DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	1	177

(2) I-30/I-430 INTERCHANGE IMPVT. (L.R.XPH. I) (S)

"A FULLY CONTROLLED ACCESS FACILITY"

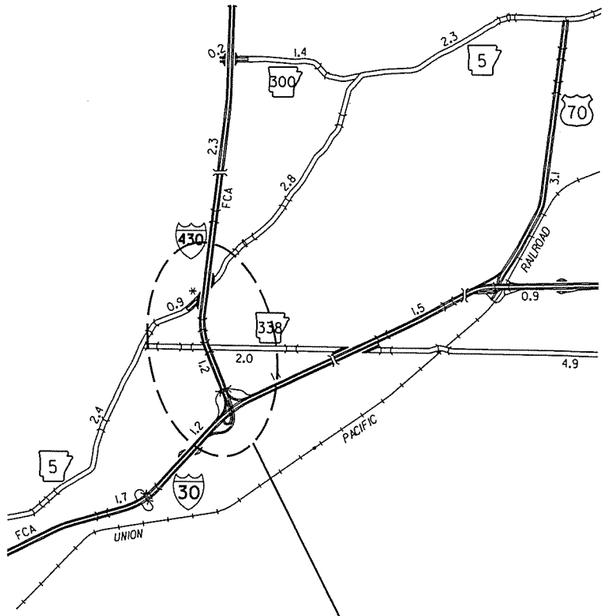
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

I-30 / I-430 INTERCHANGE IMPVT. (L.R.)(PH. I) (S)

PULASKI COUNTY
ROUTE 430 SECTION 21 &
ROUTE 30 SECTION 23

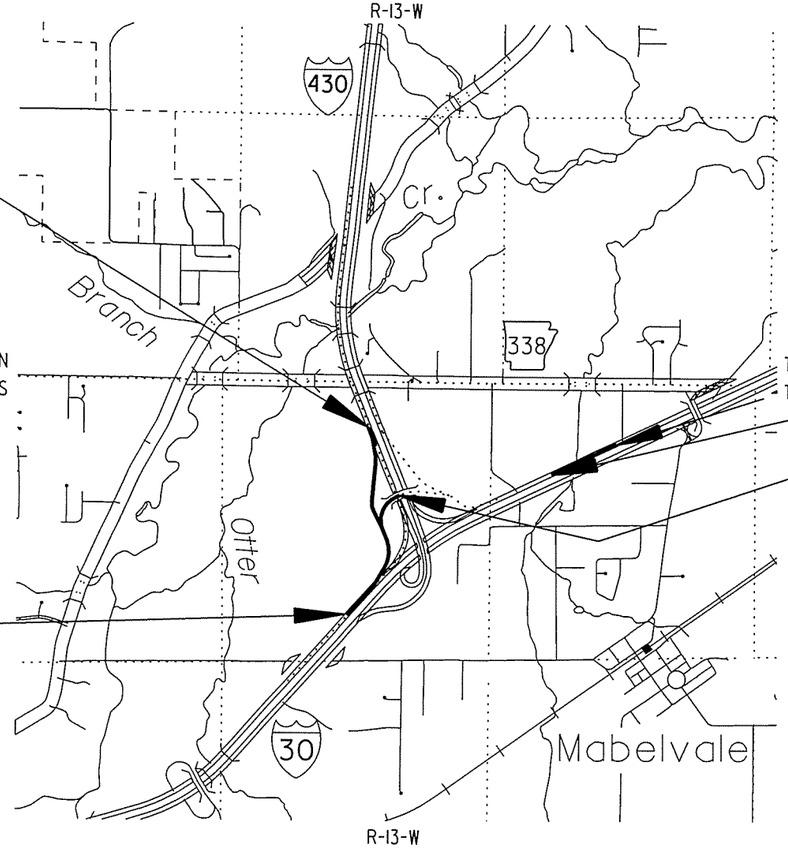
FEDERAL AID PROJ. CMF-CM-430-2(266)0

JOB 061332



VICINITY MAP — PROJECT LOCATION

NOT TO SCALE



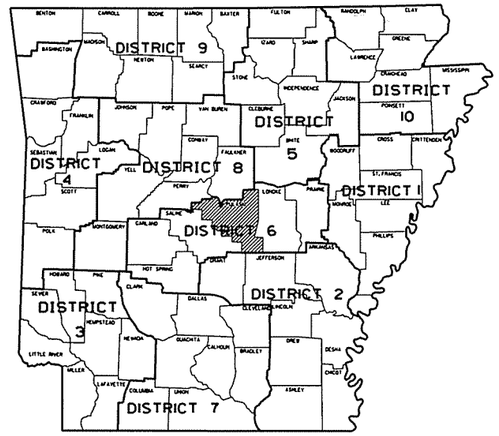
STA. 167+68.88
END JOB 061332
I-430 SB.
(LOG MILE 1.33)

STA. 240+00
END I-30 EXIT RAMP

STA. 224+79.06
BEGIN I-30 EXIT RAMP

STA. 158+49.05
END FRONTAGE ROAD

STA. 111+00.00
BEGIN FRONTAGE ROAD
(LOG MILE 128.83)



ARK. HWY. DIST. NO. 6

DESIGN TRAFFIC DATA

	I-430	I-30 N. FRONTAGE RD.
DESIGN YEAR	2014	2014
2014 ADT	63,000	5,700
2034 ADT	85,500	7,800
2034 DHV	9405	858
DIRECTIONAL DISTRIBUTION	0.60	0.60
TRUCKS	7%	11%
DESIGN SPEED	70 MPH	40 MPH

N

APPROVED

STATE OF ARKANSAS
6-14-14
REGISTERED PROFESSIONAL ENGINEER
No. 4215
RALPH J. HALL

Ralph J. Hall
DEPUTY DIRECTOR
AND CHIEF ENGINEER

BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE = N 34°39'10"	LATITUDE = N 34°39'55"	LATITUDE = N 34°40'48"
LONGITUDE = W 92°24'47"	LONGITUDE = W 92°24'14"	LONGITUDE = W 92°24'23"

NO LENGTH INVOLVED

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

P.E. 060657
NON-PART.

6/19/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
6-30-14				JOB NO.		061332	2	177

(2) INDEX OF SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-30-14

INDEX OF SHEETS

SHEET NO.		TITLE	BRIDGE NO.		DRWG.NO.	
1		TITLE SHEET				
2		INDEX OF SHEETS				
3		GOVERNING SPECIFICATIONS AND GENERAL NOTES				
4 - 8		TYPICAL SECTIONS OF IMPROVEMENT				
9 - 14		SPECIAL DETAILS				
15 - 26		TEMPORARY EROSION CONTROL DETAILS				
27 - 42		MAINTENANCE OF TRAFFIC DETAILS				
43 - 45		PERMANENT PAVEMENT MARKING DETAILS				
46 - 52		QUANTITIES				
53 - 54		SUMMARY OF QUANTITIES AND REVISIONS				
55 - 59		SURVEY CONTROL DETAILS				
60		SOIL LOG				
61		INTERCHANGE LAYOUT - I-430 & I-30				
62 - 63		PLAN AND PROFILE SHEET - I-30 WESTBOUND EXIT RAMP				
64 - 66		PLAN AND PROFILE SHEETS - N. FRONTAGE ROAD				
67 - 68		PLAN AND PROFILE SHEETS - N. FRONTAGE RD. TO I-430 NORTHBOUND ENTRANCE RAMP				
69 - 70		PLAN AND PROFILE SHEETS - I-430 SOUTHBOUND EXIT TO N. FRONTAGE RD.				
71		SIGNING SUMMARY OF QUANTITIES				
72 - 73		SIGNING QUANTITIES				
74 - 83		SIGN LAYOUT SHEETS				
84 - 89		SIGN PLACEMENT SHEETS				
90		FLASHING BEACON DETAILS				
91		DETAILS FOR 65' TO 85' STEEL OVERHEAD SIGN STRUCTURES (SHEET 1 OF 5)	OH-030-60-49, 53 & 62	OH-430-60-27 & 34	55480	
92		DETAILS FOR 65' TO 85' STEEL OVERHEAD SIGN STRUCTURES (SHEET 2 OF 5)	OH-030-60-49, 53 & 62	OH-430-60-27 & 34	55481	
93		DETAILS FOR 65' TO 85' STEEL OVERHEAD SIGN STRUCTURES (SHEET 3 OF 5)	OH-030-60-49, 53 & 62	OH-430-60-27 & 34	55482	
94		DETAILS FOR 65' TO 85' STEEL OVERHEAD SIGN STRUCTURES (SHEET 4 OF 5)	OH-030-60-49, 53 & 62	OH-430-60-27 & 34	55483	
95		DETAILS FOR 65' TO 85' STEEL OVERHEAD SIGN STRUCTURES (SHEET 5 OF 5)	OH-030-60-49, 53 & 62	OH-430-60-27 & 34	55484	
96		DETAILS OF SIGN STRUCTURE BM-030-60-42A (SHEET 1 OF 2)	BM-030-60-42A		55485	
97		DETAILS OF SIGN STRUCTURE BM-030-60-42A (SHEET 2 OF 2)	BM-030-60-42A		55486	
98		COMMON DETAILS OF BRIDGE MOUNTED SIGN STRUCTURES	OH-030-60-42A, 42B & 47	OH-430-60-25, 27 & 28	55487	
99		DETAILS OF SIGN STRUCTURE BM-030-60-42B (SHEET 1 OF 2)	BM-030-60-42B		55488	
100		DETAILS OF SIGN STRUCTURE BM-030-60-42B (SHEET 2 OF 2)	BM-030-60-42B		55489	
101		DETAILS OF SIGN STRUCTURE BM-430-60-25 (SHEET 1 OF 3)	BM-430-60-25		55490	
102		DETAILS OF SIGN STRUCTURE BM-430-60-25 (SHEET 2 OF 3)	BM-430-60-25		55491	
103		DETAILS OF SIGN STRUCTURE BM-430-60-25 (SHEET 3 OF 3)	BM-430-60-25		55492	
103A		DETAILS FOR MODIFICATIONS TO SIGN STRUCTURE OH-030-60-44	OH-030-60-44		55492A	
104		CONCRETE DITCH PAVING			CDP-1	11-17-10
105		CURBING DETAILS			CG-1	11-29-07
106		CONCRETE PAVEMENT DETAILS CONTINUOUSLY REINFORCED			CPCR-1	10-18-96
107		CONCRETE PAVEMENT DETAILS CONTINUOUSLY REINFORCED DEFORMED WIRE MAT			CPCR-2	3-23-89
108		DETAILS OF TERMINAL JOINTS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED			CPCR-3	10-18-96
109		DETAILS OF ENTRANCE & EXIT RAMPS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED			CPCR-4	2-27-14
110		TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)			CPTJ-6A	5-25-06
111		DETAILS OF DRIVEWAYS & ISLANDS			DR-1	2-27-14
112		FLARED END SECTION			FES-1	10-18-96
113		FLARED END SECTION			FES-2	10-18-96
114		DETAILS OF DROP INLETS			FPC-9D	8-22-02
115		DETAILS OF DROP INLETS (TYPE C)			FPC-9E	8-22-02
116		DETAILS OF DROP INLET (TYPE MO)			FPC-9M	8-22-02
117		CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)			GR-11	7-14-10
118		GUARD RAIL DETAILS			GRT-1	7-14-10
119		CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING			PCC-1	2-27-14
120		METAL PIPE CULVERT FILL HEIGHTS & BEDDING			PCM-1	2-27-14
121		PAVEMENT MARKING DETAILS			PM-1	9-12-13
122		PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS			PM-2	9-12-13
123		DETAILS OF PIPE UNDERDRAIN			PU-1	4-10-03
124		TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC			SE-1	1-09-87
125		TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC			SE-2	10-18-96
126		U-CHANNEL POST ASSEMBLIES			SHS-2	2-27-14
127		DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS			SHS-3	9-12-13
128		DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS			SHS-4	9-12-13
129		DETAILS OF GUIDE SIGN PANELS			SHS-5	9-12-13
130		MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS			SHS-6	9-12-13
131		DETAIL OF OMNI-DIRECTIONAL BREAKWAY SIGN SUPPORTS			SHS-7	9-12-13
132		STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION			TC-1	12-15-11
133		STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION			TC-2	9-12-13
134		STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION			TC-3	10-15-09
135		STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER			TC-4	2-27-14
136		STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER			TC-5	10-15-09
137		TEMPORARY EROSION CONTROL DEVICES			TEC-1	12-15-11
138		TEMPORARY EROSION CONTROL DEVICES			TEC-2	6-02-94
139		TEMPORARY EROSION CONTROL DEVICES			TEC-3	11-03-94
140		TEMPORARY EROSION CONTROL DEVICES			TEC-4	7-26-12
141		DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS			TR-1	1-21-00
142		DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)			TR-1A	8-22-02
143		WIRE FENCE TYPE A AND B			WF-1	8-22-02
144		WIRE FENCE WATER GAPS			WF-2	4-20-79
145 - 177		CROSS SECTIONS				

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

6/30/2014

R061332.DGN

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6-16-14				6	ARK.			
6-30-14				JOB NO.		061332	3	177
7-7-14				(2)	GOVERNING SPECS. AND GENERAL NOTES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-8-14

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - TRAINING PROGRAM - JOB 061332
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
108-1_____	LIQUIDATED DAMAGES
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
620-1_____	MULCH COVER
JOB 061332__	AIRPORT CLEARANCE REQUIREMENTS
JOB 061332__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061332__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061332__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 061332__	EXTENSION FOR PIPE CULVERTS
JOB 061332__	FLASHING BEACON ASSEMBLY
JOB 061332__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061332__	HIGH PERFORMANCE PAVEMENT MARKING
JOB 061332__	MAINTENANCE OF TRAFFIC
JOB 061332__	MANDATORY USE OF INTERNET BIDDING
JOB 061332__	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT
JOB 061332__	PARTNERING REQUIREMENTS
JOB 061332__	PIPE CULVERTS
JOB 061332__	PROSECUTION AND PROGRESS - CALENDAR DAY CONTRACT
JOB 061332__	REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER
JOB 061332__	RESTRAINING CONDITIONS
JOB 061332__	SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB 061332__	SITE USE (A + C METHOD) - CALENDAR DAY CONTRACT
JOB 061332__	SPECIAL SAFETY REQUIREMENTS FOR OVERHEAD SIGNS
JOB 061332__	STEEL SIGN STRUCTURES
JOB 061332__	STORM WATER POLLUTION PREVENTION PLAN
JOB 061332__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061332__	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 061332__	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES LEFT IN PLACE
JOB 061332__	UTILITY ADJUSTMENTS
JOB 061332__	VALUE ENGINEERING
JOB 061332__	VERY EARLY STRENGTH CONCRETE
JOB 061332__	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. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. 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.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

7/7/2014

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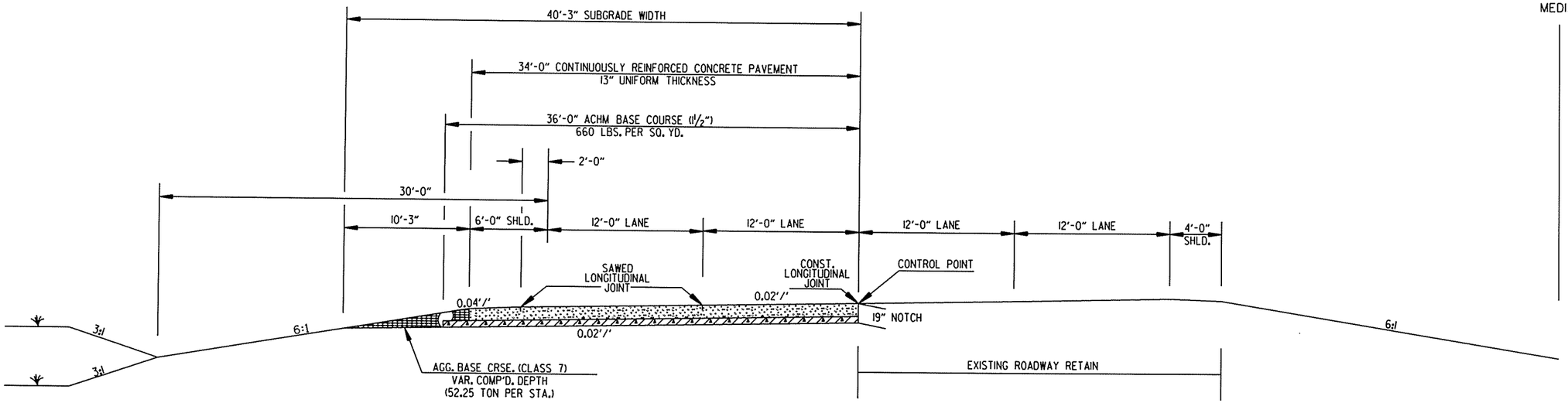
6-16-14				6	ARK.			
				JOB NO.		061332	4	177

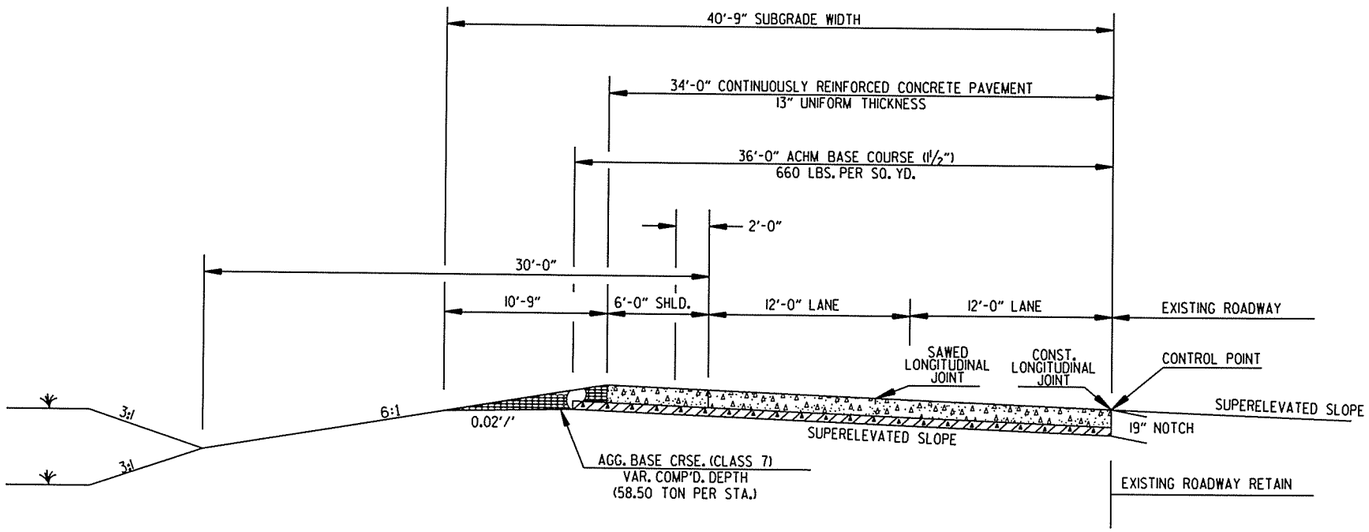
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



I-430 AUXILIARY SOUTHBOUND LANES

STA. 118+40.76 TO STA. 129+30.00



I-430 AUXILIARY SOUTHBOUND LANES

SUPERELEVATION

NOTES:

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

THE EXISTING 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 PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

6/18/2014

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TYPICAL SECTIONS OF IMPROVEMENT

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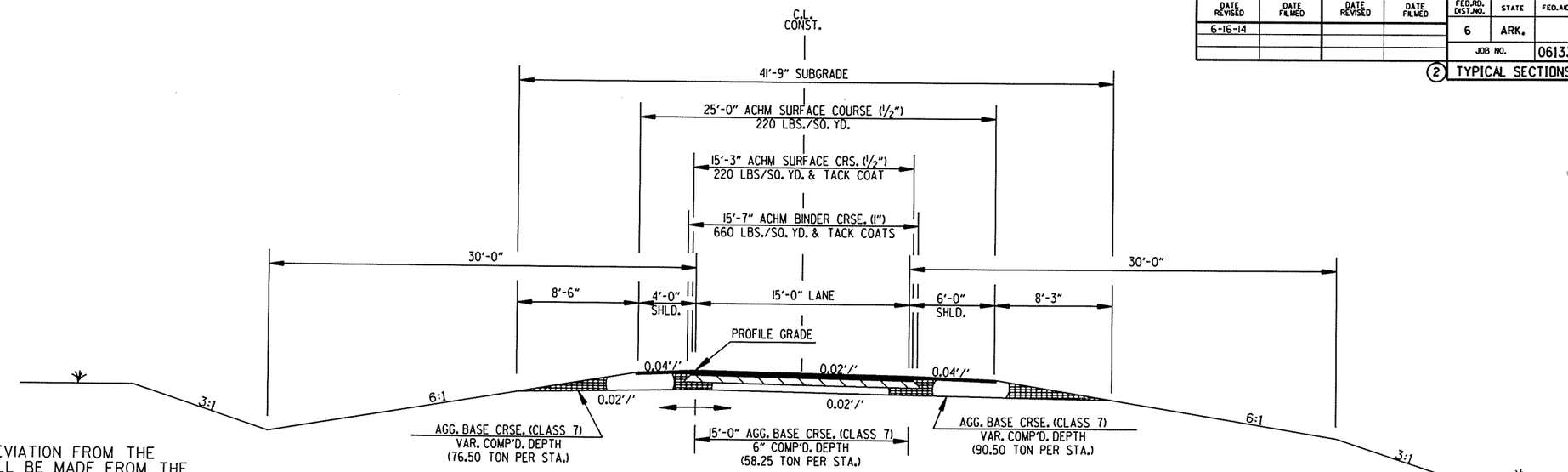
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



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(SHOWN IN THE DIRECTION OF TRAFFIC)

NOTES:

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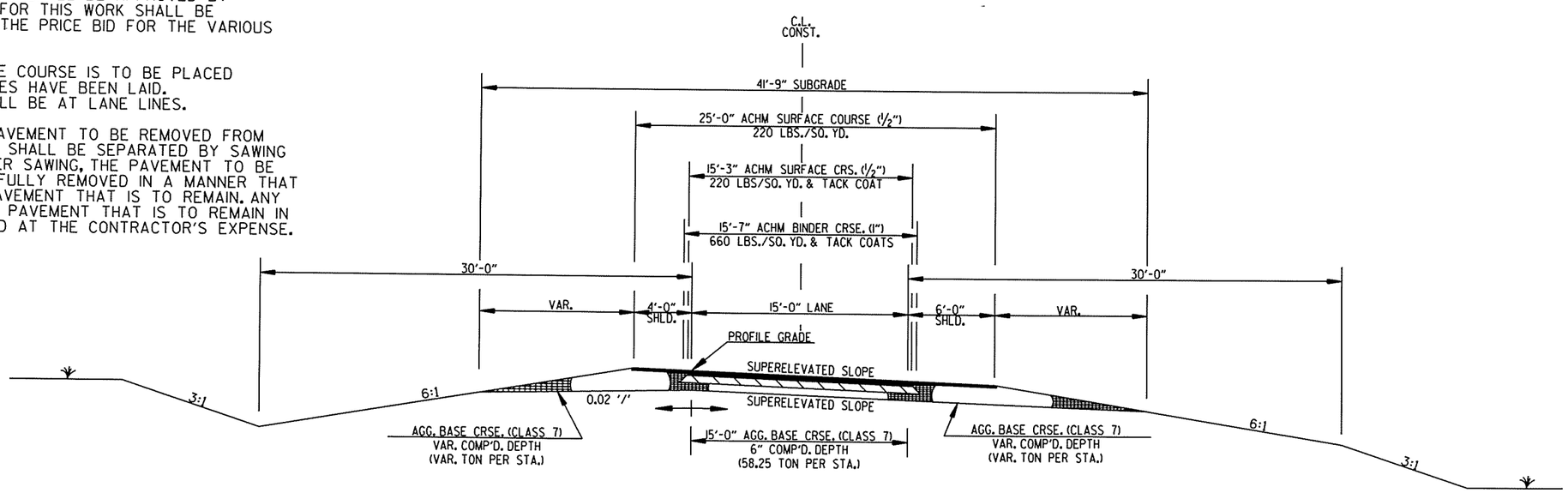
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

PRIOR TO AND DURING PLACEMENT OF PAVEMENT, 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.

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

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.



RAMP
SUPERELEVATION
(SHOWN IN THE DIRECTION OF TRAFFIC)

6/18/2014

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TYPICAL SECTIONS OF IMPROVEMENT

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				JOB NO.		061332	6	177

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

NOTES:

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

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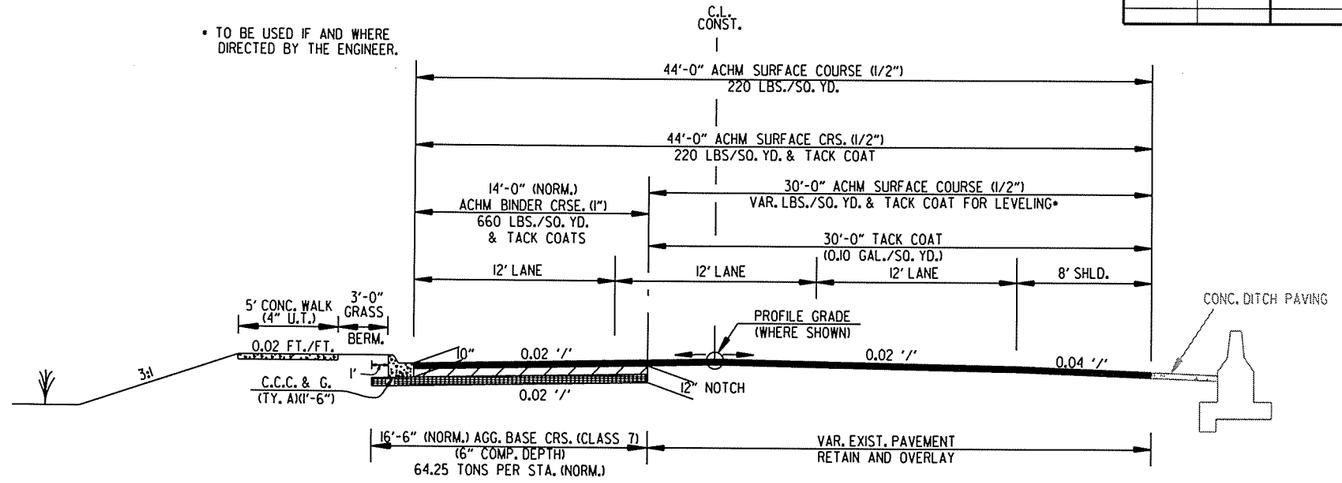
PRIOR TO AND DURING PLACEMENT OF PAVEMENT, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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

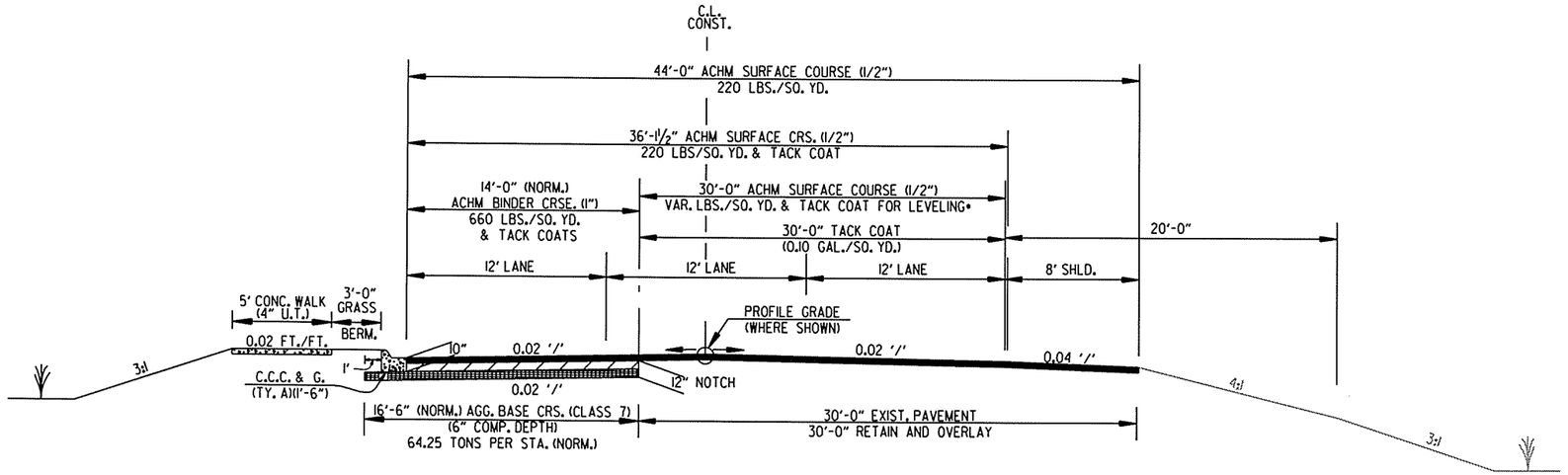
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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.

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



N. FRONTAGE RD. - CURB & GUTTER
STA. 111+00.00 TO STA. 124+30.00



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

N. FRONTAGE RD. - CURB & GUTTER
STA. 124+30.00 TO STA. 133+03.48

6/18/2014

R061332.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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6-16-14				6	ARK.			
				JOB NO.		061332	7	177

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

NOTES:

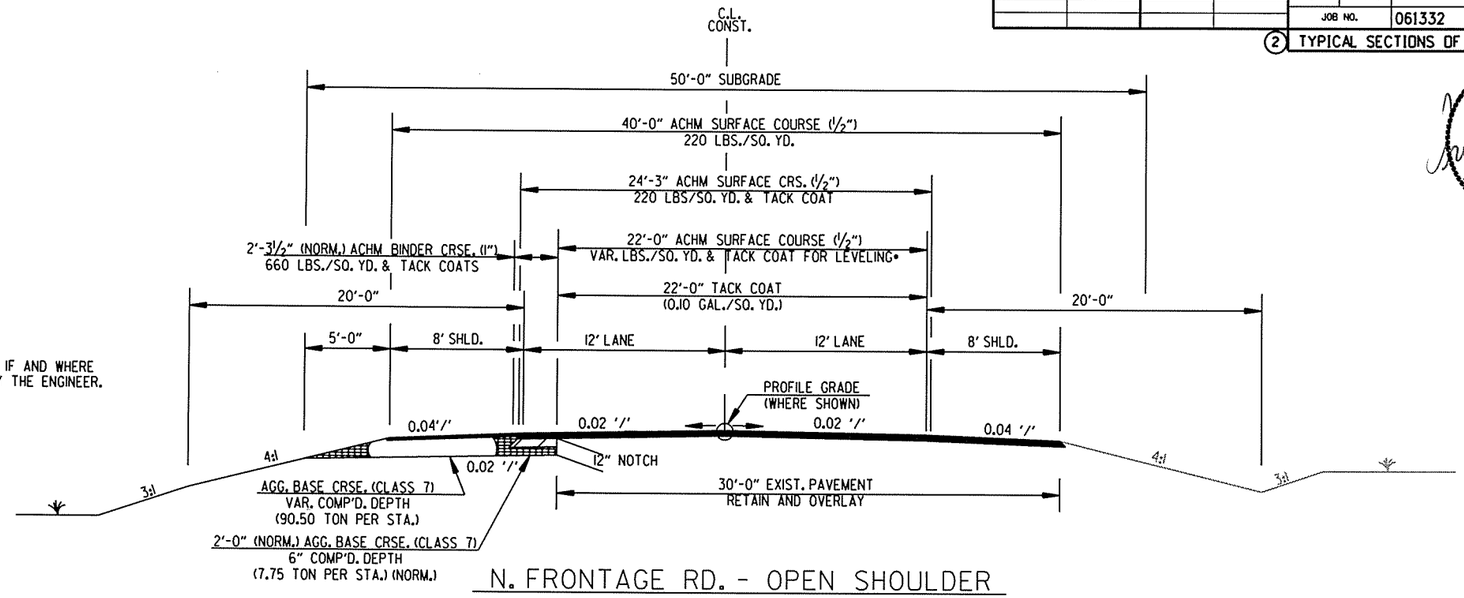
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

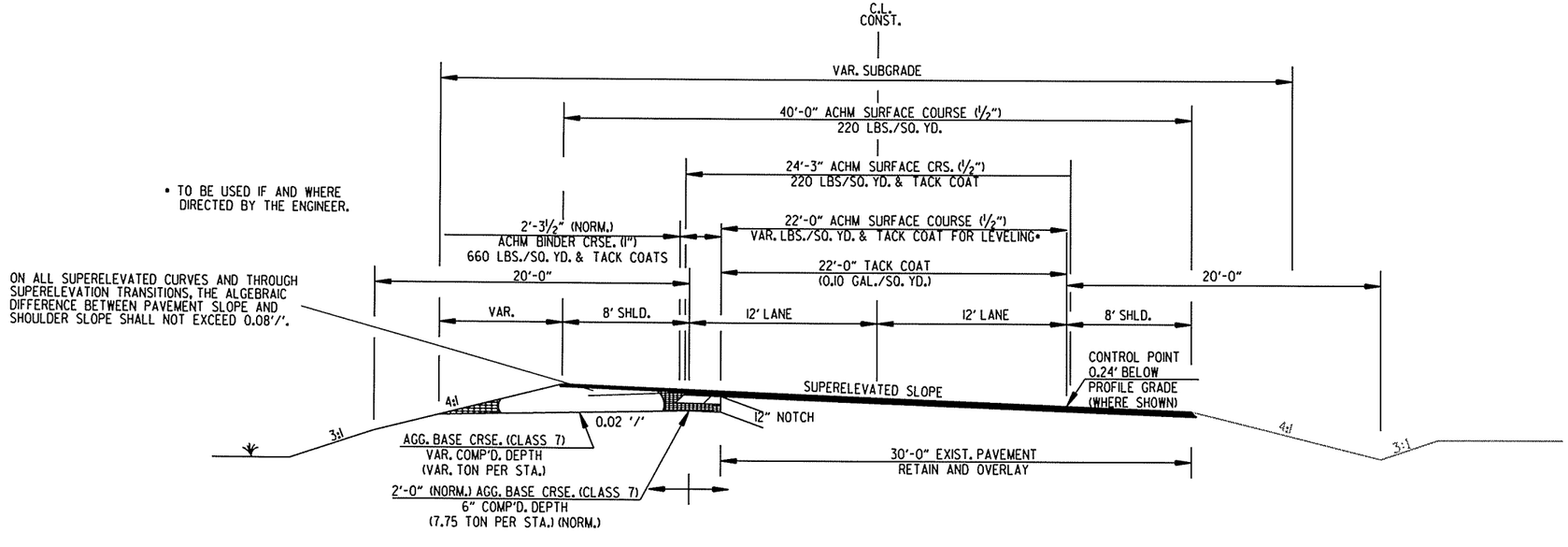
ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT PAYMENT WILL BE CONSIDERED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

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

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.



N. FRONTAGE RD. - OPEN SHOULDER
STA. 133+03.48 TO STA. 138+70.12



N. FRONTAGE RD. - OPEN SHOULDER
SUPERELEVATION

6/18/2014

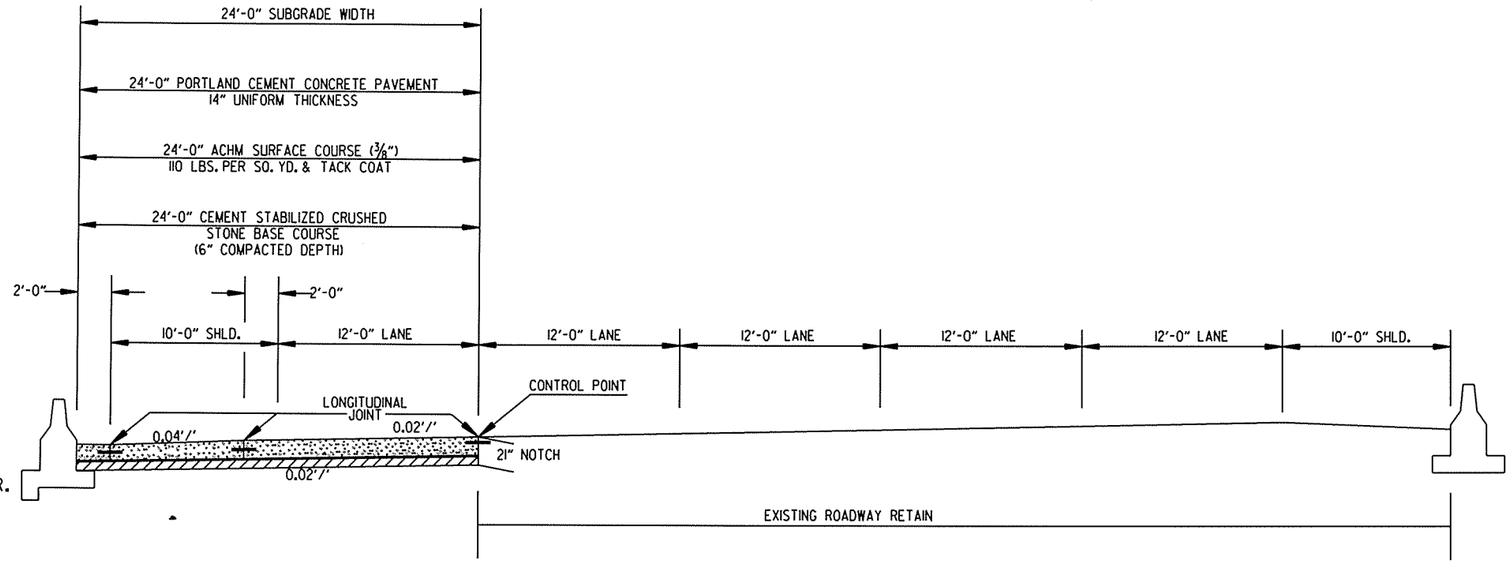
R061332.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	8	177

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



I-30 WESTBOUND LANES (ACCEL. LANES)
STA. 154+73.42 TO STA. 192+25.15
STA. 228+57.90 TO STA. 240+00

NOTES:

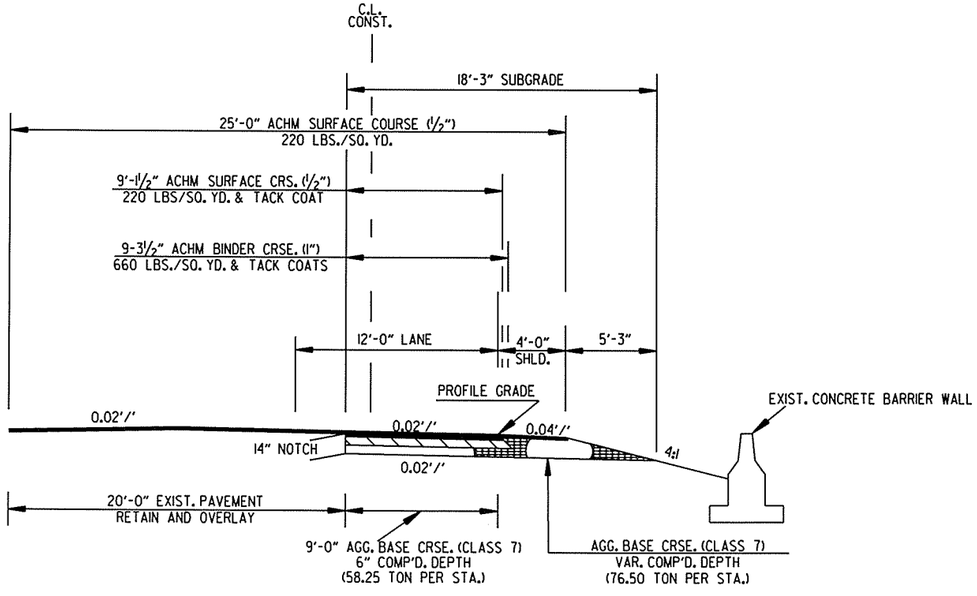
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

PRIOR TO AND DURING PLACEMENT OF PAVEMENT, 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.

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

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.



I-30 W.B. EXIT RAMP

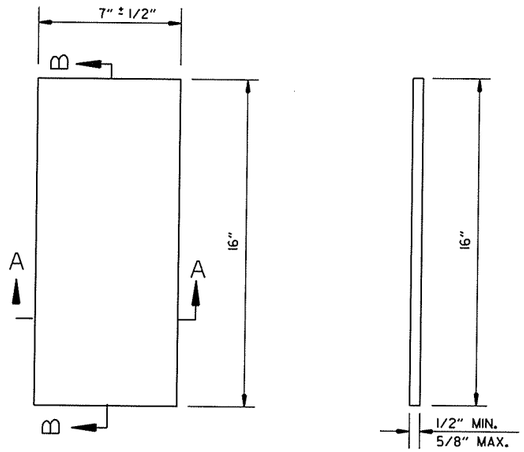
6/18/2014

R061332.DGN

TYPICAL SECTIONS OF IMPROVEMENT

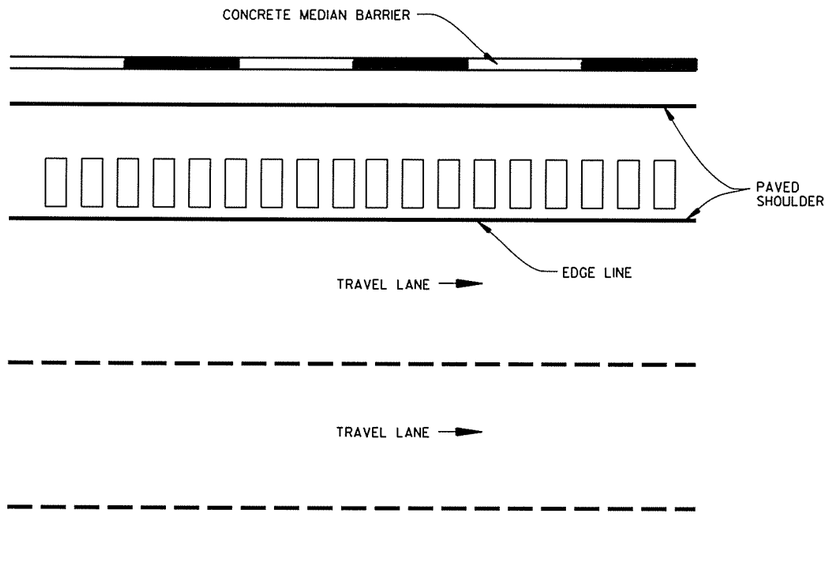
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	9	177

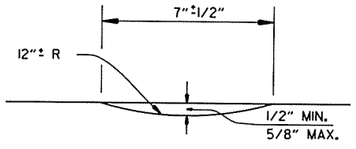
(2) SPECIAL DETAILS



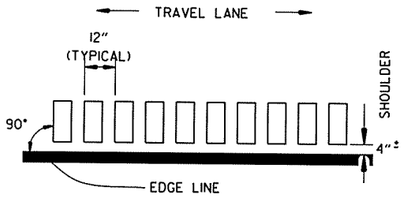
PLAN

SECTION B-B

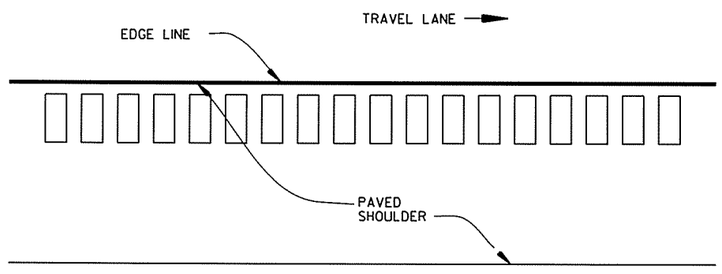




SECTION A-A



LOCATION PLAN OF RUMBLE STRIPS
LEFT SHOULDER



PLAN VIEW

NOTES:

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

DETAILS OF RUMBLE STRIPS

6/18/2014

R061332.DGN

SPECIAL DETAILS

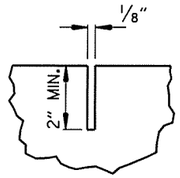
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	10	177

(2) SPECIAL DETAILS

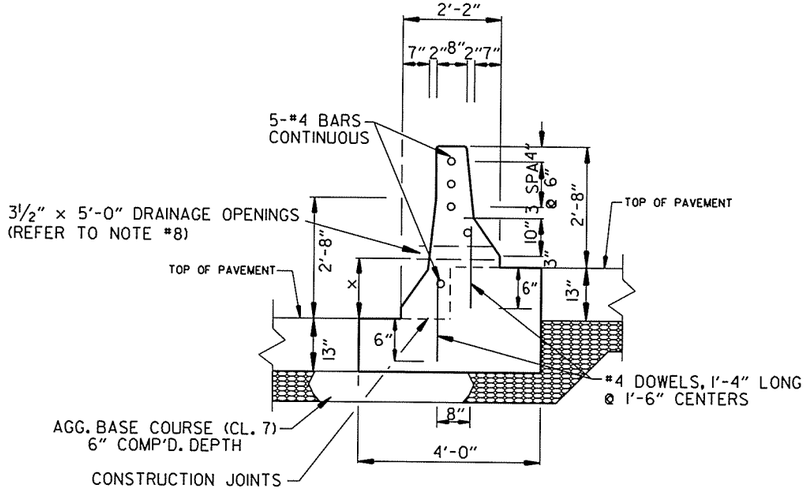
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

GENERAL NOTES FOR CONCRETE BARRIER WALLS

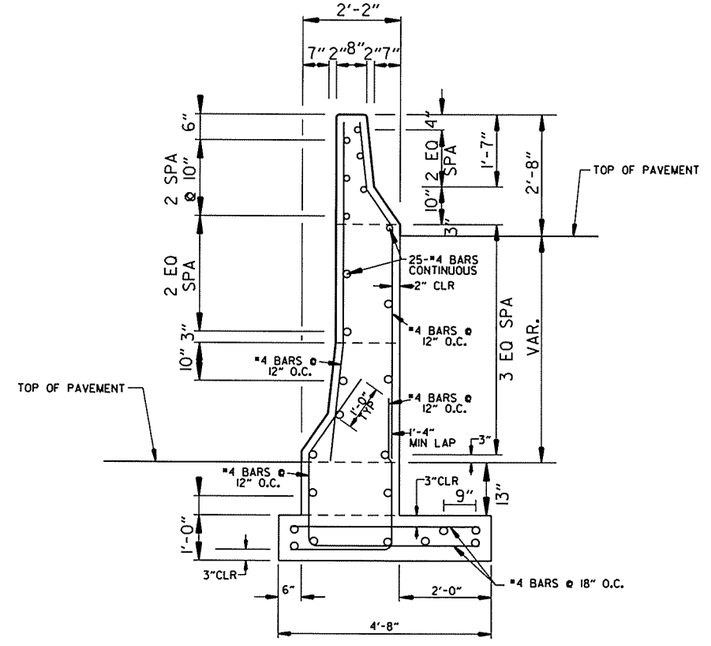
1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMUM SPACING FOR BARRIER TYPES SIDE B. A 30'-0" MAXIMUM SPACING IS REQUIRED FOR TYPE SIDE C.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. DOWEL BARS FOR BARRIER TYPES MEDIAN A & B WILL NOT BE REQUIRED IF BARRIER AND MINIMUM 4' WIDE BASE ARE CAST AS A COMPLETE UNIT.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.
6. THE DESIGN OF BARRIER WALL TYPES MEDIAN C IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT. FOR BARRIER TYPES SIDE B OR 120 FT. FOR BARRIER TYPES SIDE C. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
8. DRAINAGE OPENINGS TO BE CONSTRUCTED EVERY 100' O.C. AND AT SAGS AND ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.



CONTRACTION JOINT DETAIL



CONCRETE BARRIER WALL
JERSEY FACED
(MEDIAN TYPE B)
x = 0'-0" to 1'-0" MAX



CONCRETE BARRIER WALL
JERSEY FACED
(MEDIAN TYPE C)

6/18/2014

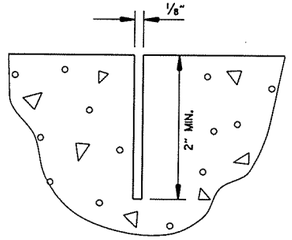
R061332.DGN

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	11	177

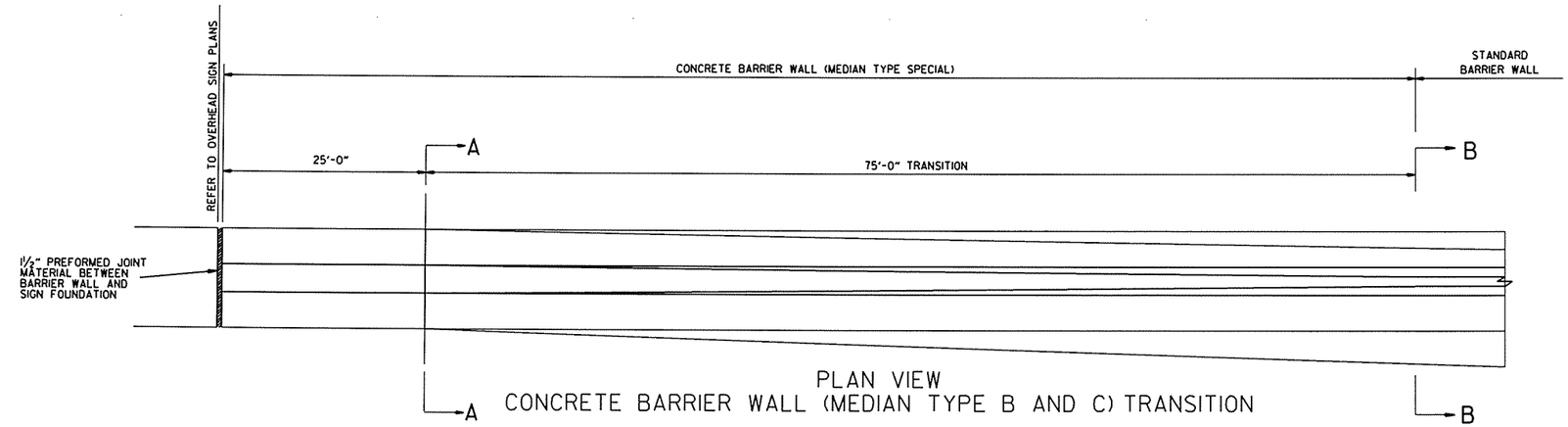
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

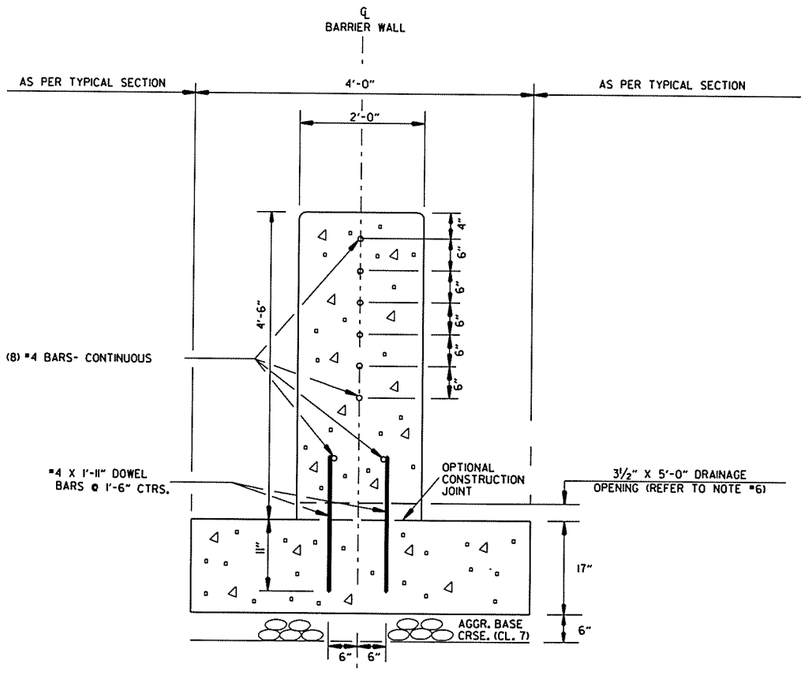


CONTRACTION JOINT DETAIL

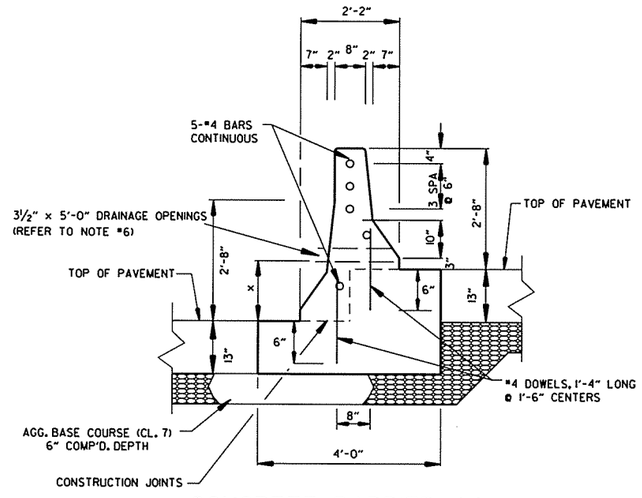
NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.



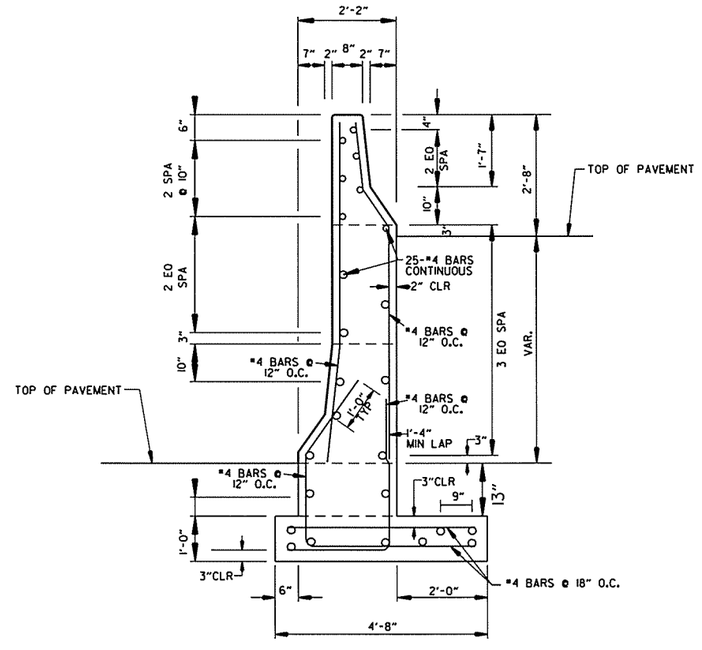
PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE B AND C) TRANSITION



CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)
(SECTION A-A)



CONCRETE BARRIER WALL
JERSEY FACED
(MEDIAN TYPE B)
x = 0'-0" to 1'-0" MAX



CONCRETE BARRIER WALL
JERSEY FACED
(MEDIAN TYPE C)

CONCRETE BARRIER WALL (MEDIAN TYPE C) TRANSITION
FOR OVERHEAD SIGN STRUCTURE

6/18/2014

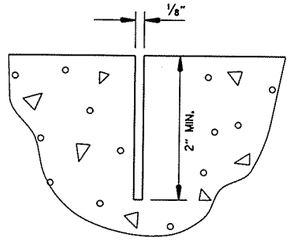
R061332.DGN

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	12	177

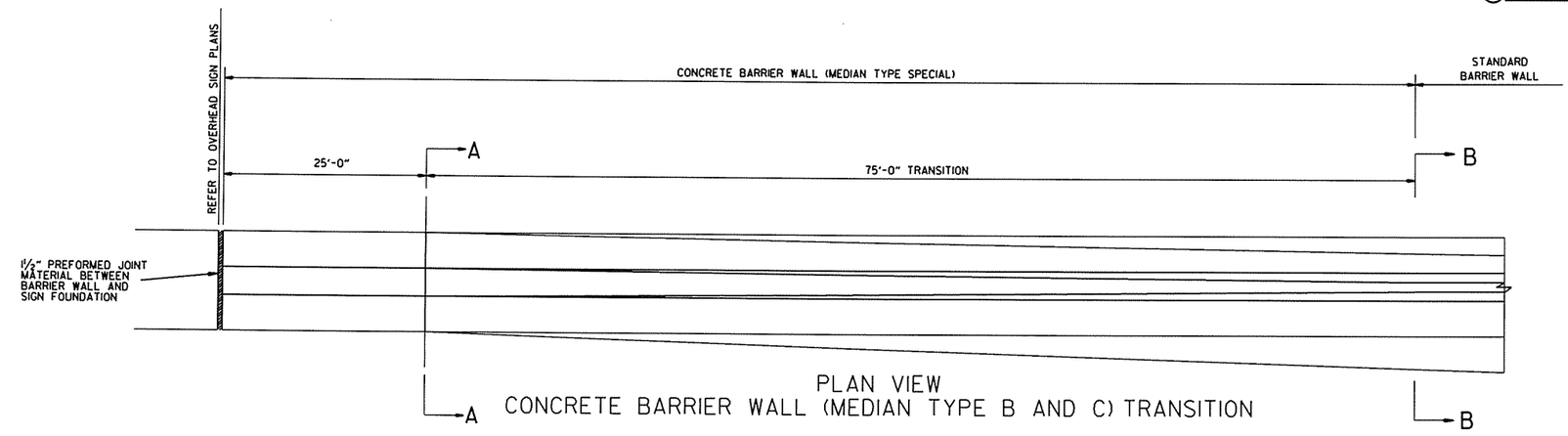
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

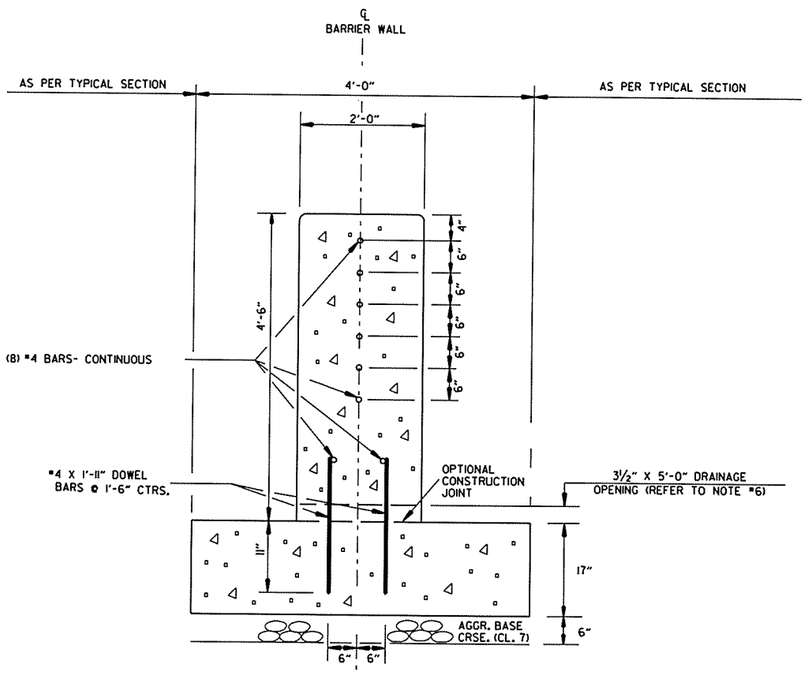


CONTRACTION JOINT DETAIL

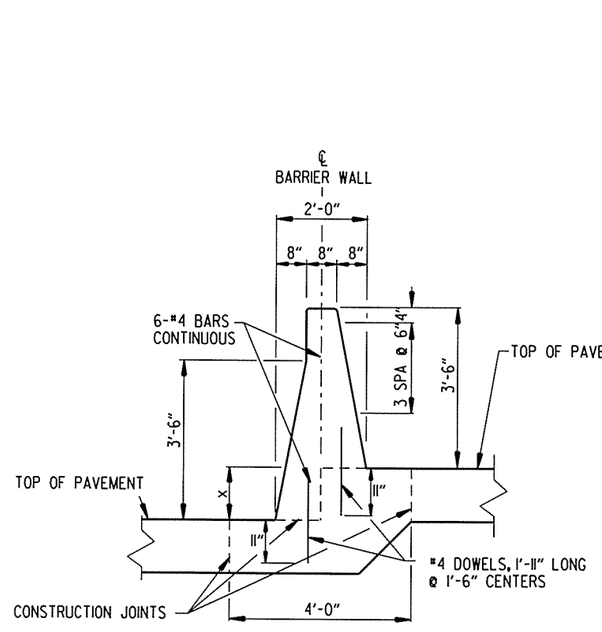
NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.



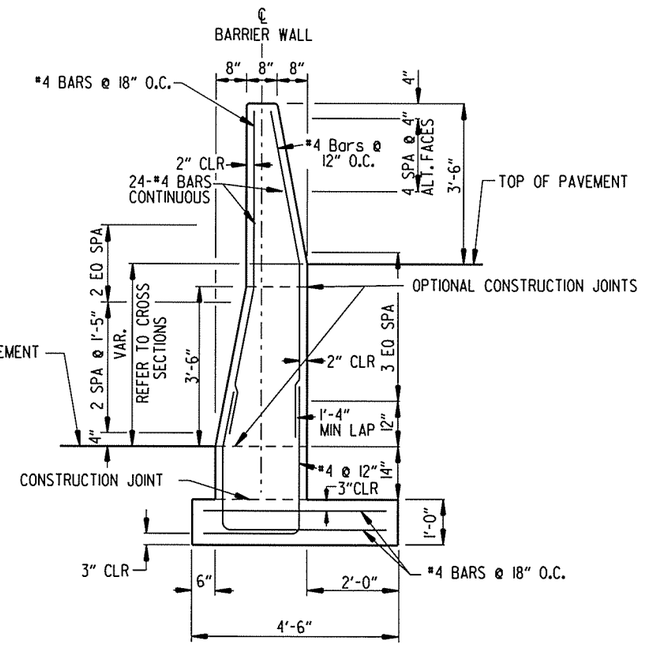
PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE B AND C) TRANSITION



CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)
(SECTION A-A)



CONCRETE BARRIER WALL
(SIDE TYPE B)
x = 0'-0" to 1'-0" MAX



CONCRETE BARRIER WALL
(SIDE TYPE C)

CONCRETE BARRIER WALL (MEDIAN TYPE C) TRANSITION
FOR OVERHEAD SIGN STRUCTURE

6/18/2014

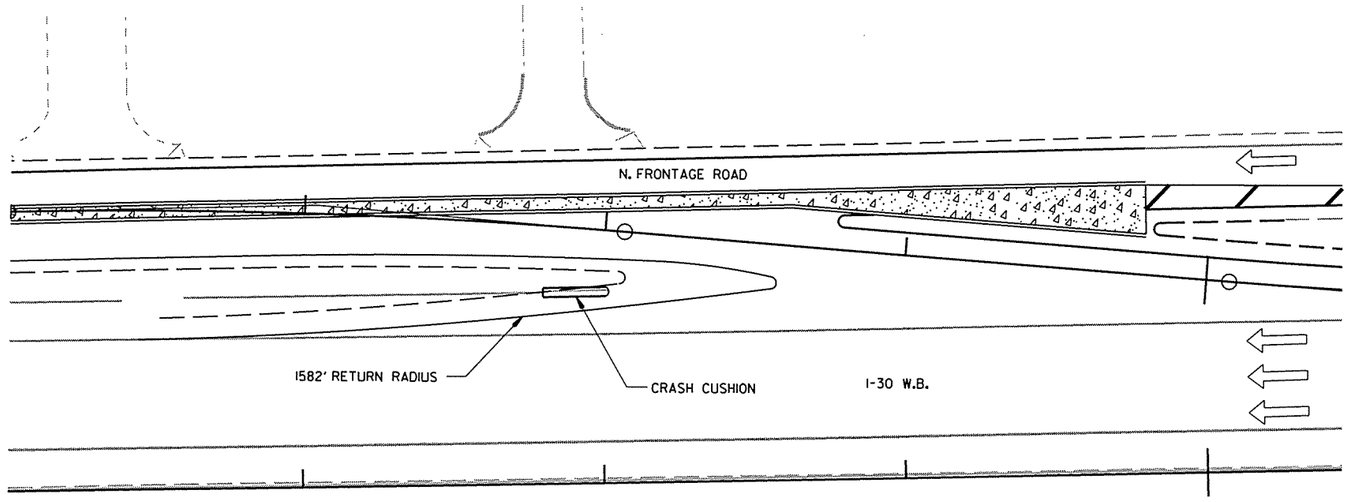
R061332.DGN

SPECIAL DETAILS

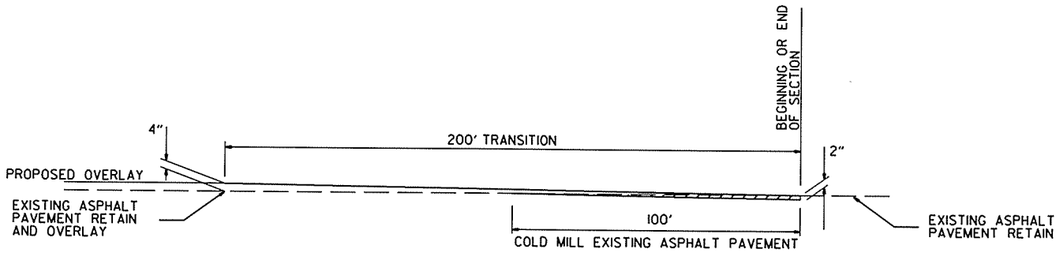
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	13	177

(2) SPECIAL DETAILS

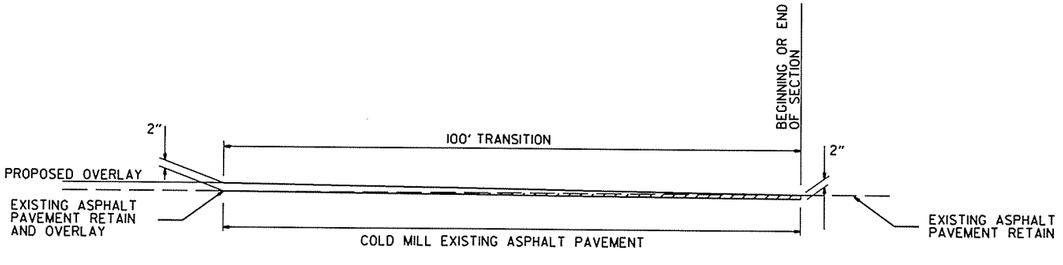
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



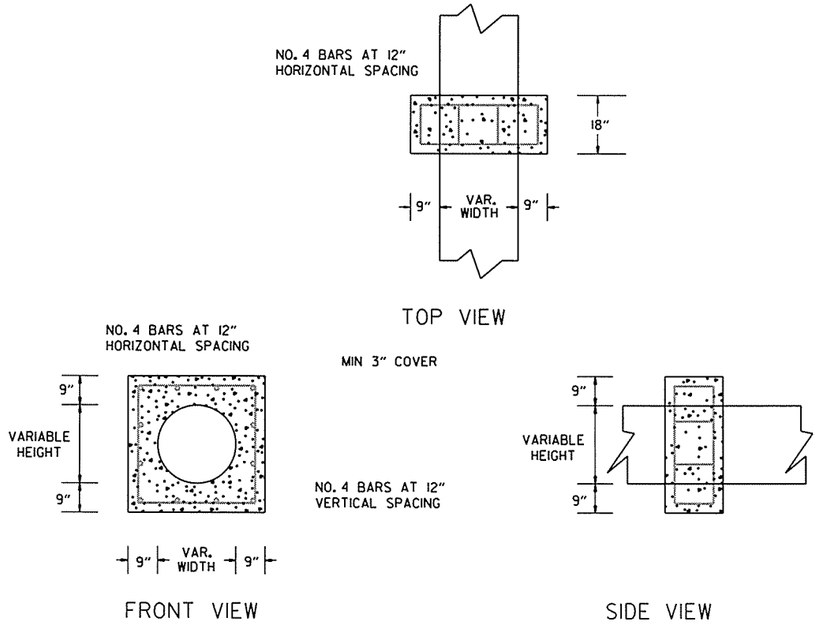
CRASH CUSHION
W.B. I-30 TO N. FRONTAGE ROAD EXIT



DETAIL FOR TRANSITIONS



DETAIL FOR TRANSITIONS



PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL

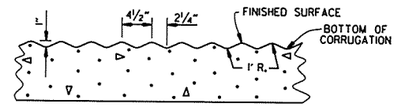
6/18/2014

R061332.DGN

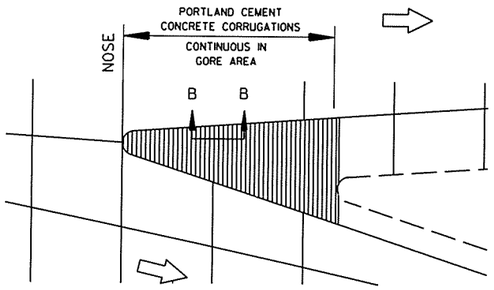
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	14	177

(2) SPECIAL DETAILS

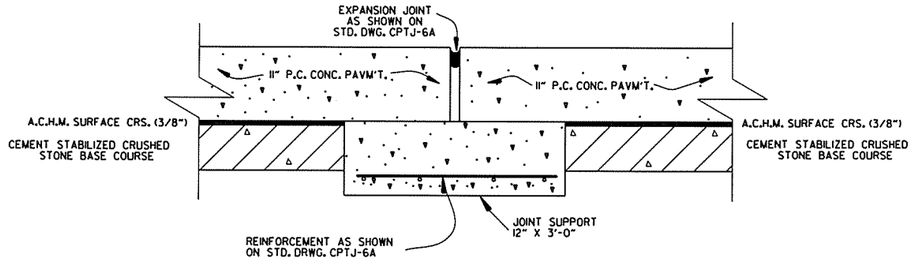
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



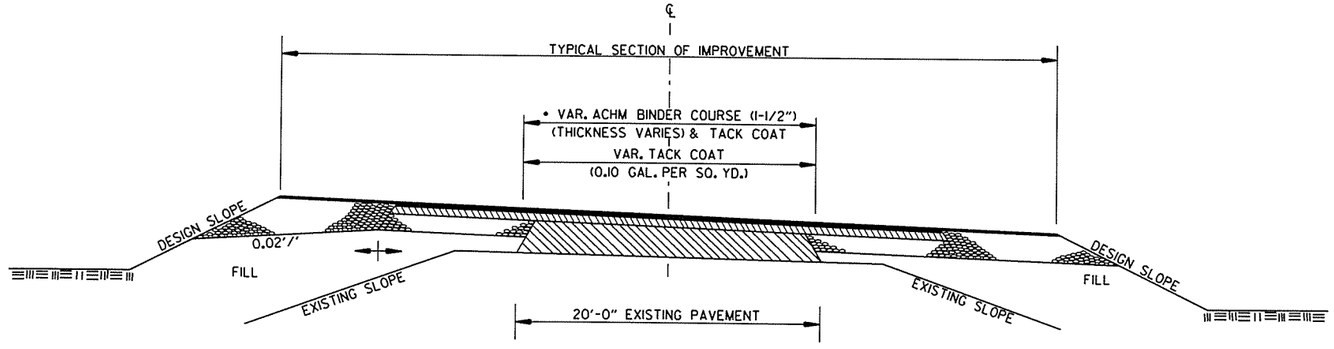
SECTION B-B



LAYOUT OF SHOULDER CORRUGATIONS IN EXIT GORE AREAS



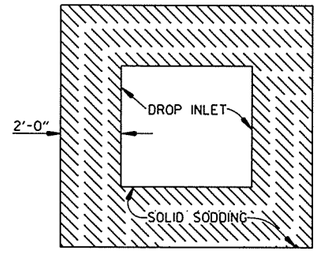
DETAILS OF JOINT SUPPORT



• 6" AGGREGATE BASE COURSE (CLASS 7) TO BE REPLACED WITH A.C.H.M. BINDER COURSE (1")

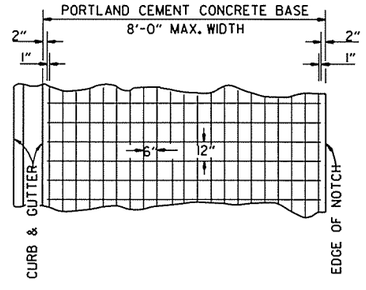
METHOD OF RAISING GRADE

NOTES:
(1) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014.



PLAN

DETAIL OF SOLID SODDING AROUND DROP INLET



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

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

NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6" U.T.) & PORTLAND CEMENT CONCRETE BASE (6½" U.T.).

6/18/2014

R061332.DGN

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	15	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

P.C. 132+27.98
P.C. 104+98.10
N. FRONTAGE RD.
I-430 S.B. EXIT TO N. FRONTAGE RD.
P.T. 110+01.81
N 8°11'54" E
PROPOSED ROW & C/A
E-11
560.00
420.00
EARTHWORK
P.C. 114+47.21
390.00
285.00
PROPOSED ROW & C/A
220.00
215.00
P.T. 118+86.85
P.T. 138+67.21
P.C. 138+72.61
N 6°04'33" E
P.T. 108+62.91
N 20°42'11" W
P.I. 140+39.52
I-430
N 19°59'30" W
P.I. 106+18.97
P.I. 109+80.58
P.I. 115+99.53
P.I. 116+14.96
P.T. 142+03.85
P.C. 142+45.86
N 12°27'58" E
P.I. 143+25.50
P.I. 110+72.91
N 35°29'10" W
N. FRONTAGE RD. TO I-430 N.B.
P.I. 113+10.58
PROPOSED ROW & C/A
75.00
268.09
60.00
215.00
P.C. 118+86.19
PROPOSE
N 14°

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-11 = SILT FENCE

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

REVISIONS

DATE OF REVISION	REVISION

6/18/2014

R061332.DGN

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- ├(E-11)┤ = SILT FENCE

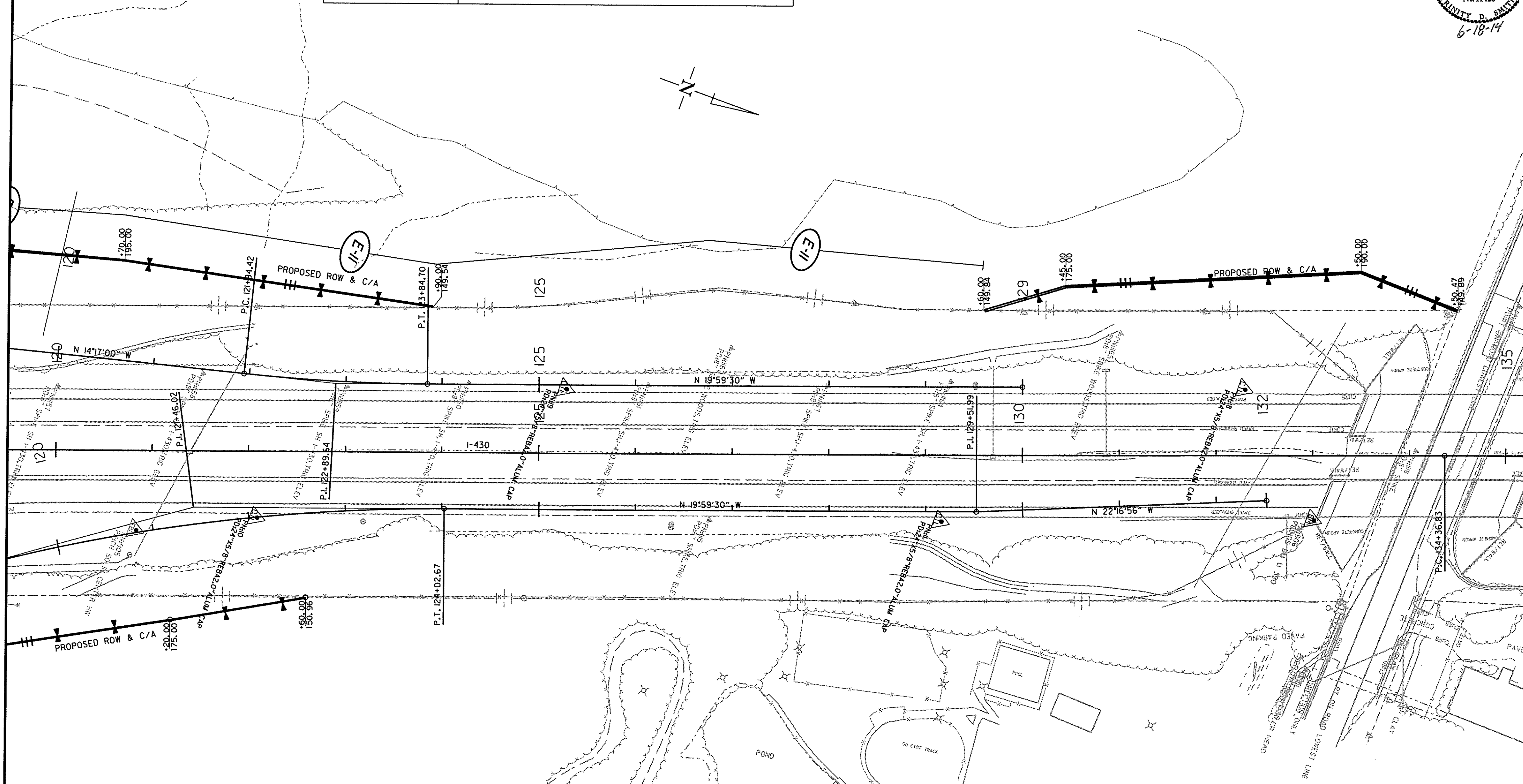
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	16	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

6/18/2014

R061332.DGN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

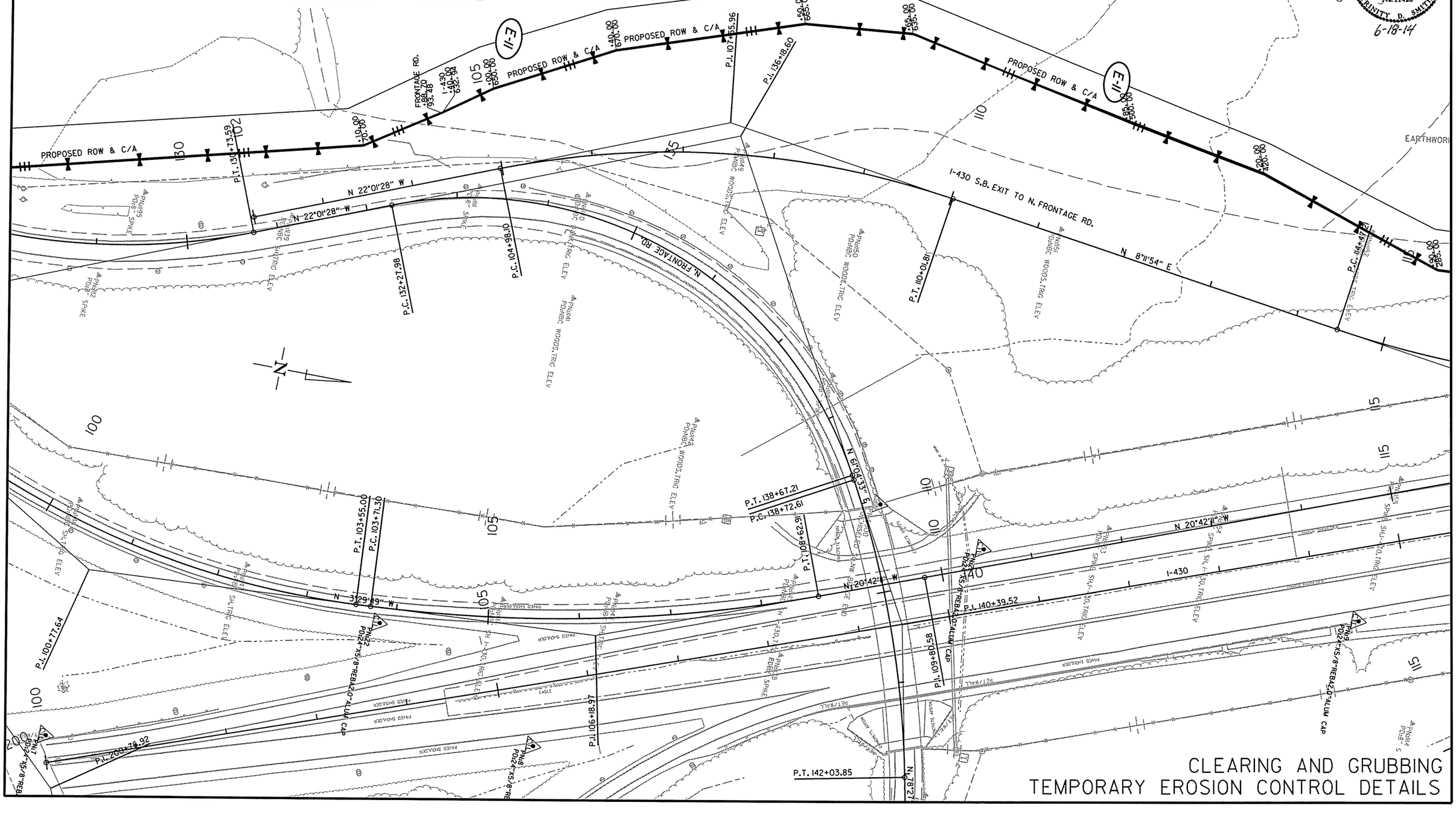
- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	17	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

R061332.DGN 6/18/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	18	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

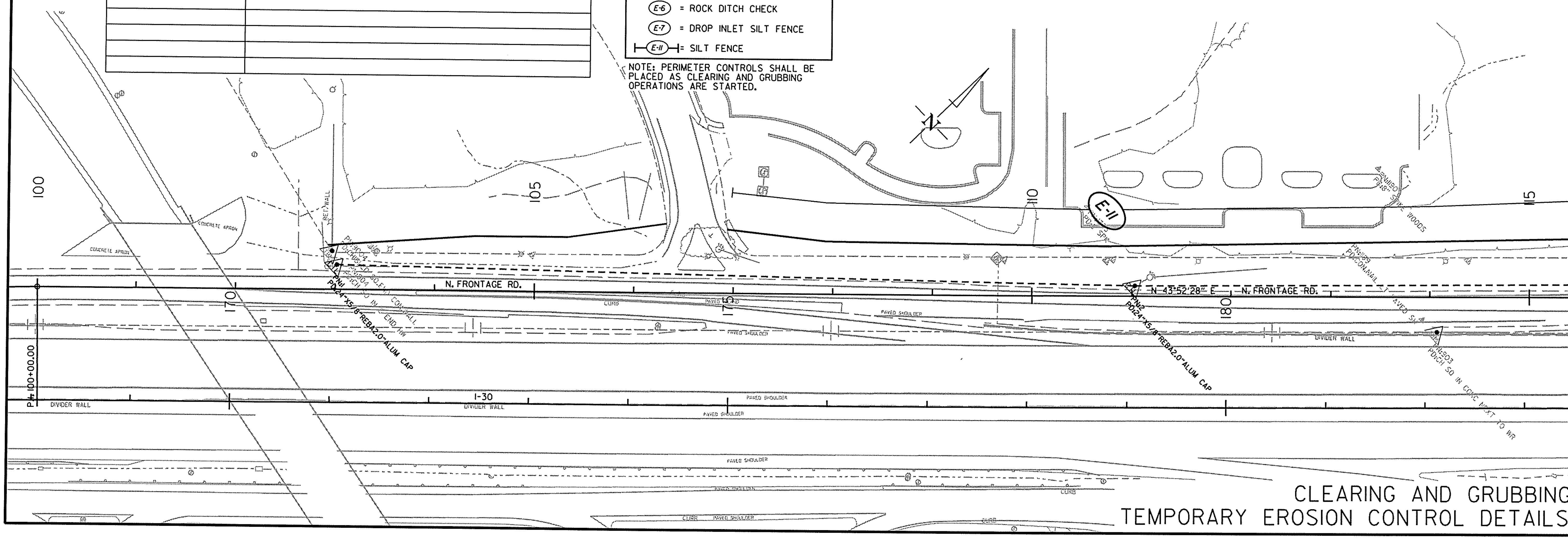
REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
⊢(E-11)⊣	= SILT FENCE

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



CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

6/18/2014

R061332.DGN

REVISIONS

DATE OF REVISION	REVISION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	19	177

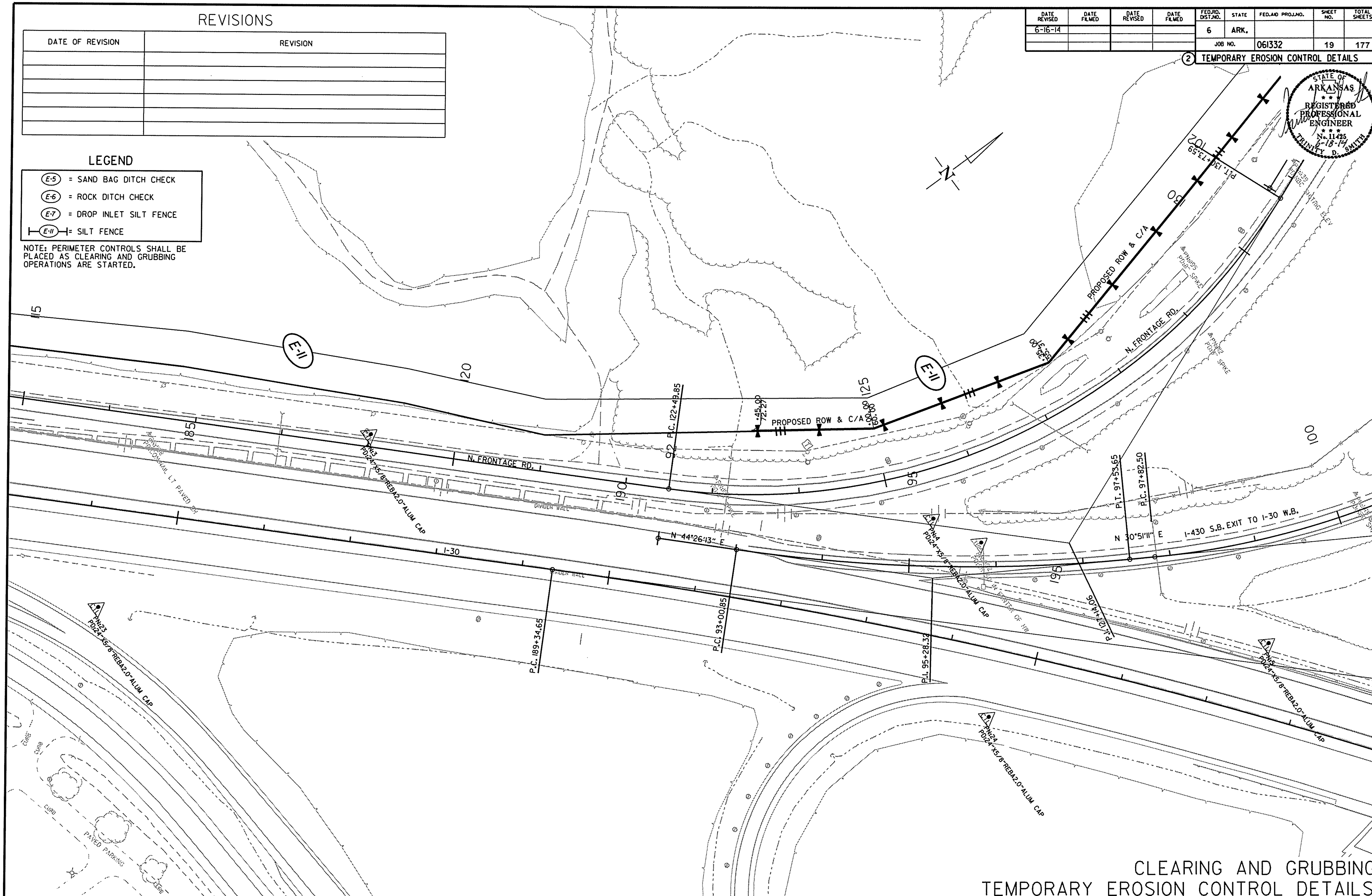
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS ★ ★ ★ REGISTERED PROFESSIONAL ENGINEER ★ ★ ★ No. 11425 TRINITY D. SMITH 6-18-14

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-II = SILT FENCE

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



CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

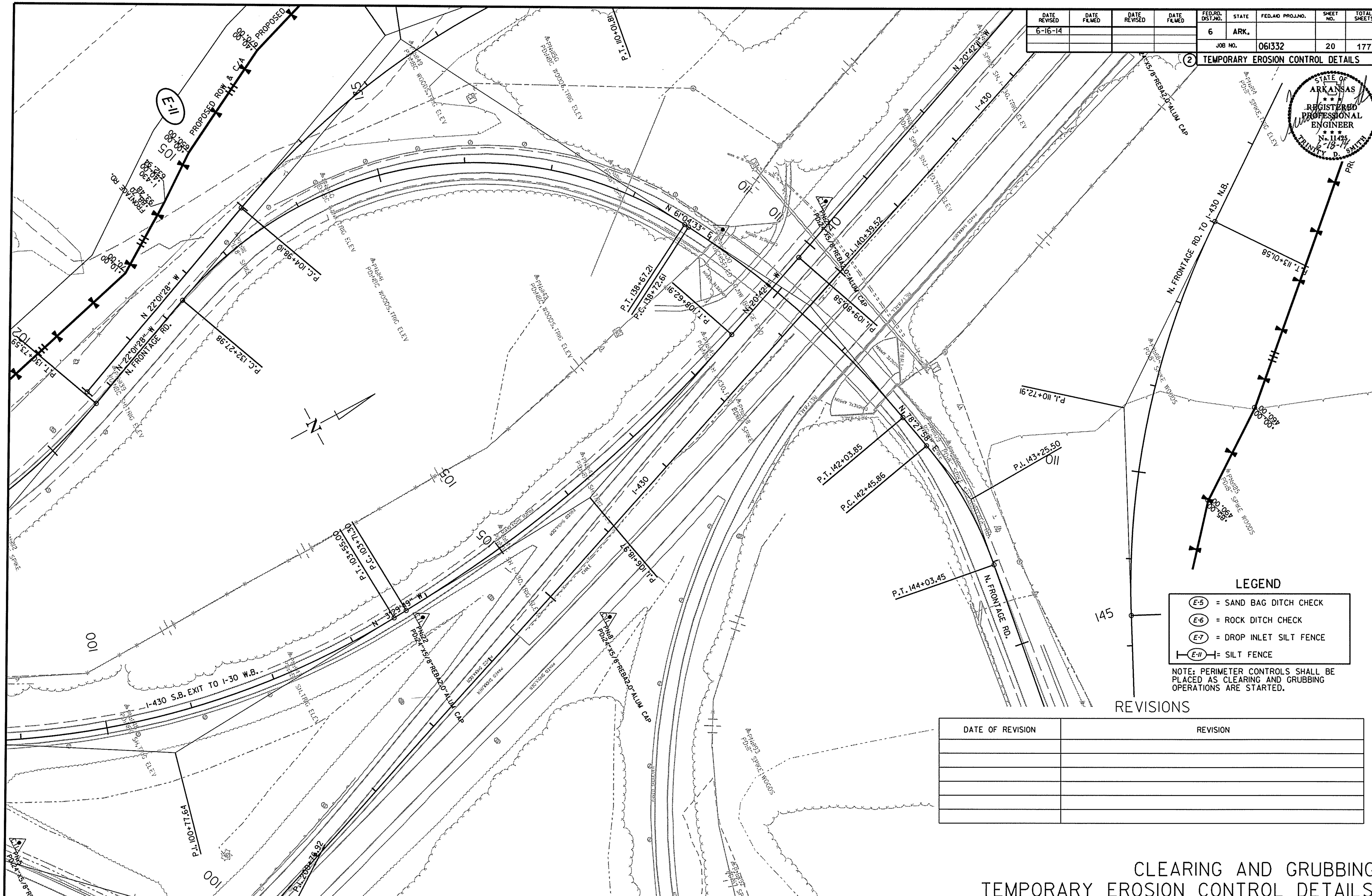
R061332.DGN 6/18/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	20	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 6-18-14



LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
⊢(E-11)⊣	= SILT FENCE

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

REVISIONS

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	21	177

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

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

REVISIONS

DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

I-430 S.B. EXIT TO N. FRONTAGE RD.

