DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	1	255

(2) HWY. 71B-SHELL RD (HWY. 12) (BENTONVILLE) (S)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

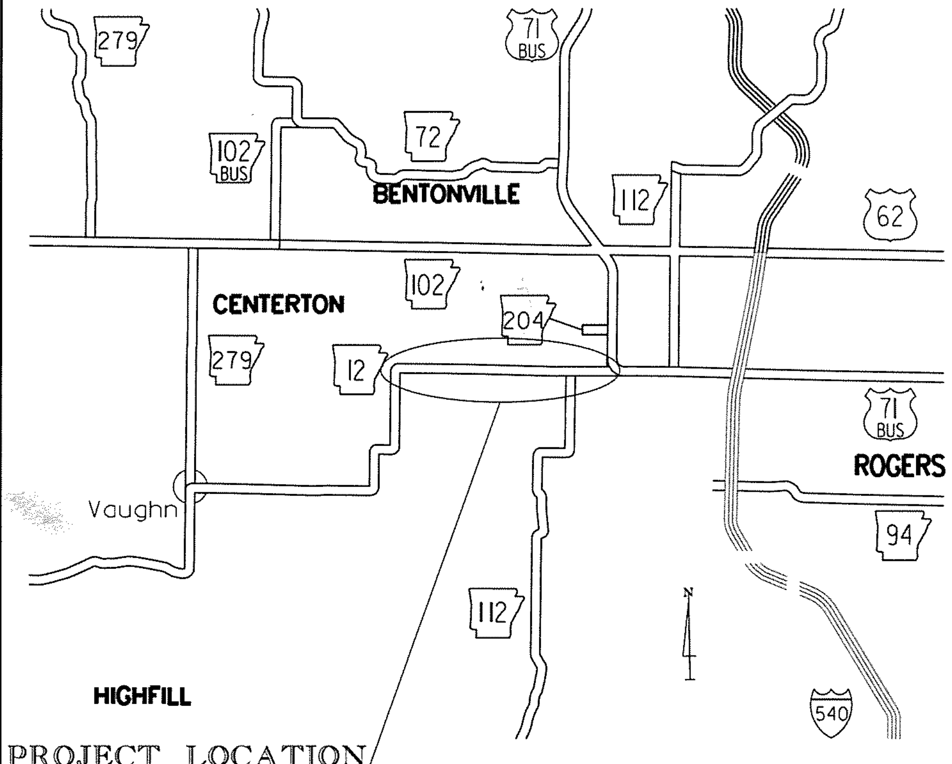
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE
DIGITALLY SIGNED: 5/12/2014

HWY. 71B - SHELL RD. (HWY. 12) (BENTONVILLE) (S)

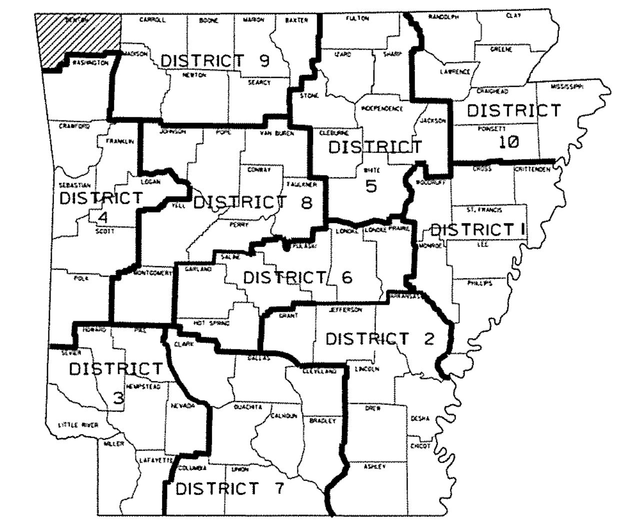
BENTON COUNTY

ROUTE 12 SECTION 2

JOB 090251



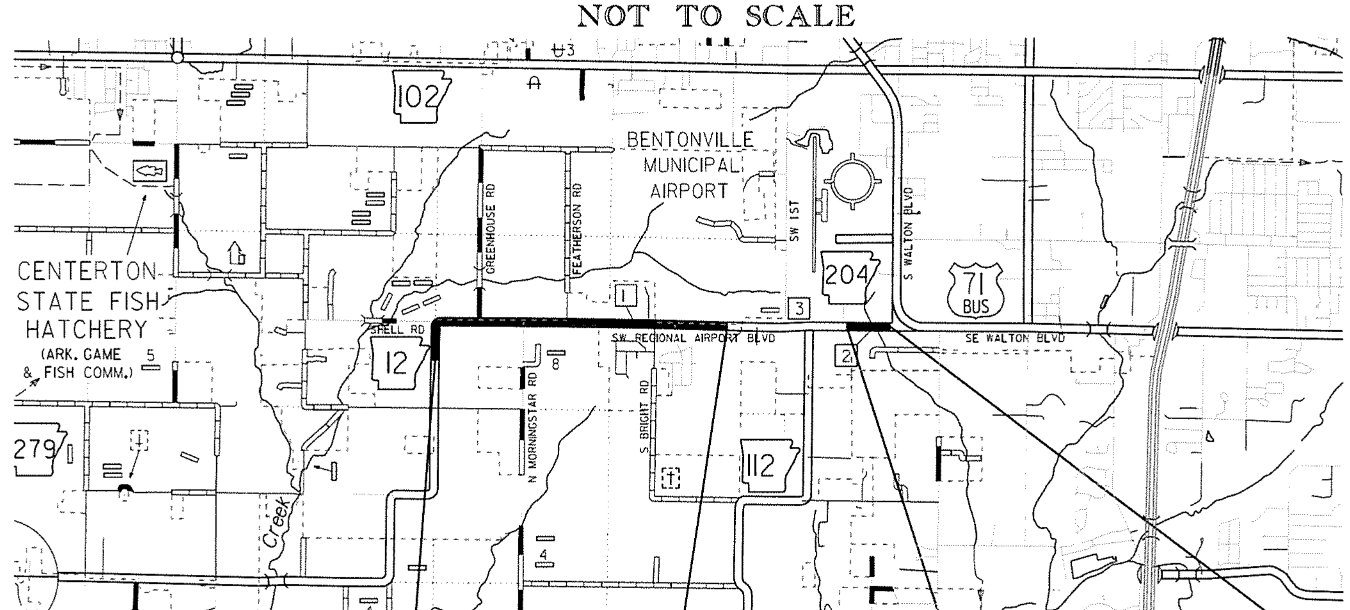
VICINITY MAP



ARKANSAS HIGHWAY DIST. 9

R31W | R30W

NOT TO SCALE



T20N
T19N

STRUCTURES OVER 20'-0" SPAN

[1] STA. 80+62 CONSTRUCT
TRIPLE 6' X 3' X 113' R.C. BOX CULVERT
30° RT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 511 CFS D.A. = 262 ACRES
SPAN = 23.48'

[2] STA. 154+03 CONSTRUCT
TRIPLE 7' X 4' X 108' R.C. BOX CULVERT
30° RT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 672 CFS D.A. = 235 ACRES
SPAN = 26.94'

EXCEPTIONS TO JOB 090251

[3] STA. 114+03.30 TO STA. 143+14.83 = 2911.53'
TOTAL = 2911.53'

· DESIGN TRAFFIC DATA ·

DESIGN YEAR ---------- 2034
2014 ADT ---------- 19,000
2034 ADT ---------- 27,000
2034 DHV ---------- 3,000
DIRECTIONAL DISTRIBUTION ---------- 50%
TRUCKS ---------- 4%
DESIGN SPEED ---------- 45 MPH

BEGIN JOB 090251
STA. 16+95.28
L.M. 17.92

STA. 114+03.30
BEGIN EXCEPTION

NOT IN CONTRACT

STA. 143+14.83
END EXCEPTION

END JOB 090251
STA. 159+96.51

P.E. JOB 090251
NON-PART.

BEGIN JOB
LATITUDE N 36°20'04"
LONGITUDE W 94°15'31"

END JOB
LATITUDE N 36°20'08"
LONGITUDE W 94°12'41"

MID POINT OF PROJECT
LATITUDE N 36°20'10"
LONGITUDE W 94°14'18"

	JOB 090251			
GROSS LENGTH OF PROJECT	14301.23	FEET	2.709	MILES
NET LENGTH OF ROADWAY	11339.28	FEET	2.148	MILES
NET LENGTH OF BRIDGES	50.42	FEET	0.009	MILES
NET LENGTH OF PROJECT	11389.70	FEET	2.157	MILES

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REVISED DATE:

SHEET NO.	TITLE	DRAWING NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS AND GOVERNING SPECIFICATIONS		
3	GENERAL NOTES		
4-19	TYPICAL SECTIONS OF IMPROVEMENT		
20-22	SPECIAL DETAILS		
23-26	ARCH PIPE CULVERT HEADWALL DETAILS		
27-47	TEMPORARY EROSION CONTROL DETAILS		
48-70	MAINTENANCE OF TRAFFIC DETAILS		
71-77	PERMANENT PAVEMENT MARKINGS		
78	SOIL LOG		
79-83	QUANTITIES		
84	SUMMARY OF QUANTITIES AND REVISIONS		
85-92	SURVEY CONTROL DETAILS		
93-105	PLAN AND PROFILE SHEETS		
106	PLAN AND PROFILE SHELL ROAD		
107	PLAN AND PROFILE CORNERSTONE ROAD/GREENHOUSE ROAD		
108	PLAN AND PROFILE STONEFIELD STREET/MORNINGSTAR ROAD		
109	PLAN AND PROFILE FEATHERSTON ROAD/BRIGHT ROAD		
110	PLAN AND PROFILE MAPLE ROAD/BANBURY DRIVE		
111	PLAN AND PROFILE SUNBROOKE STREET/F STREET		
112	PLAN AND PROFILE CROCKETT STREET/WINSTED LANE		
113	TRAFFIC SIGNAL NOTES AND SUMMARY OF TRAFFIC SIGNAL QUANTITIES		
114-116	SIGNALIZATION PLANS (HWY. 12 AT CORNERSTONE RD./GREENHOUSE RD.)		
117-119	SIGNALIZATION PLANS (HWY. 12 AT BRIGHT RD.)		
120	CONCRETE DITCH PAVING	CDP-1	11/17/10
121	CURBING DETAILS	CG-1	11/29/07
122	DETAILS OF DRIVEWAYS & ISLANDS	DR-1	2/27/14
123	FLARED END SECTION	FES-1	10/18/96
124	FLARED END SECTION	FES-2	10/18/96
125	DETAILS OF DROP INLETS & JUNCTION BOXES	FPC-9	11/16/01
126	DETAILS OF DROP INLETS (TYPE C)	FPC-9E	8/22/02
127	DETAILS OF DROP INLETS (TYPE MO)	FPC-9M	8/22/02
128	MAILBOX DETAILS	MB-1	11/18/04
129	PRECAST CONCRETE BOX CULVERTS	PBC-1	12/15/11
130	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	2/27/14
131	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	2/27/14
132	PAVEMENT MARKING DETAILS	PM-1	9/12/13
133	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	7/26/12
134	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	RCB-2	11/20/03
135	LOOP DETECTOR INSTALLATION	SD-4	9/12/13
136	CONTROLLER CABINET UTILITY DRAWER	SD-5	9/12/13
137	HEAVY DUTY PULL BOX	SD-6	9/12/13
138	SIGNAL HEAD PLACEMENT	SD-8	9/12/13
139	SERVICE POINT	SD-9	9/12/13
140	STEEL POLE WITH MAST ARM	SD-11	2/27/14
141	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10/18/96
142	STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES	SHS-1	9/12/13
143	U-CHANNEL POST ASSEMBLIES	SHS-2	2/27/14
144	DETAILS OF SPECIAL ITEMS	SI-1	9/12/13
145	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	12/15/11
146	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	9/12/13
147	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10/15/09
148	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER	TC-4	2/27/14
149	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER	TC-5	10/15/09
150	TEMPORARY EROSION CONTROL DEVICES	TEC-1	12/15/11
151	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6/02/94
152	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11/03/94
153	TEMPORARY EROSION CONTROL DEVICES	TEC-4	7/26/12
154	WIRE FENCE WATER GAPS	WF-2	4/20/79
155	CHAIN LINK FENCE	WF-3	11/17/10
156	WIRE FENCE TYPE C AND D	WF-4	8/22/02
157	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	WR-1	11/10/05
158	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X003-1	5/10/66
159	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERT (30 DEGREE SKEW)	W-X30	7/15/63
160	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS (30° SKEW)	W-X303-1	5/10/66
161	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-200X-0	2/15/63
162	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS (30° SKEW)	R-330X-01	2/27/64
163-255	CROSS SECTIONS		

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

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
108-1	LIQUIDATED DAMAGES
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
620-1	MULCH COVER
JOB 090251	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 090251	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 090251	CABINET DRAWER ASSEMBLY
JOB 090251	COMPACTED EMBANKMENT
JOB 090251	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 090251	EDGE CARD VIDEO PROCESSOR
JOB 090251	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 090251	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 090251	EMERGENCY BATTERY BACKUP SYSTEM INSTALLATION
JOB 090251	EXTENSION FOR PIPE CULVERTS
JOB 090251	GPS PREEMPTION SYSTEM
JOB 090251	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 090251	LED TRAFFIC SIGNAL HEAD
JOB 090251	LUMINAIRE ASSEMBLY (CUTOFF TYPE)
JOB 090251	MANDATORY USE OF INTERNET BIDDING
JOB 090251	PARTNERING REQUIREMENTS
JOB 090251	PEDESTRIAN PUSH BUTTON
JOB 090251	PLASTIC PIPE
JOB 090251	PRECAST REINFORCED CONCRETE BOX CULVERTS
JOB 090251	PROSECUTION AND PROGRESS
JOB 090251	SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
JOB 090251	SITE USE (A+C METHOD)
JOB 090251	SOIL STABILIZATION
JOB 090251	STORM WATER POLLUTION PREVENTION PLAN
JOB 090251	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 090251	SUBMISSION OF CONTRACTOR MATERIALS TEST RESULTS
JOB 090251	SURVEY MONUMENT PROTECTION
JOB 090251	SYSTEM LOCAL CONTROLLER (FIBER)
JOB 090251	TRAFFIC CABINET COMMUNICATIONS
JOB 090251	UTILITY ADJUSTMENTS
JOB 090251	VALUE ENGINEERING
JOB 090251	VIDEO DETECTOR (COLOR)
JOB 090251	VIDEO MONITOR (COLOR)
JOB 090251	WARM MIX ASPHALT
JOB 090251	WIC FIBER ENCLOSURE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE

DIGITALLY SIGNED:
5/12/2014

GENERAL NOTES

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

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

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

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

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

6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.

7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED, INCLUDING ASPHALTIC CURB, SHALL BE PAID FOR UNDER ITEM NO. 210-UNCLASSIFIED EXCAVATION.

8. ALL DIMENSIONS ARE TO THE BACK OF CURB UNLESS OTHERWISE NOTED.

9. THIS PROJECT IS PERMITTED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014 FOR PERMIT REQUIREMENTS.

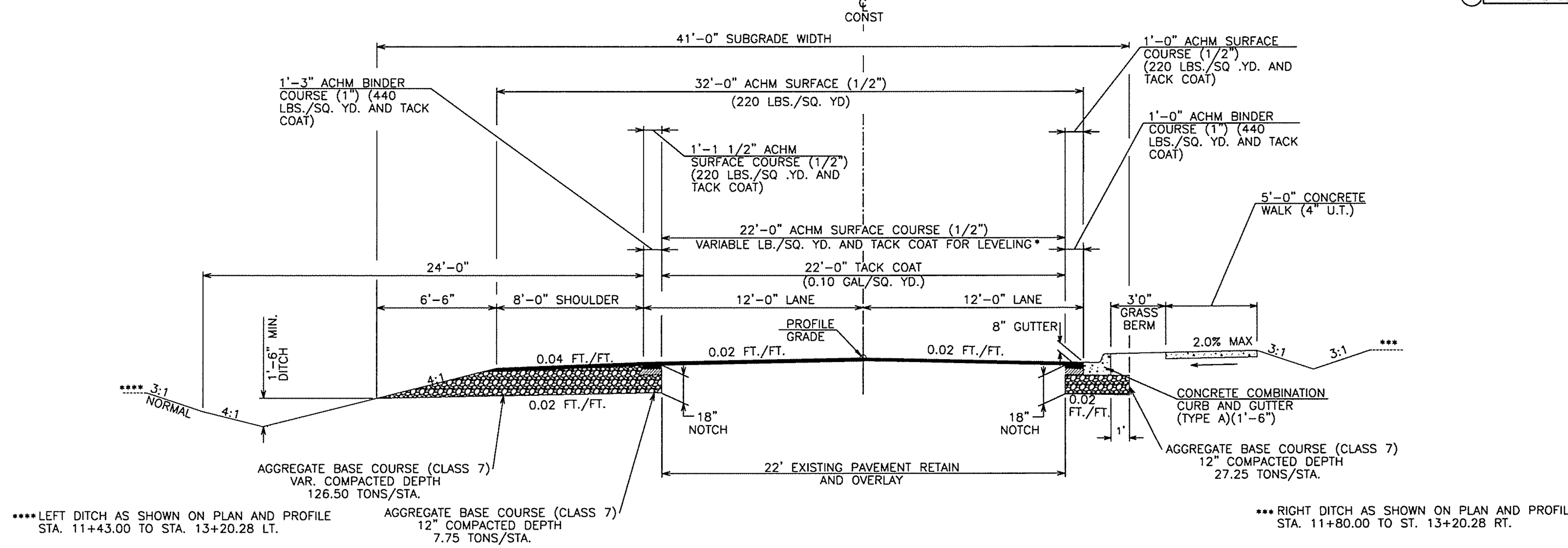
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	4	255

(2) TYPICAL SECTION OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE FINAL 2 INCHES OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT THE LANE LINES.
3. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHODS USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
4. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.
5. THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
6. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.
7. 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 TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.



2-LANE OPEN SHOULDER - CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

STA. 11+43.00 TO STA. 13+20.28

* IF AND WHERE DIRECTED BY ENGINEER

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013

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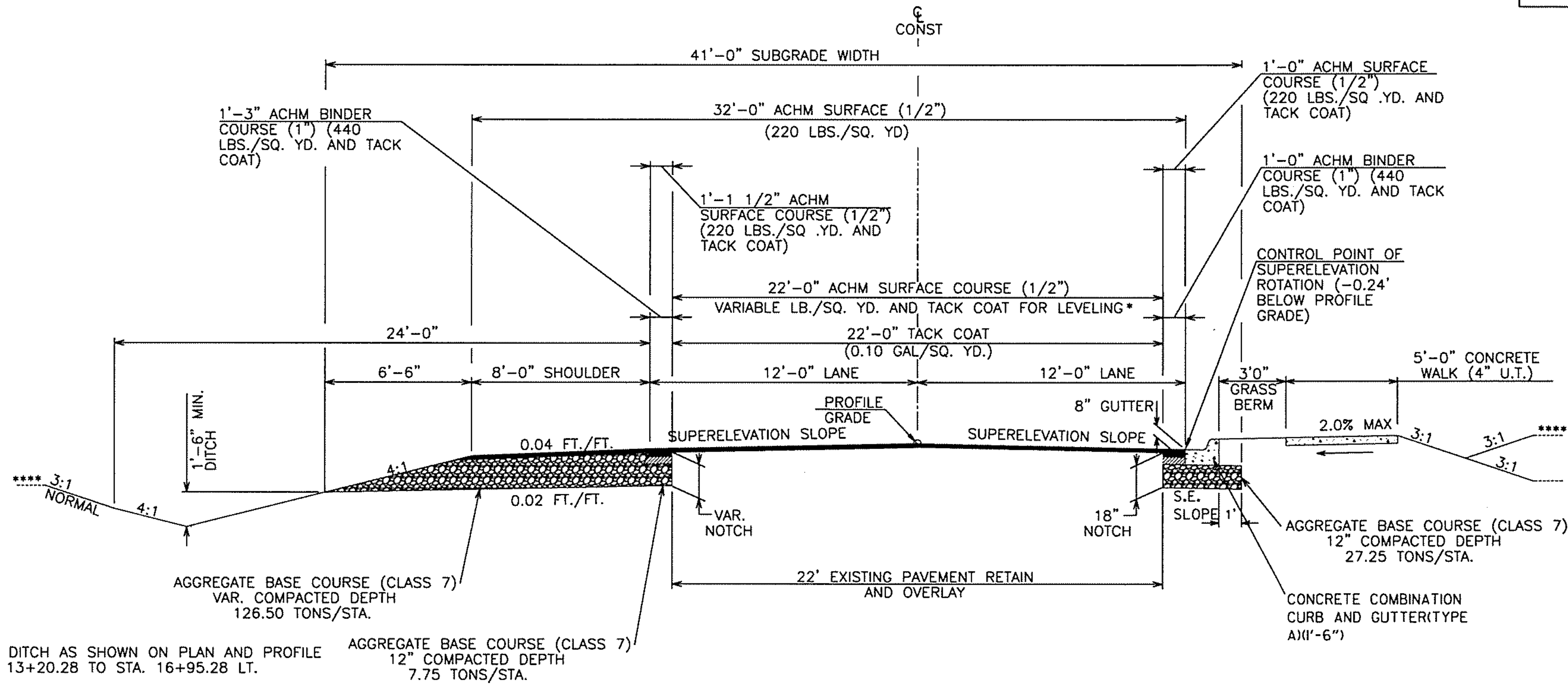
TRANSITION LEFT TURN LANE FROM 0' AT STA. 13+95.28 TO 12' AT STA. 16+95.28

TRANSITION TAPER LANE FROM 0' AT STA. 15+70.28 TO 11' AT STA. 16+95.28

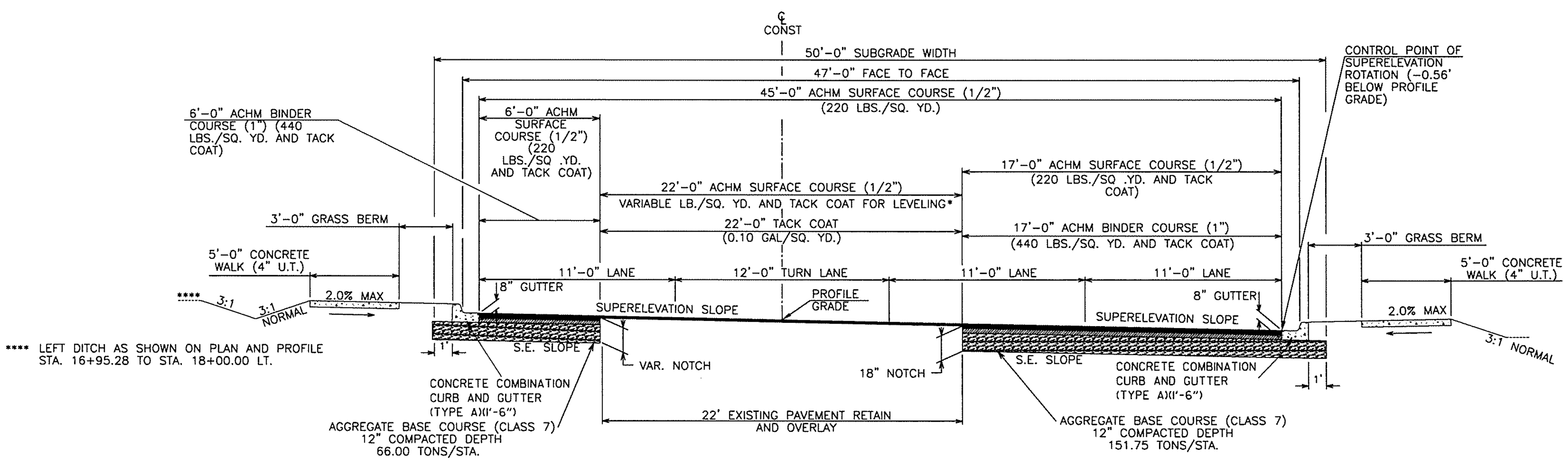


**** RIGHT DITCH AS SHOWN ON PLAN AND PROFILE STA. 13+20.28 TO STA. 14+26.71 RT.

2 OR 3-LANE OPEN SHOULDER - CURB AND GUTTER SECTION
SUPERELEVATION SECTION
NOTCH, WIDEN, AND OVERLAY

STA. 13+20.28 TO STA. 16+95.28

* IF AND WHERE DIRECTED BY ENGINEER



**** LEFT DITCH AS SHOWN ON PLAN AND PROFILE STA. 16+95.28 TO STA. 18+00.00 LT.

3-LANE WITH LEFT - TURN LANE CURB AND GUTTER SECTION
SUPERELEVATION SECTION
NOTCH, WIDEN, AND OVERLAY

STA. 16+95.28 TO STA. 18+80.00

* IF AND WHERE DIRECTED BY ENGINEER

TYPICAL SECTIONS OF IMPROVEMENT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
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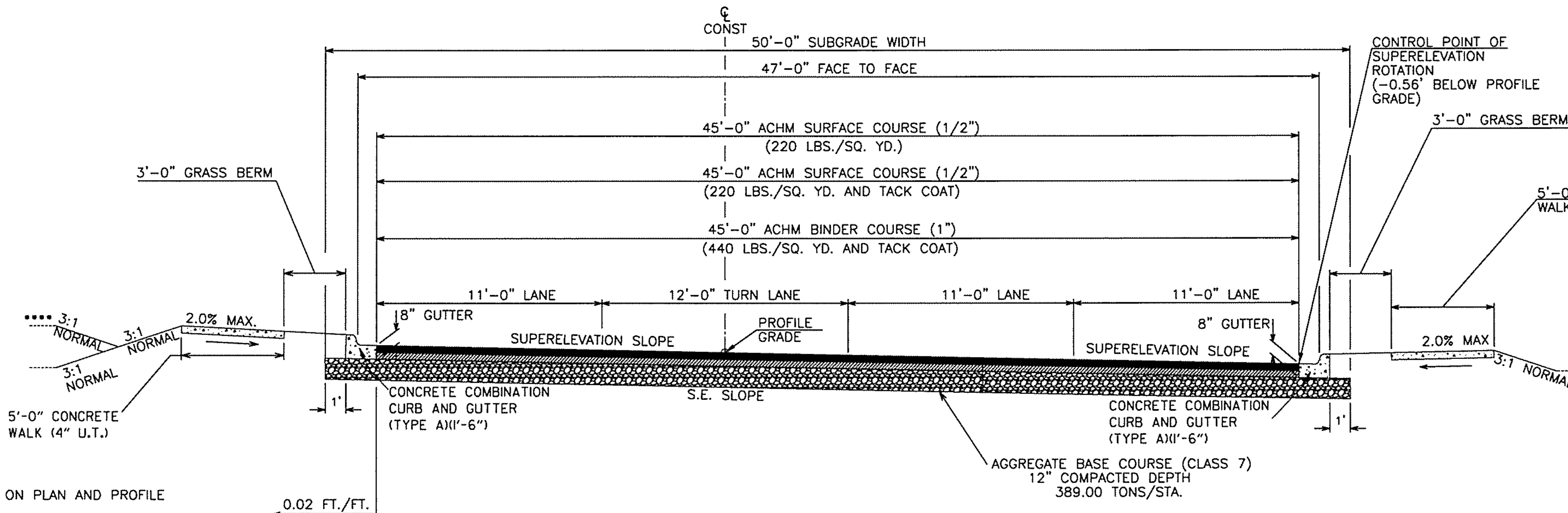
**** LEFT DITCH AS SHOWN ON PLAN AND PROFILE

STA. 18+00.00 TO STA. 18+24.46 LT.
STA. 20+40.00 TO STA. 22+08.08 LT.

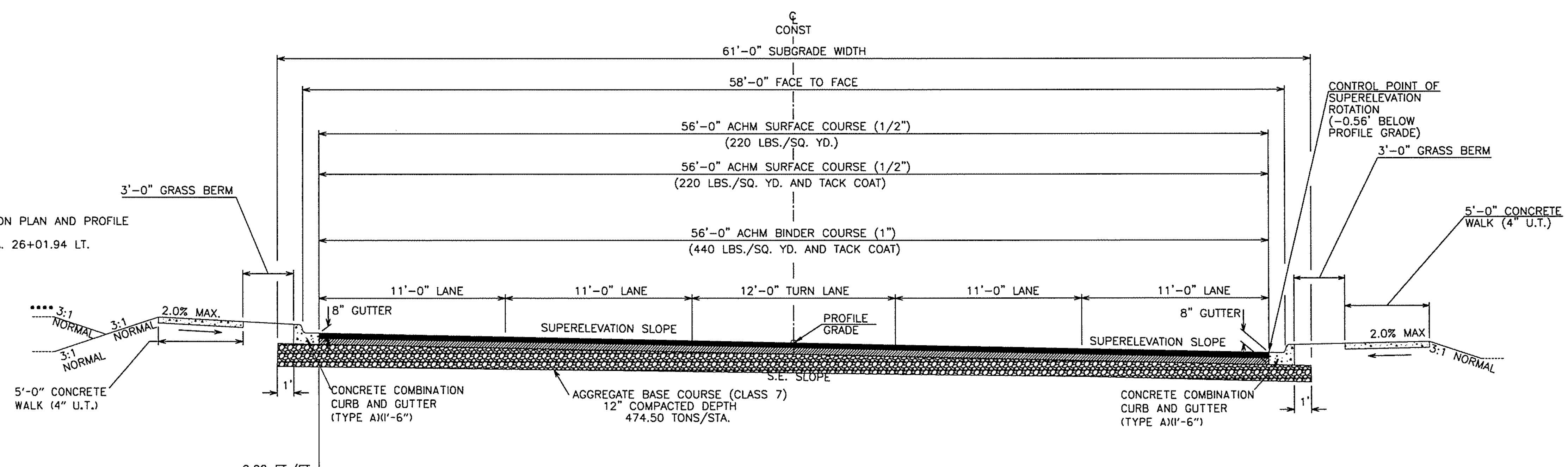


3-LANE WITH LEFT-TURN LANE - CURB AND GUTTER SECTION
SUPERELEVATION SECTION
FULL DEPTH

STA. 18+80.00 TO STA. 22+69.80

**** LEFT DITCH AS SHOWN ON PLAN AND PROFILE

STA. 23+30.74 TO STA. 26+01.94 LT.



5-LANE - CURB AND GUTTER SECTION
SUPERELEVATION SECTION
FULL DEPTH

STA. 22+69.80 TO STA. 26+50.00

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				6	ARK.			
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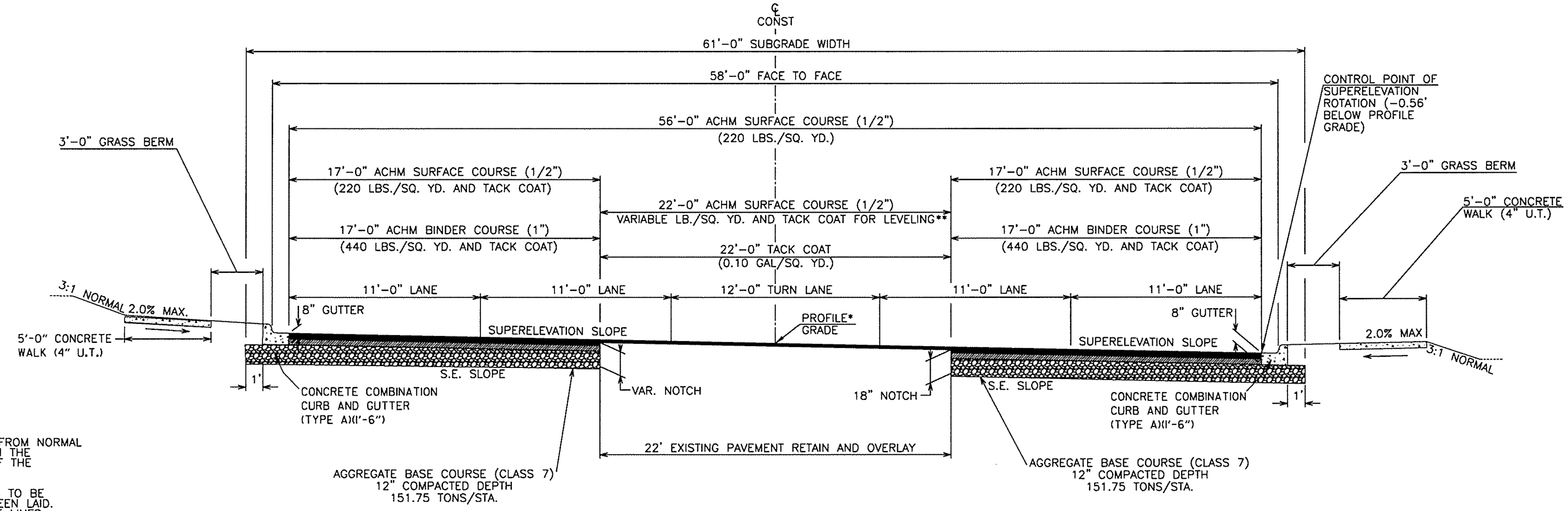
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



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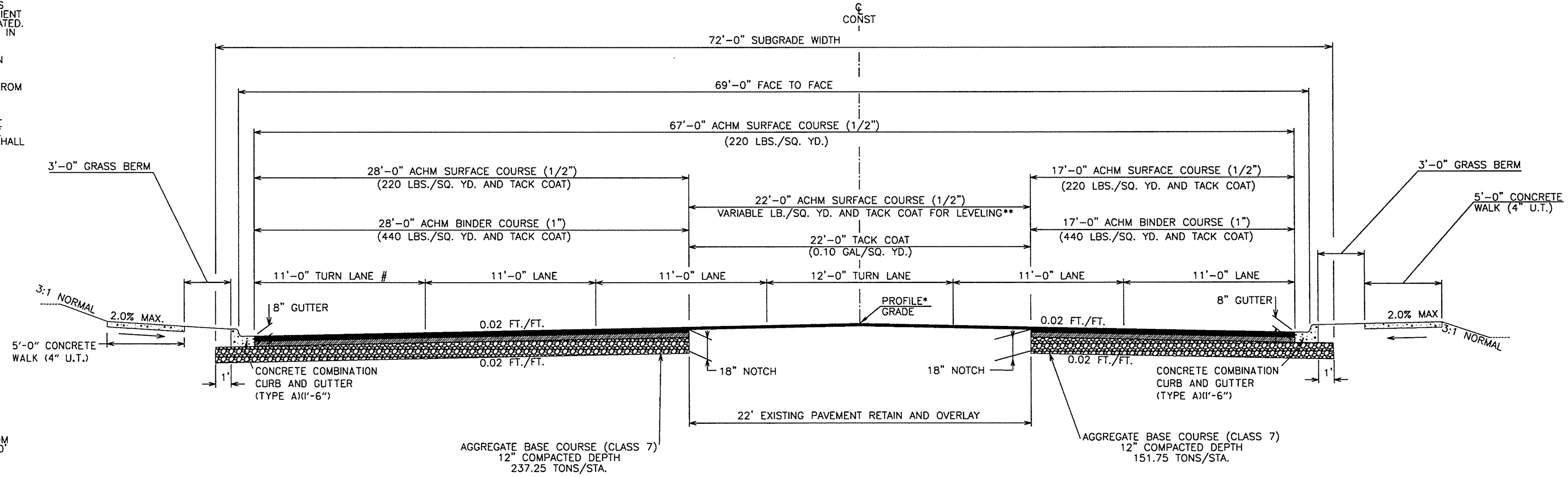
5-LANE - CURB AND GUTTER SECTION
SUPERELEVATION SECTION
NOTCH, WIDEN, AND OVERLAY
STA. 26+50.00 TO STA. 31+96.90

** IF AND WHERE DIRECTED BY ENGINEER

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.



TRANSITION TURN LANE FROM 11' AT STA. 37+00.00 TO 0' AT STA. 38+50.00

5-LANE RIGHT-TURN LANE - CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY
STA. 34+35.75 TO STA. 38+50.00

** IF AND WHERE DIRECTED BY ENGINEER

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TYPICAL SECTIONS OF IMPROVEMENT

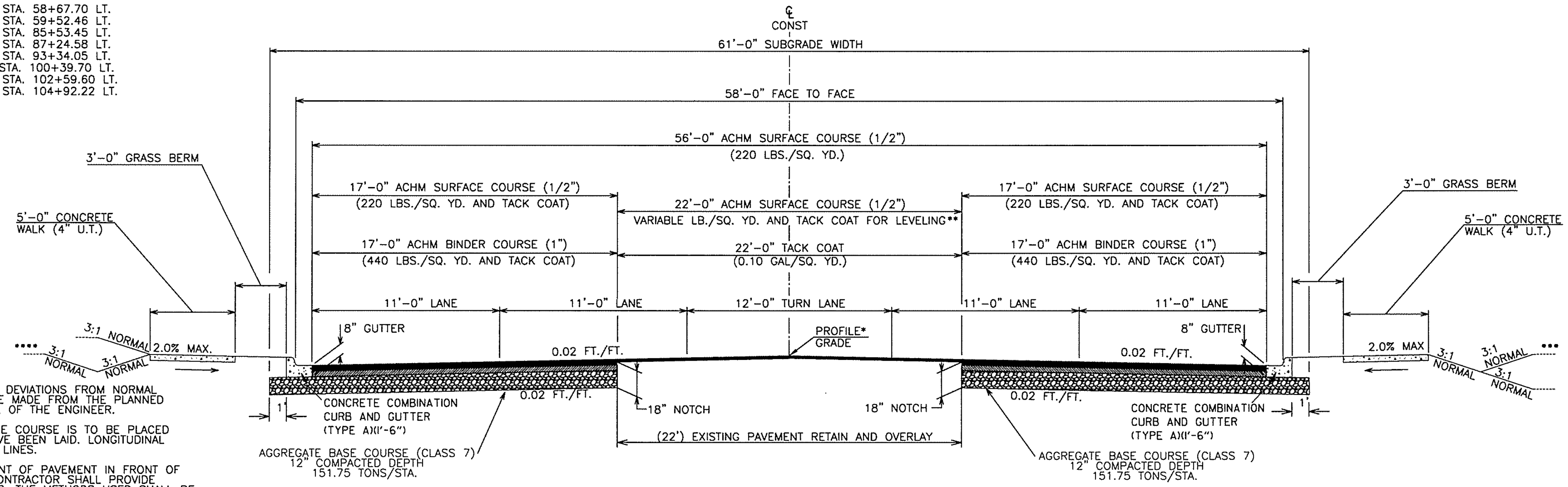
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	8	255

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

**** LEFT DITCH AS SHOWN ON PLAN AND PROFILE

STA. 57+00.00 TO STA. 58+67.70 LT.
STA. 59+11.60 TO STA. 59+52.46 LT.
STA. 83+76.30 TO STA. 85+53.45 LT.
STA. 86+00.00 TO STA. 87+24.58 LT.
STA. 87+61.42 TO STA. 93+34.05 LT.
STA. 95+20.00 TO STA. 100+39.70 LT.
STA. 101+00.00 TO STA. 102+59.60 LT.
STA. 103+06.95 TO STA. 104+92.22 LT.



*VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

*** RIGHT DITCH AS SHOWN ON PLAN AND PROFILE

STA. 39+40.00 TO STA. 40+59.62 RT.
STA. 40+92.60 TO STA. 41+90.00 RT.
STA. 49+05.08 TO STA. 60+36.26 RT.
STA. 60+80.00 TO STA. 65+97.08 RT.
STA. 74+32.08 TO STA. 76+21.76 RT.
STA. 77+00.00 TO STA. 80+96.21 RT.
STA. 111+15.00 TO STA. 113+94.01 RT.

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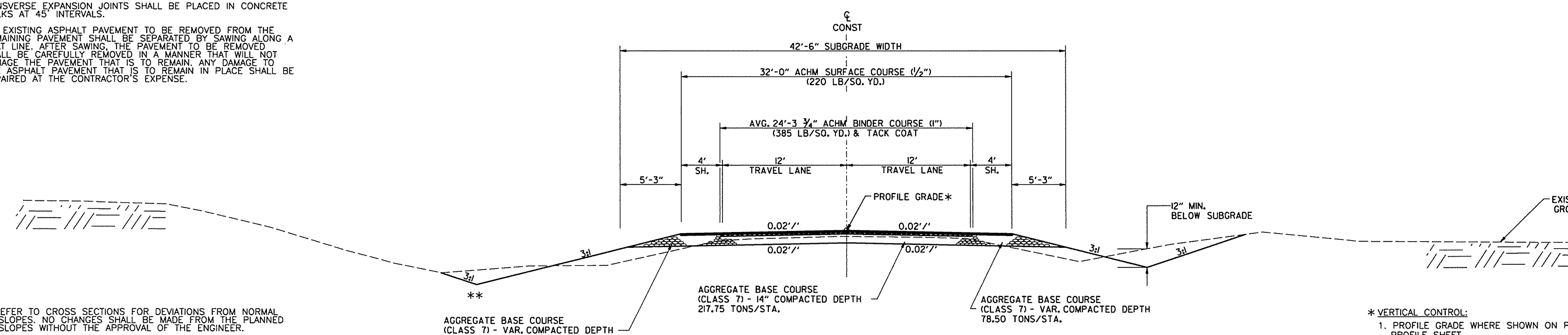
5-LANE - CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

**IF AND WHERE DIRECTED BY ENGINEER

STA. 31+96.90 TO STA. 34+35.75
STA. 38+50.00 TO STA. 114+03.30
STA. 143+14.83 TO STA. 159+96.51



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TYPICAL DETOUR SECTION

STA. 11+76.20 TO STA. 16+66.75
STA. 12+85.25 TO STA. 17+52.21

*VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEET.

** SEE CROSS SECTIONS FOR MORE DETAIL.

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REVISED DATE:

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

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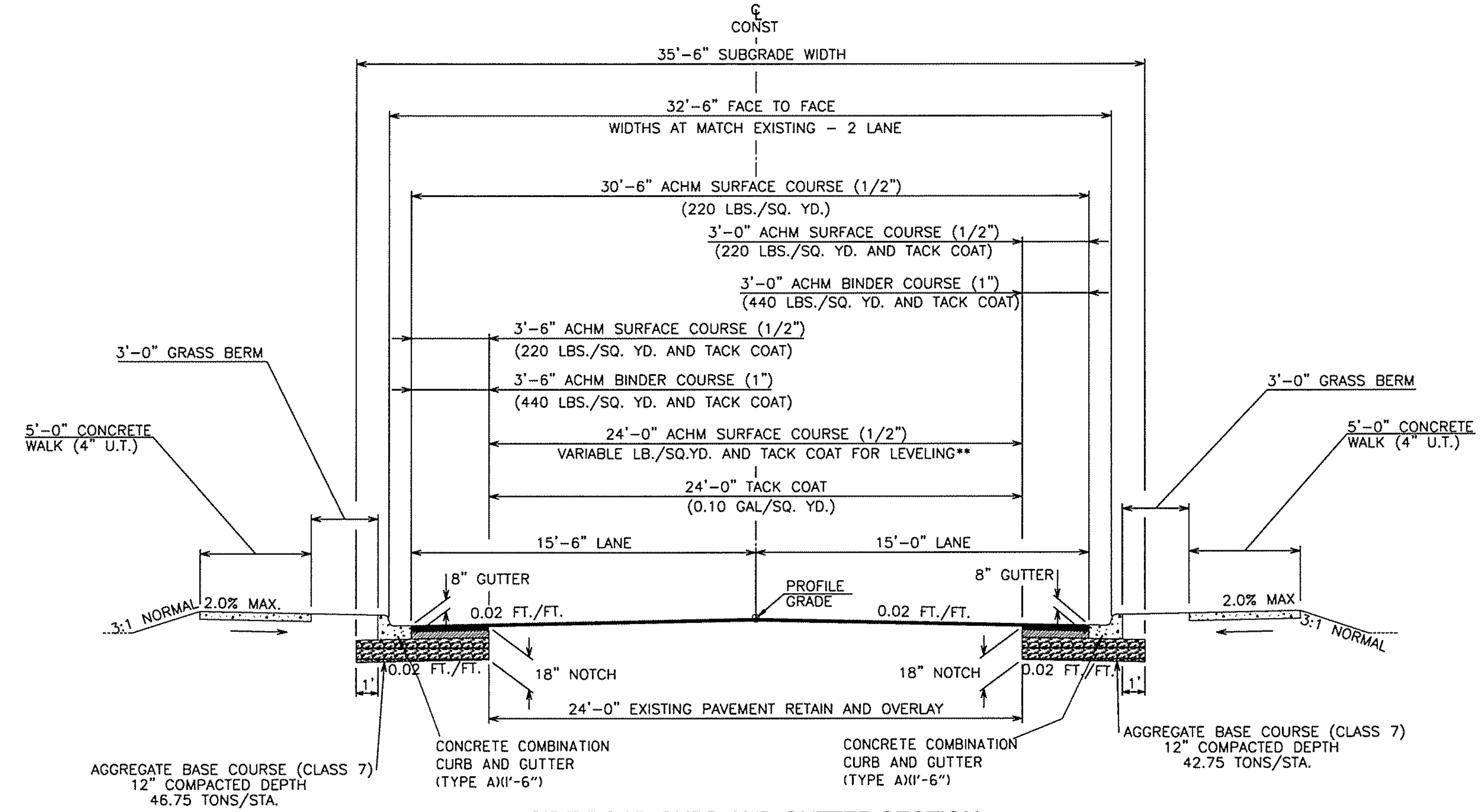
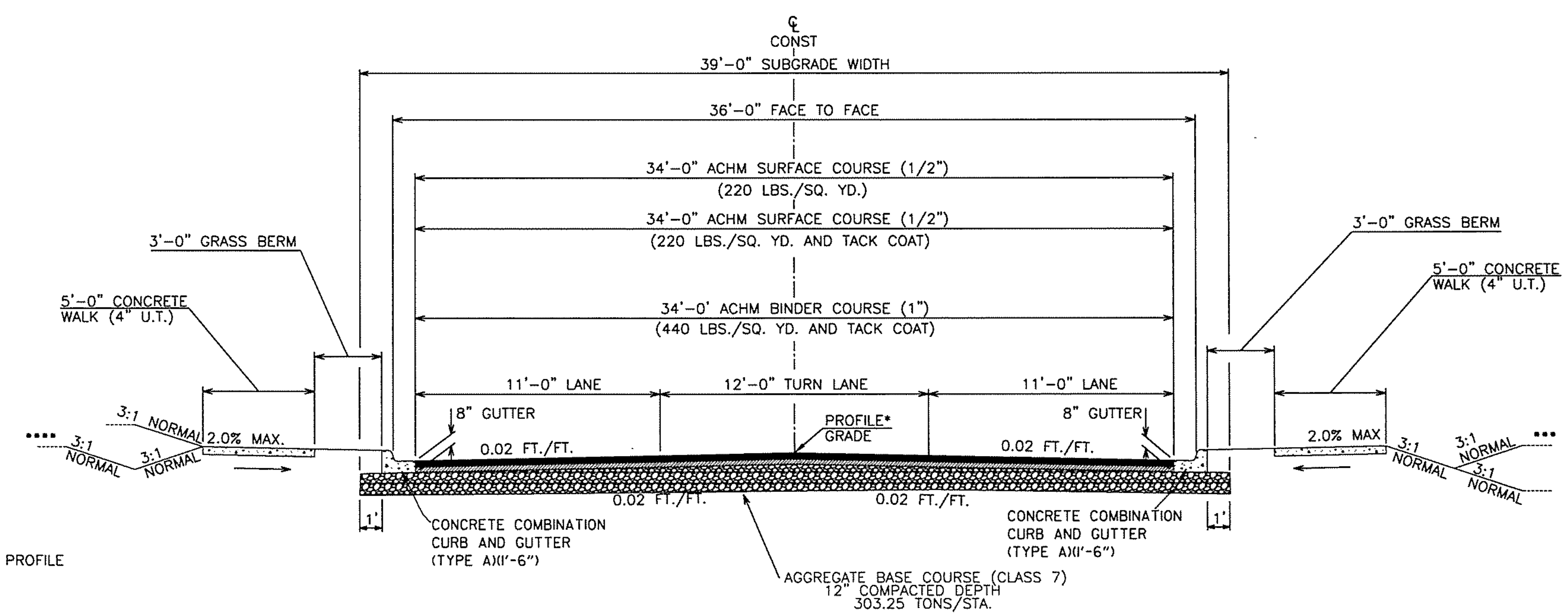
TRANSITION ROADWAY WIDTH FROM 32'-6" FACE TO FACE AT STA. 10+37.88 TO 36'-0" FACE TO FACE AT STA. 11+01.88.



SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

SHELL ROAD
STA. 10+37.88 TO STA. 11+01.88



**** LEFT DITCH AS SHOWN ON PLAN AND PROFILE
STA. 11+00.77 TO 11+79.98 LT.

* VERTICAL CONTROL:
1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

*** RIGHT DITCH AS SHOWN ON PLAN AND PROFILE
STA. 10+00 TO 12+03.37 RT.

SIDE ROAD 3-LANE CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

SHELL ROAD
STA 11+01.88 TO STA 12+35.73

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	10	255

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

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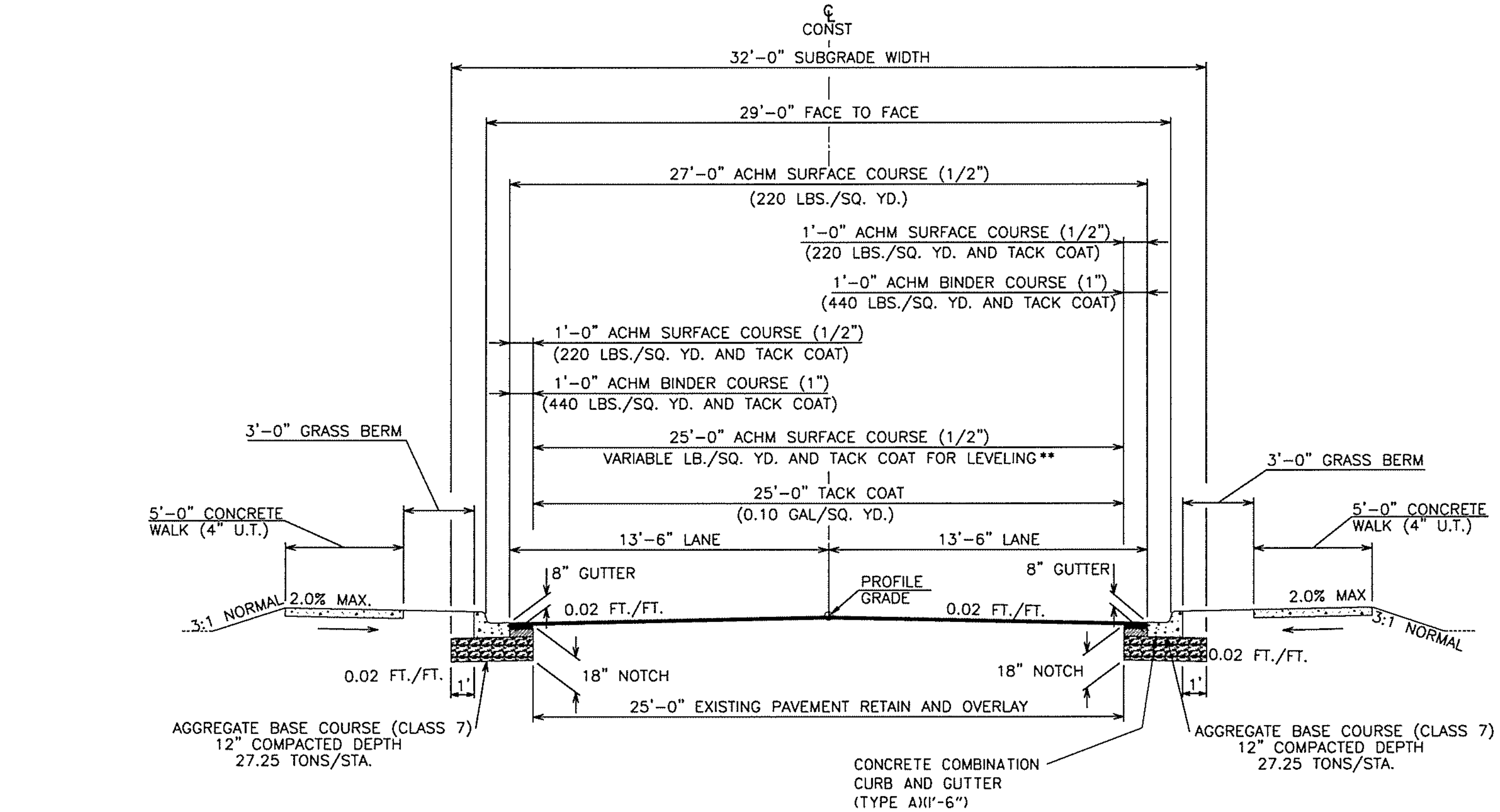
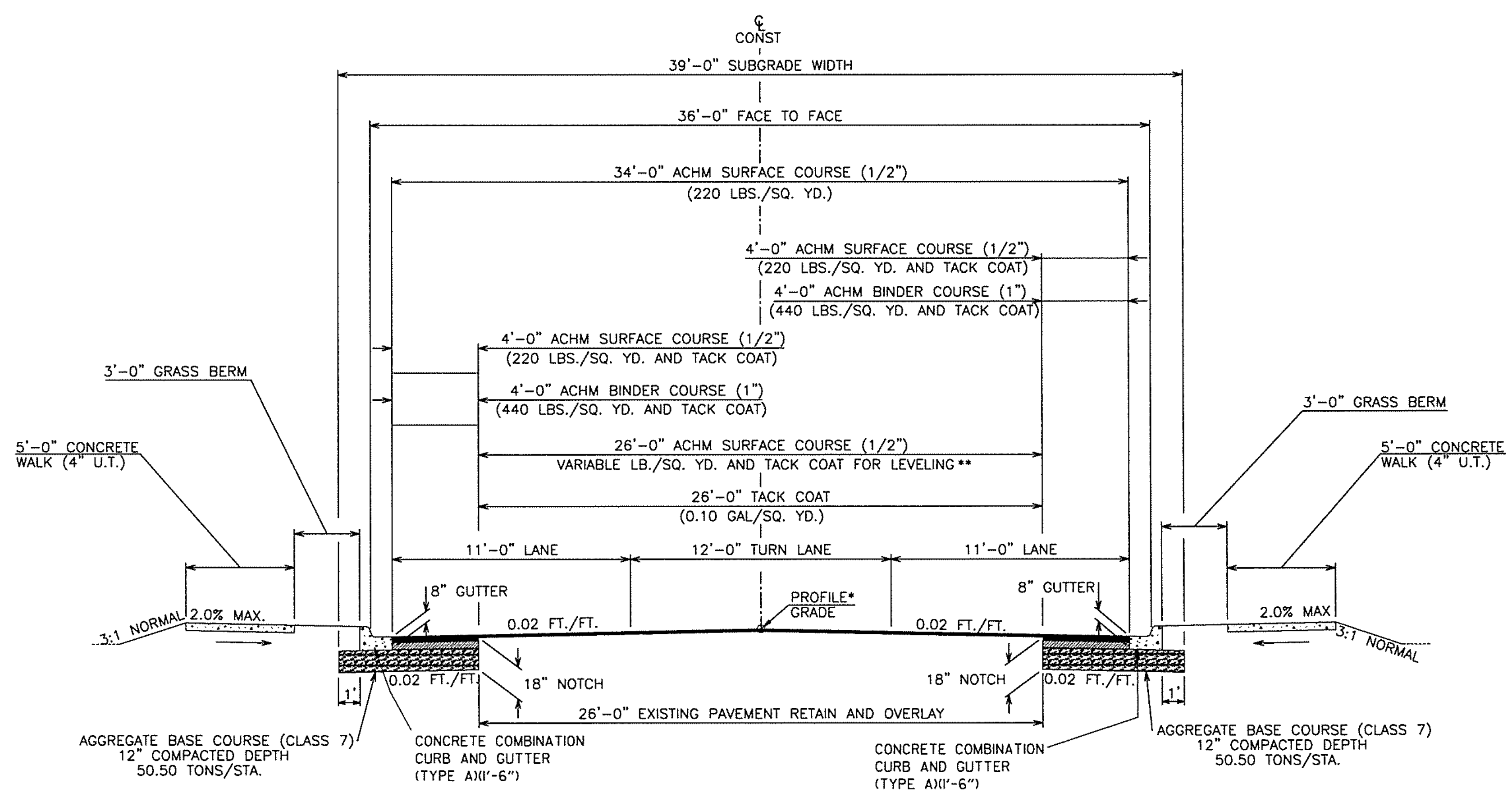


SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

CORNERSTONE ROAD STA. 10+37.36 TO STA. 10+87.35

TRANSITION ROADWAY WIDTH FROM 29'-0" FACE TO FACE AT STA. 10+37.36 TO 36'-0" FACE TO FACE AT STA. 10+87.35.



SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

CORNERSTONE ROAD STA. 10+87.35 TO STA. 12+11.52

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		090251	11	255

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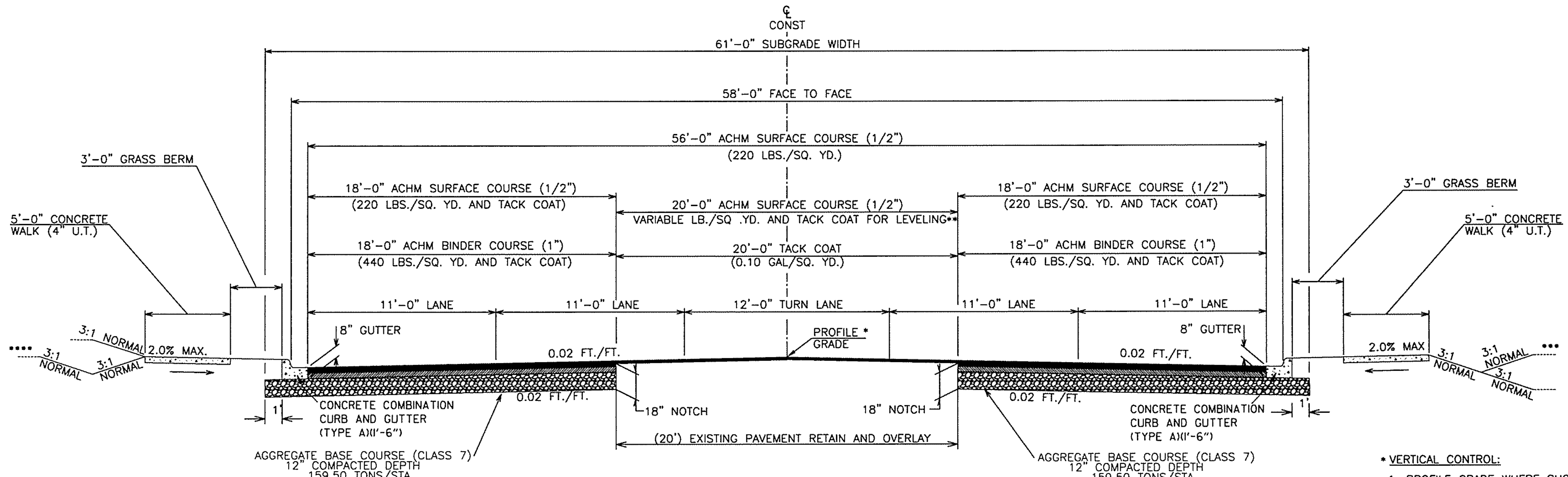


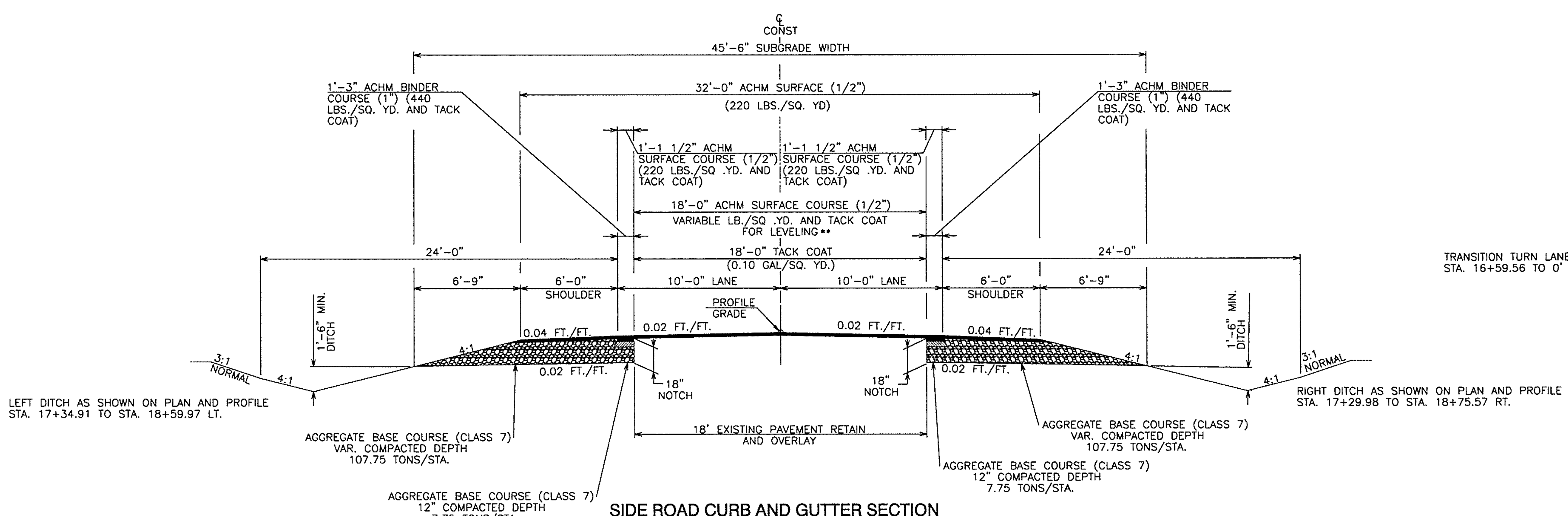
* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

GREENHOUSE ROAD
STA. 12+67.52 TO STA. 16+59.56



TRANSITION TURN LANE FROM 12'-0" AT STA. 16+59.56 TO 0' AT STA. 18+59.56.

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

GREENHOUSE ROAD
STA. 16+59.56 TO STA. 18+59.56

TYPICAL SECTIONS OF IMPROVEMENT

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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	12	255

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STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER ★★★ No.9113 RONALD S. PETRIE

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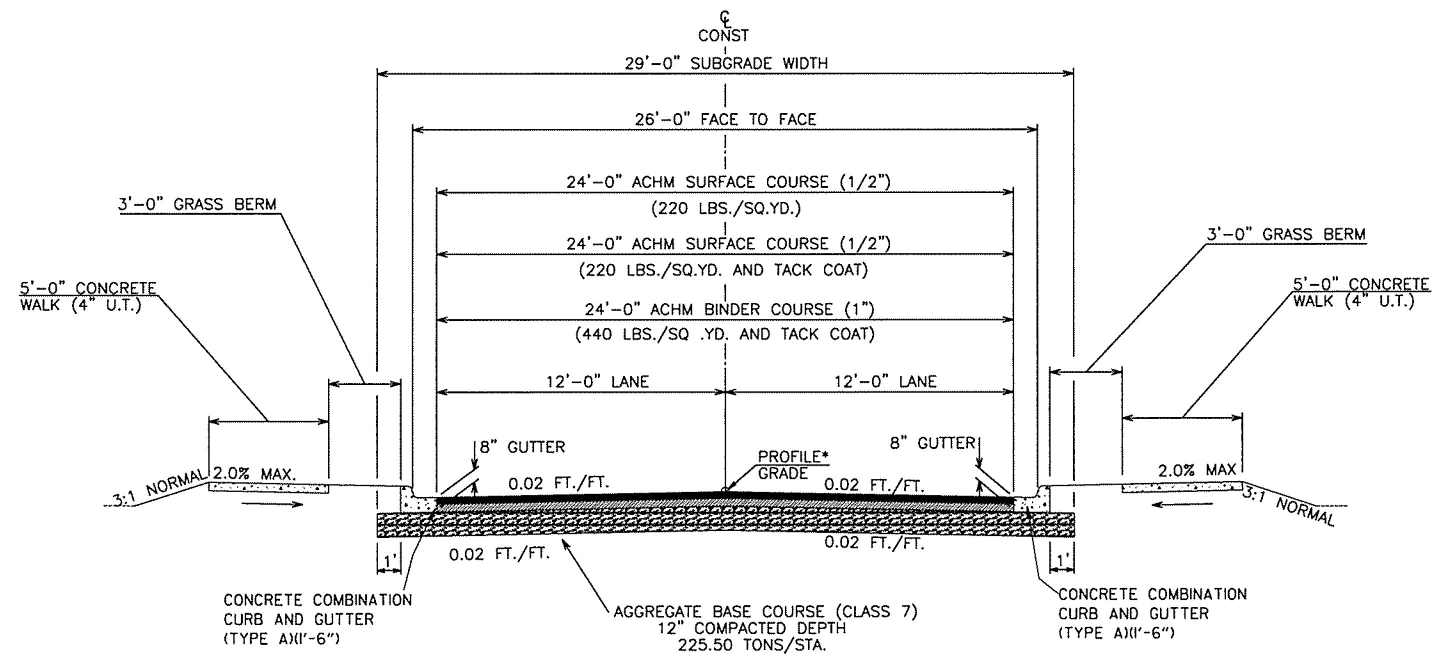

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

STONEFIELD STREET

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TRANSITION FACE TO FACE WIDTH FROM MATCH EXISTING AT STA. 10+21.04 TO 26'-0 AT STA. 10+41.04.

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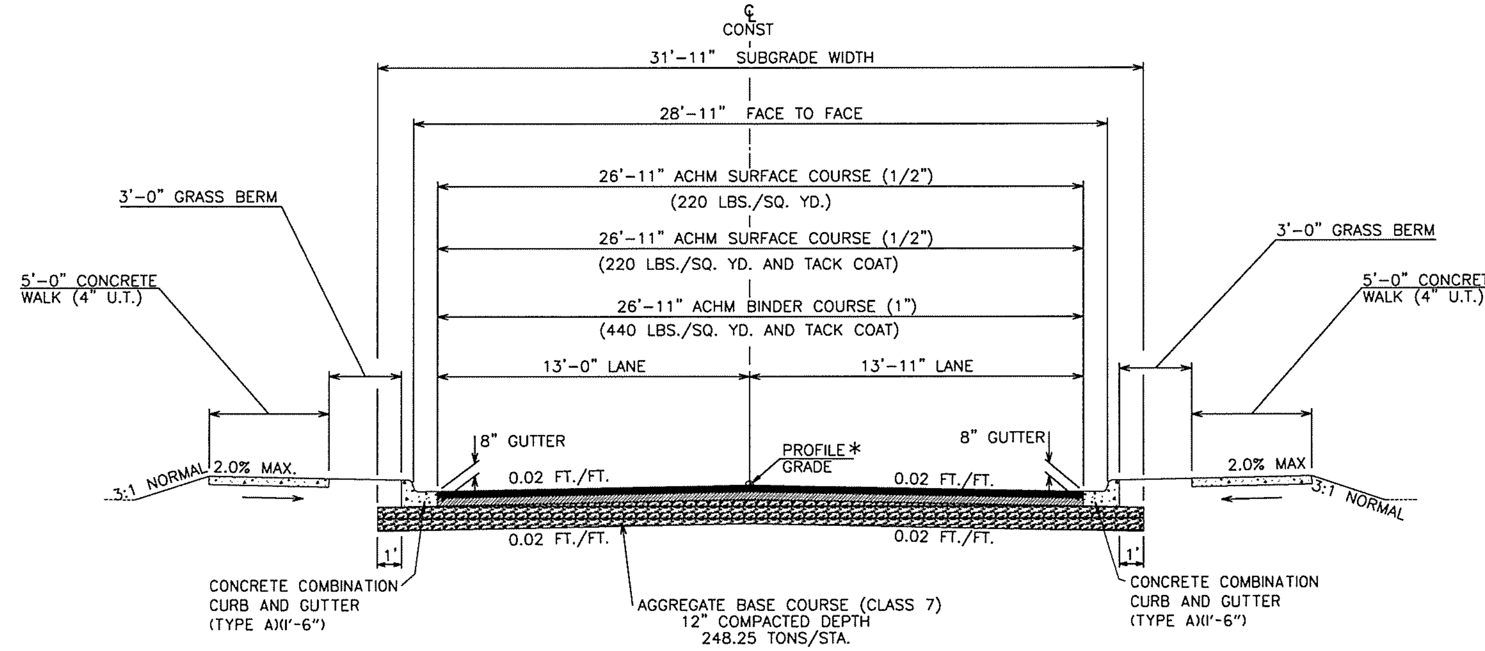

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

MORNINGSTAR ROAD STA. 10+00 TO STA. 11+20

TRANSITION LEFT TURN LANE FROM 0' AT STA. 10+00.00 TO 12' AT STA. 11+17.60

TRANSITION FACE TO FACE OF CURB TO MATCH EXISTING AT STA. 10+00.00 TO STA. 10+20.00

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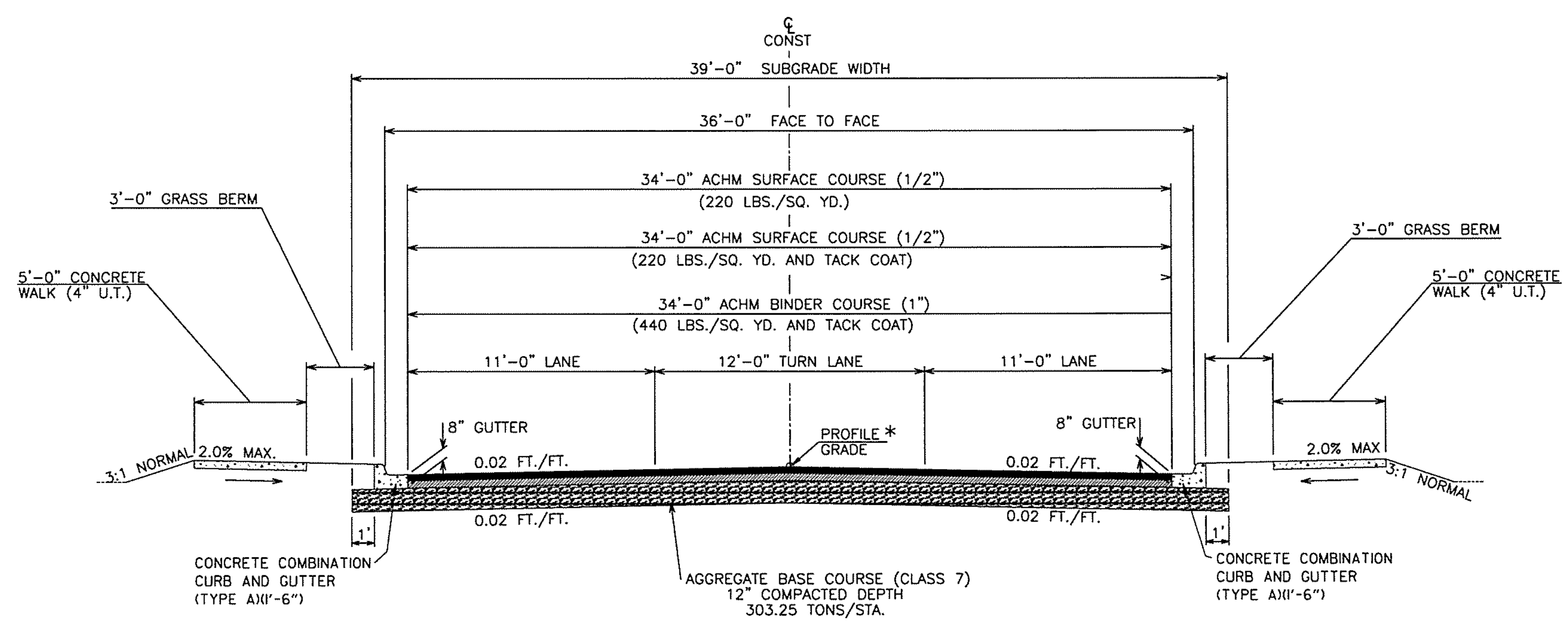

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

MORNINGSTAR ROAD STA. 11+20 TO STA. 12+40.81

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TRANSITION STRIPED MEDIAN FROM 0' AT STA. 11+17.60 TO 5'-2" AT STA. 11+83.62

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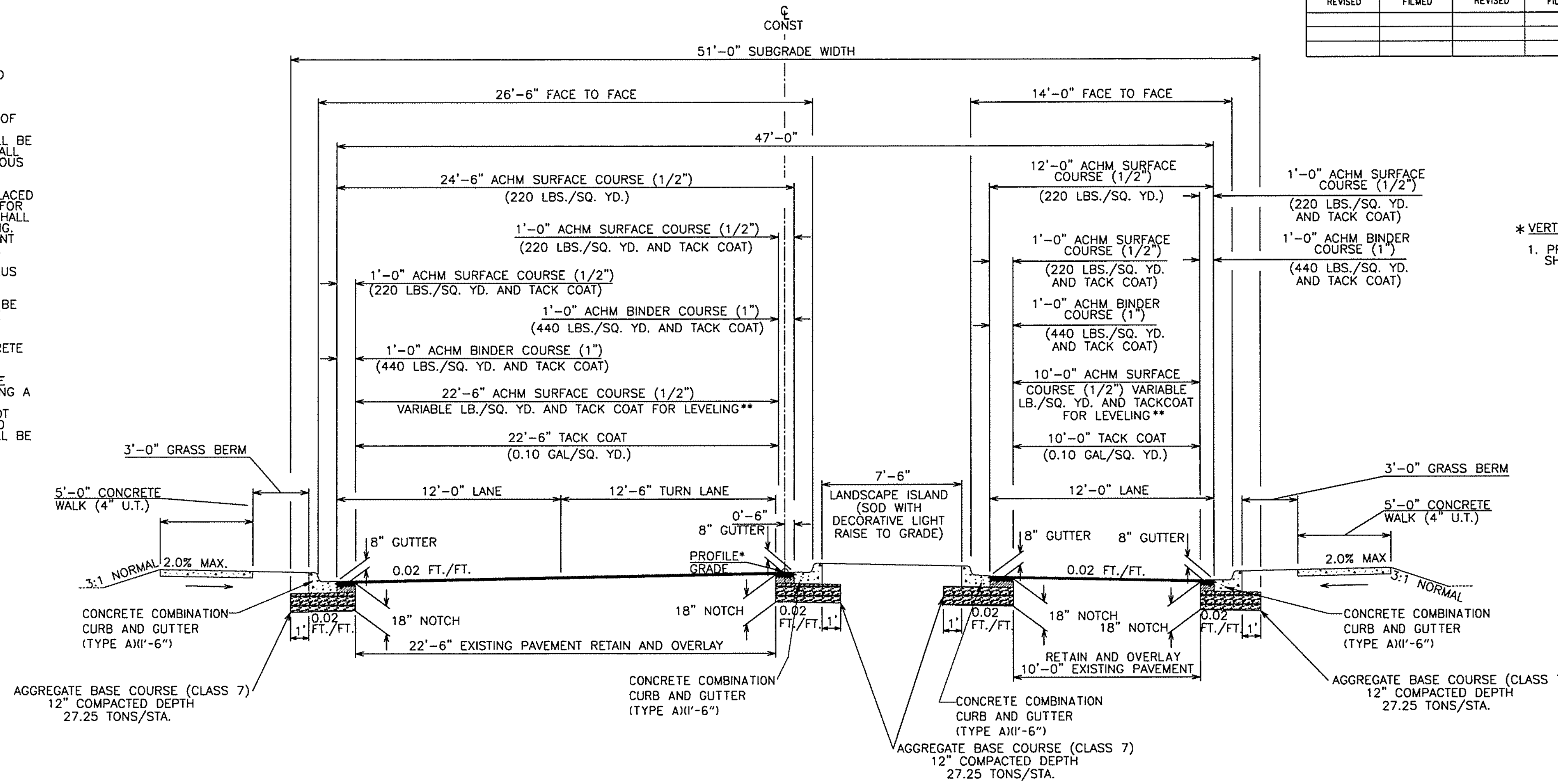


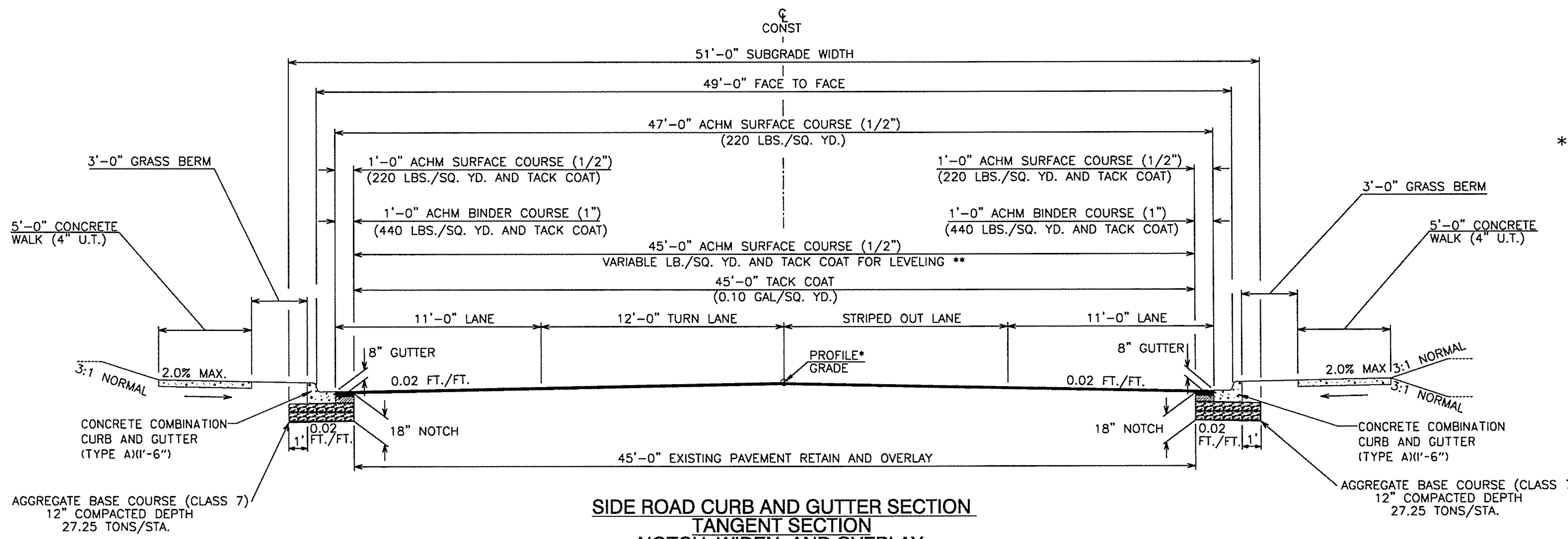
*VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

MORNINGSTAR ROAD STA. 13+18.17 TO STA. 14+21.02

** IF AND WHERE DIRECTED BY ENGINEER



*VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TRANSITION TO MATCH EXISTING FROM STA. 14+03.75 TO STA. 14+28.75

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

MORNINGSTAR ROAD STA. 12+97.79 TO STA. 13+18.17
STA. 14+21.02 TO STA. 14+28.75

** IF AND WHERE DIRECTED BY ENGINEER

TYPICAL SECTIONS OF IMPROVEMENT

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	15	255

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

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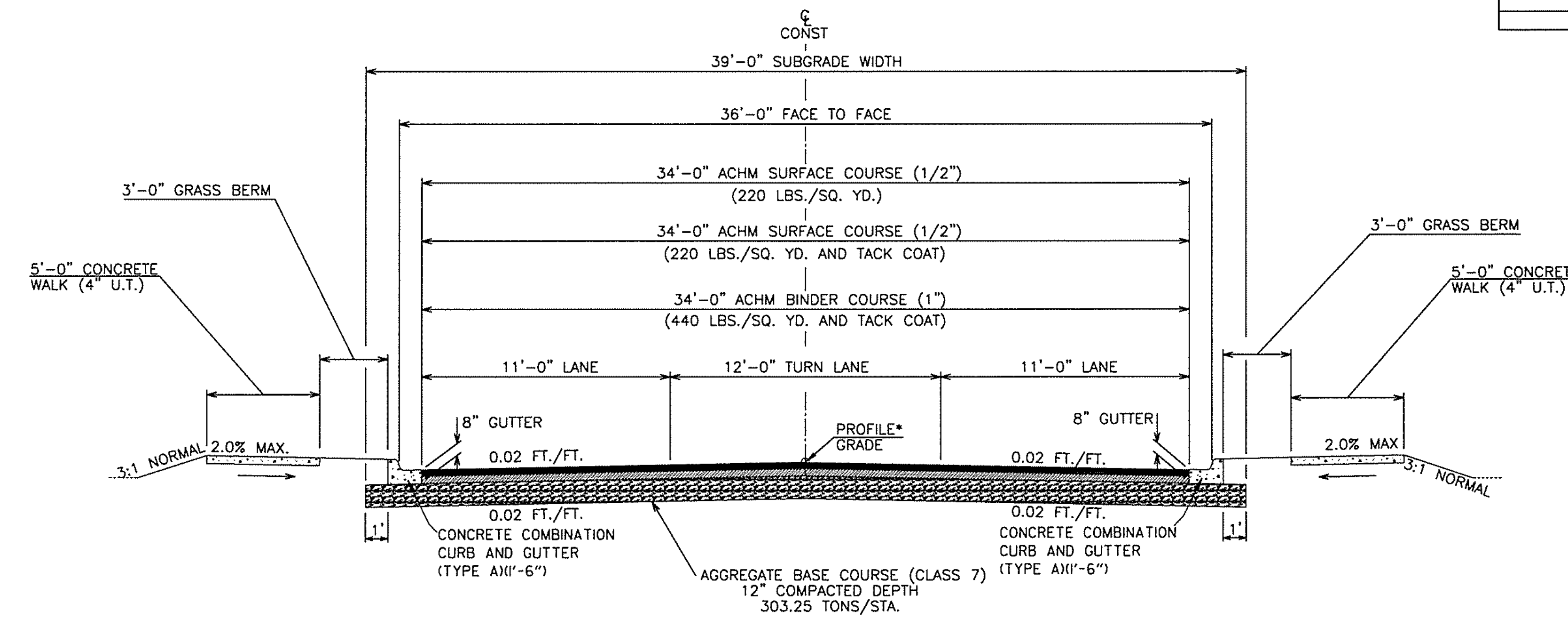
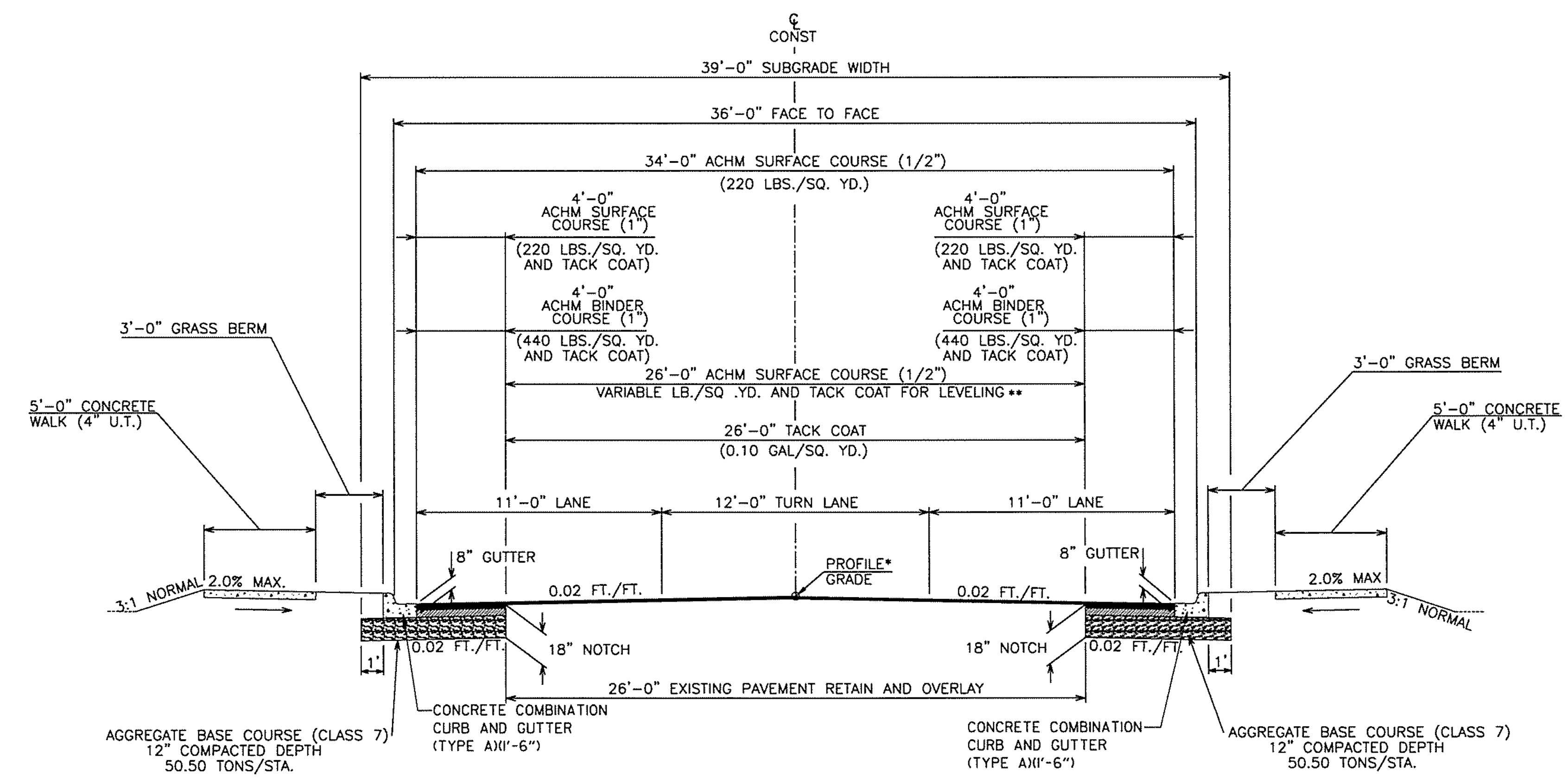


SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

FEATHERSTON ROAD STA. 10+29.00 TO STA. 11+74

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.



* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TRANSITION TO MATCH EXISTING FROM STATION 12+05.49 TO STATION 13+05.49

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

FEATHERSTON ROAD STA. 11+74 TO STA. 13+05.49

TYPICAL SECTIONS OF IMPROVEMENT

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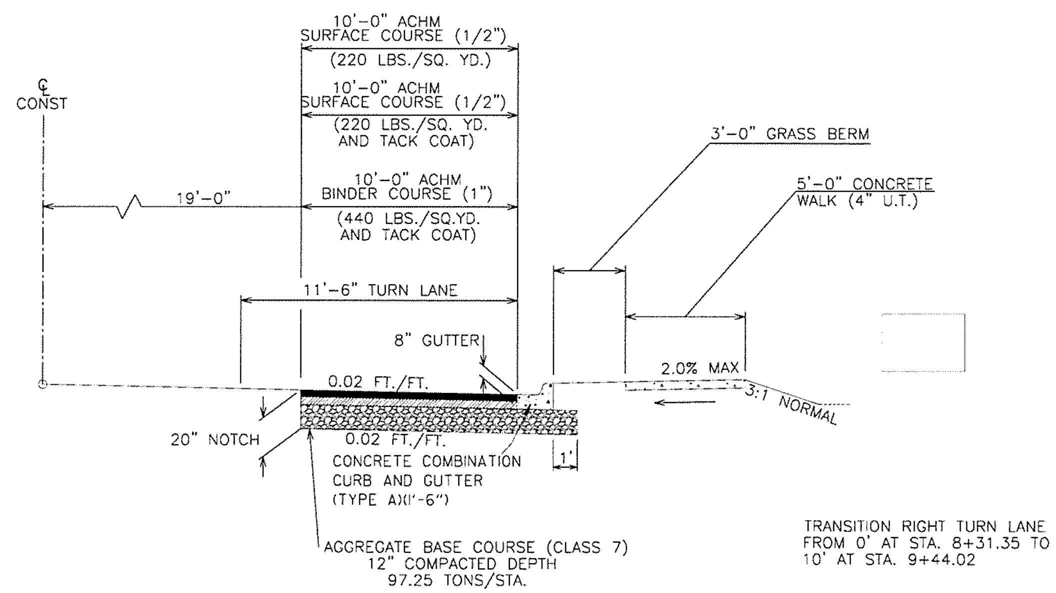
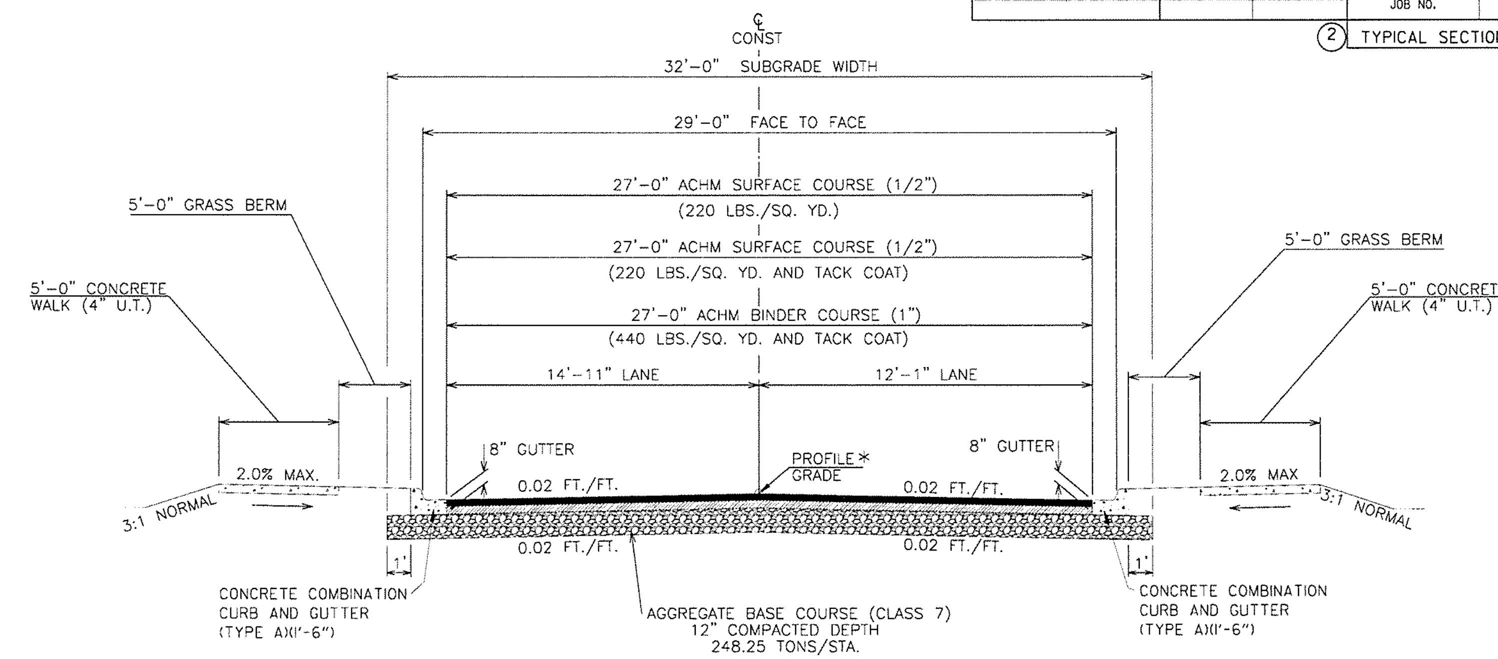
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014



SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH AND WIDEN

BRIGHT ROAD STA. 8+31.35 TO STA. 10+15.00



SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

BRIGHT ROAD STA. 11+68.71 TO STA. 11+98.78

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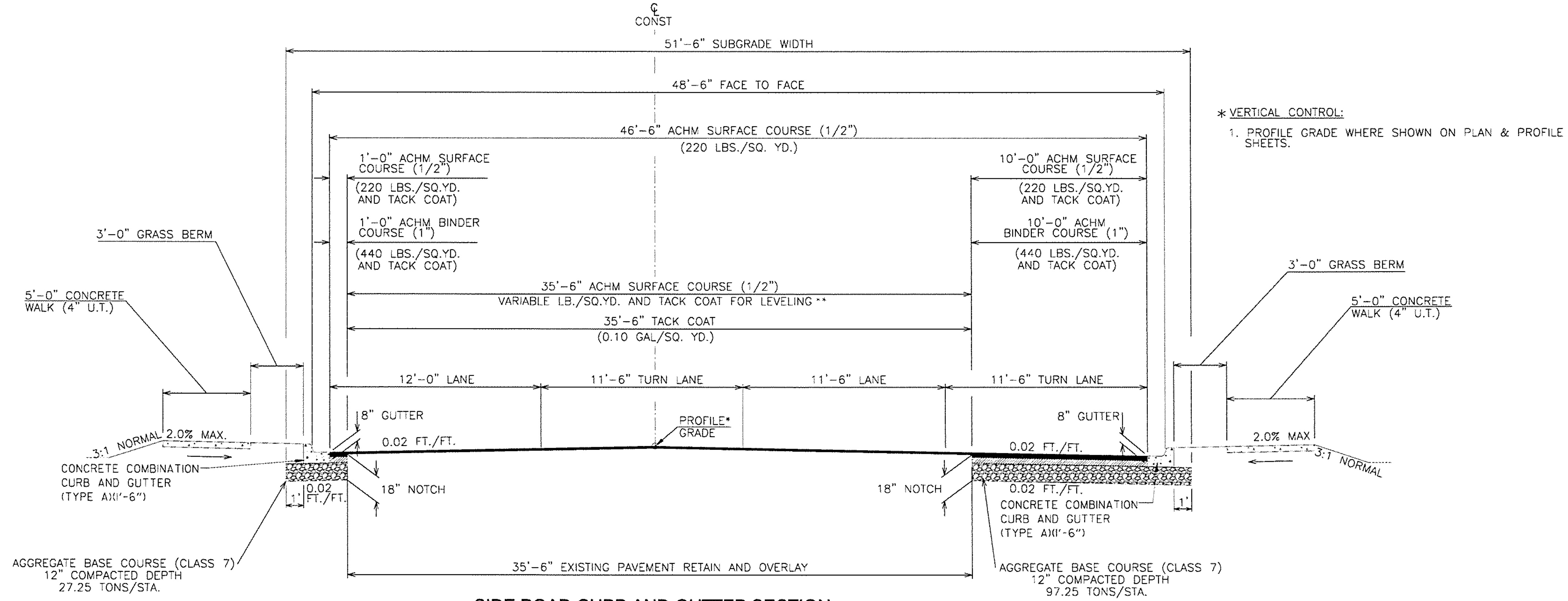

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SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

BRIGHT ROAD STA. 10+15.00 TO STA. 11+09.71

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				6	ARK.			
				JOB NO.		090251	17	255

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013

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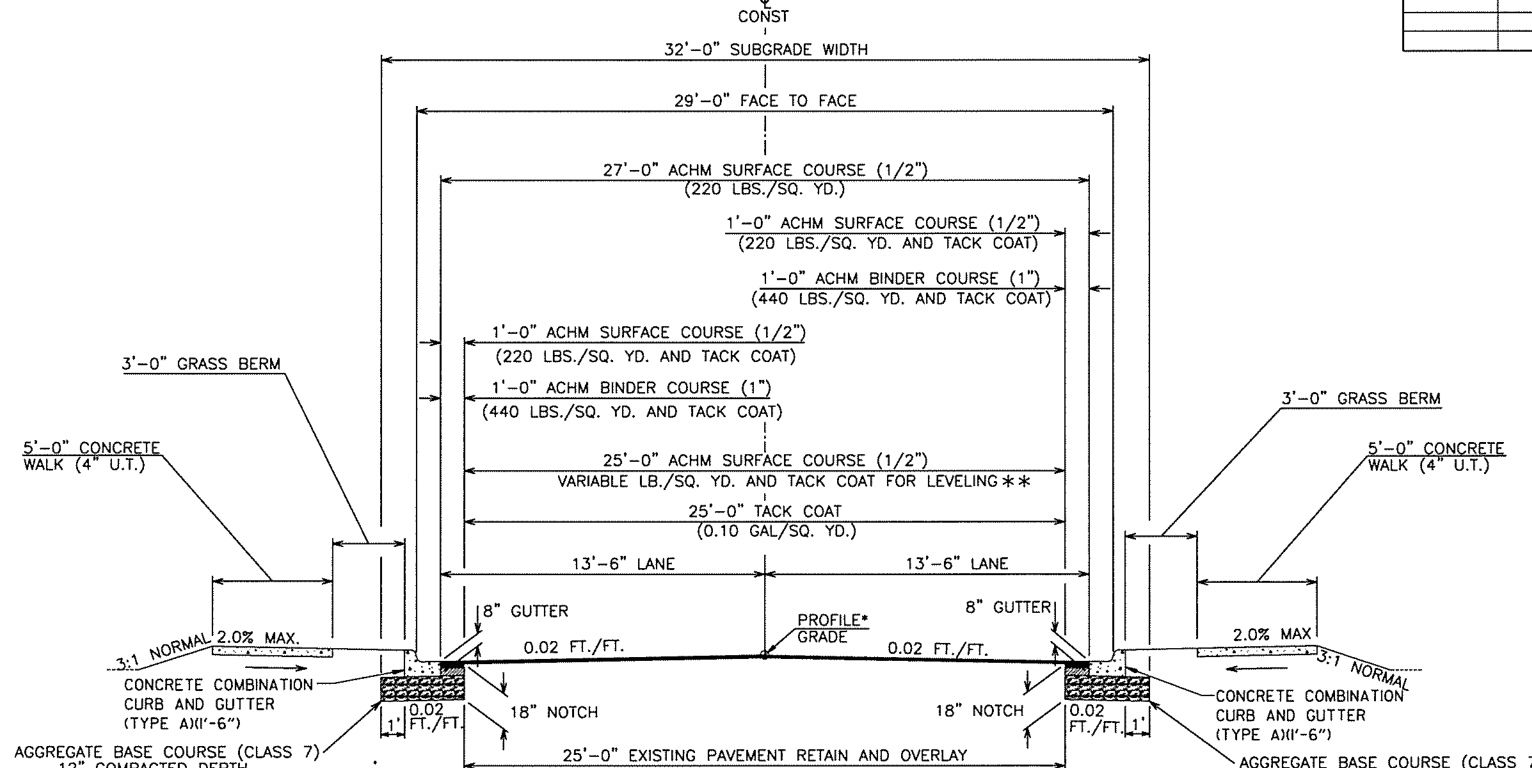


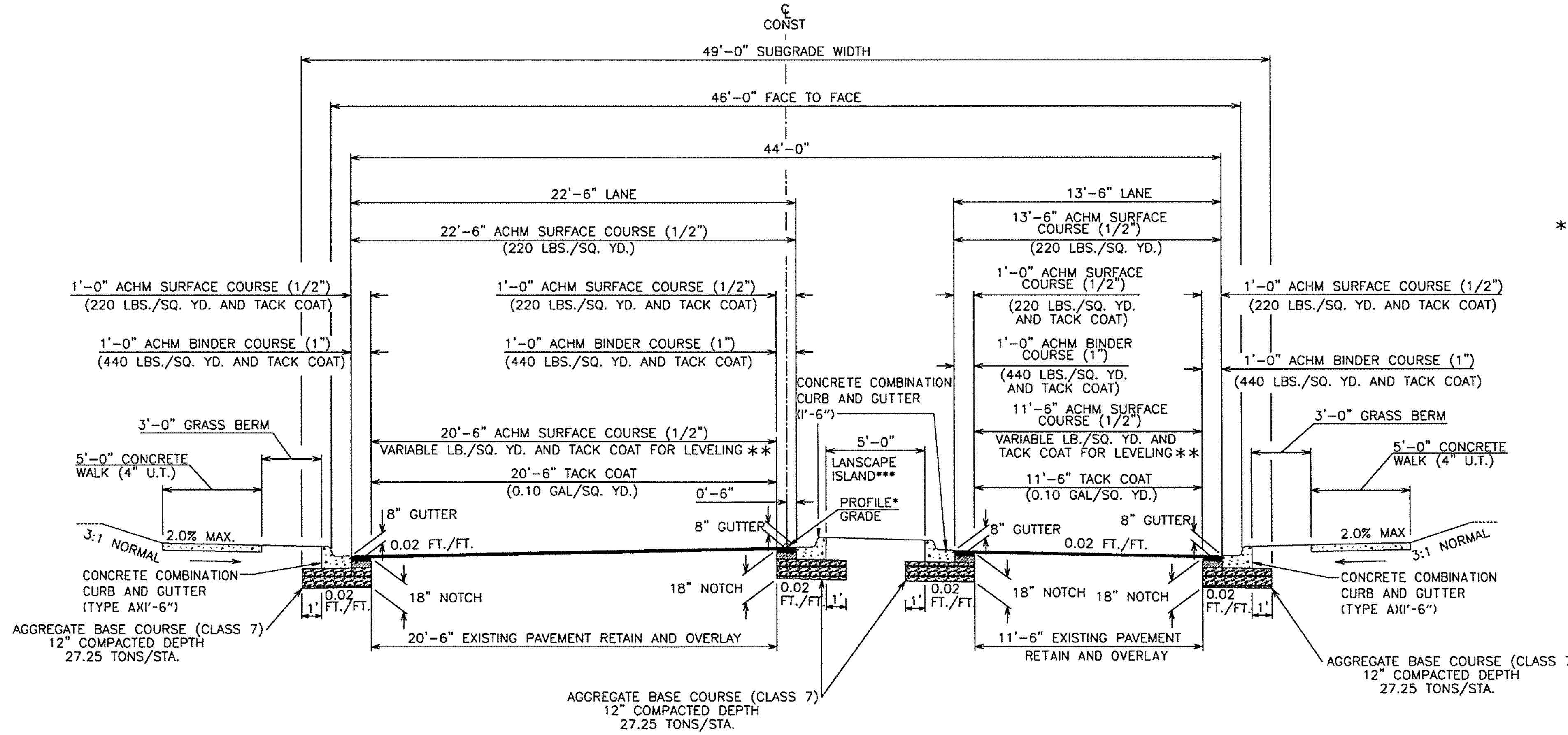
SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY

** IF AND WHERE DIRECTED BY ENGINEER

MAPLE ROAD STA. 9+80.00 TO STA. 10+62.80
SUNBROOKE STREET
CROCKETT STREET
WINSTED LANE

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.



SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

** IF AND WHERE DIRECTED BY ENGINEER

MAPLE ROAD STA. 11+45.41 TO STA. 11+79.56

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

***LANDSCAPE ISLAND
DECORATIVE ROCK MULCH WITH DECORATIVE LIGHT RAISE TO GRADE. ROCK TO MATCH EXISTING.

TRANSITION MEDIAN FROM 5'-0" AT STA. 11+47.81 TO 7'-11" AT STA. 11+79.49

TYPICAL SECTIONS OF IMPROVEMENT

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					JOB NO.	090251	18	255

(2) TYPICAL SECTIONS OF IMPROVEMENT

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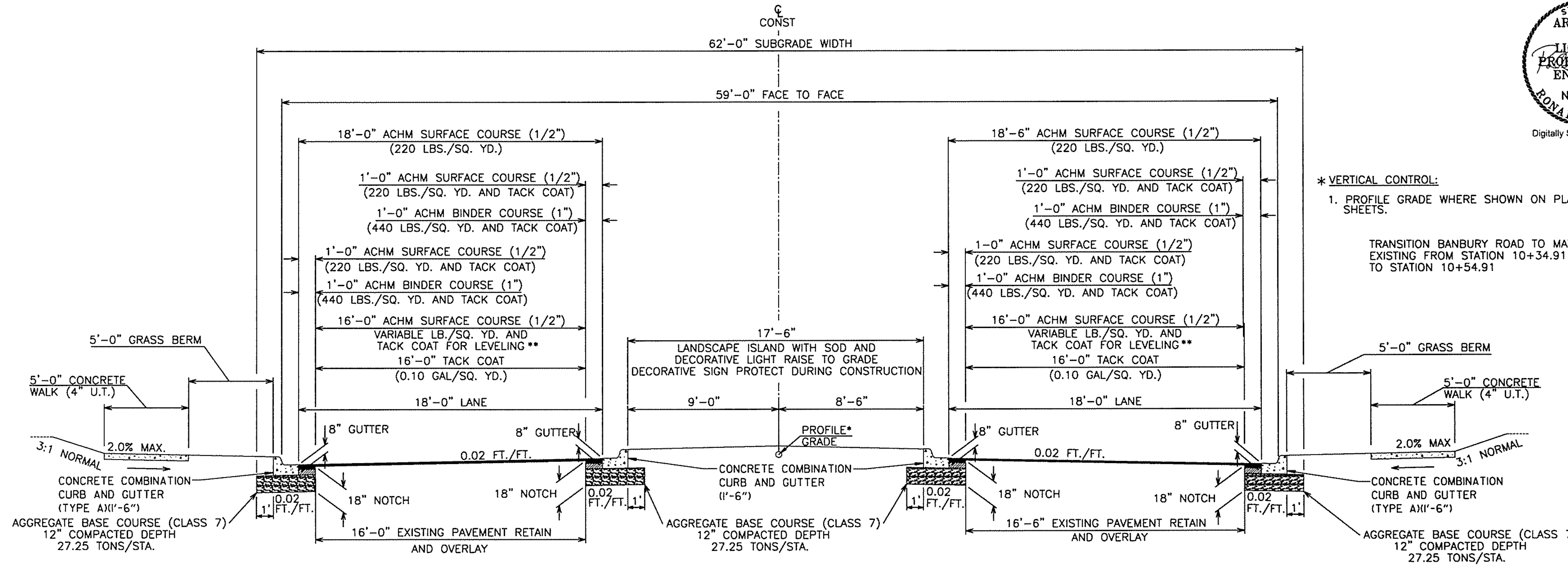
*PROFILE GRADE IS INTERSECTION OF 0.02 FT./FT. SLOPE ON ROADWAY SURFACE. ISLAND SURFACE IS 6" ABOVE PROFILE GRADE.

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TRANSITION BANBURY ROAD TO MATCH EXISTING FROM STATION 10+34.91 TO STATION 10+54.91



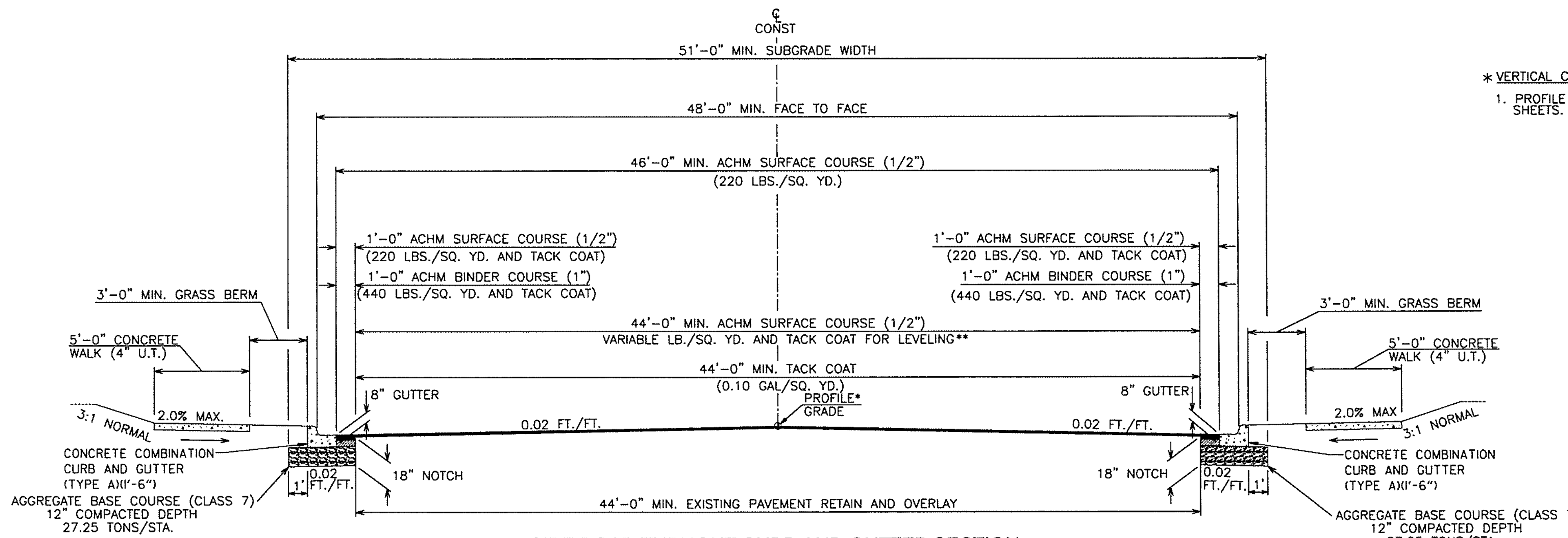
SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY ** IF AND WHERE DIRECTED BY ENGINEER

BANBURY DRIVE STA. 10+34.91 TO STA. 10+68.19

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TRANSITION FACE TO FACE IN TURNOUTS WITHOUT MEDIANS



SIDE ROAD TURNOUT CURB AND GUTTER SECTION
TANGENT SECTION
NOTCH, WIDEN, AND OVERLAY ** IF AND WHERE DIRECTED BY ENGINEER

MAPLE ROAD STA. 11+19.80 TO STA. 11+43.91
BANBURY DRIVE STA. 10+68.19 TO STA. 10+90.87

TYPICAL SECTIONS OF IMPROVEMENT

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				JOB NO.		090251	19	255

(2) TYPICAL SECTION OF IMPROVEMENT

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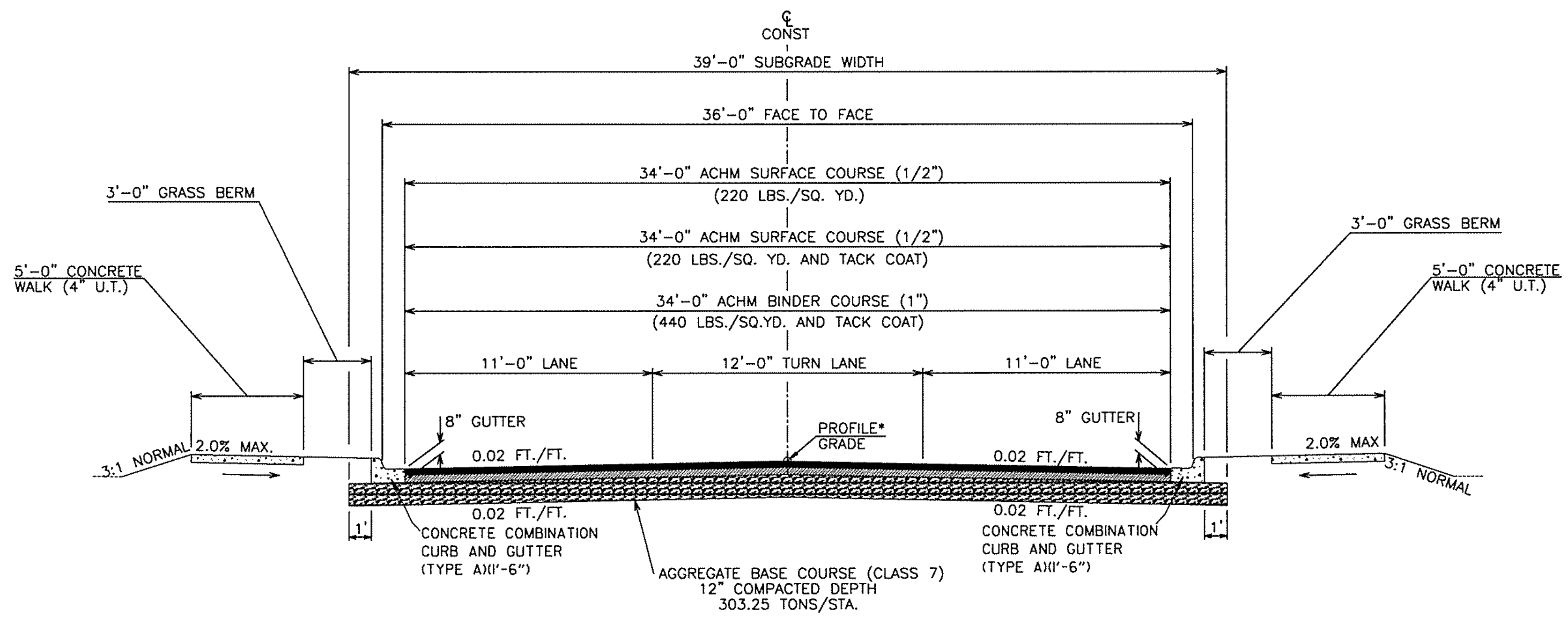

SIDE ROAD CURB AND GUTTER SECTION
TANGENT SECTION
FULL DEPTH

F STREET

* VERTICAL CONTROL:

1. PROFILE GRADE WHERE SHOWN ON PLAN & PROFILE SHEETS.

TRANSITION TO MATCH EXISTING FROM STATION 10+80.00 TO STATION 11+00.00

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TYPICAL SECTION OF IMPROVEMENT

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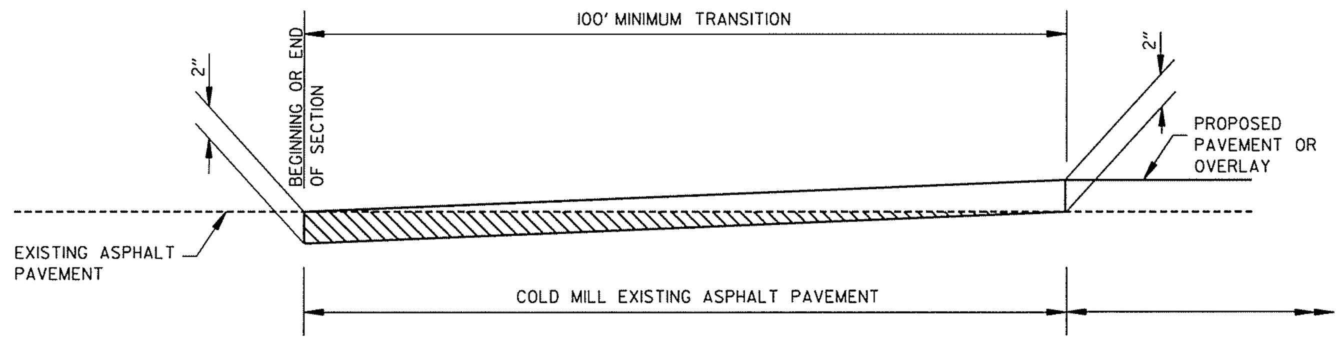
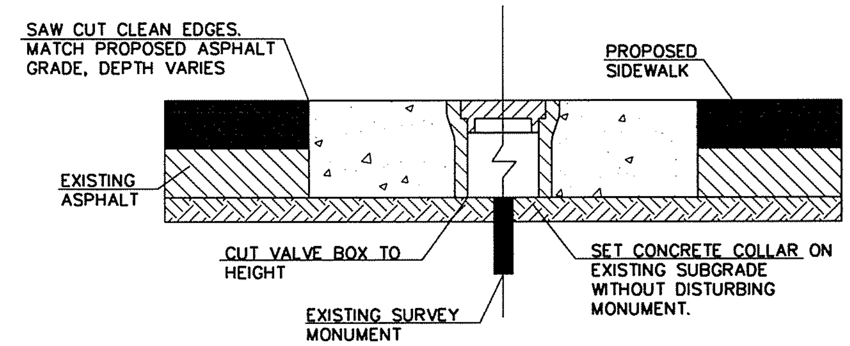
				6	ARK.			
				JOB NO.		090251	20	255

(2) SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013



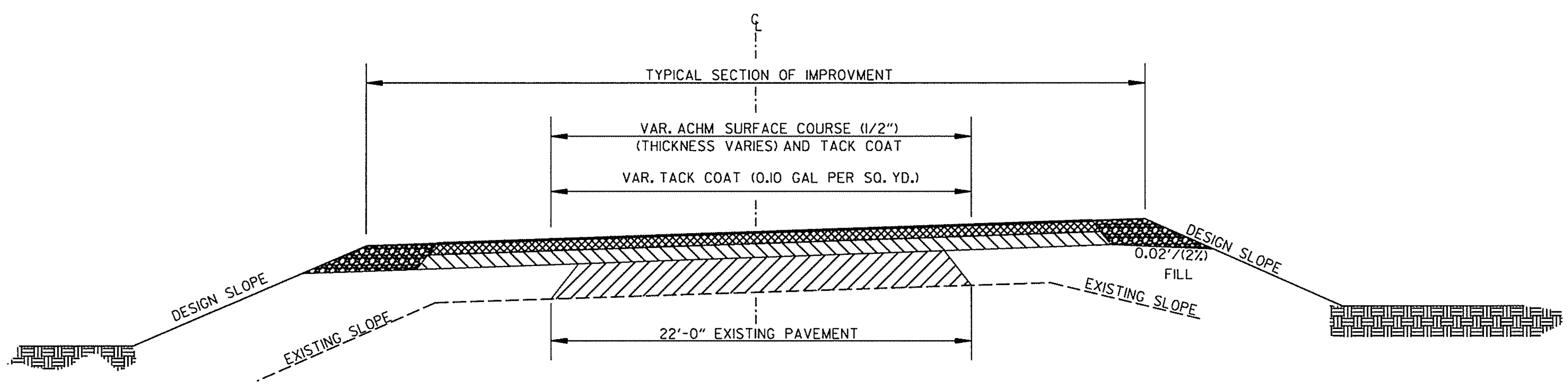
DETAIL FOR TRANSITIONS



NOTE: A REGISTERED, ARKANSAS LICENSED SURVEYOR SHALL CERTIFY MONUMENTATION LOCATION AT END OF PROJECT.

SURVEY MONUMENT VALVE BOX

NO SCALE



METHOD OF RAISING GRADE

NOTES:

1. THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.
2. QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATION WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
3. IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003.

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REVISED DATE:

SPECIAL DETAILS

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(2) SPECIAL DETAILS

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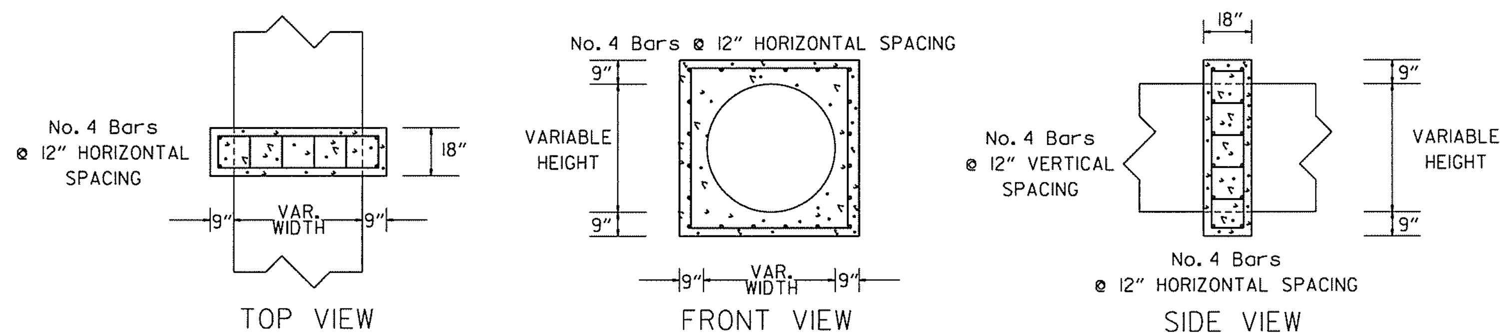
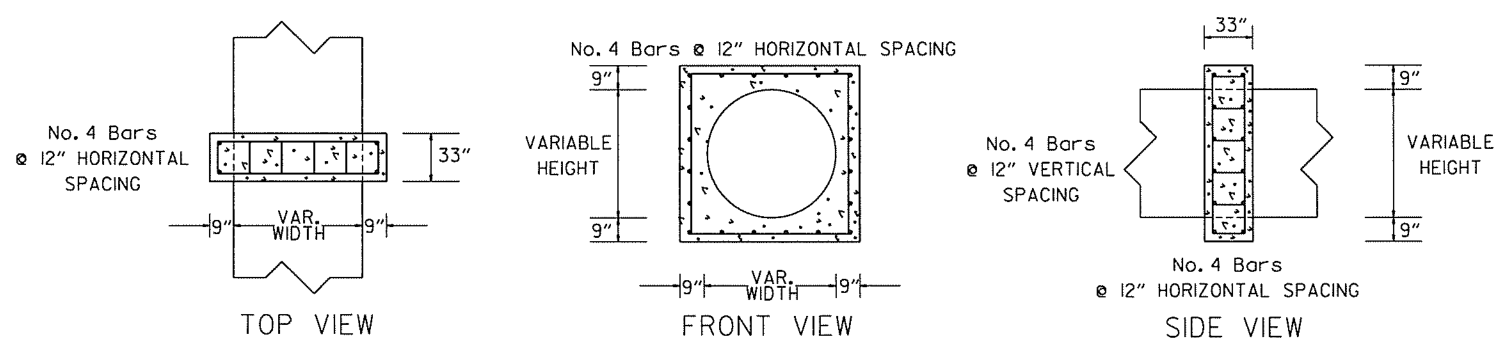


NOTE: PIPE COLLAR TO BE UTILIZED AS APPROVED BY THE ENGINEER.
MIN. 3" COVER

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



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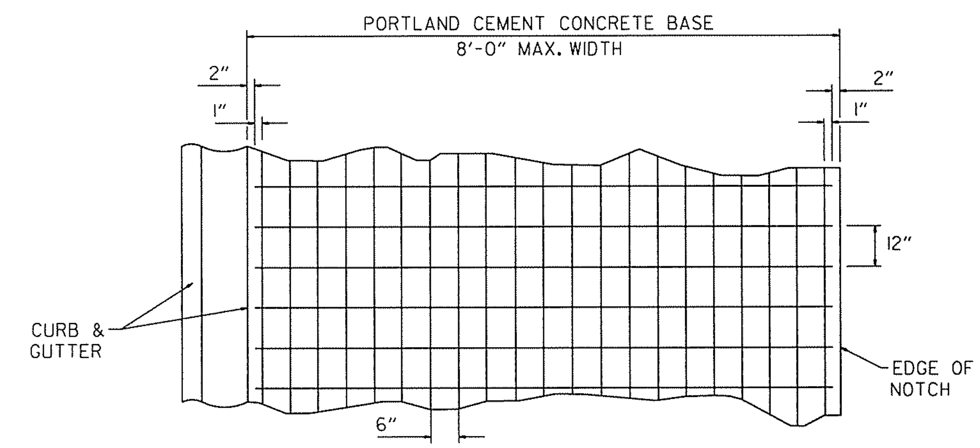
MIN. 3" COVER

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL
(TYPE SPECIAL)



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 (7" & 8" U.T.).

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

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WORKSPACE: AHTDXM
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REVISED DATE:

SPECIAL DETAILS

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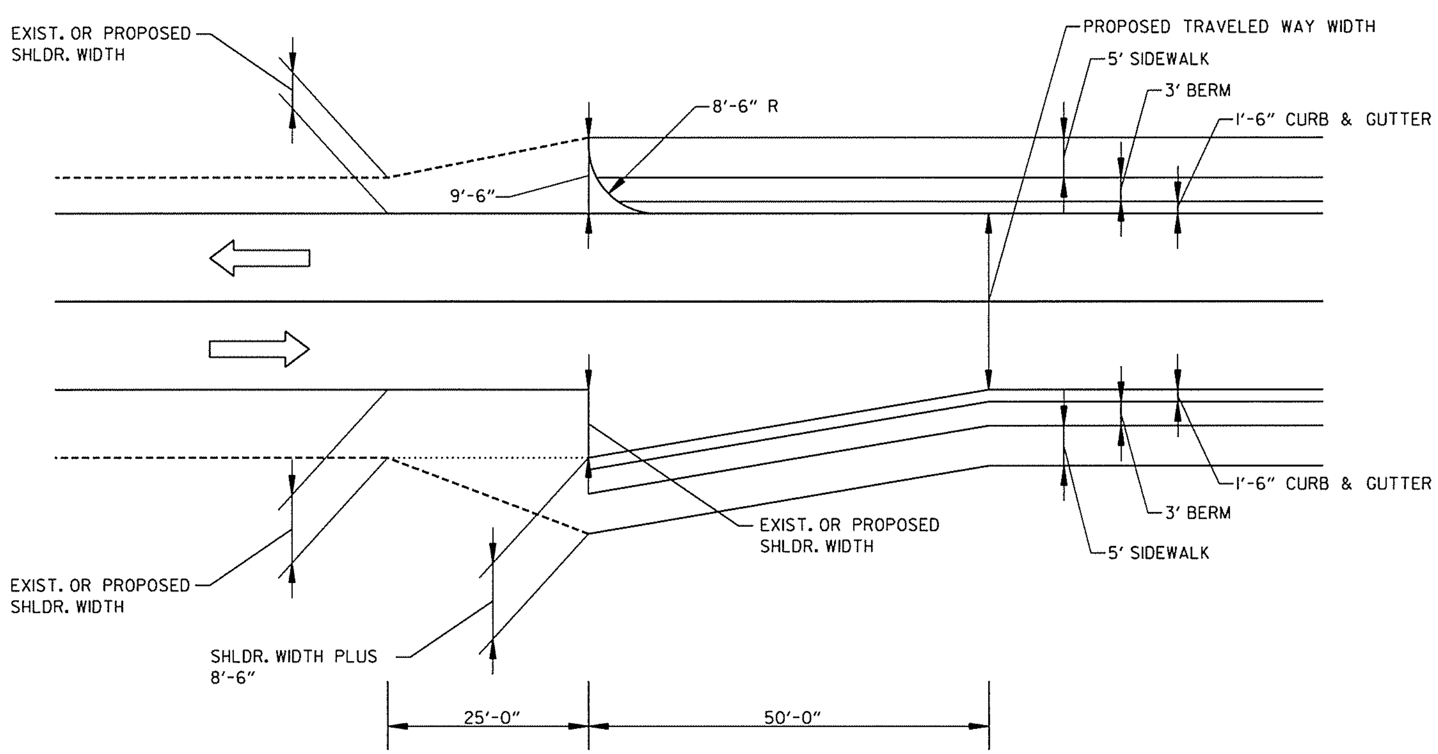
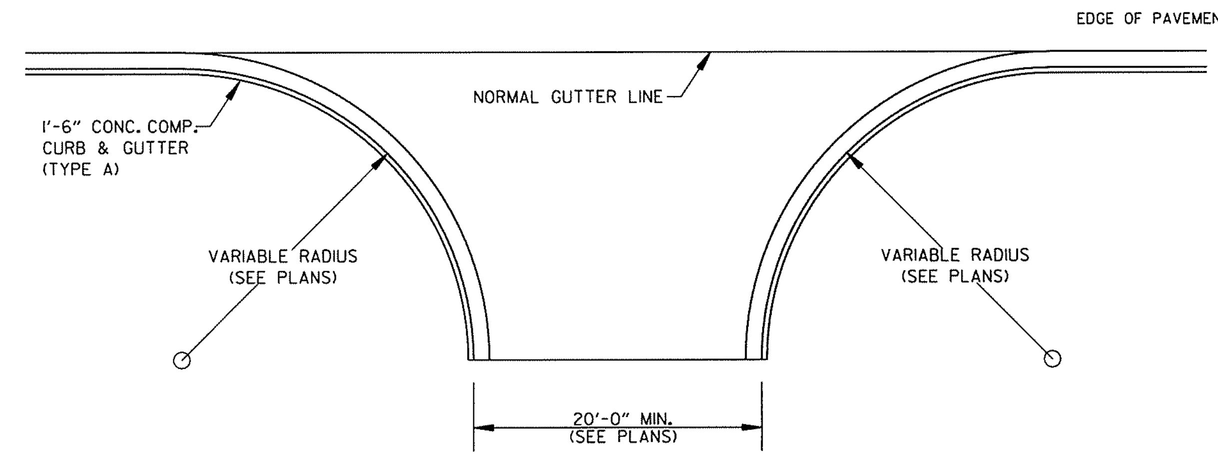


TRANSITION FROM OPEN SHOULDER
TO CURB & GUTTER SECTION



NOTE:
PAVEMENT STRUCTURE FOR
STATE HIGHWAYS TO BE SAME
AS MAIN LANES

DETAIL OF TURNOUTS, ASPHALT STREETS,
COUNTY ROADS AND STATE HIGHWAYS

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WORKSPACE: AHTDXM
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	23	255

(2) ARCH PIPE CULVERT HEADWALL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
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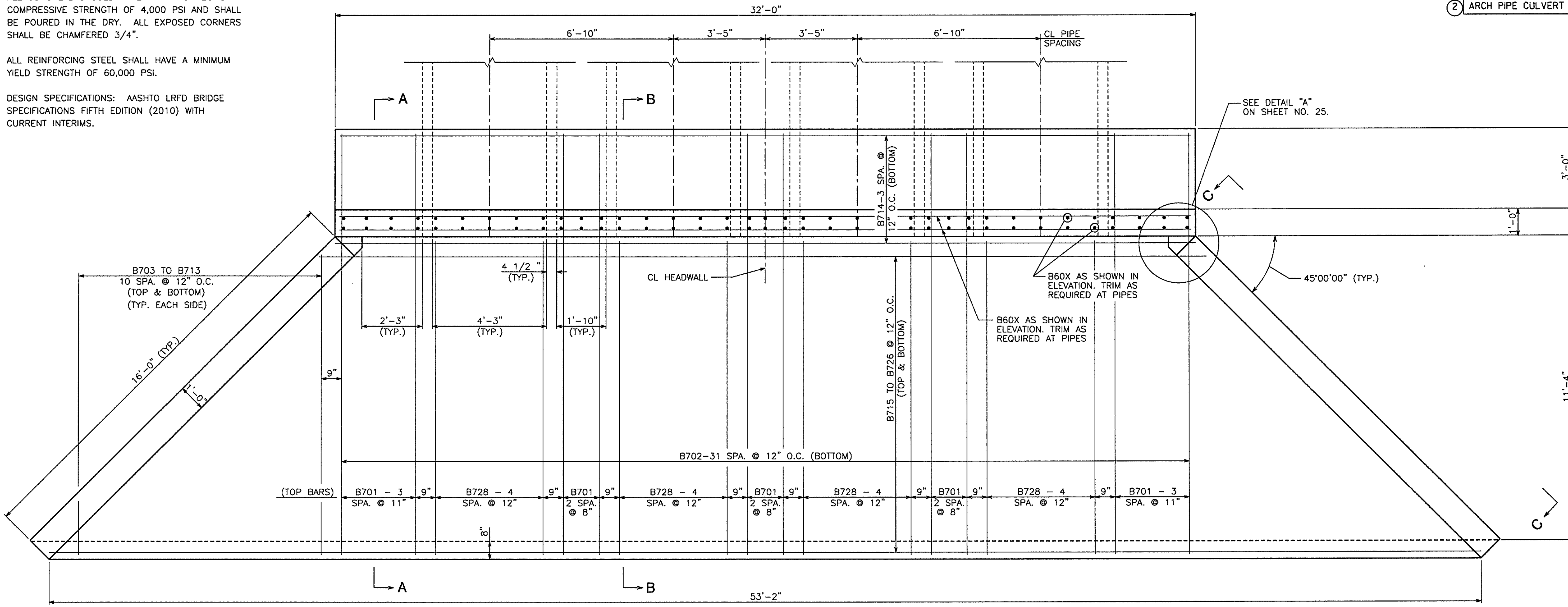
GENERAL NOTES:

ALL CONCRETE SHOULD HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI AND SHALL BE POURED IN THE DRY. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".

ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE SPECIFICATIONS FIFTH EDITION (2010) WITH CURRENT INTERIMS.



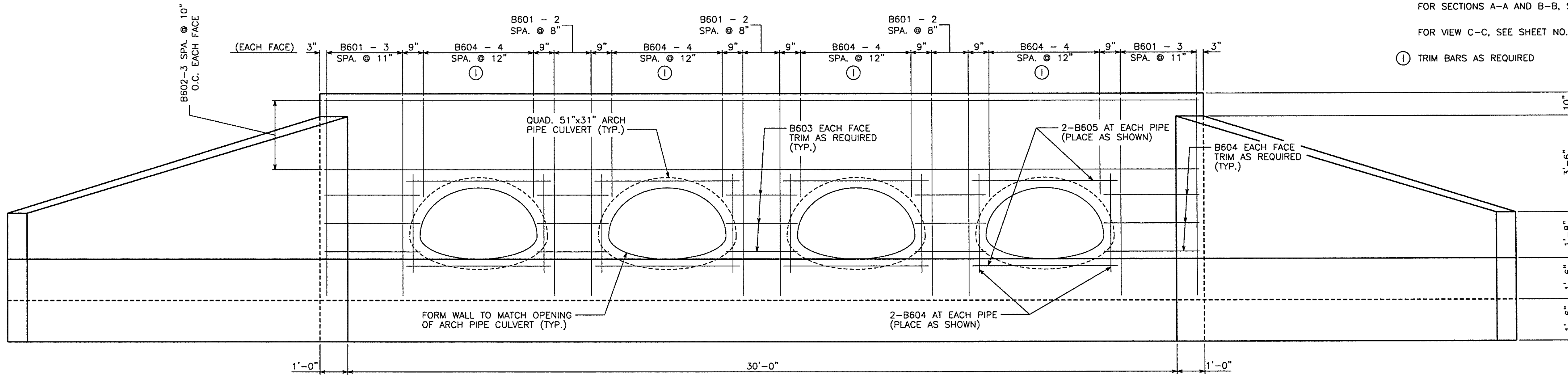
PLAN
SCALE: 1/4" = 1'-0"

NOTE:

FOR SECTIONS A-A AND B-B, SEE SHEET NO. 25.

FOR VIEW C-C, SEE SHEET NO. 24.

(1) TRIM BARS AS REQUIRED



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

ARCH PIPE CULVERT HEADWALL DETAILS
SHEET 1 OF 4

djcobb
WORKSPACE: AHTDXM
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REVISED DATE:

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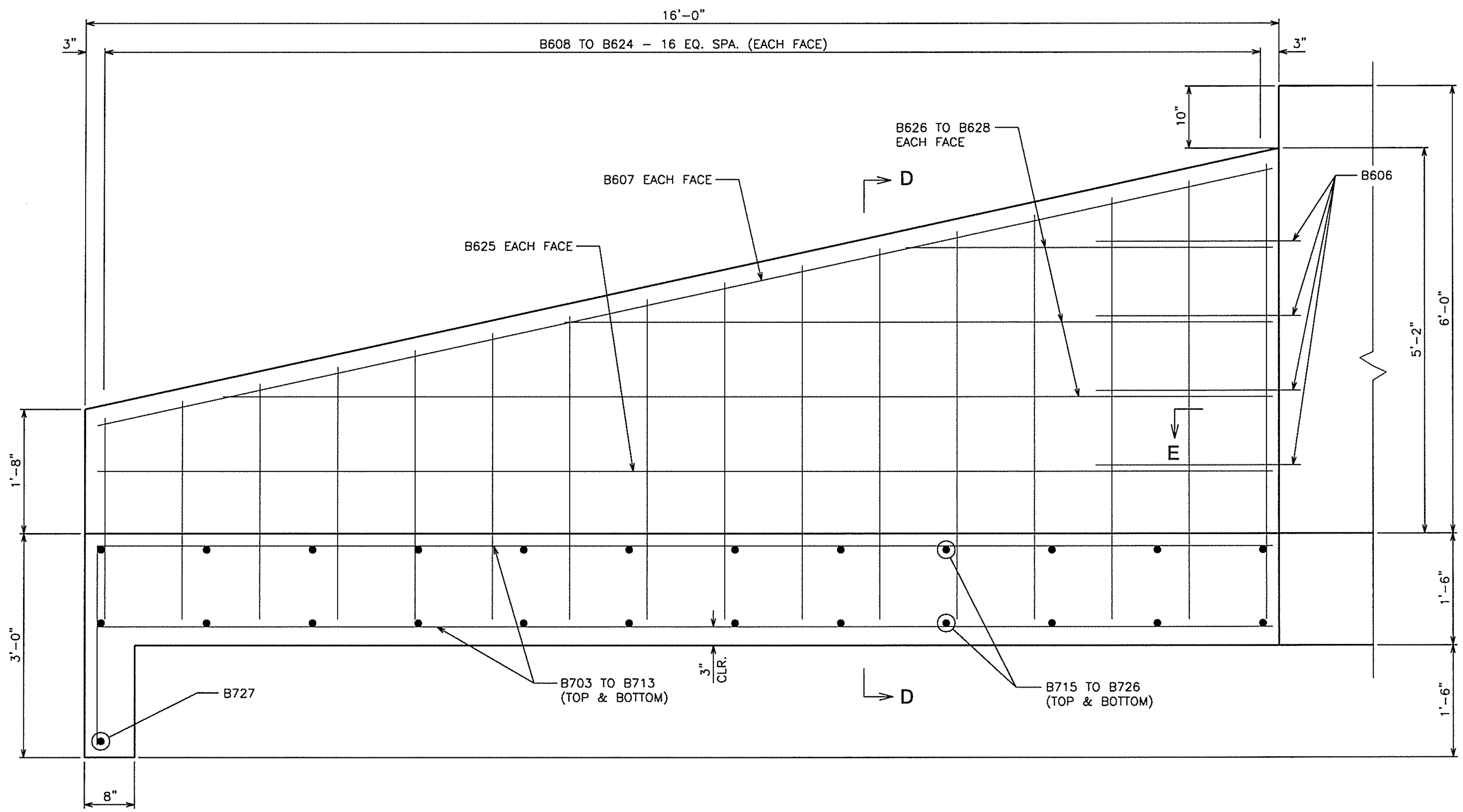
				6	ARK.			
				JOB NO.		090251	24	255

(2) ARCH PIPE CULVERT HEADWALL DETAILS



VIEW C-C - REAR ELEVATION OF WING
SCALE: 1/2" = 1'-0"

BAR LIST					
MARK	NO.	LENGTH	PIN DIA.	A	B
B601	34	7'-8 1/2"	4 1/2"	6'-11"	1'-0"
B602	8	31'-8"	STR.		
B603	18	2'-0"	STR.		
B604	60	3'-8"	STR.		
B605	8	5'-3"	STR.		
B606	10	6'-0"	4 1/2"	3'-0"	3'-0"
B607	4	15'-11"	STR.		
B608 TO B624	4 EACH	3'-8" TO 7'-2"	4 1/2"	VARIES	1'-0"
B625	4	15'-6"	STR.		
B626 TO B628	4 EACH	4'-9" TO 13'-11"	STR.		
B701	17	18'-2"	5 1/4"	15'-8"	2'-8"
B702	32	15'-8"	STR.		
B703 TO B713	4 EACH	11'-2" TO 1'-2"	STR.		
B714	4	31'-8"	STR.		
B715 TO B726	2 EACH	32'-2" TO 53'-6"	STR.		
B727	1	52'-2"	STR.		
B728	20	14'-2"	5 1/4"	11'-8"	2'-8"

NOTE:
DIMENSIONS OF BARS ARE OUT-TO-OUT.

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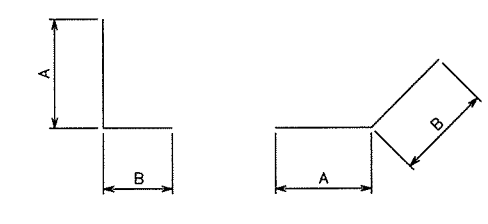
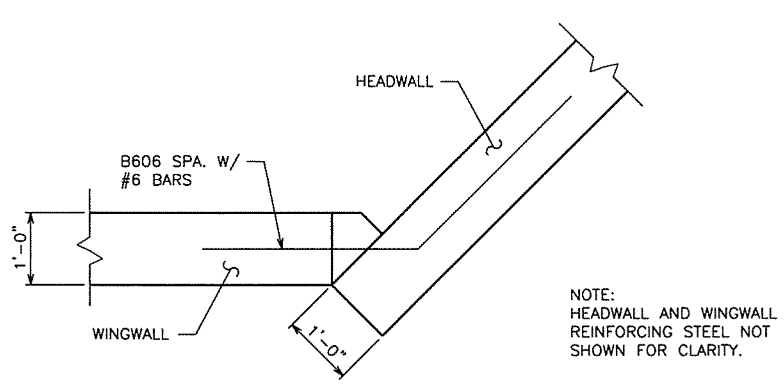


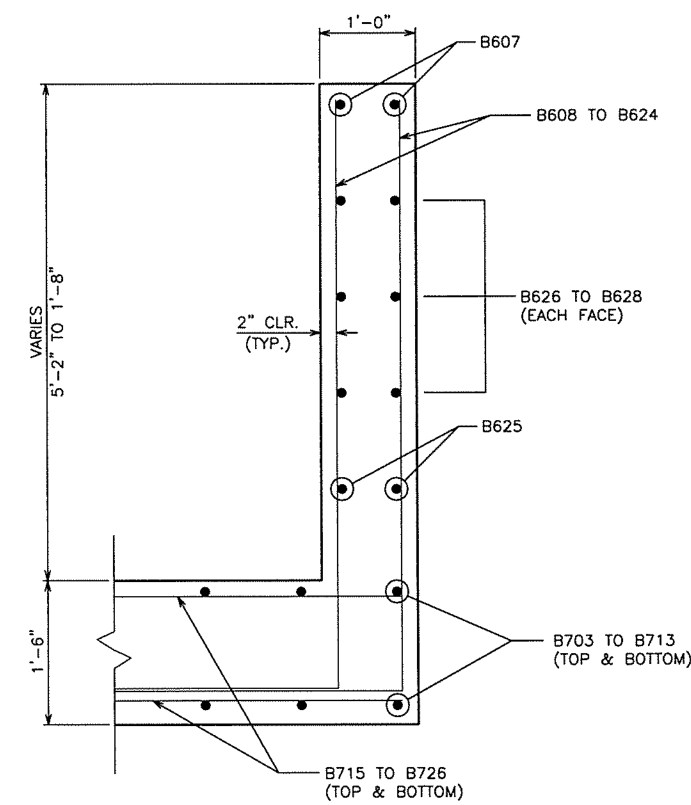
B601, B608-B624, B701 & B728

B606



NOTE:
HEADWALL AND WINGWALL REINFORCING STEEL NOT SHOWN FOR CLARITY.

SECTION E-E
SCALE: 3/8" = 1'-0"



SECTION D-D
SCALE: 1/2" = 1'-0"

ARCH PIPE CULVERT HEADWALL DETAILS
SHEET 2 OF 4

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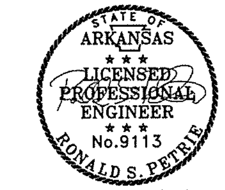
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	25	255

(2) ARCH PIPE CULVERT HEADWALL DETAILS



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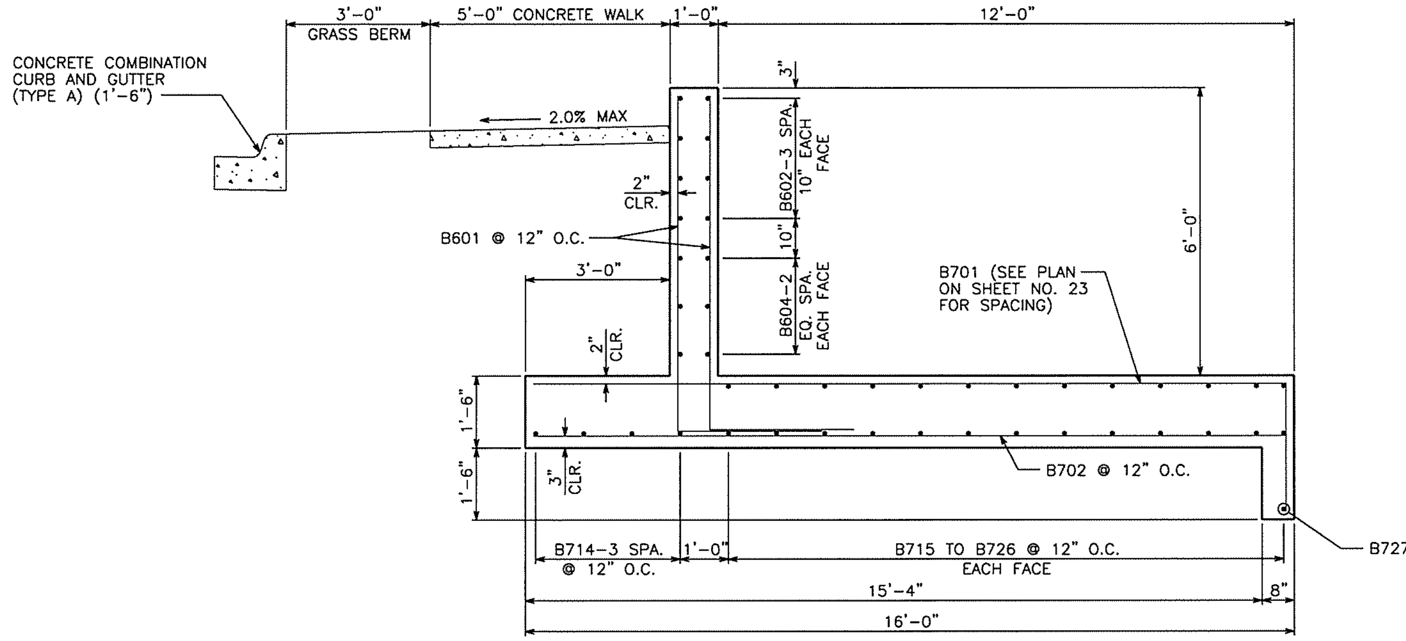
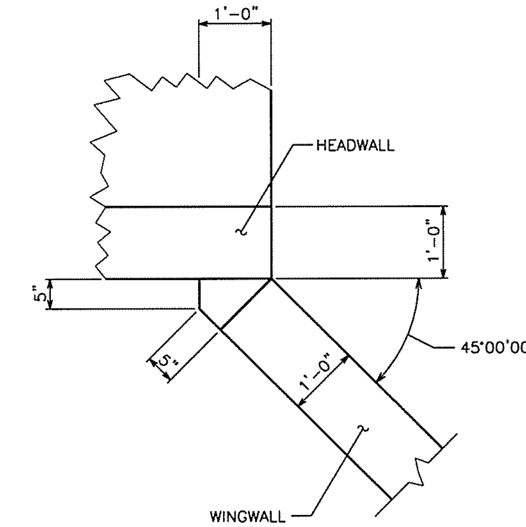
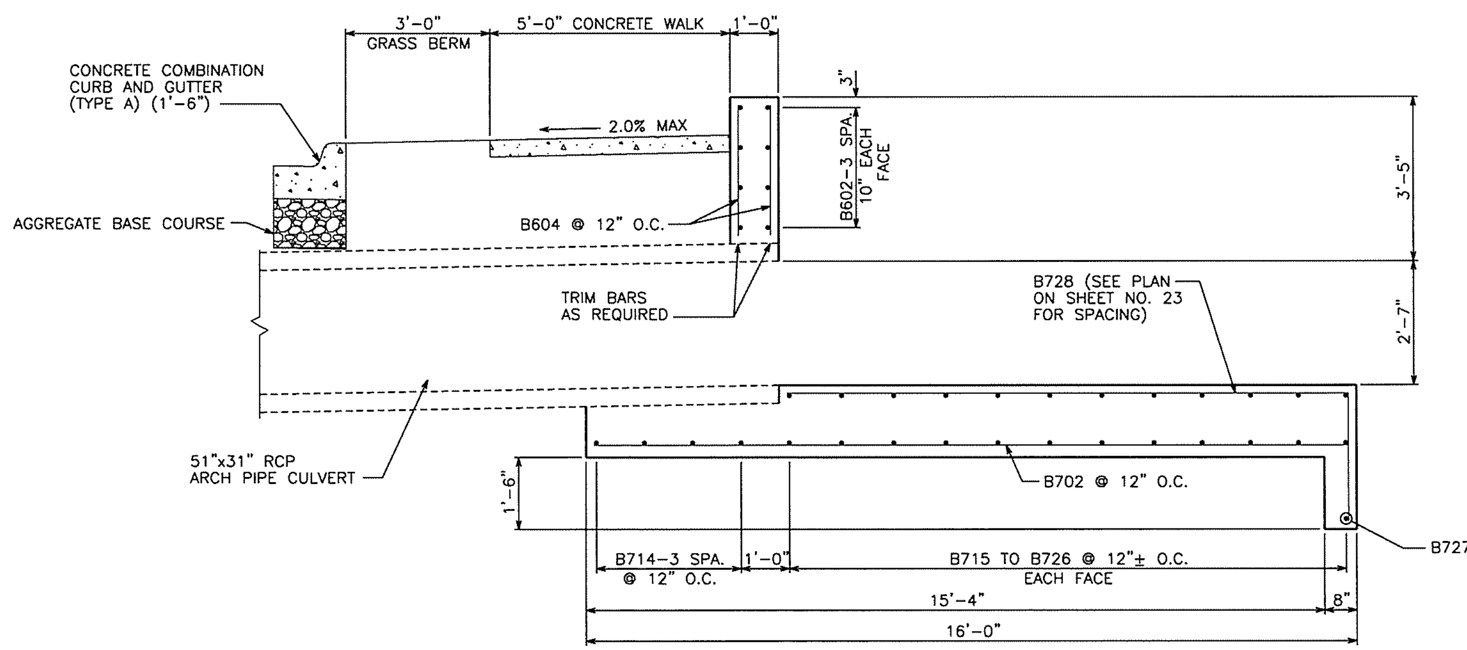


SECTION A-A
SCALE: 1/4" = 1'-0"



DETAIL A
SCALE: 3/8" = 1'-0"

SCHEDULE OF HEADWALL QUANTITIES		
CLASS S CONCRETE	REINFORCING STEEL (GRADE 60)	BRIDGE RAILING
64.95 CU. YD.	7,479 LB.	31.25 FT.



SECTION B-B
SCALE: 1/4" = 1'-0"

ARCH PIPE CULVERT HEADWALL DETAILS
SHEET 3 OF 4

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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	26	255

(2) ARCH PIPE CULVERT HEADWALL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
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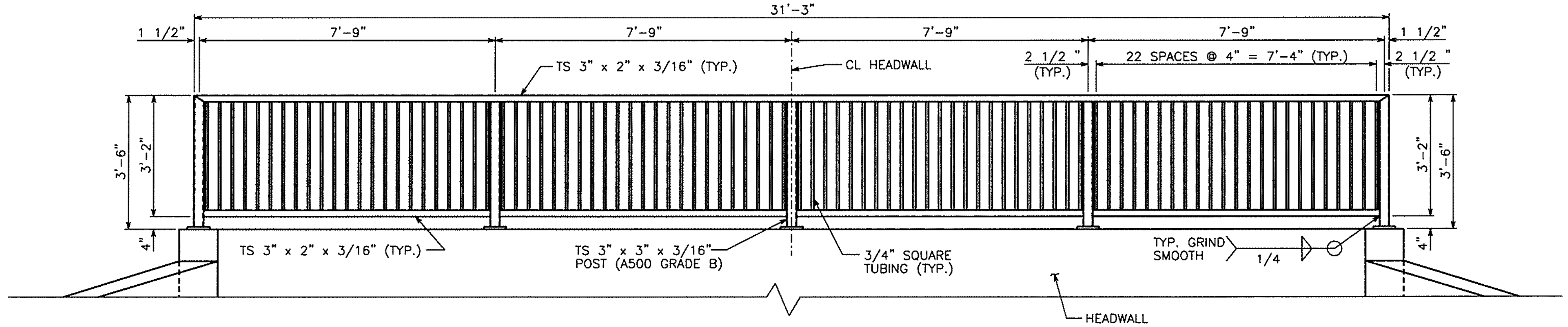
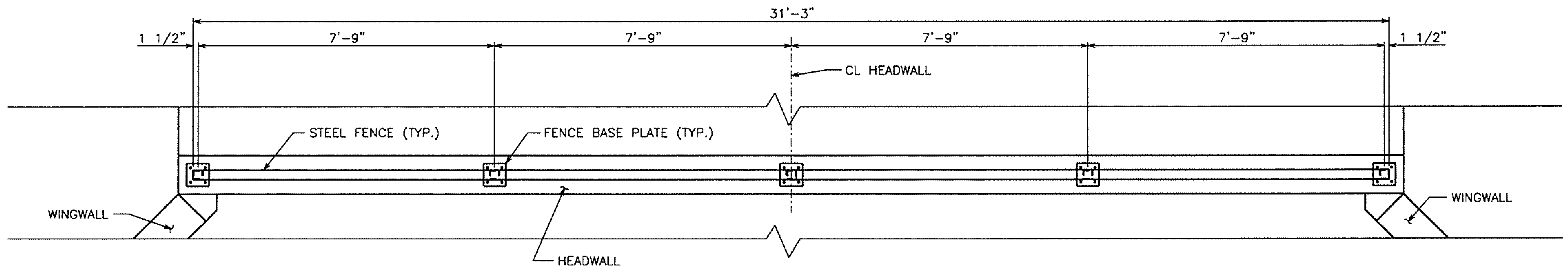


ELEVATION - RAIL POST SPACING DETAIL
SCALE: 1/4" = 1'-0"



PLAN - SHOWING POST SPACING
SCALE: 1/4" = 1'-0"

MATERIALS FOR BRIDGE RAILING

TUBING, POSTS AND ACCESSORIES: AASHTO SPECIFICATION M270, GR. 36 OR ASTM A500-GRADE B.

RAILING END CAPS: AASHTO SPECIFICATION M270, GR. 36.

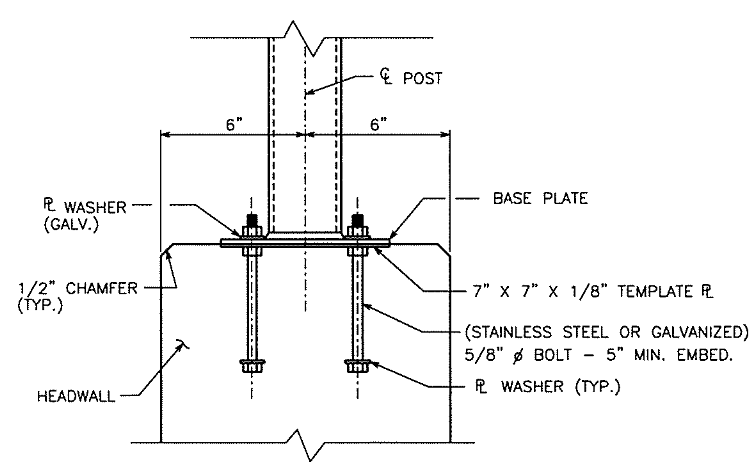
STEEL RAIL MEMBERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO SPECIFICATIONS M111 AFTER FABRICATION.

ANCHOR BOLTS SHALL BE OF STAINLESS STEEL OR HIGH STRENGTH STEEL. STAINLESS STEEL ANCHOR BOLTS SHALL CONFORM TO ASTM A193 OR A320-GRADE B8 WITH A MINIMUM YIELD STRENGTH OF 80,000 PSI. HIGH STRENGTH STEEL ANCHOR BOLTS SHALL CONFORM TO AASHTO M164 OR ASTM A354-GRADE BC GALVANIZED IN ACCORDANCE WITH AASHTO M232.

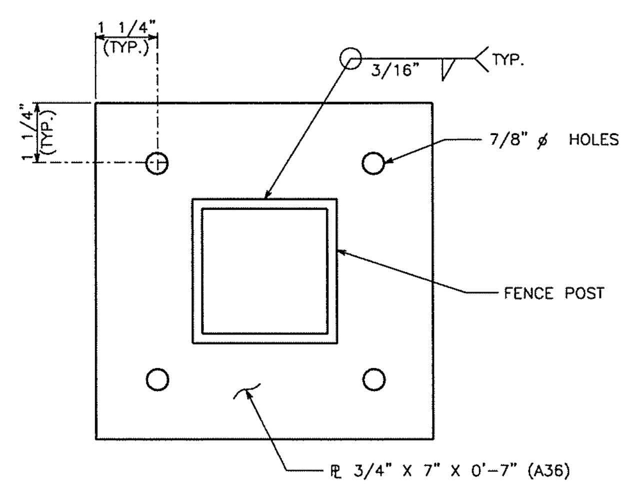
NUTS: NUTS SHALL CONFORM TO ASTM A194-GRADE 8 (STAINLESS STEEL) OR AASHTO M164 GALVANIZED IN ACCORDANCE WITH AASHTO M232.

THREADS: THREADS ON BOLTS, SCREWS AND NUTS SHALL CONFORM TO AMERICAN STANDARD COARSE SERIES, CLASS 2 FIT, ASA SPECIFICATION B1.1.

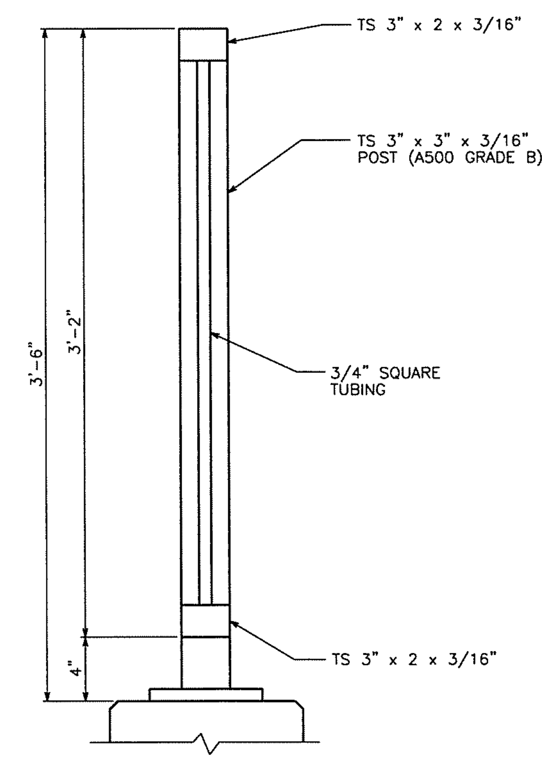
WASHERS SHALL BE OF HIGH STRENGTH STEEL CONFORMING TO AASHTO M270, GR. 36, GALVANIZED IN ACCORDANCE WITH AASHTO M232, OR OF STAINLESS STEEL CONFORMING TO ASTM A276 OR A167-TYPE 302.



SECTION NEAR POST SUPPORT
SCALE: 1 1/2" = 1'-0"



BASE PLATE
SCALE: 3" = 1'-0"



SECTION THRU FENCE
SCALE: 1 1/2" = 1'-0"

ARCH PIPE CULVERT HEADWALL DETAILS
SHEET 4 OF 4

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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	27	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
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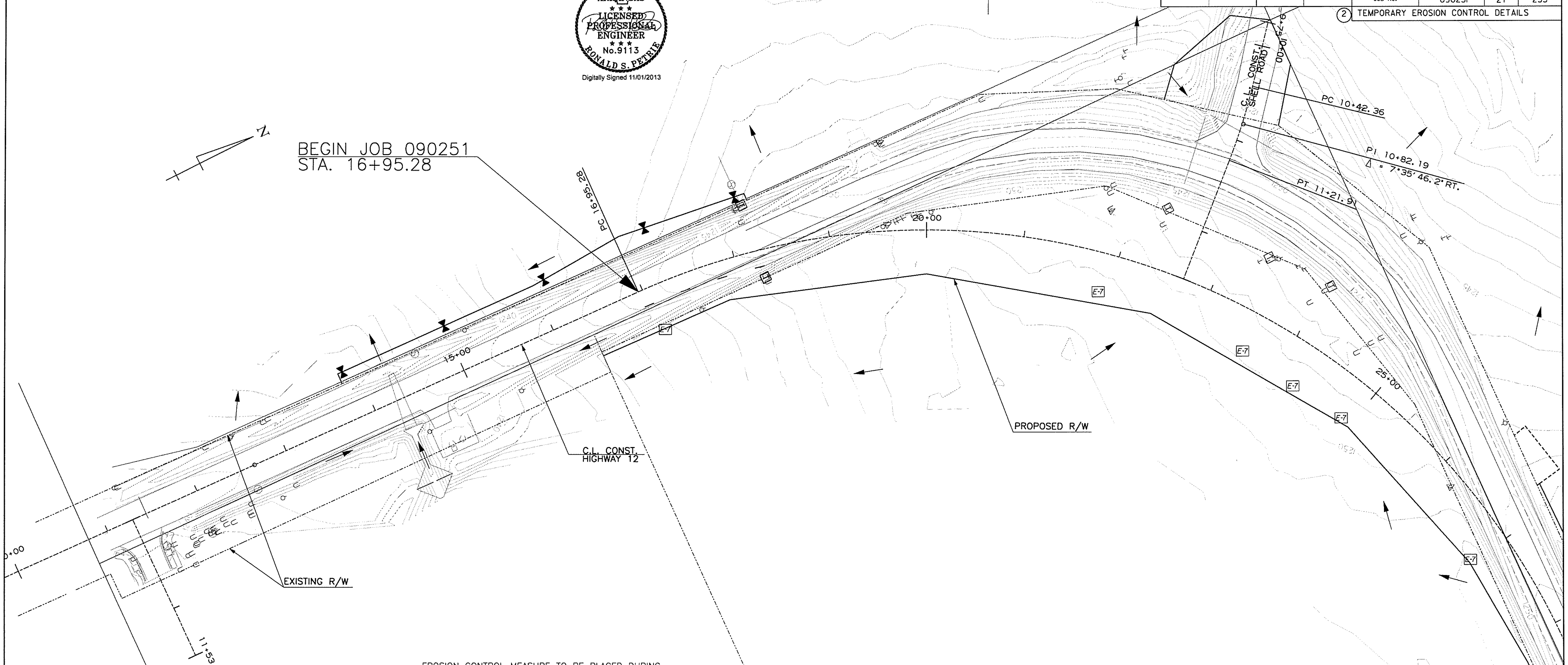

EROSION CONTROL MEASURE TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STAGE 3
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS (STAGE 1)

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WORKSPACE: AHTDXM
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	28	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
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4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
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STAGE 3
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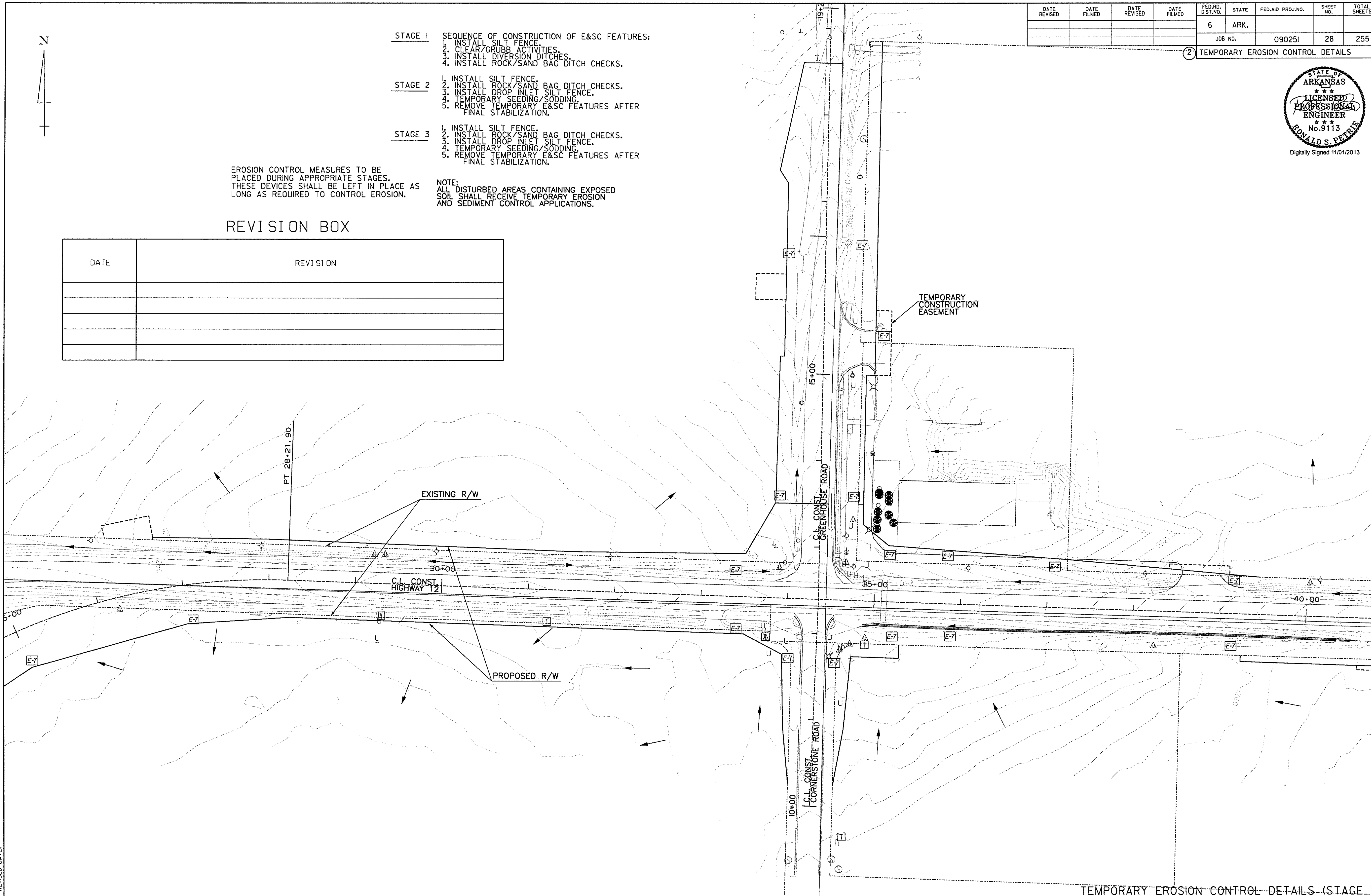
EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION



TEMPORARY EROSION CONTROL DETAILS (STAGE 1)

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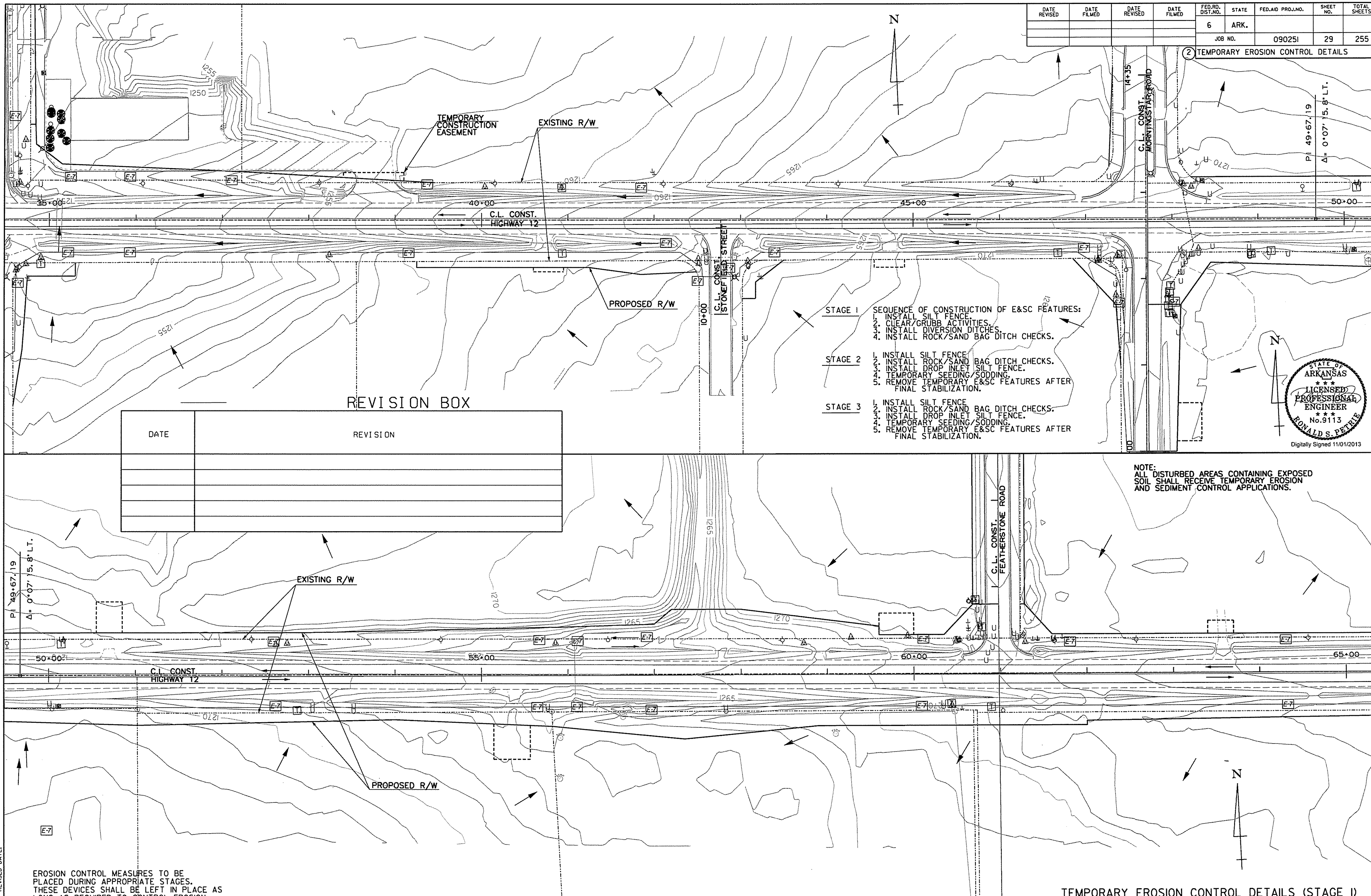
				JOB NO.		090251	29	255

(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
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STAGE 2
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5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013

REVISION BOX

DATE	REVISION

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 1)

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REVISED DATE:

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				6	ARK.			
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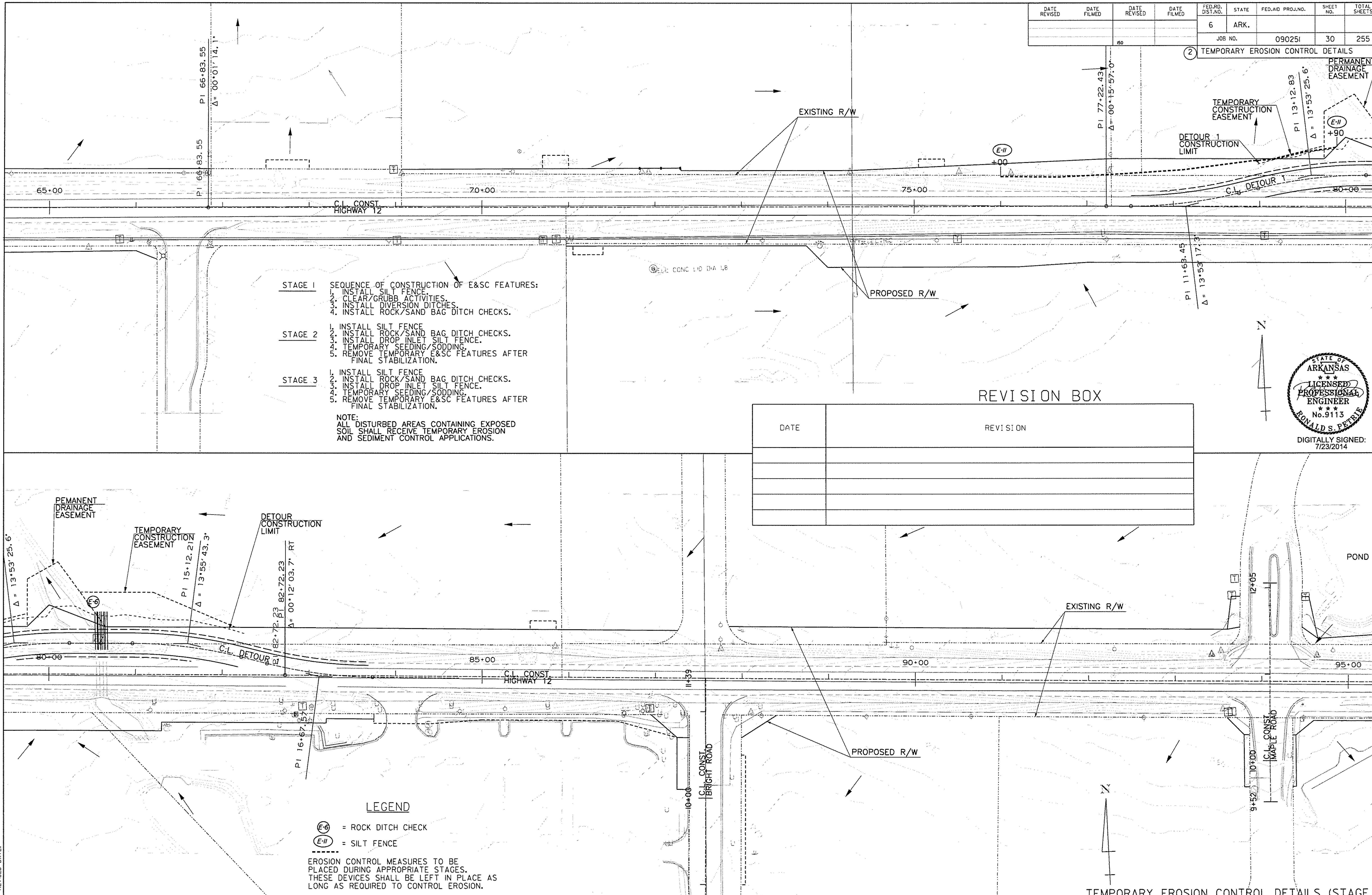
(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
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STAGE 3
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NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 1)

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REVISED DATE:

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				6	ARK.			
				JOB NO.		090251	31	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE
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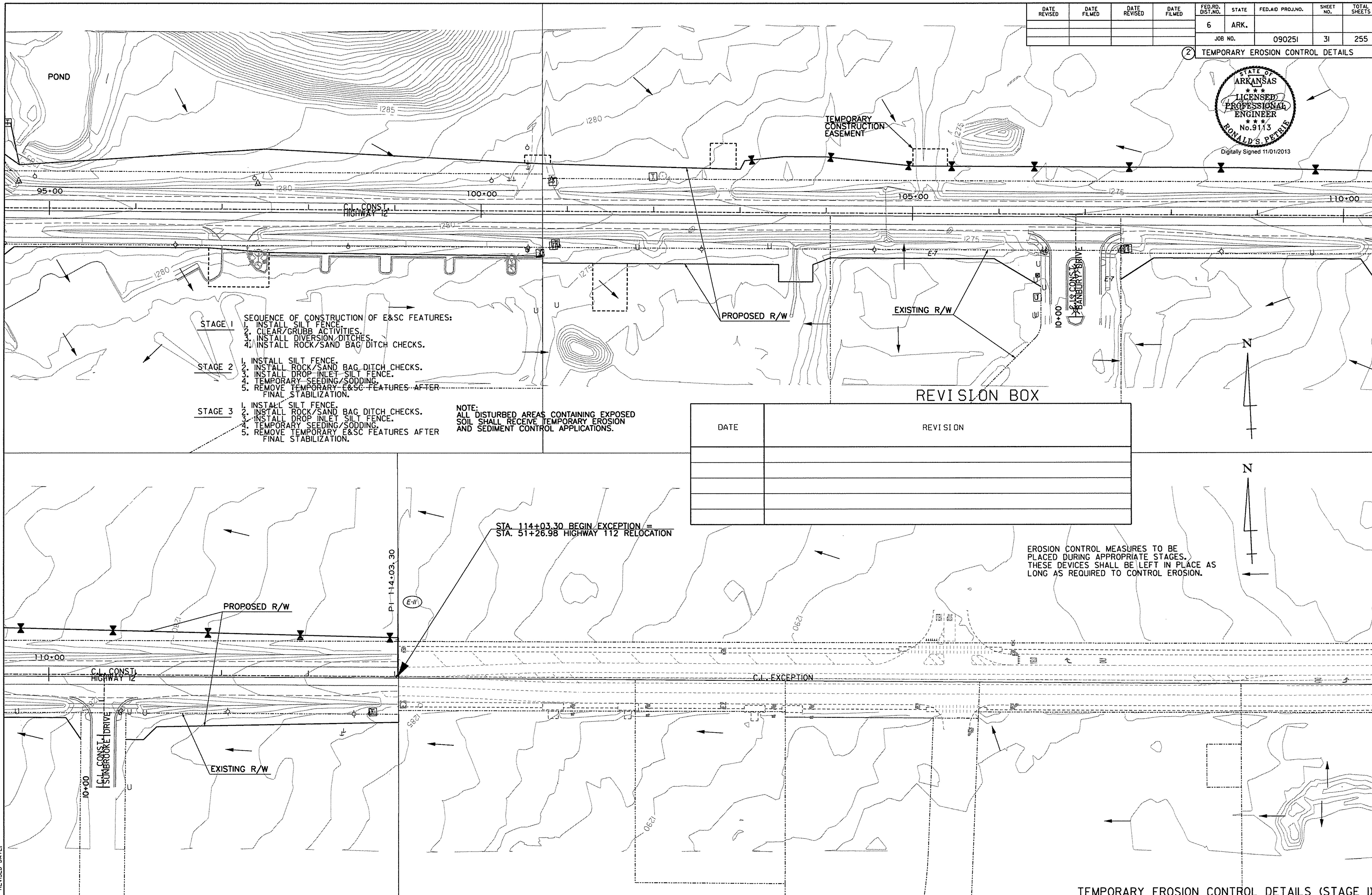

SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:

STAGE 1
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

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NOTE:
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REVISION BOX

DATE	REVISION

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 1)

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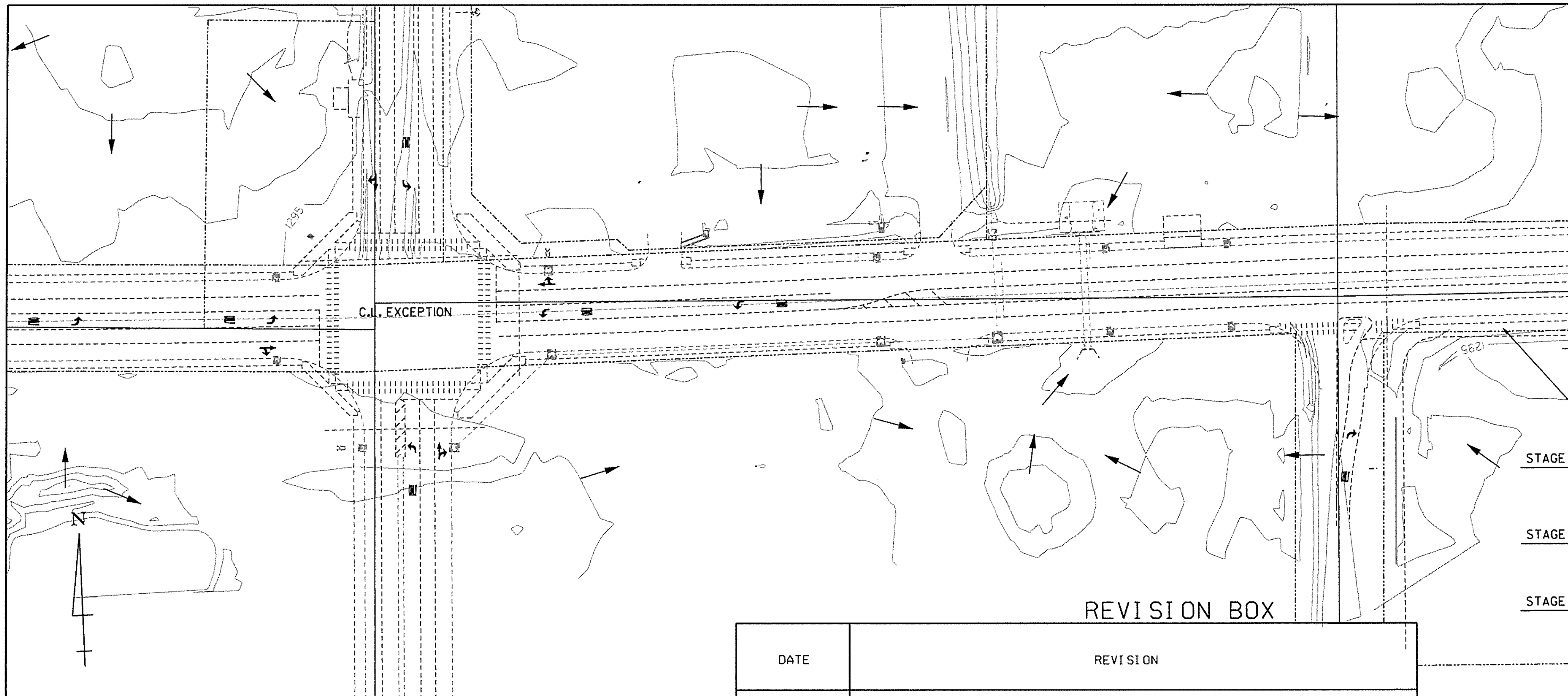
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	32	255

(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1
SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

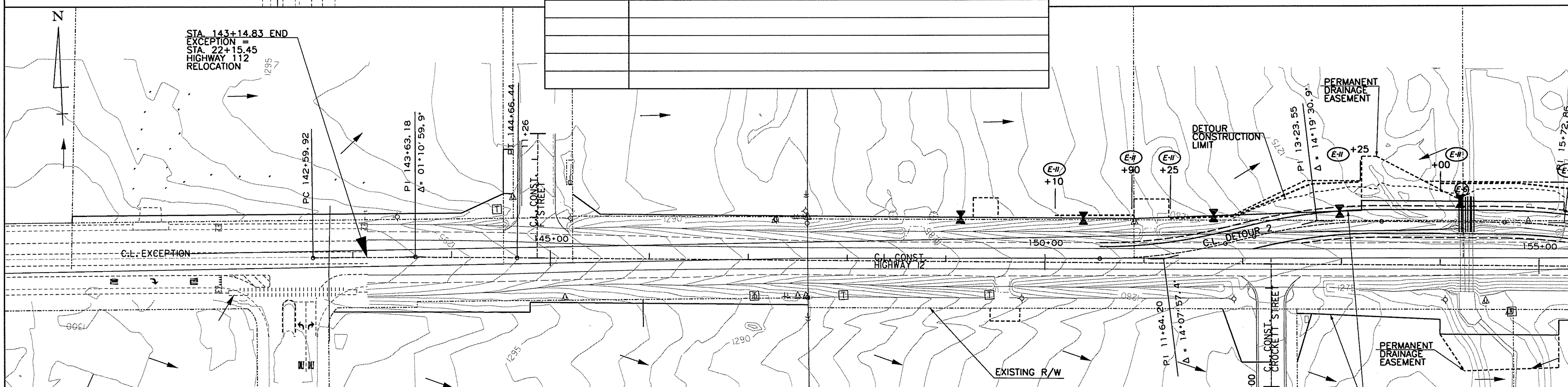
STAGE 3
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION



LEGEND
E-5 = ROCK DITCH CHECK
E-11 = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 1)

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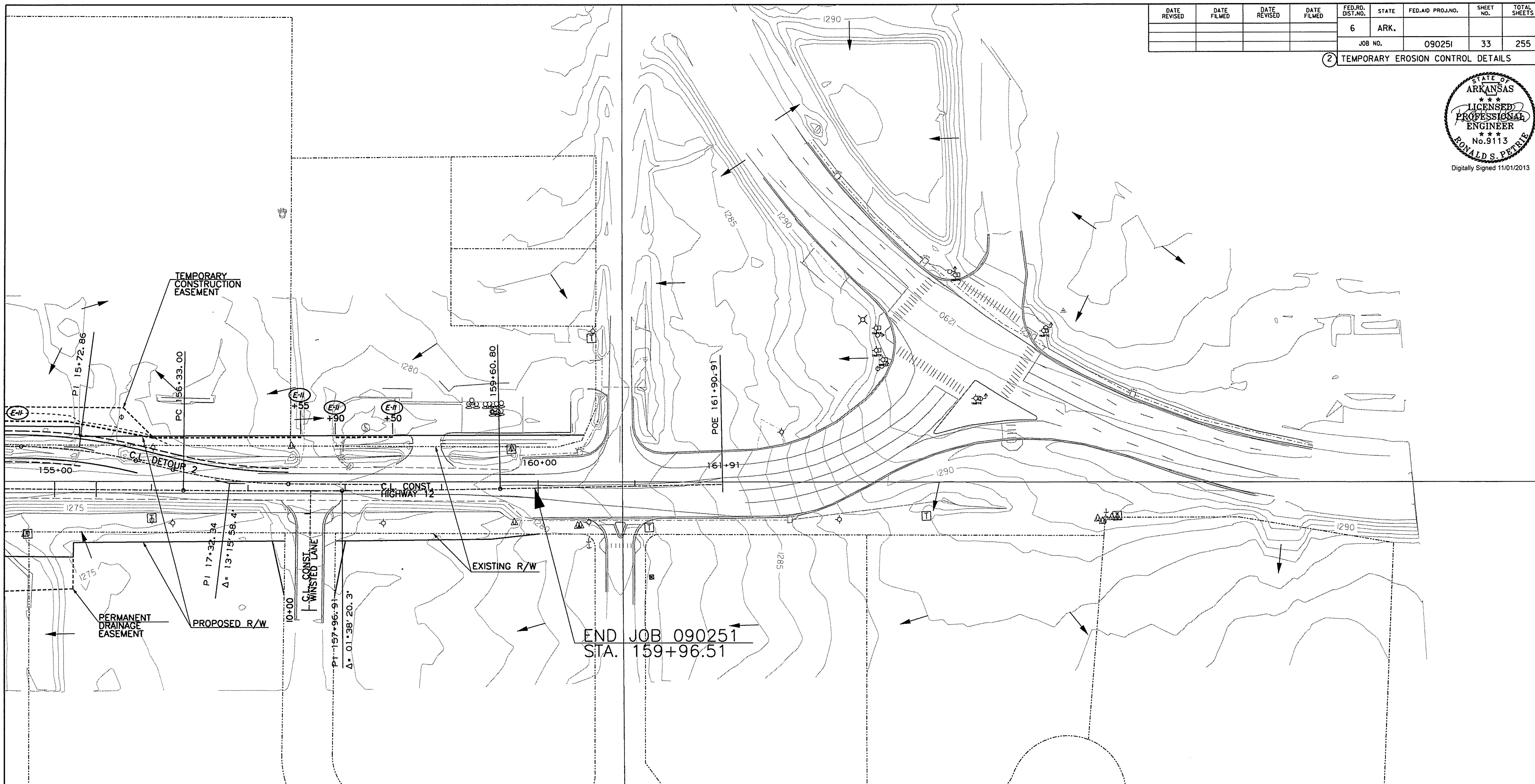
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	33	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
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4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STAGE 3
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
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5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION

LEGEND

E-11 = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 1)

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REVISED DATE:

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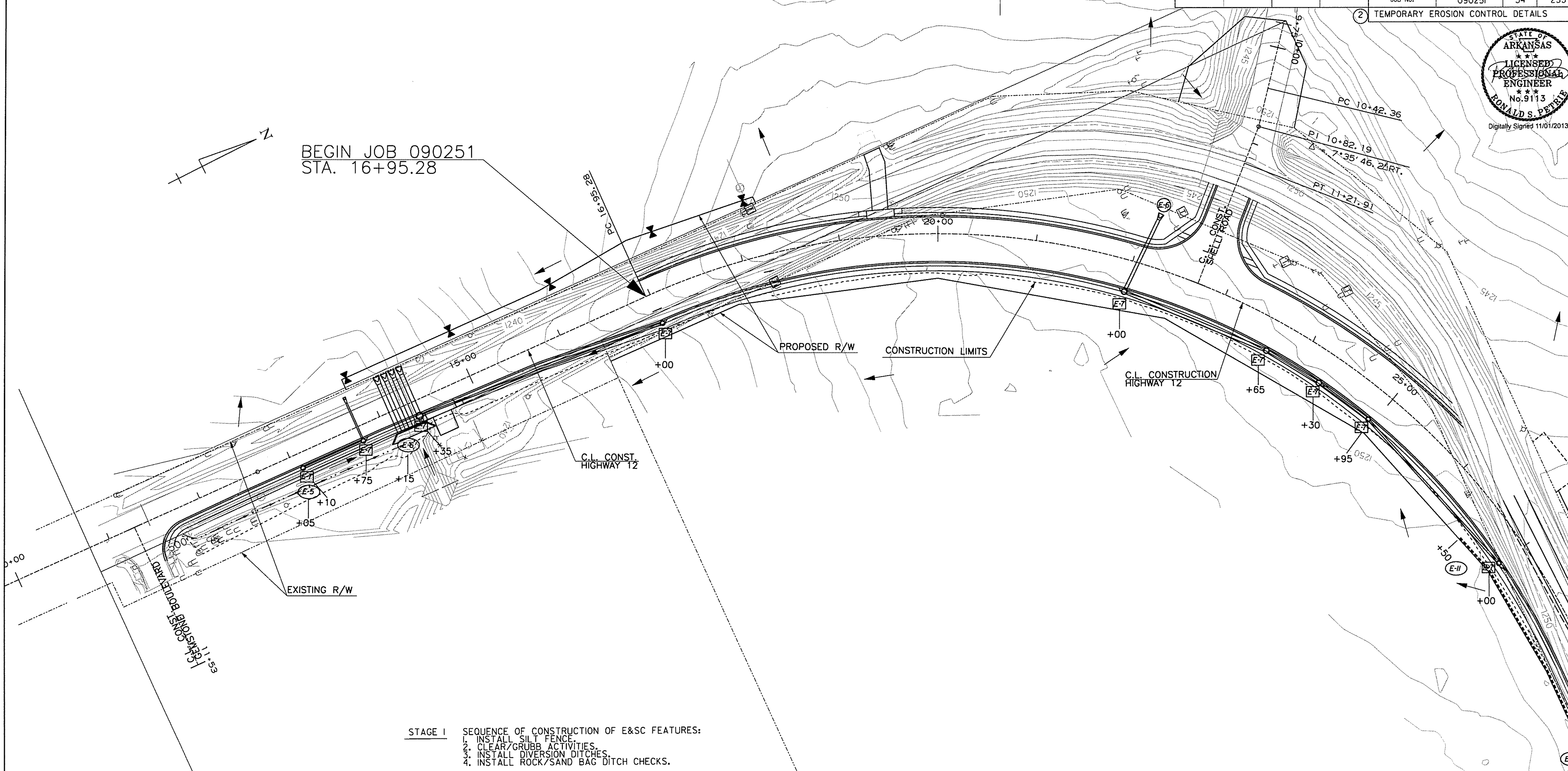
				6	ARK.			
				JOB NO.		090251	34	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013



LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
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5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STAGE 3
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
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NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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REVISED DATE:

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				6	ARK.			
				JOB NO.		090251	35	255

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

N

LEGEND

E-5 = SAND BAG DITCH CHECK

E-6 = ROCK DITCH CHECK

E-7 = DROP INLET SILT FENCE

E-11 = SILT FENCE

STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
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STAGE 3
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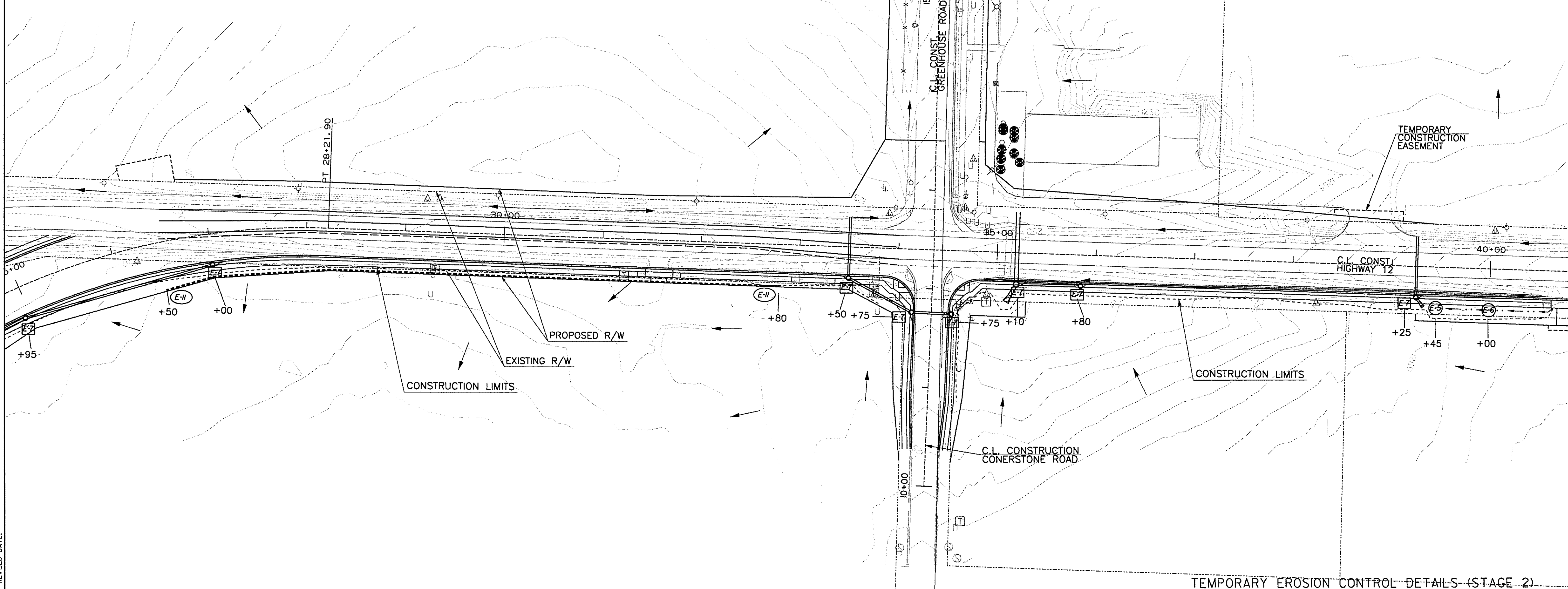
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION



TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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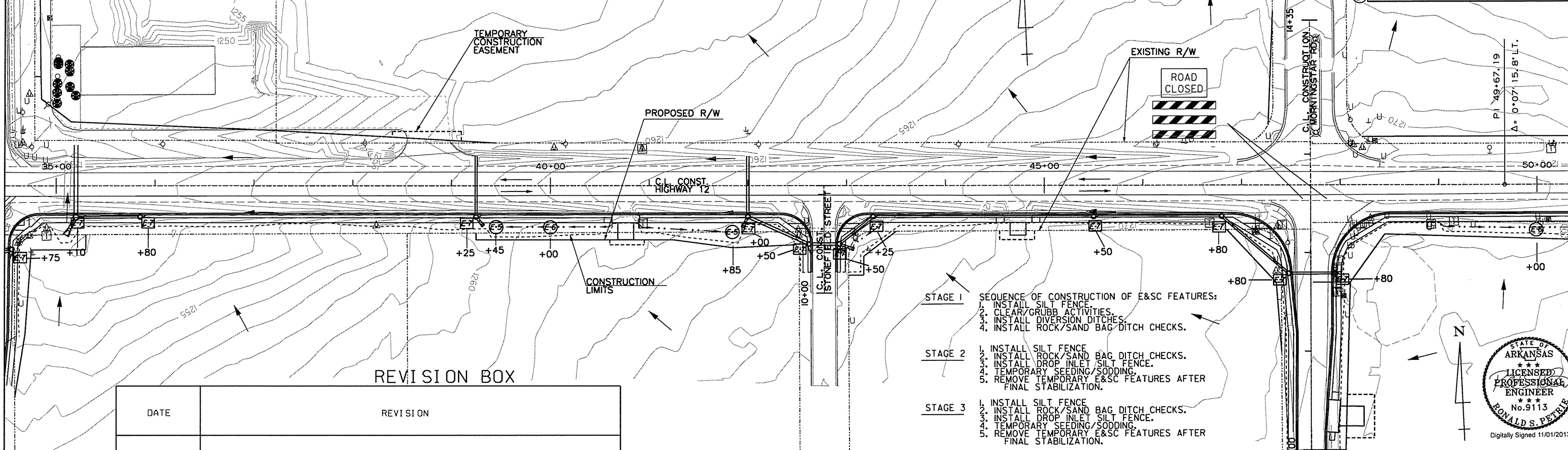
				JOB NO.		090251	36	255

(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
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4. TEMPORARY SEEDING/SODDING.
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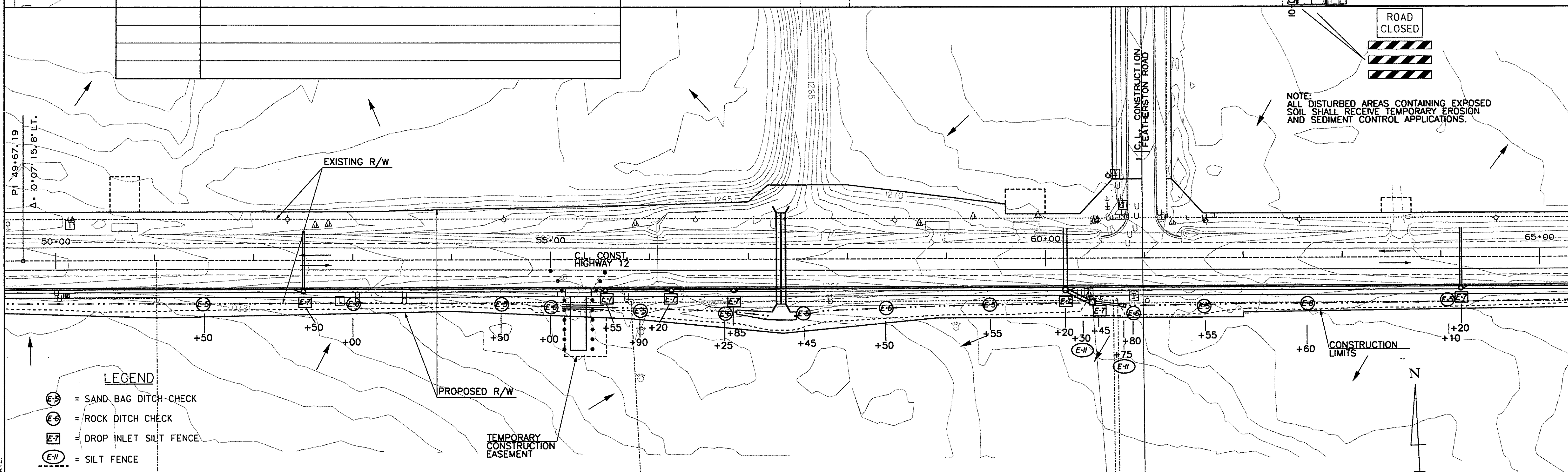
STAGE 3
1. INSTALL SILT FENCE
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

REVISION BOX

DATE	REVISION



NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

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REVISED DATE:

TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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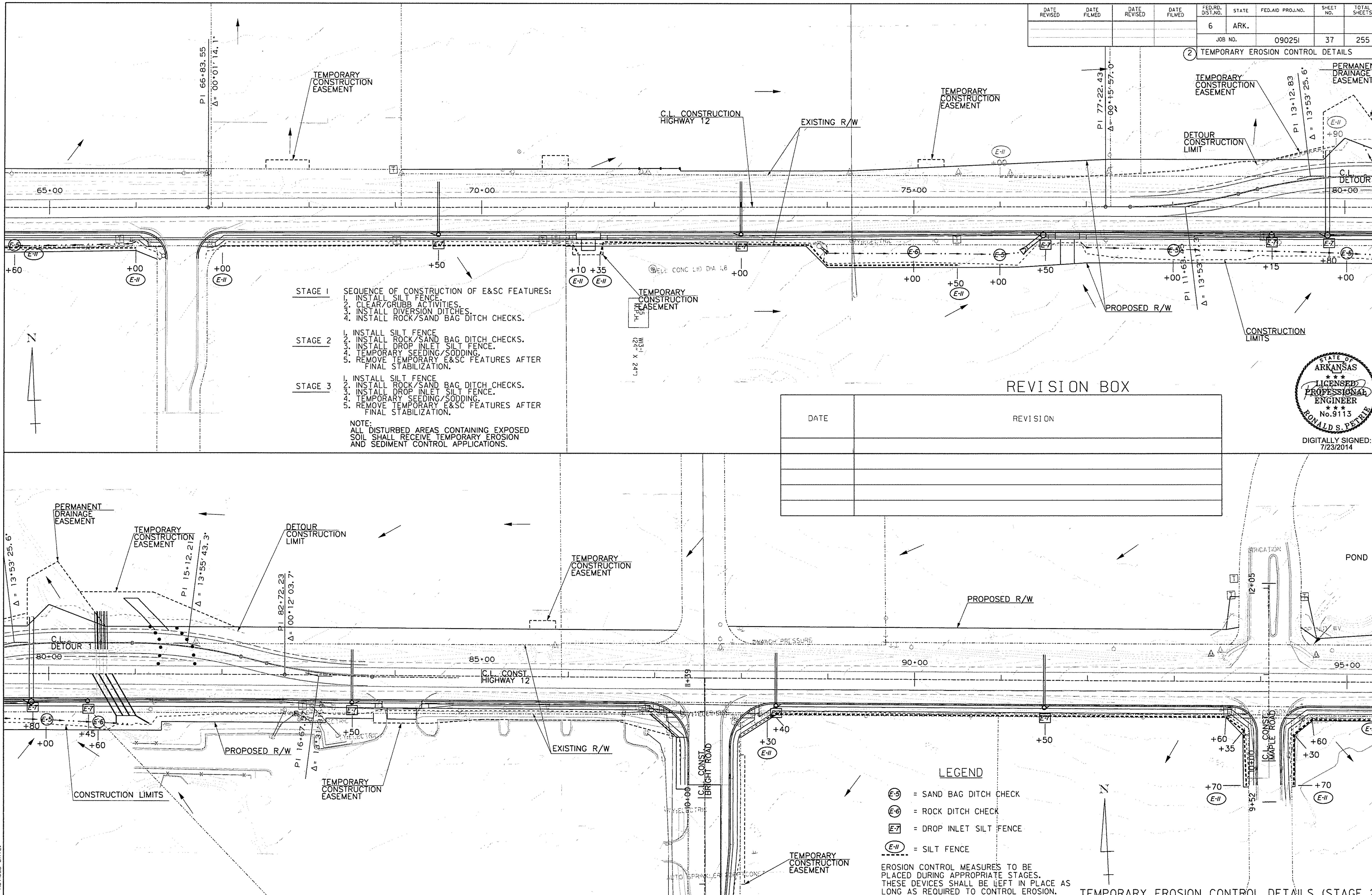
				6	ARK.			
					JOB NO.	090251	37	255

(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE
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STAGE 3
1. INSTALL SILT FENCE
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
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5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

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REVISION BOX

DATE	REVISION

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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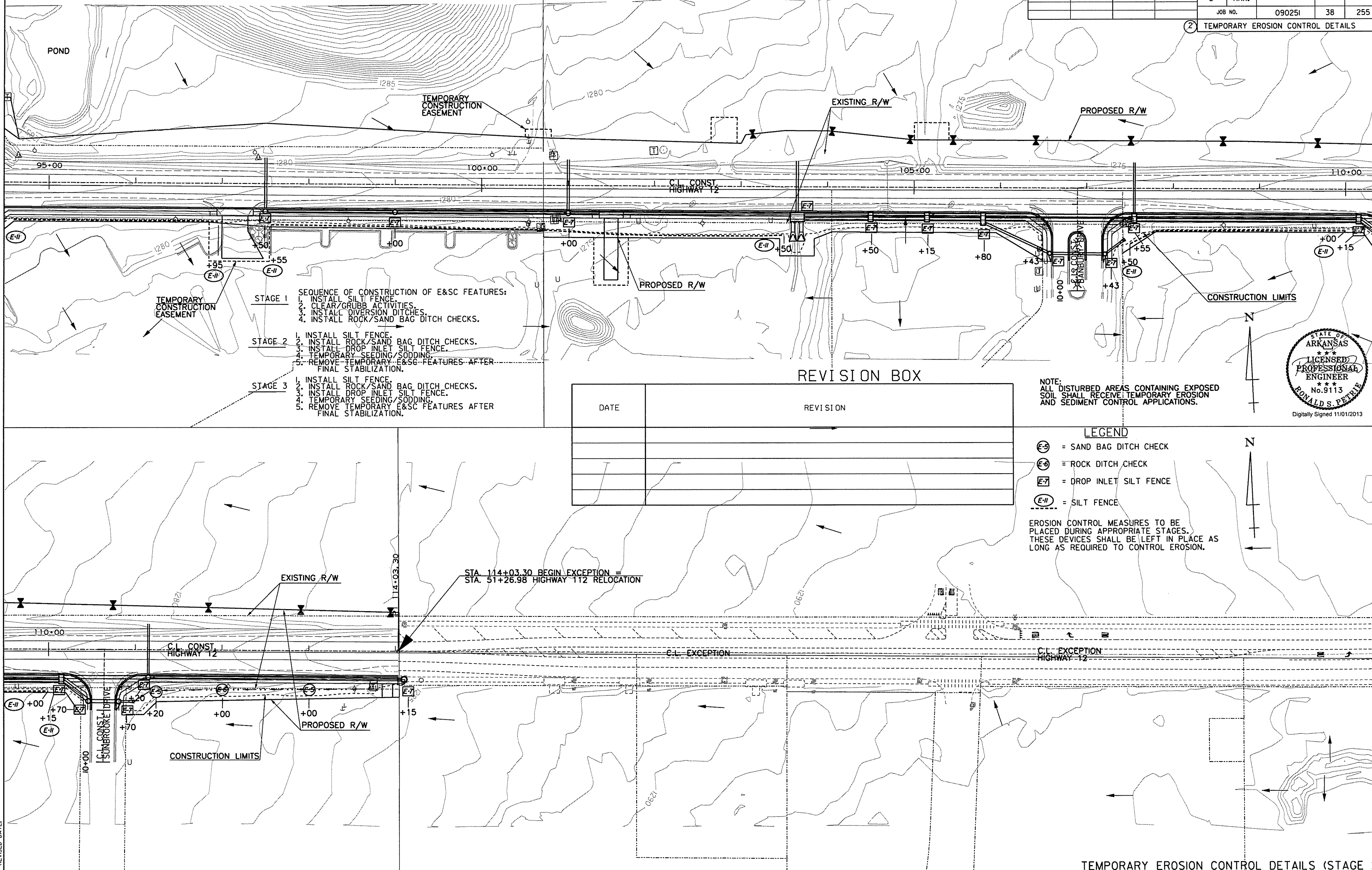
				JOB NO.		090251	38	255

(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
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STAGE 2
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STAGE 3
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REVISION BOX

DATE	REVISION

NOTE:
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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

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LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

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TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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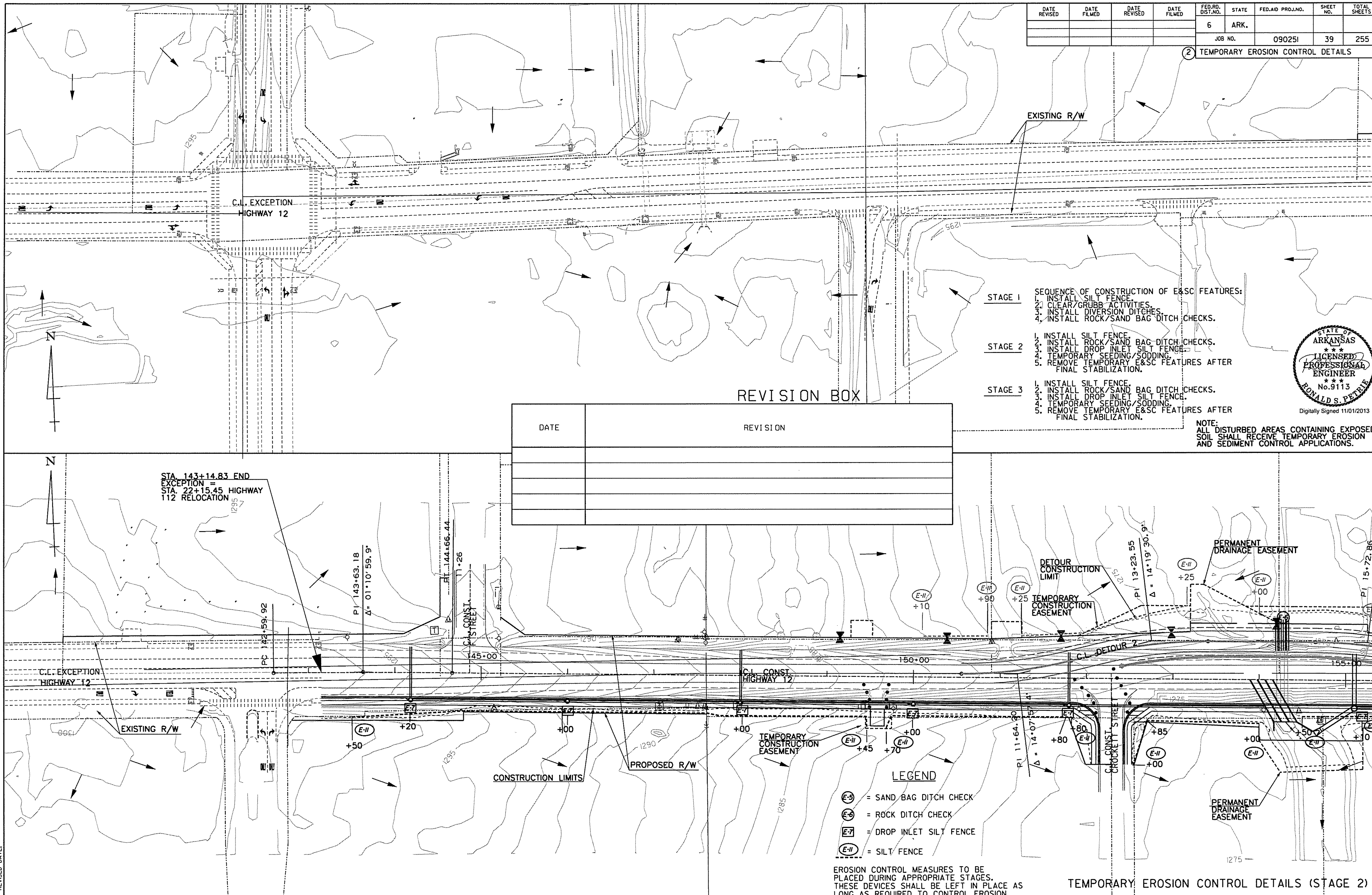
				6	ARK.			
				JOB NO.		090251	39	255

(2) TEMPORARY EROSION CONTROL DETAILS



DATE	REVISION

STAGE 1 — SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
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STAGE 3
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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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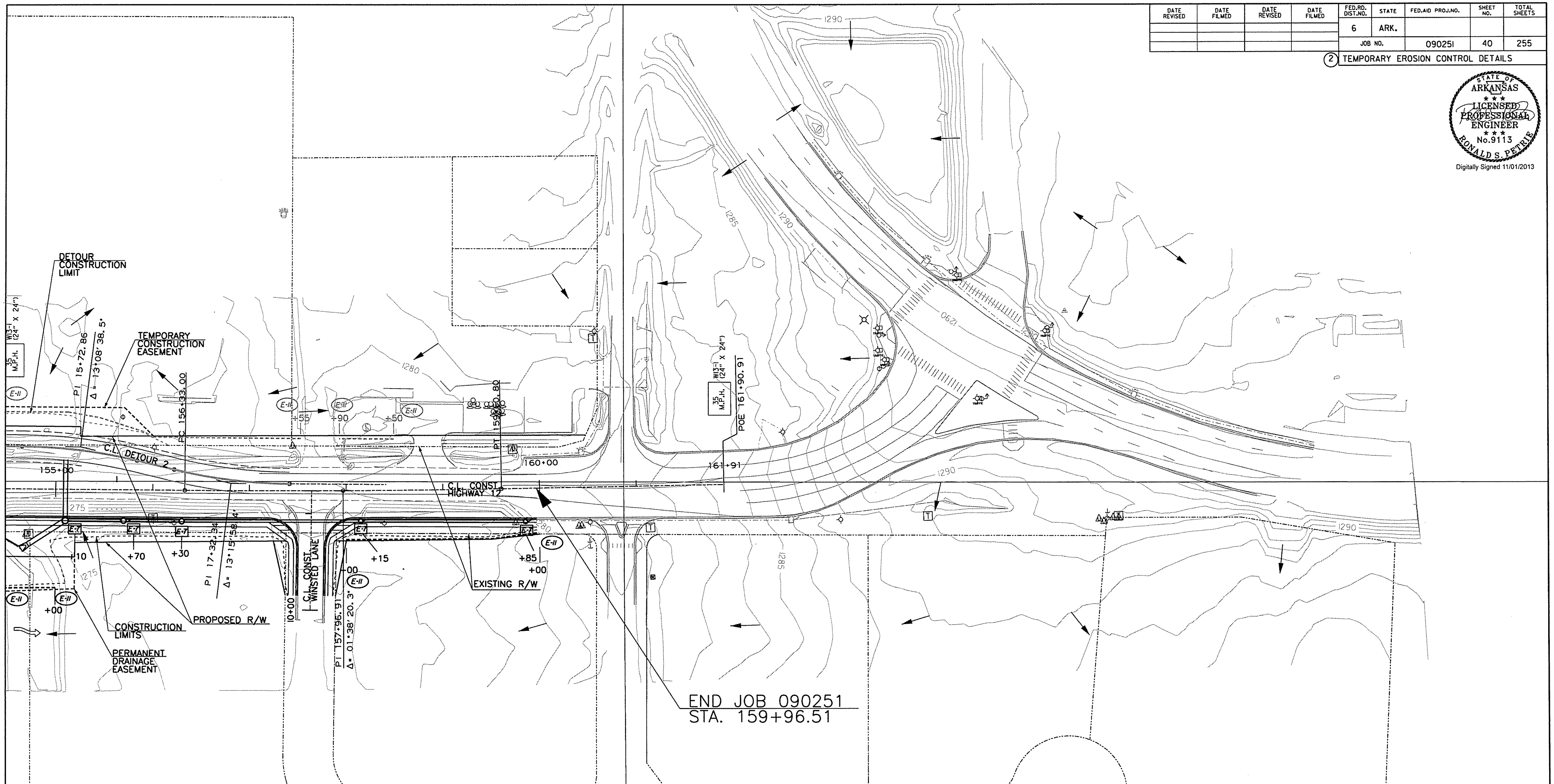
				6	ARK.			
					JOB NO.	090251	40	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
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STAGE 3
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NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION

LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 2)

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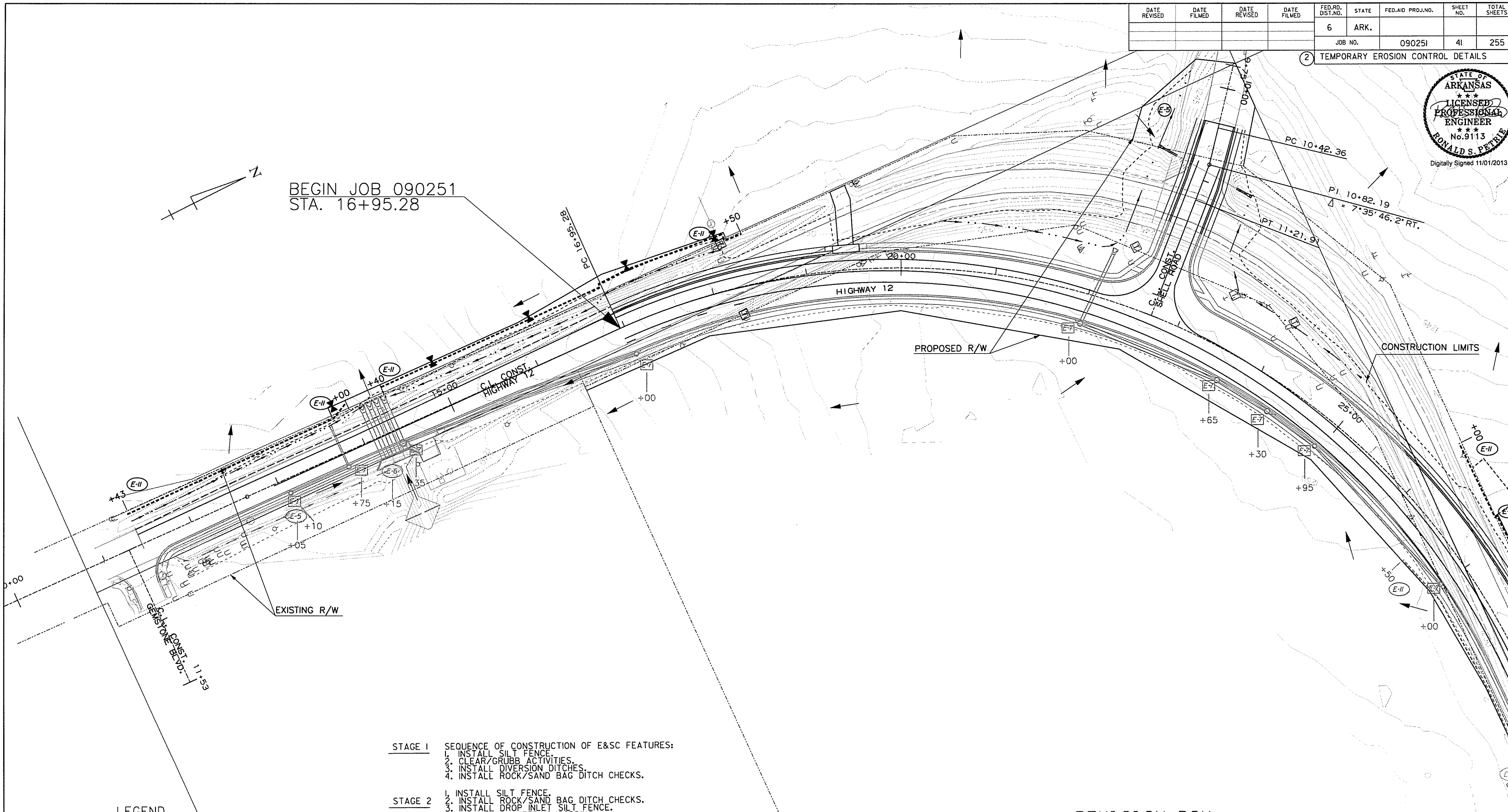
				6	ARK.			
				JOB NO.		090251	41	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013



LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

STAGE 1 — SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
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STAGE 2
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STAGE 3
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5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

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				6	ARK.			
				JOB NO.		090251	42	255

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013

N

LEGEND

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

STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STAGE 3
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2. INSTALL ROCK/SAND BAG DITCH CHECKS.
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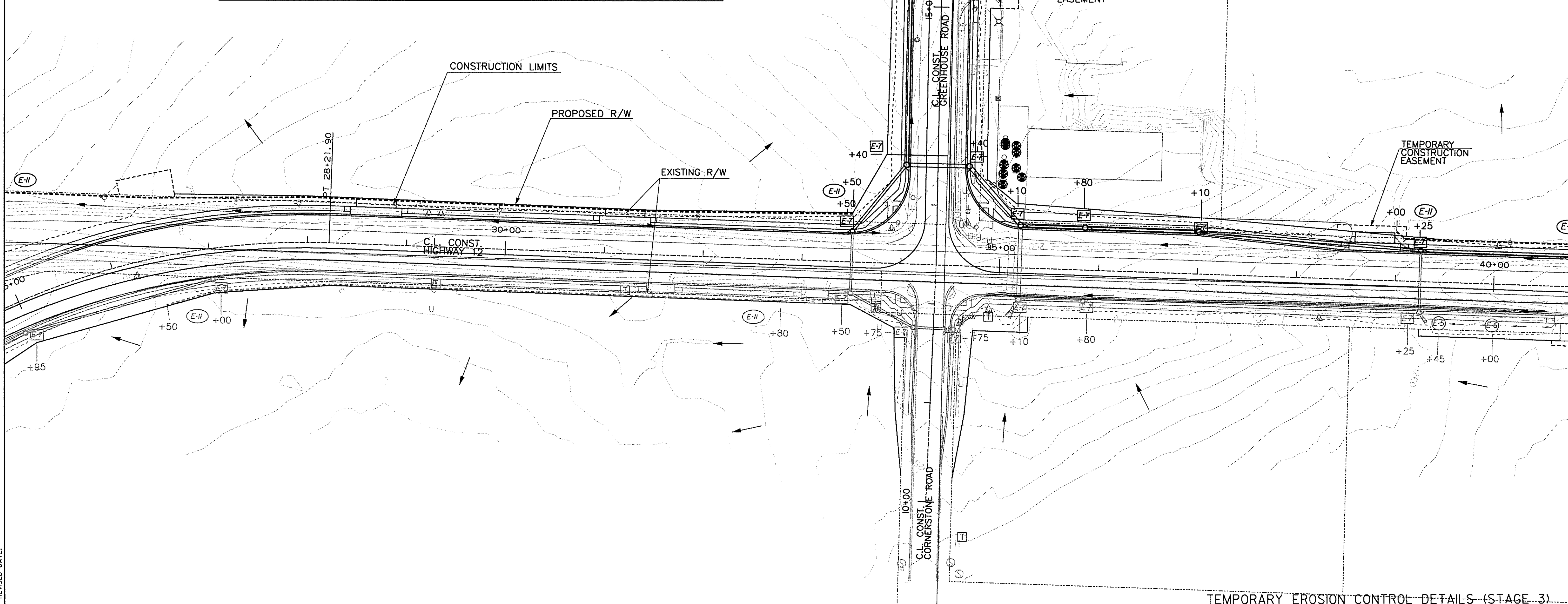
NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

REVISION BOX

DATE	REVISION



TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

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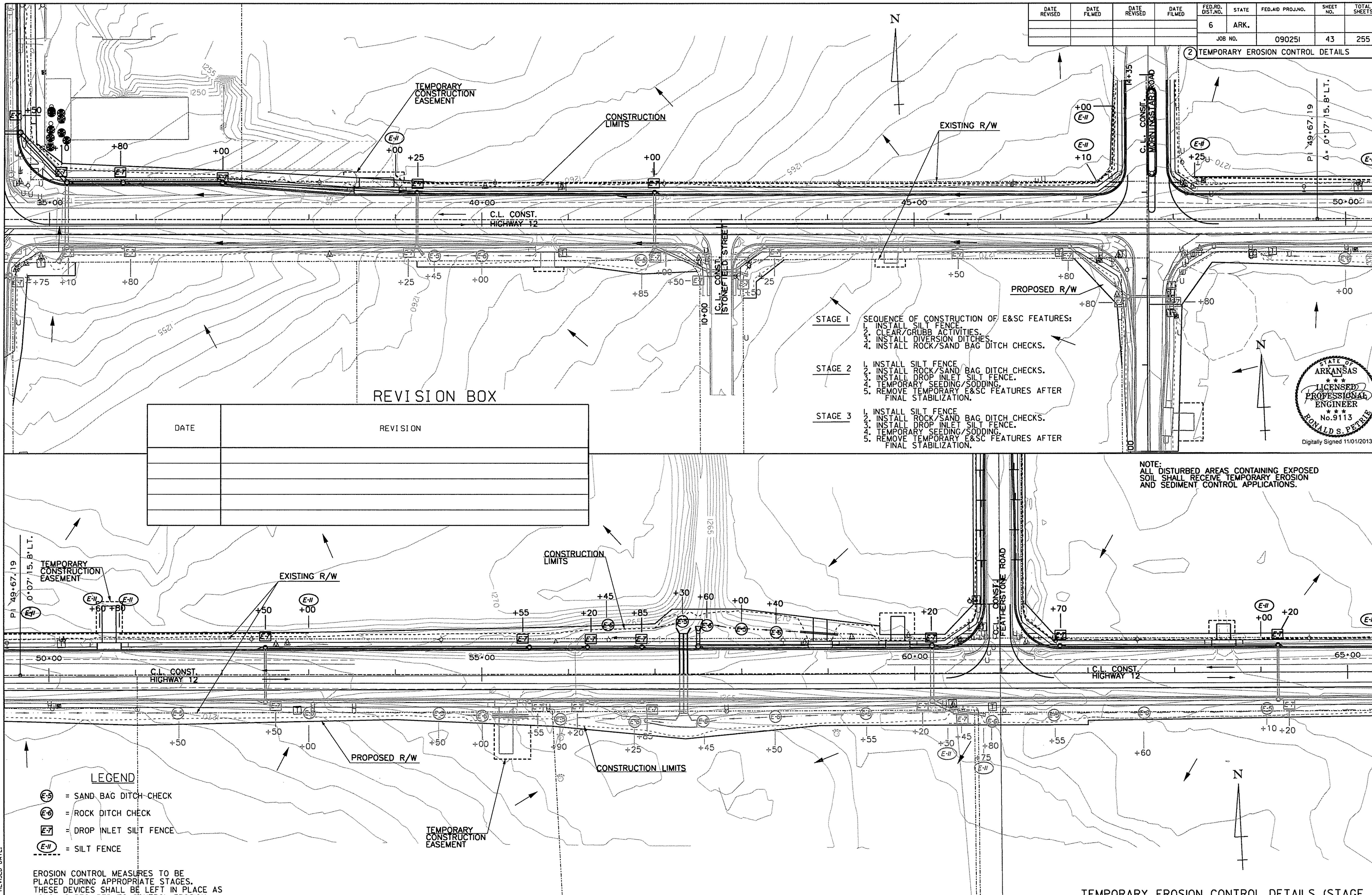
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	43	255

(2) TEMPORARY EROSION CONTROL DETAILS



REVISION BOX

DATE	REVISION

STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STAGE 3
1. INSTALL SILT FENCE
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
3. INSTALL DROP INLET SILT FENCE.
4. TEMPORARY SEEDING/SODDING.
5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

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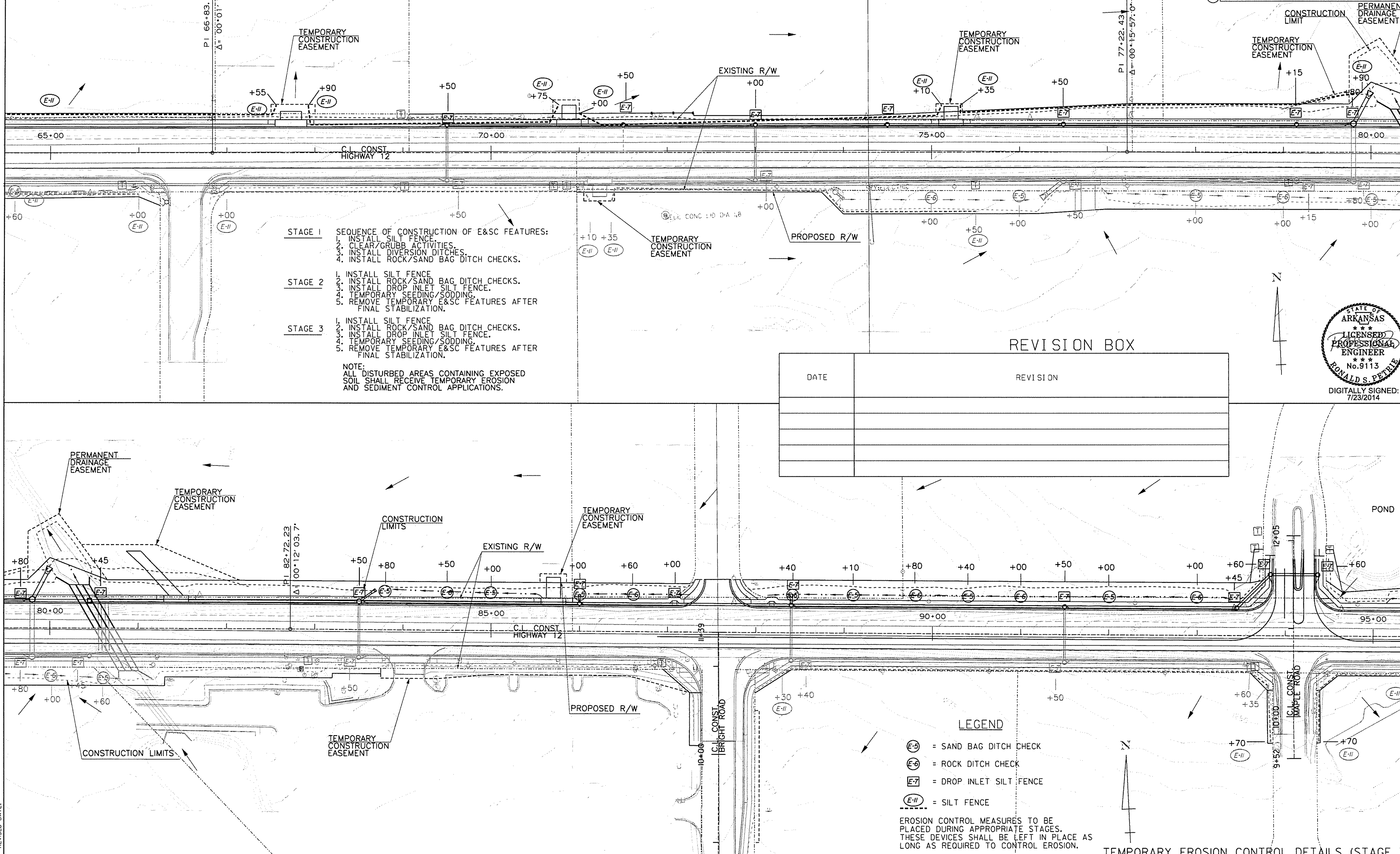
REVISED DATE:

TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
		150		JOB NO.		090251	44	255

(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE
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5. REMOVE TEMPORARY E&SC FEATURES AFTER FINAL STABILIZATION.

STAGE 3
1. INSTALL SILT FENCE
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REVISION BOX

DATE	REVISION

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

LEGEND

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

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

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REVISED DATE:

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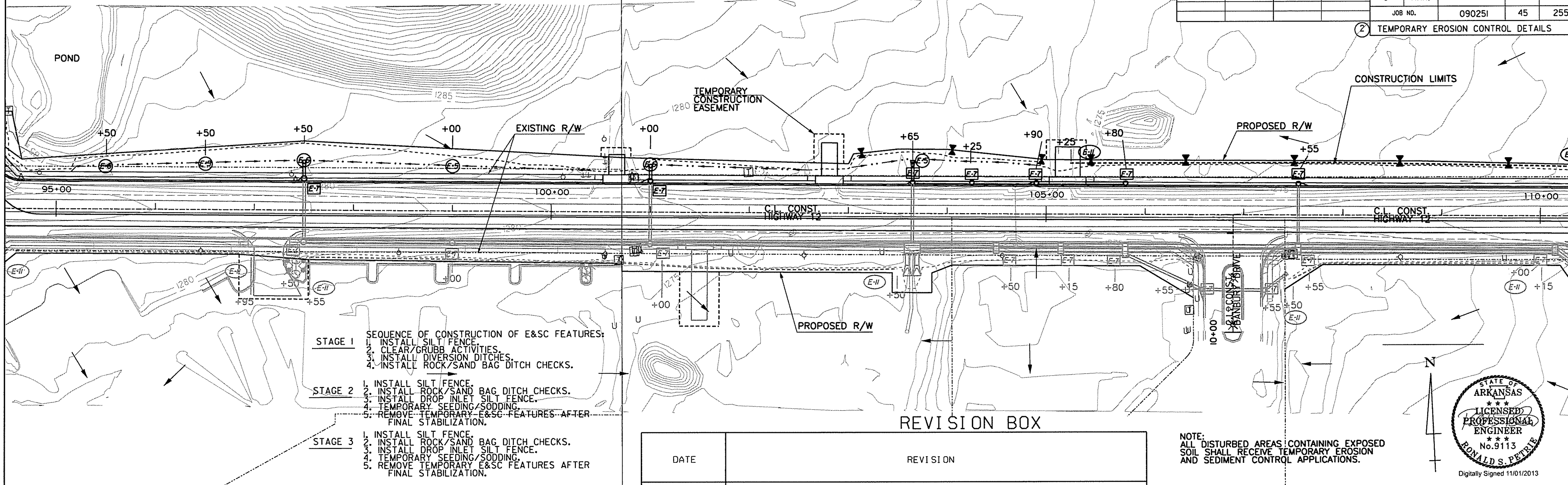
(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
2. INSTALL ROCK/SAND BAG DITCH CHECKS.
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4. TEMPORARY SEEDING/SODDING.
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STAGE 3
1. INSTALL SILT FENCE.
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REVISION BOX

DATE	REVISION

NOTE:
ALL DISTURBED AREAS CONTAINING EXPOSED SOIL SHALL RECEIVE TEMPORARY EROSION AND SEDIMENT CONTROL APPLICATIONS.

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
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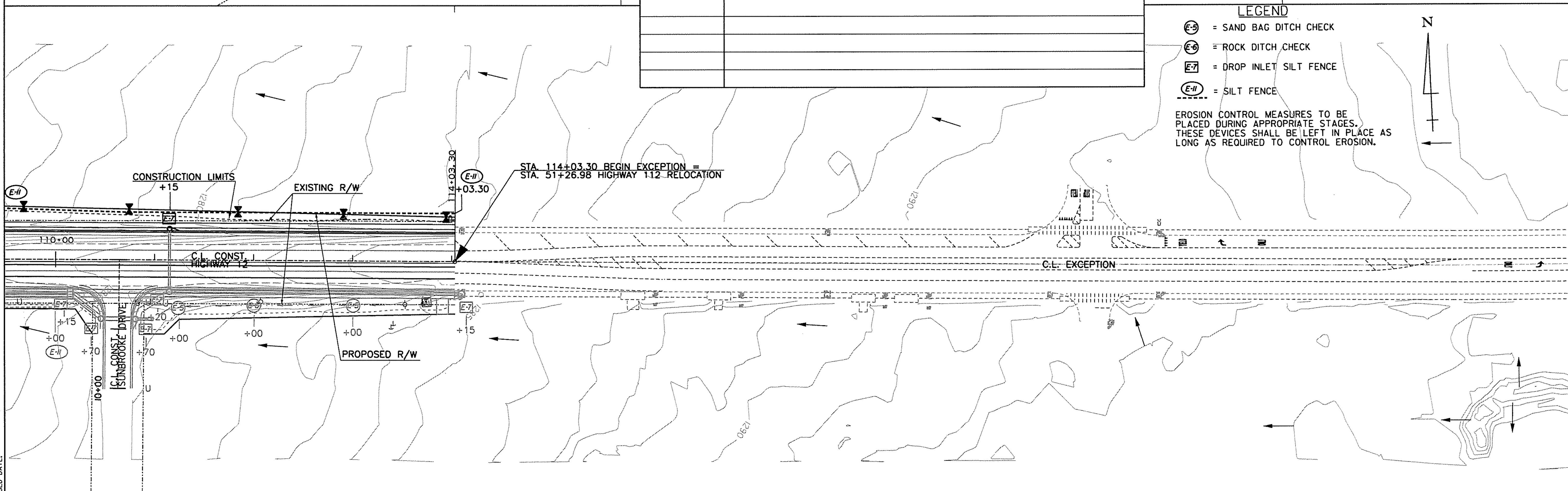
LEGEND
E-5 = SAND BAG DITCH CHECK
E-6 = ROCK DITCH CHECK
E-7 = DROP INLET SILT FENCE
E-11 = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.



TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

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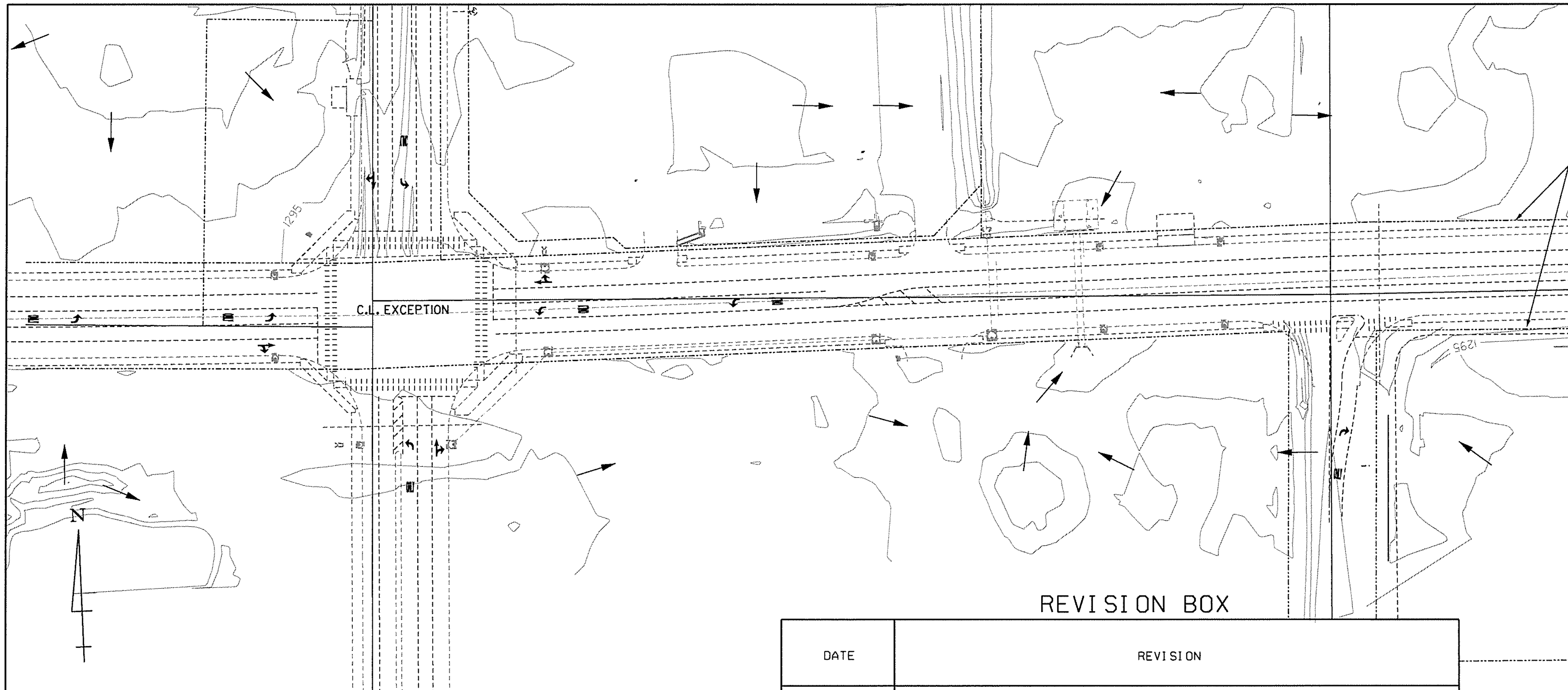
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	46	255

(2) TEMPORARY EROSION CONTROL DETAILS



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
1. INSTALL SILT FENCE.
2. CLEAR/GRUBB ACTIVITIES.
3. INSTALL DIVERSION DITCHES.
4. INSTALL ROCK/SAND BAG DITCH CHECKS.

STAGE 2
1. INSTALL SILT FENCE.
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STAGE 3
1. INSTALL SILT FENCE.
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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

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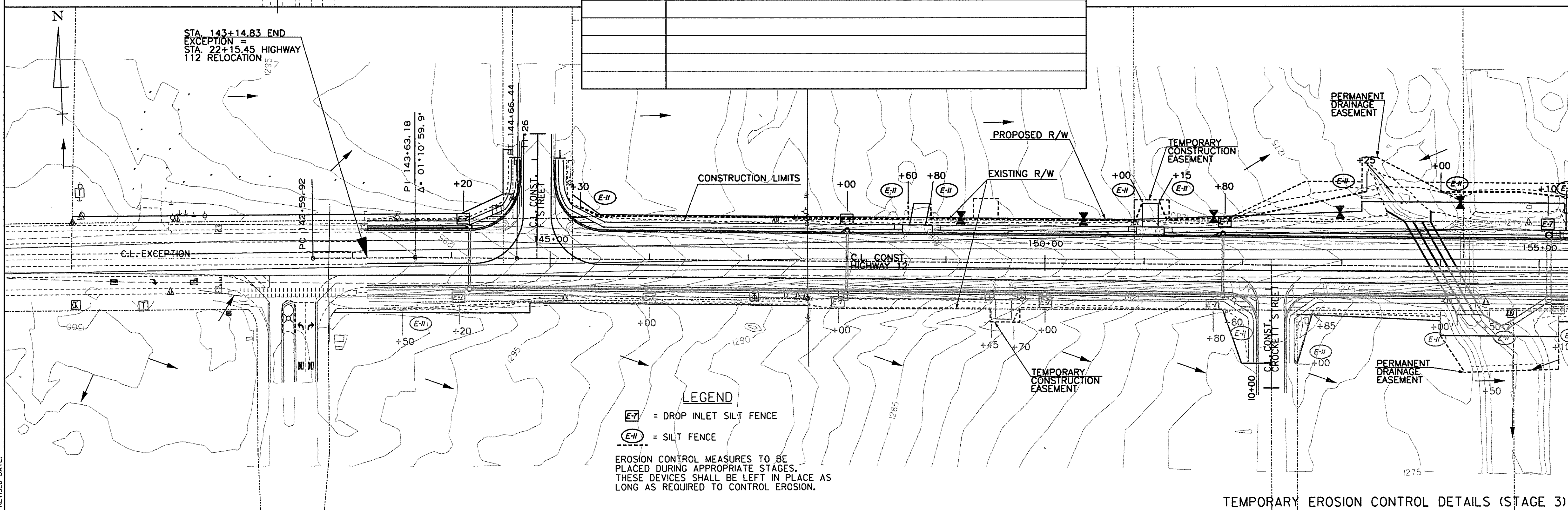
REVISION BOX

DATE	REVISION



LEGEND

E-7 = DROP INLET SILT FENCE

E-11 = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

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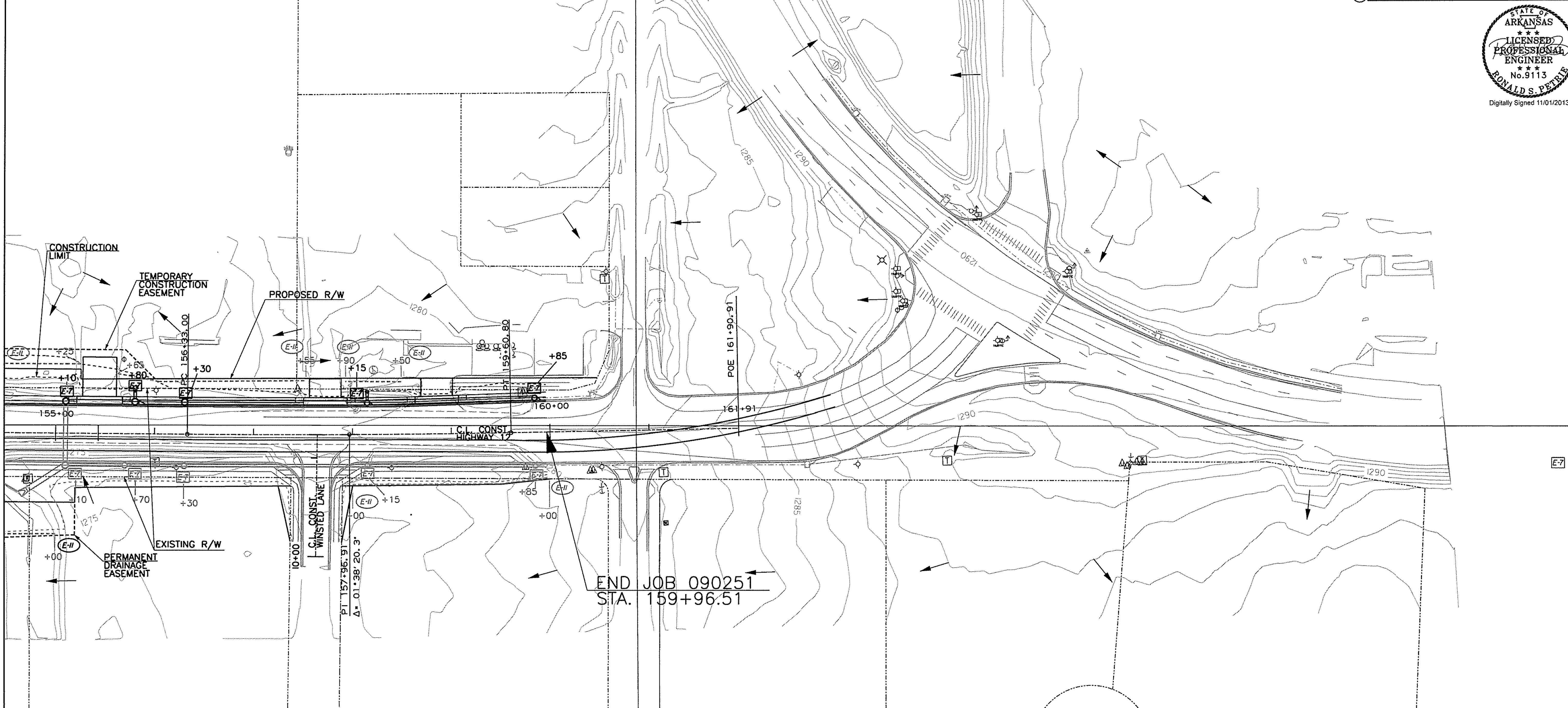
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	47	255

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 1 SEQUENCE OF CONSTRUCTION OF E&SC FEATURES:
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2. CLEAR/GRUBB ACTIVITIES.
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STAGE 2
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STAGE 3
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NOTE:
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REVISION BOX

DATE	REVISION

LEGEND

E-7 = DROP INLET SILT FENCE

E-11 = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL DETAILS (STAGE 3)

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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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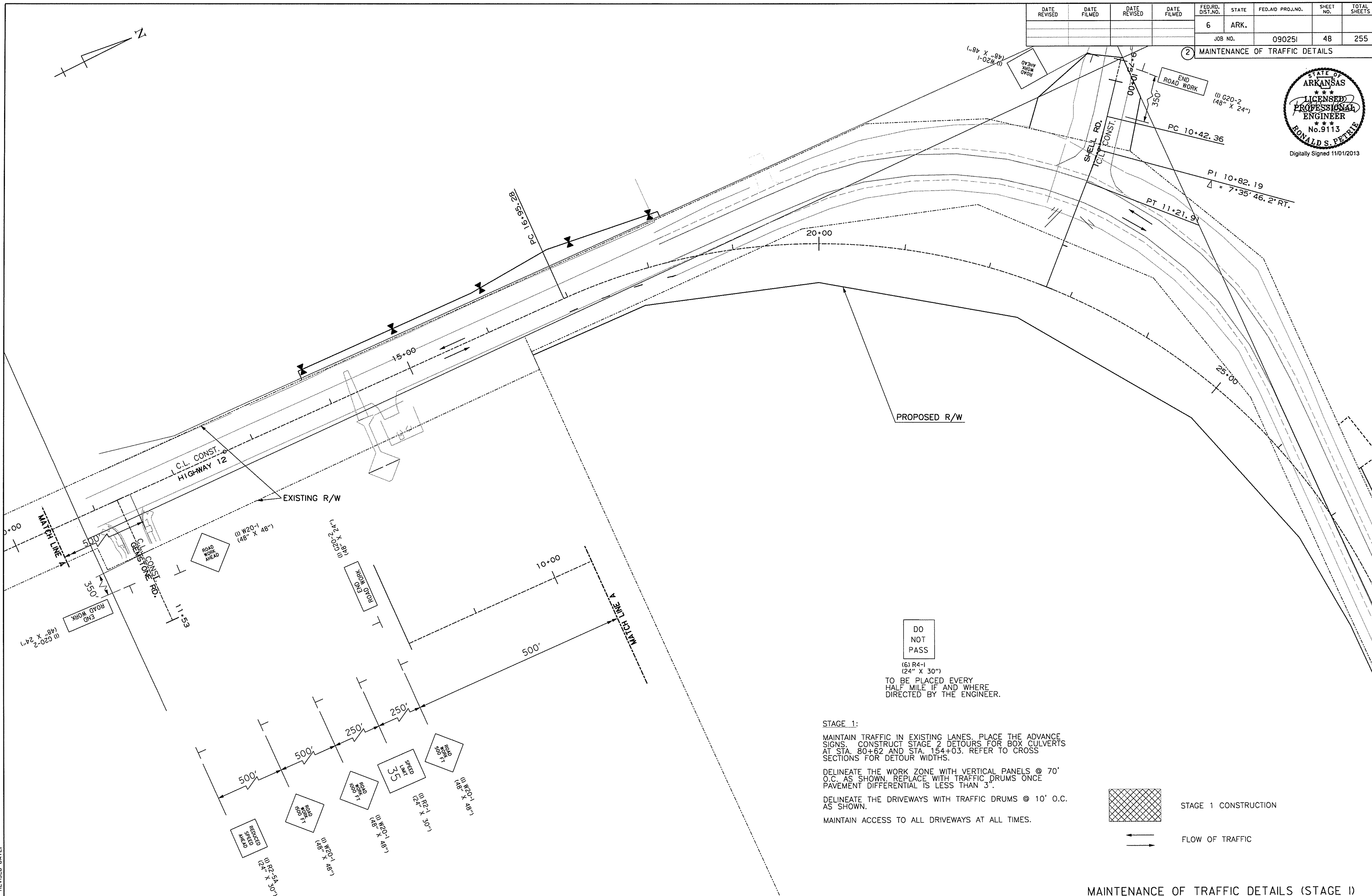
				JOB NO.		090251	48	255

(2) MAINTENANCE OF TRAFFIC DETAILS



DO NOT PASS

(6) R4-1 (24" X 30")

TO BE PLACED EVERY HALF MILE IF AND WHERE DIRECTED BY THE ENGINEER.

STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES. PLACE THE ADVANCE SIGNS. CONSTRUCT STAGE 2 DETOURS FOR BOX CULVERTS AT STA. 80+62 AND STA. 154+03. REFER TO CROSS SECTIONS FOR DETOUR WIDTHS.

DELINEATE THE WORK ZONE WITH VERTICAL PANELS @ 70' O.C. AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE THE DRIVEWAYS WITH TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

STAGE 1 CONSTRUCTION

FLOW OF TRAFFIC

MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

djcobb 1/10/2014 3:13:29 PM
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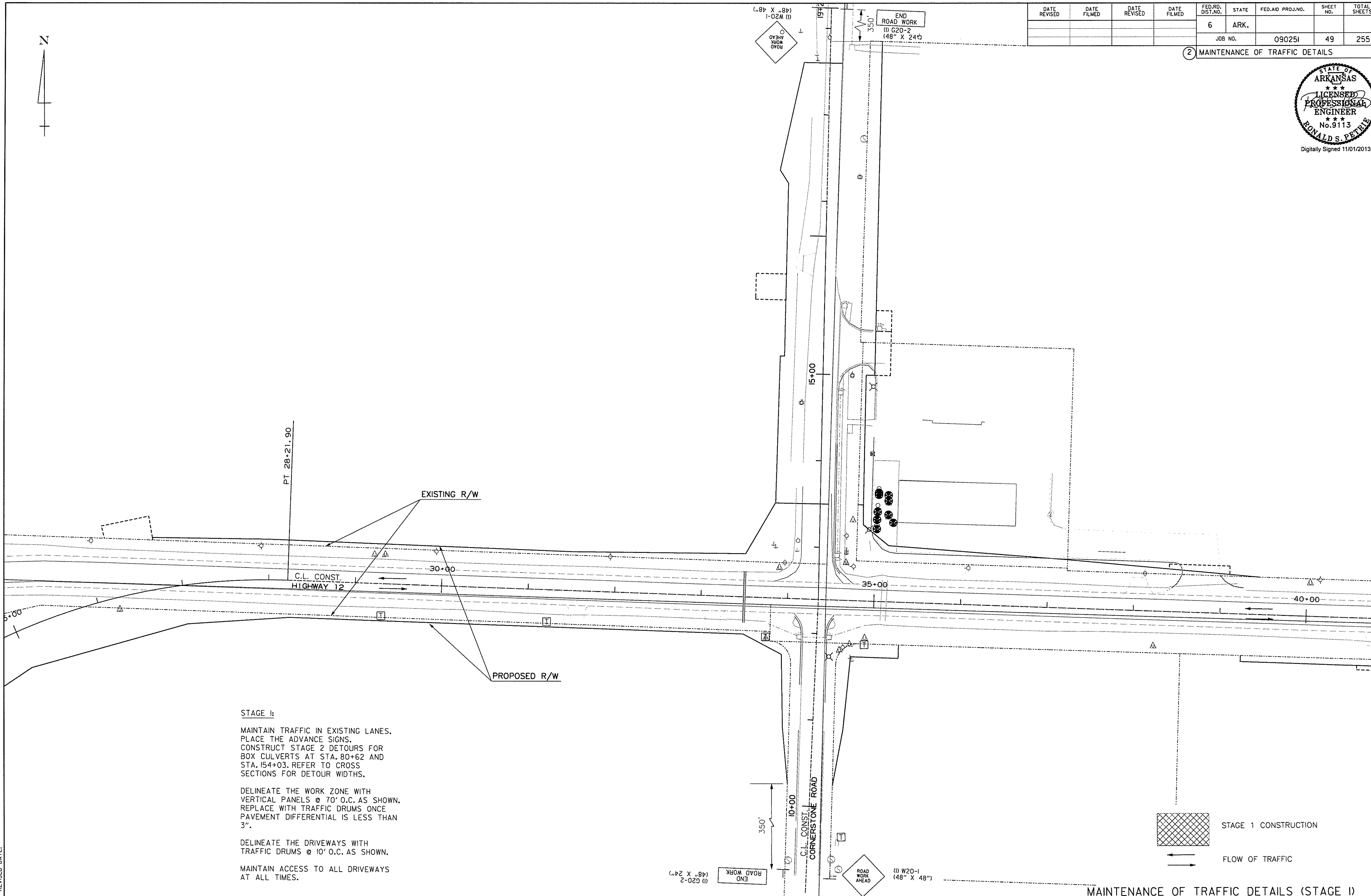
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	49	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES. PLACE THE ADVANCE SIGNS. CONSTRUCT STAGE 2 DETOURS FOR BOX CULVERTS AT STA. 80+62 AND STA. 154+03. REFER TO CROSS SECTIONS FOR DETOUR WIDTHS.

DELINEATE THE WORK ZONE WITH VERTICAL PANELS @ 70' O.C. AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE THE DRIVEWAYS WITH TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

djcobb 1/10/2014 3:14:05 PM
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REVISED DATE:

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				6	ARK.			
					JOB NO.	090251	50	255

MAINTENANCE OF TRAFFIC DETAILS

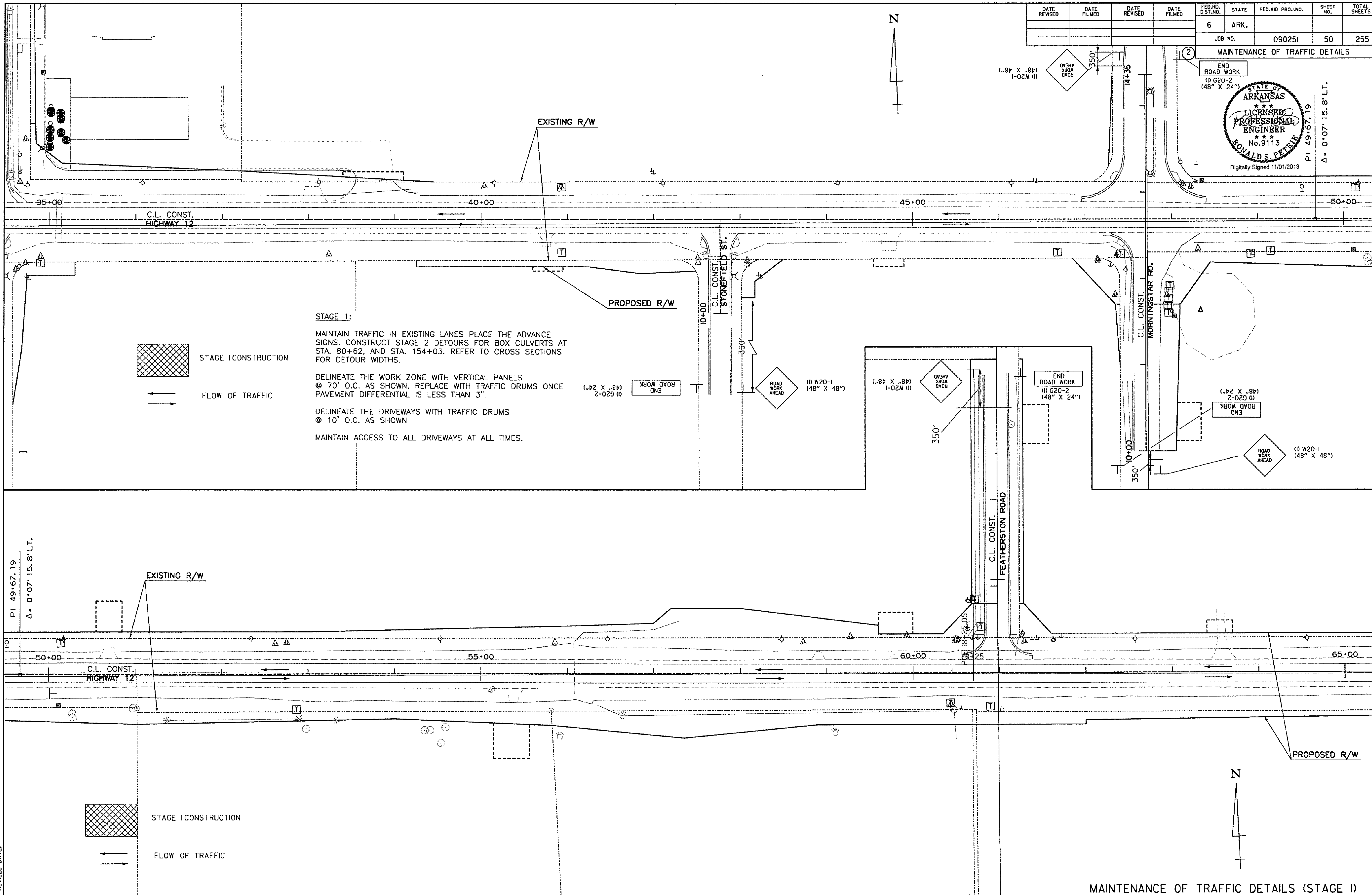
STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES PLACE THE ADVANCE SIGNS. CONSTRUCT STAGE 2 DETOURS FOR BOX CULVERTS AT STA. 80+62, AND STA. 154+03. REFER TO CROSS SECTIONS FOR DETOUR WIDTHS.

DELINEATE THE WORK ZONE WITH VERTICAL PANELS @ 70' O.C. AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE THE DRIVEWAYS WITH TRAFFIC DRUMS @ 10' O.C. AS SHOWN

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.



STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013

MAINTENANCE OF TRAFFIC DETAILS (STAGE I)

djcobb 12/20/2013 12:54:41PM
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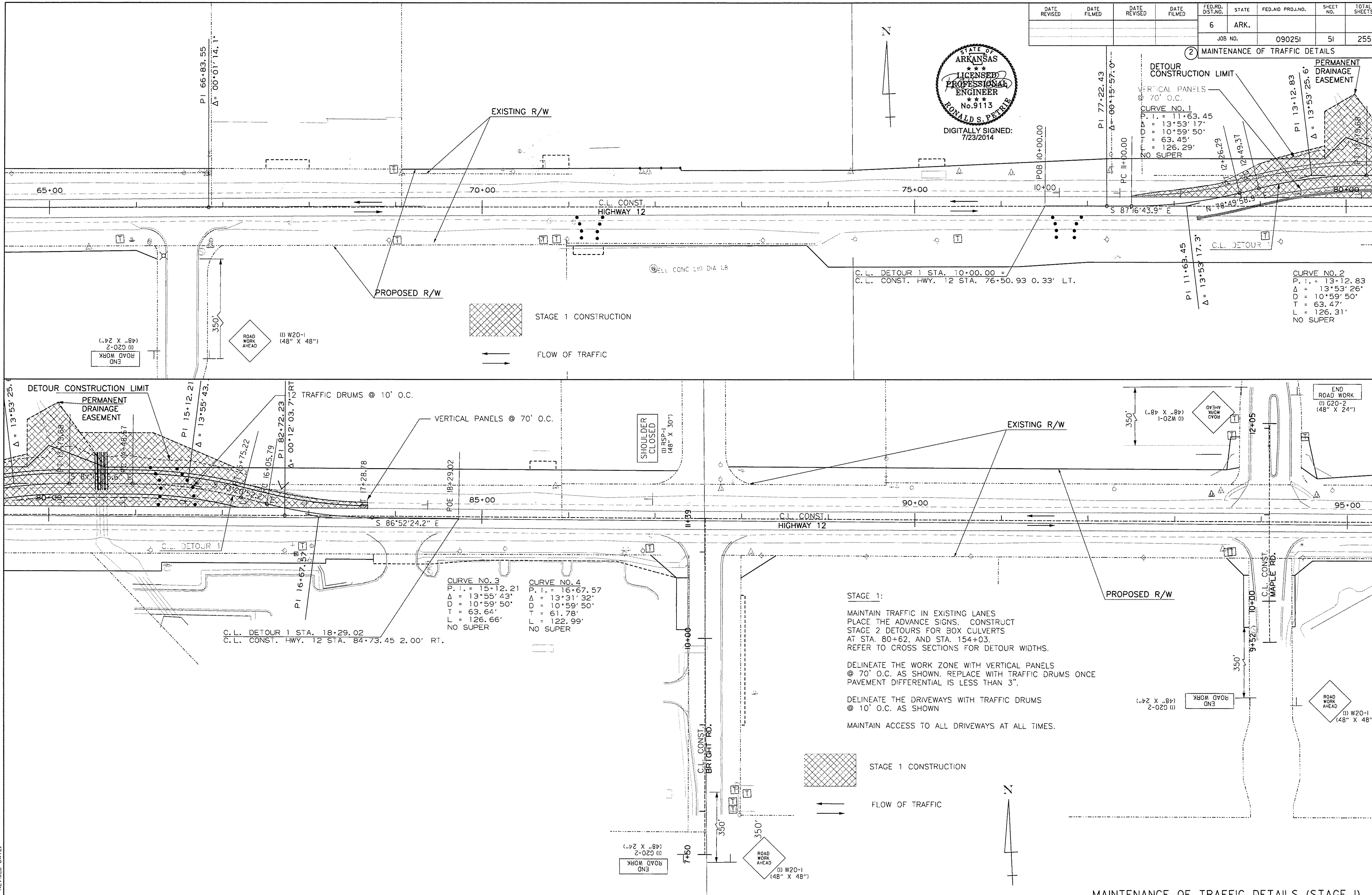
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	51	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
DIGITALLY SIGNED: 7/23/2014



STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES
PLACE THE ADVANCE SIGNS. CONSTRUCT STAGE 2 DETOURS FOR BOX CULVERTS AT STA. 80+62, AND STA. 154+03.
REFER TO CROSS SECTIONS FOR DETOUR WIDTHS.

DELINEATE THE WORK ZONE WITH VERTICAL PANELS @ 70' O.C. AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE THE DRIVEWAYS WITH TRAFFIC DRUMS @ 10' O.C. AS SHOWN

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

STAGE 1 CONSTRUCTION

FLOW OF TRAFFIC

MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

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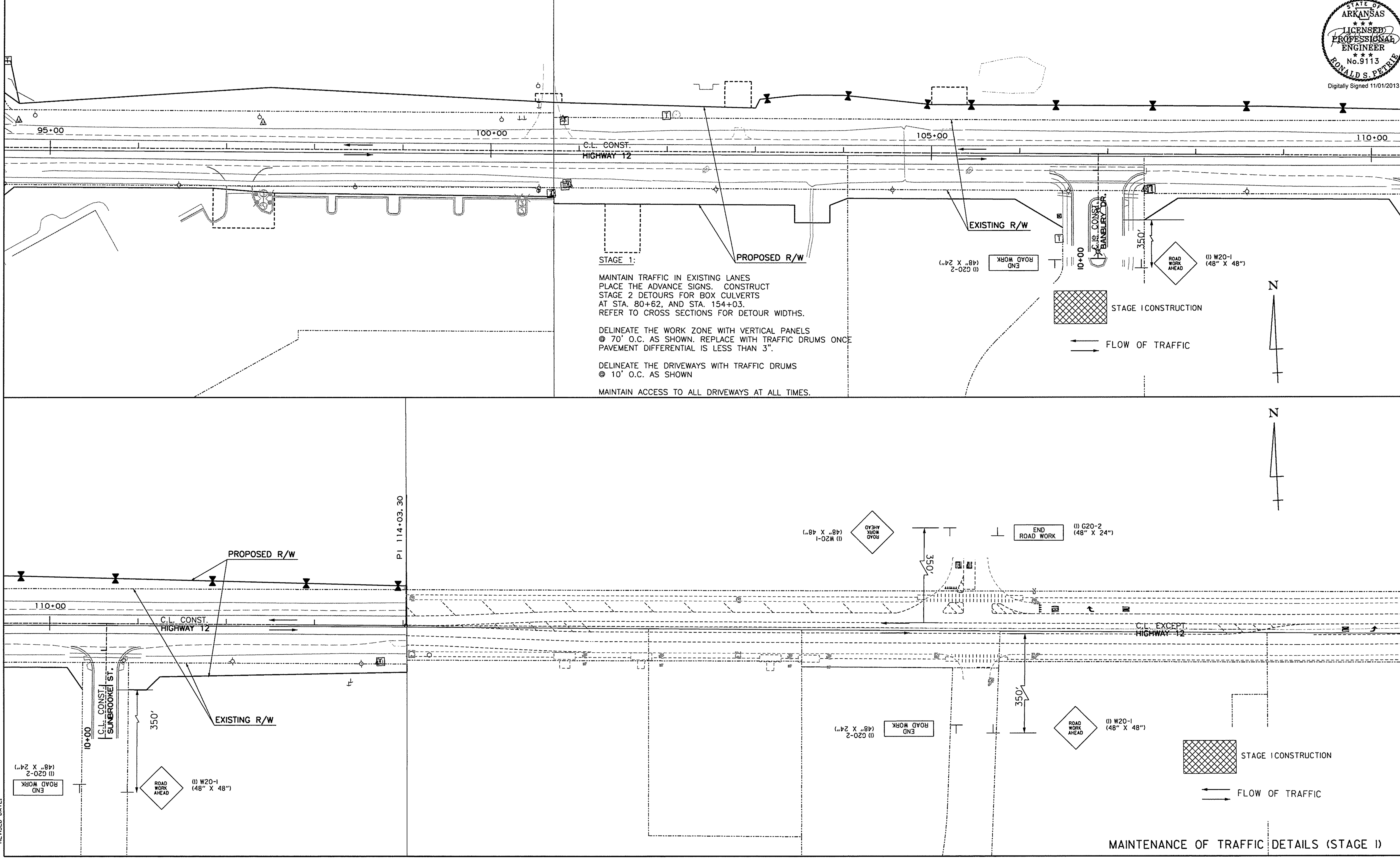
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	52	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES PLACE THE ADVANCE SIGNS. CONSTRUCT STAGE 2 DETOURS FOR BOX CULVERTS AT STA. 80+62, AND STA. 154+03. REFER TO CROSS SECTIONS FOR DETOUR WIDTHS.

DELINEATE THE WORK ZONE WITH VERTICAL PANELS @ 70' O.C. AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE THE DRIVEWAYS WITH TRAFFIC DRUMS @ 10' O.C. AS SHOWN

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

MAINTENANCE OF TRAFFIC DETAILS (STAGE I)

djcobb 12/20/2013 1:02:47 PM
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	53	255

MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013

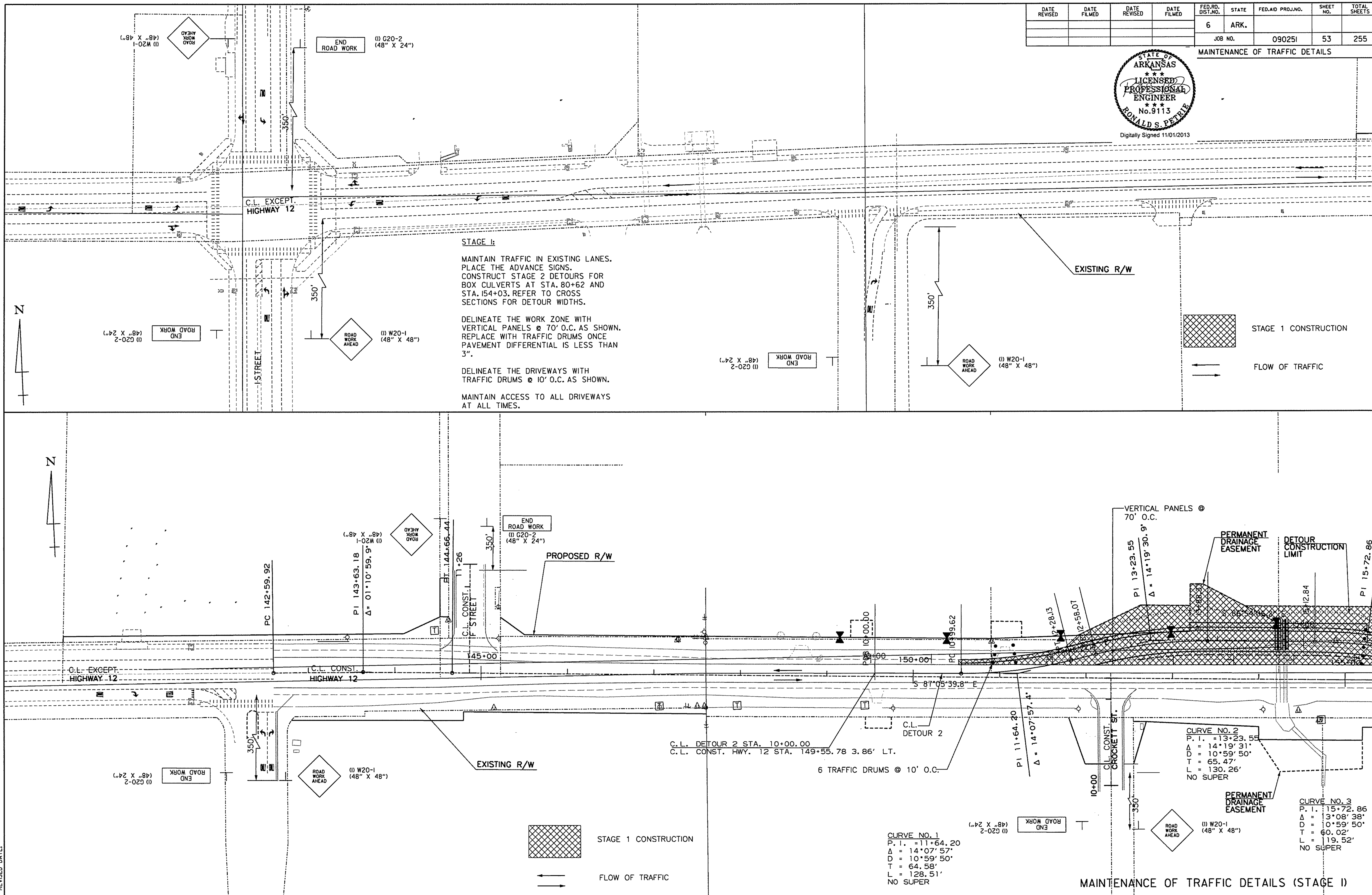
STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES.
PLACE THE ADVANCE SIGNS.
CONSTRUCT STAGE 2 DETOURS FOR BOX CULVERTS AT STA. 80+62 AND STA. 154+03. REFER TO CROSS SECTIONS FOR DETOUR WIDTHS.

DELINEATE THE WORK ZONE WITH VERTICAL PANELS @ 70' O.C. AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE THE DRIVEWAYS WITH TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.



MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

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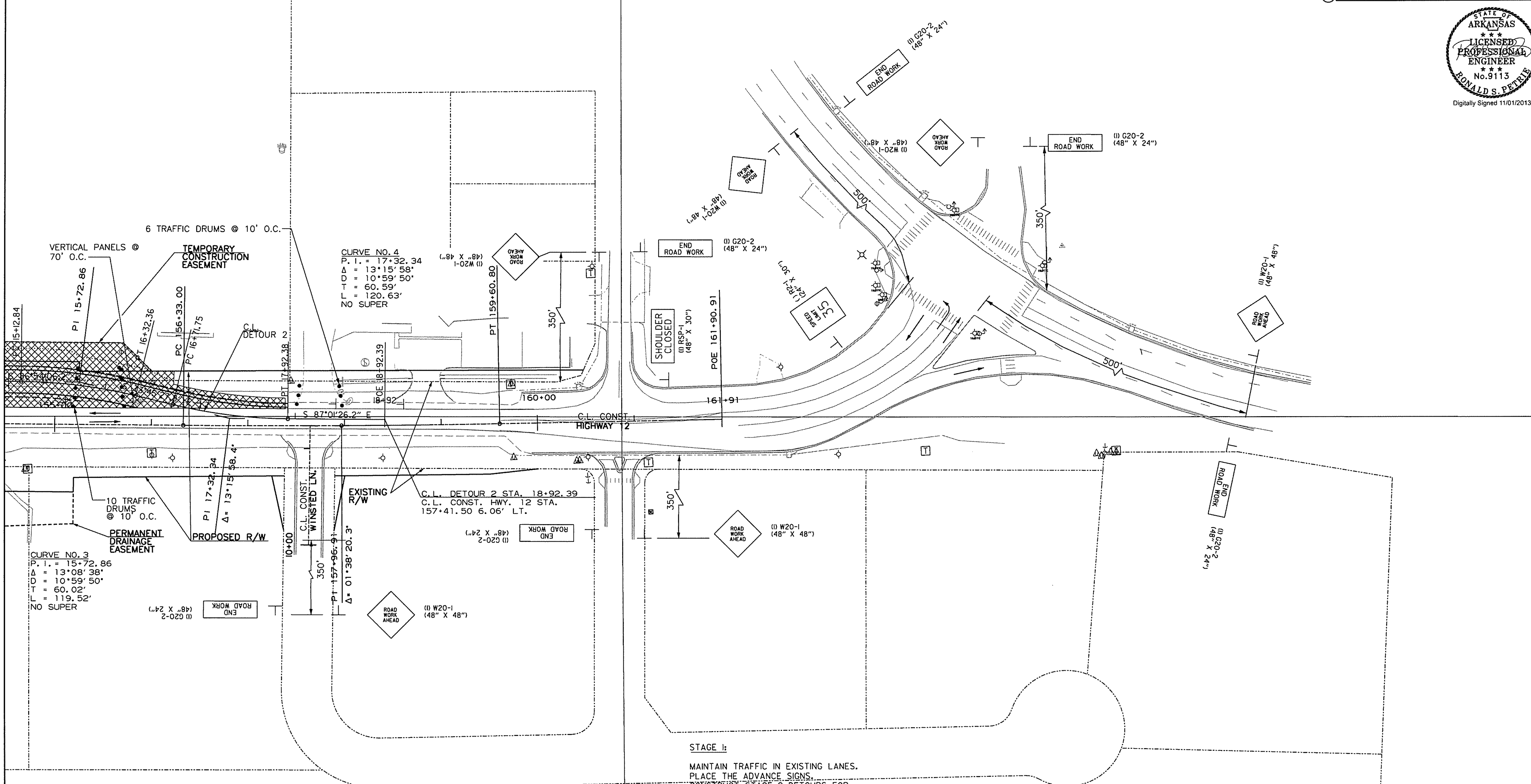
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	54	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 1 CONSTRUCTION

FLOW OF TRAFFIC

STAGE 1:

MAINTAIN TRAFFIC IN EXISTING LANES.
PLACE THE ADVANCE SIGNS.
CONSTRUCT STAGE 2 DETOURS FOR BOX CULVERTS AT STA. 80+62 AND STA. 154+03. REFER TO CROSS SECTIONS FOR DETOUR WIDTHS.

DELINEATE THE WORK ZONE WITH VERTICAL PANELS @ 70' O.C. AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE THE DRIVEWAYS WITH TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES.

MAINTENANCE OF TRAFFIC DETAILS (STAGE 1)

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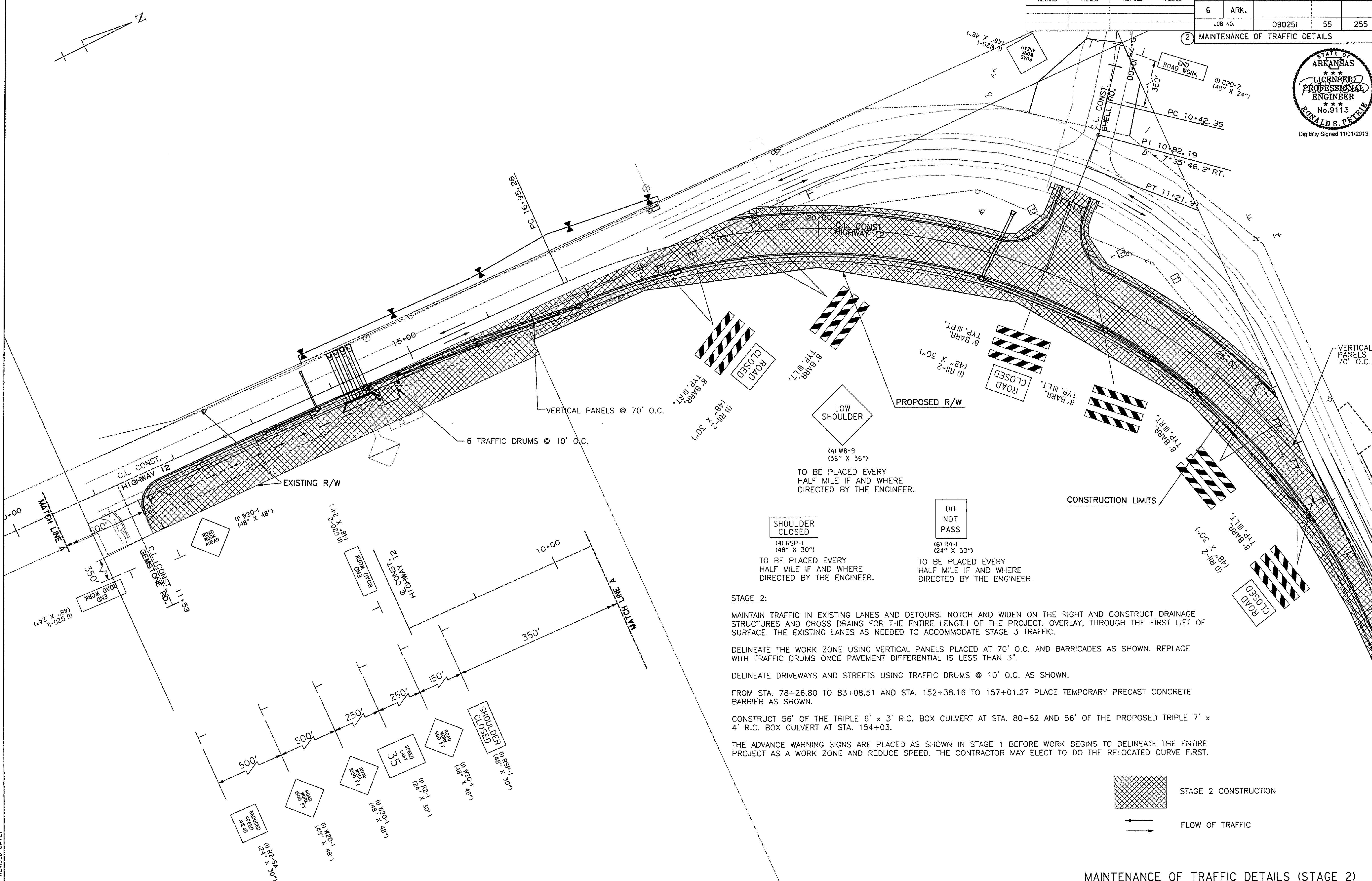
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	55	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 2:

MAINTAIN TRAFFIC IN EXISTING LANES AND DETOURS. NOTCH AND WIDEN ON THE RIGHT AND CONSTRUCT DRAINAGE STRUCTURES AND CROSS DRAINS FOR THE ENTIRE LENGTH OF THE PROJECT. OVERLAY, THROUGH THE FIRST LIFT OF SURFACE, THE EXISTING LANES AS NEEDED TO ACCOMMODATE STAGE 3 TRAFFIC.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

FROM STA. 78+26.80 TO 83+08.51 AND STA. 152+38.16 TO 157+01.27 PLACE TEMPORARY PRECAST CONCRETE BARRIER AS SHOWN.

CONSTRUCT 56' OF THE TRIPLE 6' x 3' R.C. BOX CULVERT AT STA. 80+62 AND 56' OF THE PROPOSED TRIPLE 7' x 4' R.C. BOX CULVERT AT STA. 154+03.

THE ADVANCE WARNING SIGNS ARE PLACED AS SHOWN IN STAGE 1 BEFORE WORK BEGINS TO DELINEATE THE ENTIRE PROJECT AS A WORK ZONE AND REDUCE SPEED. THE CONTRACTOR MAY ELECT TO DO THE RELOCATED CURVE FIRST.

STAGE 2 CONSTRUCTION

FLOW OF TRAFFIC

MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

djcobb 1/10/2014 3:44:43 PM
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				6	ARK.			
				JOB NO.		090251	56	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013

STAGE 2:

MAINTAIN TRAFFIC IN EXISTING LANES AND DETOURS. NOTCH AND WIDEN ON THE RIGHT AND CONSTRUCT DRAINAGE STRUCTURES AND CROSS DRAINS FOR THE ENTIRE LENGTH OF THE PROJECT. OVERLAY, THROUGH THE FIRST LIFT OF SURFACE, THE EXISTING LANES AS NEEDED TO ACCOMMODATE STAGE 3 TRAFFIC.

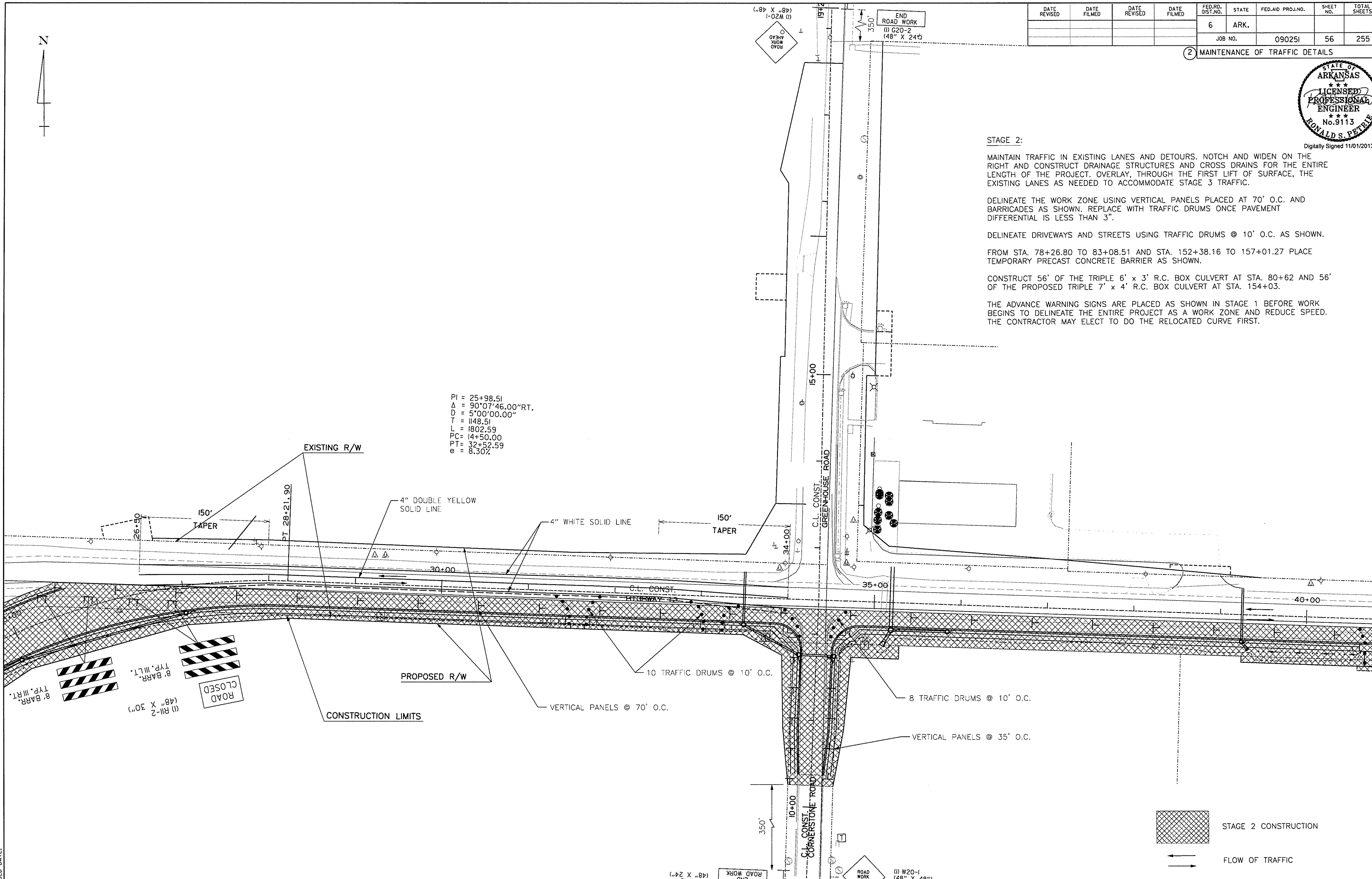
DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

FROM STA. 78+26.80 TO 83+08.51 AND STA. 152+38.16 TO 157+01.27 PLACE TEMPORARY PRECAST CONCRETE BARRIER AS SHOWN.

CONSTRUCT 56' OF THE TRIPLE 6' x 3' R.C. BOX CULVERT AT STA. 80+62 AND 56' OF THE PROPOSED TRIPLE 7' x 4' R.C. BOX CULVERT AT STA. 154+03.

THE ADVANCE WARNING SIGNS ARE PLACED AS SHOWN IN STAGE 1 BEFORE WORK BEGINS TO DELINEATE THE ENTIRE PROJECT AS A WORK ZONE AND REDUCE SPEED. THE CONTRACTOR MAY ELECT TO DO THE RELOCATED CURVE FIRST.



MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

djcobb 1/10/2014 3:15:13 PM
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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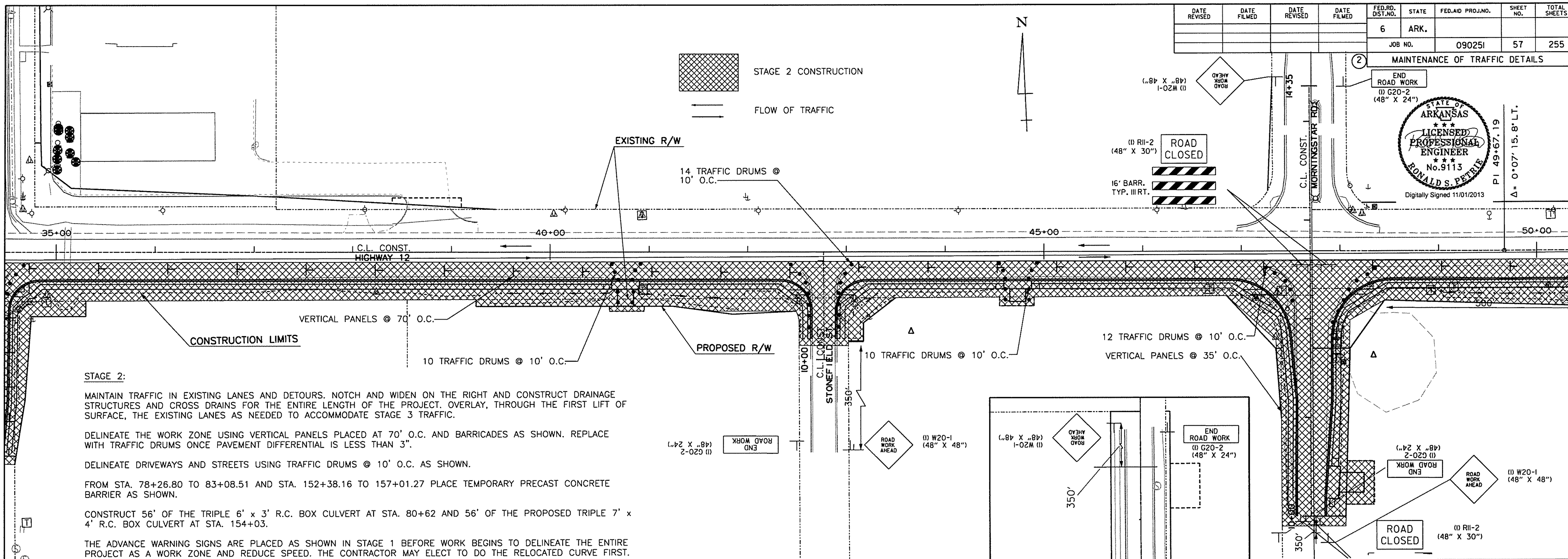
(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 2:

MAINTAIN TRAFFIC IN EXISTING LANES AND DETOURS. NOTCH AND WIDEN ON THE RIGHT AND CONSTRUCT DRAINAGE STRUCTURES AND CROSS DRAINS FOR THE ENTIRE LENGTH OF THE PROJECT. OVERLAY, THROUGH THE FIRST LIFT OF SURFACE, THE EXISTING LANES AS NEEDED TO ACCOMMODATE STAGE 3 TRAFFIC.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

FROM STA. 78+26.80 TO 83+08.51 AND STA. 152+38.16 TO 157+01.27 PLACE TEMPORARY PRECAST CONCRETE BARRIER AS SHOWN.

CONSTRUCT 56' OF THE TRIPLE 6' x 3' R.C. BOX CULVERT AT STA. 80+62 AND 56' OF THE PROPOSED TRIPLE 7' x 4' R.C. BOX CULVERT AT STA. 154+03.

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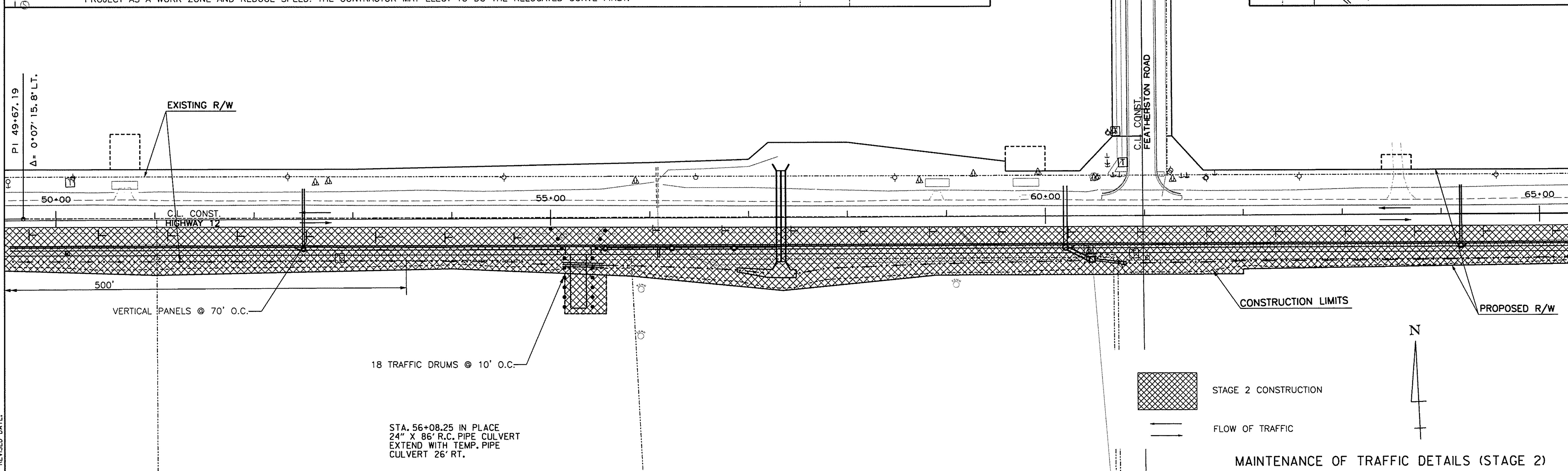

MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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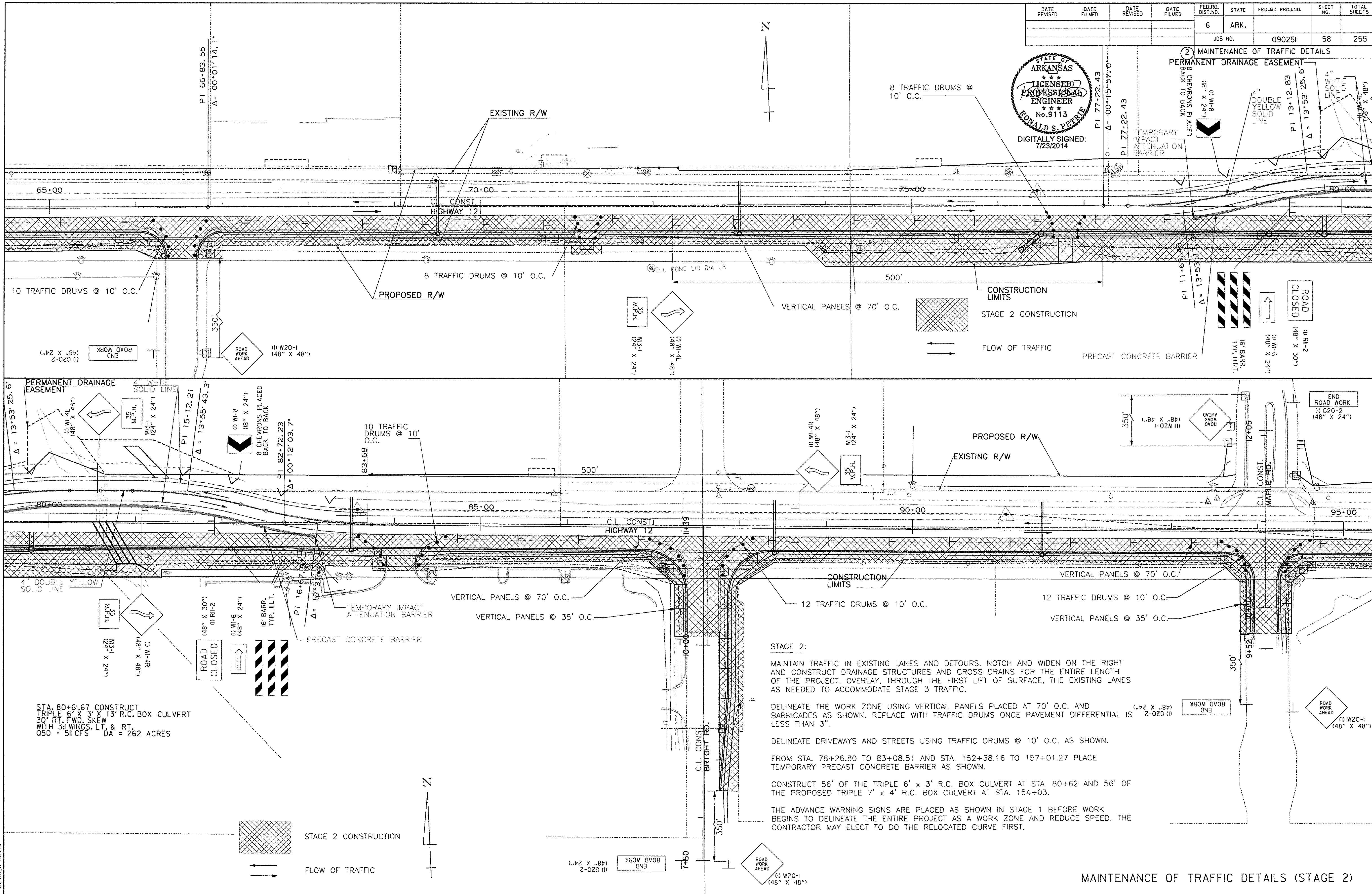
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	58	255



STAGE 2:

MAINTAIN TRAFFIC IN EXISTING LANES AND DETOURS. NOTCH AND WIDEN ON THE RIGHT AND CONSTRUCT DRAINAGE STRUCTURES AND CROSS DRAINS FOR THE ENTIRE LENGTH OF THE PROJECT. OVERLAY, THROUGH THE FIRST LIFT OF SURFACE, THE EXISTING LANES AS NEEDED TO ACCOMMODATE STAGE 3 TRAFFIC.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

FROM STA. 78+26.80 TO 83+08.51 AND STA. 152+38.16 TO 157+01.27 PLACE TEMPORARY PRECAST CONCRETE BARRIER AS SHOWN.

CONSTRUCT 56' OF THE TRIPLE 6' x 3' R.C. BOX CULVERT AT STA. 80+62 AND 56' OF THE PROPOSED TRIPLE 7' x 4' R.C. BOX CULVERT AT STA. 154+03.

THE ADVANCE WARNING SIGNS ARE PLACED AS SHOWN IN STAGE 1 BEFORE WORK BEGINS TO DELINEATE THE ENTIRE PROJECT AS A WORK ZONE AND REDUCE SPEED. THE CONTRACTOR MAY ELECT TO DO THE RELOCATED CURVE FIRST.

MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

dlcobb 7/23/2014 4:20:33 PM
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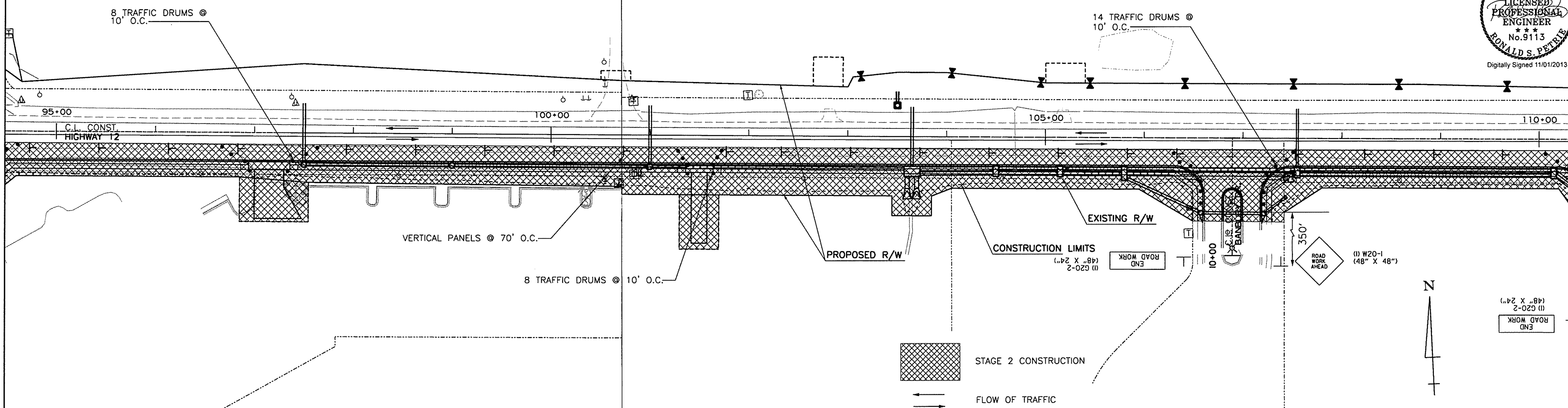
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	59	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



STAGE 2:

MAINTAIN TRAFFIC IN EXISTING LANES AND DETOURS. NOTCH AND WIDEN ON THE RIGHT AND CONSTRUCT DRAINAGE STRUCTURES AND CROSS DRAINS FOR THE ENTIRE LENGTH OF THE PROJECT. OVERLAY, THROUGH THE FIRST LIFT OF SURFACE, THE EXISTING LANES AS NEEDED TO ACCOMMODATE STAGE 3 TRAFFIC.

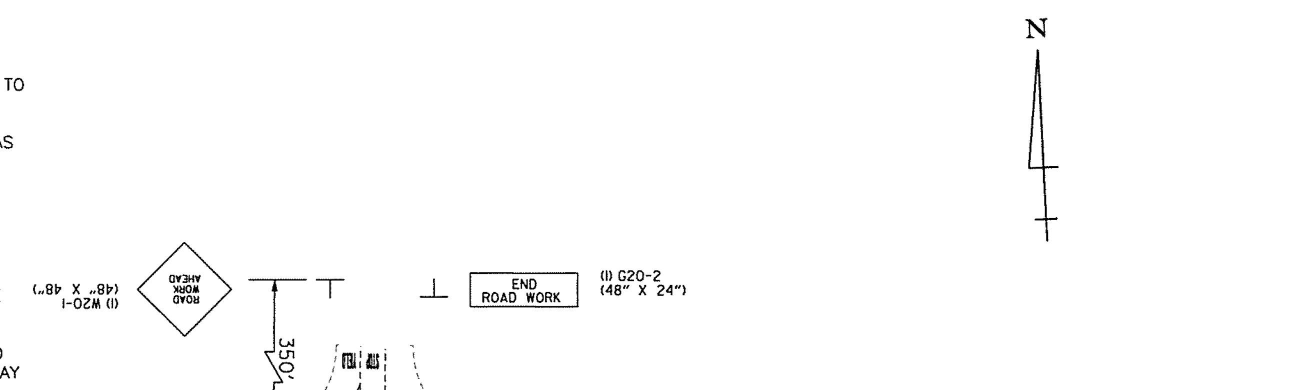
DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

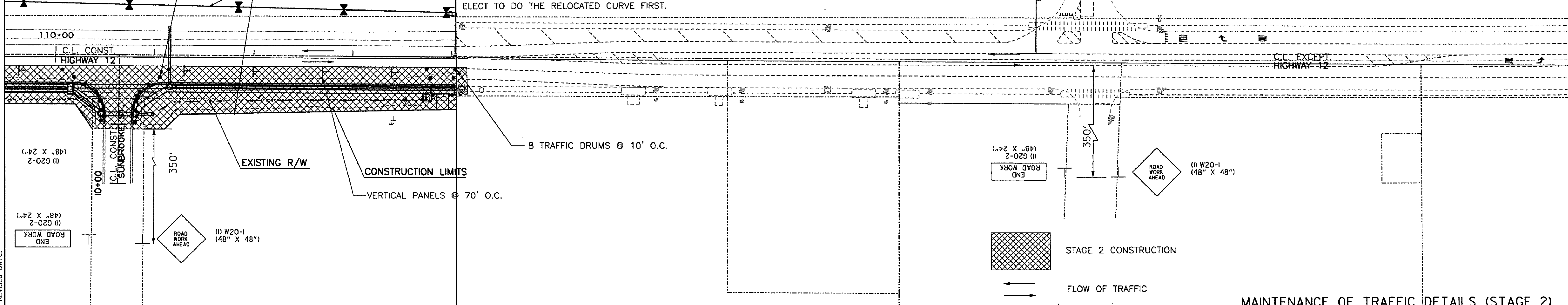
DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

FROM STA. 78+26.80 TO 83+08.51 AND STA. 152+38.16 TO 157+01.27 PLACE TEMPORARY PRECAST CONCRETE BARRIER AS SHOWN.

CONSTRUCT 56' OF THE TRIPLE 6' x 3' R.C. BOX CULVERT AT STA. 80+62 AND 56' OF THE PROPOSED TRIPLE 7' x 4' R.C. BOX CULVERT AT STA. 154+03.

THE ADVANCE WARNING SIGNS ARE PLACED AS SHOWN IN STAGE 1 BEFORE WORK BEGINS TO DELINEATE THE ENTIRE PROJECT AS A WORK ZONE AND REDUCE SPEED. THE CONTRACTOR MAY ELECT TO DO THE RELOCATED CURVE FIRST.





MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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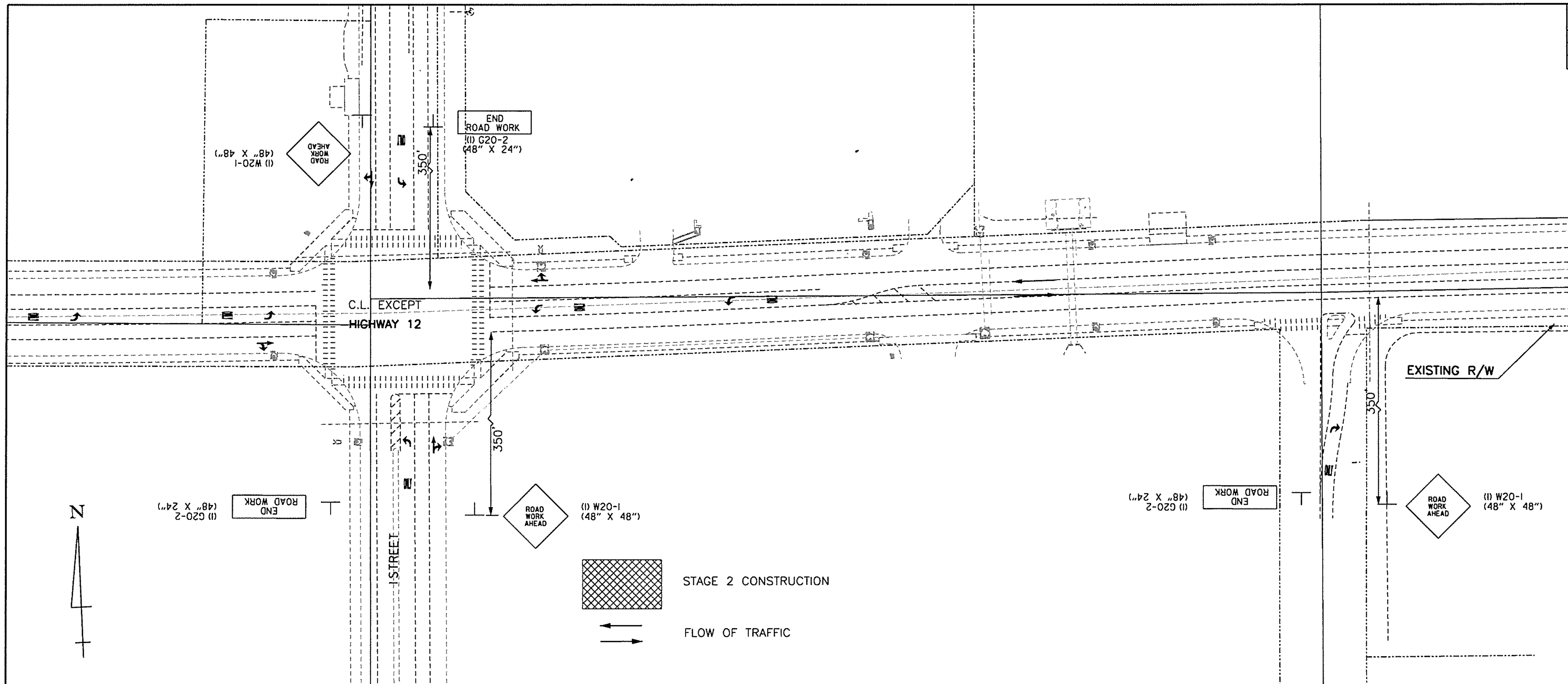
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	60	255

MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013



STAGE 2:

MAINTAIN TRAFFIC IN EXISTING LANES AND DETOURS. NOTCH AND WIDEN ON THE RIGHT AND CONSTRUCT DRAINAGE STRUCTURES AND CROSS DRAINS FOR THE ENTIRE LENGTH OF THE PROJECT. OVERLAY, THROUGH THE FIRST LIFT OF SURFACE, THE EXISTING LANES AS NEEDED TO ACCOMMODATE STAGE 3 TRAFFIC.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

FROM STA. 78+26.80 TO 83+08.51 AND STA. 152+38.16 TO 157+01.27 PLACE TEMPORARY PRECAST CONCRETE BARRIER AS SHOWN.

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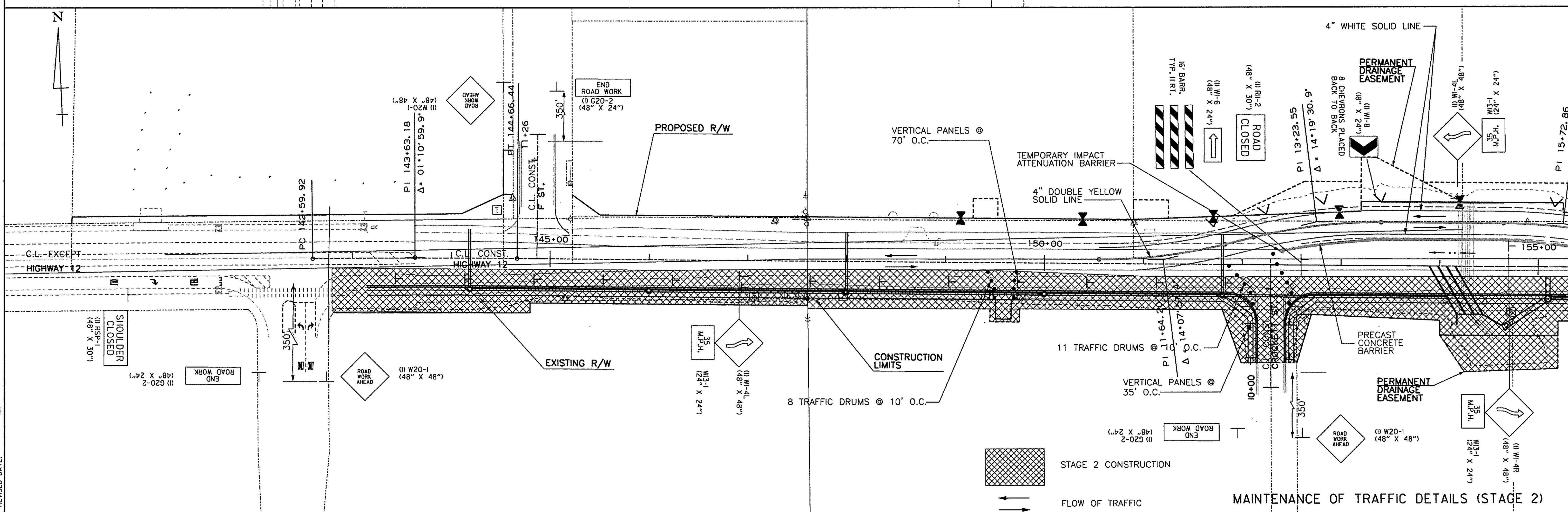
THE ADVANCE WARNING SIGNS ARE PLACED AS SHOWN IN STAGE 1 BEFORE WORK BEGINS TO DELINEATE THE ENTIRE PROJECT AS A WORK ZONE AND REDUCE SPEED. THE CONTRACTOR MAY ELECT TO DO THE RELOCATED CURVE FIRST.



MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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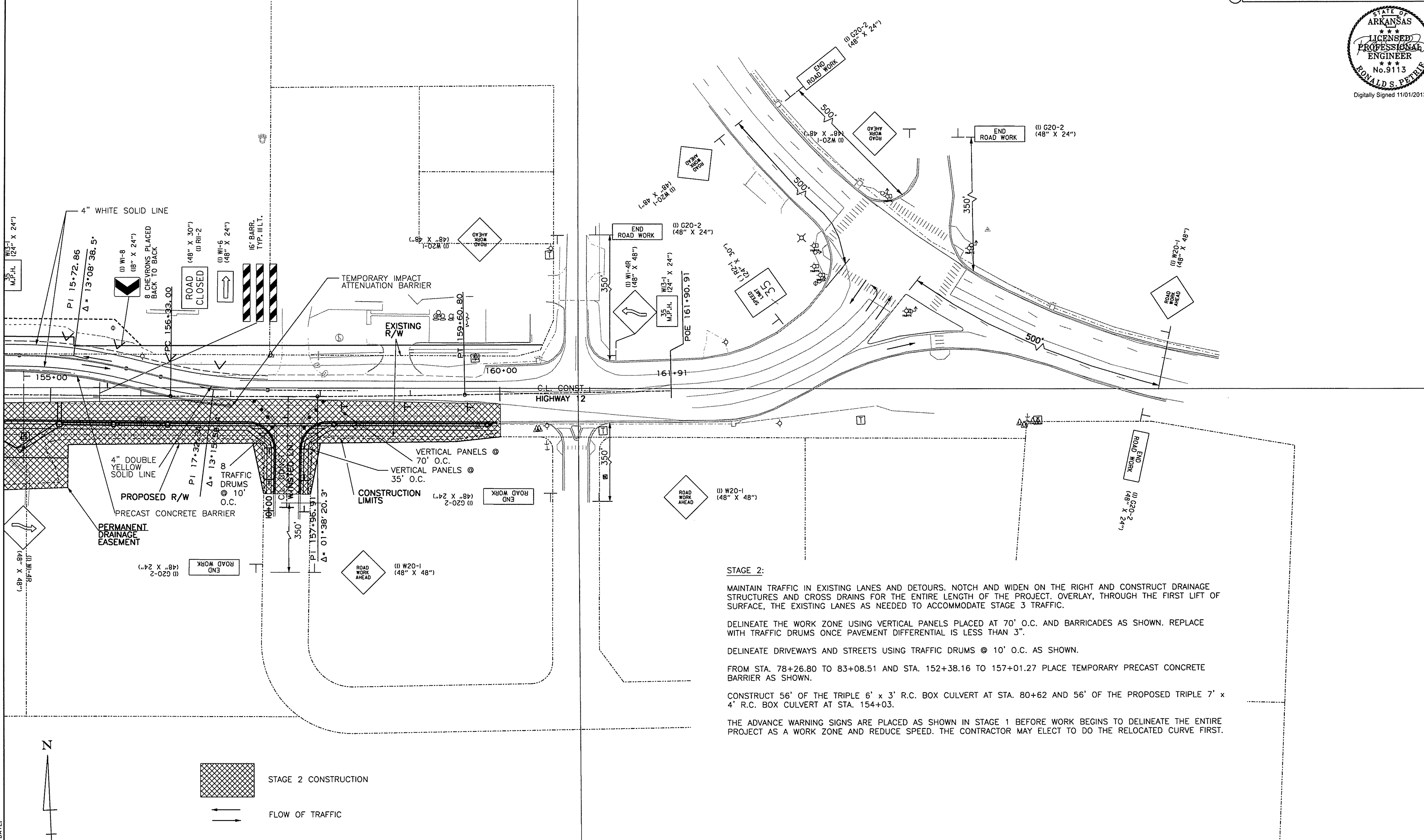
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	61	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013



STAGE 2:

MAINTAIN TRAFFIC IN EXISTING LANES AND DETOURS. NOTCH AND WIDEN ON THE RIGHT AND CONSTRUCT DRAINAGE STRUCTURES AND CROSS DRAINS FOR THE ENTIRE LENGTH OF THE PROJECT. OVERLAY, THROUGH THE FIRST LIFT OF SURFACE, THE EXISTING LANES AS NEEDED TO ACCOMMODATE STAGE 3 TRAFFIC.

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MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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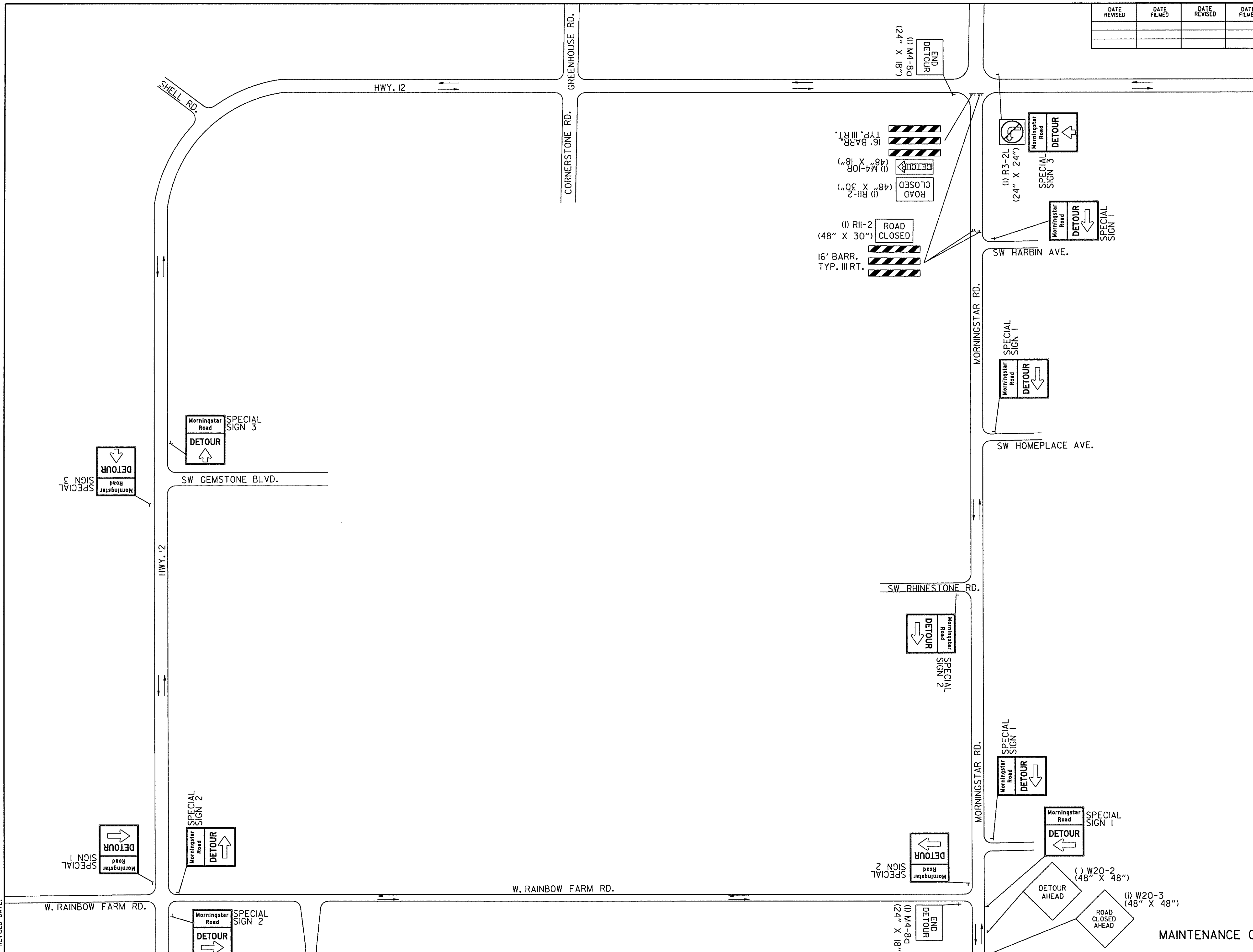
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	62	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



MAINTENANCE OF TRAFFIC DETAILS (STAGE 2)

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REVISED DATE:

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				JOB NO.		090251	63	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

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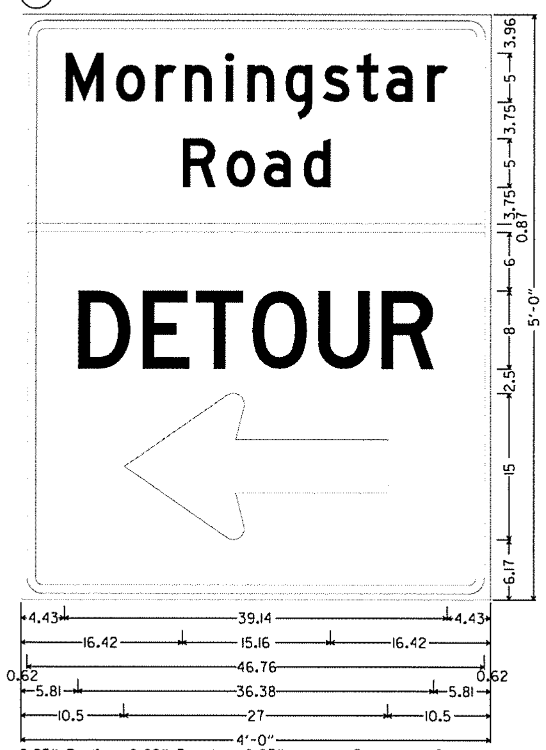

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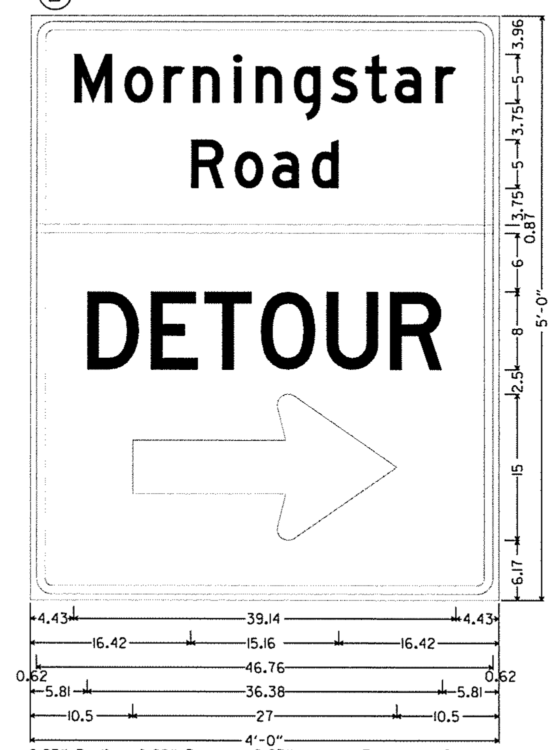
[Road] D;
[DETOUR] D 601 spacing;
Standard Arrow Custom 16.75" X 15.00" 90I;

(2)



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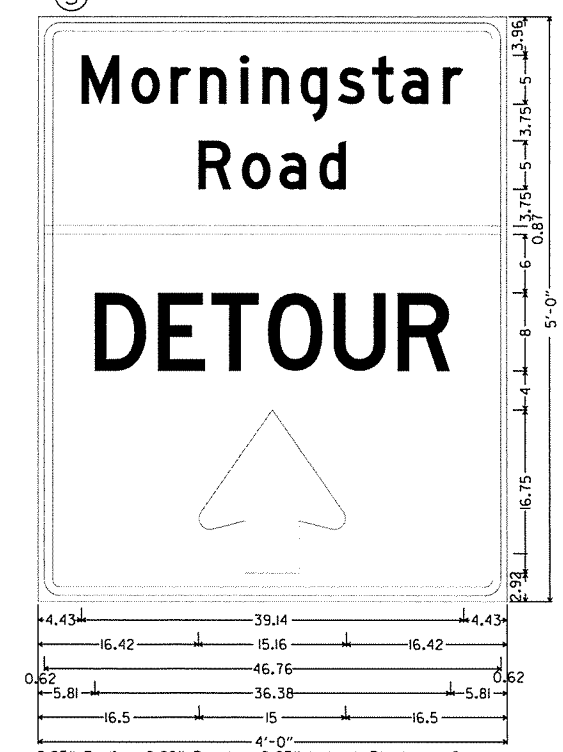
[Morningstar] D 871 spacing;
[Road] D;
[DETOUR] D 601 spacing;
Standard Arrow Custom 16.75" X 15.00" 90I;

(3)



2.25" Radius, 0.88" Border, 0.63" Indent, Black on Orange;
[Morningstar] D 871 spacing;
[Road] D;
[DETOUR] D 601 spacing;
Standard Arrow Custom 16.75" X 15.00" 90I;

djcobb 7/23/2014 4:25:25 PM
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REVISED DATE:

MAINTENANCE OF TRAFFIC DETAILS SPECIAL SIGNS(STAGE 2)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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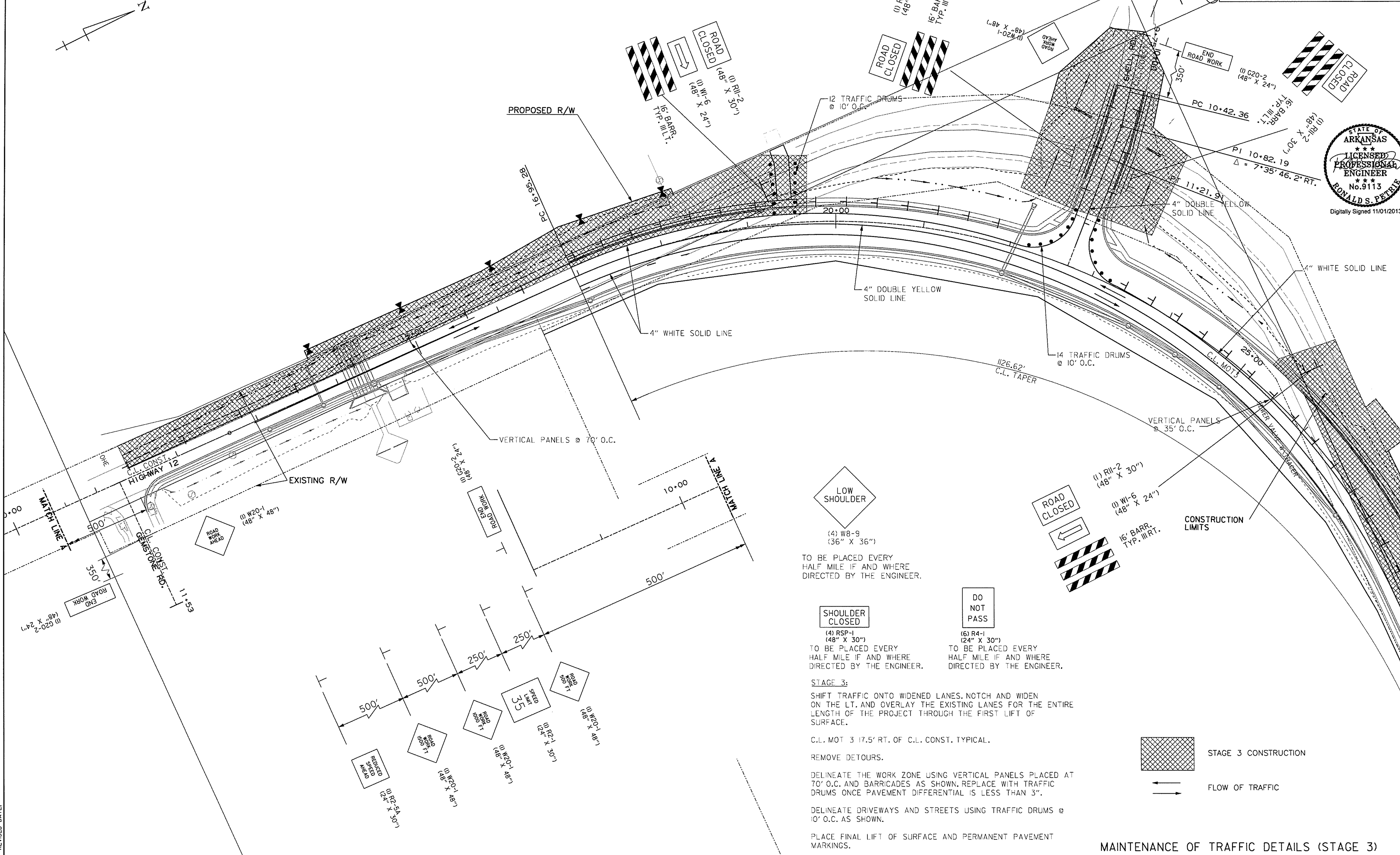
				JOB NO.		090251	64	255

(2) MAINTENANCE OF TRAFFIC DETAILS



STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013

STAGE 3:

SHIFT TRAFFIC ONTO WIDENED LANES. NOTCH AND WIDEN ON THE LT. AND OVERLAY THE EXISTING LANES FOR THE ENTIRE LENGTH OF THE PROJECT THROUGH THE FIRST LIFT OF SURFACE.

C.L. MOT 3 17.5' RT. OF C.L. CONST. TYPICAL.

REMOVE DETOURS.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

PLACE FINAL LIFT OF SURFACE AND PERMANENT PAVEMENT MARKINGS.

STAGE 3 CONSTRUCTION

FLOW OF TRAFFIC

MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

djcobb 1/14/2014 9:59:18 AM
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	65	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER ★★★ No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013

STAGE 3 CONSTRUCTION

FLOW OF TRAFFIC

STAGE 3:

SHIFT TRAFFIC ONTO WIDENED LANES. NOTCH AND WIDEN ON THE LT. AND OVERLAY THE EXISTING LANES FOR THE ENTIRE LENGTH OF THE PROJECT THROUGH THE FIRST LIFT OF SURFACE.

C.L. MOT3 17.5' RT. OF C.L. CONST. TYPICAL.

REMOVE DETOURS.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

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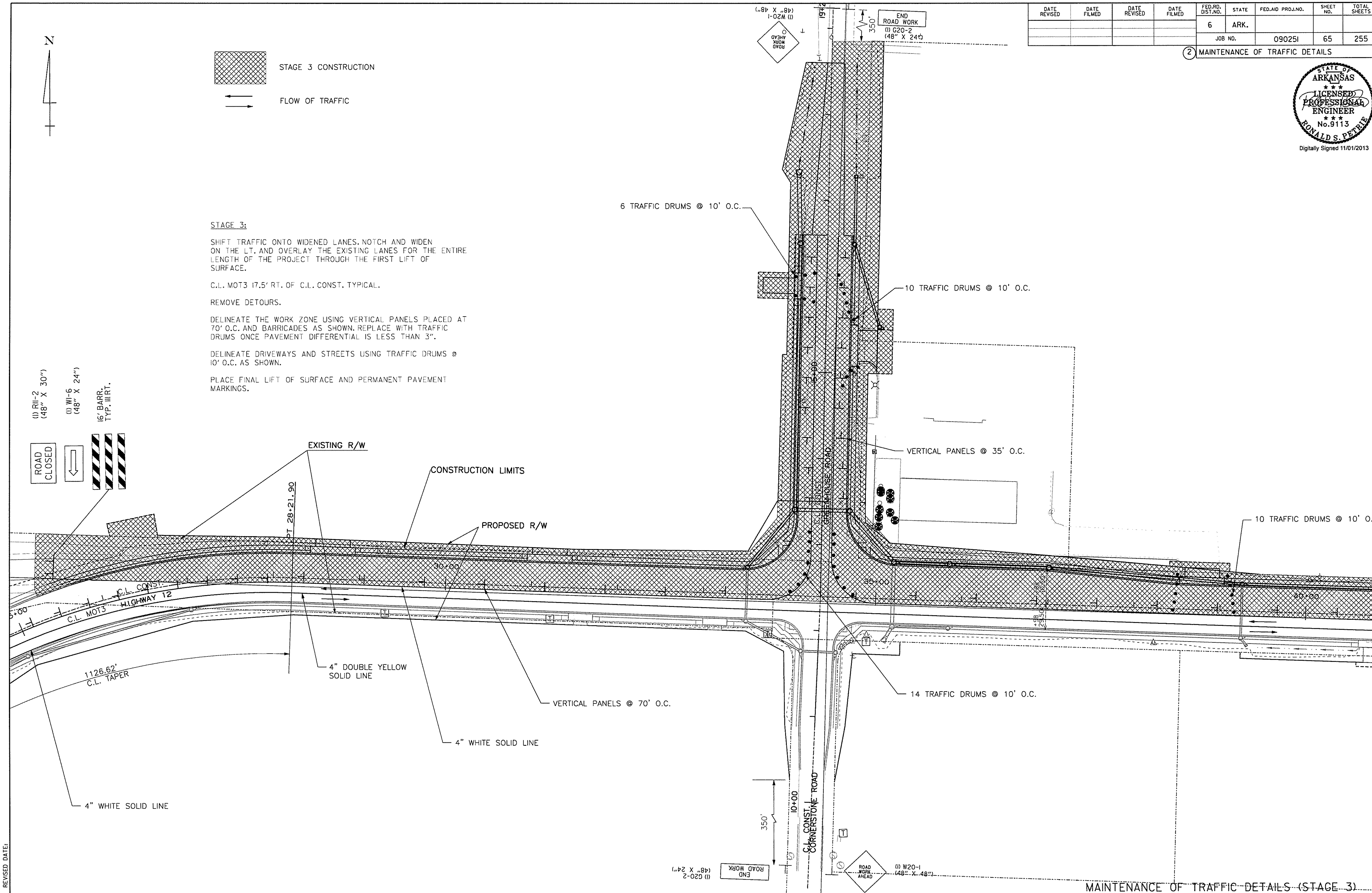
PLACE FINAL LIFT OF SURFACE AND PERMANENT PAVEMENT MARKINGS.



MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	66	255

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013

② MAINTENANCE OF TRAFFIC DETAILS

STAGE 3:

SHIFT TRAFFIC ONTO WIDENED LANES. NOTCH AND WIDEN ON THE LT. AND OVERLAY THE EXISTING LANES FOR THE ENTIRE LENGTH OF THE PROJECT THROUGH THE FIRST LIFT OF SURFACE.

C.L. MOT3 17.5' RT. OF C.L. CONST. TYPICAL.

REMOVE DETOURS.

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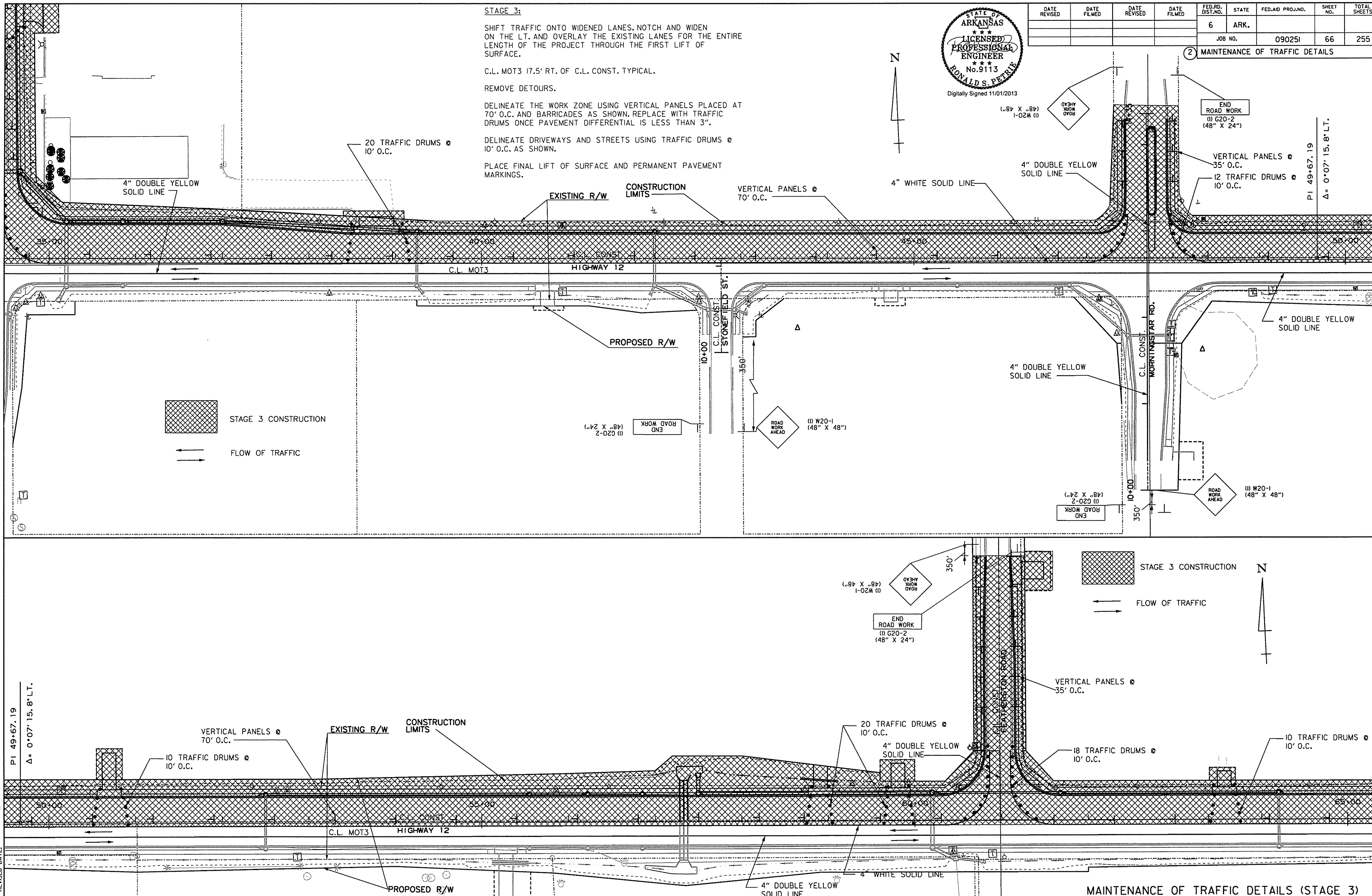
DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

PLACE FINAL LIFT OF SURFACE AND PERMANENT PAVEMENT MARKINGS.



MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

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djcobb
WORKSPACE: AHTDXM
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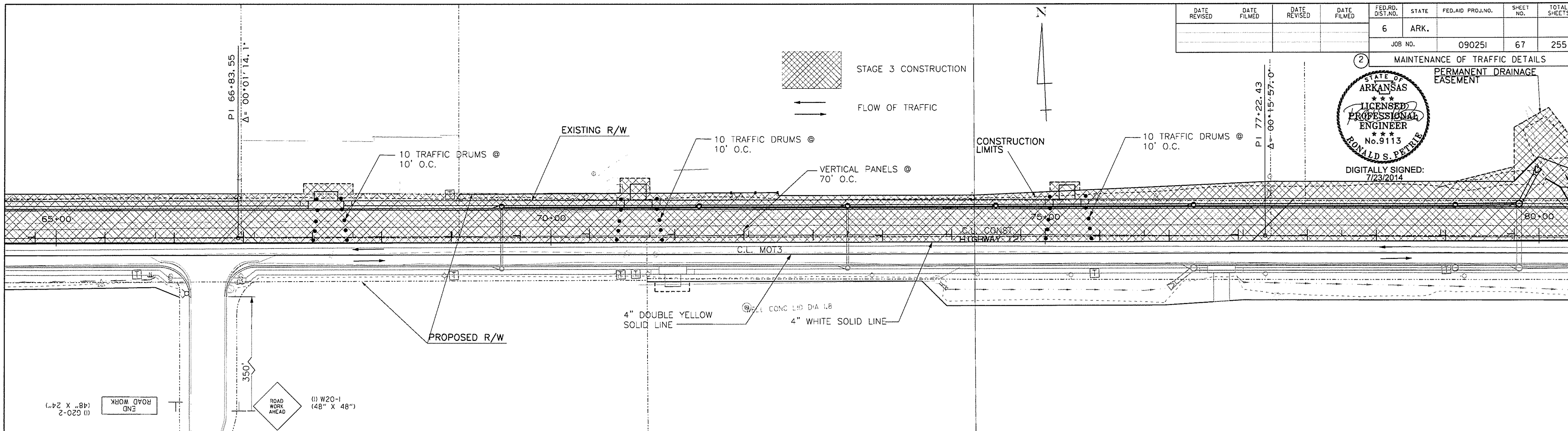
REVISED DATE:

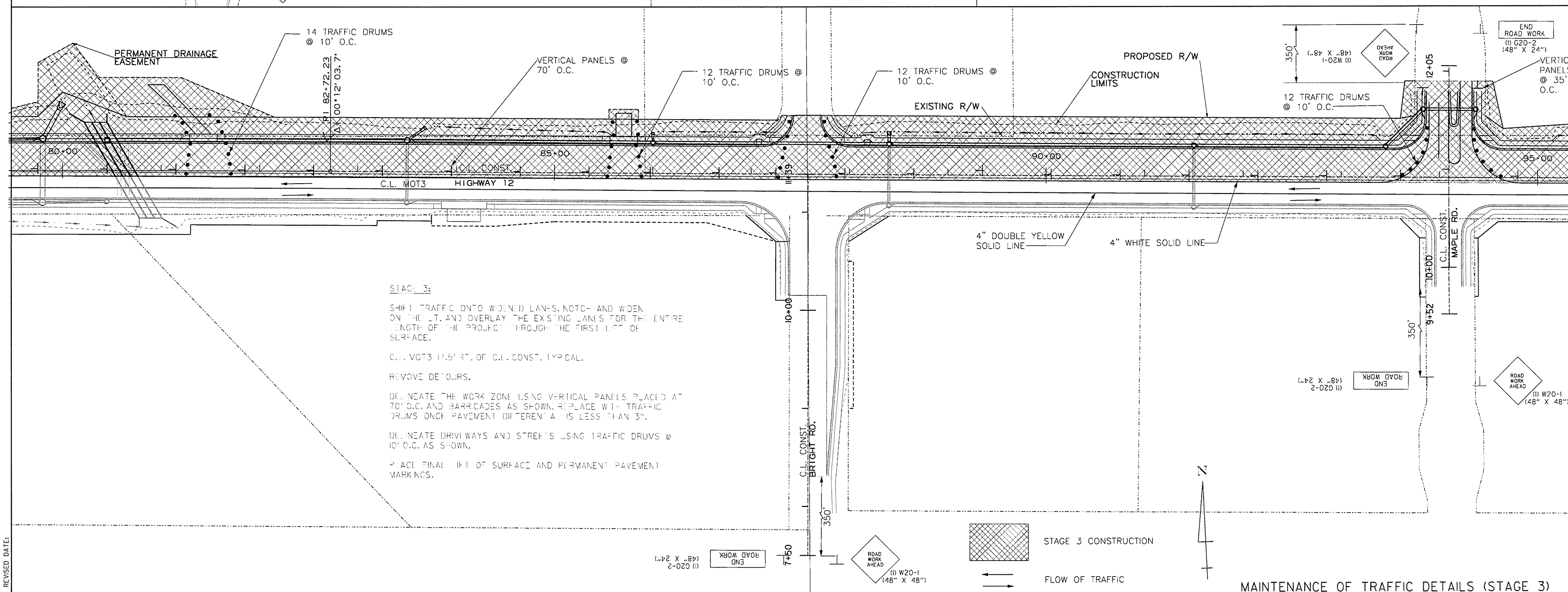
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	67	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014





STAGE 3:

SHIFT TRAFFIC ONTO WIDENED LANES. NOTCH AND WIDEN ON THE LT. AND OVERLAY THE EXISTING LANES FOR THE ENTIRE LENGTH OF THE PROJECT THROUGH THE FIRST LIFT OF SURFACE.

C.L. MOT3 17.5' RT. OF C.L. CONST. TYPICAL.

REMOVE DETOURS.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

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PLACE FINAL LIFT OF SURFACE AND PERMANENT PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

djcobb 7/23/2014 4:26:40 PM
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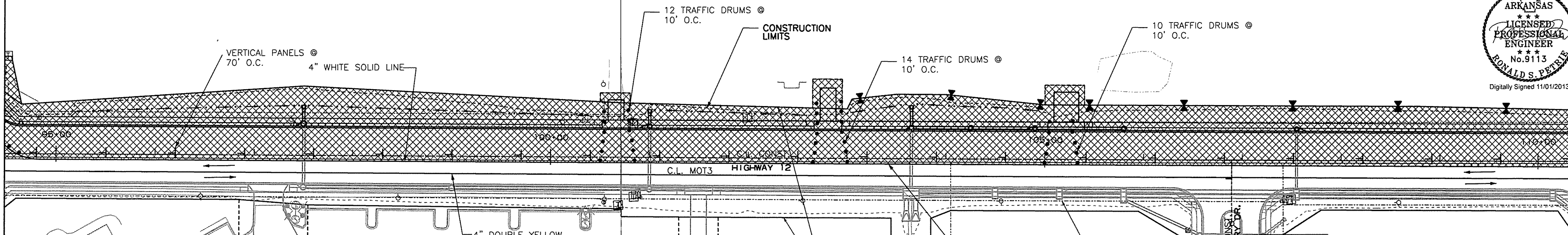
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	68	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013



STAGE 3:

SHIFT TRAFFIC ONTO WIDENED LANES. NOTCH AND WIDEN ON THE LT. AND OVERLAY THE EXISTING LANES FOR THE ENTIRE LENGTH OF THE PROJECT THROUGH THE FIRST LIFT OF SURFACE.

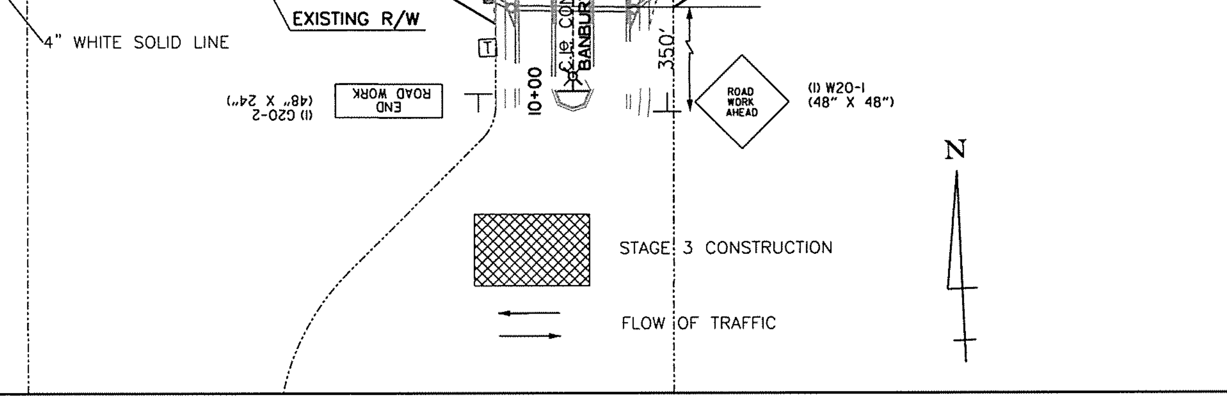
C.L. MOT3 17.5' RT. OF C.L. CONST. TYPICAL.

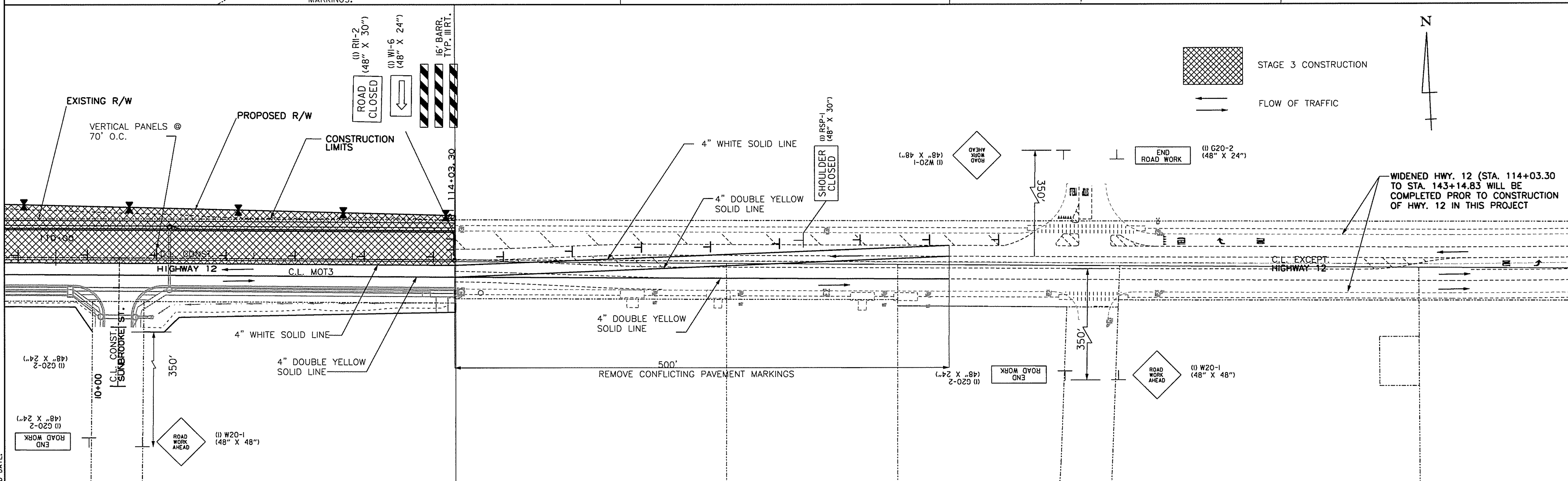
REMOVE DETOURS.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

PLACE FINAL LIFT OF SURFACE AND PERMANENT PAVEMENT MARKINGS.





MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

djcobb
WORKSPACE: AHTDXM
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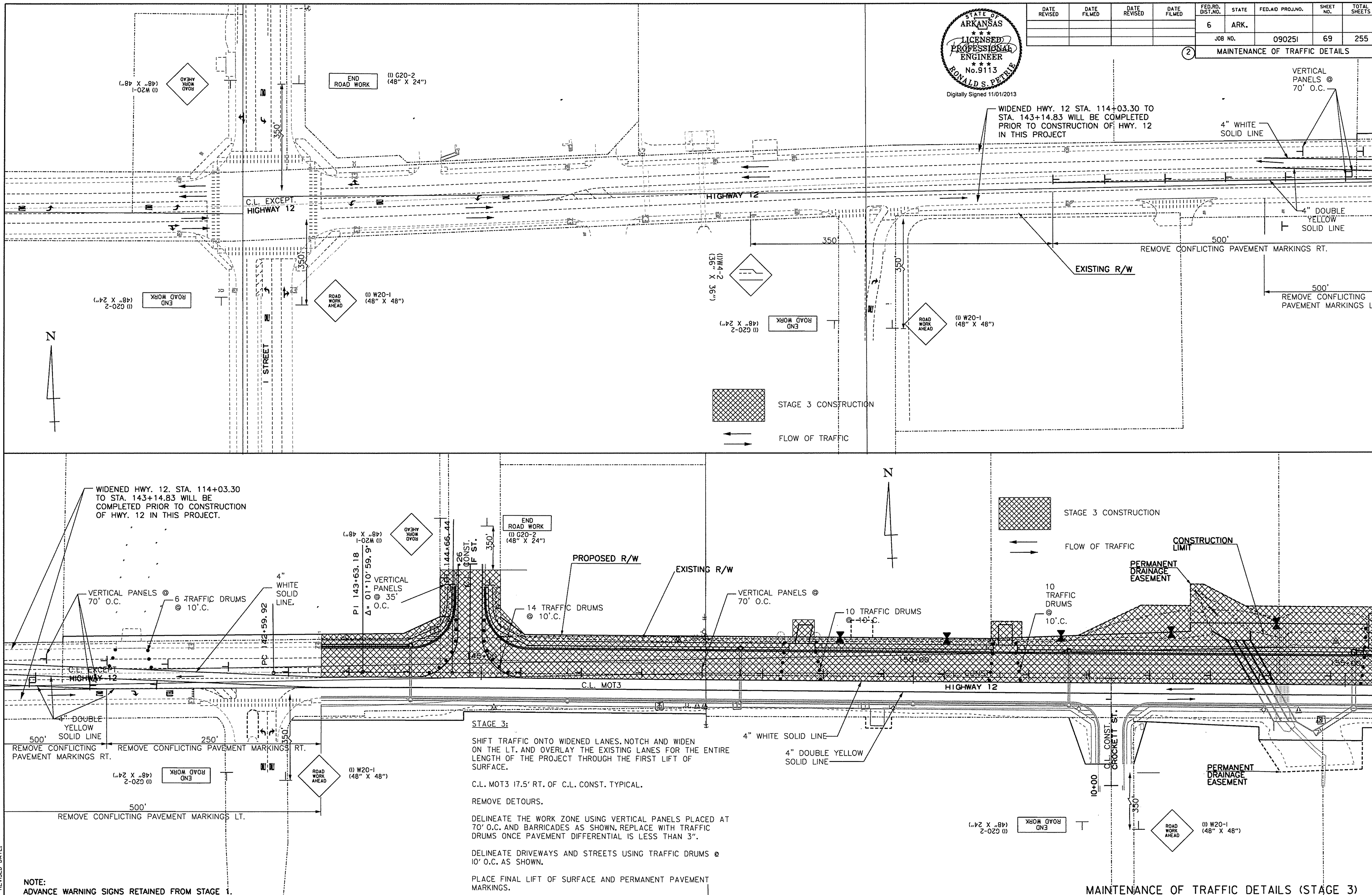

DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED
FED.RD. DIST.NO. 6 | STATE ARK. | FED.AID PROJ.NO. | SHEET NO. 69 | TOTAL SHEETS 255
JOB NO. 090251
2 MAINTENANCE OF TRAFFIC DETAILS
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013
WIDENED HWY. 12 STA. 114+03.30 TO STA. 143+14.83 WILL BE COMPLETED PRIOR TO CONSTRUCTION OF HWY. 12 IN THIS PROJECT
VERTICAL PANELS @ 70' O.C.
4" WHITE SOLID LINE
4" DOUBLE YELLOW SOLID LINE
500' REMOVE CONFLICTING PAVEMENT MARKINGS RT.
500' REMOVE CONFLICTING PAVEMENT MARKINGS LT.
EXISTING R/W
END ROAD WORK (1) G20-2 (48" X 24")
ROAD WORK AHEAD (1) W20-1 (48" X 48")
(1)W4-2 (36" X 36")
C.L. EXCEPT. HIGHWAY 12
HIGHWAY 12
I STREET
350'
N
STAGE 3 CONSTRUCTION
FLOW OF TRAFFIC
WIDENED HWY. 12. STA. 114+03.30 TO STA. 143+14.83 WILL BE COMPLETED PRIOR TO CONSTRUCTION OF HWY. 12 IN THIS PROJECT.
VERTICAL PANELS @ 70' O.C.
6 TRAFFIC DRUMS @ 10'.C.
4" WHITE SOLID LINE.
VERTICAL PANELS @ 35' O.C.
PI 143+63.18
Δ= 01°10'59.9"
PC 142+59.92
144+66.44
26 CONST. IF ST.
PROPOSED R/W
EXISTING R/W
14 TRAFFIC DRUMS @ 10'.C.
VERTICAL PANELS @ 70' O.C.
10 TRAFFIC DRUMS @ 10'.C.
10 TRAFFIC DRUMS @ 10'.C.
CONSTRUCTION LIMIT
PERMANENT DRAINAGE EASEMENT
145+00
150+00
155+00
C.L. CONST. HIGHWAY 12
C.L. MOT3
4" DOUBLE YELLOW SOLID LINE
500' REMOVE CONFLICTING PAVEMENT MARKINGS RT.
250' REMOVE CONFLICTING PAVEMENT MARKINGS RT.
500' REMOVE CONFLICTING PAVEMENT MARKINGS LT.
4" WHITE SOLID LINE
4" DOUBLE YELLOW SOLID LINE
C.L. CONST. CROCKETT ST.
10+00
STAGE 3:
SHIFT TRAFFIC ONTO WIDENED LANES. NOTCH AND WIDEN ON THE LT. AND OVERLAY THE EXISTING LANES FOR THE ENTIRE LENGTH OF THE PROJECT THROUGH THE FIRST LIFT OF SURFACE.
C.L. MOT3 17.5' RT. OF C.L. CONST. TYPICAL.
REMOVE DETOURS.
DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".
DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.
PLACE FINAL LIFT OF SURFACE AND PERMANENT PAVEMENT MARKINGS.
NOTE:
ADVANCE WARNING SIGNS RETAINED FROM STAGE 1.
MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)
djcobb 12/20/2013 1:41:00 PM
WORKSPACE: AHTDXM
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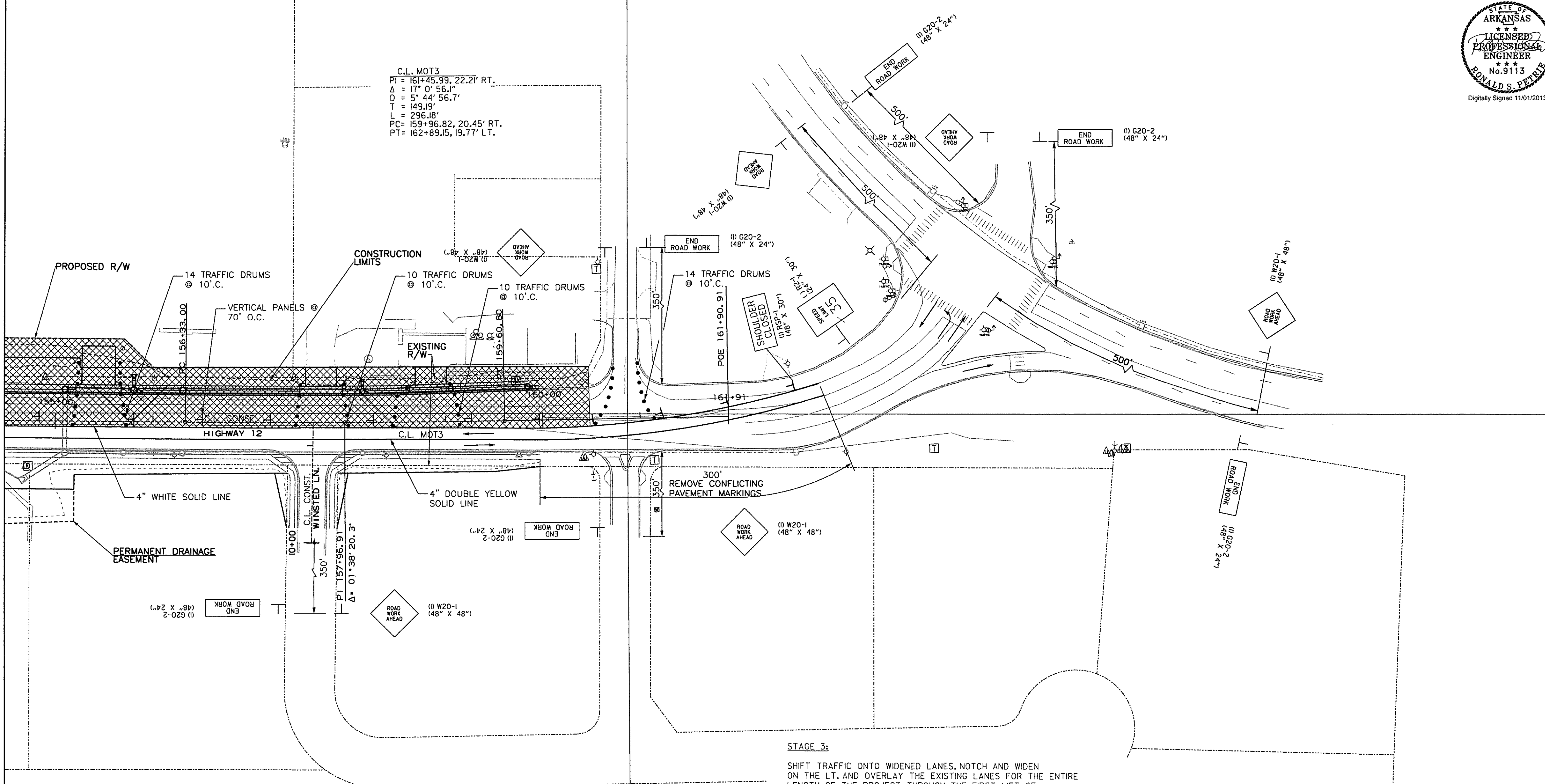
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	70	255

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



N

STAGE 3 CONSTRUCTION

FLOW OF TRAFFIC

STAGE 3:

SHIFT TRAFFIC ONTO WIDENED LANES. NOTCH AND WIDEN ON THE LT. AND OVERLAY THE EXISTING LANES FOR THE ENTIRE LENGTH OF THE PROJECT THROUGH THE FIRST LIFT OF SURFACE.

C.L. MOT3 17.5' RT. OF C.L. CONST. TYPICAL.

REMOVE DETOURS.

DELINEATE THE WORK ZONE USING VERTICAL PANELS PLACED AT 70' O.C. AND BARRICADES AS SHOWN. REPLACE WITH TRAFFIC DRUMS ONCE PAVEMENT DIFFERENTIAL IS LESS THAN 3".

DELINEATE DRIVEWAYS AND STREETS USING TRAFFIC DRUMS @ 10' O.C. AS SHOWN.

PLACE FINAL LIFT OF SURFACE AND PERMANENT PAVEMENT MARKINGS.

MAINTENANCE OF TRAFFIC DETAILS (STAGE 3)

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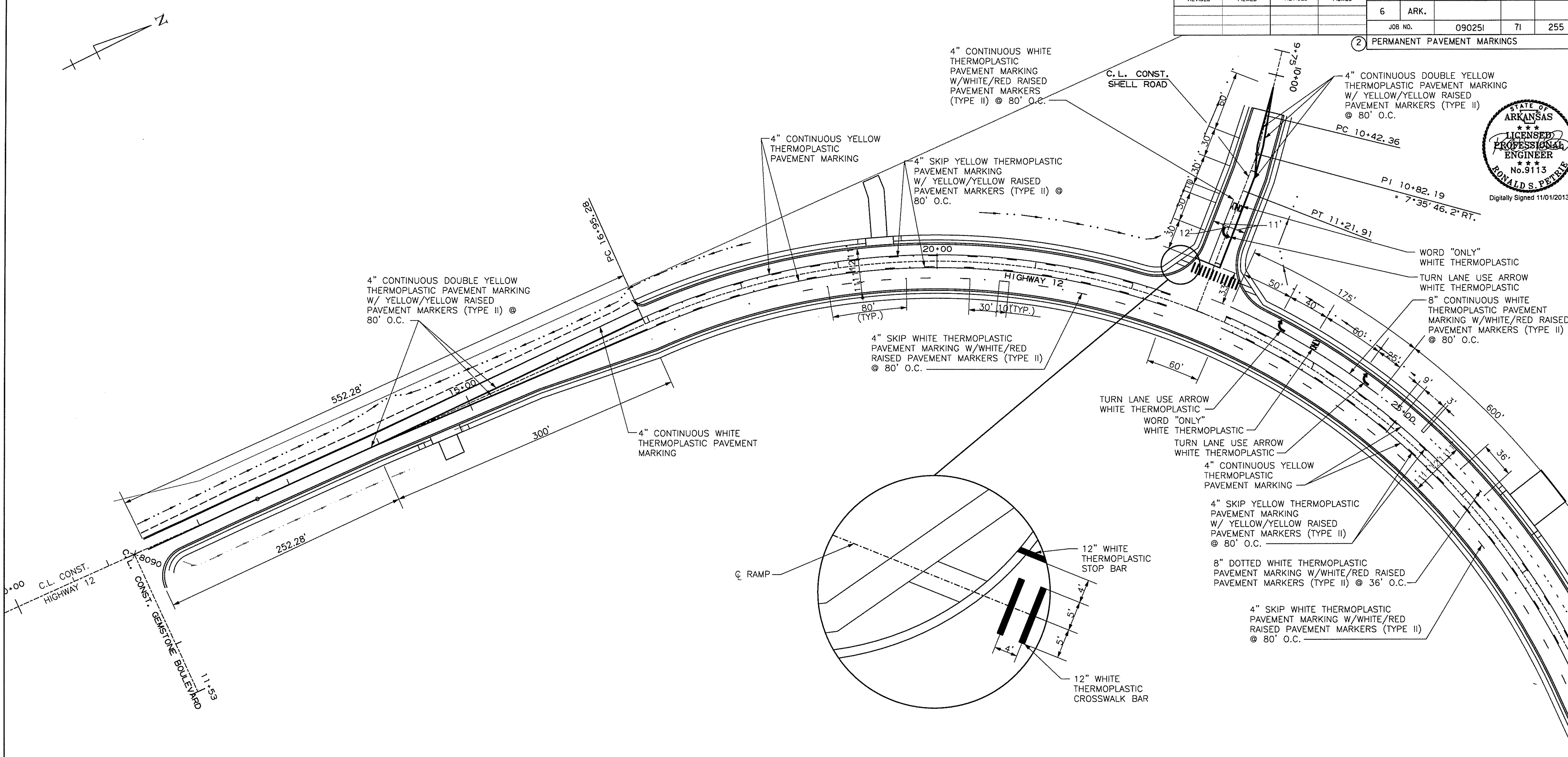
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	71	255

(2) PERMANENT PAVEMENT MARKINGS



THERMOPLASTIC PAVEMENT MARKINGS
STA. 11+43 TO 26+00
SKIP LINE LANE DIVIDER = 211 LIN. FT. 4" WHITE
SOLID LANE DIVIDER = 622 LIN. FT. 4" WHITE
DOUBLE SOLID CENTERLINE = 2265 LIN. FT. 4" YELLOW
CONTINUOUS LEFT TURN LANE = 2112 LIN. FT. 4" YELLOW
DOTTED LINE LANE DIVIDER = 33 LIN. FT. 8" WHITE
SOLID LINE LANE DIVIDER = 175 LIN. FT. 8" WHITE
STOP BAR = 27 LIN. FT. 12" WHITE
CROSSWALK = 130 LIN. FT. 12' WHITE
WORDS = 2 EACH
ARROWS = 3 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 38 EACH
TYPE II (RED/WHITE) = 18 EACH
80' SPACING EXCEPT AS NOTED FOR 8" DOTTED WHITE

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REVISED DATE:

PERMANENT PAVEMENT MARKINGS

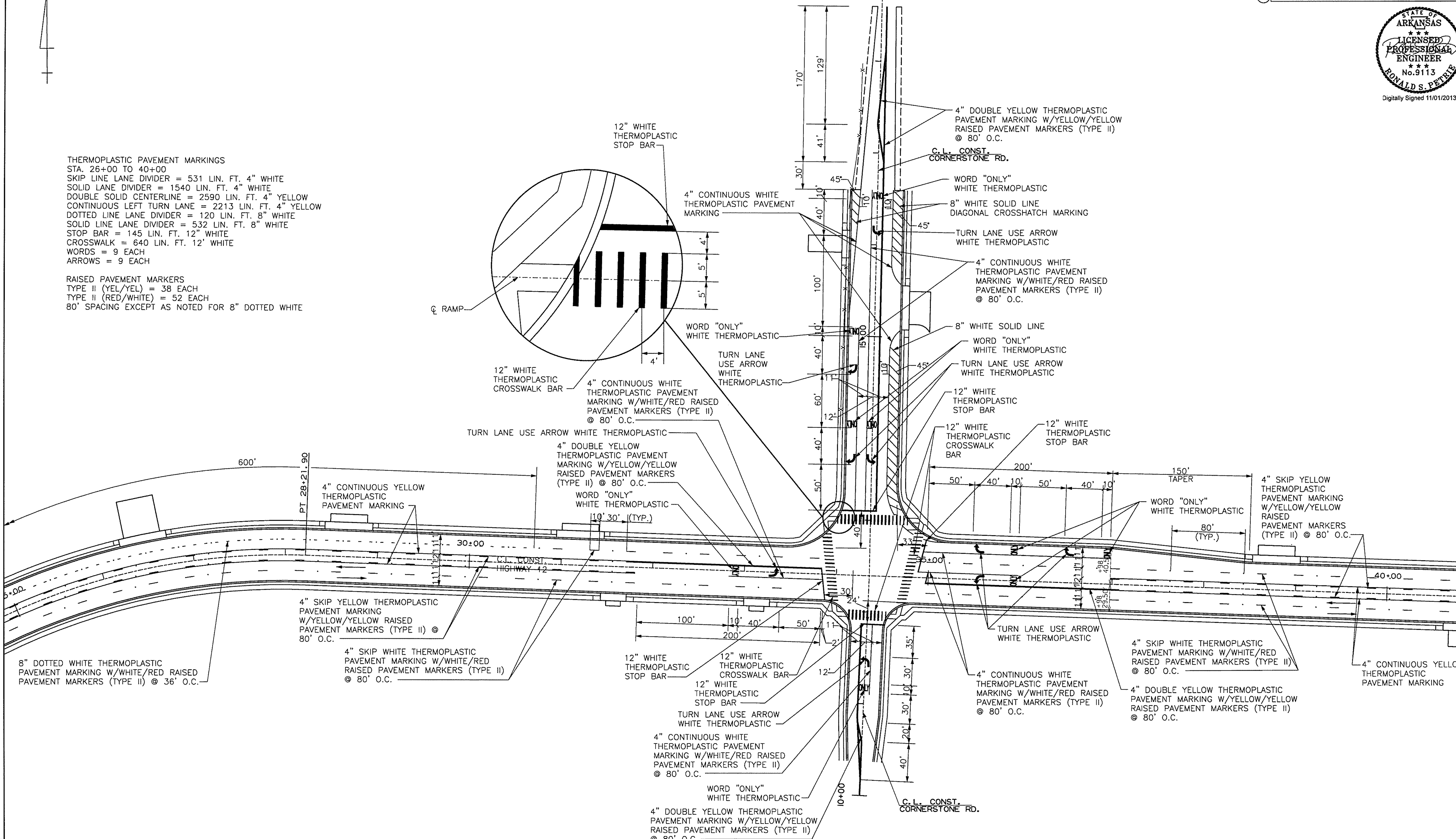
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	72	255

(2) PERMANENT PAVEMENT MARKINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

THERMOPLASTIC PAVEMENT MARKINGS
STA. 26+00 TO 40+00
SKIP LINE LANE DIVIDER = 531 LIN. FT. 4" WHITE
SOLID LANE DIVIDER = 1540 LIN. FT. 4" WHITE
DOUBLE SOLID CENTERLINE = 2590 LIN. FT. 4" YELLOW
CONTINUOUS LEFT TURN LANE = 2213 LIN. FT. 4" YELLOW
DOTTED LINE LANE DIVIDER = 120 LIN. FT. 8" WHITE
SOLID LINE LANE DIVIDER = 532 LIN. FT. 8" WHITE
STOP BAR = 145 LIN. FT. 12" WHITE
CROSSWALK = 640 LIN. FT. 12' WHITE
WORDS = 9 EACH
ARROWS = 9 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 38 EACH
TYPE II (RED/WHITE) = 52 EACH
80' SPACING EXCEPT AS NOTED FOR 8" DOTTED WHITE



PERMANENT PAVEMENT MARKINGS

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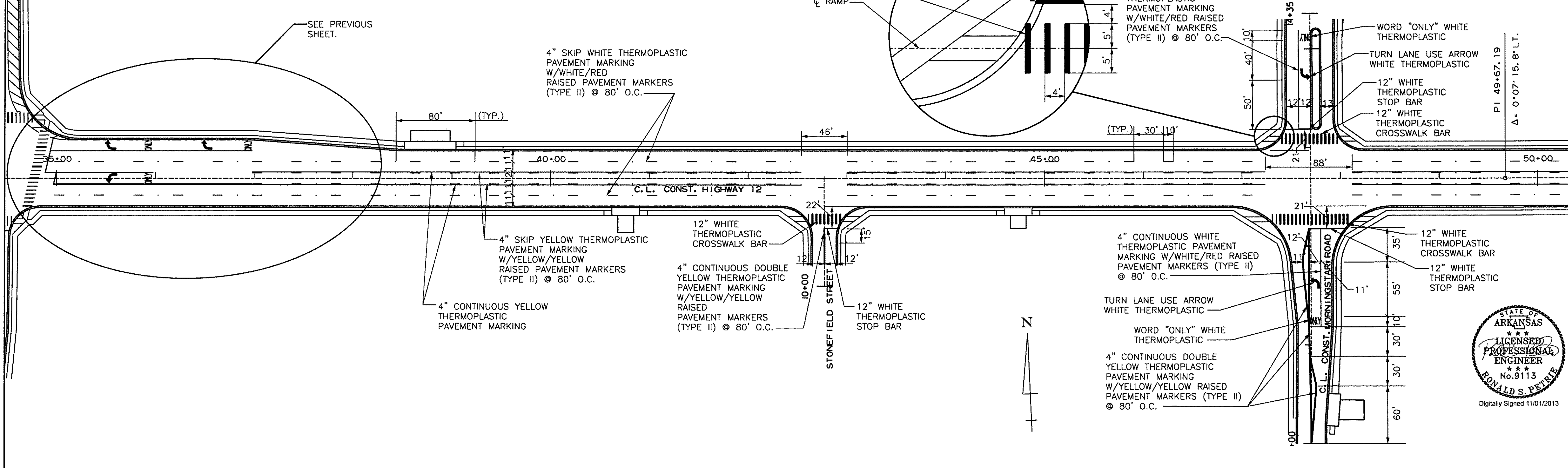
REVISED DATE:

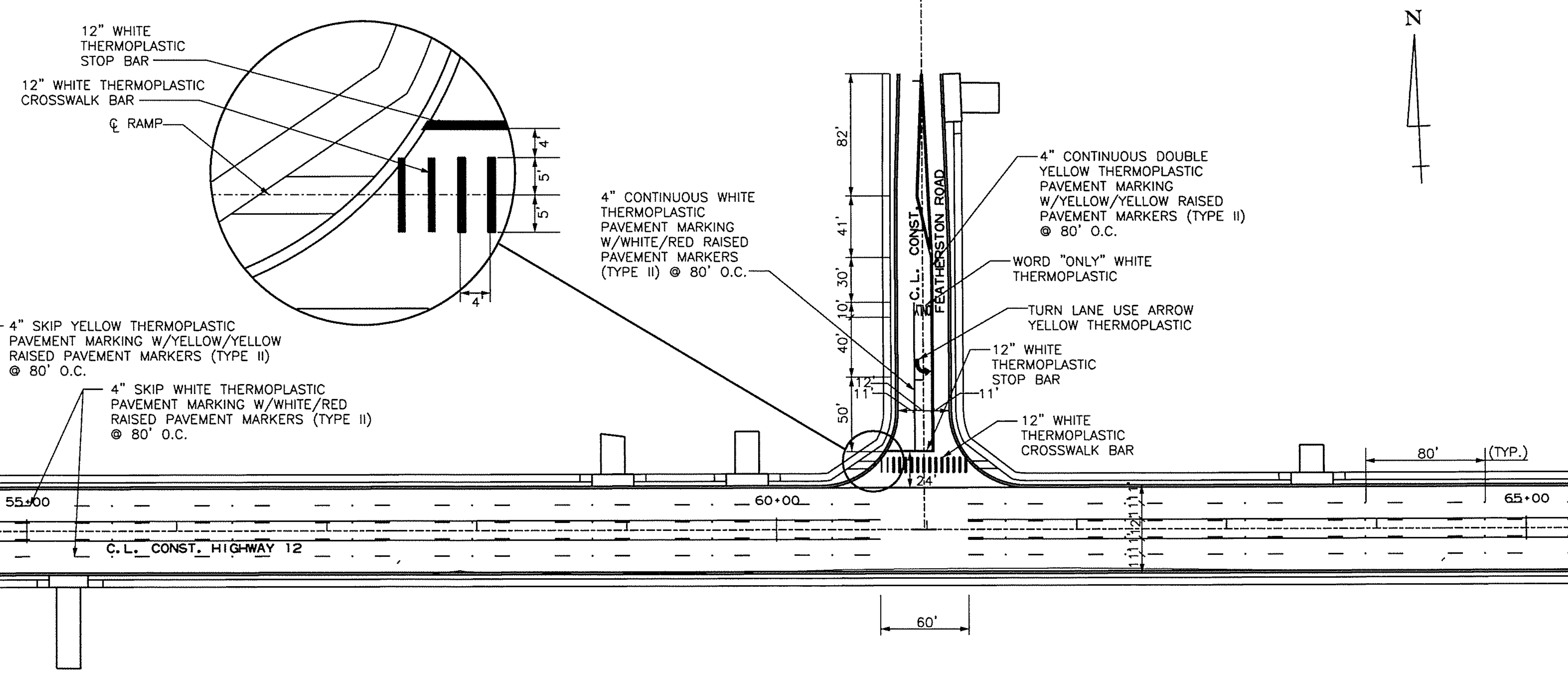
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	73	255

(2) PERMANENT PAVEMENT MARKINGS



THERMOPLASTIC PAVEMENT MARKINGS
STA. 40+00 TO 65+00
SKIP LINE LANE DIVIDER = 1153 LIN. FT. 4" WHITE
SOLID LANE DIVIDER = 300 LIN. FT. 4" WHITE
DOUBLE SOLID CENTERLINE = 1648 LIN. FT. 4" YELLOW
CONTINUOUS LEFT TURN LANE = 5765 LIN. FT. 4" YELLOW
STOP BAR = 114 LIN. FT. 12" WHITE
CROSSWALK = 590 LIN. FT. 12' WHITE
WORDS = 3 EACH
ARROWS = 3 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 70 EACH
TYPE II (RED/WHITE) = 66 EACH
80' SPACING



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REVISED DATE:

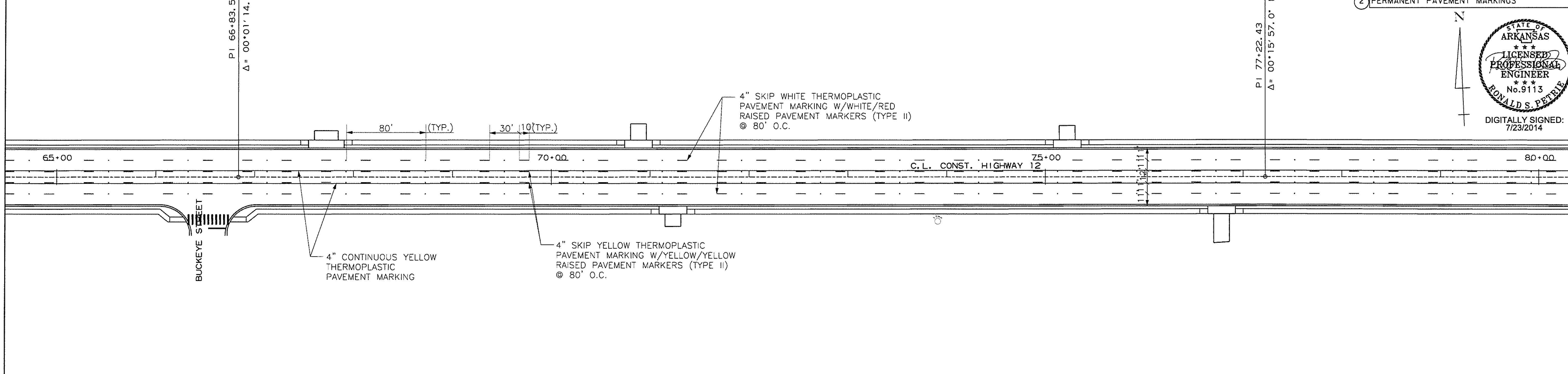
PERMANENT PAVEMENT MARKINGS

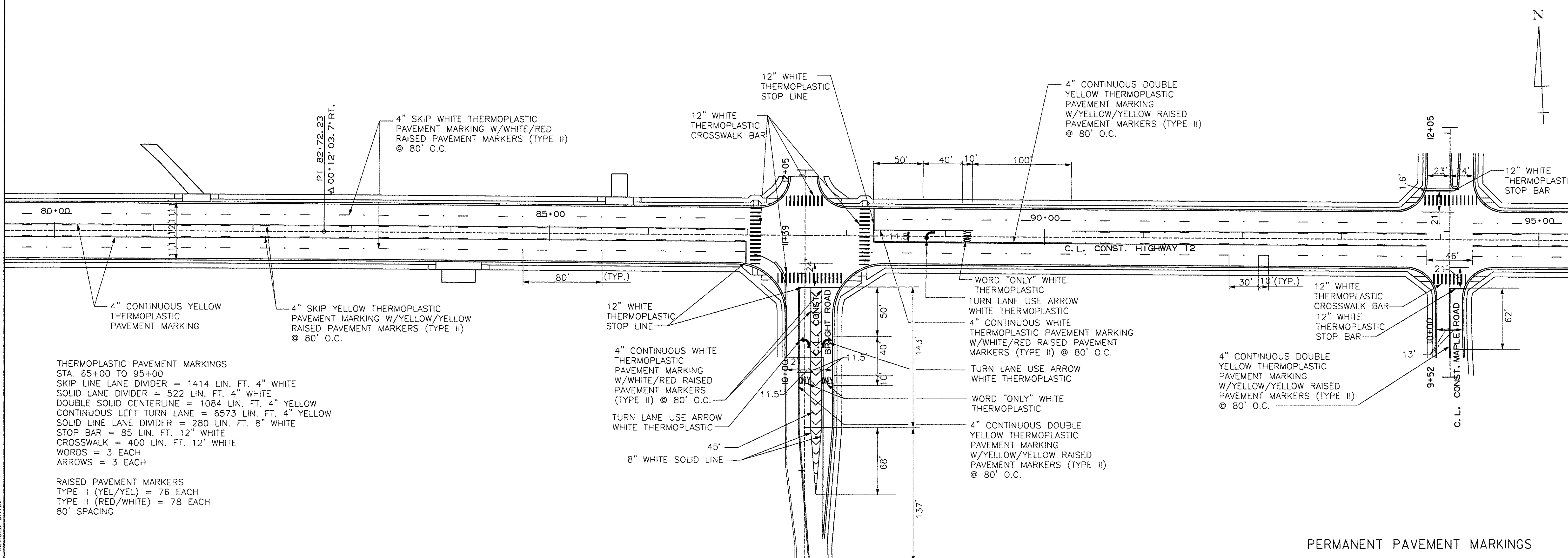
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	74	255

(2) PERMANENT PAVEMENT MARKINGS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014





THERMOPLASTIC PAVEMENT MARKINGS
STA. 65+00 TO 95+00
SKIP LINE LANE DIVIDER = 1414 LIN. FT. 4" WHITE
SOLID LANE DIVIDER = 522 LIN. FT. 4" WHITE
DOUBLE SOLID CENTERLINE = 1084 LIN. FT. 4" YELLOW
CONTINUOUS LEFT TURN LANE = 6573 LIN. FT. 4" YELLOW
SOLID LINE LANE DIVIDER = 280 LIN. FT. 8" WHITE
STOP BAR = 85 LIN. FT. 12" WHITE
CROSSWALK = 400 LIN. FT. 12' WHITE
WORDS = 3 EACH
ARROWS = 3 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 76 EACH
TYPE II (RED/WHITE) = 78 EACH
80' SPACING

PERMANENT PAVEMENT MARKINGS

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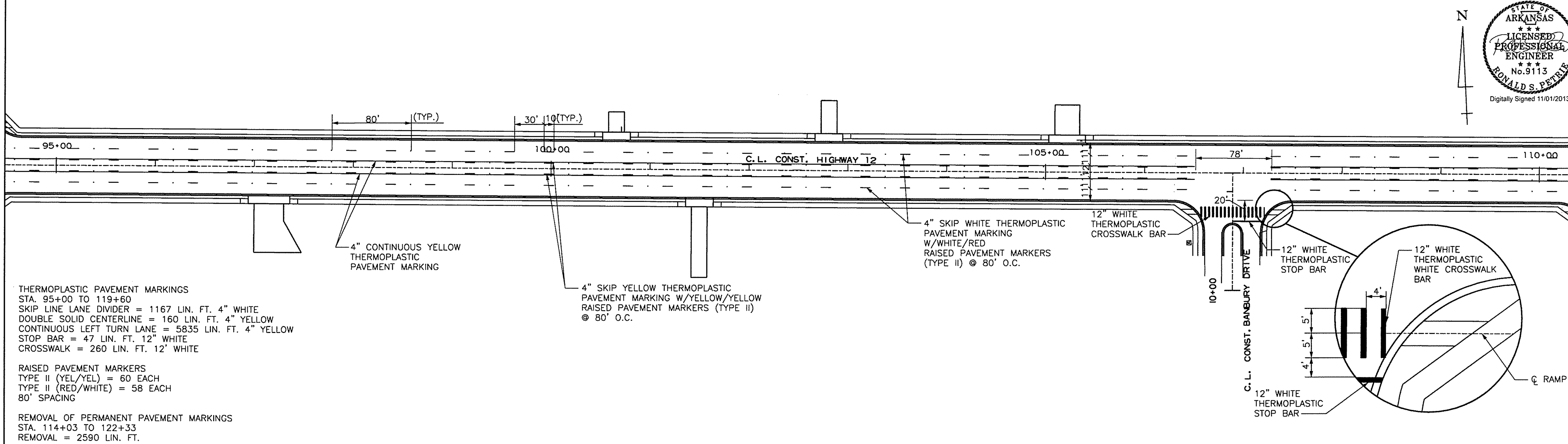
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	75	255

(2) PERMANENT PAVEMENT MARKINGS

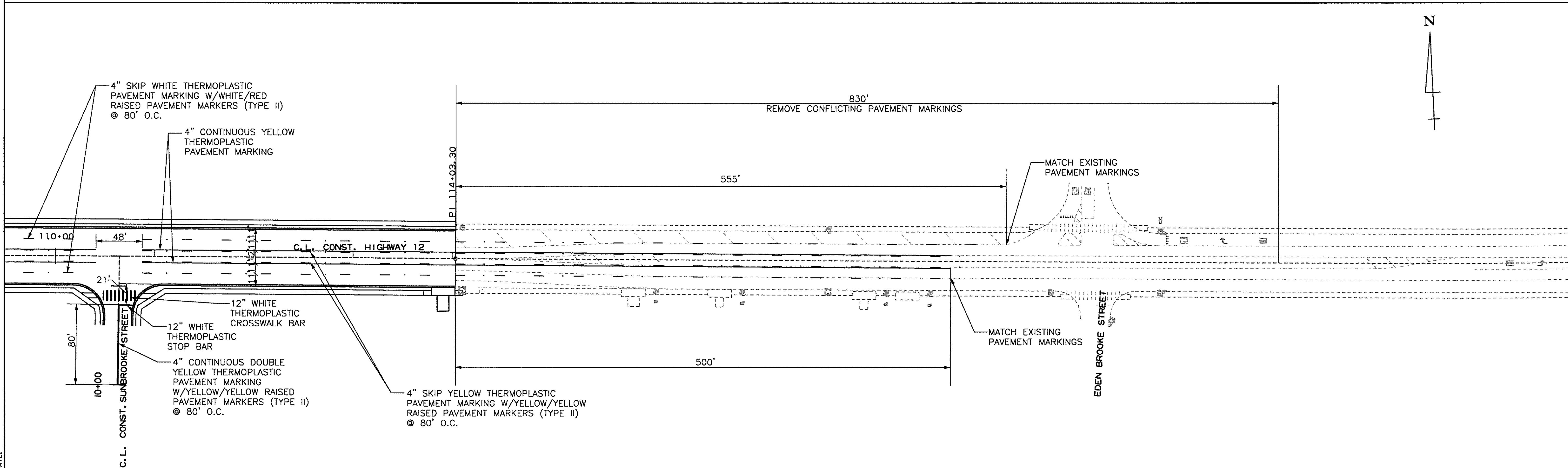
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013



THERMOPLASTIC PAVEMENT MARKINGS
STA. 95+00 TO 119+60
SKIP LINE LANE DIVIDER = 1167 LIN. FT. 4" WHITE
DOUBLE SOLID CENTERLINE = 160 LIN. FT. 4" YELLOW
CONTINUOUS LEFT TURN LANE = 5835 LIN. FT. 4" YELLOW
STOP BAR = 47 LIN. FT. 12" WHITE
CROSSWALK = 260 LIN. FT. 12' WHITE

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 60 EACH
TYPE II (RED/WHITE) = 58 EACH
80' SPACING

REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 114+03 TO 122+33
REMOVAL = 2590 LIN. FT.



