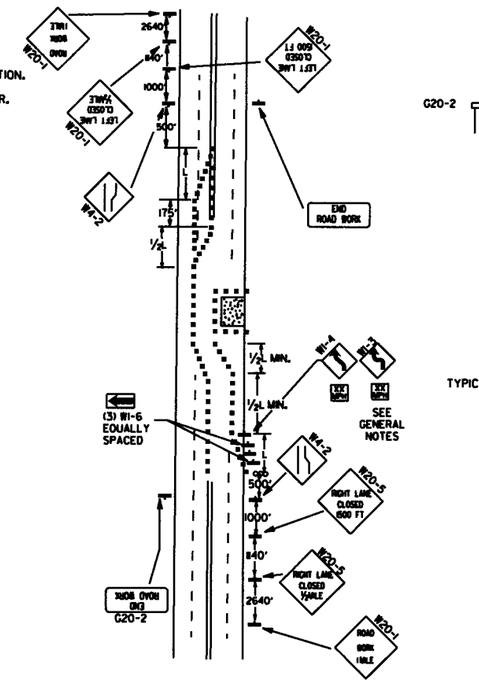
STANDARD DRAWING TC-1



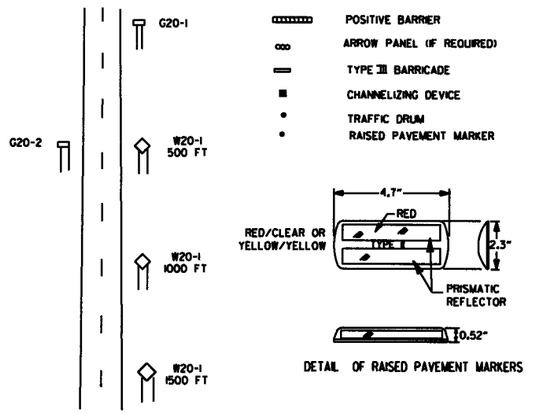
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



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

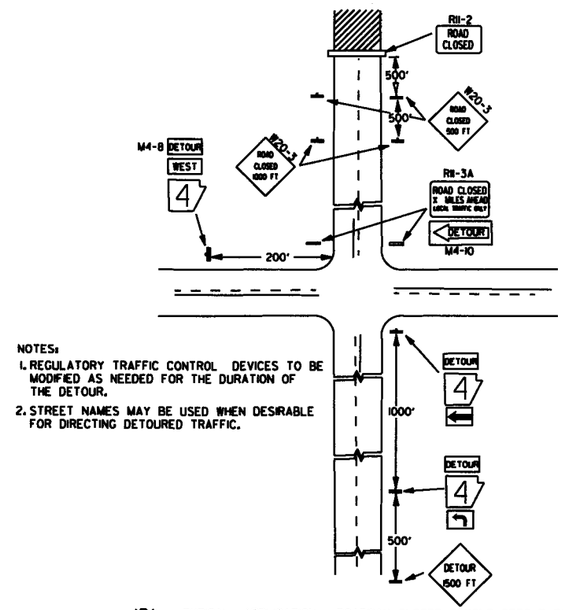


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

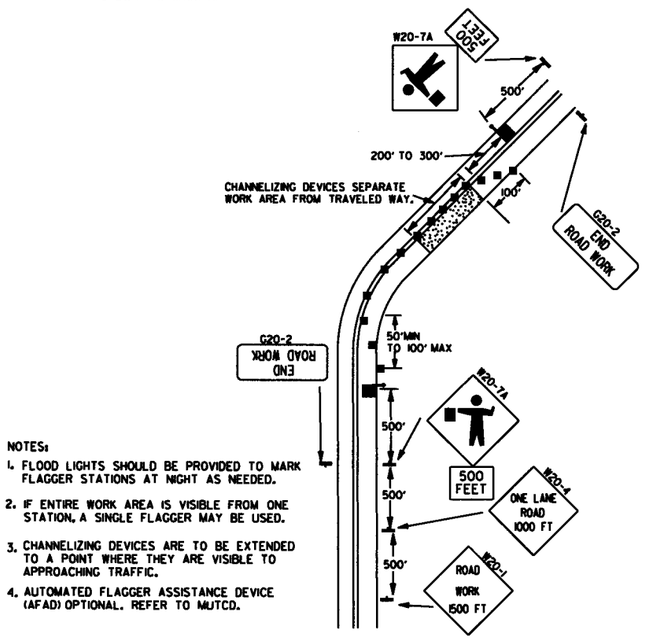


DETAIL OF RAISED PAVEMENT MARKERS

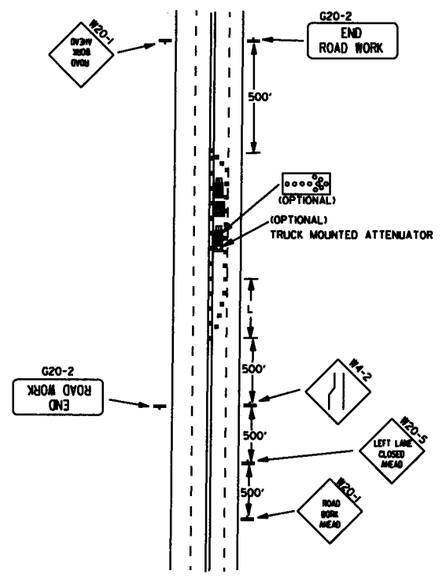
TYPICAL ADVANCE WARNING SIGN PLACEMENT



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



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



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

TAPER FORMULAE:

