DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	1	139

(2) HWY. 425 - HWY. 278 EAST (BS. & SURF.) (MONTICELLO BYPASS) (S)

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

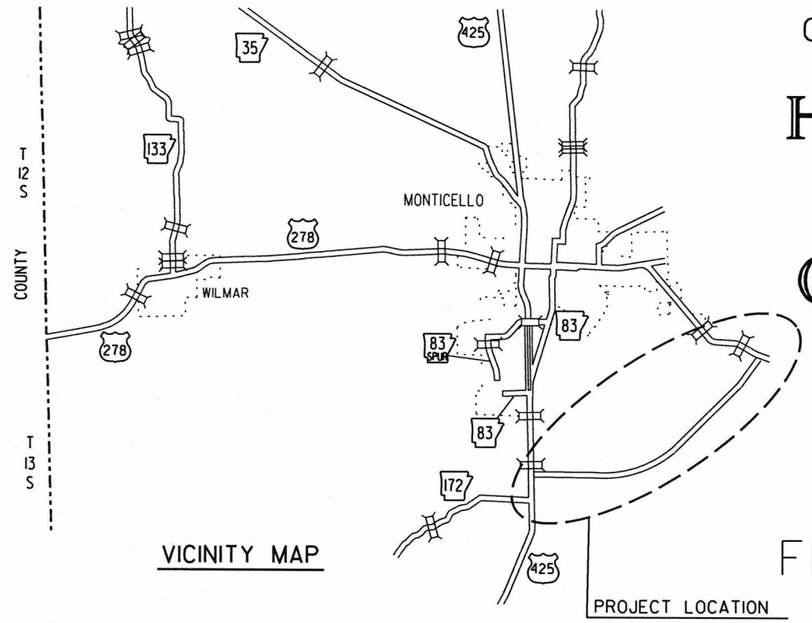
HWY. 425 - HWY. 278 EAST (BS. & SURF.) (MONTICELLO BYPASS) (S)

DREW COUNTY

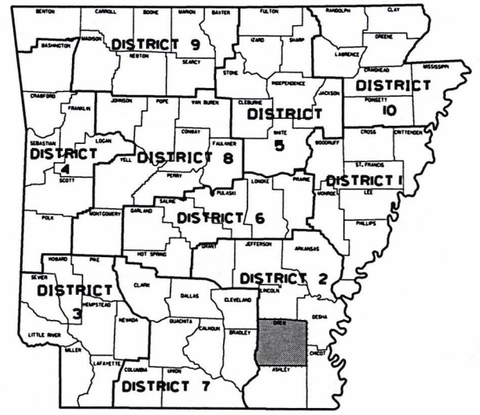
ROUTE 69 SECTION 0

JOB 020484

FED. AID PROJ. NCIIP-0022(35)



VICINITY MAP



ARK. HWY. DIST. NO. 2

STATION EQUATIONS

⚠ I-69 EQUATION:
STA. 4610+45.12 BACK=
STA. 4610+50.00 AHEAD

BRIDGE DATA (EXCEPTIONS)

(1) UNION PACIFIC RAILROAD OVERPASS
STA. 4538+19.90 BR. END - IN PLACE
40'-0" CLEAR ROADWAY
205'-0" CONT. COMP.
W-BEAM UNIT (61', 83', 61')
207'-2⅜" BRIDGE LENGTH
BR. NO. 07180
STA. 4540+27.10 BR. END
RETAIN

STRUCTURES OVER 20'-0" SPAN

[1] MAIN LANES
STA. 4479+10 - IN PLACE
DBL. 9' x 7' x 138' R.C. BOX CULV'T.
(27° RT. FWD. SKEW) (SPAN = 23'- 2 ¼")
050 = 1100 cfs; DA = 1600 ac
RETAIN

[2] MAIN LANES
STA. 4602+33 - IN PLACE
DBL. 11' x 7' x 180' R.C. BOX CULV'T.
(40° RT. FWD. SKEW) (SPAN = 34'-2⅛")
050 = 1460 cfs; DA = 2750 ac
RETAIN

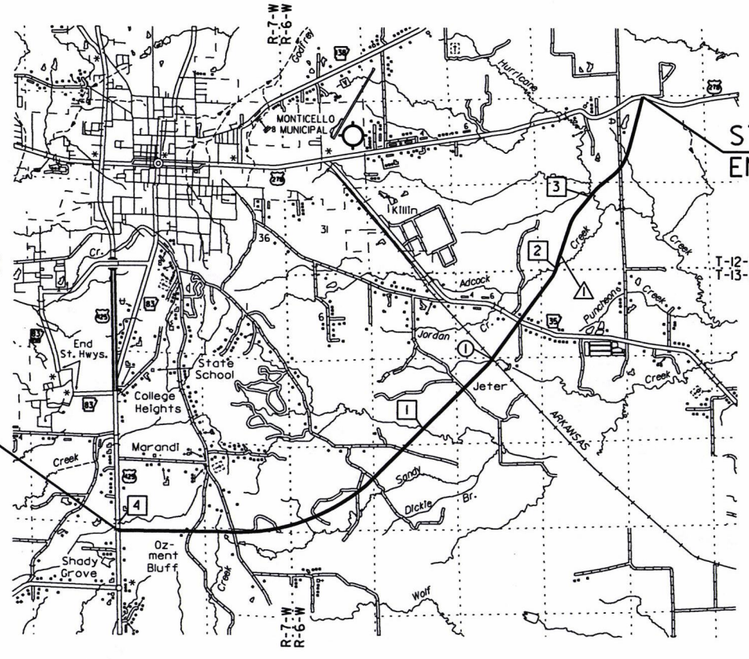
[3] MAIN LANES
STA. 4658+25 - IN PLACE
DBL. 11' x 9' x 121' R.C. BOX CULV'T.
(5° LT. FWD. SKEW) (SPAN = 24'-5")
050 = 1950 cfs; DA = 5330 ac
RETAIN

[4] HWY. 425
STA. 111+38 - IN PLACE
DBL. 10' x 6' x 50' R.C. BOX CULV'T.
RETAIN & EXTEND 43' TO RT.
TO A COMPLETED LENGTH OF 93'
WITH 31 WINGS
050 = 560 cfs; DA = 475 ac
RETAIN

DESIGN TRAFFIC DATA

DESIGN YEAR	2037
2017 ADT	4,500
2037 ADT	5,600
2037 DHV	616
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	15%
DESIGN SPEED	70 MPH

NOT TO SCALE



STA. 4268+54.16
BEGIN JOB 020484

STA. 4726+46.95
END JOB 020484

N

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N.7836
M.E. BANKS

7-20-17

DEPUTY DIRECTOR
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LONGITUDE	N 33°34'05"	N 33°35'12"	N 33°38'18"
LATITUDE	W 91°48'03"	W 91°44'02"	W 91°41'33"

GROSS LENGTH OF PROJECT	45787.91	FEET	OR	8.672	MILES
NET " " ROADWAY	45580.71	"	"	8.633	"
NET " " BRIDGES	0.00	"	"	0.000	"
NET " " PROJECT	45580.71	"	"	8.633	"

P.E. 020462

7/18/2017

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				6	ARK.			
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				(2)	INDEX OF SHEETS & STANDARD DRAWINGS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

INDEX OF SHEETS

SHEET NO.	TITLE	BRIDGE NO.	DRWG.NO.
1	TITLE SHEET		
2	INDEX OF SHEETS AND STANDARD DRAWINGS		
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
4 - 11	TYPICAL SECTIONS OF IMPROVEMENT		
12 - 21	SPECIAL DETAILS		
22 - 24	TEMPORARY EROSION CONTROL DETAILS		
25 - 27	MAINTENANCE OF TRAFFIC DETAILS		
28 - 46	PERMANENT PAVEMENT MARKING DETAILS		
47 - 51	QUANTITIES		
52	SUMMARY OF QUANTITIES AND REVISIONS		
53 - 78	SURVEY CONTROL DETAILS		
79 - 116	PLAN AND PROFILE SHEETS		
117	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD		
118	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD - EXHIBIT A (SHEET 1 OF 2)		
119	LAYOUT OF BRIDGE OVER UNION PACIFIC RAILROAD - EXHIBIT A (SHEET 2 OF 2)		
120 - 139	CROSS SECTIONS		

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

BRIDGE STANDARD DRAWINGS

DRWG.NO.		DATE
55030C	STANDARD DETAILS FOR TYPE C APPROACH GUTTERS	2-27-14
55040C1	STANDARD DETAILS FOR TYPE C1 APPROACH SLAB	2-27-14

ROADWAY STANDARD DRAWINGS

DRWG.NO.		DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
CG-1	CURBING DETAILS	11-29-07
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	2-27-14
FPC-9N	DETAILS OF DROP INLETS AND SPILLWAY OUTLET	7-02-98
GR-8	GUARD RAIL DETAILS	7-14-10
GR-9	GUARD RAIL DETAILS	4-17-08
GR-9A	GUARD RAIL DETAILS	4-17-08
GR-10	GUARD RAIL DETAILS	7-14-10
GR-10A	GUARD RAIL DETAILS	7-14-10
PBC-1	PRECAST CONCRETE BOX CULVERTS	1-28-15
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	2-27-14
PM-1	PAVEMENT MARKING DETAILS	6-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-18-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	7-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
RCB-3	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS	10-12-95
SE-1	TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC	1-09-87
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	10-18-96
SI-1	DETAILS OF SPECIAL ITEMS	9-12-13
SI-2	DETAILS OF SPECIAL ITEMS	5-12-16
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	12-15-11
TEC-2	TEMPORARY EROSION CONTROL DEVICES	6-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
W-X003-1	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	5-10-66
R-200X-0	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	2-15-63

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INDEX OF SHEETS AND STANDARD DRAWINGS

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8-24-17				6	ARK.			
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(2) GOVERNING SPECS. & GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - TRAINING PROGRAM - JOB 020484
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
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
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1_____	MULCH COVER
JOB 020484__	AIRPORT CLEARANCE REQUIREMENTS
JOB 020484__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 020484__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 020484__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 020484__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 020484__	COORDINATION OF WORK
JOB 020484__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 020484__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 020484__	MANDATORY ELECTRONIC CONTRACT
JOB 020484__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 020484__	PARTNERING REQUIREMENTS
JOB 020484__	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS
JOB 020484__	PROTECTION OF WATER QUALITY AND WETLANDS
JOB 020484__	SHORING FOR CULVERTS
JOB 020484__	SOIL STABILIZATION
JOB 020484__	SPECIAL LIME REQUIREMENTS
JOB 020484__	STORM WATER POLLUTION PREVENTION PLAN
JOB 020484__	SUBGRADE PREPARATION
JOB 020484__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 020484__	UTILITY ADJUSTMENTS
JOB 020484__	VALUE ENGINEERING
JOB 020484__	WARM MIX ASPHALT
JOB 020484__	WELLHEAD PROTECTION

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. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. THIS PROJECT IS COVERED UNDER AN INDIVIDUAL SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. 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.

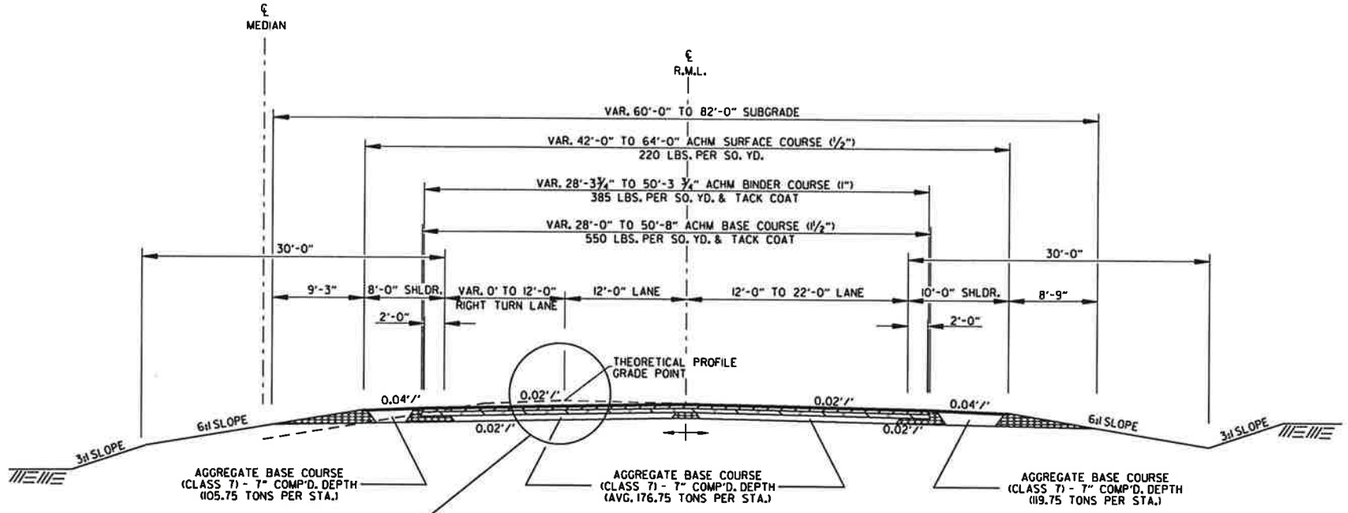
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(2) TYPICAL SECTIONS OF IMPROVEMENT

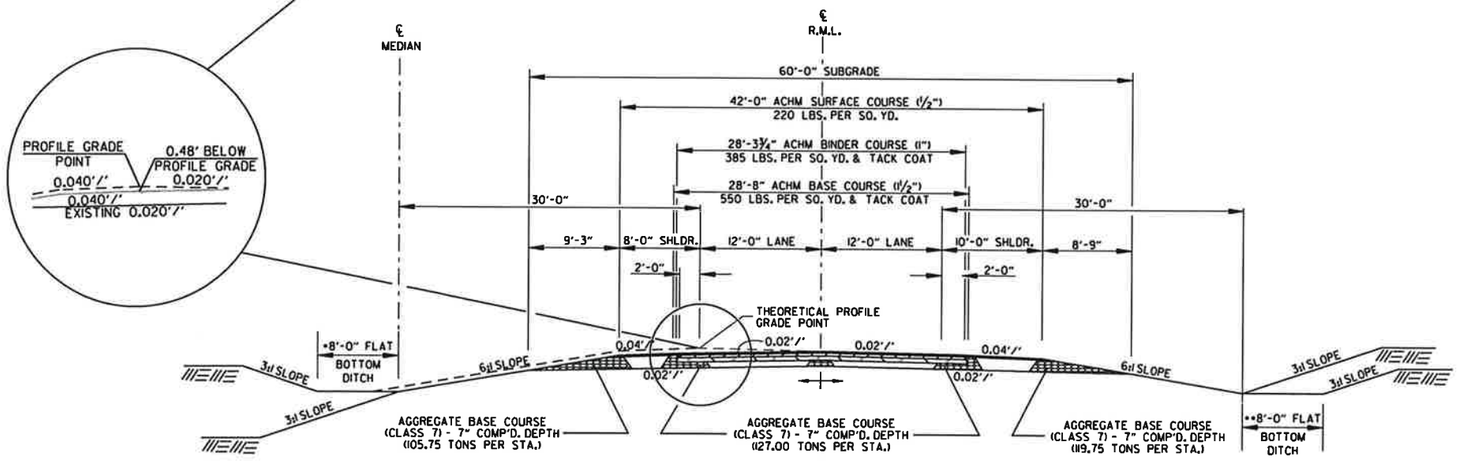
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17



RIGHT MAIN LANES - 2-LANE W/
RIGHT TURN LANE - NORMAL CROWN SECTION
STA. 4270+84.80 TO STA. 4272+64.80

STA. 4270+84.80 TO STA. 4272+64.80 - RIGHT TURN LANE ON LEFT TAPERS FROM 12' TO 0'

STA. 4271+00.00 TO STA. 4272+50.00 - RIGHT THRU LANE TAPERS FROM 22' TO 12'



RIGHT MAIN LANES- 2-LANE - NORMAL CROWN SECTION
STA. 4272+64.80 TO STA. 4353+35.66
STA. 4424+95.37 TO STA. 4534+29.27
STA. 4544+17.73 TO STA. 4561+25.00
STA. 4574+40.00 TO STA. 4585+68.55
STA. 4614+29.51 TO STA. 4619+81.67
STA. 4678+47.69 TO STA. 4722+73.76

• STA. 4427+84.00 TO STA. 4434+00.00
•• STA. 4428+77.50 TO STA. 4434+00.00

NOTES:

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

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

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

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

8/25/2017

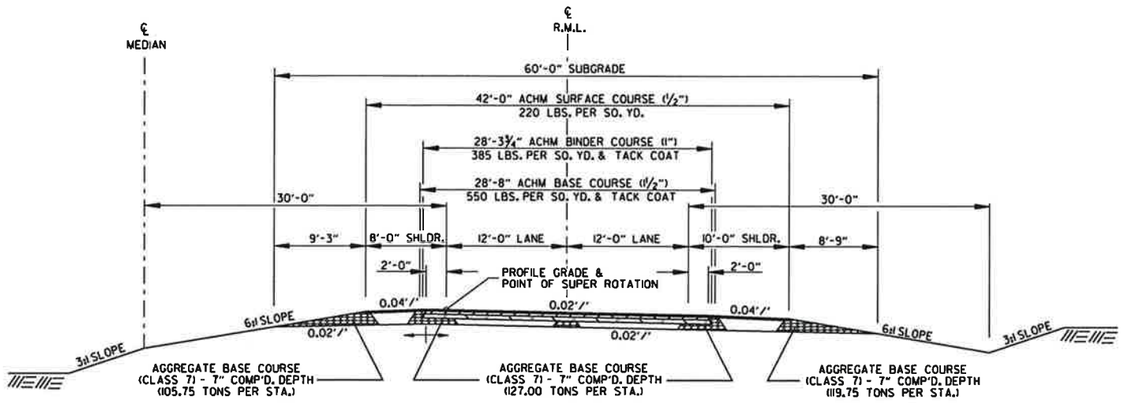
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TYPICAL SECTIONS OF IMPROVEMENT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17



RIGHT MAIN LANES - 2-LANE - PLANE SECTION

STA. 4356+85.66
STA. 4421+45.37
STA. 4537+79.27
STA. 4540+67.73
STA. 4589+18.55
STA. 4610+79.51
STA. 4623+31.67
STA. 4650+30.03 TO STA. 4656+36.99
STA. 4674+97.69

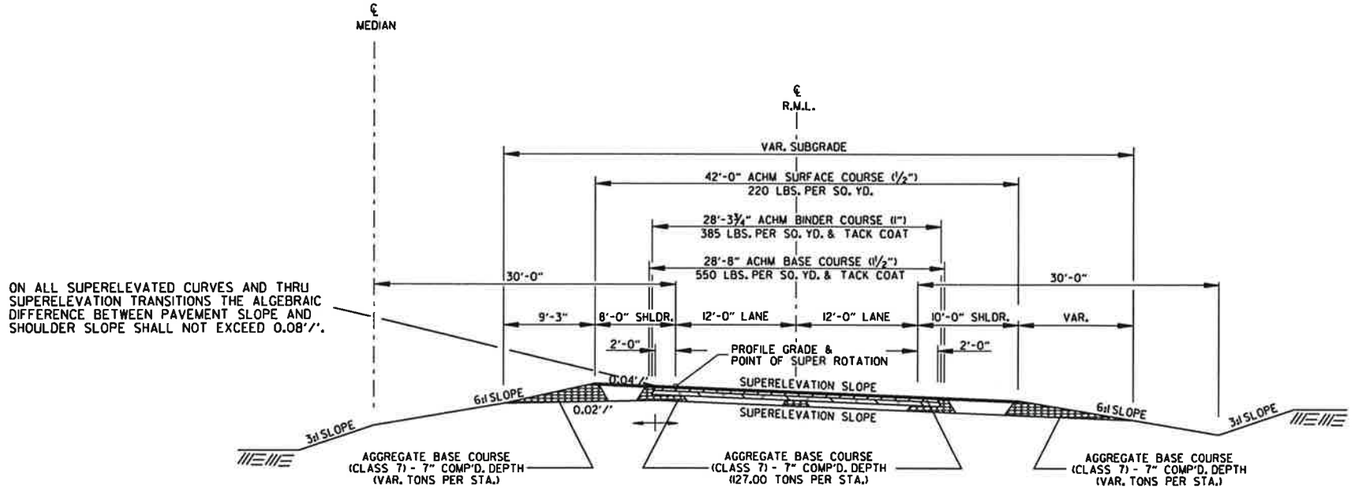
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THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS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

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

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



RIGHT MAIN LANES - 2-LANE - SUPERELEVATION SECTION

STA. 4353+35.66 TO STA. 4424+95.37
STA. 4585+68.55 TO STA. 4614+29.51
STA. 4619+81.67 TO STA. 4650+30.03
STA. 4656+36.99 TO STA. 4678+47.69

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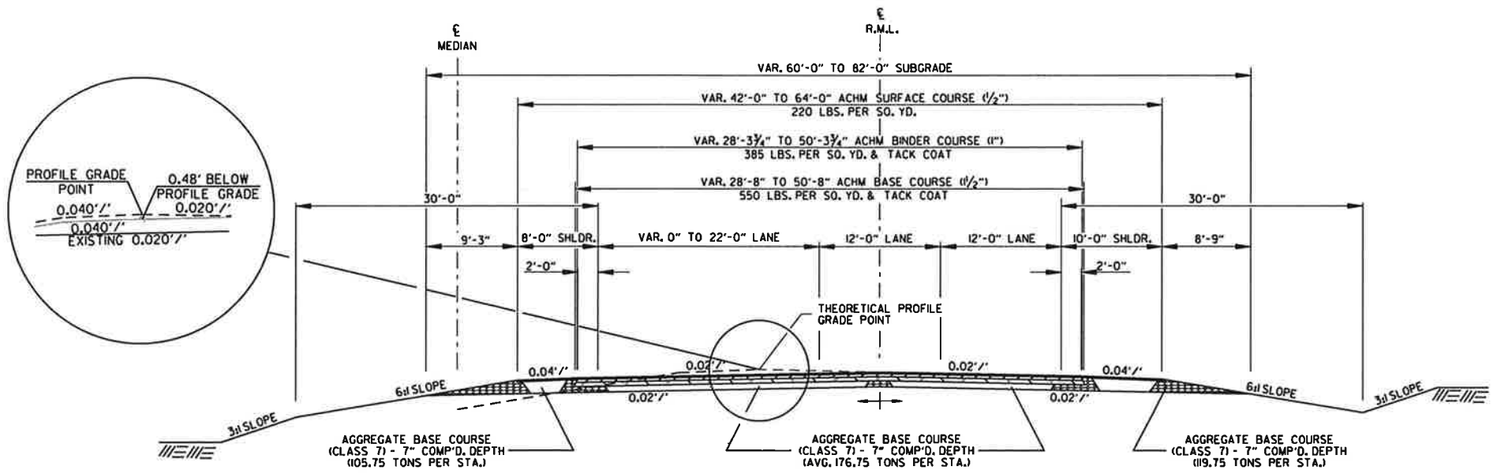
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17



RIGHT MAIN LANES - 3-LANE - NORMAL CROWN SECTION
STA. 4561+25.00 TO 4566+15.00

STA. 4561+25.00 TO STA. 4566+15.00 - LEFT TURN LANE TAPERS FROM 0' TO 12'

STA. 4564+65.00 TO STA. 4566+15.00 - LEFT THRU LANE TAPERS FROM 22' TO 12'

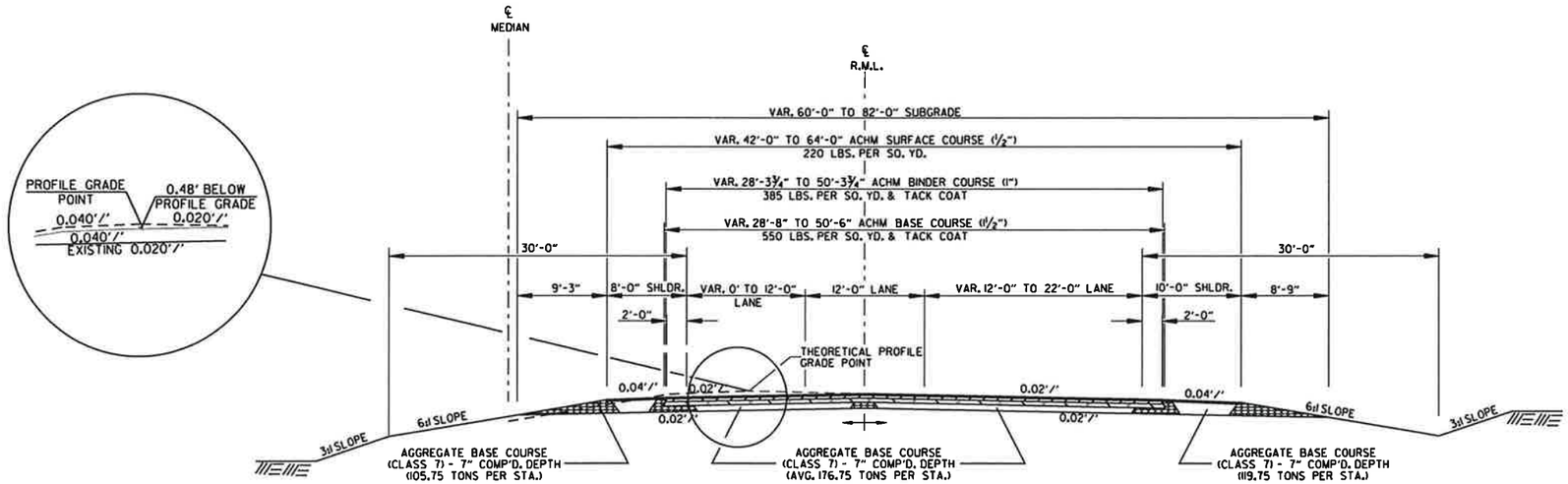
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THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS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

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

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



RIGHT MAIN LANES - 3-LANE - NORMAL CROWN SECTION
STA. 4569+50.00 TO 4574+40.00

STA. 4569+50.00 TO STA. 4574+40.00 - LEFT TURN LANE TAPERS FROM 0' TO 12'

STA. 4569+50.00 TO STA. 4571+00.00 - RIGHT TURN LANE TAPERS FROM 22' TO 12'

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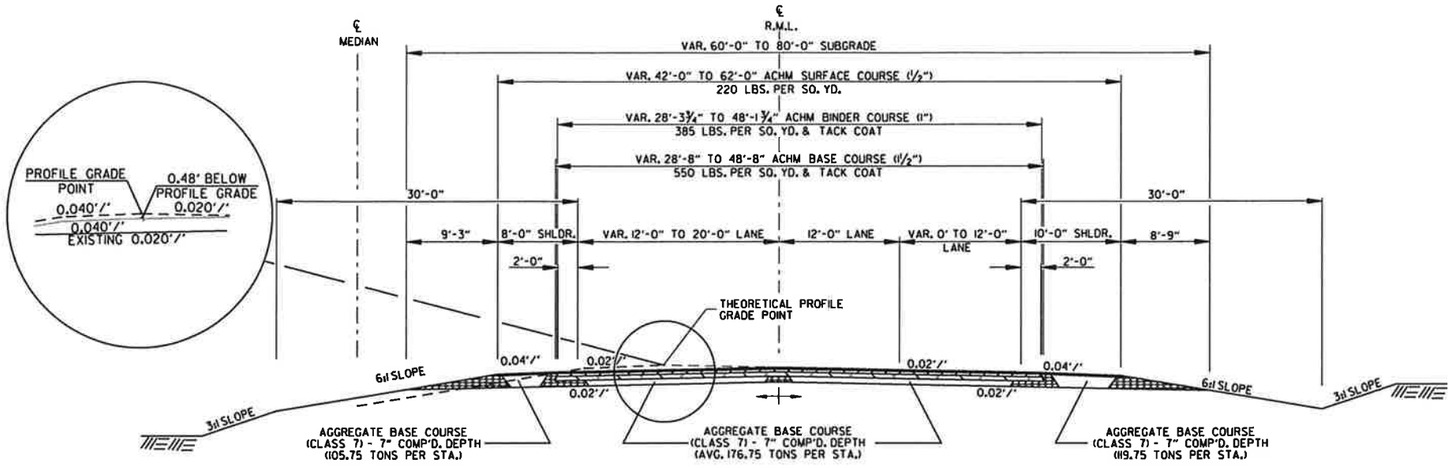
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17



RIGHT MAIN LANES - 3-LANE - NORMAL CROWN SECTION
STA. 4722+73.76 TO 4724+60.00

STA. 4722+73.76 TO STA. 4724+53.76 - RIGHT TURN LANE ON LEFT TAPERS FROM 0' TO 12'

STA. 4723+40 TO STA. 4724+60.00 - LEFT THRU LANE TAPERS FROM 12' TO 20'

NOTES:

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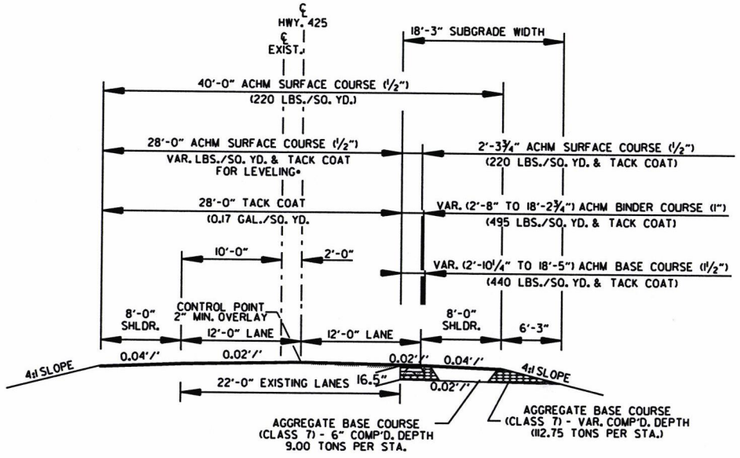
AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS CONTRACT ITEMS.

8/25/2017

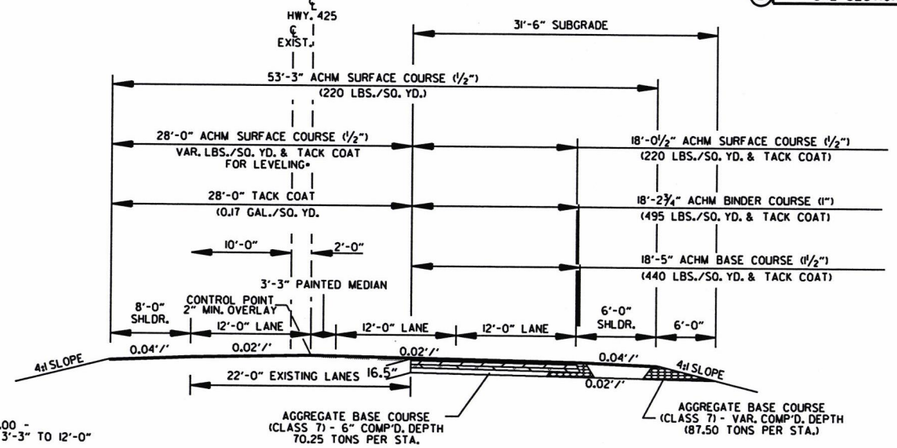
R020484.DGN

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.		020484	8	139

(2) TYPICAL SECTIONS OF IMPROVEMENT



HWY. 425 NOTCH AND WIDEN
STA. 100+60.00
STA. 121+30.00



STA. 102+40.00 TO STA. 107+20.00 -
PAINTED MEDIAN TAPERS FORM 3'-3" TO 12'-0"

STA. 100+60.00 TO STA. 102+40.00 -
RIGHT TURN LANE TAPERS FROM 0'-0" TO 12'-0"

HWY. 425 NOTCH AND WIDEN -
2-LANE WITH RIGHT TURN LANE
STA. 102+40.00

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
7-27-17

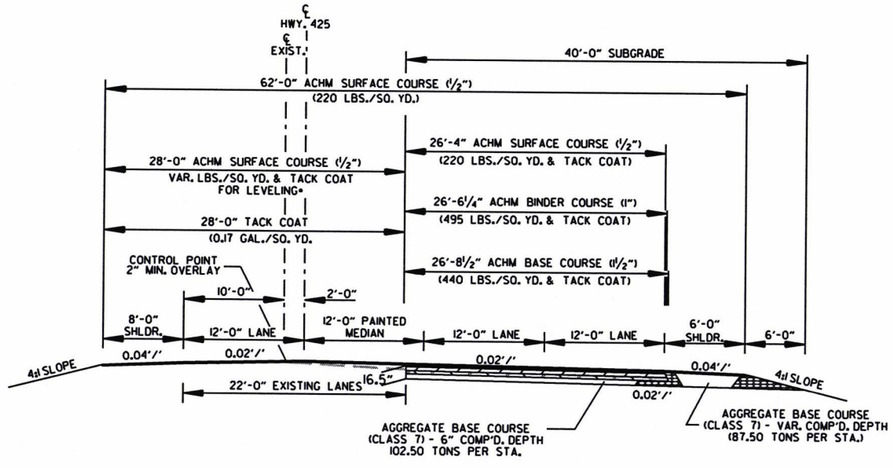
NOTES:

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.

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



HWY. 425 NOTCH AND WIDEN - 3-LANE WITH PAINTED MEDIAN
STA. 107+40.00

7/18/2017

R020484.DGN

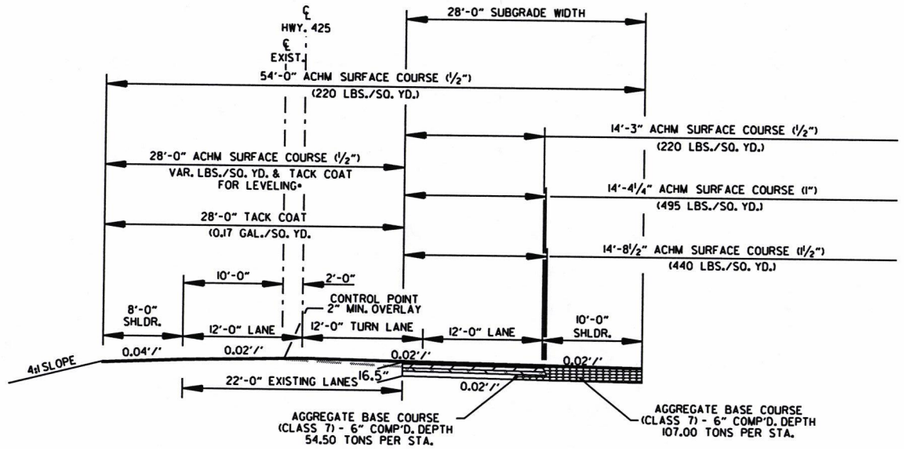
•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

HWY. 425
TYPICAL SECTIONS OF IMPROVEMENT

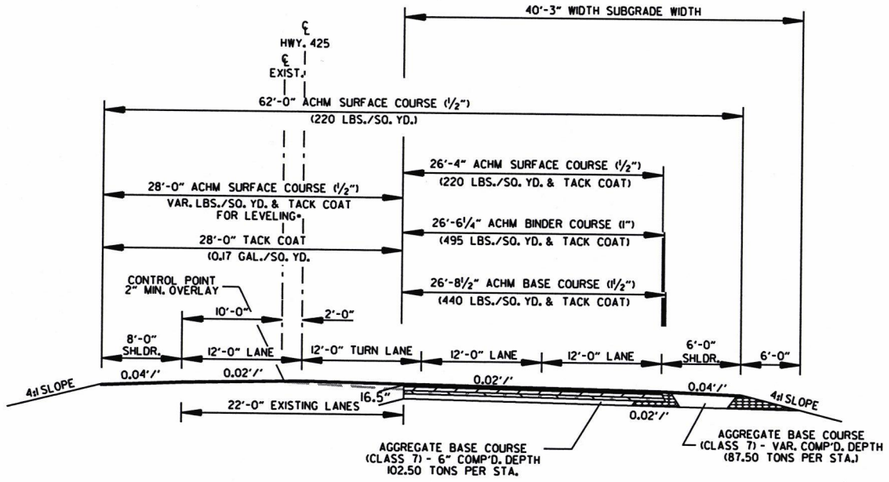
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	9	139

(2) TYPICAL SECTIONS OF IMPROVEMENT

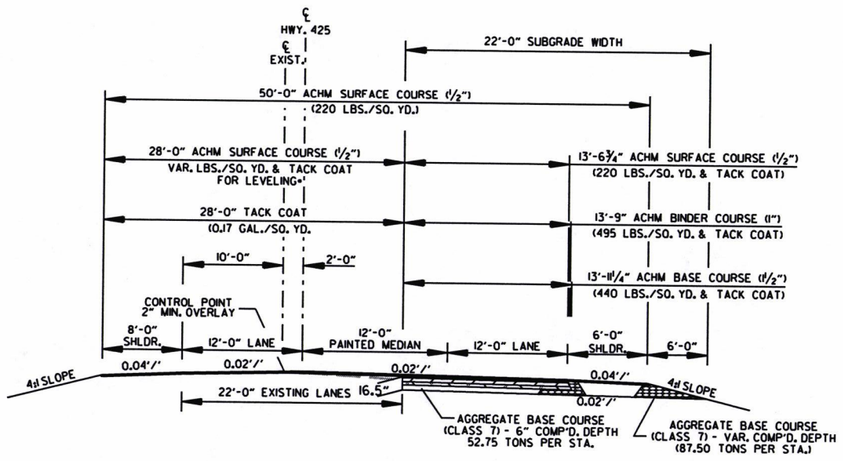
STATE OF ARKANSAS
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HWY. 425 NOTCH AND WIDEN - 3-LANE AT HWY. 69
STA. 108+40.50



HWY. 425 NOTCH AND WIDEN - 4-LANE
STA. 111+35.25



STA. 118+30.00 TO STA. 121+30.00 -
PAINTED MEDIAN TAPERS FORM 12'-0" TO 0'-0"

STA. 111+90.00 TO STA. 118+30.00 -
RIGHT TURN LANE TAPERS FROM 12'-0" TO 0'-0"

HWY. 425 NOTCH AND WIDEN - 2-LANE WITH PAINTED MEDIAN
STA. 118+30.00

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

7/18/2017

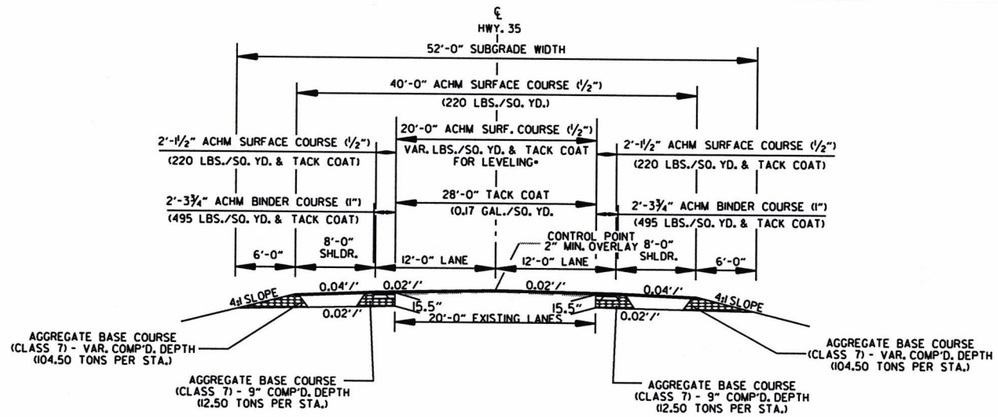
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HWY. 425
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		020484	10	139

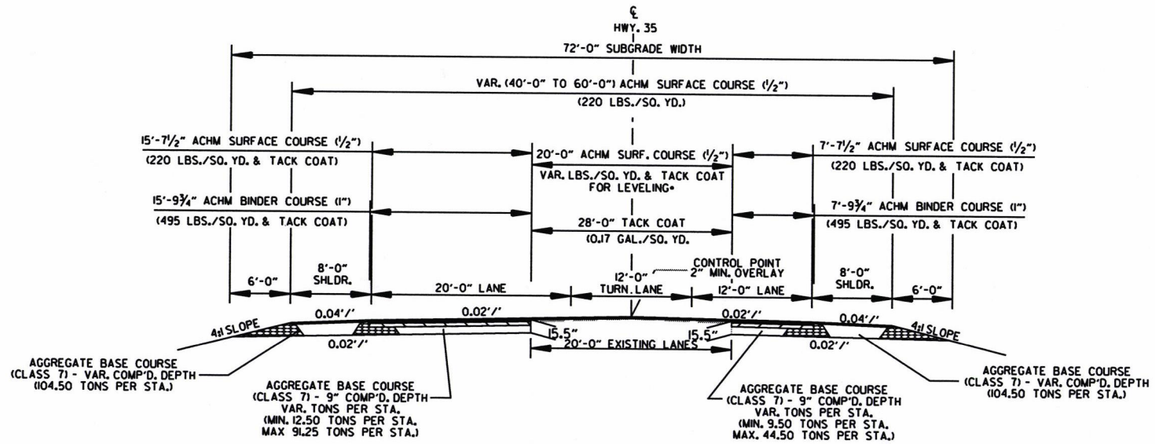
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
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TRINITY D. SMITH
7-27-17

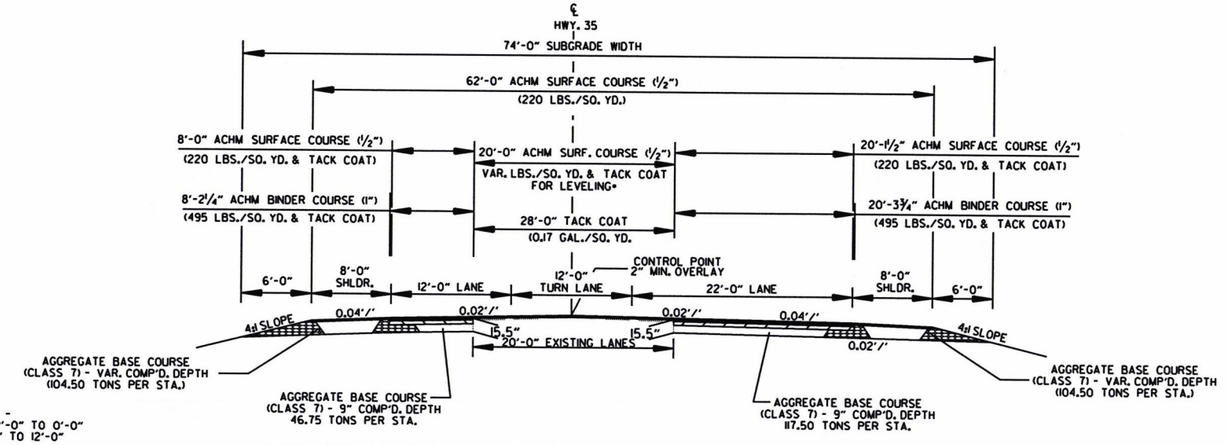


HWY. 35 NOTCH AND WIDEN - 2-LANE
STA. 107+35.00
STA. 115+05.00

STA. 107+35.00 TO STA. 109+40.00 -
PAINTED MEDIAN TAPERS FORM 0'-0" TO 12'-0"
LEFT LANE TAPERS FROM 12'-0" TO 22'-0"



HWY. 35 NOTCH AND WIDEN - 3-LANE 20' LEFT LANE
STA. 109+40.00



STA. 113+00.00 TO STA. 115+05.00 -
PAINTED MEDIAN TAPERS FORM 12'-0" TO 0'-0"
RIGHT LANE TAPERS FROM 22'-0" TO 12'-0"

HWY. 35 NOTCH AND WIDEN - 3-LANE 22' RIGHT LANE
STA. 112+74.91

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7/18/2017

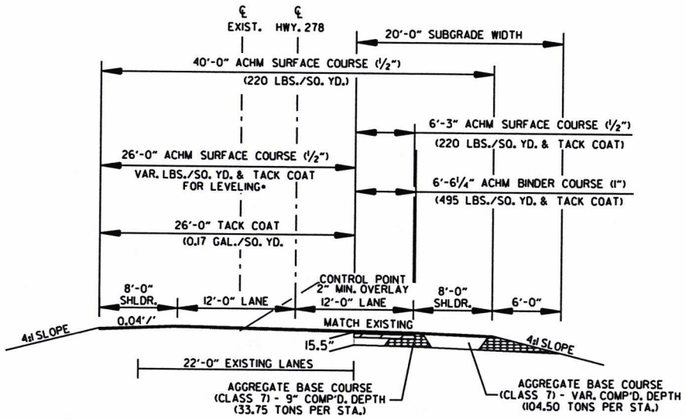
R020484.DGN

HWY. 35
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		020484	11	139

(2) TYPICAL SECTIONS OF IMPROVEMENT

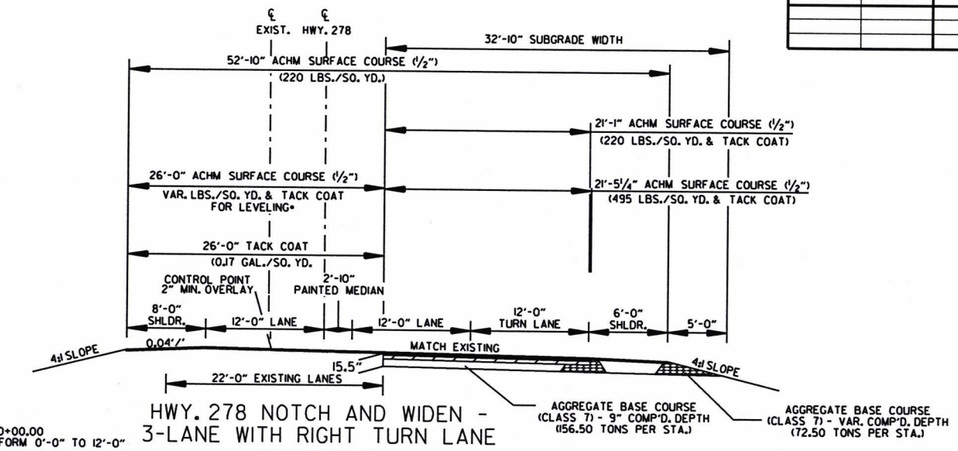
STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
7-27-17



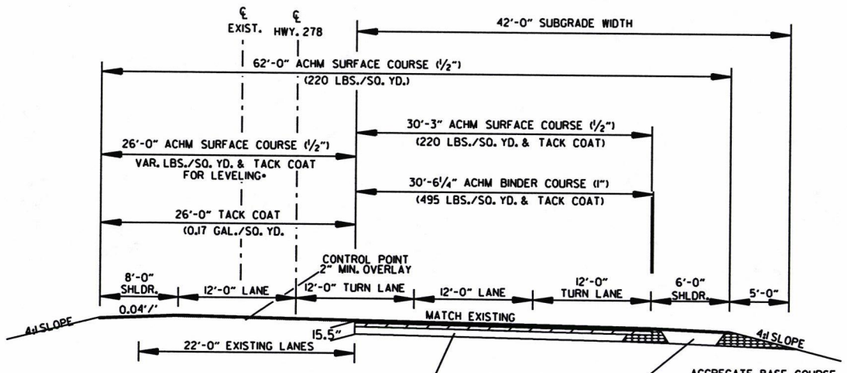
HWY. 278 NOTCH AND WIDEN - 2-LANE
STA. 102+66.95
STA. 123+34.70

STA. 104+29.79 TO STA. 110+00.00
PAINTED MEDIAN TAPERS FORM 0'-0" TO 12'-0"

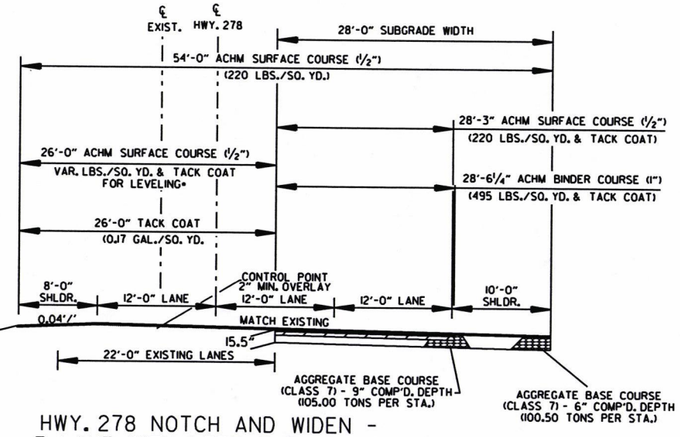
STA. 103+57.70 TO STA. 105+37.70
RIGHT TURN LANE TAPERS FROM 0'-0" TO 12'-0"



HWY. 278 NOTCH AND WIDEN -
3-LANE WITH RIGHT TURN LANE
STA. 105+37.70



HWY. 278 NOTCH AND WIDEN - 4-LANE
STA. 110+00.00



HWY. 278 NOTCH AND WIDEN -
3-LANE WITH LEFT TURN LANE
STA. 111+78.26

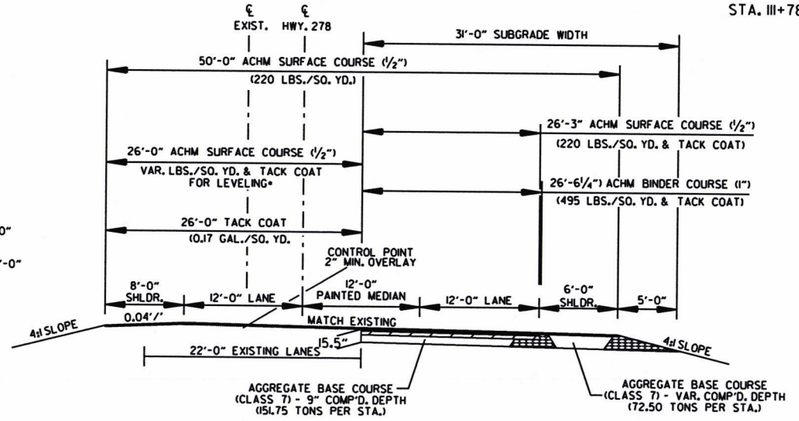
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STA. 116+46.00 TO STA. 119+17.88
PAINTED MEDIAN TAPERS FORM 12'-0" TO 0'-0"

STA. 120+34.70 TO STA. 123+34.70
RIGHT TURN LANE TAPERS FROM 12'-0" TO 0'-0"

HWY. 278 NOTCH AND WIDEN - 2-LANE WITH PAINTED MEDIAN
STA. 119+51.14

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

7/18/2017

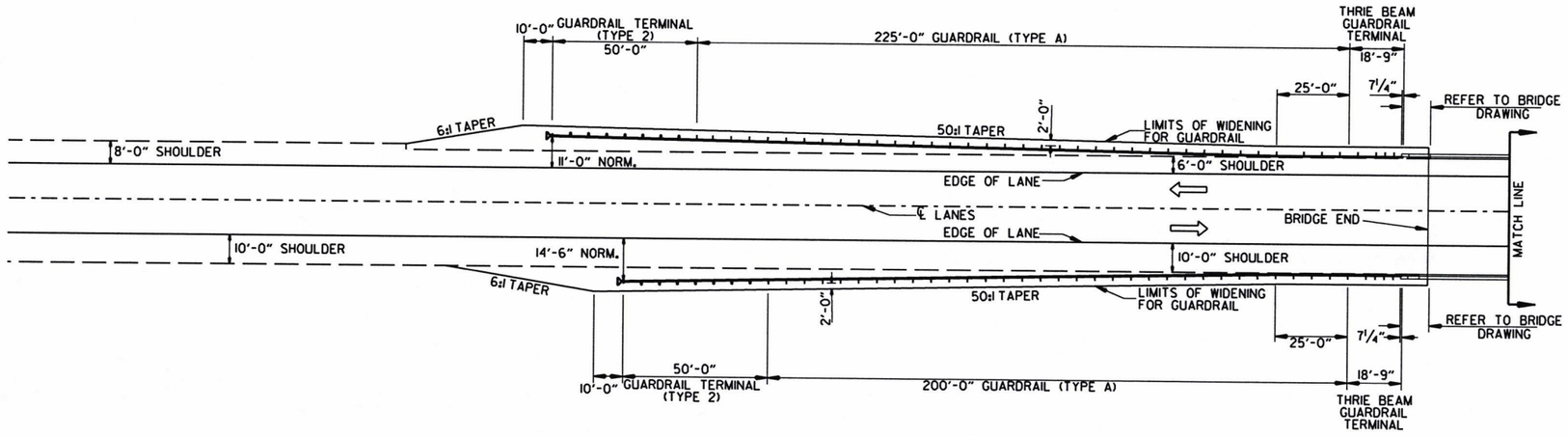
R020484.DGN

HWY. 278
TYPICAL SECTIONS OF IMPROVEMENT

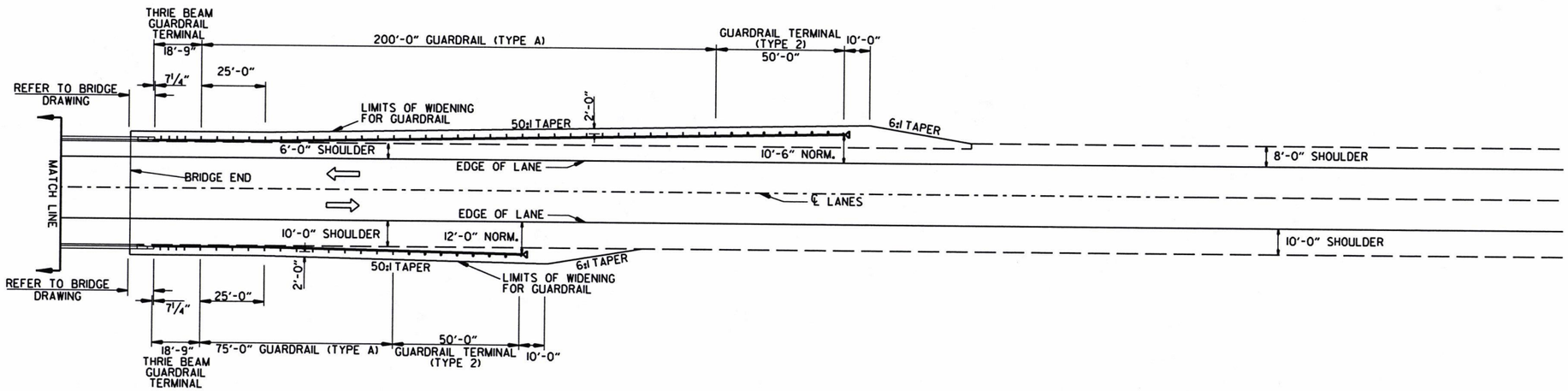
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				6	ARK.			
				JOB NO.		020484	12	139

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



TYPICAL LAYOUT OF GUARDRAIL ON WEST SIDE OF MAIN LANE BRIDGE ENDS



TYPICAL LAYOUT OF GUARDRAIL ON EAST SIDE OF MAIN LANE BRIDGE ENDS

7/18/2017

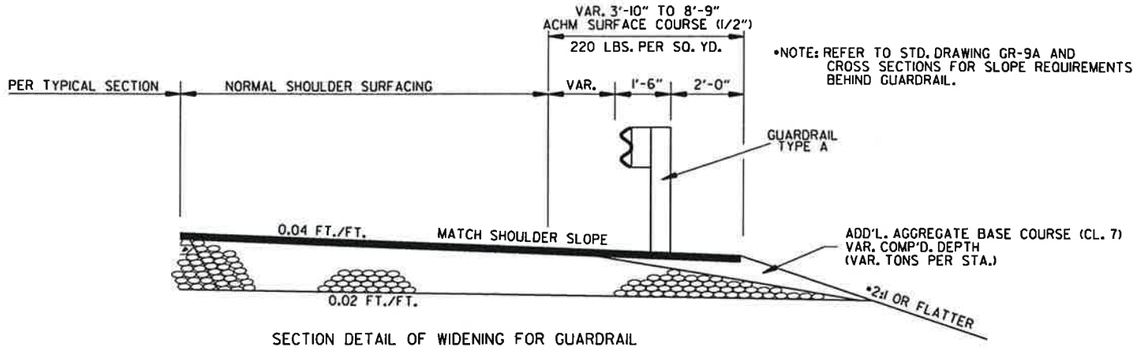
R020484.DGN

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-17				6	ARK.			
				JOB NO.		020484	13	139

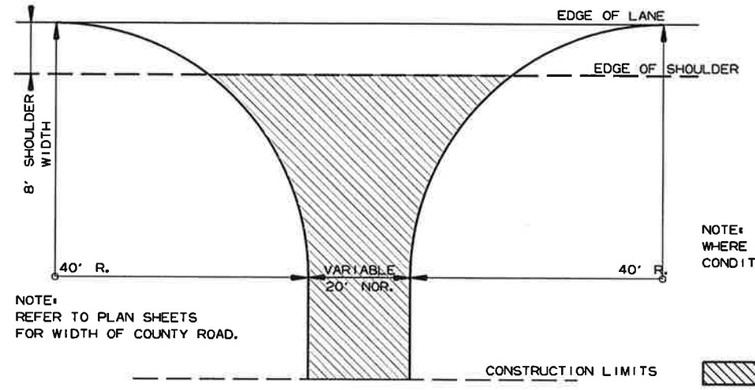
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17



SECTION DETAIL OF WIDENING FOR GUARDRAIL
HWY. 71

NOTE: REFER TO STANDARD DRAWINGS, GR-8, GR-9, GR-9A, GR-10 & GR-10A FOR ADDITIONAL INFORMATION.

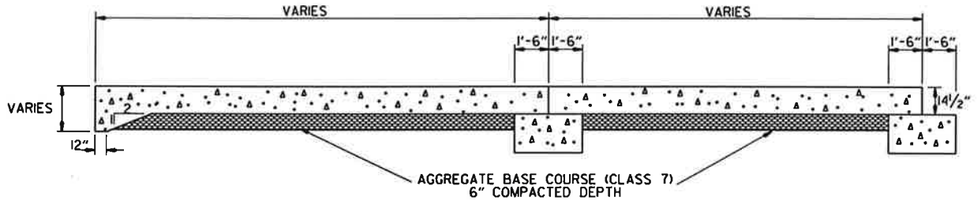


NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

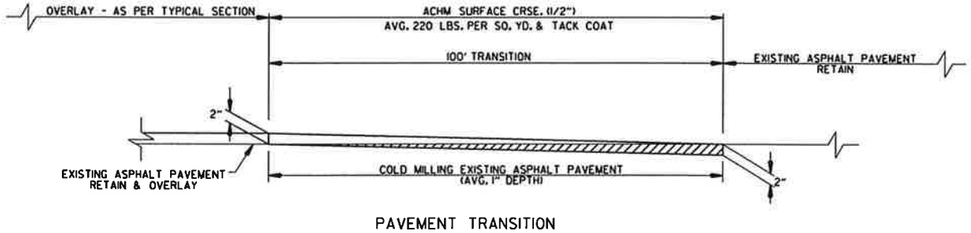
NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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

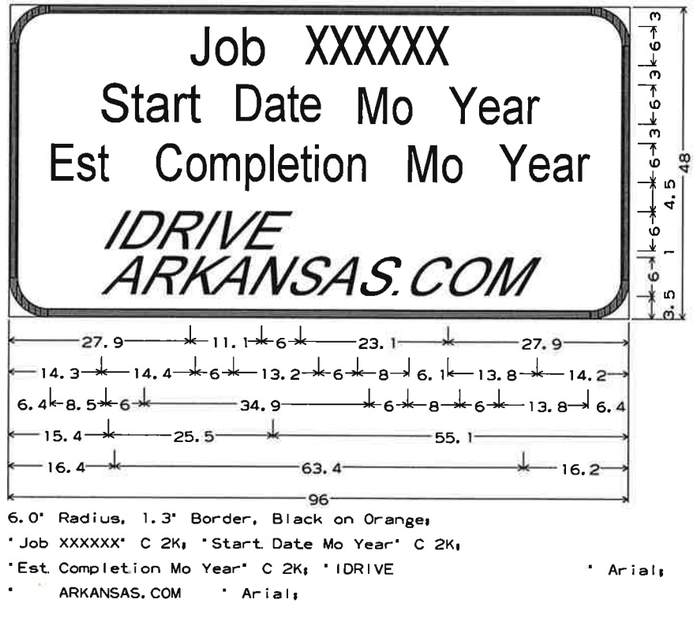
DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION



SPECIAL DETAIL OF APPROACH SLAB



PAVEMENT TRANSITION



6.0" Radius, 1.3" Border, Black on Orange;
'Job XXXXXX' C 2K; 'Start Date Mo Year' C 2K;
'Est Completion Mo Year' C 2K; 'IDRIVE ARKANSAS.COM' Arial;

CONSTRUCTION PROJECT INFORMATION SIGN

SPECIAL DETAILS

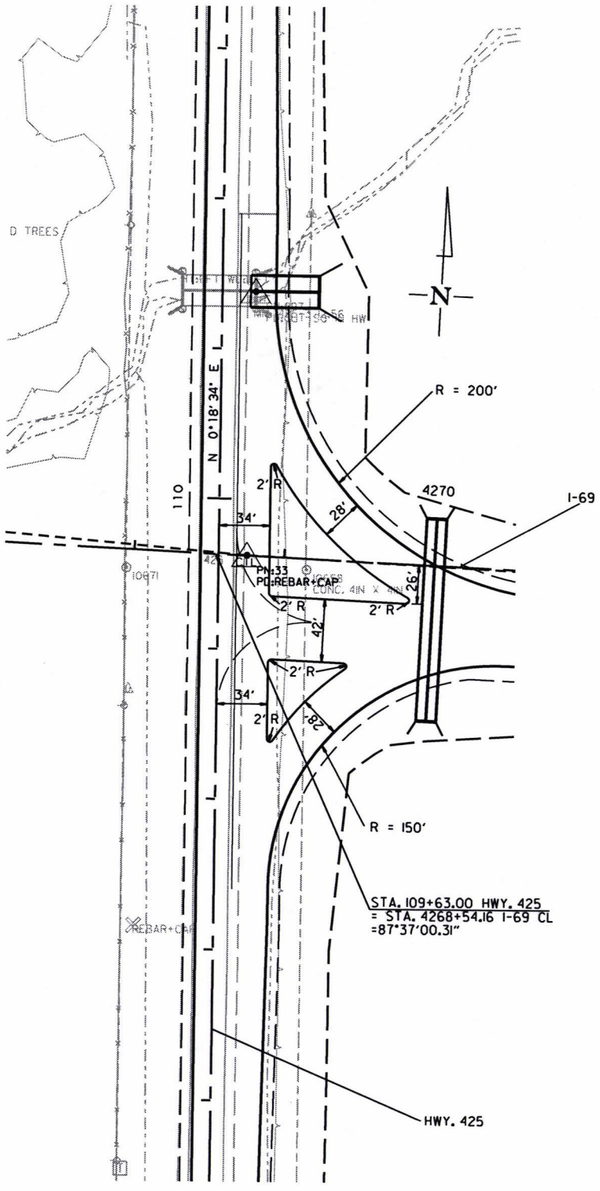
8/25/2017

R020484.DGN

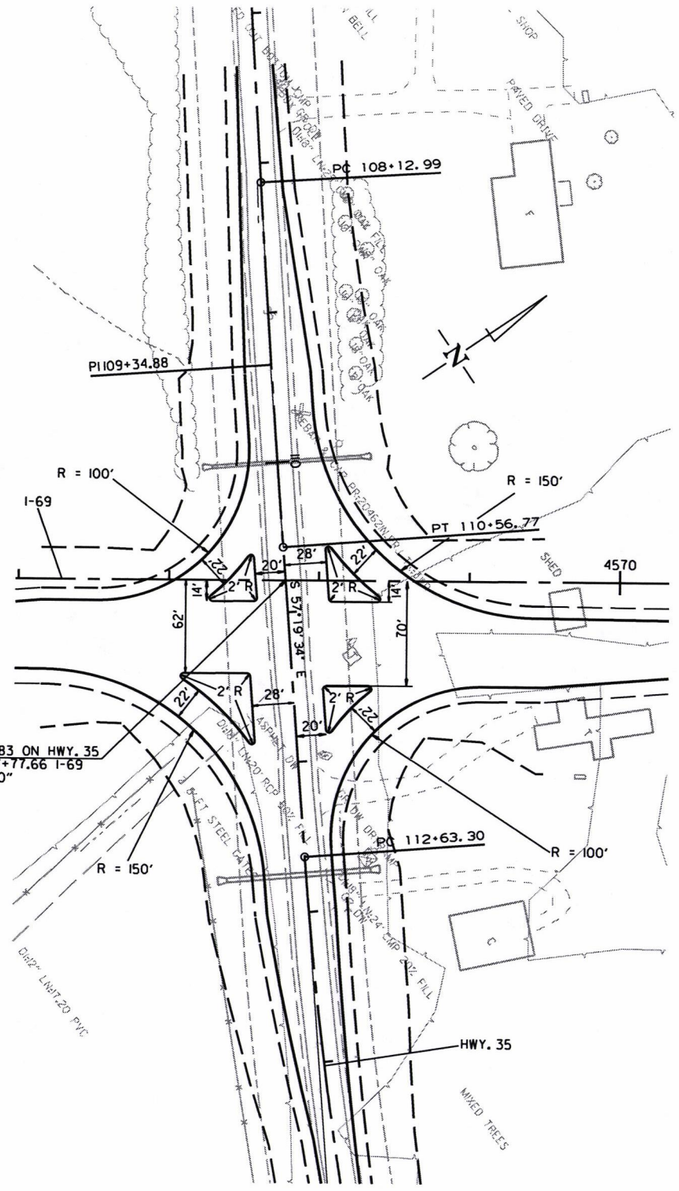
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(2) SPECIAL DETAILS

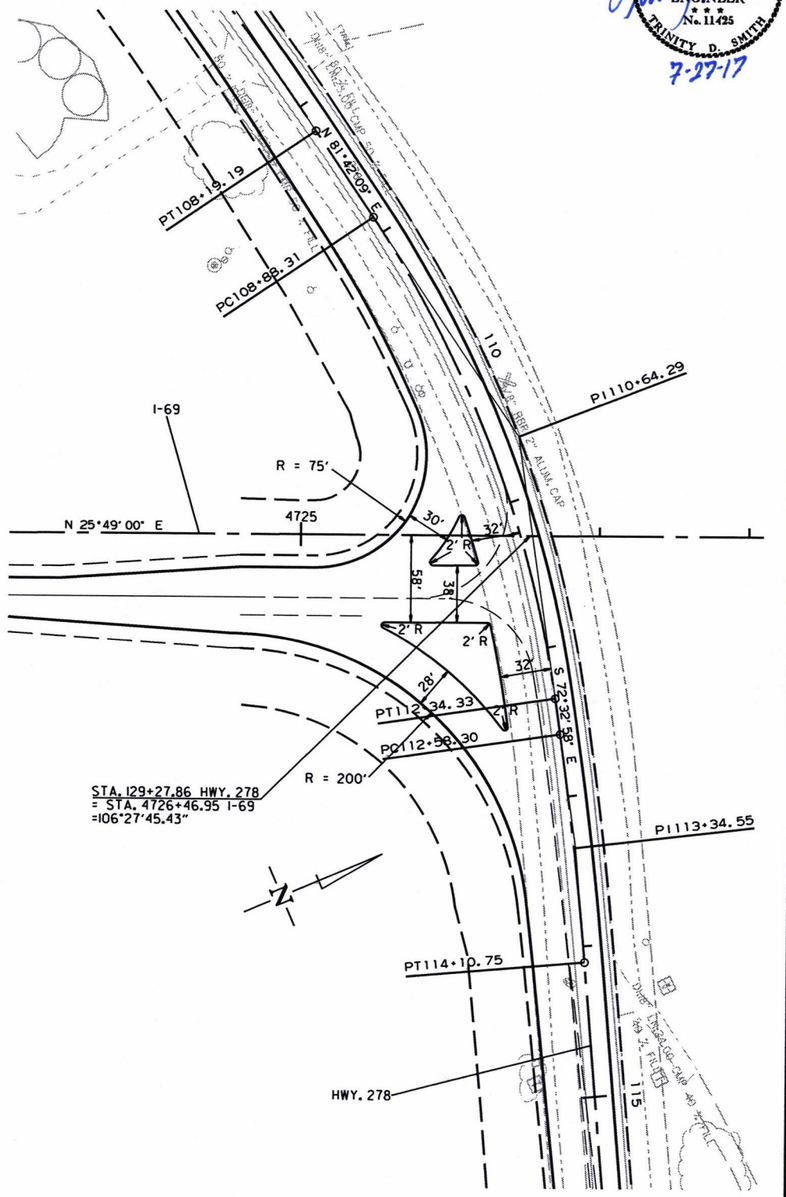
STATE OF ARKANSAS
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7-27-17



HWY. 425



HWY. 35



HWY. 278

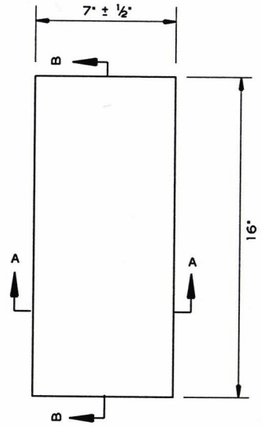
SPECIAL DETAILS

7/26/2017

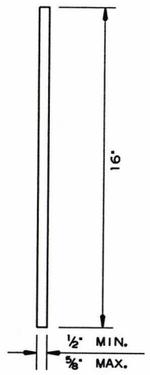
R020484.DGN

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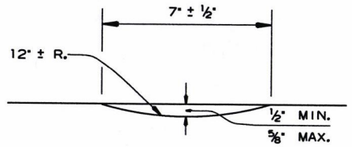
(2) SPECIAL DETAILS



PLAN

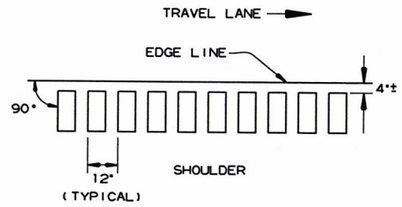


SECTION B-B



SECTION A-A

DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS

LEFT OR RIGHT SHOULDER

PLAN VIEW

NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE.
2. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.

STATE OF ARKANSAS
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7/27/17

7/18/2017

R020484.DGN

SPECIAL DETAILS

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				6	ARK.			
				JOB NO.		020484	16	19

SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
13'-8"	3'-0"	0'-9"	0'-8"	0	3:1	12'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-0"	0'-0"	9'-6"	9'-6"	11'-4 5/8"	11'-4 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
3.59	334

WING	BAR SIZE	MAX. SPACING	NO. REQ'D	LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS
WING A	4	12	10	L	Min	2'-0"	-	-	-	L -	-	-	-	L -	4	18	2	Min	4	18	2	9'-2"
					Max	4'-8"												5'-5"				
				X	Min	0'-9"				X -				X -				Max				
					Max	0'-9"												5'-5"				
				Y	Min	1'-4"				Y -				Y -								
					Max	4'-0"																
WING B	4	12	10	L	Min	2'-0"	-	-	-	L -	-	-	-	L -	4	18	2	Min	4	18	2	9'-2"
					Max	4'-8"												5'-5"				
				X	Min	0'-9"				X -				X -				Max				
					Max	0'-9"												5'-5"				
				Y	Min	1'-4"				Y -				Y -								
					Max	4'-0"																

WING	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY			F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS			REINF. STEEL QTY. PER WING (LBS)
WING A	4	18	7	L	Min	2'-7"	4	6	12'-3"	4	18	6	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	167
					Max	5'-3"							1'-8"				-												
				X	Min	1'-4"							Max				Max										X	1'-8"	
					Max	1'-4"							1'-8"				-												
				Y	Min	1'-4"																							
					Max	4'-0"																							
WING B	4	18	7	L	Min	2'-7"	4	6	12'-3"	4	18	6	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	167
					Max	5'-3"							1'-8"				-												
				X	Min	1'-4"							Max				Max										X	1'-8"	
					Max	1'-4"							1'-8"				-												
				Y	Min	1'-4"																							
					Max	4'-0"																							

③ MID-SECTION BAR LAP TABLE

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

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

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

STATE OF ARKANSAS
CHARLES R. ELLIS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
9-16-14

TABULAR DATA BY: DBS DATE: 9/11/14
CHECKED BY: CRE DATE: 9/12/14

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

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

INLET SKEWED END SECTION

SKEW (DEGREE) SK	SLOPE SL	FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	SECTION LENGTH LL	TOP SLAB THK. T	HDWL THK. HW	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH

TOP SLAB REINFORCING STEEL a SIZE	a SPACING	a LENGTHS VARY	a NO. REQ'D	c SIZE	c SPACING	c LENGTHS VARY	c NO. REQ'D
		Max / Min				Max / Min	

BOTTOM SLAB REINFORCING STEEL d SIZE	d SPACING	d LENGTHS VARY	d NO. REQ'D	f SIZE	f SPACING	f LENGTHS VARY	f NO. REQ'D
		Max / Min				Max / Min	

SIDE WALL REINFORCING STEEL f0 SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH

INTERIOR WALL REINFORCING STEEL f1 SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH

TOP SLAB DISTRIBUTION REINFORCING STEEL g SIZE	g SPACING	g NO. REQ'D	g LENGTHS VARY
			Max / Min

BOTTOM SLAB DISTRIBUTION REINFORCING STEEL e SIZE	e SPACING	e NO. REQ'D	e LENGTHS VARY
			Max / Min

SIDE WALL DISTRIBUTION REINFORCING STEEL d1 SIZE	d1 SPACING	d1 NO. REQ'D	d1 LENGTH
			LONG / SHORT

INTERIOR WALL DISTRIBUTION REINFORCING STEEL d2 SIZE	d2 SPACING	d2 NO. REQ'D	d2 LENGTH

k1 SIZE	k1 LENGTH	k1 NO. REQ'D	k2 SIZE	k2 LENGTH	k2 NO. REQ'D	h SIZE	h LENGTH	h Y	h NO. REQ'D

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	①REINFORCING STEEL (GR 60) (Includes HDWL) LBS.

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL
	2	6	3							

TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	SPACING	NO. REQ'D

BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	SPACING	NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH

INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D

BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D

SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D

INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

HDWL THK. HW	ADDITIONAL REINF. FOR HDWL LBS.	"h" BARS SIZE	"h" BARS Y	"h" BARS LENGTH	"h" BARS NO. REQ'D
3"	18	4	0'-9"	1'-9"	15

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	②ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADDITIONAL REINF. FOR HDWL LBS.
			0.13	35

② Bar Lap - Add one long. lap for each Slope Section, and one additional long. lap for Slope Sections greater than 40'-0" in length.

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL
A	2	6	3	10.0	10	6.0	8	13'-8"	4'-8"	136

TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	SPACING	NO. REQ'D
	4 13'-4"	8	13'-7"	8	13'-4"	17	96

BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	SPACING	NO. REQ'D
	4 13'-4"	4	13'-7"	4	13'-4"	17	96

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH
4	@	362	4'-4"

INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH
4	12	272	4'-4"

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	10	35

BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	10	35

SIDE WALL DISTRIBUTION STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	12	6

INTERIOR WALL DISTRIBUTION STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	12	6

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	②ADTL. REINF. PER LONG. LAP LOCATION (S) LBS.
1.03	144	96

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
DOUBLE BARREL BOX CULVERT
STA. 4270+00

SPECIAL DETAILS

020484_Culvert-Double.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	17	139

① SPECIAL DETAILS

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
9-16-14

TABULAR DATA BY: DBS DATE: 9/11/14
CHECKED BY: SMB DATE: 9/12/14

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AP1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
13'-8"	3'-0"	0'-9"	0'-8"	0	3:1	12'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-0"	0'-0"	9'-6"	9'-6"	11'-4 5/8"	11'-4 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
4.12	334

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1 LENGTHS	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F4 LENGTHS	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F6 LENGTHS	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F8 LENGTHS	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	10	L Min	2'-0"												Min	5'-5"								L Min	2'-7"								Min	1'-8"													
				L Max	4'-8"												Max	5'-5"								L Max	5'-3"								Max	-													
				X Min	0'-9"																					X Min	1'-4"																					
				X Max	0'-9"																					X Max	1'-4"																					
				Y Min	1'-4"																					Y Min	1'-4"																					
				Y Max	4'-0"																					Y Max	4'-0"																					
	4	12	10	L Min	2'-0"												Min	5'-5"								L Min	2'-7"								Min	1'-8"													
				L Max	4'-8"												Max	5'-5"								L Max	5'-3"								Max	-													
				X Min	0'-9"																					X Min	1'-4"																					
				X Max	0'-9"																					X Max	1'-4"																					
				Y Min	1'-4"																					Y Min	1'-4"																					
				Y Max	4'-0"																					Y Max	4'-0"																					

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

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

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

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT
SK	SL	D	S	H	LL	T	HW	B	C	W	OW	OH

TOP SLAB REINFORCING STEEL	a SIZE	a SPACING	a LENGTHS VARY	a NO. REQ'D	c SIZE	c SPACING	c LENGTHS VARY	c NO. REQ'D
			Max				Max	
			Min				Min	

BOTTOM SLAB REINFORCING STEEL	d SIZE	d SPACING	d LENGTHS VARY	d NO. REQ'D	f SIZE	f SPACING	f LENGTHS VARY	f NO. REQ'D
			Max				Max	
			Min				Min	

SIDE WALL REINFORCING STEEL	f0 SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH

INTERIOR WALL REINFORCING STEEL	f1 SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH

TOP SLAB DISTRIBUTION REINFORCING STEEL	g SIZE	g SPACING	g NO. REQ'D	g LENGTHS VARY
				Max
				Min

BOTTOM SLAB DISTRIBUTION REINFORCING STEEL	e SIZE	e SPACING	e NO. REQ'D	e LENGTHS VARY
				Max
				Min

SIDE WALL DISTRIBUTION REINFORCING STEEL	d1 SIZE	d1 SPACING	d1 NO. REQ'D	d1 LENGTH
				LONG
				SHORT

INTERIOR WALL DISTRIBUTION REINFORCING STEEL	d2 SIZE	d2 SPACING	d2 NO. REQ'D	d2 LENGTH

k1 SIZE	k1 LENGTH	k1 NO. REQ'D	k2 SIZE	k2 LENGTH	k2 NO. REQ'D	h SIZE	h LENGTH	h Y	h NO. REQ'D

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	①REINFORCING STEEL (GR 60) (Includes HDWL) LBS.

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL
	2	6	3							

TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS	a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	c SPACING	c NO. REQ'D

BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS	d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	f SPACING	f NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4"	SIZE	SPACING	NO. REQ'D	LENGTH

INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4"	SIZE	SPACING	NO. REQ'D	LENGTH

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL	SIZE	SPACING	NO. REQ'D

BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL	SIZE	SPACING	NO. REQ'D

SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL	SIZE	SPACING	NO. REQ'D

INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL	SIZE	SPACING	NO. REQ'D

HDWL THK. HW	ADDITIONAL REINF. FOR HDWL LBS.	"h" BARS SIZE	"h" BARS Y	"h" BARS LENGTH	"h" BARS NO. REQ'D
3"	18	4	0'-9"	1'-9"	15

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	②ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADDITIONAL REINF. FOR HDWL LBS.
			0.13	35

② Bar Lap - Add one long. lap for each Slope Section, and one additional long. lap for Slope Sections greater than 40'-0" in length.

The required number of bars shown is for estimating purpose only. The actual number required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

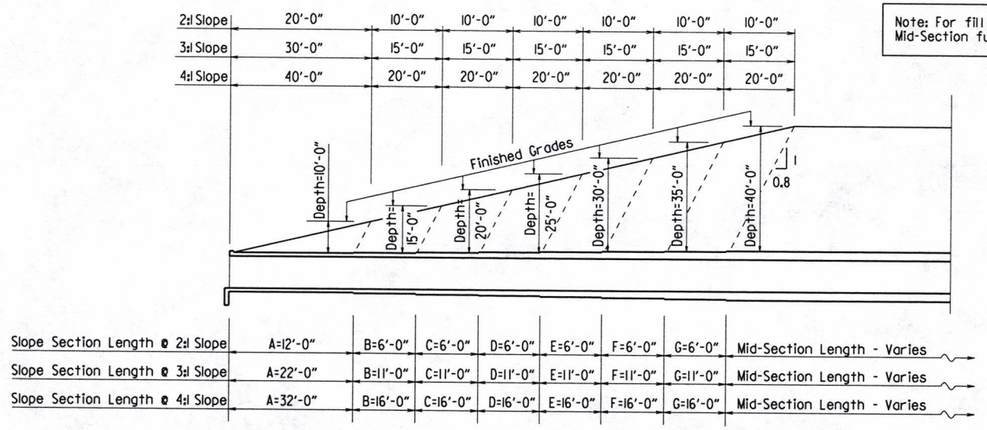
SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT
DOUBLE BARREL BOX CULVERT
STA. 4270+00

SPECIAL DETAILS

020484_Culvert-Double.dgn

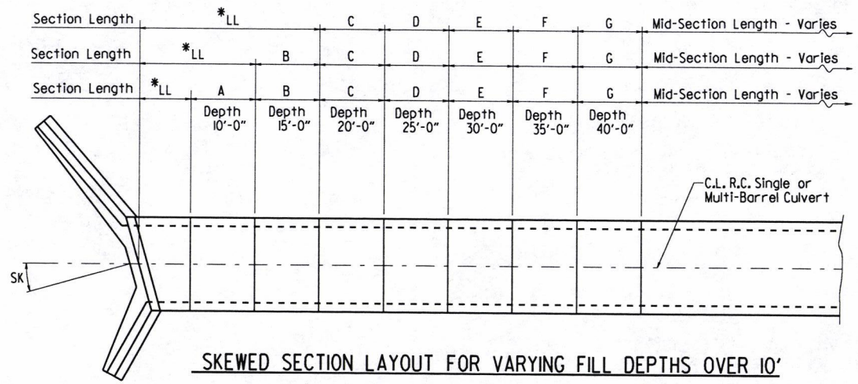
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	10	139

1 SPECIAL DETAILS



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

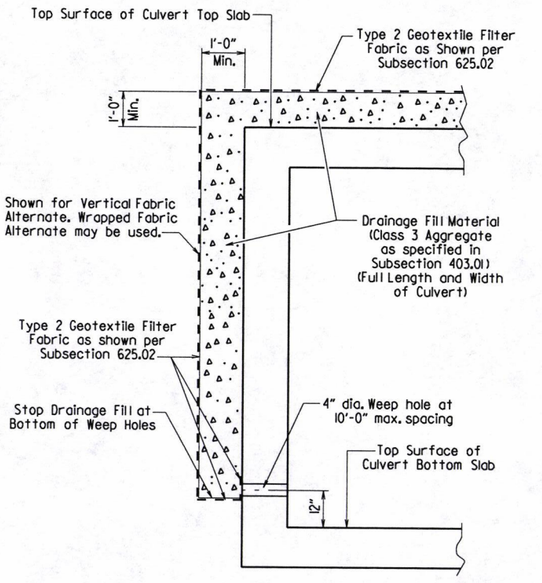
* LL = Skewed End Section Length - See "Skewed End Section Details" Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.



