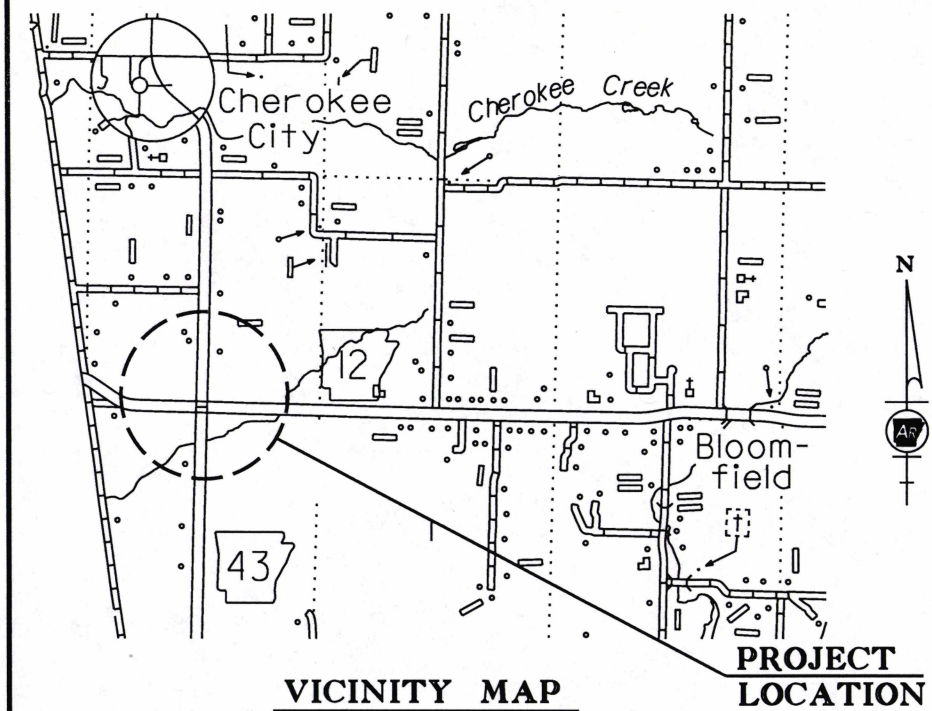




ARKANSAS DEPARTMENT OF TRANSPORTATION CONSTRUCTION PLANS FOR STATE HIGHWAY

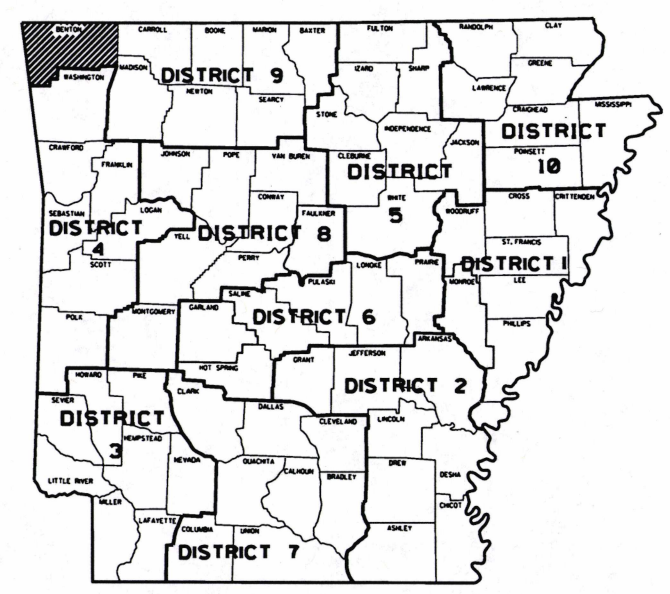
HWY. 12/HWY. 43 INTERS. SAFETY IMPVTS. (S)

**BENTON COUNTY
ROUTE 12 SECTION 1
ROUTE 43 SECTION 0
JOB 090445
FED. AID PROJ. HSIP-0004(66)**

NOT TO SCALE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	1	51

2 HWY. 12/HWY. 43 INTERS. SAFETY IMPVTS. (S)



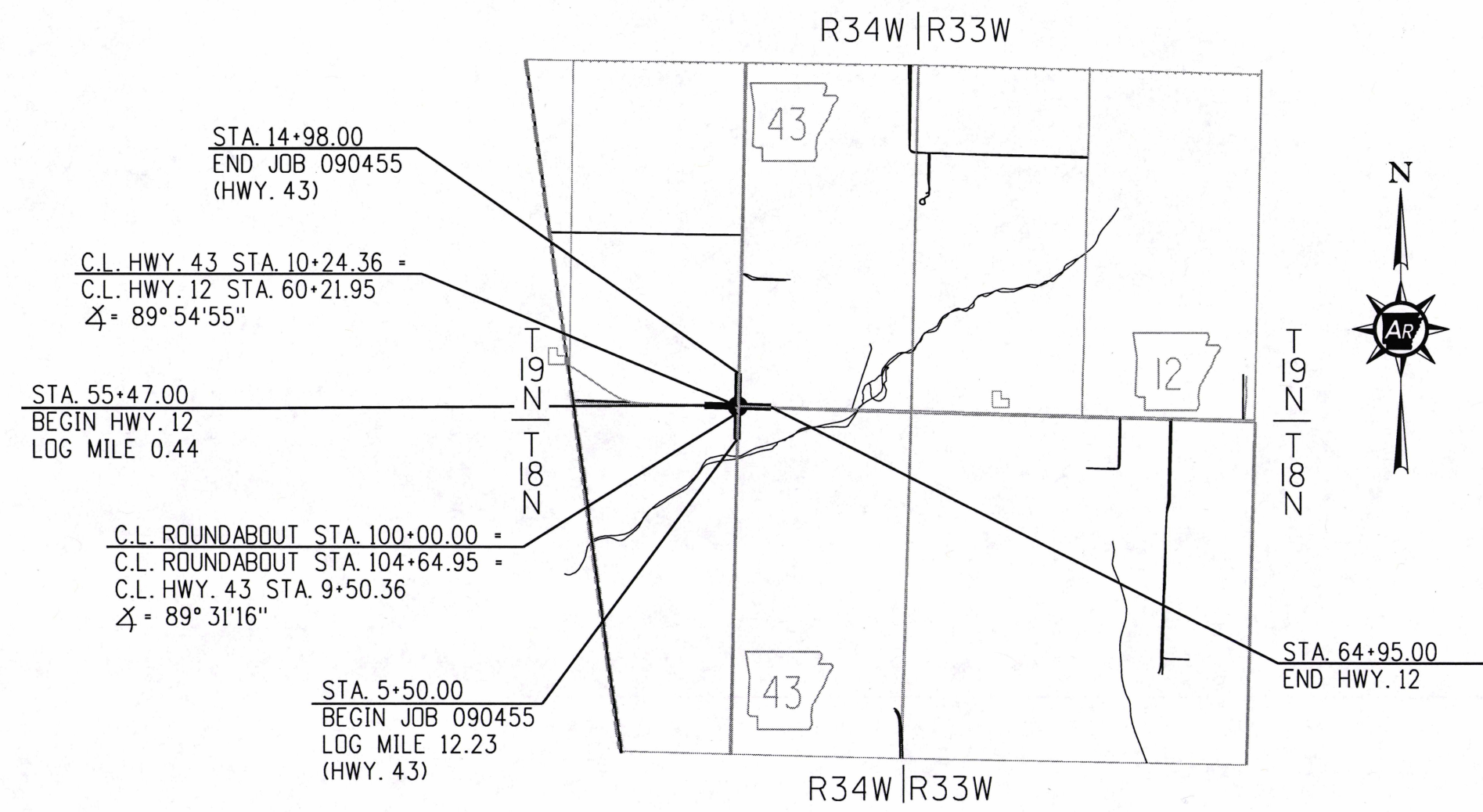
ARKANSAS HIGHWAY DISTRICT 9

• DESIGN TRAFFIC DATA (HWY. 12) •

DESIGN YEAR	2039
2019 ADT	2800
2039 ADT	3700
2039 DHV	407
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	9%
DESIGN SPEED	20 MPH

• DESIGN TRAFFIC DATA (HWY. 43) •

DESIGN YEAR	2039
2019 ADT	2200
2039 ADT	2900
2039 DHV	319
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	8%
DESIGN SPEED	20 MPH

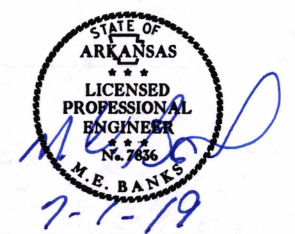


PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N36° 16' 36"	N36° 16' 36"	N36° 16' 35"
LONG.	W94° 34' 31"	W94° 34' 25"	W94° 34' 20"

GROSS LENGTH OF PROJECT	1896.00 FEET OR	0.359 MILES
NET " " ROADWAY	1896.00 " "	0.359 MILES
NET " " BRIDGE	0.00 " "	0.000 MILES
NET " " PROJECT	1896.00 " "	0.359 MILES

APPROVED



DEPUTY DIRECTOR
AND CHIEF ENGINEER

6/20/2019

R090445.DGN

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2 INDEX OF SHEET AND STANDARD DRAWINGS



INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4	TYPICAL SECTIONS OF IMPROVEMENT
5 - 9	SPECIAL DETAILS
10 - 12	TEMPORARY EROSION CONTROL DETAILS
13 - 16	MAINTENANCE OF TRAFFIC DETAILS
17 - 18	PERMANENT PAVEMENT MARKING DETAILS
19 - 22	QUANTITIES
23	SUMMARY OF QUANTITIES AND REVISIONS
24 - 28	SURVEY CONTROL DETAILS
29 - 33	PLAN AND PROFILE SHEETS
34	ILLUMINATION GENERAL NOTES
35	ILLUMINATION QUANTITIES AND SCHEDULE
36	ILLUMINATION LAYOUT
37	ILLUMINATION POLE DETAILS
38	PULL BOX DETAILS
39	WIRING DIAGRAM
40 - 51	CROSS SECTIONS

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

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
CG-1	CURBING DETAILS	11-29-07
CPTJ-6A	TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)	05-25-06
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	02-27-14
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
FPC-9E	DETAILS OF DROP INLETS (TYPE C)	08-22-02
FPC-9M	DETAILS OF DROP INLET (TYPE MO)	08-22-02
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	04-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	07-25-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-4	WIRE FENCE TYPE C AND D	08-22-02

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2 GOVERNING SPECIFICATIONS & GENERAL NOTES



GOVERNING SPECIFICATIONS

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

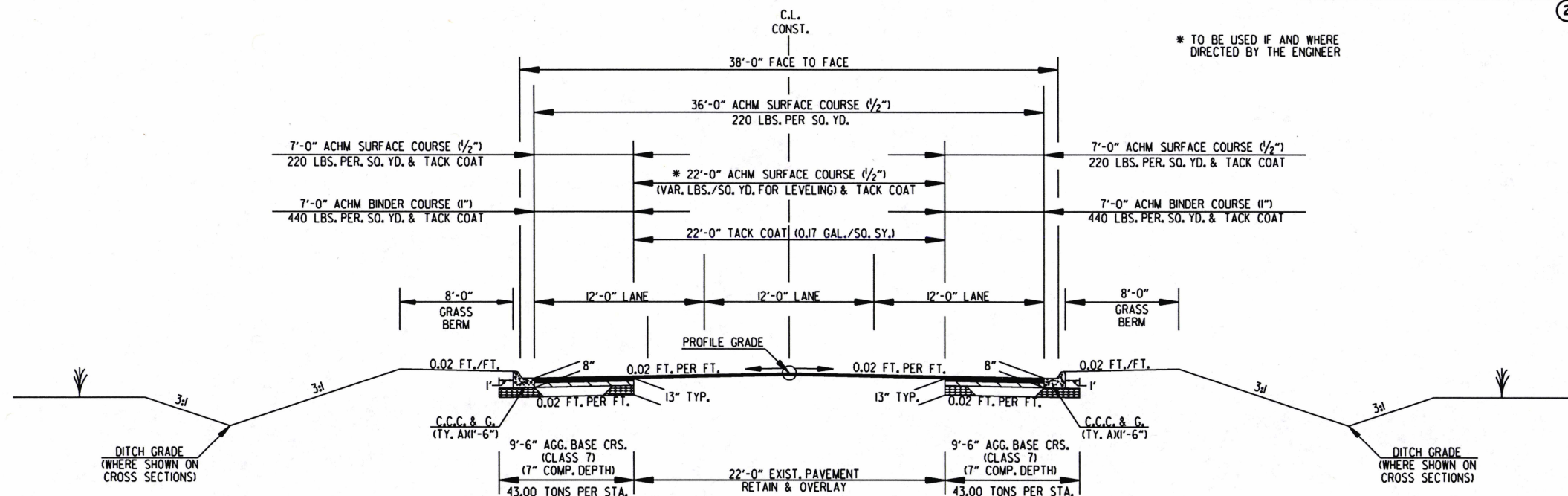
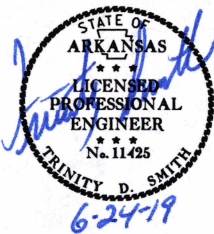
NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
303-1_____	AGGREGATE BASE COURSE
306-1_____	QUALITY CONTROL AND ACCEPTANCE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____	LIQUID ANTI-STRIP ADDITIVE
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
600-2_____	INCIDENTAL CONSTRUCTION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
605-1_____	CONCRETE DITCH PAVING
620-1_____	MULCH COVER
621-1_____	FILTER SOCKS
632-1_____	CONCRETE ISLAND
634-1_____	CURBING
JOB 090445__	ANTI-THEFT CONCRETE PULL BOX
JOB 090445__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 090445__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 090445__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 090445__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 090445__	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 090445__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 090445__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 090445__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 090445__	LED ROADWAY ILLUMINATION POLE
JOB 090445__	MANDATORY ELECTRONIC CONTRACT
JOB 090445__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 090445__	SERVICE POINT ASSEMBLY
JOB 090445__	SHORING FOR CULVERTS
JOB 090445__	SOIL STABILIZATION
JOB 090445__	STORM WATER POLLUTION PREVENTION PLAN
JOB 090445__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 090445__	THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)
JOB 090445__	UTILITY ADJUSTMENTS
JOB 090445__	WARM MIX ASPHALT

GENERAL NOTES

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

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2 TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT

HWY. 12
STA. 55+72.00 - STA. 59+31.95
STA. 61+11.95 - STA. 64+70.00
HWY. 43
STA. 5+75.00 - STA. 9+34.36
STA. 11+14.36 - STA. 14+73.00

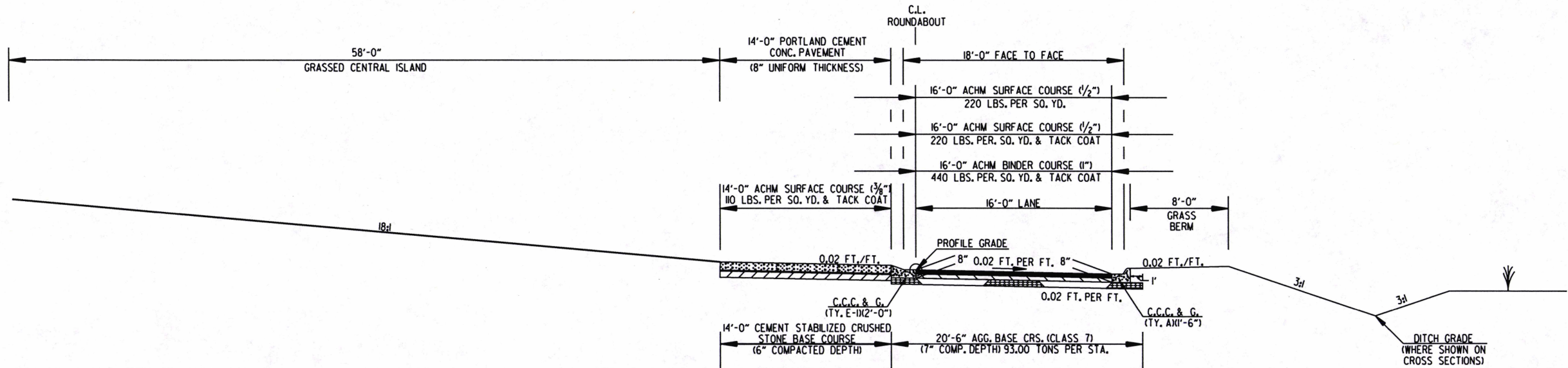
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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

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

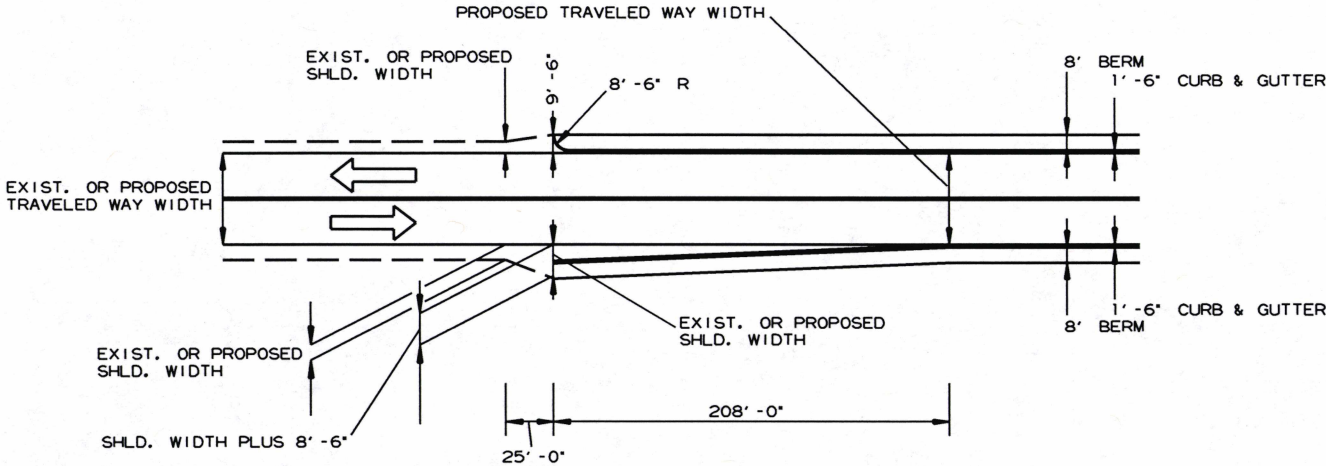
PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



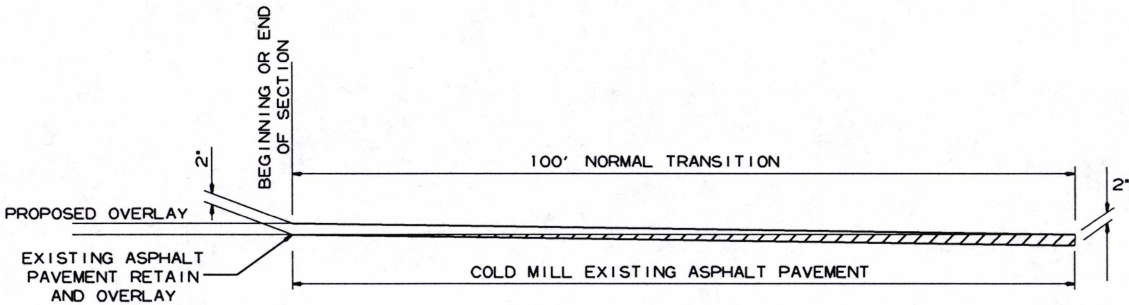
TYPICAL SECTION OF IMPROVEMENT
ROUNDBOUT

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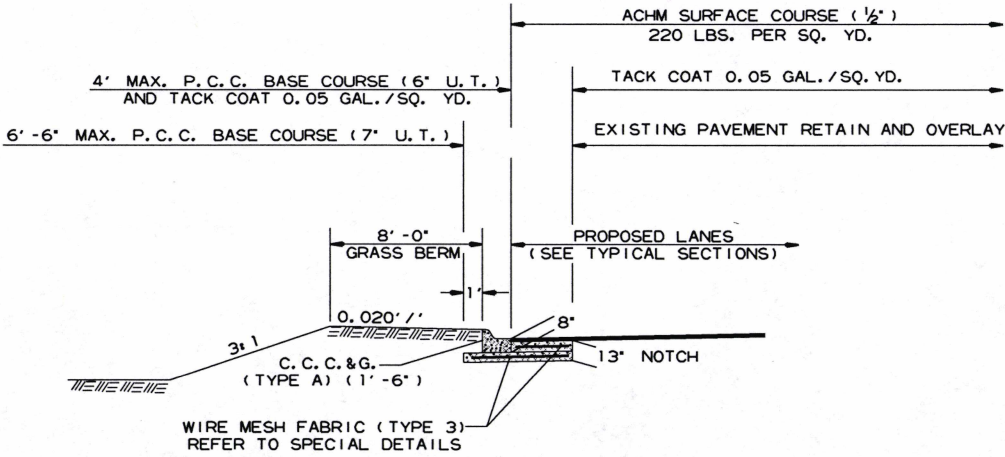
2 SPECIAL DETAILS



TRANSITION FROM OPEN SHOULDER
TO CURB & GUTTER SECTION

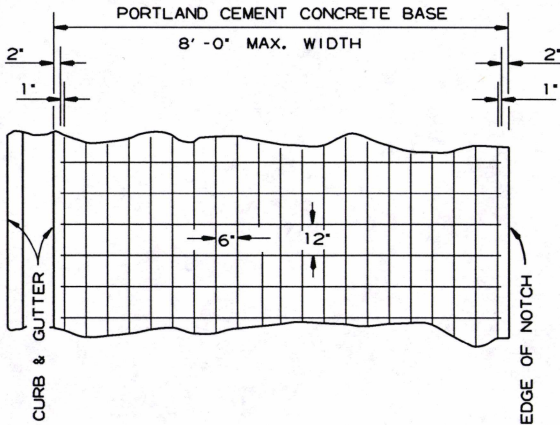


DETAIL FOR TRANSITIONS



P.C.C. BASE WIDENING DETAIL

P.C.C. BASE WIDENING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.



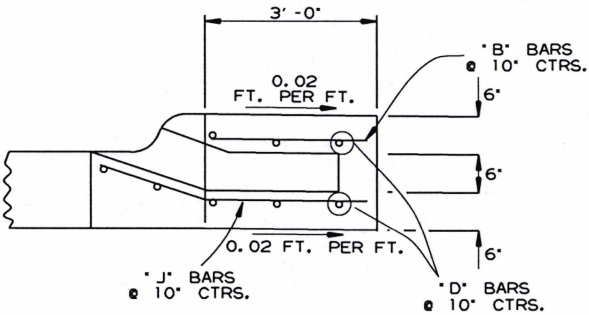
6' X 12' MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ. YD.

- NOTES:
1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
 2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
 3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6' & 7' U.T.)

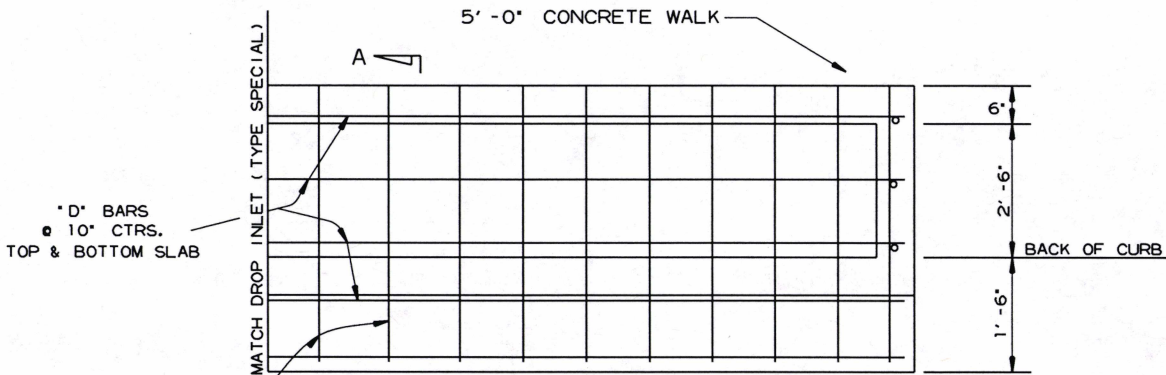
DETAIL OF REINFORCING
STEEL FOR PAVEMENT
(MESH FABRIC TYPE 3)

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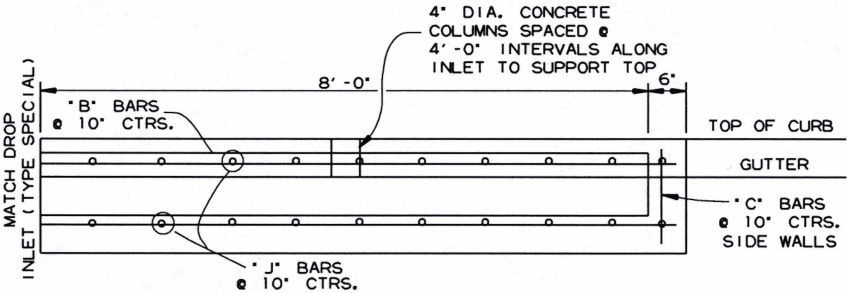
2 SPECIAL DETAILS



SECTION A-A - EXTENSION



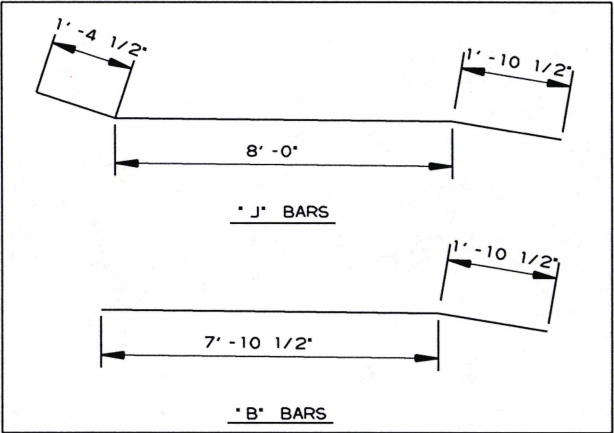
TOP VIEW - EXTENSION



FRONT VIEW - EXTENSION

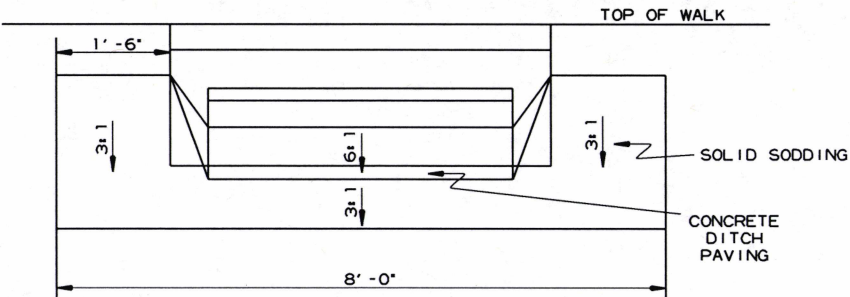
- GENERAL NOTES:
- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
 - ALL REINF. BARS SHALL BE #4 AND HAVE 1 1/2" COVER.
 - DROP INLETS AND EXTENSIONS ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
 - DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
 - PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
 - CONCRETE DITCH PAVING & SOLID SODDING SHALL BE PAID FOR SEPARATELY.
 - CONSTRUCT EXTENSIONS UPSTREAM OF DROP INLET UNLESS OTHERWISE SPECIFIED.

BAR DIAGRAM

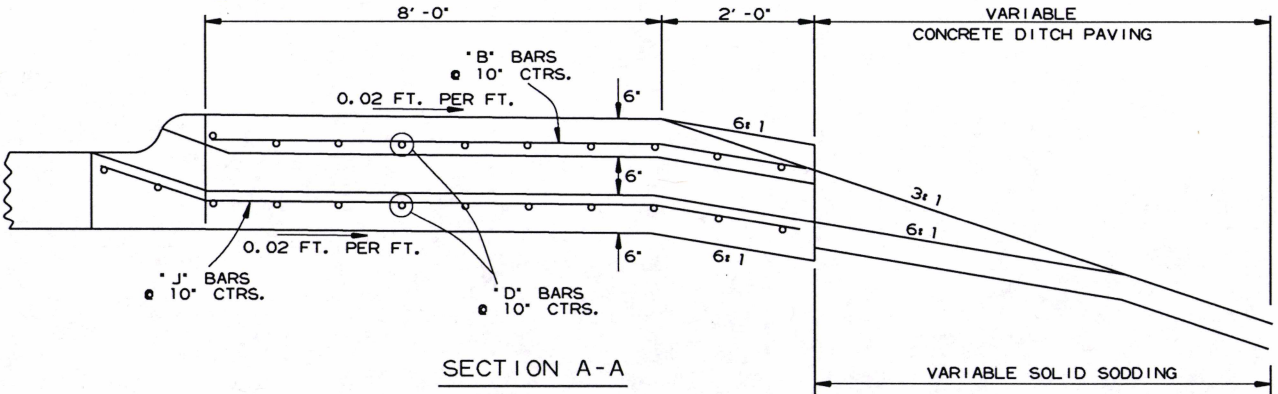


CLASS A CONC.	RE INF. STEEL - RDWY. GRADE 60
CU. YDS.	POUND
2.53	207

QUANTITIES FOR INFORMATION ONLY
DROP INLET (TYPE SPECIAL)



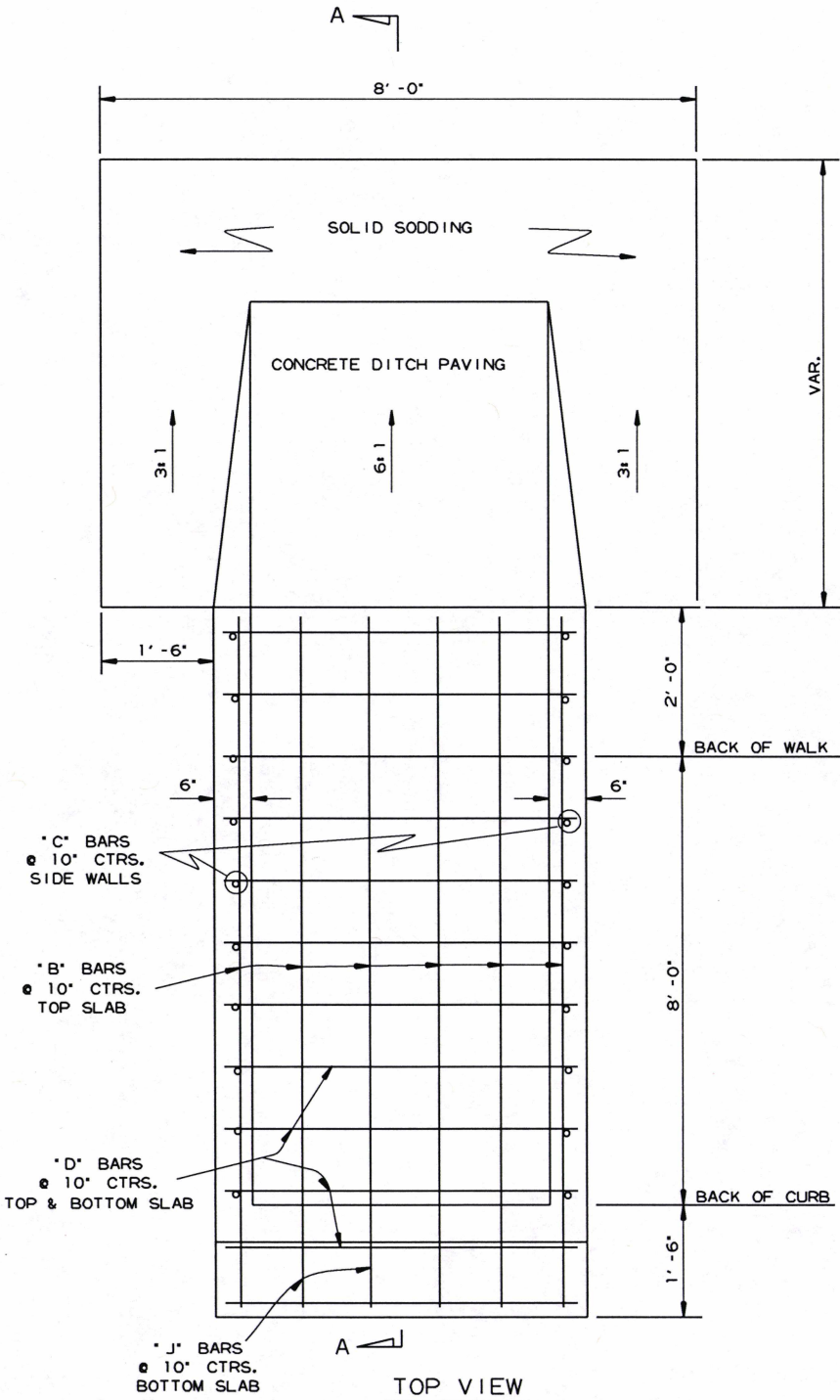
BACK VIEW



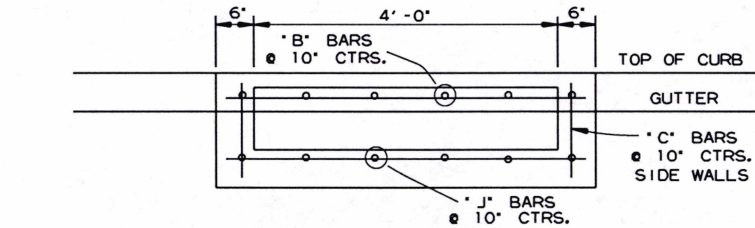
SECTION A-A

DROP INLET (TYPE SPECIAL)

SPECIAL DETAILS



TOP VIEW



FRONT VIEW

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2 SPECIAL DETAILS

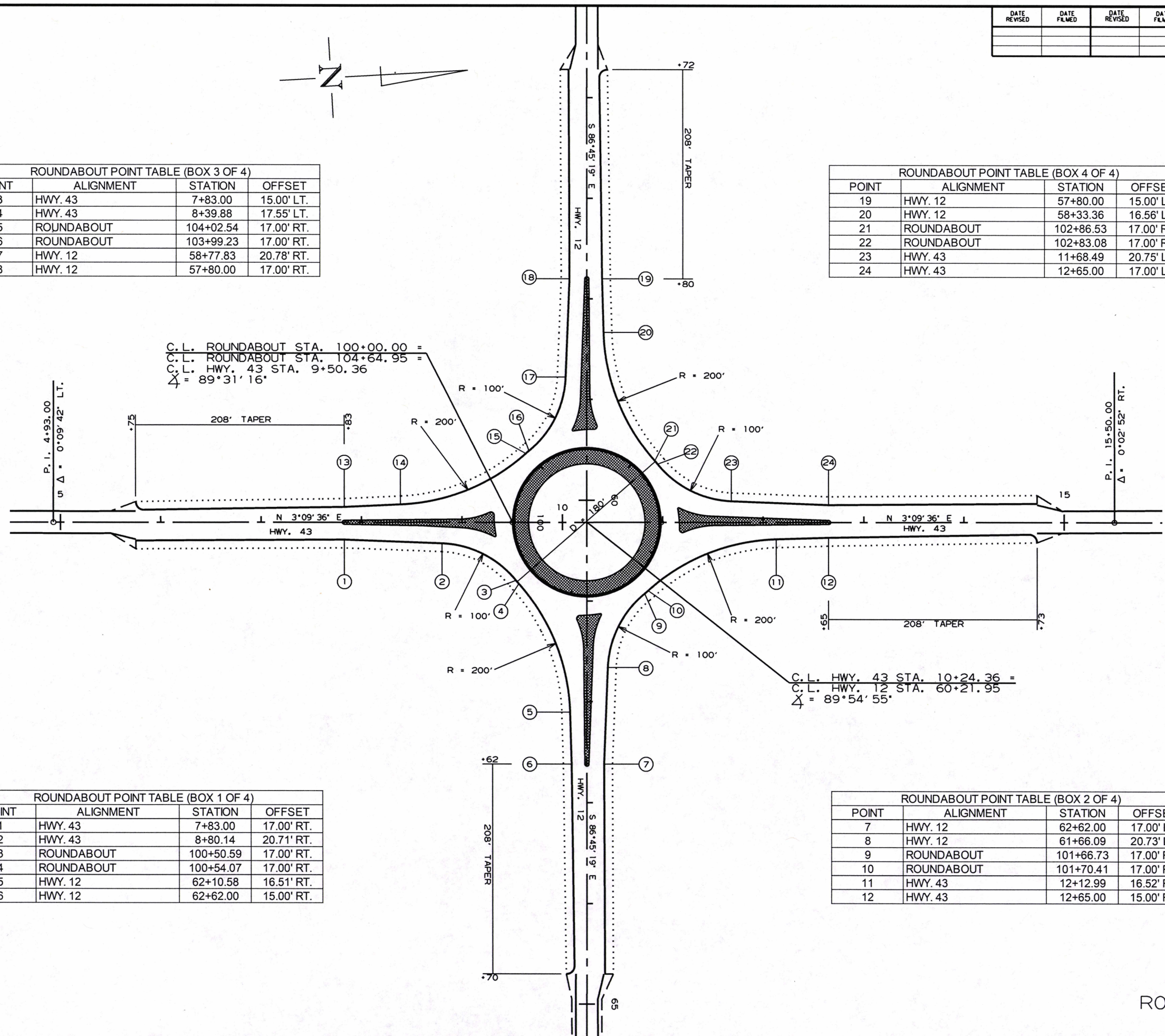


ROUNDBOUT POINT TABLE (BOX 3 OF 4)			
POINT	ALIGNMENT	STATION	OFFSET
13	HWY. 43	7+83.00	15.00' LT.
14	HWY. 43	8+39.88	17.55' LT.
15	ROUNDBOUT	104+02.54	17.00' RT.
16	ROUNDBOUT	103+99.23	17.00' RT.
17	HWY. 12	58+77.83	20.78' RT.
18	HWY. 12	57+80.00	17.00' RT.

ROUNDBOUT POINT TABLE (BOX 4 OF 4)			
POINT	ALIGNMENT	STATION	OFFSET
19	HWY. 12	57+80.00	15.00' LT.
20	HWY. 12	58+33.36	16.56' LT.
21	ROUNDBOUT	102+86.53	17.00' RT.
22	ROUNDBOUT	102+83.08	17.00' RT.
23	HWY. 43	11+68.49	20.75' LT.
24	HWY. 43	12+65.00	17.00' LT.

ROUNDBOUT POINT TABLE (BOX 1 OF 4)			
POINT	ALIGNMENT	STATION	OFFSET
1	HWY. 43	7+83.00	17.00' RT.
2	HWY. 43	8+80.14	20.71' RT.
3	ROUNDBOUT	100+50.59	17.00' RT.
4	ROUNDBOUT	100+54.07	17.00' RT.
5	HWY. 12	62+10.58	16.51' RT.
6	HWY. 12	62+62.00	15.00' RT.

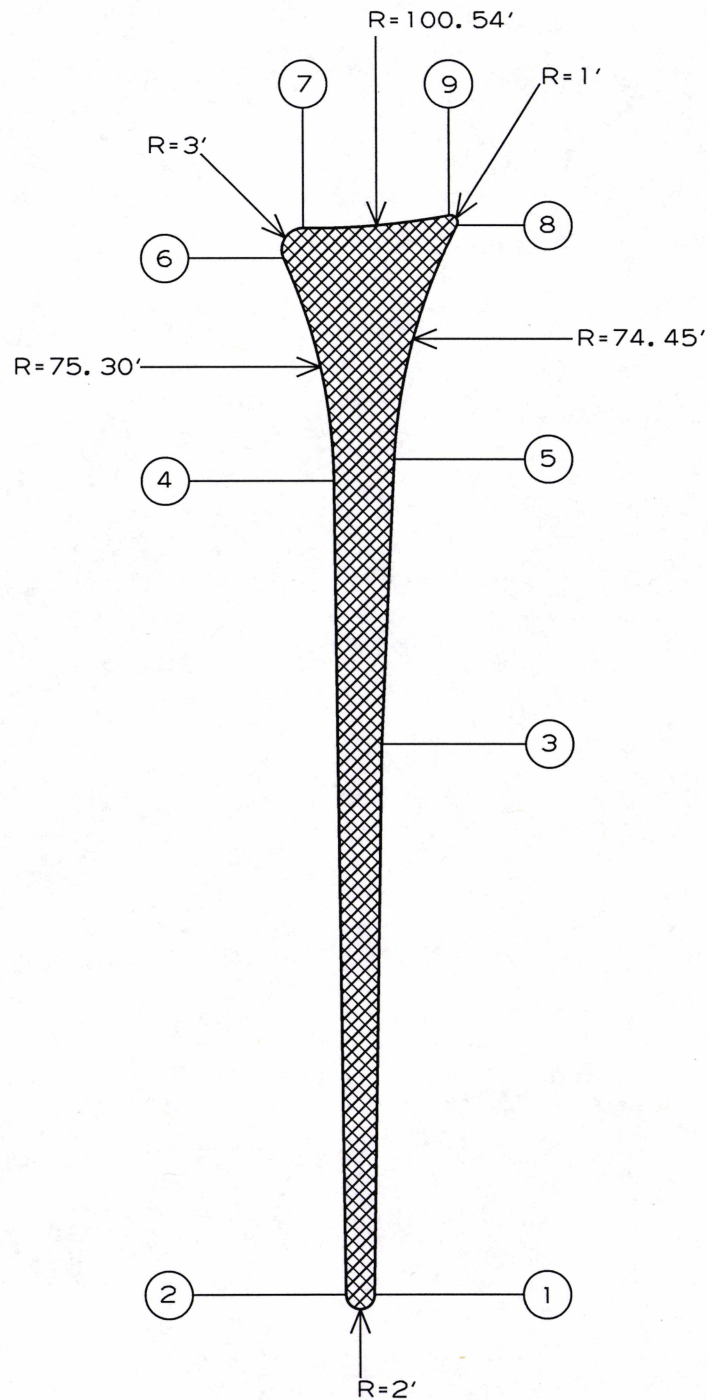
ROUNDBOUT POINT TABLE (BOX 2 OF 4)			
POINT	ALIGNMENT	STATION	OFFSET
7	HWY. 12	62+62.00	17.00' LT.
8	HWY. 12	61+66.09	20.73' LT.
9	ROUNDBOUT	101+66.73	17.00' RT.
10	ROUNDBOUT	101+70.41	17.00' RT.
11	HWY. 43	12+12.99	16.52' RT.
12	HWY. 43	12+65.00	15.00' RT.



ROUNDBOUT LAYOUT
SPECIAL DETAILS

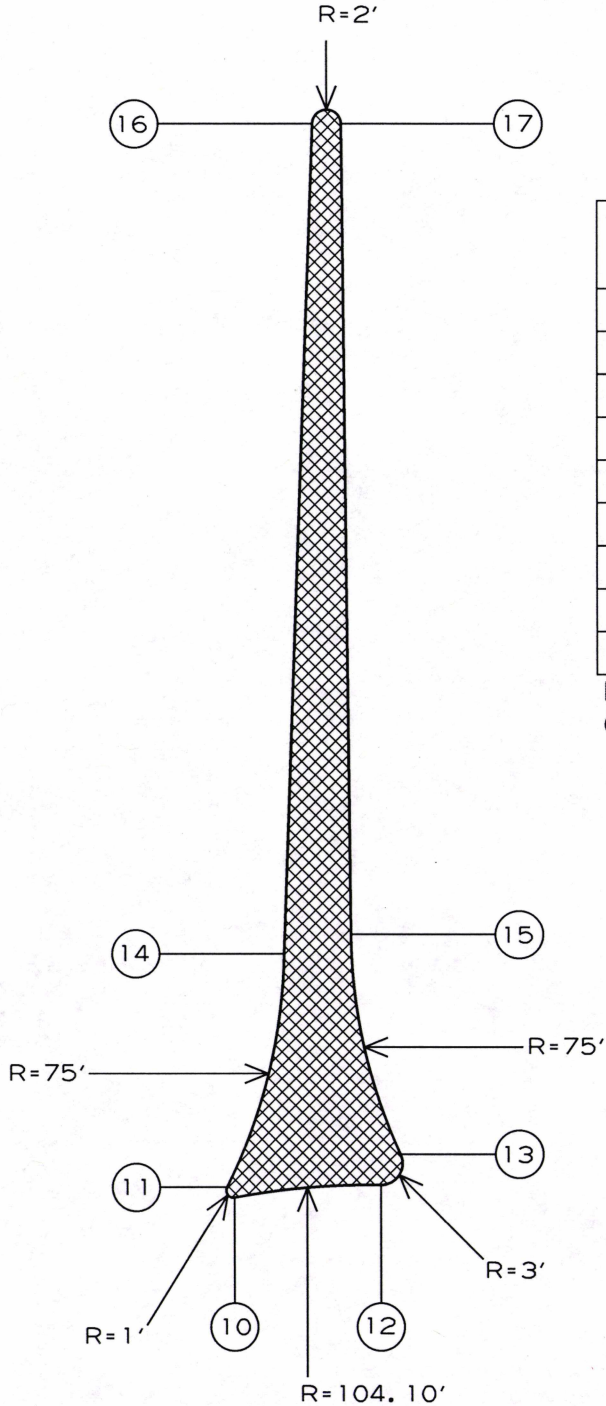
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2 SPECIAL DETAILS



HWY. 43 SPLITTER ISLAND POINT TABLE (BOX 1 OF 2)		
POINT	STATION	OFFSET
1	7+83.00	2.00' RT.
2	7+83.00	2.00' LT.
3	8+59.86	3.43' RT.
4	8+96.61	3.09' LT.
5	8+99.65	5.38' RT.
6	9+27.77	10.04' LT.
7	9+31.97	7.24' LT.
8	9+32.31	14.27' RT.
9	9+33.37	13.18' RT.

NOTE: SPLITTER ISLAND POINTS BASED
ON HWY. 43 ALIGNMENT



HWY. 43 SPLITTER ISLAND POINT TABLE (BOX 2 OF 2)		
POINT	STATION	OFFSET
10	11+15.02	13.30' LT.
11	11+16.45	14.38' LT.
12	11+16.77	7.21' RT.
13	11+21.03	9.98' RT.
14	11+49.03	6.23' LT.
15	11+51.72	3.09' RT.
16	12+65.00	2.00' LT.
17	12+65.00	2.00' RT.

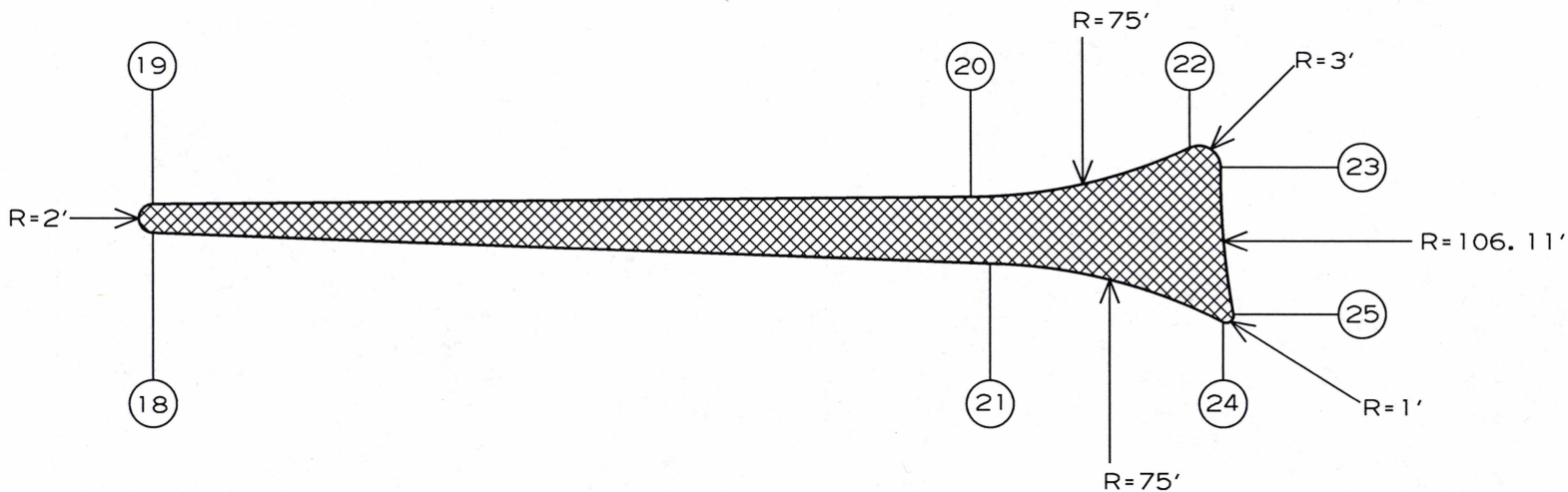
NOTE: SPLITTER ISLAND POINTS BASED
ON HWY. 43 ALIGNMENT

SPLITTER ISLAND DETAIL
HWY. 43
STA. 7+81.00 - STA. 9+33.37

SPLITTER ISLAND DETAIL
HWY. 43
STA. 11+15.02 - STA. 12+67.00

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2 SPECIAL DETAILS



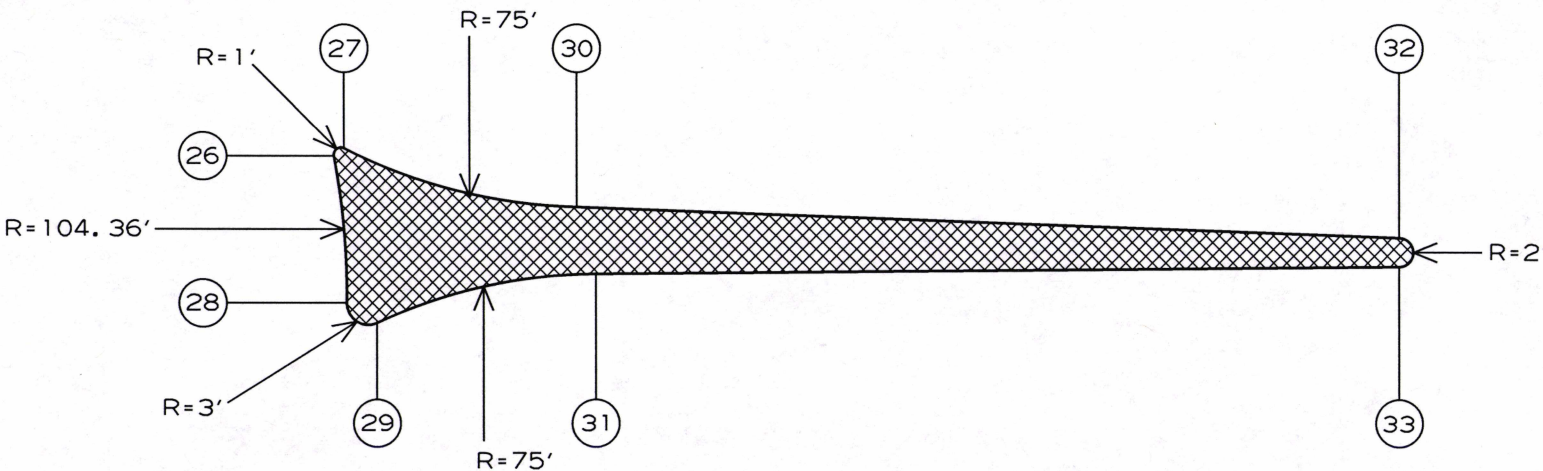
SPLITTER ISLAND DETAIL
HWY. 12
STA. 57+78.00 - STA. 59+29.58

HWY. 12 SPLITTER ISLAND POINT TABLE		
POINT	STATION	OFFSET
18	57+80.00	2.00' RT.
19	57+80.00	2.00' LT.
20	58+94.61	3.10' LT.
21	58+97.30	6.26' RT.
22	59+25.33	10.01' LT.
23	59+29.58	7.25' LT.
24	59+29.92	14.42' RT.
25	59+31.35	13.35' RT.

NOTE: SPLITTER ISLAND POINTS BASED ON
HWY. 12 ALIGNMENT

HWY. 12 SPLITTER ISLAND POINT TABLE		
POINT	STATION	OFFSET
26	61+12.57	13.31' LT.
27	61+14.01	14.39' LT.
28	61+14.37	7.21' RT.
29	61+18.63	9.97' RT.
30	61+46.63	6.22' LT.
31	61+49.31	3.08' RT.
32	62+62.00	2.00' LT.
33	62+62.00	2.00' RT.

NOTE: SPLITTER ISLAND POINTS BASED ON
HWY. 12 ALIGNMENT

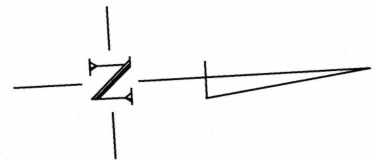
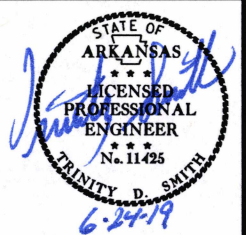


SPLITTER ISLAND DETAIL
HWY. 12
STA. 61+12.57 - STA. 62+64.00

REVISIONS	
DATE OF REVISION	REVISIONS

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				6	ARK.			
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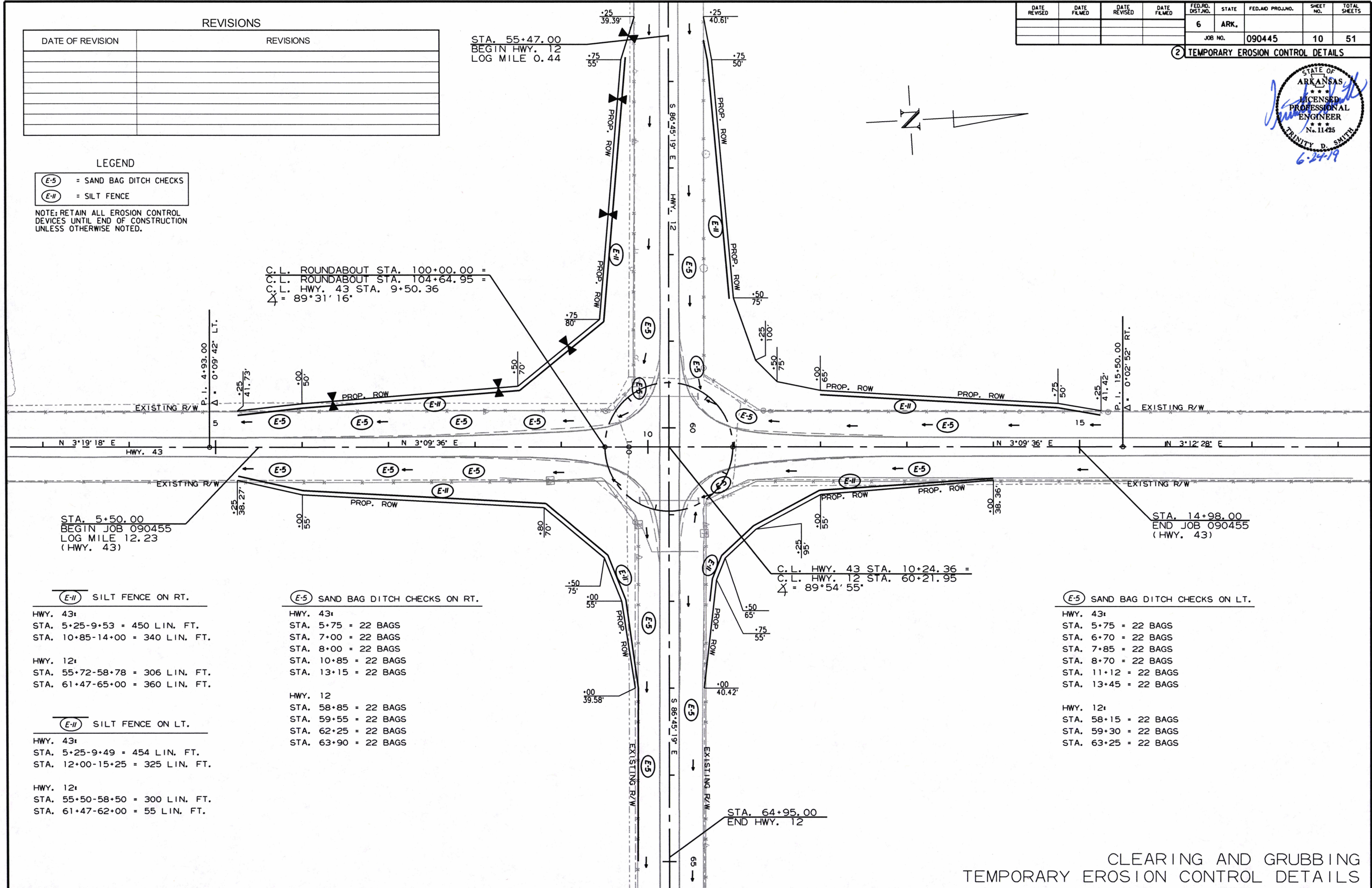
② TEMPORARY EROSION CONTROL DETAILS



LEGEND

(E-5) = SAND BAG DITCH CHECKS
 (E-II) = SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.



(E-II) SILT FENCE ON RT.

HWY. 43:

STA. 5+25-9+53 = 450 LIN. FT.

STA. 10+85-14+00 = 340 LIN. FT.

HWY. 12:

STA. 55+72-58+78 = 306 LIN. FT.

STA. 61+47-65+00 = 360 LIN. FT.

(E-II) SILT FENCE ON LT.

HWY. 43:

STA. 5+25-9+49 = 454 LIN. FT.

STA. 12+00-15+25 = 325 LIN. FT.

HWY. 12:

STA. 55+50-58+50 = 300 LIN. FT.

STA. 61+47-62+00 = 55 LIN. FT.

(E-5) SAND BAG DITCH CHECKS ON RT.

HWY. 43:

STA. 5+75 = 22 BAGS

STA. 7+00 = 22 BAGS

STA. 8+00 = 22 BAGS

STA. 10+85 = 22 BAGS

STA. 13+15 = 22 BAGS

HWY. 12:

STA. 58+85 = 22 BAGS

STA. 59+55 = 22 BAGS

STA. 62+25 = 22 BAGS

STA. 63+90 = 22 BAGS

(E-5) SAND BAG DITCH CHECKS ON LT.

HWY. 43:

STA. 5+75 = 22 BAGS

STA. 6+70 = 22 BAGS

STA. 7+85 = 22 BAGS

STA. 8+70 = 22 BAGS

STA. 11+12 = 22 BAGS

STA. 13+45 = 22 BAGS

HWY. 12:

STA. 58+15 = 22 BAGS

STA. 59+30 = 22 BAGS

STA. 63+25 = 22 BAGS

CLEARING AND GRUBBING
 TEMPORARY EROSION CONTROL DETAILS

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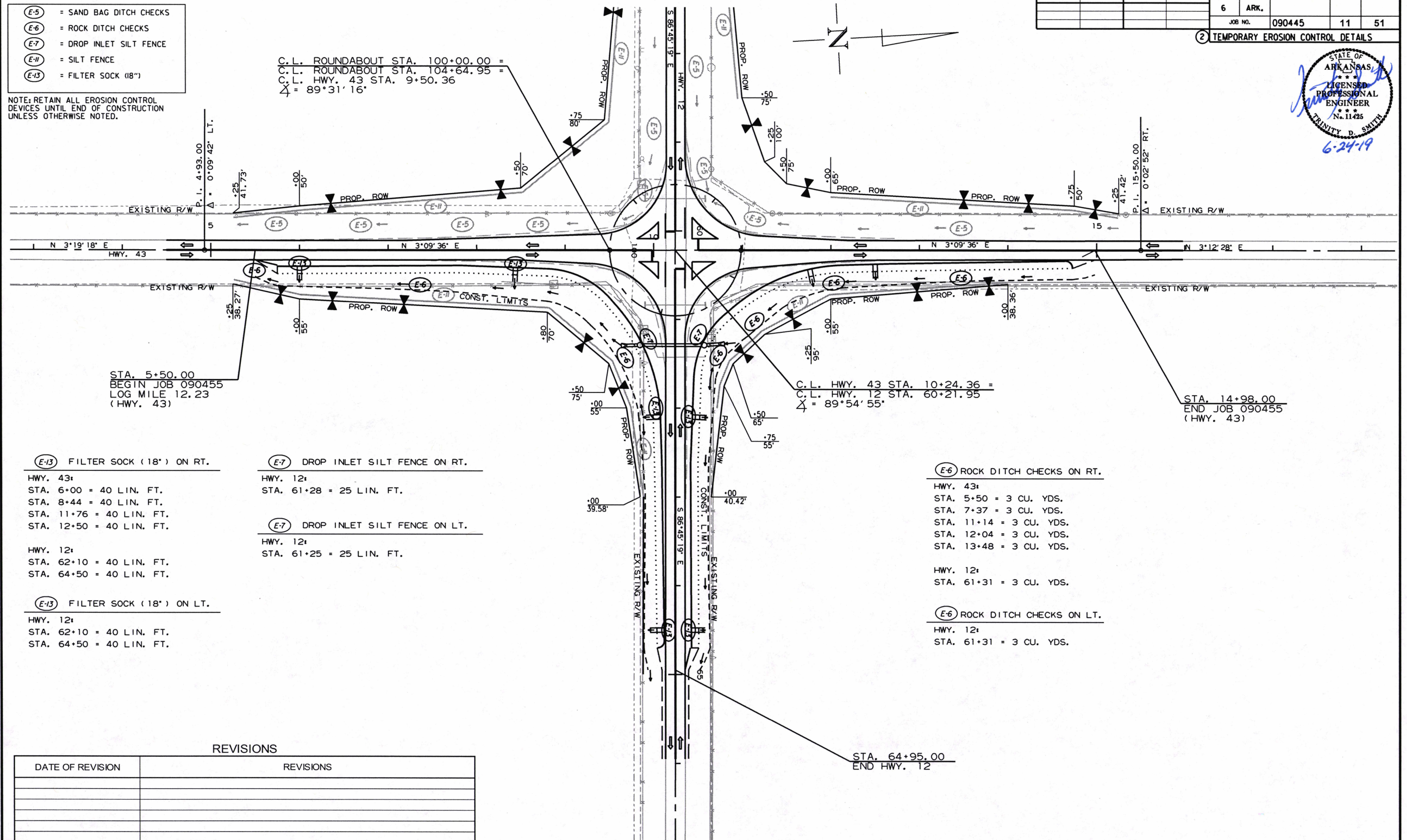
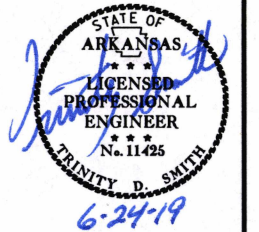
LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (18")

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

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				6	ARK.		11	51

2 TEMPORARY EROSION CONTROL DETAILS



(E-13) FILTER SOCK (18") ON RT.

HWY. 43:
STA. 6+00 = 40 LIN. FT.
STA. 8+44 = 40 LIN. FT.
STA. 11+76 = 40 LIN. FT.
STA. 12+50 = 40 LIN. FT.

HWY. 12:
STA. 62+10 = 40 LIN. FT.
STA. 64+50 = 40 LIN. FT.

(E-13) FILTER SOCK (18") ON LT.

HWY. 12:
STA. 62+10 = 40 LIN. FT.
STA. 64+50 = 40 LIN. FT.

(E-7) DROP INLET SILT FENCE ON RT.

HWY. 12:
STA. 61+28 = 25 LIN. FT.

(E-7) DROP INLET SILT FENCE ON LT.

HWY. 12:
STA. 61+25 = 25 LIN. FT.

(E-6) ROCK DITCH CHECKS ON RT.

HWY. 43:
STA. 5+50 = 3 CU. YDS.
STA. 7+37 = 3 CU. YDS.
STA. 11+14 = 3 CU. YDS.
STA. 12+04 = 3 CU. YDS.
STA. 13+48 = 3 CU. YDS.

HWY. 12:
STA. 61+31 = 3 CU. YDS.

(E-6) ROCK DITCH CHECKS ON LT.

HWY. 12:
STA. 61+31 = 3 CU. YDS.

REVISIONS

DATE OF REVISION	REVISIONS

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STAGE 1A & B
TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISIONS

LEGEND

- (E-6) = ROCK DITCH CHECKS
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (18")

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

(E-13) FILTER SOCK (18") ON LT.

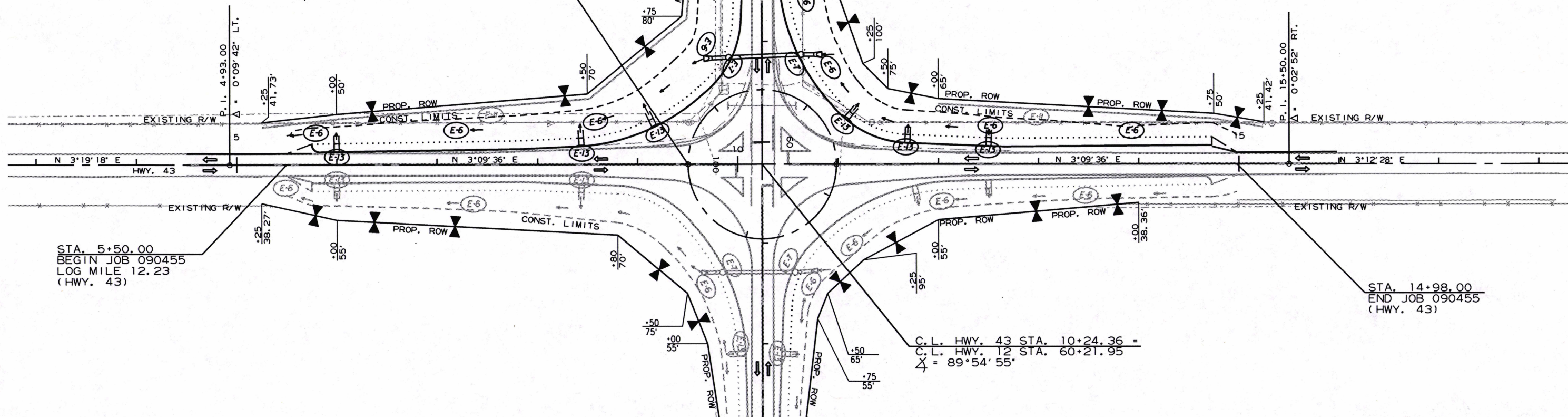
HWY. 43:
STA. 6+00 = 40 LIN. FT.
STA. 8+44 = 40 LIN. FT.
STA. 9+17 = 40 LIN. FT.
STA. 11+08 = 40 LIN. FT.
STA. 11+69 = 40 LIN. FT.
STA. 12+50 = 40 LIN. FT.

HWY. 12:
STA. 56+00 = 40 LIN. FT.

(E-13) FILTER SOCK (18") ON RT.

HWY. 12:
STA. 56+00 = 40 LIN. FT.

C.L. ROUNDABOUT STA. 100+00.00 =
C.L. ROUNDABOUT STA. 104+64.95 =
C.L. HWY. 43 STA. 9+50.36
 $\Delta = 89^{\circ}31'16"$



(E-7) DROP INLET SILT FENCE ON RT.

HWY. 12:
STA. 59+17 = 25 LIN. FT.

(E-7) DROP INLET SILT FENCE ON LT.

HWY. 12:
STA. 59+14 = 25 LIN. FT.

(E-6) ROCK DITCH CHECKS ON LT.

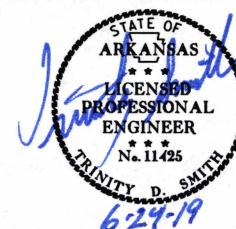
HWY. 43:
STA. 5+80 = 3 CU. YDS.
STA. 7+20 = 3 CU. YDS.
STA. 8+59 = 3 CU. YDS.
STA. 12+54 = 3 CU. YDS.
STA. 13+94 = 3 CU. YDS.

HWY. 12:
STA. 56+50 = 3 CU. YDS.
STA. 57+53 = 3 CU. YDS.
STA. 58+57 = 3 CU. YDS.

(E-6) ROCK DITCH CHECKS ON RT.

HWY. 12:
STA. 56+37 = 3 CU. YDS.
STA. 57+28 = 3 CU. YDS.
STA. 58+18 = 3 CU. YDS.
STA. 59+09 = 3 CU. YDS.
STA. 59+14 = 3 CU. YDS.

2 TEMPORARY EROSION CONTROL DETAILS



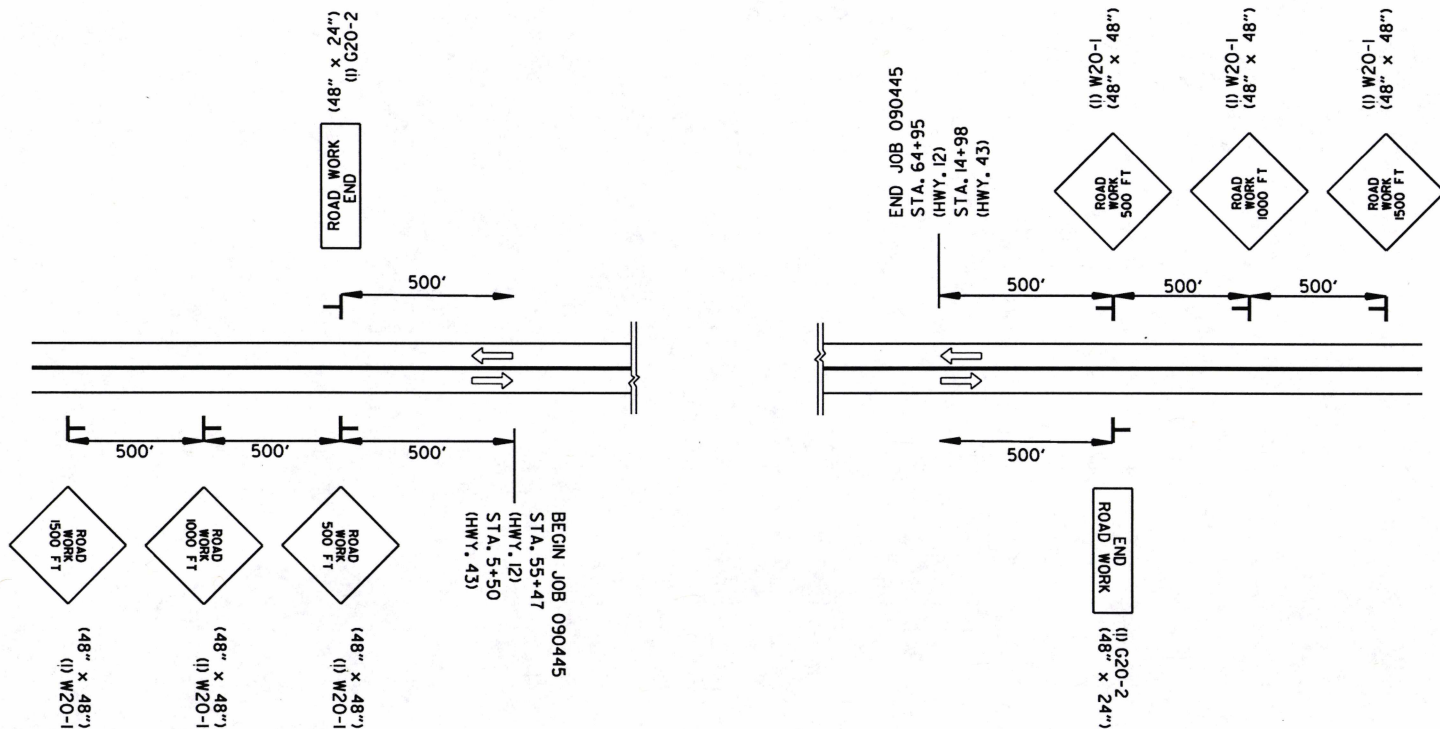
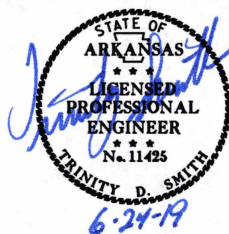
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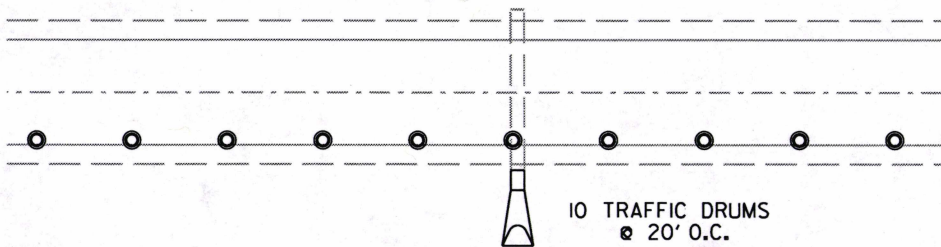
STAGE 2A & B
TEMPORARY EROSION CONTROL DETAILS

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2 MAINTENANCE OF TRAFFIC DETAILS



ADVANCE WARNING HWY. 12 AND HWY. 43 (ALL STAGES)



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

CONSTRUCTION SEQUENCE

STAGE 1A & B:

INSTALL ADVANCE WARNING SIGNS AT THE LOCATIONS LISTED ON THE ADVANCED WARNING DETAILS. INSTALL END ROAD WORK SIGNS AT THE END OF THE JOB AS SHOWN ON THE ADVANCE WARNING DETAILS.

INSTALL CONSTRUCTION PAVEMENT MARKINGS AND TRAFFIC DRUMS AS SHOWN IN THE STAGE 1A & B MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT DRAINAGE STRUCTURES AS SHOWN IN THE STAGE 1A & B MAINTENANCE OF TRAFFIC DETAILS.

STAGE 1A: CONSTRUCT RT. OF HWY. 43 FROM STA. 4+50 TO STA. 10+24 AND CONSTRUCT RT. OF HWY. 12 FROM STA. 60+35 TO STA. 65+95 AS SHOWN IN THE STAGE 1A & B MAINTENANCE OF TRAFFIC DETAILS.

STAGE 1B: CONSTRUCT RT. OF HWY. 43 FROM STA. 10+24 TO STA. 15+98 AND CONSTRUCT LT. OF HWY. 12 FROM STA. 60+35 TO STA. 65+95 AS SHOWN IN THE STAGE 1A & B MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2A & B:

INSTALL TRAFFIC DRUMS AS SHOWN IN THE STAGE 2A & B MAINTENANCE OF TRAFFIC DETAILS.

MAINTAIN CONSTRUCTION PAVEMENT MARKINGS INSTALLED IN STAGE 1A & B MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT DRAINAGE STRUCTURES AS SHOWN IN THE STAGE 2A & B MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2A: CONSTRUCT LT. OF HWY. 43 FROM STA. 4+50 TO STA. 10+24 AND CONSTRUCT RT. OF HWY. 12 FROM STA. 54+47 TO STA. 60+08 AS SHOWN IN THE STAGE 2A & B MAINTENANCE OF TRAFFIC DETAILS.

STAGE 2B: CONSTRUCT LT. OF HWY. 43 FROM STA. 10+24 TO STA. 15+98 AND CONSTRUCT LT. OF HWY. 12 FROM STA. 54+47 TO STA. 60+08 AS SHOWN IN THE STAGE 2A & B MAINTENANCE OF TRAFFIC DETAILS.

STAGE 3:

INSTALL CONSTRUCTION PAVEMENT MARKINGS AND TRAFFIC DRUMS AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

SHIFT TRAFFIC AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT FINAL PORTIONS OF ROUNDABOUT FROM STA. 100+00 TO STA. 104+64.96, AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

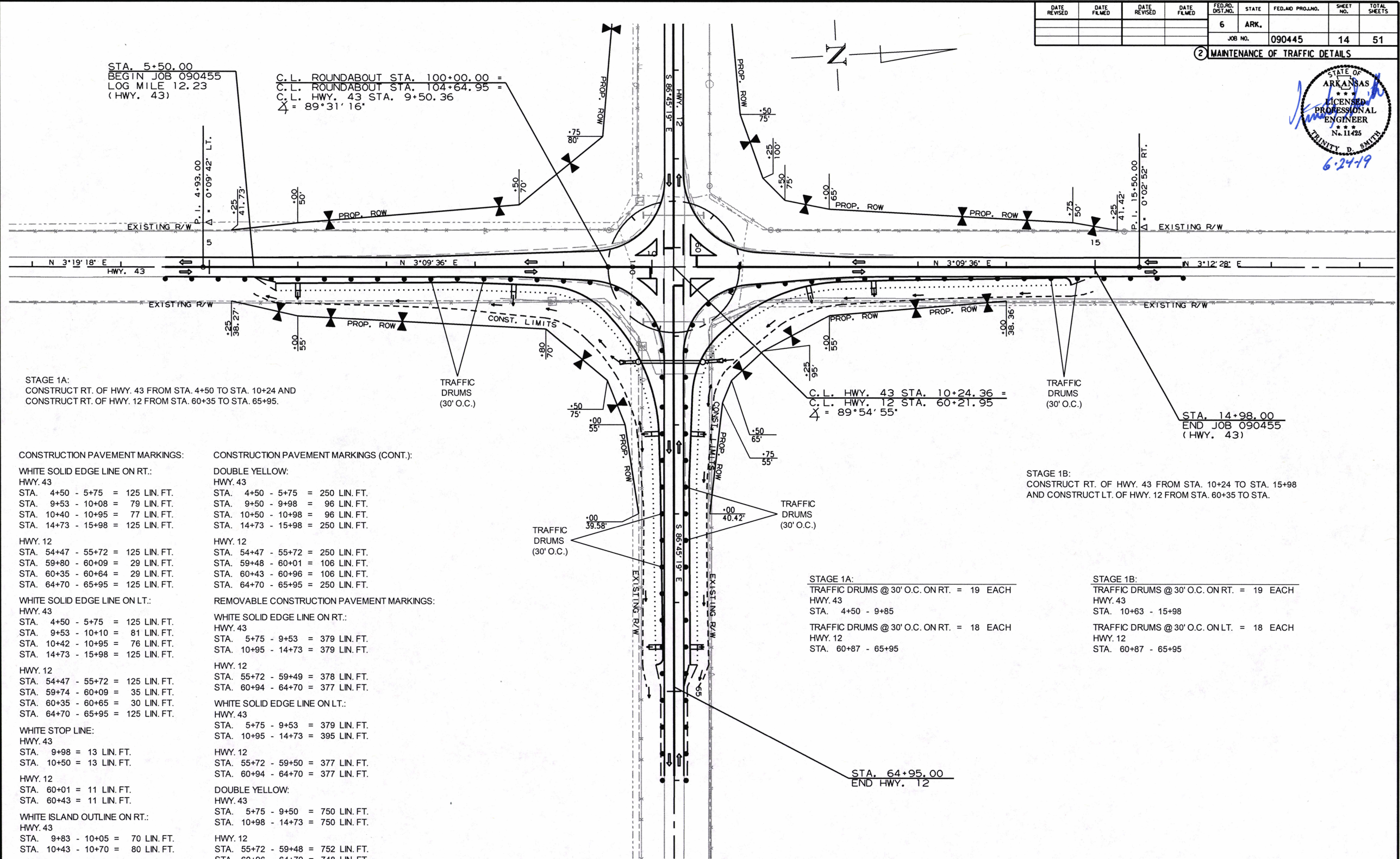
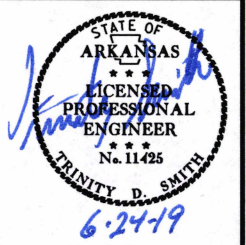
CONSTRUCT SPLITTER ISLANDS ON HWY. 43 FROM STA. 7+81 TO STA. 9+34 AND STA. 11+15 TO STA. 12+67 AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT SPLITTER ISLANDS ON HWY. 12 FROM STA. 57+78 TO STA. 59+31 AND STA. 61+12 TO STA. 62+64 AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

APPLY FINAL 2" LIFT OF ACHM AND PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

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② MAINTENANCE OF TRAFFIC DETAILS



STAGE 1A:
CONSTRUCT RT. OF HWY. 43 FROM STA. 4+50 TO STA. 10+24 AND
CONSTRUCT RT. OF HWY. 12 FROM STA. 60+35 TO STA. 65+95.

CONSTRUCTION PAVEMENT MARKINGS:

WHITE SOLID EDGE LINE ON RT.:
HWY. 43
STA. 4+50 - 5+75 = 125 LIN. FT.
STA. 9+53 - 10+08 = 79 LIN. FT.
STA. 10+40 - 10+95 = 77 LIN. FT.
STA. 14+73 - 15+98 = 125 LIN. FT.

HWY. 12
STA. 54+47 - 55+72 = 125 LIN. FT.
STA. 59+80 - 60+09 = 29 LIN. FT.
STA. 60+35 - 60+64 = 29 LIN. FT.
STA. 64+70 - 65+95 = 125 LIN. FT.

WHITE SOLID EDGE LINE ON LT.:
HWY. 43
STA. 4+50 - 5+75 = 125 LIN. FT.
STA. 9+53 - 10+10 = 81 LIN. FT.
STA. 10+42 - 10+95 = 76 LIN. FT.
STA. 14+73 - 15+98 = 125 LIN. FT.

HWY. 12
STA. 54+47 - 55+72 = 125 LIN. FT.
STA. 59+74 - 60+09 = 35 LIN. FT.
STA. 60+35 - 60+65 = 30 LIN. FT.
STA. 64+70 - 65+95 = 125 LIN. FT.

WHITE STOP LINE:
HWY. 43
STA. 9+98 = 13 LIN. FT.
STA. 10+50 = 13 LIN. FT.

HWY. 12
STA. 60+01 = 11 LIN. FT.
STA. 60+43 = 11 LIN. FT.

WHITE ISLAND OUTLINE ON RT.:
HWY. 43
STA. 9+83 - 10+05 = 70 LIN. FT.
STA. 10+43 - 10+70 = 80 LIN. FT.

WHITE ISLAND OUTLINE ON LT.:
HWY. 43
STA. 9+81 - 10+05 = 74 LIN. FT.
STA. 10+43 - 10+72 = 91 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (CONT.):

DOUBLE YELLOW:
HWY. 43
STA. 4+50 - 5+75 = 250 LIN. FT.
STA. 9+50 - 9+98 = 96 LIN. FT.
STA. 10+50 - 10+98 = 96 LIN. FT.
STA. 14+73 - 15+98 = 250 LIN. FT.

HWY. 12
STA. 54+47 - 55+72 = 250 LIN. FT.
STA. 59+48 - 60+01 = 106 LIN. FT.
STA. 60+43 - 60+96 = 106 LIN. FT.
STA. 64+70 - 65+95 = 250 LIN. FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS:

WHITE SOLID EDGE LINE ON RT.:
HWY. 43
STA. 5+75 - 9+53 = 379 LIN. FT.
STA. 10+95 - 14+73 = 379 LIN. FT.

HWY. 12
STA. 55+72 - 59+49 = 378 LIN. FT.
STA. 60+94 - 64+70 = 377 LIN. FT.

WHITE SOLID EDGE LINE ON LT.:
HWY. 43
STA. 5+75 - 9+53 = 379 LIN. FT.
STA. 10+95 - 14+73 = 395 LIN. FT.

HWY. 12
STA. 55+72 - 59+50 = 377 LIN. FT.
STA. 60+94 - 64+70 = 377 LIN. FT.

DOUBLE YELLOW:
HWY. 43
STA. 5+75 - 9+50 = 750 LIN. FT.
STA. 10+98 - 14+73 = 750 LIN. FT.

HWY. 12
STA. 55+72 - 59+48 = 752 LIN. FT.
STA. 60+96 - 64+70 = 748 LIN. FT.

STAGE 1B:
CONSTRUCT RT. OF HWY. 43 FROM STA. 10+24 TO STA. 15+98
AND CONSTRUCT LT. OF HWY. 12 FROM STA. 60+35 TO STA.

STAGE 1B:
TRAFFIC DRUMS @ 30' O.C. ON RT. = 19 EACH
HWY. 43
STA. 10+63 - 15+98
TRAFFIC DRUMS @ 30' O.C. ON LT. = 18 EACH
HWY. 12
STA. 60+87 - 65+95

STAGE 1A:
TRAFFIC DRUMS @ 30' O.C. ON RT. = 19 EACH
HWY. 43
STA. 4+50 - 9+85
TRAFFIC DRUMS @ 30' O.C. ON RT. = 18 EACH
HWY. 12
STA. 60+87 - 65+95

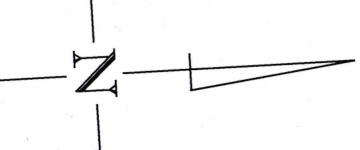
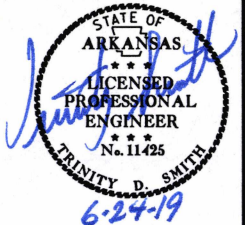
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STAGE 1A & B
MAINTENANCE OF TRAFFIC DETAILS

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② MAINTENANCE OF TRAFFIC DETAILS



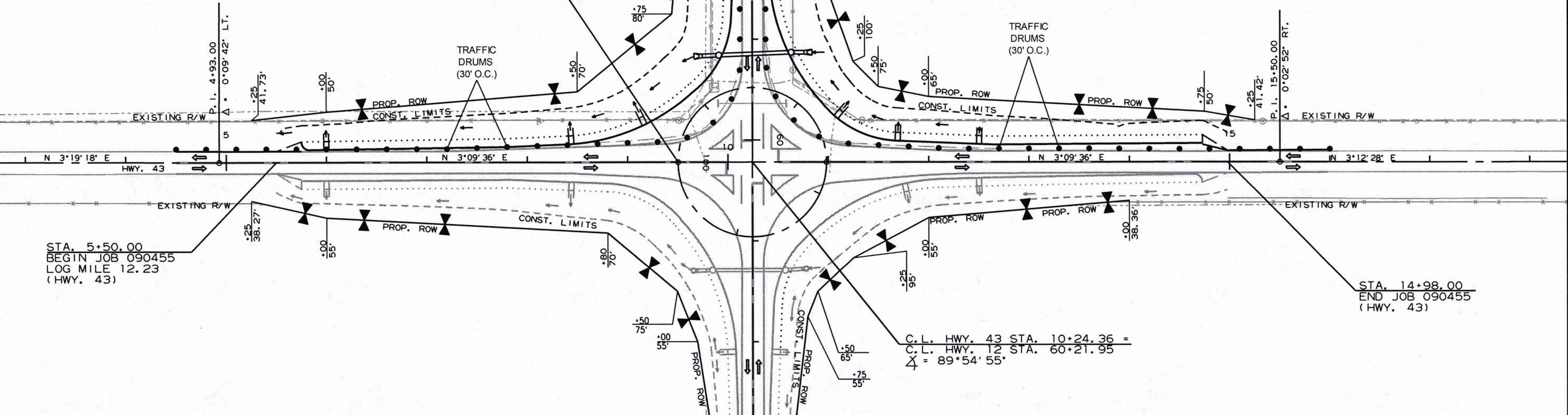
STAGE 2A:
CONSTRUCT LT. OF HWY. 43 FROM STA. 4+50 TO STA. 10+24 AND
CONSTRUCT RT. OF HWY. 12 FROM STA. 54+47 TO STA. 60+08.

STAGE 2A:
TRAFFIC DRUMS @ 30' O.C. ON LT. = 38 EACH
HWY. 43
STA. 4+50 - 9+85
TRAFFIC DRUMS @ 30' O.C. ON RT. = 18 EACH
HWY. 12
STA. 54+47 - 59+60

STAGE 2B:
CONSTRUCT LT. OF HWY. 43 FROM STA. 10+24 TO STA. 15+98 AND
CONSTRUCT LT. OF HWY. 12 FROM STA. 54+47 TO STA. 60+08.

STAGE 2A:
TRAFFIC DRUMS @ 30' O.C. ON LT. = 38 EACH
HWY. 43
STA. 10+66 - 15+98
TRAFFIC DRUMS @ 30' O.C. ON LT. = 18 EACH
HWY. 12
STA. 54+47 - 59+60

C.L. ROUNDABOUT STA. 100+00.00 =
C.L. ROUNDABOUT STA. 104+64.95 =
C.L. HWY. 43 STA. 9+50.36
 $\Delta = 89^{\circ}31'16''$



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STAGE 2A & B
MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION PAVEMENT MARKINGS:

WHITE SOLID EDGE LINE ON RT.:
 HWY. 43
 STA. 5+75 - 7+83 = 208 LIN. FT.
 HWY. 12
 STA. 55+72 - 57+80 = 208 LIN. FT.
 ROUNDABOUT
 STA. 100+00 - 100+17 = 27 LIN. FT.
 STA. 100+92 - 101+33 = 75 LIN. FT.
 STA. 102+08 - 102+50 = 75 LIN. FT.
 STA. 103+24 - 103+66 = 75 LIN. FT.
 STA. 104+40 - 104+64 = 48 LIN. FT.

WHITE SOLID EDGE LINE ON LT.:
 HWY. 43
 STA. 12+65 - 14+73 = 208 LIN. FT.

HWY. 12
 STA. 62+62 - 64+70 = 208 LIN. FT.

WHITE DOTTED LINE (2' STRIPE, 6' GAP) ON RT.:
 ROUNDABOUT
 STA. 100+17 - 100+51 = 10 LIN. FT.
 STA. 101+33 - 101+67 = 10 LIN. FT.
 STA. 102+50 - 102+83 = 10 LIN. FT.
 STA. 103+66 - 103+99 = 10 LIN. FT.

YIELD LINE ON RT.:
 HWY. 43
 STA. 9+32 = 16 LIN. FT.

HWY. 12
 STA. 59+29 = 16 LIN. FT.

YIELD LINE ON RT.:
 HWY. 43
 STA. 11+16 = 16 LIN. FT.

HWY. 12
 STA. 61+14 = 16 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS (CONT.):

DOUBLE YELLOW:
 HWY. 43
 STA. 5+75 - 7+81 = 824 LIN. FT. (2 DBL. YELLOWS)
 STA. 12+67 - 14+73 = 824 LIN. FT. (2 DBL. YELLOWS)
 HWY. 12
 STA. 55+72 - 57+78 = 824 LIN. FT. (2 DBL. YELLOWS)
 STA. 62+64 - 64+70 = 824 LIN. FT. (2 DBL. YELLOWS)
 YELLOW SOLID EDGE LINE ON RT. OF SPLITTER ISLAND:
 HWY. 43
 STA. 7+81 - 9+31 = 152 LIN. FT.
 STA. 11+26 - 12+67 = 143 LIN. FT.

HWY. 12
 STA. 57+78 - 59+29 = 152 LIN. FT.
 STA. 61+24 - 62+64 = 143 LIN. FT.

YELLOW SOLID EDGE LINE ON LT. OF SPLITTER ISLAND:
 HWY. 43
 STA. 7+81 - 9+23 = 144 LIN. FT.
 STA. 11+18 - 12+67 = 152 LIN. FT.

HWY. 12
 STA. 57+78 - 59+20 = 144 LIN. FT.
 STA. 61+15 - 62+64 = 150 LIN. FT.

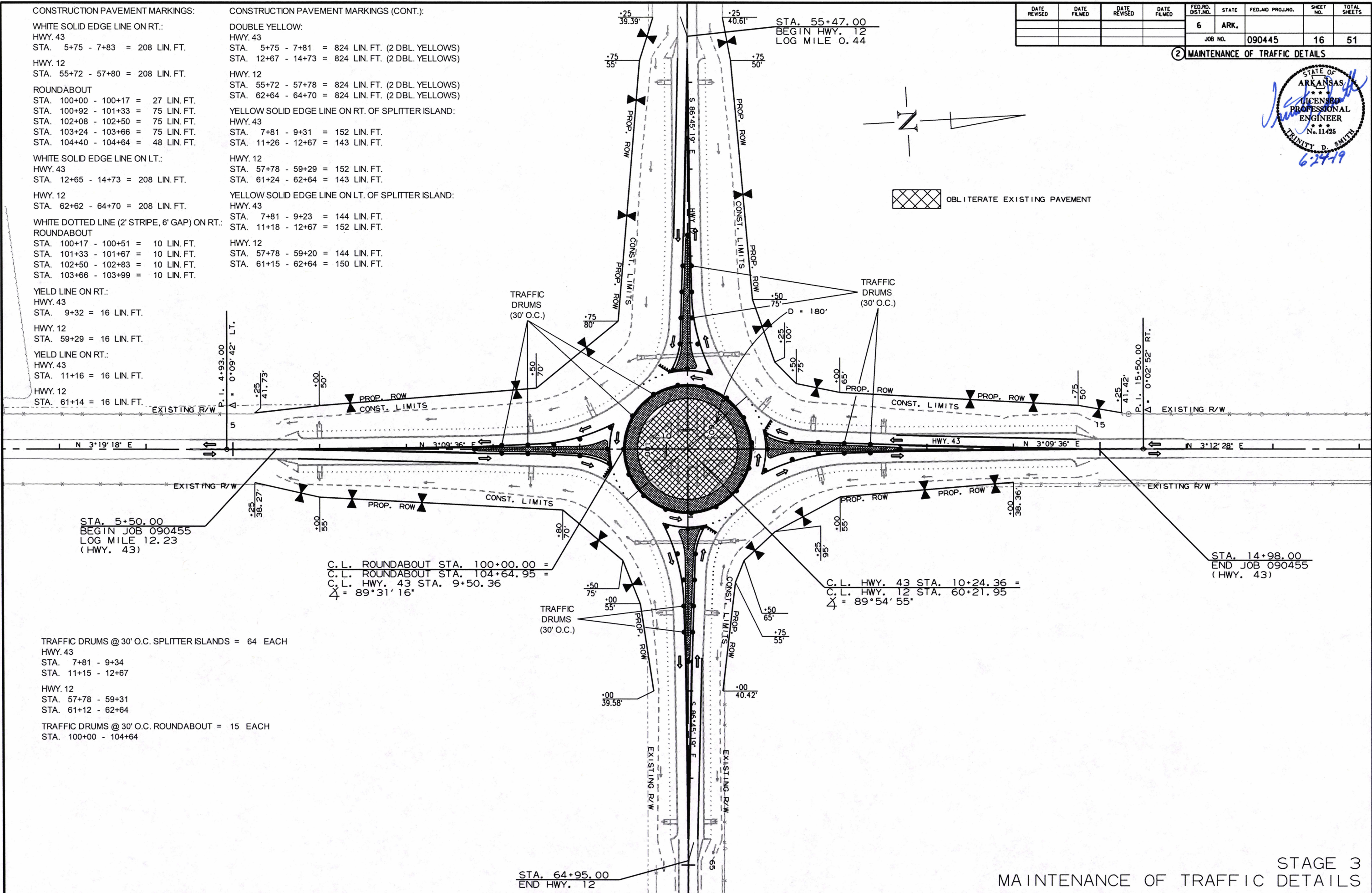
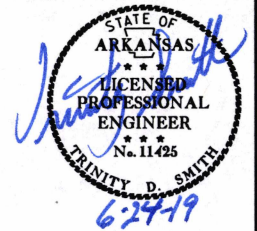
TRAFFIC DRUMS @ 30' O.C. SPLITTER ISLANDS = 64 EACH
 HWY. 43
 STA. 7+81 - 9+34
 STA. 11+15 - 12+67

HWY. 12
 STA. 57+78 - 59+31
 STA. 61+12 - 62+64

TRAFFIC DRUMS @ 30' O.C. ROUNDABOUT = 15 EACH
 STA. 100+00 - 104+64

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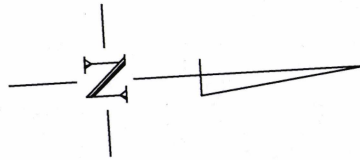
② MAINTENANCE OF TRAFFIC DETAILS



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2 PERMANENT PAVEMENT MARKING DETAILS

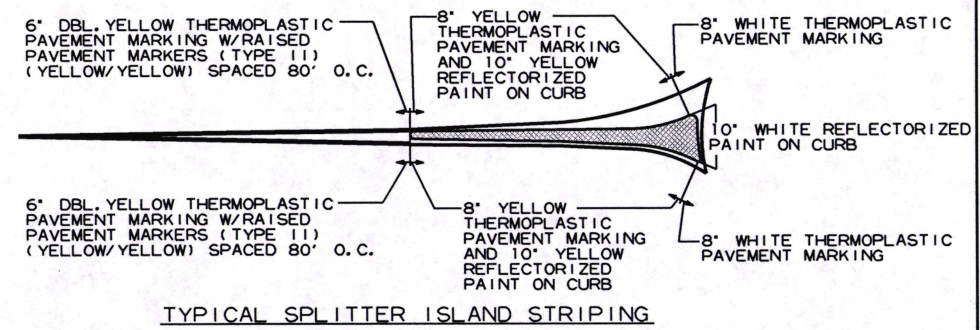
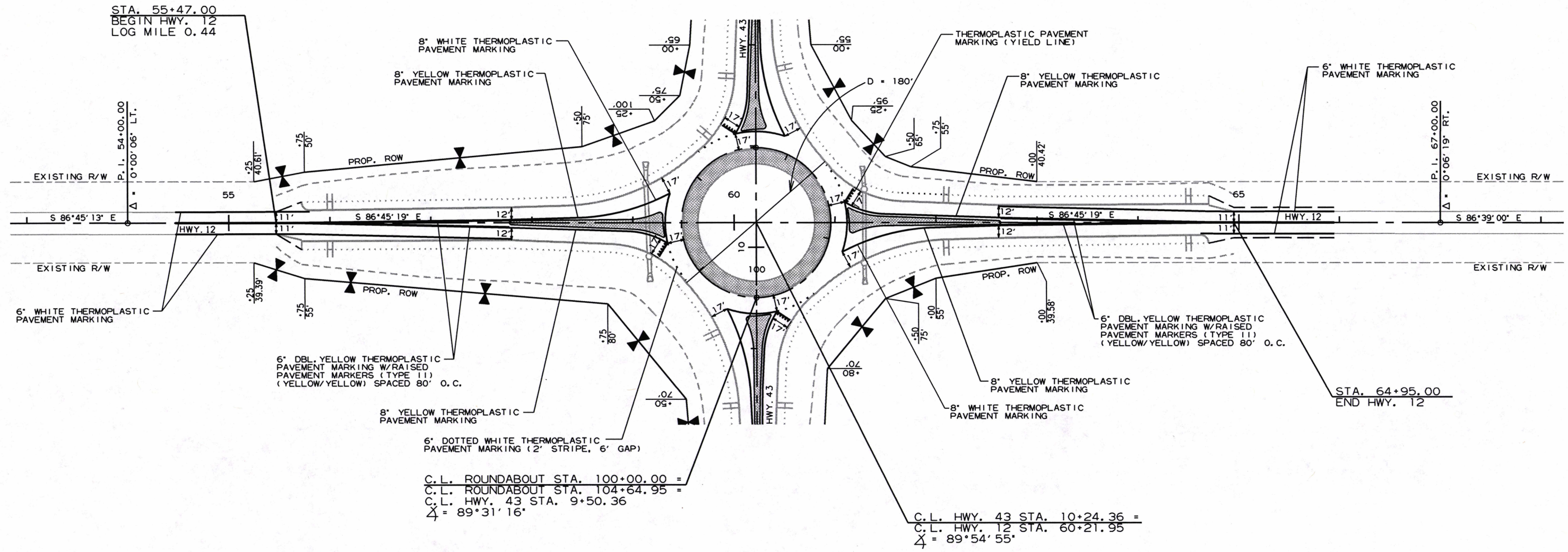
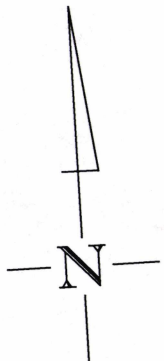
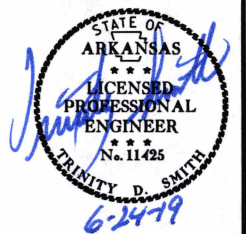


PERMANENT PAVEMENT MARKING DETAILS

R090445.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. 090445	18	51

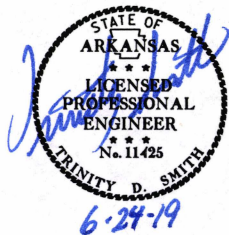
2 PERMANENT PAVEMENT MARKING DETAILS



5/7/2019
R090445.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.	090445	19 51

2 QUANTITIES



ADVANCE WARNING SIGNS AND DEVICES										
SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1A & B	STAGE 2A & B	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS
			LIN. FT. - EACH				NO.	SQ. FT.	EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	4	64.0		
W20-1	ROAD WORK 1000 FT.	48"x48"	4	4	4	4	4	64.0		
W20-1	ROAD WORK 500 FT.	48"x48"	4	4	4	4	4	64.0		
G20-2	END ROAD WORK	48"x24"	4	4	4	4	4	32.0		
R4-1	DO NOT PASS	24"x30"	4	4	4	4	4	20.0		
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	4	4	4	4	4	36.0		
W8-1	BUMP	30"x30"	4	4	4	4	4	25.0		
	VERTICAL PANELS		74	74		74			74	
	TRAFFIC DRUMS		74	74	79	79				79
TOTALS:										
								305.0	74	79

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS													
DESCRIPTION	STAGE 1A & B	STAGE 3	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING					REFLECTORIZED PAINT PAVEMENT MARKING	
						TYPE II (YELLOW/YELLOW) EACH	6"		8"		YIELD LINE	10"	
							WHITE	YELLOW	WHITE	YELLOW		WHITE	YELLOW
CONSTRUCTION PAVEMENT MARKINGS	3203	5712		8915									
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	6041				6041								
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)			32			32							
THERMOPLASTIC PAVEMENT MARKING WHITE (6")			1902				1902						
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")			4294					4294					
THERMOPLASTIC PAVEMENT MARKING WHITE (8")			302						302				
THERMOPLASTIC PAVEMENT MARKING YELLOW (8")			1228							1228			
THERMOPLASTIC PAVEMENT MARKING (YELD LINE)			64								64		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")			116									116	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")			1209										1209
TOTALS:				8915	6041	32	1902	4294	302	1228	64	116	1209

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

EROSION CONTROL																	
STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	FILTER SOCK (18")	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	DROP INLET SILT FENCE	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-13) LIN. FT.	(E-5) BAG	(E-6) CU.YD.	(E-7) LIN. FT.	(E-11) LIN. FT.	(E-14) CU.YD.	CU.YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						3.97	3.97	81.0	320	396	21	50	2590		114
ENTIRE	PROJECT	STAGE 1 A & B	1.00	2.00	1.00	102.0	1.00	1.73	1.73	35.3							17
ENTIRE	PROJECT	STAGE 2 A & B	1.32	2.64	1.32	134.6	1.32	2.24	2.24	45.7	320		39	50			23
ENTIRE	PROJECT	STAGE 3	0.24	0.48	0.24	24.5	0.24	0.24	0.24	4.9							
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.60	1.20	0.60	61.2	0.60	1.00	1.00	20.4	160	110	15	25	650	60	85
TOTALS:			3.16	6.32	3.16	322.3	3.16	9.18	9.18	187.3	800	506	75	125	3240	60	239

BASIS OF ESTIMATE:
LIME2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

QUANTITIES

6/20/2019

R090445.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.		090445	20	51

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
56+50	58+50	HWY. 12 ON LT.	2	2
TOTALS:			2	2

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
5+25	9+86	HWY. 43 ON RT.	475
5+25	9+86	HWY. 43 ON LT.	475
10+62	14+98	HWY. 43 ON LT.	440
10+62	14+00	HWY. 43 ON RT.	340
55+25	59+40	HWY. 12 ON LT.	415
55+25	59+40	HWY. 12 ON RT.	415
61+00	63+00	HWY. 12 ON LT.	200
61+00	63+00	HWY. 12 ON RT.	200
TOTAL:			2960

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
59+64	HWY. 12 - CROSS DRAIN	1
60+84	HWY. 12 - CROSS DRAIN	1
TOTAL:		2

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE
			(TYPE D-2) LIN. FT.
5+25	9+45	HWY. 43 ON LT.	448
55+25	58+75	HWY. 12 ON RT.	354
TOTAL:			802

PAVEMENT REPAIR OVER
CULVERTS (ASPHALT)

STATION	LOCATION	WIDTH	LENGTH	TON
		FEET		
59+14	HWY. 12	9.67	22	16
59+64	HWY. 12	8.50	46	29
60+84	HWY. 12	8.50	42	26
61+28	HWY. 12	9.08	22	15
TOTAL:				86

AVG. DEPTH = 12"

CONCRETE ISLAND

STATION	STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND SQ. YD.
7+81	9+33	HWY. 43	C	131
11+15	12+67	HWY. 43	C	142
57+78	59+31	HWY. 12	C	144
61+12	62+64	HWY. 12	C	142
TOTAL:				559

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			500	4
TOTALS:			500	4

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

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
5+50	9+47	HWY. 43 ON LT.	397.00	352.89
11+03	14+98	HWY. 43 ON RT.	395.00	351.11
11+68	14+98	HWY. 43 ON LT.	330.00	293.33
55+47	59+29	HWY. 12 ON RT.	382.00	339.56
55+47	59+47	HWY. 12 ON LT.	400.00	355.56
61+29	62+11	HWY. 12 ON RT.	82.00	72.89
61+13	61+66	HWY. 12 ON LT.	53.00	47.11
TOTAL:				1812.45

NOTE: AVERAGE WIDTH = 8'-0"

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
4+50	5+50	HWY. 43 - MAIN LANES	22.00	244.44
14+98	15+98	HWY. 43 - MAIN LANES	22.00	244.44
54+47	55+47	HWY. 12 - MAIN LANES	22.00	244.44
64+95	65+95	HWY. 12 - MAIN LANES	22.00	244.44
TOTAL:				977.76

NOTE: AVERAGE MILLING DEPTH 1".

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")	TYPE E-1 (2' 0")
			LIN. FT.	LIN. FT.
5+75	9+95	HWY. 43 ON RT.	374	
5+75	9+65	HWY. 43 ON LT.	386	
10+84	14+73	HWY. 43 ON RT.	394	
10+93	14+73	HWY. 43 ON LT.	373	
55+72	59+53	HWY. 12 ON RT.	390	
55+72	59+63	HWY. 12 ON LT.	375	
60+81	64+70	HWY. 12 ON RT.	376	
60+91	64+70	HWY. 12 ON LT.	388	
100+00	104+65	ROUNDABOUT		465
TOTALS:			3056	465

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	25
TOTAL:	25

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

ASPHALT CONCRETE PATCHING FOR
MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	10	20
TOTALS:	10	20

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

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU. YD.
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	20
TOTAL:	20

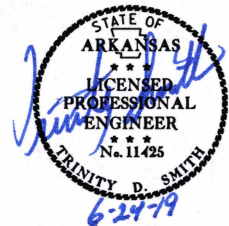
NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	STAGE 1-HWY. 43 MAIN LANES	640	940	
ENTIRE	PROJECT	STAGE 1-HWY. 12 MAIN LANES	422	743	
ENTIRE	PROJECT	STAGE 2-HWY. 43 MAIN LANES	1107	681	
ENTIRE	PROJECT	STAGE 2-HWY. 12 MAIN LANES	2114	731	
ENTIRE	PROJECT	STAGE 3-ROUNDABOUT	301	1643	
ENTIRE	PROJECT	PAVEMENT OBLITERATION	191		
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			100
TOTALS:			4775	4738	100

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

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



2 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.	090445	21	51

2 QUANTITIES



STRUCTURES														
STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT				FLARED END SECTIONS FOR R.C. PIPE CULVERTS		DROP INLETS				SOLID SODDING	WATER	STD. DWG. NOS.
		(CLASS III)		(CLASS V)				TYPE		EXT.				
		30"	36"	30"	36"			30"	36"	MO	SPECIAL			
		LIN. FT.				EACH		EACH				SQ.YD.	M.GAL.	
6+00	HWY. 43 - CONSTRUCT DROP INLET ON LT.								1	1		32	0.40	SPECIAL DETAILS
6+00	HWY. 43 - CONSTRUCT DROP INLET ON RT.								1	1		32	0.40	SPECIAL DETAILS
8+44	HWY. 43 - CONSTRUCT DROP INLET ON LT.								1	1		32	0.40	SPECIAL DETAILS
8+44	HWY. 43 - CONSTRUCT DROP INLET ON RT.								1	1		32	0.40	SPECIAL DETAILS
9+17	HWY. 43 - CONSTRUCT DROP INLET ON LT.								1			32	0.40	SPECIAL DETAILS
11+08	HWY. 43 - CONSTRUCT DROP INLET ON LT.								1			32	0.40	SPECIAL DETAILS
11+69	HWY. 43 - CONSTRUCT DROP INLET ON LT.								1	2		32	0.40	SPECIAL DETAILS
11+76	HWY. 43 - CONSTRUCT DROP INLET ON RT.								1	2		32	0.40	SPECIAL DETAILS
12+50	HWY. 43 - CONSTRUCT DROP INLET ON LT.								1			32	0.40	SPECIAL DETAILS
12+50	HWY. 43 - CONSTRUCT DROP INLET ON RT.								1			32	0.40	SPECIAL DETAILS
56+00	HWY. 12 - CONSTRUCT DROP INLET ON LT.								1			32	0.40	SPECIAL DETAILS
56+00	HWY. 12 - CONSTRUCT DROP INLET ON RT.								1			32	0.40	SPECIAL DETAILS
59+14	HWY. 12 - CONSTRUCT DROP INLET ON LT.		10		68		1	1			1	17	0.21	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
59+17	HWY. 12 - CONSTRUCT DROP INLET ON RT.		14				1	1			1	17	0.21	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
61+28	HWY. 12 - CONSTRUCT DROP INLET ON LT.	14		68		1		1				13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
61+28	HWY. 12 - CONSTRUCT DROP INLET ON RT.	12				1		1				13	0.16	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
62+10	HWY. 12 - CONSTRUCT DROP INLET ON LT.								1			32	0.40	SPECIAL DETAILS
62+10	HWY. 12 - CONSTRUCT DROP INLET ON RT.								1	1		32	0.40	SPECIAL DETAILS
64+50	HWY. 12 - CONSTRUCT DROP INLET ON LT.								1			32	0.40	SPECIAL DETAILS
64+50	HWY. 12 - CONSTRUCT DROP INLET ON RT.								1			32	0.40	SPECIAL DETAILS
TOTALS:		26	24	68	68	2	2	4	16	9	2	572	7.14	

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.

CONCRETE DITCH PAVING

STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING	SOLID SODDING	WATER
		LIN. FT.	FEET	(TYPE B)	SQ. YD.	M. GAL.
				SQ. YD.		
6+00	HWY. 43 ON LT.	9.56	4.00	4.25	4.25	0.05
6+00	HWY. 43 ON RT.	9.13	4.00	4.06	4.06	0.05
8+44	HWY. 43 ON LT.	12.79	4.00	5.68	5.68	0.07
8+44	HWY. 43 ON RT.	14.95	4.00	6.64	6.64	0.08
9+17	HWY. 43 ON LT.	16.15	4.00	7.18	7.18	0.09
11+08	HWY. 43 ON LT.	10.59	4.00	4.71	4.71	0.06
11+69	HWY. 43 ON LT.	8.71	4.00	3.87	3.87	0.05
11+76	HWY. 43 ON RT.	10.07	4.00	4.48	4.48	0.06
12+50	HWY. 43 ON LT.	6.76	4.00	3.00	3.00	0.04
12+50	HWY. 43 ON RT.	7.89	4.00	3.51	3.51	0.04
56+00	HWY. 12 ON LT.	8.59	4.00	3.82	3.82	0.05
56+00	HWY. 12 ON RT.	9.93	4.00	4.41	4.41	0.06
62+10	HWY. 12 ON LT.	7.45	4.00	3.31	3.31	0.04
62+10	HWY. 12 ON RT.	9.93	4.00	4.41	4.41	0.06
64+50	HWY. 12 ON LT.	5.42	4.00	2.41	2.41	0.03
64+50	HWY. 12 ON RT.	8.54	4.00	3.80	3.80	0.05
TOTALS:				69.54	69.54	0.88

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

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
7+00	36	16	32.40	94	34	25.20	18' RT.	0-5	30	15	A-6(7)	BROWN
7+00	36	16	32.40	94	34	25.30	6' RT.	0-5	30	15	A-6(8)	BROWN
13+00	36	16	38.40	94	34	25.30	6' LT.	0-3.5Z	23	9	A-4(2)	BROWN
13+00	36	16	38.40	94	34	25.40	18' LT.	0-4Z	40	21	A-6(8)	BROWN
58+00	36	16	35.60	94	34	27.90	18' RT.	0-4Z	35	17	A-6(10)	BROWN
58+00	36	16	35.50	94	34	27.90	21' RT.	0-4Z	39	22	A-6(20)	BROWN
58+00	36	16	35.60	94	34	28.00	6' RT.	0-4Z	41	24	A-7-6(17)	BROWN
63+00	36	16	35.60	94	34	22.00	6' LT.	0-5	28	11	A-6(5)	BROWN
63+00	36	16	35.70	94	34	22.00	18' LT.	0-5	23	6	A-4(2)	BROWN

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

Z- AUGER REFUSAL

PORTLAND CEMENT CONCRETE PAVEMENT

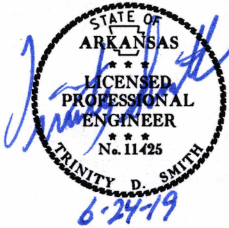
STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				ACHM SURFACE COURSE (3/8") 110 LBS. PER SQ. YD.			TACK COAT 0.05 GAL. PER SQ. YD.			PORTLAND CEMENT CONCRETE PAVEMENT	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	PG 64-22	AVG. WID.	SQ. YD.	GAL.	AVG. WID.	8" U.T.
				FEET	FEET	SQ. YD.	TON	TON	FEET	TON	FEET	FEET	FEET	FEET	SQ. YD.
100+00.00	104+64.96	ROUNDAABOUT - TRUCK APRON	464.96	14.00	723.27	15.19	237.96	14.00	723.27	39.78	14.00	723.27	36.16	14.00	723.27
TOTALS:						723.27	15.19	237.96		723.27		723.27	36.16		723.27

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (3/8").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

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.		090445	22	51

2 QUANTITIES



BASE AND SURFACING																															
STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						PORTLAND CEMENT CONCRETE BASE				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")											
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	7" UNIFORM THICKNESS		6" UNIFORM THICKNESS		AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	TOTAL PG 70-22		
						TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET	SQ. YD.	FEET	SQ. YD.														FEET	TON
MAIN LANES																															
4+50.00	5+50.00	HWY. 43 - TRANSITION	100.00						22.00	244.44	41.55	41.55																			
5+50.00	5+75.00	HWY. 43 - NOTCH AND WIDEN	25.00	VAR.	42.25	VAR.	105.90	5.30				5.30					VAR.	10.07	440.00	2.22	VAR.	9.90	220.00	1.09	VAR.	244.44	220.00	26.89	26.89		
5+75.00	8+69.40	HWY. 43 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	294.40	VAR.	106.72	VAR.	1123.73	56.19				56.19	VAR.	125.23	VAR.	43.28	VAR.	179.55	440.00	39.50	VAR.	179.55	220.00	19.75	VAR.	944.18	220.00	103.86	123.61		
8+69.40	9+34.36	HWY. 43 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	64.96	VAR.	110.50	VAR.	578.22	28.91				28.91					VAR.	212.21	440.00	46.69	VAR.	212.21	220.00	23.34	VAR.	366.01	220.00	40.26	63.60		
11+14.36	11+89.02	HWY. 43 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	74.66	VAR.	116.00	VAR.	608.95	30.45				30.45					VAR.	219.59	440.00	48.31	VAR.	219.59	220.00	24.15	VAR.	389.36	220.00	42.83	66.98		
11+89.02	14+73.00	HWY. 43 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	283.98	VAR.	104.50	VAR.	1074.31	53.72				53.72	VAR.	142.00	VAR.	62.45	VAR.	176.93	440.00	38.92	VAR.	176.93	220.00	19.46	VAR.	897.38	220.00	98.71	118.17		
14+73.00	14+98.00	HWY. 43 - NOTCH AND WIDEN	25.00	VAR.	47.38	VAR.	105.90	5.30				5.30					VAR.	10.07	440.00	2.22	VAR.	9.90	220.00	1.09	VAR.	95.83	220.00	10.54	11.63		
14+98.00	15+98.00	HWY. 43 - TRANSITION	100.00						22.00	244.44	41.55	41.55																			
54+47.00	55+47.00	HWY. 12 - TRANSITION	100.00						22.00	244.44	41.55	41.55																			
55+47.00	55+72.00	HWY. 12 - NOTCH AND WIDEN	25.00	VAR.	42.06	VAR.	105.90	5.30				5.30					VAR.	10.07	440.00	2.22	VAR.	9.90	220.00	1.09	VAR.	95.83	220.00	10.54	11.63		
55+72.00	58+36.96	HWY. 12 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	264.96	VAR.	107.50	VAR.	1027.35	51.37				51.37	VAR.	124.61	VAR.	50.89	VAR.	189.29	440.00	41.64	VAR.	1703.61	220.00	187.40	VAR.	838.06	220.00	92.19	279.59		
58+36.96	59+31.95	HWY. 12 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	94.99	VAR.	163.25	VAR.	779.70	38.99				38.99					VAR.	326.96	440.00	71.93	VAR.	326.96	220.00	35.97	VAR.	452.74	220.00	49.80	85.77		
61+11.95	62+32.83	HWY. 12 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	120.88	VAR.	179.75	VAR.	881.75	44.09				44.09					VAR.	351.73	440.00	77.38	VAR.	351.73	220.00	38.69	VAR.	530.02	220.00	58.30	96.99		
62+32.83	64+70.00	HWY. 12 - NOTCH AND WIDEN, C.C.C. & G. LT. & RT.	237.17	VAR.	82.25	VAR.	890.12	44.51				44.51	VAR.	110.09	VAR.	44.20	VAR.	135.27	440.00	29.76	VAR.	135.27	220.00	14.88	VAR.	754.85	220.00	83.03	97.91		
64+70.00	64+95.00	HWY. 12 - NOTCH AND WIDEN	25.00	VAR.	48.69	VAR.	117.01	5.85				5.85					VAR.	10.07	440.00	2.22	VAR.	9.90	220.00	1.09	VAR.	106.94	220.00	11.76	12.85		
64+95.00	65+95.00	HWY. 12 - TRANSITION	100.00						22.00	244.44	41.55	41.55																			
100+00.00	104+64.96	ROUNDABOUT - FULL DEPTH	464.96	93.00	432.41	32.00	1653.19	82.66				82.66					16.00	826.60	440.00	181.85	16.00	826.60	220.00	90.93	16.00	826.60	220.00	90.93	181.86		
ADDITIONAL FOR LEVELING																															
5+50.00	8+00.00	HWY. 43 - LEVELING	250.00						VAR.	631.65	107.38	107.38										VAR.	631.65	VAR.	57.12					57.12	
8+00.00	10+00.00	HWY. 43 - LEVELING	200.00						VAR.	820.16	139.43	139.43									VAR.	820.16	VAR.	95.67					95.67		
8+00.00	10+00.00	HWY. 43 - LEVELING	200.00			VAR.	820.16	41.01				41.01					VAR.	820.16	VAR.	225.04											
10+00.00	10+50.00	HWY. 43 - LEVELING	50.00						VAR.	344.44	58.55	58.55									VAR.	344.44	VAR.	50.78					50.78		
10+50.00	11+50.00	HWY. 43 - LEVELING	100.00						VAR.	522.24	88.78	88.78									VAR.	522.24	VAR.	69.20					69.20		
10+50.00	11+50.00	HWY. 43 - LEVELING	100.00			VAR.	522.24	26.11				26.11					VAR.	522.24	VAR.	170.92											
11+50.00	14+98.00	HWY. 43 - LEVELING	348.00						VAR.	947.33	161.05	161.05									VAR.	947.33	VAR.	103.63						103.63	
55+47.00	59+10.00	HWY. 12 - LEVELING	363.00						VAR.	870.16	147.93	147.93									VAR.	870.16	VAR.	111.30						111.30	
59+10.00	59+90.00	HWY. 12 - LEVELING	80.00						VAR.	381.86	64.92	64.92									VAR.	381.86	VAR.	32.77						32.77	
60+52.00	61+30.00	HWY. 12 - LEVELING	78.00						VAR.	384.25	65.32	65.32									VAR.	384.25	VAR.	71.81						71.81	
61+30.00	63+00.00	HWY. 12 - LEVELING	170.00						VAR.	425.27	72.30	72.30									VAR.	425.27	VAR.	77.48						77.48	
63+00.00	64+95.00	HWY. 12 - LEVELING	195.00						VAR.	485.17	82.48	82.48									VAR.	485.17	VAR.	51.79						51.79	
TOTALS:					1583.26		10394.43	519.76		6790.29	1154.34	1674.10				501.93		200.82		4000.81		980.82		9984.58		1180.48		7460.28	820.63	2001.11	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

SUMMARY OF QUANTITIES

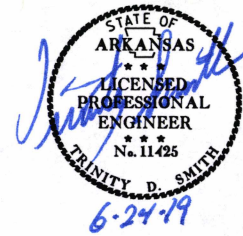
Summary of Quantities			
ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	2	STATION
201	GRUBBING	2	STATION
202	REMOVAL AND DISPOSAL OF FENCE	2960	LN. FT.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	2	EACH
210	UNCLASSIFIED EXCAVATION	4775	CU. YD.
210	COMPACTED EMBANKMENT	4738	CU. YD.
SP & 210	SOIL STABILIZATION	100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	1583	TON
308	AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	238	TON
308	CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	15	TON
308	PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE	723	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (6" UNIFORM THICKNESS)	201	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (7" UNIFORM THICKNESS)	502	SQ. YD.
SS & 401	TACK COAT	1730	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	937	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	44	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")	38	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")	2	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	1891	TON
SP, SS, & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	110	TON
412	COLD MILLING ASPHALT PAVEMENT	978	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	10	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	25	TON
SP & 501	PORTLAND CEMENT CONCRETE PAVEMENT (8" UNIFORM THICKNESS)	723	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	305	SQ. FT.
SS & 604	TRAFFIC DRUMS	79	EACH
604	CONSTRUCTION PAVEMENT MARKINGS	8915	LN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	6041	LN. FT.
SS & 604	VERTICAL PANELS	74	EACH
SS & 605	CONCRETE DITCH PAVING (TYPE B)	70	SQ. YD.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	26	LN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	68	LN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	24	LN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	68	LN. FT.
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
SS & 609	SELECTED PIPE BEDDING	20	CU. YD.
SS & 609	DROP INLETS (TYPE MO)	4	EACH
SS & 609	DROP INLETS (TYPE SPECIAL)	16	EACH
SS & 609	DROP INLET EXTENSIONS (4')	9	EACH
SS & 609	DROP INLET EXTENSIONS (8')	2	EACH
SS & 611	4" PIPE UNDERDRAINS	500	LN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	4	EACH
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)	86	TON
619	WIRE FENCE (TYPE D-2)	802	LN. FT.
620	LIME	6	TON
620	SEEDING	3.16	ACRE
SS & 620	MULCH COVER	12.34	ACRE
620	WATER	517.6	M. GAL.
621	TEMPORARY SEEDING	9.18	ACRE
621	SILT FENCE	3240	LN. FT.
621	SAND BAG DITCH CHECKS	506	BAG
621	DROP INLET SILT FENCE	125	LN. FT.
621	SEDIMENT BASIN	60	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	60	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	239	CU. YD.
621	ROCK DITCH CHECKS	75	CU. YD.
SS & 621	FILTER SOCK (18")	800	LN. FT.
623	SECOND SEEDING APPLICATION	3.16	ACRE
624	SOLID SODDING	642	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	1812	SQ. YD.
SS & 632	CONCRETE ISLAND	559	SQ. YD.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	3056	LN. FT.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE E-1) (2' 0")	465	LN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	636	LN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/4 A.W.G., E.G.C.)	1995	LN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/4 A.W.G.)	636	LN. FT.
710	NON-METALLIC CONDUIT (2")	1958	LN. FT.
SP	ANTI-THEFT CONCRETE PULL BOX (TYPE 2 HD)	11	EACH
SP	LED ROADWAY ILLUMINATION POLE (14 964 LUMENS, COBRA HEAD, SHOE BASE, 40')	12	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	116	LN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")	1209	LN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	1902	LN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	302	LN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	4294	LN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (8")	1228	LN. FT.
SP & 719	THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)	64	LN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	32	EACH

REVISIONS

[illegible]

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090445	23	51

② SUMMARY OF QUANTITIES AND REVISIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 090445			24	51

2 SURVEY CONTROL DETAILS



SURVEY CONTROL COORDINATES

Project Name: s090445
Date: 12/22/2016
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, 040116 - 040116A
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	715316.7660	553652.5663	1172.825	CTL	AHTD STD. MON. STAMPED PN: 1
2	717231.9876	553837.5404	1173.000	CTL	AHTD STD. MON. STAMPED PN: 2
3	717997.8358	553801.0095	1179.559	CTL	AHTD STD. MON. STAMPED PN: 3
4	718818.0889	553847.4132	1187.387	CTL	AHTD STD. MON. STAMPED PN: 4
5	719600.5015	553890.4813	1188.871	CTL	AHTD STD. MON. STAMPED PN: 5
6	717930.9965	551284.5621	1180.946	CTL	AHTD STD. MON. STAMPED PN: 6
7	717368.3899	552088.6003	1176.742	CTL	AHTD STD. MON. STAMPED PN: 7
8	717327.9661	552921.8340	1177.565	CTL	AHTD STD. MON. STAMPED PN: 8
9	717209.2067	554491.4827	1170.715	CTL	AHTD STD. MON. STAMPED PN: 9
10	717198.3959	555197.1244	1170.189	CTL	AHTD STD. MON. STAMPED PN: 10
11	717157.8126	555921.1022	1175.798	CTL	AHTD STD. MON. STAMPED PN: 11
100	714656.9285	553650.1535	1176.569	GPS	AHTD GPS #040116
101	716243.0279	553683.4409	1164.999	GPS	AHTD GPS #040116A
998	717234.4575	553714.2076	1174.029	BM	USC&GS 3RD ORDER BM UE 3 A
999	718189.1295	551125.1845	1182.153	BM	USC&GS 3RD ORDER BM CHEROKEE

*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 0.9999570942 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. s090445gi.CTL
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 040116 - 040116A
CONVERGENCE ANGLE: 01 29 51.01 LEFT AT PN: 2 LT: N 36-16-35.27 LG: W 094-34-24.51
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 43

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	0+00.00	716241.9652	553718.1948
8001	PI	4+93.00	716734.1380	553746.7594
8002	PI	15+50.00	717789.5312	553805.0250
8003	POE	19+42.00	718180.9169	553826.9611

HWY. 12

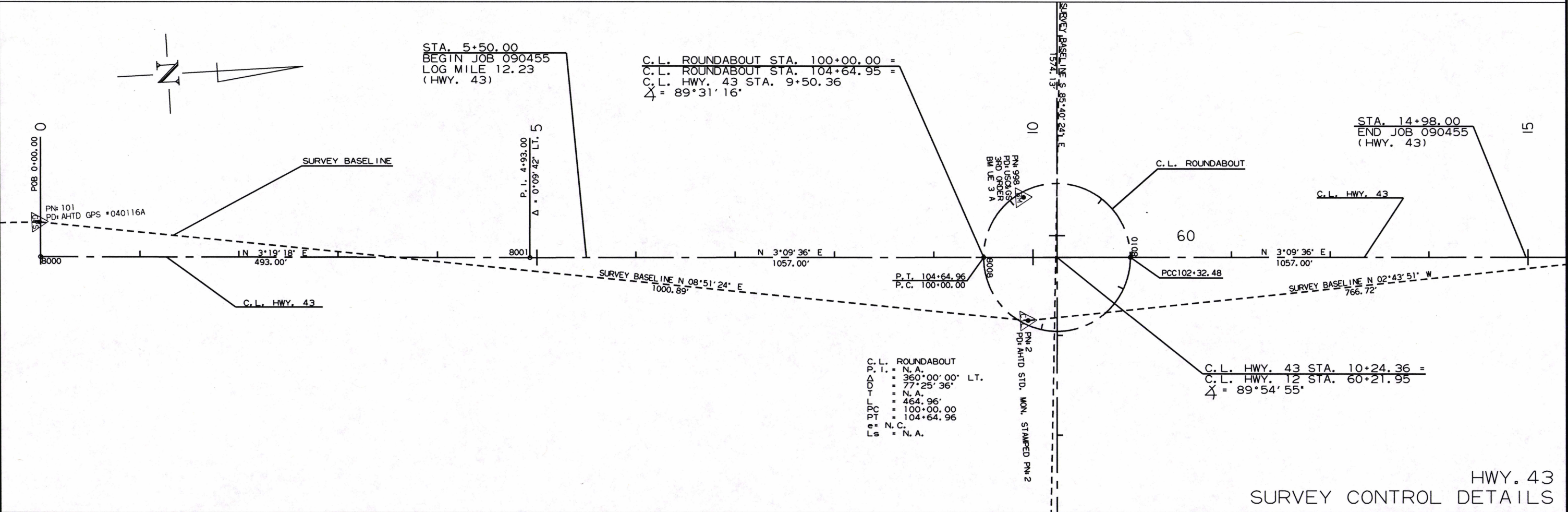
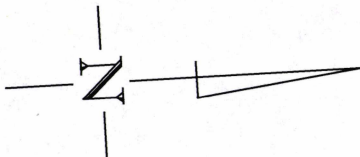
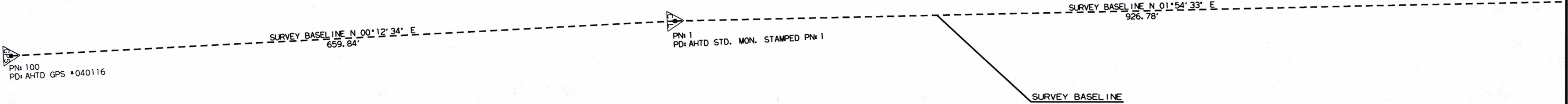
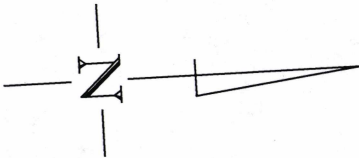
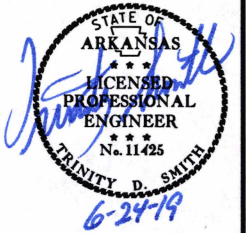
POINT NO.	TYPE	STATION	NORTHING	EASTING
8004	POB	50+00.00	717322.5472	552755.7370
8005	PI	54+00.00	717299.8962	553155.0952
8006	PI	67+00.00	717226.3138	554453.0112
8007	POE	72+00.00	717197.0959	554952.1573

ROUNDAABOUT

POINT NO.	TYPE	STATION	NORTHING	EASTING
8008	PC	100+00.00	717190.8051	553771.9709
8010	PCC	102+32.48	717338.5801	553780.1291
8008	PT	104+64.96	717190.8051	553771.9709

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	25	51

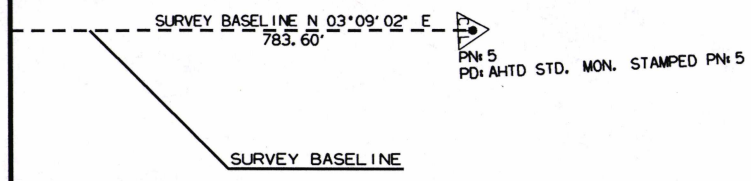
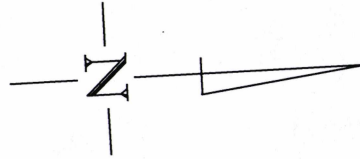
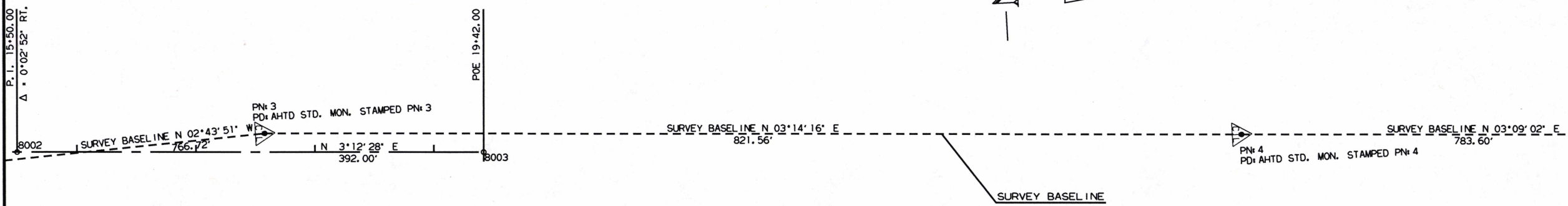
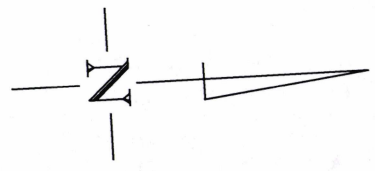
2 SURVEY CONTROL DETAILS



5/7/2019 R090445.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. 090445	26	51

2 SURVEY CONTROL DETAILS

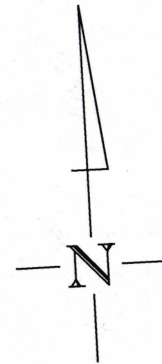


5/7/2019 R090445.DGN

PN: 999
PD: USC&GS 3RD ORDER BM CHEROKEE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090445	27	51

2 SURVEY CONTROL DETAILS

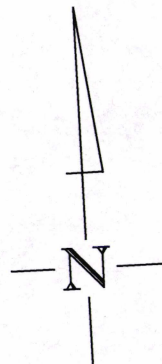


PN: 6
PD: AHTD STD. MON. STAMPED PN: 6

SURVEY BASELINE S 55°01'07" E
981.33'

SURVEY BASELINE

SURVEY BASELINE S 55°01'07" E
981.33'



PN: 7
PD: AHTD STD. MON. STAMPED PN: 7

SURVEY BASELINE S 87°13'21" E
834.21'

SURVEY BASELINE

POB 50+00.00 50

SURVEY BASELINE S 87°13'21" E
834.21'

PN: 8
PD: AHTD STD. MON. STAMPED PN: 8

S 86°45'13" E
400.00'

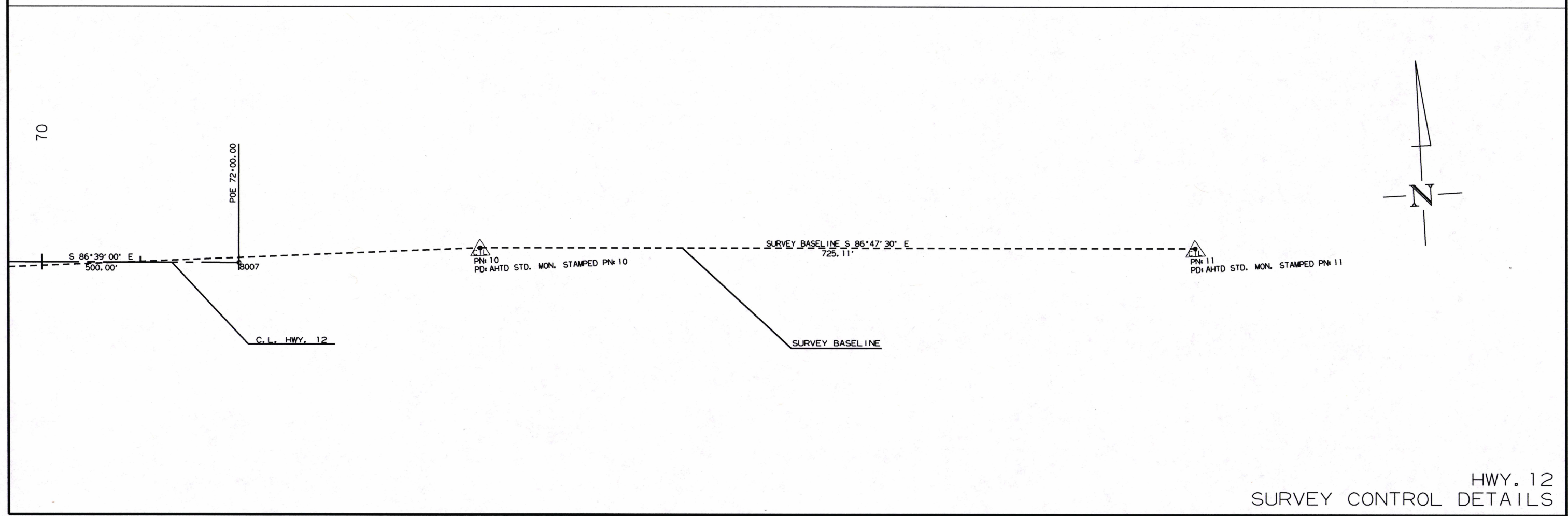
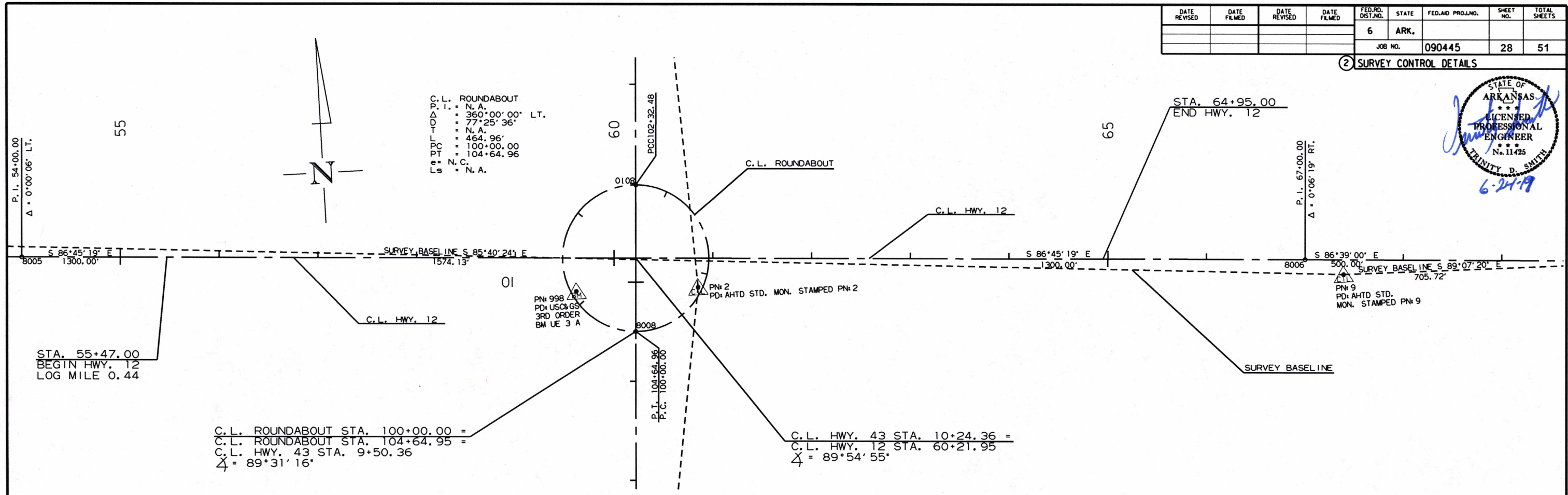
5/7/2019

R090445.DGN

HWY. 12
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. 090445	28	51

② SURVEY CONTROL DETAILS



5/7/2019

R090445.DGN

STA. 6+00 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 4.25 SQ. YD.

STA. 8+44 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 5.68 SQ. YD.

STA. 9+17 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 7.18 SQ. YD.

STA. 9+17 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 11+08 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 4.71 SQ. YD.

STA. 11+69 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 3.87 SQ. YD.

STA. 11+08 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 11+69 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
WITH 4' EXTENSION LT. & RT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 12+50 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 3.00 SQ. YD.

STA. 12+50 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 6+00 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
WITH 4' EXTENSION
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 8+44 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
WITH 4' EXTENSION
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 5+50.00
BEGIN JOB 090455
LOG MILE 12.23
(HWY. 43)

C.L. ROUNDABOUT STA. 100+00.00 =
C.L. ROUNDABOUT STA. 104+64.95 =
C.L. HWY. 43 STA. 9+50.36
 $\Delta = 89^{\circ}31'16''$

C.L. HWY. 43 STA. 10+24.36 =
C.L. HWY. 12 STA. 60+21.95
 $\Delta = 89^{\circ}54'55''$

C.L. ROUNDABOUT
P.I. = N.A.
 $\Delta = 360^{\circ}00'00''$ LT.
D = 77'25'36"
T = N.A.
L = 464.96'
PC = 100+00.00
PT = 104+64.96
e = N.C.
Ls = N.A.

STA. 6+00 - CONSTRUCT
DROP INLET TYPE SPECIAL ON RT.
WITH 4' EXTENSION
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 8+44 - CONSTRUCT
DROP INLET TYPE SPECIAL ON RT.
WITH 4' EXTENSION
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 11+76 - CONSTRUCT
DROP INLET TYPE SPECIAL ON RT.
WITH 4' EXTENSION LT. & RT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 12+50 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 6+00 RT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 4.06 SQ. YD.

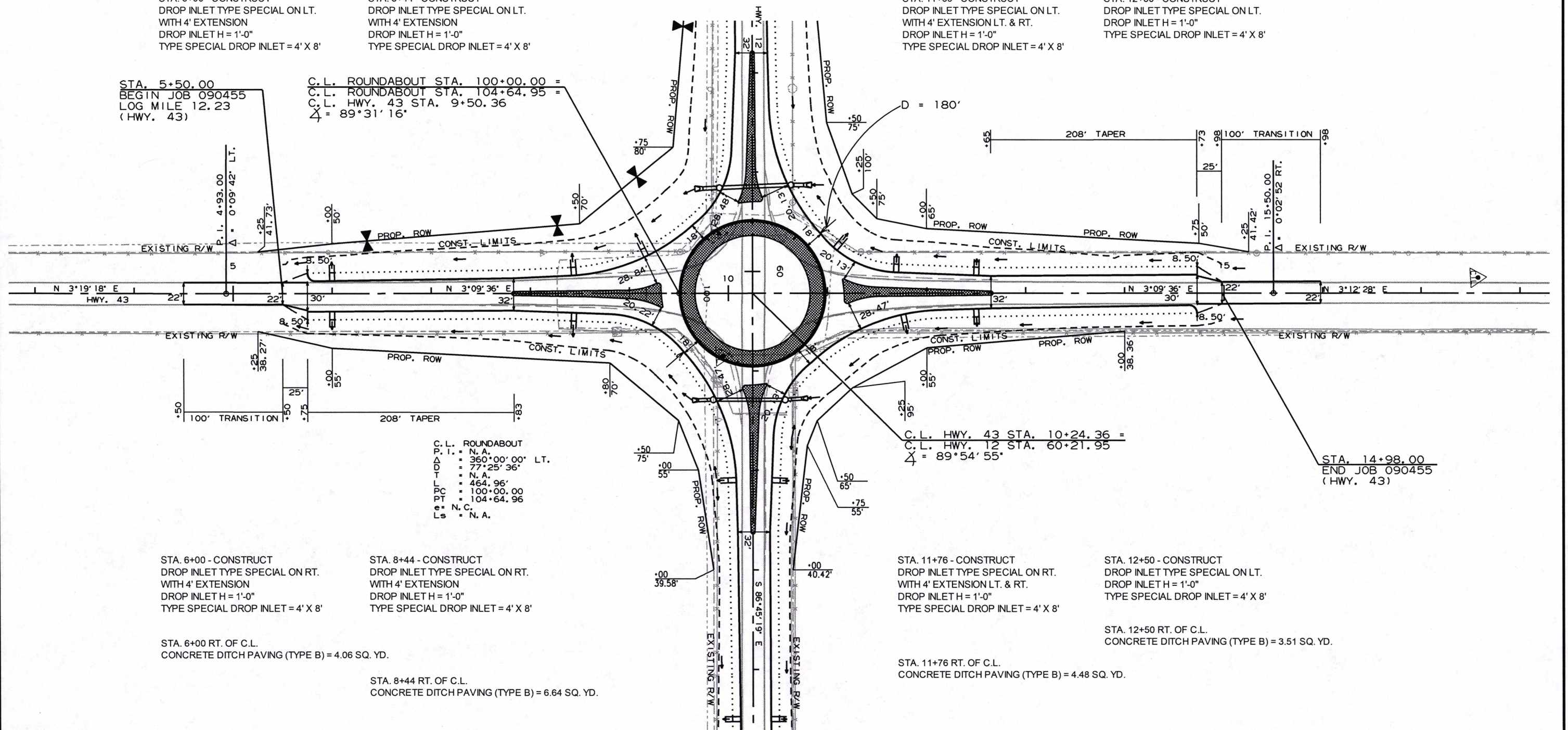
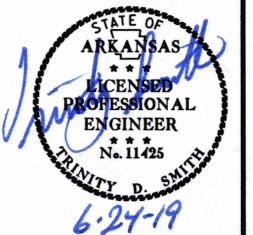
STA. 8+44 RT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 6.64 SQ. YD.

STA. 11+76 RT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 4.48 SQ. YD.

STA. 12+50 RT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 3.51 SQ. YD.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	090445		29	51

2 PLAN AND PROFILE SHEETS



ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED. FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED. FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

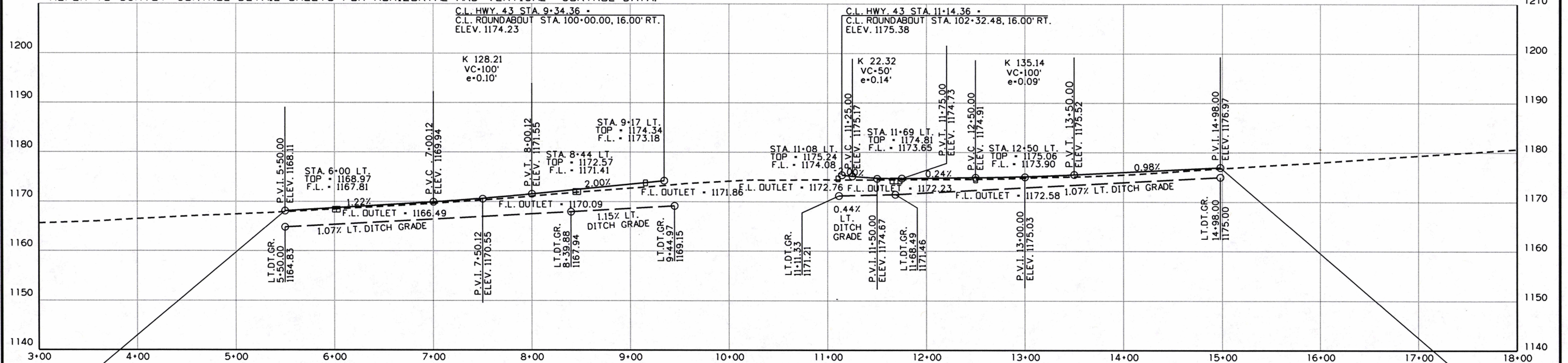
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				6	ARK.			
				JOB NO.	090445		30	51

2 PLAN AND PROFILE SHEETS



1210 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

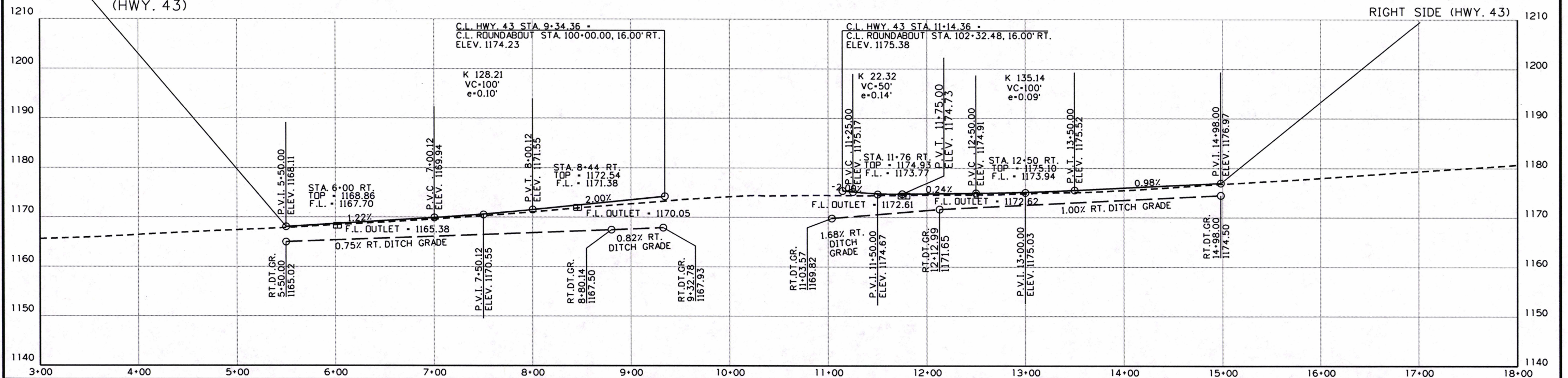
LEFT SIDE (HWY. 43)



STA 5+50.00
BEGIN JOB 090455
LOG MILE 12.23
(HWY. 43)

STA 14+98.00
END JOB 090455
(HWY. 43)

RIGHT SIDE (HWY. 43)



5/7/2019

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STA. 59+64 - IN PLACE
24" X 68' C.M. PIPE CULVERT
REMOVE

STA. 60+84 - IN PLACE
24" X 70' C.M. PIPE CULVERT
REMOVE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	090445		31	51

2 PLAN AND PROFILE SHEETS



STA. 56+00 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 3.82 SQ. YD.

STA. 56+00 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 59+14 - CONSTRUCT
DROP INLET ON LT.
WITH 8' EXTENSION
& 36" X 68' R.C. PIPE CULVERT
(CLASS V)(TYPE III BEDDING)
CONNECT TO DROP INLET ON RT.
@ STA. 59+17
& 36" X 10' R.C. PIPE CULVERT INLET
WITH FES
TYPE MO DROP INLET = 5'
TYPE C DROP INLET = 5' X 5'
DROP INLET H = 5'-3"
D.A. = 55.73 ACRES
Q25 = 50.15 CFS

STA. 61+28 - CONSTRUCT
DROP INLET ON LT.
& 30" X 68' R.C. PIPE CULVERT
(CLASS V)(TYPE III BEDDING)
CONNECT TO DROP INLET ON RT.
@ STA. 61+28
& 30" X 14' R.C. PIPE CULVERT INLET
WITH FES
TYPE MO DROP INLET = 5'
TYPE C DROP INLET = 5' X 5'
DROP INLET H = 4'-9"
D.A. = 26.10 ACRES
Q25 = 23.49 CFS

STA. 62+10 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 3.31 SQ. YD.

STA. 62+10 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 64+50 LT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 2.41 SQ. YD.

STA. 64+50 - CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

C.L. ROUNDABOUT
P.I. = N. A.
Δ = 360° 00' 00" LT.
D = 77° 25' 36"
T = N. A.
L = 464.95'
PC = 100+00.00
PT = 104+64.96
e = N. C.
Ls = N. A.

C.L. HWY. 43 STA. 10+24.36 =
C.L. HWY. 12 STA. 60+21.95
Δ = 89° 54' 55"

STA. 61+28 - CONSTRUCT
DROP INLET ON RT.
30" X 12' R.C. PIPE CULVERT OUTLET
WITH FES
TYPE MO DROP INLET = 5'
TYPE C DROP INLET = 5' X 5'
DROP INLET H = 5'-0"

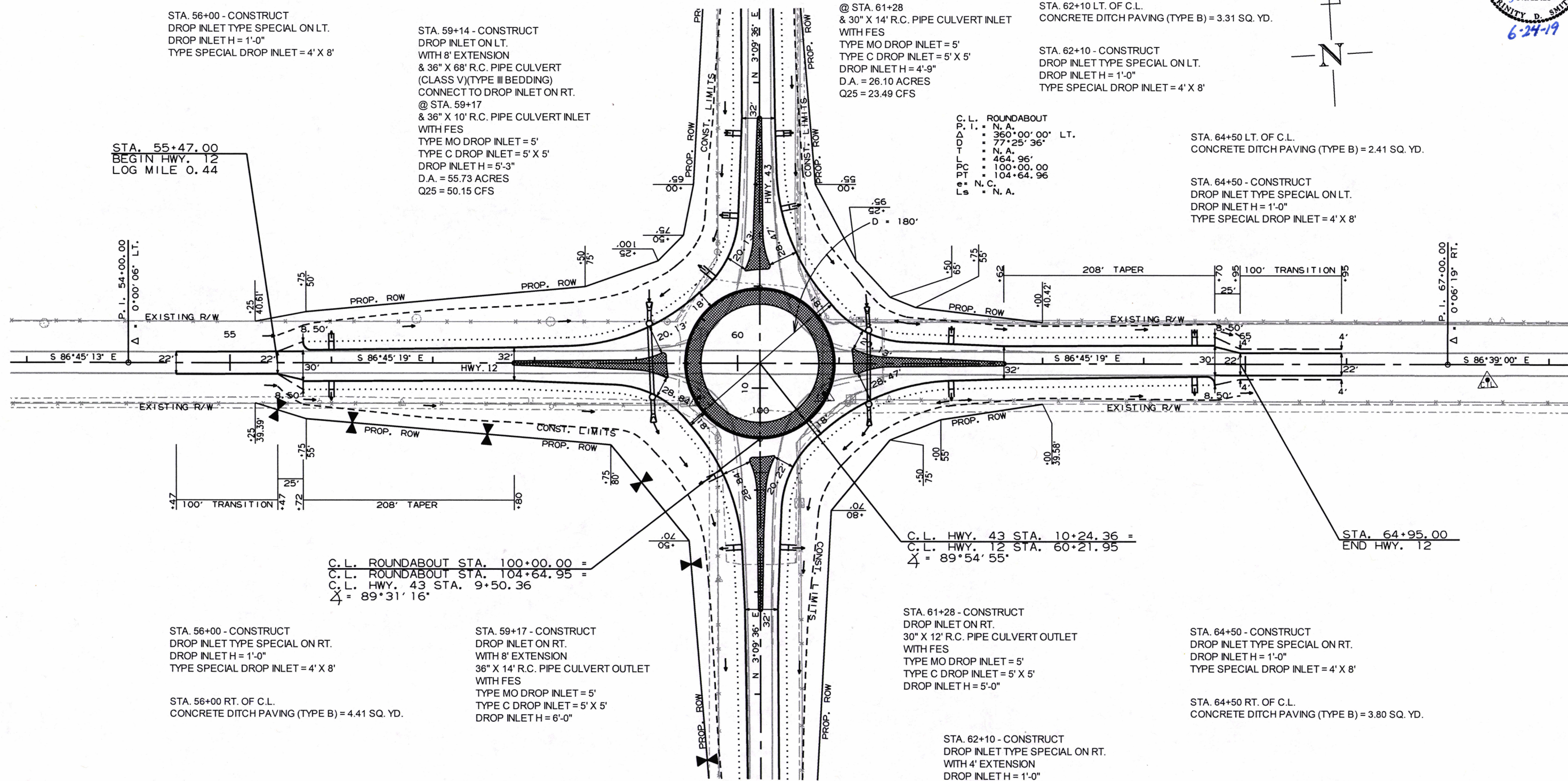
STA. 64+50 - CONSTRUCT
DROP INLET TYPE SPECIAL ON RT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 64+50 RT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 3.80 SQ. YD.

STA. 62+10 - CONSTRUCT
DROP INLET TYPE SPECIAL ON RT.
WITH 4' EXTENSION
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 62+10 RT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 4.41 SQ. YD.

STA. 55+47.00
BEGIN HWY. 12
LOG MILE 0.44



C.L. ROUNDABOUT STA. 100+00.00 =
C.L. ROUNDABOUT STA. 104+64.95 =
C.L. HWY. 43 STA. 9+50.36
Δ = 89° 31' 16"

STA. 56+00 - CONSTRUCT
DROP INLET TYPE SPECIAL ON RT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' X 8'

STA. 56+00 RT. OF C.L.
CONCRETE DITCH PAVING (TYPE B) = 4.41 SQ. YD.

STA. 59+17 - CONSTRUCT
DROP INLET ON RT.
WITH 8' EXTENSION
36" X 14' R.C. PIPE CULVERT OUTLET
WITH FES
TYPE MO DROP INLET = 5'
TYPE C DROP INLET = 5' X 5'
DROP INLET H = 6'-0"

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5/7/2019

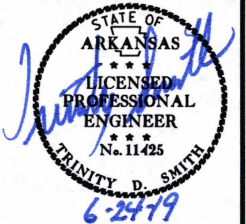
R090445.DGN

HWY. 12

ALL R.C. PIPE CULVERTS SHALL BE CLASS III UNLESS OTHERWISE SPECIFIED. FOR ALL R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED. FOR ALL C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

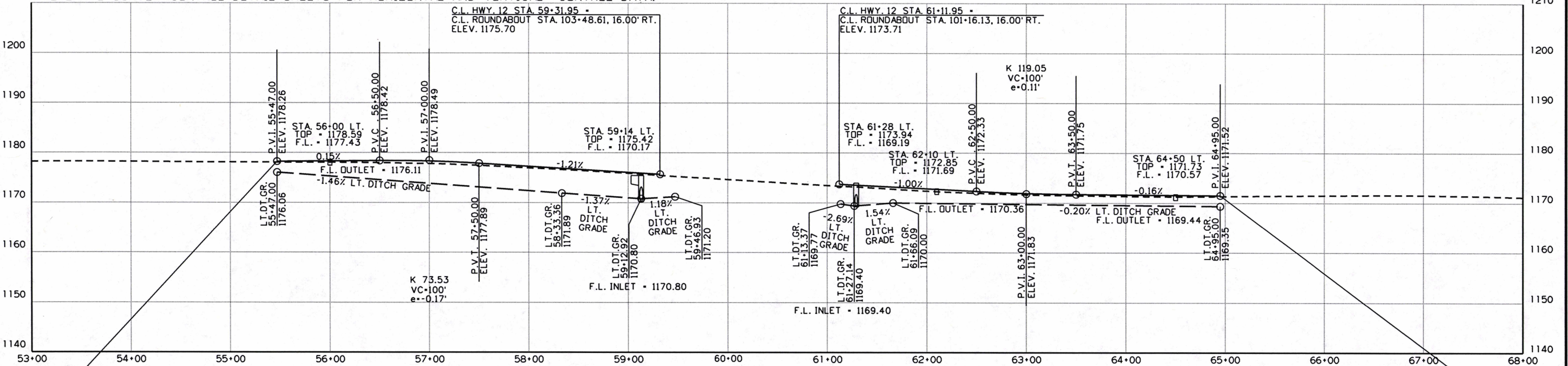
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	090445		32	51

2 PLAN AND PROFILE SHEETS



1210 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

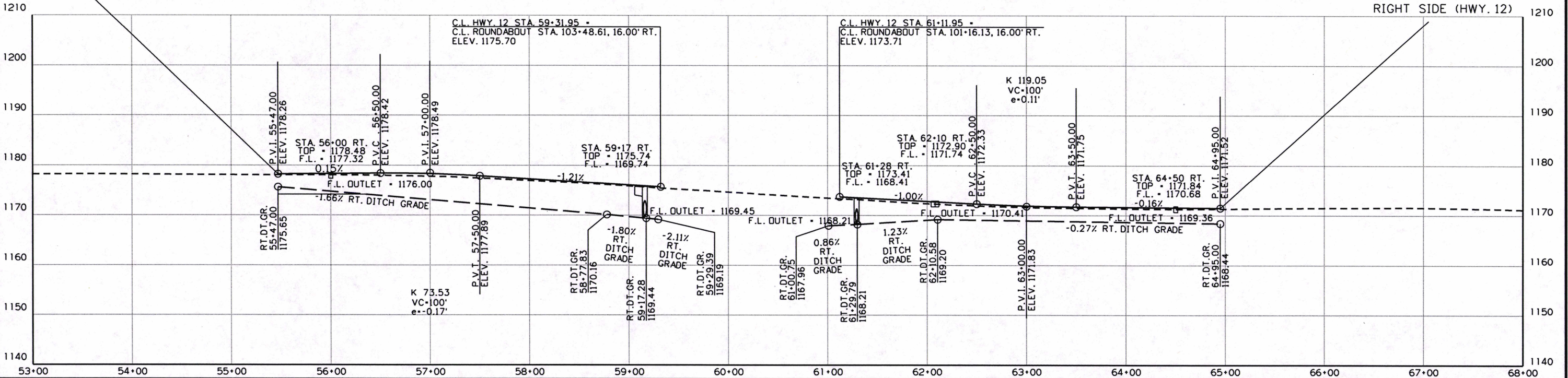
LEFT SIDE (HWY. 12)



STA. 55+47.00
BEGIN HWY. 12
LOG MILE 0.44

STA. 64+95.00
END HWY. 12

RIGHT SIDE (HWY. 12)

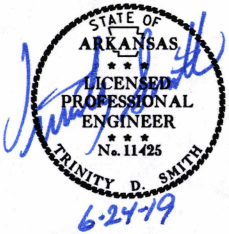


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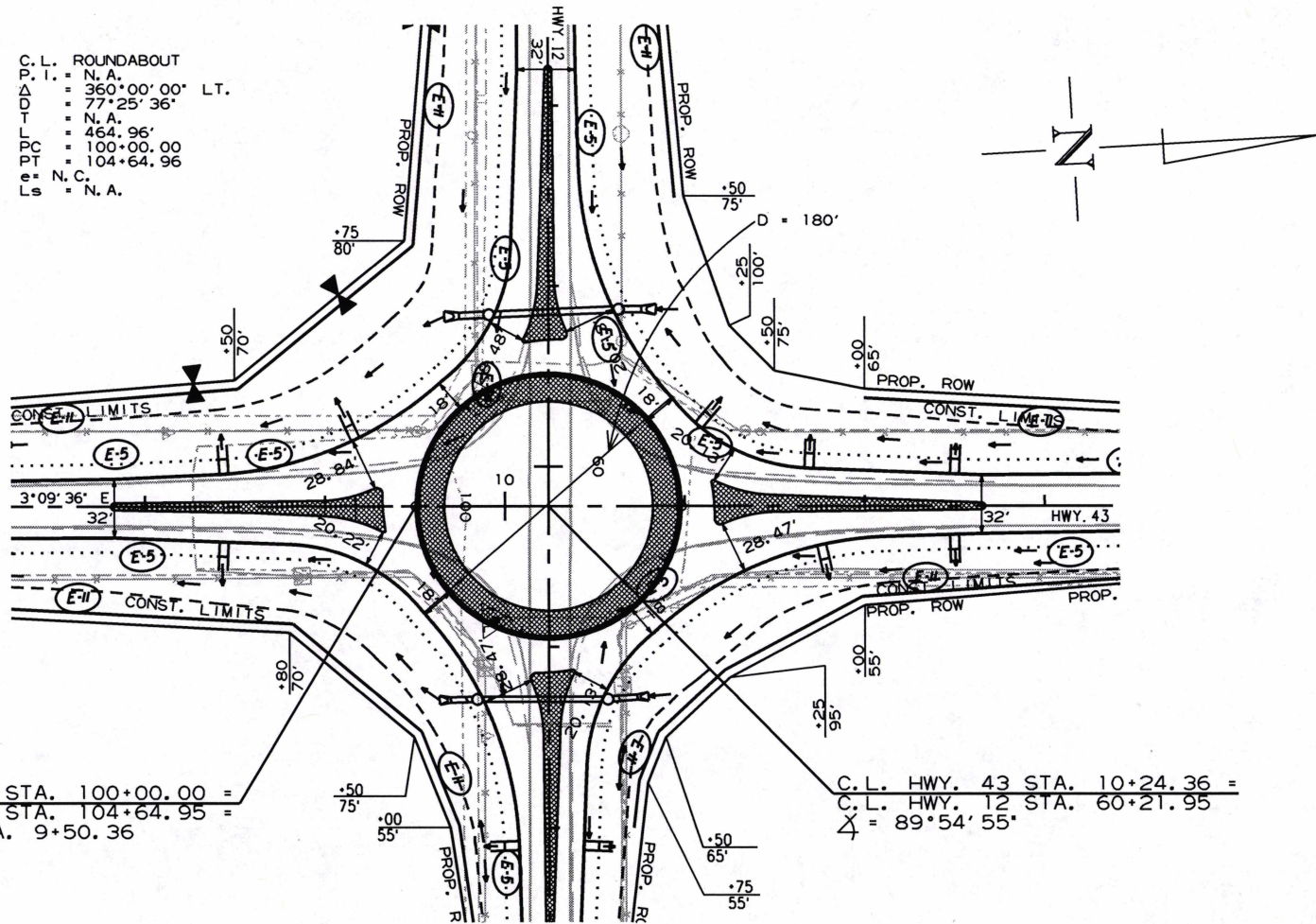
R090445.DGN

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. 090445	33	51

2 PLAN AND PROFILE SHEETS



C.L. ROUNDABOUT
P.I. = N.A.
 Δ = $360^{\circ}00'00''$ LT.
D.T. = $77^{\circ}25'36''$
L = N.A.
PC = 464.96'
PT = 100+00.00
e = N.C.
Ls = N.A.



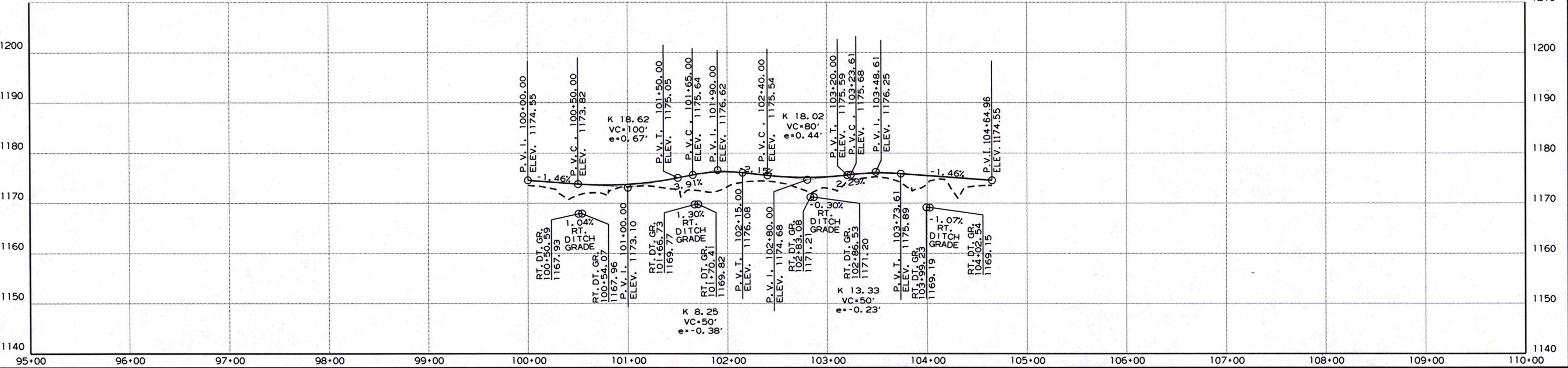
C.L. ROUNDABOUT STA. 100+00.00 =
C.L. ROUNDABOUT STA. 104+64.95 =
C.L. HWY. 43 STA. 9+50.36
 Δ = $89^{\circ}31'16''$

C.L. HWY. 43 STA. 10+24.36 =
C.L. HWY. 12 STA. 60+21.95
 Δ = $89^{\circ}54'55''$

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1210 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

ROUNDABOUT



5/7/2019

R090445.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. 090445	34	51
② ILLUMINATION GENERAL NOTES								

GENERAL NOTES:

1. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. THE LOCATION OF EXISTING UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE AND ARE THE LOCATIONS AT THE TIME OF DESIGN. SOME UTILITES MAY HAVE BEEN RELOCATED SINCE THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES INVOLVED AND VERIFY LOCATIONS OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL IT IS NO LONGER NECESSARY. ARKANSAS UNDERGROUND FACILITIES DAMAGE PREVENTION ACT REQUIRES TWO WORKING DAYS IN ADVANCE NOTIFICATION THROUGH THE ARKANSAS ONE-CALL SYSTEM CENTER BEFORE EXCAVATING USING MECHANIZED EQUIPMET OR EXPLOSIVES (EXCEPT IN THE CASE OF EMEMERGENCY). THE ONE-CALL SYSTEM PHONE NUMBER IS 1-800-482-8998, OR 811. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE-CALL SYSTEM. THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITEIS AS WELL AS THE ONE-CALL SYSTEM.
2. 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.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECIEVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VAROUS BID ITEMS.
4. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NATIONAL ELECTRICAL CODE (NFPA 70), LIFESAFETY CODE (NFPA 101), STATE AND LOCAL ELECTRICAL CODE. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.
5. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY A PUSHING OR BORING METHOD OR AS DIRECTED BY ENGINEER. PVC OR HDPE CONDUIT SHALL BE USED. PVC CONDUIT SHALL BE MARKED "DIR. BORING" OR "DIRECTIONAL BORING" AS PER NFPA 70 (NEC) REQUIREMENTS.
6. AFTER INSTALLATION, IF DAMAGED, THE ILLUMINATION ASSEMBLIES SHALL RECEIVE SPOT GALVANIZING REPAIR IN ACCORDANCE WITH SECTION 714 OF THE STANDARD SPECIFICATIONS, CURRENT EDITION.
7. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 4TH ED. (2001) WITH 2003 AND 2006 INTERIMS.
8. NON-DESTRUCTIVE MEG TEST AND CURRENT LEAKAGE TEST SHALL BE PERFORMED ON NEW CONDUCTORS, IN THE PRESENCE OF FIELD INSPECTOR. THE TEST VOLTAGE SHALL BE LIMITED TO 600 VOLTS. ANY CONDUCTOR NOT MEETING THE MINIMUM ACCEPTABLE VALUE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE USING NEW CONDUCTOR. THE RESULTS SHALL BE DOCUMENTED AND PROVIDED TO THE JOB ENGINEER.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES CAUSED BY MEG TEST WHILE DEVICES OR ACCESSORIES ARE STILL CONNECTED AND SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
10. PULL BOX LIDS SHALL CLOSE FLUSH WITHOUT PINCHING ANY CONDUCTORS. CONDUIT LENGTHS IN PULL BOXES SHALL BE SET ACCORDINGLY. ANY CONDUCTORS THAT HAVE BEEN DAMAGED BY PINCHING SHALL BE COMPLETELY REPLACED AT CONTRACTOR'S EXPENSE.
11. SLACK CABLES IN PULL BOXES SHALL BE 3 FEET.
12. INSTALL BREAKAWAY FUSE HOLDER IN POLE BASES. ALL ELECTRICAL SPLICES, INCLUDING DUMMY FUSES, SHALL BE WATERTIGHT AND SHALL BE DESIGNED AS BREAKAWAY (HOMAC FLOOD SEAL, EATON BUSSMANN, OR APPROVED EQUAL).
13. EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) SHALL BE EXOTHERMICALLY BONDED TO THE GROUND ROD.
14. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED.
15. CONTRACTOR SHALL PERFORM 14 DAY BURN TEST COORDINATED WITH JOB ENGINEER.
16. PULL BOX LIDS SHALL BE LABELED "ARDOT", "ELECTRIC", AND "ALUMINUM".
17. ALL LUMINAIRE ASSEMBLIES SHALL BE OF BUG RATING OF U0, OR IESNA FULL CUTOFF TYPE.
18. BEFORE FINAL ACCEPTANCE, CONTRACTOR SHALL PROVIDE 2 SETS OF FULL SIZE AS-BUILT PLANS TO THE MAINTENANCE AUTHORITY.



HWY. 12/HWY. 43 INTERS.
ILLUMINATION GENERAL NOTES

MO90445.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. NO. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090445	35	51
② ILLUMINATION QUANTITIES AND SCHEDULE								

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	QUANTITIES TOTAL	UNIT
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	636	LIN. FT
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/4 A.W.G., E.G.C.)	1995	LIN. FT
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/12 A.W.G.)	636	LIN. FT
710	NON-METALLIC CONDUIT (2")	1958	LIN. FT
SP	ANTI-THEFT CONCRETE PULL BOX (TYPE 2 HD)	11	EACH
SP	LED ROADWAY ILLUMINATION POLE (14,964 LUMENS, COBRA HEAD, SHOE BASE, 40')	12	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH

CONDUIT FILL CALCULATIONS

CONDUIT SIZE	CONDUCTORS		CONDUIT FILL	MAX FILL
	2C/#4, EGC	2C/#12, EGC		
2"	1		11.46%	40%
2"		1	1.18%	40%

FIXTURE SCHEDULE

DESCRIPTION	DISTRIBUTION	LAMPS	TYPE	VOLTAGE
	LUMEN OUTPUT (MIN.)	WATTS		
ROADWAY ILLUMINATION	TYPE 2, NARROW	126W	LED	240V
	14,964 LUMENS			

ILLUMINATION STATISTICS

DESCRIPTION	AVERAGE (FOOT-CANDLES)	MAXIMUM (FOOT-CANDLES)	MINIMUM (FOOT-CANDLES)	AVG/MIN
ROUNDBOUT	1.1	2	0.5	2.2:1
ROADWAY, EAST	1.3	3.2	0.4	3.3:1
ROADWAY, WEST	1.3	3.2	0.4	3.3:1
ROADWAY, NORTH	1.3	3.2	0.4	3.3:1
ROADWAY, SOUTH	1.4	3.2	0.4	3.3:1

NOTE: CALCULATION WAS BASED ON 0.85 LIGHT LOSS FACTOR.

ILLUMINATION DESIGN CRITERIA

DESCRIPTION	AVERAGE (FOOT-CANDLES)	AVG/MIN
ROUNDBOUT	1.2	4.0:1
ROADWAY	0.8	4.0:1

NOTE: DESIGN BASIS IS IESNA DESIGN GUIDE FOR ROUNDBOUT LIGHTING (DG-19-08), AASHTO ROADWAY LIGHTING DESIGN GUIDE (OCT 2005)

ILLUMINATION SCHEDULE

POLE NO.	STATION HWY. 12	STATION HWY. 43	NORTHING	EASTING	OFFSET (FEET)	MOUNTING HEIGHT	BASE TYPE	WATTS	VOLTAGE	DELIVERED LUMENS	UNIT	ORIENTATION ANGLE (PLAN NORTH = 0°, CLOCKWISE ROTATION)
P1	62+71		717270.58	554026.19	20	40'	SHOE BASE	126W	240V	14,964	EACH	183°
P2	60+90	10+90	717326.76	553846.82	66 (HWY. 12)/ 67 (HWY. 43)	40'	SHOE BASE	126W	240V	14,964	EACH	228°
P3		12+73	717511.70	553807.59	18	40'	SHOE BASE	126W	240V	14,964	EACH	273°
P4		12+73	717513.11	553769.68	20	40'	SHOE BASE	126W	240V	14,964	EACH	93°
P5	59+54	10+90	717334.13	553712.22	66/62	40'	SHOE BASE	126W	240V	14,964	EACH	138°
P6	57+61		717297.16	553516.83	19	40'	SHOE BASE	126W	240V	14,964	EACH	230°
P7	57+61		717258.86	553515.35	21	40'	SHOE BASE	126W	240V	14,964	EACH	183°
P8	59+56	9+57	717200.85	553706.57	68 (HWY. 12)/ 66 (HWY. 43)	40'	SHOE BASE	126W	240V	14,964	EACH	3°
P9		7+76	717017.62	553744.48	18	40'	SHOE BASE	126W	240V	14,964	EACH	228°
P10		7+76	717015.95	553782.37	20	40'	SHOE BASE	126W	240V	14,964	EACH	93°
P11	60+89	9+58	717195.09	553839.66	66.90 (HWY. 12)/ 67 (HWY. 43)	40'	SHOE BASE	126W	240V	14,964	EACH	273°
P12	62+74		717232.62	554026.74	18	40'	SHOE BASE	126W	240V	14,964	EACH	3°

VOLTAGE DROP CALCULATIONS

FROM	TO	WIRE SIZE	VOLTAGE (LINE-TO-LINE)	PHASE	WIRE TYPE	CONDUIT TYPE	IMPEDENCE (OHM/1000FT)	%VD
SERVICE	P1	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.17%
P1	P2	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.28%
P2	P3	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.25%
P3	P4	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.08%
P4	P5	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.20%
P5	P6	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.18%
P6	P7	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.06%
P7	P8	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.13%
P8	P9	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.09%
P9	P10	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.03%
P10	P11	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.05%
P11	P12	2 #4, 1#4 EGC	240V	1	COPPER	PVC	0.29	0.02%
TOTAL								1.54%

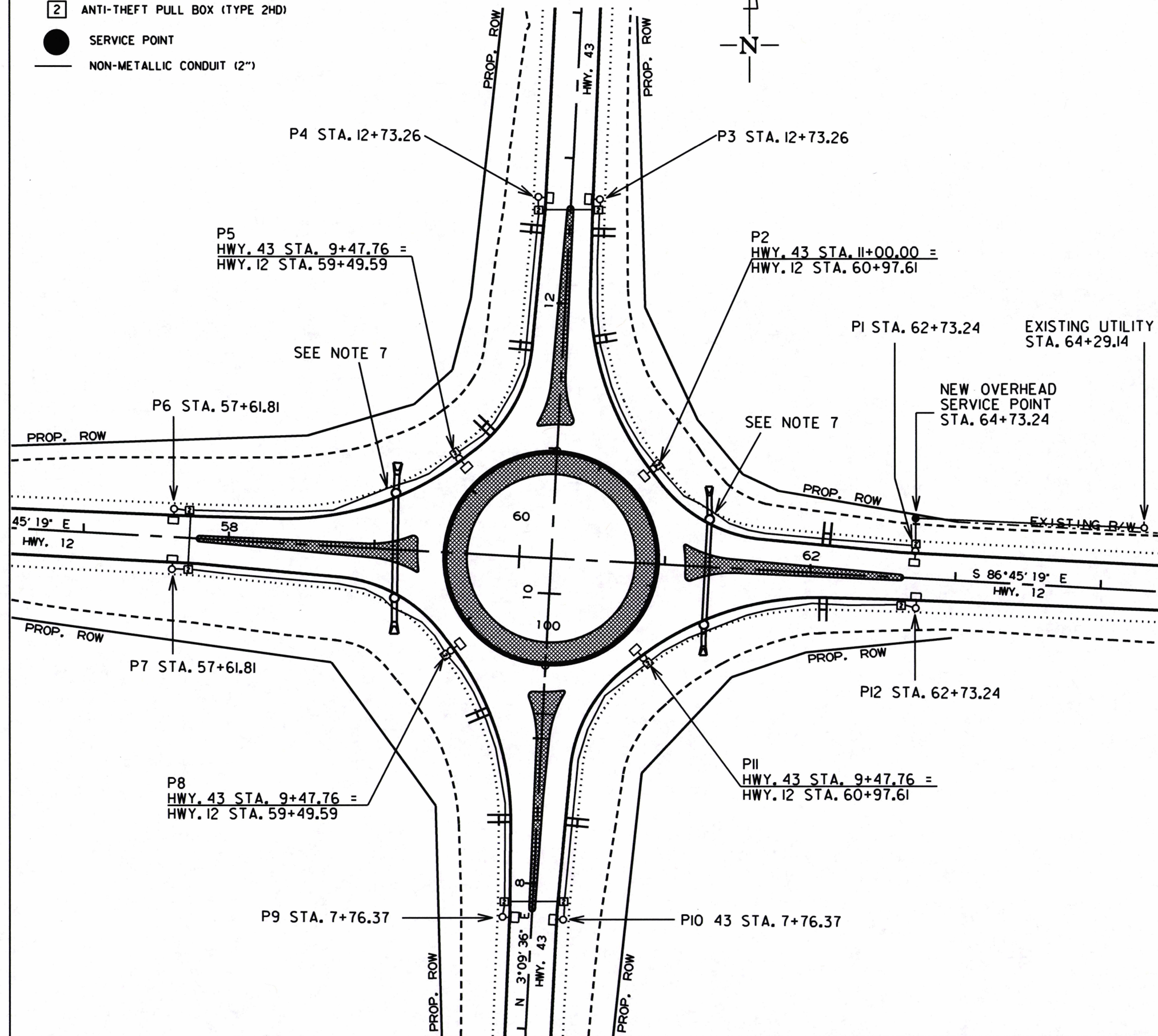
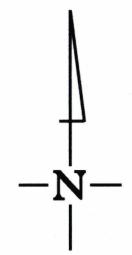


HWY. 12/HWY. 43 INTERS.
ILLUMINATION
QUANTITIES AND SCHEDULE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. NO. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	36	51
② ILLUMINATION LAYOUT								

ELECTRICAL SYMBOL LEGEND

- NEW SINGLE ARM LIGHT FIXTURE, SEE NOTES, PLANS, AND SCHEDULES FOR MORE INFORMATION
- ② ANTI-THEFT PULL BOX (TYPE 2HD)
- SERVICE POINT
- NON-METALLIC CONDUIT (2")



ILLUMINATION NOTES:

- CAUTION: UNDERGROUND UTILITIES EXIST WITHIN CONSTRUCTION AREA.
- FOR LUMINAIRE ORIENTATION, SEE LUMINAIRE SCHEDULE.
- ALL CONDUIT SHALL BE 2" SCHEDULE 40 NON-METALLIC CONDUIT UNLESS OTHERWISE SPECIFIED.
- INSTALL ANTI-THEFT PULL BOX (TYPE 2 HD) WITHIN 5' OF THE POLE FOUNDATION.
- INSTALL 2*12 XHHW, 1*12 E.G.C. FROM PULL BOX TO LUMINAIRE.
- ALL SPLICES SHALL BE WATERTIGHT, AND UL-LISTED FOR CONTINUOUS USE IN SUBMERSIBLE INSTALLATIONS, SUCH AS HOMAC FLOOD-SEAL, EATON BUSSMANN, OR EQUIVALENT.
- USE MINIMUM 1/4" PULL ROPE OR 1200 LBS PULL TAPE WHEN PULLING CONDUCTORS.
- THE DEGREE OF TILT ON ALL LUMINAIRES SHALL BE ZERO.
- ALL CONDUIT SHALL BE BORED WHEN CROSSING EXISTING ROADWAY AND DRIVEWAY.
- INSTALL CONDUIT AROUND DROP INLETS AND OVER PIPE CULVERT.
- CONDUCT A MINIMUM 14-DAY BURN TEST FOR THE COMPLETE LIGHTING SYSTEM. LUMINAIRES WITH BURNED OUT AND NOTICEABLY DIM L.E.D. SHALL BE REPLACED. MALFUNCTIONING EQUIPMENT SHALL BE CORRECTED, AND RETEST THE SYSTEM. OTHERWISE REMOVE AND REPLACE WITH NEW EQUIPMENT.

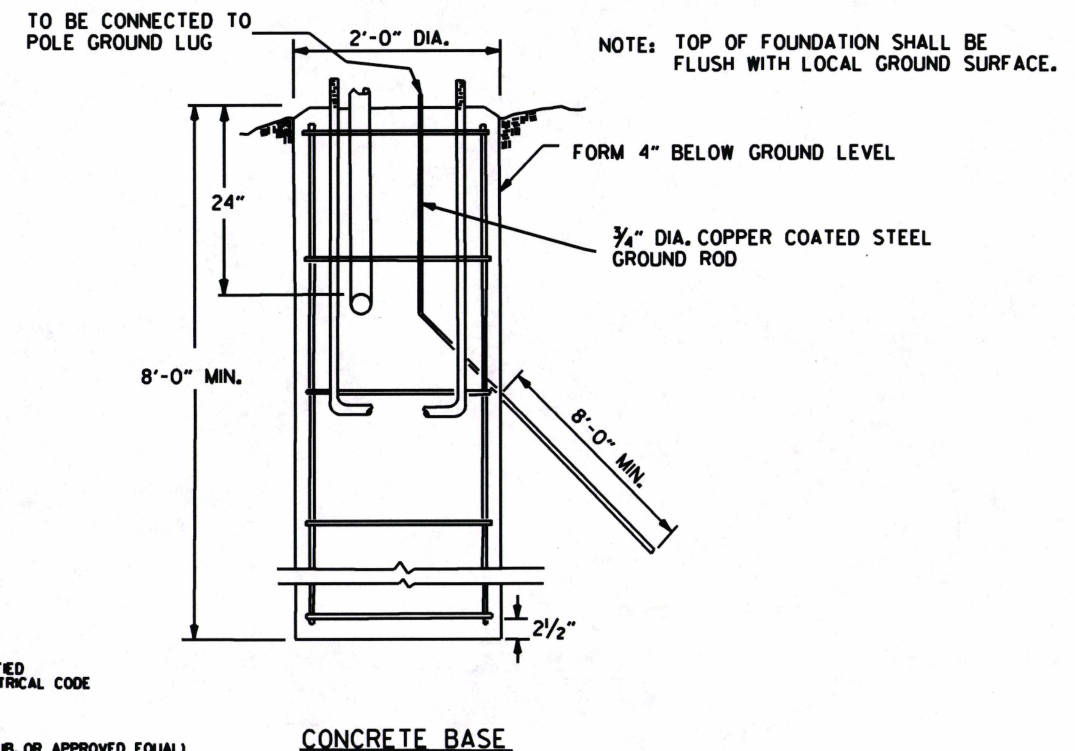
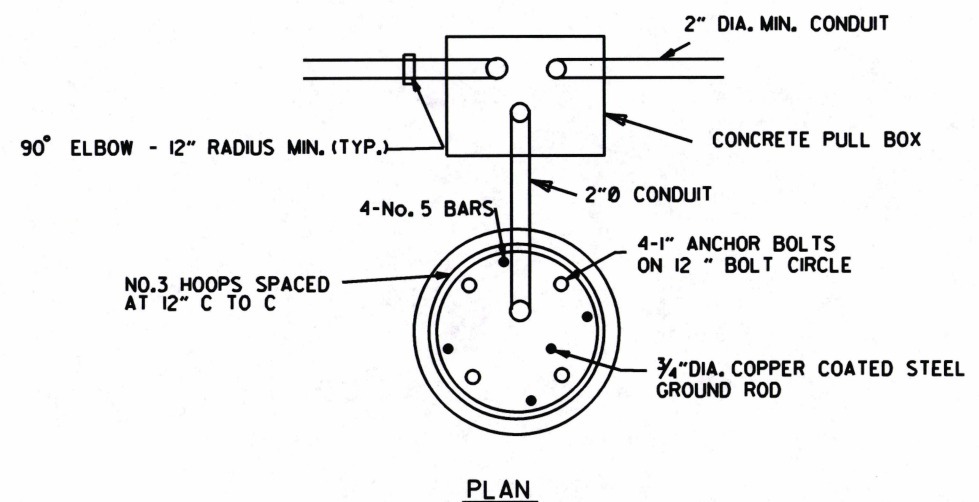
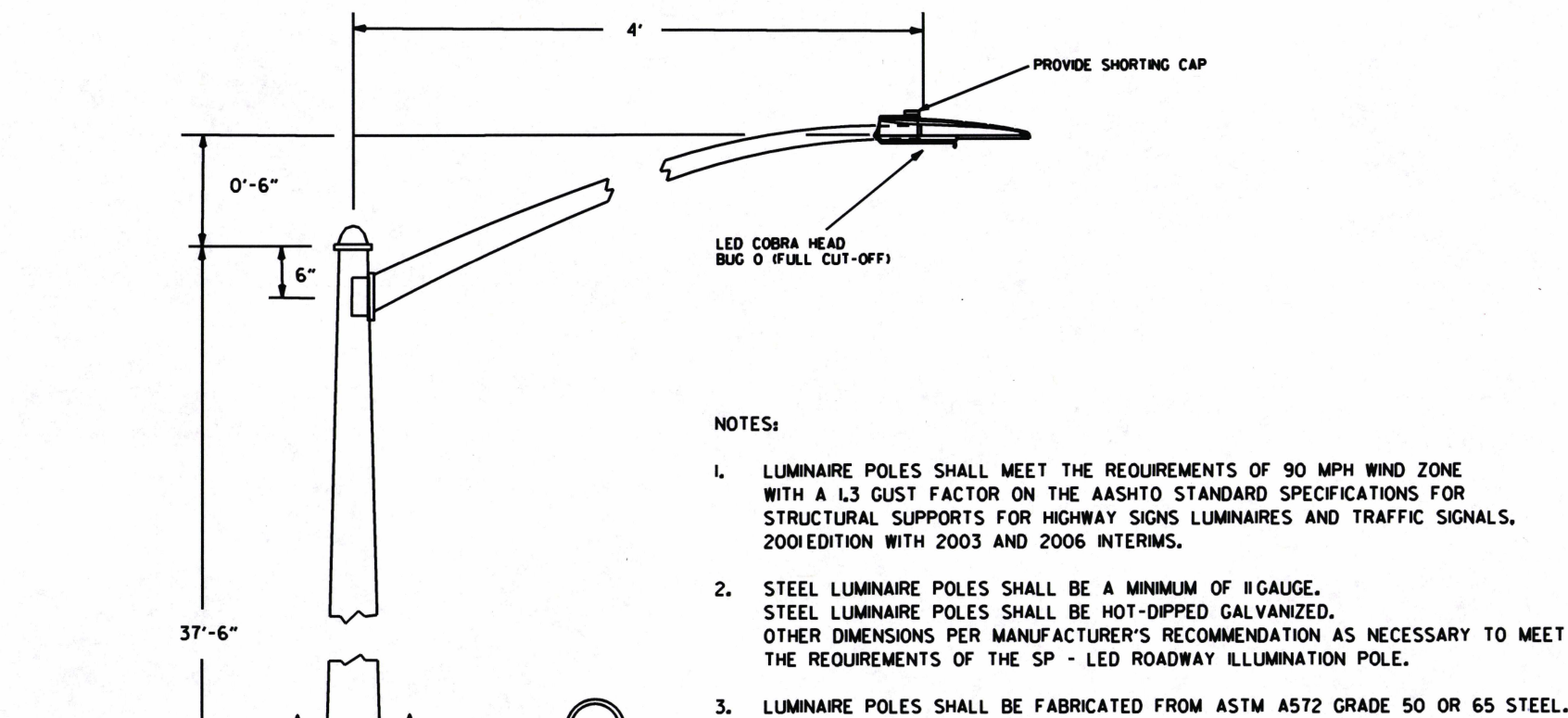


HWY. 12/HWY. 43 INTERS.
ILLUMINATION LAYOUT

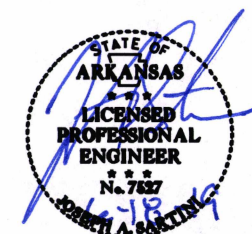
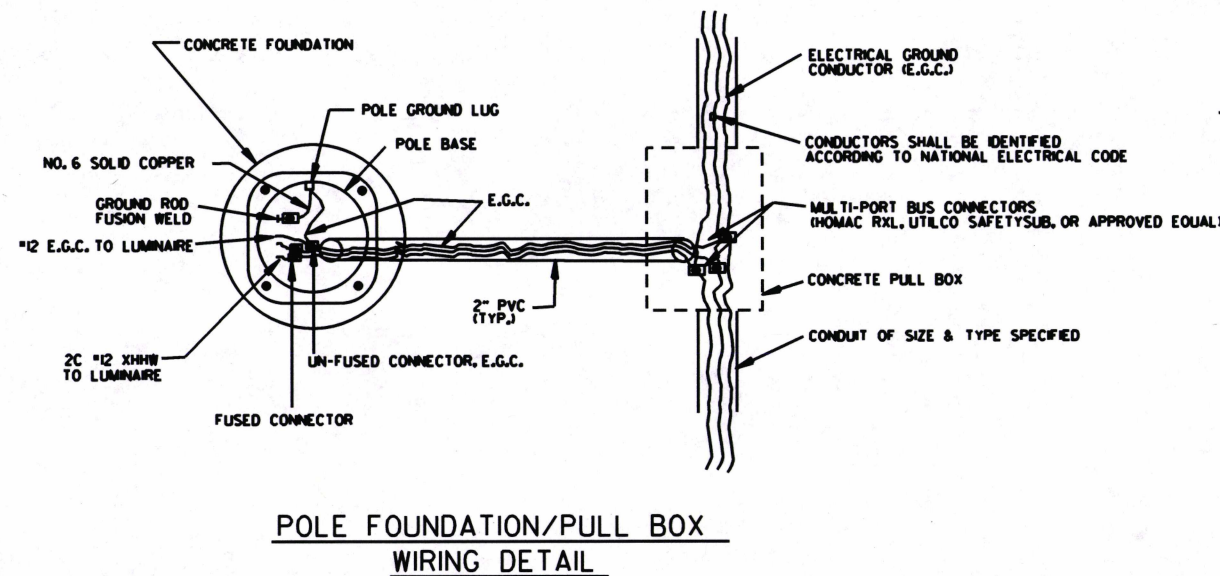
W090445.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. NO. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	37	51

2 ILLUMINATION POLE DETAILS



COBRA HEAD LUMINAIRE WITH SHOE BASE

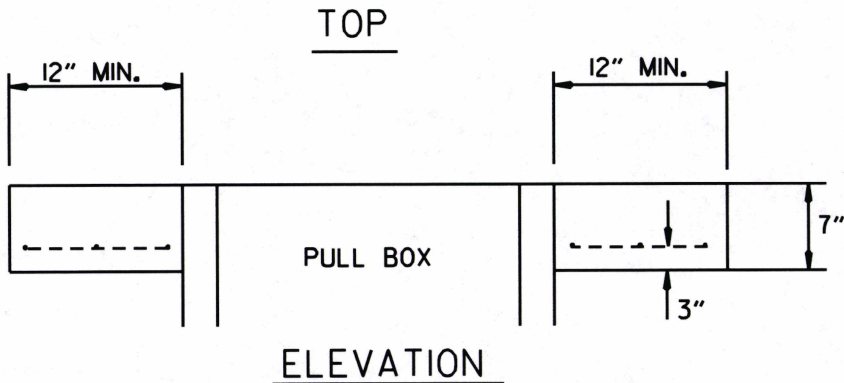
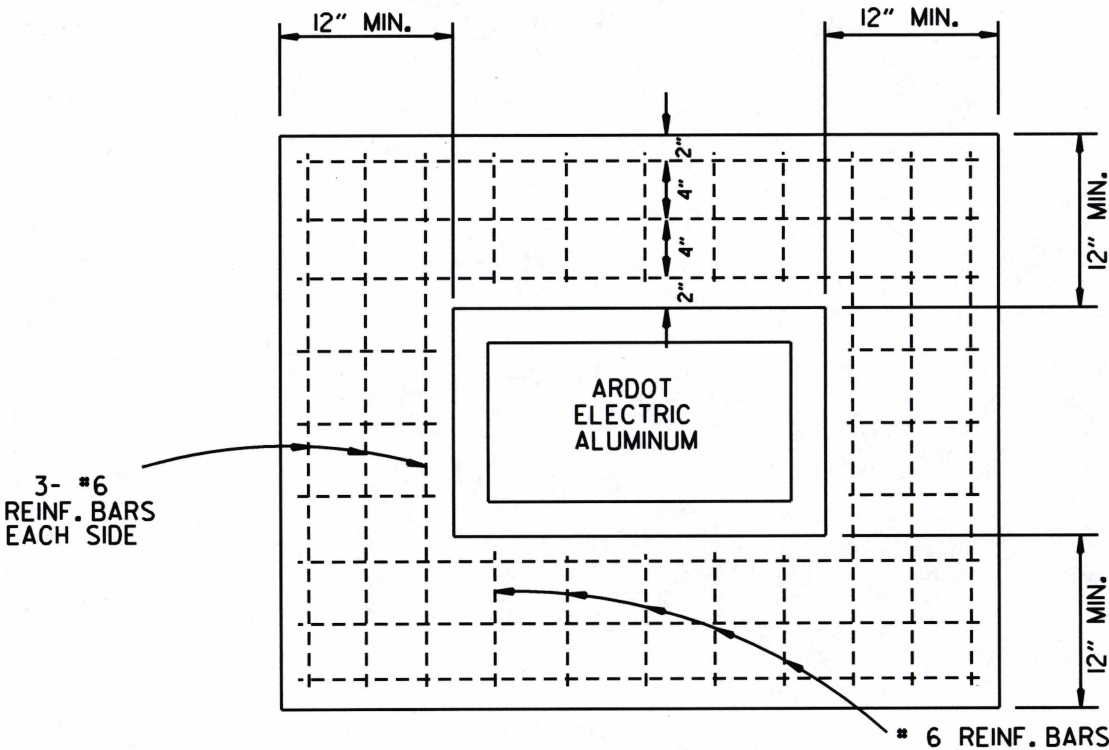


HWY. 12/HWY. 43 INTERS.
ILLUMINATION POLE DETAILS

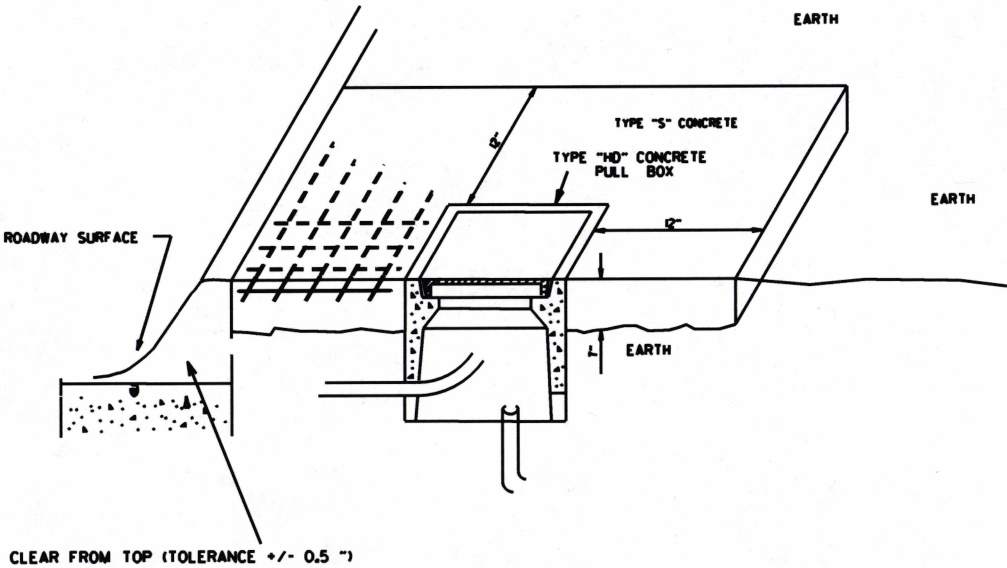
DATE REVISED	DATE REVISED	DATE REVISED	DATE REVISED	FED. PROJ. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	090445		38	51
2 PULL BOX DETAILS								

DETAILS OF CONCRETE APRON FOR TYPE "HD" PULL BOX

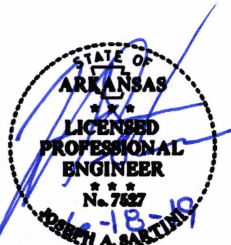
- NOTES:
- ALL REINFORCING BARS TO BE GRADE 60.
 - PULL BOX LID SHALL BE LABELED "ARDOT", "ELECTRIC", AND "ALUMINUM".



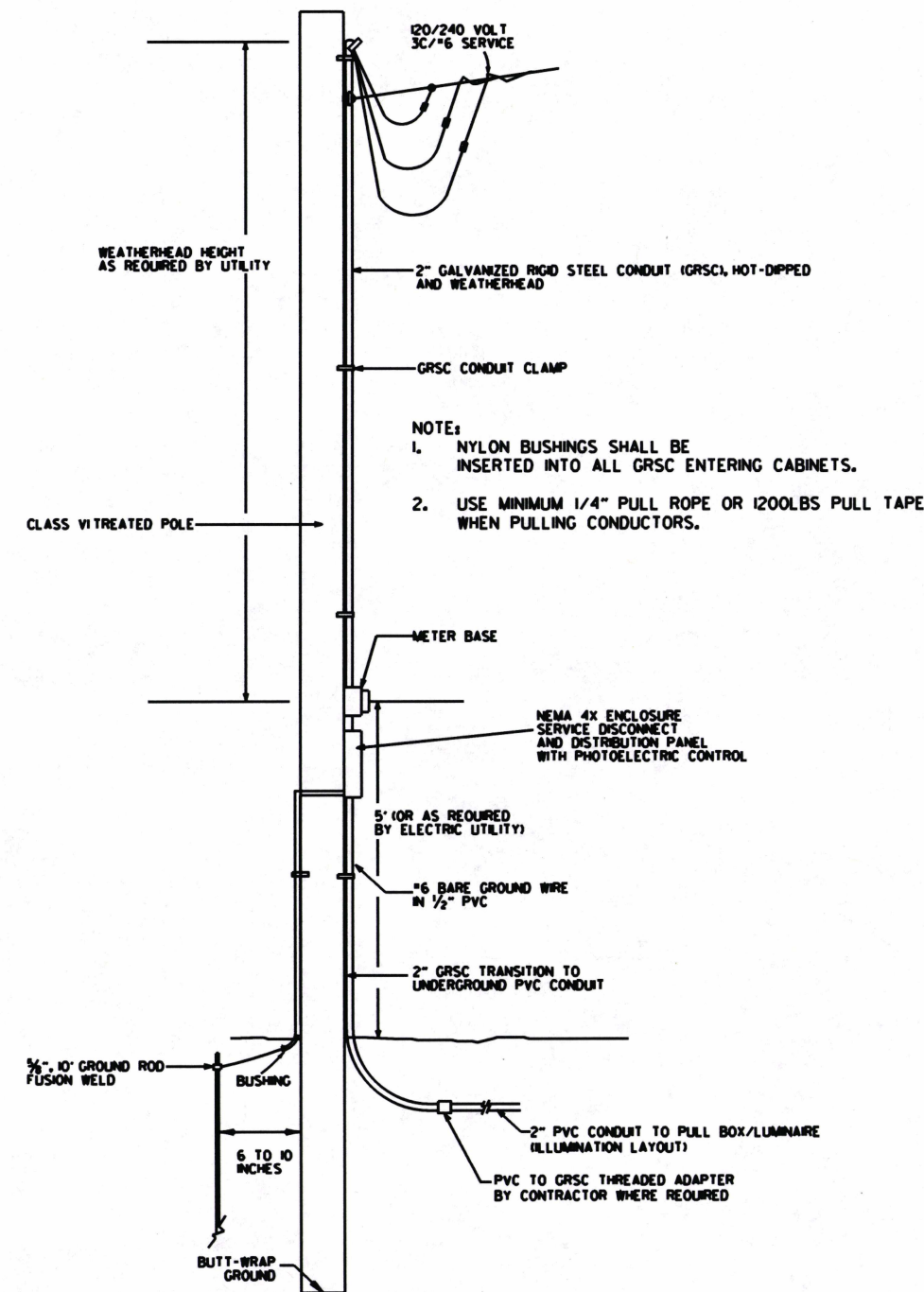
TYPE "HD" CONCRETE PULL BOX



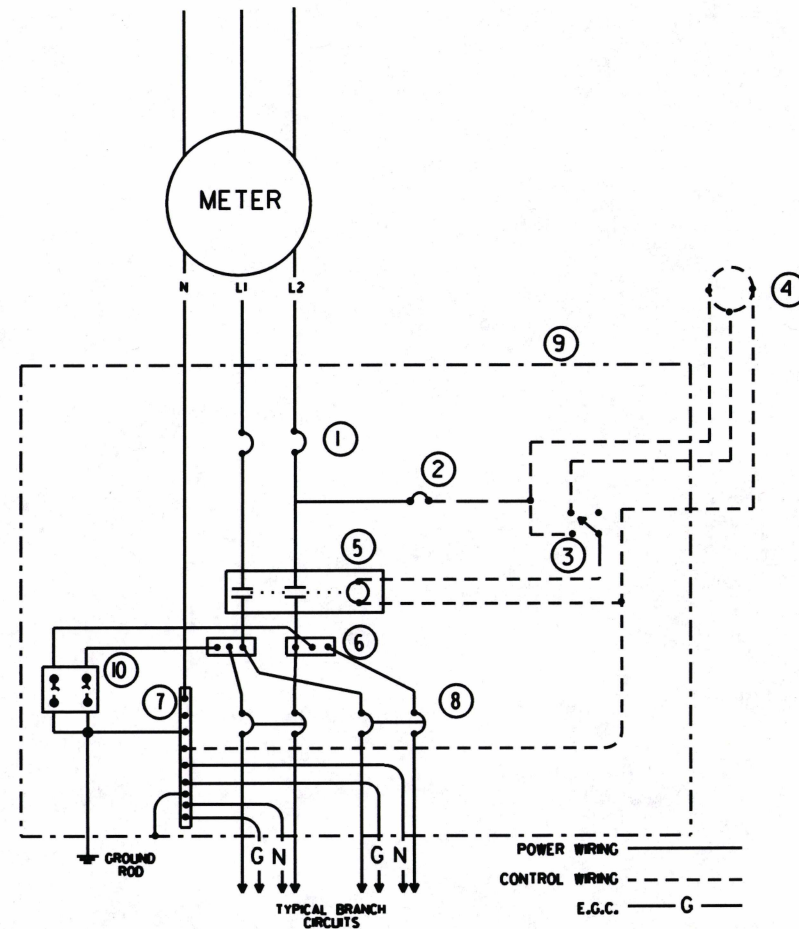
- NOTE:
- ALL TYPE AND TYPE 2 HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 7" (178 MM) IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE 2 HD PULL BOX.
 - PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.
 - THE CONCRETE SHALL BE CLASS "S." THREE (3) #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE PULL BOX IS REQUIRED IN CONCRETE.
 - THE PULL BOX SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING THAT WILL SERVE AS A SUMP. THE BEDDING SHALL EXTEND MINIMUM 18" BELOW THE BOTTOM OF THE PULL BOX.
 - INSTALL CONDUIT BUSHING ON THE END OF CONDUIT.
 - MAINTAIN SUFFICIENT SPACE BETWEEN ALL CONDUITS TO ALLOW PROPER INSTALLATION OF BUSHINGS.
 - ALL REINFORCING BARS SHALL BE GRADE 60.
 - PULL BOX LID SHALL BE LABELED "ARDOT", "ELECTRIC", AND "ALUMINUM".



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	090445		39	51
② WIRING DIAGRAM								

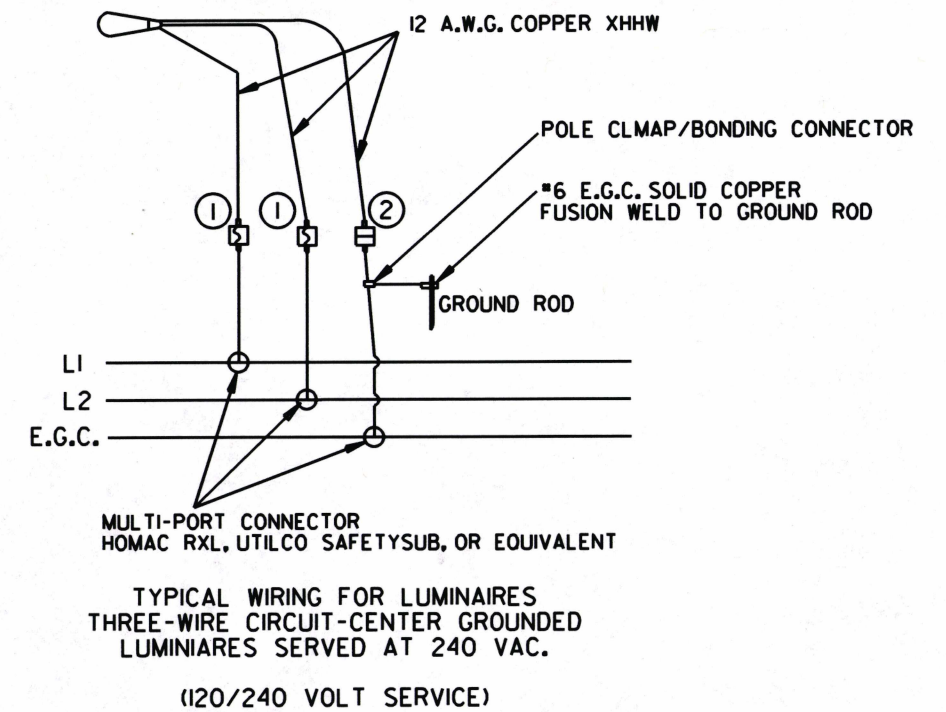


LUMINAIRE SERVICE POINT ASSEMBLY
120V/240 VAC LUMINAIRE SERVICE POINT ASSEMBLY
FOR ROADWAY LIGHTING



TYPICAL PROPOSED ELECTRICAL SERVICE
WIRING DIAGRAM

- KEYED NOTES
- ① MAIN DISCONNECT CIRCUIT BREAKER
SEE ELECTRICAL SERVICE DATA TABLE FOR SIZE
 - ② CIRCUIT BREAKER, 15 AMP
 - ③ CONTROL STATION (HAND-OFF-AUTO)
 - ④ PHOTO ELECTRIC CONTROL, 240 VAC
 - ⑤ LIGHTING CONTACTOR, 240 VOLT COIL
 - ⑥ POWER DISTRIBUTION TERMINAL BLOCKS
 - ⑦ NEUTRAL/GROUND BUS
 - ⑧ BRANCH CIRCUIT BREAKERS
SEE ELECTRICAL SERVICE DATA TABLE FOR SIZE
 - ⑨ ENCLOSURE, NEMA 4X
 - ⑩ LIGHTNING ARRESTOR, CONNECT TO GROUNDING
ELECTRODE CONDUCTOR



LUMINAIRE WIRING SCHEMATICS

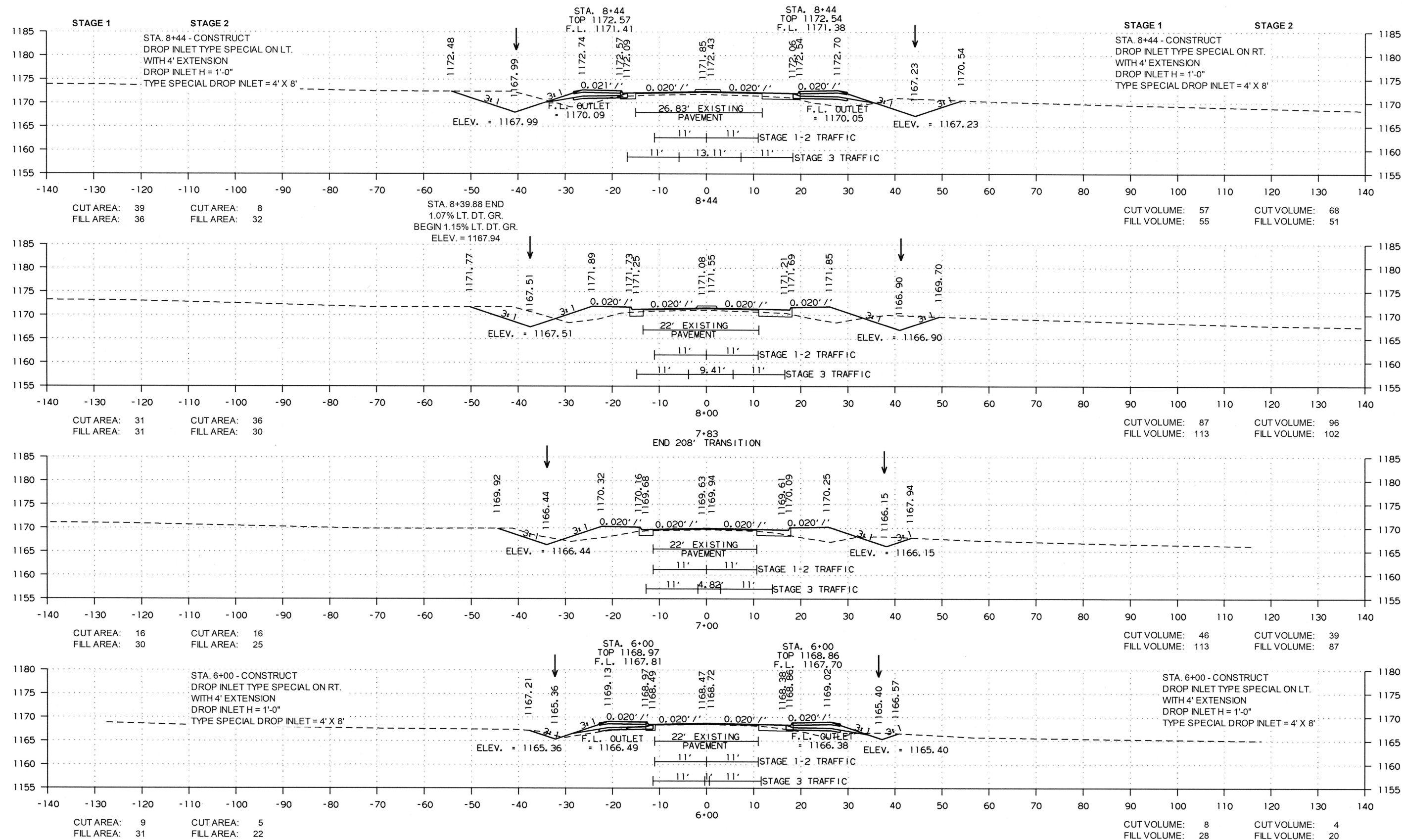
- KEYED NOTES:
- ① FUSED CONNECTOR SHALL BE WATERTIGHT.
USE A FUSED CONNECTOR FOR THE LINE WIRE ON ALL POLES.
 - ② UN-FUSED CONNECTOR SHALL BE WATERTIGHT.
 - ③ E.G.C. SHALL BE BONDED TO THE POLE AND GROUND ROD.

- GENERAL NOTES:
1. ALL ELECTRICAL CONNECTIONS, INCLUDING DUMMY FUSES, SHALL BE WATERTIGHT AND SHALL BE DESIGNED AS BREAKAWAY (HOMAC FLOOD-SEAL, EATON BUSSMANN, OR EQUAL).
 2. ALL ELECTRICAL CONNECTIONS FOR GROUND SHALL HAVE A GREEN COLOR MARKING, AND SHALL HAVE A PERMANENTLY INSTALLED SOLID GROUND (HOMAC FLOOD-SEAL, EATON BUSSMANN, OR EQUAL).



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	41	51

② CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	42	51

② CROSS SECTIONS

STAGE 1

STAGE 2

STA. 9+44.97 END
1.15% LT. DT. GR.
ELEV. = 1169.15

CUT AREA: 55
FILL AREA: 48

CUT AREA: 109
FILL AREA: 30

9+34.36 - TIE TO ROUNDABOUT RIGHT LANE EDGE
STA. 100+00.00, ELEVATION = 1174.23

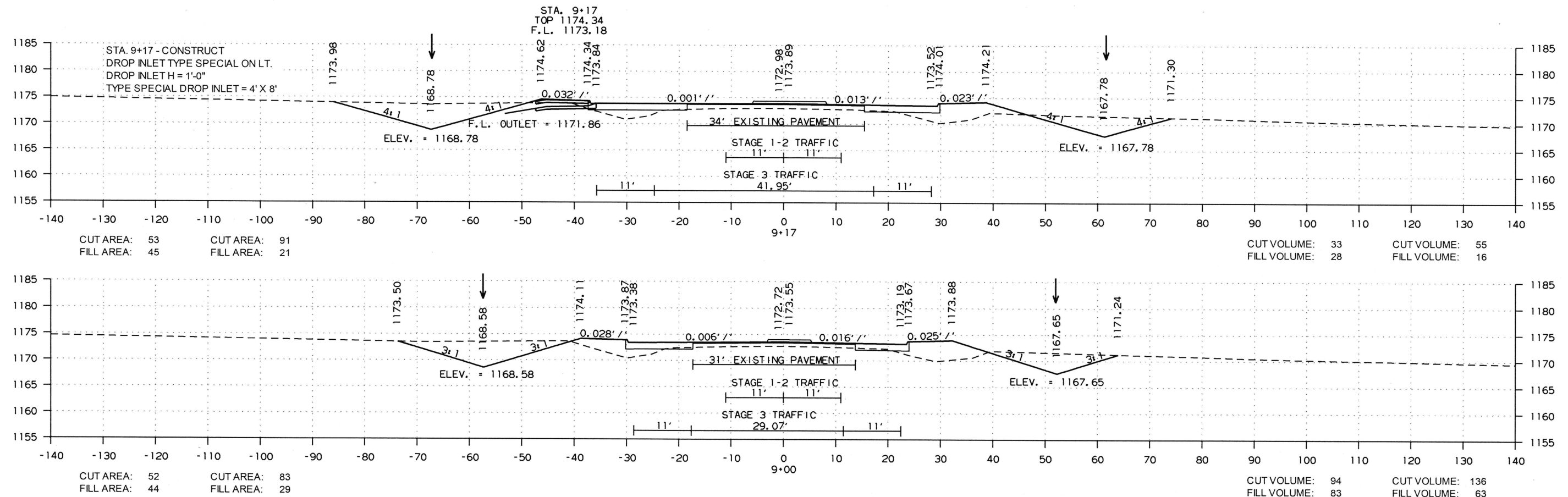
STAGE 1

STAGE 2

CUT VOLUME: 35
FILL VOLUME: 30

CUT VOLUME: 64
FILL VOLUME: 16

STA. 9+32.78 END
0.82% RT. DT. GR.
ELEV. = 1167.93



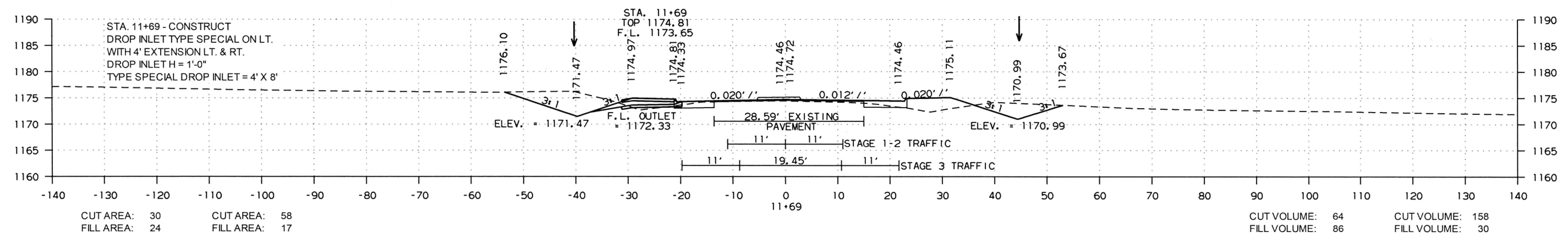
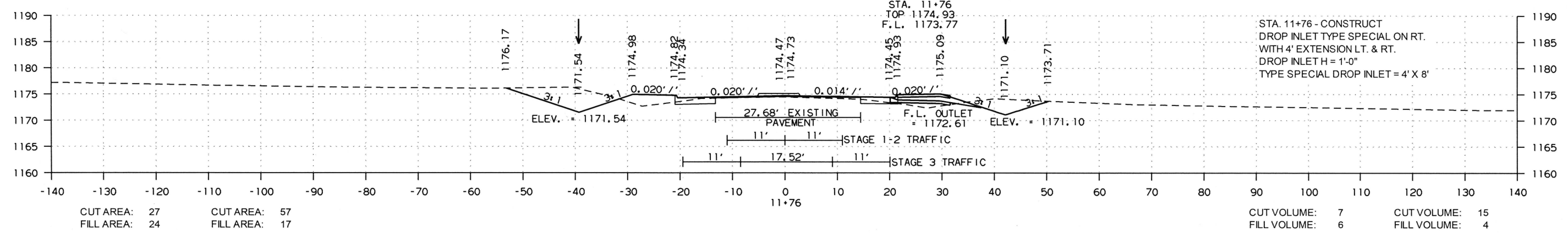
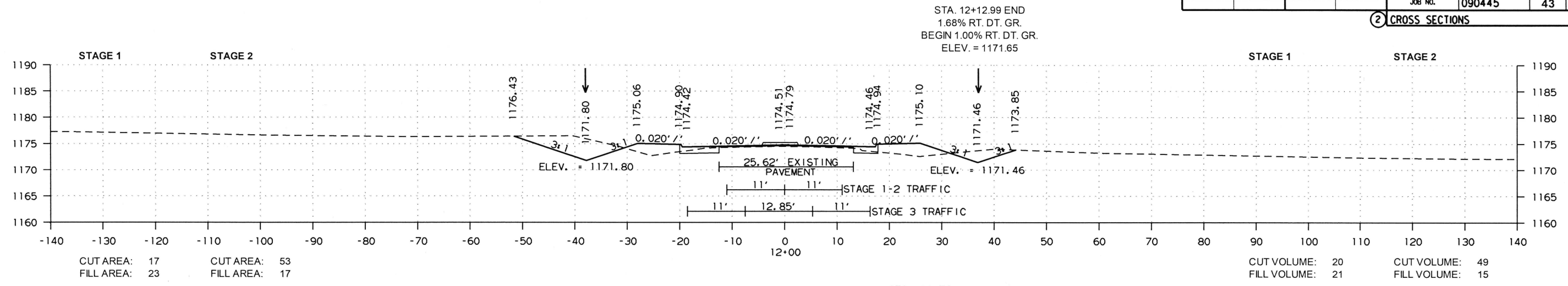
CROSS SECTION STA. 9+00 TO STA. 9+34.36 HWY. 43

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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.	090445		43	51

2 CROSS SECTIONS



STA. 11+68+49 END
0.44% LT. DT. GR.
BEGIN 1.07% LT. DT. GR.
ELEV. = 1171.46

11+14.36 - TIE TO ROUNDABOUT RIGHT LANE EDGE
STA. 102+32.48, ELEVATION = 1175.38

STA. 11+11.33 BEGIN
0.44% LT. DT. GR.
ELEV. = 1171.21

STA. 11+03.57 BEGIN
1.68% RT. DT. GR.
ELEV. = 1169.82

CUT VOLUME: 0
FILL VOLUME: 0

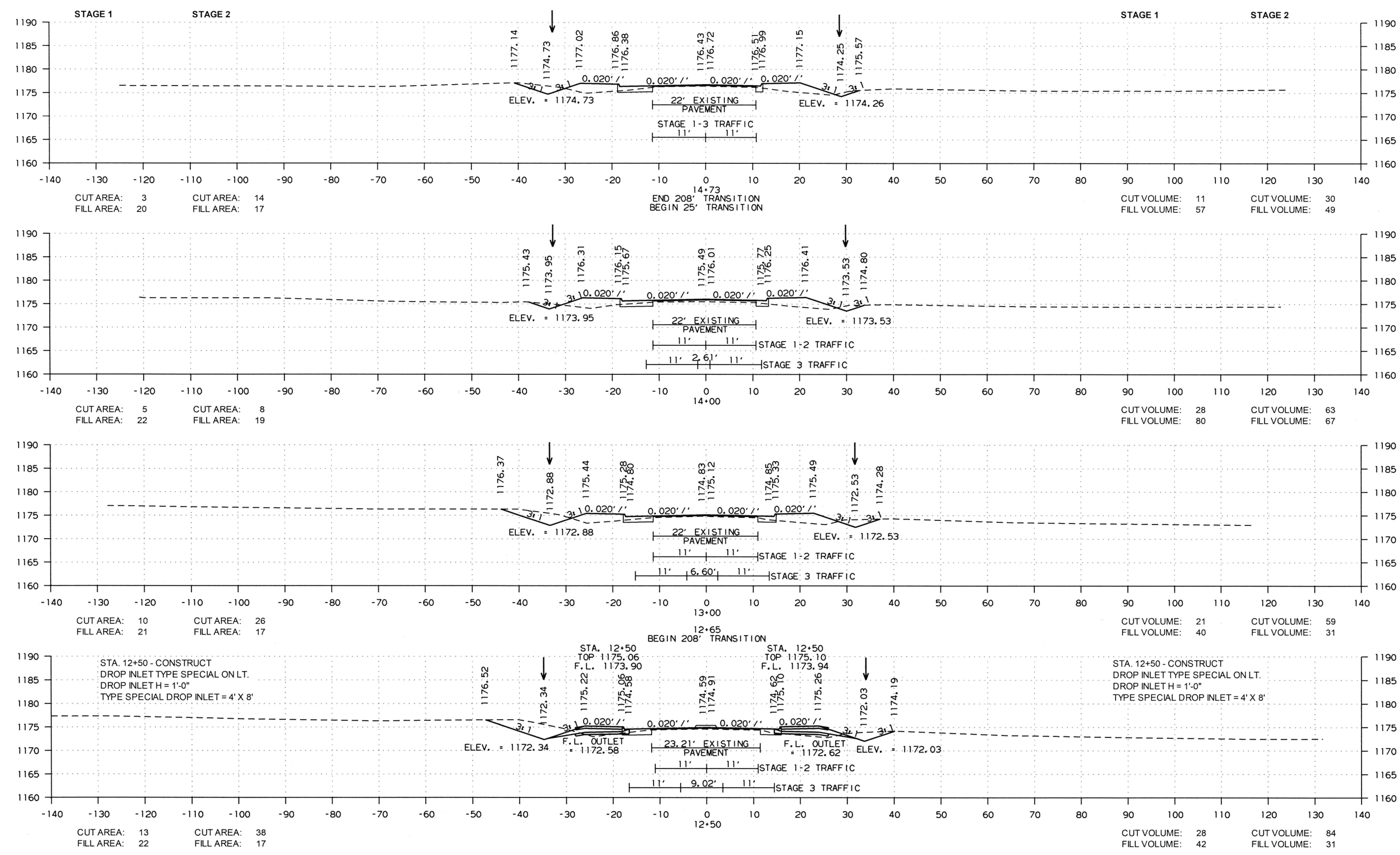
CUT VOLUME: 0
FILL VOLUME: 0

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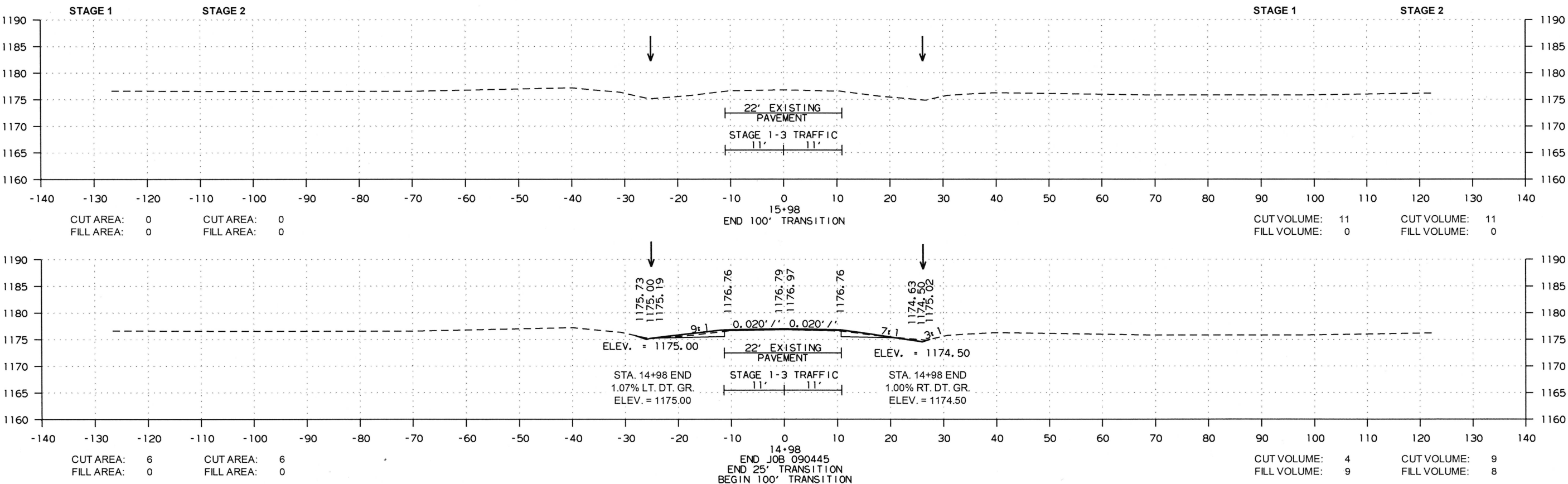
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	090445		44	51

2 CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	45	51

2 CROSS SECTIONS

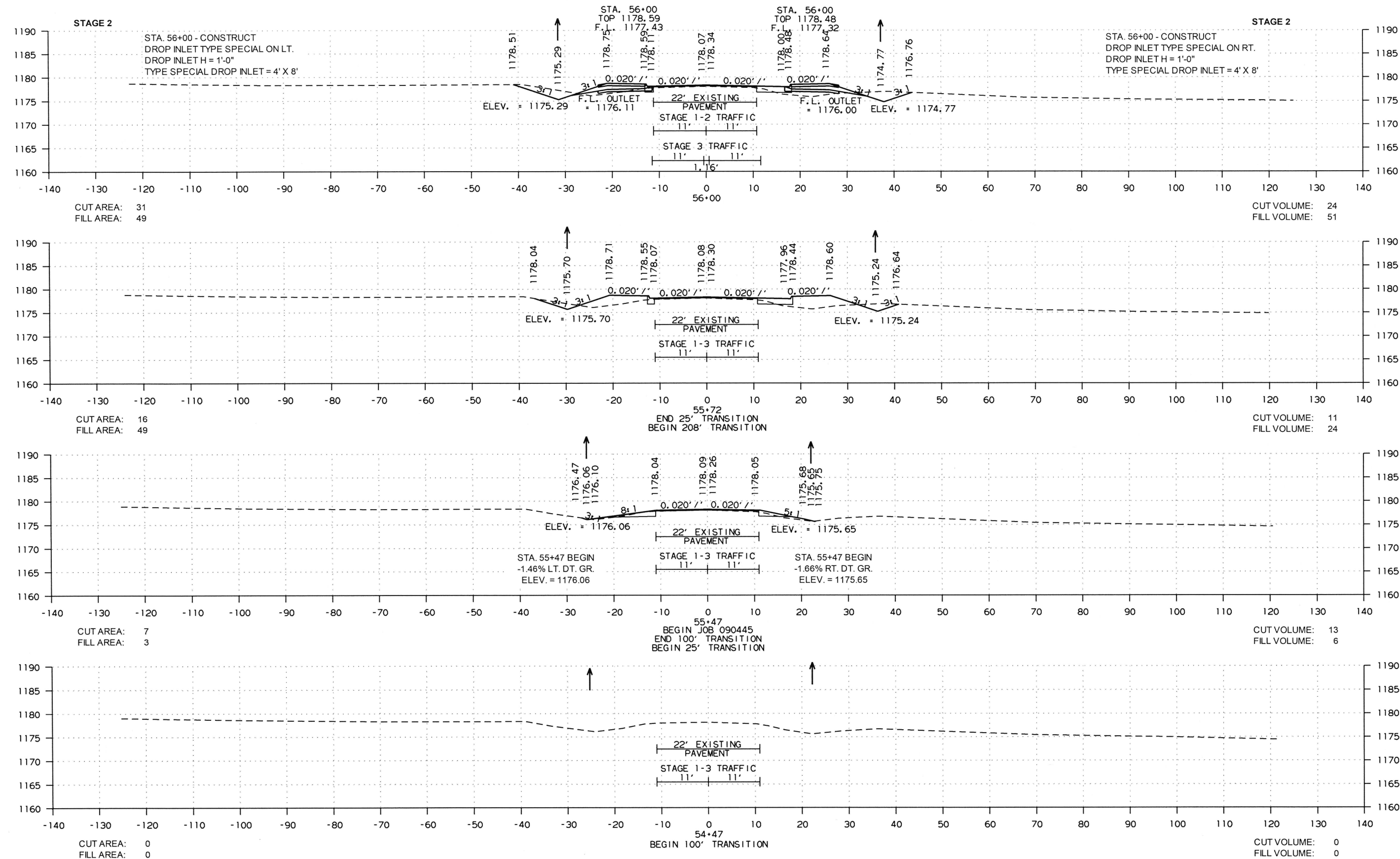


HWY. 43
CROSS SECTION STA. 14+98 TO STA. 15+98

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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.		090445	46	51

2 CROSS SECTIONS

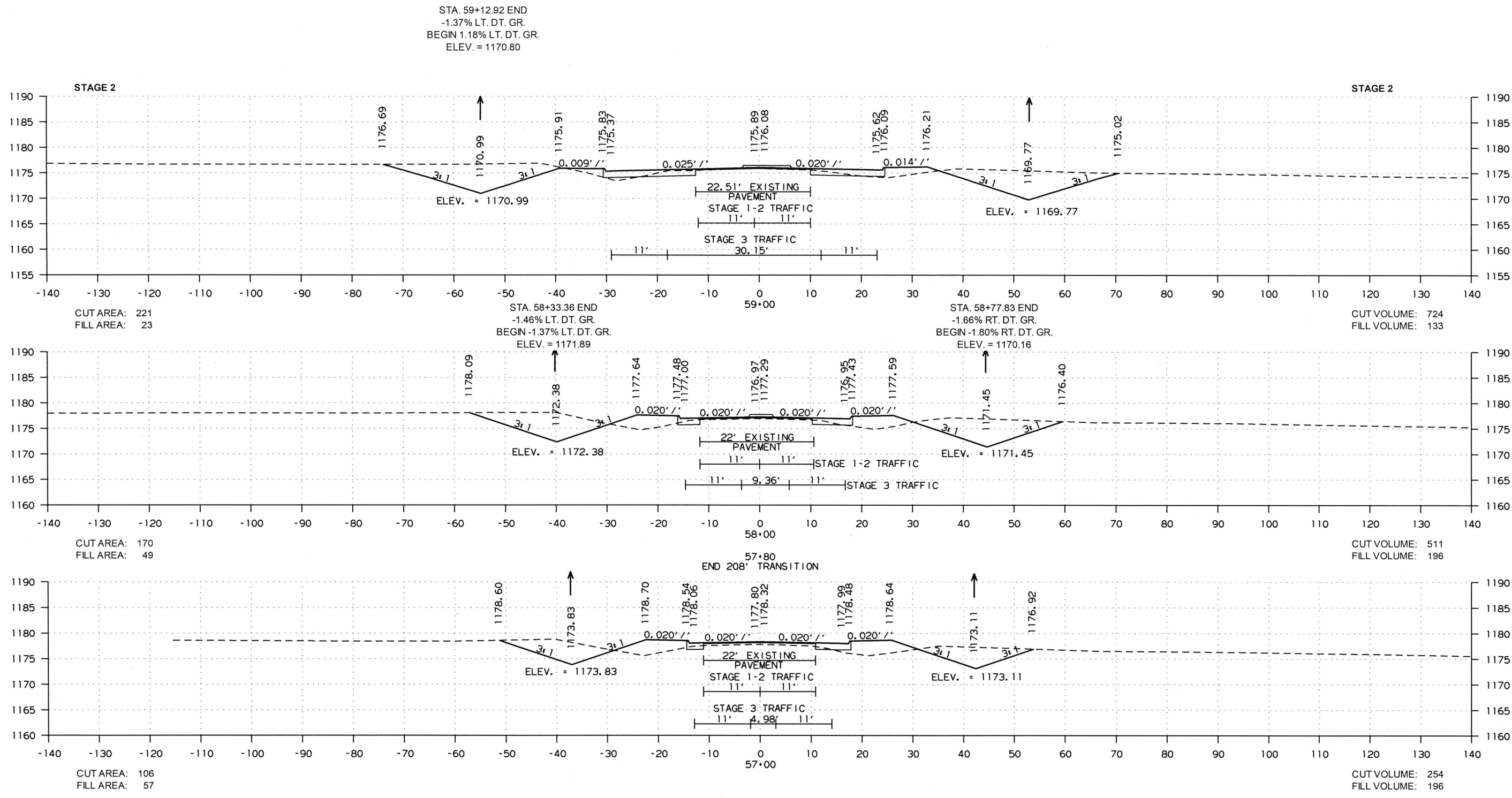


5/7/2019

R090445.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.		090445	47	51

2 CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	48	51

2 CROSS SECTIONS

STAGE 2

STA. 59+46.93 END
1.18% LT. DT. GR.
ELEV. = 1171.20

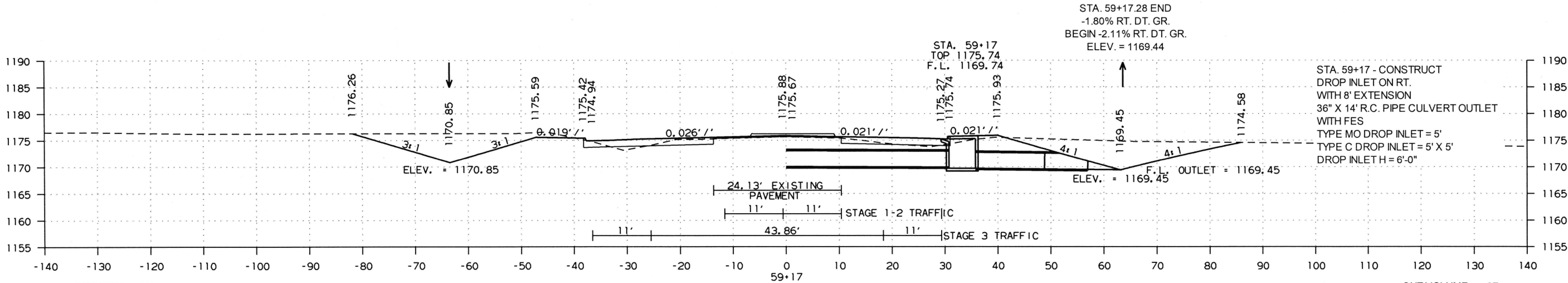
STAGE 2

CUT AREA: 243
FILL AREA: 21

59+31.95 - TIE TO ROUNDABOUT RIGHT LANE EDGE
STA. 103+48.61, ELEVATION = 1175.70

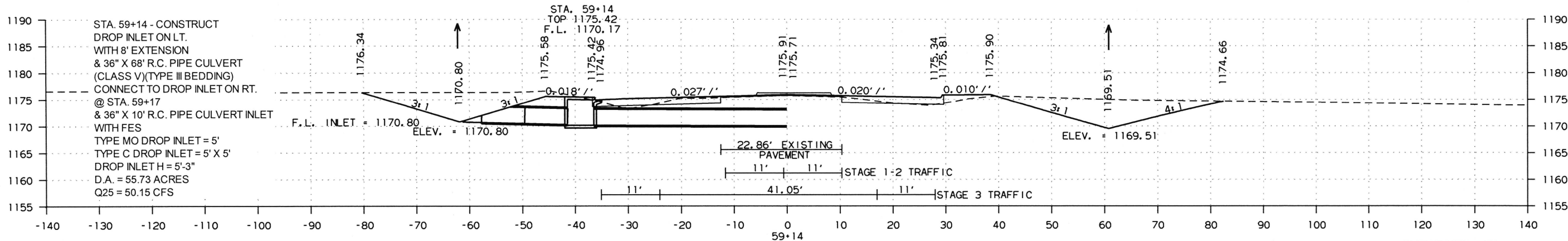
STA. 59+29.39 END
-2.11% RT. DT. GR.
ELEV. = 1169.19

CUT VOLUME: 135
FILL VOLUME: 9



CUT AREA: 243
FILL AREA: 11

CUT VOLUME: 27
FILL VOLUME: 1



CUT AREA: 242
FILL AREA: 11

CUT VOLUME: 120
FILL VOLUME: 9

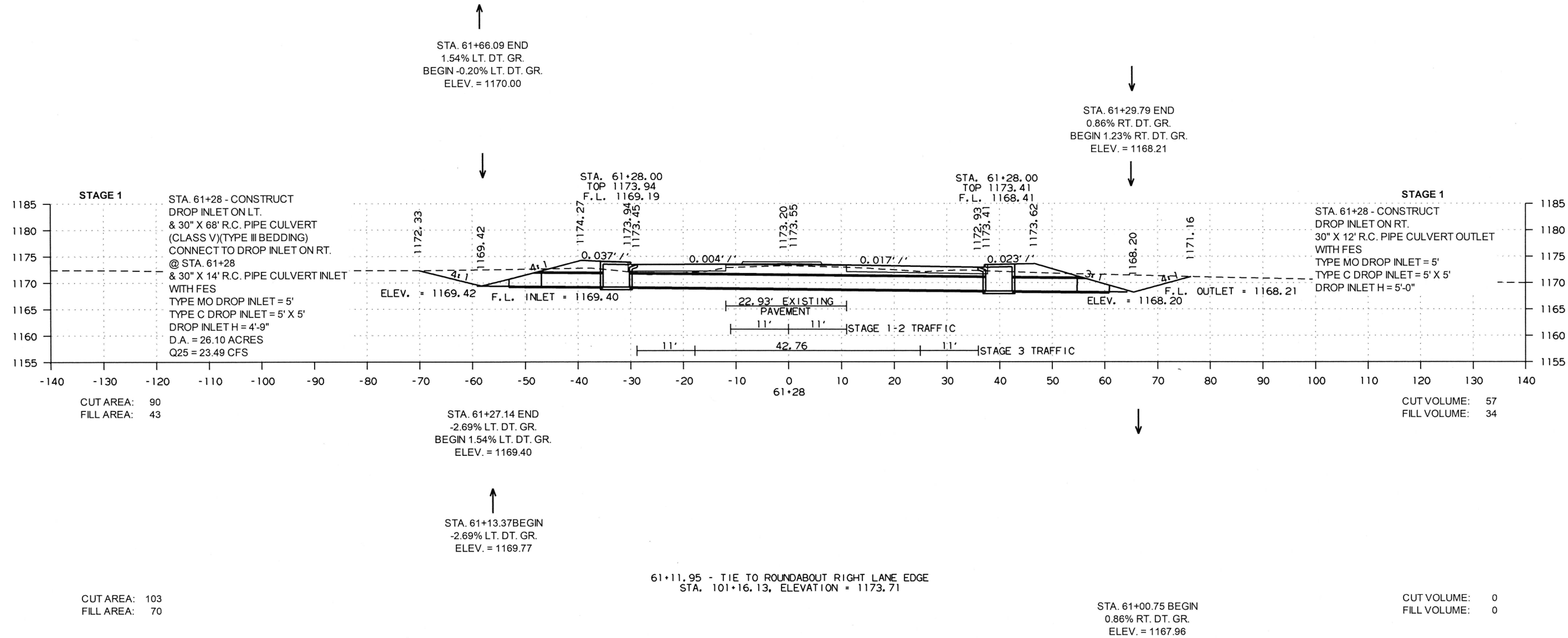
CROSS SECTION STA. 59+14 TO STA. 59+31.95 HWY. 12

5/7/2019

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090445	49	51

2 CROSS SECTIONS

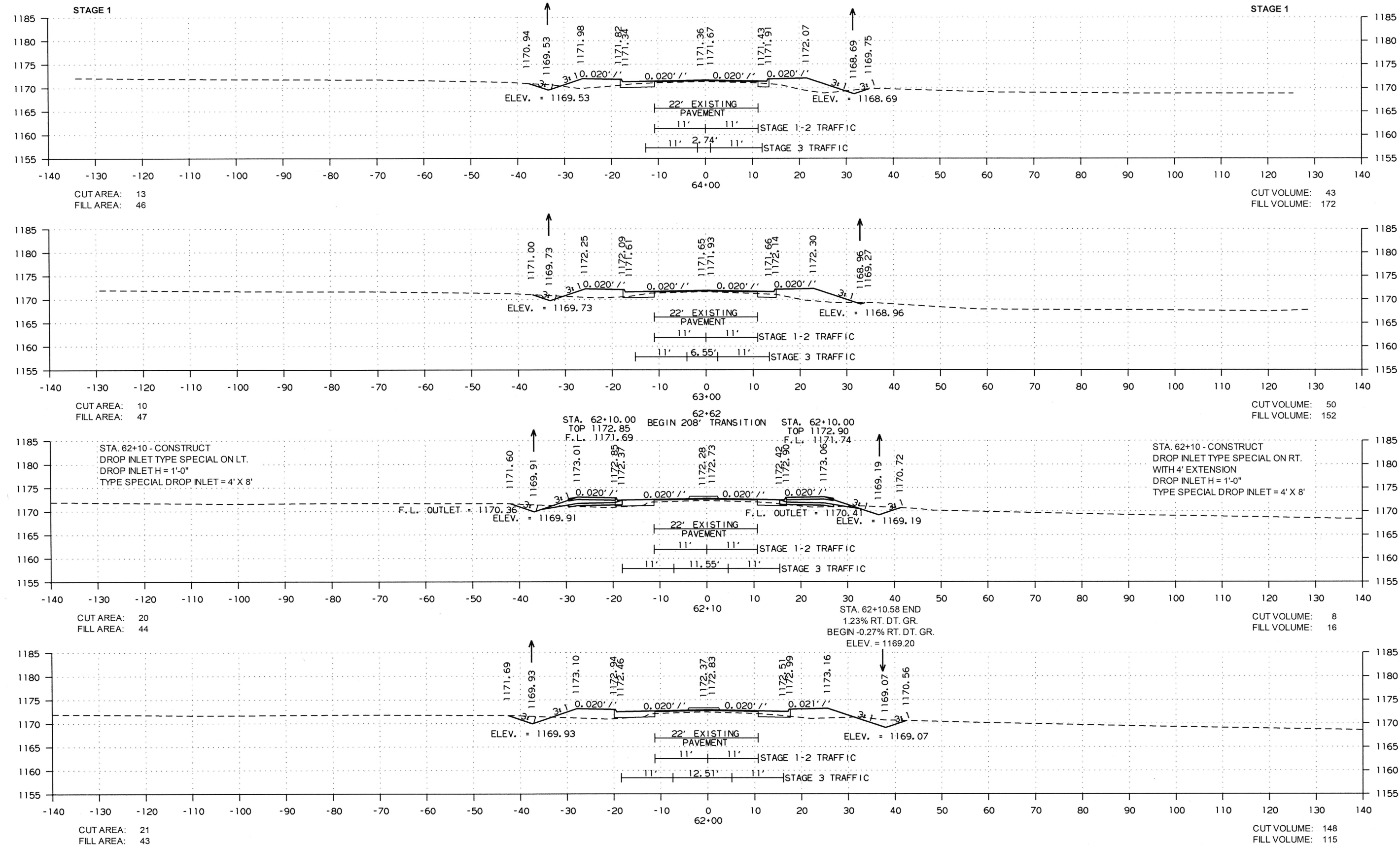


5/7/2019

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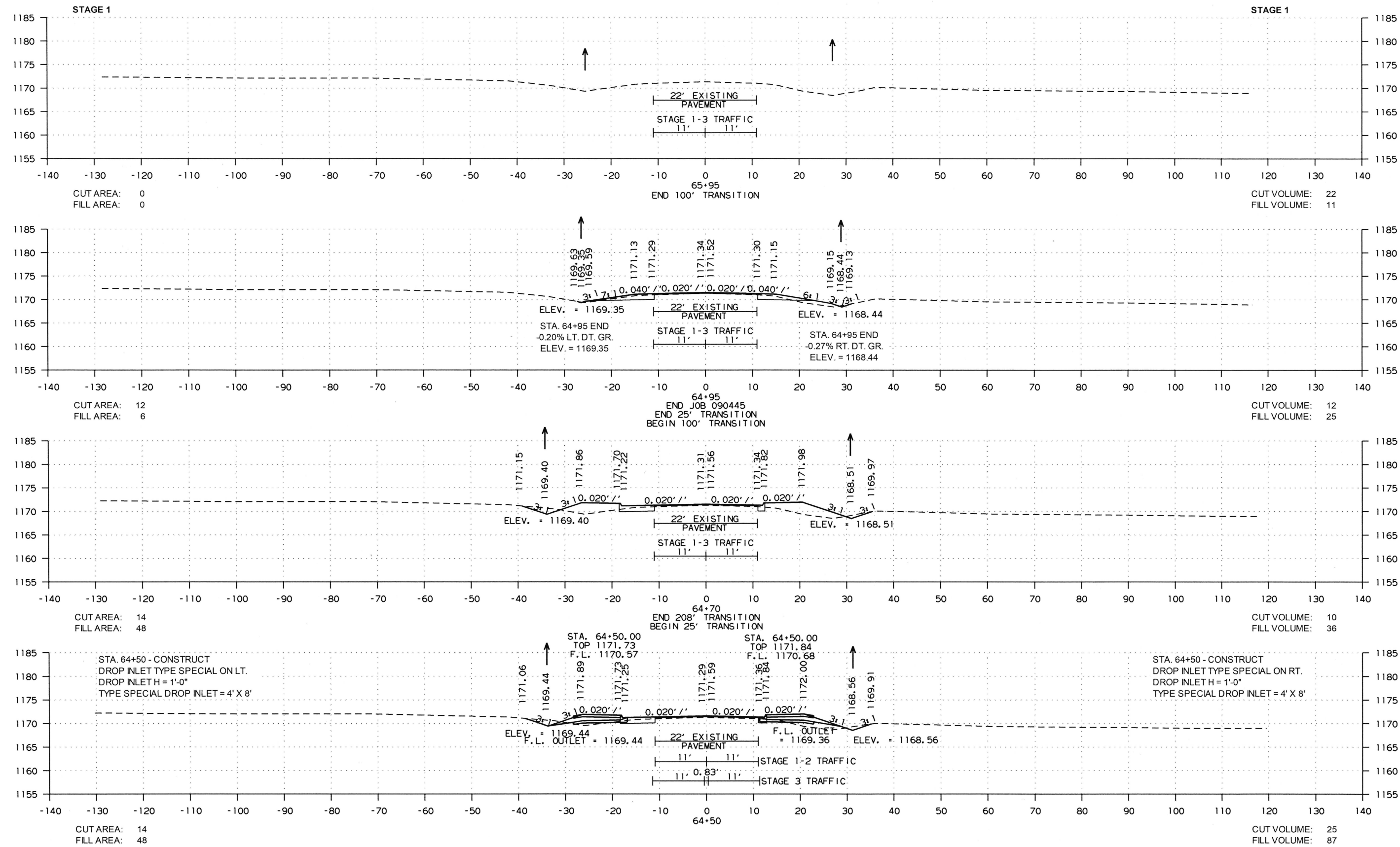
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				6	ARK.			
				JOB NO.		090445	50	51

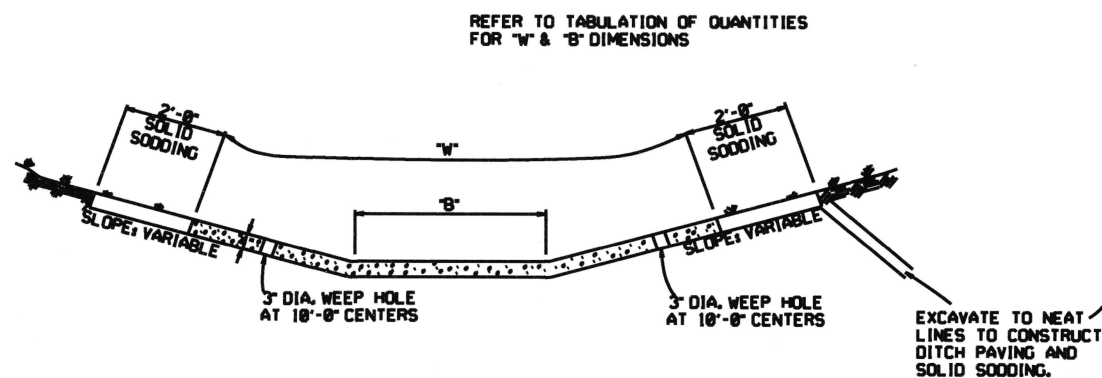
2 CROSS SECTIONS



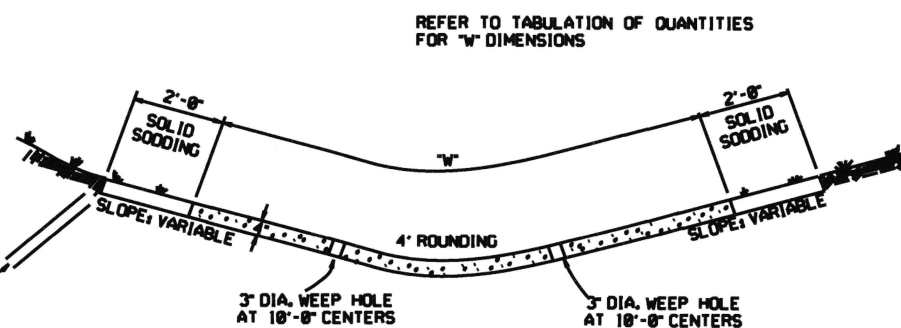
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				6	ARK.			
						JOB NO. 090445	51	51

2 CROSS SECTIONS



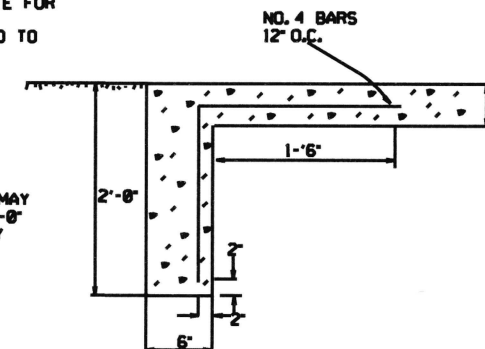


TYPE A

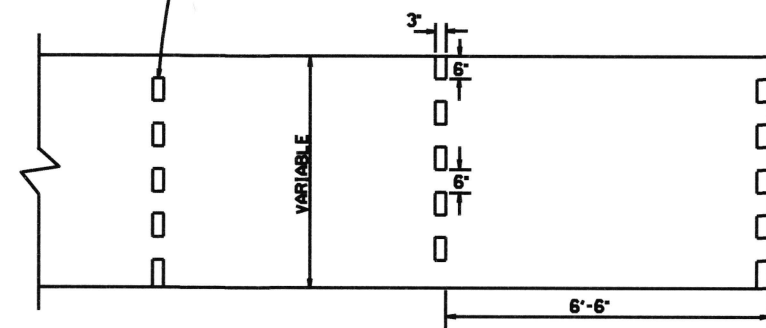
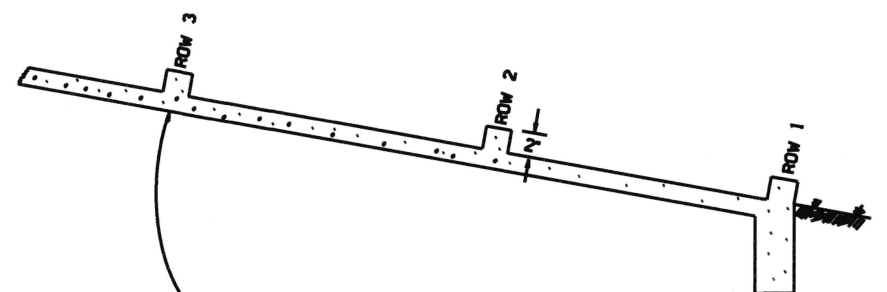


TYPE B

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
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

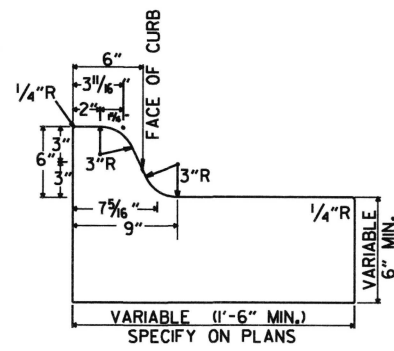
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-15	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-7-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-88	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-14-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-4-87	MODIFIED NOTE ON ENERGY DISS.	632-1-4-87
11-4-86	ADDED NOTE TO ENERGY DISS.	644-12-1-86
11-84	ENERGY DISSIPATOR DETAILS	608-11-1-84
11-84	ADDED	
11-84	EXCAVATION DETAILS ADDED	
10-2-72	TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72
DATE	REVISION	DATE FILM'D

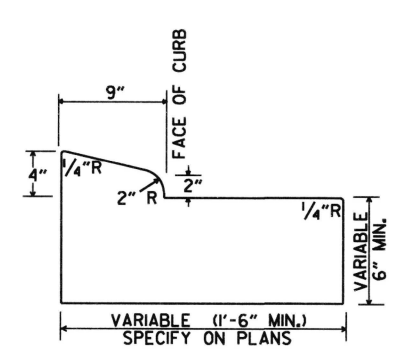
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

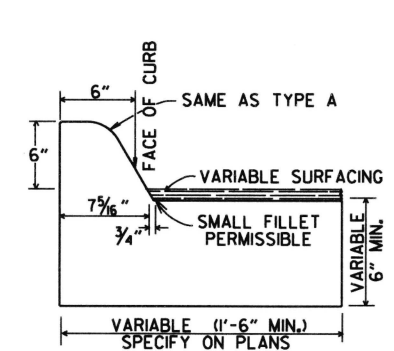
STANDARD DRAWING CDP-1



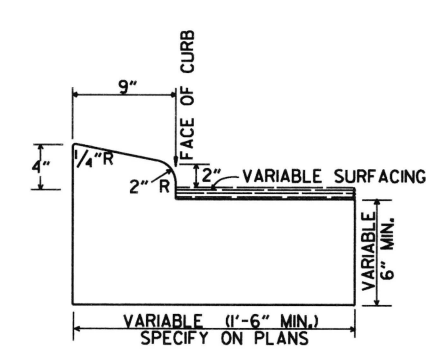
TYPE A



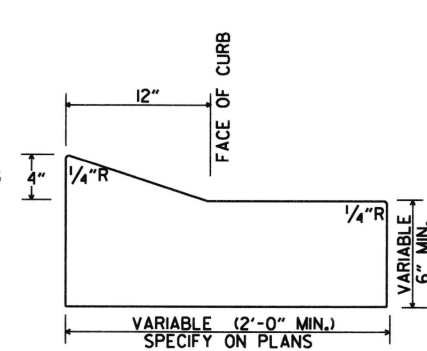
TYPE B-1



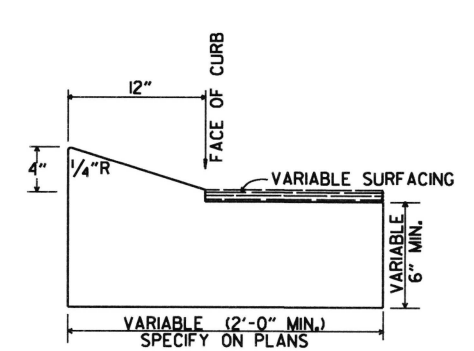
TYPE C



TYPE B-2

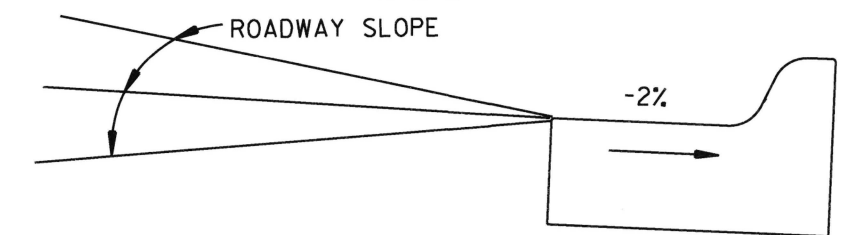


TYPE E-1

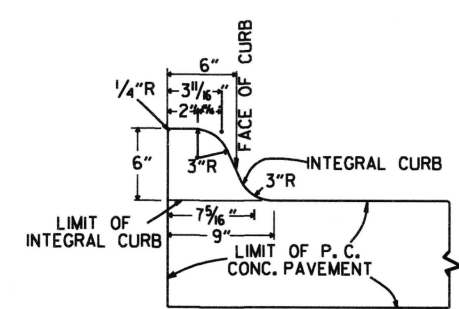


TYPE E-2

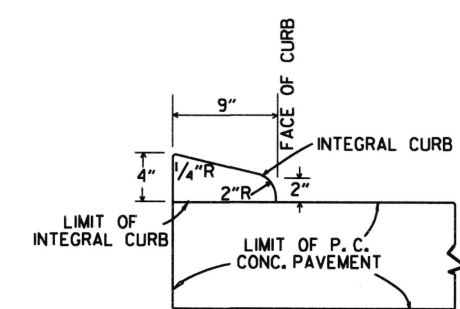
CONCRETE COMBINATION CURB AND GUTTER



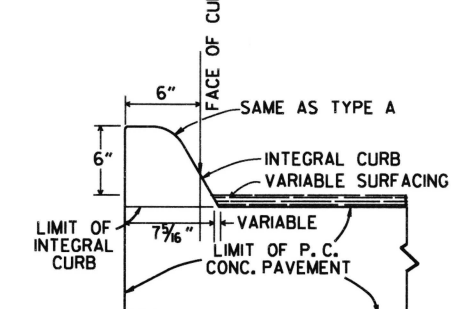
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

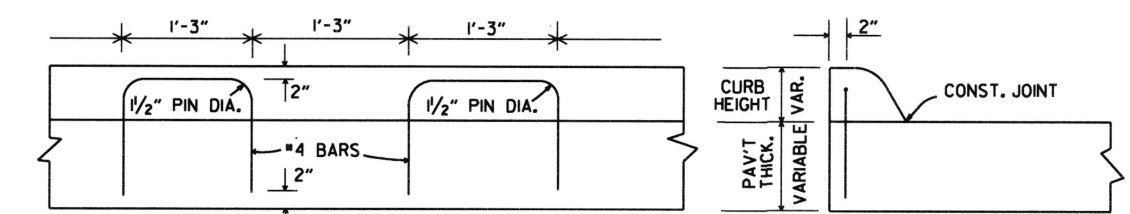


TYPE B



TYPE C

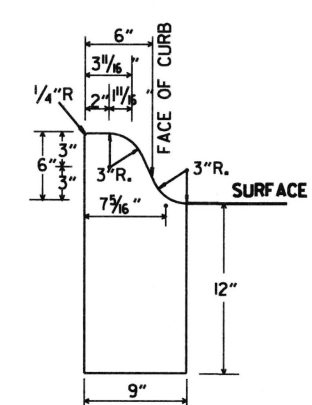
INTEGRAL CURB



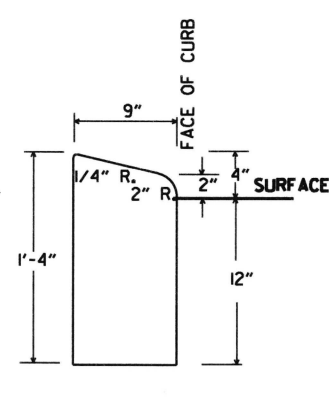
LONGITUDINAL SECTION

ELEVATION

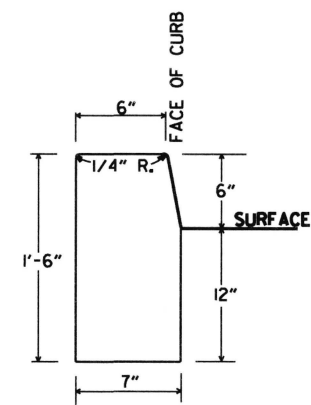
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



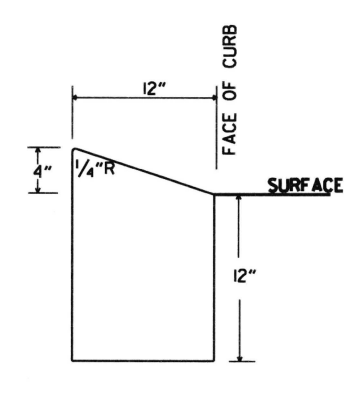
TYPE A



TYPE B

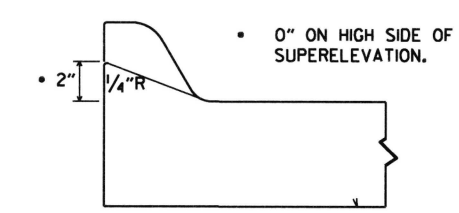


TYPE D



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.

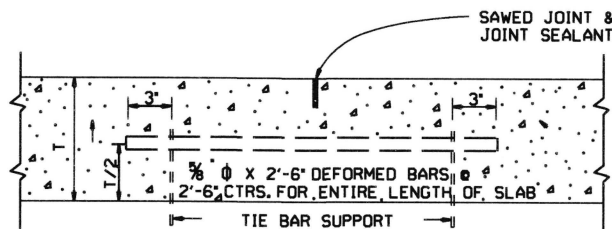
DETAILS OF MODIFIED CURB

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	VARIABLE DEPTH TYPE A & B 1	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

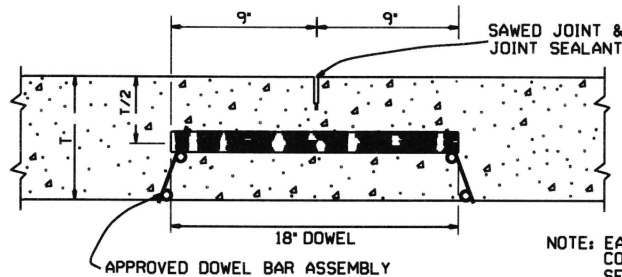
CURBING DETAILS

STANDARD DRAWING CG-1

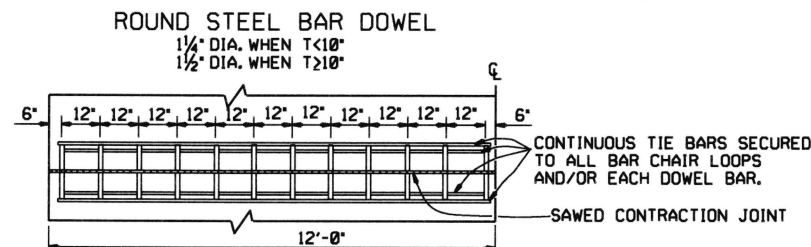


LONGITUDINAL JOINT

NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED. TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.



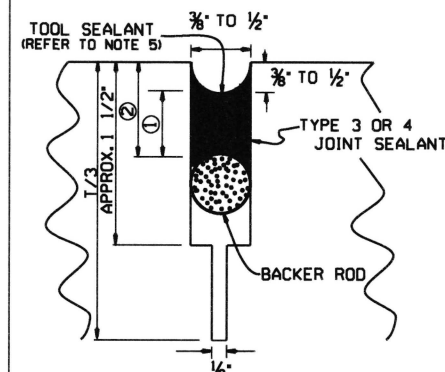
NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.



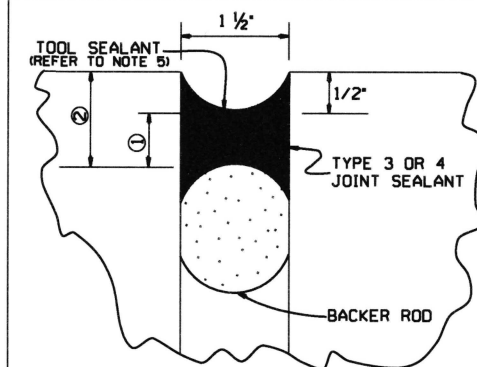
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 26' PAVEMENT USE 26 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12" CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS



DETAIL OF SAWED CONTRACTION JOINT



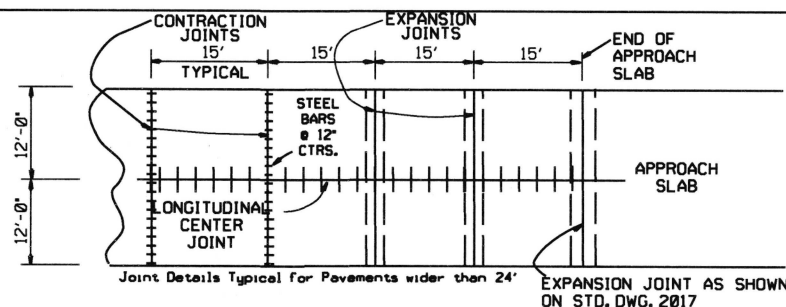
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR
TYPE 3 OR 4 JOINT SEALANT

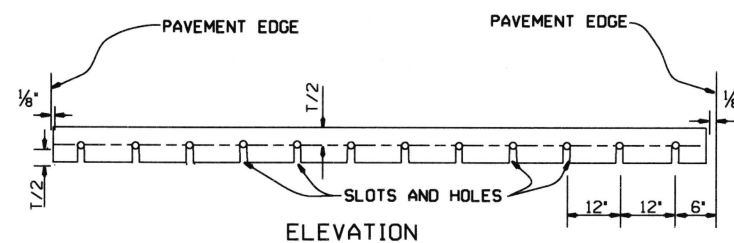
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
1 1/2	3/4	2	1 1/4

JOINT CONFIGURATION FOR
TYPE 5 JOINT SEALANT

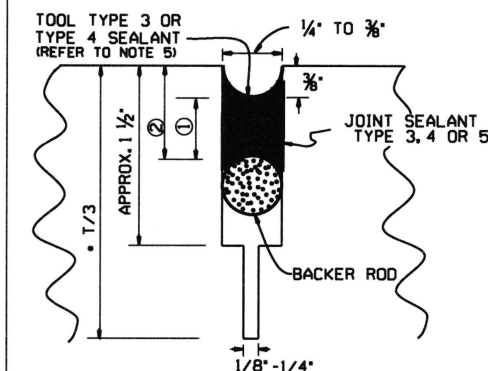
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
1 1/2	3/4	2	1 1/4



PLAN SHOWING EXPANSION JOINTS AT
BRIDGE APPROACH SLABS



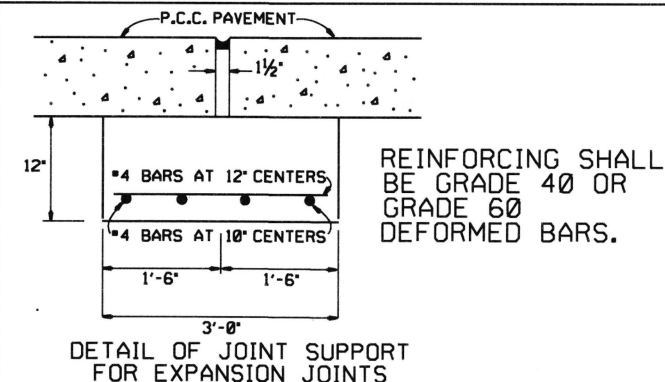
NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED
LONGITUDINAL JOINT
AND LONGITUDINAL CONSTRUCTION JOINT

5-25-06	ADDED GENERAL NOTE 7	
10-9-03	REMOVED TIE BAR COATING & REVISED GENERAL NOTES	
11-16-01	ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3	
4-26-96	REVISED CONTRACTION JOINT NOTE	
11-3-94	ADDED NOTE RE: REINF. BARS	
4-1-93	REVISED DOWEL BARS & GEN. NOTES	4-1-93
10-1-92	REVISED DOWEL SPACING	10-1-92
8-15-91	ADDED SPAC FOR CONTR JTS & DEL KEYWAY	
05-24-90	REVISED TIE BAR, DOWEL & JOINT SIZE	
01-25-90	ADDED EXPANSION JOINT	01-25-90
11-30-89	CHANGED T/4+1 TO T/3+1	11-30-89
03-23-89	ALTERED SAWED JOINT & ADDED NOTE	512-03-23-89
07-15-88	REVISED AND REDRAWN	532-07-15-88
DATE	REVISION	DATE FILMED



DETAIL OF JOINT SUPPORT
FOR EXPANSION JOINTS

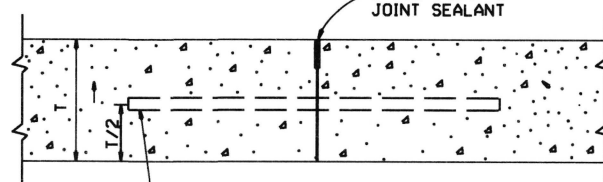
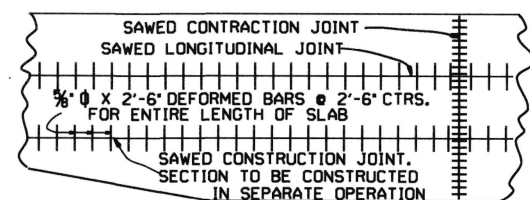
GENERAL NOTES

1. "T" DENOTES THICKNESS OF SLAB.
2. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS 1/4" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED FOR A MINIMUM DISTANCE OF 2" GREATER THAN HALF THE LENGTH OF THE BAR WITH AN APPROVED GREASE AS A BOND BREAKER JUST PRIOR TO PLACEMENT OF CONCRETE.
3. THE EXPANSION JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S" OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE SPECIFIED IN THE PLANS. PAYMENT FOR ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.
4. CONTRACTION JOINTS SHALL BE CONSTRUCTED ON 15' CENTERS.
5. TOOLING NOT REQUIRED FOR SELF-LEVELING SILICONE.
6. UNLESS OTHERWISE SPECIFIED IN THE PLANS, CONCRETE SHOULDERS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN HEREON. CONTRACTION JOINTS SHALL MATCH CONTRACTION JOINTS IN THE LANES.
7. TIE WIRES IN DOWEL BAR ASSEMBLIES SHALL NOT BE CUT PRIOR TO PLACEMENT OF PAVING CONCRETE.

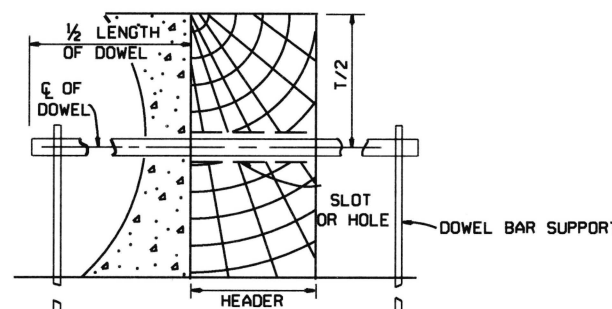
ARKANSAS STATE HIGHWAY COMMISSION

TRANSVERSE & LONGITUDINAL JOINTS
FOR CONCRETE PAVEMENT (NON-REINFORCED)

STANDARD DRAWING CPTJ - 6A

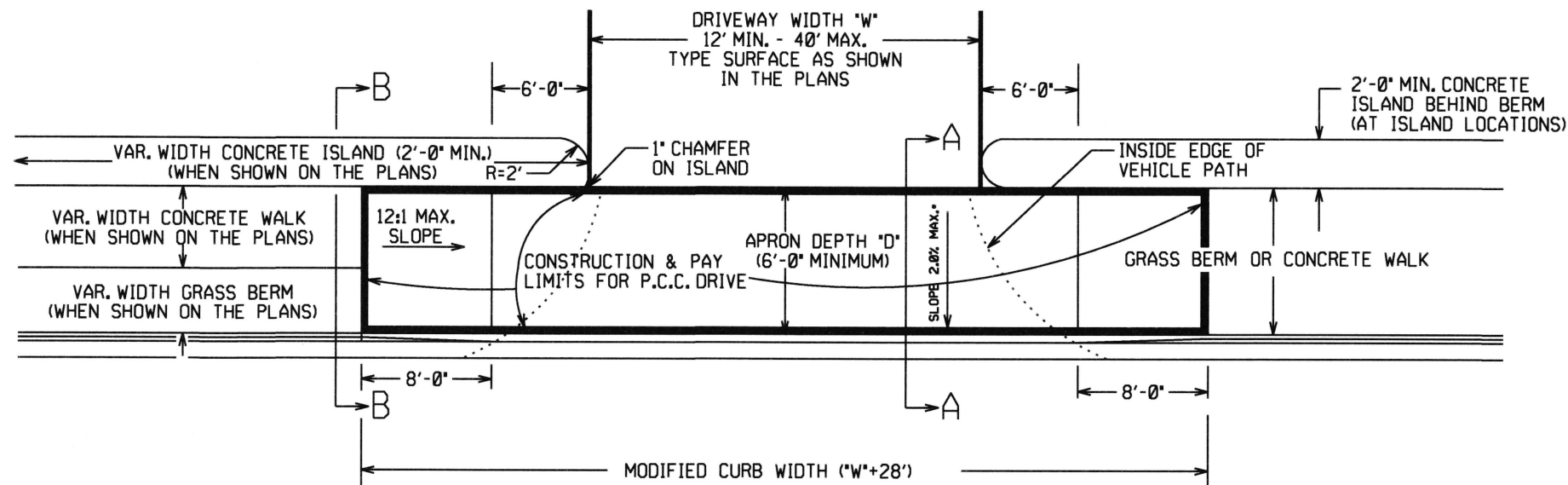


NOTE: TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.
LONGITUDINAL CONSTRUCTION JOINT

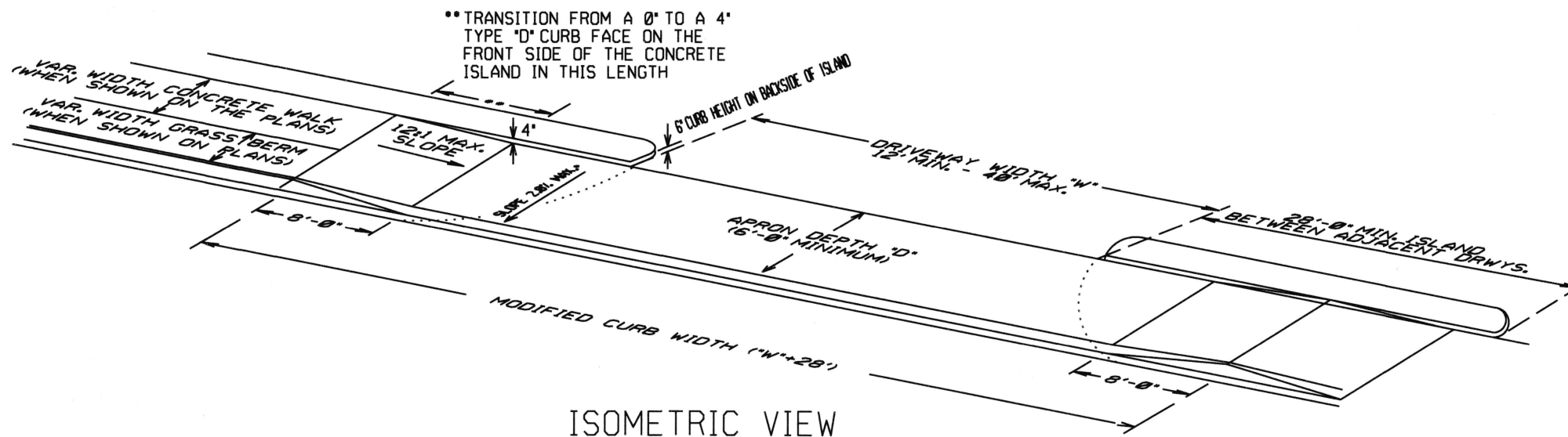


SECTION

TRANSVERSE
CONSTRUCTION JOINT

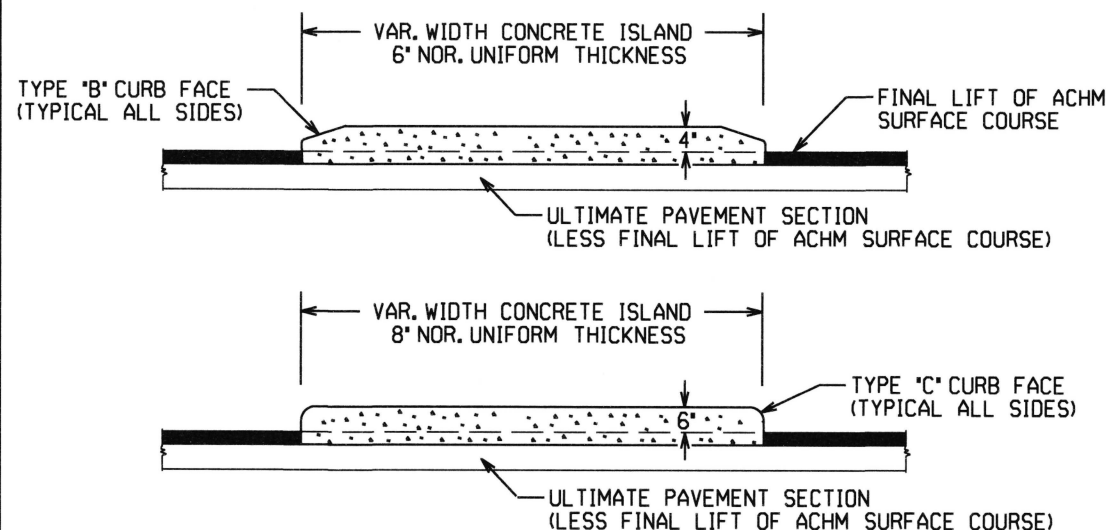


PLAN VIEW

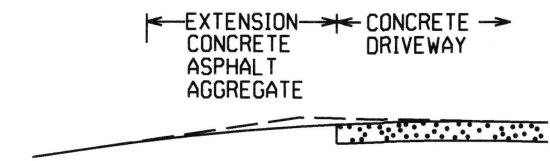


ISOMETRIC VIEW

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".



CURBED ISLANDS FOR CHANNELIZATION

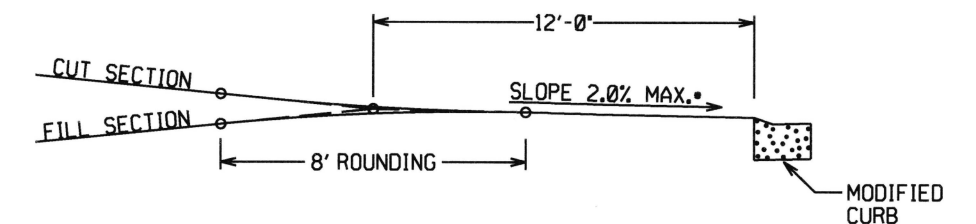


EXTENSION TYPICAL SECTIONS

- 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

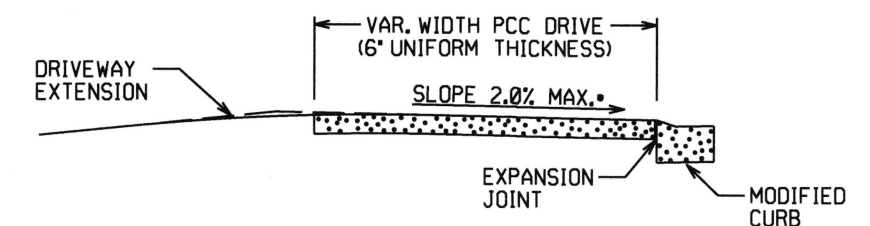
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

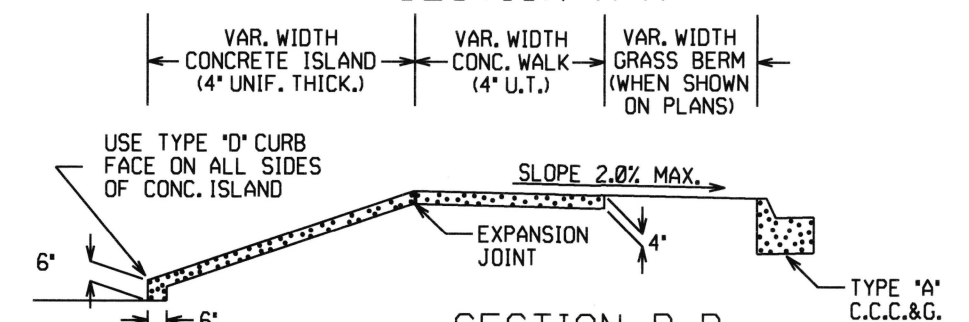


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



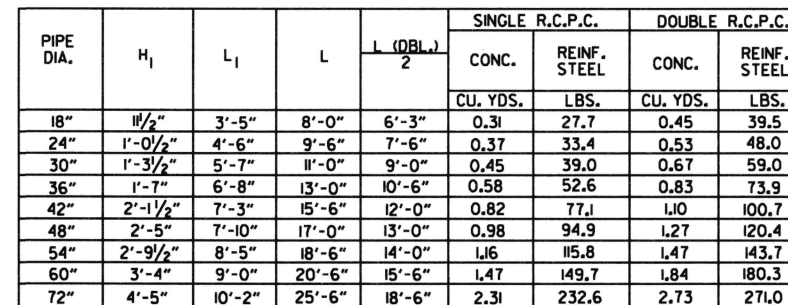
SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

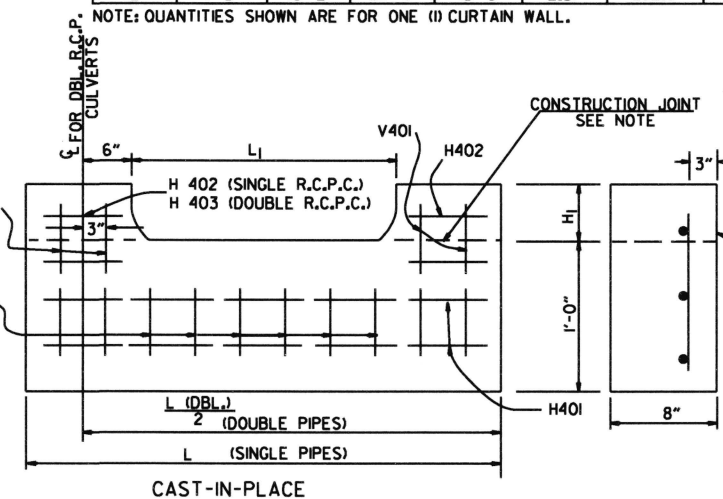
DATE	REV	DATE FILMED	DESCRIPTION
2-27-14			REVISED PLAN & ISOMETRIC VIEW
11-29-07			ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05			REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02			ADDED ISLAND DETAILS & NOTES
3-30-00			REV. MOD. 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 VIEW
3:1 FORESLOPES

PLAN VIEW
FLATTENED FORESLOPES



54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	21'-8"
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"

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

5" L1 + 2" V401 H402

H 402 (SINGLE R.C.P.C.)
H 403 (DOUBLE R.C.P.C.)
1" RECESS FOR GROUT

V401
SIDE OF CURTAIN
V402

H1
1'-0"
H401

3"
PIPE SIDE OF R.C. CURTAIN

8"

NOT

L (DBL.)
2 (DOUBLE PIPES)
L (SINGLE PIPES)

PRECAST

I. A CAST
PAYMEN
TO BE I
END SE

SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3ft	4ft	6ft	3ft	4ft	6ft
	SQ. YDS.			SQ. YDS.		
18"	5	12	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	157

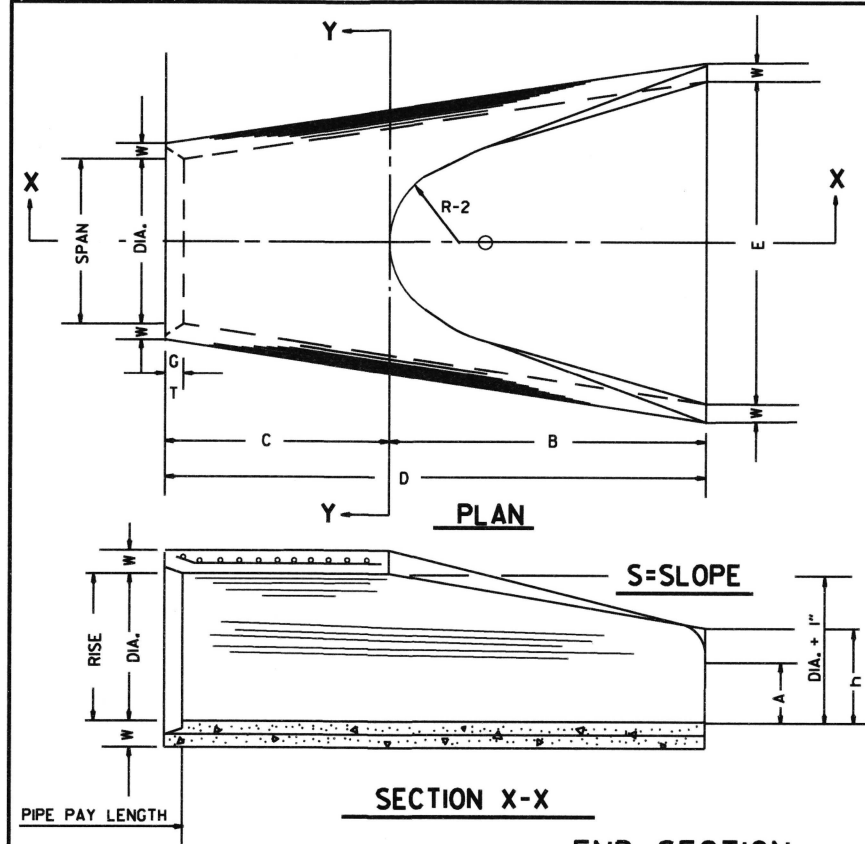
GENERAL NOTES

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



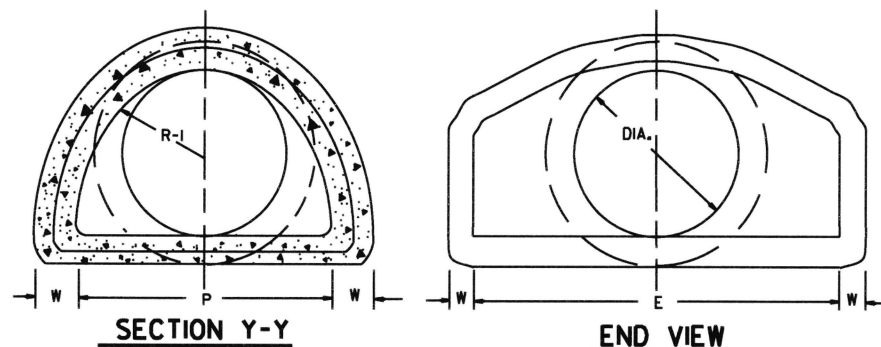
SECTIONAL VIEW "X-X"

10-18-96	ADDED NOTE TO SOLID SODDING			ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING			
11-3-94	ADDED GENERAL NOTE NO. 4			
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.			FLARED END SECTION
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES			
5-15-80	ADDED PRECAST WALL & GENERAL NOTES			
10-2-72	REVISED AND REDRAWN			
DATE	REVISION		FIL MED	STANDARD DRAWING FES-1



END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

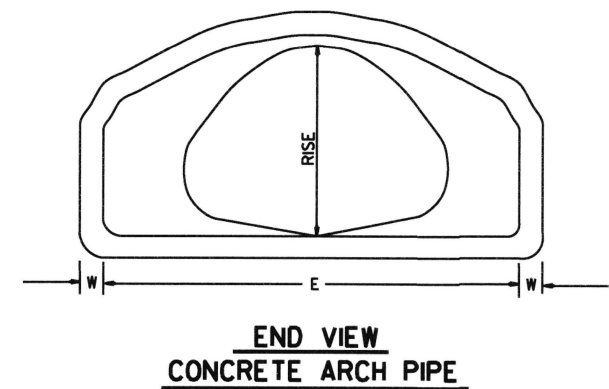
TABLE OF DIMENSIONS															
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h	
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3 1/4"	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"	
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3 1/4"	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"	
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3 1/4"	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"	
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3 1/4"	37"	47 1/8"	24 3/8"	20"	3 1/2"	4100	1'-8"	
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3 1/4"	43"	53 1/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"	
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3 1/4"	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"	
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3 1/4"	55"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"	
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3 1/4"	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"	
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3 1/4"	73"	77 3/8"	38 3/8"	24"	5"	13250	4'-6"	



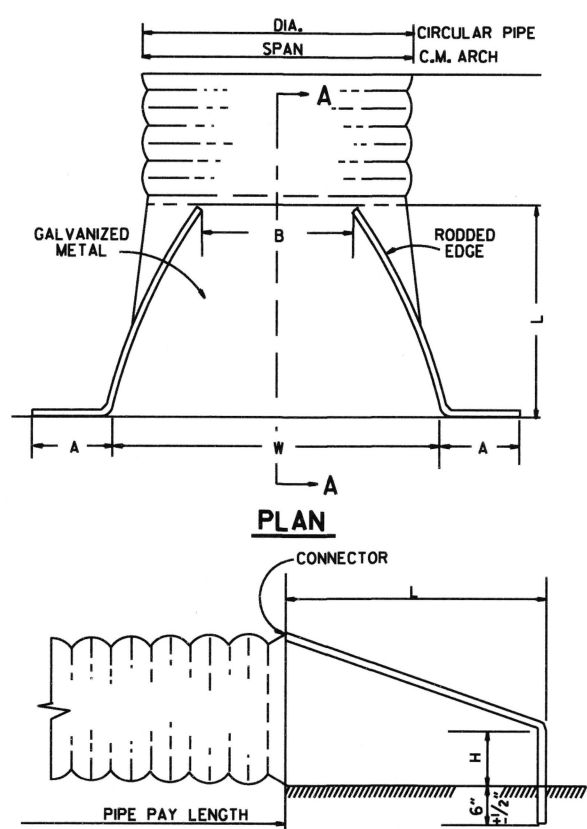
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

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

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



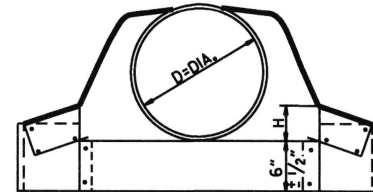
END VIEW
CONCRETE ARCH PIPE



SECTION A-A

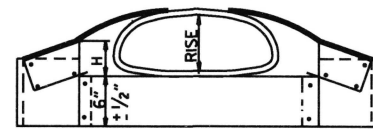
NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD
PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



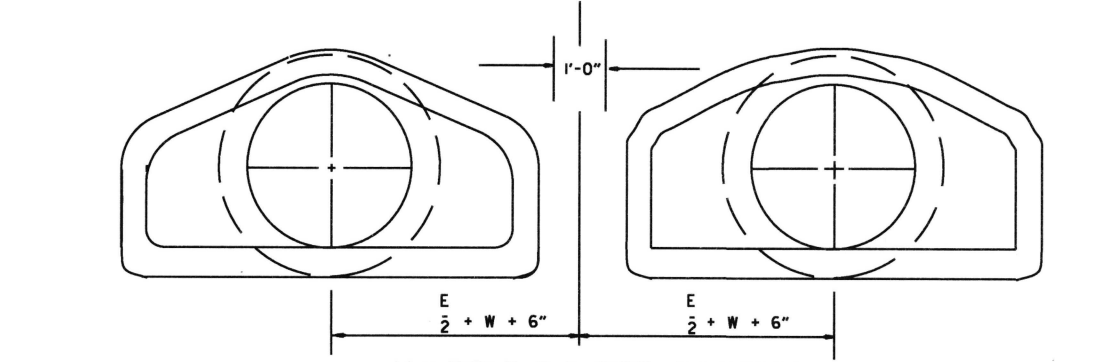
CIRCULAR PIPE

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

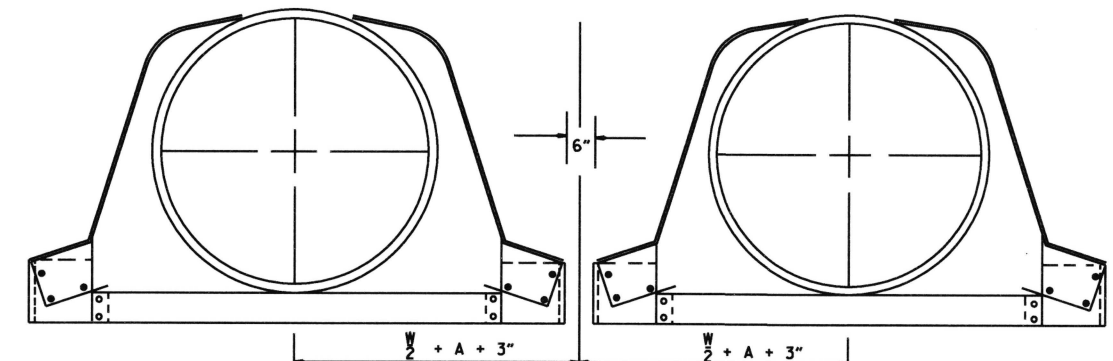


C.M. ARCH PIPE

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



MULTIPLE R.C. PIPE CULVERTS

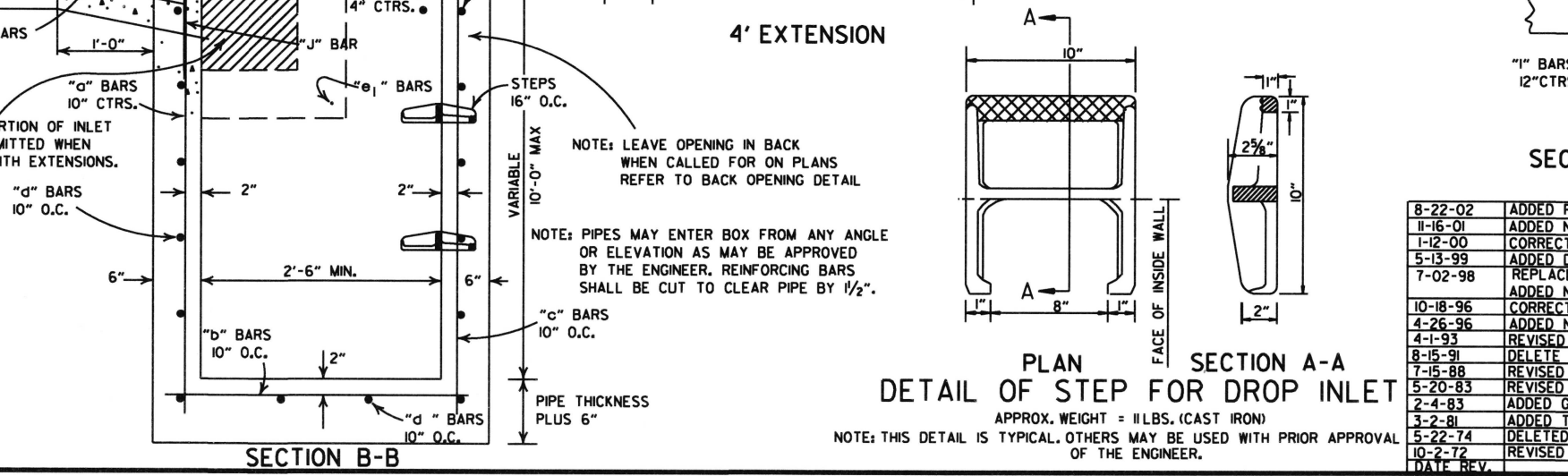
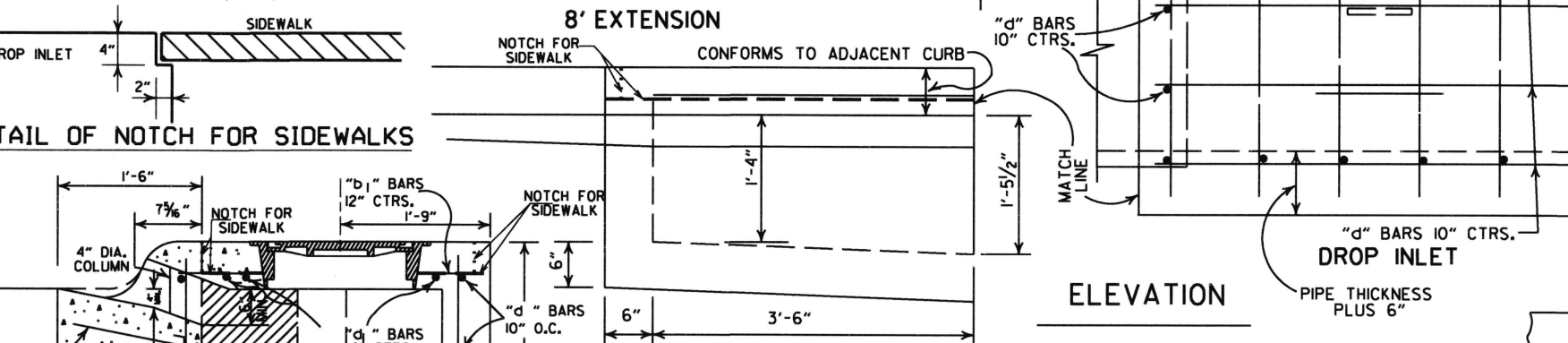
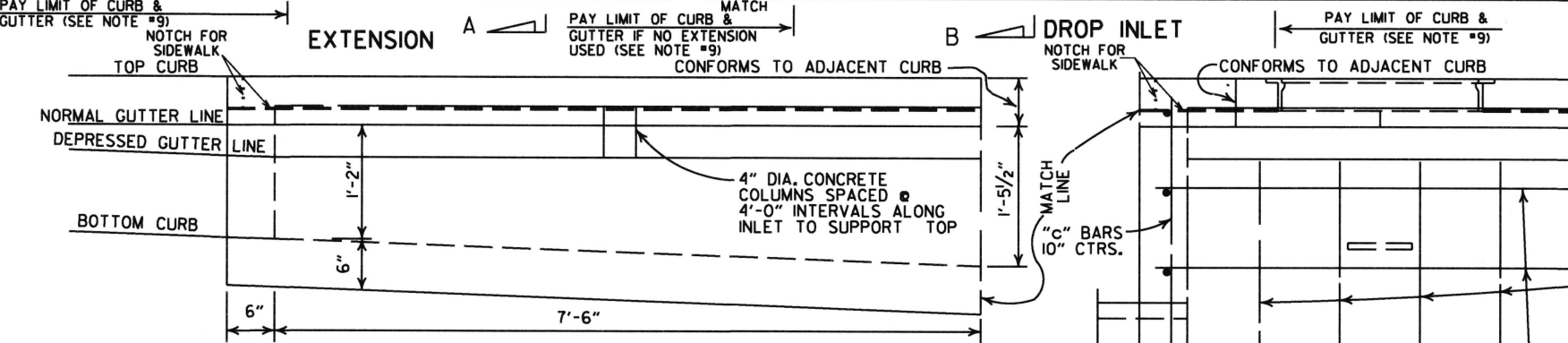
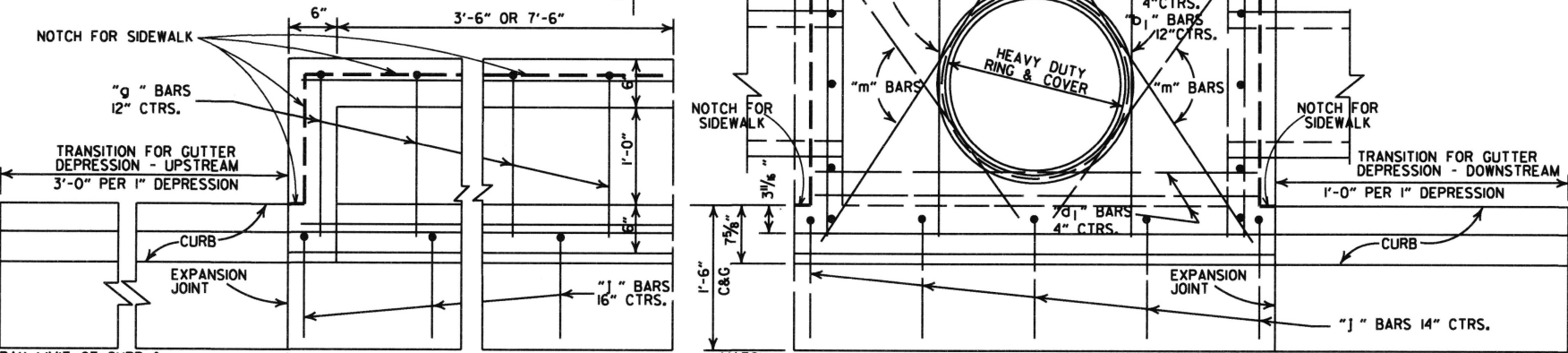


MULTIPLE C.M. PIPE CULVERTS

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

FLARED END SECTION
STANDARD DRAWING FES-2

NOTE: WHEN AN INLET IS PLACED ADJACENT TO CONCRETE PAVEMENT, THE GUTTER DEPRESSION SHALL BE FORMED IN CONCRETE PAVEMENT.

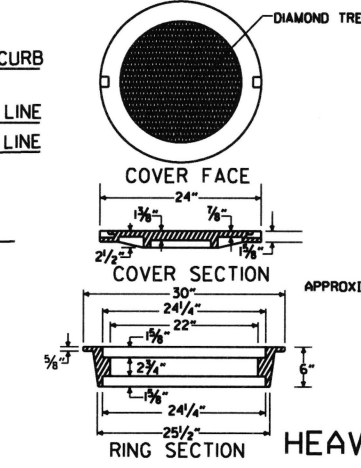
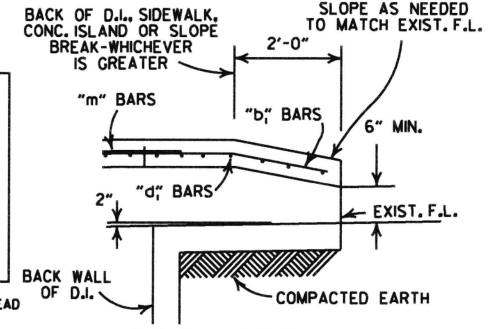
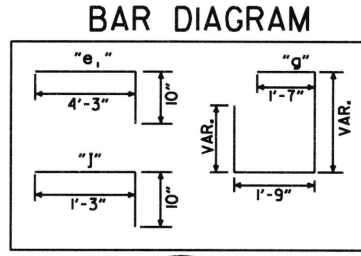


PLAN
DETAIL OF STEP FOR DROP INLET
APPROX. WEIGHT = 11 LBS. (CAST IRON)
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

4'-0" LENGTH DROP INLET						DROP INLET EXTENSION			
PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0"		PLUS OR MINUS PER LIN. FT. OF HEIGHT		4'-0"		8'-0"	
		CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL	CLASS A CONC.	REINF. STEEL
18"	2'-6"	1.77	156	0.28	22	0.58	38	0.87	72
24"	2'-6"	1.79	156	0.28	22				
30"	3'-2"	2.39	205	0.30	26				
36"	3'-8"	2.63	236	0.32	28				
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
						0.04	3		

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

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

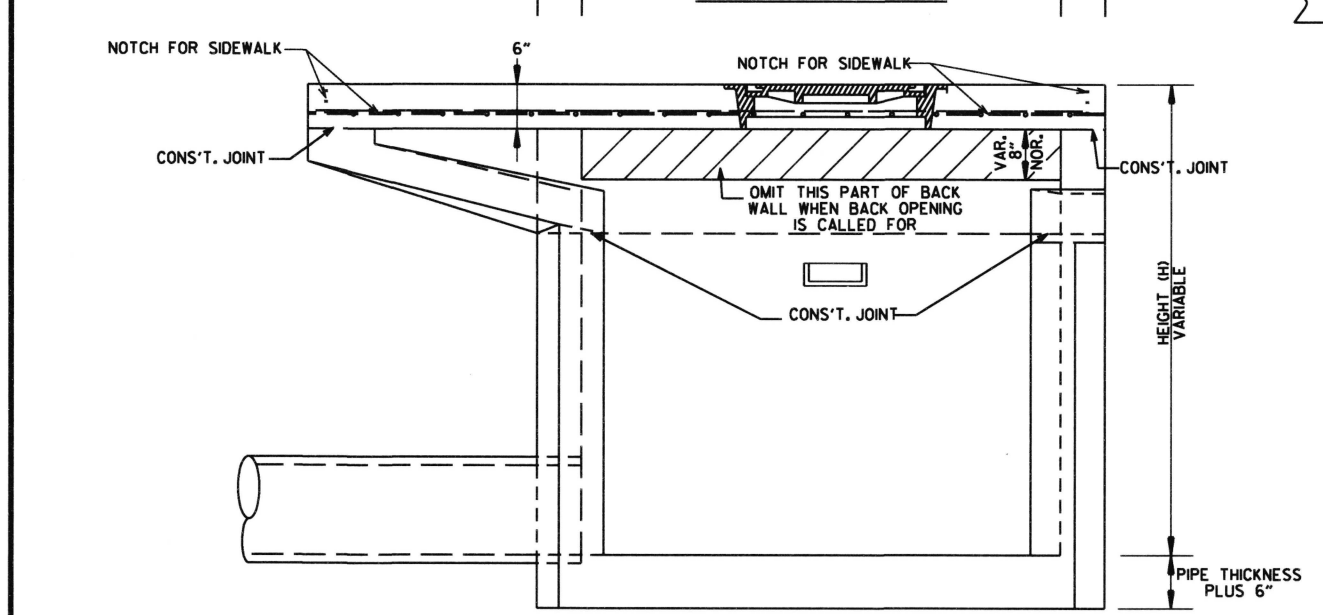
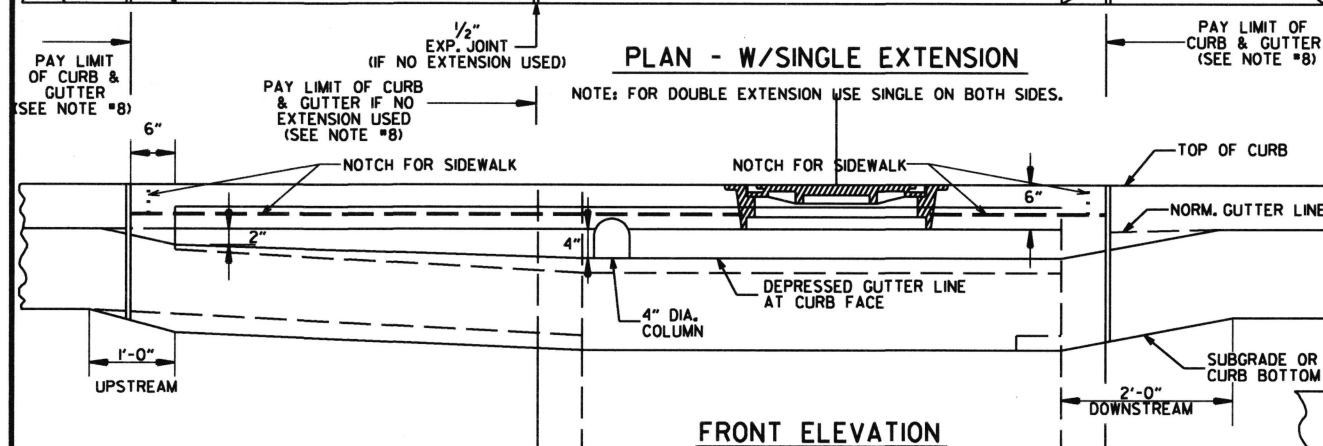
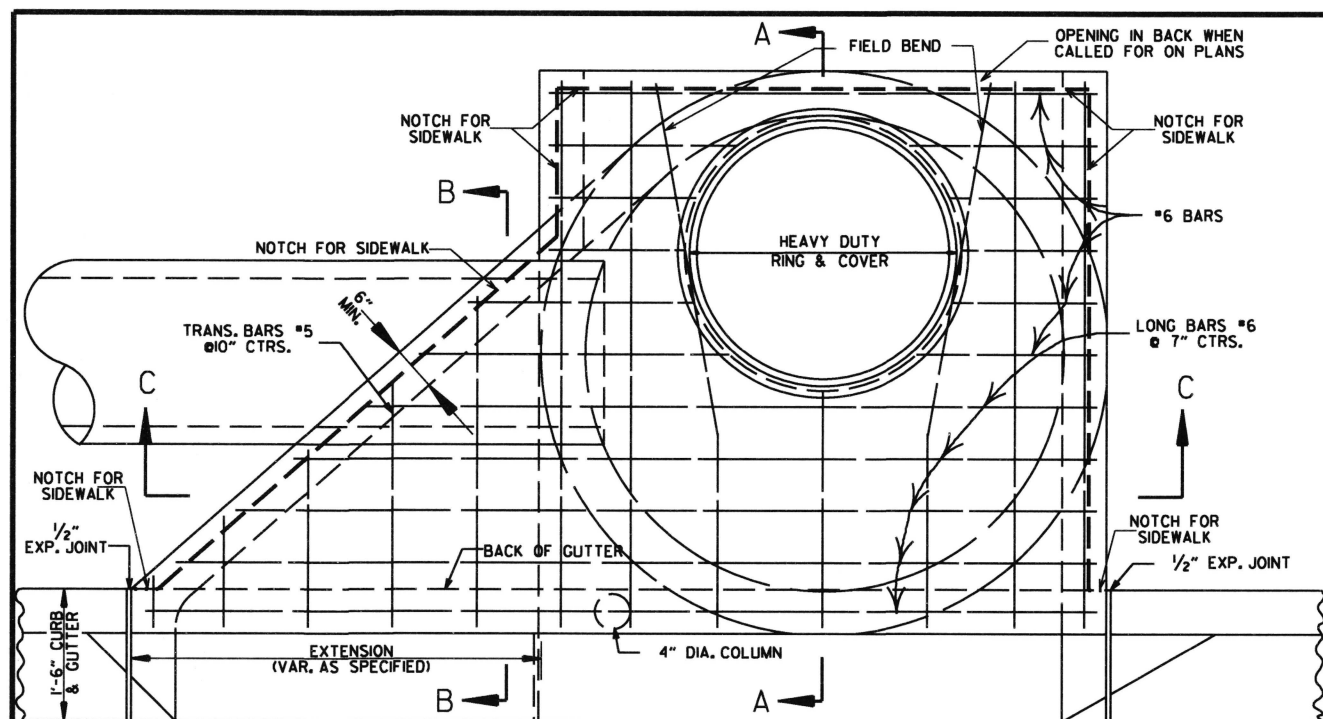


BACK OPENING
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

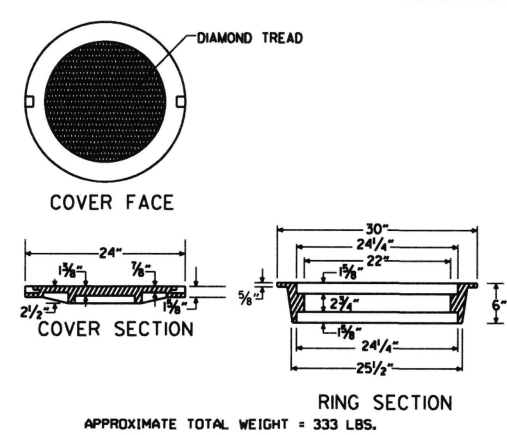
GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1/2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M103 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE	REV.	DESCRIPTION	DATE	REV.	DESCRIPTION
8-22-02		ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B			
11-16-01		ADDED NOTE 13; REVISED SECTION B-B			
1-12-00		CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER			
5-13-99		ADDED DETAIL OF NOTCH FOR SIDEWALKS			
7-02-98		REPLACED RING & COVER W/HEAVY DUTY RING & COVER			
		ADDED NOTES 9, 10, & 11			
10-18-96		CORRECTED SPELLING			
4-26-96		ADDED NOTE 8 & REVISED (4'x8') EXTENSION TITLES			
4-1-93		REVISED BACK OPENING & NOTE			
8-15-91		DELETE TYPE IV GRATE			
7-15-88		REVISED STEP DETAIL			
5-20-83		REVISED DETAILS OF GRATES (TYPE IV & IV-A)			
2-4-83		ADDED GENERAL NOTE NO. 4			
3-2-81		ADDED TYPE IV-A GRATE			
5-22-74		DELETED INLET (TYPE F) & GRATE (TYPE III)			
10-2-72		REVISED AND REDRAWN			

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DROP INLETS
(TYPE C)
STANDARD DRAWING FPC-9E

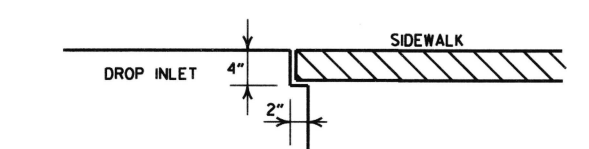


SECTION C-C

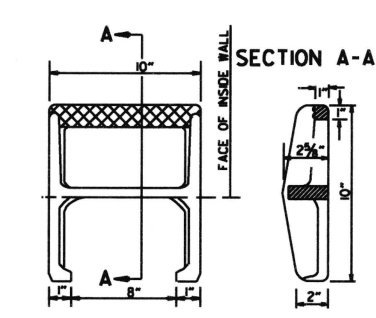


HEAVY DUTY RING & COVER

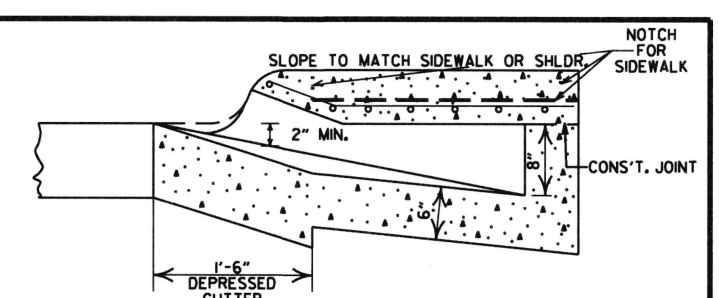
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON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



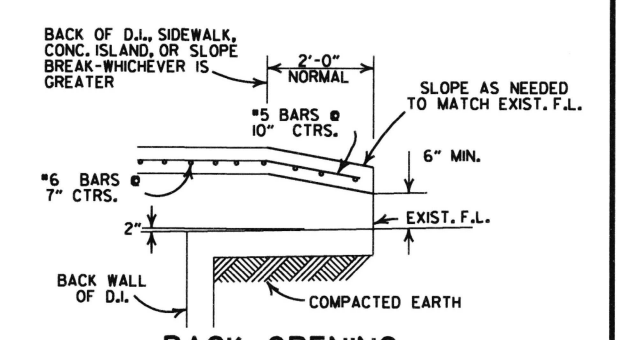
DETAIL OF NOTCH FOR SIDEWALKS



DETAIL OF STEP FOR DROP INLET



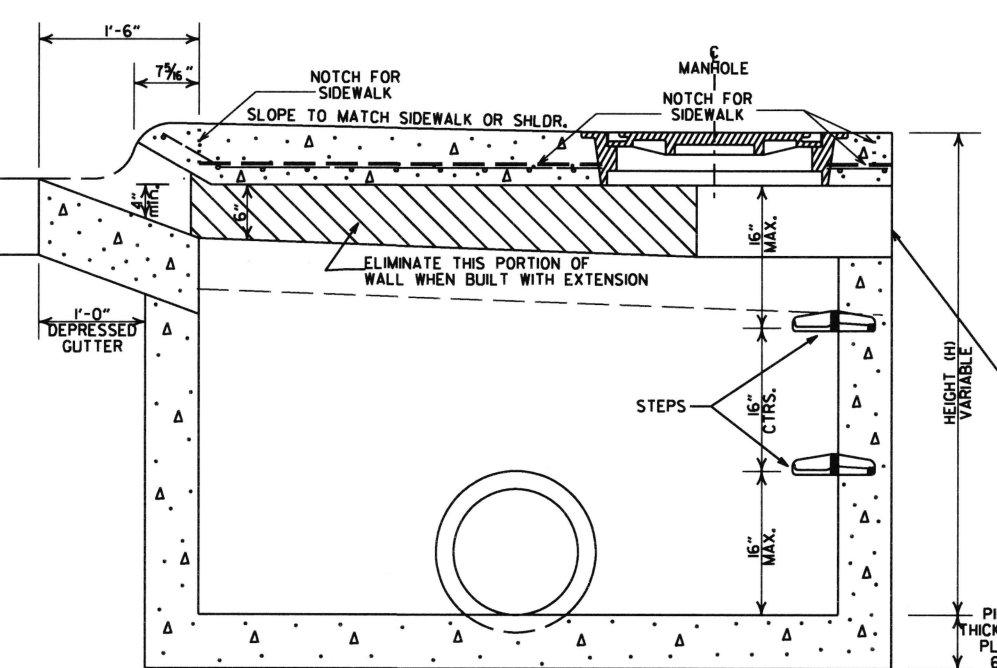
SECTION B-B



BACK OPENING

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

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



SECTION A-A

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
8-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, NEW PLAN DET. REV. PICTURE FOR NEW RING & COVER. ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-95	ADDED NOTE 11, BACK OPENING DETAIL	
0-12-95	CORRECTED 4" BAR SIZING	
1-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
1-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
1-1-94	REVISED GENERAL NOTES	1-3-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11, 12 & ADDED BACK OPEN DETAIL	8-15-91
1-30-89	ADDED NOTE NO. 12	1-30-89
1-24-88	ADDED NOTE 11, MINIMUM WALL THICKNESS	5-15-88
7-25-88	ADDED EXTEND NOTE TO SECTION A-A	6-25-88
1-14-87	MODIFIED WALL THICKNESS	1-14-87
1-12-87	ISSUED	1-12-87

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M

REINFORCED CONCRETE
ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51⅙	51	31⅞	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL
PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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

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

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

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

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

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

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

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

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

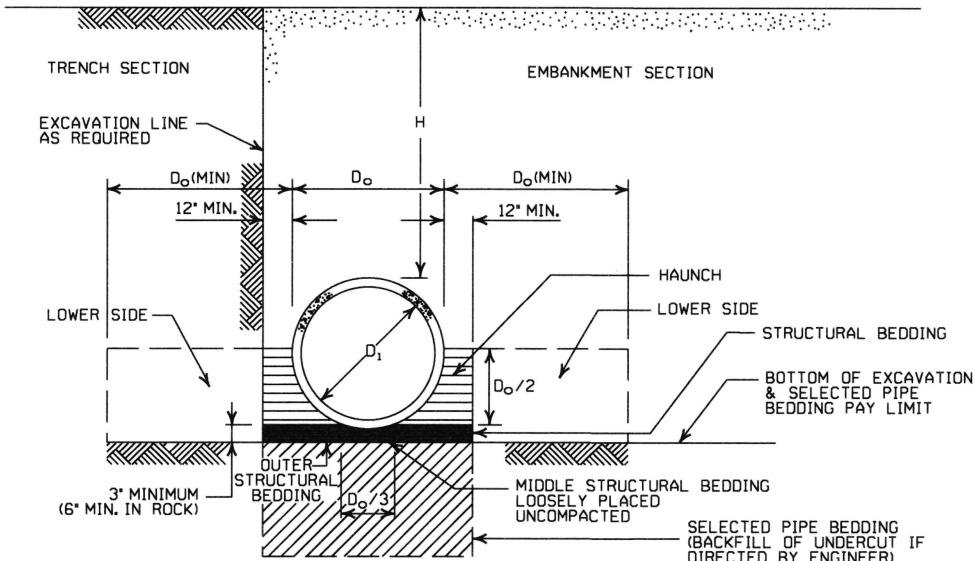
INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

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

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

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

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



EMBANKMENT AND TRENCH INSTALLATIONS

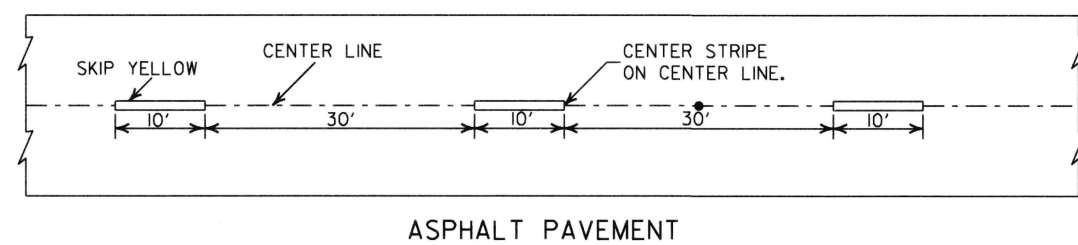
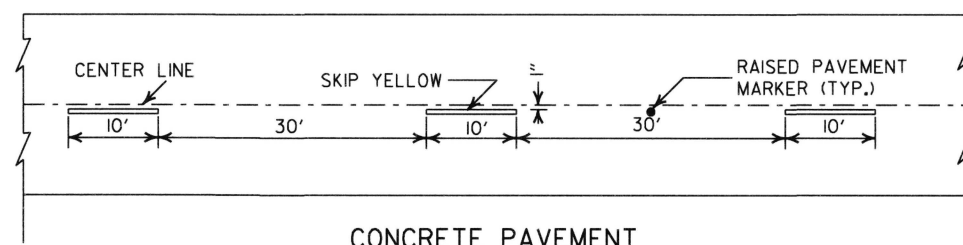
1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH.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

GENERAL NOTES

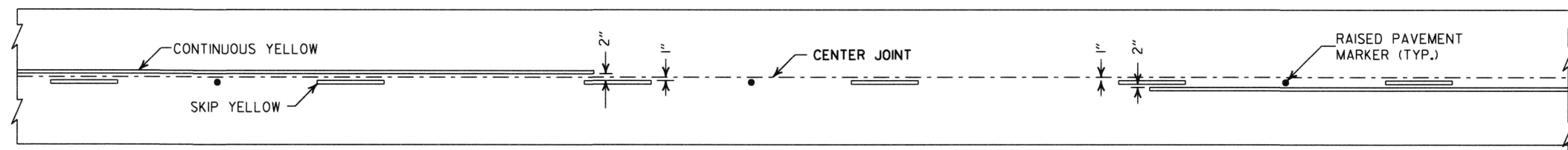
1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION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

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

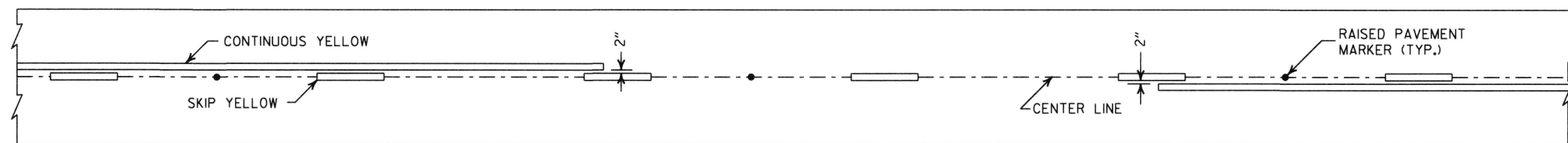
ARKANSAS STATE HIGHWAY COMMISSION	
CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	
STANDARD DRAWING PCC-1	



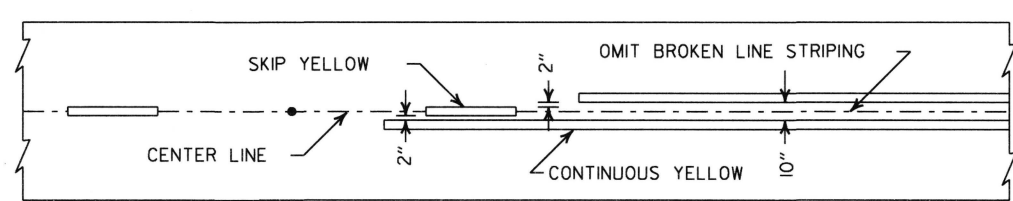
BROKEN LINE STRIPING



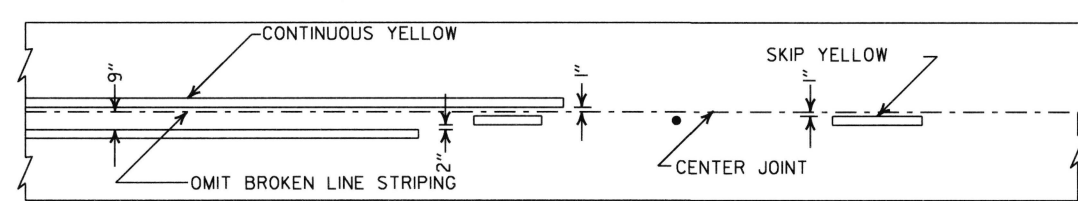
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

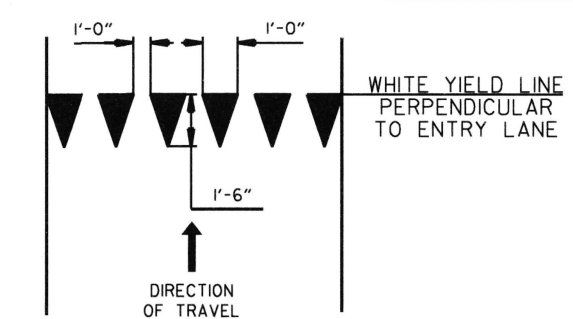


ASPHALT PAVEMENT

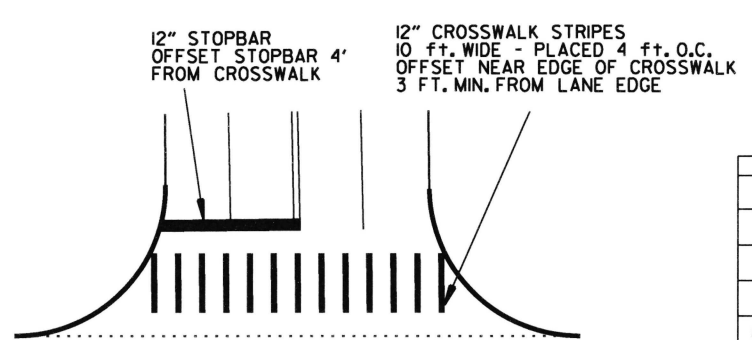


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

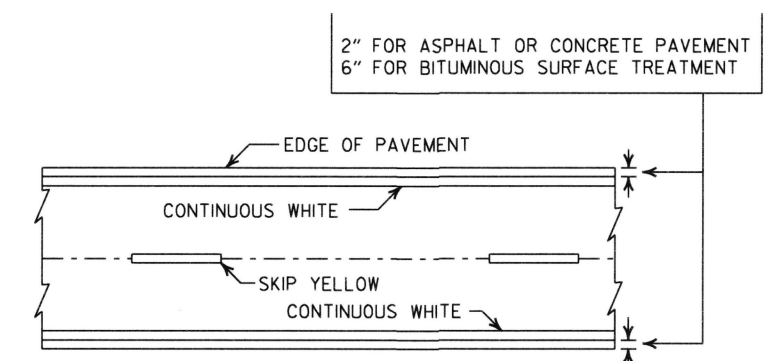


YIELD LINE DETAIL

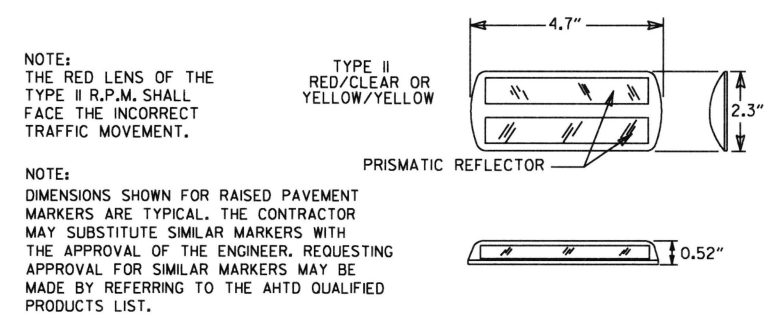


CROSSWALK AND STOPBAR DETAILS

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



PAVEMENT EDGE LINE MARKING

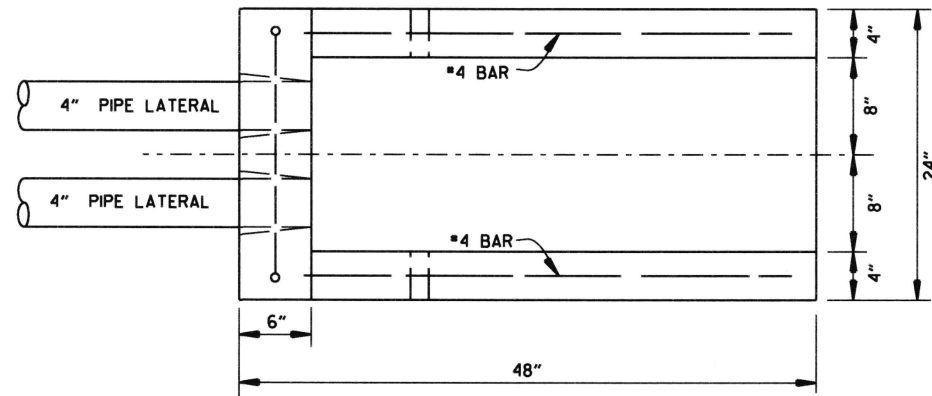
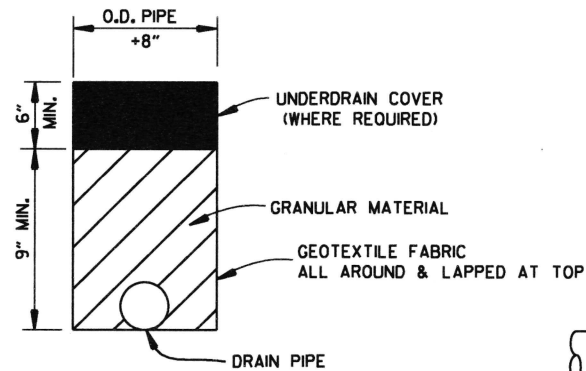


DETAIL OF STANDARD RAISED PAVEMENT MARKERS

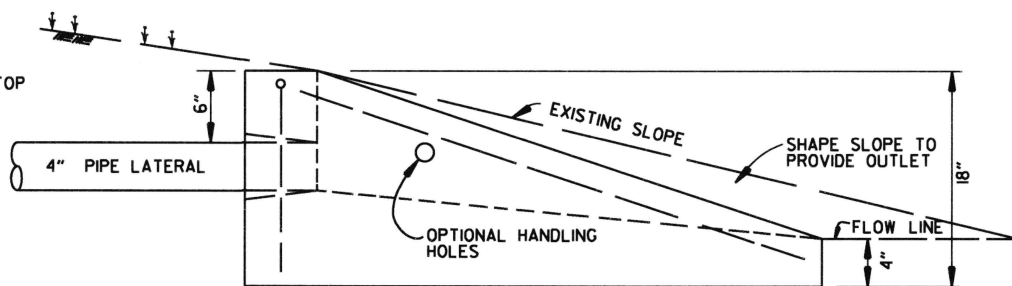
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE P.V.M.T. MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED 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	

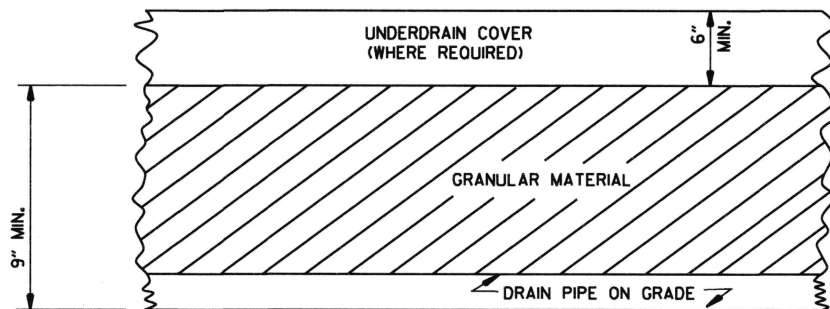
- NOTE:
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



PLAN VIEW



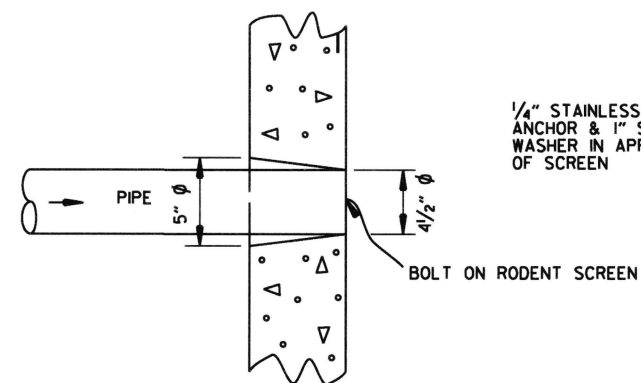
SIDE VIEW



DETAILS OF PIPE UNDERDRAIN

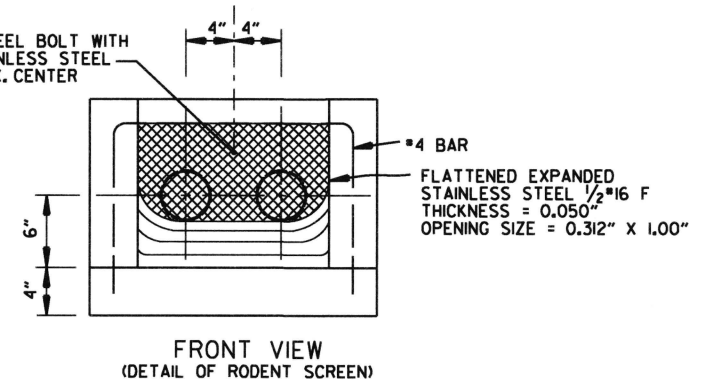
NOTES FOR PIPE UNDERDRAINS

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 610 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 610 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.



DETAIL OF HOLE FOR 4" PIPE

1/4" STAINLESS STEEL BOLT WITH ANCHOR & 1" STAINLESS STEEL WASHER IN APPROX. CENTER OF SCREEN

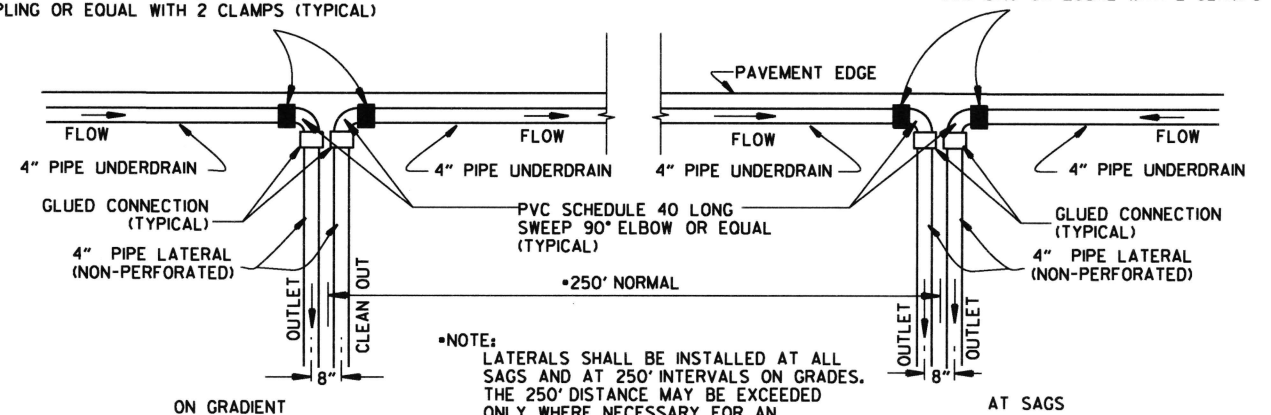


FRONT VIEW
(DETAIL OF RODENT SCREEN)

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

UNDERDRAIN OUTLET PROTECTORS

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



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

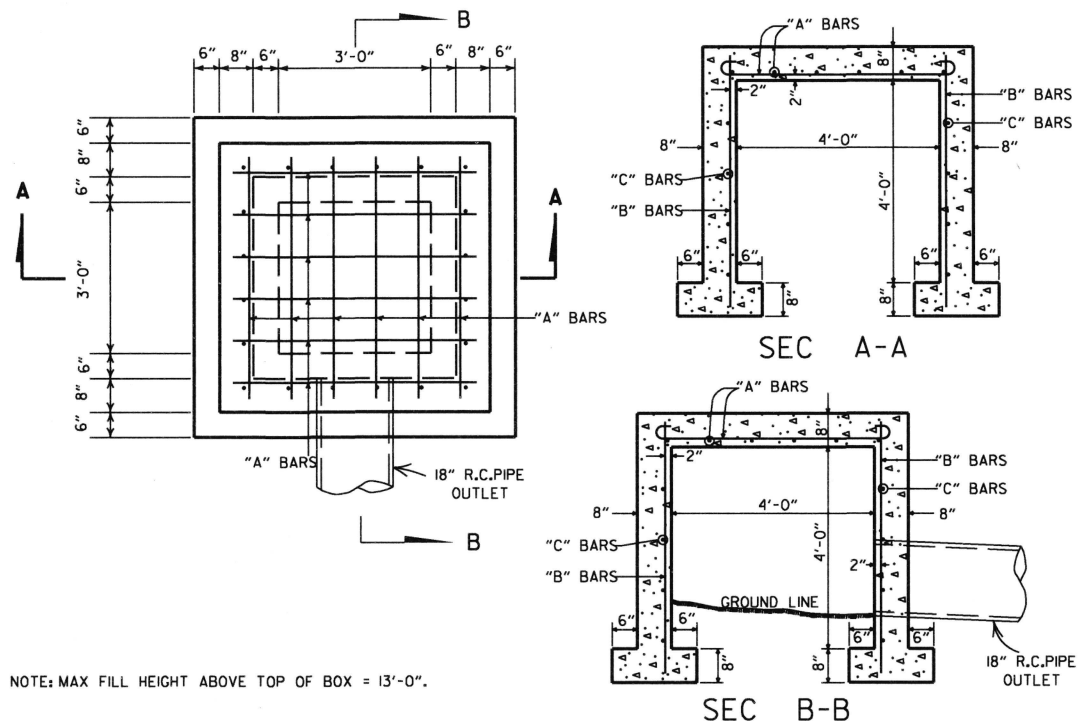
NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

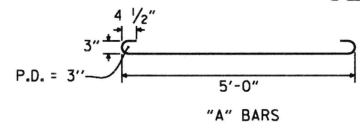


NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

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

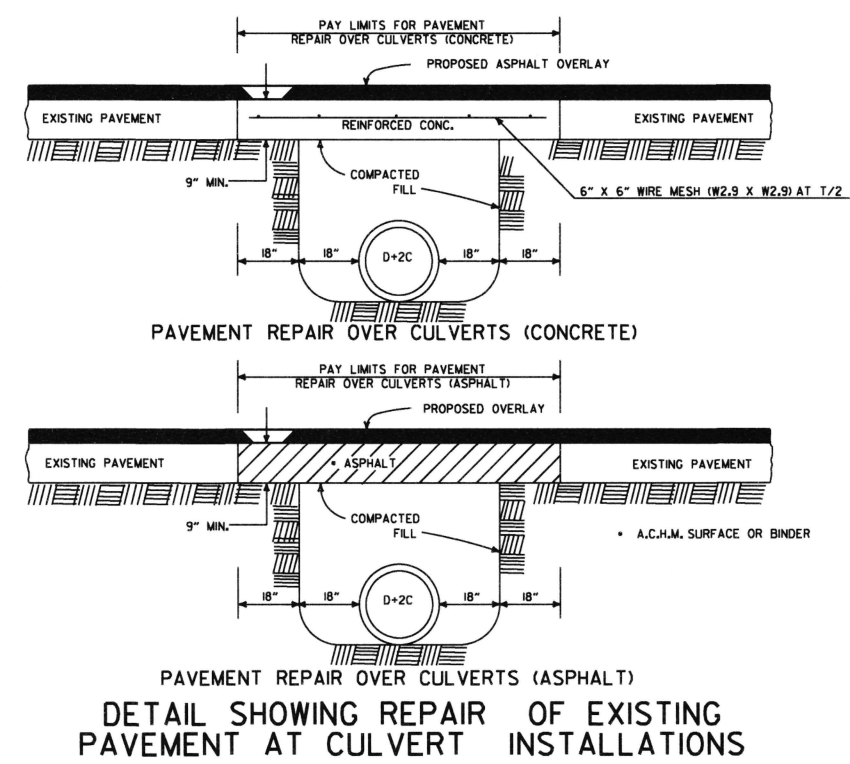
ALL STEEL TO BE #4 BARS



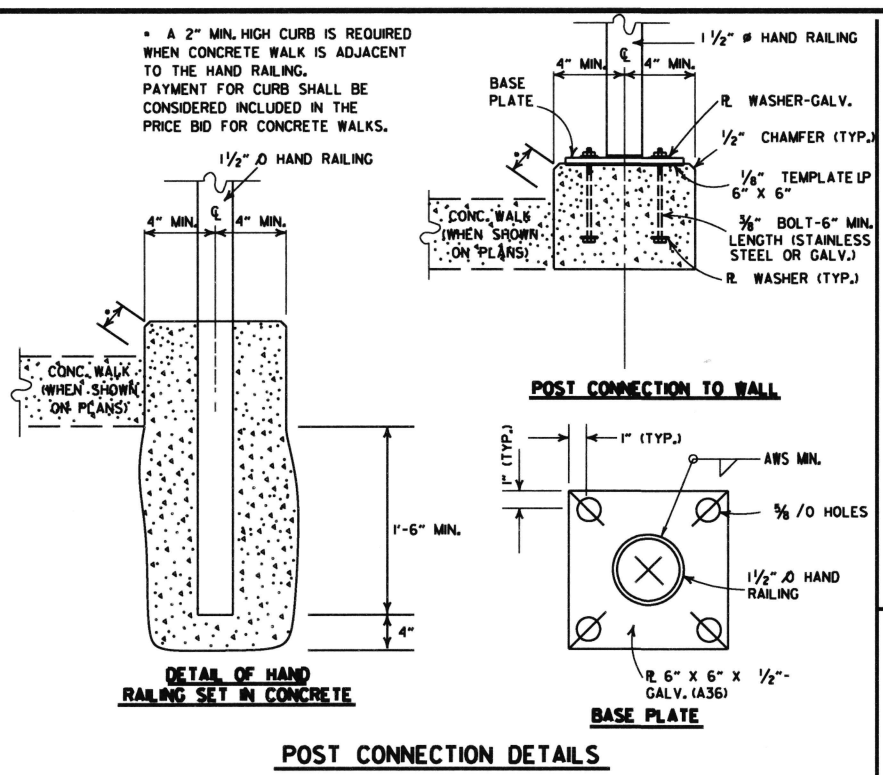
QUANTITIES
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

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

REINFORCED CONCRETE SPRING BOX



DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

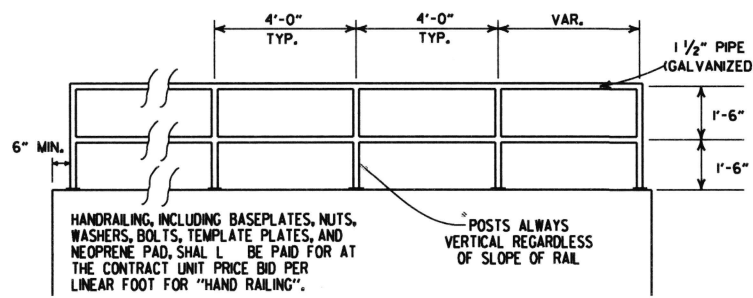


DETAIL OF HAND RAILING SET IN CONCRETE

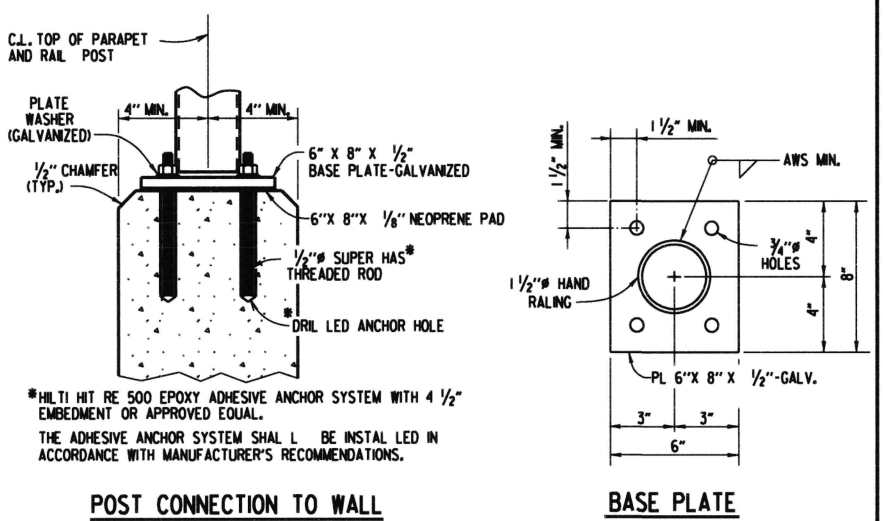
POST CONNECTION TO WALL

BASE PLATE

POST CONNECTION DETAILS



HAND RAILING SHALL CONFORM TO SECTION 633.

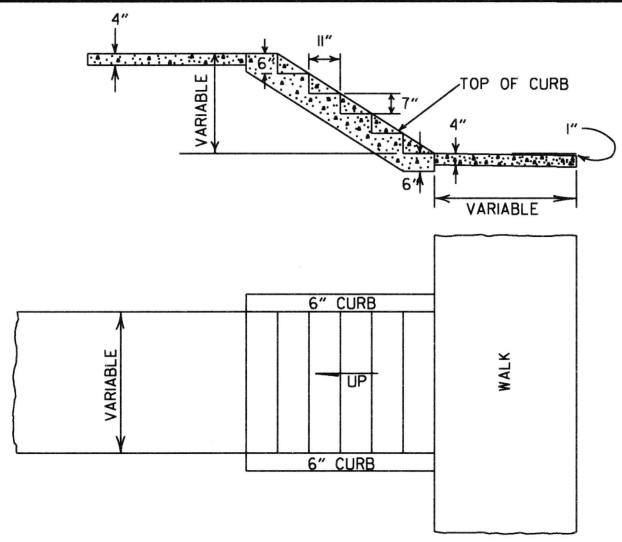


POST CONNECTION TO WALL

BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



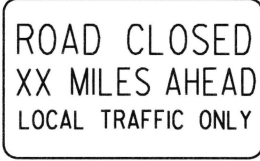
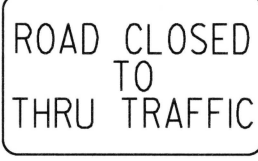
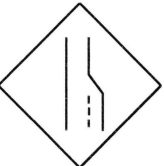
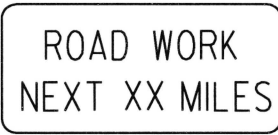
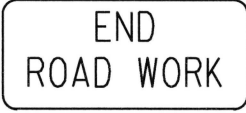
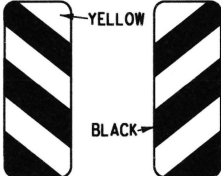
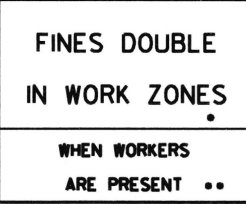
DETAILS OF CONCRETE STEPS & WALKS

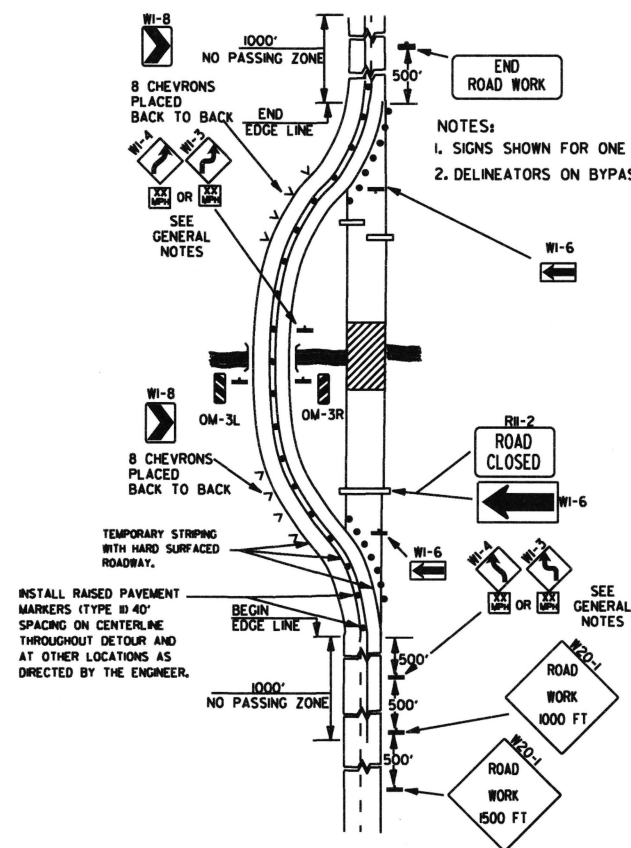
GENERAL NOTES
1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

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

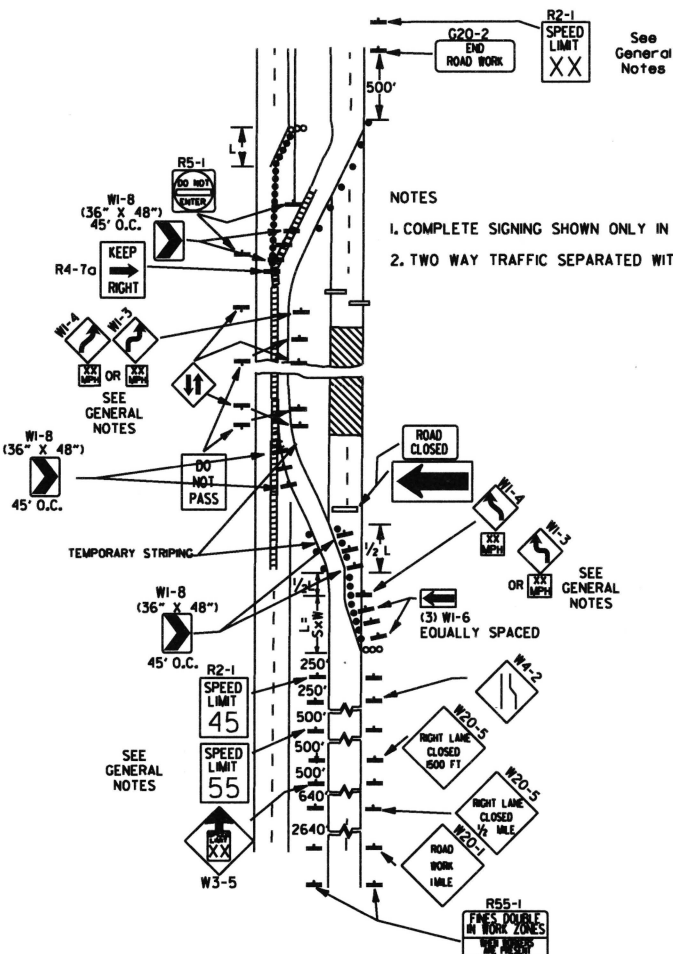
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

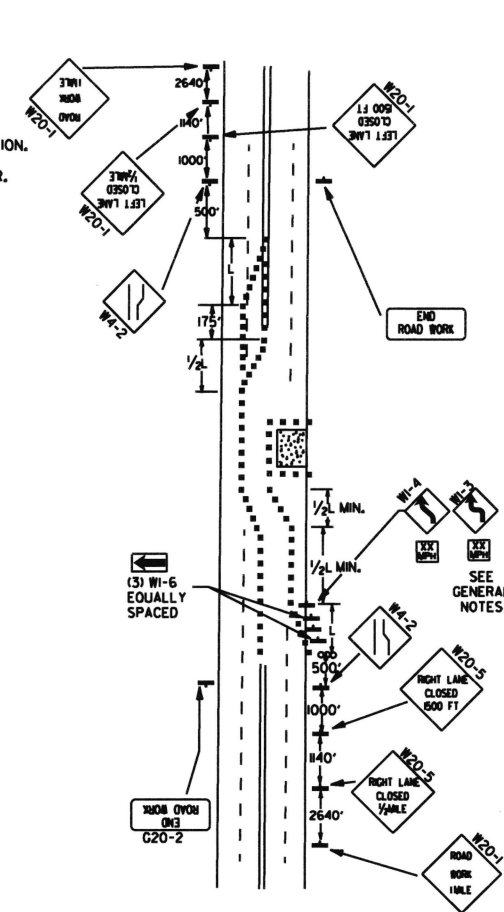
RI-1  STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"	RI-2  STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"	R2-1  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	W3-5  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	W3-5a  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	R4-1  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R4-2  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	ADVANCE DISTANCES (XXXX) 500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD GENERAL NOTES: 1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. 3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.
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  18" 500 FEET 24" W6-2 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-II  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



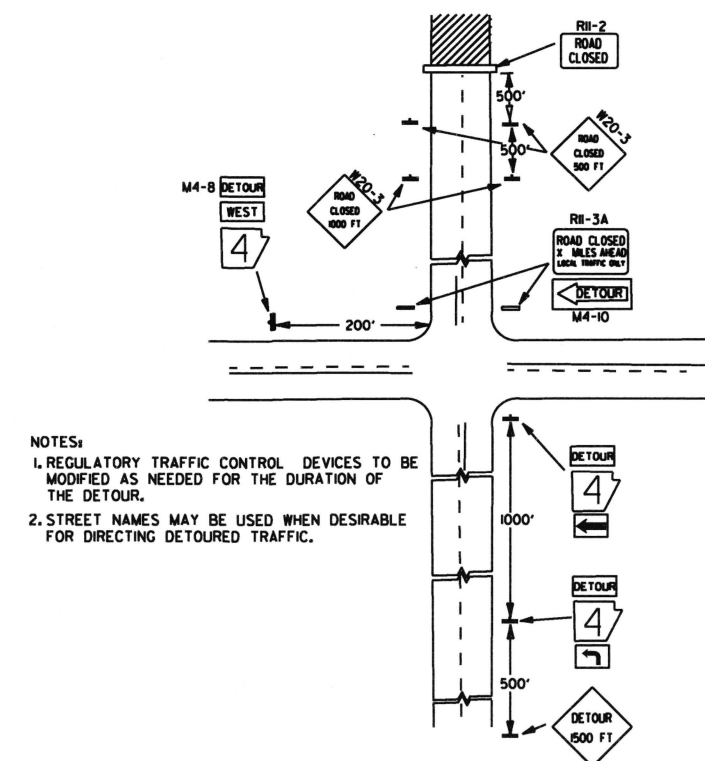
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



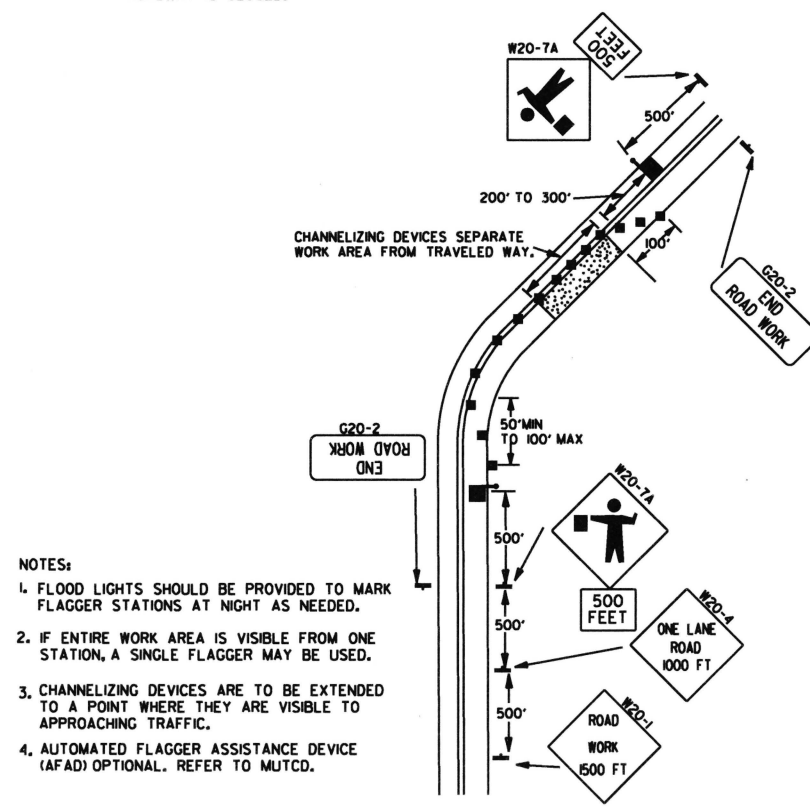
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



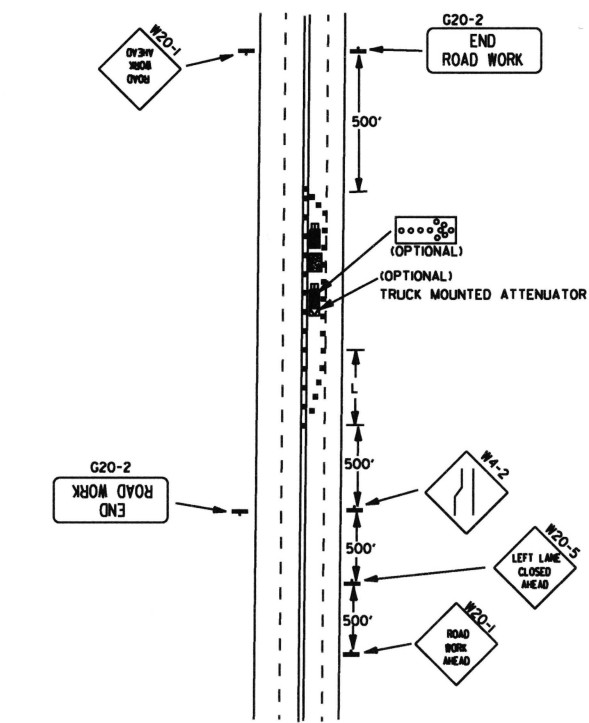
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



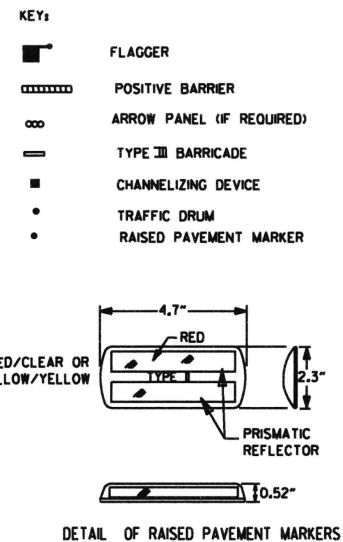
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



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



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



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

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

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

WHERE:

L = MINIMUM LENGTH OF TAPER.

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

W = WIDTH OF OFFSET.

GENERAL NOTES:

- ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
- WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-K55 SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXX SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-K65 SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXX SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
- WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
- PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
- TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
- DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

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	
3-11-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	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	
DATE	REVISION	FILMED

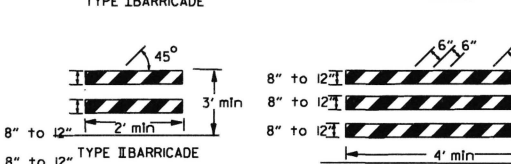
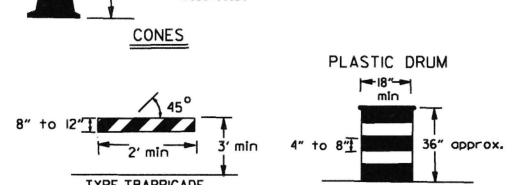
(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.

(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

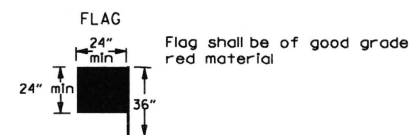
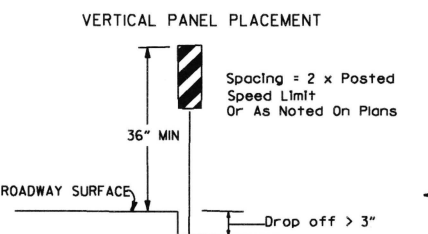
(B) Typical application - 3-lane oneway roadway where center lane is closed.

Channelizing devices

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



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



KEY:

- Arrow Panel (if Required)
- Channelizing Device
- Traffic drum

GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
- Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

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

TRAFFIC CONTROL DEVICES

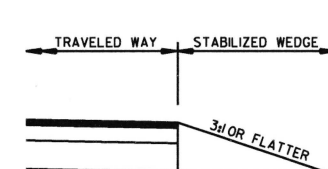
VERTICAL DIFFERENTIAL	LOCATION	NON-INTERSTATE	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 12"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER ⁽³⁾ & EDGE LINES	PRECAST CONCRETE BARRIER ⁽³⁾ & EDGE LINES

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

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

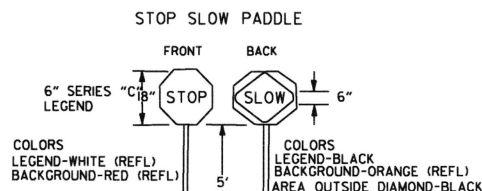
GENERAL NOTES:

- WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
- WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
- W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.



STABILIZED WEDGE

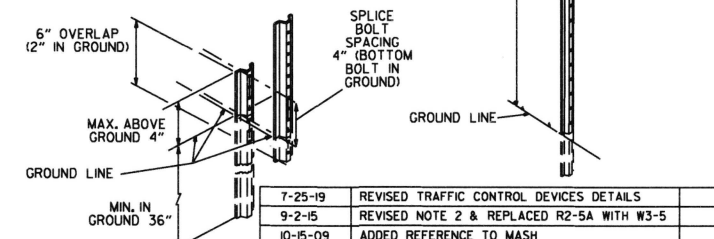
NOTE: MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.



COLORS: LEGEND-WHITE (REFL) BACKGROUND-RED (REFL). LEGEND-BLACK BACKGROUND-ORANGE (REFL) AREA OUTSIDE DIAMOND-BLACK.

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.

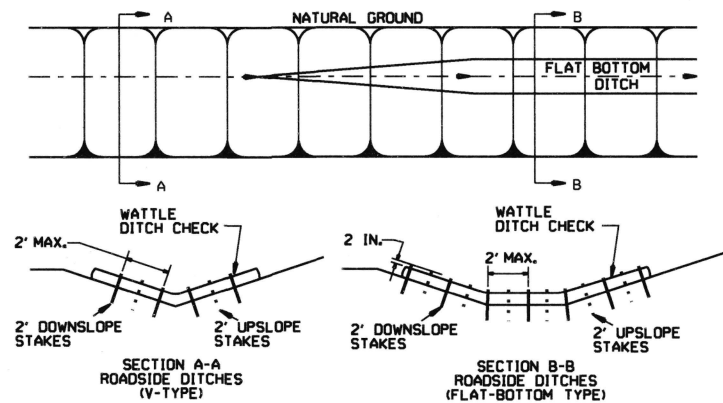


DATE	REVISION	FILMED
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	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

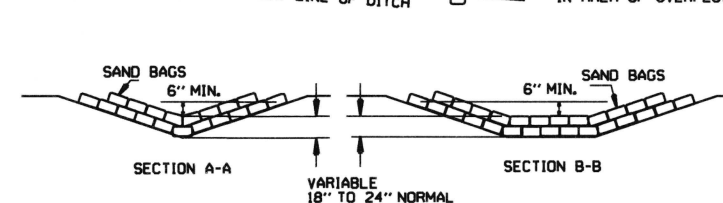
GENERAL NOTES

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

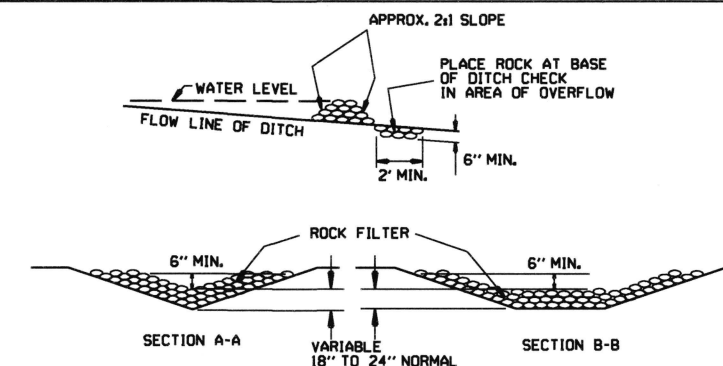


WATTLE DITCH CHECK (E-1)

NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS. PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.



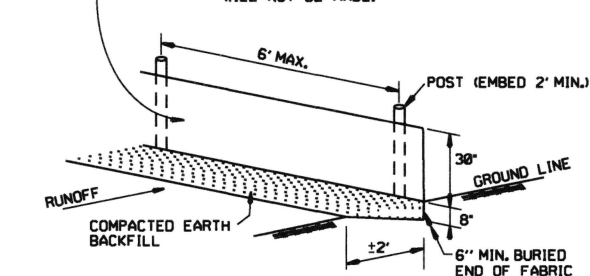
SAND BAG DITCH CHECK (E-5)



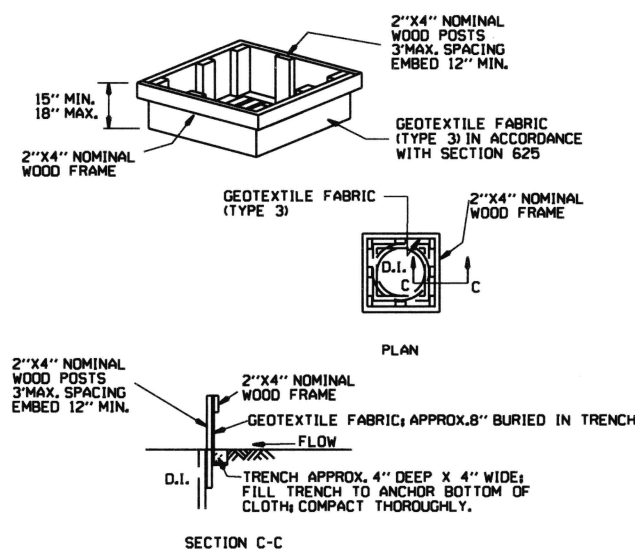
ROCK DITCH CHECK (E-6)

GENERAL NOTES

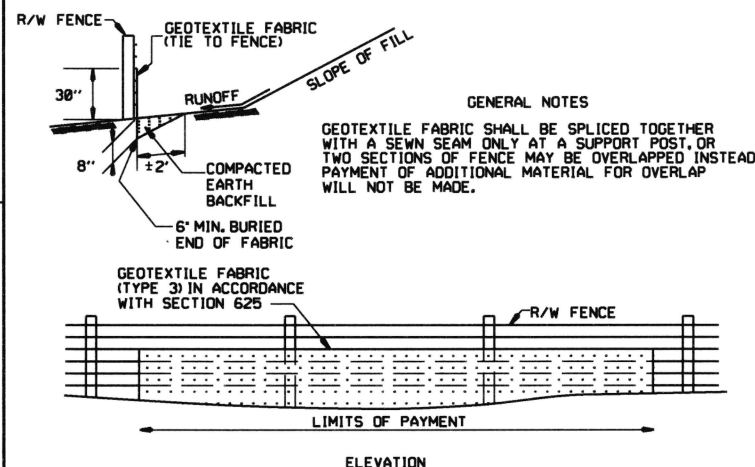
GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625. GEOTEXTILE FABRIC SHALL BE SPliced TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



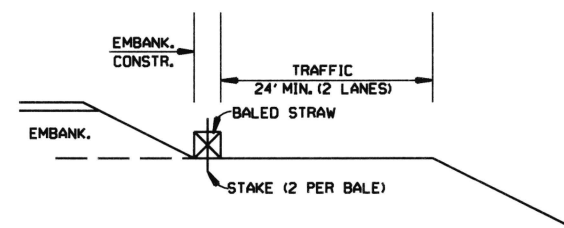
DROP INLET SILT FENCE (E-7)



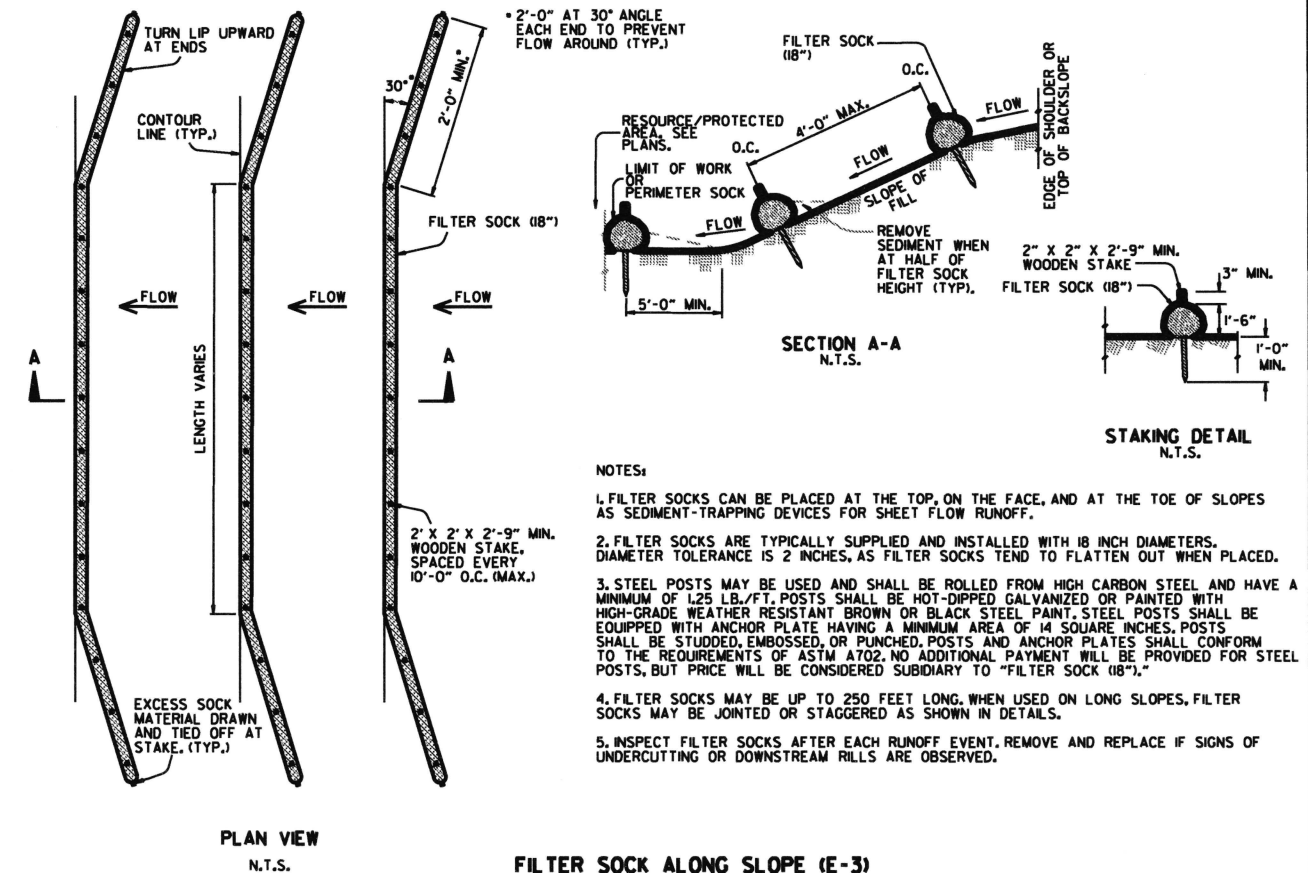
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

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



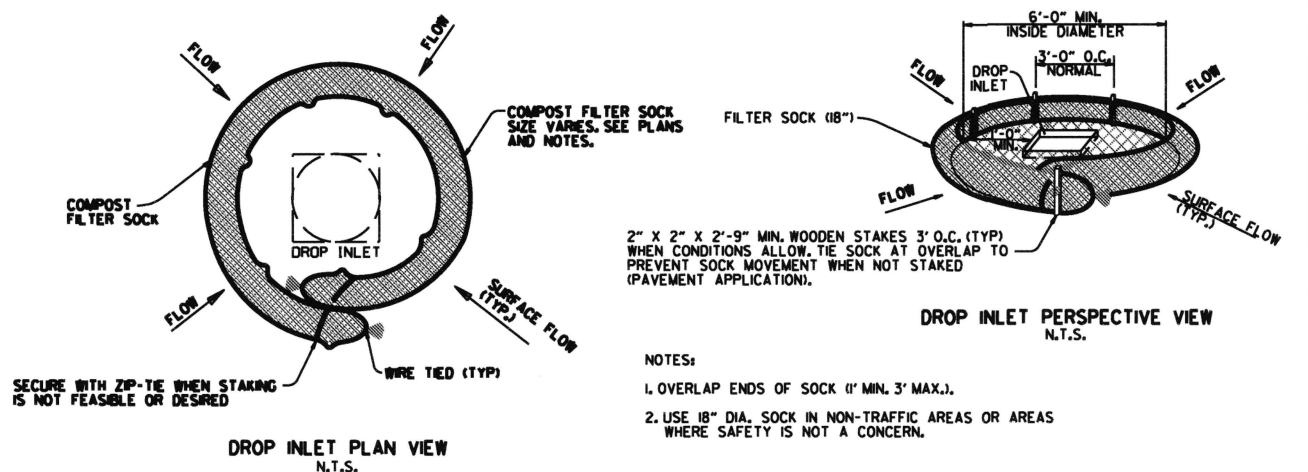
BALED STRAW FILTER BARRIER (E-2)



FILTER SOCK ALONG SLOPE (E-3)

NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.
3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18")."
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.
5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.



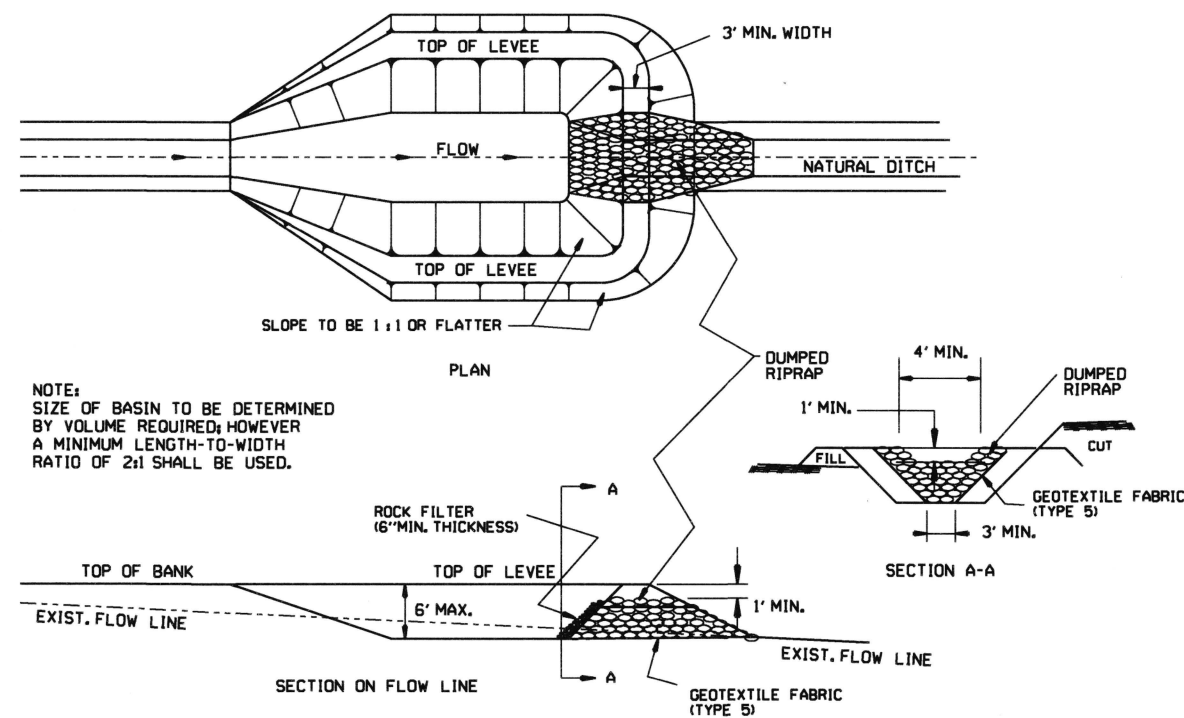
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

NOTES:

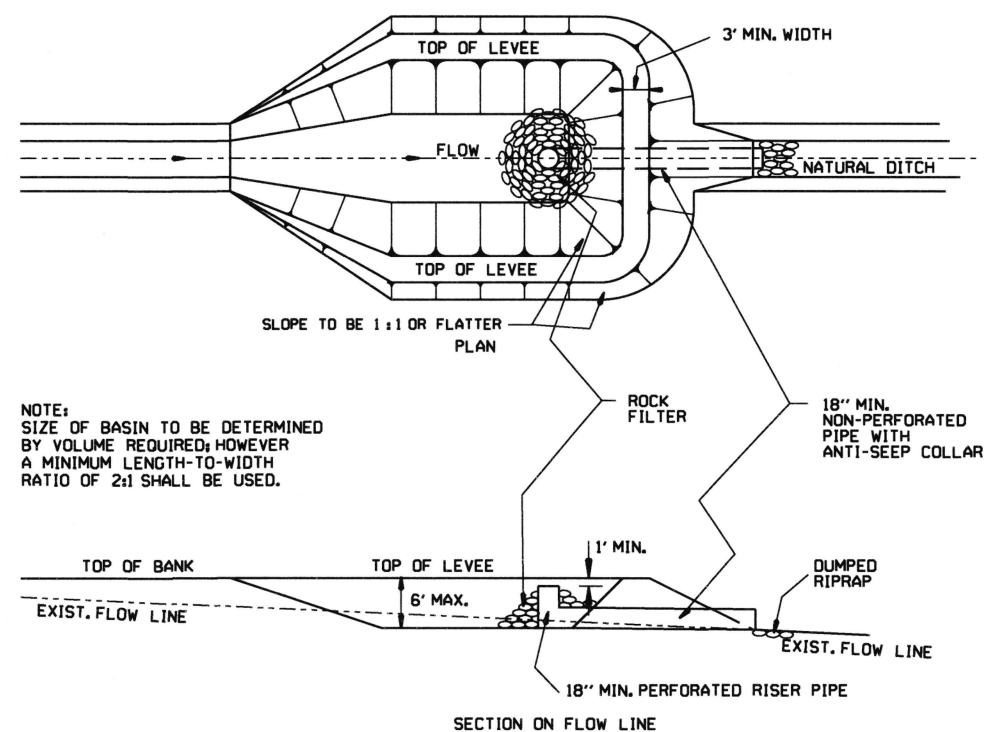
1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).
2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

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

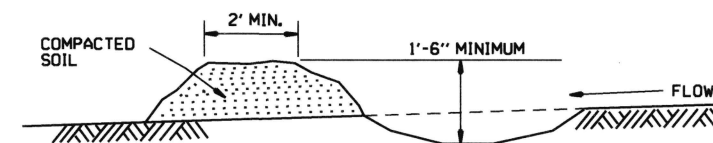
ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION
CONTROL DEVICES
STANDARD DRAWING TEC-1



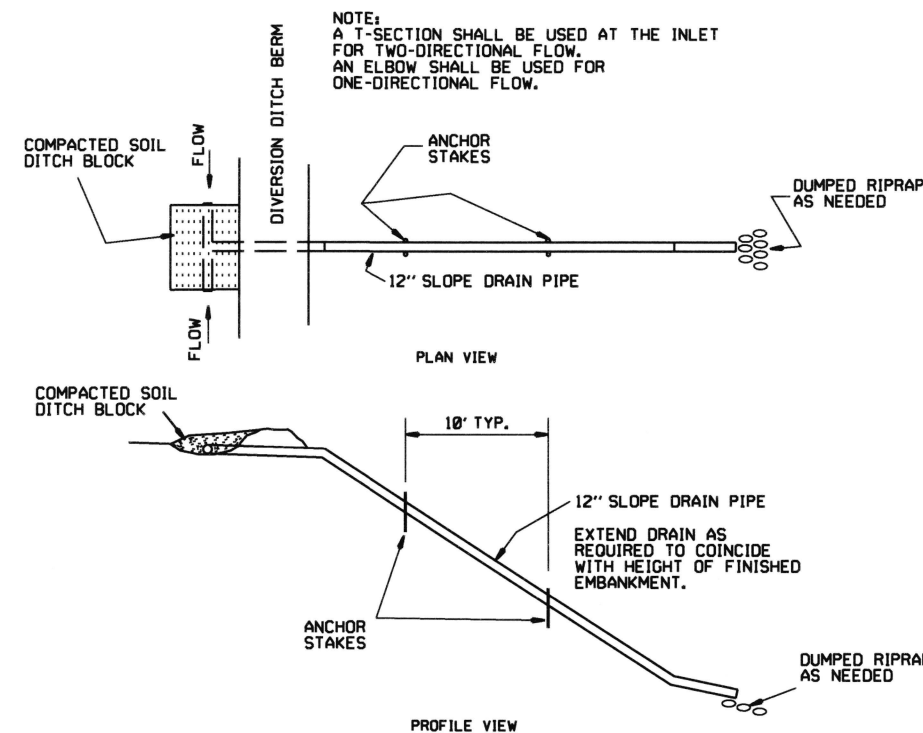
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



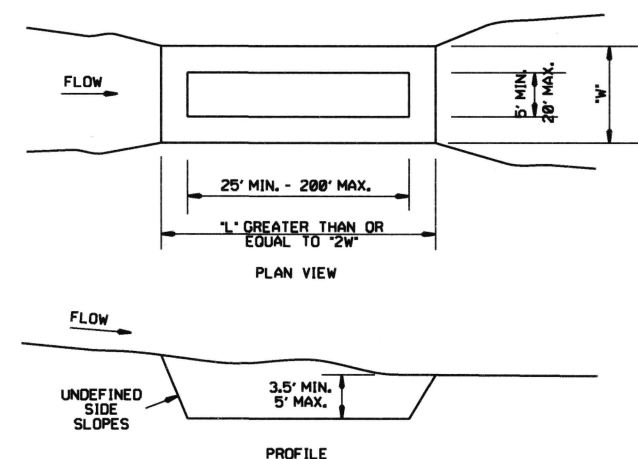
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



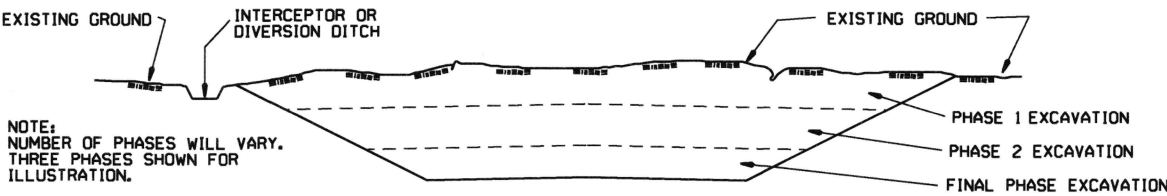
SEDIMENT BASIN (E-14)

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

CLEARING AND GRUBBING

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

EXCAVATION

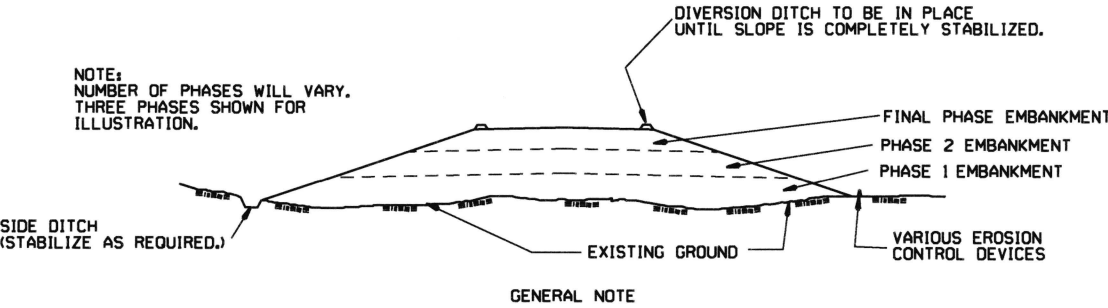


GENERAL NOTE

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

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

EMBANKMENT

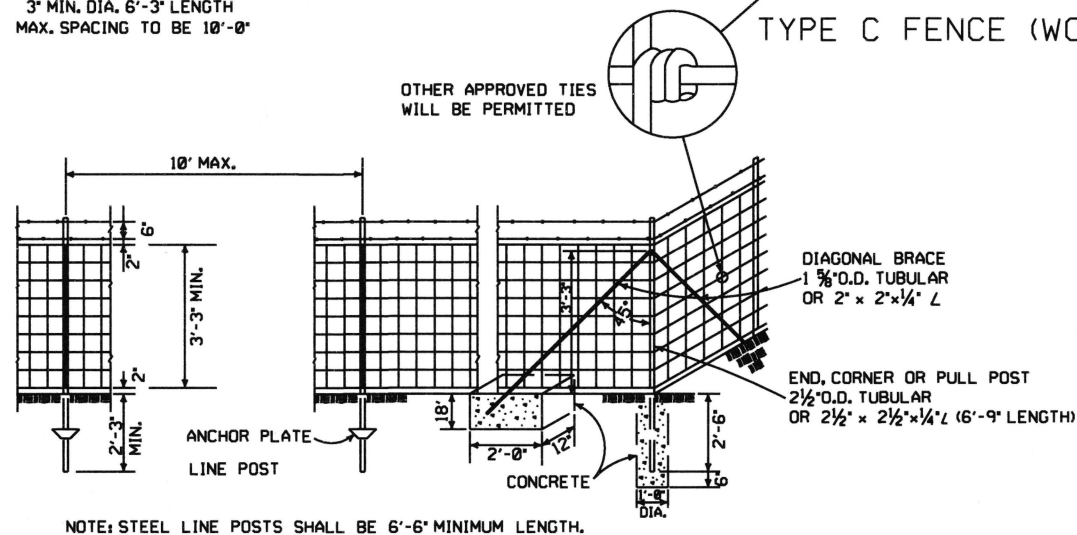
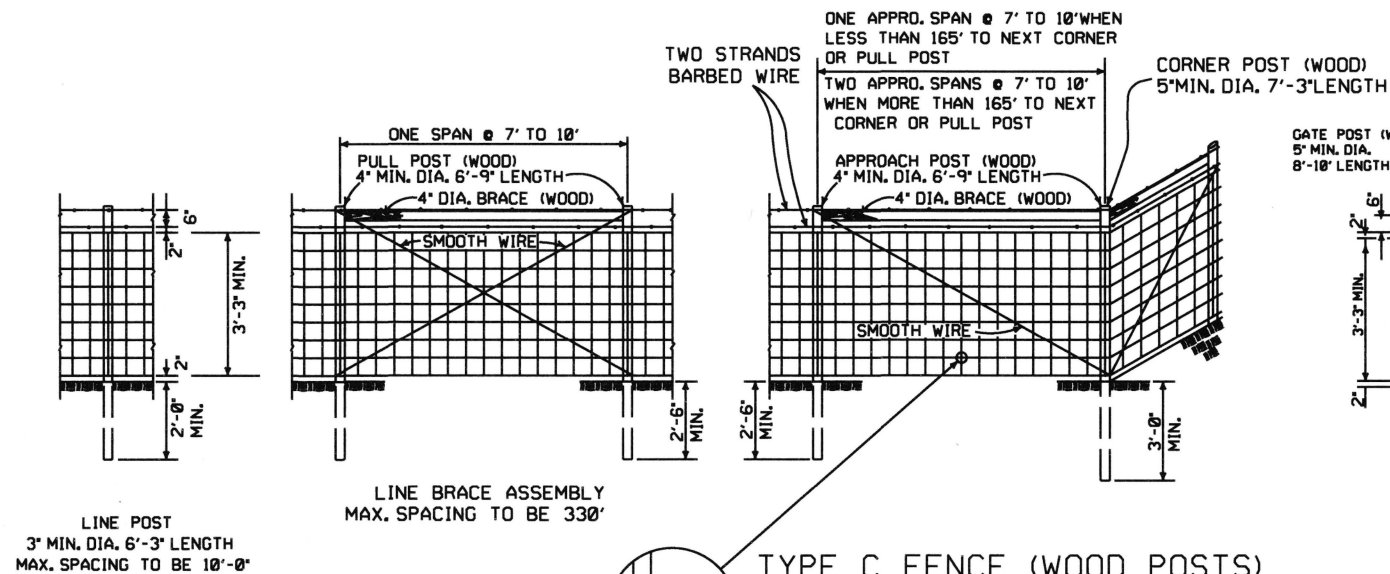


GENERAL NOTE

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

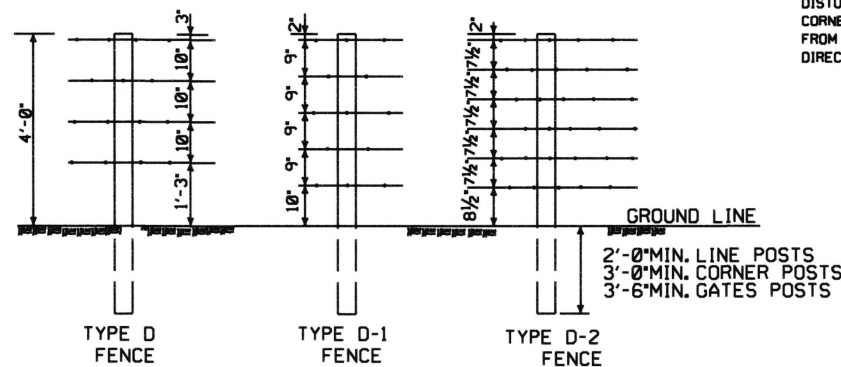
- CONSTRUCTION SEQUENCE
- 1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
 - 2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY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

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

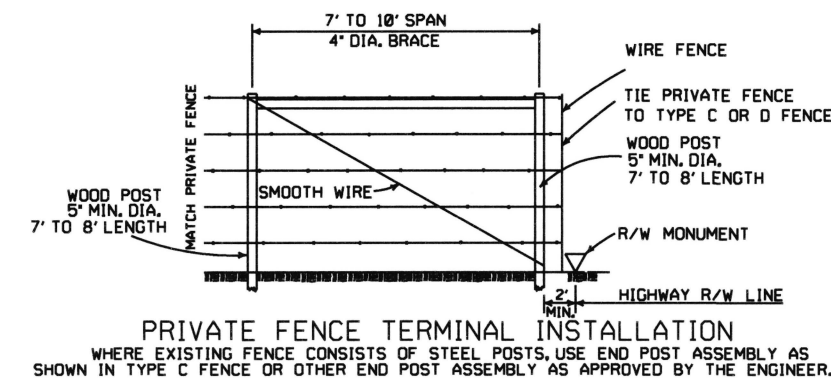
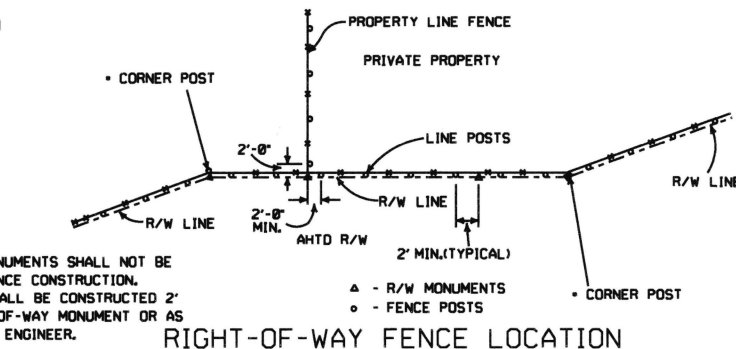


TYPE C FENCE (STEEL POSTS)

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



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



GENERAL NOTES:

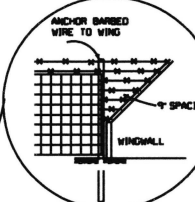
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE. AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO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

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

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

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

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

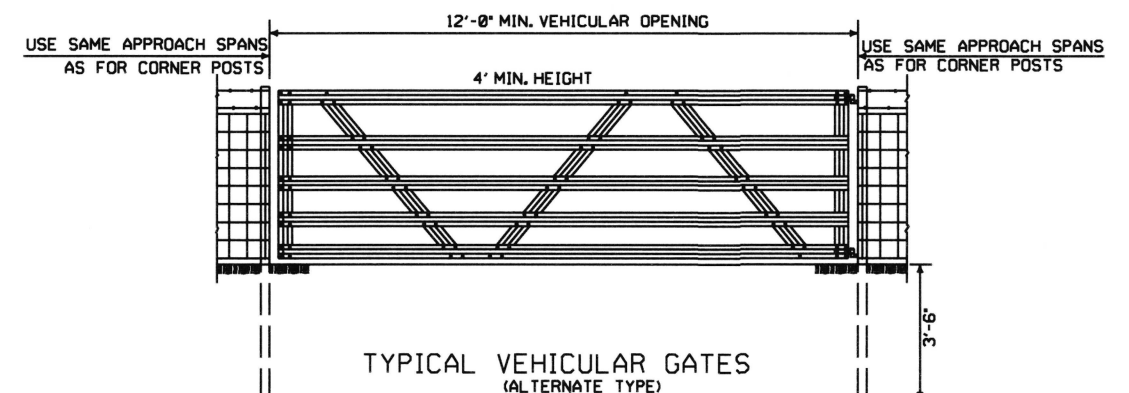


DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

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

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

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



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

8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-96	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4