N. FRONTAGE RD.

PROPOSED ROW & C/A

PROPOSED CONST. LIMITS

P.T. 138+67.21
P.C. 138+72.61
P.T. 108+62.91
N 61°04'33" E
N 20°42'11" W
P.I. 106+18.97
P.I. 109+80.58
P.I. 140+39.52
I-430
N 19°59'30" W
P.I. 115+99.53
P.I. 116+74.96
P.T. 142+03.85
P.C. 142+45.86
N 78°27'58" E
P.I. 110+72.91
P.I. 143+25.50
P.T. 144+03.45
N. FRONTAGE RD. TO I-430 N.B.
N 35°29'10" W
P.T. 113+01.58
P.C. 118+96.19
P.I. 113+66.85
PROPOSE

E-5 E-6 E-7 E-11

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/18/2014

R061332.DGN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

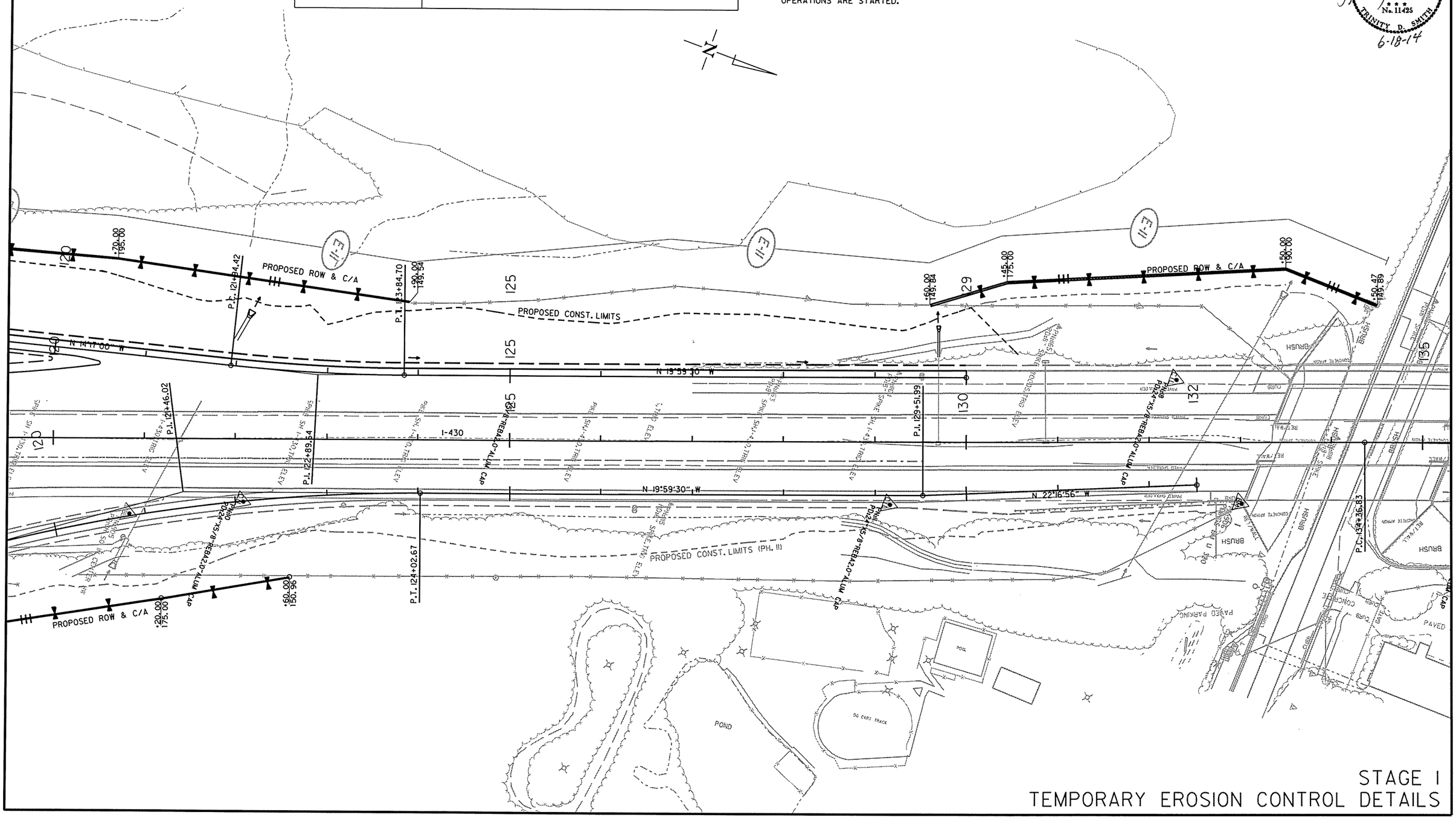
- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	22	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



6/18/2014

R061332.DGN

STAGE I
TEMPORARY EROSION CONTROL DETAILS

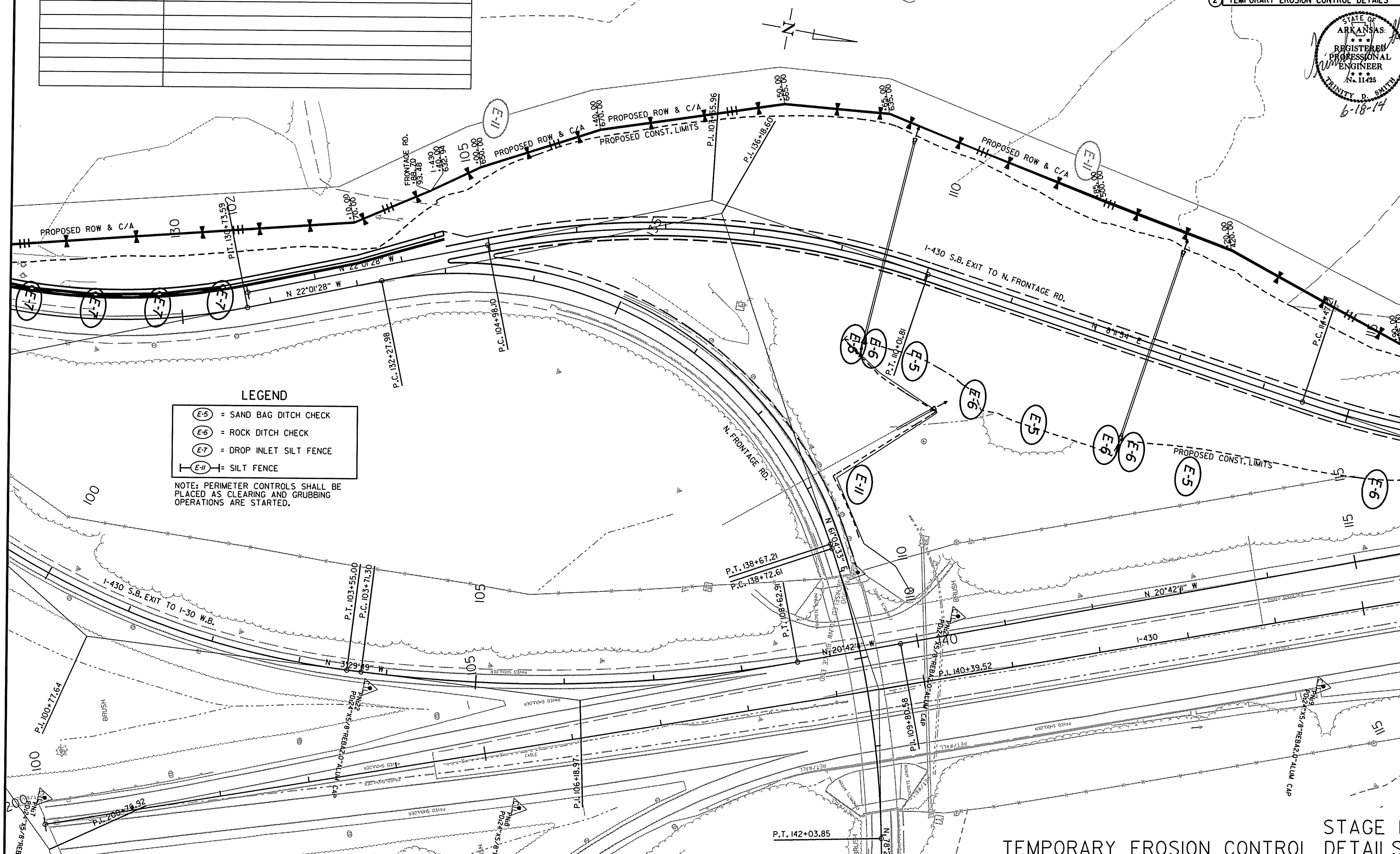
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	23	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

REVISIONS

DATE OF REVISION	REVISION



LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
—(E-11)—	= SILT FENCE

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

STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/18/2014
R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	24	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

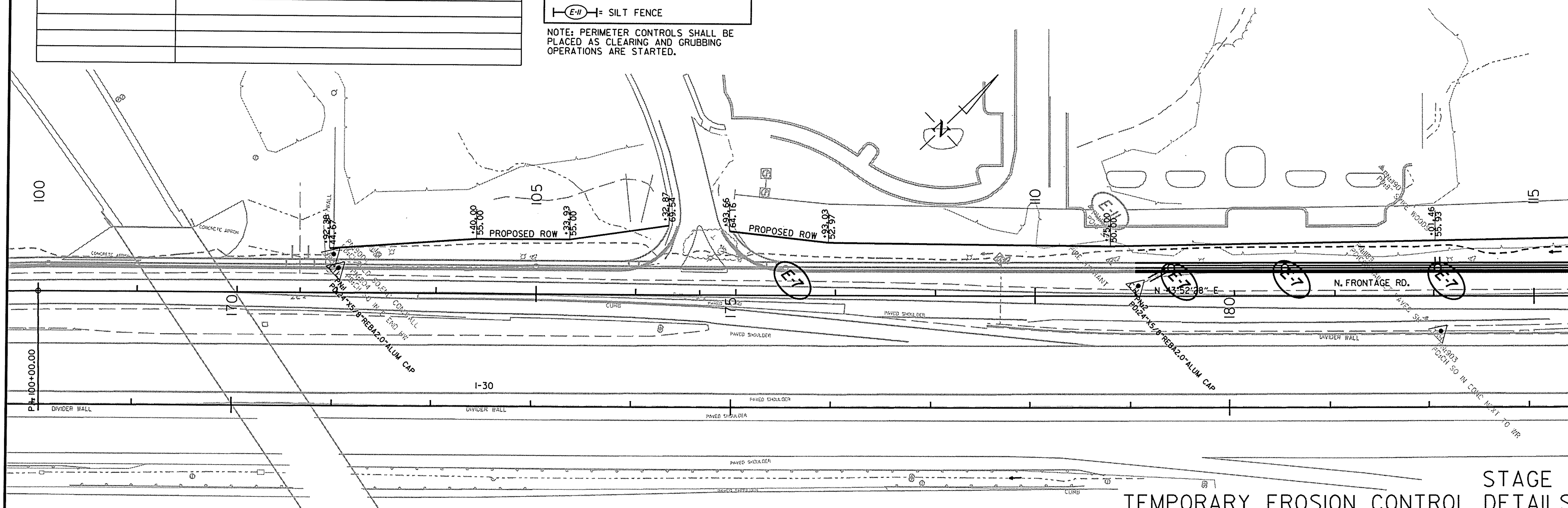
REVISIONS

DATE OF REVISION	REVISION

LEGEND

(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
⊢(E-11)⊣	= SILT FENCE

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



STAGE I
TEMPORARY EROSION CONTROL DETAILS

6/18/2014

R061332.DGN

REVISIONS

DATE OF REVISION	REVISION

LEGEND

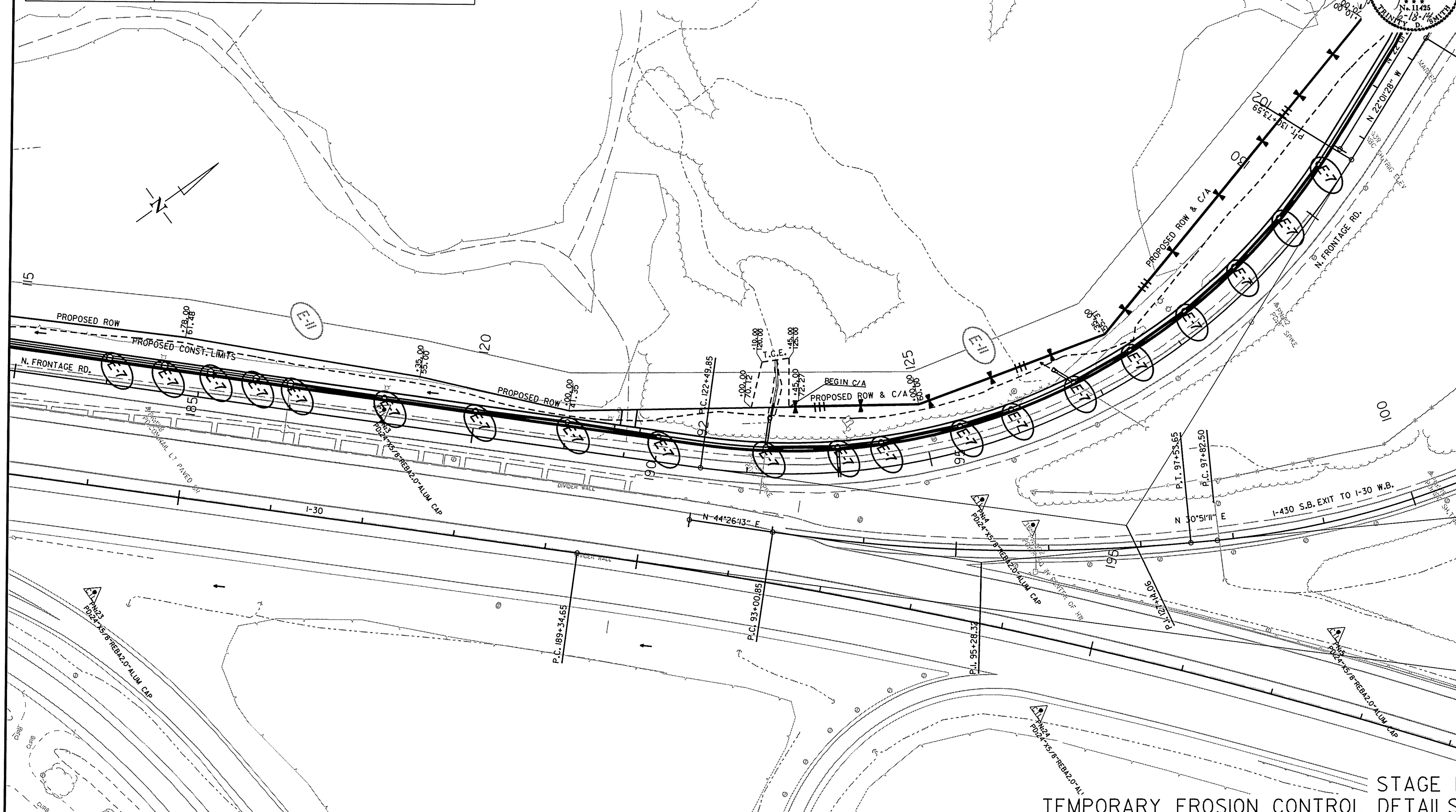
- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- ⊢(E-11)⊣ = SILT FENCE

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	25	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 6-18-14



STAGE I
TEMPORARY EROSION CONTROL DETAILS

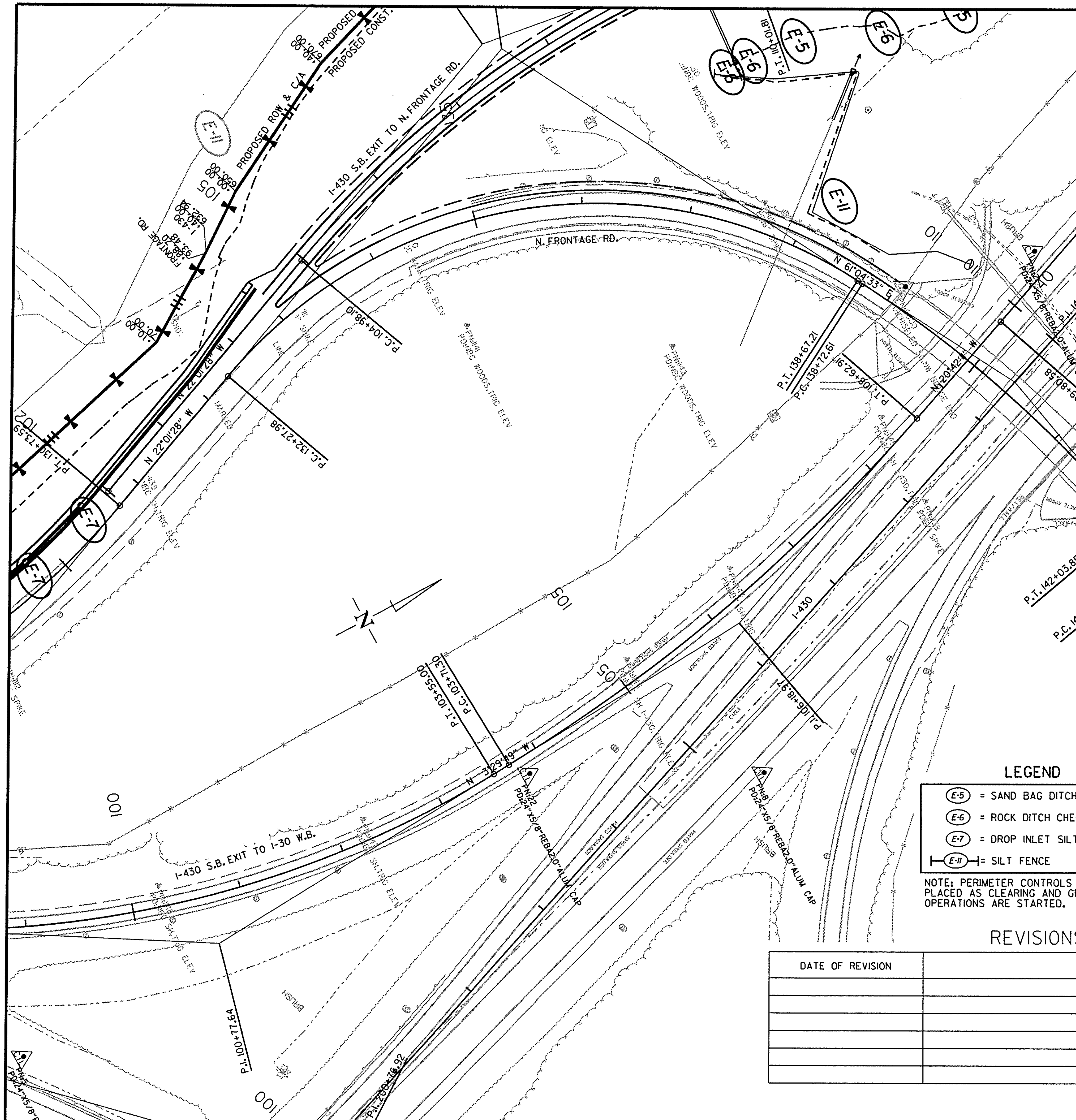
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	26	177

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



LEGEND

Symbol	Description
(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-7)	= DROP INLET SILT FENCE
⊢(E-11)⊣	= SILT FENCE

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

REVISIONS

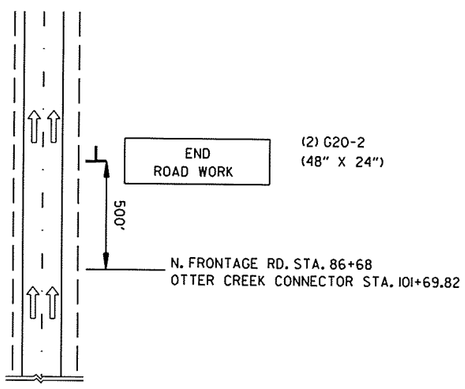
DATE OF REVISION	REVISION

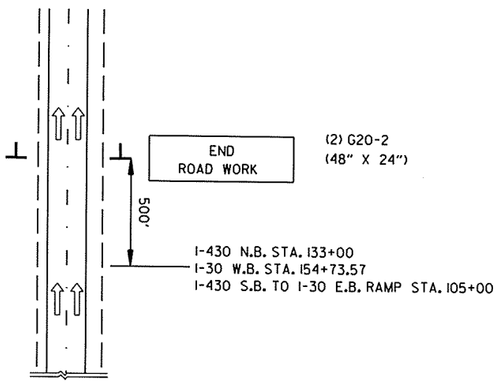
STAGE I
TEMPORARY EROSION CONTROL DETAILS

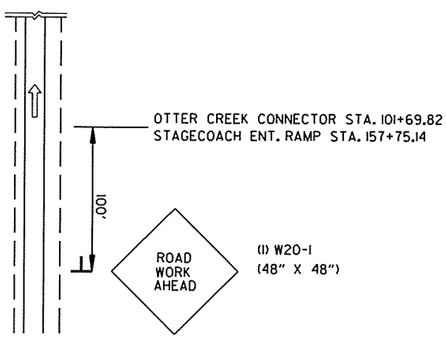
6/18/2014

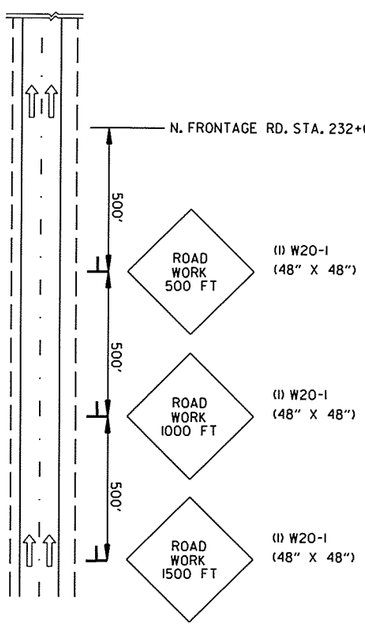
R061332.DGN

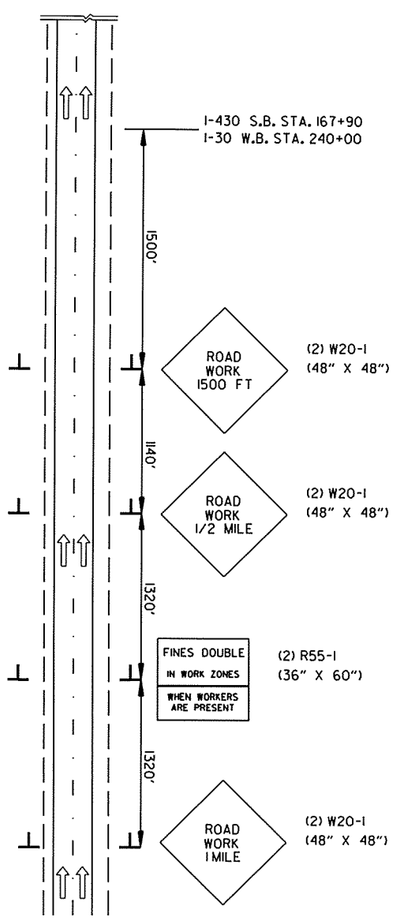
R061332.DGN 6/18/2014











⊥ PORTABLE CHANGEABLE MESSAGE SIGN
PLACED AS DIRECTED BY THE ENGINEER

ADVANCE WARNING MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TIMOTHY D. SMITH
6-18-14

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.		27	177

(2) MAINTENANCE OF TRAFFIC DETAILS

JOB NO. 061332

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	28	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

BUMP (2) W8-1 (30" X 30")

ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

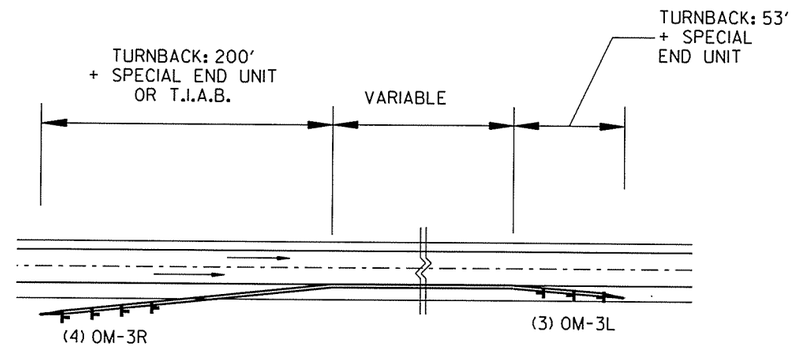
INSTALLATION STA.

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

ROAD NARROWS 500' (2) W5-1 (48" X 48")

ADVANCE WARNING SIGNS

STAGE IA	STAGE IB
I-430 S.B. - STA. 134+36.20	I-430 N.B - STA. 113+80.07
I-30 W.B. - STA. 247+20.43	I-430 N.B. - STA. 138+48.93
	I-430 S.B. - STA. 158+50.97
	I-430 S.B. - STA. 174+96.65



REFER ALSO TO STANDARD DRAWING TC-5 FOR DETAILS OF PLACEMENT OF PCCB TURNBACKS.

NOTE: OM-3L & OM-3R SIGNS SHALL BE EQUALLY SPACED ALONG P.C.C.B. TURNBACK.

DETAIL OF OBJECT MARKERS AT PRECAST CONCRETE BARRIER TURNBACKS

CONSTRUCTION SEQUENCE

INSTALL ADVANCE WARNING SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAIL. INSTALL END ROAD WORK SIGNS AT THE END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL. INSTALL ROAD WORK AHEAD (W20-1) SIGN AND ON RAMPS AS SHOWN ON THE ADVANCE WARNING DETAIL.

STAGE IA:

INSTALL SHOULDER CLOSED (RSP-1) AND ROAD NARROWS 500' (W5-1) AS SHOWN IN THE MAINTENANCE OF TRAFFIC DETAILS.

INSTALL CONSTRUCTION PAVEMENT MARKINGS, PRECAST CONCRETE BARRIERS, AND TRAFFIC DRUMS AS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT I-430 S.B. EXIT RAMP TO N. FRONTAGE RD. AND I-30 W.B. EXIT RAMP AS SHOWN IN THE STAGE IA MAINTENANCE OF TRAFFIC DETAILS.

STAGE IB:

INSTALL SHOULDER CLOSED (RSP-1) AND ROAD NARROWS 500' (W5-1) AS SHOWN IN THE MAINTENANCE OF TRAFFIC DETAILS.

INSTALL CONSTRUCTION PAVEMENT MARKINGS, PRECAST CONCRETE BARRIERS, AND TRAFFIC DRUMS AND OPEN THE I-430 S.B. EXIT RAMP TO N. FRONTAGE RD. AND I-30 W.B. EXIT RAMP TO TRAFFIC AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC DETAILS.

CLOSE EXISTING I-30 W.B. TO N. FRONTAGE RD. EXIT RAMP AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC DETAILS.

WIDEN LT. OF N. FRONTAGE RD. AS SHOWN IN THE STAGE IB MAINTENANCE OF TRAFFIC DETAILS.

END OF JOB:

REMOVE PRECAST CONCRETE BARRIER WALL FROM I-430 S.B. PLACE FINAL 2" LIFT OF N. FRONTAGE RD. A.C.H.M., AND PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

ADVANCE WARNING MAINTENANCE OF TRAFFIC DETAILS

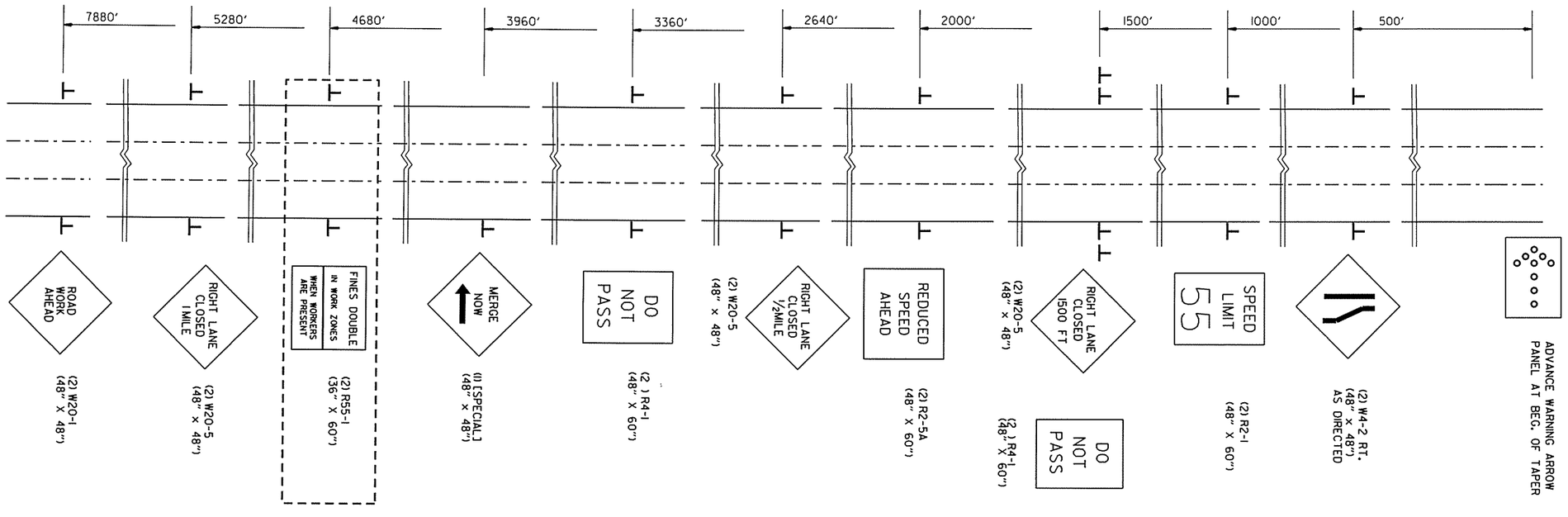
6/18/2014

R061332.DGN

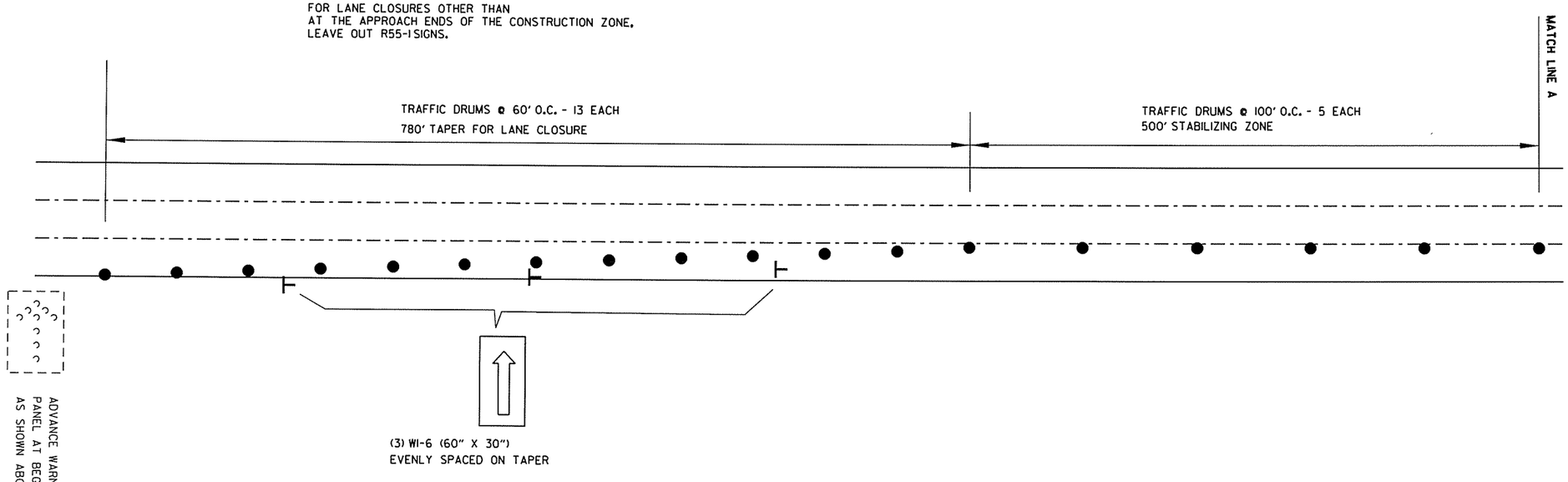
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	29	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.



ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM PLACEMENT FOR OUTSIDE LANE CLOSURE

6/18/2014

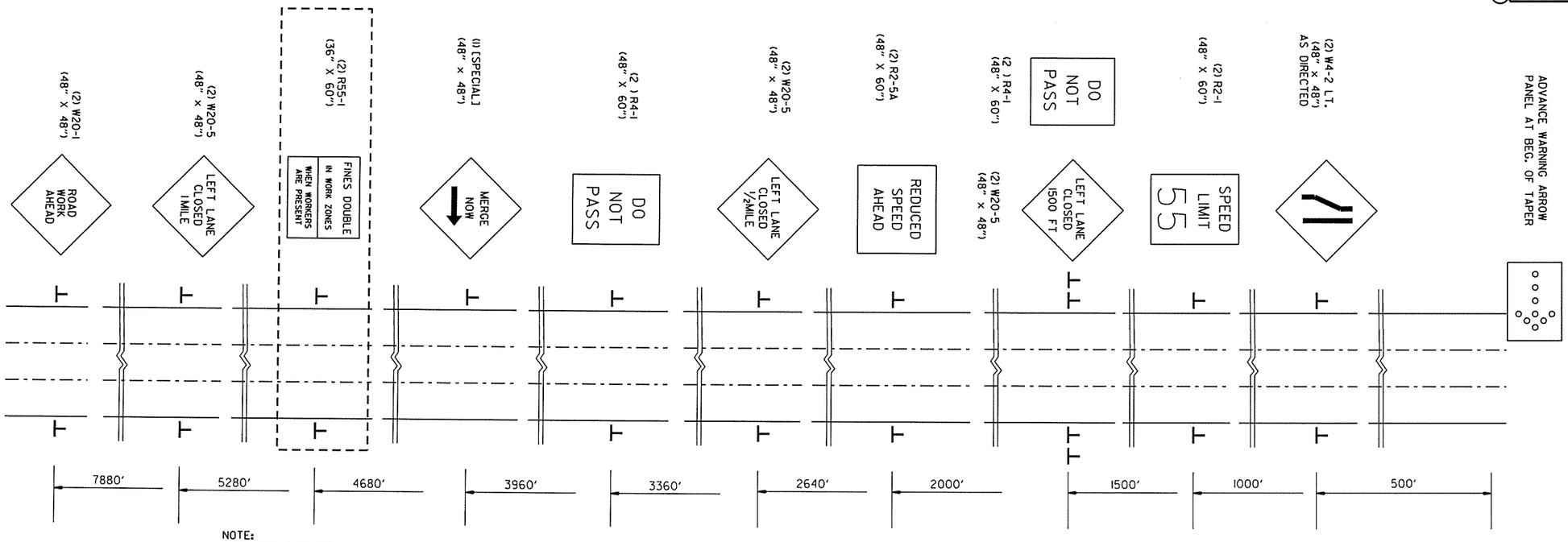
R061332.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

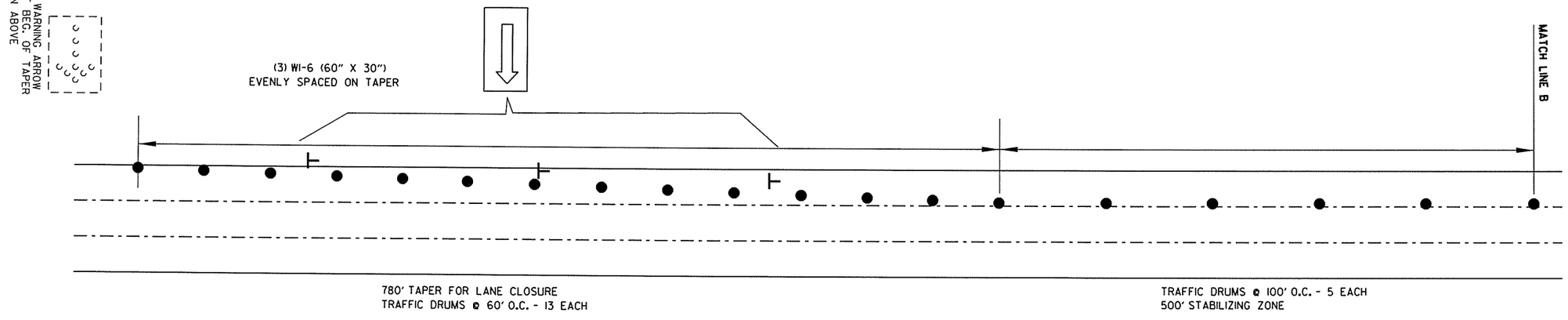
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	30	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.



ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM LAYOUT FOR INSIDE LANE CLOSURES

LANE CLOSURE MAINTENANCE OF TRAFFIC DETAILS

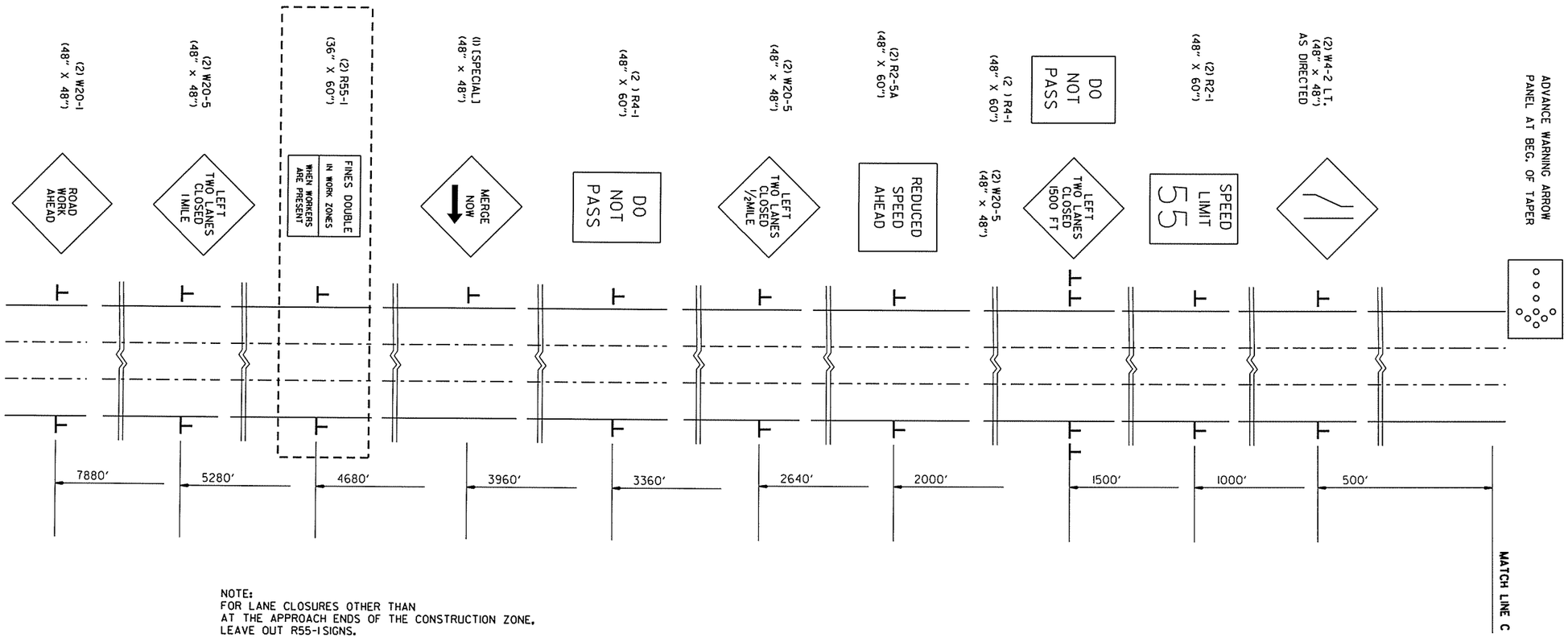
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	31	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.

ADVANCE WARNING SIGNS
FOR INSIDE & MIDDLE LANE CLOSURES

6/18/2014

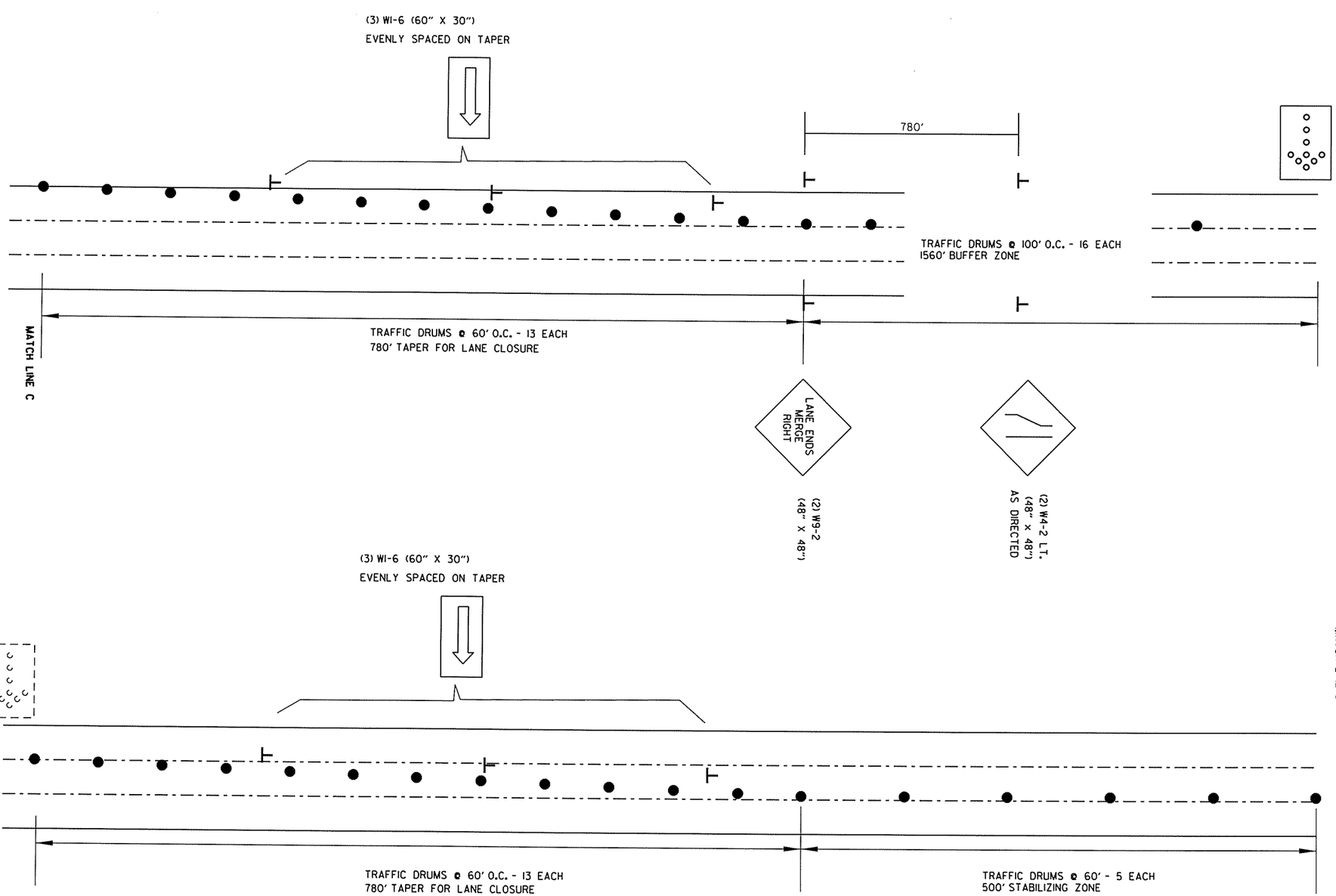
R061332.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	32	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM LAYOUT
FOR INSIDE & MIDDLE LANE CLOSURES

6/18/2014

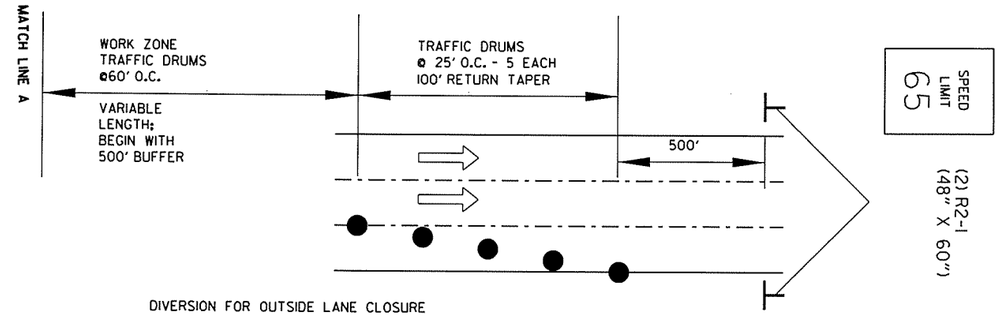
R061332.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

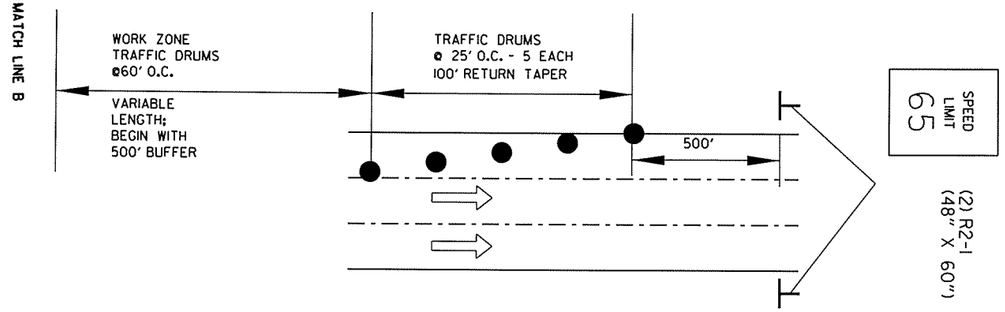
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	33	177

(2) MAINTENANCE OF TRAFFIC DETAILS

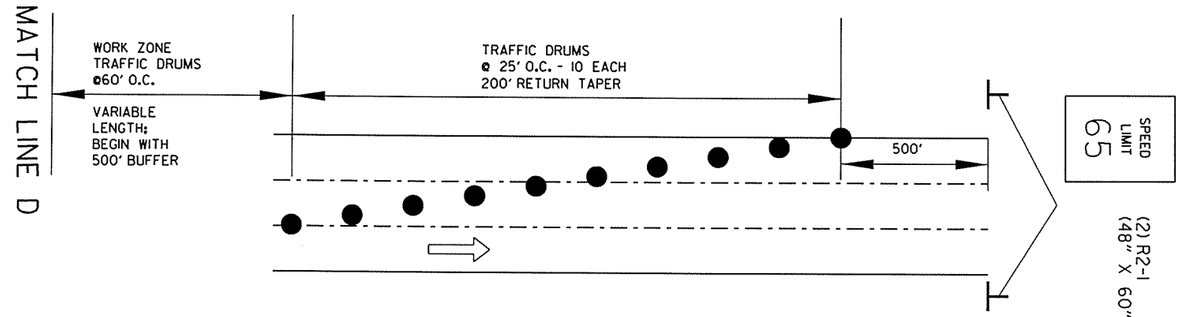
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



DIVERSION FOR OUTSIDE LANE CLOSURE



DIVERSION FOR INSIDE LANE CLOSURE



DIVERSION FOR INSIDE AND MIDDLE LANE CLOSURES

TYPICAL TRAFFIC DRUM LAYOUT FOR DIVERSION OF LANE CLOSURES

6/18/2014

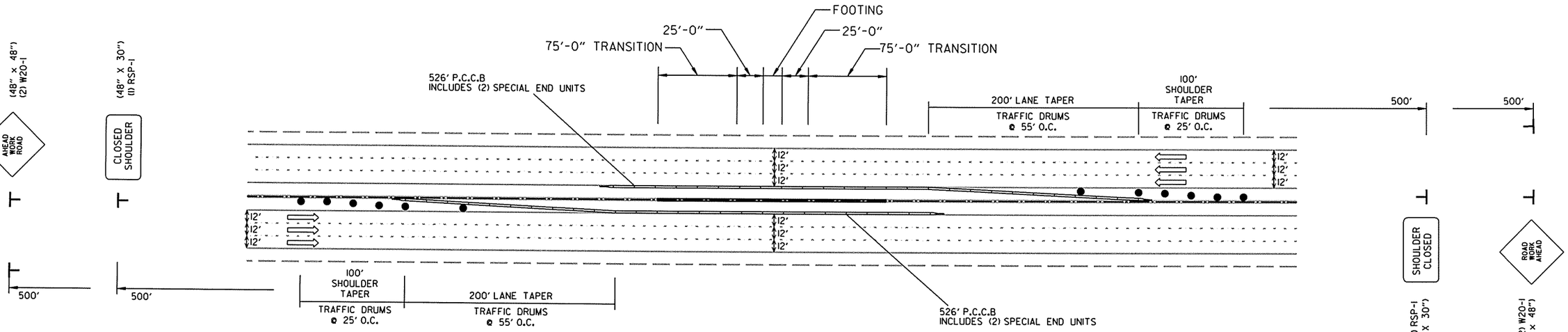
R061332.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	34	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14



DETAIL FOR CONSTRUCTION OF OVERHEAD SIGN STRUCTURE
MEDIAN FOOTING IN CONCRETE MEDIAN BARRIER WALL

NOTE: REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

6/18/2014

R061332.DGN

MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	35	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-16-14

ROAD CLOSED

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

16' BARR. TYP. III RT.

PROPOSED ROW & C/A

PROPOSED CONST. LIMITS

FRONTAGE RD. 1-430 693.48 692.94

P.I. 107+65.96

P.I. 136+18.60

P.T. 131+73.59

P.C. 132+27.98

P.C. 104+98.10

P.T. 110+01.81

P.C. 114+47.

N 22°01'28" W

N 8°11'54" E

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

4" WHITE CONSTRUCTION PAVEMENT MARKING

4" YELLOW CONSTRUCTION PAVEMENT MARKING

TRAFFIC DRUMS @ 50' O.C.

P.T. 103+55.00

P.C. 103+71.30

N 31°29'49" W

P.J. 100+77.64

P.J. 200+76.92

P.J. 106+18.97

N 61°04'33" E

P.T. 138+67.21

P.C. 138+72.61

P.T. 108+62.91

N 20°42'11" W

P.I. 109+80.58

P.I. 140+39.52

6/18/2014

R061332.DGN

STAGE IA
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	36	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

P.C. 114+41.85
P.I. 115+99.53
P.I. 116+14.86
P.C. 118+86.19
P.T. 118+16.85
P.I. 121+46.32
P.I. 121+54.42
P.I. 122+89.64
P.T. 123+84.70
P.T. 124+02.67
P.I. 129+51.99

PROPOSED ROW & C/A
PROPOSED CONST. LIMITS
100' LANE TAPER
PCCB = 1366 LIN. FT. WITH 2 SPECIAL END UNITS
4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
200' LANE TAPER
TRAFFIC DRUMS @ 55' O.C.
100' SHOULDER TAPER
TRAFFIC DRUMS @ 25' O.C.

N 20°01'25" W
N 14°11'00" W
N 19°59'30" W
N 35°29'10" W

PAVED SHOULDER
PAVED SHOULDER

6/18/2014
R061332.DGN

STAGE IA
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	37	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
6-18-14
TRINITY D. SMITH

EDGE OBSCURED
POND
POND
CONCRETE PARKING
P.I. 161+16.99
P.I. 220+05.32
P.I. 221+42.63
219
220
N 65°53'52" E
N 65°53'52" E
N 64°12'23" E
N 63°42'23" E
N 64°32'13" E
N 65°53'13" E
225
P.I. 225+48.77
N 65°53'13" E
N 65°53'13" E
P.I. 227+03.92
PAVED PARKING
CONC PARKING
CONC PARKING
N 72°02'30" E
N 72°02'30" E
N 72°02'30" E
P.C. 230+07.67
230
TRAFFIC DRUMS @ 50' O.C.
PAVED PARKING
P.T. 231+97.95
SIDEWALK DEL
MAIL BOX
FROST
N 66°20'00" E
N 66°20'00" E
DIVIDER WALL
12'
12'
12'
11'
11'
12'
P.I. 222+45.23
P.I. 223+04.84
P.C. 226+01.24
P.T. 228+06.40
P.I. 231+02.89
100' LANE TAPER
+40.64
+40.64
PCCB = 1593 LIN. FT. WITH ISPECIAL END UNITS AND T.I.A.B
4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
CONCRETE
CONC PARKING
P.I. 233+99.84
235
TRAFFIC DRUMS @ 50' O.C.
PAVED PARKING
240
+20.44
200' LANE TAPER
TRAFFIC DRUMS @ 55' O.C.
+20.44
100' SHOULDER TAPER
TRAFFIC DRUMS @ 25' O.C.
+20.44
240
245
PAVED SHOULDER
PAVED SHOULDER
N 66°20'00" E
N 66°20'00" E
WALL
PAVED SHOULDER
DIVIDER WALL
PAVED SHOULDER
12'
12'
12'
12'
11'
11'
P.I. 235+17.33
PCCB = 1593 LIN. FT. WITH ISPECIAL END UNITS AND T.I.A.B
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
PAVED SHOULDER
CONCRETE ISLAND
PAVED SHOULDER
PAVED SHOULDER
PAVED SHOULDER
PAVED SHOULDER
GATE
GATE
PAVED PARKING
PAVED PARKING
PAVED PARKING

6/18/2014

R061332.DGN

STAGE IA
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	38	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

4" WHITE CONSTRUCTION PAVEMENT MARKING

4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

100' LANE TAPER

PROPOSED ROW & C/A

PROPOSED CONST. LIMITS

PROPOSED CONST. LIMITS (PH. II)

PCCB = 2746 LIN. FT.
WITH 2 SPECIAL END UNITS

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

I-430

POND

PAVED PARKING

N 14°17'00" W

N 19°59'30" W

N 19°59'30"₁W

N 22°16'56" W

P.C. 121+84.42

P.I. 123+84.70

P.I. 121+46.02

P.I. 122+89.54

P.T. 124+02.67

P.I. 129+51.89

P.C. 134+36.83

+70.00 195.00

+80.00 149.54

+96.20

+96.20

+60.00 149.84

+45.00 175.00

+50.00 190.00

+50.47 199.89

+60.00 150.96

+20.00 175.00

12'

12'

11'

11'

6/18/2014

R061332.DGN

STAGE IB
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			
6-30-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	39	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-30-14

PAVED PARKING
P.I. 102+72.24
P.C. 101+69.82
4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING
4" WHITE CONSTRUCTION PAVEMENT MARKING
TRAFFIC DRUMS @ 50' O.C.
10 EACH
PROPOSED CONST. LIMITS (PH. III)
N 44°04'15" W
N 42°56'36" E
N 43°19'09" E
I-30
DIVIDER WALL
4" YELLOW CONSTRUCTION PAVEMENT MARKING
P.I. 94+48.40
P.I. 100+00.00
N 43°47'01" E
DIVIDER WALL

TRAFFIC DRUMS @ 25' O.C.
100' SHOULDER TAPER
TRAFFIC DRUMS @ 50' O.C.
4" WHITE CONSTRUCTION PAVEMENT MARKING
PROPOSED ROW
PROPOSED ROW
EXISTING ROW
N 43°52'28" E
PAVED SHOULDER
I-30
RELOCATING PCCB (LEFT IN PLACE) = 1506 LIN. FT. WITH 2 SPECIAL END UNITS
P.I. 100+00.00
DIVIDER WALL
4" YELLOW CONSTRUCTION PAVEMENT MARKING

6/30/2014
R061332.DGN

STAGE IB
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	40	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
6-16-14
TRINITY D. SMITH

TRAFFIC DRUMS @ 50' O.C.

PROPOSED ROW & C/A

EXISTING ROW

4" WHITE CONSTRUCTION PAVEMENT MARKING

4" YELLOW CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

PROPOSED ROW

PROPOSED CONST. LIMITS

EXISTING ROW

PROPOSED ROW

BEGIN C/A

PROPOSED ROW & C/A

EXISTING ROW

T.C.E.

DIVIDER BALL

I-30

N 44°26'43" E

N 30°51'11" E

N 2°01'28" W

P.C. 189+34.65

P.C. 93+00.85

P.I. 95+28.32

P.T. 97+55.65

P.C. 97+82.50

P.I. 121+44.06

P.T. 130+73.59

STAGE IB
MAINTENANCE OF TRAFFIC DETAILS

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	41	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

PROPOSED ROW & C/A
PROPOSED CONST. LIMITS
I-430 SB EXIT TO N. FRONTAGE RD.
FRONTAGE RD.
P.I. 136+18.60
P.I. 137+01.01
P.T. 110+01.81
P.C. 114+47.21
P.I. 115+69.53
P.I. 116+96.25
P.C. 04+98.10
P.C. 132+21.98
P.T. 138+67.21
P.G. 138+72.61
P.I. 140+39.52
P.I. 140+80.58
P.I. 141+08.62
N 8°11'54" E
N 19°59'30" W
N 20°01'25" W
N 20°42'11" W
N 24°01'28" W
N 61°04'33" E
N 35°29'10" W
4" WHITE CONSTRUCTION PAVEMENT MARKING
4" YELLOW CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING
TRAFFIC DRUMS @ 50' O.C.
LIMITS (PH. III)
PROPOSED CONST. LIMITS (PH. III)

STAGE IB
MAINTENANCE OF TRAFFIC DETAILS

6/18/2014
R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	42	177

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
6-18-14
TRINITY D. SMITH

EDGE OBSCURED
POND
POND
4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING
P.I. 161+16.99
219
220
P.I. 220+05.32
CONCRETE PARKING
P.I. 221+42.63
4" YELLOW CONSTRUCTION PAVEMENT MARKING
4" WHITE CONSTRUCTION PAVEMENT MARKING
225
P.I. 225+48.77
PAVED PARKING
CONC PARKING
P.I. 227+03.92
PAVED PARKING
CONC PARKING
230
P.C. 230+07.67
4" WHITE CONSTRUCTION PAVEMENT MARKING
PAVED PARKING
SIDEWALK
P.T. 231+97.95
SIDEWALK
CURB & GUTTER
CONCRETE POST
N 65°53'52" E
N 65°53'52" E
N 64°12'23" E
N 63°42'23" E
N 64°32'13" E
N 65°53'13" E
N 65°53'13" E
N 65°53'13" E
N 72°02'30" E
N 72°02'30" E
N 72°02'30" E
N 66°20'00" E
N 66°20'00" E
12'
12'
12'
P.I. 222+45.23
P.I. 223+04.84
I-30
P.C. 225+01.24
P.T. 228+06.40
4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING
P.I. 231+02.89
DIVIDER WALL
4" WHITE CONSTRUCTION PAVEMENT MARKING
CONCRETE
CONC PARKING
P.I. 233+99.84
235
235
240
240
240
PAVED PARKING
PAVED PARKING
245
PAVED SHOULDER
44
N 66°20'00" E
N 66°20'00" E
N 66°20'00" E
12'
12'
12'
12'
WALL
PAVED SHOULDER
DIVIDER WALL
I-30
P.I. 235+17.33
4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING
CONCRETE HEADER
4" WHITE CONSTRUCTION PAVEMENT MARKING
GATE
GATE
PAVED PARKING
PAVED PARKING
PAVED PARKING

6/18/2014

R061332.DGN

STAGE IB
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	43	177

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

8" WHITE
HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE
HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE SKIP
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING

RAISED PAVEMENT MARKERS (TYPE II) (RED/WHITE)
SPACED 80' O.C.

4" YELLOW
HIGH PERFORMANCE PAVEMENT MARKING

320' LANE DROP

4" WHITE SKIP
HIGH PERFORMANCE PAVEMENT MARKING

RAISED PAVEMENT MARKERS (TYPE II) (RED/WHITE)
SPACED 40' O.C.

4" YELLOW
HIGH PERFORMANCE PAVEMENT MARKING

RAISED PAVEMENT MARKERS (TYPE II) (RED/WHITE)
SPACED 80' O.C.

4" WHITE
HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE SKIP
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING

PERMANENT PAVEMENT MARKING DETAILS

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	44	177

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

RAISED PAVEMENT MARKERS (TYPE II) (RED/WHITE) SPACED 80' O.C.

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

8" DOTTED WHITE HIGH PERFORMANCE PAVEMENT MARKING

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

RAISED PAVEMENT MARKERS (TYPE II) (RED/WHITE) SPACED 40' O.C.

4" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE SKIP HIGH PERFORMANCE PAVEMENT MARKING

8" WHITE HIGH PERFORMANCE PAVEMENT MARKING

4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING

6/18/2014

R061332.DGN

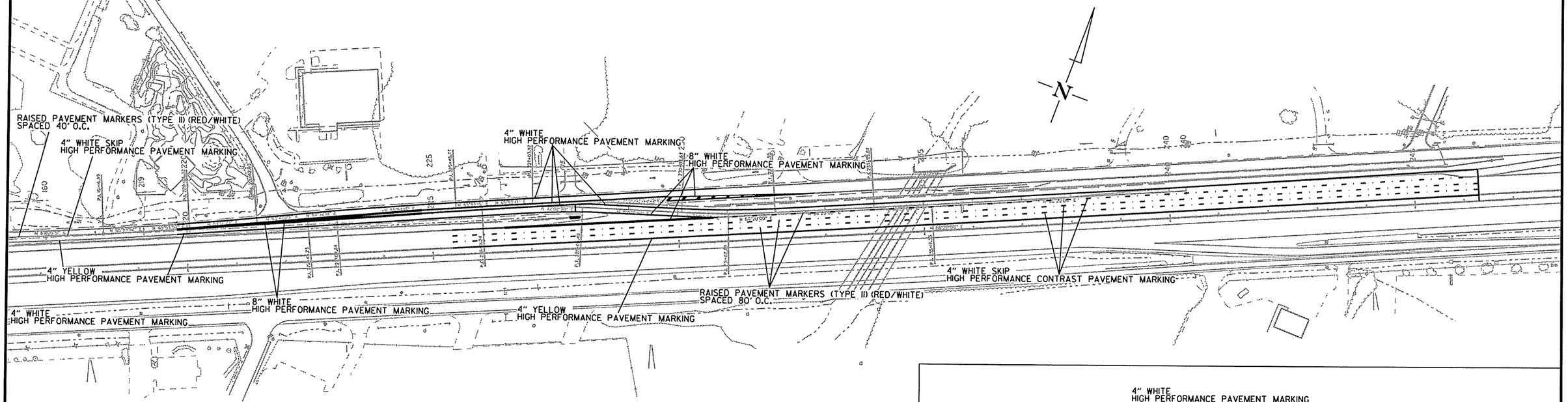
PERMANENT PAVEMENT MARKING DETAILS

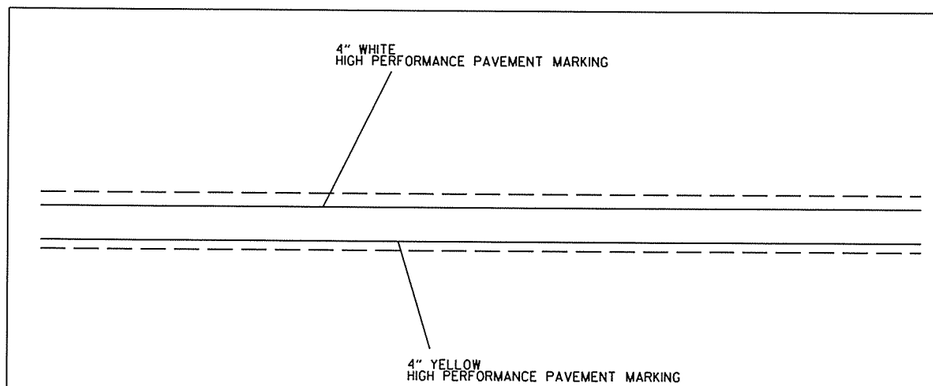
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	45	177

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14





TYPICAL RAMP STRIPING DETAIL

6/18/2014

R061332.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
6-30-14				JOB NO.		061332	46	177

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-30-14

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1A	STAGE 1B	LANE CLOSURE	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)	FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER LEFT IN PLACE	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN
			LIN. FT. - EACH				NO.	SQ. FT.	EACH	RIGHT	LIN. FT.		EACH		DAY	WEEK
W20-1	ROAD WORK 1500 FT.	48"x48"	1	1		1	1	16.0								
W20-1	ROAD WORK 1000 FT.	48"x48"	1	1		1	1	16.0								
W20-1	ROAD WORK 500 FT.	48"x48"	1	1		1	1	16.0								
W20-1	ROAD WORK AHEAD	48"x48"	2	2		2	2	32.0								
W-5-1	ROAD NARROWS 500'	48"x48"	6			6	6	96.0								
R11-2	ROAD CLOSED	48"x30"	1			1	1	10.0								
OM-3L	OBJECT MARKER	12"x36"	9			9	9	27.0								
OM-3R	OBJECT MARKER	12"x36"	12			12	12	36.0								
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	4	4	64.0								
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	4	4	64.0								
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	4	64.0								
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"			4	4	4	64.0								
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"			4	4	4	64.0								
W20-5	RIGHT LANE CLOSED 1500 FT.	48"x48"			4	4	4	64.0								
W20-5	LEFT LANE CLOSED 1 MILE	48"x48"			2	2	2	32.0								
W20-5	LEFT LANE CLOSED 1/2 MILE	48"x48"			2	2	2	32.0								
W20-5	LEFT LANE CLOSED 1500 FT	48"x48"			2	2	2	32.0								
W20-5	LEFT TWO LANES CLOSED 1 MILE	48"x48"			2	2	2	32.0								
W20-5	LEFT TWO LANES CLOSED 1/2 MILE	48"x48"			2	2	2	32.0								
W20-5	LEFT TWO LANES CLOSED 1500 FT.	48"x48"			2	2	2	32.0								
W9-2	LANE ENDS MERGE RIGHT	48"x48"			2	2	2	32.0								
W20-1	ROAD WORK AHEAD	48"x48"			4	4	4	64.0								
G20-2	END ROAD WORK	48"x24"	8	8		8	8	64.0								
R2-5A	REDUCED SPEED AHEAD	48"x60"			2	2	2	40.0								
W1-6	LARGE ARROW	60"x30"			6	6	6	75.0								
SPECIAL	MERGE NOW W/ARROW GRAPHIC (RIGHT)	48"x48"			1	1	1	16.0								
SPECIAL	MERGE NOW W/ARROW GRAPHIC (LEFT)	48"x48"			1	1	1	16.0								
R4-1	DO NOT PASS	48"x60"			4	4	4	80.0								
W4-2 RT	RIGHT LANE ENDS GRAPHIC	48"x48"			2	2	2	32.0								
W4-2 LT	LEFT LANE ENDS GRAPHIC	48"x48"			4	4	4	64.0								
R55-1	FINES DOUBLE IN WORK ZONES	36"x60"	4	4	4	4	4	60.0								
RSP-1	SHOULDER CLOSED	48"x30"	4		2	4	4	40.0								
R2-1	SPEED LIMIT 55	48"x60"			2	2	2	40.0								
R2-1	SPEED LIMIT 65	48"x60"			2	2	2	40.0								
	TRAFFIC DRUMS		72	72	227	227			227							
	TYPE III BARRICADE-RT. (16')		1			1				16						
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		4011			4011					4011					
	RELOCATING PRECAST CONCRETE BARRIERS LEFT IN PLACE			1506		1506						1506				
	TEMPORARY IMPACT ATTENUATION BARRIER		1	1		2							2			
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		1	1		2								2		
	ADVANCE WARNING ARROW PANEL				2	2									330	
	PORTABLE CHANGEABLE MESSAGE SIGN		2	2	2	2										168
TOTALS:								1488.0	227	16	4011	1506	2	2	330	168

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

6/30/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
7-7-14				JOB NO.		061332	47	177

(2) QUANTITIES

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
95+82	109+03	LEFT OF I-430 SOUTHBOUND EXIT TO I-30 WESTBOUND	1240	
103+07	107+04	RIGHT OF I-430	575	
109+48	119+63	RIGHT OF I-430	1023	
120+29	122+60	RIGHT OF I-430	231	
109+52	123+90	LEFT OF I-430	1449	
129+60	133+54	LEFT OF I-430	424	
136+46	141+00	LEFT OF I-430	496	
121+62		LEFT OF N. FRONTAGE RD.		1
TOTALS:			5438	1

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
		EACH	EACH
111+12	N. FRONT. RD. - DROP INLET		1
111+78	N. FRONT. RD. - 42" x 116' R.C. PIPE CULV'T	1	
153+78	N. FRONT. RD. - 18" x 23' C.M. PIPE CULV'T	1	
TOTALS:		2	1

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-8-14

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1A	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	HIGH PERFORMANCE PAVEMENT MARKING			
						TYPE II (WHITE/RED)	4"	4"			8"
							WHITE	WHITE	WHITE (SKIP LINE)	YELLOW	WHITE
	LIN. FT. - EACH		LIN. FT.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.			
REMOVAL OF PERMANENT PAVEMENT MARKINGS	3850		3850								
CONSTRUCTION PAVEMENT MARKINGS	13634			13634							
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	3850				3850						
N. FRONTAGE RD. AND I-430 SOUTHBOUND RAMP TO N. FRONTAGE RD.											
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		93				93					
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")		6552						6552			
HIGH PERFORMANCE PAVEMENT MARKING (SKIP LINE) WHITE (4")		928							928		
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")		3901								3901	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")		2253									2253
I-430 AND I-30 MAIN LANES AND RAMPS - I-30 TO STAGECOACH RD.											
REMOVAL OF PERMANENT PAVEMENT MARKINGS		55936	55936								
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		574				574					
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")		5054					5054				
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")		24497						24497			
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")		26385								26385	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")		3051									3051
I-430 MAIN LANES AND RAMPS -STAGECOACH RD. TO SHACKLEFORD RD.											
REMOVAL OF PERMANENT PAVEMENT MARKINGS		55770	55770								
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		1195				1195					
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")		10930					10930				
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")		22980						22980			
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")		21860								21860	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")		3532									3532
I-430 MAIN LANES AND RAMPS - MARKHAM AVE. TO I-40											
REMOVAL OF PERMANENT PAVEMENT MARKINGS		130680	130680								
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		1452				1452					
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")		14520					14520				
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")		58080						58080			
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")		58080								58080	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")		1600									1600
TOTALS:			246236	13634	3850	3314	30504	112109	928	110226	10436

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

6/30/2014

R061332(PH 1).DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
7-7-14				JOB NO.		061332	48	177
				(2) QUANTITIES				

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
114+00	134+00	LEFT OF N. FRONTAGE ROAD	20	20
134+00	140+00	LEFT AND RIGHT OF N. FRONTAGE ROAD	6	6
			0	0
105+00	109+00	RIGHT OF I-430 SOUTHBOUND EXIT TO N. FRONTAGE ROAD	4	4
109+00	111+00	LEFT AND RIGHT OF I-430 SOUTHBOUND EXIT TO N. FRONTAGE ROAD	2	2
112+00	113+00	RIGHT OF I-430 SOUTHBOUND EXIT TO N. FRONTAGE ROAD	1	1
113+00	114+00	LEFT AND RIGHT OF I-430 SOUTHBOUND EXIT TO N. FRONTAGE ROAD	1	1
114+00	117+00	LEFT OF I-430 SOUTHBOUND EXIT TO N. FRONTAGE ROAD	3	3
TOTALS:			37	37

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			1000	5
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			1000	5

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-8-14

REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER

LOG MILE	LOG MILE	LOCATION	PLOWABLE PAVEMENT MARKER
			EACH
0.00	3.28	I-430 AND I-30 MAIN LANES - I-30 TO STAGECOACH RD.	574
3.28	5.35	I-430 MAIN LANES - STAGECOACH RD. TO SHACKLEFORD RD.	1195
5.35	6.44	I-430 MAIN LANES - SHACKLEFORD RD. TO MARKHAM AVE.	351
6.44	11.63	I-430 MAIN LANES - I-40 TO MARKHAM AVE.	1452
6.46	7.4	I-630 MAIN LANES - LILE DR. TO END OF I-630	49
TOTAL:			3621

CRASH CUSHION

STATION	DESCRIPTION	EACH
227+80.73	RT. OF I-30 EXIT RAMP	1
TOTAL:		1

NOTE: THE CRASH CUSHION SHALL BE NON-GATING AND REDIRECTIVE AND COMPATIBLE WITH THE SITE GEOMETRY SHOWN ON THE PLANS.

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CONCRETE MEDIAN BARRIER	GUARDRAIL
			LIN. FT.	LIN. FT.
235+57	237+82	LT. SIDE OF W.B. I-30		225
237+82	240+00	LT. SIDE OF W.B. I-30	218	
133+79	139+04	LT. SIDE OF N. FRONTAGE RD.		525
TOTALS:			218	750

CONCRETE ISLAND

STATION	STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND SQ.YD.
224+79.70	229+78.92	I-30 W.B. EXIT RAMP	B	303
TOTAL:				303

ACHM PATCHING OF EXISTING ROADWAY

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

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING												5034			186
ENTIRE	PROJECT	STAGE 1						7.12	7.12	145.2	66	24	550	424			47
ENTIRE	PROJECT	PERMANENT SEEDING	5.50	11.00	5.50	561.0	5.50										
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								1.78	1.78	36.3	22	6	132	106	133	133	145
TOTALS:			5.50	11.00	5.50	561.0	5.50	8.90	8.90	181.5	88	30	682	5564	133	133	378

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

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

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

6/30/2014
R061332(PH II).DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	49	177

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE A) LIN. FT.
123+45	132+89	LEFT OF N. FRONTAGE ROAD	890
TOTAL:			890

* DENOTES ALTERNATE BID ITEM.

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH LIN. FT.	CONCRETE WALKS SQ.YD.
111+00.00	132+90.67	LT. OF N. FRONTAGE RD.	2191	1217
TOTAL:				1217

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH FEET	COLD MILLING ASPHALT PAVEMENT SQ. YD.
137+70.12	138+70.12	N. FRONTAGE RD.	22	244.44
219+79.09	220+79.09	I-30 W.B. EXIT RAMP	22	244.44
229+78.92	230+78.92	I-30 W.B. EXIT RAMP	22	244.44
TOTAL:				733.32

NOTE: AVERAGE MILLING DEPTH 1".

RUMBLE STRIPS IN CONCRETE SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN PORTLAND CEMENT CONCRETE LIN.FT.
118+41	129+30	LT. SIDE OF I-430 S.B.	1089
TOTAL:			1089

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SELECTED MATERIAL (CLASS SM-3)
			CU. YD.		
ENTIRE	PROJECT	I-430	9744.55	2860.22	
ENTIRE	PROJECT	I-30 W.B. EXIT	1244.00	70.00	
ENTIRE	PROJECT	N. FRONTAGE RD.	3967.90	27612.10	
ENTIRE	PROJECT	I-430 S.B. TO N. FRONTAGE RD. EXIT	4195.10	112548.00	
ENTIRE	PROJECT	APPROACHES		15.00	
106+00.00	116+00.00	I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP - UNDERCUT FOR UNSUITABLE EXISTING MATERIAL	32814.20		32814.20
133+00.00	142+00.00	N. FRONTAGE RD. - UNDERCUT FOR UNSUITABLE EXISTING MATERIAL	12011.00		12011.00
123+00.00		CHANNEL CHANGE	8.05		
TOTALS:			63984.80	143105.32	44825.20

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	MEDIAN TYPE B LIN.FT.	MEDIAN TYPE C LIN.FT.	MEDIAN TYPE SP-1 LIN.FT.
230+75.00	231+31.00	LT. SIDE OF I-30 W.B.	56.00		
231+31.00	232+31.00	LT. SIDE OF I-30 W.B.			100.00
232+49.00	233+49.00	LT. SIDE OF I-30 W.B.			100.00
233+49.00	239+78.00	LT. SIDE OF I-30 W.B.	629.00		
231+31.00	240+00.00	LT. SIDE OF I-30 W.B.		869.00	
183+91.00	184+91.00	MEDIAN I-30			100.00
185+09.00	186+09.00	MEDIAN I-30			100.00
231+31.00	232+31.00	MEDIAN I-30			100.00
232+49.00	233+49.00	MEDIAN I-30			100.00
292+91.00	293+91.00	MEDIAN I-30			100.00
294+09.00	295+09.00	MEDIAN I-30			100.00
TOTALS:			685.00	869.00	800.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	50	177

(2) QUANTITIES

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
111+00.00	132+99.93	LT. OF N. FRONTAGE ROAD	2606
TOTAL:			2606

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 3
		SQ.YD.
132+90.67	LT. OF N. FRONTAGE RD.	5.6
TOTAL:		5.6

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
* ENTIRE	PROJECT	TO BE USED IF AND WHERE	1000.0	888.9
		DIRECTED BY THE ENGINEER		
TOTAL:				888.9

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24"	36"	42"	48"	(CLASS IV) 24"	(CLASS V) 24"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	48"	FLARED END SECTIONS 24"	48"	DROP INLETS TYPE MO	RM	EXT. 4'	8'	MODIFYING DROP INLETS	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.									EACH							SQ.YD.	M.GAL	
121+40	I-430 - EXTEND PIPE INLET AND OUTLET				36							1						31	0.39	PCC-1, FES-1, FES-2
109+50	I-430 S.B. EXIT TO N. FRONTAGE RD. - CONST. R.C. PIPE CULV'T.						222				2							9	0.11	PCC-1, FES-1, FES-2
112+66	I-430 S.B. EXIT TO N. FRONTAGE RD. - CONST. R.C. PIPE CULV'T.						218				2							9	0.11	PCC-1, FES-1, FES-2
117+50	I-430 S.B. EXIT TO N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET	94									1							5	0.06	PCC-1, FES-1, FES-2
234+76	I-30 W.B. EXIT RAMP - MODIFY DROP INLET																1			FPC-9S
111+12	N. FRONTAGE RD. - REMOVE DROP INLET AND EXTEND R.C. PIPE CULV'T.			23																PCC-1
111+36	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET									108			1							PCC-1, FPC-9E, FPC-9M
112+50	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET									148			1							PCC-1, FPC-9E, FPC-9M
114+04	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET									8			1							PCC-1, FPC-9E, FPC-9M
116+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET									190			1							PCC-1, FPC-9E, FPC-9M
116+60	N. FRONTAGE RD. - CONST. DROP INLET WITH 4' EXT. AND PIPE OUTLET									54			1		1					PCC-1, FPC-9E, FPC-9M
117+10	N. FRONTAGE RD. - CONST. DROP INLET WITH 8' EXT. AND PIPE OUTLET									44			1			1				PCC-1, FPC-9E, FPC-9M
117+60	N. FRONTAGE RD. - CONST. DROP INLET WITH 4' EXT. AND PIPE OUTLET									44			1		1					PCC-1, FPC-9E, FPC-9M
117+97	N. FRONTAGE RD. - CONST. DROP INLET WITH 4' EXT. AND PIPE OUTLET									31			1		1					PCC-1, FPC-9E, FPC-9M
117+98	N. FRONTAGE RD. - MODIFY DROP INLET AND EXTEND R.C. PIPE CULV'T.		6														1			PCC-1, FPC-9S
119+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							98					1							PCC-1, FPC-9E, FPC-9M
120+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							96					1							PCC-1, FPC-9E, FPC-9M
121+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							96					1							PCC-1, FPC-9E, FPC-9M
122+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							96					1							PCC-1, FPC-9E, FPC-9M
123+17	N. FRONTAGE RD. - EXTEND R.C. PIPE CULV'T.	4																		PCC-1
123+19	N. FRONTAGE RD. - CONST. DROP INLET WITH R.C. STUB OUTLET	26									1		1					5	0.06	PCC-1, FES-1, FES-2, FPC-9E, FPC-9M
124+00	N. FRONTAGE RD. - CONST. DROP INLET WITH R.C. PIPE OUTLET	56												1						PCC-1, FPC-9D
124+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET								73				1							PCC-1, FPC-9E, FPC-9M
124+50	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET								44				1							PCC-1, FPC-9E, FPC-9M
125+40	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET								83				1							PCC-1, FPC-9E, FPC-9M
126+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET								54				1							PCC-1, FPC-9E, FPC-9M
126+77	N. FRONTAGE RD. - CONST. DROP INLET WITH R.C. STUB OUTLET	18									1		1					5	0.06	PCC-1, FES-1, FES-2, FPC-9E, FPC-9M
126+93	N. FRONTAGE RD. - EXTEND R.C. PIPE CULV'T.	2																		PCC-1
127+50	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							66					1							PCC-1, FPC-9E, FPC-9M
128+25	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							68					1							PCC-1, FPC-9E, FPC-9M
129+00	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							68					1							PCC-1, FPC-9E, FPC-9M
129+75	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							68					1							PCC-1, FPC-9E, FPC-9M
130+50	N. FRONTAGE RD. - CONST. DROP INLET WITH PIPE OUTLET							68					1							PCC-1, FPC-9E, FPC-9M
137+90	N. FRONTAGE RD. - RETAIN AND EXTEND R.C. PIPE CULV'T.					88					2							9	0.11	PCC-1, FES-1, FES-2
TOTALS:		200	6	23	36	88	440	724	254	627	9	1	23	1	3	1	2	73	0.90	

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

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	51	177

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-16-14

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)
			FEET	STATION	STATION	SQ. YD.	TON	TON
121+65	LT.	N. FRONTAGE RD.	16	121+43	121+87	56.8	6.2	23.2
0+00								
* ENTIRE PROJECT TEMPORARY DRIVES								30.0
TOTALS:						56.8	6.2	53.2

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	240
ENGINEER	
TOTAL:	240

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

CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1 1/2") 660 LBS. PER SQ. YD.			CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				ACHM SURFACE COURSE (3/8") 110 LBS. PER SQ. YD.			TACK COAT 0.03 GAL. PER SQ. YD.			CONTINUOUSLY REINFORCED CONCRETE PAVEMENT		REINFORCING STEEL FOR PAVEMENT (BARS)	PORTLAND CEMENT CONCRETE PAVEMENT	
				TON / STATION	TON	AVG. WID.	SQ. YD.	TON	AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	TON	AVG. WID.	SQ. YD.	GAL.	AVG. WID.	13" U.T.		AVG. WID.	14" U.T.
			FEET			FEET			FEET	SQ. YD.	TON	TON	FEET			FEET			FEET	SQ. YD.	POUND	FEET	SQ. YD.
118+40.76	123+84.72	I-430 S.B.	543.96	52.25	284.22	VAR.	1608.89	530.93											VAR.	1531.90	55330		
123+84.72	129+30.00	I-430 S.B.	545.28	52.25	284.91	36.00	2181.12	719.77											34.00	2059.95	75009		
227+53.95	231+98.11	I-30 W.B.	444.16	VAR.	141.27	VAR.			VAR.	1247.85	26.20	410.54	VAR.	1247.85	68.63	VAR.	1247.85	37.44				VAR.	1186.29
231+98.11	237+00.00	I-30 W.B.	501.89	51.00	255.96	24.00			24.00	1338.37	28.11	440.32	24.00	1338.37	73.61	24.00	1338.37	40.15				22.00	1226.84
237+00.00	240+00.00	I-30 W.B.	300.00	VAR.	76.50	18.00			18.00	600.00	12.60	197.40	18.00	600.00	33.00	18.00	600.00	18.00				16.00	533.33
TOTALS:					1042.86		3790.01	1250.70		3186.22	66.91	1048.26		3186.22	175.24		3186.22	95.59		3591.85	130339		2946.46

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (3/8").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.1% MIN. AGGR.....3.9% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

6/18/2014

R061332.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	52	177

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	AVG. WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	TOTAL PG 76-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																						
104+51.31	104+76.30	I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP	24.99	148.75	37.17	46.42	128.89	0.03	3.87	15.58	43.26	660.00	14.28	15.25	42.34	220.00	4.66	19.00	52.76	220.00	5.80	10.46
104+76.30	104+90.11	I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP	13.81	187.00	25.82	46.42	71.23	0.03	2.14	15.58	23.91	660.00	7.89	15.25	23.40	220.00	2.57	25.00	38.36	220.00	4.22	6.79
104+90.11	120+14.78	I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP	1524.67	225.25	3434.32	46.42	7863.91	0.03	235.92	15.58	2639.37	660.00	870.99	15.25	2583.47	220.00	284.18	25.00	4235.19	220.00	465.87	750.05
109+00.00	111+00.00	PAVING TRANSITION	200.00																			
111+00.00	124+30.00	N. FRONTAGE RD. - NOTCH AND WIDEN, C.C.&G ON LT., OVERLAY ON RT.	1330.00	VAR.	1078.80	VAR.	11927.90	0.03	357.84	VAR.	2712.84	660.00	895.24	32.00	711.11	220.00	78.22	32.00	711.11	220.00	78.22	156.44
124+30.00	132+05.14	N. FRONTAGE RD. - NOTCH AND WIDEN, C.C.&G ON LT., OPEN SHOULDER ON RT.	775.14	VAR.	652.64	VAR.	7088.33	0.03	212.65	VAR.	1649.38	660.00	544.30	44.00	6502.22	220.00	715.24	44.00	6502.22	220.00	715.24	1430.48
132+05.14	133+03.48	N. FRONTAGE RD. - NOTCH AND WIDEN, ENT. RAMP, C.C.&G ON LT., OPEN SHOULDER ON RT.	98.34	VAR.	144.50	VAR.	1241.94	0.03	37.26	VAR.	343.22	660.00	113.26	44.00	3789.57	220.00	416.85	44.00	3789.57	220.00	416.85	833.70
133+03.48	136+70.12	N. FRONTAGE RD. - NOTCH AND WIDEN, OPEN SHOULDER	366.64	VAR.	422.82	VAR.	1531.69	0.03	45.95	VAR.	271.90	660.00	89.73	VAR.	555.50	220.00	61.11	VAR.	555.50	220.00	61.11	122.22
136+70.12	138+70.12	N. FRONTAGE RD. - NOTCH AND WIDEN, OPEN SHOULDER, PAVING TRANSITION	200.00	VAR.	204.97	VAR.	688.79	0.03	20.66	VAR.	74.95	660.00	24.73	24.25	538.89	220.00	59.28	40.00	888.89	220.00	97.78	157.06
													0.00		0.00							0.00
219+79.04	224+79.04	PAVING TRANSITION	500.00	VAR.	480.72	VAR.	1196.07	0.03	35.88	VAR.	426.47	660.00	140.74	VAR.	343.13	220.00	37.74	22.50	1250.00	220.00	137.50	175.24
224+79.04	228+06.40	I-30 W.B. EXIT RAMP	327.36	VAR.	366.95	VAR.	1230.64	0.03		VAR.	428.40	660.00	141.37	VAR.	373.84	220.00	41.12	VAR.	1223.91	220.00	134.63	175.75
228+06.40	229+78.82	I-30 W.B. EXIT RAMP - OVERLAY EXISTING	172.42															11.00	210.74	220.00	23.18	23.18
229+78.82	230+78.82	PAVING TRANSITION	100.00															20.00	222.22	220.00	24.44	24.44
ADDITIONAL FOR LEVELING																						
ENTIRE	PROJECT	N. FRONTAGE RD.	2570.12			22.0	6282.52	0.10	628.25									24.0	VAR.	VAR.	3594.69	3594.69
ADDITIONAL FOR SUPERELEVATION																						
120+62.36	123+12.36	N. FRONTAGE ROAD SUPERELEVATION TRANSITION	250.00	66.13	165.33																	
123+12.36	129+00.79	N. FRONTAGE ROAD MAXIMUM SUPERELEVATION	588.43	132.25	778.20																	
129+00.79	131+50.79	N. FRONTAGE ROAD SUPERELEVATION TRANSITION	250.00	66.13	165.33																	
131+50.79	134+00.79	N. FRONTAGE ROAD SUPERELEVATION TRANSITION	250.00	118.63	296.58																	
134+00.79	137+79.53	N. FRONTAGE ROAD MAXIMUM SUPERELEVATION	378.74	237.25	898.56																	
137+79.53	139+04.53	N. FRONTAGE ROAD SUPERELEVATION TRANSITION	125.00	118.63	148.29																	
TOTALS:					9301.00		39251.91		1580.42		8613.70		2842.53		16451.36		1809.64		21309.98		5938.78	7748.42

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
6-30-14				JOB NO.		061332	53	177

(2) SUMMARY OF QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-30-14

SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		37	STATION
201	GRUBBING		37	STATION
202	REMOVAL AND DISPOSAL OF FENCE		5438	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES		1	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE MEDIAN BARRIER		218	LIN. FT.
202	REMOVAL AND DISPOSAL OF OVERHEAD SIGN STRUCTURE		4	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS		1	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		2	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL		750	LIN. FT.
210	UNCLASSIFIED EXCAVATION		63985	CU. YD.
210	COMPACTED EMBANKMENT		143105	CU. YD.
302	SELECTED MATERIAL (CLASS SM-3)		44825	CU. YD.
303	AGGREGATE BASE COURSE (CLASS 7)		10397	TON
308	AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE		1048	TON
308	CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE		67	TON
308	PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE		3186	SQ. YD.
401	TACK COAT		1676	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		1202	TON
SP & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")		49	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		2718	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")		125	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")		166	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")		9	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		7359	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		1	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		395	TON
412	COLD MILLING ASPHALT PAVEMENT		733	SQ. YD.
SP & 415	ACHM PATCHING OF EXISTING ROADWAY		50	TON
501	PORTLAND CEMENT CONCRETE PAVEMENT (14" UNIFORM THICKNESS)		2946	SQ. YD.
502	REINFORCING STEEL FOR PAVEMENT (BARS)		130339	POUND
503	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (13" UNIFORM THICKNESS)		3592	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SP & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	TRAFFIC CONTROL SUPERVISOR		1.00	LUMP SUM
604	SIGNS		1488	SQ. FT.
604	BARRICADES		16	LIN. FT.
604	TRAFFIC DRUMS		227	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		4011	LIN. FT.
SP & 604	RELOCATING PRECAST CONCRETE BARRIERS LEFT IN PLACE		1506	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS		13634	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		3850	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		246236	LIN. FT.
604	ADVANCE WARNING ARROW PANEL		330	DAY
SP & 604	PORTABLE CHANGEABLE MESSAGE SIGN		168	WEEK
* SP & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	724	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	724	LIN. FT.
SP & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		200	LIN. FT.
* SP & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	254	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	254	LIN. FT.
SP & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		88	LIN. FT.
SP & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		440	LIN. FT.
SP & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		6	LIN. FT.
SP & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		23	LIN. FT.
SP & 606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		36	LIN. FT.
* SP & 606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	627	LIN. FT.
* 606	48" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	627	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		9	EACH
606	48" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	SELECTED PIPE BEDDING		240	CU. YD.
609	DROP INLETS (TYPE MO)		23	EACH
609	DROP INLETS (TYPE RM)		1	EACH
609	DROP INLET EXTENSIONS (4')		3	EACH
609	DROP INLET EXTENSIONS (8')		1	EACH
611	UNDERDRAIN OUTLET PROTECTORS		5	EACH
611	4" PIPE UNDERDRAINS		1000	LIN. FT.
619	WIRE FENCE (TYPE A)		890	LIN. FT.
620	LIME		11	TON
620	SEEDING		5.50	ACRE
SS & 620	MULCH COVER		14.40	ACRE
620	WATER		743.4	M.GAL.
621	TEMPORARY SEEDING		8.90	ACRE
621	SILT FENCE		5564	LIN. FT.

* DENOTES ALTERNATE BID ITEMS.

6/30/2014

R061332.DGN

SUMMARY OF QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
6-30-14				JOB NO.		061332	54	177
7-7-14								

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-8-14

SUMMARY OF QUANTITIES (BOX 2 OF 2)

	ITEM NUMBER	ITEM		QUANTITY	UNIT
	621	SAND BAG DITCH CHECKS		88	BAG
	621	DROP INLET SILT FENCE		682	LIN. FT.
	621	SEDIMENT BASIN		133	CU. YD.
	621	OBLITERATION OF SEDIMENT BASIN		133	CU. YD.
	621	SEDIMENT REMOVAL AND DISPOSAL		378	CU. YD.
	621	ROCK DITCH CHECKS		30	CU. YD.
	623	SECOND SEEDING APPLICATION		5.50	ACRE
	624	SOLID SODDING		73	SQ. YD.
	626	EROSION CONTROL MATTING (CLASS 3)		889	SQ. YD.
	631	CONCRETE BARRIER WALL (MEDIAN TYPE B)		685	LIN. FT.
	631	CONCRETE BARRIER WALL (MEDIAN TYPE C)		869	LIN. FT.
	631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-1)		800	LIN. FT.
	632	CONCRETE ISLAND		303	SQ. YD.
	633	CONCRETE WALKS		1217	SQ. YD.
	634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		2606	LIN. FT.
	635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
	640	MODIFYING DROP INLETS		2	EACH
	641	WHEELCHAIR RAMPS (TYPE 3)		6	SQ. YD.
	642	RUMBLE STRIPS IN PORTLAND CEMENT CONCRETE SHOULDERS		1089	LIN. FT.
*	SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	112109	LIN. FT.
*	SP	HIGH PERFORMANCE MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	112109	LIN. FT.
*	SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING (SKIP LINE) WHITE (4")	(ALTERNATE NO. 1)	928	LIN. FT.
*	SP	HIGH PERFORMANCE MARKING TAPE (SKIP LINE) WHITE (4")	(ALTERNATE NO. 2)	928	LIN. FT.
*	SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8")	(ALTERNATE NO. 1)	10436	LIN. FT.
*	SP	HIGH PERFORMANCE MARKING TAPE WHITE (8")	(ALTERNATE NO. 2)	10436	LIN. FT.
*	SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	(ALTERNATE NO. 1)	110226	LIN. FT.
*	SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4")	(ALTERNATE NO. 2)	110226	LIN. FT.
*	SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	30504	LIN. FT.
*	SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	30504	LIN. FT.
	721	RAISED PAVEMENT MARKERS (TYPE II)		3314	EACH
	725	GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)		835	SQ. FT.
	725	GUIDE SIGN-OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)		2316	SQ. FT.
	726	STANDARD SIGN		867	SQ. FT.
	727	EXIT NUMBER PANEL (TYPE A)		277	SQ. FT.
	727	EXIT NUMBER PANEL (TYPE C)		35	SQ. FT.
	730	BREAKAWAY SIGN SUPPORT (TYPE G-2)		3862	POUND
	731	TEMPORARY IMPACT ATTENUATION BARRIER		2	EACH
	731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		2	EACH
	732	CRASH CUSHION		1	EACH
	SP	REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER		3621	EACH
	SP	STEEL OVERHEAD SIGN STRUCTURE (OH-030-60-49)		1	EACH
	SP	STEEL OVERHEAD SIGN STRUCTURE (OH-30-60-53)		1	EACH
	SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-030-60-42A)		2	EACH
	SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-030-60-42B)		2	EACH
	SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-430-60-25)		3	EACH
	SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G-1)		36	EACH
	SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G-2)		17	EACH
	SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G2-1)		4	EACH
	SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G2-5)		1	EACH
	SP	FLASHING BEACON ASSEMBLY, SHOULDER MT., MONO POLE, SOLAR		1	EACH

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
6-16-14	REVISED SCOPE OF WORK FOR THE ENTIRE PROJECT	ALL SHEETS
6-30-14	ADDED SHEET 103A. ADDED "TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES LEFT IN PLACE" SPECIAL PROVISION. REMOVED "RELOCATING PRECAST CONCRETE BARRIER" QUANTITY. ADDED "RELOCATING PRECAST CONCRETE BARRIERS LEFT IN PLACE" QUANTITY.	2, 3, 39, 46, 53, 54, 103A
7-7-14	ADDED "RESTRAINING CONDITIONS" SPECIAL PROVISION. ADDED NOTE TO SHEET 62. REVISED QUANTITIES "INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4")", "HIGH PERFORMANCE MARKING TAPE WHITE (4")", "INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8")", "HIGH PERFORMANCE MARKING TAPE WHITE (8")", "INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4")", "HIGH PERFORMANCE MARKING TAPE YELLOW (4")", "INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")", "HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")", "RAISED PAVEMENT MARKERS (TYPE II)", AND "REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER".	3, 47, 48, 54, 62

7/7/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	55	177

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

SURVEY CONTROL COORDINATES

Date: 5/25/2012
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL.
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	2036702.2987	1189170.1909	314.155	CTL	24"X5/8"REBA2.0"ALUM CAP, 8' NORTH OF STORM SEWER MANHOLE, 6' WEST OF OTTER CREEK ACCESS SHOULDER, 44' EAST OF POWER POLE
2	2037269.8322	1189736.2485	316.348	CTL	24"X5/8"REBA2.0"ALUM CAP, 4' WEST OF OTTER SPR. ACCESS SHOULDER, 17' SOUTHEAST OF STORM MANHOLE 46' NORTHEAST OF OTTER CREEK REALTY SIGN
3	2037848.5891	1190286.7396	316.527	CTL	24"X5/8"REBA2.0"ALUM CAP, 4' WEST OF OTTER SPR. ACCESS, 23' EAST OF POWER POLE, 6' NORTH OF SPEED LIMIT SIGN
4	2038314.8102	1190745.3886	337.476	CTL	24"X5/8"REBA2.0"ALUM CAP, 35' EAST OF OTTER SPRING ACCESS ROAD SHOULDER, 53' SOUTH OF 15" PINE, 42' WEST OF SHOULDER OF 30 WEST
5	2038540.4436	1191089.0548	343.310	CTL	24"X5/8"REBA2.0"ALUM CAP, 20' NORTH OF GR 30 WEST 109', SOUTH OF 430 OFF RAMP TO 30 WEST
6	2038858.8512	1191571.0733	336.172	CTL	24"X5/8"REBA2.0"ALUM CAP, 6' NORTH OF SHOULDER OF 30 WEST, 200' EAST OF EAST END OF GR
7	2038735.1862	1191269.0051	362.155	CTL	24"X5/8"REBA2.0"ALUM CAP, 56' SOUTHEAST OF HIGHWAY, 9' NORTH OF NORTHWEST BRIDGE CORNER, 27' SOUTH OF DROP INLET
8	2039260.5498	1191180.0510	350.836	CTL	24"X5/8"REBA2.0"ALUM CAP, 3' EAST OF SHOULDER OF 430, 80' WEST OF 30/430 RAMP 72' SOUTH OF BLUE SIGN
9	2040122.7314	1190879.8788	323.852	CTL	24"X5/8"REBA2.0"ALUM CAP, 2' EAST OF SHOULDER 430, 13' NORTH OF HIGHWAY, 16' WEST OF CONCRETE DITCH
10	2040841.2166	1190607.7473	309.674	CTL	24"X5/8"REBA2.0"ALUM CAP, 4' EAST OF SHOULDER 430, 82' WEST OF CHAIN LINK FENCE
11	2041505.6004	1190365.8225	303.333	CTL	24"X5/8"REBA2.0"ALUM CAP, 5' EAST OF SHOULDER 430, 45' WEST OF 24" PINE, 31' WEST OF CONCRETE DITCH
12	2042128.5723	1190137.5391	308.550	CTL	24"X5/8"REBA2.0"ALUM CAP, 1' EAST OF SHOULDER 430, 69' NORTH OF NORTHEAST BRIDGE END, 69' NORTH OF FENCE CORNER
13	2042786.6300	1189988.0425	305.546	CTL	24"X5/8"REBA2.0"ALUM CAP, 1' EAST OF SHOULDER 430, 121' SOUTH OF SOUTHEAST GR
14	2043420.6552	1189910.2646	291.131	CTL	24"X5/8"REBA2.0"ALUM CAP, 9' NORTH OF NORTHWEST BRIDGE END, 49' NORTHEAST OF NORTHEAST BRIDGE END
15	2044525.2016	1190093.2200	284.998	CTL	24"X5/8"REBA2.0"ALUM CAP, 2' EAST OF SHOULDER 430, 20' WEST OF STAGECOACH OFF RAMP
16	2043908.6128	1189854.8693	285.697	CTL	24"X5/8"REBA2.0"ALUM CAP, 98' SOUTH OF SWEET GUM 5", 12' EAST OF STAGECOACH ON RAMP, 36' WEST OF SHOULDER 430
17	2042451.6710	1189917.5178	311.643	CTL	24"X5/8"REBA2.0"ALUM CAP, 3' WEST OF SHOULDER 430, 198' NORTH OF NORTHWEST GR END 51' EAST OF 18" OAK
18	2041753.7344	1190129.7449	304.843	CTL	24"X5/8"REBA2.0"ALUM CAP, 4' WEST OF SHOULDER 430, 125' SOUTH OF END CHAIN LINK FENCE, 145' N OF SIGN POST
19	2041094.8916	1190371.6586	306.354	CTL	24"X5/8"REBA2.0"ALUM CAP, 2' WEST OF SHOULDER 430, 28' EAST OF 5" PINE
20	2040439.3040	1190610.4704	314.385	CTL	24"X5/8"REBA2.0"ALUM CAP, 3' WEST OF SHOULDER 430, 25' EAST OF 4" PINE
21	2039704.7534	1190877.3047	335.653	CTL	24"X5/8"REBA2.0"ALUM CAP, 4' WEST OF SHOULDER OF 430, 102' NORTH OF NORTH BRIDGE PIER, 82' WEST OF CHAIN LINK FENCE
22	2039071.1723	1191079.6736	355.243	CTL	24"X5/8"REBA2.0"ALUM CAP, 4' EAST OF SHOULDER OF 430, OFF RAMP TO 30 WEST 60' W OF 430 OFF RAMP TO 30 E
23	2037479.3372	1190263.8011	317.869	CTL	24"X5/8"REBA2.0"ALUM CAP, RTK ELEVATION 55' SOUTH OF SHOULDER 30 EAST, 26' NORTH OF 430 ON RAMP
24	2038231.2102	1190966.5149	335.589	CTL	24"X5/8"REBA2.0"ALUM CAP, RTK ELEVATION 10' SOUTH OF SHOULDER 30 EAST, 236' WEST OF WEST END OF GR
25	2038503.9687	1191399.5622	364.427	CTL	24"X5/8"REBA2.0"ALUM CAP, RTK ELEVATION 3' EAST OF SOUTHEAST END OF BRIDGE 9' SOUTHEAST OF BRIDGE WR
100	2050484.6579	1190861.0103	319.736	GPS	AHTD GPS 600053A
101	2042711.1292	1196797.8922	290.354	GPS	AHTD GPS LR 2
900	2040194.2900	1194501.9249	285.180	BM	NGS BM R 320
901	2039263.0148	1192258.1337	317.298	TBM	CH SQ IN CONCRETE BASE OF 430 NORTH ON RAMP SIGN, 107' SOUTHWEST OF WEST END OF GR, 65' SOUTH OF OTTER CREEK ACCESS ROAD
902	2038342.7719	1190800.0109	337.526	TBM	CH SQ IN CENTER OF HIGHWAY, 16' WEST OF SHOULDER 30 WEST, 37' EAST OF CHAIN LINK FENCE CORN
903	2037457.5737	1189979.7933	315.524	TBM	CH SQ IN CONCRETE NEXT TO WR OF 30 WEST, 5' EAST OF OTTER SPR. ACCESS SHOULDER, 1' WEST OF WR ON 30 WEST
904	2036708.1308	1189156.8926	314.717	TBM	CH SQ IN EAST END HIGHWAY, 15' WEST OF MANHOLE, 19' WEST OF OTTER CREEK SHOULDER, 10' SOUTH OF UNDERGROUND ELECTRIC BOX
905	2040728.1189	1190663.5226	302.317	TBM	CH SQ IN CENTER HIGHWAY 45' EAST OF SHOULDER 430, 41' WEST OF CHAIN LINK FENCE, 15' WEST OF CONCRETE DITCH
906	2041866.5361	1190232.7993	306.530	BM	NGS BM U 320
907	2043043.6862	1189884.9230	301.196	BM	PAGIS 2058 AZ
908	2044245.9299	1190095.0240	279.404	TBM	CH SQ IN CENTER HIGHWAY 30' EAST OF SHOULDER 430

*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 0.9999761086 HAS BEEN USED TO COMPUTE THE GROUND COORDINATES LISTED ABOVE.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s061332gi.ctl
HORIZONTAL DATUM: NAD 83 (19XX)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 600053A - AHTD LR 2
CONVERGENCE ANGLE: 00-13-37.0 LEFT AT LT: 34-40-06.7 LG: 092-24-20.5
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

NORTH FRONTAGE RD.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8061	POB	86+67.67	2035446.5533	1188041.0009
8062	PI	94+48.40	2036017.5741	1188572.4383
8064	PI	100+00.00	2036467.5349	1188979.2609
8065	PC	122+49.86	2038089.3661	1190538.5943
8067	PT	130+73.59	2038854.3238	1190686.2489
8068	PC	132+27.98	2038997.4484	1190628.3519
8070	PT	138+67.22	2039548.4843	1190823.7617
8071	PC	138+72.61	2039551.0953	1190828.4867
8073	PT	142+03.86	2039665.1921	1191138.1066
8074	PC	142+45.86	2039673.5906	1191179.2614
8076	PT	144+03.45	2039677.1208	1191335.9766
8077	PC	148+34.96	2039609.9673	1191762.2245
8079	PT	150+97.20	2039496.7027	1191994.4649
8080	PC	151+62.67	2039452.0139	1192042.3137
8082	PT	156+61.55	2039364.9261	1192506.8894
8083	PI	159+00.24	2039453.6061	1192728.4958
8084	PI	161+16.99	2039537.9013	1192928.1883
8085	POE	162+92.84	2039609.7106	1193088.7027

I-430 S.B. TO I-30 W.B. RAMP

POINT NO.	TYPE	STATION	NORTHING	EASTING
8023	POB	92+10.20	2038046.3646	1190577.1085
8024	PC	93+00.85	2038111.0864	1190640.5708
8026	PT	97+53.65	2038468.7819	1190916.4811
8027	PC	97+82.50	2038493.5488	1190931.2761
8029	PT	103+55.00	2039041.5165	1191064.6336
8030	PC	103+71.30	2039057.7911	1191063.6391
8032	PT	108+62.91	2039536.6689	1190960.9769
8033	PI	109+80.58	2039646.7387	1190919.3784
8034	PI	115+99.53	2040225.7233	1190700.5634
8035	POE	116+11.85	2040237.3025	1190696.3435

NORTH FRONTAGE RD. TO I-430 N.B. RAMP

POINT NO.	TYPE	STATION	NORTHING	EASTING
8052	POB	103+54.05	2039573.0529	1191892.3084
8053	PC	108+34.71	2039787.5310	1191462.1602
8055	PT	113+01.58	2040087.7755	1191110.7139
8056	PC	118+86.19	2040563.7967	1190771.3437
8058	PT	124+02.67	2041019.5350	1190531.6805
8059	PI	129+51.99	2041535.7557	1190343.8766
8060	POE	132+52.23	2041813.5759	1190230.0348

I-430 S.B. TO NORTH FRONTAGE RD.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8036	POB	102+22.61	2038851.3804	1190669.6406
8037	PC	104+98.10	2039106.7631	1190566.3328
8039	PT	110+01.81	2039601.0357	1190506.4051
8040	PC	114+47.21	2040041.8852	1190569.9192
8042	PT	118+96.85	2040488.0093	1190546.2069
8043	PC	121+94.42	2040776.3836	1190472.7905
8045	PT	123+84.70	2040958.1379	1190416.7454
8046	POE	129+99.98	2041536.3469	1190206.3898

I-430 B (BRIDGE STRUCTURE)

POINT NO.	TYPE	STATION	NORTHING	EASTING
8108	POB	130+00.00	2041545.6324	1190231.9131
8109	PC	134+20.49	2041940.7809	1190088.1550
8111	PT	152+87.83	2043779.5020	1189895.3340
8112	POE	155+18.44	2044007.8570	1189927.5023

I-430

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	2038741.2225	1191298.2917
8001	PC	134+36.83	2041970.9589	1190123.2962
8003	PT	153+04.18	2043809.6800	1189930.4742
8004	POE	174+58.80	2045943.2374	1190231.0284

I-30 W.B. EXIT

POINT NO.	TYPE	STATION	NORTHING	EASTING
8013	POB	219+12.48	2039571.7997	1193003.9609
8085	PI	220+05.32	2039609.7106	1193088.7027
8014	PI	221+42.63	2039669.4606	1193212.3365
8015	PI	222+45.23	2039714.9079	1193304.3182
8016	PI	223+04.84	2039740.5382	1193358.1422
8017	PI	225+48.77	2039840.1913	1193580.7828
8018	PC	226+01.24	2039861.6294	1193628.6788
8020	PT	228+06.40	2039935.2351	1193820.0709
8021	PC	230+07.67	2039997.2922	1194011.5359
8061	PT	231+97.95	2040064.8723	1194189.3240
8103	PI	233+99.84	2040145.9155	1194374.2371
8104	PI	235+17.33	2040193.0748	1194481.8385
8105	POE	240+34.85	2040400.8177	1194955.8372

OTTER CREEK CONNECTOR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8086	POB	100+00.00	2036179.1409	1188718.4584
8087	PC	101+69.82	2036301.1501	1188600.3432
8089	PT	103+71.61	2036471.0802	1188494.3108
8090	POE	105+20.08	2036610.7180	1188443.8855

I-30

POINT NO.	TYPE	STATION	NORTHING	EASTING
8005	POB	100+00.00	2032993.5633	1183403.2698
8006	PC	121+97.13	2033538.2833	1185531.8046
8008	PT	143+21.25	2034595.7507	1187342.4889
8009	PC	189+34.65	2037926.4343	1190534.6593
8011	PT	211+89.62	2039209.6326	1192371.2360
8012	POE	259+00.93	2041100.8310	1196686.3074

STAGECOACH TO I-430 S.B. RAMP

POINT NO.	TYPE	STATION	NORTHING	EASTING
8099	POB	149+08.10	2043421.1356	1189833.6847
8100	PC	151+84.78	2043697.5358	1189845.9827
8102	PT	157+75.14	2044232.9759	1189639.7282
8098	POE	159+41.88	2044351.5310	1189522.4837

STAGECOACH TO I-430 S.B. RAMP (M.O.T.)

POINT NO.	TYPE	STATION	NORTHING	EASTING
8091	POB	152+23.88	2043736.0550	1189871.1235
8092	PC	152+80.76	2043792.3802	1189879.0580
8094	PT	158+06.39	2044233.1755	1189656.3546
8095	PC	158+11.87	2044235.7792	1189651.5337
8097	PT	158+82.47	2044277.9651	1189595.2363
8098	POE	159+85.94	2044351.5310	1189522.4837

6/18/2014
R061332.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	56	177

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

I-430 S.B. EXIT RAMP
PI = 116+74.96
Δ = 22°28'54"LT.
D = 5°00'00"
T = 227.75'
L = 449.63'
PC = 114+47.21
PT = 118+96.85
Ls = 300'
eMAX = 0.083'/'

STA. 120+14.78
END I-430 S.B. EXIT RAMP CONST.

I-430 S.B. EXIT RAMP
PI = 122+89.64
D = 5°42'30"LT.
D = 3°00'00"
T = 95.22'
L = 190.28'
PC = 121+94.42
PT = 123+84.70
NO SUPER

C.L. I-430 S.B. EXIT TO N. FRONTAGE RD.

SURVEY BASELINE S20°09'44"E 701.85'

SURVEY BASELINE S16°54'48"E 729.49'

I-430
PI = 143+89.55
Δ = 28°00'37"RT.
D = 1°30'00"
T = 952.72'
L = 1867.34'
PC = 134+36.83
PT = 153+04.18
MATCH EXISTING

SURVEY BASELINE S20°00'55"E 697.73'

N 20°01'25" W 12.32'

N 19°59'30" W 3436.83'

N 14°17'00" W 297.57'

N 19°59'30" W 615.28'

N 20°14'56" W 186.98'

SURVEY BASELINE

SURVEY BASELINE

SURVEY BASELINE N20°00'30"W 707.06'

C.L. I-430
N 19°59'30" W 549.32'

N 22°16'56" W 300.24'

SURVEY BASELINE N20°07'30"W 663.48'

SURVEY BASELINE N12°47'57"W 674.83'

SURVEY BASELINE N06°59'37"W 638.78'

N 35°29'10" W 584.61'

C.L. N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP

STA. 122+41.34
END I-430 N.B. ENT. RAMP CONST.

I-430 N.B. ENTRANCE RAMP
PI = 121+46.02
Δ = 15°29'40"RT.
D = 3°00'00"
T = 259.83'
L = 516.49'
PC = 118+86.19
PT = 124+02.67
Ls = 300'
eMAX = 0.057'/'

I-430
PI = 143+89.55
Δ = 28°00'37"RT.
D = 1°30'00"
T = 952.72'
L = 1867.34'
PC = 134+36.83
PT = 153+04.18
MATCH EXISTING

STAGECOACH ENT. RAMP
PI = 154+97.89
Δ = 47°13'45"LT.
D = 8°00'00"
T = 313.11'
L = 590.36'
PC = 151+84.78
PT = 157+75.14
Ls = 350'
eMAX = 0.100'/'

STAGECOACH TEMP. ENT. RAMP
PI = 155+81.55
Δ = 69°38'44"LT.
D = 13°15'00"
T = 300.80'
L = 525.63'
PC = 152+80.76
PT = 158+06.39

STAGECOACH TEMP. ENT. RAMP
PI = 158+47.43
Δ = 16°56'44"RT.
D = 24°00'00"
T = 35.56'
L = 70.61'
PC = 158+11.87
PT = 158+82.47

STAGECOACH TEMP. ENT. RAMP
PI = 155+81.55
Δ = 69°38'44"LT.
D = 13°15'00"
T = 300.80'
L = 525.63'
PC = 152+80.76
PT = 158+06.39

STA. 157+75.14
END STAGECOACH ENT. RAMP CONST.

C.L. STAGECOACH RD. TO I-430 S.B. TEMP. ENT. RAMP

STA. 151+40.51
BEGIN STAGECOACH ENT. RAMP CONST.

N 8°01'07" E 56.88'

N 2°32'51" E 276.67'

N 8°01'07" E 300.80'

N 8°01'07" E 2154.62'

SURVEY BASELINE S21°08'05"W 661.05'

SURVEY BASELINE S02°27'44"E 1458.29'

SURVEY BASELINE N09°24'18"E 1119.60'

SURVEY BASELINE N06°59'37"W 638.78'

SURVEY BASELINE

C.L. I-430

STA. 167+68.88
END I-430 CONST.

6/18/2014

R061332.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	57	177

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

130 135 140 145 150 155

STA. 86+67.67
BEGIN N. FRONTAGE RD. CONST.

86 90

C.L. N. FRONTAGE RD.

8008 N 42°56'36" E 659.57'

P.I. 132+87.43

P.T. 143+21.25

C.L. I-30

STA. 154+73.57
BEGIN I-30 W.B. ACCEL. CONST.

OTTER CREEK CONNECTOR
PI = 102+72.24
Δ = 24°12'56"RT.
D = 12°00'00"
T = 102.43'
L = 201.80'
PC = 101+69.82
PT = 103+71.61

105

C.L. OTTER CREEK CONNECTOR

8090 N 69°51'19" W 148.46'

8089 P.T. 103+71.61

P.I. 102+72.24

8087 P.C. 101+69.82

N 44°04'15" W 169.82'

8086

90 95 100 105 110 115 120

C.L. N. FRONTAGE RD.

SURVEY BASELINE

SURVEY BASELINE N44°55'31"E 801.57'

SURVEY BASELINE N43°33'58"E 798.75'

160 165 170 175 180 185

N 42°56'36" E 437.05'

2908 P.I. 94+48.40

N 43°19'09" E 403.48'

8064 P.I. 100+00.00

N 43°47'01" E 4613.39'

N 43°52'28" E 2249.86'

PN3CA PD24"x5/8"REBAx2.0"ALUM CAP SO. IN E END IW

PN1 PD24"x5/8"REBAx2.0"ALUM CAP

PN2 PD24"x5/8"REBAx2.0"ALUM CAP

PN3CB PD24" SO. IN CONC NEXT TO WR

PN3 PD24"x5/8"REBAx2.0"ALUM CAP

C.L. I-30

SURVEY BASELINE N43°03'52"E 1029.14'

6/18/2014

R061332.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	58	177

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

C.L. I-430 S.B. EXIT TO N. FRONTAGE RD.