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REVISED DATE:

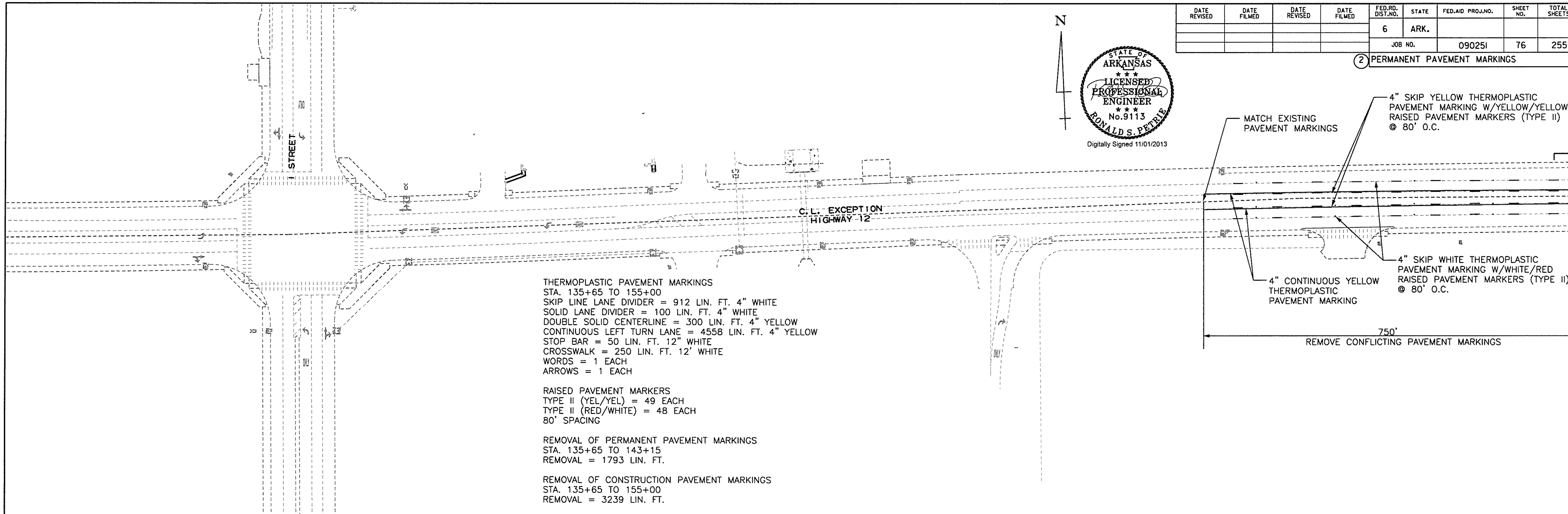
PERMANENT PAVEMENT MARKINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	76	255

(2) PERMANENT PAVEMENT MARKINGS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013

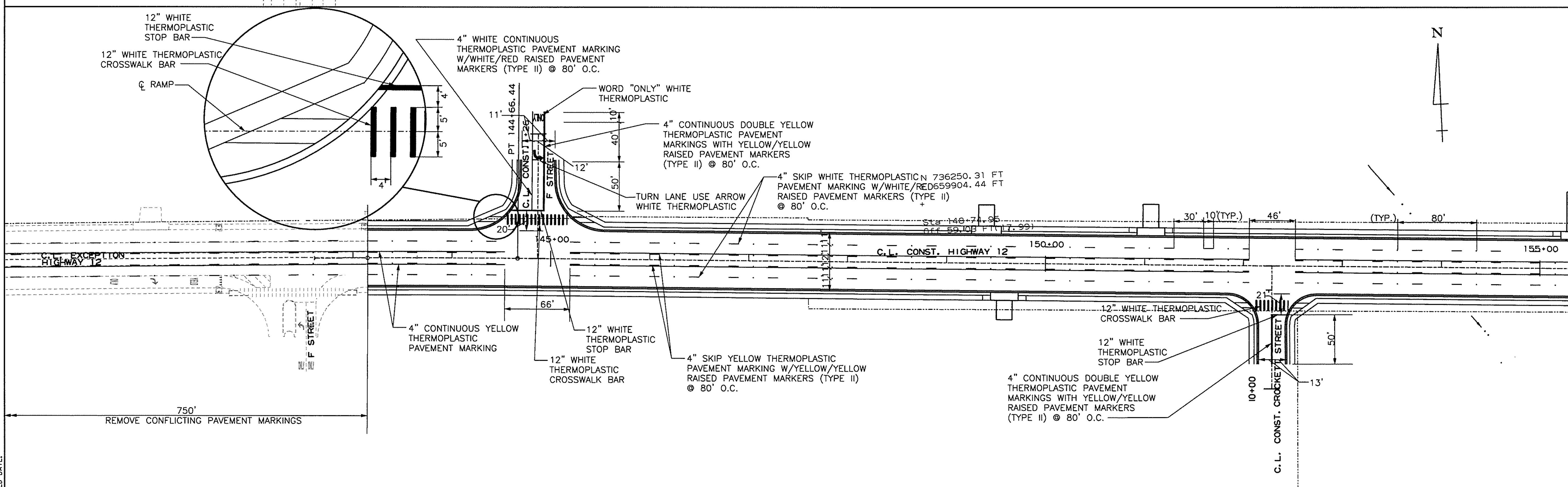


THERMOPLASTIC PAVEMENT MARKINGS
STA. 135+65 TO 155+00
SKIP LINE LANE DIVIDER = 912 LIN. FT. 4" WHITE
SOLID LANE DIVIDER = 100 LIN. FT. 4" WHITE
DOUBLE SOLID CENTERLINE = 300 LIN. FT. 4" YELLOW
CONTINUOUS LEFT TURN LANE = 4558 LIN. FT. 4" YELLOW
STOP BAR = 50 LIN. FT. 12" WHITE
CROSSWALK = 250 LIN. FT. 12' WHITE
WORDS = 1 EACH
ARROWS = 1 EACH

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 49 EACH
TYPE II (RED/WHITE) = 48 EACH
80' SPACING

REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 135+65 TO 143+15
REMOVAL = 1793 LIN. FT.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
STA. 135+65 TO 155+00
REMOVAL = 3239 LIN. FT.



djcobb
WORKSPACE: AHTDXM
REVISED DATE:

PERMANENT PAVEMENT MARKINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	77	255

(2) PERMANENT PAVEMENT MARKINGS

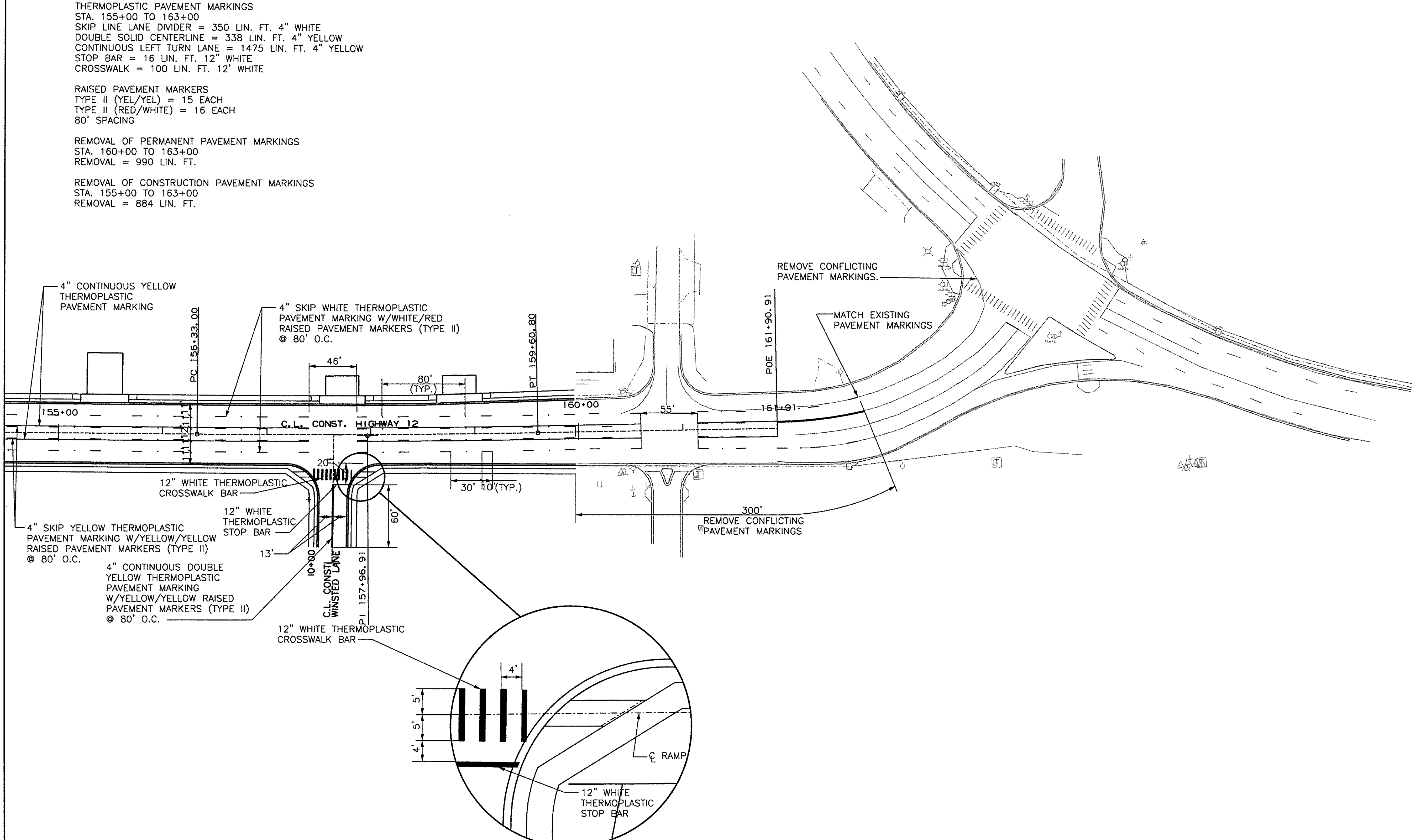
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013

THERMOPLASTIC PAVEMENT MARKINGS
STA. 155+00 TO 163+00
SKIP LINE LANE DIVIDER = 350 LIN. FT. 4" WHITE
DOUBLE SOLID CENTERLINE = 338 LIN. FT. 4" YELLOW
CONTINUOUS LEFT TURN LANE = 1475 LIN. FT. 4" YELLOW
STOP BAR = 16 LIN. FT. 12" WHITE
CROSSWALK = 100 LIN. FT. 12' WHITE

RAISED PAVEMENT MARKERS
TYPE II (YEL/YEL) = 15 EACH
TYPE II (RED/WHITE) = 16 EACH
80' SPACING

REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 160+00 TO 163+00
REMOVAL = 990 LIN. FT.

REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
STA. 155+00 TO 163+00
REMOVAL = 884 LIN. FT.



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REVISED DATE:

PERMANENT PAVEMENT MARKINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-14				6	ARK.			
					JOB NO.	090251	78	255

(2) SOIL LOG

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE

DIGITALLY SIGNED: 9/11/2014

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
MATERIALS DIVISION
MICHAEL BENSON, MATERIALS ENGINEER
SOIL SURVEY REVIEW
JOB 090251

DATE TESTED
4/17/2009
COUNTY NO. 04

JOB NAME: HWY. 71B-SHELL RD. (HWY. 12)(BENTONVILLE) P.E.

DOCK #	SAMPLE #	SOIL SURVEY STA #	SOIL SURVEY LOC.	PLANS STA #	PLANS LOC.	SOIL CLASS	FIELD MOST.	%pass. #200	L.L.	P.I.
20090858	S228	102+00	5'RT	19+68	50'RT	A-6(6)	18.6	60	28	15
20090859	S229	102+00	15'RT	19+75	39'LT	A-6(4)	11.9	55	26	13
20090860	S230	102+00	36'RT	19+82	23'LT	A-7-6(22)	31.1	80	44	28
20090861	S231	110+00	5'LT	26+65	22'LT	A-6(12)	20.7	80	31	17
20090862	S232	110+00	15'LT	26+67	30'LT	A-6(9)	20.4	68	31	18
20090863	S233	118+00	5'RT	34+25	5'RT	A-6(22)	20.5	84	40	27
20090864	S234	118+00	15'RT	34+25	15'RT	A-6(9)	18.3	84	27	13
20090865	S235	118+00	30'RT	34+25	30'RT	A-7-6(31)	23.9	90	48	34
20090866	S236	126+00	5'LT	42+25	5'LT	A-6(21)	20.6	85	39	26
20090867	S237	126+00	15'LT	42+25	15'LT	A-6(13)	19.7	75	34	21
20090868	S238	126+00	33'LT	42+25	33'LT	A-6(19)	22.4	90	36	22
20090869	S239	134+00	5'RT	50+25	5'RT	A-4(2)	17.5	75	22	6
20090870	S240	134+00	15'RT	50+25	15'RT	A-4(3)	19	63	24	9
20090871	S241	134+00	33'RT	50+25	33'RT	A-6(16)	21	76	37	24
20090872	S242	142+00	5'LT	58+25	5'LT	A-6(12)	19	84	31	16
20090873	S243	142+00	15'LT	58+25	15'LT	A-6(8)	19.8	81	27	12
20090874	S244	144+00	30'LT	60+25	30'LT	A-6(19)	21.4	89	37	22
20090875	S245	150+00	5'RT	66+25	5'RT	A-6(13)	18.6	84	32	18
20090876	S246	150+00	33'RT	66+25	33'RT	A-6(7)	21.4	46	40	26
20090877	S247	158+00	5'LT	74+25	5'LT	A-4(2)	24.2	91	22	5
20090878	S248	158+00	15'LT	74+25	15'LT	A-4(4)	26.4	84	24	7
20090879	S249	158+00	39'LT	74+25	39'LT	A-6(10)	28.7	69	35	18
20090880	S250	166+00	5'RT	82+25	5'RT	A-6(8)	20.8	86	27	12
20090881	S251	166+00	30'RT	82+25	30'RT	A-6(12)	25.4	86	32	15
20090882	S252	174+00	5'LT	90+25	5'LT	A-6(15)	203	87	35	18
20090883	S253	174+00	30'LT	90+25	30'LT	A-6(9)	22.1	89	28	12
20090884	S254	182+00	5'RT	98+25	5'RT	A-6(8)	20	76	28	13
20090885	S255	182+00	23'RT	98+25	23'RT	A-6(9)	26.3	79	30	14
20090886	S256	190+00	5'LT	106+25	5'LT	A-4(3)	20.2	81	23	6
20090887	S257	190+00	15'LT	106+25	15'LT	A-4(3)	21.9	84	23	6
20090888	S258	190+00	30'LT	106+25	30'LT	A-4(4)	24	84	26	7
20090889	S259	198+00	5'RT	114+25	5'RT	A-6(7)	19.8	83	25	11
20090890	S260	198+00	15'RT	114+25	15'RT	A-4(3)	19.4	78	22	7
20090891	S261	198+00	33'RT	114+25	33'RT	A-6(22)	25	91	39	25

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 VARIATION IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.
Z - AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE

DOCK #	SAMPLE #	SOIL SURVEY STA #	SOIL SURVEY LOC.	PLANS STA #	PLANS LOC.	SOIL CLASS	FIELD MOST.	%pass. #200	L.L.	P.I.
20090892	S262	206+00	5'LT	122+25	5'LT	A-6(10)	22.3	87	28	14
20090893	S263	206+00	30'LT	122+25	30'LT	A-6(9)	27.6	75	34	13
20090894	S264	214+00	9'RT	130+25	9'RT	A-4(5)	24.7	84	24	8
20090895	S265	214+00	30'RT	130+25	30'RT	A-4(7)	28	90	28	9
20090896	S266	222+00	5'LT	138+25	5'LT	A-6(15)	20	76	36	22
20090897	S267	222+00	21'LT	138+25	21'LT	A-6(5)	24.5	51	30	17
20090898	S268	222+00	33'LT	138+25	33'LT	A-7-6(13)	24	57	44	30
20090899	S269	230+00	5'RT	146+25	5'RT	A-6(10)	16.6	83	29	15
20090900	S270	230+00	15'RT	146+25	15'RT	A-6(8)	245	82	27	12
20090901	S271	230+00	30'RT	146+25	30'RT	A-6(8)	19.9	83	28	12
20090902	S272	238+00	5'LT	154+25	5'LT	A-(1)	15.9	81	20	4
20090903	S273	238+00	33'LT	154+25	33'LT	A-4(6)	24.5	81	29	9
20090904	RV274	142+00	33'LT	58+25	33'LT	A-7-6(23)		81	44	29

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 VARIATION IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.
Z - AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE

SOIL LOG

djcobb 9/11/2014 2:53:41PM
WORKSPACE: AHTDXM
X:\2008\08053550 - BnvAR Hwy 12\Drawings\Hi2_BL_01.dgn
REVISED DATE:

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAX. NUMBER	TOTAL REQUIRED	TRAFFIC DRUMS	VERTICAL PANELS	BARRICADES (TYPE III) RIGHT	BARRICADES (TYPE III) LEFT	TEMP. IMP. ATT. BAR.	TEMP. IMP. ATT. BAR. (REPAIR)	FURNISH AND INSTALL PRECAST CONC. BAR.
		IN.	EACH	EACH	EACH	REQ'D.	SQ. FT.	EACH	EACH	L.F.		EACH	EACH	L.F.
G20-2	END ROAD WORK	48" X 24"	29	29	29	29	232.00							
M4-8a	END DETOUR	18" X 24"		2		2	6.00							
M4-10R	DETOUR	18" X 48"		1		1	6.00							
R2-1	SPEED LIMIT XX	24" X 30"	2	2	2	2	10.00							
R2-5a	REDUCED SPEED AHEAD	24" X 30"	1	1	1	1	5.00							
R3-2L	NO LEFT TURN	24" X 24"		1		1	4.00							
R4-1	DO NOT PASS	24" X 30"				*6	30.00							
R11-2	ROAD CLOSED	48" X 30"		7	7	7	70.00							
RSP-1	SHOULDER CLOSED	48" X 30"				*6	60.00							
W1-4L	LANE SHIFT LEFT	48" X 48"		5		5	80.00							
W1-4R	LANE SHIFT RIGHT	48" X 48"		4		4	64.00							
W1-6	ONE DIRECTIONAL LARGE ARROW	48" X 24"		4	3	4	32.00							
W1-8	CHEVRON	18" X 24"		32		32	96.00							
W4-2R	RIGHT LANE ENDS	36" X 36"			1	1	9.00							
W8-9	LOW SHOULDER	36" X 36"				*6	54.00							
W13-1	XX M.P.H. ADVISORY SPEED	24" X 24"		4		4	16.00							
W20-1	ROAD WORK 500 FT	48" X 48"	1	1	1	1	16.00							
W20-1	ROAD WORK 1000 FT	48" X 48"	1	1	1	1	16.00							
W20-1	ROAD WORK 1500 FT	48" X 48"	1	1	1	1	16.00							
W20-1	ROAD WORK AHEAD	48" X 48"	28	28	28	28	448.00							
W20-2	DETOUR AHEAD	48" X 48"		1		1	16.00							
W20-3	ROAD CLOSED AHEAD	48" X 48"		1		1	16.00							
	SPECIAL SIGN 1	48" X 60"		5		5	100.00							
	SPECIAL SIGN 2	48" X 60"		4		4	80.00							
	SPECIAL SIGN 3	48" X 60"		3		3	60.00							
	TYPE III BARRICADE-RT. (16')			4	3	4				64				
	TYPE III BARRICADE-LT. (16')			2	2	2					32			
	TYPE III BARRICADE-RT. (8')			5		5				40				
	TYPE III BARRICADE-LT. (8')			5		5					40			
	TRAFFIC DRUMS		24	227	340	340		340						
	VERTICAL PANELS		26	183	243	243		243	243					
	TEMPORARY IMPACT ATTENUATION BARRIER			4		4						4		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			4		4							4	
	FURN. AND INST. PRECAST CONC. BARRIER			940		940								940
TOTALS							1,542.00	583	243	104	72	4	4	940

NOTE: THIS IS A HIGH VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.
*IF & WHERE DIRECTED BY THE ENGINEER.

PERMANENT PAVEMENT MARKINGS

DESCRIPTION	UNIT	HWY. 12	SHELL RD.	CORNERSTONE RD.	STONEFIELD ST.	MORNINGSTAR RD.	FEATHERSTON RD.	BRIGHT. RD	MAPLE RD.	BANBURY DR.	SUNBROOKE ST	F STREET	CROCKETT ST.	WINSTED LANE	TOTAL
THERMOPLASTIC PAVEMENT MARKING WHITE (4")	L.F.	6,789	70	1,140	0	200	100	422	0	0	0	100	0	0	8,821
THERMOPLASTIC PAVEMENT MARKING WHITE (8")	L.F.	328	0	532	0	0	0	280	0	0	0	0	0	0	1,140
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	L.F.	828	157	373	105	417	182	311	274	201	106	195	105	116	3,370
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	L.F.	31,652	560	1,790	76	820	752	560	124	0	160	200	100	120	36,914
THERMOPLASTIC PAVEMENT MARKING (WORDS)	EACH	6	1	5	0	2	1	2	0	0	0	1	0	0	18
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	EACH	7	1	5	0	2	1	2	0	0	0	1	0	0	19
RAISED PAVEMENT MARKERS (TYPE II)(YELLOW/YELLOW)	EACH	308	4	13	1	5	4	4	1	0	2	2	1	1	346
RAISED PAVEMENT MARKERS (TYPE II)(RED/WHITE)	EACH	312	1	9	0	4	2	6	0	0	2	2	0	0	336

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

CONSTRUCTION PAVEMENT MARKINGS

STATION	STATION	LOCATION	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS (WORDS)	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)
			L.F.	L.F.	L.F.	EA.	EA.
		STAGE 2					
76+50	84+75	HWY. 12 DETOUR 1 - EDGE LINES AND DBL. YELLOW CENTERLINE		2,394			
149+55	158+42	HWY. 12 DETOUR 2 - EDGE LINES AND DBL. YELLOW CENTERLINE		2,854			
		STAGE 3					
12+95	114+03	HWY. 12 - EDGE LINES AND DBL. YELLOW CENTERLINE		36,488			
114+03	122+33	HWY. 12 - EDGE LINES AND DBL. YELLOW CENTERLINE	2,590				
135+65	163+00	HWY. 12 - EDGE LINES AND DBL. YELLOW CENTERLINE		9,565			
135+65	155+00	HWY. 12 - EDGE LINES AND DBL. YELLOW CENTERLINE	1,793		3,239		
155+00	163+00	HWY. 12 - EDGE LINES AND DBL. YELLOW CENTERLINE	990		884		
ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER						18	19
TOTALS			5,373	51,301	4,123	18	19

SURVEY MONUMENT PROTECTION

STA.	LOCATION	DESCRIPTION	EACH
22+50	HWY. 12 - 150' LT.	CITY MONUMENT #84	1
47+72	HWY. 12 - 3' RT.	C 1/4 CORNER SEC. 11, 60D NAIL	1
60+98	HWY. 12 - 1' RT.	CE 1/16 CORNER SEC. 11, MAG NAIL	1
94+50	HWY. 12 - 35' RT.	CITY MONUMENT	1
147+60	HWY. 12 - 2' LT.	C 1/4 CORNER SEC. 7, RR SPIKE	1
TOTAL			5

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
80+62	HWY. 12 - HEADWALL OF R.C. BOX CULVERT ON LT.	1
154+03	HWY. 12 - HEADWALL OF R.C. BOX CULVERT ON RT.	1
TOTAL		2

NOTE:
SHOWN FOR INFORMATION ONLY. BENCHMARKS AND R/W MARKERS TO BE FURNISHED AND PLACED BY STATE FORCES.

MAILBOXES

STATION	LOCATION	MAILBOXES	SINGLE MAILBOX SUPPORT
		EACH	EACH
19+55	HWY. 12 - LT.	1	1
55+15	HWY. 12 - RT.	1	1
67+80	HWY. 12 - RT.	1	1
70+80	HWY. 12 - RT.	1	1
71+05	HWY. 12 - RT.	1	1
86+95	HWY. 12 - RT.	1	1
102+45	HWY. 12 - RT.	1	1
105+45	HWY. 12 - RT.	1	1
148+90	HWY. 12 - RT.	1	1
155+90	HWY. 12 - LT.	2	2
158+05	HWY. 12 - LT.	1	1
TOTAL		12	12

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	ASPHALT CONCRETE	TACK COAT
	TON	GAL.
ENTIRE PROJECT	75	150

QUANTITIES ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

BASIS OF ESTIMATE:
ASPHALT CONCRETE= 25 TONS PER MILE
TACK COAT = 50 GAL. PER MILE

HAND RAILING

STATION	STATION	LOCATION	HAND RAILING
			LIN. FT.
14+09	14+41	HWY. 12 - RT.	32
TOTAL			32

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	CONCRETE CURB AND GUTTER (TYPE A)(1'-6")
			LIN. FT.
11+28.13	20+00.00	HWY. 12 - RT.	834
11+28.13	20+00.00	HWY. 12 - LT.	312
20+00.00	36+00.00	HWY. 12 - RT.	1,788
20+00.00	36+00.00	HWY. 12 - LT. & SHELL RD.	1,913
36+00.00	50+00.00	HWY. 12 - RT. & STONEFIELD ST. & MORNINGSTAR RD.	1,753
36+00.00	50+00.00	HWY. 12 -LT. & MORNINGSTAR RD.	1,641
50+00.00	65+00.00	HWY. 12 - RT.	1,433
50+00.00	65+00.00	HWY. 12 - LT. & FEATHERSTON RD.	1,439
65+00.00	80+00.00	HWY. 12 - RT.	1,439
65+00.00	80+00.00	HWY. 12 - LT.	1,423
80+00.00	95+00.00	HWY. 12 - RT. & MAPLE RD.	1,752
80+00.00	95+00.00	HWY. 12 - LT. & MAPLE RD. & BRIGHT RD	1,389
95+00.00	110+00.00	HWY. 12 - RT. & BANBURY DR.	1,552
95+00.00	110+00.00	HWY. 12 - LT.	1,381
110+00.00	114+03.30	HWY. 12 - RT. & SUNBROOKE ST.	394
110+00.00	114+03.30	HWY. 12 - LT.	390
143+14.83	155+00.00	HWY. 12 - RT. & CROCKETT ST.	1,222
143+14.83	155+00.00	HWY. 12 - LT. & F STREET	1,320
155+00.00	159+96.51	HWY. 12 - RT. & WINSTED LANE	546
155+00.00	159+96.51	HWY. 12 - LT.	448
10+37.36	11+80.20	CORNERSTONE RD. - RT.	130
10+37.36	11+80.20	CORNERSTONE RD. - LT.	129
13+34.10	16+60.00	GREENHOUSE RD. - RT.	302
13+34.10	16+60.00	GREENHOUSE RD. - LT.	309
10+80.00	13+05.49	FEATHERSTON RD. - RT.	226
10+80.00	13+05.49	FEATHERSTON RD. - LT.	225
8+31.35	10+59.25	BRIGHT RD. - RT.	228
TOTALS			25,918

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

LOCATION	ASPHALT
	TON
HWY. 12 STA. 13+75	20
HWY. 12 STA. 14+24.75	80
HWY. 12 STA. 33+50	35
HWY. 12 STA. 35+20	55
HWY. 12 STA. 39+25	35
HWY. 12 STA. 42+00	35
HWY. 12 STA. 42+61.78	15
HWY. 12 STA. 47+47.48	25
HWY. 12 STA. 52+50	35
HWY. 12 STA. 57+33	65
HWY. 12 STA. 60+20	45
HWY. 12 STA. 61+00	25
HWY. 12 STA. 64+20	35
HWY. 12 STA. 69+50	35
HWY. 12 STA. 73+00	35
HWY. 12 STA. 79+80	50
HWY. 12 STA. 80+62	130
HWY. 12 STA. 83+50	35
HWY. 12 STA. 88+40	35
HWY. 12 STA. 91+50	35
HWY. 12 STA. 93+83.02	30
HWY. 12 STA. 97+50	35
HWY. 12 STA. 101+00	35
HWY. 12 STA. 103+65	35
HWY. 12 STA. 106+57.47	35
HWY. 12 STA. 107+00	70
HWY. 12 STA. 107+55	35
HWY. 12 STA. 110+47.36	20
HWY. 12 STA. 110+64	35
HWY. 12 STA. 111+15	35
HWY. 12 STA. 144+18.43	35
HWY. 12 STA. 148+00	35
HWY. 12 STA. 151+80	35
HWY. 12 STA. 152+30	20
HWY. 12 STA. 154+00	145
HWY. 12 STA. 155+10	45
HWY. 12 STA. 157+64	40
CORNERSTONE RD. STA. 11+75.41	15
GREENHOUSE RD. STA. 13+40	30
TOTAL	1,625

BASIS OF ESTIMATE:
1.5' OUTSIDE TRENCH EXCAVATION
12" ESTIMATED PAVEMENT DEPTH

WHEELCHAIR RAMPS

STATION	LOCATION	WHEELCHAIR RAMPS (TYPE 2)	WHEELCHAIR RAMPS (TYPE 3)
		S.Y.	S.Y.
22+44.70	HWY. 12 - LT.		5.07
23+02.99	HWY. 12 - LT.		6.93
33+89.86	HWY. 12 - RT.	11.13	
33+89.86	HWY. 12 - LT.	11.40	
34+77.97	HWY. 12 - RT.	10.67	
34+77.97	HWY. 12 - LT.	10.48	
42+57.31	HWY. 12 - RT.		7.33
42+97.25	HWY. 12 - RT.		7.20
47+24.65	HWY. 12 - RT.		10.71
47+36.68	HWY. 12 - LT.		6.88
48+01.21	HWY. 12 - LT.		6.52
48+16.70	HWY. 12 - RT.		8.38
60+64.05	HWY. 12 - LT.		7.19
61+32.50	HWY. 12 - LT.		6.65
66+29.46	HWY. 12 - LT.		8.46
66+76.49	HWY. 12 - RT.		8.32
87+07.77	HWY. 12 - LT.		3.33
87+07.84	HWY. 12 - RT.	4.00	
87+22.63	HWY. 12 - RT.	4.89	
87+28.14	HWY. 12 - LT.		5.58
87+84.85	HWY. 12 - LT.		5.58
88+03.41	HWY. 12 - RT.	6.67	
88+17.98	HWY. 12 - LT.		3.33
88+18.05	HWY. 12 - RT.	4.00	
93+87.79	HWY. 12 - RT.		6.49
93+87.79	HWY. 12 - LT.		5.92
94+31.63	HWY. 12 - RT.		6.64
94+31.63	HWY. 12 - LT.		5.92
106+51.79	HWY. 12 - RT.		6.44
107+27.16	HWY. 12 - RT.		6.74
110+41.99	HWY. 12 - RT.		6.54
110+85.87	HWY. 12 - RT.		6.98
144+48.14	HWY. 12 - LT.		8.87
144+25.43	HWY. 12 - LT.		8.08
152+07.36	HWY. 12 - RT.		6.80
152+51.11	HWY. 12 - RT.		6.60
157+40.19	HWY. 12 - RT.		6.65
157+86.81	HWY. 12 - RT.		7.21
TOTALS		63.24	203.34

CONCRETE WALKS

STATION	STATION	LOCATION	CONCRETE WALKS	SOLID SOD	WATER
			S.Y.	S.Y.	M.G.
11+28.13	20+00.00	HWY. 12 - RT.	457.89	287	3.62
11+28.13	20+00.00	HWY. 12 - LT.	185.43	89	1.12
20+00.00	36+00.00	HWY. 12 - RT.	767.30	591	7.45
20+00.00	36+00.00	HWY. 12 - LT. & SHELL RD.	956.75	606	7.64
36+00.00	50+00.00	HWY. 12 - RT. & STONEFIELD ST.	772.75	563	7.09
36+00.00	50+00.00	HWY. 12 - LT.	717.50	533	6.72
50+00.00	65+00.00	HWY. 12 - RT.	818.89	481	6.06
50+00.00	65+00.00	HWY. 12 - LT.	747.61	445	5.61
65+00.00	80+00.00	HWY. 12 - RT.	778.99	465	5.86
65+00.00	80+00.00	HWY. 12 - LT.	782.25	463	5.83
80+00.00	95+00.00	HWY. 12 - RT.	758.57	575	7.25
80+00.00	95+00.00	HWY. 12 - LT.	721.78	437	5.51
95+00.00	110+00.00	HWY. 12 - RT. & BANBURY DRIVE	794.47	492	6.20
95+00.00	110+00.00	HWY. 12 - LT.	786.56	437	5.51
110+00.00	114+03.30	HWY. 12 - RT. & SUNBROOK ST.	229.69	134	1.69
110+00.00	114+03.30	HWY. 12 - LT.	224.46	133	1.68
143+14.83	155+00.00	HWY. 12 - RT. & CROCKETT ST.	677.43	408	5.14
143+14.83	155+00.00	HWY. 12 - LT. & F ST.	599.74	420	5.29
155+00.00	159+96.51	HWY. 12 - RT. & WINSTED LANE	321.66	197	2.48
155+00.00	159+96.51	HWY. 12 - LT.	175.55	101	1.27
10+37.36	12+11.52	CORNERSTONE RD. - RT.	81.02	43	0.54
10+37.36	12+11.52	CORNERSTONE RD. - LT.	80.19	43	0.54
12+67.52	18+59.56	GREENHOUSE RD. - RT.	159.51	85	1.07
12+67.52	18+59.56	GREENHOUSE RD. - LT.	175.43	94	1.18
10+00.00	12+05.60	MORNINGSTAR RD. - RT.	101.66	61	0.77
10+00.00	12+05.60	MORNINGSTAR RD. - LT.	108.66	65	0.82
13+50.90	14+28.75	MORNINGSTAR RD. - RT.	60.96	37	0.47
13+50.90	14+28.75	MORNINGSTAR RD. - LT.	59.82	36	0.45
10+59.83	13+05.49	FEATHERSTON RD. - RT.	118.54	62	0.78
10+59.83	13+05.49	FEATHERSTON RD. - LT.	137.25	75	0.95
8+31.35	10+81.62	BRIGHT ROAD - RT.	159.88	76	0.96
10+10.00	10+81.62	BRIGHT ROAD - LT.	40.17	21	0.26
11+76.20	11+98.78	BRIGHT ROAD - RT.	17.11	14	0.18
11+76.20	11+98.78	BRIGHT ROAD - LT.	16.04	14	0.18
09+80.00	10+38.60	MAPLE ROAD - RT.	32.60	20	0.25
09+80.00	10+38.60	MAPLE ROAD - LT.	31.56	19	0.24
11+47.85	11+79.56	MAPLE ROAD - RT.	17.09	10	0.13
11+47.85	11+79.56	MAPLE ROAD - LT.	17.05	10	0.13
TOTALS			13,689.81	8642	108.92

BASIS OF ESTIMATE:
WATER = 12.6 GALS. PER SQ. YD. SOLID SODDING.

djcobb 7/23/2014 4:28:51 PM
WORKSPACE: AHTDXM
X:\2008\08053550 - BnvAR Hwy 12\Drawings\H12_QTY_SUM.dgn
REVISED DATE:

STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER ★★★ No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

REMOVAL AND DISPOSAL OF STRUCTURES

STATION	STATION	LOCATION	PIPE CULVERTS	DROP INLETS	JUNCTION BOXES	FENCE	CURB & GUTTER	SIDEWALKS	CONCRETE DITCH PAVING	DESCRIPTION
			EACH	EACH	EACH	L.F.	L.F.	S.Y.	S.Y.	
13+15	18+20	HWY. 12 - LT.				525				
14+33		HWY. 12	3							24" X 58' C.M. PIPE CULVERT
14+65		HWY. 12 - RT.	1							24" X 38' C.M. SIDE DRAIN
22+38		HWY. 12 - LT.	1							18" X 71' C.M. PIPE CULVERT
24+35	33+90	HWY. 12 - LT.				1024				
31+58		HWY. 12 - RT.	1							18" X 28' C.M. SIDE DRAIN
33+14		HWY. 12 - RT.	1							18" X 28' C.M. SIDE DRAIN
35+11		HWY. 12	2							21" X 24" X 48' C.M. PIPE CULVERT
37+90	38+00	HWY. 12 - LT.				54				
38+05		HWY. 12 - LT.	1							18" X 30' C.M. SIDE DRAIN
38+75		HWY. 12 - LT. (DRIVEWAY)	1				59		9	24" X 81' C.M. SIDE DRAIN
40+76		HWY. 12 - RT.	1							18" X 32' C.M. SIDE DRAIN
44+73		HWY. 12 - RT.	1							18" X 32' C.M. SIDE DRAIN
55+35		HWY. 12 - RT.	1							18" X 21' R.C. SIDE DRAIN
55+80	56+00	HWY. 12 - RT.				30				
56+08		HWY. 12 - RT.	1							24" X 50' R.C. PIPE CULVERT (PLUG & ABANDON)
56+60		HWY. 12 - LT.	1		1					30" X 32' R.C. PIPE CULVERT
56+60		HWY. 12 - LT.	1							30" X 384' R.C. PIPE CULVERT
58+91		HWY. 12 - RT.	1							18" X 21' R.C. SIDE DRAIN
59+81		HWY. 12 - RT.	1							18" X 20' R.C. SIDE DRAIN
61+00		HWY. 12 - LT.	1							24" X 84' R.C. SIDE DRAIN (PLUG & ABANDON)
63+57		HWY. 12 - LT.	1							18" X 19' R.C. SIDE DRAIN
60+47		HWY. 12 - RT.			1					
66+50		HWY. 12 - RT. (S.W. BUCKEYE ST.)					109			
67+73		HWY. 12 - LT.	1							18" X 30' C.M. SIDE DRAIN
70+88		HWY. 12 - LT.	1							18" X 21' R.C. SIDE DRAIN
71+23		HWY. 12 - LT.	1							18" X 22' R.C. SIDE DRAIN
71+80	74+25	HWY. 12 - LT.				245				
74+25		HWY. 12 - RT.				30				
75+22		HWY. 12 - LT.	1							18" X 23' C.M. SIDE DRAIN
77+38	80+10	HWY. 12 - LT.				763				
76+76		HWY. 12 - RT.	1							18" X 25' R.C. SIDE DRAIN
80+10	85+60	HWY. 12 - LT.				483				
80+60		HWY. 12	4							30" X 54' R.C. PIPE CULVERT
81+43		HWY. 12 - LT.	1							24" X 32' R.C. SIDE DRAIN
84+08		HWY. 12 - RT.	1							24" X 82' C.M. SIDE DRAIN
84+25	87+05	HWY. 12 - RT.						195		
85+70		HWY. 12 - LT.	1							18" X 23' C.M. SIDE DRAIN
85+80	85+90	HWY. 12 - LT.				46				
87+46		HWY. 12 - RT.	1							24" X 26' R.C. SIDE DRAIN
87+50		HWY. 12 - RT.	1							18" X 90' R.C. SIDE DRAIN (PLUG & ABANDON)
94+30	100+55	HWY. 12 - RT. & E. OF MAPLE RD.						462		
94+50		HWY. 12 - LT.	1							18" X 91' R.C. SIDE DRAIN (PLUG & ABANDON)
97+15		HWY. 12 - RT. (DRIVEWAY)	1				124		137	18" X 61' R.C. SIDE DRAIN
100+50		HWY. 12 - LT.	1							24" X 49' C.M. SIDE DRAIN
101+98		HWY. 12 - RT.	1							15" X 24" X 21' C.M. SIDE DRAIN
102+81		HWY. 12 - LT.	1							18" X 21' R.C. SIDE DRAIN
105+17		HWY. 12 - LT.	1							18" X 34' C.M. SIDE DRAIN
107+00		HWY. 12 - RT.	1							24" X 161' R.C. PIPE CULVERT
110+50		HWY. 12 - RT.	1							24" X 81' R.C. SIDE DRAIN
113+90		HWY. 12 - RT.	1							18" X 21' R.C. SIDE DRAIN
114+10		HWY. 12 - RT.	1	1	1					26" X 43' 5' R.C. PIPE CULVERT, 6' DROP INLET
143+25		HWY. 12 - LT.	1							18" X 5' R.C. PIPE CULVERT
145+00		HWY. 12 - LT.	1							18" X 61' R.C. SIDE DRAIN
148+71		HWY. 12 - LT.	1							18" X 25' R.C. SIDE DRAIN
149+15	151+10	HWY. 12 - LT.				983				
149+59		HWY. 12 - RT.	1							18" X 20' C.M. SIDE DRAIN
151+06		HWY. 12 - LT.	1							18" X 22' C.M. SIDE DRAIN
152+50		HWY. 12 - LT.	1							24" X 104' R.C. SIDE DRAIN
154+30		HWY. 12	4							30" X 64' R.C. PIPE CULVERT
155+43		HWY. 12 - LT.	1							18" X 50' R.C. SIDE DRAIN
157+50		HWY. 12 - RT.	1							18" X 107' R.C. SIDE DRAIN
157+73		HWY. 12 - LT	1							18" X 50' C.M. SIDE DRAIN
158+85		HWY. 12 - LT	1							18" X 50' C.M. SIDE DRAIN
10+30		GEMSTONE BLVD. - LT.					7	3		
11+00		SHELL RD. - RT.	1							18" X 71' CM. PIPE CULVERT
11+30		CORNERSTONE RD. - LT. & RT.					376			
11+95		CORNERSTONE RD. - LT.	1	1						18" X 30' R.C. PIPE CULVERT, 4' DROP INLET
11+95		CORNERSTONE RD. - RT.		1						4' DROP INLET
12+00		CORNERSTONE RD. - RT.	1							18" X 36' R.C. PIPE CULVERT
12+00		CORNERSTONE RD. - LT.	1							18" X 37' R.C. PIPE CULVERT
12+10		CORNERSTONE RD. - LT. & RT.						11		
12+80	18+60	GREENHOUSE RD. LT.				582				
12+91		GREENHOUSE RD. - RT.	1							24" X 186' R.C. PIPE CULVERT
12+91		GREENHOUSE RD. - RT.	1	1						24" X 17' R.C. PIPE CULVERT
14+00		GREENHOUSE RD. - RT.					808			
14+30		GREENHOUSE RD. - RT.						63		
14+79		GREENHOUSE RD. - RT.	1	1						24" X 101' R.C. PIPE CULVERT, 4' DROP INLET
15+54		GREENHOUSE RD. - RT.	1	1						24" X 49' R.C. PIPE CULVERT, 4' DROP INLET
15+80		GREENHOUSE RD. - RT.	1	1						30" X 75' R.C. PIPE CULVERT
16+00		GREENHOUSE RD. - LT.	1							12" X 20' C.M. SIDE DRAIN
10+55		STONEFIELD ST. - LT. & RT.					150			
10+80		STONEFIELD ST. - LT. & RT.						12		
10+65		STONEFIELD ST.	1	2						18" X 28' R.C PIPE CULVERT, 4' DROP INLET
10+70		STONEFIELD ST. - LT.	1							18" X 35' R.C. PIPE CULVERT
10+70		STONEFIELD ST. - RT.	1							18" X 36' R.C. PIPE CULVERT
11+25		MORNINGSTAR RD. - LT.					264	150		
13+20		MORNINGSTAR RD. - LT. & RT.						14		
13+60		MORNINGSTAR RD. - LT. & RT.					320			
13+70		MORNINGSTAR RD. - C.L.					210			
10+40		FEATHERSTON RD. - RT.						4		
11+60		FEATHERSTON RD. - LT.						163		
11+60		FEATHERSTON RD. - LT. & RT.					596			
9+70		BRIGHT RD. - LT. & RT.					381			
10+50		BRIGHT RD. - LT.						66		
10+30		MAPLE RD. - LT. & RT.					218			
11+45		MAPLE RD. - LT. & RT.					80		28	DITCH PAVING
10+60		BANBURY RD. - LT. & RT.						70		
10+65		BANBURY RD. - LT., RT. & C.L.					334			
10+75		SUNBROOKE ST. - LT. & RT.					112			
10+85		SUNBROOKE ST. - LT. & RT.						13		
10+65		F ST. - LT. & RT.					160		143	
10+65		CROCKETT ST. - LT. & RT.					184			
10+95		CROCKETT ST. - LT. & RT.						15		
10+65		WINSTED LN. - LT. & RT.					208			
10+95		WINSTED LN. - LT. & RT.						14		
		TOTALS	72	9	3	4,765	4,700	1,255	317	

TEMPORARY EROSION CONTROL

STATION	STATION	SAND BAG DITCH CHECK (E-5)	ROCK DITCH CHECK (E-6)	DROP INLET SILT FENCE (E-7)	SEDIMENT BASIN (E-14)	SILT FENCE (E-11)	OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL AND DISPOSAL	TEMPORARY SEEDING	MULCH COVER	WATER
		BAG	CU. YD.	L.F.	CU. YD.	L.F.	CU. YD.	CU. YD.	ACRE	ACRE	M.G.
STAGE 1											
76+00	79+90	0	0	0		393					
150+10	150+90	0	0	0		80					
151+25	153+25	0	0	0		199					
154+00	157+55	0	0	0		356					
157+90	158+50	0	0	0		60					
DETOURS									1.00	1.00	20.4
STAGE 2											
13+00	114+03	380	165	960		3,403					
143+15	159+97	0	0	200		1,311					
STAGE 3											
13+00	114+03	280	180	760		5,482					
143+15	159+97	0	0	160		963					
*ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER					100		100	2,500	13.30	13.30	271.3
TOTALS		660	345	2,080	100	12,247	100	2,500	14.30	14.30	291.7

* QUANTITIES ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE:
SAND BAG DITCH CHECKS = 20 BAGS / LOCATION
ROCK DITCH CHECKS = 15 CU. YD. / LOCATION
WATER = 20.4 M.G. PER ACRE TEMPORARY SEEDING

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE TYPE D-2	16'-0" GATES
			L.F.	EACH
13+15	18+20	HWY. 12 - LT.	460	
103+10	105+10	HWY. 12 - LT.	195	
105+30	114+05	HWY. 12 - LT.	875	1
149+15	154+25	HWY. 12 - LT.	525	1
TOTALS			2,055	2

EROSION CONTROL

LOCATION	LIME	SEEDING	MULCH COVER	SECOND SEEDING	SOLID SODDING	WATER
	TON	ACRE			SQ. YD.	M.G.
STA. 13+00 TO 114+03	23	11.72	11.72	11.72		1,195.4
STA. 143+15 TO 159+97	3	1.58	1.58	1.58		161.2
MORNINGSTAR ISLAND					82	94.6
BANBURY ISLAND					59	71.6
* ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER					2,000	2,520.0
TOTALS	26	13.30	13.30	13.30	2,141	4,042.8

BASIS OF ESTIMATE:
LIME = 2 TONS PER ACRE SEEDING
WATER = 102.0 M.G.PER ACRE SEEDING
WATER = 1.26 M.G. PER SQUARE YARD SOLID SODDING
* QUANTITITES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

EARTHWORK

LOCATION	UNCLASSIFIED EXCAVATION			COMPACTED EMBANKMENT **
	UNDERCUT*	TYPICAL	TOTAL	
	CU. YD.			
HWY. 12	6,512	22,032	28,544	25,984
DETOUR 1		355	355	970
DETOUR 2		557	557	920
SHELL RD.		885	885	969
CORNERSTONE RD./GREEENHOUSE RD.		2,424	2,424	914
STONEFIELD ST.		267	267	0
MORNINGSTAR RD.		1,078	1,078	58
FEATHERSTON RD.		679	679	0
BRIGHT RD.		552	552	26
MAPLE RD.		212	212	18
BANBURY DR.		109	109	0
SUNBROOK ST.		117	117	0
F ST.		257	257	3
CROCKETT ST.		68	68	14
WINSTED LN.		72	72	21
DRIVEWAYS		140	140	291
TOTALS	6,512	29,804	36,316	30,188

* QUANTITY ESTIMATED FOR REMOVAL OF UNSUITABLE MATERIAL, TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

** INCLUDES AN ESTIMATED 6,512 CU. YDS. COMPACTED EMBANKMENT FOR UNDERCUT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

EARTHWORK NOTES:

1. ESTIMATES FOR QUANTITIES OF EXCAVATION AND EMBANKMENT ARE TAKEN DIRECTLY FROM THE CROSS SECTIONS, DETAILED IN ACCORDANCE WITH THE PLANS.
2. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT REMOVED SHALL BE PAID FOR UNDER PAY ITEM 210 - EXCAVATION AND EMBANKMENT, UNLESS OTHERWISE NOTED.

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STA.	
16+95	114+03	HWY. 12	99	99
143+15	159+97	HWY. 12	17	17
10+38	12+36	SHELL RD.	3	3
10+37	12+12	CORNERSTONE RD.	3	3
12+68	18+60	GREENHOUSE RD.	7	7
10+00	12+41	MORNINGSTAR RD.	3	3
12+98	14+29	MORNINGSTAR RD.	3	3
10+29	13+05	FEATHERSTON RD.	4	4
8+31	11+10	BRIGHT RD.	4	4
9+80	10+63	MAPLE RD.	2	2
11+20	11+80	MAPLE RD.	1	1
10+28	11+00	F ST.	1	1
10+25	10+96	CROCKETT ST.	1	1
10+15	10+96	WINSTED LN.	1	1
TOTALS			149	149

TOPSOIL FURNISHED AND PLACED

LOCATION	CU. YD.
ENTIRE PROJECT	6,892
TOTAL	6,892

QUANTITY ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SOIL STABILIZATION

LOCATION	TON
ENTIRE PROJECT	500

QUANTITY ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SELECTED PIPE BEDDING

LOCATION	SELECTED BEDDING
	CU. YD.
ENTIRE PROJECT	100

QUANTITIES ESTIMATED. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

CONCRETE DITCH PAVING

STATION	STATION	DESCRIPTION	LENGTH	CONCRETE DITCH PAVING (TYPE A)		SOLID SODDING	WATER
			FEET	"W"	SQ. YD.	SQ. YD.	M.G.
56+88	57+18	RT. OF HWY. 112	30	15.00	50.0	13.3	0.2
57+18	57+48	RT. OF HWY. 112	30	17.00	56.7	13.3	0.2
57+25	57+55	LT. OF HWY. 112	30	17.00	56.7	13.3	0.2
TOTALS					163.4	39.9	0.6

BASIS OF ESTIMATE:
WATER = 12.6 GALS. PER SQ. YD. SOLID SODDING

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WORKSPACE: AHTDXM
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	81	255

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED

(2) QUANTITIES

STRUCTURES UNDER 20'-0" SPAN (BOX 1 OF 2)

STATION	LOCATION	DESCRIPTION	SIDE DRAINS	REINFORCED CONCRETE PIPE CULVERTS (CLASS III)							PIPE CULVERT STORM DRAIN (ALTERNATES 1 & 2)						FLARED END SECTIONS							JUNCTION BOX (TYPE E)	DROP INLETS		EXTENSIONS		PRECAST REINFORCED BOX CULVERTS DIMENSIONS			CLASS S CONCRETE - ROADWAY	REINFORCING STEEL - ROADWAY (GR 60)	UNCL. EX. FOR STRUCTURES - ROADWAY	DUMPED RIPRAP	FILTER BLANKET	SOLID SODDING	WATER	STANDARD DRAWINGS
			18 IN.	18 IN.	24 IN.	30 IN.	36 IN.	42 IN.	48 IN.	51"X31"	18 IN.	24 IN.	30 IN.	36 IN.	42 IN.	48 IN.	18 IN.	24 IN.	30 IN.	36 IN.	42 IN.	48 IN.	51"X31"		(TYPE C)	(TYPE MO)	4'	8'	LENGTH	SPAN	HEIGHT								
			L.F.							L.F.										EACH				EACH	EACH	EACH	EACH	EACH		LIN. FT.		CU. YD.	LB.	CU. YD.	CU. YD.	SQ. YD.	SQ. YD.	M.G.	
13+10	HWY. 12	DROP INLET ON RT.									64															1													FPC-9E, FPC-9M, PCC-1, PCM-1
13+75	HWY. 12	DROP INLET ON RT.		36													1									1	1										5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
14+25	HWY. 12	CONSTRUCT QUAD R.C. ARCH PIPE CULVERT								188													4									64.95	6,837	27			64	0.8	RCB-1, RCB-2, SPECIAL DETAIL
14+37	HWY. 12	DROP INLET ON RT.																							1														FPC-9, FPC-9E
17+00	HWY. 12	DROP INLET ON RT.									260															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
22+00	HWY. 12	DROP INLET ON RT.				79													1							1	1										13	0.2	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
23+63	HWY. 12	DROP INLET ON RT.											152													1													FPC-9E, FPC-9M, PCC-1, PCM-1
24+28	HWY. 12	DROP INLET ON RT.											59													1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
24+90	HWY. 12	DROP INLET ON RT.										59														1													FPC-9E, FPC-9M, PCC-1, PCM-1
27+00	HWY. 12	DROP INLET ON RT.									194															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
33+50	HWY. 12	DROP INLET ON RT.		60																						1	1												FPC-9E, FPC-9M, PCC-1
33+50	HWY. 12	DROP INLET ON LT.										83														1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
35+20	HWY. 12	DROP INLET ON RT.				11	72												1							1		1									13	0.2	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
35+20	HWY. 12	DROP INLET ON LT.												18												1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
35+85	HWY. 12	DROP INLET ON RT.									61															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
35+85	HWY. 12	DROP INLET ON LT.											61													1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
37+00	HWY. 12	DROP INLET ON LT.											111													1													FPC-9E, FPC-9M, PCC-1, PCM-1
39+25	HWY. 12	DROP INLET ON RT.		64													1									1	1										5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
39+25	HWY. 12	DROP INLET ON LT.										222														1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
42+00	HWY. 12	DROP INLET ON RT.		4	60												1									1											5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
42+00	HWY. 12	DROP INLET ON LT.										272														1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
42+62	HWY. 12	DROP INLET ON LT.										65														1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
42+92	HWY. 12	DROP INLET ON RT.		8	28												1									1		1									5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
43+27	HWY. 12	DROP INLET ON RT.									41															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
45+50	HWY. 12	DROP INLET ON LT.									220															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
46+80	HWY. 12	DROP INLET ON RT.									127															1													FPC-9E, FPC-9M, PCC-1, PCM-1
47+47	HWY. 12	DROP INLET ON RT.									86															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
47+94	HWY. 12	DROP INLET ON RT.		44																						1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
52+50	HWY. 12	DROP INLET ON RT.		60																						1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
52+50	HWY. 12	DROP INLET ON LT.									302															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
55+34	HWY. 12	INSTALL DOUBLE PIPE CULVERT ON RT.	56																																				PCC-1, PCM-1
55+55	HWY. 12	DROP INLET ON RT.									64															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
55+55	HWY. 12	DROP INLET ON LT.									64															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
56+22	HWY. 12	DROP INLET ON LT.									60															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
56+22	HWY. 12	DROP INLET ON RT.									60															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
56+85	HWY. 12	DROP INLET ON RT.									43															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
56+85	HWY. 12	DROP INLET ON LT.									43															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
57+33	HWY. 12	INSTALL DOUBLE 4' X 2' PRECAST BOX CULVERT W/ 3:1 WINGS																											186	4	2				2	4	6	0.1	PBC-1, RCB-1, RCB-2, R-200X-0, W-X003-1
57+50	HWY. 12	DROP INLET ON LT.					14													1						1	1										17	0.2	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
58+91	HWY. 12	INSTALL PIPE CULVERT ON LT.	44																																				PCC-1, PCM-1
60+20	HWY. 12	DROP INLET ON RT.					61																			1		1											FPC-9E, FPC-9M, PCC-1
60+20	HWY. 12	DROP INLET ON LT.												267												1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
60+47	HWY. 12	CONSTRUCT JUNCTION BOX ON RT.		25										27			1							1													5	0.1	FES-1, FES-2, FPC-9, PCC-1, PCM-1
61+68	HWY. 12	DROP INLET ON LT.		144																						1	1												FPC-9E, FPC-9M, PCC-1
64+20	HWY. 12	DROP INLET ON RT.		60																						1	1												FPC-9E, FPC-9M, PCC-1
64+20	HWY. 12	DROP INLET ON LT.									249															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
69+50	HWY. 12	DROP INLET ON RT.		60																						1		1											FPC-9E, FPC-9M, PCC-1
69+50	HWY. 12	DROP INLET ON LT.									197															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
71+50	HWY. 12	DROP INLET ON LT.									147															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
73+00	HWY. 12	DROP INLET ON RT.		60																						1		1											FPC-9E, FPC-9M, PCC-1
73+00	HWY. 12	DROP INLET ON LT.									147															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
73+91	HWY. 12	CONSTRUCT R.C. PIPE STUBOUT ON RT.			4													1																			8	0.1	PCC-1, FES-1, FES-2
74+50	HWY. 12	DROP INLET ON LT.									197															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
76+50	HWY. 12	DROP INLET ON RT.							22							262						1				1		1									29	0.4	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
76+50	HWY. 12	DROP INLET ON LT.									262															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
79+15	HWY. 12	DROP INLET ON RT.														62										1													FPC-9E, FPC-9M, PCC-1, PCM-1
79+15	HWY. 12	DROP INLET ON LT.									61															1													FPC-9E, FPC-9M, PCC-1, PCM-1
79+80	HWY. 12	DROP INLET ON RT.							62																	1		1											FPC-9E, FPC-9M, PCC-1
79+80	HWY. 12	DROP INLET ON LT.							31													1				1		1									29	0.4	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
80+45	HWY. 12	DROP INLET ON RT.									61															1													FPC-9E, FPC-9M, PCC-1, PCM-1
80+45	HWY. 12	DROP INLET ON LT.																							1														FPC-9D, FPC-9E
83+50	HWY. 12	DROP INLET ON RT.		60																						1		1											FPC-9E, FPC-9M, PCC-1
83+50	HWY. 12	DROP INLET ON LT.		15									295				1									1		1									5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
86+40	HWY. 12	DROP INLET ON LT.		4								287					1									1	1										5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
88+40	HWY. 12	DROP INLET ON RT.		60																						1	1												FPC-9E, FPC-9M, PCC-1
88+40	HWY. 12	DROP INLET ON LT.			5							197						1								1	1										8	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
91+50	HWY. 12	DROP INLET ON RT.		60																						1	1												FPC-9E, FPC-9M, PCC-1
91+50	HWY. 12	DROP INLET ON LT.										307														1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
93+45	HWY. 12	DROP INLET ON LT.										192														1													FPC-9E, FPC-9M, PCC-1, PCM-1
93+83	HWY. 12	DROP INLET ON LT.										51														1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
94+37	HWY. 12	DROP INLET ON LT.			51																					1		1											FPC-9E, FPC-9M, PCC-1
97+50	HWY. 12	DROP INLET ON RT.											146													1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
97+50	HWY. 12	DROP INLET ON LT.			11	60												1								1	1										8	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
99+00	HWY. 12	DROP INLET ON RT.											196													1													FPC-9E, FPC-9M, PCC-1, PCM-1
101+00	HWY. 12	DROP INLET ON RT.											256													1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
101+00	HWY. 12	DROP INLET ON LT.		9	60												1									1		1									5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
103+65	HWY. 12	CONSTRUCT JUNCTION BOX ON RT.						26													2			1													25	0.3	FES-1, FES-2, FPC-9, PCC-1
103+65	HWY. 12	DROP INLET ON LT.			75													1								1	1										8	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
104+25	HWY. 12	DROP INLET ON LT.									57															1													FPC-9E, FPC-9M, PCC-1, PCM-1
104+50	HWY. 12	DROP INLET ON RT.												150											1														FPC-9E, PCC-1, PCM-1
104+90	HWY. 12	DROP INLET ON LT.									62															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
105+15	HWY. 12	DROP INLET ON RT.												120											1			1											FPC-9E, PCC-1, PCM-1
105+80	HWY. 12	DROP INLET ON RT.												120											1														FPC-9E, PCC-1, PCM-1
105+80	HWY. 12	DROP INLET ON LT.									87															1													FPC-9E, FPC-9M, PCC-1, PCM-1
106+57	HWY. 12	DROP INLET ON RT.										81														1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
107+21	HWY. 12	DROP INLET ON RT.		21	61												1									1	1										5	0.1	FPC-9E, FPC-9M, PCC-1, FES-1, FES-2
107+55	HWY. 12	DROP INLET ON RT.												340											1														FPC-9E, PCC-1
107+55	HWY. 12	DROP INLET ON LT.		60																						1		1											FPC-9E, FPC-9M, PCC-1
110+15	HWY. 12	DROP INLET ON RT.												510											1														FPC-9E, PCC-1, PCM-1
110+47	HWY. 12	DROP INLET ON RT.											38													1													FPC-9E, FPC-9M, PCC-1, PCM-1
110+80	HWY. 12	DROP INLET ON RT.		10		32											1									1		1									5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
111+15	HWY. 12	DROP INLET ON RT.					96																			1		1											FPC-9E, FPC-9M, PCC-1
111+15	HWY. 12	DROP INLET ON LT.		60																						1		1											FPC-9E, FPC-9M, PCC-1
114+10	HWY. 12	DROP INLET ON RT.											291													1													FPC-9E, FPC-9M, PCC-1, PCM-1
143+25	HWY. 12	INSTALL PIPE CULVERT ON LT.		102																																			PCC-1
144+18	HWY. 12	DROP INLET ON RT.									178															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
144+18	HWY. 12	DROP INLET ON LT.		60																						1	1												FPC-9E, FPC-9M, PCC-1
146+00	HWY. 12	DROP INLET ON RT.									197															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
148+00	HWY. 12	DROP INLET ON RT.									197															1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
148+00	HWY. 12	DROP INLET ON LT.		60																						1	1												FPC-9E, FPC-9M, PCC-1
150+00	HWY. 12	DROP INLET ON RT.									177															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
151+80	HWY. 12	DROP INLET ON RT.		227																						1		1											FPC-9E, FPC-9M, PCC-1
151+80	HWY. 12	DROP INLET ON LT.		60																						1		1											FPC-9E, FPC-9M, PCC-1
155+10	HWY. 12	DROP INLET ON RT.							46													1				1											29	0.4	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
155+10	HWY. 12	DROP INLET ON LT.						61																		1													FPC-9E, FPC-9M, PCC-1
155+70	HWY. 12	DROP INLET ON RT.										55														1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
155+80	HWY. 12	DROP INLET ON LT.			7										65			1								1		1									8	0.1	FPC-9E, FPC-9M, PCC-1, PCM-1, FES-1, FES-2
156+30	HWY. 12	DROP INLET ON RT.										56														1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
156+30	HWY. 12	DROP INLET ON LT.													45											1													FPC-9E, FPC-9M, PCC-1, PCM-1
158+15	HWY. 12	DROP INLET ON RT.			182																					1		1											FPC-9E, FPC-9M, PCC-1
158+15	HWY. 12	DROP INLET ON LT.		4											182		1									1	1										5	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
159+85	HWY. 12	DROP INLET ON RT.										168														1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
159+85	HWY. 12	DROP INLET ON LT.													167											1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
SUBTOTALS FOR STRUCTURES UNDER 20'-0" SPAN (BOX 1 OF 2)			100	1497	544	182	243	87	161	188	3965	2095	1605	1552	459	324	11	5	2	1	2	3	4	2	7	98	40	41	186	4	2	64.95	6,837	27	2	4	320	4.6	

QUANTITIES

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WORKSPACE: AHTDXM
X:\2008\08053550 - BnvAR Hwy 12\Drawings\H12_QTY_SUM.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	82	255

2 QUANTITIES

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

STRUCTURES UNDER 20' SPAN (BOX 2 OF 2)

STATION	LOCATION	DESCRIPTION	SIDE DRAINS 18 IN. (L.F.)	REINFORCED CONCRETE PIPE CULVERTS CLASS III 18 IN. (L.F.)	24 IN.	30 IN.	36 IN.	42 IN.	48 IN.	51"X31"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18 IN (L.F.)	24 IN.	30 IN.	36 IN.	42 IN.	48 IN.	FLARED END SECTIONS 18 IN. (EACH)	24 IN.	30 IN.	36 IN.	42 IN.	48 IN.	51"X31"	JUNCTION BOX (TYPE E) (EACH)	DROP INLETS (TYPE C) (EACH)	DROP INLETS (TYPE MO) (EACH)	EXTENSIONS 4' (EACH)	EXTENSIONS 8' (EACH)	PRECAST REINFORCED BOX CULVERTS DIMENSIONS LENGTH (LIN. FT.)	SPAN	HEIGHT	CLASS S CONCRETE - ROADWAY (CU. YD.)	REINFORCING STEEL - ROADWAY (GR 60) (LB.)	UNCL. EX. FOR STRUCTURES - ROADWAY (CU. YD.)	DUMPED RIPRAP (CU. YD.)	FILTER BLANKET (SQ. YD.)	SOLID SODDING (SQ. YD.)	WATER (M.G.)	STANDARD DRAWINGS
10+90	SHELL RD.	EXTEND C.M. PIPE		28													2																				10	0.1	FES-1, FES-2, PCM-1
11+75	CORNERSTONE RD.	DROP INLET ON RT.		38																						1		1											FPC-9E, FPC-9M, PCC-1
11+75	CORNERSTONE RD.	DROP INLET ON LT.									69															1		1											FPC-9E, FPC-9M, PCC-1, PCM-1
12+92	GREENHOUSE RD.	JUNCTION BOX ON RT.												56										1															FPC-9, PCC-1
13+40	GREENHOUSE RD.	DROP INLET ON RT.					61																			1													FPC-9E, FPC-9M, PCC-1
13+40	GREENHOUSE RD.	DROP INLET ON LT.												307												1	1												FPC-9E, FPC-9M, PCC-1
15+54	GREENHOUSE RD.	DROP INLET ON RT.										97														1	1												FPC-9E, FPC-9M, PCC-1, PCM-1
16+50	GREENHOUSE RD.	DROP INLET ON RT.			73													1								1		1									8	0.1	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
16+50	GREENHOUSE RD.	DROP INLET ON LT.					76													1						1	1										17	0.2	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
SUBTOTALS FOR STRUCTURES UNDER 20'-0" SPAN (BOX 2 OF 2)				66	73		137				69	97		363			2	1		1				1		7	3	3									35	0.4	
TOTALS FOR STRUCTURES UNDER 20'-0" SPAN			100	1563	617	182	380	87	161	188	4034	2192	1605	1915	459	324	13	6	2	2	2	3	4	3	7	105	43	44	186	4	2	64.95	6,837	27	2	4	355	5.0	

BASIS OF ESTIMATE:
WATER = 12.6 GALS. PER SQ. YD. SOLID SODDING

FOR R.C. PIPE CULVERT INSTALLATIONS, USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
FOR C.M. PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

STRUCTURES OVER 20'-0" SPAN

STATION	LOCATION	DESCRIPTION	R.C. BOX CULVERTS DIMENSIONS LENGTH (FEET)	SPAN	HEIGHT	CLASS S CONCRETE - ROADWAY (CU. YD.)	REINFORCING STEEL - ROADWAY (GR 60) (LB.)	UNCL. EX. FOR STRUCTURES - ROADWAY (CU. YD.)	DUMPED RIPRAP (CU. YD.)	FILTER BLANKET (SQ. YD.)	SOLID SODDING (SQ. YD.)	WATER (M.G.)	STANDARD DRAWINGS
80+62	HWY. 12	CONSTRUCT TRIPLE R.C. BOX CULVERT (30° RT. FWD. SKEW) W/ 3:1 WINGS	113	6	3	143.83	27,077	62	2	4	22	0.3	RCB-1, RCB-2, R-330X-01, W-X303-1, W-X30, PBC-1
154+03	HWY. 12	CONSTRUCT TRIPLE R.C. BOX CULVERT (30° RT. FWD. SKEW) W/ 3:1 WINGS	108	7	4	175.03	30,871	76	2	4	26	0.3	RCB-1, RCB-2, R-330X-01, W-X303-1, W-X30, PBC-1
TOTALS FOR STRUCTURES OVER 20'-0" SPAN						318.86	57,948	138	4	8	48	0.6	

BASIS OF ESTIMATE:
WATER = 12.6 GALS. PER SQ. YD. SOLID SODDING

TEMPORARY CULVERTS

LOCATION	24" L.F.	30" L.F.
** ENTIRE PROJECT	100	
DETOUR @ STA. 80+62		176
DETOUR @ STA. 154+03		144
TOTALS	100	320

** QUANTITY ESTIMATED - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

YARD DRAINS

LOCATION	12" SIDE DRAIN L.F.	YARD DRAIN EA.
* ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER	300	15
TOTALS	300	15

* QUANTITY ESTIMATED - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

DRIVEWAYS

STATION	LOCATION	WIDTH (FEET)	**MODIFIED CURB STATION	**MODIFIED CURB STATION	PORTLAND CEMENT CONCRETE DRIVEWAY (SQ. YD.)	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG64-22) SQ. YD.	ACHM TON	AGGREGATE BASE COURSE (CLASS 7) 7" DEPTH AVG. AREA SY	TON PER SY	TON	AGGREGATE BASE COURSE (CLASS 7) 9" DEPTH AVG. AREA SY	TON PER SY	TON
14+65.00	HWY 12 - RT.	20	14+41	14+89	28.44	43.90	4.82	43.90	0.408	17.91			
19+45.79	HWY 12 - LT.	16	19+24	19+68	24.89	111.12	12.22	111.12	0.408	45.34			
26+50.00	HWY 12 - LT.	40	26+16	26+84	46.22						178.31	0.525	93.62
28+68.00	HWY 12 - LT.	40	28+34	28+94	46.22						38.78	0.525	20.36
31+20.00	HWY 12 - LT.	40	30+86	31+46	46.22						33.33	0.525	17.50
31+58.03	HWY 12 - RT.	16	31+36	31+80	24.89	9.78	1.08	9.78	0.408	3.99			
33+14.31	HWY 12 - RT.	16	32+92	33+36	24.89	9.80	1.08	9.80	0.408	4.00			
38+74.53	HWY 12 - LT.	40	38+41	39+09	94.40								
40+76.16	HWY 12 - RT.	16	40+53	40+97	24.89						31.11	0.525	16.33
44+73.47	HWY 12 - RT.	16	44+51	44+95	24.89						23.22	0.525	12.19
50+69.69	HWY 12 - LT.	16	50+48	50+92	24.89	75.56	8.31	75.56	0.408	30.83			
55+34.76	HWY 12 - RT.	16	55+13	55+57	23.11						96.59	0.525	50.71
58+90.87	HWY 12 - LT.	16	58+69	59+13	24.89						46.45	0.525	24.38
59+80.71	HWY 12 - LT.	16	59+69	60+03	24.89						50.47	0.525	26.50
63+57.08	HWY 12 - LT.	16	63+35	63+79	24.89	32.89	3.62	32.89	0.408	13.42			
67+72.63	HWY 12 - LT.	24	67+47	67+99	32.00	25.33	2.79	25.33	0.408	10.33			
70+88.22	HWY 12 - LT.	16	70+66	71+10	24.89						29.33	0.525	15.40
71+23.12	HWY 12 - RT.	16	72+01	72+45	24.89						22.22	0.525	11.67
75+22.07	HWY 12 - LT.	16	75+00	75+44	24.89						25.78	0.525	13.53
76+76.27	HWY 12 - RT.	16	76+54	76+98	24.88						51.33	0.525	26.95
81+42.69	HWY 12 - LT.	16	81+21	81+65	24.89	84.72	9.32	84.72	0.408	34.56			
84+07.85	HWY 12 - RT.	34	83+77	84+39	40.89	48.77	5.36	48.77	0.408	19.90			
85+70.21	HWY 12 - LT.	16	85+48	85+92	24.89						41.78	0.525	21.93
97+14.78	HWY 12 - RT.	30	96+86	97+44	233.68								
100+65.90	HWY 12 - LT.	16	100+44	100+88	24.89	36.44	4.01	36.44	0.408	14.87			
101+50.00	HWY 12 - RT.	16	101+28	101+72	29.56						127.05	0.525	66.70
102+80.71	HWY 12 - LT.	16	102+59	103+03	24.89						59.57	0.525	31.28
105+17.09	HWY 12 - LT.	25	104+90	105+43	32.89						84.72	0.525	44.48
113+90.00	HWY 12 - RT.	12	113+70	114+10	21.33						21.15	0.525	11.10
149+40.00	HWY 12 - LT.	16	149+17	149+63	26.67						38.28	0.525	20.09
149+58.60	HWY 12 - RT.	16	149+37	149+81	24.89						34.83	0.525	18.28
151+06.06	HWY 12 - LT.	16	150+84	151+28	24.89						42.17	0.525	22.14
155+42.93	HWY 12 - LT.	34	155+12	155+74	40.89						150.67	0.525	79.10
157+72.69	HWY 12 - LT.	32	157+43	158+03	39.11	68.04	7.48	68.04	0.408	27.76			
158+85.46	HWY 12 - LT.	32	158+55	159+15	39.13	63.92	7.03	63.92	0.408	26.08			
15+32.68	GREENHOUSE RD. - RT.	36	15+01	15+65	42.67	95.20	10.47	95.20	0.408	38.84			
16+00.00	GREENHOUSE RD. - LT.	18	15+77	16+23	26.67						73.52	0.525	38.59
10+34.04	MORNINGSTAR RD. - RT.	20	10+10	10+58	43.72						55.31	0.525	29.04
12+90.62	FEATHERSTON RD. - RT.	20	12+67	13+15	41.00						56.87	0.525	29.86
ADDITIONAL FOR TEMPORARY DRIVEWAYS													500.00
TOTALS					1,447.72	705.47	77.59			287.83			1241.73

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2"): 5.4% ASPHALT BINDER, 94.6% MINERAL AGGREGATE (PG 64-22) Nmax = 115.
*QUANTITY ESTIMATED, SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
**FOR INFORMATION ONLY.

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WORKSPACE: AHTDXM
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	83	255

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

BASE & SURFACING - HWY. 12

STATION	STATION	LOCATION	LENGTH	ACHM SURFACE COURSE (1/2") - CONSTRUCTION				ACHM SURFACE COURSE (1/2") - FINAL				ACHM BINDER COURSE (1")				AGGREGATE BASE COURSE (CLASS 7)		TACK COAT					
			FEET	AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	TONS PER STATION	TON	AVG. WIDTH FEET	SQUARE YARDS	0.10 G/SY GAL.	AVG. WIDTH FEET	SQUARE YARDS	0.03 G/SY GAL.
11+43.00	12+43.00	TRANSITION	100.00	2.06	22.89	220	3	31.00	344.44	220	38	2.13	23.67	440	5	161.50	162	22.00	244.44	24	4.19	46.56	1
12+43.00	13+20.28	HWY. 12 (OVERLAY)	77.28	2.13	18.29	220	2	32.00	274.77	220	30	2.25	19.32	440	4	161.50	125	22.00	188.91	19	4.38	37.61	1
13+20.28	13+95.28	HWY. 12 (OVERLAY)	75.00	2.13	17.75	220	2	32.00	266.67	220	29	2.25	18.75	440	4	161.50	121	22.00	183.33	18	4.38	36.50	1
13+95.28	15+70.00	TRANSITION	174.72	5.59	108.52	220	12	35.46	688.40	220	76	5.71	110.85	440	24	161.50	282	22.00	427.09	43	11.30	219.37	7
15+70.00	16+95.28	TRANSITION	125.28	14.96	208.24	220	23	45.96	639.76	220	70	14.61	203.37	440	45	247.00	309	22.00	306.24	31	29.03	404.10	12
16+95.28	18+00.00	HWY. 12 (OVERLAY)	104.72	23.00	267.62	220	29	45.00	523.60	220	58	23.00	267.62	440	59	217.75	228	22.00	255.98	26	46.00	535.24	16
18+00.00	22+69.80	HWY. 12	469.80	45.00	2,349.00	220	258	45.00	2,349.00	220	258	45.00	2,349.00	440	517	389.00	1,828				90.00	4,698.00	141
22+69.80	26+50.00	HWY. 12	380.20	56.00	2,365.69	220	260	56.00	2,365.69	220	260	56.00	2,365.69	440	520	474.50	1,804				112.00	4,731.38	142
26+50.00	31+96.90	HWY. 12 (OVERLAY)	546.90	34.00	2,066.07	220	227	56.00	3,402.93	220	374	34.00	2,066.07	440	455	303.50	1,660	22.00	1,336.87	134	68.00	4,132.13	124
31+96.90	34+35.75	HWY. 12 (OVERLAY)	238.85	34.00	902.32	220	99	56.00	1,486.18	220	163	34.00	902.32	440	199	303.50	725	22.00	583.86	58	68.00	1,804.64	54
34+35.75	37+00.00	HWY. 12 (OVERLAY)	264.25	45.00	1,321.25	220	145	67.00	1,967.19	220	216	45.00	1,321.25	440	291	389.00	1,028	22.00	645.94	65	90.00	2,642.50	79
37+00.00	38+50.00	TRANSITION	150.00	39.50	658.33	220	72	61.50	1,025.00	220	113	39.50	658.33	440	145	346.25	519	22.00	366.67	37	79.00	1,316.67	40
38+50.00	114+03.30	HWY. 12 (OVERLAY)	7,553.30	34.00	28,534.69	220	3,139	56.00	46,998.31	220	5,170	34.00	28,534.69	440	6,278	303.50	22,924	22.00	18,463.62	1846	68.00	57,069.38	1712
143+14.83	159+96.51	HWY. 12 (OVERLAY)	1,681.68	34.00	6,353.01	220	699	56.00	10,463.79	220	1,151	34.00	6,353.01	440	1,398	303.50	5,104	22.00	4,110.77	411	68.00	12,706.03	381
		DETOUR @ STA. 80+62						VAR.	1,321.53	220	145	VAR.	980.76	440	216	VAR.	1,602				VAR.	8,826.85	265
		DETOUR @ STA. 154+03						VAR.	1,550.53	220	171	VAR.	1,151.07	440	253	VAR.	2,444				VAR.	10,359.63	311
ADDITIONAL FOR LEVELING																							
12+43.00	19+00.00	HWY. 12	657.00	VAR.	VAR.	VAR.	257														VAR.	VAR.	49
19+00.00	25+50.00	HWY. 12	650.00	VAR.	VAR.	VAR.	50																0
25+50.00	38+00.00	HWY. 12	1,250.00	VAR.	VAR.	VAR.	1,588														VAR.	VAR.	232
38+00.00	52+00.00	HWY. 12	1,400.00	VAR.	VAR.	VAR.	107																0
52+00.00	59+25.00	HWY. 12	725.00	VAR.	VAR.	VAR.	785														VAR.	VAR.	110
59+25.00	64+75.00	HWY. 12	550.00	VAR.	VAR.	VAR.	42																0
64+75.00	67+70.00	HWY. 12	295.00	VAR.	VAR.	VAR.	178														VAR.	VAR.	27
67+70.00	75+45.00	HWY. 12	775.00	VAR.	VAR.	VAR.	68																0
75+45.00	84+40.00	HWY. 12	895.00	VAR.	VAR.	VAR.	1,044														VAR.	VAR.	151
84+40.00	97+50.00	HWY. 12	1,310.00	VAR.	VAR.	VAR.	100																0
97+50.00	112+00.00	HWY. 12	1,450.00	VAR.	VAR.	VAR.	2,174														VAR.	VAR.	317
112+00.00	113+00.00	HWY. 12	100.00	VAR.	VAR.	VAR.	8																0
144+15.00	158+97.00	HWY. 12	1,482.00	VAR.	VAR.	VAR.	113																0
		TOTALS			45,193.67		11,484		75,667.79		8,322		47,325.77		10,413		40,865			2712			4173

BASIS OF ESTIMATE:

ACHM BINDER COURSE (1"): 4.4% ASPHALT BINDER, 95.6% MINERAL AGGREGATE (PG 64-22), N_{MAX} = 115

ACHM SURFACE COURSE (1/2"): 5.4% ASPHALT BINDER, 94.6% MINERAL AGGREGATE (PG 70-22), N_{MAX} = 160

BASE & SURFACING - SIDE STREETS

STATION	STATION	LOCATION	LENGTH	ACHM SURFACE COURSE (1/2") - CONSTRUCTION				ACHM SURFACE COURSE (1/2") - FINAL				ACHM BINDER COURSE (1")				AGGREGATE BASE COURSE (CLASS 7)		TACK COAT					
			FEET	AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	AVG. WIDTH FEET	SQUARE YARDS	LBS. PER SQ. YD.	TON	TONS PER STATION	TON	AVG. WIDTH FEET	SQUARE YARDS	0.10 G/SY GAL.	AVG. WIDTH FEET	SQUARE YARDS	0.03 G/SY GAL.
10+37.88	11+01.88	SHELL RD. (TRANSITION)	64.00	8.25	58.67	220	6	32.25	229.33	220	25	8.25	58.67	440	13	103.00	66	24.00	170.67	17	64.50	458.67	14
11+01.88	12+35.73	SHELL RD.	133.85	34.00	505.66	220	56	34.00	505.66	220	56	34.00	505.66	440	111	303.25	406				68.00	1,011.31	30
		SHELL RD. RADIUS RETURNS		VAR.	108.28	220	12	VAR.	108.28	220	12	VAR.	108.28	440	24	VAR.	76				VAR.	216.57	6
10+37.36	10+87.36	CONERSTONE RD. (TRANSITION)	50.00	4.50	25.00	220	3	30.50	169.44	220	19	4.50	25.00	440	6	73.88	37	25.00	138.89	14	9.00	50.00	2
10+87.35	12+11.52	CONERSTONE RD. (OVERLAY)	124.17	8.00	110.37	220	12	34.00	469.09	220	52	8.00	110.37	440	24	101.00	125	26.00	358.71	36	16.00	220.75	7
		CORNERSTONE RD. RADIUS RETURNS		VAR.	46.65	220	5	VAR.	46.65	220	5	VAR.	46.65	440	10	VAR.	33				VAR.	93.30	3
		GREENHOUSE RD. RADIUS RETURNS		VAR.	180.00	220	20	VAR.	180.00	220	20	VAR.	180.00	440	40	VAR.	126				VAR.	360.00	11
12+67.52	16+59.56	GREENHOUSE RD. (OVERLAY)	392.04	36.00	1,568.16	220	172	56.00	2439.36	220	268	36.00	1,568.16	440	345	319.00	1,251	20.00	871.20	87	72.00	3,136.32	94
16+59.56	18+59.56	GREENHOUSE RD. (TRANSITION)	200.00	10.50	233.33	220	26	40.50	900.00	220	99	10.50	233.33	440	51	304.00	608	18.00	400.00	40	21.00	466.67	14
10+21.04	10+41.04	STONEFIELD ST. (TRANSITION)	20.00	23.00	51.11	220	6	23.00	51.11	220	6	23.00	51.11	440	11	218.00	44				46.00	102.22	3
10+41.04	10+81.04	STONEFIELD ST.	40.00	24.00	106.67	220	12	24.00	106.67	220	12	24.00	106.67	440	23	225.50	90				48.00	213.33	6
		STONEFIELD RD. RADIUS RETURNS			47.32	220	5		47.32	220	5		47.32	440	10		33					94.64	3
10+00.00	10+20.00	MORNINGSTAR RD. (TRANSITION)	20.00	26.92	59.82	220	7	26.92	59.82	220	7	26.92	59.82	440	13	256.00	51				53.80	119.56	4
10+20.00	11+20.00	MORNINGSTAR RD. (TRANSITION)	100.00	32.92	365.78	220	40	32.92	365.78	220	40	32.92	365.78	440	80	295.00	295				65.80	731.11	22
11+20.00	11+87.00	MORNINGSTAR RD. (TRANSITION)	67.00	33.85	251.99	220	28	33.85	251.99	220	28	33.85	251.99	440	55	302.25	203				67.70	503.99	15
11+87.00	12+40.81	MORNINGSTAR RD.	53.81	34.00	203.28	220	22	34.00	203.28	220	22	34.00	203.28	440	45	303.25	163				68.00	406.56	12
		MORNINGSTAR RD. LT. RADIUS RETURNS			242.92	220	27		242.92	220	27		242.92	440	53		170					485.84	15
		MORNINGSTAR RD. RT. RADIUS RETURNS							47.32	220	5								47.32	5			
12+97.79	13+18.17	MORNINGSTAR RD.	20.38					47.00	106.43	220	12							47.00	106.43	11			
13+18.17	14+21.02	MORNINGSTAR RD. (OVERLAY)	102.85	4.00	45.71	220	5	36.50	417.11	220	46	4.00	45.71	440	10	109.00	112	32.50	371.40	37	8.00	91.42	3
14+21.02	14+28.75	MORNINGSTAR RD. (OVERLAY)	7.73	2.00	1.72	220	0.2	47.00	40.37	220	4	2.00	1.72	440	0.4	54.50	4	45.00	38.65	4	4.00	3.44	0
		FEATHERSTON RD. RADIUS RETURNS			126.48	220	14		126.48	220	14		126.48	440	28		89					252.96	8
10+29.00	11+74.00	FEATHERSTON RD.	145.00	34.00	547.78	220	60	34.00	547.78	220	60	34.00	547.78	440	121	303.25	440				68.00	1,095.56	33
11+74.00	12+05.49	FEATHERSTON RD. (OVERLAY)	31.49	8.00	27.99	220	3	34.00	118.96	220	13	8.00	27.99	440	6	101.00	32	26.00	90.97	9	16.00	55.98	2
12+05.49	13+05.49	FEATHERSTON RD. (TRANSITION)	100.00	4.50	50.00	220	6	30.50	338.89	220	37	4.50	50.00	440	11	74.00	74	26.00	288.89	29	9.00	100.00	3
8+31.35	10+15.00	BRIGHT RD. (TRANSITION)	183.65	VAR.	133.33	220	15	VAR.	133.33	220	15	VAR.	133.33	440	29	VAR.	93				VAR.	266.66	8
10+15.00	11+09.71	BRIGHT RD (OVERLAY)	94.71	11.00	115.76	220	13	46.50	489.34	220	54	11.00	115.76	440	25	124.50	118	35.50	373.58	37	22.00	231.51	7
		BRIGHT RD. RADIUS RETURNS			126.47	220	14		126.47	220	14		126.47	440	28		89					252.94	8
		BRIGHT RD. RADIUS RETURNS			47.44	220	5		47.44	220	5		47.44	440	10		52					94.88	3
11+68.21	11+98.78	BRIGHT RD.	30.57	27.00	91.71	220	10	27.00	91.71	220	10	27.00	91.71	440	20	32.00	10				27.00	91.71	3
9+80.00	10+62.00	MAPLE RD. (OVERLAY)	82.00	2.00	18.22	220	2	27.00	246.00	220	27	2.00	18.22	440	4	54.50	45	25.00	227.78	23	4.00	36.44	1
		MAPLE RD. LT. RADIUS RETURNS			47.32	220	5		47.32	220	5		47.32	440	10		33					94.64	3
		MAPLE RD. RT. RADIUS RETURNS			47.34	220	5		47.34	220	5		47.34	440	10		33					94.68	3
11+19.80	11+43.91	MAPLE RD (OVERLAY)	24.11	2.00	5.36	220	1	46.00	123.23	220	14	2.00	5.36	440	1	54.50	13	44.00	117.87	12	4.00	10.72	0
11+43.91	11+47.91	MAPLE RD.	4.00	4.00	1.78	220	0.2	36.00	16.00	220	2	4.00	1.78	440	0.4	109.00	4	32.00	14.22	1	44.00	19.56	1
11+47.91	11+79.56	MAPLE RD (TRANSITION)	31.65	2.60	9.14	220	1	34.60	121.68	220	13	2.60	9.14	440	2	98.00	31	30.60	107.61	11	69.20	243.35	7
10+60.00	11+02.27	SUNBROOK ST. (OVERLAY)	42.27	2.00	9.39	220	1	27.00	126.81	220	14	2.00	9.39	440	2	54.50	23	25.00	117.42	12	4.00	18.79	1
		SUNBROOKE ST. RADIUS RETURNS			47.32	220	5		47.32	220	5		47.32	440	10		33					94.64	3
10+25.00	10+96.45	CROCKETT ST. (OVERLAY)	71.45	2.00	15.88	220	2	27.00	214.35	220	24	2.00	15.88	440	3	54.50	39	25.00	198.47	20	4.00	31.76	1
		CROCKETT ST. RADIUS RETURNS			47.46	220	5		47.46	220	5		47.46	440	10		33					94.92	3
10+15.00	10+95.65	WINSTED LN. (OVERLAY)	80.65	2.00	17.92	220	2	27.00	241.95	220	27	2.00	17.92	440	4	54.50	44	25.00	224.03	22	4.00	35.84	1
		WINSTED LN. RADIUS RETURNS			46.88	220	5		46.88	220	5		46.88	440	10		33					93.76	3
10+34.91	10+54.19	BANBURY DR. (TRANSITION)	19.28	4.00	8.57	220	1	36.50	78.19	220	9	4.00	8.57	440	2	109.00	21	32.50	69.62	7	8.00	17.14	1
10+54.19	10+68.19	BANBURY DR. (OVERLAY)	14.00	4.00	6.22	220	1	36.50	56.78	220	6	4.00	6.22	440	1	109.00	15	32.50	50.56	5	8.00	12.44	0
10+68.19	10+90.87	BANBURY DR. (OVERLAY)	22.68	2.00	5.04	220	1	46.00	115.92	220	13	2.00	5.04	440	1	54.50	12	44.00	110.88	11	4.00	10.08	0
		BANBURY RD. RADIUS RETURNS			47.44	220	5		47.44	220	5		47.44	440	10		33					94.88	3
		F ST. RADIUS RETURNS			120.62	220	13		120.62	220	13		120.62	440	27		84					241.24	7
10+28.00	10+80.00	F STREET	52.00	34.00	196.44	220	22	34.00	196.44	220	22	34.00	196.44	440	43	303.25	158				68.00	392.89	12
10+80.00	11+00.00	F STREET (TRANSITION)	20.00	34.00	75.56	220	8	34.00	75.56	220	8	34.00	75.56	440	17	303.25	61				68.00	151.11	5
ADDITIONAL FOR LEVELING																							
10+37.88	11+01.88	SHELL RD.	64.00	VAR.	VAR.	VAR.	36														VAR.	VAR.	4
10+37.36	12+11.52	CORNERSTONE RD.	174.16	VAR.	VAR.	VAR.	64														VAR.	VAR.	6
12+67.52	18+59.56	GREENHOUSE RD.	592.04	VAR.	VAR.	VAR.	797														VAR.	VAR.	97
12+97.79	14+28.75	MORNINGSTAR RD.	130.96	VAR.	VAR.	VAR.	112														VAR.	VAR.	8
11+37.00	13+05.49	FEATHERSTON RD.	168.49	VAR.	VAR.	VAR.	40														VAR.	VAR.	0
10+15.00	11+09.71	BRIGHT RD.	94.71	VAR.	VAR.	VAR.	43														VAR.	VAR.	1
9+80.00	10+62.80	MAPLE RD.	82.80	VAR.	VAR.	VAR.	46														VAR.	VAR.	3
11+19.80	11+79.56	MAPLE RD.	59.76	VAR.	VAR.	VAR.	16														VAR.	VAR.	1
10+34.91	10+90.87	BANBURY DR.	55.96	VAR.	VAR.	VAR.	4														VAR.	VAR.	0
10+60.00	11+02.27	SUNBROOK ST.	42.27	VAR.	VAR.	VAR.	2														VAR.	VAR.	0
10+25.00	10+96.45	CROCKETT ST.	71.45	VAR.	VAR.	VAR.	78														VAR.	VAR.	7
10+15.00	10+95.65	WINSTED LN.	80.65	VAR.	VAR.	VAR.	83														VAR.	VAR.	9
		TOTALS			6,253.30		2,010.4		11025.62		1,214		6,253.30		1,369.8		5,638			450			530

BASIS OF ESTIMATE:

ACHM BINDER COURSE (1"): 4.4% ASPHALT BINDER, 95.6% MINERAL AGGREGATE (PG 64-22), N_{MAX} = 115

ACHM SURFACE COURSE (1/2"): 5.4% ASPHALT BINDER, 94.6% MINERAL AGGREGATE (PG 70-22), N_{MAX} = 160

PORTLAND CEMENT CONCRETE BASE

LOCATION	P.C.C. BASE 12" U.T. S.Y.	P.C.C. BASE 6" U.T. S.Y.
* ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER	600	200
TOTALS	600	200

* QUANTITY ESTIMATED - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH FEET	COLD MILLING ASPHALT PAVEMENT SQ. YD.
HWY. 12				
11+43.00	12+43.00	HWY. 12 TRANSITION	23.00	128
12+43.00	19+00.00	HWY. 12	1.63	119
25+50.00	38+00.00	HWY. 12	3.56	494
113+03.00	114+03.00	HWY. 12 TRANSITION	21.25	118
143+15.00	144+15.00	HWY. 12 TRANSITION	35.50	197
158+97.00	159+97.00	HWY. 12 TRANSITION	23.00	128
SIDE ROADS				
		SHELL RD.	VAR.	146
		CORNERSTONE RD.	VAR.	502
		GREENHOUSE RD.	VAR.	828
		STONEFIELD ST.	VAR.	27
		MORNINGSTAR RD.	VAR.	178
		FEATHERSTON RD.	VAR.	424
		BRIGHT RD.	VAR.	33
		MAPLE RD.	VAR.	141
		BANBURY DR.	VAR.	115
		SUNBROOKE ST.	VAR.	86
		F ST.	VAR.	38
		CROCKETT ST.	VAR.	65
		WINSTED LN.	VAR.	79
		TOTAL		3,846

QUANTITIES

djcobb 7/23/2014 4:30:11 PM
WORKSPACE: AUTOXM BnvAR Hwy 12\Drawings\Hi2_01Y_SUM.dgn
X:\2008\08053550
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-11-14				6	ARK.			
				JOB NO.		090251	84	255

(2) SUMMARY OF QUANTITIES & REVISIONS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
DIGITALLY SIGNED: 9/11/2014

SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	149	STA.
201	GRUBBING	149	STA.
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING	317	SQ. YD.
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER	4700	L.F.
202	REMOVAL AND DISPOSAL OF DROP INLETS	9	EACH
202	REMOVAL AND DISPOSAL OF FENCE	4765	L.F.
202	REMOVAL AND DISPOSAL OF JUNCTION BOXES	3	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	72	EACH
202	REMOVAL AND DISPOSAL OF SIDEWALKS	1255	SQ. YD.
210	UNCLASSIFIED EXCAVATION	36316	CU.YD.
SP & 210	COMPACTED EMBANKMENT	30188	CU.YD.
SP & 210	SOIL STABILIZATION	500	TON
303	AGGREGATE BASE COURSE (CLASS 7)	48032	TON
309	PORTLAND CEMENT CONCRETE BASE (6" UNIFORM THICKNESS)	200	S.Y.
309	PORTLAND CEMENT CONCRETE BASE (12" UNIFORM THICKNESS)	600	S.Y.
401	TACK COAT	8015	GAL.
SP, SS & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	11265	TON
SP, SS & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	519	TON
SP, SS & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	21861	TON
SP, SS & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	4	TON
SP, SS & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	1244	TON
412	COLD MILLING ASPHALT PAVEMENT	3846	SQ.YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	75	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY	1447.72	SQ.YD.
601	MOBILIZATION	1.00	L.S.
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	L.S.
603	24" TEMPORARY CULVERT	100	L.F.
603	30" TEMPORARY CULVERT	320	L.F.
604	SIGNS	1542	SQ.FT.
604	VERTICAL PANELS	243	EACH
604	TRAFFIC DRUMS	583	EACH
604	BARRICADES	176	L.F.
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	940	L.F.
604	CONSTRUCTION PAVEMENT MARKINGS	51301	L.F.
604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)	18	EACH
604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	19	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	5373	L.F.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	4123	L.F.
605	CONCRETE DITCH PAVING (TYPE A)	163	SQ.YD.
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	1563	L.F.
* 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) (ALTERNATE NO. 1)	4034	L.F.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 2)	4034	L.F.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	617	L.F.
* 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) (ALTERNATE NO. 1)	2192	L.F.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 2)	2192	L.F.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	182	L.F.
* 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) (ALTERNATE NO. 1)	1605	L.F.
* 606	30" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 2)	1605	L.F.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	380	L.F.
* 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) (ALTERNATE NO. 1)	1915	L.F.
* 606	36" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 2)	1915	L.F.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	87	L.F.
* 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) (ALTERNATE NO. 1)	459	L.F.
* 606	42" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 2)	459	L.F.
606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	161	L.F.
* 606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) (ALTERNATE NO. 1)	324	L.F.
* 606	48" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE (ALTERNATE NO. 2)	324	L.F.
606	51" X 31" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	188	L.F.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	13	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	6	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	48" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	3	EACH
606	51" X 31" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	4	EACH
606	12" SIDE DRAIN	300	L.F.
SP & 606	18" SIDE DRAIN	100	L.F.
606	SELECTED PIPE BEDDING	100	CU.YD.
SP & 607	PRECAST REINFORCED CONCRETE BOX CULVERTS (4' X 2')	186	L.F.
609	DROP INLETS (TYPE C)	7	EACH
609	DROP INLETS (TYPE MO)	105	EACH
609	JUNCTION BOXES (TYPE E)	3	EACH
609	DROP INLET EXTENSIONS (4')	43	EACH
609	DROP INLET EXTENSIONS (8')	44	EACH
609	YARD DRAINS	15	EACH
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)	1625	TON
619	WIRE FENCE (TYPE D-2)	2055	L.F.
* 619	16' STEEL GATE (ALTERNATE NO. 1)	2	EACH
* 619	16' ALUMINUM GATE (ALTERNATE NO. 2)	2	EACH
620	LIME	26	TON
620	SEEDING	13.30	ACRE

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
SS & 620	MULCH COVER	27.60	ACRE
620	WATER	4449.6	M.G.
621	TEMPORARY SEEDING	14.30	ACRE
621	SILT FENCE	12247	L.F.
621	SAND BAG DITCH CHECKS	660	BAG
621	DROP INLET SILT FENCE	2080	L.F.
621	ROCK DITCH CHECKS	345	CU.YD.
621	SEDIMENT BASIN	100	CU.YD.
621	OBLITERATION OF SEDIMENT BASIN	100	CU.YD.
621	SEDIMENT REMOVAL AND DISPOSAL	2500	CU.YD.
623	SECOND SEEDING APPLICATION	13.30	ACRE
624	SOLID SODDING	11226	SQ.YD.
628	TOPSOIL FURNISHED AND PLACED	6892	CU.YD.
633	CONCRETE WALKS	13690	SQ.YD.
633	HAND RAILING	32	L.F.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A)(1' 6")	25918	L.F.
635	ROADWAY CONSTRUCTION CONTROL	1.00	L.S.
637	MAILBOX SUPPORTS (SINGLE)	12	EACH
637	MAILBOXES	12	EACH
641	WHEELCHAIR RAMPS (TYPE 2)	63	SQ.YD.
641	WHEELCHAIR RAMPS (TYPE 3)	203	SQ.YD.
SP & 701	SYSTEM LOCAL CONTROLLER-FIBER (8 PHASES)	2	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	17	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	5	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)	2	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	16	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	4328	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	860	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	767	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	30	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	21	LIN. FT.
710	NON-METALLIC CONDUIT (2")	115	LIN. FT.
710	NON-METALLIC CONDUIT (3")	1175	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2 HD)	18	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	2	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	2	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (54')	1	EACH
715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	9	EACH
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	8821	L.F.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	1140	L.F.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	3370	L.F.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	36914	L.F.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	18	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	19	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	682	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	4	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	4	EACH
SP & 733	VIDEO DETECTOR (CLR)	12	EACH
733	VIDEO CABLE	2010	LIN. FT.
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	7	EACH
SP & 733	VIDEO EDGE CARD EXTENDER	3	EACH
SP & 733	VEHICLE DETECTOR RACK (24 CHANNEL)	2	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	51	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G, EGC)	1019	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G, EGC)	350	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	1117	LIN. FT.
SP	LUMINAIRE ASSEMBLY	7	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	2	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	27	CU.YD.
802	CLASS S CONCRETE - ROADWAY	64.95	CU.YD.
804	REINFORCING STEEL - ROADWAY (GRADE 60)	6837	LB.
816	DUMPED RIPRAP	6	CU.YD.
816	FILTER BLANKET	12	SQ. YD.
SP	SURVEY MONUMENT PROTECTION	5	EACH

STRUCTURES OVER 20' SPAN

ITEM NUMBER	ITEM	QUANTITY	UNIT
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	138	CU.YD.
802	CLASS S CONCRETE - ROADWAY	318.86	CU.YD.
804	REINFORCING STEEL - ROADWAY (GRADE 60)	57948	LB.

* DENOTES ALTERNATE BID ITEMS.

ITEMS PAID FOR SEPARATELY BY THE CITY

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	TRAFFIC CABINET COMMUNICATIONS	2	EACH
SP & 707	PEDESTRIAN PUSH BUTTON	16	EACH
733	VIDEO MONITOR (CLR)	2	EACH
SP	BATTERY BACKUP SYSTEM	2	EACH
SP	GPS PREEMPTION SYSTEM	2	EACH
SP	WIC FIBER ENCLOSURE	2	EACH

REVISIONS

DATE	REVISION	SHEET NUMBER
9-11-14	REVISED SOIL SURVEY STATIONS AND LOCATIONS	78, 84

djcobb 9/11/2014 3:09:44 PM
WORKSPACE: AHTDXM
X:\2008\080535SO - BnvAR Hwy 12\Drawings\H2_QTY_SUM.dgn
REVISED DATE:

SUMMARY OF QUANTITIES & REVISIONS

STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER ★★★ No.9113 RONALD S. PETRIE

DIGITALLY SIGNED: 7/23/2014

APPROX. JOB MID-POINT
LT: 36.200883598
LG: 94.135750274

SURVEY CONTROL COORDINATES

PROJECT NAME: S090251
DATE: 12/12/2008
COORDINATE SYSTEM: ARKANSAS STATE PLANE NORTH ZONE BASED ON GPS CONTROL.
PROJECTED TO GROUND.
UNITS: U.S. SURVEY FOOT

POINT NAME	NORTHING	EASTING	ELEV	FEATURE	DESCRIPTION
1	736050.7562	662265.8478	1292.80	CTL	5/8" REBAR W/ 2" ALUM CAP
2	736147.2854	661520.1975	1291.16	CTL	5/8" REBAR W/ 2" ALUM CAP
3	736298.8488	661049.3451	1282.73	CTL	5/8" REBAR W/ 2" ALUM CAP
4	736200.6848	660120.5561	1281.29	CTL	5/8" REBAR W/ 2" ALUM CAP
5	736261.9518	659220.1640	1298.19	CTL	5/8" REBAR W/ 2" ALUM CAP
6	736266.2211	658623.5494	1293.18	CTL	5/8" REBAR W/ 2" ALUM CAP
7	736280.4150	657953.3198	1293.25	CTL	5/8" REBAR W/ 2" ALUM CAP
8	736276.7407	657504.0452	1293.88	CTL	5/8" REBAR W/ 2" ALUM CAP
9	736302.6278	656973.3523	1292.60	CTL	5/8" REBAR W/ 2" ALUM CAP
10	736337.8658	656254.8412	1281.53	CTL	5/8" REBAR W/ 2" ALUM CAP
11	736381.3033	655541.5225	1276.96	CTL	5/8" REBAR W/ 2" ALUM CAP
12	736370.2244	654770.1647	1281.51	CTL	5/8" REBAR W/ 2" ALUM CAP
13	736444.5163	654141.3911	1277.73	CTL	5/8" REBAR W/ 2" ALUM CAP
14	736483.2745	653391.0464	1263.36	CTL	5/8" REBAR W/ 2" ALUM CAP
15	736518.5397	652680.1709	1263.15	CTL	5/8" REBAR W/ 2" ALUM CAP
16	736561.1446	651983.4022	1271.45	CTL	5/8" REBAR W/ 2" ALUM CAP
17	736588.3518	651400.2229	1274.47	CTL	5/8" REBAR W/ 2" ALUM CAP
18	736598.5791	650818.9160	1266.53	CTL	5/8" REBAR W/ 2" ALUM CAP
19	736642.6942	649878.6921	1270.87	CTL	5/8" REBAR W/ 2" ALUM CAP
20	736671.2462	649191.6553	1261.12	CTL	5/8" REBAR W/ 2" ALUM CAP
21	736710.5662	648421.9654	1249.10	CTL	5/8" REBAR W/ 2" ALUM CAP
22	736727.9892	647907.6344	1252.02	CTL	5/8" REBAR W/ 2" ALUM CAP
23	736728.1718	647243.3689	1248.11	CTL	5/8" REBAR W/ 2" ALUM CAP
24	736757.6643	646230.9642	1214.70	CTL	5/8" REBAR W/ 2" ALUM CAP
25	736770.6973	645988.8933	1210.71	CTL	5/8" REBAR W/ 2" ALUM CAP
26	736796.8019	645576.0032	1206.85	CTL	5/8" REBAR W/ 2" ALUM CAP
27	736309.3904	647103.9032	1251.80	CTL	5/8" REBAR W/ 2" ALUM CAP
28	735798.4105	647141.4743	1239.09	CTL	5/8" REBAR W/ 2" ALUM CAP
100	736032.6376	669238.5584	1325.45	GPS	5/8" REBAR W/ 2" ALUM CAP STAMPED: AR STATE HWY TRANS. DEPT., 1998, POINT NO. 240229
101	736599.2365	649561.7526	1267.72	GPS	5/8" REBAR W/ 2" ALUM CAP STAMPED: AR STATE HWY TRANS. DEPT., 1998, POINT NO. 240221
900	735907.3792	667268.7863	1261.58	BM	AHTD CAP ON EAST END OF 5 BARREL BOX CULVERT ON NORTH SIDE OF HY. 71B
901	736006.3327	665183.5471	1275.14	BM	CHISELED SQ CENTER OF HEADWALL AT INTERSECTION OF HIGHWAY 71B AND J STREET ON NE CORNER
902	736042.6541	664187.0383	1288.29	BM	300' EAST OF HIGHWAY 71B AND FOUNTAIN DRIVE
903	736057.8484	663815.6108	1293.22	BM	AHTD CAP ON TOP OF CATCH BASIN NORTH OF HIGHWAY 71B
904	736194.7998	661478.7553	1291.84	BM	CHISELED SQUARE IN CONCRETE ISLAND AT INTERSEC. OF 71B AND HWY 112
905	736275.1453	659110.8314	1298.63	BM	CHISELED SQUARE IN CONCRETE SIDEWALK ON NORTH SIDE OF HIGHWAY12
906	736232.7379	657091.2287	1292.61	BM	CHISELED SQUARE ON TOP OF CURB SOUTH SIDE HIGHWAY 12 AT INTERSECTION OF EDEN BROOKE
907	736366.3224	654673.8461	1281.57	BM	CHISELED SQUARE AT BACK OF SIDE SIDEWALK 200' EAST OF HY. 12 AND MAPLE INTERSECTION
908	736411.8403	653343.2713	1261.51	BM	CHISELED SQUARE ON TOP OF HEADWALL IN FRONT OF BRIGHT GRILL ON HY. 112
909	736526.8398	651080.4338	1271.12	BM	CHISELED SQUARE ON TOP OF CONCRETE MANHOLE NEXT TO INTERSECTION OF FEATHERSTON AND HY 12
910	736639.9116	648452.3626	1251.54	BM	CHISELED SQUARE ON TOP OF CATCH CORNERSTONE AND HIGHWAY 12
911	736765.3984	646153.1856	1213.36	BM	CHISELED SQUARE ON TOP OF CATCH BASIN AT INTERSECTION OF SHELL AND BLOSSOM SOUTH OF CO. RD
912	735785.6285	647163.2122	1240.66	BM	CHISELED SQUARE ON TOP OF CONCRETE @ PUMP STATION EAST OF HY. 12

*NOTE - REBAR AND CAP - STANDARD - 5/8" REBAR WITH 2" ALUMINUM CAP STAMPED: ARKANSAS HWY. TRANS. DEPT., JOB*090251, PN *
*(STANDARD MARKINGS COMMON TO ALL CAPS), OR AS INDICATED
(OTHER MARKINGS INDICATED IN THE POINT DESCRIPTION OF THE INDIVIDUAL POINT).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999612441 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME 090251GI.CT.
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.
ELEVATION FOR POINTS 1-28, 100-101 & 900-912 ESTABLISHED BY 3 WIRE LEVEL RUNS BASED
ON NGS BM R26 VIA AHTD GPS 040009 FROM AHTD JOB 090236.

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 040209 - 240221
CONVERGENCE ANGLE: 01-18-34.08295 LEFT AT LT:36-20-08.8 LG:94-13-39.4
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

CENTERLINE CONSTRUCTION CONTROL

Highway 12

Point Name	Type	Station	Northing	Easting
8000	POB	8+14.59	735145.4082	647075.3679
8001	PC	16+95.28	736025.3134	647112.6523
8025	PI	24+13.10	736742.4869	647143.0412
8002	CC		735994.9930	647828.2074
8003	PT	28+21.90	736710.4778	647860.1443
8004	PI	49+67.19	736614.8144	650003.2975
8005	PI	66+83.55	736541.9008	651718.1117
8006	PI	77+22.43	736497.3951	652756.0349
8007	PI	82+72.23	736471.2935	653305.2111
8008	PI	114+03.30	736311.6730	656432.2157
8018	PC	142+59.92	736222.4776	659287.0114
8028	PI	143+63.18	736219.0268	659390.2202
8019	CC		726228.0624	658952.8495
8020	PT	144+66.44	736213.4454	659493.3357
8021	PC	156+33.00	736150.3946	660658.1880
8029	PI	157+96.91	736141.5355	660821.8573
8022	CC		747592.8048	661277.5397
8023	PT	159+60.80	736137.3613	660985.7131
8024	POE	161+90.91	736131.5011	661215.7507

Gemstone Boulevard

Point Name	Type	Station	Northing	Easting
8090	POB	10+00.00	735458.6698	647088.6418
8091	POE	11+53.05	735453.3031	647241.5929

Shell Road

Point Name	Type	Station	Northing	Easting
8120	POB	9+75.00	736726.2216	647157.0979
8121	PC	10+42.36	736682.5818	647208.4116
8125	PI	10+82.19	736656.7768	647238.7543
8122	CC		736225.5201	646819.7028
8123	PT	11+21.91	736627.1873	647265.4195
8124	POE	12+52.12	736530.4596	647352.5878

Cornerstone/Greenhouse Road

Point Name	Type	Station	Northing	Easting
8050	POB	10+00.00	736443.9763	648459.7134
8051	PI	12+39.52	736683.1049	648473.3796
8052	POE	19+23.64	737366.8858	648494.9552

Stonefield

Point Name	Type	Station	Northing	Easting
8130	POB	10+00.00	736536.6561	649309.4126
8131	POE	11+09.02	736645.5920	649313.7836

Morningstar Road

Point Name	Type	Station	Northing	Easting
8110	POB	10+00.00	736355.0785	649794.4700
8111	PI	12+68.79	736623.6126	649806.1911
8112	POE	14+50.00	736804.6817	649813.3409

Featherston Road

Point Name	Type	Station	Northing	Easting
8082	POB	10+00.00	736566.7598	651133.4677
8083	POE	13+88.37	736954.7976	651149.4385

Detour 1

Point Name	Type	Station	Northing	Easting
8400	POB	10+00.00	736500.7895	652684.6160
8401	PC	11+00.00	736496.0420	652784.5032
8415	PI	11+63.45	736493.0295	652847.8862
8402	CC		737016.4545	652809.2377
8403	PT	12+26.29	736505.3187	652910.1393
8404	PC	12+49.37	736509.7886	652932.7827
8416	PI	13+12.83	736522.0798	652995.0462
8405	CC		735998.6527	653033.6843
8406	PT	13+75.68	736519.0643	653058.4397
8407	PI	14+12.21	736517.3283	653094.9333
8408	PC	14+48.57	736515.6007	653131.2505
8417	PI	15+12.21	736512.5768	653194.8203
8409	CC		735995.1892	653106.4950
8410	PT	15+75.22	736494.3396	653255.7931
8411	PC	16+05.79	736485.5815	653285.0741
8418	PI	16+67.57	736467.8772	653344.2652
8412	CC		736984.7319	653434.3722
8413	PT	17+28.78	736464.5074	653405.9554
8414	POE	18+29.02	736459.0397	653506.0518

CENTERLINE CONSTRUCTION CONTROL

Bright Road

Point Name	Type	Station	Northing	Easting
8040	POB	7+50.00	736058.2643	653771.8414
8041	POE	12+05.00	736512.7436	653793.6025

Maple Road

Point Name	Type	Station	Northing	Easting
8100	POB	9+52.43	736274.0920	654434.7391
8101	PI	10+00.01	736321.6388	654436.4503
8102	POE	12+05.54	736526.9133	654446.7934

Banbury

Point Name	Type	Station	Northing	Easting
8032	POB	10+00.00	736229.3400	655713.3945
8033	POE	11+18.87	736348.0764	655719.0626

Sunbrooke Street

Point Name	Type	Station	Northing	Easting
8140	POB	10+00.00	736198.9131	656086.0302
8141	POE	11+30.27	736328.9541	656093.6738

F Street

Point Name	Type	Station	Northing	Easting
8080	POB	10+00.00	736212.3541	659513.4976
8081	POE	11+26.20	736338.3845	659520.0943

Detour 2

Point Name	Type	Station	Northing	Easting
8200	POB	10+00.00	736190.8517	659982.1618
8201	PC	10+99.62	736185.8020	660081.6516
	PI	11+64.20	736182.5282	660146.1515
8202	CC		736706.1322	660108.0616
8203	PT	12+28.13	736195.1023	660209.4984
8204	PC	12+58.07	736200.9324	660238.8702
	PI	13+23.55	736213.6797	660303.0896
8205	CC		735689.9025	660340.3070
8206	PT	13+88.33	736210.1410	660368.4663
8207	PC	15+12.84	736203.4117	660492.7881
	PI	15+72.86	736200.1675	660552.7242
8208	CC		735683.1733	660464.6288
8209	PT	16+32.36	736183.3789	660610.3524
8210	PC	16+71.75	736172.3617	660648.1695
	PI	17+32.34	736155.4156	660706.3382
8211	CC		736672.5673	660793.8931
8212	PT	17+92.38	736152.2700	660766.8434
8213	POE	18+92.39	736147.0778	660866.7143

Crockett Street

Point Name	Type	Station	Northing	Easting
8060	POB	10+00.00	736047.9337	660248.5707
8061	POE	11+24.45	736172.2341	660254.7076

Winsted Lane

Point Name	Type	Station	Northing	Easting
8150	POB	10+00.00	736020.6083	660782.2696
8151	POE	11+23.65	736144.0420	660789.5048

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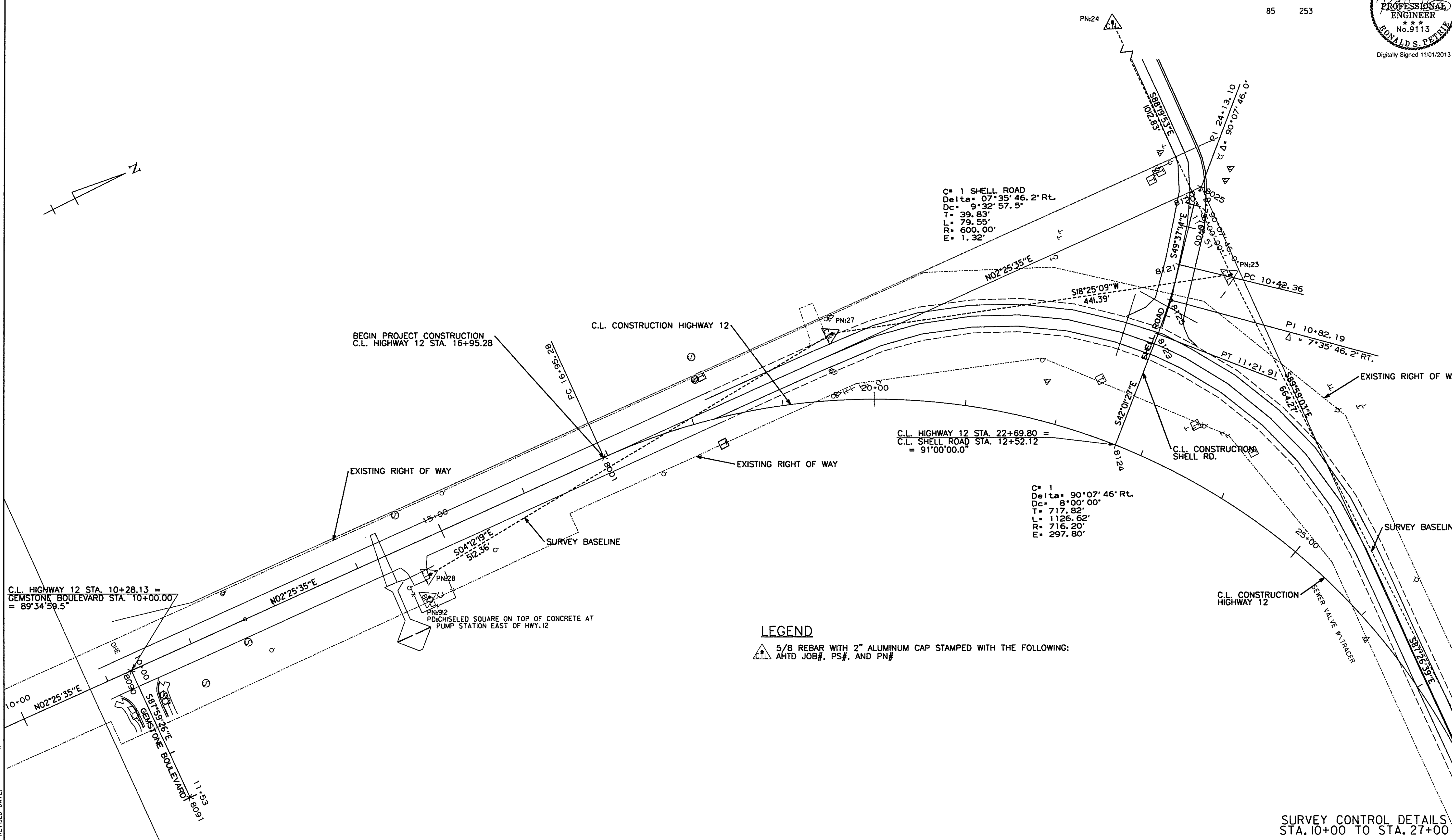
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	86	255

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



LEGEND

5/8 REBAR WITH 2" ALUMINUM CAP STAMPED WITH THE FOLLOWING: AHTD JOB#, PS#, AND PN#

SURVEY CONTROL DETAILS
STA. 10+00 TO STA. 27+00

djcobb 12/20/2013 1:55:50 PM
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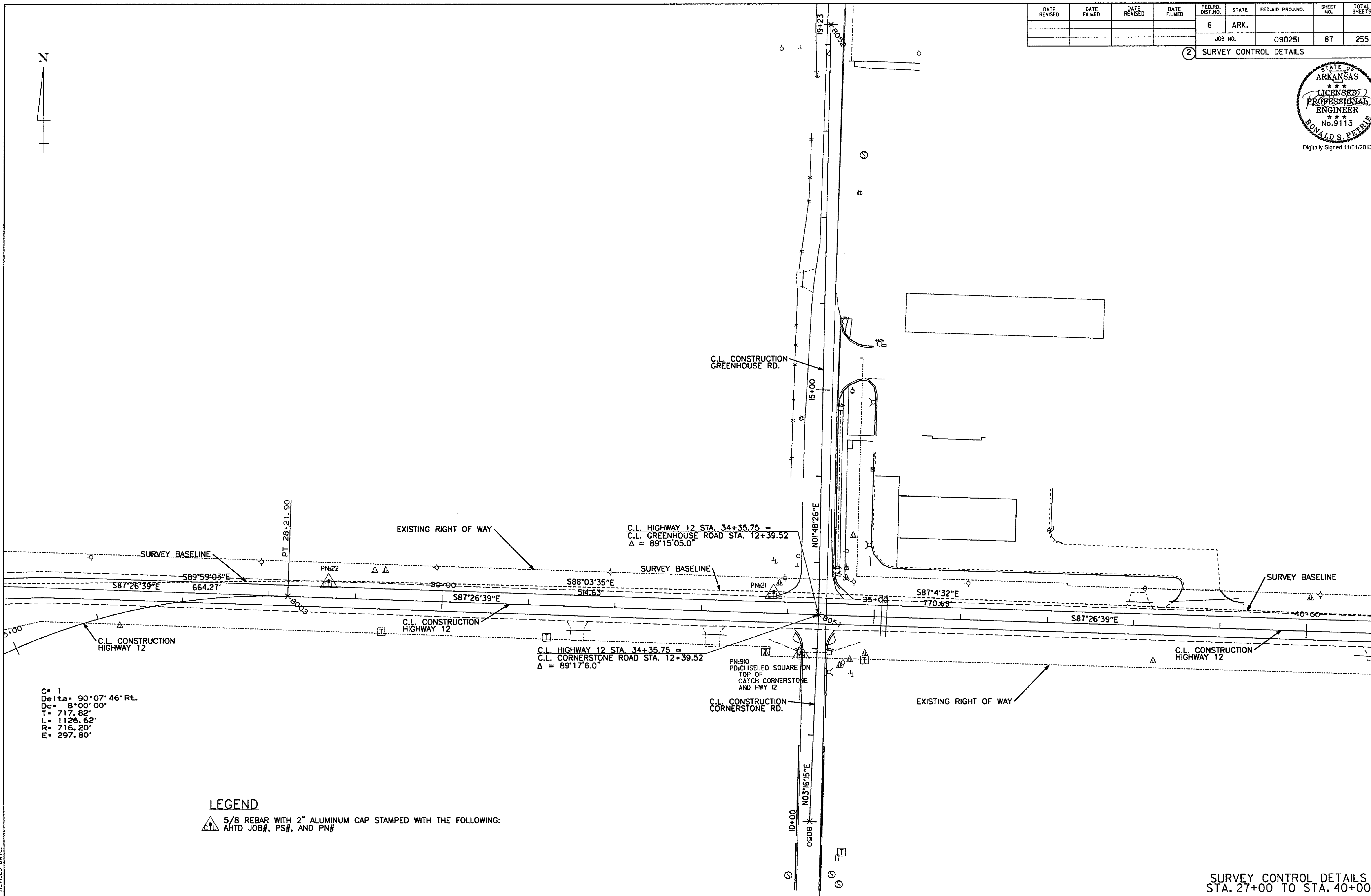
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	87	255

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



C= 1
Delta= 90°07' 46" Rt.
Dc= 8°00' 00"
T= 717.82'
L= 1126.62'
R= 716.20'
E= 297.80'

LEGEND

5/8 REBAR WITH 2" ALUMINUM CAP STAMPED WITH THE FOLLOWING: AHTD JOB#, PS#, AND PN#

SURVEY CONTROL DETAILS
STA. 27+00 TO STA. 40+00

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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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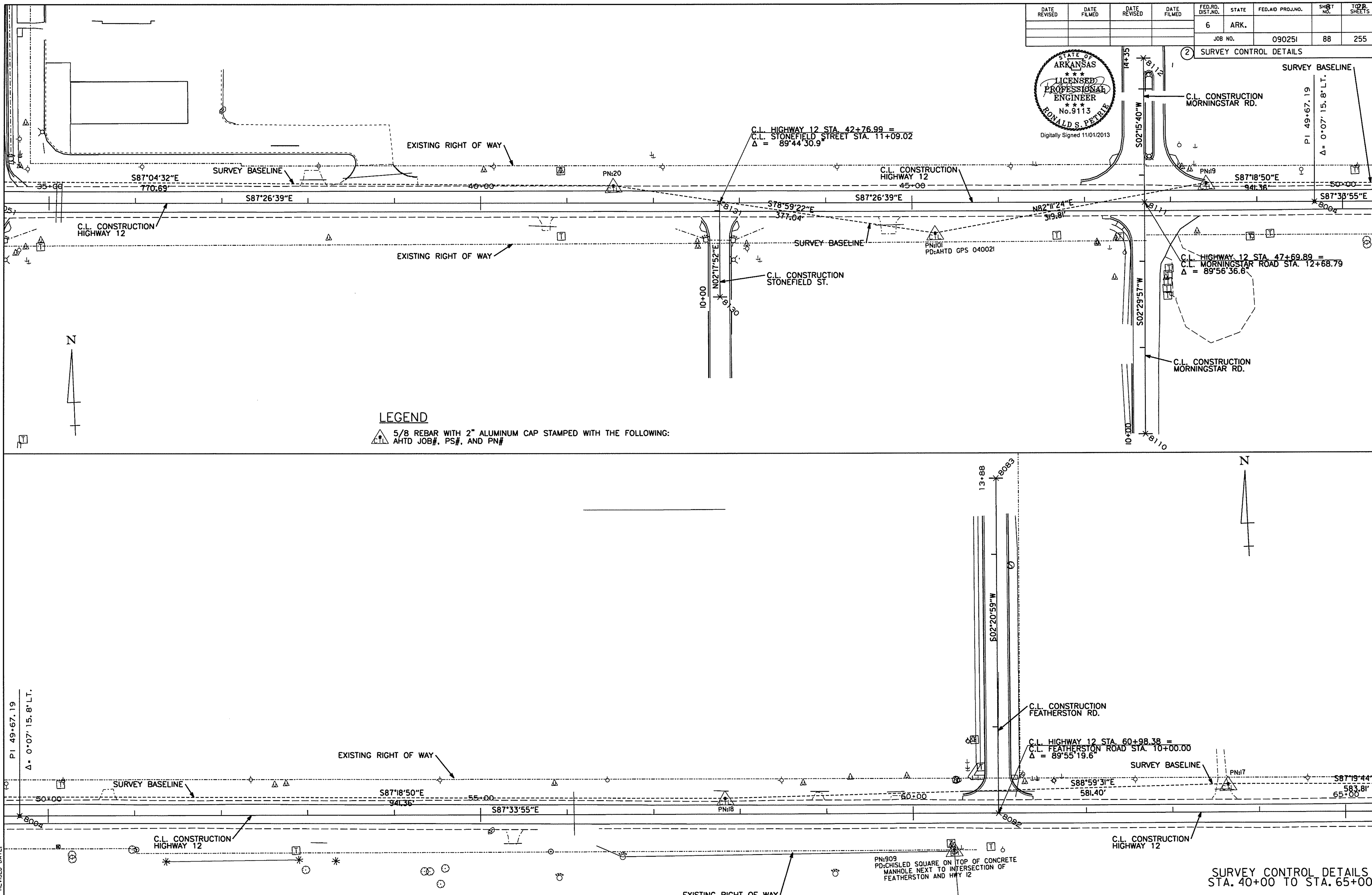
(2) SURVEY CONTROL DETAILS



SURVEY CONTROL DETAILS
STA. 40+00 TO STA. 65+00

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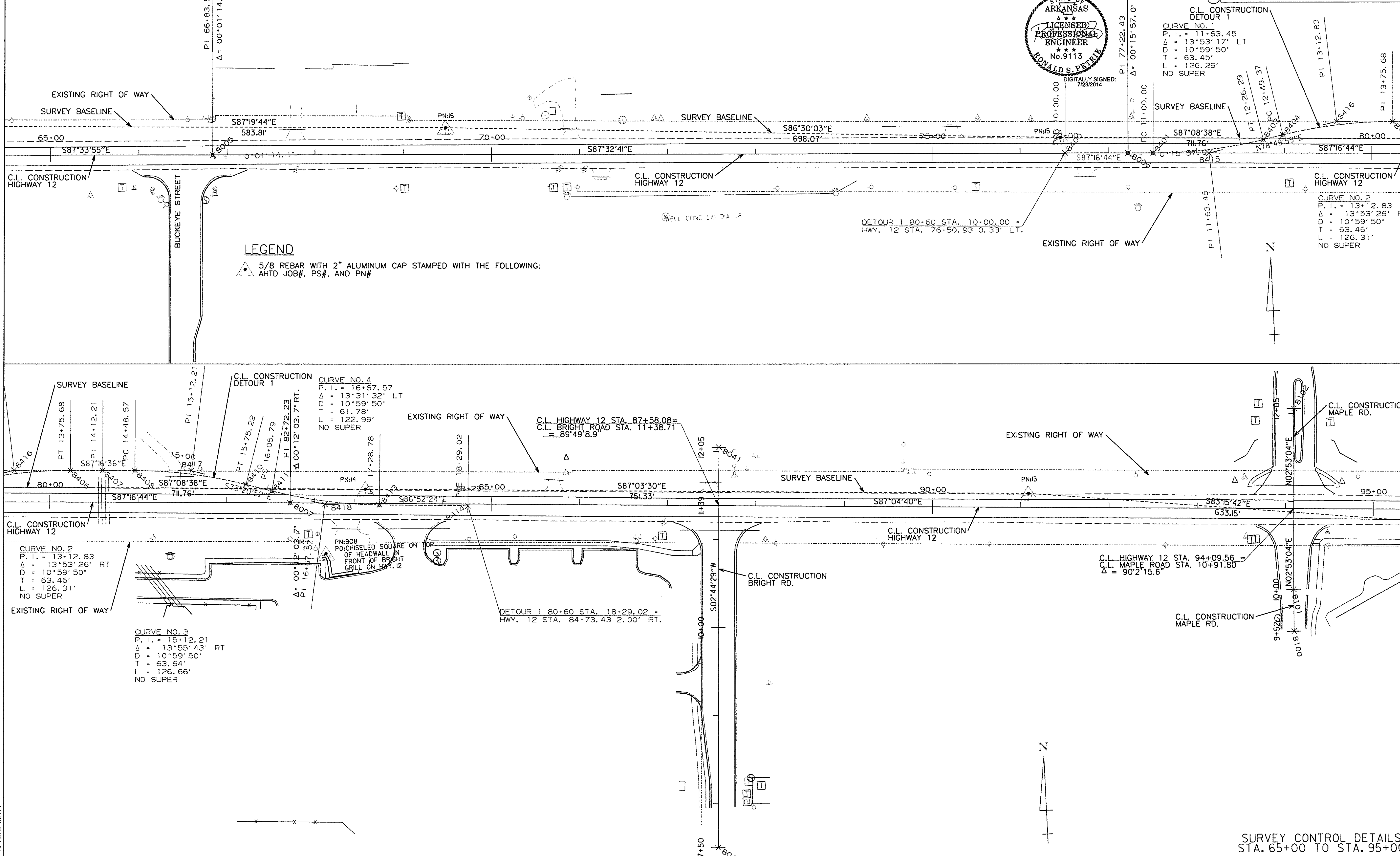
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	89	255

(2) SURVEY CONTROL DETAILS



SURVEY CONTROL DETAILS
STA. 65+00 TO STA. 95+00

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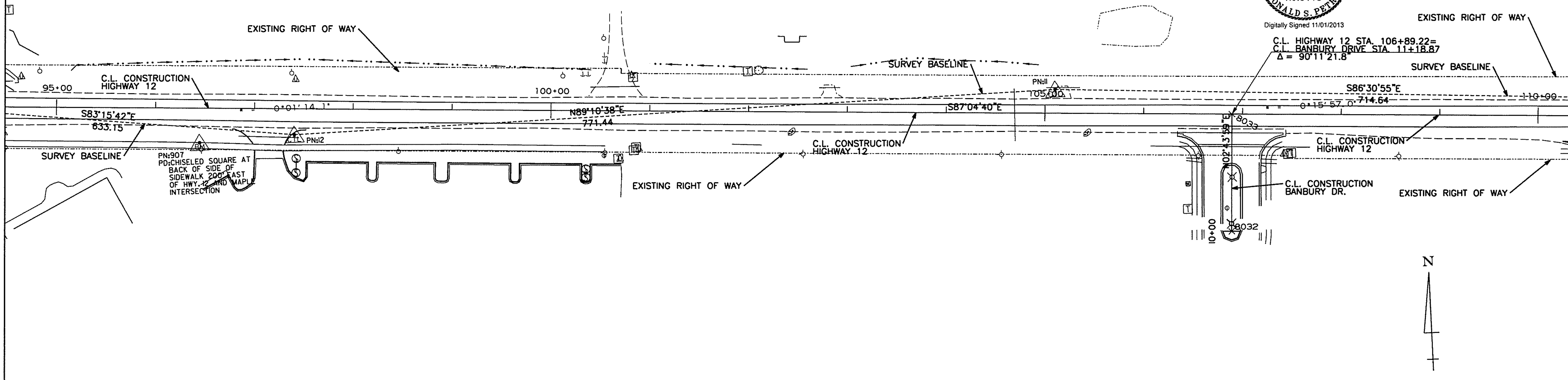
				6	ARK.			
					JOB NO.	090251	90	255

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013



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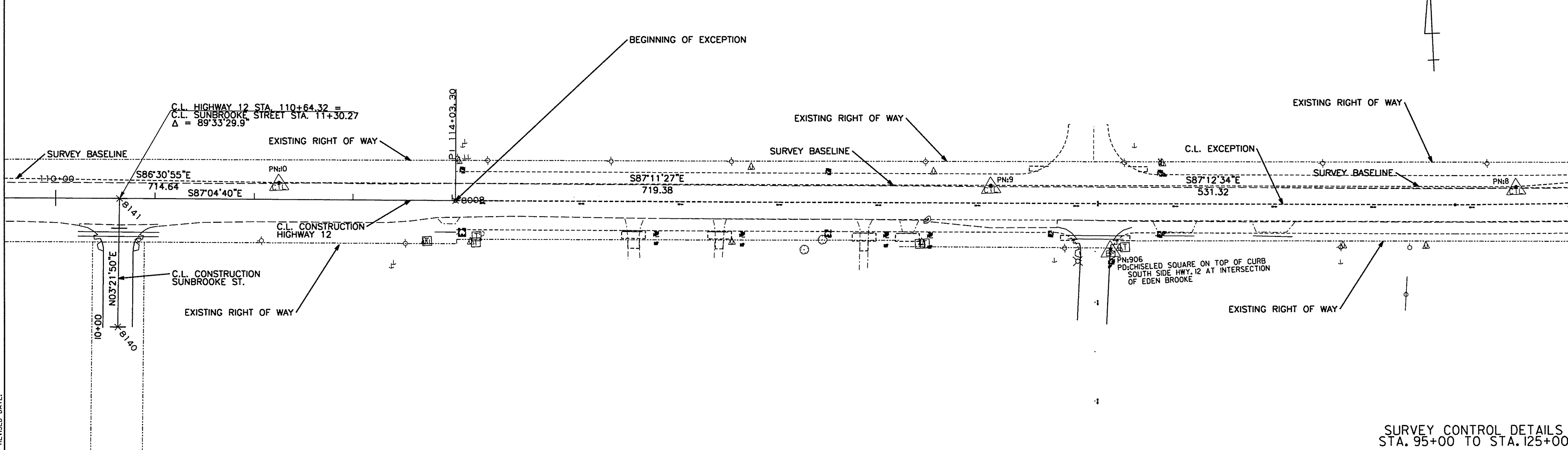

SURVEY CONTROL DETAILS
STA. 95+00 TO STA. 125+00

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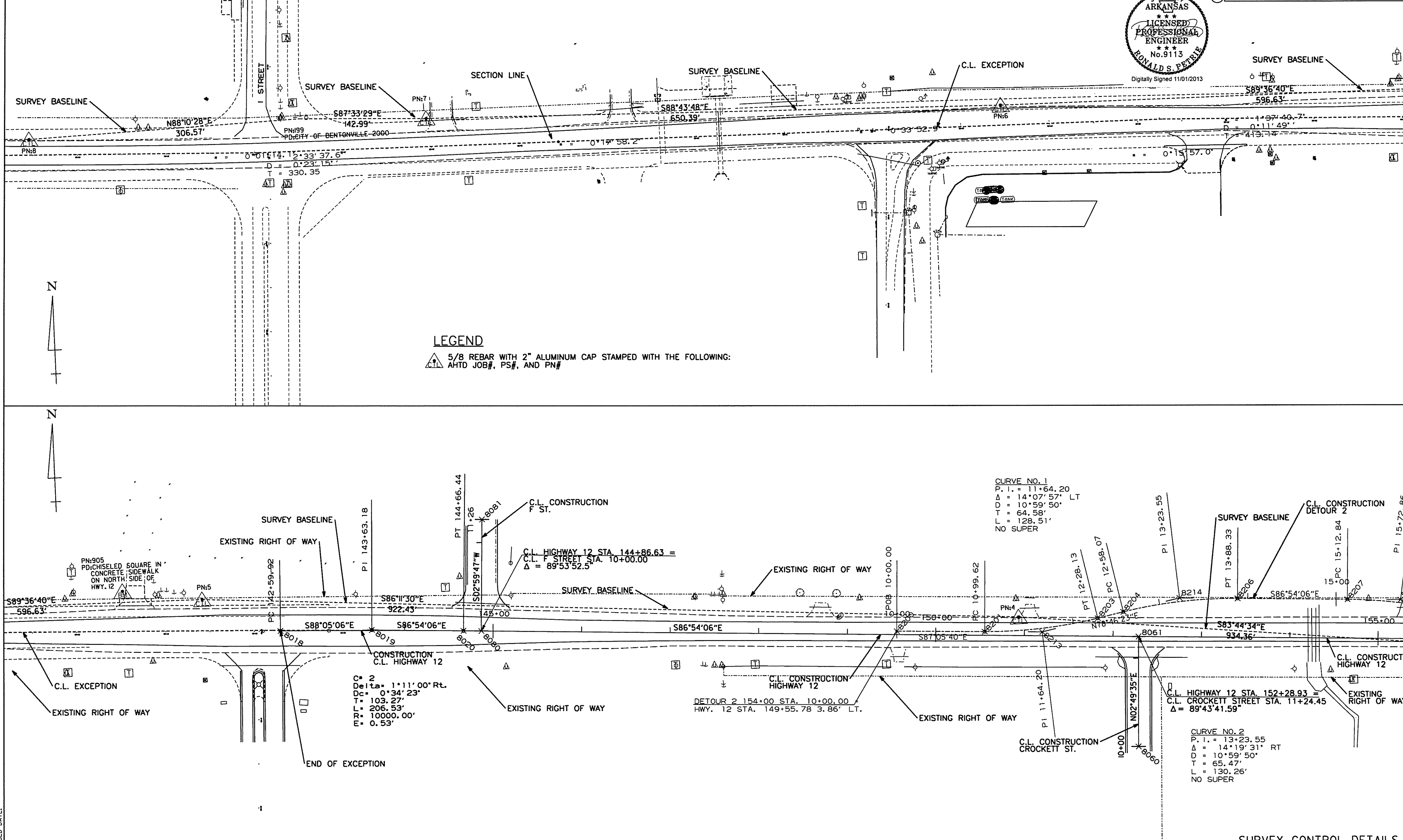
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	91	255

(2) SURVEY CONTROL DETAILS



SURVEY CONTROL DETAILS
STA. 125+00 TO STA. 155+00

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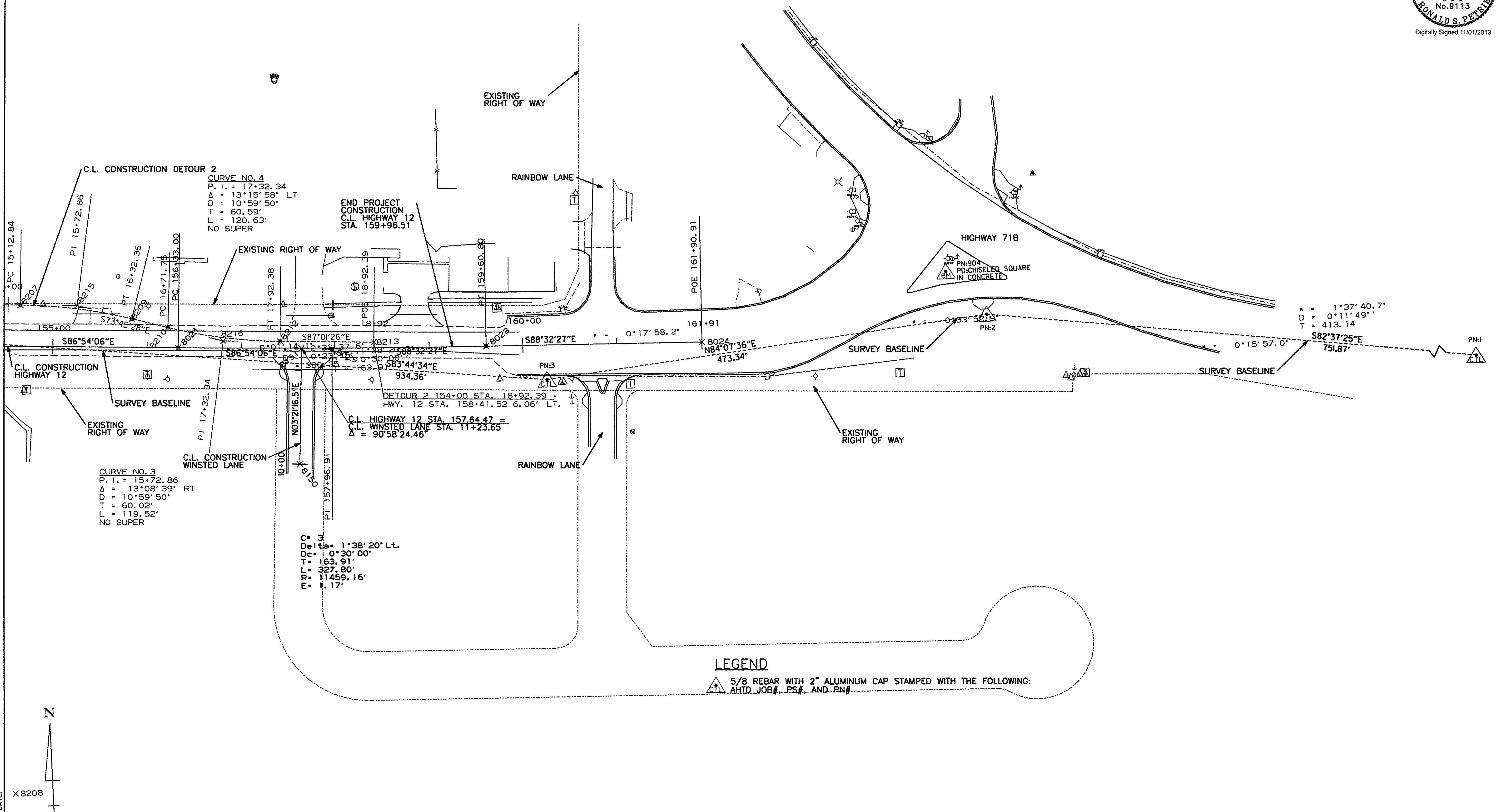
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	92	255

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013



LEGEND

5/8 REBAR WITH 2" ALUMINUM CAP STAMPED WITH THE FOLLOWING: AHTD JOB#, PS#, AND PN#

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REVISED DATE:

SURVEY CONTROL DETAILS
STA. 155+00 TO STA. 161+90.91

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	93	255

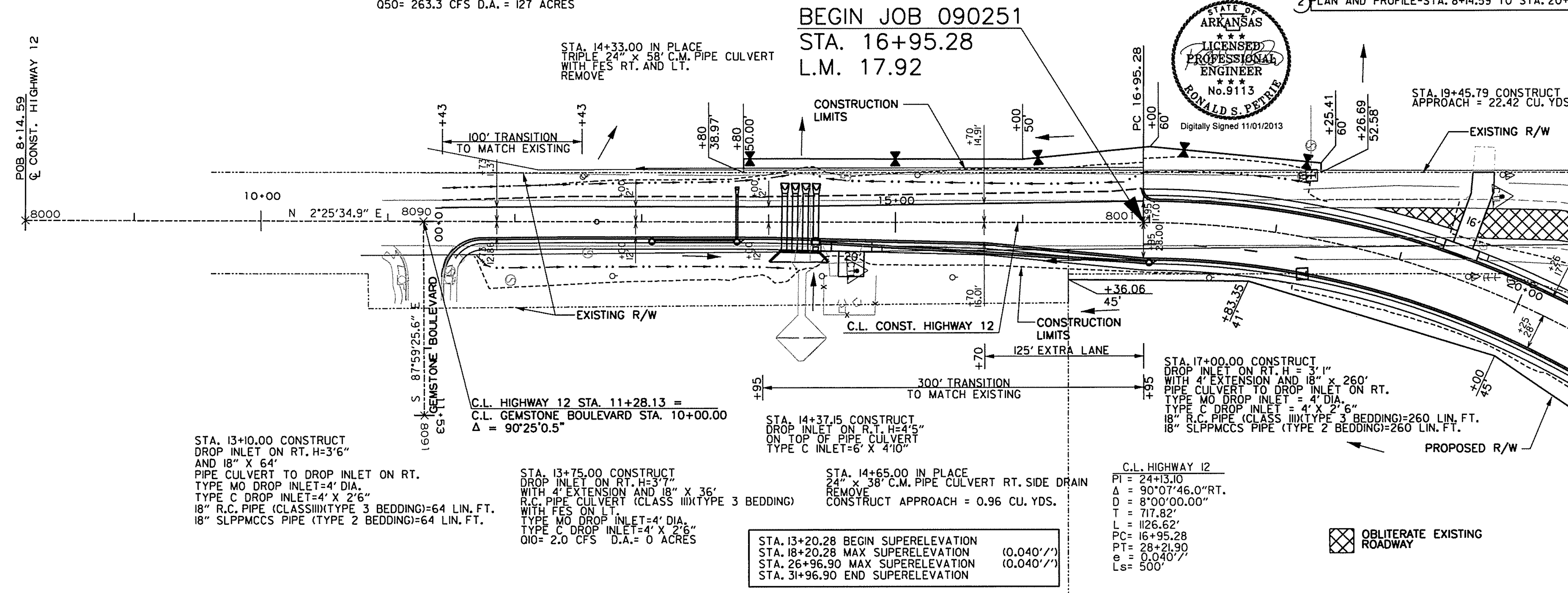
② PLAN AND PROFILE-STA. 8+14.59 TO STA. 20+00

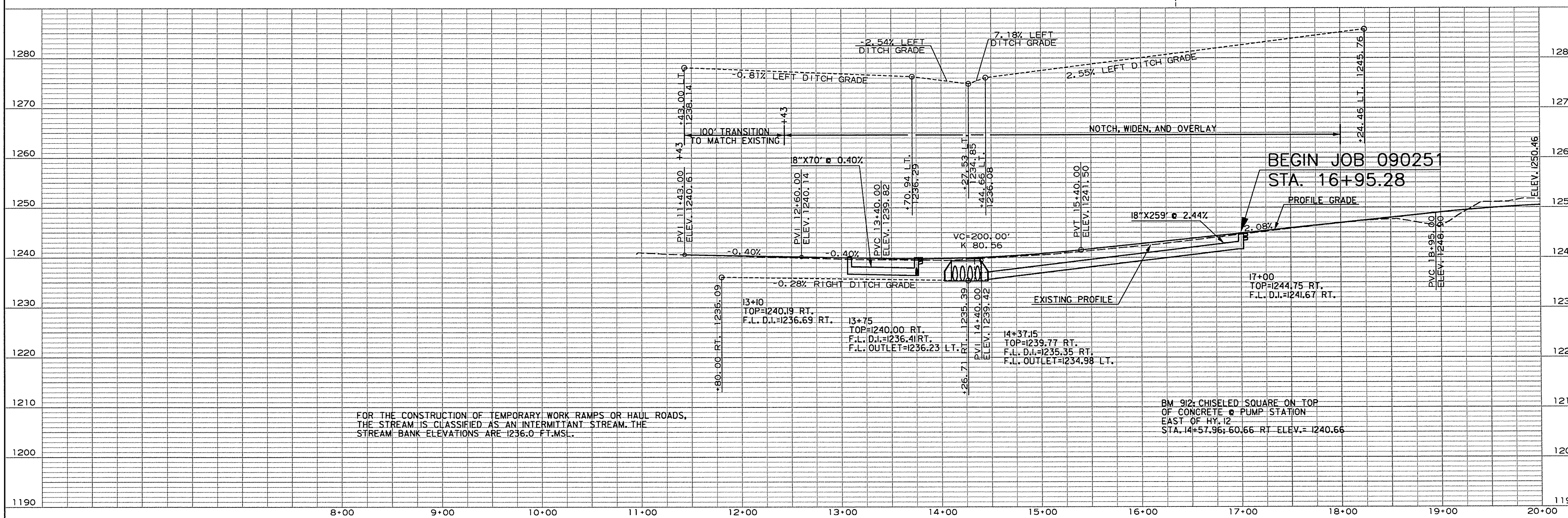
TYPE D FENCE

STA.	STA.	SIDE	UNIT
13+15.00	18+20.00	LT.	460 LIN. FT.

HANDRAILING

STA.	STA.	SIDE	UNIT
14+09.19	14+40.10	RT.	32 LIN. FT.





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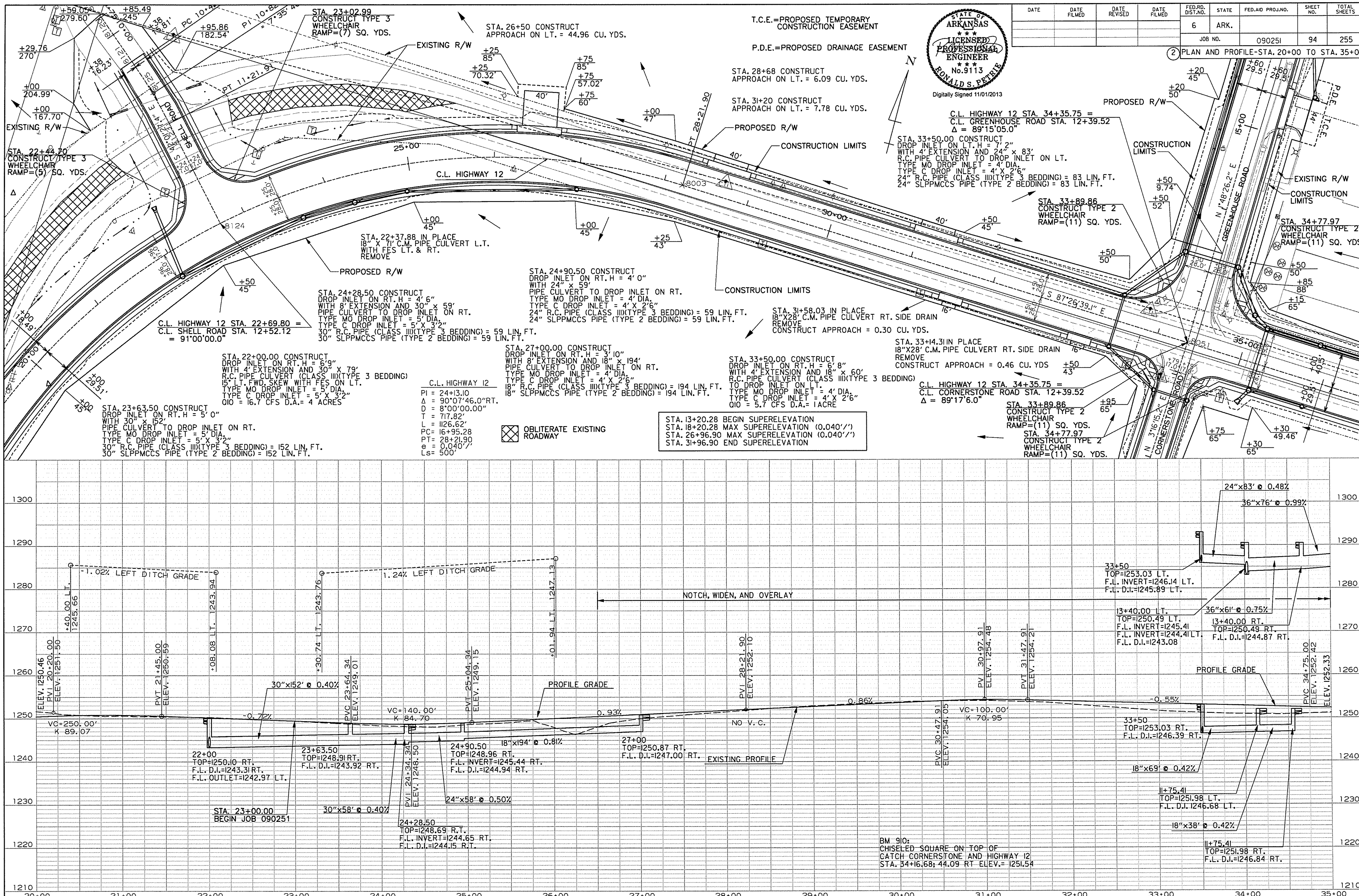
REVISED DATE:



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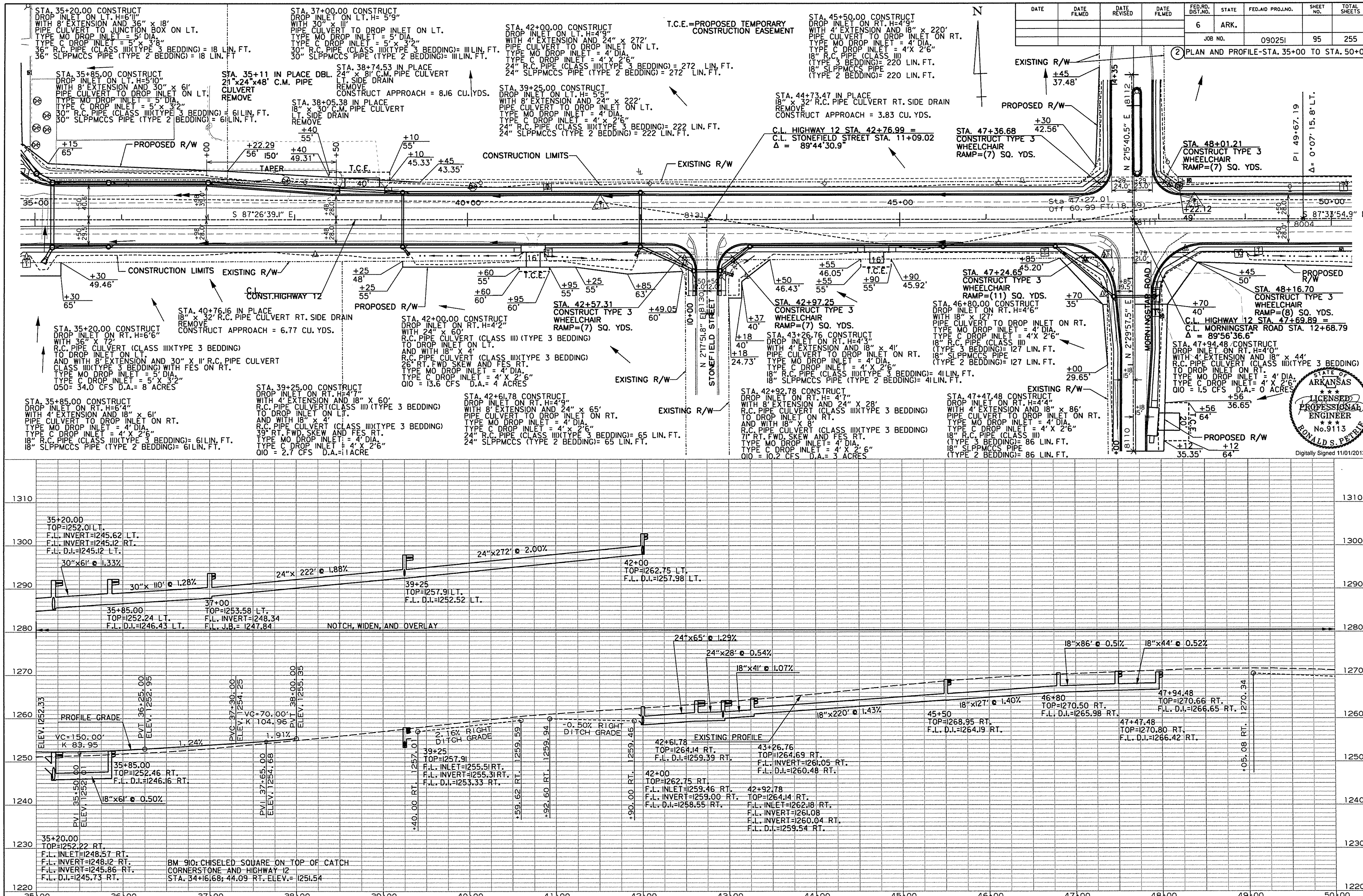
				6	ARK.			
				JOB NO.		090251	95	255

(2) PLAN AND PROFILE-STA. 35+00 TO STA. 50+00



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				6	ARK.			
					JOB NO.	090251	96	255

(2) PLAN AND PROFILE-STA. 50+00 TO STA. 65+00

STA. 50+69.69 IN PLACE
CONSTRUCT APPROACH = 8.28 CU. YDS.

STA. 52+50.00 CONSTRUCT
DROP INLET ON LT. H = 4'0"
WITH 8' EXTENSION AND 18" X 302'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 302 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 302 LIN. FT.

STA. 56+22.00 CONSTRUCT
DROP INLET ON LT. H = 4' 11"
WITH 8' EXTENSION AND 18" x 60'
PIPE CULVERT TO BOX CULVERT ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 60 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 60 LIN. FT.

STA. 55+55.00 CONSTRUCT
DROP INLET ON LT. H = 4'2"
WITH 4' EXTENSION AND 18" x 64'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 64 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 64 LIN. FT.

STA. 56+85.00 CONSTRUCT
DROP INLET ON LT. H = 5' 5"
WITH 4' EXTENSION AND 18" x 43'
PIPE CULVERT TO BOX CULVERT ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 43 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 43 LIN. FT.

STA. 57+33.00 CONSTRUCT
DOUBLE 4' x 2' x 93' PRECAST BOX
CULVERT WITH 3:1 WINGS LT. & RT.
Q50 = 78 CFS D.A. = 26 ACRES

STA. 56+60.00 INPLACE
5' DIA. JUNCTION BOX RT.
WITH 30"X32' R.C. PIPE CULVERT AND FES RT.
WITH 30"X384' R.C. PIPE CULVERT
REMOVE

STA. 58+90.87 IN PLACE
18" x 21' R.C. PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 44' R.C. PIPE CULVERT RT. SIDE DRAIN
CONSTRUCT APPROACH = 2.91 CU. YDS.

STA. 57+50.00 CONSTRUCT
DROP INLET ON LT. H = 5'4"
WITH 4' EXTENSION AND 36" x 14'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
WITH FES ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3'8"

STA. 60+20.00 CONSTRUCT
DROP INLET ON LT. H = 7'0"
WITH 8' EXTENSION AND 36" x 267'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 2'6"
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 267 LIN. FT.
36" SLPPMCCS (TYPE 2 BEDDING) = 267 LIN. FT.

STA. 59+80.71 IN PLACE
18" x 20' R.C. PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH ON LT. = 14.48 CU. YDS.

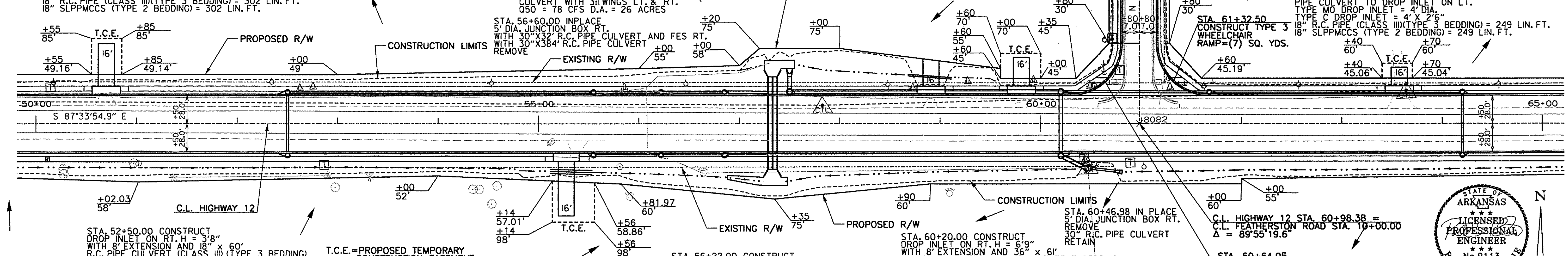
STA. 61+00.00 IN PLACE
24" x 84' R.C. PIPE CULVERT LT. SIDE DRAIN
PLUG AND ABANDON

STA. 61+67.77 CONSTRUCT
DROP INLET ON LT. H = 3'8"
WITH 4' EXTENSION AND 18" x 144'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10=3.3 CFS D.A.= 1 ACRE

STA. 63+57.08 IN PLACE
18" x 19' R.C. PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 8.49 CU. YDS.

STA. 64+20.00 CONSTRUCT
DROP INLET ON LT. H = 3'11"
WITH 4' EXTENSION AND 18" x 249'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 249 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 249 LIN. FT.

STA. 61+32.50
CONSTRUCT TYPE 3
WHEELCHAIR
RAMP=(7) SQ. YDS.



C.L. HIGHWAY 12 STA. 60+98.38 =
C.L. FEATHERSTON ROAD STA. 10+00.00
Δ = 89°55'19.6"

STA. 60+64.05
CONSTRUCT TYPE 3
WHEELCHAIR
RAMP=(7) SQ. YDS.

STATE OF ARKANSAS
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STA. 52+50.00 CONSTRUCT
DROP INLET ON RT. H = 3'8"
WITH 8' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10 = 1.5 CFS D.A.= 0 ACRES

T.C.E.=PROPOSED TEMPORARY
CONSTRUCTION EASEMENT

STA. 55+34.76 IN PLACE
18" x 21' R.C. PIPE CULVERT RT. SIDE DRAIN
REMOVE AND INSTALL
DBL. 18"x 28' R.C. PIPE CULVERT RT. SIDE DRAIN
CONSTRUCT APPROACH = 24.00 CU. YDS.

STA. 56+08.25 IN
PLACE 24" x 50'
RCP PIPE CULVERT
PLUG AND ABANDON

STA. 56+22.00 CONSTRUCT
DROP INLET ON RT. H = 4' 1"
WITH 8' EXTENSION AND 18" x 60'
PIPE CULVERT TO BOX CULVERT ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 60 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)= 60 LIN. FT.

STA. 60+20.00 CONSTRUCT
DROP INLET ON RT. H = 6'9"
WITH 8' EXTENSION AND 36" x 61'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3'8"
Q10 = 32.6 CFS D.A.= 8 ACRES

STA. 60+46.98 IN PLACE
5' DIA. JUNCTION BOX RT.
REMOVE
30" R.C. PIPE CULVERT
RETAIN

STA. 64+20.00 CONSTRUCT
DROP INLET ON RT. H = 3'7"
WITH 4' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10 = 0.8 CFS D.A.= 0 ACRES

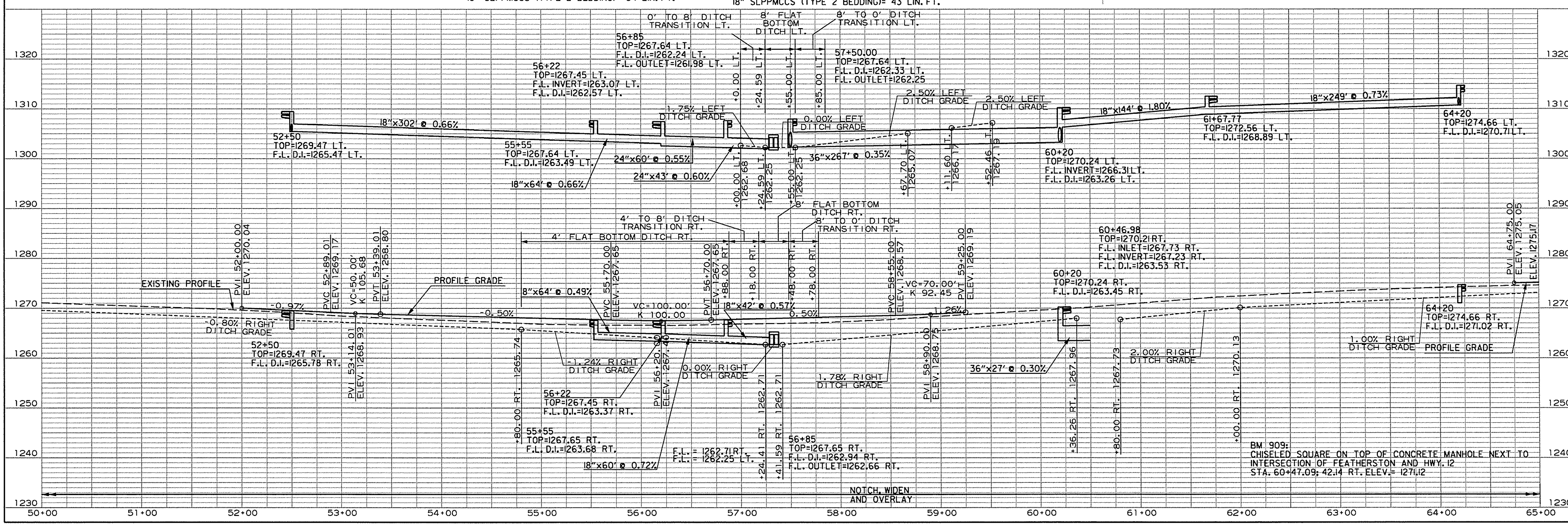
CONCRETE DITCH PAVING (TYPE A)

STA.	STA.	SIDE	"B"	"W"	SQ. YDS.
56+88	57+18	RT=30 LIN. FT.	4'-0" TO 8'-0"	13'-0 TO 17'-0"	50.0
57+18	57+48	RT=30 LIN. FT.	8'-0"	17'-0"	56.7
57+25	57+55	LT=30 LIN. FT.	8'-0"	17'-0"	56.7

STA. 55+55.00 CONSTRUCT
DROP INLET ON RT. H = 4'0"
WITH 4' EXTENSION AND 18" x 64'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 64 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)= 64 LIN. FT.

STA. 56+85.00 CONSTRUCT
DROP INLET ON RT. H = 4'9"
WITH 4' EXTENSION AND 18" x 43'
PIPE CULVERT TO BOX CULVERT ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 43 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)= 43 LIN. FT.