L=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:

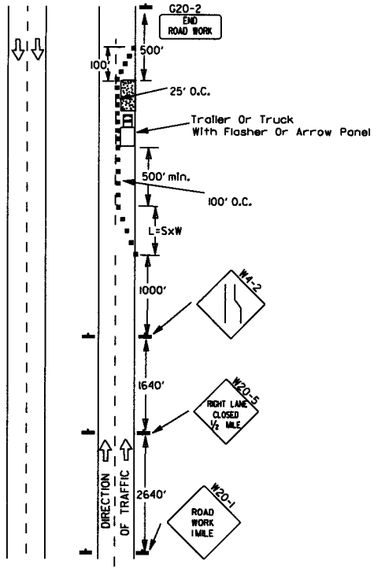
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (c) 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	

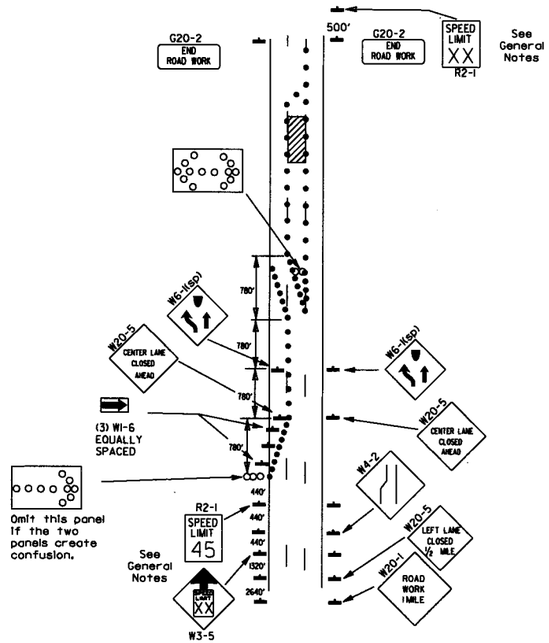
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

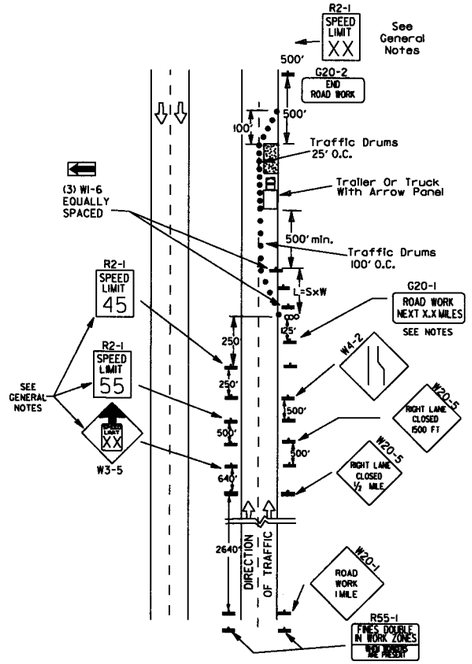
STANDARD DRAWING TC-2



(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.

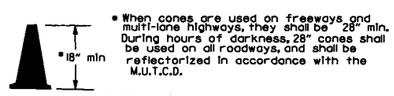
KEY:

- ○○○ 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 W3-5 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.

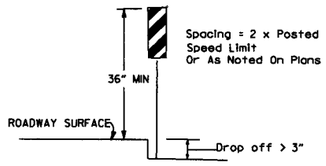
Channelizing devices



- When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

VERTICAL PANEL PLACEMENT



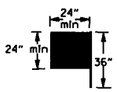
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

- When shown on the plans concrete barrier will be used.

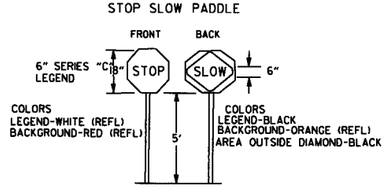
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

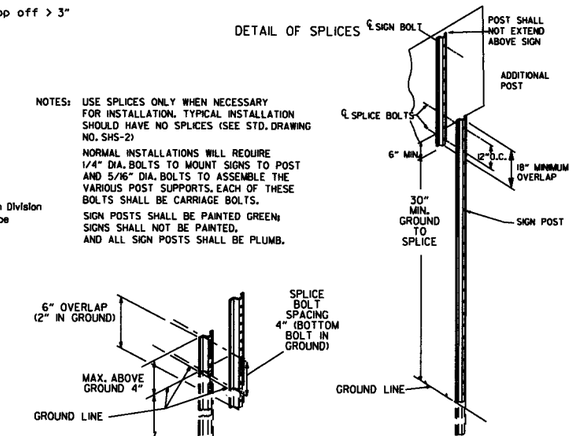


Flag shall be of good grade red material

STOP SLOW PADDLE



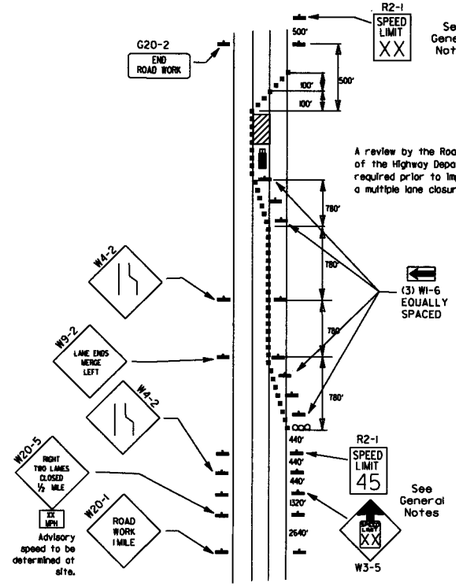
DETAIL OF SPLICES



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

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



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

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
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	