I-430 S.B. EXIT RAMP
PI = 107+55.96
Δ = 30°13'22"RT.
D = 6°00'00"
T = 257.86'
L = 503.71'
PC = 104+98.10
PT = 110+01.81
Ls = 350'
eMAX = 0.092'/'

NORTH FRONTAGE RD.
PI = 136+18.60
Δ = 83°06'00"RT.
D = 13°00'00"
T = 390.62'
L = 639.23'
PC = 132+27.98
PT = 138+67.22
Ls = 250'
eMAX = 0.100'/'

STA. 104+51.31
BEGIN I-430 S.B. EXIT RAMP CONST.

STA. 107+68.57
END I-430 S.B. TO I-30 W.B. RAMP CONST.

STA. 107+68.57
BEGIN I-430 CONST.

NORTH FRONTAGE RD.
PI = 140+39.52
Δ = 17°23'25"RT.
D = 5°15'00"
T = 166.91'
L = 331.24'
PC = 138+72.61
PT = 142+03.86
MATCH EXISTING

C.L. N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP

I-430 N.B. ENTRANCE RAMP
PI = 110+72.91
Δ = 28°00'44"RT.
D = 6°00'00"
T = 238.20'
L = 466.87'
PC = 108+34.71
PT = 113+01.58
Ls = 350'
eMAX = 0.092'/'

STA. 105+55.85
BEGIN I-430 N.B. ENT. RAMP CONST.

NORTH FRONTAGE RD.
PI = 149+70.09
Δ = 34°05'28"RT.
D = 13°00'00"
T = 135.13'
L = 262.24'
PC = 148+34.96
PT = 150+97.20
Ls = 250'
eMAX = 0.100'/'

NORTH FRONTAGE RD.
PI = 127+14.06
Δ = 65°53'56"LT.
D = 8°00'00"
T = 464.21'
L = 823.74'
PC = 122+49.86
PT = 130+73.59
Ls = 250'
eMAX = 0.084'/'

C.L. N. FRONTAGE RD.

C.L. I-430 S.B. EXIT TO I-30 W.B.

STA. 93+86.87
BEGIN I-430 S.B. TO I-30 W.B. RAMP CONST.

I-430 S.B. TO I-30 W.B. RAMP
PI = 95+28.32
Δ = 13°35'03"LT.
D = 3°00'00"
T = 227.47'
L = 452.80'
PC = 93+00.85
PT = 97+53.65
MATCH EXISTING

STA. 192+24.98
END I-30 W.B. ACCEL. CONST.

I-430 S.B. TO I-30 W.B. RAMP
PI = 106+18.97
Δ = 17°12'22"LT.
D = 3°30'00"
T = 247.67'
L = 491.60'
PC = 103+71.30
PT = 108+62.91
MATCH EXISTING

NORTH FRONTAGE RD.
PI = 143+25.51
Δ = 20°29'14"RT.
D = 13°00'00"
T = 79.65'
L = 157.59'
PC = 142+45.86
PT = 144+03.45
Ls = 250'
eMAX = 0.100'/'

I-430 S.B. TO I-30 W.B. RAMP
PI = 100+77.64
Δ = 34°20'59"LT.
D = 6°00'00"
T = 295.14'
L = 572.50'
PC = 97+82.50
PT = 103+55.00
MATCH EXISTING

NORTH FRONTAGE RD.
PI = 154+42.66
Δ = 64°51'14"LT.
D = 13°00'00"
T = 279.99'
L = 498.88'
PC = 151+62.67
PT = 156+61.55
Ls = 250'
eMAX = 0.100'/'

STA. 158+49.05
END N. FRONTAGE RD. CONST.

SURVEY CONTROL DETAILS

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	59	177

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

I-30 W.B. EXIT RAMP
PI = 227+03.92
Δ = 6°09'17"RT.
D = 3°00'00"
T = 102.68'
L = 205.16'
PC = 226+01.24
PT = 228+06.40
NO SUPER

I-30 W.B. EXIT RAMP
PI = 231+02.89
Δ = 5°42'30"LT.
D = 3°00'00"
T = 95.22'
L = 190.28'
PC = 230+07.67
PT = 231+97.95
NO SUPER

STA. 224+79.06
BEGIN I-30 W.B. EXIT RAMP CONST.

STA. 240+00
END I-30 W.B. EXIT RAMP CONST.

C.L. N. FRONTAGE RD.

160 219 220 225 230 235 240 245

P.I. 161+16.99 B008
P.I. 220+05.32 B009
P.I. 221+42.63 B014
P.I. 222+45.23 B015
P.I. 223+04.84 B016
P.I. 225+48.77 B017
P.I. 227+03.92 B018
P.C. 226+01.24 B019
P.T. 228+06.40 B020
P.C. 230+07.67 B021
P.T. 231+97.95 B006
P.I. 231+02.89 B007
P.I. 233+99.84 B103
P.I. 235+17.33 B104
B105
B013

N 67°06'51" E 216.76'
N 65°53'52" E 175.84'
N 65°53'52" E 137.31' 92.84'
N 64°12'23" E 102.60'
N 63°42'23" E 59.61'
N 65°53'13" E 243.93'
N 65°53'13" E 52.47'
N 65°53'13" E 102.68'
N 72°02'30" E 102.68'
N 72°02'30" E 201.27'
N 72°02'30" E 95.22'
N 66°20'00" E 95.22'
N 66°20'00" E 201.89'
N 66°20'00" E 117.48'
N 66°20'00" E 517.52'
N 66°20'00" E 4711.31'

C.L. I-30

N

6/18/2014

R061332.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	60	177

(2) SOIL LOG

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
102+00	34	39	45.20	92	24	12.40	27LT(A)	0-5	22	6	A-4(0)	BROWN
102+00	34	39	45.20	91	24	12.30	10LT(A)	0-5	26	8	A-4(0)	BROWN
103+00	34	39	51.10	92	24	0.50	32LT(B)	0-5	47	24	A-7-6(16)	BROWN
103+00	34	39	51.00	92	24	0.60	16LT(B)	0-5	52	29	A-7-6(20)	BR/GR
103+00	34	39	50.90	92	24	0.70	5LT(B)	0-5	52	29	A-7-6(20)	BR/GR
110+00	34	39	28.20	92	24	28.60	CL(C)	0-5	23	7	A-4(2)	BR/GR
110+00	34	39	28.30	92	24	28.80	25LT(C)	0-5	35	15	A-6(10)	BR/GR
110+00	34	39	28.20	92	24	28.70	8LT(C)	0-5	ND	NP	A-4(0)	GRAY
111+00	34	39	55.70	92	24	9.30	CL(F)	0-5	38	19	A-6(7)	BR/GR
111+00	34	39	52.50	92	24	14.30	91LT(E)	0-5	25	10	A-4(1)	BR/GR
111+00	34	39	52.60	92	24	14.10	65LT(E)	0-5	32	14	A-6(4)	BR/GR
112+00	34	39	54.00	92	24	18.40	CL(B)	0-1.5Z	ND	NP	A-1-B(0)	BR/GR
115+00	34	39	57.30	92	24	16.50	89LT(E)	0-5	22	7	A-4(1)	BR/GR
115+00	34	39	57.30	92	24	16.20	65LT(E)	0-4Z	23	6	A-4(1)	BR/GR
115+00	34	39	57.30	92	24	16.50	89LT	0-5	23	6	A-4(1)	BR/GR
118+00	34	39	33.90	92	24	22.40	25LT(C)	0-5	26	10	A-4(4)	BR/GR
118+00	34	39	33.80	92	24	22.30	12LT(C)	0-5	27	10	A-4(3)	BR/GR
118+00	34	39	33.70	92	24	22.20	5LT(C)	0-5	25	9	A-4(2)	BR/GR
120+00	34	4	2.10	92	24	18.30	110LT(E)	0-3.5Z	24	5	A-4(0)	BR/GR
122+00	34	40	4.20	92	24	17.40	90RT(E)	0-5	24	7	A-4(0)	BR/GR
122+00	34	40	4.10	92	24	17.70	60RT(E)	0-5	23	6	A-4(0)	BR/GR
125+00	34	40	6.60	92	24	20.40	65LT(E)	0-3.5Z	28	7	A-4(2)	BR/GR
125+00	34	40	6.60	92	24	20.50	85LT(E)	0-1.5Z	21	5	A-2-4(0)	BR/GR
126+00	34	39	40.20	92	24	16.60	27LT(C)	0-5	23	3	A-4(0)	BR/GR
126+00	34	39	40.10	92	24	16.40	16LT(C)	0-5	25	5	A-2-4(0)	BR/GR
126+00	34	39	40.10	92	24	16.30	5LT(C)	0-5	21	3	A-4(0)	BR/GR
130+00	34	40	11.30	92	24	22.60	84LT(E)	0-4.0Z	ND	NP	A-4(0)	BR/GR
130+00	34	40	11.30	92	24	22.40	65LT(E)	0-5	20	4	A-4(0)	BR/GR
130+00	34	40	11.80	92	24	21.00	78RT(E)	0-5	21	3	A-4(0)	BR/GR
130+00	34	40	11.70	92	24	21.10	60RT(E)	0-5	19	2	A-4(0)	BR/GR
133+00	34	39	46.90	92	24	17.60	5LT(C)	0-2.0Z	ND	NP	A-2-4(0)	BR/GR
133+00	34	39	46.80	92	24	17.90	31LT(C)	0-5	21	3	A-4(0)	BR/GR
133+00	34	39	46.80	92	24	17.70	16LT(C)	0-2.0Z	20	2	A-4(0)	BR/GR
229+00	34	39	55.70	92	23	38.10	CL(D)	0-5	ND	NP	A-4(0)	BR/GR
229+00	34	39	56.00	92	23	38.30	25RT(D)	0-5	18	2	A-4(0)	BR/GR
229+00	34	39	55.60	92	23	38.00	10LT(D)	0-5	17	4	A-4(0)	BR/GR

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

Z- AUGER REFUSAL

NP - NON-PLASTIC

ND - NOT DETERMINABLE

NOTE: A=I-430 S.B. EXIT RAMP, B=I-430 N.B. ENTRANCE RAMP, C= N. FRONTAGE ROAD, D=I-30 W.B. EXIT RAMP, F=I-430 S.B. TO N. FRONTAGE ROAD EXIT RAMP.

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	61	177

(2) INTERCHANGE LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

C.L. I-430

C.L. I-430 S.B. EXIT TO N. FRONTAGE RD.

C.L. N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP

C.L. I-430 S.B. EXIT TO I-30 W.B.

C.L. N. FRONTAGE RD.

C.L. I-30 W.B. EXIT RAMP

C.L. I-30

INTERCHANGE LAYOUT - I-430 & I-30

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
7-7-14				JOB NO.	061332		62	177

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-8-14

NOTE: RESTRAINING CONDITION FROM STA. 155+24.60 TO STA. 161+05.08 SEE THE SPECIAL PROVISION "RESTRAINING CONDITIONS".

BEGIN C/A

PROPOSED CONST. LIMITS (PAVING)

EXISTING RIGHT OF WAY

PROPOSED ROW

P.T. 156+61.54

P.C. 159+00.24

P.I. 161+16.99

P.I. 220+05.32

P.I. 221+42.63

536' TRANSITION

+79.06

P.I. 154+42.66

P.T. 211+89.62

P.I. 222+45.23

P.I. 223+04.84

STA. 224+79.06
BEGIN I-30 W.B. EXIT RAMP CONST.

N 68°11'25" E
N 67°06'51" E
N 65°53'52" E
N 65°53'52" E
N 64°12'23" E
N 63°42'23" E
N 64°32'13" E
N 65°53'13" E

CEMETERY

POND

CONCRETE PARKING

PAVED PARKING

PARKING

CURB

CONCRETE

I-30 W.B. EXIT RAMP

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

340 330 320 310 300 290 280 270

210+00 211+00 212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+00

7/7/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	63	177

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

I-30 W.B. EXIT RAMP
PI = 227+03.92
Δ = 6°09'17"RT.
D = 3°00'00"
T = 102.68'
L = 205.16'
PC = 226+01.24
PT = 228+06.40
NO SUPER

I-30 W.B. EXIT RAMP
PI = 231+02.89
Δ = 5°42'30"LT.
D = 3°00'00"
T = 95.22'
L = 190.28'
PC = 230+07.67
PT = 231+97.95
NO SUPER

STA. 227+87 - IN PLACE
24" X 40' C.M. PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 228+46 - IN PLACE
18" X 79' C.M. PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 228+94 - IN PLACE
18" X 16' C.M. PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 232+35 - IN PLACE
24" X 75' C.M. PIPE CULV'T.
LT. SIDE DRAIN
RETAIN

STA. 234+36 - IN PLACE
12' X 6' X 30' R.C. BOX CULV'T. (WESTERN BARREL)
DBL. 8' X 6' X 30' R.C. BOX CULV'T. (CENTER BARRELS)
DBL. 12' X 6' X 30' R.C. BOX CULV'T. (EASTERN BARRELS)
(34°29'05" LT. FWD. SKEW)
RETAIN

STA. 234+76 - IN PLACE
TYPE 'TM' DROP INLET
RETAIN & MODIFY DROP INLET

STA. 227+80.73 - INSTALL
CRASH CUSHION = 1EACH

STA. 224+79.70 TO STA. 229+78.92 - CONSTRUCT
CONCRETE ISLAND (CURB FACE TYPE B) = 303 SQ. YD.

N

P.I. 225+48.77
P.I. 227+03.92
P.C. 230+07.67
P.T. 231+97.95
P.I. 233+99.84
P.C. 226+01.24
P.T. 228+06.40
NOSE +86.65 64.24'
P.I. 231+02.89
P.I. 235+17.33

N 65°53'13" E
N 72°02'30" E
N 66°20'00" E

PAVED PARKING
CONC PARKING
CURB & GUTTER
PAVED SHOULDER
DIVIDER WALL
C.L. I-30
C.L. I-30 W.B. EXIT RAMP
BM EL=900 POINTS SW CR 32d

STA. 240+00
END I-30 W.B. EXIT RAMP CONST.

PARKING

STA.	STA.	SIDE	MEDIAN TYPE B	MEDIAN TYPE C	MEDIAN TYPE SP-1
230+75.00	231+31.00	LT.	56.00'		
231+31.00	232+32.00	LT.			100.00'
232+49.00	233+49.00	LT.			100.00'
233+49.00	239+78.00	LT.	629.00'		
239+78.00	240+00.00	LT.		22.00'	

I-30 W.B. EXIT RAMP

225+48.40 292.77
226+50.00 291.40
227+25.00 290.38
228+00.00 288.88
STA. 228+86.65 7.5' LT. OF RAMP CL. -
STA. 228+86.65 64.24' RT. OF CL. I-30 287.14

-1.35%
-2.01%
K=229.56
VC=150'
e=-0.12'

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

340 330 320 310 300 290 280 270

225+00 226+00 227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00

R061332.DGN 6/18/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	64	177

(2) PLAN AND PROFILE SHEETS

STA. 111+12 - IN PLACE
D.I. W./ 42" X 10' R.C. PIPE CULV'T.
REMOVE D.I. AND EXTEND R.C. PIPE 23' LT.
CONNECT TO D.I. @ STA. 111+36 LT.
USE 25' R.C. PIPE CULV'T. (CL. III)

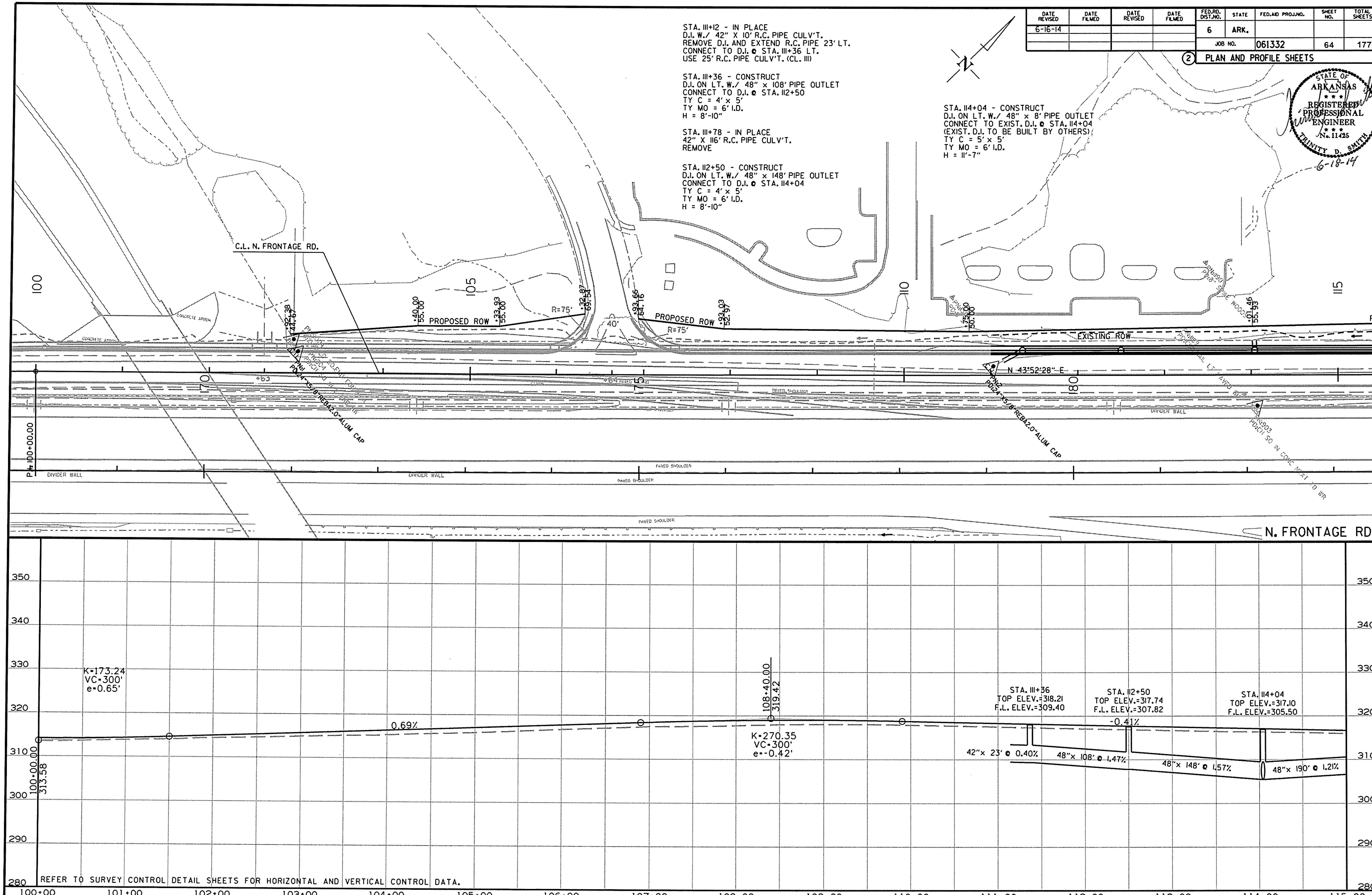
STA. 111+36 - CONSTRUCT
D.I. ON LT. W./ 48" x 108' PIPE OUTLET
CONNECT TO D.I. @ STA. 112+50
TY C = 4' x 5'
TY MO = 6' I.D.
H = 8'-10"

STA. 111+78 - IN PLACE
42" X 116' R.C. PIPE CULV'T.
REMOVE

STA. 112+50 - CONSTRUCT
D.I. ON LT. W./ 48" x 148' PIPE OUTLET
CONNECT TO D.I. @ STA. 114+04
TY C = 4' x 5'
TY MO = 6' I.D.
H = 8'-10"

STA. 114+04 - CONSTRUCT
D.I. ON LT. W./ 48" x 8' PIPE OUTLET
CONNECT TO EXIST. D.I. @ STA. 114+04
(EXIST. D.I. TO BE BUILT BY OTHERS)
TY C = 5' x 5'
TY MO = 6' I.D.
H = 11'-7"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 6-18-14



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

R061332.DGN 6/18/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	65	177

2 PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

STA. 116+00 - CONSTRUCT
D.I. ON LT. W./ 48" x 190' PIPE OUTLET
CONNECT TO D.I. @ STA. 114+04
TY C = 4' x 5'
TY MO = 6' I.D.
H = 8'-6"

STA. 116+60 - CONSTRUCT
D.I. ON LT. W./ 4' EXTENSION
& 48" x 54' PIPE OUTLET
CONNECT TO D.I. @ STA. 116+00
TY C = 4' x 5'
TY MO = 6' I.D.
H = 8'-0"

STA. 117+10 - CONSTRUCT
D.I. ON LT. W./ 8' EXTENSION
& 48" x 44' PIPE OUTLET
CONNECT TO D.I. @ STA. 116+60
TY C = 4' x 5'
TY MO = 6' I.D.
H = 7'-9"

STA. 117+60 - CONSTRUCT
D.I. ON LT. W./ 4' EXTENSION
& 48" x 44' PIPE OUTLET
CONNECT TO D.I. @ STA. 117+10
TY C = 4' x 5'
TY MO = 6' I.D.
H = 7'-9"

STA. 117+97 - CONSTRUCT
D.I. ON LT. W./ 4' EXTENSION
& 48" x 31' PIPE OUTLET
CONNECT TO D.I. @ STA. 117+60
TY C = 4' x 5'
TY MO = 6' I.D.
H = 7'-11"

STA. 117+98 - IN PLACE
TYPE 'R' DROP INLET ON RT.
W/ 36" X 189' R.C. PIPE INLET &
36" X 43' R.C. PIPE OUTLET
W/ F.E.S. LT. & RT.
MODIFY DROP INLET AND ADJUST TO GRADE
USING TYPE ST AND
RETAIN AND EXTEND R.C. PIPE 6' LT.
CONNECT TO D.I. @ STA. 117+97

STA. 119+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 98' PIPE OUTLET
CONNECT TO D.I. @ STA. 117+97
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"

STA. 120+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 96' PIPE OUTLET
CONNECT TO D.I. @ STA. 119+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"

STA. 121+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 96' PIPE OUTLET
CONNECT TO D.I. @ STA. 120+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"

STA. 122+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 96' PIPE OUTLET
CONNECT TO D.I. @ STA. 121+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"

STA. 123+17 - IN PLACE
24" X 228' R.C. PIPE CULV'T.
W/ F.E.S. LT. & RT.
RETAIN AND EXTEND 4' LT.
TO A COMPLETED LENGTH OF 44'
CONNECT TO D.I. @ STA. 123+17

STA. 123+19 - CONSTRUCT
D.I. ON LT. W./ 24" x 26' R.C. STUB OUTLET
W/ F.E.S. LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 9'-6"

STA. 124+00 - CONSTRUCT
TYPE 'RM' DROP INLET 30' RT.
W/ 24" X 56' R.C. PIPE OUTLET (CL. III)
CONNECT TO D.I. @ STA. 124+00 LT.
(USE TYPE 3 BEDDING)
TY RM = 4' x 3'
H = 3'-0"

STA. 124+00 - CONSTRUCT
D.I. ON LT. W./ 24" x 73' PIPE OUTLET
CONNECT TO D.I. @ STA. 123+19
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-11"

STA. 124+50 - CONSTRUCT
D.I. ON LT. W./ 24" x 44' PIPE OUTLET
CONNECT TO D.I. @ STA. 124+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"

STA. 125+40 - CONSTRUCT
D.I. ON LT. W./ 24" x 83' PIPE OUTLET
CONNECT TO D.I. @ STA. 124+50
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"

STA. 126+00 - CONSTRUCT
D.I. ON LT. W./ 24" x 54' PIPE OUTLET
CONNECT TO D.I. @ STA. 125+40
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"

STA. 121+65 - CONSTRUCT
APPR. ON LT. = 15 CU.YD.

NORTH FRONTAGE RD.
PI = 127+14.06
Δ = 65°53'56"LT.
D = 8°00'00"
T = 464.21'
L = 823.74'
PC = 122+49.86
PT = 130+73.59
Ls = 250'
eMAX = 0.084'/'

STA. 126+77 - CONSTRUCT
D.I. ON LT. W./ 24" x 18' R.C. STUB OUTLET
W./ F.E.S. LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6'-9"

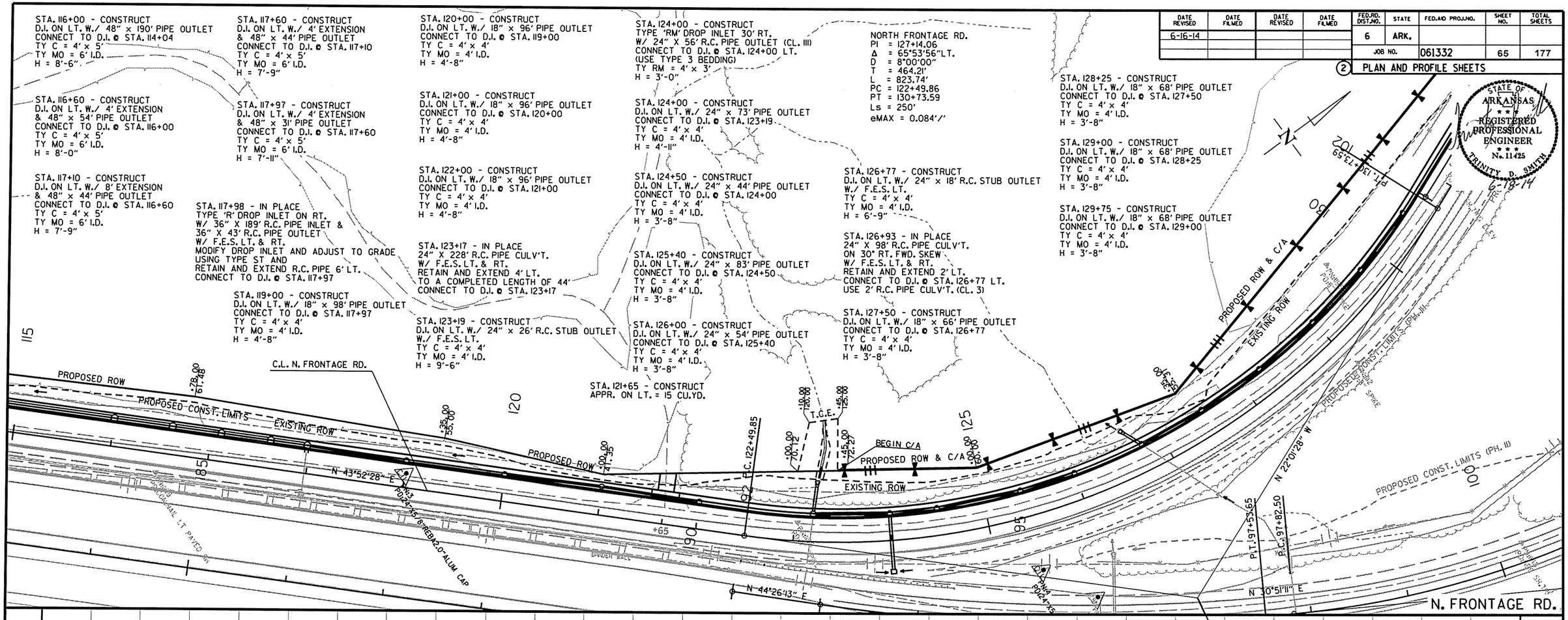
STA. 126+93 - IN PLACE
24" X 98' R.C. PIPE CULV'T.
ON 30° RT. FWD. SKEW
W/ F.E.S. LT. & RT.
RETAIN AND EXTEND 2' LT.
CONNECT TO D.I. @ STA. 126+77 LT.
USE 2' R.C. PIPE CULV'T. (CL. 3)

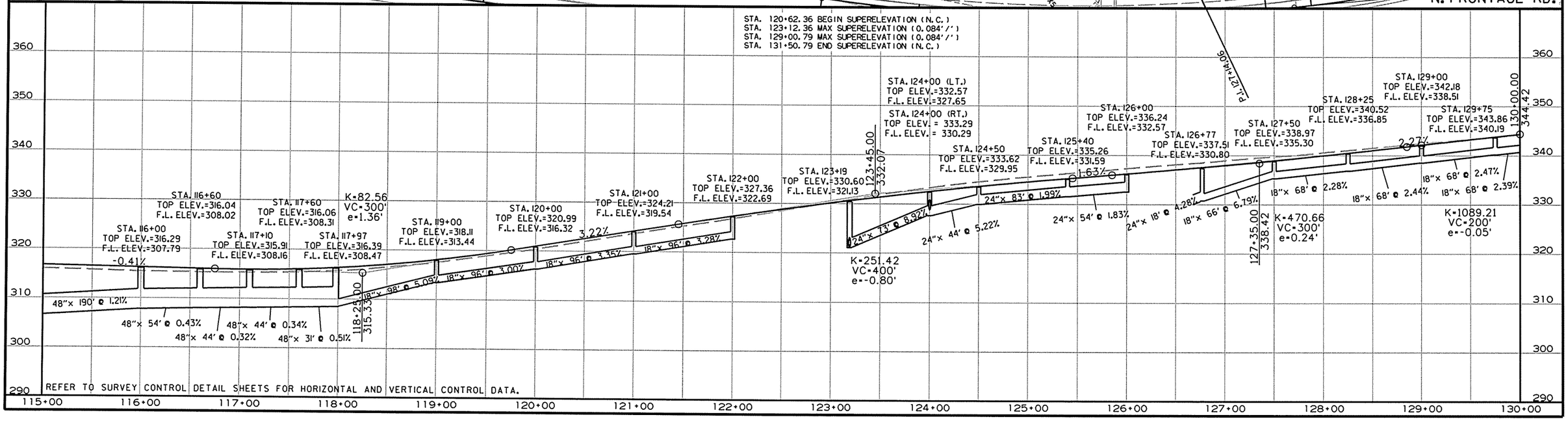
STA. 127+50 - CONSTRUCT
D.I. ON LT. W./ 18" x 66' PIPE OUTLET
CONNECT TO D.I. @ STA. 126+77
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"

STA. 128+25 - CONSTRUCT
D.I. ON LT. W./ 18" x 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 127+50
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"

STA. 129+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 128+25
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"

STA. 129+75 - CONSTRUCT
D.I. ON LT. W./ 18" x 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 129+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"





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

6/18/2014

R061332.DGN

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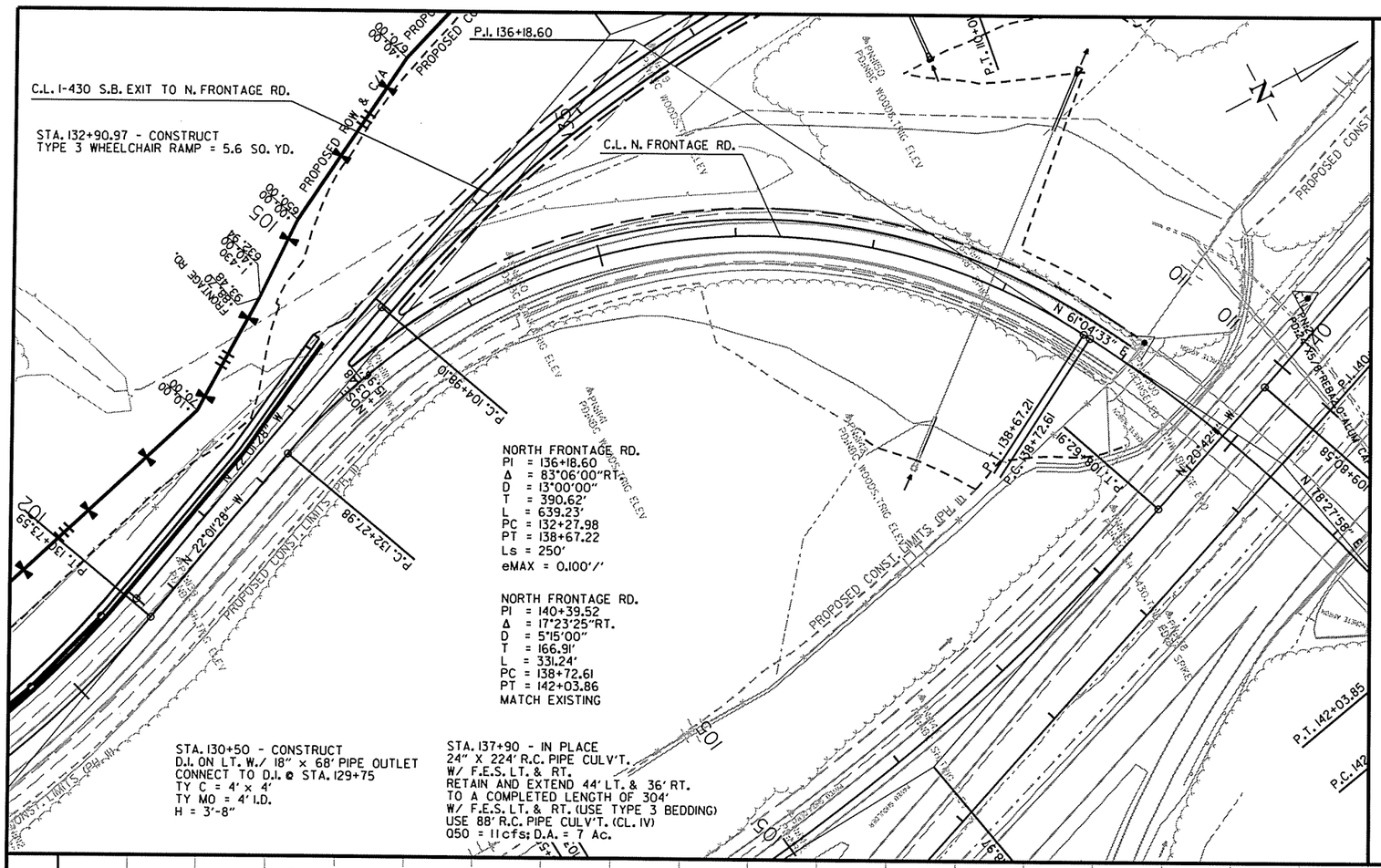
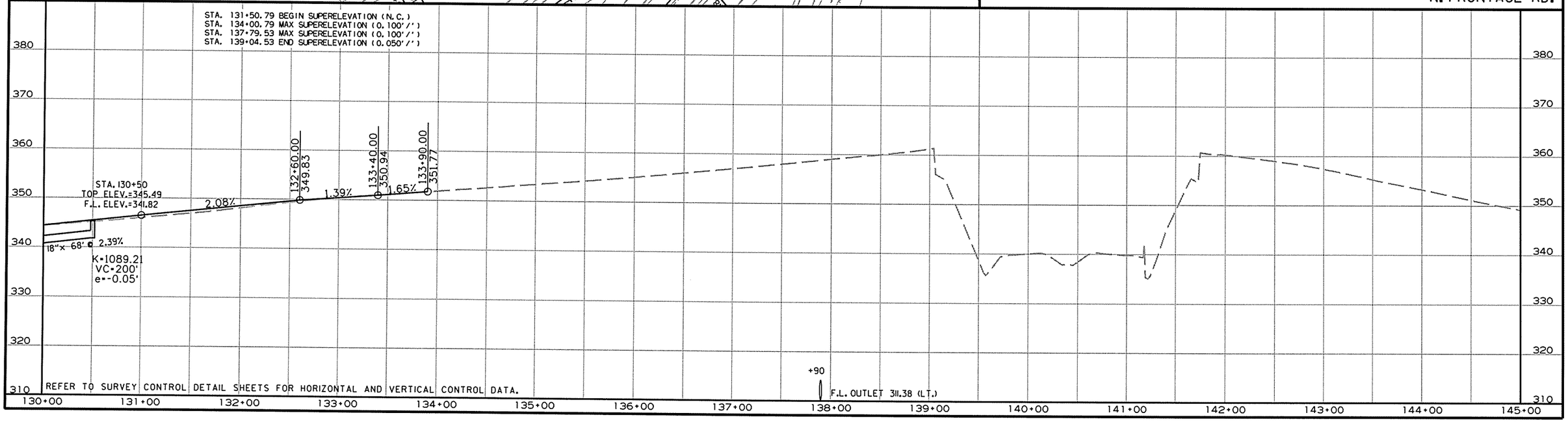
6-16-14				6	ARK.			
				JOB NO.		061332	66	177
				(2) PLAN AND PROFILE SHEETS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14





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6/18/2014
R061332.DGN

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6-16-14				6	ARK.			
				JOB NO.		061332	67	177

(2) PLAN AND PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

C.L. N. FRONTAGE RD.

P.T. 144+03.45

P.I. 143+25.50

P.I. 110+72.91

P.C. 148+34.96

P.T. 150+97.20

N 63°29'55" W

N 35°29'10" W

PROPOSED CONST. LIMITS (PH. II)

S 46°57'21" E

PROPOSED CONST. LIMITS

EXIST. ROW & PROPOSED C/A

P.C. 151+29.67

P.T. 141+70.09

PROPOSED ROW & C/A

P.C. 108+34.71

P.T. 113+01.58

C.L. N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP

STA. 106+80 - CONSTRUCT
TYPE 'RM' DROP INLET 36' LT.
W/ 24" X 72' R.C. PIPE OUTLET (CL. III)
W/ F.E.S. RT. (USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 2'-11")

I-430 N.B. ENTRANCE RAMP
PI = 110+72.91
Δ = 28°00'44"RT.
D = 6°00'00"
T = 238.20'
L = 466.87'
PC = 108+34.71
PT = 113+01.58
Ls = 350'
eMAX = 0.092'/'

STA. 105+55.85
BEGIN I-430 N.B. ENT. RAMP CONST.

N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP

STA. 105+72.21 BEGIN SUPERELEVATION (N.C.)
STA. 109+22.21 MAX SUPERELEVATION (0.092'/')
STA. 112+14.08 MAX SUPERELEVATION (0.092'/')
STA. 115+64.08 END SUPERELEVAITON (N.C.)

STA. 105+19.85 7.5' LT. C.L. RAMP
STA. 148+08.86 26.62' LT. C.L. N. FRONTAGE RD.
105+25.00 339.67
STA. 339.49
4.0%

108+50.00 350.72

+80 TOP D.I. 339.41
1.77% RT.DT.GR.
2.73% RT.DT.GR.
F.L. D.I. 336.49
F.L. OUTLET 336.48 (RT.)
-80.00 RT.DT.GR. RT.ELEV. 334.71
-80.00 RT.DT.GR. RT.ELEV. 336.48
-00.00 RT.DT.GR. RT.ELEV. 339.76
K-87.85
VC-650'
e=-6.01'

111+75.00 337.73
-4.00%
-3.47% RT.DT.GR.
113+98.00 328.81
K-227.52
VC-650'
e=2.32'

360 350 340 330 320 310 300 290

100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00

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R061332.DGN 6/18/2014

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6-16-14				6	ARK.			
				JOB NO.		061332	68	177

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

PROPOSED ROW & C/A
P.C. 121+34.42
P.T. 123+84.70
90.00
149.54
C.L. I-430 S.B. EXIT TO N. FRONTAGE RD.
PROPOSED CONST. LIMITS
N 14°17'00" W
N 20°01'25" W
P.I. 116+74.96
P.I. 115+99.53
N 19°59'30" W
NOSE +50.78 83.80'
P.I. 121+46.02
NOSE +41.34 57.84'
P.I. 122+89.54
P.I. 129+51.89
N 35°29'10" W
PROPOSED CONST. LIMITS (PH. II)
PROPOSED ROW & C/A
60.00 215.00'
75.00 288.09'
P.C. 118+86.19
PROPOSED ROW & C/A
20.00 175.00'
60.00 150.96'
+41.34
P.T. 124+02.67
700' ACCELERATION LANE
PROPOSED CONST. LIMITS (PH. I)
300' LANE TAPER
C.L. I-430
C.L. N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP

STA. 117+30 - CONSTRUCT
24" X 90' R.C. PIPE CULV'T. (CL. III)
W/ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 = 5 cfs; D.A. = 3 Ac.

I-430 N.B. ENTRANCE RAMP
PI = 121+46.02
Δ = 15°29'40"RT.
D = 3°00'00"
T = 259.83'
L = 516.49'
PC = 118+86.19
PT = 124+02.67
Ls = 300'
eMAX = 0.057'/'

STA. 122+41.34
END I-430 N.B. ENT. RAMP CONST.

N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP

STA. 116+61.19 BEGIN SUPERELEVATION (N.C.)
STA. 119+61.19 MAX SUPERELEVATION (0.057'/')
STA. 123+27.67 MAX SUPERELEVATION (0.057'/')
STA. 126+27.67 END SUPERELEVATION (N.C.)

STA 122+41.34 7.5'LT. C.L. RAMP
STA 122+41.34 57.84' RT. C.L. I-430
309.94

K=227.52
VC=650'
e=2.32'

120+48.00
312.12

117+23.00
315.82

+30

-3.47% RT.DT.GR.
-4.68% LT.DT.GR.
-0.92% LT.DT.GR.
-5.04% RT.DT.GR.
-1.14%
-1.80% RT.DT.GR.
3.37% RT.DT.GR.

30.00 LT.DT.GR. LT. ELEV. 314.29
30.00 LT.DT.GR. 30.00 RT.DT.GR. RT.ELEV. 307.46 LT.ELEV. 308.21
30.00 RT.DT.GR. RT.ELEV. 304.42
50.00 LT.DT.GR. LT. ELEV. 309.31
00.00 RT.DT.GR. RT.ELEV. 301.87
00.00 RT.DT.GR. RT.ELEV. 298.27
41.34 RT.DT.GR. RT.ELEV. 303.04

F.L. INLET 308.21 (LT.)
F.L. OUTLET 307.46 (RT.)

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

340 330 320 310 300 290 280 270

115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

R061332.DGN 6/18/2014

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6-16-14				6	ARK.			
				JOB NO.		061332	69	177

(2) PLAN AND PLOFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

STA. 109+50 - CONSTRUCT
24" X 222' R.C. PIPE CULV'T. (CL. V)
W/ F.E.S. LT. & RT.
(USE TYPE III BEDDING)
Q50= 2 cfs; D.A.= 1Ac.

STA. 112+66 - CONSTRUCT
24" X 218' R.C. PIPE CULV'T. (CL. V)
W/ F.E.S. LT. & RT.
(USE TYPE III BEDDING)
Q50= 8 cfs; D.A.= 5 Ac.

I-430 SB. EXIT RAMP
PI = 116+74.96
Δ = 22°28'54"LT.
D = 5°00'00"
T = 227.75'
L = 449.63'
PC = 114+47.21
PT = 118+96.85
Ls = 300'
eMAX = 0.083'/'

I-430 S.B. EXIT RAMP
PI = 107+55.96
Δ = 30°13'22"RT.
D = 6°00'00"
T = 257.86'
L = 503.71'
PC = 104+98.10
PT = 110+01.81
Ls = 350'
eMAX = 0.092'/'

STA. 104+51.31
BEGIN I-430 S.B. EXIT RAMP CONST.

STA. 104+51.31 7.5' RT. C.L. RAMP -
STA. 133+03.48 15.68' LT. C.L. N. FRONTAGE RD.

C.L. I-430 S.B. EXIT TO N. FRONTAGE RD.

C.L. N. FRONTAGE RD.

I-430 S.B. EXIT TO N. FRONTAGE RD.

STA. 105+05.32 BEGIN SUPERELEVATION (0.059'/')
STA. 106+09.44 MAX SUPERELEVATION (0.092'/')
STA. 108+86.43 MAX SUPERELEVATION (0.092'/')
STA. 112+36.43 END SUPERELEVATION (-0.02'/')

STA. 112+36.43 BEGIN SUPERELEVATION (-0.020'/')
STA. 115+36.43 MAX SUPERELEVATION (0.083'/')
STA. 116+98.03 MAX SUPERELEVATION (0.083'/')
STA. 119+98.03 END SUPERELEVATION (-0.020'/')

STA. 104+51.31
STA. 133+03.48
351.50

105+25.00
352.52

107+50.00
355.65

109+75.00
347.06

1.39%

K=86.41
VC=450'
e=-2.93'

-3.82%

+50
F.L. INLET 324.21(RT.)
F.L. OUTLET 309.67 (L.T.)

+66
-2.03% RT.DT.GR.

-00.00 RT.DT.GR.
RT.ELEV. 309.37

-66.00 RT.DT.GR.
RT.ELEV. 306.00

F.L. INLET 306.00 (RT.)
F.L. OUTLET 303.41(LT.)

ELEV.-327.01

360 350 340 330 320 310 300 290

100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00

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6-16-14				6	ARK.			
				JOB NO.		061332	70	177

(2) PLAN AND PLOT SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-18-14

EARTHWORK

I-430 S.B. EXIT RAMP
PI = 116+74.96
Δ = 22°28'54"LT.
D = 5°00'00"
T = 227.75'
L = 449.63'
PC = 114+47.21
PT = 118+96.85
Ls = 300'
eMAX = 0.083'/'

STA. 117+50 - CONSTRUCT
TYPE 'RM' DROP INLET ON RT.
W/ 24" X 94' R.C. PIPE OUTLET ON LT. (CL. III)
W/ F.E.S. LT. (USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 2'-11")

I-430 S.B. EXIT RAMP
PI = 122+89.64
D = 5°42'30"LT.
D = 3°00'00"
T = 95.22'
L = 190.28'
PC = 121+94.42
PT = 123+84.70
NO SUPER

STA. 120+14.78
END I-430 S.B. EXIT RAMP CONST.

PROPOSED ROW & C/A
PROPOSED CONST. LIMITS
C.L. I-430 S.B. EXIT TO N. FRONTAGE RD.
C.L. I-430
PROPOSED CONST. LIMITS (PH. II)
C.L. N. FRONTAGE RD. TO I-430 N.B. ENTRANCE RAMP
I-430 S.B. EXIT TO N. FRONTAGE RD.

P.I. 114+47.21
P.I. 116+74.96
P.I. 115+99.53
P.I. 118+96.85
P.C. 121+94.42
P.I. 122+89.64
P.I. 123+84.70
P.I. 124+02.67
P.I. 129+51.99

N 20°01'25" W
N 19°59'30" W
N 14°11'00" W
N 19°33'30" W

PRNH20 PO24"x5/8"REBAR 4.0'-ALUM CAP
PRNH19 PO24"x5/8"REBAR 4.0'-ALUM CAP
PRNH18 PO24"x5/8"REBAR 4.0'-ALUM CAP

NOSE +50.18 83.80'
NOSE +41.34 57.84'

STA. 112+36.43 BEGIN SUPERELEVATION (-0.020'/')
STA. 115+36.43 MAX SUPERELEVATION (0.083'/')
STA. 116+98.03 MAX SUPERELEVATION (0.083'/')
STA. 119+98.03 END SUPERELEVATION (-0.020'/')

ELEV.-327.01
-3.82%
116+00.00 323.19
-1.71% RT.DT.GR.
+50 TOP D.I. 312.99
118+25.00 314.60
-0.76% LT.DT.GR.
F.L. D.I. 309.88
F.L. OUTLET 305.00 (LT.)
-2.66% LT.DT.GR.
-1.47%
STA. 120+50.78 311.27
120+50.00 311.28
-00.00 LT.DT.GR. LT.ELEV. 306.89
-00.00 RT.DT.GR. RT.ELEV. 315.56
-50.00 RT.DT.GR. -50.00 LT.DT.GR. LT.ELEV. 305.00 RT.ELEV. 312.99
-50.78 LT.DT.GR. LT.ELEV. 297.00
-50.78 7.5' RT. C.L. RAMP - 83.80' LT. C.L. I-430

K-192.01
VC-450'
e-1.32'

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115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

280 290 300 310 320 330 340 350

R061332.DGN 6/18/2014

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6-16-14				6	ARK.			
				JOB NO.		061332	71	177

(2) SIGNING SUMMARY OF QUANTITIES

SIGNING SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	TOTAL	UNIT
202	REMOVAL AND DISPOSAL OF OVERHEAD SIGN STRUCTURE	4	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-030-60-53)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-030-60-49)	1	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-030-60-42A)	2	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-030-60-42B)	2	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-430-60-25)	3	EACH
725	GUIDE SIGN - ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	835	SQ. FT.
725	GUIDE SIGN - OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	2316	SQ. FT.
726	STANDARD SIGNS	867	SQ. FT.
727	EXIT NUMBER PANEL (TYPE A)	277	SQ. FT.
727	EXIT NUMBER PANEL (TYPE C)	35	SQ. FT.
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G-1)	36	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G-2)	17	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G2-1)	4	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G2-5)	1	EACH
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	3862	POUND
SP	FLASHING BEACON ASSEMBLY, SHOULDER MT., MONO POLE, SOLAR	1	EACH

NOTES:

ALL EXISTING GUIDE SIGNS SHALL BE MAINTAINED IN SUCH A MANNER THAT THE SIGNS ARE FULLY VISIBLE, INTACT, AND ERECT FOR THE DURATION OF THE PROJECT, AND SHALL BE REMOVED WHEN THEIR USE IS NO LONGER REQUIRED. REMOVAL AND DISPOSAL OF SIGNS, SUPPORTS, AND FOUNDATIONS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

THE EXISTING SIGNS AND SUPPORTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE EXISTING FOOTINGS SHALL BE REMOVED AND THE HOLES FILLED WITH A SUITABLE MATERIAL AND COMPACTED.

EXISTING LOGOS WILL BE RELOCATED TO THE NEW LOGO SIGN BY THE CONTRACTOR. THE LOGO INSTALLATION SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

NOTE:
BREAKAWAY SIGN SUPPORT TOTAL IS CALCULATED BY TAKING THE LENGTH OF H1, H2, H3, AND THE STUB POST AND MULTIPLYING BY THE BEAM WEIGHT (LBS).

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
J. TONY SULLIVAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	72	177

(2) SIGNING QUANTITIES

OVERHEAD SIGNING QUANTITIES

SIGN NO./ LOCATION	STRUCTURE TYPE: INSTALL SIGN STRUCTURE (EACH) ST	OC	OH	BM	MAINTAIN EXISTING SIGN STRUCTURE ST	OC	OH	BM	REMOVAL & DISPOSAL OF OVERHEAD SIGN STRUCTURE (EACH)	GUIDE SIGN LENGTH LIN. FT.	HEIGTH LIN. FT.	SQ. FT.	LEGEND	EXIT NUMBER PANEL TYPE A SQ. FT.	B SQ. FT.	C SQ. FT.
OH-030-60-43							1									
OH-030-60-211+10WB-B										18.50	10.50	194.25				
OH-030-60-211+10WB-A										13.50	11.50	155.25	129	23.57		
OH-030-60-44									1							
OC-030-60-49									1							
OH-030-60-53			1						1							
OH-030-60-294+00WB-A										15.00	12.50	187.50	130	23.57		
OH-030-60-294+00WB-B										18.00	8.00	144.00	128	23.57		
OH-030-60-294+00WB-C										13.50	10.50	141.75	129	23.57		
BM-030-60-42A (MAIN LANES)				2					1							
BM-030-60-262+00WB-A										18.50	8.00	148.00	128	23.57		
BM-030-60-262+00WB-B										13.50	10.50	141.75	129	23.57		
BM-030-60-42B (SERVICE ROAD)				2												
BM-030-60-262+00WB-SR-A										11.00	9.50	104.50				
BM-030-60-262+00WB-SR-B										10.00	9.50	95.00				
OH-030-60-49			1													
OH-430-60-232+40WB-A										18.50	8.00	148.00	128	23.57		
OH-030-60-232+40WB-B										13.50	10.50	141.75	129	23.57		
OH-030-60-232+40WB-C										18.50	10.50	194.25				
BM-430-60-25				3												
BM-430-60-227+50SB-A										13.50	11.50	155.25	1	17.50		
BM-430-60-227+50SB-B										18.50	8.00	148.00	128	23.57		
BM-430-60-227+50SB-C										14.00	15.50	217.00	129A-B			35.00
TOTALS:			**2**	**7**			**1**		**4**			**2316.25**		**229.63**		**35.00**

MAIN LANES ROADSIDE MOUNTED SIGNING QUANTITIES

SIGN NO./ LOCATION	I-BEAM STRUCTURE TYPE G1	G2	G3	GUIDE SIGN DEMOUNTABLE LEGEND LENGTH LIN. FT.	HEIGHT LIN. FT.	SQ. FT.	I-BEAM BREAKAWAY SIGN SUPPORT: STEEL SECT. A-572 BEAM	LBS	SIGN POST LENGTH H-1 LIN FT	H-2 LIN FT	H-3	STUB POST H-1 LIN FT	H-2 LIN FT	H-3	FOOTINGS DIA. LIN FT	DEPTH LIN FT	EMBED. LIN FT	SIGN POST AND STUB POUND	EXIT NUMBER PANEL LEGEND	TYPE A SQ. FT.	B SQ. FT.	C SQ. FT.
LAF-430-60-235+00SB		1		12.00	16.00	192.00	W8	21.00	15.00	16.00		3.99	3.99		2.00	5.50	3.66	818.58				
TEMP-430-60-159+00SB		1		20.00	8.00	160.00	W8	21.00	15.00	16.00		3.99	3.99		2.00	5.50	3.66	818.58	128	23.57		
TEMP-430-60-126+00SB		1		23.00	6.00	138.00	W8	21.00	13.00	14.00		3.99	3.99		2.00	5.50	3.66	734.58	128	23.57		
GM-430-60-166+00SB		1		24.50	7.50	183.75	W8	21.00	15.00	16.00		4.99	4.99		2.50	7.00	4.66	860.58				
GM-030-60-257+00WB		1		17.00	9.50	161.50	W8	18.00	13.00	14.00		3.99	3.99		2.50	5.50	3.66	629.64				
TOTALS:		**5**				**835.25**												**3861.96**		**47.14**		

STANDARD SIGNS FLAT SHEET														
	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS TYPE												FLASHING BEACON ASSEMBLY SHOULDER MT.	STANDARD
SIGN NO./	G1	G2	G2-1	G2-2	G2-3	G2-4	G2-5	G2-6	G2-7	G2-8	G2-9	G2-10	MONO POLE, SOLAR	SIGN
LOCATION	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	SQ. FT.
SS-430-60-102+00SB													1	28.00
SS-430-60-97+80SB		1												28.00
SS-30SR-01WB-A			1											27.00
SS-30SR-01WB-B			1											27.00
SS-30SR-12WB			1											17.36
SS-30SR-14WB	1													8.18
SS-030-60-283+00WB		1												16.00
SS-430-60-104+00SB		1												16.00
SS-430-60-157+00SB		1												16.00
SS-430-60-141+00SB		1												16.00
SS-30SR-02WB	1													9.00
SS-30SR-03WB	1													5.00
SS-30SR-05WB	1													5.00
SS-30SR-06WB	1													5.00
SS-30SR-07WB	1													5.00
SS-30SR-08WB	1													5.00
SS-30SR-10WB	1													5.00
SS-30SR-11WB	1													5.00
SS-30SR-13WB	1													5.00
SS-30SR-16WB	1													5.00
SS-30SR-17WB	1													5.00
SS-30SR-18WB	1													5.00
SS-30SR-19WB	1													5.00
SS-30SR-04WB-A	1													5.00
SS-30SR-04WB-B	1													5.00
SS-30SR-29WB	1													5.00
SS-30SR-50WB-A	1													5.00
SS-30SR-50WB-B	1													5.00
SS-030-60-251+50WB		1												16.00
SS-030-60-198+00WB		1												16.00
SS-30SR-15WB	1													9.00
SS-30SR-21WB	1													9.00
SS-30SR-17WB	1													15.00
SS-30SR-20WB	1													15.00
SS-30SR-23WB	1													15.00
SS-30SR-28WB	1													15.00
SS-30SR-31WB	1													15.00
SS-30SR-18WB	1													9.00
SS-30SR-30WB	1													13.00
SS-30SR-48WB	1													13.00
SS-30SR-52WB	1													4.00
SS-30SR-47A-WB		1												15.00
SS-30SR-47B-WB		1												6.00
SS-30SR-47C-WB		1												6.00
SS-30SR-47D-WB		1												6.00
SS-30SR-32WB	1													6.00
SS-30SR-33WB	1													6.00
SS-30SR-34WB	1													6.00
SS-30SR-36WB	1													6.00
SS-30SR-37WB	1													6.00
SS-30SR-54WB	1													11.00
SS-30SR-09WB							1							69.86
SS-30SR-26WB			1											40.50
EX-030-60-208+90WB		1												37.50
EX-430-60-105+50SB		1												45.00
EX-430-60-120+00SB		1												37.50
EX-030-60-228+60WB		1												37.50
EX-430-60-172+00SB		1												30.00
EX-30-60-290+00WB		1												37.50
TOTALS:	36	17	4				1						1	866.90

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
5851
6/18/14
TODD STAMPS

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.	061332	73	177

(2) SIGNING QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	74	177

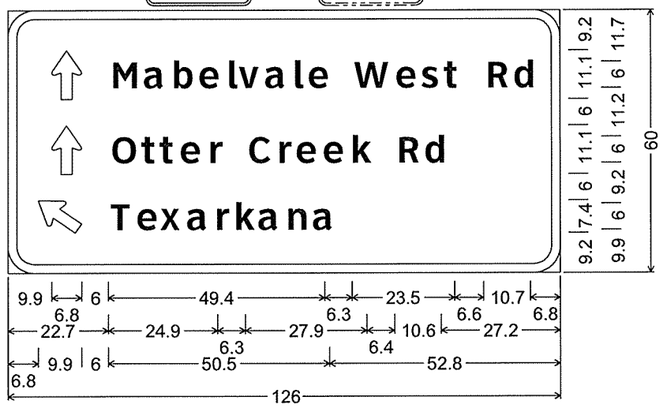
(2) SIGN LAYOUT SHEET

G2-5
SS-30SR-09WB

M3-1(BLUE) 24"X12" — WEST — NORTH — FUTURE M3-1(BLUE) 24"X12"

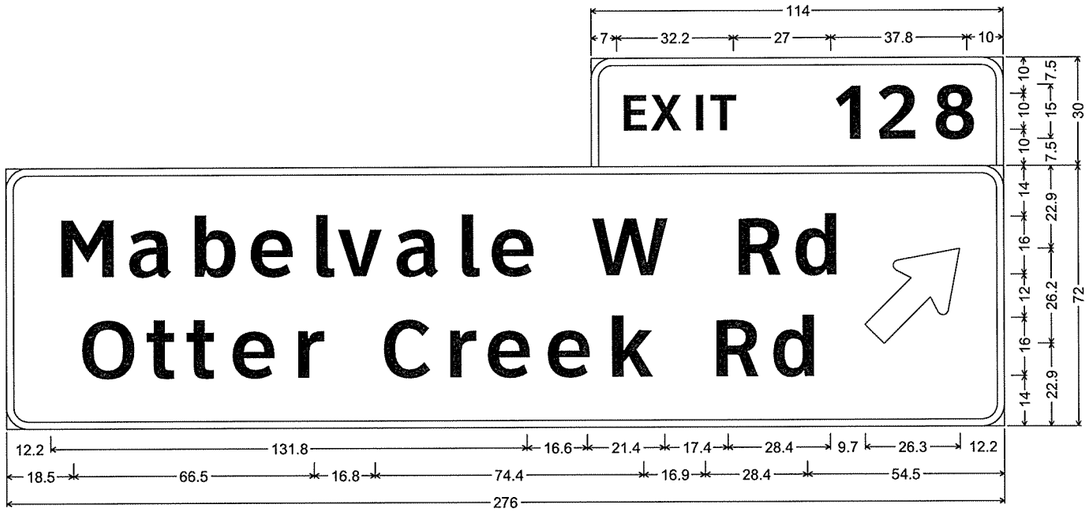
M1-1 24"X24" — INTERSTATE 30 — INTERSTATE 430 — FUTURE M1-1 30"X24"

M5-2LT (BLUE) 21" X 15" — FUTURE M7-2 (BLUE) 21" X 15"



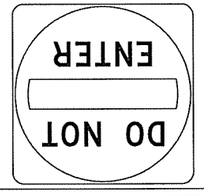
3.0" Radius, 1.0" Border, White on Green;
Standard Arrow Custom 11.1" X 6.8" 90°;
[Mabelvale West Rd] ClearviewHwy-5-W;
Standard Arrow Custom 11.1" X 6.8" 90°;
[Otter Creek Rd] ClearviewHwy-5-W;
Standard Arrow Custom 11.1" X 6.8" 145°;
[Texarkana] ClearviewHwy-5-W;

D1-3
DIRECT APPLIED / FLAT SHEET



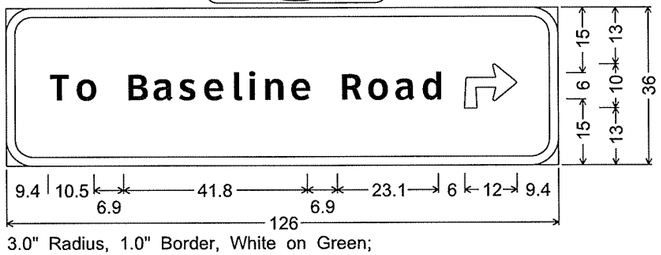
TEMP-430-60-126+00SB; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[Mabelvale W Rd] ClearviewHwy-5-W; [Otter Creek Rd] ClearviewHwy-5-W; Standard Arrow Custom 33.4" X 20.3" 45°;

G2-1
SS-30SR-26WB

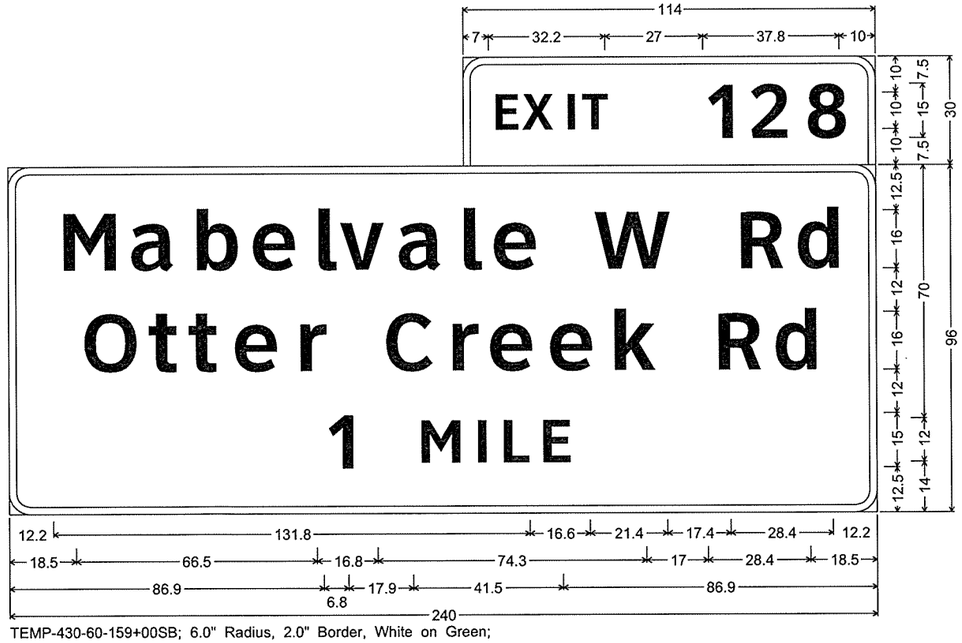


R5-1 36" X 36"
INSTALL
BACK TO BACK

D1-1
DIRECT APPLIED / FLAT SHEET



3.0" Radius, 1.0" Border, White on Green;
[To Baseline Road] ClearviewHwy-5-W;
90 Deg Advanced Turn Arrow 12.0" X 10.0";



TEMP-430-60-159+00SB; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[Mabelvale W Rd] ClearviewHwy-5-W; [Otter Creek Rd] ClearviewHwy-5-W; [1] ClearviewHwy-5-W;
[MILE] ClearviewHwy-5-W;

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/12/14
L. TONY SULLIVAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	75	177

(2) SIGN LAYOUT SHEET

G2
W8-13
48" X 48"

SS-030-60-283+00WB (MAIN LANES)
SS-430-60-104+00SB (MAIN LANES)
SS-430-60-157+00SB (MAIN LANES)
SS-430-60-141+00SB (MAIN LANES)

G1
R1-2 36"

SS-30SR-02WB
SS-30SR-54WB

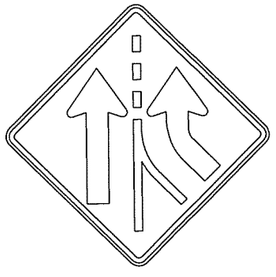
G1
R6-2RT
24" X 30"

SS-30SR-03WB SS-30SR-11WB
SS-30SR-05WB SS-30SR-13WB
SS-30SR-06WB SS-30SR-16WB
SS-30SR-07WB SS-30SR-17WB
SS-30SR-08WB SS-30SR-18WB
SS-30SR-10WB SS-30SR-19WB

G1
R2-1(45)
24" X 30"

SS-30SR-04WB-A
SS-30SR-04WB-B
SS-30SR-29WB
SS-30SR-50WB-A
SS-30SR-50WB-B

G2
W4-3
48" X 48"



SS-030-60-251+50WB (MAIN LANES)
SS-030-60-198+00WB (MAIN LANES)

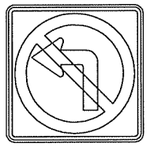
G1
R5-1
36" X 36"

SS-30SR-15WB
SS-30SR-21WB
SS-30SR-51WB

G1
SS-30SR-17WB
SS-30SR-20WB
SS-30SR-23WB
SS-30SR-28WB
SS-30SR-31WB
SS-30SR-57WB

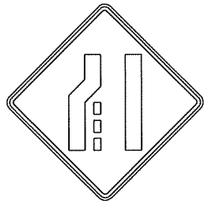
R6-1RT 24" X 24"

R1-1 36" X 36"



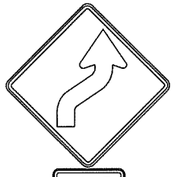
R3-2 24" X 24"

G1
W4-2LT
36" X 36"



SS-30SR-18WB

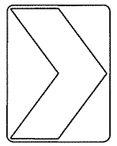
G1
SS-30SR-30WB



W1-1RT 36" X 36"

W13-1(40) 24" X 24"

G1
W1-8
30" X 36"

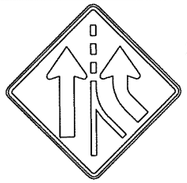


SS-30SR-32WB
SS-30SR-33WB
SS-30SR-34WB
SS-30SR-36WB
SS-30SR-37WB

G2

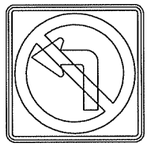
R5-1A 36"X24"

W4-3
36" X 36"



SS-30SR-47A-WB

G1
R3-2 24" X 24"



SS-30SR-52WB

G1
W8-13
36" X 36"

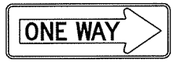
SS-30SR-41WB

G1
SS-30SR-40WB

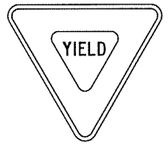
W1-1RT 36" X 36"

W13-1(40) 24" X 24"

G1
SS-30SR-54WB



R6-1RT 24" X 24"



R1-2 36"

G2

R5-1A 36"X24"
SS-30SR-47B-WB
SS-30SR-47C-WB
SS-30SR-47D-WB

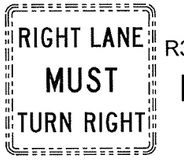
G1
R3-7RT
30" X 30"

FUTURE

G2

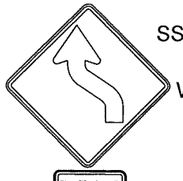
FUTURE
R5-1 36" X 36"

INSTALL
BACK TO BACK

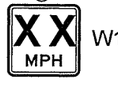


R3-7RT 30" X 30"
FUTURE

G1

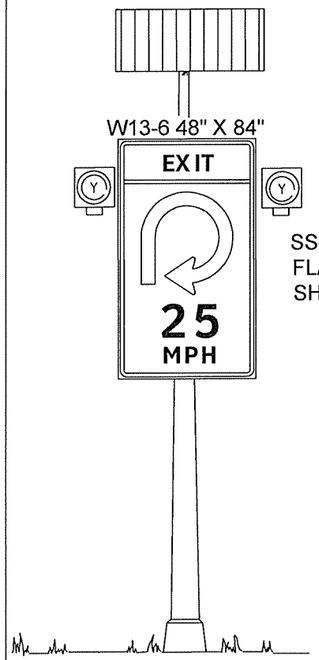


SS-30SR-48WB
W1-1RT 36" X 36"



W13-1(XX) 24" X 24"

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	76	177
				(2) SIGN LAYOUT SHEET				



W13-6 48" X 84"

SS-430-60-102+00SB
FLASHING BEACON ASSEMBLY
SHOULDER MOUNTED MONO POLE

G2-1
SS-30SR-01WB- A
SS-30SR-01WB- B

R5-1A 36"X24"

INSTALL
BACK TO BACK

M3-1(BLUE) 24"X12" — WEST — NORTH — M3-1(BLUE) 24"X12"

M1-1 30"X24" — FUTURE — M1-1 30"X24" FUTURE

R4-7B LT 24"X24" — LEFT LANE — RIGHT LANE — R4-7B RT 24"X24" FUTURE

G2-1
SS-30SR-12WB

M3-1(BLUE) 24"X12" — WEST — NORTH — M3-1(BLUE) 24"X12" FUTURE

M1-1 24"X24"

M1-1 30"X24" FUTURE

M5-2LT (BLUE) 21" X 15"

M6-3 (BLUE) 21"X 15" FUTURE

G2
W13-7 48" X 84"

SS-430-60-97+80SB

G1
SS-30SR-61WB

WEST — M3-1(BLUE) 24"X12"

M1-1 24"X24"

M6-3 (BLUE) 21" X 15"

FUTURE

G1

NORTH — M3-1(BLUE) 24"X12"

M1-1 30"X24"

M6-2RT (BLUE) 21"X 15"

FUTURE

G1

NORTH — M3-1(BLUE) 24"X12"

M1-1 30"X24"

M5-2RT (BLUE) 21"X 15"

G1
SS-30SR-14WB

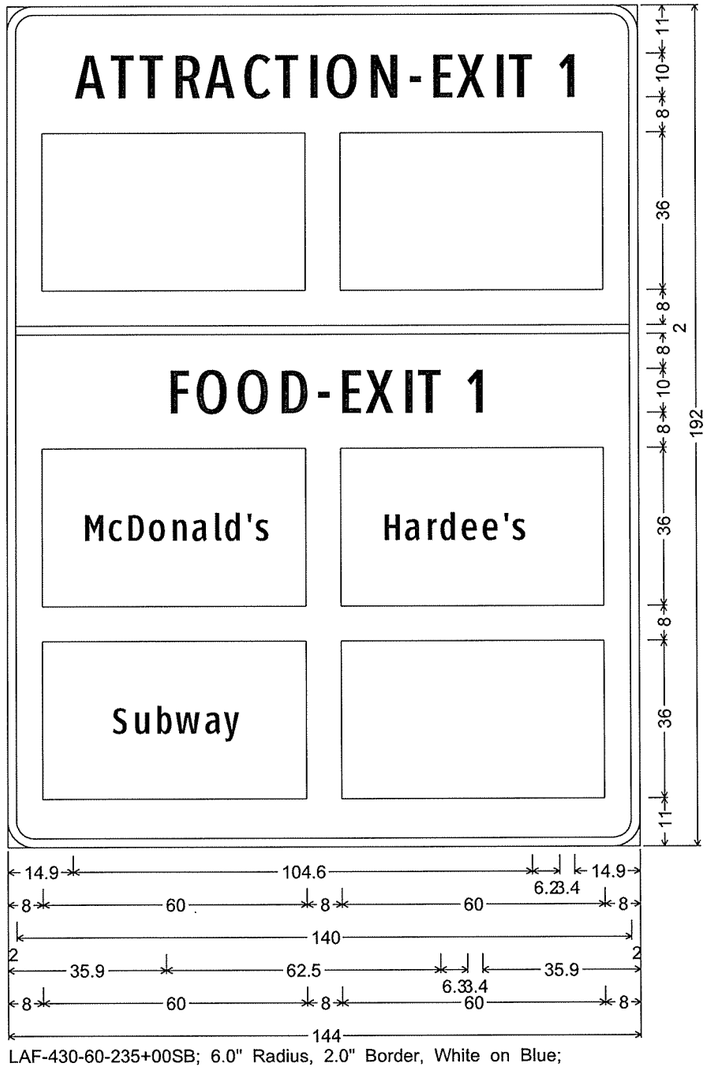
WEST — M3-1(BLUE) 24"X12"

M1-1 24"X24"

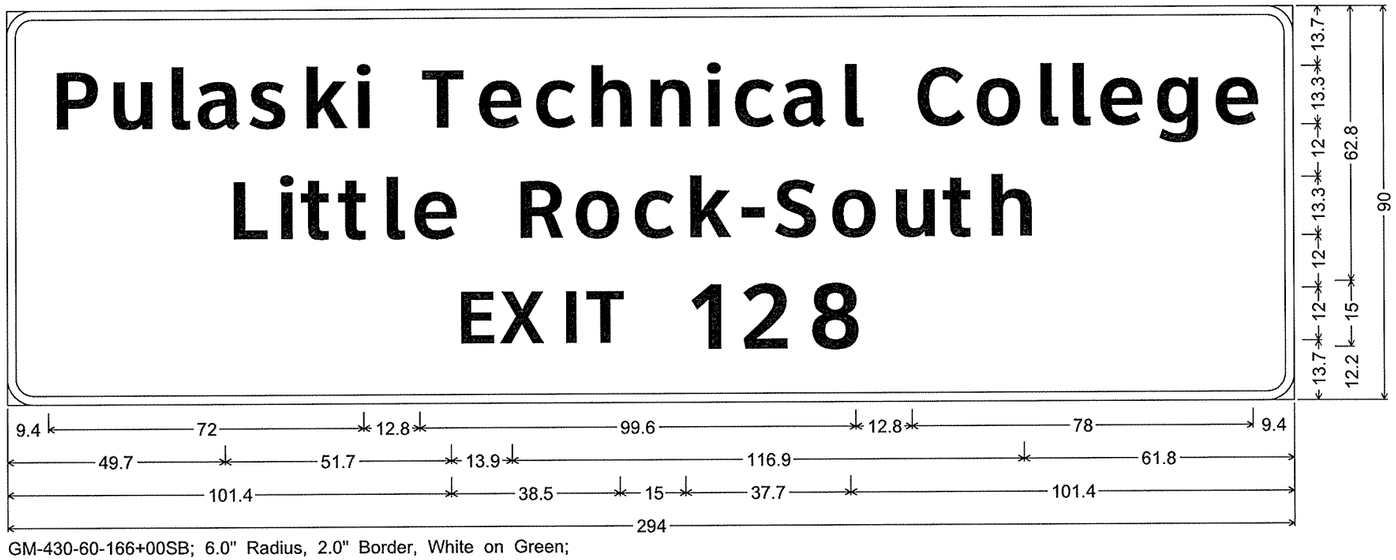
M7-4LT (BLUE) 21" X 15"

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	77	177

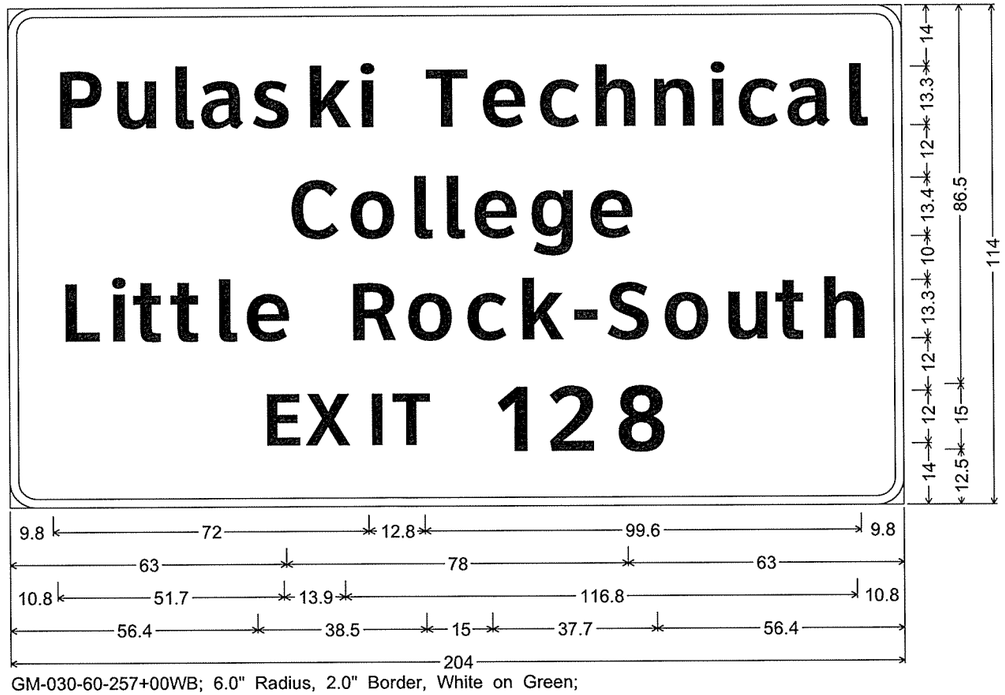
(2) SIGN LAYOUT SHEET



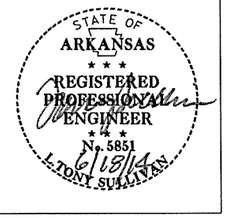
LAF-430-60-235+00SB; 6.0" Radius, 2.0" Border, White on Blue;
[ATTRACTION-EXIT 1] ClearviewHwy-2-W;
[FOOD-EXIT 1] ClearviewHwy-2-W;



GM-430-60-166+00SB; 6.0" Radius, 2.0" Border, White on Green;
[Pulaski Technical College] ClearviewHwy-5-W-R; [Little Rock-South] ClearviewHwy-5-W-R; [EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;



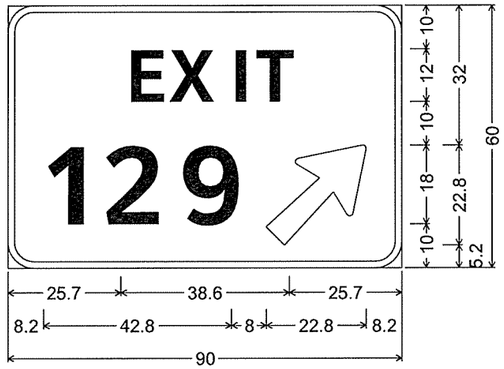
GM-030-60-257+00WB; 6.0" Radius, 2.0" Border, White on Green;
[Pulaski Technical] ClearviewHwy-5-W-R; [College] ClearviewHwy-5-W-R;
[Little Rock-South] ClearviewHwy-5-W-R; [EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	78	177

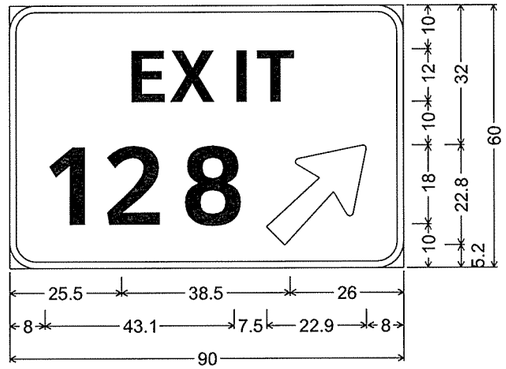
(2) SIGN LAYOUT SHEET

G2
E5-1a
DIRECT APPLIED / FLAT SHEET



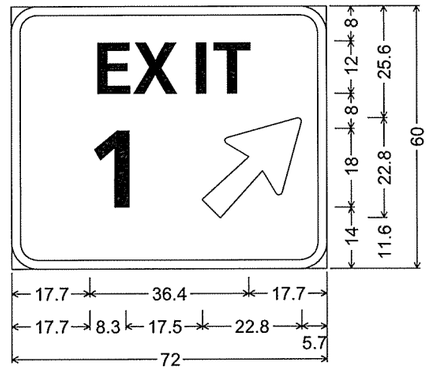
EX-030-60-208+90WB;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W;
[129] ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45°;

G2
E5-1a
DIRECT APPLIED / FLAT SHEET



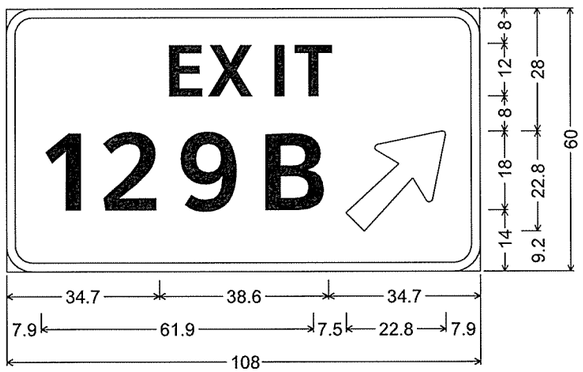
EX-430-60-120+00SB;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W;
[128] ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45°;

G2
E5-1a
DIRECT APPLIED / FLAT SHEET



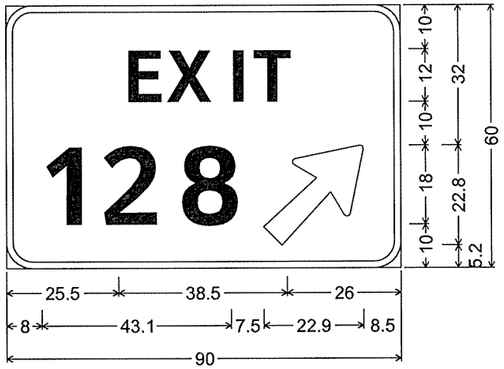
EX-430-60-172+00SB;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W-R;
[1] ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45°;

G2
E5-1a
DIRECT APPLIED / FLAT SHEET



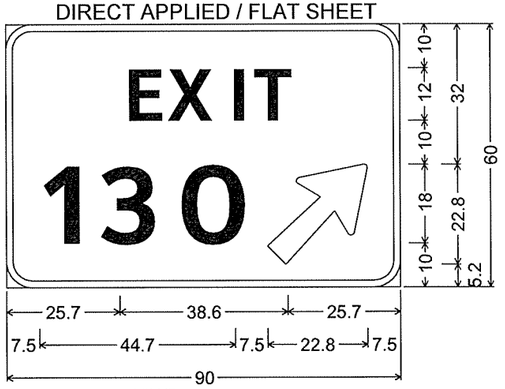
EX-430-60-105+50SB;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W;
[129B] ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45°;

G2
E5-1a
DIRECT APPLIED / FLAT SHEET



EX-030-60-228+60WB;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W;
[128] ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45°;

G2
E5-1a
DIRECT APPLIED / FLAT SHEET



EX-30-60-290+00WB;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W;
[130] ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45°;

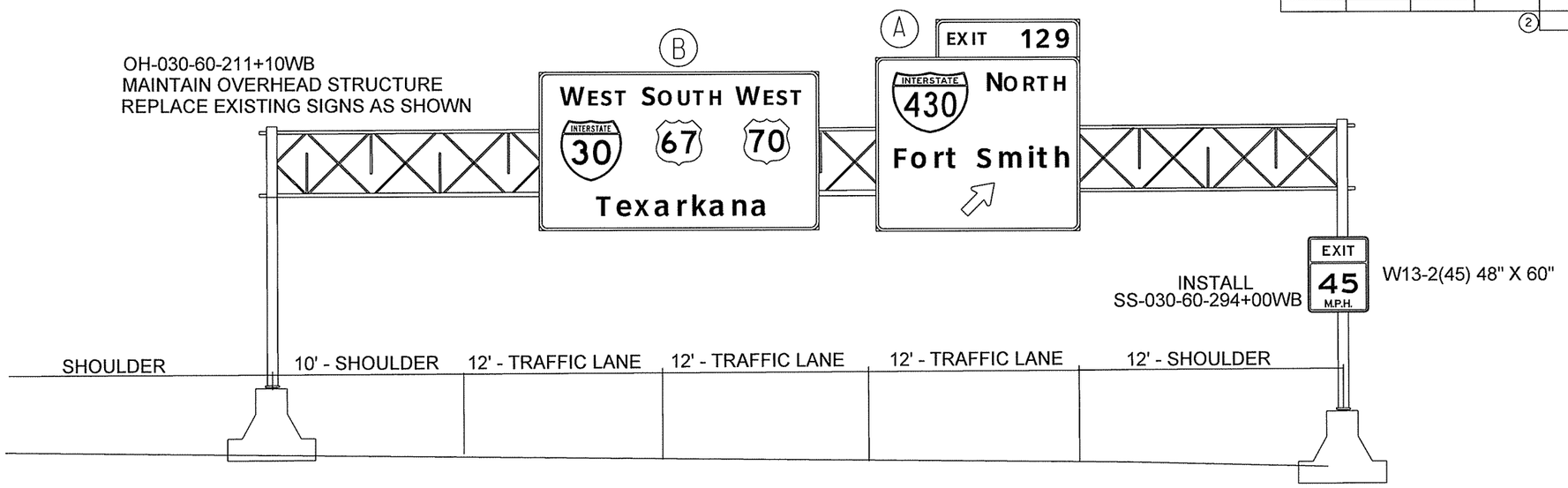
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
L. TONY SULLIVAN

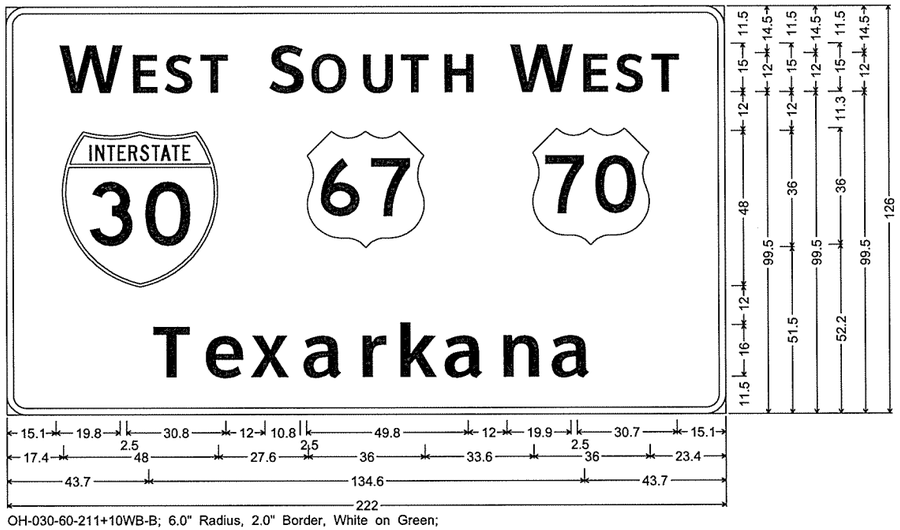
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	79	177

(2) SIGN LAYOUT SHEET

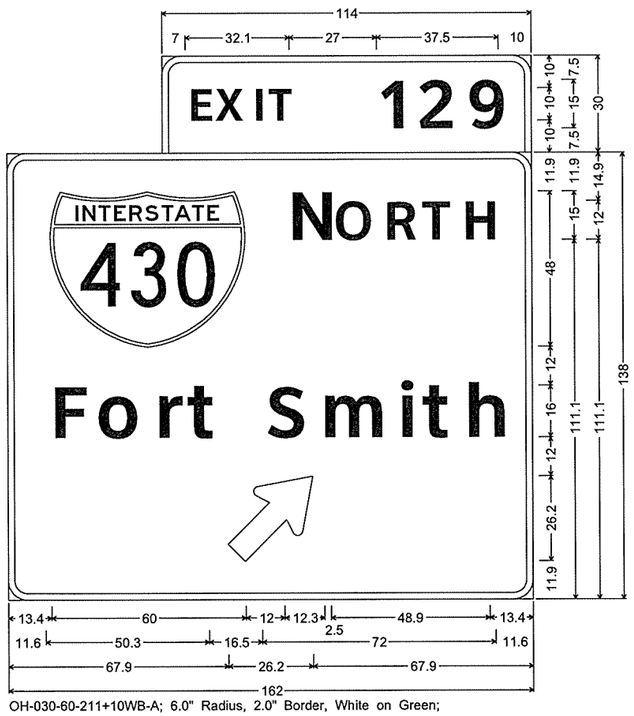
OH-030-60-43

OH-030-60-211+10WB
MAINTAIN OVERHEAD STRUCTURE
REPLACE EXISTING SIGNS AS SHOWN





OH-030-60-211+10WB-B; 6.0" Radius, 2.0" Border, White on Green;
[W] ClearviewHwy-5-W; [EST] ClearviewHwy-5-W; [S] ClearviewHwy-5-W; [OUTH] ClearviewHwy-5-W;
[W] ClearviewHwy-5-W; [EST] ClearviewHwy-5-W; [Texarkana] ClearviewHwy-5-W;



OH-030-60-211+10WB-A; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [129] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[N] ClearviewHwy-5-W; [ORTH] ClearviewHwy-5-W;
[Fort Smith] ClearviewHwy-5-W; Standard Arrow Custom 33.4" X 20.3" 45°;

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6/18/14
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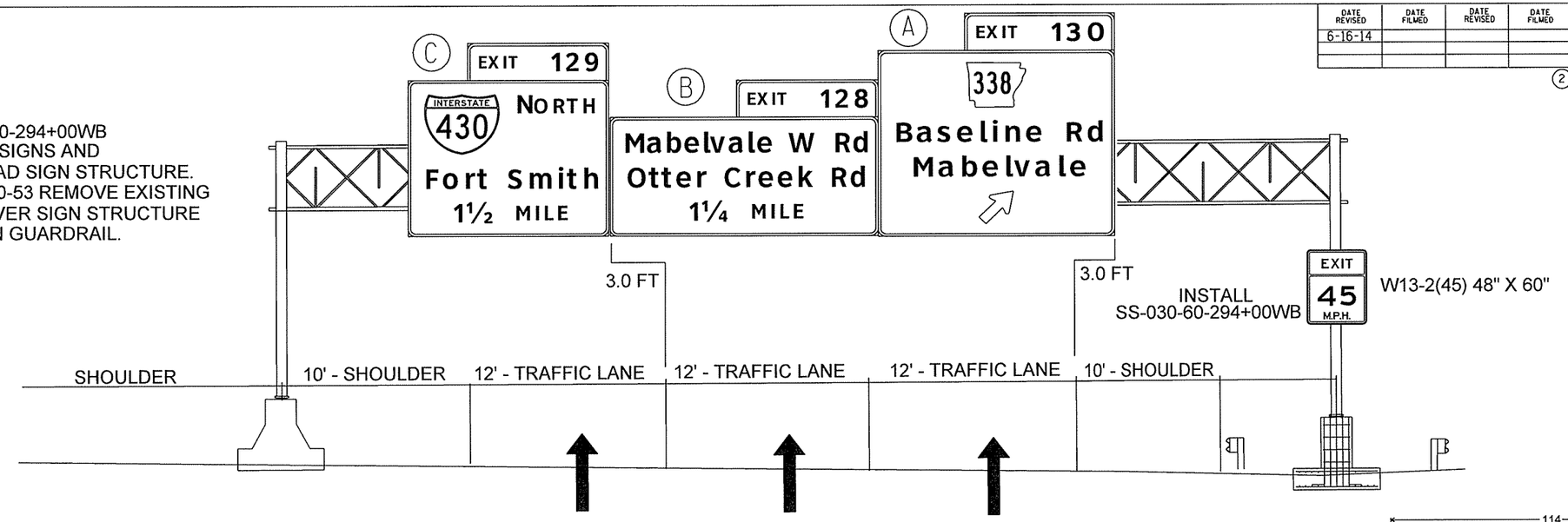
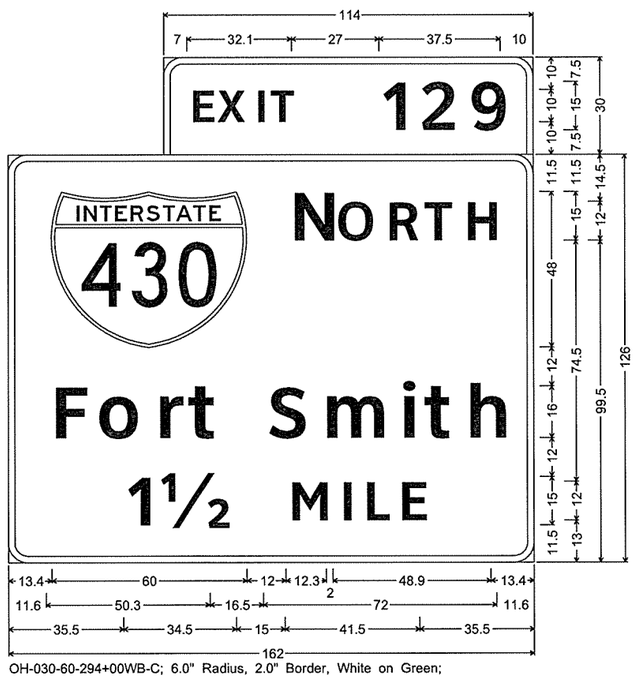
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	80	177

(2) SIGN LAYOUT SHEET

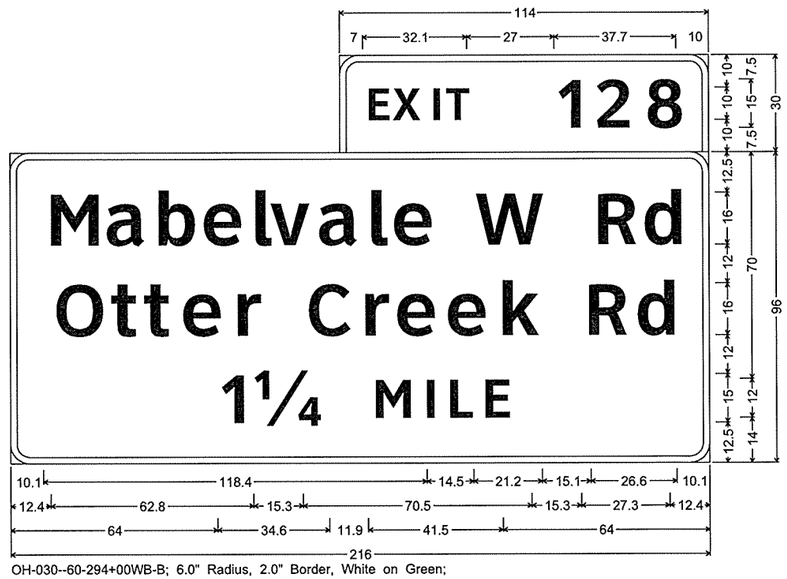
OH-030-60-53

OH-030-60-294+00WB
INSTALL SIGNS AND
OVERHEAD SIGN STRUCTURE.
OC-030-60-53 REMOVE EXISTING
CANTILEVER SIGN STRUCTURE
MAINTAIN GUARDRAIL.