SKEWED SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'

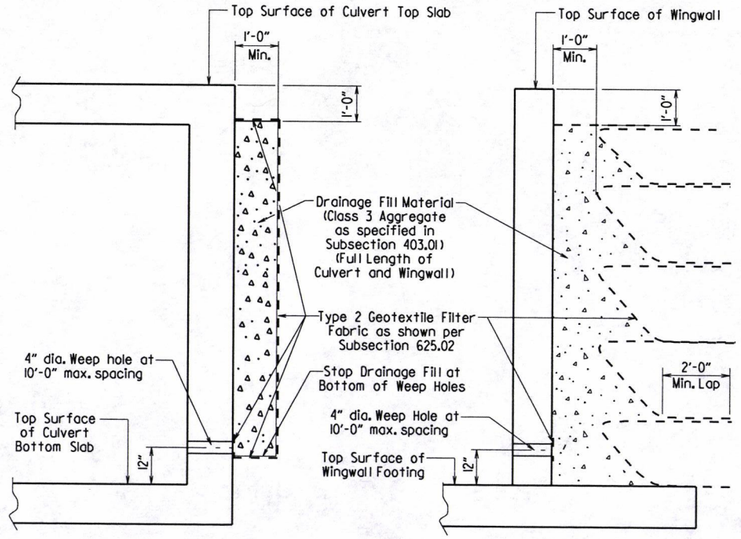
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes



CULVERT DRAINAGE DETAIL FOR ROCK FILL

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



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

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

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

WINGWALL & CULVERT DRAINAGE DETAIL

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
9-16-14

GENERAL NOTES:

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

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

LIVE LOADING: HL-93

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

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

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

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

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

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

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

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

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

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

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

SHEET 1 OF 4

GENERAL DETAILS OF R.C. BOX CULVERT

GENERAL NOTES &
LONGITUDINAL SECTION LENGTH SCHEDULE

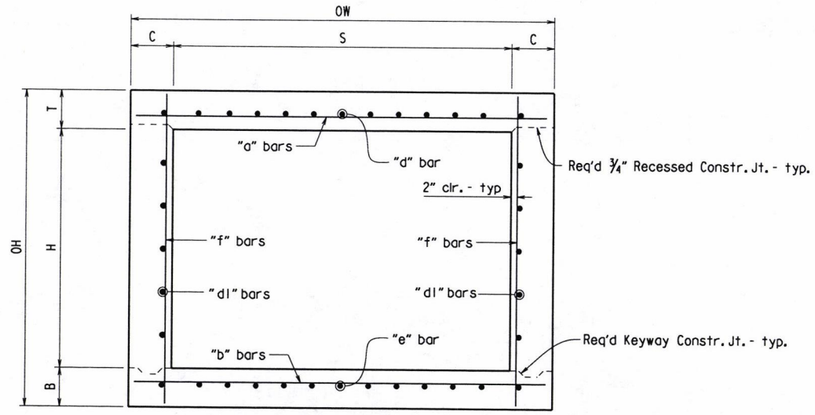
SPECIAL DETAILS

V 1.1.4 020484_Culvert-General.dgn

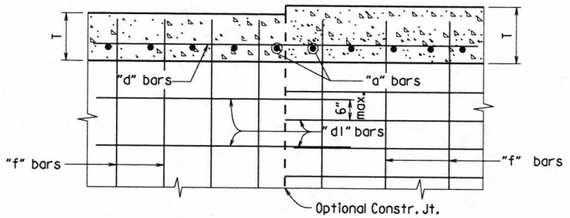
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	19	139

① SPECIAL DETAILS

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



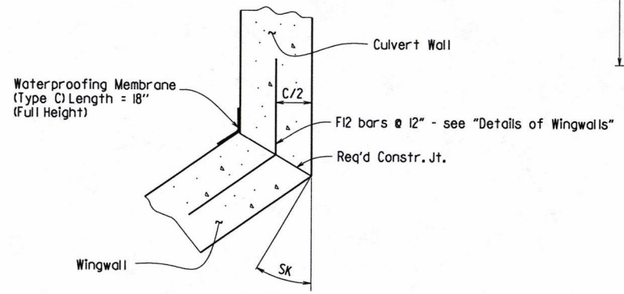
TYPICAL SECTION M-M



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

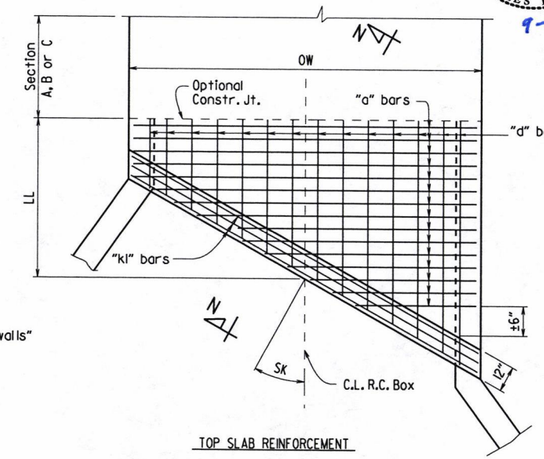
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

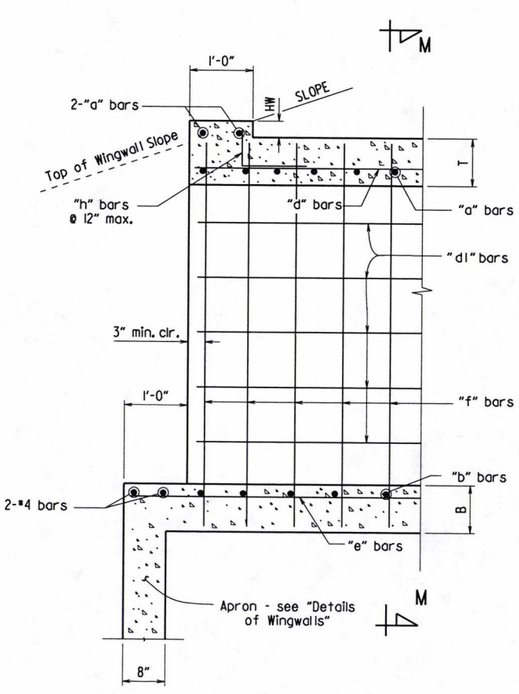


WINGWALL ATTACHMENT

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

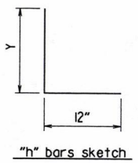


TOP SLAB REINFORCEMENT

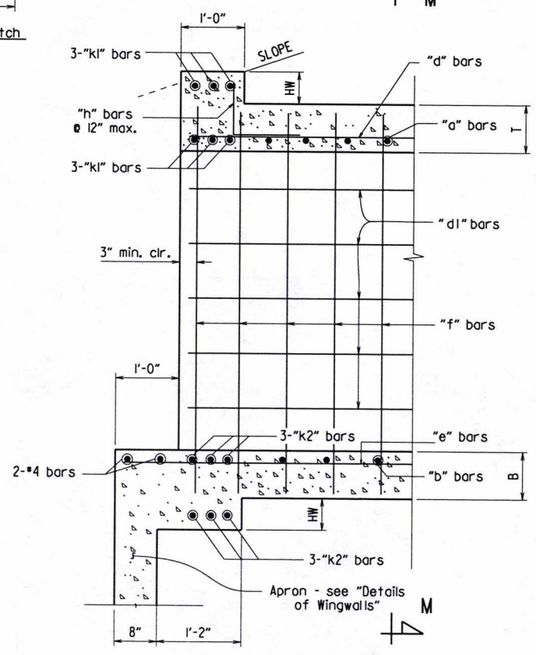


PART LONGITUDINAL SECTION

(Non-Skewed Ends)

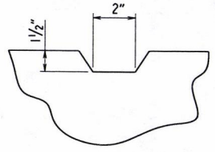


"h" bars sketch



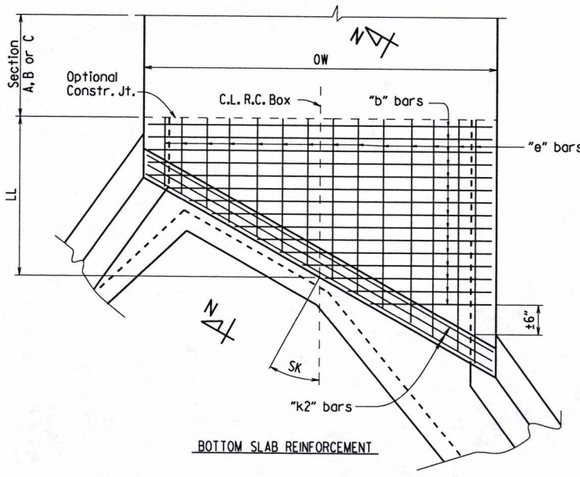
PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL

(All Construction Joints)



BOTTOM SLAB REINFORCEMENT

SKEWED END SECTION DETAILS

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

DETAILS OF SINGLE BARREL
R.C. BOX CULVERT

SPECIAL DETAILS

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
9-16-14

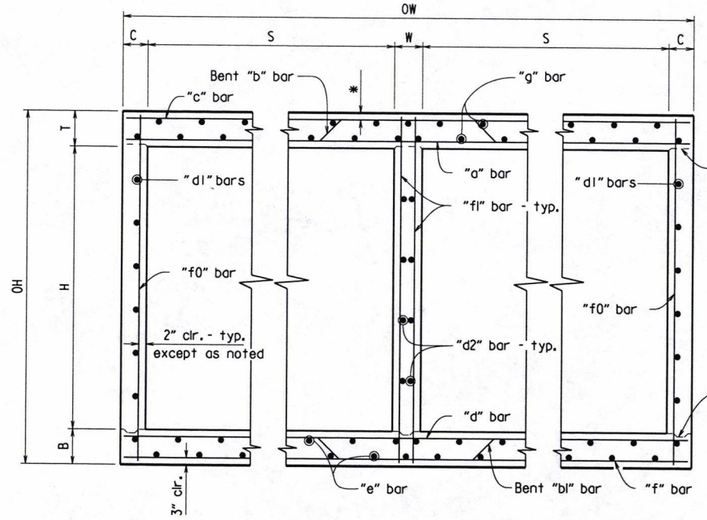
020484_Culvert-General.dgn

DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	20	139

SPECIAL DETAILS

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

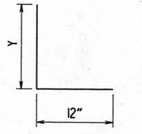
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



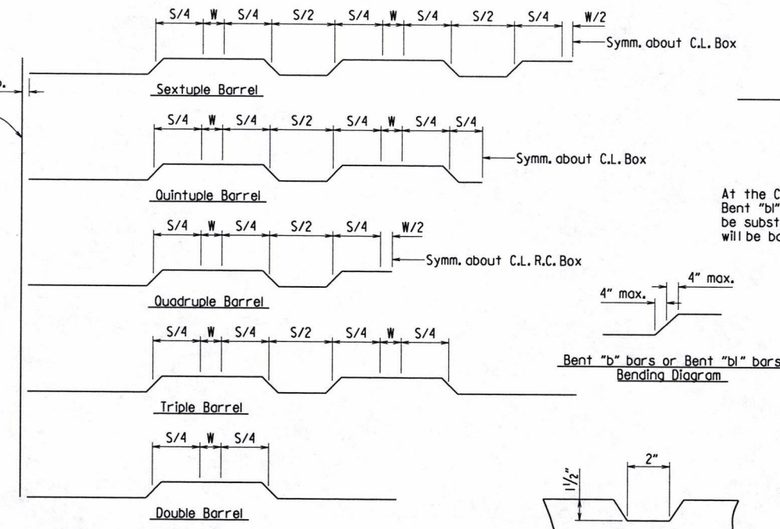
TYPICAL SECTION M-M

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

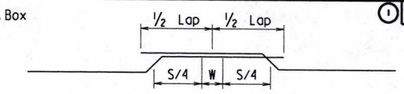
Bottom Slab
Straight "d" bars shall alternate with Bent "b1" bars in top.
Straight "f" bars shall alternate with Bent "b1" bars in bottom.



"h" bars sketch



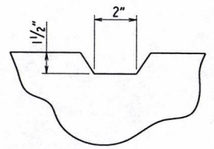
Bent "b" bars or Bent "b1" bars sketch



Lap Detail
For Bent "b" bars and Bent "b1" bars

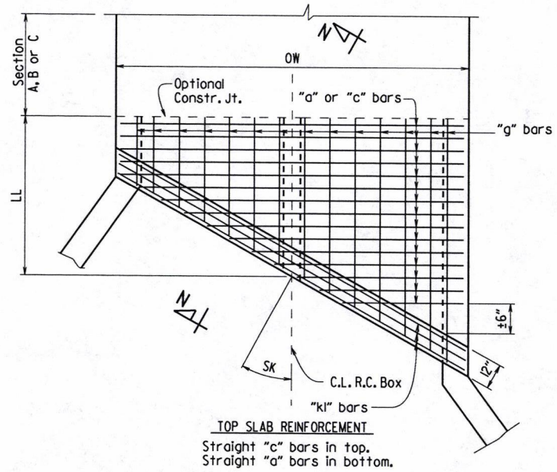
At the Contractor's option in lieu of providing Bent "b" or Bent "b1" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "b1" bar.

Bent "b" bars or Bent "b1" bars
Bending Diagram

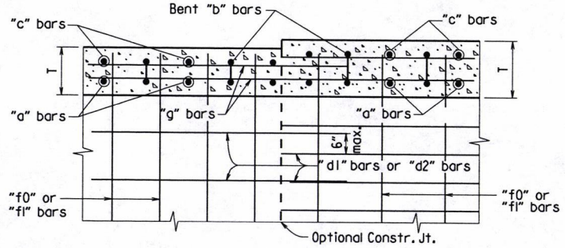


TYPICAL KEYWAY DETAIL

(All Construction Joints)



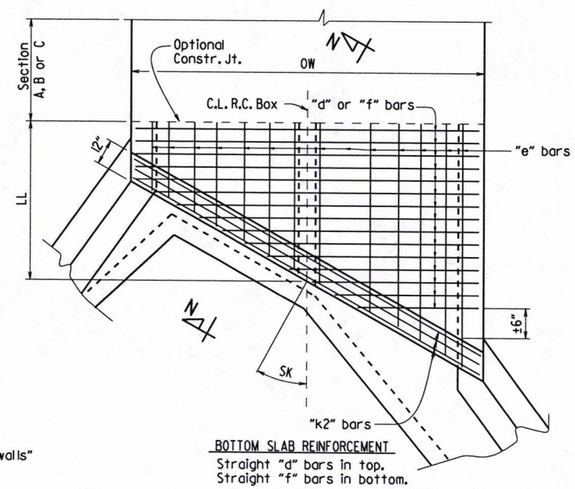
TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



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

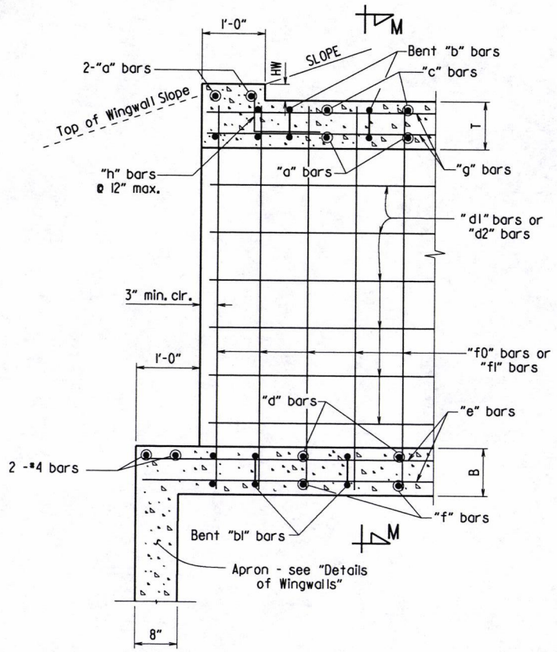
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



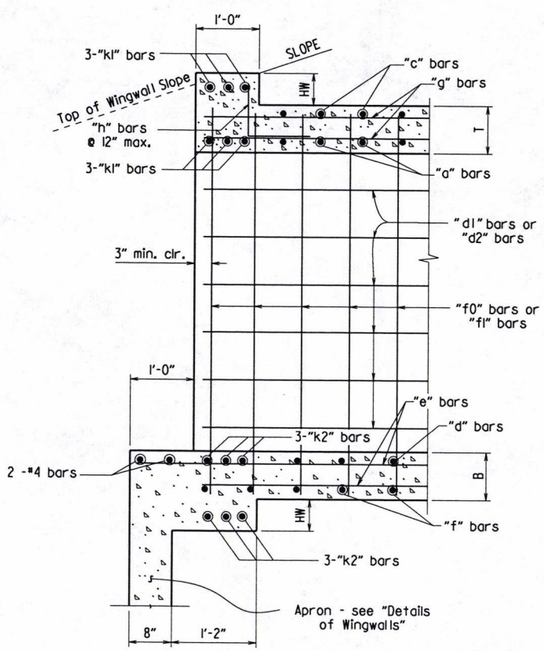
BOTTOM SLAB REINFORCEMENT
Straight "d" bars in top.
Straight "f" bars in bottom.

SKEWED END SECTION DETAILS



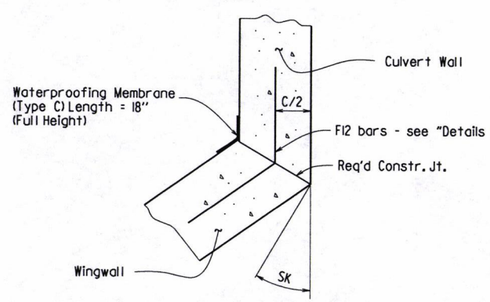
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

(Skewed Ends)



WINGWALL ATTACHMENT

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

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

DETAILS OF MULTI-BARREL R.C. BOX CULVERT

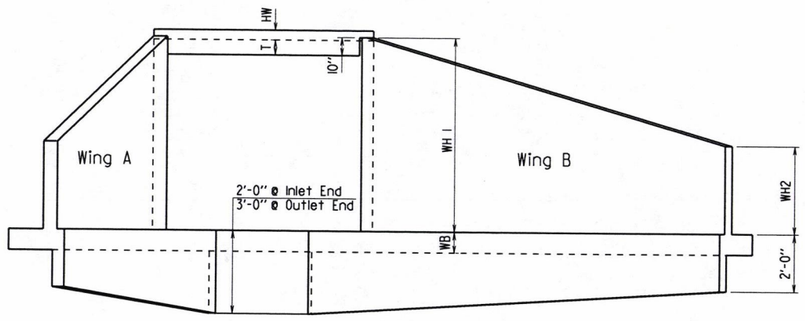
SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Charles R. Ellis
9-16-14

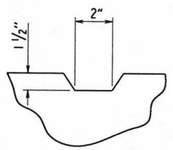
020484_Culvert+General.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	21	139

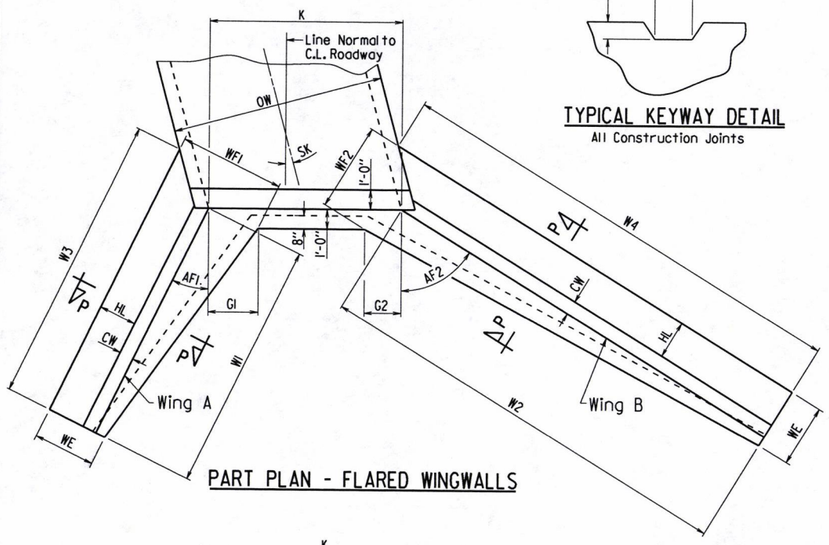
① SPECIAL DETAILS



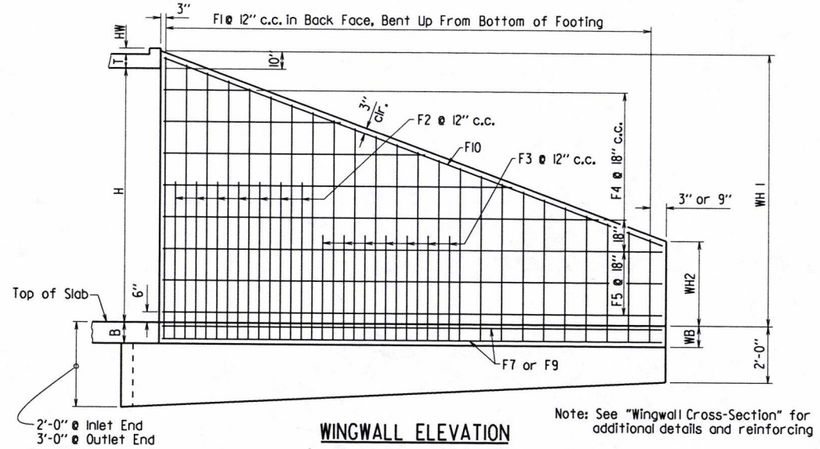
END ELEVATION
Flared Wingwalls Shown



TYPICAL KEYWAY DETAIL
All Construction Joints

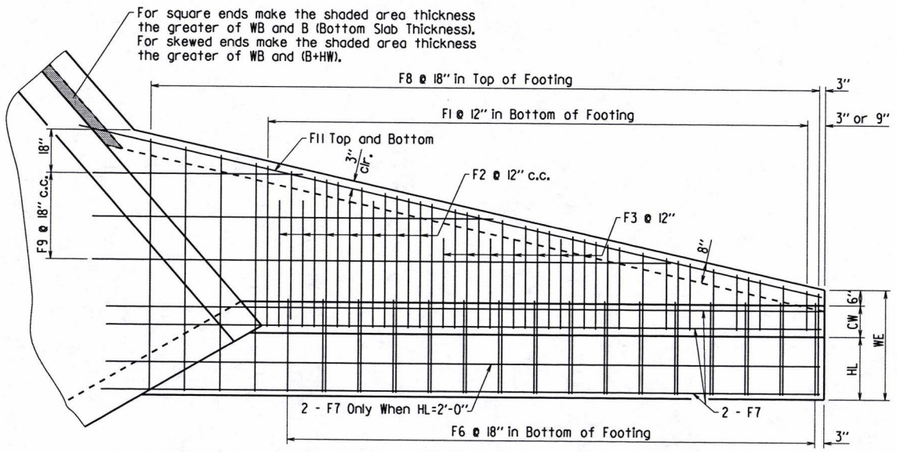


PART PLAN - FLARED WINGWALLS

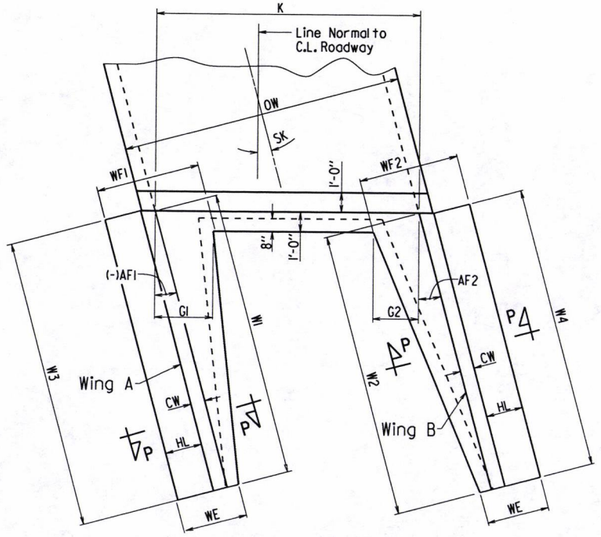


WINGWALL ELEVATION
Showing Back Face Reinforcement

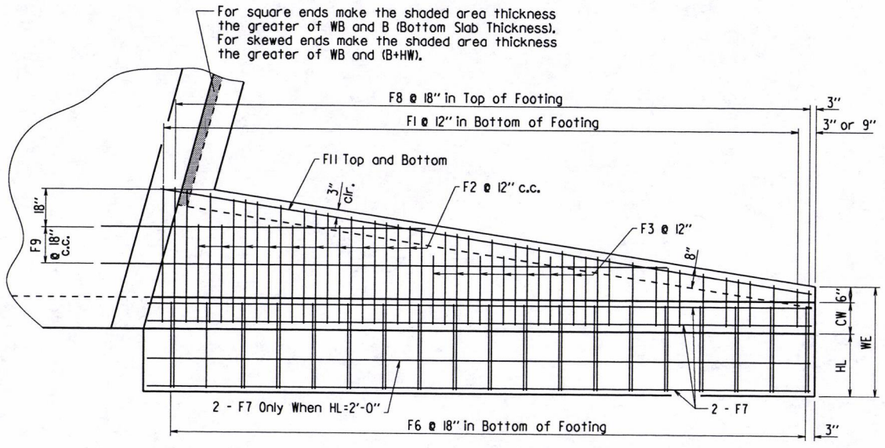
Note: See "Wingwall Cross-Section" for additional details and reinforcing



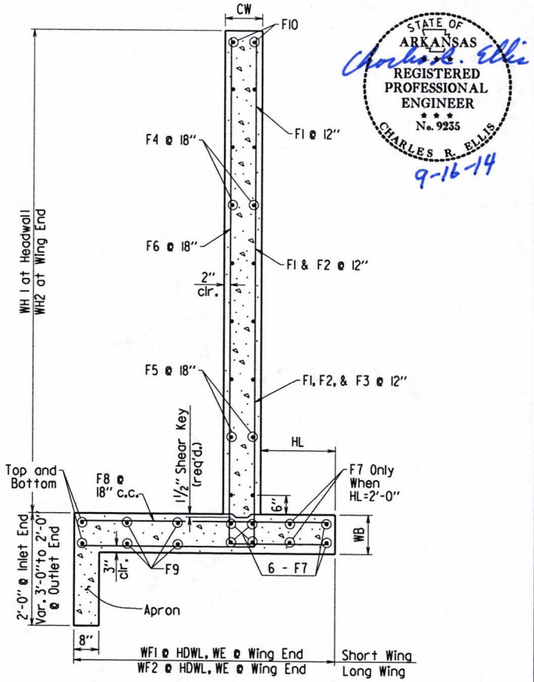
PLAN - FLARED WINGWALLS
Showing Footing Reinforcement



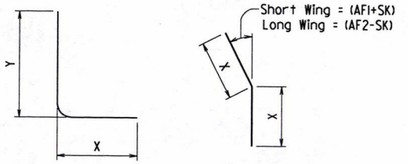
PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement



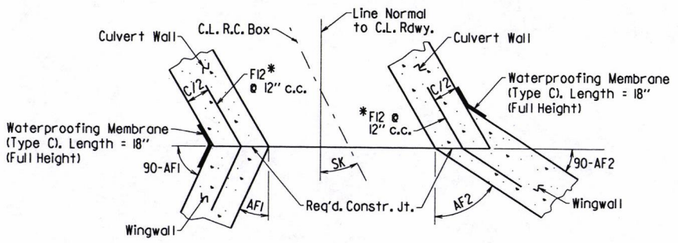
WINGWALL SECTION P-P



F1, F2, F3, & F6 BARS

*F12 BAR

*F12 is a straight bar for parallel wingwalls



CONSTRUCTION JOINTS
Flared Wingwalls Shown

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
9-16-14

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

020484_Culvert-General.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.		020484	22	139

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

HWY. 425 - CLEARING AND GRUBBING

HWY. 35 - CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

7/26/2017

R020484.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.		020484	23	139

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-5) = SAND BAG DITCH CHECKS
(E-6) = ROCK DITCH CHECKS

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

HWY. 425

HWY. 35 - STAGE I
TEMPORARY EROSION CONTROL DETAILS

7/26/2017

R020484.DGN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECKS

E-6 = ROCK DITCH CHECKS

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	24	139

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

7/18/2017

R020484.DGN

HWY. 278 - STAGE I
TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:
ALL STAGES:
PLACE ADVANCE WARNING SIGNS AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLAN SHEETS AND MAINTAIN THROUGHOUT THE DURATION OF THE PROJECT.

STAGE IA:
NOTCH AND WIDEN HWY. 425 STA. 99+55.00 TO STA. 122+35.00 ON THE RIGHT.
NOTCH AND WIDEN HWY. 35 STA. 107+35.00 TO STA. 115+05.00 ON THE RIGHT.
NOTCH AND WIDEN HWY. 278 STA. 100+61.95 TO STA. 125+64.20 ON THE RIGHT.

STAGE IB:
NOTCH AND WIDEN HWY. 35 STA. 107+35.00 TO STA. 115+05.00 ON THE RIGHT.

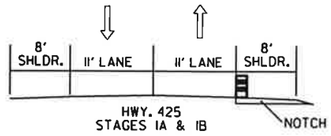
STAGE 2:
PLACE AGGREGATE BASE COURSE AND ACHM AS SHOWN IN TYPICAL SECTIONS OF IMPROVEMENT.
PLACE FINAL LIFT OF ACHM SURFACE COURSE TO HWY. 425, HWY. 35, AND HWY. 278. PLACE FINAL STRIPING.

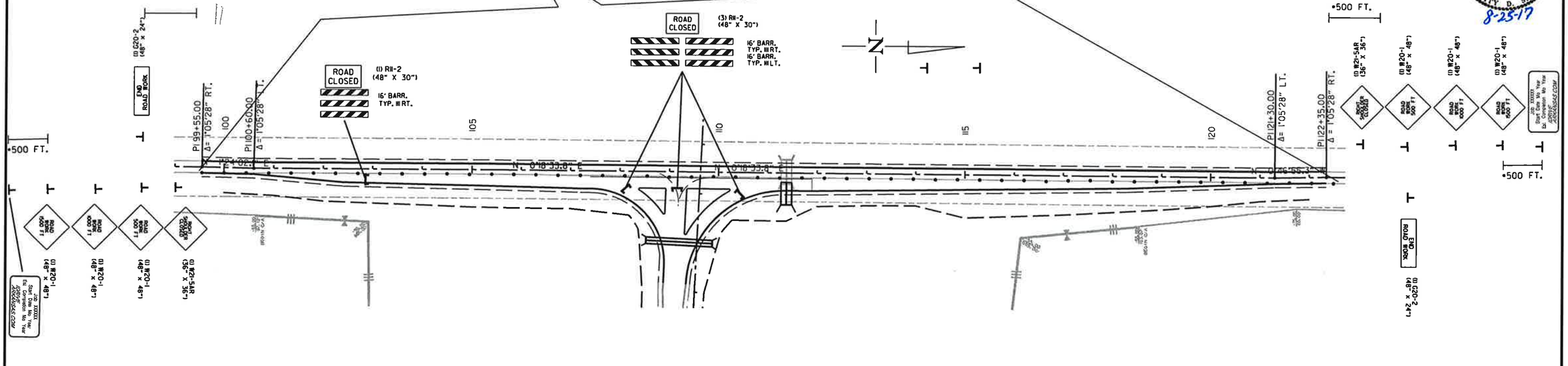
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-17				6	ARK.			
				JOB NO.		020484	25	139

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17

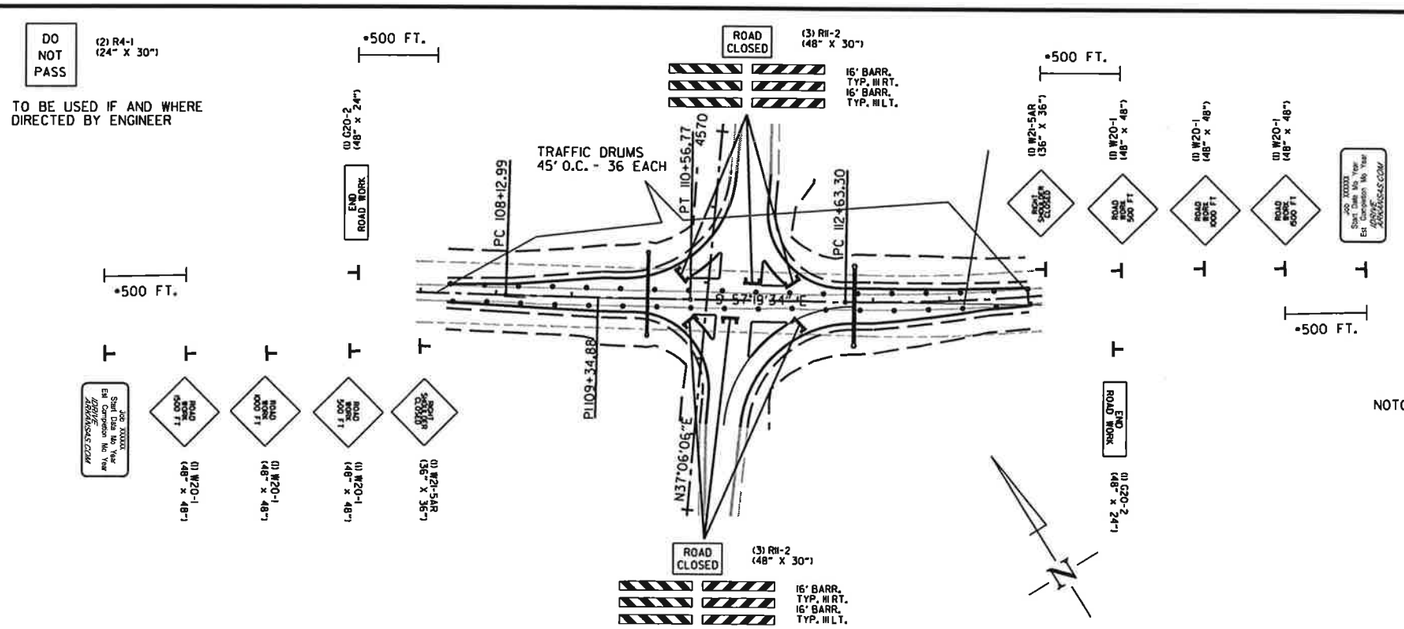
DO NOT PASS (2) R4-1 (24" X 30")
TO BE USED IF AND WHERE DIRECTED BY ENGINEER

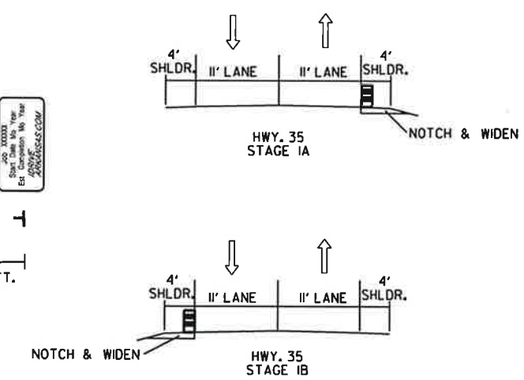




HWY. 425

DO NOT PASS (2) R4-1 (24" X 30")
TO BE USED IF AND WHERE DIRECTED BY ENGINEER





8/25/2017
R020484.DGN

*NOT TO SCALE

HWY. 35
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-17				6	ARK.			
				JOB NO.		020484	26	139

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCE OF CONSTRUCTION:
ALL STAGES:
PLACE ADVANCE WARNING SIGNS AS SHOWN IN THE MAINTENANCE OF TRAFFIC PLAN SHEETS AND MAINTAIN THROUGHOUT THE DURATION OF THE PROJECT.

STAGE IA:
NOTCH AND WIDEN HWY. 425 STA. 99+55.00 TO STA. 122+35.00 ON THE RIGHT.
NOTCH AND WIDEN HWY. 35 STA. 107+35.00 TO STA. 115+05.00 ON THE RIGHT.
NOTCH AND WIDEN HWY. 278 STA. 100+61.95 TO STA. 125+64.20 ON THE RIGHT.

STAGE IB:
NOTCH AND WIDEN HWY. 35 STA. 107+35.00 TO STA. 115+05.00 ON THE RIGHT.

STAGE 2:
PLACE AGGREGATE BASE COURSE AND ACHM AS SHOWN IN TYPICAL SECTIONS OF IMPROVEMENT.
PLACE FINAL LIFT OF ACHM SURFACE COURSE TO HWY. 425, HWY. 35, AND HWY. 278. PLACE FINAL STRIPING.

DO NOT PASS (2) R4-1 (24" X 30")

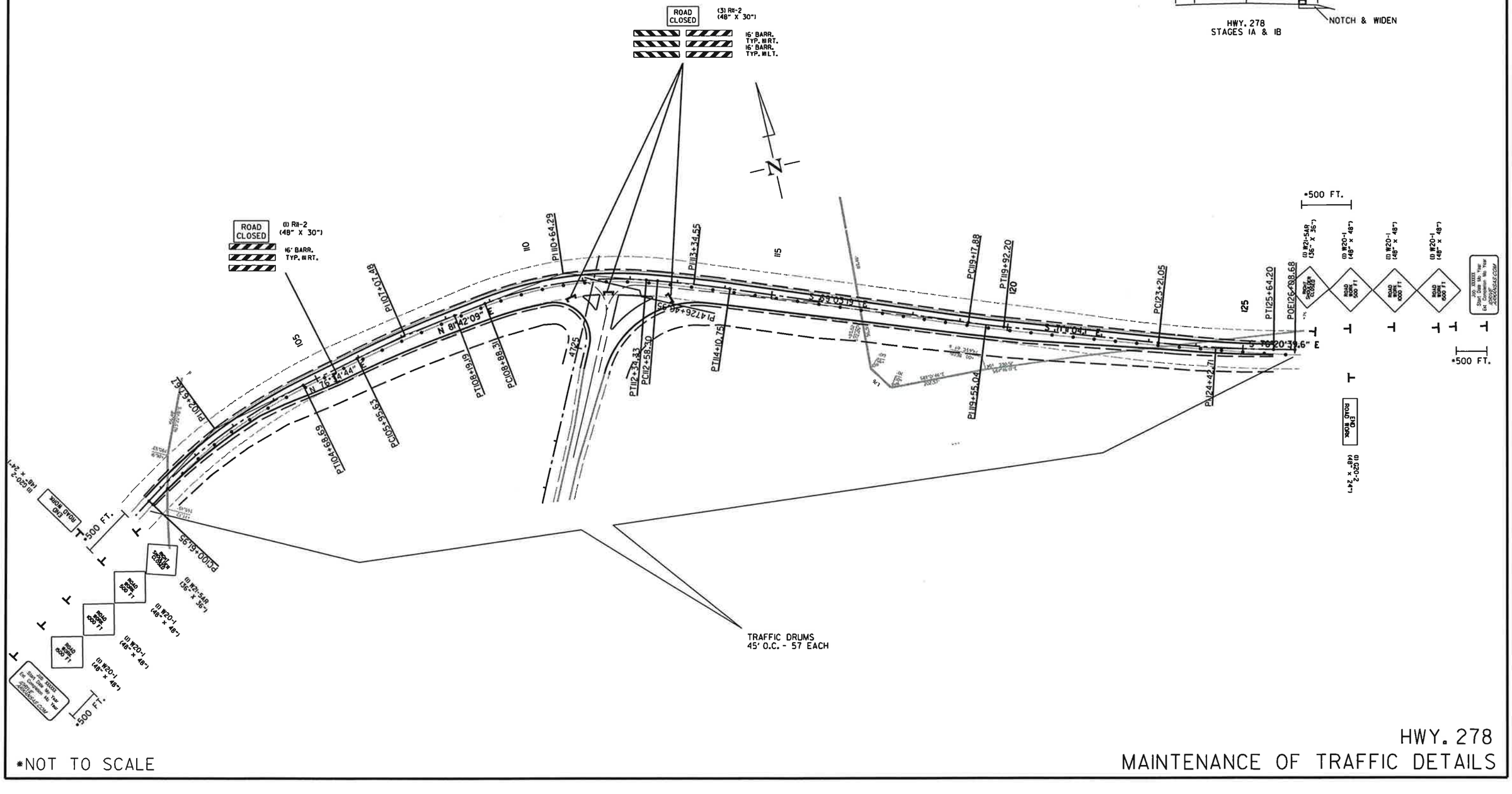
TO BE USED IF AND WHERE DIRECTED BY ENGINEER

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 8-25-17

4' SHLDR. | 11' LANE | 11' LANE | 4' SHLDR.

NOTCH & WIDEN

HWY. 278
STAGES IA & IB



*NOT TO SCALE

HWY. 278
MAINTENANCE OF TRAFFIC DETAILS

8/25/2017

R020484.DGN

SEQUENCE OF CONSTRUCTION:
ALL STAGES:
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STAGE IA:
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NOTCH AND WIDEN HWY. 35 STA. 107+35.00 TO STA. 115+05.00 ON THE RIGHT.
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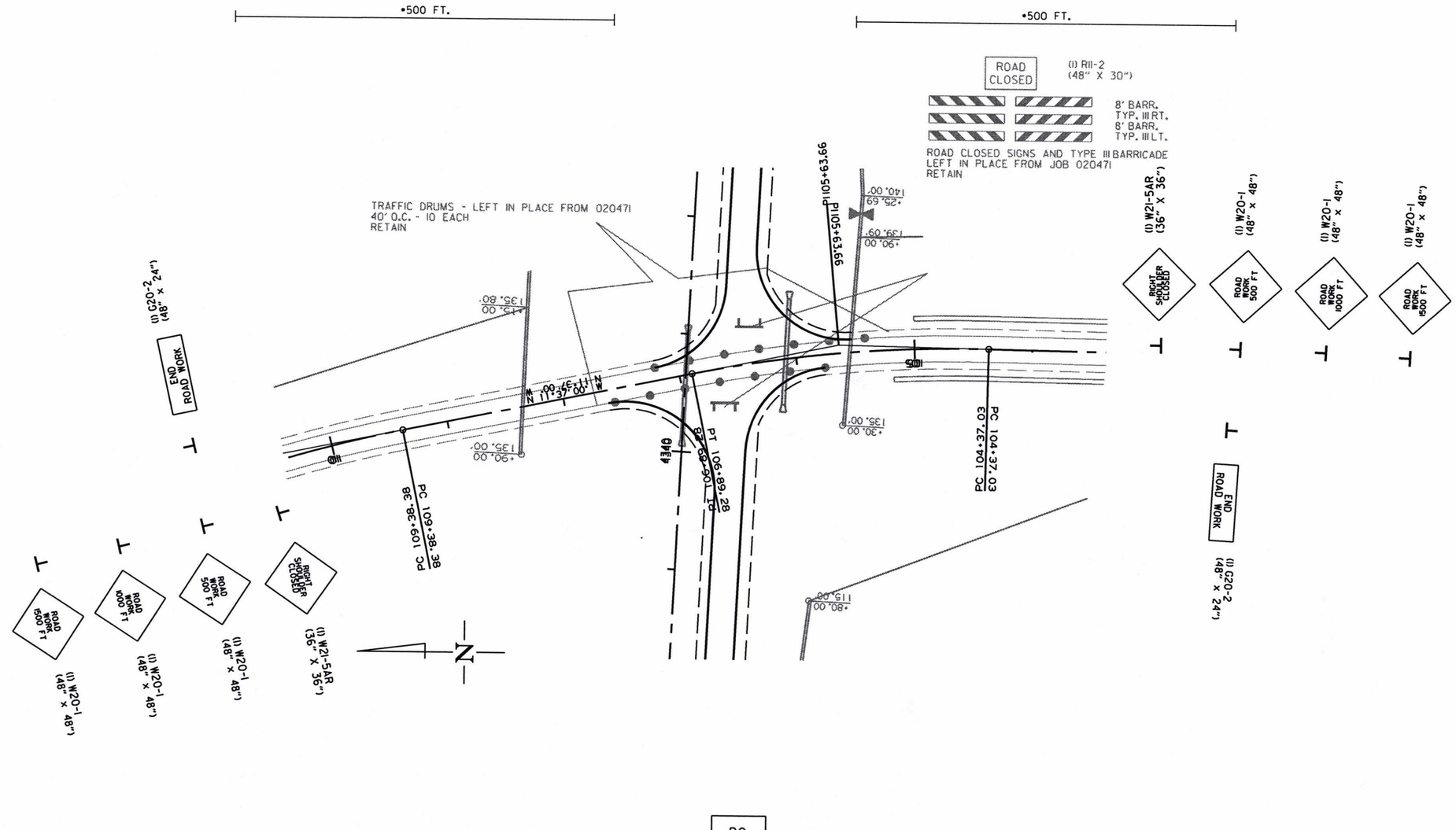
STAGE 2:
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020484	27	139

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



DO NOT PASS (2) R4-1 (24" X 30")

TO BE USED IF AND WHERE DIRECTED BY ENGINEER

*NOT TO SCALE

7/18/2017

R020484.DGN

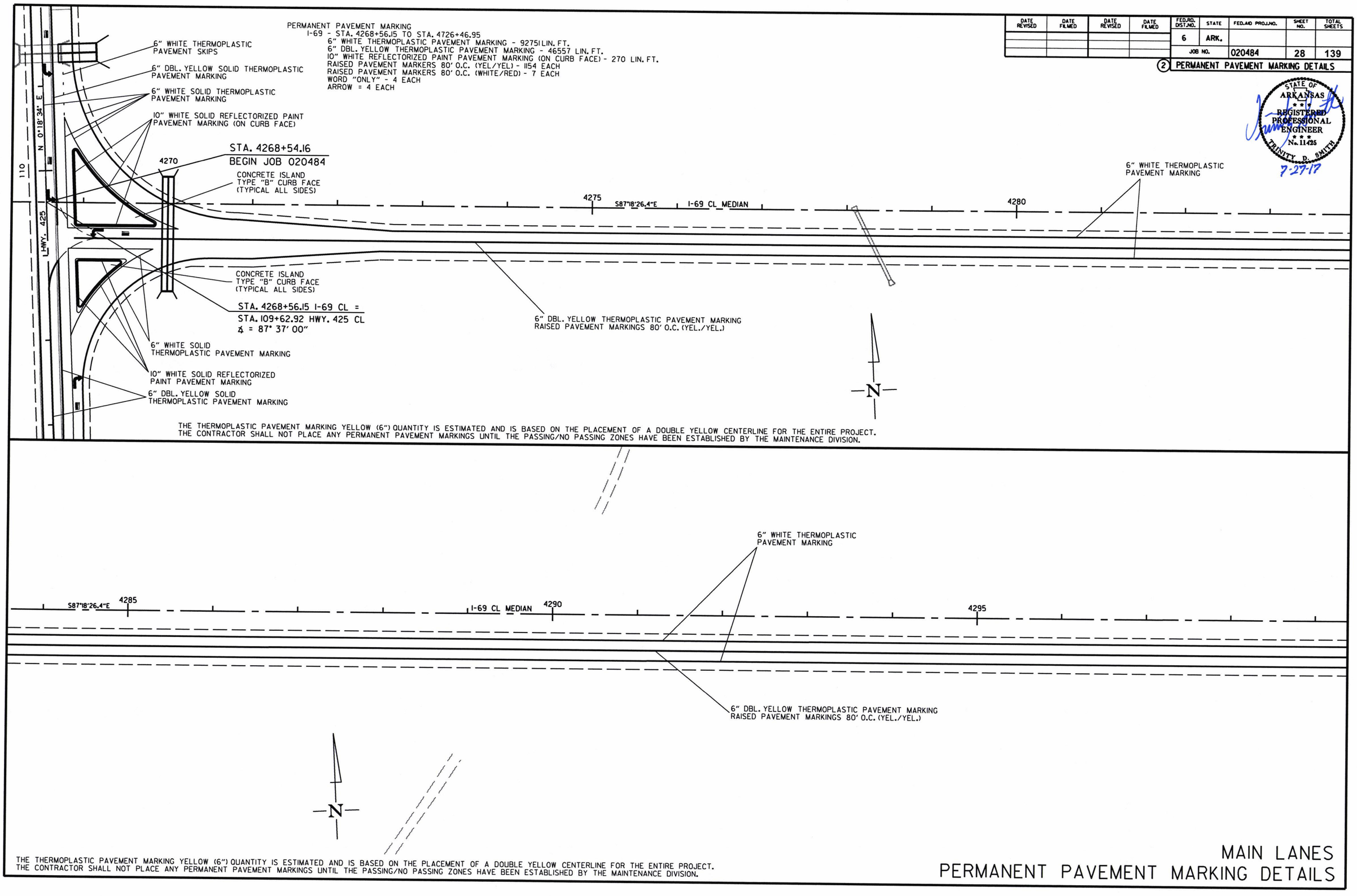
CO. RD. 36
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	28	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

PERMANENT PAVEMENT MARKING
I-69 - STA. 4268+56.15 TO STA. 4726+46.95
6" WHITE THERMOPLASTIC PAVEMENT MARKING - 92751 LIN. FT.
6" DBL. YELLOW THERMOPLASTIC PAVEMENT MARKING - 46557 LIN. FT.
10" WHITE REFLECTORIZED PAINT PAVEMENT MARKING (ON CURB FACE) - 270 LIN. FT.
RAISED PAVEMENT MARKERS 80' O.C. (YEL/YEL) - 1154 EACH
RAISED PAVEMENT MARKERS 80' O.C. (WHITE/RED) - 7 EACH
WORD "ONLY" - 4 EACH
ARROW = 4 EACH



THE THERMOPLASTIC PAVEMENT MARKING YELLOW (6") QUANTITY IS ESTIMATED AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.
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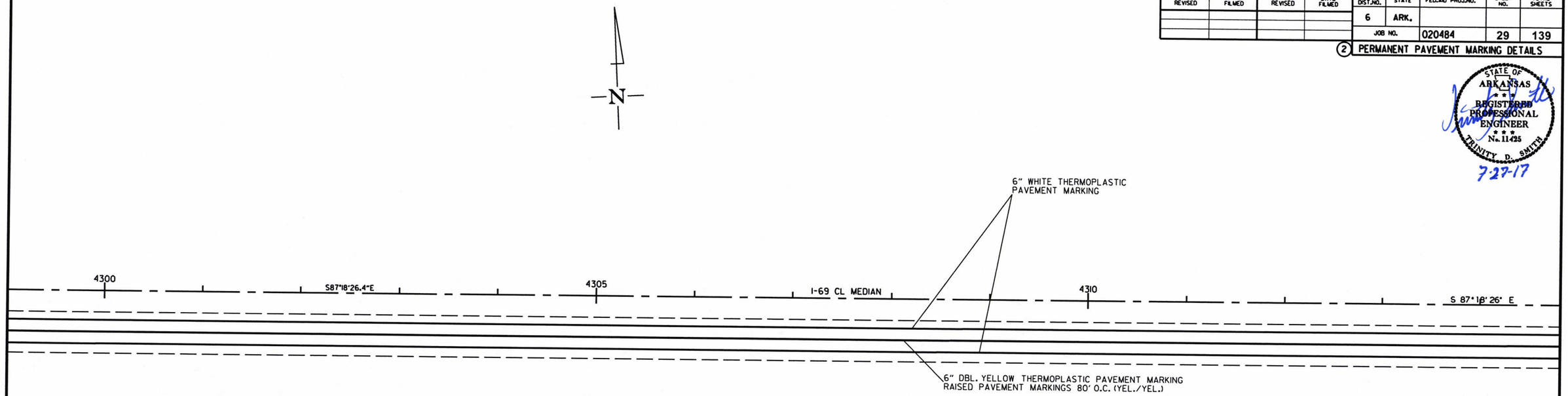
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

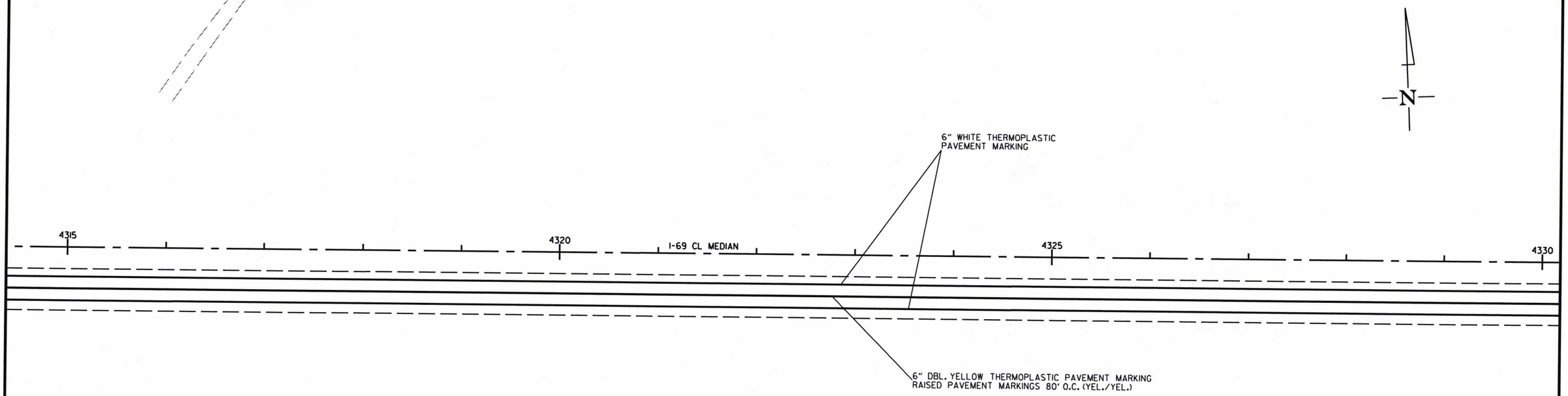
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	29	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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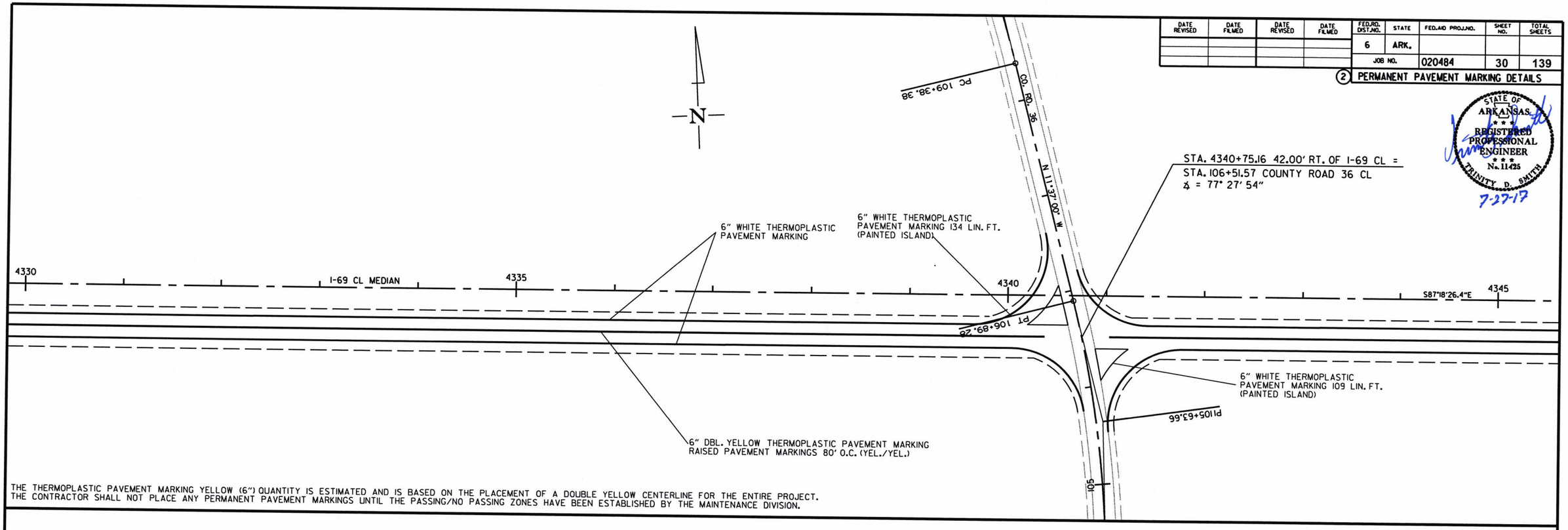
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

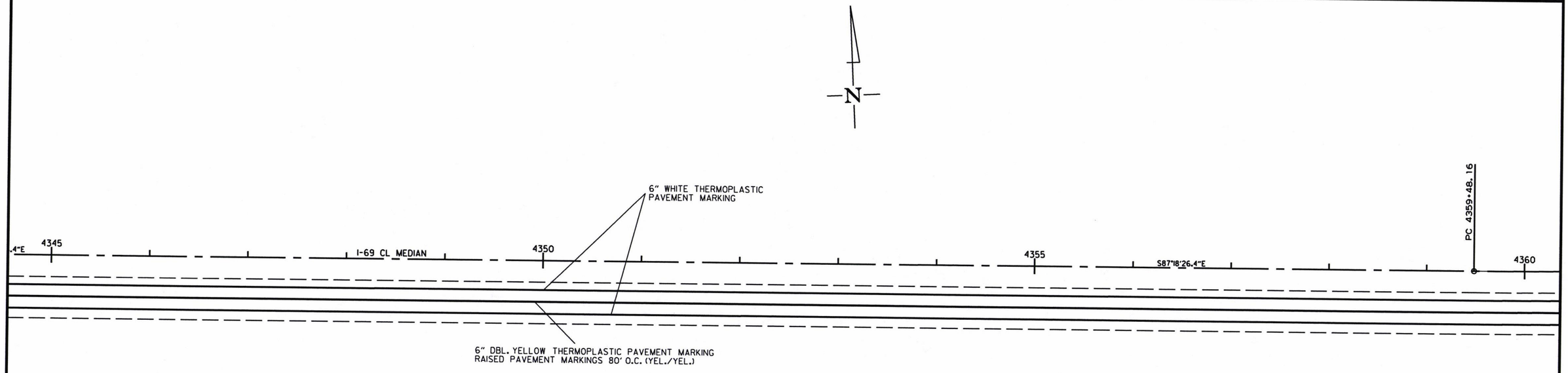
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	30	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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MAIN LANES
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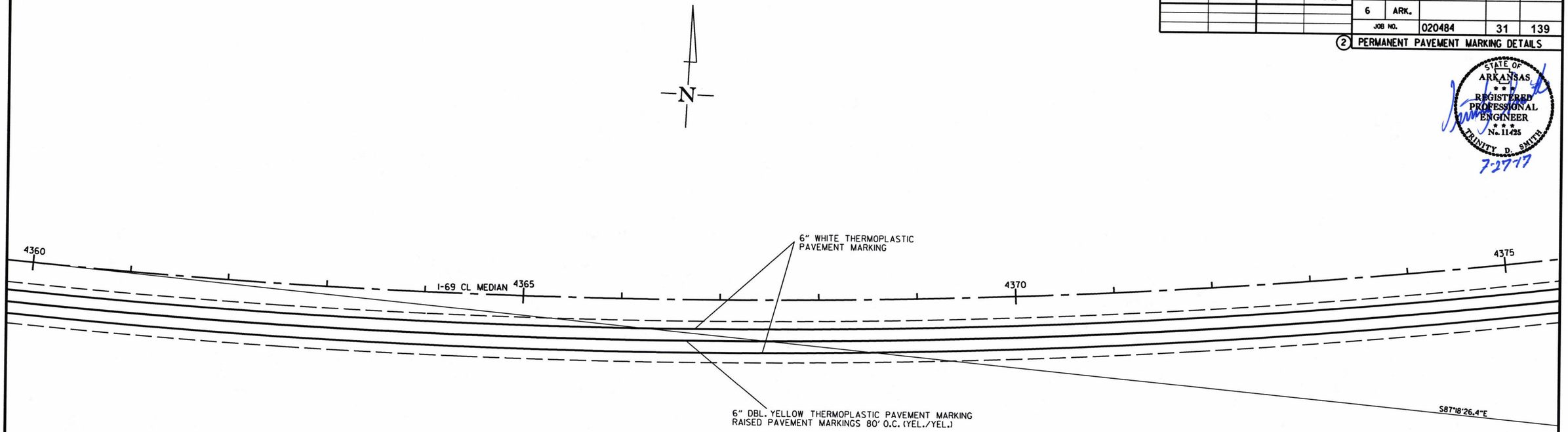
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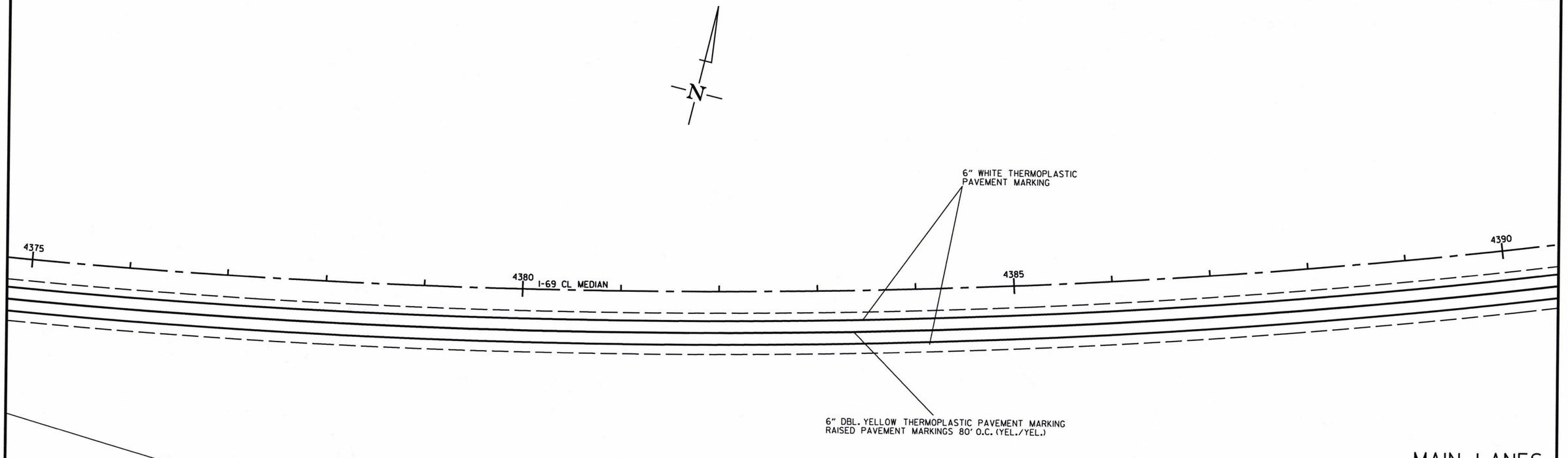
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	31	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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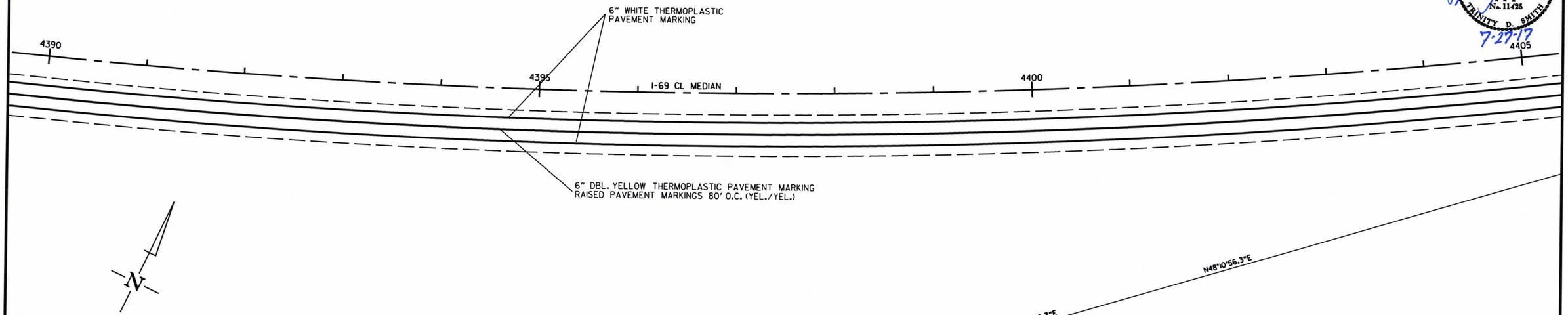
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

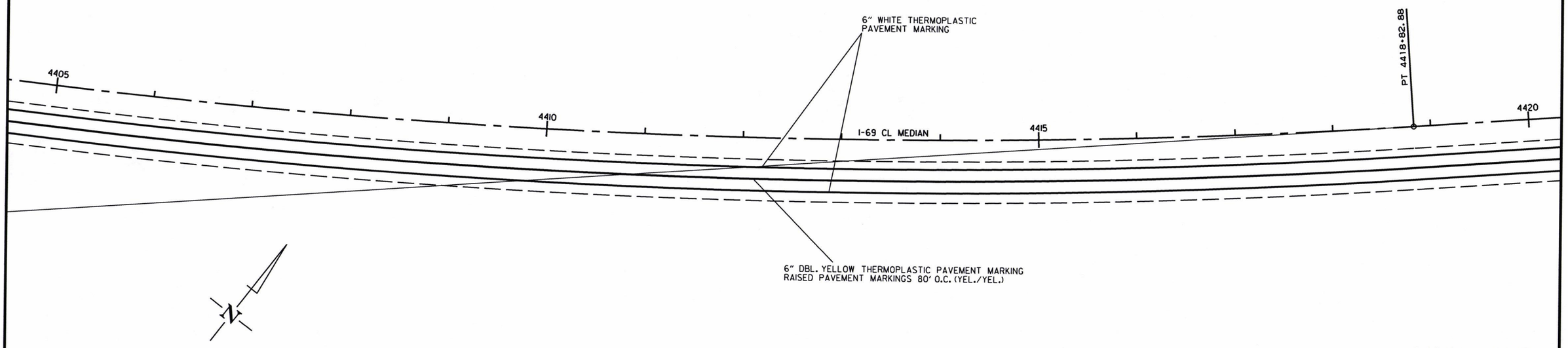
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				6	ARK.			
				JOB NO.		020484	32	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
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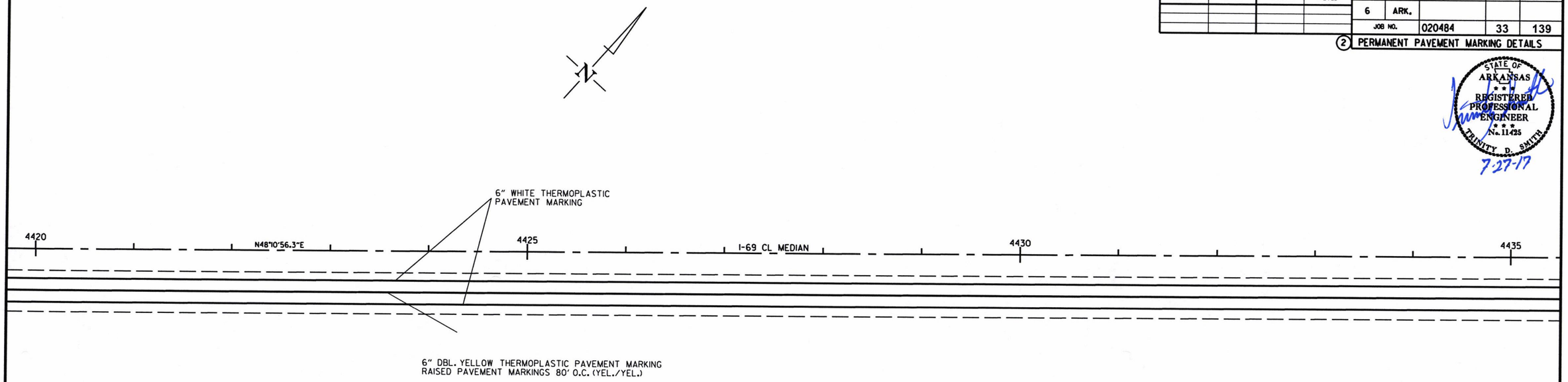
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

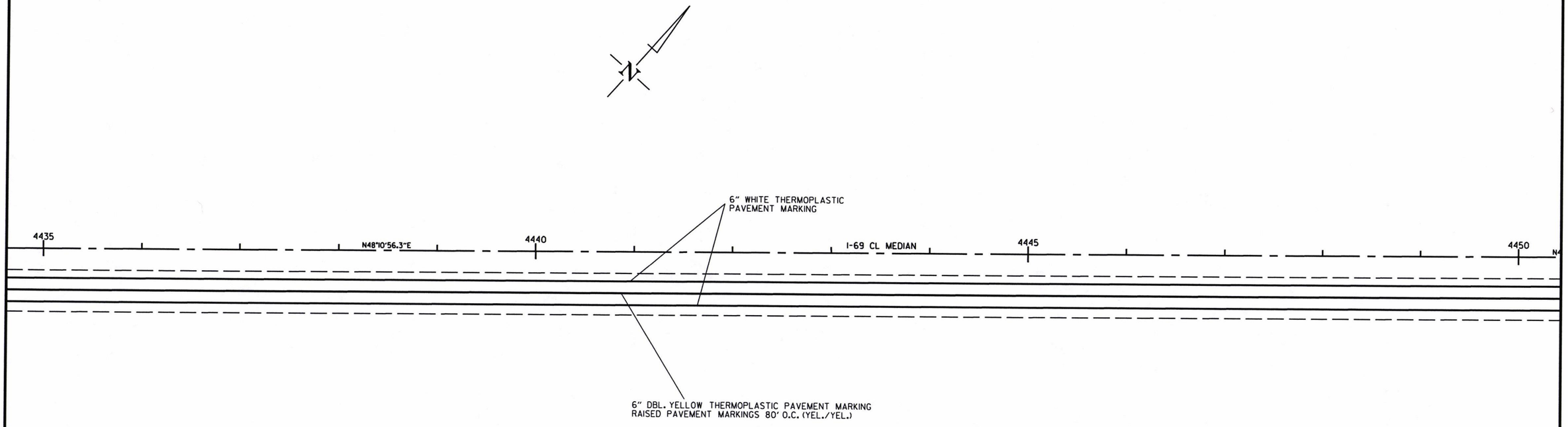
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				6	ARK.			
				JOB NO.		020484	33	139

(2) PERMANENT PAVEMENT MARKING DETAILS

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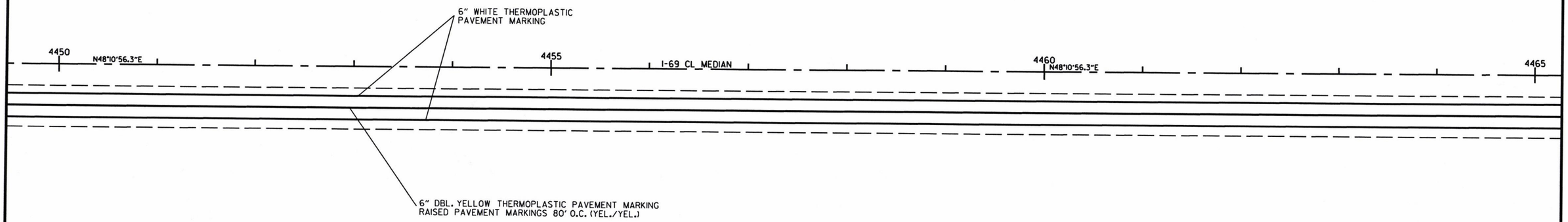
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

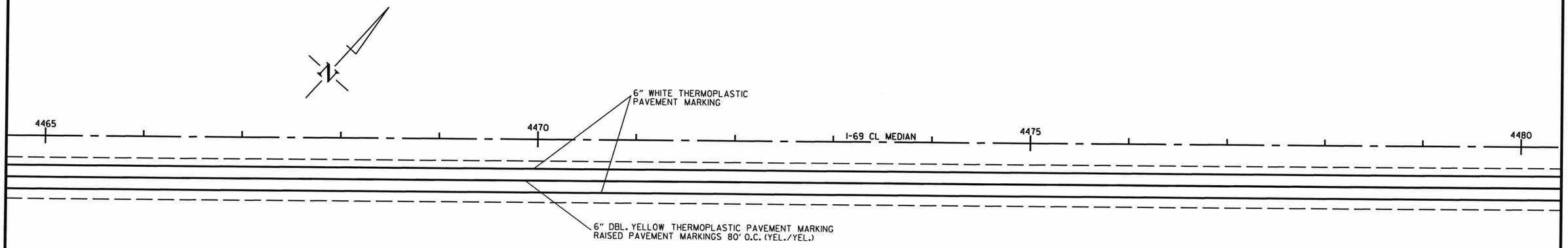
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				6	ARK.			
				JOB NO.		020484	34	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
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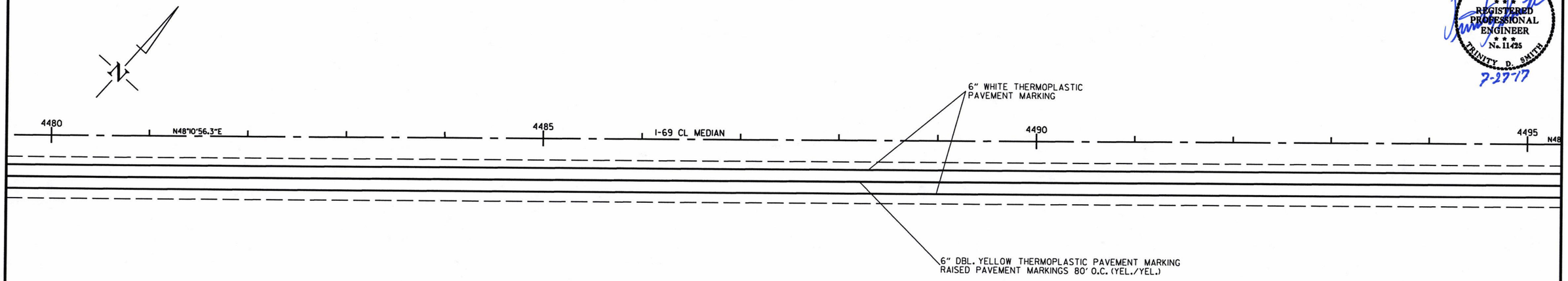
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

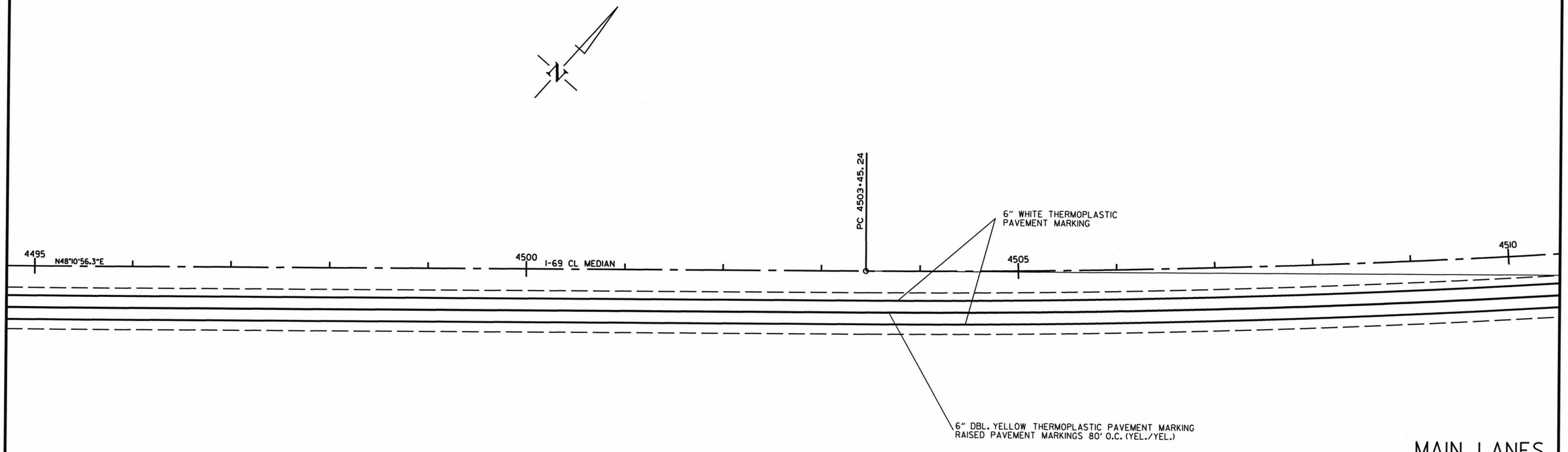
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	35	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
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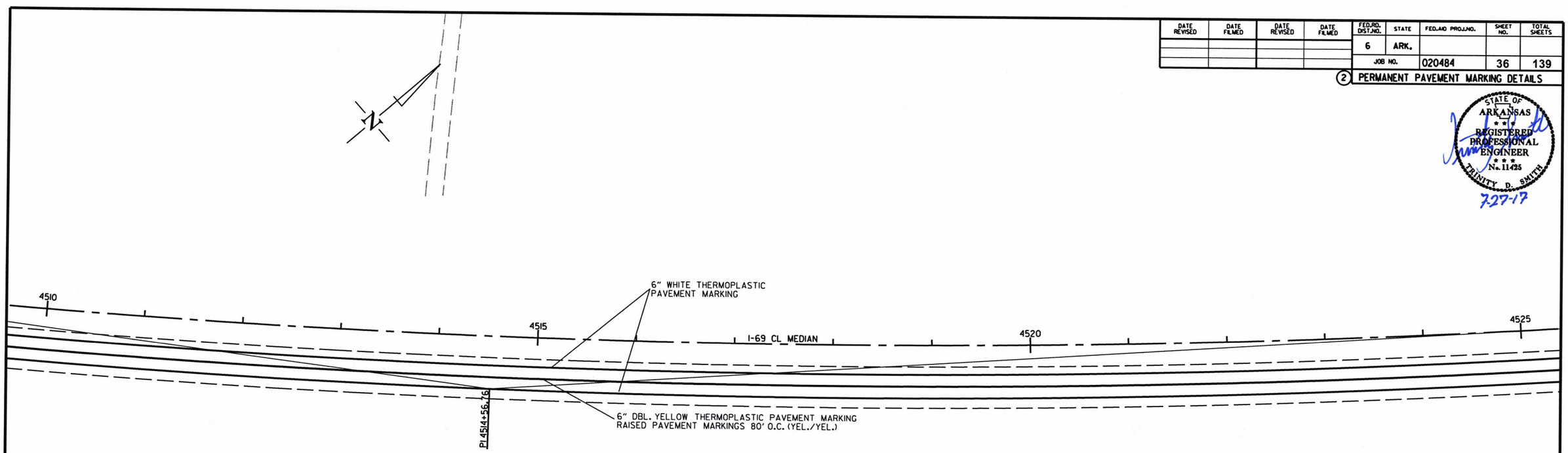
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MAIN LANES
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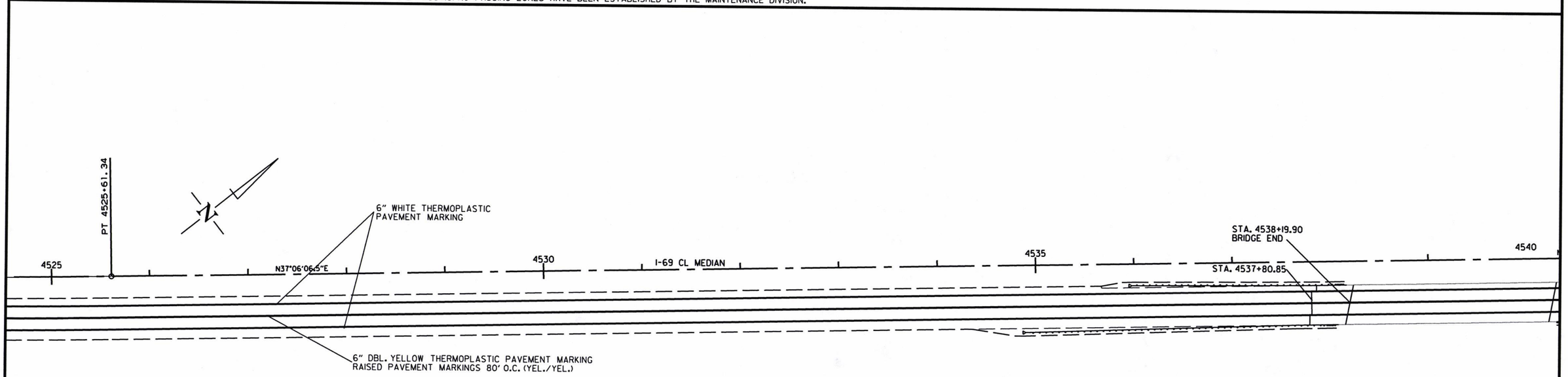
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				6	ARK.			
				JOB NO.		020484	36	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
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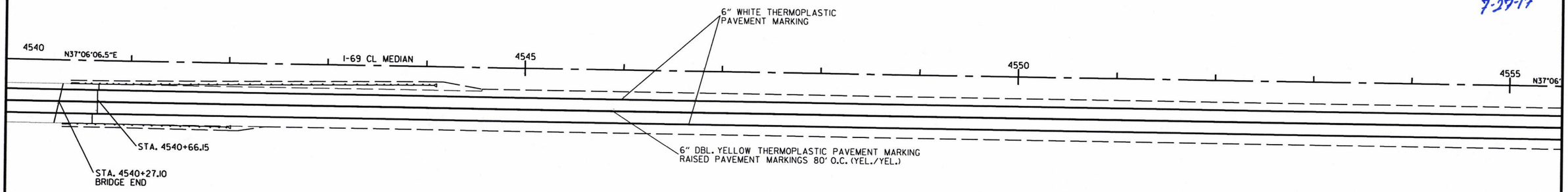
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MAIN LANES
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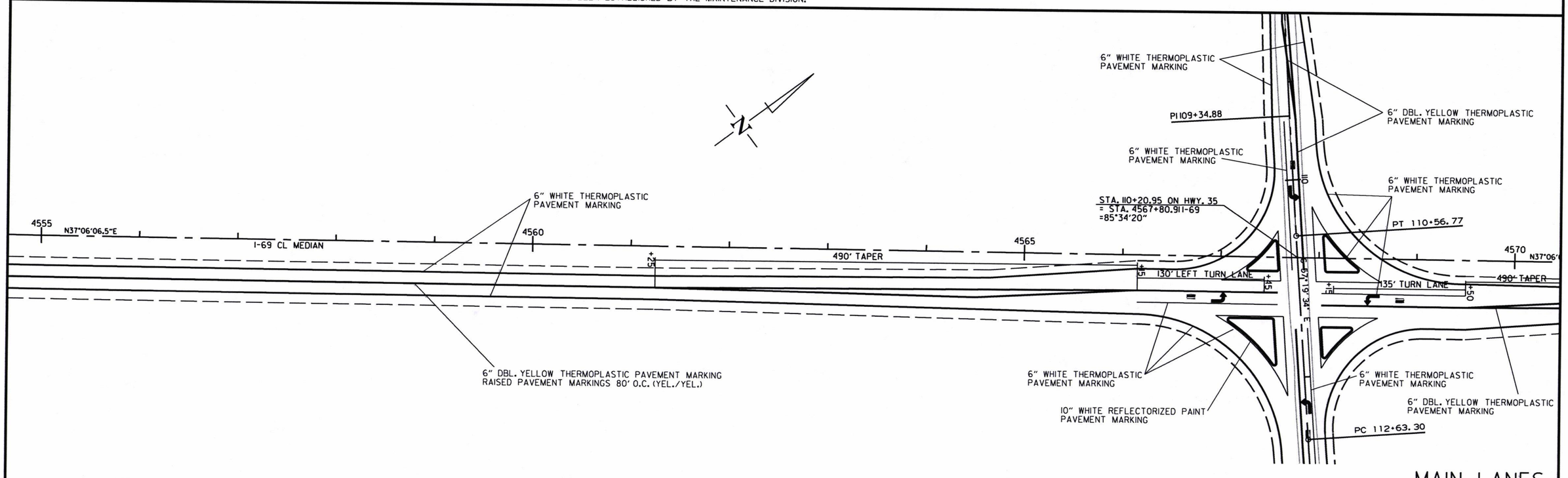
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				6	ARK.			
				JOB NO.		020484	37	139

(2) PERMANENT PAVEMENT MARKING DETAILS

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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

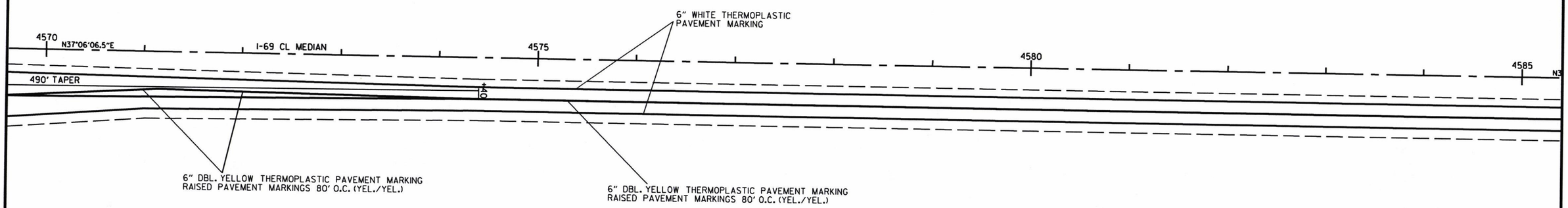
7/26/2017

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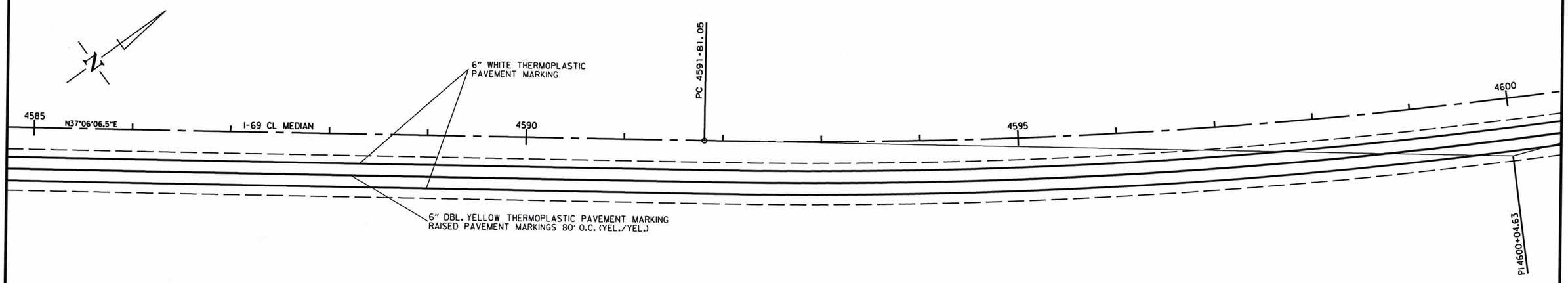
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	38	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