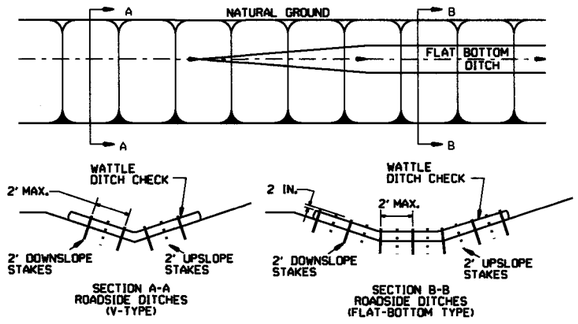
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

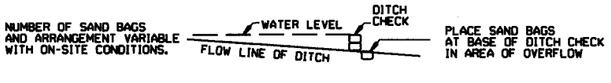
STANDARD DRAWING TC-3

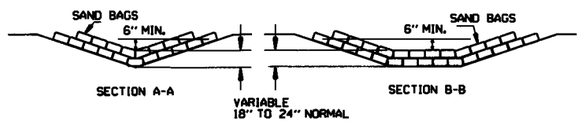
GENERAL NOTES

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

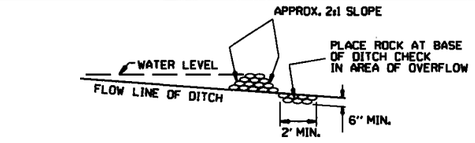


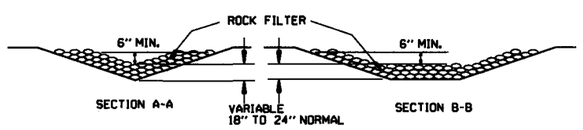
WATTLE DITCH CHECK (E-1)





SAND BAG DITCH CHECK (E-5)



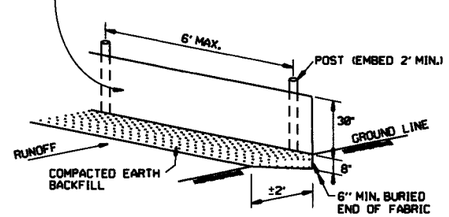


ROCK DITCH CHECK (E-6)

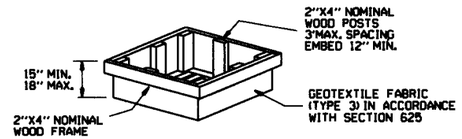
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

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

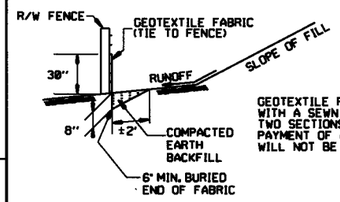


SILT FENCE (E-11)



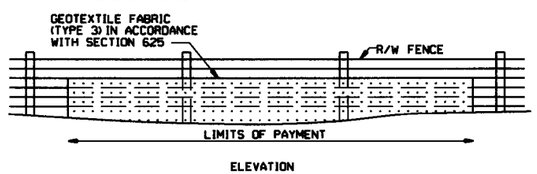
SECTION C-C

DROP INLET SILT FENCE (E-7)



GENERAL NOTES

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



ELEVATION

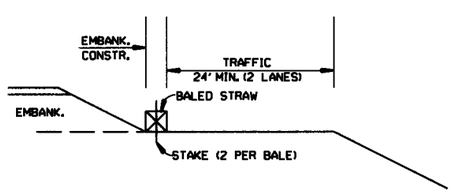
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

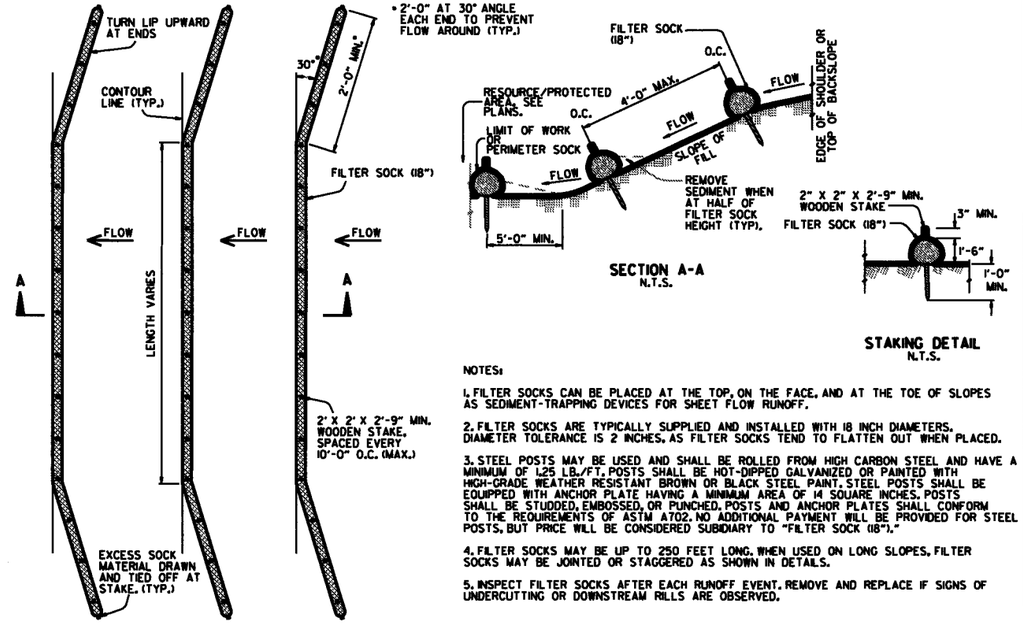
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