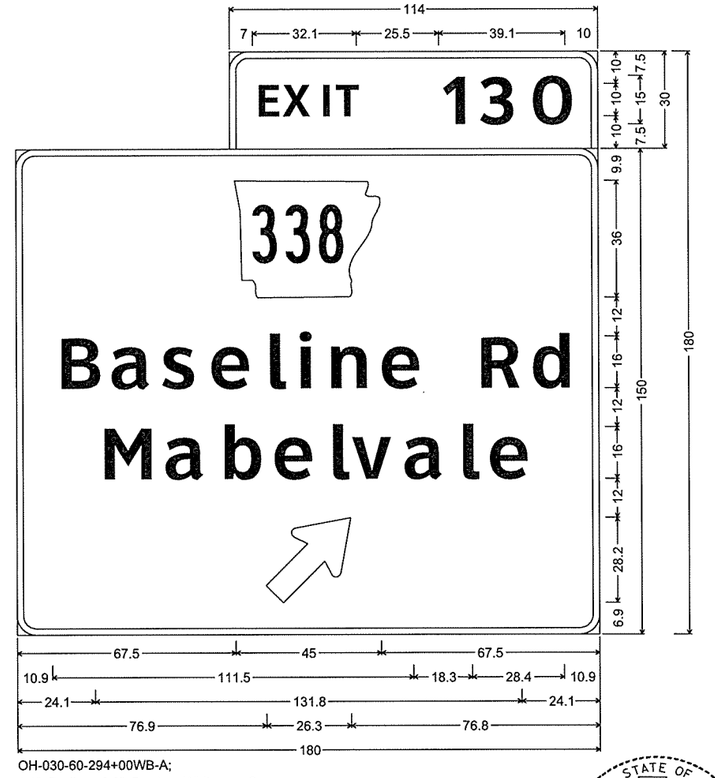




OH-030-60-294+00WB-C; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [129] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[N] ClearviewHwy-5-W; [ORTH] ClearviewHwy-5-W;
[Fort Smith] ClearviewHwy-5-W; [1½] ClearviewHwy-5-W;
[MILE] ClearviewHwy-5-W;



OH-030--60-294+00WB-B; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[Mabelvale W Rd] ClearviewHwy-5-W-R 80% spacing; [Otter Creek Rd] ClearviewHwy-5-W-R;
[1¼] ClearviewHwy-5-W; [MILE] ClearviewHwy-5-W;



OH-030-60-294+00WB-A;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [130] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
M1-6; [Baseline Rd] ClearviewHwy-5-W; [Mabelvale] ClearviewHwy-5-W;
Standard Arrow Custom 33.4" X 20.3" 45°;

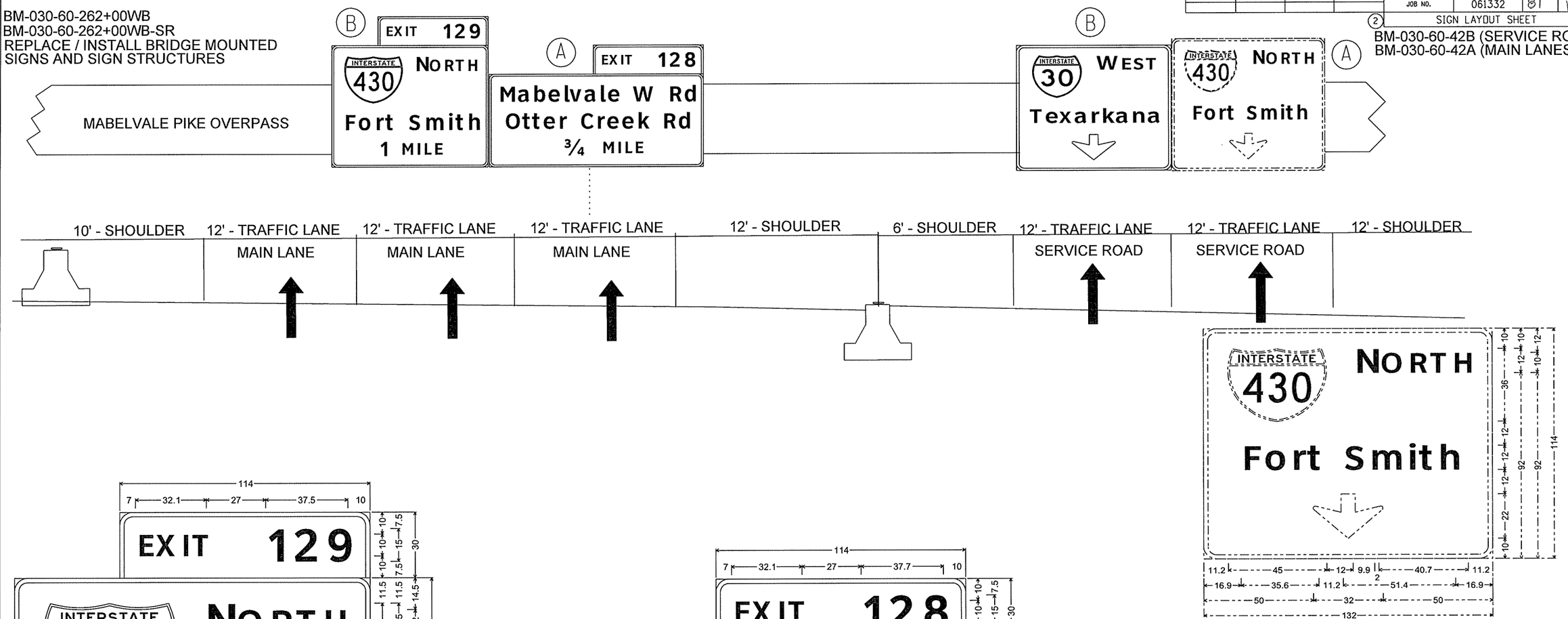
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
L. TONY SULLIVAN

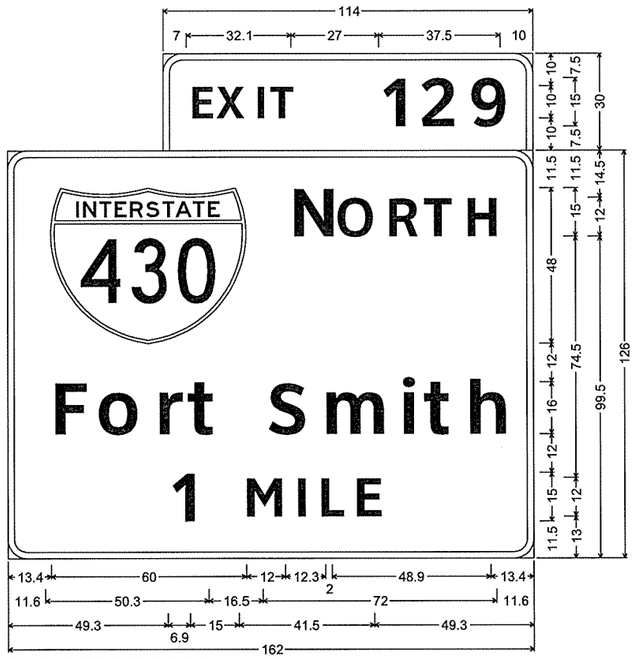
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	81	177

(2) SIGN LAYOUT SHEET

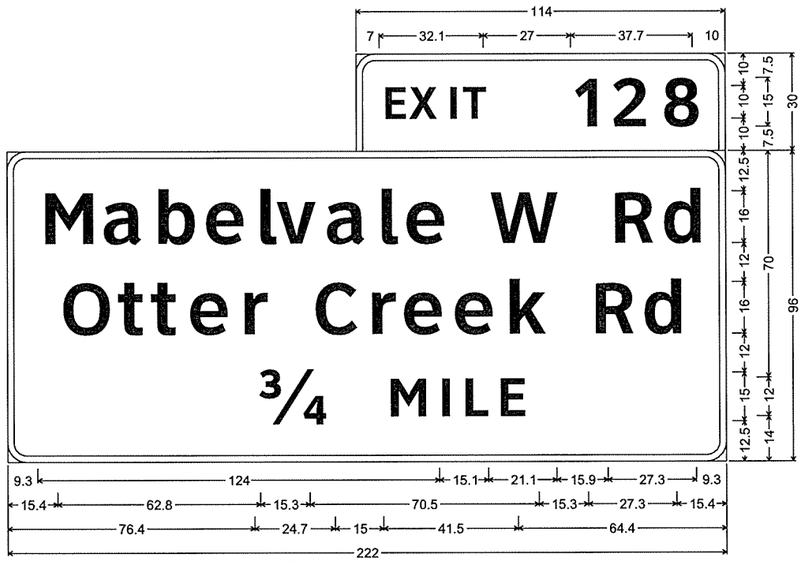
BM-030-60-262+00WB
BM-030-60-262+00WB-SR
REPLACE / INSTALL BRIDGE MOUNTED
SIGNS AND SIGN STRUCTURES

BM-030-60-42B (SERVICE ROAD)
BM-030-60-42A (MAIN LANES)



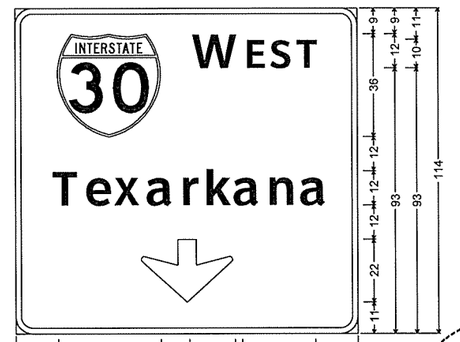


BM-030-60-262+00WB-B; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [129] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[N] ClearviewHwy-5-W; [ORTH] ClearviewHwy-5-W;
[Fort Smith] ClearviewHwy-5-W; [1] ClearviewHwy-5-W;
[MILE] ClearviewHwy-5-W;



BM-030--60-262+00WB-A; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[Mabelvale W Rd] ClearviewHwy-5-W-R; [Otter Creek Rd] ClearviewHwy-5-W-R; [¾] ClearviewHwy-5-W;
[MILE] ClearviewHwy-5-W;

BM-030-60-262+00WB-SR-A; 6.0" Radius, 2.0" Border, White on Green;
[N] ClearviewHwy-5-W; [ORTH] ClearviewHwy-5-W;
[Fort Smith] ClearviewHwy-5-W-R; Down Arrow 22.0" 270°;



BM-030-60-262+00WB-SR;
6.0" Radius, 2.0" Border, White on Green;
[W] ClearviewHwy-5-W; [EST] ClearviewHwy-5-W;
[Texarkana] ClearviewHwy-5-W-R;
Down Arrow 22.0" 270°;

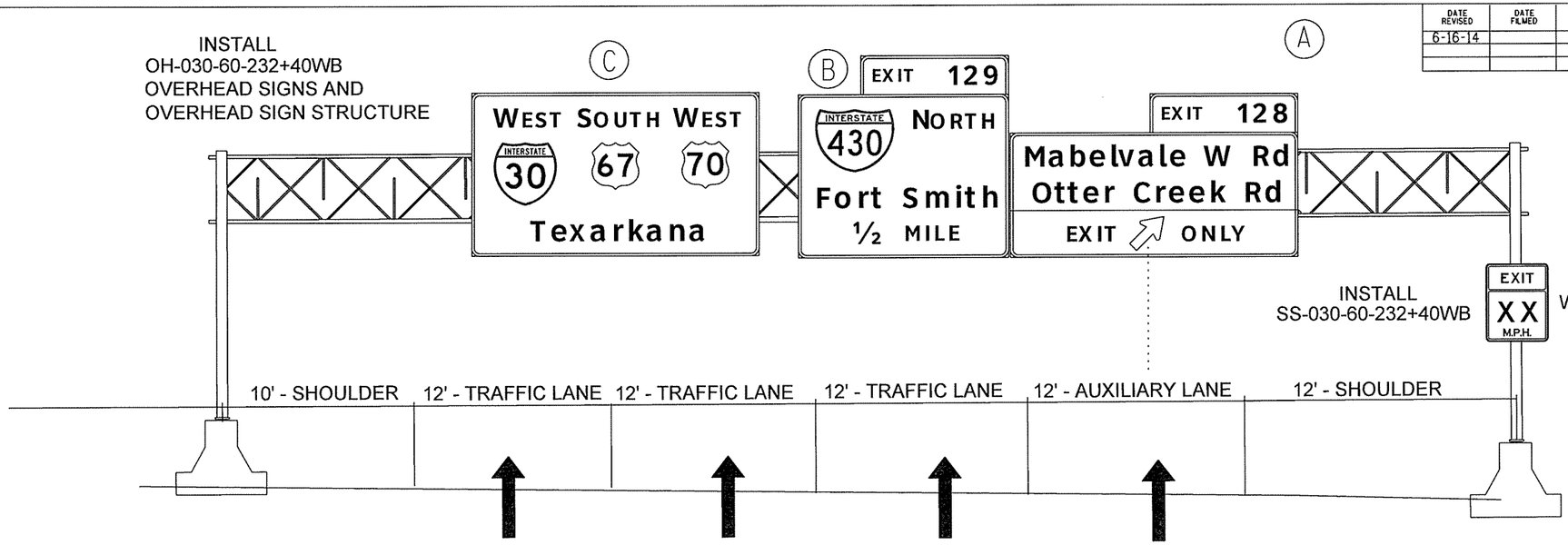
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
TOM SULLIVAN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	82	177

(2) SIGN LAYOUT SHEET

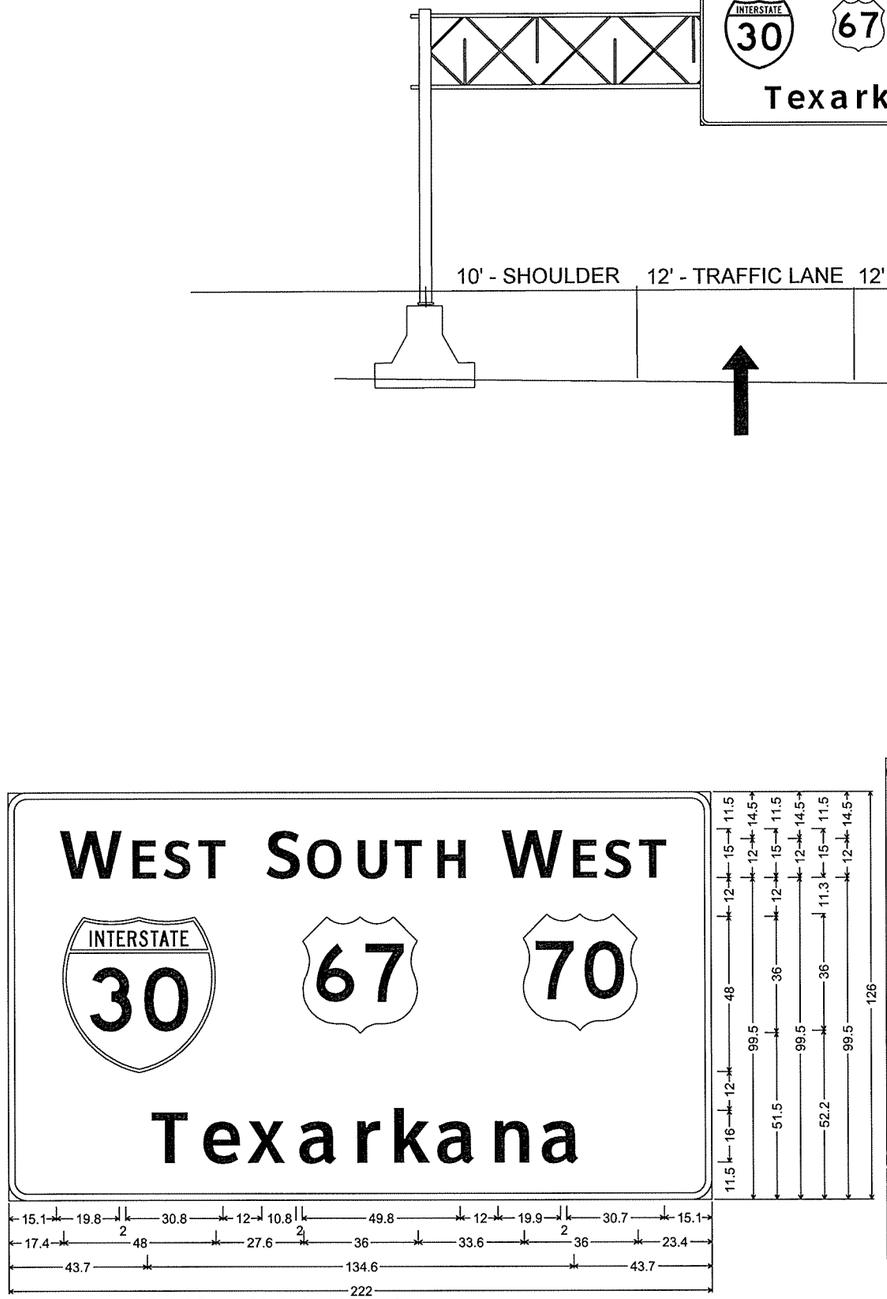
OH-030-60-49

INSTALL
OH-030-60-232+40WB
OVERHEAD SIGNS AND
OVERHEAD SIGN STRUCTURE

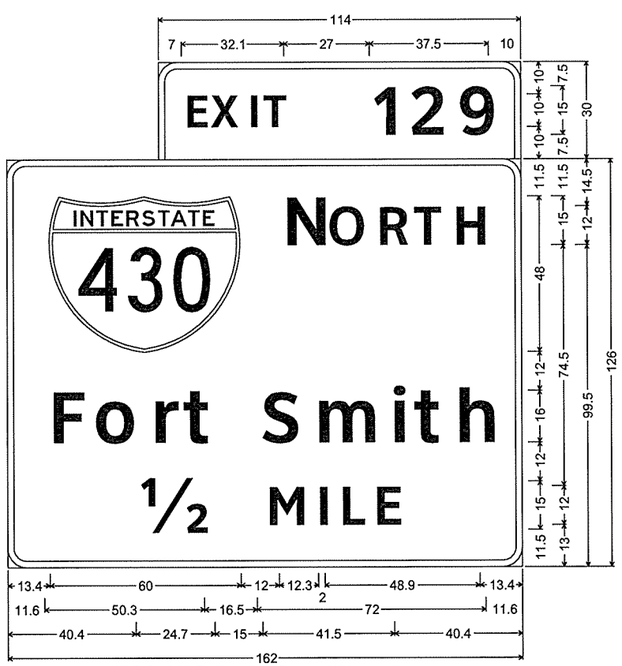


INSTALL
SS-030-60-232+40WB

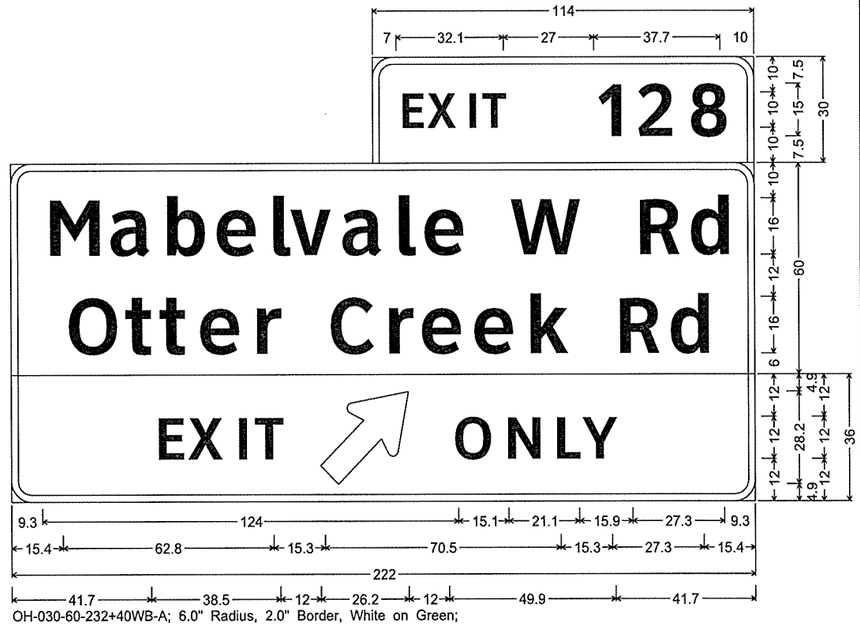
W13-2(XX) 48" X 60"



OH-030-60-232+40WB-C; 6.0" Radius, 2.0" Border, White on Green;
[W] ClearviewHwy-5-W; [EST] ClearviewHwy-5-W; [S] ClearviewHwy-5-W; [OUTH] ClearviewHwy-5-W;
[W] ClearviewHwy-5-W; [EST] ClearviewHwy-5-W; [Texarkana] ClearviewHwy-5-W;



OH-030-60-232+40WB-B; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [129] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[N] ClearviewHwy-5-W; [ORTH] ClearviewHwy-5-W;
[Fort Smith] ClearviewHwy-5-W; [½] ClearviewHwy-5-W;
[MILE] ClearviewHwy-5-W;



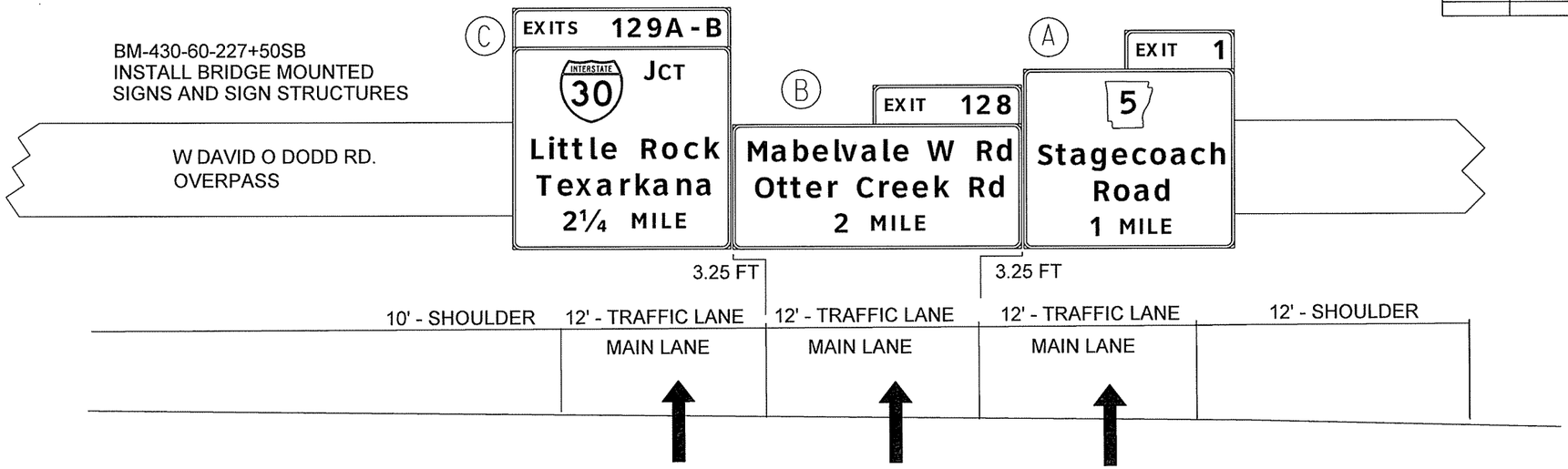
OH-030-60-232+40WB-A; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[Mabelvale W Rd] ClearviewHwy-5-W-R; [Otter Creek Rd] ClearviewHwy-5-W-R;
6.0" Radius, 2.0" Border, Black on Yellow;
[EXIT] ClearviewHwy-5-W; Standard Arrow Custom 33.4" X 20.3" 45°; [ONLY] ClearviewHwy-5-W;

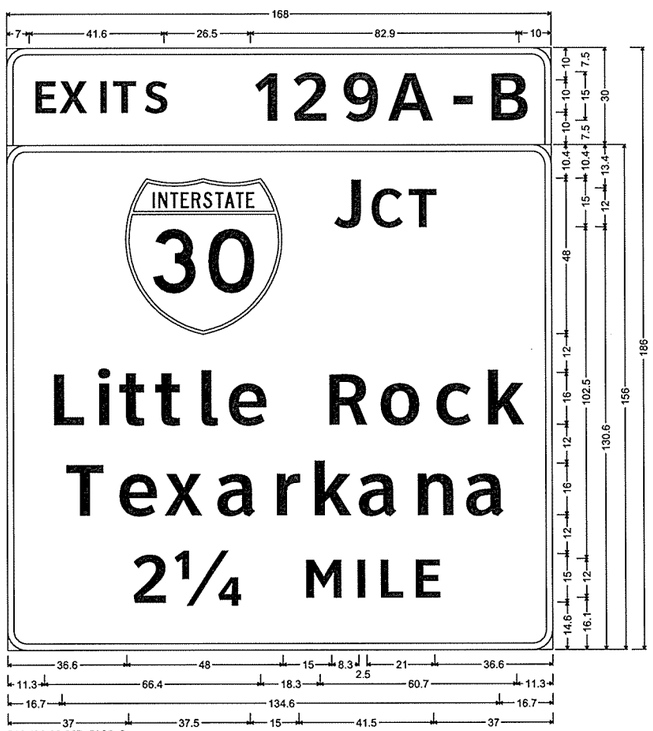
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	83	177

(2) SIGN LAYOUT SHEET

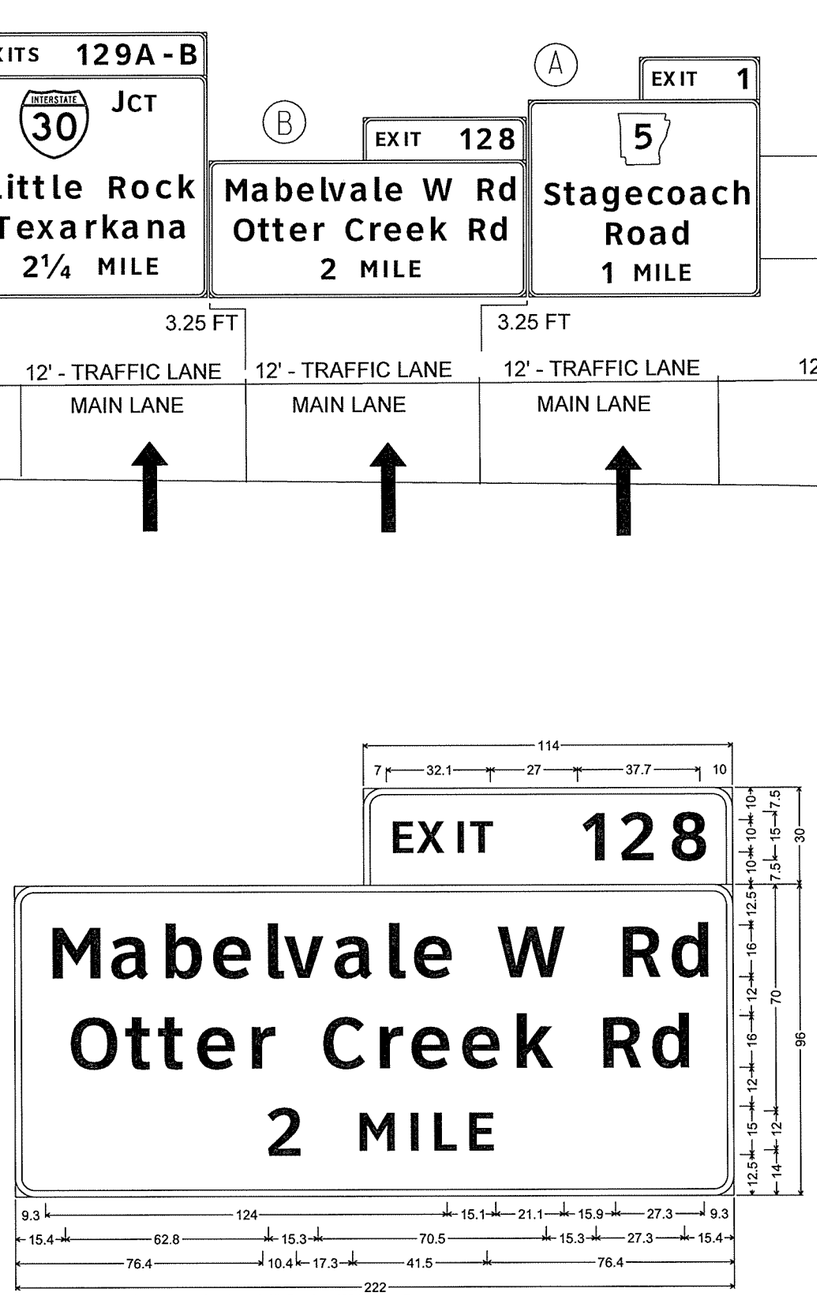
BM-430-60-25

BM-430-60-227+50SB
INSTALL BRIDGE MOUNTED
SIGNS AND SIGN STRUCTURES

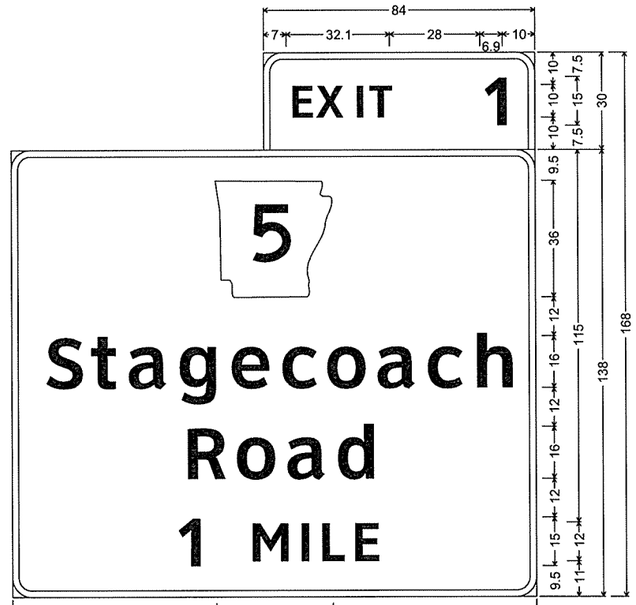




BM-430-60-227+50SB-C;
6.0" Radius, 2.0" Border, White on Green;
[EXITS] ClearviewHwy-5-W; [129A-B] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[J] ClearviewHwy-5-W; [CT] ClearviewHwy-5-W; [Little Rock] ClearviewHwy-5-W;
[Texarkana] ClearviewHwy-5-W; [2¼] ClearviewHwy-5-W; [MILE] ClearviewHwy-5-W;



BM-430-60-227+50SB-B; 6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [128] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
[Mabelvale W Rd] ClearviewHwy-5-W-R; [Otter Creek Rd] ClearviewHwy-5-W-R; [2] ClearviewHwy-5-W;
[MILE] ClearviewHwy-5-W;



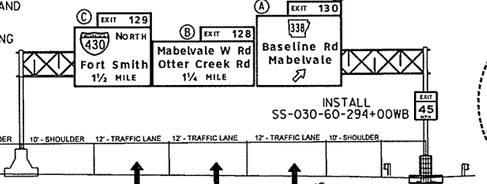
BM-430-60-227+50SB-A;
6.0" Radius, 2.0" Border, White on Green;
[EXIT] ClearviewHwy-5-W; [1] ClearviewHwy-5-W;
6.0" Radius, 2.0" Border, White on Green;
M1-6; [Stagecoach] ClearviewHwy-5-W-R; [Road] ClearviewHwy-5-W-R;
[1] ClearviewHwy-5-W-R; [MILE] ClearviewHwy-5-W-R;

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
L. TONY SULLIVAN
6/13/14

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	84	177

(2) SIGN PLACEMENT SHEET

OH-030-60-294+00WB
OH-030-60-53 INSTALL SIGNS AND OVERHEAD SIGN STRUCTURE.
OC-030-60-53 REMOVE EXISTING CANTILEVER SIGN STRUCTURE MAINTAIN GUARDRAIL.



INSTALL (MAIN LANES)
SS-030-60-283+00WB

BRIDGE ICES BEFORE ROAD

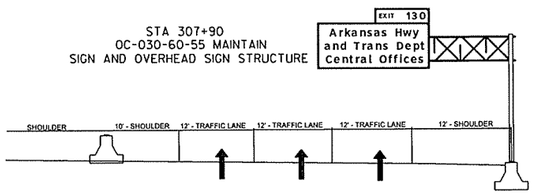
INSTALL
SS-030-60-294+00WB
EXIT 45

REPLACE
EX-030-60-290+00WB
EXIT 130

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
L. TONY SULLIVAN
6/13/14

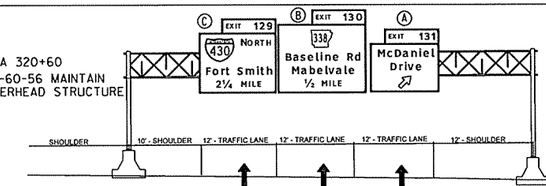
I-30 STA. 274+00 TO STA. 300+00

STA 307+90
OC-030-60-55 MAINTAIN
SIGN AND OVERHEAD SIGN STRUCTURE



MAINTAIN
EX-030-60-317+20WB
EXIT 131

STA 320+60
OH-030-60-56 MAINTAIN
SIGNS / OVERHEAD STRUCTURE



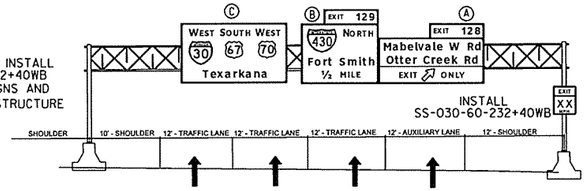
I-30 STA. 300+00 TO STA. 330+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	85	172

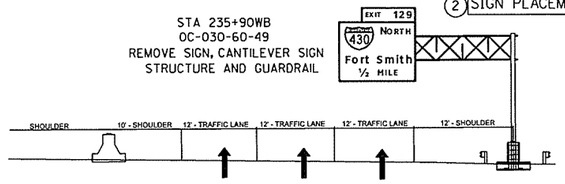
(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
L. TONY SULLIVAN

OH-030-60-49 INSTALL
OH-030-60-232+40WB
OVERHEAD SIGNS AND
OVERHEAD SIGN STRUCTURE

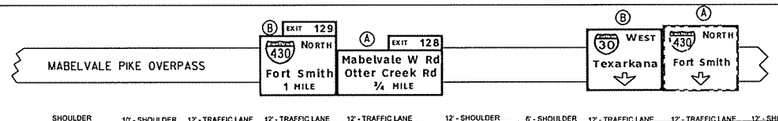


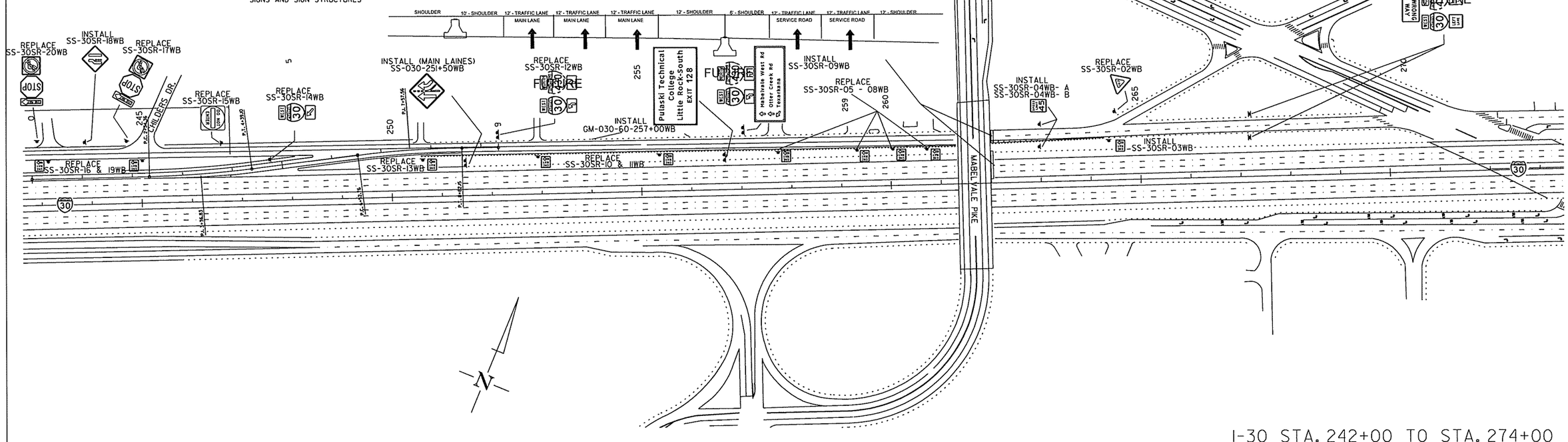
STA 235+90WB
OC-030-60-49
REMOVE SIGN, CANTILEVER SIGN
STRUCTURE AND GUARDRAIL



I-30 STA. 212+00 TO STA. 242+00

BM-030-60-42A (MAIN LAINES)
BM-030-60-42B (SERVICE ROAD)
BM-030-60-262+00WB
BM-030-60-262+00WB-SR
REPLACE / INSTALL BRIDGE MOUNTED
SIGNS AND SIGN STRUCTURES



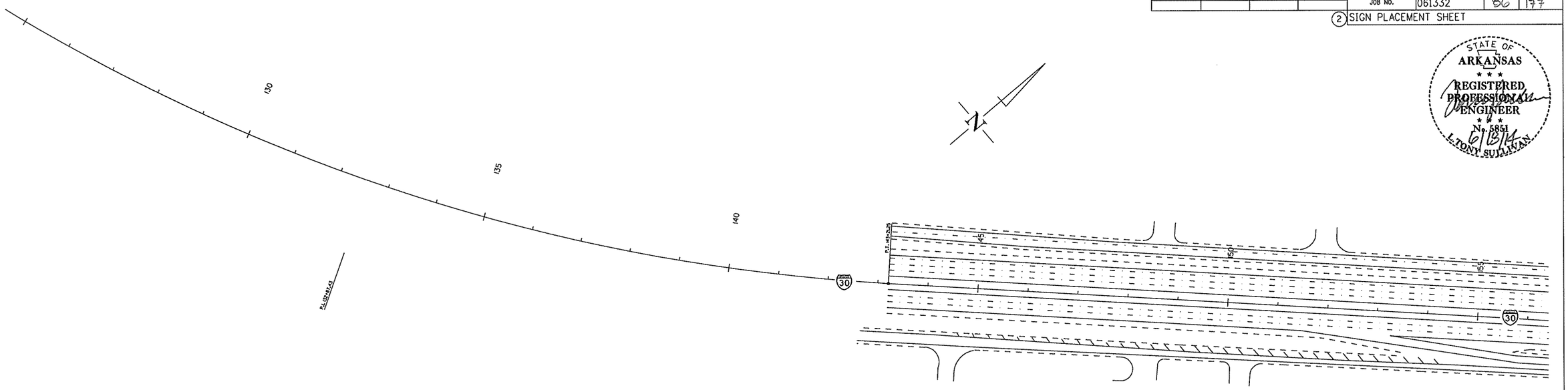


I-30 STA. 242+00 TO STA. 274+00

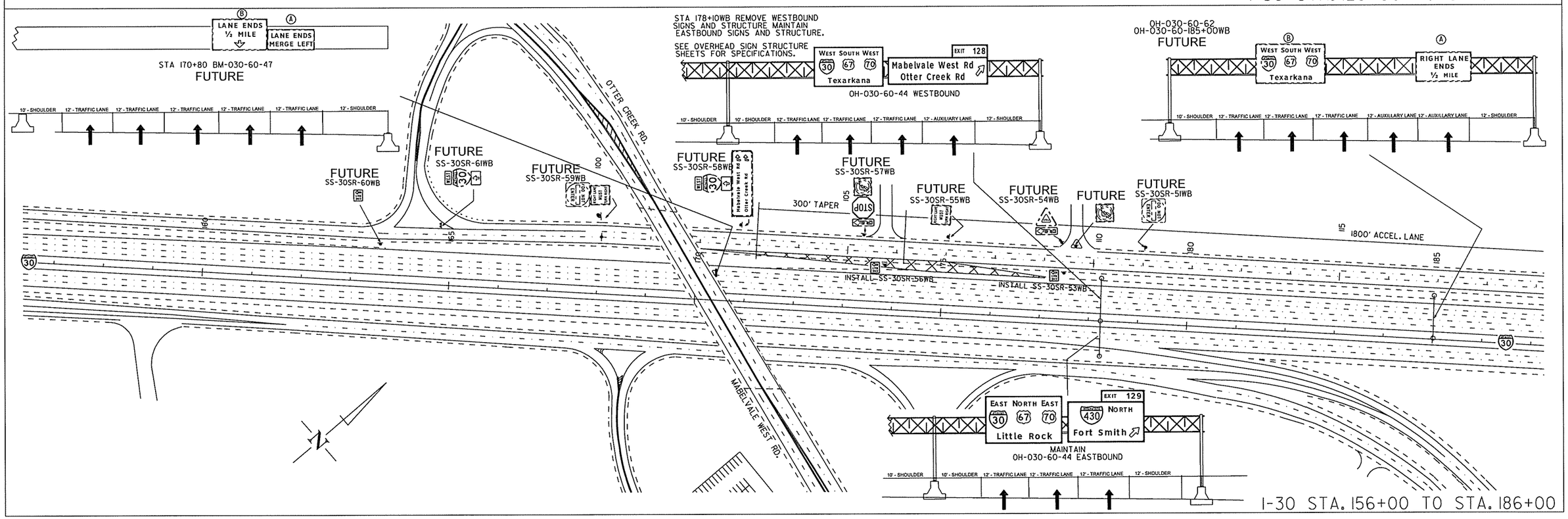
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	86	177

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
L. TONY SULLIVAN



I-30 STA. 126+00 TO STA. 156+00



I-30 STA. 156+00 TO STA. 186+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	87	177

(2) SIGN PLACEMENT SHEET

P.C. 189+22.44

P.C. 122+54.41

REMOVE EXISTING
W4-2LT 48"X48"
R2-1(55) 24"X30"

REMOVE EXISTING
STA-192+00WB

Pulaski Tech College
LR South Ctr
EXIT 128

INSTALL
SS-30SR-50WB-A
SS-30SR-50WB-B
REMOVE EXISTING
W9-1LT (48"X48")

EXIT 45

P.T. 130+16.64

130

MAINTAIN EXISTING WI-8

125

135

P.C. 132+23.59

INSTALL
SS-430-60-102+00SB
FLASHING BEACON ASSEMBLY
SHOULDER MOUNTED MONO POLE

REPLACE
SS-430-60-104+00SB

REPLACE
EX-430-60-105+50SB

EXIT 129B

REPLACE WI-15
SS-430-60-97+80SB

INSTALL
SS-030-60-198+00WB

100

105

REMOVE R2-1(35)

P.T. 138+62.82

110

115

120

REMOVE R2-1(45)

140

P.T. 140+35.13

150'

P.T. 141+99.46

P.C. 142+41.47

P.T. 143+99.06

P.I. 143+21.11

205

210

P.I. 137+38.92

P.C. 148+30.57

P.C. 150+50.73

P.I. 149+65.70

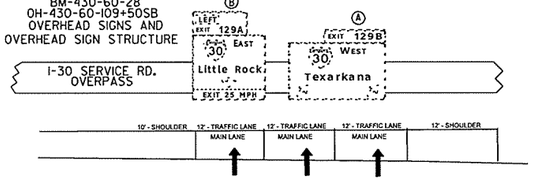
P.C. 151+57.28

P.T. 122+88.88

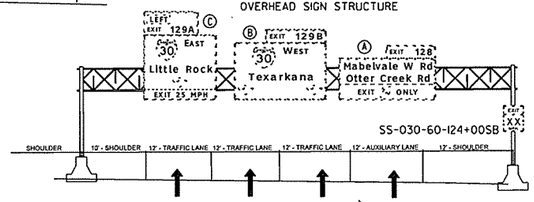
P.C. 119+89.19

P.T. 121+51.01

FUTURE
BM-430-60-28
OH-430-60-109+50SB
OVERHEAD SIGNS AND
OVERHEAD SIGN STRUCTURE



FUTURE
OH-430-60-27
OH-430-60-124+00SB
OVERHEAD SIGNS AND
OVERHEAD SIGN STRUCTURE



SS-030-60-124+00SB

FUTURE
SS-30SR-49WB

INSTALL
SS-30SR-47C-WB
SS-30SR-47D-WB

INSTALL
SS-30SR-47A-WB
BACK TO BACK

INSTALL
SS-30SR-47B-WB

FUTURE
SS-30SR-46WB

INSTALL
SS-30SR-48WB

FUTURE
WI-8 (24"X30")

FUTURE
SS-30SR-45WB

FUTURE
SS-30SR-44WB

INSTALL
EX-430-60-120+00SB
EXIT 128

FUTURE
SS-30SR-43WB

FUTURE
SS-30SR-42WB

FUTURE
SS-30SR-41WB

FUTURE
SS-30SR-40WB
WI-4 / WI3-1(35)

FUTURE
SS-30SR-39WB

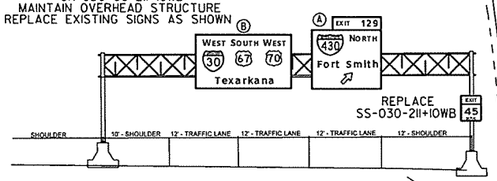
INSTALL
SS-30SR-36 & 37WB

REPLACE
EX-030-60-208+90WB
EXIT 129

FUTURE
SS-30SR-38WB

FUTURE
SS-30SR-35WB

OH-030-60-43
OH-030-60-211+10WB
MAINTAIN OVERHEAD STRUCTURE
REPLACE EXISTING SIGNS AS SHOWN

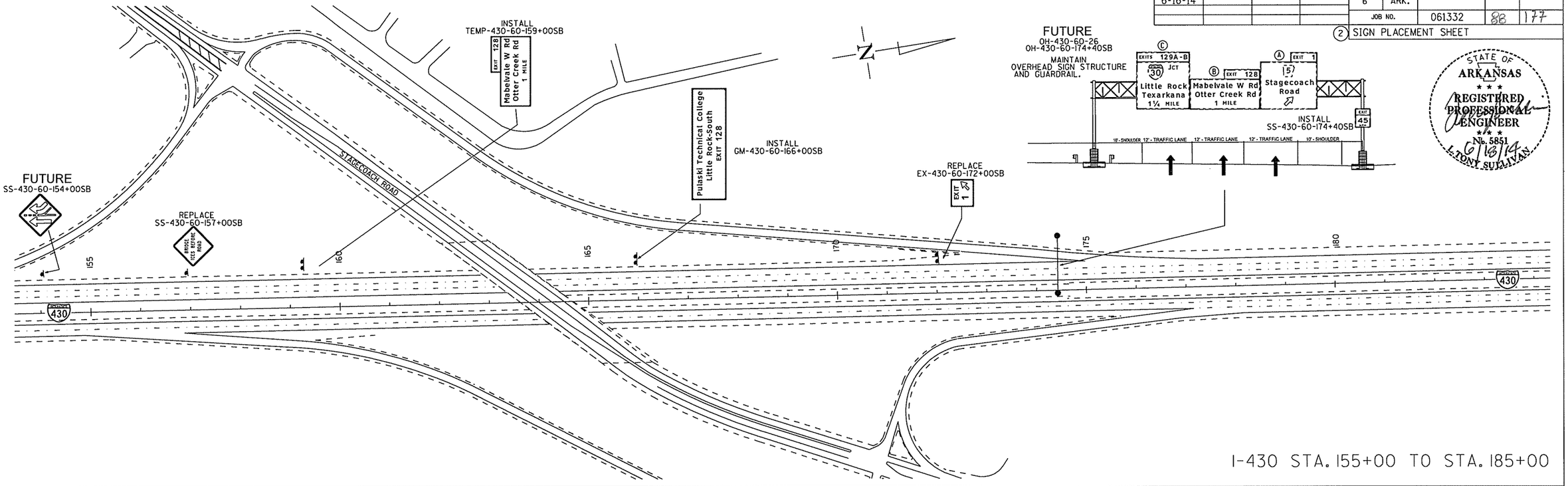


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
ANTONY SULLIVAN

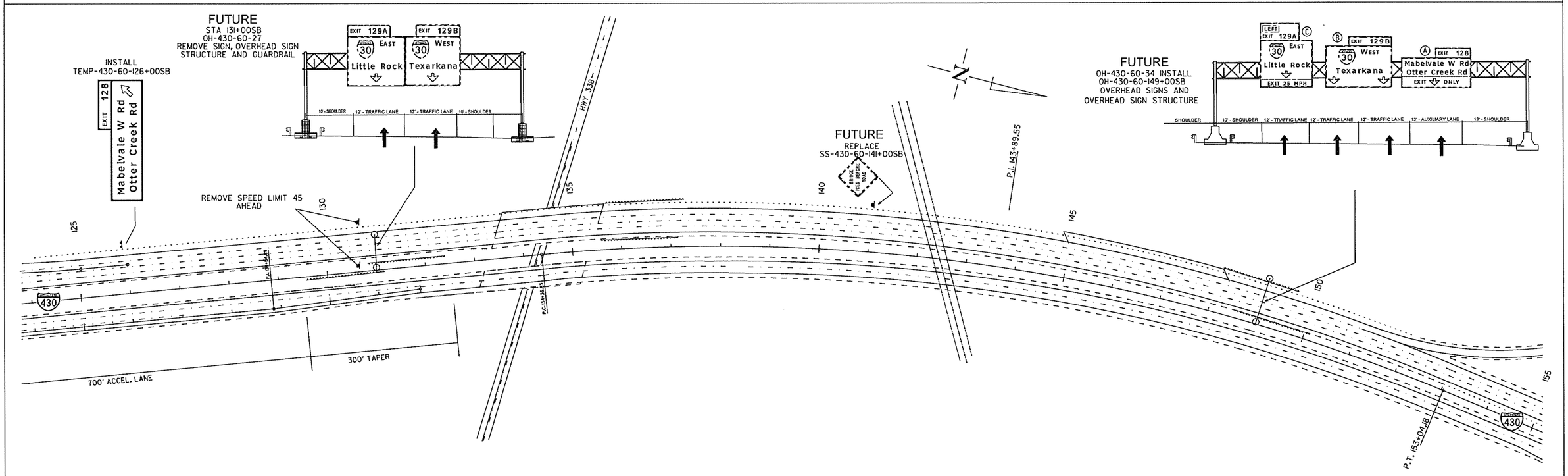
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	88	177

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/18/14
J. TONY SULLIVAN



I-430 STA. 155+00 TO STA. 185+00

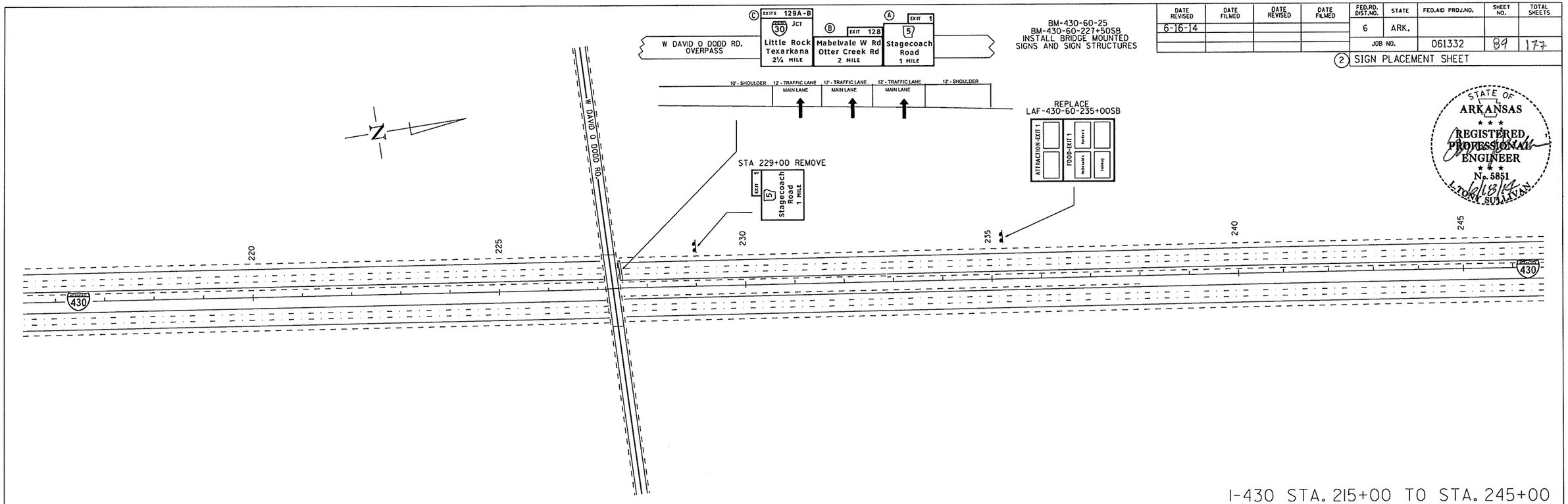


I-430 STA. 125+00 TO STA. 155+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	89	177

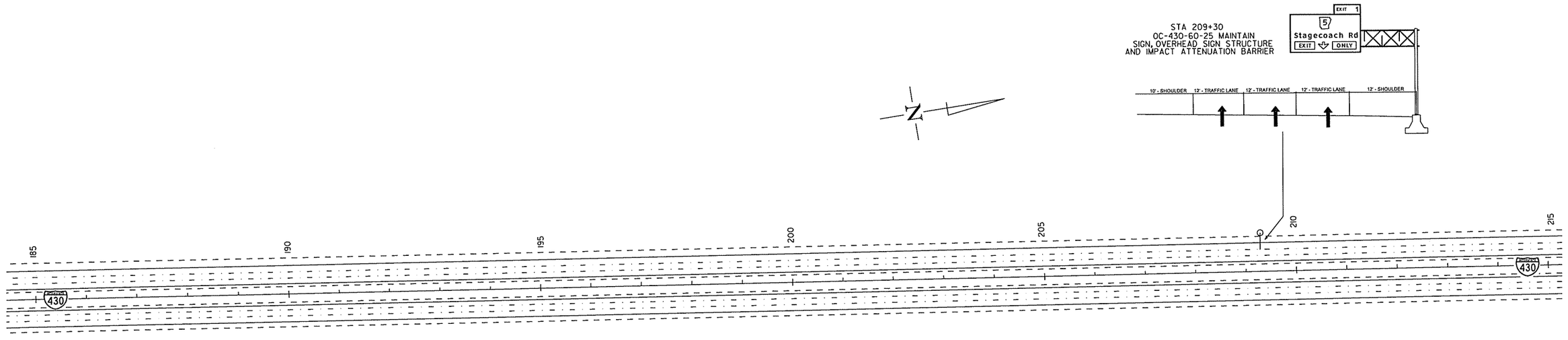
BM-430-60-25
BM-430-60-227+50SB
INSTALL BRIDGE MOUNTED
SIGNS AND SIGN STRUCTURES

(2) SIGN PLACEMENT SHEET



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
LYONS SULLIVAN
6/18/14

I-430 STA. 215+00 TO STA. 245+00



I-430 STA. 185+00 TO STA. 215+00

NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, DIVISION 700, TRAFFIC CONTROL FACILITIES.

2. THE FLASHING BEACON ASSEMBLY SHALL INCLUDE LIGHTNING SUPPRESSORS, TRAFFIC SIGNAL CABLE, TWO 12" TRAFFIC SIGNAL HEADS LED (1 SEC., 1 WAY) WITH YELLOW LENSES, FLASHING BEACON CONTROLLER AND A SOLID STATE CALENDAR DATE TIME CLOCK WITH DAYLIGHT SAVINGS TIME PROGRAMMING AND 48 HOUR POWER FAIL PROTECTION. DATE TIME CLOCK REQUIRED ONLY FOR SCHOOL ZONES. SIGNAL HEADS SHALL BE WIRED TO FLASH ALTERNATELY.

3. ANY FITTINGS, BANDS, GROUND ROD, FUSION WELD, OR ACCESSORIES NECESSARY TO MOUNT FLASHING BEACON CONTROLLER SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM FOR FLASHING BEACON CONTROLLER.

4. ALL COUPLINGS, TEES, CLAMPS, AND HARDWARE NECESSARY TO MOUNT SIGNAL HEADS SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM FOR TRAFFIC SIGNAL HEAD LED (1 SEC., 1 WAY). CONTRACTOR SHALL REMOVE SIGNS AND RE-INSTALL THEM AFTER FLASHING BEACONS ARE INSTALLED.

5. THE FLASHING BEACON CONTROLLER AND SOLAR PANEL SHOULD BE LOCATED WITHIN THE HIGHWAY RIGHT-OF-WAY, BUT AS FAR AWAY FROM THE VEHICLE TRAVEL WAY AS POSSIBLE TO AVOID VEHICLE IMPACTS.

TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FDN. DIAMETER	DEPTH 'L' *	STEEL		
			VERT.	HORZ.	O/C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY II.

12- #7

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

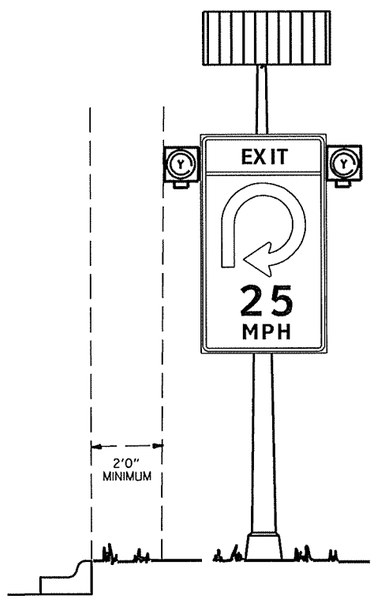
THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP.

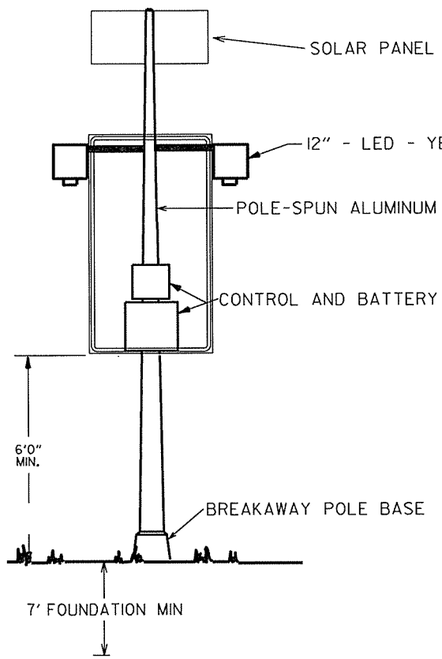
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	9 10	177

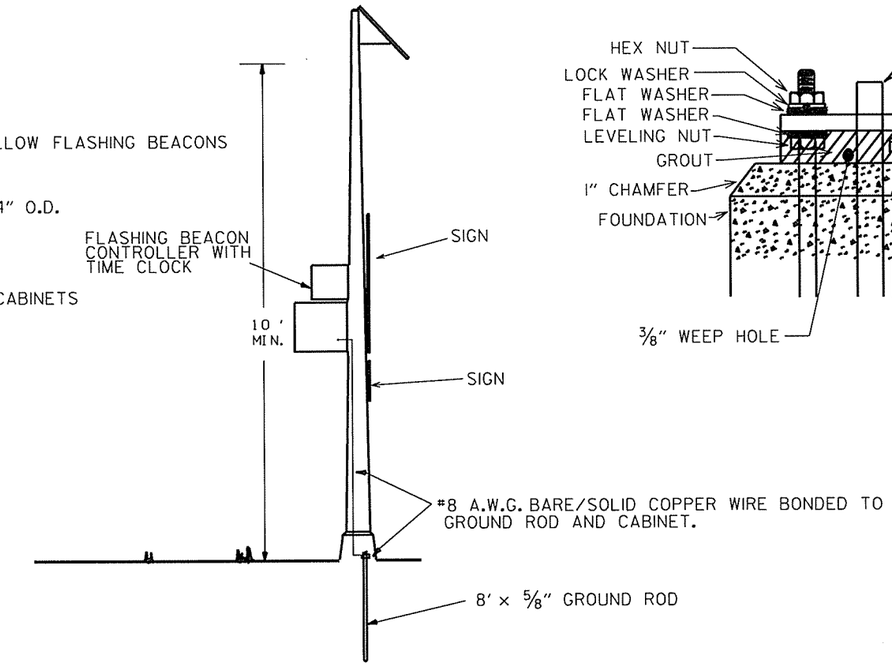
(2) FLASHING BEACON DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5851
6/13/14
L. TONY SULLIVAN

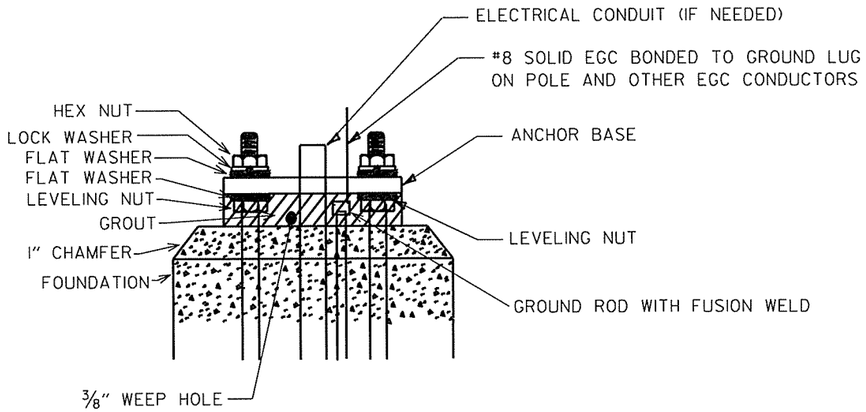
DETAIL OF SIGN SUPPORT ASSEMBLY TYPICAL INSTALLATION





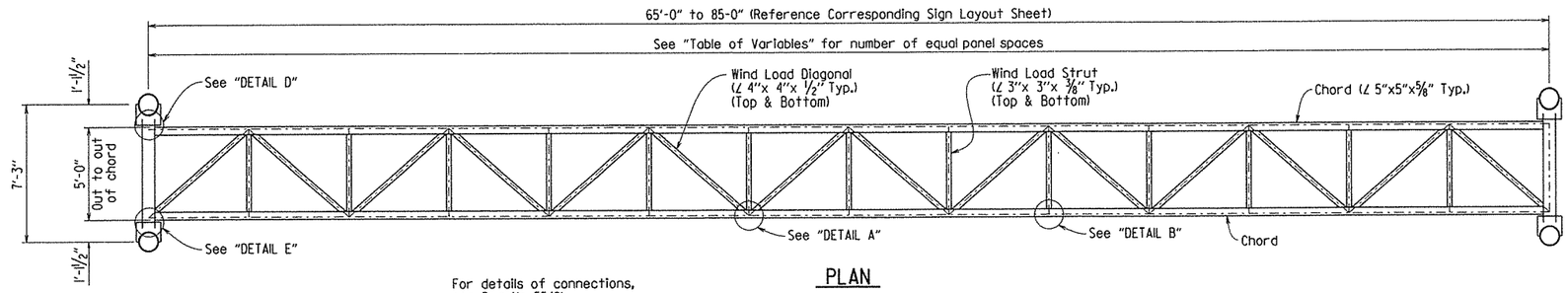


ANCHOR BASE



Flashing Beacon Assembly
Shoulder Mt, Mono Pole, Solar

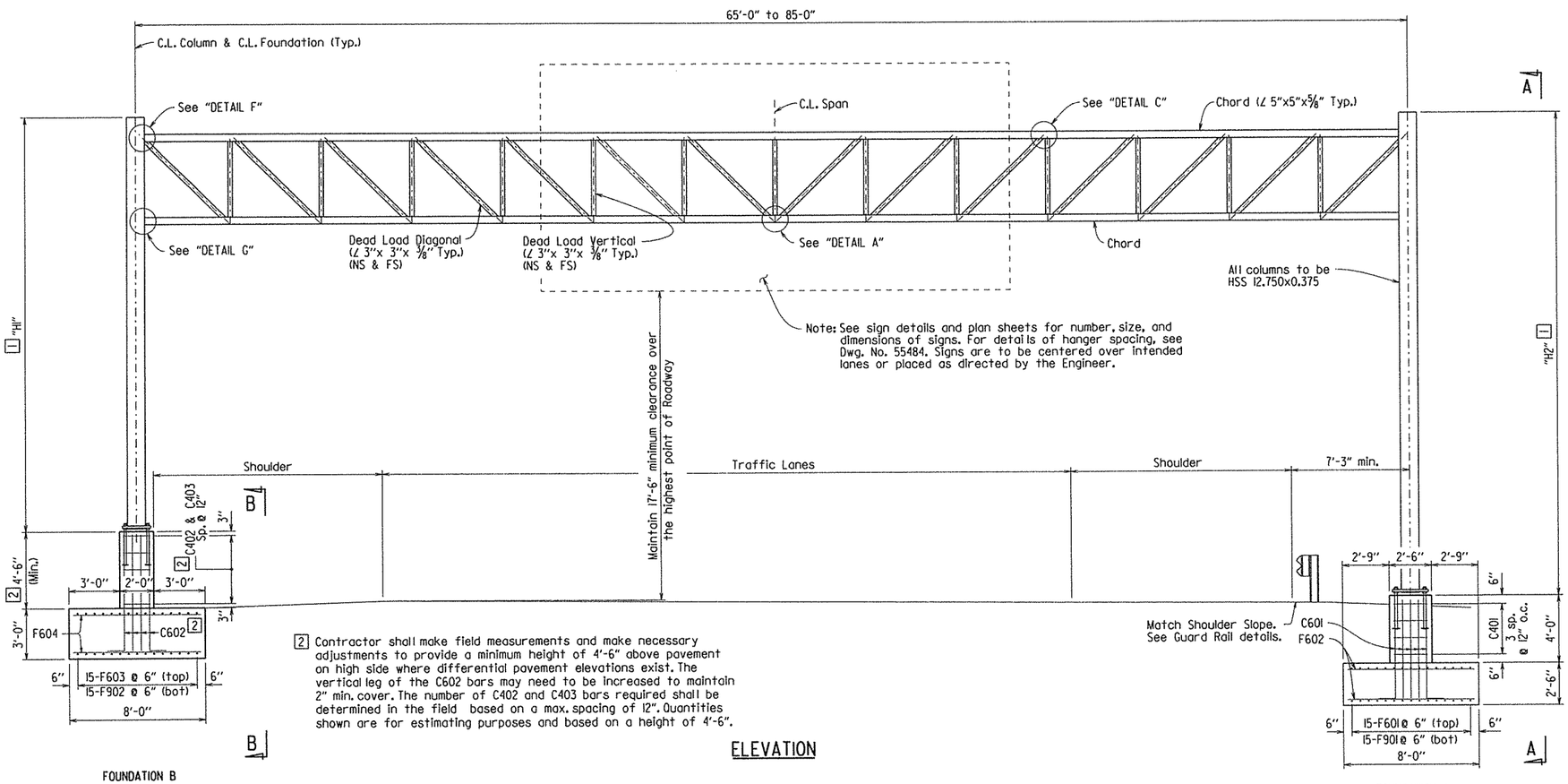
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	91	177
				(1) OH-030-60-49 & 53		SIGN STRUCTURE		55480



PLAN

For details of connections, see Dwg. No. 55481.

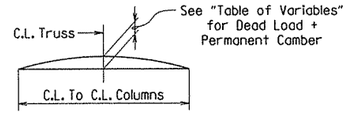
[1] The Contractor shall make field measurements to determine the Column heights "H1" and "H2" that are required to maintain the minimum vertical clearance with the centerline of the sign located at the centerline of the truss. These column heights shall be shown on the shop drawings with a note stating that the Contractor has made the required field measurements. If the structure height ("H1" or "H2") exceeds 30'-0" contact the Engineer. The Contractor shall also verify that the variable span length (65'-0" to 85'-0") is sufficient to meet the minimum clearances and to fit the new structure to the existing and/or proposed conditions.



ELEVATION

FOUNDATION B

FOUNDATION A



TRUSS CAMBER DIAGRAM

TABLE OF VARIABLES

Span (ft)	No. of Equal Panel Spaces	Dead Load + Permanent Camber
65' thru 75'	14	1"
76' thru 85'	16	1¼"

APPROXIMATE QUANTITIES FOR FOUNDATION (FOR INFORMATION ONLY)

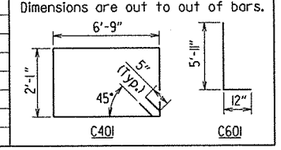
FOUNDATION	CLASS S CONCRETE (Cu. Yds.)	REINFORCING STEEL (Lbs.)	EXCAVATION (Cu. Yds.)
A	17.2	2659	51
B	22.0	3137	26

TABLE OF FOUNDATIONS

FOUNDATION		SIGN STRUCTURE
MEDIAN	OUTSIDE SHOULDER	
B	A	OH-030-60-49 & OH-030-60-53

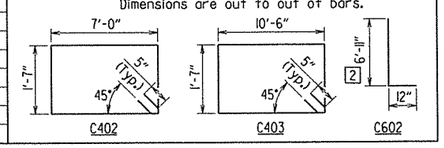
BAR LIST-FOUNDATION 'A'

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
C401	8	18'-2"	3"	Dimensions are out to out of bars.
C601	48	6'-9"	4½"	
F601	15	17'-6"	Str.	
F602	70	7'-6"	Str.	
F901	15	17'-6"	Str.	



BAR LIST-FOUNDATION 'B'

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
C402	[2] 10	17'-8"	3"	Dimensions are out to out of bars.
C403	[2] 5	24'-8"	3"	
C602	74	[2] 7'-9"	4½"	
F603	15	17'-6"	Str.	
F604	70	7'-6"	Str.	
F902	15	17'-6"	Str.	



STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS
BRIDGE ENGINEER

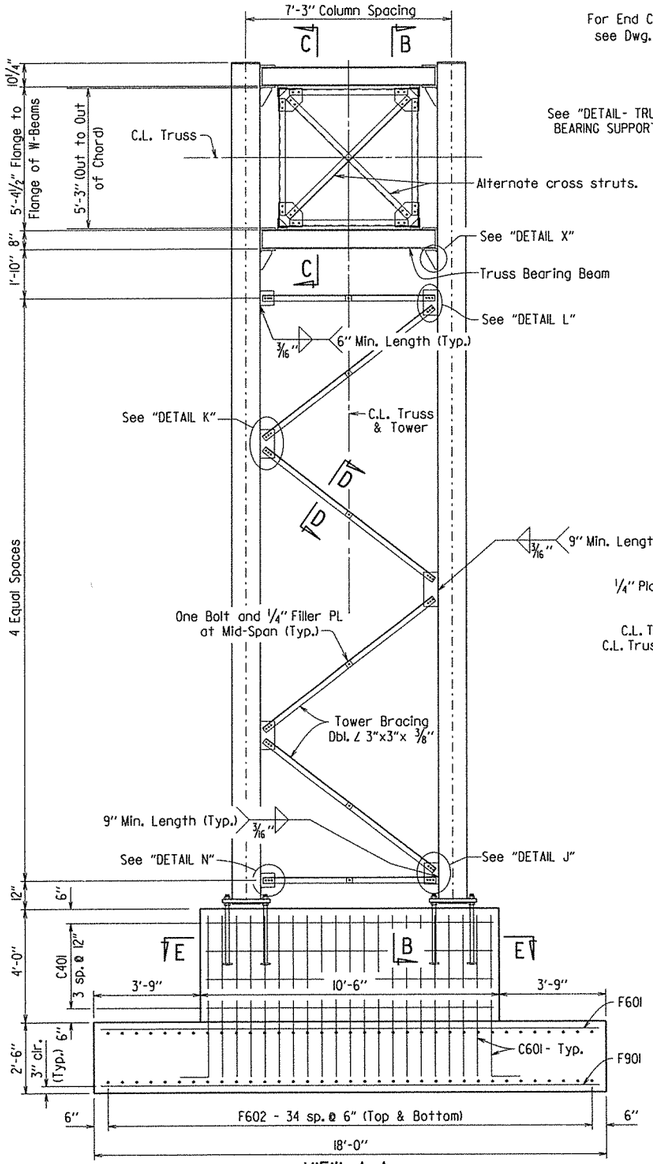
SHEET 1 OF 5
DETAILS FOR 65' TO 85'
STEEL OVERHEAD SIGN STRUCTURES
PULASKI COUNTY

ROUTE 30 SEC. 23
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

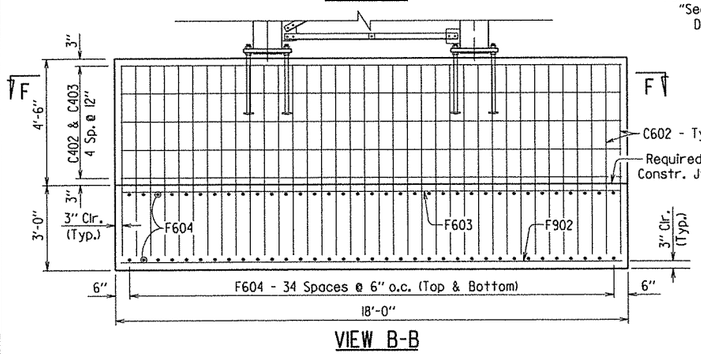
DRAWN BY: CMW DATE: 03/10/14 FILENAME: b061332_t1.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: NOT TO SCALE
DESIGNED BY: STD DATE:
STR. NO. OH-030-60-49 & 53 DRAWING NO. 55480

PRINT DATE: 6/17/2014

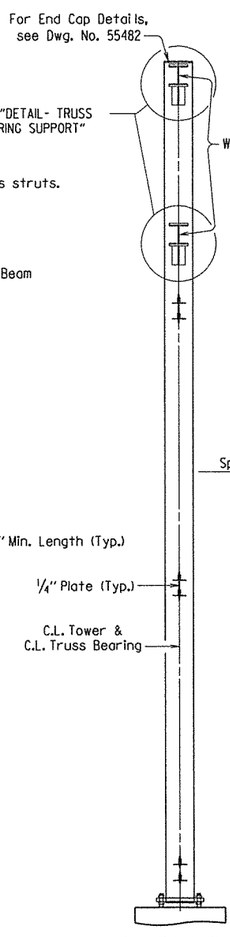
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	92	177
				(1) OH-030-60-49 & 53		SIGN STRUCTURE		55481



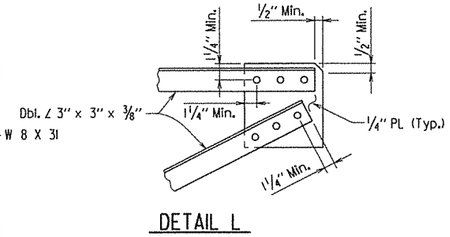
VIEW A-A



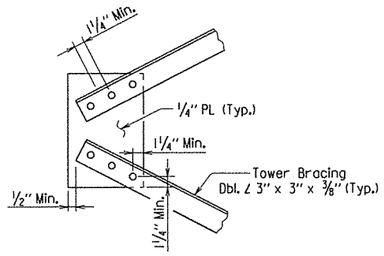
VIEW B-B



SECTION B-B



DETAIL L



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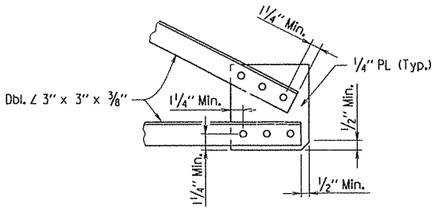
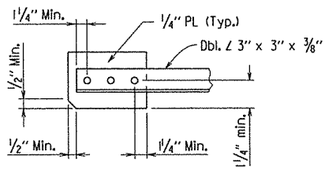
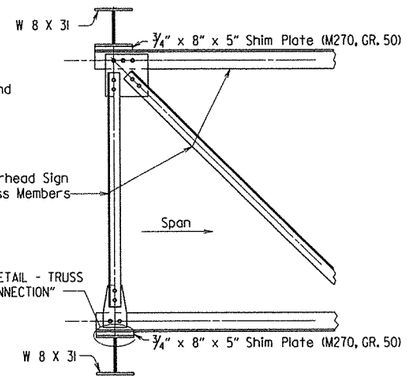


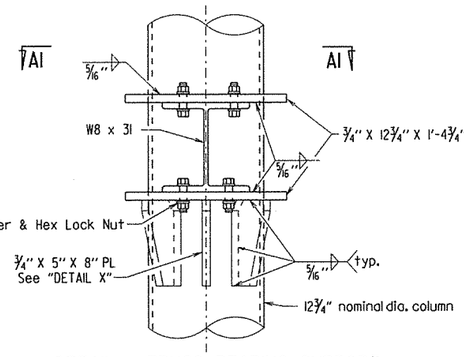
DETAIL J



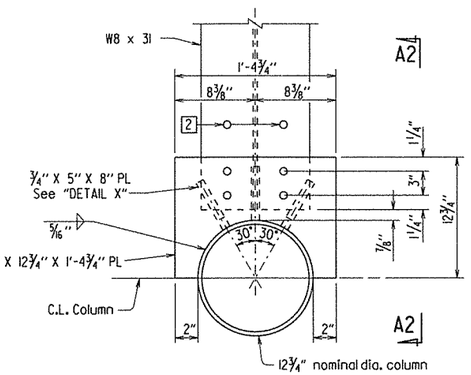
DETAIL N



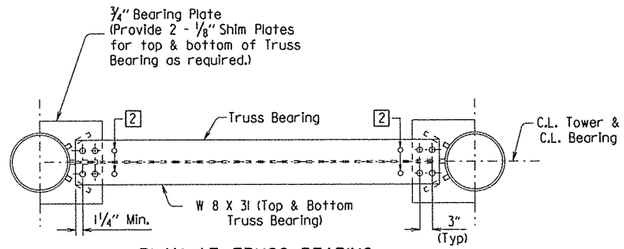
SECTION C-C



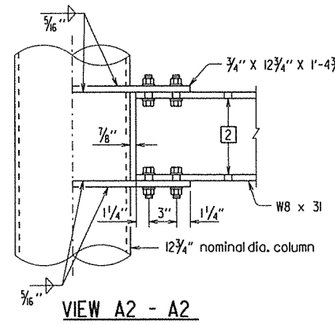
DETAIL - TRUSS BEARING SUPPORT



VIEW A1 - A1

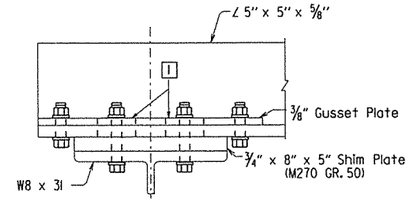


PLAN AT TRUSS BEARING

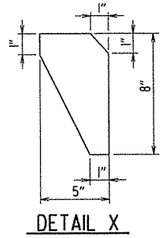


VIEW A2 - A2

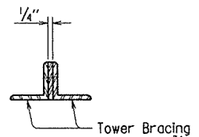
3/4" X 5" X 8" Plate not shown for clarity



DETAIL - TRUSS CONNECTION



DETAIL X



SECTION D-D

1 Slotted Hole in Gusset Plate and Chord Angle 11/16" X 2". Use plate washer on Gusset plate side. 11/16" ø holes in 3/4" shim plate and beam flange.

2 11/16" Dia. holes at top or bottom flanges as required.

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-13-14
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 2 OF 5
DETAILS FOR 65' TO 85'
STEEL OVERHEAD SIGN STRUCTURES
PULASKI COUNTY

ROUTE 30 SEC. 23
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 03/10/14 FILENAME: b061332_ti.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: NOT TO SCALE
DESIGNED BY: STD DATE:

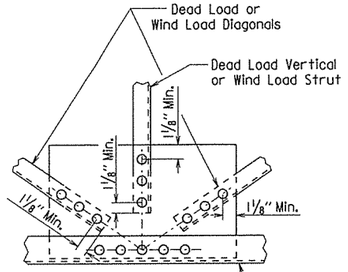
STR. NO. OH-030-60-49 & 53 DRAWING NO. 55481

PRINT DATE: 6/17/2014

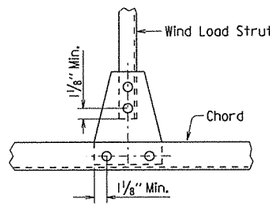
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	93	177
				(1) OH-030-60-49 & 53		SIGN STRUCTURE		55482

Note: All Gusset Plate thicknesses shall be 3/8".

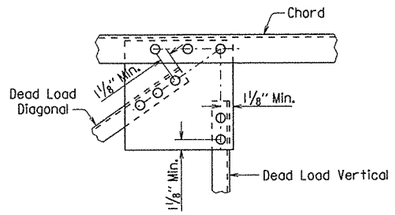
[1] Slotted Hole in Gusset Plate and Chord Angle 11/16" X 2". Use plate washer on Gusset plate side. 11/16 "ø holes in 3/4" shim plate and beam flange.



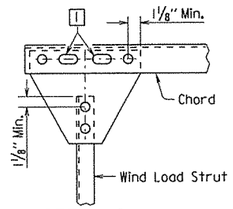
DETAIL A



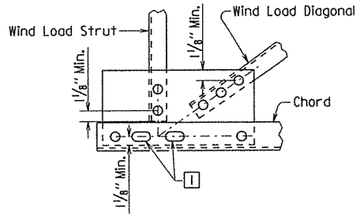
DETAIL B



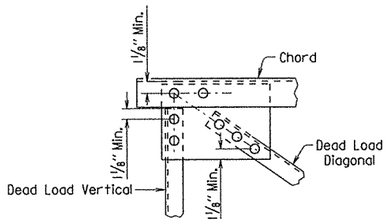
DETAIL C



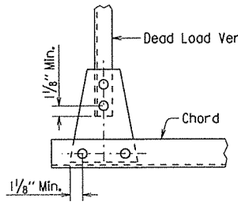
DETAIL D



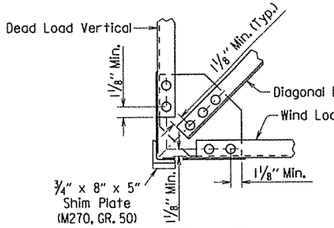
DETAIL E



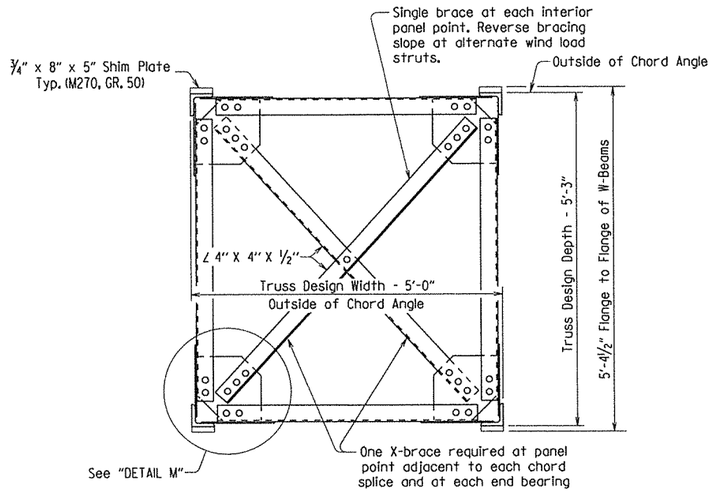
DETAIL F



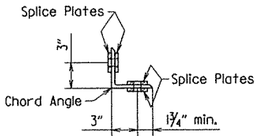
DETAIL G



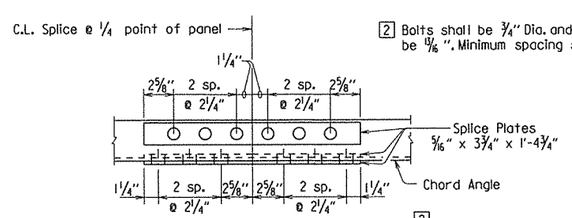
DETAIL M



TRUSS SECTION

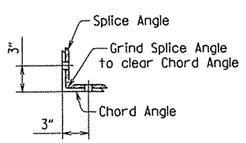


SECTION ON C.L. SPLICE

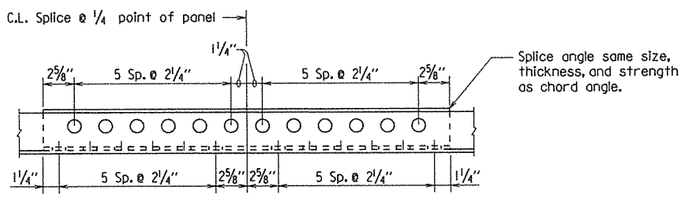


[2] Bolts shall be ¾" Dia. and holes shall be 11/16 ". Minimum spacing shall be 2¼".

CHORD SPLICE USING PLATES [2]

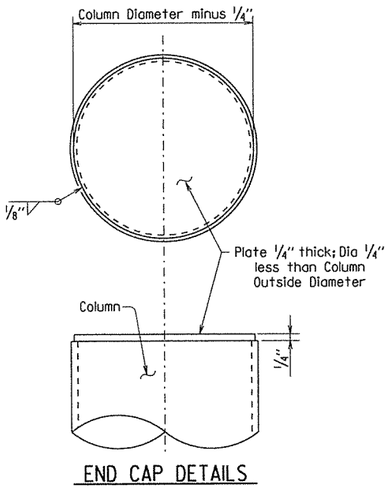


SECTION ON C.L. SPLICE

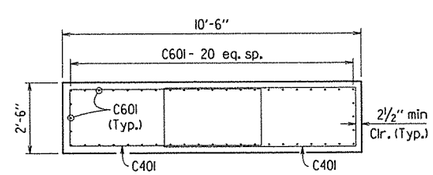


OPTIONAL CHORD SPLICE USING ANGLES [2]
Place Splice Angle on inside of Truss

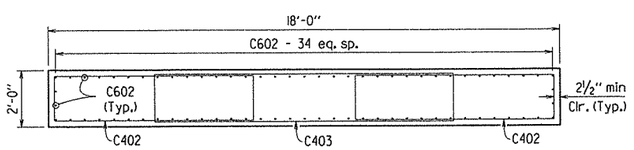
Note: Chord angles may be spliced in convenient lengths for galvanizing and sign placement.



END CAP DETAILS



SECTION E-E
Foundation A



SECTION F-F
Foundation B

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9335
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 3 OF 5
DETAILS FOR 65' TO 85'
STEEL OVERHEAD SIGN STRUCTURES
PULASKI COUNTY

ROUTE 30 SEC. 23
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 03/10/14 FILENAME: b061332_tl.dgn
CHECKED BY: PHP DATE: 6-17-14 SCALE: NOT TO SCALE
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STR. NO. OH-030-60-49 & 53 DRAWING NO. 55482

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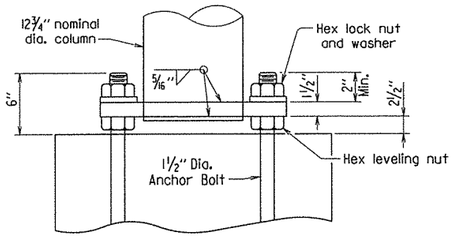
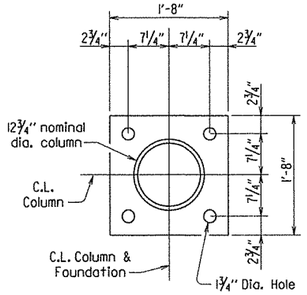
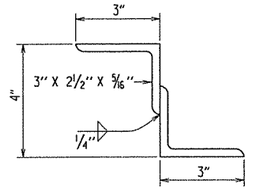
06/16/2014				6	ARK.			
				JOB NO.		061332	04	177
				1 OH-030-60-49 & 53		SIGN STRUCTURE		55483



ELEVATION - COLUMN BASE

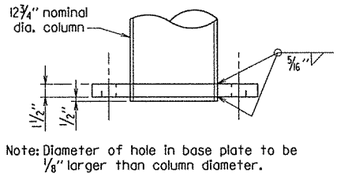


PLAN - COLUMN BASE



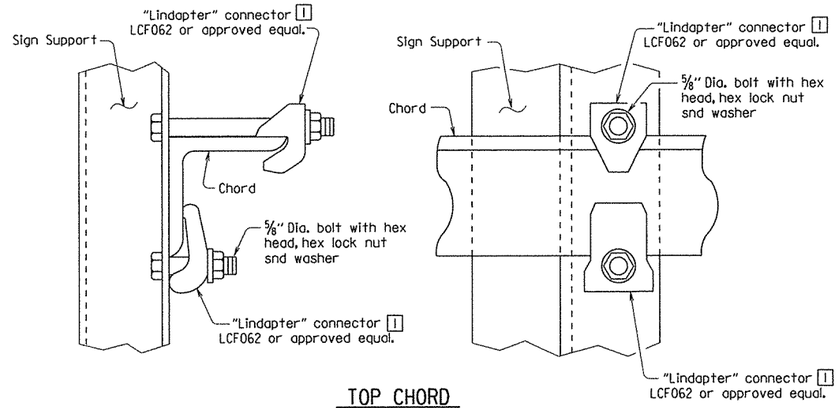
NOTE: Structural Z support may be fabricated from angles as shown.

DETAILS OF ALTERNATE Z SUPPORT

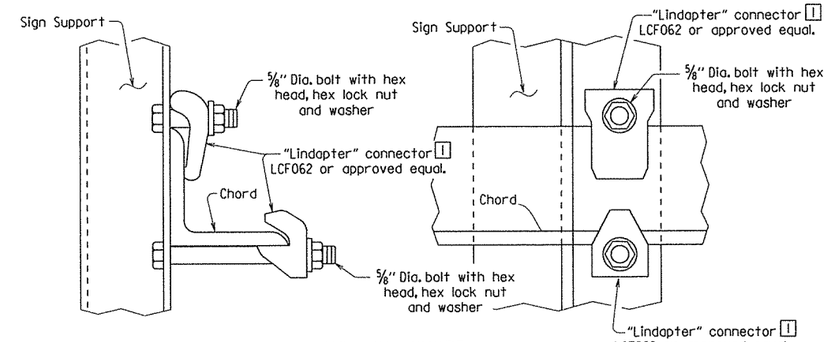


Note: Diameter of hole in base plate to be ⅛" larger than column diameter.

DETAIL OF COLUMN CONNECTION TO BASE PLATE



TOP CHORD

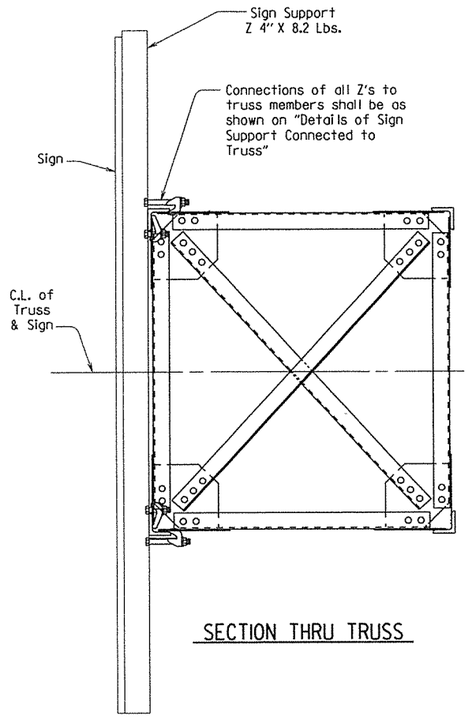


BOTTOM CHORD

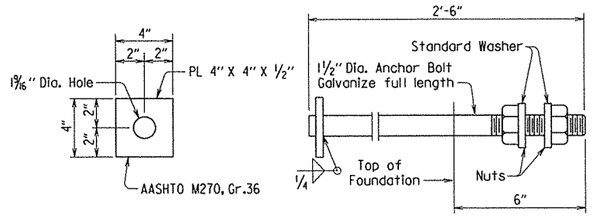
[1] Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recommendations. All connectors, bolts, nuts and washers shall be galvanized.

Note: Install all support connectors clear of the gusset plates and splice locations.

DETAIL OF SIGN SUPPORT CONNECTED TO TRUSS



SECTION THRU TRUSS



Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts for bolts shall be as specified in Section 807.07.

ANCHOR BOLT DETAIL

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 4 OF 5
DETAILS FOR 65' TO 85'
STEEL OVERHEAD SIGN STRUCTURES
PULASKI COUNTY

ROUTE 30 SEC. 23

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 03/10/14 FILENAME: b061332_ti.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: NOT TO SCALE
DESIGNED BY: STD DATE:

STR. NO. OH-030-60-49 & 53 DRAWING NO. 55483

PRINT DATE: 6/17/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	05	177
				1	OH-030-60-49 & 53	SIGN STRUCTURE		55484

GENERAL NOTES:
Construction Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2014, with applicable special provisions and Supplemental Specifications.

Design Specifications: Standard Specifications for Structural supports for Highway Signs, Luminaries and Traffic Signals, AASHTO Fifth Edition 2009.

Basic Wind Speed = 90 m.p.h.

Fatigue Category I

This structure is approved for a sign area equivalent to 75% of the span at 15' tall. Use of additional sign area must be approved by the Engineer. If the structure height ('H1' or 'H2') exceeds 30'-0" contact the engineer.

FOUNDATION MATERIALS AND STRENGTHS:
Class S Concrete f 'c = 3,500 psi
Reinforcing Steel (Grade 60, AASHTO M31 or M322, Type A) fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:

Angles:	AASHTO M270, Grade 36 (Fy = 36,000 psi).
Plate, W-Section, WT-Section:	AASHTO M270, Grade 50 (Fy = 50,000 psi).
[1] Pipe:	ASTM A139 Grade C, straight-seam welded (Fy = 42,000 psi).
	ASTM A500 Grade B (Fy = 42,000 psi).
	ASTM A501 Grade B (Fy = 50,000 psi).
	ASTM A714 Class 2, Grade II, Type E or S (Fy = 50,000 psi).
All grades of pipe require Heat traceability back to the original melting mill	
Z-Shapes:	AASHTO M270, Grade 36 (Fy = 36,000 psi).
Shim Plates:	ASTM A1011, SS, Grade 36, Type 2, or Grade 40.
Bolts:	ASTM A325, Type 1
Locknuts - Approved Type:	Meeting or exceeding AASHTO M292
Washers:	ASTM F436
Nuts:	ASTM A563 or AASHTO M292, Grade 2H or Grade DH (Grade 10S)

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized.

Drawings show general features of design only. Shop drawings shall be made in accordance with section 807.04, submitted, and approval secured before fabrication is begun.

No circumferential butt welds will be allowed in any pipe sections.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be 5/8" diameter and open holes shall be 11/16". Bolt spacing shall be 2 1/4" for 5/8" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to subsection 807.26.

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with subsection 807.07. Anchor bolts shall be pretensioned in accordance with Special Provision Job 061332 "STEEL SIGN STRUCTURES".

All truss frame bolts shall comply with ASTM A325 Type I, galvanized according to subsection 807.06, Nuts and washers for ASTM A325 Type I bolts shall be furnished and galvanized in accordance with subsection 807.06.

Field splices shall be located In order to avoid sign panel connections, There shall be a maximum of two field splices and they shall be spaced a minimum of 15 ft. apart.

All main load carrying tension members greater than ½" in thickness shall conform to the requirements of the Longitudinal Charpy V-notch test specified for Zone I minimum service temperature. This work and materials shall be paid for in accordance with Special Provision Job 061332 "STEEL SIGN STRUCTURES".

All fillet welds of critical members shall be tested according to AWS D1.1 Structural Welding Code - Steel, using the magnetic particle method, Critical welds shall include: column to base plate and truss bottom support to column.

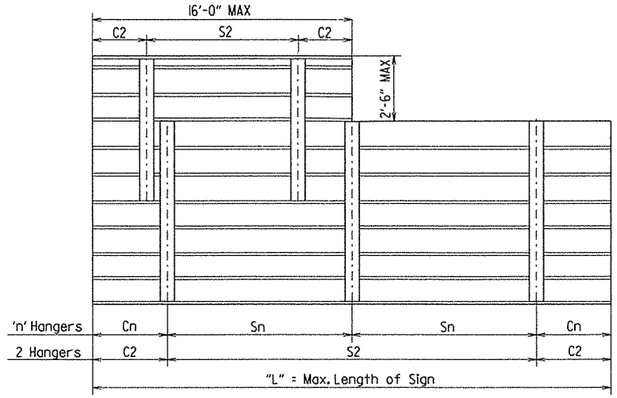
Truss field sections shall be shop assembled. Entire truss shall be fully assembled and lifted into place as one unit on to tower supports. All truss member connections shall be bolted connections.

Lock nuts to be equipped with nylon locking inserts or other approved type locking system. Lock nuts to be installed according to manufacturer's recommendations.

The excavations for the footings shall be back-filled before the structure is attached to the foundations.

Galvanized Coating damaged during transport, handling, or erection shall be field repaired in accordance with section 807.88.

The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the new structures to the existing conditions.



Note: See sign details and plan sheets for number, size and dimensions of signs.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS

HANGER VARIABLES

Max. Length of Sign = "L"	"n" Hangers	Cantilever Length "Cn"	Hanger Spacing 'Sn'
15'-0"	2 Hangers	0.21 x 'L'	0.58 x 'L'
30'-0"	3 Hangers	0.145 x 'L'	0.355 x 'L'
45'-0"	4 Hangers	0.107 x 'L'	0.262 x 'L'

Hanger spacing and cantilever length shall be rounded to the nearest inch.

[1] In addition to material requirements, all pipe used for welded applications shall have a maximum carbon equivalency (CE) of 0.4 using the following equation: CE = %C + Mn/6 + %Cu/40 + %Ni/20 + %Cr/10 - %Mo/50 - %V/10

ISOMETRIC VIEW

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 5 OF 5
DETAILS FOR 65' TO 85'
STEEL OVERHEAD SIGN STRUCTURES
PULASKI COUNTY

ROUTE 30 SEC. 23
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 03/10/14 FILENAME: b061332_t1.dgn
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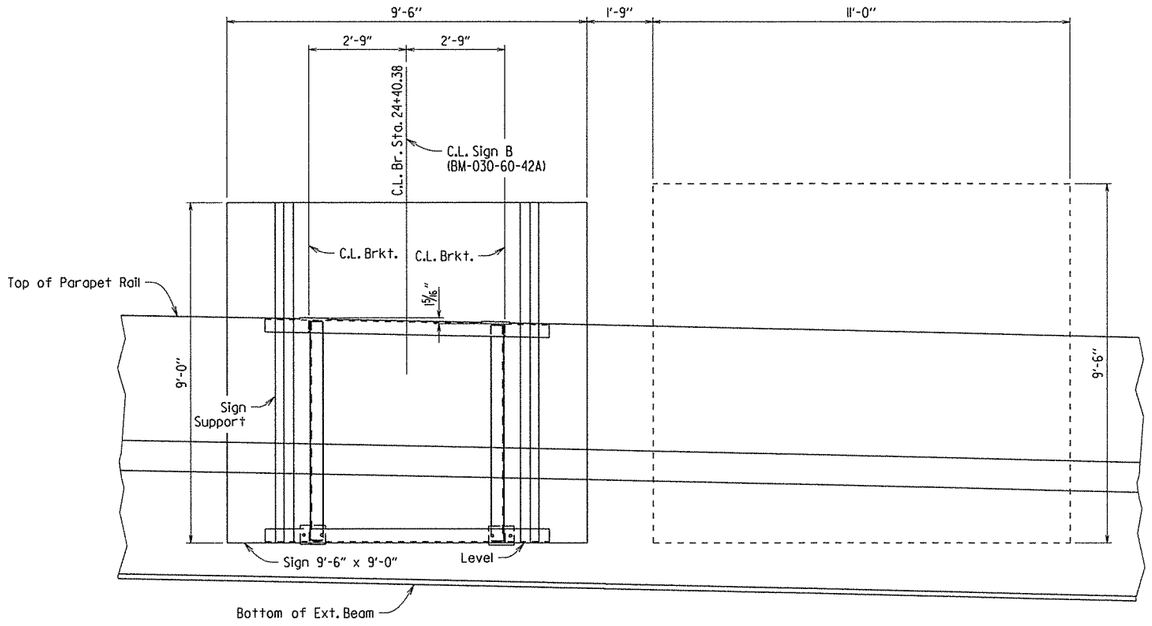
STR. NO. OH-030-60-49 & 53 DRAWING NO. 55484

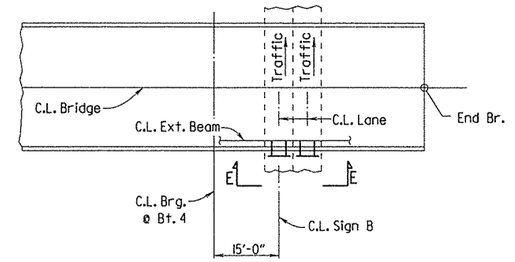
PRINT DATE: 6/17/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	96	177

(1) BM-030-60-42A - SIGN STR. - 55485

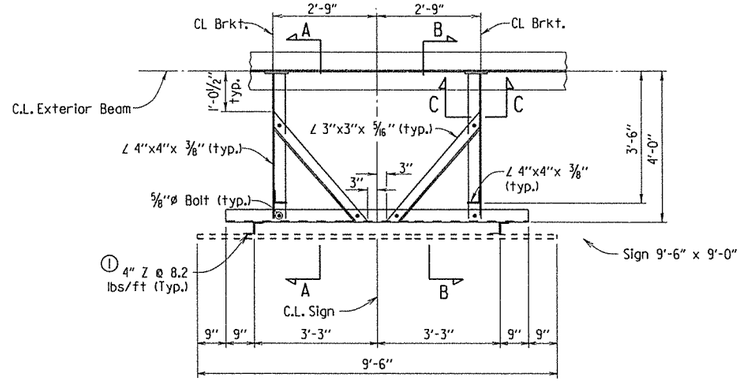


VIEW E-E (NORMAL TO BRIDGE)
No Scale

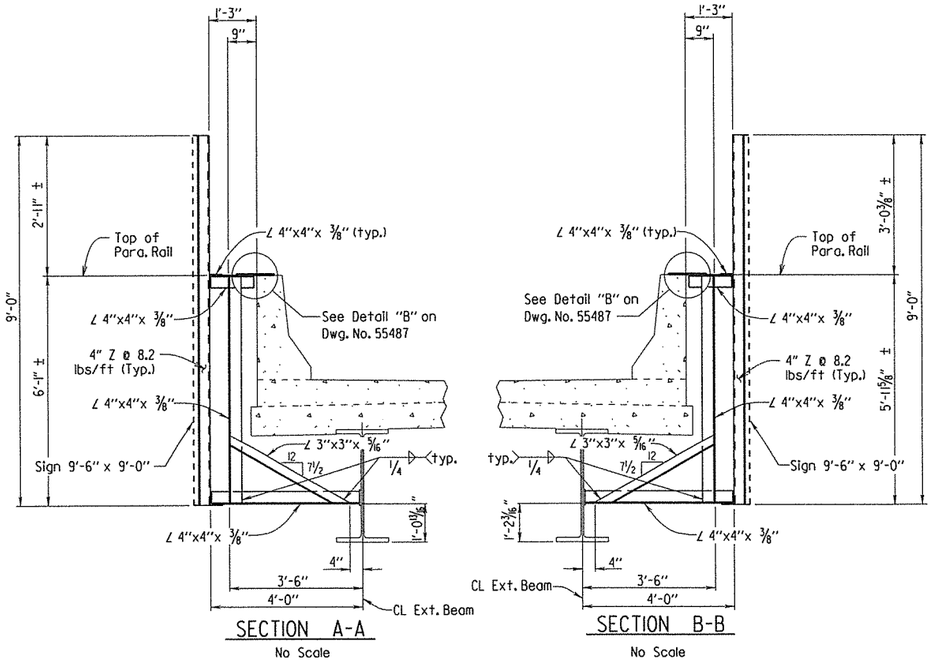


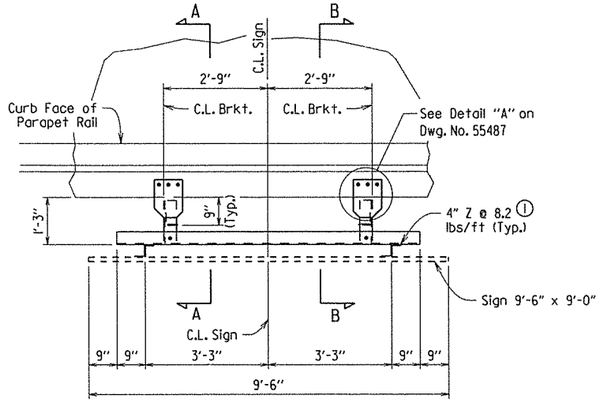
LOCATION SKETCH
BM-030-60-42A

For Section C-C, see Dwg. No. 55487.



LOWER BRACING DETAIL
(BM-030-60-42A Sign B)
No Scale





UPPER BRACING DETAIL
(BM-030-60-42A Sign B)
No Scale

(1) For Details of Connection of Sign Support to top and bottom chords, See Detail "H" Dwg. No. 55487.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF SIGN STRUCTURE BM-030-60-42A
PULASKI COUNTY

ROUTE 30 SEC. 23

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

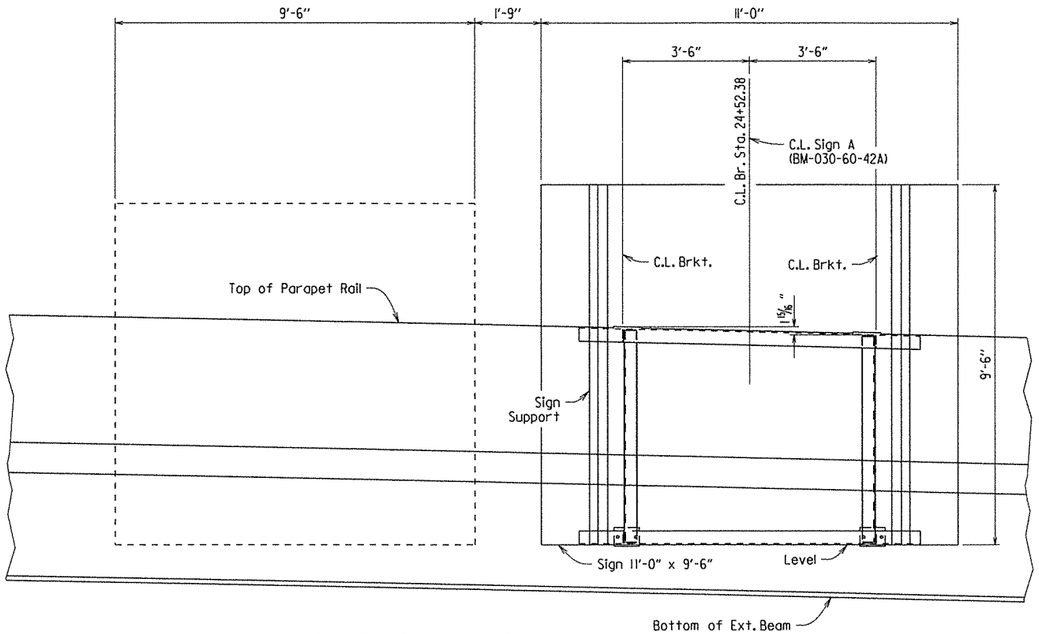
DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:

STR. NO. BM-030-60-42A DRAWING NO. 55485

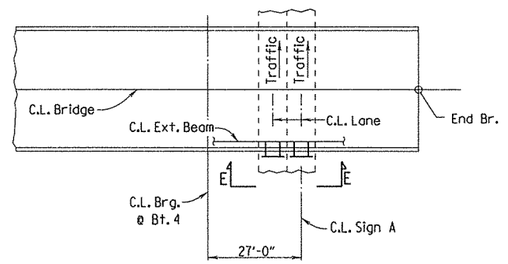
PRINT DATE: 6/17/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	97	177

① BM-030-60-42A - SIGN STR. - 55486

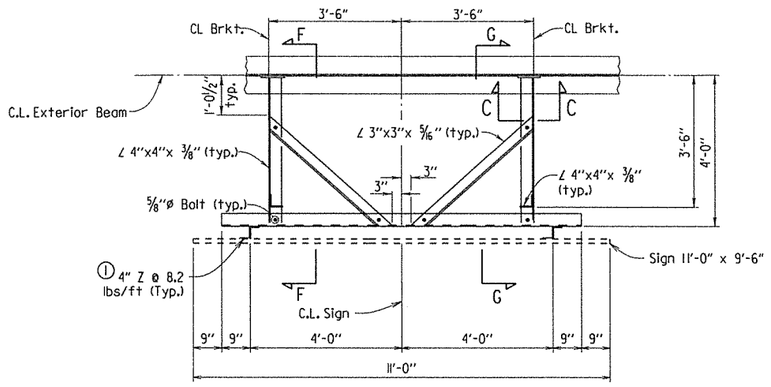


VIEW E-E (NORMAL TO BRIDGE)
No Scale

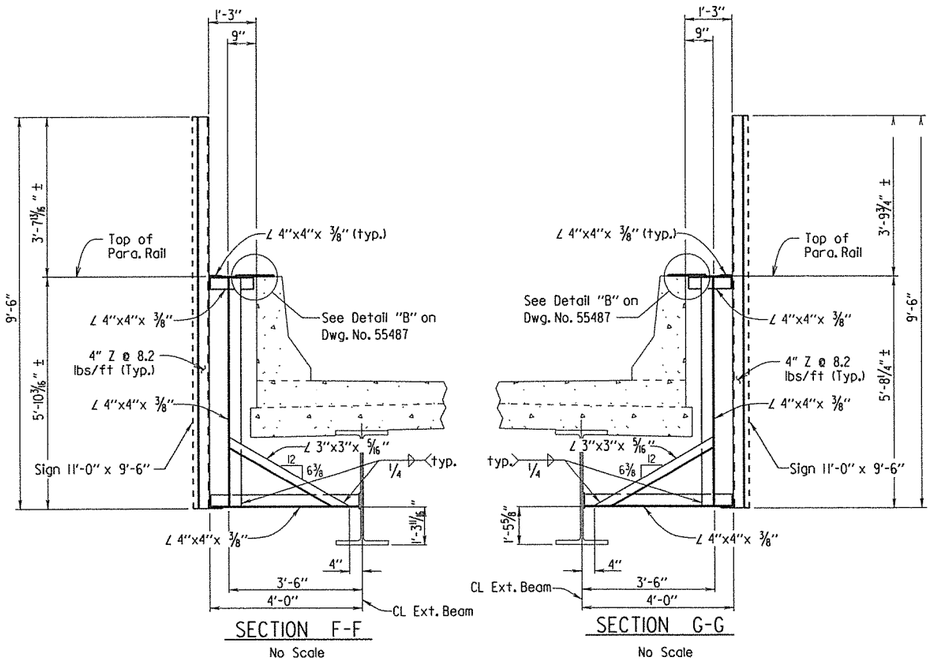


LOCATION SKETCH
BM-030-60-42A

For Section C-C, see Dwg. No. 55487.

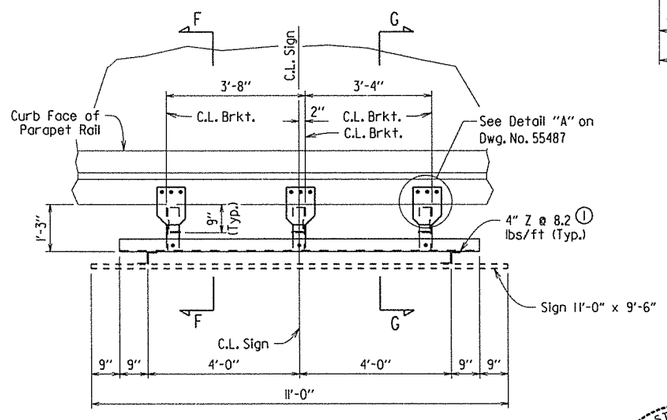


LOWER BRACING DETAIL
(BM-030-60-42A Sign A)
No Scale



SECTION F-F
No Scale

SECTION G-G
No Scale



UPPER BRACING DETAIL
(BM-030-60-42A Sign A)
No Scale

① For Details of Connection of Sign Support to top and bottom chords, See Detail "H" Dwg. No. 55487.

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
1-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF SIGN STRUCTURE BM-030-60-42A
PULASKI COUNTY

ROUTE 30 SEC. 23

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:

STR. NO. BM-030-60-42A DRAWING NO. 55486

PRINT DATE: 6/17/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	98	177
				① BM-030-60-42A, 42B & BM-430-60-25		- SIGN STR. - 55487		

GENERAL NOTES:
Construction Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2014, with applicable special provisions and Supplemental Specifications.

Design Specifications: Standard Specifications for Structural supports for Highway Signs, Luminaries and Traffic Signals, AASHTO Fifth Edition 2009.

Basic Wind Speed = 90 m.p.h.

Fatigue Category I

Structural steel sign support members shall comply with the following specifications:

Angles:	AASHTO M270, Grade 36 (Fy = 36,000 psi).
Plate:	AASHTO M270, Grade 50 (Fy = 50,000 psi).
Z-Shapes:	AASHTO M270, Grade 36 (Fy = 36,000 psi).
Bolts:	ASTM A325.
Locknuts - Approved Type:	Meeting or exceeding AASHTO M292
Washers:	ASTM F436.
Nuts:	ASTM A563 or AASHTO M292, Grade 2H or Grade DH (Grade IOS).

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized.

Drawings show general features of design only. Shop drawings shall be made in accordance with section 807.04, submitted, and approval secured before fabrication is begun.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

All welding that is to be done during fabriaction of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to subsection 807.26

Connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be 5/8" diameter and open holes shall be 11/16". Bolt spacing shall be 2 1/4" for 5/8" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

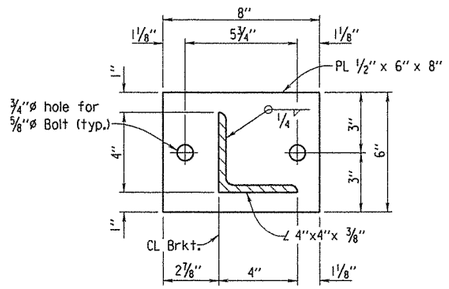
All frame bolts shall comply with ASTM A325 Type 1, galvanized according to subsection 807.06, Nuts and washers for ASTM A325 Type 1 bolts shall be furnished and galvanized in accordance with subsection 807.06.

Lock nuts to be equipped with nylon locking inserts or other approved type locking system. Lock nuts to be installed according to manufacturer's recommendations.