STA. 60+46.98 CONSTRUCT
JUNCTION BOX ON RT. H = 6'8"
WITH 36" x 27'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) 27 LIN FT.
36" SLPPMCCS (TYPE 2 BEDDING) = 27 LIN. FT.
AND 18" X 25' R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
WITH FES ON RT.
TYPE E JUNCTION BOX = 5' X 3'8"



BM 909:
CHISELED SQUARE ON TOP OF CONCRETE MANHOLE NEXT TO
INTERSECTION OF FEATHERSTON AND HWY. 12
STA. 60+47.09; 42.14 RT. ELEV.= 1271.12

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REVISED DATE:

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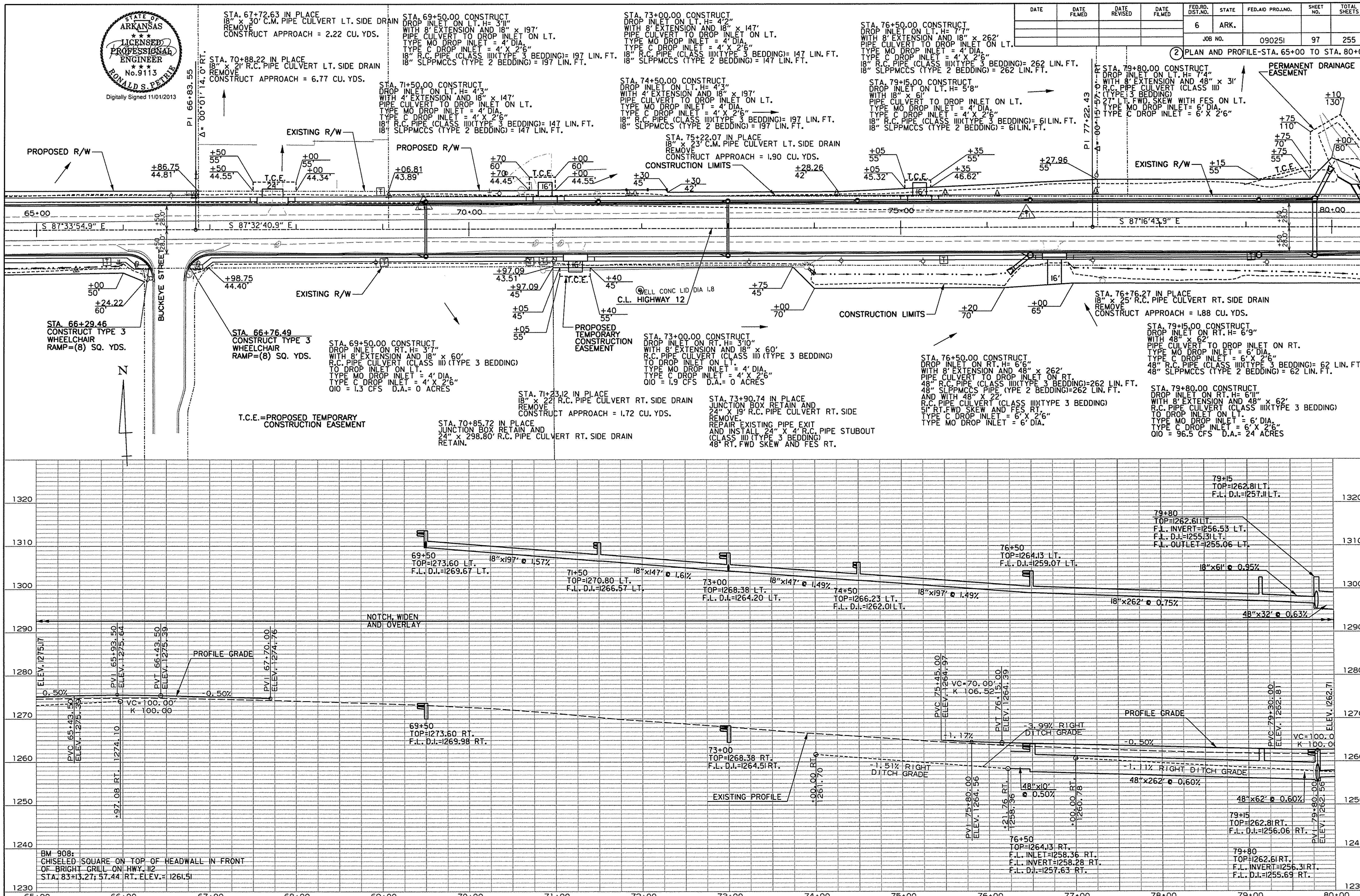
				6	ARK.			
				JOB NO.		090251	97	255

(2) PLAN AND PROFILE-STA. 65+00 TO STA. 80+00



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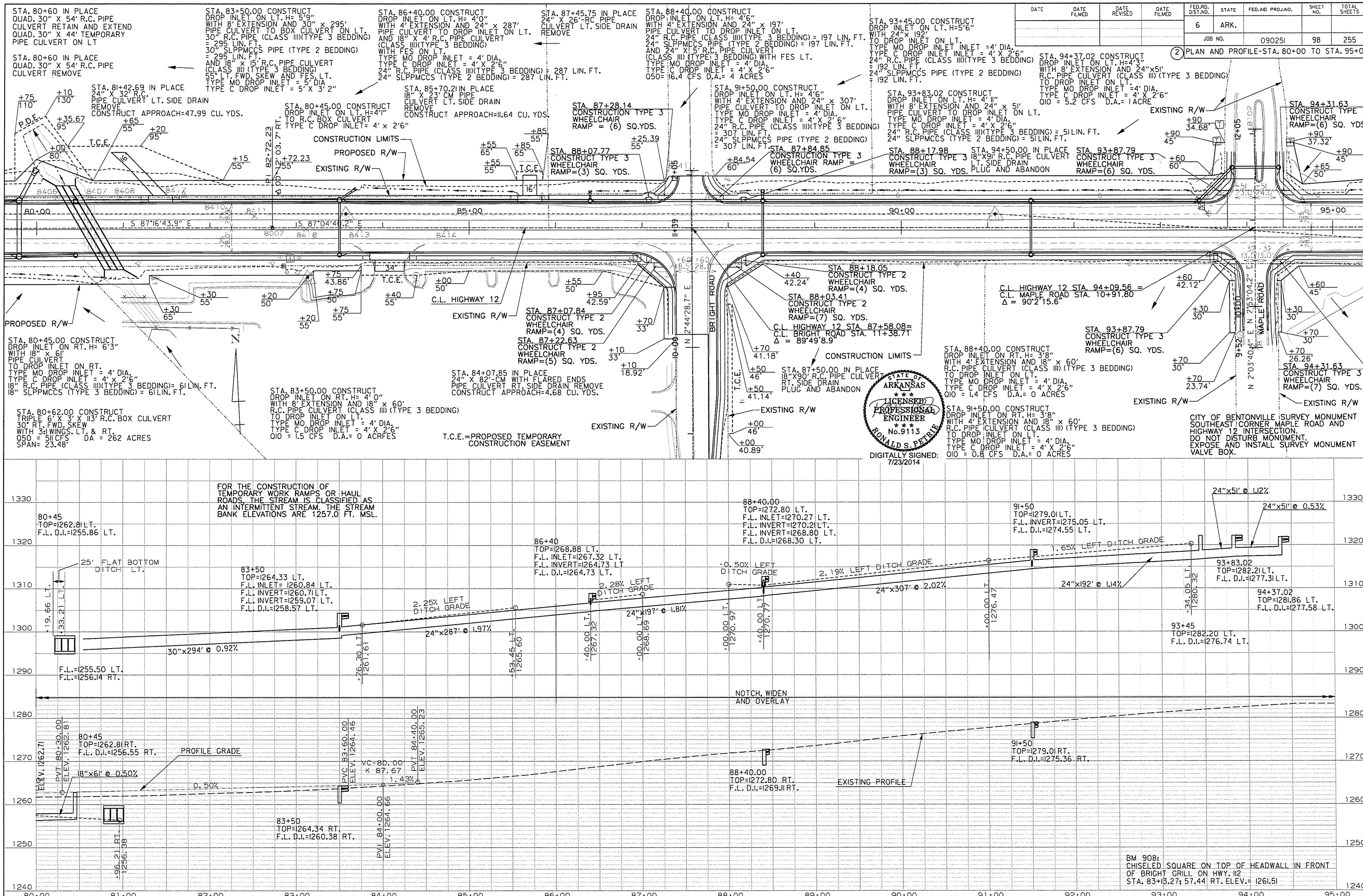
				JOB NO.		090251	98	255

(2) PLAN AND PROFILE-STA. 80+00 TO STA. 95+00



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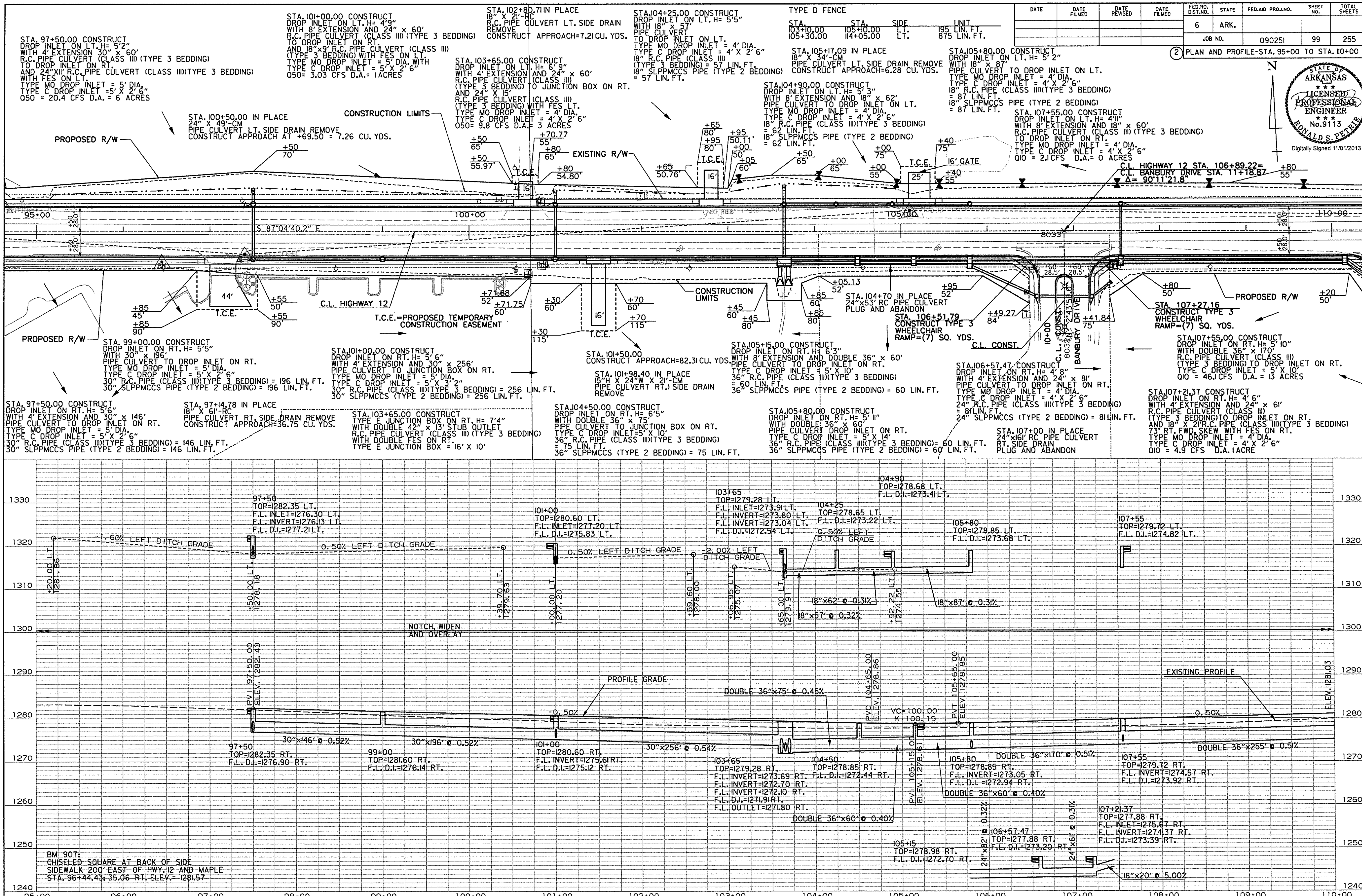
REVISED DATE:



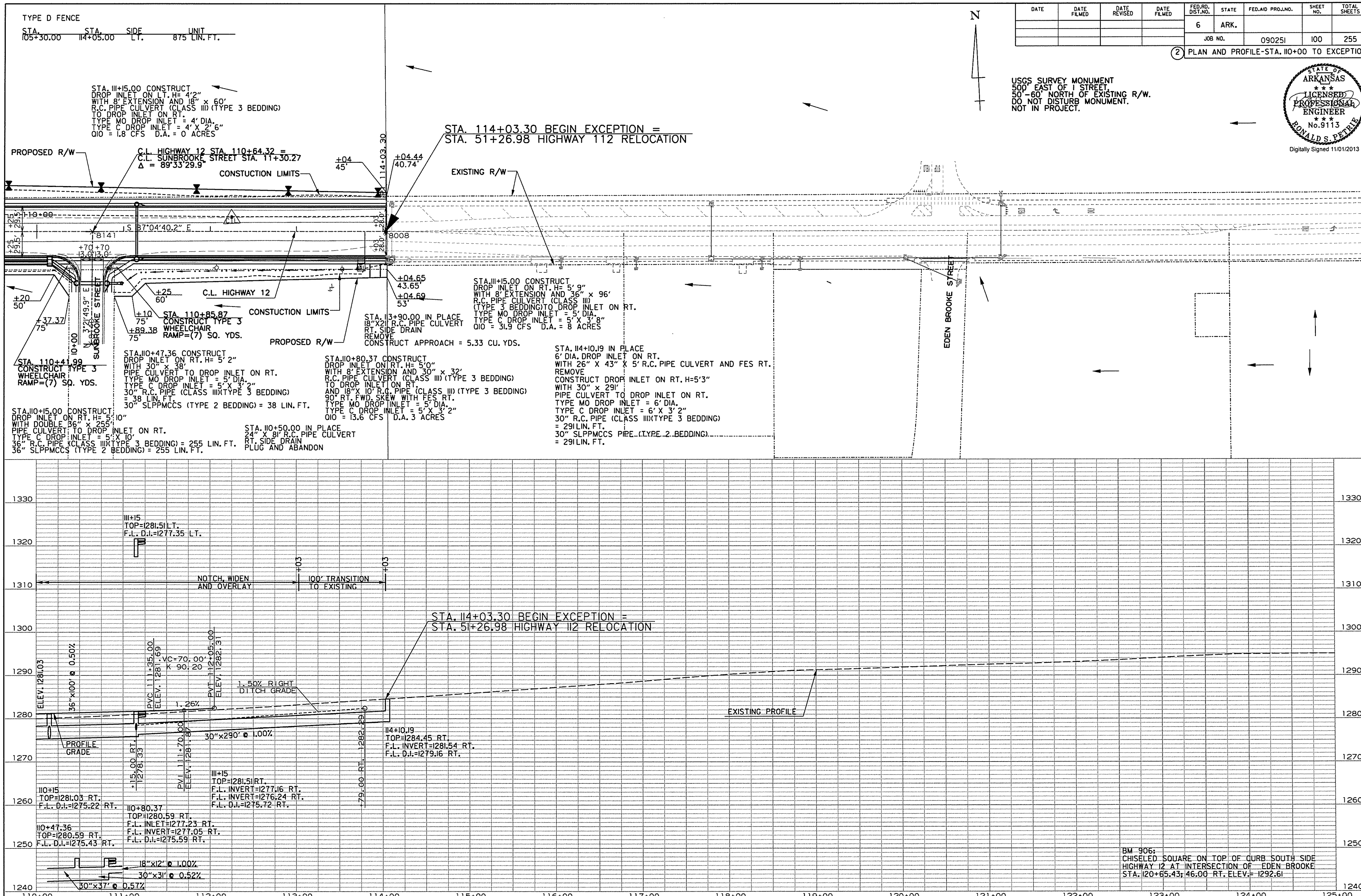
FED.RD. DIST.NO. 6
STATE ARK.
JOB NO. 090251
SHEET NO. 99
TOTAL SHEETS 255
DATE
DATE FILMED
DATE REVISED
DATE FILMED
FED.AID PROJ.NO.
(2) PLAN AND PROFILE-STA. 95+00 TO STA. 110+00
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013
N
STA. 97+50.00 CONSTRUCT
DROP INLET ON LT. H= 5'2"
WITH 4' EXTENSION 30" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
AND 24"X12' R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
WITH FES ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 2'6"
Q50 = 20.4 CFS D.A. = 6 ACRES
STA. 101+00.00 CONSTRUCT
DROP INLET ON LT. H= 4'9"
WITH 8' EXTENSION AND 24" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
AND 18"x9' R.C. PIPE CULVERT (CLASS III)
(TYPE 3 BEDDING) WITH FES ON LT.
TYPE MO DROP INLET = 5' DIA. WITH
TYPE C DROP INLET = 5' X 2'6"
Q50= 3.03 CFS D.A.= 1 ACRES
STA. 102+80.71 IN PLACE
18" X 21'-RC
R.C. PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH=7.21 CU. YDS.
STA. 104+25.00 CONSTRUCT
DROP INLET ON LT. H= 5'5"
WITH 18" x 57'
PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)
(TYPE 3 BEDDING) = 57 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 57 LIN. FT.
TYPE D FENCE
STA. STA. SIDE UNIT
103+10.00 105+10.00 LT. 195 LIN. FT.
105+30.00 114+05.00 LT. 875 LIN. FT.
STA. 105+17.09 IN PLACE
18" X 34'-CM
PIPE CULVERT LT. SIDE DRAIN REMOVE
CONSTRUCT APPROACH=6.28 CU. YDS.
STA.105+80.00 CONSTRUCT
DROP INLET ON LT. H= 5' 2"
WITH 18" x 87'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 87 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 87 LIN. FT.
STA. 103+65.00 CONSTRUCT
DROP INLET ON LT. H= 6'9"
WITH 4' EXTENSION AND 24" x 60'
R.C. PIPE CULVERT (CLASS III)
(TYPE 3 BEDDING) TO JUNCTION BOX ON RT.
AND 24" x 15'
R.C. PIPE CULVERT (CLASS III)
(TYPE 3 BEDDING) WITH FES LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q50= 9.8 CFS D.A.= 3 ACRES
STA.104+90.00 CONSTRUCT
DROP INLET ON LT. H= 5' 3"
WITH 8' EXTENSION AND 18" x 62'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 62 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 62 LIN. FT.
STA. 107+55.00 CONSTRUCT
DROP INLET ON LT. H= 4'11"
WITH 8' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10 = 2.1CFS D.A.= 0 ACRES
STA. 100+50.00 IN PLACE
24" X 49'-CM
PIPE CULVERT LT. SIDE DRAIN REMOVE
CONSTRUCT APPROACH AT +69.50 = 7.26 CU. YDS.
CONSTRUCTION LIMITS
PROPOSED R/W
EXISTING R/W
T.C.E.
16' GATE
C.L. HIGHWAY 12 STA. 106+89.22=
C.L. BANBURY DRIVE STA. 11+18.87
Δ= 90°11'21.8"
95+00
100+00
105+00
110+00
S 87°04'40.2" E
44'
16'
25'
C.L. HIGHWAY 12
T.C.E.=PROPOSED TEMPORARY
CONSTRUCTION EASEMENT
CONSTRUCTION LIMITS
STA. 104+70 IN PLACE
24"x53' RC PIPE CULVERT
PLUG AND ABANDON
STA. 106+51.79
CONSTRUCT TYPE 3
WHEELCHAIR
RAMP=(7) SQ. YDS.
C.L. CONST.
C.L. CONST. BANBURY DRIVE
STA. 107+27.16
CONSTRUCT TYPE 3
WHEELCHAIR
RAMP=(7) SQ. YDS.
PROPOSED R/W
STA. 99+00.00 CONSTRUCT
DROP INLET ON RT. H= 5'5"
WITH 30" x 196'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 2'6"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 196 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 196 LIN. FT.
STA.101+00.00 CONSTRUCT
DROP INLET ON RT. H= 5' 6"
WITH 4' EXTENSION AND 30" x 256'
PIPE CULVERT TO JUNCTION BOX ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3'2"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 256 LIN. FT.
30" SLPPMCCS (TYPE 2 BEDDING) = 256 LIN. FT.
STA. 101+50.00
CONSTRUCT APPROACH=82.31 CU. YDS.
STA. 101+98.40 IN PLACE
15"H X 24"W X 21'-CM
PIPE CULVERT RT.) SIDE DRAIN
REMOVE
STA.105+15.00 CONSTRUCT
DROP INLET ON RT. H= 6'3"
WITH 8' EXTENSION AND DOUBLE 36" x 60'
PIPE CULVERT TO DROP INLET ON LT.
TYPE C DROP INLET = 5' X 10'
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 60 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 60 LIN. FT.
STA.106+57.47 CONSTRUCT
DROP INLET ON RT. H= 4' 8"
WITH 4' EXTENSION AND 24" x 81'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 81 LIN. FT.
24" SLPPMCCS (TYPE 2 BEDDING) = 81 LIN. FT.
STA.107+55.00 CONSTRUCT
DROP INLET ON RT. H= 5' 10"
WITH DOUBLE 36" x 170'
R.C. PIPE CULVERT (CLASS III)
(TYPE 3 BEDDING) TO DROP INLET ON RT.
TYPE C DROP INLET = 5' X 10'
Q10 = 46.1 CFS D.A. = 13 ACRES
STA.107+21.37 CONSTRUCT
DROP INLET ON RT. H= 4' 6"
WITH 4' EXTENSION AND 24" x 61'
R.C. PIPE CULVERT (CLASS III)
(TYPE 3 BEDDING) TO DROP INLET ON RT.
AND 18" X 21' R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
73' RT. FWD. SKEW WITH FES ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10 = 4.9 CFS D.A. 1 ACRE
STA. 97+50.00 CONSTRUCT
DROP INLET ON RT. H= 5'6"
WITH 4' EXTENSION AND 30" x 146'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 2'6"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 146 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 146 LIN. FT.
STA. 97+14.78 IN PLACE
18" X 61'-RC
PIPE CULVERT RT. SIDE DRAIN REMOVE
CONSTRUCT APPROACH=36.75 CU. YDS.
STA. 103+65.00 CONSTRUCT
TYPE E JUNCTION BOX ON RT. H= 7'4"
WITH DOUBLE 42" x 13' STUB OUTLET
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
WITH DOUBLE FES ON RT.
TYPE E JUNCTION BOX = 16' X 10'
STA.104+50.00 CONSTRUCT
DROP INLET ON RT. H= 6'5"
WITH DOUBLE 36" x 75'
PIPE CULVERT TO JUNCTION BOX ON RT.
TYPE C DROP INLET=5' X 10'
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 75 LIN. FT.
36" SLPPMCCS (TYPE 2 BEDDING) = 75 LIN. FT.
STA.105+80.00 CONSTRUCT
DROP INLET ON RT. H= 5' 11"
WITH DOUBLE 36" x 60'
PIPE CULVERT DROP INLET ON LT.
TYPE C DROP INLET = 5' X 14'
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 60 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 60 LIN. FT.
STA. 107+00 IN PLACE
24"x16' RC PIPE CULVERT
RT. SIDE DRAIN
PLUG AND ABANDON
1330
1320
1310
1300
1290
1280
1270
1260
1250
1240
97+50
TOP=1282.35 LT.
F.L. INLET=1276.30 LT.
F.L. INVERT=1276.13 LT.
F.L. D.I.=1277.21 LT.
101+00
TOP=1280.60 LT.
F.L. INLET=1277.20 LT.
F.L. D.I.=1275.83 LT.
103+65
TOP=1279.28 LT.
F.L. INLET=1273.91 LT.
F.L. INVERT=1273.80 LT.
F.L. INVERT=1273.04 LT.
F.L. D.I.=1272.54 LT.
104+25
TOP=1278.65 LT.
F.L. D.I.=1273.22 LT.
104+90
TOP=1278.68 LT.
F.L. D.I.=1273.41 LT.
105+80
TOP=1278.85 LT.
F.L. D.I.=1273.68 LT.
107+55
TOP=1279.72 LT.
F.L. D.I.=1274.82 LT.
-1.60% LEFT DITCH GRADE
0.50% LEFT DITCH GRADE
0.50% LEFT DITCH GRADE
2.00% LEFT DITCH GRADE
0.50% LEFT DITCH GRADE
18"x62' @ 0.31%
18"x57' @ 0.32%
18"x87' @ 0.31%
NOTCH, WIDEN AND OVERLAY
PVI 97+50.00
ELEV. 1282.43
PROFILE GRADE
-0.50%
DOUBLE 36"x75' @ 0.45%
PVC 104+65.00
ELEV. 1278.86
VC= 100.00'
K= 100.19
PVT 105+65.00
ELEV. 1278.85
PVI 105+15.00
ELEV. 1278.61
EXISTING PROFILE
ELEV. 1281.03
0.50%
30"x146' @ 0.52%
30"x196' @ 0.52%
30"x256' @ 0.54%
DOUBLE 36"x170' @ 0.51%
DOUBLE 36"x255' @ 0.51%
97+50
TOP=1282.35 RT.
F.L. D.I.=1276.90 RT.
99+00
TOP=1281.60 RT.
F.L. D.I.=1276.14 RT.
101+00
TOP=1280.60 RT.
F.L. INVERT=1275.61 RT.
F.L. D.I.=1275.12 RT.
103+65
TOP=1279.28 RT.
F.L. INVERT=1273.69 RT.
F.L. INVERT=1272.70 RT.
F.L. INVERT=1272.10 RT.
F.L. D.I.=1271.91 RT.
F.L. OUTLET=1271.80 RT.
104+50
TOP=1278.85 RT.
F.L. D.I.=1272.44 RT.
105+80
TOP=1278.85 RT.
F.L. INVERT=1273.05 RT.
F.L. D.I.=1272.94 RT.
DOUBLE 36"x60' @ 0.40%
DOUBLE 36"x60' @ 0.40%
107+55
TOP=1279.72 RT.
F.L. INVERT=1274.57 RT.
F.L. D.I.=1273.92 RT.
107+21.37
TOP=1277.88 RT.
F.L. INLET=1275.67 RT.
F.L. INVERT=1274.37 RT.
F.L. D.I.=1273.39 RT.
106+57.47
TOP=1277.88 RT.
F.L. D.I.=1273.20 RT.
105+15
TOP=1278.98 RT.
F.L. D.I.=1272.70 RT.
24"x82' @ 0.32%
24"x61' @ 0.31%
18"x20' @ 5.00%
BM 907:
CHISELED SQUARE AT BACK OF SIDE
SIDEWALK 200' EAST OF HWY. 12 AND MAPLE
STA. 96+44.43; 35.06 RT. ELEV.= 1281.57
95+00
96+00
97+00
98+00
99+00
100+00
101+00
102+00
103+00
104+00
105+00
106+00
107+00
108+00
109+00
110+00
REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	100	255

(2) PLAN AND PROFILE-STA. 110+00 TO EXCEPTION

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



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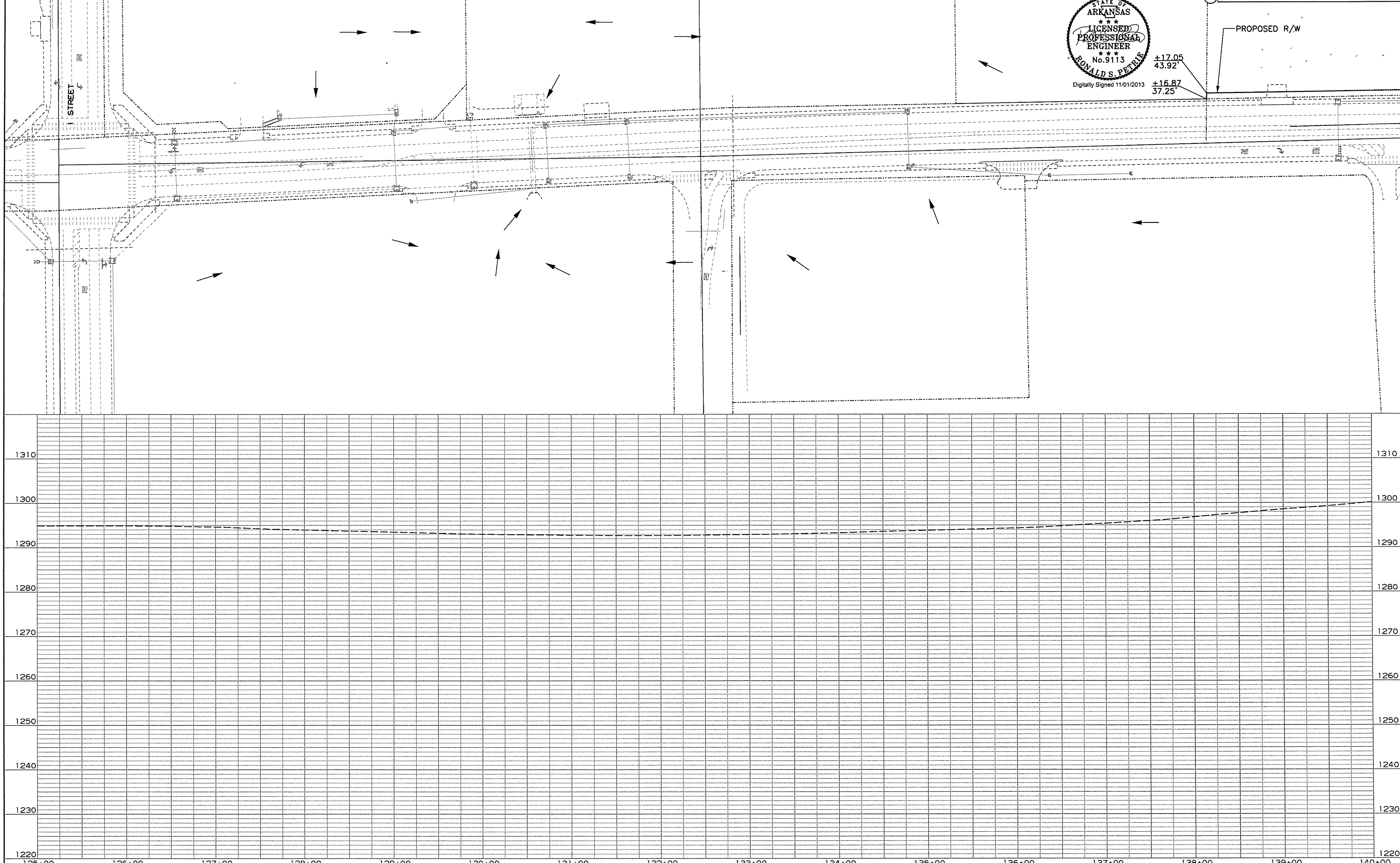
REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	101	255

(2) PLAN & PROFILE - EXCEPTION



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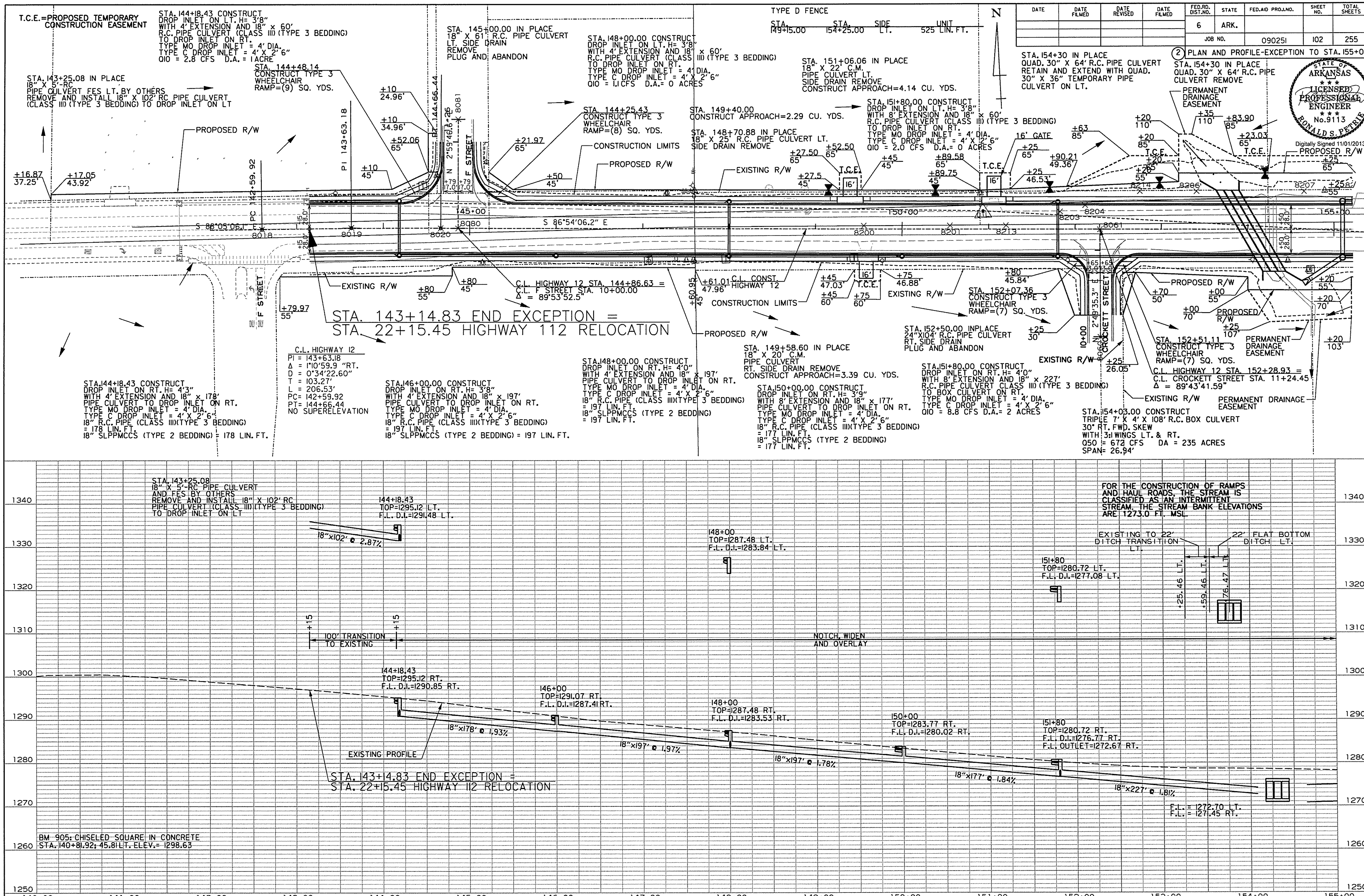
REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	102	255

(2) PLAN AND PROFILE-EXCEPTION TO STA. 155+00

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013



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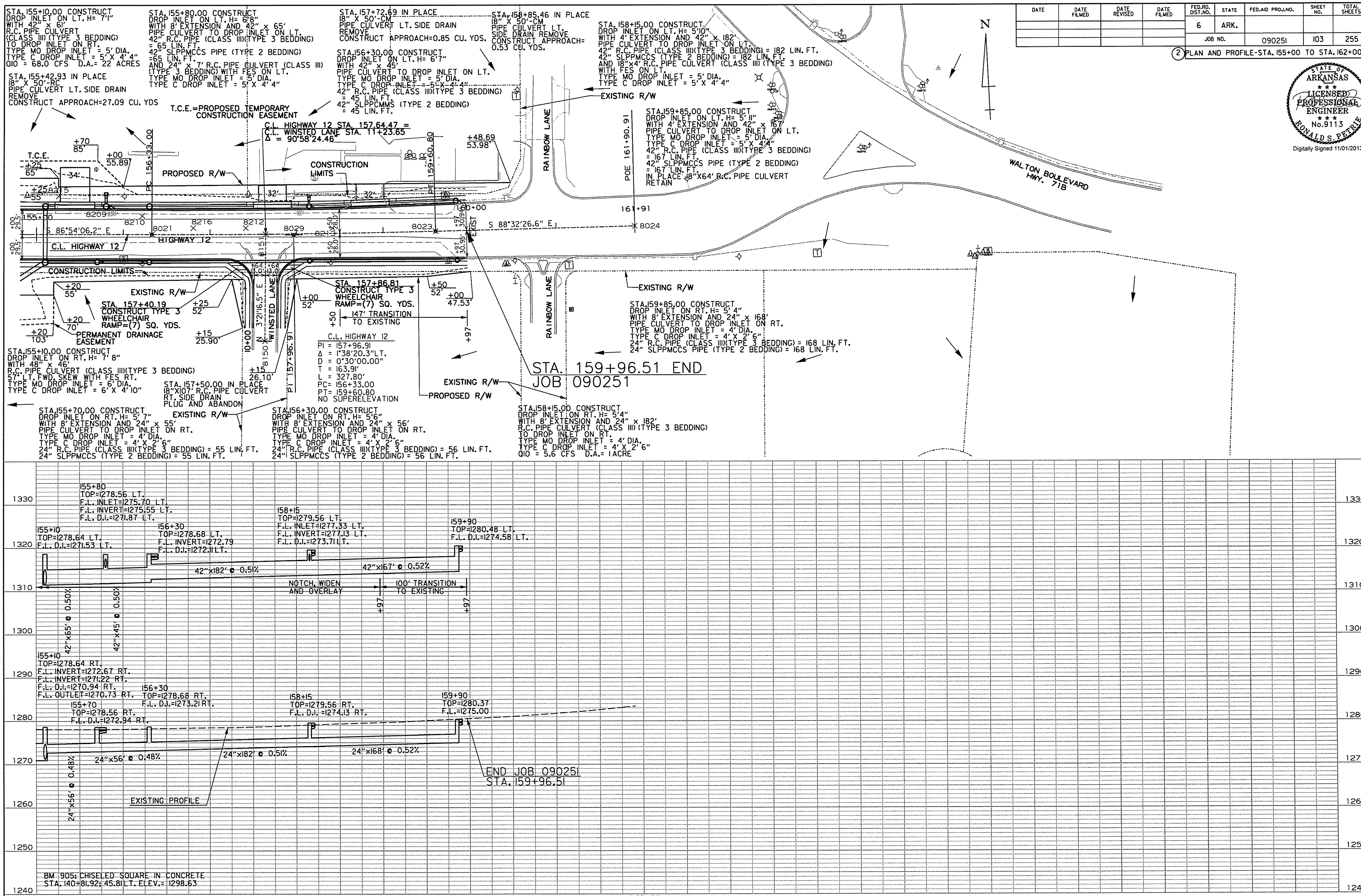
REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	103	255

(2) PLAN AND PROFILE-STA. 155+00 TO STA. 162+00

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013



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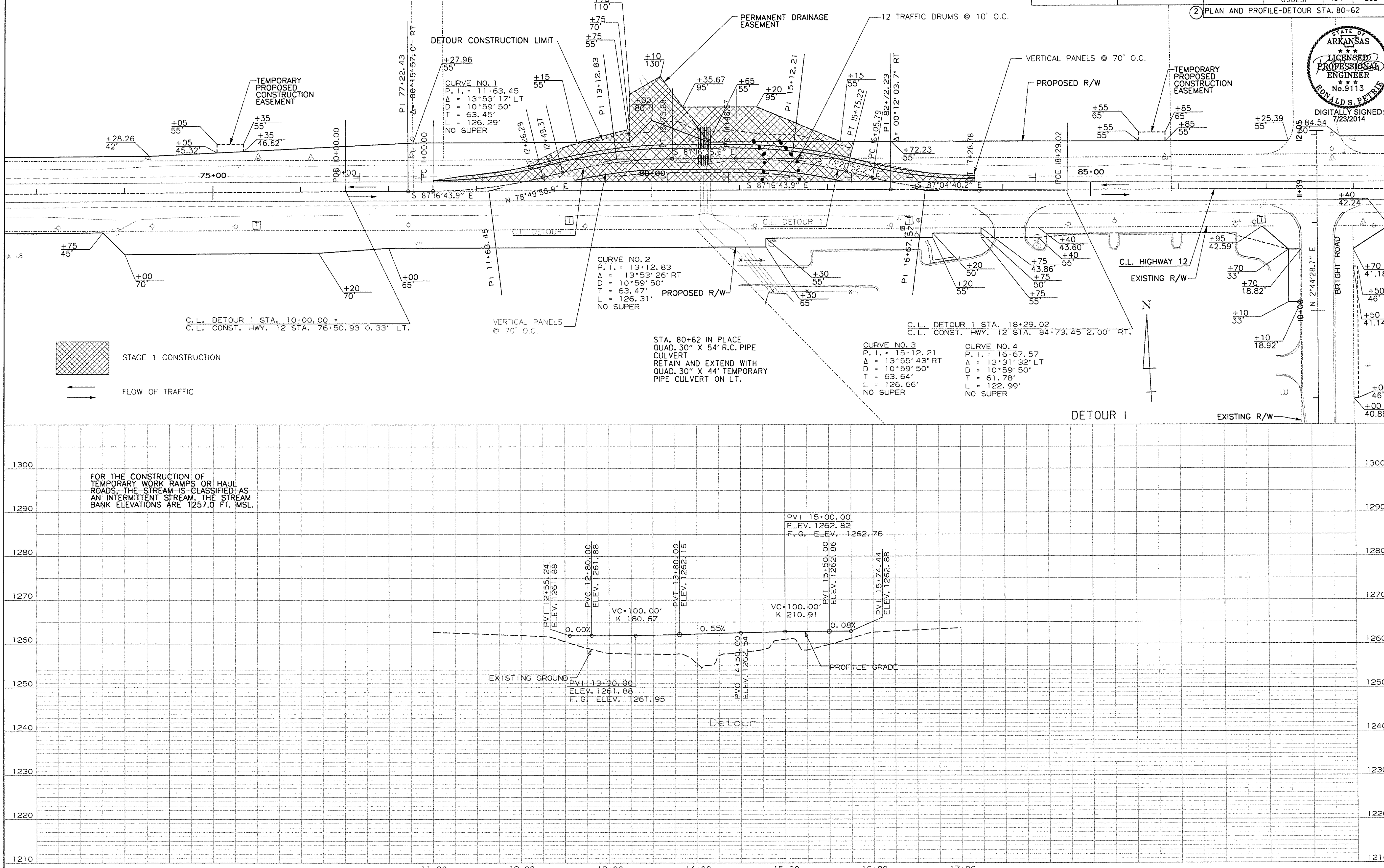
REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	104	255

(2) PLAN AND PROFILE-DETOUR STA. 80+62



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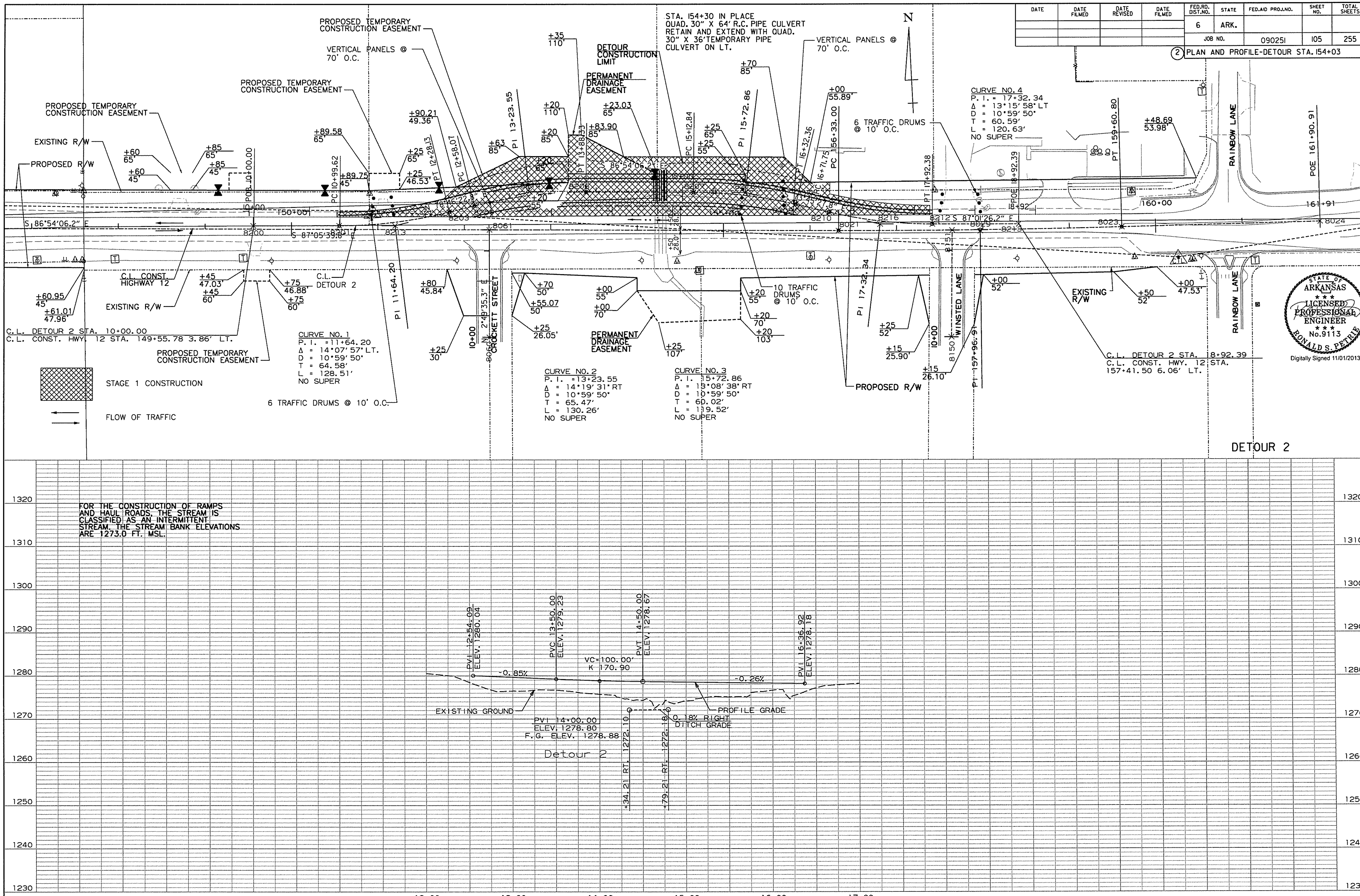
REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	105	255

(2) PLAN AND PROFILE-DETOUR STA. 154+03



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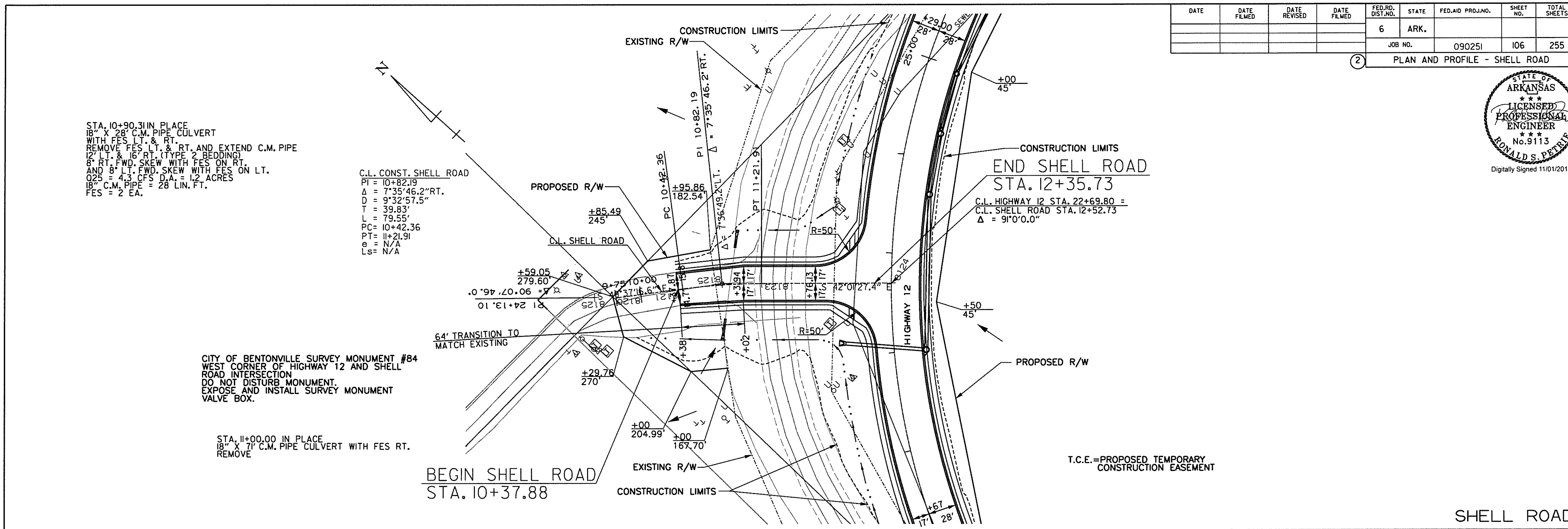
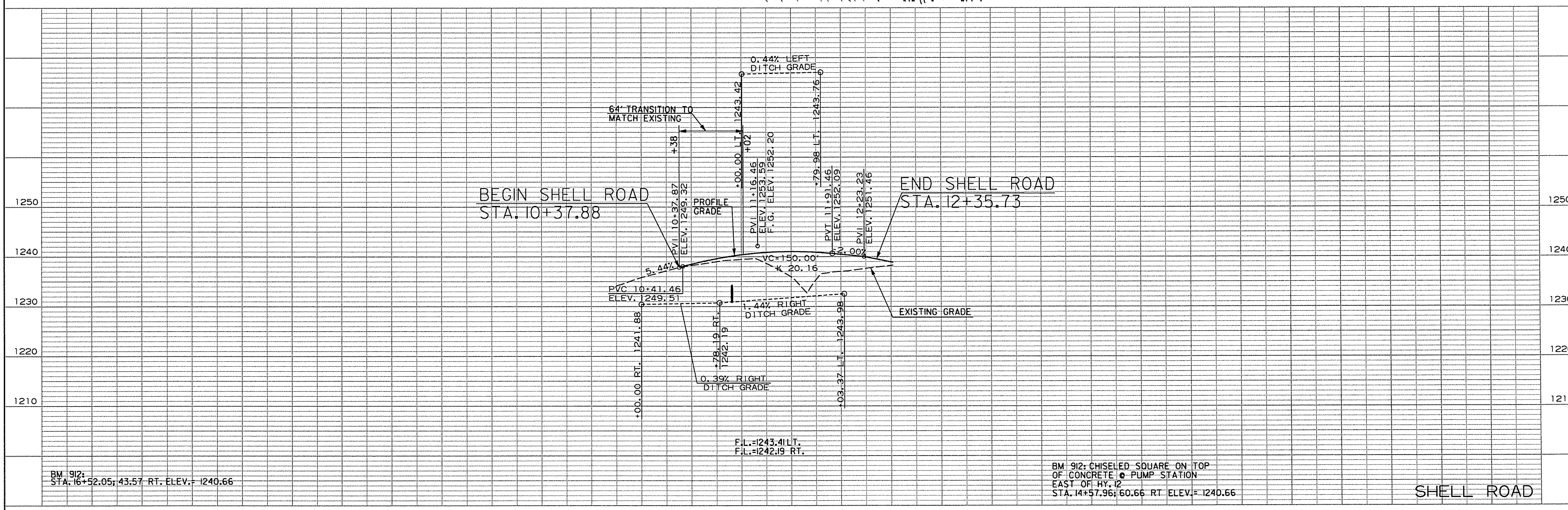
REVISED DATE:

DATE	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	106	255

(2) PLAN AND PROFILE - SHELL ROAD

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9113
RONALD S. PETRIE
Digitally Signed 11/01/2013





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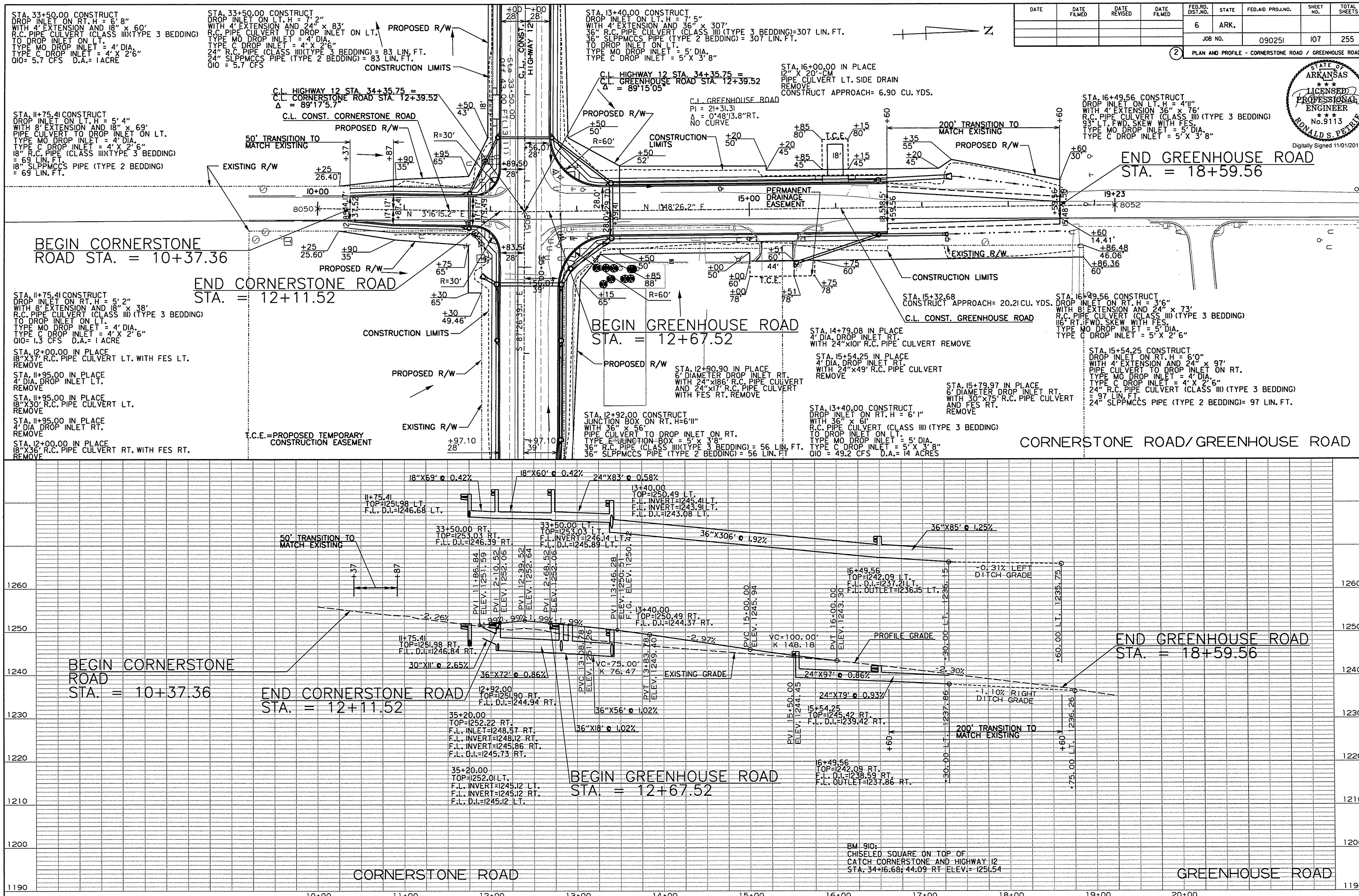
REVISED DATE:



FED.RD. DIST.NO. 6 | STATE ARK. | FED.AID PROJ.NO. | SHEET NO. 107 | TOTAL SHEETS 255
JOB NO. 090251
(2) PLAN AND PROFILE - CORNERSTONE ROAD / GREENHOUSE ROAD
DATE | DATE FILMED | DATE REVISED | DATE FILMED
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE
Digitally Signed 11/01/2013
STA. 33+50.00 CONSTRUCT DROP INLET ON RT. H = 6'8" WITH 4' EXTENSION AND 18" x 60' R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING) TO DROP INLET ON LT. TYPE MO DROP INLET = 4' DIA. TYPE C DROP INLET = 4' X 2'6" Q10= 5.7 CFS D.A.= 1 ACRE
STA. 33+50.00 CONSTRUCT DROP INLET ON LT. H = 7'2" WITH 4' EXTENSION AND 24" x 83' R.C. PIPE CULVERT TO DROP INLET ON LT. TYPE MO DROP INLET = 4' DIA. TYPE C DROP INLET = 4' X 2'6" 24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 83 LIN. FT. 24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 83 LIN. FT. Q10 = 5.7 CFS
STA. 13+40.00 CONSTRUCT DROP INLET ON LT. H = 7'5" WITH 4' EXTENSION AND 36" x 307' 36" R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)=307 LIN. FT. 36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 307 LIN. FT. TO DROP INLET ON LT. TYPE MO DROP INLET = 5' DIA. TYPE C DROP INLET = 5' X 3'8"
STA. 16+00.00 IN PLACE 12" X 20'-CM PIPE CULVERT LT. SIDE DRAIN REMOVE CONSTRUCT APPROACH= 6.90 CU. YDS.
STA. 16+49.56 CONSTRUCT DROP INLET ON LT. H = 4'11" WITH 4' EXTENSION 36" x 76' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) 93° LT. FWD. SKEW WITH FES. TYPE MO DROP INLET = 5' DIA. TYPE C DROP INLET = 5' X 3'8"
STA. 11+75.41 CONSTRUCT DROP INLET ON LT. H = 5'4" WITH 8' EXTENSION AND 18" x 69' PIPE CULVERT TO DROP INLET ON LT. TYPE MO DROP INLET = 4' DIA. TYPE C DROP INLET = 4' X 2'6" 18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 69 LIN. FT. 18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 69 LIN. FT.
C.L. HIGHWAY 12 STA. 34+35.75 = C.L. CORNERSTONE ROAD STA. 12+39.52 Δ = 89°17'5.7"
C.L. HIGHWAY 12 STA. 34+35.75 = C.L. GREENHOUSE ROAD STA. 12+39.52 Δ = 89°15'05"
C.L. GREENHOUSE ROAD PI = 21+31.31 Δ = 0°48'13.8"RT. NO CURVE
C.L. CONST. CORNERSTONE ROAD
C.L. CONST. HIGHWAY 12
PROPOSED R/W
EXISTING R/W
CONSTRUCTION LIMITS
50' TRANSITION TO MATCH EXISTING
200' TRANSITION TO MATCH EXISTING
PERMANENT DRAINAGE EASEMENT
T.C.E.
N 3°16'15.2" E
N 1°48'26.2" E
S 87°26'39" E
BEGIN CORNERSTONE ROAD STA. = 10+37.36
END CORNERSTONE ROAD STA. = 12+11.52
BEGIN GREENHOUSE ROAD STA. = 12+67.52
END GREENHOUSE ROAD STA. = 18+59.56
STA. 11+75.41 CONSTRUCT DROP INLET ON RT. H = 5'2" WITH 8' EXTENSION AND 18" x 38' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) TO DROP INLET ON LT. TYPE MO DROP INLET = 4' DIA. TYPE C DROP INLET = 4' X 2'6" Q10= 1.3 CFS D.A.= 1 ACRE
STA. 12+00.00 IN PLACE 18"X37' R.C. PIPE CULVERT LT. WITH FES LT. REMOVE
STA. 11+95.00 IN PLACE 4' DIA. DROP INLET LT. REMOVE
STA. 11+95.00 IN PLACE 18"X30' R.C. PIPE CULVERT LT. REMOVE
STA. 11+95.00 IN PLACE 4' DIA DROP INLET RT. REMOVE
STA. 12+00.00 IN PLACE 18"X36' R.C. PIPE CULVERT RT. WITH FES RT. REMOVE
T.C.E.=PROPOSED TEMPORARY CONSTRUCTION EASEMENT
STA. 12+90.90 IN PLACE 6' DIAMETER DROP INLET RT. WITH 24"x186' R.C. PIPE CULVERT AND 24"x17' R.C. PIPE CULVERT WITH FES RT. REMOVE
STA. 12+92.00 CONSTRUCT JUNCTION BOX ON RT. H=6'11" WITH 36" x 56' PIPE CULVERT TO DROP INLET ON RT. TYPE E JUNCTION BOX = 5' x 3'8" 36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 56 LIN. FT. 36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 56 LIN. FT.
STA. 14+79.08 IN PLACE 4' DIA. DROP INLET RT. WITH 24"x101' R.C. PIPE CULVERT REMOVE
STA. 15+54.25 IN PLACE 4' DIA. DROP INLET RT. WITH 24"x49' R.C. PIPE CULVERT REMOVE
STA. 15+79.97 IN PLACE 6' DIAMETER DROP INLET RT. WITH 30"x75' R.C. PIPE CULVERT AND FES RT. REMOVE
STA. 13+40.00 CONSTRUCT DROP INLET ON RT. H = 6'1" WITH 36" x 61' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) TO DROP INLET ON LT. TYPE MO DROP INLET = 5' DIA. TYPE C DROP INLET = 5' X 3'8" Q10 = 49.2 CFS D.A.= 14 ACRES
STA. 15+32.68 CONSTRUCT APPROACH= 20.21 CU. YDS.
C.L. CONST. GREENHOUSE ROAD
STA. 16+49.56 CONSTRUCT DROP INLET ON RT. H = 3'6" WITH 8' EXTENSION AND 24" x 73' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) 116° RT. FWD. SKEW WITH FES. TYPE MO DROP INLET = 5' DIA. TYPE C DROP INLET = 5' X 2'6"
STA. 15+54.25 CONSTRUCT DROP INLET ON RT. H = 6'0" WITH 4' EXTENSION AND 24" x 97' PIPE CULVERT TO DROP INLET ON RT. TYPE MO DROP INLET = 4' DIA. TYPE C DROP INLET = 4' X 2'6" 24" R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) = 97 LIN. FT. 24" SLPPMCCS PIPE (TYPE 2 BEDDING)= 97 LIN. FT.
CORNERSTONE ROAD/GREENHOUSE ROAD
18"X69' @ 0.42%
18"X60' @ 0.42%
24"X83' @ 0.58%
36"X306' @ 1.92%
36"X85' @ 1.25%
30"X11' @ 2.65%
36"X72' @ 0.86%
36"X56' @ 1.02%
36"X18' @ 1.02%
24"X97' @ 0.86%
24"X79' @ 0.93%
11+75.41 TOP=1251.98 LT. F.L. D.I.=1246.68 LT.
33+50.00 RT. TOP=1253.03 RT. F.L. D.I.=1246.39 RT.
33+50.00 LT. TOP=1253.03 LT. F.L. INVERT=1246.14 LT. F.L. D.I.=1245.89 LT.
13+40.00 TOP=1250.49 LT. F.L. INVERT=1245.41 LT. F.L. INVERT=1243.91 LT. F.L. D.I.=1243.08 LT.
16+49.56 TOP=1242.09 LT. F.L. D.I.=1237.21 LT. F.L. OUTLET=1236.15 LT.
11+75.41 TOP=1251.98 RT. F.L. D.I.=1246.84 RT.
13+40.00 TOP=1250.49 RT. F.L. D.I.=1244.37 RT.
12+92.00 TOP=1251.90 RT. F.L. D.I.=1244.94 RT.
35+20.00 TOP=1252.22 RT. F.L. INLET=1248.57 RT. F.L. INVERT=1248.12 RT. F.L. INVERT=1245.86 RT. F.L. D.I.=1245.73 RT.
35+20.00 TOP=1252.01 LT. F.L. INVERT=1245.12 LT. F.L. INVERT=1245.12 RT. F.L. D.I.=1245.12 LT.
15+54.25 TOP=1245.42 RT. F.L. D.I.=1239.42 RT.
16+49.56 TOP=1242.09 RT. F.L. D.I.=1238.59 RT. F.L. OUTLET=1237.86 RT.
PVI 11+86.84 ELEV. 1251.59
PVI 12+10.52 ELEV. 1252.06
PVI 12+39.52 ELEV. 1252.64
PVI 12+68.52 ELEV. 1252.06
PVI 13+46.28 ELEV. 1250.51
PVC 13+08.78 ELEV. 1251.26
PVT 13+83.78 ELEV. 1249.40
VC=75.00' K 76.47
PVC 15+00.00 ELEV. 1245.94
PVI 15+50.00 ELEV. 1244.45
PVT 16+00.00 ELEV. 1243.30
VC=100.00' K 148.18
-2.26%
-2.97%
-2.30%
PROFILE GRADE
EXISTING GRADE
-0.31% LEFT DITCH GRADE
-1.10% RIGHT DITCH GRADE
BM 910: CHISELED SQUARE ON TOP OF CATCH CORNERSTONE AND HIGHWAY 12 STA. 34+16.68; 44.09 RT ELEV.= 1251.54
CORNERSTONE ROAD
GREENHOUSE ROAD
1260 1250 1240 1230 1220 1210 1200 1190
10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00
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REVISED DATE:

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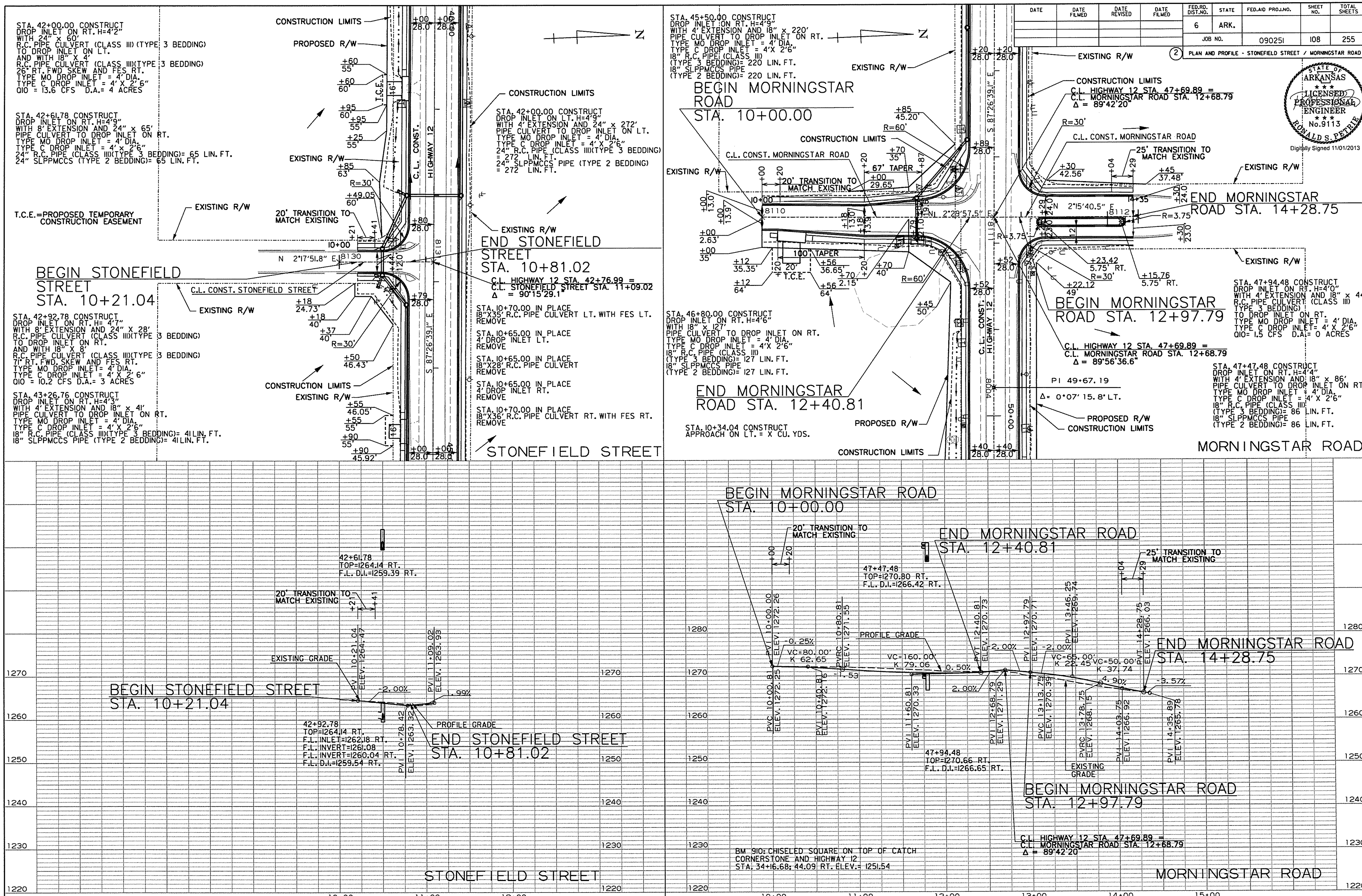
				6	ARK.			
				JOB NO.		090251	108	255

(2) PLAN AND PROFILE - STONEFIELD STREET / MORNINGSTAR ROAD



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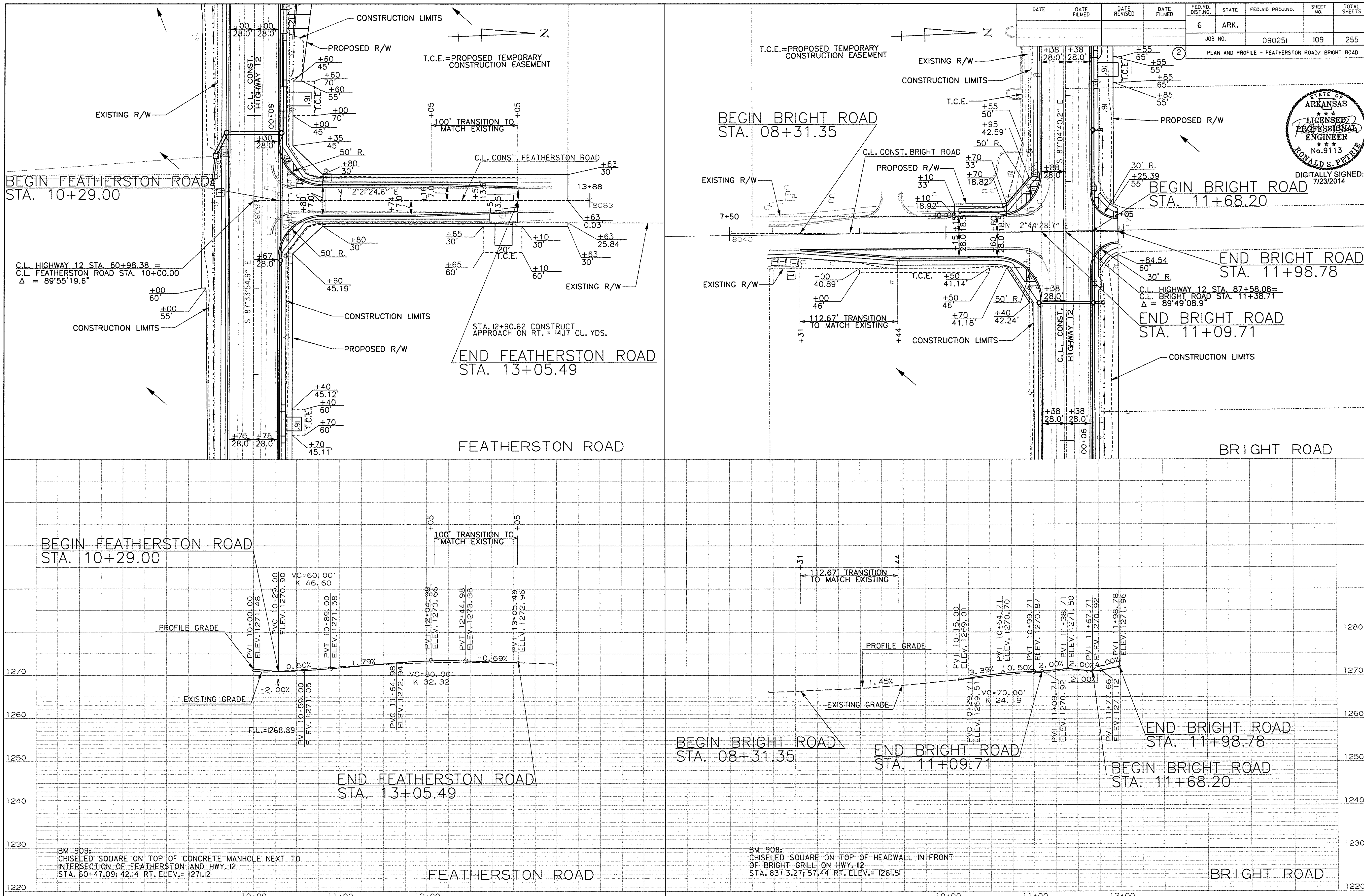
				JOB NO.		090251	109	255
				PLAN AND PROFILE - FEATHERSTON ROAD/ BRIGHT ROAD				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
DIGITALLY SIGNED: 7/23/2014



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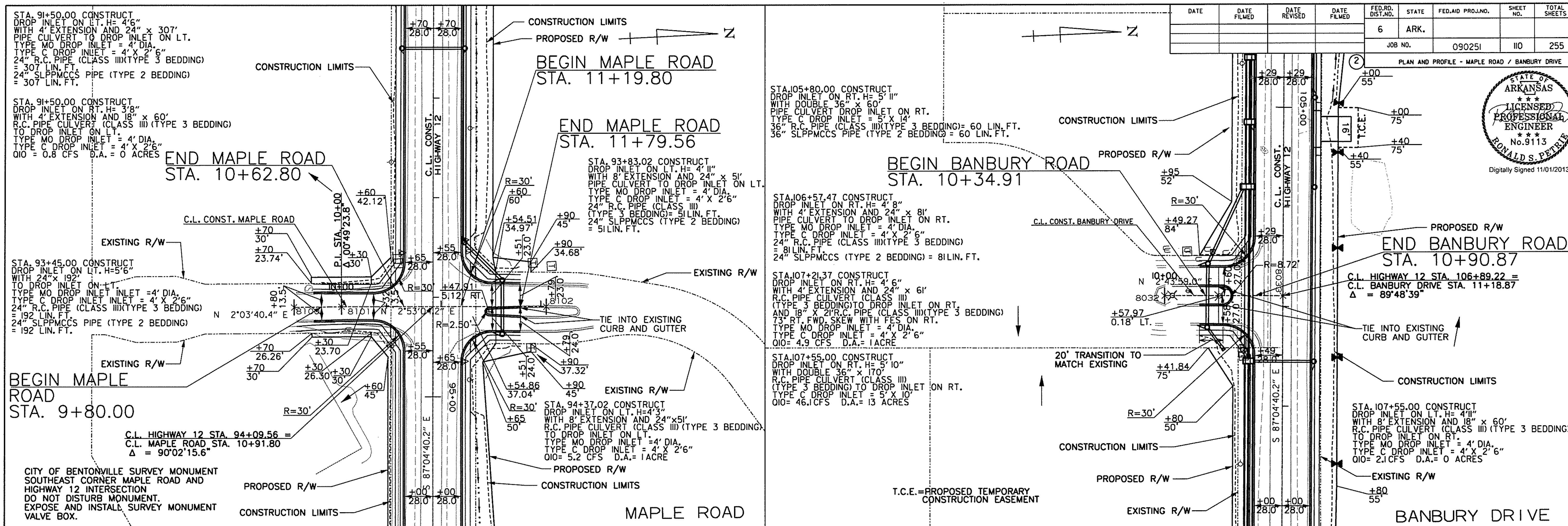
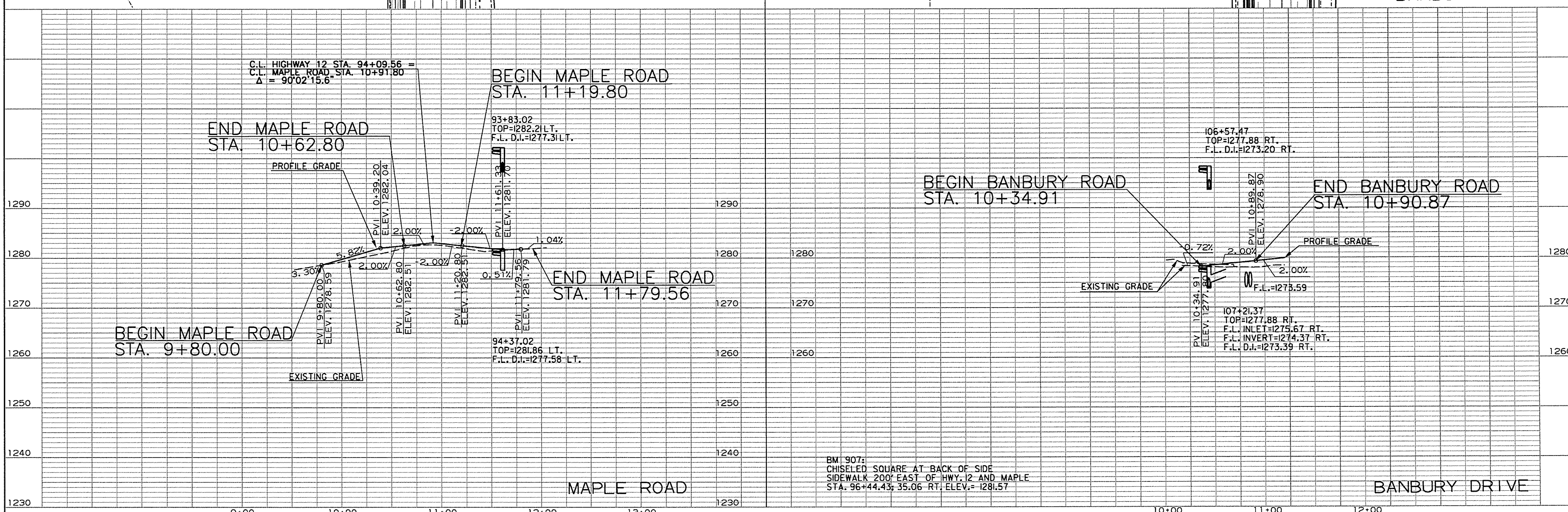
				6	ARK.			
				JOB NO.		090251	110	255

PLAN AND PROFILE - MAPLE ROAD / BANBURY DRIVE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.9113
RONALD S. PETRIE
Digitally Signed 11/01/2013





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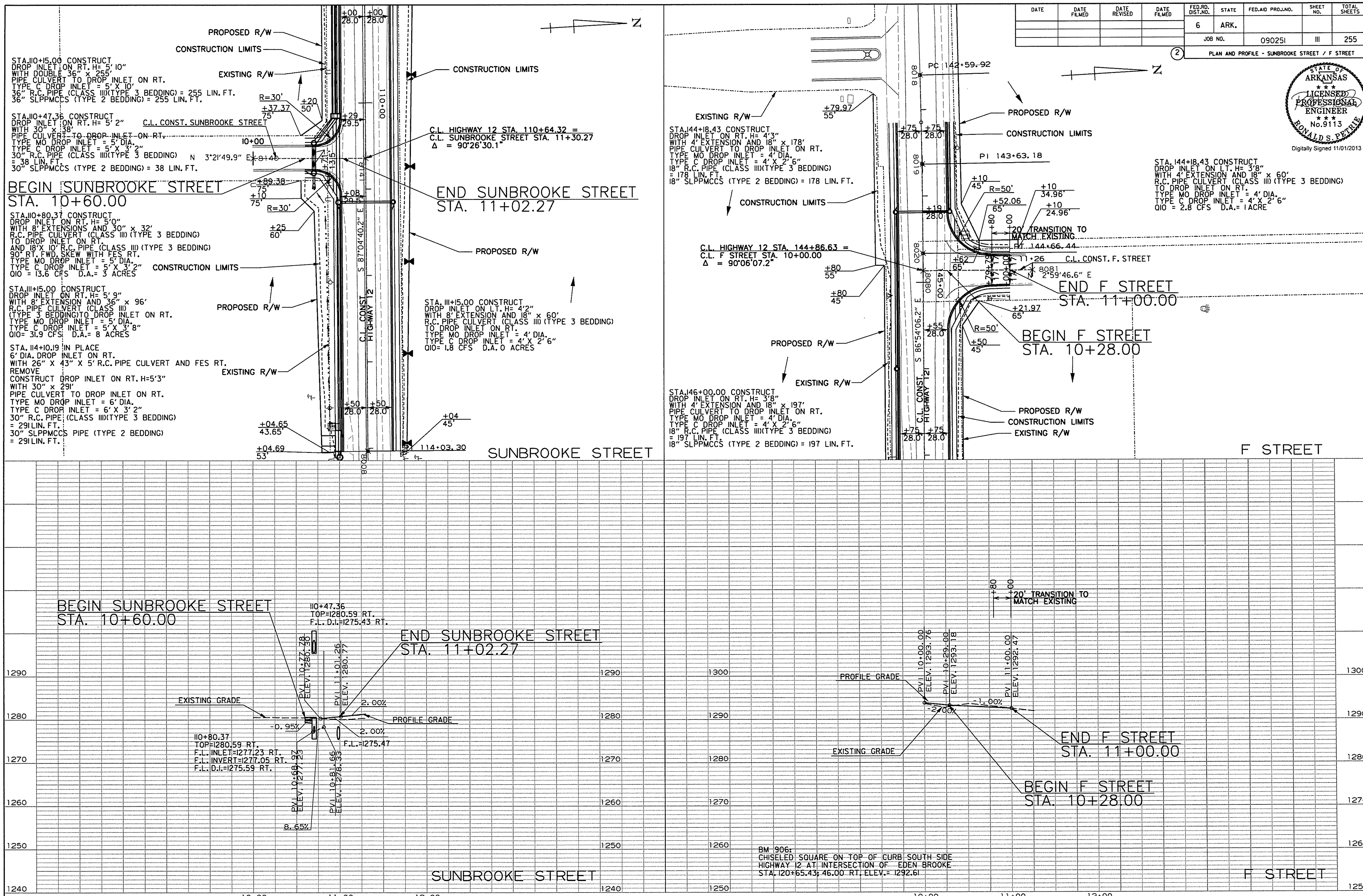
(2) PLAN AND PROFILE - SUNBROOKE STREET / F STREET



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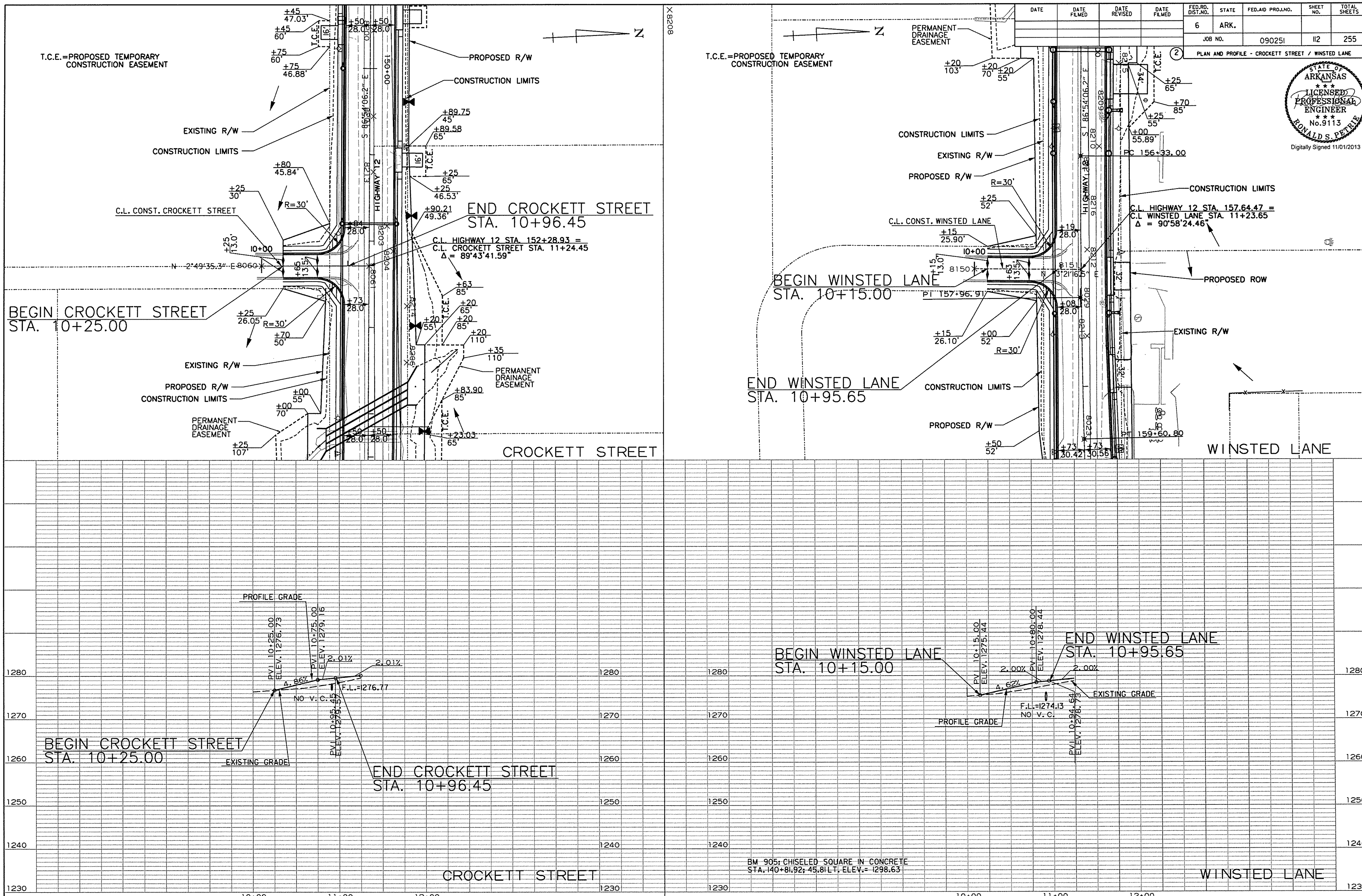
				6	ARK.			
				JOB NO.		090251	112	255

PLAN AND PROFILE - CROCKETT STREET / WINSTED LANE

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.9113 RONALD S. PETRIE

Digitally Signed 11/01/2013



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	113	255

(2) TRAFFIC SIGNAL NOTES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.8141
NICCI D. TINER

DIGITALLY SIGNED:
7/23/2014

TRAFFIC SIGNAL NOTES

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2014) NATIONAL ELECTRICAL CODE, NFPA 101(2012) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER). GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE DETAILS MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS AND SHALL BE PELCO LOUVERED VACUUM FORMED ABS PLASTIC BK-5000 SERIES OR AN APPROVED EQUAL.
10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PAVEMENT MARKING AND PLAN SHEETS.
11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, 38 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
17. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 6 FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
18. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
19. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HANDHOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM POLE WITH FOUNDATION.
20. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
21. ONE VIDEO PROGRAMMING MODULE WITH MONITOR SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
22. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
23. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.
24. CONTROLLER CABINET SHALL BE SUPPLIED WITH A 16 POSITION LOAD BAY. A BACK DOOR SHALL ALSO BE PROVIDED. CABINET SHALL PROVIDE ENOUGH SPACE FOR A FUTURE INSTALLATION OF AN OPTICOM PREEMPTION SYSTEM.
25. TRAFFIC SIGNAL CONTROLLER SHALL BE COMPATIBLE WITH THE CITY'S EXISTING EAGLE SYSTEM. CONTROLLER SHALL BE EAGLE M50 SERIES.
26. A SEPERATE CABINET SHALL BE SUPPLIED FOR THE BATTERY BACKUP SYSTEM.

SUMMARY OF TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	HWY. 12 AT CORNERSTONE RD. /GREENHOUSE RD.	HWY. 12 AT BRIGHT RD.	QUANTITY	UNIT	
SP & 701	SYSTEM LOCAL CONTROLLER FIBER (8 PHASES)	1	1	2	EACH	
SP & 701	TRAFFIC CABINET COMMUNICATIONS	1	1	2	EACH	* *
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	9	8	17	EACH	
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4	1	5	EACH	
SP & 706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)	2	0	2	EACH	
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	8	16	EACH	
SP & 707	PEDESTRIAN PUSH BUTTON	8	8	16	EACH	* *
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1989	2339	4328	LIN. FT.	
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	665	195	860	LIN. FT.	
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	515	252	767	LIN. FT.	
709	GALVANIZED STEEL CONDUIT (1.25")	15	15	30	LIN. FT.	
710	NON-METALLIC CONDUIT (1.25")	11	10	21	LIN. FT.	
710	NON-METALLIC CONDUIT (2")	34	81	115	LIN. FT.	
710	NON-METALLIC CONDUIT (3")	515	660	1175	LIN. FT.	
711	CONCRETE PULL BOX (TYPE 2 HD)	9	9	18	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	0	2	2	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	1	2	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	0	1	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')	1	0	1	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (54')	1	0	1	EACH	
715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	4	5	9	EACH	
SP & 733	VIDEO DETECTOR (CLR)	7	5	12	EACH	*
733	VIDEO CABLE	1204	806	2010	LIN. FT.	
733	VIDEO MONITOR (CLR)	1	1	2	EACH	* *
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	3	7	EACH	*
SP & 733	VIDEO EDGE CARD EXTENDER	2	1	3	EACH	
SP & 733	VEHICLE DETECTOR RACK (24 CHANNEL)	1	1	2	EACH	
SP	BATTERY BACKUP SYSTEM	1	1	2	EACH	* *
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	26	25	51	LIN. FT.	
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G, EGC)	459	560	1019	LIN. FT.	
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G, EGC)	200	150	350	LIN. FT.	
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	715	402	1117	LIN. FT.	
SP	GPS PREEMPTION SYSTEM	1	1	2	EACH	* *
SP	LUMINAIRE ASSEMBLY	4	3	7	EACH	
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	1	2	EACH	
SP	WIC FIBER ENCLOSURE	1	1	2	EACH	* *

* ONE ADDITIONAL VIDEO DETECTOR AND ONE ADDITIONAL VIDEO PROCESSOR, EDGE CARD SHALL BE PROVIDED FOR FUTURE USE.

* * ITEMS PAID FOR SEPARATELY BY THE CITY OF BENTONVILLE.

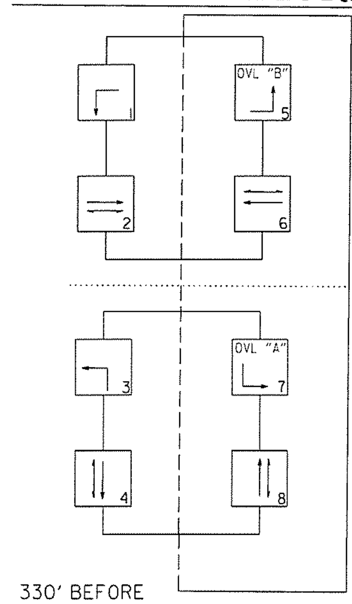
DATE: 07/22/14 FILE NAME: H12_C100_SG.dgn

LOCATION: HWY. 12
CITY: BENTONVILLE
COUNTY: BENTON
DISTRICT: 09 SCALE: 1"=NA' DRAWN BY: TWM

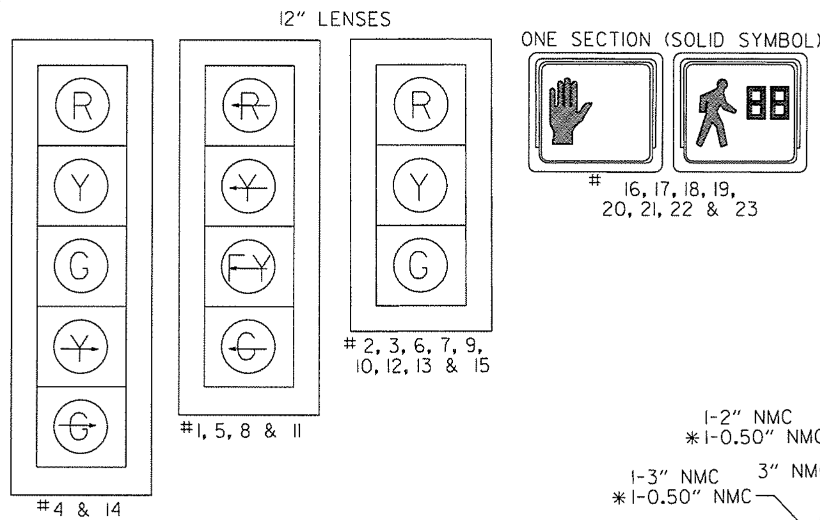
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	114	255

(2) SIGNALIZATION PLANS (HWY. 12 AT CORNERSTONE RD./GREENHOUSE RD.)

PHASING DIAGRAM



SIGNAL FACES

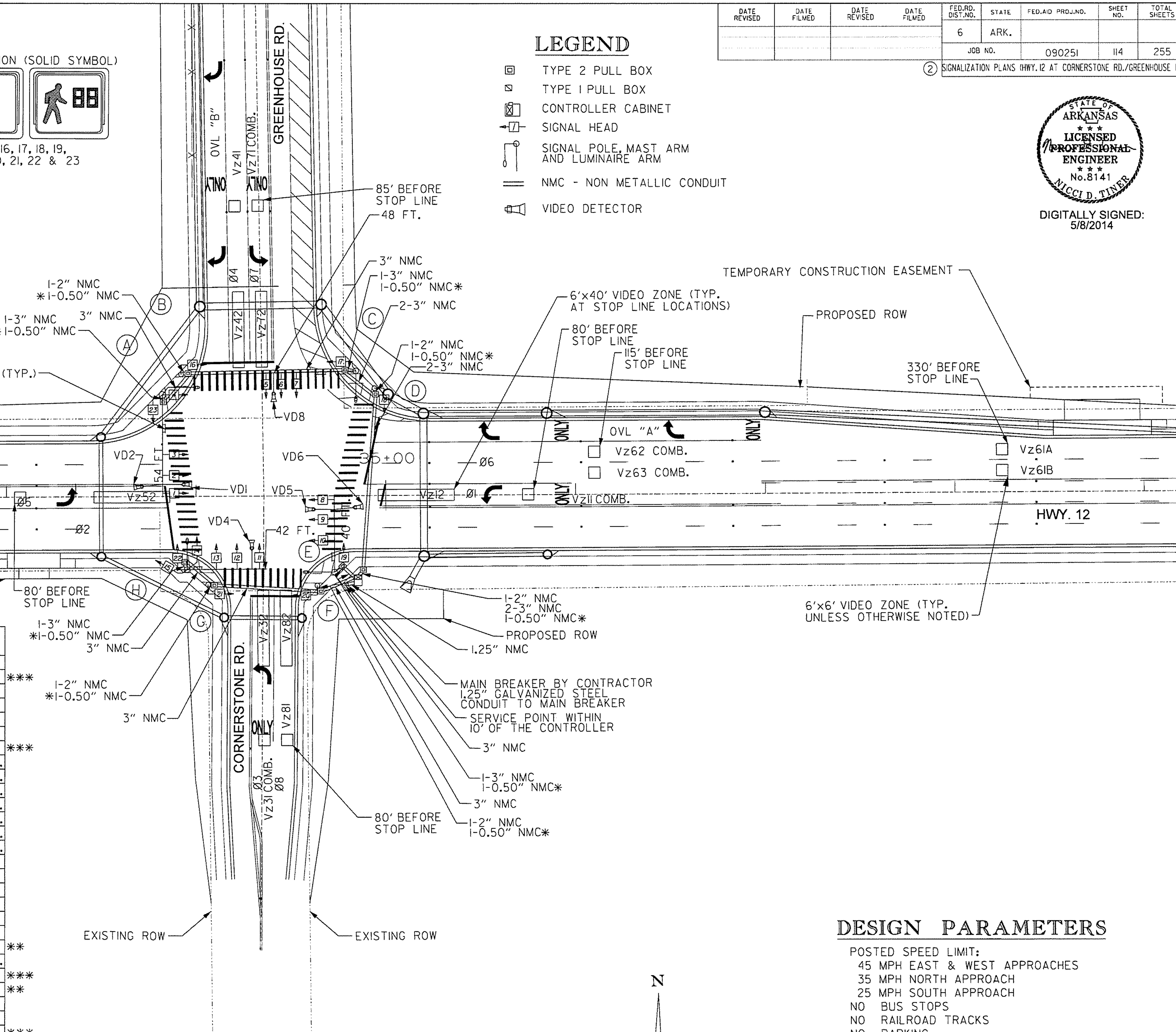


LEGEND

- TYPE 2 PULL BOX
- TYPE 1 PULL BOX
- CONTROLLER CABINET
- SIGNAL HEAD
- SIGNAL POLE, MAST ARM AND LUMINAIRE ARM
- NMC - NON METALLIC CONDUIT
- VIDEO DETECTOR

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.8141 NICCI D. TINER

DIGITALLY SIGNED: 5/8/2014



TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT	
SP&701	SYSTEM LOCAL CONTROLLER - FIBER (8 PHASES)	1	EACH	
SP&701	TRAFFIC CABINET COMMUNICATIONS	1	EACH	***
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	9	EACH	
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4	EACH	
SP&706	TRAFFIC SIGNAL HEAD, LED, (5 SECTION, 1 WAY)	2	EACH	
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH	
SP&707	PEDESTRIAN PUSH BUTTON	8	EACH	***
708	TRAFFIC SIGNAL CABLE (5c/14 A.W.G.)	1989	LIN. FT.	
708	TRAFFIC SIGNAL CABLE (7c/14 A.W.G.)	665	LIN. FT.	
708	TRAFFIC SIGNAL CABLE (20c/14 A.W.G.)	515	LIN. FT.	
709	GALVANIZED STEEL CONDUIT (1.25")	15	LIN. FT.	
710	NON-METALLIC CONDUIT (1.25")	11	LIN. FT.	
710	NON-METALLIC CONDUIT (2")	34	LIN. FT.	
710	NON-METALLIC CONDUIT (3")	515	LIN. FT.	
711	CONCRETE PULL BOX (TYPE 2 HD)	9	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')	1	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (54')	1	EACH	
715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	4	EACH	
SP&733	VIDEO DETECTOR (CLR)	7	EACH	**
733	VIDEO CABLE	1204	LIN. FT.	
SP&733	VIDEO MONITOR (CLR)	1	EACH	***
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH	**
SP&733	VIDEO EDGE CARD EXTENDER	2	EACH	
SP&733	VEHICLE DETECTOR RACK (24 CHANNEL)	1	EACH	
SP	BATTERY BACKUP SYSTEM	1	EACH	***
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2c/6 A.W.G.)	26	LIN. FT.	
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1c/8 A.W.G., EGC)	459	LIN. FT.	
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1c/12 A.W.G., EGC)	200	LIN. FT.	
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	715	LIN. FT.	
SP	GPS PREEMPTION SYSTEM	1	EACH	***
SP	LUMINAIRE ASSEMBLY	4	EACH	
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH	
SP	WIC FIBER ENCLOSURE	1	EACH	***

** ONE ADDITIONAL VIDEO DETECTOR AND ONE ADDITIONAL VIDEO PROCESSOR, EDGE CARD SHALL BE PROVIDED FOR FUTURE USE.

* 0.50" NMC FOR CONTROLLER OR POLE GROUND ROD CONNECTION. THE COST OF 0.50" NMC IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

*** ITEMS PAID FOR SEPARATELY BY THE CITY OF BENTONVILLE

DESIGN PARAMETERS

POSTED SPEED LIMIT:
- 45 MPH EAST & WEST APPROACHES
- 35 MPH NORTH APPROACH
- 25 MPH SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO PARKING
NO FIRE STATION
2' MIN. CLEAR ZONE DISTANCE (BARRIER CURB SECTION)

SCALE IN FEET: 0 30 60 120

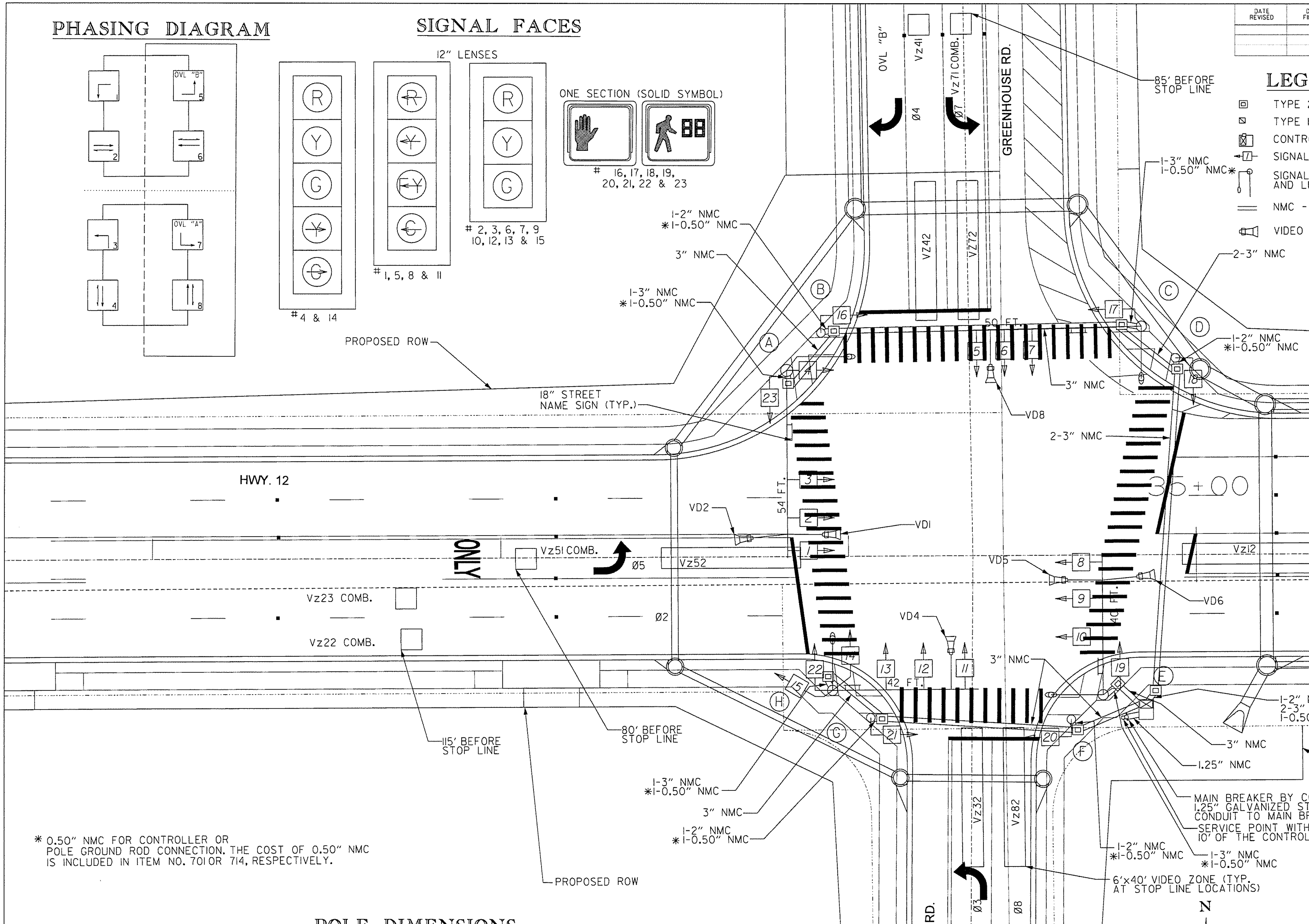
DATE: 05/07/14 FILE NAME: H12_C101_SG.dgn

LOCATION:	HWY. 12 AT CORNERSTONE RD. / GREENHOUSE RD.
CITY:	BENTONVILLE
COUNTY:	BENTON
DISTRICT:	09 SCALE: AS SHOWN DRAWN BY: TWM

cemckinney 5/8/2014 9:47:29 AM
WORKSPACE: AHTD
X:\2008\080535\50 - BnvAR Hwy 12\Drawings\H12_C101_SG.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	115	255

(2) SIGNALIZATION PLANS (HWY. 12 AT CORNERSTONE RD./GREENHOUSE RD.)



LEGEND

- TYPE 2 PULL BOX
- TYPE 1 PULL BOX
- CONTROLLER CABINET
- SIGNAL HEAD
- SIGNAL POLE, MAST ARM AND LUMINAIRE ARM
- NMC - NON METALLIC CONDUIT
- VIDEO DETECTOR

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.8141 NICCI D. TINER

DIGITALLY SIGNED: 5/8/2014

* 0.50" NMC FOR CONTROLLER OR POLE GROUND ROD CONNECTION. THE COST OF 0.50" NMC IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

POLE DIMENSIONS

POLE	MAST ARM(S) LENGTH	MAST ARM(S) ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	VERTICAL SHAFT LENGTH	LUM. ARM LENGTH	LUM. ARM(S) ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	STATION HWY. 12	OFFSET	NORTHING	EASTING
A	54 FT.	180 DEGREES	35'-0"	15'-0"	90 DEGREES	33+82.51	54' LT.	736739.0230	648422.5796
B	-	-	15'-0"	-	-	33+92.38	64' LT.	736749.3272	648432.9211
C	50 FT.	270 DEGREES	35'-0"	15'-0"	180 DEGREES	34+84.61	66'LT.	736746.6526	648525.1238
D	-	-	15'-0"	-	-	34+94.34	57' LT.	736737.0500	648534.4354
E	40 FT.	180 DEGREES	35'-0"	15'-0"	90 DEGREES	34+72.89	40' RT.	736641.2480	648508.6853
F	-	-	15'-0"	-	-	34+63.67	47' RT.	736634.6556	648499.1694
G	-	-	15'-0"	-	-	34+06.09	47' RT.	736637.9616	648441.6741
H	42 FT.	270 DEGREES	35'-0"	15'-0"	180 DEGREES	33+95.14	39' RT.	736646.3803	648431.0923

SCALE IN FEET 0 15 30 60

DATE: 05/07/14 FILE NAME: H12_C102_SG.dgn

DESIGN PARAMETERS

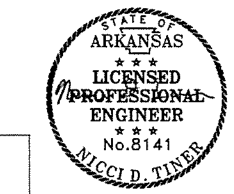
POSTED SPEED LIMIT:
45 MPH EAST & WEST APPROACHES
35 MPH NORTH APPROACH
25 MPH SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO PARKING
NO FIRE STATION
3' MIN. CLEAR ZONE DISTANCE (BARRIER CURB SECTION)

LOCATION:	HWY. 12 AT CORNERSTONE RD./GREENHOUSE RD.
CITY:	BENTONVILLE
COUNTY:	BENTON
DISTRICT:	09 SCALE: AS SHOWN DRAWN BY: TWM

cemckinney 5/8/2014 9:53:57 AM
WORKSPACE: AHTD
X:\2008\08053550 - BnvAR Hwy 12\Drawings\H12_C102_SG.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	116	255

(2) SIGNALIZATION PLANS HWY. 12 AT CORNERSTONE RD./GREENHOUSE RD.



DIGITALLY SIGNED:
5/8/2014

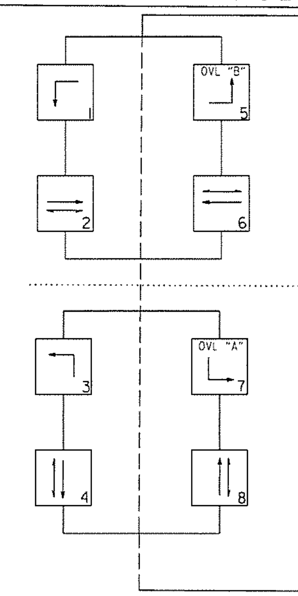
DETECTOR CHART

DETECTOR I.D. #	DIRECTION & LOCATION	TYPE	DET. #	HARDWARE INPUTS BY SUPPLIER: CAB. TRM. #	AMP CHN. #	CON. INP. #	PROGRAM ASSIGNMENTS: LOCAL PHS.	LOCAL SYS. DET. #	MSTR. SYS. DET. #	VIDEO DET. TUBE LENGTH	COMMENT
VZ11	WB LEFT FAR	COMB.			1	V9	1	1		72"	VD1
VZ12	WB LEFT NEAR	LOCAL			2	V1	1			72"	VD1
VZ21 A&B	EB FAR	LOCAL			13	V2	2			72"	VD2
VZ22	EB NEAR OUTSIDE	COMB.			11	V10	2	2		72"	VD5
VZ23	EB NEAR INSIDE	COMB.			12	V12	2	4		72"	VD5
VZ31	NB LEFT FAR	COMB.			17	V11	3	3		72"	VD8
VZ32	NB LEFT NEAR	LOCAL			18	V3	3			72"	VD8
VZ41	SB FAR	LOCAL			21	P1	4			72"	VD4
VZ42	SB NEAR	LOCAL			22	V4	4			72"	VD4
VZ51	EB LEFT FAR	COMB.			9	V13	5	5		72"	VD5
VZ52	EB LEFT NEAR	LOCAL			10	V5	5			72"	VD5
VZ61 A&B	WB FAR	LOCAL			5	V14	6			72"	VD6
VZ62	WB NEAR OUTSIDE	COMB.			3	V6	6	6		72"	VD1
VZ63	WB NEAR INSIDE	COMB.			4	V16	6	8		72"	VD1
VZ71	SB LEFT FAR	COMB.			23	V15	7	7		72"	VD4
VZ72	SB LEFT NEAR	LOCAL			24	V7	7			72"	VD4
VZ81	NB FAR	LOCAL			19	P3	8			72"	VD8
VZ82	NB NEAR	LOCAL			20	V8	8			72"	VD8
P2	S. LEG CORNERSTONE RD.	PED.				P2	2				
P4	W. LEG HWY. 12	PED.				P4	4				
P6	N. LEG GREENHOUSE RD.	PED.				P6	6				
P8	E. LEG HWY. 12	PED.				P8	8				

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

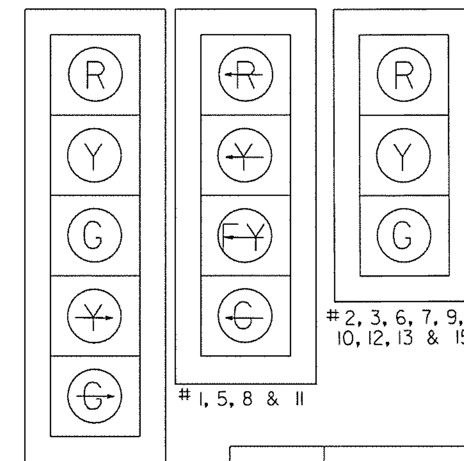
SPARE AMP CHN. #= 6, 7, 8, 14, 15 & 16

PHASING DIAGRAM



SIGNAL FACES

12" LENSES

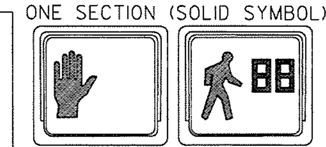


4 & 14

1, 5, 8 & 11

2, 3, 6, 7, 9, 10, 12, 13 & 15

ONE SECTION (SOLID SYMBOL)



16, 17, 18, 19, 20, 21, 22 & 23

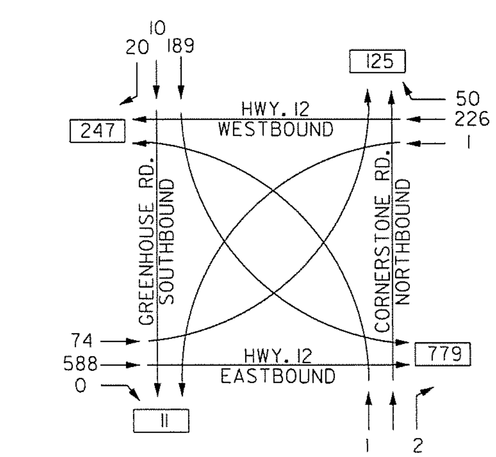
OVERHEAD STREET NAME
MARKER STANDARD
MAST ARM MOUNTED

NOTES:
1. THE CONTRACTOR SHALL INSTALL STREET NAME SIGNS PROVIDED BY THE OWNER. INSTALLATION OF STREET NAME SIGNS WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE SUBSIDIARY TO THE TRAFFIC SIGNAL MAST ARM.
2. SEE STD. SIGNAL DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

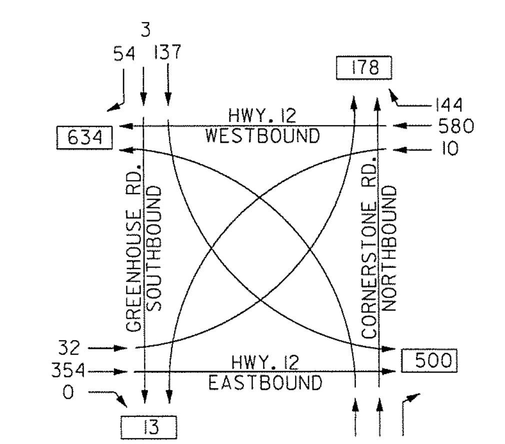
INTERVAL CHART

SIGNAL FACES	INTERSECTION INTERVALS: 1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.	FLASH SEQ.
1	←G	*	←G	*	←FY	***	←FY	***	←R	←R	←R	←R	←R	←R	←R	←R	←R
2 & 3	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
4	R	R	G	**	R	R	G	**	R / ←G	R / *	R	R	R / ←G	R / *	R	R	R
5	←R	←R	←R	←R	←R	←R	←R	←R	←G	*	←G	*	←FY	***	←FY	***	←R
6 & 7	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
8	←G	*	←FY	***	←G	*	←FY	***	←R	←R	←R	←R	←R	←R	←R	←R	←R
9 & 10	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
11	←R	←R	←R	←R	←R	←R	←R	←R	←G	*	←FY	***	←G	*	←FY	***	←R
12 & 13	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R
14	R / ←G	R / *	R	R	R / ←G	R / *	R	R	R	R	R	R	G	**	G	**	R
15	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
16 & 17	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	B
18 & 19	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	B
20 & 21	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	B
22 & 23	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	B

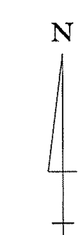
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW ARROW DEPENDING ON NEXT PHASE

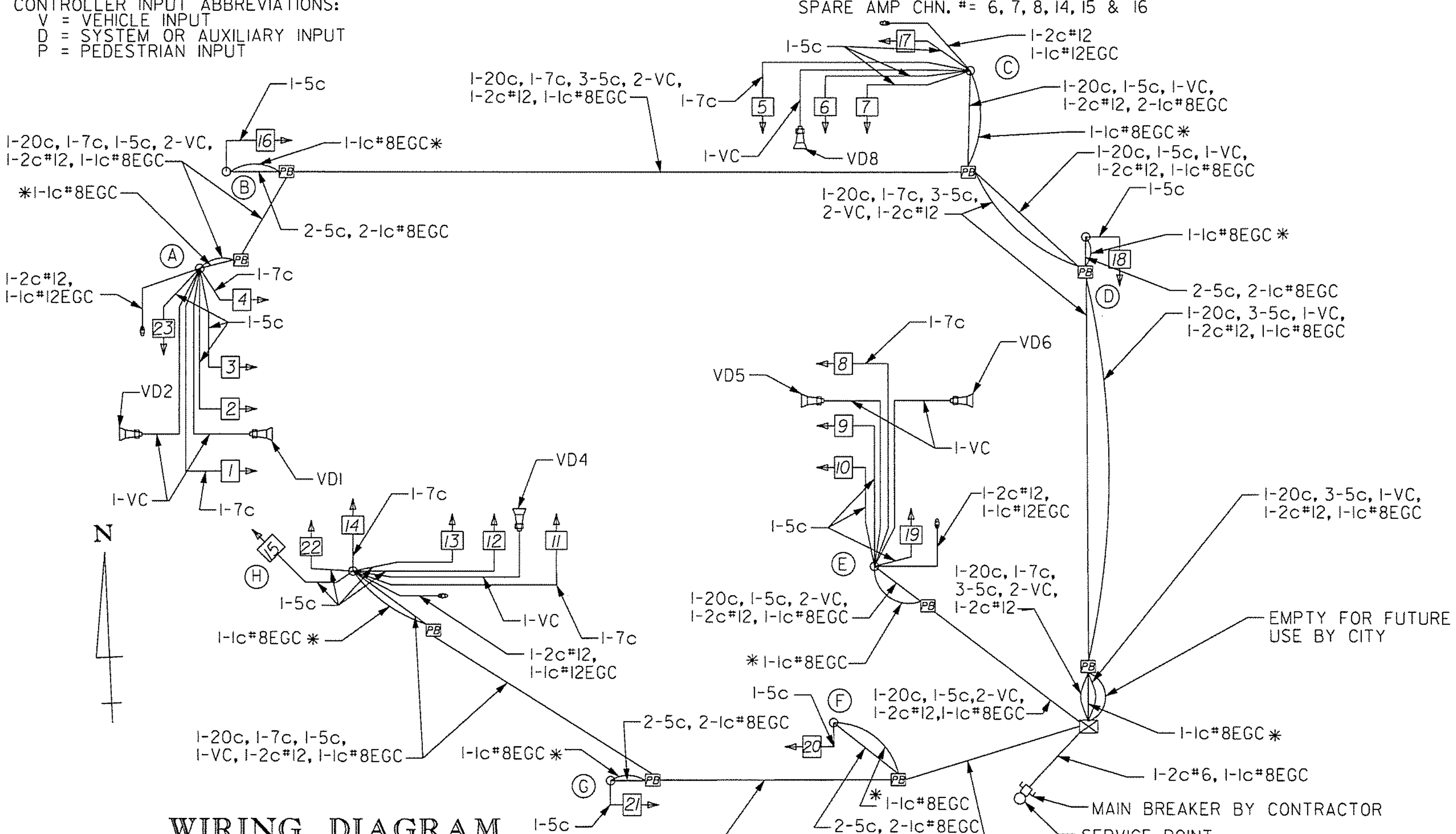


HWY. 12 AT GREENHOUSE RD./CORNERSTONE RD.
TRAFFIC FLOW DIAGRAM
2009 EXISTING TRAFFIC VOLUME
A.M. PEAK HOUR



HWY. 12 AT GREENHOUSE RD./CORNERSTONE RD.
TRAFFIC FLOW DIAGRAM
2009 EXISTING TRAFFIC VOLUME
P.M. PEAK HOUR





WIRING DIAGRAM

NOTES TO CONTRACTOR
1. SEPARATE 5c/#14 AWG FROM EACH 3 SEC SIGNAL HEAD TO BASE OF POLE.
2. SEPARATE 7c/#14 AWG FROM EACH 4 OR 5 SEC SIGNAL HEAD TO BASE OF POLE.
3. SEPARATE 5c/#14 AWG TO EACH POLE WITH PEDESTRIAN PUSH BUTTONS.
4. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.
5. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

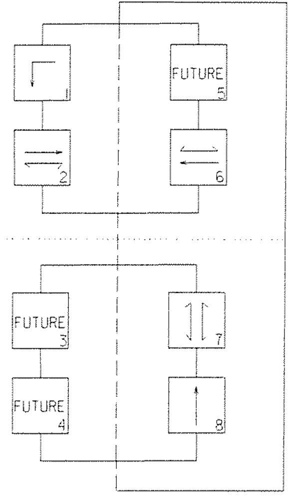
* 1-1c#8EGC SHOWN SEPARATELY FROM CONTROLLER OR POLE TO NEAREST PULL BOX IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

DATE: 05/07/14 FILE NAME: H12_C103_SG.dgn

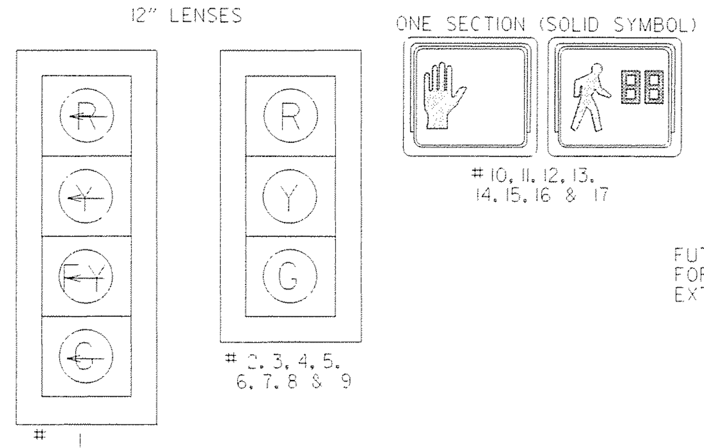
LOCATION:	HWY. 12 AT CORNERSTONE RD. / GREENHOUSE RD.
CITY:	BENTONVILLE
COUNTY:	BENTON
DISTRICT:	09 SCALE: 1"=NA' DRAWN BY: TWM

camckinney 5/8/2014 9:53:25 AM
WORKSPACE: AHTD
X:\2008\080535\50 - BnvAR Hwy 12\Drawings\H12_C103_SG.dgn
REVISED DATE:

PHASING DIAGRAM



SIGNAL FACES

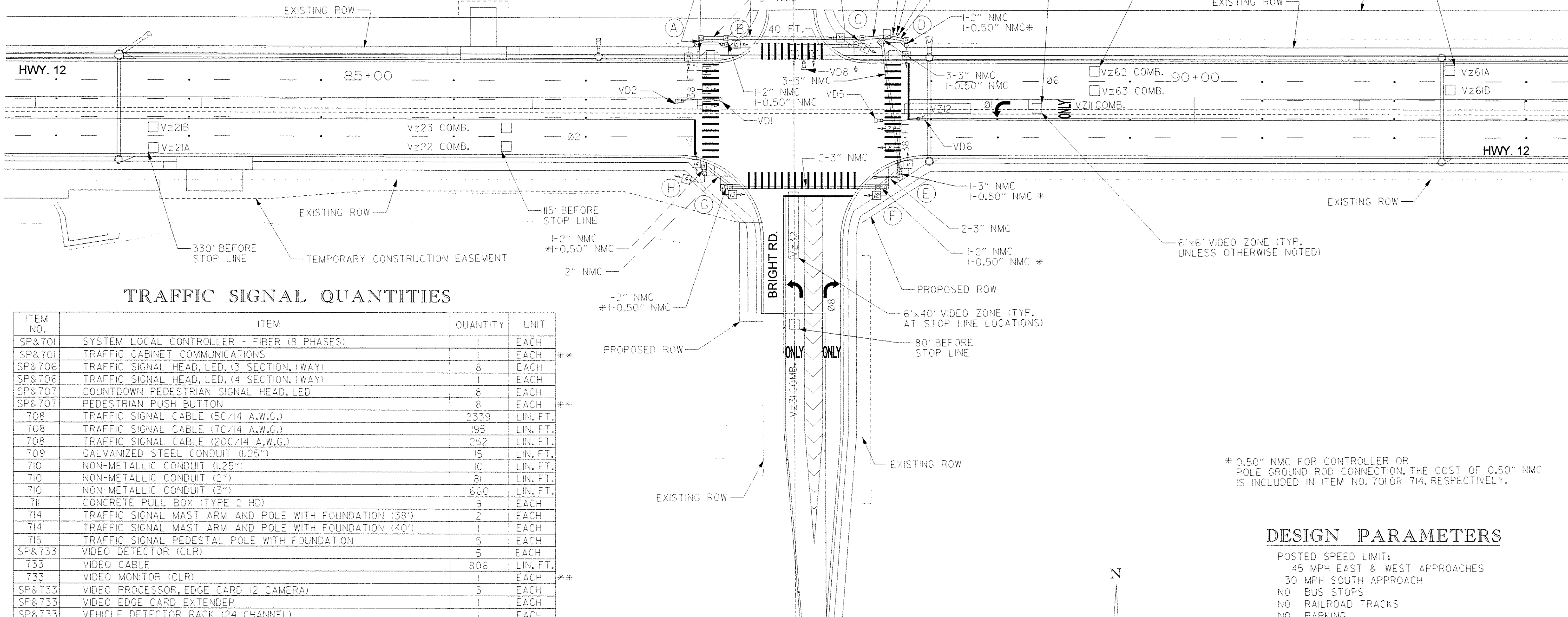


LEGEND

- TYPE 2 PULL BOX
- TYPE 1 PULL BOX
- CONTROLLER CABINET
- SIGNAL HEAD
- SIGNAL POLE, MAST ARM AND LUMINAIRE ARM
- NMC - NON METALLIC CONDUIT
- VIDEO DETECTOR

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.8141 NICCI D. TINER

DIGITALLY SIGNED: 7/28/2014



TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT	
SP&701	SYSTEM LOCAL CONTROLLER - FIBER (8 PHASES)	1	EACH	
SP&701	TRAFFIC CABINET COMMUNICATIONS	1	EACH	**
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8	EACH	
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH	
SP&707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH	
SP&707	PEDESTRIAN PUSH BUTTON	8	EACH	**
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2339	LIN. FT.	
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	195	LIN. FT.	
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	252	LIN. FT.	
709	GALVANIZED STEEL CONDUIT (1.25")	15	LIN. FT.	
710	NON-METALLIC CONDUIT (1.25")	10	LIN. FT.	
710	NON-METALLIC CONDUIT (2")	81	LIN. FT.	
710	NON-METALLIC CONDUIT (3")	660	LIN. FT.	
711	CONCRETE PULL BOX (TYPE 2 HD)	9	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	2	EACH	
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH	
715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	5	EACH	
SP&733	VIDEO DETECTOR (CLR)	5	EACH	
733	VIDEO CABLE	806	LIN. FT.	
733	VIDEO MONITOR (CLR)	1	EACH	**
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	3	EACH	
SP&733	VIDEO EDGE CARD EXTENDER	1	EACH	
SP&733	VEHICLE DETECTOR RACK (24 CHANNEL)	1	EACH	
SP	BATTERY BACKUP SYSTEM	1	EACH	**
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	25	LIN. FT.	
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC)	560	LIN. FT.	
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC)	150	LIN. FT.	
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	402	LIN. FT.	
SP	GPS PREEMPTION SYSTEM	1	EACH	**
SP	LUMINAIRE ASSEMBLY	3	EACH	
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH	
SP	WIC FIBER ENCLOSURE	1	EACH	**

** ITEMS PAID FOR SEPARATELY BY THE CITY OF BENTONVILLE.

* 0.50" NMC FOR CONTROLLER OR POLE GROUND ROD CONNECTION. THE COST OF 0.50" NMC IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST & WEST APPROACHES
30 MPH SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO PARKING
NO FIRE STATION
2' MIN. CLEAR ZONE DISTANCE (BARRIER CURB SECTION)

N

SCALE IN FEET

0 30 60 120

DATE: 07/28/14 FILE NAME: H12_C104_SG.dgn

LOCATION:	HWY. 12 AT BRIGHT RD.
CITY:	BENTONVILLE
COUNTY:	BENTON
DISTRICT:	09 SCALE: AS SHOWN DRAWN BY: TWM

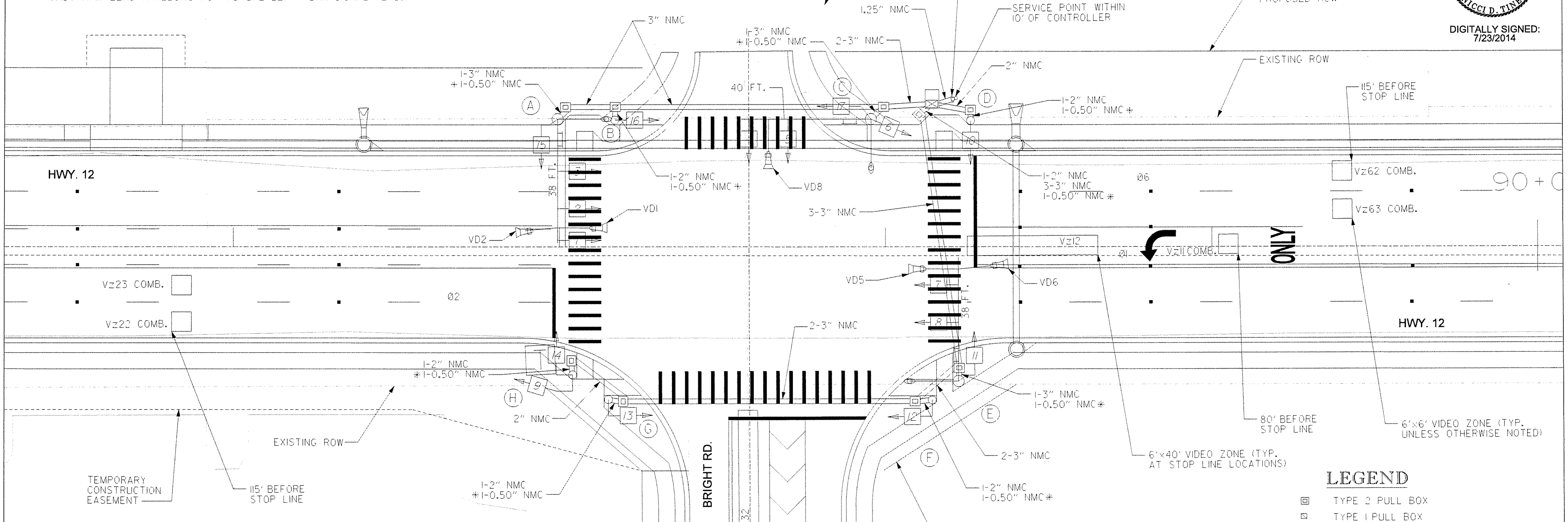
POLE DIMENSIONS

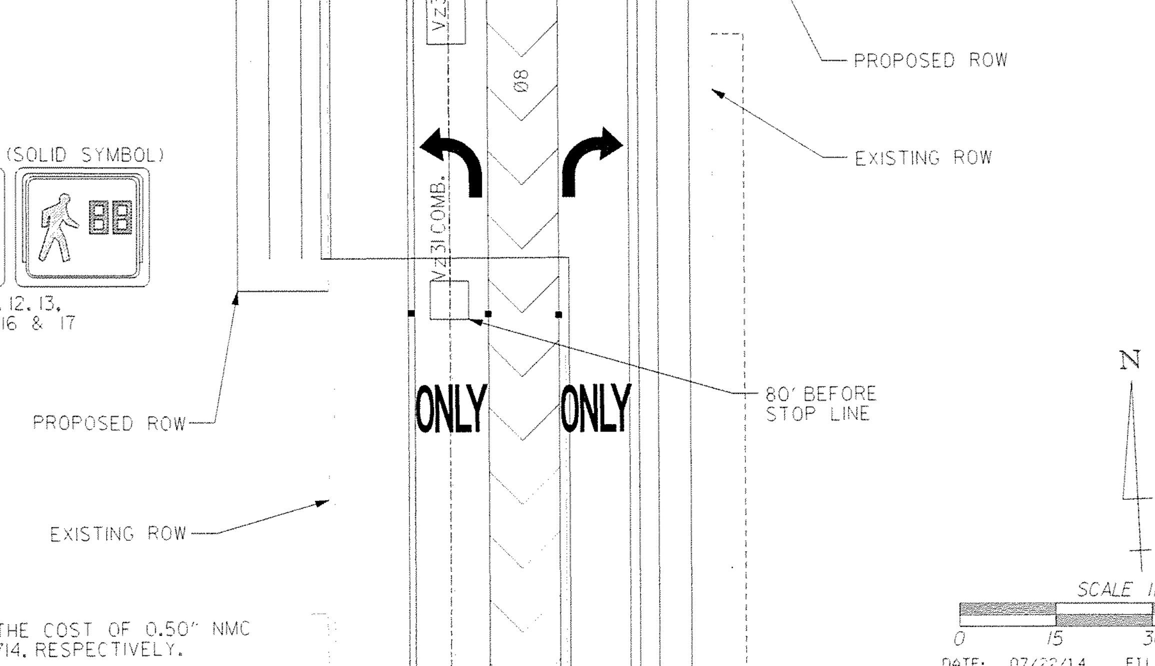
	POLE	MAST ARM(S) LENGTH	MAST ARM(S) ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	VERTICAL SHAFT LENGTH	LUM. ARM LENGTH	LUM. ARM(S) ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	STATION HWY. 12	OFFSET	NORTHING	EASTING
	A	38 FT.	180 DEGREES	35'-0"	15'-0"	90 DEGREES	86+99.39	39' LT.	736488.7226	653733.8188
	B	-	-	15'-0"	-	-	87+16.99	39' LT.	736487.5170	653751.3846
	C	40 FT.	270 DEGREES	35'-0"	15'-0"	180 DEGREES	87+95.56	39' LT.	736483.7950	653829.8638
	D	-	-	15'-0"	-	-	88+26.08	39' RT.	736481.7926	653860.3174
**	E	38 FT.	180 DEGREES	35'-0"	15'-0"	270 DEGREES	88+22.32	41' RT.	736402.0613	653852.4882
	F	-	-	15'-0"	-	-	88+14.26	47' RT.	736396.6975	653844.1424
	G	-	-	15'-0"	-	-	87+15.07	47' RT.	736401.8823	653745.0902
	H	-	-	15'-0"	-	-	87+04.07	39' RT.	736410.0392	653734.4913

**MAST ARM LENGTH ALLOWS FOR FUTURE LEFT-TURN SIGNAL HEAD.

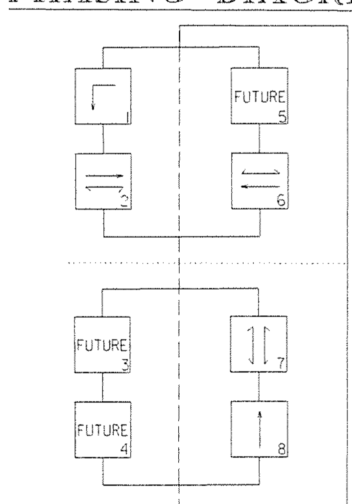
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.8141 NICCI D. TINER

DIGITALLY SIGNED: 7/23/2014



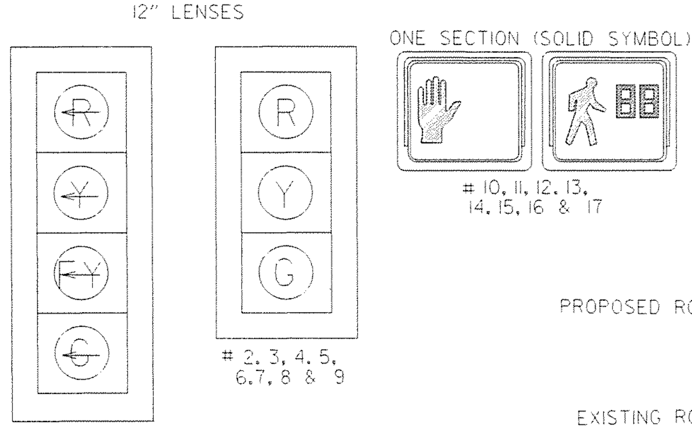


PHASING DIAGRAM



SIGNAL FACES

12" LENSES



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2, 3, 4, 5, 6, 7, 8 & 9

10, 11, 12, 13, 14, 15, 16 & 17

* 0.50" NMC FOR CONTROLLER OR POLE GROUND ROD CONNECTION. THE COST OF 0.50" NMC IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.

LEGEND

- TYPE 2 PULL BOX
- TYPE 1 PULL BOX
- CONTROLLER CABINET
- SIGNAL HEAD
- SIGNAL POLE, MAST ARM AND LUMINAIRE ARM
- NMC - NON METALLIC CONDUIT
- VIDEO DETECTOR

DESIGN PARAMETERS

POSTED SPEED LIMIT:
45 MPH EAST & WEST APPROACHES
30 MPH SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
NO PARKING
NO FIRE STATION
2' MIN. CLEAR ZONE DISTANCE (BARRIER CURB SECTION)

DATE: 07/22/14 FILE NAME: H12.C105.SG.dgn

LOCATION: HWY. 12 AT BRIGHT RD.
CITY: BENTONVILLE
COUNTY: BENTON
DISTRICT: 09 SCALE: AS SHOWN DRAWN BY: TWM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	119	255

(2) SIGNALIZATION PLANS (HWY. 12 AT BRIGHT RD.)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.8141
NICCI D. TINER

DIGITALLY SIGNED: 7/23/2014

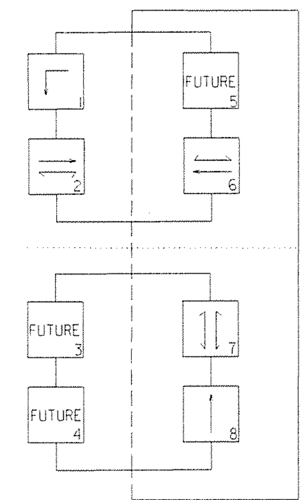
DETECTOR CHART

DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			VIDEO DET. TUBE LENGTH	COMMENT
							LOCAL		MSTR.		
DETECTOR I.D. #	DIRECTION & LOCATION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. INP. #	PHS.	SYS. DET. #	SYS. DET. #		
VZ11	WB LEFT FAR	COMB.			1	V9	1	1		72"	VD1
VZ12	WB LEFT NEAR	LOCAL			2	V1	1			72"	VD1
VZ21 A&B	EB FAR	LOCAL			9	V2	2			72"	VD2
VZ22	EB OUTSIDE NEAR	COMB.			10	V10	2	2		72"	VD5
VZ23	EB INSIDE NEAR	COMB.			11	V12	2	5		72"	VD5
VZ31	NB LEFT FAR	COMB.			13	V11	8	3		72"	VD8
VZ32	NB LEFT NEAR	LOCAL			14	V3	8			72"	VD8
VZ61 A&B	WB FAR	LOCAL			3	V14	6			72"	VD1
VZ62	WB OUTSIDE NEAR	COMB.			4	V6	6	6		72"	VD6
VZ63	WB INSIDE NEAR	COMB.			5	V16	6			72"	VD6
P2	W TO E	PED.				P2	2				
P6	E TO W	PED.				P6	6				
P7	N TO S	PED.				P7	7				
P8	S TO N	PED.				P8	7				

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

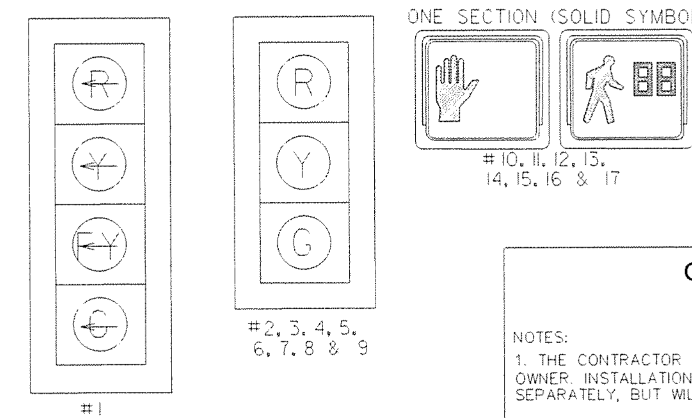
SPARE AMP CHN. #= 6, 7, 8, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23 & 24

PHASING DIAGRAM



SIGNAL FACES

12" LENSES



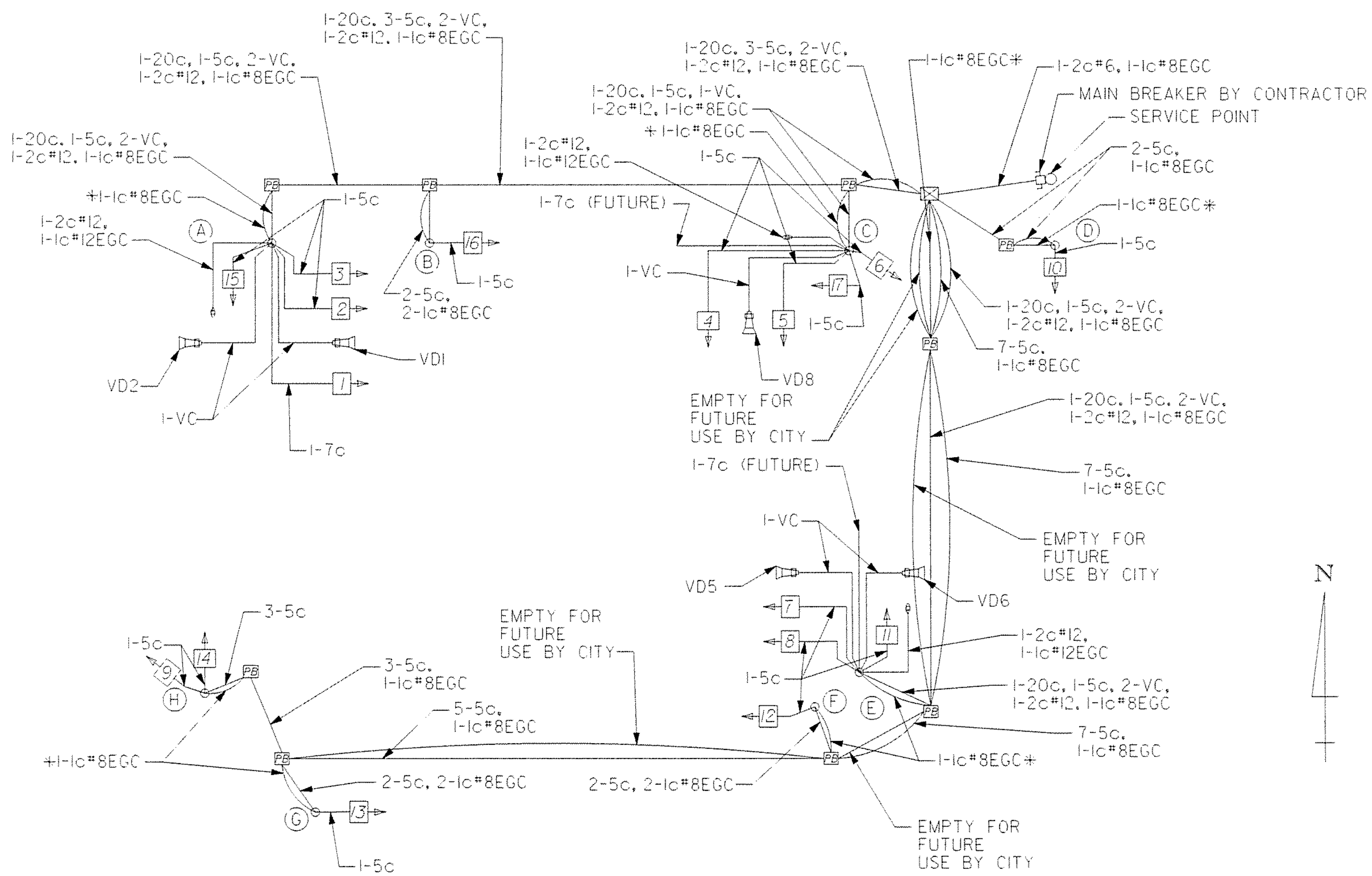
OVERHEAD STREET NAME MARKER STANDARD MAST ARM MOUNTED

NOTES:
1. THE CONTRACTOR SHALL INSTALL STREET NAME SIGNS PROVIDED BY THE OWNER. INSTALLATION OF STREET NAME SIGNS WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE SUBSIDIARY TO THE TRAFFIC SIGNAL MAST ARM.
2. SEE STD. SIGNAL DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

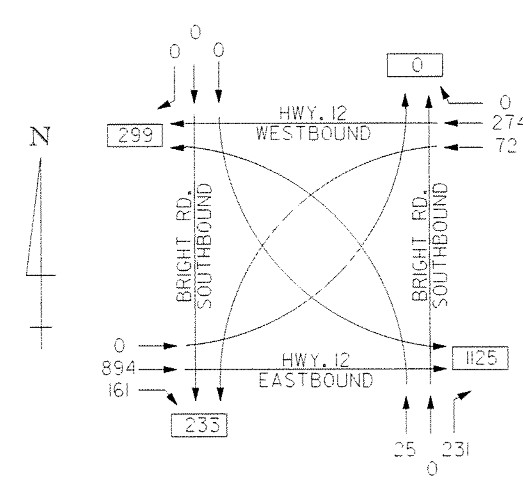
INTERVAL CHART

SIGNAL FACES	INTERSECTION INTERVALS								FLASH SEQ.
	1+6	CLR.	2+6	CLR.	7	CLR.	8	CLR.	
1	←G	*	←FY	***	←R	←R	←R	←R	←R
2 & 3	G	**	G	**	R	R	R	R	R
4 & 5	R	R	R	R	R	R	G	Y	R
6	G	**	G	**	R	R	R	R	R
7, 8 & 9	R	R	G	Y	R	R	R	R	R
10 & 11	DW	DW	DW	DW	W	FDW	DW	DW	B
12 & 13	DW	DW	W	FDW	DW	DW	DW	DW	B
14 & 15	DW	DW	DW	DW	W	FDW	DW	DW	B
16 & 17	DW	DW	W	FDW	DW	DW	DW	DW	B

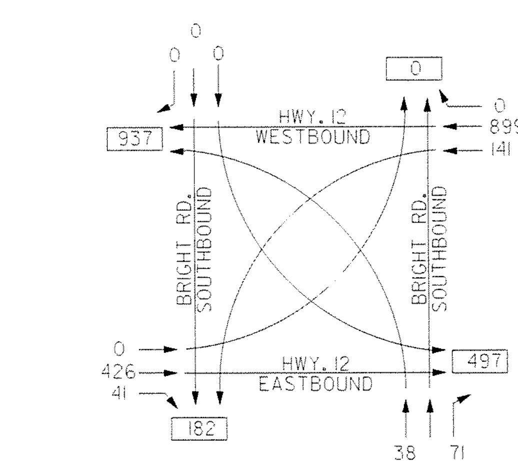
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES YELLOW OR FLASHING YELLOW DEPENDING ON NEXT PHASE



+1-1c#8EGC SHOWN SEPARATELY FROM CONTROLLER OR POLE TO NEAREST PULL BOX IS INCLUDED IN ITEM NO. 701 OR 714, RESPECTIVELY.



HWY. 12 AT BRIGHT RD.
TRAFFIC FLOW DIAGRAM
2012 EXISTING TRAFFIC VOLUME
A.M. PEAK HOUR



HWY. 12 AT BRIGHT RD.
TRAFFIC FLOW DIAGRAM
2012 EXISTING TRAFFIC VOLUME
P.M. PEAK HOUR

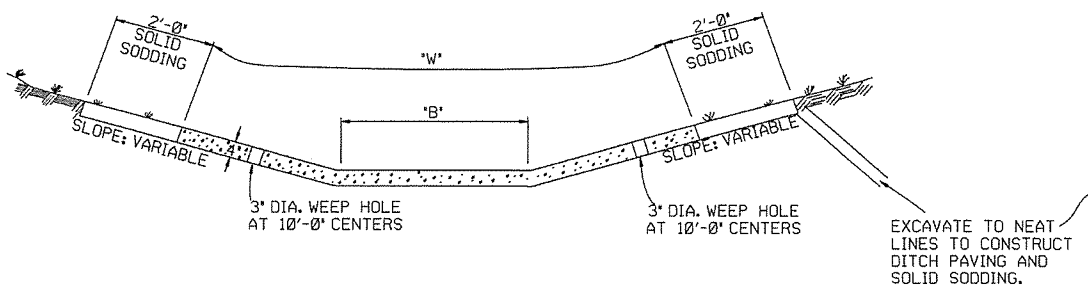
WIRING DIAGRAM

NOTES TO CONTRACTOR
1. SEPARATE 5c/#14 AWG FROM EACH 3 SEC SIGNAL HEAD TO BASE OF POLE.
2. SEPARATE 7c/#14 AWG FROM EACH 4 SEC SIGNAL HEAD TO BASE OF POLE.
3. SEPARATE 5c/#14 AWG TO EACH POLE WITH PEDESTRIAN PUSH BUTTONS.
4. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO THE TERMINAL STRIP IN DETECTOR AREA ON CABINET.
5. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

DATE: 07/23/14 FILE NAME: H12.C106.SG.dgn

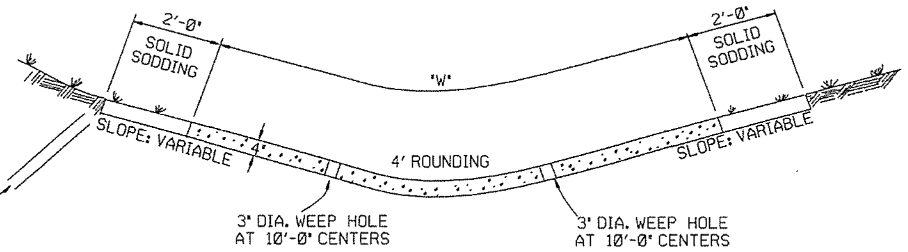
LOCATION:	HWY. 12 AT BRIGHT RD.				
CITY:	BENTONVILLE				
COUNTY:	BENTON				
DISTRICT:	09	SCALE:	1"=NA'	DRAWN BY:	TWM

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



TYPE A

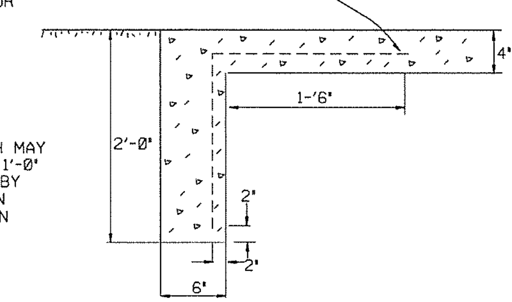
REFER TO TABULATION OF QUANTITIES
FOR 'W' DIMENSIONS



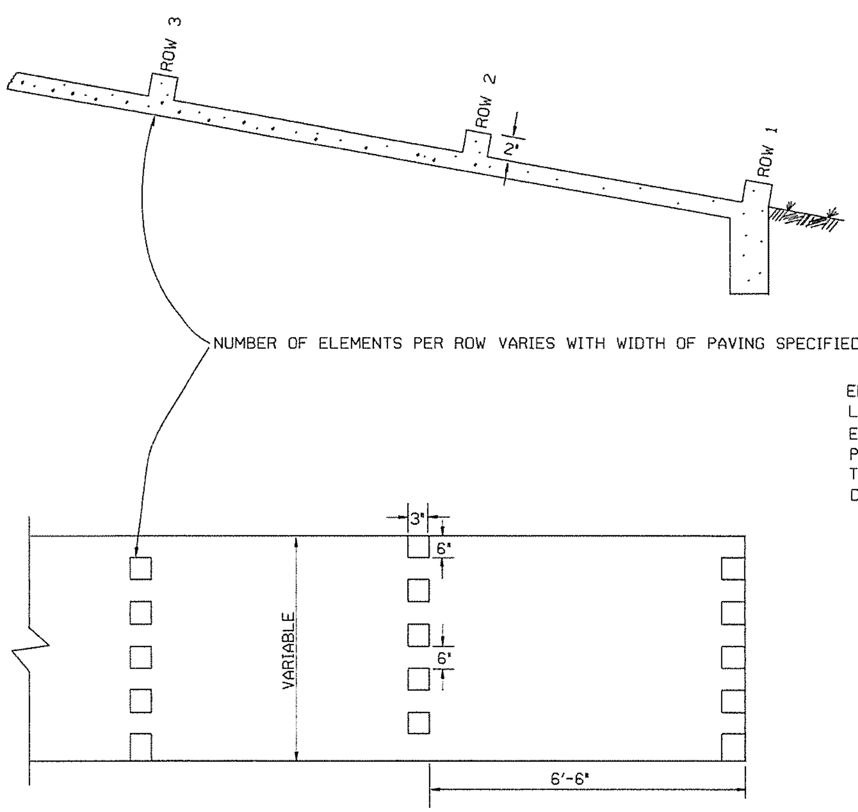
TYPE B

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

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



TOE WALL DETAIL FOR
CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

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

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

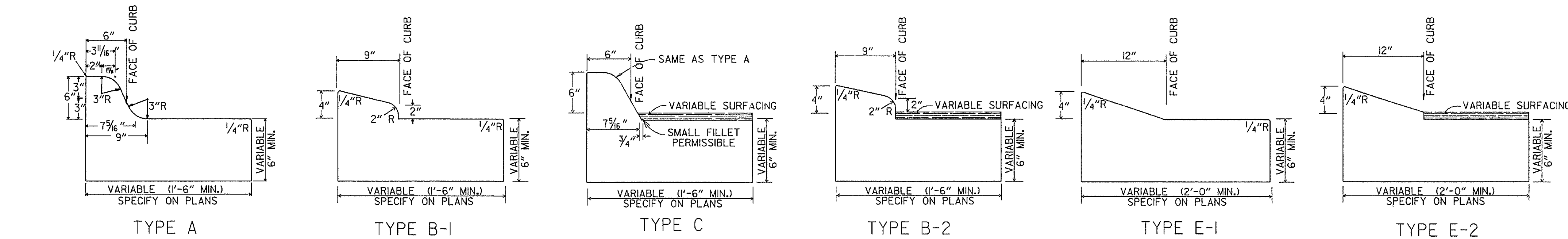
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS	508-11-1-84
	ADDED	
11-1-84	EXCAVATION DETAILS ADDED	
	TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

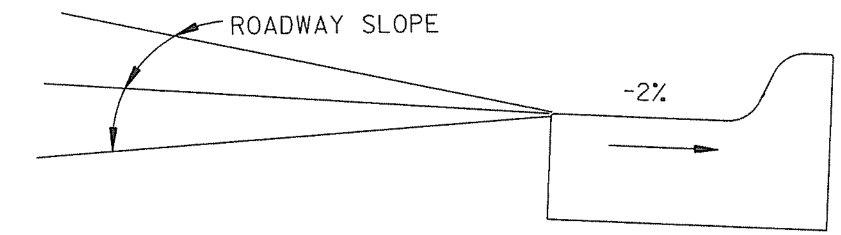
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1

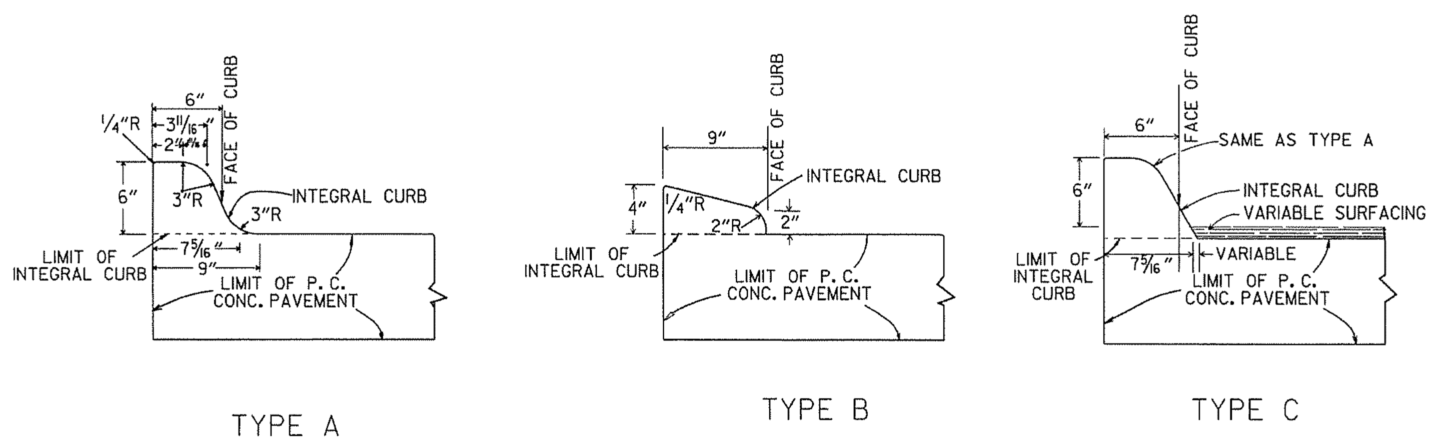


CONCRETE COMBINATION CURB AND GUTTER

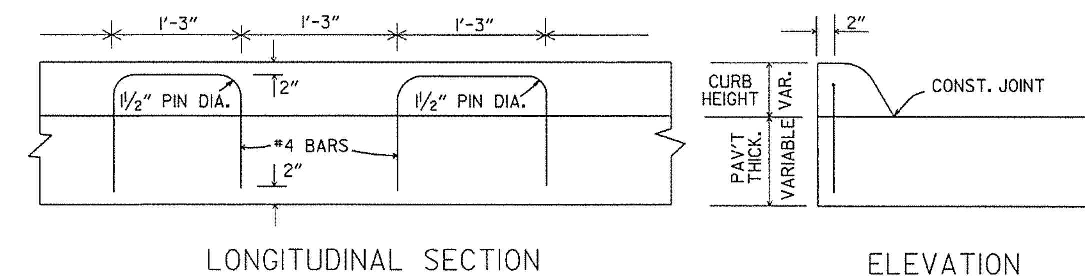


DETAIL OF GUTTER SLOPE

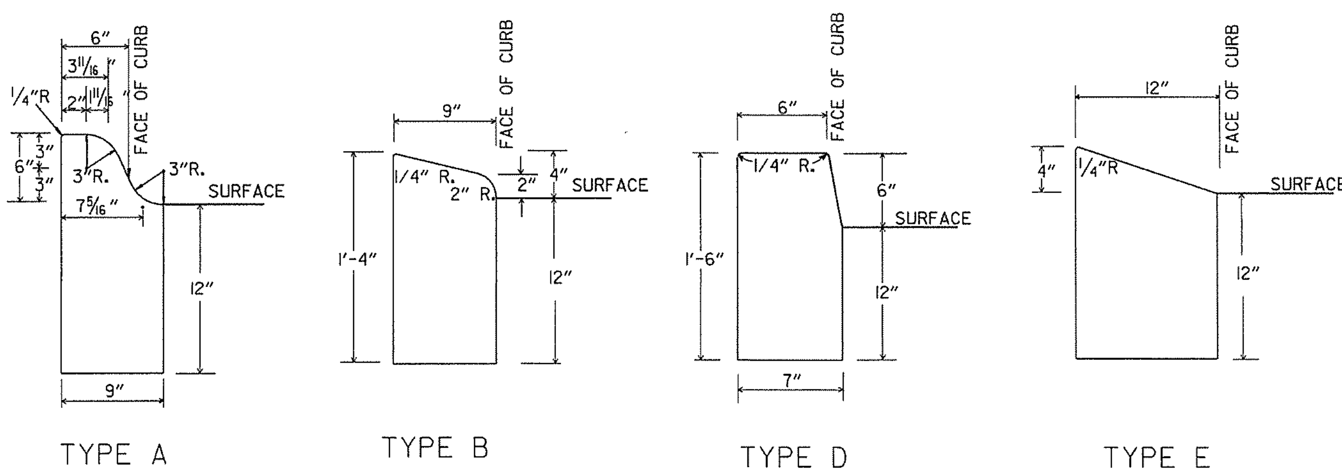
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



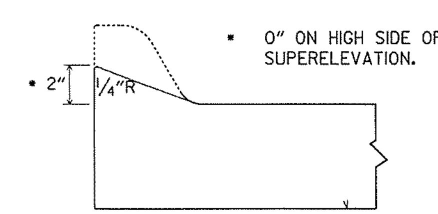
INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



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.

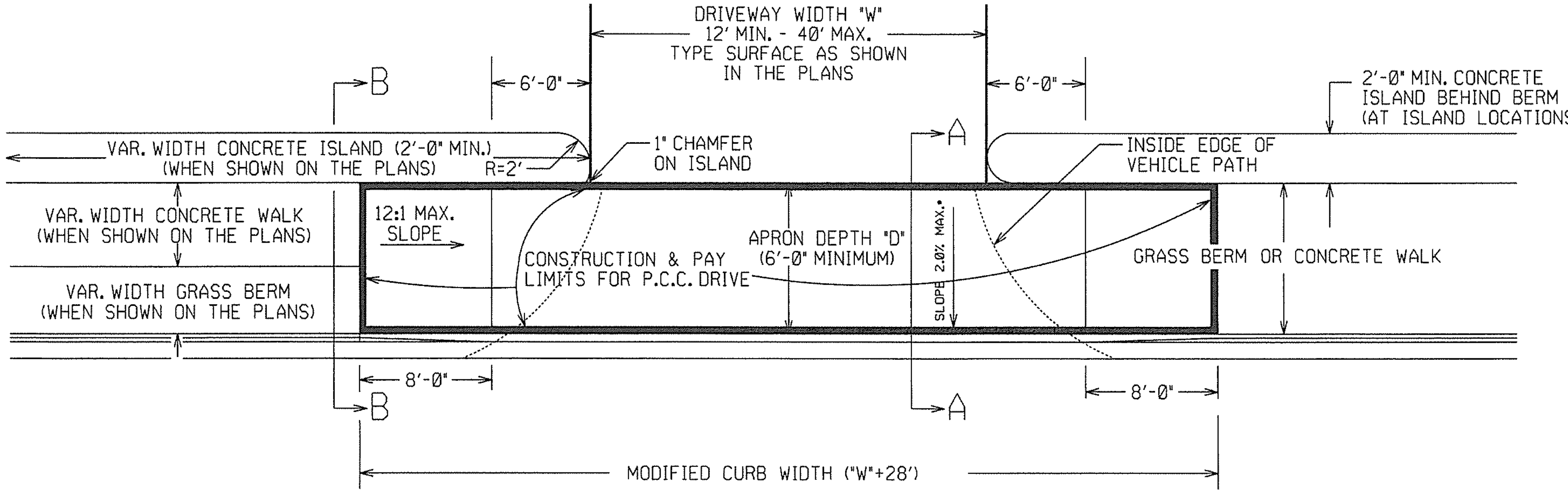
DETAILS OF MODIFIED CURB

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

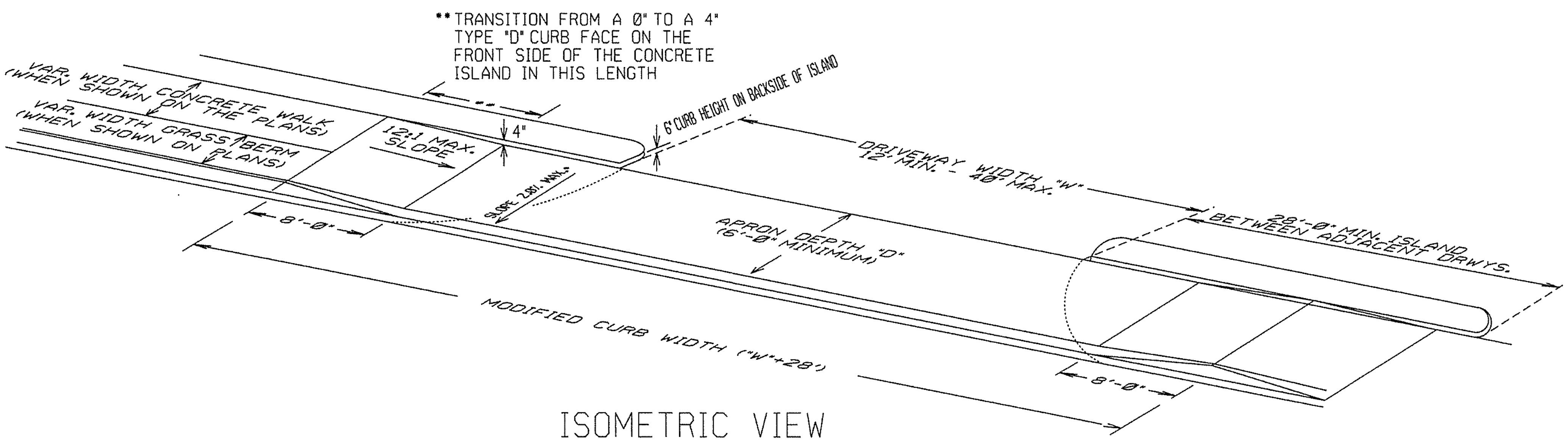
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

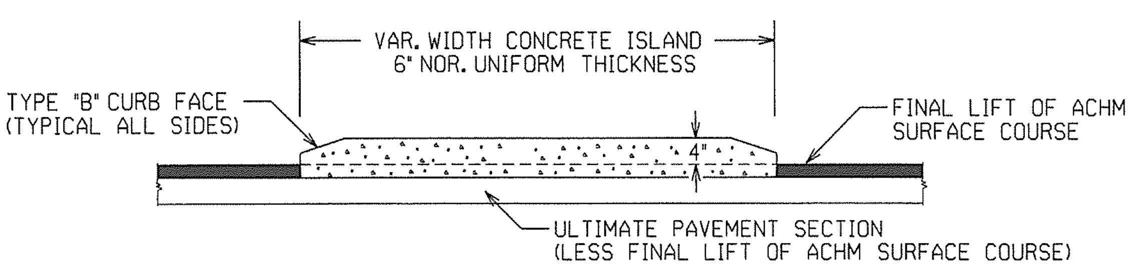
STANDARD DRAWING CG-1

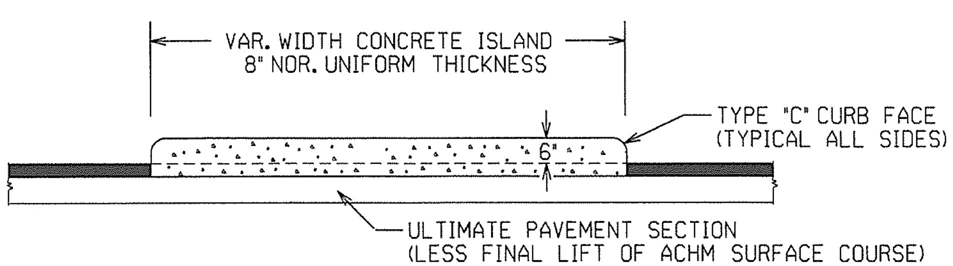


PLAN VIEW



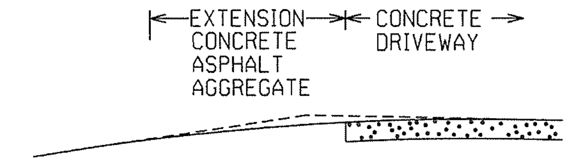
ISOMETRIC VIEW





CURBED ISLANDS FOR CHANNELIZATION

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



EXTENSION TYPICAL SECTIONS

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

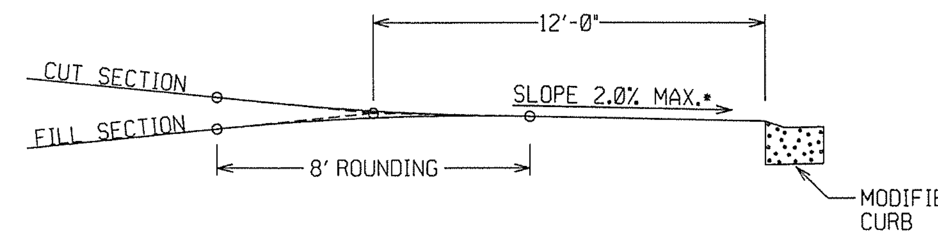
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

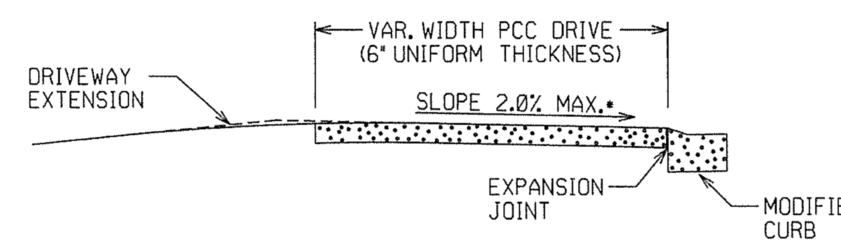
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

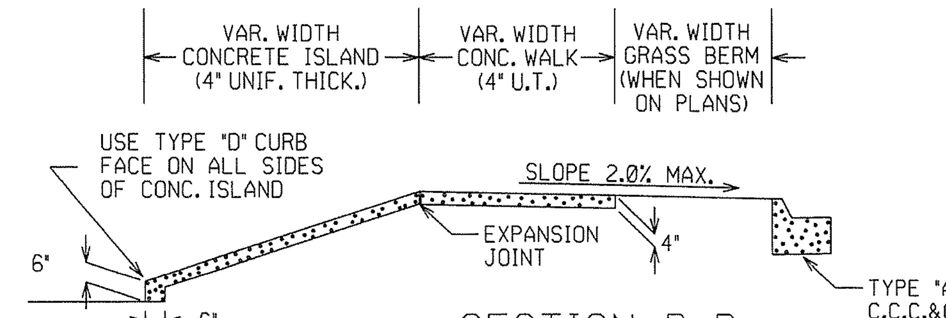


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



SECTION A-A



SECTION B-B

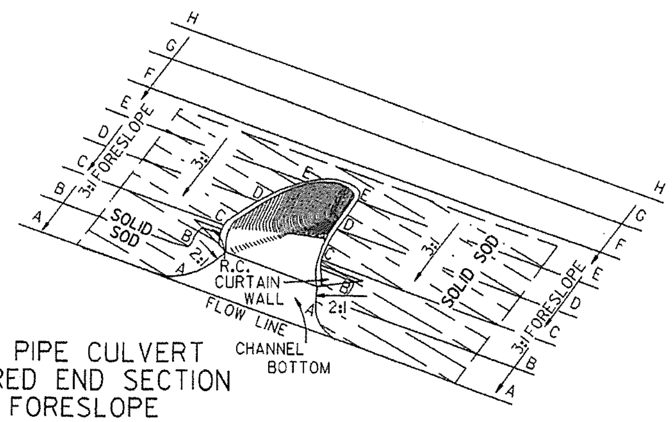
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

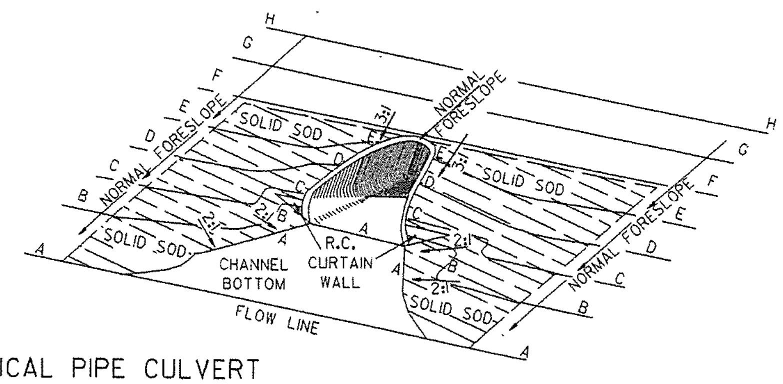
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

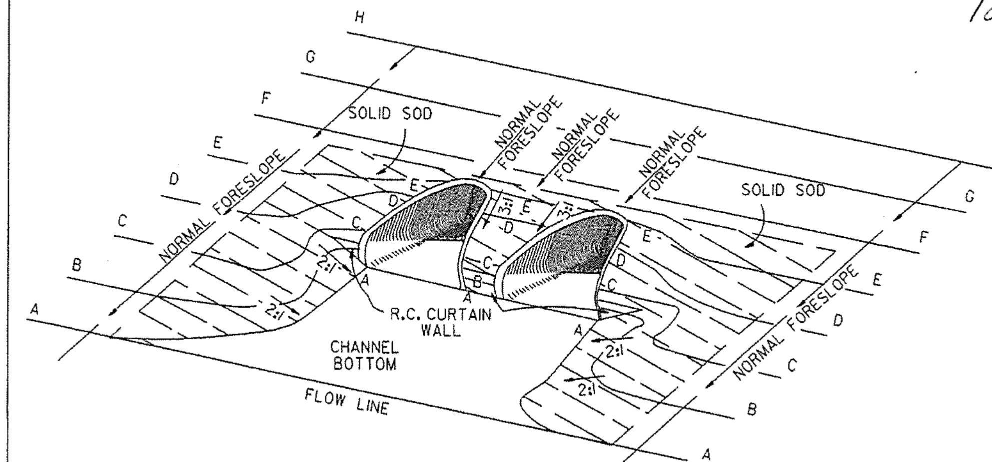
STANDARD DRAWING DR-1



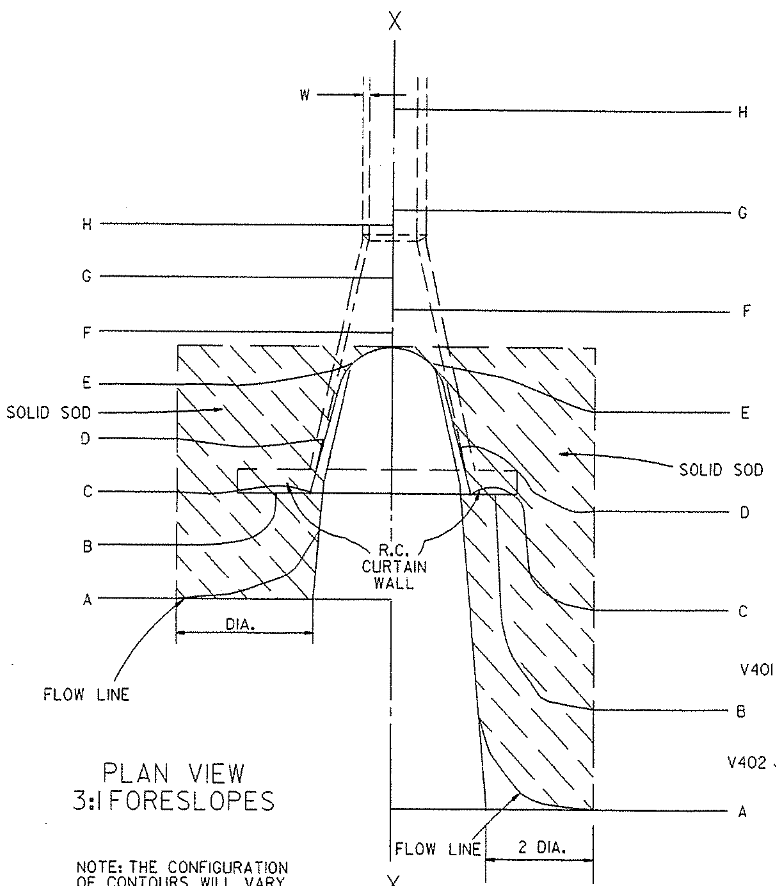
TYPICAL PIPE CULVERT WITH FLARED END SECTION & 3:1 FORESLOPE



TYPICAL PIPE CULVERT WITH FLARED END SECTION & FLATTENED ADJACENT SLOPES



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



PLAN VIEW 3:1 FORESLOPES

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

PLAN VIEW FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

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

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

REINFORCING STEEL SCHEDULE

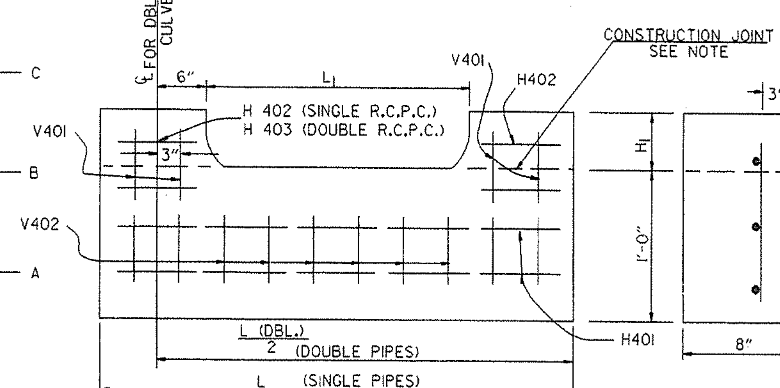
Single R.C. Pipe Culvert:

PIPE DIA.	H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20

Double R.C. Pipe Culvert:

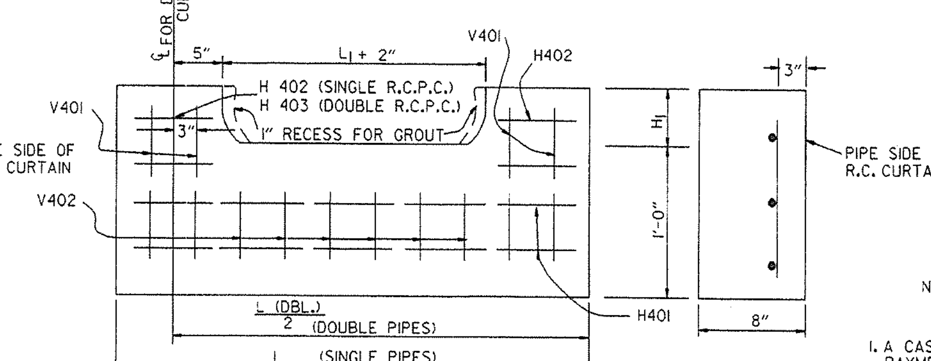
PIPE DIA.	H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"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

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



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

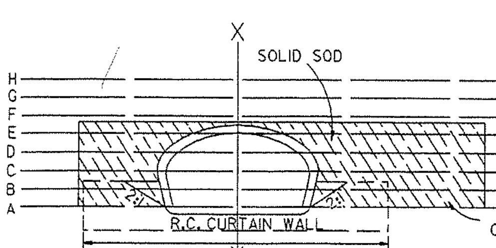
SOLID SODDING

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

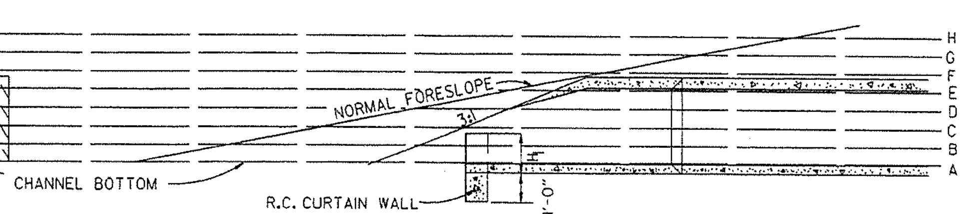
NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W/10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW



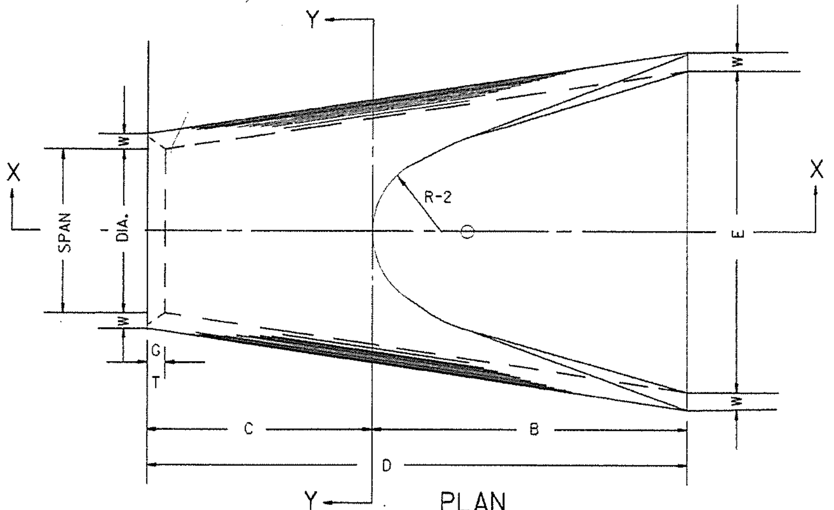
SECTIONAL VIEW "X-X"

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	

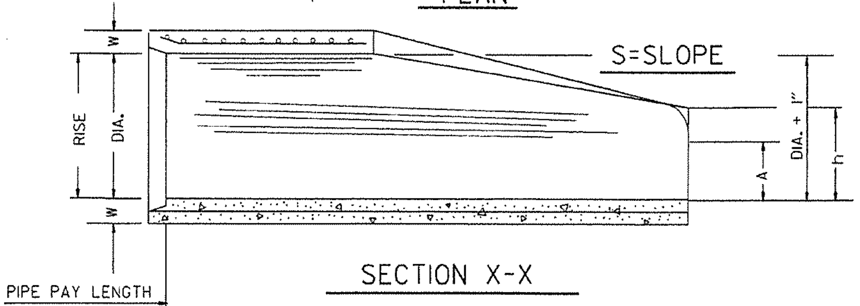
ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1



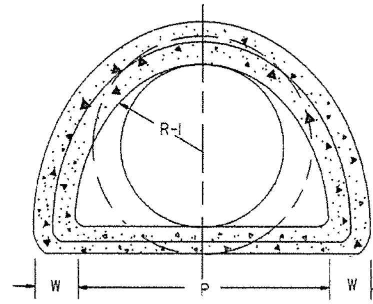
PLAN



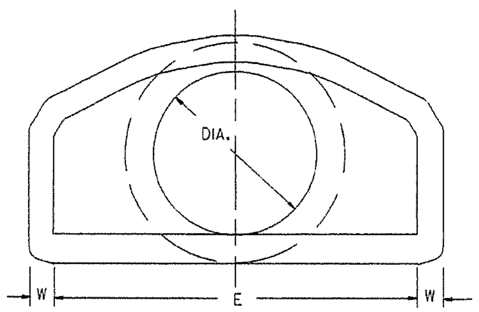
SECTION X-X

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 13/16"	24 5/16"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 7/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 1/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	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 15/16"	24"	5"	13250	4'-6"



SECTION Y-Y



END VIEW

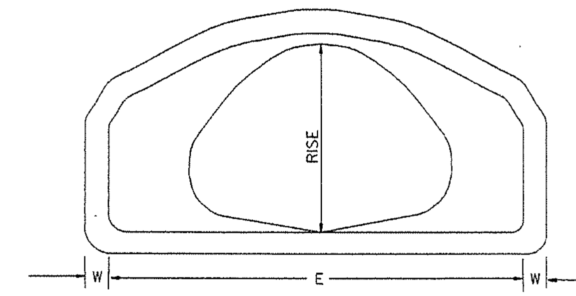
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

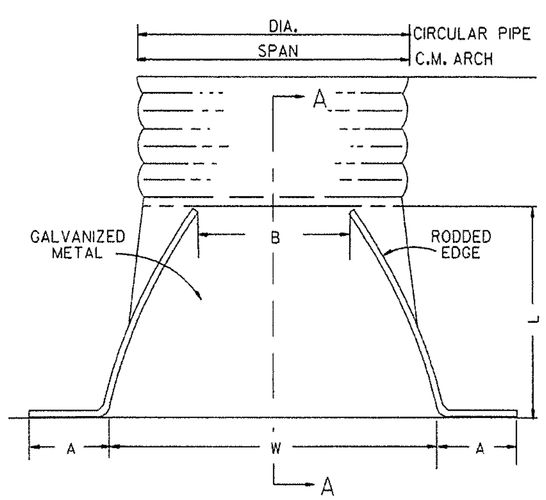
ARCH PIPE

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"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 13/16"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 13/16"	20"	3"	2 1/2:1
36	43 3/4	44	26 5/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 5/16"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 5/16	31	4 1/2"	11 1/2"	4'-7"	1-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 5/16"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4 3/4"	2 1/4:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2 1/4:1

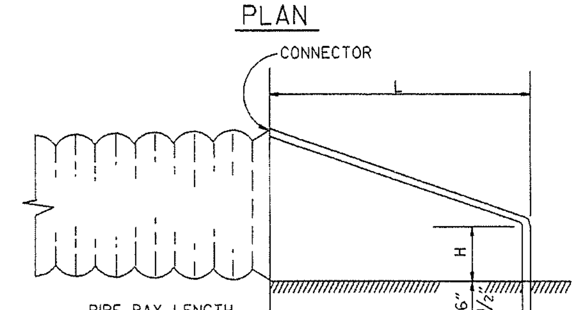
* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW
CONCRETE ARCH PIPE

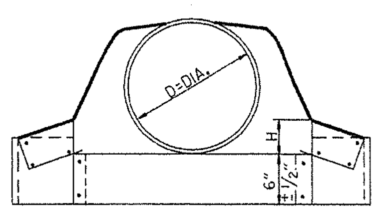


PLAN

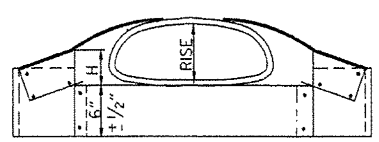


SECTION A-A

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



CIRCULAR PIPE



C.M. ARCH PIPE

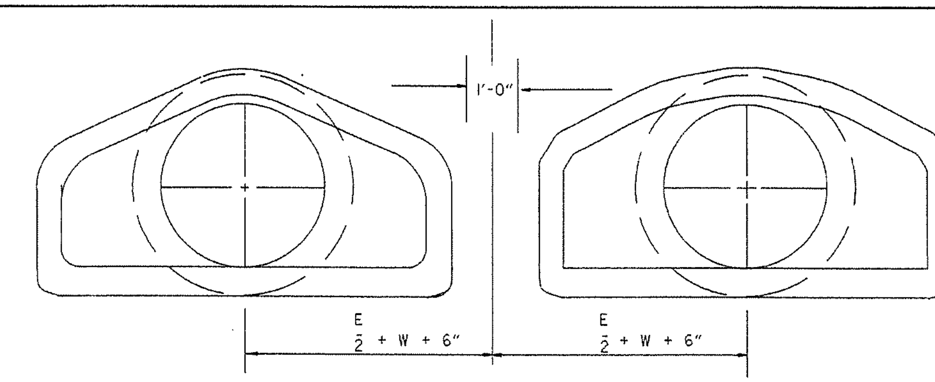
CIRCULAR PIPE

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

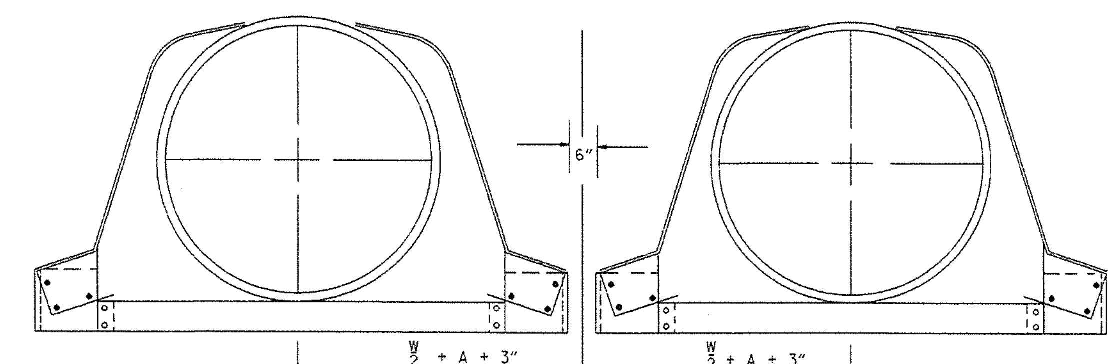
C.M. ARCH PIPE

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



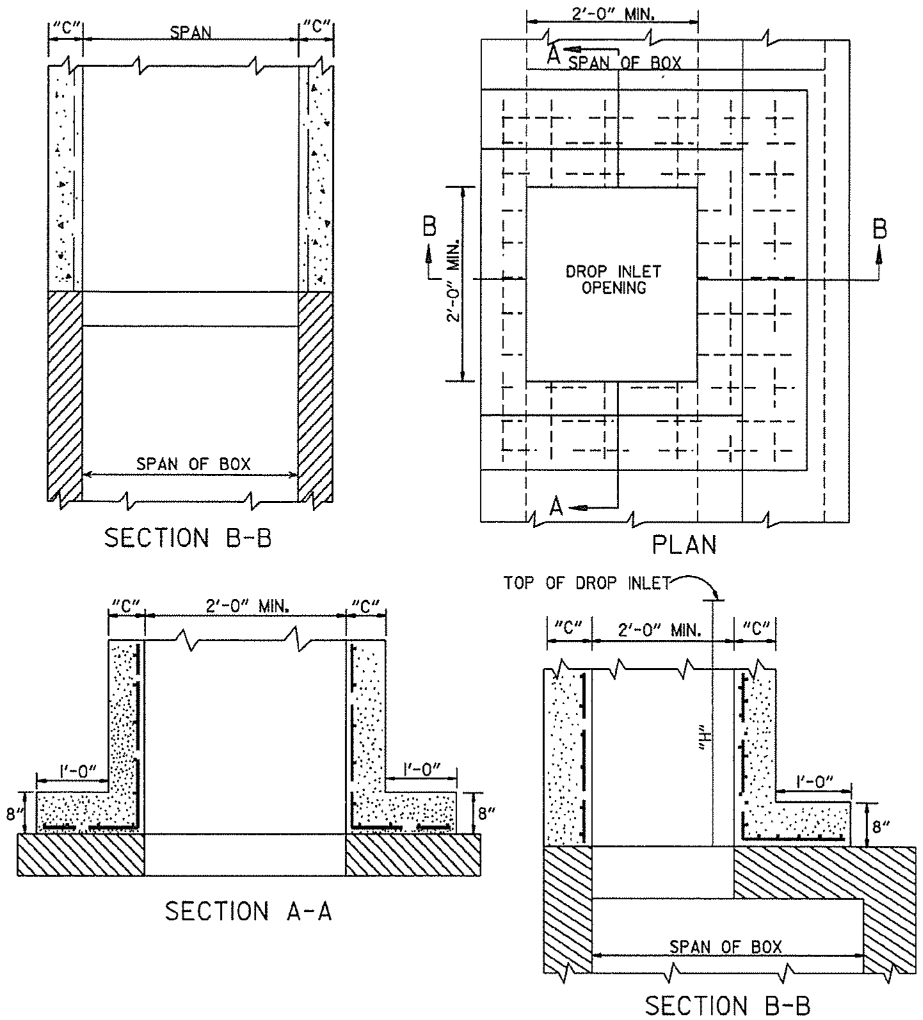
MULTIPLE C.M. PIPE CULVERTS

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

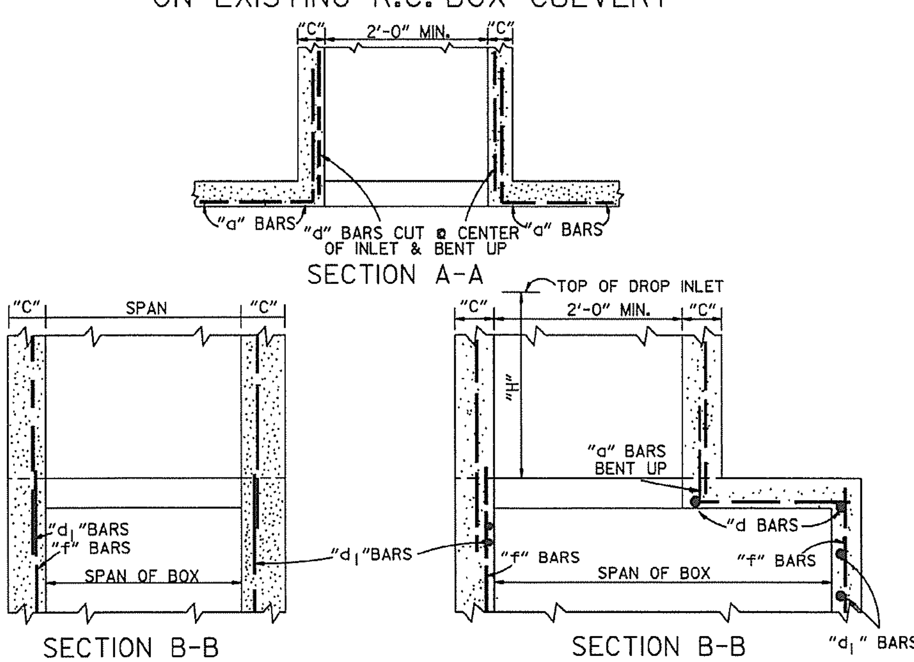
ARKANSAS STATE HIGHWAY COMMISION

FLARED END SECTION

STANDARD DRAWING FES-2

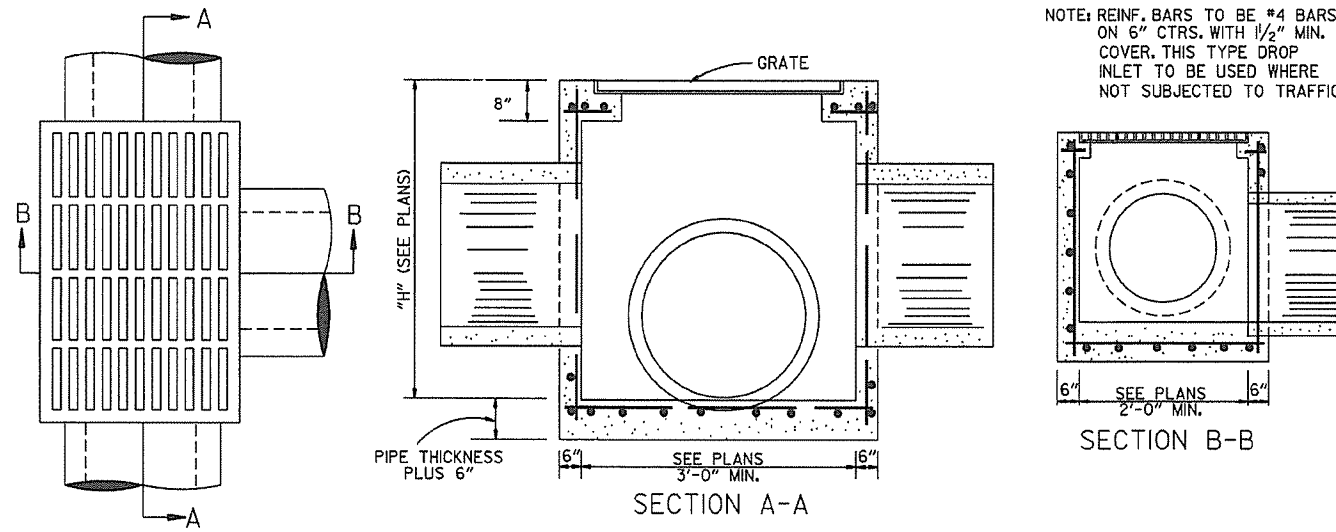


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

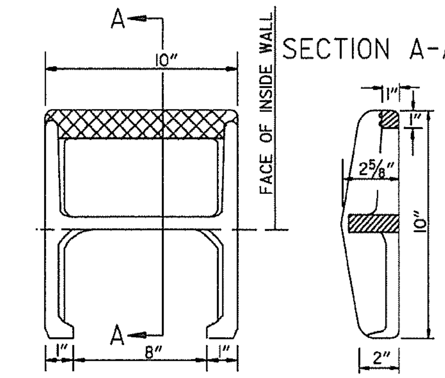


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



DROP INLET (TYPE E)

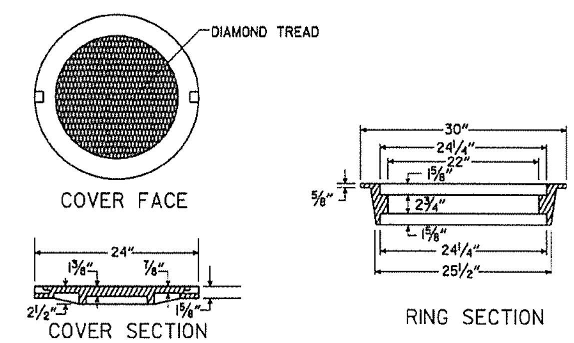


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

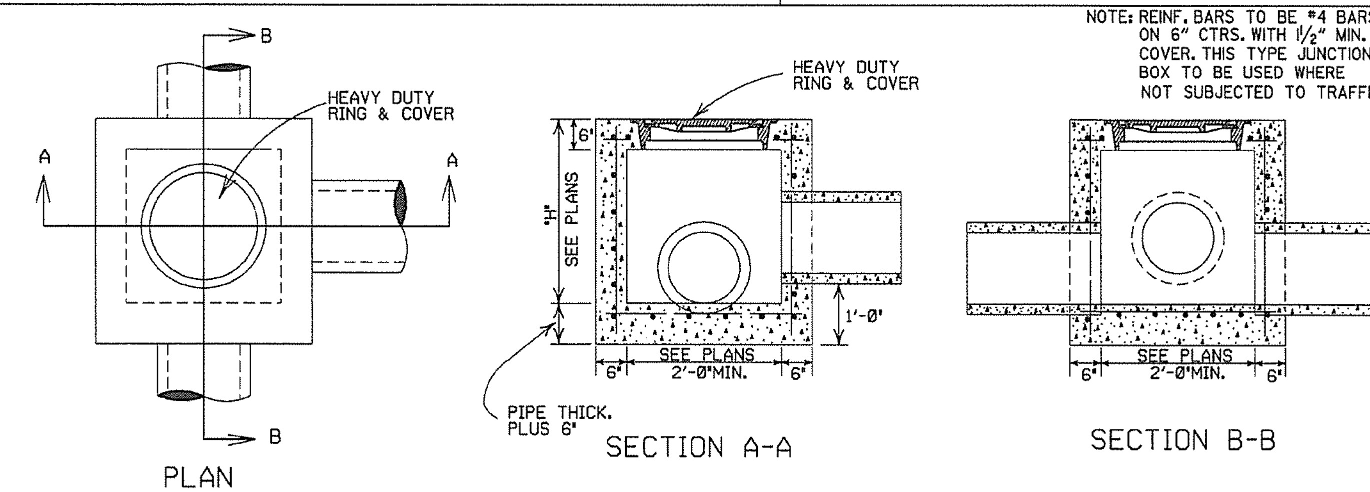
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

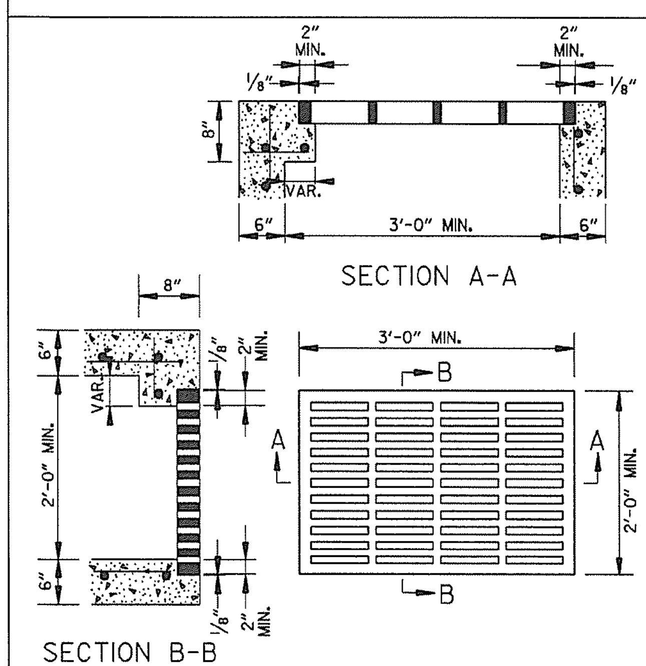


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

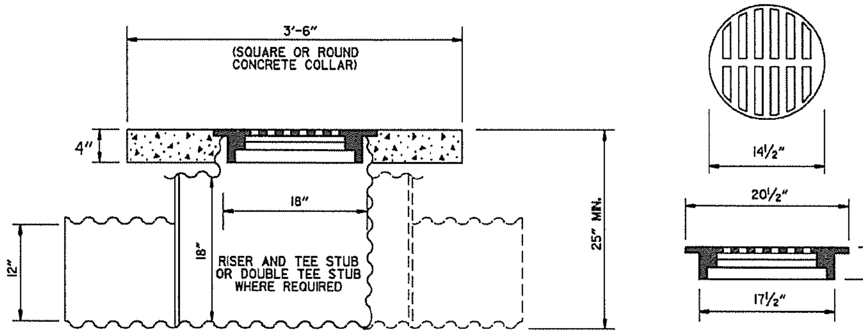


JUNCTION BOX (TYPE E)



APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".

USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

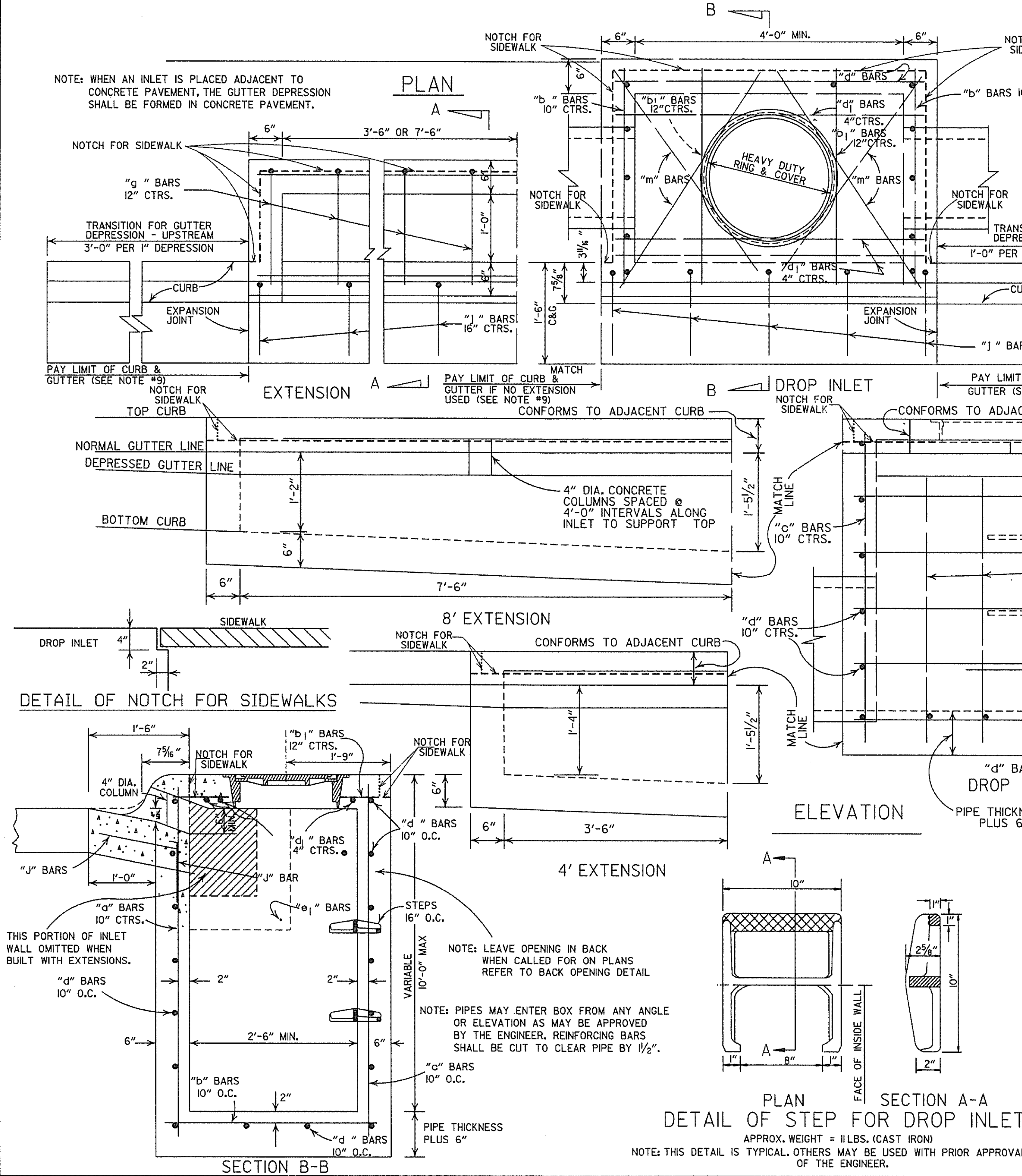
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. 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.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. 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
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI (TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
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 & JUNCTION BOXES

STANDARD DRAWING FPC-9



4'-0" LENGTH DROP INLET / DROP INLET EXTENSION

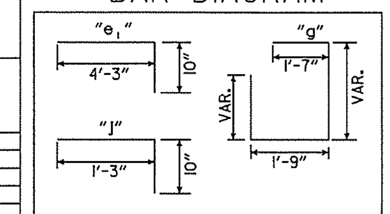
PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC. (CU. YDS.)	HEIGHT 5'-0" REINF. STEEL (POUNDS)	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. (CU. YDS.)	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL (POUNDS)	EXTENSION 4'-0" CLASS A CONC. (CU. YDS.)	EXTENSION 4'-0" REINF. STEEL (POUNDS)	EXTENSION 8'-0" CLASS A CONC. (CU. YDS.)	EXTENSION 8'-0" REINF. STEEL (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.

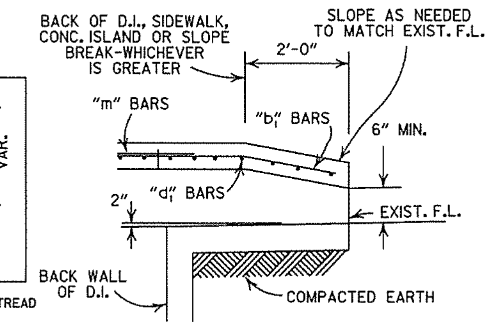
DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

INSIDE DIA. PIPE (INCHES)	CLASS A CONC. (CU. YDS.)	REINF. STEEL (POUNDS)
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

BAR DIAGRAM

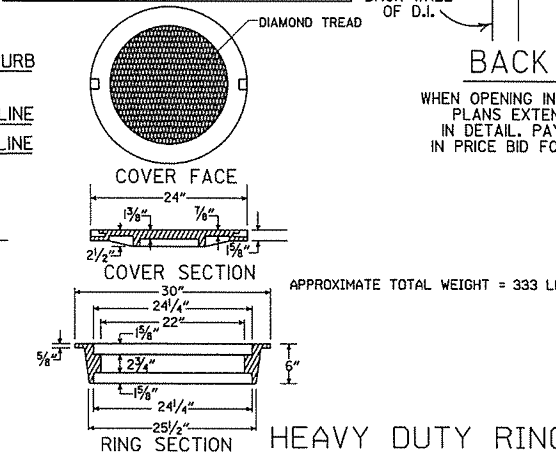


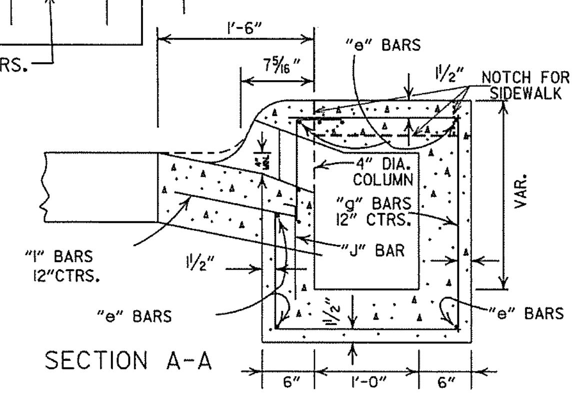
BACK OPENING



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

HEAVY DUTY RING & COVER





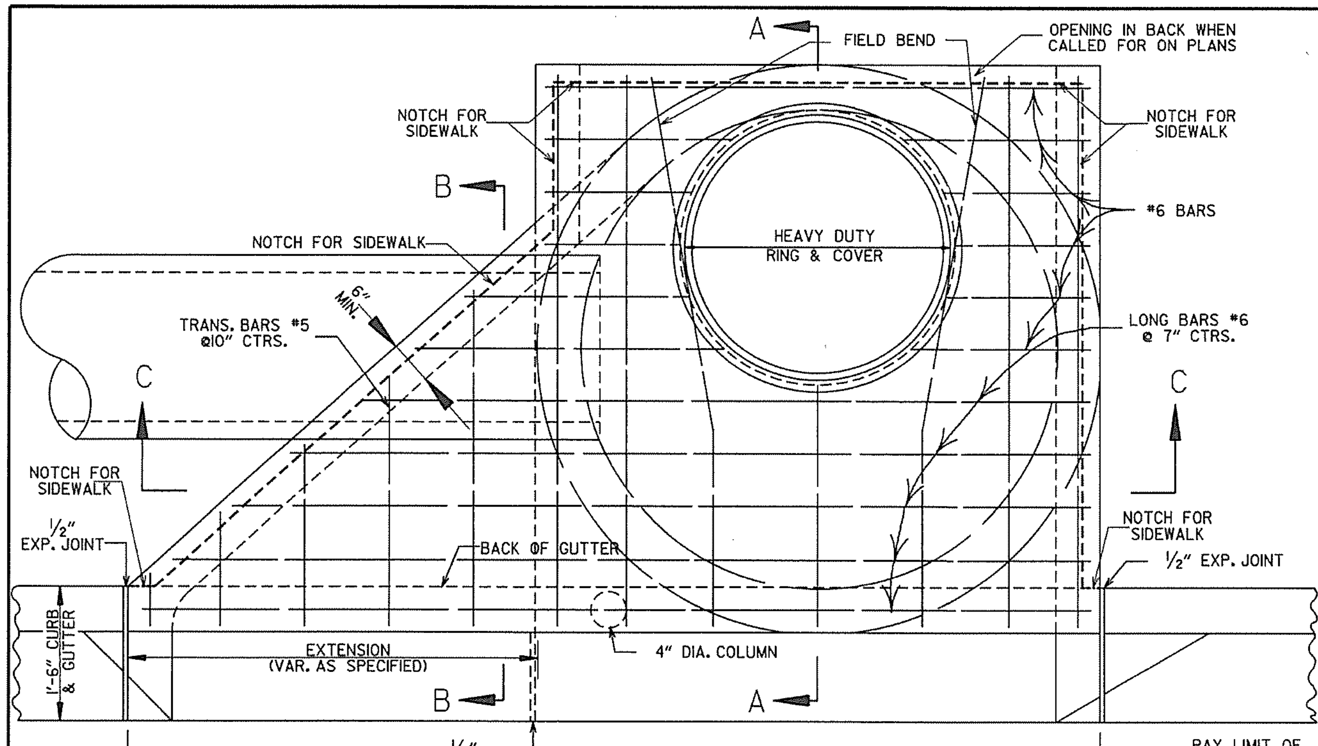
GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS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

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

ARKANSAS STATE HIGHWAY COMMISSION

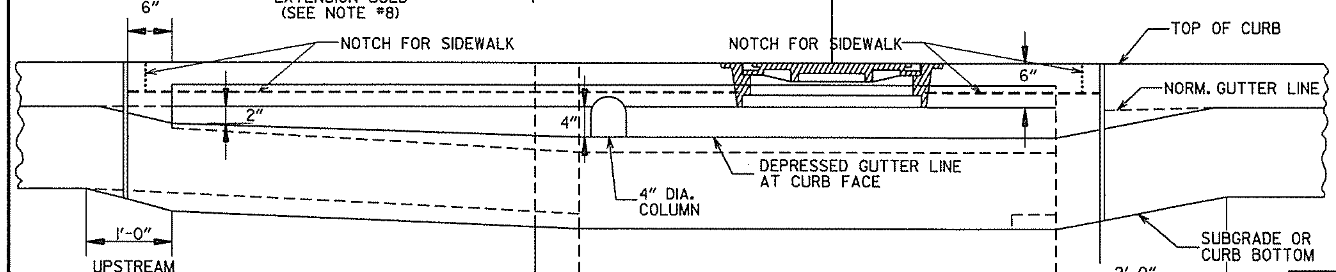
DETAILS OF DROP INLETS (TYPE C)

STANDARD DRAWING FPC-9E

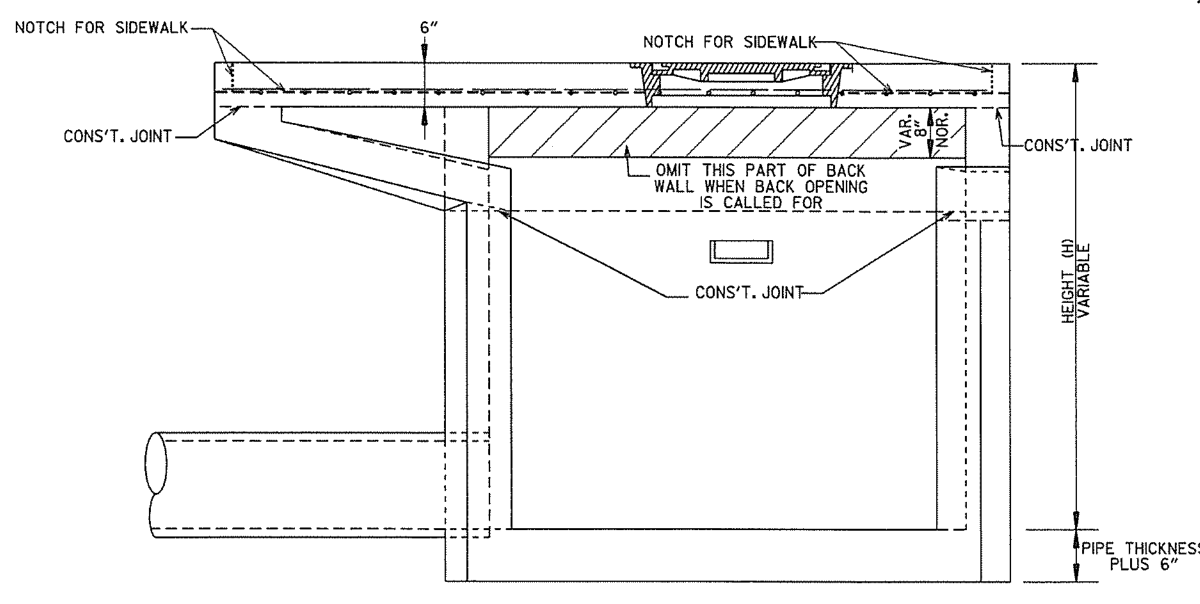


PLAN - W/SINGLE EXTENSION

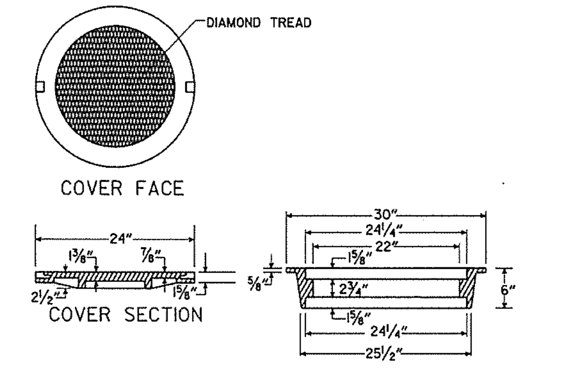
NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.



FRONT ELEVATION



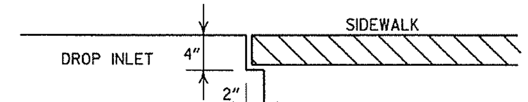
SECTION C-C



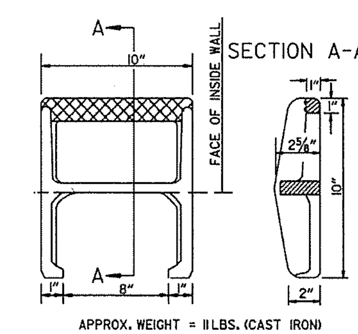
APPROXIMATE TOTAL WEIGHT = 333 LBS.

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.



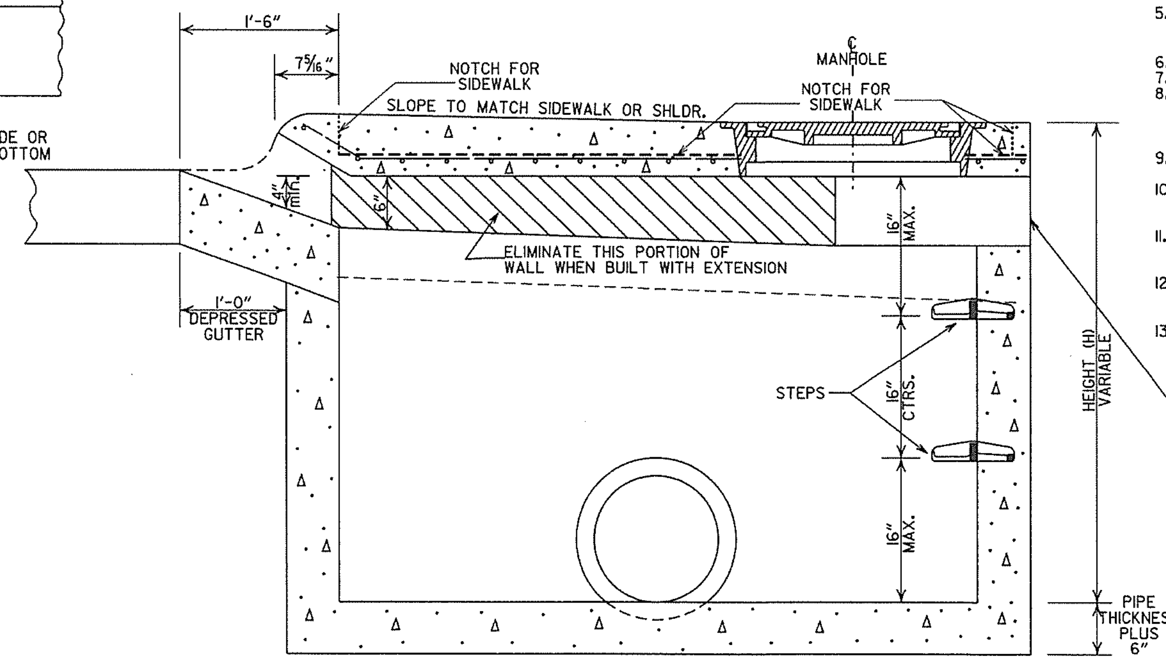
DETAIL OF NOTCH FOR SIDEWALKS



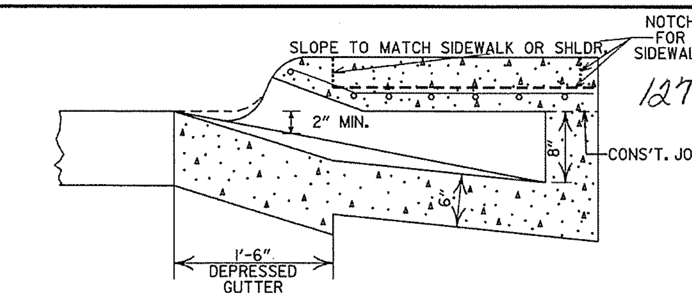
APPROX. WEIGHT = 11 LBS. (CAST IRON)

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

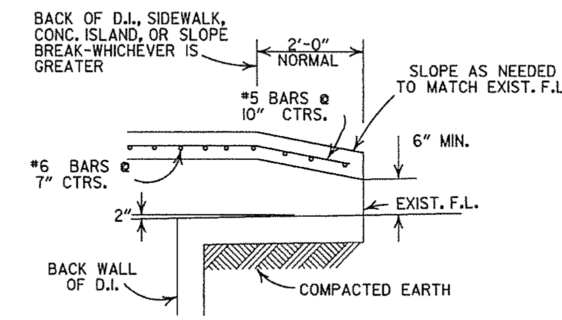
DETAIL OF STEP FOR DROP INLET



SECTION A-A



SECTION B-B



BACK OPENING

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

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

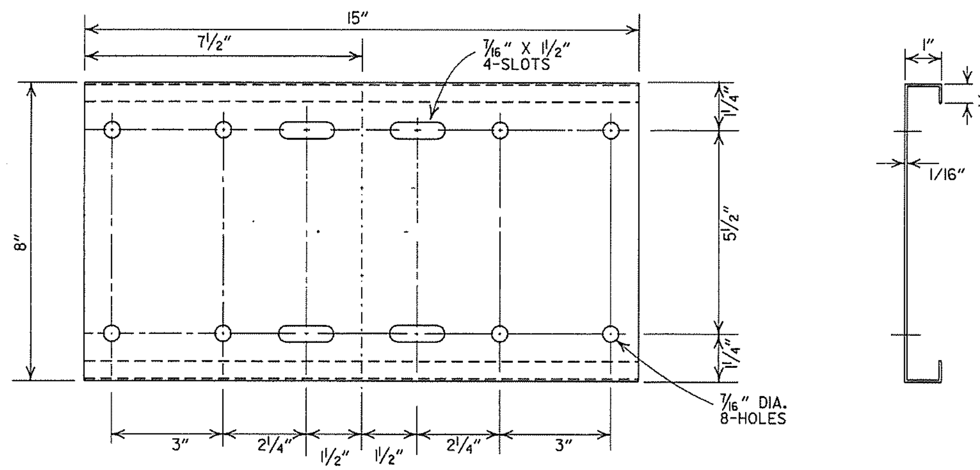
		MINIMUM WALL THICKNESS	
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

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. 12	11-30-89
3-23-89	ADDED NOTE & MINUMUM WALL THICKNESS	513-3-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	639-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

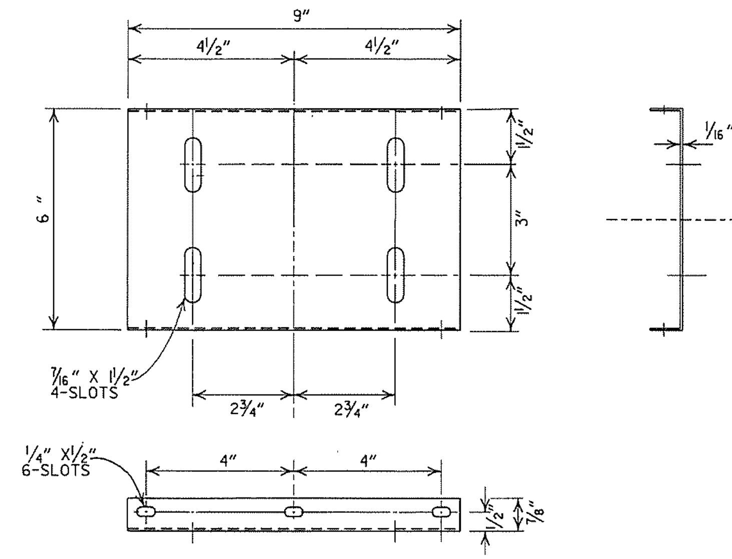
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

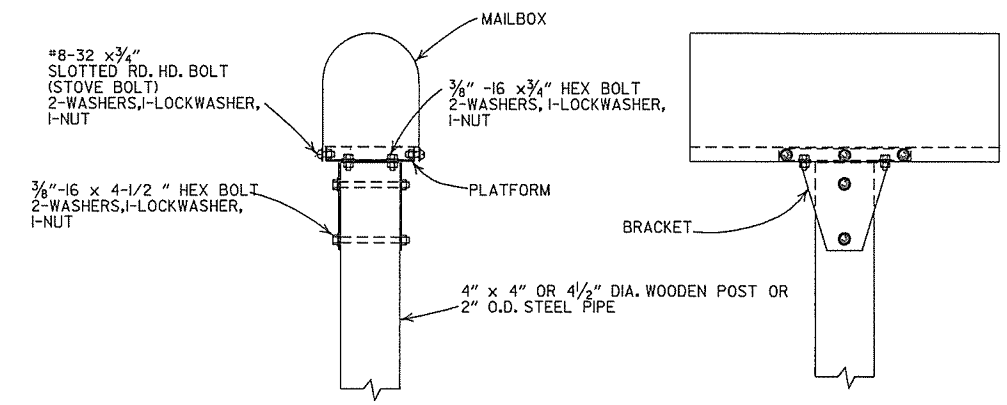
STANDARD DRAWING FPC-9M



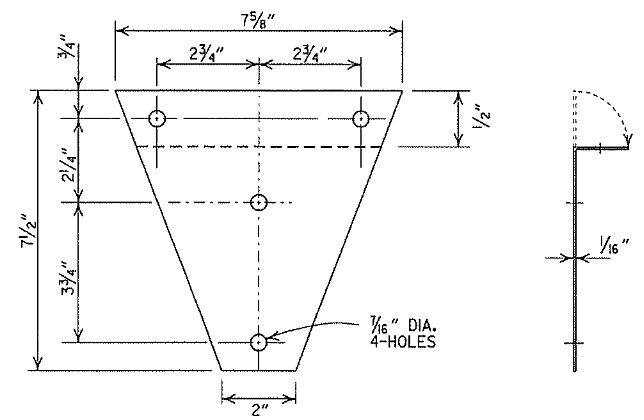
SHELF



PLATFORM



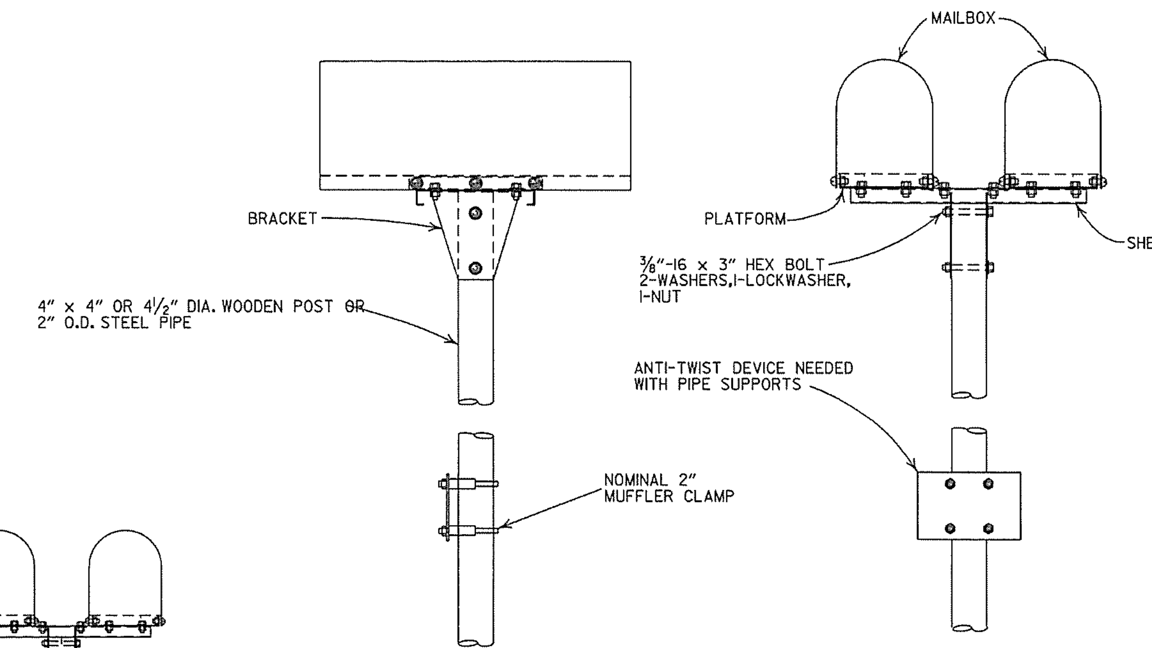
SINGLE INSTALLATION



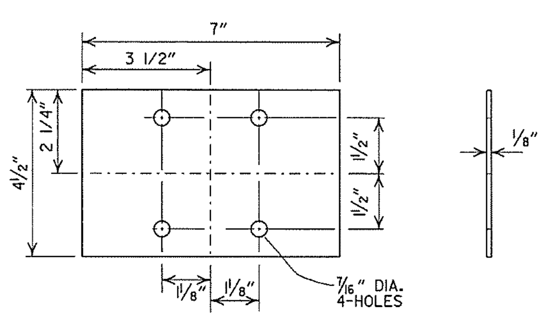
BRACKET

GENERAL NOTES

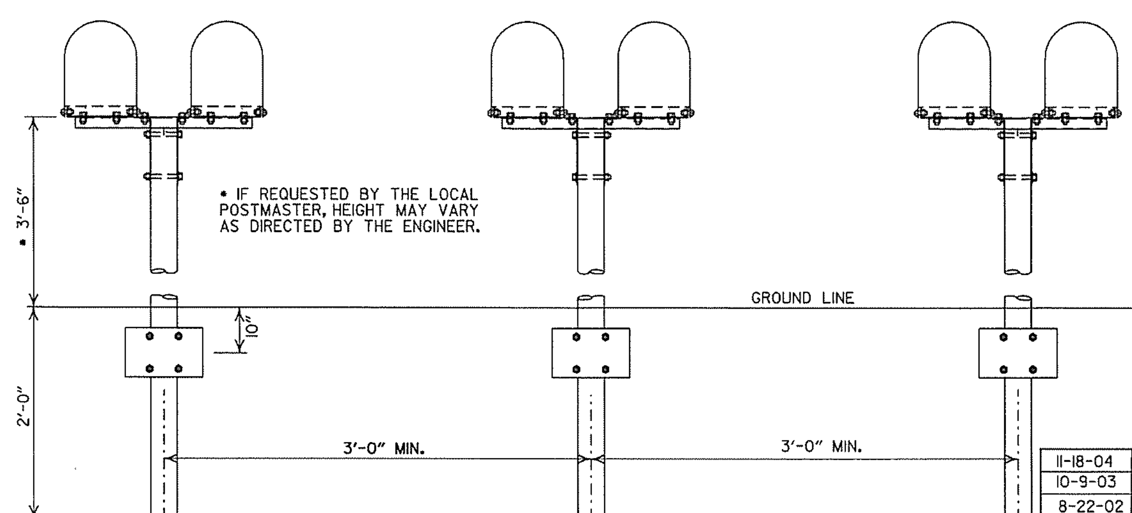
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X¾" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



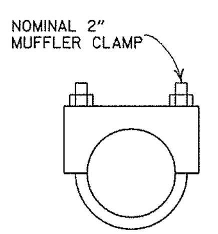
DOUBLE INSTALLATION



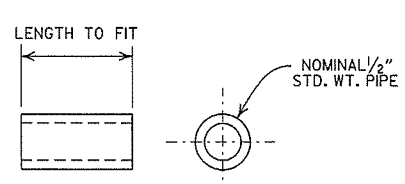
ANTI-TWIST PLATE



SPACING FOR MULTIPLE POST INSTALLATION



CLAMP



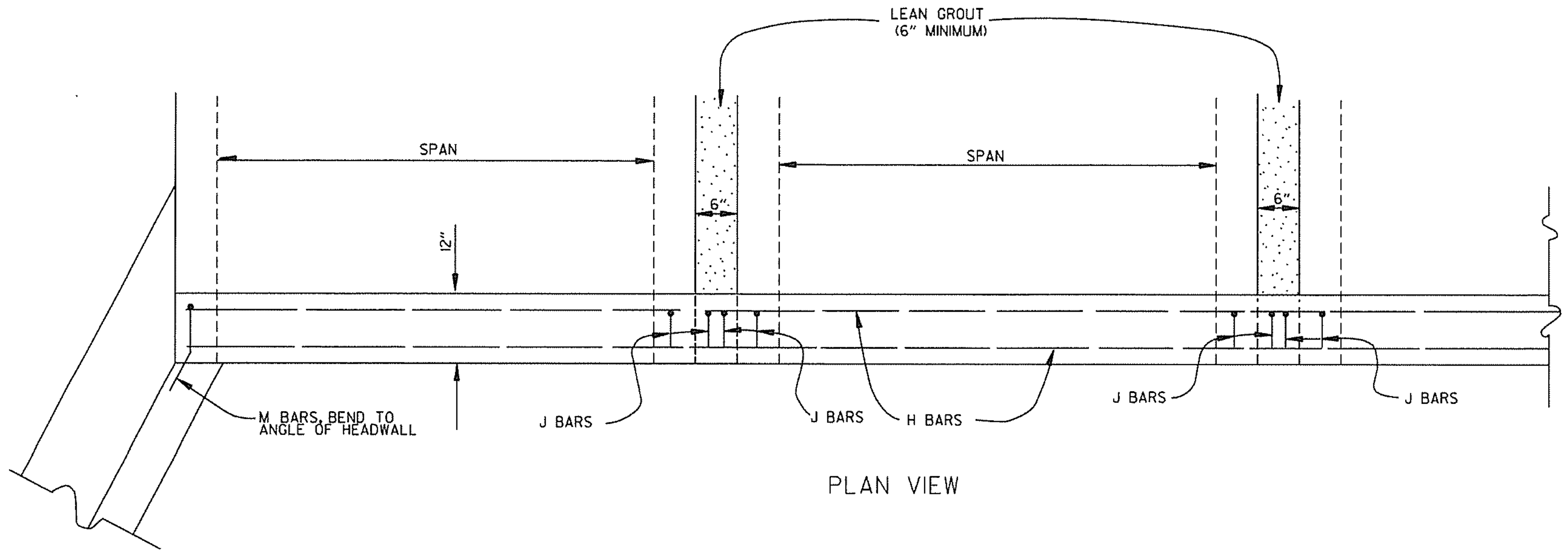
SPACER

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	120-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

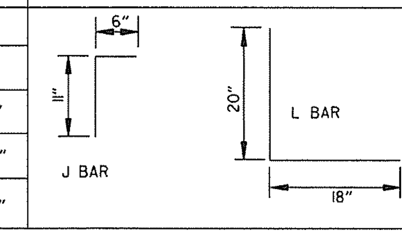
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

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



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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

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

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

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

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

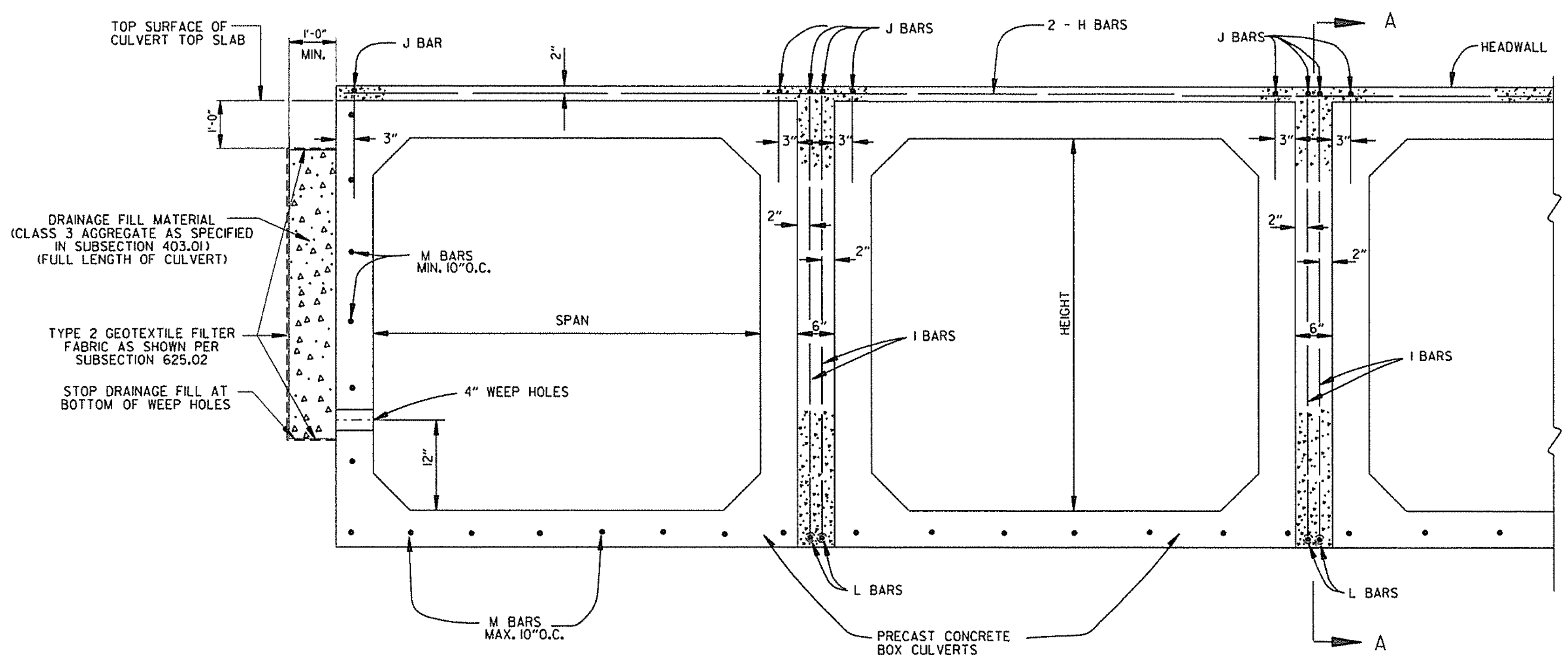
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

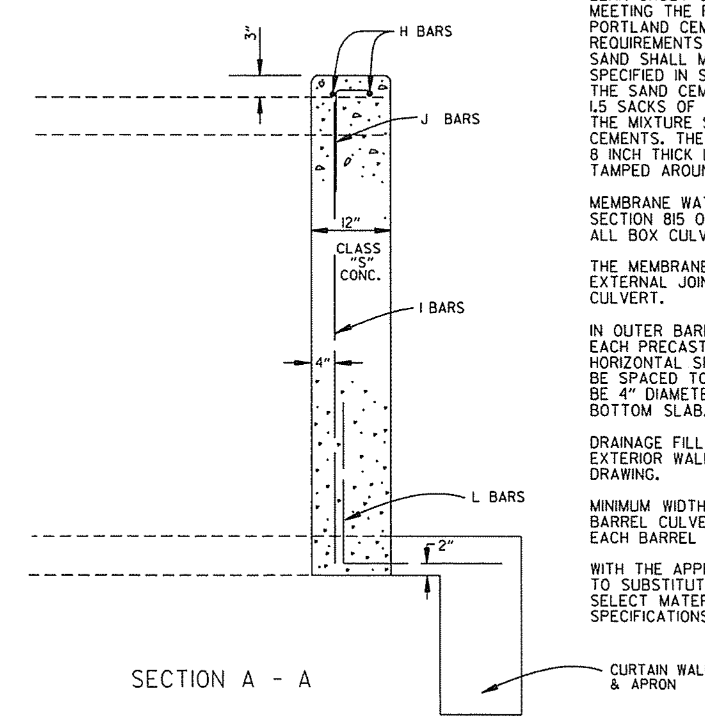
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT. SEE DETAILS ON THIS DRAWING.

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

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



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11-8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	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.

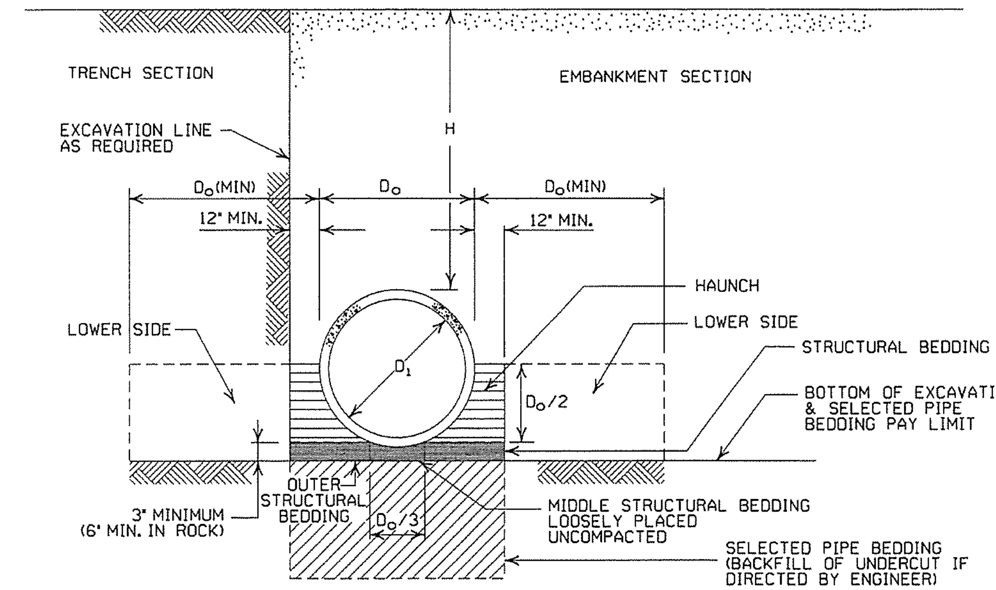
- LEGEND -

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL: MIN. THICKNESS REQUIRED INCHES	STEEL: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	STEEL: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM: MIN. THICKNESS REQUIRED INCHES	ALUMINUM: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2⅔ 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			

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

CONSTRUCTION SEQUENCE

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

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

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

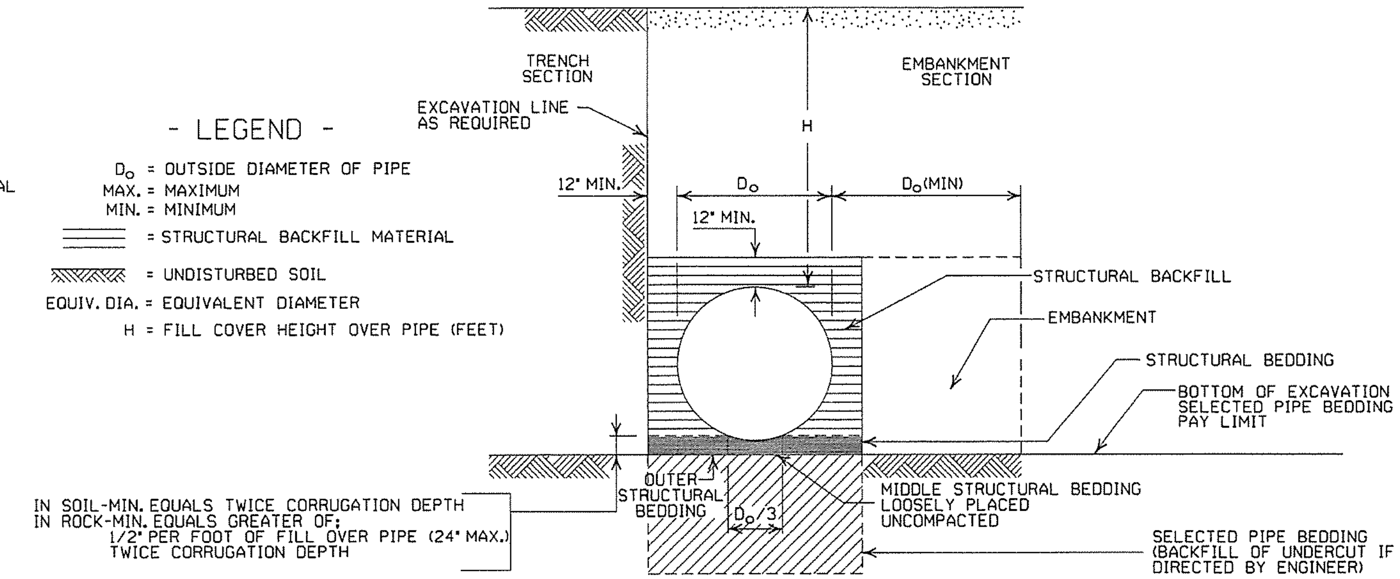
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

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

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

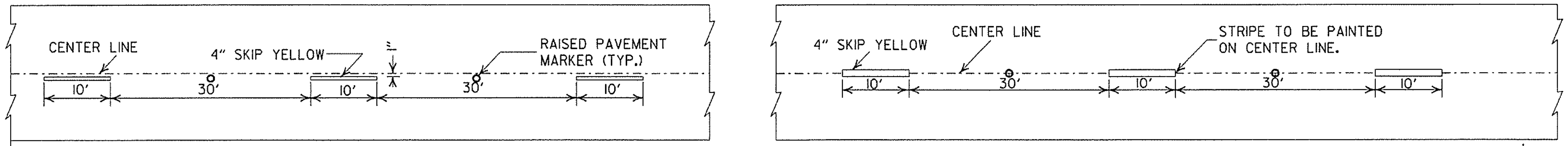
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

NOTES:

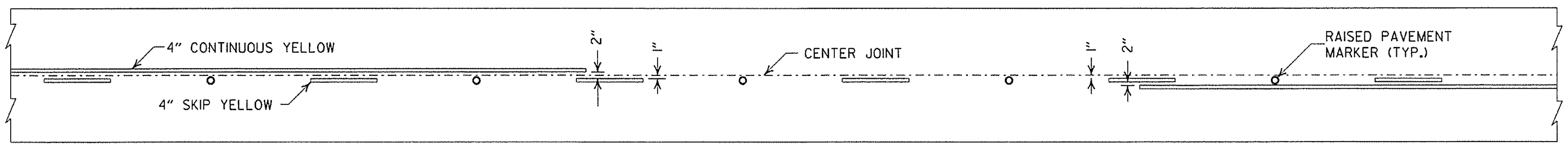
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



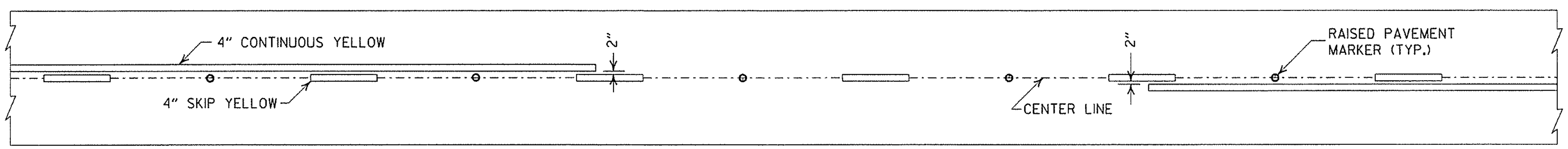
CONCRETE PAVEMENT

ASPHALT PAVEMENT

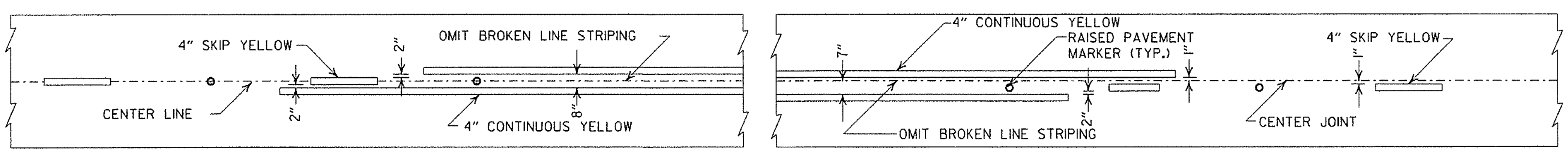
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



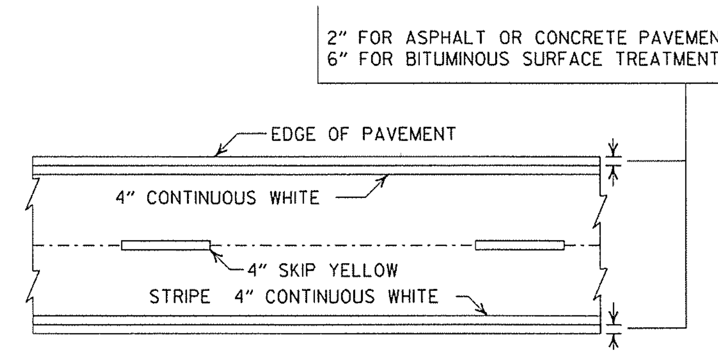
SOLID LINE STRIPING ON ASPHALT PAVEMENT



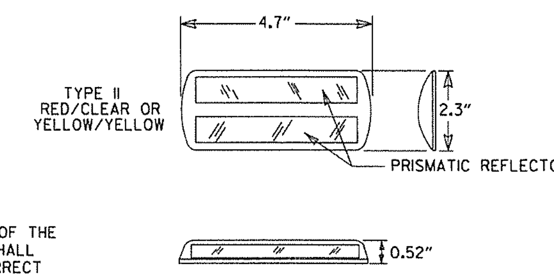
ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



PAVEMENT EDGE LINE MARKING



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

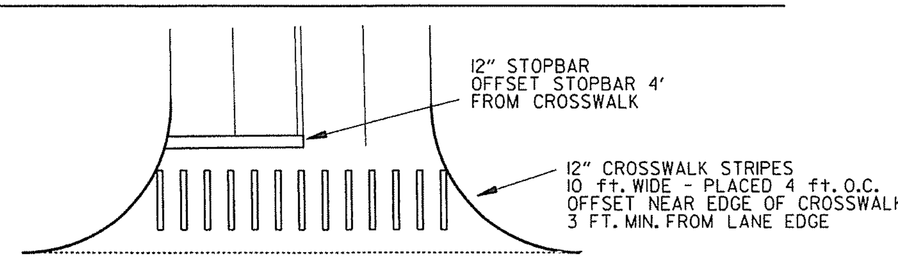
DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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.



CROSSWALK AND STOPBAR DETAILS

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

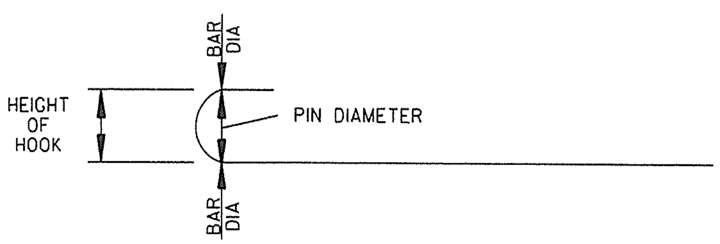
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	$2\frac{1}{4}$"	4"
4	3 "	$4\frac{1}{2}$"
5	$3\frac{3}{4}$"	5"
6	$4\frac{1}{2}$"	6"
7	$5\frac{1}{4}$"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS $2\frac{3}{4}$ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

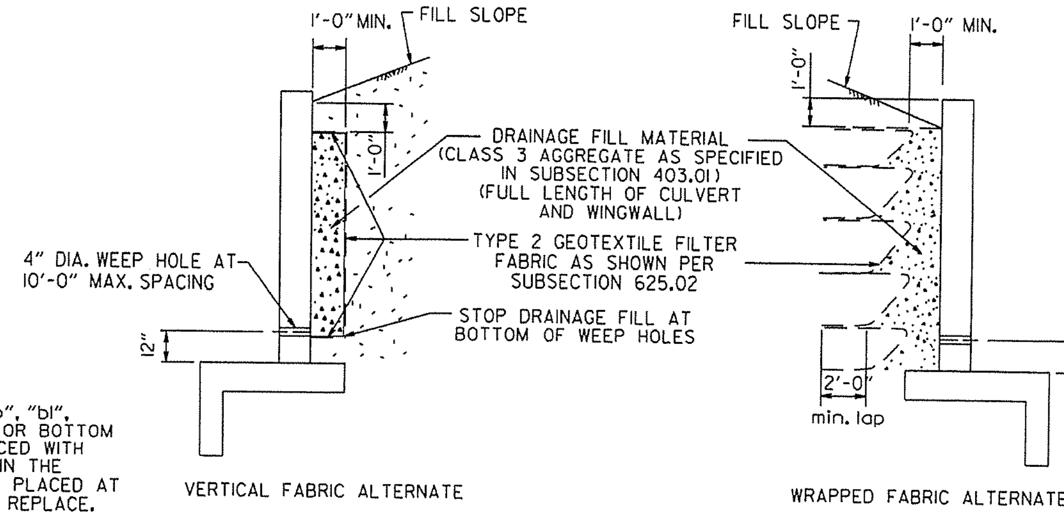
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

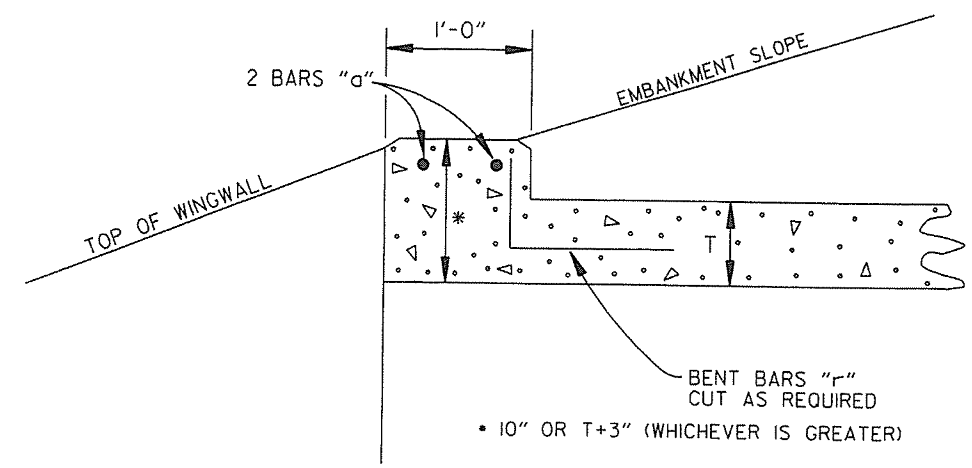
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS $\frac{1}{2}$ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



* 10" OR T+3" (WHICHEVER IS GREATER)

NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

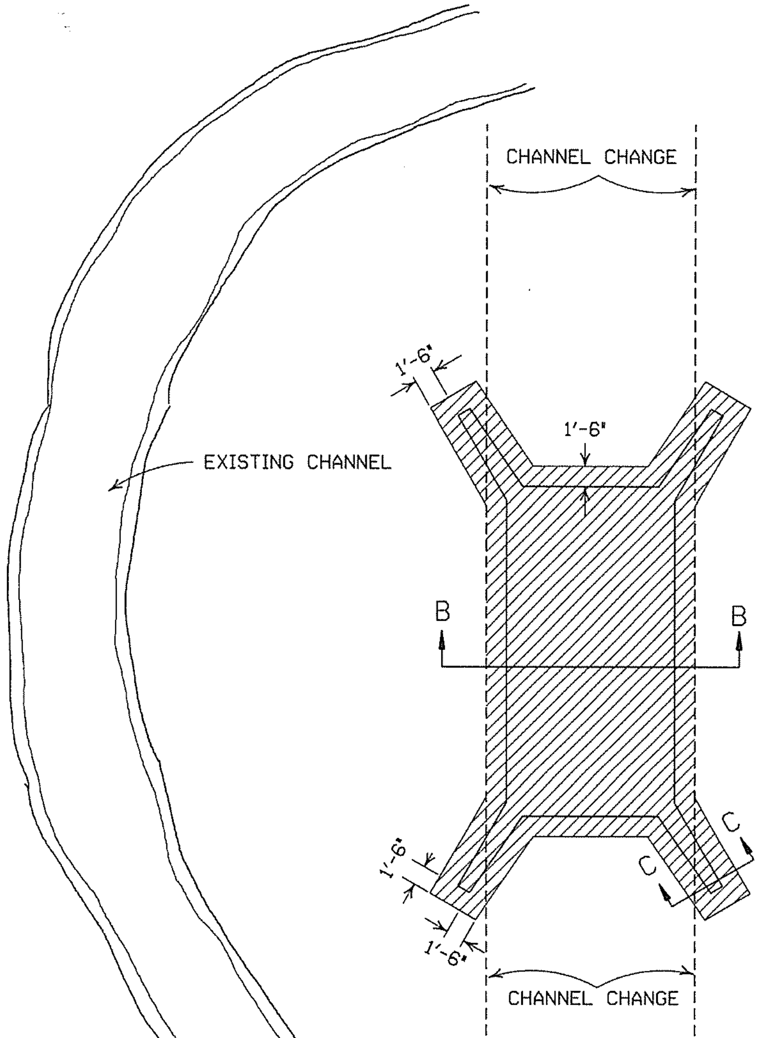
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

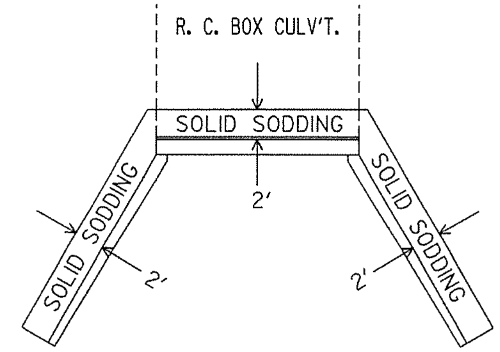
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

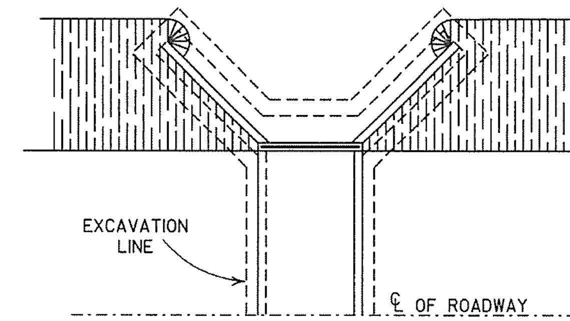
SOLID SODDING



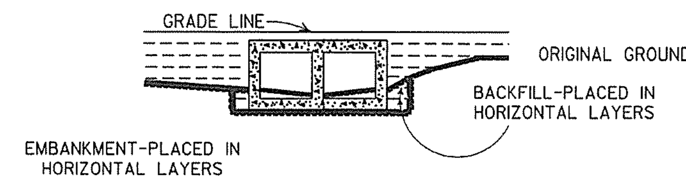
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

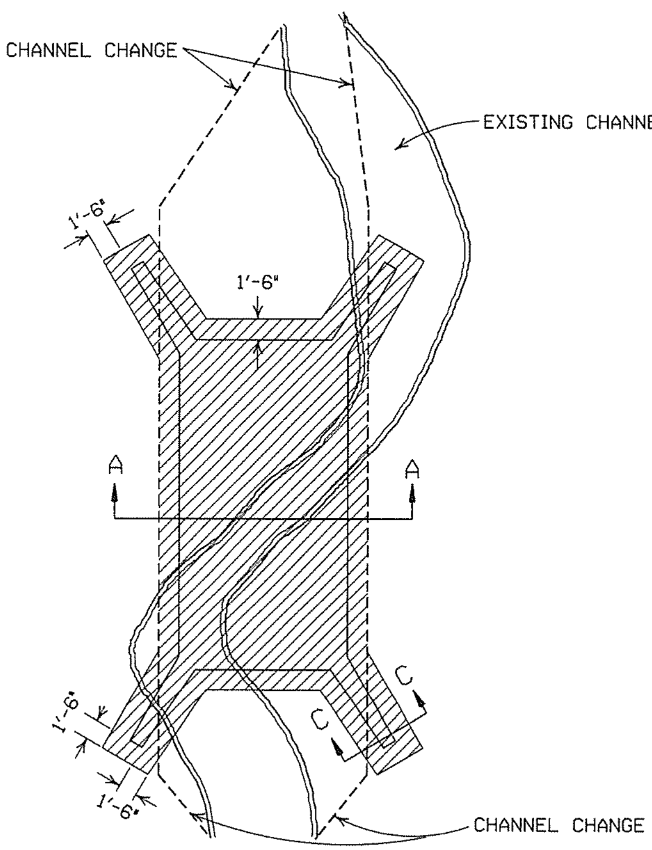


PLAN

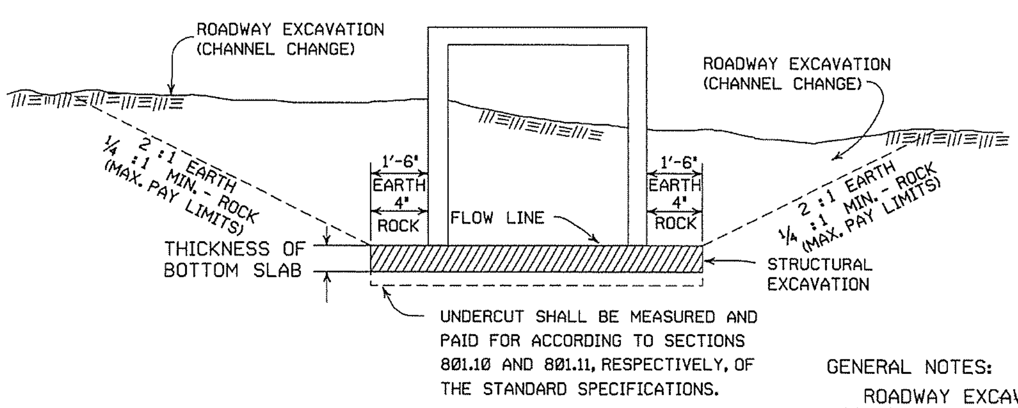


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

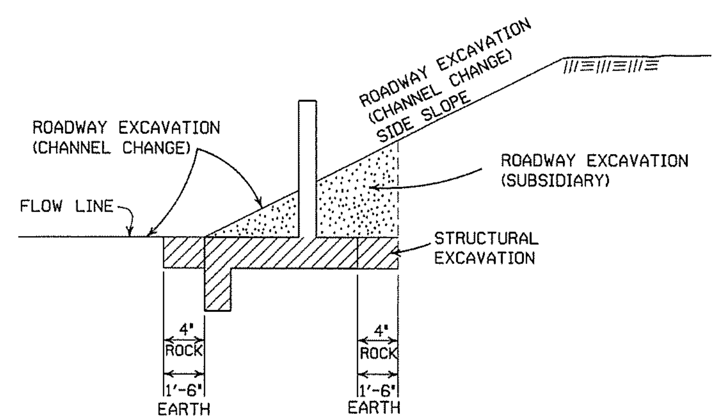


PLAN

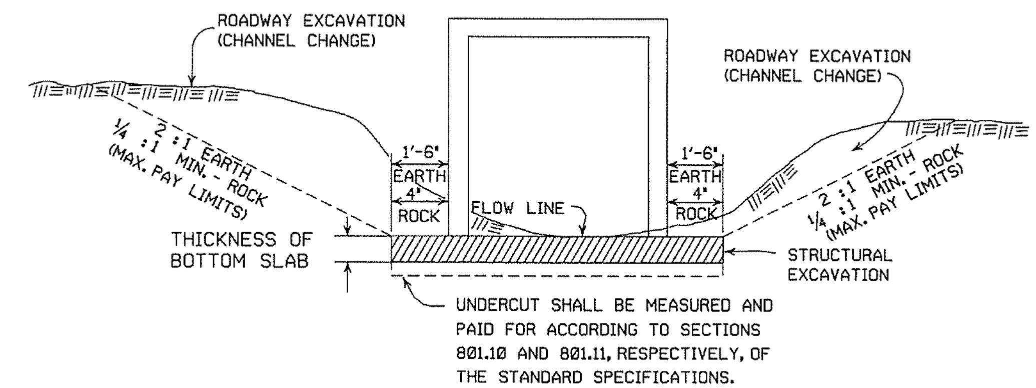


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES AND ADDED MAXIMUM PAY LIMIT NOTES.	674-1-4-83
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

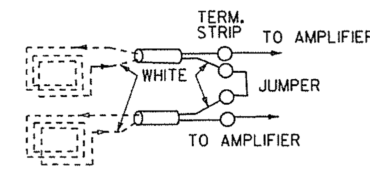
STANDARD DRAWING RCB-2

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

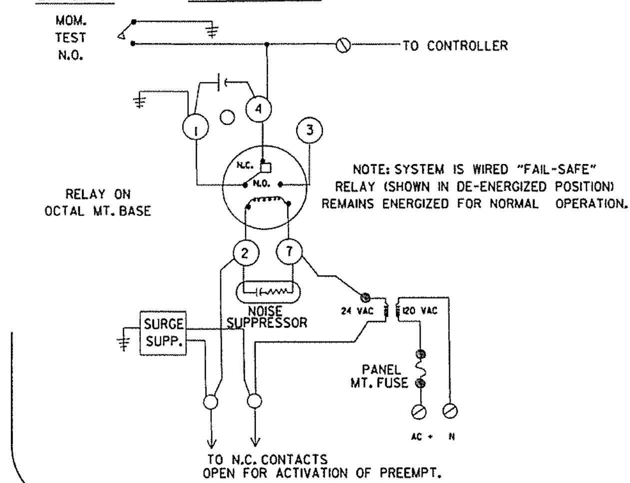
1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS (2-4-2 CONFIGURATION) UNLESS OTHERWISE NOTED.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICE SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. DRAIN WIRE SHALL BE GROUNDED IN CABINET AND INSULATED AT LOOP TO FEEDER SPLICE.
3. THE LOOP TO FEEDER SPLICE, FEEDER JACKET AND JACKET OF LOOP WIRE IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. CONTRACTOR MAY MAKE CONNECTIONS TO SIGNAL CABLE AND LOOP TO FEEDER CONNECTION AT TERMINAL STRIPS MOUNTED TO POLE INSIDE HAND HOLD COVER AS SHOWN IN DETAIL. TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPARATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPARATE "FEEDER WIRE" UNLESS OTHERWISE NOTED. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE INCH (1"Ø) CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. WARRANTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE DETECTOR LOOP TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NOT MORE THAN 18" APART AND WEDGED INTO SLOT TO HOLD CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT BE ALLOWED WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED, CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MINIMUM OF TWO INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPARATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO CONTROLLER. CONTROLLER CABINET SHALL BE WIRED SUCH POWER TO LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

SERIES CONNECTED LOOPS

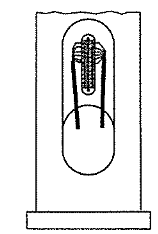


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

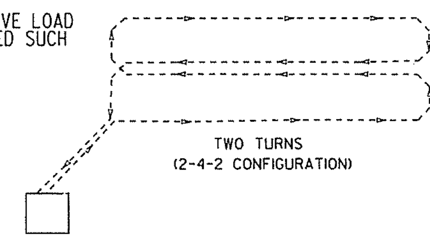
TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM

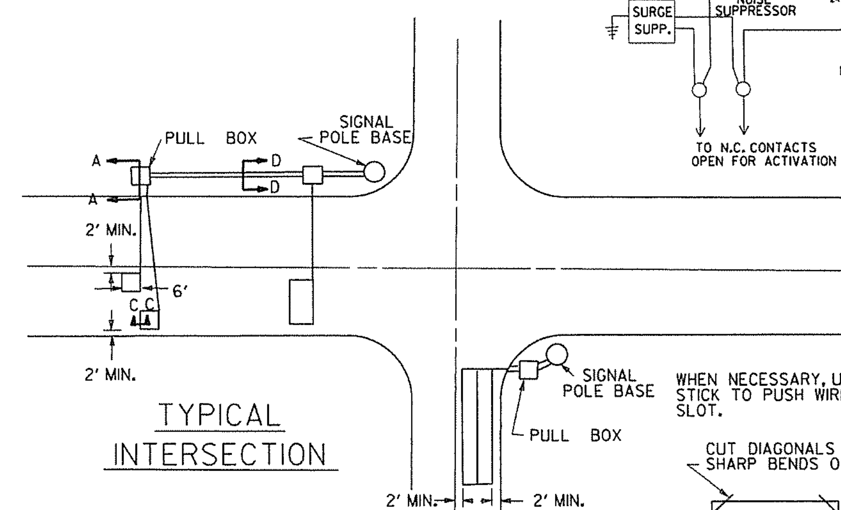


HANDHOLE TERMINAL



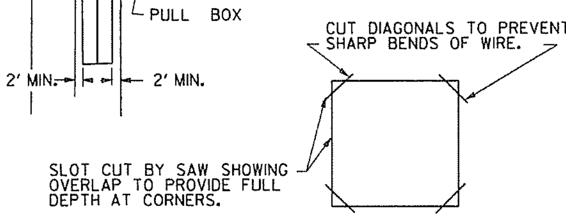
QUADRUPOLE LOOP





TYPICAL INTERSECTION

WHEN NECESSARY, USE WOODEN STICK TO PUSH WIRE IN SAWED SLOT.



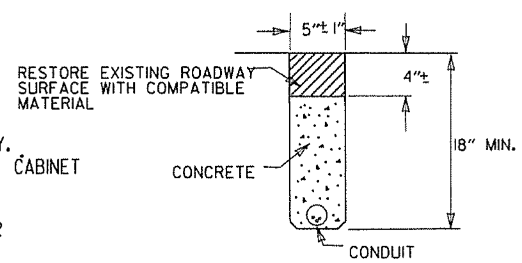
TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM) IF TESTS 1 & 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1 & 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPLICE (DO NOT BREAK CONNECTION) REPEAT TEST 1 & 2 IF TEST 3 IS BAD, GO TO TEST 4
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1 & 2 SEPARATELY FOR FEEDER AND FOR LOOP

FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

TRENCHING DETAIL

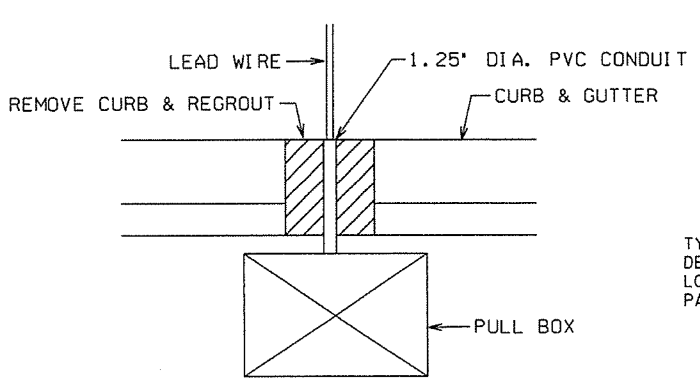
(FOR SAW CUT TRENCH IN ROADWAY)

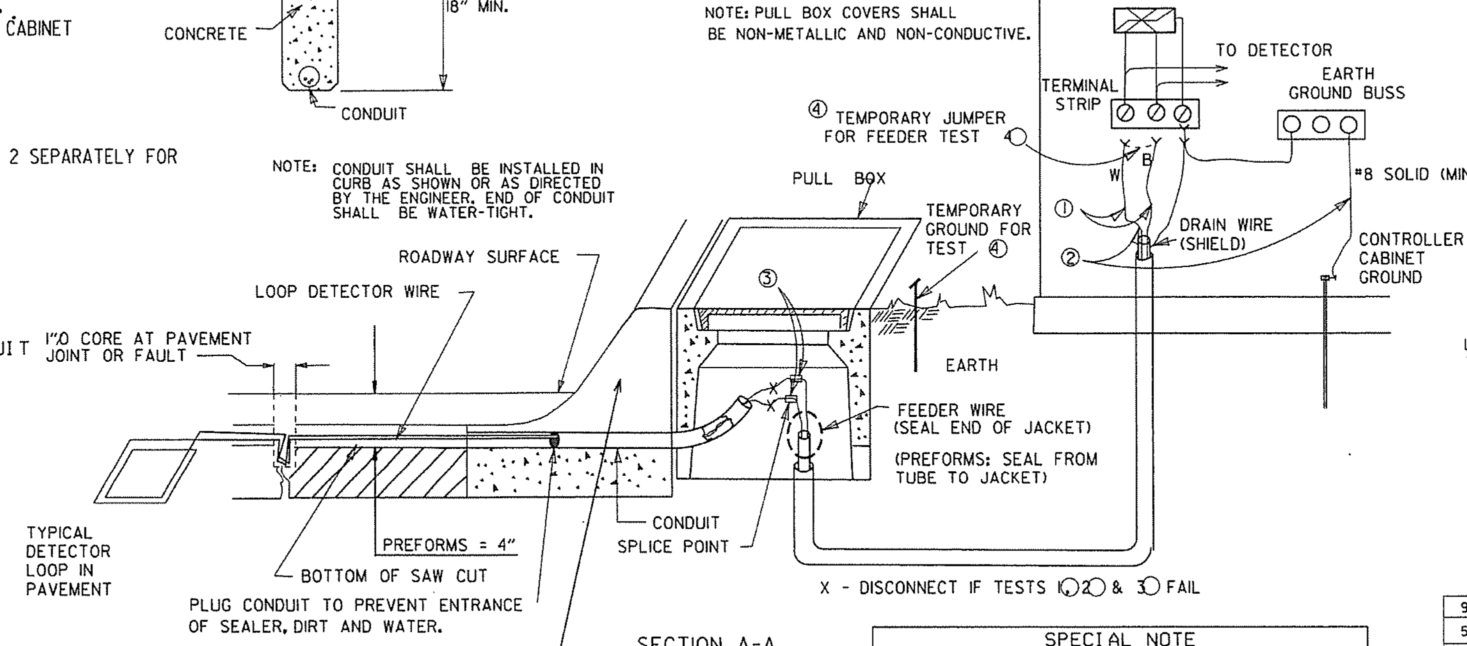


NOTE: CONDUIT SHALL BE INSTALLED IN CURB AS SHOWN OR AS DIRECTED BY THE ENGINEER. END OF CONDUIT SHALL BE WATER-TIGHT.

(TYPICAL)

NOTE: PULL BOX COVERS SHALL BE NON-METALLIC AND NON-CONDUCTIVE.





PREFORMS - SAW COMPLETELY THROUGH CURB

ALTERNATE - WHEN INSTALLING PREFORMS ON SUBSTRATE, LEAD-INS MAY BE INSTALLED IN CONDUIT UNDERNEATH THE CURB AND GUTTER.

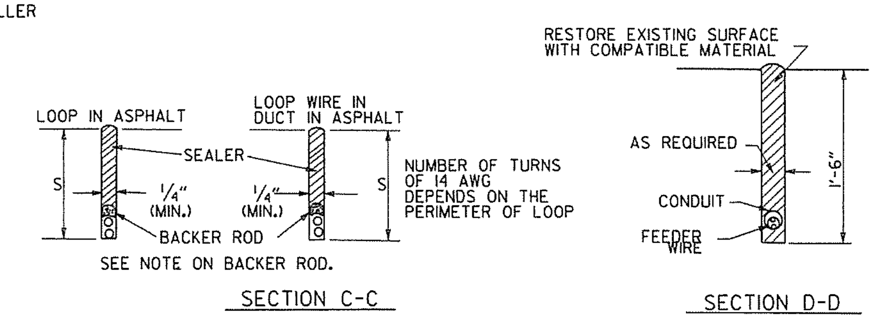
SECTION A-A

1'-6" CONCRETE COMBINATION CURB AND GUTTER

SPECIAL NOTE

IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



SEE NOTE ON BACKER ROD.

SECTION C-C

$S = 2\ ^1/_2$" IN ASPHALT
$S = 1\ ^1/_2$" IN CONCRETE

SECTION D-D

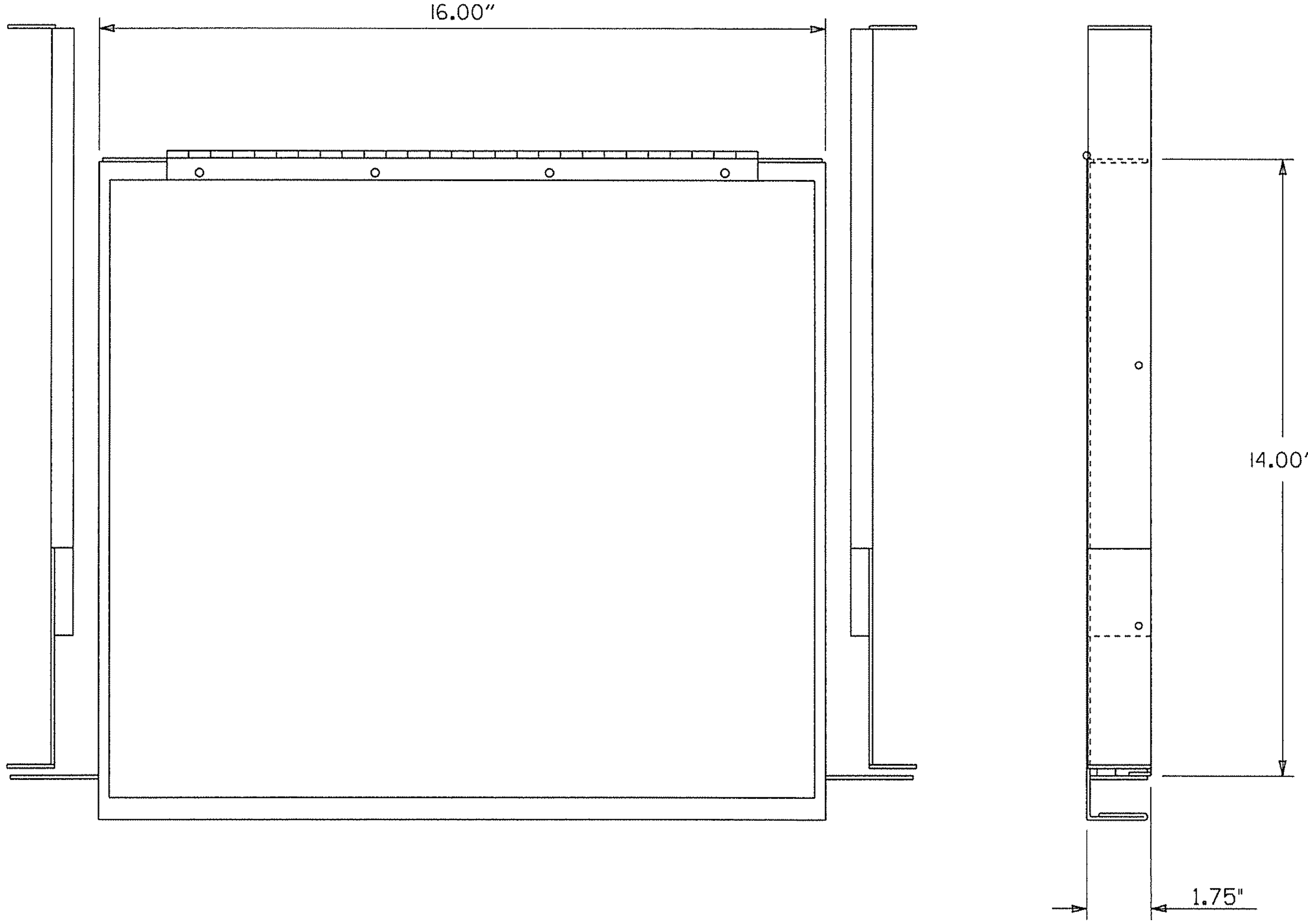
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
5-17-01	REVISED	
4-11-01	REVISED	
2-4-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

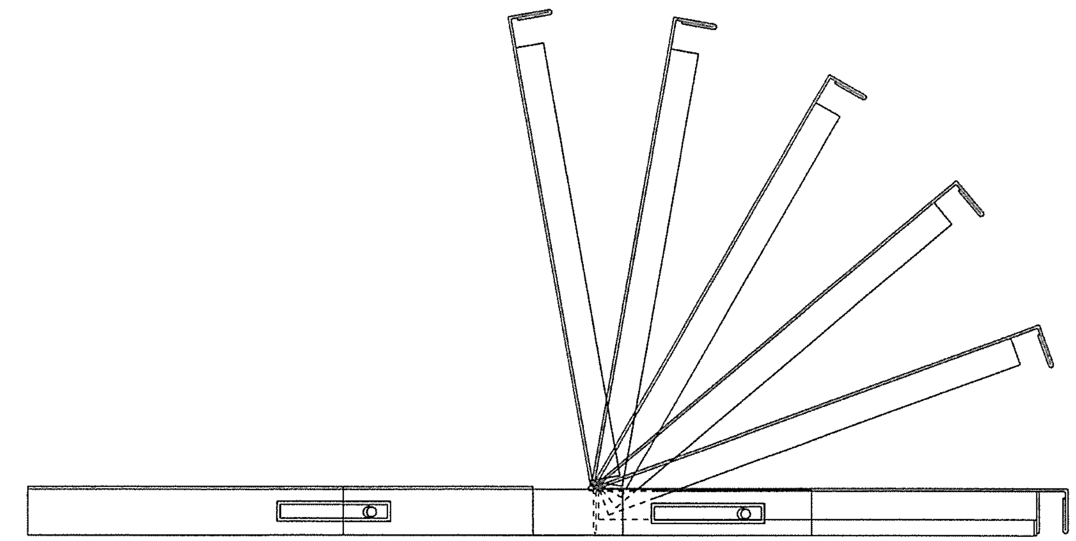
ARKANSAS STATE HIGHWAY COMMISSION

LOOP DETECTOR INSTALLATION

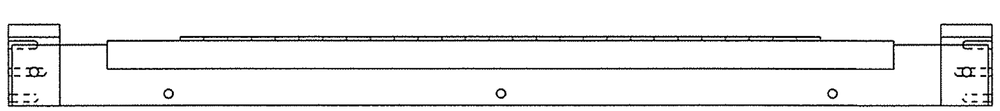
STANDARD DRAWING SD-4

DRAWER PLAN VIEW

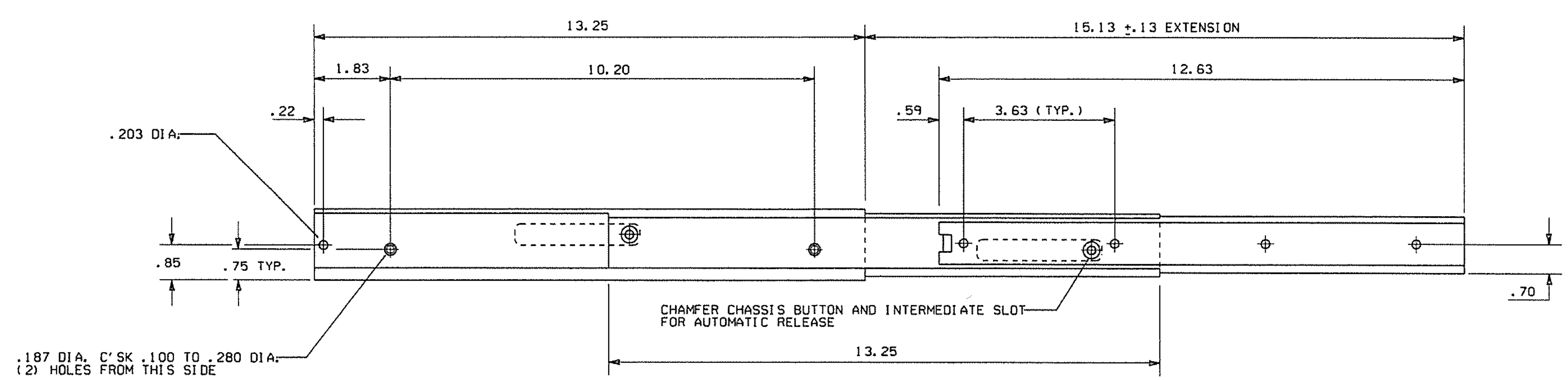




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

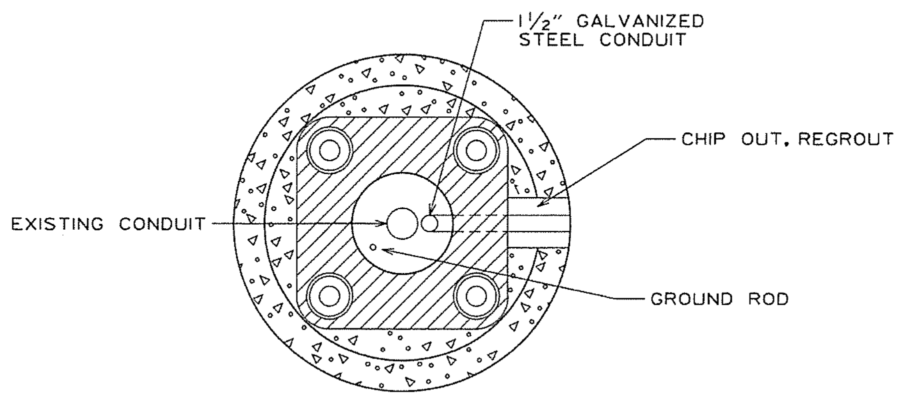
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

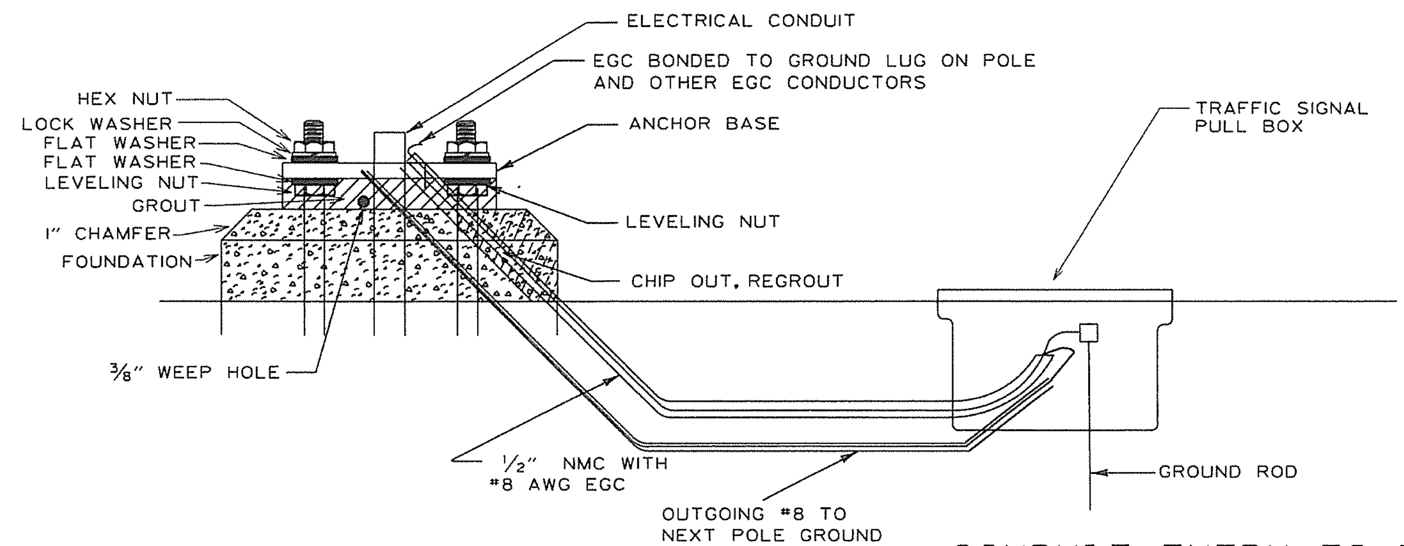
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

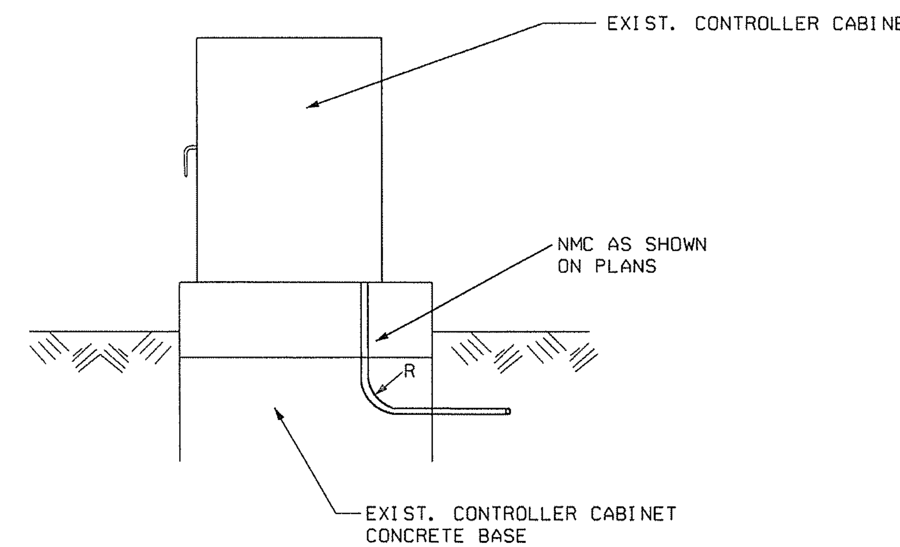
CONDUIT ENTRY TO EXISTING POLE BASE



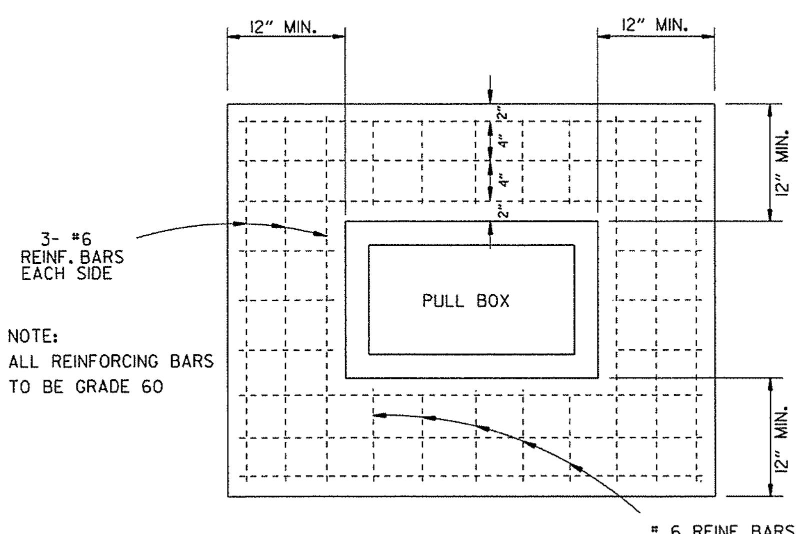
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

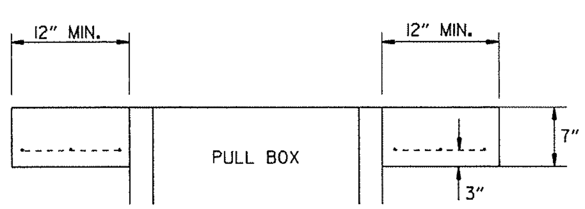


NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



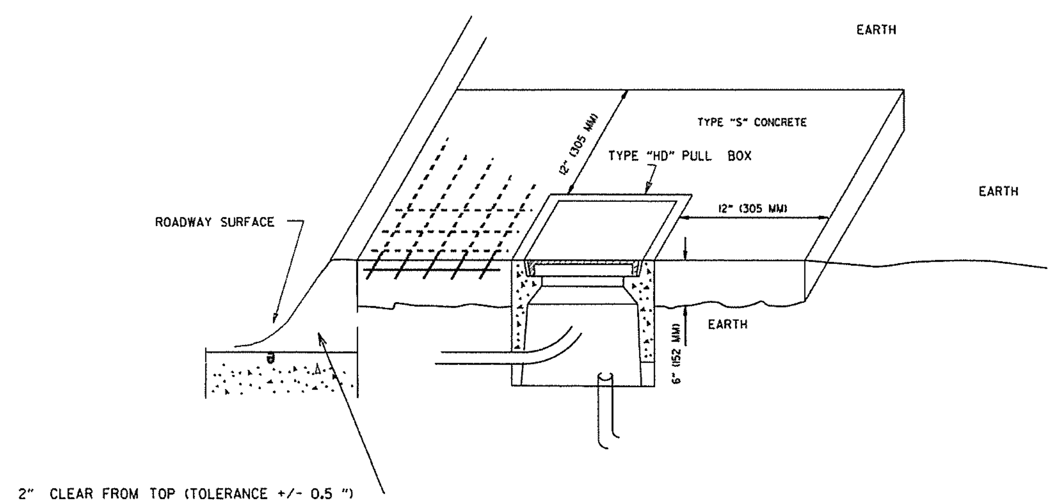
NOTE:
ALL REINFORCING BARS TO BE GRADE 60

TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



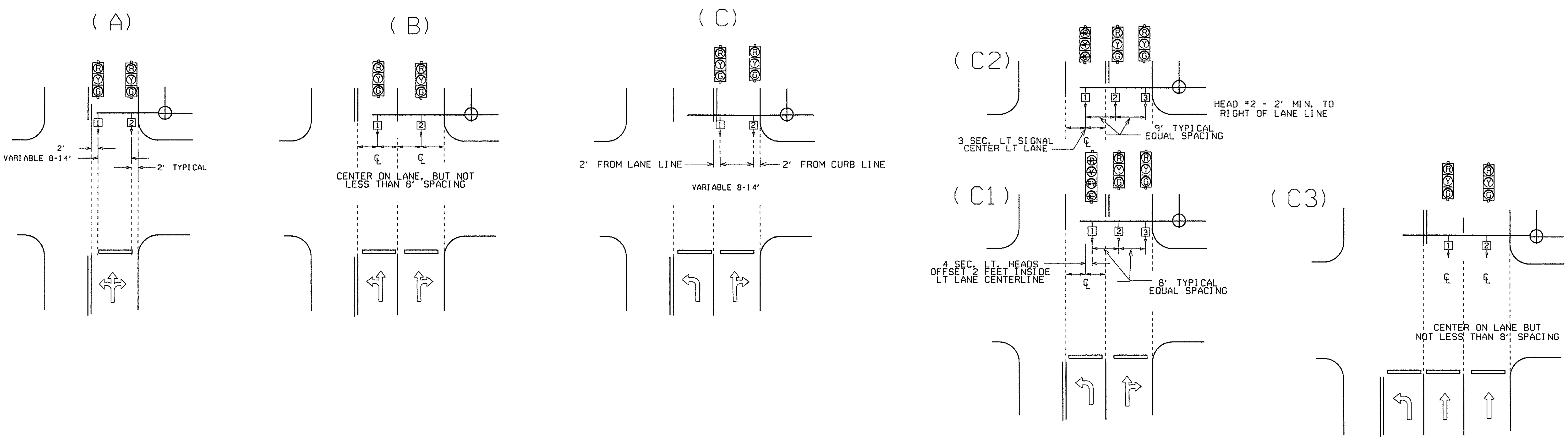
NOTE: ALL TYPE 1 AND TYPE 2 HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 6" (152 MM) IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD PULL BOX. PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S." THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE PULL BOX IS REQUIRED IN CONCRETE.

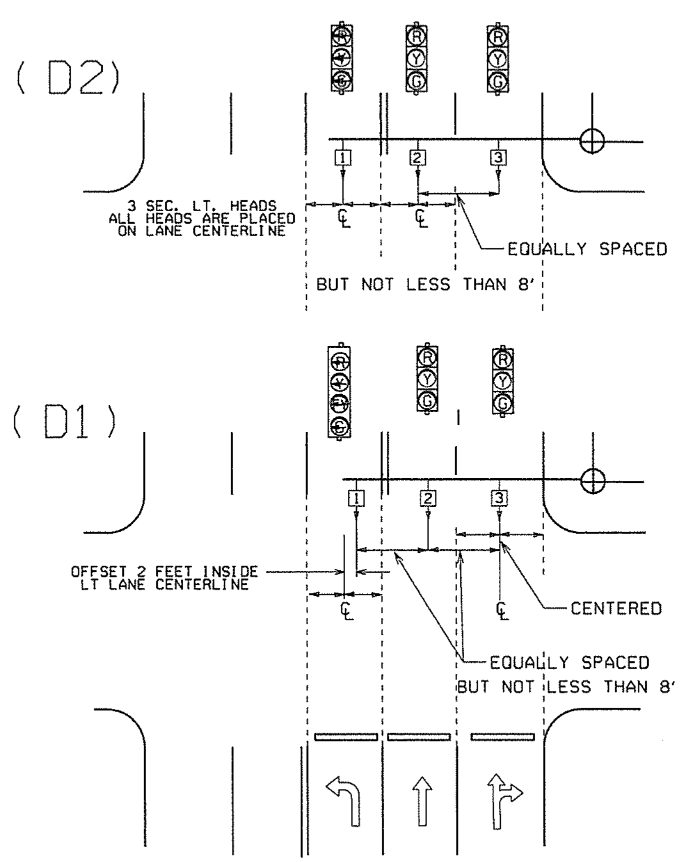
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
5-21-09	REVISED GROUNDING	
7-31-08	ADDED & REVISED CONDUIT ENTRY	
6-23-04	REVISED CLEARANCE AT CURB ENTRY	
1-4-02	ADDED REINFORCING TO BOX APRON	
7-2-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

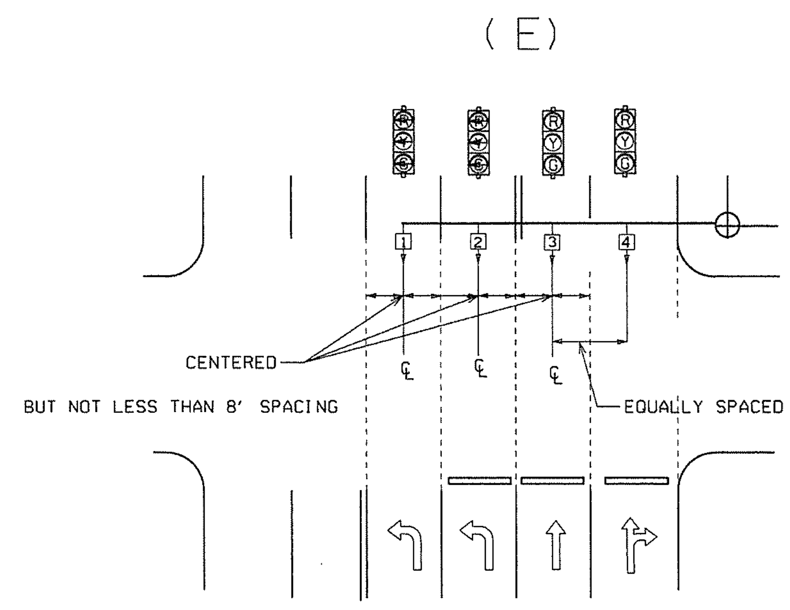
HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6





NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION 'PROTECTED/PERMISSIVE' LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION 'PROTECTED' LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	

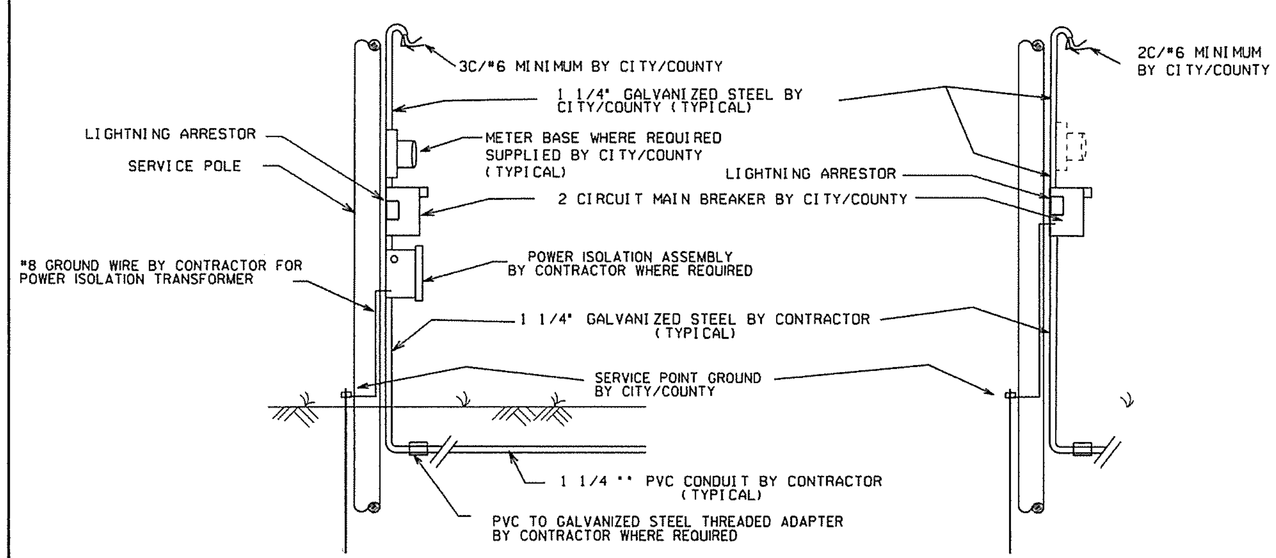
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

STANDARD DRAWING SD-8

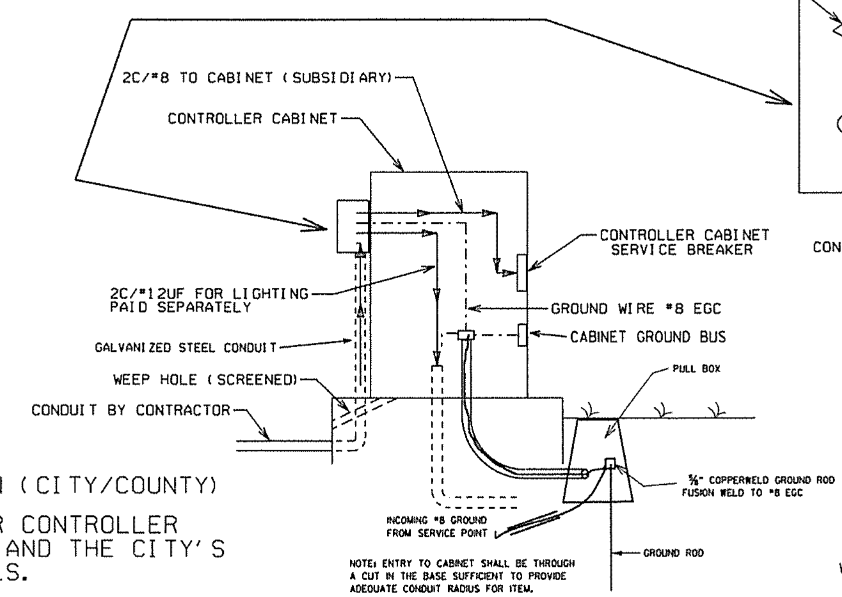
MAIN BREAKER NOT NEAR CONTROLLER CABINET
SECONDARY REQUIRED

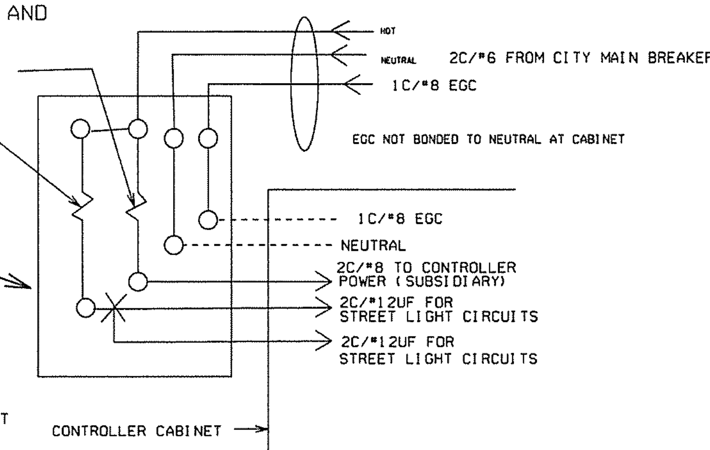
WITH POWER ISOLATION ASSEMBLY — WITHOUT POWER ISOLATION ASSEMBLY



GROUND ROD-A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 701. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)





MAIN BREAKER WIRING (TYPICAL)

NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY)

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES: MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S OR COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

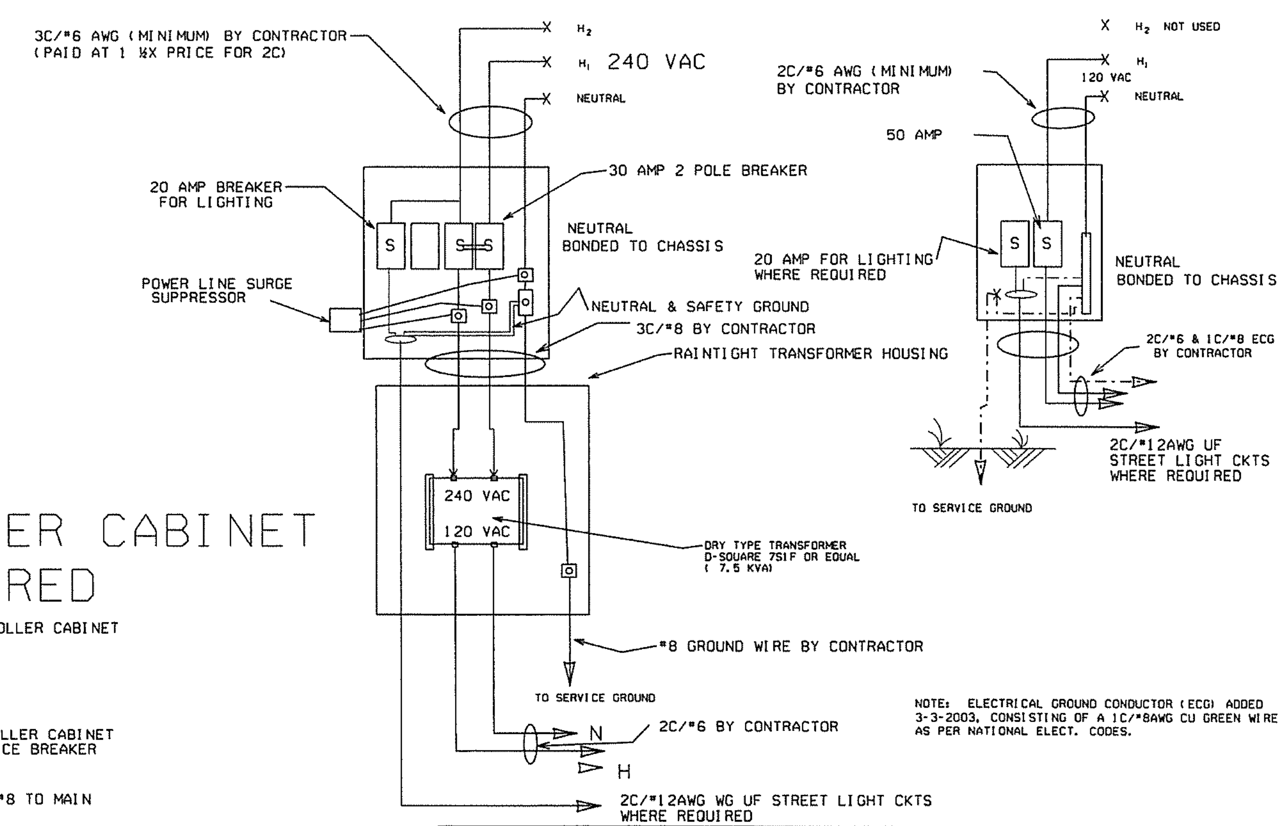
1. ALL SITUATIONS: ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2C/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT, WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

3. MAIN BREAKER NEAR CONTROLLER CABINET: ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

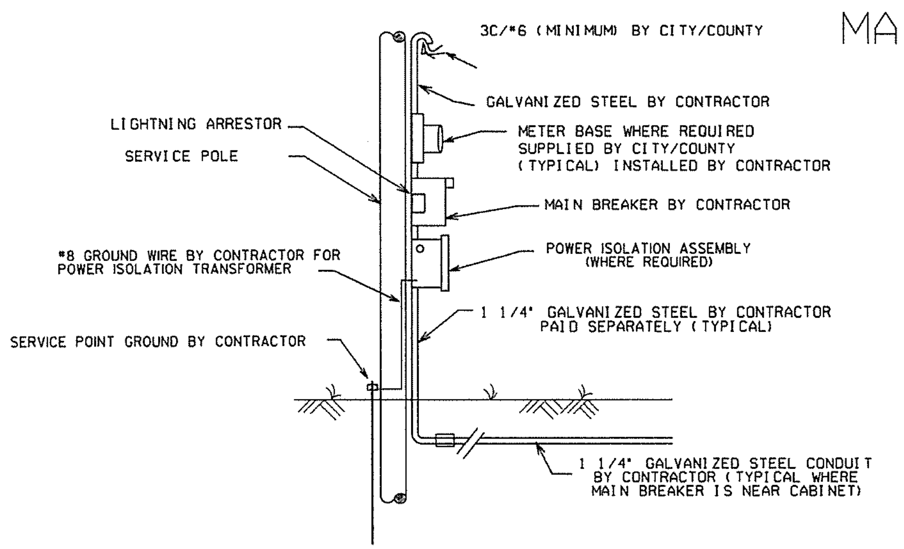
SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

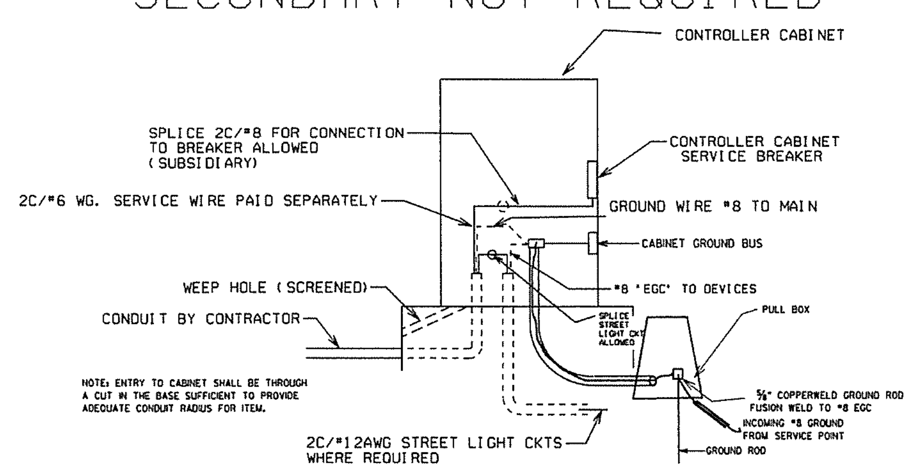
WITH POWER ISOLATION ASSEMBLY 4 CIRCUIT MAIN BREAKER — WITHOUT POWER ISOLATION ASSEMBLY 2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (ECG) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET
SECONDARY NOT REQUIRED





DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
4-18-13	ADDED LIGHTNING ARRESTOR	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
3-3-03	ADDED EGC NOTE	
9-26-01	REVISED	
12-27-99	REVISED	
7-28-99	REVISED	
2-5-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES, PED AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:

1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF 4 FT. BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
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 I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY II FOR STRUCTURES ON ROUTES WITH A SPEED LIMIT LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH ARMS LESS THAN 60' AND ROUTES WITH SPEED LIMITS OF 45 MPH AND LESS WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE SPEED LIMIT IS 45 MPH AND LESS AND ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT 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 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, 12 INCH, AND HAVE 5 IN. BACK PLATES:

HEADS AT END OF ARM - ONE 4 SEC., 85 LB., 16.0 SQ. FT. ONE SIGN MOUNTED 3 FT. FROM SIGNAL = 2' X 0' X 2' = 6'; 20 LB. REMAINING HEADS SPACED A 8 FT. = 3 SEC., 56 LB., TWO 5 SEC):
14.4 SQ. FT. DESIGN TO ACCOMMODATE (INCLUDING
2 HEADS FOR ARMS 10 TO 16 FT.
2 HEADS FOR ARMS 10 TO 16 FT.; INCLUDING LB.
3 HEADS FOR 18 TO 24 FT. ARMS;
4 HEADS FOR OVER 26 FT. ARMS.

STREET NAME SIGN -- 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) = VARIABLE ARM LENGTH (MAX.), 3.3 SQ. FT., 75 LB. PED SIGNALS -- TWO 2 SEC. 12 INCH MOUNTED 8 FT. FROM BASE OF POLE.
POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

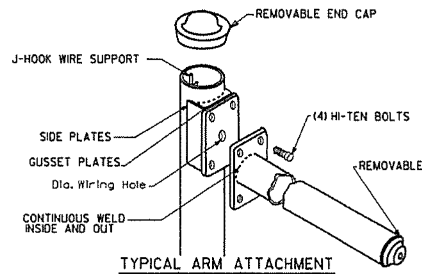
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE -- HAND HOLES SHALL BE 4 X 6 INCHES FOR STANDARD, AND 3 X 5 INCHES FOR PED POLES, MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLD WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

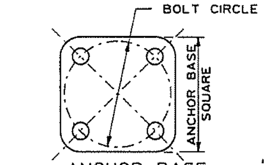
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE ARM SHALL MAINTAIN A POSITIVE AFTER IT IS PLACED UNDER LOAD.

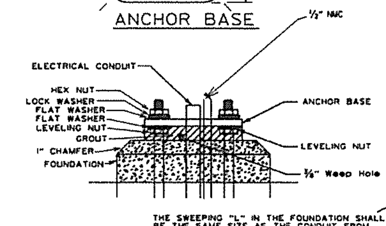
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.

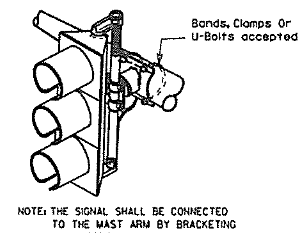


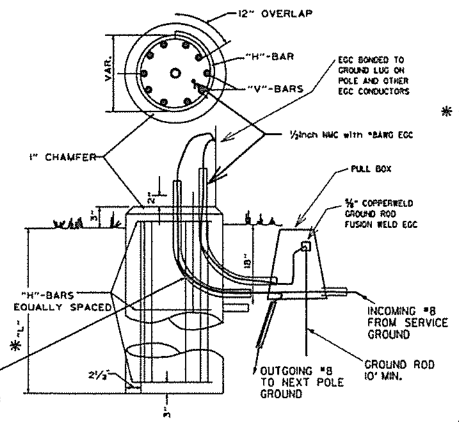
TYPICAL ARM ATTACHMENT



ANCHOR BASE





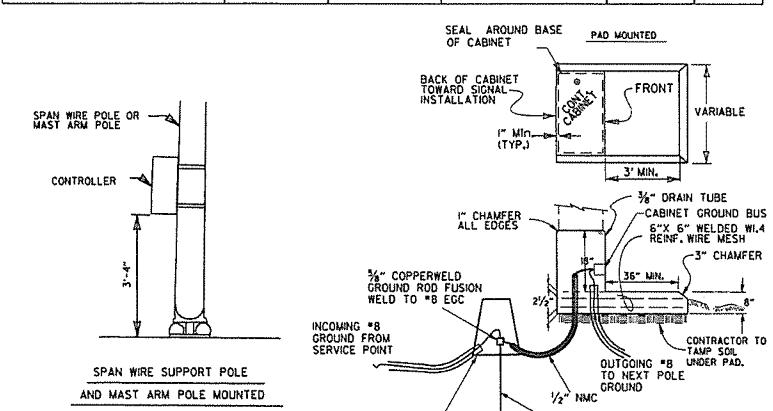


THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/*8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

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.	STEEL HORZ.	STEEL O/C.
PED	30"	7'-0"	12-*7 (6'-6")	10-*4	8.44"
2' to 12'	30"	10'-6"	12-*7 (10'-0")	15-*4	8.42"
over 12' to 20'	30"	11'-6"	12-*7 (11'-0")	16-*4	8.66"
over 20' to 35'	36"	12'-6"	13-*8 (12'-0")	17-*4	8.88"
over 35' to 50'	36"	13'-6"	13-*8 (13'-0")	19-*4	8.56"
over 50' to 72'	42"	14'-6"	18-*8 (14'-0")	20-*4	8.74"
Twins to 20'	30"	16'-0"	12-*6 (15'-6")	22-*4	8.76"
Twins over 20' to 44'	36"	16'-0"	13-*8 (15'-6")	22-*4	8.76"
Twins over 44' to 50'	42"	16'-0"	18-*8 (15'-6")	22-*4	8.76"
Twins over 50' to 72'	42"	16'-6"	18-*8 (16'-0")	23-*4	8.64"



CONTROLLER CABINET MOUNTING DETAILS

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX. NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PED PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM PEDESTRIAN SIGNAL HEAD.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

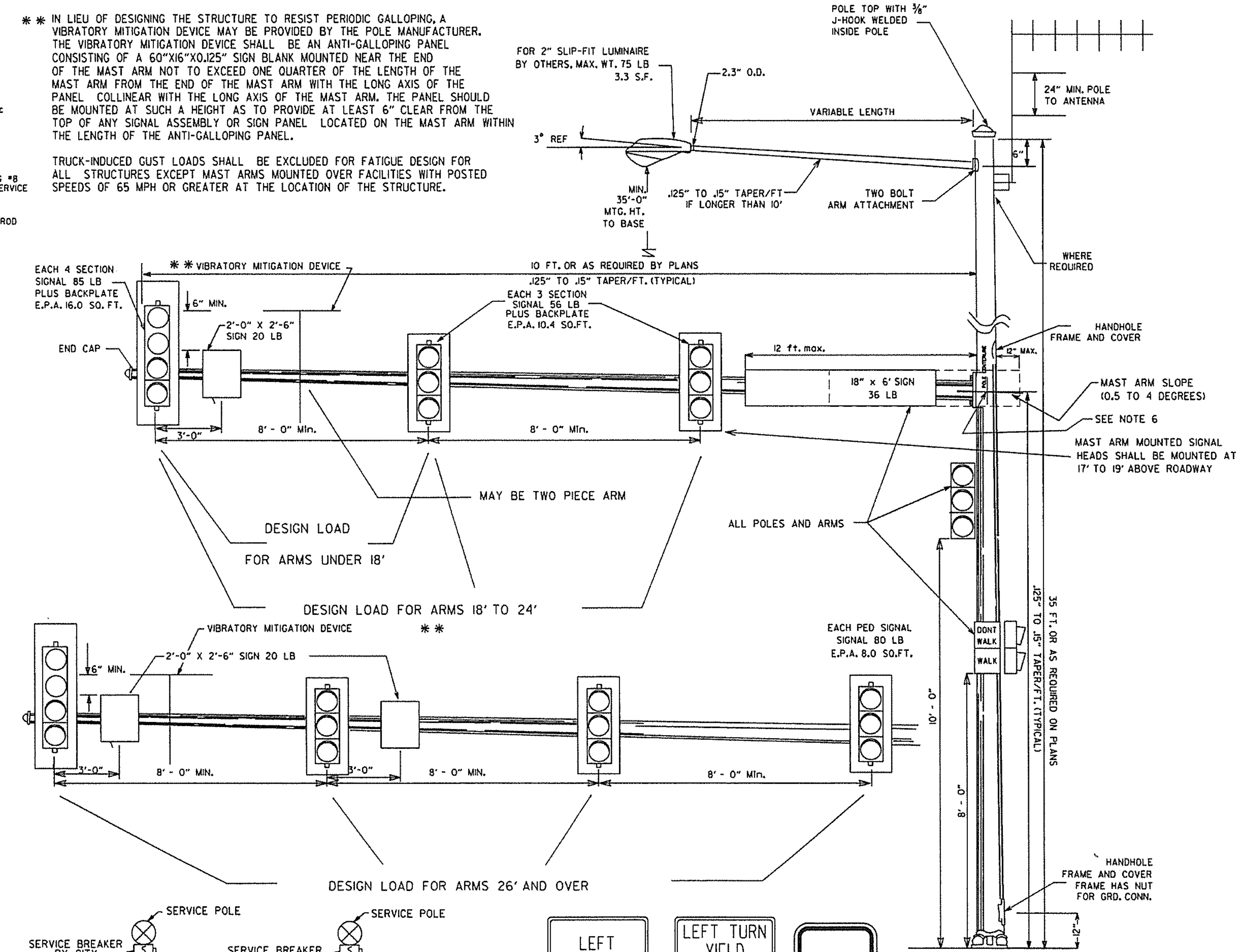
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

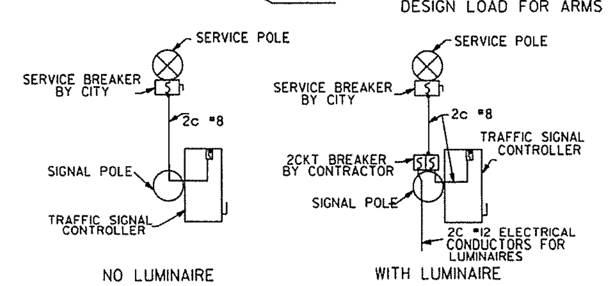
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND *4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 OF THE STANDARD SPECIFICATIONS.

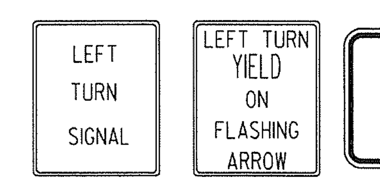
** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60"X16"X0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

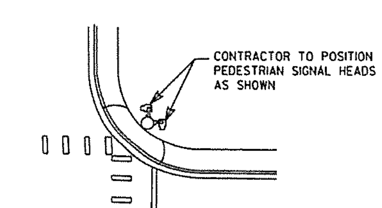




SERVICE DISCONNECT



R10-10 SPECIAL R10-3e



PEDESTRIAN SIGNAL HEADS

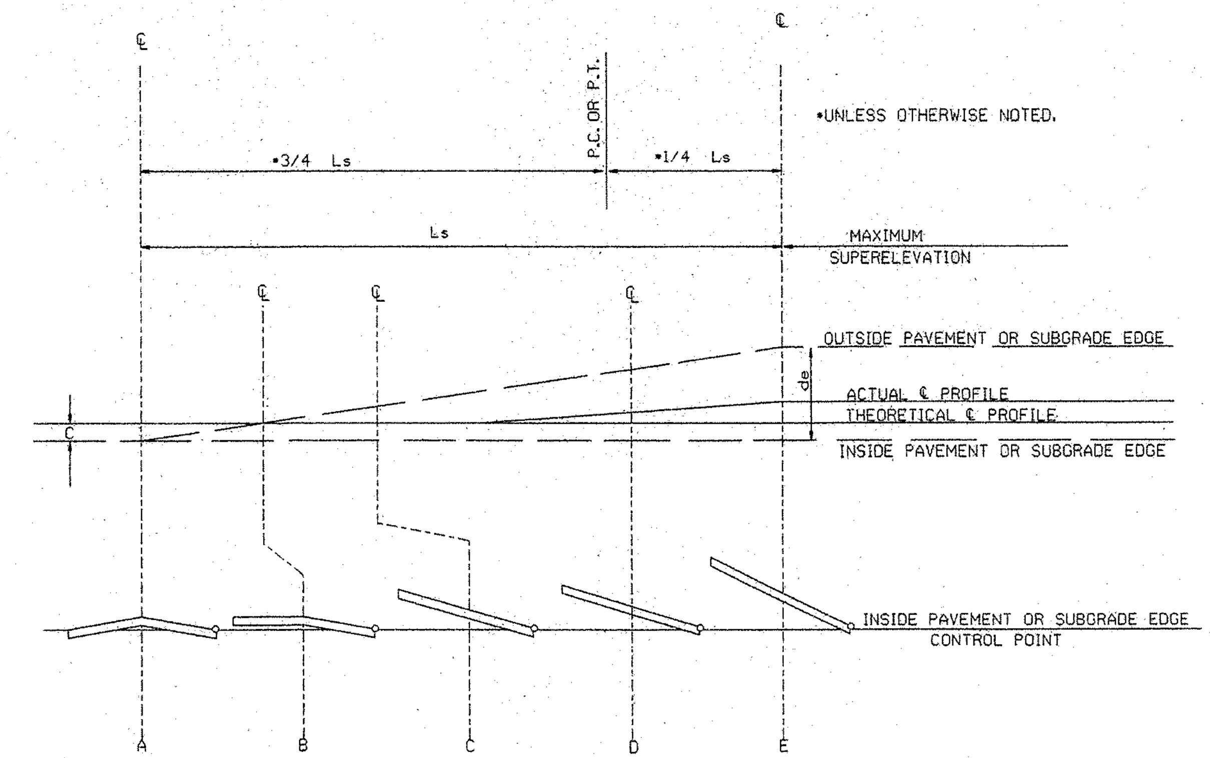
DATE	REVISION
2-27-14	REVISED NOTES.
9-12-13	ISSUED AS STANDARD DRAWING
7-21-11	REVISED VMD, SIGNAL HEADS
5-21-09	REVISED GROUNDING
7-31-08	REVISED GROUNDING
4-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES
4-18-08	REVISED AASHTO NOTES
4-17-08	REVISED TO 2001 AASHTO STANDARDS
10-12-04	REVISED CABINET ORIENTATION
6-23-04	REVISED
5-11-04	REV. NOTE 3/AASHTO REQUIREMENTS
6-11-01	REV. NOTES & POLE MAST ARM SLOPE
4-11-01	REVISED POLE TAPERS
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT
11-22-99	REVISED FOUNDATION DETAILS
11-17-98	REVISED DETAILS AND NOTES
11-21-95	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

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	
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.046		300
1° 30′	N.C.			0.021			0.031	200		0.037			0.043	250		0.054		
1° 45′	N.C.			0.025			0.036			0.043	225		0.049		300	0.062		
2° 00′	R.C.			0.028	175		0.040			0.048		300	0.055			0.070		
2° 15′	R.C.			0.031			0.045		250	0.053			0.061			0.078	300	
2° 30′	0.021			0.034			0.049			0.058			0.067			0.085	315	350
2° 45′	0.023			0.037		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			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031		200	0.049			0.069	215		0.080	265		0.090	295				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305	350			
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.061			0.083	250		0.091	295	350	0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300							
6° 00′	0.046			0.070	190		0.092	270		0.096	305							
6° 30′	0.050			0.074	200		0.095	280	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′		



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

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.)

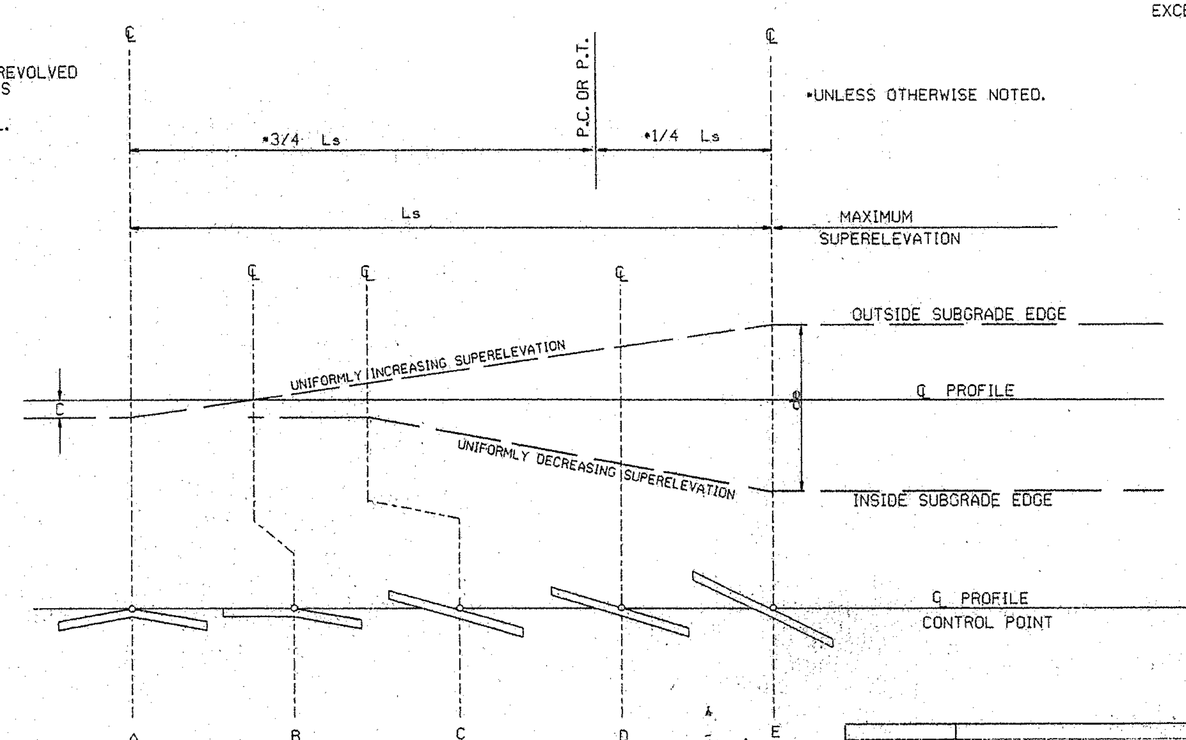
GENERAL NOTES

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

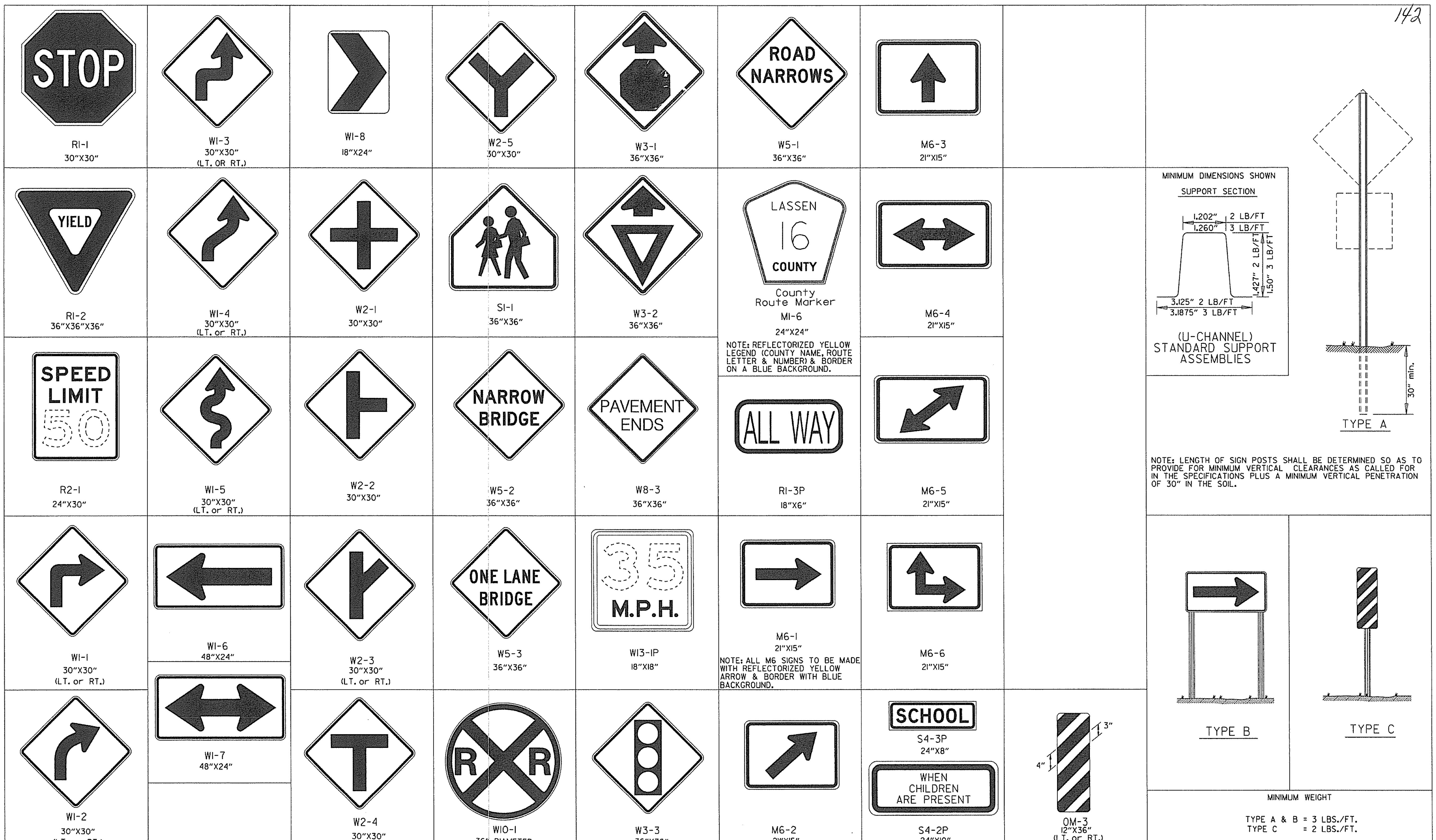
SUPERELEVATION FORMULA $= \frac{Lde}{Ls}$

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



STANDARD HIGHWAY SIGNS

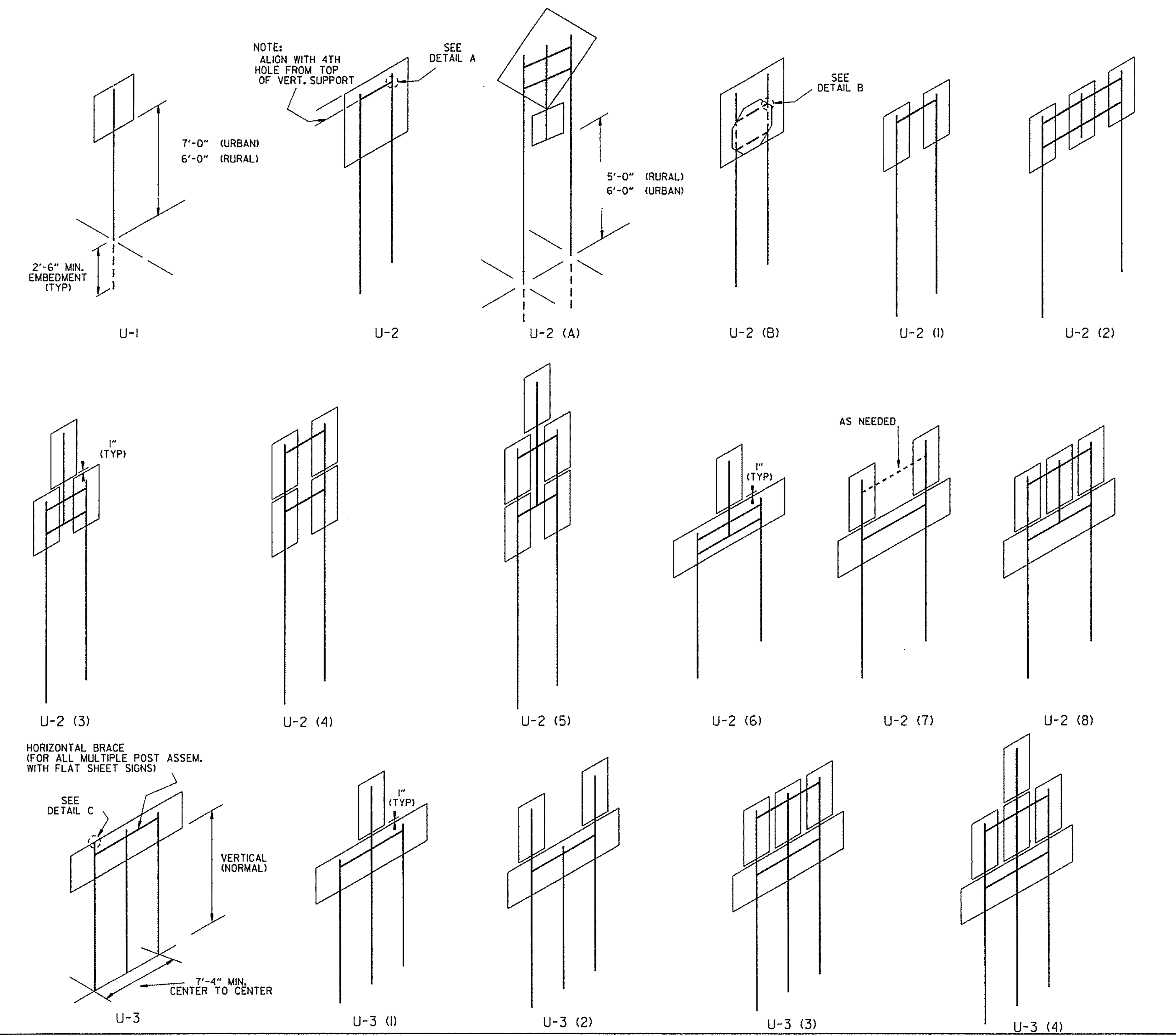
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-I& W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED WI-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED WI4-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

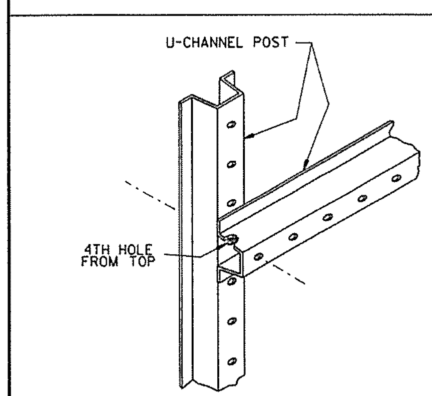
SUPPORT ASSEMBLIES

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS AND SUPPORT ASSEMBLIES

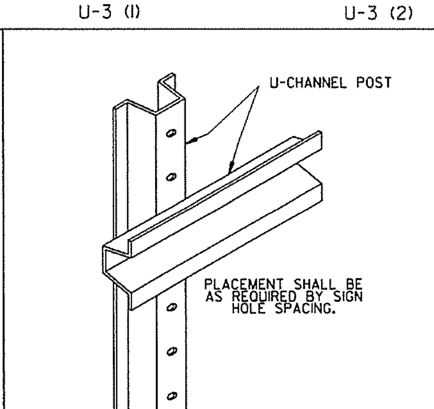
STANDARD DRAWING SHS-1





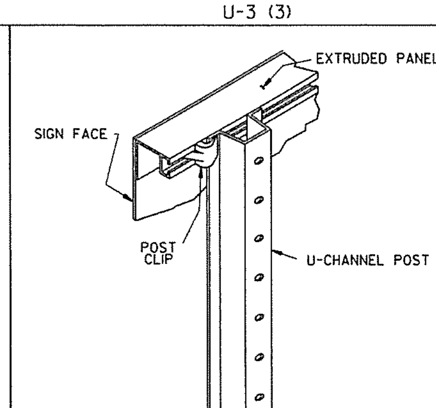
DETAIL A

SHOWING HORIZONTAL BRACE



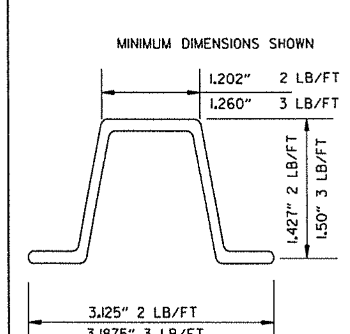
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



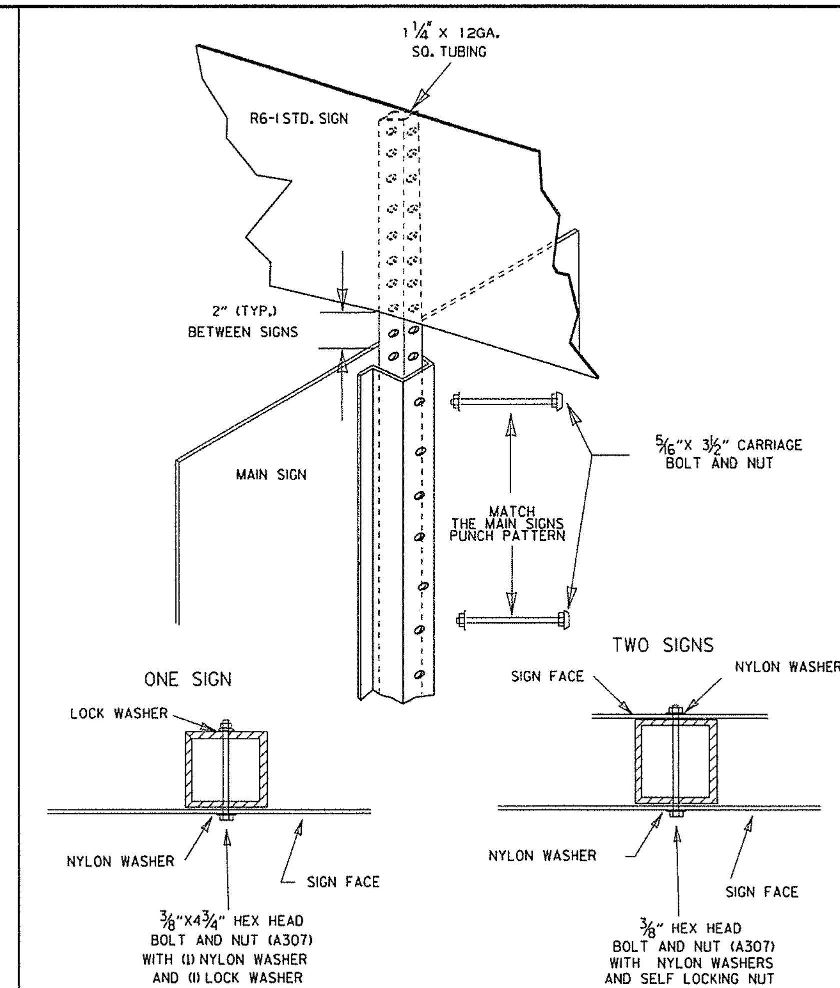
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



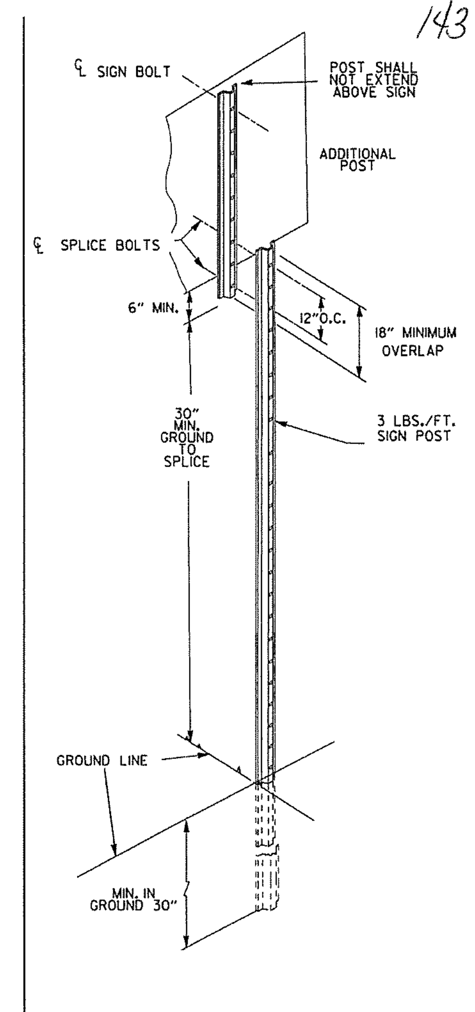
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

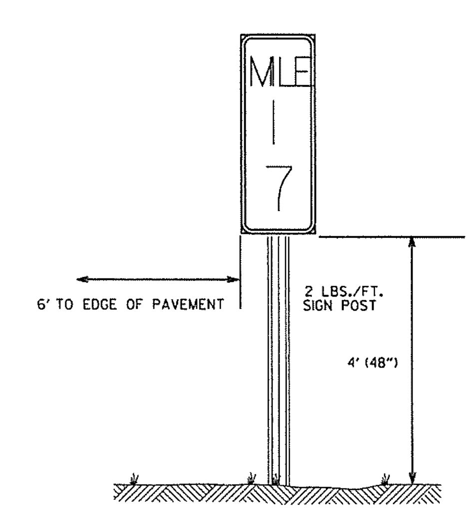
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

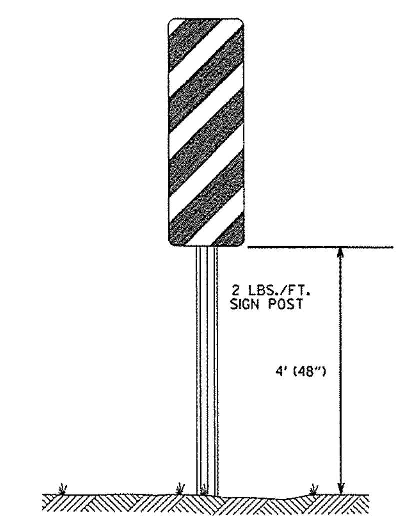
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



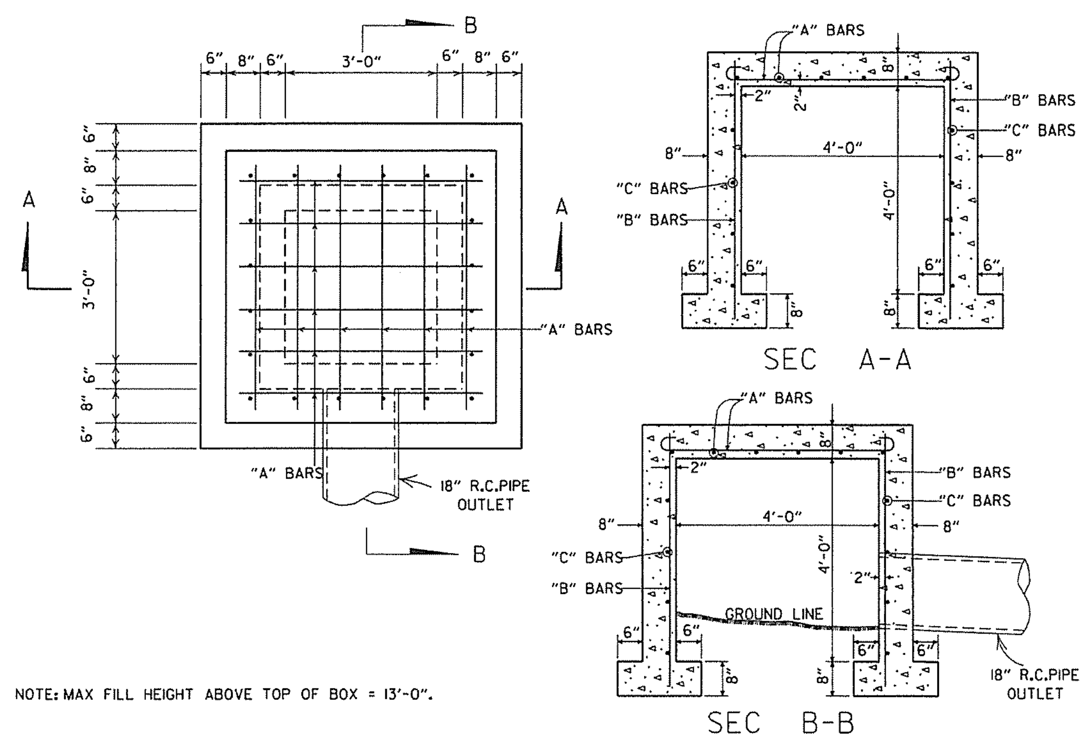
TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

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

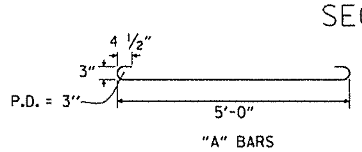
ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

STANDARD DRAWING SHS-2



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



STEEL SCHEDULE

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

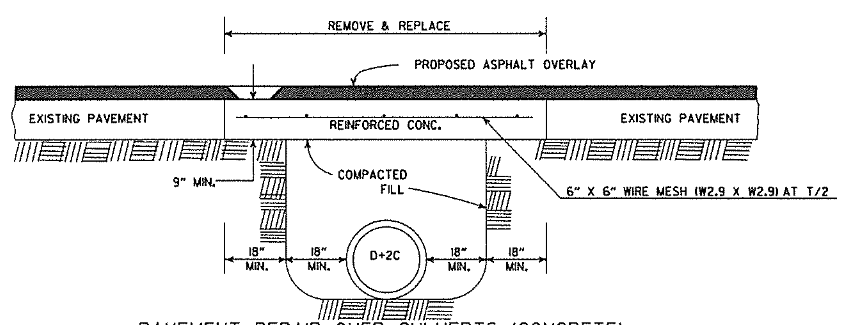
ALL STEEL TO BE #4 BARS

QUANTITIES

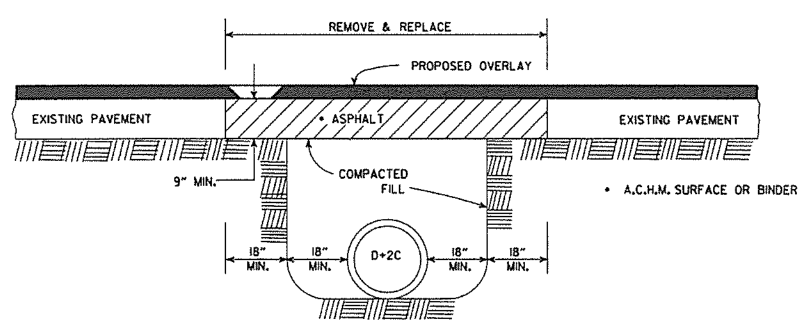
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

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

REINFORCED CONCRETE SPRING BOX



PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

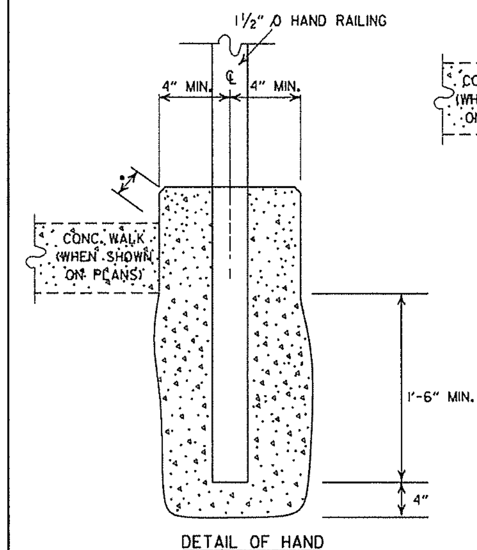


* A.C.H.M. SURFACE OR BINDER

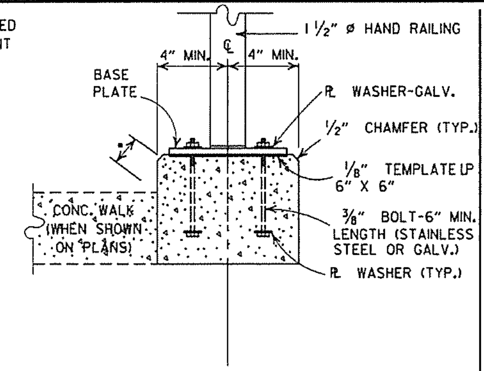
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

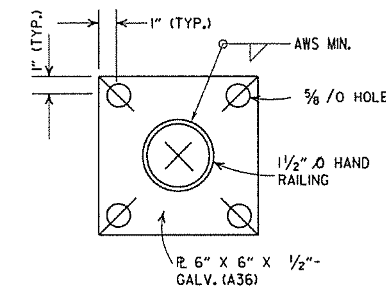
- A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

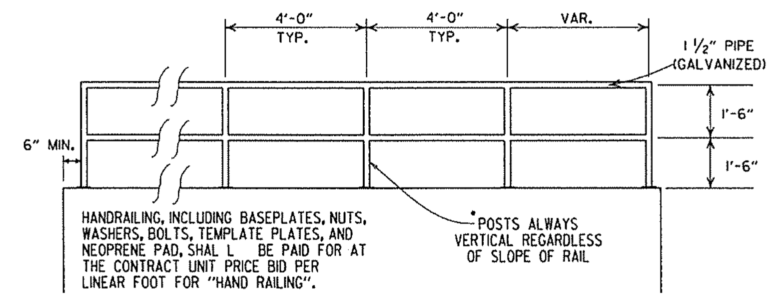


POST CONNECTION TO WALL



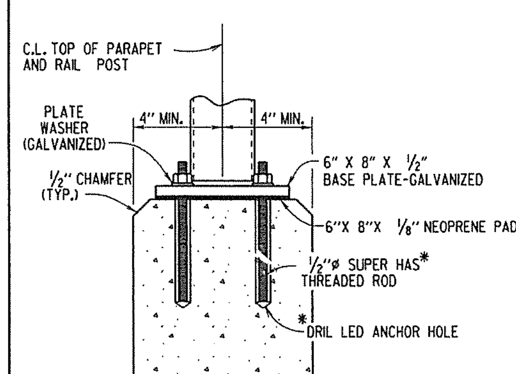
BASE PLATE

POST CONNECTION DETAILS



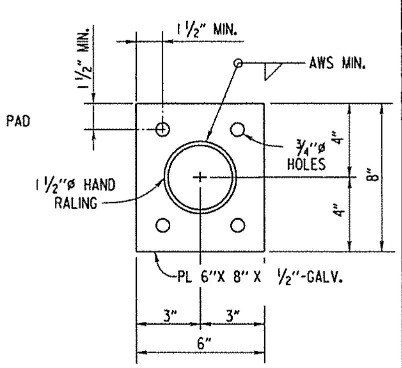
HANDRAILING, INCLUDING BASEPLATES, NUTS, WASHERS, BOLTS, TEMPLATE PLATES, AND NEOPRENE PAD, SHAL L BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR "HAND RAILING".

HAND RAILING SHAL L CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 1/2" EMBEDMENT OR APPROVED EQUAL.
THE ADHESIVE ANCHOR SYSTEM SHAL L BE INSTAL LED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

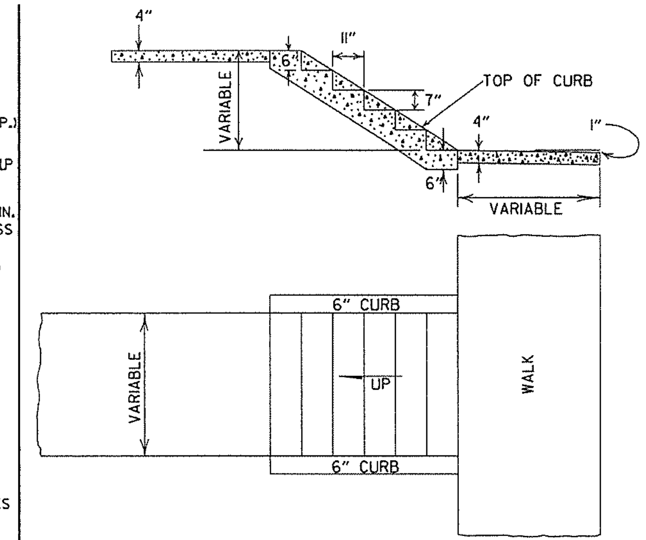
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



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

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE;REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1

Sign	Legend	Sizes
R1-1	STOP	STANDARD 30"X30"; EXPRESSWAY 36"X36"; SPECIAL 48"X48"
R1-2	YIELD	STD. 36"X36"X36"; EXPWY. 48"X48"X48"; FWY. 60"X60"X60"
R2-1	SPEED LIMIT 50	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R2-5A	REDUCED SPEED AHEAD	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R2-5C	SPEED ZONE AHEAD	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R4-1	DO NOT PASS	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R4-2	PASS WITH CARE	STD. 24"X30"; EXPWY. 36"X48"; FWY. 48"X60"
R5-1	DO NOT ENTER	STD. 30"X30"; EXPWY. 36"X36"; SPECIAL 48"X48"
R11-2	ROAD CLOSED	48"X30"
R11-3A	ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY	60"X30"
R11-4	ROAD CLOSED TO THRU TRAFFIC	60"X30"
RSP-1	SHOULDER CLOSED	48"X30"
W1-1		STD. 36"X36"; FWY. 48"X48"
W1-2		STD. 36"X36"; FWY. 48"X48"
W1-3		STD. 48"X48"
W1-4		STD. 48"X48"
W1-6		STD. 48"X24"; SPECIAL 60"X30"
W1-8		STD. 18"X24"; SPECIAL 24"X30"; EXPWY. 30"X36"; FWY. 36"X48"
W3-1		STD. 36"X36"; SPECIAL 48"X48"
W3-2		STD. 36"X36"; SPECIAL 48"X48"
W4-2		STD. 36"X36"; FWY. 48"X48"
W5-1	ROAD NARROWS	STD. 36"X36"; SPECIAL 48"X48"
W6-3		EXPWY. 36"X36"; SPECIAL 48"X48"
W8-7	LOOSE GRAVEL	EXPWY. 36"X36"; FWY. 48"X48"
W9-2	LANE ENDS MERGE RIGHT	STD. 36"X36"; FWY. 48"X48"
W13-1	XX M.P.H.	STD. 24"X24"
W20-1	ROAD WORK XXXX	STD. 48"X48"
W20-2	DETOUR XXXX	STD. 48"X48"
W20-3	ROAD CLOSED XXXX	STD. 48"X48"
W20-4	ONE LANE ROAD XXXX	STD. 48"X48"
W20-5	RIGHT LANE CLOSED XXXX	STD. 48"X48"
W20-7a	W16-2: 500 FEET (18" × 24")	STD. 36"X36"; FWY. 48"X48"
W21-2	FRESH OIL	STD. 30"X30"; SPECIAL 36"X36"
W21-5	SHOULDER WORK	STD. 30"X30"; SPECIAL 36"X36"
W24-1		STD. 36"X36"
W1-4b		STD. 48"X48"
R56-1	CONTROLLED ACCESS HWY. NO EXIT	STD. 18"X18"
W8-11	UNEVEN LANES	STD. 36"X36"; FWY. 48"X48"
W8-9	LOW SHOULDER	STD. 36"X36"; FWY. 48"X48"
G20-1	ROAD WORK NEXT X.X MILES	60"X24"
G20-2	END ROAD WORK	48"X24"
OM-3L, OM-3R	YELLOW; BLACK	12"X36"
M4-9	DETOUR	STD. 30"X24"; SPECIAL 48"X36"; SPECIAL 60"X48"
M4-10	DETOUR	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	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

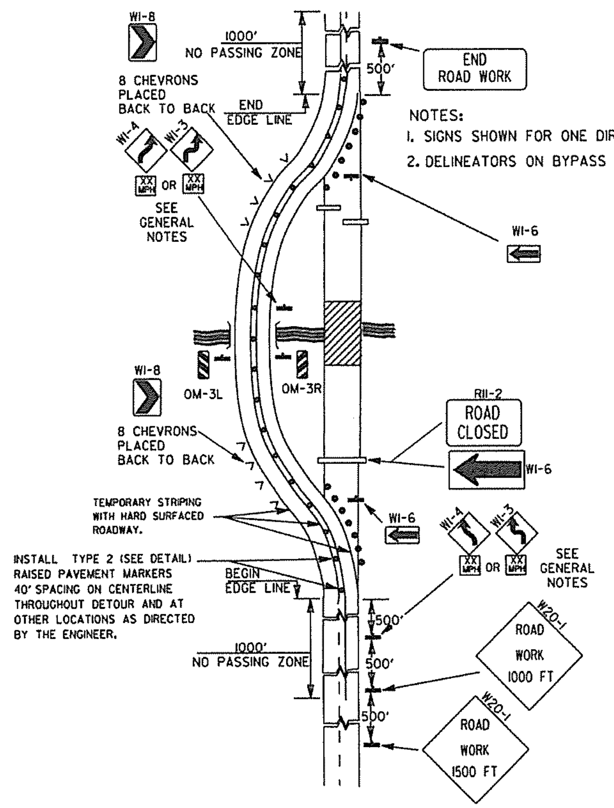
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

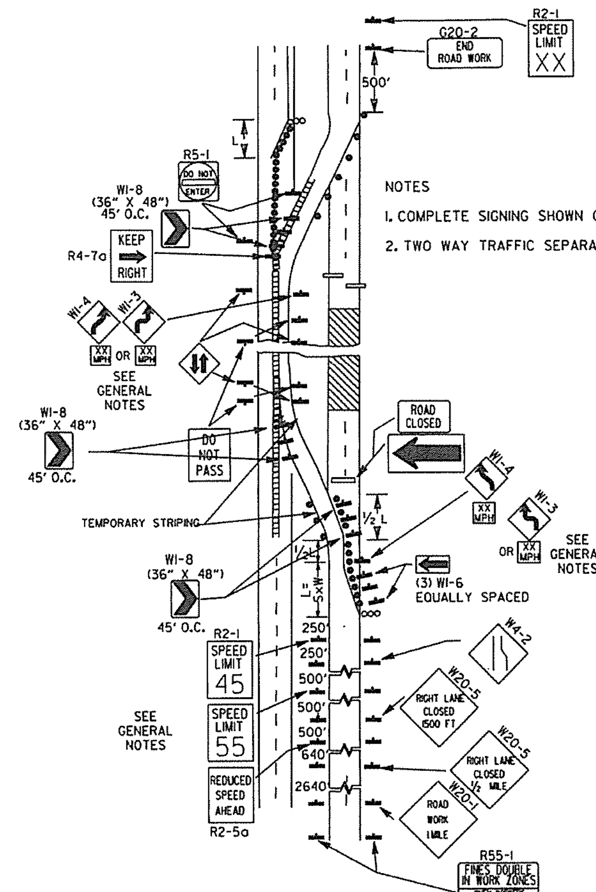
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



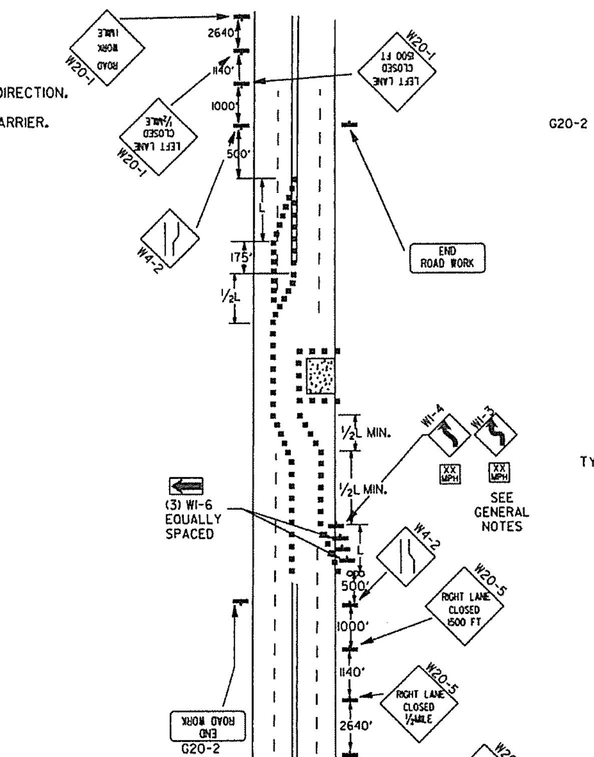
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

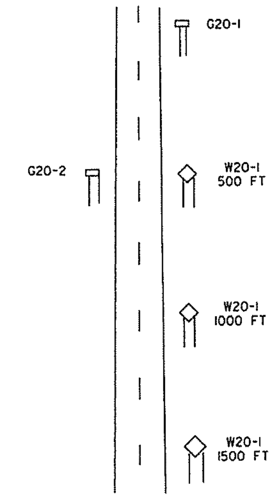


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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

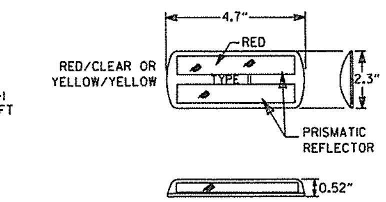


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

KEY:
- FLAGGER
- POSITIVE BARRIER
- ARROW PANEL (IF REQUIRED)
- TYPE III BARRICADE
- CHANNELIZING DEVICE
- TRAFFIC DRUM
- RAISED PAVEMENT MARKER



DETAIL OF RAISED PAVEMENT MARKERS

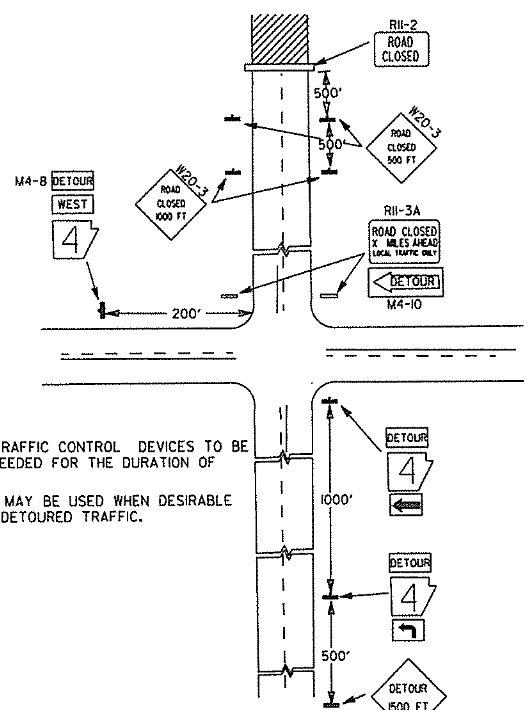
TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

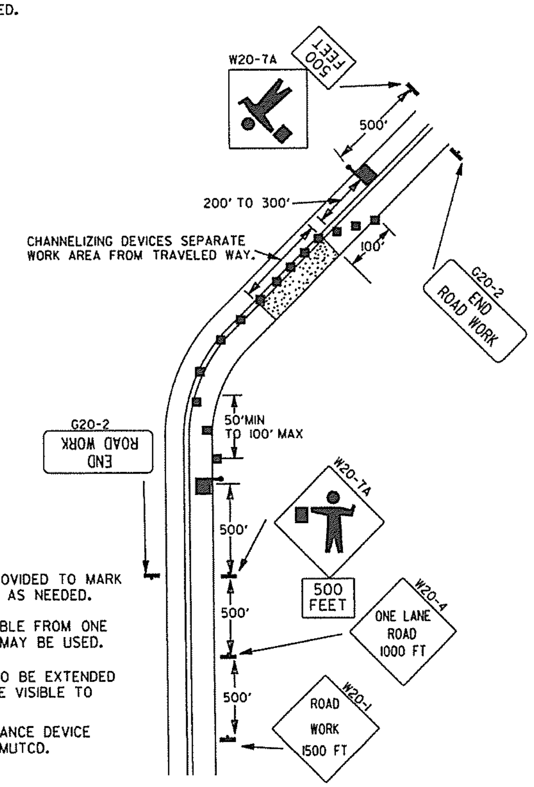
WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE 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.



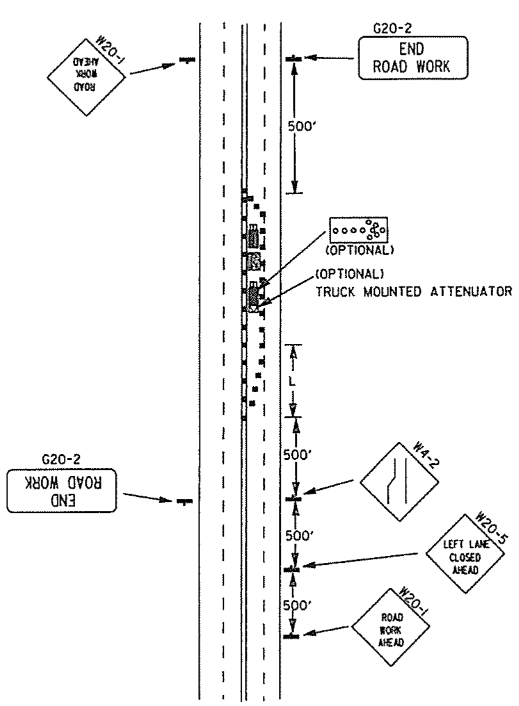
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(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.



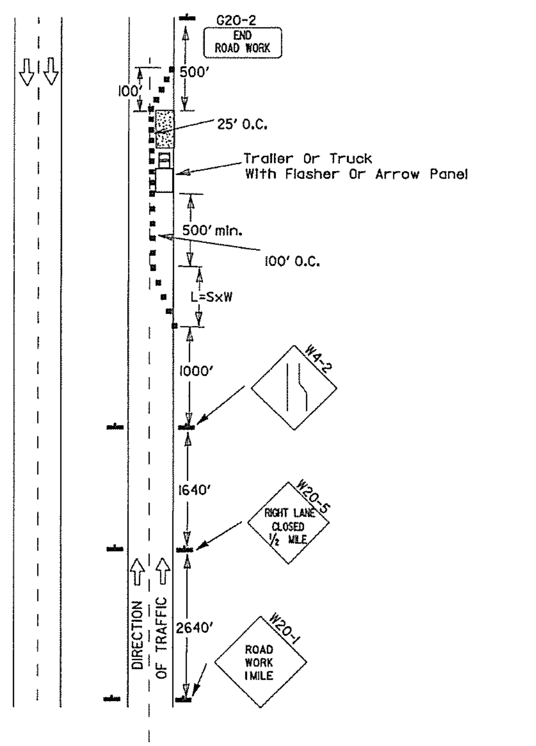
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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 (o) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

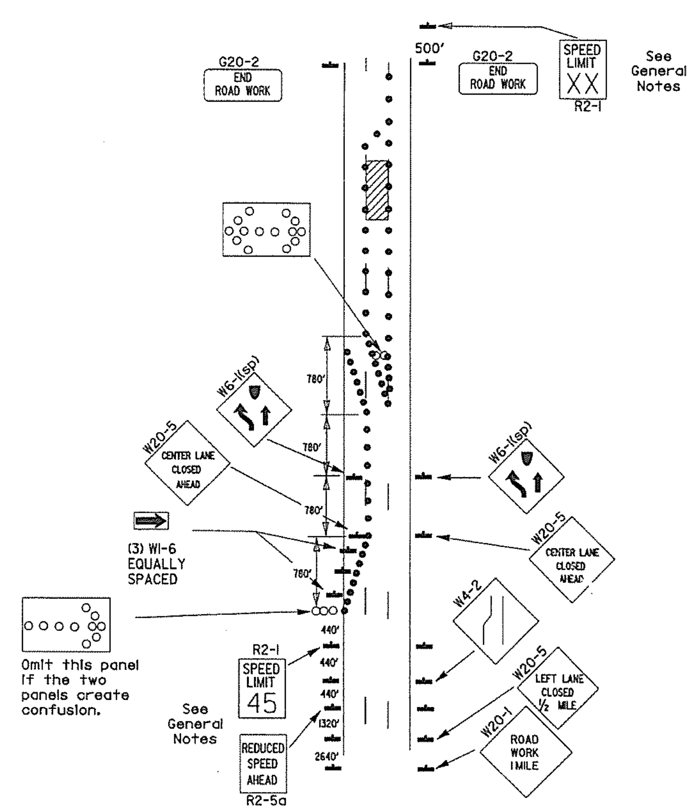
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

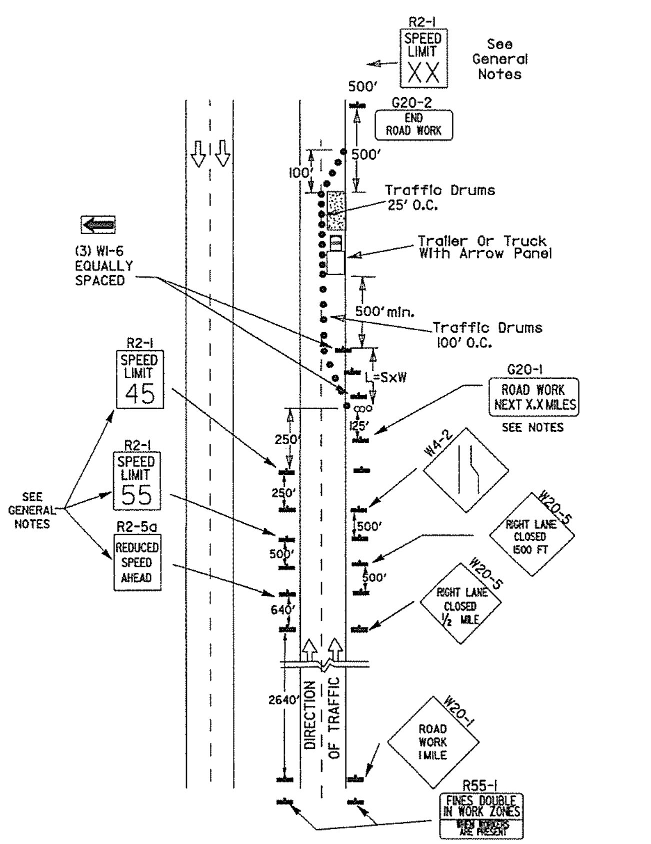
STANDARD DRAWING TC-2



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



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



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

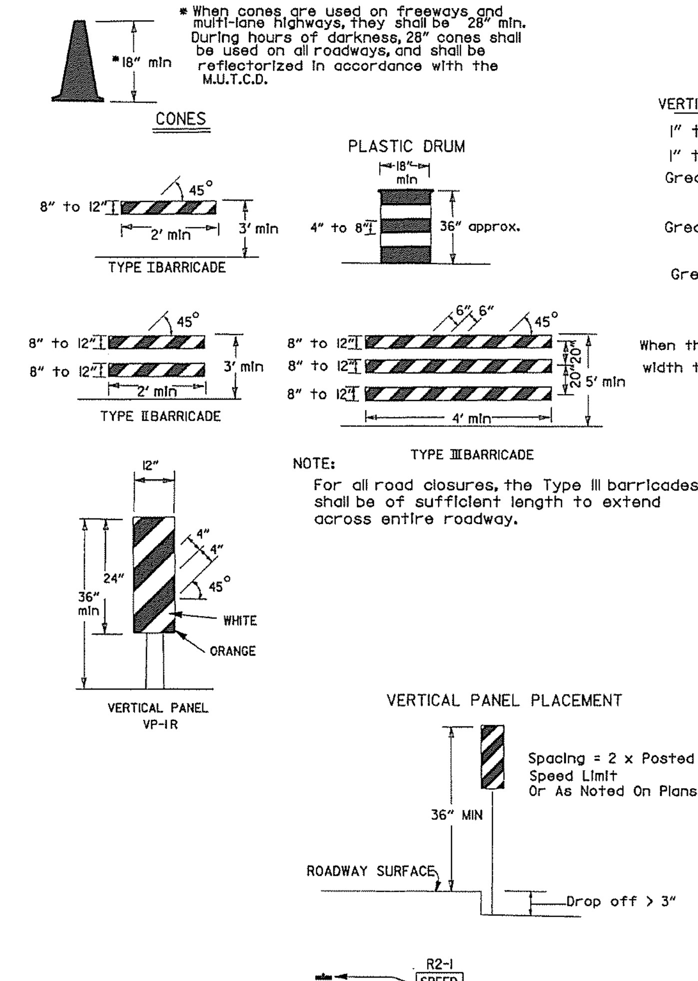
KEY:

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

GENERAL NOTES:

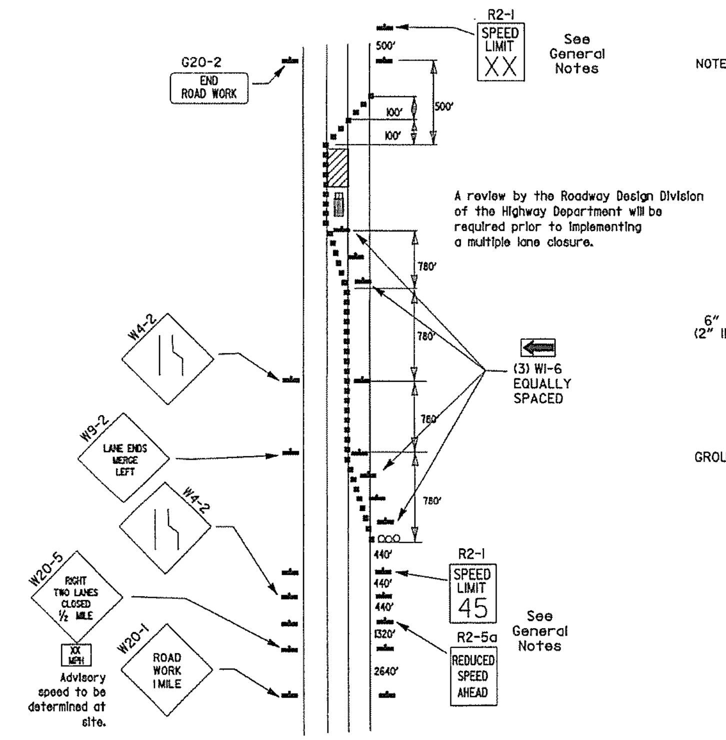
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-I(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-I 45mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-I(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-I(45) shall be omitted. Additional R2-I 55mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-I(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-I 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-I sign shall be erected 125' in advance of the job limit. Additional W20-I (I MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

Channelizing devices



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

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



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

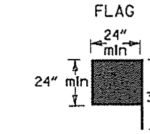
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

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

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

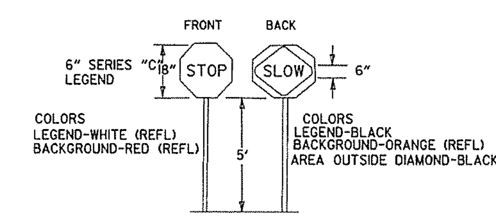
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG



Flag shall be of good grade red material

STOP SLOW PADDLE

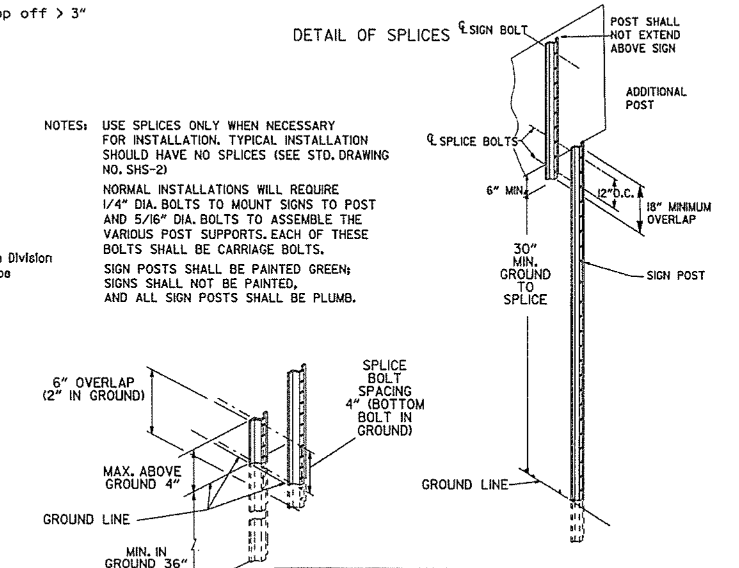


DETAIL OF SPLICES

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

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

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



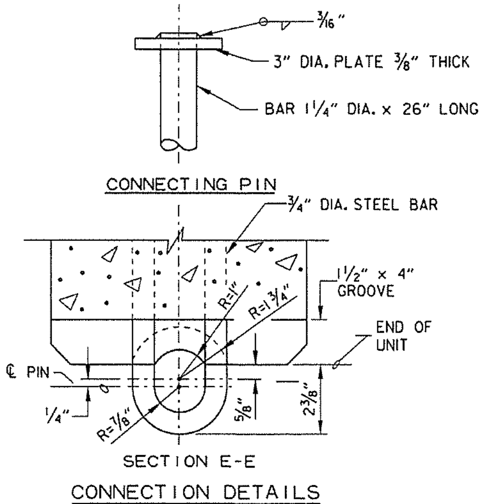
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

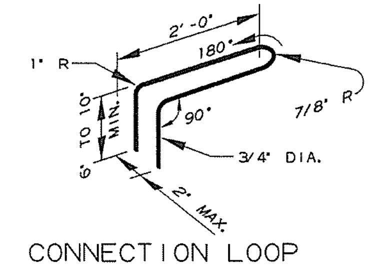
ARKANSAS STATE HIGHWAY COMMISSION

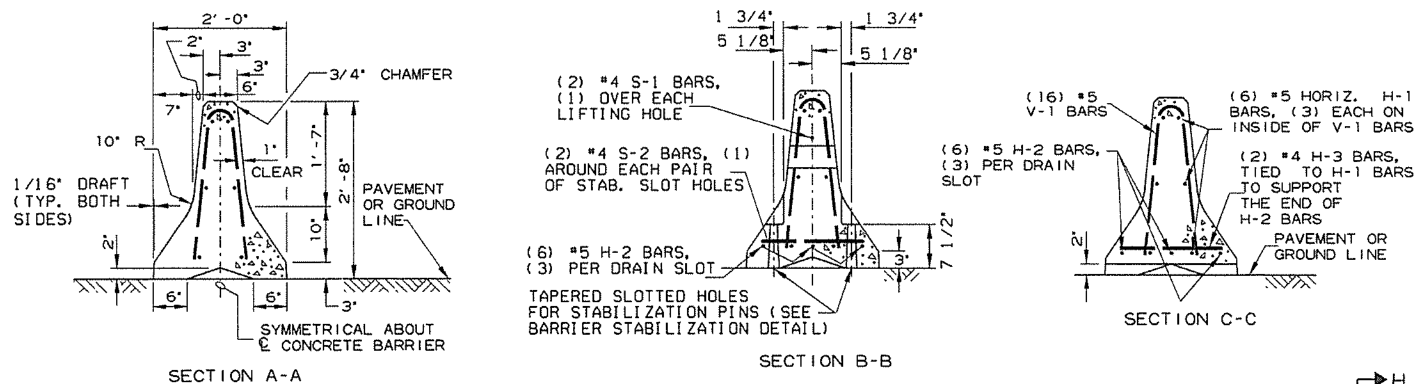
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

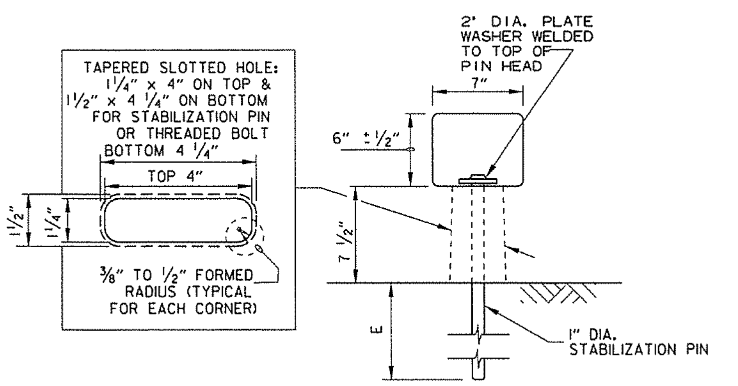
STANDARD DRAWING TC-3

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"; LIFTING HOLE; 90°; 3 3/8" R
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"





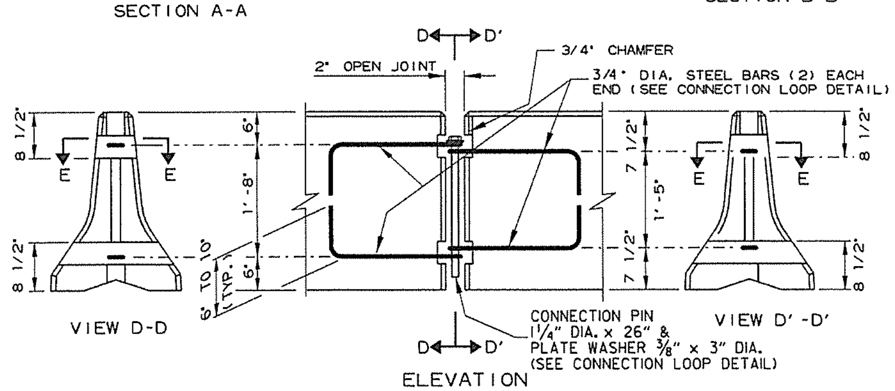


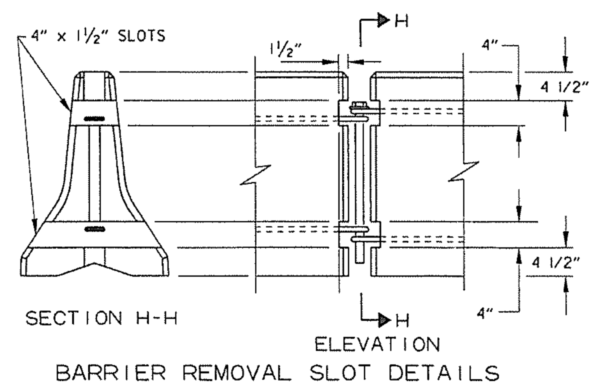


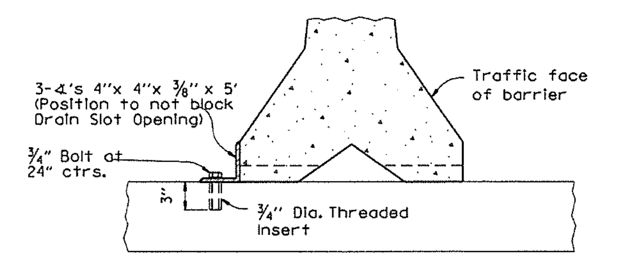
BARRIER STABILIZATION DETAIL

ROADWAY SECTION

(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



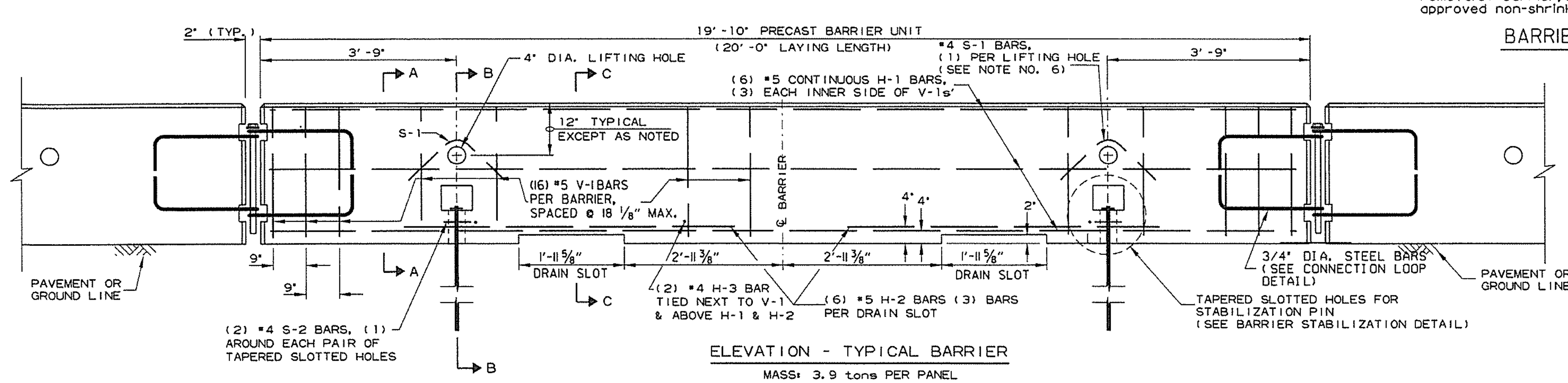




NOTE: 3/4" Threaded inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

BRIDGE DECKS



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.