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



BALED STRAW FILTER BARRIER (E-2)



NOTES:

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

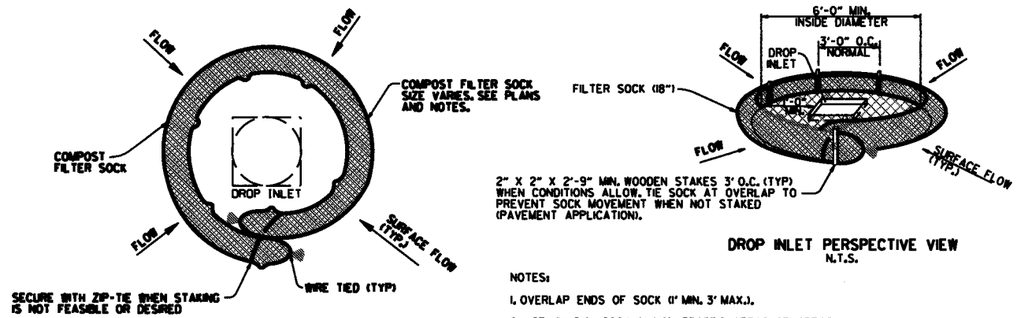
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

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

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

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

FILTER SOCK ALONG SLOPE (E-3)



NOTES:

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

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

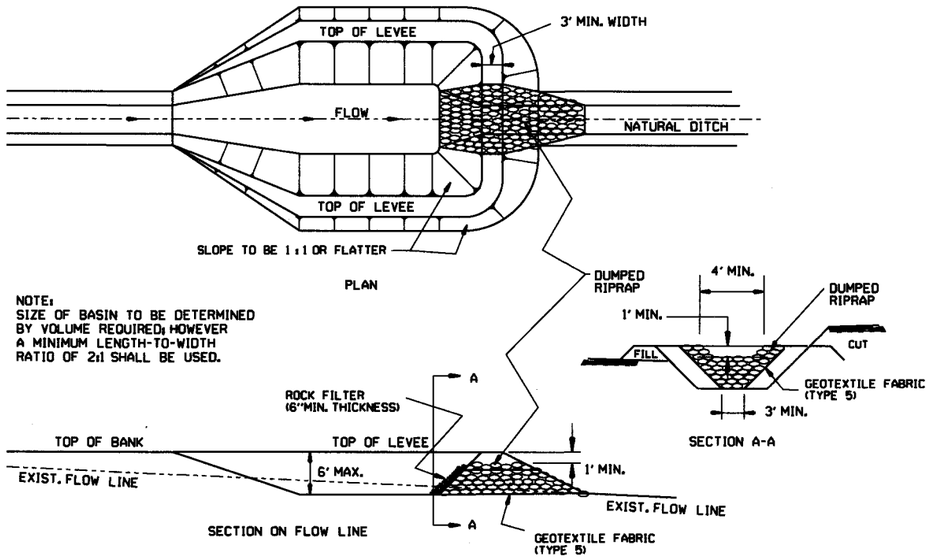
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

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

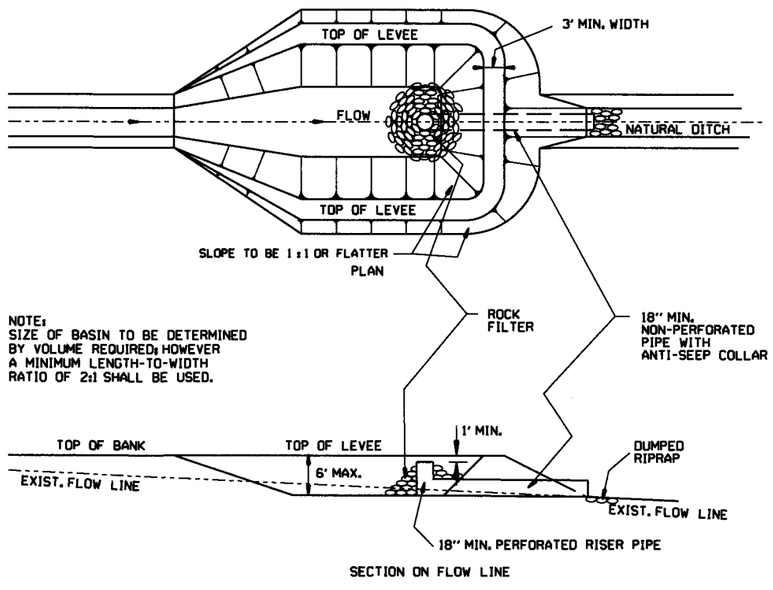
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