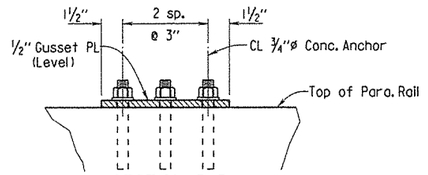
Galvanized Coating damaged during transport, handling, or erection shall be field repaired in accordance with section 807.88.

Surfaces of plates in contact with concrete or beam web shall be coated with a thick layer of asphaltic paint and allowed to dry before erection. Preformed pads 1/8" conforming to Section 808 of the Standard Specifications may be used in lieu of asphaltic paint coating for steel plates in contact with beam web or concrete parapet.

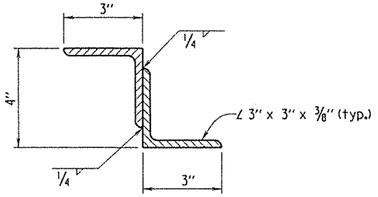
The Contractor shall make check measurements in the field and make any adjustments necessary to avoid any diaphragm, parapet joints or hand rail supports on the bridge. This may include shifting the sign structures with approval from the Engineer.



SECTION C-C
No Scale



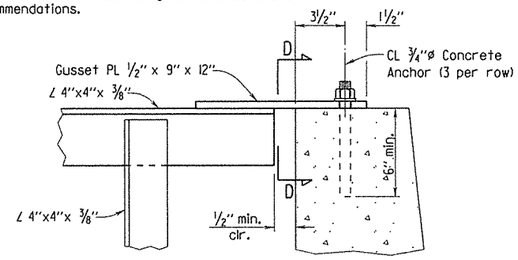
SECTION D-D
No Scale



Structural Z Sign Support may be fabricated from angles as shown.

DETAILS OF ALTERNATE Z SIGN SUPPORT
No Scale

The concrete anchors shall be an approved type and installed according to manufacturers recommendations.



DETAIL B
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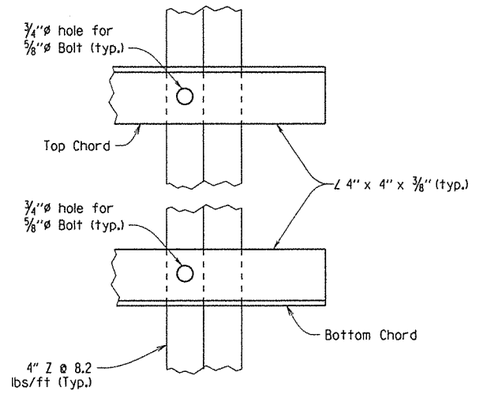
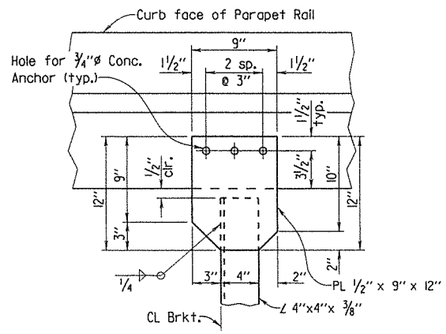


DETAIL H
No Scale



DETAIL A
No Scale

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

COMMON DETAILS OF BRIDGE MOUNTED SIGN STRUCTURES PULASKI COUNTY

ROUTE 30 & 430 SEC. 23 & 21

ARKANSAS STATE HIGHWAY COMMISSION

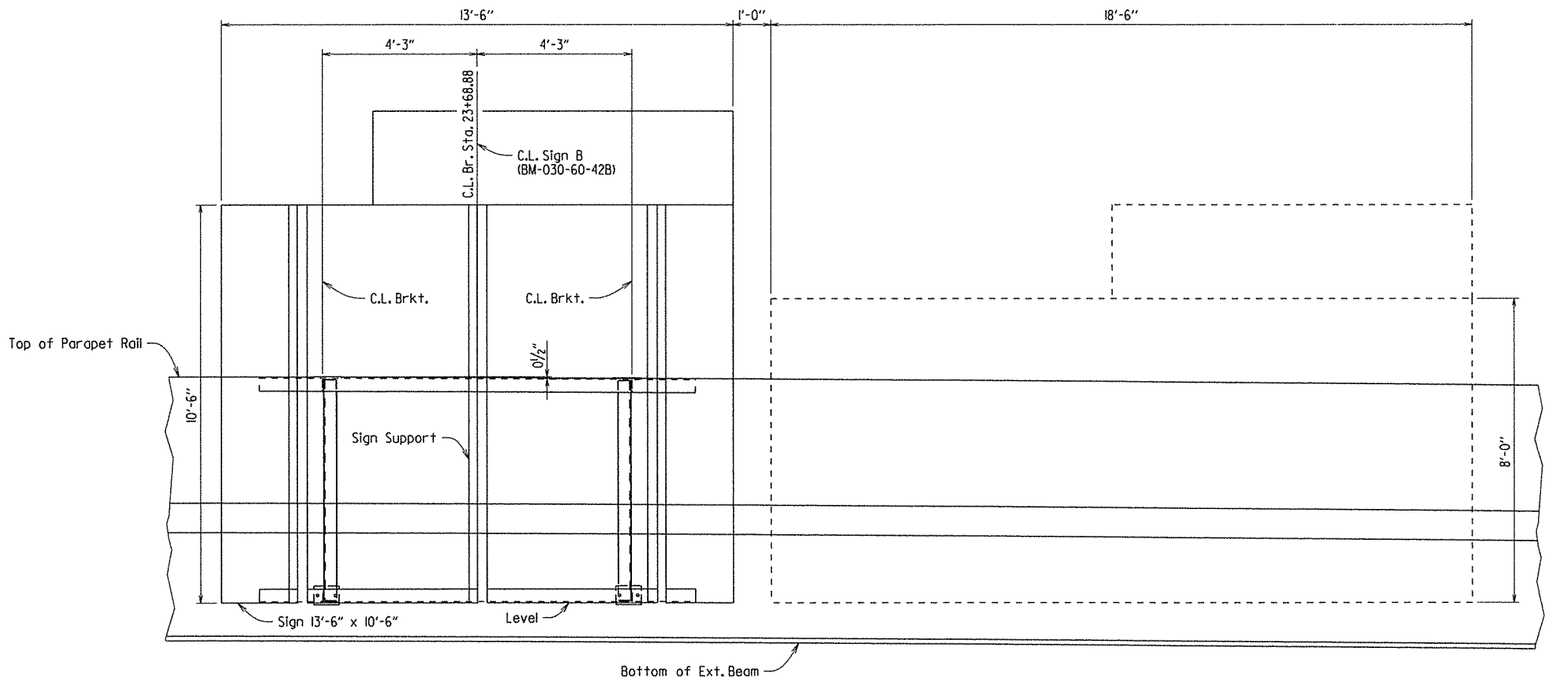
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:
STR. NOS. BM-030-60-42A, 42B & BM-430-60-25 DRAWING NO. 55487

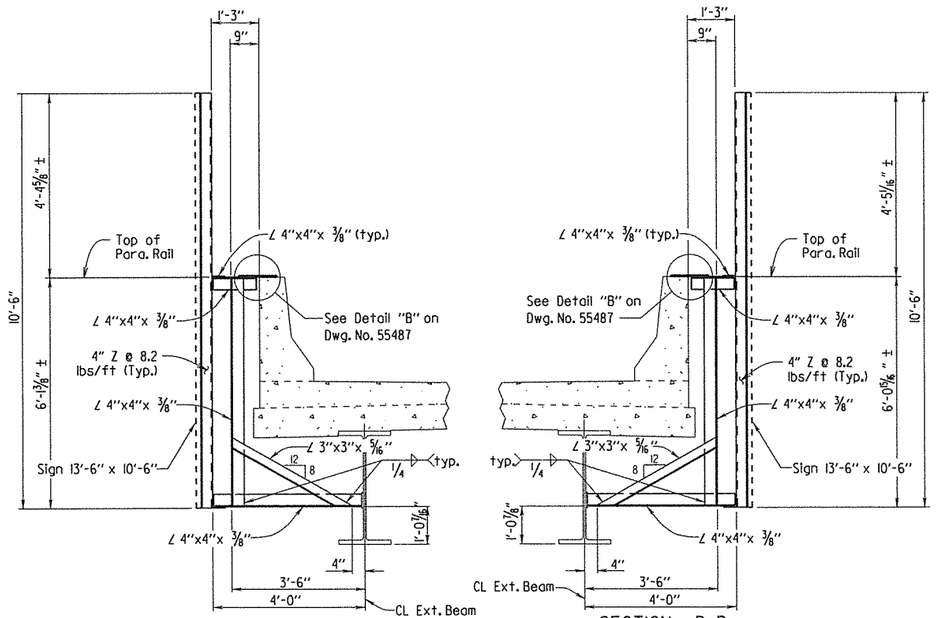
PRINT DATE: 6/17/2014

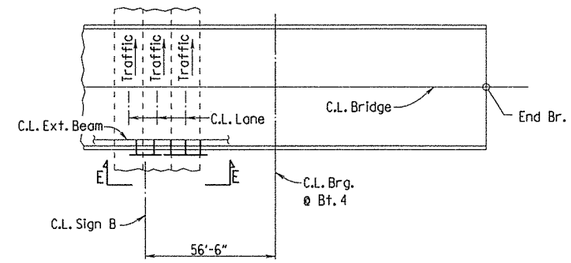
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	99	177

(1) BM-030-60-42B - SIGN STR. - 55488



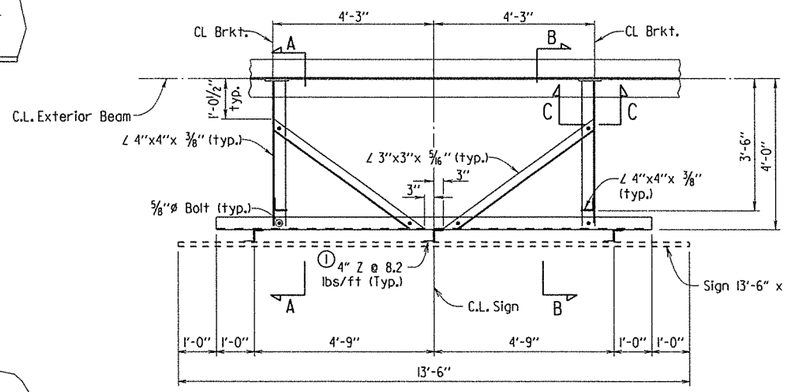
VIEW E-E (NORMAL TO BRIDGE)
No Scale





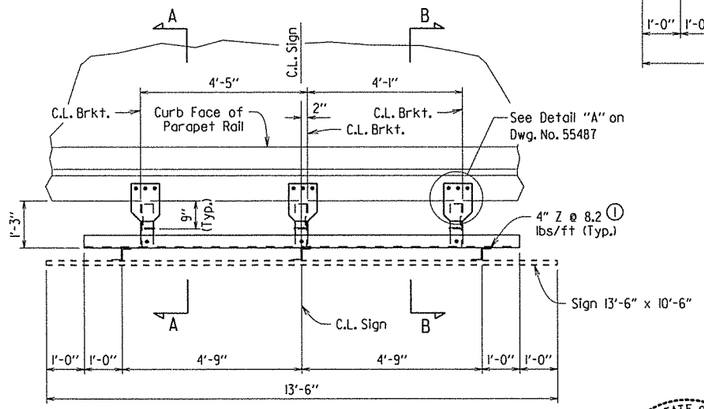
LOCATION SKETCH
BM-030-60-42B

For Section C-C, see Dwg. No. 55487.



LOWER BRACING DETAIL
(BM-030-60-42B Sign B)
No Scale

(1) For Details of Connection of Sign Support to top and bottom chords, See Detail "H" Dwg. No. 55487.



UPPER BRACING DETAIL
(BM-030-60-42B Sign B)
No Scale

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF SIGN STRUCTURE BM-030-60-42B
PULASKI COUNTY

ROUTE 30 SEC. 23

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

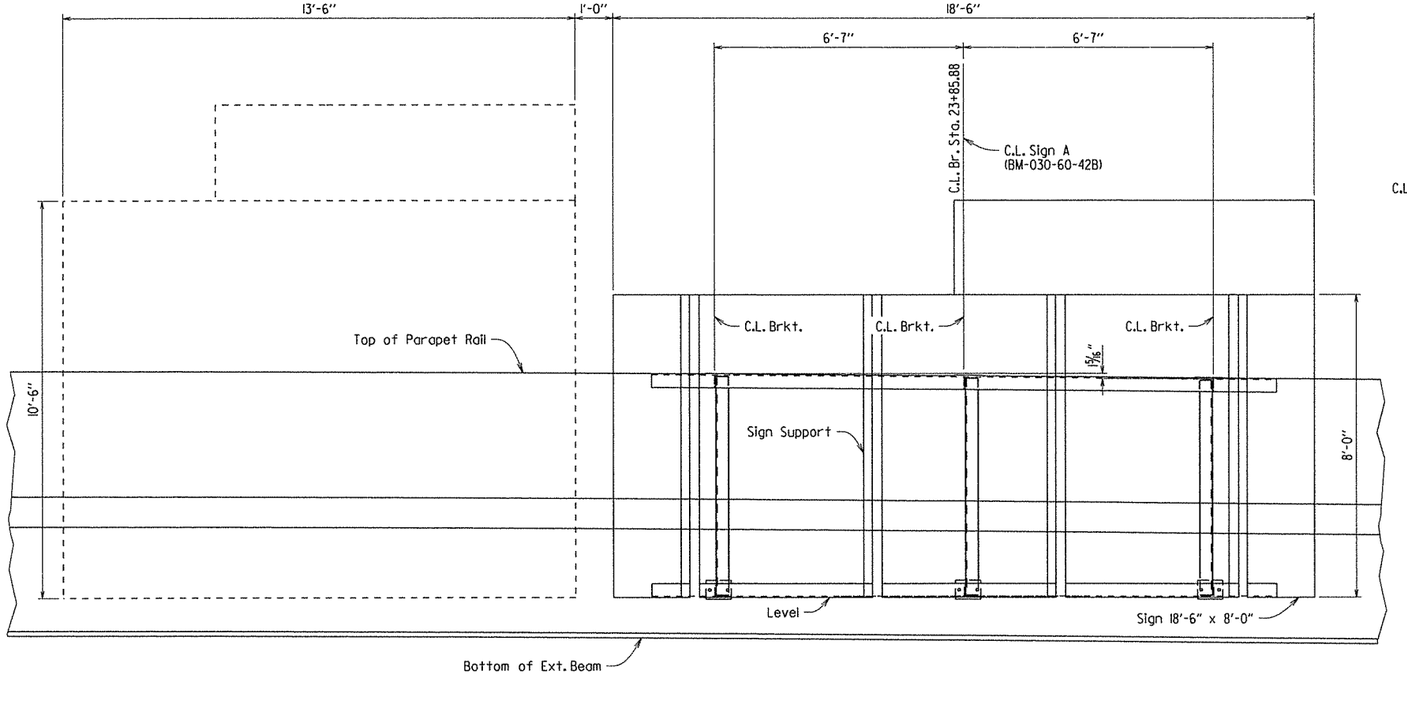
DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:

STR. NO. BM-030-60-42B DRAWING NO. 55488

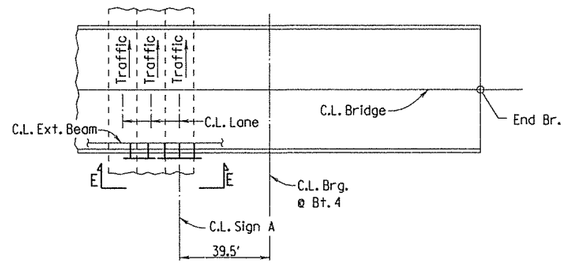
PRINT DATE: 6/17/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	180	177

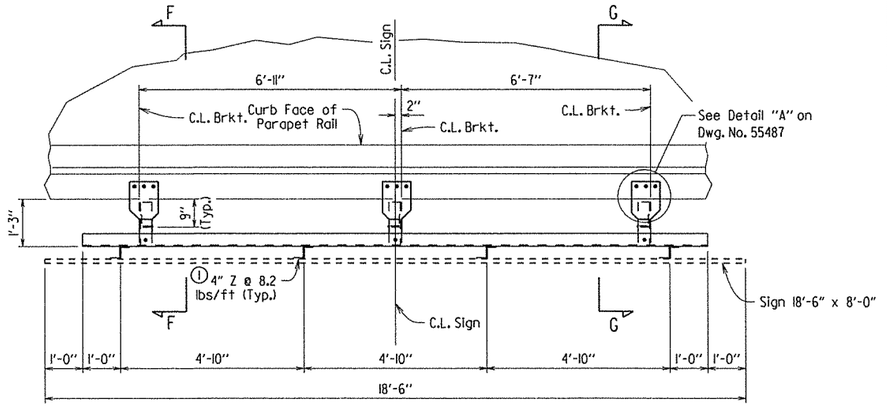
① BM-030-60-42B - SIGN STR. - 55489



VIEW E-E (NORMAL TO BRIDGE)
No Scale

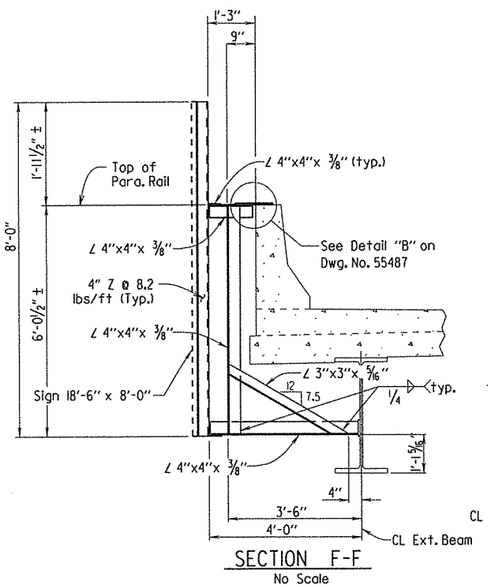


LOCATION SKETCH
BM-030-60-42B



① For Details of Connection of Sign Support to top and bottom chords, See Detail "H" Dwg. No. 55487.

UPPER BRACING DETAIL
(BM-030-60-42B Sign A)
No Scale



SECTION F-F
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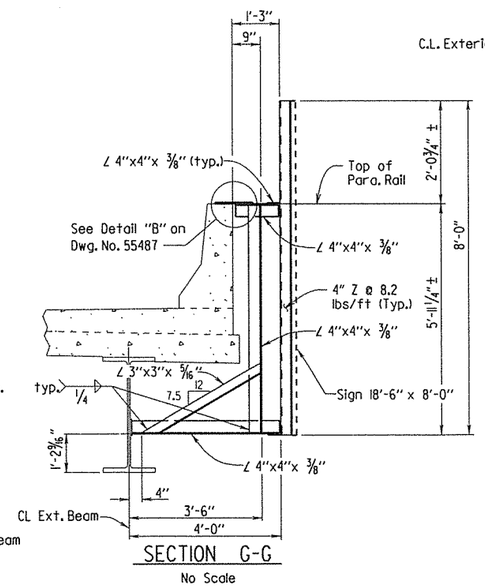

SECTION G-G
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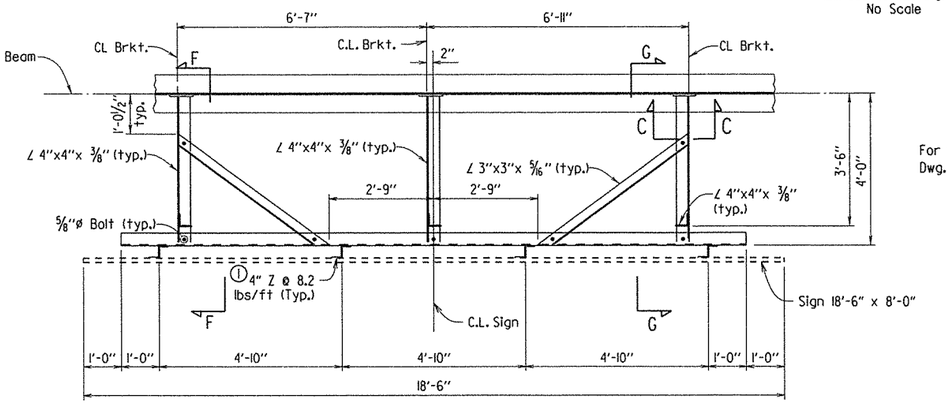


LOWER BRACING DETAIL
(BM-030-60-42B Sign A)
No Scale

For Section C-C, see Dwg. No. 55487.

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF SIGN STRUCTURE BM-030-60-42B
PULASKI COUNTY

ROUTE 30 SEC. 23

ARKANSAS STATE HIGHWAY COMMISSION

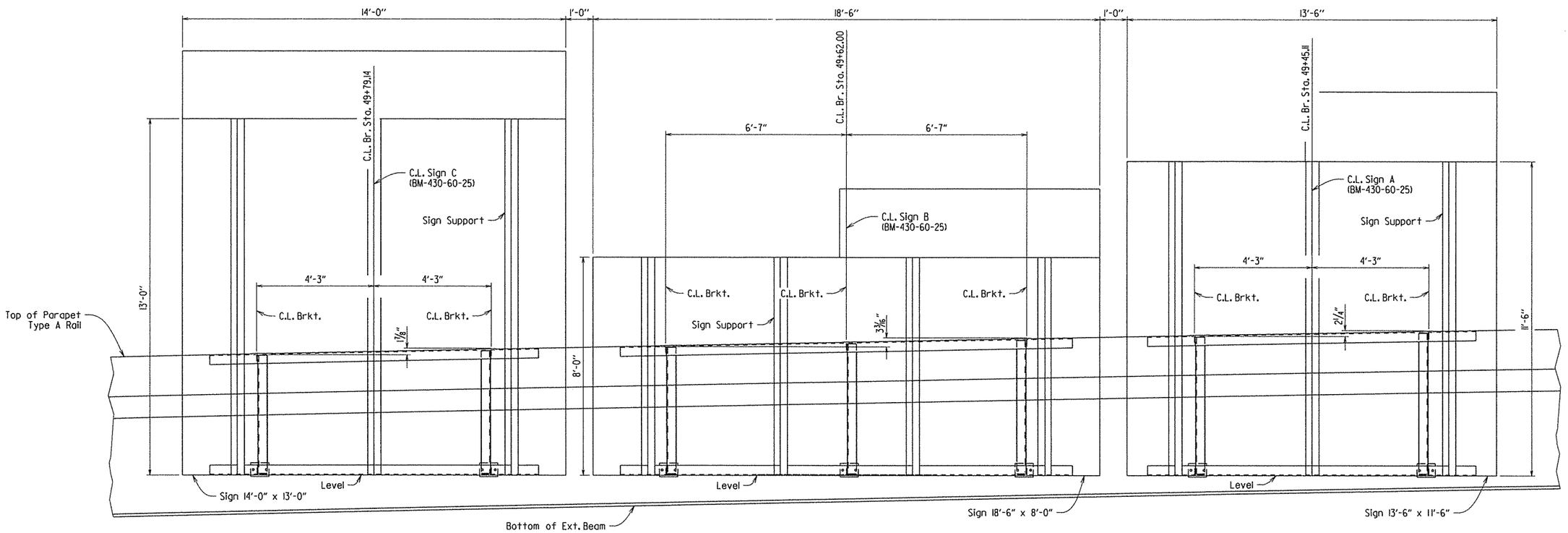
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:

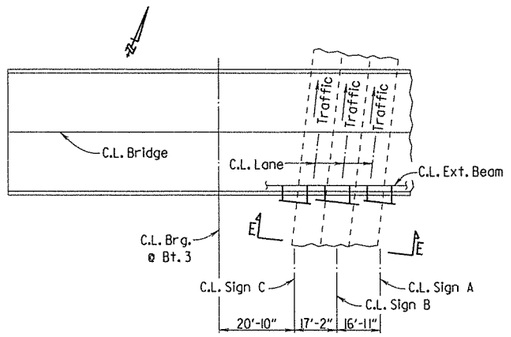
STR. NO. BM-030-60-42B DRAWING NO. 55489

PRINT DATE: 6/17/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/14/2014				6	ARK.			
				JOB NO.		061332	101	177
				(1)		BM-430-60-25 - SIGN STR. - 55490		



VIEW E-E (NORMAL TO BRIDGE)
No Scale



LOCATION SKETCH
BM-430-60-25

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF SIGN STRUCTURE BM-430-60-25
PULASKI COUNTY

ROUTE 430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

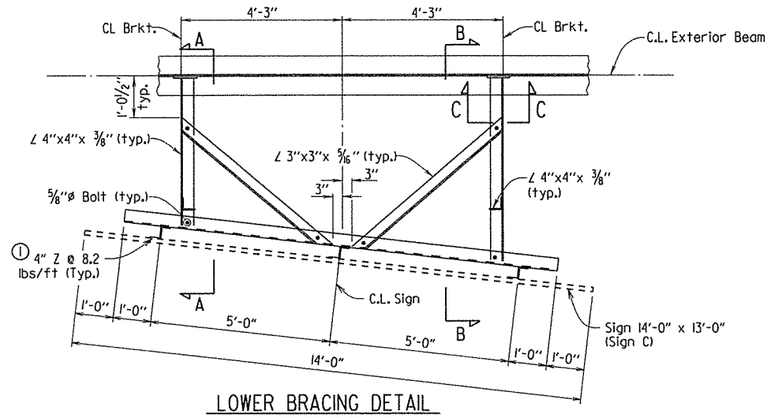
DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:

STR. NO. BM-430-60-25 DRAWING NO. 55490

PRINT DATE: 6/17/2014

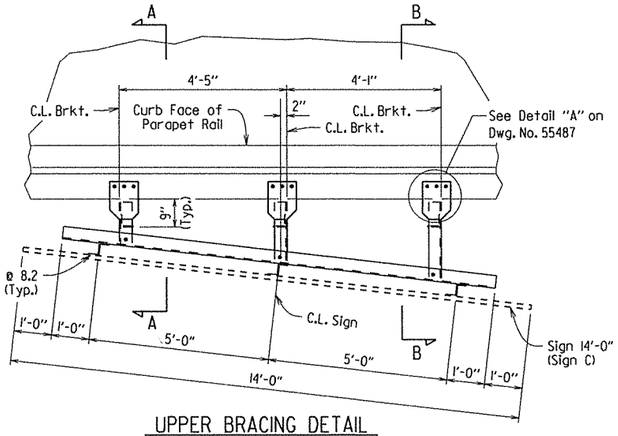
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	102	177
				①		BM-430-60-25 - SIGN STR. - 55491		

For Section C-C, see Dwg. No. 55487.

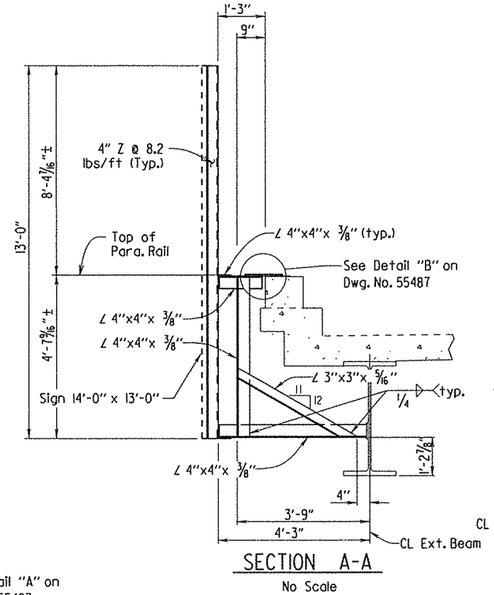


LOWER BRACING DETAIL
(BM-430-60-25 Sign C)
No Scale

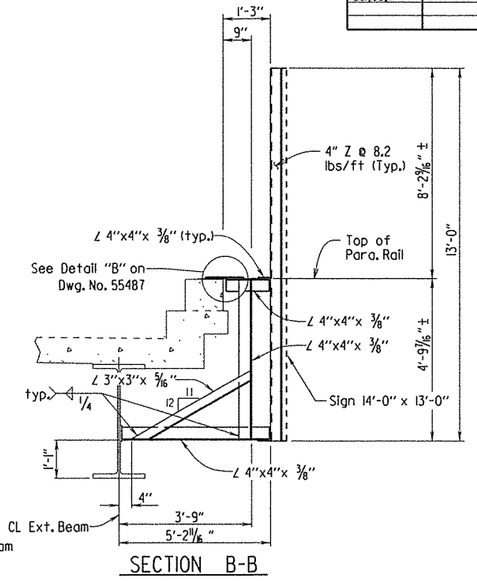
① For Details of Connection of Sign Support to top and bottom chords, See Detail "H" Dwg. No. 55487.



UPPER BRACING DETAIL
(BM-430-60-25 Sign C)
No Scale

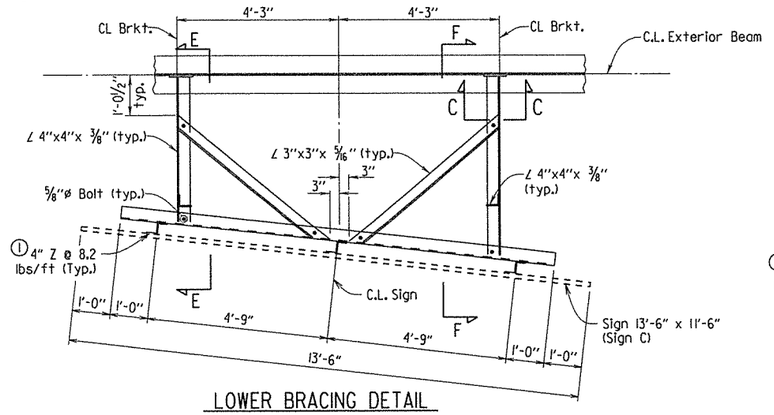


SECTION A-A
No Scale

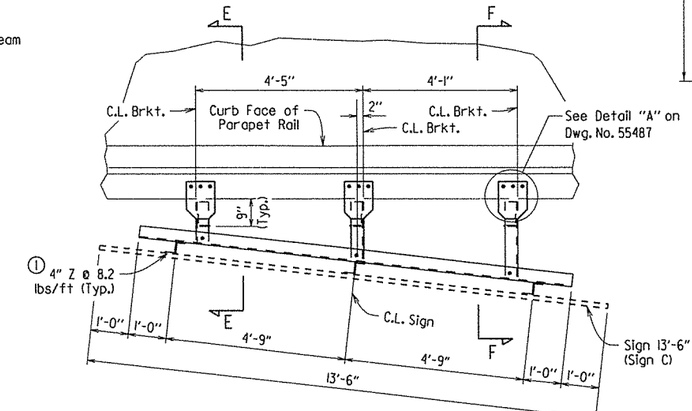


SECTION B-B
No Scale

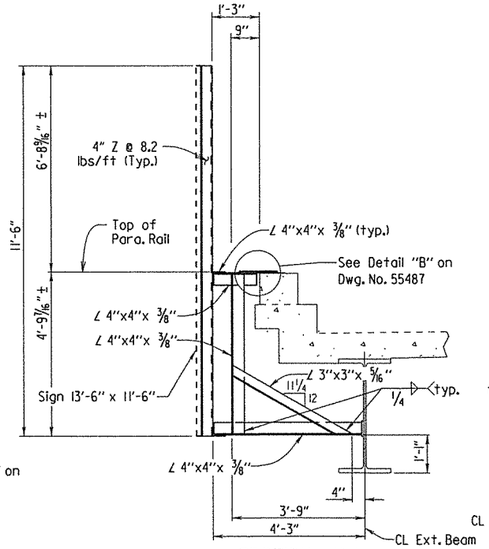
For Section C-C, see Dwg. No. 55487.



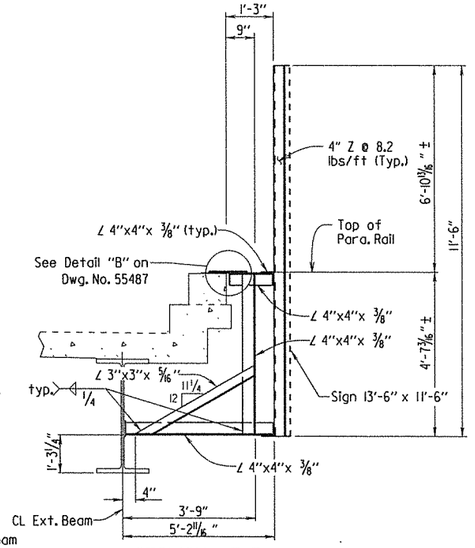
LOWER BRACING DETAIL
(BM-430-60-25 Sign A)
No Scale



UPPER BRACING DETAIL
(BM-430-60-25 Sign A)
No Scale



SECTION E-E
No Scale



SECTION E-E
No Scale

PRINT DATE: 6/17/2014

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF SIGN STRUCTURE BM-430-60-25
PULASKI COUNTY

ROUTE 430 SEC. 21

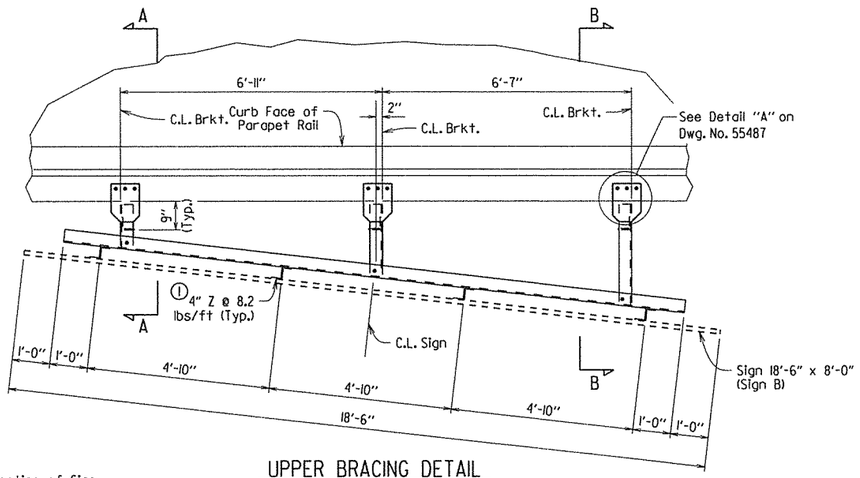
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:

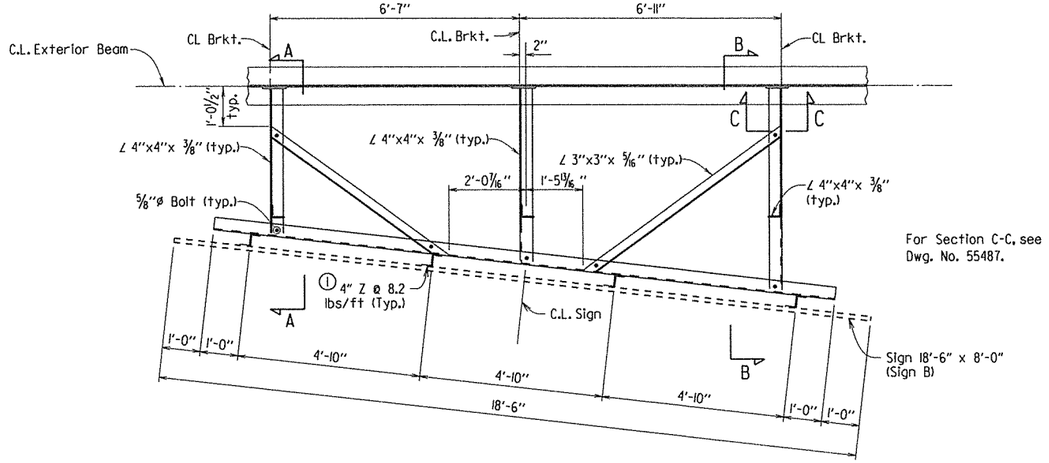
STR. NO. BM-430-60-25 DRAWING NO. 55491

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/16/2014				6	ARK.			
				JOB NO.		061332	103	177
				①	BM-430-60-25 - SIGN STR. - 55492			



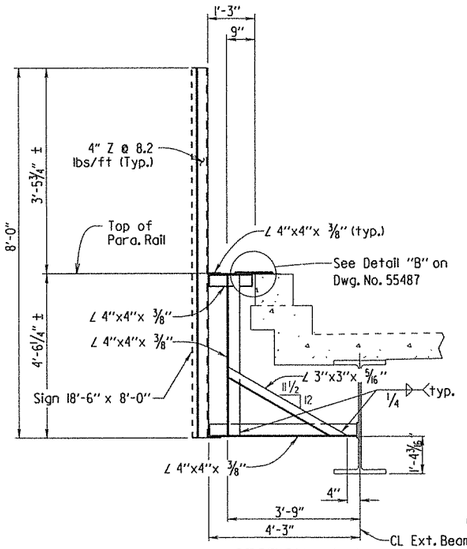
① For Details of Connection of Sign Support to top and bottom chords, See Detail "H" Dwg. No. 55487.

UPPER BRACING DETAIL
(BM-430-60-25 Sign B)
No Scale

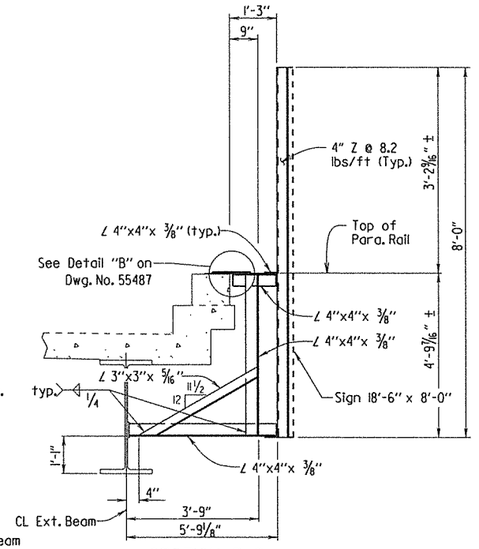


For Section C-C, see Dwg. No. 55487.

LOWER BRACING DETAIL
(BM-430-60-25 Sign B)
No Scale



SECTION A-A
No Scale



SECTION B-B
No Scale

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-18-14
CHARLES R. ELLIS

BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF SIGN STRUCTURE BM-430-60-25
PULASKI COUNTY

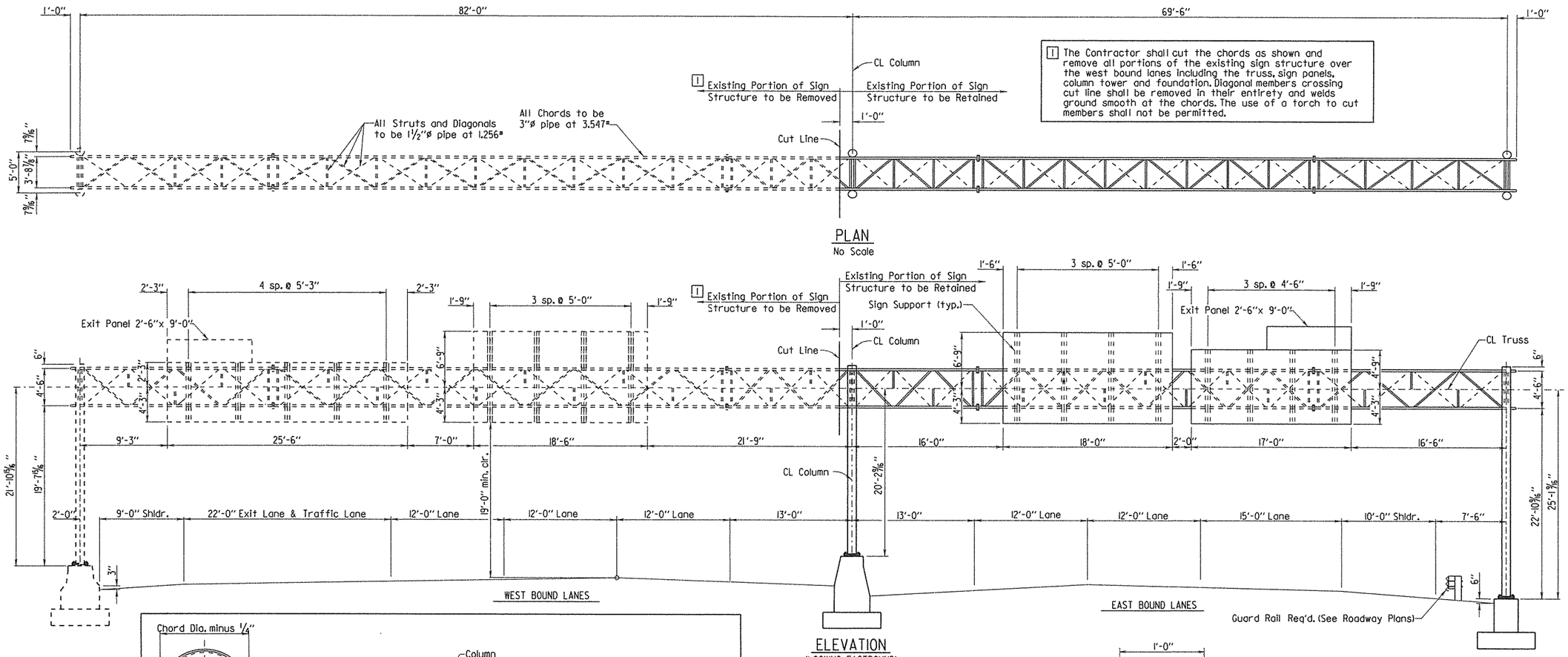
ROUTE 430 SEC. 21
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 3/21/14 FILENAME: b061332_t2.dgn
CHECKED BY: DHP DATE: 6-17-14 SCALE: No Scale
DESIGNED BY: STD DATE:

STR. NO. BM-430-60-25 DRAWING NO. 55492

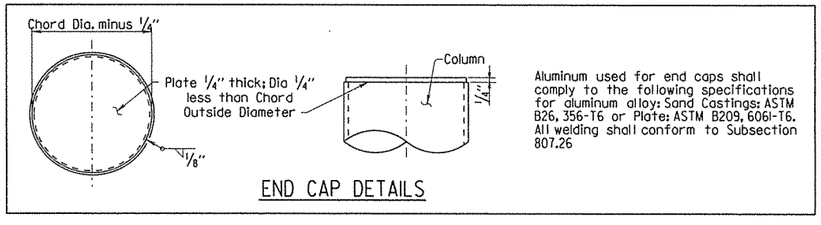
PRINT DATE: 6/17/2014

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6-30-14				6	ARK.			
				JOB NO.		061332	103A	177
				①	OH-030-60-44	SIGN DETAILS		55492A

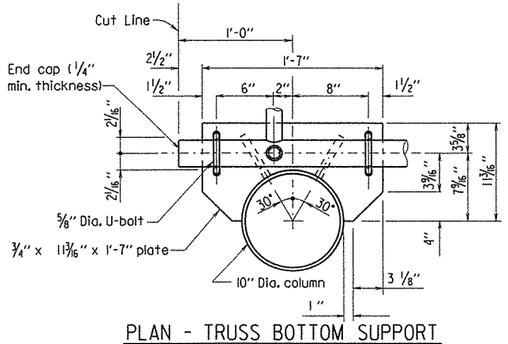


PLAN
No Scale

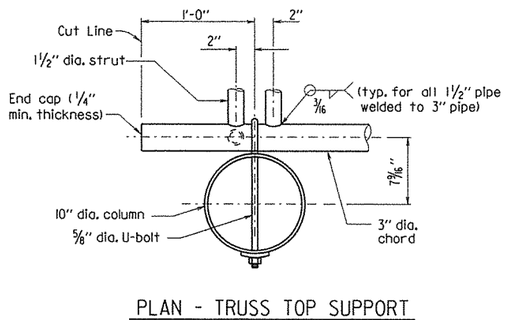
ELEVATION
(LOOKING EASTBOUND)
No Scale



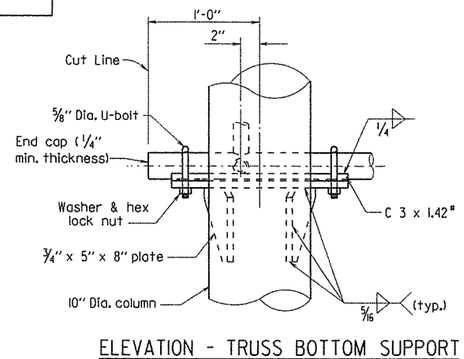
END CAP DETAILS



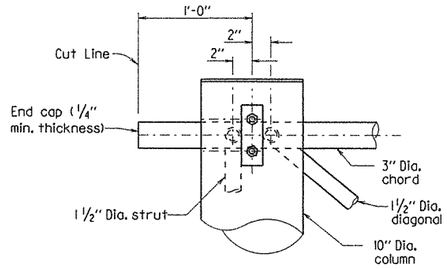
PLAN - TRUSS BOTTOM SUPPORT
No Scale



PLAN - TRUSS TOP SUPPORT
No Scale



ELEVATION - TRUSS BOTTOM SUPPORT
No Scale



ELEVATION - TRUSS TOP SUPPORT
No Scale

Details of Existing Sign Structure are shown for information only.

Partial Removal and Disposal of Existing Overhead Sign Structure and modification to Retained portion shall be paid for in accordance with Section 202 "Removal and Disposal of Overhead Sign Structure".

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
6-30-2014
CHARLES R. ELLIS

BRIDGE ENGINEER

DETAILS FOR MODIFICATIONS TO SIGN STRUCTURE OH-030-60-44 PULASKI COUNTY

ROUTE 30 SEC. 23

ARKANSAS STATE HIGHWAY COMMISSION

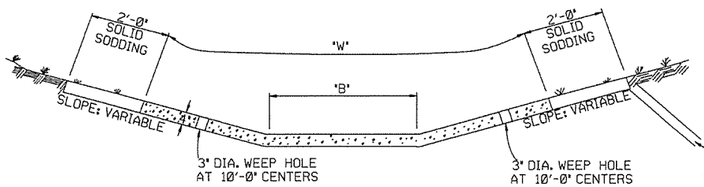
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 03/17/14 FILENAME: b061332_t3.dgn
CHECKED BY: CSL DATE: 6/25/14 SCALE: NOT TO SCALE
DESIGNED BY: DATE:

STR. NO. OH-030-60-44 DRAWING NO. 55492A

PRINT DATE: 6/25/2014

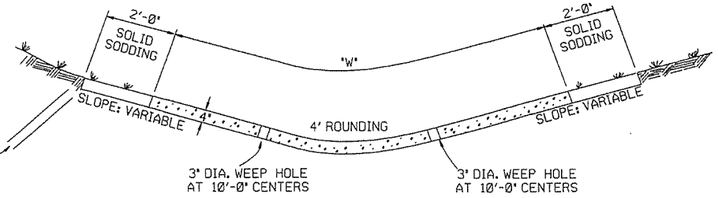
REFER TO TABULATION OF QUANTITIES FOR 'W' & 'B' DIMENSIONS



EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

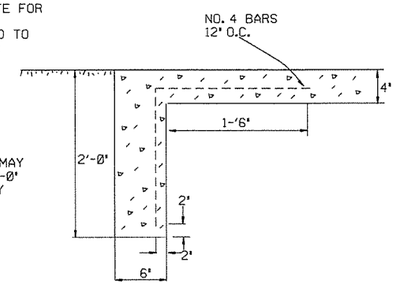
TYPE A

REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



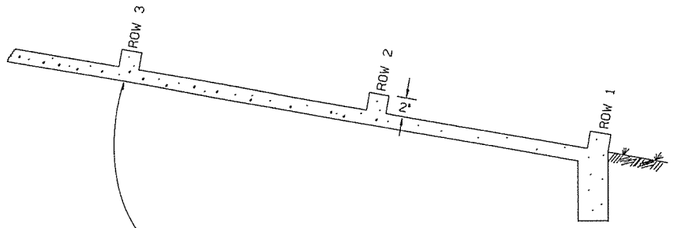
TYPE B

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



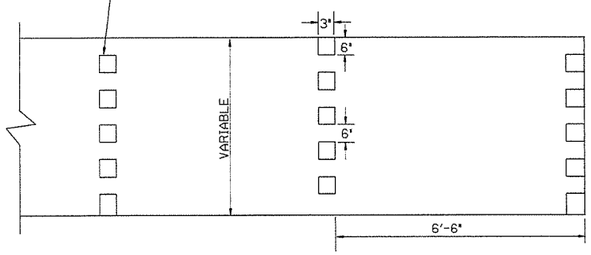
TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

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



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

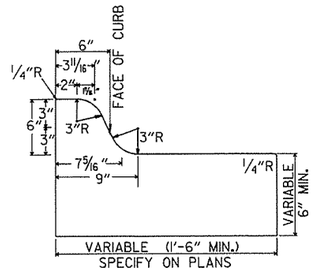
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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

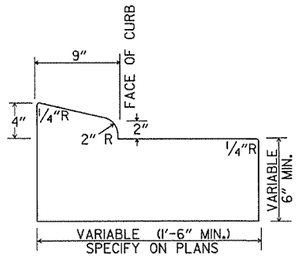
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

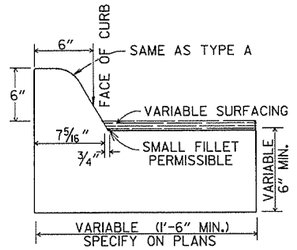
STANDARD DRAWING CDP-1



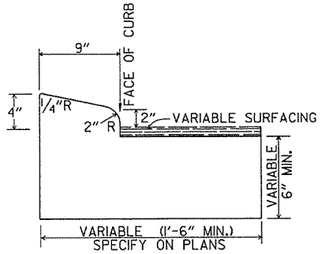
TYPE A



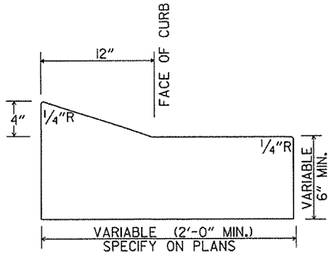
TYPE B-I



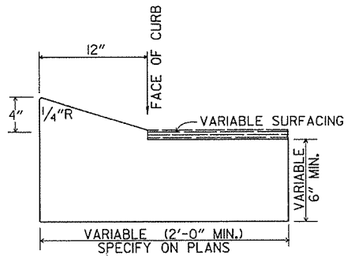
TYPE C



TYPE B-2

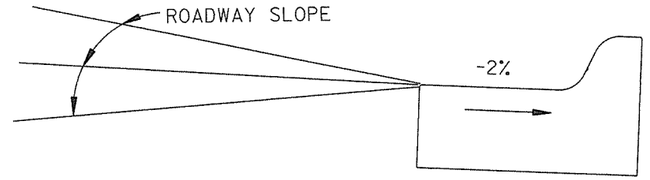


TYPE E-1



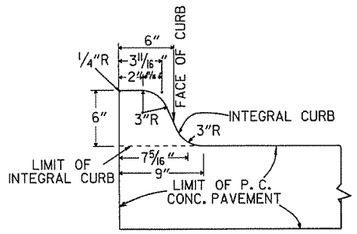
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

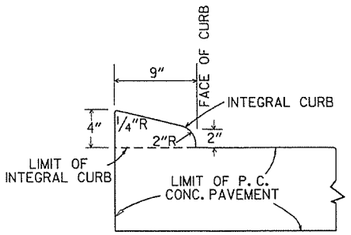


DETAIL OF GUTTER SLOPE

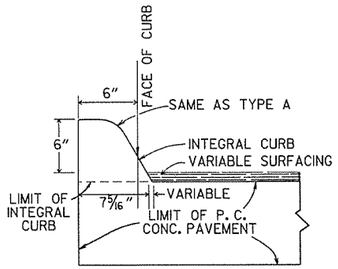
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

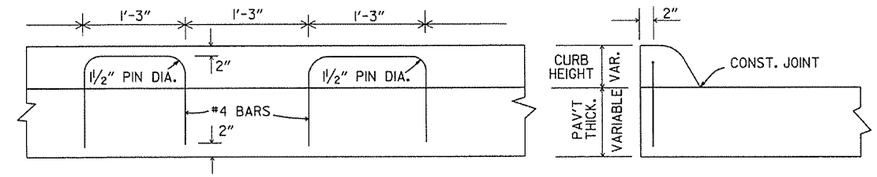


TYPE B



TYPE C

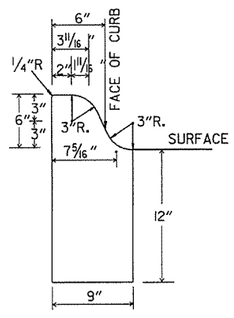
INTEGRAL CURB



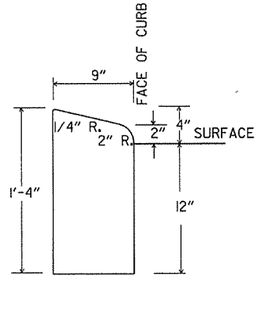
LONGITUDINAL SECTION

ELEVATION

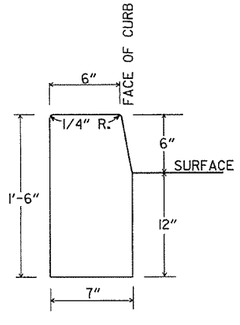
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



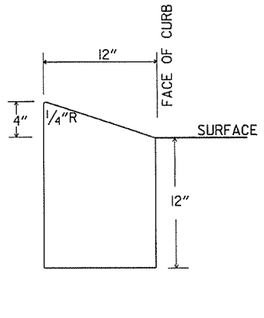
TYPE A



TYPE B

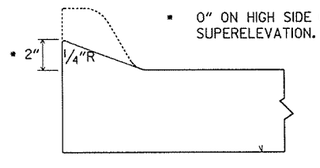


TYPE D



TYPE E

CONCRETE CURB



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

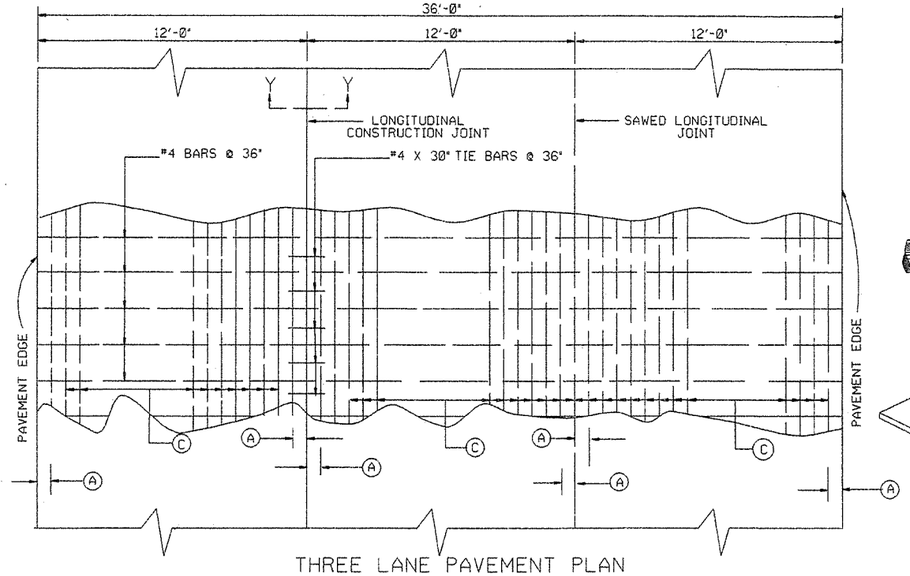
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

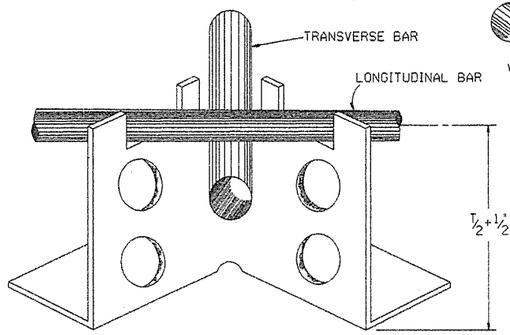
CURBING DETAILS

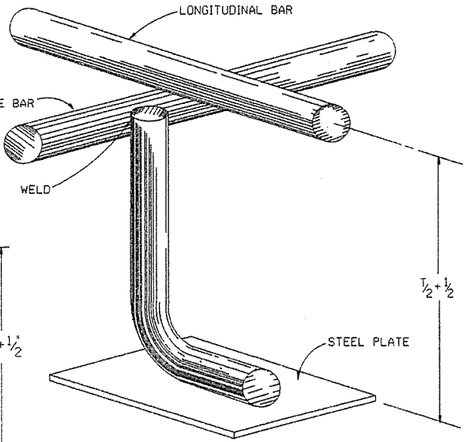
STANDARD DRAWING CG-1



THREE LANE PAVEMENT PLAN

(12 FT. AND 24 FT. PLACEMENT) *





SUGGESTED CHAIR DETAILS

* GENERAL NOTES *

SAWED JOINT AND JOINT SEALANT FOR TRANSVERSE CONSTRUCTION JOINT, LONGITUDINAL CONSTRUCTION JOINT AND SAWED LONGITUDINAL JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

NO EXPANSION JOINTS WILL BE USED EXCEPT AT STRUCTURE ENDS OR FIXED OBJECTS AS SHOWN ELSEWHERE IN THE PLANS.

FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND REINFORCEMENT REFER TO THE GOVERNING SPECIFICATIONS FOR 'CONTINUOUSLY REINFORCED CONCRETE PAVEMENT.'

FOR DETAILS OF PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE REFER TO TYPICAL SECTIONS.

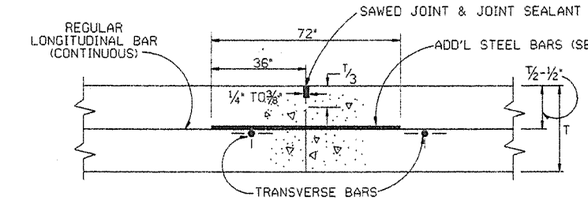
WITHIN ANY AREA BOUNDED BY TWO FEET PAVEMENT LENGTH, MEASURED PARALLEL TO THE CENTERLINE: AND TWELVE FEET OF PAVEMENT WIDTH, MEASURED PERPENDICULAR TO THE PAVEMENT CENTERLINE, NOT OVER 33⅓ OF THE REGULAR LONGITUDINAL STEEL SHALL BE SPLICED.

MNINMUM SPLICE REQUIREMENT: 25 TIMES THE NOMINAL DIAMETER OF THE BAR OR 16 INCHES WHICHEVER IS LONGER.

AT TRANSVERSE CONSTRUCTION JOINTS THE REGULAR LONGITUDINAL BARS SHALL EXTEND EITHER SIDE OF THE JOINT SUCH THAT THE BAR SPLICES FOR THE REGULAR LONGITUDINAL BARS SHALL BE A MINIMUM OF FOUR FEET FROM THE CONSTRUCTION JOINT. AT LONGITUDINAL CONSTRUCTION JOINT, IF THE CONTRACTOR ELECTS TO CONTINUE THE REGULAR TRANSVERSE STEEL THROUGH THE JOINTS, THE #4 TIE BARS SHOWN HEREON MAY BE DELETED.

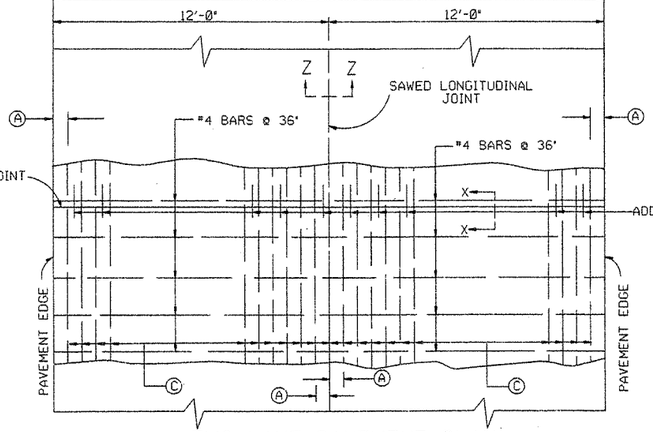
CHAIR DETAILS SHOWN HEREON ARE EXAMPLES ONLY; OTHER APPROVED TYPES WHICH WILL SATISFY THE REQUIREMENTS NOTED HEREIN, WILL BE PERMITTED. CHAIR SPACINGS SHALL NOT BE GREATER THAN 36" C-C (LONGITUDINAL) AND 48" C-C (TRANSVERSE). ADDITIONAL CHAIRS SHALL BE USED IF NECESSARY TO MEET PLACEMENT REQUIREMENTS.

AT ALL LAP SPLICES OCCURRING WITHIN 8 FEET BEYOND THE CONSTRUCTION JOINTS, IN THE DIRECTION OF PAVING AND 4 FEET BACK OF THE CONSTRUCTION JOINTS, THE LENGTH OF LAP SHALL BE DOUBLE THAT NORMALLY SPECIFIED OR EACH SPLICE SHALL BE STRENGTHENED BY SPLICING IN, SYMMETRICALLY WITH THE LAP, A 6 FOOT LENGTH OF DEFORMED BAR OF THE SAME NOMINAL SIZE AS THE LONGITUDINAL REINFORCEMENT.



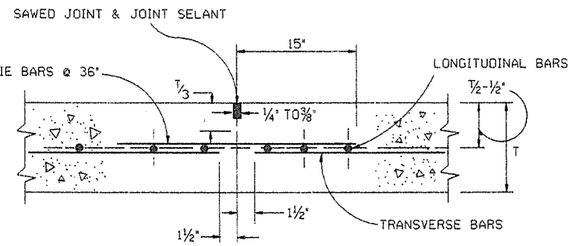
TRANSVERSE CONSTRUCTION JOINT

SECTION X-X



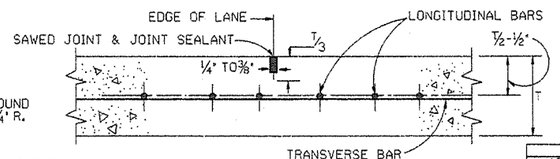
TWO LANE PAVEMENT PLAN

(24 FT. PLACEMENT) *



LONGITUDINAL CONSTRUCTION JOINT

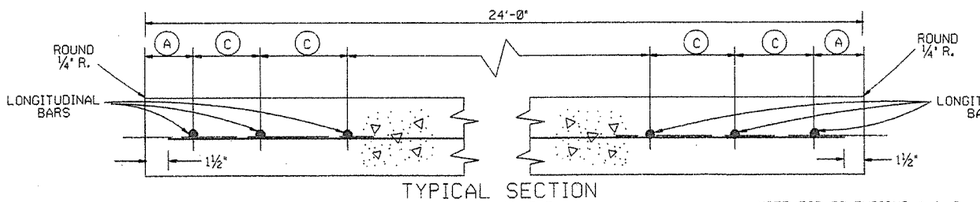
SECTION Y-Y



SAWED LONGITUDINAL JOINT

SECTION Z-Z

JOINT DETAILS



TYPICAL SECTION

(24 FT. PLACEMENT) *

* LANE WIDTHS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND SHOULD NOT BE USED IF IN CONFLICT WITH TYPICAL CROSS SECTIONS SHOWN ELSEWHERE IN THE PLANS.

NOTE: FOR DIMENSIONS A & C SEE TABLE ON RT.

TABLE OF EQUIVALENT LONGITUDINAL REINFORCEMENT

PAVEMT. THICKNESS	BAR SIZE	24'-0" PLACEMENT WIDTH				12'-0" PLACEMENT WIDTH				ADD'L STEEL @ TRANS. CONSTR. JOINT			
		SPACING (C-C)		BARS PER PLACE-MENT	STEEL ①	SPACING (C-C)		BARS PER PLACE-MENT	STEEL ①	SIZE	AVG. SPACING	NO. ② PER LANE	WEIGHT
		A	C		LBS./ SQ. YD.	A	C		LBS./ SQ. YD.				LBS. PER FOOT
INCHES		INCHES				INCHES					INCHES		
6	#5	5½	7	40	18.28	5½	7	20	18.26	⅝" X 72"	14	10	5.22
8	#6	4½	7½	38	24.55	4½	7½	19	24.41	¾" X 72"	15	10	7.51
9	#6	3¾	6½	44	27.98	3¾	6½	22	27.95	¾" X 72"	13	11	8.26
10	#7	4	8½	34	29.53	4	8½	17	29.51	⅞" X 72"	17	8	8.18
11	#7	4½	7½	38	32.78	4½	7½	19	32.75	⅞" X 72"	15	10	10.22
12	#7	5½	7	40	34.39	5½	7	20	34.37	⅞" X 72"	14	10	10.22

NOTE: WHERE THE PROPOSED PLACEMENT WIDTHS VARY FROM THE BASIC DESIGN WIDTH SHOWN, THE SPACING 'A' AND THE ADJACENT SPACING 'C' SHALL BE ADJUSTED TO ACCOMODATE A REINFORCEMENT ARRANGEMENT EQUAL TO OR SLIGHTLY HEAVIER THAN THAT SHOWN AS DIRECTED BY THE ENGINEER.

① INCLUDES BOTH REGULAR LONGITUDINAL AND TRANSVERSE BARS. BASED UPON 1 FOOT PAVEMENT FOR THE WIDTH INDICATED. ALL TRANSVERSE STEEL IS #4 BARS AT 36" CENTERS. FOR ESTIMATING PURPOSES IT IS ASSUMED THAT LONGITUDINAL BARS ARE SPLICED AT 32' INTERVALS.

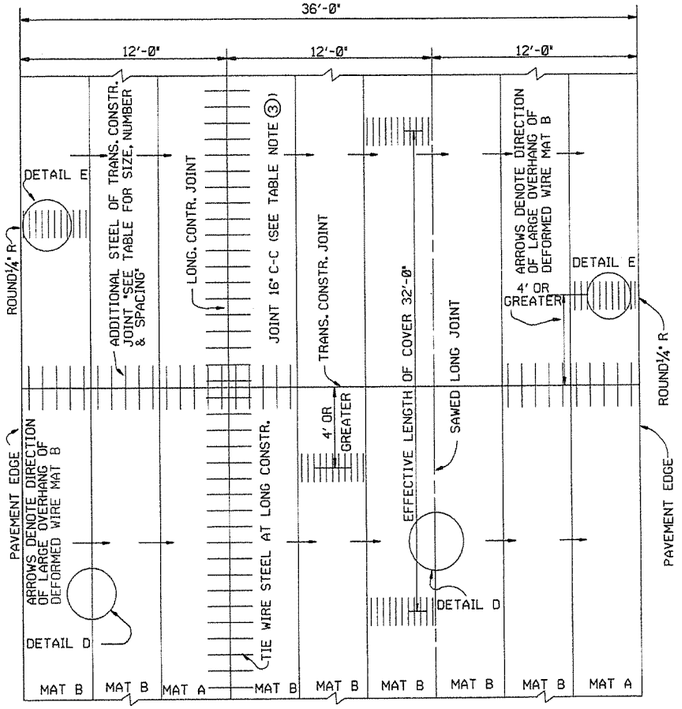
② THIS SHALL BE THE MINIMUM NUMBER OF ADDITIONAL STEEL BARS TO BE PLACED PER LANE. THE SPACING OF THE ADDITIONAL STEEL BARS SHALL BE VARIED AS DIRECTED IN ORDER TO PROVIDE A MINIMUM CLEARANCE OF 2½" FROM EACH REGULAR LONGITUDINAL REINFORCING BAR.

DATE	REVISION	DATE FILMED
10-18-96	CORRECTED SPELLING	10-18-96
10-1-92	REVISED REINFORCING	
8-15-91	REV. A SPACING FOR 24' PAV'T.	
3-23-89	ALTERED SAWED JOINT & ADDED GEN. NOTES	
11-3-86	DIMEN'S. OF LONG. JTS.	
1-4-83	DEPTH OF SAWED TRANSVERSE CONST. JOINT	
9-15-78	53 TO 52 #4 BARS (24' PL.)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISION

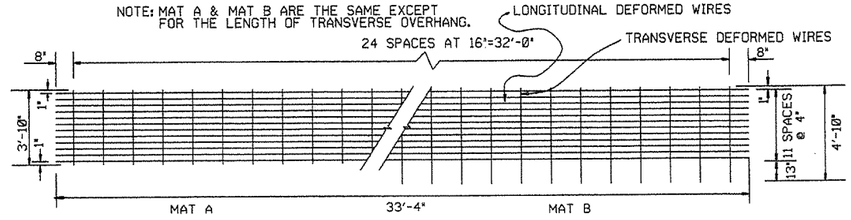
CONCRETE PAVEMENT DETAILS CONTINUOUSLY REINFORCED

STANDARD DRAWING CPCR-1

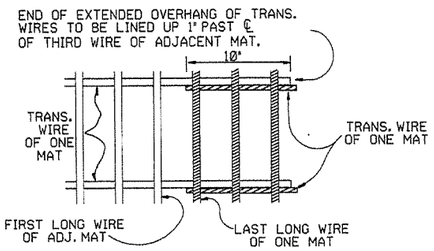


THREE LANE PAVEMENT PLAN

(12' AND 24' PLACEMENT)

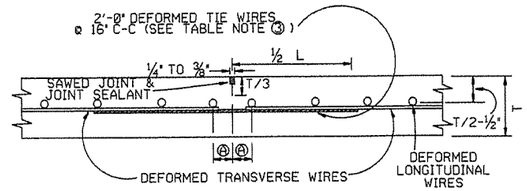


PREFABRICATED DEFORMED WIRE MATS

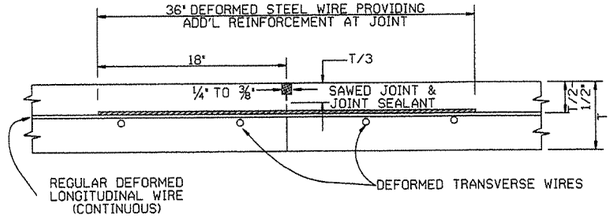


DETAIL D

TYPICAL LAP OF TRANSVERSE WIRES



LONGITUDINAL CONSTRUCTION JOINT



TRANSVERSE CONSTRUCTION JOINT

GENERAL NOTES

NO EXPANSION JOINTS WILL BE USED EXCEPT AT STRUCTURAL ENDS OR FIXED OBJECTS AS SHOWN ELSEWHERE IN THE PLANS.

JOINT AND JOINT SEAL DETAILS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.

CONSTRUCTION JOINTS MAY BE FORMED BY THE USE OF METAL OR WOOD FORMS EQUAL IN DEPTH TO THE NOMINAL DEPTH OF THE PAVEMENT, OR BY THE OTHER MEANS WHICH HAVE BEEN APPROVED BY THE ENGINEER PRIOR TO THIER USE.

REFER TO TYPICAL SECTION FOR PAVEMENT WIDTH, THICKNESS AND CROWN.

IT IS THE INTENT OF THIS DESIGN THAT THE LONGITUDINAL STEEL BE AT THE CENTER OF THE SLAB. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS TO INSURE THAT THE FINAL POSITION OF THE STEEL IS NOT BELOW THE CENTER OF THE SLAB.

WITHIN ANY AREA BOUNDED BY TWO FEET OF PAVEMENT LENGTH MEASURED PARALLEL TO THE CENTERLINE, AND TWELVE FEET OF PAVEMENT WIDTH MEASURED PERPENDICULAR TO THE PAVEMENT CENTERLINE, NOT OVER 33% OF THE REGULAR LONGITUDINAL STEEL SHALL BE SPLICED.

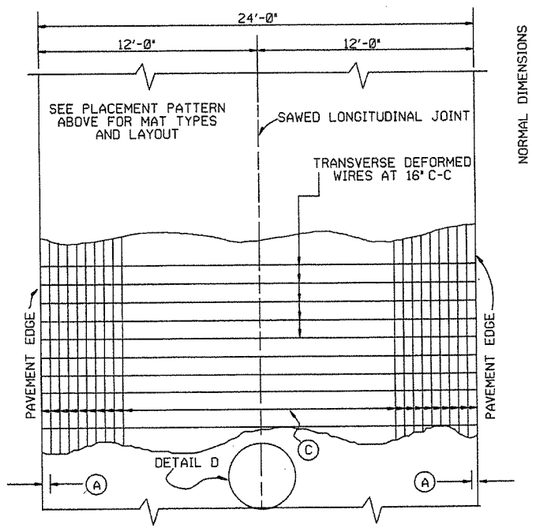
ALL SPLICES SHALL BE A MINIMUM OF 16' FOR LONGITUDINAL STEEL AND 10' FOR TRANSVERSE STEEL.

AT TRANSVERSE CONSTRUCTION JOINTS THE REGULAR LONGITUDINAL STEEL SHALL EXTEND A MINIMUM OF FOUR FEET ON EITHER SIDE OF THE JOINT.

IF WIDTHS GREATER THAN TYPICAL WIDTHS OCCUR, INDIVIDUAL WIRES MAY BE ADDED TO OBTAIN ADDITIONAL WIDTH, PROVIDED THE C-C SPACING IS NOT EXCEEDED AND LAP REQUIREMENTS ARE MET.

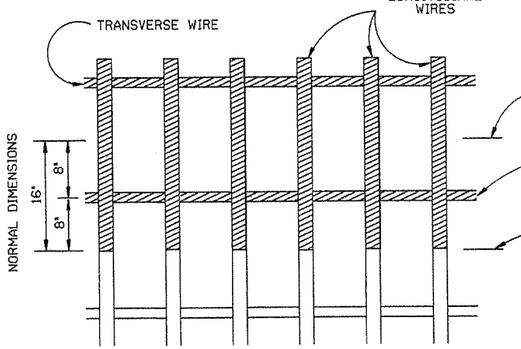
AT ALL LAP SPLICES OCCURRING WITHIN EIGHT FEET BEYOND THE CONSTRUCTION JOINT, IN THE DIRECTION OF PAVING AND FOUR FEET BACK OF THE CONSTRUCTION JOINT, THE LENGTH OF LAP SHALL BE DOUBLE THAT NORMALLY SPECIFIED OR EACH SPLICE SHALL BE STRENGTHENED BY SPLICING IN, SYMMETRICALLY WITH THE LAP, A SIX-FOOT LENGTH OF DEFORMED BAR OF THE SAME NOMINAL SIZE AS THE LONGITUDINAL REINFORCEMENT.

SAWED JOINT AND JOINT SEALANT FOR TRANSVERSE CONSRTUCTION JOINT, LONGITUDINAL CONSTRUCTION JOINT AND SAWED LONGITUDINAL JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

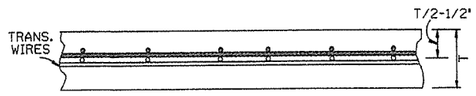


TWO LANE PAVEMENT PLAN

(24' PLACEMENT)



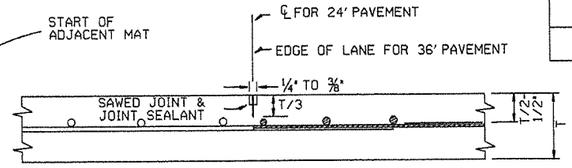
PLAN



SECTION

DETAIL E

TYPICAL LAP OF LONGITUDINAL WIRES



SAWED LONGITUDINAL JOINT

PAVEMENT THICKNESS (T) IN.	LONGITUDINAL REINFORCEMENT: WIRE SIZE	24' PLACEMENT: SPACING C-C Ⓐ IN.	24' PLACEMENT: SPACING C-C Ⓒ IN.	24' PLACEMENT: ① STEEL LB/SY	12' PLACEMENT: SPACING C-C Ⓐ IN.	12' PLACEMENT: SPACING C-C Ⓒ IN.	12' PLACEMENT: ① STEEL LB/SY	ADDITIONAL STEEL TRANS. CONSTR. JOINT: WIRE SIZE	ADDITIONAL STEEL TRANS. CONSTR. JOINT: LENGTH IN.	ADDITIONAL STEEL TRANS. CONSTR. JOINT: ② NO. PER LANE	ADDITIONAL STEEL TRANS. CONSTR. JOINT: WEIGHT LB./FT OF WIDTH	TRANS. REINF. FOR LONG. CONSTR. JOINT: WIRE SIZE	TRANS. REINF. FOR LONG. CONSTR. JOINT: TIE WIRES ③ WEIGHT LB./FT. OF LENGTH
8	D-19.2	2	4	20.59	2	4	20.51	D-19.2	36	16	2.61	D-8	.408
6	D-14.4	2	4	14.90	2	4	14.86	D-14.4	36	16	1.96	D-4	.204

TABLE NOTE

① INCLUDES BOTH LONGITUDINAL AND TRANSVERSE WIRES BASED ON THE WIDTH INDICATED AND AN EFFECTIVE COVER LENGTH OF 32 FEET. (ESTIMATING QUANTITIES INCLUDE SPLICES)

② THIS SHALL BE THE MINIMUM NUMBER OF ADDITIONAL STEEL WIRES TO BE PLACED PER LANE. THE ADDITIONAL STEEL WIRES SHALL BE PLACED EQUIDISTANT BETWEEN TWO REGULAR LONGITUDINAL REINFORCING WIRES AT AS NEAR A UNIFORM SPACING ACROSS THE LANE AS POSSIBLE.

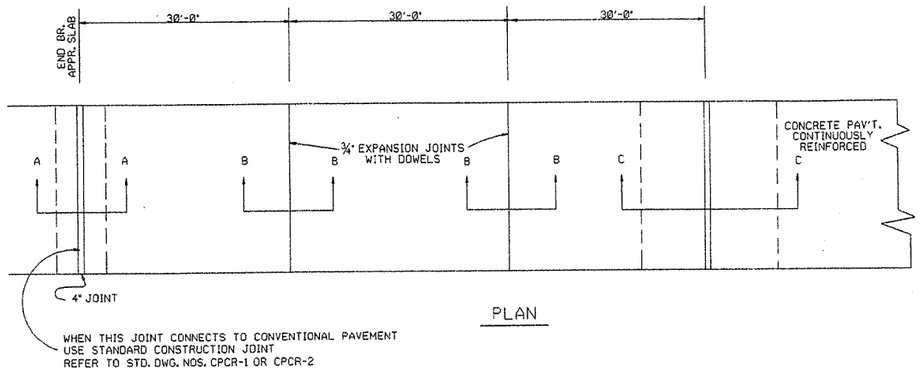
③ AT THE OPTION OF THE CONTRACTOR, #4 BARS X 30 IN. AT 30 IN. C-C MAY BE USED IN LIEU OF THE DEFORMED TIE WIRES AT 16 IN. C-C SHOWN, PROVIDED WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE ENGINEER.

DATE	REVISION	DATE FILMED
3-23-89	ALTERED SAWED JOINT & ADDED NOTE	509-3-23-89
11-3-86	DIMEN'S. OF LONG. JTS.	651-11-3-86
1-4-83	DEPTH OF SAWED TRANSVERSE CONST. JOINT	676-1-4-83
10-2-72	REVISED AND REDRAWN	505-10-2-72

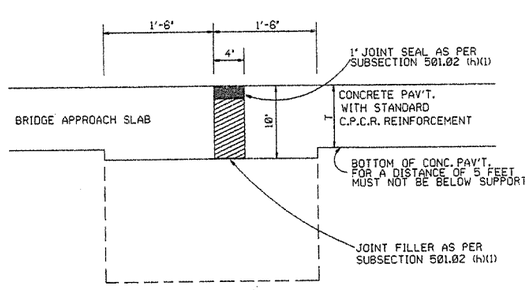
ARKANSAS HIGHWAY COMMISION

CONCRETE PAVEMENT DETAILS CONTINUOUSLY REINFORCED DEFORMED WIRE MAT

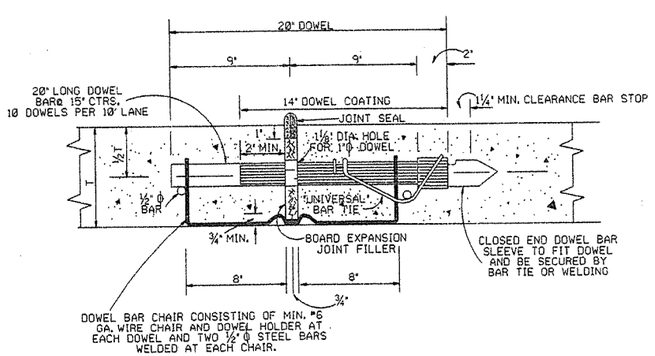
STANDARD DRAWING CPCR-2



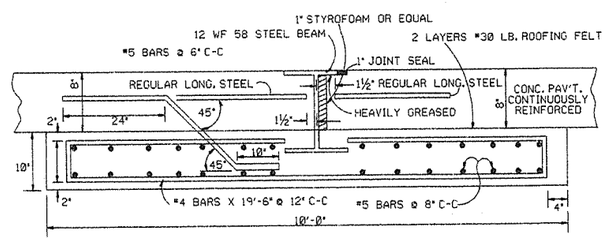
PLAN



SECTION A-A



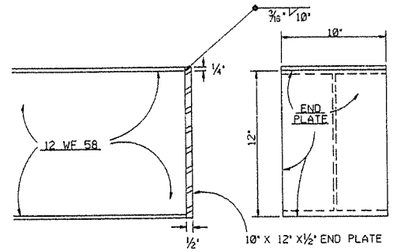
SECTION B-B
DETAIL OF EXPANSION JOINT



SECTION C-C

DETAIL OF WIDE FLANGE BEAM & JOINT SUPPORT

NOTE: WELD 12" X 10" X½" STEEL PLATE TO ENDS OF BEAM AFTER PLACEMENT OF CONCRETE PAVEMENT.



DETAIL OF END PLATE ATTACHMENT TO WIDE FLANGE BEAM

GENERAL NOTES

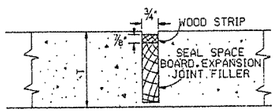
OTHER TYPES OF EXPANSION JOINTS MAY BE CONSTRUCTED AT THE OPTION OF THE CONTRACTOR AFTER APPROVAL BY THE ENGINEER.

LOAD TRANSMISSION UNITS AND DOWELS SHALL BE SECURED PARALLEL TO THE PAVEMENT SURFACE AND CENTERLINE.

ALL EXPANSION JOINTS, INCLUDING ALL MATERIALS, DEVICES, AND WORK REQUIRED SHALL BE CONSIDERED AS SUBSIDIARY WORK AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PORTLAND CEMENT CONCRETE PAVEMENT. NO DIRECT PAYMENT WILL BE MADE FOR ANY MATERIAL, BAR CHAIR, STEEL OR ANY OTHER DEVICE SHOWN NOR FOR ITS INSTALLATION.

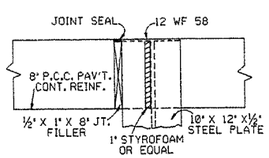
'T' DENOTES THICKNESS OF SLAB.

STRUCTURAL EXCAVATION	CLASS A CONCRETE	REINFORCING STEEL	STRUCTURAL STEEL
CU. YD.		LB.	
0.31	0.31	46.2	58.0

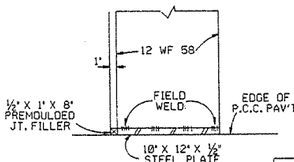


SEAL SPACE FOR EXPANSION JOINT

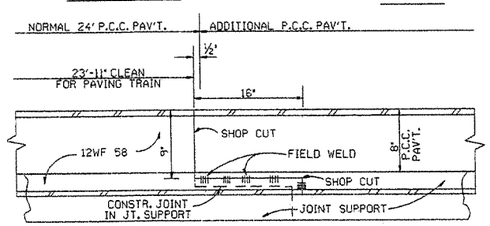
NOTE: BOARD JOINT FILLER OF SPECIFIED TYPE SHALL BE SECURED ON SUBGRADE IN EXACT POSITION AND LINE AS ILLUSTRATED OR BY OTHER APPROVED DEVICE.
JOINT ASSEMBLY SHALL BE SECURELY FASTENED INTO PLACE PRIOR TO PLACING CONCRETE.
AFTER SECOND PASSAGE OF FINISHING MACHINE REMOVE CONCRETE TO 1" BELOW TOP OF BOARD AND NAIL ¾" X ⅞" WOOD STRIP TO TOP OF BOARD FILLER TO FORM JOINT SEAL SPACE.
REPLACE CONCRETE AND FINISH WITH LONGITUDINAL FLOAT.
THE WOOD STRIP SHALL NOT BE REMOVED UNTIL IMMEDIATELY PRIOR TO POURING JOINT SEAL.



ELEVATION



PLAN



TRANSVERSE SECTION THROUGH WF BEAM AND JOINT SUPPORT

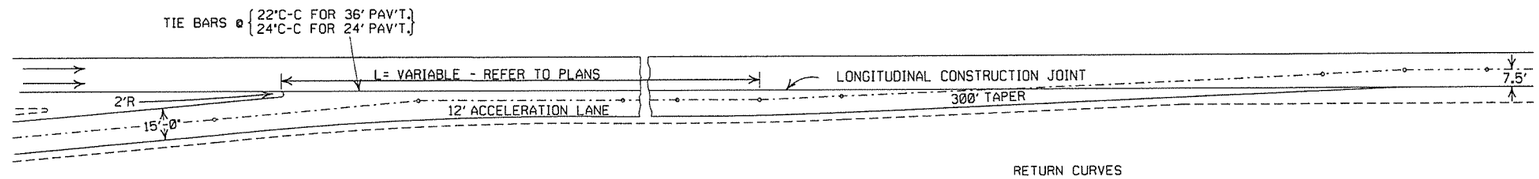
DATE	REVISION	DATE FILM'D
10-2-72	REVISED AND REDRAWN	
11-1-73	REVISED JOINT SEAL A-A	
8-22-75	REVISED 4" EXP. JOINT MAT'L	
7-15-88	SUB-SECT. 501.03 (f)(1) TO 501.03 (h)(1)	
4-26-96	DELETE DOWEL BAR NOTE	
10-18-96	CORRECTED SUBSECTION AND SPELLING	10-18-96

ARKANSAS STATE HIGHWAY COMMISION

DETAILS OF TERMINAL JOINTS FOR CONCRETE PAVEMENT

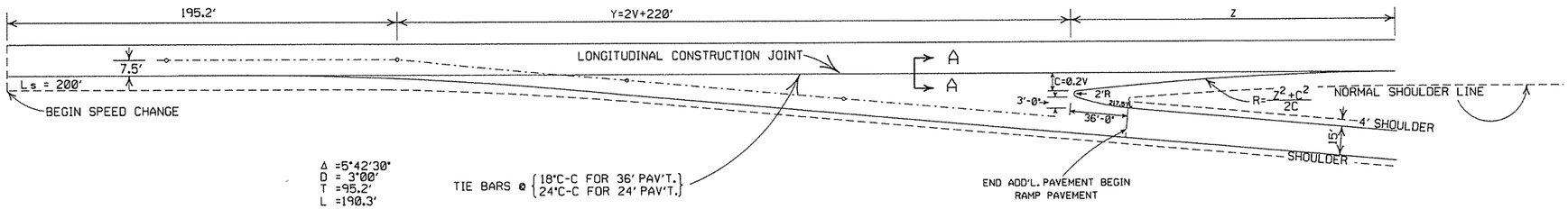
CONTINUOUSLY REINFORCED

STANDARD DRAWING CPCR-3



ENTRANCE RAMP

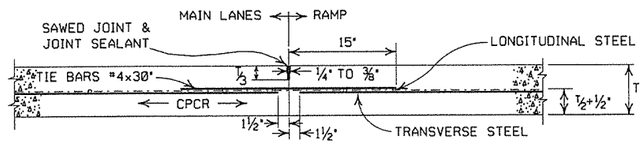
RETURN CURVES
Δ =2°17'30"
D = 3°00'
T =38.2'
L =76.4'



EXIT RAMP

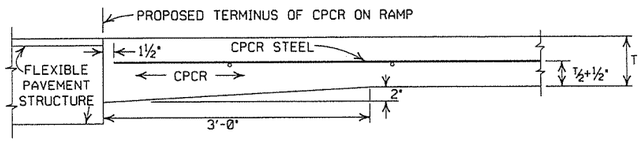
DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADD'L. SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27

NOTE: ON GRADES IN EXCESS OF 4%, THE LENGTHS "Y" & "L" MAY BE VARIED TO FIT THE CASE IN THE RATION OF $\frac{1 \pm \text{XGRADE}}{2}$ (LENGTH AS SHOWN).



LONGITUDINAL CONSTRUCTION JOINT

SECTION A - A



DETAIL FOR JUNCTION WITH FLEXIBLE TYPE PAVEMENT STRUCTURE

GENERAL NOTES

THE SEQUENCE OF OPERATION ON PLACING THE RAMP SHALL BE AS DIRECTED BY THE ENGINEER. THE LONGITUDINAL STEEL SHALL BE PLACED IN A DIRECTION APPROXIMATELY PARALLEL TO THE DIRECTION OF THE RAMP.

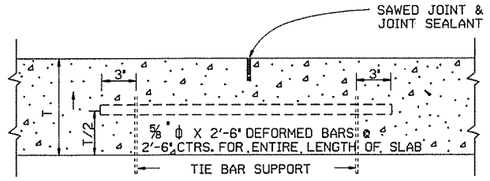
SAWED JOINT AND JOINT SEALANT FOR LONGITUDINAL CONSTRUCTION JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

DATE	REVISION	DATE FILMED
2-27-14	CORRECTED SPELLING	
3-23-89	ALTERED SAWED JOINT & ADDED NOTE	510-3-23-89
11-3-86	DIMEN'S. OF LONG. JTS.	652-11-1-86
10-2-72	REVISED AND REDRAWN	507-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF ENTRANCE & EXIT RAMPS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED

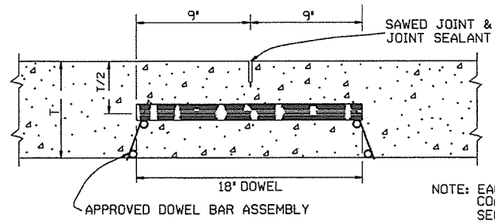
STANDARD DRAWING CPCR-4



LONGITUDINAL JOINT

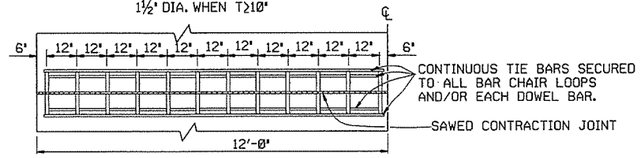
NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.

TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.



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

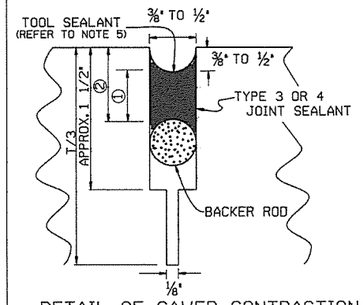
ROUND STEEL BAR DOWEL
1¼" DIA. WHEN T<10"
1½" DIA. WHEN T≥10"



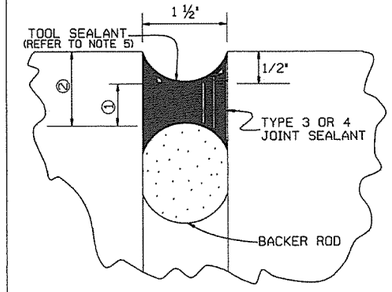
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

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



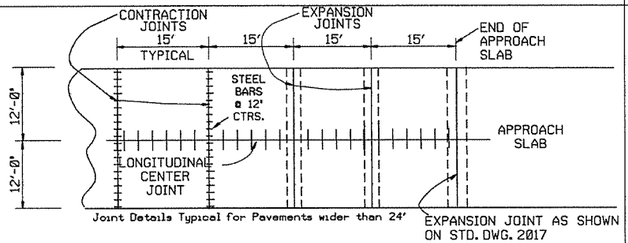
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

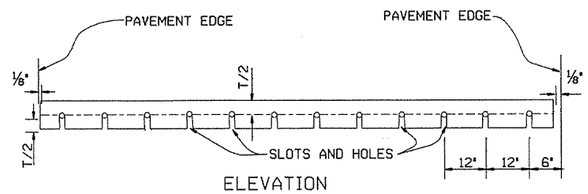
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	⅝	½
⅝	⅝	¾	⅝
¾	⅜	⅞	⅞
1 ½	¾	2	1 ¼

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	½	⅜	¾
⅜	¾	½	1

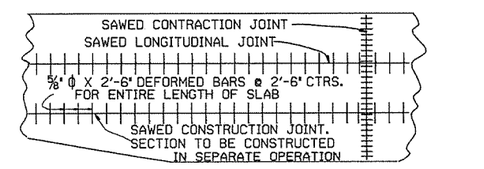


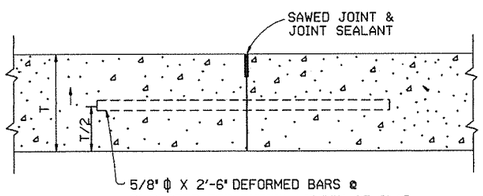
PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



ELEVATION

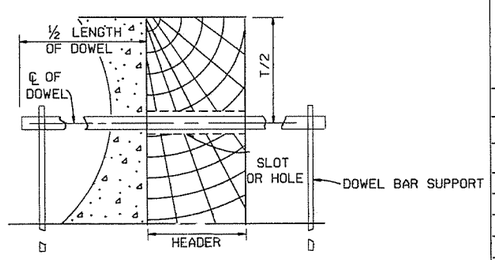
NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.





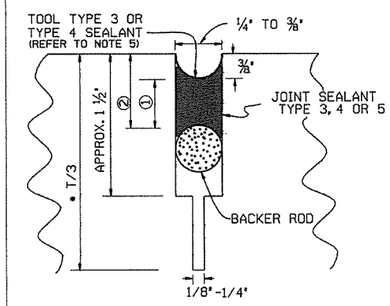
NOTE: TIE BARS SHALL BE 15' FROM TRANSVERSE JOINTS.

LONGITUDINAL CONSTRUCTION JOINT



SECTION

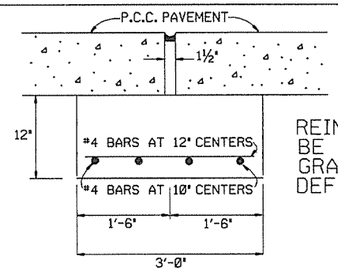
TRANSVERSE CONSTRUCTION JOINT



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

DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT

DATE	REVISION	DATE FILMED
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	632-07-15-88



REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS

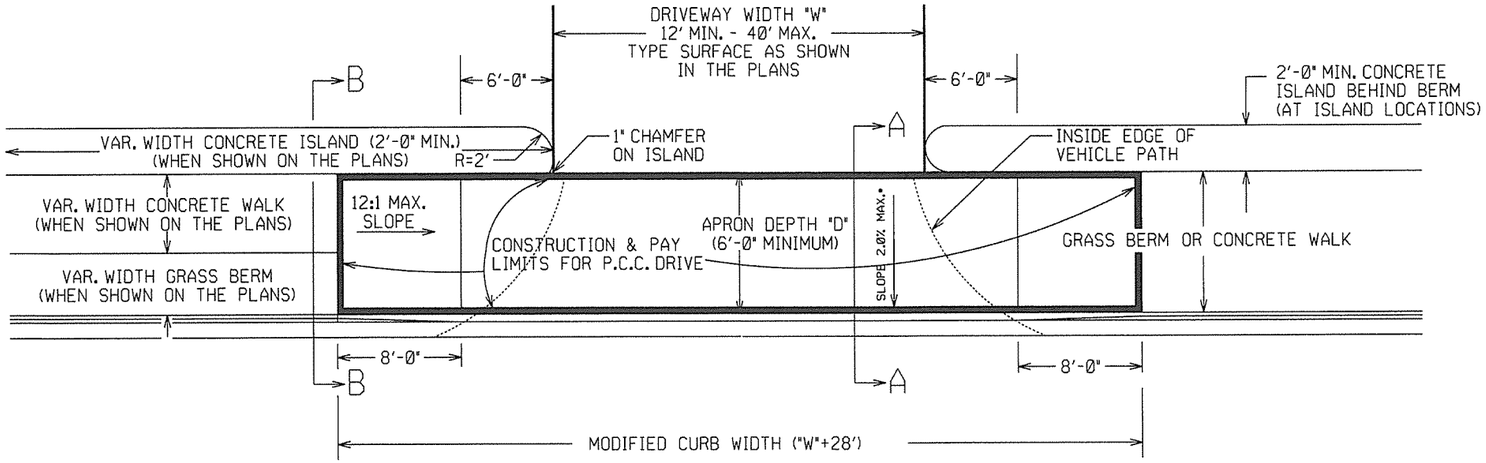
GENERAL NOTES

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 ¼" 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.