THE THERMOPLASTIC PAVEMENT MARKING YELLOW (6") QUANTITY IS ESTIMATED AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT.
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7/18/2017

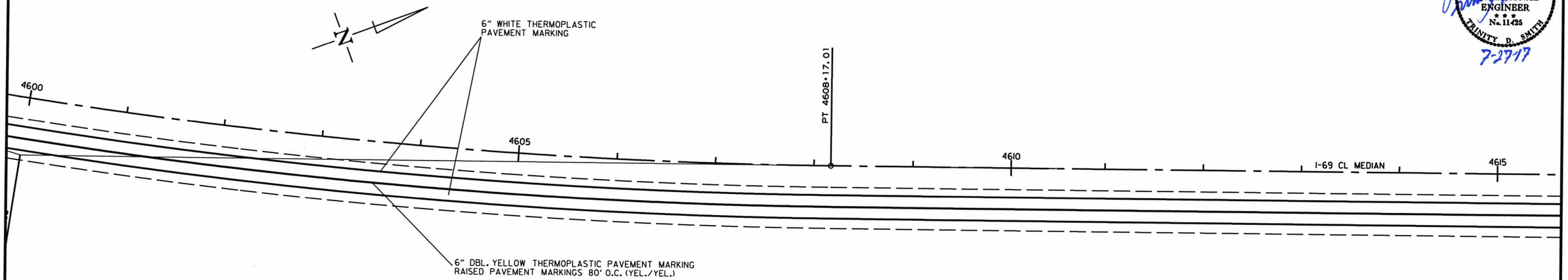
R020484.DGN

MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

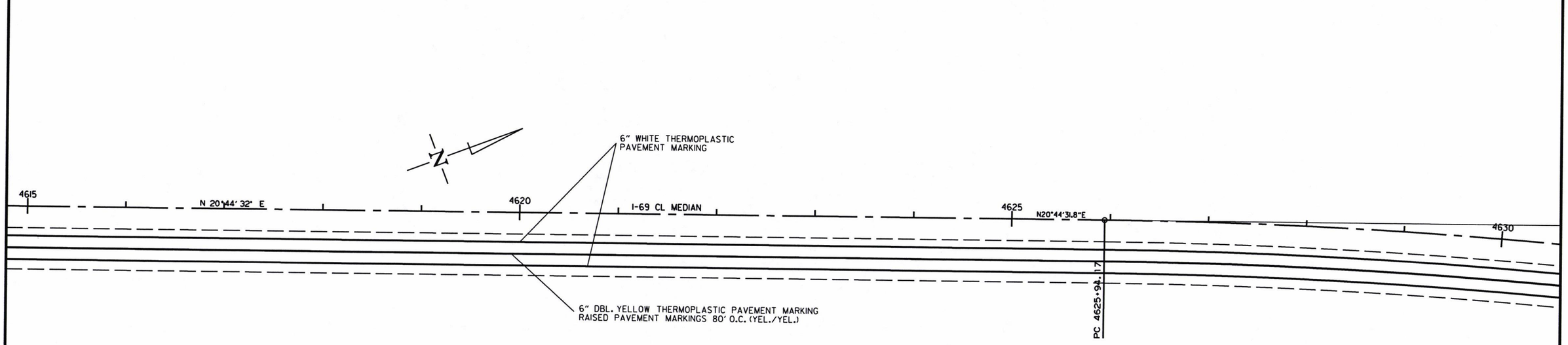
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	39	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

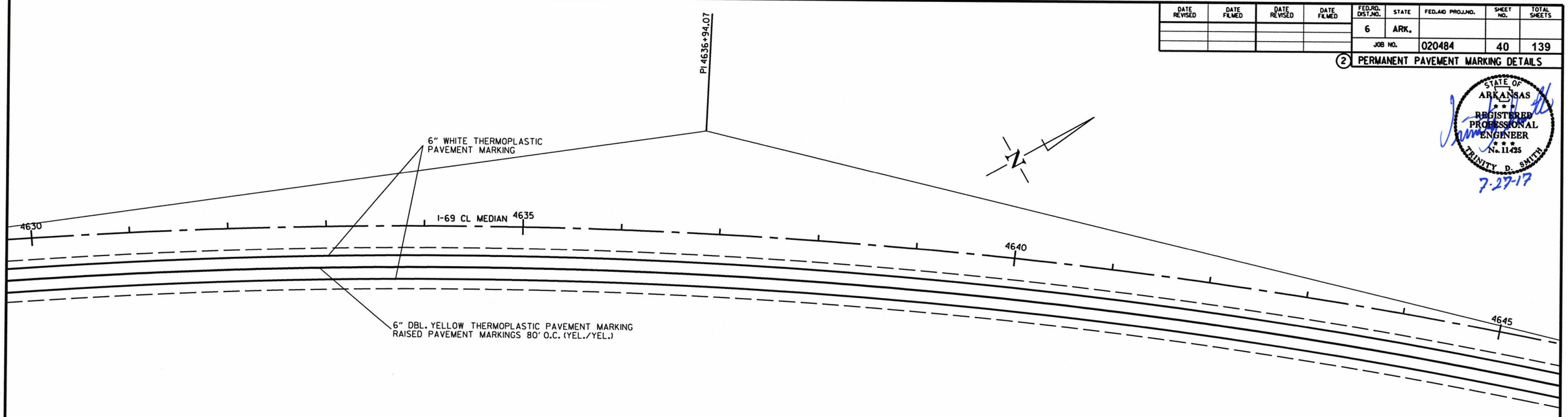
7/18/2017

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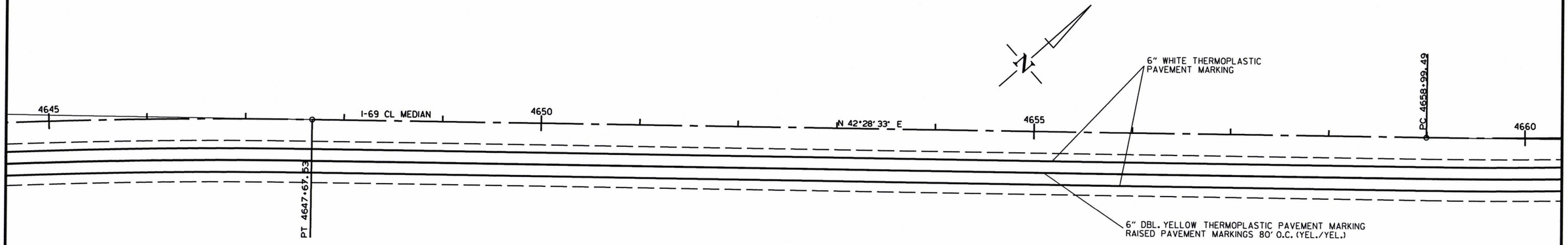
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				6	ARK.			
				JOB NO.		020484	40	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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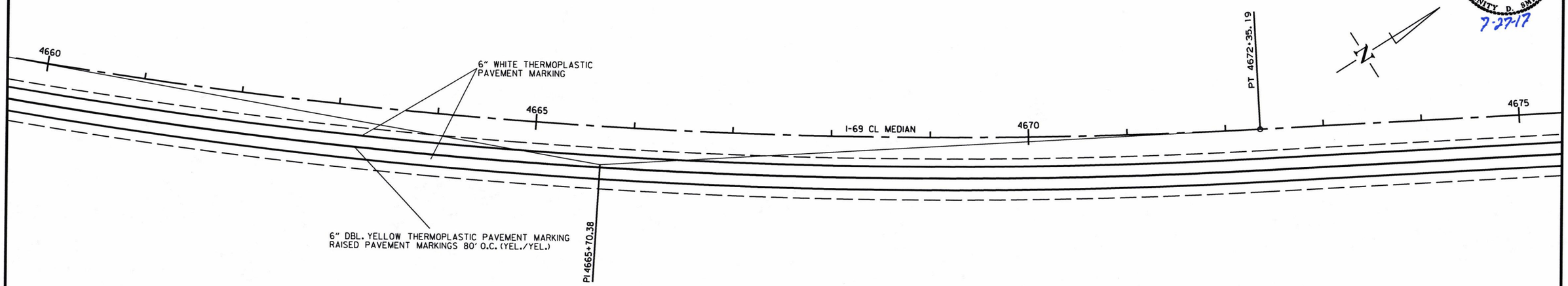
R020484.DGN

MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

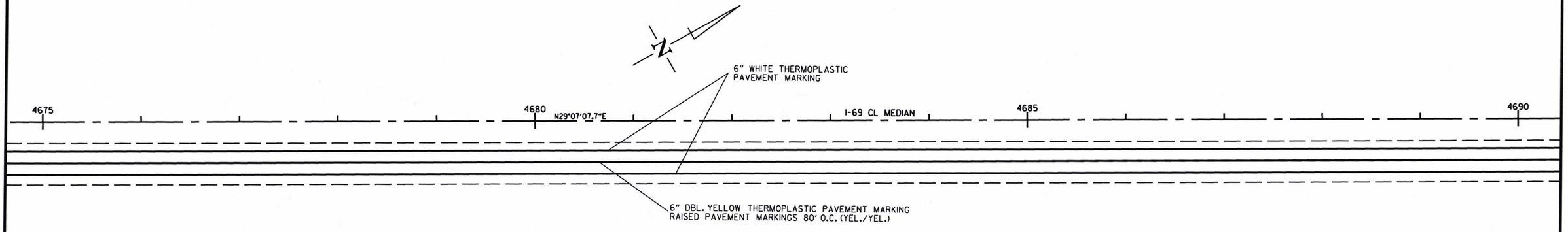
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	41	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



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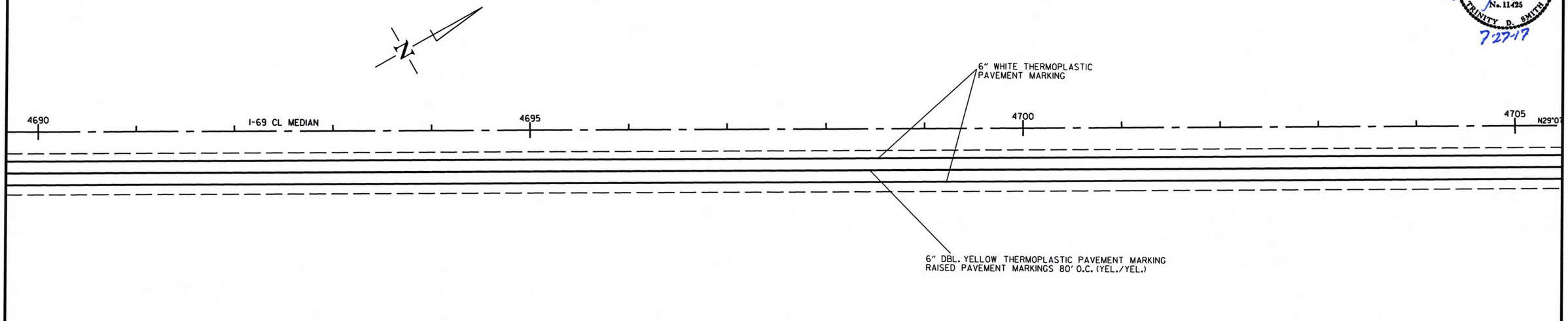
R020484.DGN

MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

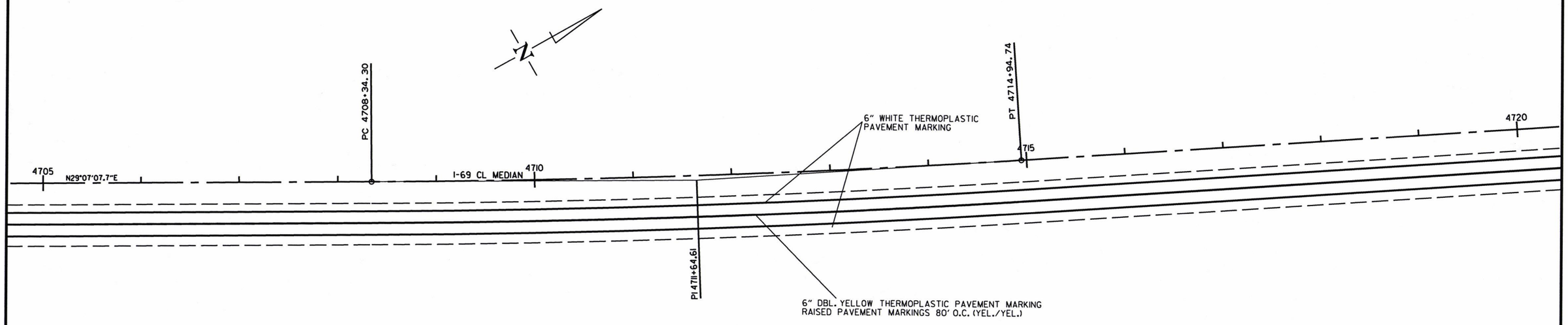
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	42	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



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7/18/2017

R020484.DGN

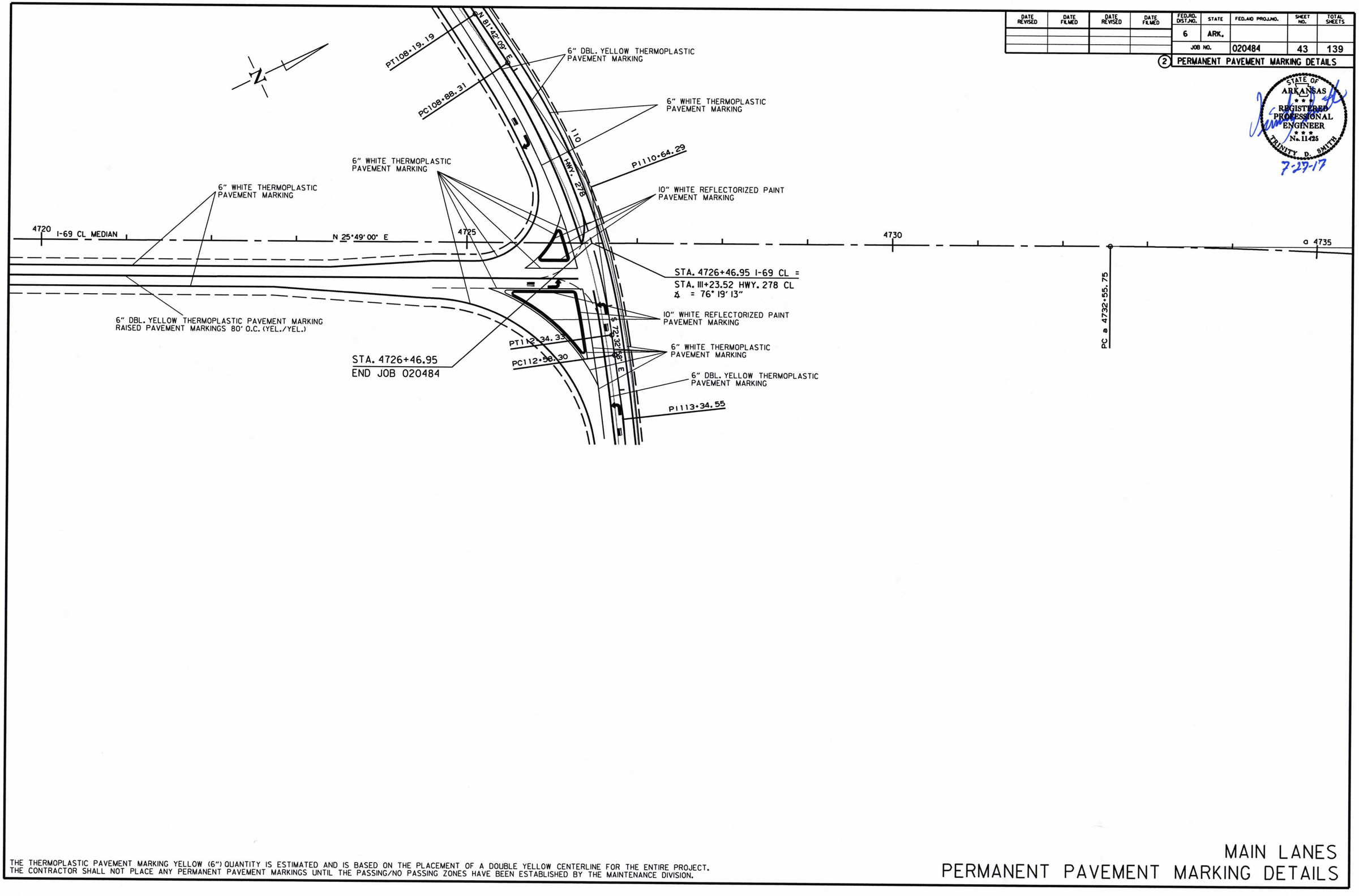
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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

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.		020484	43	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



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MAIN LANES
PERMANENT PAVEMENT MARKING DETAILS

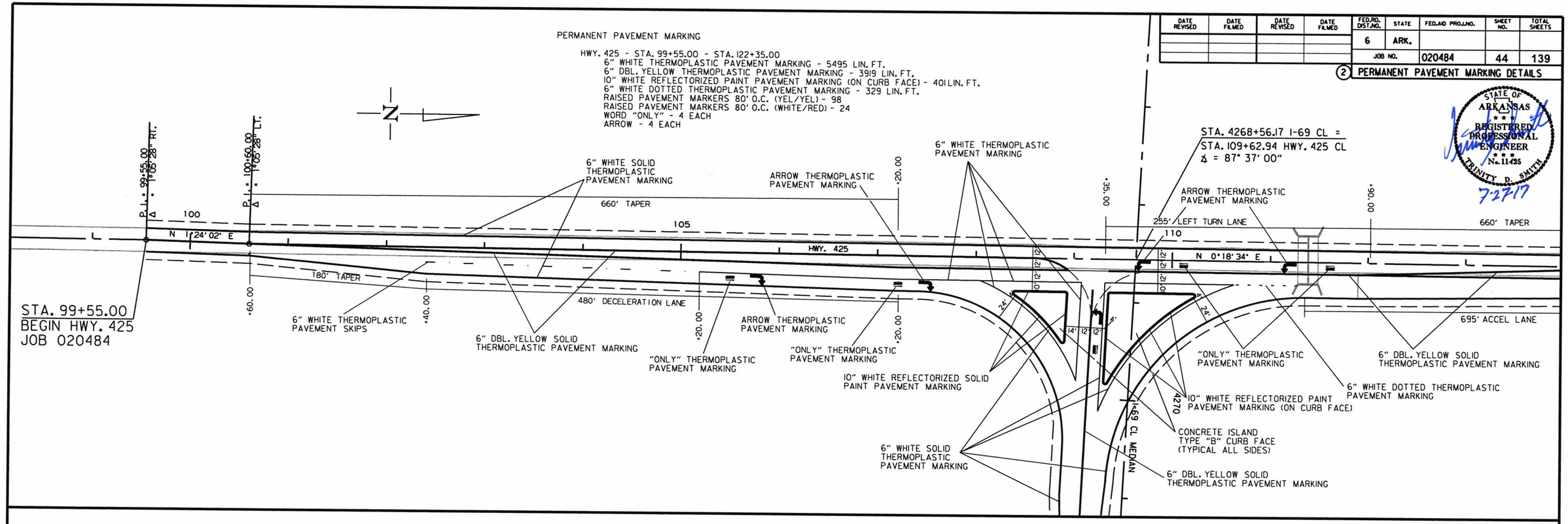
R020484.DGN 7/18/2017

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.		020484	44	139

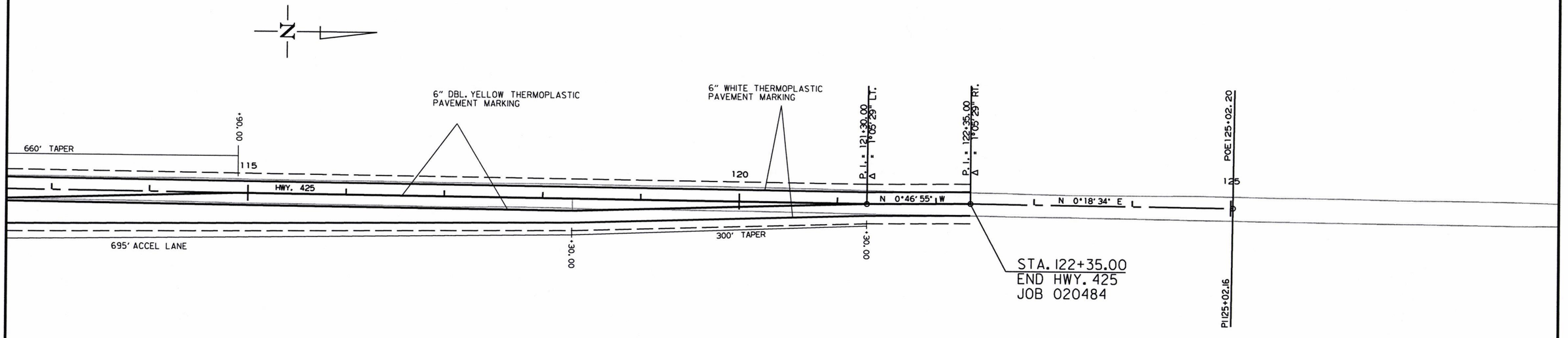
(2) PERMANENT PAVEMENT MARKING DETAILS

PERMANENT PAVEMENT MARKING

HWY. 425 - STA. 99+55.00 - STA. 122+35.00
6" WHITE THERMOPLASTIC PAVEMENT MARKING - 5495 LIN. FT.
6" DBL. YELLOW THERMOPLASTIC PAVEMENT MARKING - 3919 LIN. FT.
10" WHITE REFLECTORIZED PAINT PAVEMENT MARKING (ON CURB FACE) - 401 LIN. FT.
6" WHITE DOTTED THERMOPLASTIC PAVEMENT MARKING - 329 LIN. FT.
RAISED PAVEMENT MARKERS 80' O.C. (YEL/YEL) - 98
RAISED PAVEMENT MARKERS 80' O.C. (WHITE/RED) - 24
WORD "ONLY" - 4 EACH
ARROW - 4 EACH



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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HWY. 425
PERMANENT PAVEMENT MARKING DETAILS

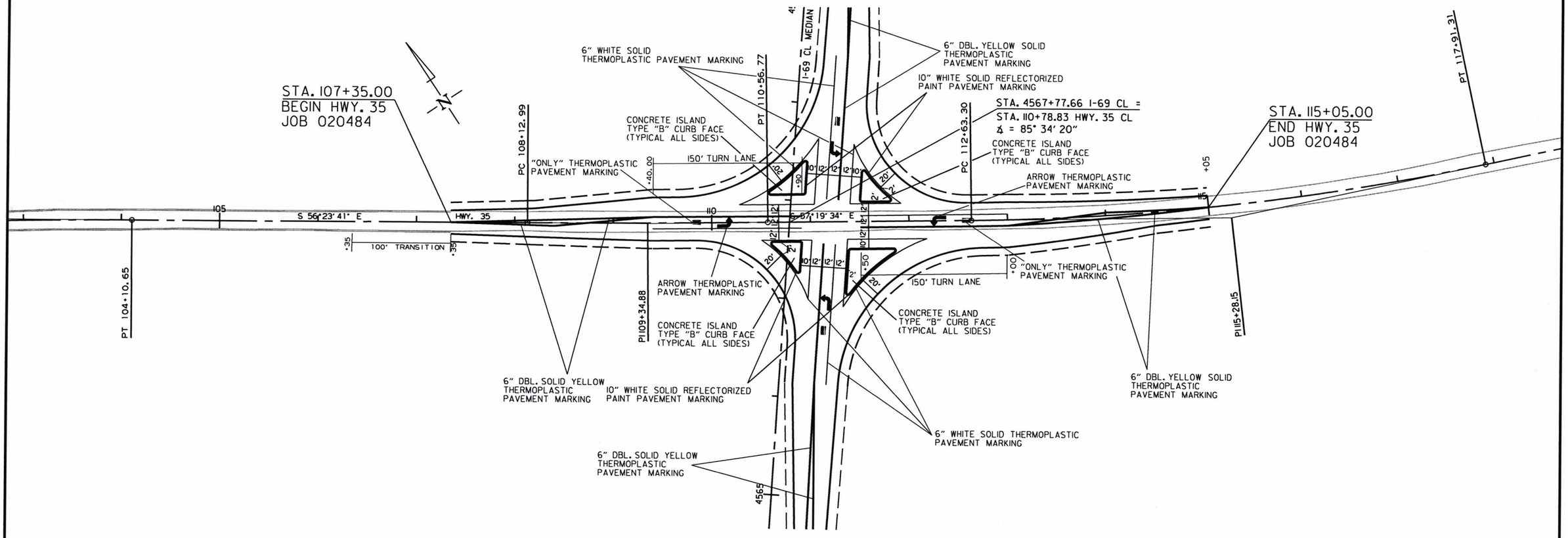
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	45	139

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

PERMANENT PAVEMENT MARKING

HWY. 35 - STA. 107+35.00 - STA. 115+05.00
6" WHITE THERMOPLASTIC PAVEMENT MARKING - 1144 LIN. FT.
6" DBL. YELLOW THERMOPLASTIC MARKING - 1022 LIN. FT.
RAISED PAVEMENT MARKERS 80' O.C. (YEL/YEL) - 26 EACH
RAISED PAVEMENT MARKERS 80' O.C. (WHITE/RED) - 33 EACH
WORD "ONLY" - 2 EACH
ARROW - 2 EACH



HWY. 35
PERMANENT PAVEMENT MARKING DETAILS

7/26/2017

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	46	139

(2) PERMANENT PAVEMENT MARKING DETAILS

PERMANENT PAVEMENT MARKING

HWY. 278 - STA. 100+61.95 - STA. 125+64.20
6" WHITE THERMOPLASTIC PAVEMENT MARKING - 5846 LIN. FT.
6" DBL. YELLOW THERMOPLASTIC PAVEMENT MARKING - 3706 LIN. FT.
10" WHITE REFLECTORIZED PAINT PAVEMENT MARKING - 541 LIN. FT.
6" WHITE THERMOPLASTIC SKIPS - 491 LIN. FT.
RAISED PAVEMENT MARKERS 80' O.C. (YEL/YEL) - 93 EACH
RAISED PAVEMENT MARKERS 80' O.C. (WHITE/RED) - 5 EACH
WORD "ONLY" - 4 EACH
ARROW - 4 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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STA. 100+61.95
BEGIN HWY. 278
JOB 020484

P.I. 100+01.32
P.I. 102+67.67
P.I. 107+07.48
P.I. 110+64.29
P.I. 113+34.55
P.C. 100+61.95
P.T. 104+68.69
P.C. 105+95.63
P.T. 108+19.19
P.C. 108+88.31
P.I. 119+17.88
P.T. 119+92.20
P.C. 123+21.05
P.T. 125+64.20
P.O.E. 126+08.68
P.I. 112+34.35
P.C. 112+56.30
P.I. 114+10.75
P.I. 119+55.04
P.I. 124+42.71

STA. 4726+58.20 42.00' RT. OF I-69 CL =
STA. 111+67.0 HWY. 278 CL
Δ = 76° 19' 13"

N 55°23'34" E
N 76°34'44" E
N 81°42'09" E
S 72°32'58" E
S 69°03'19" E
S 71°11'04" E
S 76°20'40" E

HWY. 278

100 105 110 115 120 125 126

180' TAPER
480' DECELERATION LANE
300' TAPER
670' ACCELERATION LANE
200' LEFT TURN LANE
I-69 CL MEDIAN
4725
78.26
57.70
37.70
17.70
34.70

"ONLY" THERMOPLASTIC PAVEMENT MARKING
6" DBL. SOLID YELLOW THERMOPLASTIC PAVEMENT MARKING
ARROW THERMOPLASTIC PAVEMENT MARKING
6" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING
6" WHITE THERMOPLASTIC PAVEMENT SKIPS
10" WHITE SOLID REFLECTORIZED PAINT PAVEMENT MARKING
6" DBL. YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING
10" WHITE THERMOPLASTIC PAVEMENT MARKING

STA. 125+64.20
END HWY. 278
JOB 020484

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HWY. 278
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
8-24-17				6	ARK.			
				JOB NO.		020484	47	139

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	ENTIRE PROJECT	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"	7	7	7	112.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	7	7	7	112.0				
W20-1	ROAD WORK 500 FT.	48"x48"	7	7	7	112.0				
G20-2	END ROAD WORK	48"x24"	7	7	7	56.0				
R4-1	DO NOT PASS	24"x30"	8	8	8	40.0				
R11-2	ROAD CLOSED	48"x30"	12	12	12	120.0				
W21-5AR	RIGHT SHOULDER CLOSED	36"x36"	12	12	12	108.0				
SPECIAL	CONSTRUCTION PROJECT INFORMATION	96"x48"	6	6	6	192.0				
	VERTICAL PANELS		145	145			145			
	TRAFFIC DRUMS		145	145				145		
	TYPE III BARRICADE-RT. (16')		14	14					224	
	TYPE III BARRICADE-LT. (16')		12	12						192
TOTALS:						**852.0**	**145**	**145**	**224**	**192**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION. THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE CROSSING ROADS. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH & BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND 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 2	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS		RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS				REFLECTORIZED PAINT PAVEMENT MARKINGS
						TYPE II		6"		WORDS	ARROWS	10"
				WORDS	ARROWS	(WHITE/RED)	(YEL/YEL)	WHITE	YELLOW			WHITE
	LIN. FT. - EACH		LIN. FT.	EACH		EACH		LIN. FT.		EACH		LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	21287		21287									
CONSTRUCTION PAVEMENT MARKINGS (WORDS)	14			14								
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	14				14							
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		69				69						
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)		1370					1370					
THERMOPLASTIC PAVEMENT MARKING WHITE (6")		106175						106175				
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")		110780							110780			
THERMOPLASTIC PAVEMENT MARKING (WORDS)		14								14		
THERMOPLASTIC PAVEMENT MARKING (ARROWS)		14									14	
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")		1351										1351
TOTALS:			**21287**	**14**	**14**	**69**	**1370**	**106175**	**110780**	**14**	**14**	**1351**

NOTES: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION. THE THERMOPLASTIC PAVEMENT MARKING YELLOW (6") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING/NO PASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.

8/25/2017

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8-24-17				6	ARK.			
				JOB NO.		020484	48	139

(2) QUANTITIES

SUBGRADE PREPARATION

STATION	STATION	LOCATION	STATION
4270+85	4566+15	MAIN LANES	295
4569+50	4724+60	MAIN LANES	155
TOTAL:			450

NOTES:
1. THE REMOVAL AND DISPOSAL OF THE EXISTING GRASS AND/OR OTHER ORGANIC MATERIAL FROM THE SUBGRADE AND SUBSEQUENT REPLACEMENT OF SUBGRADE MATERIAL WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID " SUBGRADE PREPARATION".

2. PAYMENT FOR SUBGRADE PREPARATION FOR DECEL LANES, TAPERS, MEDIAN TURNAROUNDS, MEDIAN CROSSINGS AND TURNOUTS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "SUBGRADE PREPARATION".

REFER TO SPECIAL PROVISION "SUBGRADE PREPARATION".

CONCRETE ISLAND

STATION	STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
				SQ.YD.
108+32	108+95	HWY. 425 - RIGHT	B	158
109+30	110+32	HWY. 425 - RIGHT	B	405
4567+08	4567+55	I-69 - RIGHT OF RIGHT MAIN LANES	B	123
4567+27	4567+59	I-69 - LEFT OF RIGHT MAIN LANES	B	60
4568+03	4568+35	I-69 - RIGHT OF RIGHT MAIN LANES	B	60
4568+07	4568+41	I-69 - LEFT OF RIGHT MAIN LANES	B	75
129+00	129+37	HWY. 278 - RIGHT	B	66
129+56	130+62	HWY. 278 - RIGHT	B	271
TOTAL:				1218

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			2000	9
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			2000	9

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	20
DIRECTED BY THE ENGINEER	
TOTAL:	20

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

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	"B"	CONC. DITCH PAVING (TYPE A)	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	FEET	SQ. YD.	SQ. YD.	SQ. YD.	M. GAL.
4427+50	4428+00	MAIN LANES LT.	50	6			33	33	0.4
4428+00	4428+50	MAIN LANES RT.	50	6			33	33	0.4
4621+00	4621+50	MAIN LANES LT.	50	6			33	33	0.4
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	2000	6	2	1333	889	889	11.2
TOTALS:						1333	988	988	12.4

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

REMOVAL AND DISPOSAL OF SIGNS & TRAFFIC CONTROL DEVICES LEFT IN PLACE

SIGN NUMBER	DESCRIPTION	LEFT IN PLACE	TOTAL SIGNS	TRAFFIC DRUMS	BARRICADES TYPE III	
					RIGHT	LEFT
			EACH	EACH	EACH	
R11-2	ROAD CLOSED	10	10			
	TRAFFIC DRUMS	10		10		
	TYPE III BARRICADE-RT. (8')	10			10	
	TYPE III BARRICADE-LT. (8')	10				10
TOTALS:			10	10	10	10

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
4268+57.91	4270+84.80	MAIN LANES	405	1175
4428+00.00	4428+00.00	MAIN LANES	10	10
4457+00.00	4457+00.00	MAIN LANES	10	10
4494+52.00	4494+52.00	MAIN LANES	10	10
4566+15.00	4569+50.00	MAIN LANES	397	452
4621+62.00	4621+62.00	MAIN LANES	10	10
4692+72.00	4692+72.00	MAIN LANES	10	10
4724+60.00	4726+58.20	MAIN LANES	1804	
4270+85.00	4724+60.00	MAIN LANES - RESHAPING SLOPES	20	
ENTIRE	PROJECT	HWY. 425	6158	1873
ENTIRE	PROJECT	HWY. 35	2321	1017
ENTIRE	PROJECT	HWY. 278	6226	347
TOTALS:			17381	4914

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
99+50	108+80	HWY. 425	10	10
110+00	121+75	HWY. 425	12	12
107+35	110+50	HWY. 35	4	4
112+00	115+00	HWY. 35	3	3
107+50	108+50	HWY. 278	1	1
114+50	115+50	HWY. 278	1	1
TOTALS:			31	31

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
4270+00	MAIN LANES	1
111+38	HWY. 425	1
TOTAL:		2

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

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
8-25-17

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
4495+50	4502+50	LT. & RT. OF MAIN LANES	2000
4691+50	4692+50	LT. & RT. OF MAIN LANES	200
TOTALS:			2200

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
4270+56	4339+99	RIGHT OF MAIN LANES	5554
4341+83	4537+79	RIGHT OF MAIN LANES	15677
4540+61	4566+10	RIGHT OF MAIN LANES	2039
4569+14	4610+45	RIGHT OF MAIN LANES	3305
4610+50	4724+55	RIGHT OF MAIN LANES	9124
4270+90	4339+60	LEFT OF MAIN LANES	5496
4341+47	4537+86	LEFT OF MAIN LANES	15711
4540+67	4566+48	LEFT OF MAIN LANES	2065
4569+55	4610+45	LEFT OF MAIN LANES	3272
4610+50	4725+04	LEFT OF MAIN LANES	9163
99+55	107+40	RIGHT OF HWY. 425	628
111+35	122+35	RIGHT OF HWY. 425	880
99+55	122+35	LEFT OF HWY. 425	1824
106+35	109+84	RIGHT OF HWY. 35	279
112+75	116+05	RIGHT OF HWY. 35	264
106+35	109+65	LEFT OF HWY. 35	264
112+63	116+05	LEFT OF HWY. 35	274
99+62	110+18	RIGHT OF HWY. 278	845
113+65	126+64		1039
99+62	126+64	LEFT OF HWY. 278	2162
TOTAL:			79865

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CONCRETE DRIVEWAYS	CONCRETE DITCH PAVING
			SQ. YD.	SQ. YD.
107+00	107+00	LT. OF HWY. 35	20	
4427+50	4428+00	MAIN LANES LT.		33
4428+00	4428+50	MAIN LANES RT.		33
4621+00	4621+50	MAIN LANES LT.		33
TOTALS:			20	99

8/25/2017
R020484.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-17				6	ARK.			
				JOB NO.		020484	49	139

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE C)	APPROACH SLABS	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)	DROP INLETS TYPE N3	CONCRETE SPILLWAY (TYPE A)	12" ZINC COATED (GALVANIZED) CORR. STEEL PIPE CULVERTS (16 GUAGE)
			CU.YD.	CU.YD.	POUND	TON	EACH		LIN. FT.
4537+78.72	4538+16.29	RIGHT OF MAIN LANES	18.10		995		1	1	75
4537+80.85	4538+19.90	MAIN LANES		49.15	5775	28.9			
4537+85.95	4538+23.09	LEFT OF MAIN LANES	11.55		630				
4540+23.49	4540+61.05	RIGHT OF MAIN LANES	18.10		995		1	1	95
4540+27.10	4540+66.15	MAIN LANES		49.15	5775	28.9			
4540+30.29	4540+67.43	LEFT OF MAIN LANES	11.55		630				
TOTALS:			59.30	98.30	14800	57.8	2	2	170

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

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.

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE B)
			LIN. FT.
4492+50	4502+50	LT. & RT. OF MAIN LANES	2000
4691+50	4692+50	LT. & RT. OF MAIN LANES	200
TOTALS:			2200

STRUCTURES

STATION	LOCATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III)							FLARED END SECTIONS FOR R.C. PIPE CULVERTS							SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
			24"	36"	42"	54"	60"	36"X23"	59"X36"	24"	36"	42"	54"	60"	36"X23"	59"X36"									
			LIN. FT.							EACH							LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
4270+00	MAIN LANES	CONSTRUCT DBL 6' x 3' x 136' R.C. BOX CULV'T.															6	3	136	148.05	20610	81	33	0.42	RCB-1, RCB-2, SPECIAL DETAILS
4428+00	MAIN LANES	EXTEND DBL. 42" x 16' R.C.P.			32							2													FES-1, FES-2, PCC-1
4457+00	MAIN LANES	EXTEND 59" x 36" x 16" ARCH R.C.P.							16							1									FES-1, FES-2, PCC-1
4494+52	MAIN LANES	EXTEND 36" x 16' R.C.P.		16							1														FES-1, FES-2, PCC-1
4621+62	MAIN LANES	EXTEND DBL. 54" x 16' R.C.P.				32							2												FES-1, FES-2, PCC-1
4692+72	MAIN LANES	EXTEND 60" x 16' R.C.P.					16							1											FES-1, FES-2, PCC-1
110+00	HWY. 35	CONSTRUCT 24" x 100' R.C.P.	100							2															FES-1, FES-2, PCC-1
112+75	HWY. 35	CONSTRUCT 36" x 23" x 96' ARCH R.C.P.						96							2										FES-1, FES-2, PCC-1
SUBTOTALS:			100	16	32	32	16	96	16	2	1	2	2	1	2	1				148.05	20610	81	33	0.42	
STRUCTURES OVER 20' - 0" SPAN																									
111+38	HWY. 425	RETAIN & EXTEND DBL. 10' x 6' x50' R.C. BOX CULV'T 43' RT															10	6	43	90.34	13497	53	56	0.71	R-200X-0, W-X003-1, RCB-1, RCB-2, RCB-3
SUBTOTALS:																				90.34	13497	53	56	0.71	
TOTALS:			100	16	32	32	16	96	16	2	1	2	2	1	2	1				238.39	34107	134	89	1.13	

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.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL							*SEDIMENT REMOVAL & DISPOSAL
			SEEDING	LIME	SPECIAL LIME**	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	WATTLE DITCH CHECKS (20") (E-1)	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	
			ACRE	TON	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	LIN. FT.	BAG	CU.YD.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING													3310	
ENTIRE	PROJECT	HWY. 425	1.97	3.94		1.97	200.9	1.97	3.70	3.70	75.5		44	27		11
ENTIRE	PROJECT	HWY. 35	1.17	2.34		1.17	119.3	1.17	2.45	2.45	50.0		88	12		8
ENTIRE	PROJECT	HWY. 278	2.43	4.86		2.43	247.9	2.43	4.15	4.15	84.7		88	24		12
4270+85	4724+60	AS DIRECTED BY ENGINEER	15.00	20.00	10.00	15.00	1530.0	15.00								
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			1.40	2.80		1.40	142.8	1.40	12.60	12.60	257.0	104	242	33	2000	108
TOTALS:			21.97	33.94	10.00	21.97	2240.9	21.97	22.90	22.90	467.2	104	462	96	5310	139

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

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

*QUANTITIES ESTIMATED.
** SEE SPECIAL PROVISION "SPECIAL LIME REQUIREMENTS"

8/25/2017

R020484.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	50	139

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	2000.0	1777.8
TOTAL:				1777.8

NOTE: AVERAGE WIDTH = 8'-0"

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
4276+00	33	34	4.70	91	47	54.60	25' RIGHT	0-5	46	27	A-7-6 (23)	BROWN
4284+00	33	34	4.30	91	47	45.30	25' RIGHT	0-5	96	72	A-7-6 (82)	BROWN
4292+00	33	34	3.90	91	47	35.80	25' RIGHT	0-5	56	37	A-7-6 (27)	BROWN
4300+00	33	34	3.50	91	47	26.40	25' RIGHT	0-5	47	31	A-7-6 (23)	BROWN
4308+00	33	34	3.10	91	47	16.90	25' RIGHT	0-5	55	37	A-7-6 (32)	BR/GR
4316+00	33	34	2.70	91	47	7.30	25' RIGHT	0-5	51	34	A-7-6 (32)	BROWN
4324+00	33	34	2.30	91	46	58.00	25' RIGHT	0-5	39	16	A-7-6 (17)	BR/GR
4332+00	33	34	1.90	91	46	48.60	25' RIGHT	0-5	53	30	A-7-6 (25)	BR/GR
4340+00	33	34	1.70	91	46	39.60	25' RIGHT	0-5	54	31	A-7-6 (33)	BR/GR
4348+00	33	34	1.20	91	46	29.40	25' RIGHT	0-5	47	25	A-7-6- (19)	BROWN
4356+00	33	34	0.70	91	46	19.90	25' RIGHT	0-5	42	29	A-7-6 (15)	BR/GR
4364+00	33	34	0.40	91	46	9.50	25' RIGHT	0-5	43	26	A-7-6 (13)	BR/GR
4372+00	33	34	1.00	91	46	1.20	25' RIGHT	0-5	43	24	A-7-6 (17)	BROWN
4380+00	33	34	2.40	91	45	52.00	25' RIGHT	0-5	35	19	A-6 (14)	BROWN
4388+00	33	34	4.50	91	45	42.80	25' RIGHT	0-5	52	34	A-7-6 (29)	BR/GR
4396+00	33	34	7.40	91	45	34.10	25' RIGHT	0-5	23	11	A-6 (1)	BR/GR
4404+00	33	34	10.90	91	45	25.70	25' RIGHT	0-5	30	13	A-6 (3)	BR/GR
4412+00	33	34	15.50	91	45	17.70	25' RIGHT	0-5	43	28	A-7-6 (20)	BR/GR
4420+00	33	34	20.50	91	45	10.40	25' RIGHT	0-5	31	17	A-6 (8)	BR/GR
4428+00	33	34	25.60	91	45	3.30	35' RIGHT	0-5	27	13	A-6 (8)	BROWN
4436+00	33	34	30.80	91	44	56.20	35' RIGHT	0-5	27	13	A-6 (6)	BROWN
4444+00	33	34	36.20	91	44	49.20	40' RIGHT	0-5	24	8	A-4 (3)	BROWN
4452+00	33	34	41.60	91	44	42.40	CENTER LINE	0-5	20	5	A-4 (1)	BROWN
4460+00	33	34	46.90	91	44	35.30	CENTER LINE	0-5	41	24	A-7-6 (20)	BROWN
4468+00	33	34	52.10	91	44	27.90	25' RIGHT	0-5	23	8	A-4 (2)	BROWN
4476+00	33	34	57.10	91	44	21.00	25' RIGHT	0-5	33	16	A-6 (9)	BR/GR
4484+00	33	35	2.60	91	44	13.90	15' RIGHT	0-5	27	9	A-4 (5)	BR/GR
4492+00	33	35	7.90	91	44	7.00	10' RIGHT	0-5	26	10	A-4 (5)	BR/GR
4500+00	33	35	13.10	91	43	59.90	30' RIGHT	0-5	24	8	A-4 (2)	BR/GR
4508+00	33	35	18.40	91	43	52.60	40' RIGHT	0-5	28	10	A-4 (5)	BR/GR
4516+00	33	35	23.90	91	43	45.70	60' RIGHT	0-5	21	4	A-4 (0)	BR/GR
4524+00	33	35	29.90	91	43	40.60	45' RIGHT	0-5	27	10	A-4 (7)	BR/GR
4532+00	33	35	35.30	91	43	34.70	65' RIGHT	0-5	28	10	A-4 (8)	BR/GR
4540+00	33	35	42.50	91	43	28.40	60' RIGHT	0-5	26	11	A-6 (6)	BR/GR
4548+00	33	35	49.10	91	43	23.20	CENTER LINE	0-5	28	10	A-4 (7)	BR/GR
4556+00	33	35	55.40	91	43	17.20	20' RIGHT	0-5	31	12	A-6 (8)	BR/GR
4564+00	33	36	1.70	91	43	11.30	25' RIGHT	0-5	26	8	A-4 (5)	BR/GR
4572+00	33	36	8.20	91	43	5.70	30' RIGHT	0-5	24	6	A-4 (3)	GRAY
4580+00	33	36	14.40	91	43	0.00	25' RIGHT	0-5	29	11	A-6 (8)	BR/GR
4588+00	33	36	20.70	91	42	54.20	25' RIGHT	0-5	27	11	A-6 (6)	BROWN
4596+00	33	36	27.10	91	42	48.70	30' RIGHT	0-5	29	12	A-6 (9)	BROWN
4604+00	33	36	33.60	91	42	44.40	30' RIGHT	0-5	29	12	A-6 (9)	BR/GR
4612+00	33	36	41.30	91	42	40.60	30' RIGHT	0-5	29	15	A-6 (9)	BROWN
4620+00	33	36	48.50	91	42	37.30	30' RIGHT	0-5	26	12	A-6 (6)	BR/GR
4628+00	33	36	56.00	91	42	33.80	30' RIGHT	0-5	24	11	A-6 (4)	BR/GR
4636+00	33	37	3.10	91	42	29.50	30' RIGHT	0-5	21	11	A-6 (3)	BR/GR
4644+00	33	37	9.40	91	42	24.20	30' RIGHT	0-5	37	24	A-6 (9)	BR/GR
4652+00	33	37	15.50	91	42	17.70	30' RIGHT	0-5	30	14	A-6 (9)	BROWN
4660+00	33	37	20.90	91	42	11.90	30' RIGHT	0-5	22	7	A-4 (2)	BROWN
4668+00	33	37	28.10	91	42	5.20	30' RIGHT	0-5	26	10	A-4 (6)	BR/GR
4676+00	33	37	35.20	91	42	0.30	30' RIGHT	0-5	26	10	A-4 (7)	BR/GR
4684+00	33	37	41.20	91	41	56.30	30' RIGHT	0-5	29	13	A-6 (11)	BROWN
4692+00	33	37	47.90	91	41	51.90	30' RIGHT	0-5	22	7	A-4 (4)	BROWN
4700+00	33	37	55.10	91	41	47.00	25' RIGHT	0-5	28	12	A-6 (9)	BROWN
4708+00	33	38	2.00	91	41	42.40	25' RIGHT	0-5	37	20	A-6 (19)	BROWN
4716+00	33	38	9.00	91	41	38.00	25' RIGHT	0-5	33	16	A-6 (14)	BROWN
4724+00	33	38	16.10	91	41	33.90	25' RIGHT	0-5	39	22	A-6 (21)	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.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
99+55	100+60	HWY. 425	22	256.67
121+30	122+35	HWY. 425	22	256.67
105+20	106+76	CO. RD. 36	22	381.33
106+35	107+35	HWY. 35	20	222.22
115+05	116+05	HWY. 35	20	222.22
99+62	100+62	HWY. 278	22	244.44
125+64	126+64	HWY. 278	22	244.44
TOTAL:				1827.99

NOTE: AVERAGE MILLING DEPTH 1".

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
4534+89.52	4538+08.27	RIGHT OF MAIN LANES	300	1	1
4535+98.09	4538+16.84	LEFT OF MAIN LANES	200	1	1
4540+30.47	4541+99.22	RIGHT OF MAIN LANES	150	1	1
4540+38.73	4544+07.48	LEFT OF MAIN LANES	350	1	1
TOTALS:			1000	4	4

SOIL STABILIZATION

STATION	STATION	LOCATION	LENGTH	WIDTH	DEPTH	SOIL STABILIZATION	
						LIME	PORTLAND CEMENT
			LIN. FT.	FEET	FEET	TON	
4279+43	4286+12	MAIN LANES	669	46	1.33	97.5	
4288+43	4296+26	MAIN LANES	783	46	1.33	114.1	
4306+12	4309+40	MAIN LANES	328	46	1.33	47.8	
4311+18	4328+42	MAIN LANES	1724	46	1.33	251.1	
4332+37	4333+86	MAIN LANES	149	46	1.33	21.7	
4336+99	4344+29	MAIN LANES	730	46	1.33	106.3	
4353+36	4357+17	MAIN LANES	381	46	1.33	55.5	
4374+53	4382+75	MAIN LANES	822	46	1.33	119.7	
4387+63	4398+82	MAIN LANES	1119	46	1.33	163.0	
4404+11	4409+25	MAIN LANES	514	46	1.33	74.9	
4410+36	4413+89	MAIN LANES	353	46	1.33	51.4	
4438+54	4452+46	MAIN LANES	1392	46	1.33		365.0
4463+13	4467+98	MAIN LANES	485	46	1.33		127.2
4488+37	4492+32	MAIN LANES	395	46	1.33		103.6
4590+18	4598+30	MAIN LANES	812	46	1.33		212.9
4610+98	4618+68	MAIN LANES	770	46	1.33		201.9
4625+35	4650+18	MAIN LANES	2483	46	1.33		651.0
4664+72	4689+61	MAIN LANES	2489	46	1.33		652.6
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED				170.0	347.1
		BY THE ENGINEER.					
TOTALS:						1273.0	2661.3

BASIS OF ESTIMATE:
LIME.....5% BY WEIGHT
PORTLAND CEMENT.....9% BY WEIGHT
DEPTH OF PROCESSING LIME TREATED SUBGRADE.....16" UNIFORM THICKNESS

7/18/2017

R020484.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	51	139

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")					ACHM BINDER COURSE (1")					ACHM SURFACE COURSE (1/2")									
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GAL. / SQ.YD.	GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	TOTAL PG 64-22	TOTAL PG 76-22
			FEET			FEET				FEET			TON	TON	FEET			TON	TON	FEET			TON	TON	FEET			TON	TON	TON	TON
MAIN LANES																														
4268+93.95	4272+64.80	RIGHT MAIN LANES - 3 LANES TRANSITION	370.85	402.25	1491.74	78.98	3254.41	0.05	162.72	39.67	3698.78	550.00	1017.16		39.31	3680.26	385.00	708.45						53.00	2183.89	220.00		240.23		240.23
4272+64.80	4339+64.86	RIGHT MAIN LANES - 2 LANES NORMAL CROWN	6700.06	352.50	23617.71	56.98	42418.82	0.05	2120.94	28.67	21343.41	550.00	5869.44		28.31	21075.41	385.00	4057.02						42.00	31266.95	220.00	3439.36		3439.36	
4339+64.86	4341+77.62	RIGHT MAIN LANES - ADDITIONAL FOR CO. RD. 36 TURNOUTS	212.76	VAR.	6539.77	VAR.	4986.88	0.05	249.34	VAR.	1578.93	550.00	434.21		VAR.	1568.66	385.00	301.97						VAR.	1839.29	220.00	202.32		202.32	
4341+77.62	4424+95.37	RIGHT MAIN LANES - 2 LANES SUPERELEVATION	8317.75	352.50	29320.07	56.98	52660.60	0.05	2633.03	28.67	26496.65	550.00	7286.58		28.31	26163.94	385.00	5036.56						42.00	38816.17	220.00	4269.78		4269.78	
4424+95.37	4534+29.27	RIGHT MAIN LANES - 2 LANES NORMAL CROWN	10933.90	352.50	38542.00	56.98	69223.74	0.05	3461.19	28.67	34830.55	550.00	9578.40		28.31	34393.19	385.00	6620.69						42.00	51024.87	220.00	5612.74		5612.74	
4534+29.27	4537+80.85	RIGHT MAIN LANES - 2 LANES SUPERELEVATION	351.58	352.50	1239.32	56.98	2225.89	0.05	111.29	28.67	1119.98	550.00	307.99		28.31	1105.91	385.00	212.89						42.00	1640.71	220.00	180.48		180.48	
4540+66.15	4544+17.73	RIGHT MAIN LANES - 2 LANES SUPERELEVATION	351.58	352.50	1239.32	56.98	2225.89	0.05	111.29	28.67	1119.98	550.00	307.99		28.31	1105.91	385.00	212.89						42.00	1640.71	220.00	180.48		180.48	
4544+17.73	4561+25.00	RIGHT MAIN LANES - 2 LANES NORMAL CROWN	1707.27	352.50	6018.13	56.98	10808.92	0.05	540.45	28.67	5438.60	550.00	1495.62		28.31	5370.31	385.00	1033.78						42.00	7967.26	220.00	876.40		876.40	
4561+25.00	4566+15.00	RIGHT MAIN LANES - 3 LANES TRANSITION	490.00	402.25	1971.03	78.98	4300.02	0.05	215.00	39.67	2159.81	550.00	593.95		39.31	2140.21	385.00	411.99						53.00	2885.56	220.00		317.41		317.41
4566+15.00	4569+50.00	MAIN LANES-ADDITIONAL FOR HWY. 35 TURNOUTS	335.00	VAR.	2053.00	VAR.	9235.77	0.05	461.79	VAR.	2963.89	550.00	815.07		VAR.	2938.07	385.00	565.58						VAR.	3333.81	220.00		366.72		366.72
4569+50.00	4574+40.00	RIGHT MAIN LANES - 3 LANES TRANSITION	490.00	402.25	1971.03	78.98	4300.02	0.05	215.00	39.67	2159.81	550.00	593.95		39.31	2140.21	385.00	411.99						53.00	2885.56	220.00	317.41		317.41	
4574+40.00	4585+68.55	RIGHT MAIN LANES - 2 LANES NORMAL CROWN	1128.55	352.50	3978.14	56.98	7144.98	0.05	357.25	28.67	3595.06	550.00	988.64		28.31	3549.92	385.00	683.36						42.00	5266.57	220.00	579.32		579.32	
4585+68.55	4614+29.51	RIGHT MAIN LANES - 2 LANES SUPERELEVATION	2860.96	352.50	10084.88	56.98	18113.06	0.05	905.65	28.67	9113.75	550.00	2506.28		28.31	8999.31	385.00	1732.37						42.00	13351.15	220.00	1468.63		1468.63	
4614+29.51	4619+81.67	RIGHT MAIN LANES - 2 LANES NORMAL CROWN	552.16	352.50	1946.36	56.98	3495.79	0.05	174.79	28.67	1758.94	550.00	483.71		28.31	1736.85	385.00	334.34						42.00	2576.75	220.00	283.44		283.44	
4619+81.67	4650+30.03	RIGHT MAIN LANES - 2 LANES SUPERELEVATION	3048.36	352.50	10745.47	56.98	19299.51	0.05	964.98	28.67	9710.72	550.00	2670.45		28.31	9588.79	385.00	1845.84						42.00	14225.68	220.00	1564.82		1564.82	
4650+30.03	4656+36.99	RIGHT MAIN LANES - 2 LANES PLANE SECTION	606.96	352.50	2139.53	56.98	3842.73	0.05	192.14	28.67	1933.50	550.00	531.71		28.31	1909.23	385.00	367.53						42.00	2832.48	220.00	311.57		311.57	
4656+36.99	4678+47.69	RIGHT MAIN LANES - 2 LANES SUPERELEVATION	2210.70	352.50	7792.72	56.98	13996.19	0.05	699.81	28.67	7042.31	550.00	1936.64		28.31	6953.88	385.00	1338.62						42.00	10316.60	220.00	1134.83		1134.83	
4678+47.69	4722+73.76	RIGHT MAIN LANES - 2 LANES NORMAL CROWN	4426.07	352.50	15601.90	56.98	28021.94	0.05	1401.10	28.67	14099.49	550.00	3877.36		28.31	13922.45	385.00	2680.07						42.00	20654.99	220.00	2272.05		2272.05	
4722+73.76	4726+21.15	RIGHT MAIN LANES - 3 LANES TRANSITION	347.39	402.25	1397.38	78.98	3048.54	0.05	152.43	39.67	1531.22	550.00	421.09		39.31	1517.32	385.00	292.08						53.00	2045.74	220.00		225.03		225.03
MAIN LANES ADDITIONAL FOR SUPERELEVATION																														
4353+35.66	4360+35.66	TRANSITION	700.00	6.63	46.41																									
4360+35.66	4417+95.37	MAX SUPERELEVATION	5759.71	13.26	763.74																									
4417+95.37	4424+95.37	TRANSITION	700.00	6.63	46.41																									
4585+68.55	4592+68.55	TRANSITION	700.00	7.35	51.45																									
4592+68.55	4607+29.51	MAX SUPERELEVATION	1460.96	14.69	214.62																									
4607+29.51	4614+29.51	TRANSITION	700.00	7.35	51.45																									
4619+81.67	4626+81.67	TRANSITION	700.00	7.35	51.45																									
4626+81.67	4646+80.03	MAX SUPERELEVATION	1998.36	14.69	293.56																									
4646+80.03	4650+30.03	TRANSITION	350.00	7.35	25.73																									
4656+36.99	4659+86.99	TRANSITION	350.00	7.35	25.73																									
4659+86.99	4671+47.69	MAX SUPERELEVATION	1160.70	14.69	170.51																									
4671+47.69	4678+47.69	TRANSITION	700.00	7.35	51.45																									
HWY. 425																														
99+55.00	100+60.00	HWY. 425 - TRANSITION	105.00			22.00	256.67	0.17	43.63															22.00	256.67	220.00		28.23		28.23
100+60.00	102+40.00	HWY. 425 NOTCH AND WIDEN	180.00	VAR.	274.28	VAR.	1577.48	0.05	78.87	VAR.	212.00	440.00		46.64	VAR.	208.45	495.00		51.59	VAR.	205.72	220.00		22.63	VAR.	951.31	220.00		104.64		127.27
102+40.00	107+40.00	HWY. 425 NOTCH ANY WIDEN - 2-LANE WITH RIGHT TURN LANE	500.00	VAR.	995.63	VAR.	7115.41	0.05	355.77	VAR.	1273.06	440.00		280.07	VAR.	1263.22	495.00		312.65	VAR.	1255.70	220.00		138.13	VAR.	3323.43	220.00		365.58		503.71
107+40.00	108+40.50	HWY. 425 NOTCH AND WIDEN - 3-LANE WITH PAINTED MEDIAN	100.50	VAR.	192.21	VAR.	1011.56	0.05	50.58	VAR.	169.74	440.00		37.34	VAR.	166.84	495.00		41.29	VAR.	163.97	220.00		18.04	VAR.	511.01	220.00		56.21		74.25
108+40.50	111+35.25	HWY. 425 NOTCH AND WIDEN - 3-LANE AT HWY. 69	294.75	VAR.	546.76	VAR.	2789.85	0.05	139.49	VAR.	457.62	440.00		100.68	VAR.	457.62	495.00		113.26	VAR.	457.62	220.00		50.34	VAR.	1416.99	220.00		155.87		206.21
111+35.25	118+30.00	HWY. 425 NOTCH AND WIDEN - 4-LANE	694.75	VAR.	1322.63	VAR.	10914.20	0.05	545.71	VAR.	1629.01	440.00		358.38	VAR.	1615.33	495.00		399.79	VAR.	1604.88	220.00		176.54	VAR.	6064.98	220.00		667.15		843.69
118+30.00	121+30.00	HWY. 425 NOTCH AND WIDEN - 2-LANE WITH PAINTED MEDIAN	300.00	VAR.	430.88	VAR.	2393.97	0.05	119.70	VAR.	293.47	440.00		64.56	VAR.	287.60	495.00		71.18	VAR.	283.09	220.00		31.14	VAR.	1529.81	220.00		168.28		199.42
121+30.00	122+35.00	HWY. 425 - TRANSITION	105.00			22.00	256.67	0.17	43.63																22.00	256.67	220.00		28.23		28.23
HWY. 35																														
106+35.00	107+35.00	HWY. 35 - TRANSITION	100.00			20.00	222.22	0.17	37.78															20.00	222.22	220.00	24.44		24.44	
107+35.00	109+65.00	HWY. 35 NOTCH AND WIDEN - 3-LANE 20' LEFT LANE	230.00	VAR.	662.00	VAR.	3007.10	0.05	150.36						VAR.	872.18	495.00	215.86		VAR.	865.25	220.00	95.18		VAR.	1269.67	220.00	139.66		234.84	
112+74.91	115+05.00	HWY. 35 NOTCH AND WIDEN - 3-LANE 22' RIGHT LANE	230.09	VAR.	698.00	VAR.	3145.52	0.05	157.28						VAR.	926.75	495.00	229.37		VAR.	907.23	220.00	99.80		VAR.	1311.54	220.00	144.27		244.07	
115+05.00	116+05.00	HWY. 35 - TRANSITION	100.00			20.00	222.22	0.17	37.78															20.00	222.22	220.00	24.44		24.44	
HWY. 278																														
99+61.95	100+61.95	HWY. 278 - TRANSITION	100.00			22.00	244.44	0.17	41.55															22.00	244.44	220.00	26.89		26.89	
100+61.95	102+66.95	HWY. 278 NOTCH AND WIDEN	205.00	VAR.	248.83	VAR.	915.83	0.05	45.79						VAR.	60.79	495.00	15.05		VAR.	57.80	220.00	6.36		VAR.	797.24	220.00	87.70		94.06	
100+61.95	105+37.70	HWY. 278 NOTCH AND WIDEN - 2-LANE	475.75	VAR.	797.50	VAR.	2035.96	0.05	101.80						VAR.	350.59	495.00	86.77		VAR.	346.45	220.00	38.11		VAR.	1338.92	220.00	147.28		185.39	
105+37.70	110+00.00	HWY. 278 NOTCH AND WIDEN - 3-LANE WITH RIGHT TURN LANE	462.30	VAR.	1101.43	VAR.	5539.89	0.05	276.99						VAR.	1306.03	495.00	323.24		VAR.	1299.19	220.00	142.91		VAR.	2934.67	220.00	322.81		465.72	
110+00.00	111+78.26	HWY. 278 NOTCH AND WIDEN - 4-LANE	178.26	VAR.	378.80	VAR.	2294.56	0.05	114.73						VAR.	592.69	495.00	146.69		VAR.	592.69	220.00	65.20		VAR.	1109.18	220.00	122.01		187.21	
111+78.26	119+51.14	HWY. 278 NOTCH AND WIDEN - 3-LANE WITH LEFT TURN LANE	772.88	VAR.	1768.97	VAR.	9036.15	0.05	451.81						VAR.	2146.79	495.00	531.33		VAR.	2125.05	220.00	233.76		VAR.	4764.31	220.00	524.07		757.83	
119+51.14	123+34.70	HWY. 278 NOTCH AND WIDEN - 2-LANE WITH PAINTED MEDIAN	383.56	VAR.	633.83	VAR.	3089.14	0.05	154.46						VAR.	565.24	495.00	139.90		VAR.	559.58	220.00	61.55		VAR.	1964.32	220.00	216.08		277.63	
123+34.70	125+64.20	HWY. 278 NOTCH AND WIDEN	229.50	VAR.	278.57	VAR.	1188.68	0.05	59.43						VAR.	142.89	495.00	35.37		VAR.	139.66	220.00	15.36		VAR.	906.13	220.00	99.67		115.03	
125+64.20	126+64.20	HWY. 278 - TRANSITION	100.00			22.00	244.44	0.17	41.55															22.00	244.44	220.00	26.89		26.89	
ADDITIONAL FOR LEVELING																														
100+60.00	121+30.00	HWY. 425	2070.00			22.00	5060.00	0.17	860.20															VAR.	VAR.	VAR.	95.00		95.00	
100+62.00	125+64.00	HWY. 278	2502.00			22.00	6116.00	0.17	1039.72															VAR.	VAR.	VAR.	85.00		85.00	
TOTALS:					179812.33		371281.66		20078.80		155730.28		41716.24	887.67		160822.84		30571.60	989.76		10863.88		758.23	436.82		248394.91		24779.84	2723.58	25538.07	3160.40

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
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22

7/26/2017

R020484.DGN

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	31	STATION
201	GRUBBING	31	STATION
202	REMOVAL AND DISPOSAL OF FENCE	2200	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS	20	SQ. YD.
202	REMOVAL AND DISPOSAL OF TRAFFIC DRUMS LEFT IN PLACE	10	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING	99	SQ. YD.
202	REMOVAL AND DISPOSAL OF BARRICADES LEFT IN PLACE	20	EACH
202	REMOVAL AND DISPOSAL OF SIGNS LEFT IN PLACE	10	EACH
210	UNCLASSIFIED EXCAVATION	17381	CU. YD.
210	COMPACTED EMBANKMENT	4914	CU. YD.
SP & 210	SOIL STABILIZATION	3934	TON
SP & 214	SUBGRADE PREPARATION	450	STATION
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	179870	TON
SS & 401	TACK COAT	20079	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	40899	TON
SP & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")	1669	TON
SP & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")	36	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	30203	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	1315	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")	43	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	27177	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	1354	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	167	TON
412	COLD MILLING ASPHALT PAVEMENT	1828	SQ. YD.
SP & 415	ACHM PATCHING OF EXISTING ROADWAY	20	TON
504	APPROACH SLABS	98.30	CU. YD.
504	APPROACH GUTTERS	59.30	CU. 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	852	SQ. FT.
SS & 604	BARRICADES	416	LIN. FT.
SS & 604	TRAFFIC DRUMS	145	EACH
604	CONSTRUCTION PAVEMENT MARKINGS	21287	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)	14	EACH
604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	14	EACH
SS & 604	VERTICAL PANELS	145	EACH
605	CONCRETE DITCH PAVING (TYPE A)	1333	SQ. YD.
605	CONCRETE DITCH PAVING (TYPE B)	988	SQ. YD.
606	12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	170	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	100	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	16	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	32	LIN. FT.
606	54" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	32	LIN. FT.
606	60" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	16	LIN. FT.
606	36" X 23" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	96	LIN. FT.
606	59" X 36" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	16	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	1	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	54" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	60" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	1	EACH
606	36" X 23" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	2	EACH
606	59" X 36" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	1	EACH
606	SELECTED PIPE BEDDING	50	CU. YD.
609	DROP INLETS (TYPE N3)	2	EACH
611	UNDERDRAIN OUTLET PROTECTORS	9	EACH
611	4" PIPE UNDERDRAINS	2000	LIN. FT.
614	CONCRETE SPILLWAY (TYPE A)	2	EACH
617	GUARDRAIL (TYPE A)	1000	LIN. FT.
617	GUARDRAIL TERMINAL (TYPE 2)	4	EACH
617	THRIE BEAM GUARDRAIL TERMINAL	4	EACH
619	WIRE FENCE (TYPE B)	2200	LIN. FT.
620	LIME	34	TON
SP & 620	SPECIAL LIME	10	TON
620	SEEDING	21.97	ACRE
SS & 620	MULCH COVER	44.87	ACRE
620	WATER	2721.6	M. GAL.
621	TEMPORARY SEEDING	22.90	ACRE
621	SILT FENCE	5310	LIN. FT.
621	SAND BAG DITCH CHECKS	462	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	139	CU. YD.
621	ROCK DITCH CHECKS	96	CU. YD.
621	WATTLE (20")	104	LIN. FT.
623	SECOND SEEDING APPLICATION	21.97	ACRE
624	SOLID SODDING	1077	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	1778	SQ. YD.
632	CONCRETE ISLAND	1218	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	79865	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	1351	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	106175	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	110780	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	14	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	14	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	1439	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	81	CU. YD.
802	CLASS S CONCRETE-ROADWAY	148.05	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)	35410	POUND
	STRUCTURES OVER 20' SPAN		
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	53	CU. YD.
802	CLASS S CONCRETE-ROADWAY	90.34	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)	13497	POUND

REVISIONS

DATE	REVISION	SHEET NUMBER
8/24/2017	ADDED NOTE TO TYPICAL SECTIONS OF IMPROVEMENT, ADDED "SPECIAL LIME REQUIREMENTS" SPECIAL PROVISION, REVISED MAINTENANCE OF TRAFFIC DETAILS, ADDED QUANTITIES FOR SPECIAL LIME, REMOVAL AND DISPOSAL OF FENCE, REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS, REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING, WIRE FENCE (TYPE B), 24" R.C. PIPE CULVERTS, FLARED END SECTION FOR 24" R.C. PIPE CULVERTS, 36" R.C. PIPE CULVERTS, FLARED END SECTION FOR 36" PIPE CULVERTS, 42" R.C. PIPE CULVERTS, 42" FLARED END SECTION FOR 42 " R.C. PIPE CULVERTS, 54" R.C. PIPE CULVERTS, FLARED END SECTION FOR 54" R.C. PIPE CULVERTS, 60" R.C. PIPE CULVERTS, FLARED END SECTION FOR 60" R.C. PIPE CULVERTS, 36"X23" R.C. ARCH PIPE CULVERTS, FLARED END SECTION FOR 36"X23" R.C. ARCH PIPE CULVERTS, 59"X36" R.C. ARCH PIPE CULVERTS, AND FLARED END SECTION FOR 59"X36" R.C. ARCH PIPE CULVERTS, REVISED QUANTITIES FOR MULCH COVER, SEEDING, SECOND SEEDING APPLICATION, SOLID SODDING, LIME, CONCRETE DITCH PAVING, WATER, UNCLASSIFIED EXCAVATION, COMPACTED EMBANKMENT, AND SIGNS.	3, 4, 5, 6, 7, 13, 25, 26, 47, 48, 49, 52, 89, 91, 94, 102, 107, 114

SUMMARY OF QUANTITIES & REVISIONS

STATE OF ARKANSAS TIMOTHY R. SMITH REGISTERED PROFESSIONAL ENGINEER No. 11485

8-25-17

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-17				6	ARK.	020484	52	139

(2) SUMMARY OF QUANTITIES & REVISIONS

Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1664412.0065	1398166.5719	191.169	CTL	5/8" RBR 2" ALUM. CAP
2	1664727.6978	1399392.9979	190.338	CTL	5/8" RBR 2" ALUM. CAP
3	1664874.0078	1400475.4356	187.834	CTL	5/8" RBR 2" ALUM. CAP
16	1666171.0105	1405581.9309	195.978	CTL	5/8" RBR 2" ALUM. CAP TRIG ELEV
32	1640581.5620	1372292.5787	260.714	CTL	REBAR+CAP
33	1640514.7021	1373069.0934	266.887	CTL	REBAR+CAP
34	1640487.2726	1373593.6487	268.715	CTL	REBAR+CAP
35	1640458.3020	1374143.4520	276.898	CTL	5/8" RBR 2" ALUM. CAP
36	1640429.7792	1374684.1347	291.167	CTL	5/8" RBR 2" ALUM. CAP
37	1640414.4781	1374971.1919	281.313	CTL	5/8" RBR 2" ALUM. CAP
38	1640406.0175	1375130.8011	300.502	CTL	REBAR+CAP
39	1640374.2465	1375728.3336	300.759	CTL	REBAR+CAP
40	1640355.3341	1376083.9174	296.515	CTL	REBAR/CAP
41	1640364.2393	1376270.6143	299.775	CTL	5/8" RBR 2" ALUM. CAP
42	1640327.3369	1377004.0700	316.536	CTL	REBAR & CAP
43	1640298.3550	1377663.3010	329.720	CTL	REBAR&CAP
44	1640286.6055	1377912.9847	335.278	CTL	REBAR & CAP
45	1640271.4790	1378232.8269	333.092	CTL	REBAR & CAP
46	1640257.1919	1378532.6177	345.846	CTL	REBAR & CAP
47	1640247.5907	1378900.0630	321.350	CTL	REBAR & CAP
48	1640237.1167	1380208.8616	316.739	CTL	REBAR & CAP
49	1640194.8470	1380759.8402	300.009	CTL	REBAR & CAP
50	1640113.1004	1381309.9685	287.051	CTL	REBAR & CAP
51	1640105.9395	1381602.2434	295.539	CTL	REBAR & CAP
52	1640044.8679	1382077.7115	285.060	CTL	REBAR & CAP
53	1640044.4312	1382430.0962	277.275	CTL	REBAR & CAP
54	1640008.3326	1382814.2365	274.653	CTL	REBAR & CAP
55	1640136.9915	1383174.3528	268.257	CTL	REBAR & CAP
56	1640130.8630	1383420.2068	262.895	CTL	REBAR & CAP
57	1640197.4202	1383838.8379	268.371	CTL	REBAR & CAP
58	1640355.3781	1384476.4952	257.987	CTL	REBAR & CAP TK: COM
59	1640433.1246	1384821.2930	247.602	CTL	REBAR & CAP
60	1640492.2468	1384992.1800	255.709	CTL	REBAR & CAP
61	1640720.0262	1385539.8597	260.671	CTL	REBAR & CAP
62	1640875.7707	1385875.9313	253.101	CTL	REBAR & CAP
63	1641033.8070	1386178.2677	237.142	CTL	REBAR & CAP
64	1641256.9805	1386588.1981	249.723	CTL	REBAR & CAP
65	1641410.4247	1386829.5027	245.850	CTL	REBAR & CAP
66	1641756.8732	1387227.4173	241.455	CTL	REBAR & CAP
67	1642201.7028	1387809.8893	235.601	CTL	REBAR & CAP
68	1642484.0515	1388127.4746	235.807	CTL	REBAR & CAP
69	1642861.1625	1388491.0565	232.265	CTL	REBAR & CAP
70	1643514.5352	1389271.6820	233.775	CTL	REBAR & CAP
71	1643870.4034	1389659.2797	228.792	CTL	REBAR & CAP
72	1644372.1652	1390130.9435	223.245	CTL	REBAR & CAP
73	1645418.8795	1391210.6068	216.375	CTL	REBAR+CAP
74	1645660.7423	1391502.6718	205.211	CTL	REBAR+CAP
75	1646030.4055	1391949.5382	205.912	CTL	REBAR+CAP
76	1646184.2539	1392127.9339	217.673	CTL	REBAR/CAP
77	1646287.2135	1392283.8311	215.886	CTL	REBAR+CAP
78	1646479.6389	1392510.4463	209.192	CTL	REBAR+CAP
79	1646737.1807	1392755.2229	216.820	CTL	REBAR/CAP
80	1647249.1640	1393425.7306	214.302	CTL	REBAR+CAP
81	1647805.8680	1394042.5493	213.428	CTL	REBAR+CAP
82	1648366.3318	1394667.9474	210.930	CTL	REBAR/CAP
83	1649033.1522	1395446.1231	208.679	CTL	5/8" RBR 2" ALUM. CAP
84	1649584.5406	1396006.4983	207.231	CTL	5/8" RBR 2" ALUM. CAP
85	1650076.2546	1396478.9991	198.975	CTL	REBAR & CAP
86	1650272.2802	1396664.3484	192.373	CTL	5/8" RBR 2" ALUM. CAP
87	1650522.6859	1396906.3428	201.380	CTL	5/8" RBR 2" ALUM. CAP
88	1651091.3200	1397213.7687	205.203	CTL	5/8" RBR 2" ALUM. CAP
89	1651731.8640	1397577.2854	204.236	CTL	REBAR & CAP
90	1653305.5525	1398325.3813	198.285	CTL	REBAR & CAP
91	1653855.3910	1398571.7812	195.869	CTL	REBAR & CAP
92	1654280.4009	1398779.8979	184.126	CTL	REBAR & CAP
93	1654884.2463	1399040.9420	182.831	CTL	5/8" RBR 2" ALUM. CAP
94	1655705.7549	1399359.1784	179.734	CTL	5/8" RBR 2" ALUM. CAP
95	1656094.1195	1399626.0781	189.181	CTL	5/8" RBR 2" ALUM. CAP
96	1656282.9214	1399729.8500	190.811	CTL	5/8" RBR 2" ALUM. CAP
97	1656775.1870	1399994.6377	179.808	CTL	5/8" RBR 2" ALUM. CAP
98	1657280.9244	1400251.7334	191.412	CTL	5/8" RBR 2" ALUM. CAP
99	1657538.7437	1400414.2835	185.495	CTL	5/8" RBR 2" ALUM. CAP
136	1657741.6505	1400597.7386	186.174	CTL	5/8" RBR 2" ALUM. CAP
137	1658185.7830	1400837.9052	191.970	CTL	5/8" RBR 2" ALUM. CAP
138	1658605.4937	1401077.7421	190.784	CTL	5/8" RBR 2" ALUM. CAP
139	1659030.4374	1401499.3475	185.851	CTL	5/8" RBR 2" ALUM. CAP
140	1659417.6809	1401851.0363	185.342	CTL	5/8" RBR 2" ALUM. CAP
141	1659669.2519	1402091.6387	181.737	CTL	5/8" RBR 2" ALUM. CAP
142	1660030.6794	1402447.8512	169.155	CTL	REBAR+CAP
143	1660556.5411	1402905.8119	175.741	CTL	REBAR+CAP
144	1661038.0221	1403297.1151	185.502	CTL	5/8" RBR 2" ALUM. CAP
145	1661557.0799	1403684.2296	188.203	CTL	5/8" RBR 2" ALUM. CAP
146	1662027.8608	1404013.5486	190.067	CTL	REBAR/CAP
147	1662752.8342	1404389.5407	188.984	CTL	REBAR+CAP
148	1663268.7727	1404657.5283	179.225	CTL	REBAR/CAP
149	1663722.0607	1404861.5924	190.317	CTL	5/8" RBR 2" ALUM. CAP
855	1643155.8056	1388882.2134	224.473	CTL	REBAR & CAP
1500	1659437.3598	1401661.7572	187.735	CTL	RBR & CAP 1500 RTK ELEV
1501	1657991.2048	1403560.9069	186.423	CTL	5" REBAR&CAP IN FIELD RD
1502	1655951.6604	1402119.6066	191.541	CTL	5" REB&CAP STAMPED 1502 RTK ELEV
1503	1654165.4521	1399448.9408	199.287	CTL	ROD&CAP RTK ELEV
1504	1655811.0983	1397981.0192	200.038	CTL	5/8" RBR 2" ALUM. CAP RTK ELEV
1505	1657879.0707	1398265.1322	193.656	CTL	RBR & CAP 1505 RTK ELEV ZC: 500
1506	1648621.9243	1298594.4568	127.629	CTL	5/8" RBR 2" ALUM. CAP RTK ELEV
1508	1653983.3442	1312804.3016	108.331	CTL	RBR & CAP IN CLEARING RTK ELEV
1509	1653885.0574	1312992.0433	110.645	CTL	RBR & CAP 1509
1510	1650121.6776	1300990.6292	186.968	CTL	5/8" RBR 2" ALUM. CAP RTK ELEV
1511	1651664.7462	1309504.4251	110.020	CTL	8 SPIKE RTK ELEV
1512	1637061.0462	1294620.8428	179.298	CTL	5/8" RBR 2" ALUM. CAP RTK ELEV
1513	1651722.5366	1310228.5655	111.352	CTL	ROD&CAP ON TRAIL RTK ELEV
1514	1648886.2434	1347602.9684	165.214	CTL	RTK ELEV
1590	1651144.2175	1396826.3723	205.468	CTL	REBAR & CAP REBAR & CAP

I-69 CL

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	4210+00.00	1640790.4239	1367200.5350
8001	PC	4359+48.16	1640088.1826	1382132.1895
8002	PT	4418+82.88	1642025.7407	1387584.7730
8088	PC	4503+45.24	1647668.1310	1393891.5222
8090	PT	4525+61.34	1649295.7565	1395390.4067
8091	PC	4591+81.05	1654575.4020	1399383.6315
8093	PT	4608+17.01	1656002.4663	1400172.1279
8029	PC	4625+94.17	1657659.8696	1400799.8030
8035	PT	4647+67.53	1659499.7273	1401932.0893
8036	PC	4658+99.49	1660334.6165	1402696.4764
8038	PT	4672+35.19	1661415.5406	1403475.9865
8039	PC	4708+34.29	1664559.7603	1405227.3889
8041	PT	4714+94.75	1665145.6833	1405531.9810
8073	PC	4732+55.76	1666730.9290	1406298.8838

HWY. 425

POINT NO.	TYPE	STATION	NORTHING	EASTING
8132	POB	92+55.09	1638807.5186	1373039.0141
8119	PI	99+55.00	1639507.4184	1373042.7933
8120	PI	100+60.00	1639612.3870	1373045.3598
8121	PI	121+30.00	1641682.3568	1373056.5374
8122	PI	122+35.00	1641787.3470	1373055.1043
8133	POE	125+02.20	1642054.5415	1373056.5470

CO. RD. 36 DETOUR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8012	POB	100+00.00	1639487.5124	1380316.5149
8013	PC	100+17.67	1639504.5898	1380311.9834
8015	PT	103+34.81	1639818.4041	1380273.8265
8016	PC	104+37.03	1639920.6093	1380275.6030
8018	PT	106+89.28	1640171.2703	1380252.3037
8020	PC	109+38.38	1640415.2716	1380202.1432
8022	PT	113+25.69	1640774.4109	1380062.1245
8023	PC	114+44.09	1640875.9160	1380001.1770
8025	PT	117+14.69	1641122.1277	1379890.4359
8026	POE	117+80.63	1641185.0357	1379870.6587

HWY. 35

POINT NO.	TYPE	STATION	NORTHING	EASTING
8111	PT	104+10.65	1653026.3968	1397376.0406
8112	PC	108+12.99	1652803.7180	1397711.1338
8114	PT	110+56.77	1652670.4483	1397915.2609
8115	PC	112+63.30	1652558.9526	1398089.1071
8117	PT	117+91.31	1652319.0346	1398558.5222

HWY. 278

POINT NO.	TYPE	STATION	NORTHING	EASTING
8027	POB	94+70.72	1665602.8295	1404532.0669
8028	PI	100+01.32	1665904.1824	1404968.7869
8039	PC	100+61.95	1665938.6142	1405018.6854
8041	PT	104+68.69	1666103.2017	1405388.1110
8042	PC	105+95.63	1666132.6650	1405511.5841
8044	PT	108+19.19	1666174.7682	1405731.0640
8069	PC	108+88.31	1666184.7431	1405799.4610
8071	PT	112+34.33	1666157.3648	1406141.4915
8072	PC	112+58.30	1666150.1792	1406164.3503
8074	PT	114+10.75	1666100.0558	1406308.3047
8075	PC	119+17.88	1665918.7749	1406781.9262
8081	PT	119+92.20	1665893.5042	1406851.8116
8082	PC	123+21.05	1665787.4419	1407163.0910
8084	PT	125+64.20	1665719.4824	1407396.4681
8085	POE	126+08.68	1665708.9821	1407439.6874

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999388978 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME. S020462G1.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 220001A
CONVERGENCE ANGLE: 0-06-41 LEFT
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