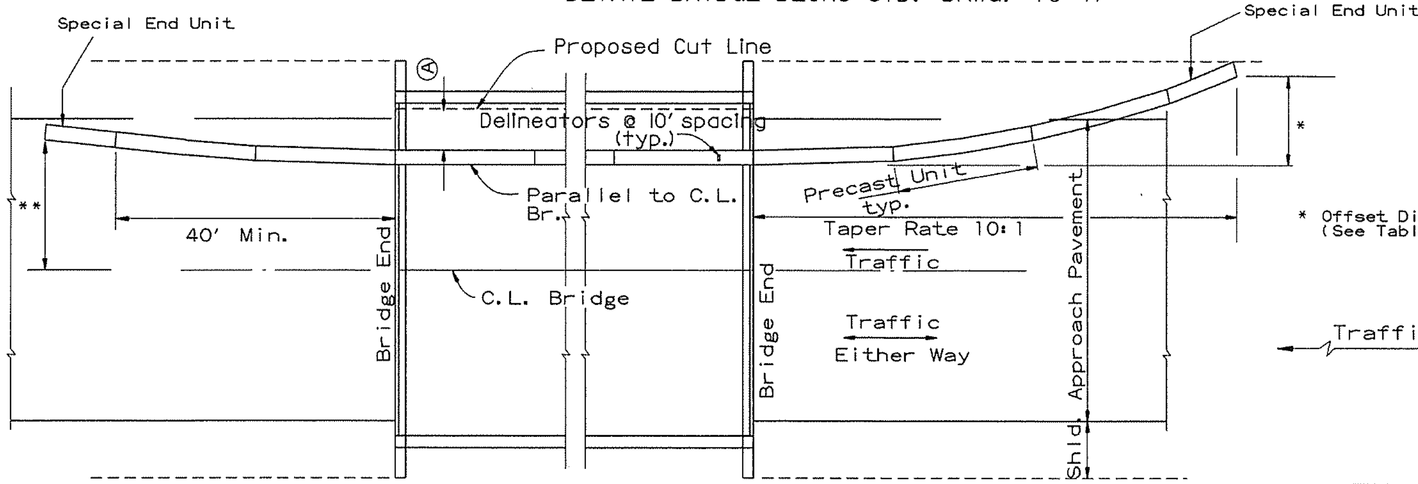
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

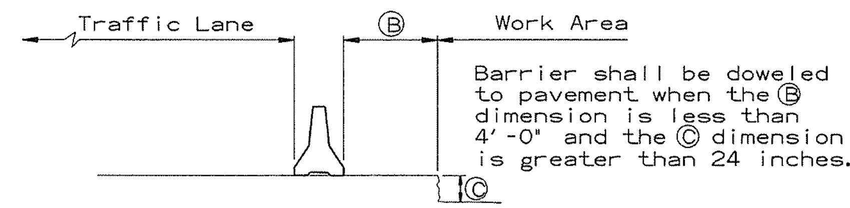
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

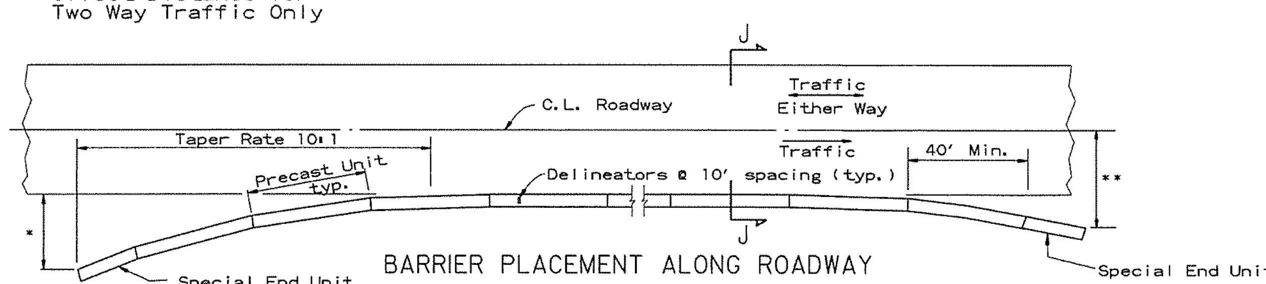
No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

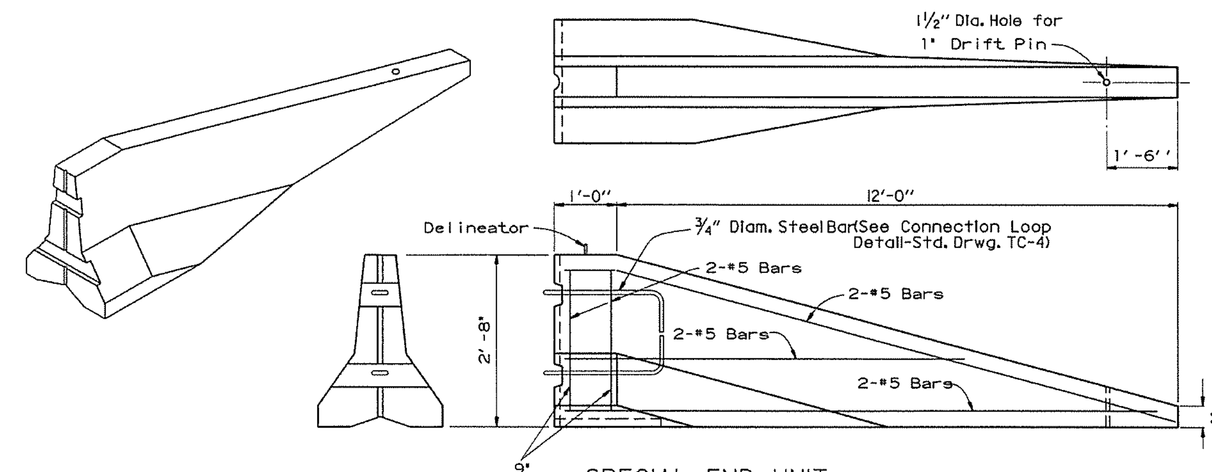
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

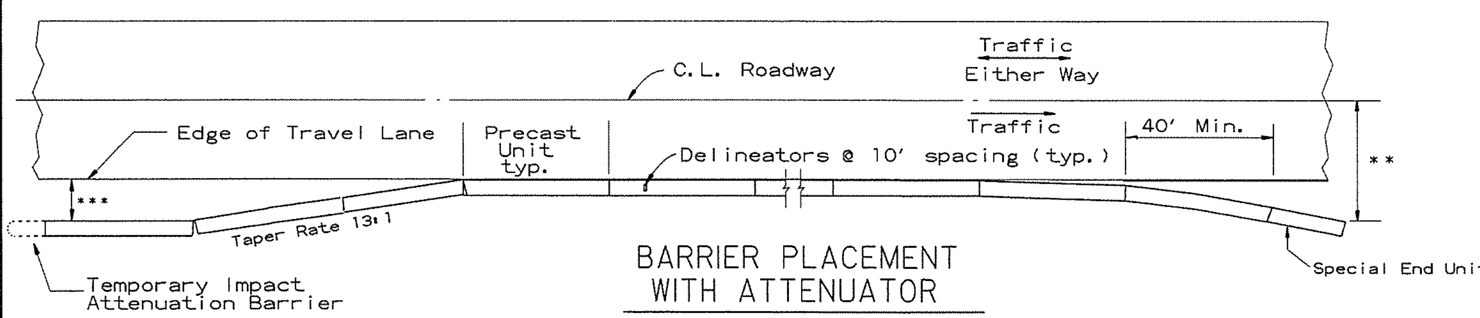
Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.



SPECIAL END UNIT

No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

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	

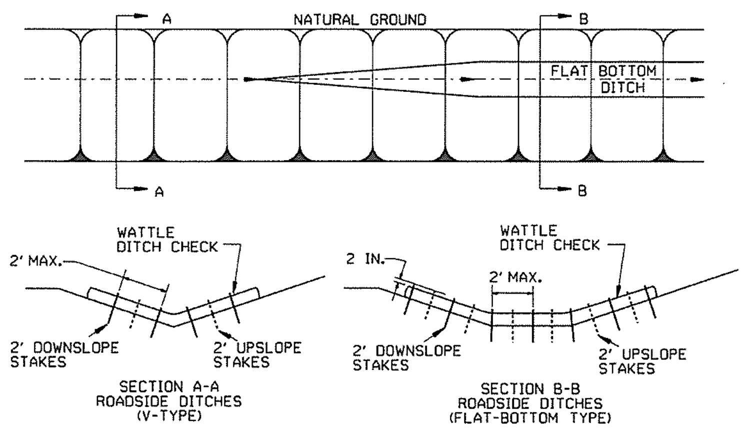
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

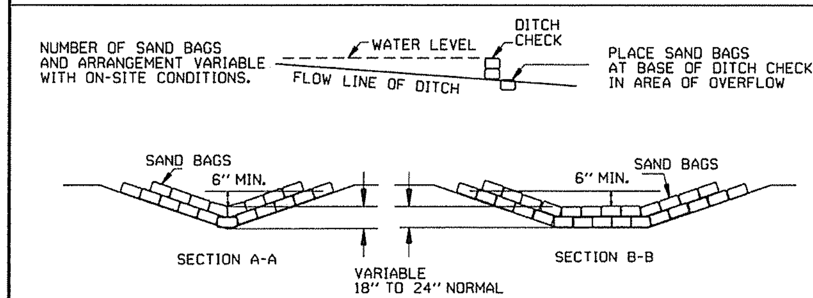
STANDARD DRAWING TC-5

GENERAL NOTES

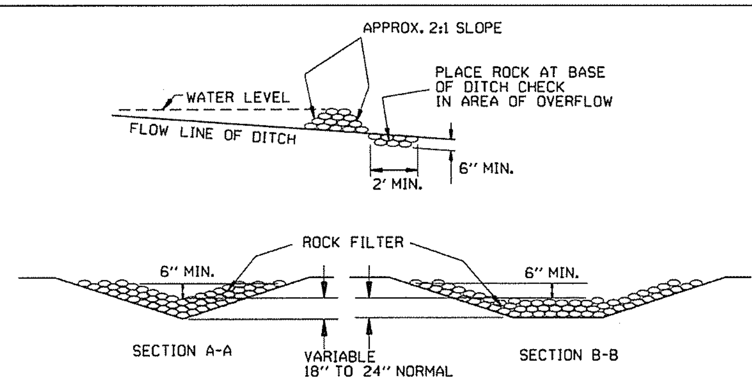
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



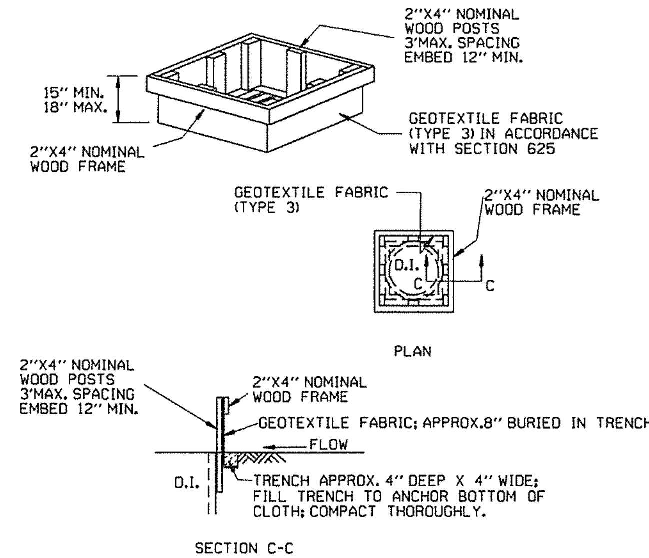
WATTLE DITCH CHECK (E-1)



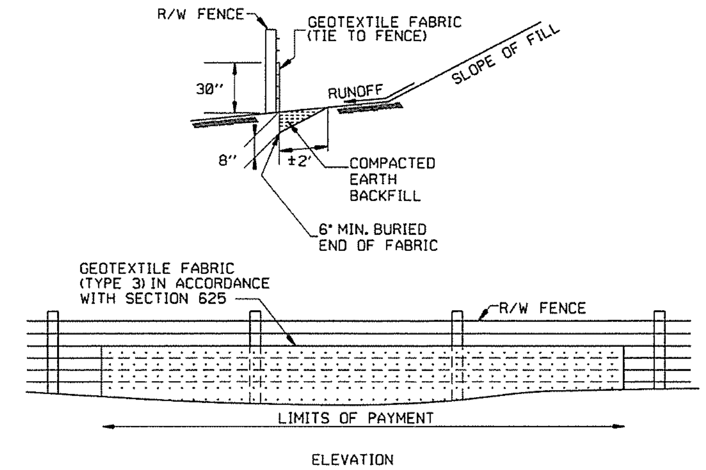
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



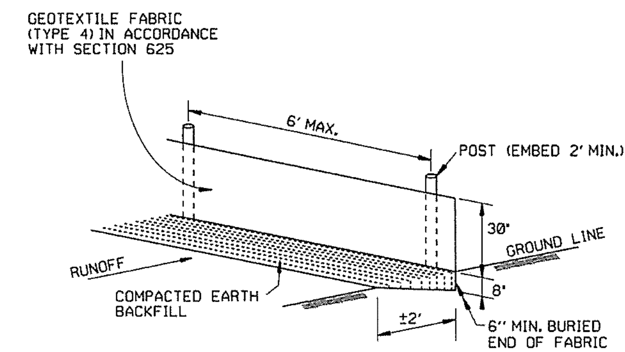
DROP INLET SILT FENCE (E-7)



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.



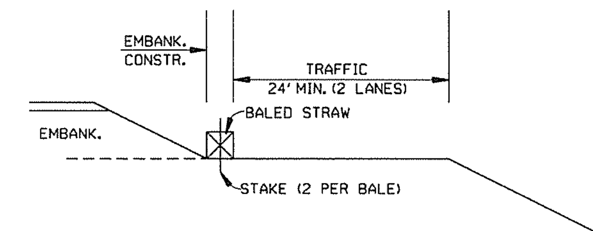
SILT FENCE (E-11)

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.

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.



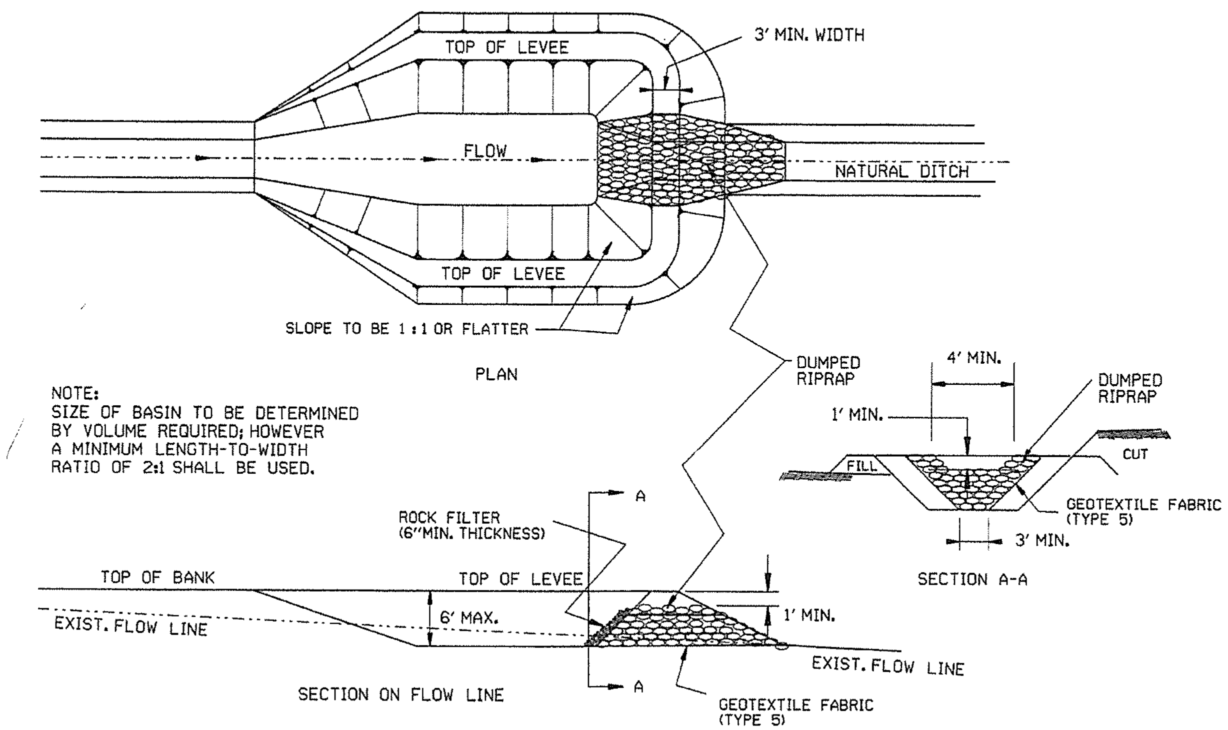
BALED STRAW FILTER BARRIER (E-2)

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

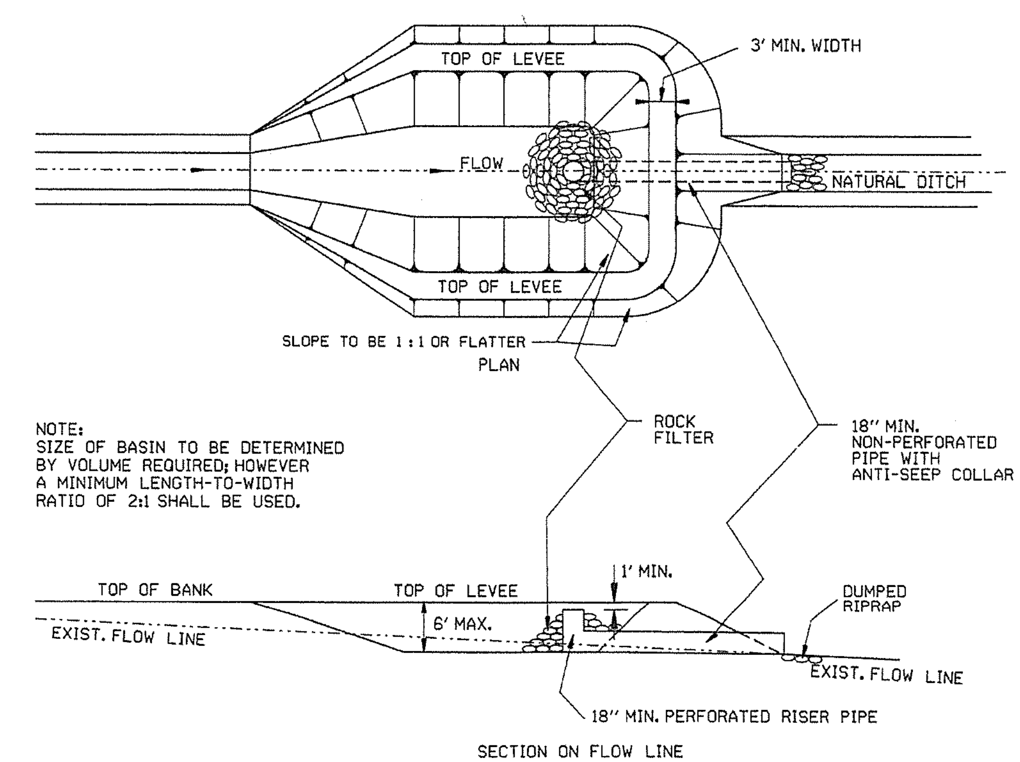
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

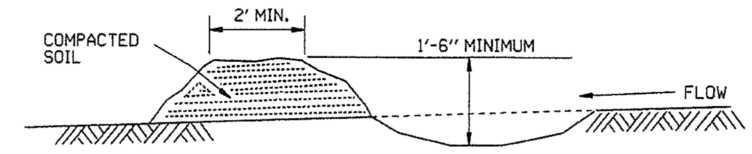
STANDARD DRAWING TEC-1



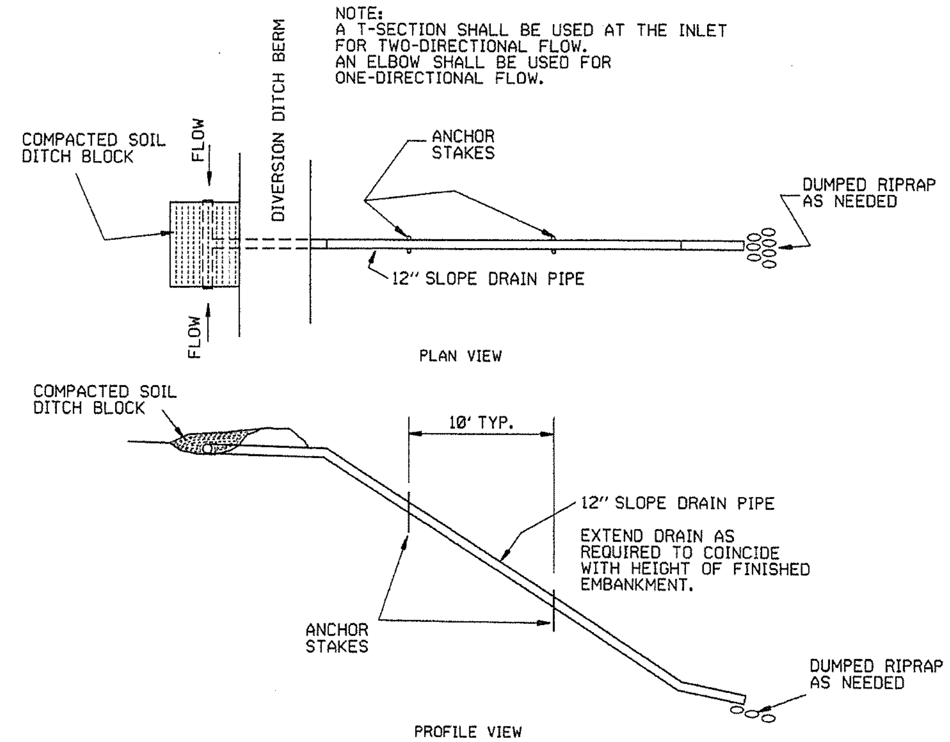
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



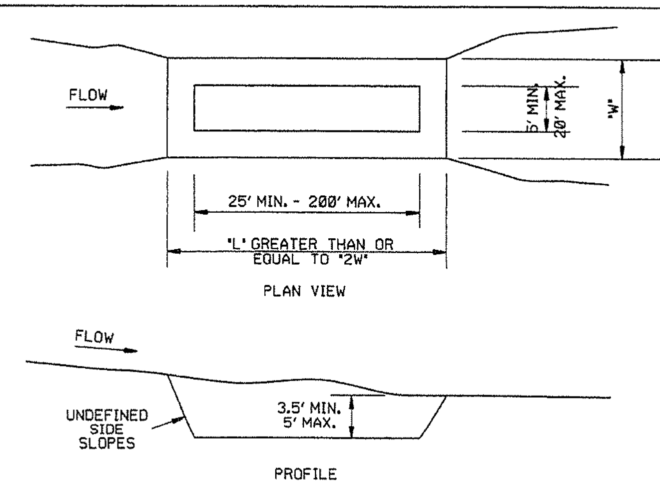
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

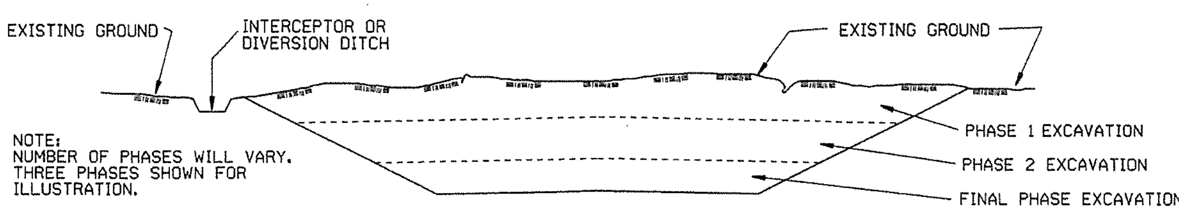
STANDARD DRAWING TEC-2

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



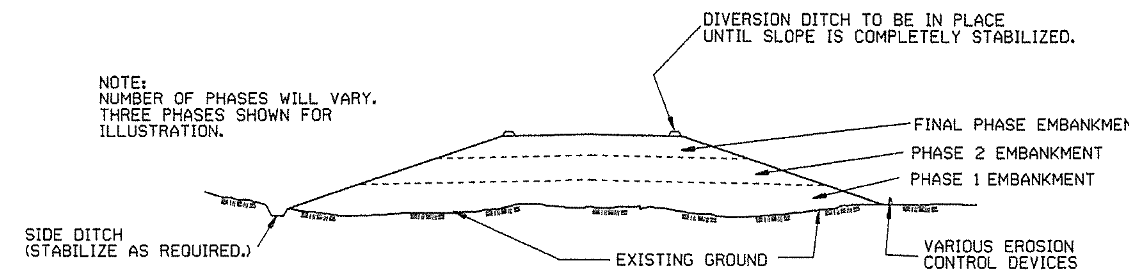
GENERAL NOTE

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

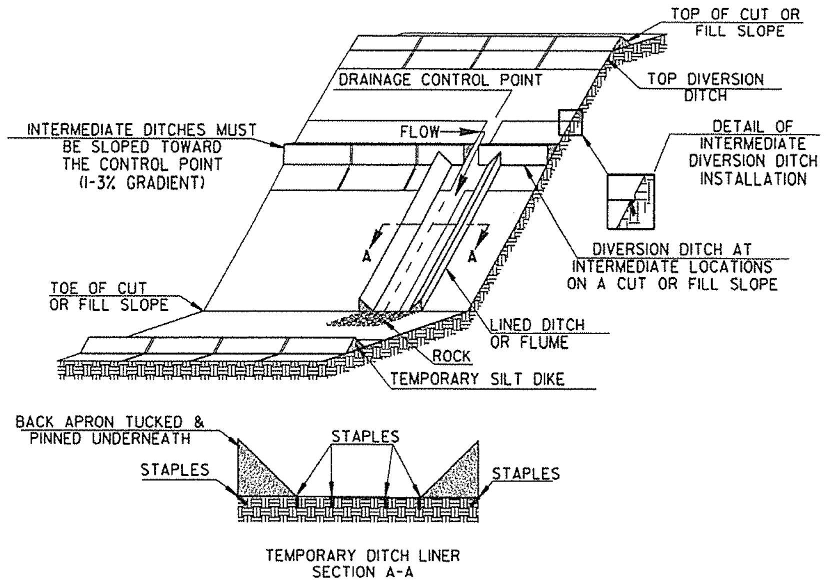
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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

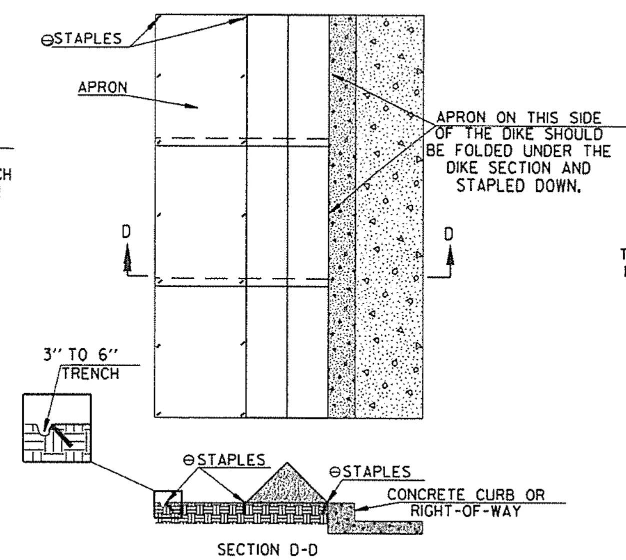
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

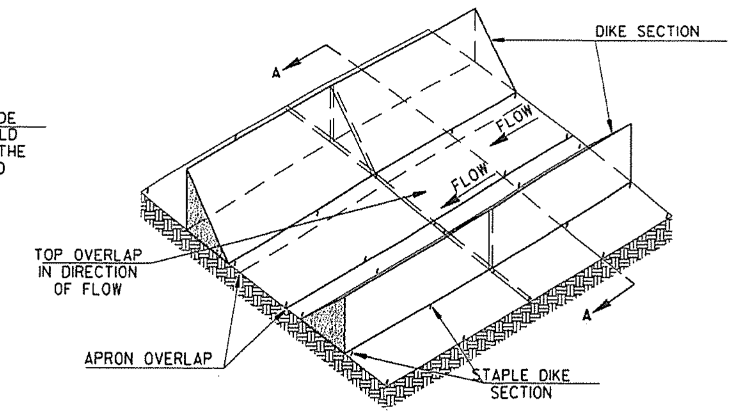
STANDARD DRAWING TEC-3



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

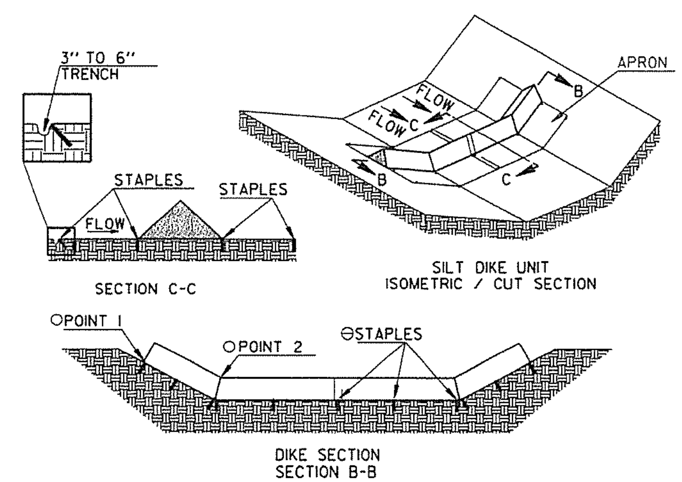
GENERAL NOTES

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.

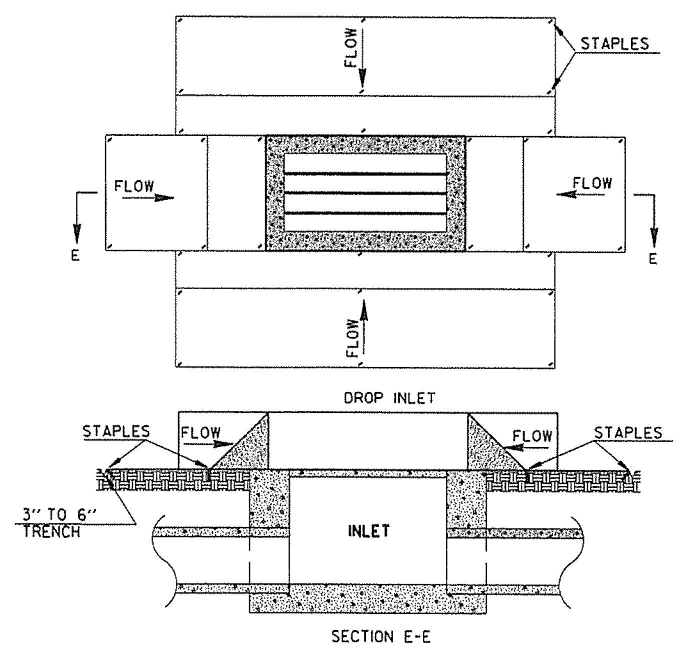
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.



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.

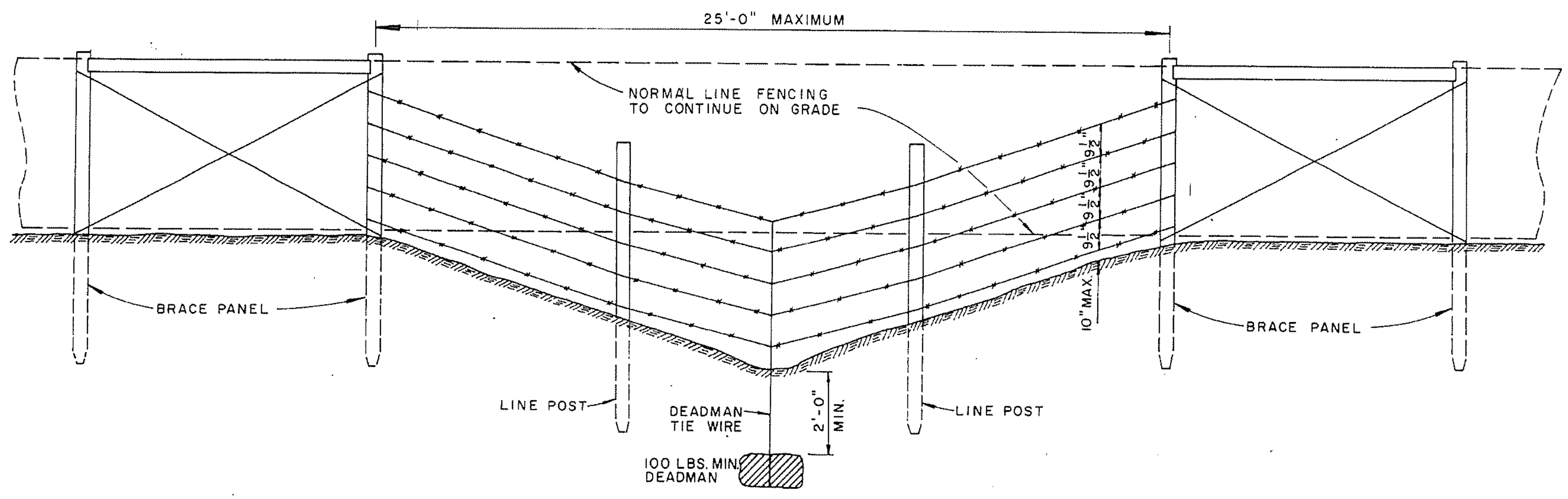
DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

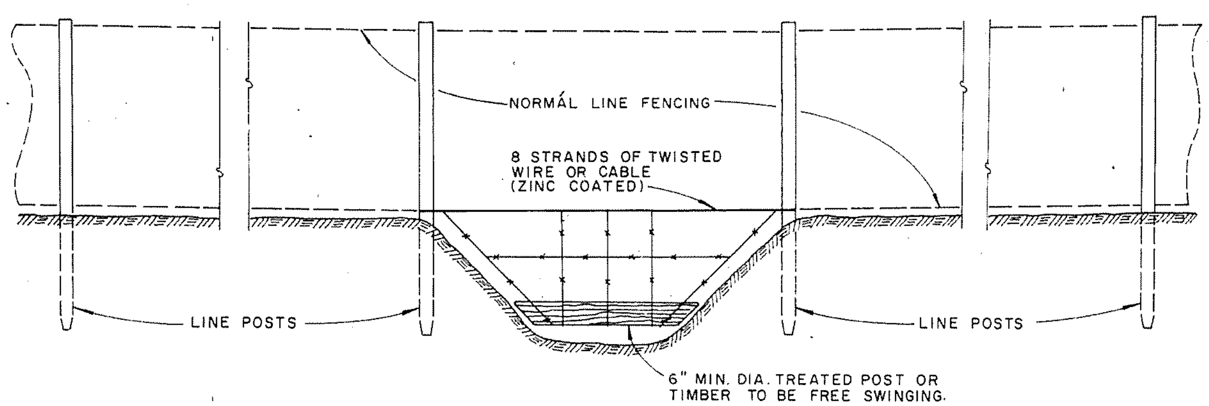
ARKANSAS STATE HIGHWAY COMMISSION

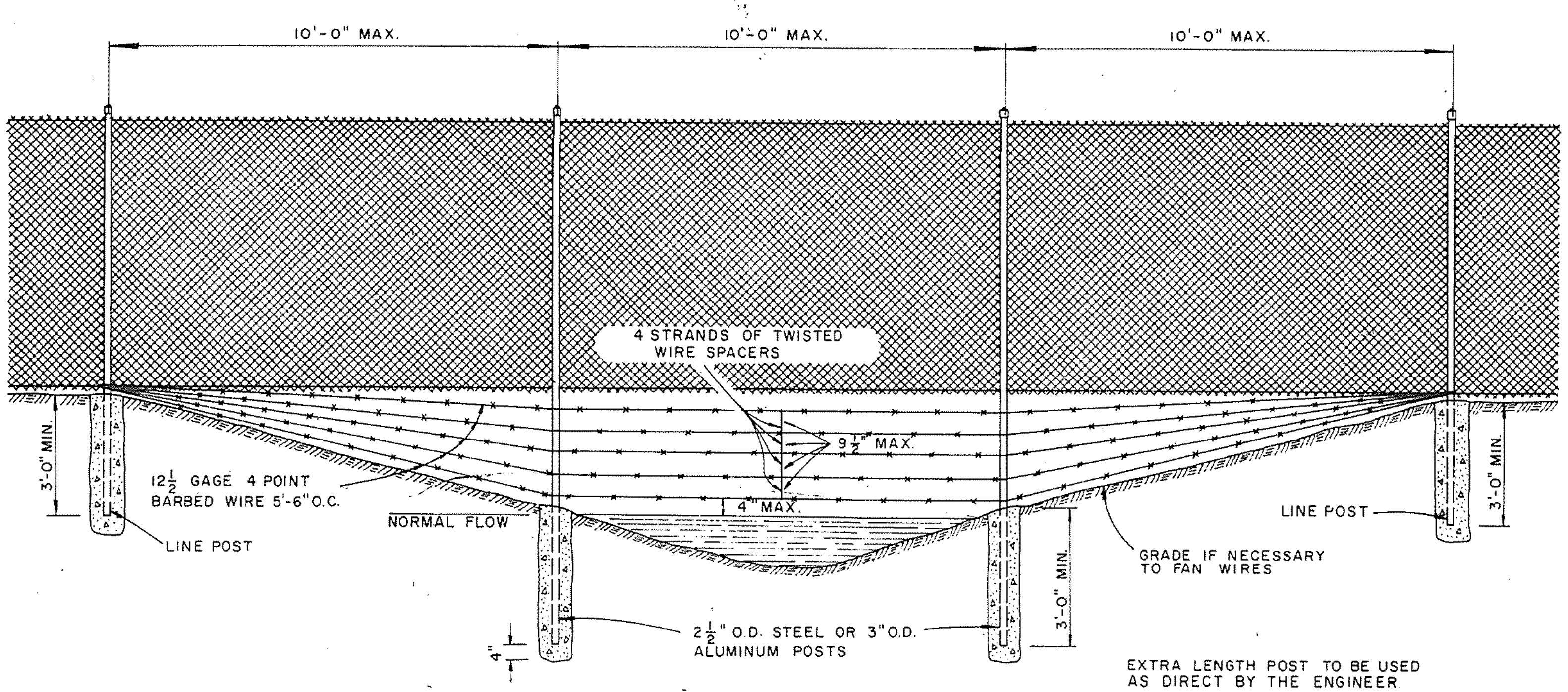
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4

154







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

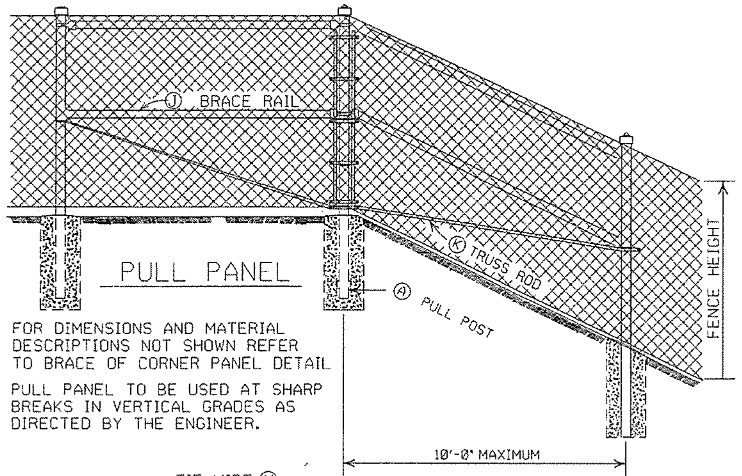
WIRE FENCE WATER GAPS

STANDARD DRAWING

WF-2

73

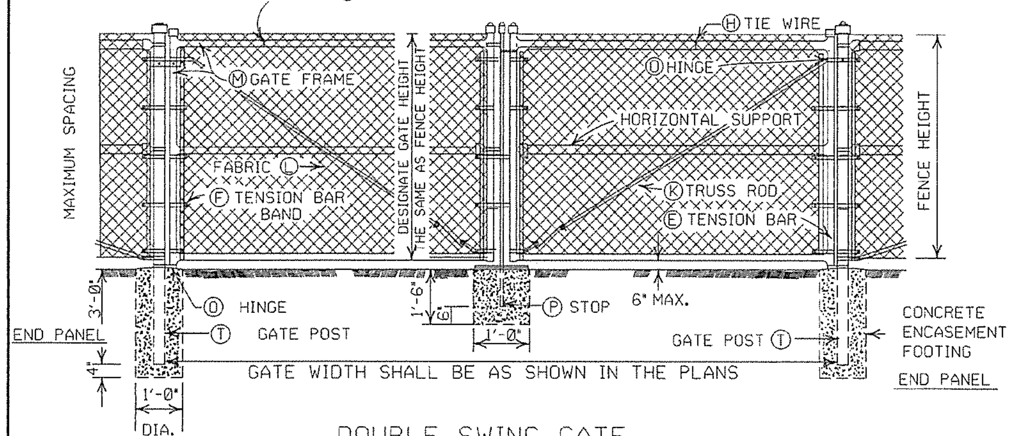
134-11-71-67001-PPASCu



PULL PANEL

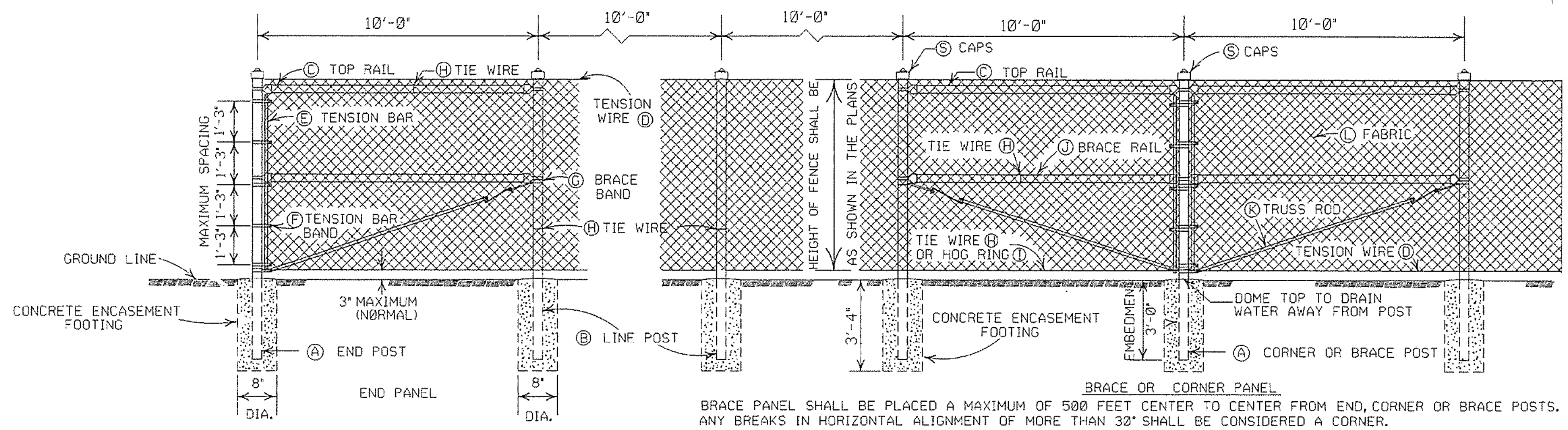
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL.

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



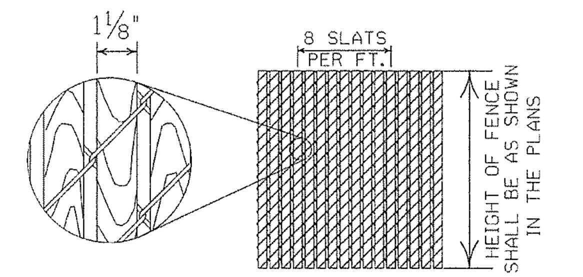
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

HEIGHT OF FENCE FABRIC	Ⓐ END, PULL CORNER OR BRACE POST	Ⓑ LINE POSTS SIZE	Ⓑ LINE POSTS TIE SPACING	Ⓒ TOP RAIL SIZE	Ⓒ TOP RAIL TIE SPACING	Ⓒ TOP RAIL MIN. LENGTH	Ⓓ TENSION WIRE SIZE	Ⓓ TENSION WIRE TIE SPACING	Ⓔ TENSION BAR SIZE	Ⓔ TENSION BAR LENGTH	Ⓕ TENSION BAR BAND SIZE	Ⓕ TENSION BAR BAND BOLT SIZE	Ⓕ TENSION BAR BAND SPACING	Ⓖ BRACE BAND SIZE	Ⓖ BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ³⁄₁₆" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⁵⁄₁₆" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⁵⁄₁₆" X 1¼"
OVER 6' TO 12' INCL.	3" O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	Ⓗ TIE WIRE	Ⓘ HOG RING	Ⓙ BRACE RAIL SIZE	Ⓙ BRACE RAIL TIE SPACING	Ⓚ TRUSS ROD	Ⓛ FABRIC SIZE	Ⓛ FABRIC MESH	Ⓛ FABRIC SELVAGE	Ⓜ GATE FRAME SIZE	Ⓜ GATE FRAME TIE SPACING	Ⓝ HORIZONTAL SUPPORT SIZE	Ⓝ HORIZONTAL SUPPORT TIE SPACING	Ⓞ HINGE TPE 180° SWING	Ⓣ GATE POST GATE WIDTH 12' AND LESS	Ⓣ GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⁵⁄₁₆" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK-ING AND/OR TWIST-ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS. AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

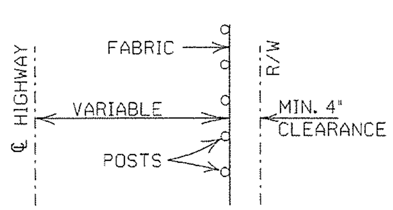
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

GENERAL NOTES:

(C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.

(D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.

(J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

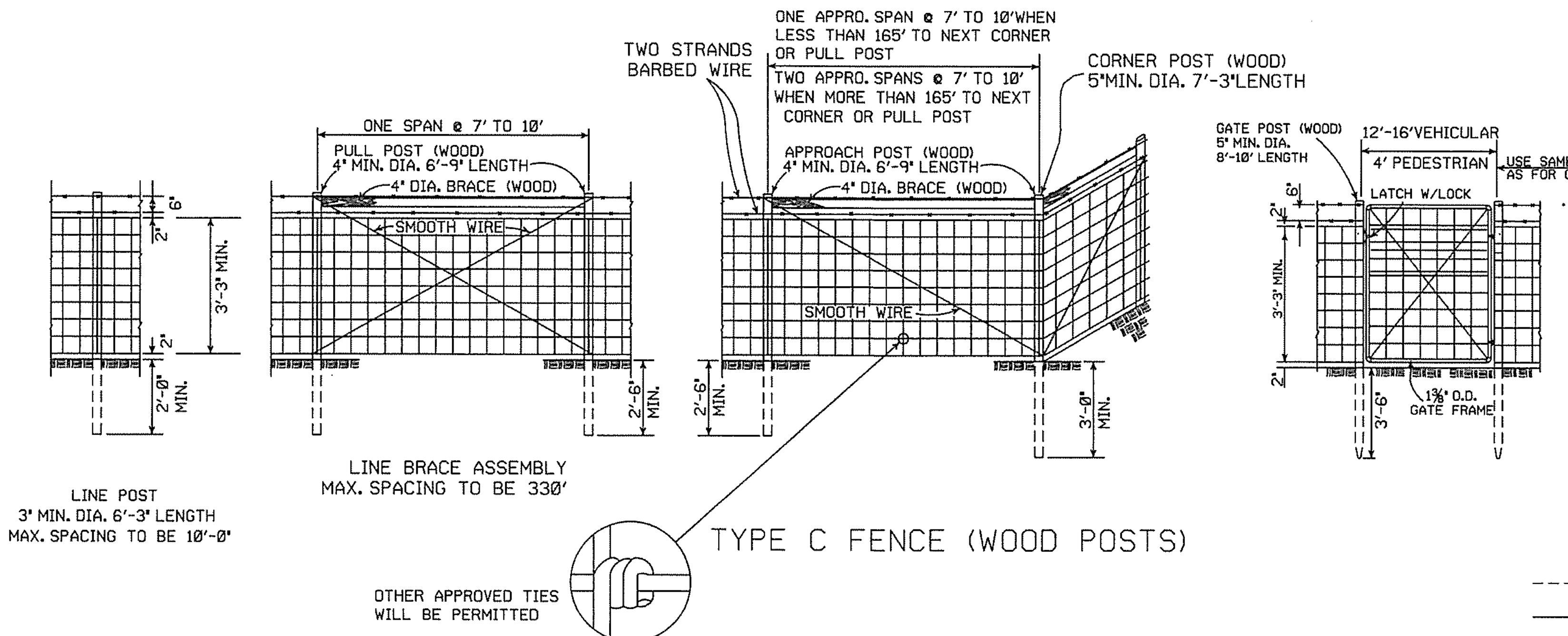
EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91 8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

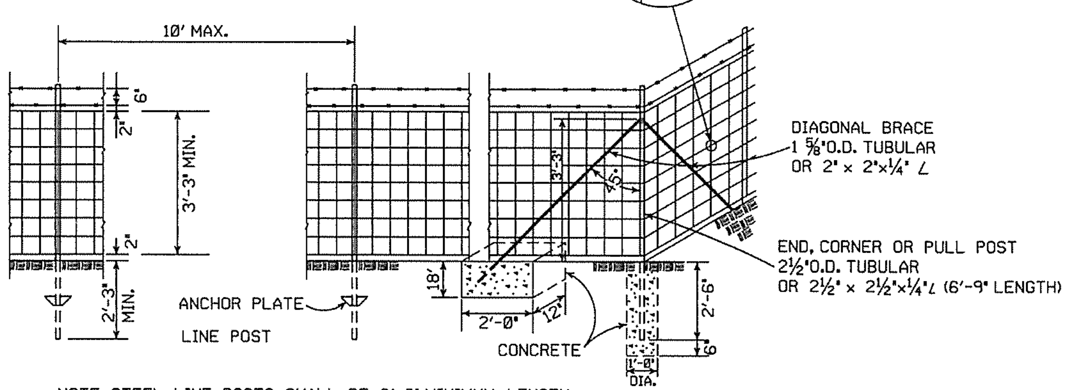
ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

STANDARD DRAWING WF-3



TYPE C FENCE (WOOD POSTS)



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

TYPE C FENCE (STEEL POSTS)

GENERAL NOTES:

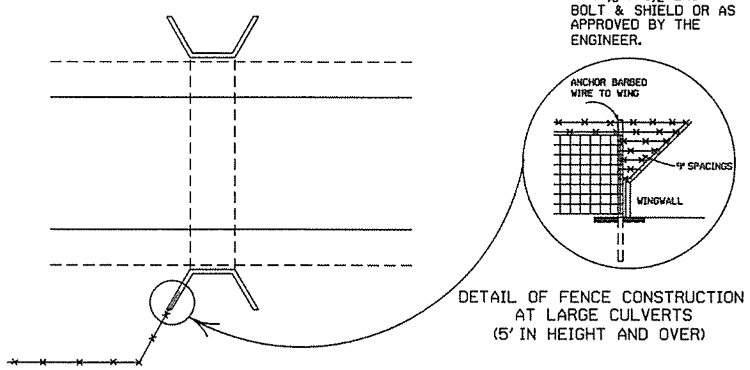
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED.
TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO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

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

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

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

NOTE: USE ⅜" X 1½" LAG BOLT & SHIELD OR AS APPROVED BY THE ENGINEER.

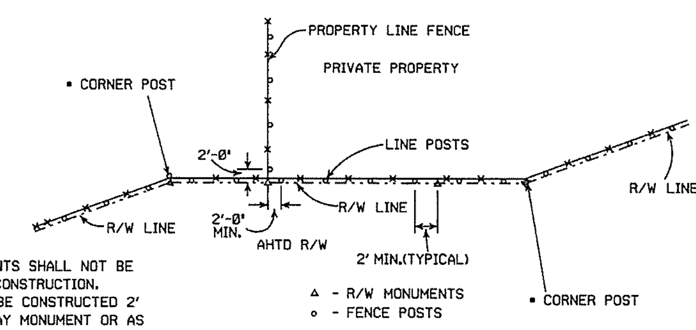


DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

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

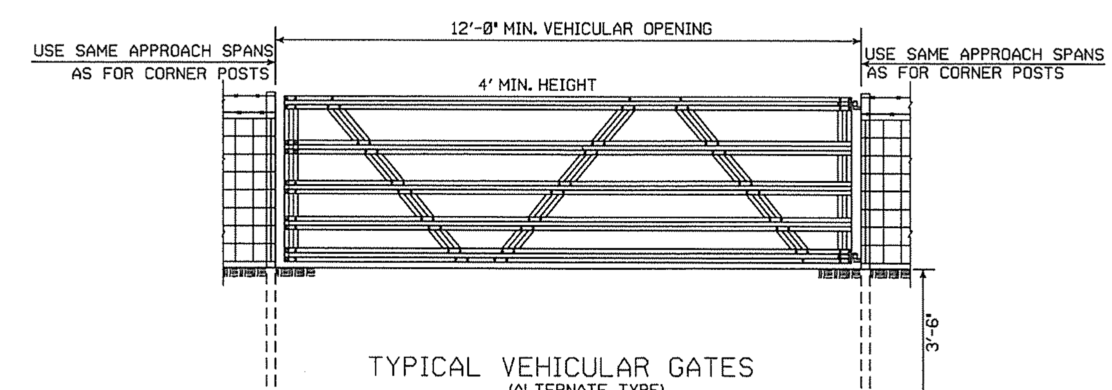
SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

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



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

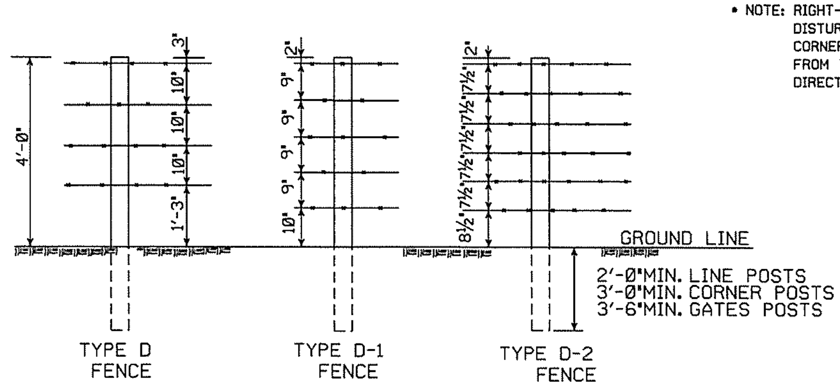
RIGHT-OF-WAY FENCE LOCATION



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

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

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

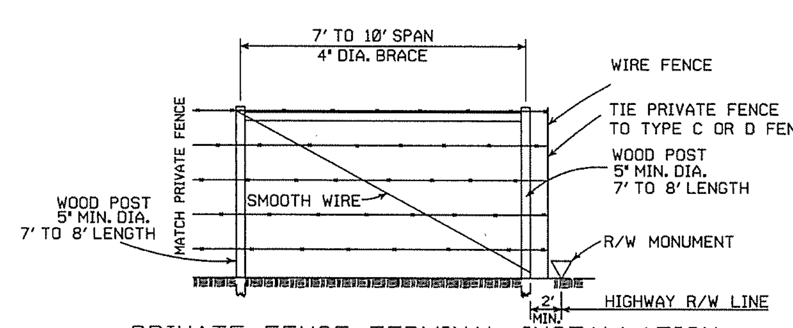


TYPE D FENCE

TYPE D-1 FENCE

TYPE D-2 FENCE

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



PRIVATE FENCE TERMINAL INSTALLATION

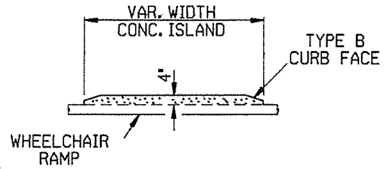
WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

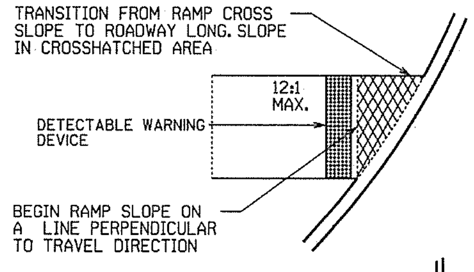
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4



CONCRETE ISLAND DETAIL



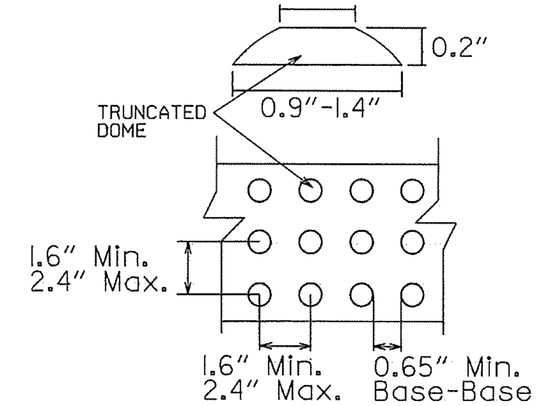
SLOPE TRANSITION DETAILS

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

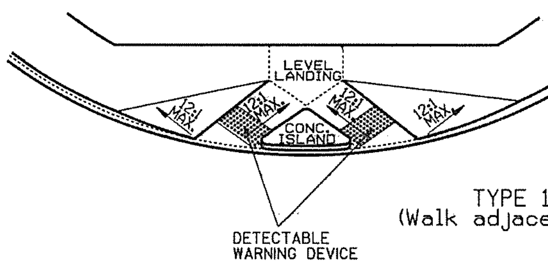
RADIUS "R"	DISTANCE "X"	DISTANCE "Y"	LENGTH "L"	RAMP AREA "A"
FEET	FEET	FEET	FEET	SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

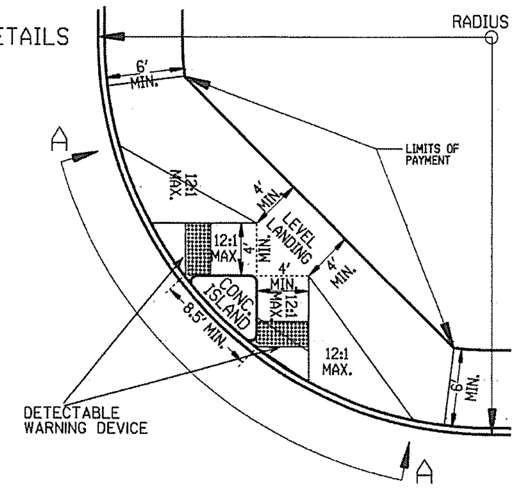
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

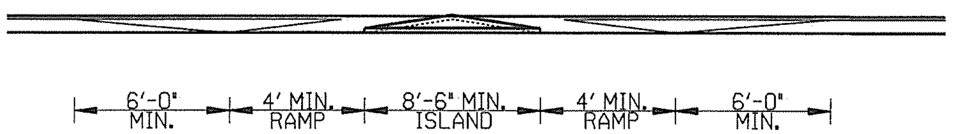


DETECTABLE WARNING DEVICE DETAIL

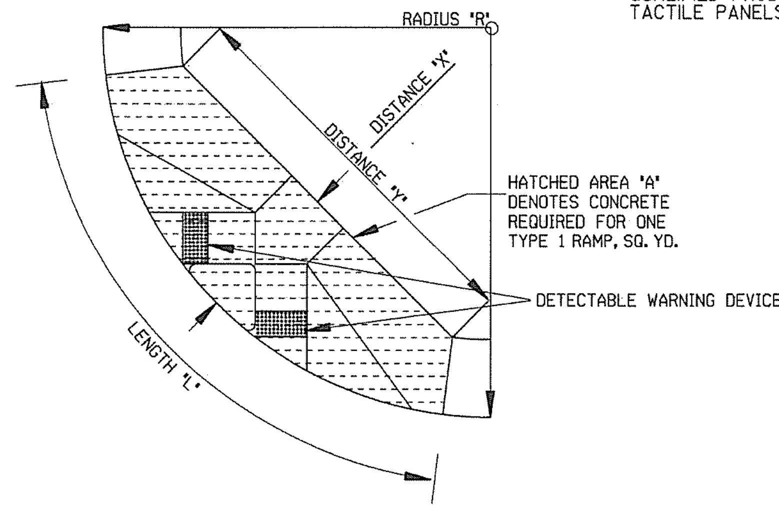


TYPE 1 RAMP
(Walk adjacent to curb)





SECTION A-A



GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.

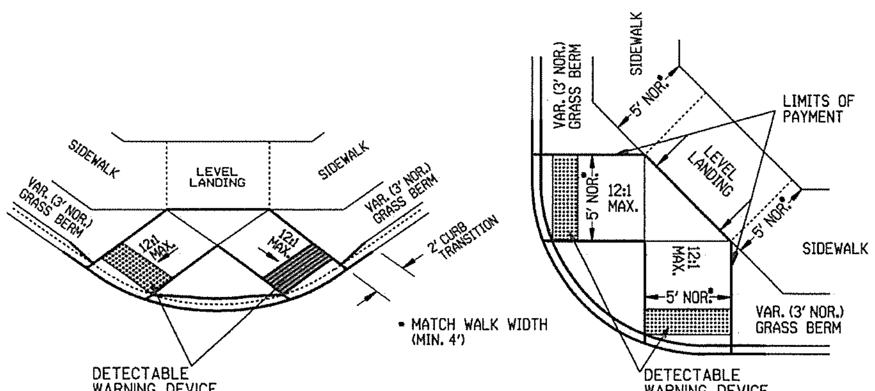
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.

THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.

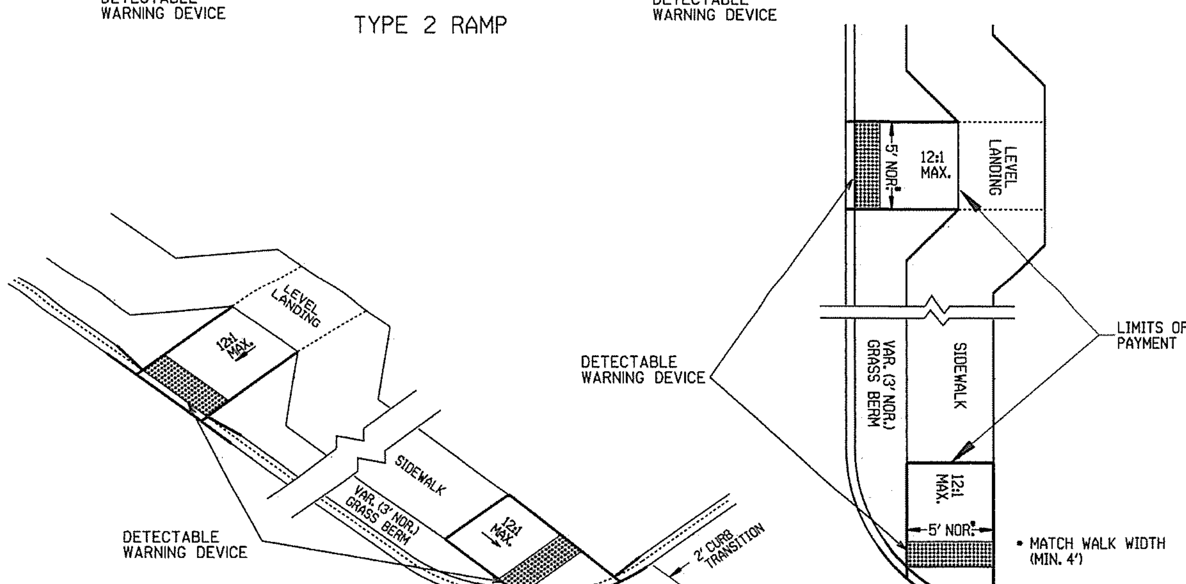
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.

THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.



TYPE 2 RAMP

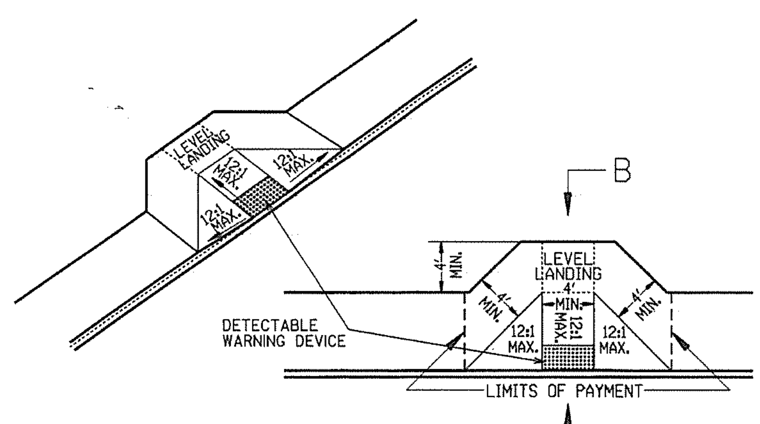


TYPE 3 RAMP

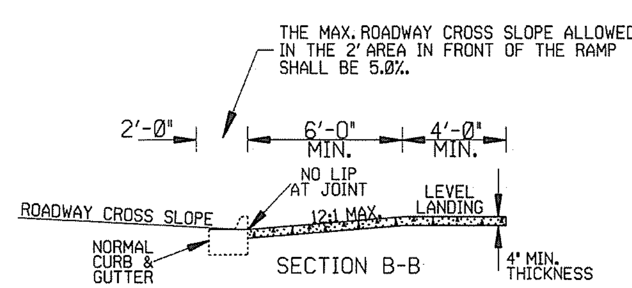
RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.).
THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.
AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.



TYPE 4 RAMP
(Walk adjacent to curb)



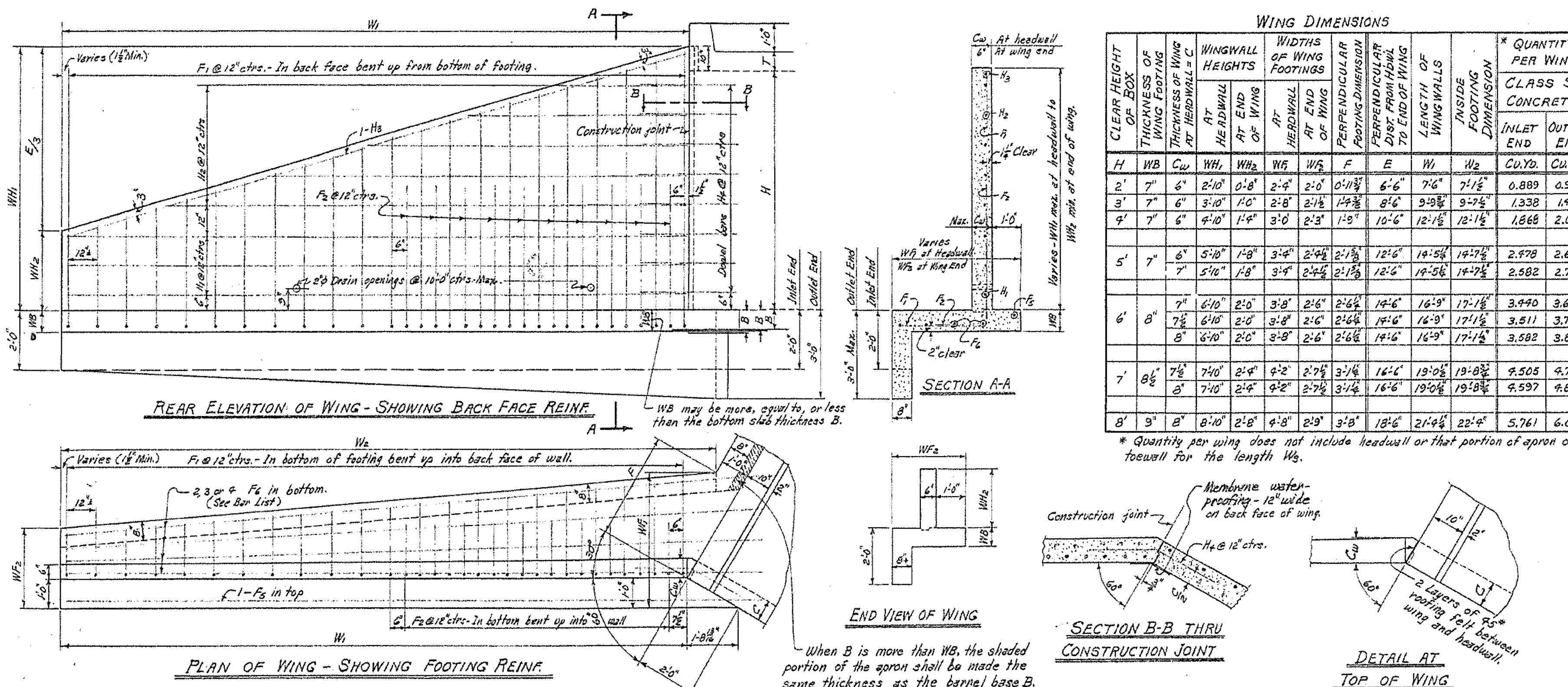
SECTION B-B

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8:1TO12:1MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

STANDARD DRAWING WR-1



WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL = C	WINGWALL HEIGHTS AT HEADWALL	WINGWALL HEIGHTS AT END OF WING	WIDTHS OF WING FOOTINGS AT HEADWALL	WIDTHS OF WING FOOTINGS AT END OF WING	PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR DIST. FROM HDWL TO END OF WING	LENGTH OF WINGWALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE INLET END	OUTLET END
H	WB	C_W	WH_1	WH_2	WF_1	WF_2	F	E	W_1	W_2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	0'-11¾"	6'-6"	7'-6"	7'-1½"	0.889	0.986
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-4⅜"	8'-6"	9'-9¾"	9'-7½"	1.338	1.466
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-9"	10'-6"	12'-1½"	12'-1½"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅝"	12'-6"	14'-5¼"	14'-7½"	2.478	2.668
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅝"	12'-6"	14'-5¼"	14'-7½"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6¼"	14'-6"	16'-9"	17'-1½"	3.440	3.661
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6¼"	14'-6"	16'-9"	17'-1½"	3.511	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6¼"	14'-6"	16'-9"	17'-1½"	3.582	3.803
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1¼"	16'-6"	19'-0½"	19'-8¾"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1¼"	16'-6"	19'-0½"	19'-8¾"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	18'-6"	21'-4¼"	22'-4"	5.761	6.047

* Quantity per wing does not include headwall or that portion of apron or toewall for the length W_3.

APRON DIMENSION W_3

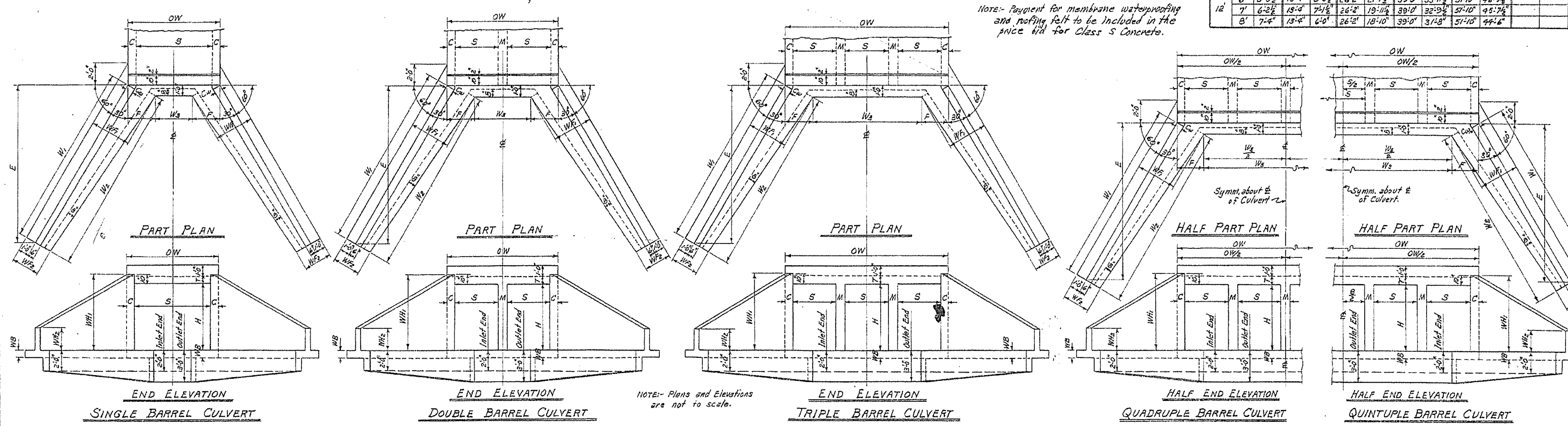
$W_3 = (OW - 2F)$

CLEAR SPAN	CLEAR HEIGHT	2 x FOOTING DIMENSION	SINGLE BARREL CULVERT OW	W_3	DOUBLE BARREL CULVERT OW	W_3	TRIPLE BARREL CULVERT OW	W_3	QUADRUPLE BARREL CULVERT OW	W_3	QUINTUPLE BARREL CULVERT OW	W_3
S	H	2F	OW	W_3	OW	W_3	OW	W_3	OW	W_3	OW	W_3
4'	2'	1'-11½"	5'-0"	3'-0½"	9'-8"	7'-8½"	14'-4"	12'-4½"	19'-0"	17'-0½"	23'-8"	21'-8½"
	3'	2'-8¾"	5'-0"	2'-3¼"	9'-8"	6'-11¼"	14'-4"	11'-7¼"	19'-0"	16'-3¼"	23'-8"	20'-11¼"
	4'	3'-6"	5'-0"	1'-6"	9'-8"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-2"
	5'	4'-3¼"	5'-0"	0'-8¾"	9'-8"	5'-4¾"	14'-4"	10'-0¾"	19'-0"	14'-8¾"	23'-8"	19'-4¾"
	6'	5'-0½"	5'-2"	0'-1½"	9'-11"	4'-10½"	14'-8"	9'-7½"	19'-5"	14'-4½"	24'-2"	19'-1½"
5'	3'	2'-8¾"	6'-0"	3'-3¼"	11'-8"	8'-11¼"	17'-4"	14'-7¼"	23'-0"	20'-3¼"	28'-8"	25'-11¼"
	4'	3'-6"	6'-0"	2'-6"	11'-8"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3¼"	6'-0"	1'-8¾"	11'-8"	7'-4¾"	17'-4"	13'-0¾"	23'-0"	18'-8¾"	28'-8"	24'-4¾"
	6'	5'-0½"	6'-2"	1'-1½"	11'-11"	6'-10½"	17'-8"	12'-7½"	23'-5"	18'-4½"	29'-2"	24'-1½"
	7'	6'-2½"	6'-3"	0'-0½"	12'-1"	5'-10½"	17'-11"	11'-8½"	23'-9"	17'-6½"	29'-7"	23'-4½"
6'	3'	2'-8¾"	7'-0"	4'-3¼"	13'-8"	10'-11¼"	20'-4"	17'-7¼"	27'-0"	24'-3¼"	33'-8"	30'-11¼"
	4'	3'-6"	7'-0"	3'-6"	13'-8"	10'-2"	20'-4"	16'-10"	27'-0"	23'-6"	33'-8"	30'-2"
	5'	4'-3¼"	7'-0"	2'-8¾"	13'-9"	9'-4¾"	20'-4"	16'-0¾"	27'-0"	22'-8¾"	33'-8"	29'-4¾"
	6'	5'-0½"	7'-2"	2'-1½"	13'-11"	8'-10½"	20'-8"	15'-7½"	27'-5"	22'-4½"	34'-2"	29'-1½"
	7'	6'-2½"	7'-3"	1'-0½"	14'-1"	7'-10½"	20'-11"	14'-8½"	27'-9"	21'-6½"	34'-7"	28'-4½"
	8'	7'-4"	7'-4"	0'-0"	14'-2"	6'-10"	21'-0"	13'-8"	27'-10"	20'-6"	34'-8"	27'-4"
7'	4'	3'-6"	8'-0"	4'-6"	15'-8"	12'-2"	23'-4"	19'-10"	31'-0"	27'-6"	38'-8"	35'-2"
	5'	4'-3¼"	8'-0"	3'-8¾"	15'-8"	11'-4¾"	23'-4"	19'-0¾"	31'-0"	26'-8¾"	38'-8"	34'-4¾"
	6'	5'-0½"	8'-2"	3'-1½"	15'-11"	10'-10½"	23'-8"	18'-7½"	31'-5"	26'-4½"	39'-2"	34'-1½"
	7'	6'-2½"	8'-3"	2'-0½"	16'-1"	9'-10½"	23'-11"	17'-8½"	31'-9"	25'-6½"	39'-7"	33'-4½"
	8'	7'-4"	8'-4"	1'-0"	16'-2"	8'-10"	24'-0"	16'-8"	31'-10"	24'-6"	39'-8"	32'-4"
8'	4'	3'-6"	9'-0"	5'-6"	17'-8"	14'-2"	26'-4"	22'-10"	35'-0"	31'-6"	43'-8"	40'-2"
	5'	4'-3¼"	9'-2"	4'-10¾"	17'-11"	13'-7¾"	26'-8"	22'-4¾"	35'-5"	31'-1¾"	44'-2"	39'-10¾"
	6'	5'-0½"	9'-2"	4'-1½"	17'-11"	12'-10½"	26'-8"	21'-7½"	35'-5"	30'-4½"	44'-2"	39'-1½"
	7'	6'-2½"	9'-3"	3'-0½"	18'-1"	11'-10½"	26'-11"	20'-8½"	35'-9"	29'-6½"	44'-7"	38'-4½"
	8'	7'-4"	9'-4"	2'-0"	18'-2"	10'-10"	27'-0"	19'-8"	35'-10"	28'-6"	44'-8"	37'-4"
9'	5'	4'-3¼"	10'-2"	5'-10¾"	19'-11"	15'-7¾"	29'-8"	25'-4¾"	39'-5"	35'-1¾"	49'-2"	44'-10¾"
	6'	5'-0½"	10'-3"	5'-2½"	20'-1"	15'-0½"	29'-11"	24'-10½"	39'-9"	34'-8½"	49'-7"	44'-6½"
	7'	6'-2½"	10'-3"	4'-0½"	20'-1"	13'-10½"	29'-11"	23'-8½"	39'-9"	33'-6½"	49'-7"	43'-4½"
	8'	7'-4"	10'-4"	3'-0"	20'-2"	12'-10"	30'-0"	22'-8"	39'-10"	32'-6"	49'-8"	42'-4"
10'	5'	4'-3¼"	11'-2"	6'-10¾"	21'-11"	17'-7¾"	32'-8"	28'-4¾"	43'-5"	39'-1¾"	54'-2"	49'-10¾"
	6'	5'-0½"	11'-3"	6'-2½"	22'-1"	17'-0½"	32'-11"	27'-10½"	43'-9"	38'-8½"	54'-7"	49'-6½"
	7'	6'-2½"	11'-3"	5'-0½"	22'-1"	15'-10½"	32'-11"	26'-8½"	43'-9"	37'-6½"	54'-7"	48'-4½"
	8'	7'-4"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-8"	43'-10"	36'-6"	54'-8"	47'-4"
11'	6'	5'-0½"	12'-4"	7'-3½"	24'-2"	19'-1½"	36'-0"	30'-11½"	47'-10"	42'-9½"		
	7'	6'-2½"	12'-4"	6'-1½"	24'-2"	17'-11½"	36'-0"	29'-9½"	47'-10"	41'-7½"		
	8'	7'-4"	12'-4"	5'-0"	24'-2"	16'-10"	36'-0"	28'-8"	47'-10"	40'-6"		
12'	6'	5'-0½"	13'-4"	8'-3½"	26'-2"	21'-1½"	39'-0"	33'-11½"	51'-10"	46'-9½"		
	7'	6'-2½"	13'-4"	7'-1½"	26'-2"	19'-11½"	39'-0"	32'-9½"	51'-10"	45'-7½"		
	8'	7'-4"	13'-4"	6'-0"	26'-2"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	® REINFORCING STEEL FOR 4 WINGS	CLASS S CONCRETE - 4 WINGS (Headwalls, Wingwalls, Footings, Toewalls and Aprons) SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	C_W	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	108.0	4.50	5.94	6.92	7.36	8.34
	3'	6"	7"	164.4	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	254.6	8.33	9.28	10.24	11.20	12.16
	5'	6"	7"	357.8	10.72	11.68	12.64	13.60	14.56
	6'	7"	8"	583.1	14.55	15.53	16.52	17.51	18.49
5'	3'	6"	7"	164.4	6.47	7.63	8.79	9.96	11.12
	4'	6"	7"	254.6	8.54	9.70	10.87	12.03	13.20
	5'	6"	7"	357.8	10.94	12.10	13.26	14.43	15.59
	6'	7"	8"	583.1	14.77	15.96	17.15	18.34	19.54
	7'	7½"	8½"	1134.6	18.94	20.15	21.37	22.59	23.80
6'	3'	6"	7"	164.4	6.68	8.06	9.42	10.80	12.18
	4'	6"	7"	254.6	8.75	10.14	11.49	12.87	14.25
	5'	6"	7"	357.8	11.15	12.53	13.89	15.27	16.65
	6'	7"	8"	583.1	14.98	16.39	17.78	19.18	20.59
	7'	7½"	8½"	1134.6	19.15	20.58	22.00	23.43	24.86
	8'	8"	9"	1425.6	24.09	25.53	26.96	28.39	29.83
7'	4'	6"	7"	254.6	8.97	10.58	12.15	13.76	15.35
	5'	6"	7"	357.8	11.36	12.97	14.54	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7½"	8½"	1134.6	19.38	21.02	22.64	24.28	25.92
	8'	8"	9"	1425.6	24.32	25.97	27.60	29.25	30.89
8'	4'	6"	7"	254.6	9.19	11.03	12.82	14.65	16.45
	5'	7"	7"	357.8	12.03	13.89	15.70	17.55	19.36
	6'	7"	8"	583.1	15.42	17.27	19.09	20.93	22.75
	7'	7½"	8½"	1134.6	19.59	21.46	23.30	25.16	26.99
	8'	8"	9"	1425.6	24.54	26.41	28.24	30.11	31.96
9'	5'	7"	7"	357.8	12.26	14.34	16.87	18.45	20.47
	6'	7½"	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7½"	8½"	1134.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	1425.6	24.76	26.86	28.91	31.00	33.05
10'	5'	7"	7"	357.8	12.49	14.80	17.05	19.26	21.52
	6'	7½"	8"	583.1	16.17	18.50	20.77	22.99	25.28
	7'	7½"	8½"	1134.6	20.04	22.37	24.64	26.87	29.15
	8'	8"	9"	1425.6	24.98	27.31	29.58	31.81	34.10
11'	6'	8"	8"	583.1	16.69	19.27	21.76	24.23	
	7'	8"	8½"	1134.6	20.64	23.22	25.71	28.18	
	8'	8"	9"	1425.6	25.19	27.77	30.27	32.74	
12'	6'	8"	8"	583.1	16.92	19.75	22.45	25.18	
	7'	8"	8½"	1134.6	20.87	23.69	26.40	29.13	
	8'	8"	9"	1425.6	25.42	28.25	30.96	33.69	

® For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.



MEMBRANE:- A membrane waterproofing 12" wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

CLASS S CONCRETE

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT	F_1 BENT (In bottom of footing, bent up into back face of wing. One bar of each length.) SIZE	SPACING	NO. REQ'D	LENGTHS VARY MIN.	LENGTHS VARY MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	F_2 BENT (In bottom of footing, bent up into back face of wing. Alt. with F_1 bars.) SIZE	SPACING	NO. REQ'D	LENGTH	X	Y
2'	#3	12"	8	1'-6"	3'-10"	0'-8"	1'-0"	0'-11"	2'-11"	—	—	—	—	—	—
3'	#3	12"	10	2'-2"	5'-2"	0'-10"	1'-3"	1'-5"	4'-0"	—	—	—	—	—	—
4'	#3	12"	13	2'-4"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	1'-11"	6'-0"	#3	12"	4	3'-6"	1'-1"	2'-6"
6'	#4	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	2'-5"	7'-1"	#3	12"	4	4'-6"	1'-4"	3'-3"
7'	#4	12"	20	3'-9"	10'-9"	1'-3"	2'-9"	2'-7"	8'-1"	#4	12"	7	5'-6"	1'-7"	4'-0"
8'	#4	12"	22	4'-4"	12'-3"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"

CLEAR HEIGHT	F_5 STRAIGHT (Longitudinal in top of wing footing heel.) SIZE	NO. REQ'D	LENGTH	F_6 STRAIGHT (Longitudinal in bottom of wing footing toe.) SIZE	NO. REQ'D	LENGTH	H_1 STRAIGHT (Horizontal in back face of wing.) SIZE	SPACING	NO. REQ'D	LENGTH
2'	#3	1	9'-8"	#3	2	8'-6"	#3	12"	1	7'-2"
3'	#3	1	12'-0"	#3	2	11'-0"	#3	12"	1	9'-6"
4'	#3	1	14'-4"	#3	3	13'-6"	#3	12"	1	11'-10"
5'	#3	1	16'-8"	#3	3	16'-0"	#3	12"	2	14'-2"
6'	#3	1	19'-0"	#3	3	18'-6"	#3	12"	2	16'-6"
7'	#4	1	21'-4"	#4	4	21'-0"	#4	12"	2	18'-9"
8'	#4	1	23'-8"	#4	4	23'-9"	#4	12"	3	21'-1"

CLEAR HEIGHT	H_2 STRAIGHT (Horizontal in back face of wing. One bar of each length.) SIZE	SPACING	NO. REQ'D	LENGTHS VARY MAX.	LENGTHS VARY MIN.	H_3 STRAIGHT (In back face of wing at top-on slope.) SIZE	NO. REQ'D	LENGTH	H_4 BENT (Dowels thru construction joint at headwall.) SIZE	SPACING	NO. REQ'D	LENGTH	X	QUANTITY REINFORCING STEEL PER WING LB.
2'	#3	12"	1	—	4'-0"	#3	1	7'-4"	#3	12"	2	2'-8"	1'-4"	27.0
3'	#3	12"	2	7'-6"	4'-0"	#3	1	9'-9"	#3	12"	3	2'-8"	1'-4"	41.1
4'	#3	12"	3	10'-11"	4'-0"	#3	1	12'-2"	#3	12"	4	2'-8"	1'-4"	63.7
5'	#3	12"	3	10'-11"	4'-0"	#3	1	14'-7"	#3	12"	5	2'-8"	1'-4"	89.5
6'	#3	12"	4	14'-4"	4'-0"	#3	1	17'-0"	#3	12"	6	2'-8"	1'-4"	145.8
7'	#4	12"	5	17'-9"	4'-0"	#4	1	19'-5"	#4	12"	7	3'-6"	1'-9"	283.7
8'	#4	12"	5	17'-9"	4'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"	356.4

BAR BENDING DIAGRAMS

F_1 & F_2 — Y, X, 3" Pin

H_4 — X, X, 7/12

NOTE:- Dimensions are to bar centers.

REVISIONS:- Membrane added. 6-10-66 W.C.H.

Designed By:- W.C.H. 8-20-62. Checked By:- RHS 1-9-63
Drawn By:- W.C.H. 12-9-62. Checked By:- RHS 1-31-63
Quantities By:- W.C.H. 12-19-62. Checked By:- RHS 1-31-63 Rechecked By:- RHS 3-29-63

ARKANSAS STATE HIGHWAY COMMISSION

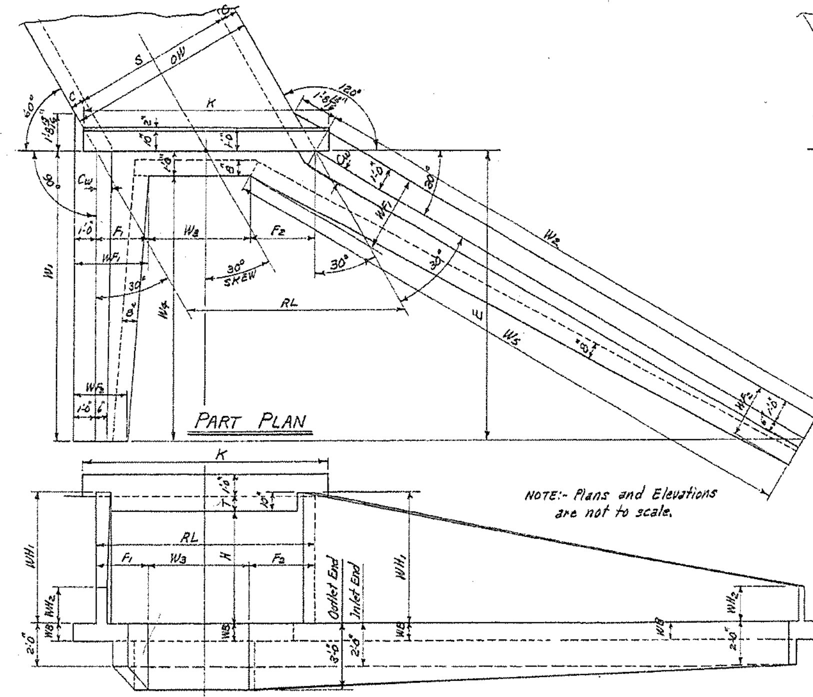
DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS

4, 5, 6, 7, 8, 9, 10, 11 & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			159	
JOB No.					



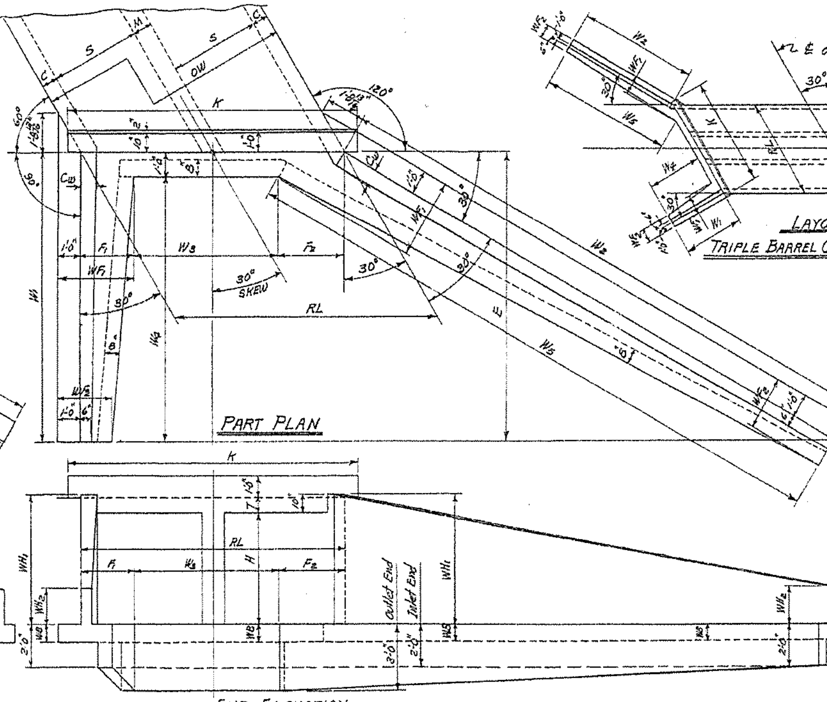
PART PLAN

NOTE:- Plans and Elevations are not to scale.

END ELEVATION

SINGLE BARREL CULVERT-30° SKEW RIGHT FORWARD

Details of Culvert with 30° Skew Left Forward is reversed, see Layout below.



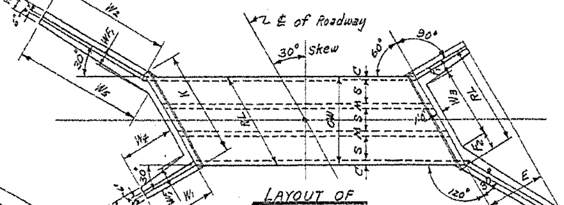
PART PLAN

END ELEVATION

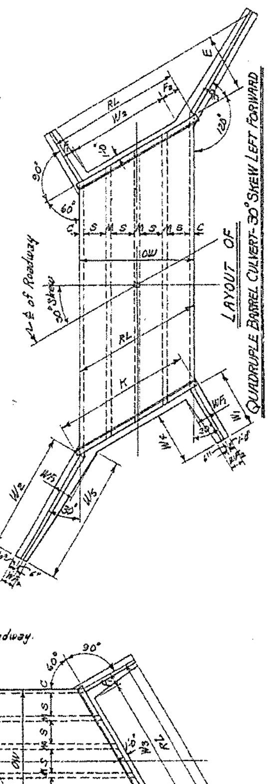
DOUBLE BARREL CULVERT-30° SKEW RIGHT FORWARD

Details of Culvert with 30° Skew Left Forward is reversed, see Layout below.

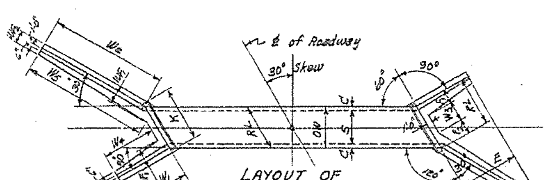
NOTE:- The length of the wings for the Plans, Elevations, and Layouts, as drawn, are proportioned for 3:1 slopes. For 2:1 slopes the wings are proportionally shorter, while for 4:1 slopes they are longer.



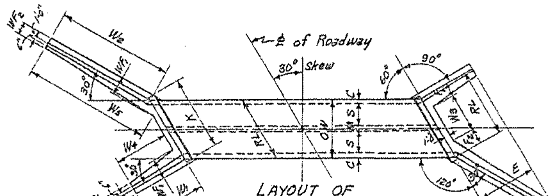
LAYOUT OF TRIPLE BARREL CULVERT-30° SKEW LEFT FORWARD



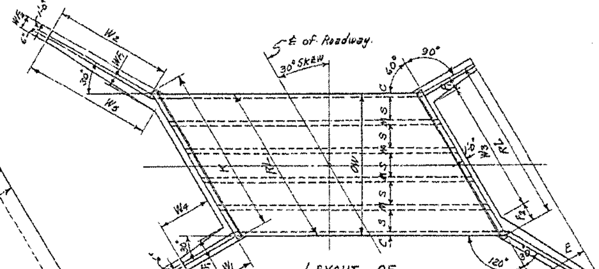
LAYOUT OF QUADRUPLE BARREL CULVERT-30° SKEW LEFT FORWARD



LAYOUT OF SINGLE BARREL CULVERT-30° SKEW LEFT FORWARD



LAYOUT OF DOUBLE BARREL CULVERT-30° SKEW LEFT FORWARD



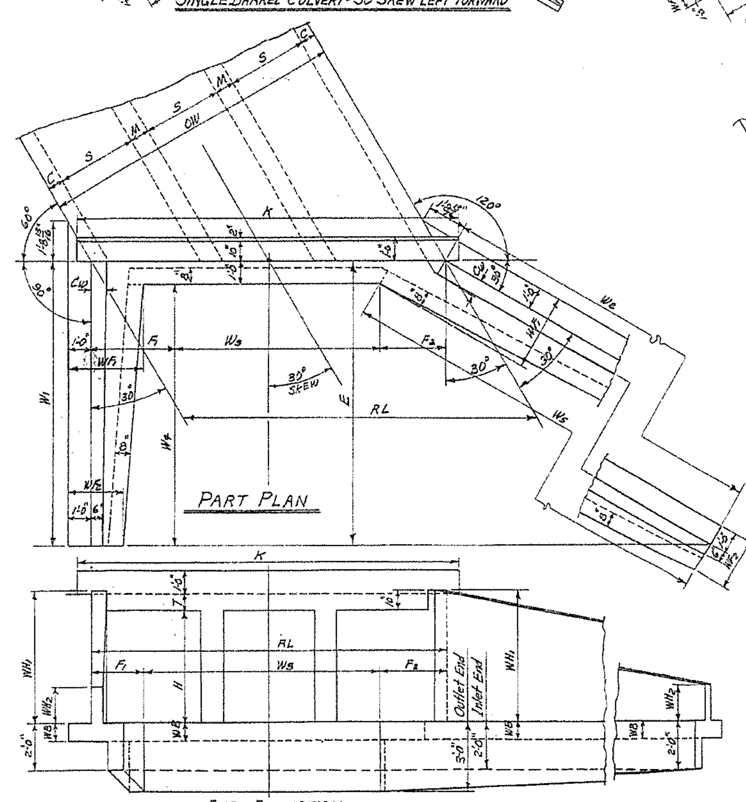
LAYOUT OF QUINTUPLE BARREL CULVERT-30° SKEW LEFT FORWARD

ROADWAY LENGTH RL — HEADWALL LENGTH K — APRON DIMENSION W_3

$RL = OW \times 1.1547$ — $K = RL + (1'-1\frac{7}{8}")$ — $W_3 = RL - (F_1 + F_2)$

USE WITH DRAWING NO.	CLEAR SPAN S	CLEAR HEIGHT H	SUM OF FOOTING DIMENSIONS F_1&F_2	SINGLE BARREL CULVERT OW	RL	K	W_3	DOUBLE BARREL CULVERT OW	RL	K	W_3	TRIPLE BARREL CULVERT OW	RL	K	W_3	QUADRUPLE BARREL CULVERT OW	RL	K	W_3	QUINTUPLE BARREL CULVERT OW	RL	K	W_3
W-X302-1, W-X303-1 or W-X304-1. (FOR H=8'-0" OR LESS)	4'	2'	2'-3¼"	5'-0"	5'-9¼"	6'-11⅛"	3'-6"	9'-8"	11'-2"	12'-3¾"	8'-10¾"	14'-4"	16'-6⅝"	17'-8½"	14'-3⅜"	19'-0"	21'-11¼"	23'-1"	19'-8"	23'-8"	27'-4"	28'-5¾"	25'-0¾"
		3'	3'-3¼"	5'-0"	"	"	2'-6"	9'-8"	"	"	7'-10¾"	14'-4"	"	"	13'-3⅜"	19'-0"	"	"	18'-8"	23'-8"	"	"	24'-0¾"
		4'	4'-3¼"	5'-0"	"	"	1'-6"	9'-8"	"	"	6'-10¾"	14'-4"	"	"	12'-3⅜"	19'-0"	"	"	17'-8"	23'-8"	"	"	23'-0¾"
		5'	5'-3¼"	5'-0"	5'-9¼"	6'-11⅛"	0'-6"	9'-8"	11'-2"	12'-3¾"	5'-10¾"	14'-4"	16'-6⅝"	17'-8½"	11'-3⅜"	19'-0"	21'-11¼"	23'-1"	16'-8"	23'-8"	27'-4"	28'-5¾"	22'-0¾"
		6'	6'-3¼"	5'-2"	5'-11⅝"	7'-1½"	Ⓐ 0"	9'-11"	11'-5½"	12'-7¼"	5'-2¼"	14'-8"	16'-11¼"	18'-1"	10'-8"	19'-5"	22'-5"	23'-7"	16'-1¾"	24'-2"	27'-10⅜"	29'-0⅜"	21'-7¾"
	5'	3'	3'-3¼"	6'-0"	6'-11⅛"	8'-1"	3'-7⅞"	11'-8"	13'-5¾"	14'-7¼"	10'-2½"	17'-4"	20'-0¼"	21'-2"	16'-9"	23'-0"	26'-6¾"	27'-8½"	23'-3½"	28'-8"	33'-1¼"	34'-3"	29'-10"
		4'	4'-3¼"	6'-0"	"	"	2'-7⅞"	11'-8"	"	"	9'-2½"	17'-4"	"	"	15'-9"	23'-0"	"	"	22'-3½"	28'-8"	"	"	28'-10"
		5'	5'-3¼"	6'-0"	6'-11⅛"	8'-1"	1'-7⅞"	11'-8"	13'-5¾"	14'-7¼"	8'-2½"	17'-4"	20'-0¼"	21'-2"	14'-9"	23'-0"	26'-6¾"	27'-8½"	21'-3½"	28'-8"	33'-1¼"	34'-3"	27'-10"
		6'	6'-3¼"	6'-2"	7'-1½"	8'-3¼"	0'-10¼"	11'-11"	13'-9⅛"	14'-11"	7'-5⅞"	17'-8"	20'-4¾"	21'-6¾"	14'-1½"	23'-5"	27'-0⅛"	28'-2¼"	20'-9¼"	29'-2"	33'-8⅝"	34'-10"	27'-5"
		7'	7'-9¼"	6'-3"	7'-2⅝"	8'-4¼"	Ⓐ 0"	12'-1"	13'-11½"	15'-1¼"	6'-2¼"	17'-11"	20'-8¼"	21'-10"	12'-11"	23'-9"	27'-5¼"	28'-7"	19'-8"	29'-7"	34'-2"	35'-3¾"	26'-9¾"
	6'	3'	3'-3¼"	7'-0"	8'-1"	9'-2⅞"	4'-9¾"	13'-8"	15'-9⅜"	16'-11¼"	12'-6⅛"	20'-4"	23'-5¾"	24'-7½"	20'-2½"	27'-0"	31'-2⅛"	32'-4"	27'-11"	33'-8"	38'-10½"	40'-0¼"	35'-7¼"
		4'	4'-3¼"	7'-0"	"	"	3'-9¾"	13'-8"	"	"	11'-6⅛"	20'-4"	"	"	19'-2½"	27'-0"	"	"	26'-11"	33'-8"	"	"	34'-7¼"
		5'	5'-3¼"	7'-0"	8'-1"	9'-2⅞"	2'-9¾"	13'-8"	15'-9⅜"	16'-11¼"	10'-6⅛"	20'-4"	23'-5¾"	24'-7½"	18'-2½"	27'-0"	31'-2⅛"	32'-4"	25'-11"	33'-8"	38'-10½"	40'-0¼"	33'-7¼"
		6'	6'-3¼"	7'-2"	8'-3¼"	9'-5⅛"	2'-0"	13'-11"	16'-0⅞"	17'-2¾"	9'-9⅝"	20'-8"	23'-10⅜"	25'-0¼"	17'-7¼"	27'-5"	31'-7⅞"	32'-9⅜"	25'-4¾"	34'-2"	39'-5½"	40'-7¼"	33'-2¼"
		7'	7'-9¼"	7'-3"	8'-4⅛"	9'-6⅛"	0'-7¼"	14'-1"	16'-3¼"	17'-5"	8'-6"	20'-11"	24'-1⅞"	25'-3¾"	16'-4⅛"	27'-9"	32'-0½"	33'-2¼"	24'-3⅜"	34'-7"	39'-11¼"	41'-1"	32'-2"
		8'	9'-3¼"	7'-4"	8'-5⅝"	9'-7½"	Ⓐ 0"	14'-2"	16'-4¾"	17'-6¼"	7'-1"	21'-0"	24'-3"	25'-4¾"	14'-11¾"	27'-10"	32'-1⅜"	33'-3⅛"	22'-10¼"	34'-8"	40'-0⅜"	41'-2¼"	30'-9¼"
	7'	4'	4'-3¼"	8'-0"	9'-2⅞"	10'-4¾"	4'-11⅝"	15'-8"	18'-1⅛"	19'-3"	13'-9¾"	23'-4"	26'-11⅜"	28'-1¼"	22'-8"	31'-0"	35'-9½"	36'-11¼"	31'-6¼"	38'-8"	44'-7⅝"	45'-9⅜"	40'-4½"
		5'	5'-3¼"	8'-0"	9'-2⅞"	10'-4¾"	3'-11⅝"	15'-8"	18'-1⅛"	19'-3"	12'-9¾"	23'-4"	26'-11⅜"	28'-1¼"	21'-8"	31'-0"	35'-9½"	36'-11¼"	30'-6¼"	38'-8"	44'-7⅝"	45'-9⅜"	39'-4½"
		6'	6'-3¼"	8'-2"	9'-5⅛"	10'-7"	3'-2"	15'-11"	18'-4½"	19'-6½"	12'-1¼"	23'-8"	27'-4"	28'-5¾"	21'-0¾"	31'-5"	36'-3⅜"	37'-5¼"	30'-0"	39'-2"	45'-2¾"	46'-4½"	38'-11½"
		7'	7'-9¼"	8'-3"	9'-6¼"	10'-8⅛"	1'-9"	16'-1"	18'-6⅞"	19'-8¾"	10'-9¾"	23'-11"	27'-7⅜"	28'-9¼"	19'-10¼"	31'-9"	36'-8"	37'-9¾"	28'-10⅜"	39'-7"	45'-8½"	46'-10¼"	37'-11⅛"
		8'	9'-3¼"	8'-4"	9'-7½"	10'-9⅜"	0'-4¼"	16'-2"	18'-8"	19'-9¾"	9'-4¾"	24'-0"	27'-8½"	28'-10¼"	18'-5¼"	31'-10"	36'-9⅞"	37'-11"	27'-6"	39'-8"	45'-9⅝"	46'-11½"	36'-6½"
	8'	4'	4'-3¼"	9'-0"	10'-4¾"	11'-6½"	6'-1½"	17'-8"	20'-4⅝"	21'-6⅜"	16'-1½"	26'-4"	30'-4⅞"	31'-6⅝"	26'-1⅜"	35'-0"	40'-5"	41'-6¾"	36'-1¾"	43'-8"	50'-5⅛"	51'-7"	46'-1⅞"
		5'	5'-3¼"	9'-2"	10'-7"	11'-8⅞"	5'-3¾"	17'-11"	20'-8¼"	21'-10"	15'-5"	26'-8"	30'-9½"	31'-11¼"	25'-6¼"	35'-5"	40'-10¾"	42'-0½"	35'-7½"	44'-2"	51'-0"	52'-1¾"	45'-8¾"
		6'	6'-3¼"	9'-2"	10'-7"	11'-8⅞"	4'-3¾"	17'-11"	20'-8¼"	21'-10"	14'-5"	26'-8"	30'-9½"	31'-11¼"	24'-6¼"	35'-5"	40'-10¾"	42'-0½"	34'-7½"	44'-2"	51'-0"	52'-1¾"	44'-8¾"
		7'	7'-9¼"	9'-3"	10'-8¼"	11'-10"	2'-11"	18'-1"	20'-10⅝"	22'-0½"	13'-1¼"	26'-11"	31'-1"	32'-2¾"	23'-3⅜"	35'-9"	41'-3⅜"	42'-5⅛"	33'-6¼"	44'-7"	51'-5¾"	52'-7½"	43'-8½"
		8'	9'-3¼"	9'-4"	10'-9⅜"	11'-11¼"	1'-6⅛"	18'-2"	20'-11⅞"	22'-1½"	11'-8½"	27'-0"	31'-2⅛"	32'-4"	21'-11"	35'-10"	41'-4½"	42'-6¼"	32'-1⅛"	44'-8"	51'-7"	52'-8¾"	42'-3¾"
	9'	5'	5'-3¼"	10'-2"	11'-8⅞"	12'-10¾"	6'-5⅝"	19'-11"	23'-0"	24'-1¾"	17'-8¾"	29'-8"	34'-3⅛"	35'-5"	28'-11¾"	39'-5"	45'-6⅛"	46'-8"	40'-3"	49'-2"	56'-9¼"	57'-11⅛"	51'-6"
		6'	6'-3¼"	10'-3"	11'-10"	13'-0"	5'-6¾"	20'-1"	23'-2¼"	24'-4¼"	16'-11"	29'-11"	34'-6⅛"	35'-8½"	28'-3¼"	39'-9"	45'-10⅞"	47'-0¾"	39'-7½"	49'-7"	57'-3"	58'-5"	50'-11⅞"
		7'	7'-9¼"	10'-3"	11'-10"	13'-0"	4'-0¾"	20'-1"	23'-2¼"	24'-4¼"	15'-5"	29'-11"	34'-6⅛"	35'-8½"	26'-9¼"	39'-9"	45'-10⅞"	47'-0¾"	38'-1½"	49'-7"	57'-3"	58'-5"	49'-5⅞"
		8'	9'-3¼"	10'-4"	11'-11⅛"	13'-1"	2'-8"	20'-2"	23'-3½"	24'-5¼"	14'-0¼"	30'-0"	34'-7¾"	35'-9½"	25'-4⅛"	39'-10"	46'-0"	47'-1⅞"	36'-8¾"	49'-8"	57'-4½"	58'-6"	48'-1"
	10'	5'	5'-3¼"	11'-2"	12'-10¾"	14'-0½"	7'-7½"	21'-11"	25'-3⅜"	26'-5⅛"	20'-0⅛"	32'-8"	37'-8⅝"	38'-10⅜"	32'-5½"	43'-5"	50'-1⅜"	51'-3½"	44'-10⅛"	54'-2"	62'-6½"	63'-8¼"	57'-3¼"
		6'	6'-3¼"	11'-3"	12'-11⅞"	14'-1¾"	6'-8⅝"	22'-1"	25'-6"	26'-7¾"	19'-2¾"	32'-11"	38'-0⅛"	39'-2"	31'-9"	43'-9"	50'-6½"	51'-8"	44'-3"	54'-7"	63'-0⅜"	64'-2¼"	56'-9"
		7'	7'-9¼"	11'-3"	12'-11⅞"	14'-1¾"	5'-2⅝"	22'-1"	25'-6"	26'-7¾"	17'-8¾"	32'-11"	38'-0⅛"	39'-2"	30'-3"	43'-9"	50'-6½"	51'-8"	42'-9"	54'-7"	63'-0⅜"	64'-2¼"	55'-3"
		8'	9'-3¼"	11'-4"	13'-1"	14'-3"	3'-9¾"	22'-2"	25'-7⅞"	26'-9"	16'-4"	33'-0"	38'-1¼"	39'-3"	28'-10"	43'-10"	50'-7⅝"	51'-9¼"	41'-4¼"	54'-8"	63'-1½"	64'-3¼"	53'-10¼"
	11'	6'	6'-3¼"	12'-4"	14'-2⅝"	15'-4⅜"	7'-11⅝"	24'-2"	27'-10⅝"	29'-0¾"	21'-7⅜"	36'-0"	41'-6⅝"	42'-8⅜"	35'-3½"	47'-10"	55'-2¾"	56'-4¾"	48'-11½"	—	—	—	—
		7'	7'-9¼"	12'-4"	"	"	6'-5⅝"	24'-2"	"	"	20'-1⅜"	36'-0"	"	"	33'-9½"	47'-10"	"	"	47'-5½"	—	—	—	—
		8'	9'-3¼"	12'-4"	"	"	4'-11⅝"	24'-2"	"	"	18'-7⅜"	36'-0"	"	"	32'-3½"	47'-10"	"	"	45'-11½"	—	—	—	—
	12'	6'	6'-3¼"	13'-4"	15'-4¾"	16'-6½"	9'-1½"	26'-2"	30'-2⅝"	31'-4½"	23'-11⅝"	39'-0"	45'-0⅜"	46'-2¼"	38'-9¼"	51'-10"	59'-10¼"	61'-0"	53'-7"	—	—	—	—
		7'	7'-9¼"	13'-4"	"	"	7'-7½"	26'-2"	"	"	22'-5⅝"	39'-0"	"	"	37'-3¼"	51'-10"	"	"	52'-1"	—	—	—	—
		8'	9'-3¼"	13'-4"	"	"	6'-1½"	26'-2"	"	"	20'-11⅝"	39'-0"	"	"	35'-9¼"	51'-10"	"	"	50'-7"	—	—	—	—
W-X302-2, W-X303-2 or W-X304-2. (FOR H=9'-0" & OVER)	7'	9'	10'-9¼"	8'-6"	9'-9¾"	10'-11⅝"	Ⓐ 0"	16'-5"	18'-11¾"	20'-1½"	8'-2½"	24'-4"	28'-1¼"	29'-3"	17'-4"	32'-3"	37'-2⅜"	38'-4⅜"	26'-5¾"	40'-2"	46'-4⅝"	47'-6½"	35'-7¼"
	8'	9'	10'-9¼"	9'-6"	10'-11⅝"	12'-1½"	0'-2⅜"	18'-5"	21'-3½"	22'-5"	10'-6"	27'-4"	31'-6⅜"	32'-8½"	20'-9½"	36'-3"	41'-10½"	43'-0¼"	31'-1"	45'-2"	52'-1⅞"	53'-3¾"	41'-4⅞"
		10'	12'-3¼"	9'-8"	11'-2"	12'-3¾"	Ⓐ 0"	18'-8"	21'-6⅜"	22'-8½"	9'-3½"	27'-8"	31'-11⅜"	33'-1¼"	19'-8¼"	36'-8"	42'-4⅛"	43'-6"	30'-0¾"	45'-8"	52'-8⅜"	53'-10¼"	40'-5½"
	9'	9'	10'-9¼"	10'-6"	12'-1½"	13'-3¼"	1'-4¼"	20'-5"	23'-6⅞"	24'-8¾"	12'-9¾"	30'-4"	35'-0⅛"	36'-2¼"	24'-3"	40'-3"	46'-5⅜"	47'-7¼"	35'-8⅛"	50'-2"	57'-11⅛"	59'-1"	47'-2"
		10'	12'-3⅛"	10'-8"	12'-3⅜"	13'-5⅜"	0'-0⅝"	20'-8"	23'-10⅜"	25'-0½"	11'-7¼"	30'-8"	35'-4⅞"	36'-6¾"	23'-1⅜"	40'-8"	46'-11¼"	48'-1⅛"	34'-8¼"	50'-8"	58'-6"	59'-8"	46'-2¾"
		11'	13'-9¼"	10'-10"	12'-6⅛"	13'-8"	Ⓐ 0"	20'-10"	24'-0⅜"	25'-2¼"	10'-3½"	30'-10"	35'-7¼"	36'-9"	21'-10"	40'-10"	47'-1⅜"	48'-3⅜"	33'-4½"	50'-10"	58'-8⅜"	59'-10¼"	44'-11¼"
	10'	9'	10'-9¼"	11'-6"	13'-3¾"	14'-5½"	2'-6⅛"	22'-5"	25'-10⅝"	27'-0½"	15'-3½"	33'-4"	38'-5⅜"	39'-7¾"	27'-8¾"	44'-3"	51'-1⅛"	52'-3"	40'-4"	55'-2"	63'-8⅜"	64'-10¼"	52'-11¼"
		10'	12'-3¼"	11'-8"	13'-5⅜"	14'-7½"	1'-2½"	22'-8"	26'-2⅛"	27'-4"	13'-10¾"	33'-8"	38'-10⅝"	40'-0⅛"	26'-7¼"	44'-8"	51'-7"	52'-8¾"	39'-3⅜"	55'-8"	64'-3⅜"	65'-5¼"	52'-0"
		11'	13'-9¼"	11'-10"	13'-8"	14'-9¾"	Ⓐ 0"	22'-10"	26'-4⅜"	27'-6⅛"	12'-7⅛"	33'-10"	39'-0⅜"	40'-2¼"	25'-3½"	44'-10"	51'-9¼"	52'-11"	38'-0"	55'-10"	64'-5⅝"	65'-7½"	50'-8½"
		12'	15'-3¼"	12'-0"	13'-10¼"	15'-0¼"	Ⓐ 0"	23'-0"	26'-6¾"	27'-8⅛"	11'-3¼"	34'-0"	39'-3⅛"	40'-5"	24'-0"	45'-0"	51'-11½"	53'-1¼"	36'-8¼"	56'-0"	64'-8"	65'-9¾"	49'-4¾"
	11'	9'	10'-9¼"	12'-6"	14'-5½"	15'-7"	3'-8"	24'-5"	28'-2⅜"	29'-4¼"	17'-5"	36'-4"	41'-11¼"	43'-1¼"	31'-2⅛"	48'-3"	55'-8⅝"	56'-10½"	44'-11¼"	—	—	—	—
		10'	12'-3⅛"	12'-8"	14'-7½"	15'-9¼"	2'-4½"	24'-8"	28'-5⅞"	29'-7¾"	16'-2½"	36'-8"	42'-4⅛"	43'-6"	30'-0⅜"	48'-8"	56'-2⅜"	57'-4⅛"	43'-11¼"	—	—	—	—
		11'	13'-9⅛"	12'-10"	14'-9⅞"	15'-11¾"	1'-0⅝"	24'-10"	28'-8⅛"	29'-10"	14'-11"	36'-10"	42'-6⅝"	43'-8⅛"	28'-9¼"	48'-10"	56'-4⅝"	57'-6½"	42'-7⅛"	—	—	—	—
		12'	15'-3¼"	13'-0"	15'-0⅛"	16'-2"	Ⓐ 0"	25'-0"	28'-10⅜"	30'-0¼"	13'-7¼"	37'-0"	42'-8¾"	43'-10⅛"	27'-5¼"	49'-0"	56'-7"	57'-8⅜"	41'-3⅜"	—	—	—	—
	12'	9'	10'-9½"	13'-6"	15'-7½"	16'-9"	4'-9⅞"	26'-5"	30'-6"	31'-8"	19'-8⅜"	39'-4"	45'-5"	46'-7"	34'-7⅜"	52'-3"	60'-4"	61'-5¾"	49'-6⅜"	—	—	—	—
		10'	12'-3⅛"	13'-8"	15'-9⅜"	16'-11¼"	3'-6⅛"	26'-8"	30'-9¼"	31'-11¼"	18'-6¼"	39'-8"	45'-9⅜"	46'-11½"	33'-6½"	52'-8"	60'-9¾"	61'-11⅜"	48'-6½"	—	—	—	—
		11'	13'-9¼"	13'-10"	15'-11⅝"	17'-1½"	2'-2½"	26'-10"	30'-11⅞"	32'-1⅜"	17'-2¼"	39'-10"	46'-0"	47'-1⅜"	32'-2¾"	52'-10"	61'-0⅛"	62'-2"	47'-2¾"	—	—	—	—
		12'	15'-3¼"	14'-0"	16'-2"	17'-3¾"	0'-10¾"	27'-0"	31'-2⅛"	32'-4"	15'-11"	40'-0"	46'-2½"	47'-4"	30'-11"	53'-0"	61'-2⅜"	62'-4⅛"	45'-11¼"	—	—	—	—

Ⓐ Special case for these boxes. See Detail "A" and Table "A" for revised values of F_1, F_2, W_4 and W_5, when apron width is more than 1'-0" and W_3=0". For Details "A" and Tables "A" for each slope, see Drawing Nos. W-X302-1, W-X302-2, or W-X303-1, W-X303-2, or W-X304-1, W-X304-2.

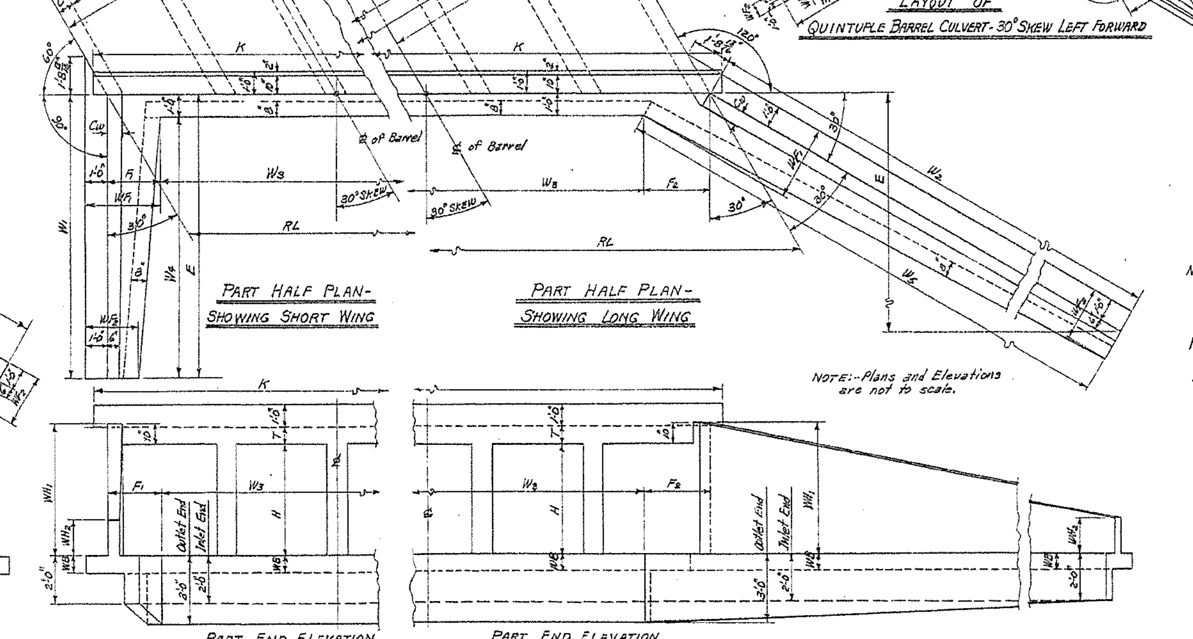


PART PLAN

END ELEVATION

TRIPLE BARREL CULVERT-30° SKEW RIGHT FORWARD

Details of Culvert with 30° Skew Left Forward is reversed, see Layout at top center of sheet.



PART HALF PLAN- SHOWING SHORT WING

PART HALF PLAN- SHOWING LONG WING

NOTE:-Plans and Elevations are not to scale.

PART END ELEVATION

QUADRUPLE BARREL CULVERT-30° SKEW RT. FWD.

Details of Culvert with 30° Skew Left Forward is reversed, see Layout at above center.

PART END ELEVATION

QUINTUPLE BARREL CULVERT-30° SKEW RT. FWD.

Details of Culvert with 30° Skew Left Forward is reversed, see Layout above.

NOTE:- This drawing to be used in conjunction with Standard Wing Drawings for 30° Skews for each slope as listed below.

2:1 Slopes	3:1 Slopes	4:1 Slopes
W-X302-1 or W-X302-2	W-X303-1 or W-X303-2	W-X304-1 or W-X304-2.

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.-

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-130X-0	R-230X-01	R-330X-01	R-430X-01	R-530X-01
	R-230X-02	R-330X-02	R-430X-02	R-530X-02
R-130X-1	R-230X-1	R-330X-1	R-430X-1	R-530X-1
	R-230X-2	R-330X-2		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 30° SKEW

4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS — 2:1, 3:1 & 4:1 SLOPES

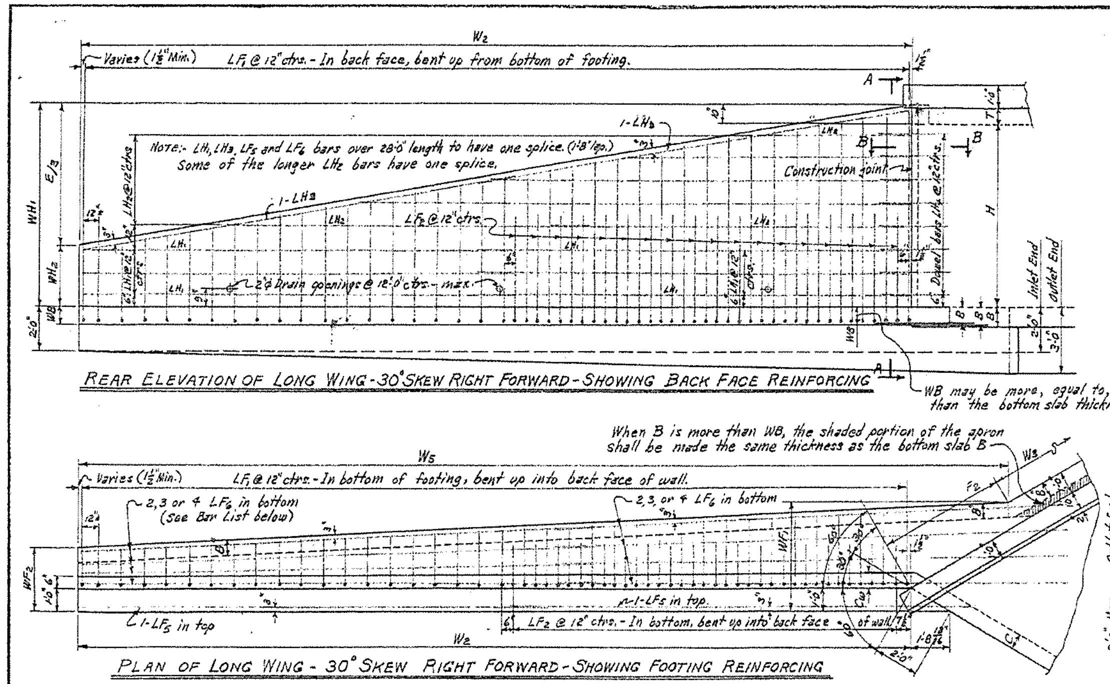
SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER H=2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12.

STANDARD DRAWING NO. W-X30

Designed by:- W.C.H. 5-16-63 — Checked by:-
Drawn by:- W.C.H. 7-15-63 — Checked by:- RHS 8-21-63
Quantities by:- — Checked by:-

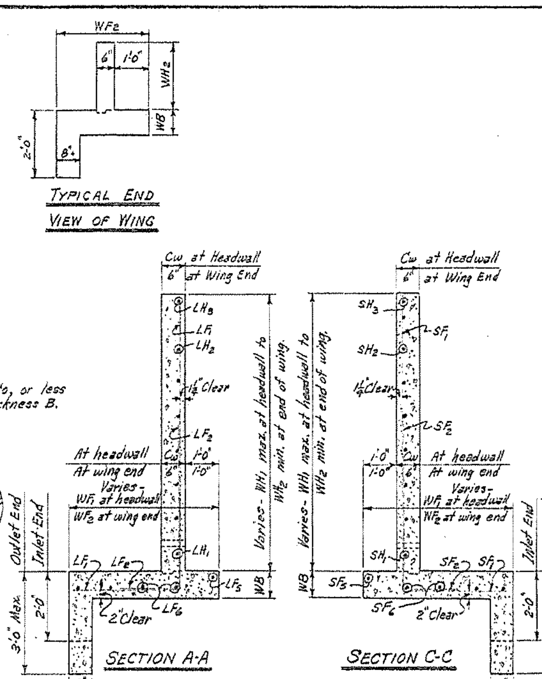
Reshot 3-8-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			160	
JOB No.					



REAR ELEVATION OF LONG WING - 30° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING

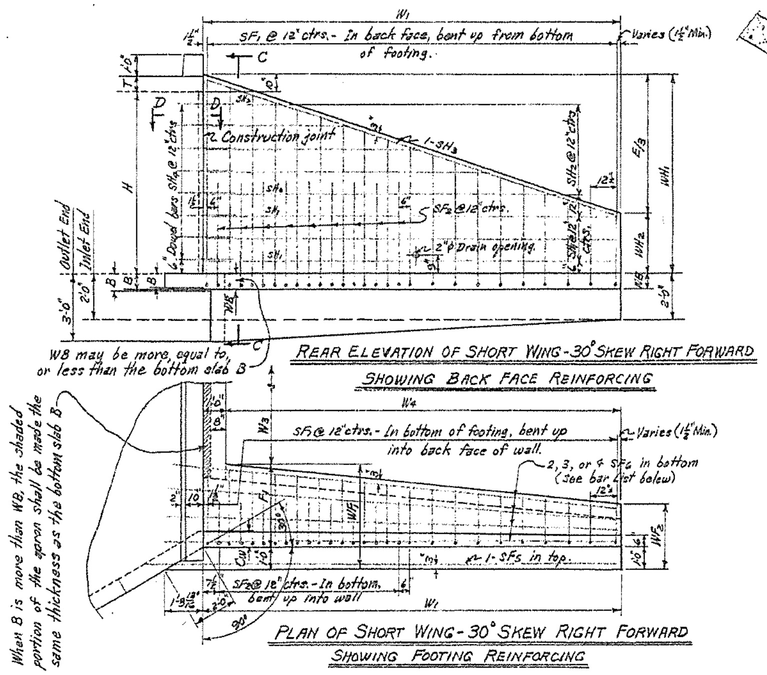
PLAN OF LONG WING - 30° SKEW RIGHT FORWARD - SHOWING FOOTING REINFORCING



TYPICAL END VIEW OF WING

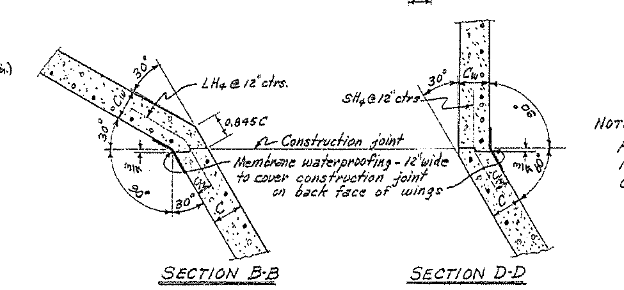
SECTION A-A

SECTION C-C



REAR ELEVATION OF SHORT WING - 30° SKEW RIGHT FORWARD SHOWING BACK FACE REINFORCING

PLAN OF SHORT WING - 30° SKEW RIGHT FORWARD SHOWING FOOTING REINFORCING

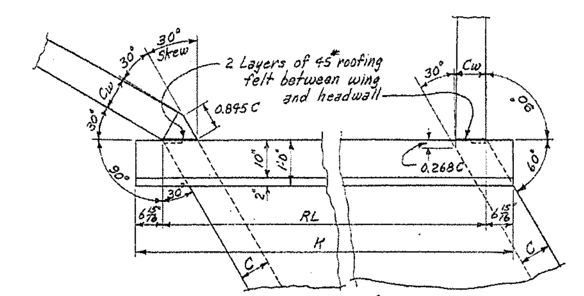


SECTION B-B

SECTION D-D

SECTIONS THRU CONSTRUCTION JOINTS

NOTE:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.



DETAILS AT TOP OF WINGS - 30° SKEW RIGHT FORWARD

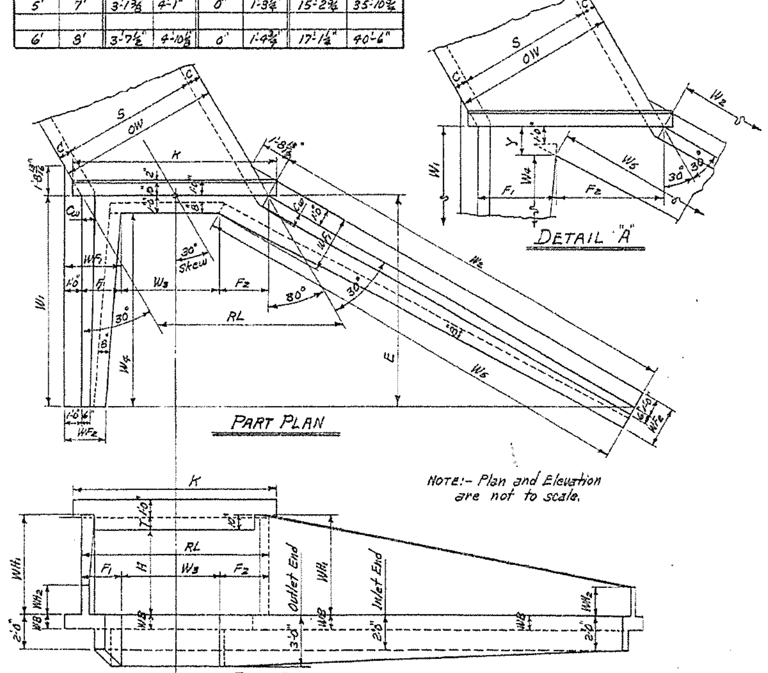
REGULAR WING DIMENSIONS - 3:1 SLOPES

Clear Height of Box	Thickness of Wing Footing	Thickness of Wing at Hdwl. = C	Wingwall Heights: At Headwall	Wingwall Heights: At End of Wing	Widths of Wing Footings: At Headwall	Widths of Wing Footings: At End of Wing	Footing Dimension Parallel with Headwall: Short Wing	Footing Dimension Parallel with Headwall: Long Wing	Perpendicular Dist. from Hdw'l to End of Wing	Lengths of Wingwalls: Short Wing	Lengths of Wingwalls: Long Wing	Inside Footing Dimension: Short Wing	Inside Footing Dimension: Long Wing	* Quantity per Wing, Class S Concrete, Inlet End: Short Wing	Inlet End: Long Wing	Outlet End: Short Wing	Outlet End: Long Wing
H	WB	Cw	WH1	WH2	WF1	WF2	F1	F2	E	W1	W2	W4	W5	Cu.Yd.	Cu.Yd.	Cu.Yd.	Cu.Yd.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	1'-4"	0'-11½"	6'-6"	6'-6"	13'-0"	5'-6"	13'-3¾"	0.752	1.599	0.836	1.717
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-8"	1'-7¼"	8'-6"	8'-6"	17'-0"	7'-6"	17'-10¾"	1.130	2.340	1.239	2.565
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	2'-0"	2'-3¼"	10'-6"	10'-6"	21'-0"	9'-6"	22'-5½"	1.577	3.270	1.711	3.552
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-4"	2'-11¼"	12'-6"	12'-6"	25'-0"	11'-6"	27'-0½"	2.093	4.341	2.252	4.680
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-4"	2'-11¼"	12'-6"	12'-6"	25'-0"	11'-6"	27'-0½"	2.179	4.524	2.337	4.862
⊙ 6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-7¼"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	2.908	6.024	3.092	6.419
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-7¼"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	2.966	6.147	3.150	6.543
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-7¼"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7½"	3.025	6.272	3.208	6.667
⊙ 7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-2"	4'-7¼"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5¾"	3.811	7.895	4.019	8.350
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-2"	4'-7¼"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5¾"	3.887	8.057	4.095	8.512
⊙ 8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	5'-7¼"	18'-6"	18'-6"	37'-0"	17'-6"	41'-4¼"	4.874	10.097	5.107	10.612

* Quantity per wing does not include headwall or that portion of apron or toewall for the length W_3.
⊙ See Table "A" for special values of F_1 & F_2 and W_4 & W_5 for Single 4'x6', 5'x7' and 6'x8' Box Culverts.

TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F1	F2	W3	Y	W4	W5
4'	6'	2'-7½"	2'-3¾"	0"	1'-1⅝"	13'-4⅛"	31'-3½"
5'	7'	3'-1⅝"	4'-1"	0"	1'-3⅞"	15'-2⅞"	35'-10⅞"
6'	8'	3'-7⅛"	4'-10⅞"	0"	1'-4⅞"	17'-1⅛"	40'-6"



PART PLAN

DETAIL "A"

NOTE:- Plan and Elevation are not to scale.

END ELEVATION

SINGLE BARREL CULVERT - 30° SKEW RIGHT FORWARD

Details of Culvert with 30° Skew Left Forward is reversed, see Drawing No. W-X30.

TYPICAL WING DETAILS

NOTE:-
For remainder of General Plans and Elevations of Single, Double, Triple, Quadruple and Quintuple Span Culverts, see Std. Drawing No. W-X30.
For values of RL, K and W_3 for each box, see above Std. also.

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints of wings.

QUANTITIES

Clear Span	Clear Height	Thickness of Wing at Headwall	Thickness of Wing Footing	⊛ Reinforcing Steel - for 4 Wings	Class S Concrete - 4 Wings (Headwalls, Wingwalls, Footings, Toewalls and Aprons): Single Barrel Culvert	Double Barrel Culvert	Triple Barrel Culvert	Quadruple Barrel Culvert	Quintuple Barrel Culvert
S	H	Cw	WB	LB.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	CU. YD.
4'	2'	6"	7"	141	5.80	6.90	8.01	9.12	10.23
	3'	6"	7"	213	8.08	9.18	10.29	11.40	12.51
	4'	6"	7"	327	10.78	11.88	12.99	14.10	15.21
	5'	6"	7"	460	13.90	15.00	16.11	17.22	18.32
	6'	7"	8"	762	18.85	19.99	21.13	22.27	23.41
5'	3'	6"	7"	213	8.33	9.67	11.01	12.36	13.70
	4'	6"	7"	327	11.03	12.36	13.71	15.06	16.40
	5'	6"	7"	460	14.14	15.48	16.83	18.17	19.52
	6'	7"	8"	762	19.11	20.48	21.86	23.24	24.62
	7'	7½"	8½"	1474	24.51	25.94	27.35	28.75	30.16
6'	3'	6"	7"	213	8.57	10.17	11.73	13.33	14.92
	4'	6"	7"	327	11.27	12.86	14.43	16.03	17.62
	5'	6"	7"	460	14.38	15.98	17.55	19.15	20.73
	6'	7"	8"	762	19.35	20.98	22.59	24.21	25.83
	7'	7½"	8½"	1474	24.79	26.44	28.08	29.73	31.38
	8'	8"	9"	1870	31.15	32.87	34.51	36.17	37.83
7'	4'	6"	7"	327	11.52	13.37	15.19	17.05	18.85
	5'	6"	7"	460	14.63	16.49	18.31	20.16	21.97
	6'	7"	8"	762	19.61	21.48	23.32	25.20	27.04
	7'	7½"	8½"	1474	25.05	26.94	28.82	30.71	32.59
	8'	8"	9"	1870	31.47	33.37	35.25	37.16	39.05
8'	4'	6"	7"	327	11.77	13.89	15.97	18.09	20.12
	5'	7"	7"	460	15.46	17.60	19.70	21.83	23.89
	6'	7"	8"	762	19.86	21.98	24.05	26.17	28.20
	7'	7½"	8½"	1474	25.30	27.46	29.58	31.73	33.81
	8'	8"	9"	1870	31.72	33.88	36.00	38.16	40.27
9'	5'	7"	7"	460	15.72	18.13	20.47	22.87	25.15
	6'	7½"	8"	762	20.50	22.93	25.29	27.71	30.01
	7'	7½"	8½"	1474	25.55	27.98	30.34	32.76	35.07
	8'	8"	9"	1870	31.97	34.39	36.76	39.18	41.49
10'	5'	7"	7"	460	15.98	18.65	21.25	23.80	26.42
	6'	7½"	8"	762	20.76	23.45	26.07	28.69	31.28
	7'	7½"	8½"	1474	25.81	28.50	31.12	33.70	36.34
	8'	8"	9"	1870	32.22	34.91	37.54	40.12	42.76
11'	6'	8"	8"	762	21.39	24.38	27.25	30.11	—
	7'	8"	8½"	1474	26.55	29.53	32.41	35.27	—
	8'	8"	9"	1870	32.47	35.45	38.33	41.19	—
12'	6'	8"	8"	762	21.66	24.93	28.05	31.20	—
	7'	8"	8½"	1474	26.81	30.08	33.21	36.36	—
	8'	8"	9"	1870	32.73	35.99	39.13	42.28	—

⊛ For reinforcing steel in Headwalls and Aprons, see Drawing Nos. of Barrel Sections listed below.

GENERAL NOTES:-
CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.
REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.
CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.
UNIT STRESSES:-
Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:-
This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.-

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-130X-0	R-230X-01	R-330X-01	R-430X-01	R-530X-01
	R-230X-02	R-330X-02	R-430X-02	R-530X-02
R-130X-1	R-230X-1	R-330X-1	R-430X-1	R-530X-1
	R-230X-2	R-330X-2		

BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

SF1 & LF1: Bent – In bottom of footing, bent up into back face of wing. One bar (or two bars) of each length.
SF2 & LF2: Bent – In bottom of footing, bent up into back face of wing. Alt. with F1 bars.
SF5 & LF5: Straight – Longitudinal in top of wing footing heel.
SF6 & LF6: Straight – Longitudinal in bottom of wing footing toe.
SH1 & LH1: Straight – Horizontal in back face of wing.
SH2 & LH2: Straight – Horizontal in back face of wing. One bar of each length.
SH3 & LH3: Straight – In back face of wing at top - on slope.
SH4 & LH4: Bent – Dowels thru construction joint at headwall.

H	Short or Long	SF1&LF1 Size	Spacing	No. Req'd	Lengths Vary Min.	Max.	X Min.	X Max.	Y Min.	Y Max.	SF2&LF2 Size	Spacing	No. Req'd	Length	X	Y	SF5&LF5 Size	No. Req'd	Length	SF6&LF6 Size	No. Req'd	Length	SH1&LH1 Size	Spacing	No. Req'd	Length	SH2&LH2 Size	Spacing	No. Req'd	Lengths Vary Max.	Min.	SH3&LH3 Size	No. Req'd	Length	SH4&LH4 Size	Spacing	No. Req'd	Length	X	Quantity Reinforcing Steel per Wing - Lbs. Short Wing	Long Wing
2'	Short	#3	12"	7	1'-7"	3'-11"	0'-8"	1'-6"	1'-6"	3'-0"	—	—	—	—	—	—	#3	1	9'-6"	#3	2	8'-6"	#3	12"	1	6'-3"	#3	12"	1	—	3'-3"	#3	1	6'-7"	#3	12"	2	2'-8"	1'-4"	24.7	45.6
	Long	#3	12"	14	1'-5"	3'-11"	0'-8"	1'-6"	0'-6"	3'-0"	—	—	—	—	—	—	#3	1	12'-6"	#3	2	15'-6"	#3	12"	1	12'-8"	#3	12"	1	—	6'-6"	#3	1	12'-11"	#3	12"	2	"	"		
3'	Short	#3	12"	9	2'-1"	5'-3"	0'-10"	1'-6"	1'-6"	4'-0"	—	—	—	—	—	—	#3	1	11'-6"	#3	2	10'-6"	#3	12"	1	8'-3"	#3	12"	2	6'-3"	3'-3"	#3	1	8'-8"	#3	12"	3	"	"	37.0	69.5
	Long	#3	12"	18	1'-11"	5'-3"	0'-10"	1'-4"	1'-2"	4'-0"	—	—	—	—	—	—	#3	1	19'-6"	#3	3	20'-2"	#3	12"	1	16'-8"	#3	12"	2	12'-6"	6'-6"	#3	1	16'-11"	#3	12"	3	"	"		
4'	Short	#3	12"	11	2'-6"	6'-7"	0'-11"	1'-5"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	13'-6"	#3	3	12'-6"	#3	12"	1	10'-3"	#3	12"	3	9'-3"	3'-3"	#3	1	10'-9"	#3	12"	4	"	"	56.2	107.2
	Long	#3	12"	22	2'-4"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—	#3	1	23'-6"	#3	3	24'-10"	#3	12"	1	20'-5"	#3	12"	3	18'-6"	6'-6"	#3	1	21'-0"	#3	12"	4	"	"		
5'	Short	#3	12"	13	2'-11"	7'-11"	1'-0"	2'-0"	2'-0"	6'-0"	#3	12"	3	3'-6"	1'-1"	2'-6"	#3	1	15'-6"	#3	3	14'-0"	#3	12"	2	12'-3"	#3	12"	3	9'-3"	3'-3"	#3	1	12'-11"	#3	12"	5	"	"	78.0	152.2
	Long	#3	12"	26	2'-9"	7'-10"	1'-0"	1'-11"	1'-10"	6'-0"	#3	12"	6	3'-6"	1'-11"	2'-6"	#3	1	27'-6"	#3	3	29'-2"	#3	12"	2	24'-5"	#3	12"	3	18'-6"	6'-6"	#3	1	25'-1"	#3	12"	5	"	"		
6'	Short	#4	12"	15	3'-6"	9'-6"	1'-2"	2'-1"	2'-5"	7'-1"	#3	12"	3	4'-2"	1'-11"	3'-3"	#3	1	17'-6"	#3	3	16'-6"	#3	12"	2	14'-3"	#3	12"	4	12'-3"	3'-3"	#3	1	15'-0"	#3	12"	6	"	"	127.8	253.1
	Long	#4	12"	30	3'-4"	9'-6"	1'-2"	2'-3"	2'-5"	7'-1"	#3	12"	6	4'-6"	1'-9"	3'-3"	#4	2	16'-8"	#3	3	19'-0"	#3	12"	4	15'-2"	#3	12"	4	24'-6"	6'-6"	#3	2	15'-5"	#3	12"	6	2'-8"	1'-4"		
7'	Short	#4	12"	17	3'-11"	10'-10"	1'-3"	2'-4"	2'-5"	8'-0"	#4	12"	3	5'-0"	1'-7"	4'-0"	#4	1	19'-0"	#4	4	18'-0"	#4	12"	2	16'-3"	#4	12"	5	15'-3"	3'-3"	#4	1	17'-1"	#4	12"	7	3'-6"	1'-9"	267.0	489.8
	Long	#4	12"	34	3'-9"	10'-8"	1'-3"	2'-6"	2'-7"	8'-1"	#4	12"	6	5'-6"	1'-7"	4'-0"	#4	2	18'-8"	#4	8	20'-4"	#4	12"	4	17'-2"	#4	12"	5	*30'-6"	6'-6"	#4	2	17'-5"	#4	12"	7	"	"		
8'	Short	#4	12"	19	4'-6"	12'-5"	1'-5"	2'-5"	2'-9"	9'-2"	#4	12"	9	6'-6"	1'-10"	4'-9"	#4	1	21'-0"	#4	4	20'-0"	#4	12"	3	18'-3"	#4	12"	5	15'-3"	3'-3"	#4	1	19'-3"	#4	12"	8	"	"	312.9	622.3
	Long	#4	12"	38	4'-4"	12'-3"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	18	6'-6"	1'-10"	4'-9"	#4	2	20'-8"	#4	8	22'-9"	#4	12"	6	19'-2"	#4	12"	5	*30'-6"	6'-6"	#4	2	19'-6"	#4	12"	8	3'-6"	1'-9"		

Bar Bending Diagram: SF1 & SF2, LF1 & LF2; SH4 & LH4.

NOTE:- Dimensions are to bar centers.

NOTE:- Bars for short wing shall be marked with prefix letter 'S', while those for long wing shall be marked with letter 'L'.
* Length without splice. Bars over 28'-0" length may be spliced. (1'-8" lap.)

REVISIONS:- Membrane Added. 5-10-66 W.C.H.

Designed By- W.C.H. 5-13-63 Checked By-
Drawn By- W.C.H. 7-26-63 Checked By- DHS 8-19-63
Quantities By- W.C.H. 1-7-64 Checked By- DMT 7-15-64

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 30° SKEW

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES
SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING No. W-X303-1

Reshot 3-5-93 157

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			161	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

"a" bars – STRAIGHT – In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall – Each.
"b" bars – BENT – See Diagram below. In Bottom of Top Slab bent up over Division Wall – hooked. Alternate with "a" and "c" bars.
"b2" bars – BENT – See Diagram below. In Top of Bottom Slab bent down under Division Wall – hooked. Alternate with "a" and "c" bars.

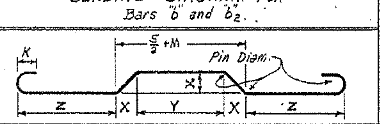
Depth of Cover D	Clear Span S	Clear Height H	a Size	a Spacing	a No. Req'd 3:1	a No. Req'd 4:1	a Length	b Size	b Spacing	b No. Req'd 3:1	b No. Req'd 4:1	b Length	b X	b Y	b Z	b2 Size	b2 Spacing	b2 No. Req'd 3:1	b2 No. Req'd 4:1	b2 Length	b2 X	b2 Y	b2 Z
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'	2'	#5	12"	128	128	9'-5"	#5	12"	59	59	10'-6"	0'-3"	2'-2½"	3'-4"	#5	12"	59	59	10'-6"	0'-2½"	2'-3½"	3'-4"
		3'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-4"			59	59	10'-6"	0'-2½"	2'-3½"	3'-4"
		4'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-4"			59	59	10'-6"	0'-2½"	2'-3½"	3'-4"
		5'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-4"			59	59	10'-6"	0'-2½"	2'-3½"	3'-4"
		6'			128	128	9'-8"			59	59	10'-9"	0'-3"	2'-3½"	3'-5"			59	59	10'-9"	0'-2½"	2'-4½"	3'-5"
	2 @ 5'	3'	#6	12"	128	128	11'-5"	#5	12"	59	59	12'-7"	0'-3½"	2'-7½"	4'-1"	#5	12"	59	59	12'-6"	0'-3"	2'-8½"	4'-1"
		4'			128	128	11'-5"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"
		5'			128	128	11'-5"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-6"	0'-3"	2'-8½"	4'-1"
		6'			128	128	11'-8"			59	59	12'-10"	0'-3½"	2'-8½"	4'-2"			59	59	12'-9"	0'-3"	2'-9½"	4'-2"
		7'			128	128	11'-10"			59	59	13'-0"	0'-3½"	2'-9½"	4'-2½"			59	59	12'-11"	0'-3"	2'-10½"	4'-2½"
	2 @ 6'	3'	#6	11"	140	140	13'-5"	#5	11"	65	65	14'-7"	0'-4"	3'-0½"	4'-10"	#5	11"	65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		4'			140	140	13'-5"			65	65	14'-7"	0'-4"	3'-0½"	4'-10"			65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		5'			140	140	13'-5"			65	65	14'-7"	0'-4"	3'-0½"	4'-10"			65	65	14'-7"	0'-4"	3'-0½"	4'-10"
		6'			140	140	13'-8"			65	65	14'-10"	0'-4"	3'-1½"	4'-11"			65	65	14'-10"	0'-4"	3'-1½"	4'-11"
		7'			140	140	13'-10"			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"
		8'			140	140	13'-11"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"
	2 @ 7'	4'	#6	12"	128	128	15'-5"	#6	12"	59	59	16'-9"	0'-4½"	3'-5"	5'-7"	#6	12"	59	59	16'-9"	0'-4½"	3'-5"	5'-7"
		5'			128	128	15'-5"			59	59	16'-9"	0'-4½"	3'-5"	5'-7"			59	59	16'-9"	0'-4½"	3'-5"	5'-7"
		6'			128	128	15'-8"			59	59	17'-0"	0'-4½"	3'-6"	5'-8"			59	59	17'-0"	0'-4½"	3'-6"	5'-8"
		7'			128	128	15'-10"			59	59	17'-2"	0'-4½"	3'-7"	5'-8½"			59	59	17'-2"	0'-4½"	3'-7"	5'-8½"
		8'			128	128	15'-11"			59	59	17'-3"	0'-4½"	3'-7"	5'-9"			59	59	17'-3"	0'-4½"	3'-7"	5'-9"
		9'			128	128	16'-2"			59	59	17'-6"	0'-4½"	3'-8"	5'-10"			59	59	17'-6"	0'-4½"	3'-8"	5'-10"
	2 @ 8'	4'	#6	11"	140	140	17'-5"	#6	11"	65	65	18'-10"	0'-5"	3'-10"	6'-4"	#6	11"	65	65	18'-10"	0'-5"	3'-10"	6'-4"
		5'			140	140	17'-8"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"
		6'			140	140	17'-8"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"
		7'			140	140	17'-10"			65	65	19'-3"	0'-5"	4'-0"	6'-5½"			65	65	19'-3"	0'-5"	4'-0"	6'-5½"
		8'			140	140	17'-11"			65	65	19'-4"	0'-5"	4'-0"	6'-6"			65	65	19'-4"	0'-5"	4'-0"	6'-6"
		9'			140	140	18'-2"			65	65	19'-7"	0'-5"	4'-1"	6'-7"			65	65	19'-7"	0'-5"	4'-1"	6'-7"
		10'			140	140	18'-5"			65	65	19'-10"	0'-5"	4'-2"	6'-8"			65	65	19'-10"	0'-5"	4'-2"	6'-8"
	2 @ 9'	5'	#6	11"	140	140	19'-8"	#6	11"	65	65	21'-1"	0'-5½"	4'-4"	7'-2"	#6	11"	65	65	21'-1"	0'-5¾"	4'-3½"	7'-2"
		6'			140	140	19'-10"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5¾"	4'-4½"	7'-2½"
		7'			140	140	19'-10"			65	65	21'-3"	0'-5½"	4'-5"	7'-2½"			65	65	21'-3"	0'-5¾"	4'-4½"	7'-2½"
		8'			140	140	19'-11"			65	65	21'-4"	0'-5½"	4'-5"	7'-3"			65	65	21'-4"	0'-5¾"	4'-4½"	7'-3"
		9'			140	140	20'-2"			65	65	21'-7"	0'-5½"	4'-6"	7'-4"			65	65	21'-7"	0'-5¾"	4'-5½"	7'-4"
		10'			140	140	20'-5"			65	65	21'-10"	0'-5½"	4'-7"	7'-5"			65	65	21'-10"	0'-5¾"	4'-6½"	7'-5"
		11'			140	140	20'-7"			65	65	22'-0"	0'-5½"	4'-7"	7'-6"			65	65	22'-0"	0'-5¾"	4'-6½"	7'-6"
	2 @ 10'	5'	#7	12"	128	128	21'-8"	#6	12"	59	59	23'-2"	0'-6"	4'-9"	7'-11"	#6	12"	59	59	23'-2"	0'-6½"	4'-8"	7'-11"
		6'			128	128	21'-10"			59	59	23'-4"	0'-6"	4'-10"	7'-11½"			59	59	23'-4"	0'-6½"	4'-9"	7'-11½"
		7'			128	128	21'-10"			59	59	23'-4"	0'-6"	4'-10"	7'-11½"			59	59	23'-4"	0'-6½"	4'-9"	7'-11½"
		8'			128	128	21'-11"			59	59	23'-5"	0'-6"	4'-10"	8'-0"			59	59	23'-5"	0'-6½"	4'-9"	8'-0"
		9'			128	128	22'-2"			59	59	23'-8"	0'-6"	4'-11"	8'-1"			59	59	23'-8"	0'-6½"	4'-10"	8'-1"
		10'			128	128	22'-5"			59	59	23'-11"	0'-6"	5'-0"	8'-2"			59	59	23'-11"	0'-6½"	4'-11"	8'-2"
		11'			128	128	22'-7"			59	59	24'-1"	0'-6"	5'-0"	8'-3"			59	59	24'-1"	0'-6½"	4'-11"	8'-3"
		12'			128	128	22'-9"			59	59	24'-3"	0'-6"	5'-0"	8'-4"			59	59	24'-3"	0'-6½"	4'-11"	8'-4"
	2 @ 11'	6'	#7	12"	128	128	23'-11"	#6	12"	59	59	25'-5"	0'-6½"	5'-3"	8'-9"	#6	12"	59	59	25'-6"	0'-7½"	5'-1"	8'-9"
		7'			128	128	23'-11"			59	59	25'-5"	0'-6½"	5'-3"	8'-9"			59	59	25'-6"	0'-7½"	5'-1"	8'-9"
		8'			128	128	23'-11"			59	59	25'-5"	0'-6½"	5'-3"	8'-9"			59	59	25'-6"	0'-7½"	5'-1"	8'-9"
		9'			128	128	24'-2"			59	59	25'-8"	0'-6½"	5'-4"	8'-10"			59	59	25'-9"	0'-7½"	5'-2"	8'-10"
		10'			128	128	24'-5"			59	59	25'-11"	0'-6½"	5'-5"	8'-11"			59	59	26'-0"	0'-7½"	5'-3"	8'-11"
		11'			128	128	24'-7"			59	59	26'-1"	0'-6½"	5'-5"	9'-0"			59	59	26'-2"	0'-7½"	5'-3"	9'-0"
		12'			128	128	24'-9"			59	59	26'-3"	0'-6½"	5'-5"	9'-1"			59	59	26'-4"	0'-7½"	5'-3"	9'-1"
	2 @ 12'	6'	#7	11"	140	140	25'-11"	#6	11"	65	65	27'-5"	0'-7"	5'-8"	9'-6"	#6	11"	65	65	27'-7"	0'-8½"	5'-5"	9'-6"
		7'			140	140	25'-11"			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"
		8'			140	140	25'-11"			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"
		9'			140	140	26'-2"			65	65	27'-8"	0'-7"	5'-9"	9'-7"			65	65	27'-10"	0'-8½"	5'-6"	9'-7"
		10'			140	140	26'-5"			65	65	27'-11"	0'-7"	5'-10"	9'-8"			65	65	28'-1"	0'-8½"	5'-7"	9'-8"
		11'			140	140	26'-7"			65	65	28'-1"	0'-7"	5'-10"	9'-9"			65	65	28'-3"	0'-8½"	5'-7"	9'-9"
		12'			140	140	26'-9"			65	65	28'-3"	0'-7"	5'-10"	9'-10"			65	65	28'-5"	0'-8½"	5'-7"	9'-10"

"c" bars – STRAIGHT – In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars.
"d" bars – STRAIGHT – Longitudinal in Top Slab of Barrel.
"d1" bars – STRAIGHT – Longitudinal in Sidewalls and Division Walls.
"e" bars – STRAIGHT – Longitudinal in Bottom Slab of Barrel.
"f" bars – STRAIGHT – Vertical in Sidewalls and Division Walls.

D	S	H	c Size	c Spacing	c No. Req'd 3:1	c No. Req'd 4:1	c Length	d Size	d Spacing	d No. Req'd	d Length	d1 Size	d1 Spacing	d1 No. Req'd	d1 Length	e Size	e Spacing	e No. Req'd	e Length	f Size	f Spacing	f No. Req'd 3:1	f No. Req'd 4:1	f Length
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'	2'	#5	12"	120	120	4'-8"	#5	12"	14	2 @ 30'-8" for 60'-0" Length Barrel (1'-8" Lap)	#4	12"	8	2 @ 30'-6" for 60'-0" Length Barrel (1'-3" Lap)	#4	12"	14	2 @ 31'-6" for 60'-0" Length Barrel (1'-3" Lap)	#4	12"	240	240	2'-10"
		3'			120	120	4'-8"			14				12				14				240	240	3'-10"
		4'			120	120	4'-8"			14				16				14				240	240	4'-10"
		5'			120	120	4'-8"			14				20				14				240	240	5'-10"
		6'			120	120	4'-9"			14				24				14				240	240	6'-10"
	2 @ 5'	3'	#6	12"	120	120	5'-8"	#5	11½"	16		#4	12"	12		#4	12"	16		#4	12"	240	240	3'-11"
		4'			120	120	5'-8"			16				16				16				240	240	4'-11"
		5'			120	120	5'-8"			16				20				16				240	240	5'-11"
		6'			120	120	5'-9"			16				24				16				240	240	6'-11"
		7'			120	120	5'-10"			16				28				16				240	240	7'-11"
	2 @ 6'	3'	#6	11"	132	132	6'-8"	#5	11½"	18		#4	12"	12		#4	12"	18		#4	12"	240	240	4'-0"
		4'			132	132	6'-8"			18				16				18				240	240	5'-0"
		5'			132	132	6'-8"			18				20				18				240	240	6'-0"
		6'			132	132	6'-9"			18				24				18				240	240	7'-0"
		7'			132	132	6'-10"			18				28				18				240	240	8'-0"
		8'			132	132	6'-10"			18				32				18			10"	288	288	9'-0"
	2 @ 7'	4'	#6	12"	120	120	7'-8"	#5	11½"	20		#4	12"	16		#4	12"	20		#4	12"	240	240	5'-1"
		5'			120	120	7'-8"			20				20				20				240	240	6'-1"
		6'			120	120	7'-9"			20				24				20				240	240	7'-1"
		7'			120	120	7'-10"			20				28				20				240	240	8'-1"
		8'			120	120	7'-10"			20				32				20			10"	288	288	9'-1"
		9'			120	120	7'-11"			20				36				20		#5	12"	240	240	10'-1"
	2 @ 8'	4'	#6	11"	132	132	8'-8"	#5	11½"	23		#4	12"	16		#4	12"	22		#4	12"	240	240	5'-2"
		5'			132	132	8'-9"			23				20				22				240	240	6'-2"
		6'			132	132	8'-9"			23				24				22				240	240	7'-2"
		7'			132	132	8'-10"			23				28				22				240	240	8'-2"
		8'			132	132	8'-10"			23				32				22			10"	288	288	9'-2"
		9'			132	132	8'-11"			23				36				22		#5	12"	240	240	10'-2"
		10'			132	132	9'-0"			23				40				22			11"	264	264	11'-2"
	2 @ 9'	5'	#6	11"	132	132	9'-9"	#5	11½"	26		#4	12"	20		#4	12"	25		#4	12"	240	240	6'-3"
		6'			132	132	9'-10"			26				24				25				240	240	7'-3"
		7'			132	132	9'-10"			26				28				25				240	240	8'-3"
		8'			132	132	9'-10"			26				32				25			10"	288	288	9'-3"
		9'			132	132	9'-11"			26				36				25		#5	12"	240	240	10'-3"
		10'			132	132	10'-0"			26				40				25			11"	264	264	11'-3"
		11'			132	132	10'-0"			26				44				25			10"	288	288	12'-3"
	2 @ 10'	5'	#7	12"	120	120	10'-9"	#5	11½"	28		#4	12"	20		#4	12"	27		#4	12"	240	240	6'-4"
		6'			120	120	10'-10"			28				24				27				240	240	7'-4"
		7'			120	120	10'-10"			28				28				27				240	240	8'-4"
		8'			120	120	10'-10"			28				32				27			10"	288	288	9'-4"
		9'			120	120	10'-11"			28				36				27		#5	12"	240	240	10'-4"
		10'			120	120	11'-0"			28				40				27			11"	264	264	11'-4"
		11'			120	120	11'-0"			28				44				27			10"	288	288	12'-4"
		12'			120	120	11'-0"			28				48				27		#6	12"	240	240	13'-4"
	2 @ 11'	6'	#7	12"	120	120	11'-10"	#5	11½"	30		#4	12"	24		#4	12"	29		#4	12"	240	240	7'-6"
		7'			120	120	11'-10"			30				28				29				240	240	8'-6"
		8'			120	120	11'-10"			30				32				29			10"	288	288	9'-6"
		9'			120	120	11'-11"			30				36				29		#5	12"	240	240	10'-6"
		10'			120	120	12'-0"			30				40				29			11"	264	264	11'-6"
		11'			120	120	12'-0"			30				44				29			10"	288	288	12'-6"
		12'			120	120	12'-0"			30				48				29		#6	12"	240	240	13'-6"
	2 @ 12'	6'	#7	11"	132	132	12'-10"	#5	11½"	32		#4	12"	24		#4	12"	31		#4	12"	240	240	7'-7"
		7'			132	132	12'-10"			32				28				31				240	240	8'-7"
		8'			132	132	12'-10"			32				32				31			10"	288	288	9'-7"
		9'			132	132	12'-11"			32				36				31		#5	12"	240	240	10'-7"
		10'			132	132	13'-0"			32				40				31			11"	264	264	11'-7"
		11'			132	132	13'-0"			32				44				31			10"	288	288	12'-7"
		12'			132	132	13'-0"			32				48				31		#6	12"	240	240	13'-7"

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#5	2½"	4½"	0'-11½"
#6	3"	5"	1'-2"

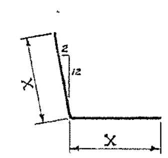
BENDING DIAGRAM FOR Bars "b" and "b2".



NOTE:- Dimensions are to centers of bars. (Bars "b" and "b2")

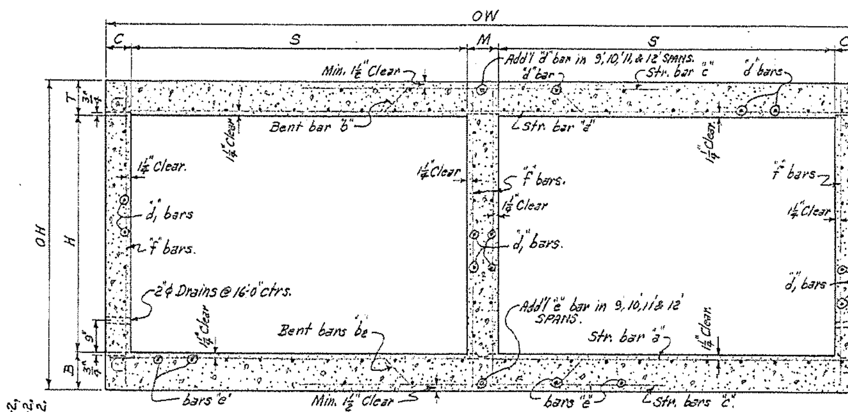
DOWEL BARS FOR TWO HEADWALLS

2 Spans @	Size	Spacing	No. Req'd	Length	X	Bars "r" Dowel bars in Headwalls.
4'	#4	12"	20	2'-5"	1'-2½"	
5'	#4	12"	24	2'-6"	1'-3"	
6'	#4	12"	28	2'-7"	1'-3½"	
7'	#4	12"	32	2'-8"	1'-4"	
8'	#4	12"	36	2'-9"	1'-4½"	
9'	#4	12"	42	2'-10"	1'-5"	
10'	#4	12"	46	2'-11"	1'-5½"	
11'	#4	12"	50	3'-0"	1'-6"	
12'	#4	12"	54	3'-1"	1'-6½"	

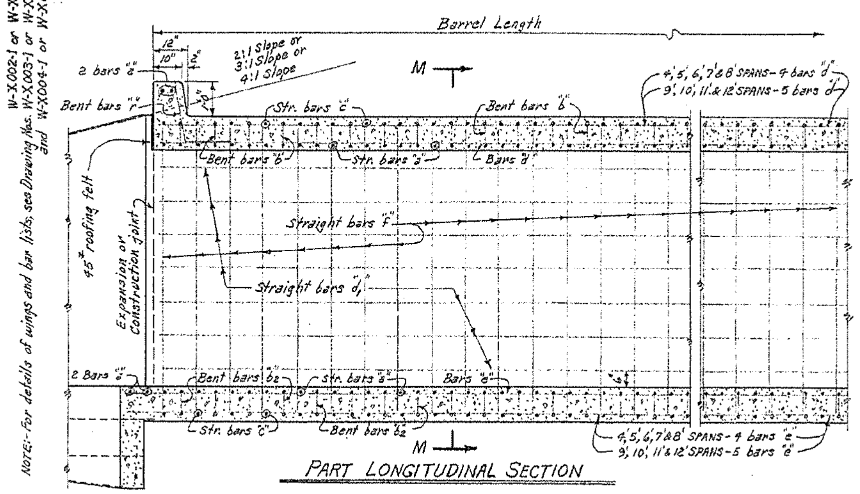


DIMENSIONS / QUANTITIES

Max. Design Depth of Cover D	Clear Spans S	Clear Height H	Sq. Ft. Opening A	Overall Width OW	Thickness of Top Slab T	Thickness of Sidewalls C	Thickness of Division Wall M	Thickness of Bottom Slab B	Overall Height OH	Class S Conc. per Lin. Ft. of Barrel (Cu.Yd.)	Reinforcing Steel per Lin. Ft. of Barrel (Lb.)	Additional per Lap (Lb.)	Additional Two Headwalls & Aprons (Lb.)
5'-0"	2 @ 4'	2'	16	9'-8"	6½"	6"	8"	6"	3'-0½"	0.496	88.15	42.71	129.56
		3'	24	9'-8"		6"	8"		4'-0½"	0.558	93.49	46.05	129.56
		4'	32	9'-8"		6"	8"		5'-0½"	0.620	98.64	49.39	129.56
		5'	40	9'-8"		6"	8"		6'-0½"	0.682	104.18	52.73	129.56
		6'	48	9'-11"		7"	9"		7'-0½"	0.809	110.74	56.07	131.65
	2 @ 5'	3'	30	11'-8"	7"	6"	8"	6½"	4'-1½"	0.671	123.34	51.19	198.64
		4'	40	11'-8"		6"	8"		5'-1½"	0.733	128.68	54.53	198.64
		5'	50	11'-8"		6"	8"		6'-1½"	0.795	134.03	57.87	198.64
		6'	60	11'-11"		7"	9"		7'-1½"	0.922	140.89	61.21	201.64
		7'	70	12'-1"		7½"	10"		8'-1½"	1.049	147.34	64.55	203.65
	2 @ 6'	3'	36	13'-8"	7½"	6"	8"	7½"	4'-3"	0.818	148.50	56.34	233.58
		4'	48	13'-8"		6"	8"		5'-3"	0.880	153.85	59.68	233.58
		5'	60	13'-8"		6"	8"		6'-3"	0.941	159.19	63.02	233.58
		6'	72	13'-11"		7"	9"		7'-3"	1.070	166.20	66.36	236.59
		7'	84	14'-1"		7½"	10"		8'-3"	1.192	172.74	69.70	238.59
		8'	96	14'-2"		8"	10"		9'-3"	1.298	183.36	73.04	239.59
	2 @ 7'	4'	56	15'-8"	8"	6"	8"	8"	5'-4"	1.021	176.15	64.83	268.97
		5'	70	15'-8"		6"	8"		6'-4"	1.082	183.49	68.17	268.97
		6'	84	15'-11"		7"	9"		7'-4"	1.212	190.59	71.51	271.97
		7'	98	16'-1"		7½"	10"		8'-4"	1.334	197.19	74.85	273.98
		8'	112	16'-2"		8"	10"		9'-4"	1.440	207.89	78.19	274.98
		9'	126	16'-5"		9"	11"		10'-4"	1.616	225.25	81.53	277.98
	2 @ 8'	4'	64	17'-8"	8½"	6"	8"	8½"	5'-5"	1.174	210.37	71.71	304.80
		5'	80	17'-11"		7"	9"		6'-5"	1.295	217.63	75.05	307.81
		6'	96	17'-11"		7"	9"		7'-5"	1.366	222.97	78.39	307.81
		7'	112	18'-1"		7½"	10"		8'-5"	1.489	229.68	81.73	309.81
		8'	128	18'-2"		8"	10"		9'-5"	1.595	240.97	85.07	310.81
		9'	144	18'-5"		9"	11"		10'-5"	1.772	258.08	88.41	313.82
		10'	160	18'-8"		10"	12"		11'-5"	1.967	271.07	91.75	316.82
	2 @ 9'	5'	90	19'-11"	9"	7"	9"	9¼"	6'-6¼"	1.477	239.37	82.77	345.92
		6'	108	20'-1"		7½"	10"		7'-6¼"	1.594	246.08	86.11	347.93
		7'	126	20'-1"		7½"	10"		8'-6¼"	1.671	251.93	89.45	347.93
		8'	144	20'-2"		8"	10"		9'-6¼"	1.778	262.26	92.79	348.93
		9'	162	20'-5"		9"	11"		10'-6¼"	1.956	279.95	96.13	351.93
		10'	180	20'-8"		10"	12"		11'-6¼"	2.152	292.97	99.47	354.93
		11'	198	20'-10"		11"	12"		12'-6¼"	2.328	306.86	102.81	356.94
	2 @ 10'	5'	100	21'-11"	9½"	7"	9"	10"	6'-7½"	1.674	279.64	87.92	479.99
		6'	120	22'-1"		7½"	10"		7'-7½"	1.792	286.50	91.26	482.71
		7'	140	22'-1"		7½"	10"		8'-7½"	1.869	291.85	94.60	482.71
		8'	160	22'-2"		8"	10"		9'-7½"	1.976	302.77	97.94	484.08
		9'	180	22'-5"		9"	11"		10'-7½"	2.155	320.74	101.28	488.16
		10'	200	22'-8"		10"	12"		11'-7½"	2.352	333.99	104.62	492.25
		11'	220	22'-10"		11"	12"		12'-7½"	2.529	348.01	107.96	494.98
		12'	240	23'-0"		12"	12"		13'-7½"	2.718	370.23	111.30	497.70
	2 @ 11'	6'	132	24'-2"	10"	8"	10"	11"	7'-9"	2.048	309.36	96.41	530.03
		7'	154	24'-2"		8"	10"		8'-9"	2.128	314.70	99.75	530.03
		8'	176	24'-2"		8"	10"		9'-9"	2.208	325.12	103.09	530.03
		9'	198	24'-5"		9"	11"		10'-9"	2.388	343.25	106.43	534.12
		10'	220	24'-8"		10"	12"		11'-9"	2.586	356.57	109.77	538.21
		11'	242	24'-10"		11"	12"		12'-9"	2.764	370.67	113.11	540.93
		12'	264	25'-0"		12"	12"		13'-9"	2.954	393.05	116.45	543.66
	2 @ 12'	6'	144	26'-2"	10½"	8"	10"	12"	7'-10½"	2.299	353.31	101.55	576.93
		7'	168	26'-2"		8"	10"		8'-10½"	2.379	358.65	104.89	576.93
		8'	192	26'-2"		8"	10"		9'-10½"	2.459	369.12	108.23	576.93
		9'	216	26'-5"		9"	11"		10'-10½"	2.690	387.52	111.57	580.52
		10'	240	26'-8"		10"	12"		11'-10½"	2.840	401.07	114.91	584.60
		11'	264	26'-10"		11"	12"		12'-10½"	3.018	415.31	118.25	587.33
		12'	288	27'-0"		12"	12"		13'-10½"	3.208	437.88	121.59	590.05

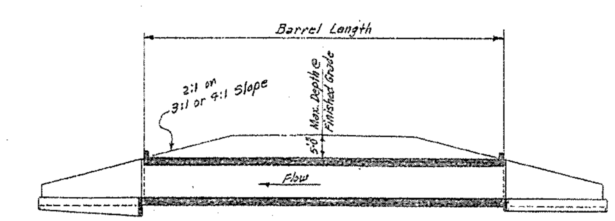


TYPICAL SECTION M-M



PART LONGITUDINAL SECTION

NOTE:- For details of wings and bar lists, see Drawing Nos. W-X002-1 or W-X002-2, W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2.



LONGITUDINAL SECTION

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.

BAR LAP:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters.

CONSTRUCTION JOINTS:- Construction joints between sidewalls, sidewalls, division walls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961

AND

SPECIAL MILITARY LOADING

Two 24,000 Lb. Axles @ 4'-0" ctrs.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing Nos. W-X002-1 or W-X002-2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

4,5,6,7,8,9,10,11 & 12 SPANS — 3:1 OR 4:1 SLOPES

DOUBLES — UNDER 5'-0" COVER

STANDARD DRAWING NO. R-200X-0.

Designed by: W.C.H. 1-17-63. Checked by: T.H.S. 5-14-63
Drawn by: W.C.H. 2-15-63. Checked by: T.H.S. 5-24-63
Quantities by: W.C.H. 2-19-63. Checked by: T.H.S. 5-24-63

Reshot 3-8-93 | 417

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			162	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH – TWO 30° SKEWED ENDS

Depth of Cover (D): 0'-0" TO 5'-0" MAXIMUM

"a" bars – STRAIGHT – In Top and Bottom Slab of Barrel. "a1" bars – STRAIGHT – In Top and Bottom Slab of Barrel- (Four of Each Length). "b" bars – BENT - See Diagrams below – In Bottom of Top Slab bent up over Division Walls- hooked. Alternate with "a" and "c" bars. "b1" bars – In Bottom of Top Slab-some bent up over Division Walls-one end hooked (2 of Each Length) Alternate with "a1" and "c" or "c1" bars. "b2" bars – BENT - See Diagrams below – In Top of Bottom Slab bent down under Division Walls - hooked. Alternate with "a" and "c" bars.

S	H	a Size	a Spacing	a No. Req'd	a Length	a1 Size	a1 Spacing	a1 No. Req'd	a1 Length Max.	a1 Length Min.	b Size	b Spacing	b No. Req'd	b Length	b X	b Y	b Z	b1 Size	b1 Spacing	b1 No. Req'd	b1 Length Max.	b1 Length Min.	b1 L Max.	b1 L Min.	b2 Size	b2 Spacing	b2 No. Req'd	b2 Length	b2 X	b2 Y	b2 Z
3@4'	2'	#5	12"	108	14'-1"	#5	12"	24	12'-4"	3'-7"	#5	12"	51	15'-4"	0'-3"	2'-2"	3'-4½"	#5	12"	14	14'-0"	3'-2"	13'-2"	2'-8"	#5	12"	53	15'-3"	0'-2¾"	2'-3"	3'-4½"
	3'			108	14'-1"			24	"	"			51	15'-4"	"	"	"			14	"	"	"	"			53	15'-3"	"	"	"
	4'			108	14'-1"			24	"	"			51	15'-4"	"	"	"			14	"	"	"	"			53	15'-3"	"	"	"
	5'			108	14'-1"			24	"	"			51	15'-4"	"	"	"			14	"	"	"	"			53	15'-3"	"	"	"
	6'			108	14'-5"			24	12'-8"	3'-11"			51	15'-8"	0'-3"	2'-3"	3'-5⅛"			14	14'-4"	3'-6"	13'-6"	3'-0"			53	15'-7"	0'-2¾"	2'-4"	3'-5½"
3@5'	3'	#6	12"	104	17'-1"	#6	12"	32	15'-4"	3'-1"	#5	12"	50	18'-5"	0'-3½"	2'-7"	4'-1¼"	#5	12"	16	17'-0"	4'-5"	16'-2"	3'-11"	#5	12"	52	18'-4"	0'-3"	2'-8"	4'-1¼"
	4'			104	17'-1"			32	"	"			50	18'-5"	"	"	"			16	"	"	"	"			52	18'-4"	"	"	"
	5'			104	17'-1"			32	"	"			50	18'-5"	"	"	"			16	"	"	"	"			52	18'-4"	"	"	"
	6'			104	17'-5"			32	15'-8"	3'-5"			50	18'-9"	"	2'-8"	4'-2¼"			18	17'-4"	4'-9"	16'-6"	2'-6"			52	18'-8"	"	2'-9"	4'-2¼"
	7'			104	17'-8"			32	15'-11"	3'-8"			49	19'-0"	0'-3½"	2'-9"	4'-2¾"			18	17'-7"	5'-0"	16'-9"	2'-9"			51	18'-11"	0'-3"	2'-10"	4'-2¾"
3@6'	3'	#6	11"	110	20'-1"	#6	11"	44	18'-6"	2'-8"	#5	11"	52	21'-6"	0'-4"	3'-0"	4'-10¼"	#5	11"	22	20'-3"	3'-11"	19'-3"	3'-5"	#5	11"	54	21'-5"	0'-3⅝"	3'-1"	4'-10½"
	4'			110	20'-1"			44	"	"			52	21'-6"	"	"	"			22	"	"	"	"			54	21'-5"	"	"	"
	5'			110	20'-1"			44	"	"			52	21'-6"	"	"	"			22	"	"	"	"			54	21'-5"	"	"	"
	6'			110	20'-5"			44	18'-10"	3'-0"			52	21'-10"	"	3'-1"	4'-11⅛"			22	20'-7"	4'-3"	19'-7"	3'-9"			54	21'-9"	"	3'-2"	4'-11⅛"
	7'			108	20'-8"			44	19'-1"	3'-3"			52	22'-1"	"	3'-2"	4'-11⅝"			22	20'-10"	4'-6"	19'-10"	4'-0"			54	22'-0"	"	3'-3"	4'-11¾"
	8'			108	20'-9"			44	19'-2"	3'-4"			52	22'-2"	0'-4"	3'-2"	5'-0⅛"			24	20'-11"	3'-0"	19'-11"	2'-6"			54	22'-1"	0'-3⅝"	3'-3"	5'-0⅛"
3@7'	4'	#6	12"	98	23'-1"	#6	12"	44	21'-4"	3'-10"	#6	12"	46	24'-8"	0'-4½"	3'-5"	5'-7"	#6	12"	24	23'-4"	3'-6"	22'-2"	2'-11"	#6	12"	48	24'-8"	0'-4½"	3'-5¼"	5'-7"
	5'			96	23'-1"			44	"	"			46	24'-8"	"	"	"			24	"	"	"	"			48	24'-8"	"	"	"
	6'			96	23'-5"			44	21'-8"	4'-2"			46	25'-0"	"	3'-6"	5'-8"			24	23'-8"	3'-10"	22'-6"	3'-3"			48	25'-0"	"	3'-6½"	5'-8"
	7'			96	23'-8"			48	21'-11"	2'-8"			46	25'-3"	"	3'-7"	5'-8½"			24	23'-11"	4'-1"	22'-9"	3'-6"			48	25'-3"	"	3'-7¼"	5'-9½"
	8'			96	23'-9"			48	22'-0"	2'-9"			46	25'-4"	"	"	5'-9"			24	24'-0"	4'-2"	22'-10"	3'-7"			48	25'-4"	"	"	5'-9"
	9'			96	24'-1"			48	22'-4"	3'-1"			46	25'-8"	0'-4½"	3'-8"	5'-10"			24	24'-4"	4'-6"	23'-2"	3'-11"			48	25'-8"	0'-4½"	3'-8½"	5'-10"
3@8'	4'	#6	11"	102	26'-1"	#6	11"	56	24'-6"	3'-11"	#6	11"	48	27'-9"	0'-5"	3'-10"	6'-4"	#6	11"	30	26'-5"	3'-8"	25'-3"	3'-1"	#6	11"	50	27'-9"	0'-5"	3'-10"	6'-4"
	5'			102	26'-5"			60	24'-10"	2'-8"			48	28'-1"	"	3'-11"	6'-5"			30	26'-9"	4'-0"	25'-7"	3'-5"			50	28'-1"	"	3'-11"	6'-5"
	6'			102	26'-5"			60	"	"			48	28'-1"	"	"	"			30	"	"	"	"			50	28'-1"	"	"	"
	7'			102	26'-9"			60	25'-1"	2'-11"			48	28'-4"	"	4'-0"	6'-5½"			30	27'-0"	4'-3"	25'-10"	3'-8"			50	28'-4"	"	4'-0"	6'-5½"
	8'			100	26'-9"			60	25'-2"	3'-0"			48	28'-5"	"	"	6'-6"			30	27'-1"	4'-4"	25'-11"	3'-9"			50	28'-5"	"	"	6'-6"
	9'			100	27'-1"			60	25'-6"	3'-4"			48	28'-9"	"	4'-1"	6'-7"			30	27'-5"	4'-8"	26'-3"	4'-1"			50	28'-9"	"	4'-1"	6'-7"
	10'			100	27'-5"			60	25'-10"	3'-8"			49	29'-1"	0'-5"	4'-2"	6'-8"			32	27'-9"	3'-5"	26'-7"	2'-10"			50	29'-1"	0'-5"	4'-2"	6'-8"

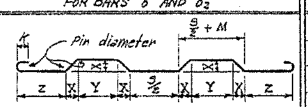
"b3" bars – BENT - See Diagrams below – In Top of Bottom Slab-some bent down under Division Walls-one end hooked. (2 of Each Length) Alternate with "a1" and "c" or "c1" bars. "c" bars – STRAIGHT – In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars. "c1" bars – STRAIGHT – In Top and Bottom Slab of Barrel. Alt. with "b1" & "b3" bars. (Four of each Length). "d" bars – STRAIGHT – Longitudinal in Top Slab of Barrel. "d1" bars – Longitudinal in Sidewalls and Division Walls. "e" bars – Longitudinal in Bottom Slab of Barrel. "f" bars – STRAIGHT – Verticals in Sidewalls and Division Walls. "k1" bars – STRAIGHT – In Bottom of Headwalls. "k2" bars – In Top of Headwalls and Aprons (2 Each).