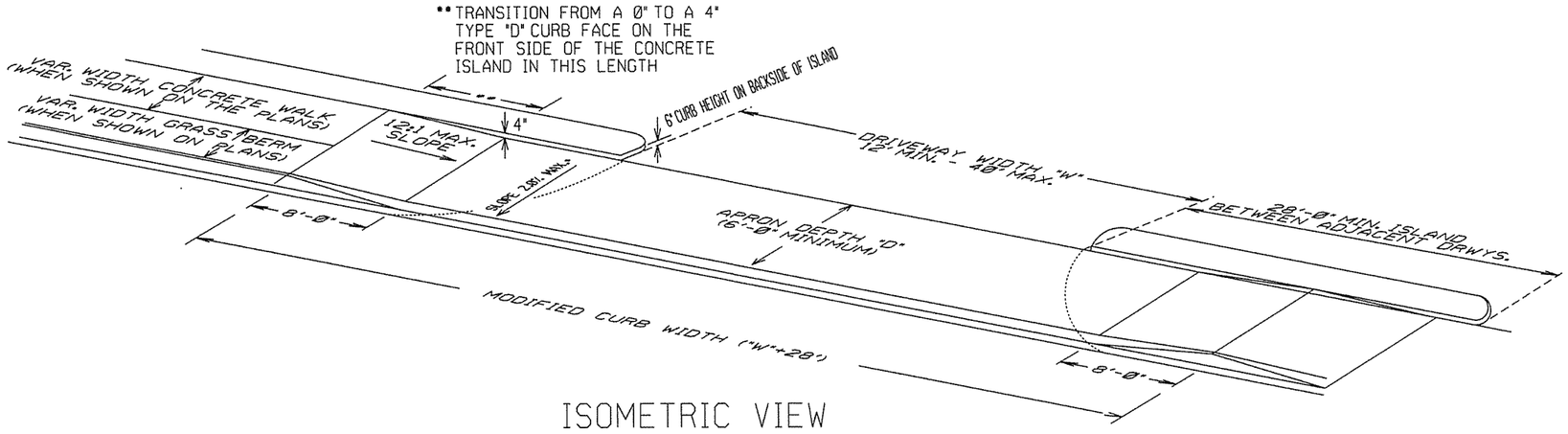
ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING CPTJ - 6A

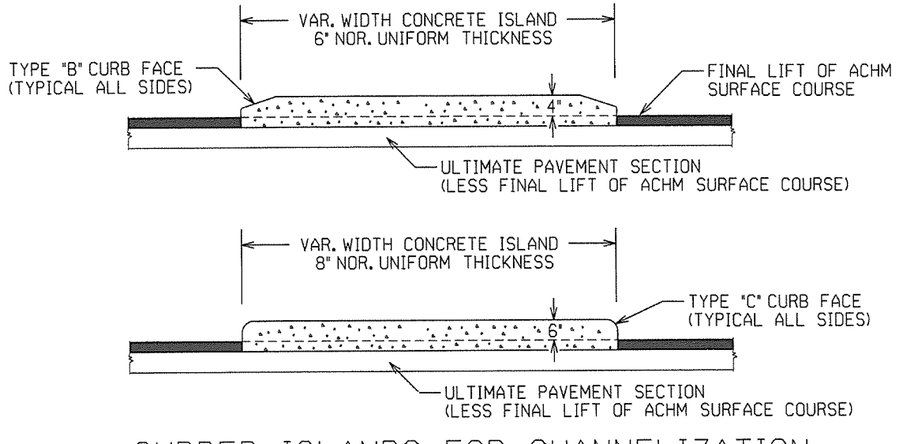


PLAN VIEW

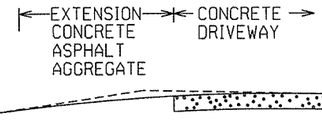


ISOMETRIC VIEW

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

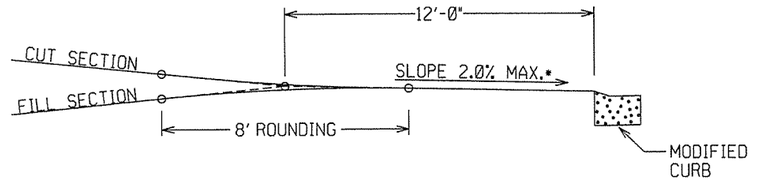
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

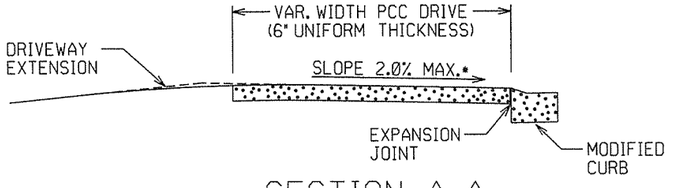
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

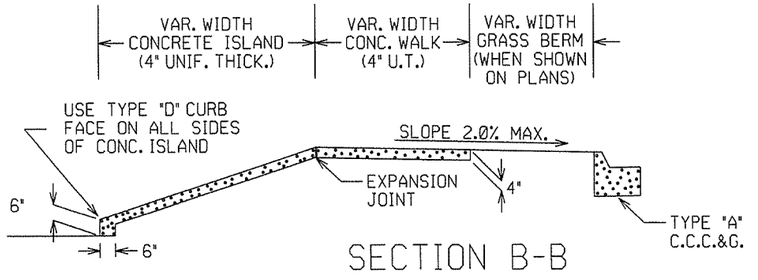


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



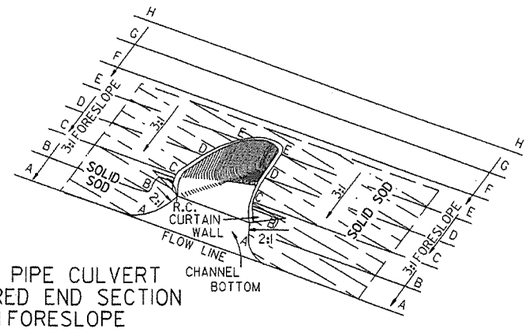
SECTION A-A



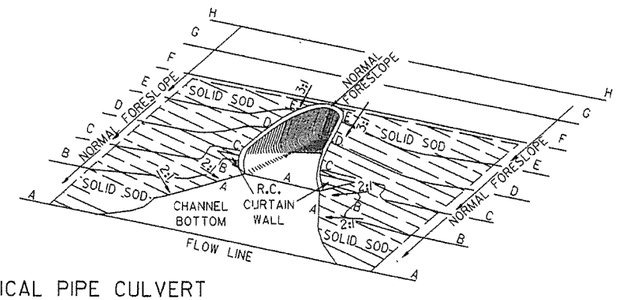
SECTION B-B
CURBED ISLAND BEHIND WALK

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
DATE REV	DATE FILMED	DESCRIPTION

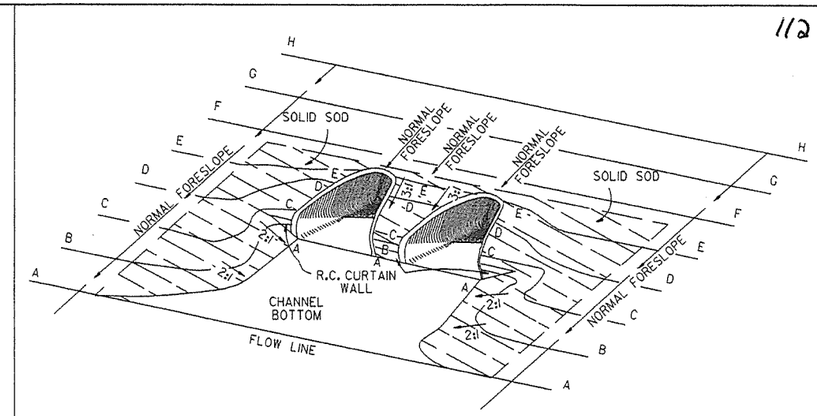
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

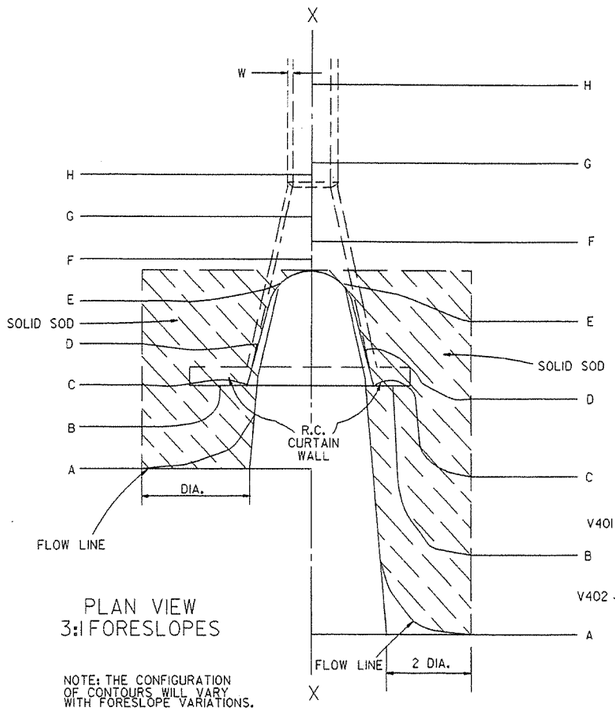
PIPE DIA.	H_1	L_1	L	L (DBL.) / 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"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

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

REINFORCING STEEL SCHEDULE

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

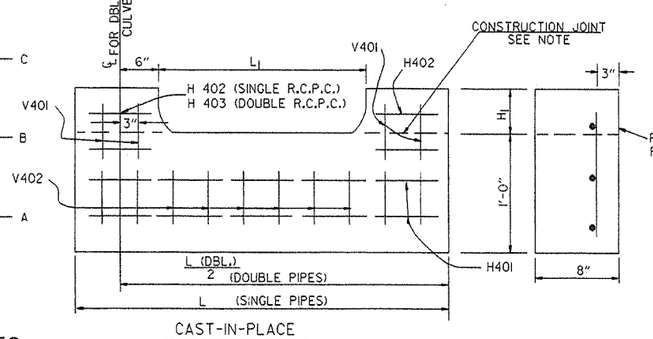
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

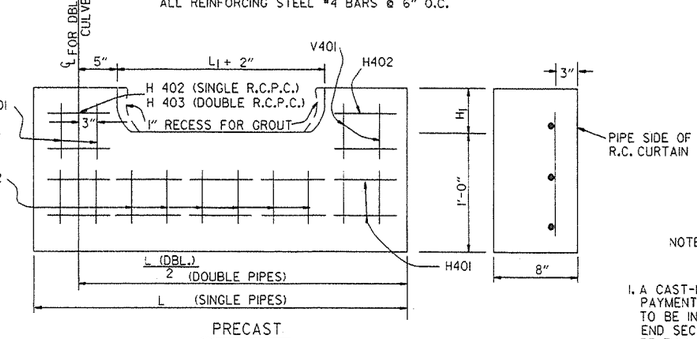
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

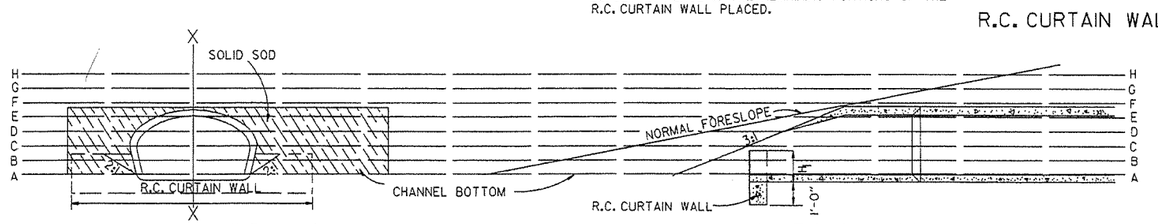
SOLID SODDING

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

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

GENERAL NOTES

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



END VIEW

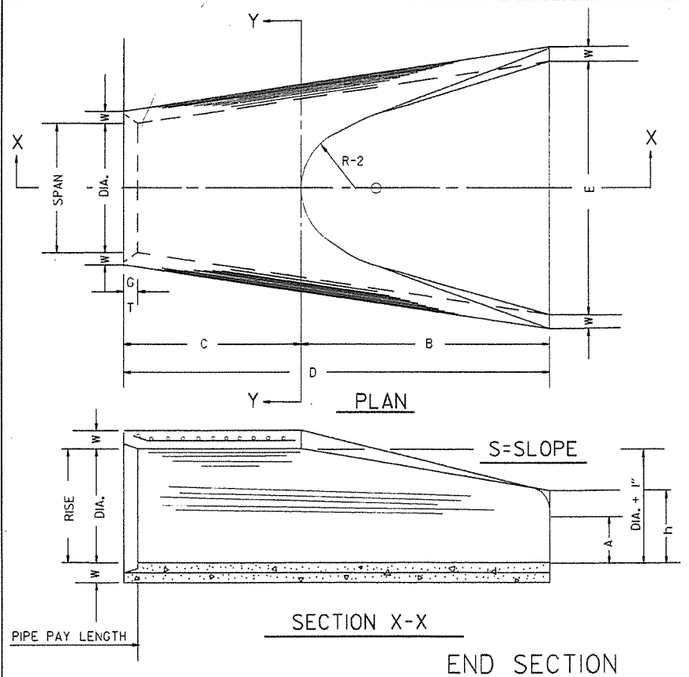
SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

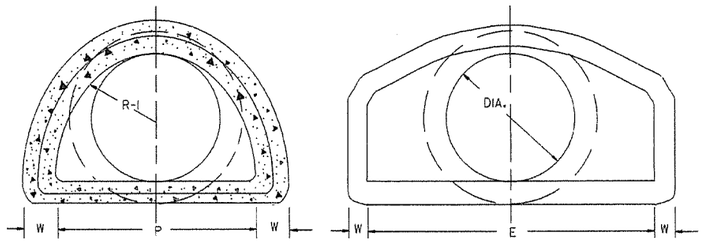
STANDARD DRAWING FES-1



SECTION X-X

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. ± 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47 13/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 5/16"	24"	5"	13250	4'-6"



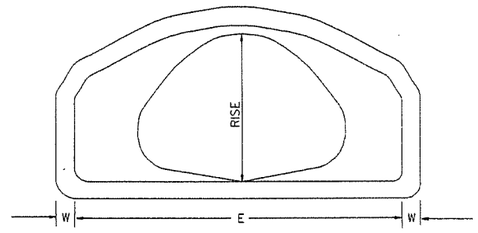
SECTION Y-Y END VIEW

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

ARCH PIPE

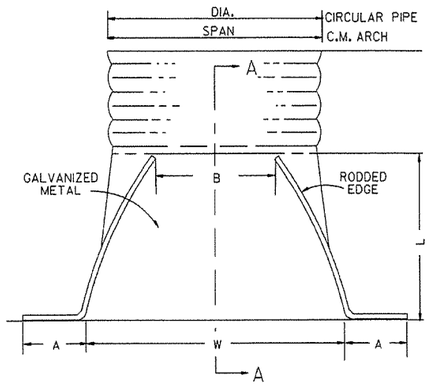
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 13/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 13/16"	20"	3"	2½:1
36	43⅜	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54⅜"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2¼:1

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

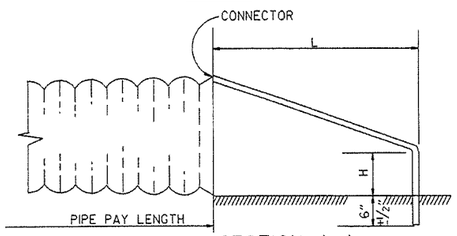


END VIEW
CONCRETE ARCH PIPE

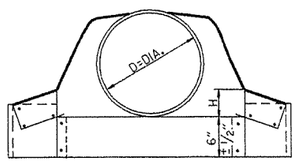
END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS



PLAN



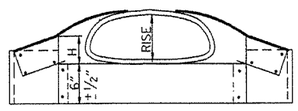
SECTION A-A



CIRCULAR PIPE

CIRCULAR PIPE

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



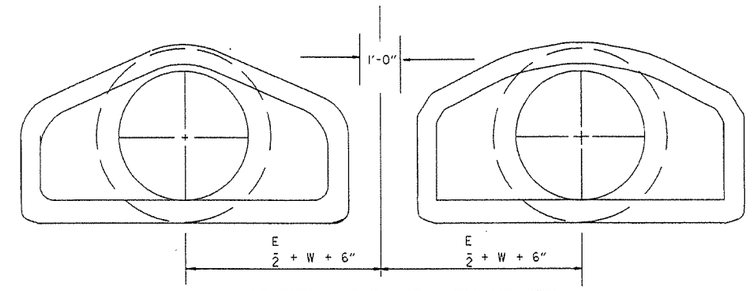
C.M. ARCH PIPE

C.M. ARCH PIPE

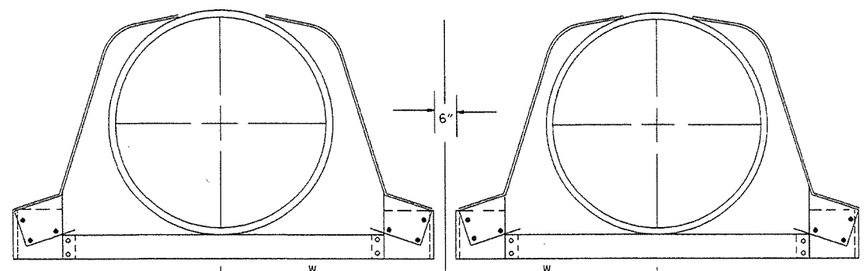
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
			INCHES						
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



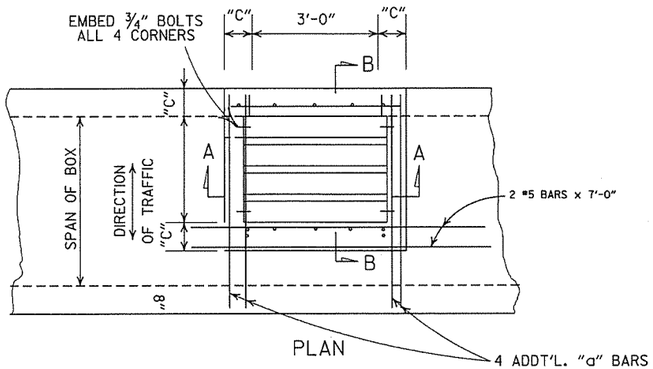
MULTIPLE R.C. PIPE CULVERTS



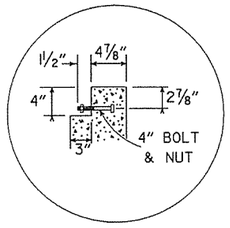
MULTIPLE C.M. PIPE CULVERTS

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

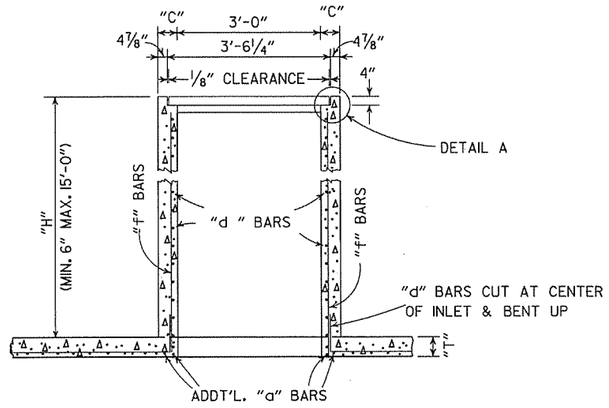
stdfes2.dgn



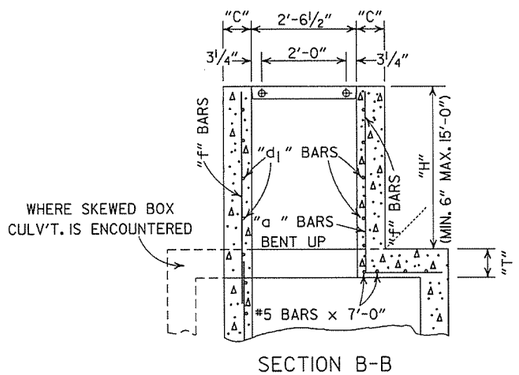
PLAN



DETAIL A



SECTION A-A

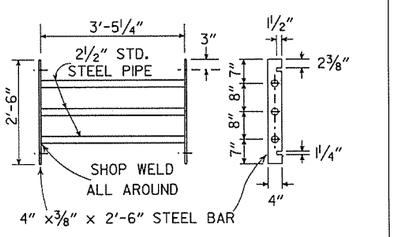


SECTION B-B

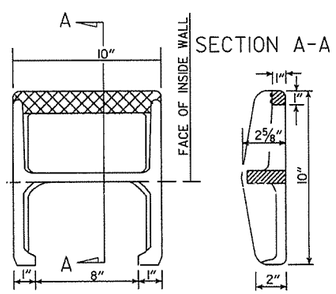
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM" FOR REINFORCED CONC. BOX CULVERTS



GRATE DETAIL



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

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

DETAIL OF STEP FOR DROP INLET

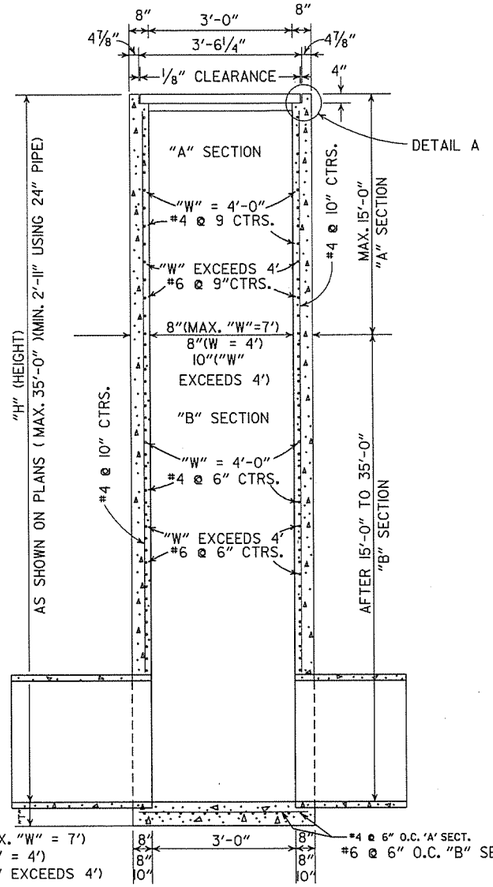
GENERAL NOTES:

1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

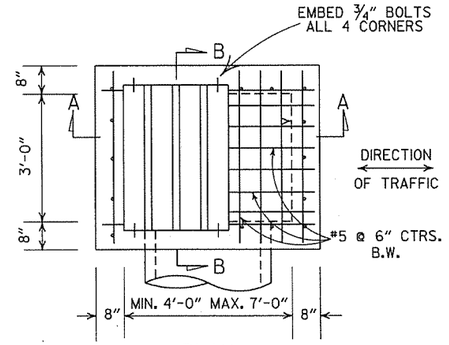
TABLE OF "W" DIMENSIONS

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

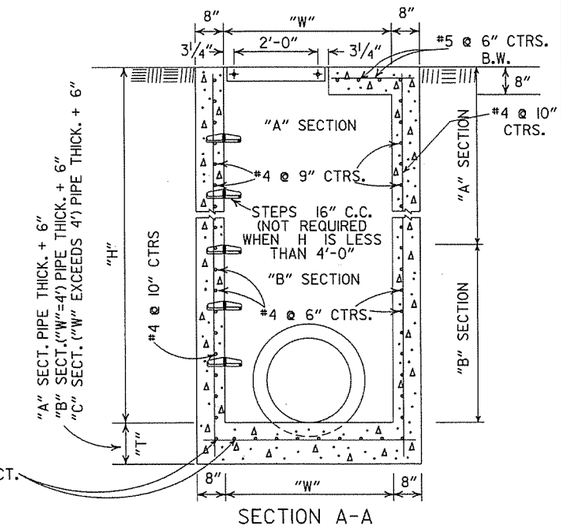
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



SECTION B-B



PLAN



SECTION A-A

DROP INLET(TYPE RM)

REVISED		DATE FILMED
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D

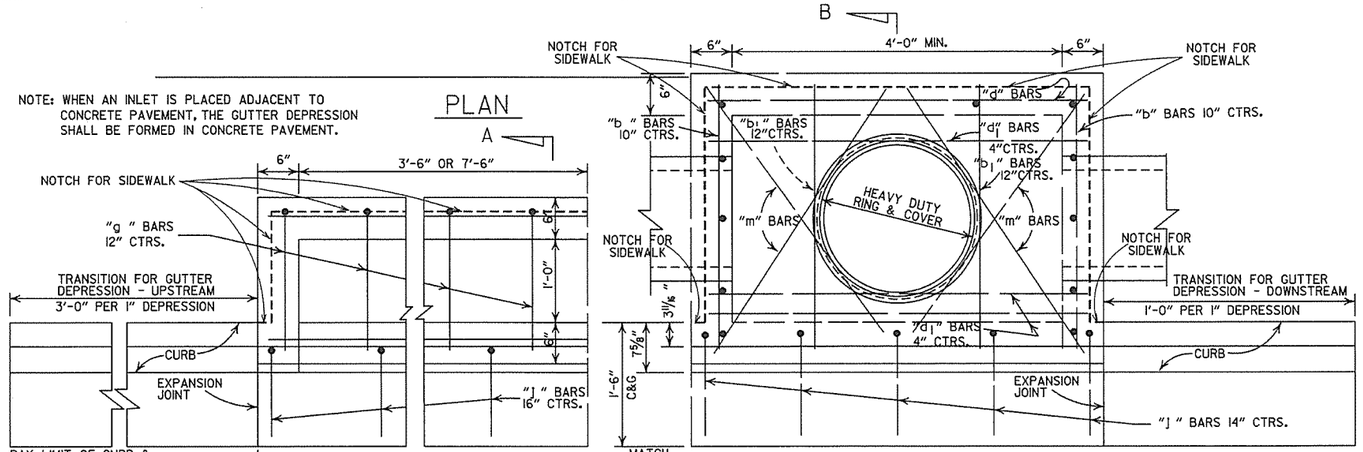
4'-0" LENGTH DROP INLET — DROP INLET EXTENSION

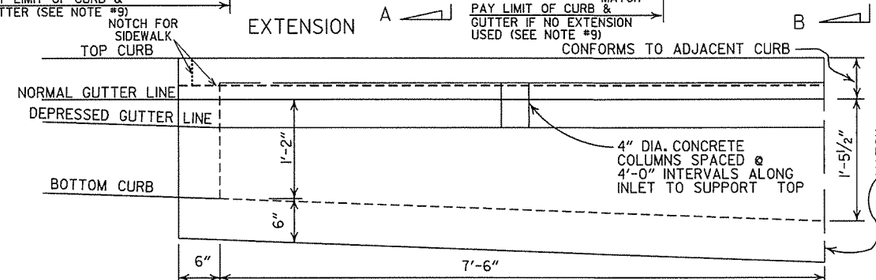
PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL	4'-0" EXTENSION CLASS A CONC.	4'-0" EXTENSION REINF. STEEL	8'-0" EXTENSION CLASS A CONC.	8'-0" EXTENSION REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS	CU. YDS.	POUNDS	CU. YDS.	POUNDS
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	DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						0.04	3		

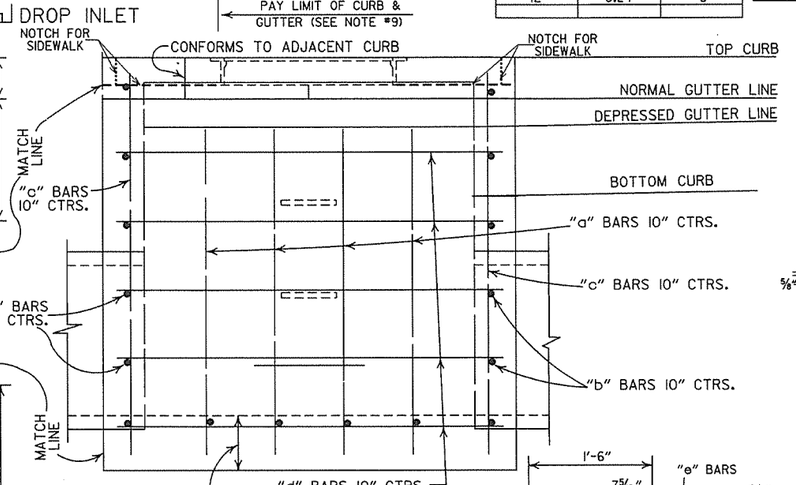
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

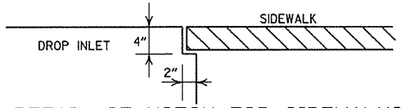
NOTE: WHEN AN INLET IS PLACED ADJACENT TO CONCRETE PAVEMENT, THE GUTTER DEPRESSION SHALL BE FORMED IN CONCRETE PAVEMENT.

PLAN

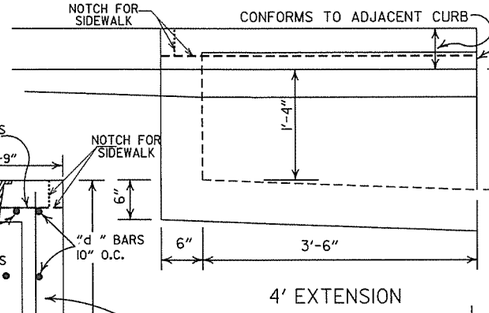






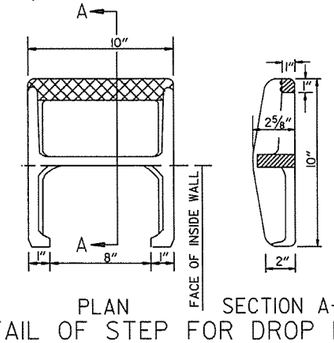


DETAIL OF NOTCH FOR SIDEWALKS



ELEVATION

SECTION B-B



PLAN SECTION A-A

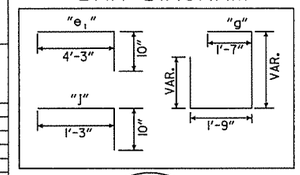
DETAIL OF STEP FOR DROP INLET

APPROX. WEIGHT = 11 LBS. (CAST IRON)

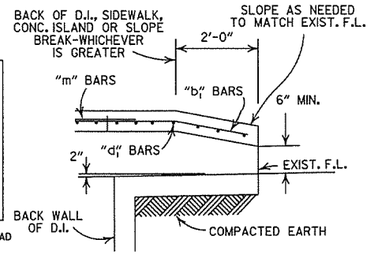
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

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

BAR DIAMOND

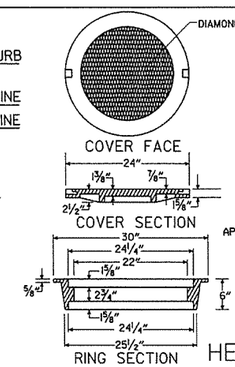


BACK OPENING

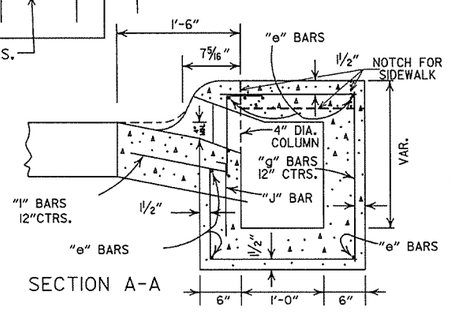


WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

HEAVY DUTY RING & COVER



APPROXIMATE TOTAL WEIGHT = 333 LBS.



SECTION A-A

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

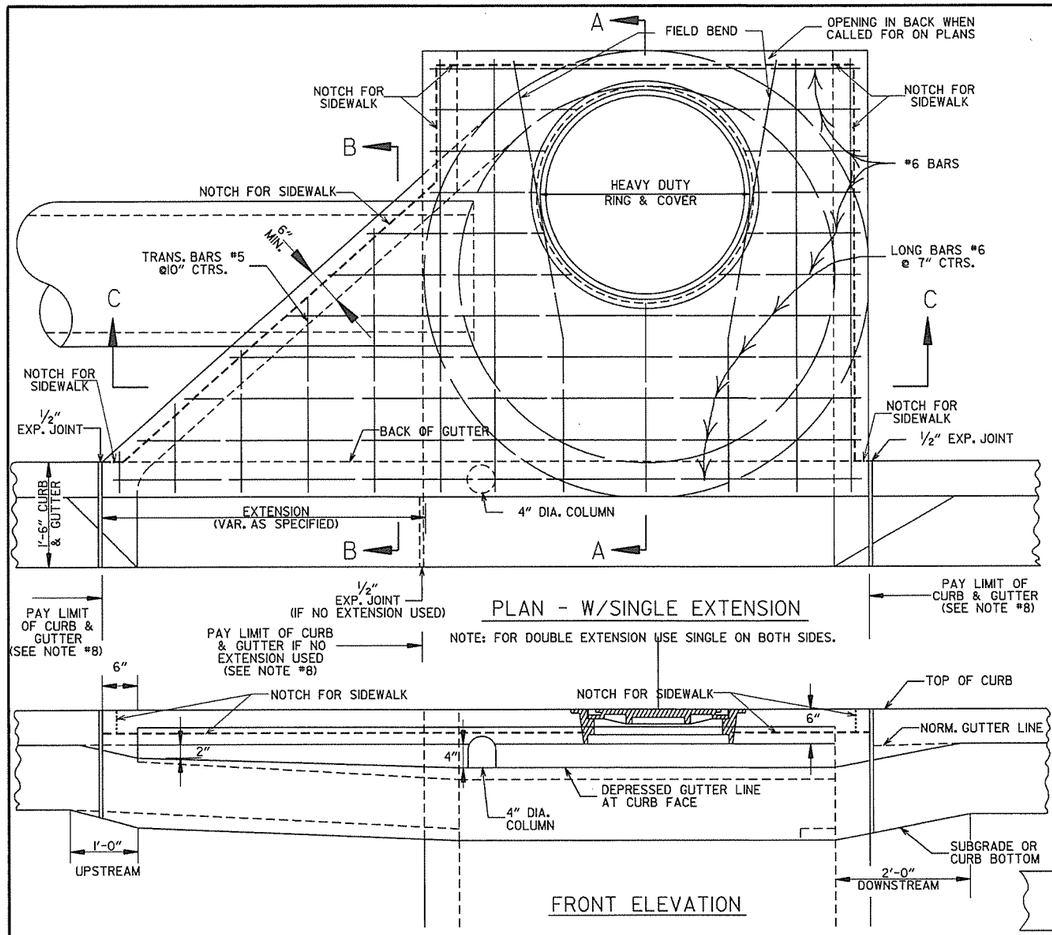
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

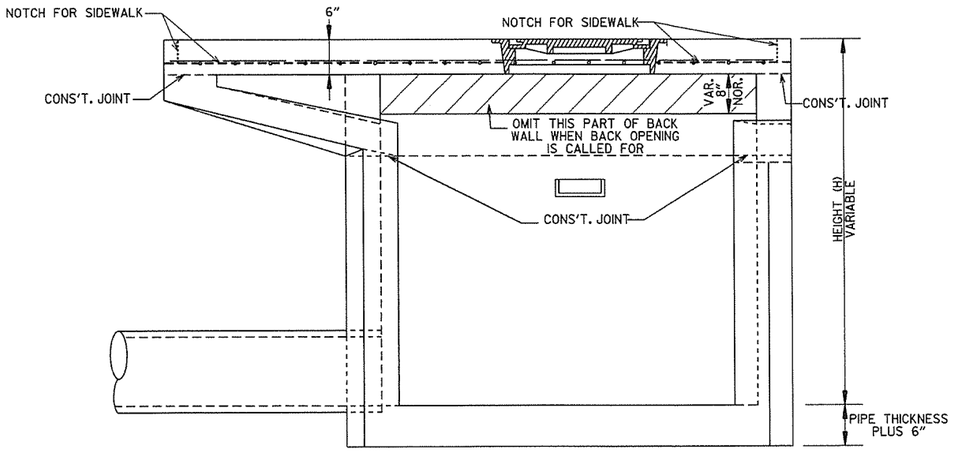
STANDARD DRAWING FPC-9E



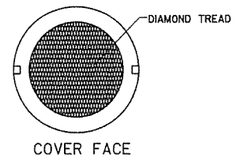
PLAN - W/SINGLE EXTENSION

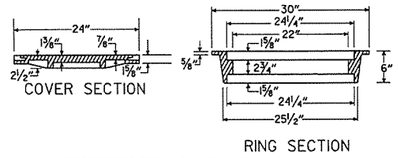
NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



SECTION C-C

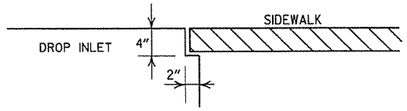




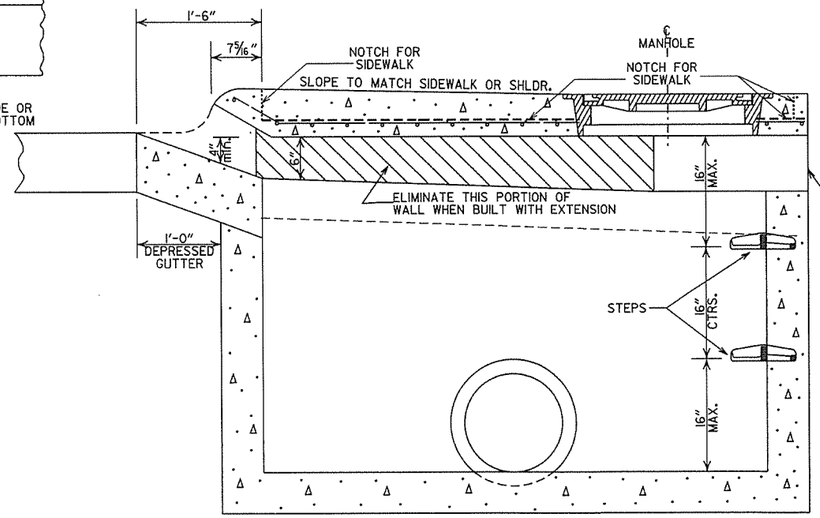
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

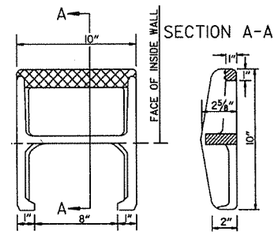
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON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



DETAIL OF NOTCH FOR SIDEWALKS



SECTION A-A

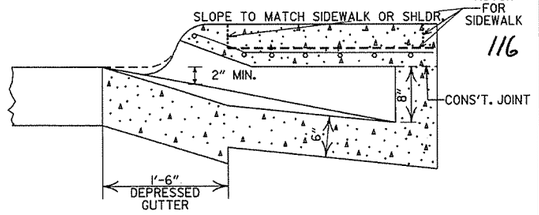


APPROX. WEIGHT = 11 LBS. (CAST IRON)

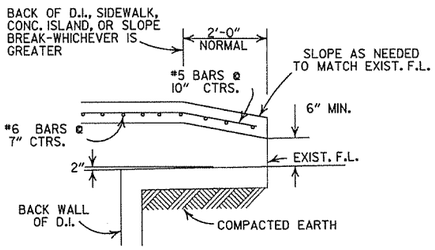
SECTION A-A

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

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

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

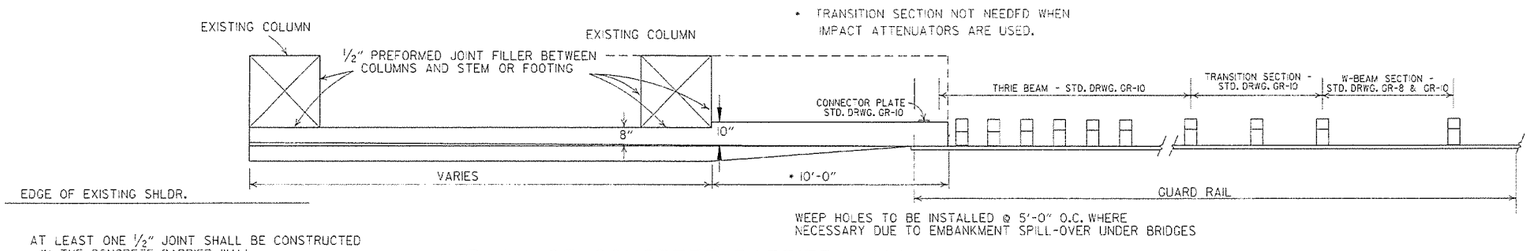
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

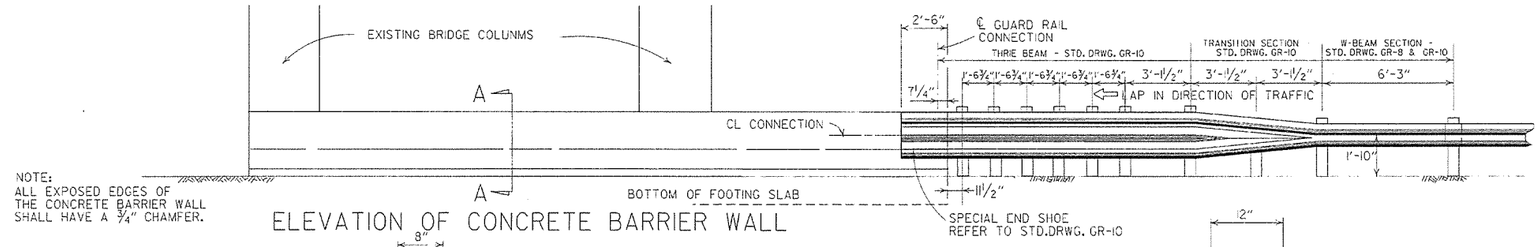
STANDARD DRAWING FPC-9M



• TRANSITION SECTION NOT NEEDED WHEN IMPACT ATTENUATORS ARE USED.

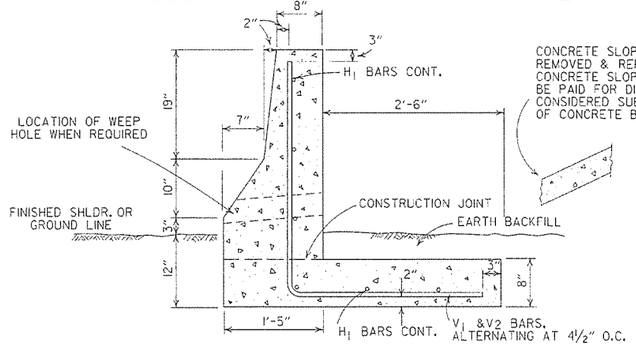
PLAN OF CONCRETE BARRIER WALL

AT LEAST ONE 1/2" JOINT SHALL BE CONSTRUCTED IN THE CONCRETE BARRIER WALL. JOINTS SHALL BE EQUALLY SPACED AT A MAXIMUM OF 25'-0" O.C. FILL JOINT WITH PREFORMED JOINT FILLER.

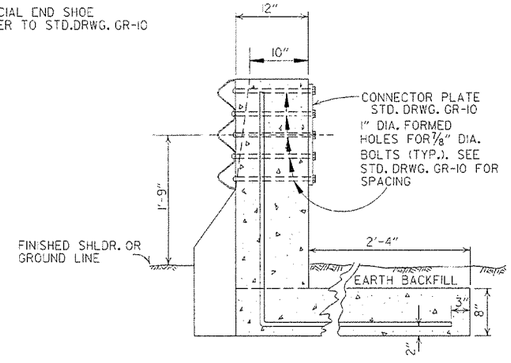


NOTE:
ALL EXPOSED EDGES OF THE CONCRETE BARRIER WALL SHALL HAVE A 3/4" CHAMFER.

ELEVATION OF CONCRETE BARRIER WALL

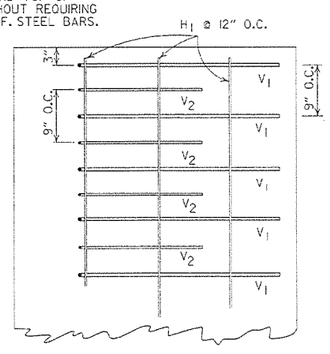


SECTION A-A



SECTION THRU CONNECTION

IF FOR ANY REASON IT IS NECESSARY TO CONSTRUCT THE FOOTING AT A LOWER ELEVATION THAN IS SHOWN, THE STEM MAY BE LENGTHENED 1'-0" BETWEEN FIN. SHLDR. AND TOP OF FOOTING WITHOUT REQUIRING HEAVIER REINF. STEEL BARS.

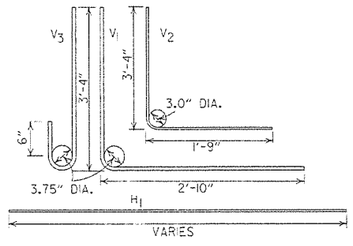


PLAN OF REINFORCING STEEL IN FOOTING

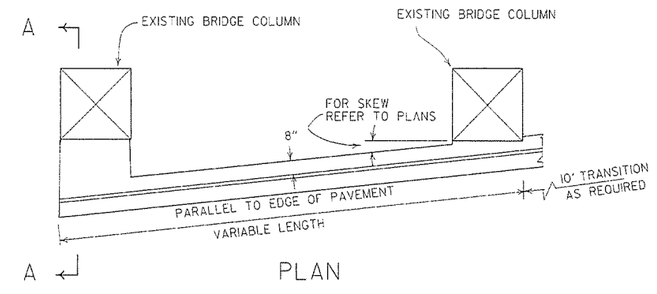
BAR LIST

MARK	NO.	SIZE	LENGTH
V1		#5	6'-2 1/4"
V2		#4	5'-1"
V3		#5	4'-11/8"
H1	6	4	VAR.

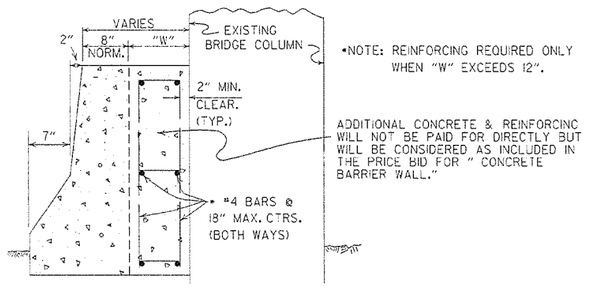
THE V3 BARS SHALL BE USED IN PLACE OF THE V1 & V2 BARS IN FRONT OF PIERS.



BEND DIAGRAMS



PLAN



SECTION A-A

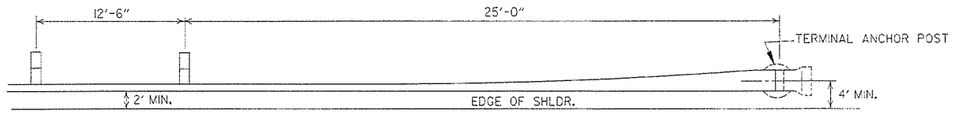
DETAILS OF CONCRETE BARRIER WALL WHEN PIERS ARE SKEWED TO ROADWAY

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
8-22-02	REV. SECTION A-A OF DETAILS OF CONCRETE BARRIER WALL	
6-29-00	MOVED DIMENSION LINE	
5-18-00	ADDED NOTE	
3-30-00	REVISED TO INCLUDE THRIE BEAM	
6-2-94	ADDED TRANSITION SECTION NOTE	
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED DRAWING PLAN CONC. BARR.	8-15-91
2-16-89	ADDED SKEWED DETAILS	594-2-16-89
7-14-88	CHANGED TITLE	
10-9-87	REDRAWN & REVISED	

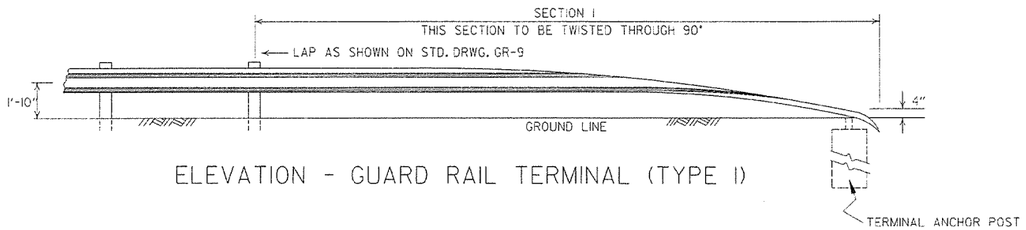
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE BARRIER WALL (PIER PROTECTION TYPE A)

STANDARD DRAWING GR-11

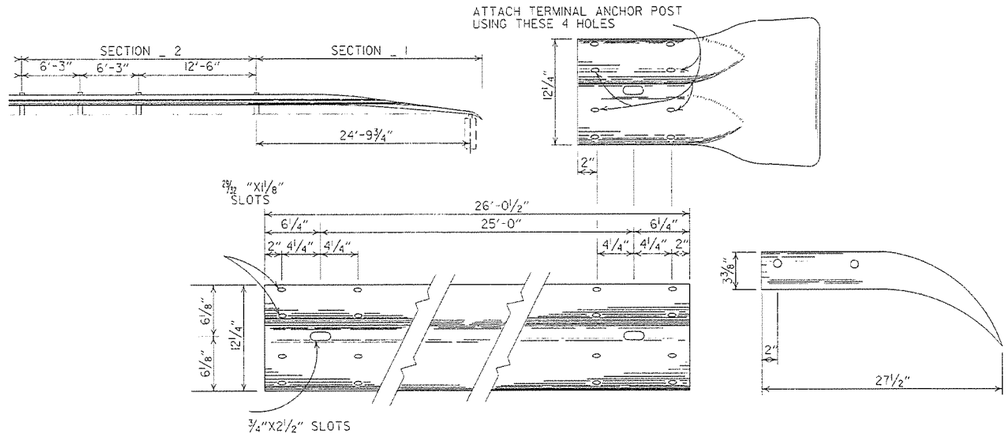


PLAN - GUARD RAIL TERMINAL (TYPE I)



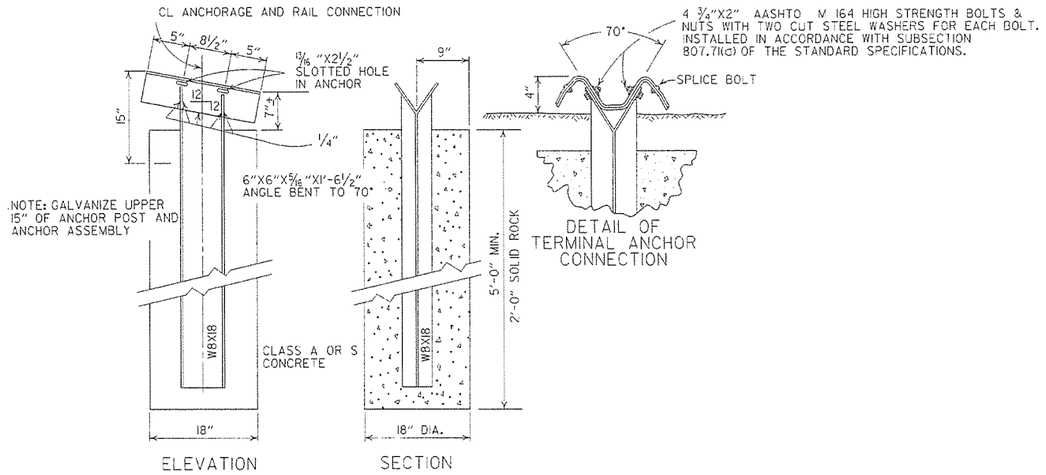
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION I

TERMINAL SECTION



NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
6-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-3-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-1-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GRT-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

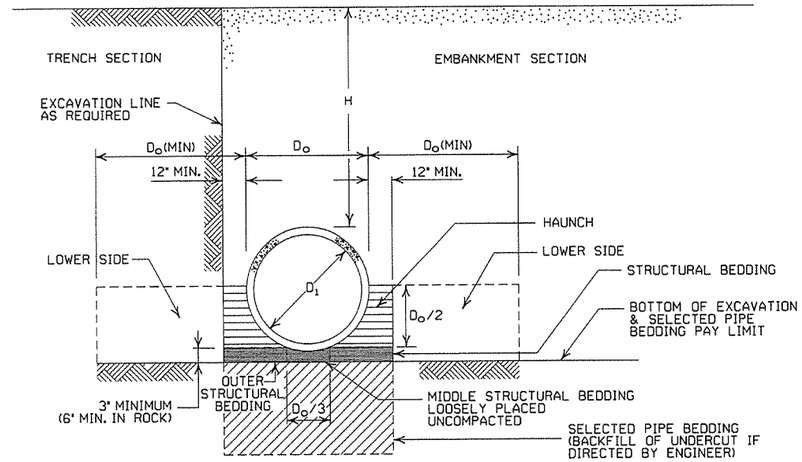
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CORRUGATED METAL PIPE ARCHES

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

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

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

CONSTRUCTION SEQUENCE

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

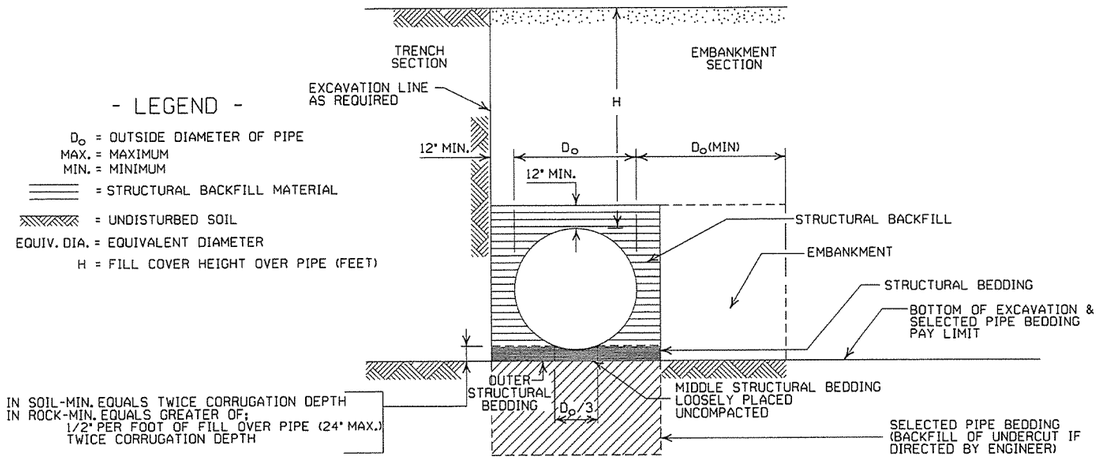
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

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

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

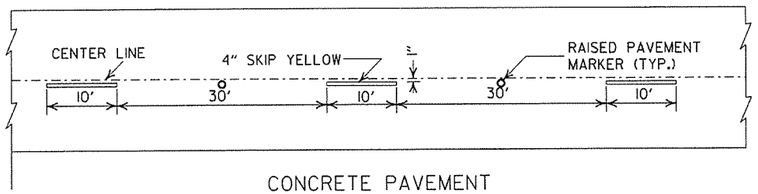
1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION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

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

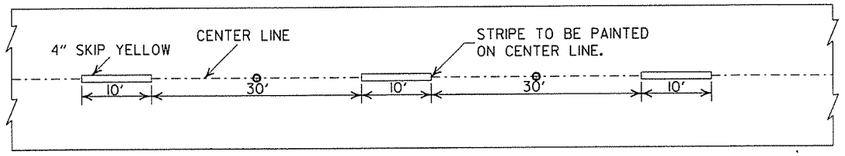
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

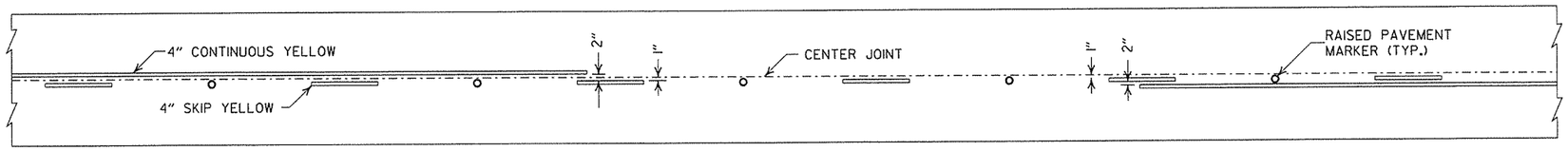


CONCRETE PAVEMENT

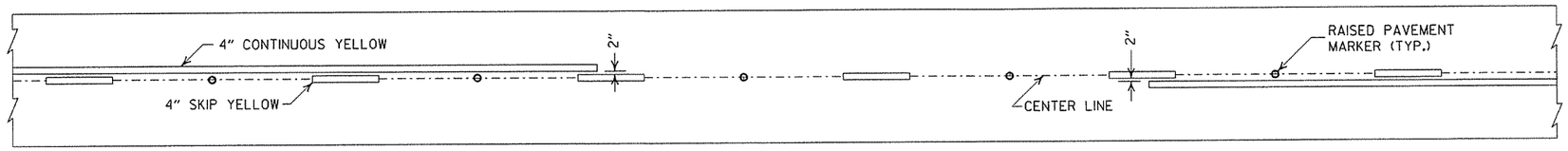


ASPHALT PAVEMENT

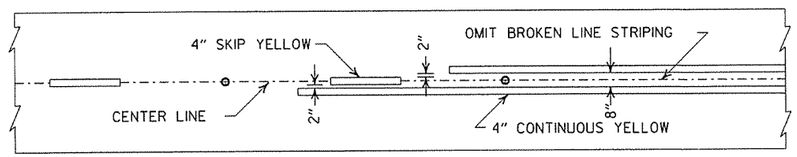
BROKEN LINE STRIPING



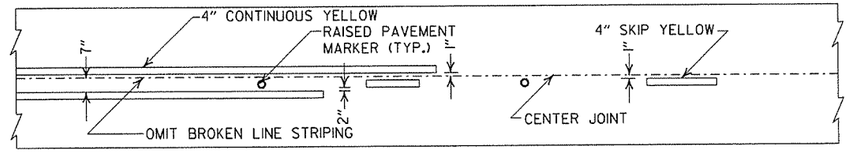
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

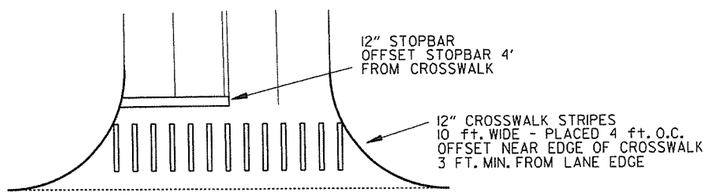


ASPHALT PAVEMENT



CONCRETE PAVEMENT

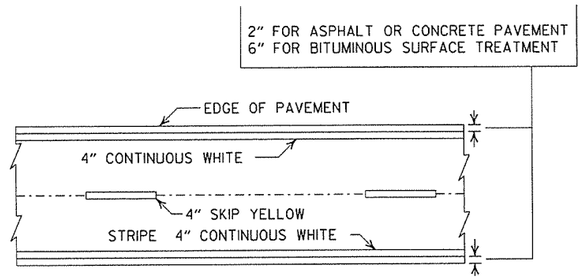
STRIPING AT ADJACENT NO PASSING LANES



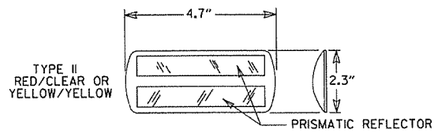
CROSSWALK AND STOPBAR DETAILS

NOTES:

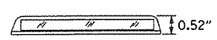
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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

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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

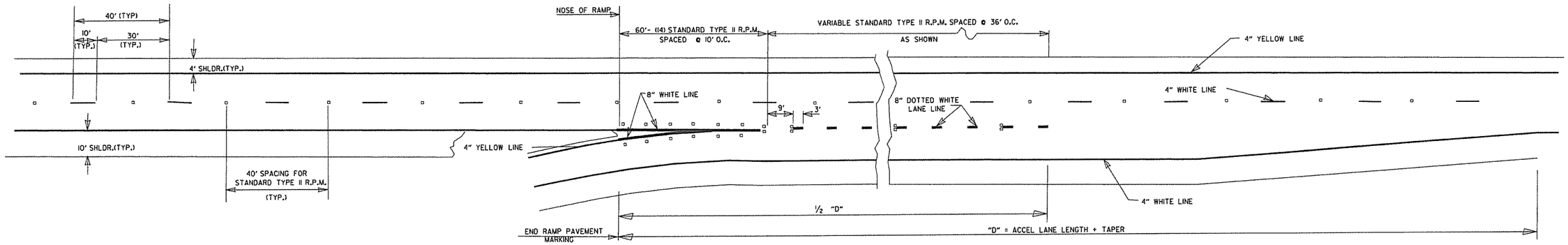
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

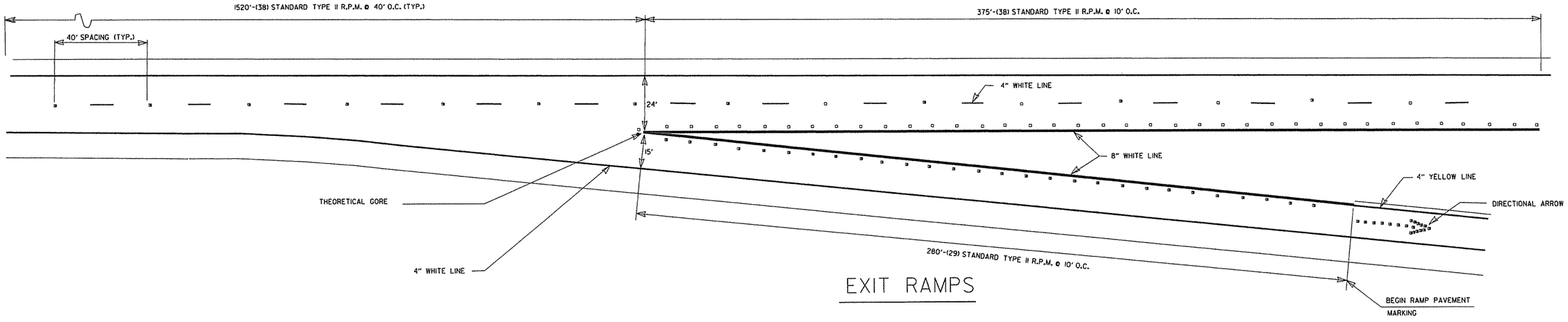
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

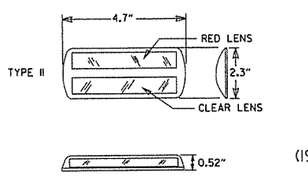
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

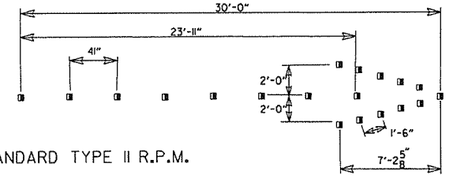


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



(19) STANDARD TYPE II R.P.M.

DIRECTIONAL ARROWS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
7-26-12	REVISED RPM NOTATION	
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

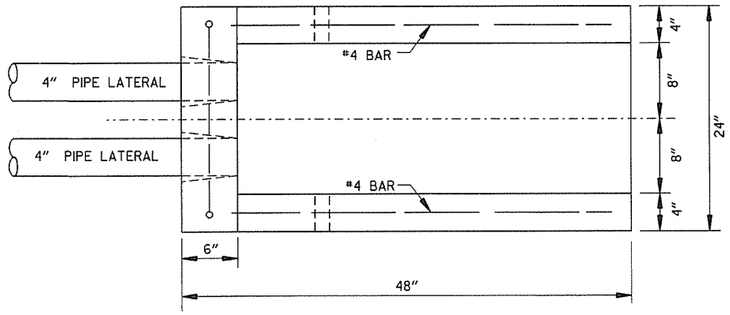
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

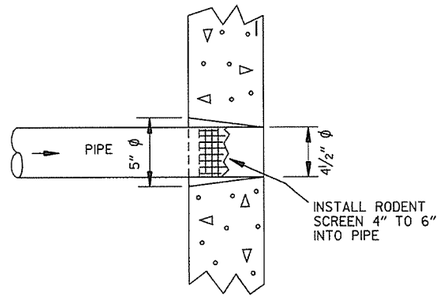
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

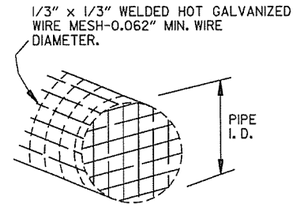
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



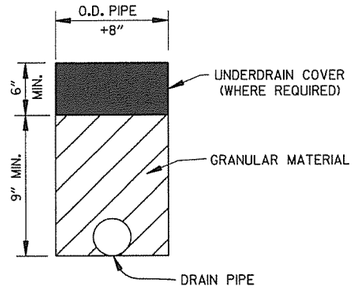
PLAN VIEW

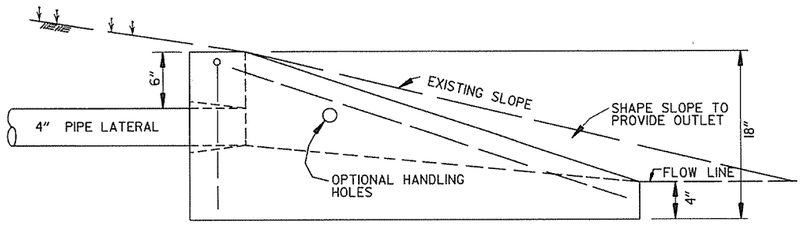


DETAIL OF HOLE FOR 4" PIPE

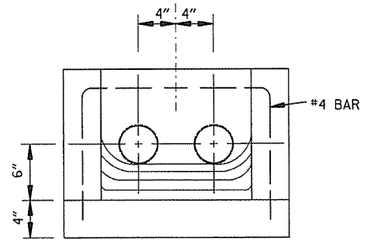


DETAIL OF RODENT SCREEN

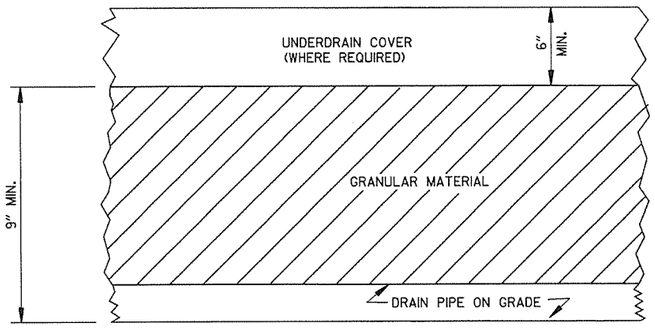




SIDE VIEW

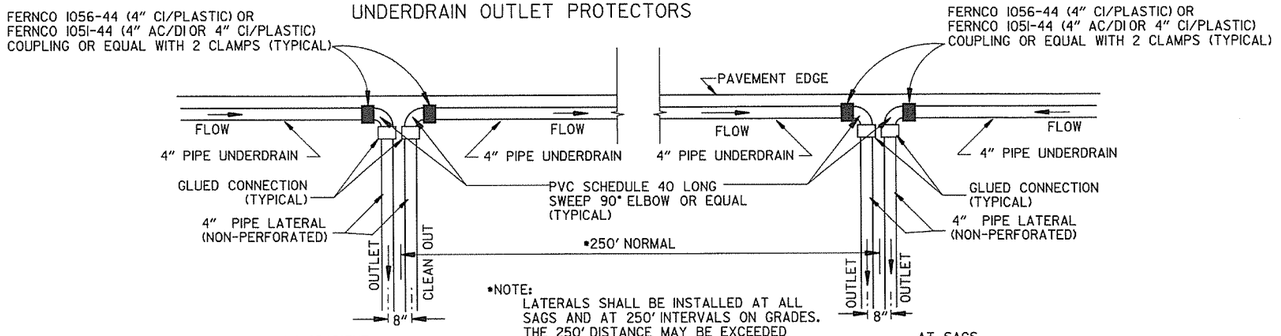


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 30′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 45′	N. C.			N. C.			R. C.			0.022			0.023			0.025			0.028		
1° 00′	N. C.			N. C.			0.021			0.026			0.030			0.033	250		0.037	275	
1° 15′	N. C.			R. C.			0.026			0.032			0.037			0.041			0.046		
1° 30′	N. C.			0.021			0.031	200		0.037	225		0.043	250		0.048		350	0.054		350
1° 45′	N. C.			0.025	175		0.036			0.043			0.049			0.055			0.062		
2° 00′	R. C.			0.028			0.040			0.048			0.055			0.062			0.070		
2° 15′	R. C.			0.031			0.045		300	0.053			0.061			0.069	265		0.078	300	
2° 30′	0.021			0.034			0.049			0.058			0.067			0.075	280		0.085	315	400
2° 45′	0.023			0.037			0.053			0.063			0.072			0.081	300		0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.087	315		0.096	350	
3° 15′	0.027			0.043			0.061			0.072	245		0.082	275		0.090	325	400	0.098	360	450
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.095	340		0.100	360	
3° 45′	0.031			0.049			0.069	215		0.080	265		0.090	295		0.097	345				
4° 00′	0.033			0.051			0.072	225		0.083	270	400	0.093	305	400	0.099	350				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315							
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320							
5° 30′	0.043			0.066	185		0.088	260		0.094	300										
6° 00′	0.046			0.070	190		0.092	270		0.096	305										
6° 30′	0.050			0.074	200		0.095	280	350	0.100	315										
7° 00′	0.053			0.078	210		0.098	285													
7° 30′	0.056			0.081	215		0.099	290													
8° 00′	0.058			0.084	220	300	0.100	290													
8° 30′	0.061			0.087	225																
9° 00′	0.063			0.089	230																
10° 00′	0.068	160		0.094	235																
11° 00′	0.072	170		0.097	250																
12° 00′	0.076	175		0.099	250																
13° 00′	0.080	180		0.100	250																
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200																			
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215	300																		
21° 00′	0.098	215																			
22° 00′	0.099	215																			
23° 00′	0.099	215																			
24° 00′	0.100	220																			

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 4° 15′ | D MAX = 3° 30′

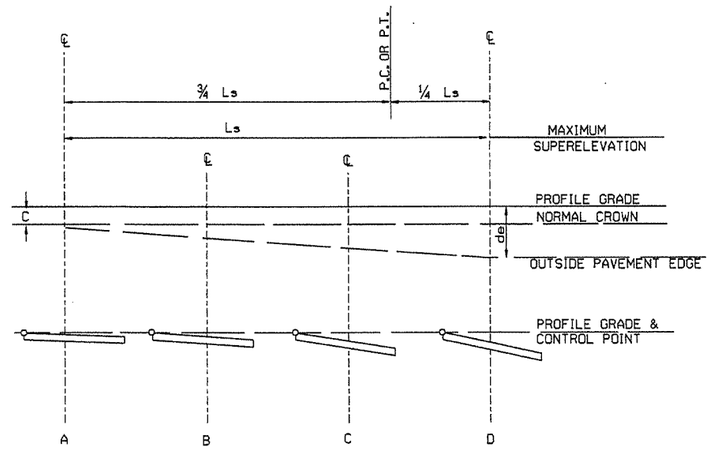
GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%

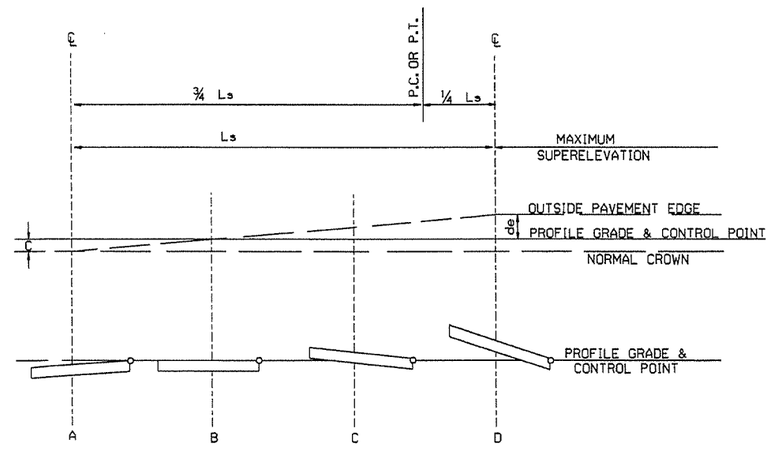
ABBREVIATIONS

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



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

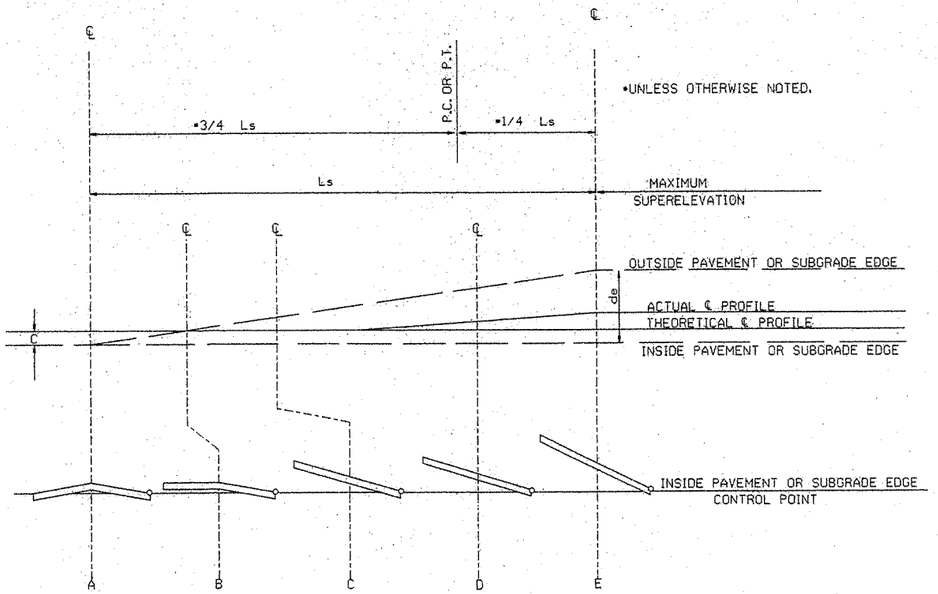
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 30′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 45′	N. C.			N. C.			R. C.			0.022			0.023			0.028		
1° 00′	N. C.			N. C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N. C.			R. C.			0.026			0.032			0.037			0.046		
1° 30′	N. C.			0.021			0.031	200		0.037	225		0.043	250		0.054		
1° 45′	N. C.			0.025	175		0.036			0.043		300	0.049		300	0.062		
2° 00′	R. C.			0.028			0.040			0.048			0.055			0.070		
2° 15′	R. C.			0.031			0.045		250	0.053			0.061			0.078	300	350
2° 30′	0.021			0.034			0.049			0.058			0.067			0.085	315	
2° 45′	0.023			0.037		200	0.053			0.063			0.072			0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.096	350	
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.098	360	400
3° 30′	0.029			0.046	185		0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031			0.049			0.069	215		0.080	265		0.090	295				
4° 00′	0.033			0.051	190		0.072	225		0.083	270		0.093	305	350			
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.061	200		0.083	250		0.091	295		0.098	320				
5° 30′	0.043			0.066			0.088	260		0.094	300	350						
6° 00′	0.046			0.070	190		0.092	270		0.096	305							
6° 30′	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00′	0.053			0.078	210		0.098	285										
7° 30′	0.056			0.081	215		0.099	290										
8° 00′	0.058			0.084	220		0.100	290										
8° 30′	0.061			0.087	225	250												
9° 00′	0.063			0.089	230													
10° 00′	0.068	160		0.094	235													
11° 00′	0.072	170		0.097	250													
12° 00′	0.076	175		0.099	250													
13° 00′	0.080	180		0.100	250													
14° 00′	0.083	190																
15° 00′	0.086	195																
16° 00′	0.089	200																
17° 00′	0.091	200																
18° 00′	0.093	205																
19° 00′	0.095	210																
20° 00′	0.097	215	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

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

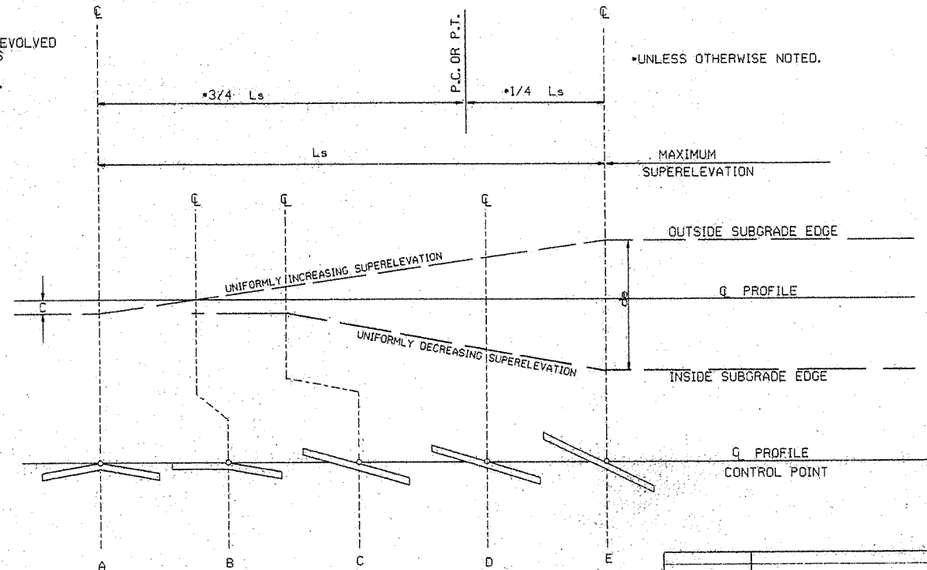
GENERAL NOTES

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

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

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

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

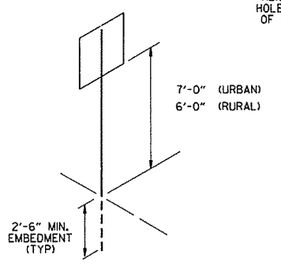
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

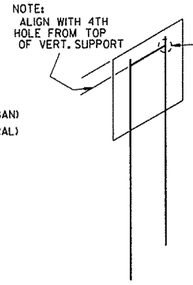
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

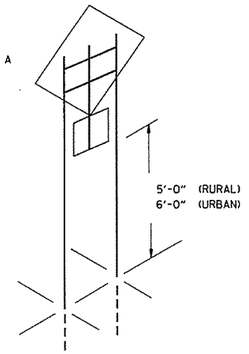
FILE STDSE2.DGN



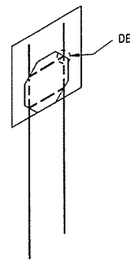
U-1



U-2



U-2 (A)



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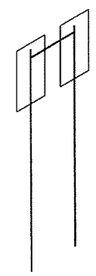

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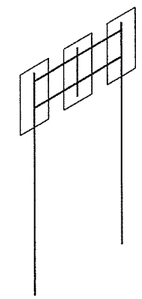

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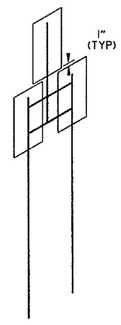

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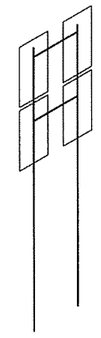

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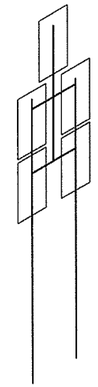

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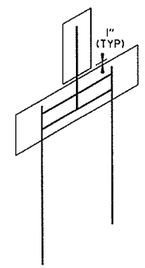
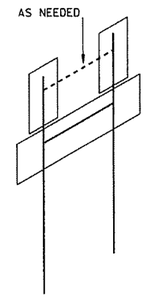


U-2 (6)



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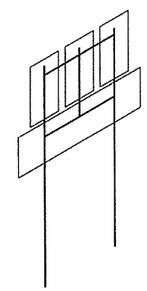
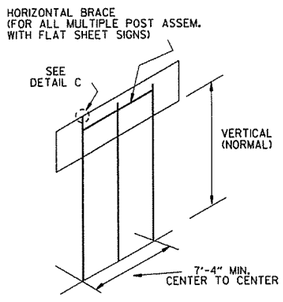
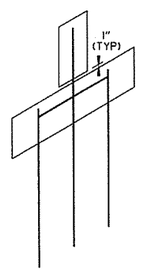


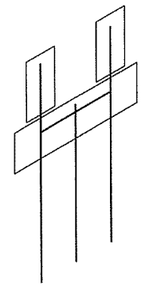
U-2 (8)



U-3



U-3 (1)



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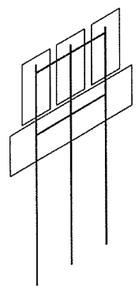

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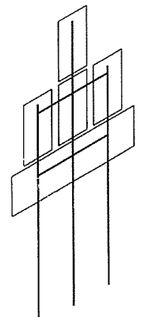

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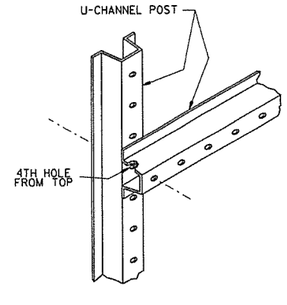
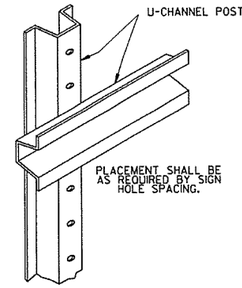


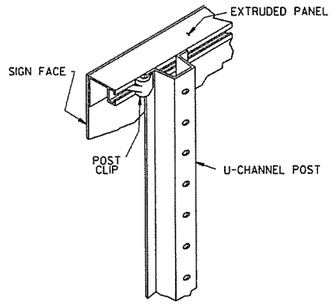
DETAIL A

SHOWING HORIZONTAL BRACE



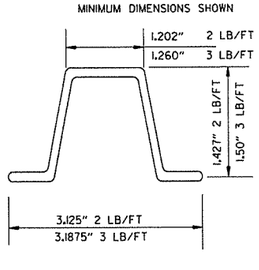
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



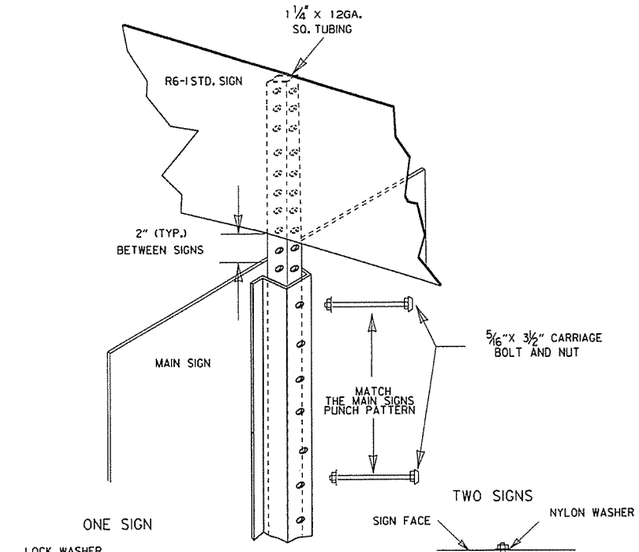
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



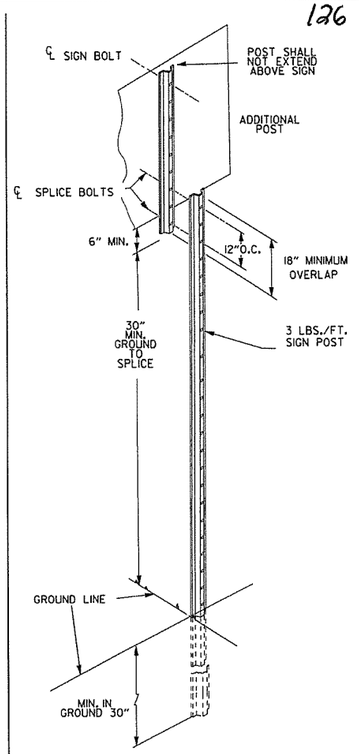
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION
FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

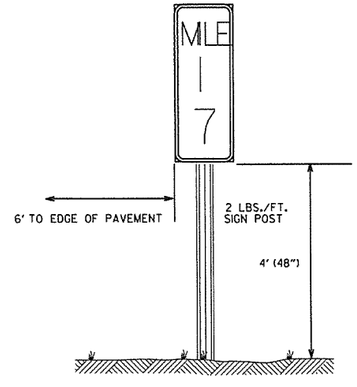
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

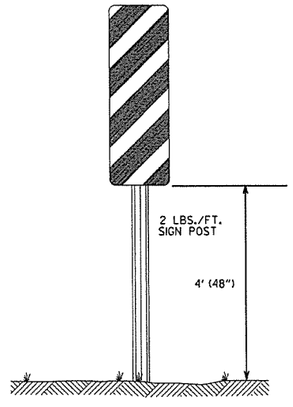
NORMAL INSTALLATIONS WILL REQUIRE $\frac{5}{16}$" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

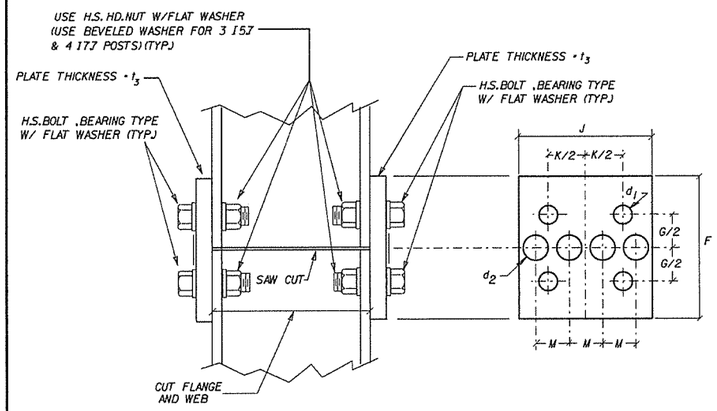
DATE	REVISION	FILMED
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

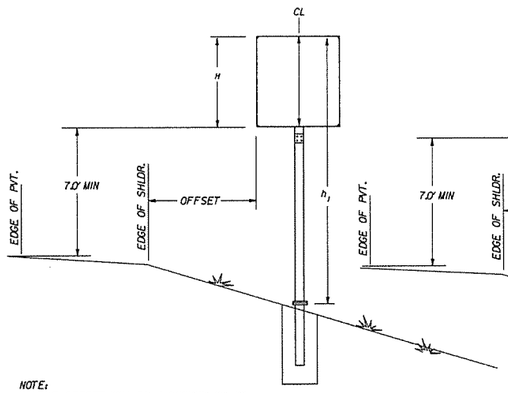
U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2

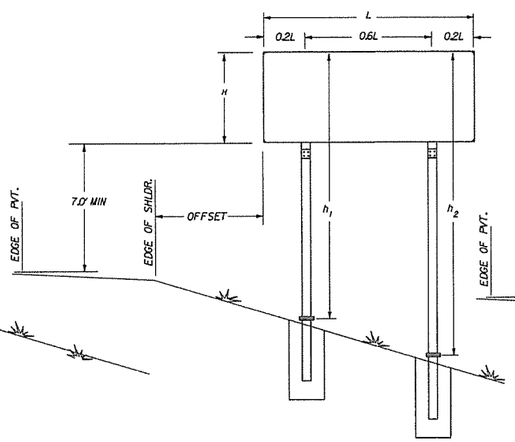
POST SIZE	BASE CONNECTION DATA											FUSE PLATE DATA									
	BOLT SIZE	BOLT TORQUE (INCH/LBS)	A	B	C	D	E	t_1	t_2	W	R	F	G	J	K	M	d_1	d_2	t_3	BOLT SIZE	WT. OF EACH FUSE PLATE LBS.
W 6X9												4 1/4"	2"	4"	2 1/4"	1"	9/16"	3/4"	1/4"	1/2" x 1 1/2"	1.01
W 6X12	5/8" x 2 3/4"	450"-680"	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	11/32"	5"	2 1/2"	6"	3 1/2"	1 1/2"	11/16"	1 1/4"	3/8"	5/8" x 2 1/4"	2.51
W 6X15												5"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	13/16"	11/16"	3/8"	3/4" x 2 1/4"	2.26
W 8X18												5 1/2"	2 1/2"	5 1/4"	2 3/4"	1 1/4"	13/16"	1"	1/2"	3/4" x 2 1/4"	3.35
W 8X21	3/4" x 3 1/2"	750"-1050"	6"	2 1/4"	1 7/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	11/32"	6"	3"	5 3/4"	2 3/4"	1 7/8"	15/16"	1 1/8"	1/2"	3/4" x 2 1/4"	4.03
W 10X22																					
W 10X26												6"	3"	6 1/2"	3 1/2"	1 7/8"	15/16"	1 5/16"	1/2"	3/4" x 2 1/4"	4.47
W 12X26																					



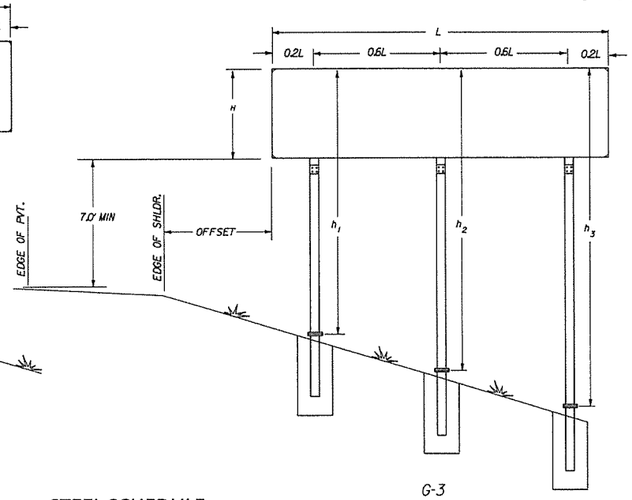
NOTE: USE H.S. HEX HEAD BOLTS, HEX HEAD NUTS AND BEVEL OR FLAT WASHERS (WHERE REQ. UNDER NUTS. ALL HOLES SHALL BE DRILLED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS. HOWEVER FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM-A36, ASTM-A441, ASTM-572 GRADE 50, OR ASTM-A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.



G-1



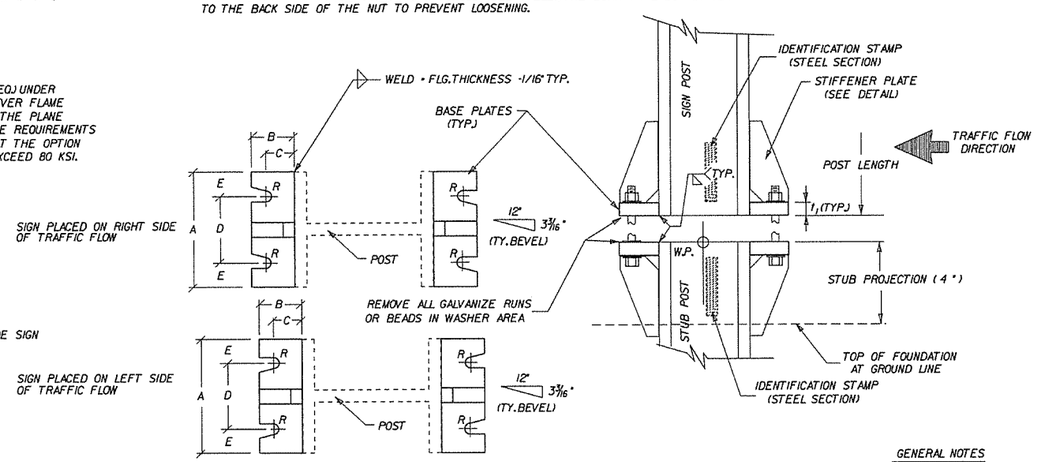
G-2



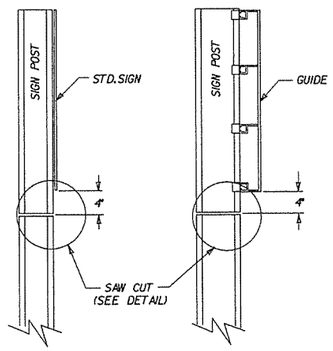
G-3

NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER

NOTE: SECTIONS SHOWN ARE FOR INSTALLATION ON THE RIGHT SHOULDER AND IN THE GORE. BOLT HOLES IN BASE PLATE ARE SLOTTED AND BEVELED AS SHOWN. USE H.S. BOLTS WITH HEX HD., HEX NUT AND THREE FLAT WASHERS FOR EACH BOLT. SEE TABLE FOR BOLT DIA. AND TORQUE.
NOTE: ASSEMBLE SIGN POST TO STUB POST USING THE BOLTS SPEC. IN THE TABLE AND AS SHOWN IN THE ELEVATION DETAILS. THERE SHALL BE THREE FLAT WASHERS ON EACH BOLT LOCATED AS SHOWN IN THE ELEVATIONS. USE A SHIM TO PLUMB THE SIGN POST. THEN TIGHTEN THE BOLTS USING A 12" TO 15" WRENCH UNTIL THE WASHERS AND SHIMS ARE SEATED AND THE BOLT THREADS ARE CLEAR. THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE (SEE TABLE). THE BURR THREADS ADJACENT TO THE BACK SIDE OF THE NUT TO PREVENT LOOSENING.



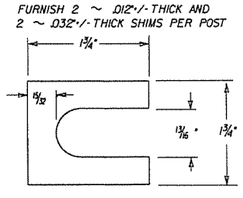
NOTE: BOLT HOLES, USED IN THE MOUNTING OF STANDARD SIGNS SHALL BE LOCATED IN THE FLANGE ADJACENT TO THE NEAR EDGE OF PAVEMENT FOR SINGLE POST ASSEMBLIES AND IN THE OUTSIDE FLANGES FOR MULTIPLE POST ASSEMBLIES.



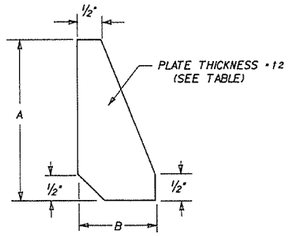
NOTE: POST SHALL BE SAW CUT AFTER GALVANIZING AND THE CUT SURFACE TREATED, AFTER PLATE IS INSTALLED AND ALL BOLTS FULLY TIGHTENED, WITH AN APPROVED ZINC SOLDER MEETING THE FEDERAL SPEC. O-G-93 (STICK ONLY).

STANDARD SIGNS GUIDE SIGNS

FUSE PLATE DETAILS



SHIM DETAIL

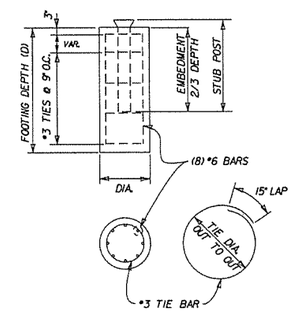


STIFFENER PLATE DETAIL

STEEL SCHEDULE

FOOTING DIAMETER	#3 TIE BARS DIAMETER	BAR LENGTH	POUNDS
INCHES	INCHES	FEET	
18	12	4.39	1.65
24	18	5.96	2.24
30	24	7.53	2.83
36	30	9.1	3.42

FOOTINIG DEPTH	#6 STRAIGHT BARS BAR LENGTH	NUMBER REQ'D.	POUNDS
FEET	FEET		
2.50	2.00	8	24.03
3.00	2.50	8	30.04
3.50	3.00	8	36.05
4.00	3.50	8	42.06
4.50	4.00	8	48.06
5.00	4.50	8	54.07
5.50	5.00	8	60.08
6.00	5.50	8	66.09
6.50	6.00	8	72.10
7.00	6.50	8	78.10
7.50	7.00	8	84.11
8.00	7.50	8	90.12



FOOTING QUANTITIES

FOOTINIG DEPTH	NUMBER TIE BARS REQ'D	18" DIAMETER CLASS S CONCRETE	18" DIAMETER REINF STEEL	24" DIAMETER CLASS S CONCRETE	24" DIAMETER REINF STEEL	30" DIAMETER CLASS S CONCRETE	30" DIAMETER REINF STEEL	36" DIAMETER CLASS S CONCRETE	36" DIAMETER REINF STEEL
FEET		CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)
2.50	4	0.16	31						
3.00	4	0.20	37						
3.50	5	0.23	44						
4.00	6	0.26	52	0.47	56				
4.50	6	0.29	58	0.52	62				
5.00	7	0.33	66	0.58	70	0.91	74		
5.50	8			0.64	78	1.00	83		
6.00	8			0.70	84	1.09	89	1.57	93
6.50	9					1.18	98	1.70	103
7.00	10					1.27	106	1.83	112
7.50	10							1.96	118
8.00	11							2.09	128

GENERAL NOTES

TIGHTEN THE HIGH STRENGTH BOLTS IN THE BASE CONNECTION ONLY TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

BASE PLATES AND STIFFENER PLATES SHALL BE OF THE SAME MATERIAL AS THE PRIMARY SUPPORT POSTS WHICH THEY ARE WELDED.

REFER TO THE PLANS FOR FOOTING DIMENSIONS.

EACH STUB POST AND SIGN POST SHALL HAVE A PERMANENT IDENTIFYING STAMP WHICH SPECIFIES THE STEEL SECTION USED. IF THE CONTRACTOR ELECTS TO SHIP THE STUB POST SEPARATE FROM THE SIGN POST A MATCH MARK SYSTEM WILL BE REQUIRED.

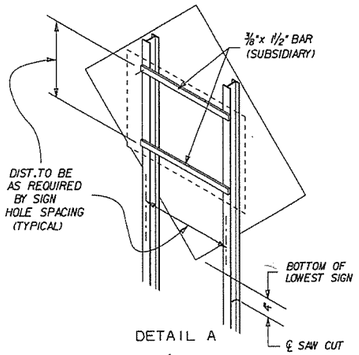
SIGN POST AND STUB POST

DATE	REVISION	FILMED
9-12-13	ISSUED	

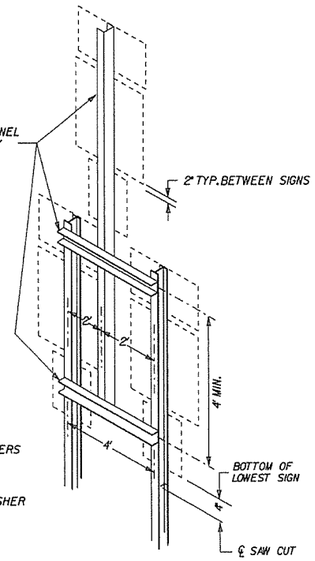
ARKANSAS STATE HIGHWAY COMMISSION

DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS

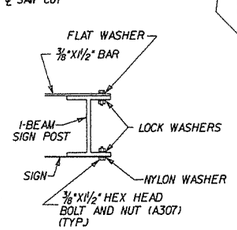
STANDARD DRAWING SHS-3



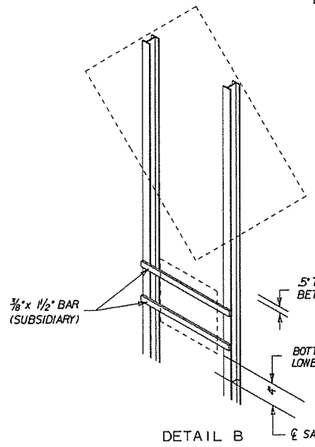
DETAIL A



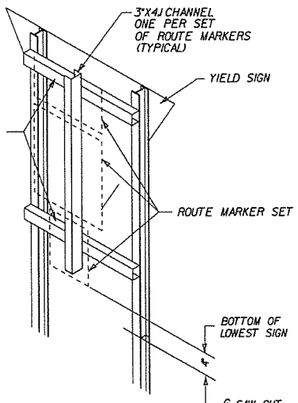
DETAIL D



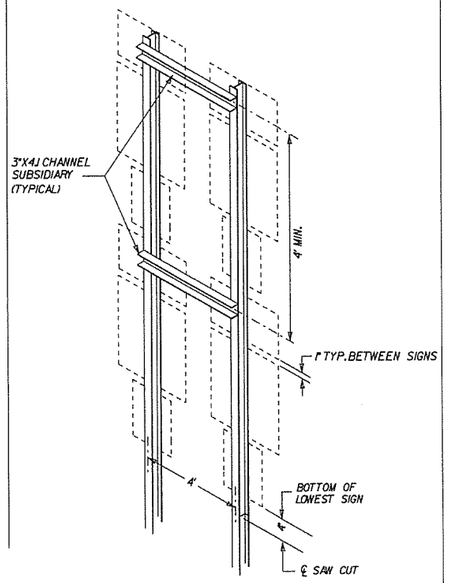
DETAIL F



DETAIL B



DETAIL C



DETAIL E

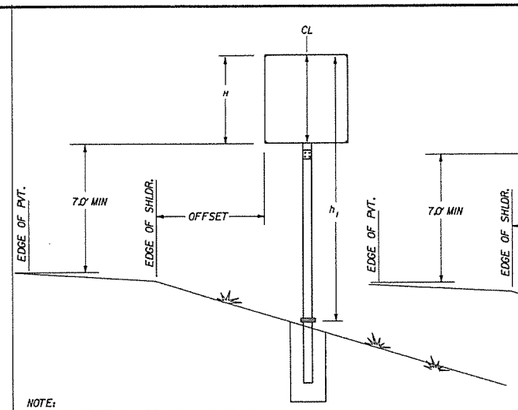
NOTE

ALL ADDITIONAL MOUNTING HARDWARE, BOLTS, NUTS, CHANNELS AND BAR STRAPS REQUIRED TO MOUNT SECONDARY SIGNS WILL BE CONSIDERED TO BE SUPPLEMENTAL TO THE MAIN SIGN SUPPORT SPECIFIED. PAYMENT WILL BE CONSIDERED SUBSIDIARY TO THE MAIN SUPPORT.

THE GALVANIZED STEEL CHANNEL AND BAR SUPPORTS MAY BE ASTM A-36.

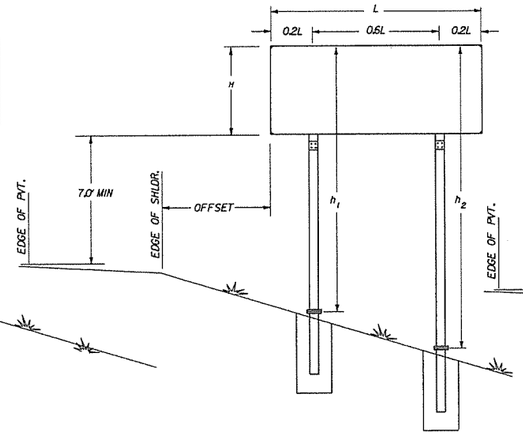
REFER TO THE P.C. RUTLEDGE FORMULA ON PAGE 58 OF THE AASHTO PUBLICATION "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

ALL BOLT HOLES SHALL BE 1/8" DIA. UNLESS OTHERWISE SHOWN.

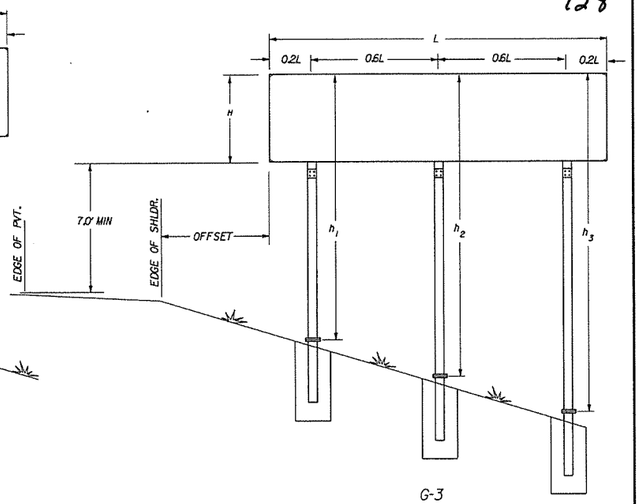


NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER.

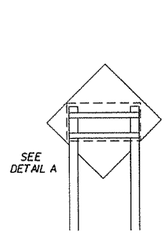
G-1



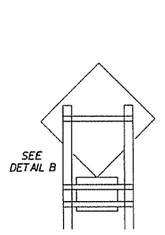
G-2



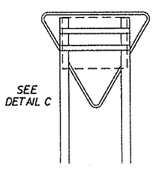
G-3



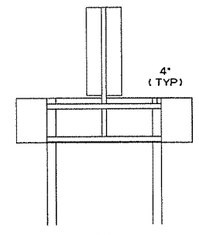
G2-1



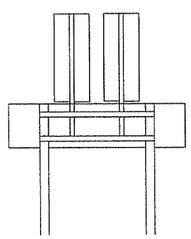
G2-2



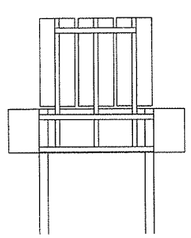
G2-3



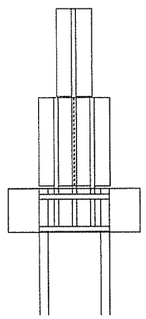
G2-4



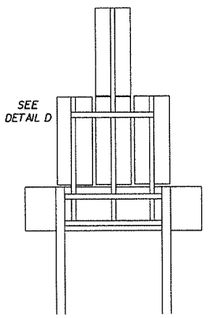
G2-5



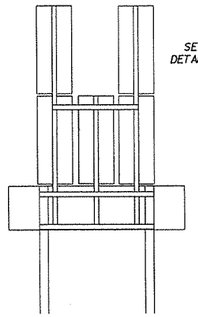
G2-6



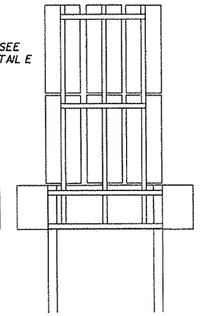
G2-7



G2-8

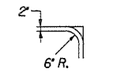


G2-9



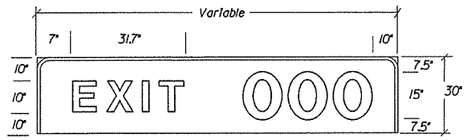
G2-10

			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS
9-12-13 DATE	ISSUED REVISION	FILMED	STANDARD DRAWING SHS-4



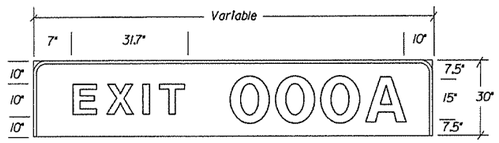
TYPICAL DETAIL

TYPE A



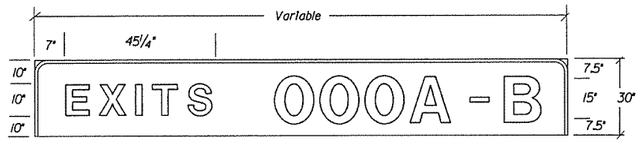
EXIT WITH 1 DIGIT 84"X30"=17.50 SF
EXIT WITH 2 DIGITS 96"X30"=20.0 SF
EXIT WITH 3 DIGITS 114"X30"=23.57 SF

TYPE B



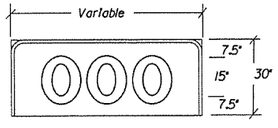
EXIT WITH 1 DIGIT PLUS "A"OR"B" 96"X30"=20.0 SF
EXIT WITH 2 DIGITS PLUS "A"OR"B" 114"X30"=23.57 SF
EXIT WITH 3 DIGITS PLUS "A"OR"B" 126"X30"=26.25 SF

TYPE C



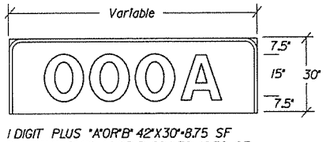
EXITS WITH 1 DIGIT PLUS "A"&"B" 132"X30"=27.50 SF
EXITS WITH 2 DIGITS PLUS "A"&"B" 150"X30"=31.25 SF
EXITS WITH 3 DIGITS PLUS "A"&"B" 168"X30"=35.00 SF

TYPE D



1 DIGIT 24"X30" =5.0 SF
2 DIGITS 42"X30" =8.75 SF
3 DIGITS 60"X30" =12.50 SF

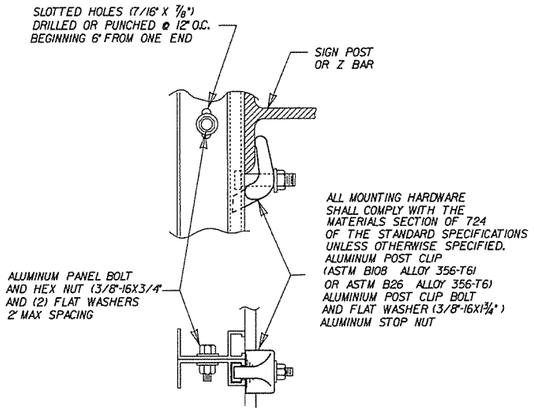
TYPE E

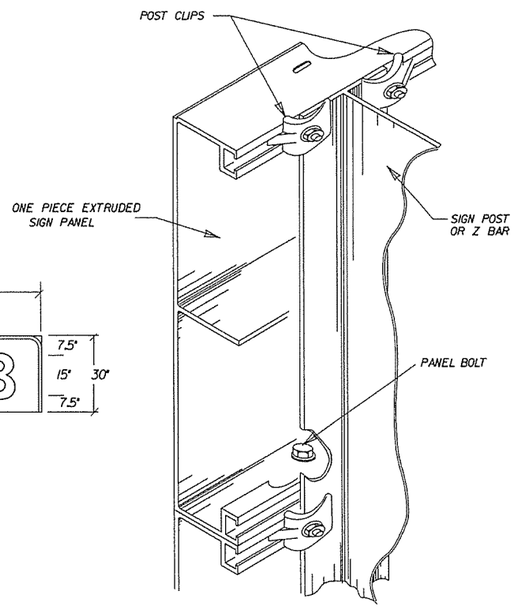


1 DIGIT PLUS "A"OR"B" 42"X30"=8.75 SF
2 DIGITS PLUS "A"OR"B" 60"X30"=12.50 SF
3 DIGITS PLUS "A"OR"B" 78"X30"=16.25 SF

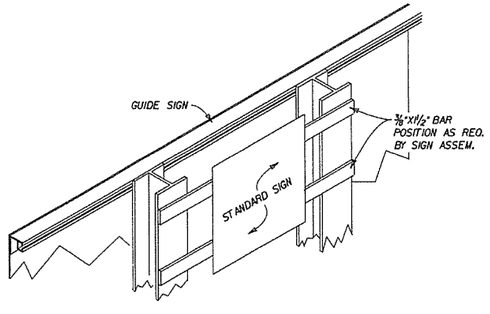
EXIT PANEL DETAILS

NOTE: EXIT NUMBER PANELS SHALL HAVE WHITE LEGENDS AND BORDERS. THE BACK GROUND COLOR WILL BE AS USE SPECIFIES. SHEETING TYPE WILL BE THE SAME AS THE GUIDE SIGN WHICH THE EXIT PANEL IS ATTACHED OR AS SPECIFIED IN THE PLANS. PAYMENT FOR ALL POST CLIPS, BOLTS, AND ANGLES SHALL BE SUBSIDIARY TO THE ITEM "EXIT NUMBER PANEL".