STATE OF ARKANSAS TIMOTHY D. SMITH REGISTERED PROFESSIONAL ENGINEER No. 11435

2-27-17

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		53	139

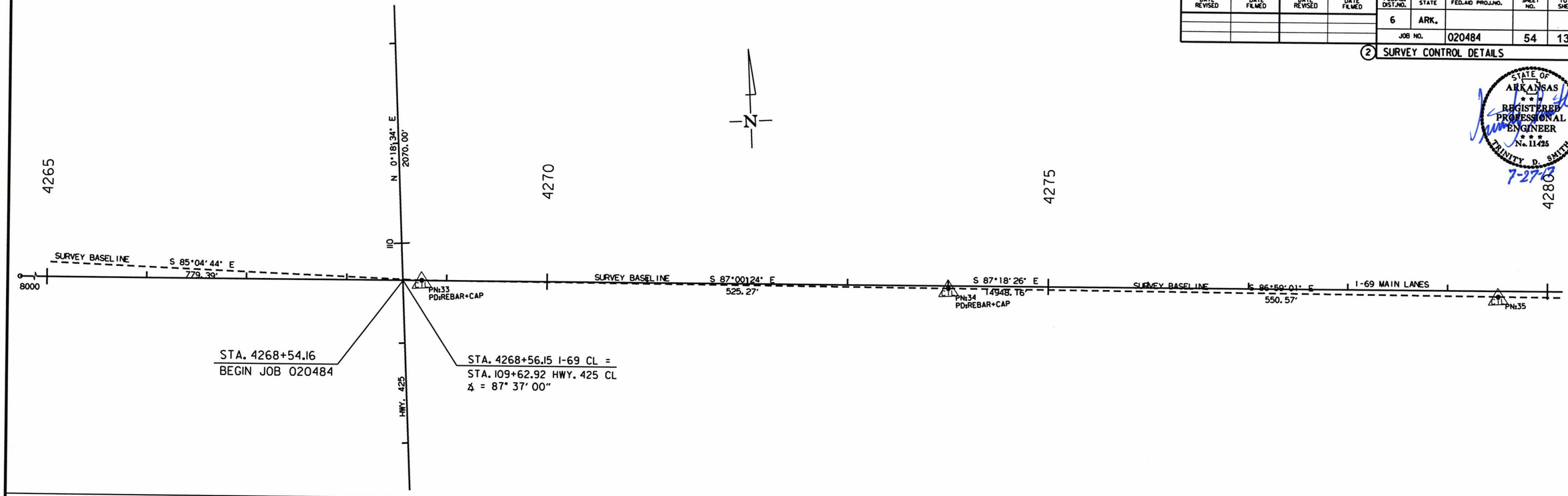
JOB NO. 020484

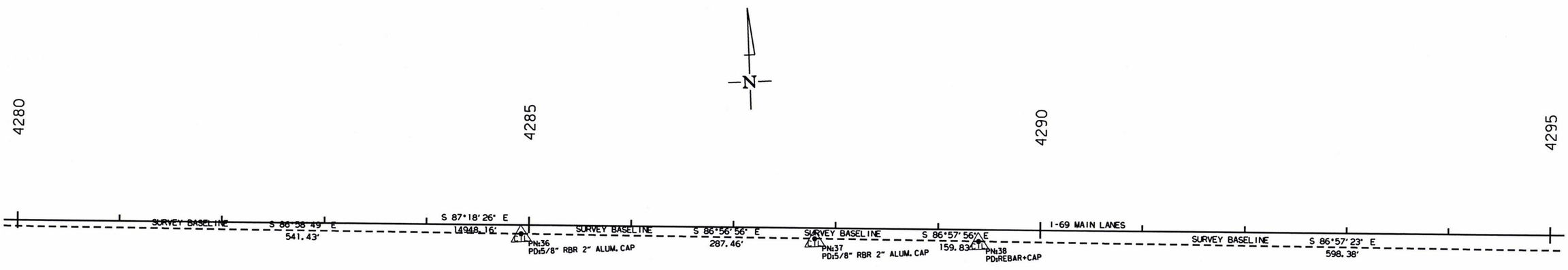
2 SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	54	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17





7/18/2017

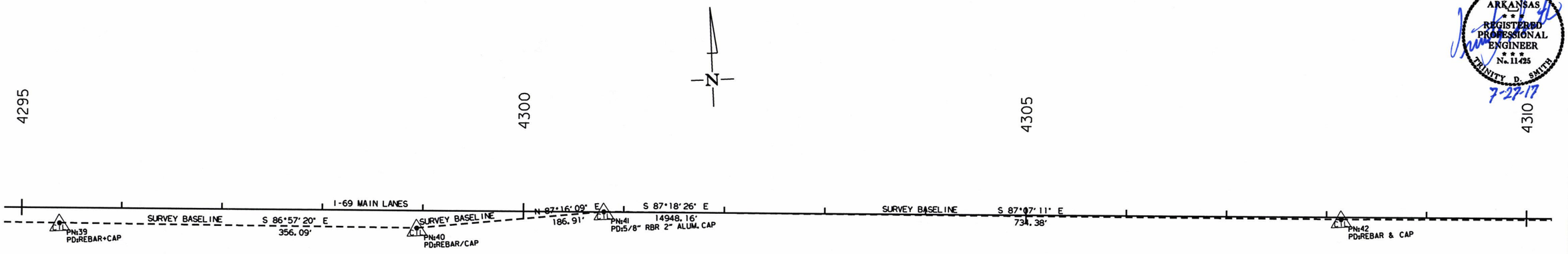
R020484.DGN

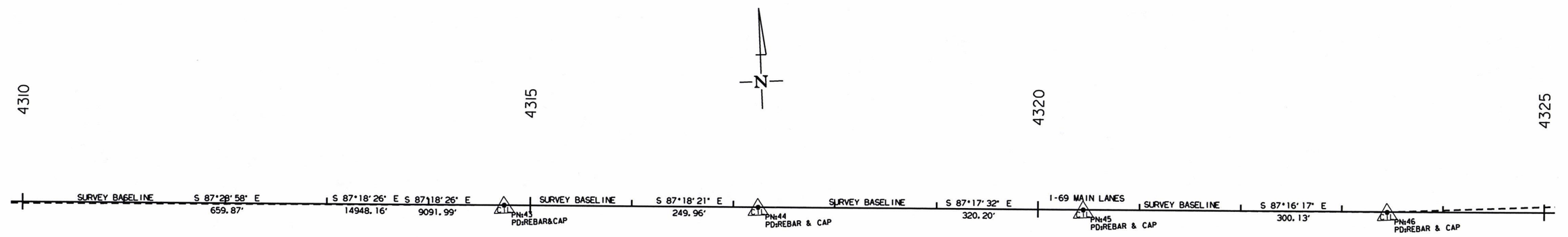
MAIN LANES
SURVEY CONTROL DETAILS

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.		020484	55	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17





7/18/2017

R020484.DGN

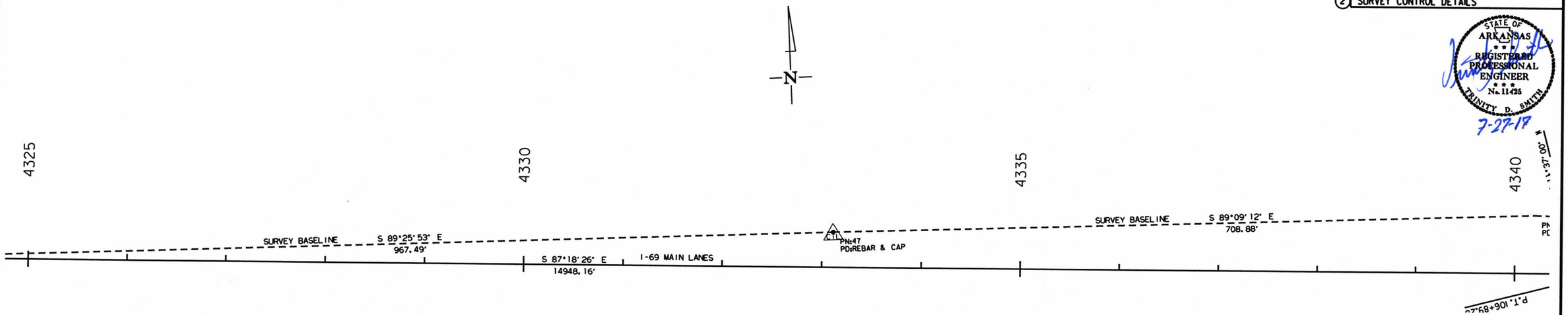
MAIN LANES
SURVEY CONTROL DETAILS

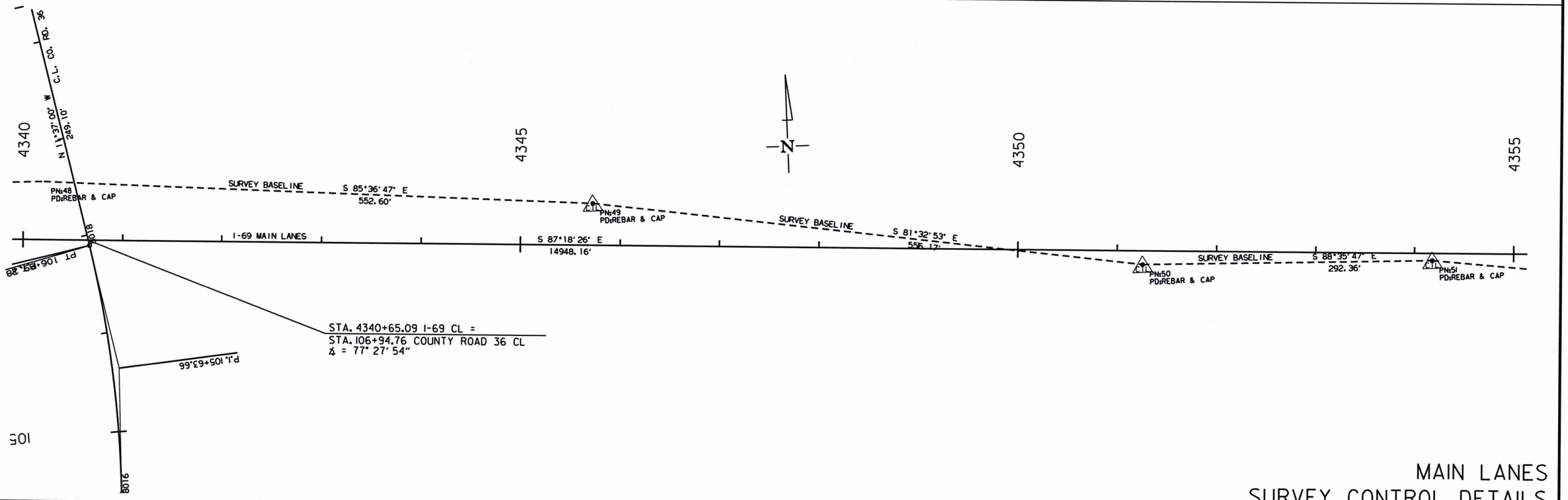
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	56	139

(2) SURVEY CONTROL DETAILS

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

7-27-17





MAIN LANES
SURVEY CONTROL DETAILS

7/18/2017

R020484.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.		020484	57	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

4355 4360 4365 4370

P.C. 4359+48.16

8001

SURVEY BASELINE S 82°40'51" E 479.37'

SURVEY BASELINE S 89°55'44" E 352.38'

S 87°18'26" E 14948.16'

I-69 MAIN LANES

SURVEY BASELINE N 84°21'54" E 386.01'

SURVEY BASELINE N 81°22'10" E 364.24'

PN:52 PD:REBAR & CAP

PN:53 PD:REBAR & CAP

PN:54 PD:REBAR & CAP

PN:55 PD:REBA

7/18/2017

R020484.DGN

MAIN LANES
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.		020484	58	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

4370 4375 4380 4385

PN:55 PD:REBAR & CAP

SURVEY BASELINE S 88°34'19" E 245.93'

PN:56 PD:REBAR & CAP

SURVEY BASELINE N 80°57'59" E 423.89'

PN:57 PD:REBAR & CAP

SURVEY BASELINE N 76°05'13" E 656.93'

I-69 MAIN LANES

PN:58 PD:REBAR & CAP TK:COM

SURVEY BASELINE N 77°17'36" E 353.45'

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

S 87°18'26" E 3126.18'

7/18/2017

R020484.DGN

MAIN LANES
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.		020484	59	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

4385

4390

4395

4400

SURVEY BASELINE
N 77°17'36" E
353.45'

SURVEY BASELINE
N 70°54'57" E
180.83'

SURVEY BASELINE
N 67°25'03" E
595.16'

SURVEY BASELINE
N 65°08'07" E
270.41'

SURVEY BASELINE
N 62°24'14" E
341.15'

I-69 MAIN LANES

PN59
PDREBAR & CAP

PN60
PDREBAR & CAP

PN61
PDREBAR & CAP

PN62
PDREBAR & CAP

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

N

P.I. 4390+74.34

RO20484.DGN 7/18/2017

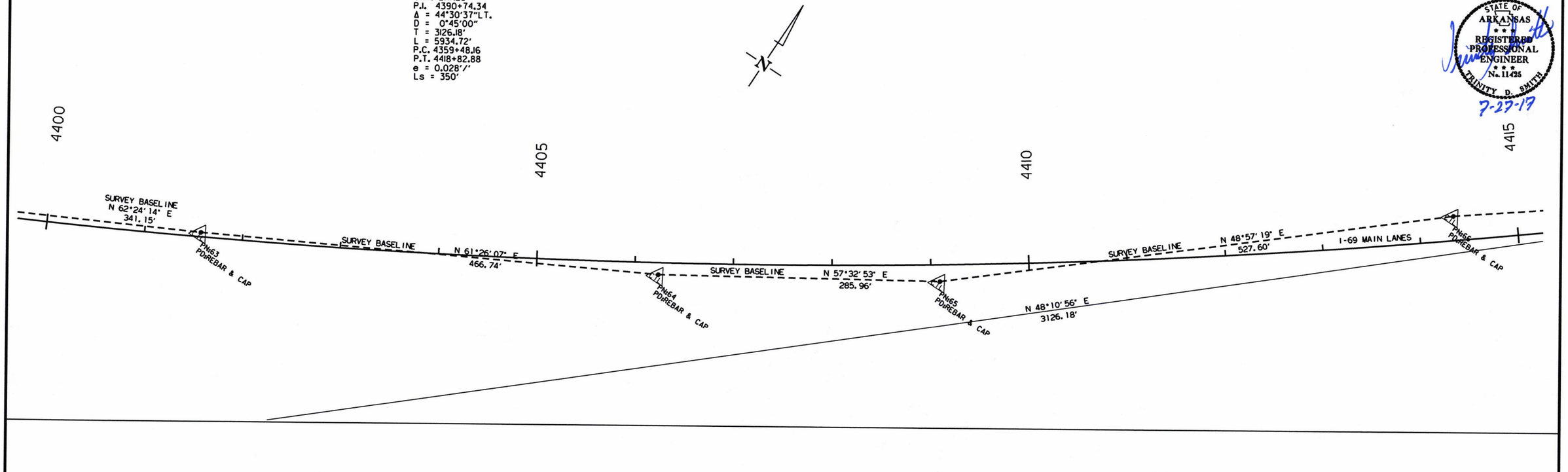
MAIN LANES
SURVEY CONTROL DETAILS

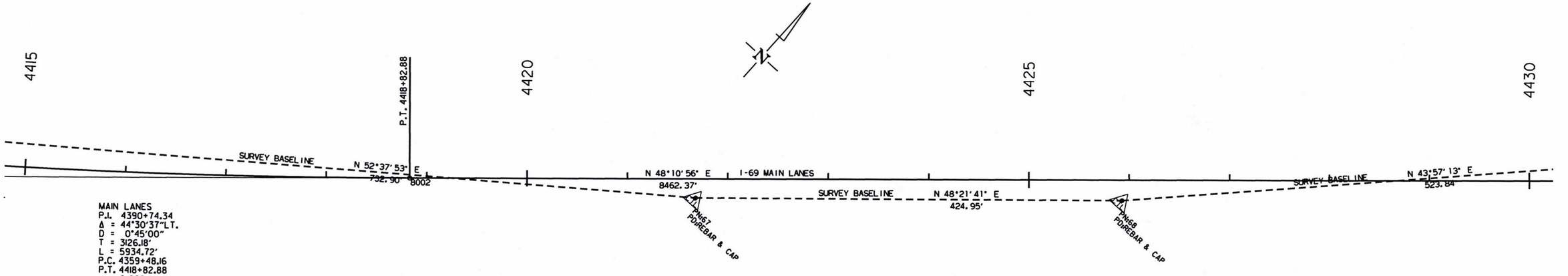
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	60	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'





MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

7/18/2017

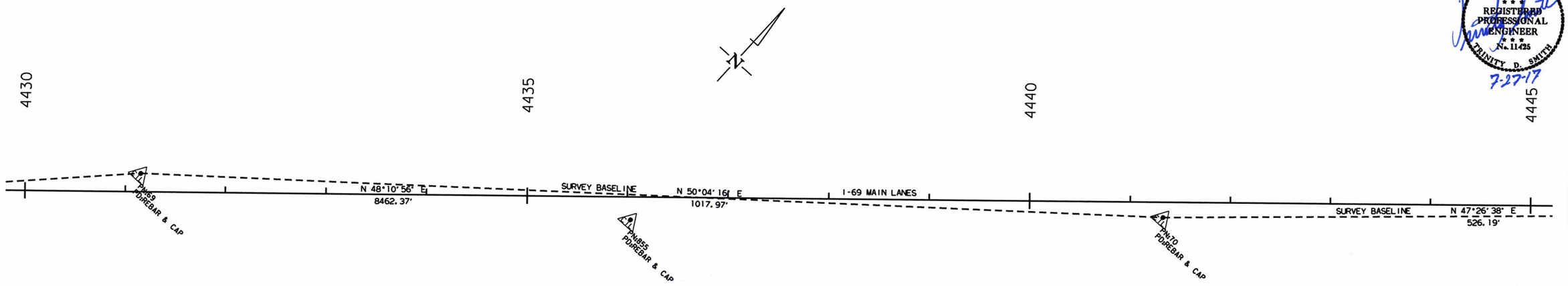
R020484.DGN

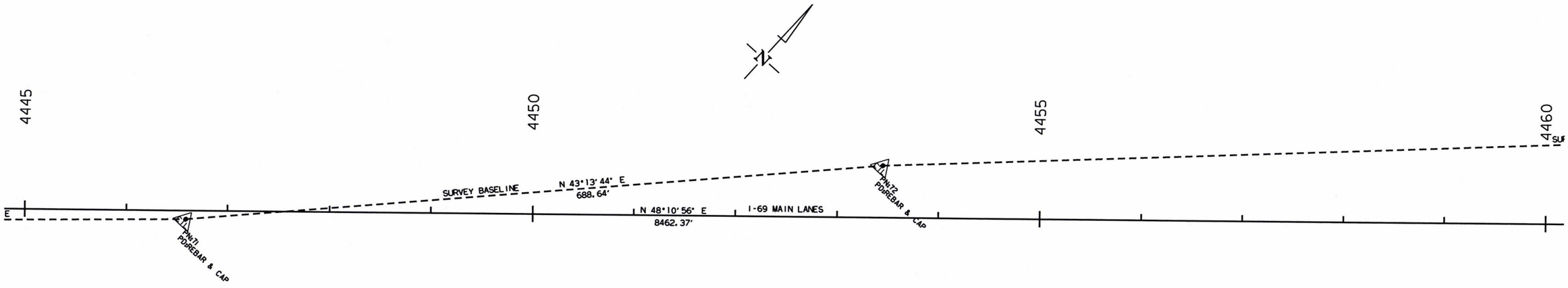
MAIN LANES
SURVEY CONTROL DETAILS

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.		020484	61	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17





7/18/2017

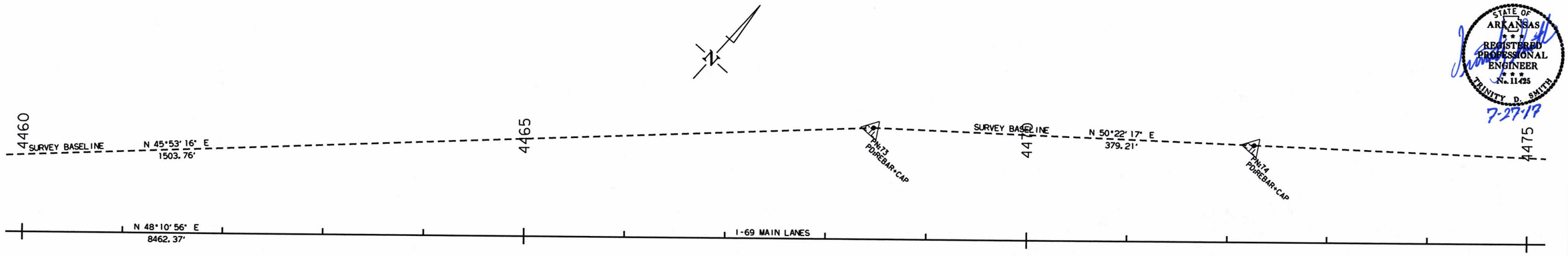
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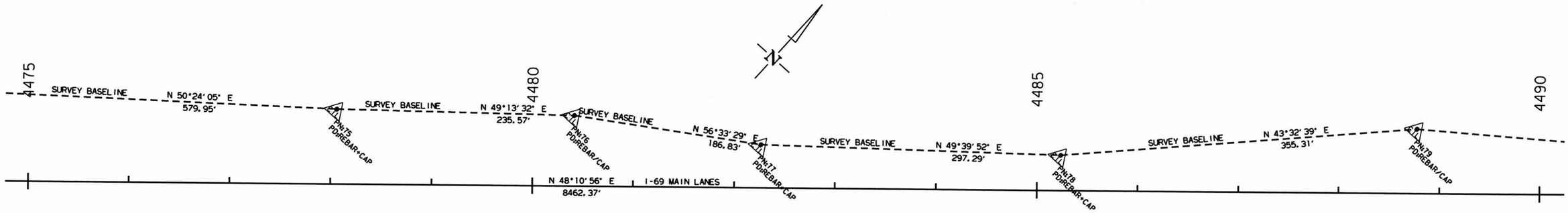
MAIN LANES
SURVEY CONTROL DETAILS

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.		020484	62	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17





7/18/2017

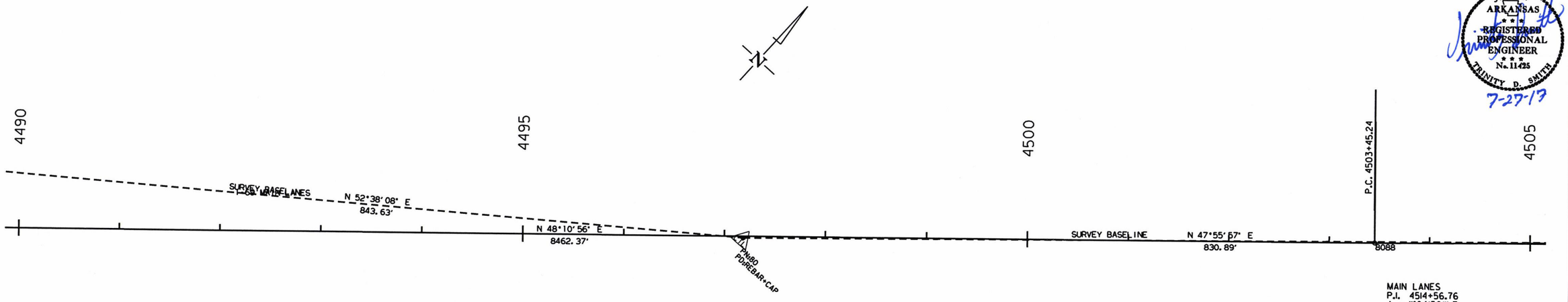
R020484.DGN

MAIN LANES
SURVEY CONTROL DETAILS

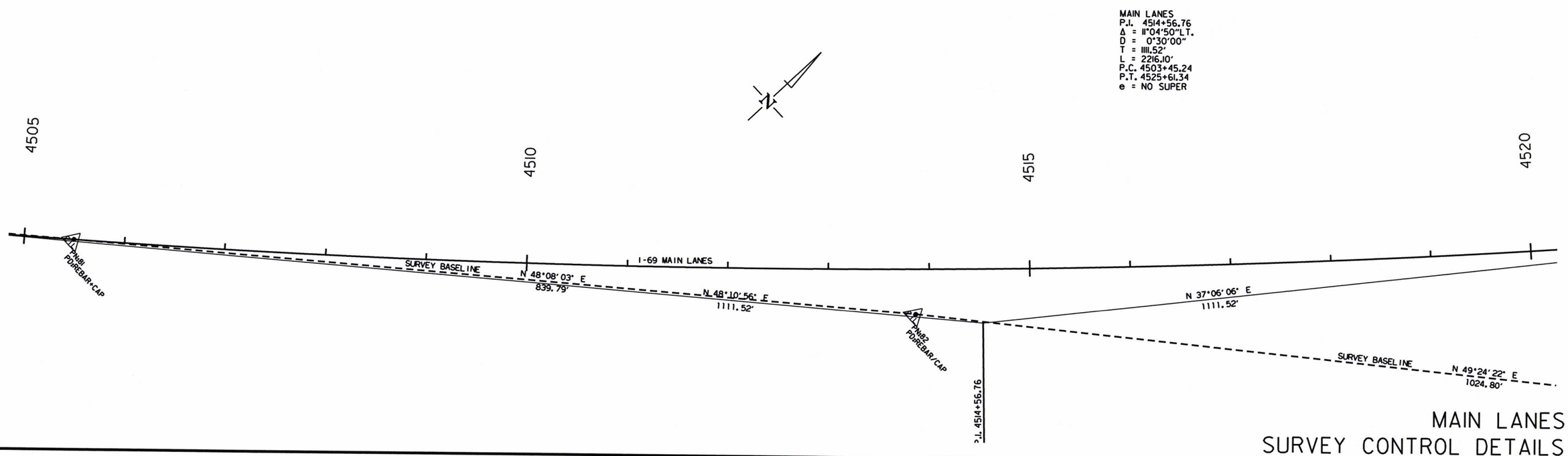
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	63	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



MAIN LANES
P.I. 4514+56.76
Δ = 11°04'50"LT.
D = 0°30'00"
T = 1111.52'
L = 2216.10'
P.C. 4503+45.24
P.T. 4525+61.34
e = NO SUPER



MAIN LANES
P.I. 4514+56.76
Δ = 11°04'50"LT.
D = 0°30'00"
T = 1111.52'
L = 2216.10'
P.C. 4503+45.24
P.T. 4525+61.34
e = NO SUPER

7/18/2017

R020484.DGN

MAIN LANES
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.		020484	64	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

4520 4525 4530 4535

P.T. 4525+61.34

I-69 MAIN LANES

8090

N 37°06'06" E
6619.71'

MAIN LANES
P.I. 4514+56.76
Δ = 11°04'50"LT.
D = 0°30'00"
T = 111.52'
L = 2216.10'
P.C. 4503+45.24
P.T. 4525+61.34
e = NO SUPER

PIN84
PORTEBAR & CAP

PIN83
PO5/8" RBR 2" ALUM. CAP

SURVEY BASELINE N 45°27'49" E
786.15'

SURVEY BASELINE N 43°51'30" E
681.94'

PIN84
PO5/8" RBR 2" ALUM. CAP

7/18/2017

R020484.DGN

MAIN LANES
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.		020484	65	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

4535 4540 4545 4550

I-69 MAIN LANES

N 37°06'06" E
6619.71'

PNI55 PDREBAR & CAP

PNI56 PDREBAR & CAP

PNI57 PDREBAR & CAP

PNI58 PDREBAR & CAP

PNI59O PDREBAR & CAP REBAR & CAP

SURVEY BASELINE N 43°51'30" E 681.94'

PNI65 PDREBAR & CAP

SURVEY BASELINE N 43°23'47" E 269.78'

PNI66 PD1/8" RBR 2" ALUM. CAP

SURVEY BASELINE N 44°01'17" E 348.23'

PNI67 PD1/8" RBR 2" ALUM. CAP

SURVEY BASELINE N 28°23'51" E 646.42'

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R020484.DGN

MAIN LANES
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.		020484	66	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

4550 4555 4560 4565

I-69 MAIN LANES N 37°06'06" E 6619.71'

PK&B PDREBAR & CAP

SURVEY BASELINE N 29°34'32" E 736.51'

PK&B PD5/8" RBR 2" ALUM. CAP

SURVEY BASELINE N 25°25'31" E 1742.45'

PK&B PDREBAR & CAP

7/18/2017

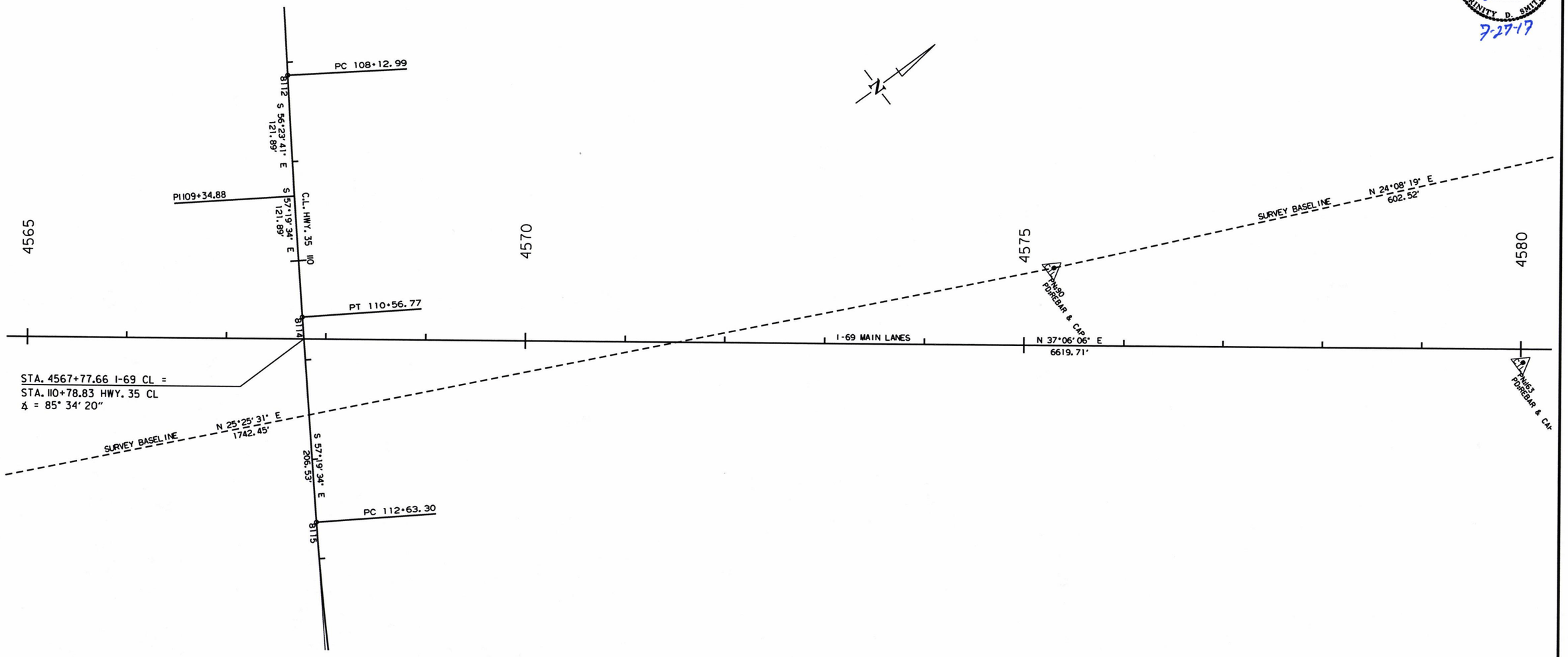
R020484.DGN

MAIN LANES
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.		020484	67	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



7/18/2017

R020484.DGN

MAIN LANES
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.		020484	68	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

SURVEY BASELINE N 26°05'23" E 473.23'
SURVEY BASELINE N 23°22'44" E 657.86'
SURVEY BASELINE N 21°10'31" E 880.99'

PNW1 PDREBAR & CAP
PNW2 PDREBAR & CAP
PNW3 PDS/8" RBR 2" ALUM. CAP

MAIN LANES
P.I. 4600+04.63
Δ = 16°21'35"LT.
D = 1°00'00"
T = 823.58'
L = 1635.96'
P.C. 4591+81.05
P.T. 4608+17.01
e = 0.037'/'
Ls = 350'

4580 4585 4590 4595

P.C. 4591+81.05

I-69 MAIN LANES N 37°06'06" E 6619.71'

PNW3 PDREBAR & CAP
PNW4 PDREBAR & CAP
PNW5 PDREBAR+CAP

8066
8091

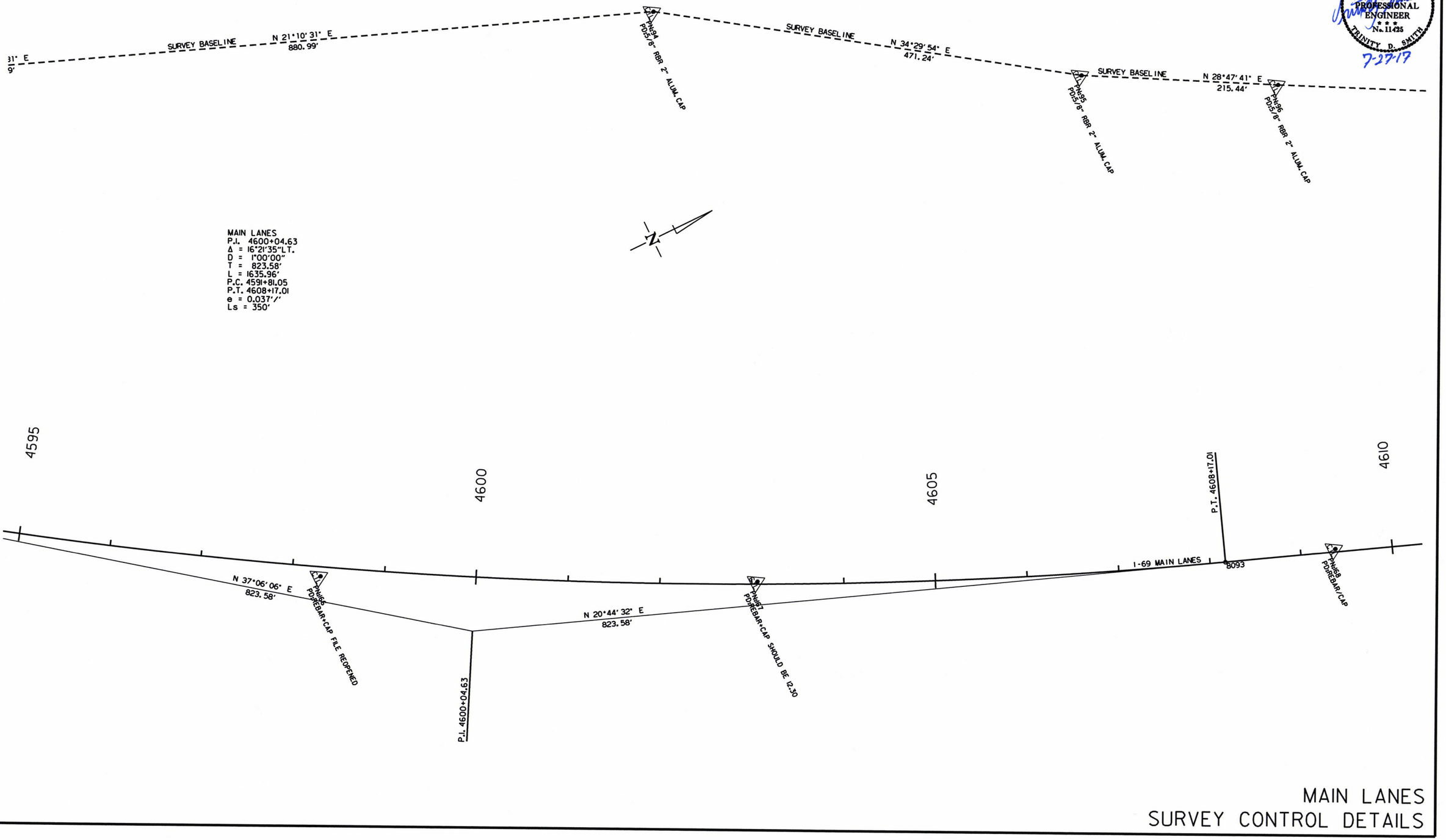
7/18/2017
R020484.DGN

MAIN LANES
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.		020484	69	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



7/18/2017

R020484.DGN

MAIN LANES
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.		020484	70	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

SURVEY BASELINE N 28°16'32" E 558.96'

SURVEY BASELINE N 26°56'49" E 567.33'

SURVEY BASELINE N 32°13'50" E 304.78'

SURVEY BASELINE N 42°07'04" E 273.58'

PNW7 PDS/8" RBR 2" ALUM. CAP

PNW8 PDS/8" RBR 2" ALUM. CAP

PNW9 PDS/8" RBR 2" ALUM. CAP

4610

4615

4620

4625

I-69 MAIN LANES N 20°44'32" E 1772.28'

PNW6 PDS/8" RBR 2" ALUM. CAP

PNW10 PDS/8" RBR 2" ALUM. CAP

PNW11 PDS/8" RBR 2" ALUM. CAP

STA. 4610+50.00 AHEAD =
STA. 4610+45.12 BACK

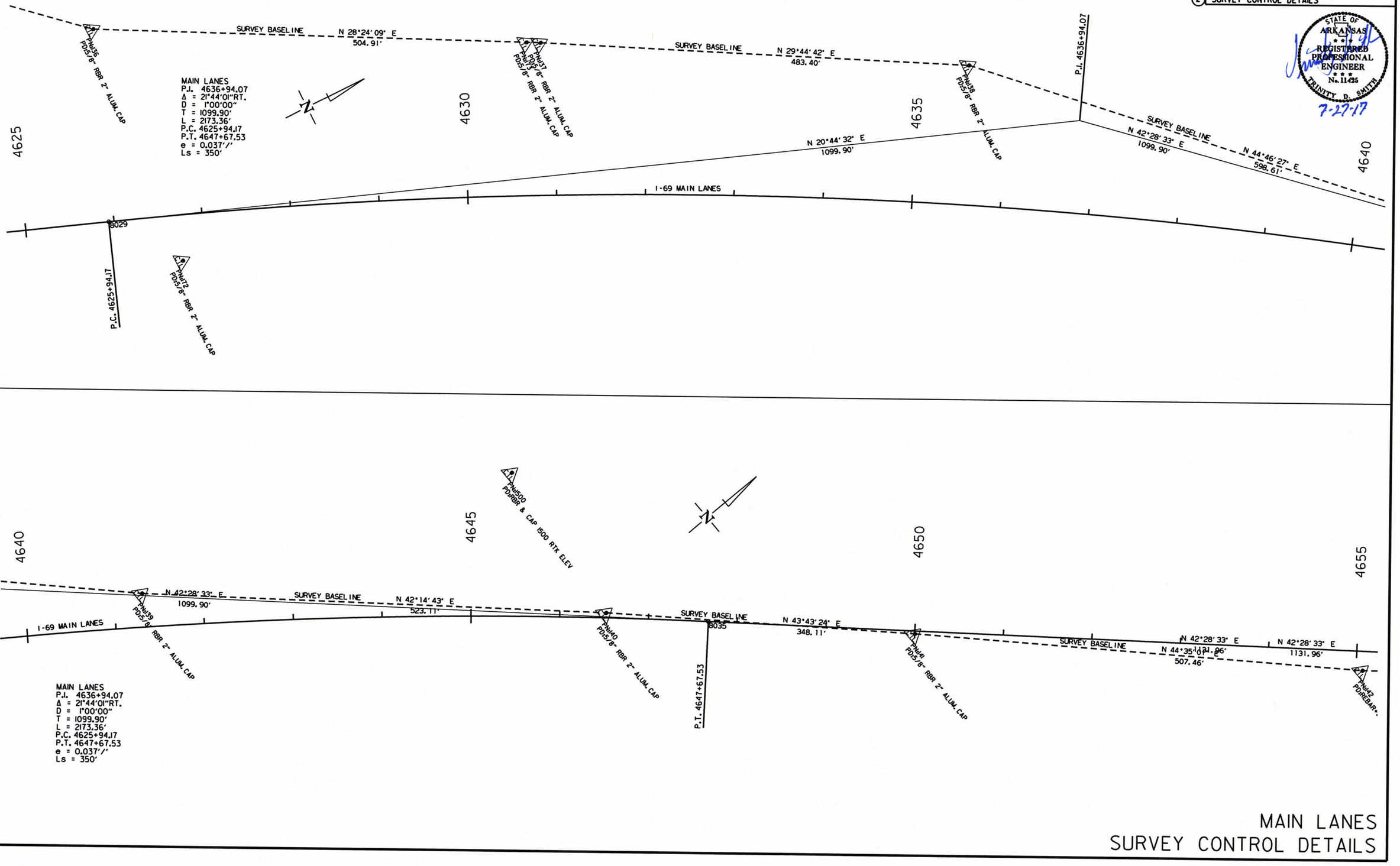
R020484.DGN 7/18/2017

MAIN LANES
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.		020484	71	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



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R020484.DGN

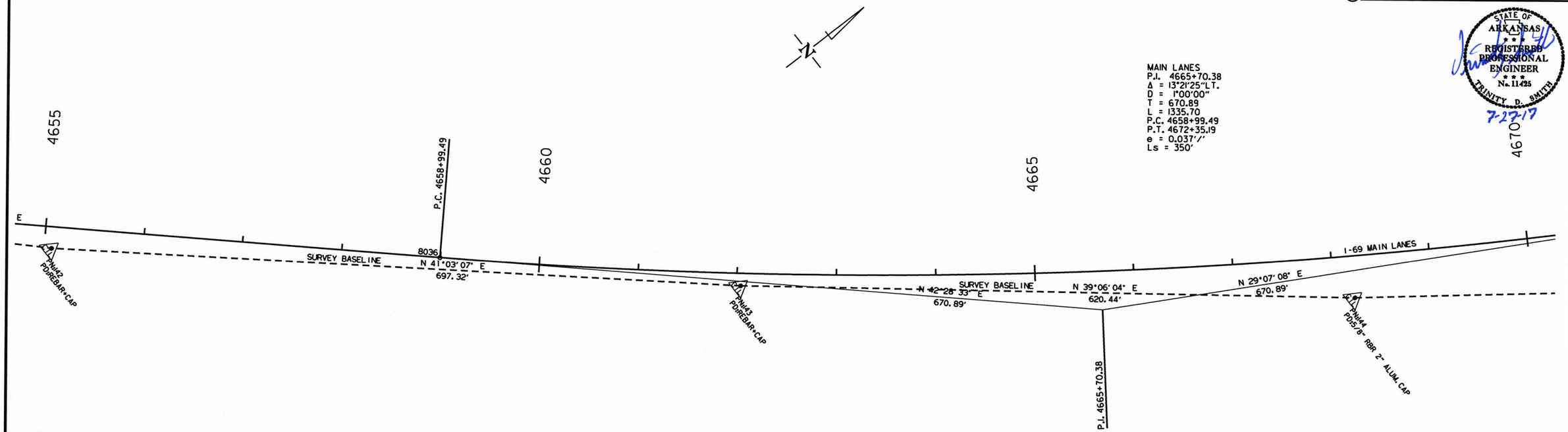
MAIN LANES
SURVEY CONTROL DETAILS

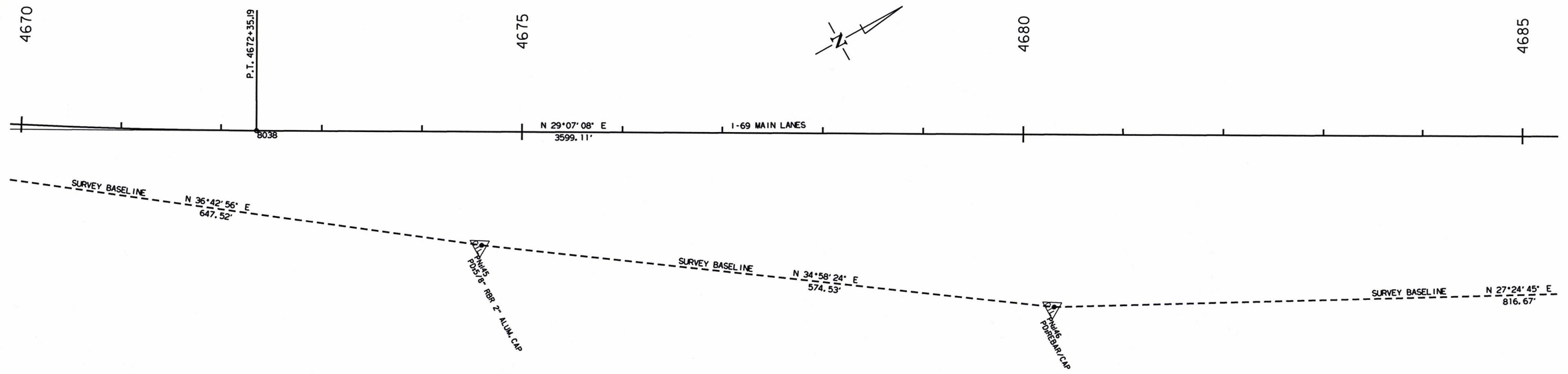
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	72	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

MAIN LANES
P.I. 4665+70.38
Δ = 13°21'25"LT.
D = 1°00'00"
T = 670.89
L = 1335.70
P.C. 4658+99.49
P.T. 4672+35.19
e = 0.037'/'
Ls = 350'





7/18/2017

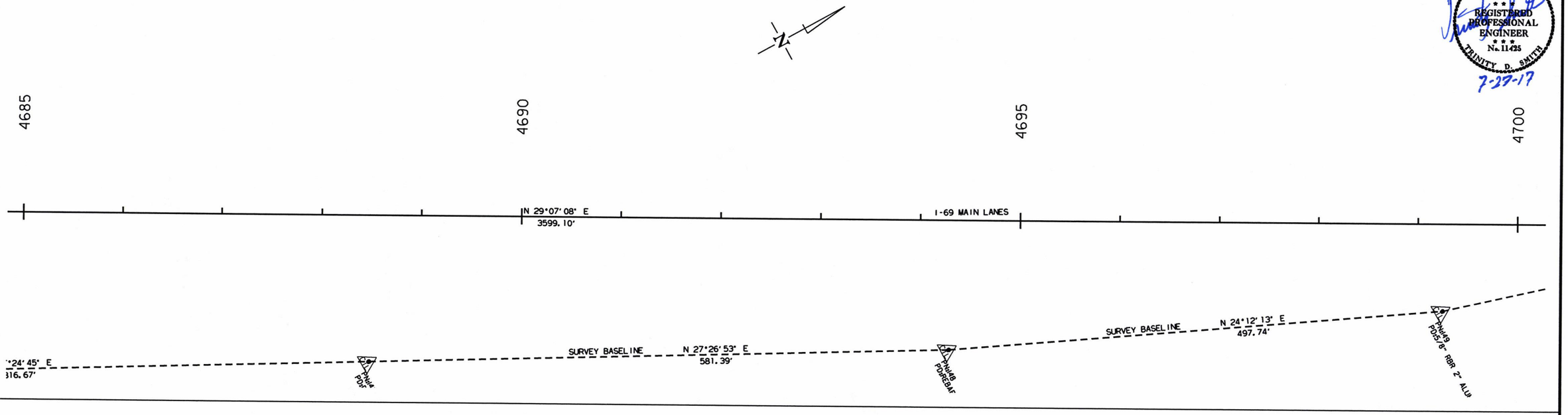
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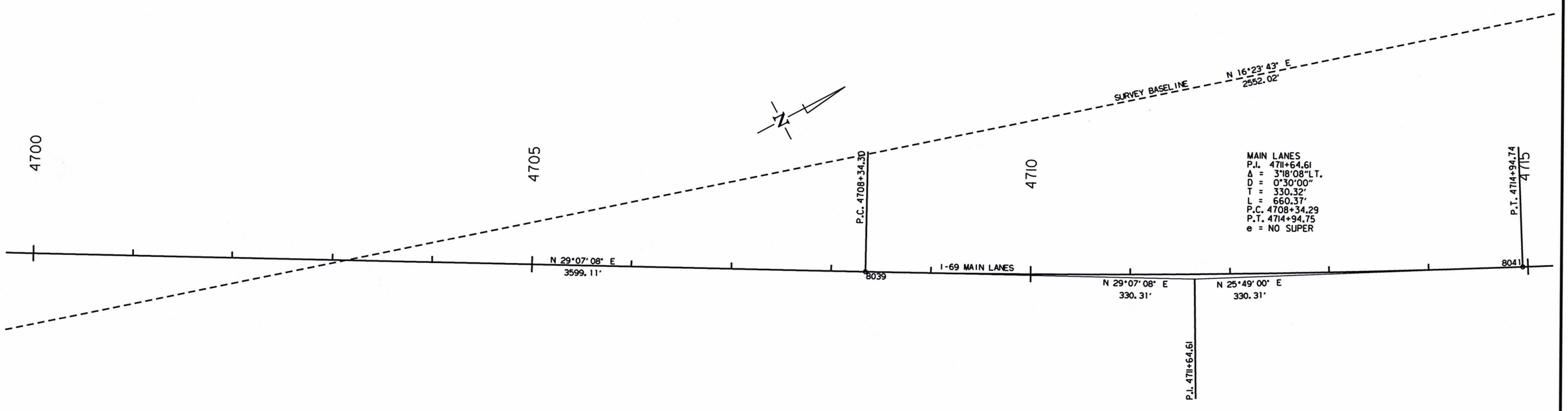
MAIN LANES
SURVEY CONTROL DETAILS

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.		020484	73	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17





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R020484.DGN

MAIN LANES
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.		020484	74	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

PT 104+68.69
8040 SURVEY BASELINE
105
N 76°34'44" E
126.94'
8041
PC 105+95.63
N 16°23'43" E
2552.02'
SURVEY BASELINE
HWY. 278
P.I. 107+07.48
Δ = 5°07'25"RT.
D = 2°17'31"
T = 111.85'
L = 223.56'
P.C. 105+95.63
P.T. 108+19.19
MATCH EXIST.
8042 PLUG RBR 2" ALUM. CAP TRIG ELEV
R 1107+07.48
SURVEY BASELINE
8043
PT 108+19.19
PC 108+88.31
8044
N 81°42'09" E
69.72'
110
P 1110+64.29
HWY. 278
P.I. 110+64.29
Δ = 25°44'53"RT.
D = 7°26'28"
T = 175.99'
L = 346.03'
P.C. 108+88.31
P.T. 112+34.33
MATCH EXIST.
P.T. 4714+94.74
4715
4720
4725
8041
N 25°49'00" E
1152.20'
I-69 MAIN LANES
8073
STA. 4726+46.95
END JOB 020484
SURVEY BASELINE
STA. 4726+46.95 I-69 CL =
STA. 111+23.52 HWY. 278 CL
Δ = 76° 19' 13"
PT 112+34.33
8089
PC 112+58.30
8090
S 72°32'57" E
23.96'
P 1113+34.55
HWY. 278
P.I. 113+34.55
Δ = 3°29'38"RT.
D = 2°17'31"
T = 76.25'
L = 152.45'
P.C. 112+58.30
P.T. 114+10.75
MATCH EXIST.
PT 114+10.75
8092

7/18/2017
R020484.DGN

MAIN LANES
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.		020484	75	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 99+55.00
BEGIN HWY. 425
JOB 020484

P.I. = 99+55.00
Δ = 108° 28" RT.

8132 — N 0°18' 34" E 699.91' — 8119 — N 1°24' 02" E 105.00' — 8120

P.I. = 100+60.00
Δ = 108° 28.3" LT.

C.L. HWY. 425

SURVEY BASE LINE

STA. 4268+56.17 I-69 CL =
STA. 109+62.94 HWY. 425 CL
Δ = 87° 37' 00"

PK nail
PW-33
PORREBAR-CAP

C.L. I-69 SURVEY

S 85°04' 44" E
779.39'

110 — N 0°18' 34" E 2070.00' — 115 — 120 — N 0°46' 55" W 105.00' — 8122 — 8079 — N 0°18' 34" E 267.20' — 125 — 8133

P.I. = 121+30.00
Δ = 108° 28.1" LT.

P.I. = 122+35.00
Δ = 108° 28.1" RT.

STA. 122+35.00
END HWY. 425
JOB 020484

P.I. 125+02.20

4270

7/18/2017

R020484.DGN

SURVEY PLAT

HWY. 425
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.		020484	76	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

EXIST. HWY. 35
P.I. 109+34.88
Δ = 0°55'52"LT.
D = 0°22'55"
T = 121.89'
L = 243.78'
P.C. 108+12.99
P.T. 110+56.77
MATCH EXIST.

EXIST. HWY. 35
P.I. 115+28.15
Δ = 11°12'17"LT.
D = 2°07'19"
T = 264.85'
L = 528.01'
P.C. 112+63.30
P.T. 117+91.31
MATCH EXIST.

4570

STA. 107+35.00
BEGIN HWY. 35
JOB 020484

PC 108+12.99

PT 110+56.77

PC 112+63.30

STA. 115+05.00
END HWY. 35
JOB 020484

PT 117+91.31

105 C.L. HWY. 35 S 56°23'41" E 402.33' 110 S 57°19'34" E 206.53' 115 S 68°31'51" E 656.92'

8111 8112 8114 8115 8117

PT 104+10.65

PI 109+34.88

PI 115+28.15

N 25°25'31" E 1742.45'

SURVEY BASELINE

STA. 4567+77.66 I-69 CL =
STA. 110+78.83 HWY. 35 CL
Δ = 85° 34' 20"

4565

C.L. HWY. 35

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HWY. 35
SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		020484	77	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
TRINITY D. SMITH
No. 11425
7-27-17

STA. 100+61.95
BEGIN HWY. 278
JOB 020484

P.I. 102+67.67

N 55°23' 34" E
160.63'

SURVEY BASELINE

8028

8027

P.C. 100+61.95

P.C. 100+94.70

105

SURVEY BASELINE

N 76°34' 44" E
126.94'

8040

8041

P.T. 104+68.69

HWY. 278
P.I. 102+67.67
Δ = 21°11'10"RT.
D = 5°12'31"
T = 205.72'
L = 406.74'
P.C. 100+61.95
P.T. 104+68.69
MATCH EXIST.

P.C. 105+95.63

N 16°23' 43" E
2552.02'

SURVEY BASELINE

P.I. 107+07.48

PN116
PD=0.0
RBR 2" ALUM. CAP TRIG ELEV

HWY. 278
P.I. 107+07.48
Δ = 5°07'25"RT.
D = 2°17'31"
T = 111.85'
L = 223.56'
P.C. 105+95.63
P.T. 108+19.19
MATCH EXIST.

P.T. 108+19.19

P.C. 108+88.31

SURVEY BASELINE

8043

8044

N 81°42' 09" E
69.12'

110

P.I. 110+64.29

8073

HWY. 278
P.I. 110+64.29
Δ = 25°44'53"RT.
D = 7°26'28"
T = 175.99'
L = 346.03'
P.C. 108+88.31
P.T. 112+34.33
MATCH EXIST.

4725

P.I. 113+34.55

SURVEY BASELINE

8089

8090

S 72°32' 57" E
23.96'

P.T. 112+34.33

P.C. 112+58.30

HWY. 278
P.I. 113+34.55
Δ = 3°29'38"RT.
D = 2°17'31"
T = 76.25'
L = 152.45'
P.C. 112+58.30
P.T. 114+10.75
MATCH EXIST.

8092

115

P.T. 114+10.75

STA. 4726+58.20 42.00' RT. OF I-69 CL =
STA. 111+67.0 HWY. 278 CL
Δ = 76° 19' 13"

115

SURVEY BASELINE

S 69°03' 19" E
507.13'

8093

P.C. 119+17.88

P.I. 119+55.04

HWY. 278
P.I. 119+55.04
Δ = 2°07'45"LT.
D = 2°51'53"
T = 37.16'
L = 74.32'
P.C. 119+17.88
P.T. 119+92.20
MATCH EXIST.

PN#111
PD=NTD GPS 220021A

8095

P.T. 119+92.20

120

SURVEY BASELINE

S 71°11'04" E
328.85'

8096

P.C. 123+21.05

HWY. 278
P.I. 124+42.71
Δ = 5°09'36"LT.
D = 2°07'19"
T = 121.66'
L = 243.15'
P.C. 123+21.05
P.T. 125+64.20
MATCH EXIST.

PN#5399
PD=906 CPS IN PP

P.I. 124+42.71

125

P.T. 125+64.20

SURVEY BASELINE

8098

P.O.E. 126+08.68

126

S 76°20' 39" E
309.44.48'

P.T. 125+64.20

STA. 125+64.20
END HWY. 278
JOB 020484

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HWY. 278
SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		020484	78	139

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 100+00.00
BEGIN C.R. 36

POB 100+00.00

8012

8013

N 14°51' 40" W
17.67'

P.C. 100+17.67

COUNTY ROAD 36
P.I. 101+77.26
Δ = 15°51'25"RT.
D = 5°00'00"
T = 159.59'
L = 317.14'
P.C. 100+17.67
P.T. 103+34.81

P.I. 101+77.26

8015

N 0°59' 48" E
102.22'

P.T. 103+34.81

8016

P.C. 104+37.03

COUNTY ROAD 36
P.I. 105+63.66
Δ = 12°36'45"LT.
D = 5°00'00"
T = 126.64'
L = 252.25'
P.C. 104+37.03
P.T. 106+89.28

P.I. 105+63.66

P.T. 106+89.28

8018

PK-48 PORFEBAR & CAP

N 11°37' 00" W
249.10'

8020

P.C. 109+38.38

STA. 4340+65.09 I-69 CL =
STA. 106+94.76 COUNTY ROAD 36 CL
Δ = 77° 27' 54"

P.I. 111+33.90

P.T. 106+89.28

PK-48 PORFEBAR & CAP

8018

N 11°37' 00" W
249.10'

8020

P.C. 109+38.38

COUNTY ROAD 36
P.I. 111+33.90
Δ = 19°21'56"LT.
D = 5°00'00"
T = 195.52'
L = 387.31'
P.C. 109+38.38
P.T. 113+25.69

P.I. 111+33.90

P.T. 113+25.69

8022

N 30°58' 56" W
118.40'

8023

P.I. 115+80.02

COUNTY ROAD 36
P.I. 115+80.02
Δ = 13°31'48"RT.
D = 5°00'00"
T = 135.93'
L = 270.60'
P.C. 114+44.09
P.T. 117+14.69

P.C. 114+44.09

P.T. 117+14.69

8025

N 17°27' 08" W
55.94'

8026

POE 117+80.63

STA. 117+80.63
END C.R. 36

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SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		020484	79	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4270+00 - CONSTRUCT
DBL. 6' x 3' x 136' R.C. BOX CULV'T.
WITH 3:1 WINGS
050 = 80 cfs; DA = 33 ac

STA. 4278+10 - IN PLACE
44" x 27" x 90' R.C. ARCH PIPE CULV'T. (CL. III)
(26° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 42 cfs; DA = 19 ac
RETAIN

STA. 4268+56.15 I-69 CL =
STA. 109+62.92 HWY. 425 CL
Δ = 87° 37' 00"

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

MAIN LANES

STA. 4268+56.15
BEGIN JOB 020484

STA. 109+61.36 37.75' RT. OF HWY. 425 CL
STA. 4268+93.95 I-69 CL
ELEV. 264.26

STA. 4270+84.80
END EMBANKMENT CONST.

P.V.I. 4267+16.05
ELEV. 263.10

P.V.I. 4271+16.05
ELEV. 267.70

K 888.89
VC=800'
e=0.90'

K 162.50
VC=325'
e=0.81'

FUTURE

K 382.36
VC=325'
e=-0.35'

0.00%

+00

EXIST. SLOPE

RT. DITCH GRADE 2.17%
LT. DITCH GRADE 2.00%

LT. DITCH GRADE 1.74%

2.00%

1.15%

1.15%

F.L. INLET 257.80 (RT.)
F.L. OUTLET 257.00 (LT.)

F.L. INLET 271.38 (RT.)
F.L. OUTLET 270.11 (LT.)

STA. 4270+00.00 (RT.) ELEV. 257.80
STA. 4270+00.00 (LT.) ELEV. 257.00

STA. 4271+00.00 ELEV. 264.26

STA. 4272+00.00 (RT.) ELEV. 261.00
STA. 4272+00.00 (LT.) ELEV. 261.00

STA. 4272+26.50 ELEV. 267.61

STA. 4272+84.04 ELEV. 268.66

STA. 4274+82.54 ELEV. 271.91

STA. 4276+45.04 ELEV. 273.78

STA. 4277+00.00 ELEV. 274.41

STA. 4277+50.00 (LT.) ELEV. 270.56

285 280 275 270 265 260 255 250 245 240

4265+00 4266+00 4267+00 4268+00 4269+00 4270+00 4271+00 4272+00 4273+00 4274+00 4275+00 4276+00 4277+00 4278+00 4279+00 4280+00

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				6	ARK.			
				JOB NO.		020484	80	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4287+10 - IN PLACE
36" x 94' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 48 cfs; DA = 25 ac
RETAIN

+90.05
210.00'

+80.00
195.00'

EXISTING R/W, C/A, & FENCE

+05.00
145.00'

N

EXIST GUARDRAIL (TYPE C)

+05.00
100.00'

+06.17
130.00'

+05.00
110.00'

SPIKE

MIXED TREES

4280

8' SHLDR.

S87°18'26.4"E

4285

4290

4295

PN:35
PD:5/8" RBR 2" ALUM. CAP

PN:36
PD:5/8" RBR 2" ALUM. CAP

PN:37
PD:5/8" RBR 2" ALUM. CAP

PN:38
PD:REBAR+CAP

24'

10' SHLDR.

MIXED TREES

MIXED TREES

C.O.P.

TRAIL

MIXED TREES

+05.00
125.00'

EXISTING R/W, C/A, & FENCE

+50.00
175.00'

EXIST GUARDRAIL (TYPE C)

+95.00
170.00'

+95.00
180.00'

+00.00
150.00'

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

MAIN LANES

STA. 4285+00.00 (RT.)
STA. 4285+00.00 (LT.)
ELEV. 279.44 (RT.)
ELEV. 279.18 (LT.)

RT. DITCH GRADE -1.16%
LT. DITCH GRADE -1.13%

F.L. INLET 276.98 (RT.)
F.L. OUTLET 276.82 (LT.)

STA. 4287+10.00 (RT.)
STA. 4287+10.00 (LT.)
ELEV. 276.80 (LT.)
ELEV. 277.00 (RT.)

+00

1.15%

RT. DITCH GRADE 3.06%

STA. 4289+50.00 (RT.)
ELEV. 284.33

310
305
300
295
290
285
280
275
270
265

4280+00 4281+00 4282+00 4283+00 4284+00 4285+00 4286+00 4287+00 4288+00 4289+00 4290+00 4291+00 4292+00 4293+00 4294+00 4295+00

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				6	ARK.			
				JOB NO.		020484	81	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4297+12 - IN PLACE
DBL. 36" x 86' R.C. PIPE CULV'T. (CL. III)
(19° LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 50 cfs; DA = 17 ac
36" R.C. PIPE CULV'T. (CL. III) = 172 LIN. FT.
36" F.E.S = 4 EACH
RETAIN

STA. 4301+60 - IN PLACE
30" x 82' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT & RT.
USE TYPE 3 BEDDING
Q50 = 24 cfs; DA = 10 ac
RETAIN

STA. 4304+40 - IN PLACE
QUINT. 36" x 23" x 78' R.C. ARCH
PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 90 cfs; DA = 30 ac
36" x 23" R.C. ARCH PIPE = 390 LIN. FT.
36" x 23" F.E.S. = 10 EACH
RETAIN

MIXED TREES
EXISTING R/W, C/A, & FENCE
POND
TRAIL
+40.00 140.00'
+80.00 120.00'
+45.00 145.00'
+95.00 145.00'
+00.00 130.00'
+00.00 100.00'
+50.00 135.00'
+00.00 115.00'
4295
4300
4305
4310
8' SHLDR.
24'
10' SHLDR.
PN:39 PD:REBAR-CAP
PN:40 PD:REBAR/CAP
PN:41 PD:5/8" RBR 2" ALUM. CAP
PN:42 PD:REBAR & CAP
S87°18'26.4"E

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

MAIN LANES

320 315 310 305 300 295 290 285 280 275

1.15%

+12
RT. DITCH GRADE -0.52%
LT. DITCH GRADE -0.55%
F.L. INLET 289.96 (RT.)
F.L. OUTLET 289.56 (LT.)
RT. DITCH GRADE 0.11%
+60
LT. DITCH GRADE -0.47%
RT. DITCH GRADE 1.62%
F.L. INLET 295.96 (RT.)
F.L. OUTLET 295.70 (LT.)
+40
LT. DITCH GRADE 0.68%
F.L. INLET 300.48 (RT.)
F.L. OUTLET 300.24 (LT.)

STA. 4295+00.00 (RT.)
STA. 4295+00.00 (LT.)
ELEV. 290.68 (LT.)
ELEV. 290.94 (RT.)
STA. 4296+80.00 (RT.)
ELEV. 290.01
STA. 4297+16.00 (LT.)
ELEV. 289.50
STA. 4297+98.40 (RT.)
ELEV. 290.14
STA. 4300+00.00 (LT.)
ELEV. 296.43
STA. 4301+60.00 (LT.)
ELEV. 295.67
STA. 4303+00.00 (LT.)
ELEV. 299.26
STA. 4304+40.00
ELEV. 300.21
STA. 4305+50.00 (RT.)
ELEV. 302.29

4295+00 4296+00 4297+00 4298+00 4299+00 4300+00 4301+00 4302+00 4303+00 4304+00 4305+00 4306+00 4307+00 4308+00 4309+00 4310+00

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				6	ARK.			
				JOB NO.		020484	82	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

MIXED TREES
GUARDRAIL (TYPE C)
+00.00 140.00'
EXISTING R/W, C/A, & FENCE
+55.50 156.50'
POND
4310
8' SHLDR.
24'
10' SHLDR.
S 87°18'26" E
4315
PN:43 PD:REBAR&CAP
PN:44 PD:REBAR & CAP
4320
PN:45 PD:REBAR & CAP
4325
PN:46 PD:REBAR & CAP
+00.00 115.00'
N
+65.00 215.00'
+10.00 160.00'
+12.90 205.00'
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

MAIN LANES

1.15%
P.V.C. 4311+53.22
ELEV. 314.12
K 1146.89
VC=2750'
e=-8.24'

340 335 330 325 320 315 310 305 300 295

4310+00 4311+00 4312+00 4313+00 4314+00 4315+00 4316+00 4317+00 4318+00 4319+00 4320+00 4321+00 4322+00 4323+00 4324+00 4325+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	83	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4330+10 - IN PLACE
42" x 86' R.C. PIPE CULV'T. (CL. III)
(22° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 61cfs; DA = 35 ac
RETAIN

STA. 4335+28 - IN PLACE
24" x 100' R.C. PIPE CULV'T. (CL. III)
(19° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 18 cfs; DA = 18 ac
RETAIN

MIXED TREES
EXISTING R/W, C/A, & FENCE
S 87°18'26" E
8' SHLDR.
24'
10' SHLDR.
PN:47
PD:REBAR & CAP
C.O.P.
DIAMETER:24.89 STEEL
6 PERCENT FILLED
PT 106+89.28
TELEPHONE LINES ON BOTH
RUINS
MEDIAN
ROUTE
P.C.E.
TRAIL
MAIN LANES

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

P.V.I. 4325+28.22
ELEV. 329.94

K 1146.89
VC=2750'
e=-8.24'

+10
F.L. INLET 310.78 (LT.)
F.L. OUTLET 308.84 (RT.)

STA. 4334+00.00 (LT.)
ELEV. 313.53

LT. DITCH GRADE -4.09%

STA 4335+23.00 (LT.)
ELEV. 308.50

+28
F.L. INLET 308.43 (LT.)
F.L. OUTLET 307.85 (RT.)

LT. DITCH GRADE 1.25%

STA. 4337+00.00 (LT.)
ELEV. 310.71

P.V.I. 4339+03.22
ELEV. 312.78

-1.25%

345 340 335 330 325 320 315 310 305 300

4325+00 4326+00 4327+00 4328+00 4329+00 4330+00 4331+00 4332+00 4333+00 4334+00 4335+00 4336+00 4337+00 4338+00 4339+00 4340+00

7/18/2017
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	84	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

COUNTY ROAD 36
N 11°37'00" W

P.C.E.

STA. 4340+75.16 42.00' RT. OF L 69 CL =
STA. 108+51.57 COUNTY ROAD 36 CL
Δ = 77° 27' 54"

EXISTING R/W, C/A, & FENCE

PN:48
PD:REBAR & CAP

R=75'
R=75'
4340
S87°18'26.4"E
4345
4350
4355

PN:49
PD:REBAR & CAP

PN:50
PD:REBAR & CAP

PN:51
PD:REBAR & CAP

8' SHLDR.
24'
10' SHLDR.

C.D.P.

R=75'
R=75'
PI 105+63.66

EXISTING R/W, C/A, & FENCE

STA. 4349+50 - IN PLACE
54" x 140' R.C. PIPE CULV'T. (CL. IV)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 150 cfs; DA = 79 ac
RETAIN

P.C.E.

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

N

MAIN LANES

STA. 4353+35.66 BEGIN TRANSITION (N.C.)
STA. 4356+85.66 BEGIN SUPERELEVATION (-0.020'/')
STA. 4360+35.66 MAX SUPERELEVATION (0.028'/')
STA. 4417+95.37 MAX SUPERELEVATION (0.028'/')
STA. 4421+45.37 END SUPERELEVATION (-0.020'/')
STA. 4424+95.37 END TRANSITION (N.C.)

-1.25%

RT. DITCH GRADE -5.65%
LT. DITCH GRADE -5.01%

STA. 4345+80.81 (LT.)
ELEV. 300.08
STA. 4346+00.00 (RT.)
ELEV. 299.91

+50

LT. DITCH GRADE 3.83%

F.L. INLET 281.46 (LT.)
F.L. OUTLET 280.26 (RT.)

STA. 4349+50.00 (RT.)
STA. 4349+50.00 (LT.)
ELEV. 280.13 (RT.)
ELEV. 281.60 (LT.)

STA. 4350+50.00 (LT.)
ELEV. 285.43

315 310 305 300 295 290 285 280 275 270

4340+00 4341+00 4342+00 4343+00 4344+00 4345+00 4346+00 4347+00 4348+00 4349+00 4350+00 4351+00 4352+00 4353+00 4354+00 4355+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	85	139

(2) PLAN AND PROFILES - MAIN LANES

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

STA. 4364+19 - IN PLACE
42" x 118' R.C. PIPE CULV'T. (CL. III)
(25° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 71cfs; DA = 39 ac
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

+00.00 140.00'
+90.00 105.00'
+97.72 130.00'
+00.00 110.00'
EXISTING R/W, C/A, & FENCE
PC 4359+48.16
4355
8' SHLDR.
24'
10' SHLDR.
S87°18'26.4"E
& CAP
4360
C.D.P.
4365
PN:55 C.P. & REBAR &
PN:54 PD:REBAR & CAP
PN:52 PD:REBAR & CAP
PN:53 PD:REBAR & CAP
EXISTING R/W, C/A, & FENCE
+60.00 145.00'

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

MAIN LANES

STA. 4353+35.66 BEGIN TRANSITION (N.C.)
STA. 4356+85.66 BEGIN SUPERELEVATION (-0.020'/')
STA. 4360+35.66 MAX SUPERELEVATION (0.028'/')
STA. 4417+95.37 MAX SUPERELEVATION (0.028'/')
STA. 4421+45.37 END SUPERELEVATION (-0.020'/')
STA. 4424+95.37 END TRANSITION (N.C.)

-1.25%
LT. DITCH GRADE -2.33%
RT. DITCH GRADE -1.97%
+19
STA. 4360+00.00 (LT.) ELEV. 279.93
STA. 4360+70.00 (RT.) ELEV. 276.46
STA. 4364+06.65 (LT.) ELEV. 270.38
STA. 4364+76.50 (RT.) ELEV. 268.46
F.L. INLET 270.18 (LT.)
F.L. OUTLET 268.68 (RT.)

300 295 290 285 280 275 270 265 260 255

4355+00 4356+00 4357+00 4358+00 4359+00 4360+00 4361+00 4362+00 4363+00 4364+00 4365+00 4366+00 4367+00 4368+00 4369+00 4370+00

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				6	ARK.			
				JOB NO.		020484	86	139

(2) PLAN AND PROFILES - MAIN LANES

STA. 4371+32 - IN PLACE
48" x 108' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 110 cfs; DA = 59 ac
RETAIN

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

STATE OF ARKANSAS
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+30.00 120.00'
+00.00 105.00'
EXISTING R/W, C/A, & FENCE
+80.00 120.00'
PN=55 C.D.P.
4370 PD=REBAR & CAP
PN=56 PD=REBAR & CAP
4375
PN=57 PD=REBAR & CAP
4380
PN=58 PD=REBAR & CAP TK=CON
8' SHLDR.
24'
10' SHLDR.
4385
+45.00 130.00'
EXISTING R/W, C/A, & FENCE
S87°18'26.4"E
+80.00 120.00'

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

MAIN LANES

STA. 4353+35.66 BEGIN TRANSITION (N.C.)
STA. 4356+85.66 BEGIN SUPERELEVATION (-0.020'/')
STA. 4360+35.66 MAX SUPERELEVATION (0.028'/')
STA. 4417+95.37 MAX SUPERELEVATION (0.028'/')
STA. 4421+45.37 END SUPERELEVATION (-0.020'/')
STA. 4424+95.37 END TRANSITION (N.C.)

280 275 270 265 260 255 250 245 240 235

-1.25%

+32
LT. DITCH GRADE -5.13%
LT. DITCH GRADE 0.24%
STA 4370+00.00 (LT.) ELEV. 267.66
F.L. INLET 260.8 (LT.)
F.L. OUTLET 260.20 (RT.)
STA. 4371+32.00 (LT.) ELEV. 260.89
STA. 4372+00.00 (LT.) ELEV. 261.05
P.V.C. 4381+03.83 ELEV. 260.36
K 1253.47
VC=1000'
e=1.00'

4370+00 4371+00 4372+00 4373+00 4374+00 4375+00 4376+00 4377+00 4378+00 4379+00 4380+00 4381+00 4382+00 4383+00 4384+00 4385+00

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				6	ARK.			
				JOB NO.		020484	87	139

(2) PLAN AND PROFILES - MAIN LANES

STA. 4385+93 - IN PLACE
DBL. 73" x 45" x 92' R.C. ARCH
PIPE CULV'T. (CL. III)
(15° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 180 cfs; DA = 108 ac
73" x 45" R.C. ARCH PIPE = 184 LIN. FT.
73" x 45" F.E.S. = 4 EACH
RETAIN

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

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EXISTING R/W, C/A, & FENCE
EARTH HAULING RD.
+85.56 145.00'
+75.00 155.00'
+10.00 130.00'
4385
8' SHLDR.
24"
10' SHLDR.
4390
4395
4400
PN59 POURREBAR & CAP
PN60 POURREBAR & CAP
PN61 POURREBAR & CAP
PN62 POURREBAR & CAP
THICK BRUSH
EARTH HAULING RD.
APPROXIMATE BOUNDARY
POND
APPROXIMATE BOUNDARY
APPROXIMATE BOUNDARY
T.C.E.
T.C.E.
T.C.E.
+95.00 135.00'
+00.00 215.00'
+00.00 215.00'
+00.00 128.23'
+90.00 130.00'
EXISTING R/W, C/A, & FENCE
T.B.M.
C.S.P.
MAIN LANES N48°10'56.3"E

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

STA. 4353+35.66 BEGIN TRANSITION (N.C.)
STA. 4356+85.66 BEGIN SUPERELEVATION (-0.020'/')
STA. 4360+35.66 MAX SUPERELEVATION (0.028'/')
STA. 4417+95.37 MAX SUPERELEVATION (0.028'/')
STA. 4421+45.37 END SUPERELEVATION (-0.020'/')
STA. 4424+95.37 END TRANSITION (N.C.)

270
265
260
255
250
245
240
235
230
225

K 1253.47
VC=1000'
e=1.00'

P.V.I. 4386+03.83
ELEV. 254.13
+93
P.V.T. 4391+03.83
ELEV. 251.88

SPECIAL FLOOD HAZARD AREA -
STA. 4395+00 TO STA. 4440+00

LT. DITCH GRADE -2.26%
RT. DITCH GRADE 0.92%
-0.45%
RT. DITCH GRADE -3.02%

STA. 4385+00.00 (LT.)
ELEV. 248.79
STA. 4385+89.22 (LT.)
ELEV. 246.77
STA. 4386+21.06 (RT.)
ELEV. 245.97
F.L. INLET 246.67 (LT.)
F.L. OUTLET 246.07 (RT.)
STA. 4390+00.00 (RT.)
ELEV. 249.46
STA. 4398+00.00 (RT.)
ELEV. 245.82

4385+00 4386+00 4387+00 4388+00 4389+00 4390+00 4391+00 4392+00 4393+00 4394+00 4395+00 4396+00 4397+00 4398+00 4399+00 4400+00

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				6	ARK.			
				JOB NO.		020484	88	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4401+87 - IN PLACE
54" x 126' R.C. PIPE CULV'T. (CL. III)
(35° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 160 cfs; DA = 87 ac
RETAIN

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

STA. 4409+85 - IN PLACE
DBL. 36" x 23" x 98' R.C. ARCH PIPE CULV'T. (CL. III)
(17° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 29 cfs; DA = 14 ac
36" x 23" R.C. ARCH PIPE = 196 LIN. FT.
36" x 23" F.E.S. = 4 EACH
RETAIN

APPROXIMATE BOUNDARY

EXISTING R/W, C/A, & FENCE

+55.00 1130.00'

+05.00 1145.00'

+20.00 1135.00'

MUDDY BOTTOM CREEK

4400

4405

4410

4415

PM63 POURE BAR & CAP

PM64 POURE BAR & CAP

PM65 POURE BAR & CAP

PM66 POURE BAR & CAP

EARTH LOADING DIA.

C.D.P.

THICK BRUSH

10' SHLDR.

24' SHLDR.

N48°10'56.3"E

70.00' 76.00'

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

MAIN LANES

STA. 4353+35.66 BEGIN TRANSITION (N.C.)
STA. 4356+85.66 BEGIN SUPERELEVATION (-0.020'/')
STA. 4360+35.66 MAX SUPERELEVATION (0.028'/')
STA. 4417+95.37 MAX SUPERELEVATION (0.028'/')
STA. 4421+45.37 END SUPERELEVATION (-0.020'/')
STA. 4424+95.37 END TRANSITION (N.C.)

SPECIAL FLOOD HAZARD AREA -
STA. 4395+00 TO STA. 4440+00

-0.45%

+87

+85

LT. DITCH GRADE -2.34%
RT. DITCH GRADE -3.02%
RT. DITCH GRADE 0.21%
RT. DITCH GRADE 1.26%
LT. DITCH GRADE -1.67%
RT. DITCH GRADE -1.67%
LT. DITCH GRADE 0.64%
RT. DITCH GRADE -0.40%
LT. DITCH GRADE -2.29%

STA. 4400+00.00 (LT.) ELEV. 239.59
STA. 4401+71.43 (LT.) ELEV. 235.58
STA. 4401+71.43 (RT.) ELEV. 234.59
STA. 4402+64.00 (RT.) ELEV. 234.78
F.L. INLET 235.50 (LT.)
F.L. OUTLET 234.86 (RT.)
STA. 4407+00.00 (RT.) ELEV. 240.29
STA. 4407+50.00 (LT.) ELEV. 240.23
STA. 4409+86.00 (LT.) ELEV. 236.28
STA. 4410+20.00 (RT.) ELEV. 234.93
F.L. INLET 236.18 (LT.)
F.L. OUTLET 235.04 (RT.)
STA. 4412+50.00 (LT.) ELEV. 237.66
STA. 4415+00.00 (RT.) ELEV. 233.02

270 265 260 255 250 245 240 235 230 225

4400+00 4401+00 4402+00 4403+00 4404+00 4405+00 4406+00 4407+00 4408+00 4409+00 4410+00 4411+00 4412+00 4413+00 4414+00 4415+00

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8-24-17				6	ARK.			
				JOB NO.		020484	89	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17

STA. 4415+71 - IN PLACE
30" x 114' R.C. PIPE CULV'T. (CL. III)
(21° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 34 cfs; DA = 16 ac
RETAIN

MAIN LANES
P.I. 4390+74.34
Δ = 44°30'37"LT.
D = 0°45'00"
T = 3126.18'
L = 5934.72'
P.C. 4359+48.16
P.T. 4418+82.88
e = 0.028'/'
Ls = 350'

STA. 4428+00 - IN PLACE
DBL. 42" x 128' R.C. PIPE CULV'T. (CL. III)
(36° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
REMOVE F.E.S. LT. & RT.
AND EXTEND 8' LT. & 8' RT. WITH F.E.S.
USE TYPE 3 BEDDING
Q50 = 150 cfs; DA = 85 ac
42" R.C. PIPE = 32 LIN. FT.
42" F.E.S. = 4 EACH

+30.00 14.26
+90.00 125.00
+00.00 135.00
+30.00 125.00
EXISTING R/W, C/A, & FENCE
GUARDRAIL (TYPE C)
PT 4418+82.88
N48°10'56.3"E
4415
4420
4425
4430
8' SHLDR.
44'
10' SHLDR.
C.S.P.
+73.88 133.45
+61.57 125.00
+23.14 150.00
GUARDRAIL (TYPE C)
EXISTING R/W, C/A, & FENCE

STA. 4427+50 TO STA. 4428+00 CONSTRUCT ON LT.
CONCRETE DITCH PAVING (TYPE B) ("W"=4') = 33 SQ. YD.

STA. 4428+00 TO STA. 4428+50 CONSTRUCT ON RT.
CONCRETE DITCH PAVING (TYPE B) ("W"=4') = 33 SQ. YD.

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

MAIN LANES

STA. 4353+35.66 BEGIN TRANSITION (N.C.)
STA. 4356+85.66 BEGIN SUPERELEVATION (-0.020'/')
STA. 4360+35.66 MAX SUPERELEVATION (0.028'/')
STA. 4417+95.37 MAX SUPERELEVATION (0.028'/')
STA. 4421+45.37 END SUPERELEVATION (-0.020'/')
STA. 4424+95.37 END TRANSITION (N.C.)

SPECIAL FLOOD HAZARD AREA -
STA. 4395+00 TO STA. 4440+00

-0.45%

RT. DITCH GRADE -2.44%
LT. DITCH GRADE -2.29%
LT. DITCH GRADE 3.07%
+71
F.L. INLET 230.77 (LT.)
F.L. OUTLET 230.37 (RT.)
STA. 4415+00.00 (RT.) ELEV. 233.02
STA. 4415+63.41 (LT.) ELEV. 230.80
STA. 4416+10.30 (RT.) ELEV. 230.33
STA. 4417+00.00 (LT.) ELEV. 235.00

RT. DITCH GRADE -3.18%
LT. DITCH GRADE -4.44%
+00
F.L. INLET 223.52 (LT.)
F.L. OUTLET 223.19 (RT.)
STA. 4426+00.00 (LT.) ELEV. 231.72
STA. 4426+00.00 (RT.) ELEV. 231.97
STA. 4427+84.00 (LT.) ELEV. 223.55
LT. DITCH GRADE 0.50%
RT. DITCH GRADE -0.16%
STA. 4428+77.50 (RT.) ELEV. 223.15
STA. 4430+00.00 (LT.) ELEV. 224.64

255 250 245 240 235 230 225 220 215 210

4415+00 4416+00 4417+00 4418+00 4419+00 4420+00 4421+00 4422+00 4423+00 4424+00 4425+00 4426+00 4427+00 4428+00 4429+00 4430+00

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				6	ARK.			
				JOB NO.		020484	90	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4434+00 - IN PLACE
42" x 108' R.C. PIPE CULV'T. (CL. III)
(30° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 75 cfs; DA = 41 ac
RETAIN

STA. 4437+78 - IN PLACE
36" x 88' R.C. PIPE CULV'T. (CL. III)
(5° LT. FWD. SKEW)
WITH F.E.S. LT & RT.
USE TYPE 3 BEDDING
Q50 = 35 cfs; DA = 17 ac
RETAIN

+85.00 155.00'

+55.00 125.00'

EXIST GUARDRAIL (TYPE C)

GRAVEL TIMBER ACCESS RD

+69.57 120.00'

+00.00 135.00'

EXISTING R/W, C/A, & FENCE

4430

4435

4440

4445

PN#69 FUREBAR & CAP

WOODS & THICK BRUSH

C.D.P.

PN#85 FUREBAR & CAP

N48°10'56.3"E

PN#70 FUREBAR & CAP

8' SHLDR.

24'

10' SHLDR.