S	H	b3 Size	b3 Spacing	b3 No. Req'd	b3 Length Max.	b3 Length Min.	b3 L Max.	b3 L Min.	c Size	c Spacing	c No. Req'd	c Length	c1 Size	c1 Spacing	c1 No. Req'd	c1 Length Max.	c1 Length Min.	d Size	d Spacing	d No. Req'd	d1 Size	d1 Spacing	d1 No. Req'd	e Size	e Spacing	e No. Req'd	f Size	f Spacing	f No. Req'd	f Length	k1 Size	k1 No. Req'd	k1 Length	k2 Size	k2 No. Req'd	k2 Length
3@4'	2'	#5	12"	14	13'-11"	3'-2"	13'-2"	2'-8"	#5	12"	112	9'-4"	#5	12"	16	8'-3"	3'-0"	#5	12"	22	#4	12"	12	#4	12"	22	#4	12"	360	2'-10"	#5	6	16'-3"	#5	8	17'-5"
	3'			14	"	"	"	"			112	9'-4"			16	"	"			22			18			22			360	3'-10"		6	"		8	"
	4'			14	"	"	"	"			112	9'-4"			16	"	"			22			24			22			360	4'-10"		6	"		8	"
	5'			14	"	"	"	"			112	9'-4"			16	"	"			22			30			22			360	5'-10"		6	"		8	"
	6'			14	14'-3"	3'-6"	13'-6"	3'-0"			112	9'-6"			16	8'-6"	3'-3"			22			36			22			360	6'-10"		6	16'-8"		8	17'-10"
3@5'	3'	#5	12"	16	17'-0"	4'-5"	16'-2"	3'-11"	#6	12"	108	11'-4"	#6	12"	20	10'-9"	3'-9"	#5	11½"	26	#4	12"	18	#4	12"	25	#4	12"	360	3'-11"	#6	6	19'-9"	#6	8	20'-11"
	4'			16	"	"	"	"			108	11'-4"			20	"	"			26			24			25			360	4'-11"		6	"		8	"
	5'			16	"	"	"	"			108	11'-4"			20	"	"			26			30			25			360	5'-11"		6	"		8	"
	6'			18	17'-4"	4'-9"	16'-6"	2'-6"			108	11'-6"			20	11'-0"	4'-0"			26			36			25			360	6'-11"		6	20'-1"		8	21'-3"
	7'			18	17'-7"	5'-0"	16'-9"	2'-9"			108	11'-8"			20	11'-2"	4'-2"			26			42			25			360	7'-11"		6	20'-5"		8	21'-7"
3@6'	3'	#5	11"	22	20'-2"	3'-11"	19'-3"	3'-5"	#6	11"	118	13'-4"	#6	11"	28	12'-0"	2'-6"	#5	11½"	30	#4	12"	18	#4	12"	28	#4	12"	360	4'-0"	#6	6	23'-2"	#6	8	24'-4"
	4'			22	"	"	"	"			118	13'-4"			28	"	"			30			24			28			360	5'-0"		6	"		8	"
	5'			22	"	"	"	"			118	13'-4"			28	"	"			30			30			28			360	6'-0"		6	"		8	"
	6'			22	20'-6"	4'-3"	19'-7"	3'-9"			118	13'-6"			28	12'-3"	2'-9"			30			36			28			360	7'-0"		6	23'-7"		8	24'-9"
	7'			22	20'-9"	4'-6"	19'-10"	4'-0"			116	13'-8"			28	12'-5"	2'-11"			30			42			28			360	8'-0"		6	23'-10"		8	25'-0"
	8'			24	20'-10"	3'-0"	19'-11"	2'-6"			116	13'-8"			28	12'-6"	3'-0"			30			48			28		10"	432	9'-0"		6	24'-0"		8	25'-1"
3@7'	4'	#6	12"	24	23'-3"	3'-6"	22'-2"	2'-11"	#6	12"	106	15'-4"	#6	12"	28	14'-0"	3'-6"	#5	11½"	32	#4	12"	24	#4	12"	31	#4	12"	360	5'-1"	#6	6	26'-8"	#6	8	27'-10"
	5'			24	"	"	"	"			104	15'-4"			28	"	"			32			30			31			360	6'-1"		6	"		8	"
	6'			24	23'-7"	3'-10"	22'-6"	3'-3"			104	15'-6"			28	14'-3"	3'-9"			32			36			31			360	7'-1"		6	27'-1"		8	28'-2"
	7'			24	23'-10"	4'-1"	22'-9"	3'-6"			104	15'-8"			28	14'-5"	3'-11"			32			42			31			360	8'-1"		6	27'-4"		8	28'-6"
	8'			24	23'-11"	4'-2"	22'-10"	3'-7"			104	15'-8"			28	14'-6"	4'-0"			32			48			31		10"	432	9'-1"		6	27'-5"		8	28'-7"
	9'			24	24'-3"	4'-6"	23'-2"	3'-11"			104	15'-10"			32	14'-9"	2'-6"			32			54			31	#5	12"	360	10'-1"		6	27'-10"		8	29'-0"
3@8'	4'	#6	11"	30	26'-5"	3'-8"	25'-3"	3'-1"	#6	11"	110	17'-4"	#6	11"	40	17'-0"	2'-9"	#5	11½"	36	#4	12"	24	#4	12"	35	#4	12"	360	5'-2"	#6	6	30'-1"	#6	8	31'-3"
	5'			30	26'-9"	4'-0"	25'-7"	3'-5"			110	17'-6"			40	17'-3"	3'-0"			36			30			35			360	6'-2"		6	30'-6"		8	31'-8"
	6'			30	"	"	"	"			110	17'-6"			40	"	"			36			36			35			360	7'-2"		6	"		8	"
	7'			30	27'-0"	4'-3"	25'-10"	3'-8"			110	17'-8"			40	17'-5"	3'-2"			36			42			35			360	8'-2"		6	30'-10"		8	31'-11"
	8'			30	27'-1"	4'-4"	25'-11"	3'-9"			108	17'-8"			40	17'-6"	3'-3"			36			48			35		10"	432	9'-2"		6	30'-11"		8	32'-1"
	9'			30	27'-5"	4'-8"	26'-3"	4'-1"			108	17'-10"			40	17'-9"	3'-6"			36			54			35	#5	12"	360	10'-2"		6	31'-3"		8	32'-5"
	10'			32	27'-9"	3'-5"	26'-7"	2'-10"			110	18'-0"			36	16'-5"	3'-9"			36			60			35		11"	396	11'-2"		6	31'-8"		8	32'-10"

"d" bars Length: 2@ 30'-8" for 60'-0" Length Barrel (1'-8" Lap).
"d1" bars Length: 2@ 30'-6" for 60'-0" Length Barrel (1'-3" Lap).
"e" bars Length: 2@ 31'-8" for 60'-0" Length Barrel (1'-3" Lap).

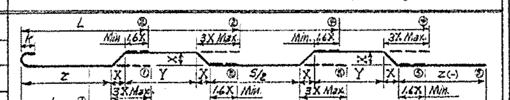
BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#5	2½"	4⅝"	0'-11½"
#6	3"	5"	1'-2"

BENDING DIAGRAM FOR BARS "b" AND "b2"



BAR SIZE	PIN DIAM.	K	ADD FOR 1 HOOK
#5	2½"	4⅝"	0'-5¾"
#6	3"	5"	0'-7"

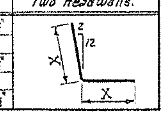
BENDING DIAGRAM FOR BARS "b1" AND "b3"



DOWEL BARS FOR TWO HEADWALLS

SPAN	SIZE	SPACING	No. REQ'D	LENGTH	X
4'	#4	12"	34	2'-5"	1'-2½"
5'	#4	12"	42	2'-6"	1'-3"
6'	#4	12"	48	2'-7"	1'-3½"
7'	#4	12"	56	2'-8"	1'-4"
8'	#4	12"	62	2'-9"	1'-4½"

Dowel bars "r" in Two Headwalls.

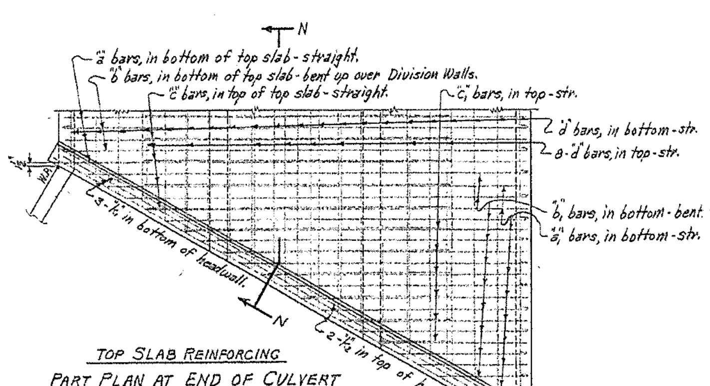


These bars are in the skewed portion of barrel only. The length of "a1" and "c1" bars and overall length L of "b1" and "b3" bars vary by 1'-9" for 12" spacing and 1'-7" for 11" spacing.

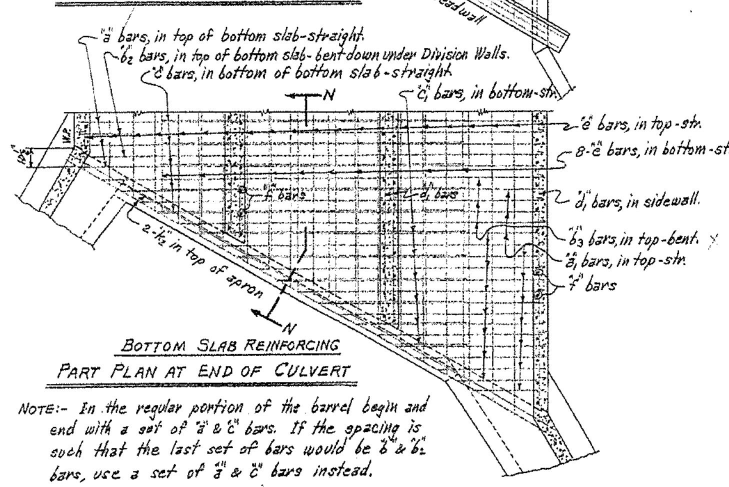
NOTE:- Dimensions are to centers of bars. (b, b1, b2 & b3). The X, Y & Z values for "b1" bars are same as "b" bars, and for "b3" bars same as for "b2" bars.
①-⑥ Min. & Max. Lengths of L for bars "b1" & "b3" for each type bend.

D	S	H	A	OW	T	C	M	B	OH	RL	K	CU. YD.	LB.	LB.	LB.
MAX. DESIGN DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF DIVISION WALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	ROADWAY LENGTH	LENGTH OF HEADWALLS	* CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL: TOTAL FOR 60'-0" LENGTH OF BARREL	PER LIN. FT. OF BARREL	ADDITIONAL PER LAP
5'-0"	3@4'	2'	24	14'-4"	6½"	6"	8"	6"	3'-0½"	16'-6⅝"	17'-8⅛"	0.726	8,689	137.76	66.63
		3'	36	14'-4"		6"	8"		4'-0½"	"	"	0.812	9,175	145.78	71.64
		4'	48	14'-4"		6"	8"		5'-0½"	"	"	0.899	9,662	153.79	76.15
		5'	60	14'-4"		6"	8"		6'-0½"	"	"	0.985	10,148	161.81	81.66
		6'	72	14'-8"		7"	9"		7'-0½"	16'-11⅛"	18'-1"	1.158	10,746	171.56	86.67
	3@5'	3'	45	17'-4"	7"	6"	8"	6½"	4'-1½"	20'-0⅛"	21'-2"	0.981	12,375	195.23	81.10
		4'	60	17'-4"		6"	8"		5'-1½"	"	"	1.068	12,870	203.25	86.11
		5'	75	17'-4"		6"	8"		6'-1½"	"	"	1.154	13,365	211.27	91.12
		6'	90	17'-8"		7"	9"		7'-1½"	20'-4⅜"	21'-6¾"	1.329	14,033	221.48	96.13
		7'	105	17'-11"		7½"	10"		8'-1½"	20'-8¼"	21'-10"	1.503	14,604	231.27	101.14
	3@6'	3'	54	20'-4"	7½"	6"	8"	7"	4'-2½"	23'-5⅜"	24'-7½"	1.169	14,995	236.39	90.56
		4'	72	20'-4"		6"	8"		5'-2½"	"	"	1.256	15,480	244.41	95.57
		5'	90	20'-4"		6"	8"		6'-2½"	"	"	1.342	15,965	252.42	100.58
		6'	108	20'-8"		7"	9"		7'-2½"	23'-10⅜"	25'-0¼"	1.517	16,628	262.84	105.59
		7'	126	20'-11"		7½"	10"		8'-2½"	24'-1⅞"	25'-3¾"	1.692	17,148	272.79	110.60
		8'	144	21'-0"		8"	10"		9'-2½"	24'-3"	25'-4¾"	1.829	18,118	288.98	115.61
	3@7'	4'	84	23'-4"	8"	6"	8"	7¾"	5'-3¾"	26'-11⅜"	28'-1¼"	1.480	17,720	279.99	101.55
		5'	105	23'-4"		6"	8"		6'-3¾"	"	"	1.566	18,090	288.01	106.56
		6'	126	23'-8"		7"	9"		7'-3¾"	27'-4"	28'-5¾"	1.749	18,761	298.53	111.57
		7'	147	23'-11"		7½"	10"		8'-3¾"	27'-7⅜"	28'-9¼"	1.919	19,407	308.55	116.58
		8'	168	24'-0"		8"	10"		9'-3¾"	27'-8½"	28'-10½"	2.056	20,370	324.34	121.59
		9'	189	24'-4"		9"	11"		10'-3¾"	28'-1¼"	29'-3"	2.294	21,982	350.27	126.60
	3@8'	4'	96	26'-4"	8½"	6"	8"	8½"	5'-5"	30'-4⅞"	31'-6¾"	1.727	20,858	330.89	111.85
		5'	120	26'-8"		7"	9"		6'-5"	30'-9⅛"	31'-11¼"	1.893	21,563	341.64	116.86
		6'	144	26'-8"		7"	9"		7'-5"	"	"	1.992	22,049	349.65	121.87
		7'	168	26'-11"		7½"	10"		8'-5"	31'-1"	32'-2¾"	2.168	22,697	359.85	126.88
		8'	192	27'-0"		8"	10"		9'-5"	31'-2⅛"	32'-4"	2.306	23,538	375.76	131.89
		9'	216	27'-4"		9"	11"		10'-5"	31'-6¾"	32'-8½"	2.545	25,162	402.04	136.90
		10'	240	27'-8"		10"	12"		11'-5"	31'-11⅞"	33'-1¼"	2.810	26,380	421.39	141.91

* For quantities in wings see Standard Wing Drawings listed below. Total steel quantities listed above include one lap of longitudinal bars.



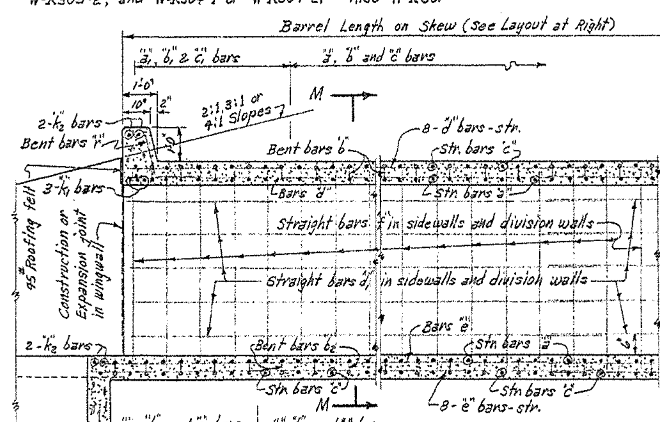
TOP SLAB REINFORCING
PART PLAN AT END OF CULVERT



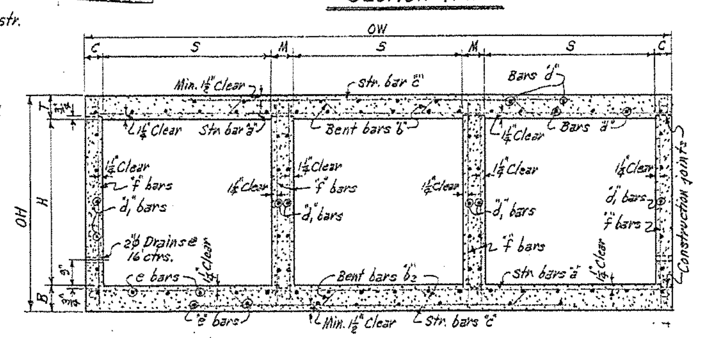
BOTTOM SLAB REINFORCING
PART PLAN AT END OF CULVERT

NOTE:- In the regular portion of the barrel begin and end with a set of "a" & "c" bars. If the spacing is such that the last set of bars would be "b" & "b2" bars, use a set of "a" & "c" bars instead.

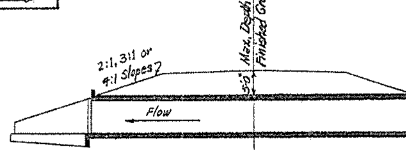
NOTE:- For Details of Standard Wings and bar lists, See Drawing No. W-X302-1 or W-X302-2; W-X303-1 or W-X303-2, and W-X304-1 or W-X304-2. Also W-X30.



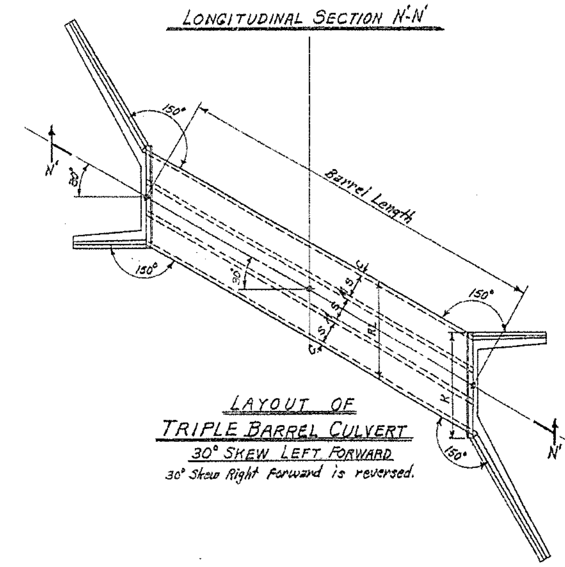
SECTION N-N



TYPICAL SECTION M-M



LONGITUDINAL SECTION N-N



LAYOUT OF
TRIPLE BARREL CULVERT
30° SKEW LEFT FORWARD
30° Skew Right Forward is reversed.

GENERAL NOTES

CONCRETE:- All concrete to be Class S. and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.

BAR LAPS:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters min.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls, division walls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961
AND
SPECIAL MILITARY LOADING
Two 24,000 Lb. Axles @ 4'-0" ctrs.

UNIT STRESSES:-
Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X302-1 or W-X302-2, W-X303-1 or W-X303-2, and W-X304-1 or W-X304-2. Also W-X30.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

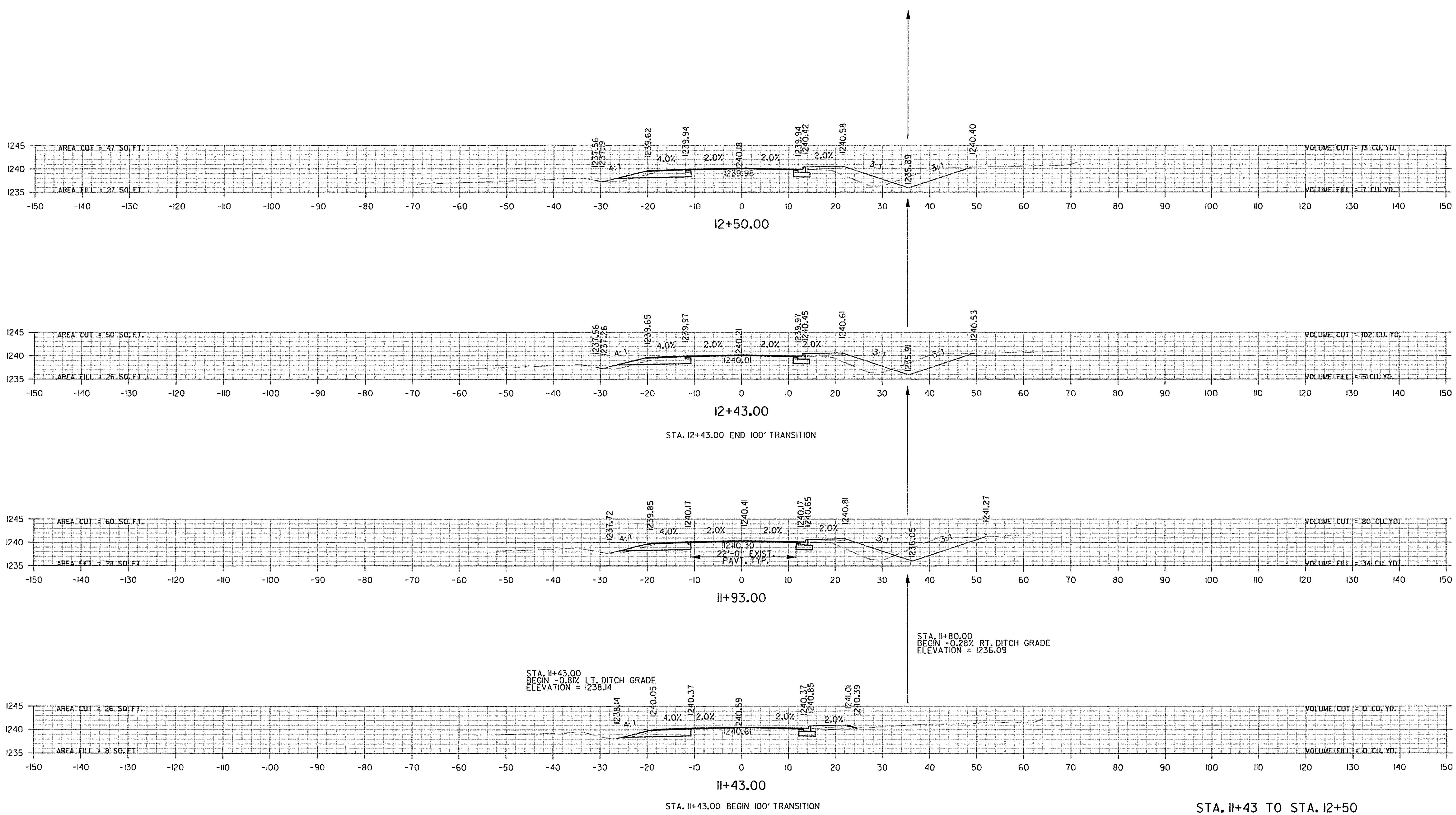
DETAILS OF STANDARD BARREL SECTIONS
FOR
REINFORCED CONCRETE BOX CULVERTS
30° SKEW
4', 5', 6', 7' AND 8' SPANS — 2:1, 3:1 OR 4:1 SLOPES
TRIPLES — UNDER 5'-0" COVER

STANDARD DRAWING No. R-330X-01

Designed by:- W.C.H. 1-22-63. Checked by:- R.H.S. 5-17-63
Drawn by:- W.C.H. 2-27-63. Checked by:-
Quantities by:- W.C.H. 4-8-63. Checked by:-

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	163	255

(2) CROSS SECTION STA. 11+43 TO 12+50



STA. 11+43 TO STA. 12+50

twmccormick 4/18/2013 2:09:25 PM
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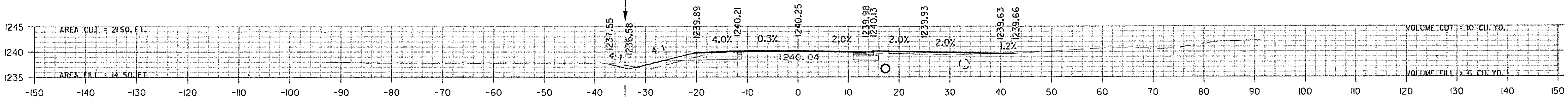
REVISED DATE:

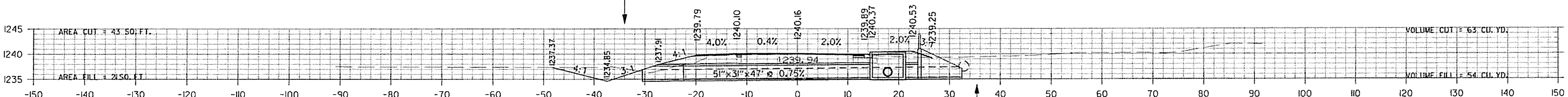
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	164	255

(2) CROSS SECTION STA. 13+00 TO 14+59



14+59.12

STA. 14+65.00 IN PLACE
24" x 38' C.M. PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 0.96 CU. YDS.



14+50.00

STA. 14+44.66
END 7.18% LT. DITCH GRADE
BEGIN 2.55% LT. DITCH GRADE
ELEVATION = 1236.08

STA. 14+37.15 CONSTRUCT
DROP INLET ON R.T. H=4'5"
ON TOP OF PIPE CULVERT
TYPE C INLET=6' X 4'10"

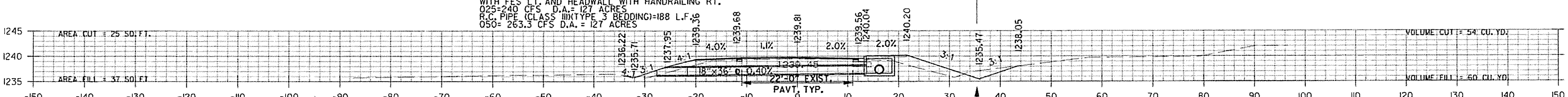
TOP=1239.77 RT.
F.L. D.I.=1235.35 RT.
F.L. OUTLET=1234.92 LT.

STA. 14+27.53
END -2.54% LT. DITCH GRADE
BEGIN 7.18% LT. DITCH GRADE
ELEVATION = 1234.85

STA. 14+33.00 IN PLACE
TRIPLE 24" x 58' C.M. PIPE CULVERT
WITH FES RT. AND LT.
REMOVE

STA. 14+26.71
END -0.28% RT. DITCH GRADE
ELEVATION = 1235.39

STA. 14+24.75 CONSTRUCT
QUAD 51"x31" x 47' ARCHED PIPE CULVERT
WITH FES LT. AND HEADWALL WITH HANDRAILING RT.
Q25=240 CFS D.A.= 127 ACRES
R.C. PIPE (CLASS III)(TYPE 3 BEDDING)=188 L.F.
Q50= 263.3 CFS D.A.= 127 ACRES



14+00.00

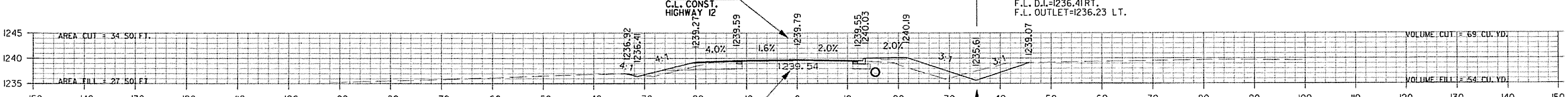
STA. 13+70.94
END -0.81% LT. DITCH GRADE
BEGIN -2.54% LT. DITCH GRADE
ELEVATION = 1236.29

STA. 13+95.28 BEGIN 300' LEFT TURN LANE TAPER

STA. 13+75.00 CONSTRUCT
DROP INLET ON RT. H=3'7"
WITH 4' EXTENSION AND 18" X 36'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
WITH FES ON LT.
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 2'6"
Q10= 20 CFS D.A.= 0 ACRES

TOP=1240.00 RT.
F.L. D.I.=1236.41 RT.
F.L. OUTLET=1236.23 LT.

PROP. ELEV. AT C.L. CONST. HIGHWAY 12



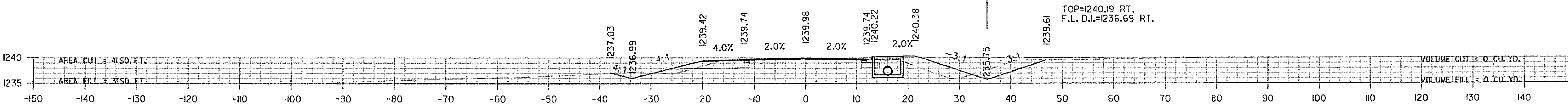
EXIST. ELEV. AT C.L. CONST. HIGHWAY 12

13+50.00

STA. 13+10.00 CONSTRUCT
DROP INLET ON RT. H=3'6"
AND 18" X 64'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET=4' DIA.
TYPE C DROP INLET=4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)=64 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=64 LIN. FT.

TOP=1240.19 RT.
F.L. D.I.=1236.69 RT.

STA. 13+20.28 BEGIN SUPERELEVATION



13+00.00

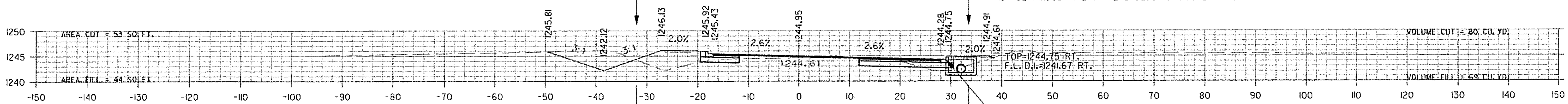
STA. 13+00 TO STA. 14+59

twmccormick 4/18/2013 2:08:35 PM
WORKSPACE: AHTD
X:\2008\080535SO - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	165	255

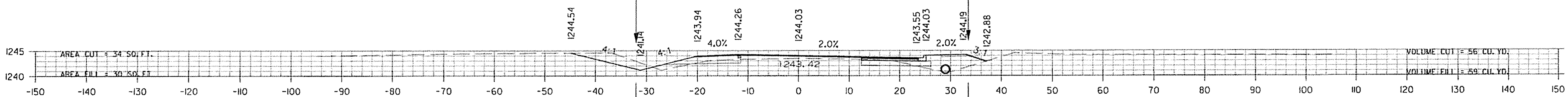
(2) CROSS SECTION STA. 15+00 TO 17+00

STA. 17+00.00 CONSTRUCT
DROP INLET ON RT. H = 3' 1"
WITH 4' EXTENSION AND 18" x 260'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)=260 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=260 LIN. FT.

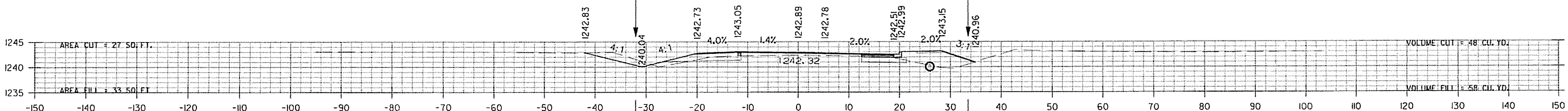


17+00.00

STA. 16+95.28 BEGIN JOB 090251
END 300' LEFT TURN LANE TAPER
END 125' TAPER LANE TAPER

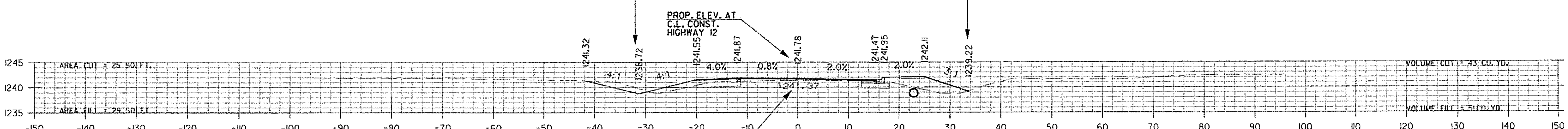


16+50.00

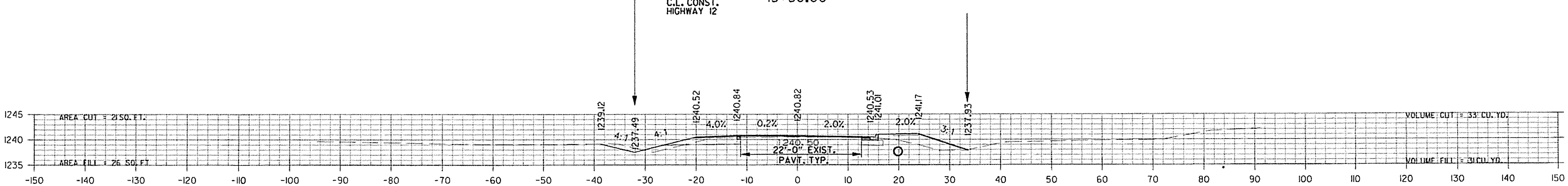


16+00.00

STA. 15+70.28 BEGIN 125' TAPER LANE TAPER



15+50.00



15+00.00

STA. 15+00 TO STA. 17+00

twmccormick 4/18/2013 2:08:36 PM
WORKSPACE: AHTD
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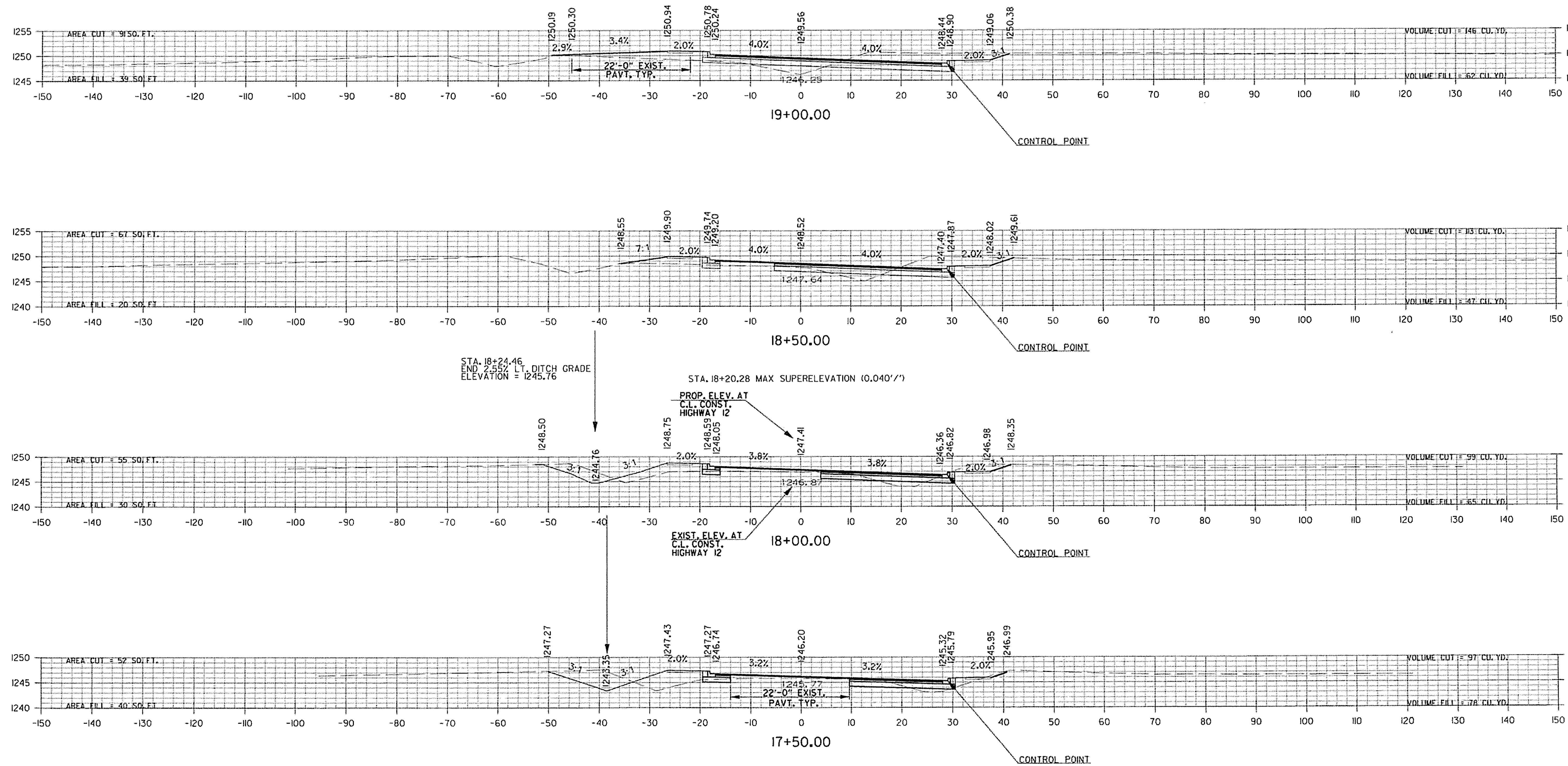
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	166	255

(2) CROSS SECTION STA. 17+50 TO 19+00



STA. 17+50 TO STA. 19+00

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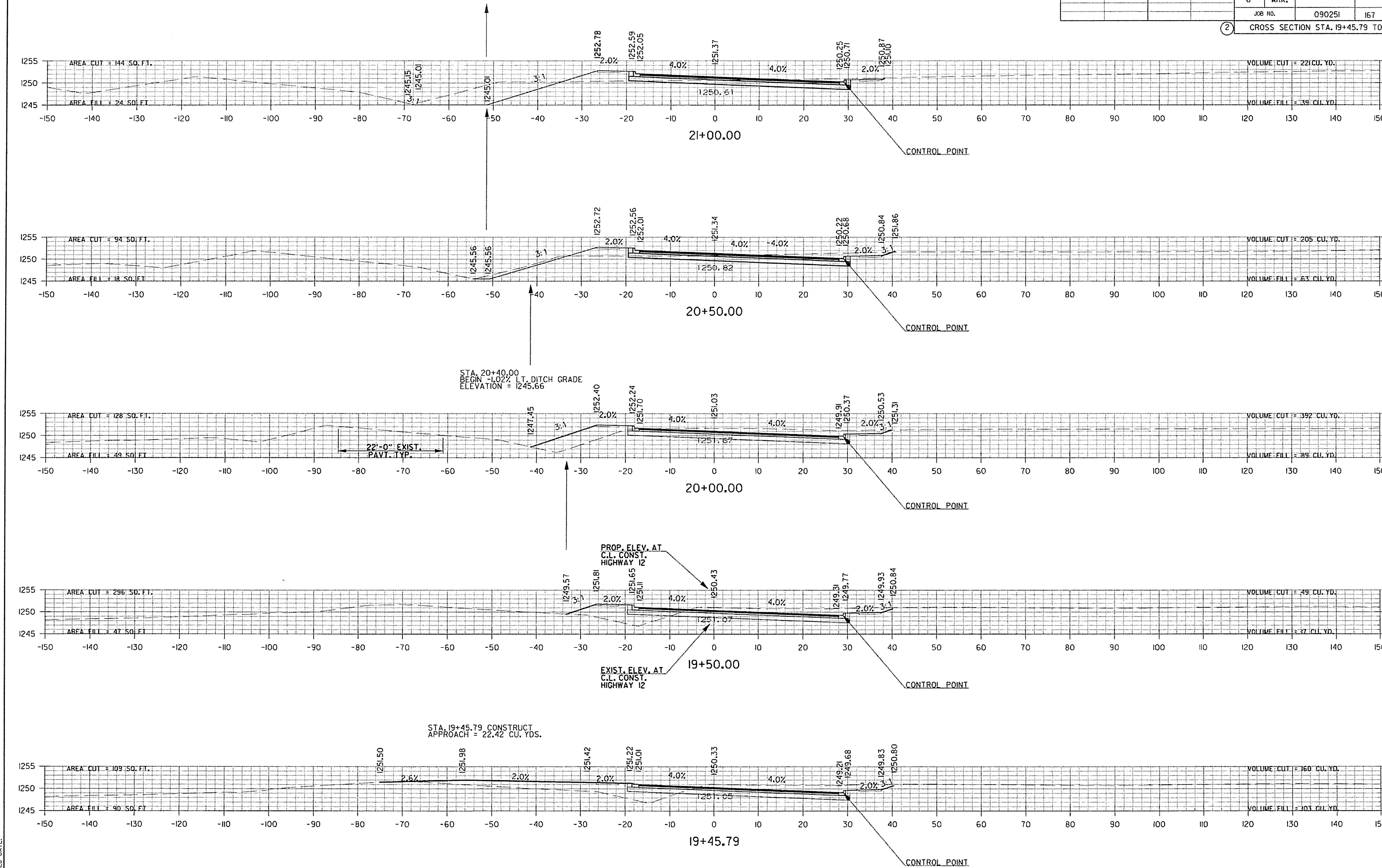
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	167	255

(2) CROSS SECTION STA. 19+45.79 TO 21+00



STA. 19+45.79 TO STA. 21+00

twmccormick 4/18/2013 2:08:38 PM
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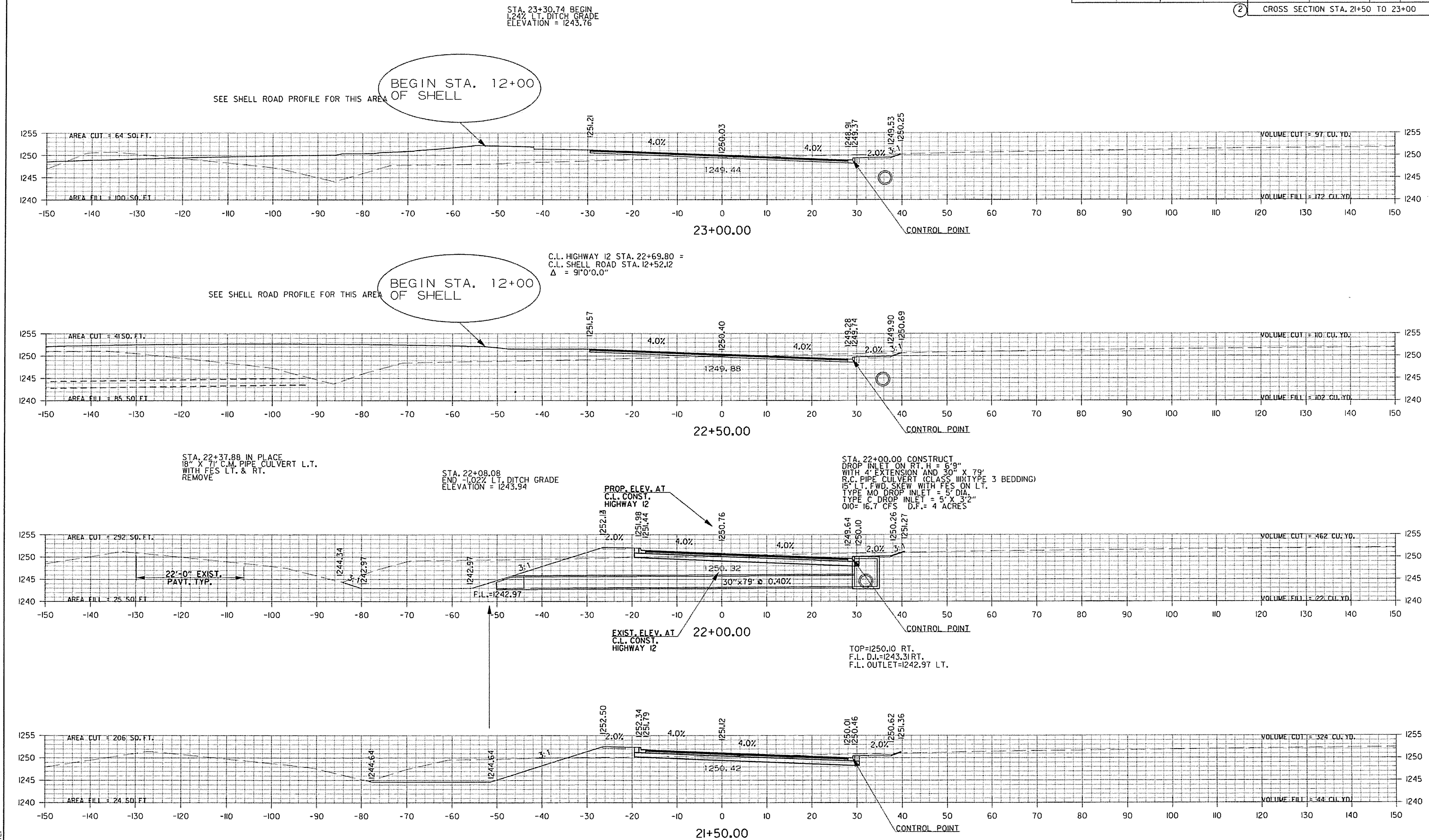
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	168	255

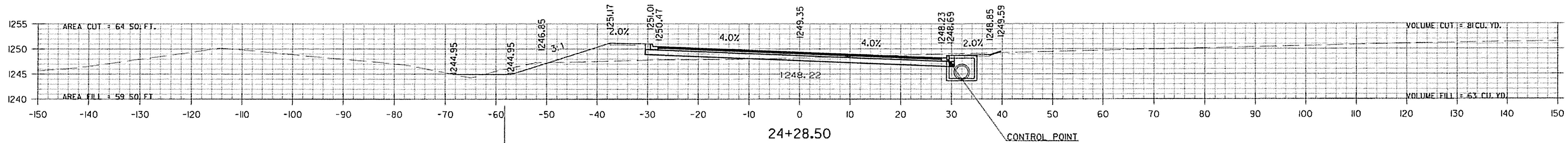
(2) CROSS SECTION STA. 21+50 TO 23+00



STA. 21+50 TO STA. 23+00

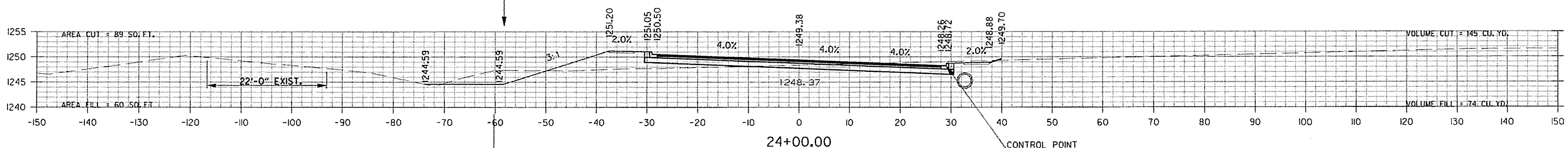
twmccormick 4/8/2013 2:08:38 PM
WORKSPACE: AHTD
X:\2008\08053550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

STA. 24+28.50 CONSTRUCT
DROP INLET ON RT. H = 4' 6"
WITH 8' EXTENSION AND 30" x 59'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3'2"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 59 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 59 LIN. FT.



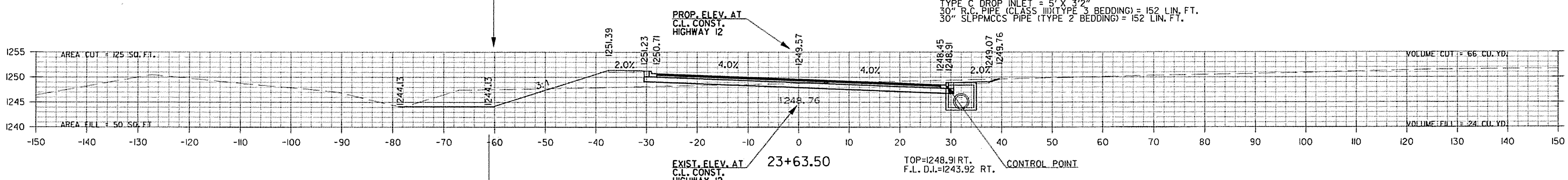
24+28.50

TOP=1248.69 RT.
F.L. INVERT=1244.65 RT.
F.L. D.I.=1244.15 RT.



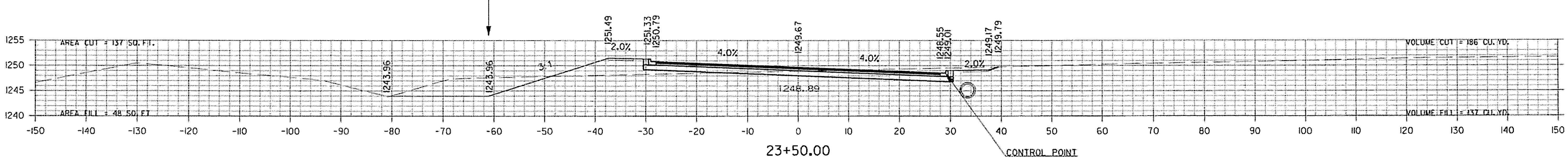
24+00.00

STA. 23+63.50 CONSTRUCT
DROP INLET ON RT. H = 5' 0"
WITH 30" x 152'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3'2"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 152 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 152 LIN. FT.



23+63.50

TOP=1248.91 RT.
F.L. D.I.=1243.92 RT.



23+50.00

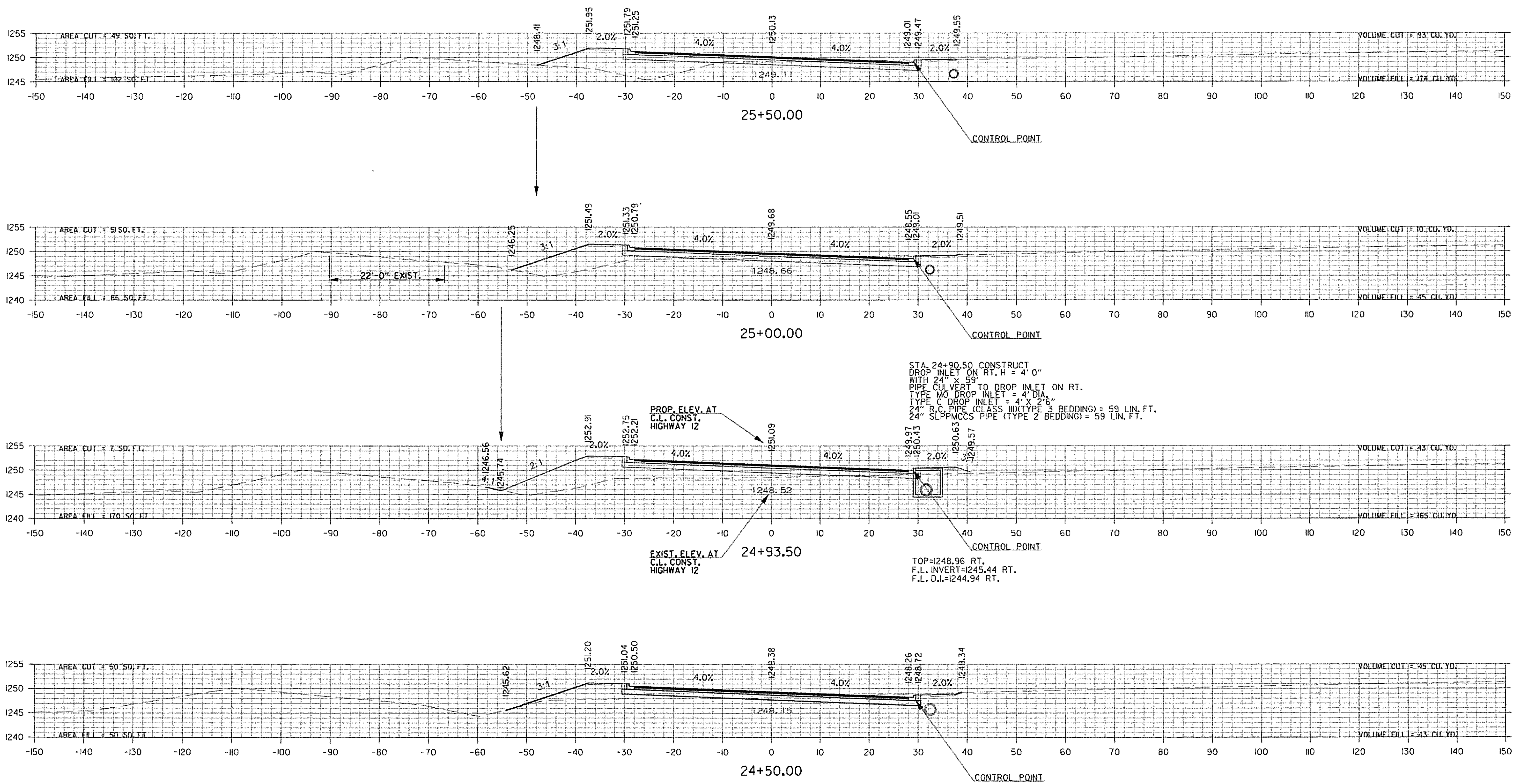
2.0%

STA. 23+50 TO STA. 24+28.50

twmccormick 4/8/2013 2:08:39 PM
WORKSPACE: AHTD
X:\2008\08053550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	170	255

(2) CROSS SECTION STA. 24+50 TO 25+50



STA. 24+50 TO STA. 25+50

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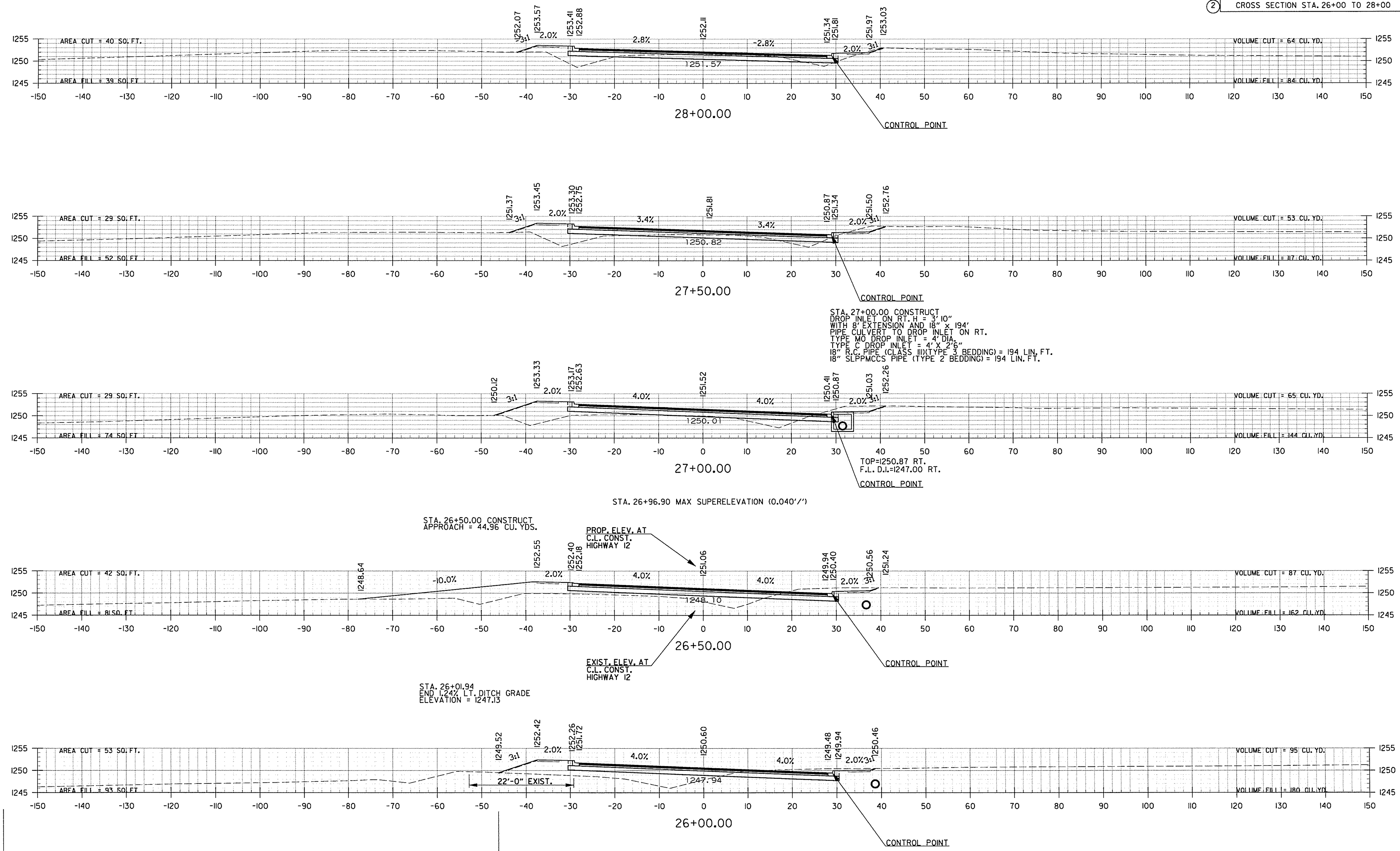
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	171	255

(2) CROSS SECTION STA. 26+00 TO 28+00



STA. 26+00 TO STA. 28+00

djcobb 1/10/2014 3:02:45 PM
WORKSPACE: AHTDXM
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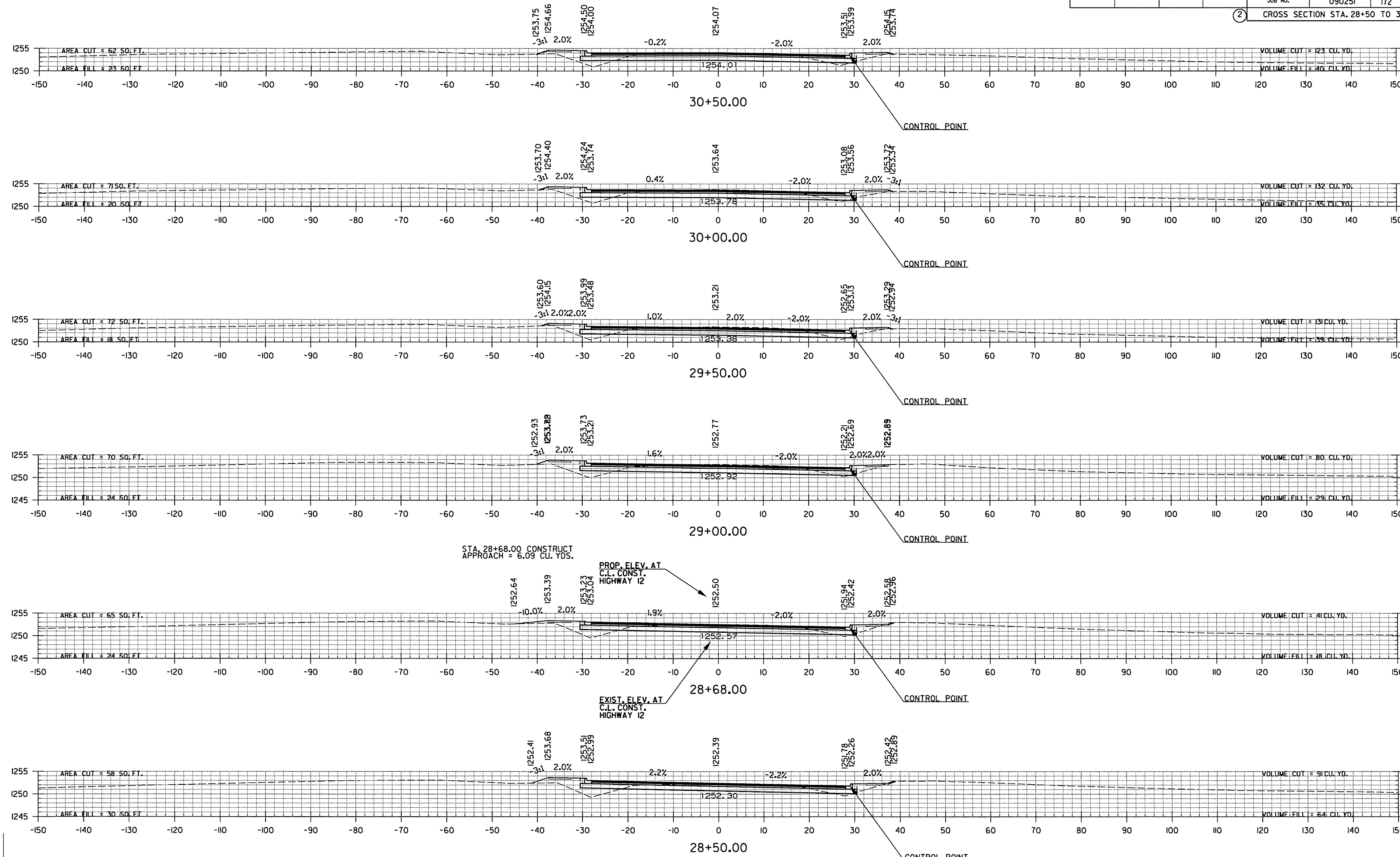
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	172	255

(2) CROSS SECTION STA. 28+50 TO 30+50



STA. 28+50 TO STA. 30+50

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WORKSPACE: AHTD
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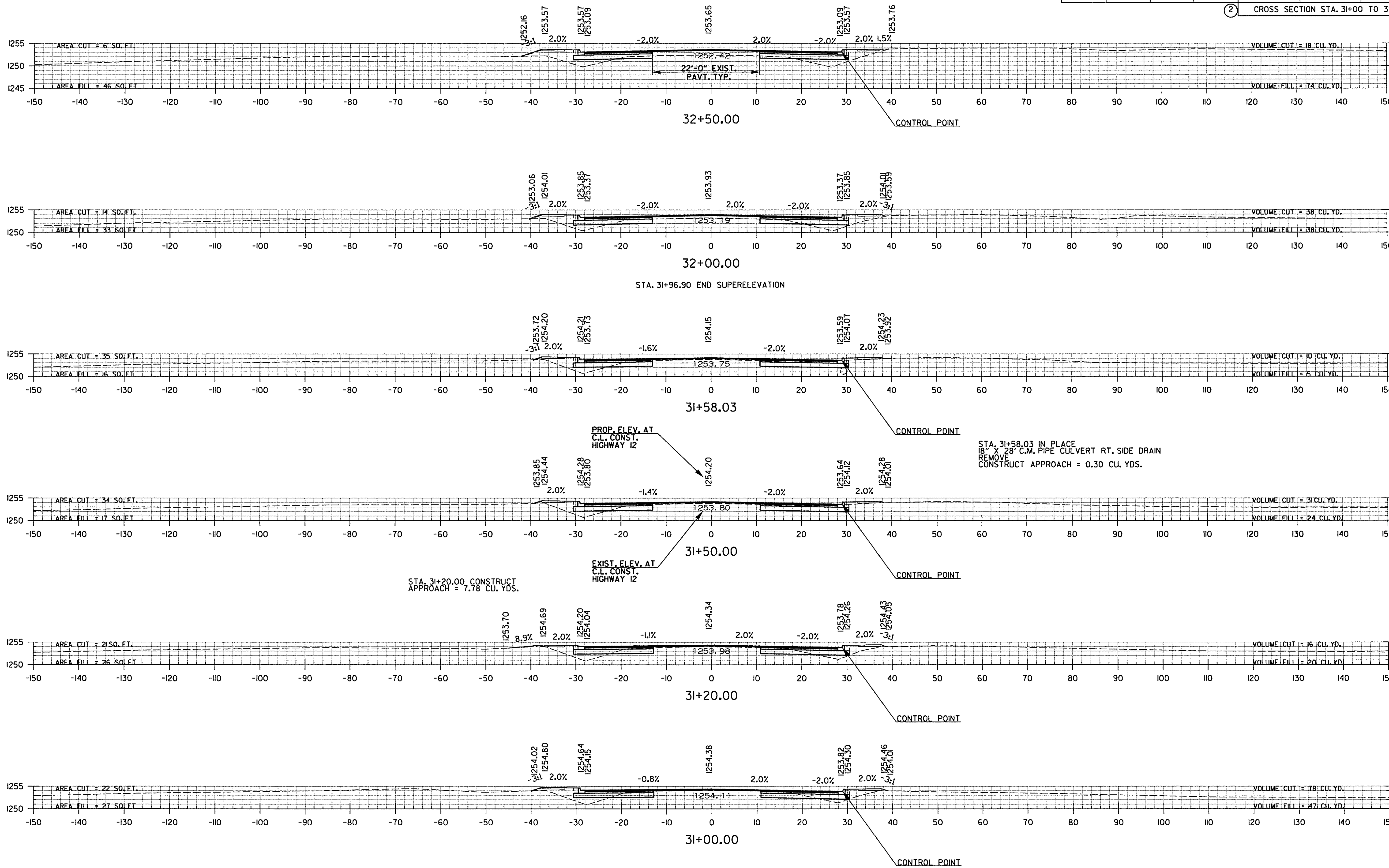
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	173	255

(2) CROSS SECTION STA. 31+00 TO 32+50



STA. 31+00 TO STA. 32+50

djcobb
WORKSPACE: AHTDXM
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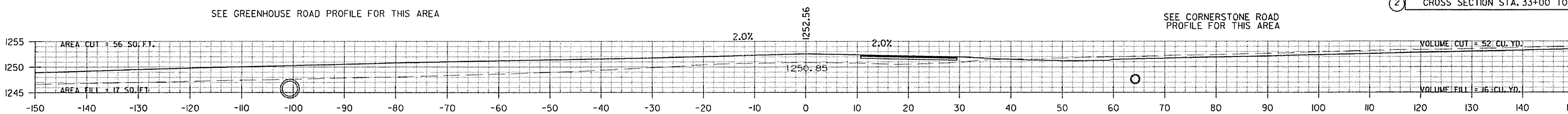
12/2... 12:58:42 PM
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	174	255

(2) CROSS SECTION STA. 33+00 TO 34+50

SEE GREENHOUSE ROAD PROFILE FOR THIS AREA

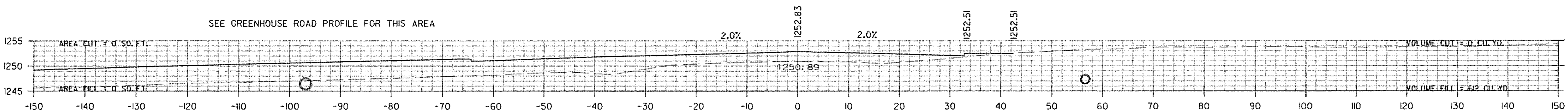
SEE CORNERSTONE ROAD PROFILE FOR THIS AREA



34+50.00

C.L. HIGHWAY 12 STA. 34+35.75 =
C.L. GREENHOUSE ROAD STA. 12+39.52
Δ = 89°15'05.0"

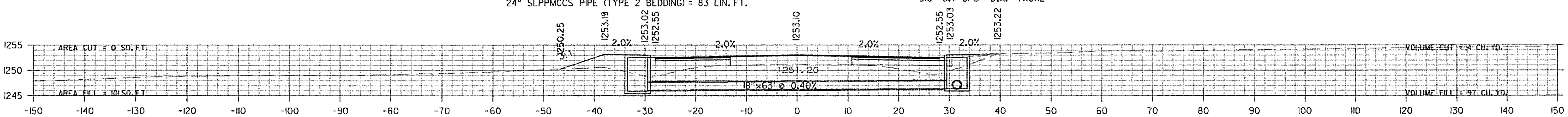
SEE GREENHOUSE ROAD PROFILE FOR THIS AREA



34+00.00

STA. 33+50.00 CONSTRUCT
DROP INLET ON LT. H = 7' 2"
WITH 4' EXTENSION AND 24" x 83'
R.C. PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 83 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 83 LIN. FT.

STA. 33+50.00 CONSTRUCT
DROP INLET ON RT. H = 6' 8"
WITH 4' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 5.7 CFS D.A.= 1 ACRE

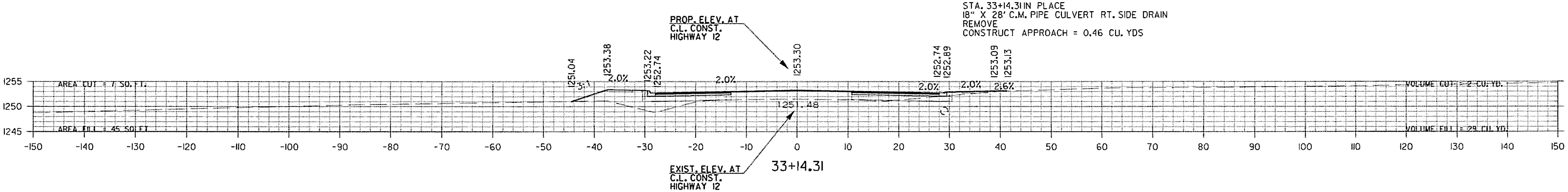


33+50
TOP=1253.03 LT.
F.L. INVERT=1246.14 LT.
F.L. D.I.=1245.89 LT.

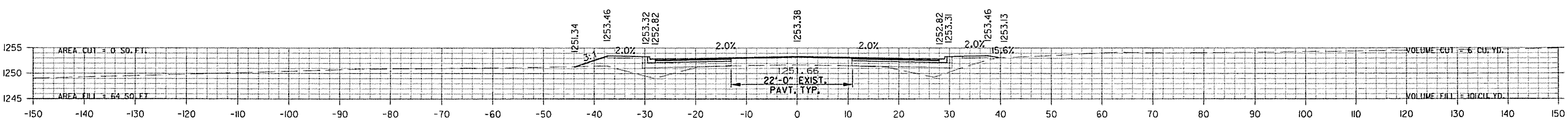
33+50.00

33+50
TOP=1253.03 RT.
F.L. D.I.=1246.39 RT.

STA. 33+14.31 IN PLACE
18" X 28' C.M. PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 0.46 CU. YDS



33+14.31



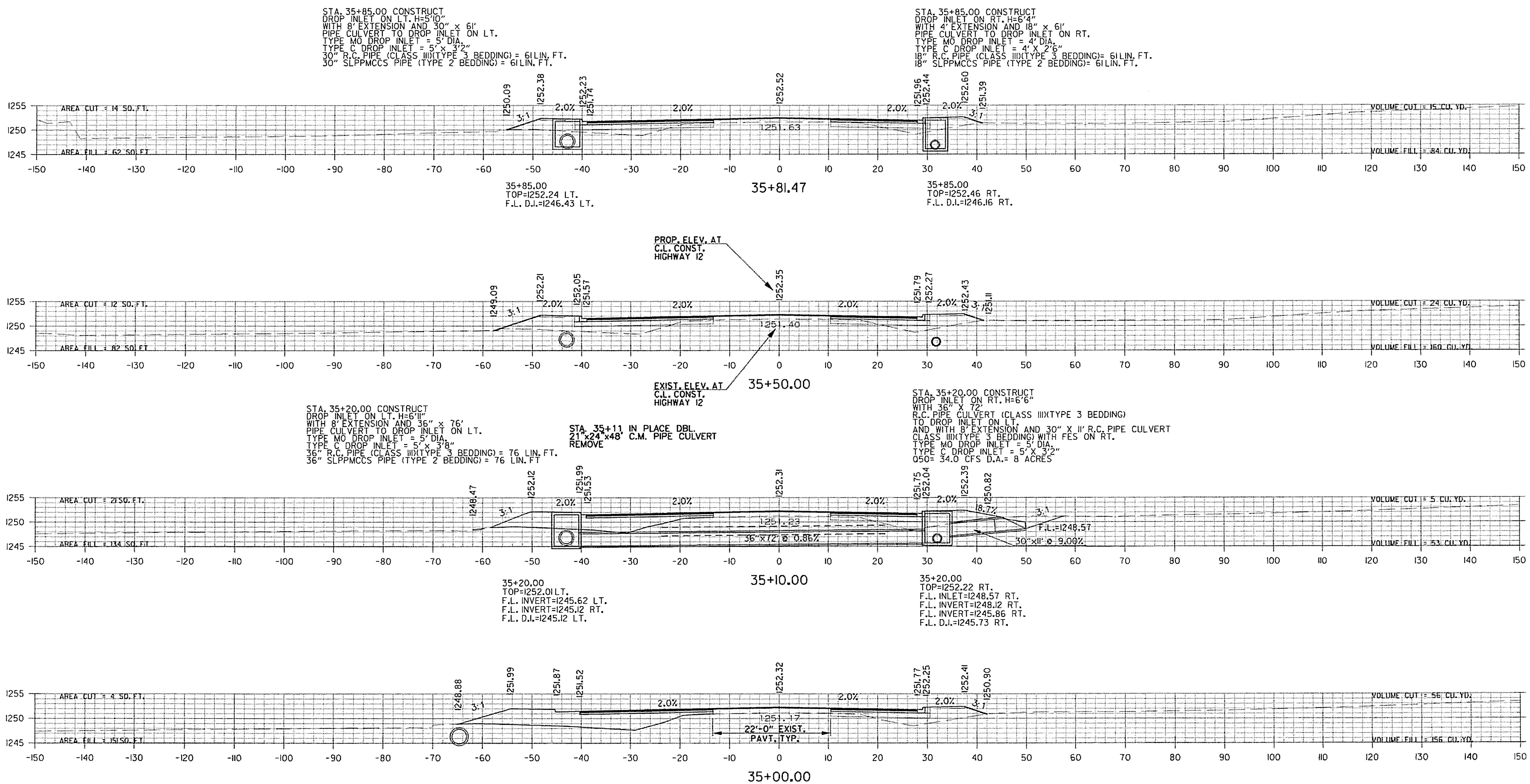
33+00.00

STA. 33+00 TO STA. 34+50

twmccormick 4/18/20?? 2:08:43 PM
WORKSPACE: AHTD
X:\2008\08053550 - Hwy 12\Drawings\Hi2_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	175	255

(2) CROSS SECTION STA. 35+00 TO 35+81.47



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WORKSPACE: AHTD
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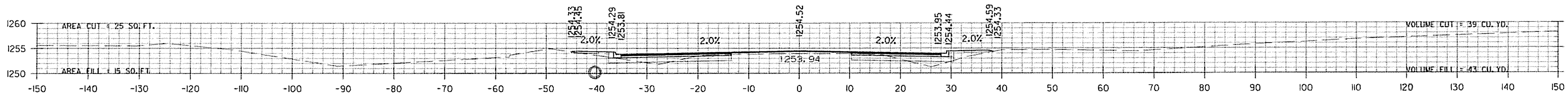
REVISED DATE:

STA. 35+00 TO STA. 35+81.47

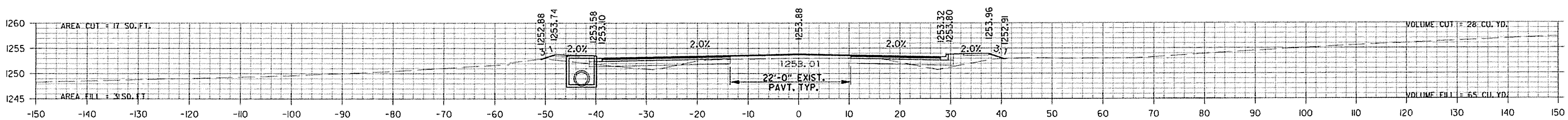
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	176	255

(2) CROSS SECTION STA. 36+00 TO 37+50



37+50.00

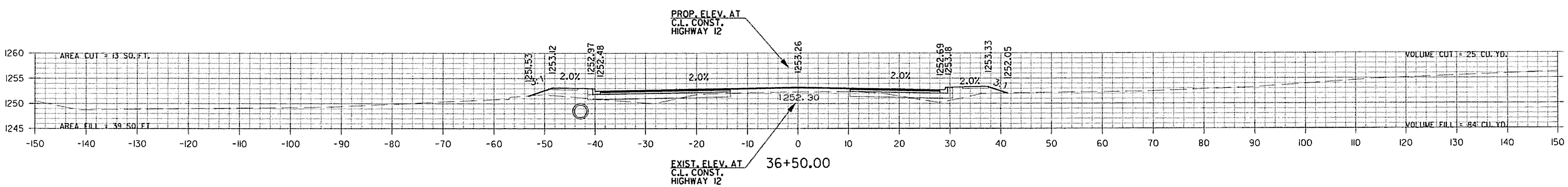
STA. 37+00.00 CONSTRUCT
DROP INLET ON LT. H= 5'9"
WITH 30" x 111'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' x 3'2"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 111 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)= 111 LIN. FT.



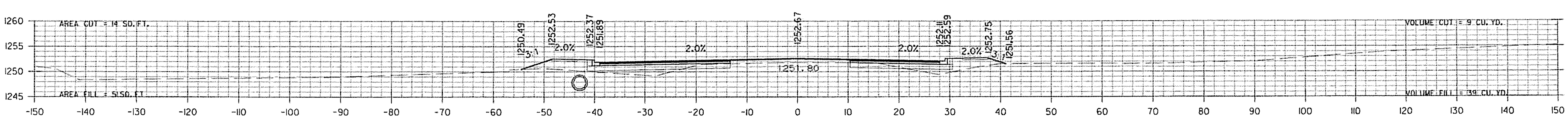
37+00.00

37+00
TOP=1253.58 LT.
F.L. INVERT=1248.34
F.L. J.B.= 1247.84

STA. 37+00.00 BEGIN 150' LEFT LANE TAPER



36+50.00



36+00.00

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WORKSPACE: AHTD
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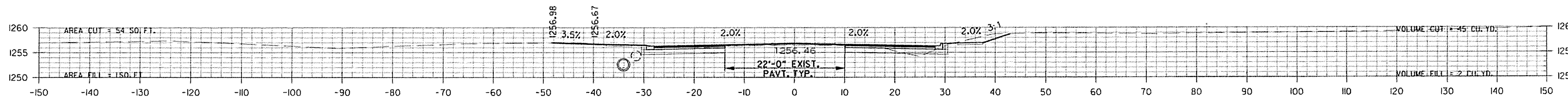
REVISED DATE:

STA. 36+00 TO STA. 37+50

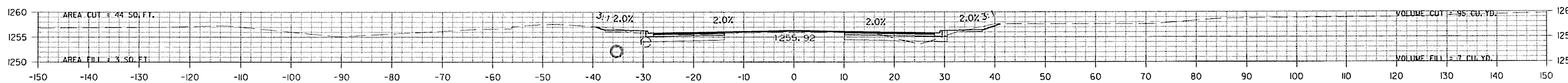
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	177	255

(2) CROSS SECTION STA. 38+00 TO 38+74.53

STA. 38+74.53 IN PLACE
24" x 81' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 8.16 CU. YDS.

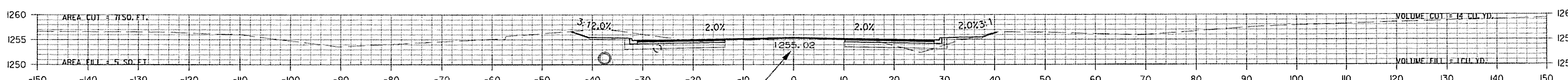


38+74.53



38+50.00

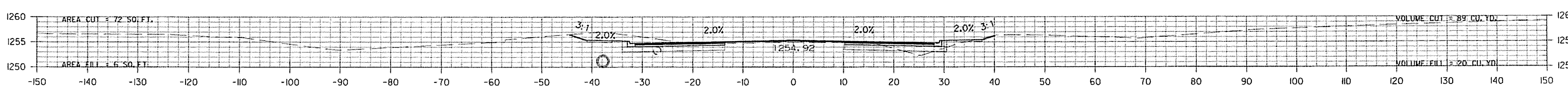
STA. 38+50.00 END 150' LEFT LANE TAPER



38+05.38

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

STA. 38+05.38 IN PLACE
18" x 30' C.M. PIPE CULVERT LT. SIDE DRAIN
REMOVE



38+00.00

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WORKSPACE: AHTD
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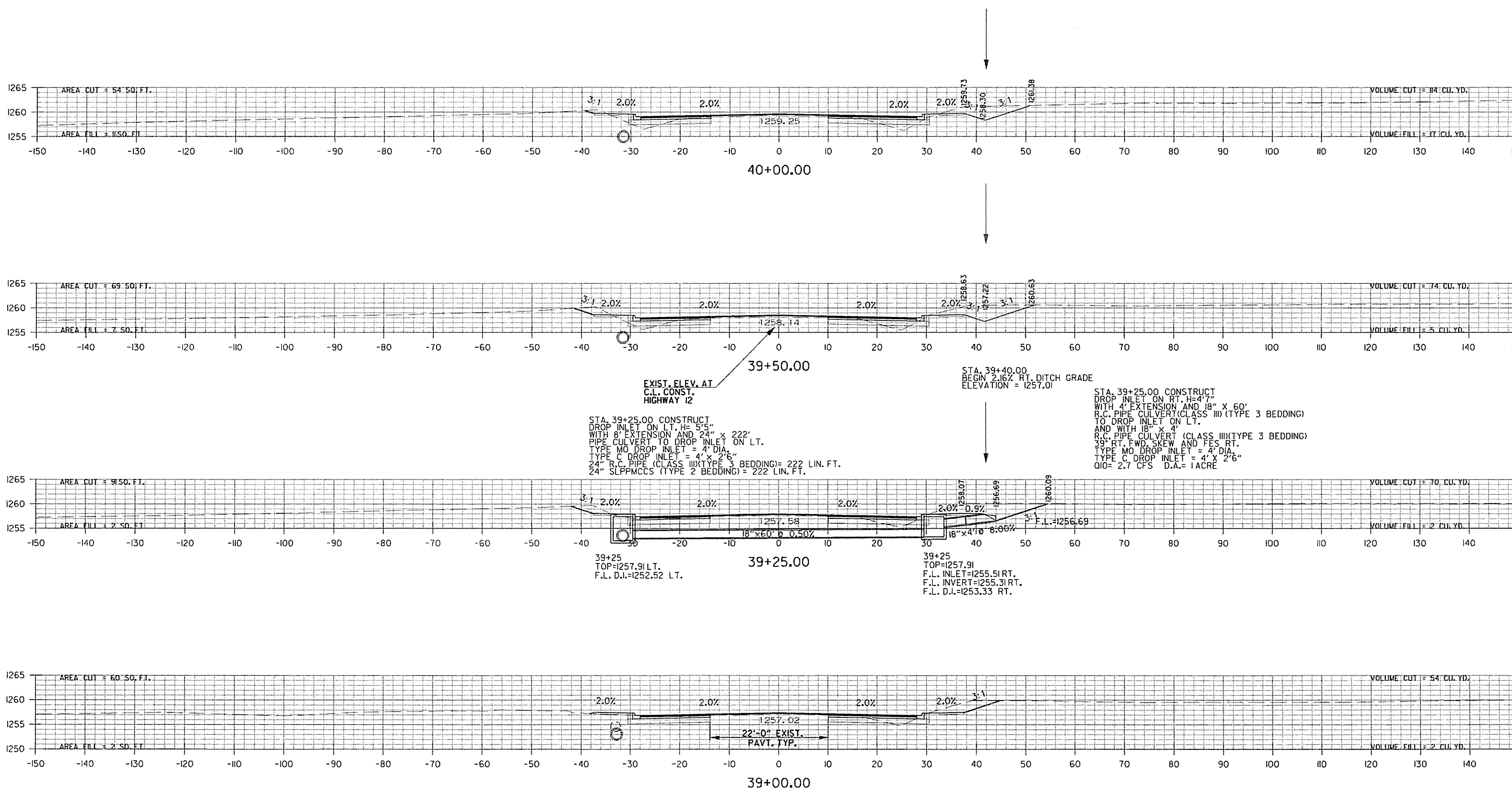
REVISED DATE:

STA. 38+00 TO STA. 38+74.53

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	178	255

(2) CROSS SECTION STA. 39+00 TO 40+00



STA. 39+00 TO STA. 40+00

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WORKSPACE: AHTD ... Hwy 12\Drawings\1112_XS_01.dgn
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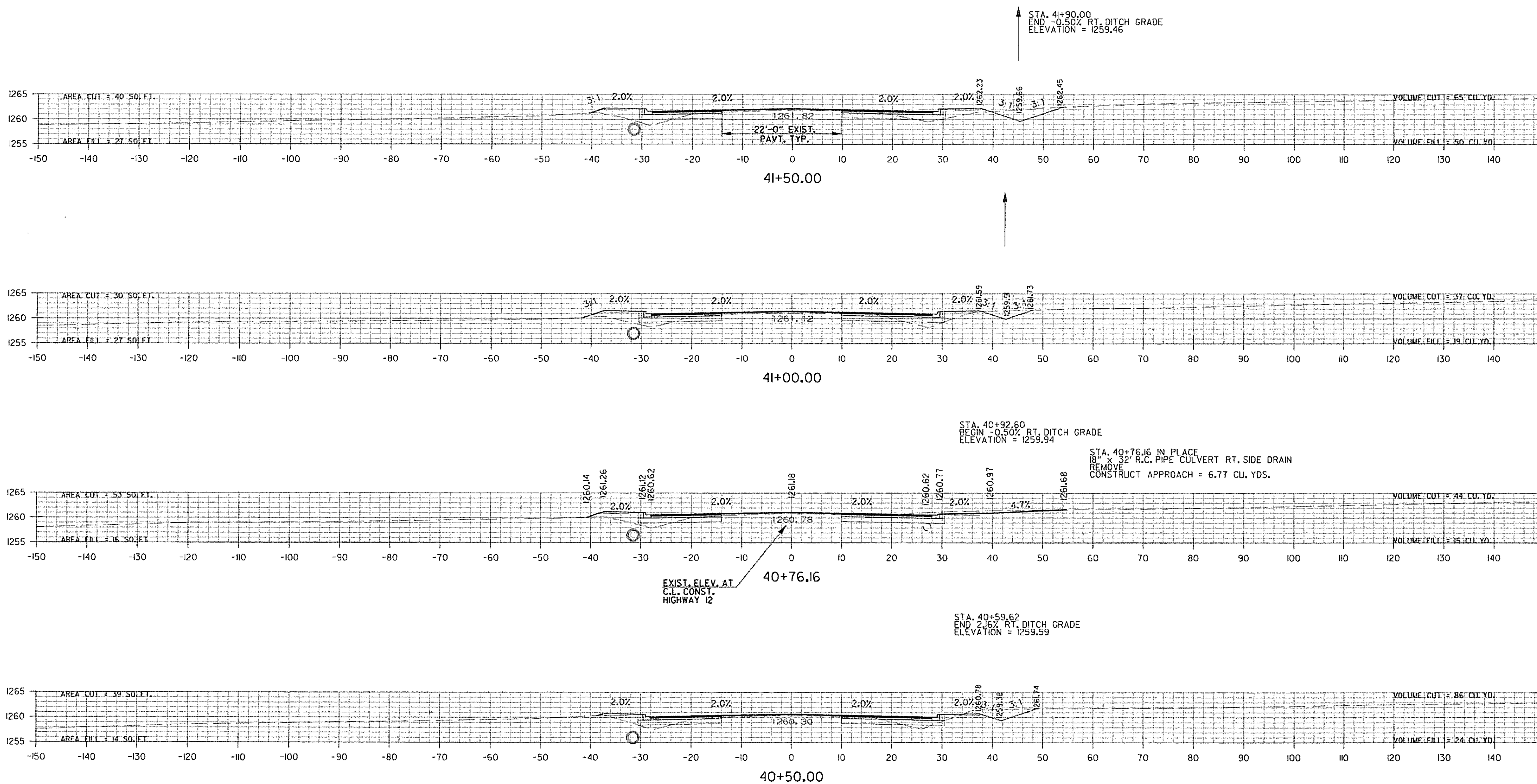
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	179	255

(2) CROSS SECTION STA. 40+50 TO 41+50



STA. 40+50 TO STA. 41+50

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WORKSPACE: AHTD
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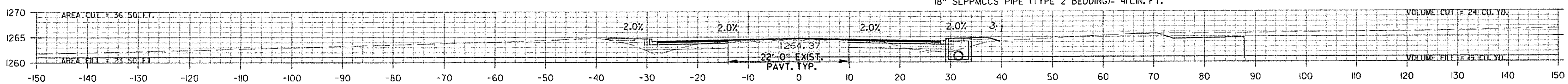
REVISED DATE:

STA. 43+26.76 CONSTRUCT
DROP INLET ON RT. H=4'3"
WITH 4' EXTENSION AND 18" x 41'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 41 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 41 LIN. FT.

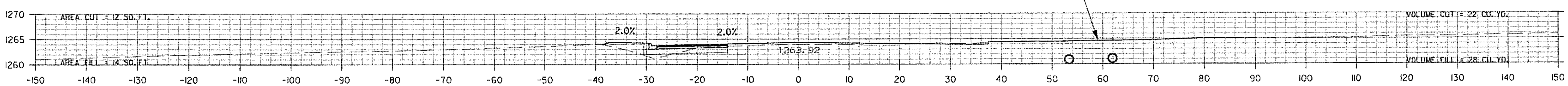


43+26.76

43+26.76
TOP=1264.69 RT.
F.L. INVERT=1261.05 RT.
F.L. D.I.=1260.48 RT.

begins STA 10+50 of stonefield

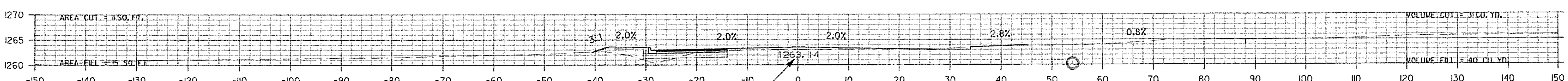
SEE STONEFIELD STREET PROFILE FOR THIS AREA



43+00.00

C.L. HIGHWAY 12 STA. 42+76.99 =
C.L. STONEFIELD STREET STA. 11+09.02
Δ = 89°44'30.9"

SEE STONEFIELD STREET PROFILE FOR THIS AREA

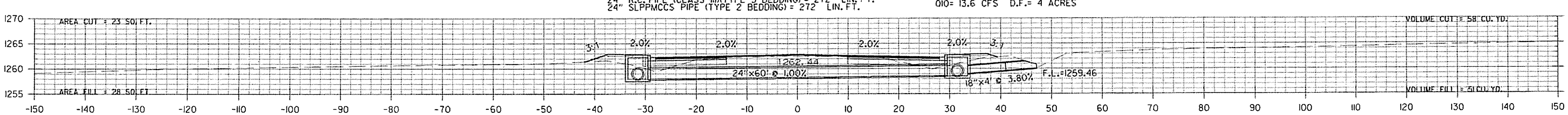


42+50.00

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

STA. 42+00.00 CONSTRUCT
DROP INLET ON LT. H=4'9"
WITH 4' EXTENSION AND 24" x 272'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 272 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 272 LIN. FT.

STA. 42+00.00 CONSTRUCT
DROP INLET ON RT. H=4'2"
WITH 24" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
AND WITH 18" X 4'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
26° RT. FWD SKEW AND FES RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
Q10= 13.6 CFS D.F.= 4 ACRES



42+00
TOP=1262.75 LT.
F.L. D.I.=1257.98 LT.

42+00.00

42+00
TOP=1262.75 RT.
F.L. INLET=1259.46 RT.
F.L. INVERT=1259.00 RT.
F.L. D.I.=1258.55 RT.

STA. 42+00 TO STA. 43+26.76

tvmccormick 4/18/2013 2:08:47 PM
WORKSPACE: AHTD
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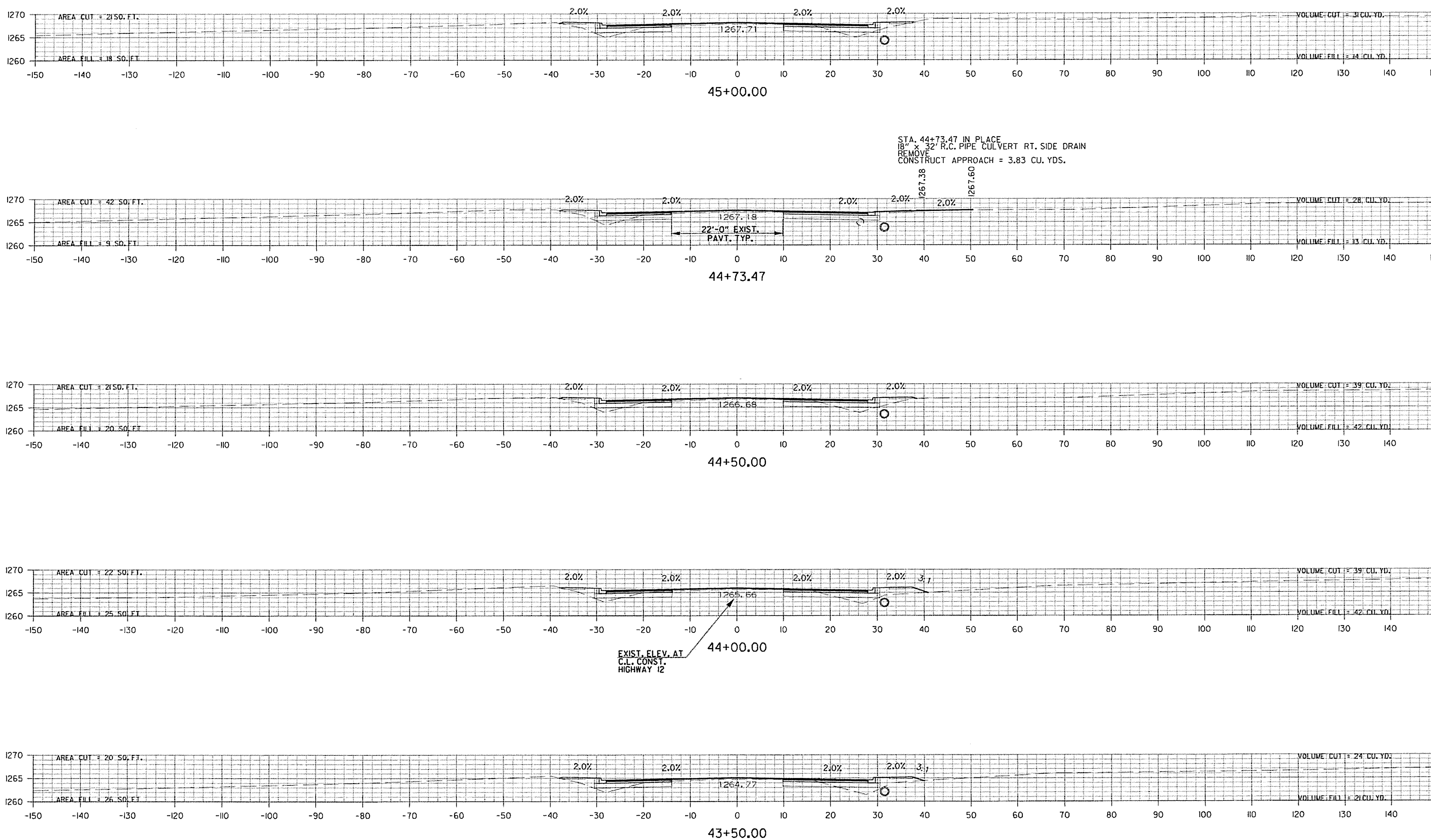
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	181	255

(2) CROSS SECTION STA. 43+50 TO 45+00

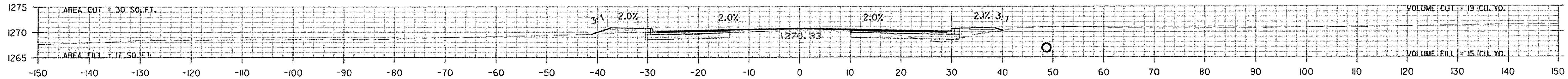


STA. 43+50 TO STA. 45+00

twmccormick 4/18/2013 2:08:48 PM
WORKSPACE: AHTD
X:\2008\080535550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

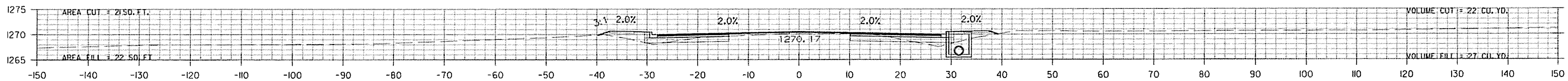
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	182	255

(2) CROSS SECTION STA. 45+50 TO 47+00



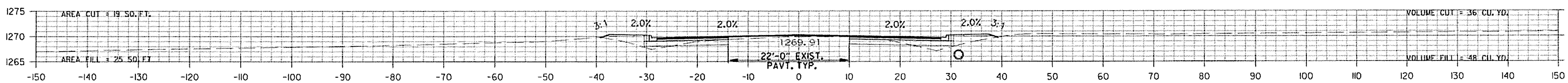
47+00.00

STA. 46+80.00 CONSTRUCT
DROP INLET ON RT. H=4'6"
WITH 18" x 127'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4'X 2'6"
18" R.C. PIPE (CLASS III)
(TYPE 3 BEDDING)= 127 LIN. FT.
18" SLPPMCCS PIPE
(TYPE 2 BEDDING)= 127 LIN. FT.

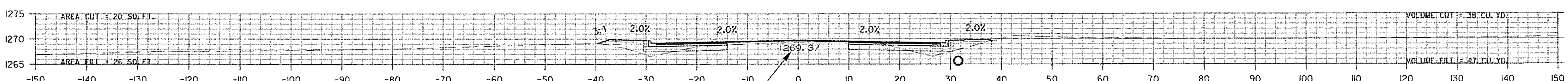


46+80.00

46+80
TOP=1270.50 RT.
F.L. D.I.=1265.98 RT.



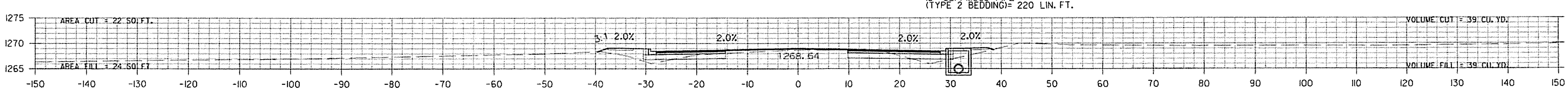
46+50.00



46+00.00

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

STA. 45+50.00 CONSTRUCT
DROP INLET ON RT. H=4'9"
WITH 4' EXTENSION AND 18" x 220'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4'X 2'6"
18" R.C. PIPE (CLASS III)
(TYPE 3 BEDDING)= 220 LIN. FT.
18" SLPPMCCS PIPE
(TYPE 2 BEDDING)= 220 LIN. FT.



45+50.00

45+50
TOP=1268.95 RT.
F.L. D.I.=1264.19 RT.

STA. 45+50 TO STA. 47+00

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WORKSPACE: AHTD
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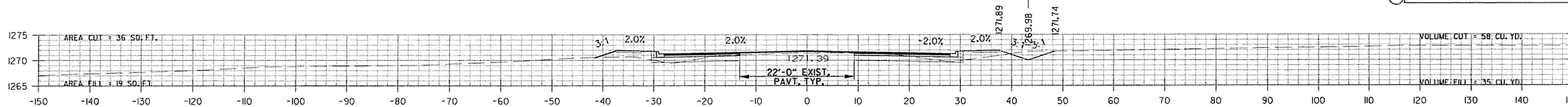
REVISED DATE:

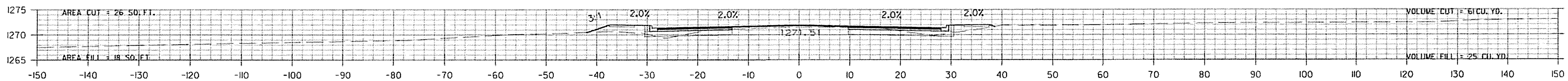
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	183	255

(2) CROSS SECTION STA. 47+50 TO 49+50

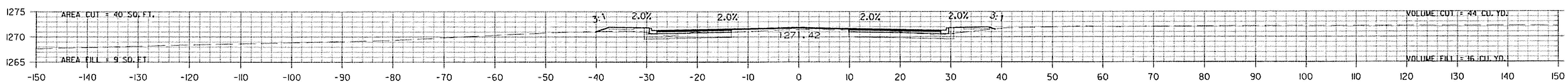


49+50.00

STA. 49+05.08
BEGIN -0.80% RT. DITCH GRADE
ELEVATION = 1270.34



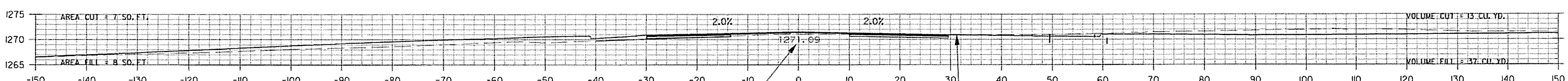
49+00.00



48+50.00

SEE MORNINGSTAR ROAD PROFILE FOR THIS AREA

SEE MORNINGSTAR ROAD PROFILE FOR THIS AREA



EXIST. ELEV. AT C.L. CONST. HIGHWAY 12

48+00.00

STA. 47+94.48 CONSTRUCT
DROP INLET ON RT. H=4'0"
WITH 4' EXTENSION AND 18" x 44'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET= 4' X 2'6"
Q10= 1.5 CFS D.A.= 0 ACRES

47+94.48
TOP=1270.66 RT.
F.L. D.I.=1266.65 RT.

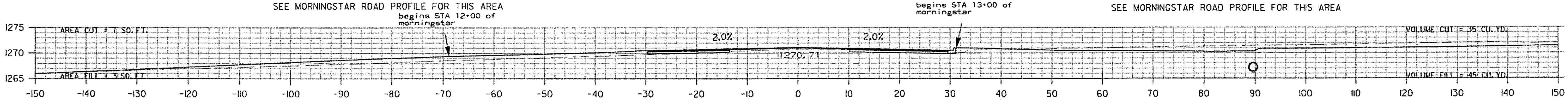
C.L. HIGHWAY 12 STA. 47+69.89 =
C.L. MORNINGSTAR ROAD STA. 12+68.79
Δ = 89°56'36.6"

SEE MORNINGSTAR ROAD PROFILE FOR THIS AREA

begins STA 12+00 of morningstar

begins STA 13+00 of morningstar

SEE MORNINGSTAR ROAD PROFILE FOR THIS AREA



47+50.00

STA. 47+47.48 CONSTRUCT
DROP INLET ON RT. H=4'4"
WITH 4' EXTENSION AND 18" x 86'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)
(TYPE 3 BEDDING)= 86 LIN. FT.
18" SLPPMCCS PIPE
(TYPE 2 BEDDING)= 86 LIN. FT.

47+47.48
TOP=1270.80 RT.
F.L. D.I.=1266.42 RT.

STA. 47+50 TO STA. 49+50

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WORKSPACE: AHTD Hwy 12\Drawings\H12_XS_01.dgn
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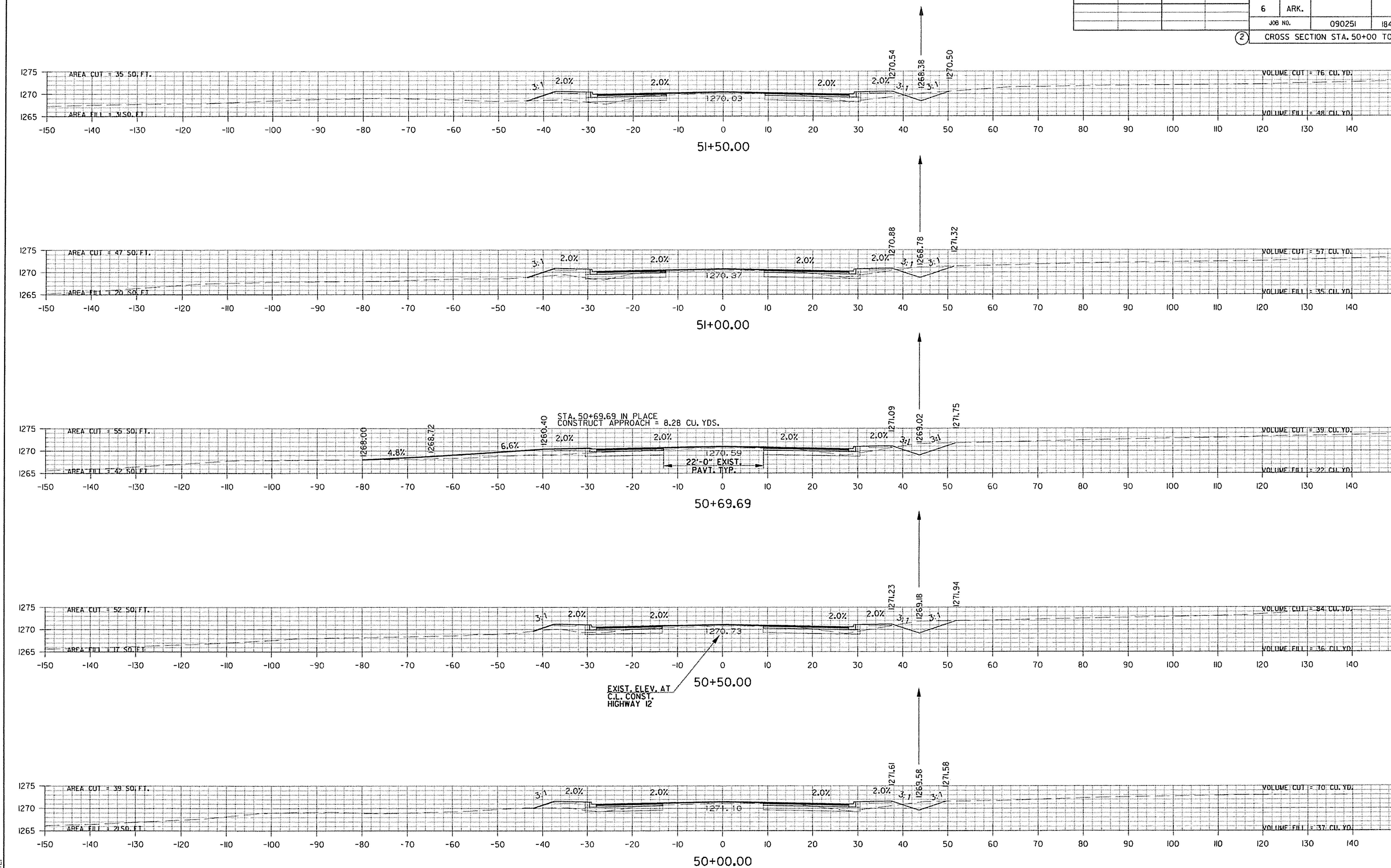
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	184	255

(2) CROSS SECTION STA. 50+00 TO 51+50



STA. 50+00 TO STA. 51+50

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WORKSPACE: AHTD
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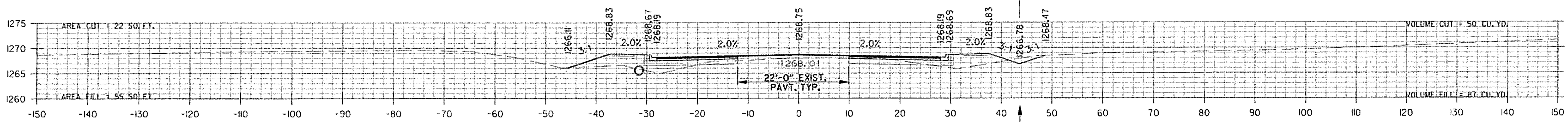
REVISED DATE:

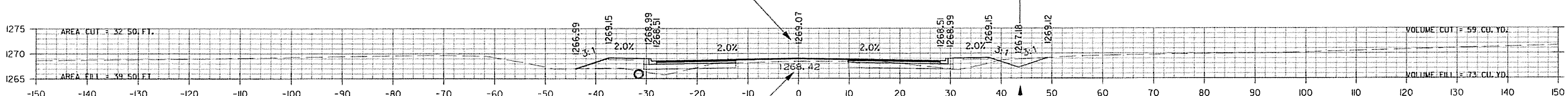
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	185	255

(2) CROSS SECTION STA. 52+00 TO 53+50



53+50.00

PROP. ELEV. AT C.L. CONST. HIGHWAY 12

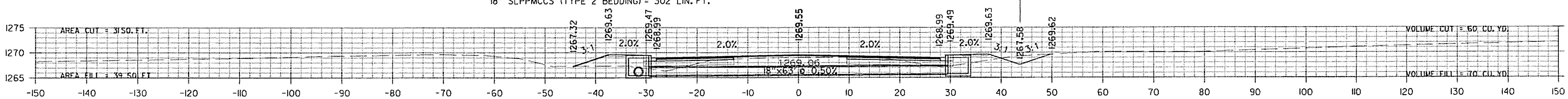


53+00.00

EXIST. ELEV. AT C.L. CONST. HIGHWAY 12

STA. 52+50.00 CONSTRUCT
DROP INLET ON LT. H = 4'0"
WITH 8' EXTENSION AND 18" X 302'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 302 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 302 LIN. FT.

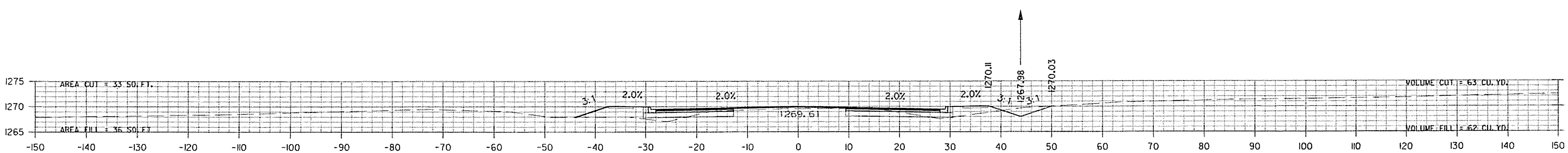
STA. 52+50.00 CONSTRUCT
DROP INLET ON RT. H = 3'8"
WITH 8' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 1.5 CFS D.A.= 0 ACRES



52+50
TOP=1269.47 LT.
F.L. D.I.=1265.47 LT.

52+50.00

52+50
TOP=1269.47 RT.
F.L. D.I.=1265.78 RT.



52+00.00

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WORKSPACE: AHTD
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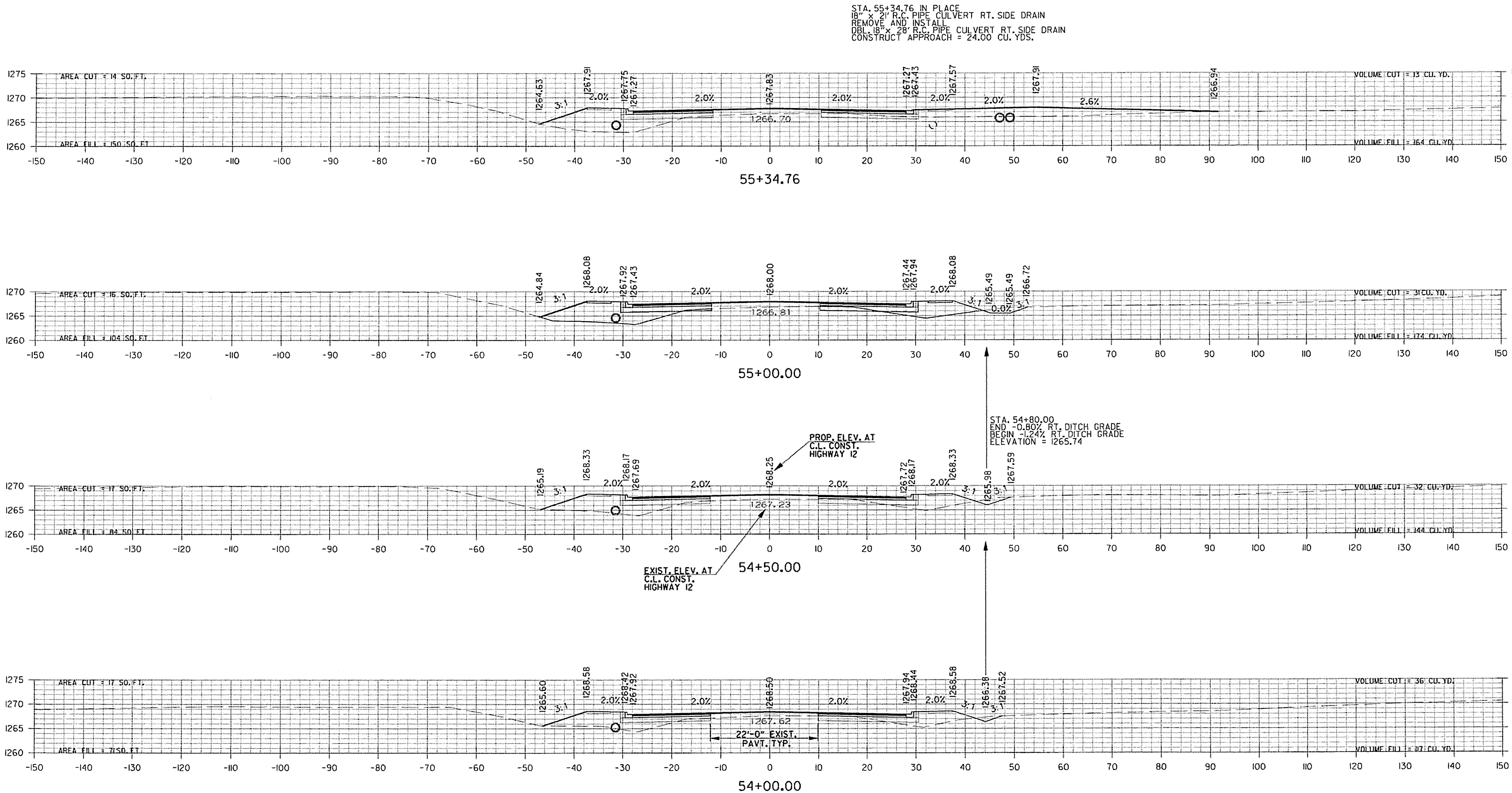
REVISED DATE:

STA. 52+00 TO STA. 53+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	186	255

(2) CROSS SECTION STA. 54+00 TO 55+34.76



STA. 54+00 TO STA. 55+34.76

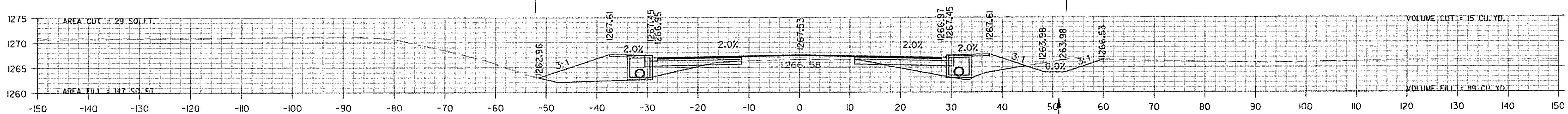
twmccormick 4/18/2013 2:08:51 PM
WORKSPACE: AHTD
X:\2008\080S3550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	187	255

(2) CROSS SECTION STA. 55+50 TO 56+22

STA. 56+22.00 CONSTRUCT
DROP INLET ON LT. H =4' II"
WITH 8' EXTENSION AND 18" X 60'
PIPE CULVERT TO BOX CULVERT ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 60 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 60 LIN. FT.

STA. 56+22.00 CONSTRUCT
DROP INLET ON RT. H = 4' I"
WITH 8' EXTENSION AND 18" X 60'
PIPE CULVERT TO BOX CULVERT ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 60 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)= 60 LIN. FT.

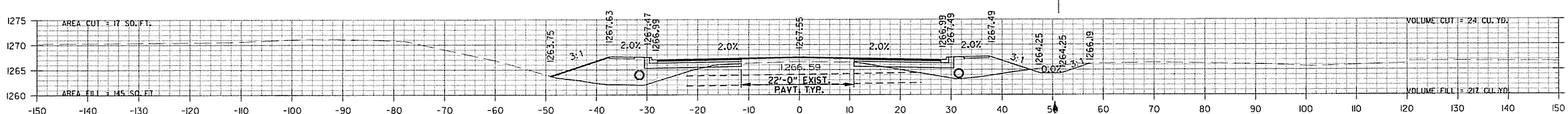


56+22
TOP=1267.45 LT.
F.L. INVERT=1263.07 LT.
F.L. D.I.=1262.57 LT.

56+22.00

56+22
TOP=1267.45 RT.
F.L. D.I.=1263.37 RT.

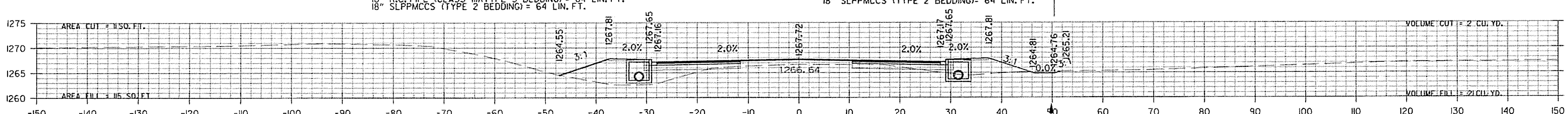
STA. 56+08 IN PLACE
24"x50' RCP PIPE CULVERT
PLUG AND ABANDON



56+00.00

STA. 55+55.00 CONSTRUCT
DROP INLET ON LT. H = 4'2"
WITH 4' EXTENSION AND 18" x 64'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 64 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 64 LIN. FT.

STA. 55+55.00 CONSTRUCT
DROP INLET ON RT. H = 4'0"
WITH 4' EXTENSION AND 18" x 64'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 64 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)= 64 LIN. FT.

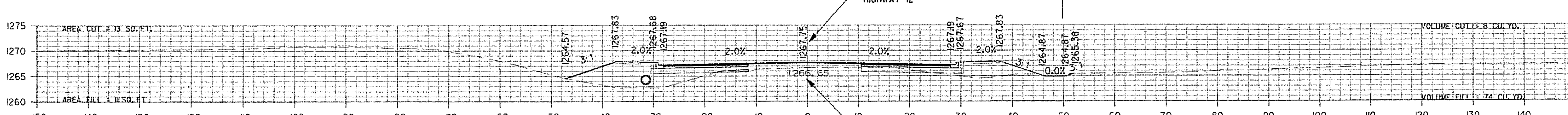


55+55
TOP=1267.64 LT.
F.L. D.I.=1263.49 LT.

55+55.00

55+55
TOP=1267.65 RT.
F.L. D.I.=1263.68 RT.

PROP. ELEV. AT
C.L. CONST.
HIGHWAY 12



55+50.00

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

STA. 55+50 TO STA. 56+22

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	188	255

(2) CROSS SECTION STA. 56+50 TO 57+00

STA. 57+41.59
END 0.00% RT. DITCH GRADE
BEGIN -1.78% RT. DITCH GRADE
ELEVATION = 1262.71

STA. 57+24.41
END -1.24% RT. DITCH GRADE
BEGIN 0.00% RT. DITCH GRADE
ELEVATION = 1262.71

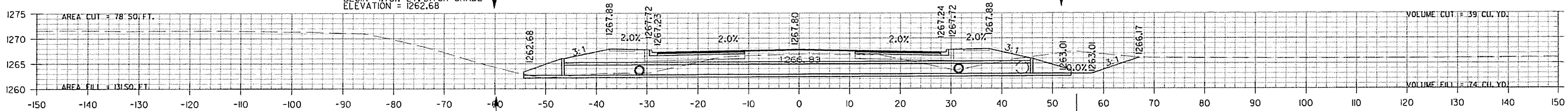
F.L. INLET=1262.71

STA.57+24.59
END -1.75% LT. DITCH GRADE
ELEVATION = 1262.25

STA.57+00.00
BEGIN -1.75% LT. DITCH GRADE
ELEVATION = 1262.68

F.L. OUTLET=1262.25

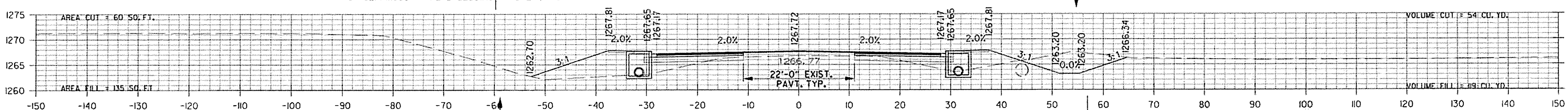
STA. 57+33.00 CONSTRUCT
DOUBLE 4' x 2' x 93' BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 78 CFS D.A. = 26 ACRES



57+00.00

STA. 56+85.00 CONSTRUCT
DROP INLET ON LT. H = 5'5"
WITH 4' EXTENSION AND 18" x 43'
PIPE CULVERT TO BOX CULVERT ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 43 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 43 LIN. FT.

STA. 56+85.00 CONSTRUCT
DROP INLET ON RT. H = 4'9"
WITH 4' EXTENSION AND 18" x 43'
PIPE CULVERT TO BOX CULVERT ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 43 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)= 43 LIN. FT.

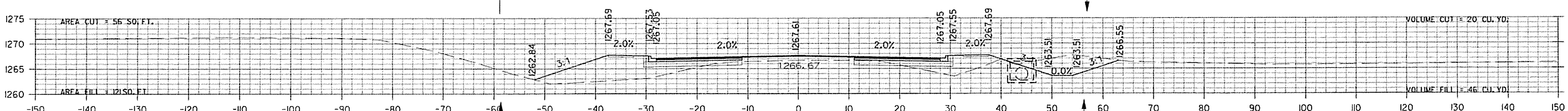


56+85
TOP=1267.64 LT.
F.L. D.I.=1262.24 LT.
F.L. OUTLET=1261.98 LT.

56+85.00

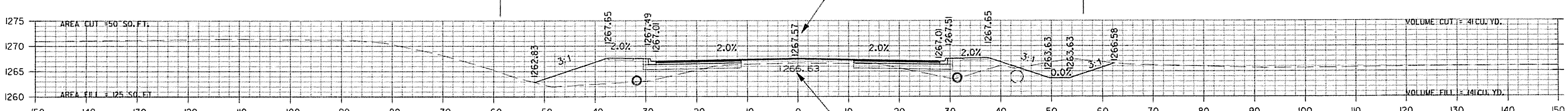
56+85
TOP=1267.65 RT.
F.L. D.I.=1262.94 RT.
F.L. OUTLET=1262.66 RT.

STA. 56+60.00 IN PLACE
5' DIA. JUNCTION BOX RT.
WITH 30" X 32' R.C. PIPE CULVERT AND FES RT.
WITH 30" X 384' R.C. PIPE CULVERT
REMOVE



56+60.00

PROP. ELEV. AT
C.L. CONST.
HIGHWAY 12



56+50.00

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

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WORKSPACE: AHTD ...Hwy 12\Drawings\H12_XS_01.dgn
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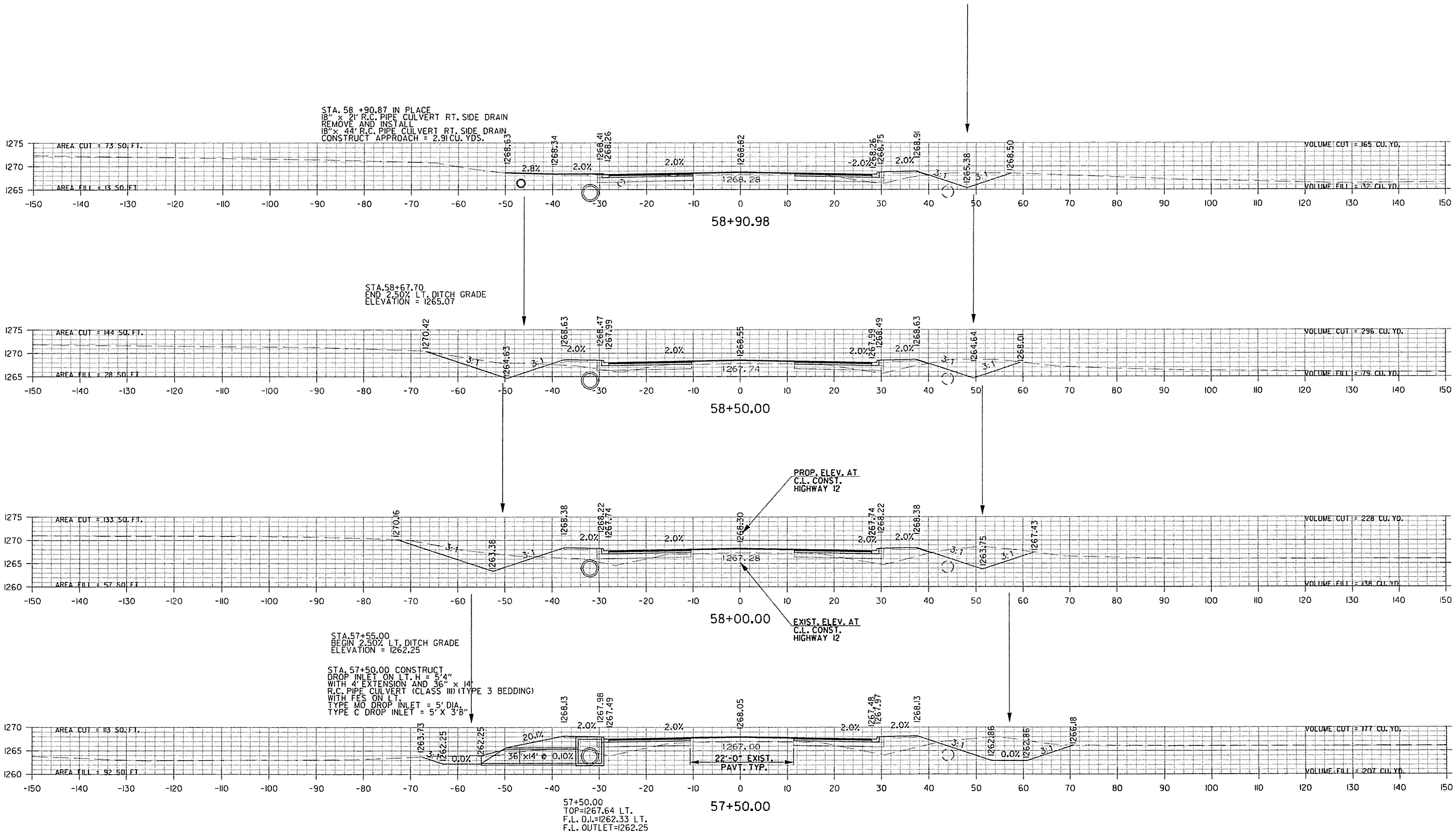
REVISED DATE:

STA. 56+50 TO STA. 57+00

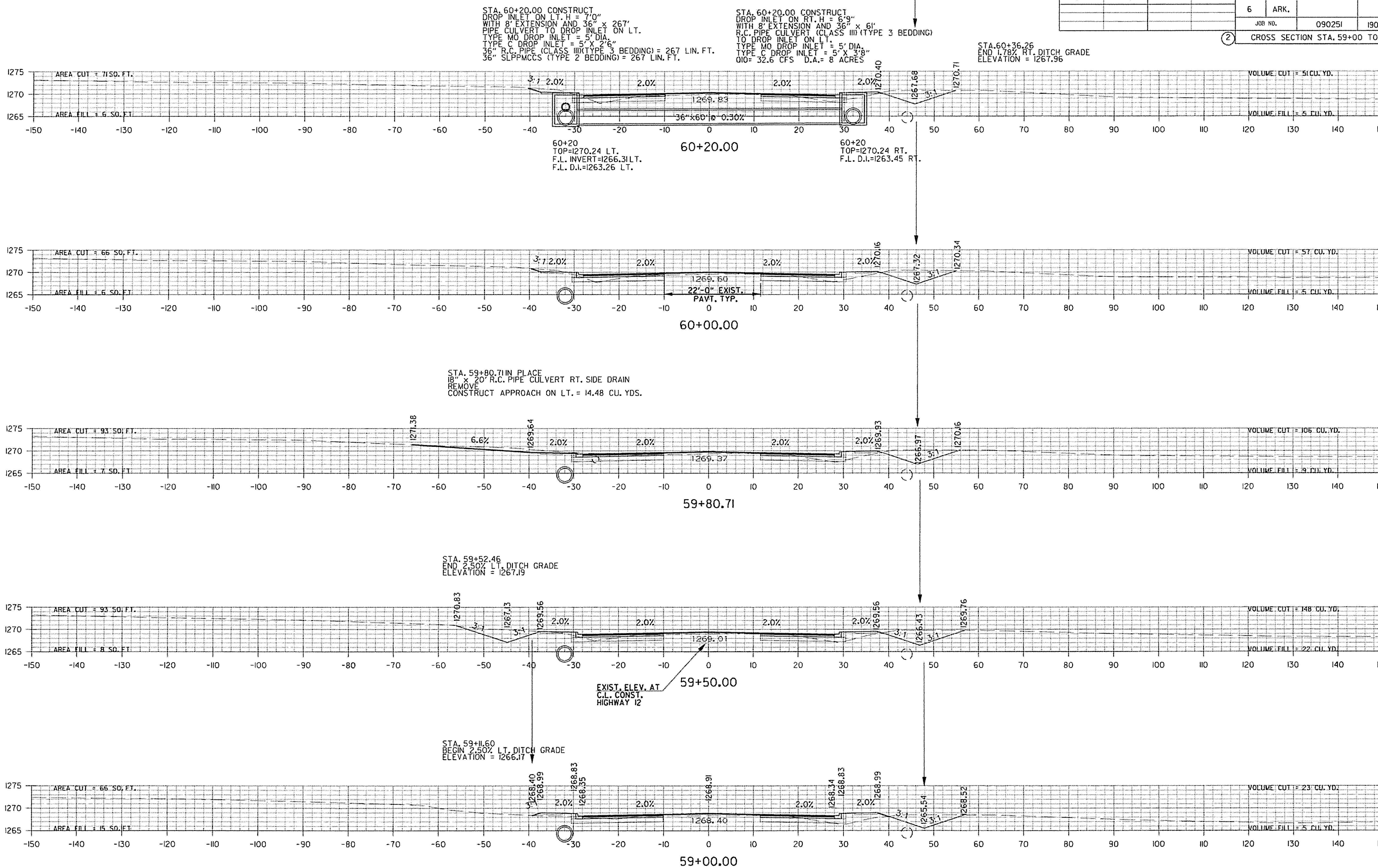


STA. 57+50 TO STA. 58+90.98

twmccormick 4/18/2013 2:08:53 PM
WORKSPACE: AHTD Hwy 12\Drawings\H12_XS_01.dgn
X:\2008\080535S0 -
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	190	255

(2) CROSS SECTION STA. 59+00 TO 60+20



STA. 59+00 TO STA. 60+20

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WORKSPACE: AHTD
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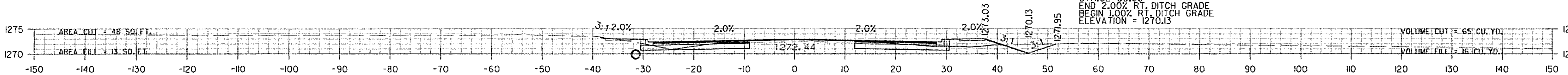
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	191	255

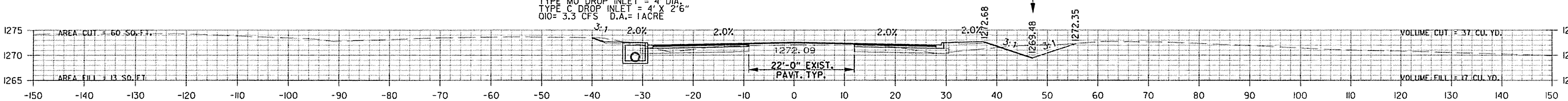
(2) CROSS SECTION STA. 60+50 TO 62+00

STA.62+00.00
END 2.00% RT. DITCH GRADE
BEGIN 1.00% RT. DITCH GRADE
ELEVATION = 1270.13



62+00.00

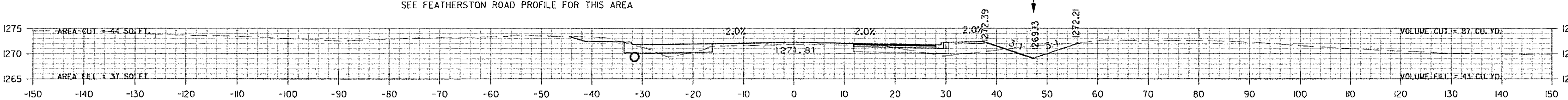
STA. 61+67.77 CONSTRUCT
DROP INLET ON LT. H = 3'8"
WITH 4' EXTENSION AND 18" x 144'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 3.3 CFS D.A.= 1ACRE



61+67.77
TOP=1272.56 LT.
F.L. D.I.=1268.89 LT.

61+67.77

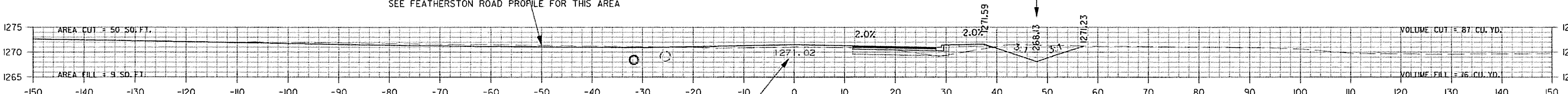
SEE FEATHERSTON ROAD PROFILE FOR THIS AREA



61+50.00

begin STA 10+50 of featherston

SEE FEATHERSTON ROAD PROFILE FOR THIS AREA



EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

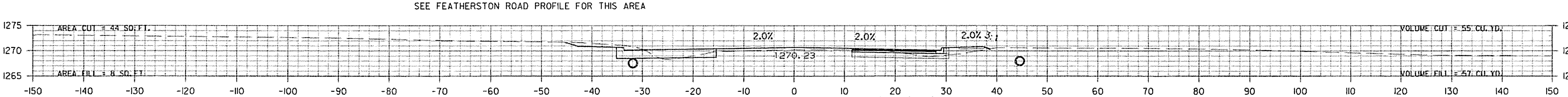
61+00.00

C.L. HIGHWAY 12 STA. 60+98.38 =
C.L. FEATHERSTON ROAD STA. 10+00.00
Δ = 89°55'19.6"

STA.61+00.00 IN PLACE
24" X 84' R.C. PIPE CULVERT LT. SIDE DRAIN
PLUG AND ABANDON

STA.60+80.00
BEGIN 2.00% RT. DITCH GRADE
ELEVATION = 1267.73

SEE FEATHERSTON ROAD PROFILE FOR THIS AREA



60+50.00

STA. 60+46.98 IN PLACE
5' DIA. JUNCTION BOX RT.
REMOVE
30" R.C. PIPE CULVERT
RETAIN

STA. 60+46.98 CONSTRUCT
JUNCTION BOX ON RT. H = 6'8"
WITH 36" x 27'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) 27 LIN FT.
36" SLPPMCCS (TYPE 2 BEDDING) = 27 LIN. FT.
AND 18" X 25' R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
WITH FES ON RT.
TYPE E JUNCTION BOX = 5' X 3'8"

60+46.98
TOP=1270.21 RT.
F.L. INLET=1267.73 RT.
F.L. INVERT=1267.23 RT.
F.L. D.I.=1263.53 RT.

STA. 60+50 TO STA. 62+00

twmccormick 4/18/2013 2:08:55 PM
WORKSPACE: AHTD
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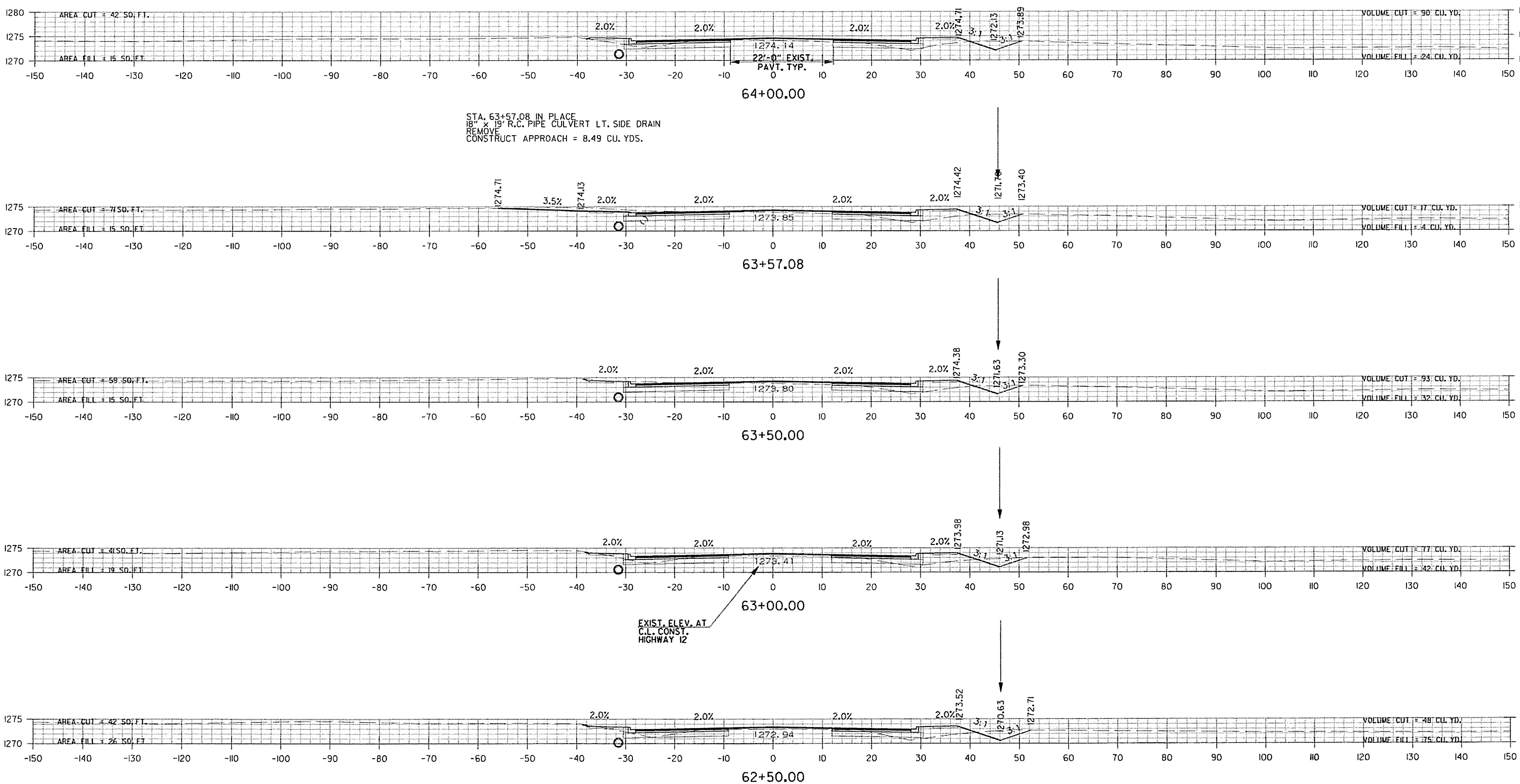
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	192	255

(2) CROSS SECTION STA. 62+50 TO 64+00



STA. 62+50 TO STA. 64+00

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WORKSPACE: AHTD
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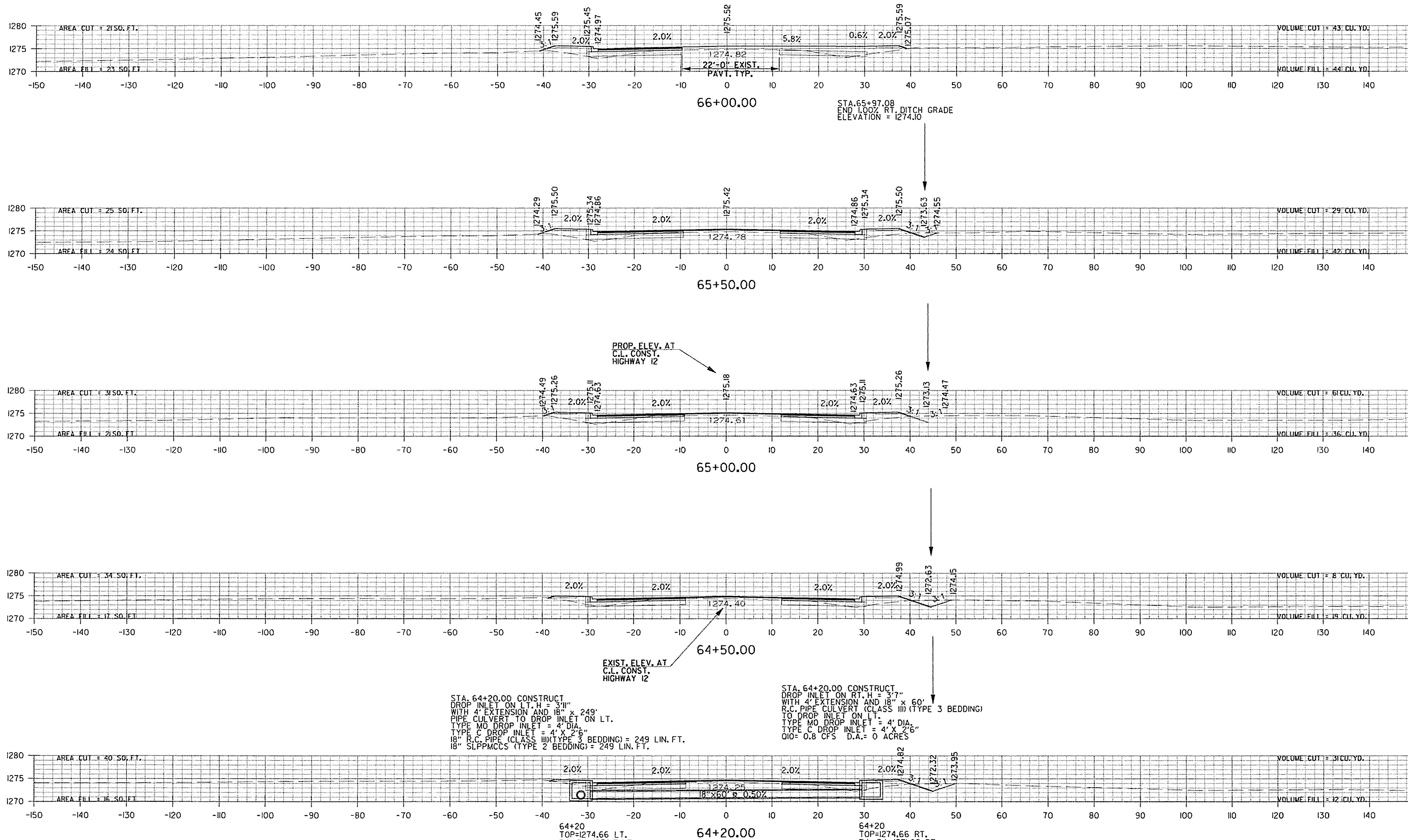
REVISED DATE:



STA. 64+20 TO STA. 66+00

+wmccormick 4/18/... 2:08:56 PM
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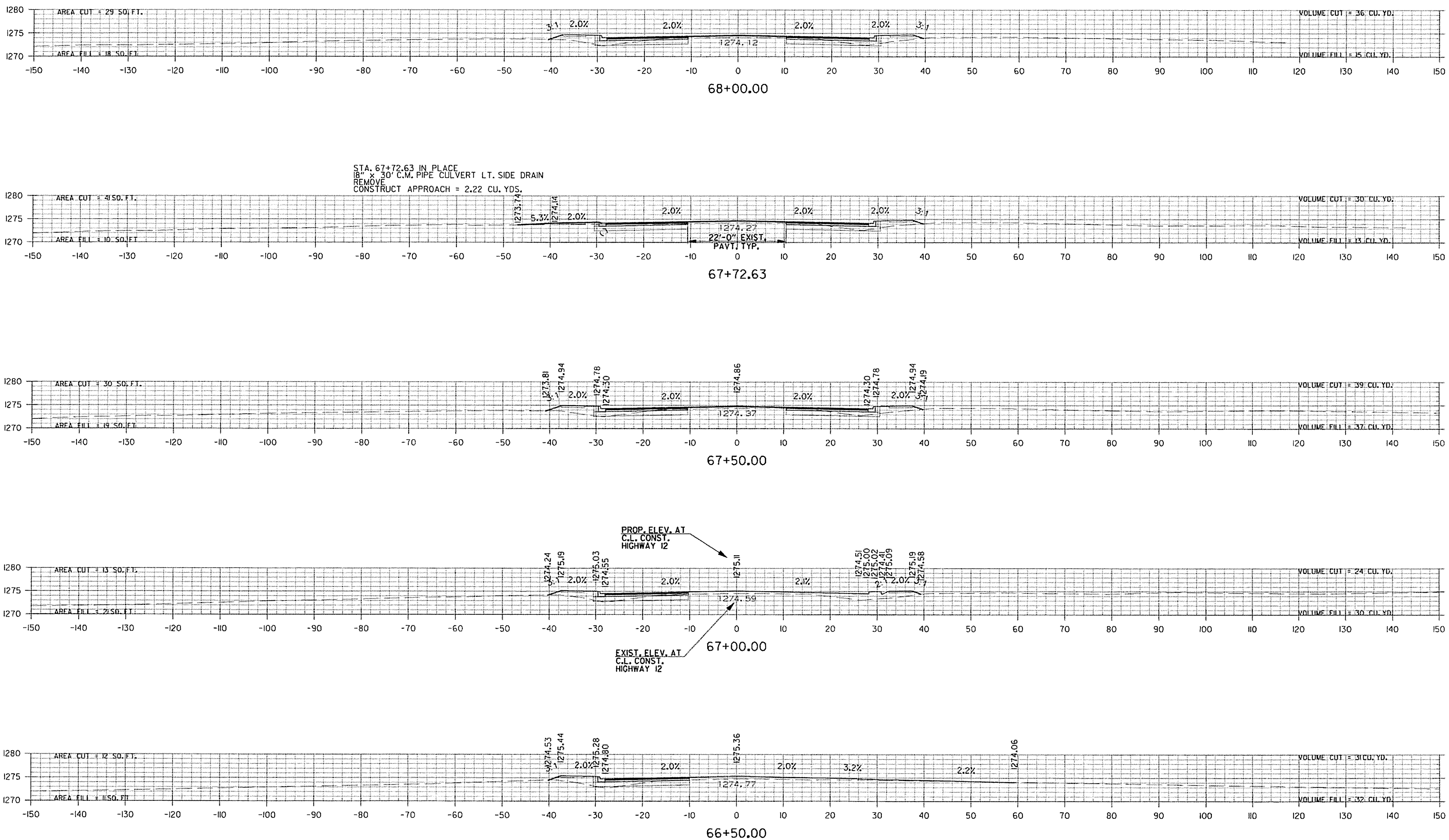
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	194	255

(2) CROSS SECTION STA. 66+50 TO 68+00



STA. 66+50 TO STA. 68+00

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WORKSPACE: AHTD ... Hwy 12\Drawings\H12_XS_01.dgn
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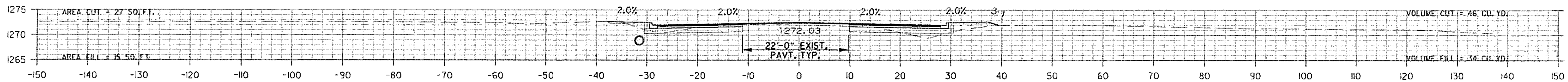
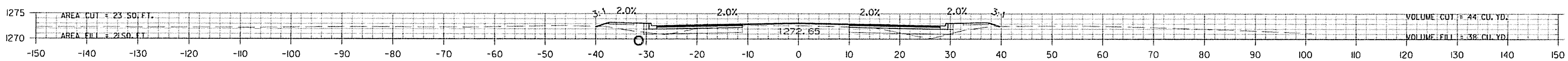
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	195	255

(2) CROSS SECTION STA. 68+50 TO 70+50



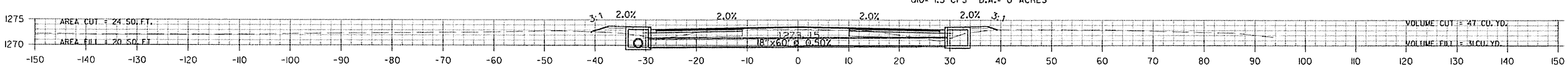
70+50.00



70+00.00

STA. 69+50.00 CONSTRUCT DROP INLET ON LT. H= 3'11" WITH 8' EXTENSION AND 18" x 197' PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 197 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 197 LIN. FT.

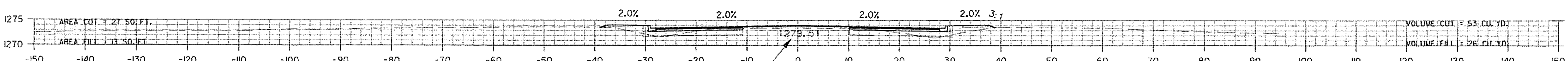
STA. 69+50.00 CONSTRUCT DROP INLET ON RT. H= 3'7" WITH 8' EXTENSION AND 18" x 60' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 1.3 CFS D.A.= 0 ACRES



69+50
TOP=1273.60 LT.
F.L. D.I.=1269.67 LT.

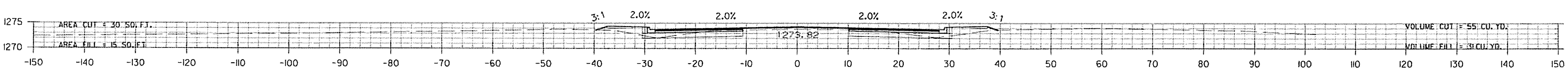
69+50.00

69+50
TOP=1273.60 RT.
F.L. D.I.=1269.98 RT.



69+00.00

EXIST. ELEV. AT C.L. CONST. HIGHWAY 12



68+50.00

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WORKSPACE: AHTD
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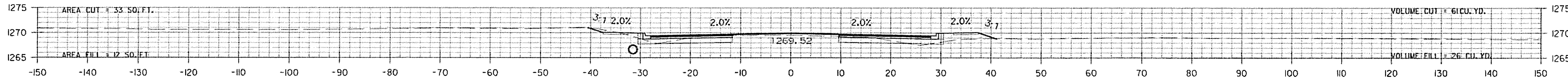
REVISED DATE:

STA. 68+50 TO STA. 70+50

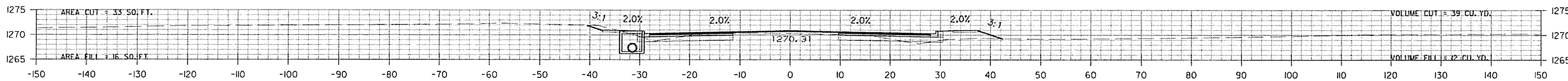
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	196	255

(2) CROSS SECTION STA. 70+88 TO 72+00



72+00.00

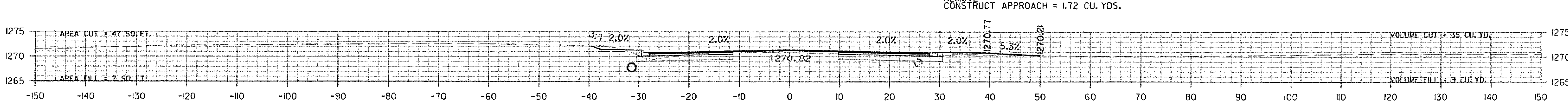
STA. 71+50.00 CONSTRUCT
DROP INLET ON LT. H= 4'3"
WITH 4' EXTENSION AND 18" x 147'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 147 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 147 LIN. FT.



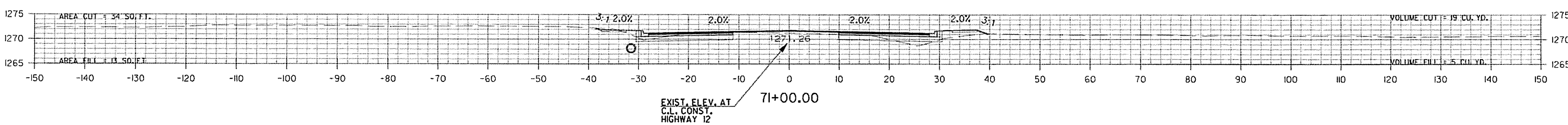
71+50
TOP=1270.80 LT.
F.L. D.I.=1266.57 LT.

71+50.00

STA. 71+23.12 IN PLACE
18" x 22' R.C. PIPE CULVERT RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 1.72 CU. YDS.

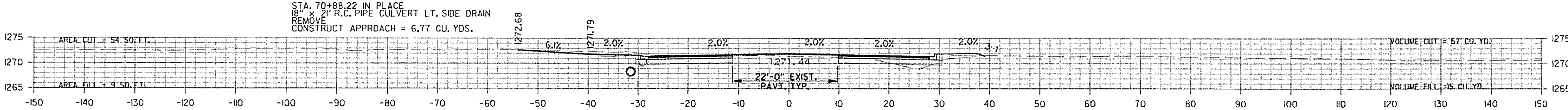


71+23.12



71+00.00

STA. 70+88.22 IN PLACE
18" x 21' R.C. PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 6.77 CU. YDS.



70+88.22

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WORKSPACE: AHTD
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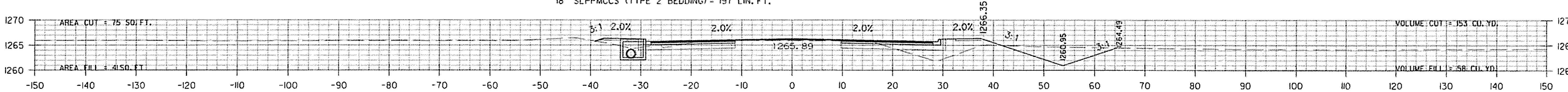
REVISED DATE:

STA. 70+88 TO STA. 72+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	197	255

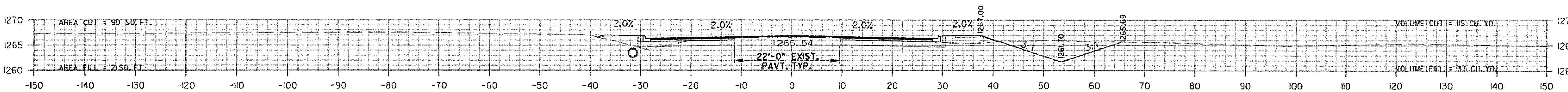
(2) CROSS SECTION STA. 72+50 TO 74+50

STA. 74+50.00 CONSTRUCT
DROP INLET ON LT. H= 4'3"
WITH 4' EXTENSION AND 18" x 197'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 197 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 197 LIN. FT.



74+50
TOP=1266.23 LT.
F.L. D.I.=1262.01 LT.

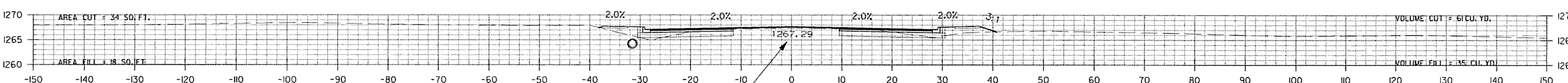
74+50.00



74+00.00

STA. 74+00.00
BEGIN -1.51% RT. DITCH GRADE
ELEVATION = 1261.70

STA. 73+90.74 IN PLACE
JUNCTION BOX RETAIN AND
24" X 19' R.C. PIPE CULVERT RT. SIDE
REMOVE.
REPAIR EXISTING PIPE EXIT
AND INSTALL 24" X 4' R.C. PIPE STUBOUT
(CLASS III) (TYPE 3 BEDDING)
48° RT. FWD SKEW AND FES RT.

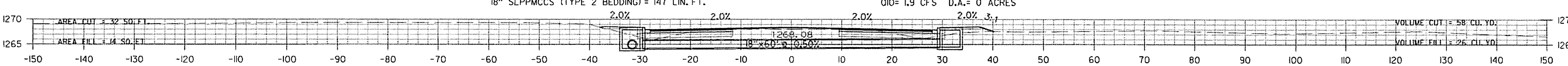


EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

73+50.00

STA. 73+00.00 CONSTRUCT
DROP INLET ON LT. H= 4'2"
WITH 8' EXTENSION AND 18" x 147'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 147 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 147 LIN. FT.

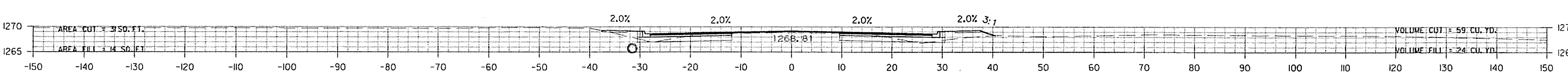
STA. 73+00.00 CONSTRUCT
DROP INLET ON RT. H= 3'10"
WITH 8' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 1.9 CFS D.A.= 0 ACRES



73+00
TOP=1268.38 LT.
F.L. D.I.=1264.20 LT.

73+00.00

73+00
TOP=1268.38 RT.
F.L. D.I.=1264.51 RT.



72+50.00

STA. 72+50 TO STA. 74+50

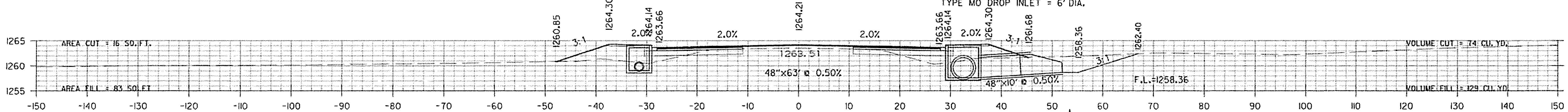
tvmccormick 4/18/… 2:08:59 PM
WORKSPACE: AHTD
X:\2008\08053550 - … Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	198	255

(2) CROSS SECTION STA. 75+00 TO 76+50

STA. 76+50.00 CONSTRUCT
DROP INLET ON LT. H= 7'7"
WITH 8' EXTENSION AND 18" x 262'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 262 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 262 LIN. FT.

STA. 76+50.00 CONSTRUCT
DROP INLET ON RT. H= 6'6"
WITH 8' EXTENSION AND 48" x 262'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
AND WITH 48" X 22'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
51° RT. FWD SKEW AND FES RT.
TYPE C DROP INLET = 6' X 2'6"
TYPE MO DROP INLET = 6' DIA.

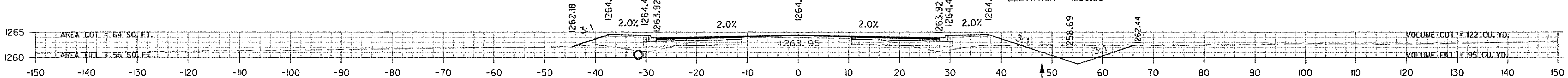


76+50
TOP=1264.13 LT.
F.L. D.I.=1259.07 LT.

76+50.00

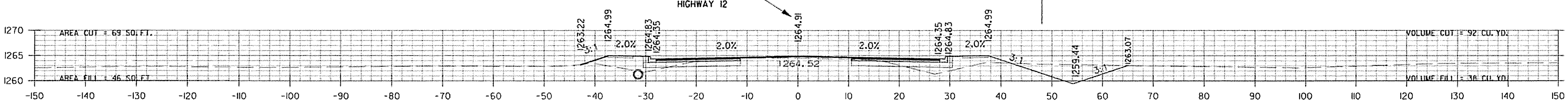
76+50
TOP=1264.13 RT.
F.L. INLET=1258.36 RT.
F.L. INVERT=1258.28 RT.
F.L. D.I.=1257.63 RT.

STA. 76+21.76
END -3.99 RT. DITCH GRADE
ELEVATION = 1258.36



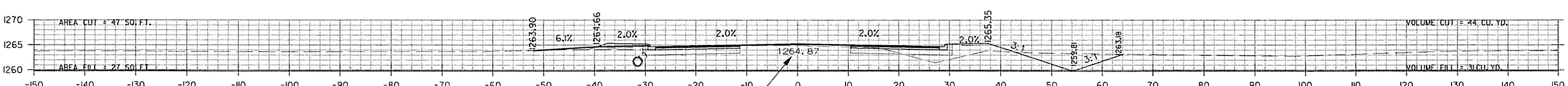
76+00.00

PROP. ELEV. AT
C.L. CONST.
HIGHWAY 12



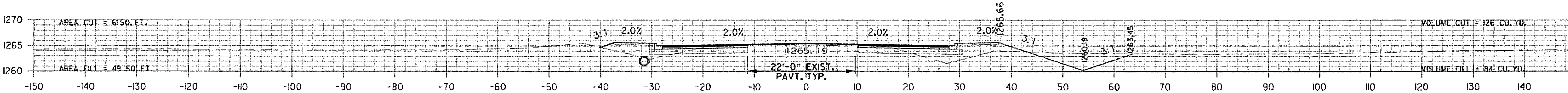
75+50.00

STA. 75+22.07 IN PLACE
18" x 23' C.M. PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 1.90 CU. YDS.



75+22.07

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12



75+00.00

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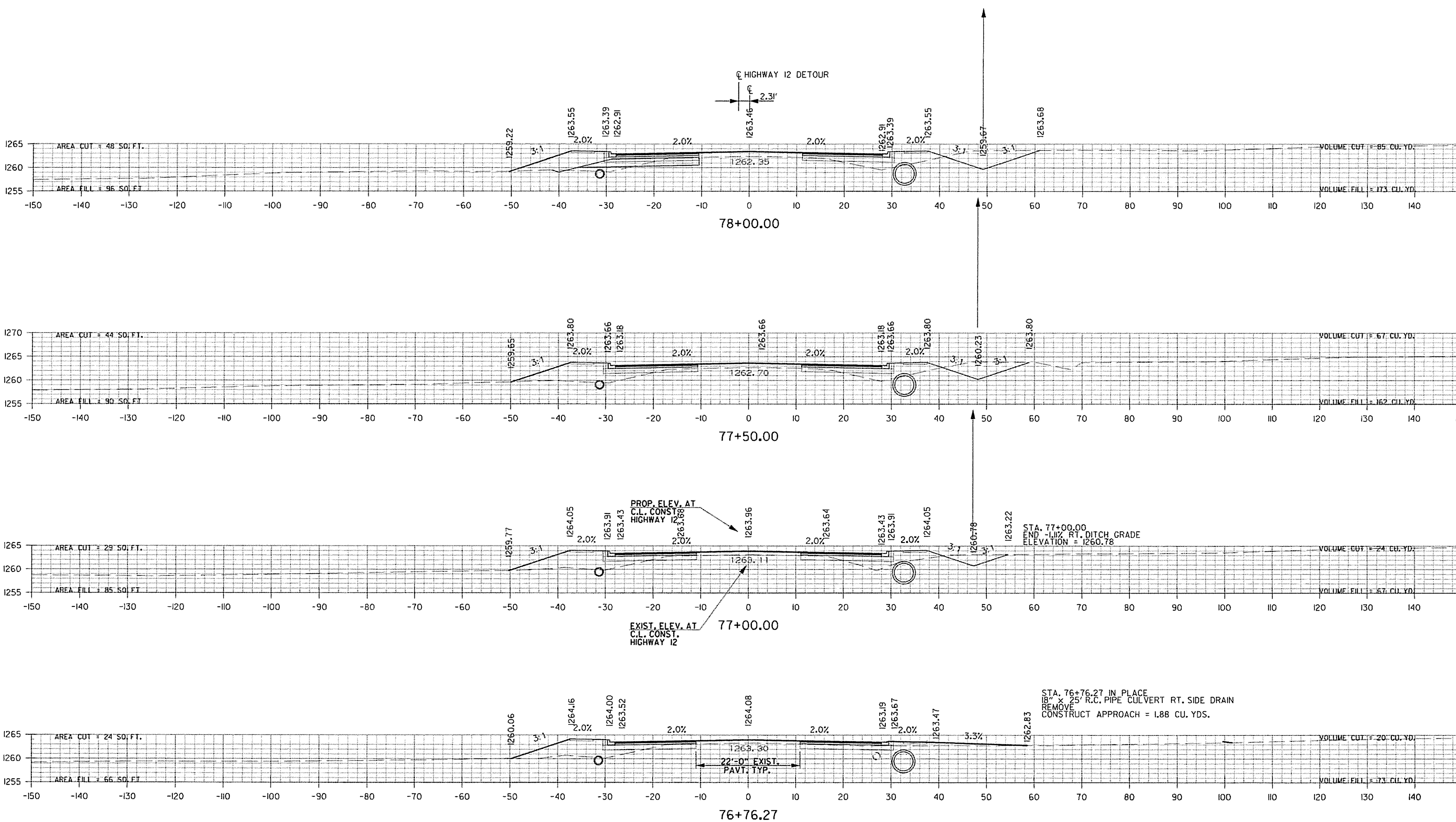
REVISED DATE:

STA. 75+00 TO STA. 76+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	199	255

(2) CROSS SECTION STA. 76+76.27 TO 78+00



C.L. DETOUR 1 STA. 10+00.00 =
C.L. CONST. HWY. 12 STA. 76+50.93 0.33' LT.

STA. 76+76.27 TO STA. 78+00

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WORKSPACE: AHTD
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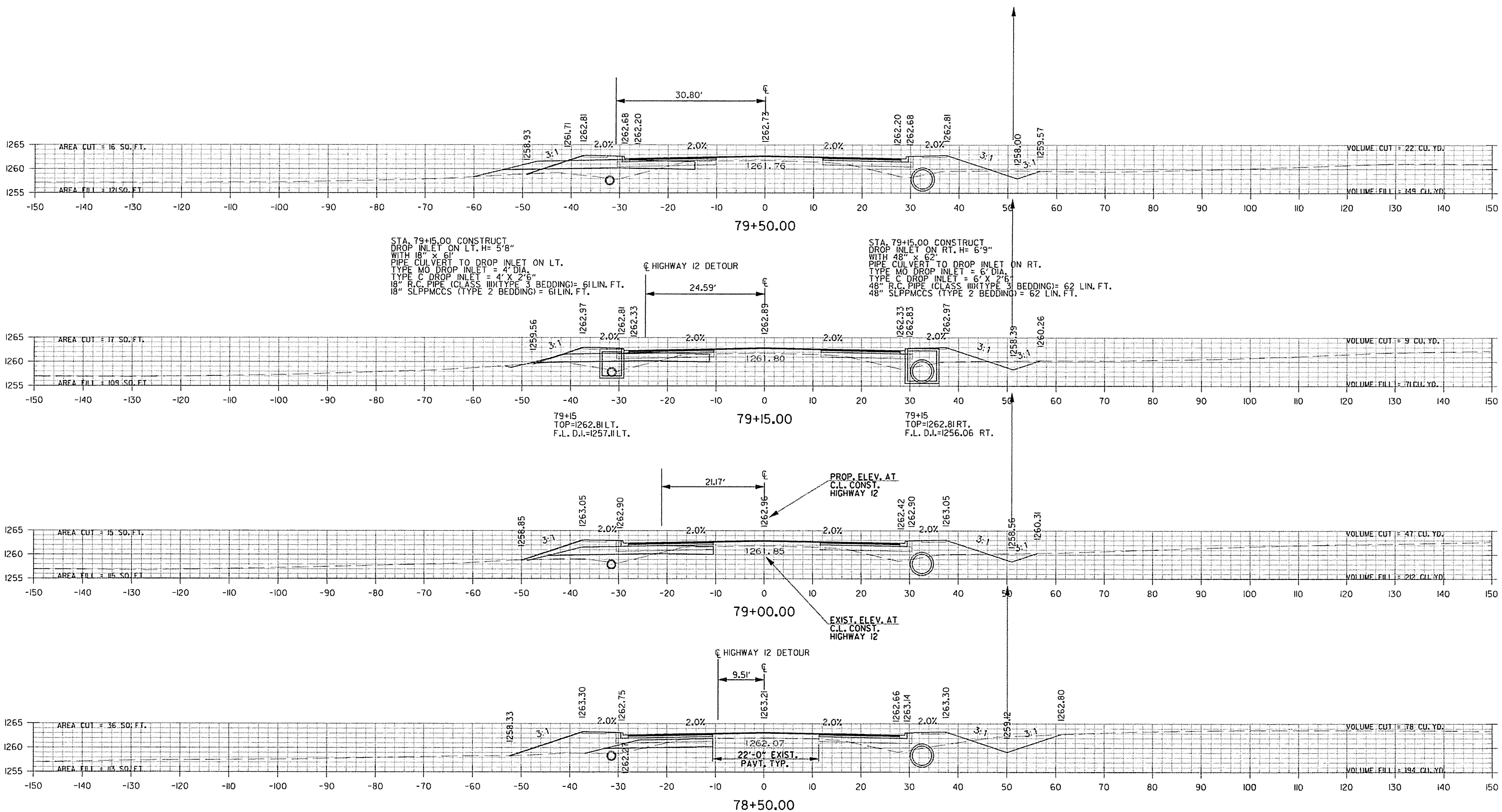
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	200	255

(2) CROSS SECTION STA. 78+50 TO 79+50



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WORKSPACE: AHTD
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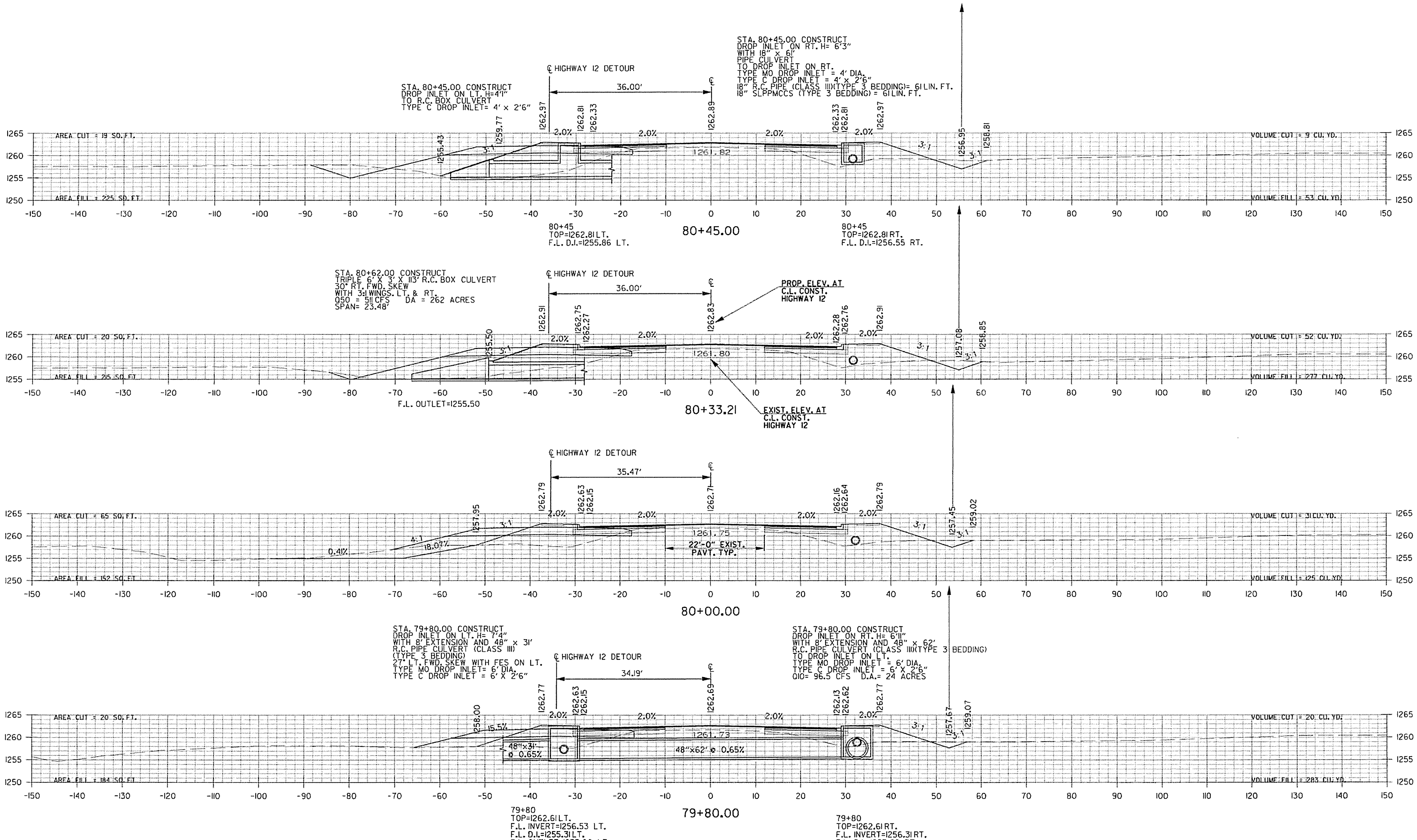
REVISED DATE:

STA. 78+50 TO STA. 79+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	201	255

2 CROSS SECTION STA. 79+80 TO 80+45



STA. 79+80 TO STA. 80+45

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WORKSPACE: AHTD
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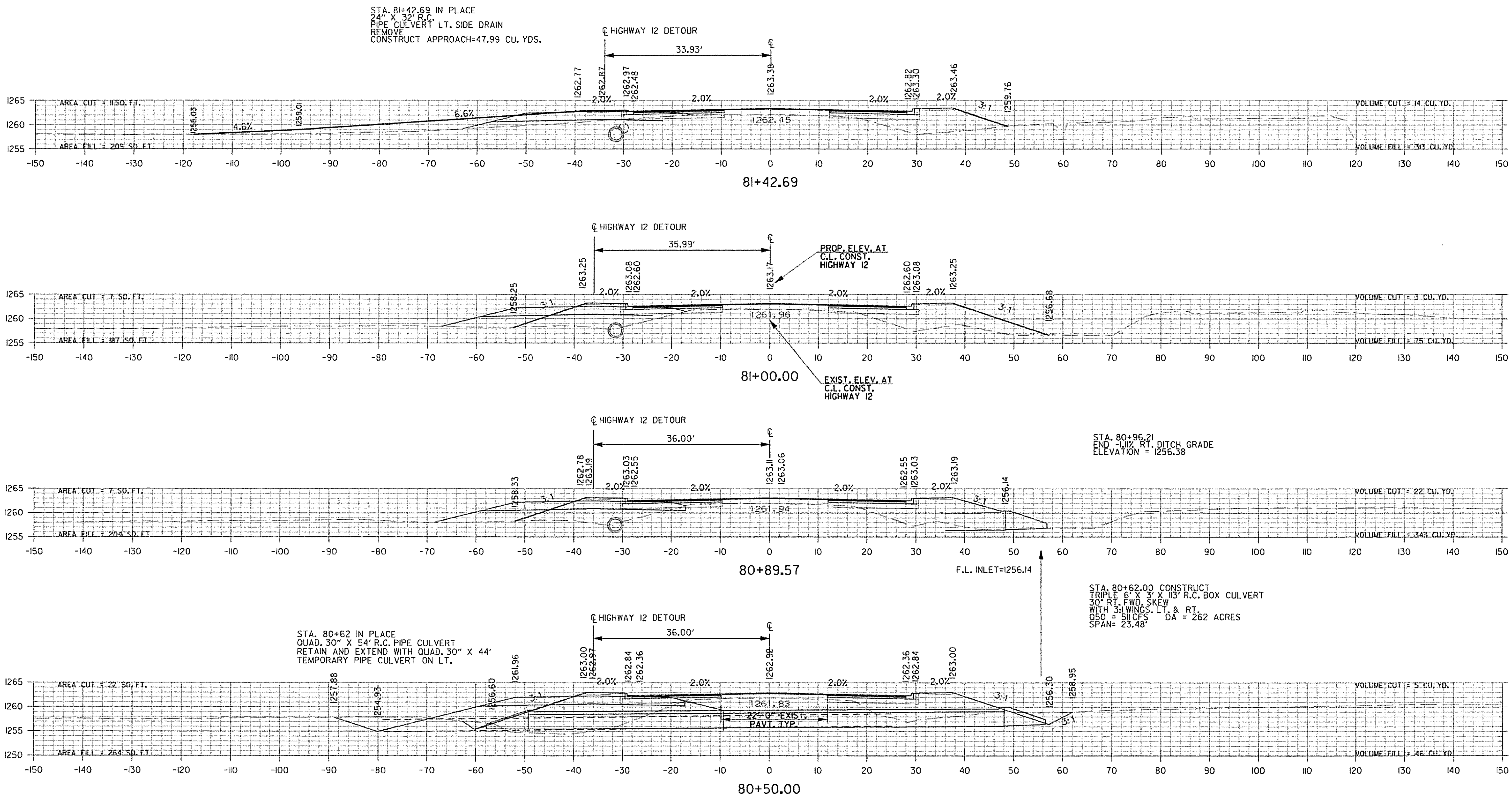
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	202	255

(2) CROSS SECTION STA. 80+50 TO 81+42.69



STA. 80+50 TO STA. 81+42.69

twmccormick 4/18/2013 2:09:03 PM
WORKSPACE: AHTD Hwy 12\Drawings\H12_XS_01.dgn
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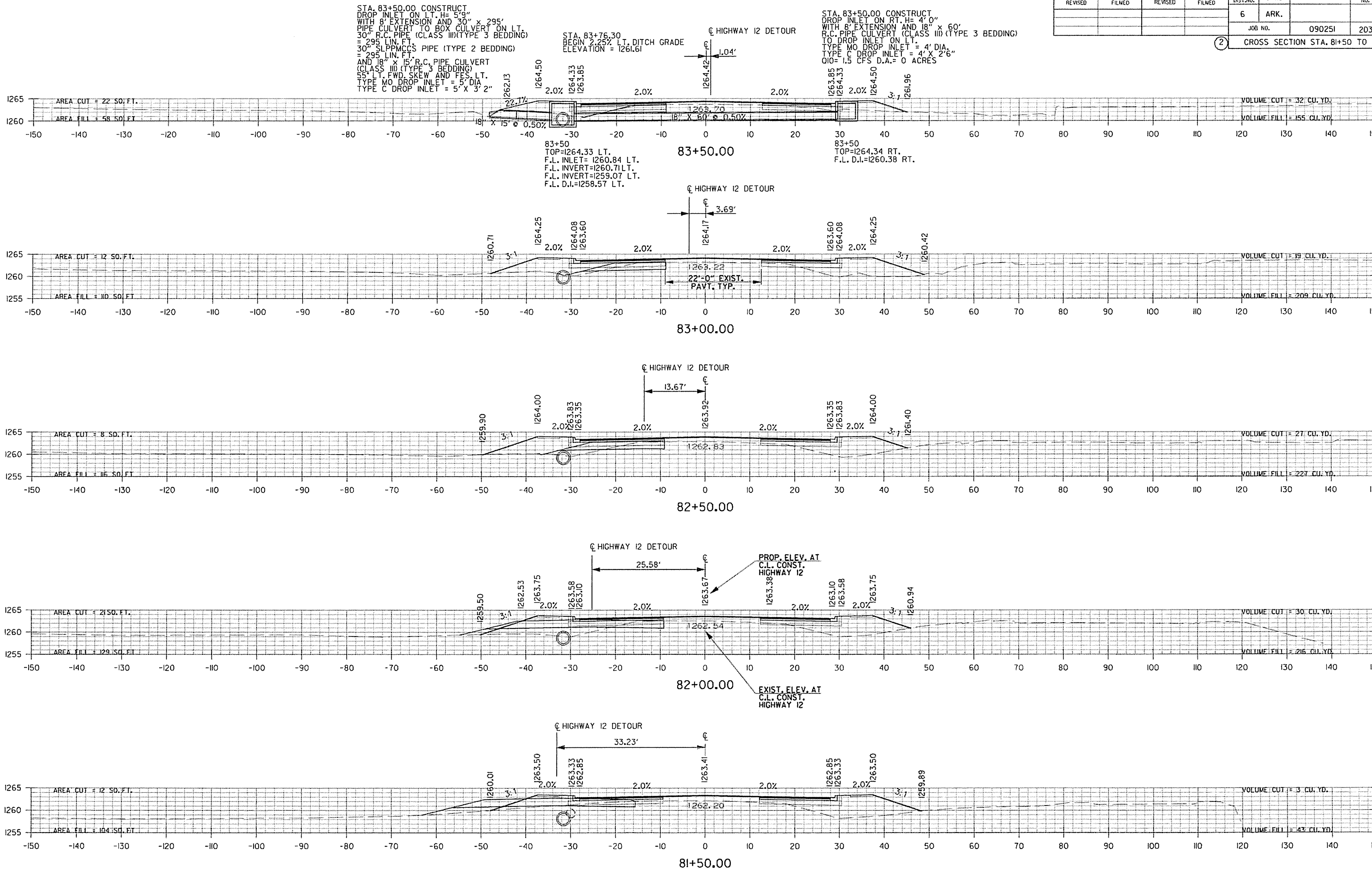
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	203	255

(2) CROSS SECTION STA. 81+50 TO 83+50



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WORKSPACE: AHTD Hwy 12\Drawings\H12_XS_01.dgn
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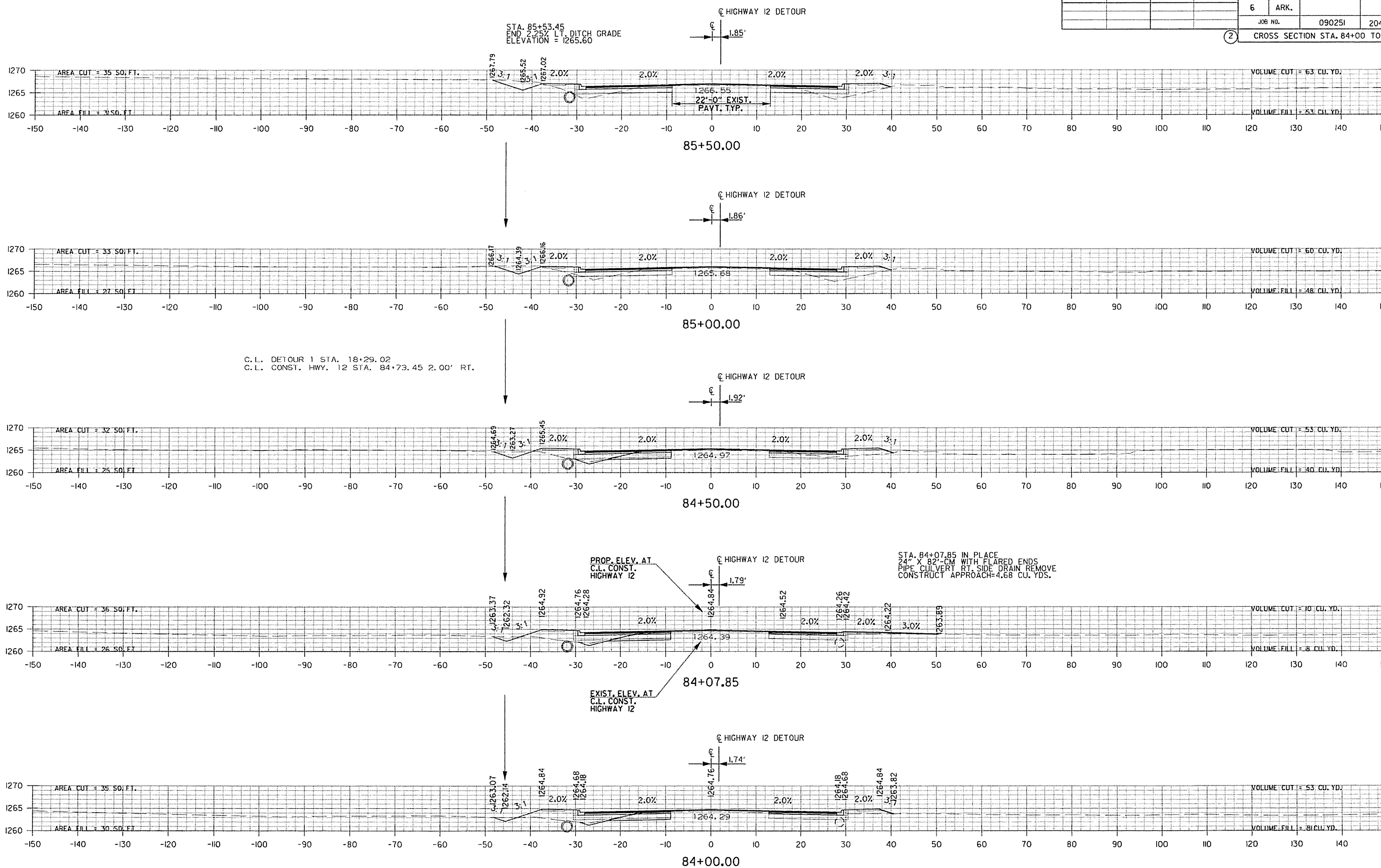
REVISED DATE:

STA. 81+50 TO STA. 83+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	204	255

(2) CROSS SECTION STA. 84+00 TO 85+50



STA. 84+00 TO STA. 85+50

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WORKSPACE: AHTD
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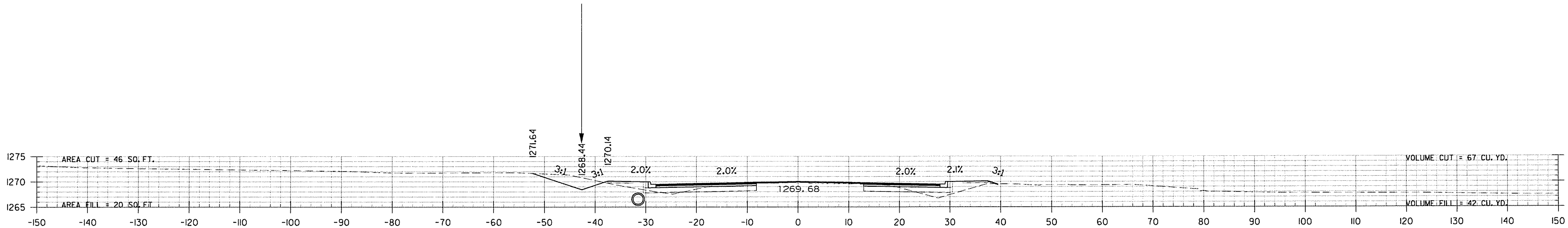
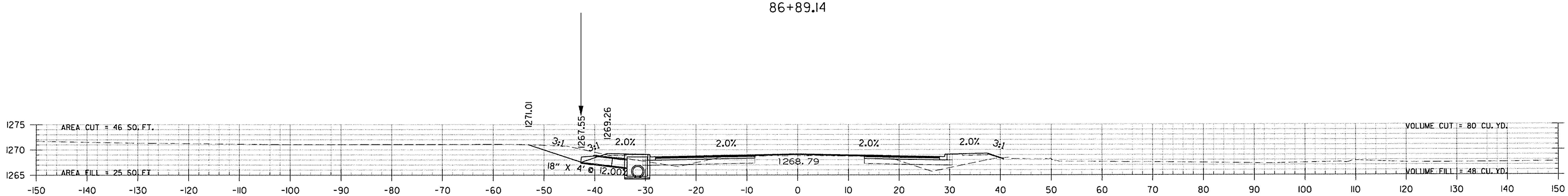
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	205	255

(2) CROSS SECTION STA. 85+70.21 TO 86+89.14



86+89.14

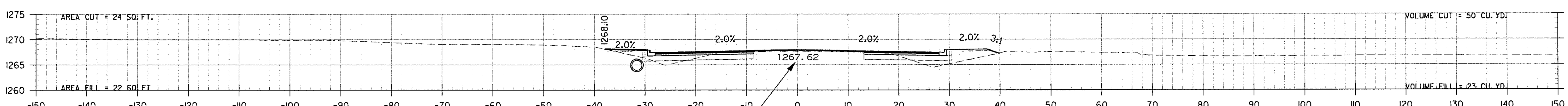


86+50.00

STA. 86+40.00
BEGIN 2.28% LT. DITCH GRADE
ELEVATION = 1267.32

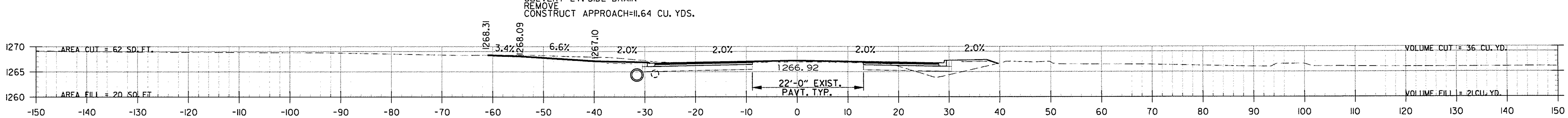
86+40
TOP=1268.88 LT.
F.L. INLET=1267.32 LT.
F.L. INVERT=1264.73 LT
F.L. D.I.=1264.73 LT.

STA. 86+40.00 CONSTRUCT
DROP INLET ON LT. H= 4'0"
WITH 4' EXTENSION AND 24" x 287'
PIPE CULVERT TO DROP INLET ON LT.
AND 18" X 4' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
WITH FES ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 287 LIN. FT.
24" SLPPMCCS (TYPE 2 BEDDING) = 287 LIN. FT.



86+00.00

STA. 85+70.21 IN PLACE
18" X 23' CM PIPE
CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH=11.64 CU. YDS.