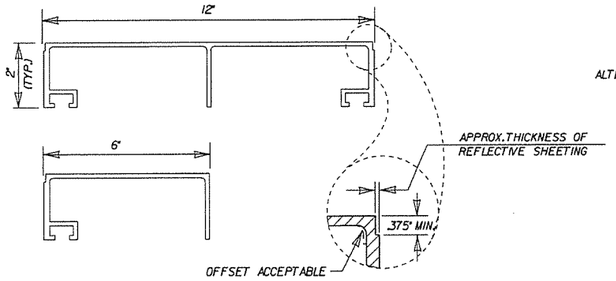




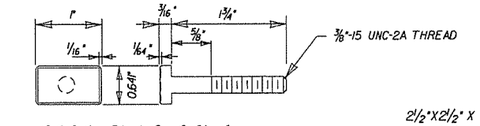
MOUNTING HARDWARE



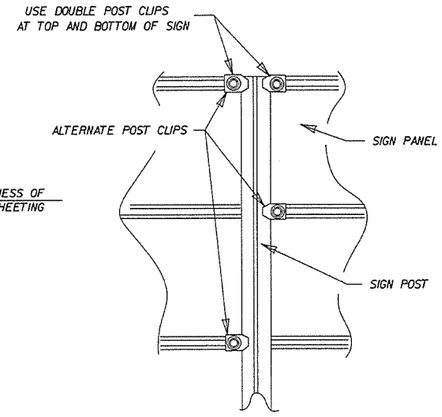
SECONDARY SIGN INSTALLATION ON BACKSIDE OF GUIDE SIGN



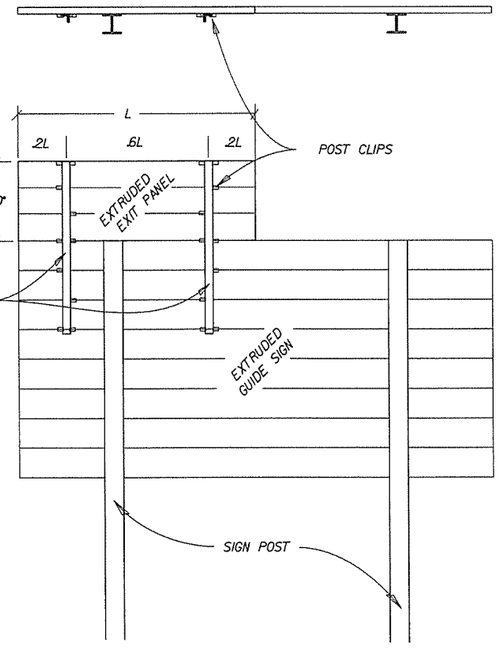
ONE PIECE EXTRUDED SIGN PANELS



POST CLIP BOLT



POST CLIP PLACEMENT

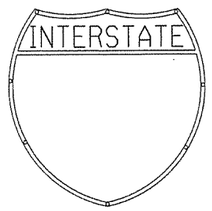


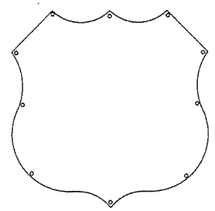
			ARKANSAS STATE HIGHWAY COMMISSION
			DETAILS OF GUIDE SIGN PANELS
9-12-13 DATE	ISSUED REVISION	FILMED	STANDARD DRAWING SHS-5

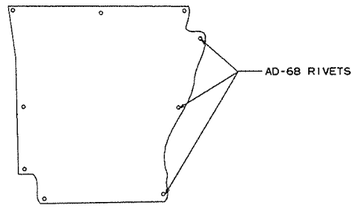
THE CONTRACTOR SHALL DRILL AND POP-RIVET LEGEND, SHIELDS, ARROWS, OR OTHER COPY AS SHOWN.

MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS

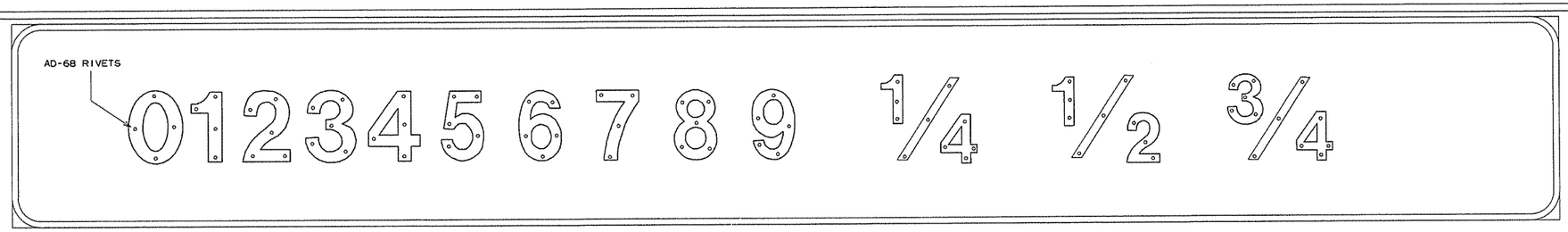
DIRECT APPLIED BORDER

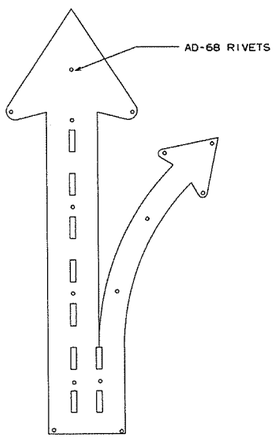


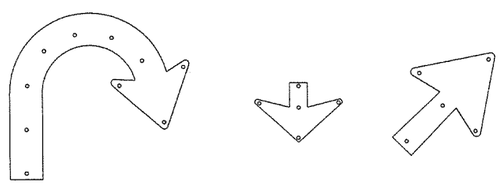




DIRECT APPLIED BORDER







NOTES:

LEGEND ON GUIDE SIGNS ON THE MAIN LANES SHALL BE DEMOUNTABLE LEGEND.
LEGEND ON GUIDE SIGNS ON CROSS ROADS AND RAMPS SHALL BE DIRECT APPLIED.
THE DEMOUNTABLE AND DIRECT APPLIED LEGENDS SHALL BE TYPE IX SHEETING.

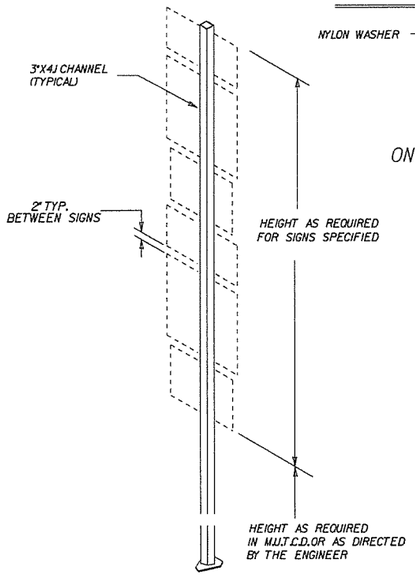
THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

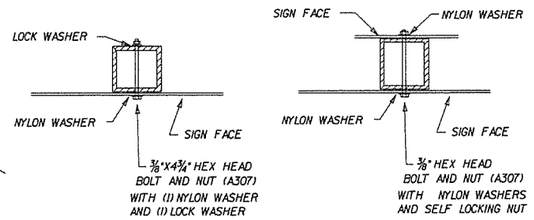
TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.

NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

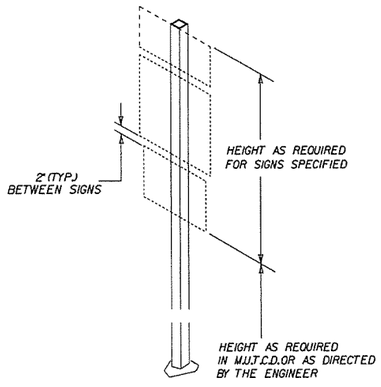
			ARKANSAS STATE HIGHWAY COMMISSION
			MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS
9-12-13 DATE	ISSUED REVISION	FILMED	STANDARD DRAWING SHS-6





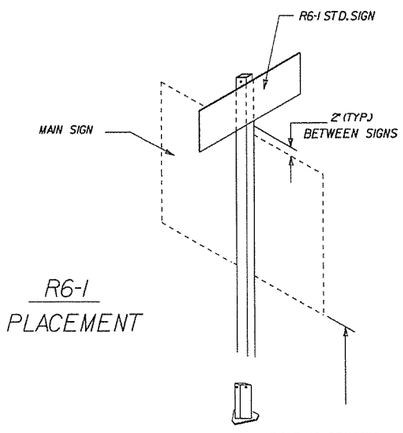
CHANNEL SHALL BE FULL LENGTH OF RECTANGULAR AND SQUARE SIGNS AND SHALL EXTEND 1½" BEYOND BOLT HOLES ON DIAMOND OR IRREGULAR SHAPED SIGNS.

MOUNTING HARDWARE

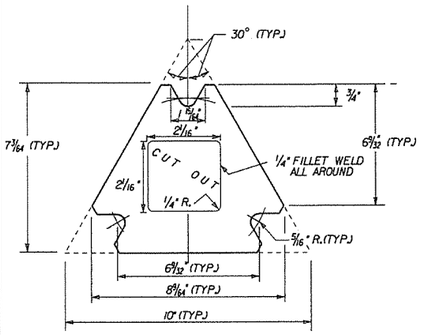


TYPE-I

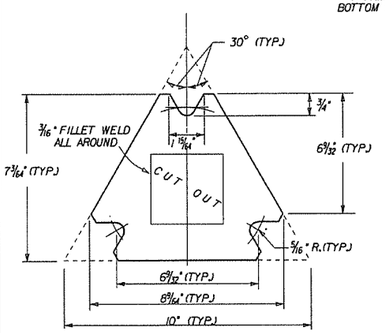
BASIS OF ESTIMATE
APPROX. 100 lbs STEEL



R6-1 PLACEMENT



TOP PLATE



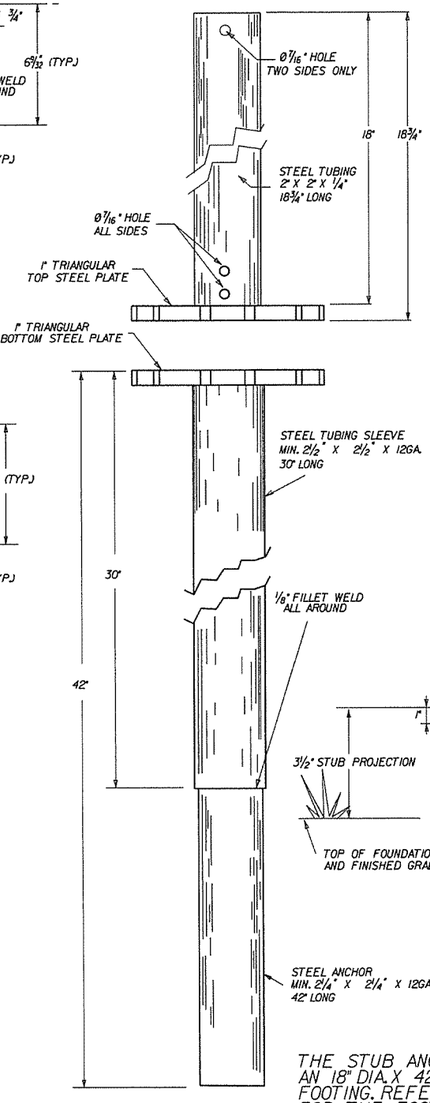
BOTTOM PLATE

GENERAL NOTES:

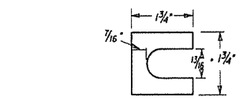
THE TOP PLATE OF TRIANGULAR SLIP BASES SHALL HAVE THE SAME EXTERIOR DIMENSIONS AS THE BOTTOM PLATE.

INSIDE DIAMETER OF THE SIGN POST SHALL BE CUT THROUGH THE CENTER OF THE TOP PLATE WITH THE HOLE EDGE BEVELED AS SHOWN. THE BEVEL END SHALL BE TANGENT TO THE BOLT HOLE . ANY MISALIGNMENT SHALL BE REMOVED BY GRINDING . FACE OF BEVEL SHALL BE FINISHED TO A MINIMUM SMOOTHNESS OF 1-500 .

OTHER MASH COMPLIANT BREAKAWAY SIGN SUPPORTS THAT HAVE THE SAME TOP PLATE DIMENSIONS AND SUPPORT 2¼" X 2¼" SQUARE TUBE SIGN POSTS MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.

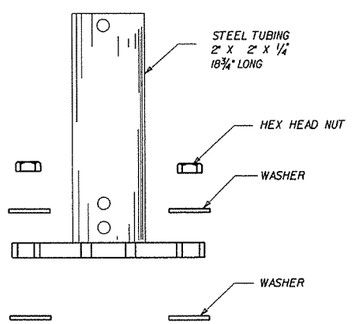


THE STUB ANCHOR SHALL BE SET IN AN 18" DIA. X 42" DEEP CONCRETE FOOTING. REFER TO STD.DRWG.SHS-3 FOR THE FOOTING DETAILS.



FURNISH (2) .012" THICK AND (2) .032" THICK SHIMS PER POST

SHIM DETAIL



			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS
9-12-13	ISSUED		STANDARD DRAWING SHS-7
DATE	REVISION	FILMED	

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"

R2-5A

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

R2-5C

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

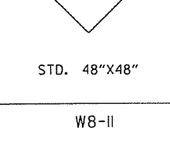
R4-1

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

R4-2

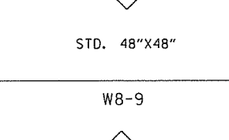
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



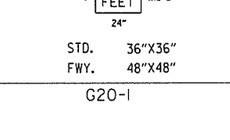
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



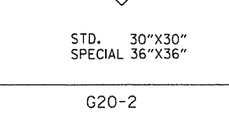
48"X30"

RII-3A



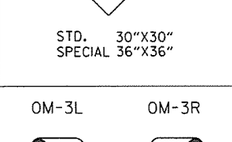
60"X30"

RII-4



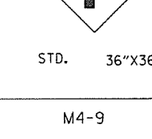
60"X30"

RSP-1



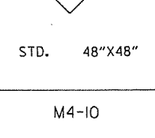
48"X30"

WI-1



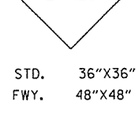
STD. 36"X36"
FWY. 48"X48"

WI-2



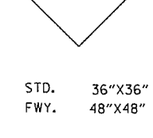
STD. 36"X36"
FWY. 48"X48"

WI-3



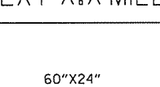
STD. 48"X48"

WI-4



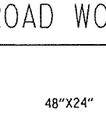
STD. 48"X48"

WI-6



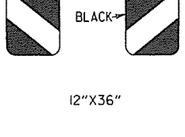
STD. 48"X24"
SPECIAL 60"X30"

WI-8



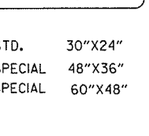
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2

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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

W8-9

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

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

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

M4-10

48"X18"

R55-1

FINES DOUBLE
IN WORK ZONES *

WHEN WORKERS
ARE PRESENT **

36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

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

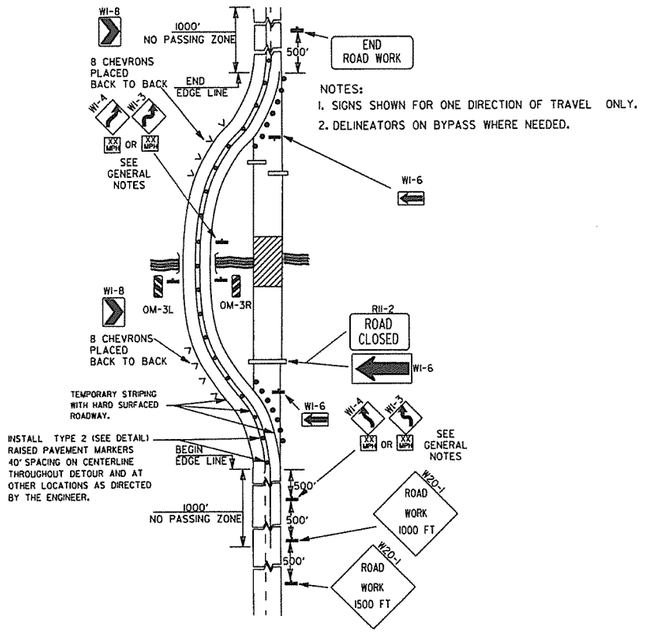
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

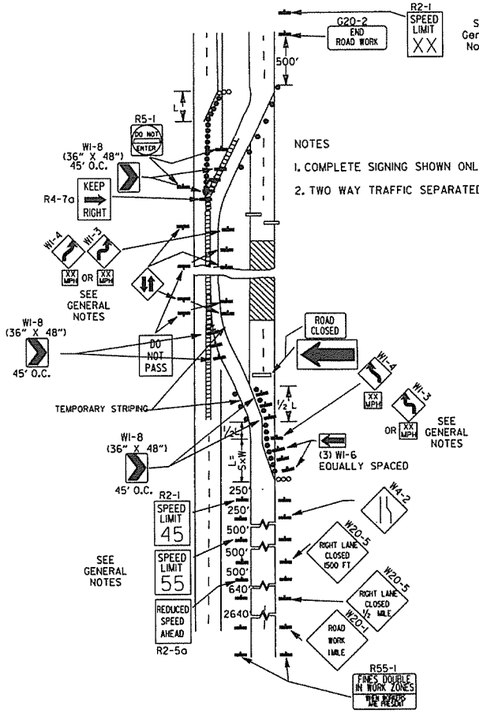
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



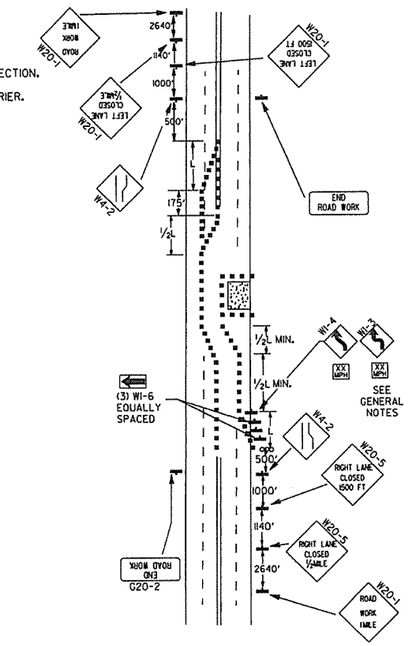
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

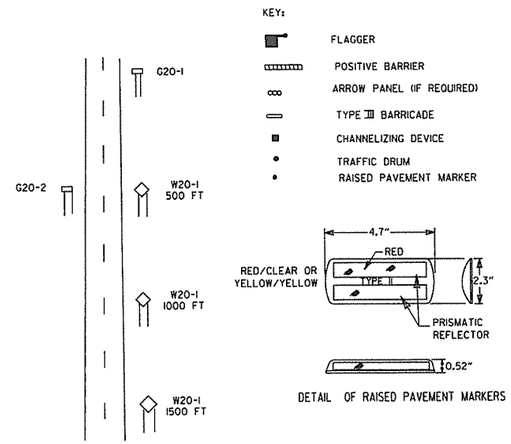


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

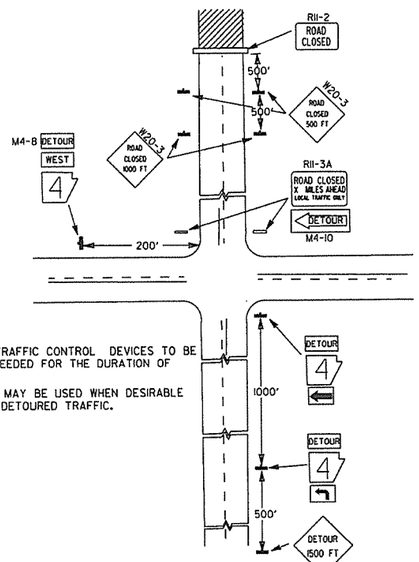
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



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

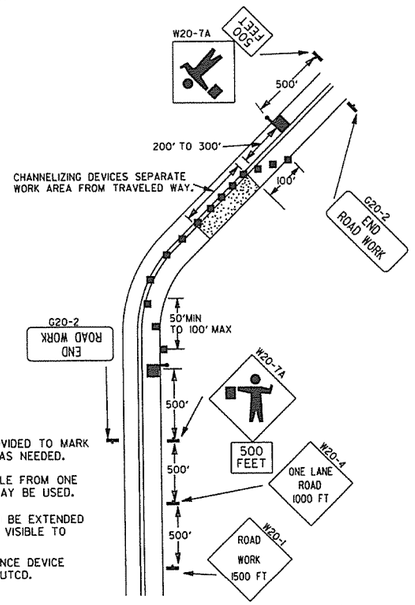


TYPICAL ADVANCE WARNING SIGN PLACEMENT



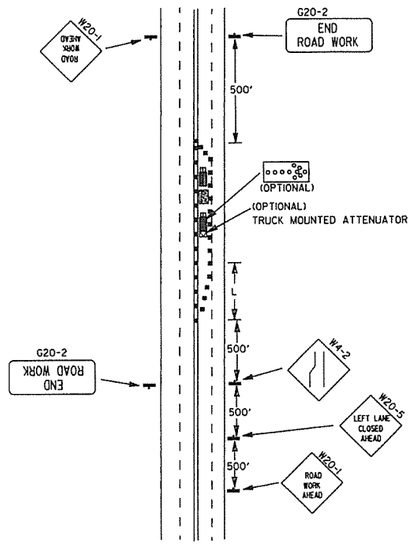
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

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



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

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:

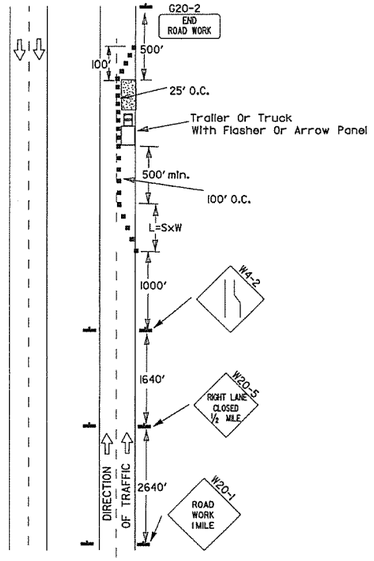
1. ADVISORY SPEED POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE R2-5A SHALL BE INSTALLED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

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

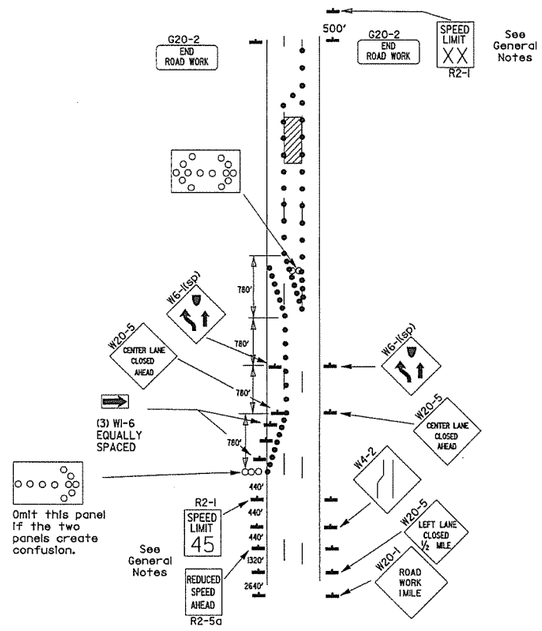
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

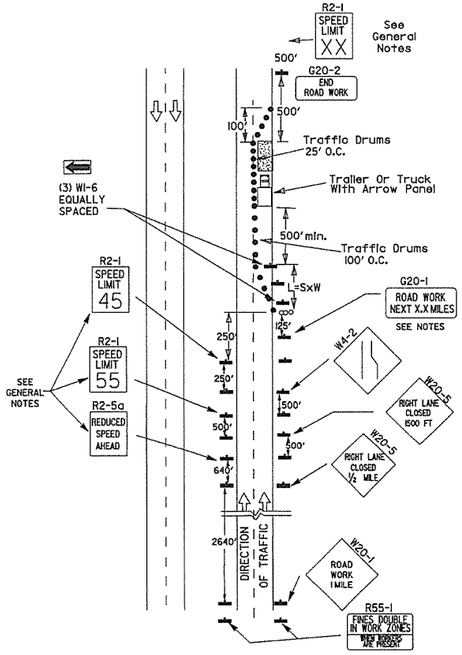
STANDARD DRAWING TC-2



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



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



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

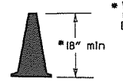
KEY:

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

GENERAL NOTES:

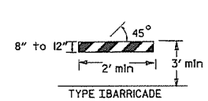
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional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

Channelizing devices

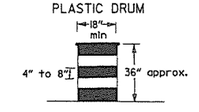


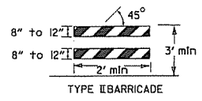
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

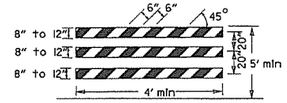
CONES



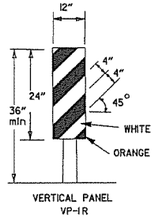
PLASTIC DRUM







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



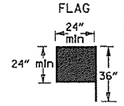
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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

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

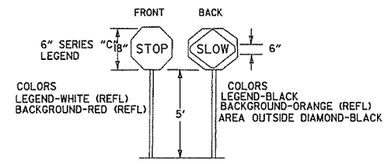
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

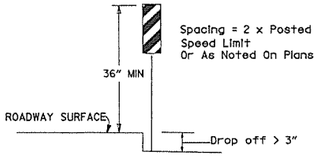


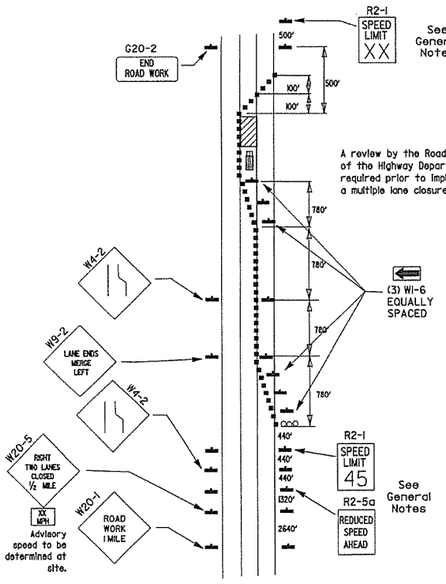
Flag shall be of good grade red material

STOP SLOW PADDLE



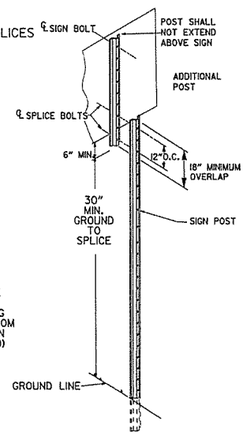
VERTICAL PANEL PLACEMENT





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

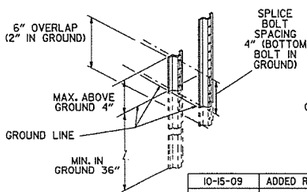
DETAIL OF SPLICES



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

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

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



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

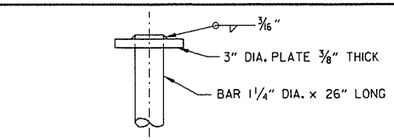
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

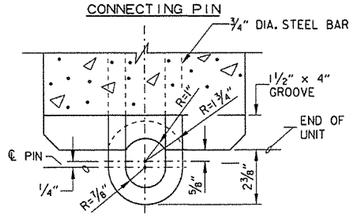
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1" MIN. CLEAR TO BAR, 1'-6", 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"

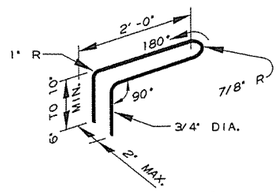


CONNECTING PIN

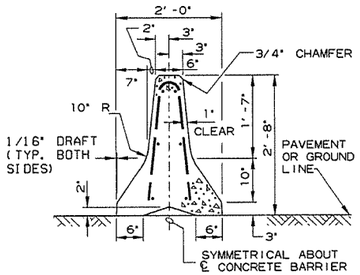


SECTION E-E

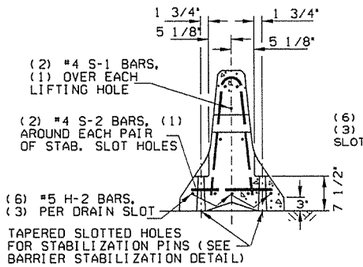
CONNECTION DETAILS



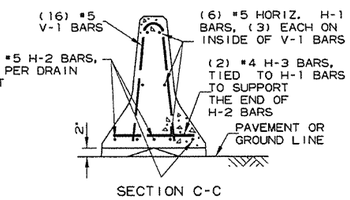
CONNECTION LOOP



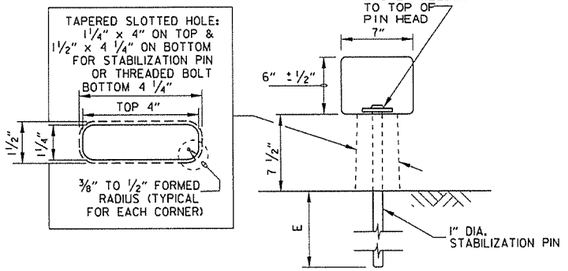
SECTION A-A



SECTION B-B



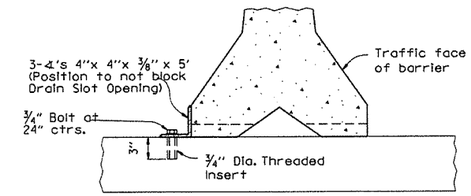
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

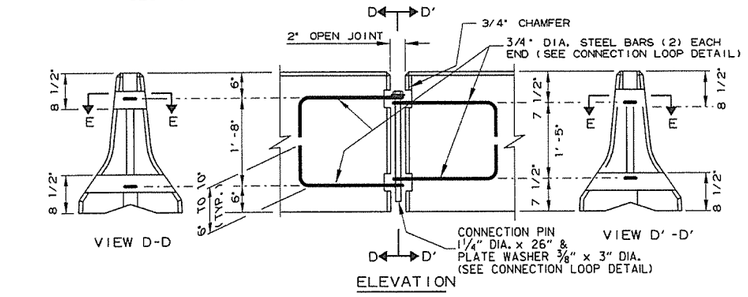
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the Inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

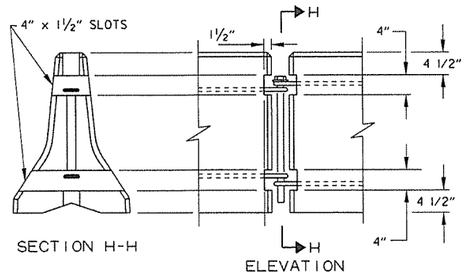
BRIDGE DECKS



VIEW D-D

VIEW D'-D'

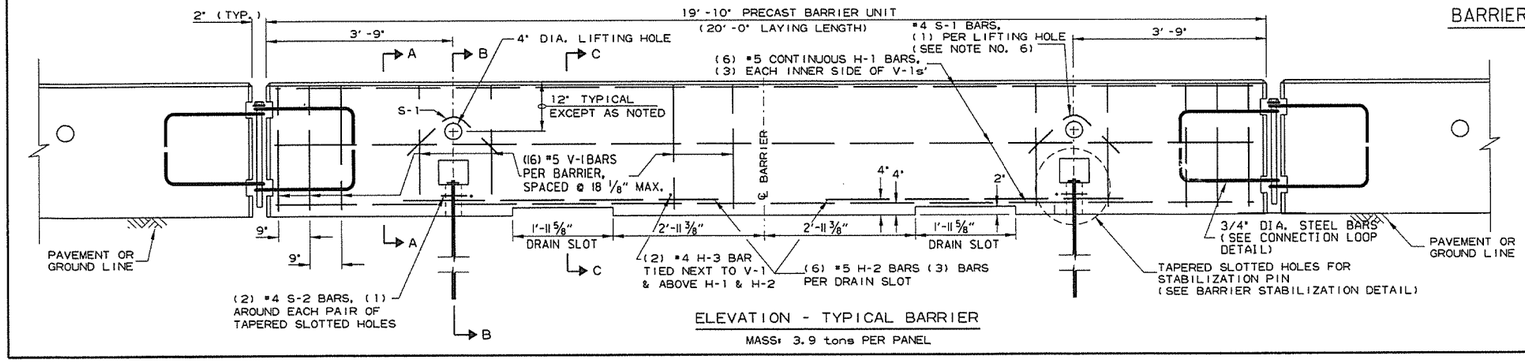
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

1. The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
2. Materials shall meet the following minimum requirements:
   Concrete: 2500 psi compressive strength at 28 days.
   Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
   Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
   Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

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

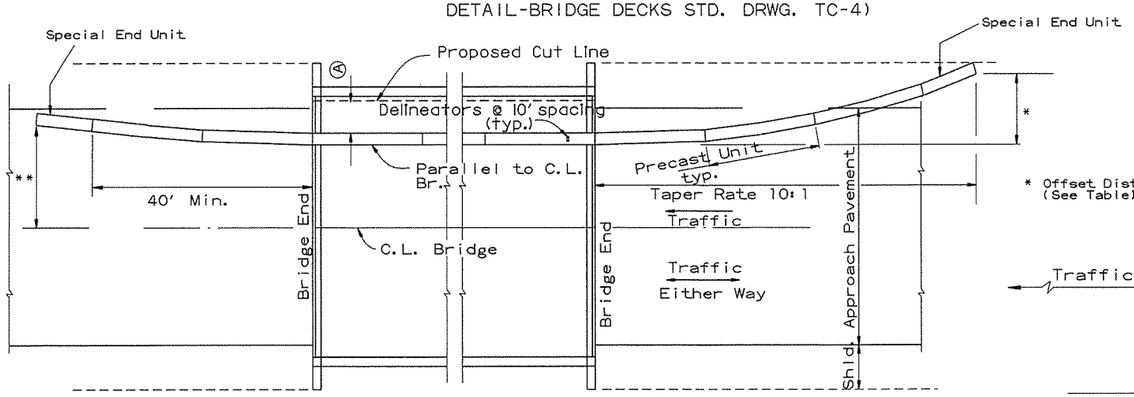
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

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

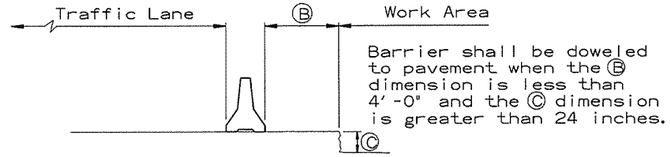


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

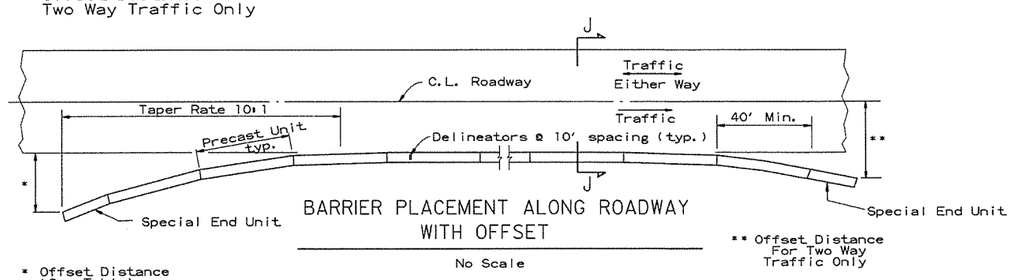
** Offset Distance for Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

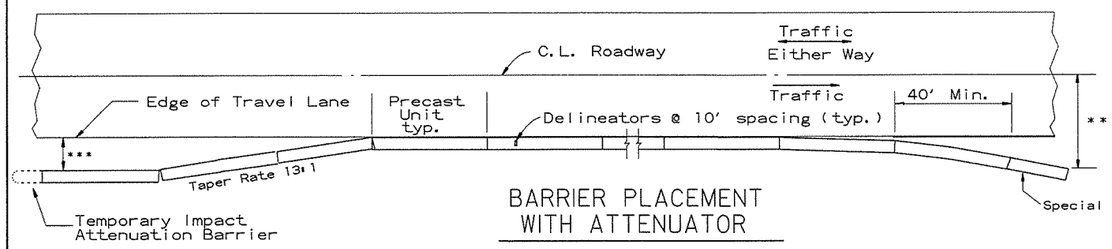
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

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

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

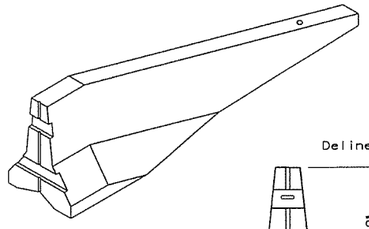


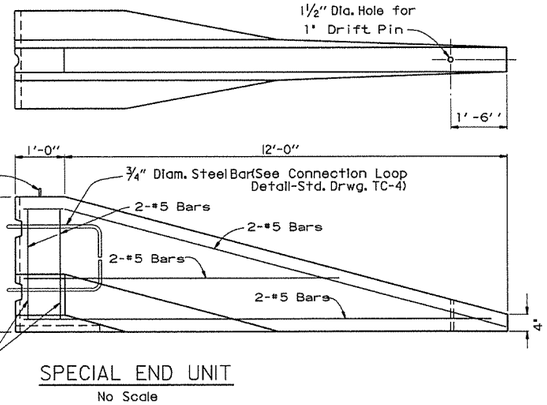
BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

** Offset Distance For Two Way Traffic Only





SPECIAL END UNIT

No Scale

General Notes

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

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

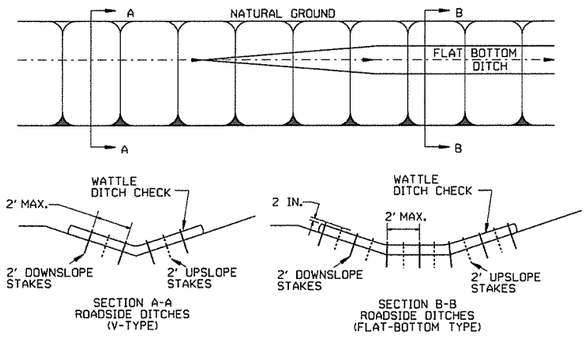
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

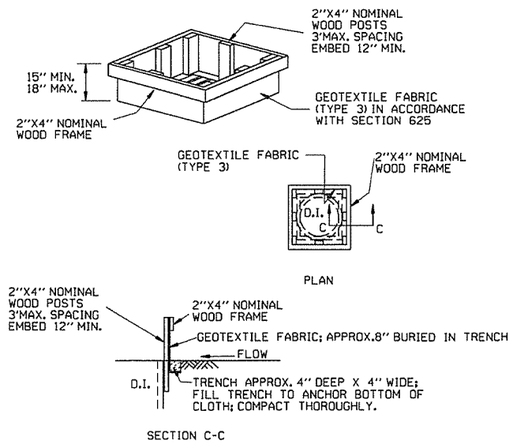
STANDARD DRAWING TC-5

GENERAL NOTES

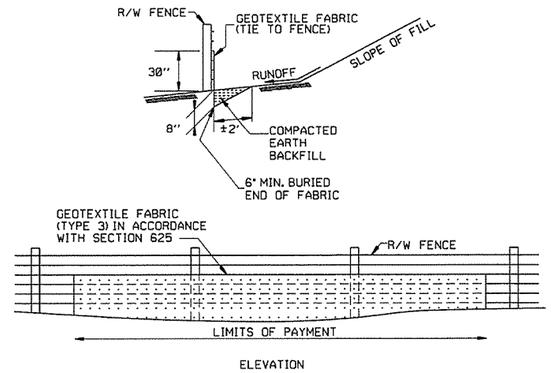
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

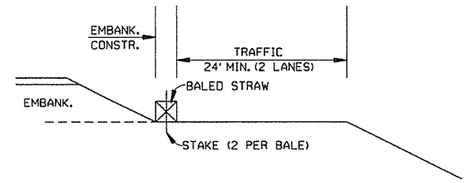
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

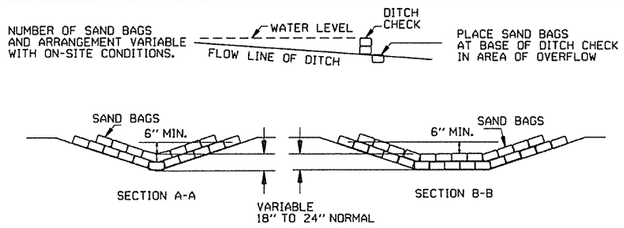
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

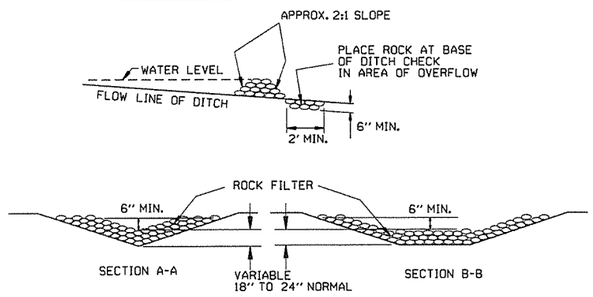
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



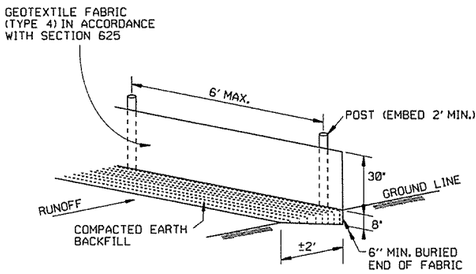
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

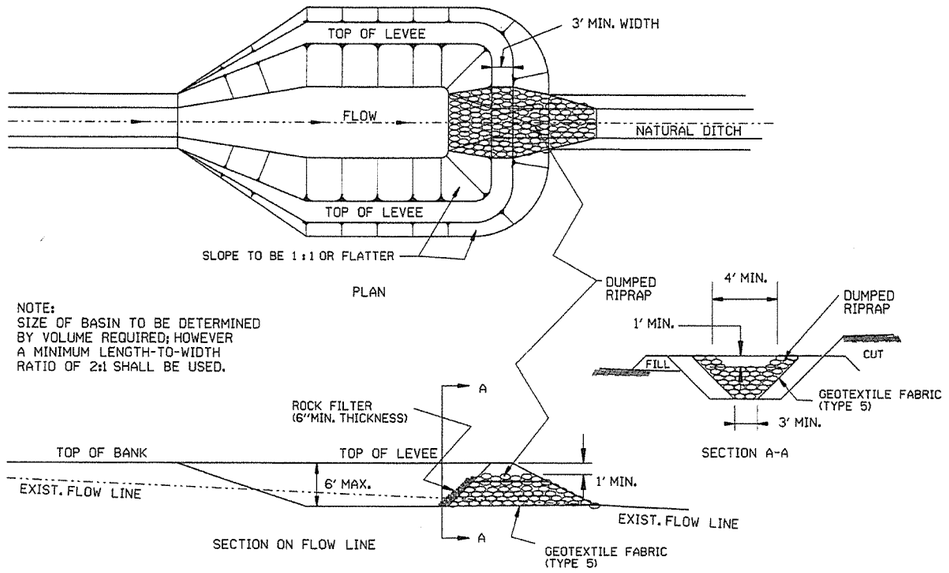
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

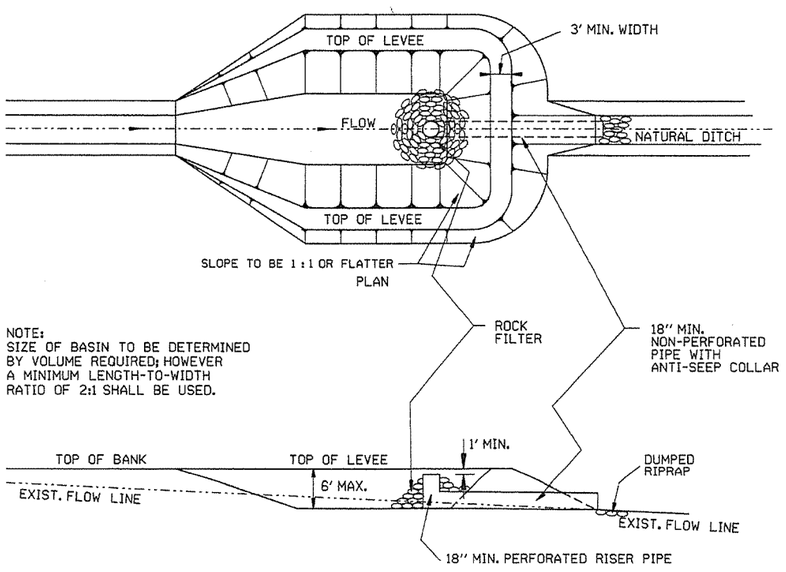
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

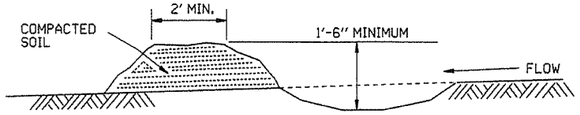
STANDARD DRAWING TEC-1



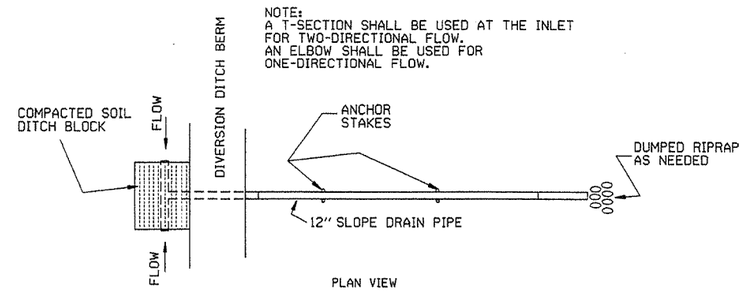
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



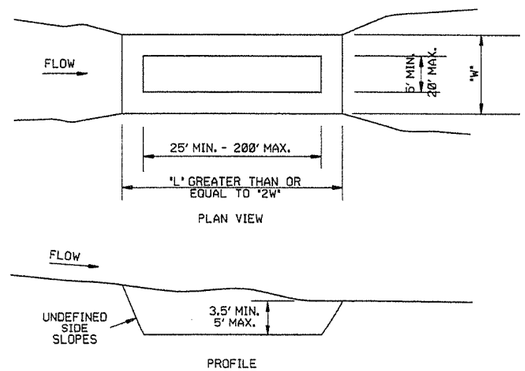
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

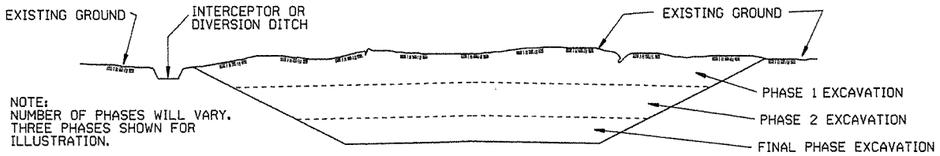
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



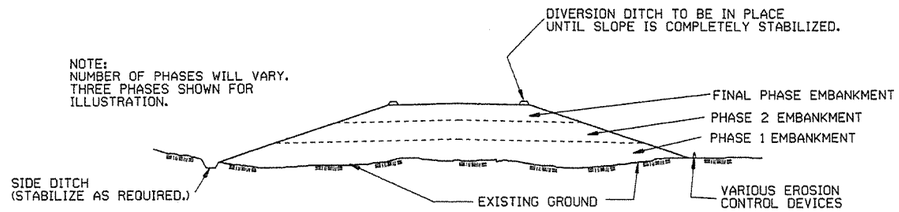
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

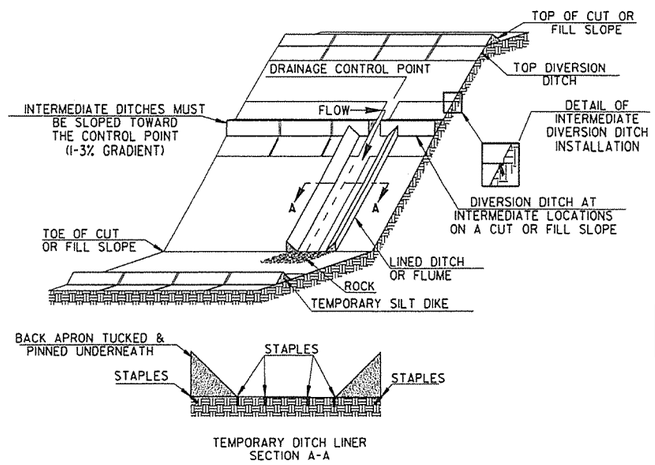
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

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

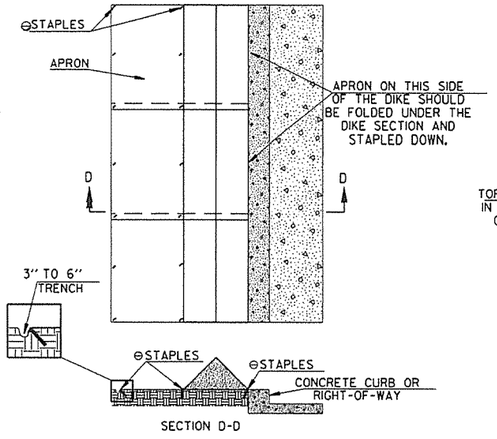
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

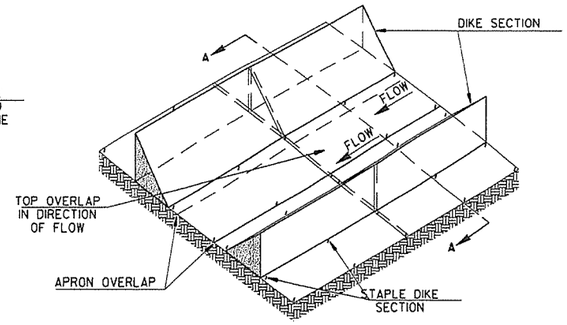
STANDARD DRAWING TEC-3



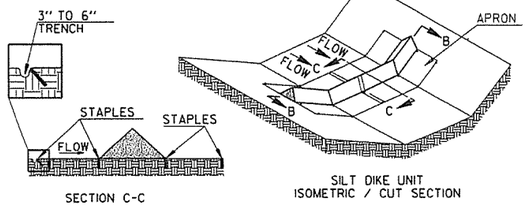
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER

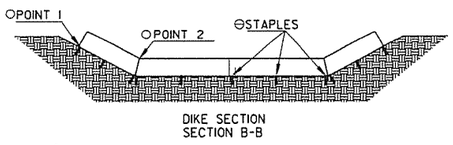


TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

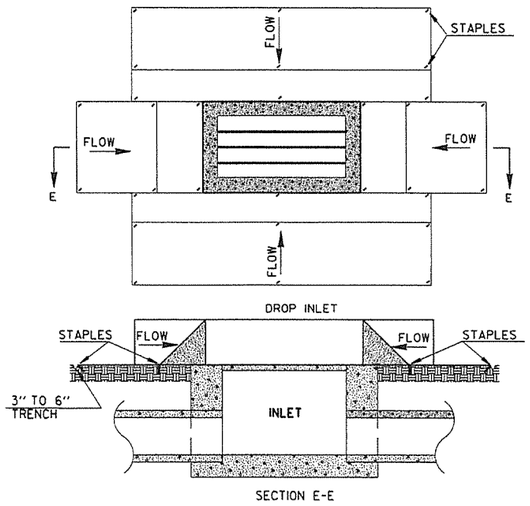




TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

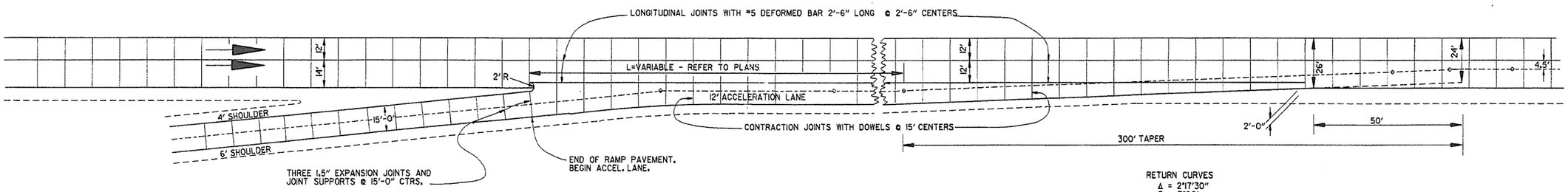
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

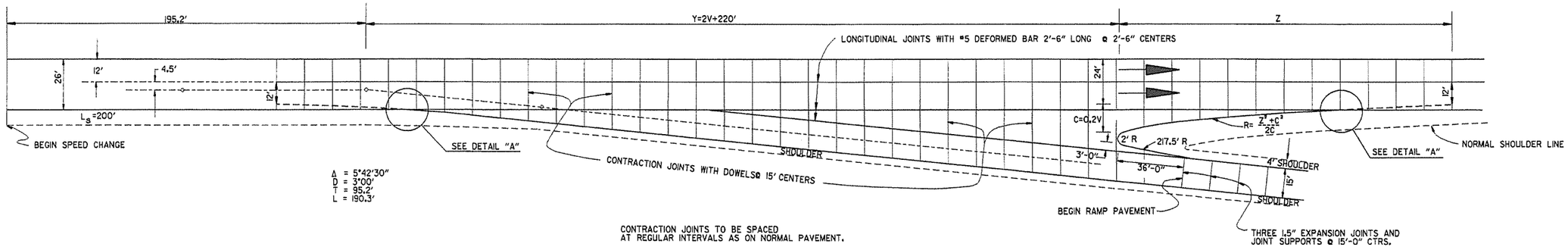
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4



ENTRANCE RAMP

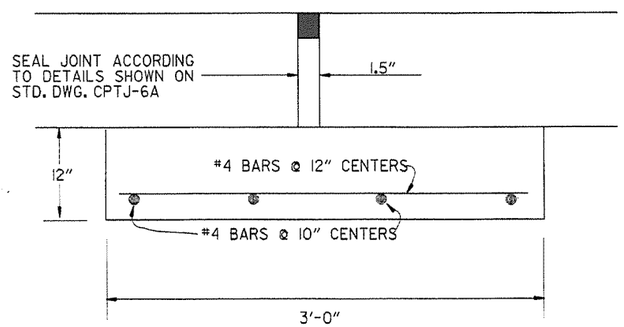
RETURN CURVES
Δ = 2°17'30"
D = 3°00'
T = 38.2'
L = 76.4'



Δ = 5°42'30"
D = 3°00'
T = 95.2'
L = 190.3'

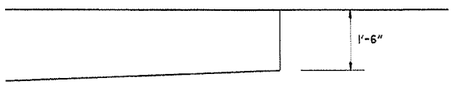
CONTRACTION JOINTS TO BE SPACED AT REGULAR INTERVALS AS ON NORMAL PAVEMENT.

EXIT RAMP



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS).
THE 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 USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE SUBSIDIARY TO THE ABOVE ITEMS.



DETAIL "A"

EXIT RAMP

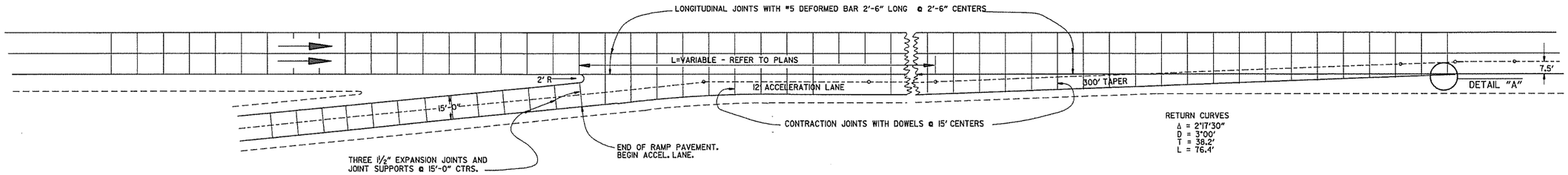
DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R
40	300.0	8.0	96.0	580.0
50	320.0	10.0	120.0	725.0
60	340.0	12.0	168.0	1182.0
70	360.0	14.0	210.0	1582.0

1-12-00	REDRAWN & REISSUED	1-12-00
DATE	REVISION	DATE FILM'D

ARKANSAS STATE HIGHWAY COMMISSION

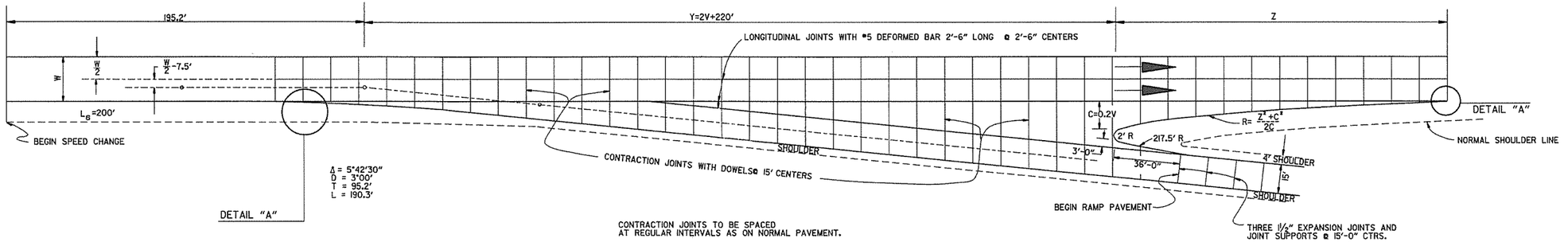
DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS

STANDARD DRAWING TR-1



ENTRANCE RAMP

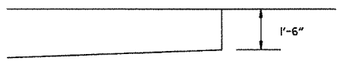
NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.



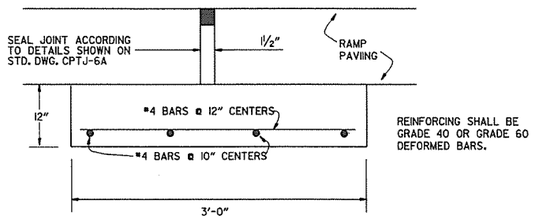
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

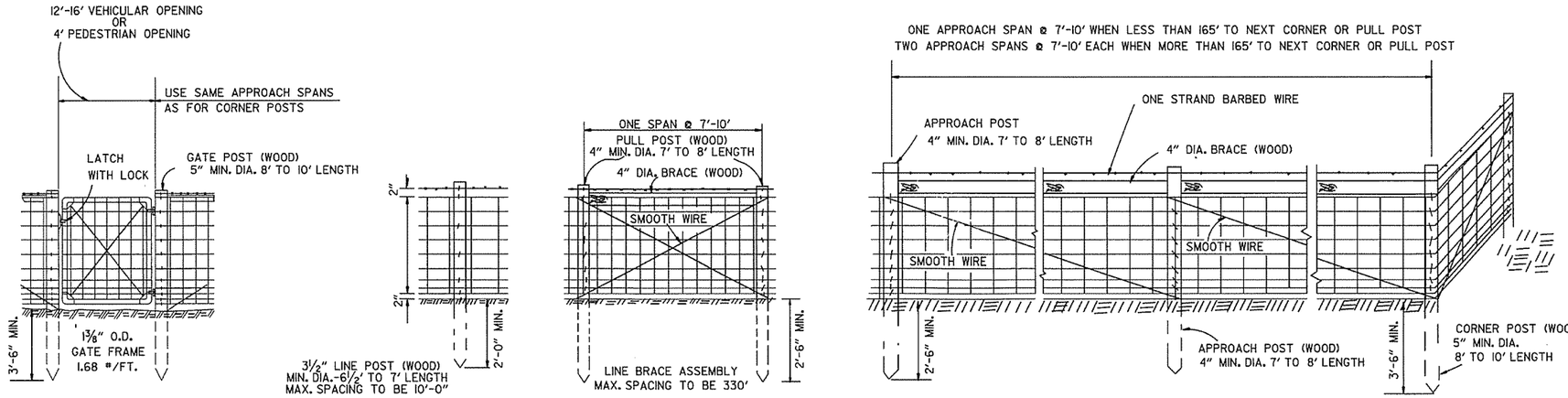
NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED.
THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

DATE	REVISION	DATE FILM'D
8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL A & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM'D TO 1988 SPECIFICATIONS	6SC-7-15-88
3-2-81	ISSUED	611-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

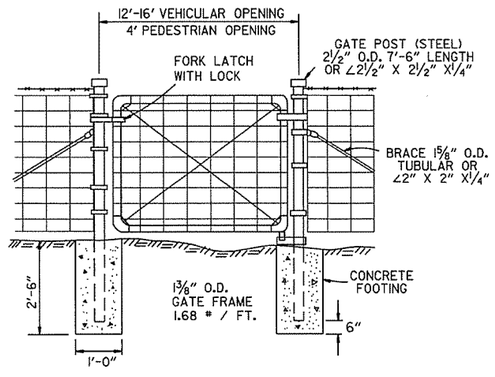
DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

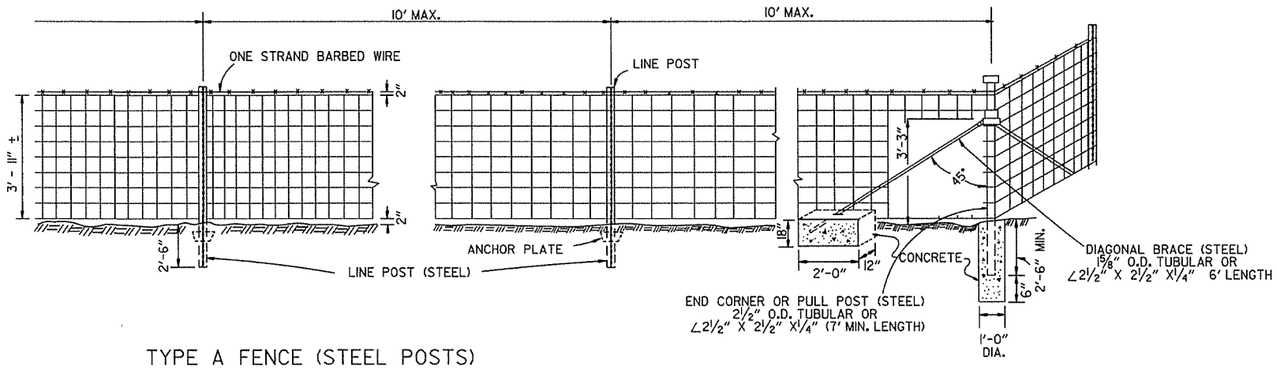
STANDARD DRAWING TR-1A



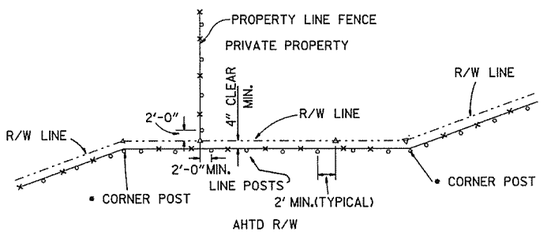
NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)





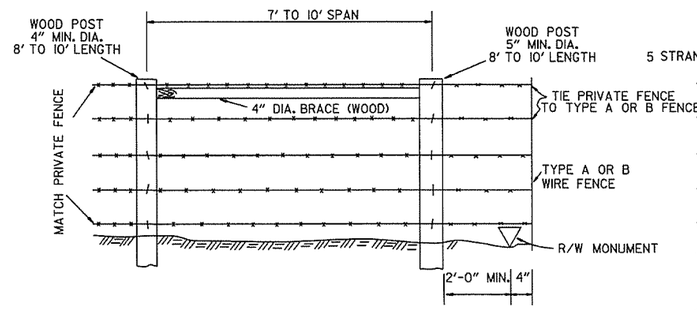
TYPE A FENCE (STEEL POSTS)



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

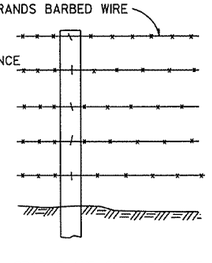
△ - R/W MONUMENTS
○ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



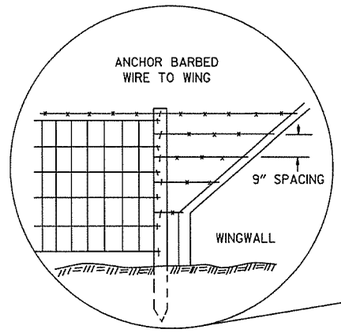
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

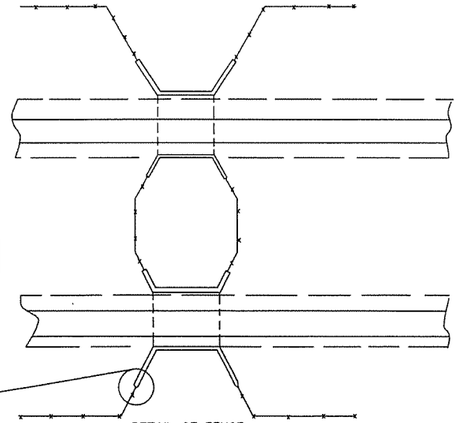
PRIVATE FENCE TERMINAL INSTALLATION



SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

TYPE B FENCE





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

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.

TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

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

GATE HINGES AND LATCHES WITH LOCKS TO BE OF A TYPE APPROVED BY THE ENGINEER. DRIVEWAY GATES, EITHER SINGLE 12' OR 16' OR DOUBLE 6' TO 8' OPENINGS 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 BY MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON THE 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 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 SUFFIEICNT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO THE BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

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.

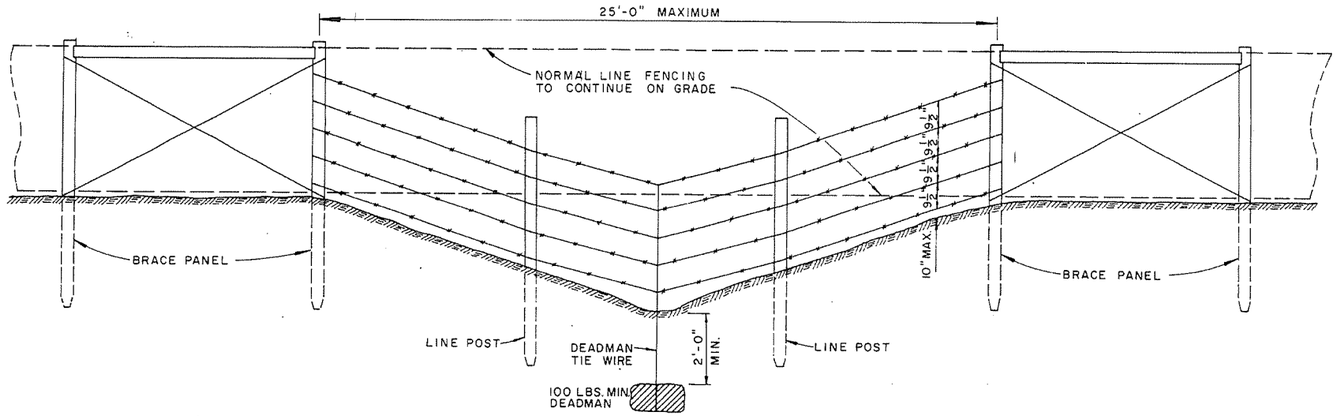
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD"; AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF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

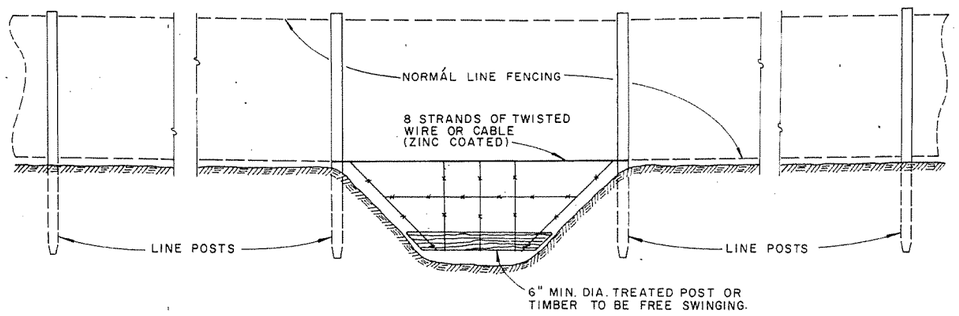
DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES	
	AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

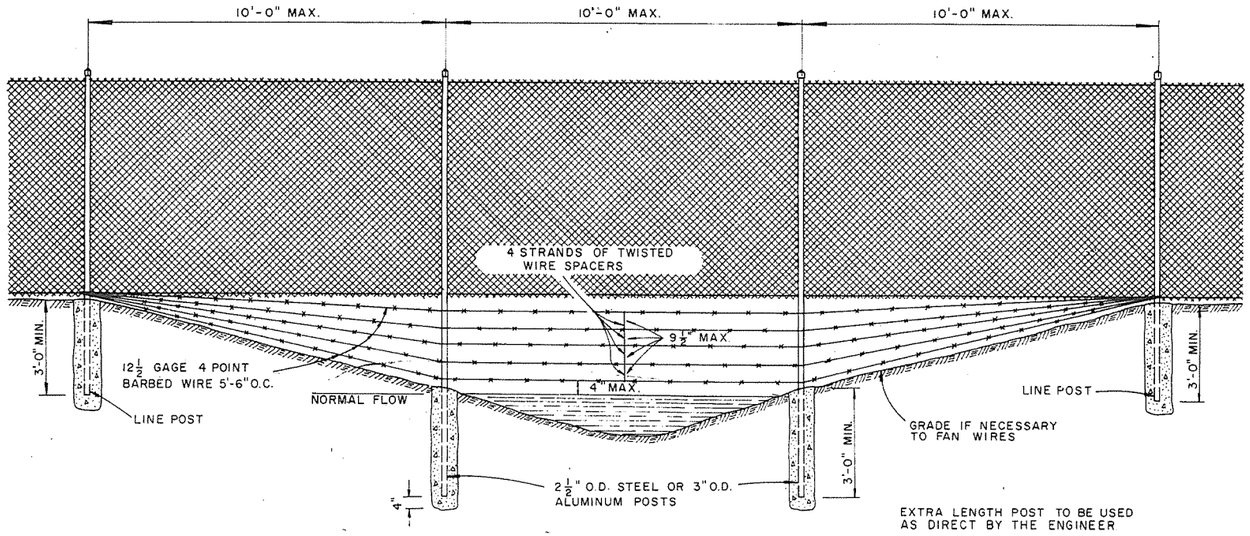
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1







GENERAL NOTES:

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

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

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

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

DATE	REVISION	DATE FILM'D.
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED & REDRAWN	529-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING

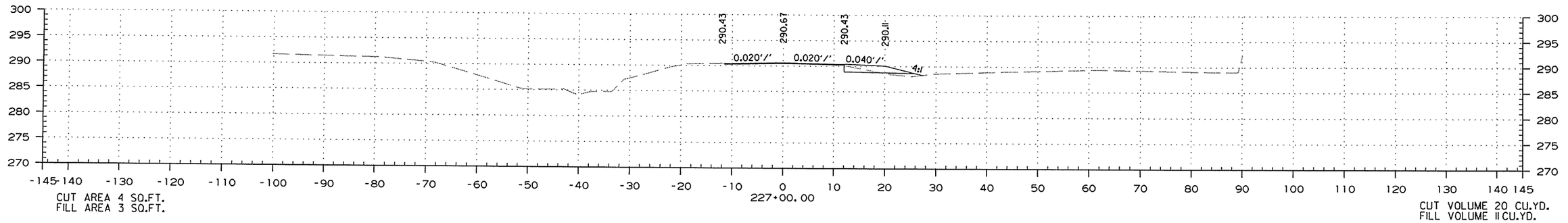
WF-2

73

1M—11-71—61001—PPASCo

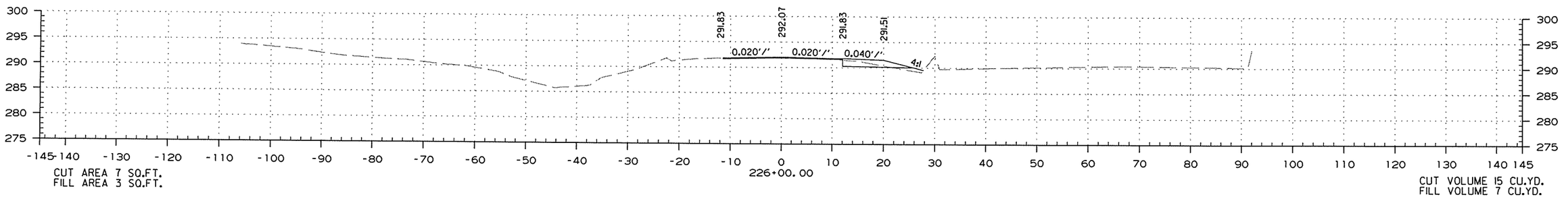
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	145	177

(2) CROSS SECTIONS



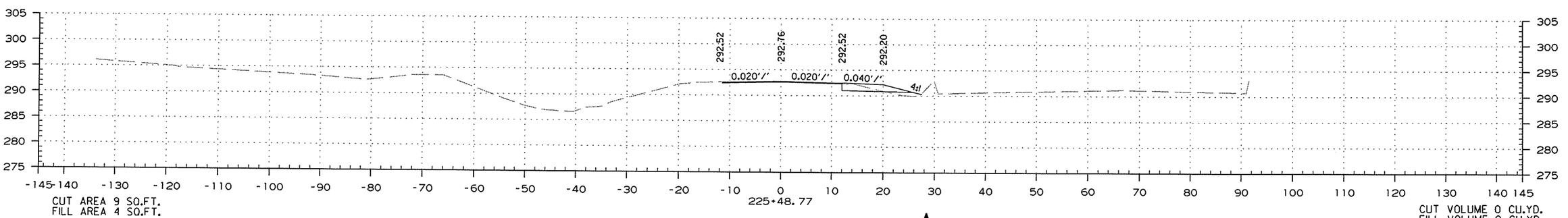
CUT AREA 4 SQ.FT.
FILL AREA 3 SQ.FT.

CUT VOLUME 20 CU.YD.
FILL VOLUME 11 CU.YD.



CUT AREA 7 SQ.FT.
FILL AREA 3 SQ.FT.

CUT VOLUME 15 CU.YD.
FILL VOLUME 7 CU.YD.



CUT AREA 9 SQ.FT.
FILL AREA 4 SQ.FT.

CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.

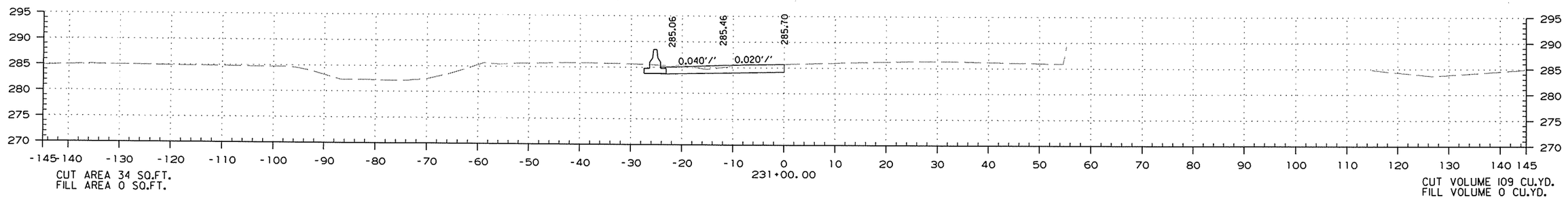
I-30 W.B. EXIT RAMP
STA. 225+48.77 TO STA. 227+00.00

6/18/2014

R061332.DGN

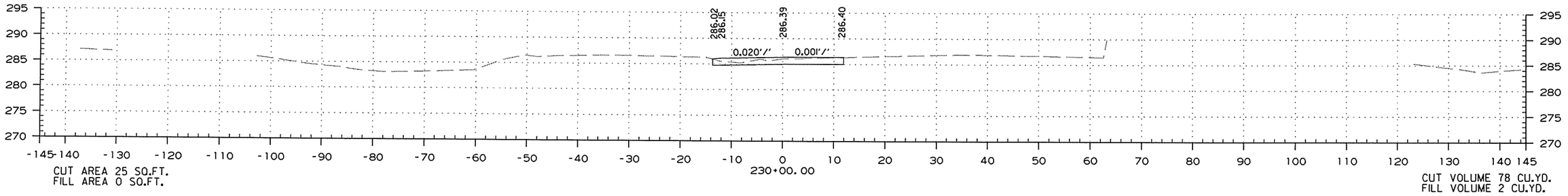
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	146	177

(2) CROSS SECTIONS



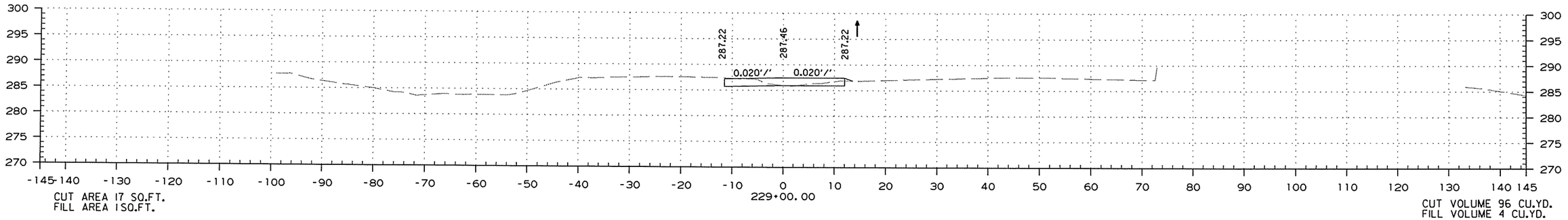
CUT AREA 34 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 109 CU.YD.
FILL VOLUME 0 CU.YD.



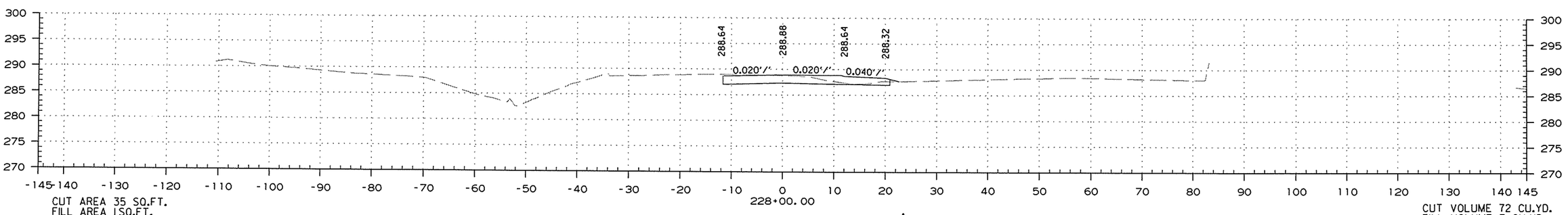
CUT AREA 25 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 78 CU.YD.
FILL VOLUME 2 CU.YD.



CUT AREA 17 SQ.FT.
FILL AREA 1SQ.FT.

CUT VOLUME 96 CU.YD.
FILL VOLUME 4 CU.YD.



CUT AREA 35 SQ.FT.
FILL AREA 1SQ.FT.

CUT VOLUME 72 CU.YD.
FILL VOLUME 7 CU.YD.

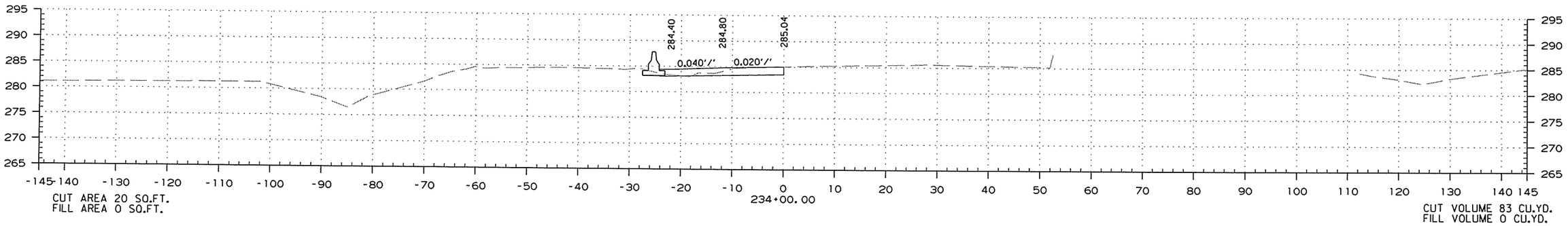
I-30 W.B. EXIT RAMP
STA. 228+00.00 TO STA. 231+00.00

6/18/2014

R061332.DGN

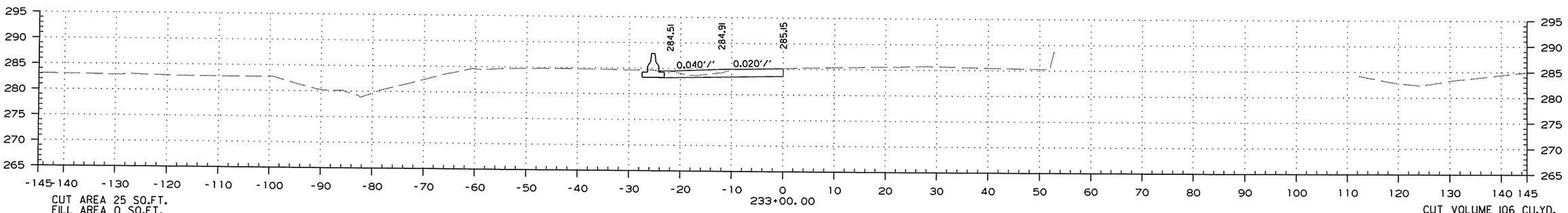
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	147	177

(2) CROSS SECTIONS



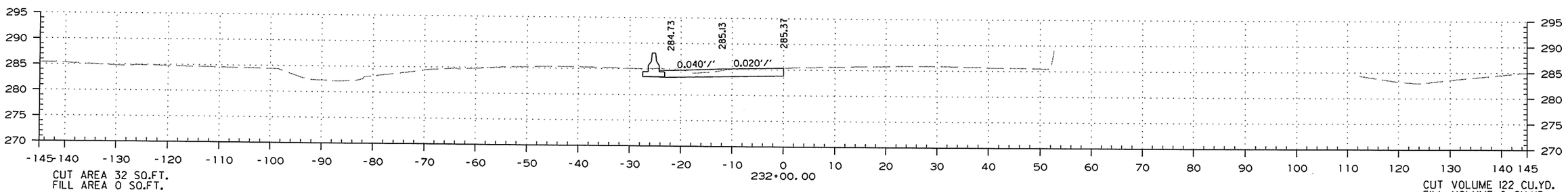
CUT AREA 20 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 83 CU.YD.
FILL VOLUME 0 CU.YD.



CUT AREA 25 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 106 CU.YD.
FILL VOLUME 0 CU.YD.



CUT AREA 32 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 122 CU.YD.
FILL VOLUME 0 CU.YD.

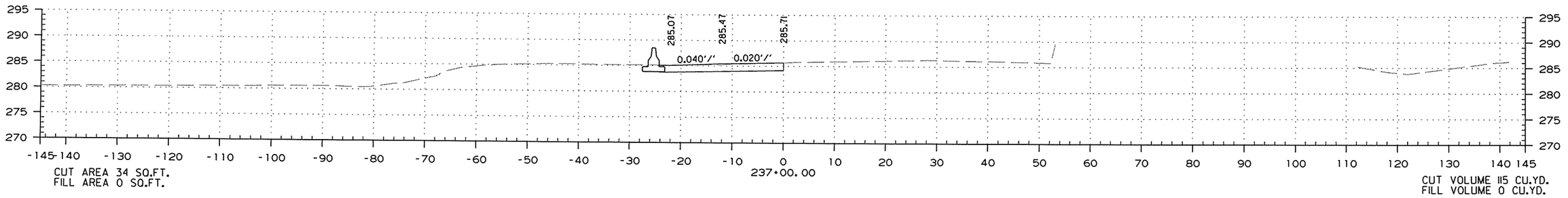
I-30 W.B. EXIT RAMP
STA. 232+00.00 TO STA. 234+00.00

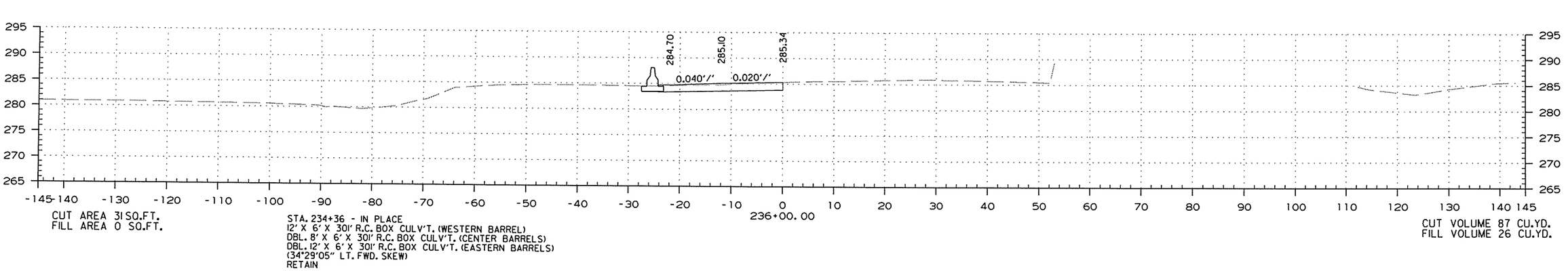
6/18/2014

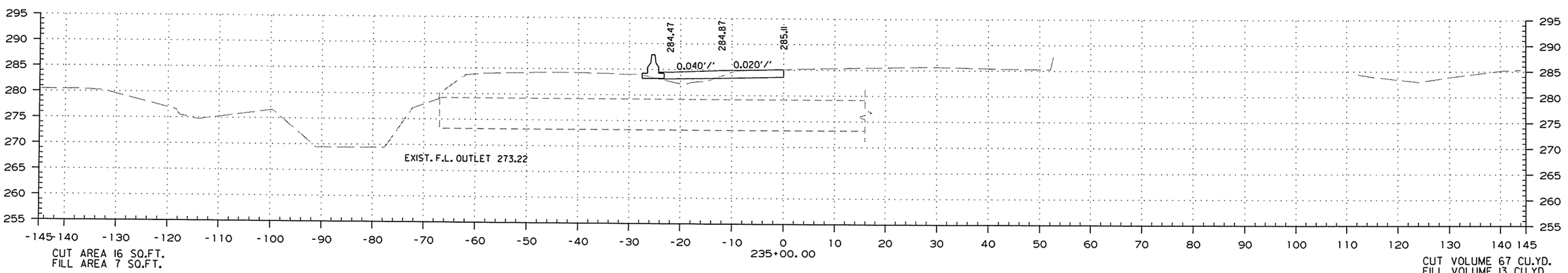
R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	148	177

(2) CROSS SECTIONS







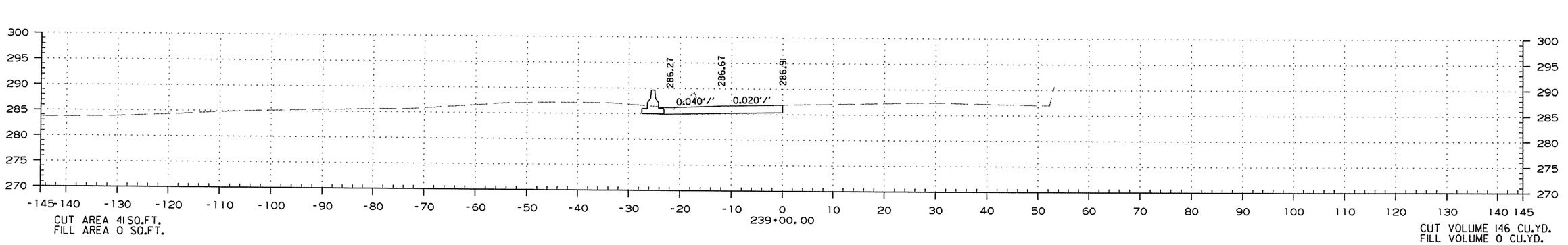
I-30 W.B. EXIT RAMP
STA. 235+00.00 TO STA. 237+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	149	177

(2) CROSS SECTIONS



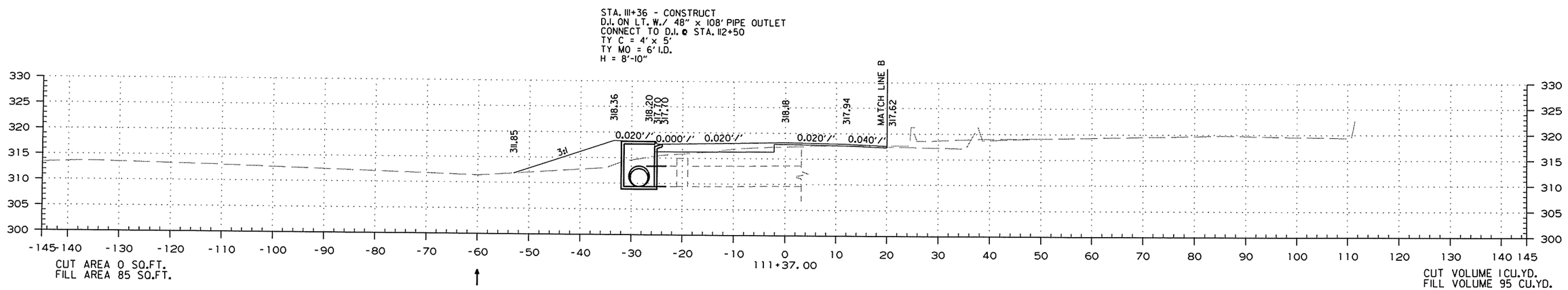
I-30 W.B. EXIT RAMP
STA. 238+00.00 TO STA. 239+00.00

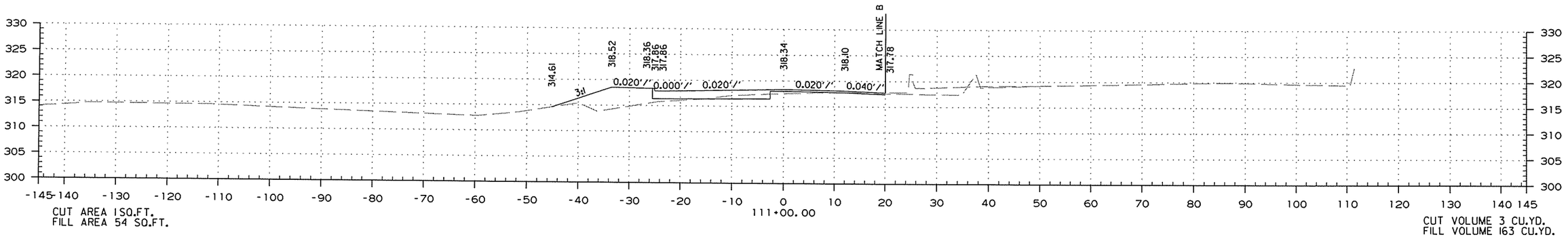
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	150	177

(2) CROSS SECTIONS





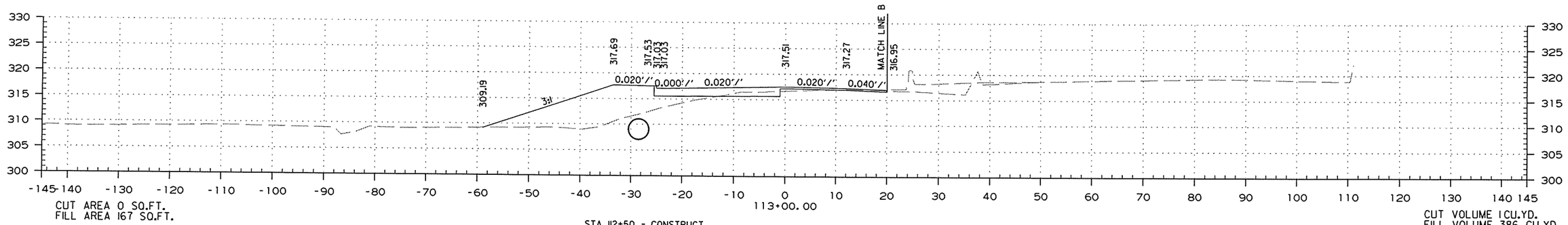
N. FRONTAGE RD.
STA. 111+00.00 TO STA. 111+37.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	151	177

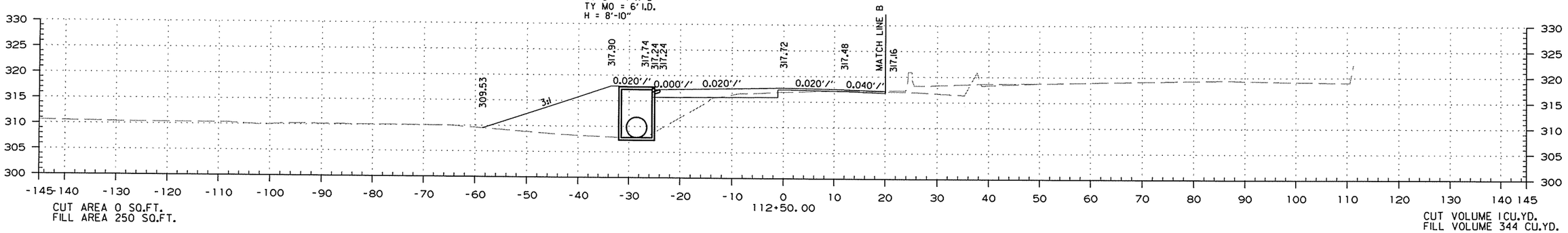
(2) CROSS SECTIONS



CUT AREA 0 SQ.FT.
FILL AREA 167 SQ.FT.

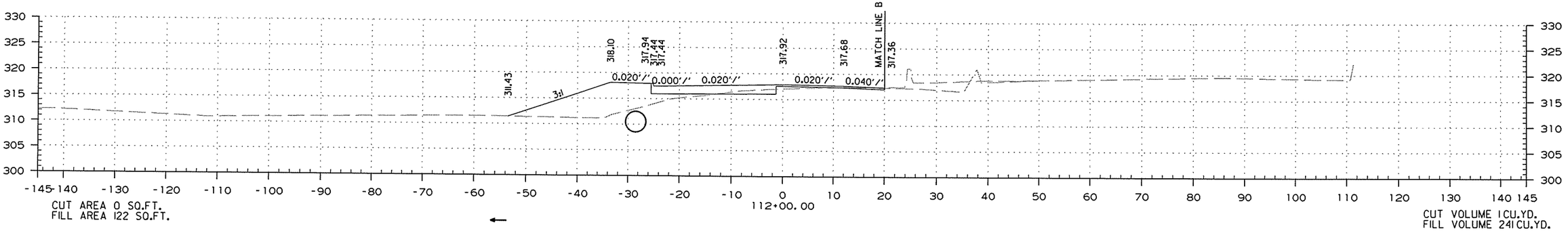
CUT VOLUME 1 CU.YD.
FILL VOLUME 386 CU.YD.

STA. 112+50 - CONSTRUCT
D.I. ON LT. W./ 48" x 148' PIPE OUTLET
CONNECT TO D.I. @ STA. 114+04
TY C = 4' x 5'
TY M0 = 6' I.D.
H = 8'-10"



CUT AREA 0 SQ.FT.
FILL AREA 250 SQ.FT.

CUT VOLUME 1 CU.YD.
FILL VOLUME 344 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 122 SQ.FT.

CUT VOLUME 1 CU.YD.
FILL VOLUME 241 CU.YD.

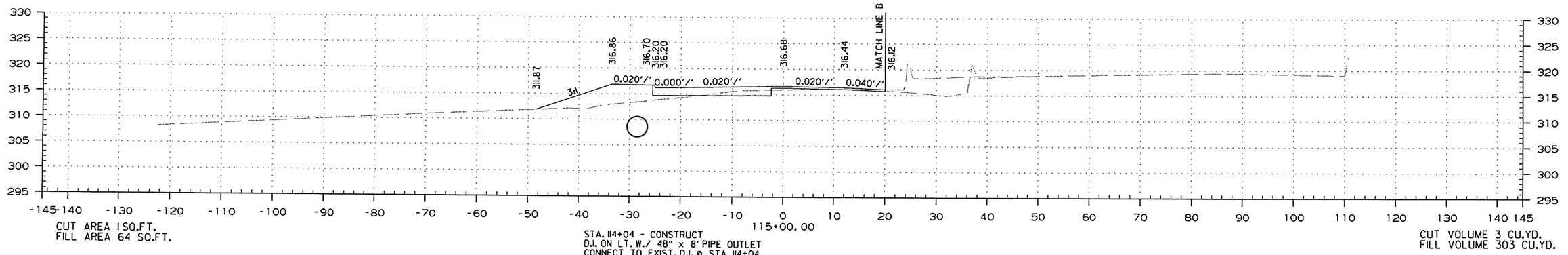
N. FRONTAGE RD.
STA. 112+00.00 TO STA. 113+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	152	177

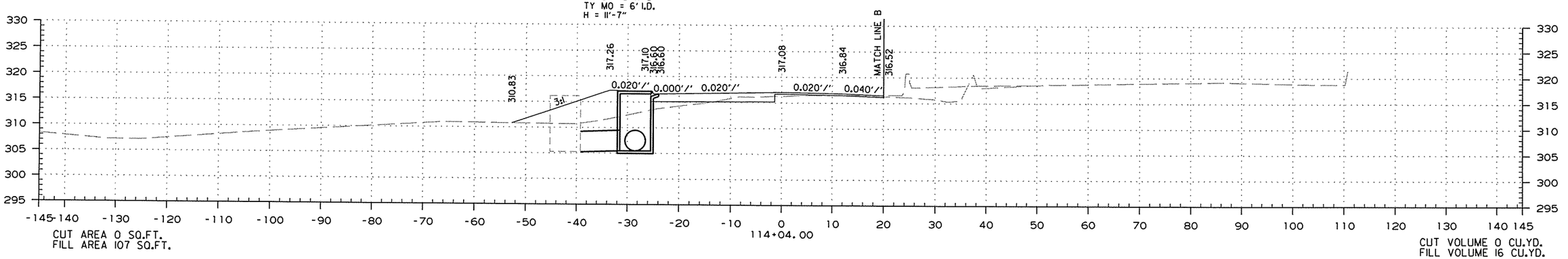
(2) CROSS SECTIONS



CUT AREA 1 SQ.FT.
FILL AREA 64 SQ.FT.

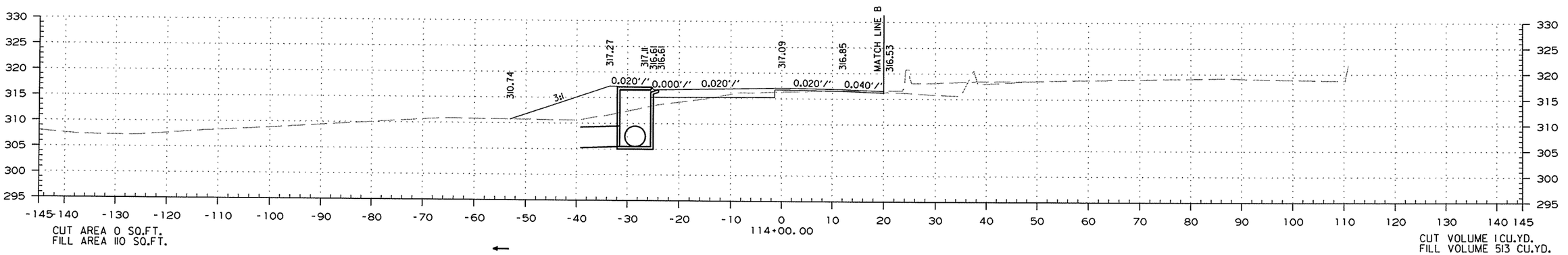
STA. 114+04 - CONSTRUCT
D.I. ON LT. W./ 48" x 8' PIPE OUTLET
CONNECT TO EXIST. D.I. @ STA. 114+04
(EXIST. D.I. TO BE BUILT BY OTHERS)
TY C = 5' x 5'
TY M0 = 6' I.D.
H = 11'-7"

CUT VOLUME 3 CU.YD.
FILL VOLUME 303 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 107 SQ.FT.

CUT VOLUME 0 CU.YD.
FILL VOLUME 16 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 110 SQ.FT.

CUT VOLUME 1 CU.YD.
FILL VOLUME 513 CU.YD.

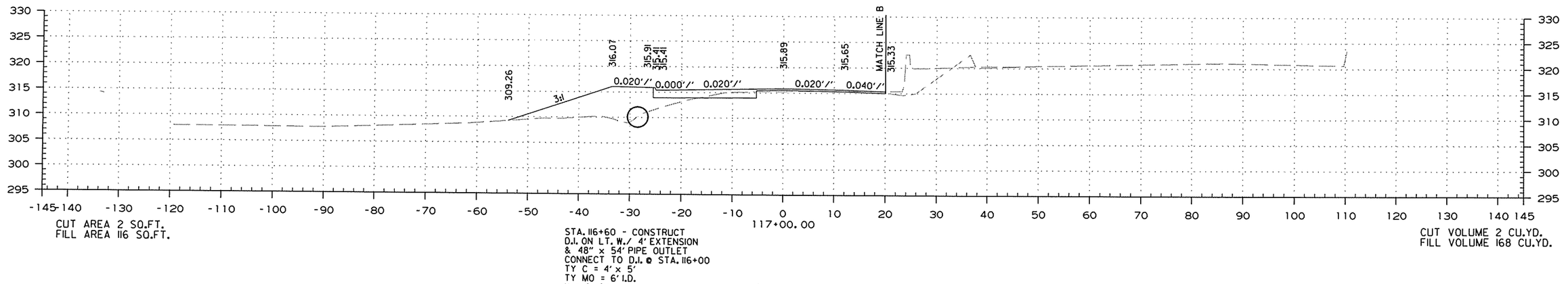
N. FRONTAGE RD.
STA. 114+00.00 TO STA. 115+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	153	177

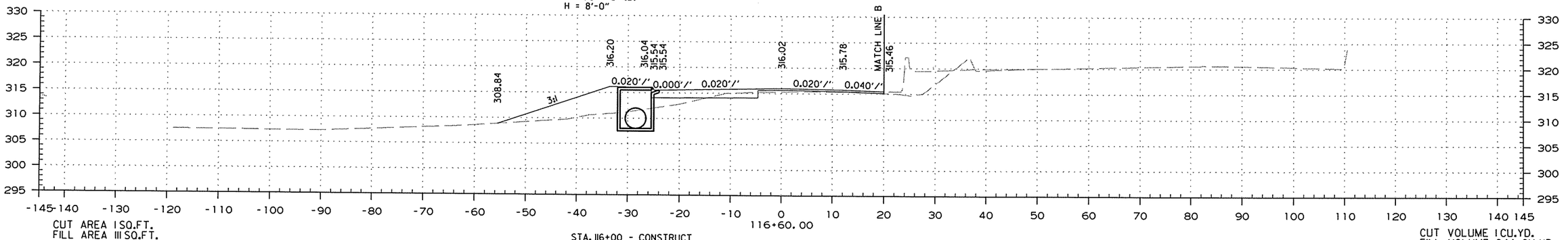
(2) CROSS SECTIONS



CUT AREA 2 SQ.FT.
FILL AREA 116 SQ.FT.

STA. 116+60 - CONSTRUCT
D.I. ON LT. W./ 4' EXTENSION
& 48" x 54' PIPE OUTLET
CONNECT TO D.I. @ STA. 116+00
TY C = 4' x 5'
TY M0 = 6' I.D.
H = 8'-0"

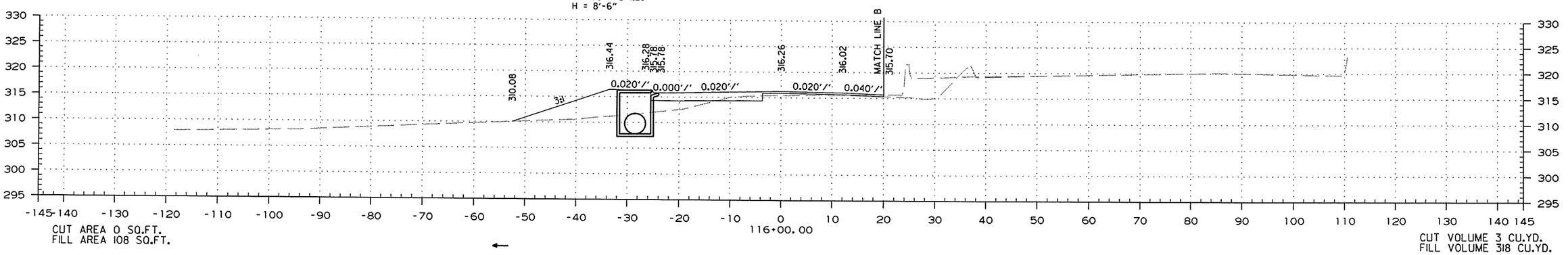
CUT VOLUME 2 CU.YD.
FILL VOLUME 168 CU.YD.



CUT AREA 1 SQ.FT.
FILL AREA 111 SQ.FT.

STA. 116+00 - CONSTRUCT
D.I. ON LT. W./ 48" x 190' PIPE OUTLET
CONNECT TO D.I. @ STA. 114+04
TY C = 4' x 5'
TY M0 = 6' I.D.
H = 8'-6"

CUT VOLUME 1 CU.YD.
FILL VOLUME 244 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 108 SQ.FT.

CUT VOLUME 3 CU.YD.
FILL VOLUME 318 CU.YD.