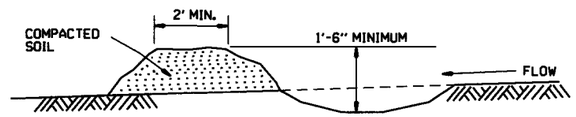
STANDARD DRAWING TEC-1



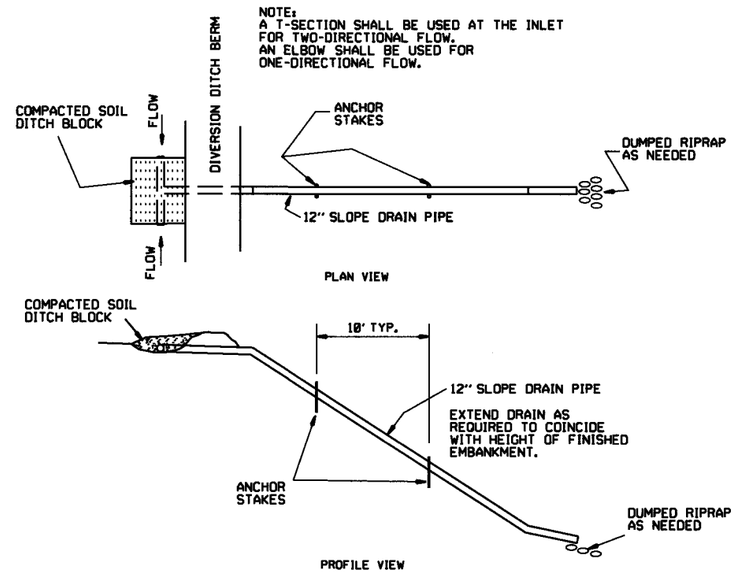
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



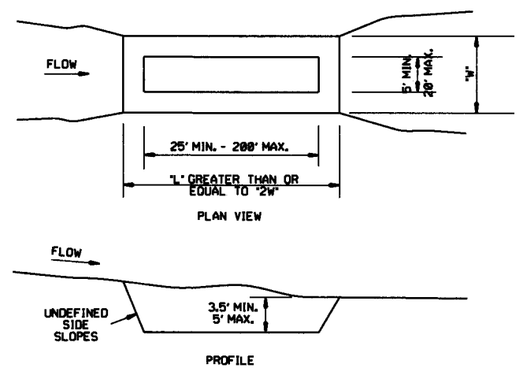
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

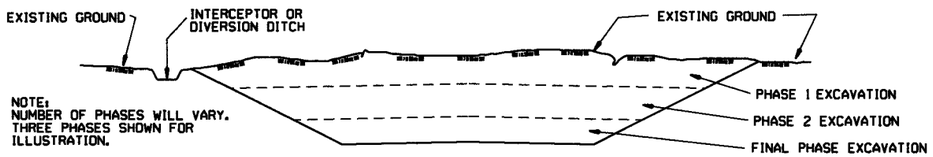
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



GENERAL NOTE

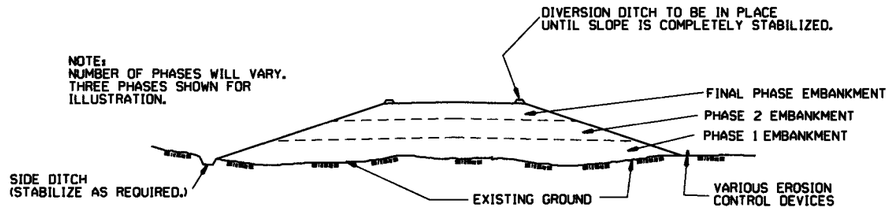
ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

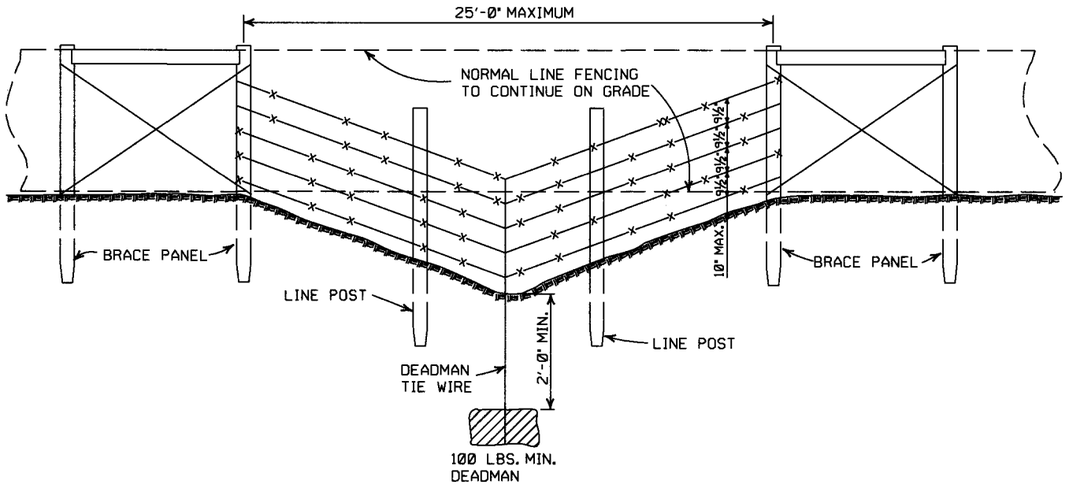
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

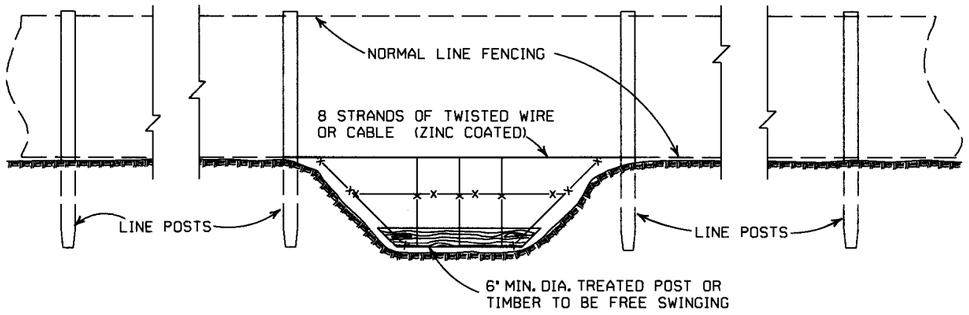
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

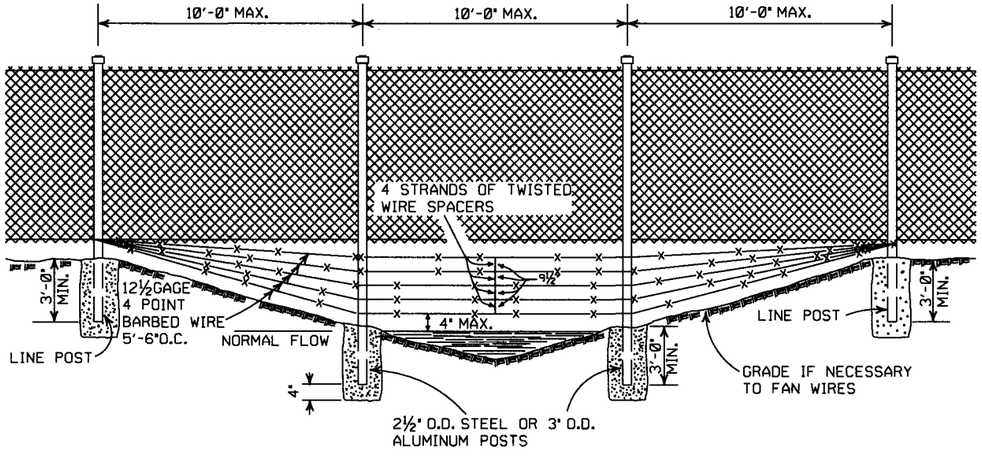
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3







GENERAL NOTES:

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

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

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

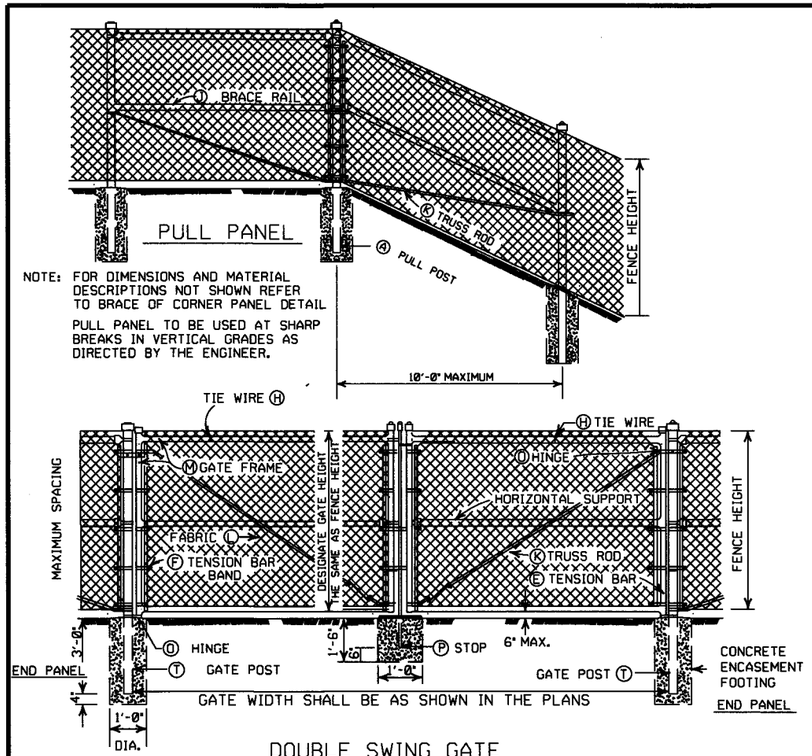
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

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

ARKANSAS STATE HIGHWAY COMMISSION

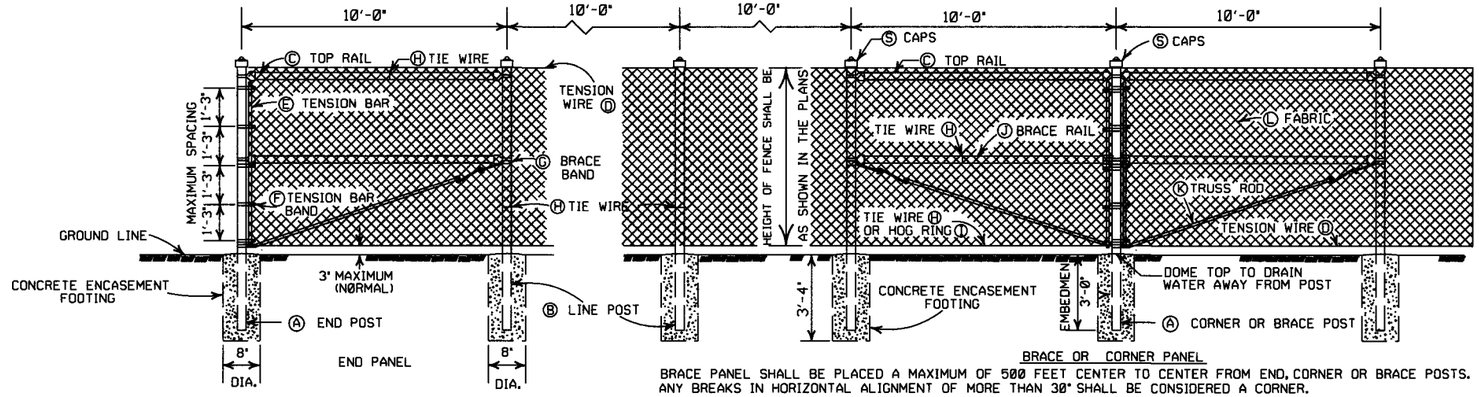
WIRE FENCE WATER GAPS

STANDARD DRAWING WF-2

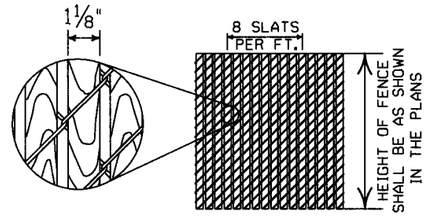


DOUBLE SWING GATE

POST SPACING DETAIL



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)

HEIGHT OF FENCE FABRIC	Ⓐ END, PULL CORNER OR BRACE POST	Ⓑ LINE POSTS SIZE	Ⓑ LINE POSTS TIE SPACING	Ⓒ TOP RAIL SIZE	Ⓒ TOP RAIL TIE SPACING	Ⓒ TOP RAIL MIN. LENGTH	Ⓓ TENSION WIRE SIZE	Ⓓ TENSION WIRE TIE SPACING	Ⓔ TENSION BAR SIZE	Ⓔ TENSION BAR LENGTH	Ⓕ TENSION BAR BAND SIZE	Ⓕ TENSION BAR BAND BOLT SIZE	Ⓕ TENSION BAR BAND SPACING	Ⓖ BRACE BAND SIZE	Ⓖ 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 ⅜" 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	Ⓗ TIE WIRE	Ⓘ HOG RING	Ⓙ BRACE RAIL SIZE	Ⓙ BRACE RAIL TIE SPACING	Ⓚ TRUSS ROD	Ⓛ FABRIC SIZE	Ⓛ FABRIC MESH	Ⓛ FABRIC SELVAGE	Ⓜ GATE FRAME SIZE	Ⓜ GATE FRAME TIE SPACING	Ⓝ HORIZONTAL SUPPORT SIZE	Ⓝ HORIZONTAL SUPPORT TIE SPACING	Ⓞ HINGE TYPE 180° SWING	Ⓣ GATE POST GATE WIDTH 12' AND LESS	Ⓣ 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 ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCKLING AND/OR TWISTING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	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.

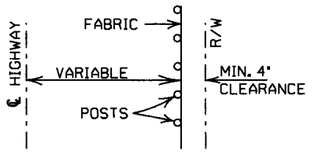
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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

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.

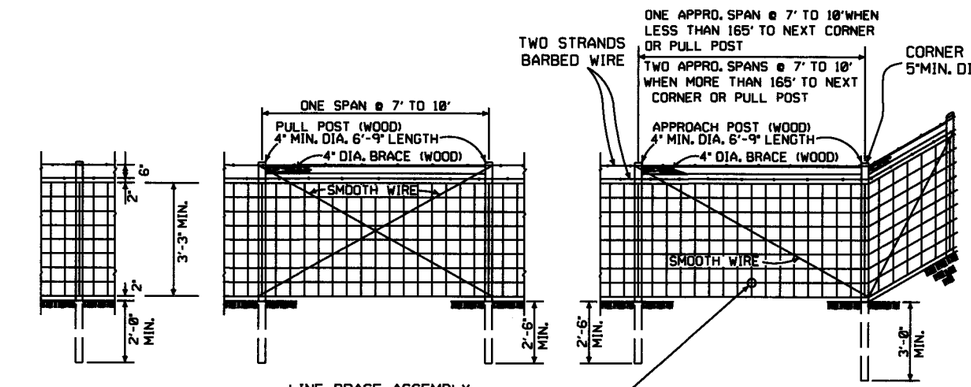
EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

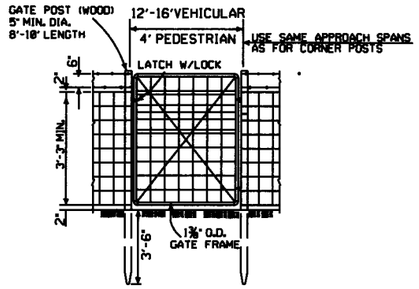
DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE 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

ARKANSAS STATE HIGHWAY COMMISSION

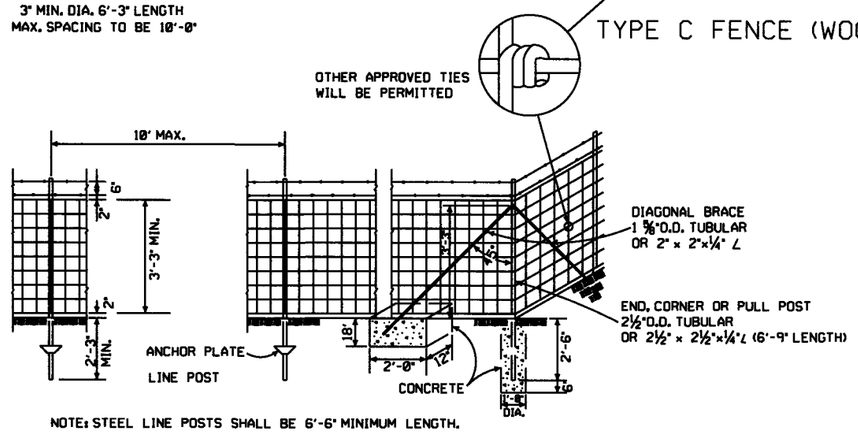
CHAIN LINK FENCE

STANDARD DRAWING WF-3

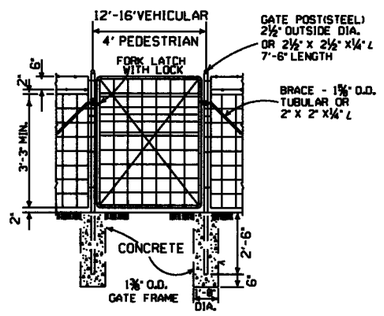


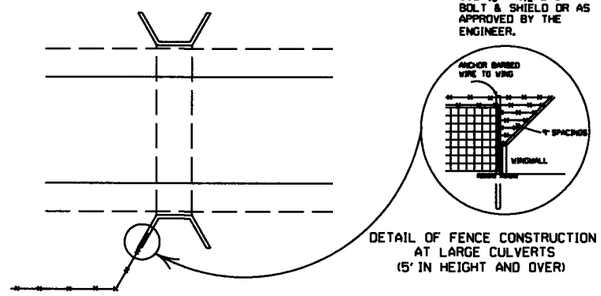


TYPE C FENCE (WOOD POSTS)



NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

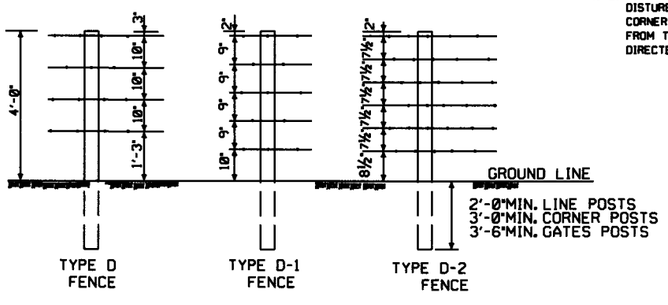




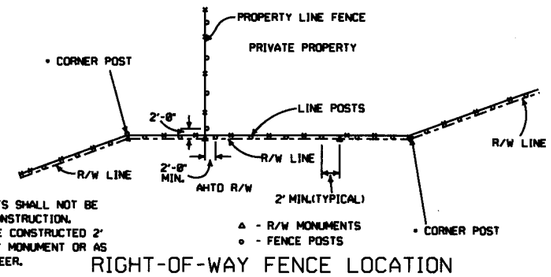
DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

TYPE C FENCE (STEEL POSTS)

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

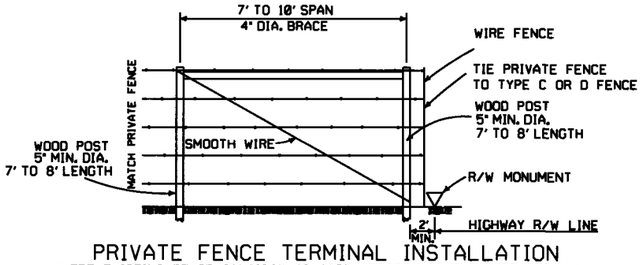


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



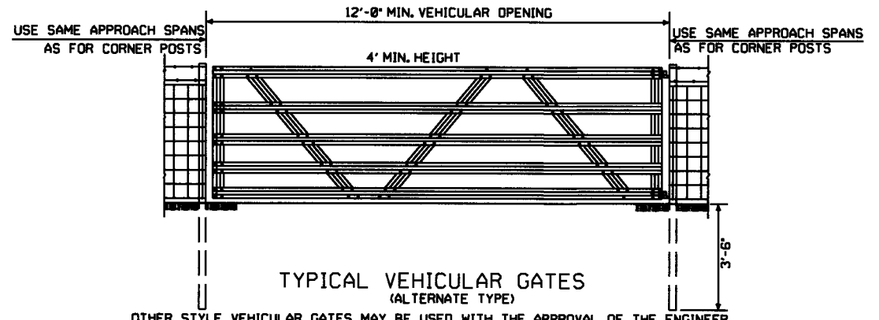
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

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

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4