+33.73 140.00'

EXIST GUARDRAIL (TYPE C)

+00.00 115.00'

EXISTING R/W, C/A, & FENCE

+30.00 120.00'

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

MAIN LANES

SPECIAL FLOOD HAZARD AREA -
STA. 4395+00 TO STA. 4440+00

-0.45%

RT. DITCH GRADE -0.16%

LT. DITCH GRADE -3.44%

+00

LT. DITCH GRADE 1.14%

RT. DITCH GRADE 1.97%

LT. DITCH GRADE -1.40%

+78

LT. DITCH GRADE 1.36%

F.L. INLET 222.48 (LT.)
F.L. OUTLET 222.23 (RT.)

F.L. INLET 222.35 (LT.)
F.L. OUTLET 221.84 (RT.)

STA. 4432+00.00 (LT.) ELEV. 229.02

STA. 4433+89.21 (LT.) ELEV. 222.51

STA. 4434+58.61 (RT.) ELEV. 222.20

STA. 4435+00.00 (LT.) ELEV. 223.77

STA. 4435+50.00 (RT.) ELEV. 224.00

STA. 4436+00.00 (LT.) ELEV. 224.91

STA. 4437+79.25 (LT.) ELEV. 222.41

STA. 4440+00.00 (LT.) ELEV. 225.42

255 250 245 240 235 230 225 220 215 210

4430+00 4431+00 4432+00 4433+00 4434+00 4435+00 4436+00 4437+00 4438+00 4439+00 4440+00 4441+00 4442+00 4443+00 4444+00 4445+00

7/18/2017

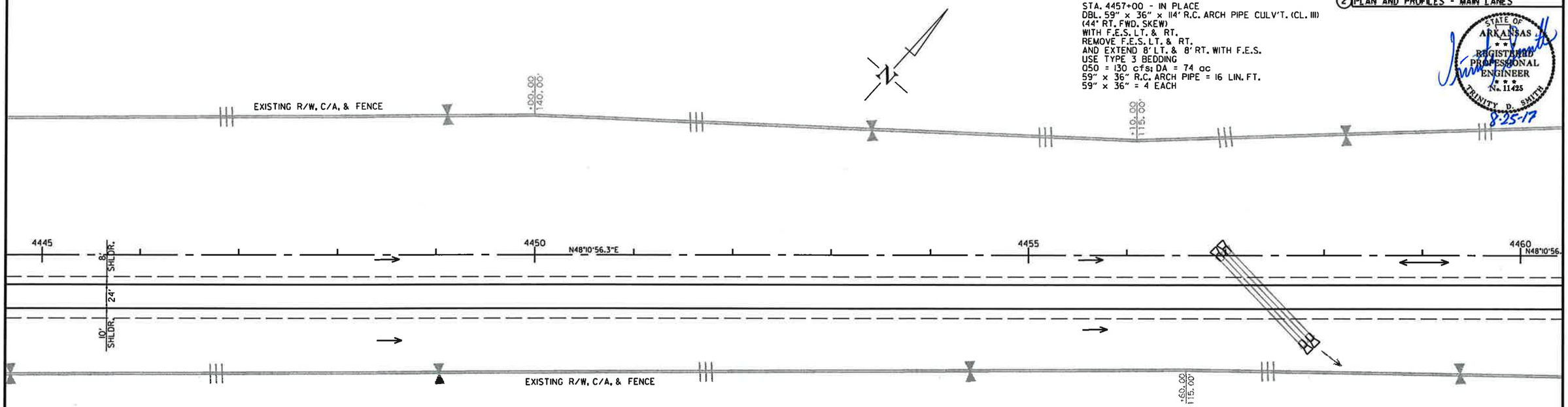
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8-24-17				6	ARK.			
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(2) PLAN AND PROFILES - MAIN LANES

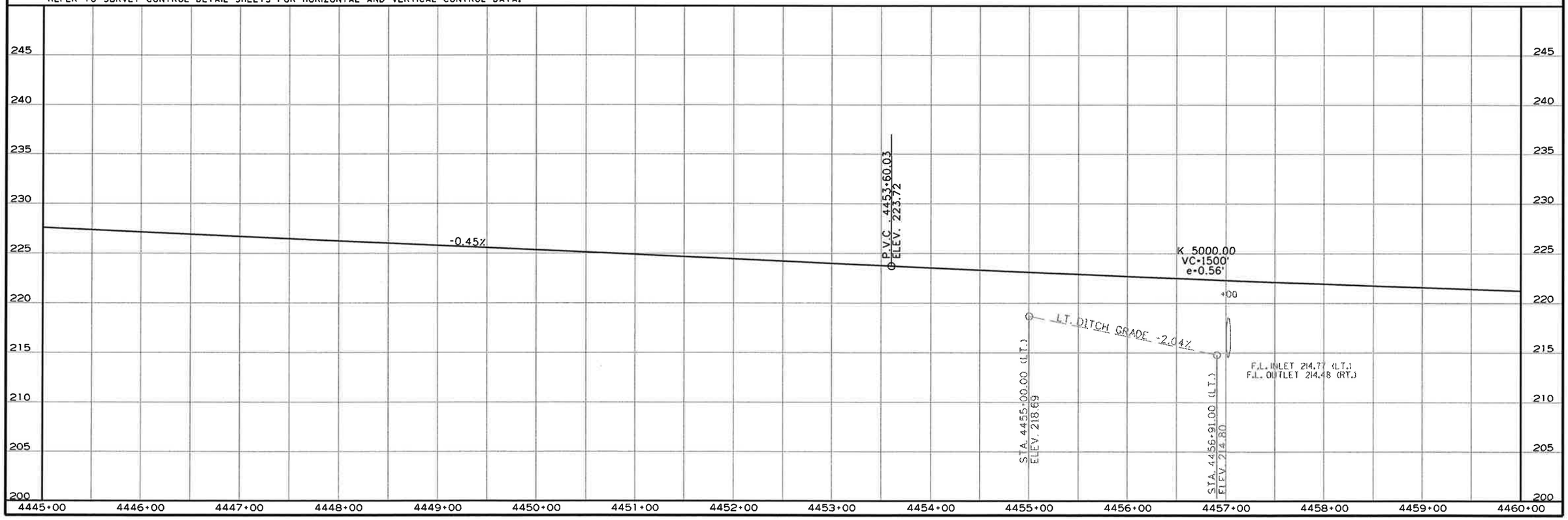
STA. 4457+00 - IN PLACE
DBL. 59" x 36" x 114' R.C. ARCH PIPE CULV'T. (CL. III)
(44° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
REMOVE F.E.S. LT. & RT.
AND EXTEND 8' LT. & 8' RT. WITH F.E.S.
USE TYPE 3 BEDDING
050 = 130 cfs; DA = 74 ac
59" x 36" R.C. ARCH PIPE = 16 LIN. FT.
59" x 36" = 4 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17



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

MAIN LANES



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				6	ARK.			
				JOB NO.		020484	92	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

POND

EXISTING R/W, C/A, & FENCE

50.00'
150.00'

PNT3
PDREBAR+CAP

PNT4
PDREBAR+CAP

WD-WOODS-DECIDUOUS

4460
N48°10'56.3"E

4465

4470

4475

8' SHLDR.

24"

10' SHLDR.

EXISTING R/W, C/A, & FENCE

MAIN LANES

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

SPECIAL FLOOD HAZARD AREA -
STA. 4474+00 TO STA. 4490+00

K 5000.00
VC=1500'
e=0.56'

P.V.I. 4461+10.03
ELEV. 220.35

P.V.T. 4468+60.03
ELEV. 219.22

-0.15%

RT. DITCH GRADE -0.80%
LT. DITCH GRADE -0.79%

STA. 4472+00.00 (RT.)
ELEV. 204.98

STA. 4473+00.00 (LT.)
ELEV. 204.21

235 230 225 220 215 210 205 200 195 190

4460+00 4461+00 4462+00 4463+00 4464+00 4465+00 4466+00 4467+00 4468+00 4469+00 4470+00 4471+00 4472+00 4473+00 4474+00 4475+00

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				6	ARK.			
				JOB NO.		020484	93	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

MAIN LANES STA. 4479+10 - IN PLACE
DBL. 9' x 7' x 138' R.C. BOX CULV'T.
(27° RT. FWD. SKEW) (SPAN = 23'- 2¼")
Q50 = 1100 cfs; DA = 1600 ac
RETAIN

EXISTING R/W, C/A, & FENCE

DUMPED RIPRAP

PN175 PDREBAR+CAP

PN176 PDREBAR/CAP

PN177 PDREBAR+CAP

PN178 PDREBAR+CAP

PN179 PDREBAR/CAP

N48°10'56.3"E

4475 4480 4485 4490

8' SHLDR.
24'
10' SHLDR.

+00.00 1155.00'
+10.00 1180.00'
+57.52 1115.00'
+25.00 1120.00'
+95.00 1150.00'
+78.00 1115.00'
+50.00 1105.00'
+20.59 1125.00'

STA. 4486+12 - IN PLACE
60" x 104' R.C. PIPE CULV'T. (CL. III)
(16°30' RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 180 cfs; DA = 104 ac
RETAIN

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

MAIN LANES

SPECIAL FLOOD HAZARD AREA -
STA. 4474+00 TO STA. 4490+00

-0.15%

+10

LT. DITCH GRADE -0.79%
RT. DITCH GRADE -0.80%

LT. DITCH GRADE 5.66%

RT. DITCH GRADE 3.29%

LT. DITCH GRADE -6.09%

+12

STA. 4478+89.00 (LT.)
ELEV. 199.54

STA. 4479+75.13 (RT.)
ELEV. 198.77

STA. 4480+00.00 (LT.)
ELEV. 205.82

STA. 4484+00.00 (RT.)
ELEV. 212.74

STA. 4485+00.00 (LT.)
ELEV. 211.28

STA. 4486+05.00 (LT.)
ELEV. 204.89

F.L. INLET 199.44 (LT.)
F.L. OUTLET 198.87 (RT.)

F.L. INLET 204.70 (LT.)
F.L. OUTLET 203.47 (RT.)

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 201.0 FEET MSL.

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 207.0 FEET MSL.

230 225 220 215 210 205 200 195 190 185

4475+00 4476+00 4477+00 4478+00 4479+00 4480+00 4481+00 4482+00 4483+00 4484+00 4485+00 4486+00 4487+00 4488+00 4489+00 4490+00

R020484.DGN 7/18/2017

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-17				6	ARK.			
				JOB NO.		020484	94	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17

STA. 4494+52 - IN PLACE
36" x 90' R.C. PIPE CULV'T. (CL. III)
(19° LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
REMOVE F.E.S. LT. & RT.
AND EXTEND 8' LT. & 8' RT. WITH F.E.S.
USE TYPE 3 BEDDING
050 = 36 cfs; DA = 23 ac
36" R.C. PIPE = 16 LIN. FT.
36" F.E.S. = 2 EACH

STA. 4499+81 - IN PLACE
24" x 86' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 12 cfs; DA = 7 ac
RETAIN

MAIN LANES
P.I. 4514+56.76
Δ = 11°04'50"LT.
D = 0°30'00"
T = 1111.52'
L = 2216.10'
P.C. 4503+45.24
P.T. 4525+61.34
e = NO SUPER

+00.00 115.00'
EXISTING R/W, C/A, & FENCE
+95.00 130.00'
PC 4503+45.24
4490
8' SHLDR.
24'
10' SHLDR.
4495
N48°10'56.3"E
4500
4505
+95.00 110.00'
+20.00 160.00'
EXISTING R/W, C/A, & FENCE
+85.00 110.00'
+31.36 115.00'

STA. 4502+80 - IN PLACE
30" x 86' R.C. PIPE CULV'T. (CL. III)
(14°30' LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 21cfs; DA = 12 ac
RETAIN

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

MAIN LANES

SPECIAL FLOOD HAZARD AREA -
STA. 4474+00 TO STA. 4490+00

STA. 4492+00.00 (RT.)
ELEV. 211.54

RT. DITCH GRADE -2.08%

STA. 4494+18.74 (RT.)
ELEV. 207.00

+52

STA. 4494+56.30 (LT.)
ELEV. 207.31

LT. DITCH GRADE 2.35%

RT. DITCH GRADE 0.25%

F.L. INLET 207.28 (LT.)
F.L. OUTLET 207.03 (RT.)

STA. 4496+00.00 (LT.)
ELEV. 210.69

-0.15%

STA. 4497+00.00 (RT.)
ELEV. 207.70

RT. DITCH GRADE -0.33%

F.L. INLET 207.37 (LT.)
F.L. OUTLET 206.82 (RT.)

STA. 4499+81.00 (LT.)
STA. 4499+81.00 (RT.)
ELEV. 207.36 (LT.)
ELEV. 206.77 (RT.)

+81

LT. DITCH GRADE 2.17%

STA. 4501+00.00 (LT.)
ELEV. 209.94

STA. 4501+50.00 (RT.)
ELEV. 210.07

RT. DITCH GRADE -3.10%

STA. 4502+00.00 (LT.)
ELEV. 209.79

LT. DITCH GRADE 3.06%

STA. 4502+55.83 (RT.)
ELEV. 206.80

+80

STA. 4502+82.28 (LT.)
ELEV. 207.28

F.L. INLET 207.23 (LT.)
F.L. OUTLET 206.84 (RT.)

240 235 230 225 220 215 210 205 200 195

4490+00 4491+00 4492+00 4493+00 4494+00 4495+00 4496+00 4497+00 4498+00 4499+00 4500+00 4501+00 4502+00 4503+00 4504+00 4505+00

R020484.DGN 8/25/2017

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.		020484	95	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

MAIN LANES
P.I. 4514+56.76
Δ = 11°04'50"LT.
D = 0°30'00"
T = 1111.52'
L = 2216.10'
P.C. 4503+45.24
P.T. 4525+61.34
e = NO SUPER

3/8" RBAR 2" ALUM. CAP RTK ELEV.

+40.00 115.00'

EXISTING R/W, C/A, & FENCE

15.00 10.00'

GUARDRAIL (TYPE C)

+35.00 135.00'

4505

PWBT FDR/BAR+CAP

8' SHLDR.

24'

10' SHLDR.

4510

4515

4520

PWBT FDR/BAR+CAP

+31.36 115.00'

EXISTING R/W, C/A, & FENCE

+80.00 105.00'

GUARDRAIL (TYPE C)

PI 4514+56.76

+10.00 115.00'

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

MAIN LANES

-0.15%

245 240 235 230 225 220 215 210 205 200

4505+00 4506+00 4507+00 4508+00 4509+00 4510+00 4511+00 4512+00 4513+00 4514+00 4515+00 4516+00 4517+00 4518+00 4519+00 4520+00

R020484.DGN 7/18/2017

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.		020484	96	139

(2) PLAN AND PROFILES - MAIN LANES

MAIN LANES
P.I. 4514+56.76
Δ = 11°04'50"LT.
D = 0°30'00"
T = 1111.52'
L = 2216.10'
P.C. 4503+45.24
P.T. 4525+61.34
e = NO SUPER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

EXISTING R/W, C/A, & FENCE

PT 4525+61.34

+30.00 125.00'

+65.00 150.00'

+15.00 170.00'

4520 4525 4530 4535

8' SHLDR. 24' 10' SHLDR.

N37°06'06.5"E

+60.00 115.00'

+75.00 105.00'

+75.00 135.00'

PNUEA PDWREAR & CAP

EXISTING R/W, C/A, & FENCE

MAIN LANES

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

STA. 4534+29.27 BEGIN TRANSITION (N.C.)
STA. 4537+79.27 BEGIN SUPERELEVATION (-0.020'/')

P.V.C. 4524+92.11
ELEV. 210.77

K 226.41
VC=600'
e=1.99'

P.V.I. 4527+92.11
ELEV. 210.32

P.V.T. 4530+92.11
ELEV. 217.82

P.V.C. 4531+86.67
ELEV. 220.19

K 285.00
VC=1425'
e=-8.91'

STA. 4533+00.00 (LT.)
ELEV. 202.40

-0.15%

2.50%

STA. 4525+00.00 (LT.)
STA. 4525+00.00 (RT.)
ELEV. 206.34 (LT.)
ELEV. 206.59 (RT.)

LT. DITCH GRADE -0.48%

RT. DITCH GRADE -1.15%

230 225 220 215 210 205 200 195 190 185

4520+00 4521+00 4522+00 4523+00 4524+00 4525+00 4526+00 4527+00 4528+00 4529+00 4530+00 4531+00 4532+00 4533+00 4534+00 4535+00

7/18/2017

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				6	ARK.			
				JOB NO.		020484	97	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4537+88 - IN PLACE
10' x 5' x 172' R.C. BOX CULV'T.
(14° RT. FWD. SKEW)
WITH 2:1 WINGS
050 = 460 cfs; DA = 490 ac
RETAIN

STA. 4538+19.90 AND
STA. 4540+27.10
CONSTRUCT TYPE C APPROACH GUTTERS
(W=6'-0" & W=10'-0") AND
TYPE C1 APPROACH SLAB AT BOTH ENDS OF BRIDGE

STA. 4537+77.00 CONSTRUCT
TYPE N-3 DROP INLET RT.
H = 3'-0"
W/12" x 75' C.M. PIPE OUTLET
WITH CONCRETE SPILLWAY (TYPE A)

STA. 4540+62 - CONSTRUCT
TYPE N-3 DROP INLET RT.
H = 3'-0"
W/12" x 95' C.M. PIPE OUTLET
WITH CONCRETE SPILLWAY (TYPE A)

STA. 4543+70 - IN PLACE
30" x 220' R.C. PIPE CULV'T. (CL. V)
(23° LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 34 cfs; DA = 19 ac
RETAIN

STA.	STA.	SIDE	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	TERMINAL ANCHOR POST (TYPE 1) EACH
4534+89.52	4538+08.27	LT.	300	1	1
4534+98.09	4538+16.84	RT.	200	1	1
4540+30.47	4541+99.22	RT.	150	1	1
4540+38.73	4544+07.48	LT.	350	1	1

MAIN LANES

EXISTING R/W, C/A, & FENCE
DUMPED RIPRAP
MUD BOTTOM CREEK
THICK BRUSH
EXIST. RR R/W
UNION PACIFIC RAILROAD
STA. 4538+19.90 BRIDGE END
STA. 4537+80.85
N37°06'06.5"E
PROPOSED R/W & C/A
P.V.I. 4538+99.17 ELEV. 238.00
STA. 4540+66.15
STA. 4540+27.10 BRIDGE END
PNM66 PUREBAR & CAP
PNM37 PUREBAR & CAP
PNM68 PUREBAR & CAP
PNM50 PUREBAR & CAP REBAR & CAP
8' SHLDR.
24' TRAVELING ROAD
10' SHLDR.
DIRT LOGGING RD.
TMA
4535
4540
4545
4550
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 4540+67.73 END SUPERELEVATION (-0.020'/')
STA. 4544+17.73 END TRANSITION (N.C.)

K 285.00
VC-1425'
e=8.91'

STA. 4538+19.90 BRIDGE END BEGIN EXCEPTION
STA. 4540+27.10 BRIDGE END END EXCEPTION
IN PLACE 207'-2¾" 205' CONT. COMP. W-BEAM UNIT (61', 83', 61' SPANS)
BRIDGE NO. 07180
40'-0" CLEAR ROADWAY

STA. 4536+00.00 (LT.) ELEV. 195.21
LT. DITCH GRADE -1.73%
RT. DITCH GRADE -1.15%
STA. 4537+75.74 (LT.) ELEV. 192.17
STA. 4538+22.52 (RT.) ELEV. 191.40
F.L. INLET 192.13 (LT.)
F.L. OUTLET 191.55 (RT.)

STA. 4542+00.00 (LT.) ELEV. 206.11
LT. DITCH GRADE -2.50%
STA. 4543+96.05 (LT.) ELEV. 201.20
F.L. INLET 201.05 (LT.)
F.L. OUTLET 197.13 (RT.)

-2.50%
P.V.T. 4546+11.67 ELEV. 220.19
P.V.C. 4547+68.86 ELEV. 216.26
K 186.05
VC-400'
e=1.08'
P.V.I. 4549+68.86 ELEV. 211.26

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 194.0 FEET MSL.

225 220 215 210 205 200 195 190 185 180
4535+00 4536+00 4537+00 4538+00 4539+00 4540+00 4541+00 4542+00 4543+00 4544+00 4545+00 4546+00 4547+00 4548+00 4549+00 4550+00

7/18/2017
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	020484		98	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

EXISTING R/W, C/A, & FENCE

+85.00
125.00'

+25.00
185.00'

4550

4555

N37°06'06.5"E

4560

4565

8' SHLDR.

24'

12'

150' TAPER

490' TAPER

10' SHLDR.

+25.00

PMED PCM/EBAR & CAP

+65.00

+30.00
140.00'

EXISTING R/W, C/A, & FENCE

+05.00
220.00'

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

MAIN LANES

K 186.05
VC=400'
e=1.08'

℄ P.V.I. 4551+68.86
ELEV. 210.56

-0.35%

235
230
225
220
215
210
205
200
195
190

4550+00 4551+00 4552+00 4553+00 4554+00 4555+00 4556+00 4557+00 4558+00 4559+00 4560+00 4561+00 4562+00 4563+00 4564+00 4565+00

7/18/2017

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	99	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 4567+80.91 42.00' RT. OF I-69 CL =
STA. 110+20.95 HWY. 35 CL
Δ = 85° 34' 20"

PI 109+34.88

STA. 110+20.95 ON HWY. 35
= STA. 4567+80.91-69
=85°34'20"

HWY. 35

EXIST. R/W

EXIST. R/W

SCREEN PLANTING

PROPOSED R/W

STA. 4572+00 - IN PLACE
DBL. 36" x 104' R.C. PIPE CULV'T. (CL. III)
(28° LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 70 cfs; DA = 42 ac
36" R.C. PIPE = 208 LIN. FT.
36" F.E.S. = 4 EACH
RETAIN

TWIN PINES

EARTH LOCKING FENCE

PM#30 FDREBAR & CAP

PM#29 FDREBAR & CAP

150' TAPER

+15.00

8' SHLDR.

4565

22'

14'

2'R

62'

S 57°19'34" E

PT 110+56.77

+30.00

8' SHLDR.

4570

N37°06'06.5"E

490' TAPER

+40.00

8' SHLDR.

4575

4580

12' 12' 22'

22' 12' 12'

24'

10' SHLDR.

490' TAPER

+15.00

10' SHLDR.

150' TAPER

+00.00

PC 112+63.30

MIXED TREES

DIRT TRAIL

ASPHALT DW

CONC. DW

WOOD PROPOSED FENCE

METAL STEEL CANTILEVER SIGN

CONC. DW

CONC. DW

DART TR.

DIRT RD.

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

MAIN LANES

STA. 4566+15.00
BEGIN EMBANKMENT CONST.

STA. 4569+50.00
END EMBANKMENT CONST.

-0.35%

+00

RT. DITCH GRADE -0.28%

LT. DITCH GRADE -0.91%

LT. DITCH GRADE 2.04%

RT. DITCH GRADE 0.13%

F.L. INLET 195.71 (RT.)
F.L. OUTLET 194.65 (LT.)

STA. 4569+10.00 (RT.)
ELEV. 196.50

STA. 4569+45.00 (LT.)
ELEV. 197.00

STA. 4571+49.00 (RT.)
ELEV. 195.83

STA. 4572+15.00 (LT.)
ELEV. 194.53

STA. 4574+00.00 (LT.)
ELEV. 198.31

STA. 4579+00.00 (RT.)
ELEV. 196.83

225 220 215 210 205 200 195 190 185 180

4565+00 4566+00 4567+00 4568+00 4569+00 4570+00 4571+00 4572+00 4573+00 4574+00 4575+00 4576+00 4577+00 4578+00 4579+00 4580+00

7/26/2017

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	100	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

MAIN LANES
P.I. 4600+04.63
Δ = 16°21'35"LT.
D = 1°00'00"
T = 823.58'
L = 1635.96'
P.C. 4591+81.05
P.T. 4608+17.01
e = 0.037'/'
Ls = 350'

PC - 4591+81.05

EXISTING R/W, C/A, & FENCE

IMKED TREES

PIN #3 FOUREBAR & CAP

PIN #4 FOUREBAR & CAP

PIN #5 FOUREBAR & CAP

C.D.P.

TRAIL

8' SHLDR.

10' SHLDR.

24'

N37°06'06.5"E

STA. 4582+00 - IN PLACE
24" x 104' R.C. PIPE CULV'T. (CL. III)
& F.E.S. ON LT. & RT.
USE TYPE 3 BEDDING
Q50 = 21cfs; DA = 12 ac
RETAIN

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

@ 200200 EXCLUSIVE

MAIN LANES

STA. 4585+68.55 BEGIN TRANSITION (N.C.)
STA. 4589+18.55 BEGIN SUPERELEVATION (-0.020'/')
STA. 4592+68.55 MAX SUPERELEVATION (0.037'/')
STA. 4607+29.51 MAX SUPERELEVATION (0.037'/')
STA. 4610+79.51 END SUPERELEVATION (-0.020'/')
STA. 4614+29.51 END TRANSITION (N.C.)

SPECIAL FLOOD HAZARD AREA -
STA. 4592+00 TO STA. 4607+00

-0.35%

LT. DITCH GRADE -3.50%

LT. DITCH GRADE 2.80%

RT. DITCH GRADE 0.34%

RT. DITCH GRADE -0.53%

STA. 4580+00.00 (LT.)
ELEV. 196.22

STA. 4582+00.00 (LT.)
STA. 4582+00.00 (RT.)
ELEV. 189.23 (LT.)
ELEV. 189.81 (RT.)

F.L. INLET 189.76 (RT.)
F.L. OUTLET 189.27 (LT.)

STA. 4584+00.00 (LT.)
ELEV. 194.82

STA. 4589+77.00 (RT.)
ELEV. 192.41

220 215 210 205 200 195 190 185 180 175

4580+00 4581+00 4582+00 4583+00 4584+00 4585+00 4586+00 4587+00 4588+00 4589+00 4590+00 4591+00 4592+00 4593+00 4594+00 4595+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	101	139

(2) PLAN AND PROFILES - MAIN LANES

MAIN LANES
P.I. 4600+04.63
Δ = 16°21'35"LT.
D = 1°00'00"
T = 823.58'
L = 1635.96'
P.C. 4591+81.05
P.T. 4608+17.01
e = 0.037'/'
Ls = 350'

STA. 4602+33 - IN PLACE
DBL. 11' x 7' x 180' R.C. BOX CULV'T.
(40° RT. FWD. SKEW) (SPAN = 34'-2⅛")
050 = 1460 cfs; DA = 2750 ac
RETAIN

STA. 4608+60 - IN PLACE
30" x 150' R.C. PIPE CULV'T. (CL. IV)
(19° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
050 = 25 cfs; DA = 9 ac
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

+45.00 270.00
+85.00 225.00
EXISTING R/W, C/A, & FENCE
+15.00 130.00
PT 4608+17.01
N20°44'31.8"E
4595
8' SHLDR.
24'
10' SHLDR.
4600
4605
4610
DUMPED RIPRAP
C.D.P.
C.D.P.
PNWG PDWREAR+CAP FILE REOPENED
PNWG PDWREAR+CAP SHOULD BE 12'30"
PNWG PDWREAR+CAP
+30.00 140.00
EXISTING R/W, C/A, & FENCE
PI 4600+04.63
+15.00 135.00
DUMPED RIPRAP
+55.00 180.00
+60.00 135.00
+80.00 150.00

MAIN LANES

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

STA. 4585+68.55 BEGIN TRANSITION (N.C.)
STA. 4589+18.55 BEGIN SUPERELEVATION (-0.020'/')
STA. 4592+68.55 MAX SUPERELEVATION (0.037'/')
STA. 4607+29.51 MAX SUPERELEVATION (0.037'/')
STA. 4610+79.51 END SUPERELEVATION (-0.020'/')
STA. 4614+29.51 END TRANSITION (N.C.)

SPECIAL FLOOD HAZARD AREA -
STA. 4592+00 TO STA. 4607+00

-0.35%

RT. DITCH GRADE -0.53%

LT. DITCH GRADE -5.08%

LT. DITCH GRADE 3.65%

RT. DITCH GRADE 1.43%

RT. DITCH GRADE -2.06%

LT. DITCH GRADE -1.99%

+33

+60

STA 4600+00.00 (LT.)
STA 4600+00.00 (RT.)
ELEV. 182.55 (LT.)
ELEV. 187.03 (RT.)

STA. 4601+91.00 (LT.)
ELEV. 172.84

F.L. INLET 172.86 (LT.)
F.L. OUTLET 172.67 (RT.)

STA. 4603+45.00 (RT.)
ELEV. 172.60

STA. 4604+00.00 (LT.)
ELEV. 180.46

STA. 4606+00.00 (LT.)
ELEV. 179.42

STA. 4607+00.00 (RT.)
ELEV. 177.68

F.L. INLET 174.46 (LT.)
F.L. OUTLET 173.54 (RT.)

STA. 4608+46.63 (LT.)
ELEV. 174.51

STA. 4609+03.00 (RT.)
ELEV. 173.49

NOTE;
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATION IS 174.0 FEET MSL.

205 200 195 190 185 180 175 170 165 160

4595+00 4596+00 4597+00 4598+00 4599+00 4600+00 4601+00 4602+00 4603+00 4604+00 4605+00 4606+00 4607+00 4608+00 4609+00 4610+00

R020484.DGN 7/18/2017

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8-24-17				6	ARK.			
				JOB NO.		020484	102	139

(2) PLAN AND PROFILES - MAIN LANES

STA. 4621+62 - IN PLACE
DBL. 54" x 146' R.C. PIPE CULV'T. (CL. III)
(45° RT. FWD. SKEW)
WITH F.E.S. LT. & RT.
REMOVE F.E.S. LT. & RT.
AND EXTEND 8' LT. & 8' RT. WITH F.E.S.
USE TYPE 3 BEDDING
050 = 260 cfs; DA = 250 ac
54" R.C. PIPE = 32 LIN. FT.
54" F.E.S. = 4 EACH

STA. 4621+00 TO STA. 4621+50 IN PLACE ON LT.
CONCRETE DITCH PAVING (TYPE B) ("W"=4') = 33 SQ. YD.

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8-25-17

+30.00 (160.00')
+50.00 (130.00')
EXISTING R/W, C/A, & FENCE
+40.00 (115.00')
+70.00 (135.00')
+80.00 (125.00')

STA. 4610+45.12 BACK
STA. 4610+50.00 AHEAD

4610 | 4615 | 4620 | 4625

8' SHLDR.
24'
10' SHLDR.

N 20°44' 32" E

C.D.P.
C.D.P.

N20°

+55.00 (120.00')
EXISTING R/W, C/A, & FENCE
+80.00 (175.00')
+15.00 (105.00')

MAIN LANES

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

STA. 4585+68.55 BEGIN TRANSITION (N.C.)
STA. 4589+18.55 BEGIN SUPERELEVATION (-0.020'/')
STA. 4592+68.55 MAX SUPERELEVATION (0.037'/')
STA. 4607+29.51 MAX SUPERELEVATION (0.037'/')
STA. 4610+79.51 END SUPERELEVATION (-0.020'/')
STA. 4614+29.51 END TRANSITION (N.C.)

STA. 4619+81.67 BEGIN TRANSITION (N.C.)
STA. 4623+31.67 BEGIN SUPERELEVATION (-0.020'/')
STA. 4626+81.67 MAX SUPERELEVATION (-0.037'/')
STA. 4646+80.03 MAX SUPERELEVATION (-0.037'/')
STA. 4650+30.03 END SUPERELEVATION (-0.020'/')

205 | 200 | 195 | 190 | 185 | 180 | 175 | 170 | 165 | 160

STA. 4610+45.12 BACK (ELEV. 189.99)
STA. 4610+50.00 AHEAD (ELEV. 189.99) =

-0.35%

STA. 4620+00.00 (L.T.)
ELEV. 182.24

STA. 4623+00.00 (L.T.)
ELEV. 175.70

RT. DITCH GRADE -2.05%
LT. DITCH GRADE -6.1%
+62
LT. DITCH GRADE 1.17%
RT. DITCH GRADE -0.52%

STA. 4618+00.00 (RT.)
ELEV. 183.19

F.L. INLET 173.78 (L.T.)
F.L. OUTLET 173.53 (RT.)

STA. 4621+38.14 (L.T.)
ELEV. 173.80

STA. 4622+70.14 (RT.)
ELEV. 173.50

STA. 4623+45.00 (RT.)
ELEV. 173.11

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 174.0 FEET MSL.

4610+00 | 4611+00 | 4612+00 | 4613+00 | 4614+00 | 4615+00 | 4616+00 | 4617+00 | 4618+00 | 4619+00 | 4620+00 | 4621+00 | 4622+00 | 4623+00 | 4624+00 | 4625+00

R020484.DGN 8/25/2017

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				6	ARK.			
				JOB NO.		020484	103	139

(2) PLAN AND PROFILES - MAIN LANES

MAIN LANES
P.I. 4636+94.07
Δ = 21°44'01"RT.
D = 1°00'00"
T = 1099.90'
L = 2173.36'
P.C. 4625+94.17
P.T. 4647+67.53
e = 0.037'/'
Ls = 350'

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PI 4636+94.07

PM36 PD5/8" RBR 2" ALUM. CAP
+65.00 1165.00'
PM37 PD5/8" RBR 2" ALUM. CAP
+05.60 1305.00'
PM38 PD5/8" RBR 2" ALUM. CAP
+30.00 1140.00'
EXISTING R/W, C/A, & FENCE

4625 N20°44'31.8"E
PC 4625+94.17
PM72 PD5/8" RBR 2" ALUM. CAP
+15.00 105.00'
+85.00 1140.00'
+21.63 1145.50'
EXISTING R/W, C/A, & FENCE

4630 4635 4640
8' SHLDR. 24' 10' SHLDR.

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

MAIN LANES

STA. 4619+81.67 BEGIN TRANSITION (N.C.)
STA. 4623+31.67 BEGIN SUPERELEVATION (-0.020'/')
STA. 4626+81.67 MAX SUPERELEVATION (-0.037'/')
STA. 4646+80.03 MAX SUPERELEVATION (-0.037'/')
STA. 4650+30.03 END SUPERELEVATION (-0.020'/')

-0.35%

P.V.C. 4634+04.48
ELEV. 181.75

K 2857.14
VC=1000'
e=0.44'

P.V.T. 4639+04.48
ELEV. 180.00

215 210 205 200 195 190 185 180 175 170

4625+00 4626+00 4627+00 4628+00 4629+00 4630+00 4631+00 4632+00 4633+00 4634+00 4635+00 4636+00 4637+00 4638+00 4639+00 4640+00

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				6	ARK.			
				JOB NO.		020484	104	139

(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
7-27-17

MAIN LANES
P.I. 4636+94.07
Δ = 21°44'01"RT.
D = 1°00'00"
T = 1099.90'
L = 2173.36'
P.C. 4625+94.17
P.T. 4647+67.53
e = 0.037'/'
Ls = 350'

EXISTING R/W, C/A, & FENCE

+90.00 175.00'

+25.00 165.00'

PN4500 PDRBR & CAP 1500 RTK ELEV

MIXED TREES

+95.00 155.00'

+00.00 120.00'

4640

4645

4650

4655

PN439 PDS5/8" RBR 2" ALUM. CAP

PN446 PDS5/8" RBR 2" ALUM. CAP

PT 4647+67.53

PN444 PDS5/8" RBR 2" ALUM. CAP

N 42°28'33" E

8' SHLDR.

10' SHLDR.

24'

PN442 PDRBR&CAP

+15.00 120.00'

EXISTING R/W, C/A, & FENCE

+64.94 105.00'

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

STA. 4619+81.67 BEGIN TRANSITION (N.C.)
STA. 4623+31.67 BEGIN SUPERELEVATION (-0.020'/')
STA. 4626+81.67 MAX SUPERELEVATION (-0.037'/')
STA. 4646+80.03 MAX SUPERELEVATION (-0.037'/')
STA. 4650+30.03 END SUPERELEVATION (-0.020'/')

K 2857.14
VC=1000'
e=0.44'

P.V.T. 4644+04.48
ELEV. 180.00

0.00%

SPECIAL FLOOD HAZARD AREA -
STA. 4648+00 TO STA. 4663+00

RT. DITCH GRADE -0.58%

RT. DITCH GRADE -1.44%

STA. 4645+00.00 (RT.)
ELEV. 175.38

STA. 4650+00.00 (RT.)
ELEV. 172.50

STA. 4652+00.00 (RT.)
ELEV. 169.17

200 195 190 185 180 175 170 165 160 155

4640+00 4641+00 4642+00 4643+00 4644+00 4645+00 4646+00 4647+00 4648+00 4649+00 4650+00 4651+00 4652+00 4653+00 4654+00 4655+00

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				6	ARK.			
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(2) PLAN AND PROFILES - MAIN LANES

STATE OF ARKANSAS
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STA. 4658+25 - IN PLACE
DBL. 11' x 9' x 121' R.C. BOX CULV'T.
(5° LT. FWD. SKEW) (SPAN = 24'-5")
WITH 3:1 WINGS
Q50 = 1950 cfs; DA = 5330 ac
RETAIN

MAIN LANES
P.I. 4665+70.38
Δ = 13°21'25"LT.
D = 1°00'00"
T = 670.89'
L = 1335.70'
P.C. 4658+99.49
P.T. 4672+35.19
e = 0.037'/'
Ls = 350'

+40.00 210.00'
+75.00 140.00'
+10.00 130.00'
+55.00 120.00'
+11+31 150.00'
DUMPED RIPRAP
EXISTING R/W, C/A, & FENCE
MIXED TREES
PC 4658+99.49
4655
N 42°28' 33" E
4660
4665
4670
PNH42 PDDREBAR+CAP
PNH43 PDDREBAR+CAP
PNH44 PDD5/8" RBR 2" ALUM CAP
8' SHLDR.
10' SHLDR
24'
+55.00 155.00'
+10.00 125.00'
PI 4665+70.38
+05.39 130.00'
EXISTING R/W, C/A, & FENCE
DUMPED RIPRAP
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

MAIN LANES

STA. 4656+36.99 BEGIN SUPERELEVATION (-0.020'/')
STA. 4659+86.99 MAX SUPERELEVATION (0.037'/')
STA. 4671+47.69 MAX SUPERELEVATION (0.037'/')
STA. 4674+97.69 END SUPERELEVATION (-0.020'/')
STA. 4678+47.69 END TRANSITION (N.C.)

SPECIAL FLOOD HAZARD AREA -
STA. 4648+00 TO STA. 4663+00

P.V.C. 4661+48.32
ELEV. 180.00

K 2863.63
VC-1000'
e-0.44'

0.00%

STA. 4655+00.00 (LT.)
ELEV. 169.33

LT. DITCH GRADE -2.7%
RT. DITCH GRADE -1.44%

STA. 4658+13.39 (RT.)
ELEV. 160.35

STA. 4658+29.11 (LT.)
ELEV. 160.40

+25

F.L. INLET 160.39 (LT.)
F.L. OUTLET 160.36 (RT.)

RT. DITCH GRADE 3.76%

STA. 4660+00.00 (LT.)
ELEV. 161.41

LT. DITCH GRADE 0.59%

STA. 4661+00.00 (RT.)
ELEV. 171.13

P.V.I. 4666+48.32
ELEV. 180.00

STA. 4667+00.00 (RT.)
ELEV. 177.84

RT. DITCH GRADE 0.12%

NOTE:
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATION IS 164.0 FEET MSL.

195 190 185 180 175 170 165 160 155 150

4655+00 4656+00 4657+00 4658+00 4659+00 4660+00 4661+00 4662+00 4663+00 4664+00 4665+00 4666+00 4667+00 4668+00 4669+00 4670+00

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				6	ARK.			
				JOB NO.		020484	106	139

(2) PLAN AND PROFILES - MAIN LANES

MAIN LANES
P.I. 4665+70.38
Δ = 13°21'25"LT.
D = 1°00'00"
T = 670.89'
L = 1335.70'
P.C. 4658+99.49
P.T. 4672+35.19
e = 0.037'/'
Ls = 350'

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+65.00 145.00'

EXISTING R/W, C/A, & FENCE

+90.00 155.00'

PT 4672+35.19

4670 4675 4680 N29°07'07.7"E 4685

8' SHLDR. 24' 10' SHLDR.

+00.00 135.00'

EXISTING R/W, C/A, & FENCE

+50.00 130.00'

PM#45 RDS/8" RBR 2" ALUM. CAP

PM#46 PORREBAR

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

MAIN LANES

STA. 4656+36.99 BEGIN SUPERELEVATION (-0.020'/')
STA. 4659+86.99 MAX SUPERELEVATION (0.037'/')
STA. 4671+47.69 MAX SUPERELEVATION (0.037'/')
STA. 4674+97.69 END SUPERELEVATION (-0.020'/')
STA. 4678+47.69 END TRANSITION (N.C.)

K 2863.63
VC-1000'
e-0.44'

P.V.T. 4671+48.32
ELEV. 181.75

STA. 4675+00.00 (RT.)
ELEV. 178.80

0.35%

RT. DITCH GRADE 0.12%

215 210 205 200 195 190 185 180 175 170

4670+00 4671+00 4672+00 4673+00 4674+00 4675+00 4676+00 4677+00 4678+00 4679+00 4680+00 4681+00 4682+00 4683+00 4684+00 4685+00

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				JOB NO.		020484	107	139

(2) PLAN AND PROFILES - MAIN LANES

STA. 4692+72 - IN PLACE
60" x 126' R.C. PIPE CULV'T. (CL. III)
(35° LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
REMOVE F.E.S. LT. & RT.
AND EXTEND 8' LT. & 8' RT. WITH F.E.S.
USE TYPE 3 BEDDING
Q50 = 190 cfs; DA = 110 ac
60" R.C. PIPE = 16 LIN. FT.
60" F.E.S. = 2 EACH

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+20.00 125.00'
+10.00 125.00'
EXISTING R/W, C/A, & FENCE
+50.00 175.00'
GUARDRAIL (TYPE C)
+10.00 145.00'
+70.00 155.00'

4685
8" SHLDR.
N29°07'07.7"E
4690
4695
4700
24'
10' SHLDR.

EXISTING R/W, C/A, & FENCE
GUARDRAIL (TYPE C)
+00.00 140.00'
+00.00 125.00'

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

MAIN LANES

STA. 4690+00.00 (LT.)
ELEV. 183.79
0.35%
P.V.C. 4696+68.45
ELEV. 190.55
K=8590.88
VC=6000'
e=-5.24'
RT. DITCH GRADE 0.03%
STA. 4699+00.00 (RT.)
ELEV. 187.15
STA. 4688+00.00 (RT.)
ELEV. 183.34
RT. DITCH GRADE -2.04%
LT. DITCH GRADE -2.58%
+72
RT. DITCH GRADE 0.68%
LT. DITCH GRADE 1.30%
STA. 4691+59.59 (RT.)
ELEV. 176.00
F.I. INLET 176.26 (LT.)
F.I. OUTLET 176.04 (RT.)
STA. 4692+90.60 (LT.)
ELEV. 176.29
STA. 4695+00.00 (LT.)
ELEV. 179.02 (LT.)
STA. 4695+00.00 (RT.)
ELEV. 178.33 (RT.)

210 205 200 195 190 185 180 175 170 165

4685+00 4686+00 4687+00 4688+00 4689+00 4690+00 4691+00 4692+00 4693+00 4694+00 4695+00 4696+00 4697+00 4698+00 4699+00 4700+00

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(2) PLAN AND PROFILES - MAIN LANES

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MAIN LANES
P.I. 4711+64.61
Δ = 3°18'08"LT.
D = 0°30'00"
T = 330.32'
L = 660.37'
P.C. 4708+34.29
P.T. 4714+94.75
e = NO SUPER

EXISTING R/W, C/A, & FENCE

EXISTING R/W, C/A, & FENCE

125.00
205.00

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

4700 4705 4710 4715

8' SHLDR.
24'
10' SHLDR.

N29°07'07.7"E

PC 4708+34.30

PI 4711+64.61

PT 4714+94.74

MAIN LANES

STA. 4702+00.00 (L.T.)
ELEV. 187.81

LT. DITCH GRADE 0.01%
RT. DITCH GRADE 0.03%

225 220 215 210 205 200 195 190 185 180

4700+00 4701+00 4702+00 4703+00 4704+00 4705+00 4706+00 4707+00 4708+00 4709+00 4710+00 4711+00 4712+00 4713+00 4714+00 4715+00

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				6	ARK.			
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(2) PLAN AND PROFILES - MAIN LANES

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PT 4714+94.74

PT108+19.19

PC108+88.31

42°09' E

HWY. 278

EXIST. R/W

110

2" RBBR. 2" ALUM. CAP

P1110+64.29

4715

4720

4725

4730

40.00

8' SHLDR.

N 25°49'00" E

120' TAPER

60.00

8' SHLDR.

R = 75'

30'

32'

2' R

58'

32'

2' R

2' R

24'

12'

12' 12' 20'

10' SHLDR.

180' TAPER

73.76

10' SHLDR.

5.76

26'

32'

2' R

P1112+34.33

P0112+56.30

R = 200'

EXIST. R/W

S 72°32'58" E

P1113+34.55

STA. 4726+46.95 I-69 CL =
STA. 111+67.0 HWY. 278 CL
Δ = 76° 19' 13"

STA. 4716+00 - IN PLACE
24" x 86' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON RT.
USE TYPE 3 BEDDING
RETAIN

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

MAIN LANES

STA. 4726+46.95
END JOB 020484

STA. 4724+60.00
BEGIN EMBANKMENT CONST.

STA. 4716+00.00 (RT.)
STA. 4716+00.00 (LT.)
ELEV. 187.59 (RT.)
ELEV. 187.91 (LT.)

STA. 4721+50.00
ELEV. 195.63

STA. 4722+22.29
ELEV. 195.68

STA. 4723+09.79
ELEV. 195.73

STA. 4724+12.50
ELEV. 194.91

STA. 4725+00.00 (RT.)
STA. 4725+00.00 (LT.)
ELEV. 189.50 (RT.)
ELEV. 189.80 (LT.)

P.V.I. 4726+68.45
ELEV. 201.02

FUTURE

0.07%

-0.80%

0.00%

K 218.75
VC-175'
e-0.17'

K 202.20
VC-175'
e--0.19'

+00

LT. DITCH GRADE 0.01%
RT. DITCH GRADE 0.03%

F.L. INLET 187.88 (LT.)
F.L. OUTLET 187.62 (RT.)

LT. DITCH GRADE 0.21%
RT. DITCH GRADE 0.21%

STA. 4723+97.29
ELEV. 195.03

STA. 4725+00.00
ELEV. 194.21

STA. 4726+21.15 I-69 CL-
STA. 111+12.23 36.00' RT. OF HWY. 278 CL
ELEV. 194.21

225 220 215 210 205 200 195 190 185 180

4715+00 4716+00 4717+00 4718+00 4719+00 4720+00 4721+00 4722+00 4723+00 4724+00 4725+00 4726+00 4727+00 4728+00 4729+00 4730+00

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(2) PLAN AND PROFILES - HWY. 425

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

DENOTES 100' TRANSITION

STA. 98+92 - IN PLACE APPROACH ON RT. RETAIN

STA. 99+55.00
BEGIN HWY. 425
JOB 020484

STA. 4268+57.9142' RT. OF I-69 CL =
STA. 109+20.90 HWY. 425 CL
Δ = 87° 37' 00"

100' TRANSITION

99+55.00 105.28' RT.

100+60.00 105.28' LT.

660' STRIPING TAPER

180' TAPER

480' DECELERATION LANE

EXIST. R/W

EXISTING R/W

PROPOSED R/W & C/A

BEGIN C/A

STA. 96+75 - IN PLACE APPROACH ON RT. RETAIN

STA. 98+94 - IN PLACE APPROACH ON RT. RETAIN

STA. 99+34 - IN PLACE APPROACH ON RT. RETAIN

CONCRETE ISLAND TYPE "B" CURB FACE

PHASE 3 PUREBAR+CAP

HWY. 425

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

295 290 285 280 275 270 265 260 255 250

95+00 96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00

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				JOB NO.		020484	111	139

(2) PLAN AND PROFILES - HWY. 425

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

STA. 111+38 - IN PLACE
DBL. 10' x 6' x 50' R.C. BOX CULV'T.
RETAIN & EXTEND 43' TO RT.
TO A COMPLETED LENGTH OF 93'
WITH 3:1 WINGS
Q50 = 560 cfs; DA = 475 ac

DENOTES 100' TRANSITION

MIXED TREES

200' LEFT TURN LANE

660' STRIPING TAPER

EXIST. R/W

100' TRANSITION

N 0°18' 34" E

N 0°46' 55" W

P.I. = 121+30.00
Δ = 105° 29" LT.

P.I. = 122+35.00
Δ = 105° 29" RT.

300' TAPER

EXISTING R/W

CONCRETE ISLAND
TYPE "B" CURB FACE

EXISTING R/W
& C/A

BEGIN C/A

STA. 119+72 - IN PLACE
APPROACH ON RT.
RETAIN

STA. 122+35.00
END HWY. 425
JOB 020484

HWY. 425

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

+38

EXIST. F.L. OUTLET 255.49 (LT.)
EXIST. F.L. INLET 255.54 (RT.)
PROPOSED F.L. INLET 255.58 (RT.)

295 290 285 280 275 270 265 260 255 250

110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00

7/25/2017

R020484.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.		020484	112	139

(2) PLAN AND PROFILES - COUNTY ROAD 36

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-17-17

STA. 101+00 TO STA. 105+15 ON LT.
CONCRETE DITCH PAVING (TYPE B) ("W"=4') = 184.44 SQ. YD.

STA. 106+08.73 - IN PLACE
29" x 18" x 82' R.C. ARCH PIPE CULV'T. (CL. III)
(10° 15' LT. FWD. SKEW)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q25 = 3 cfs; DA = 1ac
RETAIN

COUNTY ROAD 36
P.I. 105+63.66
Δ = 12°36'45"LT.
D = 5°00'00"
T = 126.64'
L = 252.25'
P.C. 104+37.03
P.T. 106+89.28
e = NO SUPER

STA. 100+00 - IN PLACE
36" x 24" x 30' C.M. ARCH PIPE CULV'T.
REMOVE & CONSTRUCT
36" x 23" x 44' R.C. ARCH PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q25 = 3 cfs; DA = 1ac
RETAIN

COUNTY ROAD 36
P.I. 101+77.26
Δ = 15°51'25"RT.
D = 5°00'00"
T = 159.59'
L = 317.14'
P.C. 100+17.67
P.T. 103+34.81
e = 0.040'/'
Ls = 150'

STA. 4340+75.16 42.00' RT. OF I-69 CL =
STA. 106+51.57 COUNTY ROAD 36 CL
Δ = 77° 27' 54"

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

COUNTY ROAD 36

STA. 100+00.00 BEGIN SUPERELEVATION (N.C.)
STA. 101+50.00 MAX SUPERELEVATION (4.00%)
STA. 102+97.31 MAX SUPERELEVATION (4.00%)
STA. 104+47.31 END SUPERELEVATION (N.C.)

STA. 106+39.32 COUNTY ROAD 36 CL =
STA. 4340+77.74 54.00' RT. OF I-69 CL
ELEV. 310.12

STA. 106+63.89 COUNTY ROAD 36 CL =
STA. 4340+72.45 30.00' RT. OF I-69 CL
ELEV. 310.19

STA. 101+42.94
ELEV. 297.64

K 75.17
VC=175'
e=0.51'

2.12%

4.45%

STA. 103+07.16
ELEV. 301.12

F.L. INLET 292.05 (RT.)
F.L. OUTLET 291.99 (LT.)

STA. 105+15.00 (LT.)
ELEV. 306.64

STA. 105+09.37
ELEV. 310.12

+08.73

STA. 106+15.81 (LT.)
ELEV. 306.50

0.00%

LT. DITCH
GRADE -0.14%

RT. DITCH
GRADE -0.51%

F.L. INLET 306.42 (LT.)
F.L. OUTLET 305.6 (RT.)

STA. 105+00.00 (RT.)
ELEV. 306.04

K 44.94
VC=200'
e=-1.11'

STA. 106+00.00 (RT.)
ELEV. 305.53

STA. 107+08.00 (LT.)
ELEV. 306.50

+94.76

0.00%

LT. DITCH
GRADE 1.51%

RT. DITCH
GRADE 2.08%

F.L. INLET 306.42 (LT.)
F.L. OUTLET 305.59 (RT.)

STA. 106+85.05 (RT.)
ELEV. 305.50

STA. 108+00.00 (LT.)
ELEV. 307.89

STA. 108+00.00 (RT.)
ELEV. 307.89

STA. 108+30.97
ELEV. 310.19

K 100.00
VC=175'
e=0.38'

1.75%

95+00 96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00

330 325 320 315 310 305 300 295 290 285

7/25/2017

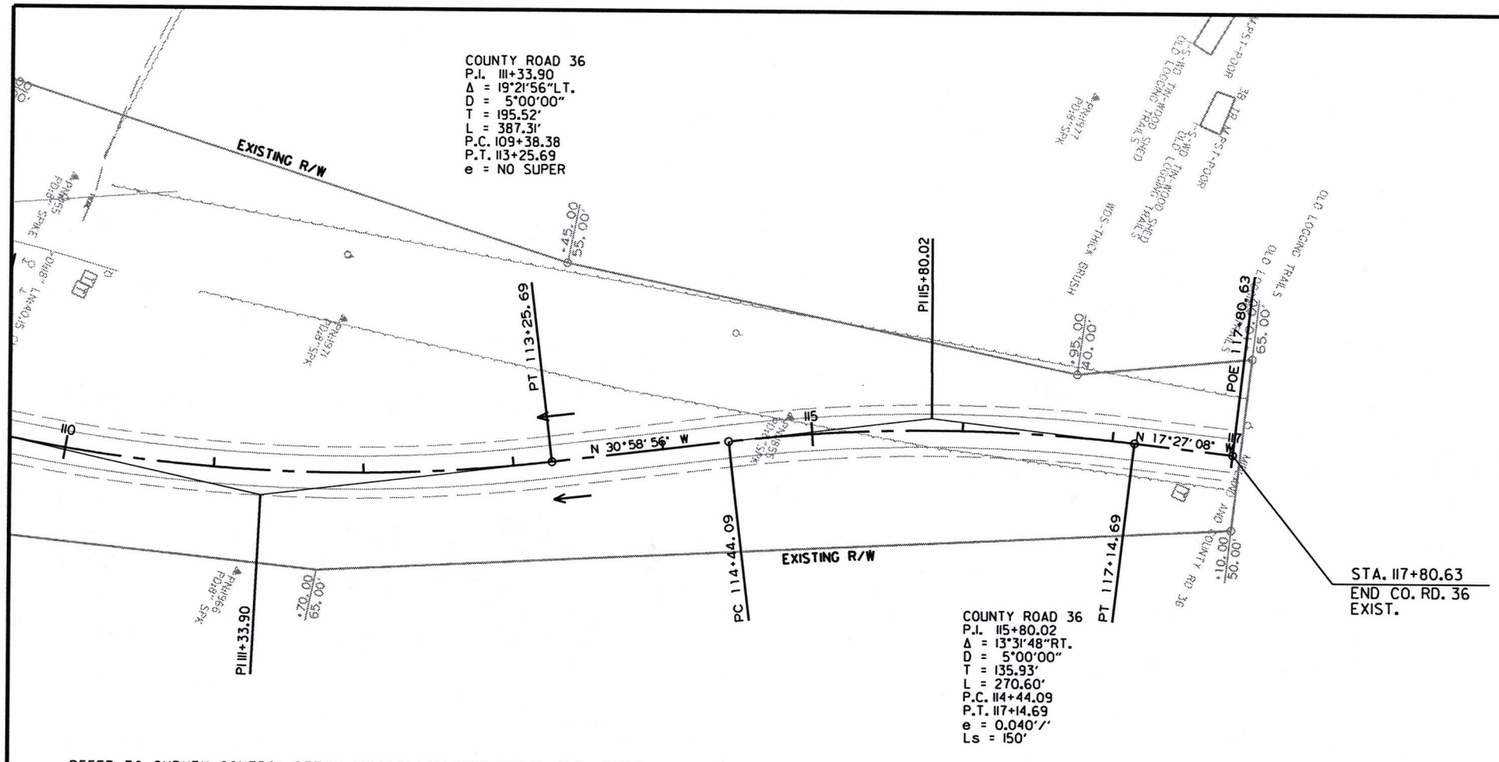
R020484.DGN

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.		020484	113	139

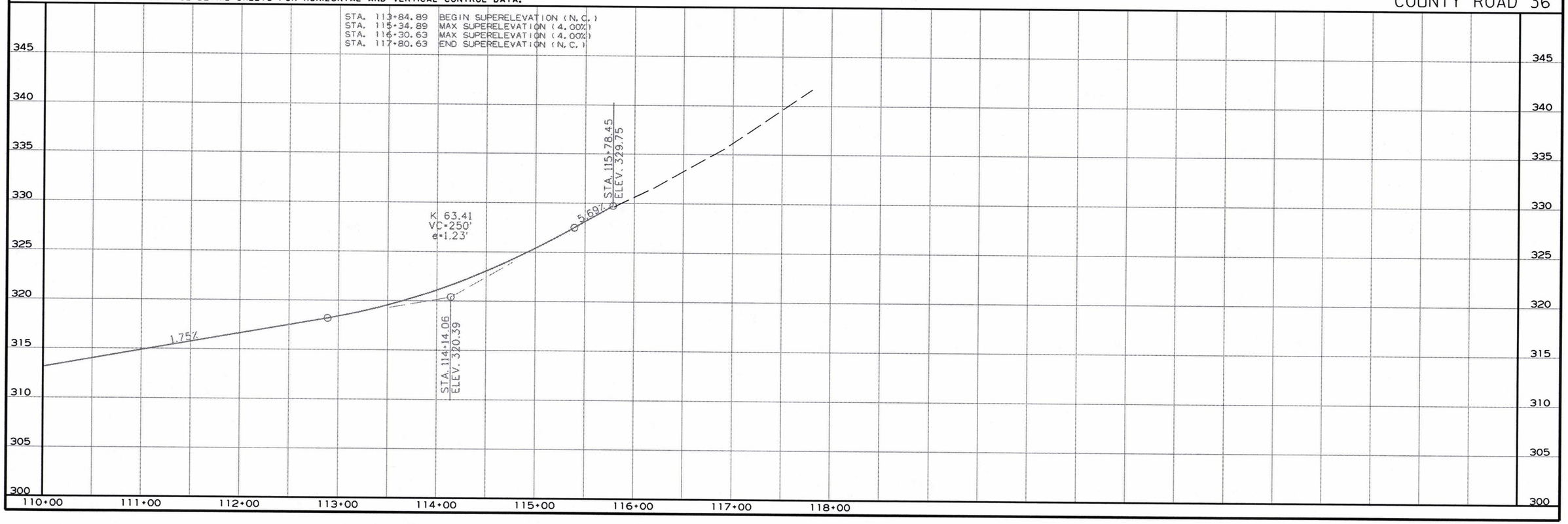
(2) PLAN AND PROFILES - COUNTY ROAD 36

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17



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

COUNTY ROAD 36



7/27/2017

R020484.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-24-17				6	ARK.			
				JOB NO.		020484	114	139

(2) PLAN AND PROFILES - HWY. 35

DENOTES 100' TRANSITION

EXIST. HWY. 35
P.I. 109+34.88
Δ = 0°55'52"LT.
D = 0°22'55"
T = 121.89'
L = 243.78'
P.C. 108+12.99
P.T. 110+56.77
MATCH EXIST.

STA. 4567+80.91 42.00' RT. OF I-69 CL =
STA. 110+20.95 HWY. 35 CL
Δ = 85° 34' 20"

EXIST. HWY. 35
P.I. 115+28.15
Δ = 11°12'17"LT.
D = 2°07'19"
T = 264.85'
L = 528.01'
P.C. 112+63.30
P.T. 117+91.31
MATCH EXIST.

STA. 107+35.00
BEGIN HWY. 35

STA. 112+75 - CONSTRUCT
36" x 23" x 96' R.C. ARCH PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 35 cfs; DA = 20 ac

STA. 110+00 - CONSTRUCT
24" x 100' R.C. PIPE CULV'T. (CL. III)
WITH F.E.S. LT. & RT.
USE TYPE 3 BEDDING
Q50 = 8 cfs; DA = 4 ac

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

STA. 115+05.00
END HWY. 35

HWY. 35

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-25-17

+00
F.L. INLET 197.59 (RT.)
F.L. OUTLET 197.51 (LT.)

+75
F.L. INLET 198.45 (RT.)
F.L. OUTLET 197.81 (LT.)

8/25/2017
R020484.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.		020484	115	139

(2) PLAN AND PROFILES - HWY. 278

DENOTES 100' TRANSITION

STA. 125+77 - IN PLACE
18" x 24' C.M. PIPE CULVERT
AND APPROACH
RETAIN

HWY. 278
P.I. 110+64.29
Δ = 25°44'53"RT.
D = 7°26'28"
T = 175.99'
L = 346.03'
P.C. 108+88.31
P.T. 112+34.33
MATCH EXIST.

STA. 132+43 - IN PLACE
18" x 24' C.M. PIPE CULVERT
AND APPROACH
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-2777

N 76°34'44" E
N 81°42'09" E
S 72°32'58" E
N 25°49'00" E
755.61'
N23°22'48"E
156.48'
105
110
115
8' SHLDR.
12' MED.
2'-10" MED.
6' SHLDR.
10' SHLDR.
180' TAPER
480' DECELERATION LANE
100' LEFT TURN LANE
670' ACCELERATION LANE
PROPOSED CONSTRUCTION LIMITS
EXIST. R/W
100' TRANSITION
DIRT
80 % FILL
CMP 50 % FILL
CONC
GAS TANK ABOVE GROUND
ONE STORY METAL SHOP
METAL WOOD PUMP HOUSE
UNDER GROUND ELTIC
RED WIRE FE
5 STRAND BARBED WIRE FENCE
5 STRAND BARB METAL POST FENCE
ABOVE GROUND GASOLINE TANK
.46
.70
.75

P.I. 102+67.67
Δ = 21°11'10"RT.
D = 5°12'31"
T = 205.72'
L = 406.74'
P.C. 100+61.95
P.T. 104+68.69
MATCH EXIST.

HWY. 278
P.I. 107+07.48
Δ = 5°07'25"RT.
D = 2°17'31"
T = 111.85'
L = 223.56'
P.C. 105+95.63
P.T. 108+19.19
MATCH EXIST.

HWY. 278
P.I. 113+34.55
Δ = 3°29'38"RT.
D = 2°17'31"
T = 76.25'
L = 152.45'
P.C. 112+58.30
P.T. 114+10.75
MATCH EXIST.

STA. 4726+58.20 42' RT. OF I-69 CL =
STA. 111+67.0 HWY. 278 CL
Δ = 76° 19' 13"

STA. 100+61.95
BEGIN HWY. 278

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

HWY. 278

100+00	101+00	102+00	103+00	104+00	105+00	106+00	107+00	108+00	109+00	110+00	111+00	112+00	113+00	114+00	115+00	
230																230
225																225
220																220
215																215
210																210
205																205
200																200
195	STA. 101+00.00 (RT.) ELEV. 191.16									STA. 110+00.00 (RT.) ELEV. 189.87				STA. 114+00.00 (RT.) ELEV. 190.50		195
190	RT. DITCH GRADE -0.14%													RT. DITCH GRADE 0.02%		190
185																185

7/25/2017

R020484.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.		020484	116	139

(2) PLAN AND PROFILES - HWY. 278

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-27-17

DENOTES 100' TRANSITION

HWY. 278
P.I. 119+55.04
Δ = 2°07'45"LT.
D = 2°51'53"
T = 37.16'
L = 74.32'
P.C. 119+17.88
P.T. 119+92.20
MATCH EXIST.

HWY. 278
P.I. 124+42.71
Δ = 5°09'36"LT.
D = 2°07'19"
T = 121.66'
L = 243.15'
P.C. 123+21.05
P.T. 125+64.20
MATCH EXIST.

N

PC119+17.88
PT119+92.20
PC123+21.05
PT125+64.20
POE126+08.68
+75
64.36'

EXIST. R/W

115
120
125
126

S 69°03' 19" E
S 71°11'04" E
S 76°20' 40" E

8' SHLDR.
6' SHLDR.
12'
11'

670' ACCELERATION LANE
300' TAPER
100' TRANSITION

PROPOSED CONSTRUCTION LIMITS

+83.52
572.06'
96.31'
83.46'

PI 119+55.04
PI 124+42.71
+34.70
+34.70

307 230.51'
S84°46'17"E

S88°01'46"E
202.57'

339.95'
339.61'
446.70'

BEGIN CONST. 14.63'LT. OF ℄
00+

EXISTING R/W

STA. 125+64.20
END HWY. 278

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

HWY. 278

STA. 125+65.00 (RT.)
ELEV. 190.70

RT. DITCH GRADE 0.02%

225 220 215 210 205 200 195 190 185 180

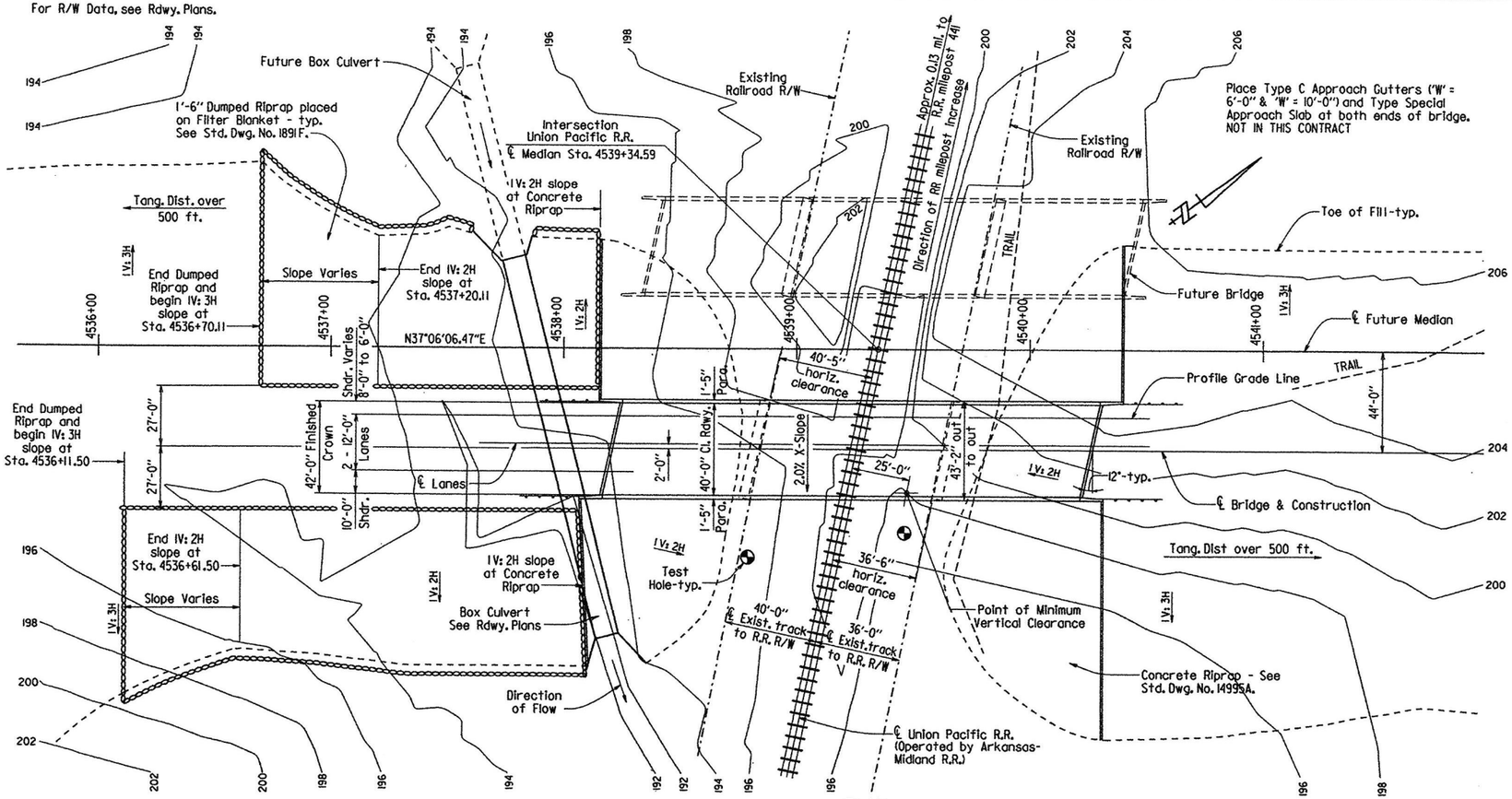
115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00

7/25/2017

R020484.DGN

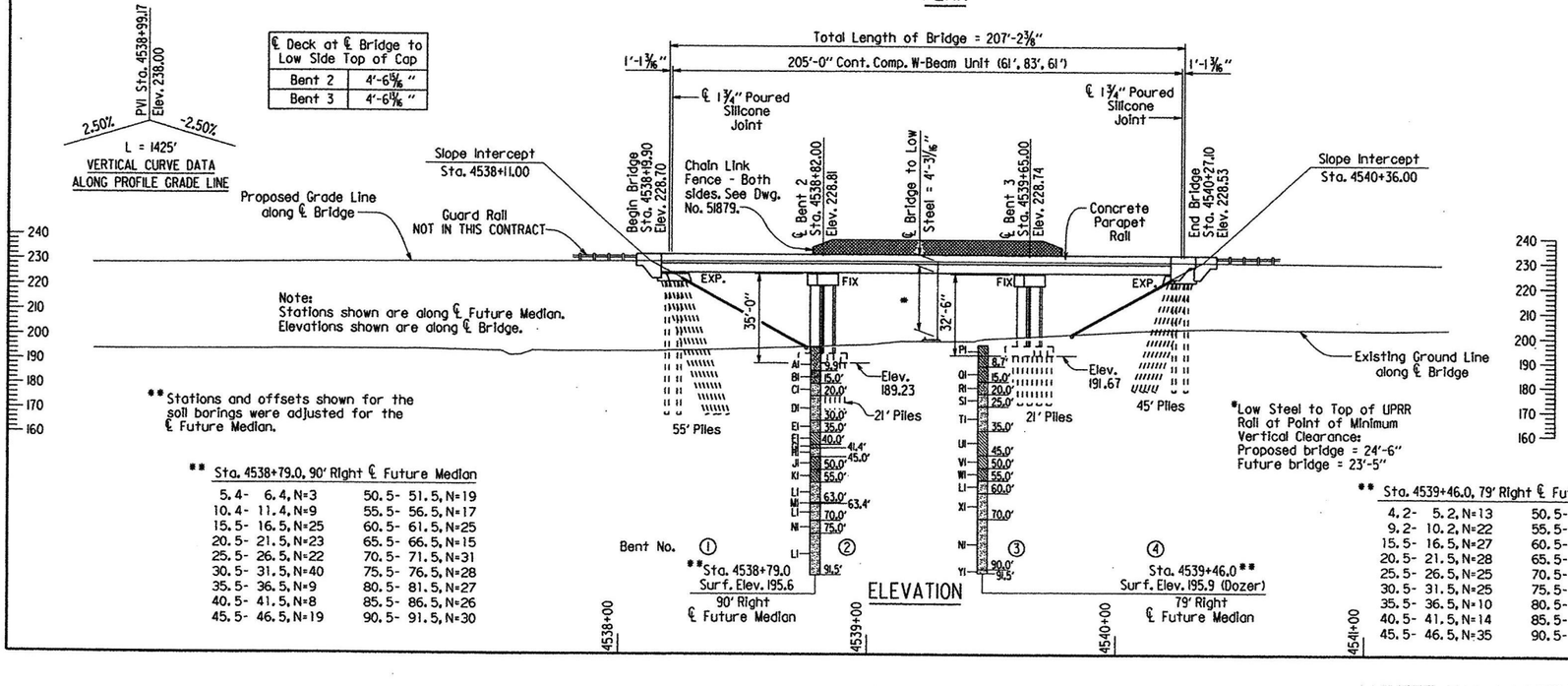
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	117	139
				(1)	07180 -	LAYOUT	- 51864	

For R/W Data, see Rdwy. Plans.



PLAN

℄ Deck at ℄ Bridge to Low Side Top of Cap	
Bent 2	4'-6 15/16"
Bent 3	4'-6 15/16"



** Stations and offsets shown for the soil borings were adjusted for the ℄ Future Median.

*Low Steel to Top of UPRR Rail at Point of Minimum Vertical Clearance:
Proposed bridge = 24'-6"
Future bridge = 23'-5"

** Sta. 4538+79.0, 90' Right ℄ Future Median

5.4- 6.4, N=3	50.5- 51.5, N=19
10.4- 11.4, N=9	55.5- 56.5, N=17
15.5- 16.5, N=25	60.5- 61.5, N=25
20.5- 21.5, N=23	65.5- 66.5, N=15
25.5- 26.5, N=22	70.5- 71.5, N=31
30.5- 31.5, N=40	75.5- 76.5, N=28
35.5- 36.5, N=9	80.5- 81.5, N=27
40.5- 41.5, N=8	85.5- 86.5, N=26
45.5- 46.5, N=19	90.5- 91.5, N=30

** Sta. 4539+46.0, 79' Right ℄ Future Median

4.2- 5.2, N=13	50.5- 51.5, N=25
9.2- 10.2, N=22	55.5- 56.5, N=23
15.5- 16.5, N=27	60.5- 61.5, N=22
20.5- 21.5, N=28	65.5- 66.5, N=22
25.5- 26.5, N=25	70.5- 71.5, N=31
30.5- 31.5, N=25	75.5- 76.5, N=35
35.5- 36.5, N=10	80.5- 81.5, N=46
40.5- 41.5, N=14	85.5- 86.5, N=34
45.5- 46.5, N=35	90.5- 91.5, N=58

GENERAL NOTES

BENCH MARK: Rebar & Cap - 361.37 ft. Right of ℄ Median Sta. 4538+42.50, Elev. 198.98.

CONSTRUCTION SPECIFICATION: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions. Unless otherwise noted, section and subsection numbers in the plans refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (4th edition, 2007 with 2008 and 2009 Interims).

LIVE LOADING: HL-93 SEISMIC ZONE: 1

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

CONCRETE PILING: All piling shall be 18" square precast concrete and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 55 tons per pile. Drive piles in Bents 1 & 4 to a minimum penetration of 20' below natural ground. Drive piles in Bent 2 & 3 to a minimum penetration of 20' below bottom of footing. Piles in end bents shall not be driven until embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only, actual lengths to be determined in the field. Drive one 60' test pile in Bent 1, one 25' test pile in Bent 3 and one 50' test pile in Bent 4.

FOOTINGS: Footings shall have a minimum cover above the top of footings of 2'-0". Foundations for footings shall be prepared in accordance with Subsection 801.04 and backfilled according to Subsection 801.08.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class S Tined Bridge Roadway Surface Finish.

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

DETAIL DRAWINGS:	DRAWING NOS.
End Bents	51867-51869
Intermediate Bents	51870-51873
205'-0" Cont. Comp. W-Beam Unit	51874-51880
Elastomeric Bearings	51881
Concrete Piling	14964
Concrete Riprap	14995A

BORING LEGEND

A-Wet, Very Loose, Brown Sand with Clay and Trace of Gravel
B-Wet, Loose, Brown Sand with Clay and Gravel
C-Wet, Medium Dense, Gray Sand with Trace of Gravel
D-Wet, Medium Dense, Reddish Brown Sand
E-Wet, Dense, Reddish Brown Sand
F-Moist, Stiff, Reddish Brown Clay
G-Moist, Medium Stiff, Reddish Brown Clay
H-Moist, Medium Dense, Reddish Brown to Brown Sand
J-Moist, Very Stiff, Reddish Brown Clay with Sand
K-Moist, Very Stiff, Brown and Gray Sandy Clay
L-Wet, Medium Dense, Brown Sand
M-Gravel
N-Wet, Dense, Brown Sand
P-Moist, Stiff, Brown Clay with Sand
Q-Moist, Very Stiff, Brown Clay with Sand
R-Moist, Medium Dense, Brown Clayey Sand
S-Moist, Medium Dense, Brown and Gray Sand
T-Moist to Wet, Medium Dense, Reddish Brown Sand with some Organic Matter
U-Wet, Stiff, Reddish Brown Clay
V-Wet, Hard, Reddish Brown Clay
W-Wet, Very Stiff, Brown and Gray Clay with Sand
X-Wet, Medium Dense, Brown Sand with Trace of Organic Matter
Y-Wet, Very Dense, Brown Sand

FOR INFORMATION ONLY

LAYOUT OF BRIDGE OVER
UNION PACIFIC RAILROAD
HWY. 425-HWY. 278 EAST (GR.&STRS.)
(MONTICELLO BYPASS) (F)
DREW COUNTY

ROUTE 69 SEC. 0

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STATE OF ARKANSAS
Carl J. Fussell
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSSELL
BRIDGE ENGINEER

DRAWN BY: KDH DATE: 2-4-10
CHECKED BY: CRE DATE: 3-11-10
DESIGNED BY: CRE DATE: 2-10
FILENAME: b020471_11.dgn
SCALE: 1" = 30'

BRIDGE NO. 07180 DRAWING NO. 51864

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	119	120
				①	07180 -	EXHIBIT A	- 51865	

Sta. 4536+10
210 ft. Left
℄ Median

Existing Railroad R/W

Sta. 4539+22.33
135 ft. Left
℄ Median

Sta. 4540+06.19
165 ft. Left
℄ Median

Sta. 4541+05
155 ft. Left
℄ Median

Proposed AHTD R/W

Future Box Culvert

Dumped Riprap-typ.

Intersection
Union Pacific R.R.
℄ Median Sta. 4539+34.59

Approx. 0.13 mi. to R.R. milepost 441

Direction of RR milepost increase

Existing Railroad R/W

1V: 2H slope at Concrete Riprap

TRAIL

Toe of Fill-typ.

End Dumped Riprap and begin 1V: 3H slope at Sta. 4536+70.11

1V: 3H

Slope Varies

End 1V: 2H slope at Sta. 4537+20.11

4537+00

4538+00

4539+00

4540+00

4541+00

4542+00

4543+00

4544+00

4545+00

N37°06'06.47"E

Shdr. Varies 8'-0" to 6'-0"

1'-5" Para.

40'-5" min. horiz. clearance

Future Bridge

℄ Future Median

30" Pipe Culvert

End Dumped Riprap and begin 1V: 3H slope at Sta. 4536+11.50

42'-0" Fin. Crown

2 - 12'-0" Lanes

2'-0"

40'-0" Clear Roadway

1'-5" Para.

2.0% X-Slope

43'-2" out to out

1V: 2H

12"-typ.

℄ Lanes

℄ Bridge

44'-0"

10'-0" Shdr.

25'-0"

End 1V: 2H slope at Sta. 4536+61.50

1V: 2H slope at Concrete Riprap

Joint Use Agreement Area

36'-6" min. horiz. clear

Concrete Riprap - typ.

Slope Varies

Box Culvert

40'-0" ℄ Existing track to R.R. R/W

36'-0" ℄ Existing track to R.R. R/W

Point of Minimum Vertical Clearance

1V: 3H

Sta. 4537+05
165 ft. Right
℄ Median

Sta. 4538+61.02
160 ft. Right
℄ Median

℄ Union Pacific R.R.
(Operated by Arkansas-Midland R.R.)

Sta. 4543+05
175 ft. Right
℄ Median

Proposed AHTD R/W

Direction of Flow

Existing RR box culvert

Sta. 4539+31.37
195.00 ft. Right
℄ Median

Note: There are currently no known utilities within the railroad R/W

PLAN
Scale: 1" = 30'

Note: All permanent clearances shall be verified before project closing.

FOR INFORMATION ONLY

SHEET 1 OF 2
EXHIBIT A
LAYOUT OF BRIDGE OVER
UNION PACIFIC RAILROAD
HWY. 425-HWY. 278 EAST (GR.&STRS.)
(MONTICELLO BYPASS) (F)
DREW COUNTY

ROUTE 69 SEC. 0

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

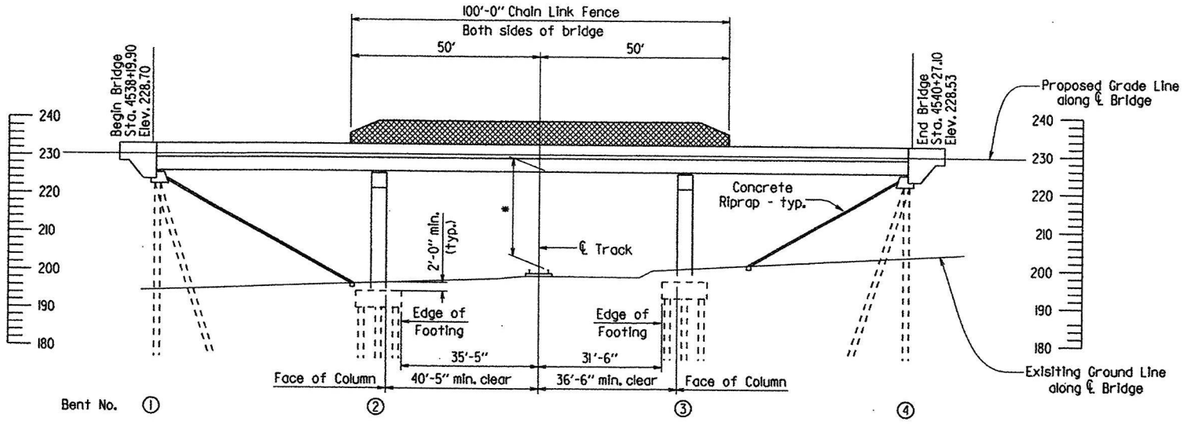
STATE OF ARKANSAS
Carl G. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL G. FUSELIER

BRIDGE ENGINEER

DRAWN BY: KDH DATE: 2-4-10 FILENAME: b020471_exa.dgn
CHECKED BY: CRE DATE: 9-22-10 SCALE: AS NOTED
DESIGNED BY: CRE DATE: 2-2010

BRIDGE NO. 07180 DRAWING NO. 51865

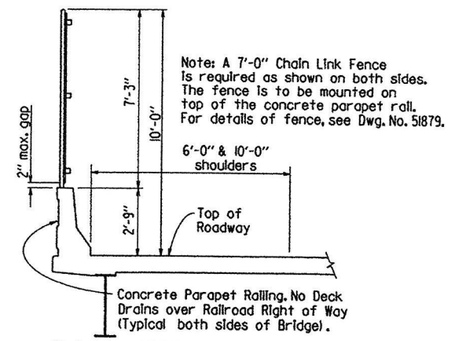
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				6	ARK.			
				JOB NO.		020484	119	139
				①	07180 -	EXHIBIT A	- 51866	



ELEVATION SECTION NORMAL TO TRACK

Looking in direction of milepost increase
Scale: 1" = 20'

*Low Steel to Top of UPRR Rail at Point of Minimum Vertical Clearance:
Proposed bridge = 24'-6"
Future bridge = 23'-5"



TYPICAL SECTION

No Scale

TOP OF RAIL ELEVATIONS

Looking in direction of Milepost Increase.
Stations decrease with Milepost Increase

Direction of Railroad Milepost Increase

LEFT RAIL		RIGHT RAIL	
STATION	ELEVATION	STATION	ELEVATION
0+00	210.95	0+00	211.08
1+00	210.56	1+00	210.60
2+00	209.85	2+00	209.89
3+00	208.88	3+00	208.90
4+00	207.60	4+00	207.65
5+00	206.14	5+00	206.22
6+00	204.82	6+00	204.89
7+00	203.52	7+00	203.61
8+00	202.25	8+00	202.32
9+00	201.19	9+00	201.26
① 10+00	200.29	① 10+00	200.35
11+00	199.60	11+00	199.69
12+00	199.25	12+00	199.31
13+00	200.06	13+00	200.11
14+00	201.30	14+00	201.38
15+00	202.63	15+00	202.68
16+00	203.92	16+00	203.98
17+00	204.96	17+00	205.02
18+00	205.21	18+00	205.26
19+00	204.86	19+00	204.93
20+00	204.26	20+00	204.26

The elevations of the existing top-of-rail profile shall be verified by the Contractor prior to beginning construction. Any discrepancies that will decrease the vertical clearance shown in the Elevation Section shall be brought to the attention of the railroad prior to construction.

① ℄ Track Sta. 10+00 =
℄ Median Sta. 4539+34.59

GENERAL NOTES

All demolitions within the Railroad's right-of-way and/or demolition that may impact the Railroad's tracks or operations shall comply with the Railroad's demolition requirements.

Erection over the Railroad's right-of-way shall be designed to cause no interruption to the Railroad's operation. Erection over the Railroad's track(s) shall be developed such that it enables the track(s) to remain open to traffic per the Railroad's requirements.

The Contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.

Railroad requirements do not allow work within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of the track centerline and secure all equipment when trains are present.

The State shall not plow ice, snow, or sleet over the sides of the structure. In consideration of this practice, the Carrier waives its request for the State to attach splash boards to sides of the structure. This statement is in the State Railroad Agreement.

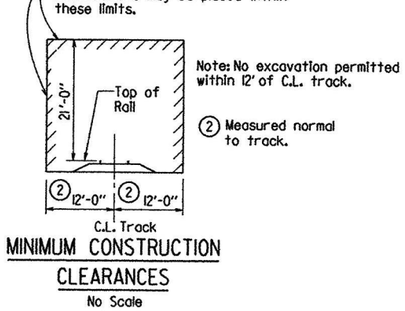
The proposed bridge structure will not significantly change the quantity and/or characteristic of the flow in the railway's ditches and/or drainage structure.

Closed Parapet Railing (No Deck Drains) over Railroad Right of Way on both sides of Bridge.

Construction shall comply with the Union Pacific Railroad requirements noted in Job 020471 Special Provision "Insurance, Construction, and Flagging Requirements on Railroad Property (Union Pacific Railroad)". Any shoring shall comply with UPRR requirements.

Railroad review and approval of Shoring, Erection and Falsework is required. Allow a minimum of four weeks for the review and approval of each submittal.

For Railroad coordination, refer to the Railroad Minimum Requirments of SP Job 020471 "Insurance, Construction and Flagging Requirments on Railroad Property (Union Pacific Railroad)".



MINIMUM CONSTRUCTION CLEARANCES

No Scale

FOR INFORMATION ONLY

STATE OF ARKANSAS
CARL J. PUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/15/11

BRIDGE ENGINEER

SHEET 2 OF 2
EXHIBIT A
LAYOUT OF BRIDGE OVER
UNION PACIFIC RAILROAD
HWY. 425-HWY. 278 EAST (GR.&STRS.)
(MONTICELLO BYPASS) (F)
DREW COUNTY

ROUTE 69 SEC. 0

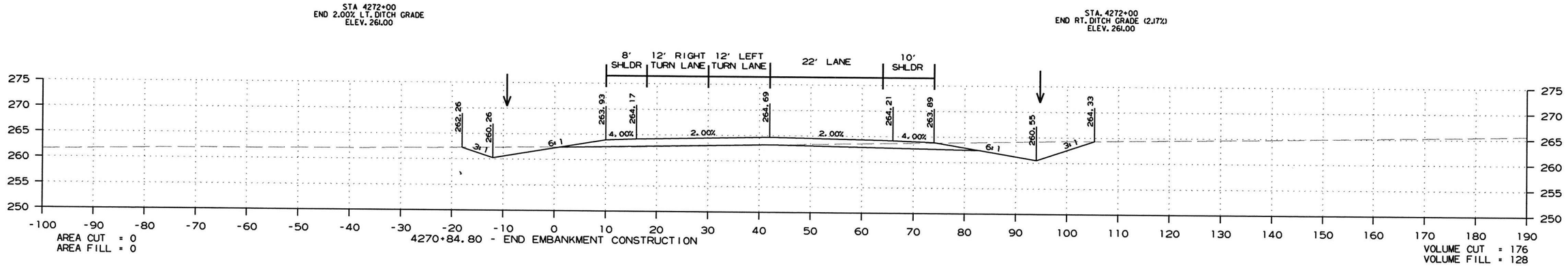
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

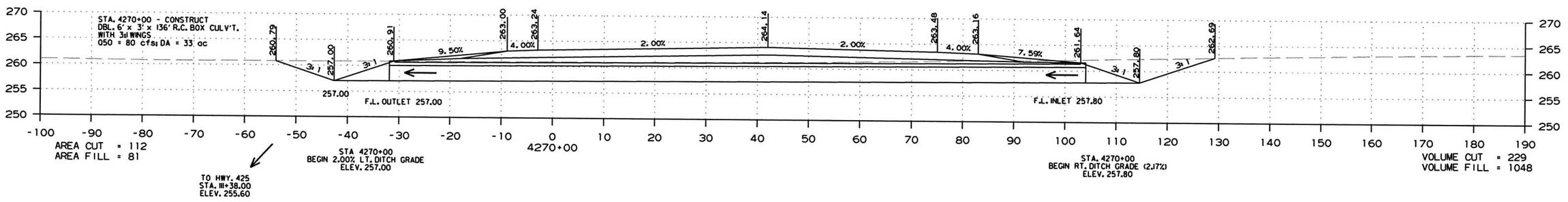
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BRIDGE NO. 07180 DRAWING NO. 51866

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	120	139

(2) CROSS SECTIONS





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STA. 4268+89.28 - BEGIN JOB 020484

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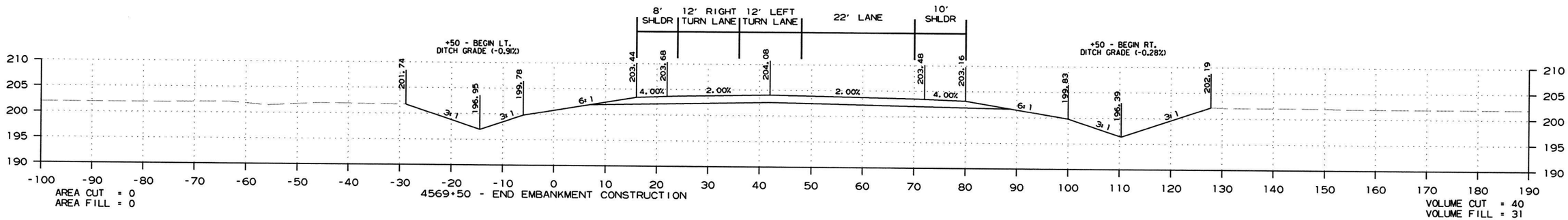
7/18/2017

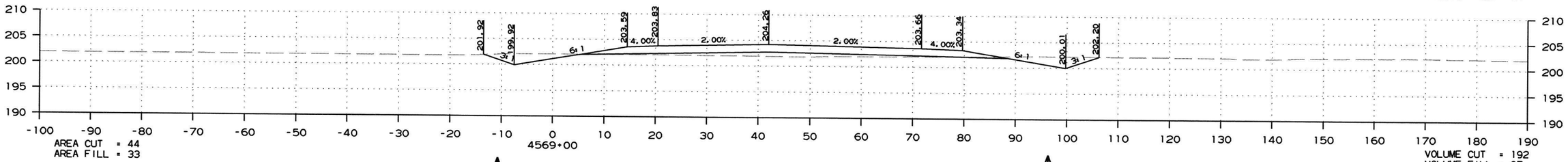
R020484.DGN

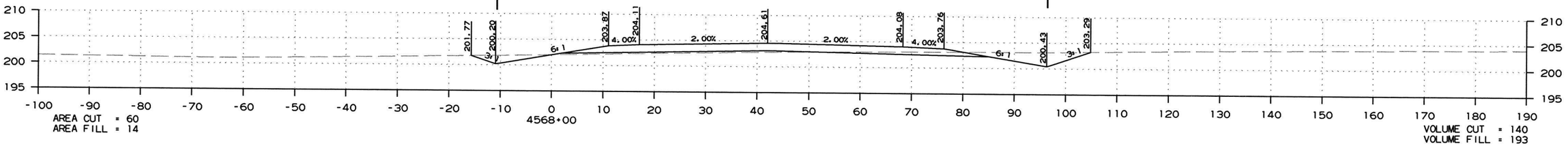
CROSS SECTION STA. 4270+00 TO STA. 4270+84.80

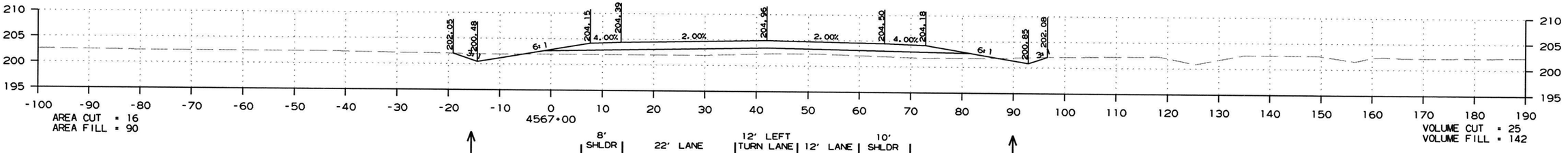
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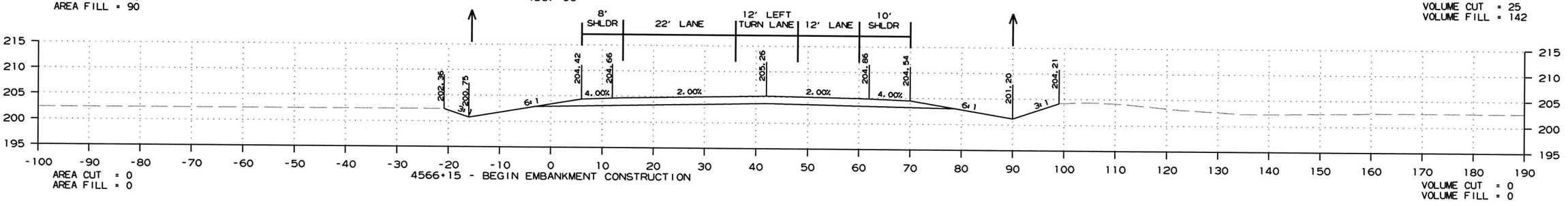
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7/18/2017

R020484.DGN

CROSS SECTION STA. 4566+15 TO STA. 4569+50

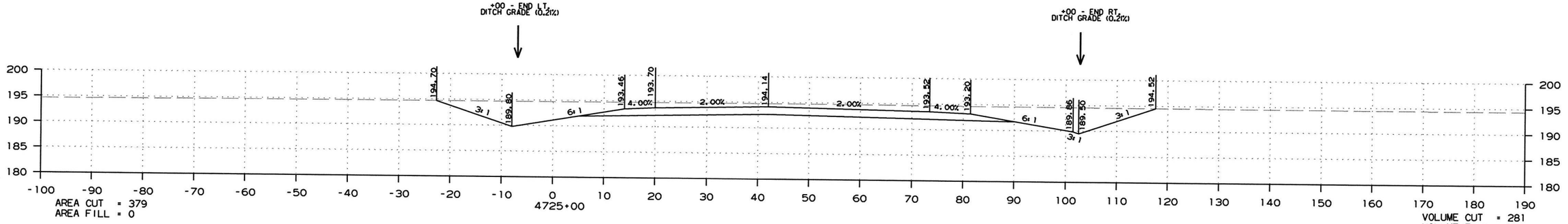
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				JOB NO.		020484	122	139

(2) CROSS SECTIONS

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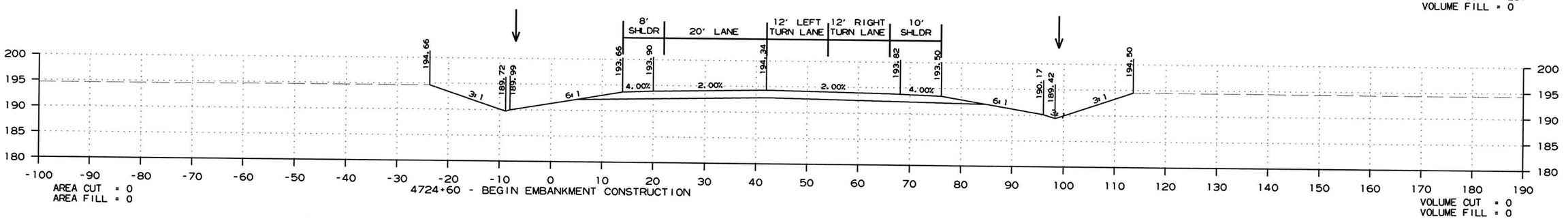
4726+13.49 - END RIGHT MAIN LANES

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VOLUME FILL = 0



AREA CUT = 379
AREA FILL = 0

VOLUME CUT = 281
VOLUME FILL = 0



AREA CUT = 0
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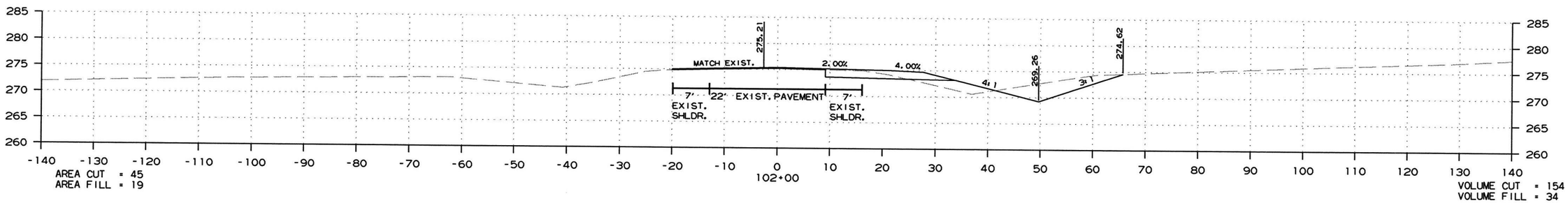
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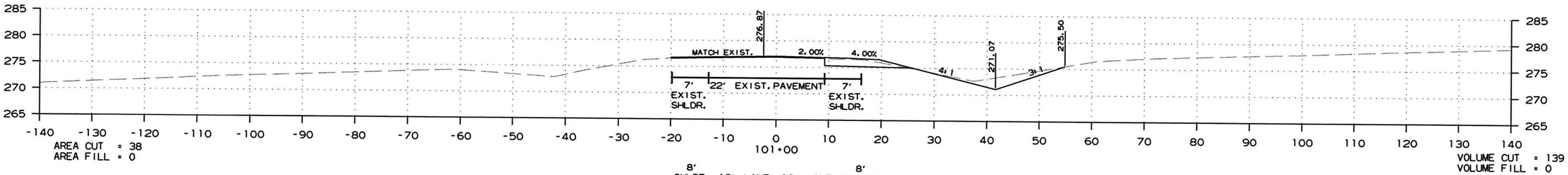
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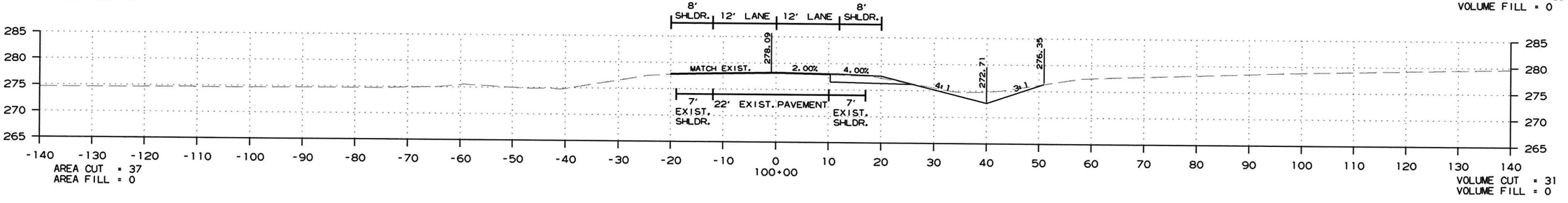
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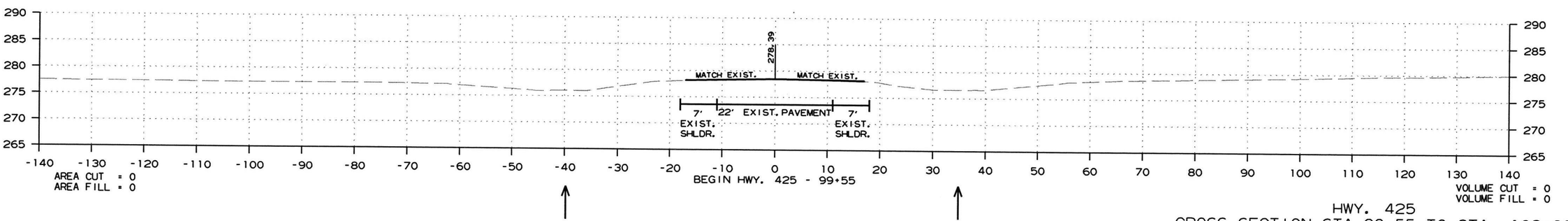
CROSS SECTION STA. 4724+60 TO STA. 4725+00

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				JOB NO.		020484	123	139
				(2) CROSS SECTIONS				









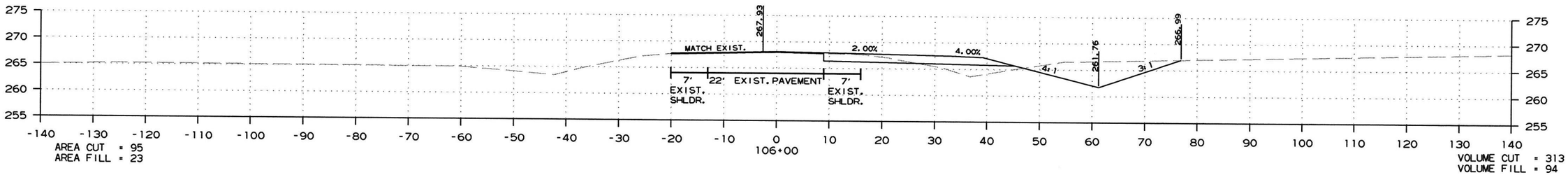
HWY. 425
CROSS SECTION STA. 99+55 TO STA. 102+00

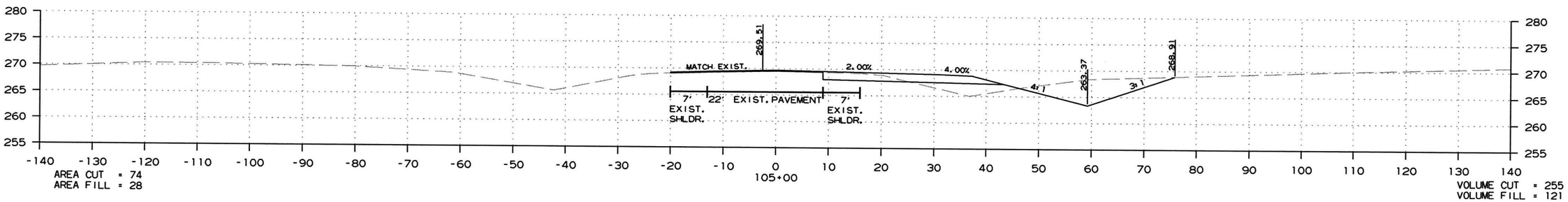
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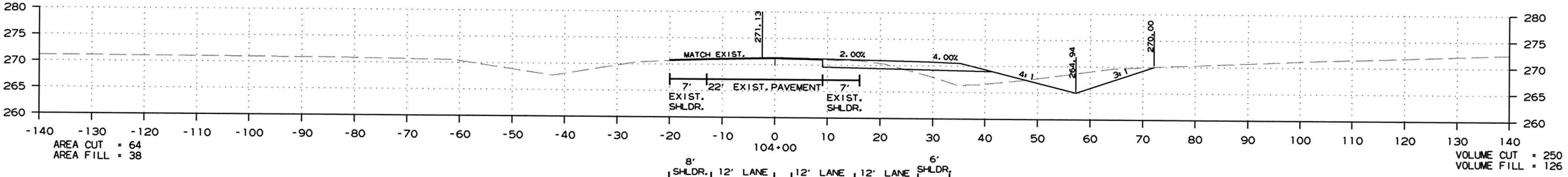
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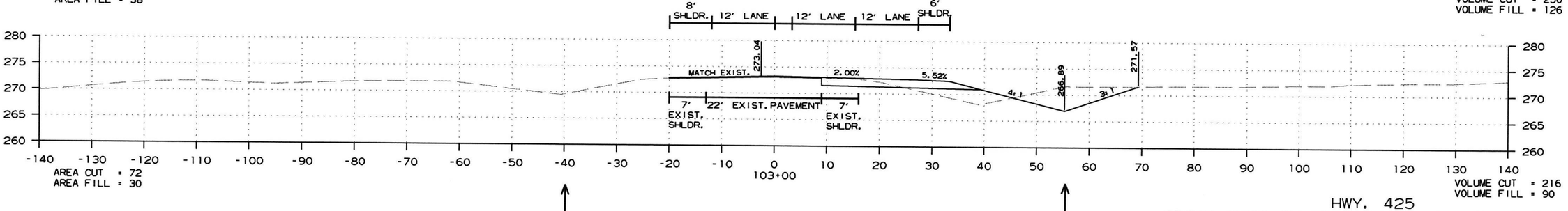
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(2) CROSS SECTIONS









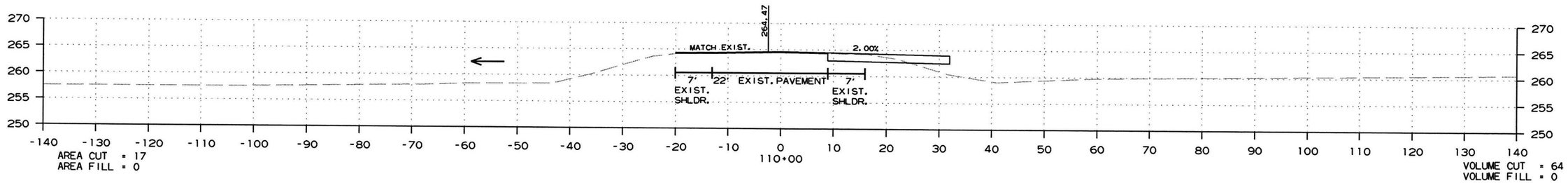
HWY. 425
CROSS SECTION STA. 103+00 TO STA. 106+00

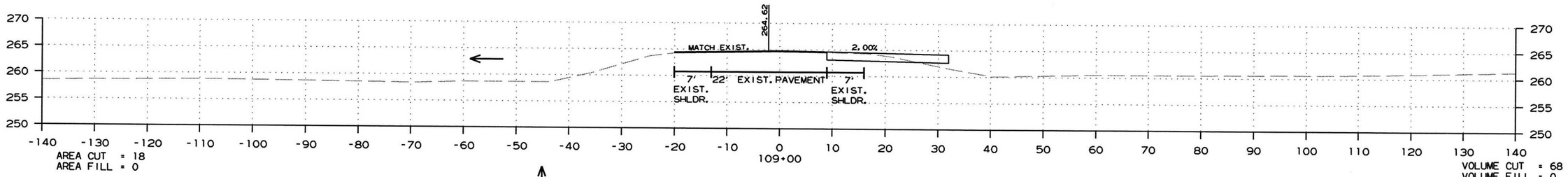
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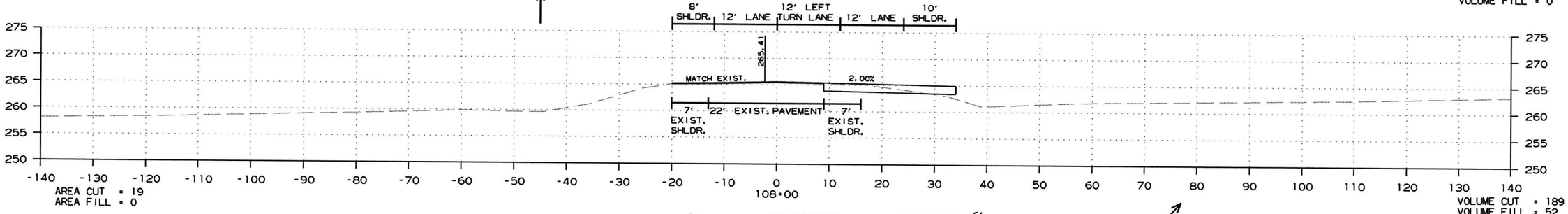
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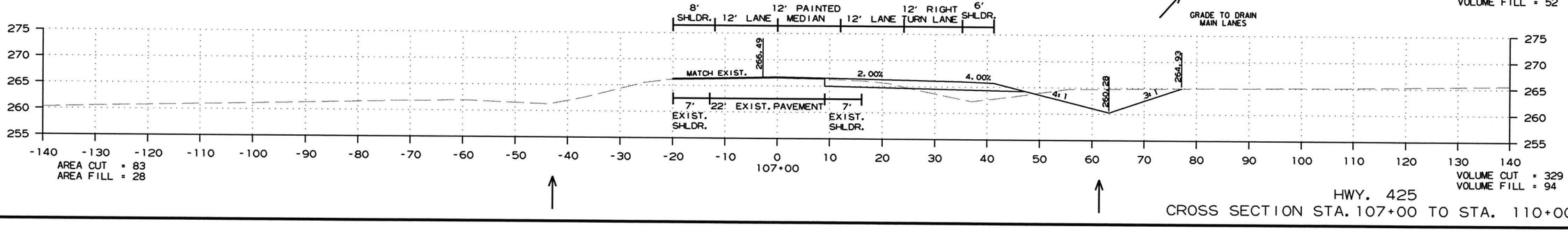
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(2) CROSS SECTIONS









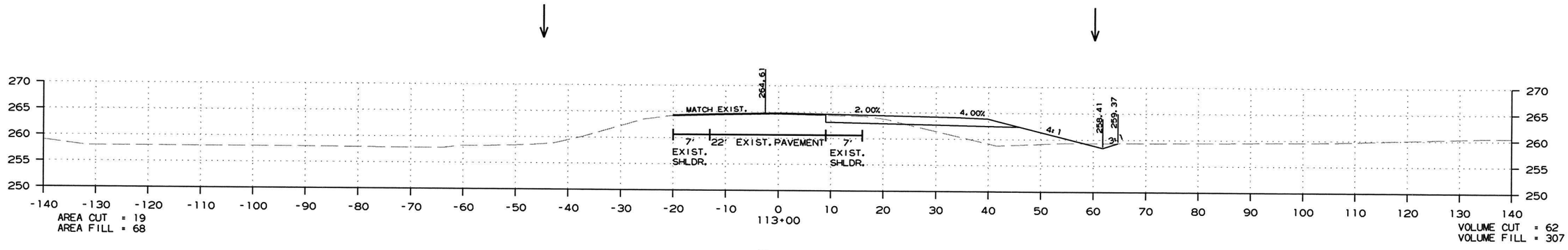
HWY. 425
CROSS SECTION STA. 107+00 TO STA. 110+00

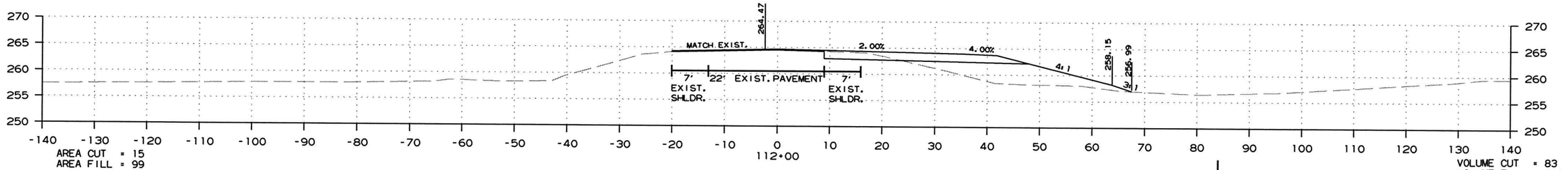
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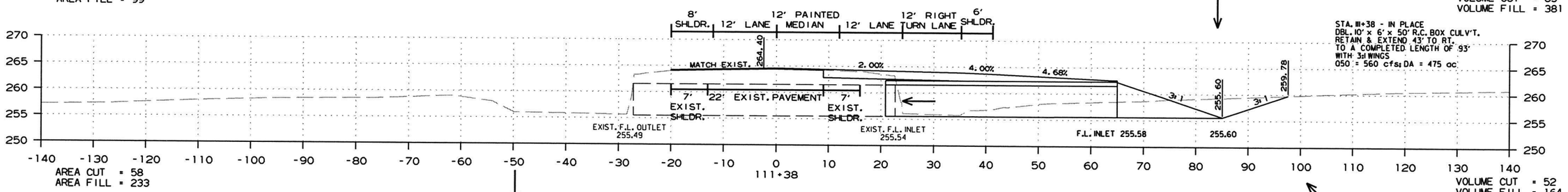
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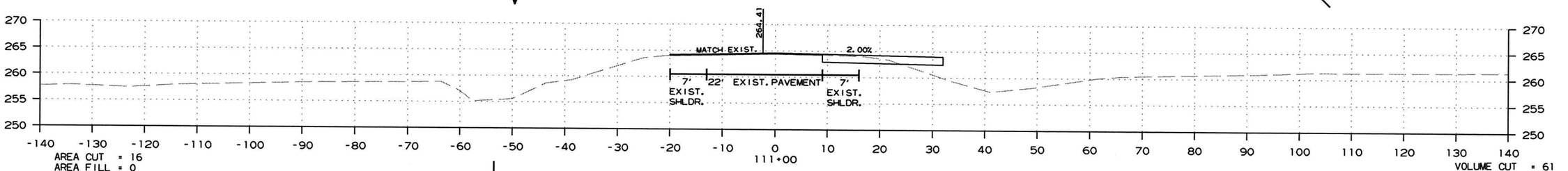
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(2) CROSS SECTIONS









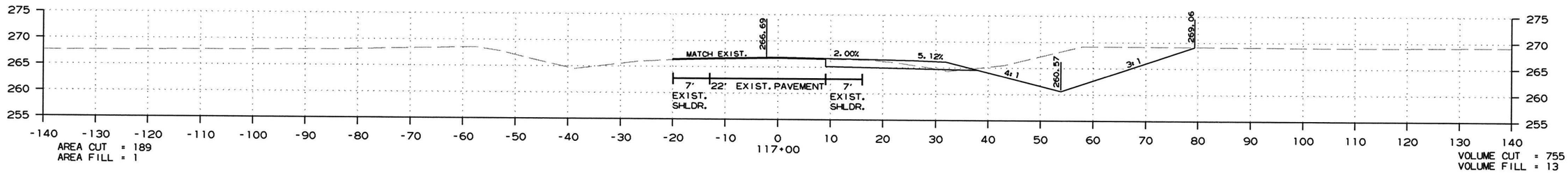
HWY. 425
CROSS SECTION STA. 111+00 TO STA. 113+00

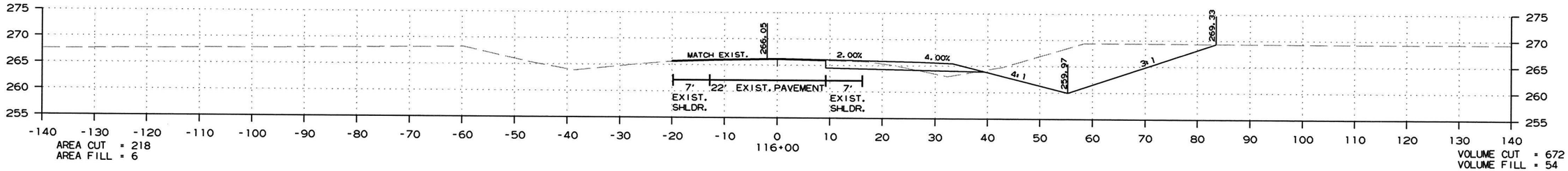
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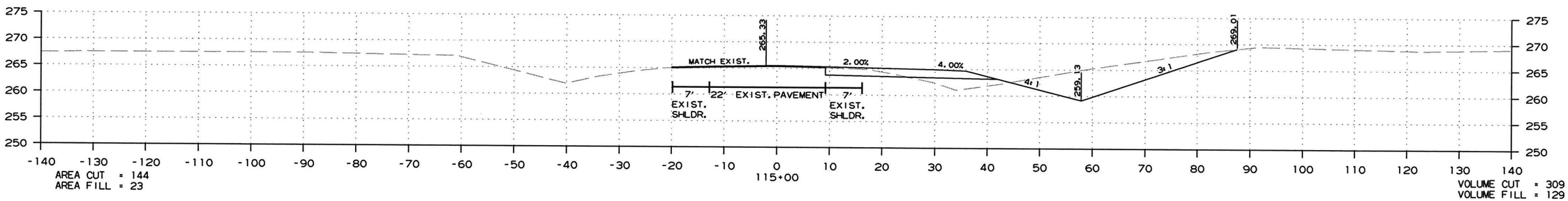
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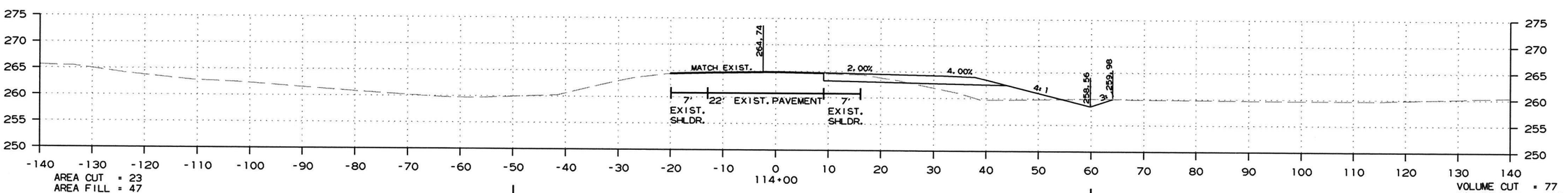
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(2) CROSS SECTIONS









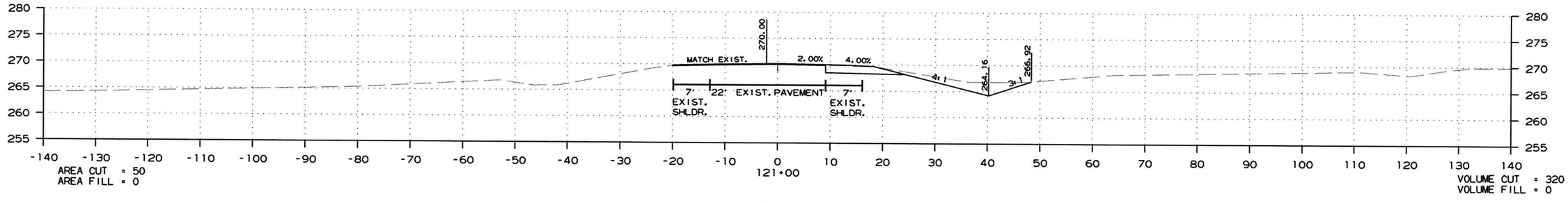
HWY. 425
CROSS SECTION STA. 114+00 TO STA. 117+00

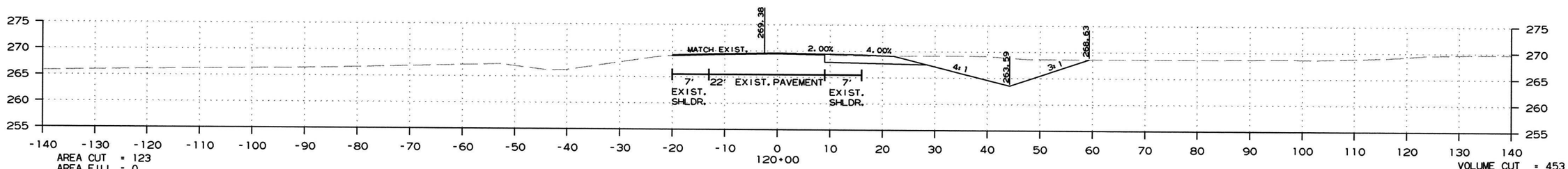
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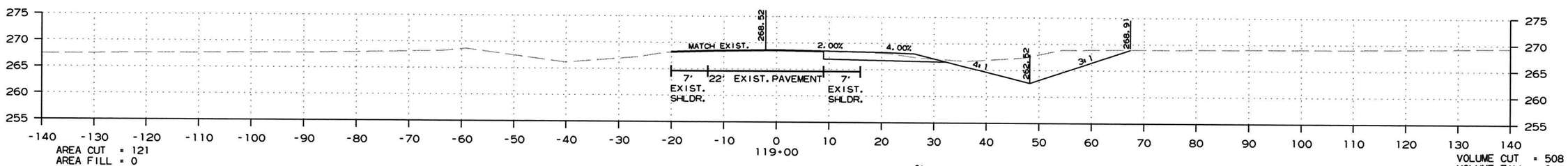
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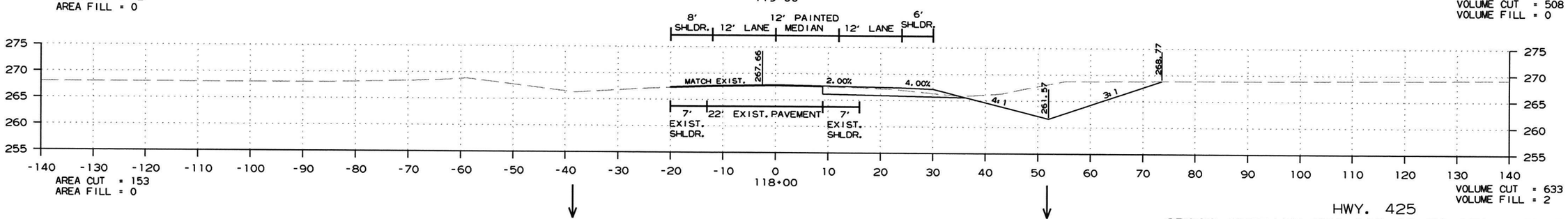
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(2) CROSS SECTIONS









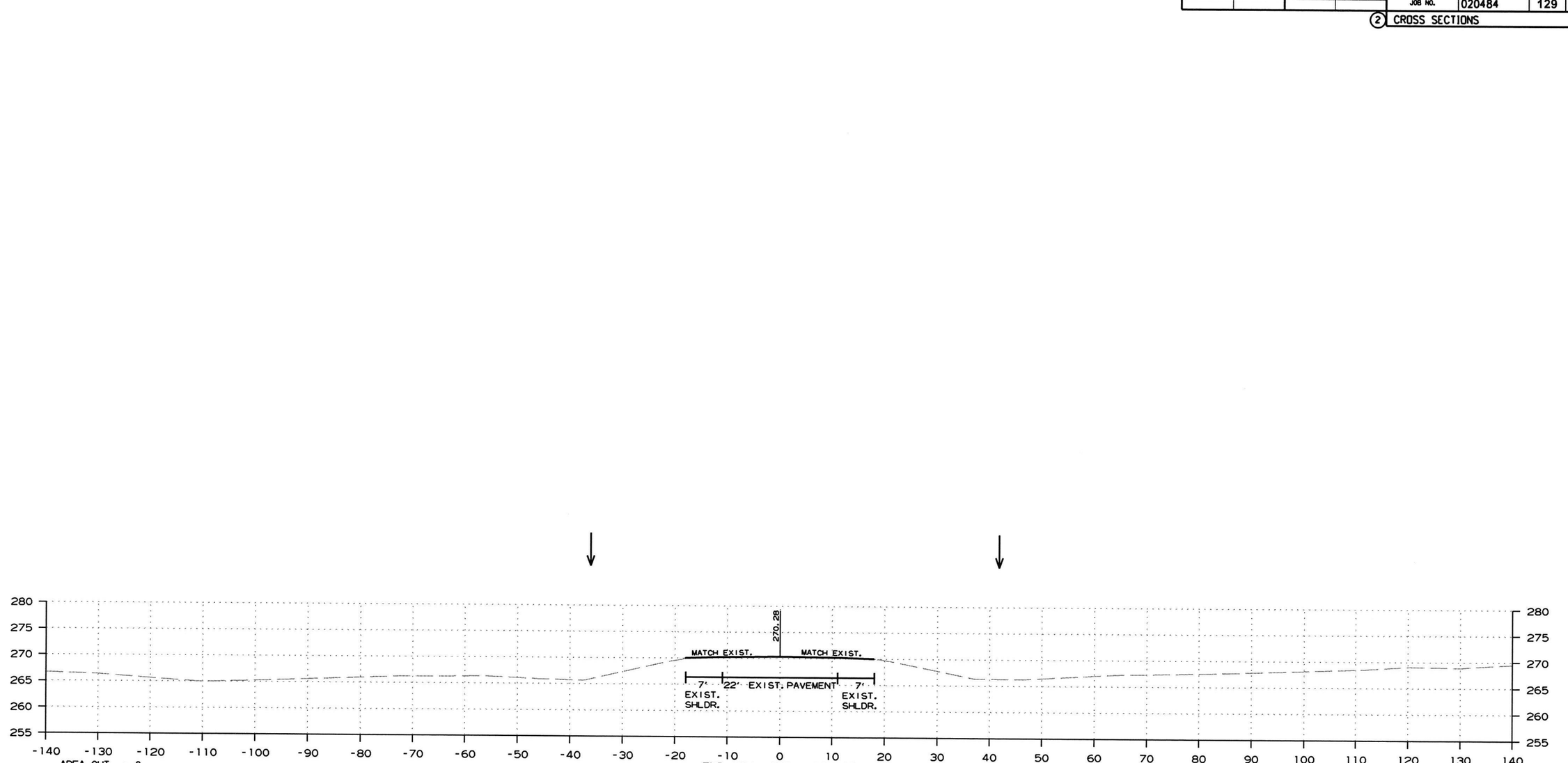
HWY. 425
CROSS SECTION STA. 118+00 TO STA. 121+00

7/18/2017

R020484.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		020484	129	139

(2) CROSS SECTIONS



HWY. 425
CROSS SECTION STA. 122+00 TO STA. 122+35

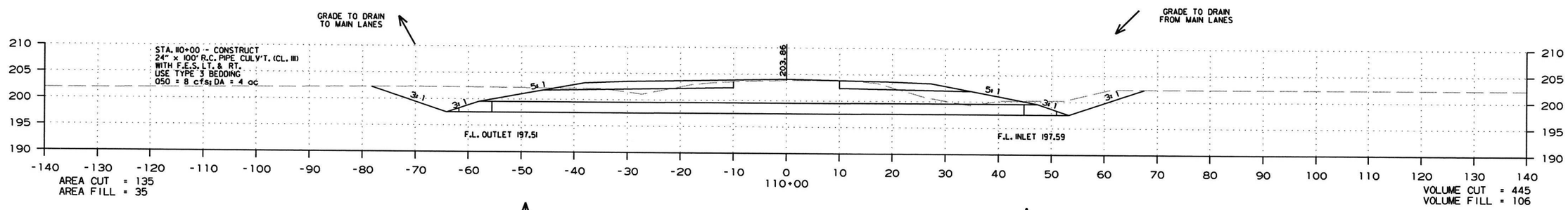
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(2) CROSS SECTIONS

END HWY. 35 - STA. 110+97.21



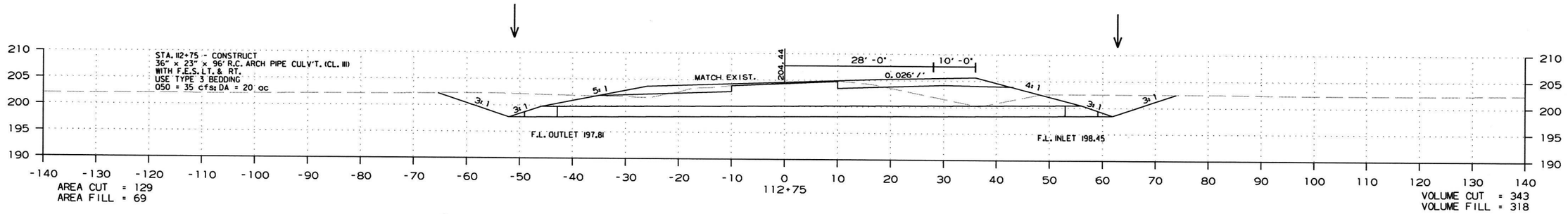
HWY. 35
CROSS SECTION STA. 107+35 TO STA. 110+00

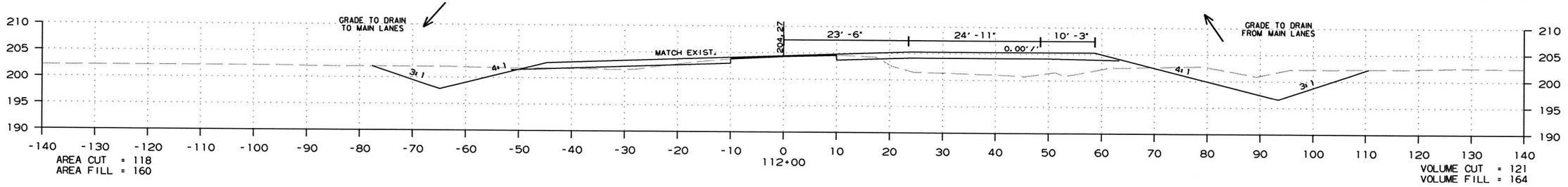
7/18/2017

R020484.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.		020484	131	139

(2) CROSS SECTIONS





BEGIN HWY. 35 - STA. 111+44.72

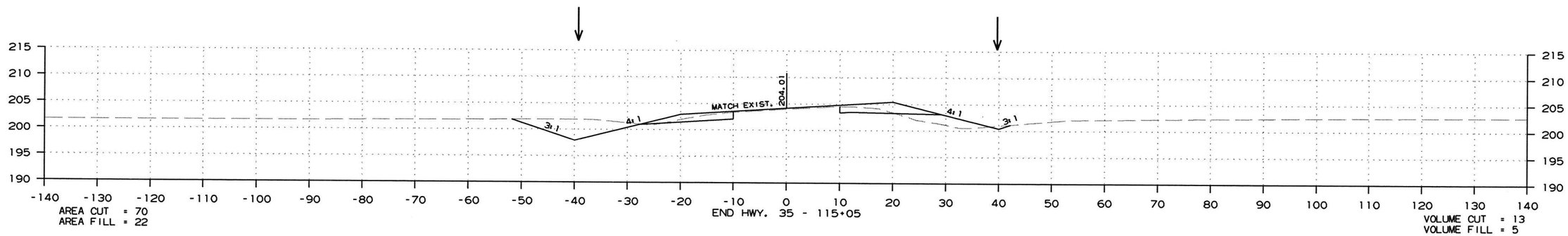
7/18/2017

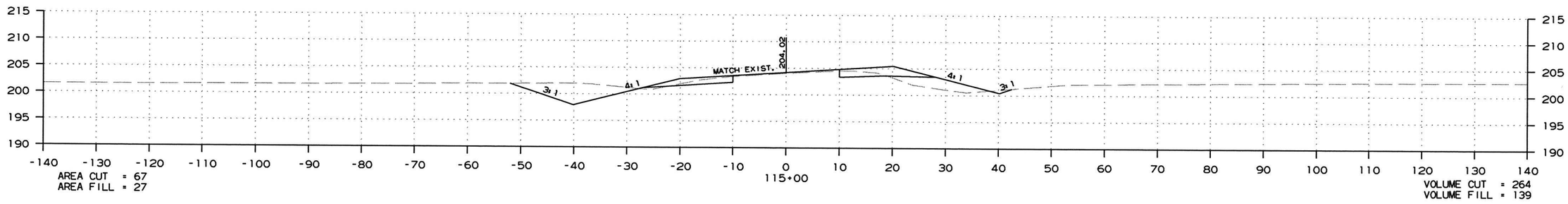
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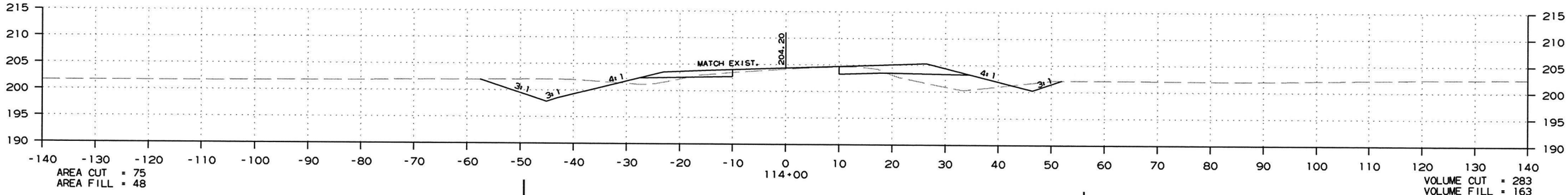
HWY. 35
CROSS SECTION STA. 110+97 TO STA. 112+75

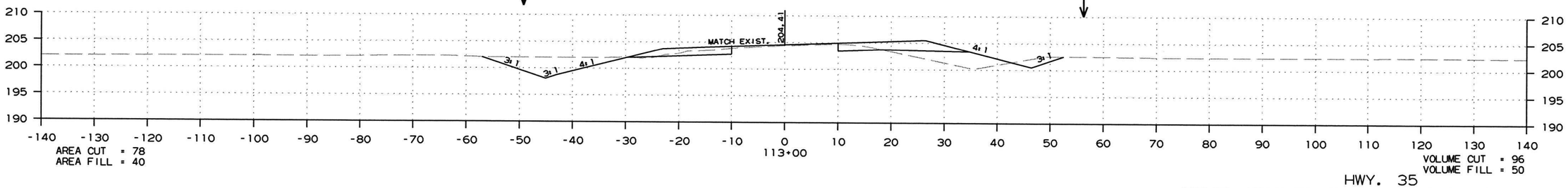
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	132	139

(2) CROSS SECTIONS









HWY. 35

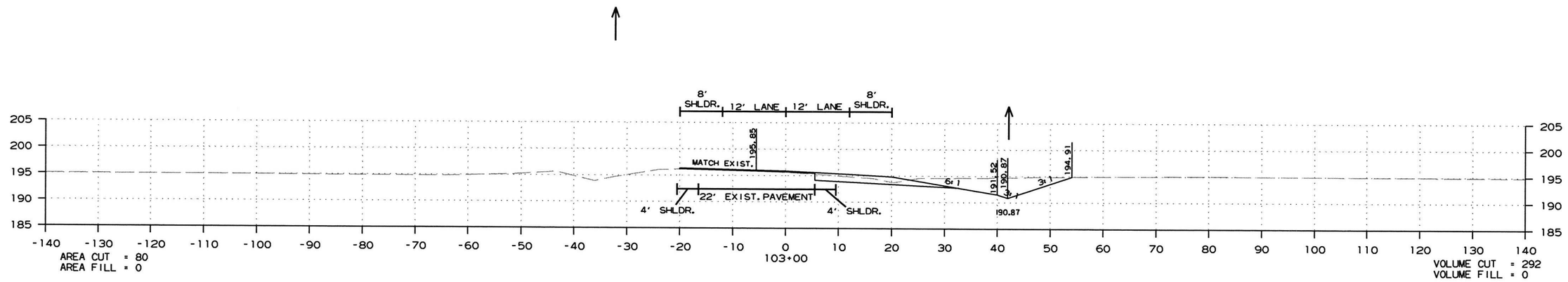
CROSS SECTION STA. 113+00 TO STA. 115+05

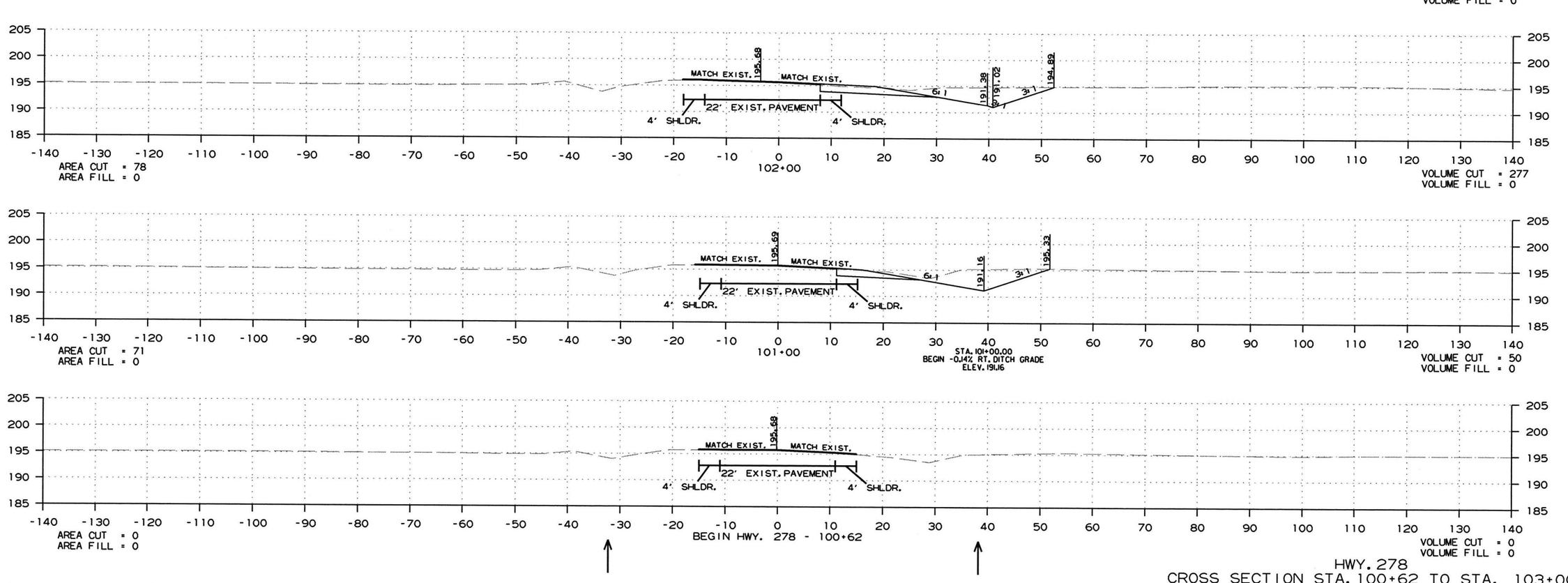
7/18/2017

R020484.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.		020484	133	139

(2) CROSS SECTIONS





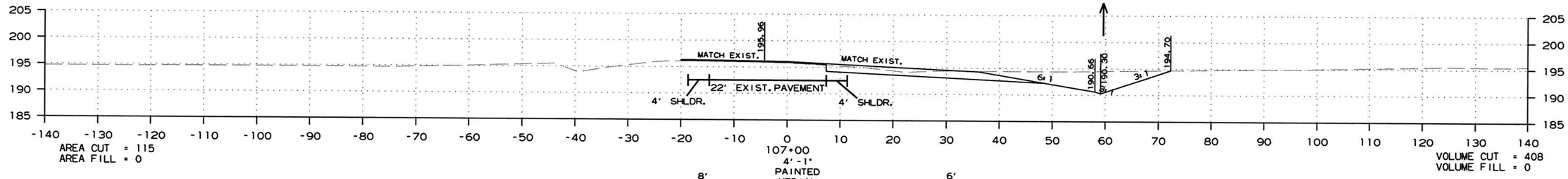
HWY. 278
CROSS SECTION STA. 100+62 TO STA. 103+00

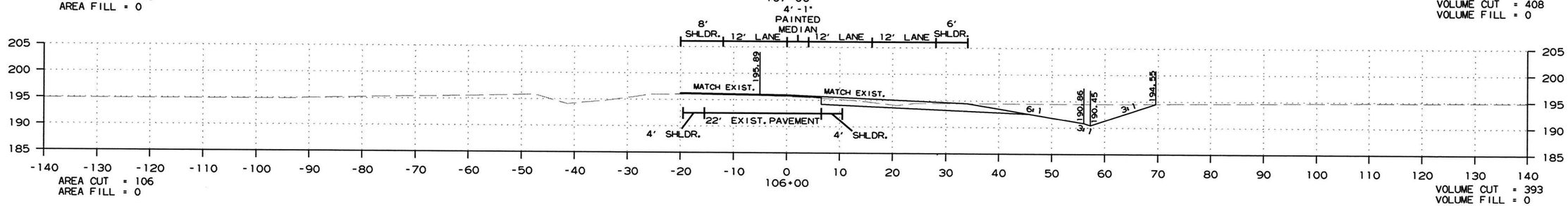
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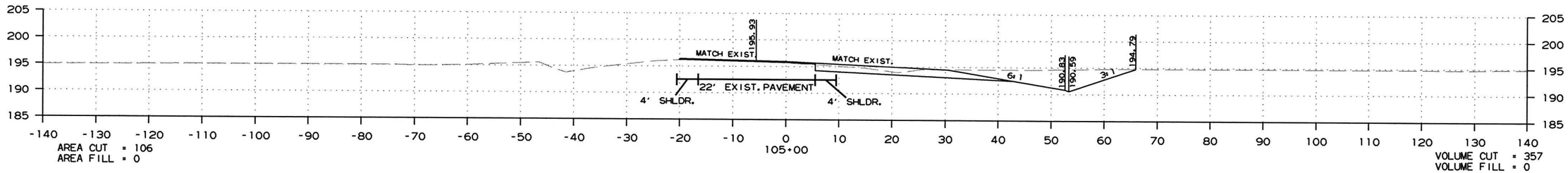
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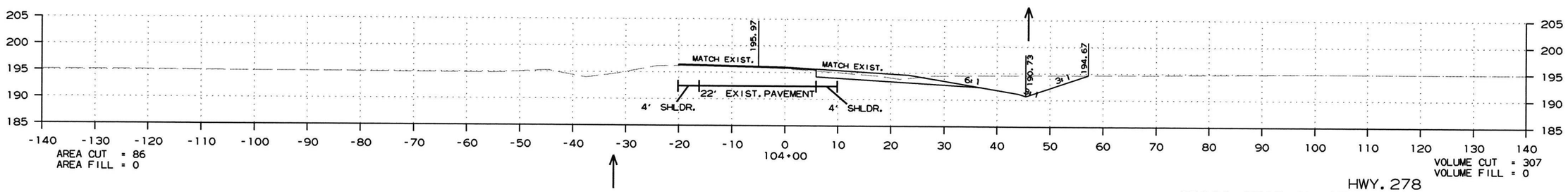
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	134	139

(2) CROSS SECTIONS









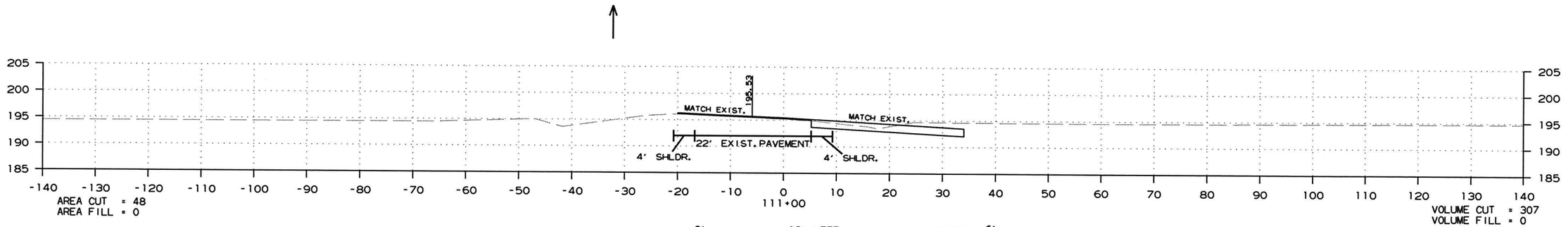
HWY. 278
CROSS SECTION STA. 104+00 TO STA. 107+00

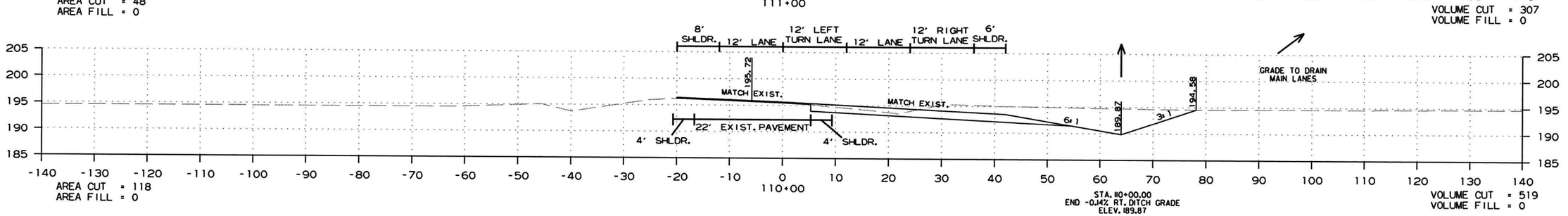
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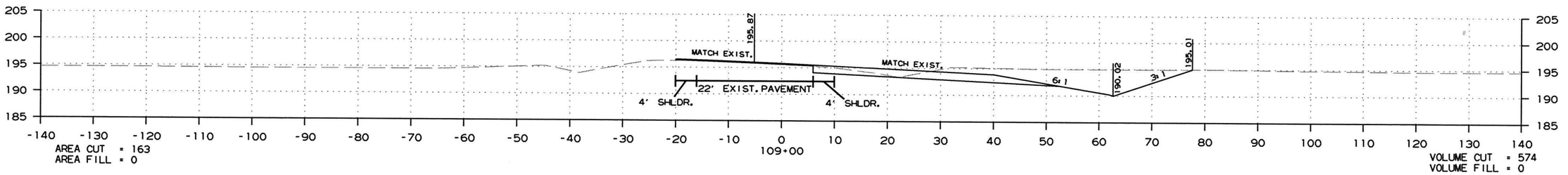
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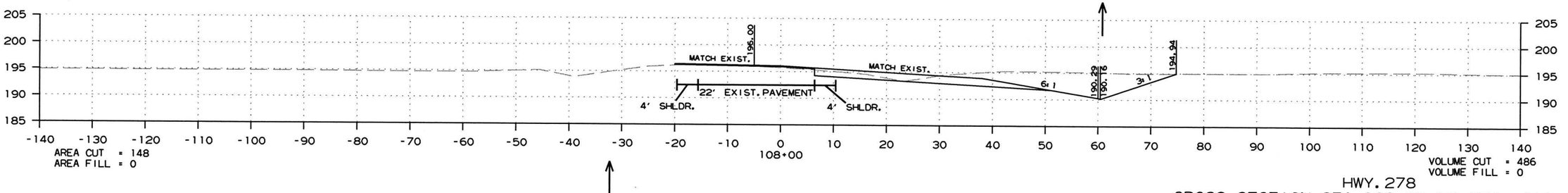
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				6	ARK.			
				JOB NO.		020484	135	139

(2) CROSS SECTIONS









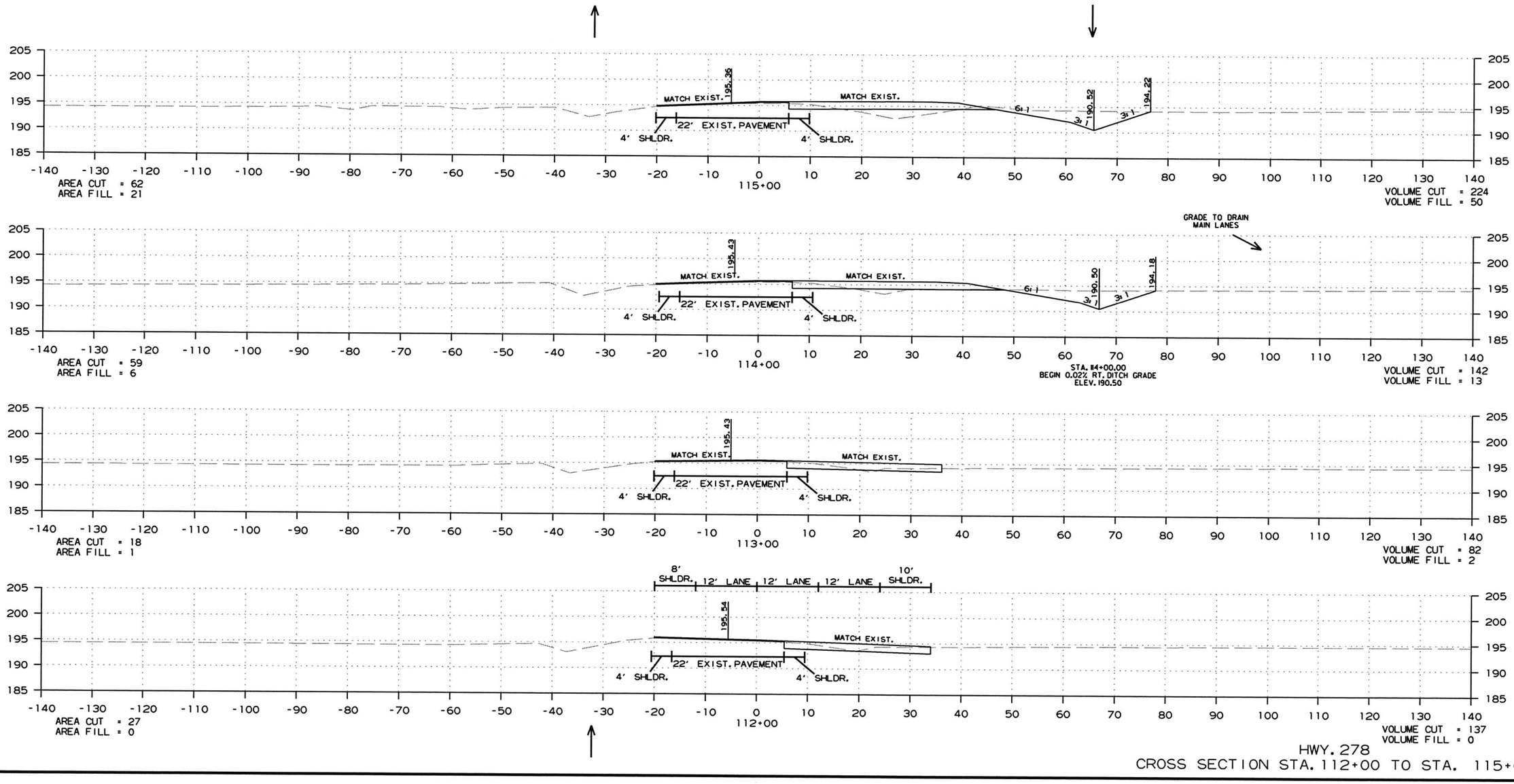
HWY. 278
CROSS SECTION STA. 108+00 TO STA. 111+00

7/18/2017

R020484.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.		020484	136	139

(2) CROSS SECTIONS



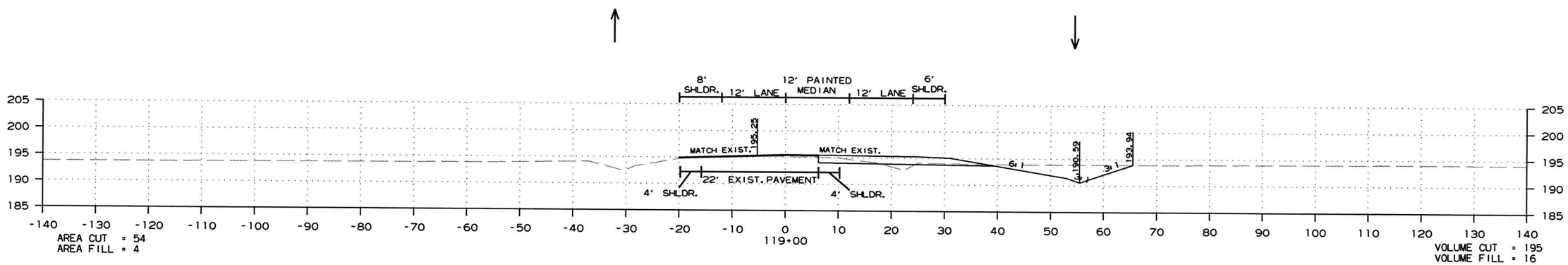
HWY. 278
CROSS SECTION STA. 112+00 TO STA. 115+00

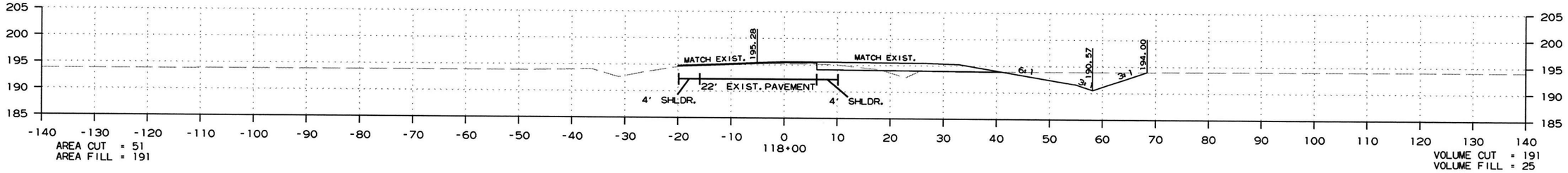
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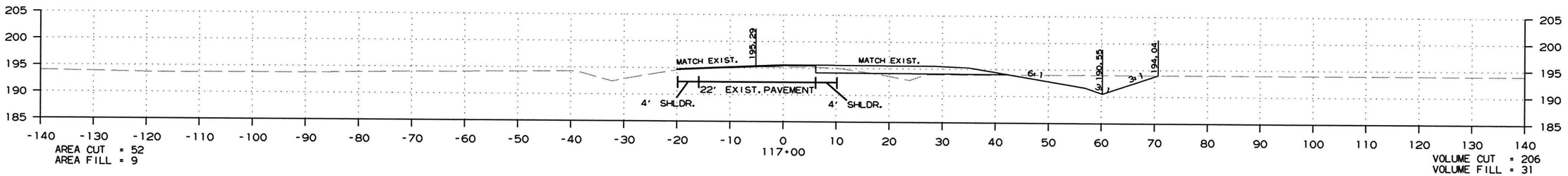
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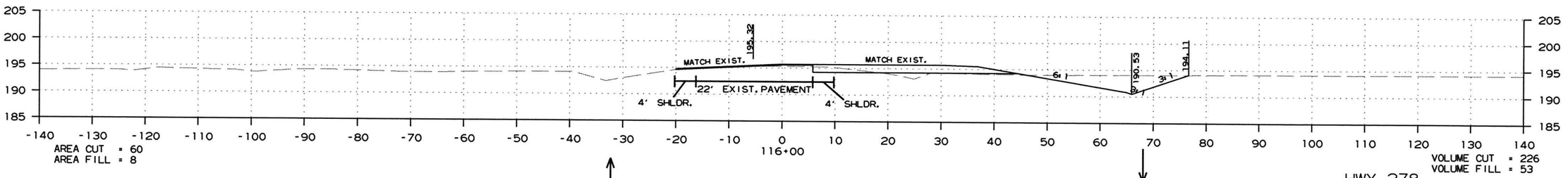
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020484	137	139

(2) CROSS SECTIONS









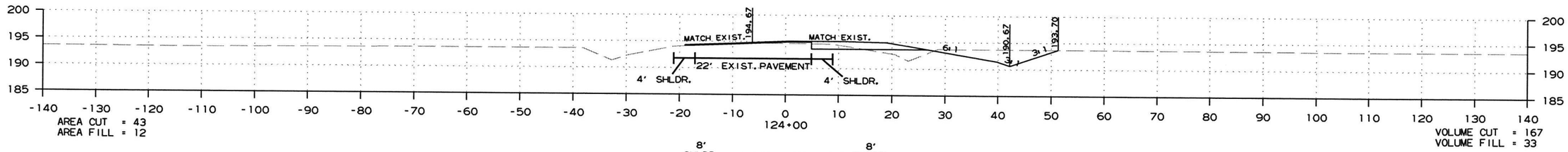
HWY. 278
CROSS SECTION STA. 116+00 TO STA. 119+00

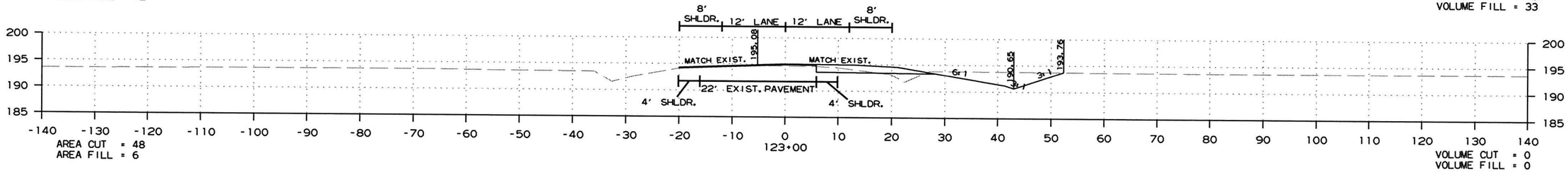
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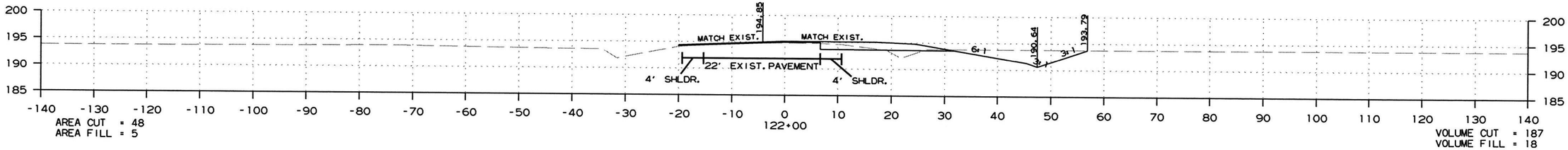
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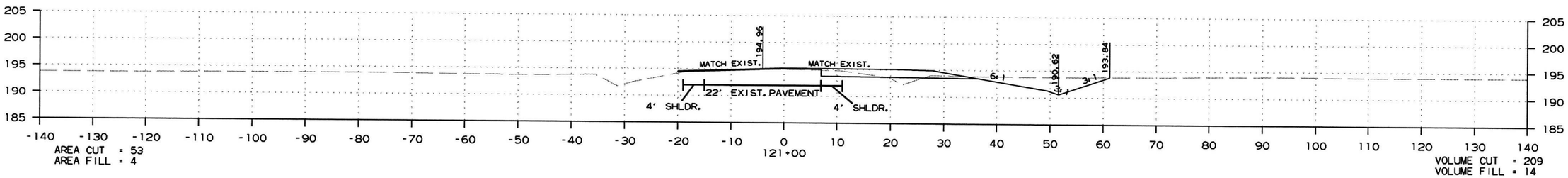
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				6	ARK.			
				JOB NO.		020484	138	139

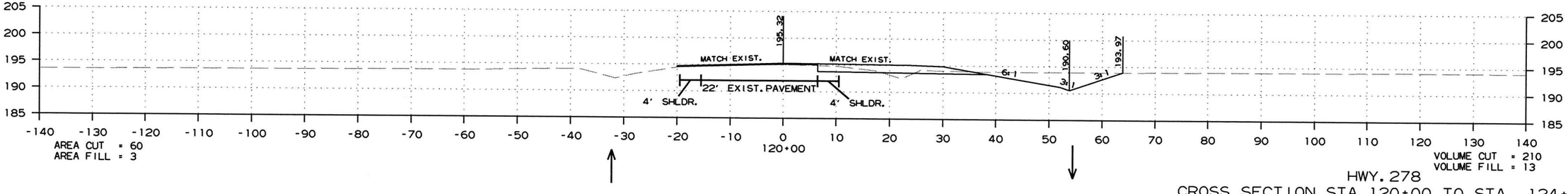
(2) CROSS SECTIONS











HWY. 278
CROSS SECTION STA. 120+00 TO STA. 124+00

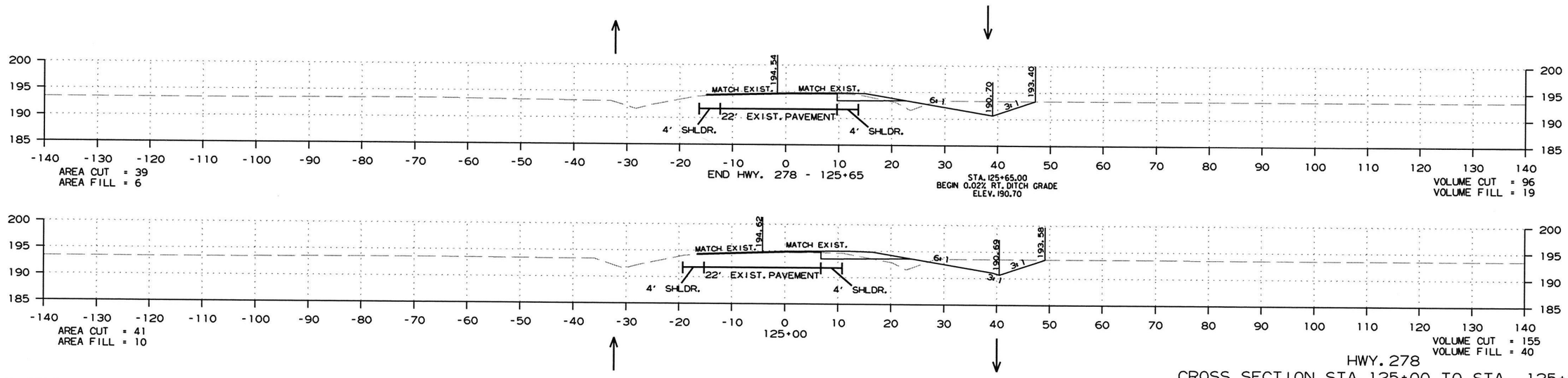
7/18/2017

R020484.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.		020484	139	139

(2) CROSS SECTIONS

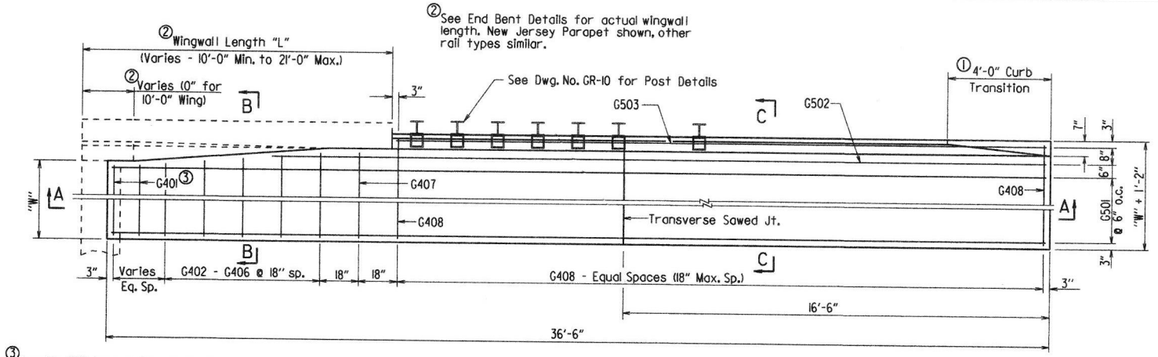


HWY. 278
CROSS SECTION STA. 125+00 TO STA. 125+65

7/18/2017

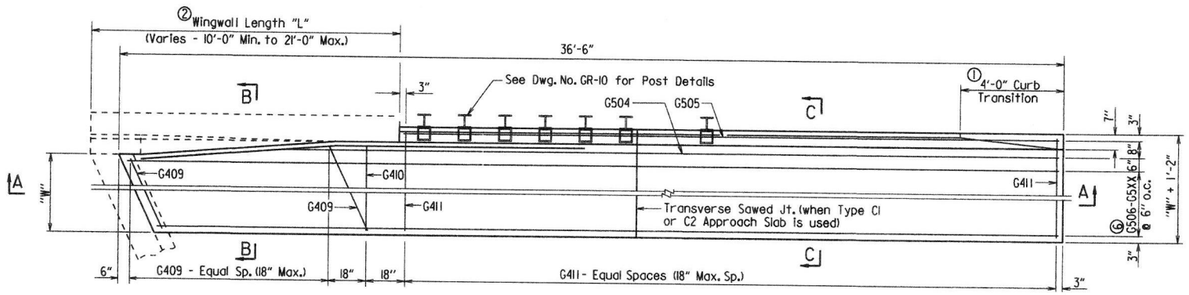
R020484.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	TYPE C GUTTERS		55030C	

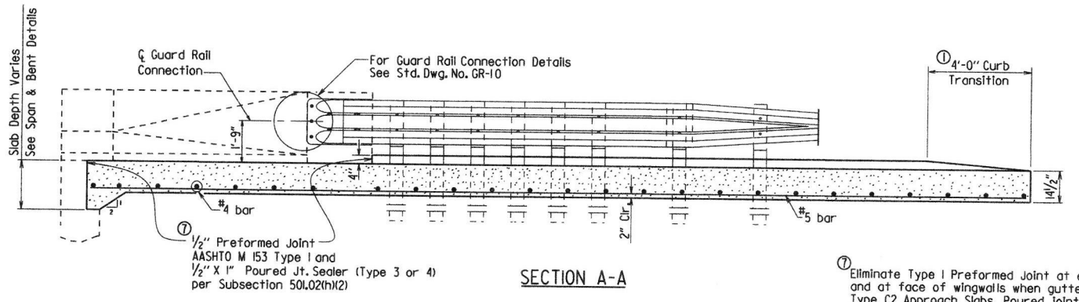


③Provide G401 bars @ 18" max. spacing.
Number of G401 bars vary with wingwall length.
No G401 bars required for 10'-0" wingwalls.

HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE



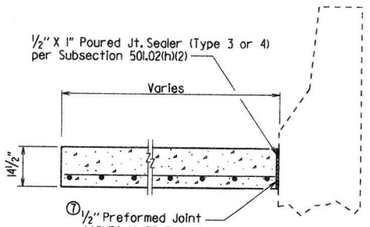
PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE



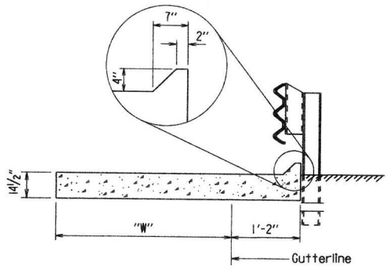
SECTION A-A

①Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.

BAR LIST FOR ONE TYPE C GUTTER

	Mark	No. Req'd. for Width "W" 4'-0"	6'-0"	8'-0"	10'-0"	Length
Square Bridge	G401	④	④	④	④	"W"- 4"
	G402-G406	1 each	1 each	1 each	1 each	"W"-3" to "W"+2"
	G407	1	1	1	1	"W"+3"
	G408	④	④	④	④	"W"+ 10"
	G501	8	12	16	20	36'-2"
	G502	1	1	1	1	(41'-11") - "L"
	G503	1	1	1	1	(37'-2") - "L"
Skewed Bridge	G409	④	④	④	④	⑤
	G410	1	1	1	1	"W"+3"
	G411	④	④	④	④	"W"+ 10"
	G504	1	1	1	1	⑤
	G505	1	1	1	1	⑤
	G506 - G5XX ⑥	1 each	1 each	1 each	1 each	⑤

④No. Req'd. varies with Skew and Wingwall Length.

⑤Bar Lengths vary with Skew and Wingwall Length.

⑥G513 for "W" = 4'
G517 for "W" = 6'
G521 for "W" = 8'
G525 for "W" = 10'

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

(FOR INFORMATION ONLY)

"W" Width (ft.)	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
4	445	8.30
6	630	11.55
8	810	14.80
10	995	18.10

Quantities are based on "L" = 10'-0".

Note:
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

⑦Eliminate Type I Preformed Joint at end bent backwall and at face of wingwalls when gutters used with Type C2 Approach Slabs. Poured joint sealer is required, however backer rod shall be eliminated.

GENERAL NOTES

All concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Gutters will be measured and paid for in accordance with Section 504.

STANDARD DETAILS FOR TYPE C APPROACH GUTTERS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55030c.dgn
CHECKED BY: K.W.Y. DATE: 2/27/2014 SCALE: ⅜" = 1'-0" or As Shown
DESIGNED BY: STD. DATE:

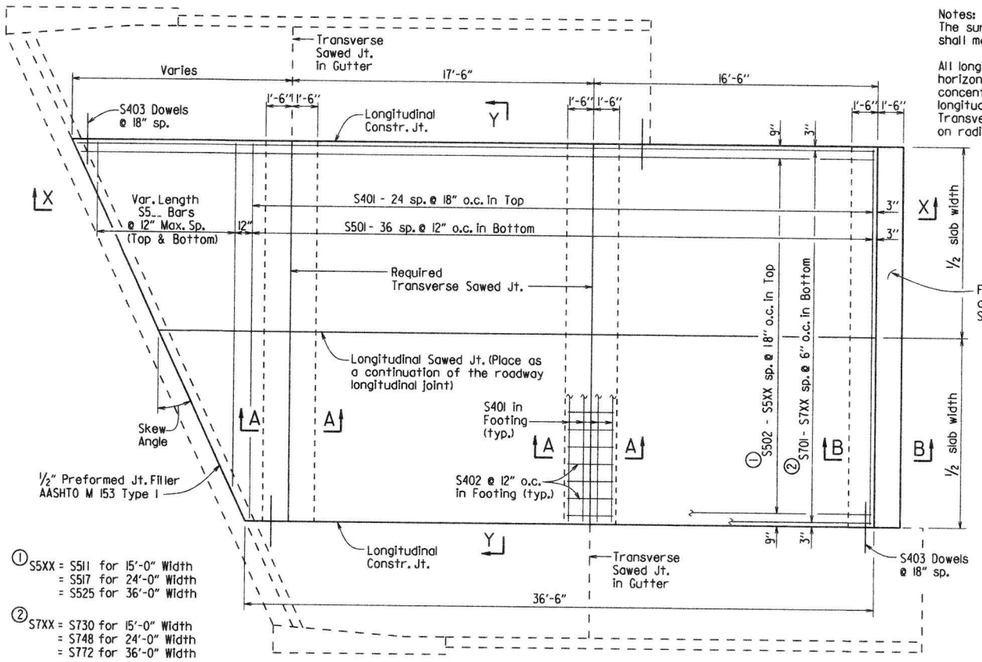
DRAWING NO. 55030C

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

TYPE CI APPROACH SLAB 55040CI

Notes:
The surface finish for Approach Slabs shall match that used on the bridge deck.

All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

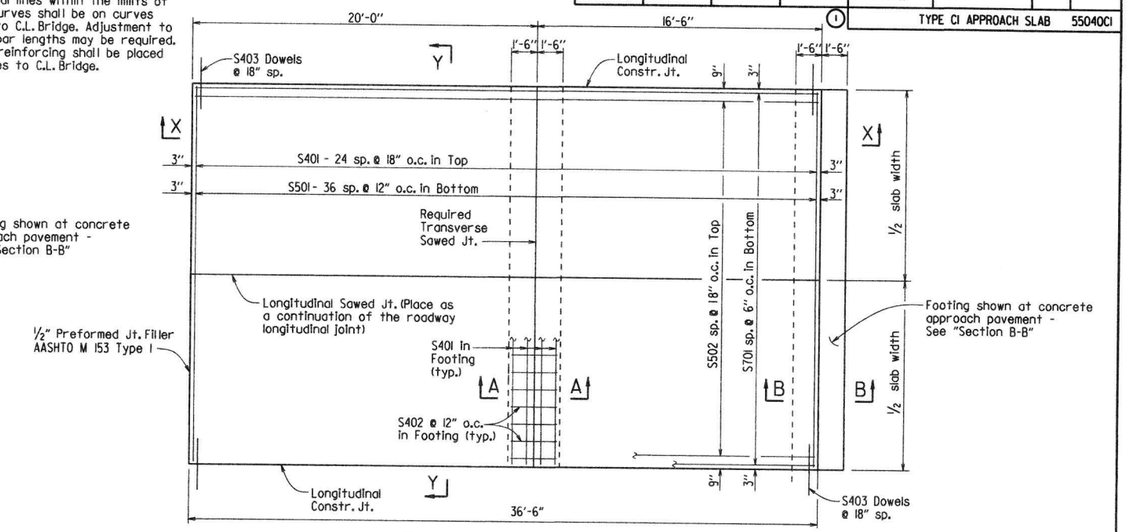


① S5XX = S511 for 15'-0" Width
= S517 for 24'-0" Width
= S525 for 36'-0" Width

② S7XX = S730 for 15'-0" Width
= S748 for 24'-0" Width
= S772 for 36'-0" Width

PLAN - SKEWED APPROACH SLAB WITH APPROACH GUTTERS

1/4" = 1'-0"



PLAN - SQUARE APPROACH SLAB

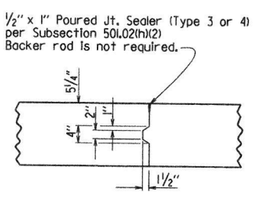
1/4" = 1'-0"

BAR LIST

(Square & Skewed Approach Slabs)

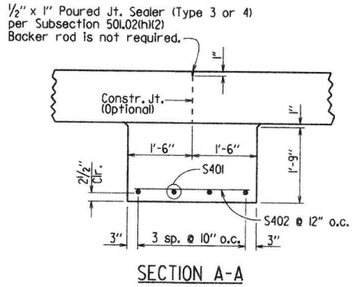
	Mark	Square No. Req'd.	Square Length	Skewed No. Req'd.	Skewed Length
15'-0" Slab Width	S401	33	14'-8"	37	14'-8"
	S402	30	2'-8"	45	2'-8"
	S403	50	3'-0"	*	3'-0"
	S501	37	14'-8"	37	14'-8"
	S502	10	36'-2"	—	—
	S502 - S511	—	—	1 Ea.	36.1' + 0.75'(tan skew angle) to 36.1' + 14.25'(tan skew angle)
	S5__	—	—	2 Ea.	14.7' - 0.75'/(tan skew angle) to 2'-0" Min.
	S701	30	36'-2"	—	—
	S701 - S730	—	—	1 Ea.	36.1' + 0.25'(tan skew angle) to 36.1' + 14.75'(tan skew angle)
24'-0" Slab Width	S401	33	23'-8"	37	23'-8"
	S402	48	2'-8"	72	2'-8"
	S403	50	3'-0"	*	3'-0"
	S501	37	23'-8"	37	23'-8"
	S502	16	36'-2"	—	—
	S502 - S517	—	—	1 Ea.	36.1' + 0.75'(tan skew angle) to 36.1' + 23.25'(tan skew angle)
	S5__	—	—	2 Ea.	23.7' - 0.75'/(tan skew angle) to 2'-0" Min.
	S701	48	36'-2"	—	—
	S701 - S748	—	—	1 Ea.	36.1' + 0.25'(tan skew angle) to 36.1' + 23.75'(tan skew angle)
36'-0" Slab Width	S401	33	35'-8"	37	35'-8"
	S402	72	2'-8"	108	2'-8"
	S403	50	3'-0"	*	3'-0"
	S501	37	35'-8"	37	35'-8"
	S502	24	36'-2"	—	—
	S502 - S525	—	—	1 Ea.	36.1' + 0.75'(tan skew angle) to 36.1' + 35.25'(tan skew angle)
	S5__	—	—	2 Ea.	35.7' - 0.75'/(tan skew angle) to 2'-0" Min.
	S701	72	36'-2"	—	—
	S701 - S772	—	—	1 Ea.	36.1' + 0.25'(tan skew angle) to 36.1' + 35.75'(tan skew angle)

* Varies with skew angle



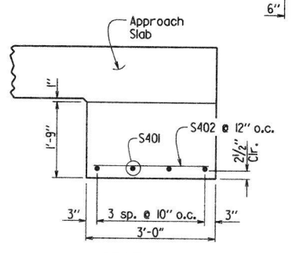
DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

3/4" = 1'-0"



SECTION A-A

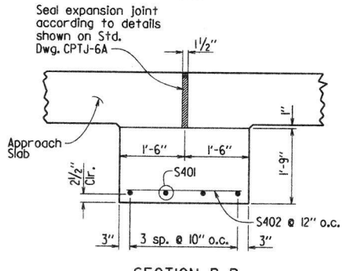
N.T.S.



SECTION B-B

AT ASPHALT APPROACH PAVEMENT

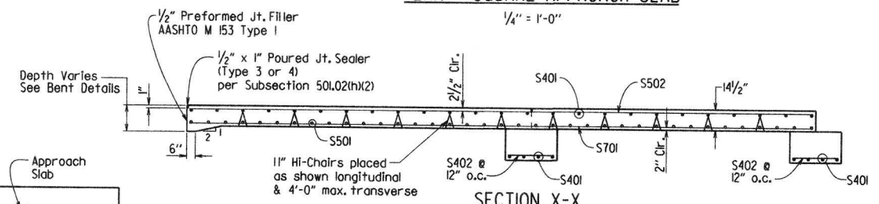
N.T.S.



SECTION B-B

AT CONCRETE APPROACH PAVEMENT

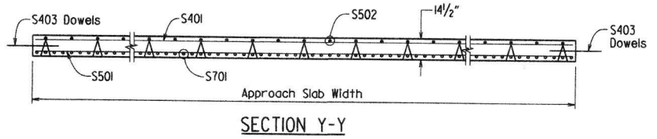
N.T.S.



SECTION X-X

SQUARE APPROACH SLAB SHOWN

1/4" = 1'-0"



SECTION Y-Y

N.T.S.

TABLE OF QUANTITIES FOR ONE SQUARE APPROACH SLAB

(FOR INFORMATION ONLY)

Slab Width	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
15'-0"	3640	30.75
24'-0"	5775	49.15
36'-0"	8620	73.75

GENERAL NOTES

This drawing shall be used for Approach Slabs in Seismic Performance Zone 1 and for the maximum skew angles shown below:

15'-0" Slab Width: Maximum Skew Angle = 50°
24'-0" Slab Width: Maximum Skew Angle = 40°
36'-0" Slab Width: Maximum Skew Angle = 30°

All concrete shall be Class S (AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Slabs will be measured and paid for in accordance with Section 504.

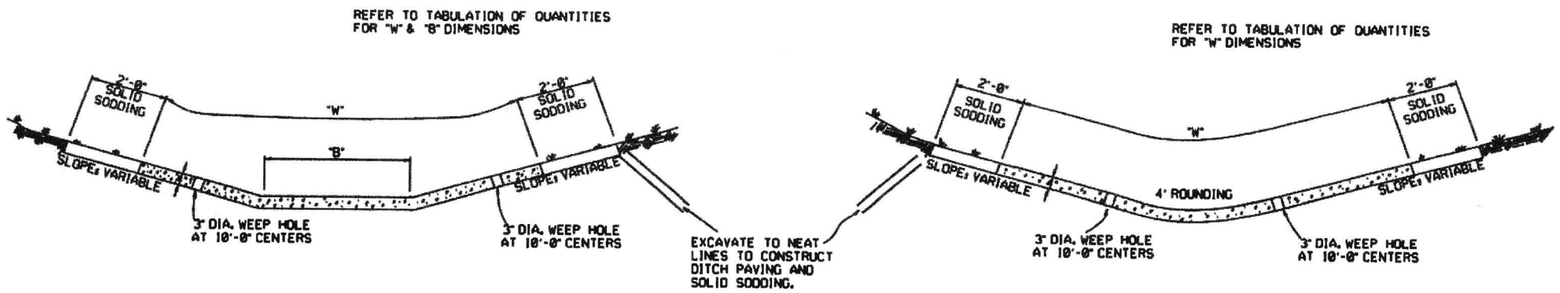
STANDARD DETAILS FOR TYPE CI APPROACH SLAB

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55040ci.dgn
CHECKED BY: K.W.Y. DATE: 2/27/2014 SCALE: AS SHOWN
DESIGNED BY: STD. DATE:

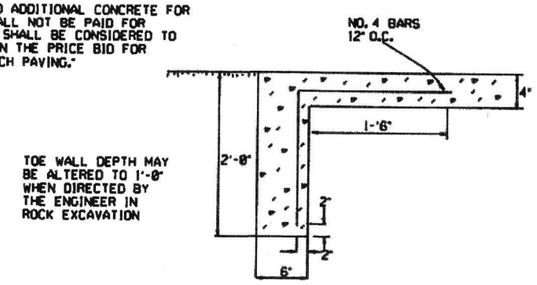
DRAWING NO. 55040CI



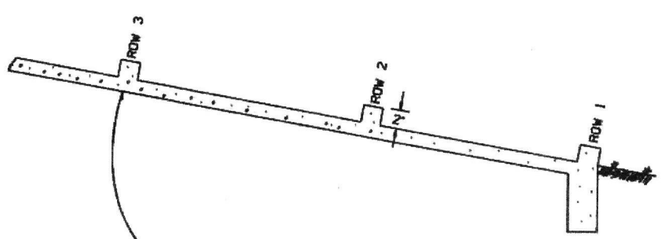
TYPE A

TYPE B

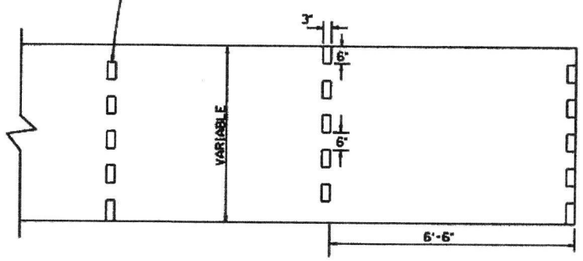
THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."



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.

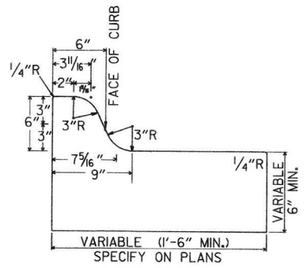
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-17-10	ADDED GENERAL NOTE	
8-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-18-88	REVISED DISSIPATOR NOTE	683-7-18-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
9-87	MODIFIED NOTE ON ENERGY DISS.	642-9-87
12-3-86	ADDED NOTE TO ENERGY DISS.	599-12-86
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

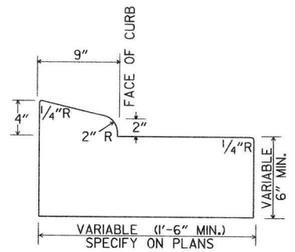
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

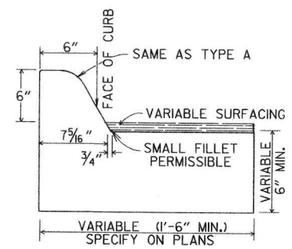
STANDARD DRAWING CDP-1



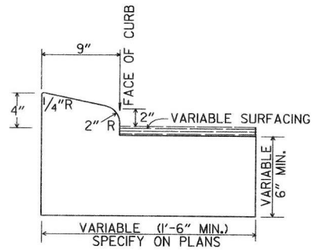
TYPE A



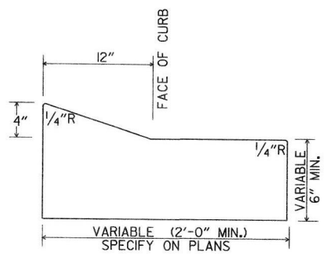
TYPE B-I



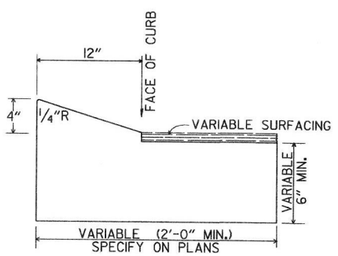
TYPE C



TYPE B-2

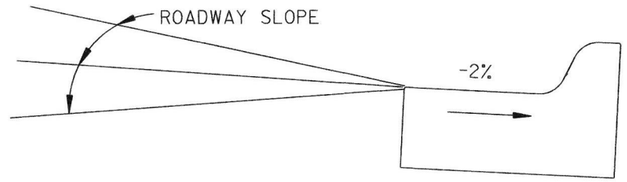


TYPE E-1



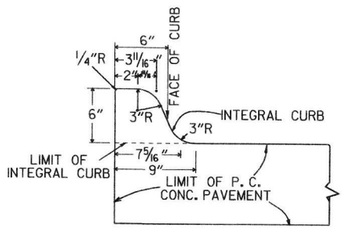
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

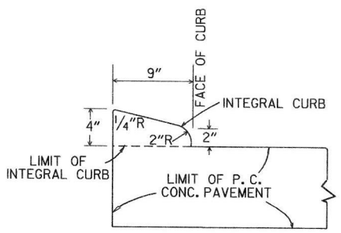


DETAIL OF GUTTER SLOPE

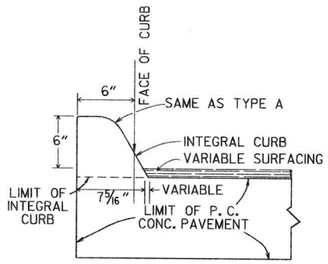
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

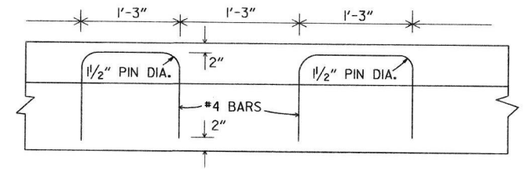


TYPE B

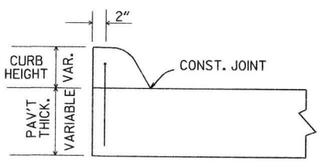


TYPE C

INTEGRAL CURB

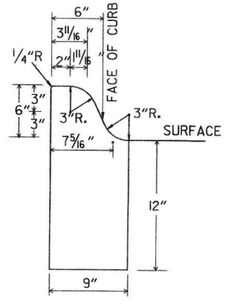


LONGITUDINAL SECTION

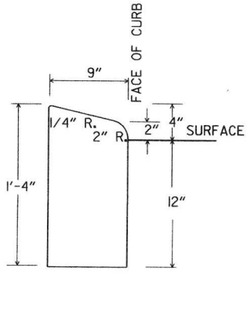


ELEVATION

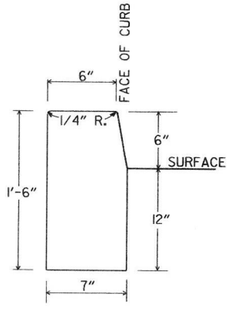
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



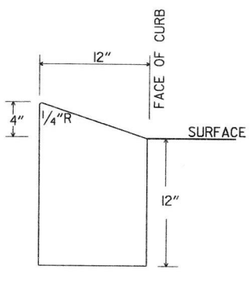
TYPE A



TYPE B

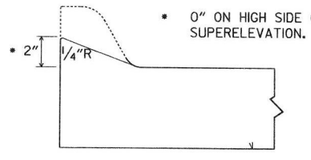


TYPE D



TYPE E

CONCRETE CURB



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

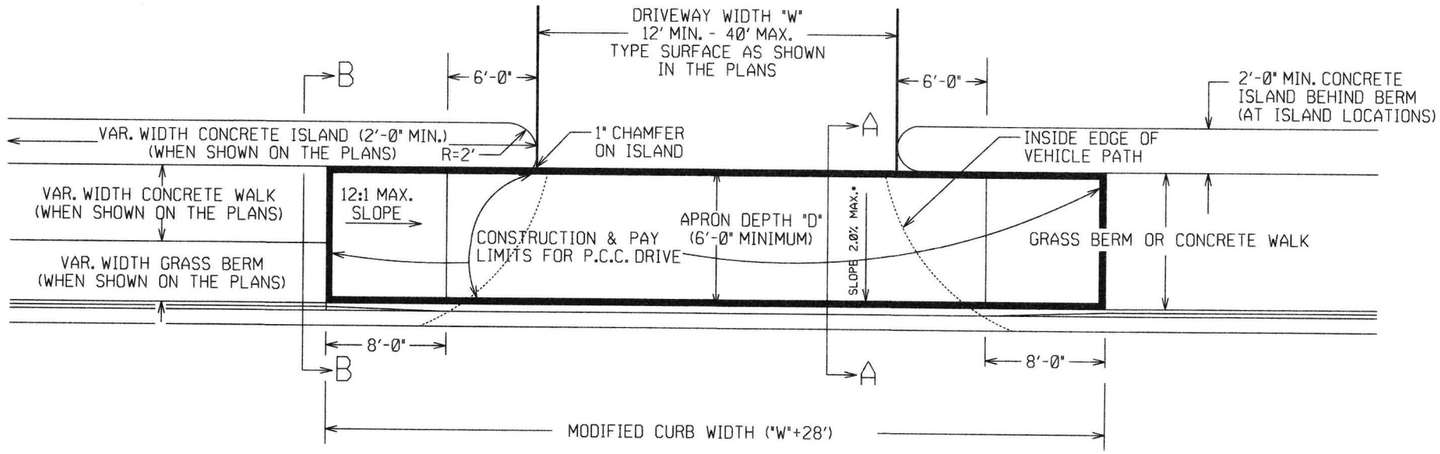
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

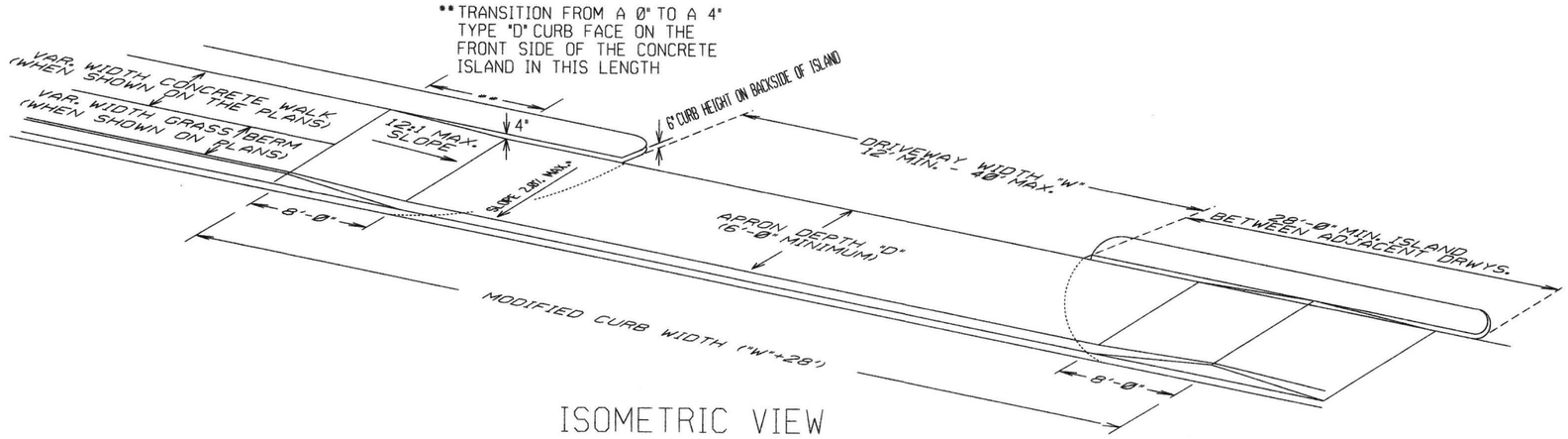
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

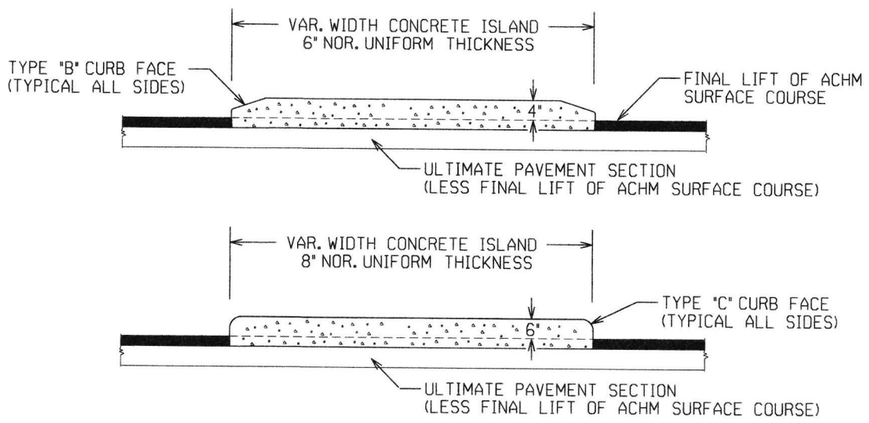
STANDARD DRAWING CG-1



PLAN VIEW

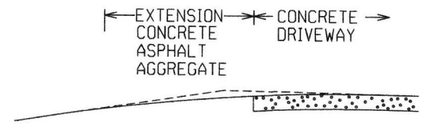


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

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



EXTENSION TYPICAL SECTIONS

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

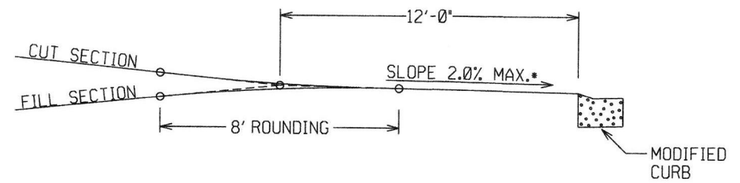
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

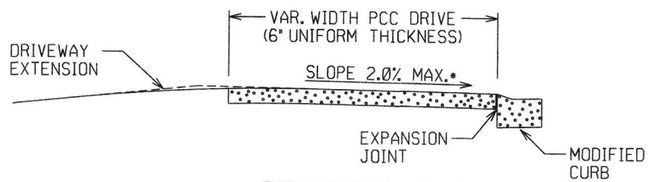
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

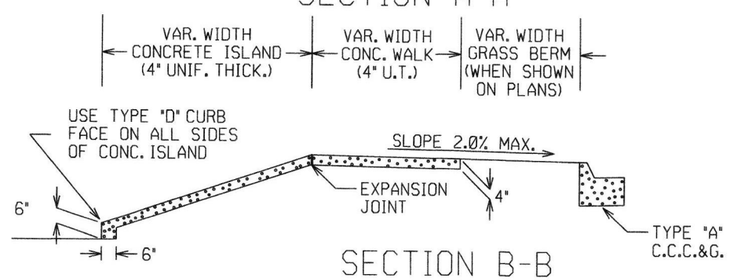


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



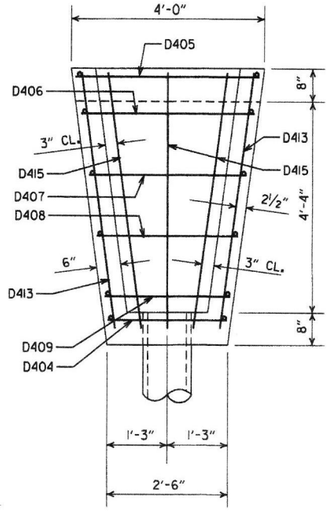
SECTION A-A



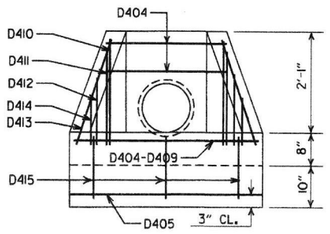
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

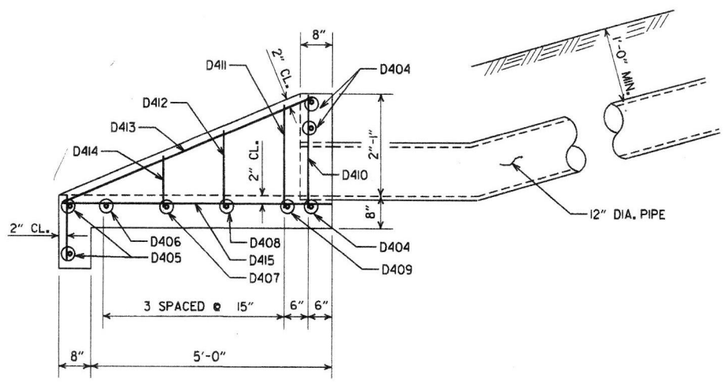
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



PLAN



FRONT ELEVATION

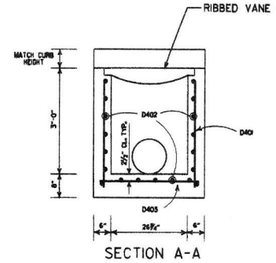


SIDE ELEVATION
CONCRETE SPILLWAY

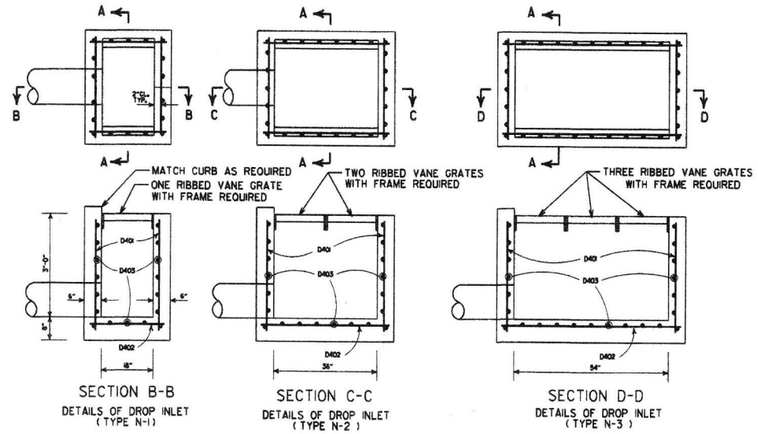
BAR LIST (CONCRETE SPILLWAY)

MARK	NO. REQ'D.	LENGTH	BENDING DIAGRAM
D404	3	2'-2"	
D405	2	3'-8"	
D406	1	3'-5"	
D407	1	3'-1"	
D408	1	2'-9"	
D409	1	2'-5"	
D410	2	2'-5"	
D411	2	2'-2"	
D412	2	1'-9"	
D413	2	5'-6"	
D414	2	1'-2"	
D415	3	6'-5"	5'-4", 1'-2", 2" P.D., D415

DETAILS OF CONCRETE SPILLWAY (TYPE A)



SECTION A-A



SECTION B-B
DETAILS OF DROP INLET
(TYPE N-1)

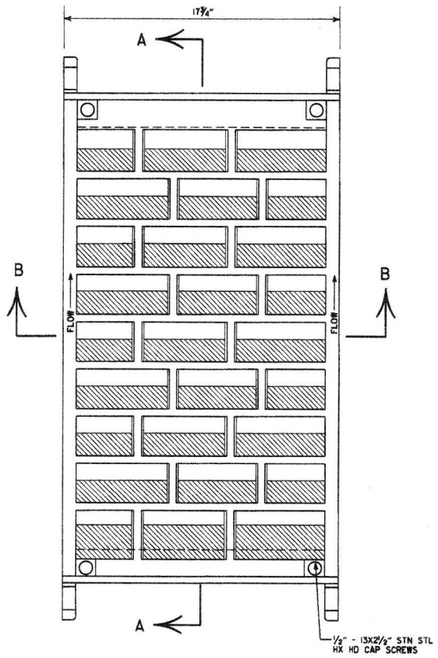
SECTION C-C
DETAILS OF DROP INLET
(TYPE N-2)

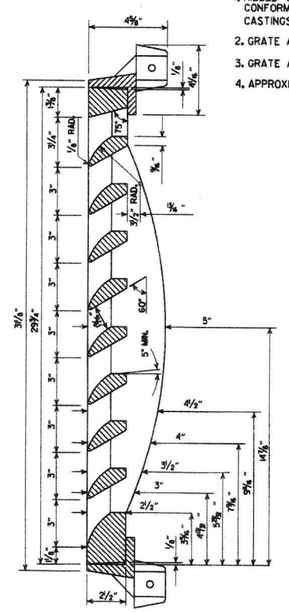
SECTION D-D
DETAILS OF DROP INLET
(TYPE N-3)

BAR LIST (DROP INLET)

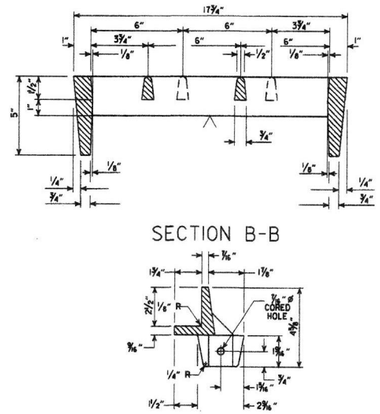
MARK	TYPE N-1		TYPE N-2		TYPE N-3	
	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
D401	20	3'-0"	26	3'-0"	32	3'-0"
D402	19	2'-2"	19	3'-8"	19	5'-2"
D403	17	2'-11"	20	2'-11"	23	2'-11"

ALL BARS #4 @ 6" SPACING





SECTION A-A



SECTION B-B

SECTION THRU FRAME

DETAILS OF DROP INLET

GENERAL NOTES (GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.

DETAILS OF RIBBED VANE GRATE AND FRAME

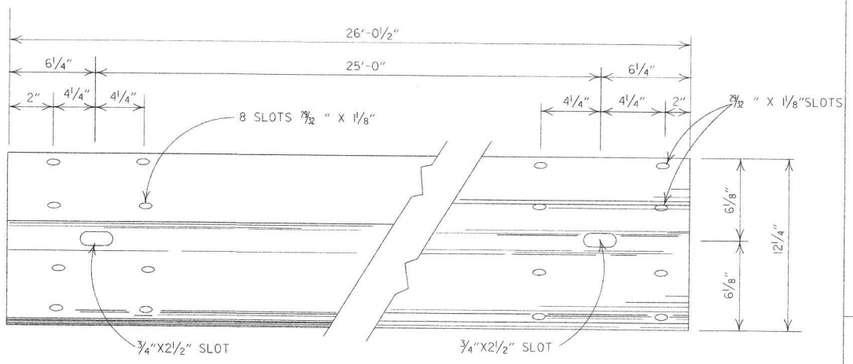
DATE REVISED	DATE FILMED	DESCRIPTION
7-02-98	7-2-98	REVISED SECT. A-A DETAIL OF DROP INLET & ADDED AASHTO REF. TO NOTE 1, REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
8-15-91		ISSUED

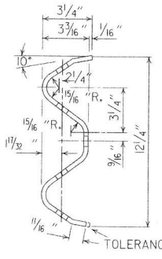
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS AND SPILLWAY OUTLET

STANDARD DRAWING FPC-9N

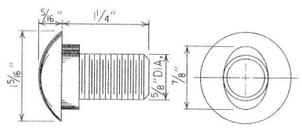
STDfpc9N.DGN



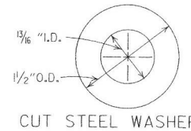


DETAILS OF W-BEAM GUARD RAIL

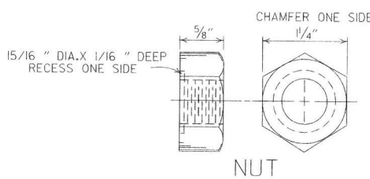
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



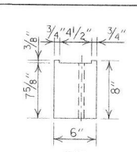
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

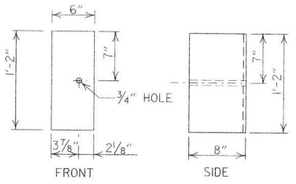


NUT

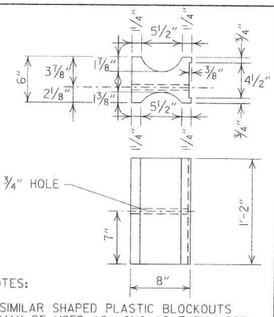


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



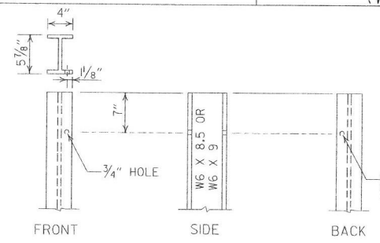
WOOD BLOCKOUT (W-BEAM)



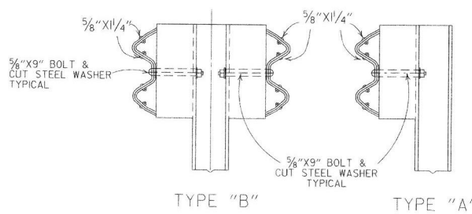
NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)



STEEL POST



DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

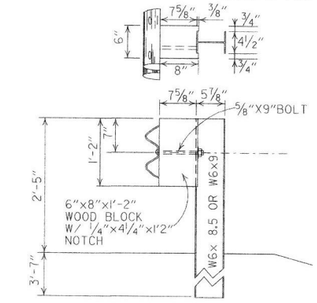
USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

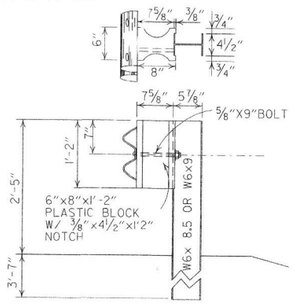
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



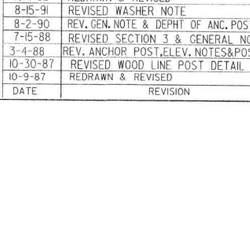
WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

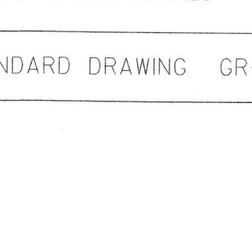
DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

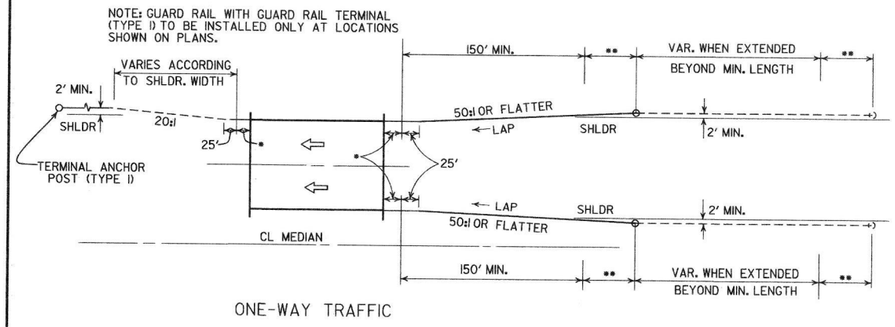
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

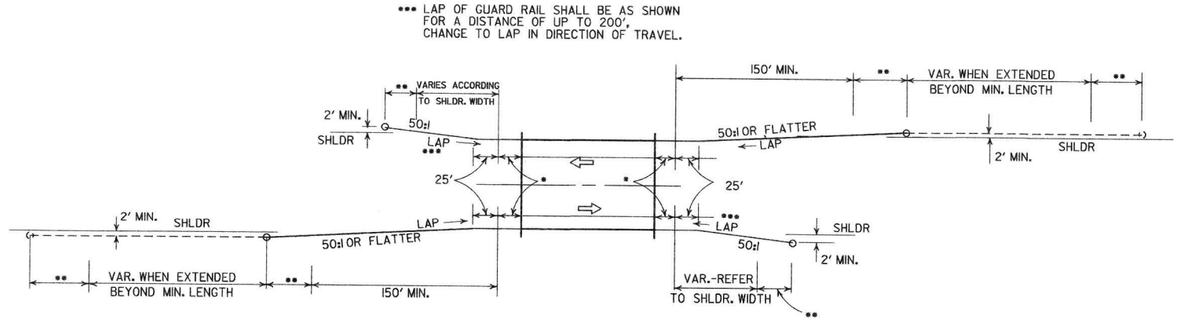
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8



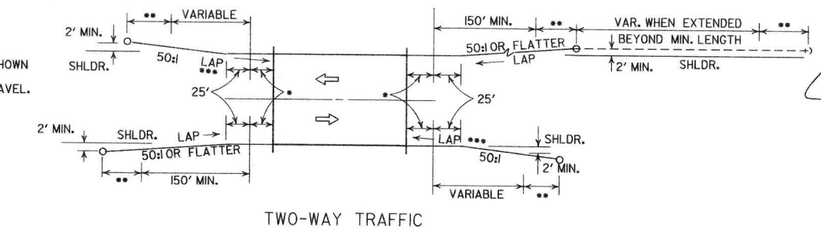
ONE-WAY TRAFFIC



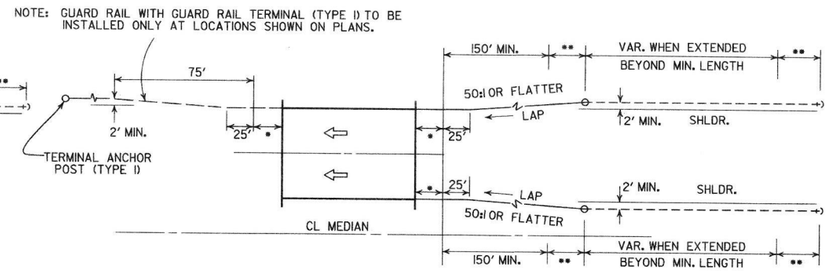
TWO-WAY TRAFFIC

METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



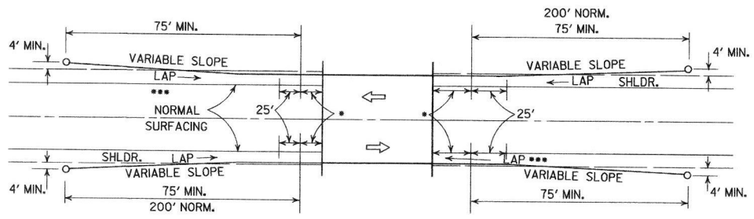
TWO-WAY TRAFFIC



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

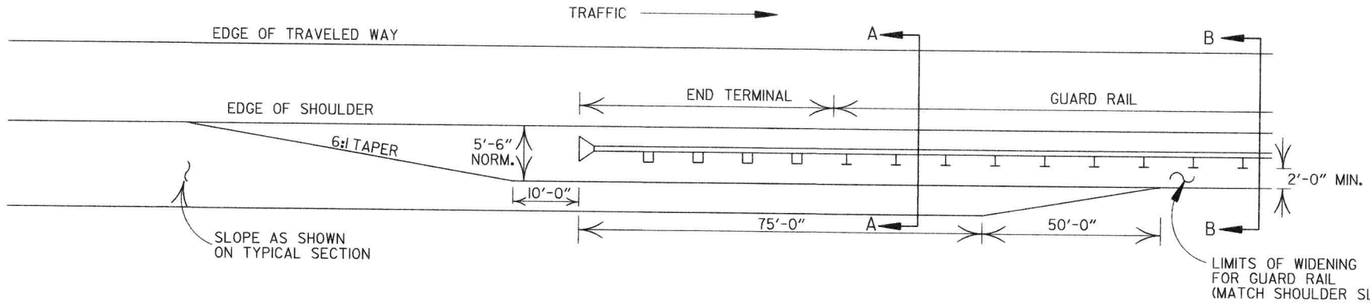
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

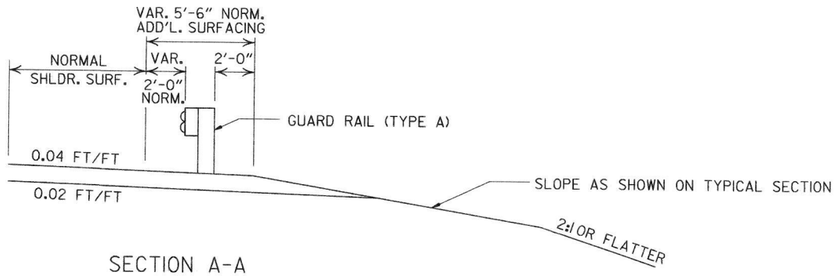
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

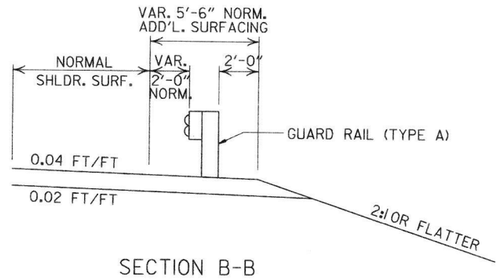
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





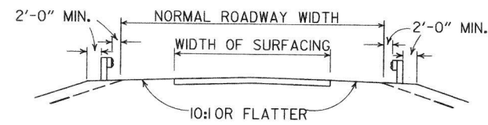
SECTION A-A



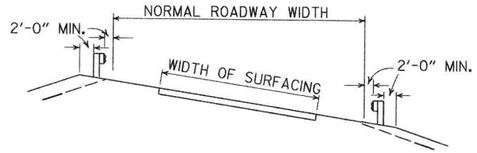
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

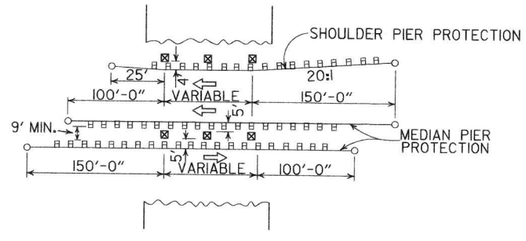


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



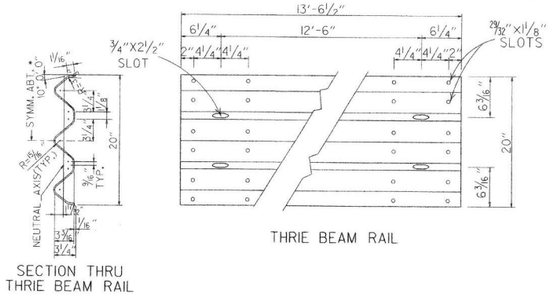
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

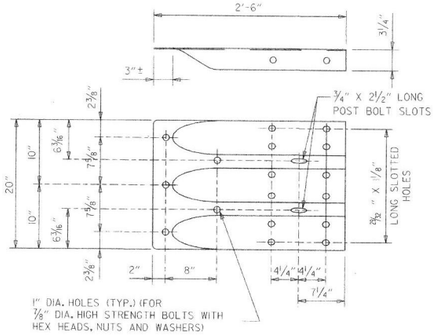
DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

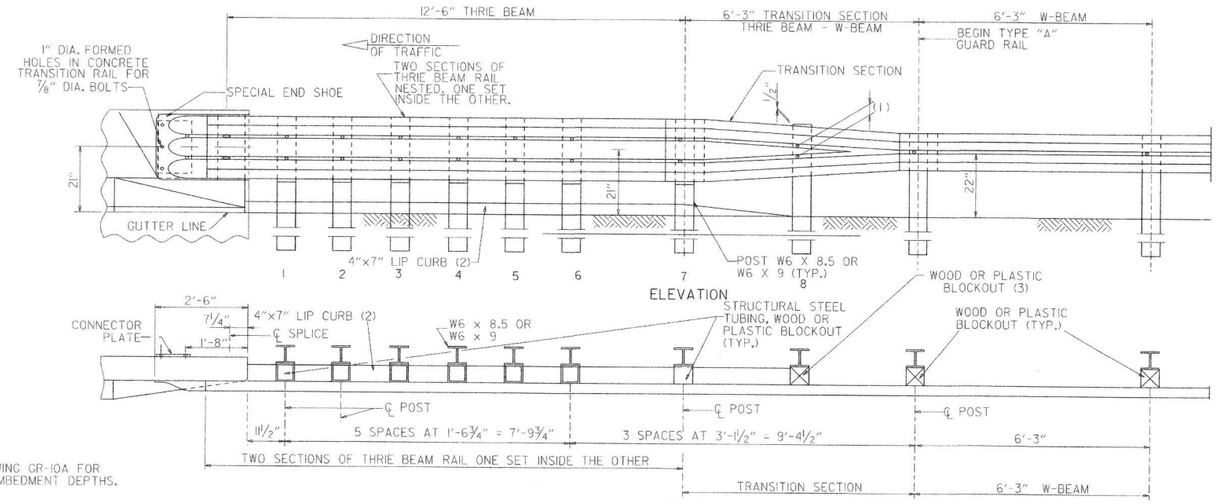
ARKANSAS STATE HIGHWAY COMMISSION

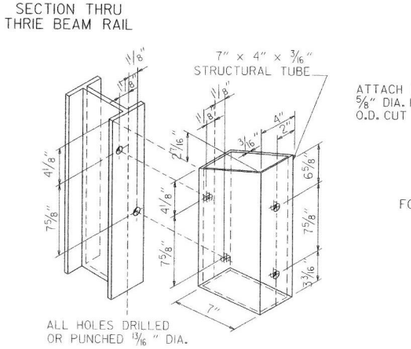
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A

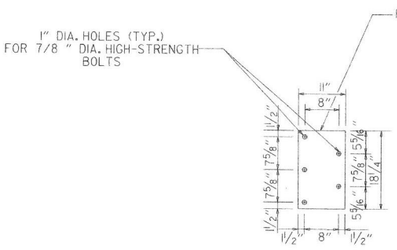






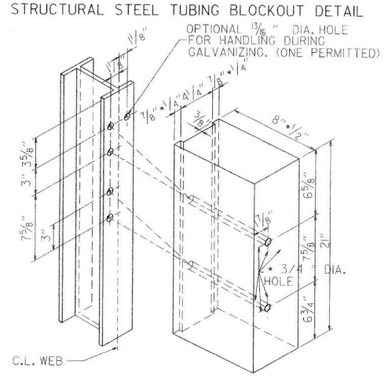


ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

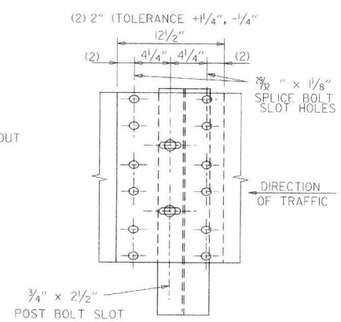


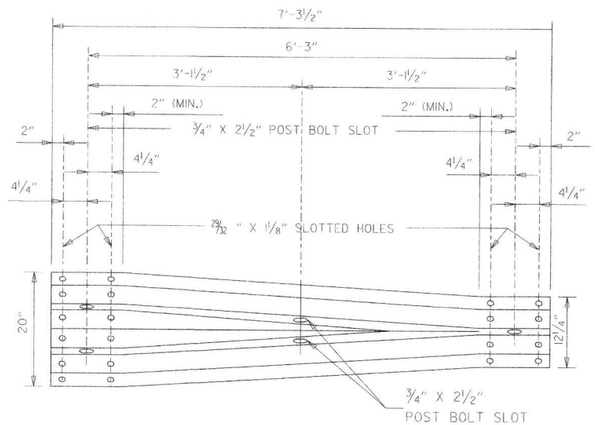
NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.





(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

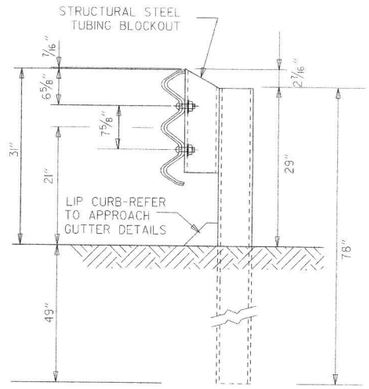
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

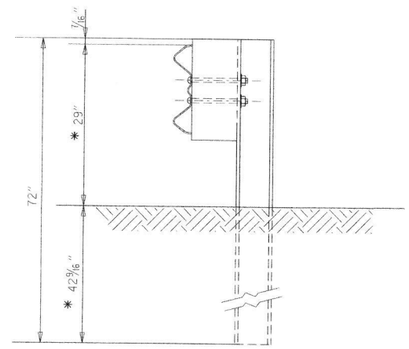
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

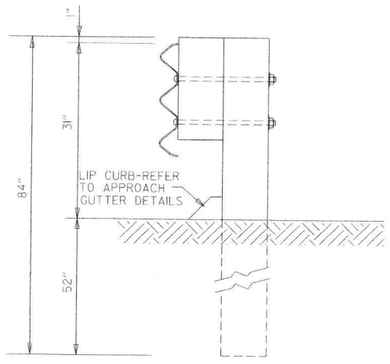


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

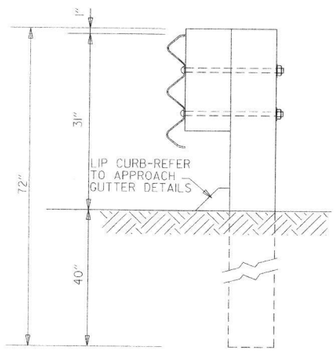


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

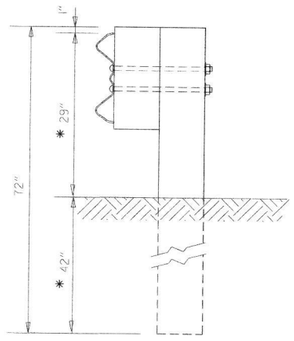
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

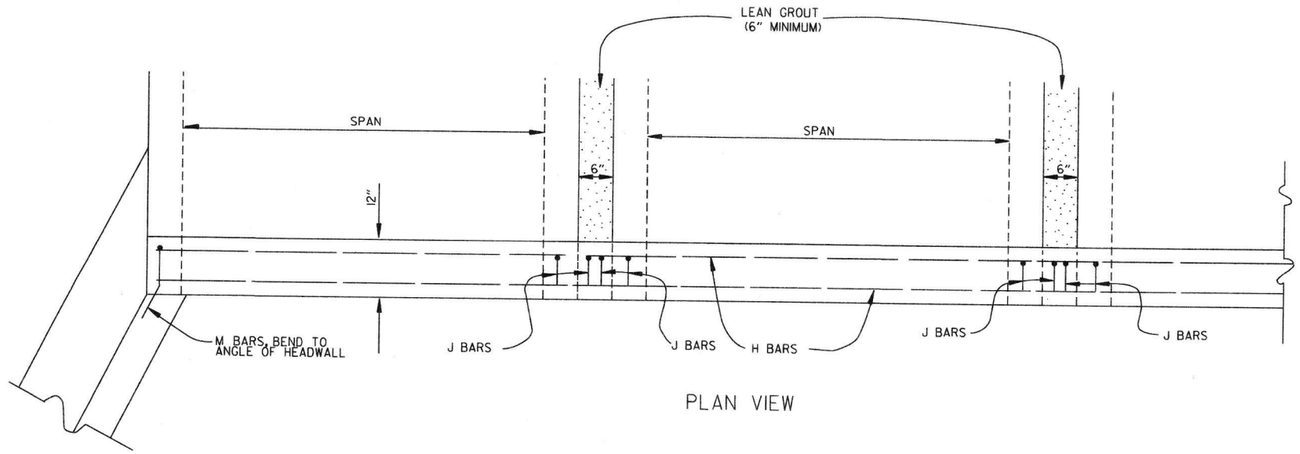
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

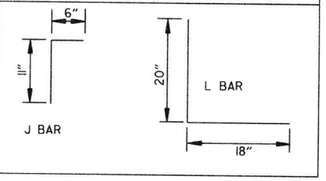
STANDARD DRAWING GR-10A



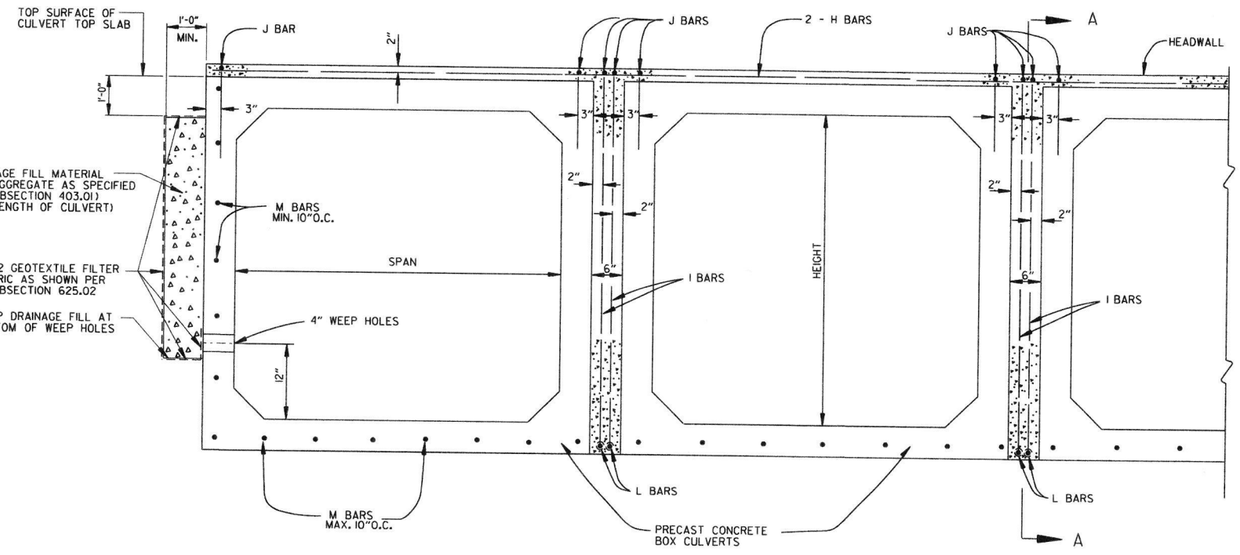
PLAN VIEW

BAR LIST

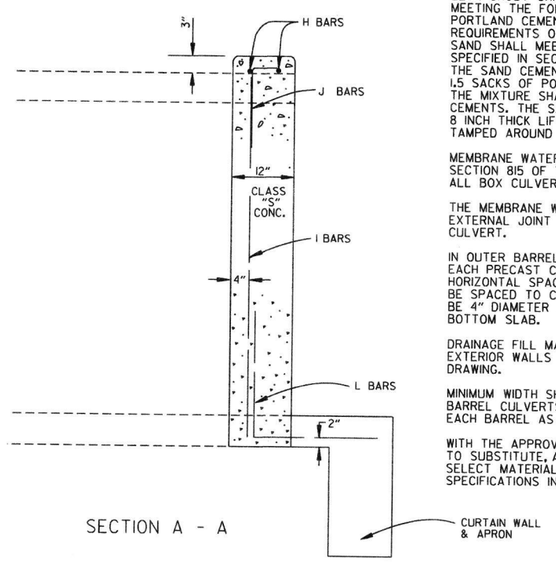
BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



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



END VIEW



SECTION A - A

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

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

CORRUGATED METAL PIPE ARCHES

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

CONSTRUCTION SEQUENCE

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

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

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

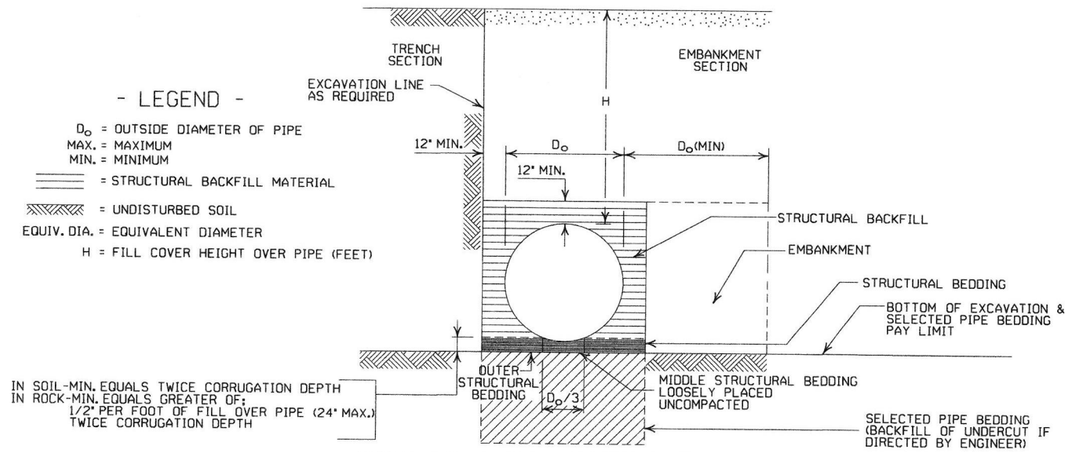
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (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."

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

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

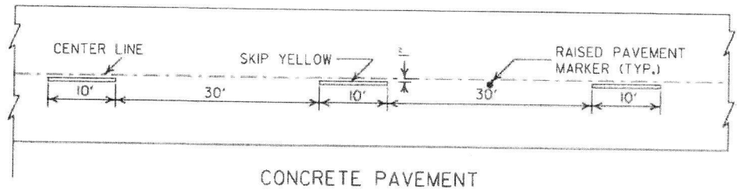
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

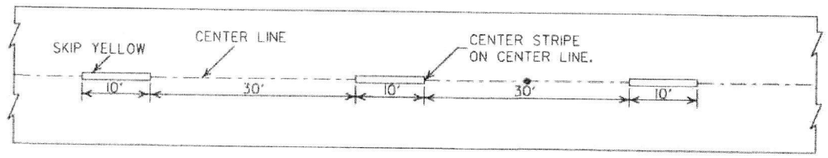
METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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.

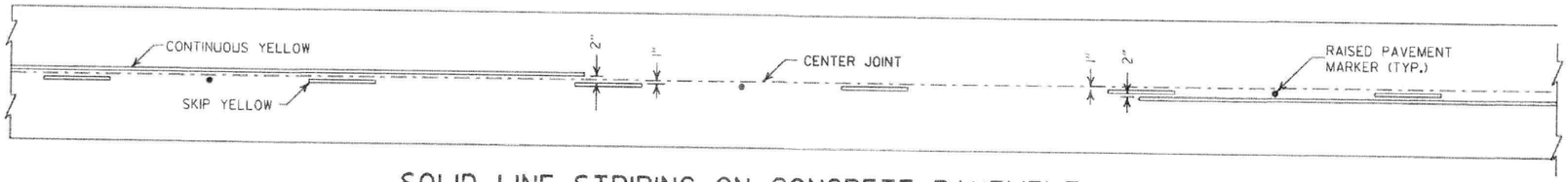


CONCRETE PAVEMENT

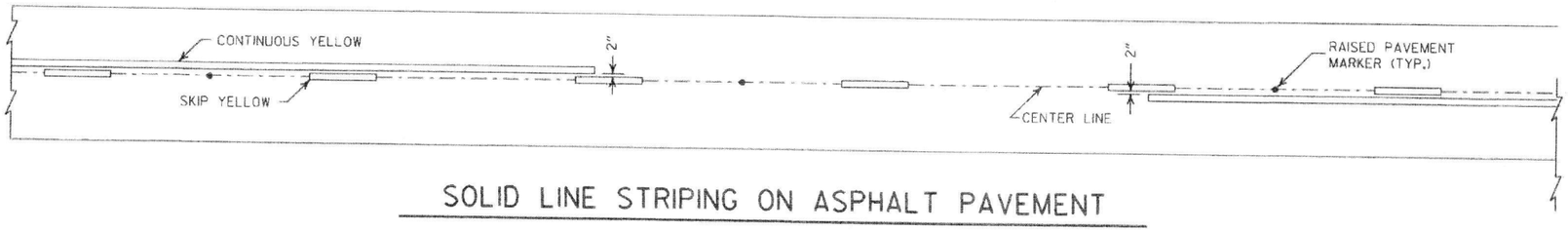


ASPHALT PAVEMENT

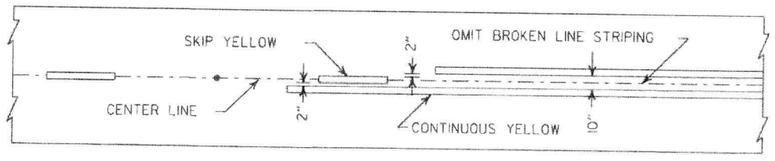
BROKEN LINE STRIPING



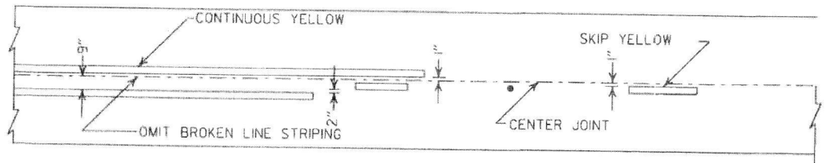
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

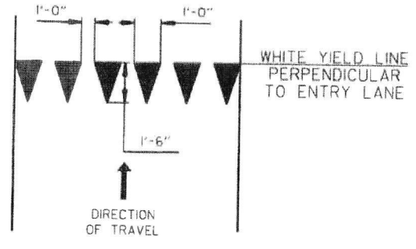


ASPHALT PAVEMENT

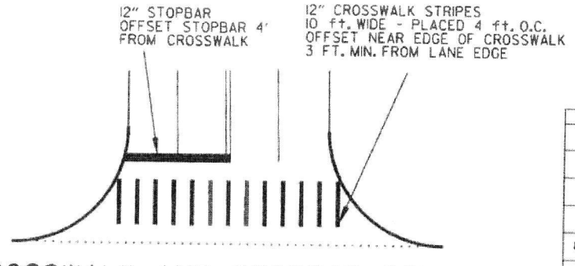


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

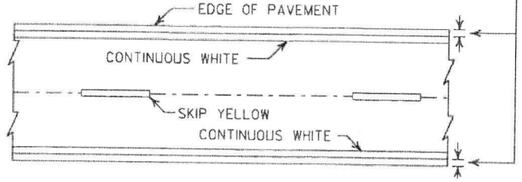


YIELD LINE DETAIL



CROSSWALK AND STOPBAR DETAILS

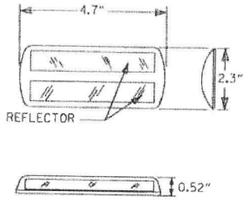
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



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	
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
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

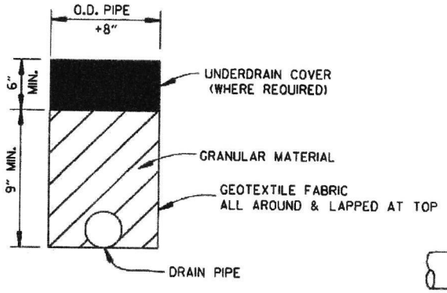
PAVEMENT MARKING DETAILS

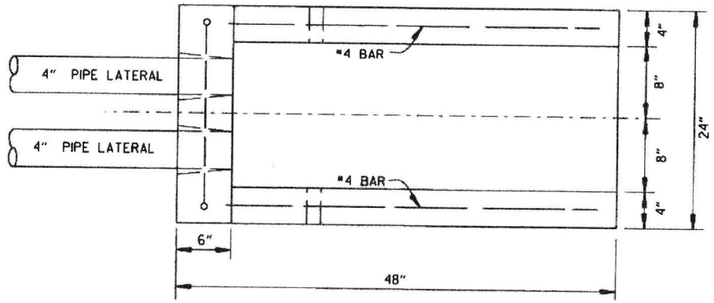
STANDARD DRAWING PM-1

NOTE:

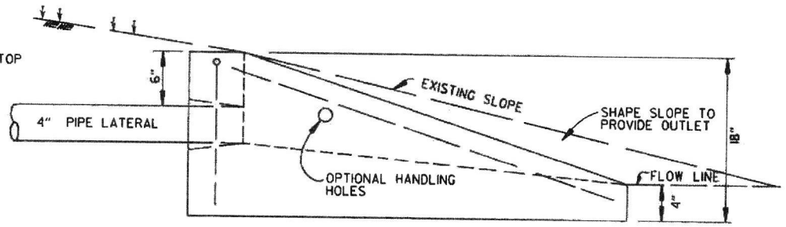
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

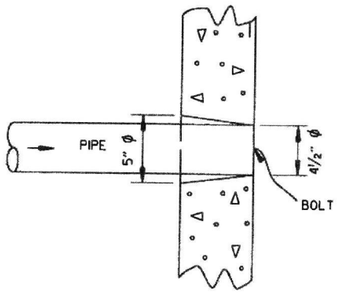




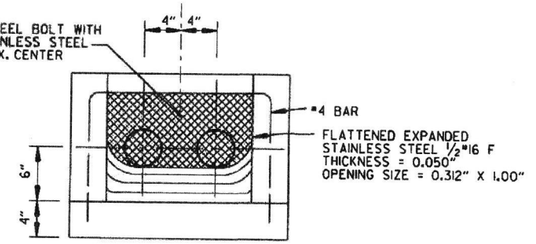
PLAN VIEW



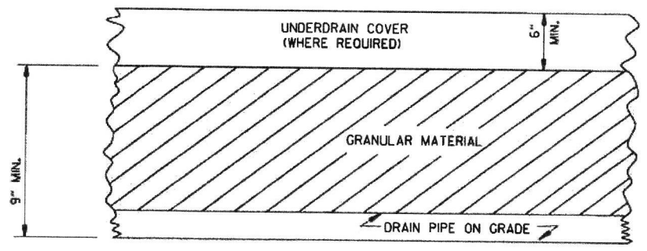
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE



FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

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."

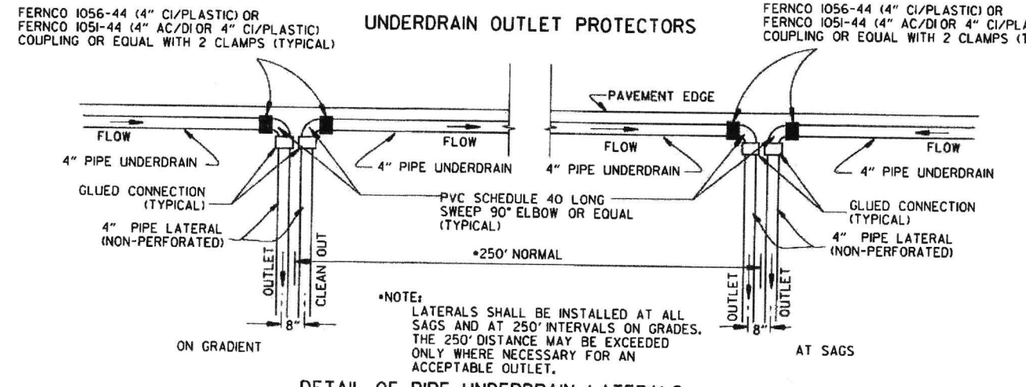
4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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.

UNDERDRAIN OUTLET PROTECTORS



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
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

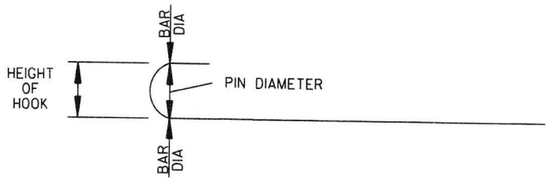
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

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

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

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



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

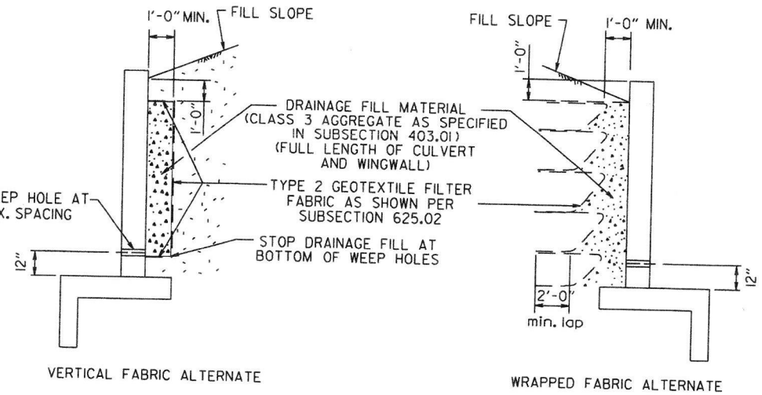
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

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

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

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

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

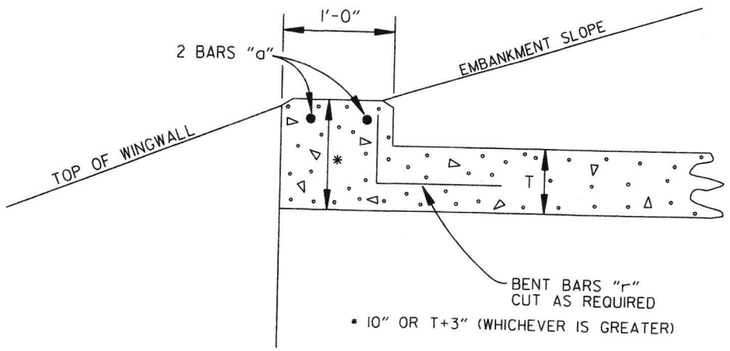
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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

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

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

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



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

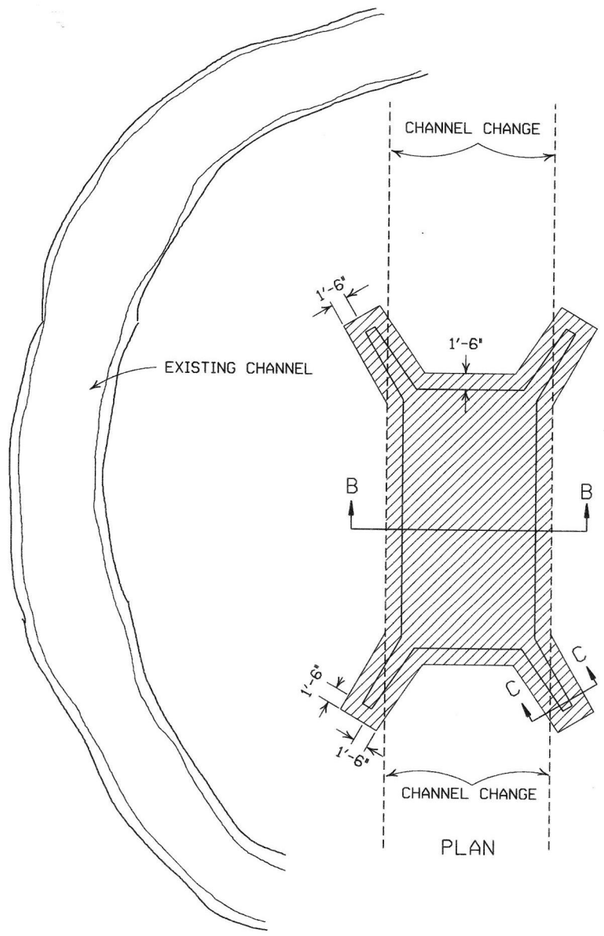
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

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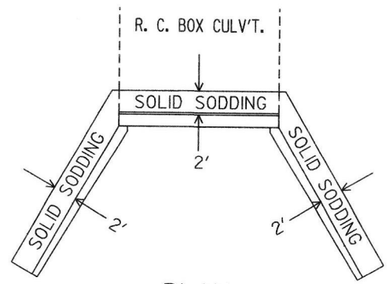
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

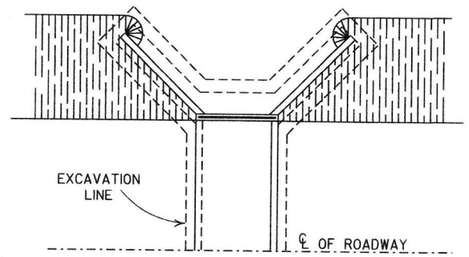
SOLID SODDING



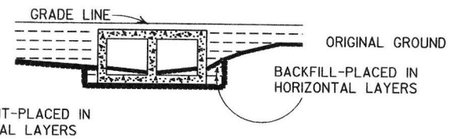
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

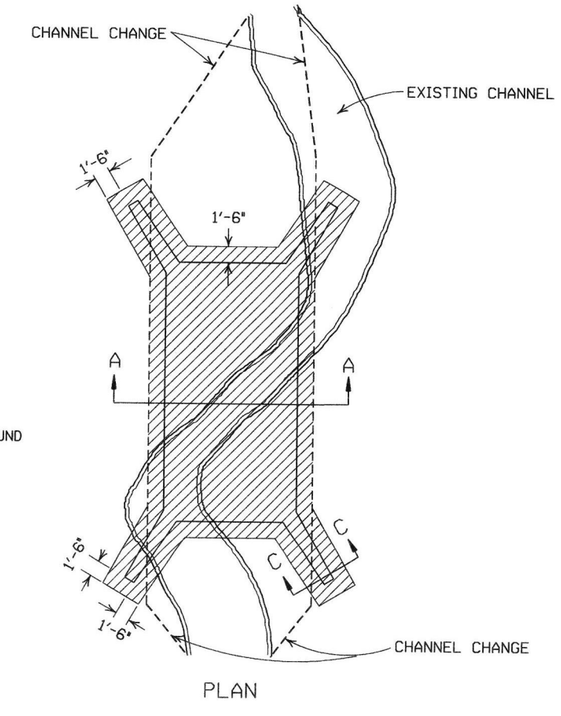


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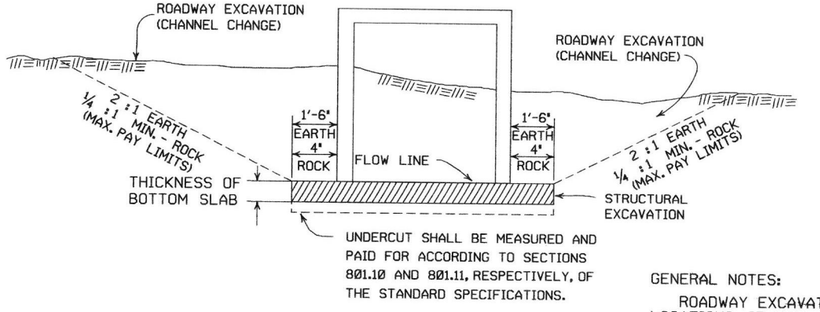


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

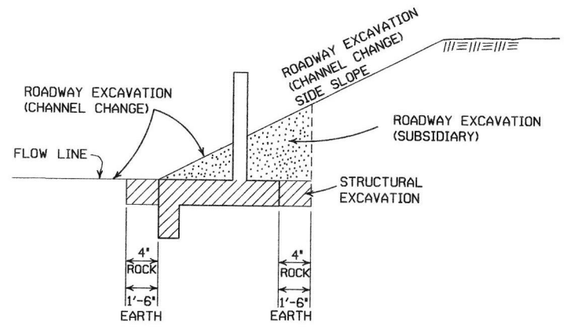


PLAN

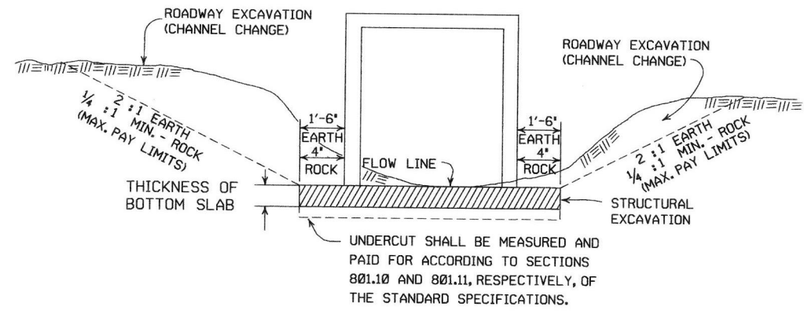


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

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

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

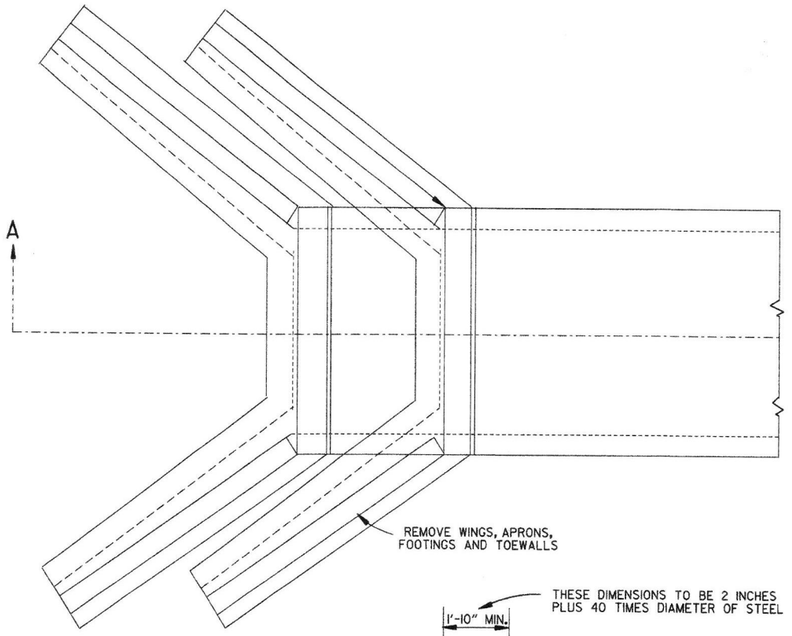
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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

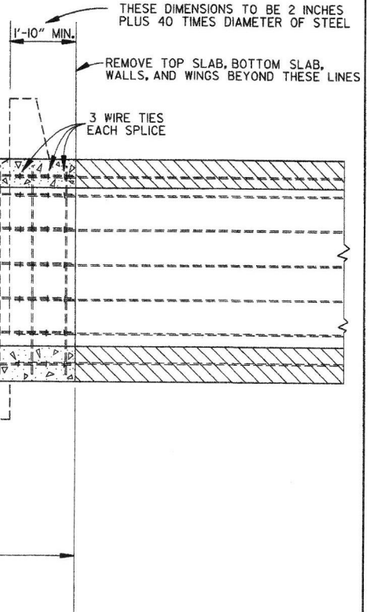
ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING RCB-2

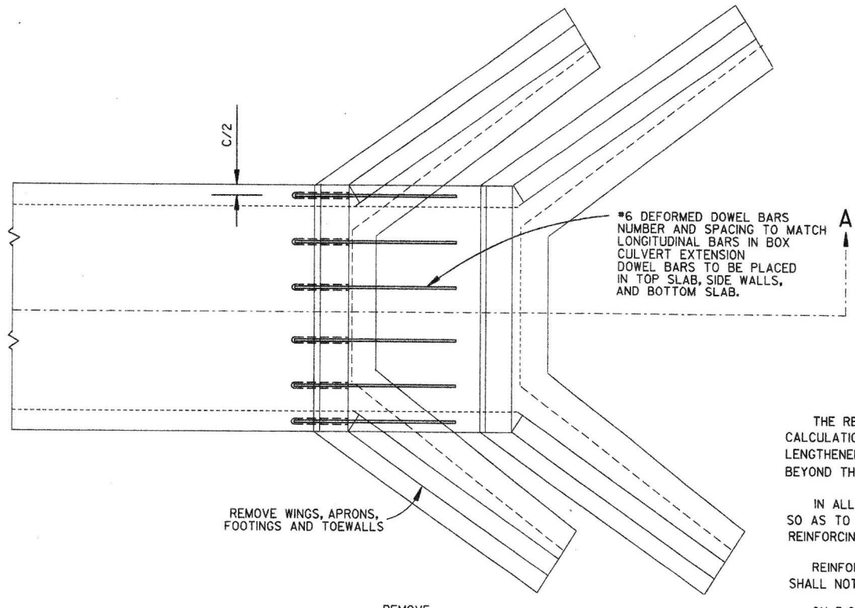


TOP VIEW
R.C. BOX CULVERT

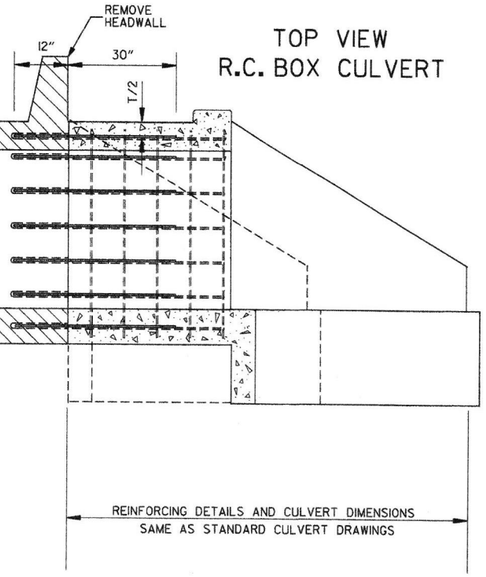


SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT



SECTION A-A

METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER. AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

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

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING
EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

SUPERELEVATION TABLE FOR ONE - 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	65 MPH e	65 MPH Ls (FT) MINIMUM	65 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.			N. C.		
0° 30′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 45′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
1° 00′	N. C.			R. C.			R. C.			R. C.			R. C.			R. C.			R. C.		
1° 15′	N. C.			0.021			0.021			0.022			0.023			0.025			0.028		
1° 30′	N. C.			0.025	175		0.026	200		0.026	225		0.030	250		0.033	250		0.037	275	
1° 45′	N. C.			0.028			0.031			0.032			0.037			0.041			0.046		
2° 00′	R. C.			0.031			0.036			0.037			0.043			0.048			0.054		
2° 15′	R. C.			0.034			0.040			0.043			0.049			0.055			0.062		
2° 30′	0.021			0.037			0.045		300	0.048			0.055			0.061			0.070		
2° 45′	0.023			0.040			0.049			0.053			0.061			0.067			0.078	300	
3° 00′	0.025			0.043			0.053			0.058			0.067			0.072			0.085	315	400
3° 15′	0.027	150		0.046		250	0.057			0.063			0.072			0.077	260		0.091	335	
3° 30′	0.029			0.049			0.061			0.067	230		0.077	260		0.082	275		0.096	350	
3° 45′	0.031			0.051			0.065	205		0.072	245		0.082	275		0.086	285		0.098	360	450
4° 00′	0.033			0.056			0.069	215		0.076	255		0.086	285		0.090	295		0.100	360	
4° 30′	0.037			0.061			0.072	225		0.080	265		0.090	295		0.093	305				
5° 00′	0.040			0.066	185		0.078	240		0.083	270		0.093	305		0.096	315				
5° 30′	0.043			0.070	190		0.083	250		0.087	280		0.096	315		0.098	320				
6° 00′	0.046			0.074	200		0.088	260		0.091	295		0.098	320		0.099	330				
6° 30′	0.050			0.078	210		0.092	270		0.094	300	400									
7° 00′	0.053			0.081	215		0.095	280	350	0.096	305										
7° 30′	0.056			0.084	220		0.098	285		0.100	315										
8° 00′	0.058			0.087	225	300	0.099	290													
8° 30′	0.061			0.089	230		0.100	290													
9° 00′	0.063			0.094	235																
10° 00′	0.068	160		0.097	250																
11° 00′	0.072	170		0.099	250																
12° 00′	0.076	175		0.100	250																
13° 00′	0.080	180																			
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200																			
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215	300																		
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 = 4° 15′ | D MAX = 3° 30′

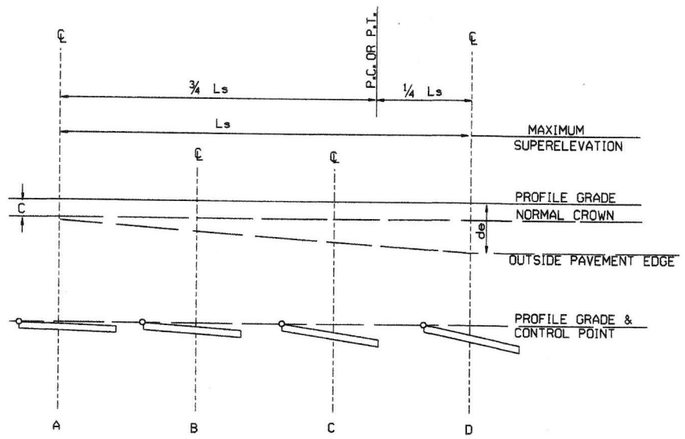
GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%

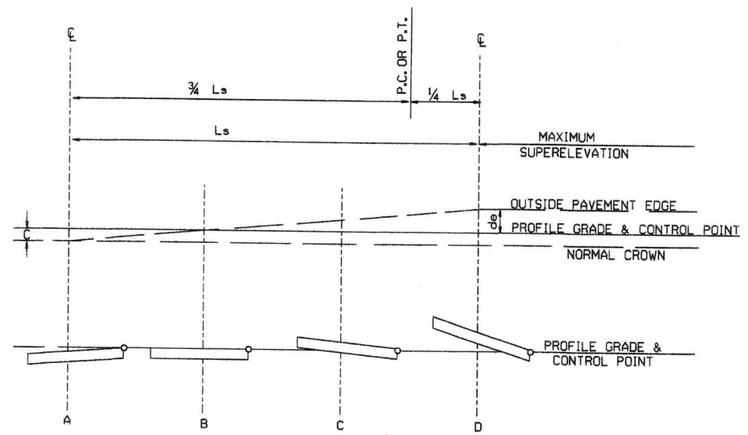
ABBREVIATIONS

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



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

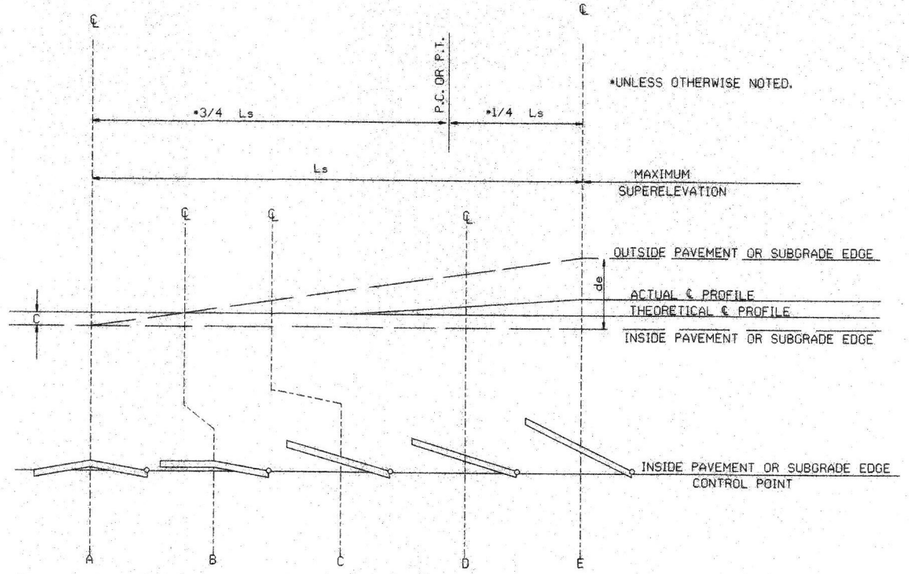
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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	275	300
1° 15'	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30'	N.C.			0.021			0.031			0.037			0.043			0.054		
1° 45'	N.C.			0.025	175		0.036	200		0.043	225		0.049	250		0.062		
2° 00'	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15'	R.C.			0.031			0.045			0.053			0.061			0.078	300	350
2° 30'	0.021			0.034			0.049			0.058			0.067			0.085	315	
2° 45'	0.023			0.037			0.053			0.063			0.072			0.091	335	
3° 00'	0.025			0.040			0.057			0.067	230		0.077	260		0.096	350	400
3° 15'	0.027	150		0.043		200	0.061			0.072	245		0.082	275		0.098	360	
3° 30'	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45'	0.031			0.049			0.069	215		0.080	265		0.090	295				
4° 00'	0.033			0.051			0.072	225		0.083	270		0.093	305	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		0.098	320				
5° 30'	0.043			0.066	185		0.088	260		0.094	300	350						
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.)



*UNLESS OTHERWISE NOTED.

STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

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

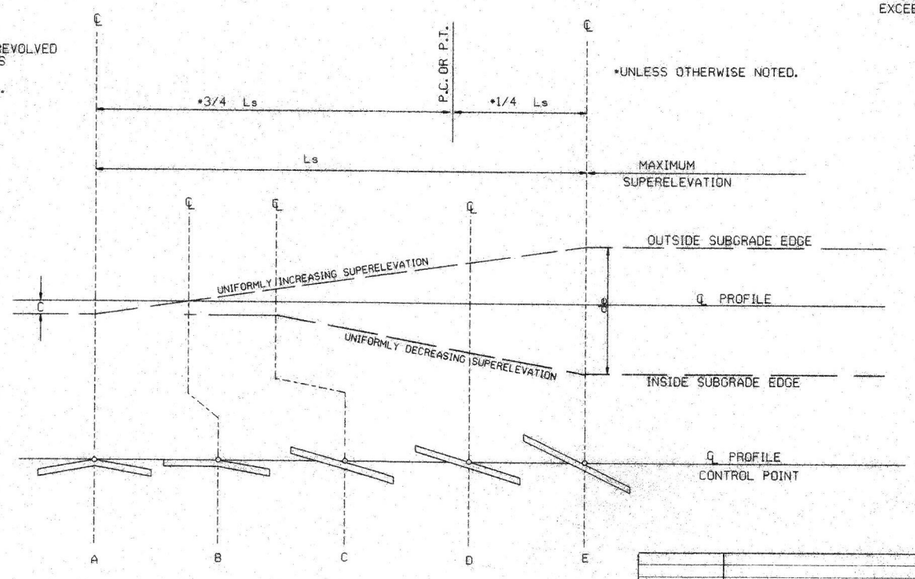
GENERAL NOTES

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.



*UNLESS OTHERWISE NOTED.

STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

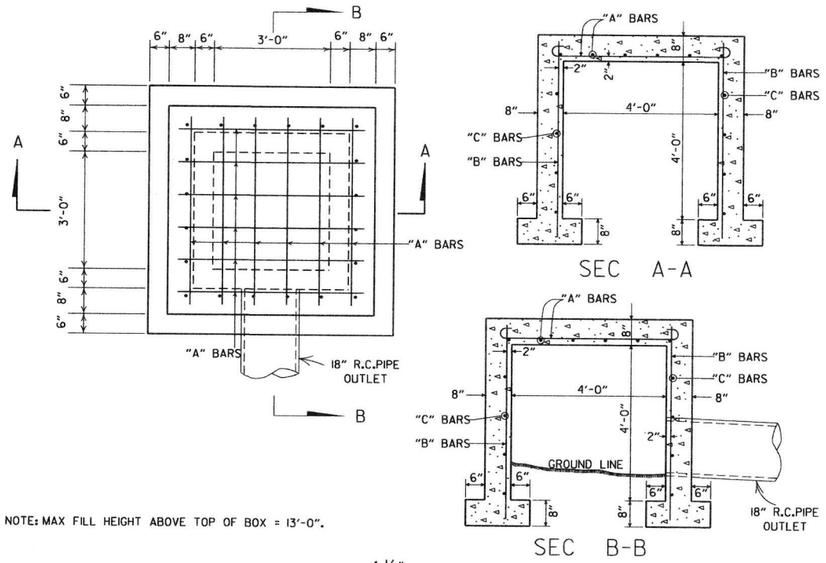
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-28-96
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

FILE STDSE2.DGN

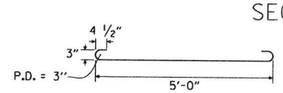


NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

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

ALL STEEL TO BE #4 BARS



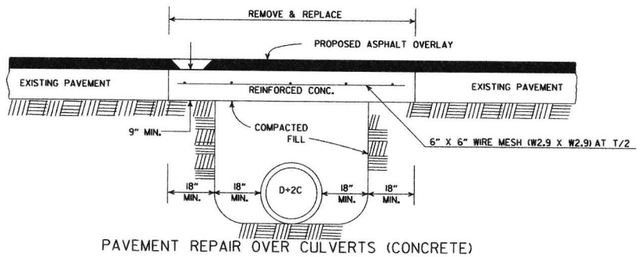
"A" BARS

QUANTITIES

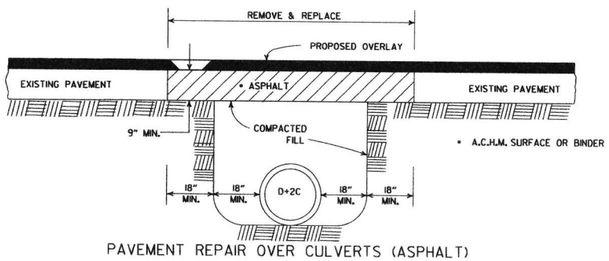
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

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

REINFORCED CONCRETE SPRING BOX



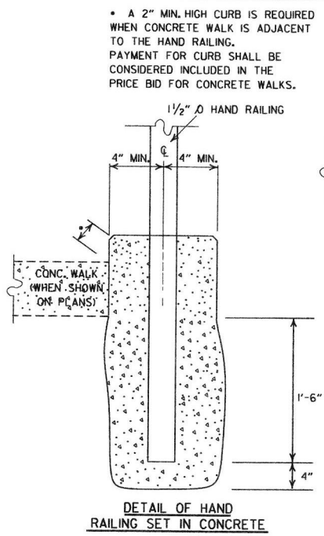
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



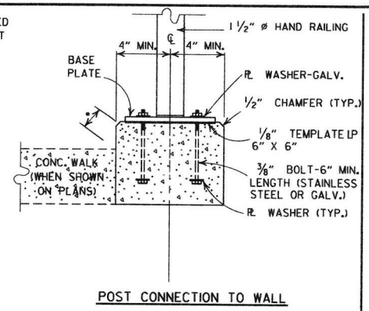
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

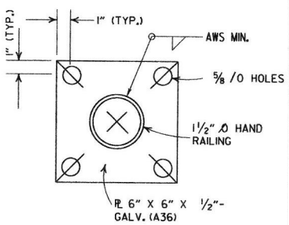
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

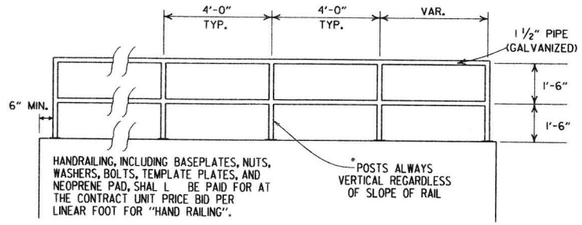


POST CONNECTION TO WALL

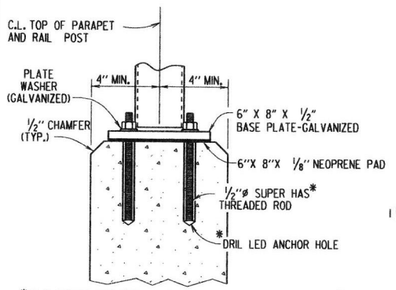


BASE PLATE

POST CONNECTION DETAILS



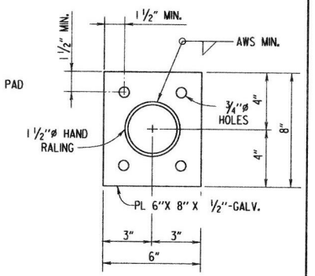
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 1/2" EMBEDMENT OR APPROVED EQUAL.

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

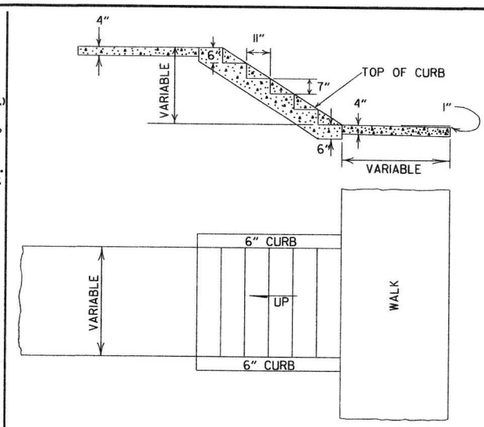
POST CONNECTION TO WALL



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.

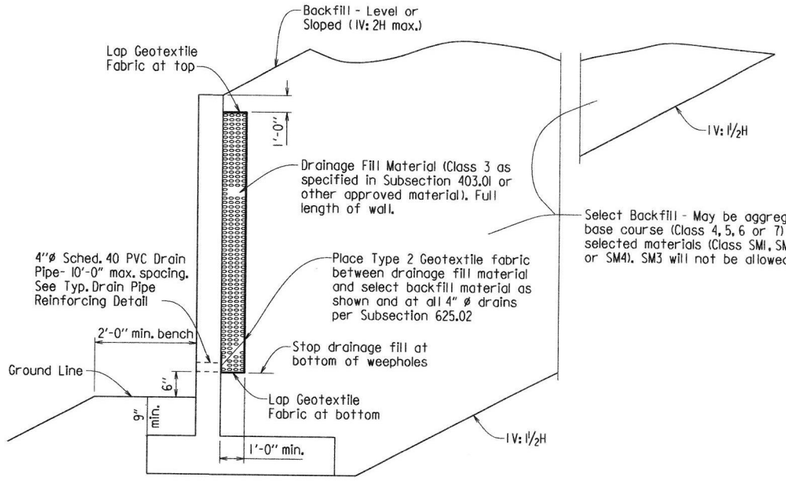
DETAILS OF CONCRETE STEPS & WALKS

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

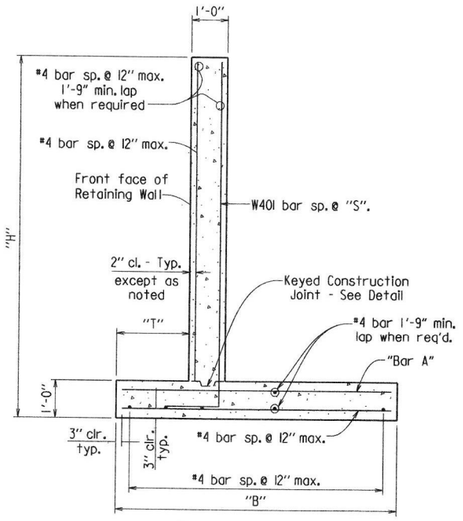
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1



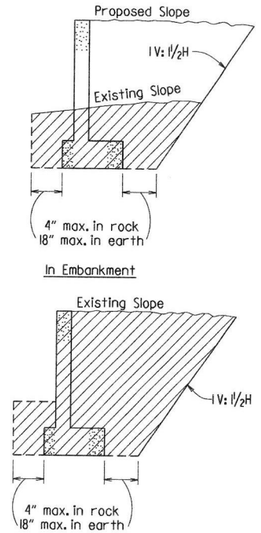
TYPICAL DRAINAGE & BACKFILL DETAILS

N.T.S



TYPICAL SECTION

N.T.S



NOTE: Hatched area denotes maximum limits of pay excavation.

DETAILS OF EXCAVATION

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: 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.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012).

LIVE LOAD: Live Load Surcharge is not included in the design of these walls. Vehicular Live Load shall not be allowed within a distance equal to one-half the height of the wall.

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered ½". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi. A Class 2 Surface finish shall be used on all surfaces of the concrete unless otherwise noted.

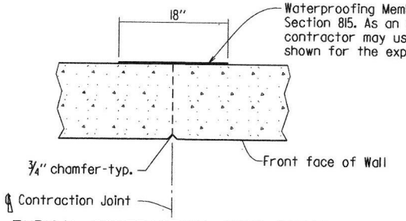
REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 orM53, Grade 60.

Foundations for footings shall be prepared in accordance with subsection 801.04. Backfill for retaining walls shall be in accordance with subsection 801.08.

Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

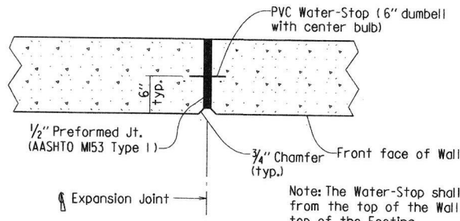
These details are not intended for use along streams or ditches without consideration for scour.



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

Note: 20'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction joints.

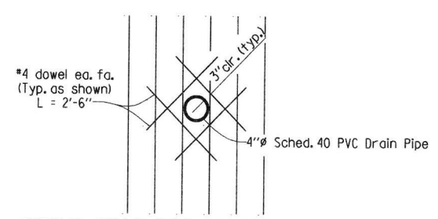


Note: The Water-Stop shall extend from the top of the Wall to the top of the Footing.

TYPICAL EXPANSION JOINT DETAIL

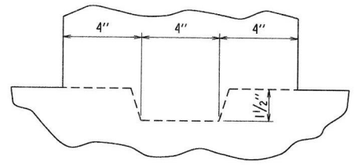
N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from Expansion Joint.



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S



KEYED CONSTRUCTION JOINT DETAIL

N.T.S

SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A$_s$):
Level Backfill - A$_s$ ≤ .40g
Sloped Backfill (1V: 2H max.) - A$_s$ ≤ .30g

TABLE OF RETAINING WALL VARIABLES

(LEVEL BACKFILL)

"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6½"

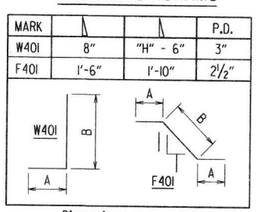
TABLE OF RETAINING WALL VARIABLES

(SLOPED BACKFILL) (1V: 2H MAX.)

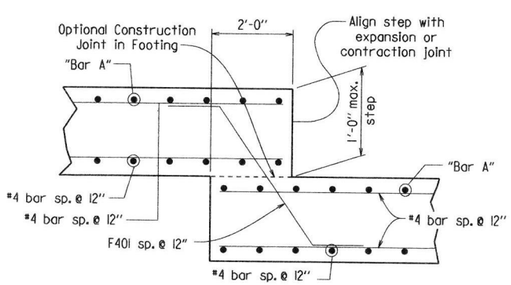
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6½"
8'-0"	1'-6"	8'-0"	7½"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"

BENDING DIAGRAMS

MARK			P.D.
W401	8"	"H" - 6"	3"
F401	1'-6"	1'-10"	2½"



Dimensions are out to out of bars.



FOOTING STEP DETAIL

N.T.S.

DATE	REVISION	DATE FILMED
5-12-16	REVISED SLOPES FOR SELECT BACKFILL	
2-27-14	REVISED GENERAL NOTES	
7-26-12	DRAWING ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)

STANDARD DRAWING SI - 2

R1-1



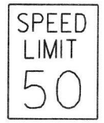
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



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

R2-1



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

W3-5



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

W3-5a



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

R4-1



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

R4-2



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

R5-1



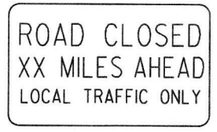
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



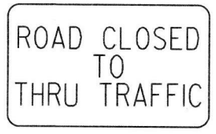
48"X30"

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



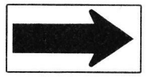
STD. 48"X48"

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



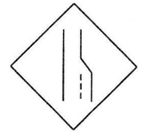
STD. 36"X36"
SPECIAL 48"X48"

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



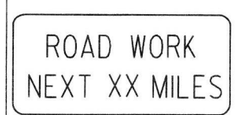
STD. 36"X36"
FWY. 48"X48"

W8-9



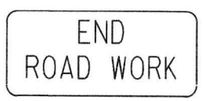
STD. 36"X36"
FWY. 48"X48"

G20-1



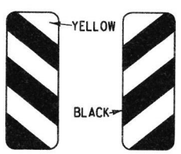
60"X24"

G20-2



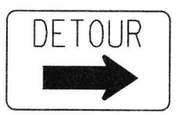
48"X24"

OM-3L OM-3R



12"X36"

M4-9



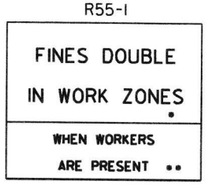
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

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.

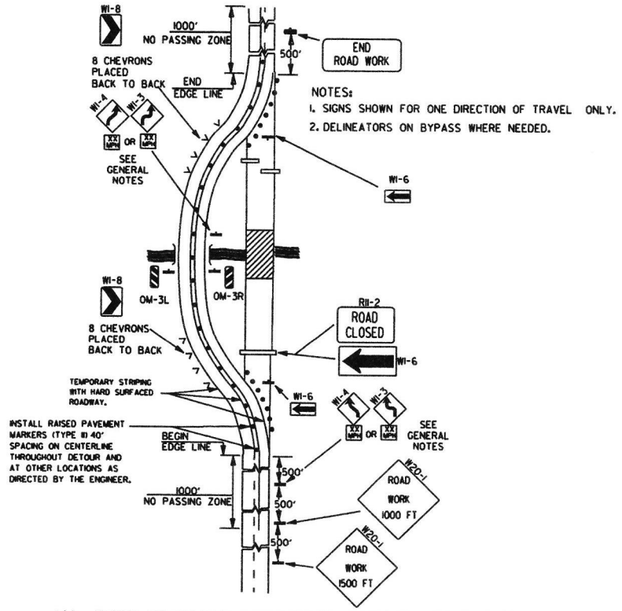
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

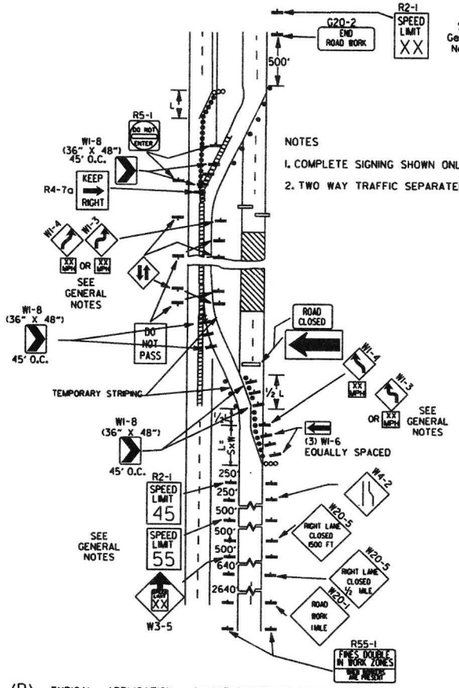
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



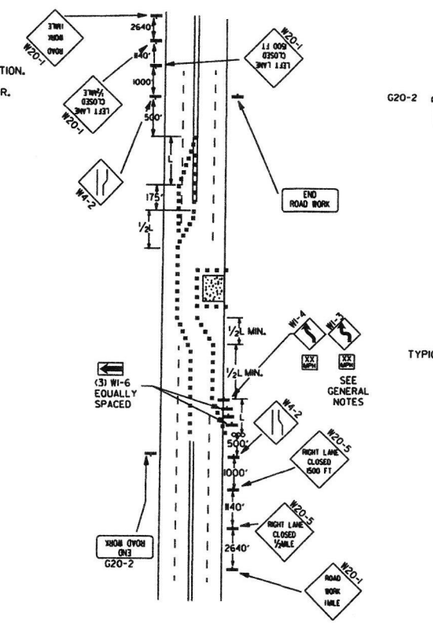
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

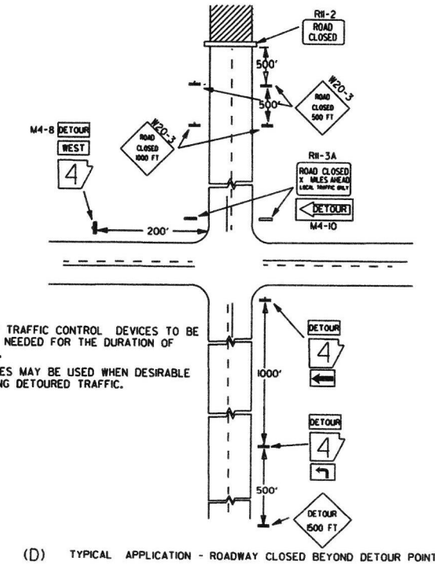


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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

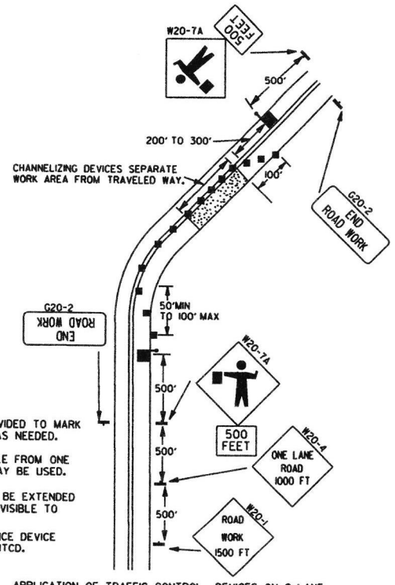


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



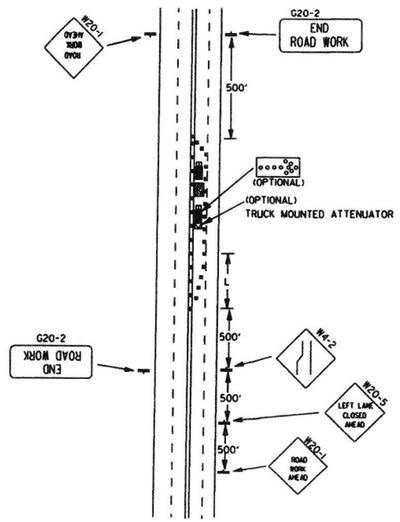
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



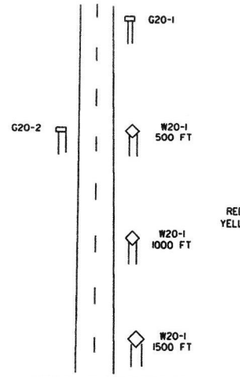
NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

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

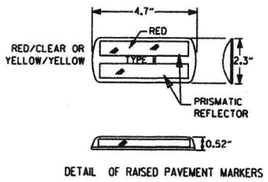


(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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



TYPICAL ADVANCE WARNING SIGN PLACEMENT



DETAIL OF RAISED PAVEMENT MARKERS

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:

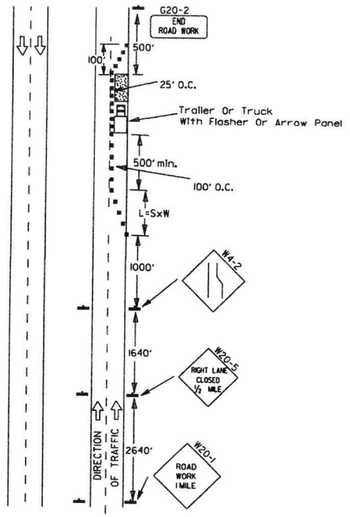
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 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. 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	
3-1-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

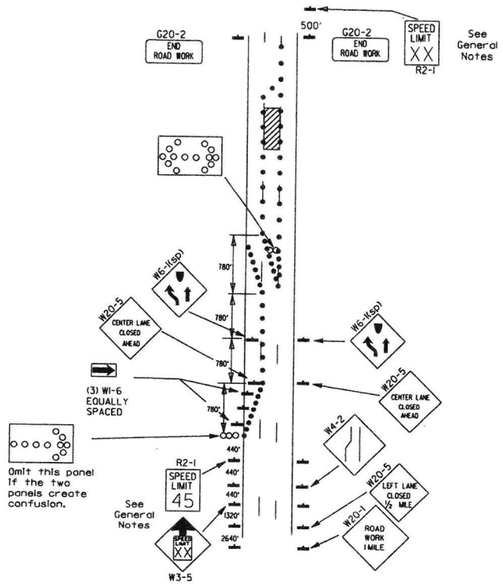
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

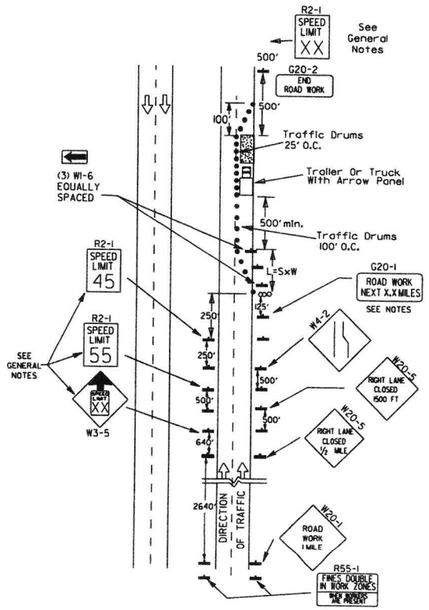
STANDARD DRAWING TC-2



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



(B) Typical application - 3-lane oneway roadway where center lane is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

ooo Arrow Panel (If Required)

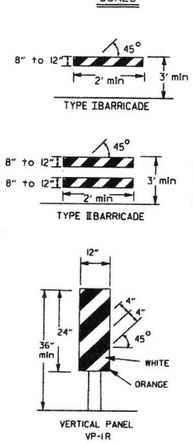
■ Channelizing Device

● Traffic drum

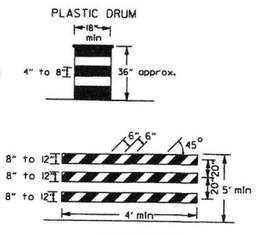
GENERAL NOTES:

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.

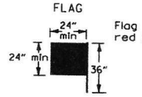
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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

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

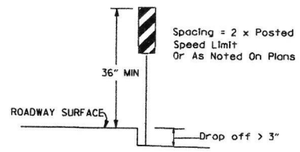
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

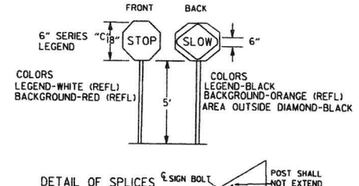


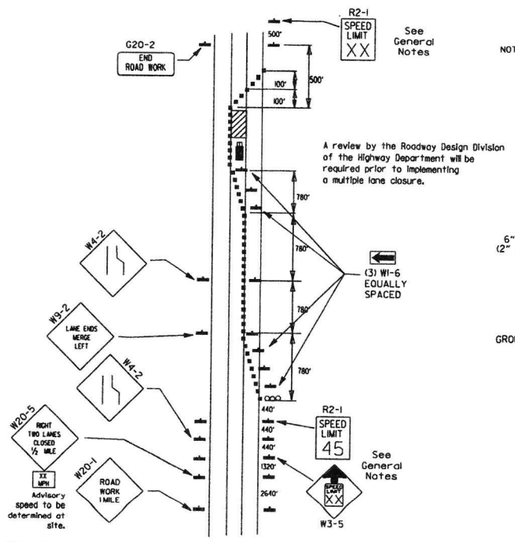
Flag shall be of good grade red material

VERTICAL PANEL PLACEMENT



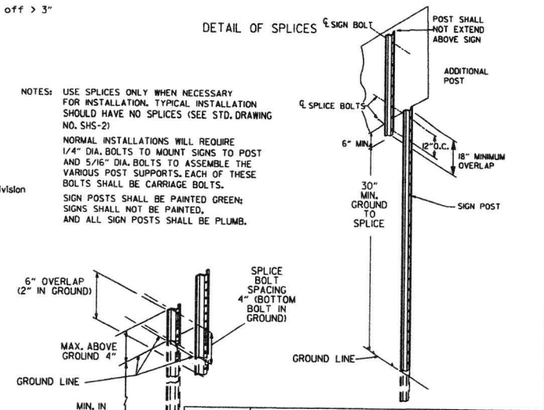
STOP SLOW PADDLE





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

DETAIL OF SPLICES



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

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

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

DATE	REVISION	FILMED
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	

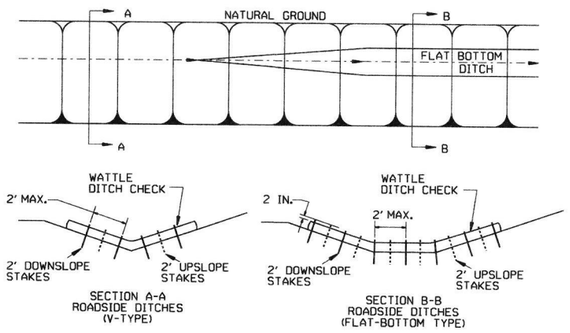
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

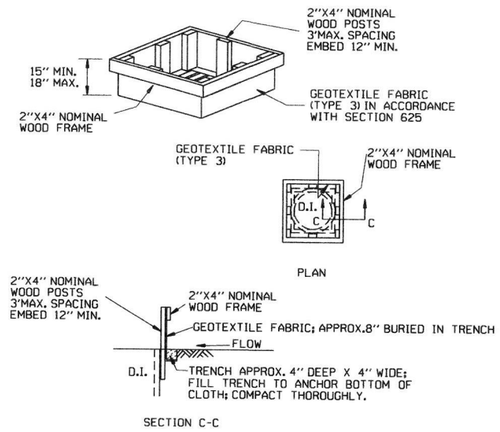
STANDARD DRAWING TC-3

GENERAL NOTES

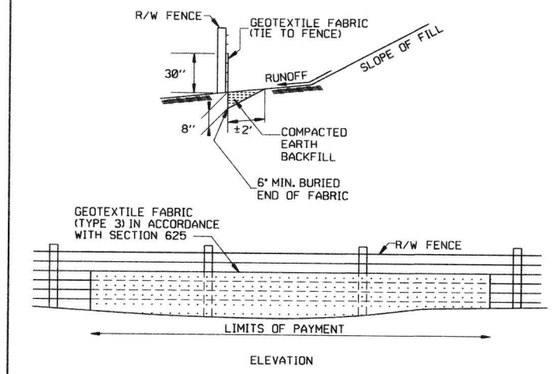
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

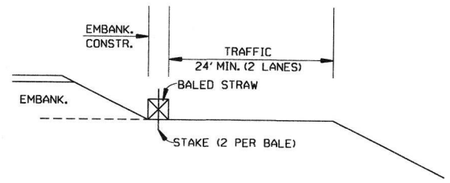
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

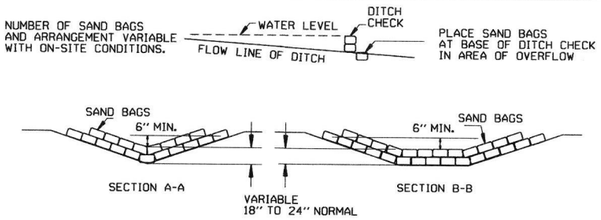
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

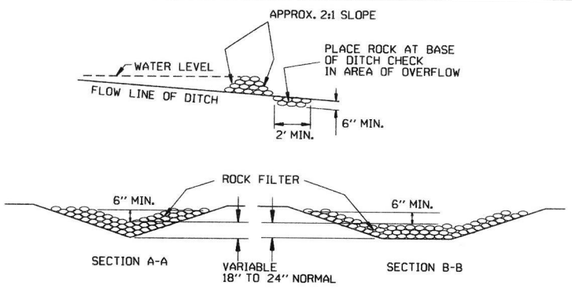
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



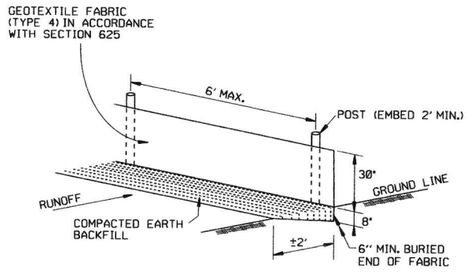
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

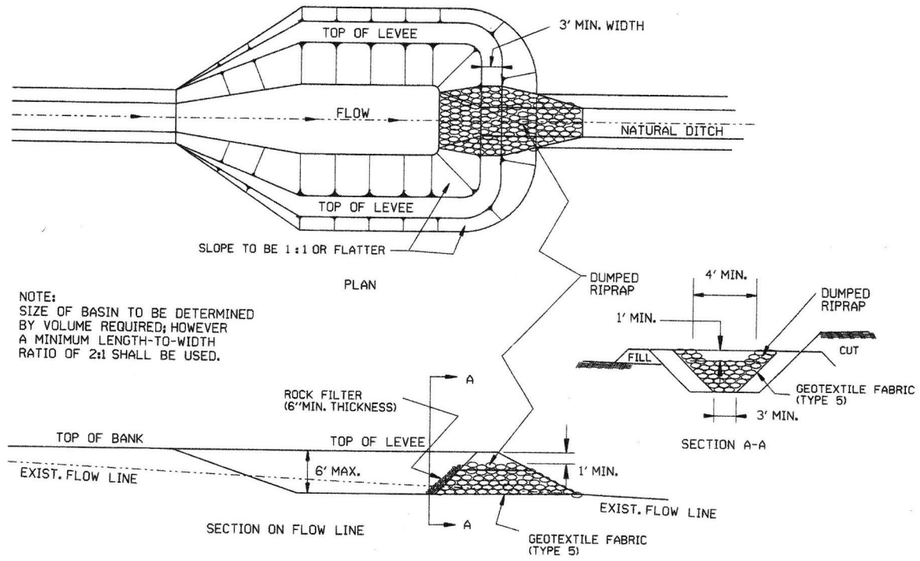
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

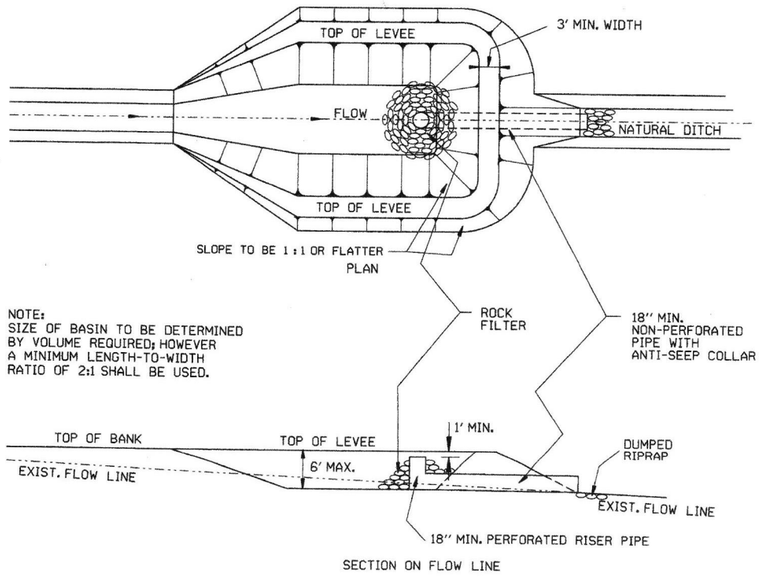
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

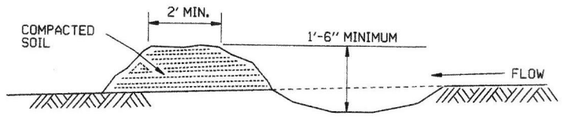
STANDARD DRAWING TEC-1



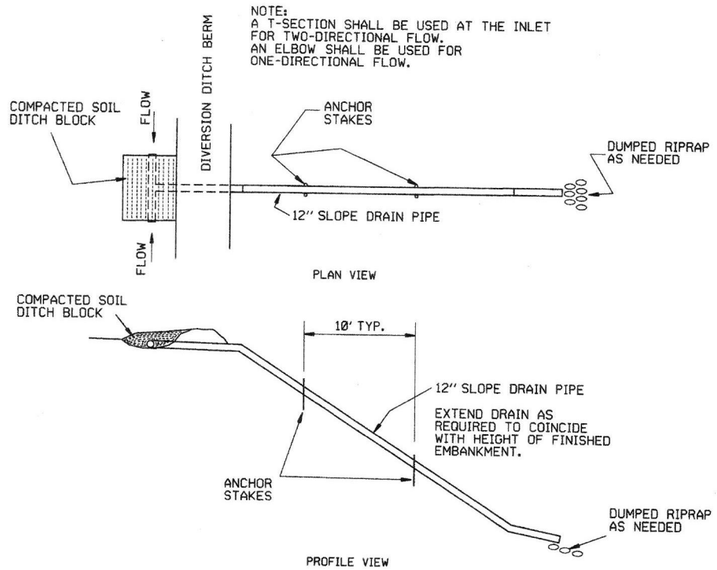
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



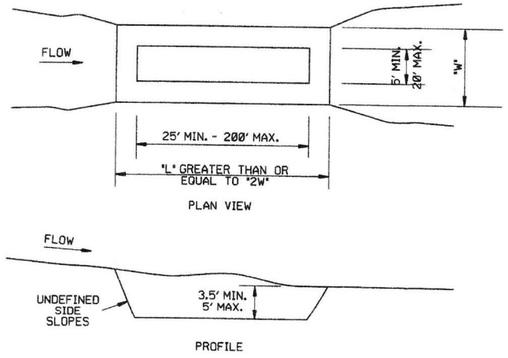
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

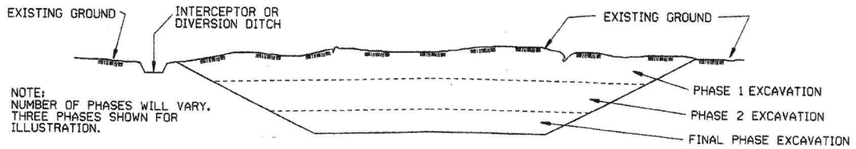
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



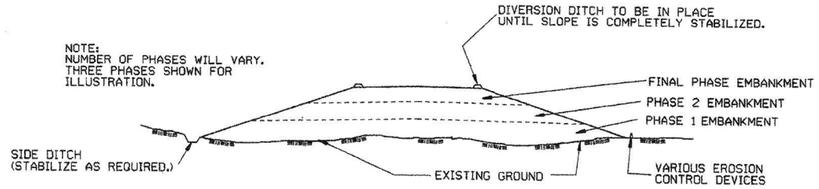
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

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

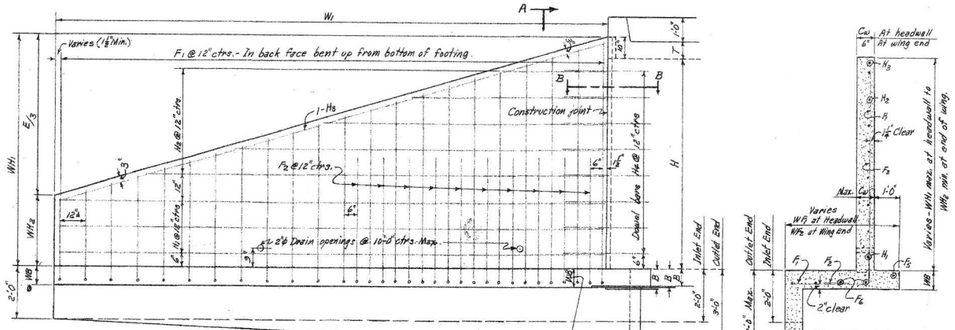
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

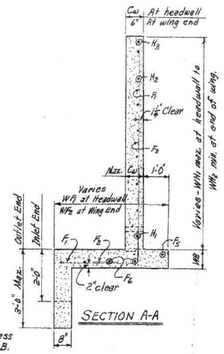
stdtec3.dgn

FAH. ROAD No.	STATE	FED. AID PROJECT	SHEET No.	TOTAL SHEETS
S	ARK.			
JOB NO.				

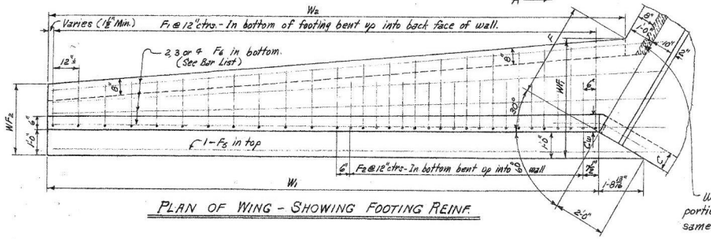


REAR ELEVATION OF WING - SHOWING BACK FACE REINF.

WB may be more, equal to, or less than the bottom slab thickness B.

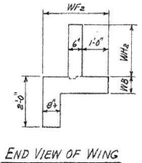


SECTION A-A

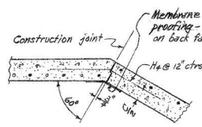


PLAN OF WING - SHOWING FOOTING REINF.

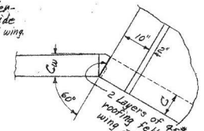
When B is more than WB, the shaded portion of the apron shall be made the same thickness as the barrel base B.



END VIEW OF WING



SECTION B-B THRU CONSTRUCTION JOINT



DETAIL AT TOP OF WING

Note:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL = C	WINGWALL HEIGHTS AT HEADWALL	WINGWALL HEIGHTS AT END OF WING	WIDTHS OF WING FOOTINGS AT END OF WING	WIDTHS OF WING FOOTINGS AT HEADWALL	PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR DIST. FROM WING TO END OF WING	LENGTH OF WINGWALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE INLET END	* QUANTITY PER WING CLASS S CONCRETE OUTLET END
H	WB	C_W	WH1	WH2	WF1	WF2	F	E	W1	W2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	0'-11⅞"	6'-6"	7'-6"	7'-1½"	0.889	0.986
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-4⅞"	8'-6"	9'-3⅜"	9'-2½"	1.338	1.466
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-9"	10'-6"	12'-1⅝"	12'-1½"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅝"	12'-6"	14'-5⅝"	14'-5⅞"	2.478	2.668
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅝"	12'-6"	14'-5⅝"	14'-5⅞"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1⅝"	3.490	3.661
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1⅝"	3.611	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1⅝"	3.582	3.803
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-0⅝"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-0⅝"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-5"	18'-6"	21'-1½"	22'-0"	5.761	6.047

* Quantity per wing does not include headwall or that portion of apron or facewall for the length W_3.

APRON DIMENSION W_3

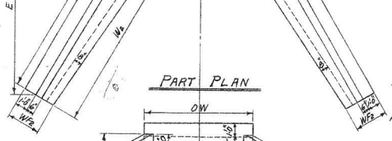
$W_3 = (OW - 2F)$

CLEAR SPAN	CLEAR HEIGHT	FOOTING DIMENSION	SINGLE BARREL CULVERT OW	SINGLE BARREL CULVERT W_3	DOUBLE BARREL CULVERT OW	DOUBLE BARREL CULVERT W_3	TRIPLE BARREL CULVERT OW	TRIPLE BARREL CULVERT W_3	QUADRUPLE BARREL CULVERT OW	QUADRUPLE BARREL CULVERT W_3	QUINTUPLE BARREL CULVERT OW	QUINTUPLE BARREL CULVERT W_3
S	H	2F										
4'	2'	1'-11½"	5'-0"	3'-0½"	9'-8"	7'-8½"	14'-4"	12'-4½"	19'-0"	17'-0½"	23'-8"	21'-8½"
	3'	2'-8⅜"	5'-0"	2'-3⅝"	9'-8"	6'-11⅛"	14'-4"	11'-7⅝"	19'-0"	16'-3⅛"	23'-8"	20'-11⅝"
	4'	3'-6"	5'-0"	1'-6"	9'-8"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-2"
	5'	4'-3⅜"	5'-0"	0'-8⅝"	9'-8"	5'-4⅜"	14'-4"	10'-0⅝"	19'-0"	14'-8⅝"	23'-8"	19'-9⅜"
	6'	5'-0⅛"	5'-2"	0'-1⅛"	9'-11"	4'-10⅛"	14'-8"	9'-7⅛"	19'-5"	14'-5⅛"	24'-2"	19'-11⅛"
5'	3'	2'-8⅜"	6'-0"	0'-3⅜"	11'-8"	8'-11⅛"	17'-4"	14'-7⅛"	23'-0"	20'-3⅛"	28'-8"	25'-11⅛"
	4'	3'-6"	6'-0"	2'-6"	11'-8"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3⅜"	6'-0"	1'-8⅜"	11'-8"	7'-4⅜"	17'-4"	13'-0⅝"	23'-0"	18'-8⅝"	28'-8"	24'-9⅜"
	6'	5'-0⅛"	6'-2"	1'-1⅛"	11'-11"	6'-10⅛"	17'-8"	12'-7⅛"	23'-5"	18'-4⅛"	29'-2"	24'-11⅛"
	7'	6'-2⅝"	6'-3"	0'-0⅝"	12'-1"	5'-10⅝"	17'-11"	11'-8⅝"	23'-9"	17'-8⅝"	29'-7"	23'-6⅝"
6'	3'	2'-8⅜"	7'-0"	0'-3⅜"	13'-8"	10'-11⅛"	20'-4"	17'-7⅛"	27'-0"	24'-3⅛"	33'-8"	30'-11⅛"
	4'	3'-6"	7'-0"	3'-6"	13'-8"	10'-2"	20'-4"	16'-10"	27'-0"	23'-6"	33'-8"	30'-2"
	5'	4'-3⅜"	7'-0"	2'-8⅜"	13'-8"	9'-4⅜"	20'-4"	16'-0⅝"	27'-0"	22'-8⅝"	33'-8"	29'-9⅜"
	6'	5'-0⅛"	7'-2"	2'-1⅛"	13'-11"	8'-10⅛"	20'-8"	15'-7⅛"	27'-5"	22'-4⅛"	34'-2"	29'-11⅛"
	7'	6'-2⅝"	7'-3"	1'-0⅝"	14'-1"	7'-10⅝"	20'-11"	14'-8⅝"	27'-9"	21'-8⅝"	34'-7"	28'-6⅝"
	8'	7'-4"	7'-6"	0'-0"	14'-6"	6'-10"	21'-0"	13'-8"	27'-10"	20'-6"	34'-8"	27'-0"
8'	4'	3'-6"	8'-0"	4'-6"	15'-8"	12'-8"	23'-4"	19'-10"	31'-0"	27'-6"	38'-8"	35'-2"
	5'	4'-3⅜"	8'-0"	3'-8⅜"	15'-8"	11'-4⅜"	23'-4"	19'-0⅝"	31'-0"	26'-8⅝"	38'-8"	34'-9⅜"
	6'	5'-0⅛"	8'-2"	3'-1⅛"	15'-11"	10'-10⅛"	23'-8"	18'-7⅛"	31'-5"	26'-4⅛"	39'-2"	34'-11⅛"
	7'	6'-2⅝"	8'-3"	2'-0⅝"	16'-1"	9'-10⅝"	23'-11"	17'-8⅝"	31'-9"	25'-8⅝"	39'-7"	33'-6⅝"
	8'	7'-4"	8'-6"	1'-0"	16'-6"	8'-10"	24'-0"	16'-8"	31'-10"	24'-6"	39'-8"	32'-4"
9'	4'	3'-6"	9'-0"	5'-6"	17'-8"	14'-8"	26'-4"	22'-10"	35'-0"	31'-6"	43'-8"	40'-2"
	5'	4'-3⅜"	9'-2"	4'-8⅜"	17'-11"	13'-7⅜"	26'-8"	22'-0⅝"	35'-5"	31'-1⅝"	44'-2"	39'-10⅜"
	6'	5'-0⅛"	9'-2"	4'-1⅛"	17'-11"	12'-10⅛"	26'-8"	21'-1⅞"	35'-5"	30'-4⅛"	44'-2"	39'-1⅛"
	7'	6'-2⅝"	9'-3"	3'-0⅝"	18'-1"	11'-10⅝"	26'-11"	20'-2⅝"	35'-9"	29'-6⅝"	44'-7"	38'-4⅝"
	8'	7'-4"	9'-4"	2'-0"	18'-6"	10'-10"	27'-0"	19'-8"	35'-10"	28'-6"	44'-8"	37'-0"
10'	5'	4'-3⅜"	10'-2"	5'-8⅜"	19'-11"	15'-7⅜"	29'-8"	25'-0⅝"	39'-5"	35'-1⅝"	49'-2"	44'-10⅜"
	6'	5'-0⅛"	10'-3"	5'-1⅛"	20'-1"	15'-0⅛"	29'-11"	24'-1⅞"	39'-9"	34'-5⅛"	49'-7"	44'-1⅛"
	7'	6'-2⅝"	10'-3"	4'-0⅝"	20'-1"	13'-10⅝"	29'-11"	23'-2⅝"	39'-9"	33'-6⅝"	49'-7"	43'-6⅝"
	8'	7'-4"	10'-4"	3'-0"	20'-2"	12'-10"	30'-0"	22'-8"	39'-10"	32'-6"	49'-8"	42'-4"
11'	5'	4'-3⅜"	11'-2"	6'-10⅜"	21'-11"	17'-7⅜"	32'-8"	28'-4⅝"	43'-5"	39'-1⅝"	54'-2"	49'-10⅜"
	6'	5'-0⅛"	11'-3"	6'-2⅛"	22'-1"	17'-0⅛"	32'-11"	27'-10⅛"	43'-9"	38'-5⅛"	54'-7"	49'-2⅛"
	7'	6'-2⅝"	11'-3"	5'-0⅝"	22'-1"	15'-10⅝"	32'-11"	26'-10⅝"	43'-9"	37'-6⅝"	54'-7"	48'-6⅝"
	8'	7'-4"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-8"	43'-10"	36'-6"	54'-8"	47'-4"
12'	6'	5'-0⅛"	12'-3"	7'-3⅛"	24'-2"	19'-1⅞"	36'-0"	30'-11⅛"	47'-10"	42'-9⅛"		
	7'	6'-2⅝"	12'-4"	6'-1⅝"	24'-2"	17'-11⅝"	36'-0"	29'-10⅝"	47'-10"	41'-7⅝"		
	8'	7'-4"	12'-5"	5'-0"	24'-3"	16'-10"	36'-1"	28'-8"	47'-11"	40'-6"		
13'	6'	5'-0⅛"	13'-4"	8'-3⅛"	26'-2"	21'-1⅞"	39'-0"	33'-11⅛"	51'-10"	46'-9⅛"		
	7'	6'-2⅝"	13'-4"	7'-1⅝"	26'-2"	19'-11⅝"	39'-0"	32'-9⅝"	51'-10"	45'-7⅝"		
	8'	7'-4"	13'-5"	6'-0"	26'-3"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING ® STEEL - FOR 4 WINGS	CLASS S CONCRETE - 4 WINGS HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS				
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	C_W	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	108.0	4.50	5.46	6.42	7.38	8.34
	3'	6"	7"	169.9	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	259.6	8.33	9.28	10.24	11.20	12.16
	5'	6"	7"	357.8	10.72	11.68	12.64	13.60	14.56
	6'	7"	8"	583.1	14.55	15.53	16.52	17.51	18.49
5'	3'	6"	7"	164.9	6.47	7.63	8.79	9.96	11.12
	4'	6"	7"	259.6	8.56	9.70	10.87	10.03	13.20
	5'	6"	7"	357.8	10.96	12.10	13.26	14.43	15.59
	6'	7"	8"	583.1	14.77	15.96	17.15	18.34	19.54
	7'	7½"	8½"	1134.6	18.94	20.15	21.37	22.59	23.80
6'	3'	6"	7"	164.9	6.68	8.06	9.42	10.80	12.18
	4'	6"	7"	259.6	8.75	10.14	11.49	12.87	14.25
	5'	6"	7"	357.8	11.15	12.53	13.89	15.27	16.65
	6'	7"	8"	583.1	14.98	16.39	17.78	19.18	20.59
	7'	7½"	8½"	1139.6	19.15	20.58	22.00	23.43	24.86
	8'	8"	9"	1925.6	24.09	25.53	26.96	28.39	29.83
7'	4'	6"	7"	259.6	8.97	10.58	12.15	13.76	15.35
	5'	6"	7"	357.8	11.86	12.97	14.59	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7½"	8½"	1139.6	19.38	21.02	22.66	24.28	25.92
	8'	8"	9"	1925.6	24.32	25.97	27.60	29.25	30.89
8'	4'	6"	7"	259.6	9.19	11.03	12.82	14.65	16.45
	5'	7"	7"	357.8	12.03	13.89	15.70	17.55	19.36
	6'	7"	8"	583.1	15.42	17.27	19.09	20.93	22.75
	7'	7½"	8½"	1139.6	19.59	21.46	23.30	25.16	26.99
	8'	8"	9"	1925.6	24.54	26.41	28.29	30.11	31.96
9'	5'	7"	7"	357.8	12.26	14.39	16.27	18.15	20.07
	6'	7½"	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7½"	8½"	1139.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	1925.6	24.76	26.86	28.91	31.00	33.05
10'	5'	7"	7"	357.8	12.99	14.80	17.05	19.26	21.52
	6'	7½"	8"	583.1	16.17	18.50	20.77	22.99	25.28
	7'	7½"	8½"	1139.6	20.09	22.37	24.64	26.87	29.15
	8'	8"	9"	1925.6	24.98	27.31	29.58	31.81	34.10
11'	6'	8"	8"	583.1	16.69	19.27	21.76	24.23	
	7'	8"	8½"	1139.6	20.64	23.22	25.71	28.18	
	8'	8"	9"	1925.6	25.19	27.77	30.27	32.74	
12'	6'	8"	8"	583.1	16.92	19.75	22.95	25.18	
	7'	8"	8½"	1139.6	20.87	23.69	26.90	29.13	
	8'	8"	9"	1925.6	25.92	28.25	30.96	33.69	

® For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.



PART PLAN

END ELEVATION

SINGLE BARREL CULVERT

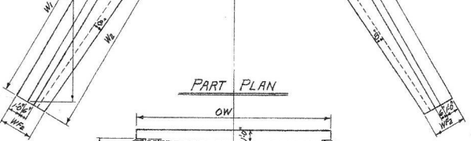


PART PLAN

END ELEVATION

DOUBLE BARREL CULVERT

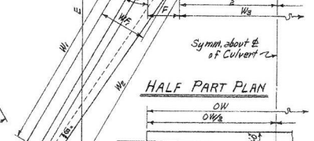
NOTE:- Plans and Elevations are not to scale.



PART PLAN

END ELEVATION

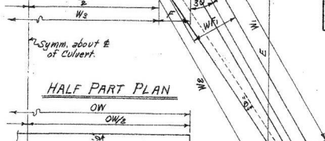
TRIPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

QUADRUPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

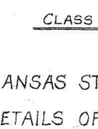
QUINTUPLE BARREL CULVERT

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mopings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT	F1 BENT: In bottom of footing, bent up into back face of wing. One bar of each length. SIZE	SPACING	NO. REQ'D	LENGTHS VARY MIN.	MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	F2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. SIZE	SPACING	NO. REQ'D	LENGTH	X	Y	F3 STRAIGHT: Longitudinal in top of wing footing heel. SIZE	NO. REQ'D	LENGTH	F4 STRAIGHT: Longitudinal in bottom of wing footing toe. SIZE	NO. REQ'D	LENGTH	H1 STRAIGHT: Horizontal in back face of wing. SIZE	SPACING	NO. REQ'D	LENGTH	H2 STRAIGHT: Horizontal in back face of wing. One bar of each length. SIZE	SPACING	NO. REQ'D	LENGTHS VARY MAX.	MIN.	H3 BENT: In back face of wing at top-on slope. SIZE	NO. REQ'D	LENGTH	H4 BENT: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQ'D	LENGTH	X	QUANTITY REINFORCING STEEL PER WING LB.
H																																								
2'	#3	18"	8	1'-6"	3'-10"	0'-8"	1'-0"	0'-11"	2'-11"	—	—	—	—	—	—	#3	1	9'-8"	#3	2	8'-6"	#3	12"	1	7'-2"	#3	12"	1	——	9'-0"	#3	1	7'-9"	#3	12"	2	2'-8"	1'-9"	27.0
3'	#3	12"	10	2'-2"	5'-2"	0'-8"	1'-9"	1'-5"	4'-10"	—	—	—	—	—	—	#3	1	12'-0"	#3	2	11'-0"	#3	12"	1	9'-6"	#3	12"	1	7'-6"	4'-0"	#3	1	9'-9"	#3	12"	3	2'-8"	1'-9"	41.1
4'	#3	12"	13	2'-9"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—	#3	1	14'-9"	#3	3	13'-6"	#3	12"	1	11'-10"	#3	12"	3	10'-11"	4'-0"	#3	1	12'-2"	#3	12"	4	2'-8"	1'-9"	63.7
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	1'-11"	6'-0"	#3	12"	4	3'-6"	1'-1"	2'-6"	#3	1	16'-8"	#3	3	16'-0"	#3	12"	2	14'-2"	#3	12"	3	10'-11"	4'-0"	#3	1	14'-7"	#3	12"	5	2'-8"	1'-9"	89.5
6'	#4	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	2'-5"	7'-1"	#3	12"	4	4'-6"	1'-4"	3'-3"	#3	1	19'-6"	#3	3	18'-6"	#3	12"	2	16'-4"	#8	12"	4	16'-4"	4'-0"	#3	1	17'-0"	#3	12"	6	2'-8"	1'-4"	145.8
7'	#4	12"	20	3'-9"	10'-5"	1'-3"	2'-9"	2'-7"	8'-1"	#4	12"	7	5'-6"	1'-7"	4'-0"	#4	1	21'-6"	#4	4	21'-0"	#4	12"	2	18'-3"	#4	12"	5	17'-9"	4'-0"	#4	1	19'-5"	#4	12"	7	3'-6"	1'-9"	283.7
8'	#4	12"	22	4'-4"	12'-3"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	23'-8"	#4	4	23'-9"	#4	12"	3	21'-1"	#4	12"	5	17'-9"	4'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"	356.4

BAR BENDING DIAGRAMS



NOTE:- Dimensions are to bar centers.

REVISIONS:- Membrane added. 5-10-66 W.C.H.

Designed By:- W.C.H. 8-20-62. Checked By:- BMS - 1-30-63
Drawn By:- W.C.H. 12-9-62. Checked By:- BMS - 1-31-63
Quantities By:- W.C.H. 12-14-62. Rechecked By:- BMS - 2-22-63

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

W.V.I. A.R. 3

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

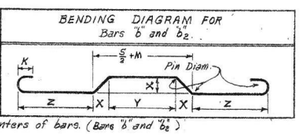
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT — In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall.-Each.				"b" bars — BENT - See Diagram below. In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with "a" and "c" bars.						"b2" bars — BENT - See Diagram below. In Top of Bottom Slab bent down under Division Wall - hooked. Alternate with "a" and "c" bars.						"c" bars STRAIGHT — In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars.				"d" bars STRAIGHT — Longitudinal in Top Slab of Barrel		"d1" bars STRAIGHT — Longitudinal in Sidewalls and Division Walls.		"e" bars STRAIGHT — Longitudinal in Bottom Slab of Barrel.		"f" bars STRAIGHT — Vertical in Sidewalls and Division Walls.			
			SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH
D	S	H																																
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'	2'	#5	12"	128	128	#5	12"	59	59	10'-6"	0'-3"	2'-2½"	3'-0"	#5	12"	59	59	10'-6"	0'-2½"	2'-2½"	3'-0"	#5	12"	120	120	4'-8"	#5	12"	14	#4	12"	8	#4	12"	16	#4	12"	240	240	8'-10"
		3'			128	128			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			59	59	10'-6"	0'-2½"	2'-2½"	3'-0"			120	120	4'-8"			14			12			16			240	240	3'-10"
		4'			128	128			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			59	59	10'-6"	0'-2½"	2'-2½"	3'-0"			120	120	4'-8"			14			16			16			240	240	4'-10"
		5'			128	128			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			59	59	10'-6"	0'-2½"	2'-2½"	3'-0"			120	120	4'-8"			14			20			16			240	240	5'-10"
		6'			128	128			59	59	10'-9"	0'-3"	2'-3½"	3'-5"			59	59	10'-9"	0'-2½"	2'-3½"	3'-5"			120	120	4'-8"			14			24			16			240	240	6'-10"
	2 @ 5'	3'	#5	12"	128	128	#5	12"	59	59	12'-7"	0'-3½"	2'-7½"	4'-1"	#5	12"	59	59	12'-6"	0'-3"	2'-8½"	4'-1"	#5	12"	120	120	5'-8"	#5	11½"	16	#4	12"	12	#4	12"	16	#4	12"	240	240	3'-11"
		4'			128	128			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"			120	120	5'-8"			16			16			16			240	240	4'-11"
		5'			128	128			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"			120	120	5'-8"			16			20			16			240	240	5'-11"
		6'			128	128			59	59	12'-10"	0'-3½"	2'-8½"	4'-2"			59	59	12'-9"	0'-3"	2'-9½"	4'-2"			120	120	5'-9"			16			24			16			240	240	6'-11"
		7'			128	128			59	59	13'-0"	0'-3½"	2'-10½"	4'-2½"			59	59	12'-11"	0'-3"	2'-10½"	4'-2½"			120	120	5'-10"			16			28			16			240	240	7'-11"
	2 @ 6'	3'	#6	11"	140	140	#5	11"	65	65	14'-7"	0'-4"	3'-0½"	4'-10"			65	65	14'-7"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18			12			18			240	240	4'-0"
		4'			140	140			65	65	14'-7"	0'-4"	3'-0½"	4'-10"			65	65	14'-7"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18			16			18			240	240	5'-0"
		5'			140	140			65	65	14'-7"	0'-4"	3'-0½"	4'-10"			65	65	14'-6"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18			20			18			240	240	6'-0"
		6'			140	140			65	65	14'-10"	0'-4"	3'-1½"	4'-11"			65	65	14'-10"	0'-4"	3'-1½"	4'-11"			132	132	6'-9"			18			24			18			240	240	7'-0"
		7'			140	140			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"			132	132	6'-10"			18			28			18			240	240	8'-0"
		8'			140	140			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			132	132	6'-10"			18			32			18	10"	288	288	9'-0"
	2 @ 7'	4'	#6	12"	128	128	#5	12"	59	59	16'-9"	0'-6½"	3'-5"	5'-7"			59	59	16'-9"	0'-6½"	3'-5"	5'-7"			120	120	7'-8"			20			16			20			240	240	5'-1"
		5'			128	128			59	59	16'-9"	0'-6½"	3'-5"	5'-7"			59	59	16'-9"	0'-6½"	3'-5"	5'-7"			120	120	7'-8"			20			20			20			240	240	6'-1"
		6'			128	128			59	59	17'-0"	0'-6½"	3'-6"	5'-8"			59	59	17'-0"	0'-6½"	3'-6"	5'-8"			120	120	7'-9"			20			24			20			240	240	7'-1"
		7'			128	128			59	59	17'-2"	0'-6½"	3'-7"	5'-8½"			59	59	17'-2"	0'-6½"	3'-7"	5'-8½"			120	120	7'-10"			20			28			20			240	240	8'-1"
		8'			128	128			59	59	17'-3"	0'-6½"	3'-7"	5'-9"			59	59	17'-3"	0'-6½"	3'-7"	5'-9"			120	120	7'-10"			20			32			20	10"	288	288	9'-1"
		9'			128	128			59	59	17'-6"	0'-6½"	3'-8"	5'-10"			59	59	17'-6"	0'-6½"	3'-8"	5'-10"			120	120	7'-11"			20			36			20	12"	240	240	10'-1"
	2 @ 8'	4'	#6	11"	140	140	#5	11"	65	65	18'-10"	0'-5"	3'-10"	6'-4"			65	65	18'-10"	0'-5"	3'-10"	6'-4"			132	132	8'-8"			23			16			22			240	240	5'-2"
		5'			140	140			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			132	132	8'-9"			23			20			22			240	240	6'-2"
		6'			140	140			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			132	132	8'-9"			23			24			22			240	240	7'-2"
		7'			140	140			65	65	19'-3"	0'-5"	4'-0"	6'-5½"			65	65	19'-3"	0'-5"	4'-0"	6'-5½"			132	132	8'-10"			23			28			22			240	240	8'-2"
		8'			140	140			65	65	19'-9"	0'-5"	4'-0½"	6'-6"			65	65	19'-9"	0'-5"	4'-0½"	6'-6"			132	132	8'-11"			23			32			22	10"	288	288	9'-2"
		9'			140	140			65	65	19'-7"	0'-5"	4'-0"	6'-7"			65	65	19'-7"	0'-5"	4'-0"	6'-7"			132	132	8'-11"			23			36			22	12"	240	240	10'-2"
		10'			140	140			65	65	19'-10"	0'-5"	4'-0½"	6'-8"			65	65	19'-10"	0'-5"	4'-0½"	6'-8"			132	132	9'-0"			23			40			22	11"	264	264	11'-2"
	2 @ 9'	5'	#6	11"	140	140	#5	11"	65	65	21'-1"	0'-5½"	4'-4"	7'-2"			65	65	21'-1"	0'-5½"	4'-4"	7'-2"			132	132	9'-3"			26			20			25			240	240	6'-3"
		6'			140	140			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			132	132	9'-4"			26			24			25			240	240	7'-3"
		7'			140	140			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			132	132	9'-4"			26			28			25			240	240	8'-3"
		8'			140	140			65	65	21'-4"	0'-5½"	4'-5"	7'-3"			65	65	21'-4"	0'-5½"	4'-5"	7'-3"			132	132	9'-5"			26			32			25	10"	288	288	9'-3"
		9'			140	140			65	65	21'-7"	0'-5½"	4'-6"	7'-3"			65	65	21'-7"	0'-5½"	4'-6"	7'-3"			132	132	9'-6"			26			36			25	12"	240	240	10'-3"
		10'			140	140			65	65	21'-10"	0'-5½"	4'-7"	7'-4"			65	65	21'-10"	0'-5½"	4'-7"	7'-4"			132	132	9'-7"			26			40			25	11"	264	264	11'-3"
		11'			140	140			65	65	22'-0"	0'-5½"	4'-7½"	7'-5"			65	65	22'-0"	0'-5½"	4'-7½"	7'-5"			132	132	10'-0"			26			44			25	10"	288	288	12'-3"
	2 @ 10'	5'	#7	12"	128	128	#6	12"	59	59	23'-2"	0'-6"	4'-9"	7'-11"	#6	12"	59	59	23'-2"	0'-6"	4'-9"	7'-11"	#6	12"	120	120	10'-3"	#5	11½"	28	#4	12"	20	#4	12"	27	#4	12"	240	240	6'-4"
		6'			128	128			59	59	23'-4"	0'-6"	4'-10"	7'-11½"			59	59	23'-4"	0'-6"	4'-10"	7'-11½"			120	120	10'-6"			28			24			27			240	240	7'-4"
		7'			128	128			59	59	23'-5"	0'-6"	4'-10"	8'-0"			59	59	23'-5"	0'-6½"	4'-9"	8'-0"			120	120	10'-8"			28			28			27			240	240	8'-4"
		8'			128	128			59	59	23'-8"	0'-6"	4'-10"	8'-1"			59	59	23'-8"	0'-6½"	4'-10"	8'-1"			120	120	10'-11"			28			32			27	10"	288	288	9'-4"
		9'			128	128			59	59	23'-10"	0'-6"	4'-11"	8'-2"			59	59	23'-10"	0'-6½"	4'-10"	8'-2"			120	120	11'-1"			28			36			27	12"	240	240	10'-4"
		10'			128	128			59	59	23'-11"	0'-6"	5'-0"	8'-2"			59	59	23'-11"	0'-6½"	4'-11"	8'-2"			120	120	11'-3"			28			40			27	11"	264	264	11'-4"
		11'			128	128			59	59	24'-1"	0'-6"	5'-0"	8'-3"			59	59	24'-1"	0'-6½"	4'-11"	8'-3"			120	120	11'-5"			28			44			27	10"	288	288	12'-4"
		12'			128	128			59	59	24'-3"	0'-6"	5'-0"	8'-4"			59	59	24'-3"	0'-6½"	4'-11"	8'-3"			120	120	11'-6"			28			48			27	12"	240	240	13'-4"
	2 @ 11'	6'	#7	12"	128	128	#6	12"	59	59	25'-5"	0'-6⅝"	5'-2"	8'-9"	#6	12"	59	59	25'-4"	0'-7⅛"	5'-1"	8'-9"	#7	12"	120	120	11'-10"	#5	11½"	30	#4	12"	24	#4	12"	29	#4	12"	240	240	7'-6"
		7'			128	128			59	59	25'-5"	0'-6⅝"	5'-3"	8'-9"			59	59	25'-4"	0'-7⅛"	5'-1"	8'-9"			120	120	11'-10"			30			28			29			240	240	8'-6"
		8'			128	128			59	59	25'-6"	0'-6⅝"	5'-3"	8'-10"			59	59	25'-5"	0'-7⅛"	5'-2"	8'-10"			120	120	11'-11"			30			32			29	10"	288	288	9'-6"
		9'			128	128			59	59	25'-8"	0'-6⅝"	5'-4"	8'-10"			59	59	25'-7"	0'-7⅛"	5'-3"	8'-10"			120	120	12'-1"			30			36			29	12"	240	240	10'-6"
		10'			128	128			59	59	25'-11"	0'-6⅝"	5'-5"	8'-11"			59	59	25'-10"	0'-7⅛"	5'-3"	8'-11"			120	120	12'-3"			30			40			29	11"	264	264	11'-6"
		11'			128	128			59	59	26'-1"	0'-6⅝"	5'-5"	9'-0"			59	59	26'-0"	0'-7⅛"	5'-3"	9'-0"			120	120	12'-4"			30			44			29	10"	288	288	12'-6"
		12'			128	128			59	59	26'-3"	0'-6⅝"	5'-5"	9'-1"			59	59	26'-2"	0'-7⅛"	5'-3"	9'-1"			120	120	12'-6"			30			48			29	12"	240	240	13'-6"
	2 @ 12'	6'	#7	12"	140	140	#6	11"	65	65	27'-5"	0'-7"	5'-8"	9'-6"	#6	11"	65	65	27'-7"	0'-8⅛"	5'-5"	9'-6"	#7	11"	132	132	12'-10"	#5	11½"	32	#4	12"	24	#4	12"	31	#4	12"	240	240	7'-7"
		7'			140	140			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8⅛"	5'-5"	9'-6"			132	132	12'-10"			32			28			31			240	240	8'-7"
		8'			140	140			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8⅛"	5'-5"	9'-6"			132	132	12'-10"			32			32			31	10"	288	288	9'-7"
		9'			140	140			65	65	27'-8"	0'-7"	5'-9"	9'-7"			65	65	27'-8"	0'-8⅛"	5'-6"	9'-7"			132	132	12'-11"			32			36			31	12"	240	240	10'-7"
		10'			140	140			65	65	27'-11"	0'-7"	5'-10"	9'-8"			65	65	28'-0"	0'-8⅛"	5'-6"	9'-8"			132	132	13'-0"			32			40			31	11"	264	264	11'-7"
		11'			140	140			65	65	28'-2"	0'-7"	5'-10"	9'-9"			65	65	28'-3"	0'-8⅛"	5'-7"	9'-9"			132	132	13'-2"			32			44			31	10"	288	288	12'-7"
		12'			140	140			65	65	28'-3"	0'-7"	5'-10"	9'-10"			65	65	28'-5"	0'-8⅛"	5'-7"	9'-10"			132	132	13'-5"			32			48			31	12"	240	240	13'-7"

Designed by:- W.C.H. 1-17-63. Checked by:- JWS:- 5-14-63
Drawn by:- W.C.H. 2-15-63. Checked by:- JWS:- 5-24-63
Quantities by:- W.C.H. 2-13-63. Checked by:- JWS:- 5-24-63

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#5	2½"	4⅝"	0'-11⅛"
#6	3"	5"	1'-2"

BENDING DIAGRAM FOR Bars "b" and "b2"



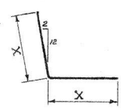
NOTE:- Dimensions are to centers of bars. (Bars "b" and "b2")

DOWEL BARS FOR TWO HEADWALLS

2 SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH	X
4'	#4	12"c	20	2'-5"	1'-2½"
5'	#4	12"c	24	2'-6"	1'-3"
6'	#4	12"c	28	2'-7"	1'-3⅝"
7'	#4	12"c	32	2'-8"	1'-4"
8'	#4	12"c	36	2'-9"	1'-4½"
9'	#4	12"c	40	2'-10"	1'-5"
10'	#4	12"c	46	2'-11"	1'-5½"
11'	#4	12"c	50	3'-0"	1'-6"
12'	#4	12"c	54	3'-1"	1'-6½"

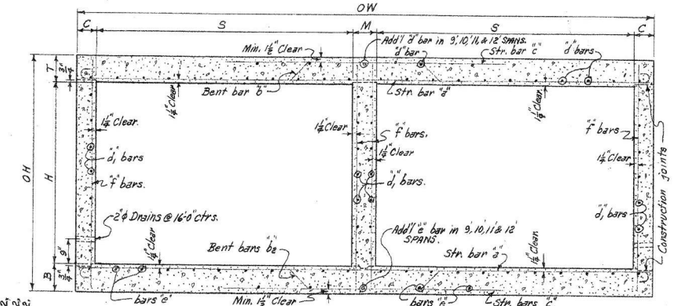
Bars "f"

Dowel bars in Headwalls.

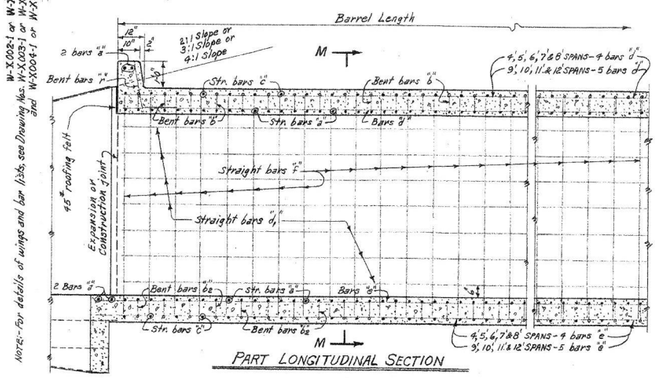


DIMENSIONS / QUANTITIES

MAX. DESIGN DEPTH OF COVER	CLEAR SPANS	BARREL DIMENSIONS — CLEAR HEIGHT	SQ.FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF DIVISION WALL	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES — CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL	REINFORCING STEEL ADDITIONAL PER LAP	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & WINGS
D	S	H	A	OW	T	C	M	B	OH	CU.YD.	LB.	LB.	LB.
0'-0" TO 5'-0"	2 @ 4'	2'	16	9'-8"	6½"	6"	8"	6"	3'-0½"	0.496	88.15	42.71	129.56
		3'	24	9'-8"					4'-0½"	0.558	98.99	46.05	129.56
		4'	32	9'-8"					5'-0½"	0.620	98.84	49.39	129.56
		5'	40	9'-8"					6'-0½"	0.682	104.18	52.73	129.56
		6'	48	9'-11"					7'-0½"	0.809	110.74	56.07	131.65
	2 @ 5'	3'	30	11'-8"	7"	6"	8"	6½"	4'-1⅛"	0.671	123.34	51.19	198.64
		4'	40	11'-8"					5'-1⅛"	0.733	128.68	54.53	198.64
		5'	50	11'-8"					6'-1⅛"	0.795	134.03	57.87	198.64
		6'	60	11'-11"					7'-1⅛"	0.922	140.89	61.21	201.64
		7'	70	12'-1"					8'-1⅛"	1.044	147.34	64.55	203.65
	2 @ 6'	3'	36	13'-8"	7½"	6"	8"	7½"	4'-3"	0.818	148.50	56.34	233.58
		4'	48	13'-8"					5'-3"	0.880	153.85	59.68	233.58
		5'	60	13'-8"					6'-3"	0.941	159.19	63.02	238.58
		6'	72	13'-11"		7"	9"		7'-3"	1.070	166.20	66.36	236.59
		7'	84	14'-1"					8'-3"	1.192	172.74	69.70	238.59
		8'	96	14'-2"		8"	10"		9'-3"	1.298	183.36	73.04	239.59
	2 @ 7'	4'	56	15'-8"	8"	6"	8"	7½"	5'-4"	1.021	178.15	64.83	268.97
		5'	70	15'-8"					6'-4"	1.082	183.49	68.17	268.97
		6'	84	15'-11"		7"	9"		7'-4"	1.212	196.59	71.51	271.97
		7'	98	16'-1"					8'-4"	1.334	197.19	74.85	273.98
		8'	112	16'-2"		8"	10"		9'-4"	1.440	207.89	78.19	274.98
		9'	126	16'-5"		9"	11"		10'-4"	1.616	226.25	81.53	277.98
	2 @ 8'	4'	64	17'-8"	8½"	6"	8"	8"	5'-5"	1.174	216.37	71.71	309.80
		5'	80	17'-11"		7"	9"		6'-5"	1.295	217.65	75.05	307.81
		6'	96	17'-11"					7'-5"	1.366	222.97	78.39	307.81
		7'	112	18'-1"		7½"	10"	8½"	8'-5"	1.989	229.48	81.73	309.81
		8'	128	18'-2"		8"	10"		9'-5"	1.595	249.97	85.07	310.81
		9'	144	18'-5"		9"	11"		10'-5"	1.772	258.08	88.41	313.82
		10'	160	18'-8"		10"	12"		11'-5"	1.967	271.07	91.75	316.82
	2 @ 9'	5'	90	19'-1"	9"	7"	9"	9½"	6'-6"	1.977	239.37	82.77	345.42
		6'	108	20'-1"		7½"	10"		7'-6"	1.594	246.08	86.11	347.43
		7'	126	20'-1"					8'-6"	1.671	251.93	89.45	347.43
		8'	144	20'-2"		8"	10"		9'-6"	1.778	262.26	92.79	348.43
		9'	162	20'-5"		9"	11"		10'-6"	1.956	279.95	96.13	351.93
		10'	180	20'-8"		10"	12"		11'-6"	2.152	292.97	99.47	356.43
		11'	198	20'-10"		11"	12"		12'-6"	2.328	306.84	102.81	356.44
	2 @ 10'	5'	100	21'-11"	10"	7"	9"	10"	6'-7½"	1.674	279.64	87.92	498.99
		6'	120	22'-1"		7½"	10"		7'-7½"	1.792	286.50	91.26	498.71
		7'	140	22'-1"					8'-7½"	1.869	291.85	94.60	498.71
		8'	160	22'-2"		8"	10"		9'-7½"	1.976	302.77	97.94	499.08
		9'	180	22'-5"		9"	11"		10'-7½"	2.155	320.74	101.28	498.16
		10'	200	22'-8"		10"	12"		11'-7½"	2.352	333.99	104.62	498.25
		11'	220	22'-10"		11"	12"		12'-7½"	2.529	398.01	107.96	499.98
		12'	240	23'-0"		12"	12"		13'-7½"	2.718	370.23	111.30	497.70
	2 @ 11'	6'	132	24'-3"	10½"	8"	10"	11"	7'-8"	2.048	309.36	96.41	538.03
		7'	154	24'-3"		8"	10"		8'-8"	2.188	314.70	99.75	539.03
		8'	176	24'-3"		8"	10"		9'-8"	2.208	325.12	103.09	538.03
		9'	198	24'-5"		9"	11"		10'-8"	2.388	343.25	106.43	539.12
		10'	220	24'-8"		10"	12"		11'-8"	2.586	356.57	109.77	538.21
		11'	242	24'-10"		11"	12"		12'-8"	2.764	370.67	113.11	540.93
		12'	264	25'-0"		12"	12"		13'-8"	2.954	393.05	116.45	542.66
	2 @ 12'	6'	144	26'-2"	12"	8"	10"	12"	7'-10"	2.299	353.31	101.55	576.93
		7'	168	26'-2"		8"	10"		8'-10"	2.379	358.65	104.89	576.93
		8'	192	26'-2"		8"	10"		9'-10"	2.459	363.12	108.23	576.93
		9'	216	26'-5"		9"	11"		10'-10"	2.690	382.52	111.57	580.52
		10'	240	26'-8"		10"	12"		11'-10"	2.880	401.07	114.91	584.60
		11'	264	26'-10"		11"	12"		12'-10"	3.018	415.31	118.25	587.39
		12'	288	27'-0"		12"	12"		13'-10"	3.208	437.88	121.59	590.05

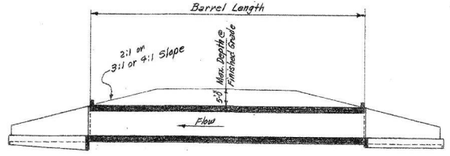


TYPICAL SECTION M-M



PART LONGITUDINAL SECTION

NOTE:- For details of wings and bar lists, see Drawing Nos. W-X003-1 or W-X003-2, and W-X004-1 or W-X004-2.



LONGITUDINAL SECTION

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing No. W-X002-1 or W-X002-2.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.

BAR LAP:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-6". Lap longitudinal bars 30 diameters.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls, division walls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.