N. FRONTAGE RD.
STA. 116+00.00 TO STA. 117+00.00

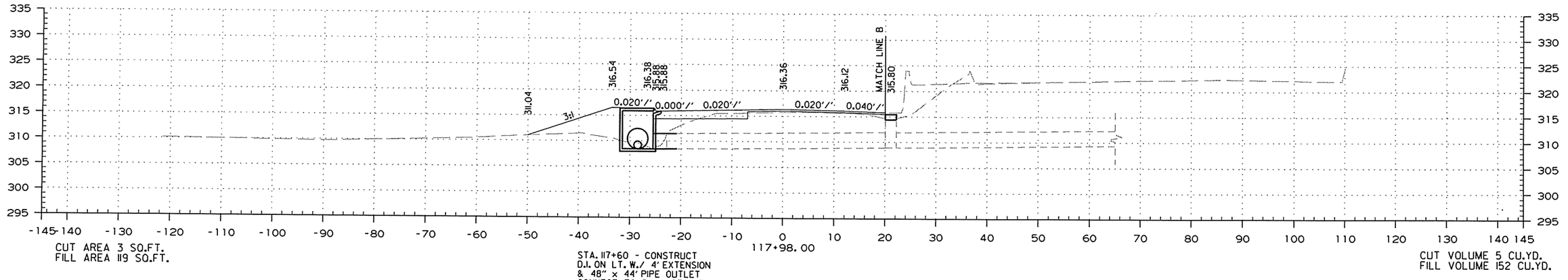
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	154	177

(2) CROSS SECTIONS

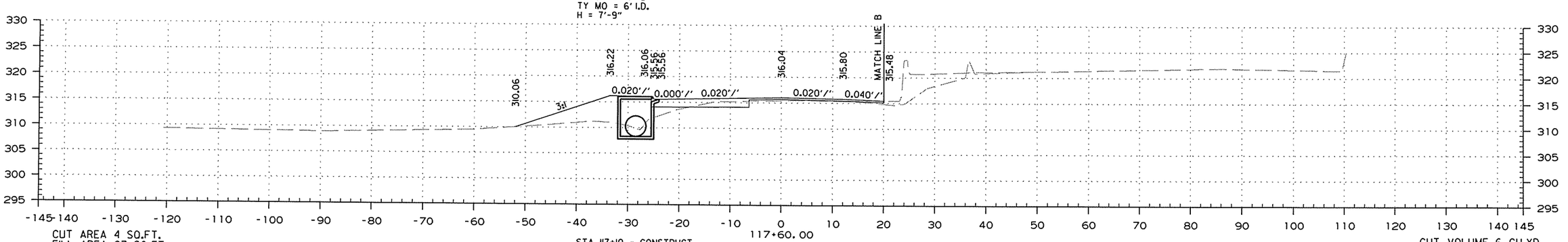
STA. 117+97 - CONSTRUCT
D.I. ON LT. W./ 4' EXTENSION
& 48" x 31' PIPE OUTLET
CONNECT TO D.I. @ STA. 117+60
TY C = 4' x 5'
TY MO = 6' I.D.
H = 7'-11"



CUT AREA 3 SQ.FT.
FILL AREA 119 SQ.FT.

CUT VOLUME 5 CU.YD.
FILL VOLUME 152 CU.YD.

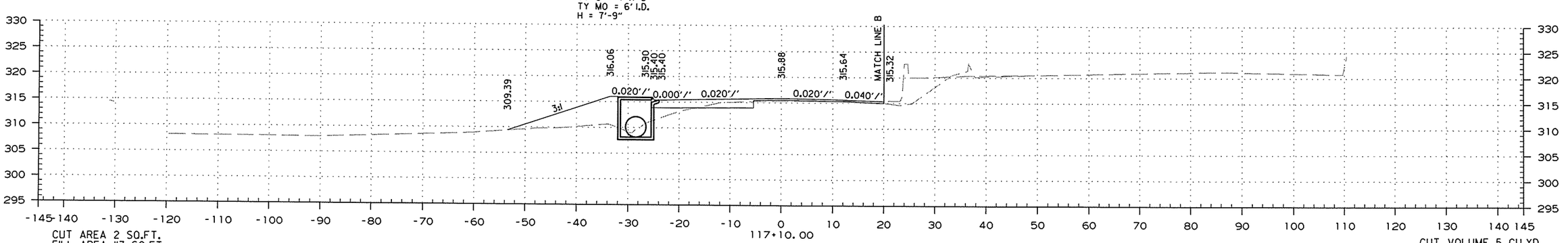
STA. 117+60 - CONSTRUCT
D.I. ON LT. W./ 4' EXTENSION
& 48" x 44' PIPE OUTLET
CONNECT TO D.I. @ STA. 117+10
TY C = 4' x 5'
TY MO = 6' I.D.
H = 7'-9"



CUT AREA 4 SQ.FT.
FILL AREA 97 SQ.FT.

CUT VOLUME 6 CU.YD.
FILL VOLUME 236 CU.YD.

STA. 117+10 - CONSTRUCT
D.I. ON LT. W./ 8' EXTENSION
& 48" x 44' PIPE OUTLET
CONNECT TO D.I. @ STA. 116+60
TY C = 4' x 5'
TY MO = 6' I.D.
H = 7'-9"



CUT AREA 2 SQ.FT.
FILL AREA 113 SQ.FT.

CUT VOLUME 5 CU.YD.
FILL VOLUME 236 CU.YD.

N. FRONTAGE RD.
STA. 117+10.00 TO STA. 117+98.00

6/18/2014

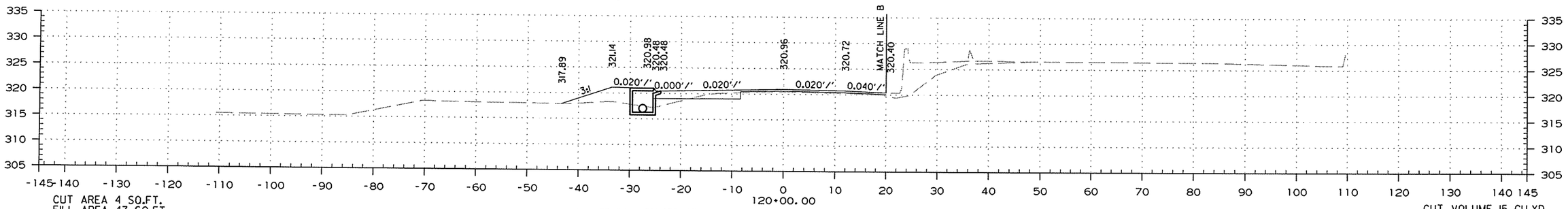
R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	155	177

(2) CROSS SECTIONS

←

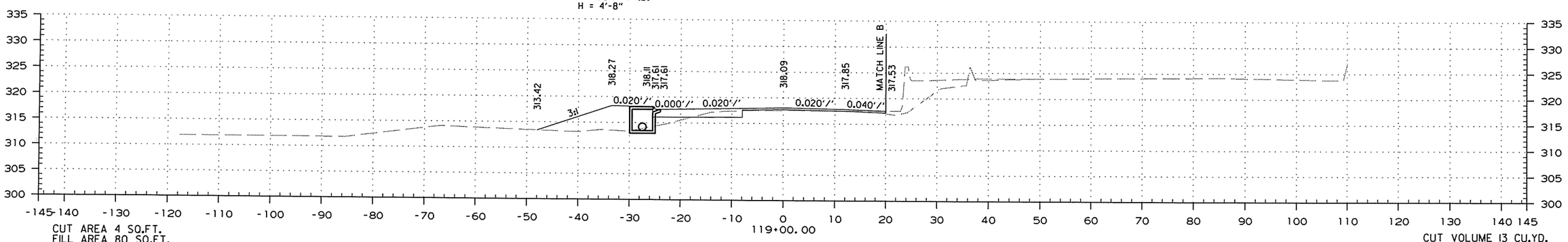
STA. 120+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 96' PIPE OUTLET
CONNECT TO D.I. @ STA. 119+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"



CUT AREA 4 SQ.FT.
FILL AREA 47 SQ.FT.

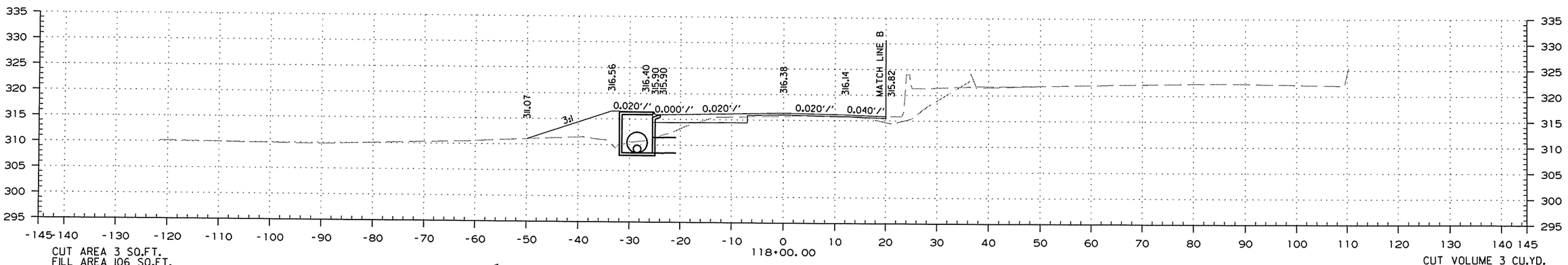
CUT VOLUME 15 CU.YD.
FILL VOLUME 235 CU.YD.

STA. 119+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 98' PIPE OUTLET
CONNECT TO D.I. @ STA. 117+97
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"



CUT AREA 4 SQ.FT.
FILL AREA 80 SQ.FT.

CUT VOLUME 13 CU.YD.
FILL VOLUME 344 CU.YD.



CUT AREA 3 SQ.FT.
FILL AREA 106 SQ.FT.

CUT VOLUME 3 CU.YD.
FILL VOLUME 8 CU.YD.

←

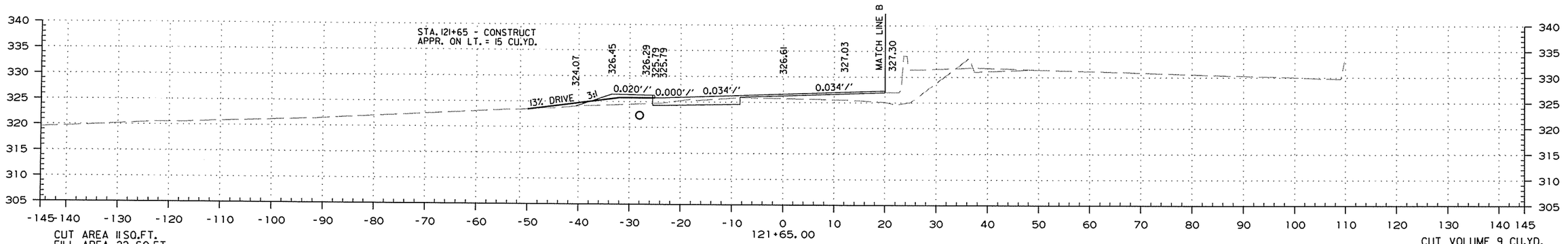
N. FRONTAGE RD.
STA. 118+00.00 TO STA. 120+00.00

6/18/2014

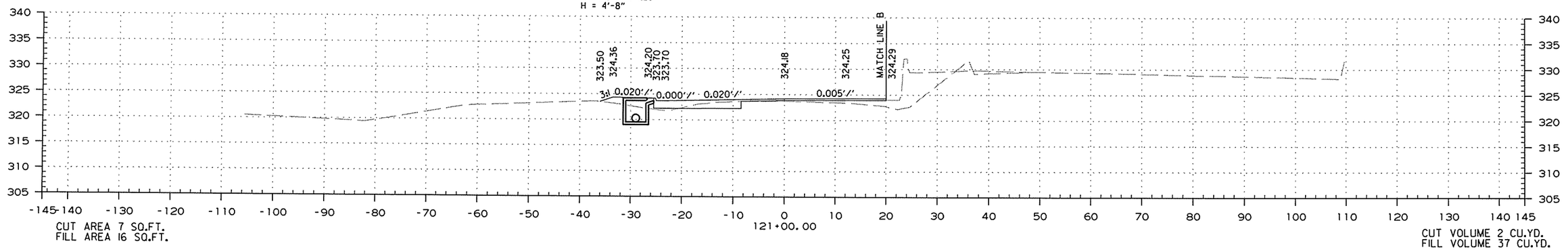
R061332.DGN

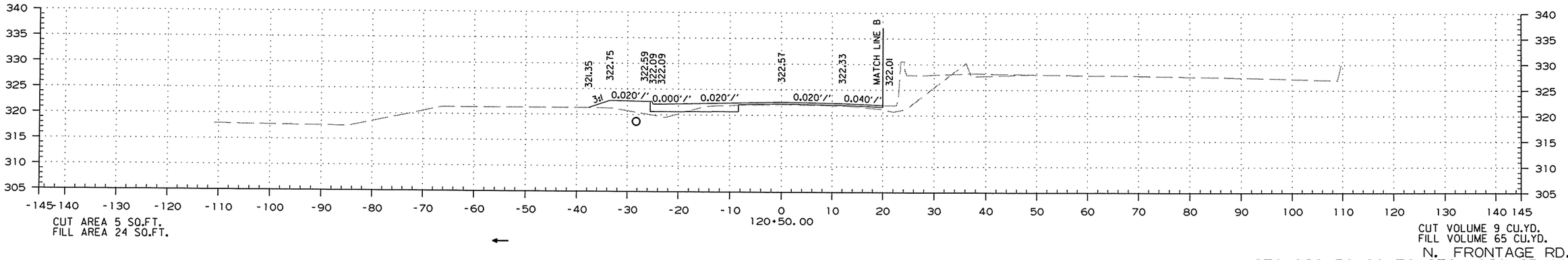
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	156	177

(2) CROSS SECTIONS



STA. 121+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 96' PIPE OUTLET
CONNECT TO D.I. @ STA. 120+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"





N. FRONTAGE RD.
STA. 120+50.00 TO STA. 121+65.00

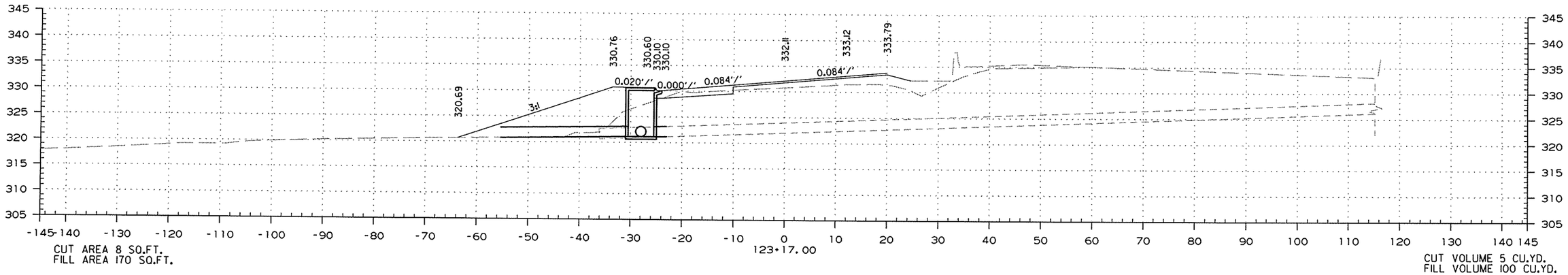
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	157	177

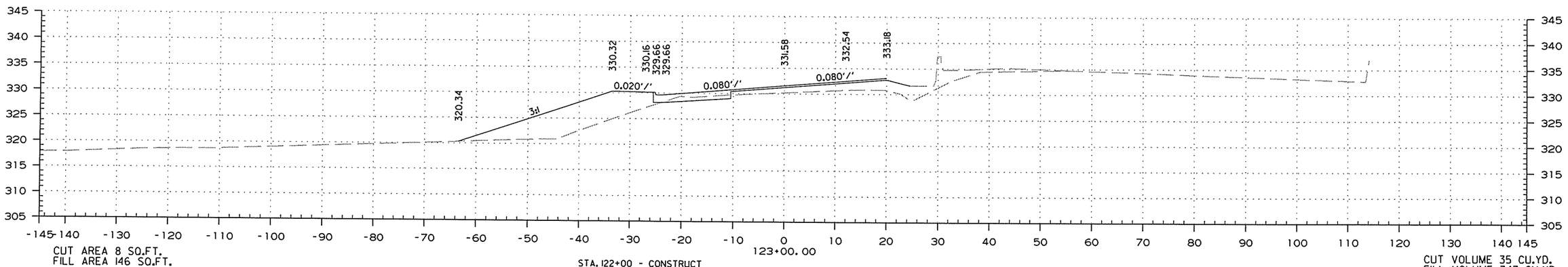
(2) CROSS SECTIONS

STA. 123+19 - CONSTRUCT
D.I. ON LT. W./ 24" x 26' R.C. STUB OUTLET
W./ F.E.S. LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 9'-6"



CUT AREA 8 SQ.FT.
FILL AREA 170 SQ.FT.

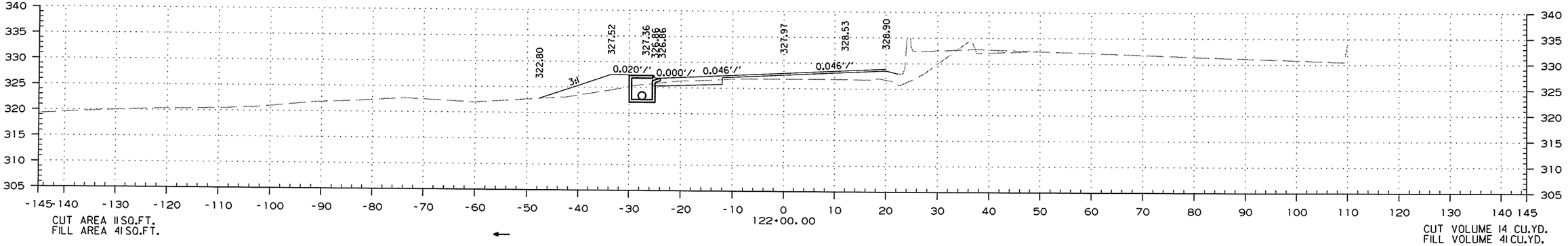
CUT VOLUME 5 CU.YD.
FILL VOLUME 100 CU.YD.



CUT AREA 8 SQ.FT.
FILL AREA 146 SQ.FT.

CUT VOLUME 35 CU.YD.
FILL VOLUME 347 CU.YD.

STA. 122+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 96' PIPE OUTLET
CONNECT TO D.I. @ STA. 121+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-8"



CUT AREA 11 SQ.FT.
FILL AREA 41 SQ.FT.

CUT VOLUME 14 CU.YD.
FILL VOLUME 41 CU.YD.

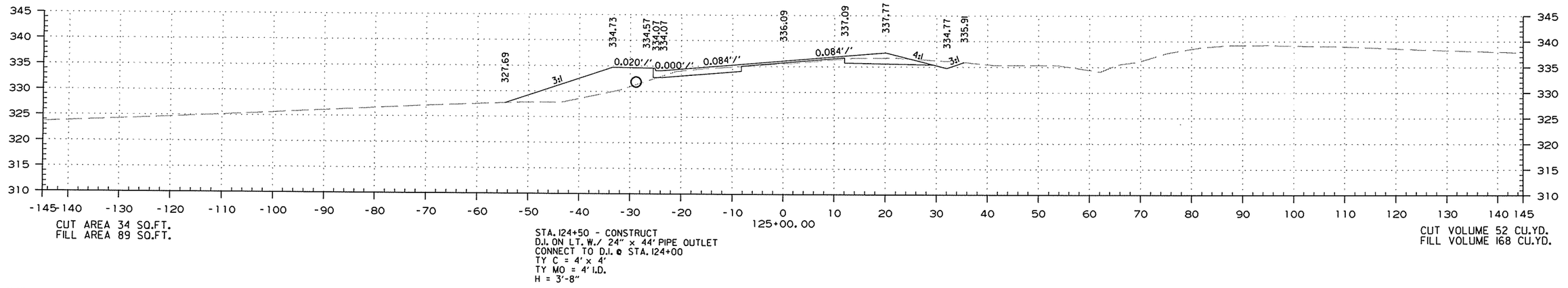
N. FRONTAGE RD.
STA. 122+00.00 TO STA. 123+17.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	158	177

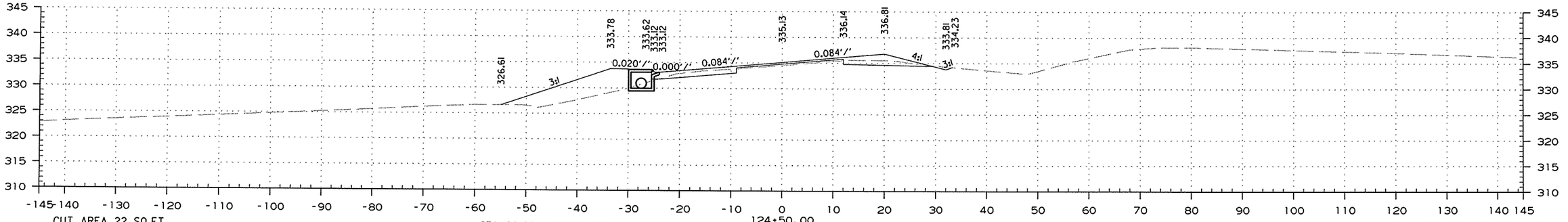
(2) CROSS SECTIONS



CUT AREA 34 SQ.FT.
FILL AREA 89 SQ.FT.

STA. 124+50 - CONSTRUCT
D.I. ON LT. W./ 24" x 44' PIPE OUTLET
CONNECT TO D.I. @ STA. 124+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"

CUT VOLUME 52 CU.YD.
FILL VOLUME 168 CU.YD.

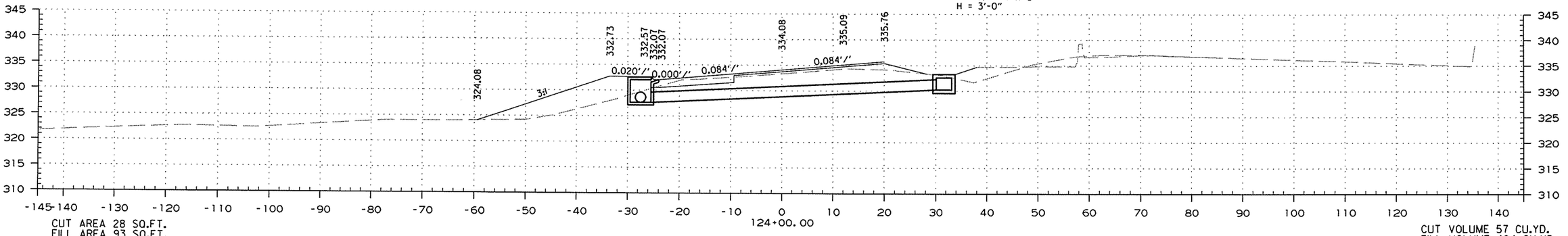


CUT AREA 22 SQ.FT.
FILL AREA 98 SQ.FT.

STA. 124+00 - CONSTRUCT
D.I. ON LT. W./ 24" x 73' PIPE OUTLET
CONNECT TO D.I. @ STA. 123+19
TY C = 4' x 4'
TY MO = 4' I.D.
H = 4'-11"

CUT VOLUME 20 CU.YD.
FILL VOLUME 225 CU.YD.

STA. 124+00 - CONSTRUCT
TYPE 'RM' DROP INLET 30' RT.
W/ 24" X 56' R.C. PIPE OUTLET (CL. III)
CONNECT TO D.I. @ STA. 124+00 LT.
(USE TYPE 3 BEDDING)
TY RM = 4' x 3'
H = 3'-0"



CUT AREA 28 SQ.FT.
FILL AREA 93 SQ.FT.

CUT VOLUME 57 CU.YD.
FILL VOLUME 404 CU.YD.

N. FRONTAGE RD.
STA. 124+00.00 TO STA. 125+00.00

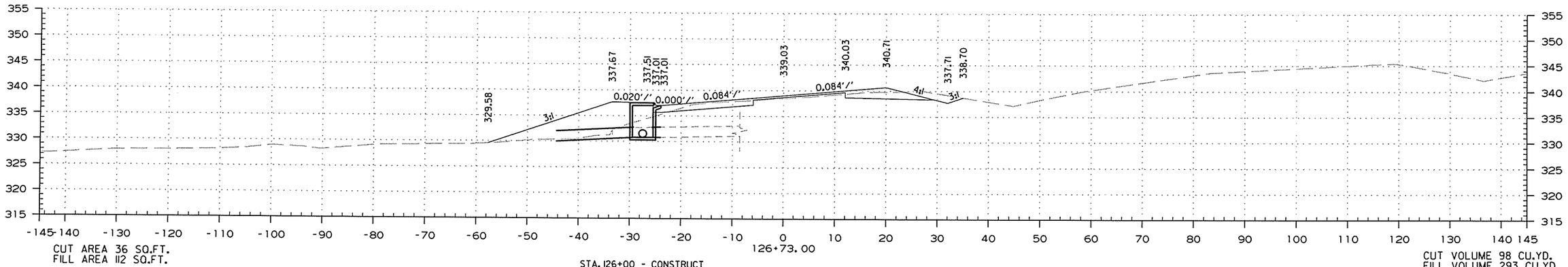
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	159	177

(2) CROSS SECTIONS

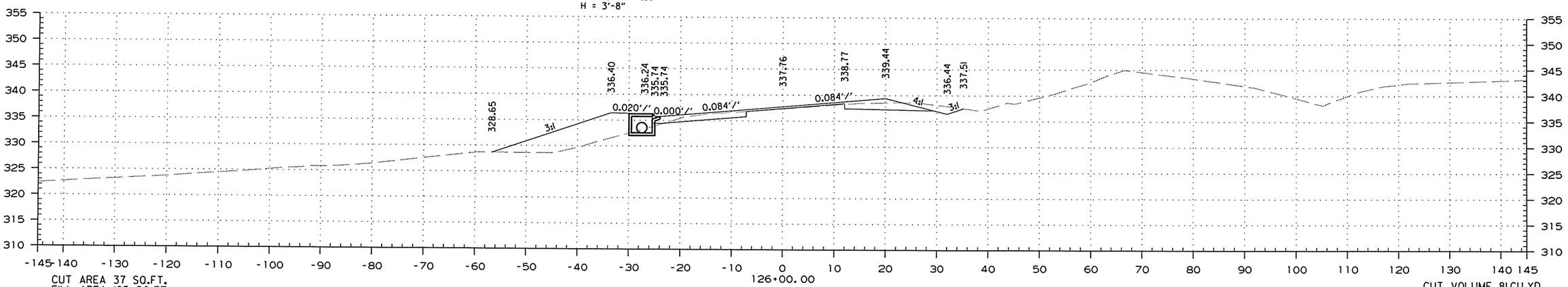
STA. 126+77 - CONSTRUCT
D.I. ON LT. W./ 24" x 18' R.C. STUB OUTLET
W./ F.E.S. LT.
TY C = 4' x 4'
TY MO = 4' I.D.
H = 6'-9"



CUT AREA 36 SQ.FT.
FILL AREA 112 SQ.FT.

CUT VOLUME 98 CU.YD.
FILL VOLUME 293 CU.YD.

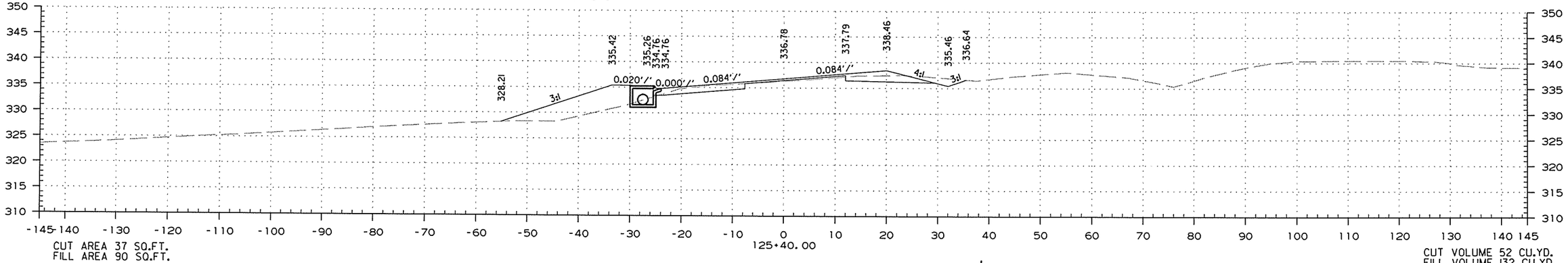
STA. 126+00 - CONSTRUCT
D.I. ON LT. W./ 24" x 54' PIPE OUTLET
CONNECT TO D.I. @ STA. 125+40
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"



CUT AREA 37 SQ.FT.
FILL AREA 105 SQ.FT.

CUT VOLUME 81 CU.YD.
FILL VOLUME 216 CU.YD.

STA. 125+40 - CONSTRUCT
D.I. ON LT. W./ 24" x 83' PIPE OUTLET
CONNECT TO D.I. @ STA. 124+50
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"



CUT AREA 37 SQ.FT.
FILL AREA 90 SQ.FT.

CUT VOLUME 52 CU.YD.
FILL VOLUME 132 CU.YD.

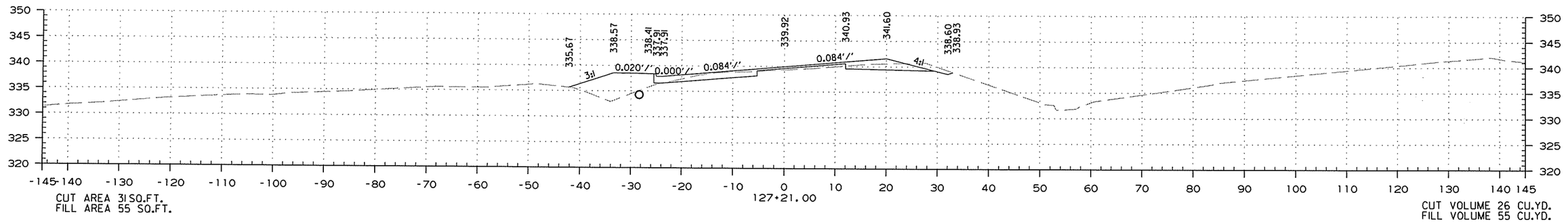
N. FRONTAGE RD.
STA. 125+40.00 TO STA. 126+73.00

6/18/2014

R061332.DGN

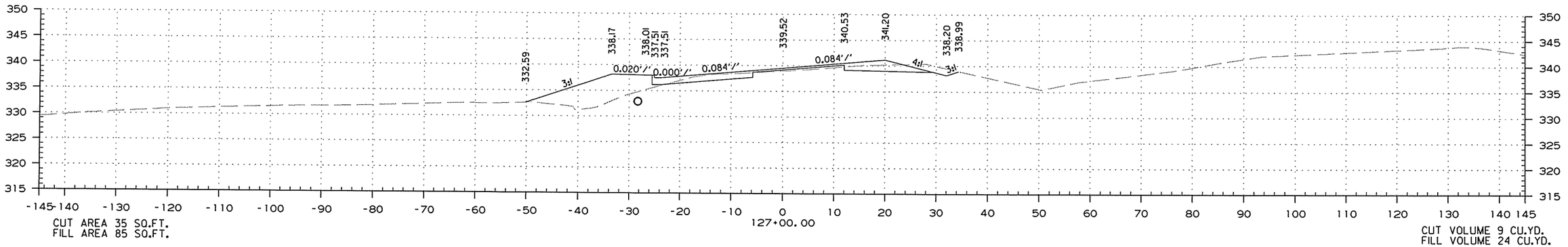
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	160	177

(2) CROSS SECTIONS



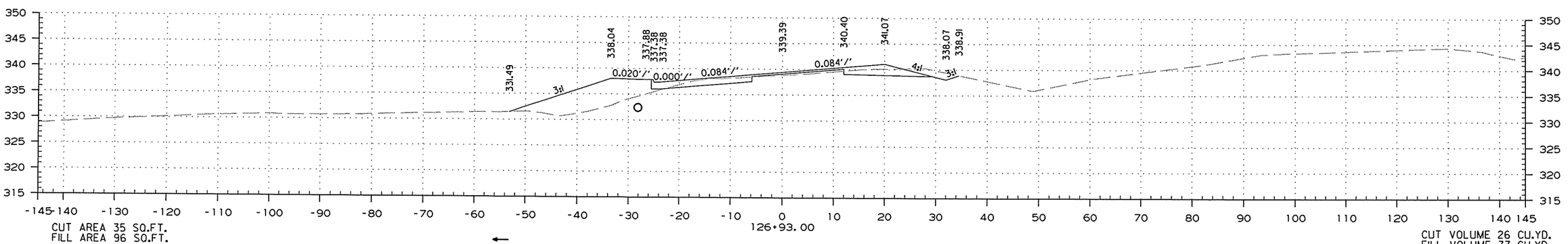
CUT AREA 31 SQ.FT.
FILL AREA 55 SQ.FT.

CUT VOLUME 26 CU.YD.
FILL VOLUME 55 CU.YD.



CUT AREA 35 SQ.FT.
FILL AREA 85 SQ.FT.

CUT VOLUME 9 CU.YD.
FILL VOLUME 24 CU.YD.



CUT AREA 35 SQ.FT.
FILL AREA 96 SQ.FT.

CUT VOLUME 26 CU.YD.
FILL VOLUME 77 CU.YD.

N. FRONTAGE RD.
STA. 126+93.00 TO STA. 127+21.00

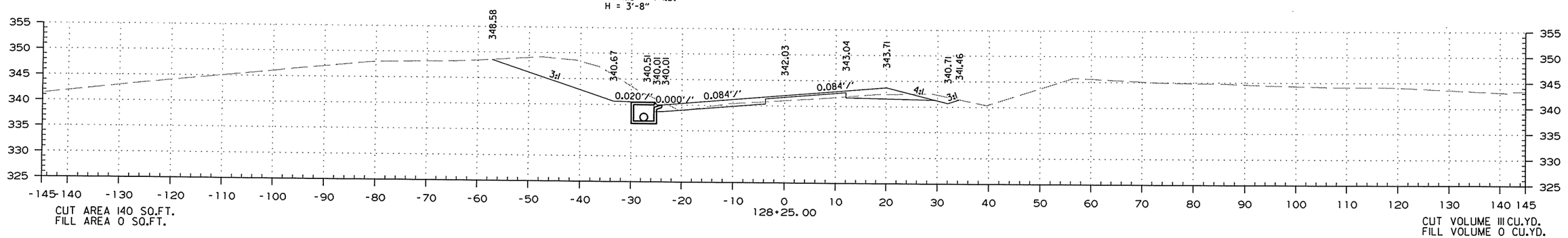
6/18/2014

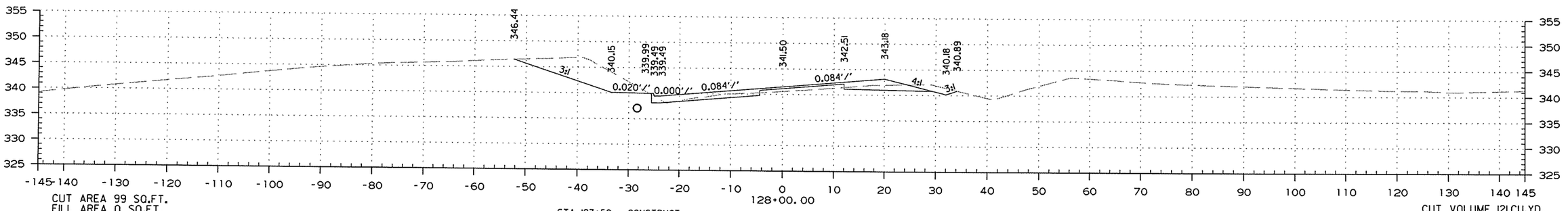
R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	161	177

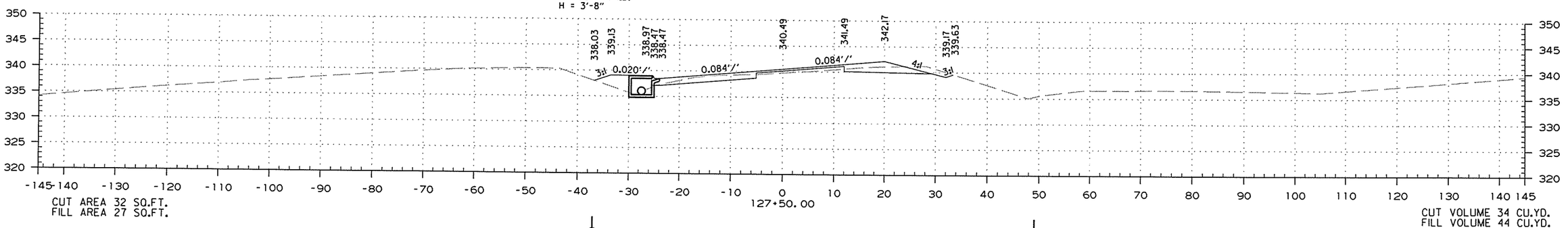
(2) CROSS SECTIONS

STA. 128+25 - CONSTRUCT
D.I. ON LT. W./ 18" x 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 127+50
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"





STA. 127+50 - CONSTRUCT
D.I. ON LT. W./ 18" x 66' PIPE OUTLET
CONNECT TO D.I. @ STA. 126+77
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"



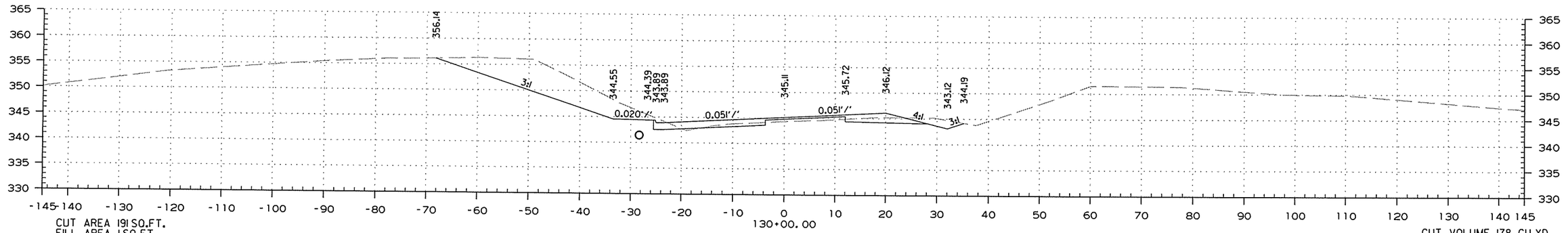
N. FRONTAGE RD.
STA. 127+50.00 TO STA. 128+25.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	162	177

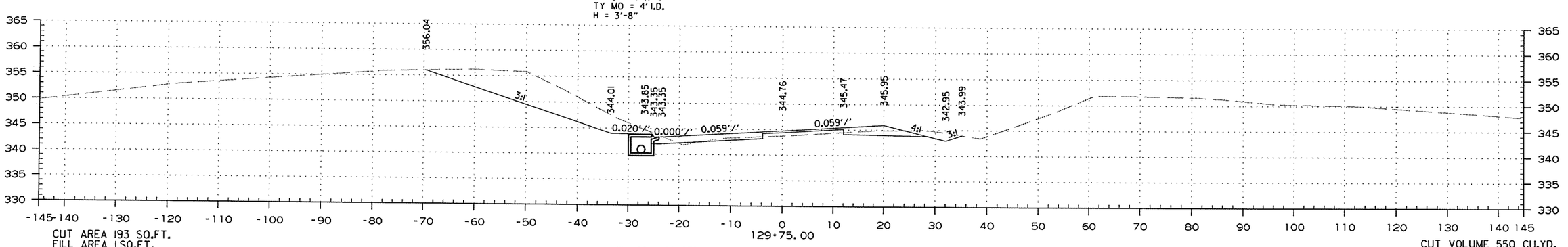
(2) CROSS SECTIONS



CUT AREA 191 SQ.FT.
FILL AREA 1 SQ.FT.

CUT VOLUME 178 CU.YD.
FILL VOLUME 1 CU.YD.

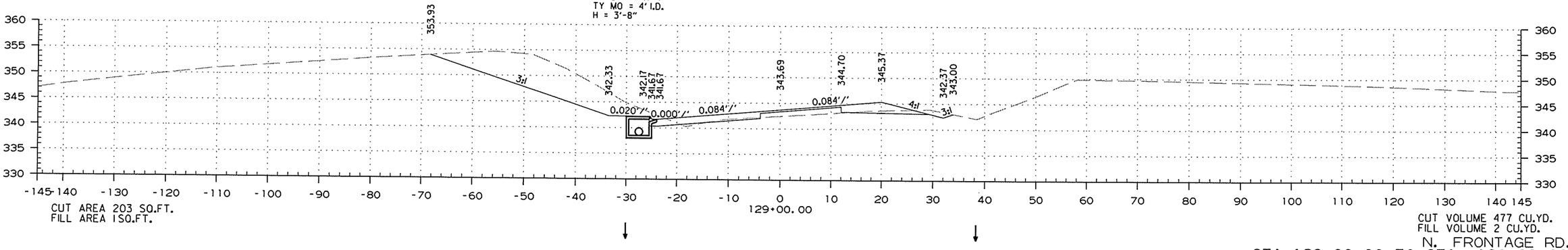
STA. 129+75 - CONSTRUCT
D.I. ON LT. W./ 18" x 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 129+00
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"



CUT AREA 193 SQ.FT.
FILL AREA 1 SQ.FT.

CUT VOLUME 550 CU.YD.
FILL VOLUME 3 CU.YD.

STA. 129+00 - CONSTRUCT
D.I. ON LT. W./ 18" x 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 128+25
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"



CUT AREA 203 SQ.FT.
FILL AREA 1 SQ.FT.

CUT VOLUME 477 CU.YD.
FILL VOLUME 2 CU.YD.

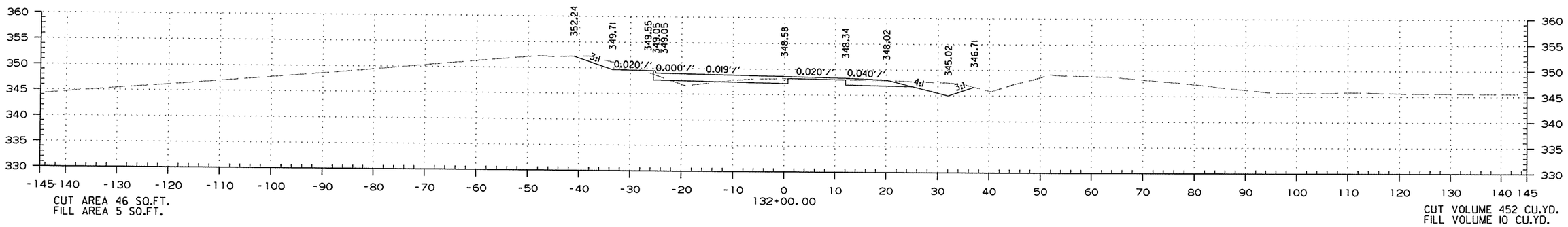
N. FRONTAGE RD.
STA. 129+00.00 TO STA. 130+00.00

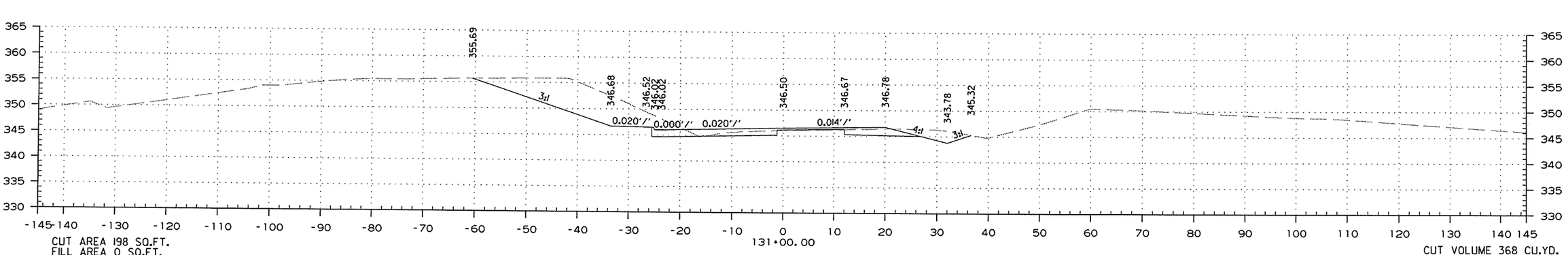
6/18/2014

R061332.DGN

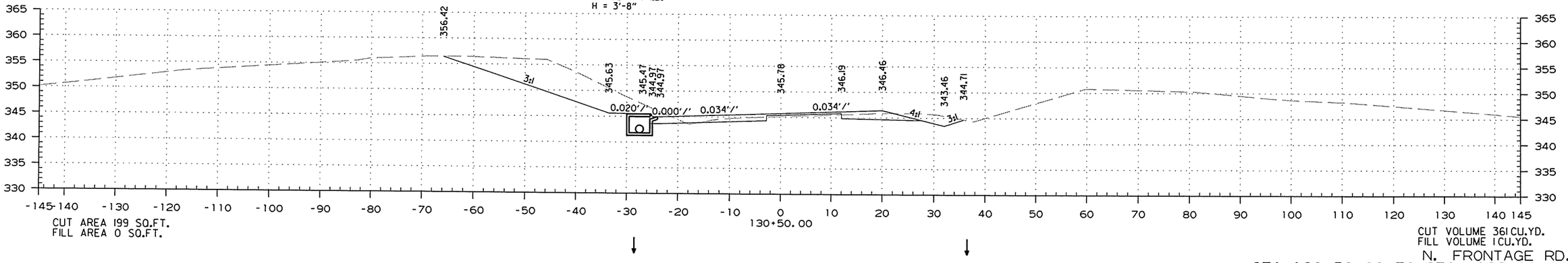
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	163	177

(2) CROSS SECTIONS





STA. 130+50 - CONSTRUCT
D.I. ON LT. W./ 18" x 68' PIPE OUTLET
CONNECT TO D.I. @ STA. 129+75
TY C = 4' x 4'
TY MO = 4' I.D.
H = 3'-8"



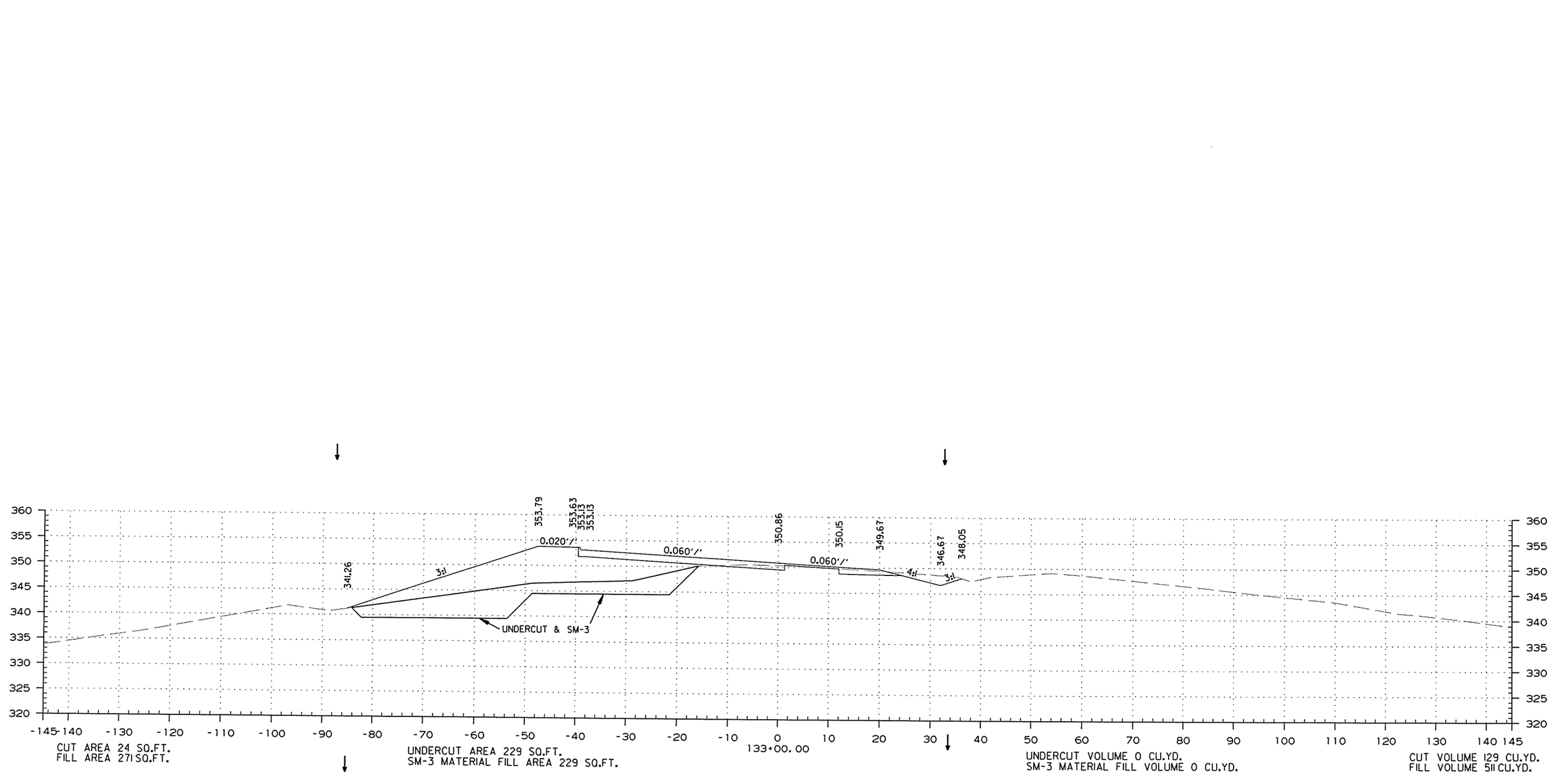
N. FRONTAGE RD.
STA. 130+50.00 TO STA. 132+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	164	177

(2) CROSS SECTIONS



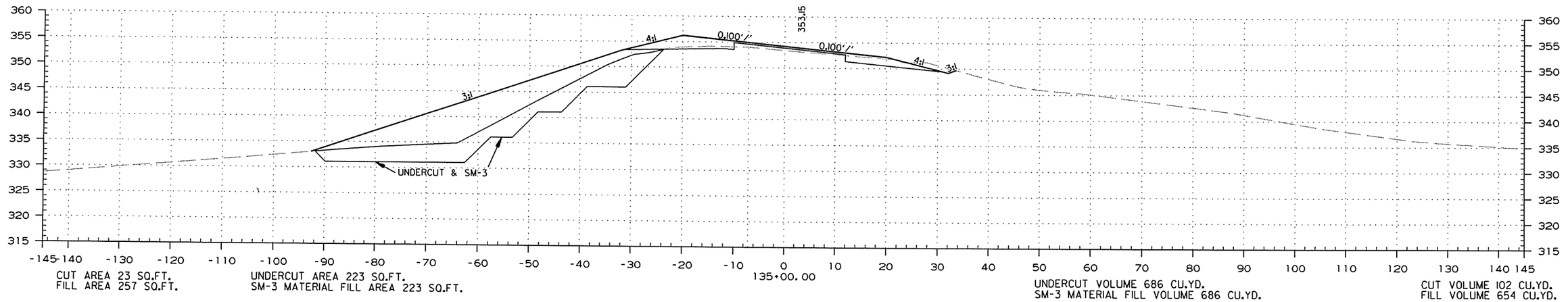
N. FRONTAGE RD.
STA. 133+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	165	177

(2) CROSS SECTIONS

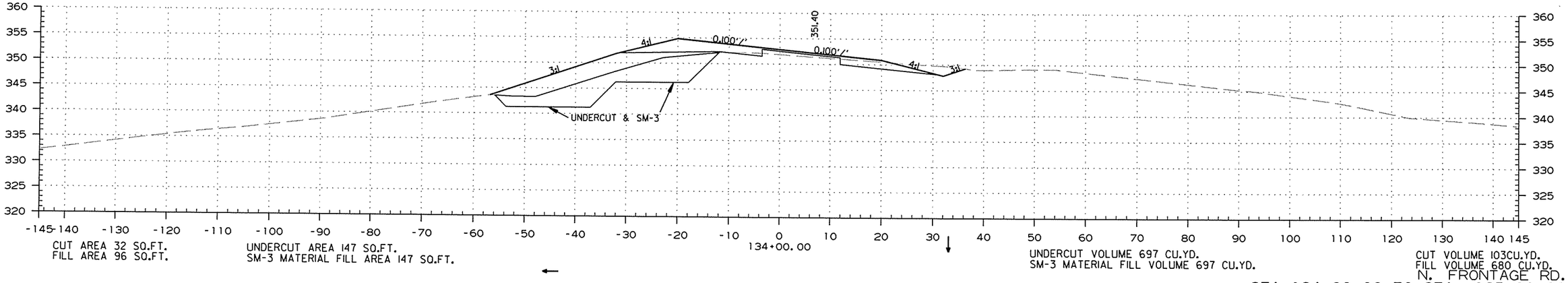


CUT AREA 23 SQ.FT.
FILL AREA 257 SQ.FT.

UNDERCUT AREA 223 SQ.FT.
SM-3 MATERIAL FILL AREA 223 SQ.FT.

UNDERCUT VOLUME 686 CU.YD.
SM-3 MATERIAL FILL VOLUME 686 CU.YD.

CUT VOLUME 102 CU.YD.
FILL VOLUME 654 CU.YD.



CUT AREA 32 SQ.FT.
FILL AREA 96 SQ.FT.

UNDERCUT AREA 147 SQ.FT.
SM-3 MATERIAL FILL AREA 147 SQ.FT.

UNDERCUT VOLUME 697 CU.YD.
SM-3 MATERIAL FILL VOLUME 697 CU.YD.

CUT VOLUME 103CU.YD.
FILL VOLUME 680 CU.YD.

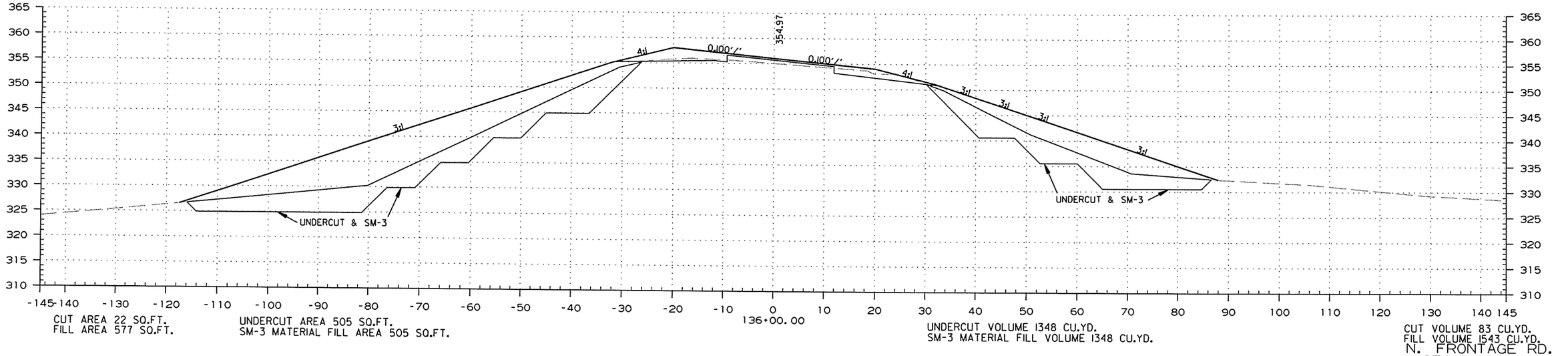
N. FRONTAGE RD.
STA. 134+00.00 TO STA. 135+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	166	177

(2) CROSS SECTIONS



CUT AREA 22 SQ.FT.
FILL AREA 577 SQ.FT.

UNDERCUT AREA 505 SQ.FT.
SM-3 MATERIAL FILL AREA 505 SQ.FT.

UNDERCUT VOLUME 1348 CU.YD.
SM-3 MATERIAL FILL VOLUME 1348 CU.YD.

CUT VOLUME 83 CU.YD.
FILL VOLUME 1543 CU.YD.

N. FRONTAGE RD.
STA. 136+00.00

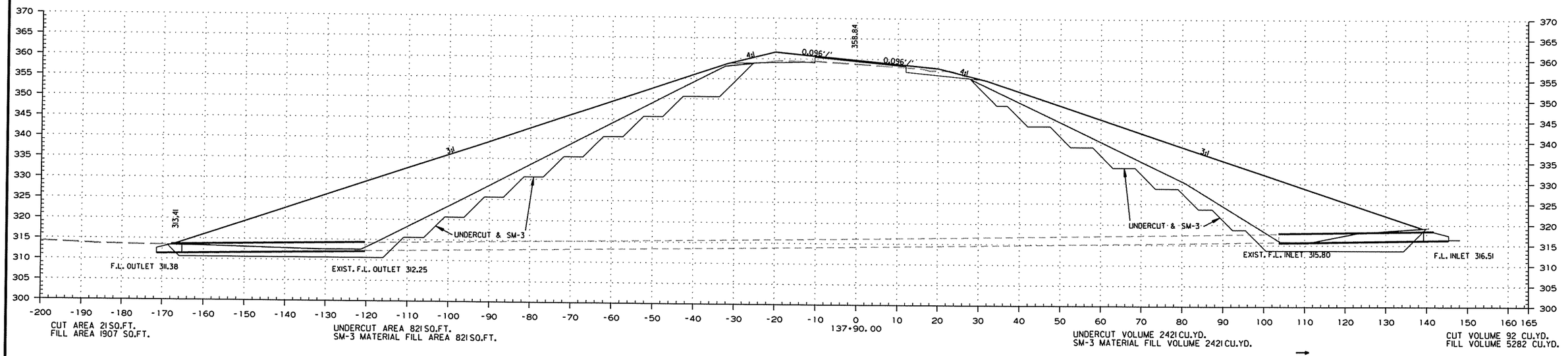
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	167	177

(2) CROSS SECTIONS

STA. 137+90 - IN PLACE
24" X 224' R.C. PIPE CULV'T.
W/ F.E.S. LT. & RT.
RETAIN AND EXTEND 44' LT. & 36' RT.
TO A COMPLETED LENGTH OF 304'
W/ F.E.S. LT. & RT. (USE TYPE 3 BEDDING)
USE 88' R.C. PIPE CULV'T. (CL. IV)
050 = 11cfs; D.A. = 7 Ac.

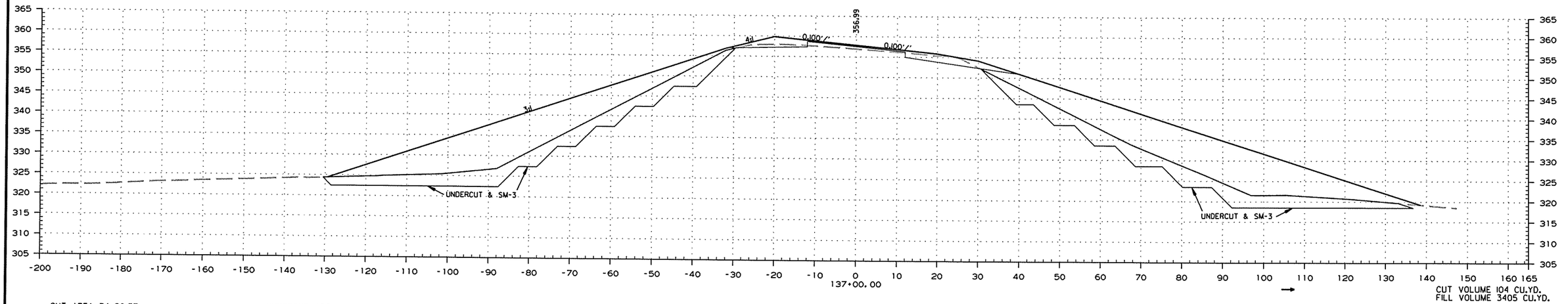


CUT AREA 2150 SQ.FT.
FILL AREA 1907 SQ.FT.

UNDERCUT AREA 821 SQ.FT.
SM-3 MATERIAL FILL AREA 821 SQ.FT.

UNDERCUT VOLUME 2421 CU.YD.
SM-3 MATERIAL FILL VOLUME 2421 CU.YD.

CUT VOLUME 92 CU.YD.
FILL VOLUME 5282 CU.YD.



CUT AREA 34 SQ.FT.
FILL AREA 1263 SQ.FT.

UNDERCUT AREA 632 SQ.FT.
SM-3 MATERIAL FILL AREA 632 SQ.FT.

UNDERCUT VOLUME 2105 CU.YD.
SM-3 MATERIAL FILL VOLUME 2105 CU.YD.

CUT VOLUME 104 CU.YD.
FILL VOLUME 3405 CU.YD.

N. FRONTAGE RD.
STA. 137+00.00 TO STA. 137+90.00

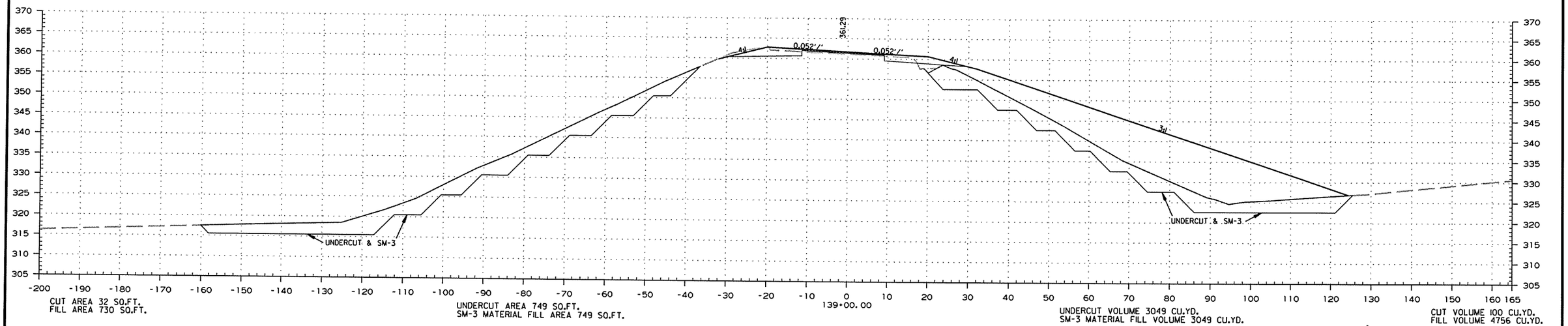
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	168	177

(2) CROSS SECTIONS



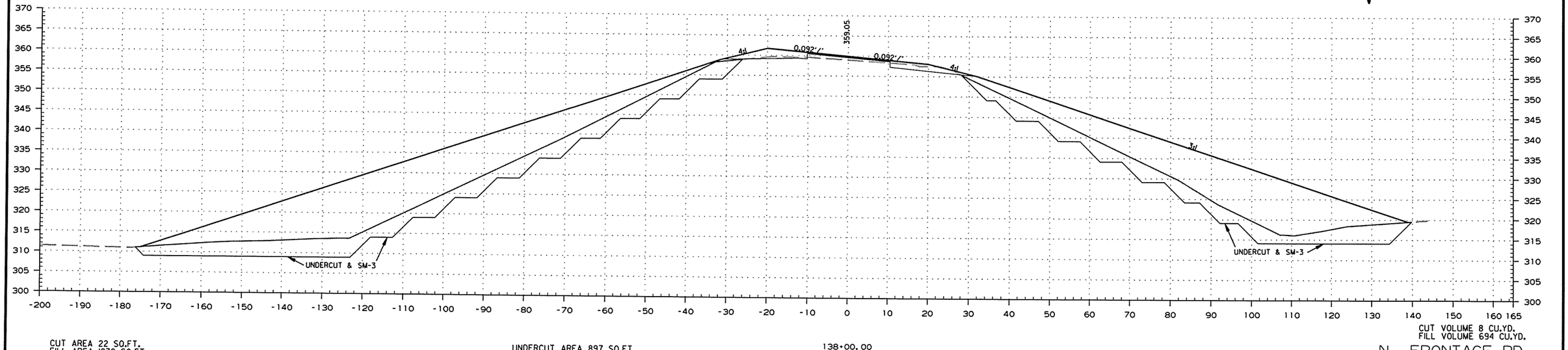
CUT AREA 32 SQ.FT.
FILL AREA 730 SQ.FT.

UNDERCUT AREA 749 SQ.FT.
SM-3 MATERIAL FILL AREA 749 SQ.FT.

139+00.00

UNDERCUT VOLUME 3049 CU.YD.
SM-3 MATERIAL FILL VOLUME 3049 CU.YD.

CUT VOLUME 100 CU.YD.
FILL VOLUME 4756 CU.YD.



CUT AREA 22 SQ.FT.
FILL AREA 1838 SQ.FT.

UNDERCUT AREA 897 SQ.FT.
SM-3 MATERIAL FILL AREA 897 SQ.FT.

138+00.00

UNDERCUT VOLUME 318 CU.YD.
SM-3 MATERIAL FILL VOLUME 318 CU.YD.

CUT VOLUME 8 CU.YD.
FILL VOLUME 694 CU.YD.

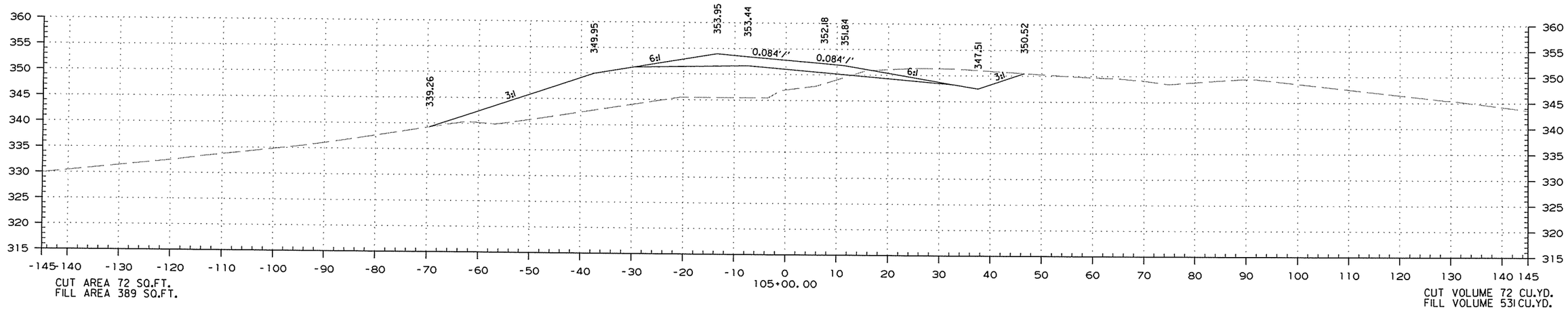
N. FRONTAGE RD.
STA. 138+00.00 TO STA. 139+00.00

6/18/2014

R061332.DGN

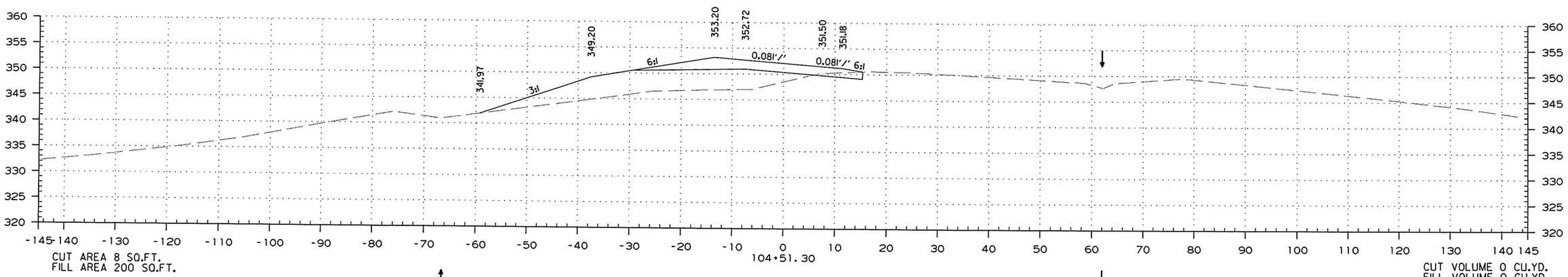
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	169	177

(2) CROSS SECTIONS



CUT AREA 72 SQ.FT.
FILL AREA 389 SQ.FT.

CUT VOLUME 72 CU.YD.
FILL VOLUME 531 CU.YD.



CUT AREA 8 SQ.FT.
FILL AREA 200 SQ.FT.

CUT VOLUME 0 CU.YD.
FILL VOLUME 0 CU.YD.

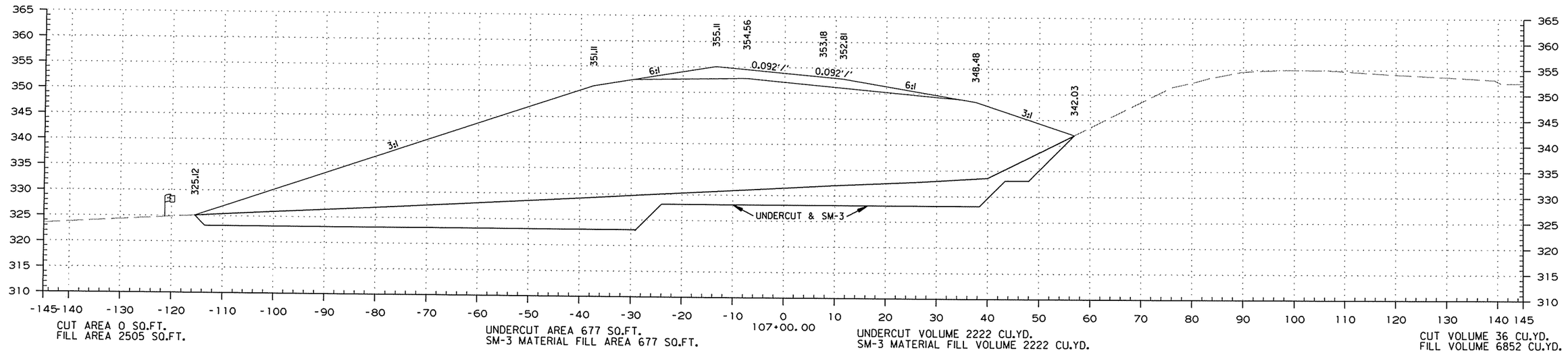
I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 104+51.30 TO STA. 105+00.00

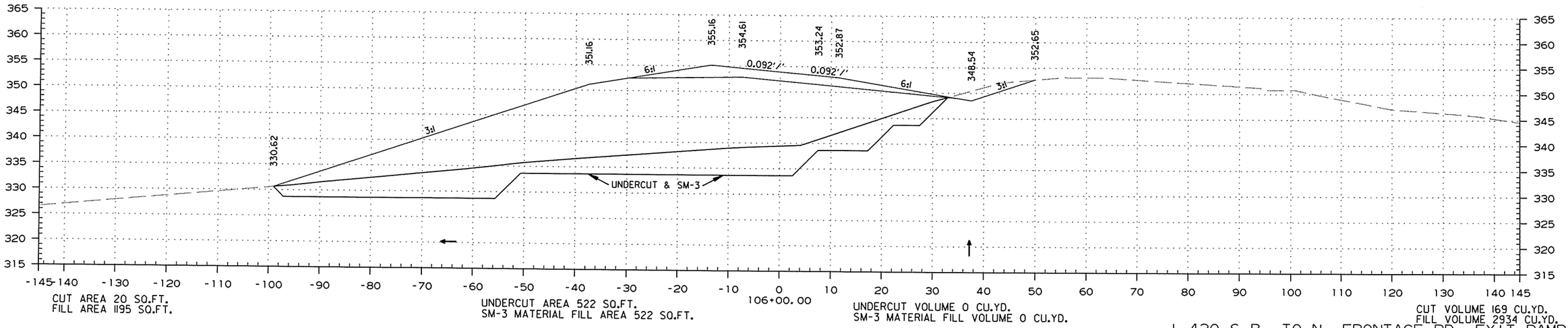
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	170	177

(2) CROSS SECTIONS





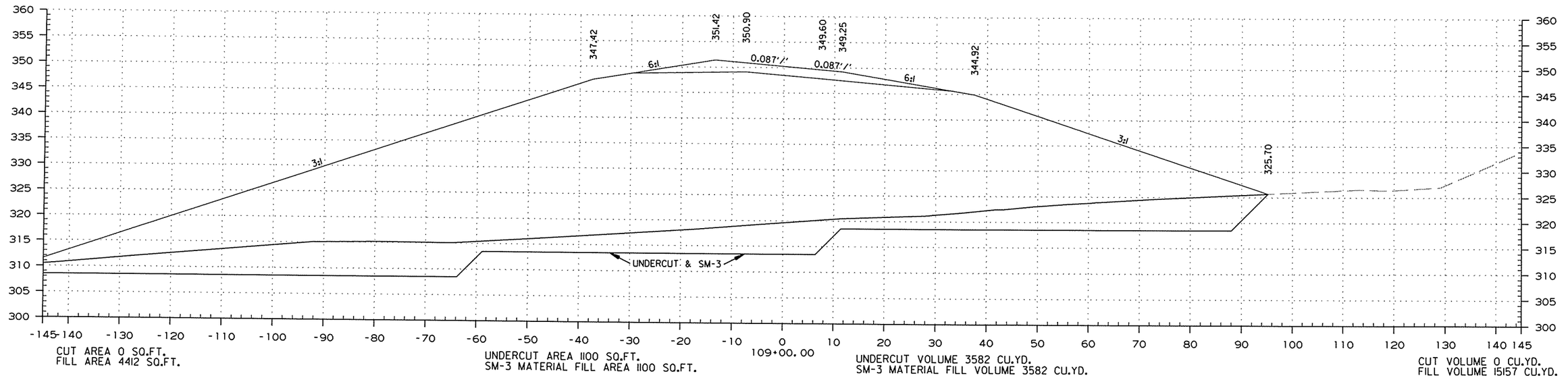
I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 106+00.00 TO STA. 107+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	171	177

(2) CROSS SECTIONS

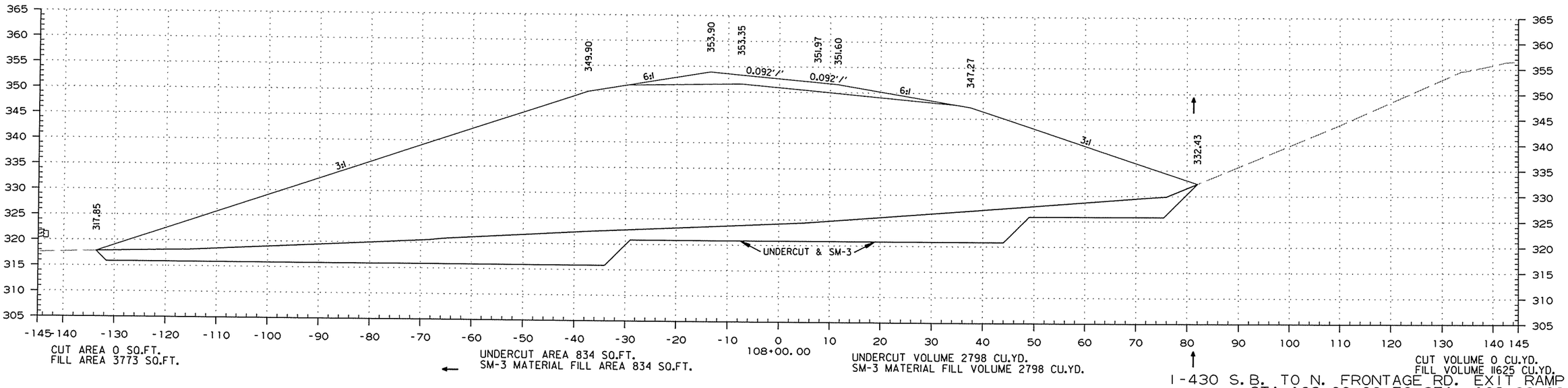


CUT AREA 0 SQ.FT.
FILL AREA 4412 SQ.FT.

UNDERCUT AREA 1100 SQ.FT.
SM-3 MATERIAL FILL AREA 1100 SQ.FT.

UNDERCUT VOLUME 3582 CU.YD.
SM-3 MATERIAL FILL VOLUME 3582 CU.YD.

CUT VOLUME 0 CU.YD.
FILL VOLUME 15157 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 3773 SQ.FT.

UNDERCUT AREA 834 SQ.FT.
SM-3 MATERIAL FILL AREA 834 SQ.FT.

UNDERCUT VOLUME 2798 CU.YD.
SM-3 MATERIAL FILL VOLUME 2798 CU.YD.

CUT VOLUME 0 CU.YD.
FILL VOLUME 11625 CU.YD.

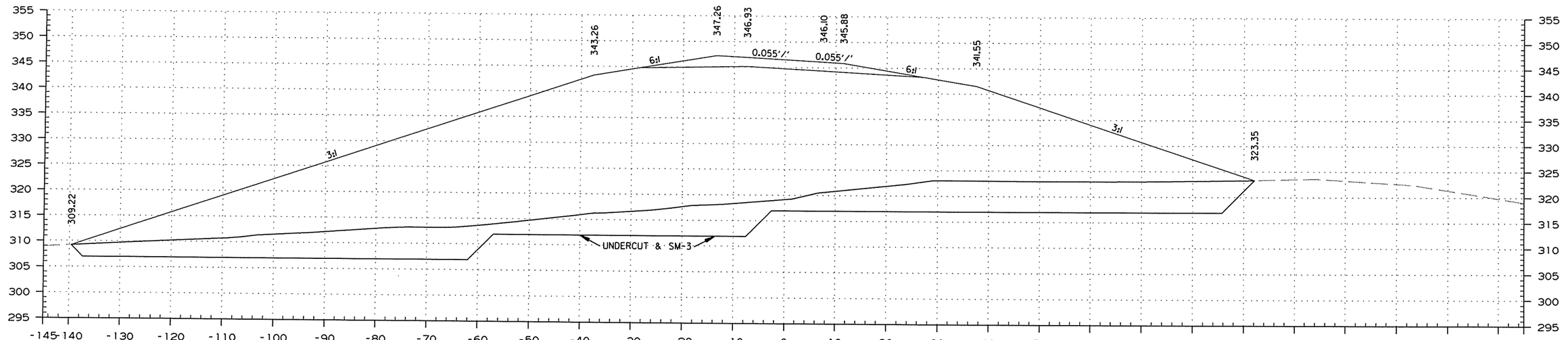
I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 108+00.00 TO STA. 109+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	172	177

(2) CROSS SECTIONS



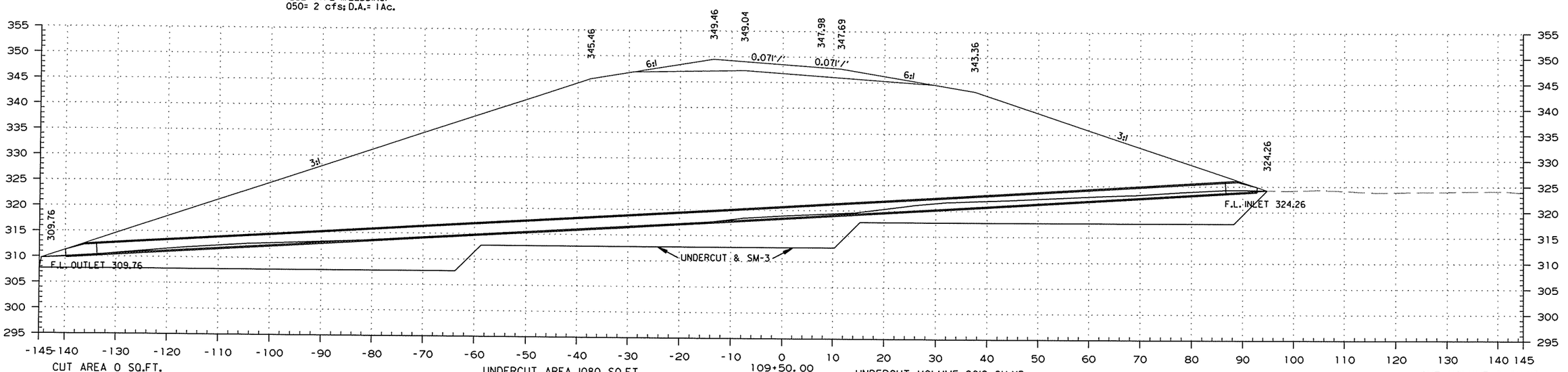
CUT AREA 0 SQ.FT.
FILL AREA 3779 SQ.FT.

STA. 109+50 - CONSTRUCT
24" X 222' R.C. PIPE CULV'T. (CL. V)
W/ F.E.S. LT. & RT.
(USE TYPE III BEDDING)
Q50= 2 cfs; D.A.= 1Ac.

UNDERCUT AREA 1110 SQ.FT.
SM-3 MATERIAL FILL AREA 1110 SQ.FT.

UNDERCUT VOLUME 2028 CU.YD.
SM-3 MATERIAL FILL VOLUME 2028 CU.YD.

CUT VOLUME 0 CU.YD.
FILL VOLUME 7397 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 4209 SQ.FT.

UNDERCUT AREA 1080 SQ.FT.
SM-3 MATERIAL FILL AREA 1080 SQ.FT.

UNDERCUT VOLUME 2019 CU.YD.
SM-3 MATERIAL FILL VOLUME 2019 CU.YD.

CUT VOLUME 0 CU.YD.
FILL VOLUME 7983 CU.YD.

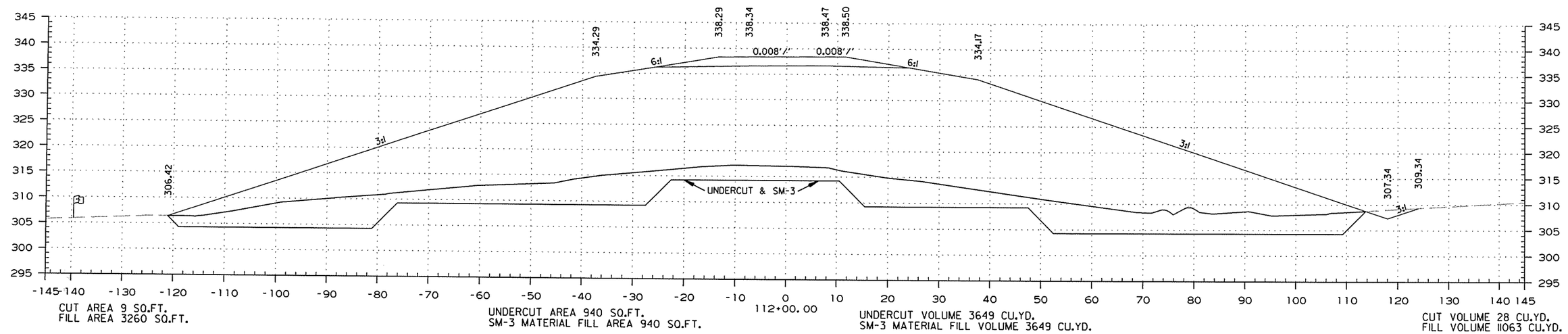
I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 109+50.00 TO STA. 110+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	173	177

(2) CROSS SECTIONS

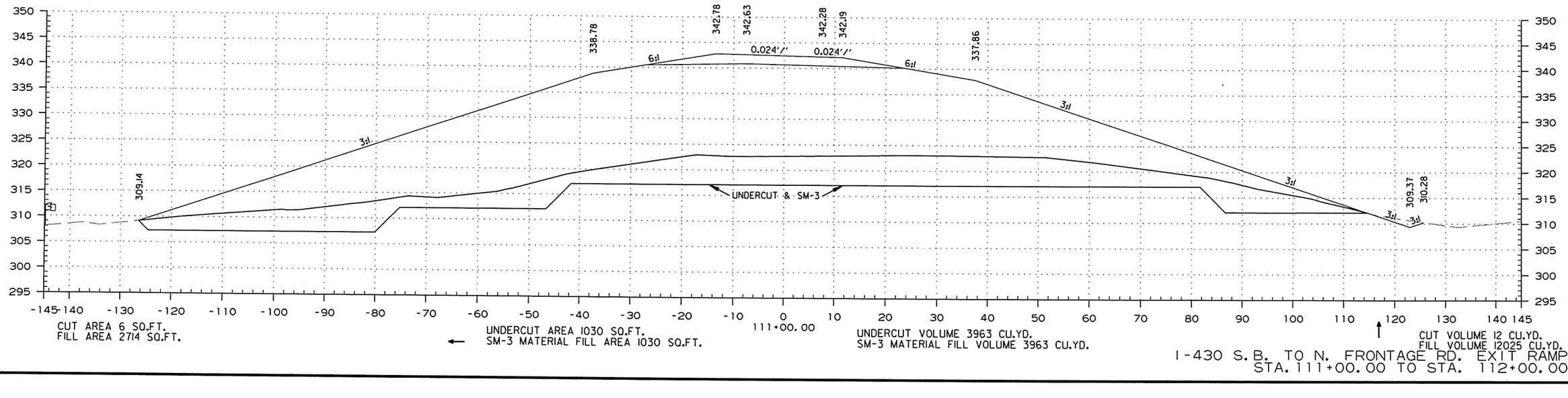


CUT AREA 9 SQ.FT.
FILL AREA 3260 SQ.FT.

UNDERCUT AREA 940 SQ.FT.
SM-3 MATERIAL FILL AREA 940 SQ.FT.

UNDERCUT VOLUME 3649 CU.YD.
SM-3 MATERIAL FILL VOLUME 3649 CU.YD.

CUT VOLUME 28 CU.YD.
FILL VOLUME 11063 CU.YD.



CUT AREA 6 SQ.FT.
FILL AREA 2714 SQ.FT.

UNDERCUT AREA 1030 SQ.FT.
SM-3 MATERIAL FILL AREA 1030 SQ.FT.

UNDERCUT VOLUME 3963 CU.YD.
SM-3 MATERIAL FILL VOLUME 3963 CU.YD.

CUT VOLUME 12 CU.YD.
FILL VOLUME 12025 CU.YD.

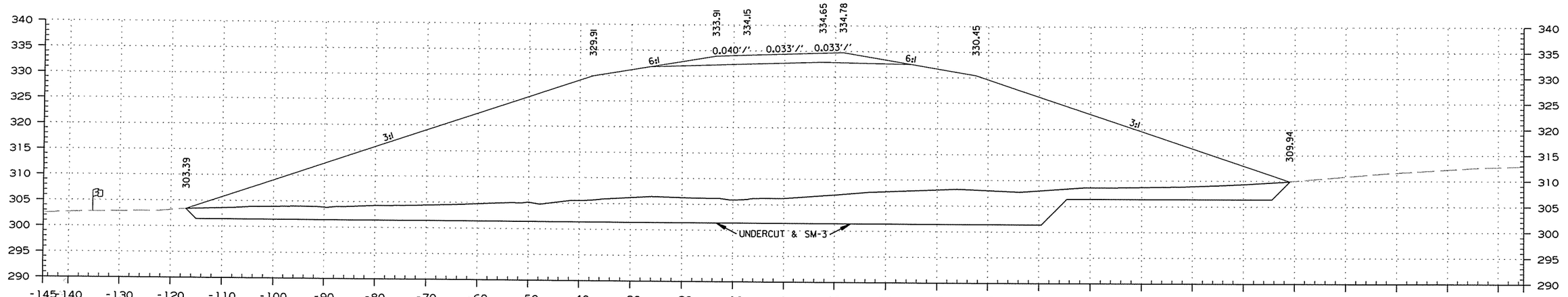
I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 111+00.00 TO STA. 112+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	174	177

(2) CROSS SECTIONS



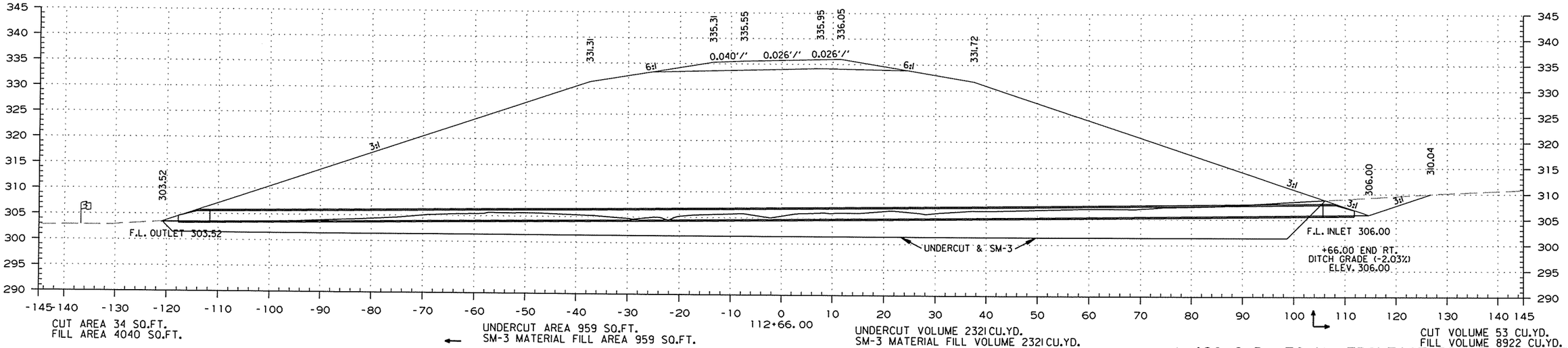
CUT AREA 0 SQ.FT.
FILL AREA 3575 SQ.FT.

STA. 112+66 - CONSTRUCT
24" X 218' R.C. PIPE CULV'T. (CL. V)
W/ F.E.S. LT. & RT.
(USE TYPE III BEDDING)
050= X cfs; D.A.= 5 Ac.

UNDERCUT AREA 856 SQ.FT.
SM-3 MATERIAL FILL AREA 856 SQ.FT.

UNDERCUT VOLUME 1143 CU.YD.
SM-3 MATERIAL FILL VOLUME 1143 CU.YD.

CUT VOLUME 22 CU.YD.
FILL VOLUME 4795 CU.YD.



CUT AREA 34 SQ.FT.
FILL AREA 4040 SQ.FT.

UNDERCUT AREA 959 SQ.FT.
SM-3 MATERIAL FILL AREA 959 SQ.FT.

UNDERCUT VOLUME 2321 CU.YD.
SM-3 MATERIAL FILL VOLUME 2321 CU.YD.

CUT VOLUME 53 CU.YD.
FILL VOLUME 8922 CU.YD.

I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 112+66.00 TO STA. 113+00.00

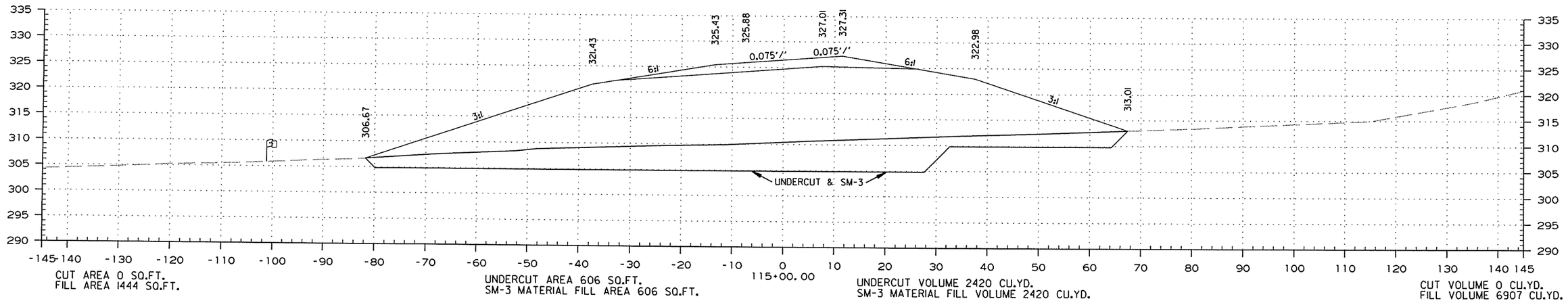
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	175	177

(2) CROSS SECTIONS

←

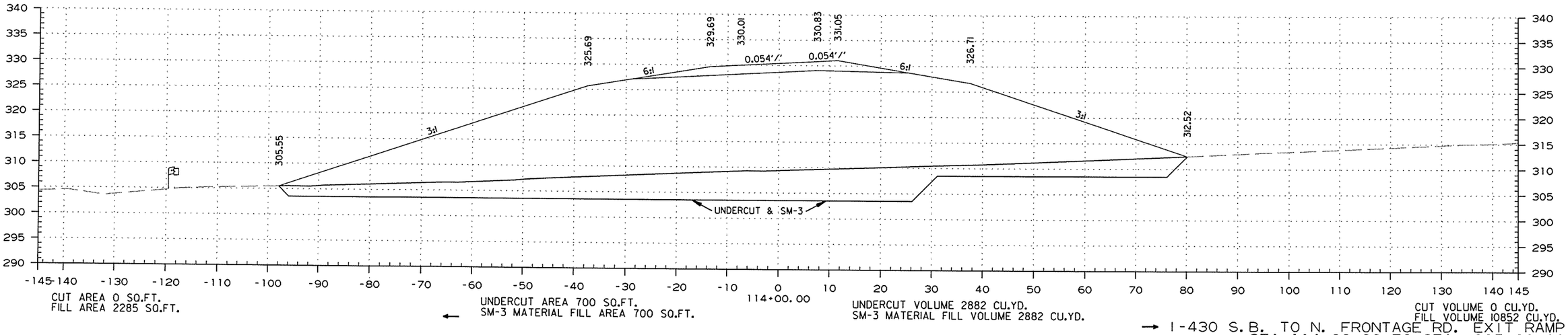


CUT AREA 0 SQ.FT.
FILL AREA 1444 SQ.FT.

UNDERCUT AREA 606 SQ.FT.
SM-3 MATERIAL FILL AREA 606 SQ.FT.

UNDERCUT VOLUME 2420 CU.YD.
SM-3 MATERIAL FILL VOLUME 2420 CU.YD.

CUT VOLUME 0 CU.YD.
FILL VOLUME 6907 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 2285 SQ.FT.

UNDERCUT AREA 700 SQ.FT.
SM-3 MATERIAL FILL AREA 700 SQ.FT.

UNDERCUT VOLUME 2882 CU.YD.
SM-3 MATERIAL FILL VOLUME 2882 CU.YD.

CUT VOLUME 0 CU.YD.
FILL VOLUME 10852 CU.YD.

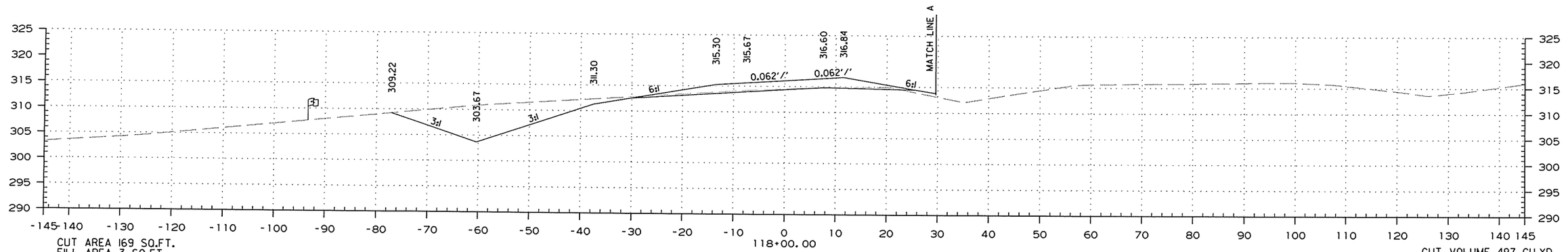
→ I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 114+00.00 TO STA. 115+00.00

6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-16-14				6	ARK.			
				JOB NO.		061332	176	177

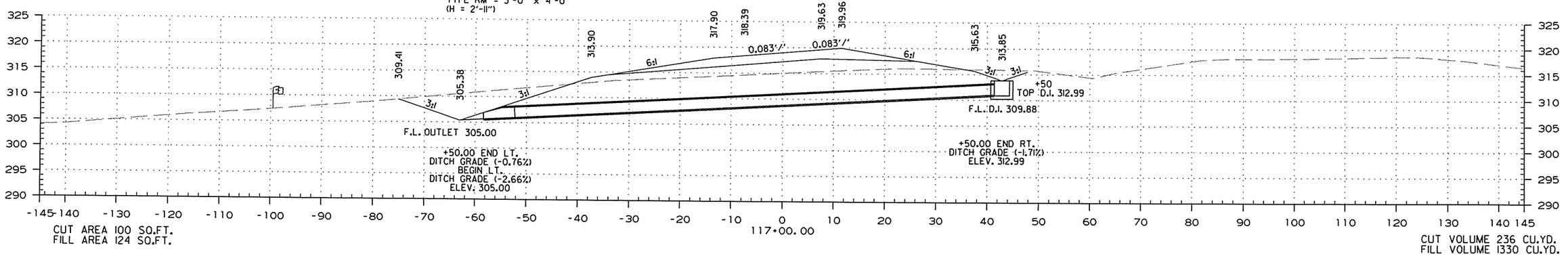
(2) CROSS SECTIONS



CUT AREA 169 SQ.FT.
FILL AREA 3 SQ.FT.

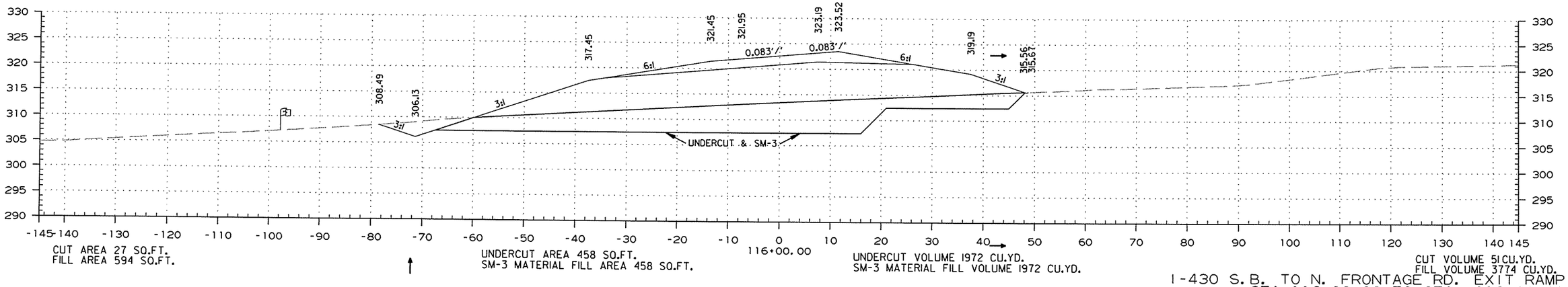
CUT VOLUME 497 CU.YD.
FILL VOLUME 236 CU.YD.

STA. 117+50 - CONSTRUCT
TYPE 'RM' DROP INLET ON RT.
W/ 24" X 94' R.C. PIPE OUTLET ON LT. (CL. III)
W/ F.E.S. LT. (USE TYPE III BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 2'-11")



CUT AREA 100 SQ.FT.
FILL AREA 124 SQ.FT.

CUT VOLUME 236 CU.YD.
FILL VOLUME 1330 CU.YD.



CUT AREA 27 SQ.FT.
FILL AREA 594 SQ.FT.

UNDERCUT AREA 458 SQ.FT.
SM-3 MATERIAL FILL AREA 458 SQ.FT.

UNDERCUT VOLUME 1972 CU.YD.
SM-3 MATERIAL FILL VOLUME 1972 CU.YD.

CUT VOLUME 51 CU.YD.
FILL VOLUME 3774 CU.YD.

I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 116+00.00 TO STA. 118+00.00

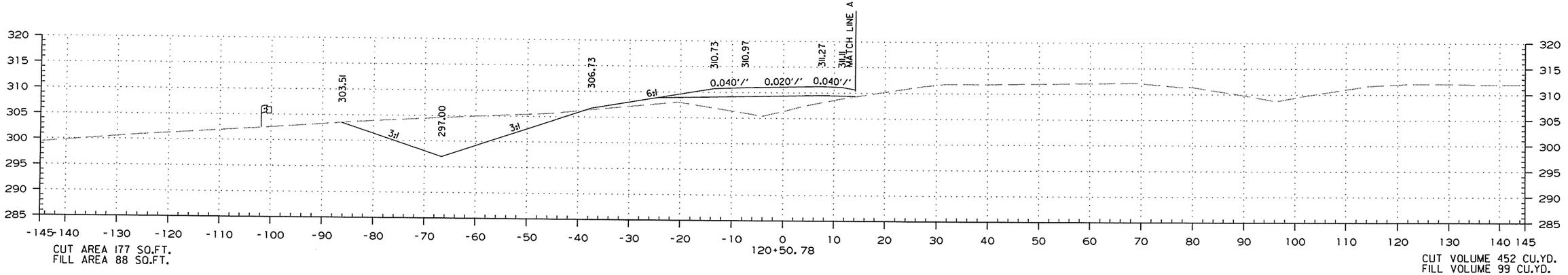
6/18/2014

R061332.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-16-14			

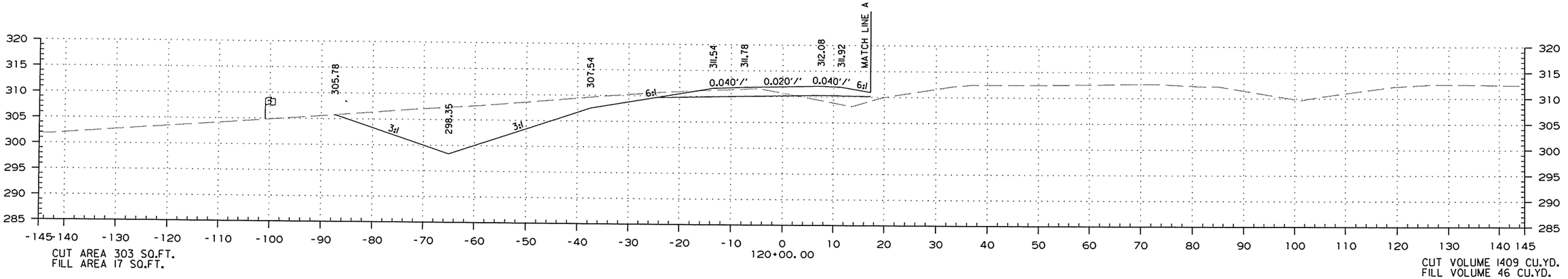
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061332	177	177

(2) CROSS SECTIONS



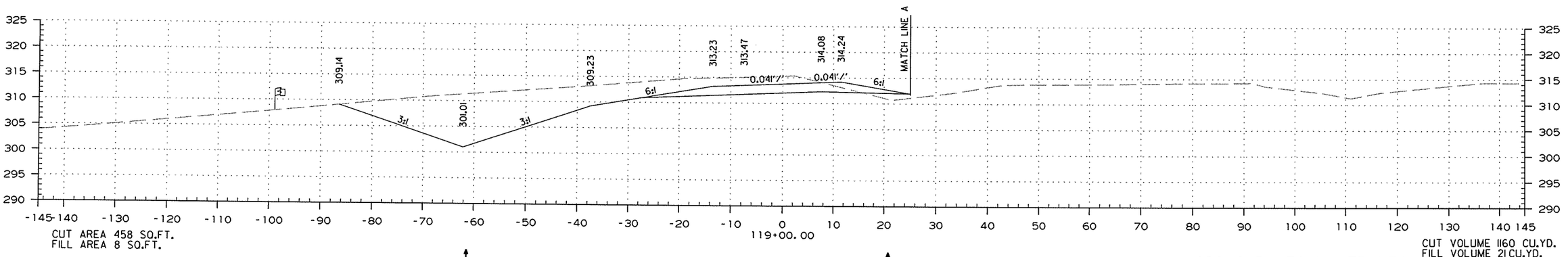
CUT AREA 177 SQ.FT.
FILL AREA 88 SQ.FT.

CUT VOLUME 452 CU.YD.
FILL VOLUME 99 CU.YD.



CUT AREA 303 SQ.FT.
FILL AREA 17 SQ.FT.

CUT VOLUME 1409 CU.YD.
FILL VOLUME 46 CU.YD.



CUT AREA 458 SQ.FT.
FILL AREA 8 SQ.FT.

CUT VOLUME 1160 CU.YD.
FILL VOLUME 21 CU.YD.

I-430 S.B. TO N. FRONTAGE RD. EXIT RAMP
STA. 119+00.00 TO STA. 120+50.78

6/18/2014

R061332.DGN