85+70.21

djcobb
WORKSPACE: AHTDXM
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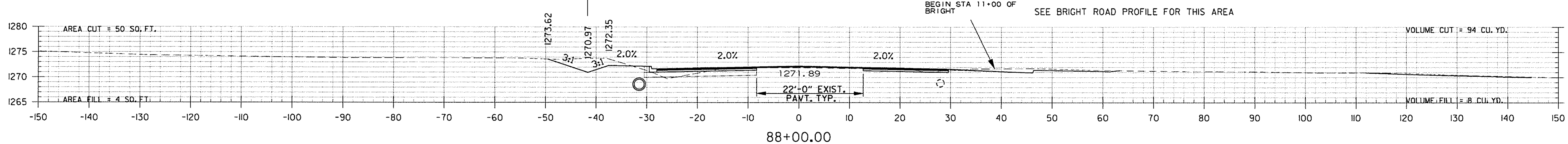
7/23/2014 4:44:06 PM
REVISED DATE:

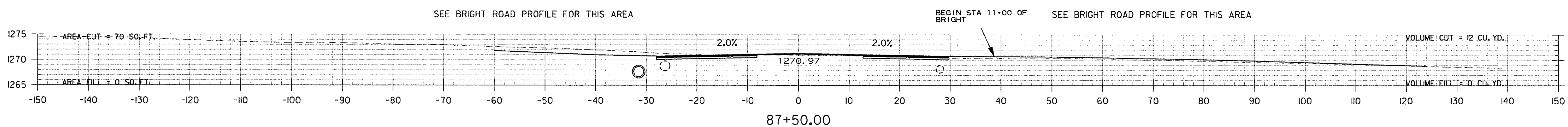
STA. 85+70.21 TO STA. 86+89.14

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	206	255

(2) CROSS SECTION STA. 87+00 TO 88+00

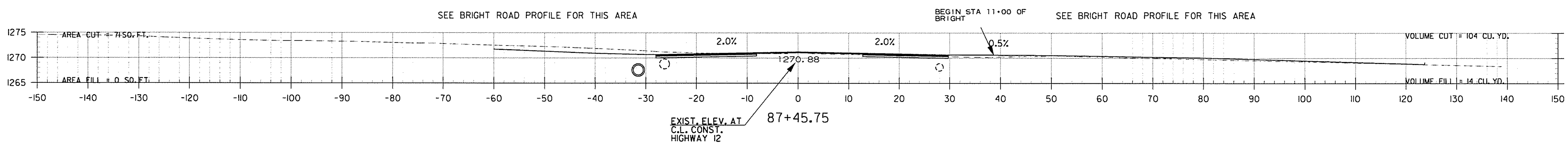


C.L. HIGHWAY 12 STA. 87+58.08=
C.L. BRIGHT ROAD STA. 11+38.71
Δ = 89°49'8.9"

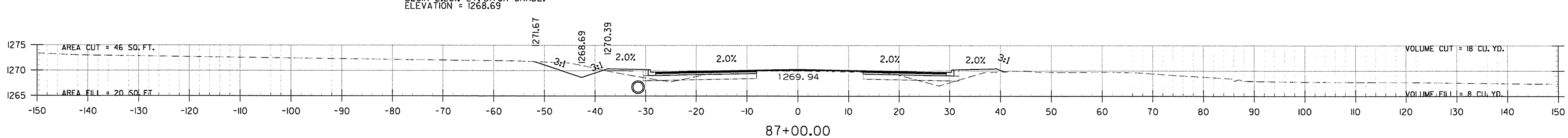


STA. 87+50.00 IN PLACE
18" X 90' R.C. PIPE
CULVERT RT. SIDE DRAIN
PLUG AND ABANDON

STA. 87+45.75 IN PLACE
24" X 26'-RC PIPE
CULVERT LT. SIDE DRAIN
REMOVE



STA. 87+00.00
BEGIN 2.28% LT. DITCH GRADE.
ELEVATION = 1268.69



djcobb 7/23/2014 4:45:08 PM
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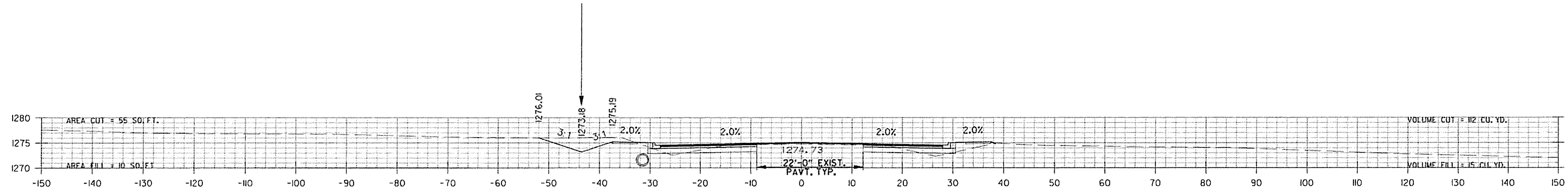
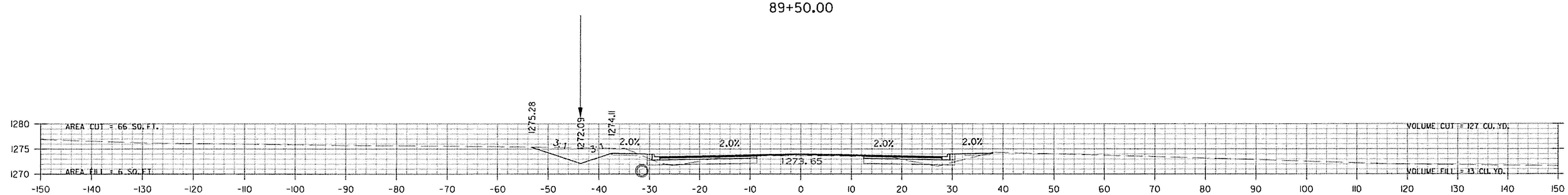
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	207	255

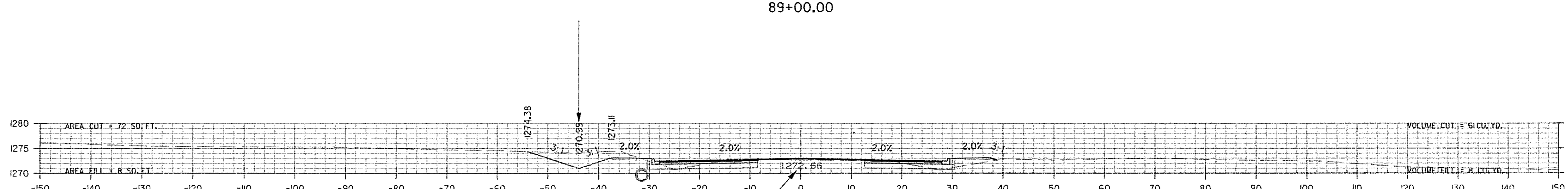
(2) CROSS SECTION STA. 88+26.14 TO 89+50



89+50.00



89+00.00



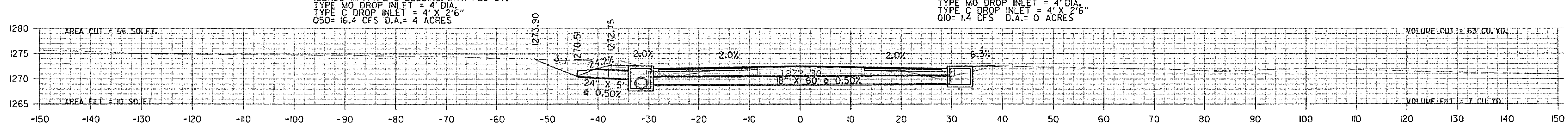
88+50.00

STA. 88+40.00
END -0.50% LT. DITCH GRADE
BEGIN 2.19% LT. DITCH GRADE
ELEVATION = 1270.77

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

STA. 88+40.00 CONSTRUCT
DROP INLET ON LT. H= 4'6"
WITH 4' EXTENSION AND 24" x 237'
PIPE CULVERT TO DROP INLET ON LT.
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 237 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 237 LIN. FT.
AND 24" X 5' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) WITH FES LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q50= 16.4 CFS D.A.= 4 ACRES

STA. 88+40.00 CONSTRUCT
DROP INLET ON RT. H= 3'8"
WITH 4' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 1.4 CFS D.A.= 0 ACRES



88+40.00
TOP=1272.80 LT.
F.L. INLET=1270.27 LT.
F.L. INVERT=1270.21 LT.
F.L. INVERT=1268.80 LT.
F.L. D.I.=1268.30 LT.

88+26.14

88+40.00
TOP=1272.80 RT.
F.L. D.I.=1269.11 RT.

STA. 88+26.14 TO STA. 89+50

twmccormick 4/18/2013 2:09:06 PM
WORKSPACE: AHTD
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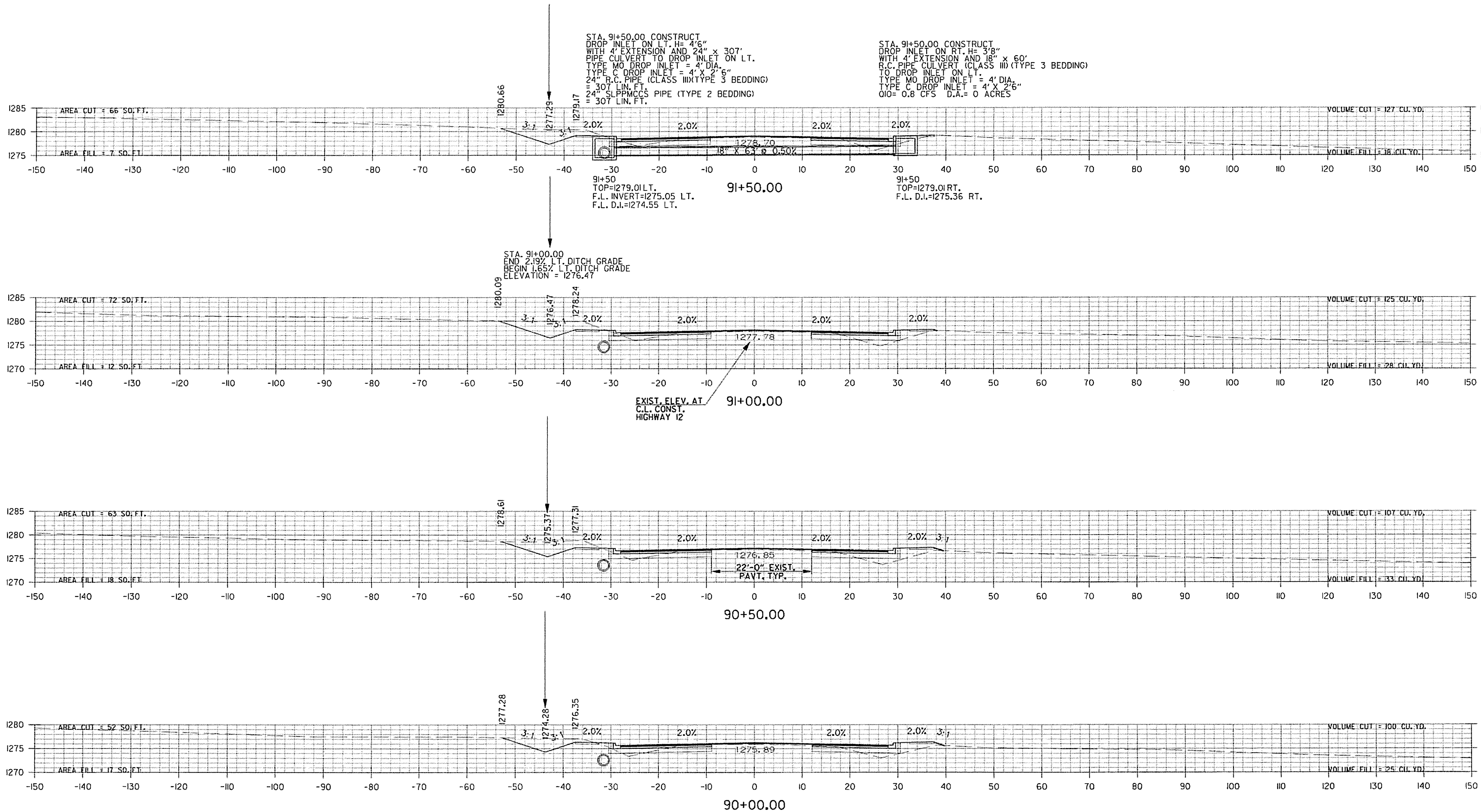
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	208	255

(2) CROSS SECTION STA. 90+00 TO 91+50



STA. 90+00 TO STA. 91+50

tvmccormick 4/18/2013 2:09:07 PM
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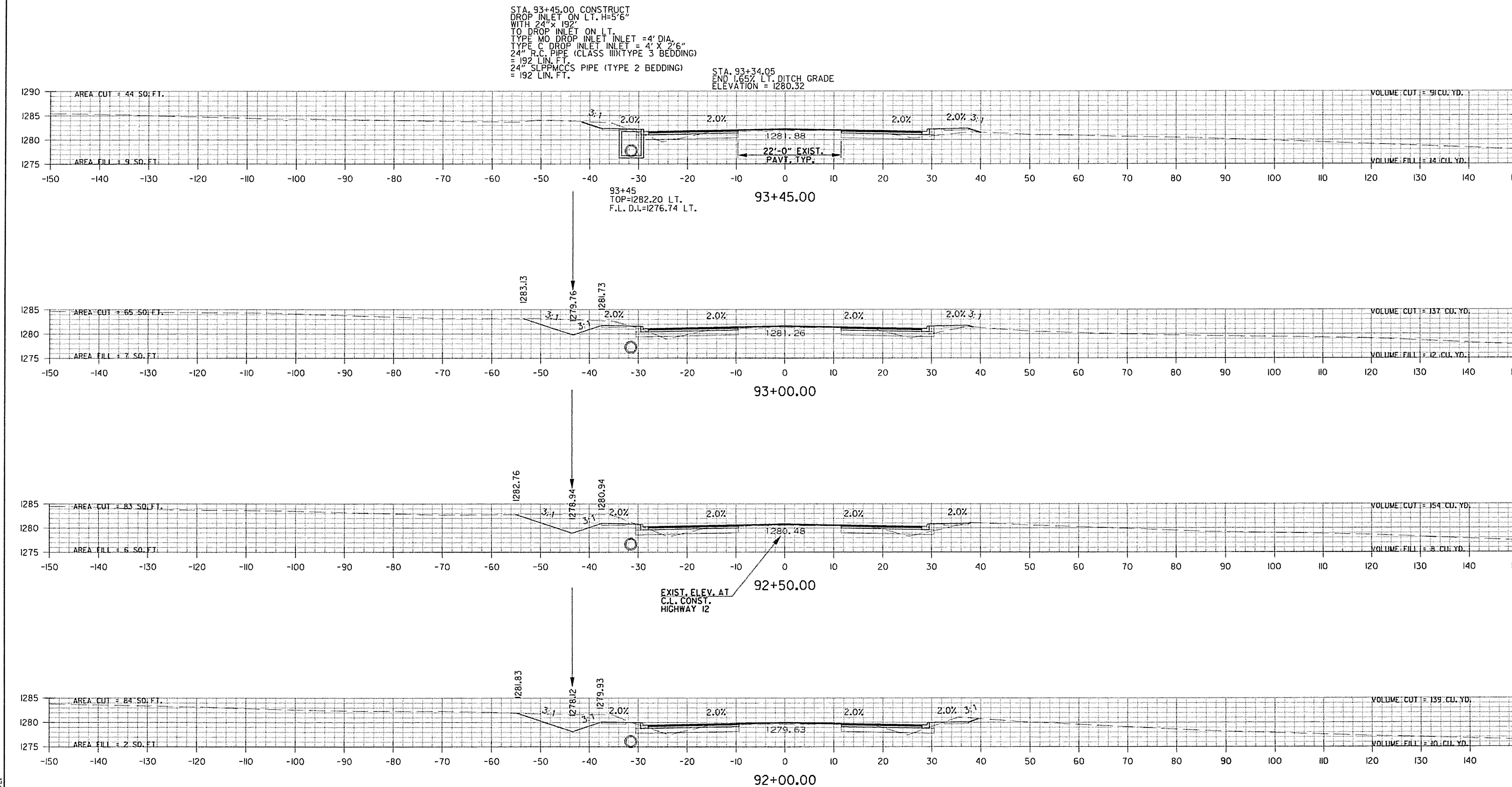
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	209	255

(2) CROSS SECTION STA. 92+00 TO 93+45



STA. 92+00 TO STA. 93+45

twmccormick 4/18/2013 2:09:08 PM
WORKSPACE: AHTD
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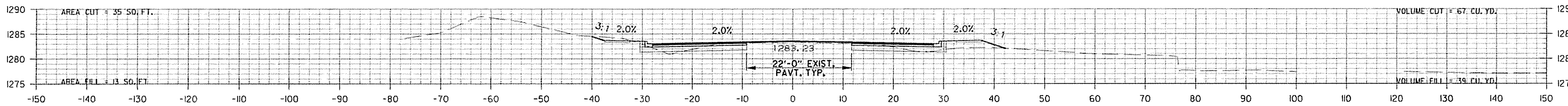
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	210	255

(2) CROSS SECTION STA. 93+50 TO 95+00

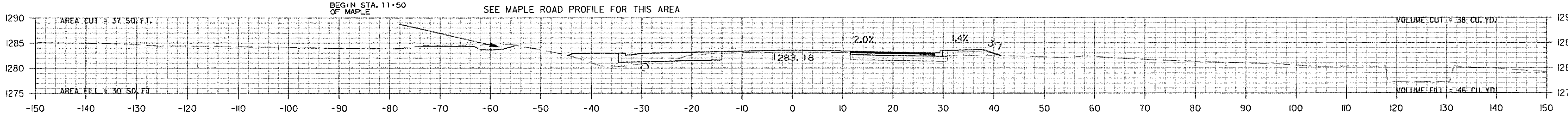
STA. 95+20.00
BEGIN -1.60% LT. DITCH GRADE
ELEVATION = 1281.86



95+00.00

BEGIN STA. 11+50 OF MAPLE

SEE MAPLE ROAD PROFILE FOR THIS AREA



94+37.02
TOP=1281.86 LT.
F.L. D.I.=1277.58 LT.

94+50.00

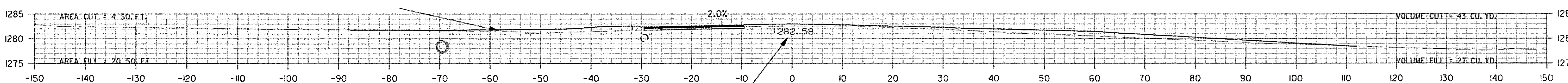
STA. 94+37.02 CONSTRUCT
DROP INLET ON LT. H=4'3"
WITH 8' EXTENSION AND 24"x51'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET =4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 5.2 CFS D.A.= 1 ACRE

C.L. HIGHWAY 12 STA. 94+09.56 =
C.L. MAPLE ROAD STA. 10+91.80
Δ = 90°2'15.6"

BEGIN STA. 11+50 OF MAPLE

SEE MAPLE ROAD PROFILE FOR THIS AREA

SEE MAPLE ROAD PROFILE FOR THIS AREA



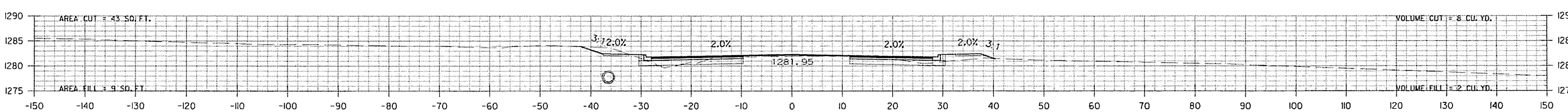
STA. 93+83.02 CONSTRUCT
DROP INLET ON LT. H= 4' 11"
WITH 8' EXTENSION AND 24" x 51'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 51 LIN. FT.
24" SLPPMCCS (TYPE 2 BEDDING) = 51 LIN. FT.

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

94+00.00

STA. 94+50.00 IN PLACE
18" X 91' R.C. PIPE CULVERT LT. SIDE DRAIN
PLUG AND ABANDON

93+83.02
TOP=1282.21 LT.
F.L. D.I.=1277.31 LT.



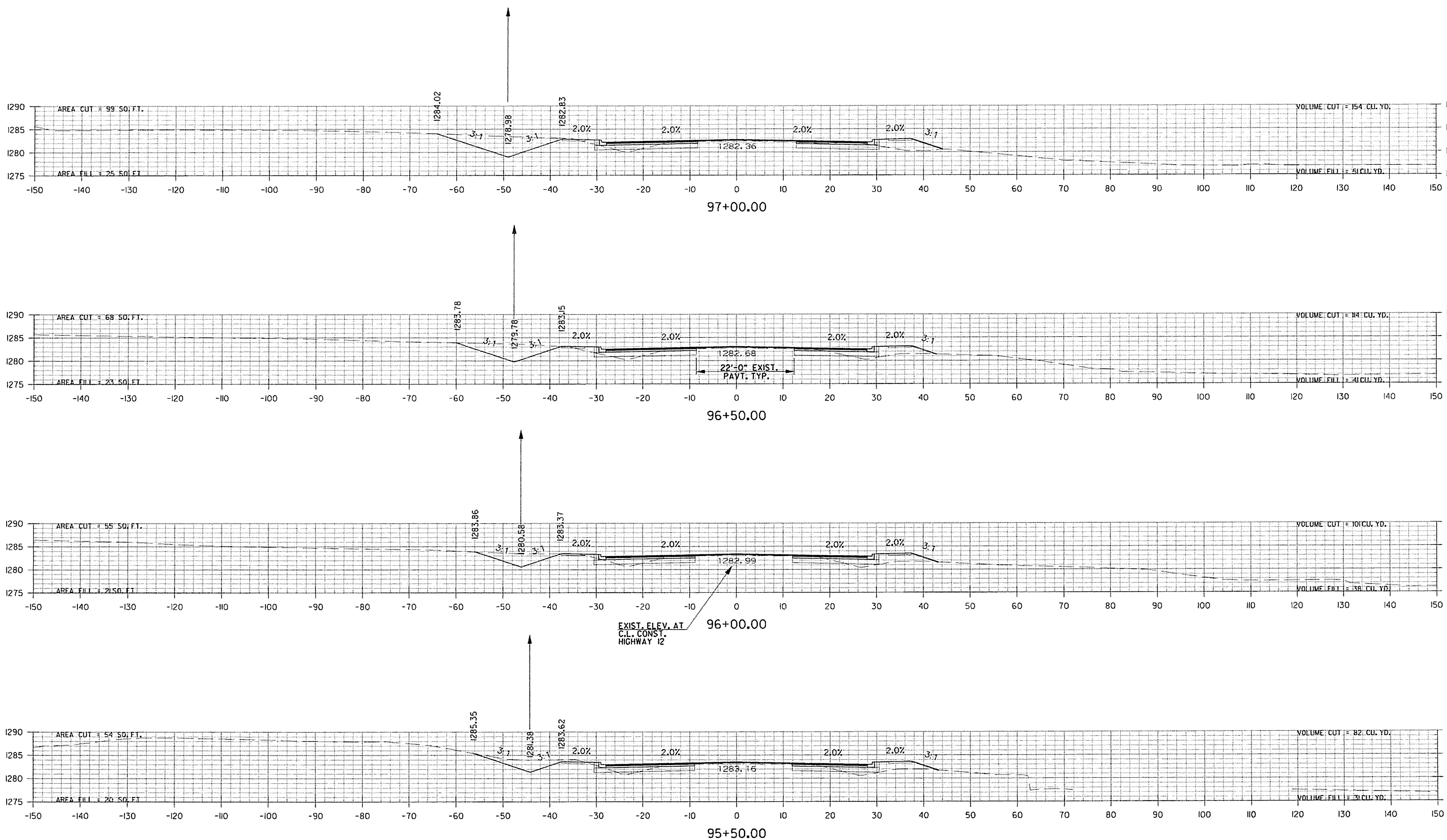
93+50.00

twmccormick 4/18/2013 2:09:08 PM
WORKSPACE: AHTD
X:\2008\080053550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

STA. 93+50 TO STA. 95+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	211	255

(2) CROSS SECTION STA. 95+50 TO 97+00

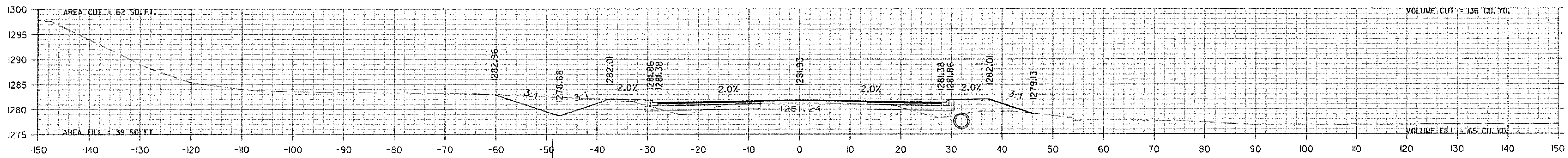


STA. 95+50 TO STA. 97+00

twmccormick 4/18/2013 2:09:08 PM
WORKSPACE: AHTD
X:\2008\080S3550 - ...Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

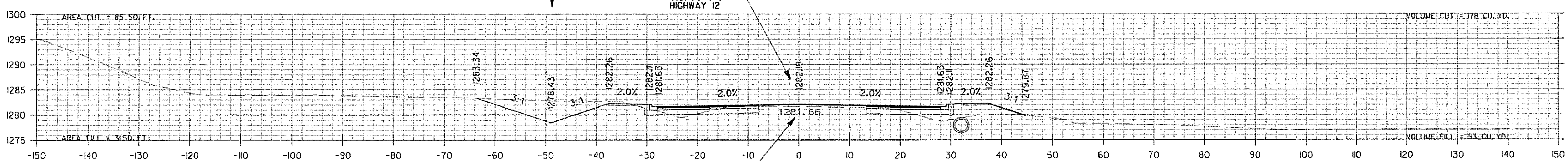
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	212	255

(2) CROSS SECTION STA. 97+14.78 TO 98+50



98+50.00

PROP. ELEV. AT C.L. CONST. HIGHWAY 12

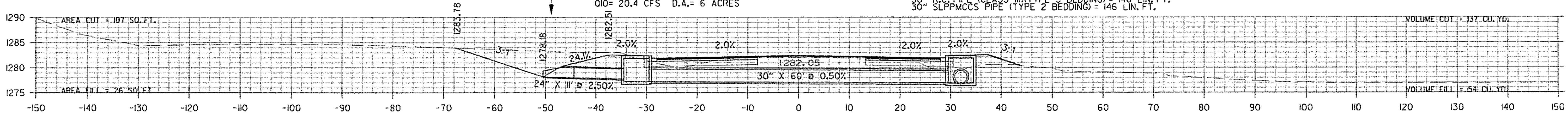


EXIST. ELEV. AT C.L. CONST. HIGHWAY 12

98+00.00

STA. 97+50.00 CONSTRUCT DROP INLET ON LT. H= 5'2" WITH 4' EXTENSION 30" x 60' R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING) TO DROP INLET ON RT. AND 24"XII' R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING) WITH FES ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET =5' X 2' 6"
Q10= 20.4 CFS D.A.= 6 ACRES

STA. 97+50.00 CONSTRUCT DROP INLET ON RT. H= 5'6" WITH 4' EXTENSION AND 30" x 146' PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 2' 6"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 146 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 146 LIN. FT.



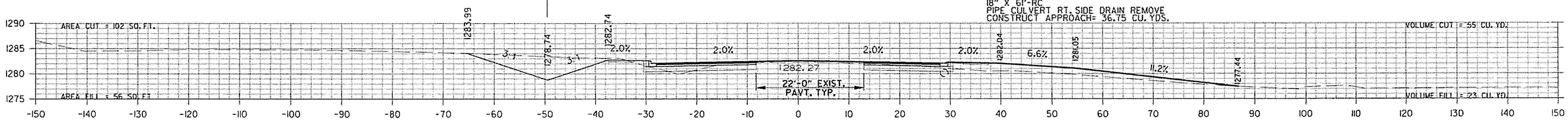
97+50.00

STA. 97+50.00
END -1.60% LT. DITCH GRADE
BEGIN 0.50% LT. DITCH GRADE
ELEVATION = 1278.18

97+50
TOP=1282.35 LT.
F.L. INLET=1276.30 LT.
F.L. INVERT=1276.13 LT.
F.L. D.I.=1277.21 LT.

97+50
TOP=1282.35 RT.
F.L. D.I.=1276.90 RT.

STA. 97+14.78 IN PLACE 18" X 61'-RC PIPE CULVERT RT. SIDE DRAIN REMOVE
CONSTRUCT APPROACH= 36.75 CU. YDS.



97+14.78

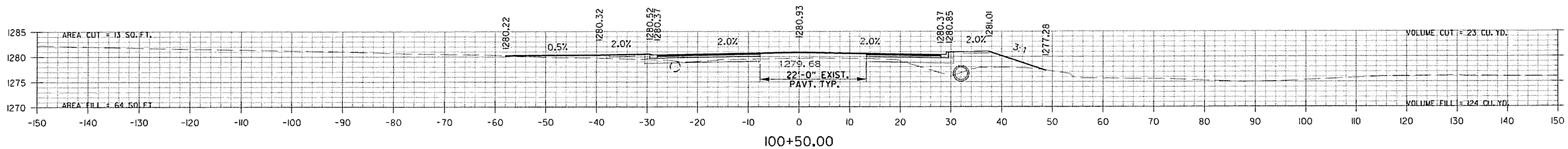
twmccormick 4/18/2013 2:09:10 PM
WORKSPACE: AHTD Hwy 12\Drawings\h12_XS_01.dgn
X:\2008\0803550 -
REVISED DATE:

STA. 97+14.78 TO STA. 98+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	213	255

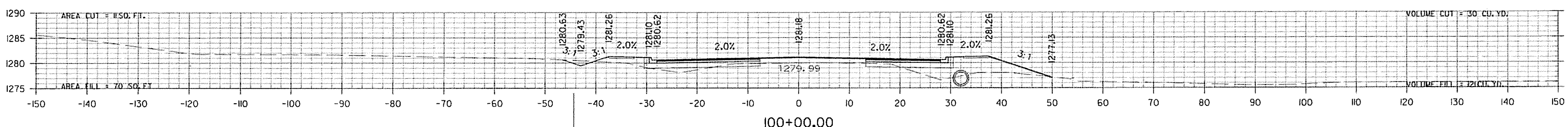
(2) CROSS SECTION STA. 99+00 TO 100+50

STA. 100+50.00 IN PLACE
24" X 49'-CM
PIPE CULVERT LT. SIDE DRAIN REMOVE
CONSTRUCT APPROACH= 7.26 CU. YDS.

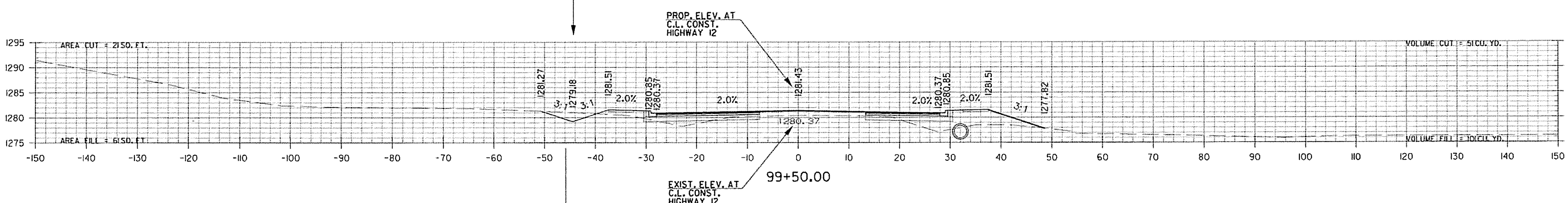


100+50.00

STA. 100+39.70
END 0.50% LT. DITCH GRADE
ELEVATION = 1279.63

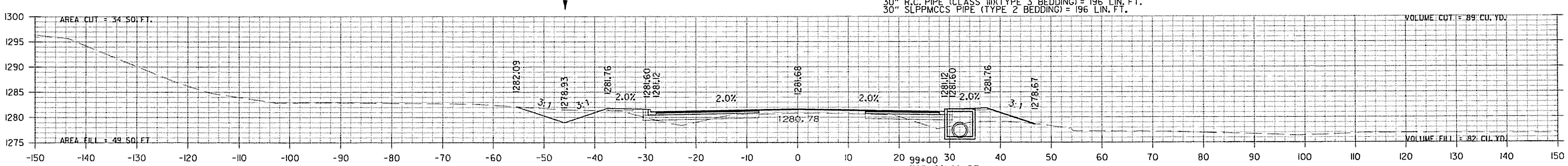


100+00.00



99+50.00

STA. 99+00.00 CONSTRUCT
DROP INLET ON RT. H= 5'5"
WITH 30" X 196'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 2'6"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 196 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)= 196 LIN. FT.



99+00
TOP=1281.60 RT.
F.L. D.I.=1276.14 RT.

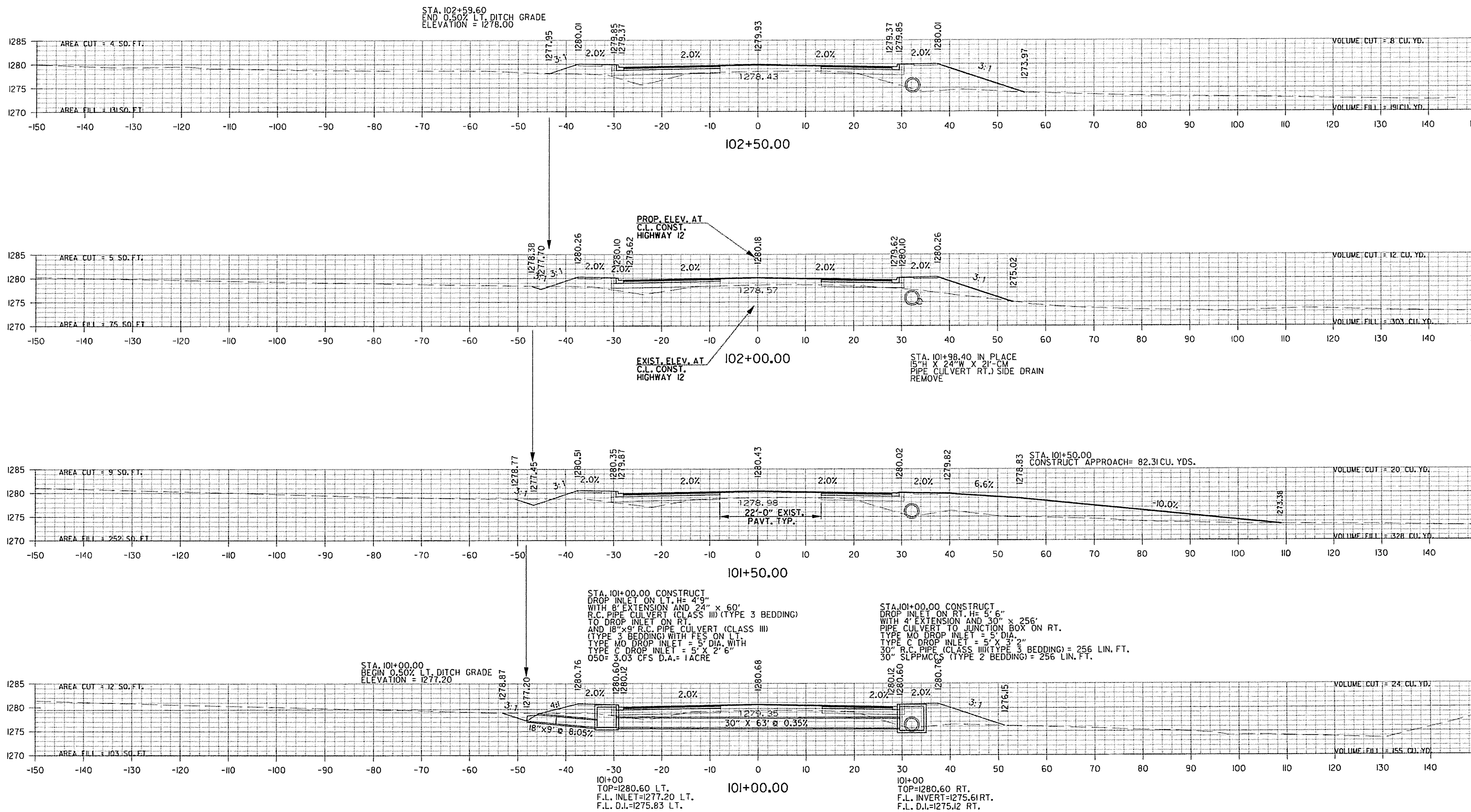
99+00.00

STA. 99+00 TO STA. 100+50

twmccormick 4/18/2013 2:09:10 PM
WORKSPACE: AHTD
X:\2008\08053550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	214	255

(2) CROSS SECTION STA. 101+00 TO 102+50

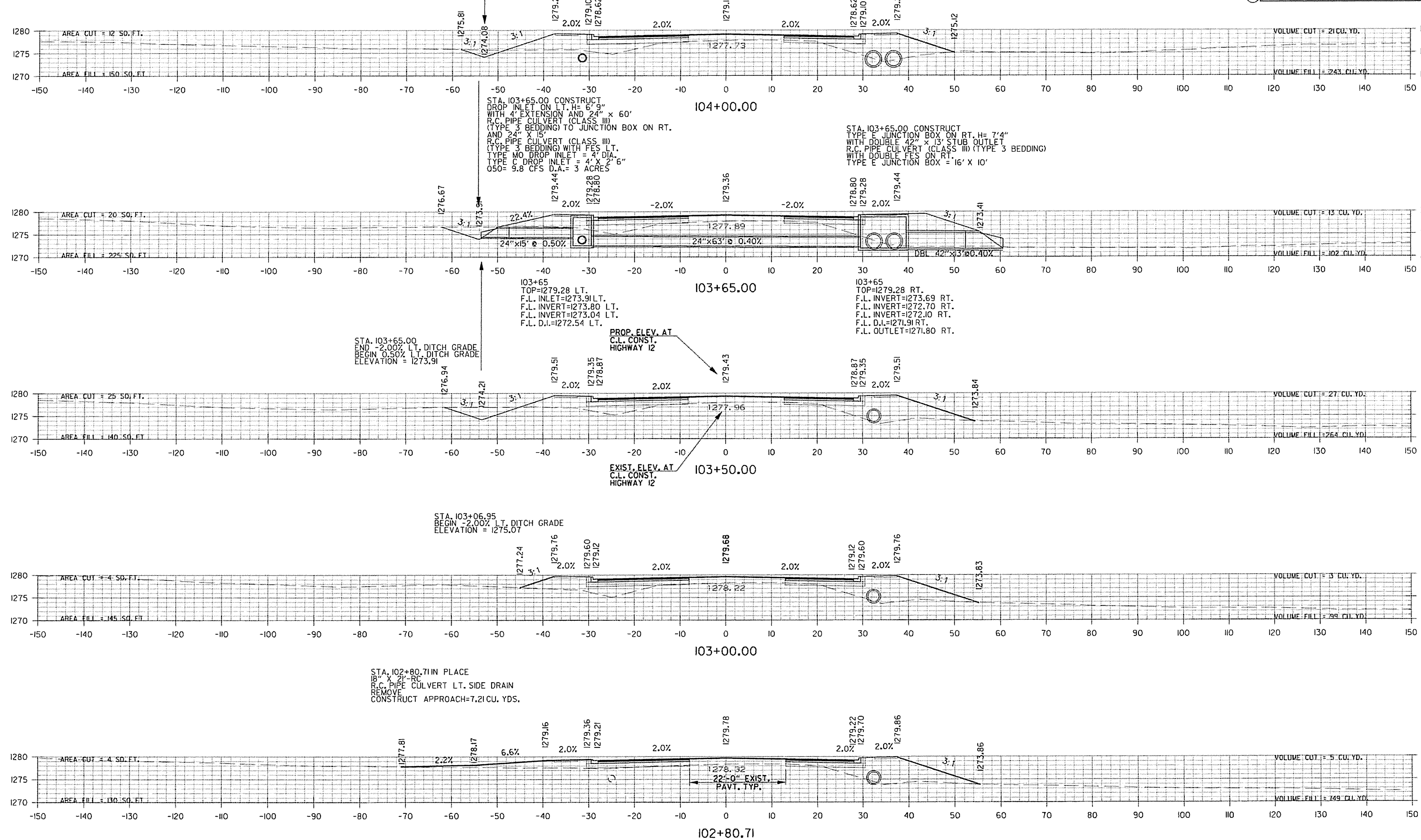


STA. 101+00 TO STA. 102+50

twmccormick 4/18/2013 2:09:11 PM
WORKSPACE: AHTD Hwy 12\Drawings\H12_XS_01.dgn
X:\2008\08053550
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	215	255

(2) CROSS SECTION STA. 102+80.71 TO 104+00



STA. 102+80.71 TO STA. 104+00

twmccormick 4/18/2013 2:09:12 PM
WORKSPACE: AHTD Hwy 12\Drawings\H12_XS_01.dgn
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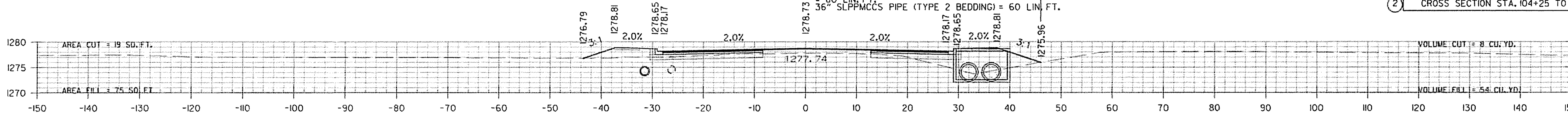
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	216	255

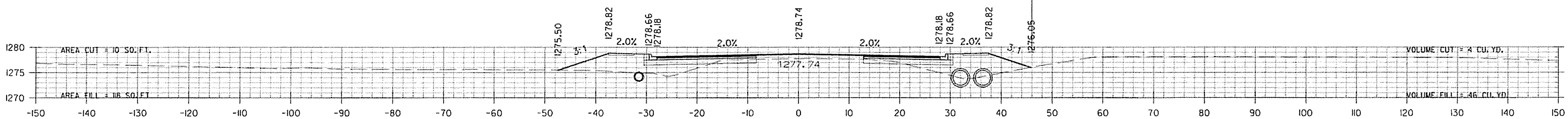
(2) CROSS SECTION STA. 104+25 TO 105+15

STA.105+15.00 CONSTRUCT
DROP INLET ON RT. H= 6'3"
WITH 8' EXTENSION AND DOUBLE 36" x 60'
PIPE CULVERT TO DROP INLET ON RT.
TYPE C DROP INLET = 5' X 10'
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 60 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 60 LIN. FT.



105+15.00

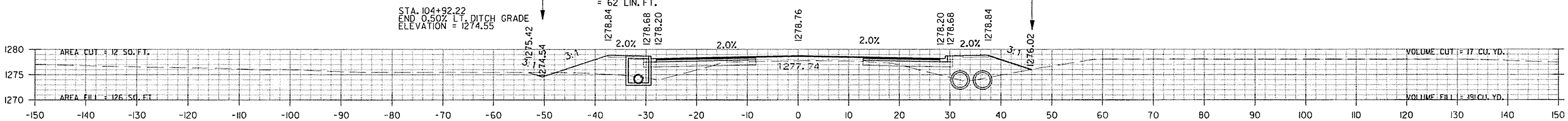
105+15
TOP=1278.98 RT.
F.L. D.I.=1272.70 RT.



105+00.00

STA.104+90.00 CONSTRUCT
DROP INLET ON LT. H= 5' 3"
WITH 8' EXTENSION AND 18" x 62'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 62 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 62 LIN. FT.

STA. 104+92.22
END 0.50% LT. DITCH GRADE
ELEVATION = 1274.55



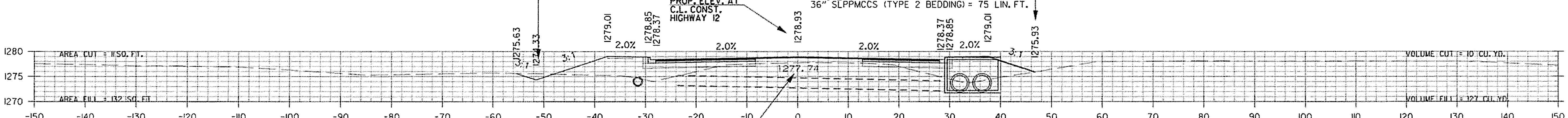
104+90
TOP=1278.68 LT.
F.L. D.I.=1273.41 LT.

104+90.00

STA. 104+70 IN PLACE
24" x 53' PIPE CULVERT
PLUG AND ABANDON

STA.104+50.00 CONSTRUCT
DROP INLET ON RT. H= 6'5"
WITH DOUBLE 36" x 75'
PIPE CULVERT TO JUNCTION BOX ON RT.
TYPE C DROP INLET=5' X 10'
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 75 LIN. FT.
36" SLPPMCCS (TYPE 2 BEDDING) = 75 LIN. FT.

PROP. ELEV. AT
C.L. CONST.
HIGHWAY 12

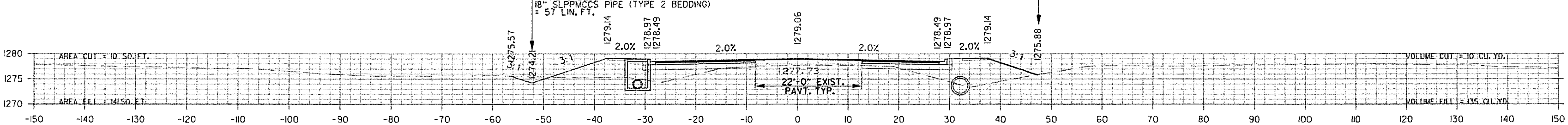


104+50.00

104+50
TOP=1278.85 RT.
F.L. D.I.=1272.44 RT.

STA.104+25.00 CONSTRUCT
DROP INLET ON LT. H= 5'5"
WITH 18" x 57'
PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
18" R.C. PIPE (CLASS III)
(TYPE 3 BEDDING) = 57 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 57 LIN. FT.

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12



104+25
TOP=1278.65 LT.
F.L. D.I.=1273.22 LT.

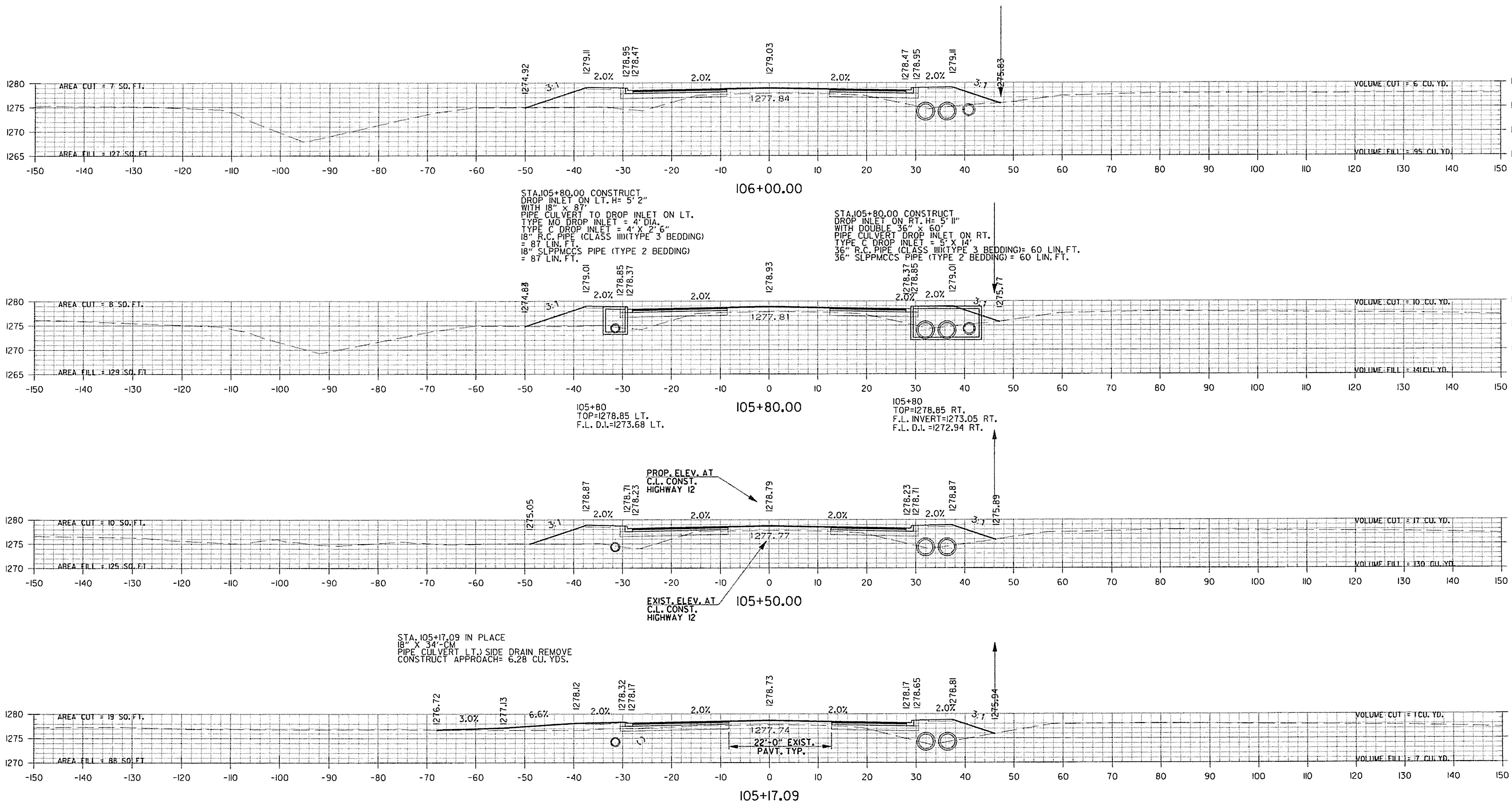
104+25.00

twmccormick 4/18/2013 2:09:12 PM
WORKSPACE: AHTD
X:\2008\080553550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

STA. 104+25 TO STA. 105+15

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	217	255

(2) CROSS SECTION STA. 105+17.09 TO 106+00

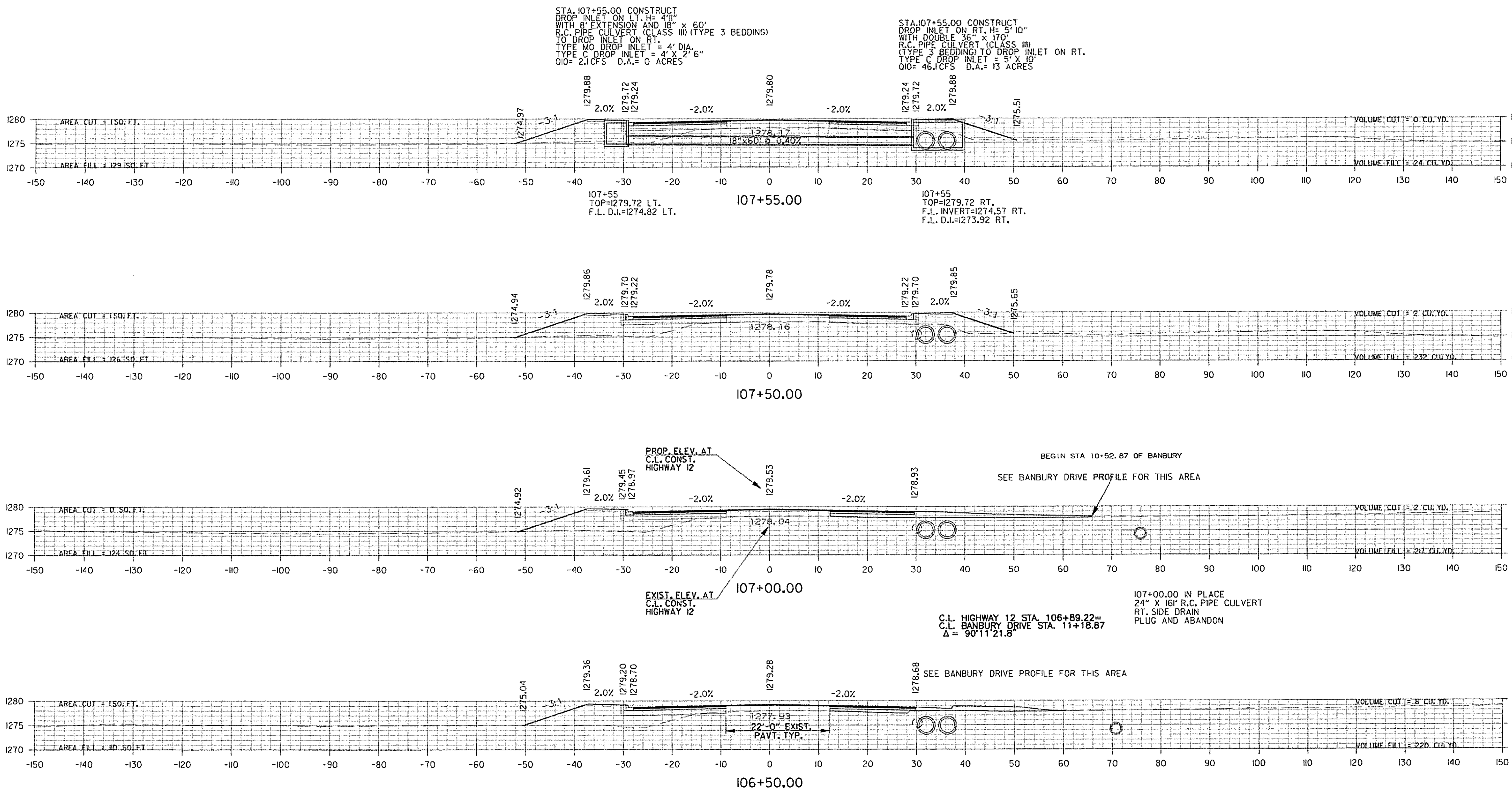


tvmccormick 4/18/2013 2:09:13 PM
WORKSPACE: AHTD Hwy 12\Drawings\H12_XS_01.dgn
X:\2008\08053550 -
REVISED DATE:

STA. 105+17.09 TO STA. 106+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	218	255

(2) CROSS SECTION STA. 106+50 TO 107+55

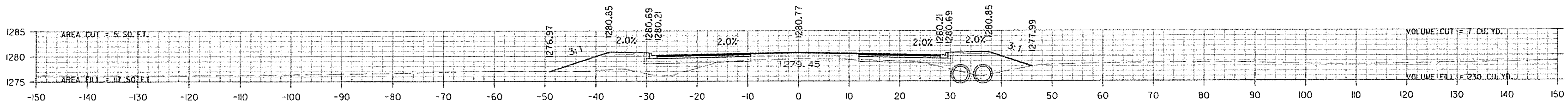


STA. 106+50 TO STA. 107+55

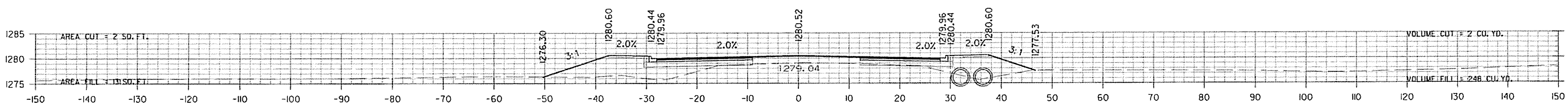
twmccormick 4/8/2013 2:09:14 PM
WORKSPACE: AHTD
X:\2008\080535 ...Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	219	255

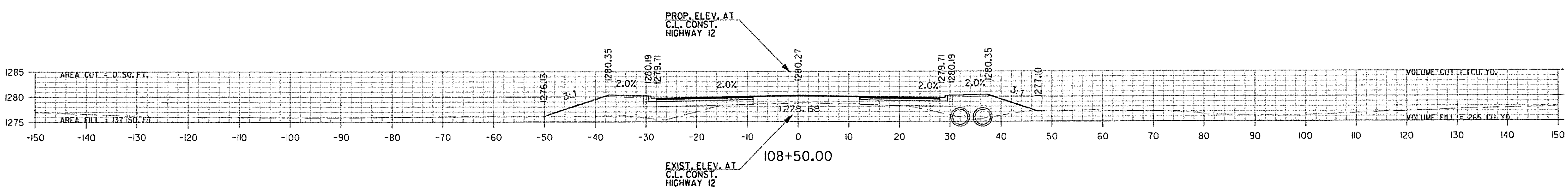
(2) CROSS SECTION STA. 108+00 TO 109+50



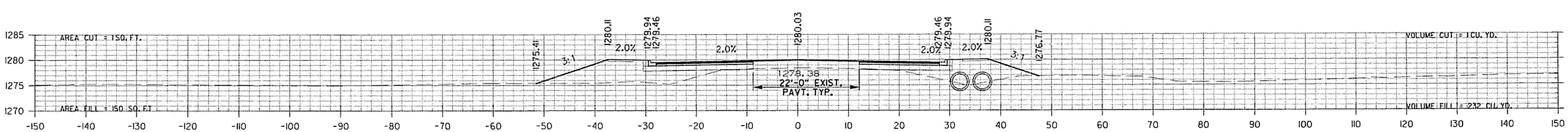
109+50.00



109+00.00



108+50.00



108+00.00

STA. 108+00 TO STA. 109+50

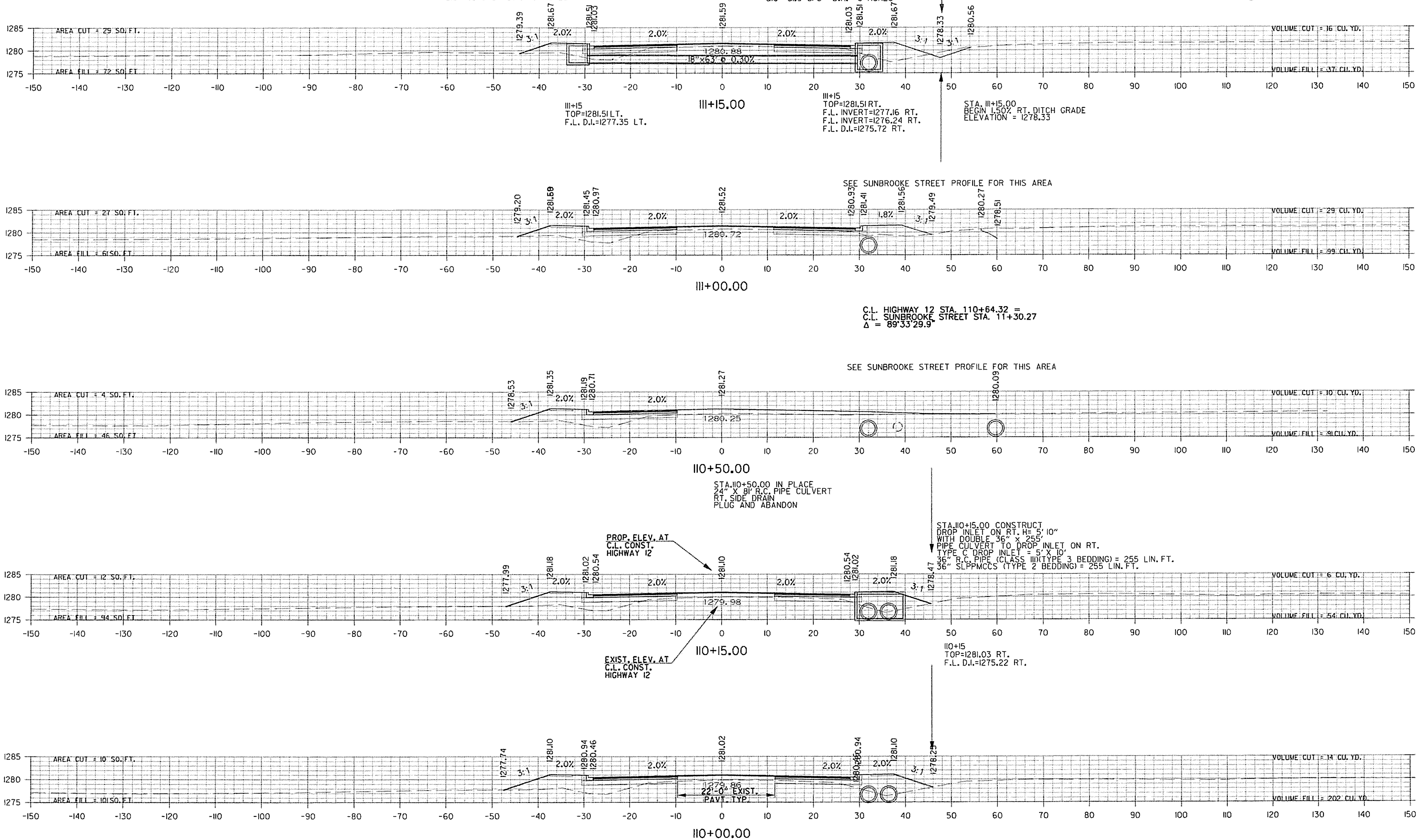
twmccormick 4/18/2013 2:09:15 PM
WORKSPACE: AHTD
X:\2008\080355 ... Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	220	255

(2) CROSS SECTION STA. 110+00 TO 111+15

STA. 111+15.00 CONSTRUCT
DROP INLET ON LT. H= 4'2"
WITH 8' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 1.8 CFS D.A.= 0 ACRES

STA.111+15.00 CONSTRUCT
DROP INLET ON RT. H= 5'9"
WITH 8' EXTENSION AND 36" x 96'
R.C. PIPE CULVERT (CLASS III)
(TYPE 3 BEDDING)TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3'8"
Q10= 31.9 CFS D.A.= 8 ACRES

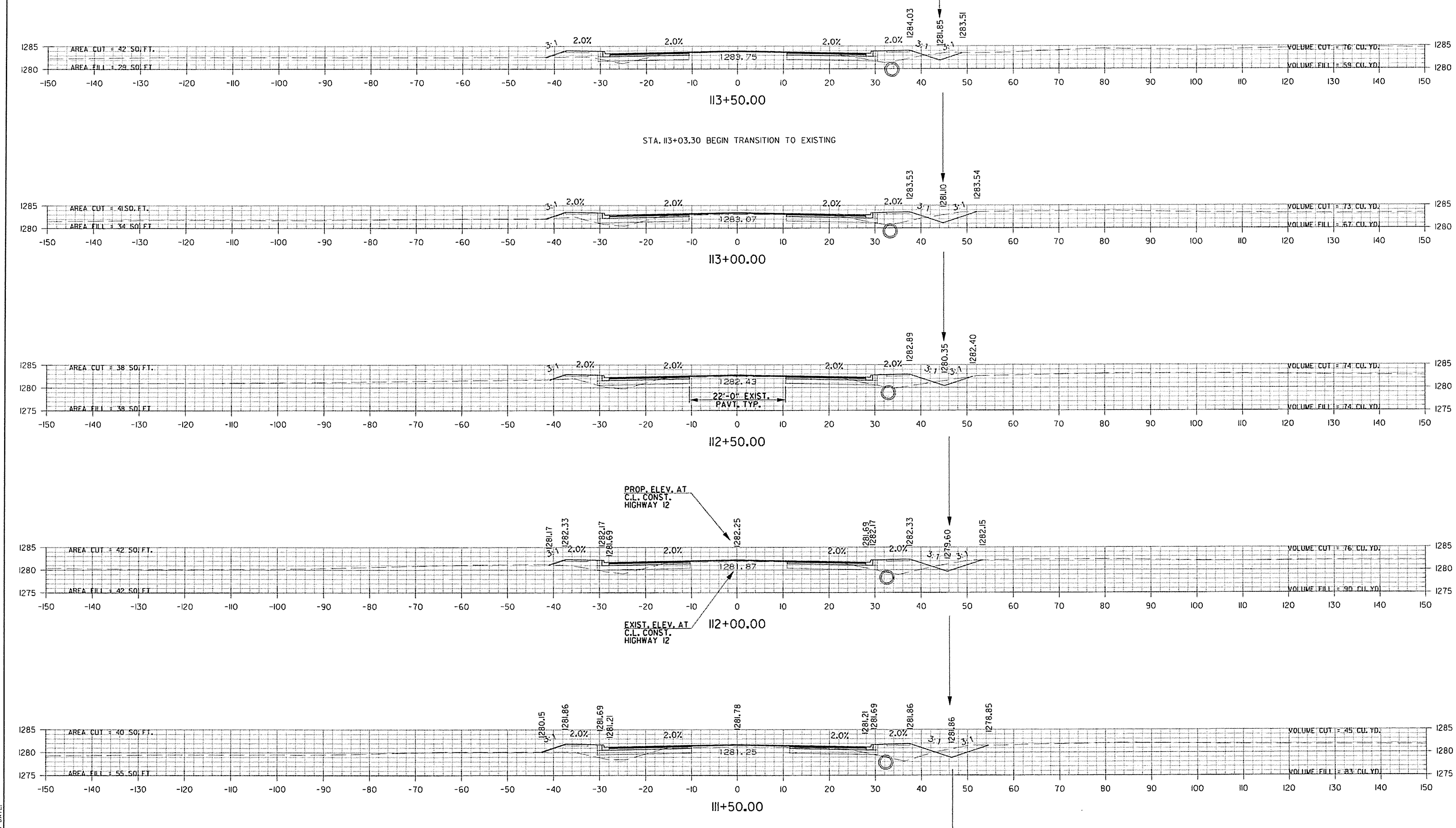


STA. 110+00 TO STA. 111+15

*wmccormick 4/18/2013 2:09:15 PM
WORKSPACE: AHTD
X:\2008\080535\50 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	221	255

(2) CROSS SECTION STA. 111+50 TO 113+50



STA. 111+50 TO STA. 113+50

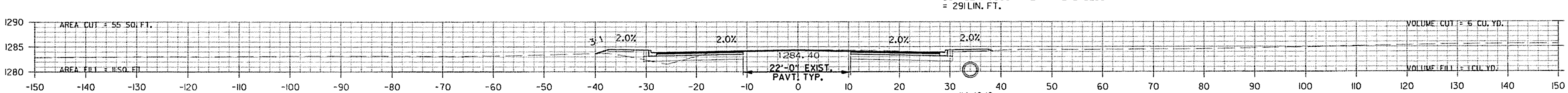
twmccormick 4/18/2013 2:09:16 PM
WORKSPACE: AHTD
X:\2008\080S3550 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	222	255

(2) CROSS SECTION STA. 113+97 TO 114+00

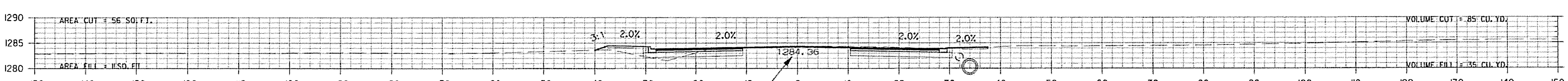
STA. 114+03.30 BEGIN EXCEPTION JOB 090251
END 100' TRANSITION TO EXISTING

STA. 114+10.19 IN PLACE
6' DIA. DROP INLET ON RT.
WITH 26" X 43" X 5' R.C. PIPE CULVERT AND FES RT.
REMOVE
CONSTRUCT DROP INLET ON RT. H=5'3"
WITH 30" x 291'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 3' 2"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 291 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 291 LIN. FT.



114+00.00

114+10.19
TOP=1284.45 RT.
F.L. INVERT=1281.54 RT.
F.L. D.I.=1279.16 RT.



EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

113+97.25

STA. 113+79.00
END 1.50% RT. DITCH GRADE
ELEVATION = 1282.29

STA. 113+90.00 IN PLACE
18" X 21' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 5.33 CU. YDS.

STA. 113+97 TO STA. 114+00

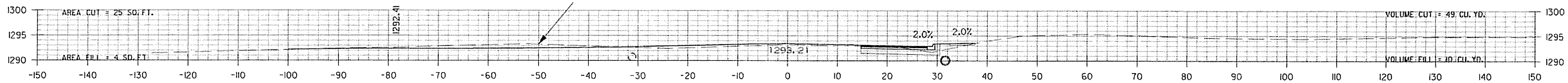
twmccormick 4/18/2013 2:09:18 PM
WORKSPACE: AHTD
X:\2008\080535O - Hwy 12\Drawings\1112_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	223	255

(2) CROSS SECTION STA. 143+50 TO 145+00

SEE F STREET PROFILE FOR THIS AREA

BEGIN STA. 10+50 OF F STREET



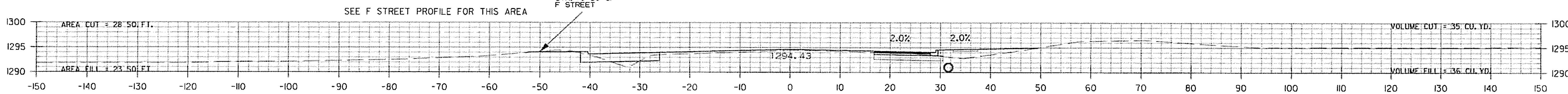
145+00.00

C.L. HIGHWAY 12 STA. 144+86.63 =
C.L. F STREET STA. 10+00.00
Δ = 89°53'52.5"

STA. 145+00.00 IN PLACE
18" X 61' R.C. PIPE CULVERT LT.
SIDE DRAIN
PLUG AND ABANDON

BEGIN STA. 10+50 OF F STREET

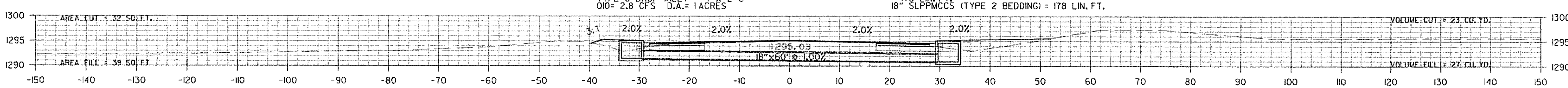
SEE F STREET PROFILE FOR THIS AREA



144+50.00

STA. 144+18.43 CONSTRUCT
DROP INLET ON LT. H= 3'8"
WITH 4' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
Q10= 2.8 CFS D.A.= 1 ACRES

STA. 144+18.43 CONSTRUCT
DROP INLET ON RT. H= 4'3"
WITH 4' EXTENSION AND 18" x 178'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 178 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 178 LIN. FT.

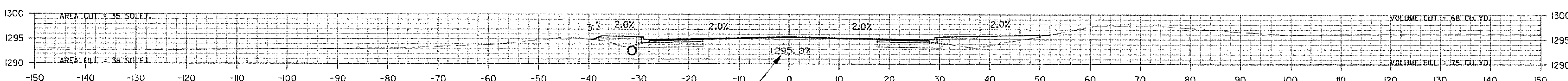


144+18.43
TOP=1295.12 LT.
F.L. D.I.=1291.48 LT.

144+18.43

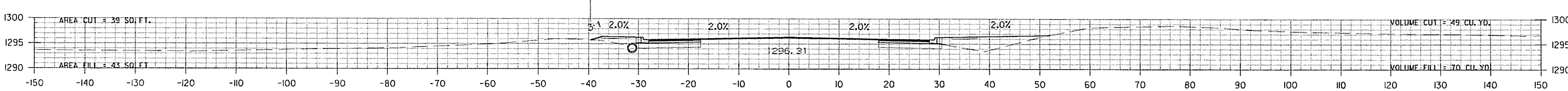
144+18.43
TOP=1295.12 RT.
F.L. D.I.=1290.85 RT.

STA. 144+14.83 END 100' TRANSISTION TO EXISTING



144+00.00

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12



143+50.00

STA. 143+25.08 IN PLACE
18" X 5'-RC
PIPE CULVERT FES LT. BY OTHERS
REMOVE AND INSTALL 18" X 102' RC PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) TO DROP INLET ON LT

STA. 143+14.83 END EXCEPTION JOB 090251
BEGIN 100' TRANSITION TO EXISTING

STA. 143+50 TO STA. 145+00

twmccormick 4/18/2013 2:09:19 PM
WORKSPACE: AHTD
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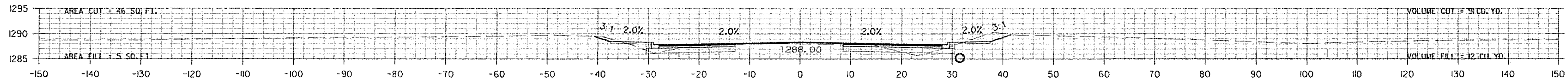
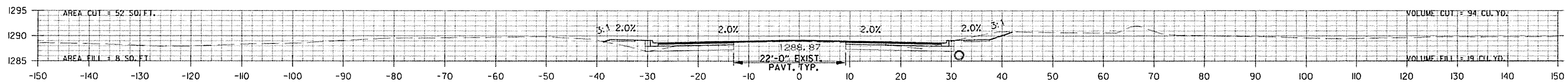
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	224	255

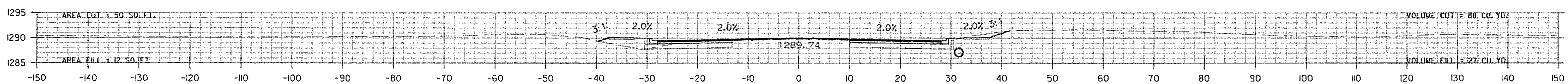
2 CROSS SECTION STA. 145+50 TO 147+50



147+50.00

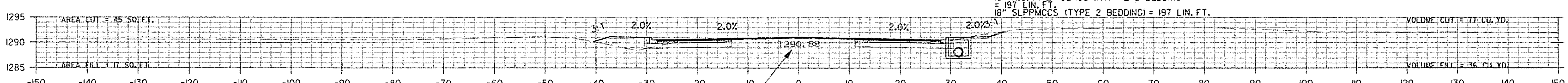


147+00.00



146+50.00

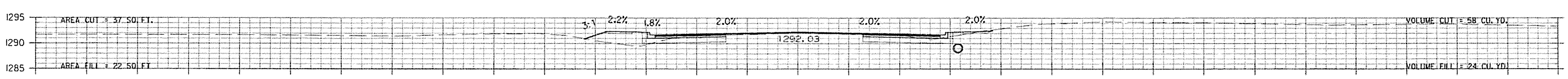
STA.146+00.00 CONSTRUCT DROP INLET ON RT. H= 3'8" WITH 4' EXTENSION AND 18" x 197' PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 197 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING) = 197 LIN. FT.



EXIST. ELEV. AT C.L. CONST. HIGHWAY 12

146+00.00

146+00
TOP=1291.07 RT.
F.L. D.I.=1287.41 RT.



145+50.00

twmccormick 4/18/2013 2:09:19 PM
WORKSPACE: AHTD
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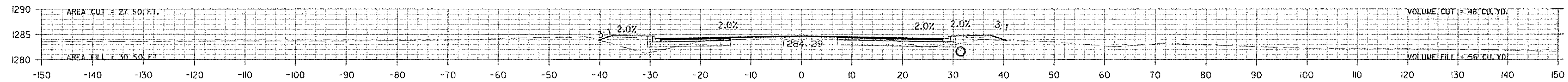
REVISED DATE:

STA. 145+50 TO STA. 147+50

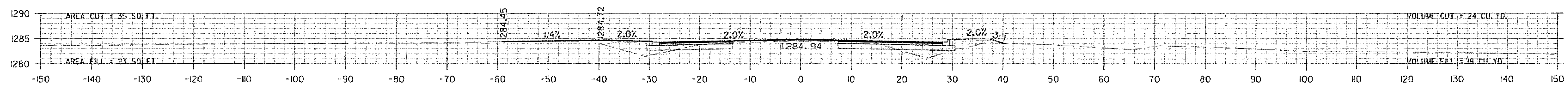
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	225	255

(2) CROSS SECTION STA. 148+00 TO 149+50

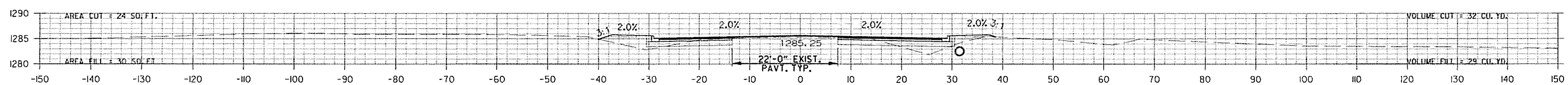


149+50.00

STA. 149+40.00
CONSTRUCT APPROACH= 2.29 CU. YDS.

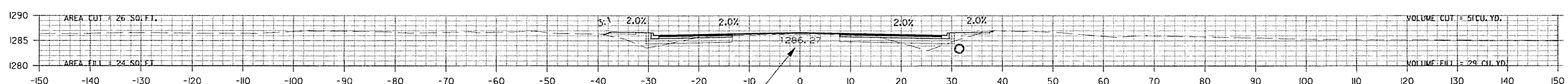


149+40.00



149+00.00

STA. 148+70.88 IN PLACE
18" X 25' R.C. PIPE CULVERT LT.
SIDE DRAIN REMOVE

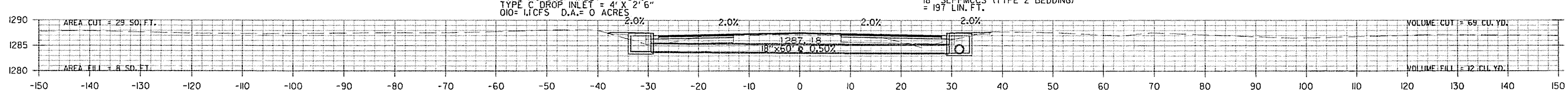


EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

148+50.00

STA. 148+00.00 CONSTRUCT
DROP INLET ON LT. H= 3'8"
WITH 4' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
Q10= 1.1 CFS D.A.= 0 ACRES

STA. 148+00.00 CONSTRUCT
DROP INLET ON RT. H= 4'0"
WITH 4' EXTENSION AND 18" x 197'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 197 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)
= 197 LIN. FT.



148+00
TOP=1287.48 LT.
F.L. D.I.=1283.84 LT.

148+00.00

148+00
TOP=1287.48 RT.
F.L. D.I.=1283.53 RT.

STA. 148+00 TO STA. 149+50

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WORKSPACE: AHTD
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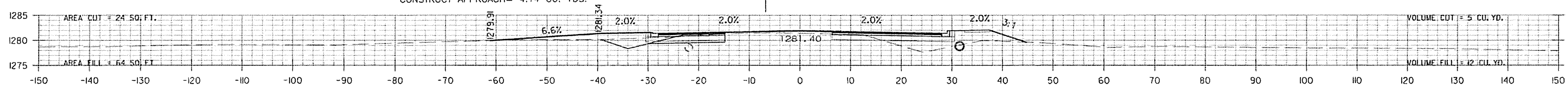
REVISED DATE:

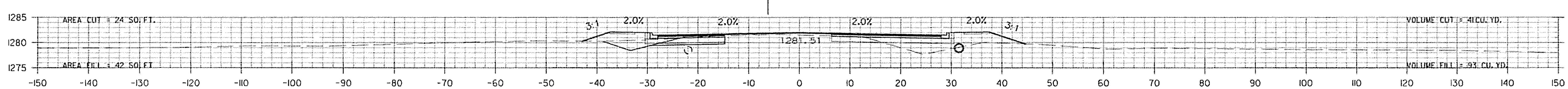
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	226	255

(2) CROSS SECTION STA. 149+58.60 TO 151+06.06

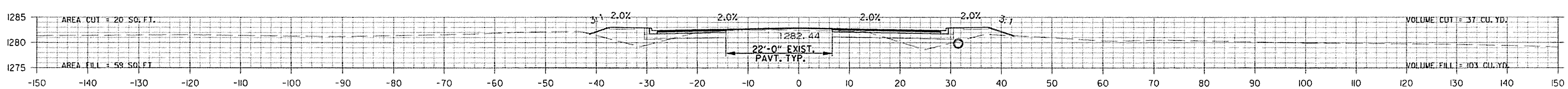
STA. 151+06.06 IN PLACE
18" X 22' C.M.
PIPE CULVERT LT.
SIDE DRAIN REMOVE
CONSTRUCT APPROACH= 4.14 CU. YDS.



151+06.06

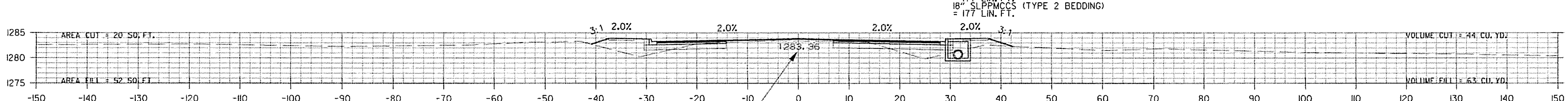


151+00.00



150+50.00

STA.150+00.00 CONSTRUCT
DROP INLET ON RT. H= 3'9"
WITH 8' EXTENSION AND 18" x 177'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 177 LIN. FT.
18" SLPPMCCS (TYPE 2 BEDDING)
= 177 LIN. FT.

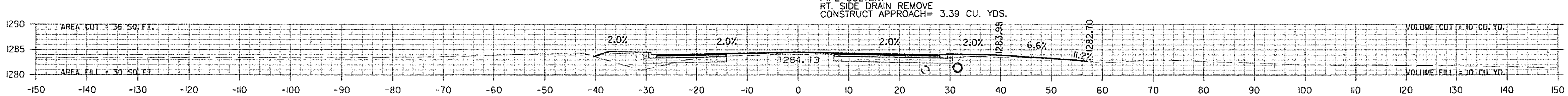


EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

150+00.00

150+00
TOP=1283.77 RT.
F.L. D.I.=1280.02 RT.

STA. 149+58.60 IN PLACE
18" X 20' C.M.
PIPE CULVERT
RT. SIDE DRAIN REMOVE
CONSTRUCT APPROACH= 3.39 CU. YDS.



149+58.60

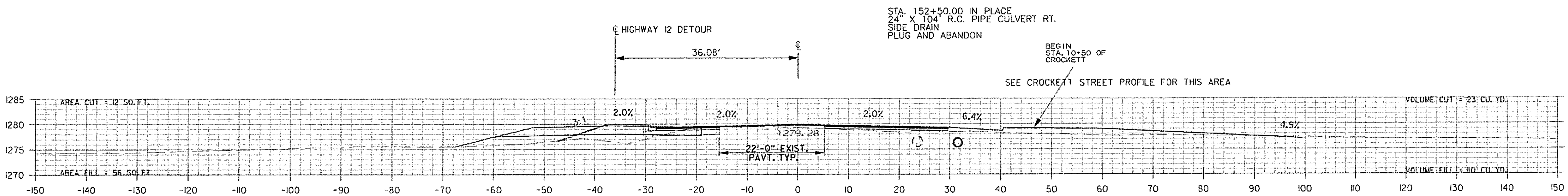
C.L. DETOUR 2 STA. 10+00.00
C.L. CONST. HWY. 12 STA. 149+55.78 3.86' LT.

STA. 149+58.60 TO STA. 151+06.06

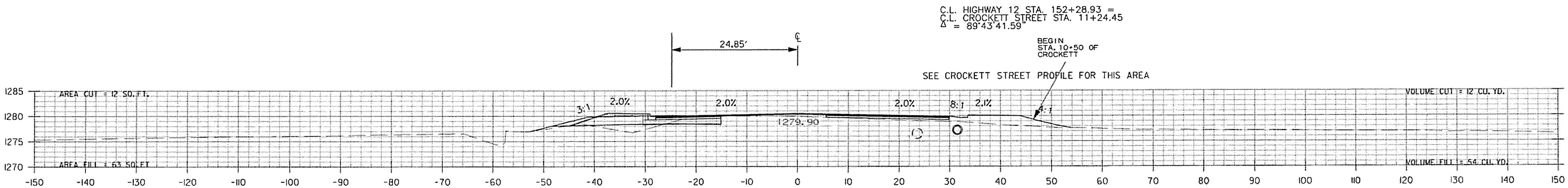
tvmccormick 4/18/2013 2:09:21 PM
WORKSPACE: AHTD
X:\2008\080535
REVISED DATE:
Hwy 12\Drawings\Hi2_XS_01.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
					JOB NO.	090251	227	255

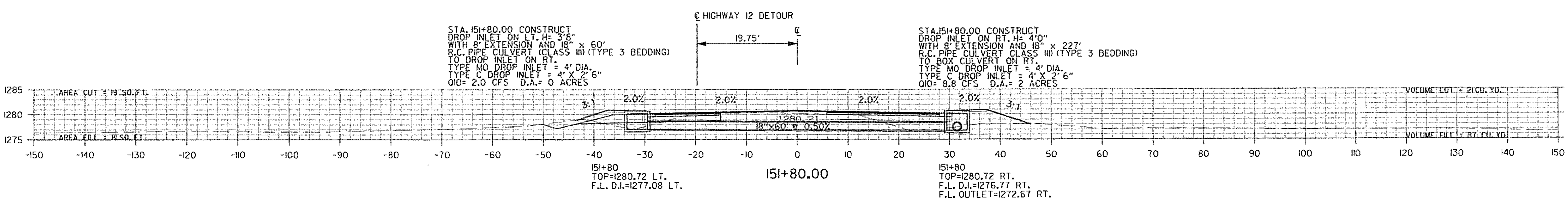
(2) CROSS SECTION STA. 151+50 TO 152+50



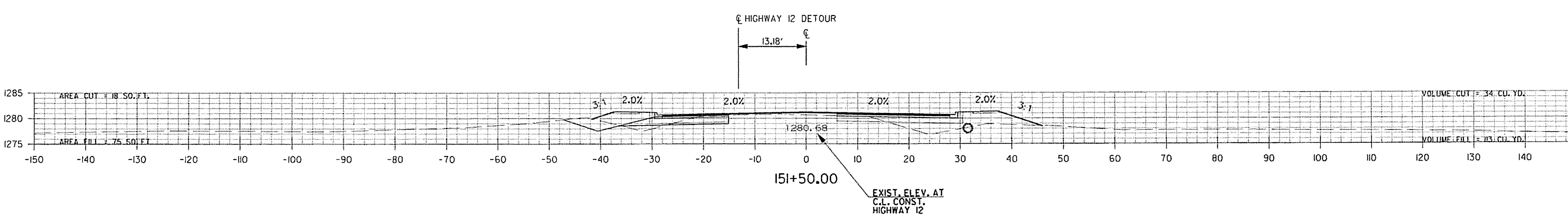
152+50.00



152+00.00



151+80.00



151+50.00

STA. 151+50 TO STA. 152+50

twmccormick 4/18/2013 2:09:17 PM
WORKSPACE: AHTD
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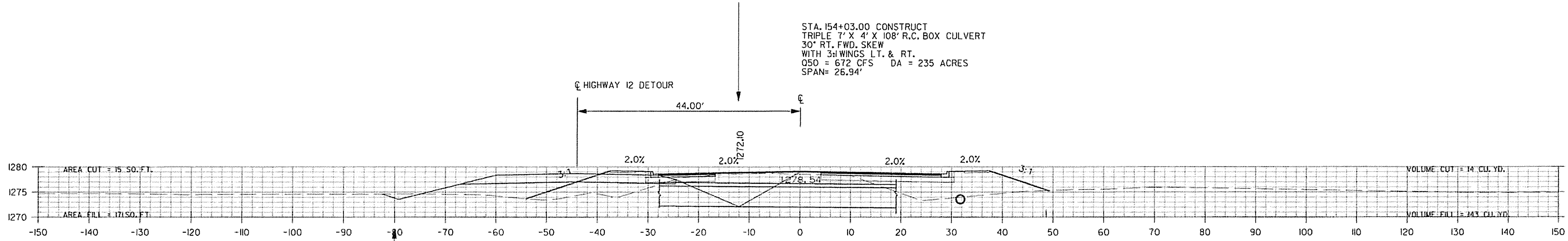
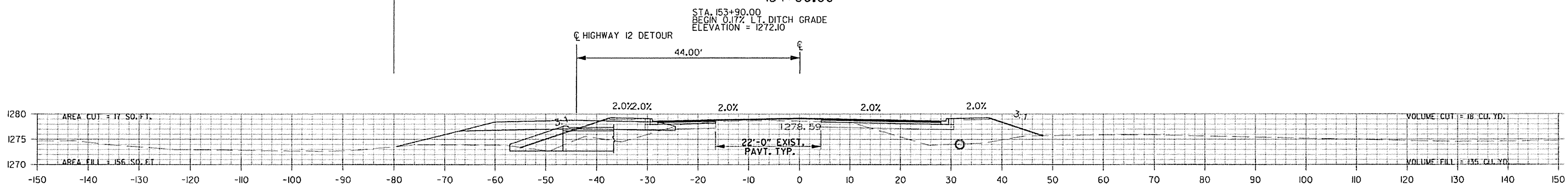
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	228	255

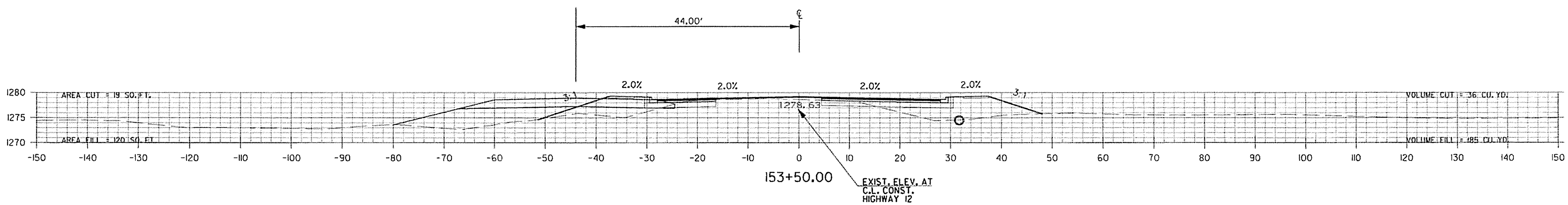
(2) CROSS SECTION STA. 153+00 TO 154+00



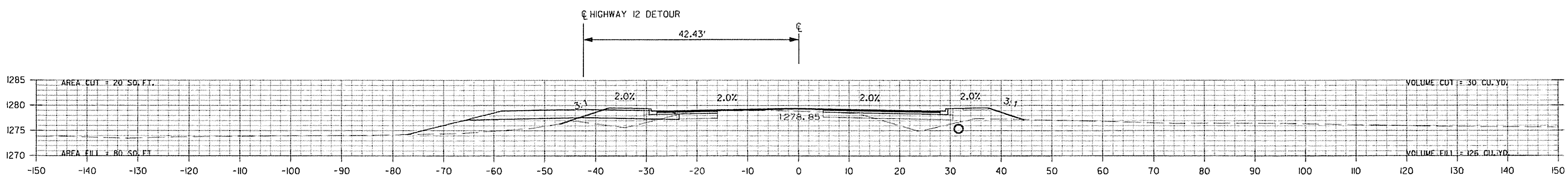
154+00.00



153+76.47



153+50.00



153+00.00

twmccormick 4/18/2013 2:09:17 PM
WORKSPACE: AHTD
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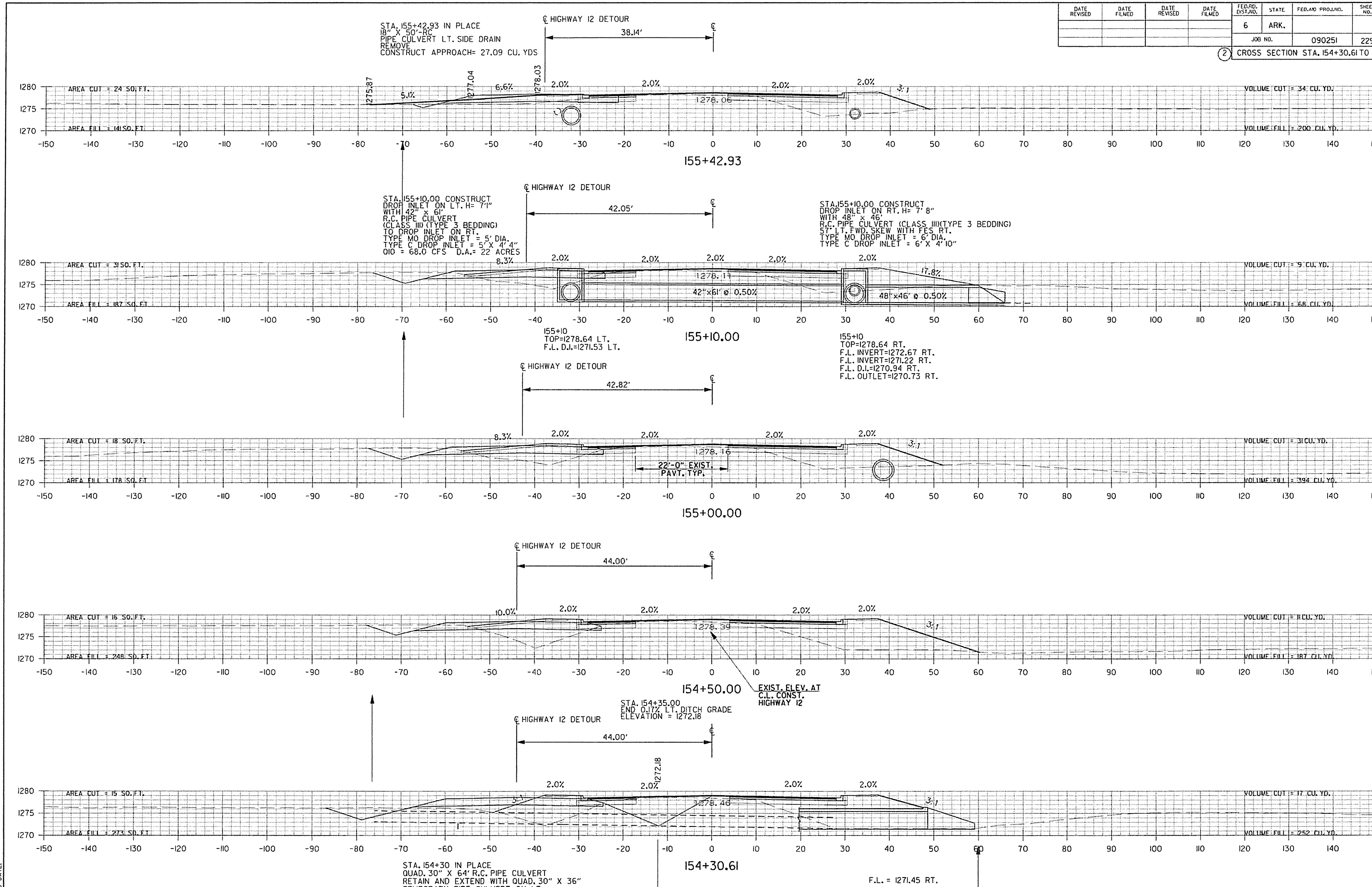
REVISED DATE:

STA. 153+00 TO STA. 154+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	229	255

(2) CROSS SECTION STA. 154+30.61 TO 155+42.93

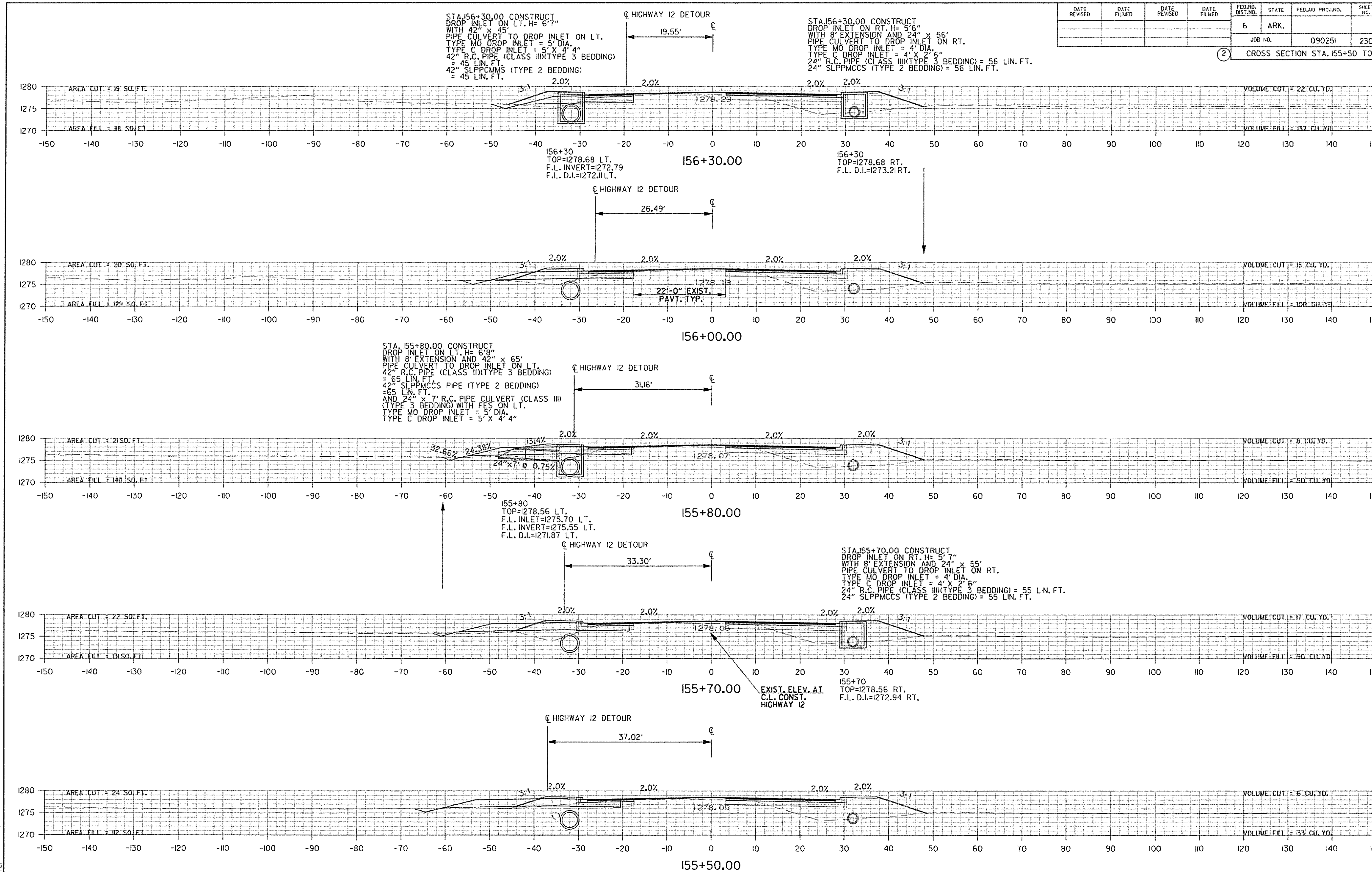


STA. 154+30.61 TO STA. 155+42.93

tvmccormick 4/18/2013 2:09:22 PM
WORKSPACE: AHTD
X:\2008\080535 - Hwy 12\Drawings\H12_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	230	255

(2) CROSS SECTION STA. 155+50 TO 156+30

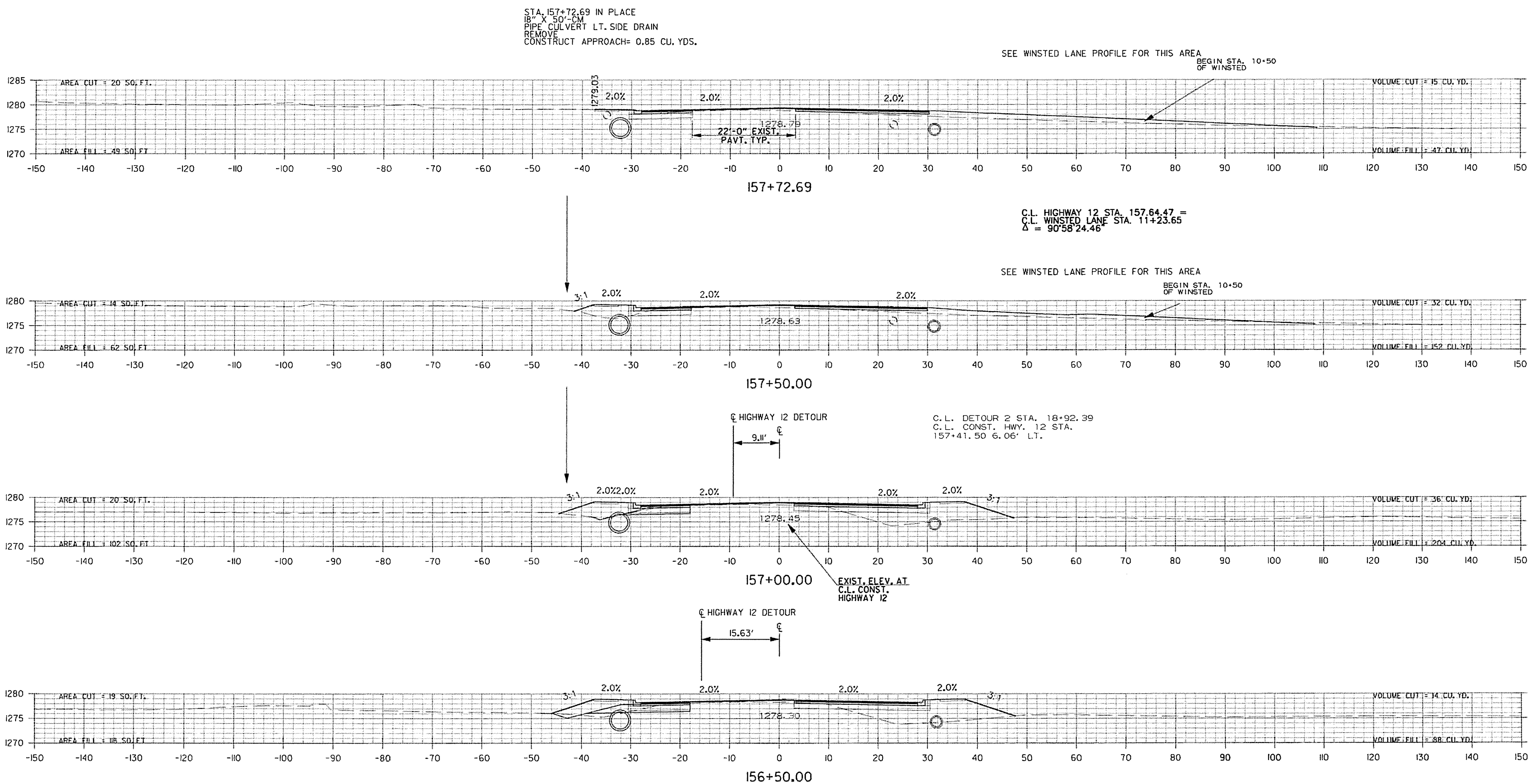


twmccormick 4/18/2013 2:09:22 PM WORKSPACE: AHTD X:\2008\0905350 - Hwy 12\Drawings\H12_XS_01.dgn REVISED DATE:

STA. 155+50 TO STA. 156+30

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	231	255

(2) CROSS SECTION STA. 156+50 TO 157+72.69



STA. 156+50 TO STA. 157+72.69

twmccormick 4/18/2013 2:09:23 PM
WORKSPACE: AHTD
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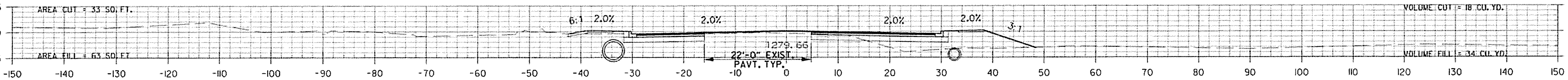
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	232	255

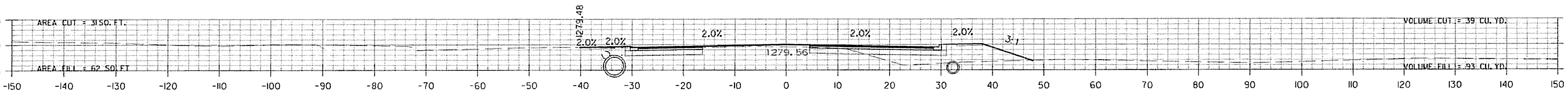
(2) CROSS SECTION STA. 158+00 TO 159+00



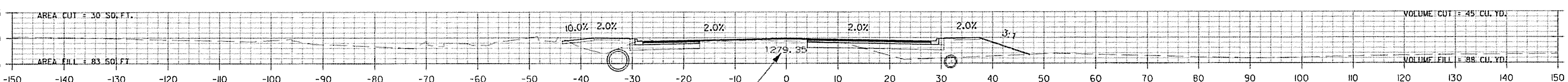
159+00.00

STA. 158+85.46 IN PLACE
18" X 50'-CM
PIPE CULVERT LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH= 0.53 CU. YDS.

STA. 158+96.51 BEGIN 100' TRANSITION TO EXISTING



158+85.46



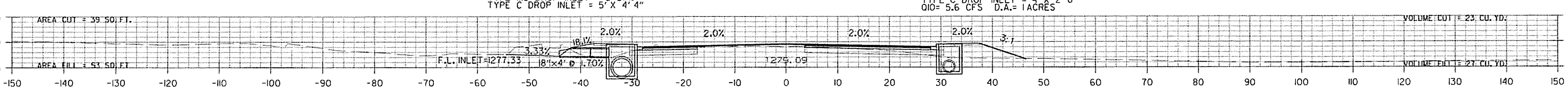
158+50.00

EXIST. ELEV. AT
C.L. CONST.
HIGHWAY 12

STA. 158+49.51 BEGIN 147' TRANSITION TO EXISTING

STA. 158+15.00 CONSTRUCT
DROP INLET ON LT. H= 5'10"
WITH 4' EXTENSION AND 42" x 182'
PIPE CULVERT TO DROP INLET ON LT.
42" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 182 LIN. FT.
42" SLPPMCCS (TYPE 2 BEDDING) = 182 LIN. FT.
AND 18"x4' R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
WITH FES ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 4' 4"

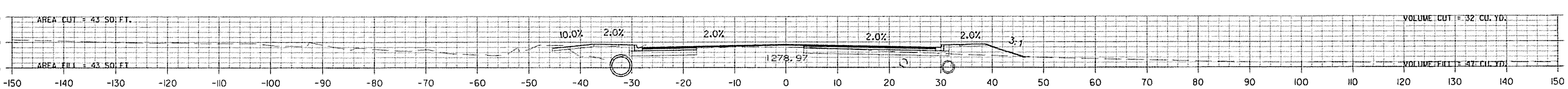
STA. 158+15.00 CONSTRUCT
DROP INLET ON RT. H= 5'4"
WITH 8' EXTENSION AND 24" x 182'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
Q10= 5.6 CFS D.A.= 1 ACRES



158+15.00

158+15
TOP=1279.56 LT.
F.L. INLET=1277.33 LT.
F.L. INVERT=1277.13 LT.
F.L. D.I.=1273.71 LT.

158+15
TOP=1279.56 RT.
F.L. D.I. =1274.13 RT.



158+00.00

twmccormick 4/18/2013 2:09:24 PM
WORKSPACE: AHTD
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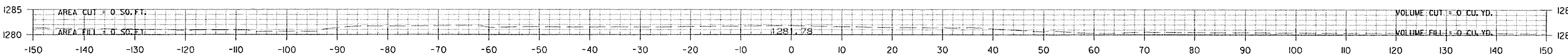
REVISED DATE:

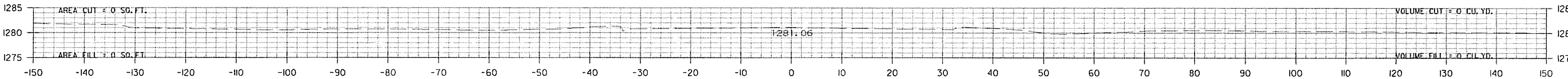
STA. 158+00 TO STA. 159+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	233	255

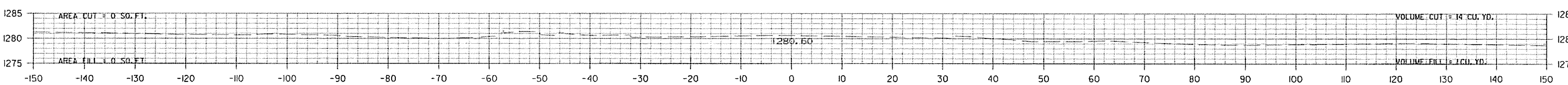
(2) CROSS SECTION STA. 159+50 TO 161+00



161+00.00



160+50.00



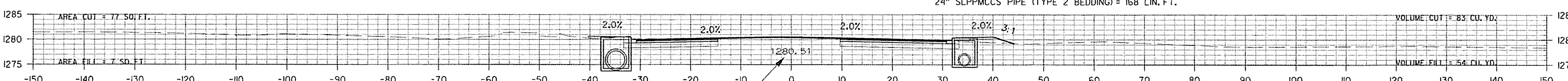
160+00.00

STA. 159+85.00 CONSTRUCT DROP INLET ON LT. H= 5' 11" WITH 4' EXTENSION AND 42" x 167' PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 4'4"
42" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 167 LIN. FT.
42" SLPPMCCS PIPE (TYPE 2 BEDDING) = 167 LIN. FT.
IN PLACE 18" X 64' R.C. PIPE CULVERT RETAIN

STA. 159+96.51 END JOB 090251

END 147' TRANSITION TO EXISTING
END 100' TRANSITION TO EXISTING

STA. 159+85.00 CONSTRUCT DROP INLET ON RT. H= 5' 4" WITH 8' EXTENSION AND 24" x 168' PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 168 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 168 LIN. FT.

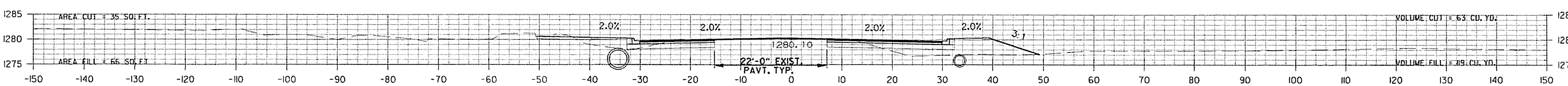


159+90
TOP=1280.48 LT.
F.L. D.I.=1274.58 LT.

EXIST. ELEV. AT C.L. CONST. HIGHWAY 12

159+90.00

159+90
TOP=1280.37
F.L.=1275.00



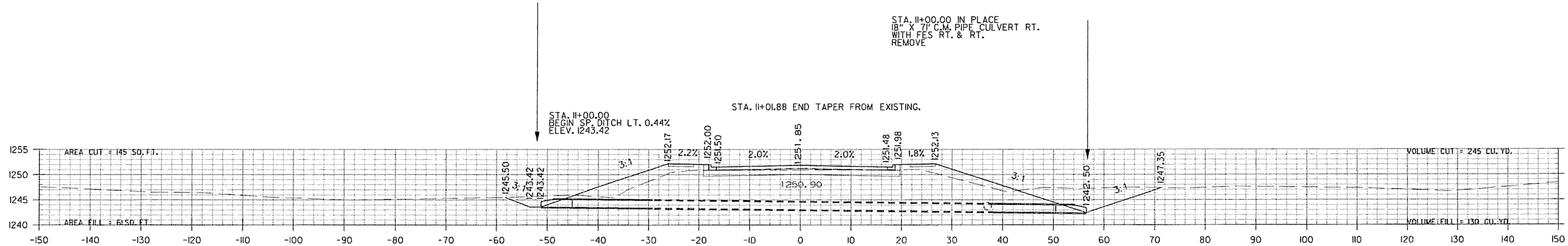
159+50.00

STA. 159+50 TO STA. 161+00

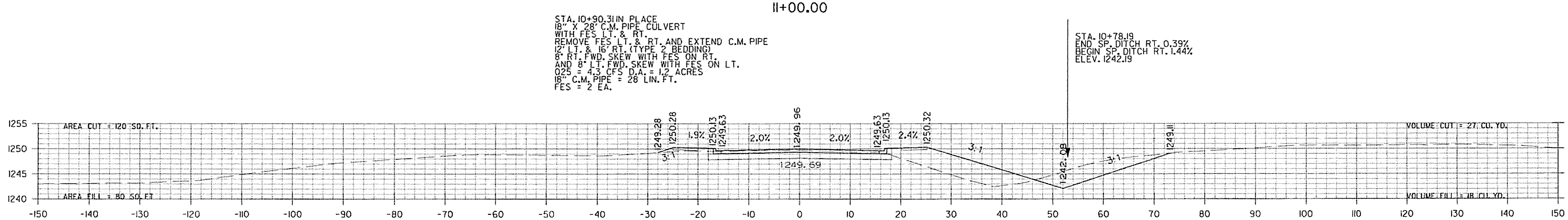
twmccormick 4/18/2013 2:09:24 PM
WORKSPACE: AHTD
X:\2008\080355 0 - Hwy 12\Drawings\HI2_XS_01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	234	255

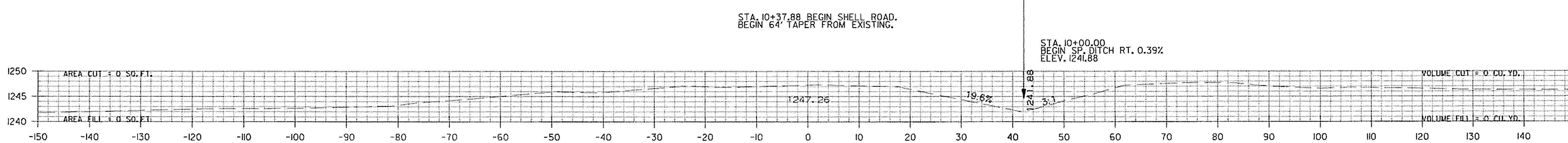
(2) CROSS SECTIONS STA. 9+75 TO 11+00



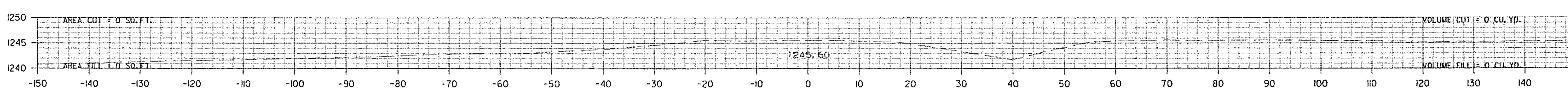
11+00.00



10+50.00



10+00.00



9+75.00

SHELL ROAD
STA. 9+75 TO STA. 11+00

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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	235	255

(2) CROSS SECTIONS STA. 11+50 TO 12+00

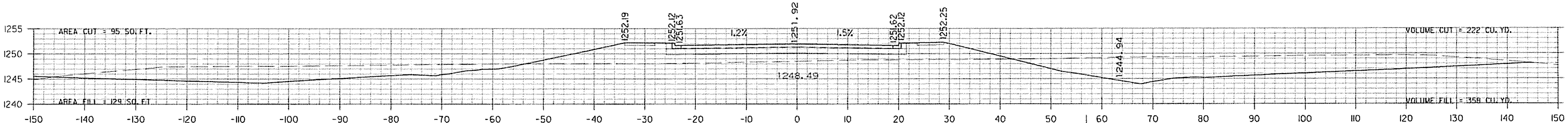
AREA CUT = 95 SQ.FT.
AREA FILL = 129 SQ.FT

C.L. HIGHWAY 12 STA. 22+69.80 =
C.L. SHELL ROAD STA. 12+52.23
Δ= 91°00'00.0"

VOLUME CUT = 125 CU. YD.
VOLUME FILL = 171 CU. YD.

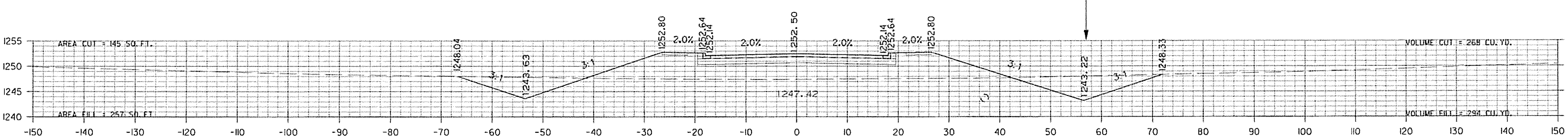
STA. 12+35.73 END SHELL ROAD

STA. 12+03.37
END SP. DITCH RT. 1.44%
ELEV. 1243.98



12+00.00

STA. 11+79.98
END SP. DITCH LT. 0.44%
ELEV. 1243.76



11+50.00

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REVISED DATE:

SHELL ROAD
STA. 11+50 TO STA. 12+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	236	255

(2) CROSS SECTIONS STA. 10+00 TO 12+00

STA. 12+00.00 IN PLACE
18" X 37' R.C. PIPE CULVERT LT. WITH FES LT.
REMOVE

STA. 11+95.00 IN PLACE
4' DIA. DROP INLET LT.
REMOVE

STA. 11+95.00 IN PLACE
18" X 30' R.C. PIPE CULVERT
REMOVE

STA. 11+95.00 IN PLACE
4' DIA. DROP INLET RT.
REMOVE

STA. 12+00.00 IN PLACE
18" X 36' R.C. PIPE CULVERT RT. WITH FES RT.
REMOVE

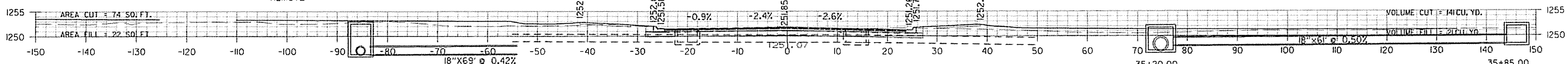
STA. 33+50.00 CONSTRUCT
DROP INLET ON RT. H = 6' 8"
WITH 4' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 5.7 CFS D.A.= 1 ACRE

C.L. HIGHWAY 12 STA. 34+35.75 =
C.L. CORNERSTONE ROAD STA. 12+39.52
Δ= 89°17'6.0"

STA. 12+11.52 END CORNERSTONE ROAD

STA. 35+20.00 CONSTRUCT
DROP INLET ON RT. H=6'6"
WITH 36" X 72'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
AND WITH 8' EXTENSION AND 30" X 11' R.C. PIPE CULVERT
CLASS III)(TYPE 3 BEDDING) WITH FES ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3'2"
Q50= 34.0 CFS D.A.= 8 ACRES

STA. 35+85.00 CONSTRUCT
DROP INLET ON RT. H=6'4"
WITH 4' EXTENSION AND 18" x 61'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 61 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 61 LIN. FT.



33+50.00 RT.
TOP=1253.03 RT.
F.L. D.I.=1246.39 RT.

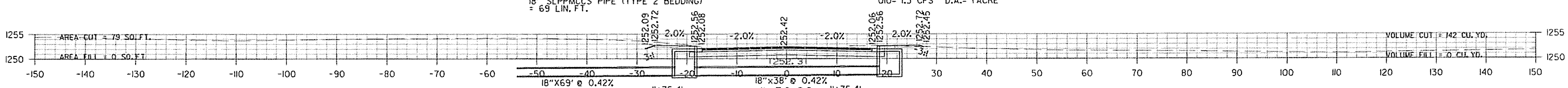
12+00.00

35+20.00
TOP=1252.22 RT.
F.L. INLET=1248.57 RT.
F.L. INVERT=1248.12 RT.
F.L. INVERT=1245.86 RT.
F.L. D.I.=1245.73 RT.

35+85.00
TOP=1252.46 RT.
F.L. D.I.=1246.16 RT.

STA. 11+75.41 CONSTRUCT
DROP INLET ON LT. H = 5' 4"
WITH 8' EXTENSION AND 18" x 69'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
18" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 69 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 69 LIN. FT.

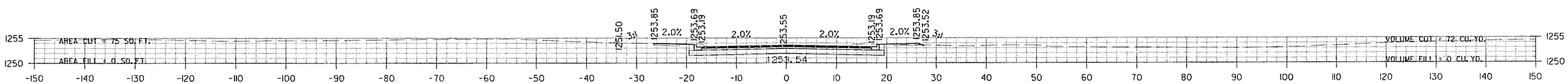
STA. 11+75.41 CONSTRUCT
DROP INLET ON RT. H = 5' 2"
WITH 8' EXTENSION AND 18" x 38'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
Q10= 1.3 CFS D.A.= 1 ACRE



11+75.41
TOP=1251.98 LT.
F.L. D.I.=1246.66 LT.

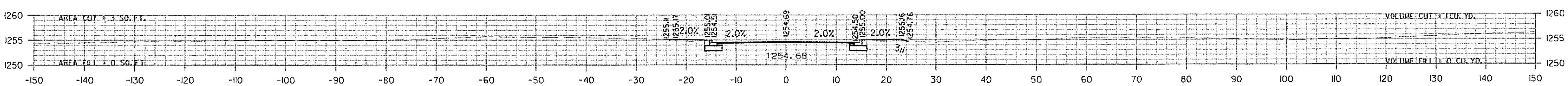
11+50.00

11+75.41
TOP=1251.98 RT.
F.L. D.I.=1246.84 RT.



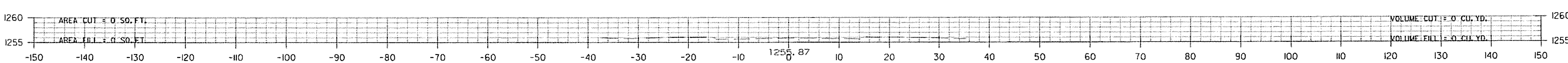
11+00.00

STA. 10+87.36 END 50' TRANSITION FROM EXISTING.



10+50.00

STA. 10+37.36 BEGIN CORNERSTONE ROAD.
BEGIN 50' TRANSITION FROM EXISTING.



10+00.00

CORNERSTONE ROAD/GREENHOUSE ROAD
STA. 10+00 TO STA. 12+00

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REVISED DATE:

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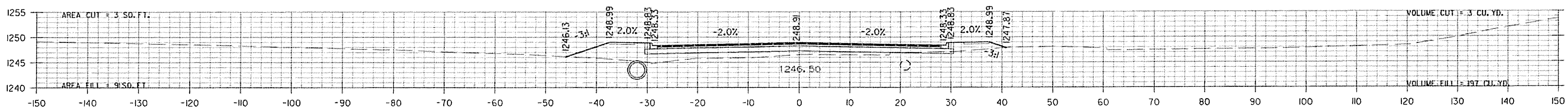
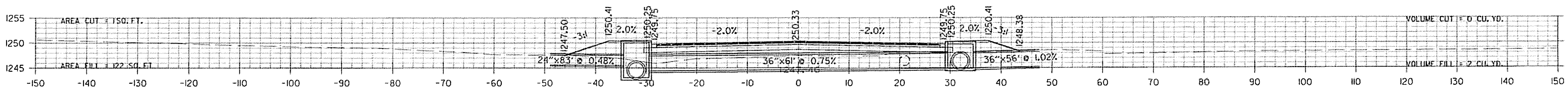
				6	ARK.			
				JOB NO.		090251	237	255

(2) CROSS SECTIONS STA. 12+50 TO 14+00



14+00.00



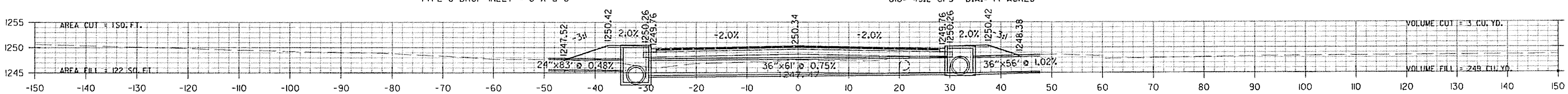
13+40.00
TOP=1250.49 LT.
F.L. INVERT=1245.41 LT.
F.L. INVERT=1243.91 LT.
F.L. D.I.=1243.08 LT.

13+50.00

13+40.00 RT.
TOP=1250.49 RT.
F.L. D.I.=1244.37 RT.

STA. 13+40.00 CONSTRUCT
DROP INLET ON LT. H = 7' 5"
WITH 4' EXTENSION AND 36" x 307'
36" R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)=307 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 307 LIN. FT.
TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3' 8"

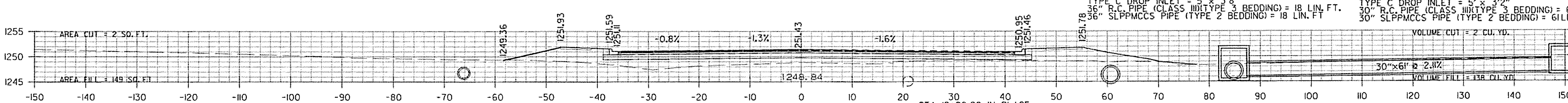
STA. 13+40.00 CONSTRUCT
DROP INLET ON RT. H = 6' 1"
WITH 36" x 61'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3' 8"
Q10= 49.2 CFS D.A.= 14 ACRES



13+49.59

STA. 35+20.00 CONSTRUCT
DROP INLET ON LT. H=6'11"
WITH 8' EXTENSION AND 36" x 18'
PIPE CULVERT TO JUNCTION BOX ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' x 3'8"
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 18 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 18 LIN. FT

STA. 35+85.00 CONSTRUCT
DROP INLET ON LT. H=5'10"
WITH 8' EXTENSION AND 30" x 61'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' x 3'2"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 61 LIN. FT.
30" SLPPMCCS PIPE (TYPE 2 BEDDING) = 61 LIN. FT.



13+00.00

STA. 12+90.90 IN PLACE
6' DIAMETER DROP INLET RT.
WITH 24"x186' R.C. PIPE CULVERT
AND 24"x17' R.C. PIPE CULVERT
WITH FES RT. REMOVE

35+20.00
TOP=1252.01 LT.
F.L. D.I.=1245.62 LT.

35+85.00
TOP=1252.24 LT.
F.L. D.I.=1246.91 LT.

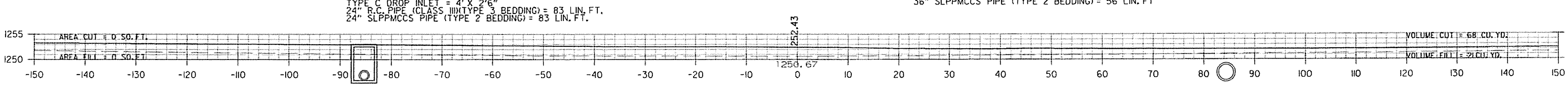
STA. 12+67.52 BEGIN GREENHOUSE ROAD.

STA. 12+92.00 CONSTRUCT
JUNCTION BOX ON RT. H=6'11"
WITH 36" x 56'
PIPE CULVERT TO DROP INLET ON RT.
TYPE E JUNCTION BOX = 5' x 3'8"
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 56 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 56 LIN. FT

STA. 33+50.00 CONSTRUCT
DROP INLET ON LT. H = 7' 2"
WITH 4' EXTENSION AND 24" x 83'
R.C. PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' x 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 83 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 83 LIN. FT.

SEE HIGHWAY 12 PROFILE FOR THIS AREA

SEE HIGHWAY 12 PROFILE FOR THIS AREA



12+50.00

33+50
TOP=1253.03 LT.
F.L. INVERT=1246.14 LT.
F.L. D.I.=1245.89 LT.

C.L. HIGHWAY 12 STA. 34+35.75 =
C.L. GREENHOUSE ROAD STA. 12+39.52
Δ = 89°15'05.0"
C.L. HIGHWAY 12 STA. 34+35.75 =
C.L. CORNERSTONE ROAD STA. 12+39.52
Δ = 89°17'5.7"

CORNERSTONE ROAD/GREENHOUSE ROAD
STA. 12+50 TO STA. 14+00

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				6	ARK.			
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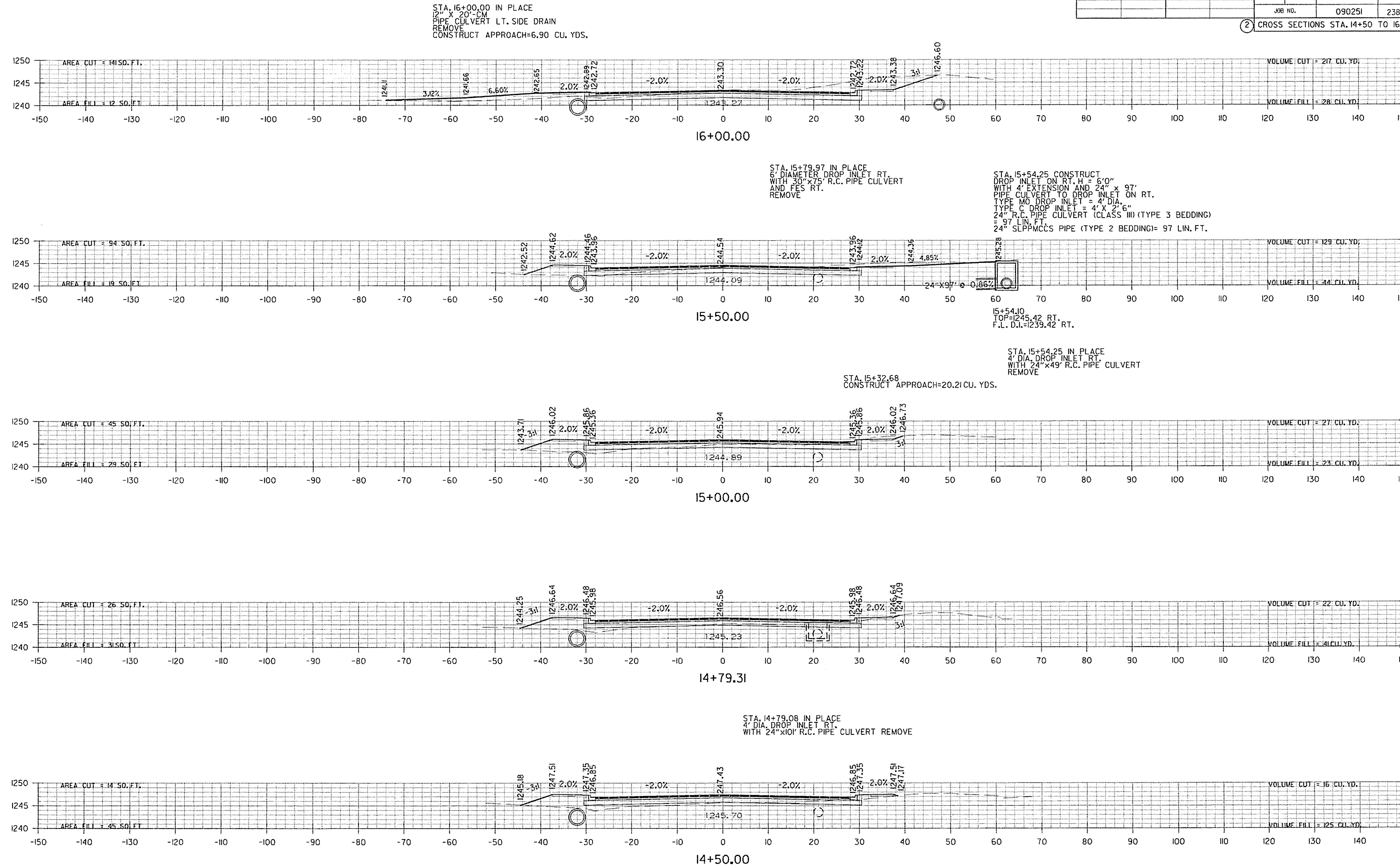
(2) CROSS SECTIONS STA. 14+50 TO 16+00



CORNERSTONE ROAD/GREENHOUSE ROAD
STA. 14+50 TO STA. 16+00

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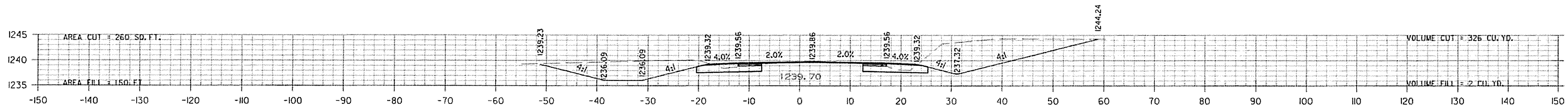
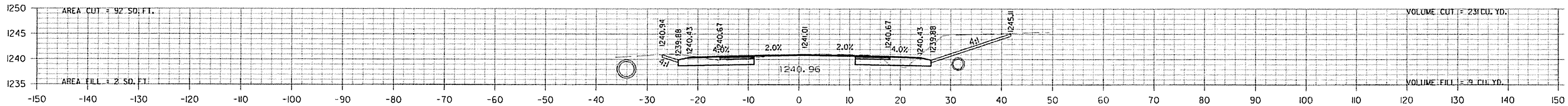
				6	ARK.			
				JOB NO.		090251	239	255

(2) CROSS SECTIONS STA. 16+49.56 TO 17+50

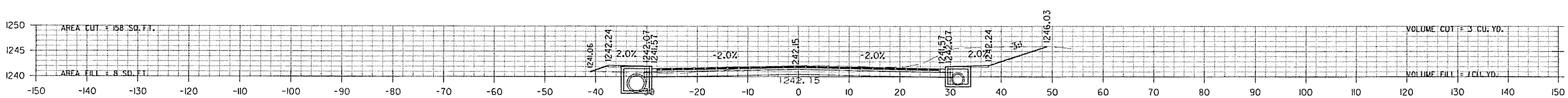


17+50.00



17+00.00

STA. 16+59.56 BEGIN 200' TRANSITION TO EXISTING.



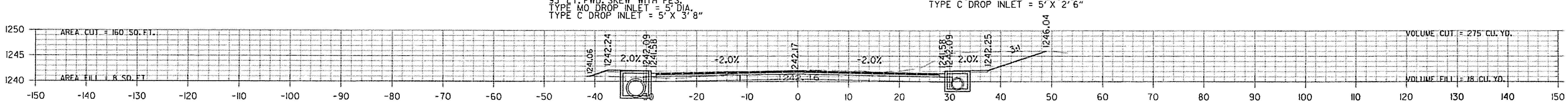
16+49.56
TOP=1242.09 LT.
F.L. D.I.=1237.21 LT.
F.L. OUTLET=1236.15 LT.

16+50.00

16+49.56
TOP=1242.09 RT.
F.L. D.I.=1238.59 RT.
F.L. OUTLET=1237.86 RT.

STA. 16+49.56 CONSTRUCT
DROP INLET ON LT. H = 4'11"
WITH 4' EXTENSION 36" x 76'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
93° LT. FWD. SKEW WITH FES.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3' 8"

STA. 16+49.56 CONSTRUCT
DROP INLET ON RT. H = 3'6"
WITH 8' EXTENSION AND 24" x 73'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
116° RT. FWD. SKEW WITH FES.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 2' 6"



16+49.56
TOP=1242.09 LT.
F.L. D.I.=1237.21 LT.
F.L. OUTLET=1236.15 LT.

16+49.56

16+49.56
TOP=1242.09 RT.
F.L. D.I.=1238.59 RT.
F.L. OUTLET=1237.86 RT.

CORNERSTONE ROAD/GREENHOUSE ROAD
STA. 16+49.56 TO STA. 17+50

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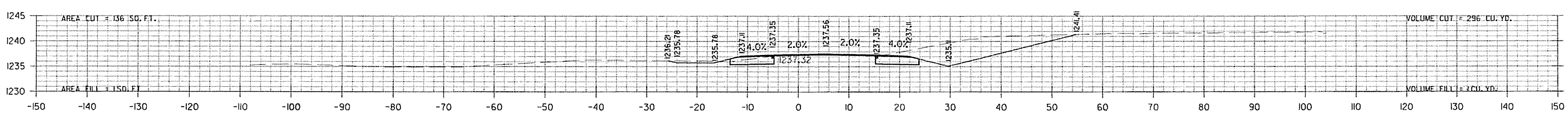
				6	ARK.			
				JOB NO.		090251	240	255

(2) CROSS SECTIONS STA. 18+00 TO 18+50

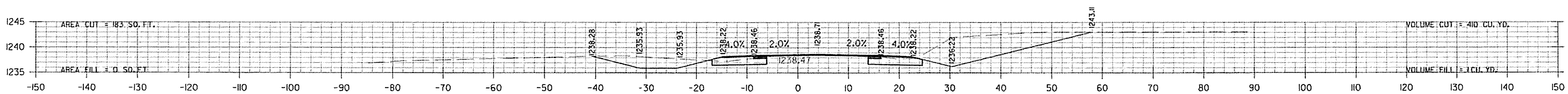
AREA CUT = 136 SQ.FT.
AREA FILL = 1SQ.FT

VOLUME CUT = 48 CU.YD.
VOLUME FILL = 0 CU.YD.

STA. 18+59.56 END GREENHOUSE ROAD.
END 200' TRANSITION TO EXISTING.



18+50.00



18+00.00

CORNERSTONE ROAD/GREENHOUSE ROAD
STA. 18+00 TO STA. 18+50

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				6	ARK.			
				JOB NO.		090251	241	255

(2) CROSS SECTIONS STA. 10+00 TO 10+50

AREA CUT = 151 SQ. FT.
AREA FILL = 0 SQ. FT

STA. 10+70.00 IN PLACE
18" X 35' R.C. PIPE CULVERT LT. WITH FES LT.
REMOVE

STA. 10+65.00 IN PLACE
4' DIA. DROP INLET LT.
REMOVE

STA. 10+65.00 IN PLACE
18" X 28' R.C. PIPE CULVERT
REMOVE

STA. 10+65.00 IN PLACE
4' DIA. DROP INLET RT.
REMOVE

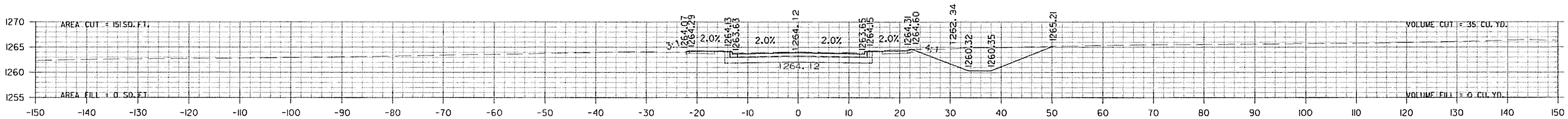
STA. 10+70.00 IN PLACE
18" X 36' R.C. PIPE CULVERT RT. WITH FES RT.
REMOVE

C.L. HIGHWAY 12 STA. 42+76.99 =
C.L. STONEFIELD STREET STA. 11+09.02
Δ = 89°44'30.9"

STA. 10+81.02 END STONEFIELD STREET

STA. 10+66.88
END SP. DITCH RT. 1.00%
ELEV. 1262.47

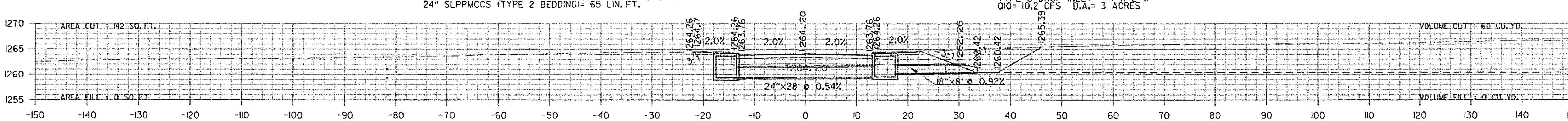
VOLUME CUT = 174 CU. YD.
VOLUME FILL = 0 CU. YD.



10+50.00

STA. 42+61.78 CONSTRUCT
DROP INLET ON RT. H=4'9"
WITH 8' EXTENSION AND 24" x 65'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' x 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)= 65 LIN. FT.
24" SLPPMCCS (TYPE 2 BEDDING)= 65 LIN. FT.

STA. 42+92.78 CONSTRUCT
DROP INLET ON RT. H= 4'7"
WITH 8' EXTENSION AND 24" X 28'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON RT.
AND WITH 18" X 8'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
71° RT. FWD. SKEW AND FES RT.
TYPE MO DROP INLET= 4' DIA.
TYPE C DROP INLET = 4' X 2' 6"
Q10= 10.2 CFS D.A.= 3 ACRES



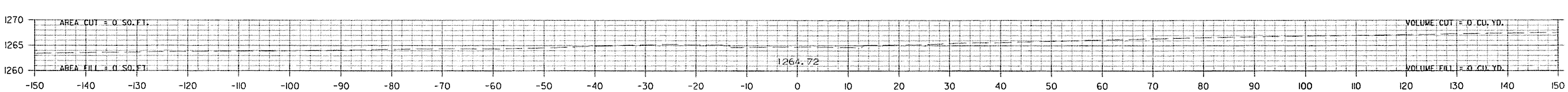
10+43.68

42+61.78
TOP=1264.14 RT.
F.L. D.I.=1259.39 RT.

42+92.78
TOP=1264.14 RT.
F.L. INLET=1262.18 RT.
F.L. INVERT=1261.08
F.L. INVERT=1260.04 RT.
F.L. D.I.=1259.54 RT.

STA. 10+38.62
BEGIN SP. DITCH RT. 1.00%
ELEV. 1262.18

STA. 10+41.04 END 20' TRANSITION FROM EXISTING.
STA. 10+21.04 BEGIN STONEFIELD STREET.
BEGIN 20' TRANSITION FROM EXISTING.



10+00.00

STONEFIELD STREET
STA. 10+00 TO STA. 10+50

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WORKSPACE: AHTD
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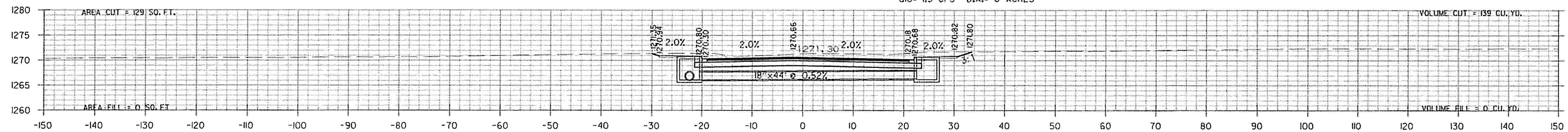
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	242	255

(2) CROSS SECTIONS STA. 10+00 TO 11+79.20

STA. 47+47.48 CONSTRUCT
DROP INLET ON RT. H=4'4"
WITH 4' EXTENSION AND 18" x 86'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
18" R.C. PIPE (CLASS III)
(TYPE 3 BEDDING)= 86 LIN. FT.
18" SLPPMCCS PIPE
(TYPE 2 BEDDING)= 86 LIN. FT.

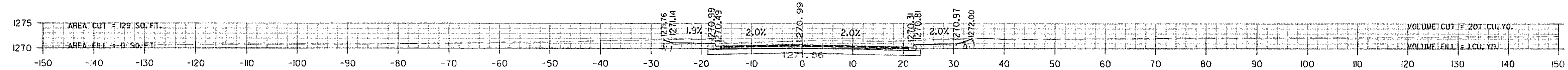
STA. 47+94.48 CONSTRUCT
DROP INLET ON RT. H=4'0"
WITH 4' EXTENSION AND 18" x 44'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET= 4' X 2'6"
Q10= 1.5 CFS D.A.= 0 ACRES



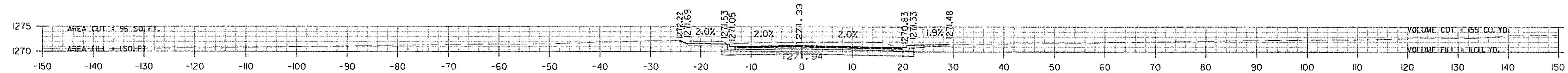
47+47.48
TOP=1270.80 RT.
F.L. D.I.=1266.42 RT.

11+79.20

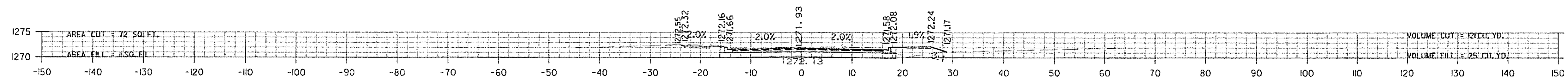
47+94.48
TOP=1270.66 RT.
F.L. D.I.=1266.65 RT.



11+50.00



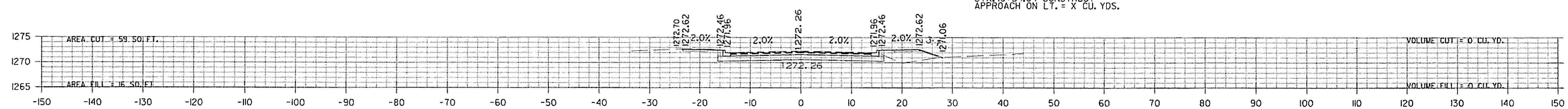
11+00.00



10+50.00

STA. 10+20.00 END 20' TRANSITION FROM EXISTING

STA. 10+34.04 CONSTRUCT
APPROACH ON LT. = X CU. YDS.



10+00.00

STA. 10+00.00 BEGIN MORNINGSTAR ROAD.
BEGIN 20' ROAD TRANSITION FROM EXISTING.

MORNINGSTAR ROAD
STA. 10+00 TO STA. 11+79.20

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REVISED DATE:

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				6	ARK.			
				JOB NO.		090251	243	255

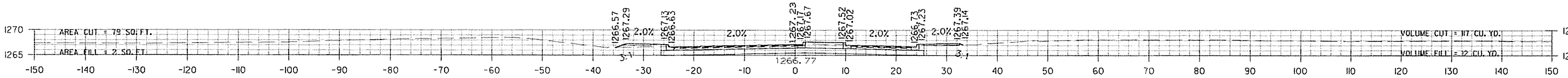
(2) CROSS SECTIONS STA. 12+00 TO 14+00

STA. 14+28.75 END MORNINGSTAR ROAD.
END 25' TRANSITION TO EXISTING.

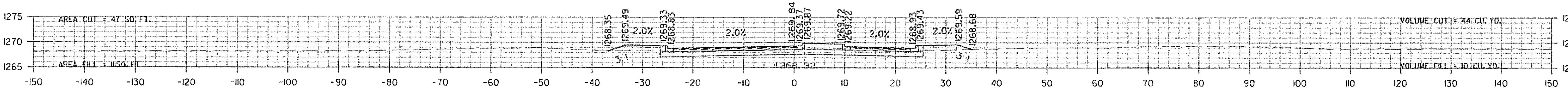
STA. 14+03.25 BEGIN 25' TRANSITION TO EXISTING

AREA CUT = 79 SQ. FT.
AREA FILL = 2 SQ. FT

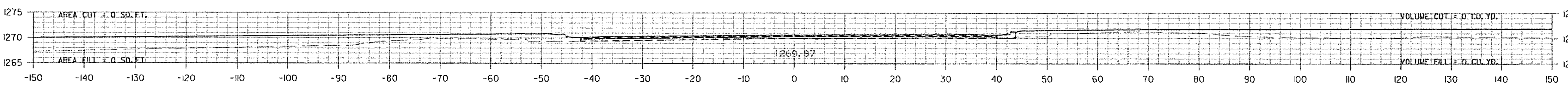
VOLUME CUT = 83 CU. YD.
VOLUME FILL = 2 CU. YD.



14+00.00



13+50.00



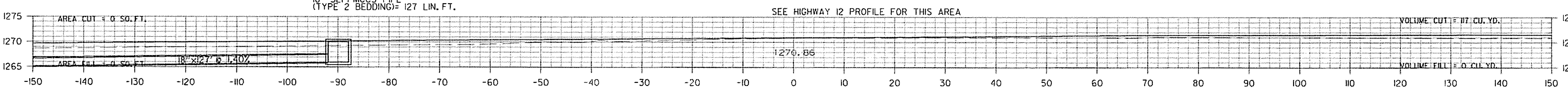
13+00.00

STA. 46+80.00 CONSTRUCT
DROP INLET ON RT. H=4'6"
WITH 18" × 127'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4'X 2'6"
18" R.C. PIPE (CLASS III)
(TYPE 3 BEDDING)= 127 LIN. FT.
18" SLPPMCCS PIPE
(TYPE 2 BEDDING)= 127 LIN. FT.

STA. 12+97.79 BEGIN MORNINGSTAR ROAD.

C.L. HIGHWAY 12 STA. 47+69.89 =
C.L. MORNINGSTAR ROAD STA. 12+68.79
Δ = 89°56'36.6"

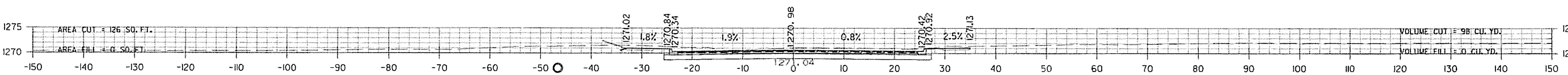
SEE HIGHWAY 12 PROFILE FOR THIS AREA



46+80
TOP=1270.50 RT.
F.L. D.I.=1265.98 RT.

12+50.00

STA. 12+40.81 END MORNINGSTAR ROAD.



12+00.00

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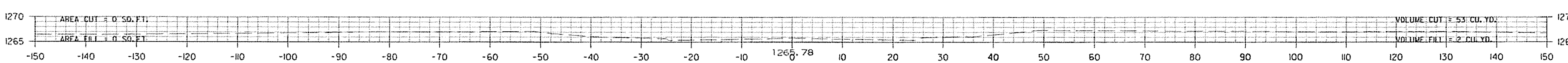
REVISED DATE:

MORNINGSTAR ROAD
STA. 12+00 TO STA. 14+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	244	255

(2) CROSS SECTIONS STA. 14+35.89



14+35.89

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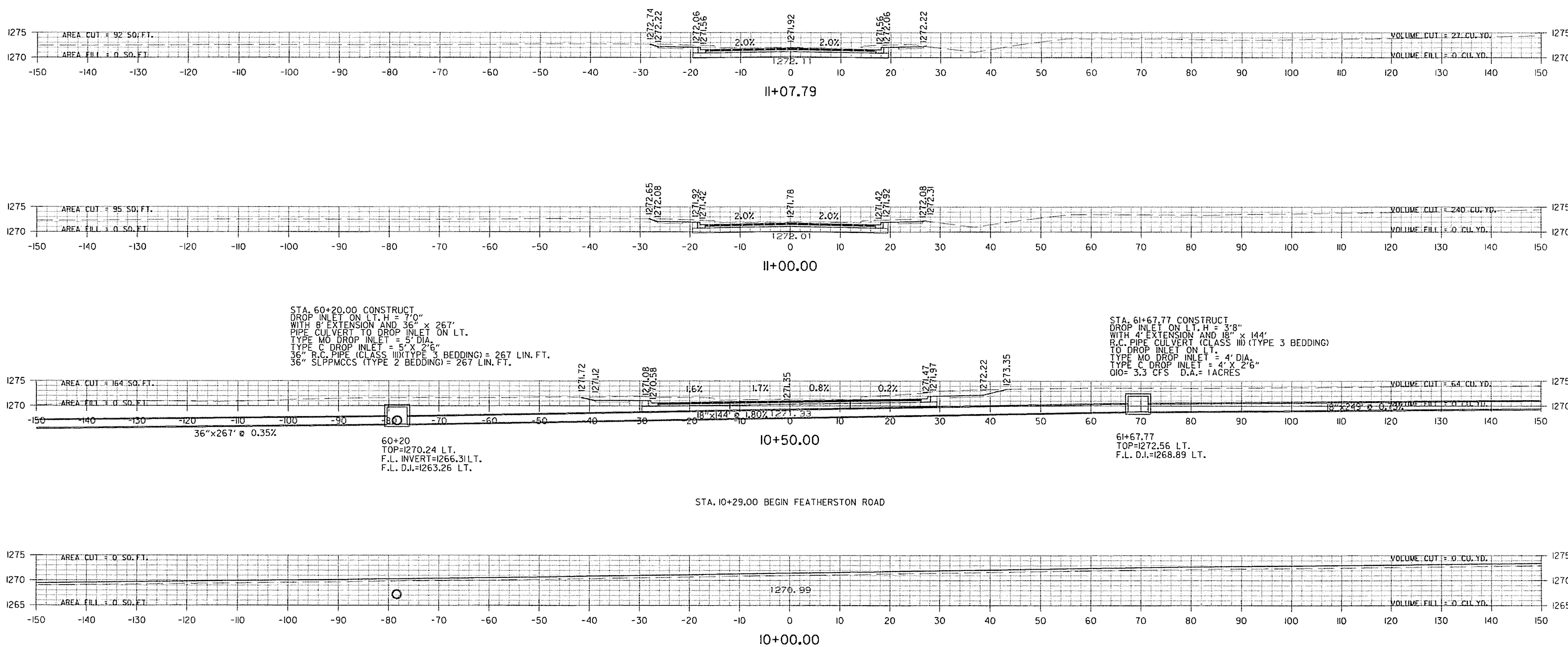
REVISED DATE:

MORNINGSTAR ROAD
STA. 14+35.89 TO STA. 14+35.89

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	245	255

(2) CROSS SECTIONS STA. 10+00 TO 11+07.79



C.L. HIGHWAY 12 STA. 60+98.38 =
C.L. FEATHERSTON ROAD STA. 10+00.00
Δ = 89°55'19.6"

FEATHERSTON ROAD
STA. 10+00 TO STA. 11+07.79

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WORKSPACE: AHTD
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REVISED DATE:

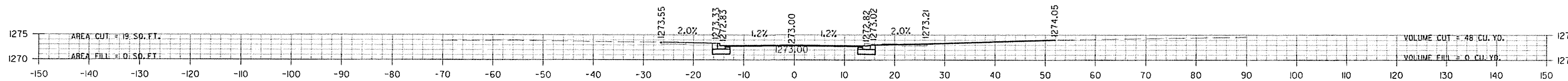
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	246	255

(2) CROSS SECTIONS STA. 11+50 TO 13+00

AREA CUT = 19 SQ. FT.
AREA FILL = 0 SQ. FT

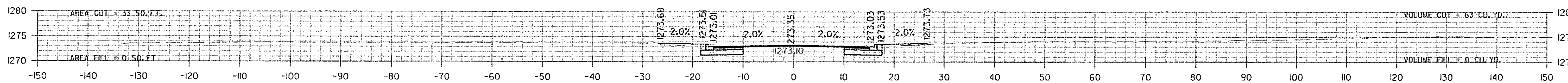
VOLUME CUT = 4 CU. YD.
VOLUME FILL = 0 CU. YD.

STA. 13+05.49 END FEATHERSTON ROAD.
END 100' TRANSITION TO EXISTING.



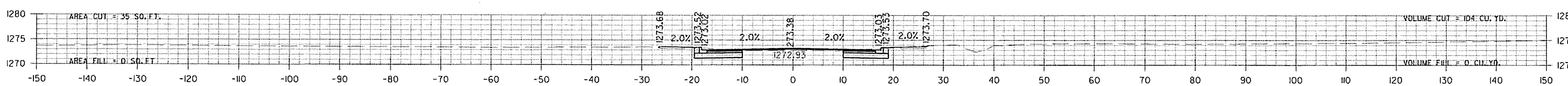
13+00.00

STA. 12+90.62 CONSTRUCT
APPROACH ON RT. = 14.17 CU. YDS.

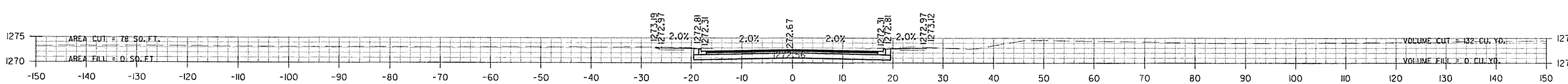


12+50.00

STA. 12+05.49 BEGIN 100' TRANSITION TO EXISTING



12+00.00



11+50.00

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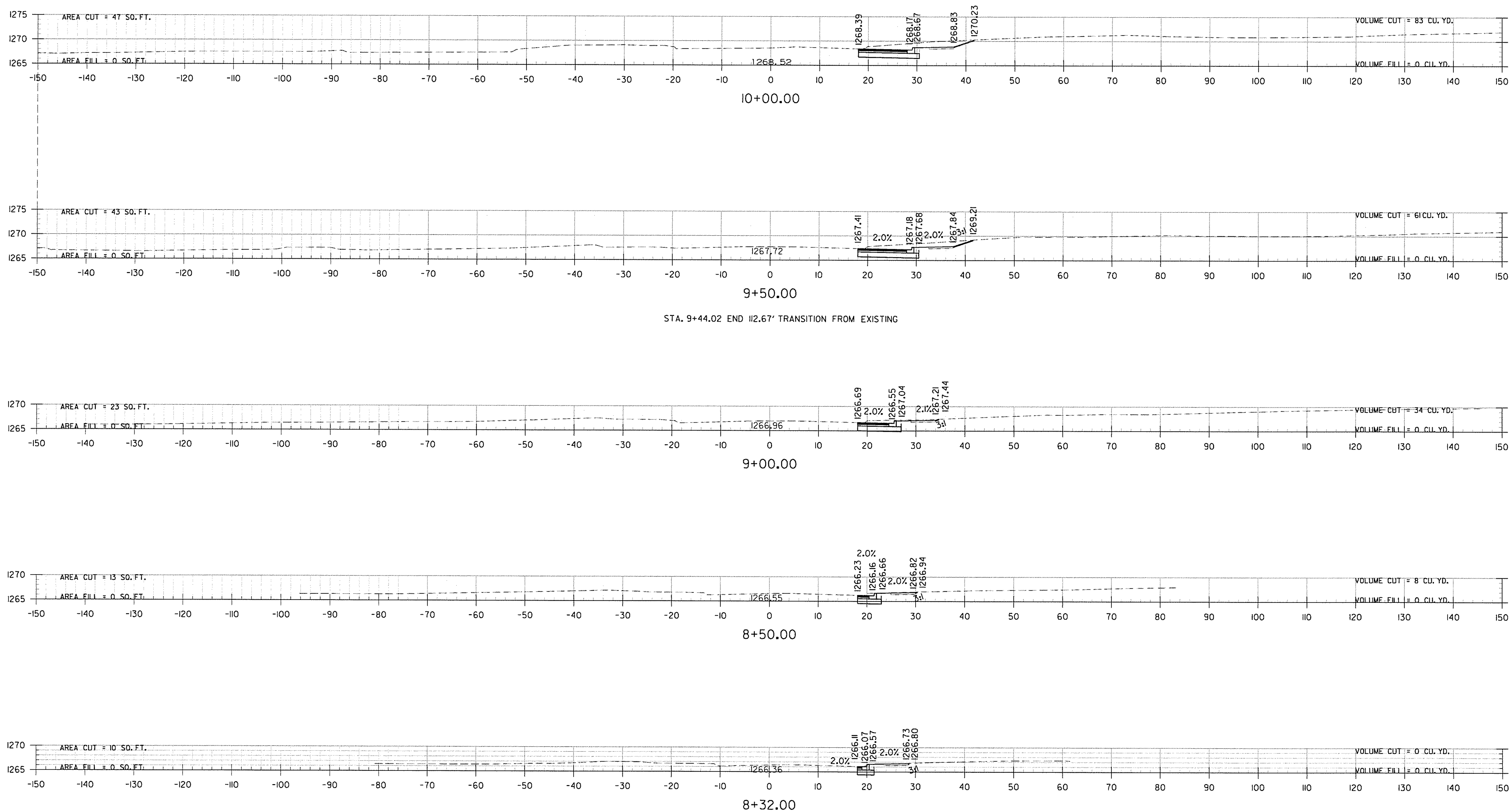
REVISED DATE:

FEATHERSTON ROAD
STA. 11+50 TO STA. 13+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	247	255

(2) CROSS SECTIONS STA. 8+32 TO 10+00



STA. 8+31.35 BEGIN BRIGHT ROAD.
BEGIN 112.67' TRANSITION FROM EXISTING

BRIGHT ROAD
STA. 8+32 TO STA. 9+50

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WORKSPACE: AHTDXM
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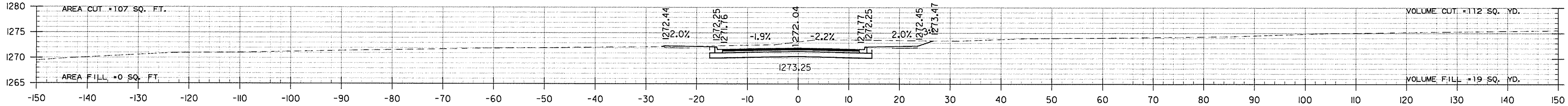
				JOB NO.		090251	248	255

(2) CROSS SECTIONS STA. 10+50 TO 11+98.78

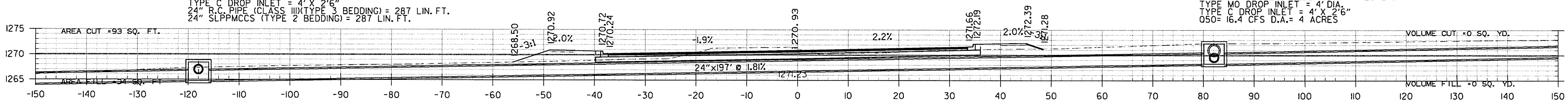


11+98.78

STA. 11+98.78 END BRIGHT ROAD

STA. 86+40.00 CONSTRUCT
DROP INLET ON LT. H= 4'0"
WITH 4' EXTENSION AND 24" x 287'
PIPE CULVERT TO DROP INLET ON LT.
AND 18" X 4' R.C. PIPE CULVERT
(CLASS III)(TYPE 3 BEDDING)
WITH FES ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 287 LIN. FT.
24" SLPPMCCS (TYPE 2 BEDDING) = 287 LIN. FT.

STA. 88+40.00 CONSTRUCT
DROP INLET ON LT. H= 4'6"
WITH 4' EXTENSION AND 24" x 197'
PIPE CULVERT TO DROP INLET ON LT.
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 197 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 197 LIN. FT.
AND 24" X 5' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) WITH FES LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q50= 16.4 CFS D.A.= 4 ACRES

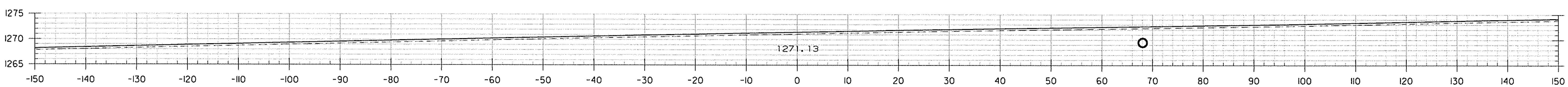


86+40
TOP=1268.88 LT.
F.L. INLET=1267.32 LT.
F.L. INVERT=1264.73 LT
F.L. D.I.=1264.73 LT.

11+68.20

88+40.00
TOP=1272.80 LT.
F.L. INLET=1270.27 LT.
F.L. INVERT=1270.21 LT.
F.L. INVERT=1268.80 LT.
F.L. D.I.=1268.30 LT.

STA. 11+68.20 BEGIN BRIGHT ROAD



11+38.71

AREA CUT = 107 SQ. FT.
AREA FILL = 6 SQ. FT

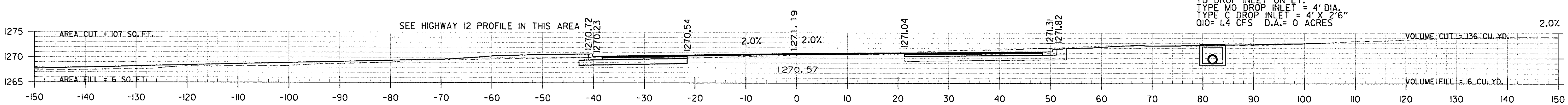
C.L. HIGHWAY 12 STA. 87+58.08=
C.L. BRIGHT ROAD STA. 11+38.71
Δ= 89°49'8.9"

VOLUME CUT = 39 CU. YD.
VOLUME FILL = 2 CU. YD.

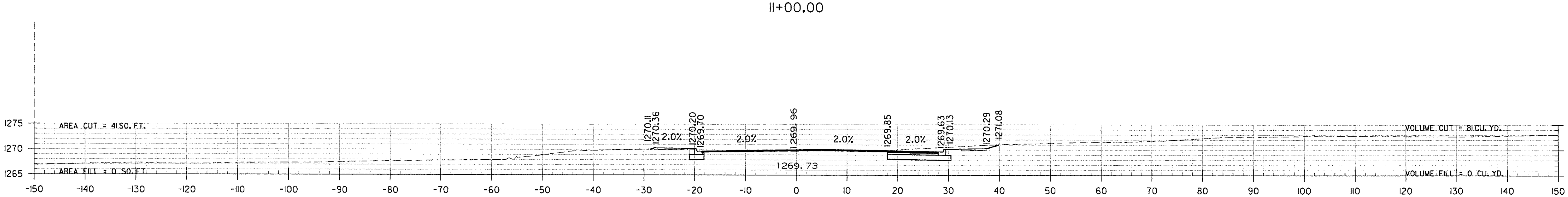
STA. 11+09.71 END BRIGHT ROAD.

STA. 88+40.00 CONSTRUCT
DROP INLET ON RT. H= 3'8"
WITH 4' EXTENSION AND 18" x 60'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 1.4 CFS D.A.= 0 ACRES

SEE HIGHWAY 12 PROFILE IN THIS AREA



11+00.00



10+50.00

BRIGHT ROAD
STA. 10+00 TO STA. 11+38.71

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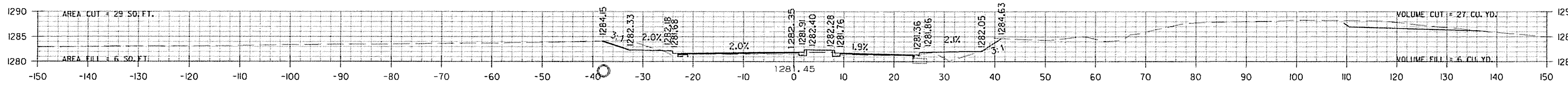
				6	ARK.			
				JOB NO.		090251	249	255

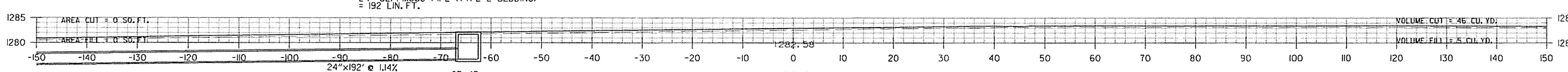
(2) CROSS SECTIONS STA. 9+52.43 TO 11+50



11+50.00

STA. 93+45.00 CONSTRUCT
DROP INLET ON LT. H=5'6"
WITH 24"x 192'
TO DROP INLET ON LT.
TYPE MO DROP INLET INLET =4' DIA.
TYPE C DROP INLET INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 192 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)
= 192 LIN. FT.

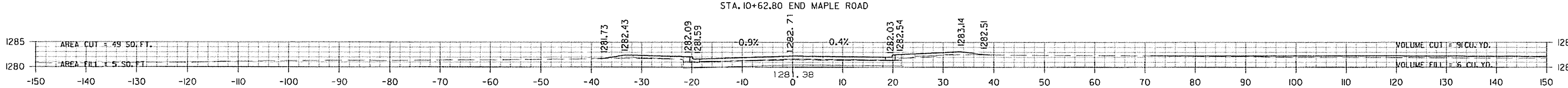
STA. 11+19.80 BEGIN MAPLE ROAD



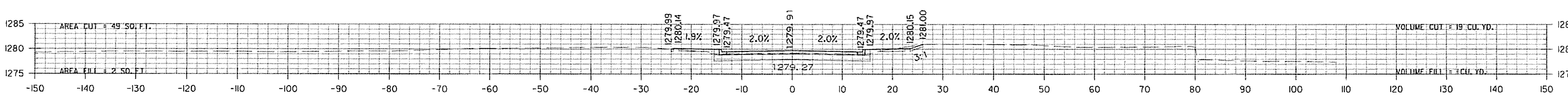
11+00.00

C.L. HIGHWAY 12 STA. 94+09.56 =
C.L. MAPLE ROAD STA. 10+91.80
Δ = 90°2'15.6"

STA. 10+62.80 END MAPLE ROAD

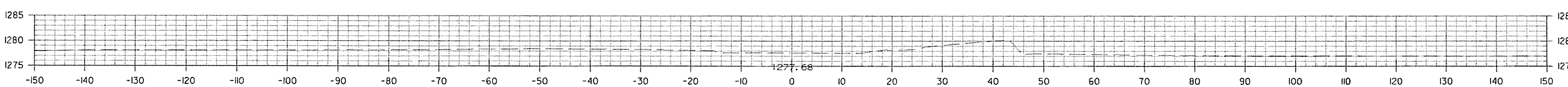


10+50.00



10+00.00

STA. 9+80.00 BEGIN MAPLE ROAD



9+52.43

MAPLE ROAD
STA. 9+52.43 TO STA. 11+50

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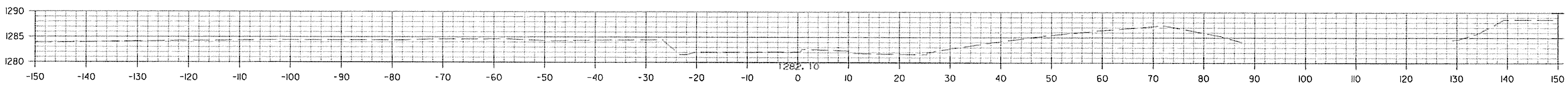
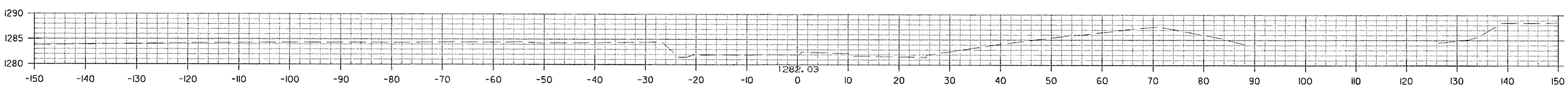
				6	ARK.			
				JOB NO.		090251	250	255

(2) CROSS SECTIONS STA. 11+61.33 TO 12+05.54



12+05.54



12+00.00

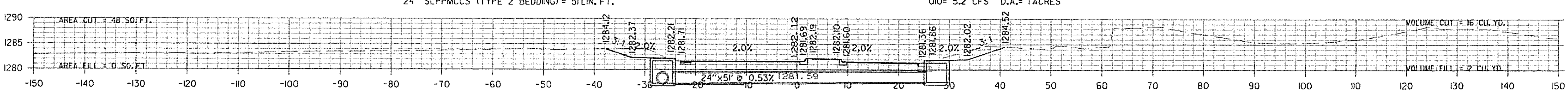
AREA CUT = 0 SQ. FT.
AREA FILL = 0 SQ. FT

VOLUME CUT = 16 CU. YD.
VOLUME FILL = 0 CU. YD.

STA. 93+83.02 CONSTRUCT
DROP INLET ON LT. H= 4' 11"
WITH 8' EXTENSION AND 24" x 51'
PIPE CULVERT TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 51 LIN. FT.
24" SLPPMCCS (TYPE 2 BEDDING) = 51 LIN. FT.

STA. 11+79.56 END MAPLE ROAD

STA. 94+37.02 CONSTRUCT
DROP INLET ON LT. H=4'3"
WITH 8' EXTENSION AND 24"x51'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON LT.
TYPE MO DROP INLET =4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 5.2 CFS D.A.= 1 ACRES



93+83.02
TOP=1282.21 LT.
F.L. D.I.=1277.31 LT.

11+61.33

94+37.02
TOP=1282.18
F.L.=1277.58

MAPLE ROAD
STA. 11+61.33 TO STA. 12+05.54

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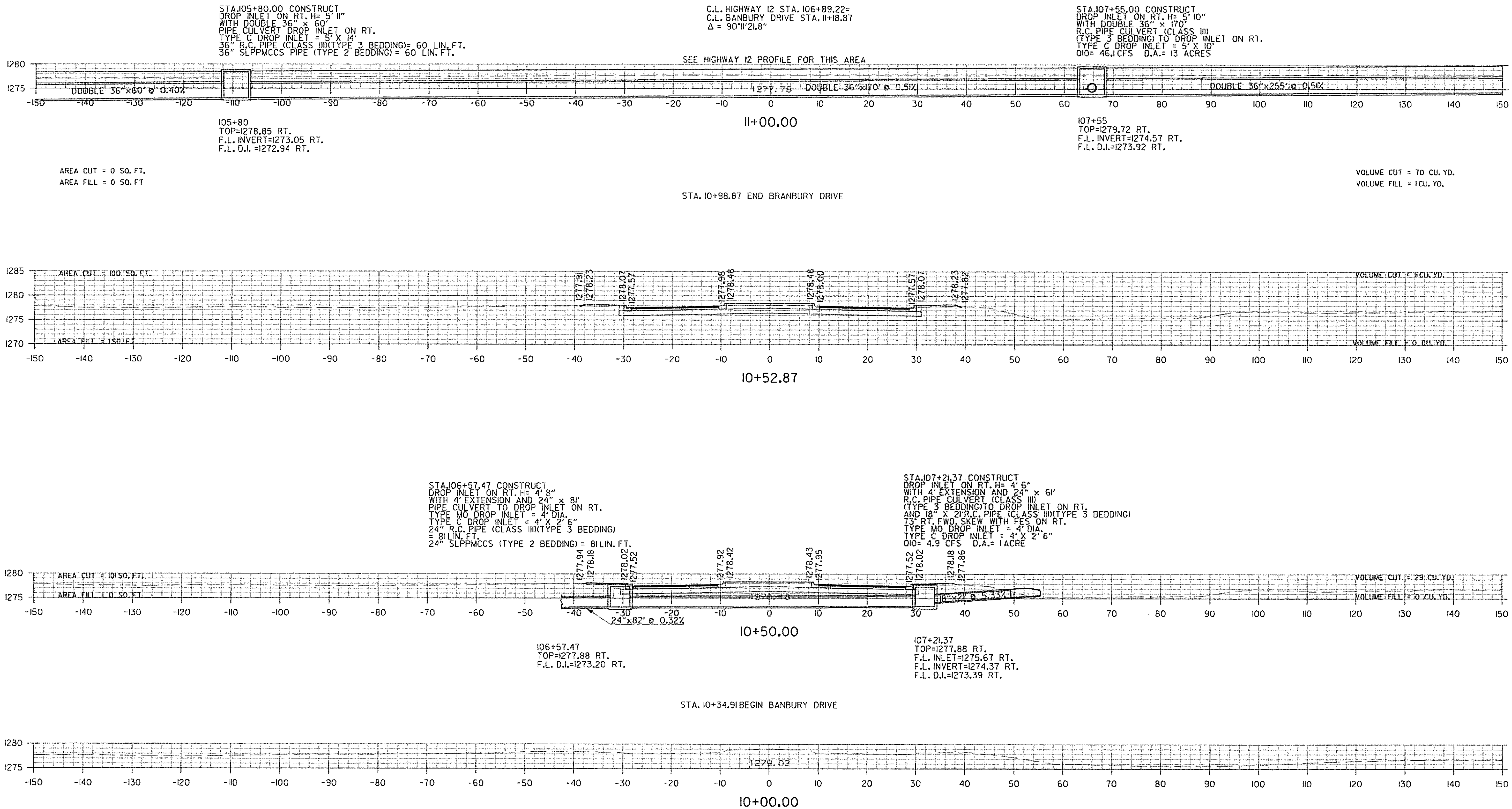
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	251	255

(2) CROSS SECTIONS STA. 10+00 TO 11+00



BANBURY DRIVE
STA. 10+00 TO STA. 11+00

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	252	255

(2) CROSS SECTIONS STA. 10+00 TO 11+30.27

11+30.27

1280.36

AREA CUT = 62 SQ.FT.
AREA FILL = 0 SQ.FT

C.L. HIGHWAY 12 STA. 110+64.32 =
C.L. SUNBROOKE STREET STA. 11+30.27
Δ = 89°33'29.9"

STA. 11+02.27 END SUNBROOKE STREET

VOLUME CUT = 58 CU.YD.
VOLUME FILL = 0 CU.YD.

11+00.00

STA.110+15.00 CONSTRUCT
DROP INLET ON RT. H= 5' 10"
WITH DOUBLE 36" x 255'
PIPE CULVERT TO DROP INLET ON RT.
TYPE C DROP INLET = 5' X 10'
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 255 LIN. FT.
36" SLPPMCCS (TYPE 2 BEDDING) = 255 LIN. FT.

SEE HIGHWAY 12 PROFILE FOR THIS AREA

SEE HIGHWAY 12 PROFILE FOR THIS AREA

AREA CUT = 62 SQ.FT.
AREA FILL = 0 SQ.FT.

DOUBLE 36"x255' @ 0.51%

36"x100' @ 0.50%

1280.09

30"x290' @ 1.00%

VOLUME CUT = 54 CU.YD.
VOLUME FILL = 0 CU.YD.

110+15
TOP=1281.03 RT.
F.L. D.I.=1275.22 RT.

111+15
TOP=1281.51 RT.
F.L. INVERT=1277.16 RT.
F.L. INVERT=1276.24 RT.
F.L. D.I.=1275.72 RT.

10+70.42

STA.110+47.36 CONSTRUCT
DROP INLET ON RT. H= 5' 2"
WITH 30" x 38'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3' 2"
30" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)
= 38 LIN. FT.
30" SLPPMCCS (TYPE 2 BEDDING) = 38 LIN. FT.

STA.110+80.37 CONSTRUCT
DROP INLET ON RT. H= 5'0"
WITH 8' EXTENSIONS AND 30" x 32'
R.C. PIPE CULVERT (CLASS III) (TYPE 3 BEDDING)
TO DROP INLET ON RT.
AND 18"X 10' R.C. PIPE (CLASS III) (TYPE 3 BEDDING)
90° RT. FWD. SKEW WITH FES RT.
TYPE MO DROP INLET = 5' DIA.
TYPE C DROP INLET = 5' X 3' 2"
Q10= 13.6 CFS D.A.= 3 ACRES

STA. 10+81.66
END SP. DITCH RT. 8.76%
ELEV. 1278.33

AREA CUT = 36 SQ.FT.
AREA FILL = 0 SQ.FT.

2.0% 2.0%

1280.23

0.9%

1277.23

1280.37

30"x31' @ 0.52%

3:1

F.L.=1277.23

VOLUME CUT = 7 CU.YD.
VOLUME FILL = 0 CU.YD.

30"x37' @ 0.57%

110+47.36
TOP=1280.59 RT.
F.L. D.I.=1275.43 RT.

18"x12' @ 1.00%

110+80.37
TOP=1280.59 RT.
F.L. INLET=1277.23 RT.
F.L. INVERT=1277.05 RT.
F.L. D.I.=1275.59 RT.

10+50.00

STA. 10+60.00 BEGIN SUNBROOKE STREET

STA. 10+68.97
BEGIN SP. DITCH RT. 8.67%
ELEV. 1277.23

1280.49

10+00.00

1280.55

(Elevation scales 1275, 1280, 1285; offset scales -150 to 150 in steps of 10 for each section.)

SUNBROOKE STREET
STA. 10+00 TO STA. 11+30.27

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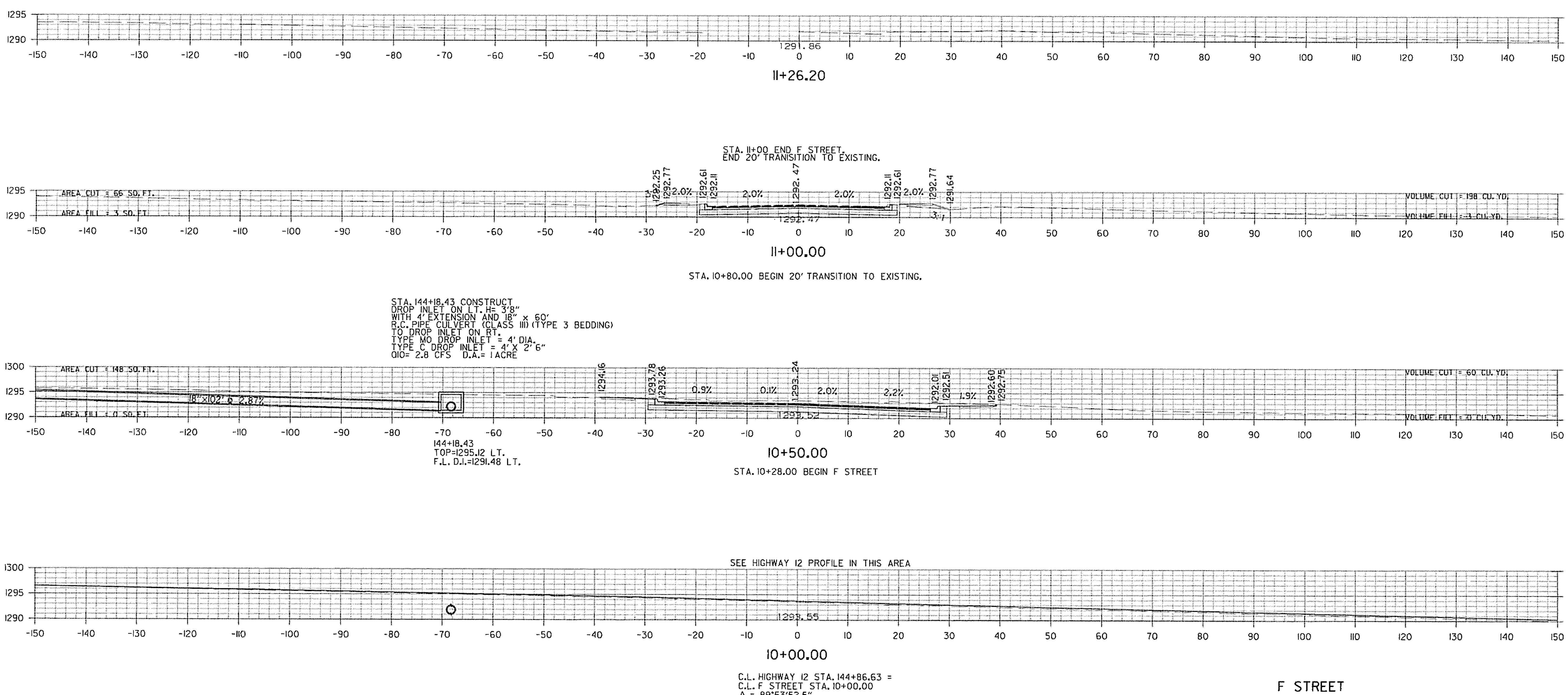
WORKSPACE: AHTD
X:\2008\080355O - Hwy 12\Drawings\H12_XS_01SIDEROADS.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	253	255

(2) CROSS SECTION STA 10+00 TO 11+26.20



F STREET
STA. 10+00 TO STA. 11+26.20

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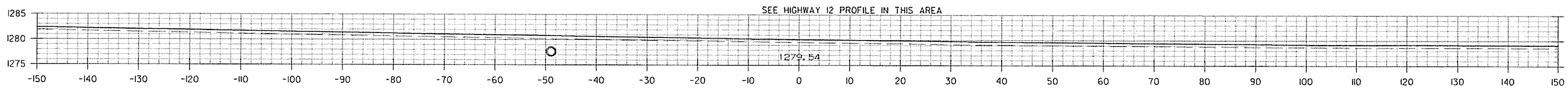
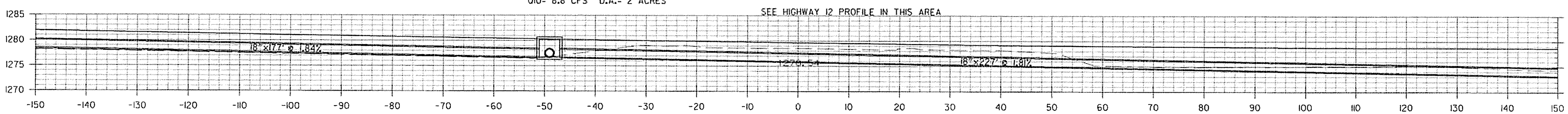


11+24.45

C.L. HIGHWAY 12 STA. 152+28.93 =
C.L. CROCKETT STREET STA. 11+24.45
Δ = 89°43'41.59"

STA.151+80.00 CONSTRUCT
DROP INLET ON RT. H= 4'0"
WITH 8' EXTENSION AND 18" x 227'
R.C. PIPE CULVERT CLASS III (TYPE 3 BEDDING)
TO BOX CULVERT ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 8.8 CFS D.A.= 2 ACRES



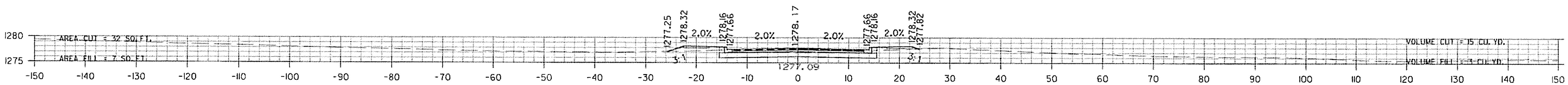
151+80
TOP=1280.72 RT.
F.L. D.I.=1276.77 RT.
F.L. OUTLET=1272.67 RT.

11+00.00

AREA CUT = 32 SQ. FT.
AREA FILL = 7 SQ. FT

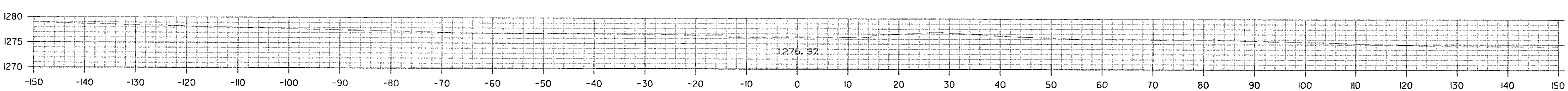
VOLUME CUT = 54 CU. YD.
VOLUME FILL = 12 CU. YD.

STA. 10+96.45 END CROCKETT STREET



10+50.00

STA. 10+25.00 BEGIN CROCKETT STREET



10+00.00

CROCKETT STREET
STA. 10+00 TO STA. 11+24.45

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WORKSPACE: AHTD
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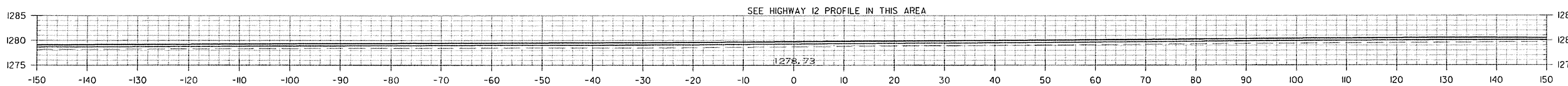
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		090251	255	255

(2) CROSS SECTIONS STA. 10+00 TO 11+23.65

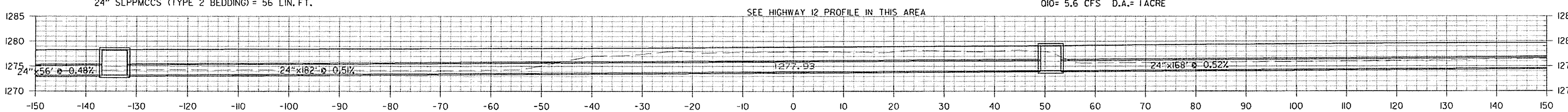


11+23.65

C.L. HIGHWAY 12 STA. 157.64.47 =
C.L. WINSTED LANE STA. 11+23.65
Δ = 90°58'24.46"

STA. 156+30.00 CONSTRUCT
DROP INLET ON RT. H= 5'6"
WITH 8' EXTENSION AND 24" x 56'
PIPE CULVERT TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 56 LIN. FT.
24" SLPPMCCS (TYPE 2 BEDDING) = 56 LIN. FT.

STA. 158+15.00 CONSTRUCT
DROP INLET ON RT. H= 5'4"
WITH 8' EXTENSION AND 24" x 182'
R.C. PIPE CULVERT (CLASS III)(TYPE 3 BEDDING)
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 2'6"
Q10= 5.6 CFS D.A.= 1 ACRE



156+30
TOP=1278.68 RT.
F.L. D.I.=1273.21 RT.

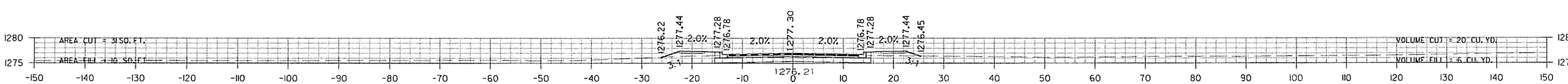
11+00.00

158+15
TOP=1279.56 RT.
F.L. D.I. =1274.13 RT.

AREA CUT = 31 SQ. FT.
AREA FILL = 10 SQ. FT

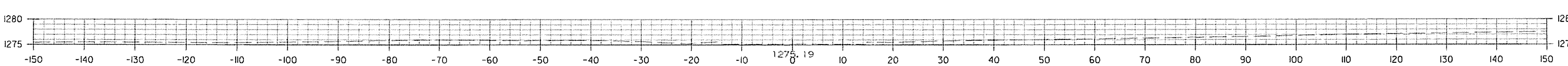
VOLUME CUT = 52 CU. YD.
VOLUME FILL = 16 CU. YD.

STA. 10+95.65 END WINSTED LANE



10+50.00

STA. 10+15.00 BEGIN WINSTEAD LANE



10+00.00

WINSTED LANE
STA. 10+00 TO STA. 11+23.65

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WORKSPACE: AHTD
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REVISED DATE: