"THIS IS A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	1	320
				(2) HWY. 212-HWYS. 11/425 CONNECTOR (BS. & SURF.) (F)				

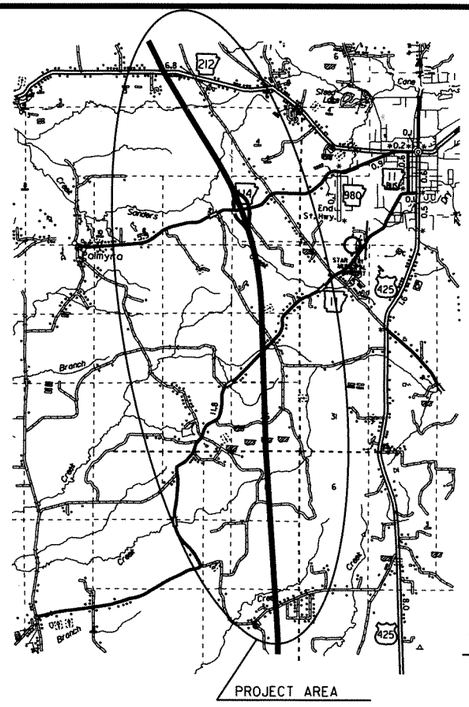
HWY. 212 - HWYS. 11/425 CONNECTOR (BS. & SURF.) (F)

LINCOLN COUNTY

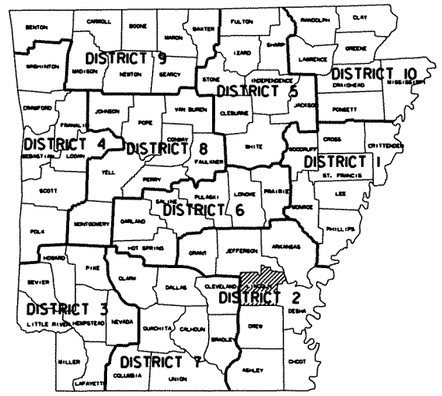
ROUTE 530 SECTION 8

FEDERAL AID PROJ. NCIIP-SD-HPP2-3617(2)

JOB 020356



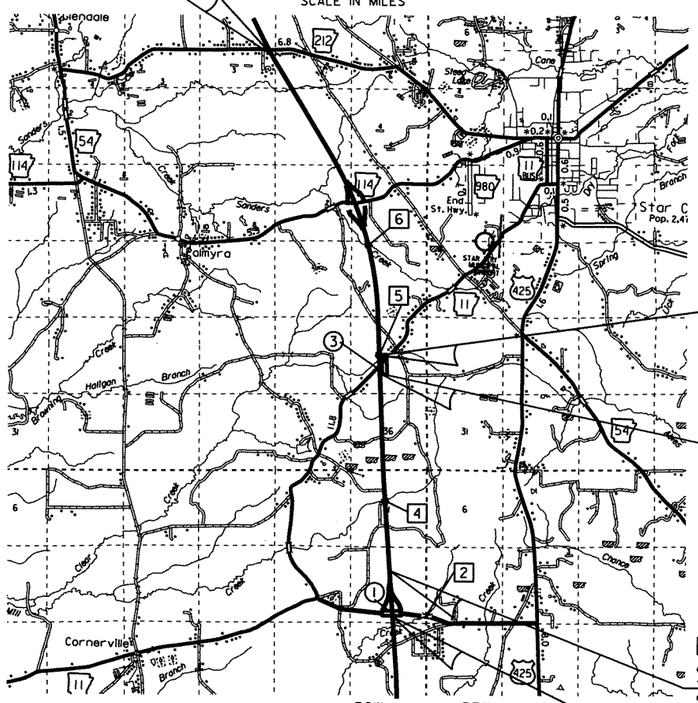
VICINITY MAP



ARK. HWY. DIST. NO. 2

STA. 1467+00.00 - END JOB 020356

SCALE IN MILES



N

STRUCTURES OVER 20'-0" SPAN

[2] STA. 91+90 ℄ HWY 11/425 - CONSTRUCT DOUBLE 11'x6'x93' R.C. BOX CULVERT (30° LT. FWD. SKEW) WITH 3:1 WINGS LT. & RT. 050= 435 CFS D.A.= 536 ACRES SPAN = 27.91'

[4] STA. 1138+59 IN PLACE TRIPLE 8'x6'x113' R.C. BOX CULVERT (15° RT. FWD. SKEW) WITH 3:1 WINGS LT. & RT. 050= 1156 CFS D.A.= 1473 ACRES SPAN = 27.61' RETAIN

[5] STA. 1239+35 IN PLACE QUINTUPLE 5'x3'x194' R.C. BOX CULVERT (15° LT. FWD. SKEW) WITH 3:1 WINGS LT. & RT. 050= 420 CFS D.A.= 210 ACRES SPAN = 29.68' RETAIN

[6] STA. 1313+28.60 IN PLACE QUINTUPLE 10'x7'x203' R.C. BOX CULVERT (45° LT. FWD. SKEW) WITH 3:1 WINGS LT. & RT. 050= 1860 CFS D.A.= 2.9 SQ. MILES SPAN = 77.19' RETAIN

BRIDGE STRUCTURES

(1) STA. 74+50.82 - ℄ HWY. 11/425 - BRIDGE END
233'-0" CONT. COMP. PLATE GIRDER
BRIDGE NO. 07117
40'-0" CLEAR ROADWAY
14°49'04" RT. FWD. SKEW
235'-3 1/8" BRIDGE LENGTH
STA. 76+86.08 - BRIDGE END

(3) STA. 1235+54.11 - IN PLACE BRIDGE END B
245'-0" CONT. COMP. W-BEAM UNIT
BRIDGE NO. B7106
40'-0" CLEAR ROADWAY
44°32'43" RT. FWD. SKEW
248'-0 7/8" BRIDGE LENGTH
STA. 1238+02.18 - BRIDGE END B
RETAIN

BEGIN - POINT OF PROJECT
LATITUDE = 33°51'04.3" NORTH
LONGITUDE = 91°52'47.5" WEST

MID - POINT OF PROJECT
LATITUDE = 33°54'26.5" NORTH
LONGITUDE = 91°53'00.2" WEST

END - POINT OF PROJECT
LATITUDE = 33°57'31.6" NORTH
LONGITUDE = 91°54'28.5" WEST

TOTAL EXCEPTIONS = 248.07 FEET

EQUATION
STA. 925+34.40 BK. =
STA. 1090+05.00 AHD.

LENGTH COMPUTED ALONG C.L. MEDIAN

GROSS LENGTH OF PROJECT	40,929.40	FEET OR	7.752	MILES
NET " " ROADWAY	40,681.33	FEET OR	7.705	MILES
NET " " BRIDGES	0.00	FEET OR	0.000	MILES
NET " " PROJECT	40,681.33	FEET OR	7.705	MILES

END EXCEPTION
STA. 1238+02.18

BEGIN EXCEPTION
STA. 1235+54.11

EQUATION
STA. 925+34.40 BK. =
STA. 1090+05.00 AHD.

STA. 893+00.00 - BEGIN JOB 020356

DESIGN TRAFFIC DATA

DESIGN YEAR	2026
2006 A.D.T.	17400
2026 A.D.T.	27700
2026 D.H.V.	3050
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	20%
DESIGN SPEED	70 MPH

CERTIFICATE OF AUTHORIZATION
CRAFTON, TULL & ASSOCIATES, INC.
No. 109
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/16/11

P.E. JOB 001938
F.A.P. 5620-0018-034

Crafton, Tull & Associates Inc.

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Crafton, Tull & Associates Inc.

INDEX OF SHEETS

SHEET NUMBER	TITLE	BRIDGE NUMBER	DRAWING NUMBER	DATE
1	TITLE SHEET			
2	INDEX OF SHEETS			
3	GENERAL NOTES AND GOVERNING SPECIFICATIONS			
4-12	TYPICAL SECTIONS OF IMPROVEMENT			
13-18	SPECIAL DETAILS			
19-39	TEMPORARY EROSION CONTROL DETAILS			
40-60	MAINTENANCE OF TRAFFIC			
61-64	PERMANENT PAVEMENT MARKING			
65	SOIL BORING LOG			
66-76	QUANTITIES			
77	SCHEDULE OF BRIDGE QUANTITIES	07117	49985	
78	SUMMARY OF QUANTITIES AND REVISIONS			
79-95	SURVEY CONTROL DETAILS			
96-112	PLAN AND PROFILE - MAIN LANES			
113	INTERCHANGE LAYOUT - HWYS. 11/425 CONNECTOR			
114	INTERCHANGE RIGHT-OF-WAY - HWYS. 11/425 CONNECTOR			
115-117	INTERCHANGE PROFILES - HWY. 11/425 CONNECTOR			
118-129	PLAN AND PROFILE - HWYS. 11/425 CONNECTOR			
130-131	PLAN AND PROFILE - FRONTAGE ROAD 2			
132	COUNTY ROAD PROFILES			
133-135	DRIVEWAY PROFILES			
136	TEMPORARY DRIVE STA. 132+34			
137	BRIDGE B LAYOUT - BRIDGE OVER STATE HIGHWAY 11 (FOR INFORMATION ONLY)	B7106	49262	
138	LAYOUT OF BRIDGE HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 1 OF 5)	07117	49986	
139	LAYOUT OF BRIDGE HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 2 OF 5)	07117	49987	
140	LAYOUT OF BRIDGE HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 3 OF 5)	07117	49988	
141	LAYOUT OF BRIDGE HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 4 OF 5)	07117	49989	
142	LAYOUT OF BRIDGE HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 5 OF 5)	07117	49990	
143	DETAILS OF END BENTS HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 1 OF 4)	07117	49991	
144	DETAILS OF END BENTS HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 2 OF 4)	07117	49992	
145	DETAILS OF END BENTS HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 3 OF 4)	07117	49993	
146	DETAILS OF END BENTS HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 (SHEET 4 OF 4)	07117	49994	
147	DETAILS OF INTERMEDIATE BENT NO. 2 HWYS. 11/425 CONNECTOR OVER HIGHWAY 530	07117	49995	
148	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 1 OF 8)	07117	49996	
149	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 2 OF 8)	07117	49997	
150	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 3 OF 8)	07117	49998	
151	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 4 OF 8)	07117	49999	
152	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 5 OF 8)	07117	50000	
153	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 6 OF 8)	07117	50001	
154	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 7 OF 8)	07117	50002	
155	DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT (SHEET 8 OF 8)	07117	50003	
156	DETAILS OF ELASTOMERIC BEARINGS HWYS. 11/425 CONNECTOR OVER HIGHWAY 530	07117	50004	
157	DETAILS OF APPROACH SLAB FOR BRIDGE B7106 (SHEET 1 OF 2)	B7106	51132	
158	DETAILS OF APPROACH SLAB FOR BRIDGE B7106 (SHEET 2 OF 2)	B7106	51133	
159	DETAILS OF TYPE SPECIAL APPROACH GUTTERS FOR BRIDGE B7106	B7106	51134	
160	DETAILS OF STANDARD TYPE B APPROACH GUTTERS		2016B	07-14-10
161	DETAILS OF STANDARD TYPE C APPROACH GUTTERS		2016C	07-14-10
162	DETAILS OF STANDARD CONCRETE PILES		2383	12-10-09
163	DETAILS OF STANDARD TYPE D BRIDGE NAME PLATES		2387	09-08-11
164	DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS		14991	04-10-03
165	DETAILS OF CONCRETE RIPRAP AND MISC. DETAILS OF STEEL PILING		14995A	04-10-03
166	CONCRETE DITCH PAVING		CDP-1	11-17-10
167	CURBING DETAILS		CG-1	11-29-07
168	DETAILS OF DRIVEWAYS & ISLANDS		DR-1	11-29-07
169	FLARED END SECTION		FES-1	10-18-96
170	FLARED END SECTION		FES-2	10-18-96
171	DETAILS OF DROP INLETS		FPC-9D	08-22-02
172	DETAILS OF DROP INLETS AND SPILLWAY OUTLET		FPC-9N	07-02-98
173	GUARD RAIL DETAILS (TYPE C) STREET/ROAD BARRICADE OR TEMPORARY INSTALLATION		GR-7	07-14-10
174	GUARD RAIL DETAILS		GR-8	07-14-10
175	GUARD RAIL DETAILS		GR-8A	07-14-10
176	GUARD RAIL DETAILS		GR-9	04-17-08
177	GUARD RAIL DETAILS		GR-9A	04-17-08
178	GUARD RAIL DETAILS		GR-10	07-14-10
179	GUARD RAIL DETAILS		GR-10A	07-14-10
180	MAILBOX DETAILS		MB-1	11-18-04
181	PRECAST CONCRETE BOX CULVERTS		PBC-1	12-15-11
182	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING		PCC-1	12-15-11
183	METAL PIPE CULVERT FILL HEIGHTS & BEDDING		PCM-1	12-15-11
184	PAVEMENT MARKING DETAILS		PM-1	11-17-10
185	PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS		PM-2	12-15-11
186	DETAILS OF PIPE UNDERDRAIN		PU-1	04-10-03
187	REINFORCED CONCRETE BOX CULVERT DETAILS		RCB-1	12-15-11
188	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS		RCB-2	11-20-03
189	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS		RCB-3	10-12-95
190	TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC		SE-1	01-09-87
191	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC		SE-2	10-18-96
192	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-1	12-15-11
193	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-2	03-11-10
194	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-3	10-15-09
195	TEMPORARY EROSION CONTROL DEVICES		TEC-1	12-15-11
196	TEMPORARY EROSION CONTROL DEVICES		TEC-2	06-02-94
197	TEMPORARY EROSION CONTROL DEVICES		TEC-3	11-03-94
198	DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)		TR-1A	08-22-02
199	WIRE FENCE TYPE A AND B		WF-1	08-22-02
200	WIRE FENCE WATER GAPS		WF-2	04-20-79
201	DETAILS OF STANDARD WINGS FOR REINFORCED BOX CULVERTS		W-X003-1	05-10-66
202	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS		R-100X-X1	10-10-62
203	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS		R-100X-X3	12-11-64
204	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS		R-200X-X1	10-15-62
205	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS		R-300X-0	02-28-63
206	DETAILS OF STANDARD WINGS FOR REINFORCED BOX CULVERTS (15° SKEW)		W-X153-1	05-10-66
207	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS (15° SKEW)		R-115X-1	10-24-63
208	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS (15° SKEW)		R-215X-1	10-03-63
209	DETAILS OF STANDARD WINGS FOR REINFORCED BOX CULVERTS (30° SKEW)		W-X303-1	05-10-66
210	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS (30° SKEW)		R-130X-0	02-24-64
211	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS (30° SKEW)		R-130X-1	01-24-64
212	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS (30° SKEW)		R-230X-02	03-20-64
213	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS (30° SKEW)		R-330X-01	02-27-64
-				
214-320	CROSS SECTIONS			

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

STATE OF ARKANSAS
HERBERT BURNS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	3	320

(2) GENERAL NOTES AND GOVERNING SPECIFICATIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
2/14/12

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL CONTACT ALL FIBER OPTIC COMPANIES INVOLVED ON THIS PROJECT AT LEAST 5 WORKING DAYS BEFORE CONSTRUCTION, INCLUDING REMOVING AND INSTALLING ANY FENCING, AND TAKE EVERY PRECAUTION NECESSARY TO AVOID CONFLICT WITH THE FIBER OPTIC CABLES. THE CONTRACTOR SHALL TELEPHONE ARKANSAS ONE-CALL SYSTEM AT 800-482-8998 TO DETERMINE THE LOCATION OF THE BURIED FIBER OPTIC CABLES.
8. 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.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE TO THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THIS PROJECT IS COVERED UNDER A SECTION 404 INDIVIDUAL PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.

GOVERNING SPECIFICATIONS

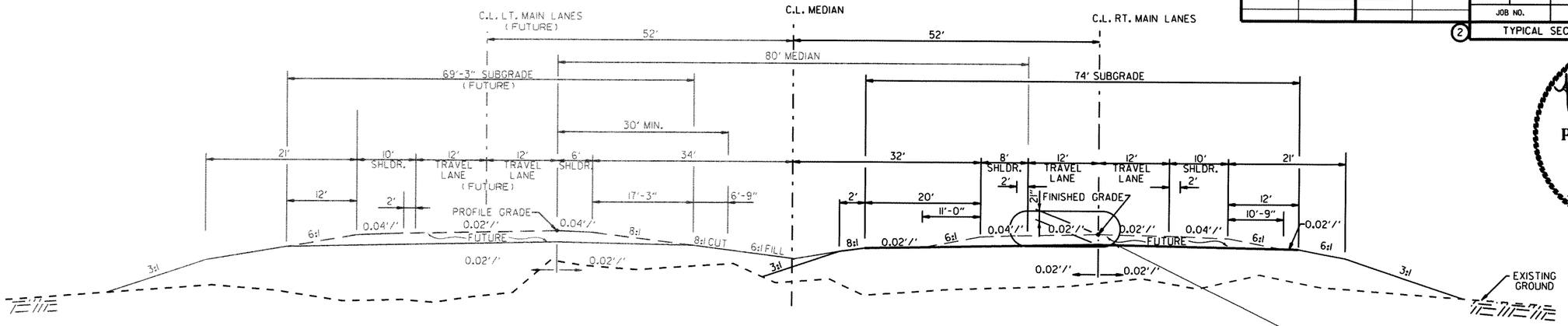
ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS.

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB 020356
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 020356	APPROACH SLABS AND GUTTERS
JOB 020356	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 020356	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 020356	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 020356	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 020356	COORDINATION OF WORK
JOB 020356	CULVERT CLEAN OUT
JOB 020356	ELASTOMERIC BEARINGS
JOB 020356	EXCAVATION AND EMBANKMENT
JOB 020356	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 020356	HIGH PERFORMANCE PAVEMENT MARKING
JOB 020356	INTERNET BIDDING
JOB 020356	MOWING OF HIGHWAY RIGHT-OF-WAY
JOB 020356	NESTING SITES OF MIGRATORY BIRDS
JOB 020356	PARTNERING REQUIREMENTS
JOB 020356	RESHAPE SLOPES
JOB 020356	RETAINING WALLS
JOB 020356	SOIL STABILIZATION
JOB 020356	STORM WATER POLLUTION PREVENTION PLAN
JOB 020356	SUBGRADE PREPARATION
JOB 020356	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 020356	TEXTURED COATING FINISH
JOB 020356	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES LEFT IN PLACE
JOB 020356	UTILITY ADJUSTMENTS
JOB 020356	VALUE ENGINEERING
JOB 020356	WARM MIX ASPHALT
JOB 020356	WELLHEAD PROTECTION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	4	320

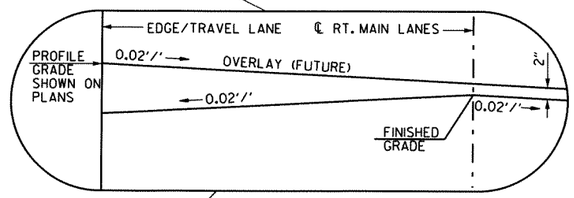
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11



TYPICAL SECTION
FILL

STA. 893+00 TO STA. 894+00
STA. 897+00 TO STA. 907+00



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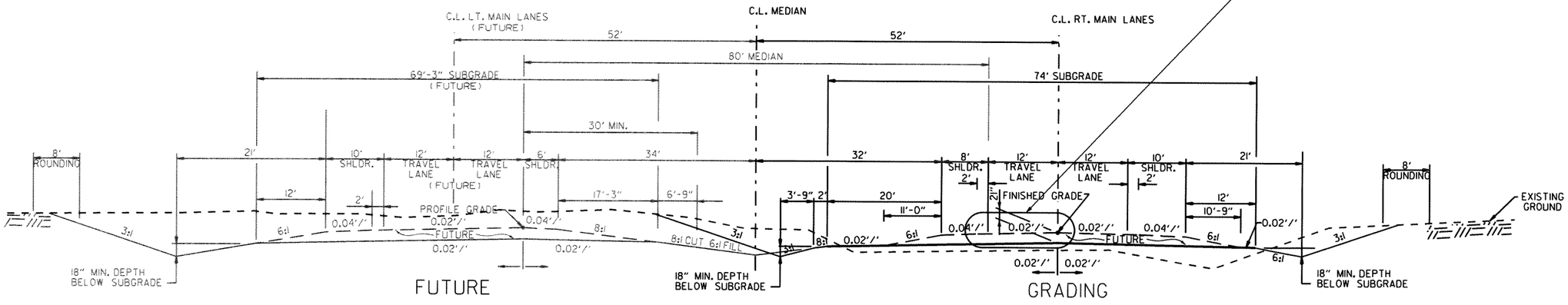

TYPICAL SECTION
CUT

STA. 893+00 TO STA. 894+00
STA. 897+00 TO STA. 907+00

THE PROFILE GRADE SHOWN ON THE PLAN & PROFILE SHEETS FOR THE RIGHT MAIN LANES IS 0.41' ABOVE THE FINISHED GRADE AT THE CENTERLINE OF THE RIGHT MAIN LANES FOR ALL LOCATIONS EXCEPT FOR THE TRANSITION SECTIONS AT SH 11 & SANDERS CREEK BRIDGES. THEREFORE, TO CALCULATE FINISHED GRADE ELEVATIONS AT THE CENTERLINE OF THE RIGHT MAIN LANES (EXCEPT FOR THE TRANSITION AREAS) SUBTRACT 0.41' FROM THE PROFILE GRADE ELEVATIONS SHOWN IN THIS SET OF CONSTRUCTION PLANS.

TYPICAL SECTION NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. IT IS INTENDED THAT THE SUBGRADE SHALL BE FINISHED IN CONFORMITY WITH THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON THE PLANS. HOWEVER, A TOLERANCE OF PLUS OR MINUS ONE-TENTH FOOT WILL BE ALLOWED.
3. REFER TO SPECIAL PROVISION "EXCAVATION AND EMBANKMENT" FOR ADDITIONAL INFORMATION.

Crafton, Tull & Associates Inc.

TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		020356	5	320

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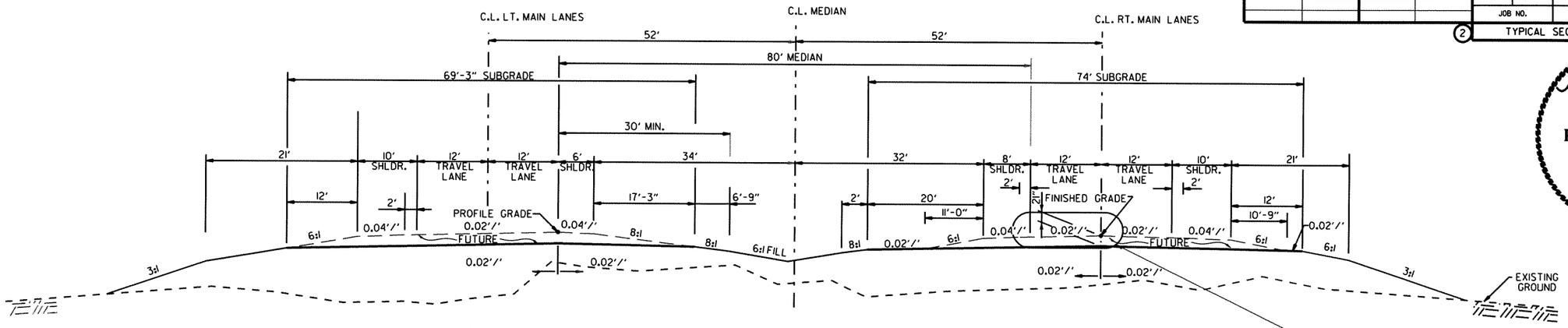
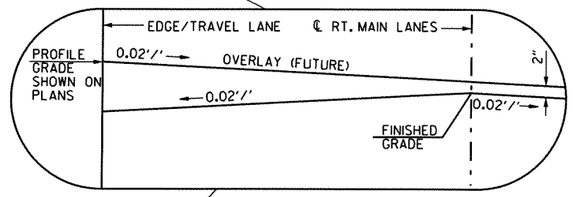


TYPICAL SECTION
FILL

STA. 894+00 TO STA. 897+00
STA. 907+00 TO STA. 912+00



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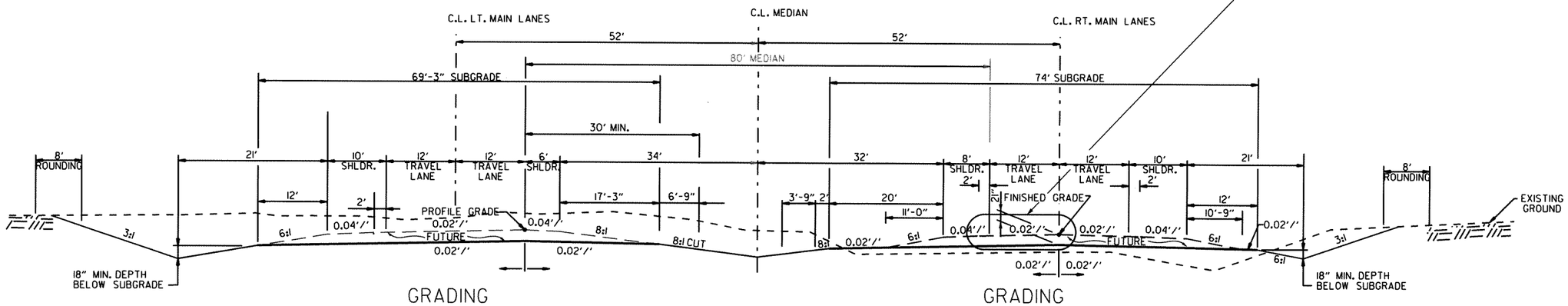

TYPICAL SECTION
CUT

STA. 894+00 TO STA. 897+00
STA. 907+00 TO STA. 912+00

THE PROFILE GRADE SHOWN ON THE PLAN & PROFILE SHEETS FOR THE RIGHT MAIN LANES IS 0.41' ABOVE THE FINISHED GRADE AT THE CENTERLINE OF THE RIGHT MAIN LANES FOR ALL LOCATIONS EXCEPT FOR THE TRANSITION SECTIONS AT SH 11 & SANDERS CREEK BRIDGES. THEREFORE, TO CALCULATE FINISHED GRADE ELEVATIONS AT THE CENTERLINE OF THE RIGHT MAIN LANES (EXCEPT FOR THE TRANSITION AREAS) SUBTRACT 0.41' FROM THE PROFILE GRADE ELEVATIONS SHOWN IN THIS SET OF CONSTRUCTION PLANS.

TYPICAL SECTION NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. IT IS INTENDED THAT THE SUBGRADE SHALL BE FINISHED IN CONFORMITY WITH THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON THE PLANS. HOWEVER, A TOLERANCE OF PLUS OR MINUS ONE-TENTH FOOT WILL BE ALLOWED.
3. REFER TO SPECIAL PROVISION "EXCAVATION AND EMBANKMENT" FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
Hubert Burns
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

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TYPICAL SECTIONS OF IMPROVEMENT

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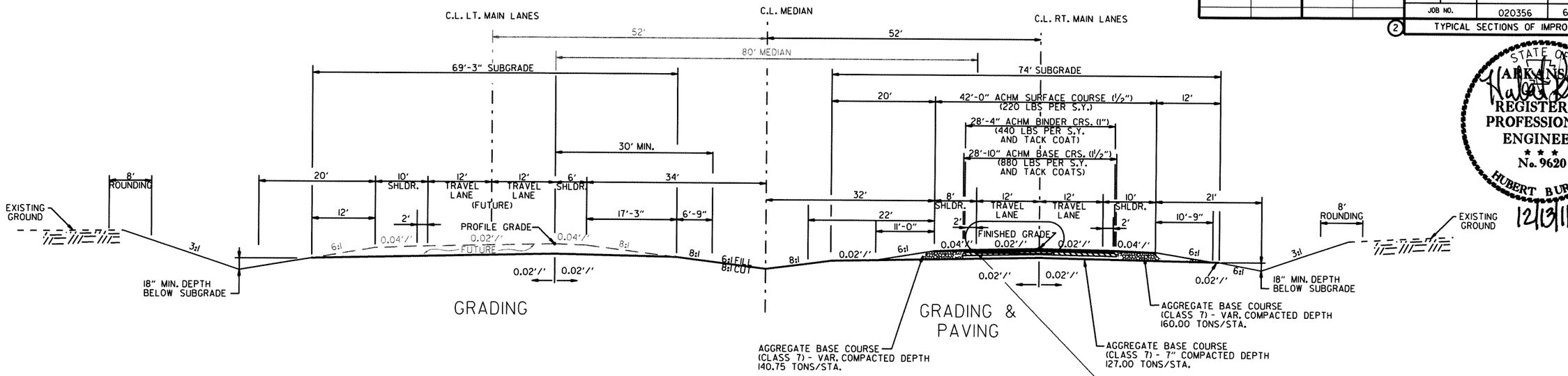
				6	ARK.			
				JOB NO.		020356	6	320

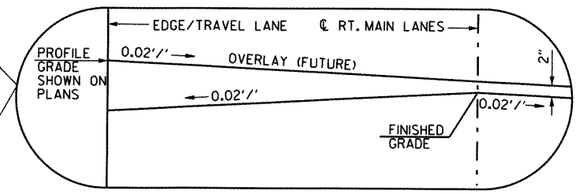
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
Hubert Burns
REGISTERED PROFESSIONAL ENGINEER
* * *
No. 9620
HUBERT BURNS
12/13/11



TYPICAL SECTION

STA. 912+00 TO STA. 915+76.25



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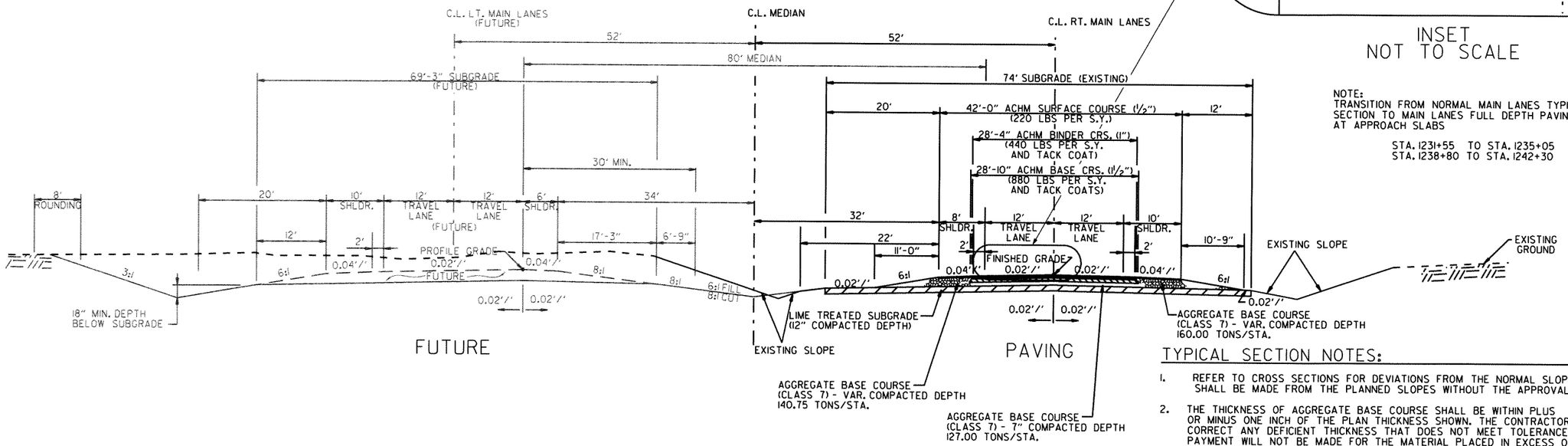

TYPICAL SECTION

STA. 1108+00.00 TO STA. 1235+11.70
STA. 1238+72.14 TO STA. 1351+92.78
STA. 1354+68.42 TO STA. 1467+00.00

NOTE:
TRANSITION FROM NORMAL MAIN LANES TYPICAL SECTION TO MAIN LANES FULL DEPTH PAVING SECTION AT APPROACH SLABS

STA. 1231+55 TO STA. 1235+05
STA. 1238+80 TO STA. 1242+30

TYPICAL SECTION NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR SHALL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR THE MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. IT IS INTENDED THAT THE SUBGRADE SHALL BE FINISHED IN CONFORMITY WITH THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON PLANS. HOWEVER, A TOLERANCE OF PLUS OR MINUS ONE-TENTH FOOT WILL BE ALLOWED.
4. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
5. REFER TO SPECIAL PROVISION "EXCAVATION AND EMBANKMENT" FOR ADDITIONAL INFORMATION.

TYPICAL SECTIONS OF IMPROVEMENT

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Crafton, Tull & Associates Inc.

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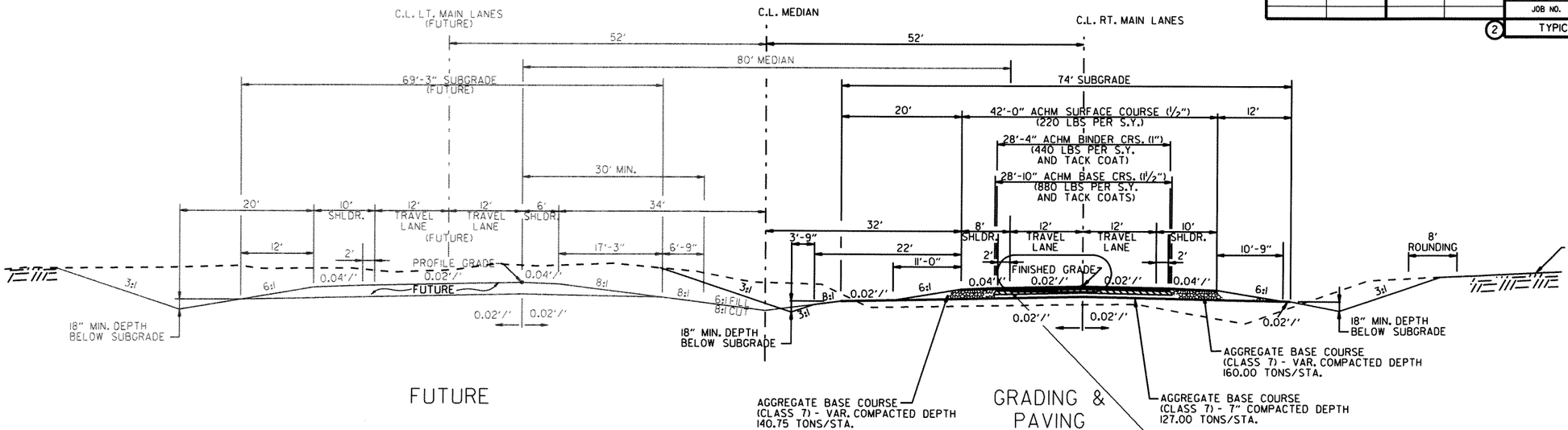
				6	ARK.			
				JOB NO.		020356	7	320

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
HUBERT BURNS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11



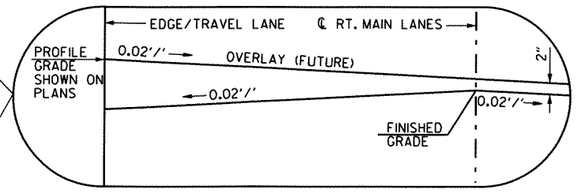
FUTURE

GRADING & PAVING

TYPICAL SECTION
CUT

STA. 915+76.25 TO STA. 925+34.40 (BK)
STA. 1090+05 (AHD) TO STA. 1108+00

NOTE: EQUATION STA. 925+34.40 BK= STA. 1090+05.00 AHD



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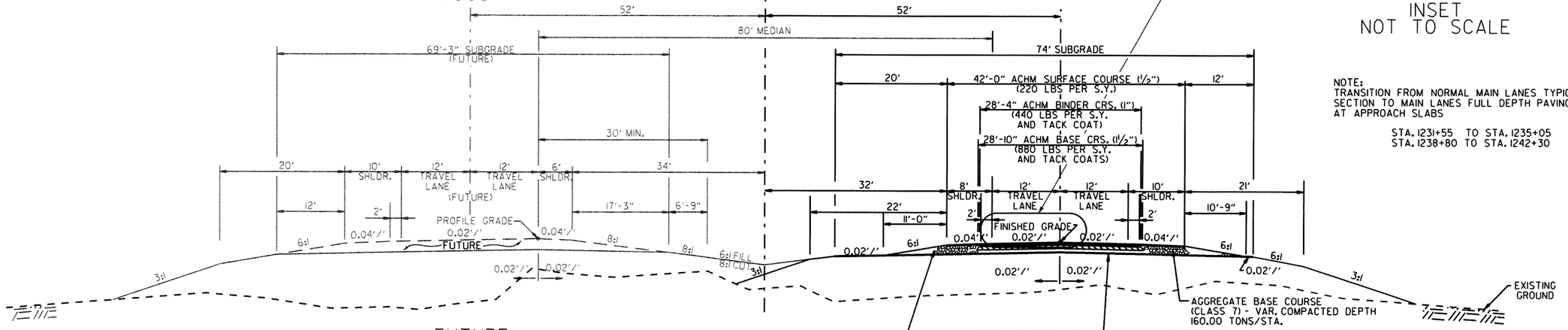

FUTURE

GRADING & PAVING

TYPICAL SECTION
FILL

STA. 915+76.25 TO STA. 925+34.40 (BK)
STA. 1090+05 (AHD) TO STA. 1108+00

NOTE:
TRANSITION FROM NORMAL MAIN LANES TYPICAL SECTION TO MAIN LANES FULL DEPTH PAVING SECTION AT APPROACH SLABS

STA. 1231+55 TO STA. 1235+05
STA. 1238+80 TO STA. 1242+30

TYPICAL SECTION NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATIONS FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
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4. REFER TO SPECIAL PROVISION "EXCAVATION AND EMBANKMENT" FOR ADDITIONAL INFORMATION.

Crafton, Tull & Associates Inc.

TYPICAL SECTIONS OF IMPROVEMENT

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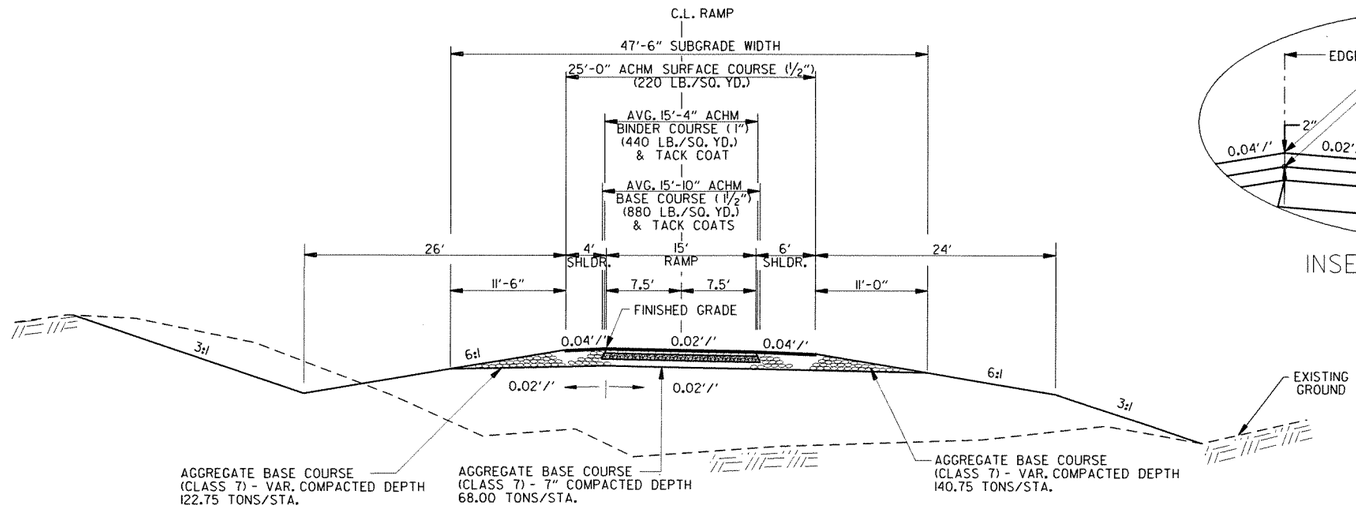
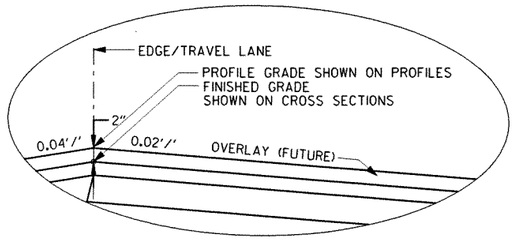
				6	ARK.			
				JOB NO.		020356	8	320

(2) TYPICAL SECTIONS OF IMPROVEMENTS



RAMPS
TYPICAL SECTION

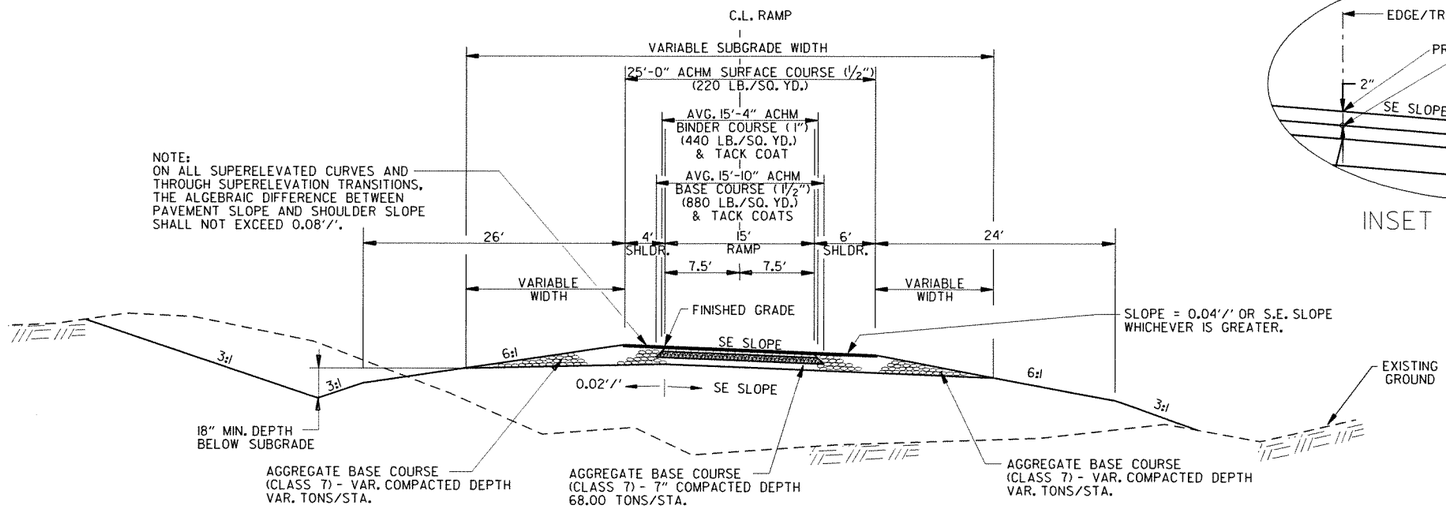
(SHOWN IN DIRECTION OF TRAFFIC)



INSET NOT TO SCALE

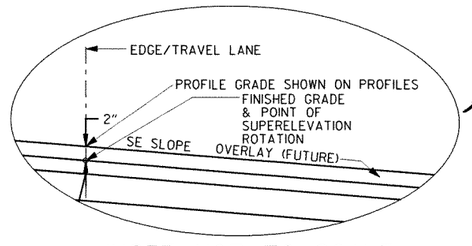
NOTE:
TRANSITION ACHM SURFACE COURSE FROM 4" (PROFILE GRADE) AT HWYS. 11/425 CONNECTOR TO 2" (FINISHED GRADE) BETWEEN THE FOLLOWING STATIONS.

RAMP 2 STA. 892+06.32 TO STA. 894+06.32
RAMP 3 STA. 895+55.36 TO STA. 897+55.36



RAMPS
SUPERELEVATED SECTION

(SHOWN IN DIRECTION OF TRAFFIC)



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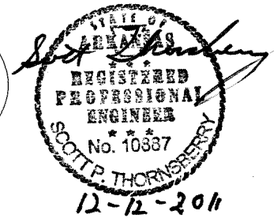

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3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

TYPICAL SECTIONS OF IMPROVEMENT

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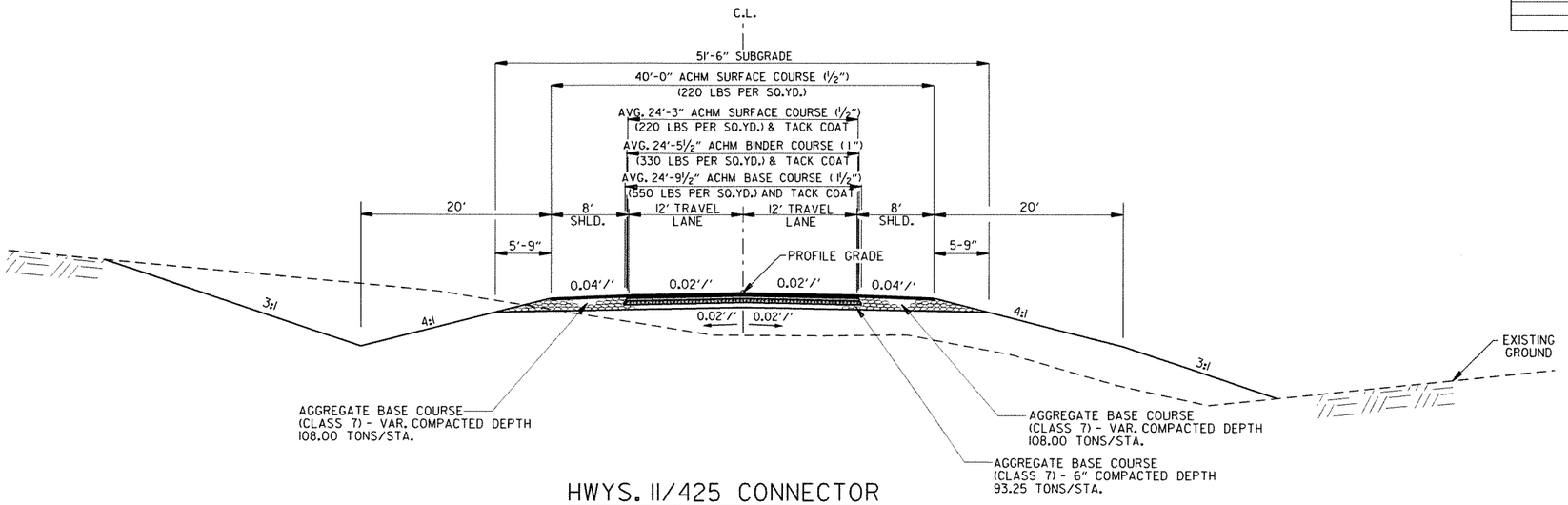
(2) TYPICAL SECTIONS OF IMPROVEMENT

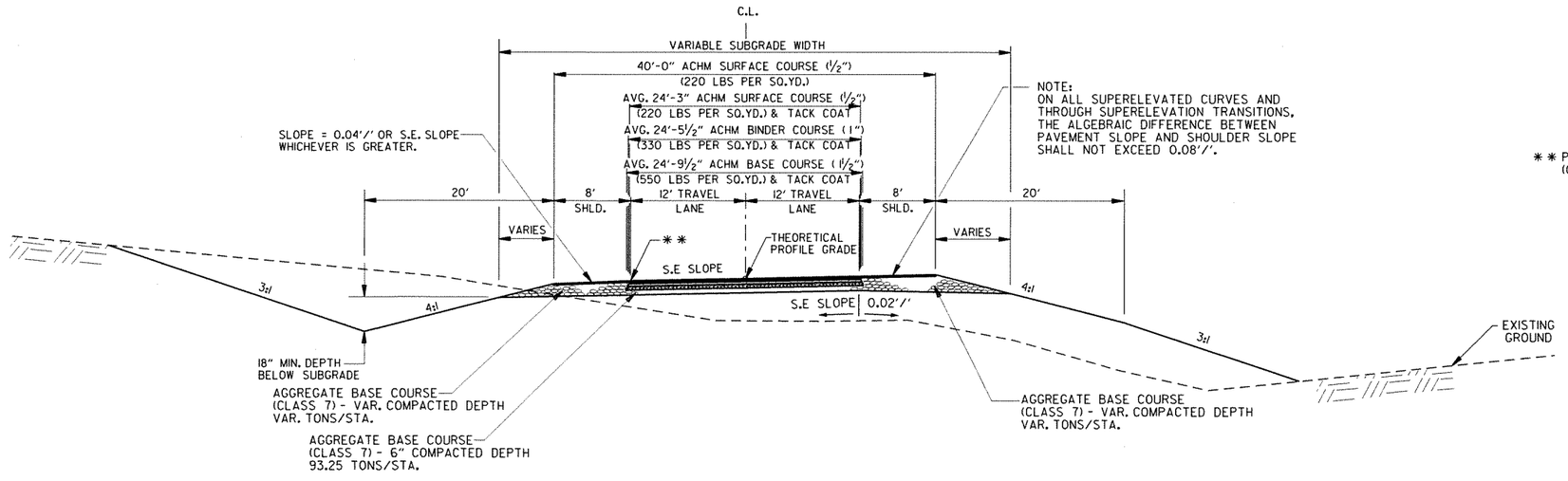


HWYS. 11/425 CONNECTOR

STA. 12+50.00 TO STA. 67+37.49
STA. 71+00.55 TO STA. 80+35.96
STA. 84+02.49 TO END PROJECT STA. 173+25.60

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY

12-12-2011



HWYS. 11/425 CONNECTOR
SUPERELEVATED SECTION

NOTES:

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TYPICAL SECTIONS OF IMPROVEMENT

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REVISED DATE:
04-14-05

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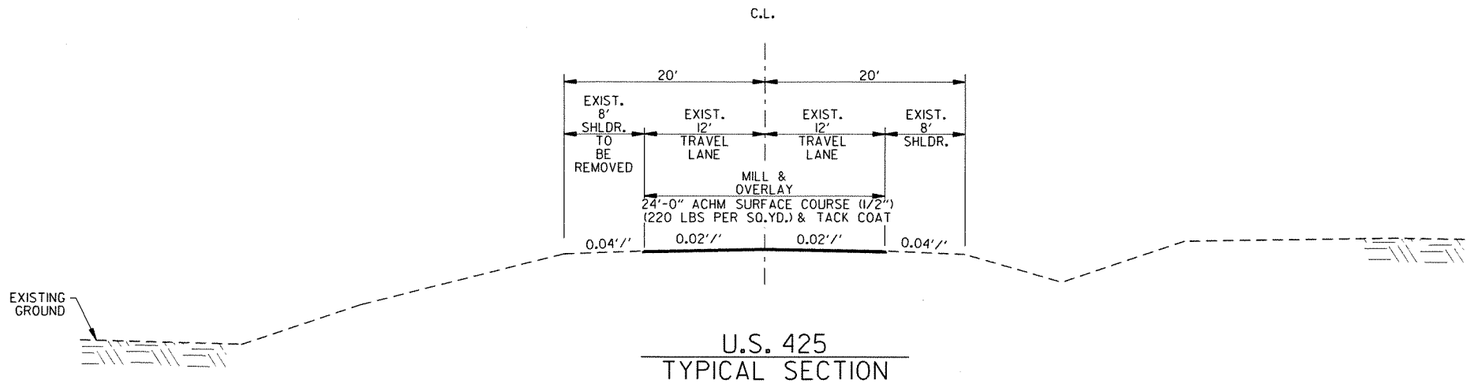
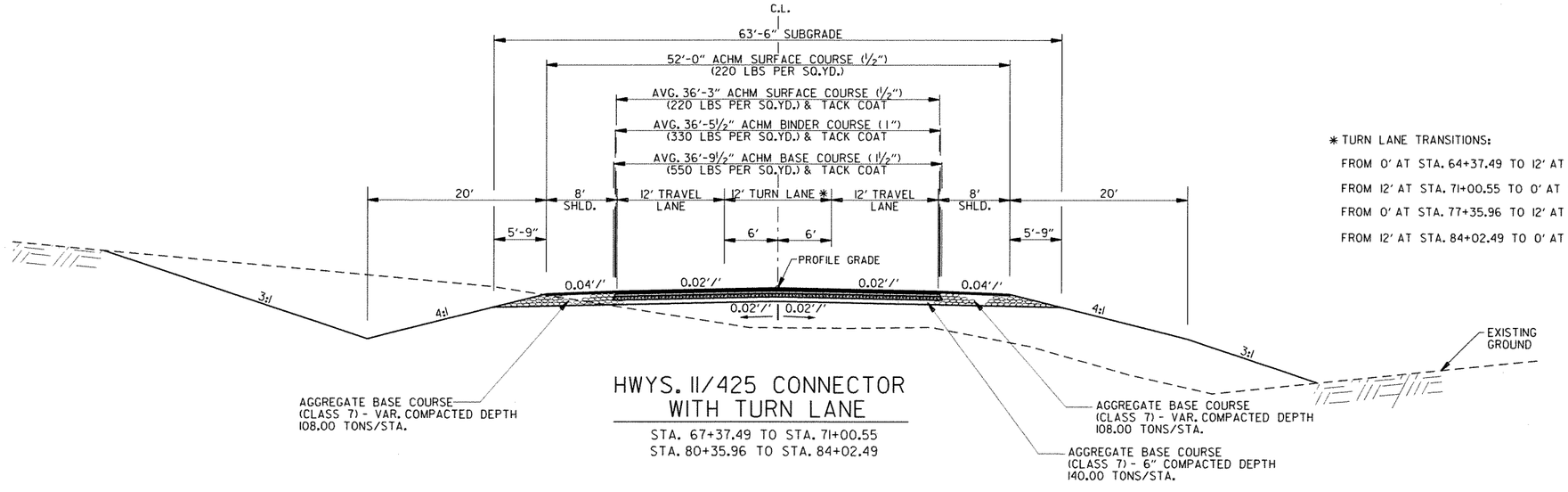


U.S. 425
TYPICAL SECTION
(MILL AND OVERLAY)

STA. 18+68.51 TO STA. 21+42.29



HWYS. 11/425 CONNECTOR
WITH TURN LANE

STA. 67+37.49 TO STA. 71+00.55
STA. 80+35.96 TO STA. 84+02.49

* TURN LANE TRANSITIONS:

FROM 0' AT STA. 64+37.49 TO 12' AT STA. 67+37.49

FROM 12' AT STA. 71+00.55 TO 0' AT STA. 74+00.55

FROM 0' AT STA. 77+35.96 TO 12' AT STA. 80+35.96

FROM 12' AT STA. 84+02.49 TO 0' AT STA. 87+02.49

NOTES:

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

TYPICAL SECTIONS OF IMPROVEMENT

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REVISED DATE:
04-14-05

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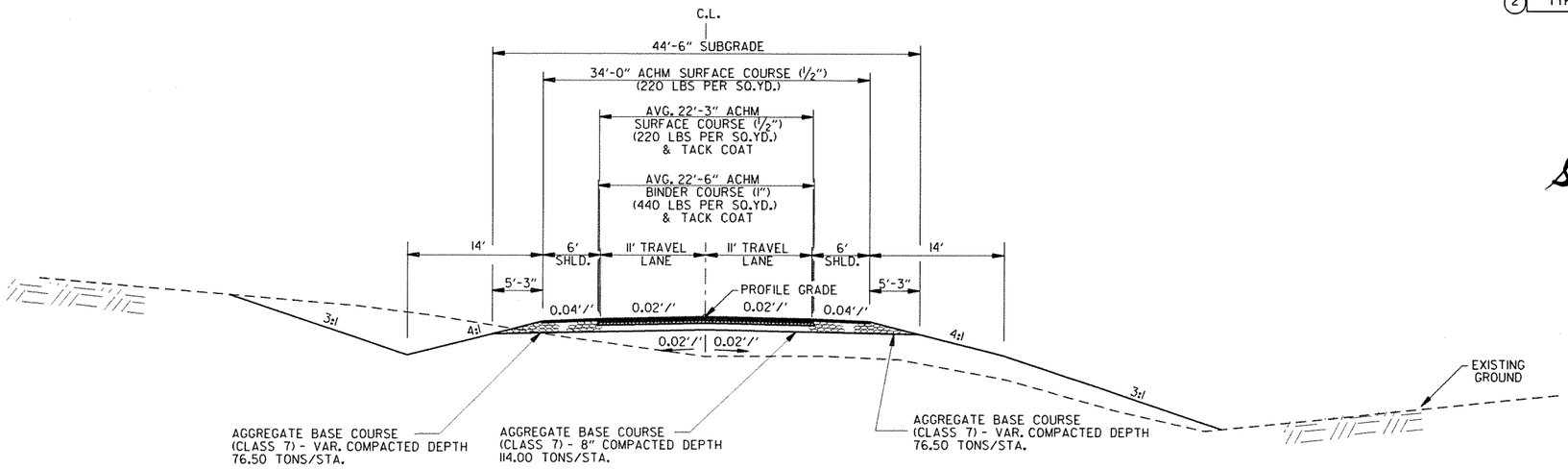
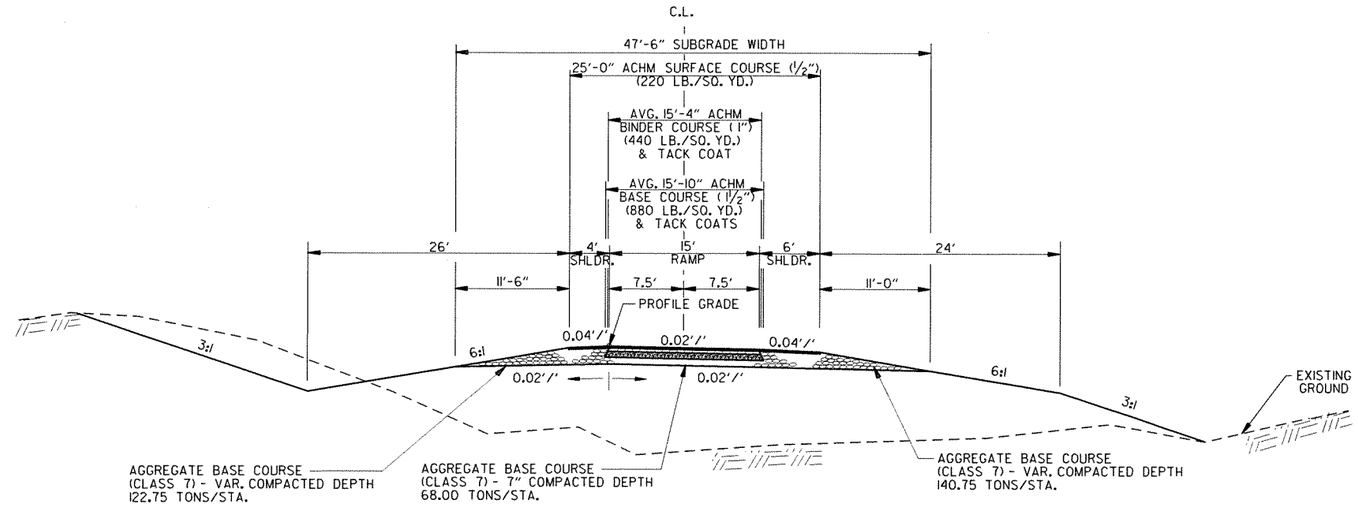


STATE HWY. 11@ HWYS. 11/425 CONNECTOR

STA. 10+12.00 TO STA. 12+30.00



RAMP 3 TEMPORARY CROSSOVER

(SHOWN IN DIRECTION OF TRAFFIC)

NOTES:

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.

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

TYPICAL SECTIONS OF IMPROVEMENT

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04-14-05

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				JOB NO.		020356	12	320

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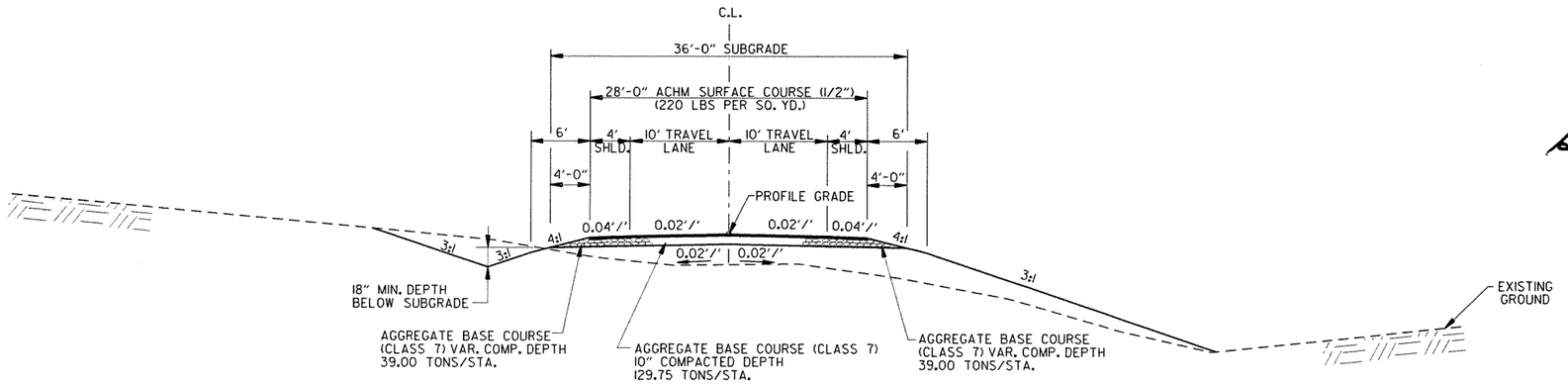
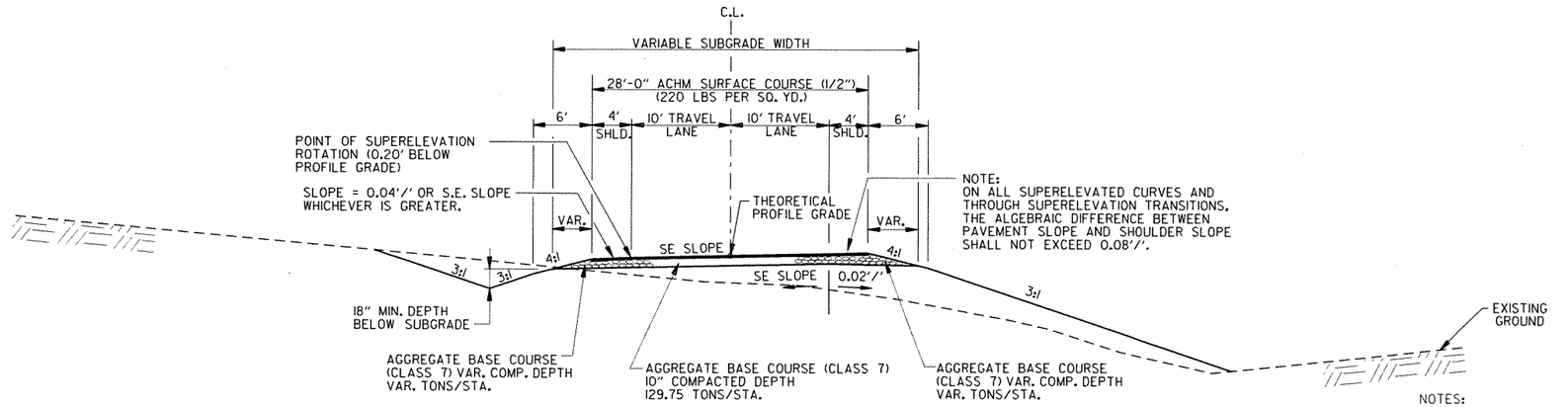


FRONTAGE ROAD 2

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10837
SCOTT P. THORNSBERRY
12-12-2011



FRONTAGE ROAD 2
SUPERELEVATED SECTION

NOTES:

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TYPICAL SECTIONS OF IMPROVEMENT

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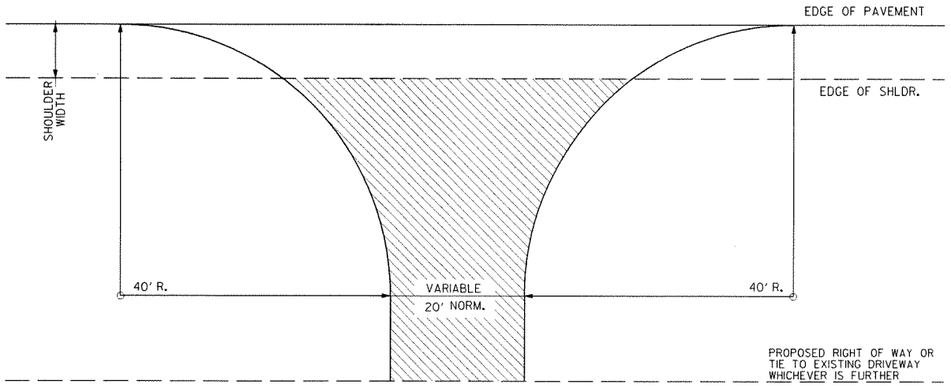
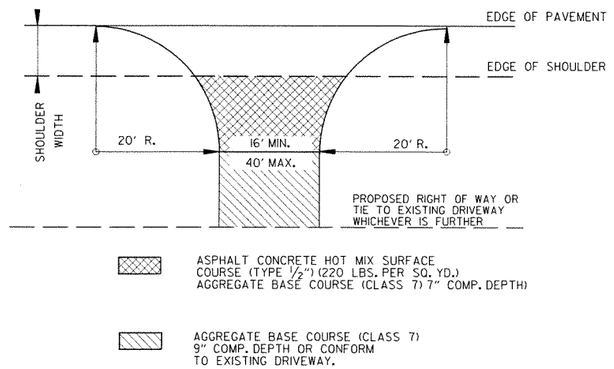
				JOB NO.		020356	13	320

(2) SPECIAL DETAILS

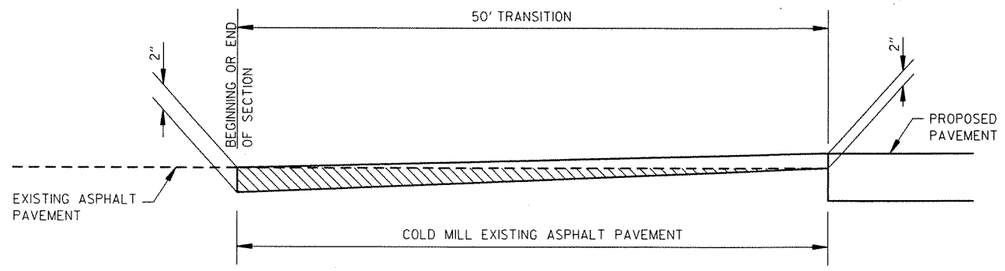


NOTE:
REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUTS

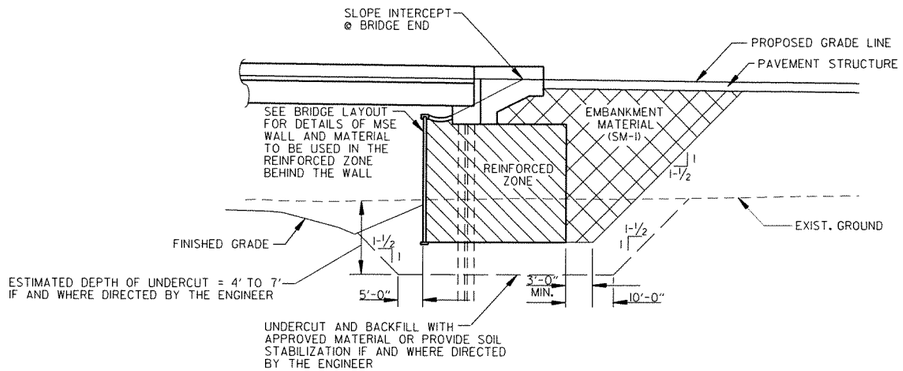


DETAIL FOR DRIVEWAY TURNOUTS



DETAIL FOR TRANSITIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011



HWYS. 11/425 CONNECTOR
LONGITUDINAL SECTION OF BRIDGE END EMBANKMENT
(SEE SPECIAL PROVISIONS - EXCAVATION AND EMBANKMENT AND RETAINING WALL)

RNFortner 12/12/2011 9:56:21 AM
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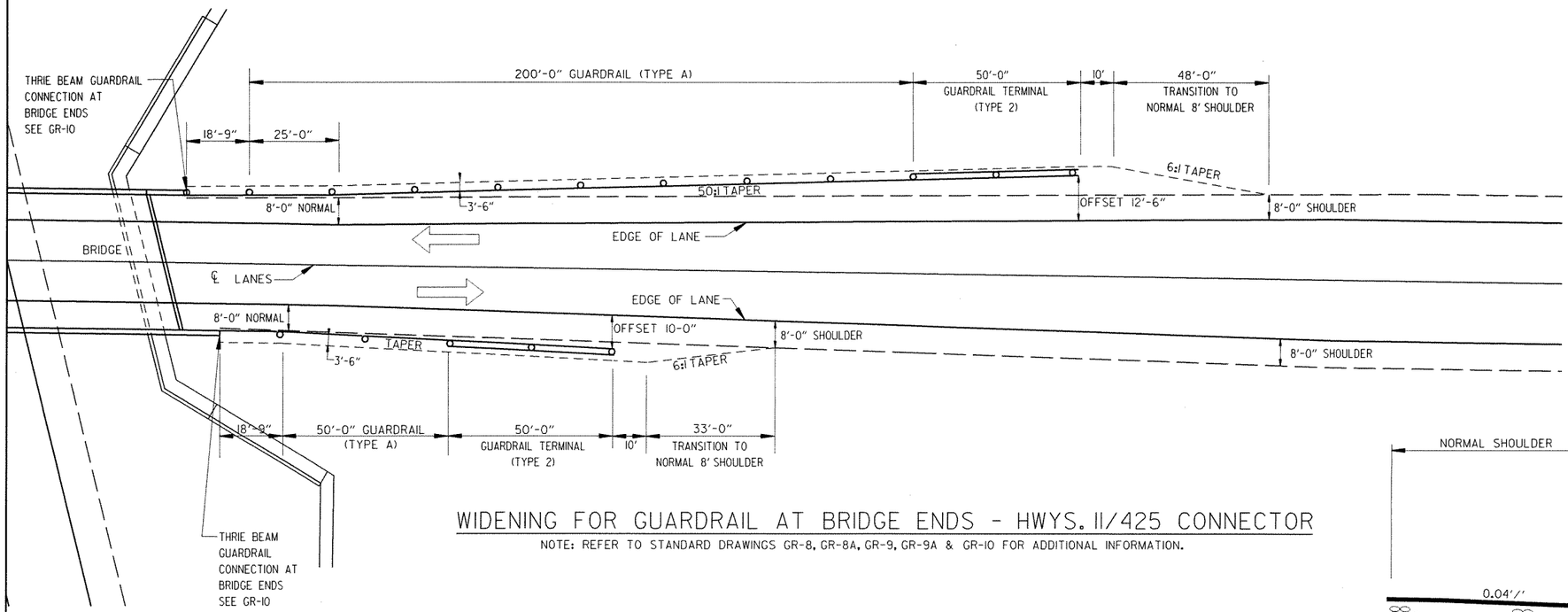
REVISED DATE:

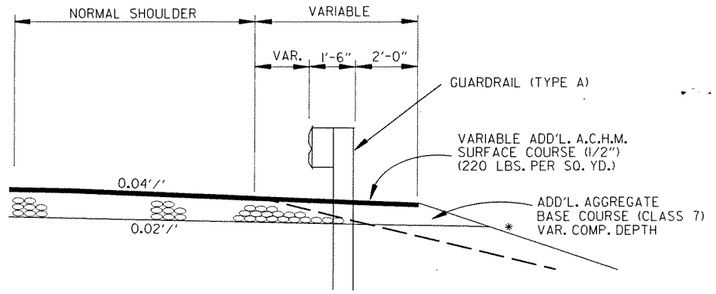
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	14	320

(2) SPECIAL DETAILS



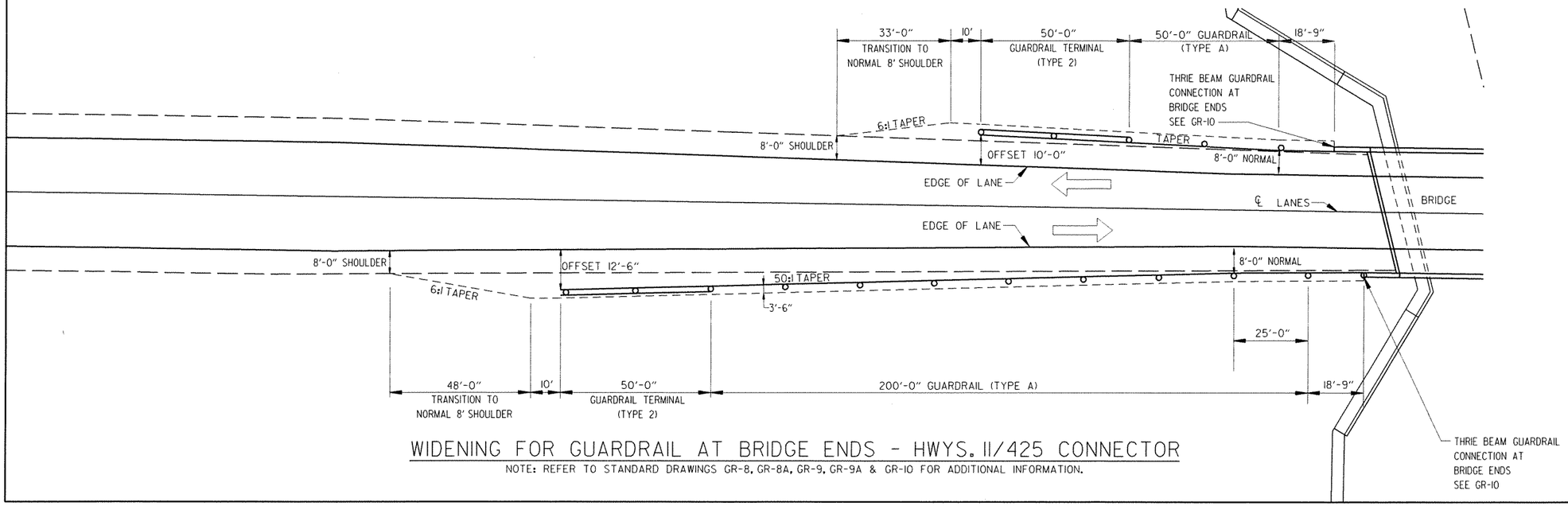
WIDENING FOR GUARDRAIL AT BRIDGE ENDS - HWYS. 11/425 CONNECTOR

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



WIDENING FOR GUARDRAIL AT HWYS. 11/425 CONNECTOR

*NOTE: REFER TO STD. DWG. GR-9A AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL



WIDENING FOR GUARDRAIL AT BRIDGE ENDS - HWYS. 11/425 CONNECTOR

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

SPECIAL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10887 SCOTT P. THORNSBERRY 12-12-2011

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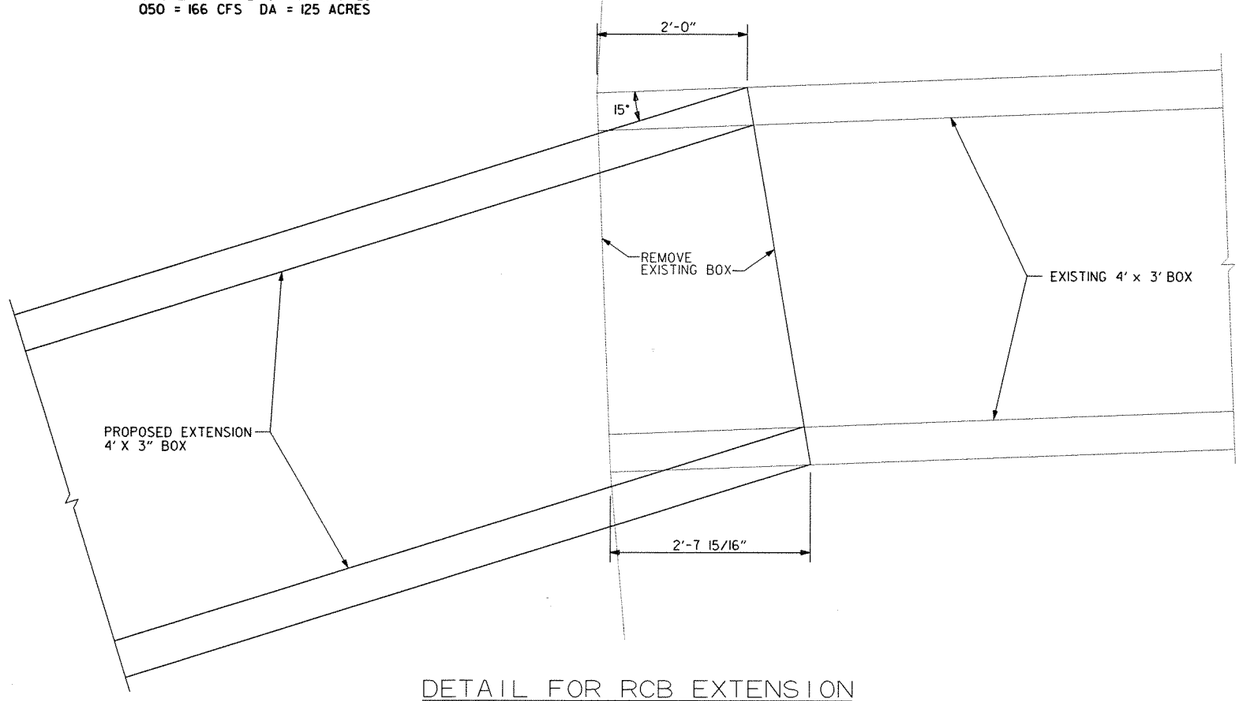
				JOB NO.		020356	15	320

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

N

HWYS. 11/425 CONNECTOR
STA. 173+43, 40' RT. IN PLACE
4' x 3' x 65' R.C. BOX CULVERT
WITH 3:1 WINGS
RETAIN & EXTEND 68' TO WEST
15° SKEW (WITH EXISTING HWY. 425)
Q50 = 166 CFS DA = 125 ACRES



DETAIL FOR RCB EXTENSION
AT HWYS. 11/425 CONNECTOR
STA. 173+43

SEE STANDARD DRAWING
RCB-3 FOR EXTENSION DETAILS.

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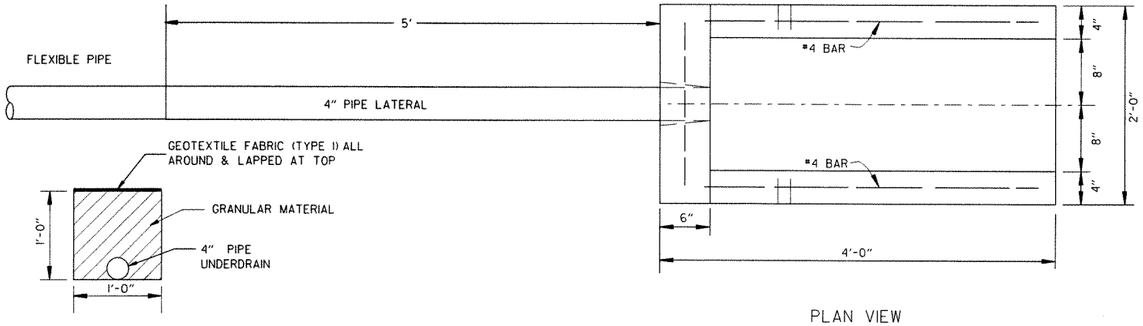
(2) SPECIAL DETAILS

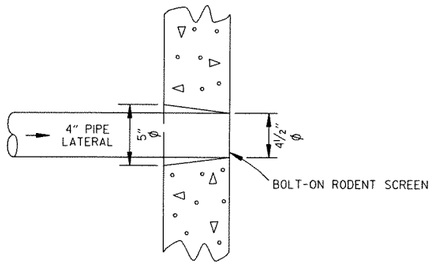


PLAN VIEW

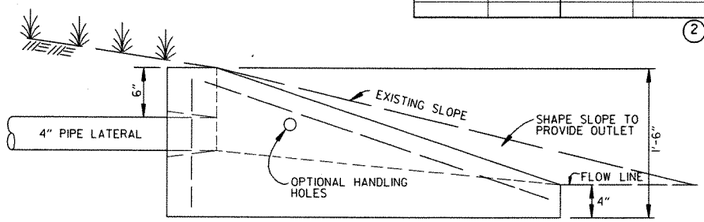
DETAIL OF PIPE UNDERDRAINS

NOTE: 4" PIPE UNDERDRAINS AND OUTLET PROTECTORS AS SHOWN HEREON ARE TO BE INSTALLED AND PAID FOR AS SPECIFIED IN SP- EXCAVATION AND EMBANKMENT.

NO ADDITIONAL PAYMENT WILL BE MADE FOR THE 5' SCHEDULE 40 PORTIONS OF THE 4" PIPE LATERAL AND SHALL BE INCLUDED IN THE LINEAR FOOT BID PRICE.



DETAIL OF HOLE FOR 4" PIPE

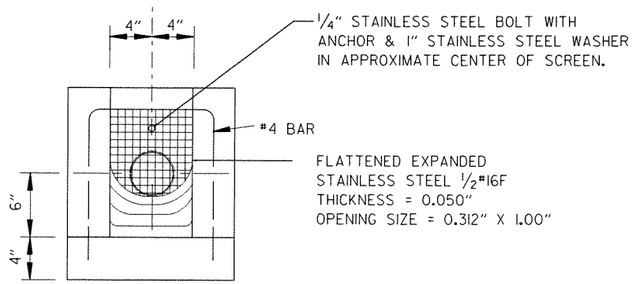


SIDE VIEW

UNDERDRAIN OUTLET PROTECTORS

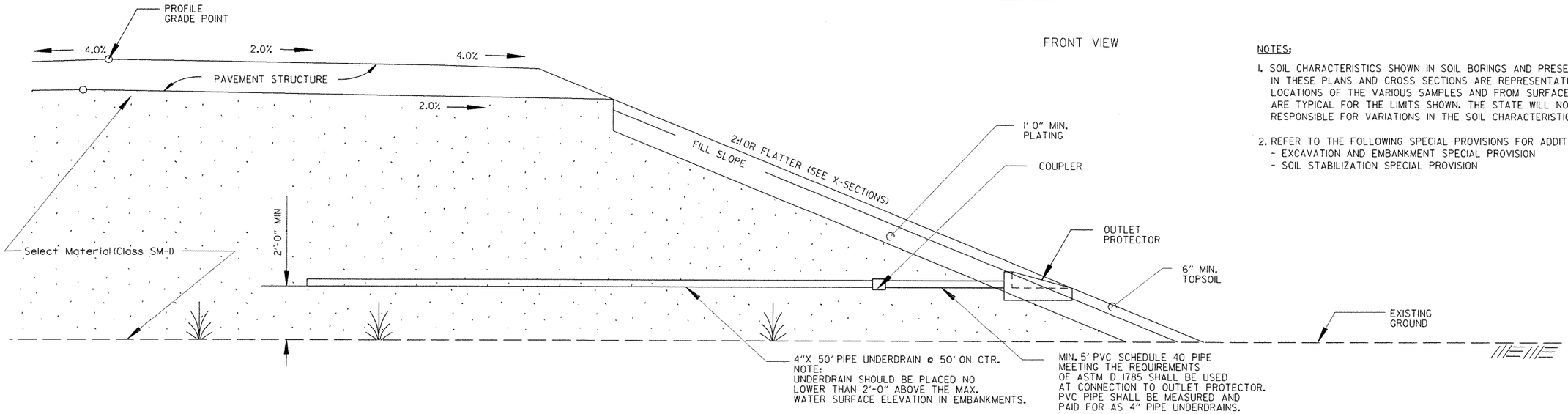
DETAILS OF INTERNAL DRAINAGE FOR EMBANKMENT CONSTRUCTION

(REFER TO SP- EXCAVATION AND EMBANKMENT FOR APPLICATION)



FRONT VIEW

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10887 SCOTT P. THORNSBERRY 12-12-2011



HALF-SECTION OF BRIDGE END EMBANKMENTS AND PROPOSED ROADWAY EMBANKMENTS 20' OR HIGHER
(SEE SPECIAL PROVISION - EXCAVATION AND EMBANKMENTS)

STA. 74+50.82 BEGIN BRIDGE
STA. 74+61.68 BRIDGE TOE OF SLOPE AT MSE RETAINING WALL
STA. 76+75.22 BRIDGE TOE OF SLOPE AT MSE RETAINING WALL
STA. 76+86.08 END BRIDGE

NOTES:

1. SOIL CHARACTERISTICS SHOWN IN SOIL BORINGS AND PRESENTED IN THESE PLANS AND CROSS SECTIONS ARE REPRESENTATIVE AT THE LOCATIONS OF THE VARIOUS SAMPLES AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS.
2. REFER TO THE FOLLOWING SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION
   - EXCAVATION AND EMBANKMENT SPECIAL PROVISION
   - SOIL STABILIZATION SPECIAL PROVISION

DETAILS OF EMBANKMENT CONSTRUCTION SPECIAL DETAILS

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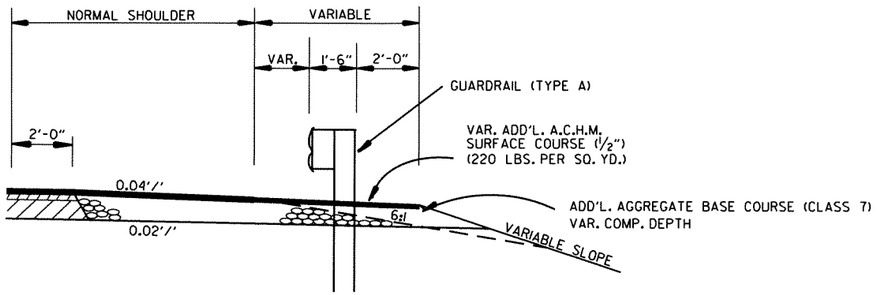
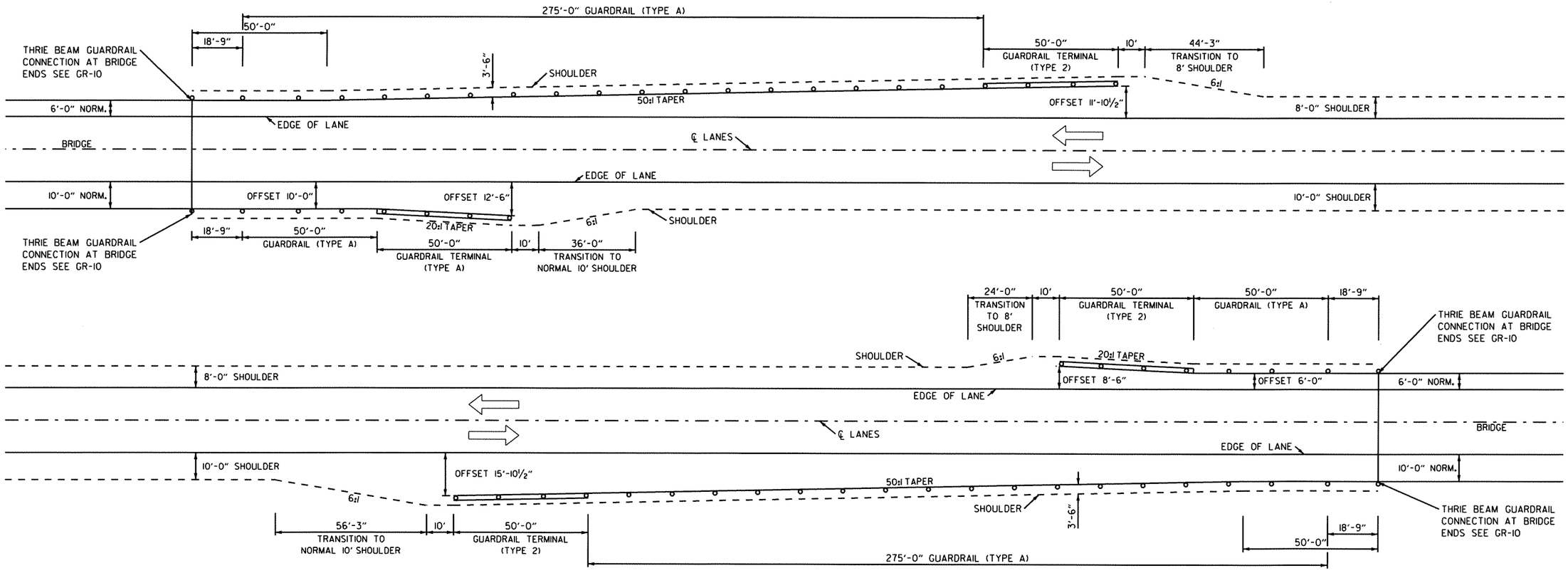
				6	ARK.			
				JOB NO.		020356	17	320

(2) SPECIAL DETAILS

STATE OF ARKANSAS
Hubert Burns
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11



WIDENING FOR GUARDRAIL AT I-69 CONNECTOR



WIDENING FOR GUARDRAIL AT BRIDGE ENDS - I-69 CONNECTOR BRIDGE AT STATE HWY. 11

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

Crafton, Tull & Associates Inc.

SPECIAL DETAILS

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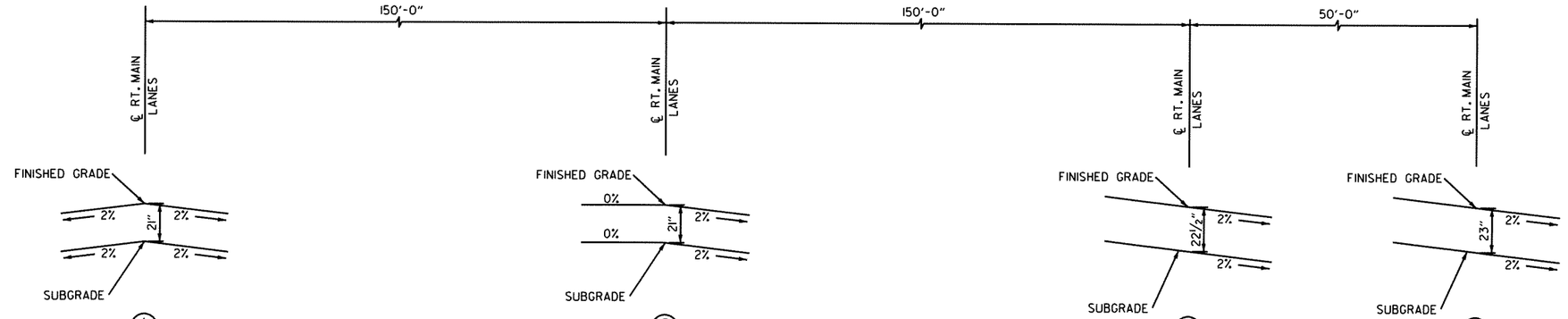
(2) SPECIAL DETAILS



① NORMAL 2 - WAY CROWN BEGIN TRANSITION

② TANGENT RUNOUT

③ REVERSE CROWN

④ APPROACH SLAB END TRANSITION

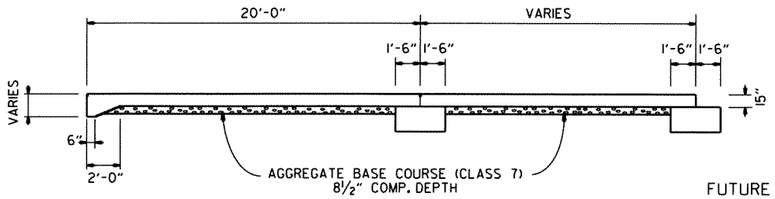
BRIDGE PROFILE TRANSITION DETAIL

① FINISHED GRADE = PROFILE GRADE MINUS 0.41'

② FINISHED GRADE = PROFILE GRADE MINUS 0.41'

③ FINISHED GRADE = PROFILE GRADE MINUS 0.28'

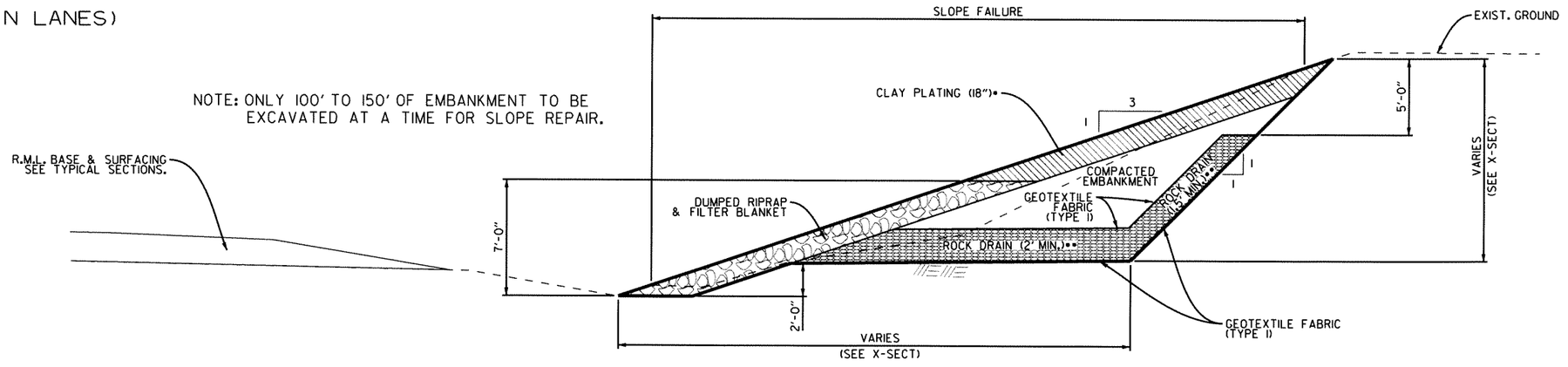
④ FINISHED GRADE = PROFILE GRADE MINUS 0.24'



SECTION OF APPROACH SLAB
(MAIN LANES)

FUTURE APPROACH SLABS
RT. MAIN LANES
STA. 1235+11.70 TO STA. 1235+54.11
STA. 1238+02.18 TO STA. 1238+72.14

NOTE: ONLY 100' TO 150' OF EMBANKMENT TO BE EXCAVATED AT A TIME FOR SLOPE REPAIR.



SLOPE SLIDE REPAIR DETAIL
STA. 1215+00 TO 1222+40 RT.
STA. 1348+00 TO 1351+00 RT.

• ELIMINATE CLAY PLATING IF COMPACTED EMBANKMENT NOT HIGHLY ERODIBLE

•• ROCK DRAIN SHOULD BE CONSTRUCTED OF MATERIAL MEETING THE MATERIAL REQUIREMENTS OF STONE BACKFILL 207.02 OR COARSE AGGREGATE FOR CONCRETE 802.01(c).

SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

USER: rc534
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				6	ARK.			
				JOB NO.		020356	19	320

2 TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

LIMITS OF CONSTRUCTION

C.L. RAMP 3

PROPOSED R/W C/A & FENCE

RAMP 3 STA. 900+30 TO STA. 901+30 RT.
100 L.F. SILT FENCE (TYPE E-11)

C.L. MEDIAN

PROPOSED C/A & FENCE

C.L. RAMP 2

RAMP 2 STA. 896+38 TO STA. 898+42 RT.
217 L.F. SILT FENCE (TYPE E-11)

C.L. FRONTAGE RD. 2

PROPOSED R/W

FRONTAGE RD. 2
STA. 10+70 TO STA. 15+20 LT.
460 L.F. SILT FENCE (TYPE E-11)

LIMITS OF CONSTRUCTION

PROPOSED R/W

LIMITS OF CONSTRUCTION

PROPOSED R/W

LIMITS OF CONSTRUCTION

C.L. RAMP 4

PROPOSED R/W

C.L. HWYS. 11/425 CONNECTOR STA. 82+69.99 =
C.L. RAMP 2 STA. 891+85.68 =
C.L. RAMP 1 (FUTURE) STA. 894+51.56

C.L. RAMP 1

C.L. HWYS. 11/425 CONNECTOR STA. 75+71.95 =
C.L. MEDIAN STA. 894+94.53

C.L. HWYS. 11/425 CONNECTOR STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 (FUTURE) STA. 898+05.77

PROPOSED R/W C/A & FENCE

LIMITS OF CONSTRUCTION

PROPOSED R/W

TEMP. CONST. EASEMENT

C.L. HWYS. 11/425 CONNECTOR STA. 85+70.00 =
C.L. FRONTAGE RD. 2 STA. 10+00.00

PROPOSED R/W C/A & FENCE

BEGIN JOB 020356 STA. 893+00
BEGIN GRADING & STRUCTURES RIGHT LANES

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS CLEARING AND GRUBBING STA. 893+00 TO STA. 904+00

RNFortner 12/12/2011 10:34:13 AM
WORKSPACE: AHTDV8
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REVISED DATE:

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				6	ARK.			
				JOB NO.		020356	20	320

2 TEMPORARY EROSION CONTROL DETAILS

LEGEND

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

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER 12-11-2012 SCOTT R. THORNSBERRY NO. 10887

RAMP 3 STA. 904+10 TO STA. 906+90 RT.
293 L.F. SILT FENCE (TYPE E-11)

LIMITS OF CONSTRUCTION

C.L. RAMP 3 CROSSOVER STA. 10+00.00 =
C.L. RAMP 3 STA. 911+21.39

C.L. RAMP 2 STA. 913+59.38 =
C.L. MEDIAN STA. 913+59.38 68.5 RT.

C.L. RAMP 3

PROPOSED R/W
C/A & FENCE

C.L. RAMP 3 CROSSOVER

LIMITS OF CONSTRUCTION

STA. 925+34.40 BACK=
STA. 7090+05.00 AHEAD

C.L. MEDIAN

C.L. RAMP 3 CROSSOVER STA. 5+62.18+7 =
C.L. MEDIAN STA. 919+85.17 46.0 RT.

C.L. RAMP 2

PROPOSED R/W

PROPOSED R/W
C/A & FENCE

LIMITS OF CONSTRUCTION

C.L. FRONTAGE RD. 2

FRONTAGE RD. 2
STA. 28+81 TO STA. 29+39 LT. & RT.
1304 L.F. SILT FENCE (TYPE E-11)

LIMITS OF CONSTRUCTION

FRONTAGE RD. 2
STA. 25+68 TO STA. 28+71 LT.
351 L.F. SILT FENCE (TYPE E-11)

FRONTAGE RD. 2
STA. 26+20 TO STA. 29+27 RT.
357 L.F. SILT FENCE (TYPE E-11)

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING
STA. 904+00 TO STA. 925+34

sthornsberry 12/12/2011 12:37:34 PM
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REVISED DATE:

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				6	ARK.			
				JOB NO.		020356	21	320

(2) TEMPORARY EROSION CONTROL DETAILS

EROSION CONTROL GENERAL NOTES

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

EROSION CONTROL DEVICES SHALL BE PLACED WITHIN 24 HOURS OF BEING NOTIFIED BY THE ENGINEER OF THEIR NEED. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SEEDING TO BE PLACED IN ALL E-8 DITCHES EXCEPT WHERE RIPRAP IS PLACED.

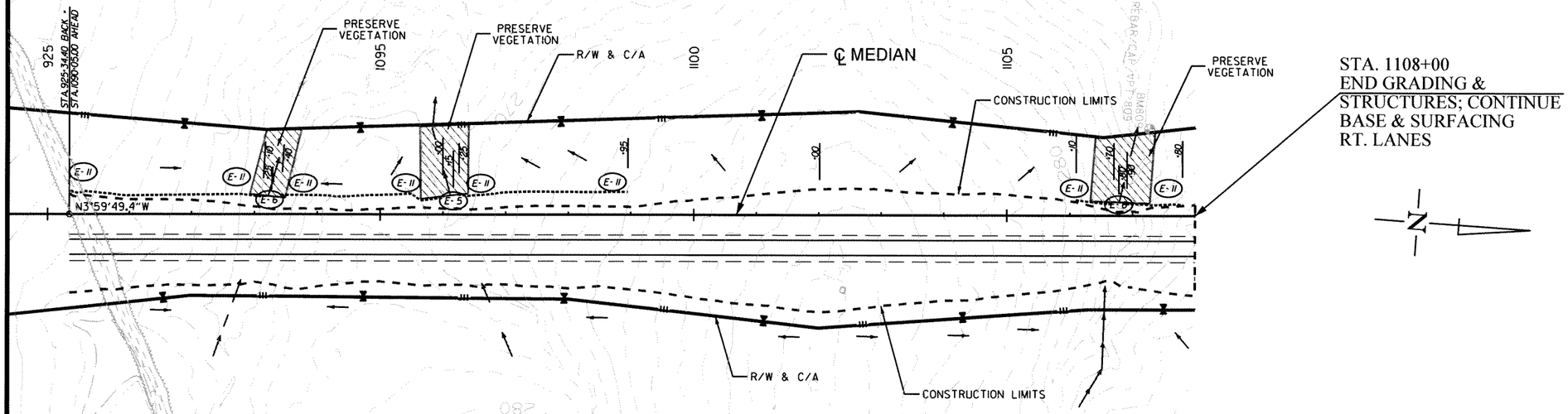
MULCH TO BE PLACED IN ALL E-8 DITCHES EXCEPT WHERE RIPRAP OR EROSION CONTROL MATTING IS PLACED.

CLEARING AND GRUBBING ACTIVITIES TO CORRESPOND WITH STAGED CONSTRUCTION ACTIVITIES.

DATE	REVISION

LEGEND

- (E-4) (E-11) — SILT FENCE
- (E-5) — SAND BAG DITCH CHECK
- (E-6) — ROCK DITCH CHECK
- (E-8) — DIVERSION DITCH (TYPE E-8)
- (E-12) — SLOPE PIPE DRAIN (12")
- [E-14] — SEDIMENT BASIN (TYPE E-14)



STA. 1108+00
END GRADING &
STRUCTURES; CONTINUE
BASE & SURFACING
RT. LANES

N

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING
STA. 1090+00 TO STA. 1108+00

Crafton, Tull & Associates Inc.

USER: rc534
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				6	ARK.			
				JOB NO.		020356	22	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

BEGIN HWYS. 11/425 CONNECTOR
STA. 12+50

EXISTING R/W
EXISTING S.H. 11
TEMP. CONST. EASEMENT
PROPOSED R/W
C.L. S.H. 11
C.L. HWYS. 11/425 CONNECTOR
LIMITS OF CONSTRUCTION
LIMITS OF CONSTRUCTION
LIMITS OF CONSTRUCTION
PROPOSED R/W
EXISTING S.H. 11

STA. 22+20 TO STA. 24+03 LT.
183 L.F. SILT FENCE (TYPE E-11)

STA. 26+10 TO STA. 30+30 LT.
430 L.F. SILT FENCE (TYPE E-11)

STA. 22+70 TO STA. 23+92 RT.
122 L.F. SILT FENCE (TYPE E-11)

STA.26+00 TO STA. 30+30 RT.
440 L.F. SILT FENCE (TYPE E-11)

C.L. HWYS. 11/425 CONNECTOR STA. 17+92.00 =
C.L. STATE HIGHWAY 11 STA. 10+00.00

N

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS CLEARING AND GRUBBING STA. 12+50 TO STA. 31+00

RNFortner 12/12/2011 10:40:04 AM
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REVISED DATE:

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				6	ARK.			
				JOB NO.		020356	23	320

(2) TEMPORARY EROSION CONTROL DETAILS

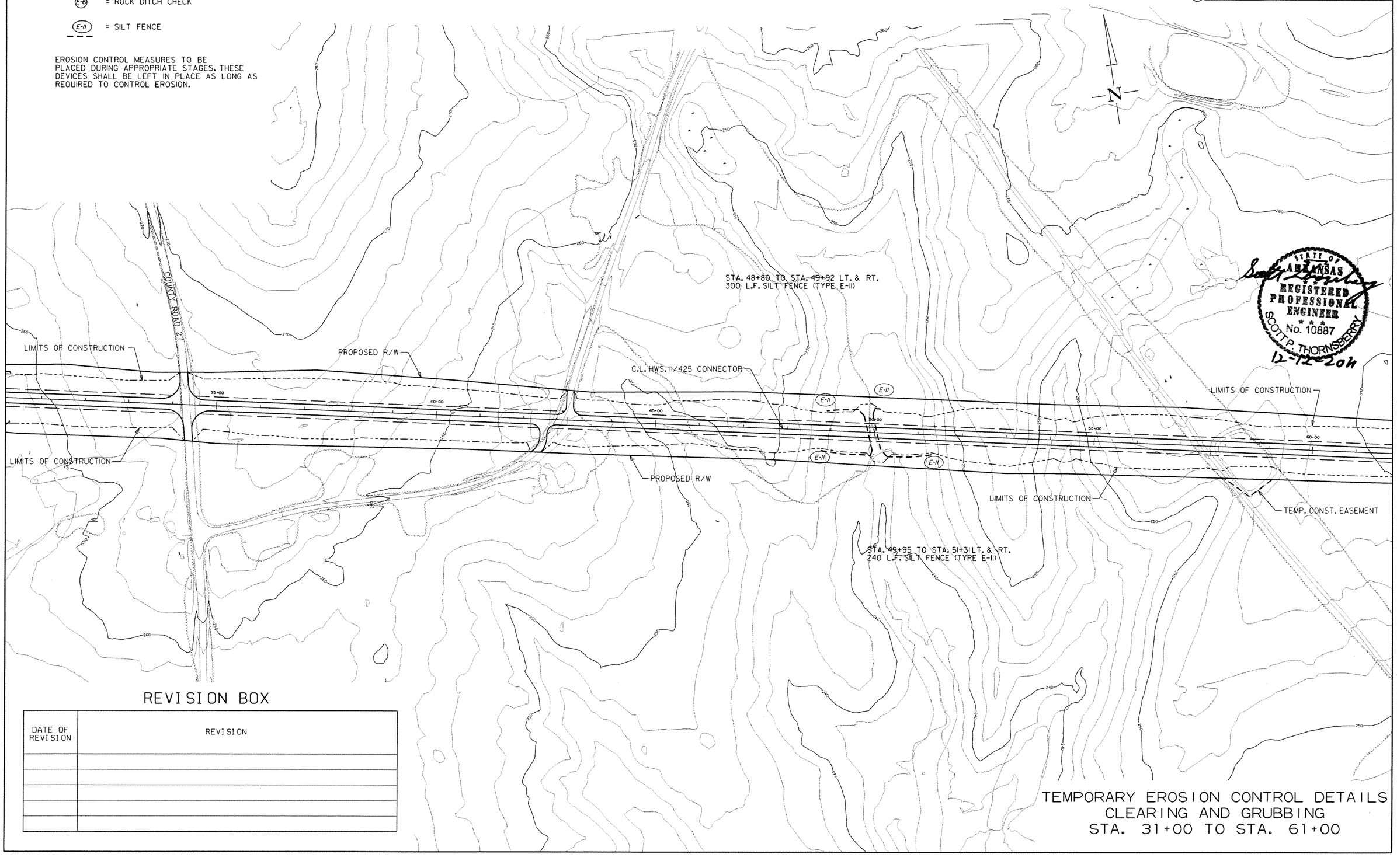
LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No. 10887
12-12-2011

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING
STA. 31+00 TO STA. 61+00

RNFortner 12/12/2011 10:43:14 AM
WORKSPACE: AHTDV8
L:\2002\020110090 I-69Conn\DwgCT\rwy\69N425CG22.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.		020356	24	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

LIMITS OF CONSTRUCTION

PROPOSED R/W C/A & FENCE

C.L. RAMP 3

STA. 64+00 TO STA. 66+00 LT.
200 L.F. SILT FENCE (TYPE E-11)

PROPOSED R/W

LIMITS OF CONSTRUCTION

STA. 63+90 TO STA. 67+74 RT.
400 L.F. SILT FENCE (TYPE E-11)

STA. 67+86 TO STA. 70+00 RT.
317 L.F. SILT FENCE (TYPE E-11)

PROPOSED R/W C/A & FENCE

C.L. RAMP 4

STA. 70+07 TO STA. 74+00 LT.
480 L.F. SILT FENCE (TYPE E-11)

STA. 70+10 TO STA. 74+65 RT.
466 L.F. SILT FENCE (TYPE E-11)

C.L. HWYS. 11/425 CONNECTOR STA. 75+71.95 =
C.L. MEDIAN STA. 894+94.53

C.L. HWYS. 11/425 CONNECTOR STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 (FUTURE) STA. 898+05.77

C.L. MEDIAN

STA. 76+75 TO STA. 79+00 LT.
235 L.F. SILT FENCE (TYPE E-11)

STA. 77+25 TO STA. 84+20 RT.
869 L.F. SILT FENCE (TYPE E-11)

C.L. HWYS. 11/425 CONNECTOR STA. 82+69.99 =
C.L. RAMP 2 STA. 891+85.68 =
C.L. RAMP 1 (FUTURE) STA. 894+51.56

C.L. RAMP 1

C.L. RAMP 2

PROPOSED C/A & FENCE

LIMITS OF CONSTRUCTION

C.L. FRONTAGE RD. 2

PROPOSED R/W

PROPOSED R/W

LIMITS OF CONSTRUCTION

LIMITS OF CONSTRUCTION

PROPOSED R/W

TEMP. CONST. EASEMENT

C.L. HWYS. 11/425 CONNECTOR STA. 85+70.00 =
C.L. FRONTAGE RD. 2 STA. 10+00.00

PROPOSED R/W C/A & FENCE

STA. 84+29 TO STA. 87+94 RT.
376 L.F. SILT FENCE (TYPE E-11)

STA. 88+14 TO STA. 89+44 RT.
130 L.F. SILT FENCE (TYPE E-11)

BEGIN JOB 020356 STA. 893+00
BEGIN GRADING & STRUCTURES RIGHT LANES

N

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS CLEARING AND GRUBBING STA. 61+00 TO STA. 91+00

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WORKSPACE: AHTDV8
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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.		020356	25	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

STA. 94+00 TO STA. 95+70 LT.
172 L.F. SILT FENCE (TYPE E-11)

STA. 107+40 TO STA. 108+62 LT.
129 L.F. SILT FENCE (TYPE E-11)

STA. 108+70 TO STA. 109+80 LT.
120 L.F. SILT FENCE (TYPE E-11)

STA. 118+50 TO STA. 123+61 LT.
522 L.F. SILT FENCE (TYPE E-11)

PROPOSED R/W

LIMITS OF CONSTRUCTION

TEMP. CONST. EASEMENT

C.L. HWYS. 11/425 CONNECTOR

STA. 91+10 TO STA. 92+00 LT. & RT.
150 L.F. SILT FENCE (TYPE E-11)

STA. 91+80 TO STA. 97+00 RT
645 L.F. SILT FENCE (TYPE E-11)

COUNTY ROAD 65

STA. 118+30 TO STA. 122+29 RT.
404 L.F. SILT FENCE (TYPE E-11)

N

REVISION BOX

DATE OF REVISION	REVISION

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WORKSPACE: AHTDV8
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REVISED DATE:

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING
STA. 91+00 TO STA. 121+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.		020356	26	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

STA. 118+50 TO STA. 123+61 LT.
522 L.F. SILT FENCE (TYPE E-11)

STA. 118+30 TO STA. 122+29 RT.
404 L.F. SILT FENCE (TYPE E-11)

STA. 122+60 TO STA. 126+00 RT. & LT.
487 L.F. SILT FENCE (TYPE E-11)

STA. 126+15 TO STA. 127+90 RT. & LT.
425 L.F. SILT FENCE (TYPE E-11)

STA. 133+90 TO STA. 137+44 LT.
363 L.F. SILT FENCE (TYPE E-11)

STA. 133+70 TO STA. 138+17 RT.
456 L.F. SILT FENCE (TYPE E-11)

STA. 137+58 TO STA. 139+60 LT.
215 L.F. SILT FENCE (TYPE E-11)

STA. 138+35 TO STA. 140+12 RT.
184 L.F. SILT FENCE (TYPE E-11)

STA. 143+50 TO STA. 145+00 LT. & RT.
330 L.F. SILT FENCE (TYPE E-11)

STA. 145+40 TO STA. 147+80 RT.
318 L.F. SILT FENCE (TYPE E-11)

STA. 147+00 TO STA. 148+10 LT.
110 L.F. SILT FENCE (TYPE E-11)

TEMP. CONST. EASEMENT

TEMP. CONST. EASEMENT

TEMP. CONST. EASEMENT

LIMITS OF CONSTRUCTION

LIMITS OF CONSTRUCTION

PROPOSED R/W

PROPOSED R/W

PROPOSED R/W

PROPOSED R/W

C.L. HWYS. II/425 CONNECTOR

N

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS CLEARING AND GRUBBING STA. 121+00 TO STA. 151+00

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WORKSPACE: AHTDV8
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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.		020356	27	320

(2) TEMPORARY EROSION CONTROL DETAILS

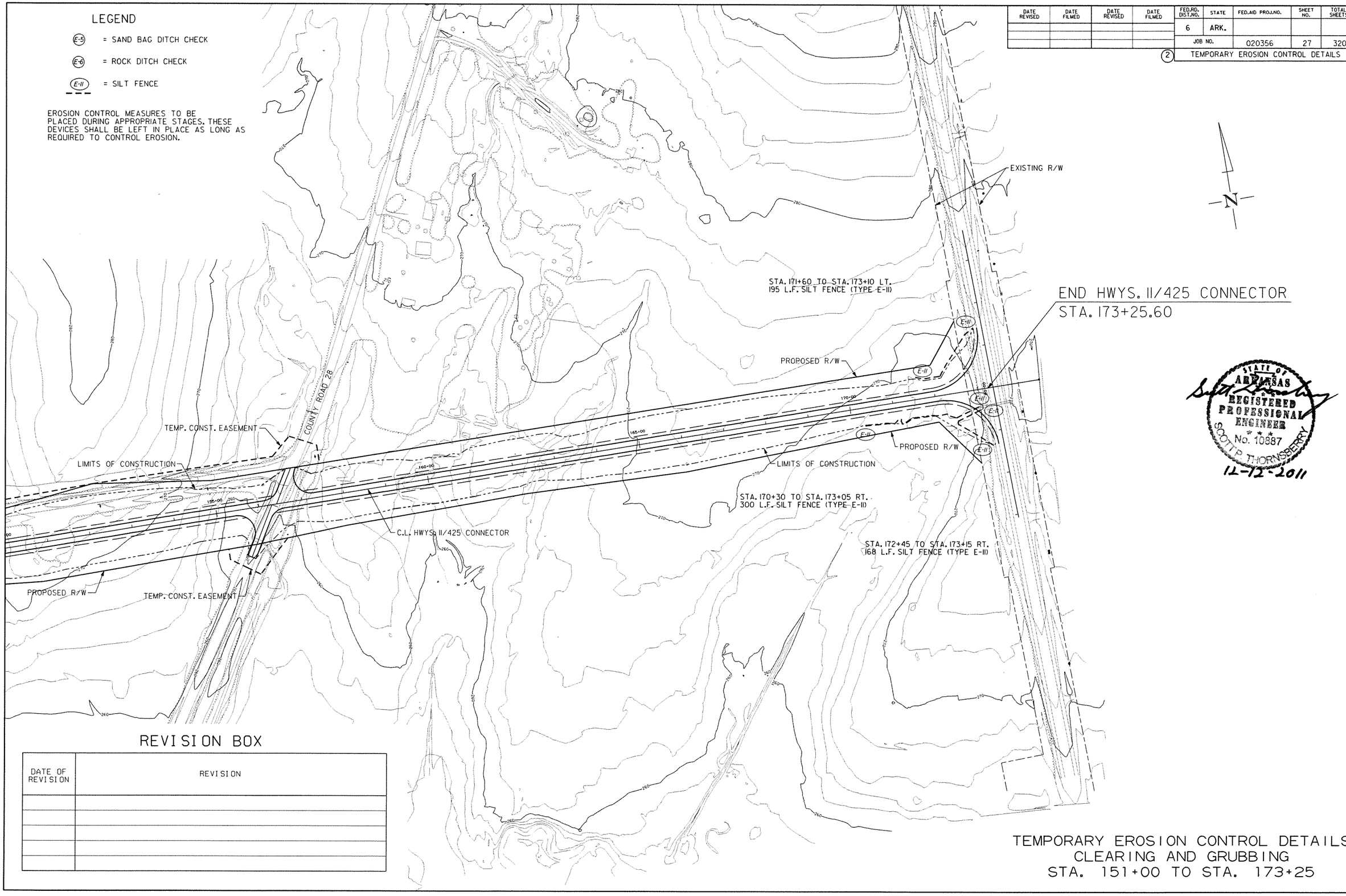
LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING
STA. 151+00 TO STA. 173+25

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WORKSPACE: AHTDV8
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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.		020356	28	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-8) = DIVERSION DITCH (TYPE E-8)
- (E-12) = SLOPE PIPE DRAIN (12") (TYPE E-12)

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

RAMP 3 STA. 898+30 TO STA. 906+30 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(400' O.C.)

LIMITS OF CONSTRUCTION

RAMP 3 STA. 898+50 RT.
INSTALL 12" X 64' SLOPE DRAIN (TYPE E-12)
W/ 2 CU. YDS. DUMPED RIPRAP

RAMP 3 STA. 895+35 TO STA. 898+50 LT.
360 L.F. DIVERSION DITCH (TYPE E-8)

RAMP 3 STA. 895+60 TO STA. 898+50 RT.
290 L.F. DIVERSION DITCH (TYPE E-8)

RAMP 3 STA. 898+50 LT.
INSTALL 12" X 71' SLOPE DRAIN (TYPE E-12)
W/ 2 CU. YDS. DUMPED RIPRAP

C.L. RAMP 3

PROPOSED R/W C/A & FENCE

RAMP 3 STA. 896+90 TO STA. 897+60 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(70' O.C.)

C.L. MEDIAN STA. 897+00
20 L.F. DROP INLET
SILT FENCE (TYPE E-7)

RAMP 3 STA. 897+75 TO STA. 899+25 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(75' O.C.)

C.L. MEDIAN

PROPOSED R/W

LIMITS OF CONSTRUCTION

RAMP 2 STA. 905+00 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

PROPOSED C/A & FENCE

LIMITS OF CONSTRUCTION

C.L. RAMP 2

RAMP 2 STA. 895+70 TO STA. 898+35 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(265' O.C.)

RAMP 2 STA. 901+70 TO STA. 904+35 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(265' O.C.)

FRONTAGE RD. 2
STA. 19+00 TO STA. 22+00 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(150' O.C.)

FRONTAGE RD. 2
STA. 18+50 RT. & LT.
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)

C.L. FRONTAGE RD. 2

FRONTAGE RD. 2
STA. 14+80 TO STA. 18+00 RT. & LT.
5 EACH ROCK DITCH CHECKS (TYPE E-6)
4 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(80' O.C.)

PROPOSED R/W

FRONTAGE RD. 2
STA. 10+40 TO STA. 14+00 RT.
4 EACH ROCK DITCH CHECKS (TYPE E-6)
4 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(50' O.C.)

RAMP 2 STA. 893+55 TO STA. 895+85 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(115' O.C.)

PROPOSED R/W

LIMITS OF CONSTRUCTION

LIMITS OF CONSTRUCTION

PROPOSED R/W

LIMITS OF CONSTRUCTION

C.L. RAMP 4

RAMP 4 STA. 886+90 TO STA. 898+06 LT.
160 L.F. DIVERSION DITCH (TYPE E-8)

PROPOSED R/W C/A & FENCE

RAMP 4 STA. 886+90 RT.
INSTALL 12" X 84' SLOPE DRAIN (TYPE E-12)
W/ 2 CU. YDS. DUMPED RIPRAP

C.L. MEDIAN STA. 893+20 TO STA. 914+00 LT.
4 EACH ROCK DITCH CHECKS (TYPE E-6)
5 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(260' O.C.)

C.L. HWYS. 11/425 CONNECTOR STA. 75+71.95 =
C.L. MEDIAN STA. 894+94.53

C.L. HWYS. 11/425 CONNECTOR STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 (FUTURE) STA. 898+05.77

C.L. MEDIAN STA. 892+10 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

C.L. MEDIAN STA. 893+20 TO STA. 905+70 RT.
3 EACH ROCK DITCH CHECKS (TYPE E-6)
3 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(250' O.C.)

C.L. RAMP 1

C.L. HWYS. 11/425 CONNECTOR STA. 82+69.99 =
C.L. RAMP 2 STA. 891+85.68 =
C.L. RAMP 1 (FUTURE) STA. 894+51.56

C.L. MEDIAN STA. 891+10 LT. & RT.
2 EACH ROCK DITCH CHECKS (TYPE E-6)

PROPOSED R/W C/A & FENCE

LIMITS OF CONSTRUCTION

PROPOSED R/W

TEMP. CONST. EASEMENT

C.L. HWYS. 11/425 CONNECTOR STA. 85+70.00 =
C.L. FRONTAGE RD. 2 STA. 10+00.00

BEGIN JOB 020356 STA. 893+00
BEGIN GRADING & STRUCTURES RIGHT LANES

REVISION BOX

DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNBERRY
12-12-2011

TEMPORARY EROSION CONTROL DETAILS STAGE 1 STA. 893+00 TO STA. 904+00

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WORKSPACE: AHTDV8
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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.		020356	29	320

2 TEMPORARY EROSION CONTROL DETAILS

LEGEND

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

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

STA. 907+98 LT.
27 L.F. DROP INLET
SILT FENCE (TYPE E-7)

RAMP 3 STA. 907+85 TO STA. 910+25 LT.
2 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(80' O.C.)

STA. 893+20 TO STA. 914+00 LT.
4 EACH ROCK DITCH CHECKS (TYPE E-6)
5 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(260' O.C.)

RAMP 3 CROSSOVER
STA. 10+00 TO STA. 16+00 LT.
2 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(290' O.C.)

RAMP 3 CROSSOVER STA. 10+00 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

STA. 919+20 TO STA. 922+10 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(290' O.C.)

STA. 914+00 TO STA. 922+70 RT.
2 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(290' O.C.)

RAMP 2 STA. 909+00 TO STA. 910+50 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(75' O.C.)

RAMP 2 STA. 907+00 TO STA. 908+40 RT.
3 EACH ROCK DITCH CHECKS (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(35' O.C.)

RAMP 2 STA. 905+00 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

FRONTAGE RD. 2
STA. 24+00 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

STA. 908+58 RT.
20 L.F. DROP INLET
SILT FENCE (TYPE E-7)

C.L. RAMP 3 CROSSOVER STA. 10+00.00 =
C.L. RAMP 3 STA. 911+21.39

C.L. RAMP 2 STA. 913+59.38 =
C.L. MEDIAN STA. 913+59.38 68.5' RT.

C.L. RAMP 3 CROSSOVER STA. 5+62.18+7 =
C.L. MEDIAN STA. 919+85.17 46.0' RT.

STA. 925+34.40 BACK =
STA. 1090+05.00 AHEAD

LIMITS OF CONSTRUCTION
C.L. RAMP 3
PROPOSED R/W
C/A & FENCE
C.L. RAMP 3 CROSSOVER
C.L. MEDIAN
C.L. RAMP 2
PROPOSED R/W
C.L. FRONTAGE RD. 2

REVISION BOX

DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNBERRY
12-12-2011

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 904+00 TO STA. 925+34

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WORKSPACE: AHTDV8
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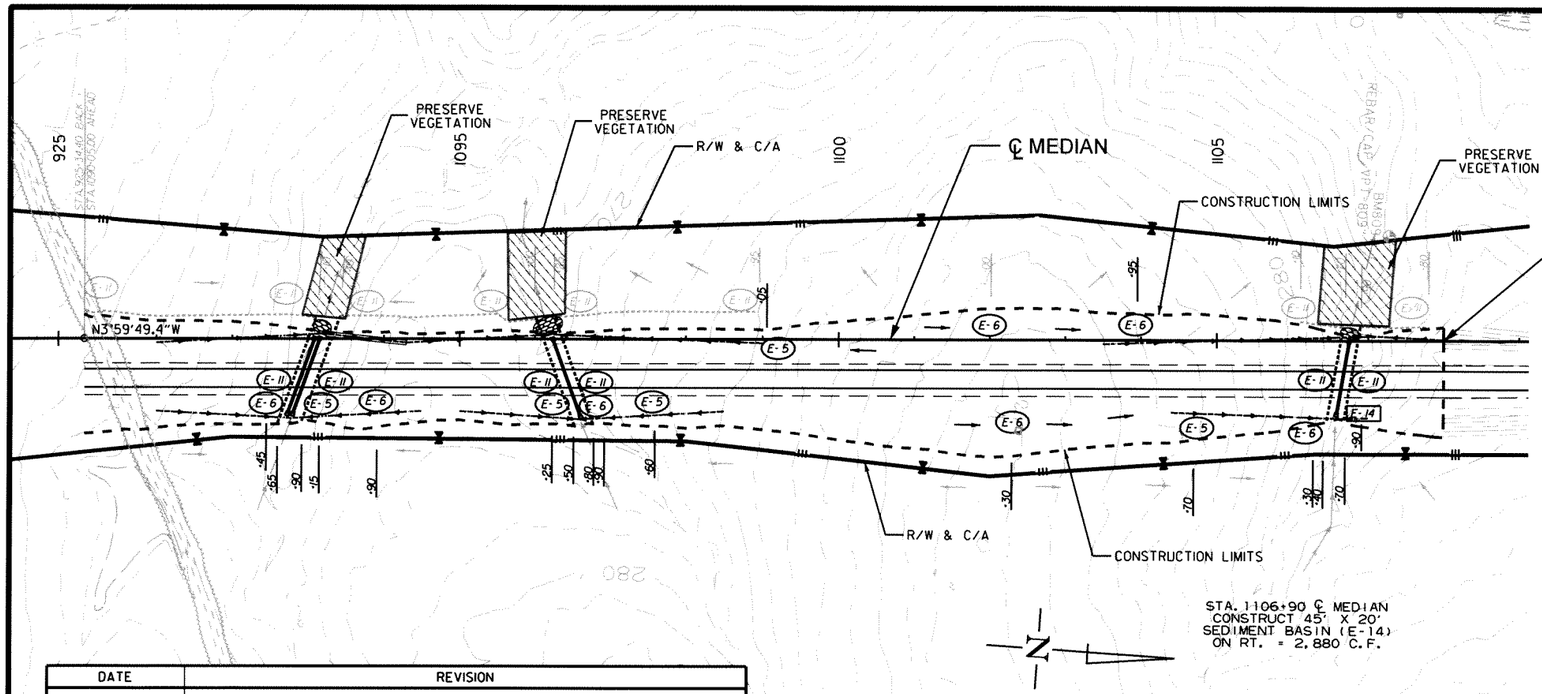
REVISED DATE:

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.		020356	30	320

(2) TEMPORARY EROSION CONTROL DETAILS



STA. 1106+90 ℄ MEDIAN
CONSTRUCT 45' X 20'
SEDIMENT BASIN (E-14)
ON RT. = 2,880 C.F.

STA. 1108+00
END GRADING &
STRUCTURES; CONTINUE
BASE & SURFACING
RT. LANES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

EROSION CONTROL GENERAL NOTES

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

EROSION CONTROL DEVICES SHALL BE PLACED WITHIN 24 HOURS OF BEING NOTIFIED BY THE ENGINEER OF THEIR NEED. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SEEDING TO BE PLACED IN ALL E-8 DITCHES EXCEPT WHERE RIPRAP IS PLACED.

MULCH TO BE PLACED IN ALL E-8 DITCHES EXCEPT WHERE RIPRAP OR EROSION CONTROL MATTING IS PLACED.

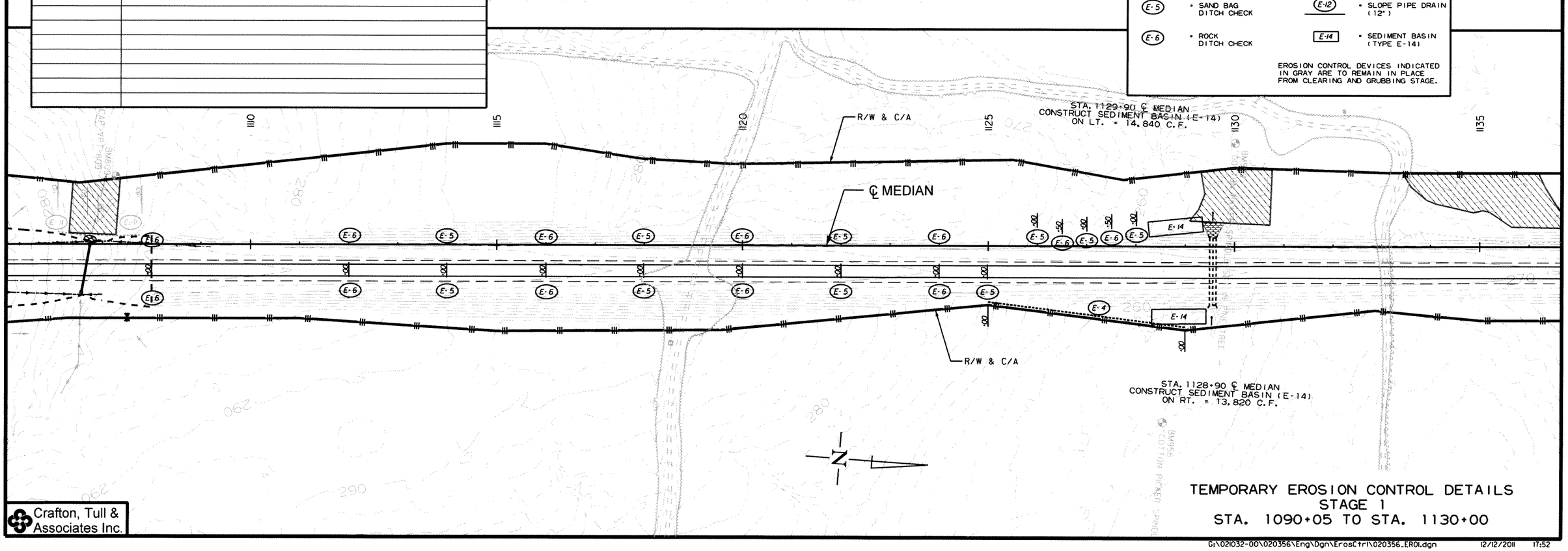
CLEARING AND GRUBBING ACTIVITIES TO CORRESPOND WITH STAGED CONSTRUCTION ACTIVITIES.

LEGEND

- E-4 E-11 — SILT FENCE
- E-5 — SAND BAG DITCH CHECK
- E-6 — ROCK DITCH CHECK
- E-8 — DIVERSION DITCH (TYPE E-8)
- E-12 — SLOPE PIPE DRAIN (12")
- E-14 — SEDIMENT BASIN (TYPE E-14)

EROSION CONTROL DEVICES INDICATED IN GRAY ARE TO REMAIN IN PLACE FROM CLEARING AND GRUBBING STAGE.

DATE	REVISION



STA. 1129+90 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 14,840 C.F.

STA. 1128+90 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 13,820 C.F.

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 1090+05 TO STA. 1130+00

Crafton, Tull & Associates Inc.

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SCALE: 200d

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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.		020356	31	320

(2) TEMPORARY EROSION CONTROL DETAILS

DATE	REVISION

STA. 1174+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 14,600 C.F.

℄ MEDIAN

E-14 N2°08'51.8"W

STA. 1174+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 19,410 C.F.

R/W & C/A

R/W & C/A

STA. 1222+50 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 15,475 C.F.

STA. 1223+75 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 3,240 C.F.

STA. 1230+60 ℄ MEDIAN
CONSTRUCT SEDIMENTBASIN (E-14)
ON LT. = 3,680 C.F.

N31°41'35.2"W

69.15' C.L.

℄ MEDIAN

N2°08'51.8"W

R/W & C/A

STA. 1213+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 1,575 C.F.

STA. 1223+75 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 1,440 C.F.

STA. 1223+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 12,975 C.F.

STA. 1230+20 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 4,250 C.F.

LEGEND

- E-4 E-11 = SILT FENCE
- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-8 = DIVERSION DITCH (TYPE E-8)
- E-12 = SLOPE PIPE DRAIN (12")
- E-14 = SEDIMENT BASIN (TYPE E-14)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 1174+00 TO STA. 1193+00
STA. 1213+00 TO STA. 1230+00

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\ErosCtrl\020356_ER02.dgn
PLOTTED: 12/12/2011 17:52
SCALE: 200ft

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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.		020356	32	320

(2) TEMPORARY EROSION CONTROL DETAILS

STA. 1241+50 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 7,920 C.F.

STA. 1246+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 15,480 C.F.

STA. 1260+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 12,970 C.F.

STA. 1250+50 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 16,560 C.F.

STA. 1260+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 12,360 C.F.

STA. 1279+60 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 8,300 C.F.

STA. 1279+60 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 9,845 C.F.

BRANCHVILLE RD.

℄ MEDIAN

P.C.E.

R/W & C/A

N20°34'25.0"E

N2°08'51.8"W

N35°58'17.7"W

P.C. 1240+93.04

P.T. 1240+53.27

P.T. 1246+46.25

P.C. 1254+65.90

P.T. 1258+04.14

P.I. 1245+34.16

P.I. 1256+40.11

P.C. 1270+77.68

LEGEND

E-4 E-11	= SILT FENCE	E-8	= DIVERSION DITCH (TYPE E-8)
E-5	= SAND BAG DITCH CHECK	E-12	= SLOPE PIPE DRAIN (12")
E-6	= ROCK DITCH CHECK	E-14	= SEDIMENT BASIN (TYPE E-14)
E-7	= DROP INLET SILT FENCE		

DATE	REVISION

STATE OF ARKANSAS
Hubert Burns
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 1240+00 TO STA. 1255+00
STA. 1260+00 TO STA. 1280+00

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\ErosCtrl\020356_ER03.dgn
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SCALE: 200'

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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.		020356	33	320

(2) TEMPORARY EROSION CONTROL DETAILS

DATE	REVISION

STA. 1305+38 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON LT. = 11,520 C.F.

STA. 1328+40 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 11,160 C.F.

STA. 1351+00 ℄ MEDIAN
CONSTRUCT SEDIMENT BASIN (E-14)
ON RT. = 2,880 C.F.

℄ MEDIAN

R/W & C/A

SANDERS CREEK

S.H. 114

P.C. 149+65.88

P.I. 152+71.79

P.T. 155+76.38

P.C. 156+57.05

TRANSMISSION LINES

C/A

R/W

N15°07'09"E

LEGEND

- E-4 E-11 = SILT FENCE
- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-7 = DROP INLET SILT FENCE
- E-8 = DIVERSION DITCH (TYPE E-8)
- E-12 = SLOPE PIPE DRAIN (12")
- E-14 = SEDIMENT BASIN (TYPE E-14)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 1301+00 TO STA. 1309+00
STA. 1325+00 TO STA. 1328+00
STA. 1348+00 TO STA. 1351+00

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\ErosCtrl\020356_ER04.dgn
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				6	ARK.			
				JOB NO.		020356	34	320

(2) TEMPORARY EROSION CONTROL DETAILS

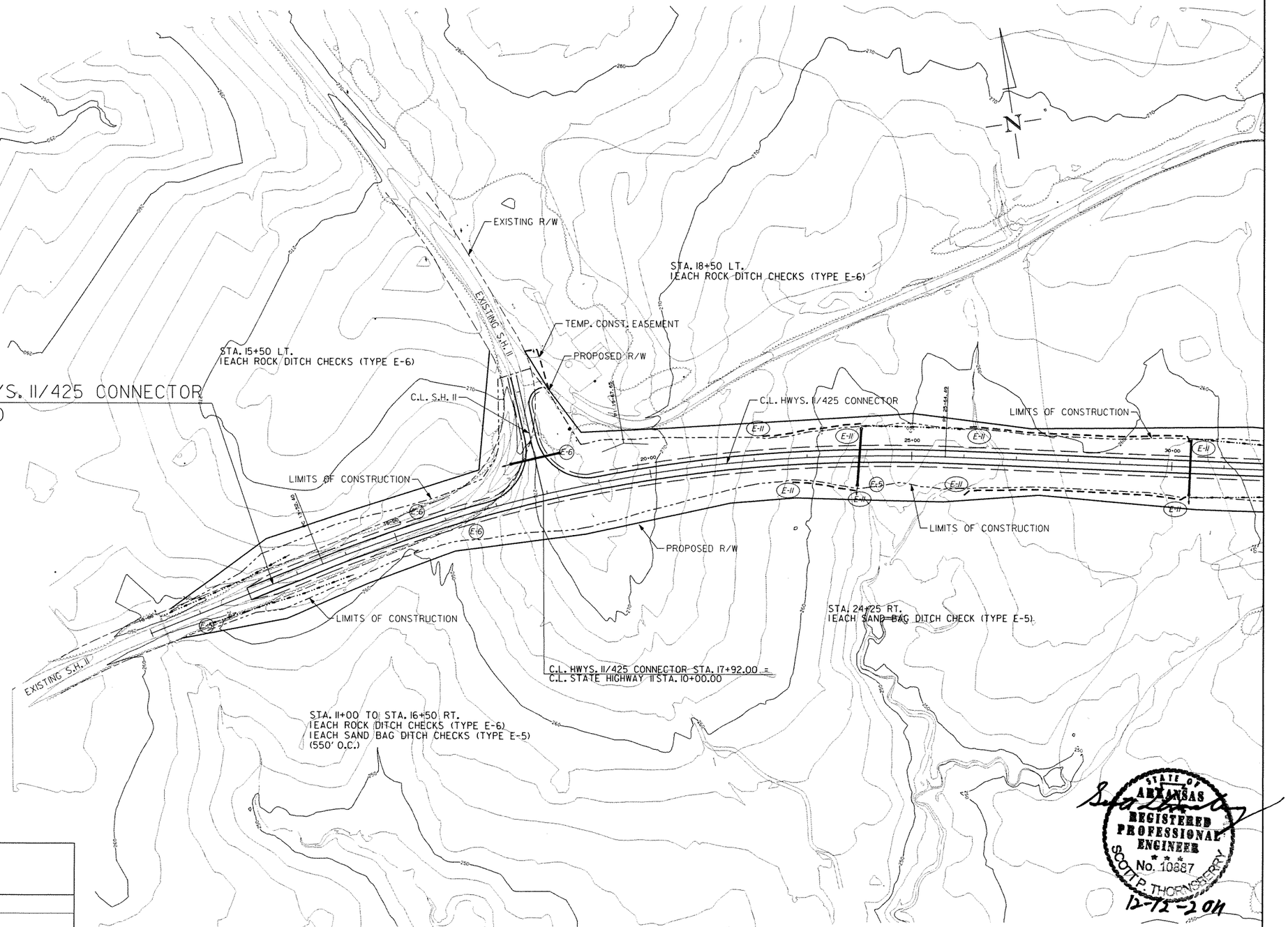
LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.



REVISION BOX

DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 12+50 TO STA. 31+00

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WORKSPACE: AHTDV8
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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.		020356	35	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNBERRY
12-12-2011

STA. 31+60 TO STA. 32+80 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(120' O.C.)

STA. 36+35 TO STA. 48+75 LT.
4 EACH ROCK DITCH CHECKS (TYPE E-6)
5 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(155' O.C.)

STA. 51+75 TO STA. 62+25 LT.
4 EACH ROCK DITCH CHECKS (TYPE E-6)
3 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(175' O.C.)

COUNTY ROAD 21

LIMITS OF CONSTRUCTION

PROPOSED R/W

C.L. HWS. 11/425 CONNECTOR

LIMITS OF CONSTRUCTION

PROPOSED R/W

LIMITS OF CONSTRUCTION

LIMITS OF CONSTRUCTION

TEMP. CONST. EASEMENT

STA. 30+50 TO STA. 32+22 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(172' O.C.)

STA. 35+00 TO STA. 47+40 RT.
5 EACH ROCK DITCH CHECKS (TYPE E-6)
4 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(155' O.C.)

STA. 52+59 TO STA. 62+37 RT.
3 EACH ROCK DITCH CHECKS (TYPE E-6)
4 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(163' O.C.)

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 31+00 TO STA. 61+00

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WORKSPACE: AHTDV8
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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.		020356	36	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-8) = DIVERSION DITCH (TYPE E-8)
- (E-12) = SLOPE PIPE DRAIN (12") (TYPE E-12)

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

N

LIMITS OF CONSTRUCTION

PROPOSED R/W C/A & FENCE

C.L. RAMP 3

C.L. RAMP 2

C.L. MEDIAN

C.L. RAMP 4

C.L. RAMP 1

C.L. FRONTAGE RD. 2

PROPOSED R/W

STA. 51+75 TO STA. 62+25 LT.
4 EACH ROCK DITCH CHECKS (TYPE E-6)
3 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(175' O.C.)

STA. 66+40 TO STA. 67+60 LT.
4 EACH SAND BAG DITCH CHECK (TYPE E-5)
(40' O.C.)

STA. 52+59 TO STA. 62+37 RT.
3 EACH ROCK DITCH CHECKS (TYPE E-6)
4 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(163' O.C.)

STA. 69+20 TO STA. 74+35 LT.
515 L.F. DIVERSION DITCH (TYPE E-8)

C.L. HWYS. 11/425 CONNECTOR STA. 75+71.95 =
C.L. MEDIAN STA. 894+94.53

C.L. HWYS. 11/425 CONNECTOR STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 (FUTURE) STA. 898+05.77

C.L. 11/425 CONN. STA. 71+00 LT.
INSTALL 12" X 78' SLOPE DRAIN (TYPE E-12)
W/ 2 CU. YDS. DUMPED RIPRAP

C.L. 11/425 CONN. STA. 71+00 RT.
INSTALL 12" X 90' SLOPE DRAIN (TYPE E-12)
W/ 2 CU. YDS. DUMPED RIPRAP

RAMP 4 STA. 886+90 TO
11/425 CONN. STA. 74+45 RT.
600 L.F. DIVERSION DITCH (TYPE E-8)

BEGIN JOB 020356 STA. 893+00
BEGIN GRADING & STRUCTURES RIGHT LANES

STA. 83+90 TO STA. 84+80 LT.
3 EACH SAND BAG DITCH CHECK (TYPE E-5)
(45' O.C.)

STA. 86+25 TO STA. 87+00 LT.
4 EACH SAND BAG DITCH CHECK (TYPE E-5)
(25' O.C.)

STA. 87+75 TO STA. 88+25 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(50' O.C.)

C.L. RAMP 1

C.L. HWYS. 11/425 CONNECTOR STA. 82+69.99 =
C.L. RAMP 2 STA. 89+85.68 =
C.L. RAMP 1 (FUTURE) STA. 894+51.56

C.L. HWYS. 11/425 CONNECTOR STA. 85+70.00 =
C.L. FRONTAGE RD. 2 STA. 10+00.00

TEMP. CONST. EASEMENT

STA. 91+00 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

STA. 89+75 RT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 61+00 TO STA. 91+00

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WORKSPACE: AHTDV8
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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.		020356	37	320

2 TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

STA. 92+75 TO STA. 93+50 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(75' O.C.)

STA. 91+00 LT.
1 EACH ROCK DITCH CHECKS (TYPE E-6)

PROPOSED R/W

STA. 96+50 TO STA. 101+50 LT.
10 EACH SAND BAG DITCH CHECK (TYPE E-5)
(55' O.C.)

STA. 102+50 TO STA. 103+50 LT.
2 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(50' O.C.)

STA. 104+60 TO STA. 106+10 LT.
2 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(75' O.C.)

STA. 112+65 TO STA. 115+35 LT.
1 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(265' O.C.)

TEMP. CONST. EASEMENT

LIMITS OF CONSTRUCTION

PROPOSED R/W

C.L. HWYS. 11/425 CONNECTOR

PROPOSED R/W

LIMITS OF CONSTRUCTION

TEMP. CONST. EASEMENT

STA. 97+50 TO STA. 101+50 RT.
9 EACH SAND BAG DITCH CHECK (TYPE E-5)
(50' O.C.)

STA. 102+50 TO STA. 103+50 RT.
2 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(50' O.C.)

PROPOSED R/W

COUNTY ROAD 65

STA. 107+00 RT.
1 EACH ROCK DITCH CHECK (TYPE E-6)

STA. 104+60 TO STA. 105+25 RT.
1 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(65' O.C.)

STA. 109+60 TO STA. 111+10 RT.
2 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(75' O.C.)

STA. 114+65 TO STA. 116+30 RT.
1 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(165' O.C.)

TEMP. CONST. EASEMENT

N

REVISION BOX

DATE OF REVISION	REVISION

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WORKSPACE: AHTDV8
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TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 91+00 TO STA. 121+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.		020356	38	320

(2) TEMPORARY EROSION CONTROL DETAILS

LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-12-2011

STA. 124+00 TO STA. 126+00 LT.
2 EACH ROCK DITCH CHECK (TYPE E-6)
7 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(100' O.C.)

STA. 129+65 TO STA. 131+65 LT.
1 EACH ROCK DITCH CHECK (TYPE E-6)
11 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(200' O.C.)

TEMP. CONST. EASEMENT

LIMITS OF CONSTRUCTION

PROPOSED R/W

C.L. HWYS. 11/425 CONNECTOR

STA. 129+65 TO STA. 131+30 RT.
1 EACH ROCK DITCH CHECK (TYPE E-6)
1 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(165' O.C.)

TEMP. CONST. EASEMENT

TEMP. CONST. EASEMENT

PROPOSED R/W

LIMITS OF CONSTRUCTION

PROPOSED R/W

STA. 142+00 TO STA. 144+00 RT.
3 EACH ROCK DITCH CHECK (TYPE E-6)
2 EACH SAND BAG DITCH CHECKS (TYPE E-5)
(50' O.C.)

N

REVISION BOX

DATE OF REVISION	REVISION

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TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 121+00 TO STA. 151+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.		020356	39	320
				(2)	TEMPORARY EROSION CONTROL DETAILS			

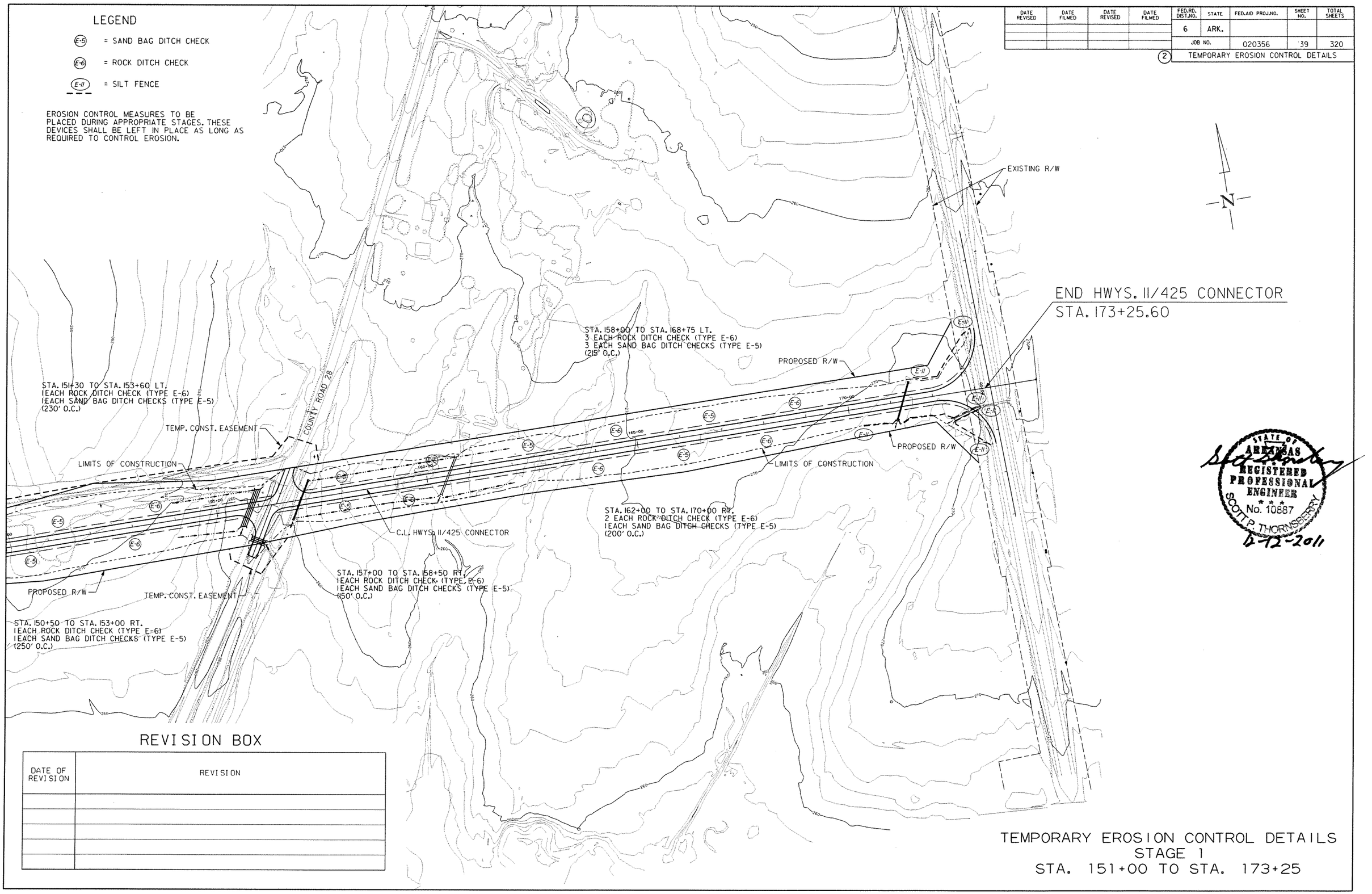
LEGEND

(E-5) = SAND BAG DITCH CHECK

(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.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No. 10887
12-12-2011

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 1
STA. 151+00 TO STA. 173+25

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				6	ARK.			
				JOB NO.		020356	40	320

(2) MOT STA. 16+85.15 TO STA. 37+00 - STAGE 1

STAGE 1

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING STATE HWY. 11 AND CO. RD. 27.

2. CONSTRUCT PROPOSED STATE HWY. 11 TO THE RADIUS RETURN AT STA. 11+09.93.

3. CONSTRUCT HWYS. 11/425 CONNECTOR STARTING AT STA. 16+85.15

ROAD WORK 1500 FT (I) W20-1 (48" X 48")
ROAD WORK 1000 FT (I) W20-1 (48" X 48")
ROAD WORK 500 FT (I) W20-1 (48" X 48")
ROAD WORK 500 FT (I) W20-1 (48" X 48")
ROAD WORK 1000 FT (I) W20-1 (48" X 48")
ROAD WORK 1500 FT (I) W20-1 (48" X 48")
500'
EXISTING STATE HWY. 11
END ROAD WORK (I) G20-2 (48" X 24")
END ROAD WORK (I) G20-2 (48" X 24")
PROPOSED STATE HWY. 11
20+00
ROAD CLOSED (I) R11-2 (48" X 30") (16') BARR. TYP. III LT.
ROAD CLOSED (I) R11-2 (48" X 30") (16') BARR. TYP. III RT.
25+00
HWYS. 11/425 CONNECTOR
30+00
ROAD WORK AHEAD (I) W20-1 (48" X 48")
CO. RD. 27
ROAD CLOSED (I) R11-2 (48" X 30") (16') BARR. TYP. III LT.
35+00
ROAD CLOSED (I) R11-2 (48" X 30") (16') BARR. TYP. III LT.
ROAD WORK AHEAD (I) W20-1 (48" X 48")

N

1" = 200'

STAGE I GRADING, PAVING AND DRAINAGE

TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNBERRY
12-13-2011

MAINTENANCE OF TRAFFIC
STA. 16+85.15 TO STA. 37+00 - STAGE 1

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WORKSPACE: AHTDV8
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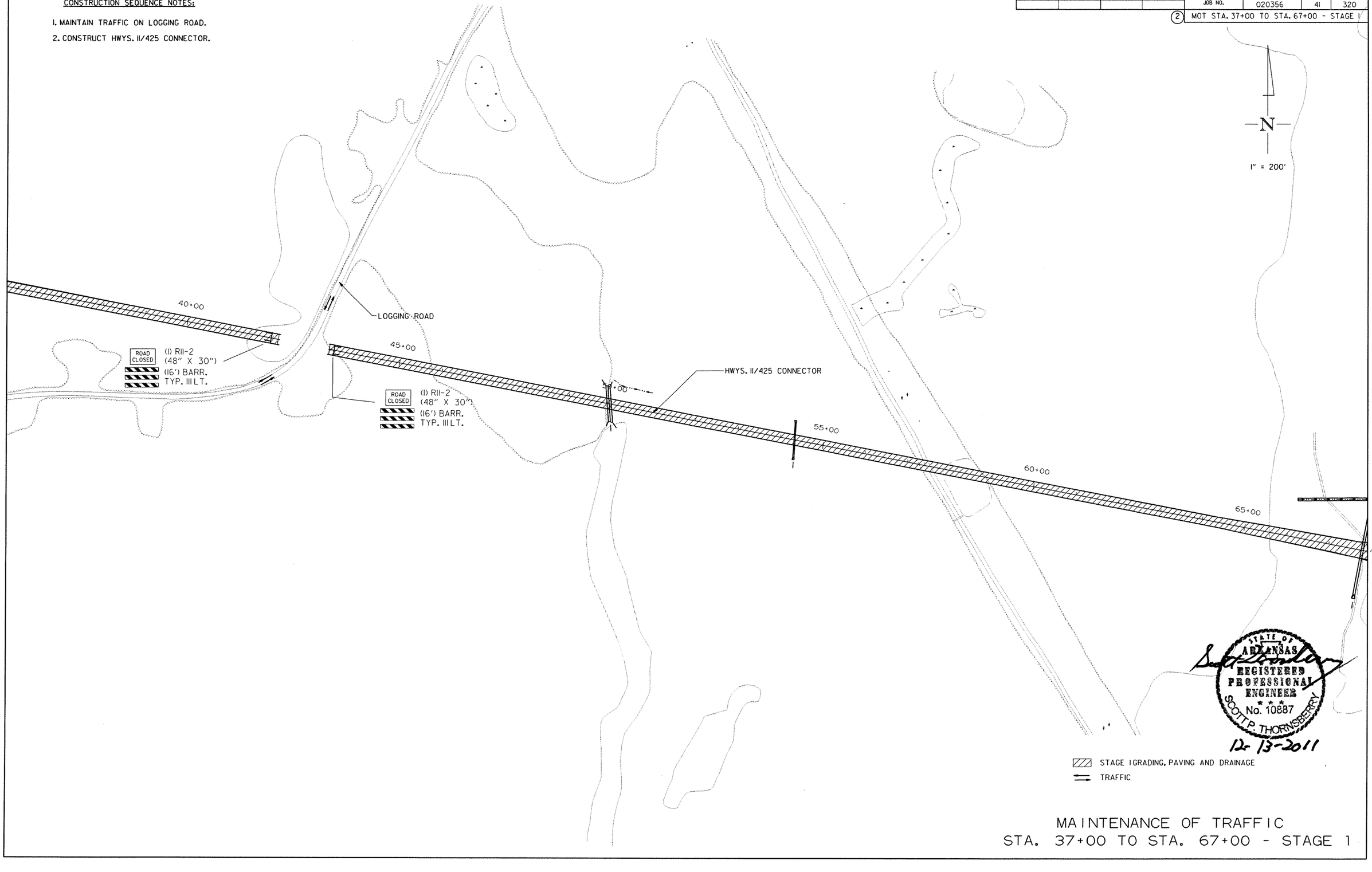
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	41	320

(2) MOT STA. 37+00 TO STA. 67+00 - STAGE I

STAGE I

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON LOGGING ROAD.
2. CONSTRUCT HWYS. 11/425 CONNECTOR.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

MAINTENANCE OF TRAFFIC
STA. 37+00 TO STA. 67+00 - STAGE 1

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WORKSPACE: AHTDV8
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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.		020356	42	320

(2) MOT STA. 67+00 TO STA. 85+00 - STAGE 1

STAGE 1

CONSTRUCTION SEQUENCE NOTES:

1. CONSTRUCT HWYS. 11/425 CONNECTOR, FRONTAGE ROAD 2, RAMPS 2 & 3, RAMP 3 CROSSOVER, AND RT. MAIN LANES FROM STA. 912+00 TO 925+34.40.

2. GRADE RT. MAIN LANES FROM STA. 893+00 TO STA. 912+00, GRADE LT. MAIN LANES FROM STA. 894+00 TO STA. 897+00 AND STA. 907+00 TO STA. 915+76.25

3. GRADE TURNOUTS TO FUTURE RAMPS 1 & 4.

C.L. RAMP 3 CROSSOVER
P.I. = 11+71.80
Δ = 10°16'49" RT.
D = 3°00'00"
T = 171.80'
L = 342.67'

C.L. RAMP 3 CROSSOVER
P.I. = 16+10.89
Δ = 15°59'19" LT.
D = 3°00'00"
T = 268.22'
L = 532.95'

FUTURE RAMP 4
HWYS. 11/425 CONNECTOR
RAMP 3
RAMP 3 CROSSOVER
C.L. MEDIAN
RT. MAIN LANES
FRONTAGE RD. 2
FUTURE RAMP 1
RAMP 2
PC 10+00.00
PI 11+71.80
PRC 13+42.67
PT 18+75.62
PI 16+10.89
900+00
905+00
910+00
915+00
920+00
925+00
70+00
75+00
80+00
85+00
95+00
100+00
105+00
110+00
115+00
120+00
10+00
15+00
20+00
25+00
30+00
34+00

1" = 200'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10687
SCOTT P. THORNSBERRY
12-15-2011

STAGE 1 GRADING, PAVING AND DRAINAGE
STAGE 1 GRADING ONLY

MAINTENANCE OF TRAFFIC
STA. 67+00 TO STA. 85+00 - STAGE 1

RNFortner 12/12/2011 10:52 PM
WORKSPACE: AHTD V8
L:\2002\020N090 I-69Corr\Dwg\Trwy\69NMOTST103.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.		020356	43	320

(2) MOT STA. 85+00 TO STA. 113+00 - STAGE 1

STAGE 1

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING COUNTY RD. 65.

2. CONSTRUCT HWYS. 11/425 CONNECTOR, AND PROPOSED CO. RD. 65 UP TO EXISTING CO. RD. 65.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY

N

1" = 200'

RAMP 2

FRONTAGE RD. 2

15+00

895+00

85+00

90+00

95+00

100+00

105+00

110+00

HWYS. 11/425 CONNECTOR

HWYS. 11/425 CONNECTOR

EXISTING CO. RD. 65

4 TRAFFIC DRUMS @ 25' O.C.

COUNTY RD. 65

ROAD WORK 500 FT

(1) W20-1 (48" X 48")

500'

END ROAD WORK

(1) G20-2 (48" X 24")

ROAD WORK 1000 FT

(1) W20-1 (48" X 48")

500'

EXISTING COUNTY RD. 65

ROAD WORK 1500 FT

(1) W20-1 (48" X 48")

500'

STAGE 1 GRADING, PAVING AND DRAINAGE

STAGE 1 GRADING ONLY

TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 85+00 TO STA. 113+00 - STAGE 1

RNFortner 12/12/2011 04:20 PM
WORKSPACE: AHTDV8
L:\2002\020110\90 I-69Con\DwgCT\rwy\69NMOTST104.dgn
REVISED DATE:

STAGE I

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING CO. RD. 65. ACCESS TO EXISTING DRIVEWAYS TO BE MAINTAINED THROUGHOUT CONSTRUCTION.

2. CONSTRUCT PORTIONS OF HWYS. 11/425 CONNECTOR AS SHOWN.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	44	320

(2) MOT STA. 113+00 TO STA. 144+00 - STAGE 1

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

N

1" = 200'

ROAD CLOSED
(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
(16') BARR. TYP. III RT.

ROAD WORK 500 FT.
(1) W20-1 (48" X 48")

ROAD WORK 1000 FT
(1) W20-1 (48" X 48")

ROAD WORK 1500 FT
(1) W20-1 (48" X 48")

500' 500' 500'

HWYS. 11/425 CONNECTOR

115+00 120+00 125+00 130+00 135+00 140+00

(1) R11-2 (48" X 30") ROAD CLOSED
16' BARR. TYP. III LT.

(1) R11-2 (48" X 30") ROAD CLOSED
16' BARR. TYP. III LT.

(1) R11-2 (48" X 30") ROAD CLOSED
16' BARR. TYP. III LT.

(1) R11-2 (48" X 30") ROAD CLOSED
16' BARR. TYP. III LT.

STAGE I GRADING, PAVING AND DRAINAGE

TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 113+00 TO STA. 144+00 - STAGE 1

RNFortner 12/12/2011 1:05:16 PM
WORKSPACE: AHTD V8
L:\2002\020110090 I-69Corr\Dwg\Tvrwy\69NMOTST105.dgn

REVISED DATE:

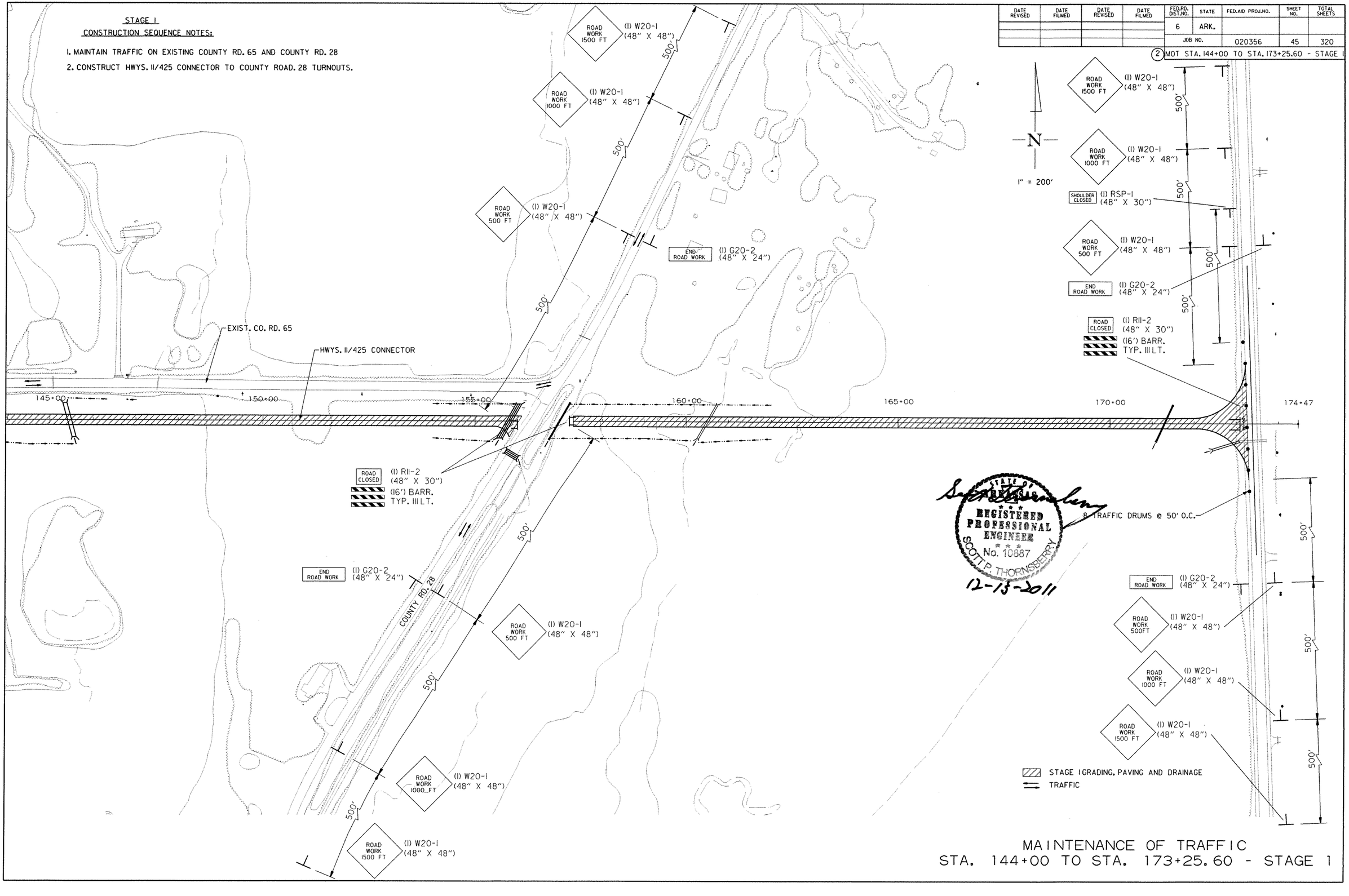
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	45	320

(2) MOT STA. 144+00 TO STA. 173+25.60 - STAGE 1

STAGE 1

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING COUNTY RD. 65 AND COUNTY RD. 28
2. CONSTRUCT HWYS. 11/425 CONNECTOR TO COUNTY ROAD. 28 TURNOUTS.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-15-2011

MAINTENANCE OF TRAFFIC
STA. 144+00 TO STA. 173+25.60 - STAGE 1

RNFortner 12/12/2011 10:06:08 PM
WORKSPACE: AHTDV8
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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.		020356	46	320

(2) MOT STA. 16+85.15 TO STA. 37+00 - STAGE 2

STAGE 2

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING STATE HWY. 11 AND CO. RD. 27.
2. CONSTRUCT COUNTY ROAD 27 UNDER TRAFFIC.

ROAD WORK 1500 FT (1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

ROAD WORK 1000 FT (1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

EXISTING STATE HWY. 11

RETAINED FROM PREVIOUS STAGE
END ROAD WORK (1) G20-2 (48" X 24")

ROAD WORK 500 FT (1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

PROPOSED STATE HWY. 11

RETAINED FROM PREVIOUS STAGE
END ROAD WORK (1) G20-2 (48" X 24")

EXISTING STATE HWY. 11

ROAD WORK 500 FT (1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

ROAD WORK 1000 FT (1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

ROAD WORK 1500 FT (1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

ROAD CLOSED (1) R11-2 (48" X 30") (16') BARR. TYP. III RT.
RETAINED FROM PREVIOUS STAGE

ROAD CLOSED (1) R11-2 (48" X 30") (16') BARR. TYP. III LT.
RETAINED FROM PREVIOUS STAGE

10+00
20+00
25+00
30+00
35+00

HWYS. 11/425 CONNECTOR

CO. RD. 27

6 TRAFFIC DRUMS @ 10' O.C.

ROAD CLOSED (1) R11-2 (48" X 30") (16') BARR. TYP. III LT.
RETAINED FROM PREVIOUS STAGE

ROAD WORK AHEAD (1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

RETAINED FROM PREVIOUS STAGE
ROAD WORK AHEAD (1) W20-1 (48" X 48")

N

1" = 200'

STAGE 2 GRADING AND PAVING UNDER TRAFFIC

TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

MAINTENANCE OF TRAFFIC
STA. 16+85.15 TO STA. 37+00 - STAGE 2

RNFortner 12/12/2011 10:07:07 PM
WORKSPACE: AHTDV8
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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.		020356	47	320

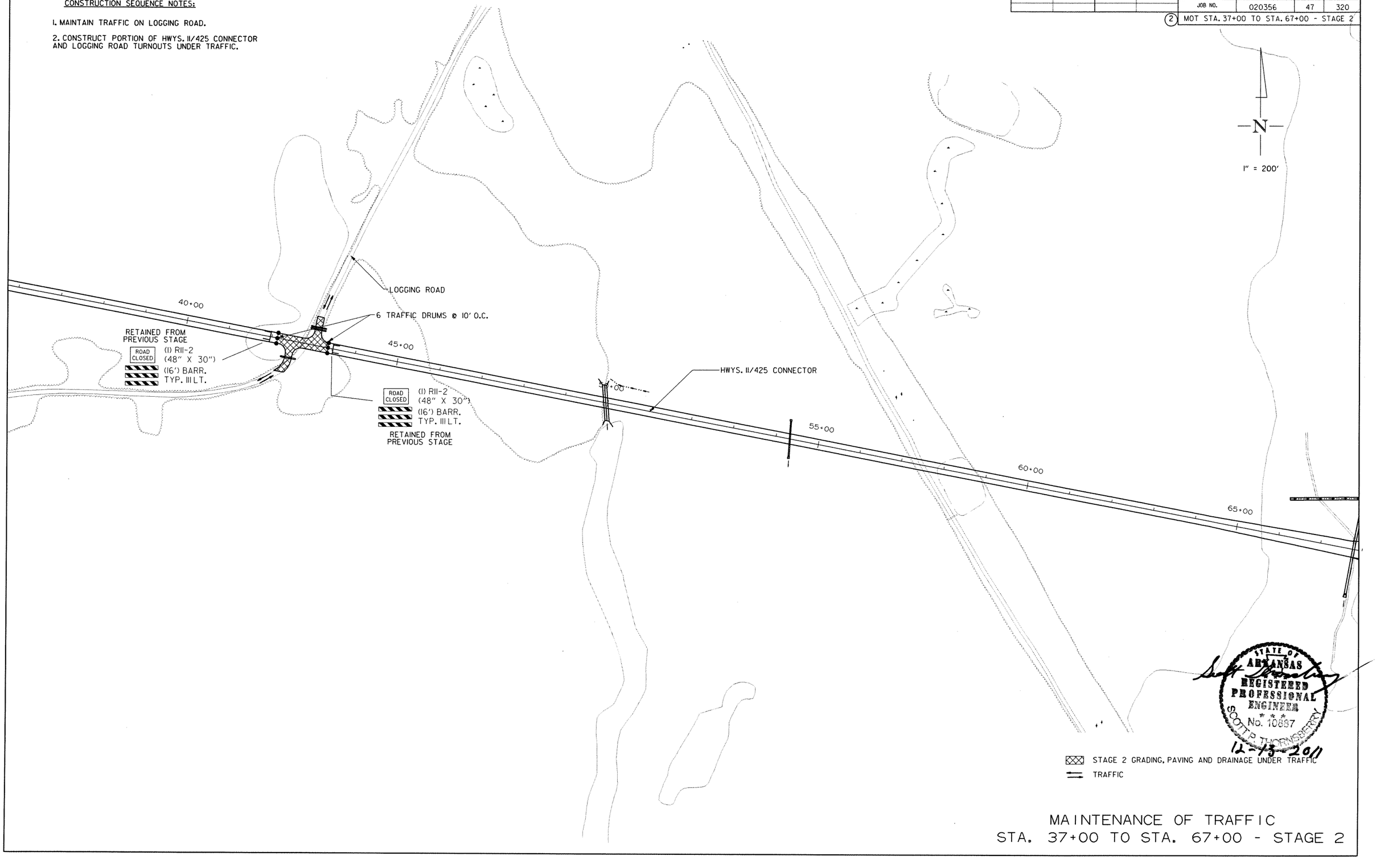
(2) MOT STA. 37+00 TO STA. 67+00 - STAGE 2

STAGE 2

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON LOGGING ROAD.

2. CONSTRUCT PORTION OF HWYS. 11/425 CONNECTOR AND LOGGING ROAD TURNOUTS UNDER TRAFFIC.



MAINTENANCE OF TRAFFIC
STA. 37+00 TO STA. 67+00 - STAGE 2

RNFortner 12/12/2011 10:08:00 PM
WORKSPACE: AHTDV8
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REVISED DATE:

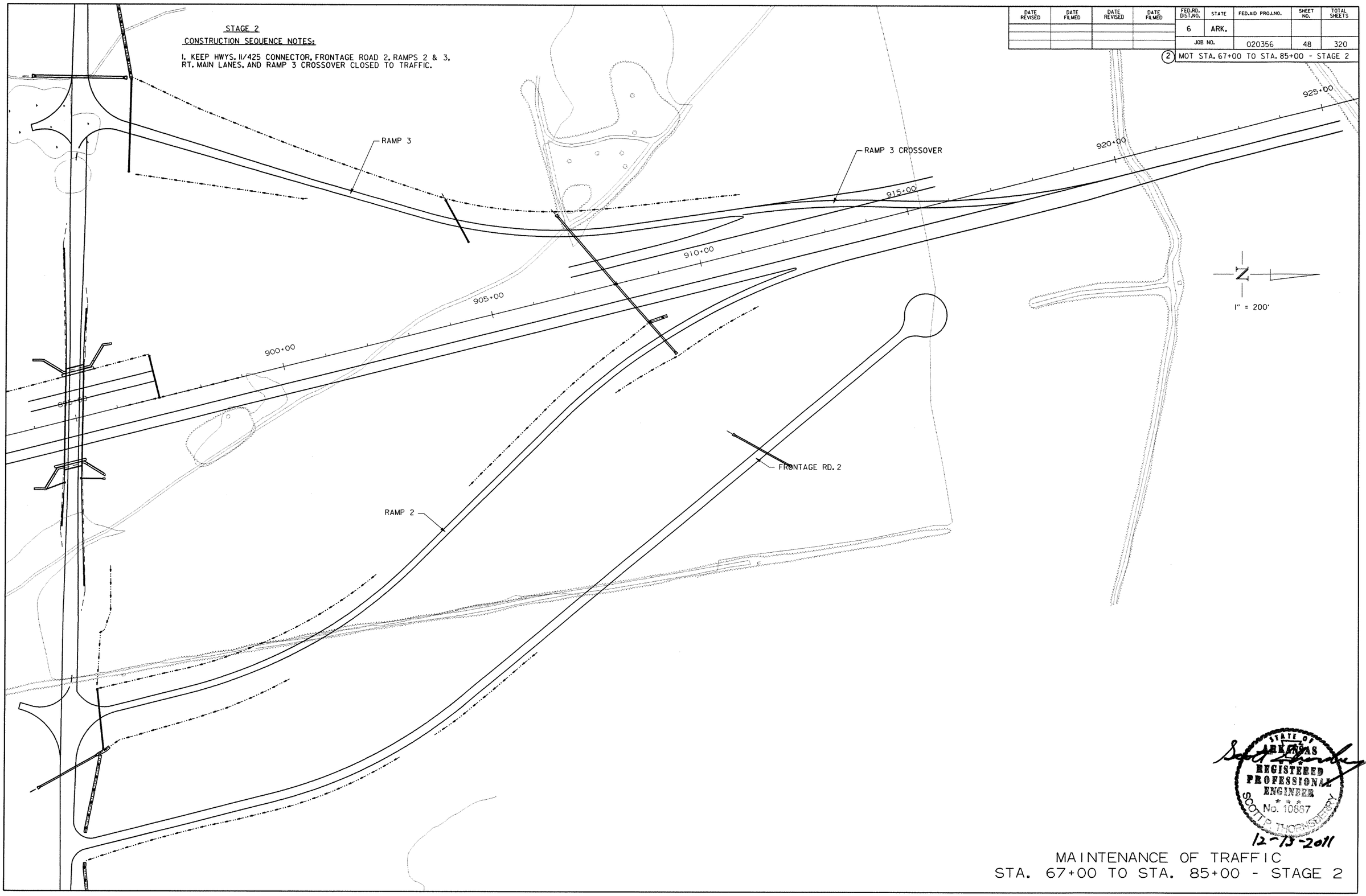
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	48	320

(2) MOT STA. 67+00 TO STA. 85+00 - STAGE 2

STAGE 2

CONSTRUCTION SEQUENCE NOTES:

1. KEEP HWYS. II/425 CONNECTOR, FRONTAGE ROAD 2, RAMPS 2 & 3, RT. MAIN LANES, AND RAMP 3 CROSSOVER CLOSED TO TRAFFIC.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10837
SCOTT P. THORNSBERRY
12-13-2011

MAINTENANCE OF TRAFFIC
STA. 67+00 TO STA. 85+00 - STAGE 2

RNFortner 12/12/2011 10:09:01PM
WORKSPACE: AHTDV8
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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.		020356	49	320

(2) MOT STA. 85+00 TO STA. 113+00 - STAGE 2

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-15-2011

STAGE 2
CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING COUNTY RD. 65.
2. CONSTRUCT CO. RD. 65 UNDER TRAFFIC.

N

1" = 200'

FRONTAGE RD. 2
15+00
85+00
85+00
90+00
95+00
100+00
105+00
110+00
HWYS. II/425 CONNECTOR
HWYS. II/425 CONNECTOR
EXISTING CO. RD. 65
4 TRAFFIC DRUMS @ 25' O.C.
COUNTY RD. 65
EXISTING COUNTY RD. 65

ROAD WORK 500 FT
(1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

END ROAD WORK
(1) G20-2 (48" X 24")
RETAINED FROM PREVIOUS STAGE

ROAD WORK 1000 FT
(1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

ROAD WORK 1500 FT
(1) W20-1 (48" X 48")
RETAINED FROM PREVIOUS STAGE

STAGE 2 GRADING AND PAVING UNDER TRAFFIC
TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 85+00 TO STA. 113+00 - STAGE 2

RNFortner 12/12/2011 11:10:10 PM
WORKSPACE: AHTDV8
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REVISED DATE:

STAGE 2

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING CO. RD. 65. ACCESS TO EXISTING DRIVEWAYS TO BE MAINTAINED THROUGHOUT CONSTRUCTION.

2. CONSTRUCT REMAINING PORTIONS OF HWYS. 11/425 CONNECTOR, TEMP. DRIVES AND DRIVEWAYS UNDER TRAFFIC.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	50	320

(2) MOT STA. 113+00 TO STA. 144+00 - STAGE 2

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

N

1" = 200'

RETAINED FROM PREVIOUS STAGE

8 TRAFFIC DRUMS @ 50' O.C. LT. & RT.

ROAD CLOSED
(1) R11-2 (48" X 30")
(1) W1-6 (48" X 24")
(16') BARR. TYP. III RT.

ROAD WORK 500 FT.
(1) W20-1 (48" X 48")

ROAD WORK 1000 FT
(1) W20-1 (48" X 48")

ROAD WORK 1500 FT
(1) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE

HWYS. 11/425 CONNECTOR

EXIST. CO. RD. 65

16 TRAFFIC DRUMS @ 25' O.C. LT. & RT.

115+00 120+00 125+00 130+00 135+00 140+00

10 TRAFFIC DRUMS @ 25' O.C. LT. & RT.

(1) R11-2 (48" X 30") ROAD CLOSED
16' BARR. TYP. III LT.
RETAINED FROM PREVIOUS STAGE

16 TRAFFIC DRUMS @ 25' O.C. LT. & RT.

STAGE 2 GRADING AND PAVING UNDER TRAFFIC
TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 113+00 TO STA. 144+00 - STAGE 2

RNFortner 12/12/2011 11:09 PM
WORKSPACE: AHTDV8
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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.		020356	51	320

(2) MOT STA. 144+00 TO STA. 173+25.60 -STAGE 2

STAGE 2

CONSTRUCTION SEQUENCE NOTES:

1. MAINTAIN TRAFFIC ON EXISTING COUNTY RD. 65.
2. CONSTRUCT CO. RD. 28 UNDER TRAFFIC.
3. MILL & OVERLAY HWY. 425 UNDER TRAFFIC

N

1" = 200'

EXIST. CO. RD. 65

HWYS. 11/425 CONNECTOR

COUNTY RD. 28

145+00 150+00 155+00 160+00 165+00 170+00 174+47

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1500 FT — (I) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1000 FT — (I) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 500 FT — (I) W20-1 (48" X 48")

END ROAD WORK — (I) G20-2 (48" X 24") — RETAINED FROM PREVIOUS STAGE

ROAD CLOSED — (I) R11-2 (48" X 30") — (16') BARR. TYP. III LT. — RETAINED FROM PREVIOUS STAGE

RETAINED FROM PREVIOUS STAGE — END ROAD WORK — (I) G20-2 (48" X 24")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 500 FT — (I) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1000 FT — (I) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1500 FT — (I) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — END ROAD WORK — (I) G20-2 (48" X 24")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 500FT — (I) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1000 FT — (I) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1500 FT — (I) W20-1 (48" X 48")

ROAD CLOSED — (I) R11-2 (48" X 30") — (16') BARR. TYP. III LT. — RETAINED FROM PREVIOUS STAGE

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10887 SCOTT P. THORNSBERRY 12-12-2011

STAGE 2 MILL AND OVERLAY

STAGE 2 GRADING AND PAVING UNDER TRAFFIC

TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 144+00 TO STA. 173+25.60 - STAGE 2

RNFortner 12/12/2011 14458 PM
WORKSPACE: AHTDV8
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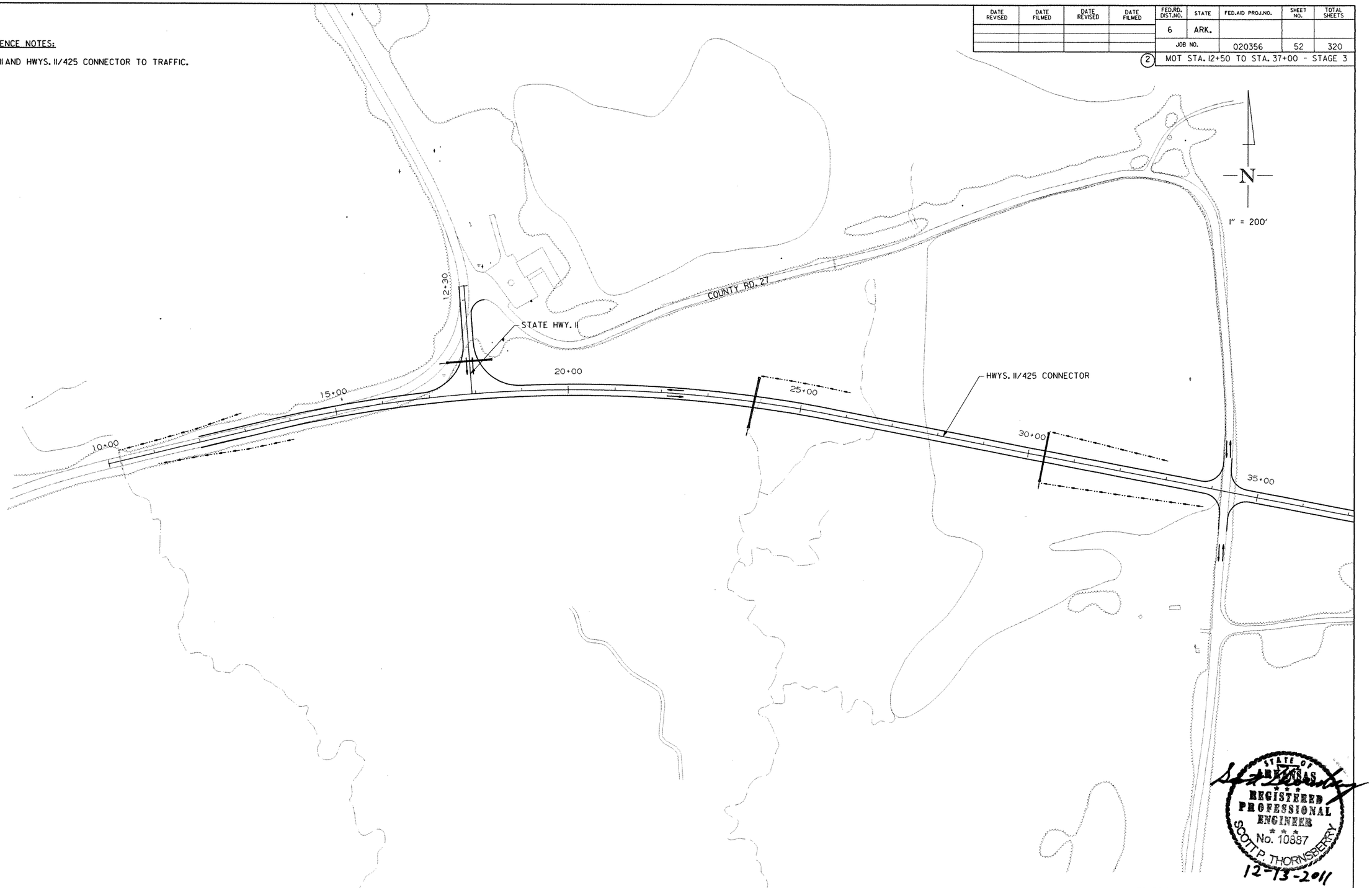
REVISED DATE:

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.		020356	52	320
				(2)	MOT STA. 12+50 TO STA. 37+00 - STAGE 3			

STAGE 3

CONSTRUCTION SEQUENCE NOTES:

1. OPEN STATE HWY. 11 AND HWYS. 11/425 CONNECTOR TO TRAFFIC.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

MAINTENANCE OF TRAFFIC

STA. 12+50 TO STA. 37+00 - STAGE 3

RNFortner 12/12/2011 11:16:04 PM
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REVISED DATE:

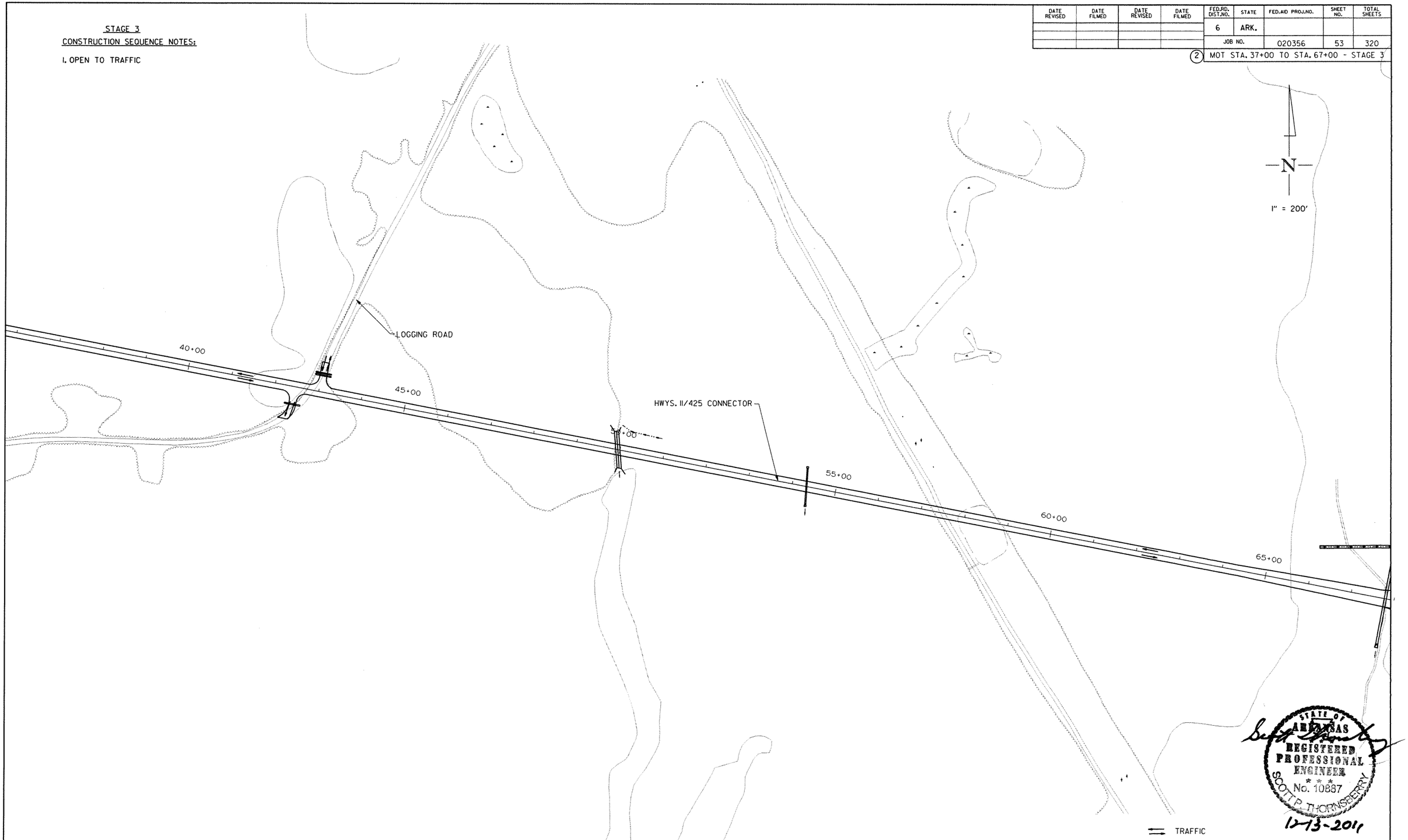
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	53	320

(2) MOT STA. 37+00 TO STA. 67+00 - STAGE 3

STAGE 3

CONSTRUCTION SEQUENCE NOTES:

1. OPEN TO TRAFFIC



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNBERRY
12-13-2011

MAINTENANCE OF TRAFFIC

STA. 37+00 TO STA. 67+00 - STAGE 3

RNFortner 12/12/2011 1:17:08 PM
WORKSPACE: AHTDV8
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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.		020356	54	320

(2) MOT STA. 67+00 TO STA. 85+00 - STAGE 3

STAGE 3

CONSTRUCTION SEQUENCE NOTES:

1. OPEN HWYS. II/425 CONNECTOR, FRONTAGE ROAD 2, RAMPS 2 & 3, RT. MAIN LANES, AND RAMP 3 CROSSOVER TO TRAFFIC.

2. SIGNS ON THIS SHEET TO REMAIN IN PLACE AT THE END OF THE PROJECT.

ROAD CLOSED
(1) RII-2
(48" X 30")
(16') BARR.
TYP. III LT.

RAMP 3

ROAD CLOSED
(1) RII-2
(48" X 30")
(1) WI-6
(48" X 24")
(16') BARR.
TYP. III LT.

RAMP 3 CROSSOVER

925+00
920+00
915+00
910+00
905+00
900+00
895+00

FRONTAGE RD. 2

RAMP 2

ROAD CLOSED
(1) RII-2
(48" X 30")
(16') BARR.
TYP. III LT.

N

1" = 200'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 67+00 TO STA. 85+00 - STAGE 3

RNFortner 12/12/2011 1:18:15 PM
WORKSPACE: AHTDVB
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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.		020356	55	320

(2) MOT STA. 85+00 TO STA. 113+00 - STAGE 3

STAGE 3

CONSTRUCTION SEQUENCE NOTES:

1. OPEN HWYS. 11/425 CONNECTOR , RAMP 2, FRONTAGE ROAD 2, AND CO. RD. 65 TO TRAFFIC
2. OBLITERATE EXISTING COUNTY RD. 65.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

N

1" = 200'

FRONTAGE RD 2

RAMP 2

85+00

90+00

95+00

100+00

105+00

110+00

ROAD CLOSED
(1) R11-2
(48" X 30")
(16') BARR.
TYP. III LT.
SIGN TO REMAIN IN PLACE AT END OF PROJECT

HWYS. 11/425 CONNECTOR

ROAD CLOSED
(1) R11-2
(48" X 30")
(1) W1-6
(48" X 24")
(16') BARR.
TYP. III RT.

CO. RD. 65

EXISTING CO. RD. 65

ROAD WORK 500 FT
(1) W20-1
(48" X 48")
RETAINED FROM PREVIOUS STAGE

END ROAD WORK
(1) G20-2
(48" X 24")
RETAINED FROM PREVIOUS STAGE

ROAD WORK 1000 FT
(1) W20-1
(48" X 48")
RETAINED FROM PREVIOUS STAGE

ROAD WORK 1500 FT
(1) W20-1
(48" X 48")
RETAINED FROM PREVIOUS STAGE

TRAFFIC

OBLITERATE EXISTING ROADWAY

MAINTENANCE OF TRAFFIC
STA. 85+00 TO STA. 113+00 - STAGE 3

RNFortner 12/12/2011 1:19:10 PM
WORKSPACE: AHTDV8
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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.		020356	56	320

(2) MOT STA. 113+00 TO STA. 144+00 - STAGE 3

STAGE 3

CONSTRUCTION SEQUENCE NOTES:

1. OPEN HWYS. 11/425 CONNECTOR TO TRAFFIC. MAINTAIN TRAFFIC ON DRIVEWAYS UNDER CONSTRUCTION.

2. OBLITERATE EXISTING CO. RD. 65.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

N

1" = 200'

END ROAD WORK (1) G20-2 (48" X 24")

500'

6 TRAFFIC DRUMS @25' O.C. LT. & RT.

EXISTING CO. RD. 65

6 TRAFFIC DRUMS @25' O.C. LT. & RT.

HWYS. 11/425 CONNECTOR

8 TRAFFIC DRUMS @25' O.C. LT. & RT.

8 TRAFFIC DRUMS @25' O.C. LT. & RT.

8 TRAFFIC DRUMS @25' O.C. LT. & RT.

6 TRAFFIC DRUMS @50' O.C. LT. & RT.

115+00 120+00 125+00 130+00 135+00 140+00

TRAFFIC
OBLITERATE EXISTING PAVEMENT
STAGE 3 GRADING AND PAVING UNDER TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 113+00 TO STA. 144+00 - STAGE 3

RNFortner 12/12/2011 12:02:12 PM
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L:\2002\020090 I-69Con\DwgCTr\wy169NMOTST305.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.		020356	57	320

(2) MOT STA. 144+00 TO STA. 173+25.60 -STAGE 3

STAGE 3

CONSTRUCTION SEQUENCE NOTES:

1. OPEN HWYS. 11/425 CONNECTOR AND CO. RD. 28 TO TRAFFIC.
2. OBLITERATE EXISTING CO. RD. 65.

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1500 FT — (1) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 1000 FT — (1) W20-1 (48" X 48")

RETAINED FROM PREVIOUS STAGE — ROAD WORK 500 FT — (1) W20-1 (48" X 48")

END ROAD WORK — (1) G20-2 (48" X 24") — RETAINED FROM PREVIOUS STAGE

ROAD CLOSED — (1) R11-2 (48" X 30") (12') BARR. TYP. III LT. (12') BARR. TYP. III RT.

EXISTING COUNTY RD. 65

6 TRAFFIC DRUMS @ 10' O.C.

HWYS. 11/425 CONNECTOR

4 TRAFFIC DRUMS @ 25' O.C.

COUNTY RD. 28

500' 500' 500'

ROAD WORK 500 FT — (1) W20-1 (48" X 48")

ROAD WORK 1000 FT — (1) W20-1 (48" X 48")

ROAD WORK 1500 FT — (1) W20-1 (48" X 48")

145+00 150+00 155+00 160+00 165+00 170+00 174+47

END ROAD WORK — (1) G20-2 (48" X 24")

HWY 425

RETAINED FROM PREVIOUS STAGE — END ROAD WORK — (1) G20-2 (48" X 24")

COUNTY RD. 28

ROAD WORK 500 FT — (1) W20-1 (48" X 48") — RETAINED FROM PREVIOUS STAGE

ROAD WORK 1000 FT — (1) W20-1 (48" X 48") — RETAINED FROM PREVIOUS STAGE

ROAD WORK 1500 FT — (1) W20-1 (48" X 48") — RETAINED FROM PREVIOUS STAGE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10587
SCOTT P. THORNBERRY
12-11-2011

TRAFFIC

OBLITERATE EXISTING PAVEMENT

STAGE 3 GRADING AND PAVING UNDER TRAFFIC

MAINTENANCE OF TRAFFIC
STA. 144+00 TO STA. 173+25.60 - STAGE 3

RNFortner 12/12/2011 12h05 PM
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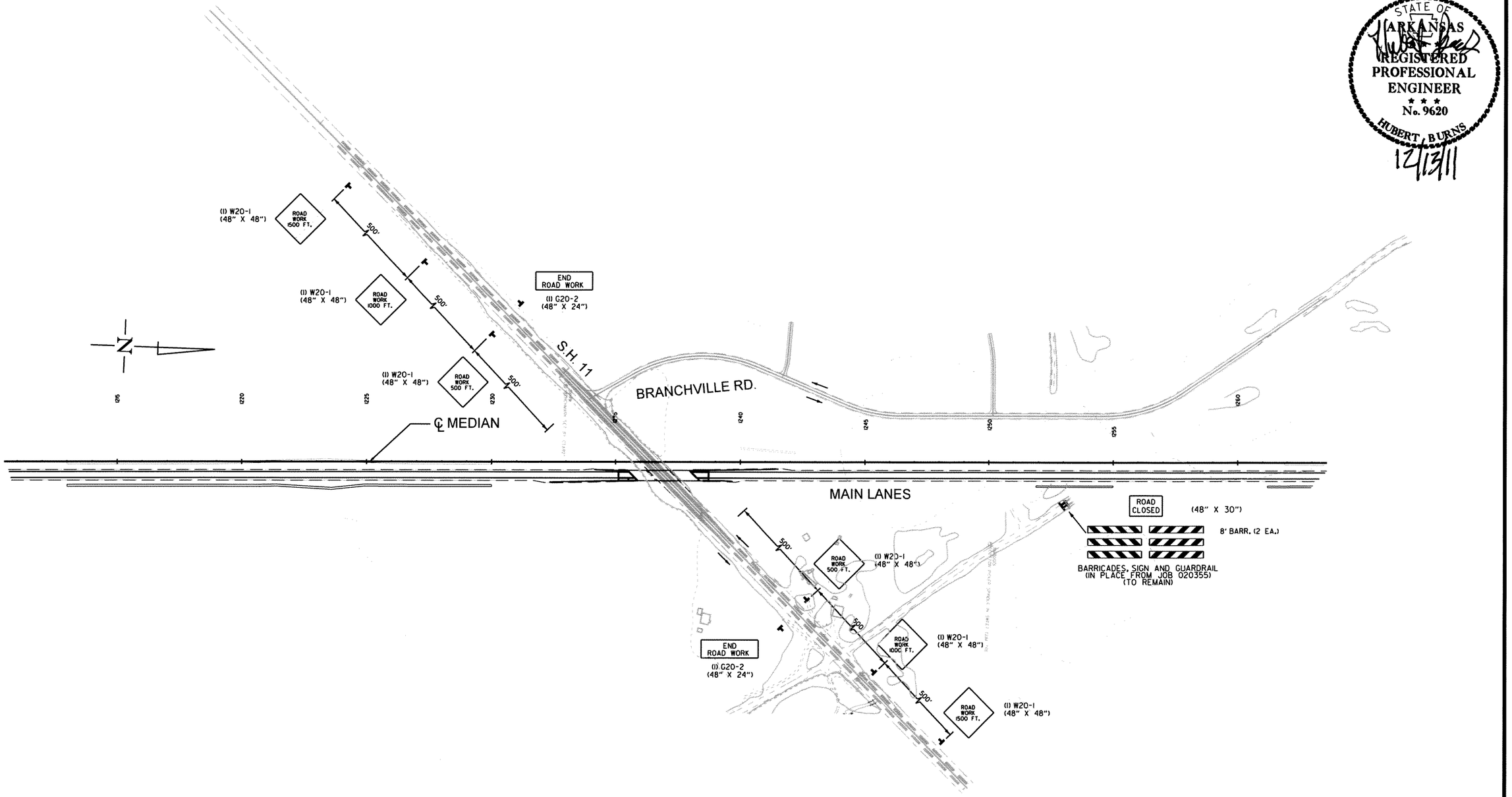
				6	ARK.			
				JOB NO.		020356	58	320

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11



MAINTENANCE OF TRAFFIC
S.H. 11 INTERSECTION

Crafton, Tull & Associates Inc.

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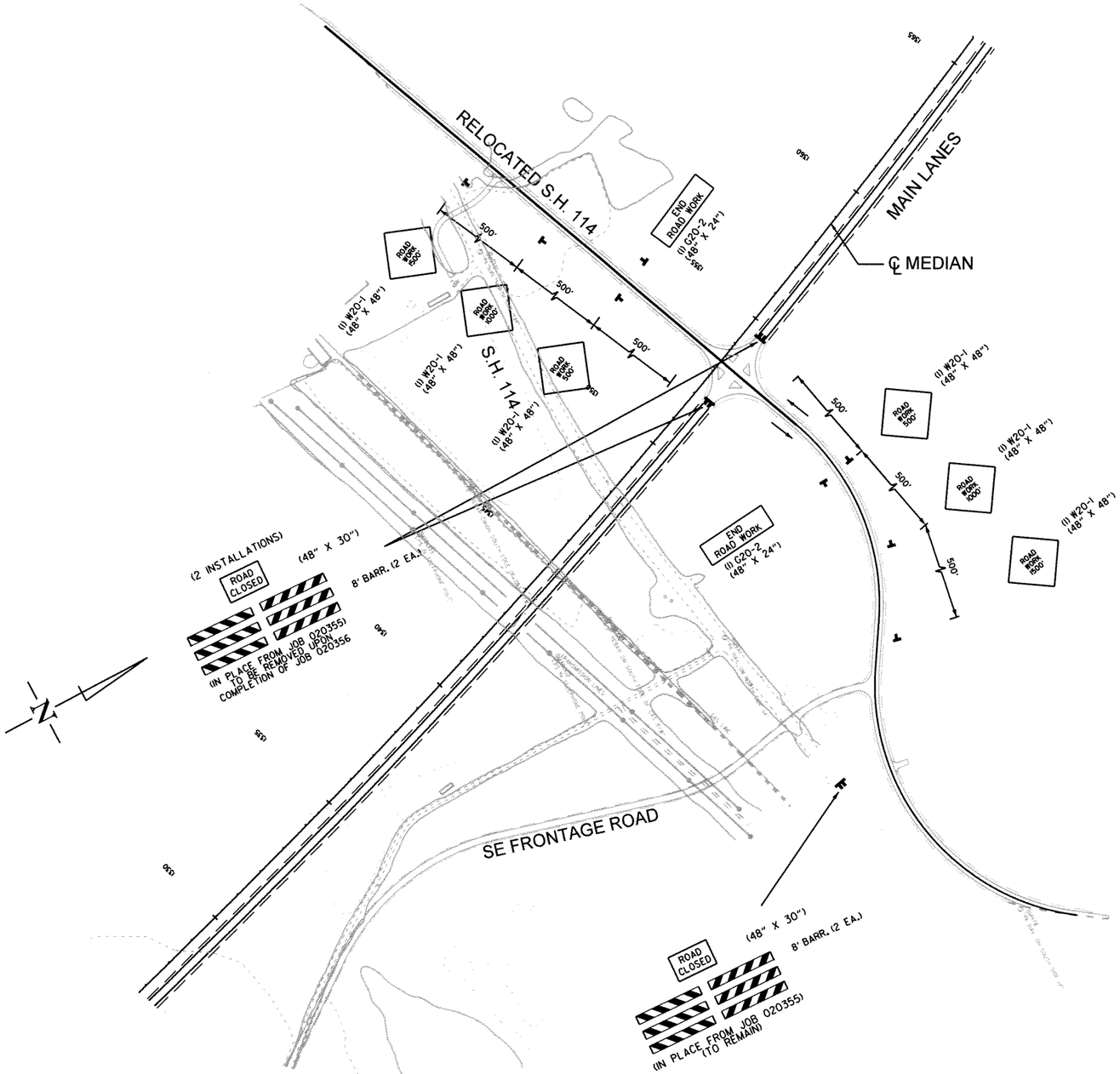
				6	ARK.			
				JOB NO.		020356	59	320

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11



MAINTENANCE OF TRAFFIC
S. H. 114 INTERSECTION

Crafton, Tull & Associates Inc.

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SCALE: 400#

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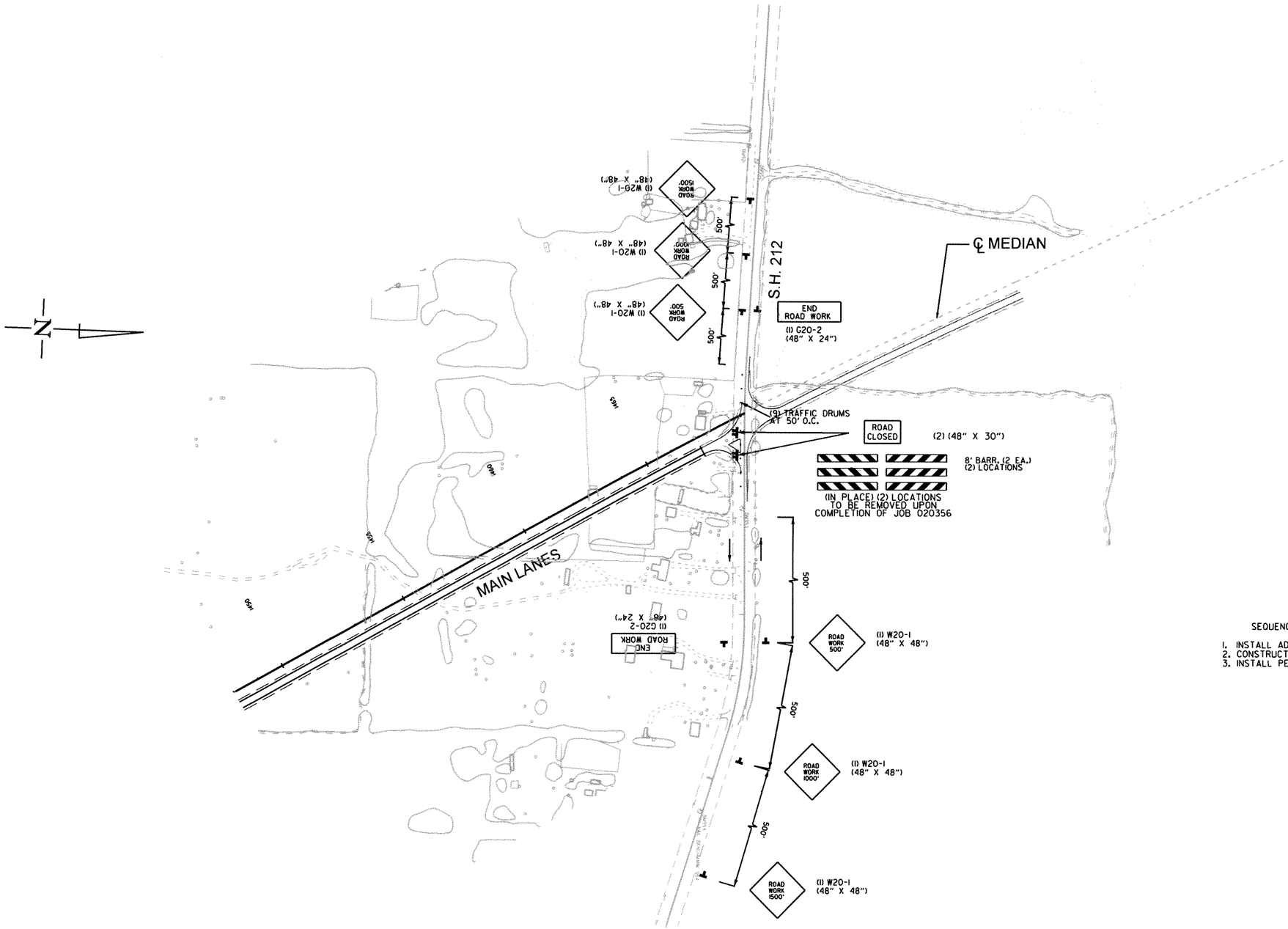
				6	ARK.			
				JOB NO.		020356	60	320
				(2)	MAINTENANCE OF TRAFFIC			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11



SEQUENCE OF CONSTRUCTION

1. INSTALL ADVANCE WARNING SIGNS
2. CONSTRUCT BASE AND SURFACING ON MAIN LANES
3. INSTALL PERMANENT PAVEMENT MARKINGS

Crafton, Tull & Associates Inc.

MAINTENANCE OF TRAFFIC S. H. 212 INTERSECTION

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\MOT\020356NB_SH212_MOT04.dgn SCALE: 400#
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DIST.NO.	STATE	FED.AID PROJ.NO.	NO.	SHEETS
				6	ARK.			
				JOB NO.		020356	61	320

(2) PERMANENT PAVEMENT MARKING

N

RAMP 3

4" CONTINUOUS YELLOW THERMOPLASTIC PAVEMENT MARKING

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

24" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS (40' O.C.)

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS (40' O.C.)

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

C.L. HWYS. 11/425 CONNECTOR

65+00 70+00 75+00

8' 24' 8' 36' 4'

300' TAPER

64+37.49 67+37.49 69+77.11 71+00.55 74+00.55

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS (40' O.C.)

NO PAVEMENT MARKINGS

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

BEGIN 4" DOUBLE YELLOW HIGH PERFORMANCE CONTRAST PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS (40' O.C.) ON C.L. BRIDGE

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

END 4" DOUBLE YELLOW HIGH PERFORMANCE CONTRAST PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS (40' O.C.) ON C.L. BRIDGE

SEE DETAIL ON NEXT SHEET

O.D. 38'

300' TAPER

77+35.96

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS (40' O.C.)

894+74.96

4" CONTINUOUS YELLOW THERMOPLASTIC PAVEMENT MARKING

RAMP 2

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

C.L. FRONTAGE ROAD 2

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING

12" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

SEE DETAIL ON NEXT SHEET

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING

C.L. HWYS. 11/425 CONNECTOR

80+00 85+00 90+00

8' 36' 8' 4' 24' 8'

300' TAPER

80+35.96 81+62.88 STA. 84+02.49 STA. 87+02.49

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

NO PAVEMENT MARKINGS

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10837 SCOTT P. THORNSBERRY 12-13-2011

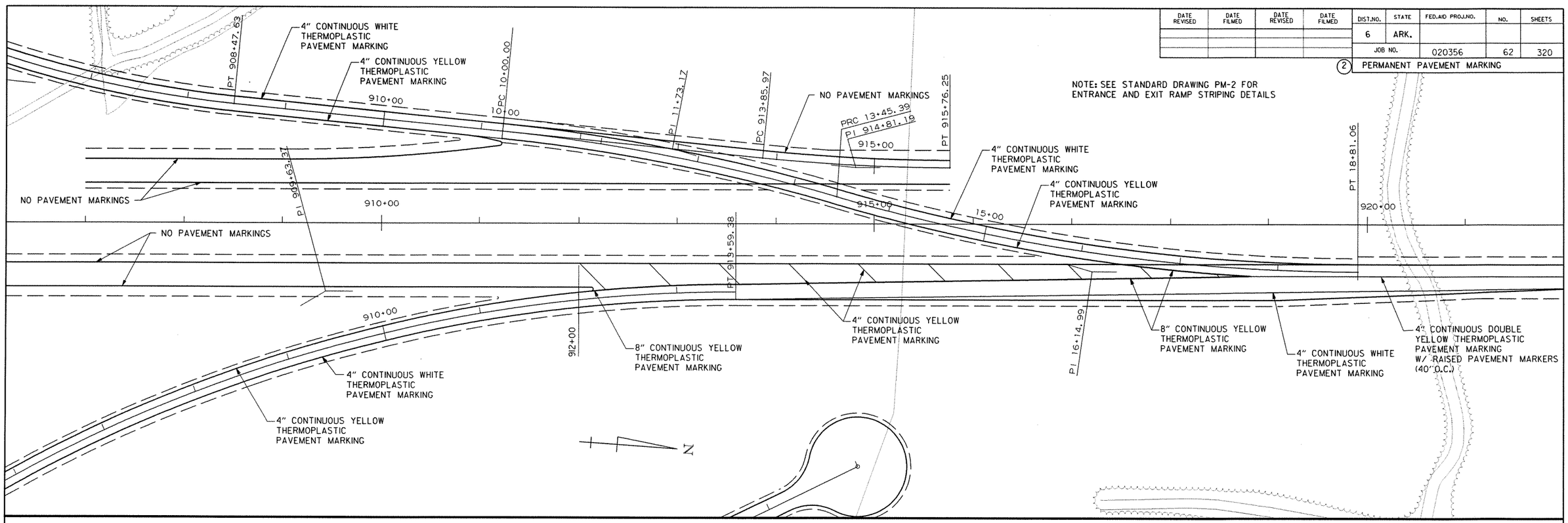
NOTE:
LOCATIONS OF NO PASSING ZONES TO BE DETERMINED BY THE ENGINEER

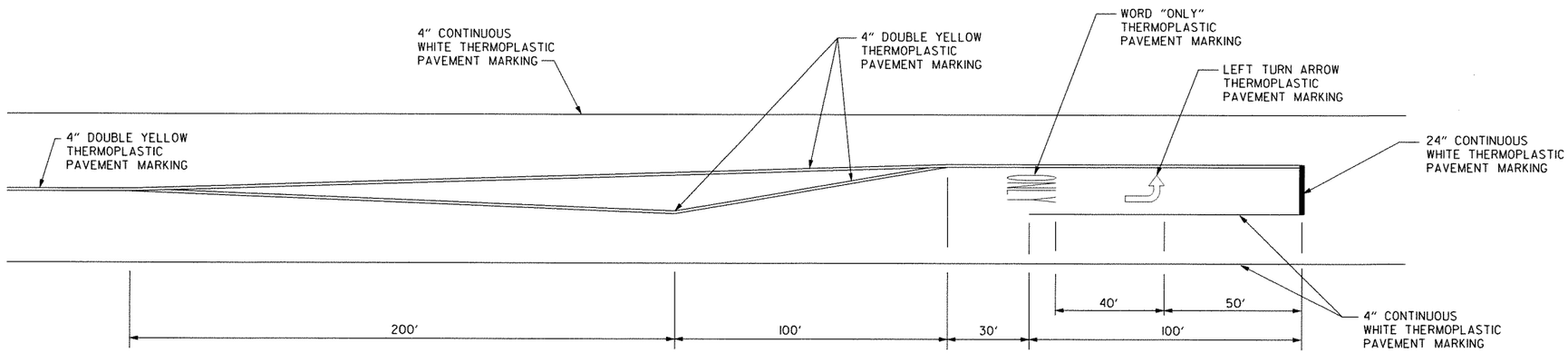
PERMANENT PAVEMENT MARKING (HWYS. 11/425 CONNECTOR)

RNFortner 12/12/2011 12:24:39 PM
WORKSPACE: AHTDV8
L:\2002\020180\90 I-69Con\DwgCT\rwy\69N425PERMST01.dgn
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DIST.NO.	STATE	FED.AID PROJ.NO.	NO.	SHEETS
				6	ARK.			
				JOB NO.		020356	62	320

(2) PERMANENT PAVEMENT MARKING





TURN LANE DETAIL

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10837
SCOTT P. THORNSBERRY
12-13-2011

PERMANENT PAVEMENT MARKING
(HWYS. 11/425 CONNECTOR)

RNFortner 12/12/2011 12:25:37 PM
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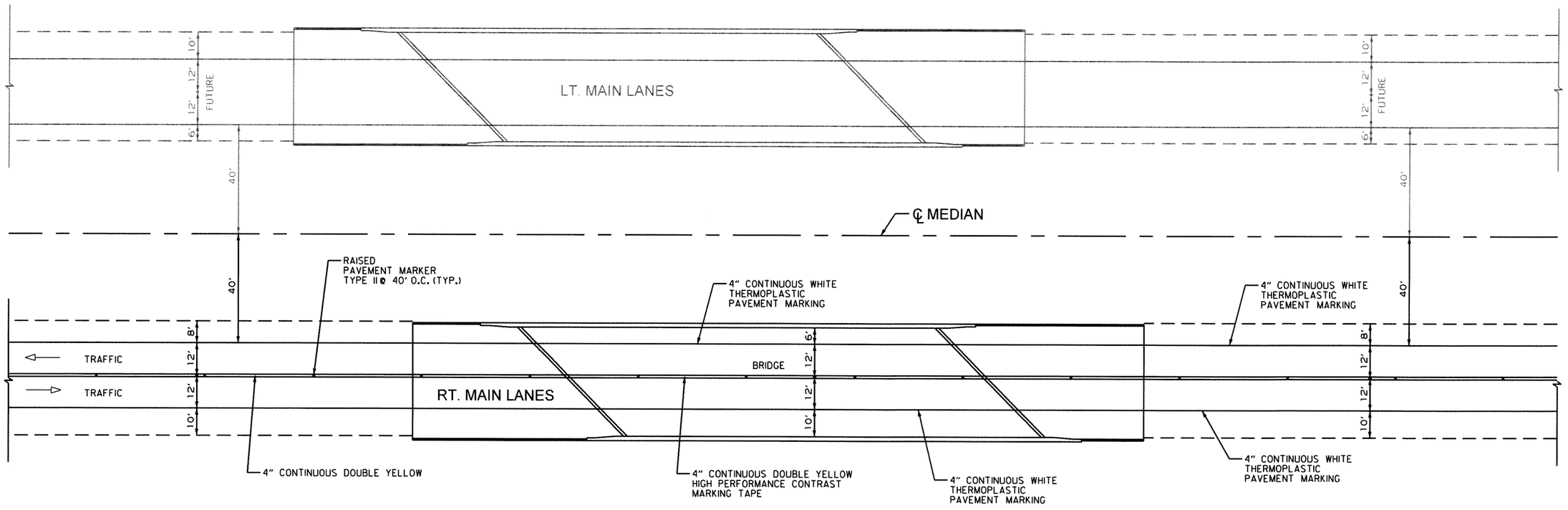
REVISED DATE:

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.		020356	63	320

(2) PERMANENT PAVEMENT MARKING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT, BURNS
12/13/11



NOTE:
CONTACT THE MAINTENANCE DIVISION PRIOR TO FINAL STRIPING PLACEMENT TO DETERMINE THE LOCATION OF PASSING ZONES, IF ANY, TO BE PLACED IN THE PROJECT.

Crafton, Tull & Associates Inc.

PERMANENT PAVEMENT MARKING
(MAIN LANES)

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\Striping\020356_ML_PPM01.dgn
PLOTTED: 12/12/2011 17:52
SCALE: 40:1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	64	320

2 PERMANENT PAVEMENT MARKING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/16/11

PERMANENT PAVEMENT MARKING QUANTITIES

S.H. 212 INTERSECTION
THERMOPLASTIC PAVEMENT MARKINGS:
PAVEMENT EDGE = 419 L.F. 4" WHITE
℄ = 250 L.F. 4" YELLOW
STOP BARS = 20 L.F. 12" WHITE
ISLAND OUTLINE = 206 L.F. 8" WHITE
LANE LINE AROUND ISLAND = 432 L.F. 8" WHITE
RAISED PAVEMENT MARKERS (TYPE II) = 3 EA.

RELOC. S.H. 114 INTERSECTION
THERMOPLASTIC PAVEMENT MARKINGS:
℄ = 456 L.F. 4" YELLOW
STOP BARS = 24 L.F. 12" WHITE
ISLAND OUTLINE = 393 L.F. 8" WHITE
LANE LINE AROUND ISLAND = 800 L.F. 8" WHITE
RAISED PAVEMENT MARKERS (TYPE II) = 8 EA.

STA. 1468+96.21 ℄ MED.=
STA. 21+52.95 ℄ EXIST. S.H. 212

CENTER MARKING IN PLACE - RETAIN

STOP BAR MARKING IN PLACE - REMOVE

12" WHITE THERMOPLASTIC PAVEMENT MARKING

8" WHITE ISLAND OUTLINE (TYP.)

8" WHITE THERMOPLASTIC PAVEMENT MARKING (TYP.)

12" WHITE THERMOPLASTIC PAVEMENT MARKING

STOP BAR MARKING IN PLACE - REMOVE

℄ S.H. 212

CENTER MARKING IN PLACE RETAIN

STOP BAR MARKING IN PLACE - REMOVE

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

1468+35

8" WHITE ISLAND OUTLINE

CENTER MARKING IN PLACE - RETAIN

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

8" WHITE THERMOPLASTIC PAVEMENT MARKING

CONC. ISLAND WITH TYPE B CURB FACE IN PLACE

23+70

21+12

EDGE OF LANE MARKING IN PLACE - REMOVE

1468

RAISED PAVEMENT MARKER TYPE II @ 40' O.C. (TYP.)

4" CONTINUOUS DOUBLE YELLOW

+09.98

STA. 1467+00.00
END BS. & SURF.
JOB 020356

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

STA. 1469+05 ℄ MED. RT.
REMOVE STOP BAR = 12' L.F.

STA. 21+12 TO STA. 23+70
℄ S.H. 212 RT. REMOVE EDGE
OF LANE MARKINGS = 258 L.F.

STA. 21+50 ℄ S.H. 212
REMOVE STOP BAR = 10 L.F.

STA. 22+70 ℄ S.H. 212
REMOVE STOP BAR = 15 L.F.

℄ MEDIAN

℄ RT. MAIN LANES

S.H. 212

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC

1355

+68.42
BEGIN 4" WHITE THERMOPLASTIC PAVEMENT MARKING (EACH SIDE)

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

+64.55

4" DOUBLE YELLOW PAVEMENT MARKING IN PLACE - REMOVE

8" WHITE THERMOPLASTIC PAVEMENT MARKING

CONC. ISLAND W/TYPE "B" CURB FACE = 57 S.Y.

8" WHITE ISLAND OUTLINE

4" WHITE PAVEMENT MARKING IN PLACE - TO REMAIN

+53.71

CONC. ISLAND W/TYPE "B" CURB FACE = 48 S.Y.

8" WHITE THERMOPLASTIC PAVEMENT MARKING

8" WHITE ISLAND OUTLINE

4" WHITE PAVEMENT MARKING IN PLACE - TO REMAIN

℄ RELOC. S.H. 114

4" DOUBLE YELLOW PAVEMENT MARKING

4" DOUBLE YELLOW PAVEMENT MARKING IN PLACE - TO REMAIN

12" WHITE THERMOPLASTIC PAVEMENT MARKING

4" WHITE PAVEMENT MARKING IN PLACE - TO REMAIN

8" WHITE ISLAND OUTLINE

8" WHITE THERMOPLASTIC PAVEMENT MARKING

CONC. ISLAND W/TYPE "B" CURB FACE = 54 S.Y.

RAISED PAVEMENT MARKER TYPE II @ 40' O.C. (TYP.)

4" CONTINUOUS DOUBLE YELLOW THERMOPLASTIC

+05.83

4" DOUBLE YELLOW PAVEMENT MARKING IN PLACE - TO REMAIN

STA. 1353+30.20 ℄ MED.=
STA. 152+48.31 ℄ RELOC. S.H. 114

8" WHITE THERMOPLASTIC PAVEMENT MARKING

CONC. ISLAND W/TYPE "B" CURB FACE = 51 S.Y.

4" WHITE PAVEMENT MARKING IN PLACE - TO REMAIN

8" WHITE ISLAND OUTLINE

STA. 152+76 TO STA. 153+26
℄ RELOC. S.H. 114 REMOVE
℄ PAVEMENT MARKING = 50 L.F.

+92.78
END 4" WHITE THERMOPLASTIC PAVEMENT MARKING (EACH SIDE)

+93.39

4" CONTINUOUS WHITE THERMOPLASTIC PAVEMENT MARKING

℄ MEDIAN

℄ RT. MAIN LANES

RELOCATED S.H. 114

PERMANENT PAVEMENT MARKING
(RELOCATED S.H. 114 & S.H. 212)

Crafton, Tull & Associates Inc.

USER: rc534
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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.		020356	65	320

(2) SOIL BORING LOG

STATE OF ARKANSAS
HUBERT BURNS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

SOIL BORING LOG

BORING NO.	APPROX. HWY 530 STA.	SAMPLE DEPTH	WATER CONTENT	ATTERBERG LIMITS			SIEVE ANALYSIS	UNIFIED CLASSIFICATION	A.A.S.H.T.O. CLASSIFICATION
				LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	PERCENT PASSING		
		FEET	%				#200		
71	11+00, 25'L	2.5-3.5	32	68	31	37	90	CH	A-7-5
72	16+85, CL	2.5-3.5	23	50	23	27	71	CH	A-7-6
73	26+85, CL	2.5-3.5	21	31	17	14	66	CL	A-6
74	34+30, CL	1.5-2	19	30	19	11	---	CL	A-6
74	34+30, CL	2.5-3.5	31	61	29	32	86	CH	A-7-6
75	42+80, CL	0.5-1.5	25	42	21	21	73	CL	A-7-6
76	52+80, CL	0.5-1.5	19	37	18	19	61	CL	A-6
76	52+80, CL	2.5-3.5	26	37	20	17	54	CL	A-6
77	62+80, CL	0.5-1.5	30	58	27	31	76	CH	A-7-6
78	87+50, CL	2.5-3.5	24	41	20	21	80	CL	A-7-6
79	97+00, CL	0.5-1.5	18	41	19	22	68	CL	A-7-6
80	104+00, CL	0.5-1.5	12	26	18	8	72	CL	A-4
80	104+00, CL	6.5-7.5	24	35	20	15	40	SC	A-6
81	108+00, CL	0.5-1.5	10	27	19	8	61	CL	A-4
82	117+20, CL	0.5-1.5	14	30	16	14	73	CL	A-6
83	127+00, 60'L	0.5-1.5	17	22	18	4	57	CL-ML	A-4
83	127+00, 60'L	2.5-3.5	21	27	16	11	60	CL	A-6
84	137+00, 65'L	0.5-1.5	8	28	19	9	11	SC	A-2-4
84	137+00, 65'L	4-5	19	19	17	2	51	ML	A-4
85	147+00, 65'L	0.5-1	19	34	19	15	64	CL	A-6
86	157+00, CL	2.5-3.5	9	33	19	14	26	SC	A-2-6
87	167+00, CL	0.5-1.5	15	26	17	9	62	CL	A-4
88	172+00, CL	0.5-1.5	6	--- NON PLASTIC ---			15	SM	A-1-b
89	889+13, CL - Ramp 4	0.5-1.5	20	35	19	16	75	CL	A-6
90	898+50, CL - Ramp 3	4-5	15	32	17	15	26	SC	A-2-6
91	903+65, CL - Ramp 3	0.5-1.5	13	26	15	11	55	CL	A-6
92	888+50, CL - Ramp 1	0.5-1.5	13	--- NON PLASTIC ---			37	SM	A-1-b
92	888+50, CL - Ramp 1	4-5	21	31	16	15	65	CL	A-6
93	894+50, CL - Ramp 2	2.5-3.5	24	39	19	20	63	CL	A-6

SOIL BORING LOG

BORING NO.	APPROX. HWY 530 STA.	SAMPLE DEPTH	WATER CONTENT	ATTERBERG LIMITS			SIEVE ANALYSIS	UNIFIED CLASSIFICATION	A.A.S.H.T.O. CLASSIFICATION
				LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	PERCENT PASSING		
		FEET	%				#200		
48	789+00, 42'R	6.5-7.5	24	40	19	21	39	SC	A-6
49	798+00, 42'L	2.5-3.5	34	68	31	37	82	CH	A-7-5
49	798+00, 42'L	9-10	26	49	19	30	59	CL	A-7-6
50	808+00, 42'R	2.5-3.5	24	59	27	32	59	CH	A-7-6
51	818+00, 42'L	2.5-3.5	22	54	26	28	67	CH	A-7-6
52	828+00, 42'R	0.5-1.5	19	32	18	14	68	CL	A-6
53	838+00, 32'L	4.5-5.5	19	45	21	24	76	CL	A-7-6
54	848+00, 42'R	0.5-1.5	18	39	19	20	77	CL	A-6
55	858+00, 42'L	2.5-3.5	19	42	22	20	67	CL	A-7-6
56	868+00, 42'L	2.5-3.5	26	51	22	29	89	CH	A-7-6
56	868+00, 42'L	6.5-7.5	30	54	23	31	76	CH	A-7-6
57	874+00, 42'R	2.5-3.5	19	42	20	22	84	CL	A-7-6
57	874+00, 42'R	14-15	34	52	24	28	89	CH	A-7-6
58	884+00, 42'L	0.5-1.5	21	41	21	20	73	CL	A-7-6
59	892+00,42'R	0.5-1.5	18	31	17	14	66	CL	A-6
59	892+00,42'R	2.5-3.5	17	41	22	19	54	CL	A-7-6
60	902+00,42'L	0.5-1.5	23	41	23	18	72	CL	A-7-6
60	902+00,42'L	6.5-7.5	21	45	21	24	67	CL	A-7-6
63	912+00, 42'R	0.5-1.5	21	35	20	15	71	CL	A-6
63	912+00, 42'R	6.5-7.5	22	45	21	24	58	CL	A-7-6
64	920+00, 42'L	2.5-3.5	24	40	20	20	72	CL	A-7-6
64	920+00, 42'L	6.5-7.5	27	60	20	40	75	CH	A-7-6
64	920+00, 42'L	14-15	28	44	22	22	46	SC	A-7-6
65	925+00, 42'R	2.5-3.5	25	40	20	20	75	CL	A-7-6
65	925+00, 42'R	6.5-7	29	50	21	29	54	CH	A-7-6
94	897+00, CL	0.5-1.5	19	35	18	17	63	CL	A-6
95	903+50, CL	6.5-7.5	26	46	18	28	58	CL	A-7-6

SOIL BORING LOG

BORING NO.	APPROX. I-69 CONN. STA.	SAMPLE DEPTH	WATER CONTENT	ATTERBERG LIMITS			SIEVE ANALYSIS	UNIFIED CLASSIFICATION	A.A.S.H.T.O. CLASSIFICATION
				LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	PERCENT PASSING		
		FEET	%				#200		
1	1090+50, 52' RT.	4.5-5.5	16	45	16	29	66	CL	A-7-6
		6.5-7.5	14	36	15	21	37	GC	A-6
2	1102+50, 52' LT.	2.5-3.5	19	---	---	---	67	CL	A-6
		6.5-7.5	30	74	24	50	85	CH	A-7-6
3	1105+00, 52' RT.	0.5-1.5	12	34	19	15	76	CL	A-6
4	1115+00, 52' RT.	14-15	36	54	21	33	99	CH	A-7-6

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

Crafton, Tull & Associates Inc.

SOIL BORING LOG

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				6	ARK.			
				JOB NO.		020356	66	320

(2) QUANTITIES

ADVANCE WARNING SIGNS AND DEVICES

SIGN	DESCRIPTION	SIGN SIZE	STAGE I	STAGE II	STAGE III	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES	
										RT.(16')	LT.(16')
		INCHES	EACH				NO.	SQ.FT.	EACH	LIN. FT.	
G20-2	END ROAD WORK	48" X 24"	13	7	5	13	13	104			
R11-2	ROAD CLOSED	48" X 30"	17	11	2	17	17	170			
RSP-1	SHOULDER CLOSED	48" X 30"	17	11	2	17	17	170			
W1-6	DIRECTIONAL ARROW	48" X 24"	1	1	1	1	1	8			
W20-1	ROAD WORK 500 FT	48" X 48"	14	8	3	14	14	224			
W20-1	ROAD WORK 1000 FT	48" X 48"	14	8	3	14	14	224			
W20-1	ROAD WORK 1500 FT	48" X 48"	14	8	3	14	14	224			
W20-1	ROAD WORK AHEAD	48" X 48"	2	2		2	2	32			
	TYPE III BARRICADE-LT. (16')		15	9	1	15					240
	TYPE III BARRICADE-RT. (16')		2	2	2	2				32	
	TRAFFIC DRUMS		21	66	52	66			66		
TOTALS								1156	66	32	240

NOTE: HWYS. 11/425 CONN., S.H. 114 AND S.H. 212 ARE HIGH VOLUME ROADS AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 2003.
S.H. 111S A LOW VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 2003.

* "TRAFFIC CONTROL DEVICES IN PLACE FROM PREVIOUS PROJECT" ARE SHOWN FOR INFORMATION ONLY. THE QUANTITY IS INCLUDED IN THE NUMBER FOR TRAFFIC CONTROL DEVICES REQUIRED AND SHALL BE PAID FOR AS "TRAFFIC CONTROL DEVICE".

TRAFFIC CONTROL DEVICES LEFT IN PLACE

SIGN	DESCRIPTION	SIGN SIZE	SIGNS LEFT IN PLACE		BARRICADES LEFT IN PLACE
		INCHES	NO.	SQ.FT.	LIN. FT.
R11-2	ROAD CLOSED	48" X 30"	3	30.00	
W1-6	ONE DIRECTIONAL LARGE ARROW	48" X 24"	3	24.00	
	RED DIAMOND REFLECTORS	18" X 18"	3	6.75	
	TYPE III BARRICADE				48
TOTALS				60.75	48

NOTE: HWYS. 11/425 CONN., S.H. 114 AND S.H. 212 ARE HIGH VOLUME ROADS AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 2003.
S.H. 111S A LOW VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 2003.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/16/11

PERMANENT PAVEMENT MARKINGS

STATION	STATION	DESCRIPTION	THERMOPLASTIC PAVEMENT MARKINGS								RAISED PAVEMENT MARKERS	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	REMOVAL OF PERMANENT PAVEMENT MARKINGS
			4" YELLOW	8" YELLOW	4" WHITE	8" WHITE	12" WHITE	24" WHITE	WORDS	ARROWS	TYPE II (YELLOW/YELLOW)	4" YELLOW	
			LIN. FT.						EACH		EACH	LIN. FT.	
912+00.00	925+34.40	MAIN LANES	1555	671	1864						16		
		RAMP 2	1921		2171								
		RAMP 3	1496		1713			94					
		RAMP 3 CROSSOVER	642	133	880								
		HWYS. 11/425 CONNEC.	34120		35129			92	1	1	432	471	
		FRONTAGE RD. 2	4584		4994		32				57		
		US 425	548		274						7		
		SH 11	412		534		60				5		
		CO. RD. 28	328		449		26				4		
1090+05.00	1235+11.70	RT. MAIN LANES	29013		29013						364		
1235+11.70	1238+72.14	RT. MAIN LANES			721						10	721	
1238+72.14	1351+92.78	RT. MAIN LANES	22641		22641						284		
1351+92.78	1354+68.42	RT. MAIN LANES (S.H. 114 TURNOUT)	456			1193	24				8		50
1354+68.42	1467+09.98	RT. MAIN LANES	22483		22483						282		
1467+09.98	1468+35.00	RT. MAIN LANES (S.H. 212 TURNOUT)	250		419	638	20				3		295
TOTALS			120449	804	123285	1831	162	186	1	1	1472	1192	345

NOTE: RAMP 2, RAMP 3, RAMP 3 CROSSOVER, HWYS. 11/425 CONNEC., U.S. 425, S.H. 114, S.H. 212 AND MAIN LANES ARE HIGH VOLUME ROADS AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION 2003.
FINAL QUANTITIES ARE ESTIMATED BASED ON DOUBLE YELLOW CENTERLINE AND LT. AND RT. EDGE LINES.
RAISED PAVEMENT MARKERS (TYPE II) ARE TO BE PLACED 40' O.C. ALONG THE CENTERLINE. CONTACT THE MAINTENANCE DIVISION PRIOR TO FINAL STRIPING PLACEMENT TO DETERMINE THE LOCATION OF PASSING ZONES, IF ANY, TO BE PLACED IN THE PROJECT.

Crafton, Tull & Associates Inc.

QUANTITIES

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				6	ARK.			
				JOB NO.		020356	67	320

(2) QUANTITIES

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
893+00.00	925+34.00	MAIN LANES	32	32
1090+05.00	1108+00.00	MAIN LANES	18	18
12+50.00	67+00.00	HWYS. 11/425 CONNECTOR	55	55
86+00.00	173+25.00	HWYS. 11/425 CONNECTOR	87	87
TOTALS			192	192

NOTE:
QUANTITIES SHOWN ABOVE, FOR CLEARING AND GRUBBING, INCLUDE THE AREA BETWEEN THE CONSTRUCTION LIMITS ALONG THE WEST SIDE OF THE RIGHT MAIN LANES TO THE RIGHT-OF-WAY ALONG THE EAST SIDE OF THE PROJECT. THE QUANTITIES SHOWN ABOVE EXCLUDE THE "PRESERVED VEGETATION" AREAS AS SHOWN ON THE PLANS. ANY REMAINING AREA THAT LIES BETWEEN THE RIGHT-OF-WAY ALONG THE WEST SIDE OF THE PROJECT AND THE CONSTRUCTION LIMITS ALONG THE WEST SIDE OF THE RIGHT MAIN LANES, WHICH DOES NOT INTERFERE WITH THE DRAINAGE OUTLETS, CHANNELS, OR OTHER REQUIRED CONSTRUCTION, SHALL BE DESIGNATED TO REMAIN IN PLACE IF AND WHERE DIRECTED BY THE ENGINEER. ALSO, IT IS ESTIMATED THAT THE AREA INSIDE THE CONSTRUCTION LIMITS OF THE PROJECT CONSISTS OF 7 ACRES OF MERCHANTABLE TIMBER.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL			THRIE BEAM GUARDRAIL TERMINAL
			TYPE A	TYPE C	TERMINAL (TYPE 2)	
			LIN. FT.		EACH	EACH
71+76.40	74+45.15	HWYS. 11/425 CONNEC. - RT.	200		1	1
73+15.81	74+34.56	HWYS. 11/425 CONNEC. - LT.	50		1	1
76+91.75	79+60.50	HWYS. 11/425 CONNEC. - LT.	200		1	1
77+02.34	78+21.09	HWYS. 11/425 CONNEC. - RT.	50		1	1
915+38.00		RT. MAIN LANES - RT.		25		
1232+32.76	1235+76.51	RT. OF RT. MAIN LANES	275		1	1
1234+15.60	1235+34.35	LT. OF RT. MAIN LANES	50		1	1
1238+08.72	1241+52.47	LT. OF RT. MAIN LANES	275		1	1
1238+50.88	1239+69.63	RT. OF RT. MAIN LANES	50		1	1
TOTALS			1150	25	8	8

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

SUBGRADE PREPARATION

STATION	STATION	LOCATION	LENGTH
			STA.
1108+00.00	1235+54.11	RT. MAIN LANES	127.54
1238+02.18	1351+92.78	RT. MAIN LANES	113.91
1354+68.42	1467+00.00	RT. MAIN LANES	112.32
TOTAL			353.77

NOTE: REFER TO SP - "SUBGRADE PREPARATION".

REMOVAL AND DISPOSAL OF ITEMS

STATION	LOCATION	BOX CULVERTS	PIPE CULVERTS	SIGNS	BARRICADES	DESCRIPTION
		EACH	EACH	EACH	EACH	
126+35	HWYS. 11/425 MAIN LANES - LT.		1			24" R.C. CULVERT
132+91	HWYS. 11/425 MAIN LANES - LT.		1			12" R.C. CULVERT
137+50	HWYS. 11/425 MAIN LANES - LT.		4			QUAD. 36" C.M. CULVERT
145+07	HWYS. 11/425 MAIN LANES - LT.		1			18" R.C. CULVERT
147+51	HWYS. 11/425 MAIN LANES - LT.		1			18" R.C. CULVERT
155+86	HWYS. 11/425 MAIN LANES - RT.	1				7' X 2' R.C. BOX CULVERT
156+61	HWYS. 11/425 MAIN LANES - LT.		1			48" R.C. CULVERT
	R.M.L. @ S.H. 114 & S.H. 112			4		ROAD CLOSED SIGNS
	R.M.L. @ S.H. 114 & S.H. 112				4	TYPE III BARRICADE RT.
	R.M.L. @ S.H. 114 & S.H. 112				4	TYPE III BARRICADE LT.
TOTALS		1	9	4	8	

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	EROSION CONTROL MATTING (CLASS 3)
			LIN. FT.	SQ. YD.
1093+22	1094+30	RT. MAIN LANES - LT.	108	96
1108+00	1126+00	RT. MAIN LANES - LT. RESHAPE SLOPE	1800	1600
1174+00	1191+50	RT. MAIN LANES - LT. RESHAPE SLOPE	1750	1556
1213+00	1230+00	RT. MAIN LANES - LT. RESHAPE SLOPE	1700	1511
1213+00	1230+00	RT. MAIN LANES - RT. RESHAPE SLOPE	1700	1511
1261+90	1280+00	RT. MAIN LANES - LT. RESHAPE SLOPE	1810	1609
1301+00	1305+00	RT. MAIN LANES - LT. RESHAPE SLOPE	400	356
TOTAL				8239

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	TACK COAT
	TON	GAL
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER	150	300
TOTALS	150	300

NOTE:
BASIS OF ESTIMATE FOR PATCHING:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC - 25 TONS PER MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC - 50 GAL PER MILE
QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

MOWING

LOCATION	AREA
	ACRES
ENTIRE PROJECT - RT. MAIN LANES	680.00
TOTAL	680.00

NOTE:
BASIS OF MOWING:
TWO COMPLETE MOWINGS OF THE ENTIRE PROJECT

Crafton, Tull & Associates Inc.

QUANTITIES

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				6	ARK.			
				JOB NO.		020356	68	320
				(2)	QUANTITIES			

EROSION CONTROL

STATION	STATION	LOCATION	LIME	SEEDING	MULCH COVER	WATER	SECOND SEEDING APPLICATION
			TON	ACRE		M. GAL.	ACRE
912+00.00	925+34.40	HWYS. 11/ 425 CONNEC.	106.16	53.08	53.08	5414.2	53.08
		INCLUDES RAMPS, FRONTAGE RD.,					
		US 425, HWY. 11 AND MAIN LANES					
1090+05.00	1108+00.00	RT. MAIN LANE	10.00	5.00	5.00	510.0	5.00
1108+00	1130+00	RT. MAIN LANE - RESHAPE SLOPES	11.22	5.61	5.61	572.2	5.61
1174+00	1193+00	RT. MAIN LANE - RESHAPE SLOPES	15.64	7.82	7.82	797.6	7.82
1213+00	1230+00	RT. MAIN LANE - RESHAPE SLOPES	15.80	7.90	7.90	805.8	7.90
1240+00	1255+00	RT. MAIN LANE - RESHAPE SLOPES	3.94	1.97	1.97	200.9	1.97
1260+00	1280+00	RT. MAIN LANE - RESHAPE SLOPES	18.72	9.36	9.36	954.7	9.36
1301+00	1309+00	RT. MAIN LANE - RESHAPE SLOPES	2.74	1.37	1.37	139.7	1.37
1325+00	1328+00	RT. MAIN LANE - RESHAPE SLOPES	0.62	0.31	0.31	31.6	0.31
1348+00	1351+00	RT. MAIN LANE - RT. SLOPE REPAIR	1.30	0.65	0.65	66.3	0.65
* ENTIRE PROJECT - IF & WHERE DIRECTED BY THE ENGINEER			6.50	3.25	3.25	331.5	3.25
TOTALS			192.64	96.32	96.32	9824.5	96.32

* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE: LIME = 2 TONS PER ACRE SEEDING
WATER = 102.0 M. GAL. PER ACRE OF SEEDING

BENCH MARK CAPS

STATION	LOCATION	EACH
49+95	HWYS. 11/425 CONN. HDWL ON RCB	1
75+68.45	BRIDGE NO. 07117	1
91+90	HWYS. 11/425 CONN. HDWL ON RCB	1
145+45	HWYS. 11/425 CONN. HDWL ON RCB	1
155+86	COUNTY ROAD 28 HDWL ON RCB	1
160+50	HWYS. 11/425 CONN. HDWL ON RCB	1
173+43	HWYS. 11/425 CONN. HDWL ON RCB	1
TOTAL		7

NOTE: BENCH MARK CAPS TO BE FURNISHED AND INSTALLED BY STATE FORCES.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	TEMPORARY SEEDING	MULCH COVER	WATER	DROP INLET SILT FENCE	SILT FENCE		SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	DIVERSION DITCH	PIPE FOR SLOPE DRAINS	DUMPED RIPRAP	SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL	OBLITERATION OF SEDIMENT BASIN
						(E-7)	(E-4)	(E-11)	(E-5)	(E-6)	(E-8)	(E-12)	(E-12)	(E-14)		
			ACRE		M. GAL.	LIN. FT.			BAG	CU. YD.	LIN. FT.	LIN. FT.	CU. YD.	CU. YD.	CU. YD.	CU. YD.
		CLEARING AND GRUBBING														
12+50	31+00	HWYS. 11 & 425 CONN						1175								
31+00	61+00	HWYS. 11 & 425 CONN						540								
61+00	91+00	HWYS. 11 & 425 CONN						4250								
91+00	121+00	HWYS. 11 & 425 CONN						2142								
121+00	151+00	HWYS. 11 & 425 CONN						2888								
151+00	173+25	HWYS. 11 & 425 CONN						563								
904+00	925+34	RAMP 2 & 3						2305								
1090+05	1108+00	RT. MAIN LANE						990	22	23						
		STAGE 1														
12+50	31+00	HWYS. 11 & 425 CONN							40	40						
31+00	61+00	HWYS. 11 & 425 CONN							360	248						
61+00	91+00	HWYS. 11 & 425 CONN				20			820	394	1925	387	10			
91+00	121+00	HWYS. 11 & 425 CONN							540	176						
121+00	151+00	HWYS. 11 & 425 CONN							100	88						
151+00	173+25	HWYS. 11 & 425 CONN							140	108						
904+00	925+34	RAMP 2 & 3				47			220	194						
1090+05	1108+00	RT. MAIN LANE						855	110	76				107		107
1108+00	1130+00	RT. MAIN LANE - RESHAPE SLOPES					403		220	130				1062		1062
1174+00	1193+00	RT. MAIN LANE - RESHAPE SLOPES							330	140	1154	180		1260		1260
1213+00	1230+00	RT. MAIN LANE - RESHAPE SLOPES							308	151	1012	167		1578		1578
1240+00	1255+00	RT. MAIN LANE - RESHAPE SLOPES							66	54	700			1479		1479
1260+00	1280+00	RT. MAIN LANE - RESHAPE SLOPES							528	281	4850	423		1610		1610
1301+00	1309+00	RT. MAIN LANE - RESHAPE SLOPES					747		66	32	495	77		427		427
1325+00	1328+00	RT. MAIN LANE - RESHAPE SLOPES							44	22	348			413		413
1348+00	1351+00	RT. MAIN LANE - RT. SLOPE REPAIR									276	57		107		107
•ENTIRE PROJECT - IF & WHERE DIRECTED BY THE ENGINEER			122.38	122.38	2496.6		1200	1000	110	115					13500	
TOTALS			122.38	122.38	2496.6	67	2350	16708	4024	2272	10760	1291	10	8043	13500	8043

* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE: WATER = 20.4 M. GAL. PER ACRE TEMPORARY SEEDING
SAND BAG DITCH CHECKS = 22 BAGS/LOCATION

Crafton, Tull & Associates Inc.

QUANTITIES

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				6	ARK.			
				JOB NO.		020356	69	320

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

SOIL STABILIZATION

LOCATION	TONS
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER	1000
TOTAL	1000

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	SQ. YD.
18+69	21+42	US HWY. 425	728
12+00	12+50	HWYS. 11/425 CONNEC.	111
TOTAL			839

4" PIPE UNDERDRAINS

STATION	STATION	LOCATION	LATERALS		TOTAL LENGTH	UNDERDRAIN OUTLET PROTECTORS
			NO.	FT./NO.	LIN. FT.	EACH
66+50	74+50	HWYS. 11/425 CONNEC.	16	50	800	9
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER					200	4
TOTALS					1000	13

NOTE: QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SELECTED PIPE BEDDING AND BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU. YD.	
ENTIRE PROJECT - IF & WHERE DIRECTED BY THE ENGINEER	1000	2000
TOTALS	1000	2000

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

CONCRETE ISLAND

STATION	LOCATION	SQ. YDS.
1352+99	LT. OF RT. MAIN LANES (S.H. 114 TURNOUT)	51
1353+00	RT. OF RT. MAIN LANES (S.H. 114 TURNOUT)	54
1353+60	LT. OF RT. MAIN LANES (S.H. 114 TURNOUT)	57
1353+60	RT. OF RT. MAIN LANES (S.H. 114 TURNOUT)	48
TOTAL		210

FLOWABLE SELECT MATERIAL

STATION	STATION	LOCATION	CU. YD.
74+42.47	74+53.99	HWYS. 11/425 CONNEC.	14
76+82.90	76+94.41	HWYS. 11/425 CONNEC.	14
132+37		HWYS. 11/425 CONNEC.-LT.	1
141+21		HWYS. 11/425 CONNEC.-LT.	2
146+58		HWYS. 11/425 CONNEC.-LT.	3
TOTAL			34

RETAINING WALL

STATION	LOCATION	RETAINING WALL	SELECT GRANULAR BACKFILL
		SQ. FT.	CU. YD.
WEST MSE	HWYS. 11/425 CONNEC. BRIDGE OVER MAIN LANES	3753	1847
EAST MSE	HWYS. 11/425 CONNEC. BRIDGE OVER MAIN LANES	3278	1429
TOTALS		7031	3276

CULVERT CLEAN OUT

LOCATION	EACH
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER	2
TOTAL	2

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

TEMPORARY CULVERTS

STATION	LOCATION	24"
		L.F.
	ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER	100
TOTAL		100

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

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.

QUANTITIES

Crafton, Tull & Associates Inc.

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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.		020356	70	320
				(2)		QUANTITIES		

DUMPED RIPRAP, FILTER FABRIC AND GEOTEXTILE FABRIC

STATION	STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET	GEOTEXTILE FABRIC (TYPE I)
			CU. YD.	SQ. YD.	
1215+00	1222+40	RT. MAIN LANE - RT. SLOPE REPAIR	910	2212	17336
1348+00	1351+00	RT. MAIN LANE - RT. SLOPE REPAIR	369	897	5713
* ENTIRE PROJECT - IF & WHERE DIRECTED BY THE ENGINEER			200	400	2400
TOTALS			1479	3509	25449

* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

RESHAPE SLOPES

STATION	STATION	LOCATION	LENGTH
			STA.
1108+00	1130+00	RT. MAIN LANES - RT. AND LT.	22
1174+00	1193+00	RT. MAIN LANES - RT. AND LT.	19
1213+00	1230+00	RT. MAIN LANES - RT. AND LT.	17
1230+00	1230+99	RT. MAIN LANES - LT.	1
1240+00	1251+00	RT. MAIN LANES - LT.	11
1251+00	1255+00	RT. MAIN LANES - RT.	4
1260+00	1280+00	RT. MAIN LANES - RT. AND LT.	20
1301+00	1305+00	RT. MAIN LANES - LT.	4
1305+00	1309+00	RT. MAIN LANES - RT.	4
1325+00	1328+00	RT. MAIN LANES - RT.	3
TOTAL			105

NOTE: REFER TO SPECIAL PROVISION - "RESHAPE SLOPES"

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	CONCRETE DITCH PAVING (TYPE A)			CONCRETE DITCH PAVING (TYPE B)		SOLID SODDING	WATER
			LIN. FT.	"W"	"B"	SQ. YD.	"W"	SQ. YD.	SQ. YD.	M. GAL
1108+00.00	1130+00.00	RT. MAIN LANES - RT.	2200				6.5	1588.9	977.8	12.3
1174+00.00	1193+00.00	RT. MAIN LANES - RT.	1900				9.25	1952.8	844.4	10.6
1240+00.00	1242+20.00	RT. MAIN LANES - LT.	220				6.5	159.4	97.8	1.2
1251+90.00	1255+00.00	RT. MAIN LANES - RT.	310				6.5	223.9	137.8	1.7
1261+20.00	1280+00.00	RT. MAIN LANES - RT.	1880				6.5	1357.8	835.6	10.5
1305+00.00	1309+00.00	RT. MAIN LANES - RT.	400				6.5	288.9	177.8	2.2
1325+00.00	1328+00.00	RT. MAIN LANES - RT.	300				6.5	216.7	133.3	1.7
66+00.00	67+80.00	HWYS. 11/425 CONNEC. - LT.	180				6.0	120.0	80.0	1.0
73+93.00	74+68.00	BEHIND MSE WALL	182				4.0	81.0	99.1	1.2
76+68.00	77+37.37	BEHIND MSE WALL	178				4.0	79.0	90.2	1.1
74+50.00	74+76.00	FRONT MSE WALL	77				6.0	51.3	34.2	0.4
76+62.00	76+86.00	FRONT MSE WALL	77				5.0	42.8	34.2	0.4
83+30.00	83+45.00	HWYS. 11/425 CONNEC. - LT.	30				6.0	20.0	13.3	0.2
83+45.00	85+25.00	HWYS. 11/425 CONNEC. - LT.	180				6.0	120.0	80.0	1.0
86+00.00	87+00.00	HWYS. 11/425 CONNEC. - LT.	100				6.0	66.7	44.4	0.6
96+00.00	102+00.00	HWYS. 11/425 CONNEC. - LT.	600				7.0	466.7	266.7	3.4
97+00.00	102+00.00	HWYS. 11/425 CONNEC. - RT.	500				7.0	388.9	222.2	2.8
108+00.00	108+85.00	HWYS. 11/425 CONNEC. - RT.	85				6.0	56.7	37.8	0.5
137+37.00	137+57.00	HWYS. 11/425 CONNEC. - LT.	40	20.0	8.0	88.9			17.8	0.2
156+22.54	156+85.00	HWYS. 11/425 CONNEC. - LT.	83	17.0	5.0	156.8			36.9	0.5
908+58.75	909+00.00	RAMP 2 - LT.	43				6.0	28.7	19.1	0.2
* ENTIRE PROJECT - IF & WHERE DIRECTED BY THE ENGINEER						50.0		1500.0	900.0	11.3
TOTALS						295.7		8810.2	5180.4	65.0

* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE: WATER = 12.6 GAL. PER SQ. YD. SOLID SODDING

FENCE

STATION	STATION	LOCATION	WIRE FENCE (TYPE A)
			LIN. FT.
893+25	925+34	MAIN LANES - LT.	3056
898+47	925+34	MAIN LANES - RT.	3436
1090+05	1108+00	MAIN LANES - RT.	1800
1090+05	1108+00	MAIN LANES - LT.	1800
* ENTIRE PROJECT - IF & WHERE DIRECTED BY THE ENGINEER			1000
TOTALS			11092

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
ITEM TO BE USED TO REPAIR AND OR PLACE NEW FENCE IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

QUANTITIES

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				6	ARK.			
				JOB NO.		020356	71	320

(2) QUANTITIES

APPROACH SLABS & GUTTERS

STATION	STATION	LOCATION	APPROACH SLABS (TYPE SPECIAL)	APPROACH GUTTERS (TYPE B)	APPROACH GUTTERS (TYPE C)	APPROACH GUTTERS (TYPE SPECIAL)	REINFORCING STEEL-ROADWAY (GRADE 60)	AGGREGATE BASE COURSE (CLASS 7)
			CU. YDS.				LBS.	TONS
74+18.31	74+47.68	HWYS. 11/425 CONNEC. LT.		6.75			590	
74+29.14	74+56.11	HWYS. 11/425 CONNEC. RT.		6.75			590	
76+80.78	77+07.78	HWYS. 11/425 CONNEC. LT.		6.75			590	
76+89.25	77+18.36	HWYS. 11/425 CONNEC. RT.		6.75			590	
1235+11.70	1235+54.11	RT. MAIN LANES	78.59				9586	40
1238+02.18	1238+72.14	RT. MAIN LANES	83.22				10163	44
1235+11.70	1235+54.11	RT. MAIN LANES - LT.			12.48		623	51
1235+11.70	1235+54.11	RT. MAIN LANES - RT.			16.13	20.36	2241	65
1238+02.18	1238+72.14	RT. MAIN LANES - LT.			10.83	13.06	1316	88
1238+02.18	1238+72.14	RT. MAIN LANES - RT.			20.69		1151	74
TOTALS			161.81	27.00	60.13	33.42	27440	362

MAILBOXES

STATION	LOCATION	MAILBOX SUPPORTS (SINGLE)	MAILBOXES
		EACH	
122+40	HWYS. 11/425 CONNECTOR LT.	1	1
124+10	HWYS. 11/425 CONNECTOR LT.	1	1
131+28	HWYS. 11/425 CONNECTOR LT.	1	1
131+30	HWYS. 11/425 CONNECTOR LT.	1	1
140+85	HWYS. 11/425 CONNECTOR LT.	1	1
146+80	HWYS. 11/425 CONNECTOR LT.	1	1
TOTALS		6	6

EARTHWORK

STATION	STATION	LOCATION	UNCLASSIFIED EXCAVATION UNDERCUT*	UNCLASSIFIED EXCAVATION TYPICAL	UNCLASSIFIED EXCAVATION TOTAL	COMPACTED EMBANKMENT TYPICAL**	COMPACTED EMBANKMENT SM-1	COMPACTED EMBANKMENT TOTAL	STONE BACKFILL ***
			CUBIC YARDS						TONS
893+00.00	925+34.40	MAIN LANES		229223	229223	2478		2478	
		HWYS. 11/425 CONNEC. - RAMP 1(TURNOUT)		6	6	3843		3843	
		HWYS. 11/425 CONNEC. - RAMP 2		68775	68775	17092		17092	
		HWYS. 11/425 CONNEC. - RAMP 3	7089	6082	13171	26351	24295	50646	
		HWYS. 11/425 CONNEC. - RAMP 4 (TURNOUT)					18197	18197	
		HWYS. 11/425 CONNECTOR	120707	105415	226122	287630	98892	386522	
		STATE HIGHWAY 11		2060	2060				
		FRONTAGE RD. 2		1508	1508	19883		19883	
		DRIVEWAYS				3122		3122	
		OBLITERATION OF EXISTING ASPHALT PAVEMENT		2374	2374				
1090+05.00	1108+00.00	MAIN LANES		52818	52818	3958		3958	
1215+00.00	1222+40.00	MAIN LANES - RT. SLOPE REPAIR		38609	38609	32120		32120	7538
1215+00.00	1218+00.00	MAIN LANES - LT. SLOPE REPAIR		11004	11004	0		0	0
1348+00.00	1351+00.00	MAIN LANES - RT. SLOPE REPAIR		8538	8538	6440		6440	2214
* ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER				5900	5900	3900		3900	1000
TOTALS			127796	532312	660108	406817	141384	548201	10752

* QUANTITIES ESTIMATED: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
** INCLUDES AN ESTIMATED 127,796 CU. YDS. COMPACTED EMBANKMENT FOR UNDERCUT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. REFER TO SPECIAL PROVISION "EXCAVATION & EMBANKMENT" FOR ADDITIONAL INFORMATION.
*** STONE BACKFILL SHALL BE CONSTRUCTED OF MATERIAL MEETING THE MATERIAL REQUIREMENTS AS DEFINED IN SECTION 207.02, OR COARSE AGGREGATE FOR CONCRETE AS DEFINED IN SECTION 802.01(c), OF THE STANDARD SPECIFICATIONS.

EARTHWORK NOTES:
1. CULVERT CHANNELIZATION & UNCLASSIFIED EXCAVATION FOR SLOPE REPAIR MATERIAL TO BE WASTE AND PLACED AS DIRECTED BY THE ENGINEER.
2. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT REMOVED SHALL BE PAID FOR UNDER PAY ITEM 210 - UNCLASSIFIED EXCAVATION, UNLESS OTHERWISE NOTED.
3. SEE SP FOR "RESHAPE SLOPES".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

QUANTITIES

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	72	320

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

DRAINAGE STRUCTURES UNDER 20' SPAN (PIPES) (CONT'D ON NEXT SHEET)

STATION	LOCATION	DESCRIPTION	ZINC COATED (GALV.) C.S.P.	SIDE DRAIN			REINFORCED CONCRETE PIPE CULVERTS (CLASS III)				REINF. CONC. PIPE CULV'T. (CLASS IV)		REINF. CONC. PIPE CULV'T. (CLASS V)		FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS				
			12"	18"	24"	30"	24"	30"	36"	42"	36"	60"	24"	60"	24"	30"	36"	42"	60"
			L.F.	LIN. FT.			LIN. FT.				LIN. FT.		LIN. FT.		EACH				
897+00.00	MAIN LANES - LT.	CONSTRUCT TYPE RM DROP INLET					96								1				
907+98.00	MAIN LANES	CONSTRUCT TYPE RM DROP INLET W/ R.C. PIPE CULVERT & FES LT. (27° RT. FWD. SKEW)								322								1	
892+60.00	RAMP 2	CONSTRUCT R.C. PIPE CULVERT & 2 FES (18° LT. FWD. SKEW)					130								2				
908+65.00	RAMP 2	CONSTRUCT TYPE RM DROP INLET W/ R.C. PIPE CULVERT & FES RT. (8° RT. FWD. SKEW)								89								1	
896+58.00	RAMP 3	CONSTRUCT R.C. PIPE CULVERT & 2 FES (16° RT. FWD. SKEW)											206		2				
904+55.00	RAMP 3	CONSTRUCT R.C. PIPE CULVERT & 2 FES (45° RT. FWD. SKEW)					104								2				
29+05.00	FRONTAGE RD. 2	CONSTRUCT R.C. PIPE CULVERT & 2 FES (18° RT. FWD. SKEW)									121						2		
10+70.00	STATE HWY. 11	CONSTRUCT R.C. PIPE CULVERT & 2 FES					86								2				
24+00.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (8° LT. FWD. SKEW)						98								2			
30+35.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES					93								2				
42+46.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN				36													
43+04.00	HWYS. 11/425 CONNEC.	CONSTRUCT DOUBLE PIPE CULVERT - LT. SIDE DRAIN				72													
54+33.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (7° RT. FWD. SKEW)						78								2			
67+80.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES												206					2
77+09.00	HWYS. 11/425 CONNEC.	CONSTRUCT TYPE N-2 DROP INLET LT.	51																
77+20.00	HWYS. 11/425 CONNEC.	CONSTRUCT TYPE N-2 DROP INLET RT.	45																
83+90.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (30° RT. FWD. SKEW)						86								2			
88+01.00	HWYS. 11/425 CONNEC.	CONST. DBL. R.C. PIPE CULVERT & 4 FES (1° RT. FWD. SKEW)							206								4		
108+77.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (11° RT. FWD. SKEW)					107								2				
115+90.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN		40															
116+71.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN			35														
123+86.00	HWYS. 11/425 CONNEC.	CONSTRUCT DOUBLE PIPE CULVERT - LT. SIDE DRAIN			84														
131+10.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN		46															
132+34.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN		44															
132+85.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN		40															
137+84.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (29° RT. FWD. SKEW)										137							2
141+11.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN		40															
141+21.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN		44															
146+58.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN		46															
157+00.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (30° LT. FWD. SKEW)					88								2				
171+29.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (25° LT. FWD. SKEW)					84								2				
1093+12	MAIN LANES	CONSTRUCT DBL. R.C. PIPE CULVERT						198								4			
1096+24	MAIN LANES	CONSTRUCT R.C. PIPE CULVERT						99								2			
1106+75	MAIN LANES	CONSTRUCT R.C. PIPE CULVERT						90								2			
*ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER																			
TOTALS			96	300	119	108	788	649	206	411	121	137	206	206	17	14	6	2	4

NOTE:
*QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
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.
BASIS OF ESTIMATE: WATER = 12.6 GAL. PER SQ. YD. SOLID SODDING

Crafton, Tull & Associates Inc.

QUANTITIES

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				6	ARK.			
				JOB NO.		020356	73	320
				(2)	QUANTITIES			

DRAINAGE STRUCTURES UNDER 20' SPAN (PIPES) (CONT'D FROM PREV. SHEET)

STATION	LOCATION	DESCRIPTION	CONCRETE SPILLWAY (TYPE A)	DROP INLETS		DIMENSIONS			DUMPED RIPRAP	SOLID SODDING	WATER	STANDARD DRAWINGS
				TYPE N-2	TYPE RM							
			EACH	EACH		L	W	H	CU. YD.	SQ. YD.	M. GAL.	
897+00.00	MAIN LANES - LT.	CONSTRUCT TYPE RM DROP INLET			1	4'-0"	3'-0"	3'-0"		8	0.10	FES-1, FES-2, FPC-9D, PCC-1
907+98.00	MAIN LANES	CONSTRUCT TYPE RM DROP INLET W/ R.C. PIPE CULVERT			1	8'-4"	3'-0"	6'-6"		23	0.29	FES-1, FES-2, FPC-9D, PCC-1
		& FES LT. (27° RT. FWD. SKEW)										
892+60.00	RAMP 2	CONSTRUCT R.C. PIPE CULVERT & 2 FES (18° LT. FWD. SKEW)								16	0.20	FES-1, FES-2, PCC-1
908+65.00	RAMP 2	CONSTRUCT TYPE RM DROP INLET W/ R.C. PIPE CULVERT			1	4'-3"	3'-0"	5'-6"		23	0.29	FES-1, FES-2, FPC-9D, PCC-1
		& FES RT. (8° RT. FWD. SKEW)										
896+58.00	RAMP 3	CONSTRUCT R.C. PIPE CULVERT & 2 FES (16° RT. FWD. SKEW)								16	0.20	FES-1, FES-2, PCC-1
904+55.00	RAMP 3	CONSTRUCT R.C. PIPE CULVERT & 2 FES (45° RT. FWD. SKEW)								16	0.20	FES-1, FES-2, PCC-1
29+05.00	FRONTAGE RD. 2	CONSTRUCT R.C. PIPE CULVERT & 2 FES (18° RT. FWD. SKEW)								34	0.43	FES-1, FES-2, PCC-1
10+70.00	STATE HWY. 11	CONSTRUCT R.C. PIPE CULVERT & 2 FES								24	0.30	FES-1, FES-2, PCC-1
24+00.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (8° LT. FWD. SKEW)								26	0.33	FES-1, FES-2, PCC-1
30+35.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES								16	0.20	FES-1, FES-2, PCC-1
42+46.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN										PCC-1
43+04.00	HWYS. 11/425 CONNEC.	CONSTRUCT DOUBLE PIPE CULVERT - LT. SIDE DRAIN										PCC-1
54+33.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (7° RT. FWD. SKEW)								26	0.33	FES-1, FES-2, PCC-1
67+80.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES								90	1.13	FES-1, FES-2, PCC-1
77+09.00	HWYS. 11/425 CONNEC.	CONSTRUCT TYPE N-2 DROP INLET LT.	1	1								FPC-9N, PCM-1
77+20.00	HWYS. 11/425 CONNEC.	CONSTRUCT TYPE N-2 DROP INLET RT.	1	1								FPC-9N, PCM-1
83+90.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (30° RT. FWD. SKEW)								26	0.33	FES-1, FES-2, PCC-1
88+01.00	HWYS. 11/425 CONNEC.	CONST. DBL. R.C. PIPE CULVERT & 4 FES (1° RT. FWD. SKEW)								68	0.86	FES-1, FES-2, PCC-1
108+77.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (11° RT. FWD. SKEW)								16	0.20	FES-1, FES-2, PCC-1
115+90.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN										PCC-1
116+71.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN										PCC-1
123+86.00	HWYS. 11/425 CONNEC.	CONSTRUCT DOUBLE PIPE CULVERT - LT. SIDE DRAIN										PCC-1
131+10.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN										PCC-1
132+34.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN										PCC-1
132+85.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN										PCC-1
137+84.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (29° RT. FWD. SKEW)								90	1.13	FES-1, FES-2, PCC-1
141+11.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - RT. SIDE DRAIN										PCC-1
141+21.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN										PCC-1
146+58.00	HWYS. 11/425 CONNEC.	CONSTRUCT PIPE CULVERT - LT. SIDE DRAIN										PCC-1
157+00.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (30° LT. FWD. SKEW)								16	0.20	FES-1, FES-2, PCC-1
171+29.00	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. PIPE CULVERT & 2 FES (25° LT. FWD. SKEW)								16	0.20	FES-1, FES-2, PCC-1
1093+12	MAIN LANES	CONSTRUCT DBL. R.C. PIPE CULVERT							10	28	0.35	FES-1, FES-2, PCC-1
1096+24	MAIN LANES	CONSTRUCT R.C. PIPE CULVERT							8	26	0.33	FES-1, FES-2, PCC-1
1106+75	MAIN LANES	CONSTRUCT R.C. PIPE CULVERT							8	26	0.33	FES-1, FES-2, PCC-1
*ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER									50			
TOTALS			2	2	3				76	630	7.93	

NOTE:
*QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
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.
BASIS OF ESTIMATE: WATER = 12.6 GAL. PER SQ. YD. SOLID SODDING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

Crafton, Tull & Associates Inc.

QUANTITIES

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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.		020356	74	320

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

LIME TREATED SUBGRADE

STATION	STATION	LOCATION	LENGTH	WIDTH	LIME TREATED SUBGRADE			
					PROCESS L.T.S. (12" U.T.)	QUICK LIME (DRY)	QUICK LIME (SLURRY)	HYDRATED LIME
			LIN. FT.		SQ. YD.	TON	TON	TON
1108+00.00	1125+00.00	MAIN LANES	1700.00	74.00	13977.78	267.67	355.73	355.73
1173+00.00	1190+00.00	MAIN LANES	1700.00	74.00	13977.78	267.67	355.73	355.73
1219+00.00	1235+11.70	MAIN LANES	1611.70	74.00	13251.76	253.77	337.26	337.26
1238+72.14	1243+00.00	MAIN LANES	427.86	74.00	3517.96	67.37	89.53	89.53
1280+00.00	1299+00.00	MAIN LANES	1900.00	74.00	15622.22	299.17	397.59	397.59
1322+00.00	1326+00.00	MAIN LANES	400.00	74.00	3288.89	62.98	83.70	83.70
1333+50.00	1361+00.00	MAIN LANES	2750.00	74.00	22611.11	433.00	575.45	575.45
1390+50.00	1427+00.00	MAIN LANES	3650.00	74.00	30011.11	574.71	763.78	763.78
1449+00.00	1453+00.00	MAIN LANES	400.00	74.00	3288.89	62.98	83.70	83.70
1459+00.00	1467+00.00	MAIN LANES	800.00	74.00	6577.78	125.96	167.40	167.40
• IF AND WHERE DIRECTED BY ENGINEER					11963.33	229.10	304.47	304.47
TOTALS					138088.61	2644.38	3514.34	3514.34

BASIS OF ESTIMATE:
LIME TREATED SUBGRADE
6% BY WEIGHT QUICK LIME (DRY) = 38.3 LBS. PER SQ. YD.
6% BY WEIGHT QUICK LIME (SLURRY) = 50.9 LBS. PER SQ. YD.
6% BY WEIGHT HYDRATED LIME = 50.9 LBS. PER SQ. YD.
• QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

DRAINAGE STRUCTURES UNDER 20' SPAN (R.C. BOX CULVERTS)

STATION	LOCATION	DESCRIPTION	DIMENSIONS			CLASS S CONCRETE-ROADWAY	REINFORCING STEEL-ROADWAY (GR 60)	UNCLASSIFIED EXC. FOR STRUCTURES - ROADWAY	DUMPED RIPRAP	GEOTEXTILE FABRIC (TYPE 5)	SOLID SODDING	WATER	STANDARD DRAWINGS
			L	W	H	CU. YD.	LB.	CU. YD.	CU. YD.	SQ. YD.	SQ. YD.	M. GAL.	
49+95	HWYS. 11/425 CONNEC.	CONSTRUCT DBL. R.C. BOX CULVERT (15° RT. FWD. SKEW)	83'	4'	3'	66.57	7934	24			14	0.18	PBC-1, RCB-1, RCB-2, R-215X-1, R-200X-X1, W-X153-1
126+25	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. BOX CULVERT (30° LT. FWD. SKEW)	104'	5'	3'	58.21	5992	29			14	0.18	PBC-1, RCB-1, RCB-2, R-130X-1, W-X303-1, R-100X-X1
145+45	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. BOX CULVERT (15° RT. FWD. SKEW)	83'	8'	4'	80.10	9024	30			15	0.19	PBC-1, RCB-1, RCB-2, R-115X-1, W-X153-1, R-100X-X3
155+80	HWYS. 11/425 CONNEC.	CONSTRUCT TRPL. R.C. BOX CULVERT (30° LT. FWD. SKEW)	93'	4'	2'	75.53	13377	28			15	0.19	PBC-1, RCB-1, RCB-2, R-330X-01, W-X303-1
155+86	COUNTY RD. 28	CONSTRUCT TRPL. R.C. BOX CULVERT	33'	4'	2'	30.38	4850	11			13	0.16	PBC-1, RCB-1, RCB-2, R-300X-0, W-X003-1
160+50	HWYS. 11/425 CONNEC.	CONSTRUCT R.C. BOX CULVERT (30° LT. FWD. SKEW)	93'	4'	2'	32.03	4149	16			11	0.14	PBC-1, RCB-1, RCB-2, R-130X-0, W-X303-1
173+43	HWYS. 11/425 CONNEC.	EXTEND R.C. BOX CULVERT (15° SKEW)	68'	4'	3'	24.40	2123	12	2	4	5	0.06	RCB-1, RCB-2, RCB-3,R-100X-X1, W-X003-1
TOTALS						367.22	47449	150	2	4	87	1.10	

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

DRAINAGE STRUCTURES OVER 20' SPAN (R.C. BOX CULVERTS)

STATION	LOCATION	DESCRIPTION	DIMENSIONS			CLASS S CONCRETE-ROADWAY	REINFORCING STEEL-ROADWAY (GR 60)	UNCLASSIFIED EXC. FOR STRUCTURES-ROADWAY	SOLID SODDING	WATER	STANDARD DRAWINGS
			L	W	H	CU. YD.	LB.	CU. YD.	SQ. YD.	M. GAL.	
91+90	HWYS. 11/425 CONNEC.	CONSTRUCT DBL. R.C. BOX CULVERT (30° LT. FWD. SKEW)	93'	11'	6'	214.84	30672	119	30	0.38	PBC-1, RCB-1, RCB-2, R-230X-02, W-X303-1
TOTALS						214.84	30672	119	30	0.38	

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

Crafton, Tull & Associates Inc.

QUANTITIES

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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.		020356	75	320

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

BASE & SURFACING - HWYS. 11 & 425 CONNECTOR

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1½") (550 LBS. PER SQ.YD.)			ACHM BINDER COURSE (1") (330 LBS. PER SQ.YD.)			ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ.YD.)			TACK COAT 0.03 GAL. PER S.Y.		
			LIN.FT.	TONS PER STATION	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	GALLONS
12+50.00	15+00.00	HWYS. 11/425 CONNEC. SUPER TRANSITION	250.00	345.75	864.38	24.79	688.61	189.37	24.46	679.44	112.11	64.25	1784.72	196.32	73.50	2041.67	61.25
15+00.00	25+01.99	HWYS. 11/425 CONNEC. FULL SUPER	1001.99	382.25	3830.11	24.79	2759.93	758.98	24.46	2723.19	449.33	64.25	7153.10	786.84	73.50	8182.92	245.49
25+01.99	27+51.99	HWYS. 11/425 CONNEC.SUPER TRANSITION	250.00	345.75	864.38	24.79	688.61	189.37	24.46	679.44	112.11	64.25	1784.72	196.32	73.50	2041.67	61.25
27+51.99	64+37.49	HWYS. 11/425 CONNEC.	3685.50	309.25	11397.41	24.79	10151.51	2791.67	24.46	10016.37	1652.70	64.25	26310.38	2894.14	73.50	30098.25	902.95
64+37.49	67+37.49	HWYS. 11/425 CONNEC. TURN LANE TRANS.	300.00	332.63	997.89	30.79	1026.33	282.24	30.46	1015.33	167.53	76.25	2541.67	279.58	91.50	3050.00	91.50
67+37.49	71+00.55	HWYS. 11/425 CONNEC, W/ TURN LANE	363.06	356.00	1292.49	36.79	1484.11	408.13	36.46	1470.8	242.68	88.25	3560.01	391.60	109.50	4417.23	132.52
71+00.55	74+00.55	HWYS. 11/425 CONNEC. TURN LANE TRANS.	300.00	332.63	997.89	30.79	1026.33	282.24	30.46	1015.33	167.53	76.25	2541.67	279.58	91.50	3050.00	91.50
74+00.55	74+50.82	HWYS. 11/425 CONNEC.	50.27	309.25	155.46	24.79	138.47	38.08	24.46	136.62	22.54	64.25	358.87	39.48	73.50	410.54	12.32
76+86.08	77+35.96	HWYS. 11/425 CONNEC.	49.88	309.25	154.25	24.79	137.39	37.78	24.46	135.56	22.37	64.25	356.09	39.17	73.50	407.35	12.22
77+35.96	80+35.96	HWYS. 11/425 CONNEC. TURN LANE TRANS.	300.00	332.63	997.89	30.79	1026.33	282.24	30.46	1015.33	167.53	76.25	2541.67	279.58	91.50	3050.00	91.50
80+35.96	84+02.49	HWYS. 11/425 CONNEC, W/ TURN LANE	366.53	356.00	1304.85	36.79	1498.29	412.03	36.46	1484.85	245.00	88.25	3594.03	395.34	109.50	4459.45	133.78
84+02.49	87+02.49	HWYS. 11/425 CONNEC. TURN LANE TRANS.	300.00	332.63	997.89	30.79	1026.33	282.24	30.46	1015.33	167.53	76.25	2541.67	279.58	91.50	3050.00	91.50
87+02.49	173+25.60	HWYS. 11/425 CONNEC.	8623.11	309.25	26666.97	24.79	23751.88	6531.77	24.46	23435.7	3866.89	64.25	61559.42	6771.54	73.50	70422.07	2112.66
TOTALS					50521.86			12486.14			7395.85			12829.07			4040.44

BASIS OF ESTIMATE:
ACHM BASE COURSE (11/2") - MIN. AGG. = 96.2%, ASPH. BINDER (PG 70-22) = 3.8%
ACHM BINDER COURSE (1") - MIN. AGG. 95.8%, ASPH. BINDER (PG 70-22) = 4.2%
ACHM SURFACE COURSE (1/2") - MIN. AGG. 94.9%, ASPH. BINDER (PG 70-22) = 5.1%
Nmax = 160

BASE AND SURFACING - RIGHT MAIN LANES

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1½") (880 LBS. PER SQ.YD.)			ACHM BINDER COURSE (1") (440 LBS. PER SQ.YD.)			ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ.YD.)			TACK COAT 0.03 GAL. PER S.Y.		
			LIN.FT.	TONS PER STATION	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	GALLONS
912+00.00	925+34.40	RT. MAIN LANES	1334.40	427.75	5707.90	28.83	4274.53	1880.79	28.33	4200.39	924.09	42.00	6227.20	684.99	57.16	8474.92	254.25
912+12.84	922+12.85	RAMP 2 ACCEL LANE	1000.01	VARIES	478.00	VARIES	1213.41	533.90	VARIES	1187.99	261.36	VARIES	1169.50	128.65	VARIES	2401.40	72.04
1090+05.00	1235+11.70	MAIN LANES	14506.70	427.75	62052.41	28.83	46469.80	20446.71	28.33	45663.87	10046.05	42.00	67697.93	7446.77	57.16	92133.66	2764.01
1238+72.14	1351+92.78	MAIN LANES	11320.64	427.75	48424.04	28.83	36263.78	15956.06	28.33	35634.86	7839.67	42.00	52829.65	5811.26	57.16	71898.64	2156.96
1354+68.42	1467+00.00	MAIN LANES	11231.58	427.75	48043.08	28.83	35978.49	15830.54	28.33	35354.52	7777.99	42.00	52414.04	5765.54	57.16	71333.01	2139.99
1233+05.00	1235+05.00	MAIN LANES (ADDL. FOR PAVEMENT TRANSITION)	200.00	VARIES	88.00							28.00	622.22	34.22	28.00	622.22	18.67
1235+05.00	1235+11.70	MAIN LANES (ADDL. FOR PAVEMENT TRANSITION)	6.70	88.00	5.90							28.00	20.84	2.29	28.00	20.84	0.63
1238+72.14	1238+80.00	MAIN LANES (ADDL. FOR PAVEMENT TRANSITION)	7.86	88.00	6.92							28.00	24.45	2.69	28.00	24.45	0.73
1238+80.00	1240+80.00	MAIN LANES (ADDL. FOR PAVEMENT TRANSITION)	200.00	VARIES	88.00							28.00	622.22	34.22	28.00	622.22	18.67
1233+69.60	1235+11.70	RT. MAIN LANES - LEFT SHOULDER (ADDL. FOR GUARDRAIL)	142.10	VARIES	16.59							VARIES	35.40	3.89			
1238+72.14	1242+06.72	RT. MAIN LANES - LEFT SHOULDER (ADDL. FOR GUARDRAIL)	334.58	VARIES	72.78							VARIES	166.69	18.34			
1231+66.51	1235+11.70	RT. MAIN LANES - RIGHT SHOULDER (ADDL. FOR GUARDRAIL)	345.19	VARIES	107.10							VARIES	243.82	26.82			
1238+72.14	1240+15.63	RT. MAIN LANES - RIGHT SHOULDER (ADDL. FOR GUARDRAIL)	143.49	VARIES	30.00							VARIES	63.35	6.97			
TOTALS					165120.72			54648.00			26849.16			19966.65			7425.95

BASIS OF ESTIMATE:
ACHM BASE COURSE (11/2") - MIN. AGG. = 96.2%, ASPH. BINDER (PG 70-22) = 3.8%
ACHM BINDER COURSE (1") - MIN. AGG. 95.8%, ASPH. BINDER (PG 70-22) = 4.2%
ACHM SURFACE COURSE (1/2") - MIN. AGG. 94.9%, ASPH. BINDER (PG 70-22) = 5.1%
Nmax = 160

Crafton, Tull & Associates Inc.

QUANTITIES

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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.		020356	76	320

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

BASE AND SURFACING - ST HWY 11, RAMP 3, RAMP 2, FRONTAGE RD. 2, RAMP 3 CROSSOVER, US 425

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1 1/2") (880 LBS. PER SQ.YD.)			ACHM BINDER COURSE (1") (440 LBS. PER SQ.YD.)			ACHM SURFACE COURSE (1/2")				TACK COAT 0.03 GAL. PER S.Y.		
				TONS PER STATION	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	TONS	AVG. WIDTH FEET	SQ. YDS.	LBS. PER SQ. YD.	TONS	AVG. WIDTH FEET	SQ. YDS.	GALLONS
			LIN.FT.															
10+12.00	12+30.00	STATE HIGHWAY 11	218.00	267.00	582.06				22.50	545.00	119.90	56.25	1362.50	220	149.88	44.75	1083.94	32.52
10+12.00	11+10.00	STATE HIGHWAY 11 RADIUS RETURNS	98.00	VAR	222.00				VAR	475.39	104.59	VAR	475.39	440	104.59	VAR	950.78	28.52
10+00.00	10+71.37	FRONTAGE RD. 2 RADIUS RETURNS	71.37	VAR	53.00							VAR	90.90	220	10.00			
10+00.00	13+39.80	FRONTAGE RD. 2	339.80	207.75	705.93							28.00	1057.16	220	116.29			
13+39.80	15+39.80	FRONTAGE RD. 2 SUPER TRANSITION	200.00	222.13	444.26							28.00	622.22	220	68.44			
15+39.80	19+49.37	FRONTAGE RD. 2 FULL SUPER	409.57	236.50	968.63							28.00	1274.22	220	140.16			
19+49.37	21+49.37	FRONTAGE RD. 2 SUPER TRANSITION	200.00	222.13	444.26							28.00	622.22	220	68.44			
21+49.37	33+19.56	FRONTAGE RD. 2	1170.19	207.75	2431.07							28.00	3640.59	220	400.46			
33+19.56	34+50.00	FRONTAGE RD. 2 CUL-DE-SAC	130.44	VAR	802.00							VAR	1124.70	220	123.72			
892+04.60	892+98.94	RAMP 2 RADIUS RETURNS	94.34	VAR	142.00	VAR	347.52	152.91	VAR	347.52	76.45	VAR	347.52	220	38.23	VAR	695.04	20.85
892+04.60	892+49.96	RAMP 2	45.36	331.50	150.37	15.83	79.78	35.10	15.33	77.26	17.00	25.00	126.00	220	13.86	31.16	157.05	4.71
892+49.96	895+49.96	RAMP 2 SUPER TRANSITION	300.00	397.50	1192.50	15.83	527.67	232.17	15.33	511.00	112.42	25.00	833.33	220	91.67	31.16	1038.67	31.16
895+49.96	900+05.07	RAMP 2 FULL SUPER	455.11	463.50	2109.43	15.83	800.49	352.22	15.33	775.20	170.54	25.00	1264.19	220	139.06	31.16	1575.69	47.27
900+05.07	903+05.07	RAMP 2 SUPER TRANSITION	300.00	397.50	1192.50	15.83	527.67	232.17	15.33	511.00	112.42	25.00	833.33	220	91.67	31.16	1038.67	31.16
903+05.07	903+22.70	RAMP 2	17.63	331.50	58.44	15.83	31.01	13.64	15.33	30.03	6.61	25.00	48.97	220	5.39	31.16	61.04	1.83
903+22.70	906+22.70	RAMP 2 SUPER TRANSITION	300.00	384.13	1152.39	15.83	527.67	232.17	15.33	511.00	112.42	25.00	833.33	220	91.67	31.16	1038.67	31.16
906+22.70	912+13.53	RAMP 2 FULL SUPER	590.83	436.75	2580.45	15.83	1039.20	457.25	15.33	1006.38	221.40	25.00	1641.19	220	180.53	31.16	2045.58	61.37
895+55.36	896+44.85	RAMP 3 RADIUS RETURNS	89.49	VAR	118.00	VAR	287.02	126.29	VAR	287.02	63.14	VAR	287.02	220	31.57	VAR	574.04	17.22
895+55.36	901+40.44	RAMP 3	585.08	331.50	1939.54	15.83	1029.09	452.80	15.33	996.59	219.25	25.00	1625.22	220	178.77	31.16	2025.68	60.77
901+40.44	904+40.44	RAMP 3 SUPER TRANSITION	300.00	397.50	1192.50	15.83	527.67	232.17	15.33	511.00	112.42	25.00	833.33	220	91.67	31.16	1038.67	31.16
904+40.44	907+72.63	RAMP 3 FULL SUPER	332.19	463.50	1539.70	15.83	584.29	257.09	15.33	565.83	124.48	25.00	922.75	220	101.50	31.16	1150.12	34.50
907+72.63	910+72.63	RAMP 3 SUPER TRANSITION	300.00	397.50	1192.50	15.83	527.67	232.17	15.33	511.00	112.42	25.00	833.33	220	91.67	31.16	1038.67	31.16
910+72.63	911+21.39	RAMP 3	48.76	331.50	161.64	15.83	85.76	37.73	15.33	83.05	18.27	25.00	135.44	220	14.90	31.16	168.82	5.06
10+00.00	15+60.50	RAMP 3 CROSSOVER	560.50	331.50	1858.06	15.83	985.86	433.78	15.33	954.72	210.04	25.00	1556.94	220	171.26	31.16	1940.58	58.22
15+60.50	18+81.06	RAMP 3 CROSSOVER	320.56	VAR	110.00	VAR	278.73	122.64	VAR	272.59	59.97	VAR	268.09	220	29.49	VAR	551.32	16.54
18+68.51	21+42.29	US 425 OVERLAY	273.78									24.00	730.08	220	80.31	24.00	730.08	21.90
TOTALS					23343.23			3602.30			1973.74				2625.20			567.08

BASIS OF ESTIMATE:
ACHM BASE COURSE (1 1/2") - MIN. AGG. = 96.2%, ASPH. BINDER (PG 70-22) = 3.8%
ACHM BINDER COURSE (1") - MIN. AGG. 95.8%, ASPH. BINDER (PG 70-22) = 4.2%
ACHM SURFACE COURSE (1/2") - MIN. AGG. 94.9%, ASPH. BINDER (PG 70-22) = 5.1%
Nmax = 160

BASE AND SURFACING - ADDITIONAL

STATION	STATION	LOCATION	ADDITIONAL AREAS	AGGREGATE BASE COURSE (CLASS 7)	ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ.YD.)
			SQ. YD.	TONS	TONS
71+19.26	74+45.18	GUARDRAIL WIDENING @ 11/425 BRIDGE - RT.	196.90	66.00	194.93
72+67.90	74+34.56	GUARDRAIL WIDENING @ 11/425 BRIDGE - LT.	78.19	26.00	77.41
76+91.72	80+16.84	GUARDRAIL WIDENING @ 11/425 BRIDGE - LT.	198.97	67.00	196.98
77+02.34	78+69.05	GUARDRAIL WIDENING @ 11/425 BRIDGE - RT.	78.09	26.00	77.31
TOTALS				185.00	546.63

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2") - MIN. AGG. 94.9%, ASPH. BINDER (PG 70-22) = 5.1%
Nmax = 160

BASE AND SURFACING - DRIVEWAYS

STATION	LOCATION (HWYS. 11/425 CONNECTOR)	AGGREGATE BASE COURSE (CLASS 7) 9" DEPTH			AGGREGATE BASE COURSE (CLASS 7) 7" DEPTH			ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ.YD.)	
		AVG. AREA SQ. YDS.	TONS PER SQ. YD.	TONS	AVG. AREA SQ. YDS.	TONS PER SQ. YD.	TONS	SQ. YDS.	TONS
34+30	CO. RD. 27 LT.				200.22	0.408	81.69	200.22	22.02
34+30	CO. RD. 27 RT.				218.60	0.408	89.19	218.60	24.05
42+46	RT.	83.79	0.530	44.41	54.63	0.408	22.29	54.63	6.01
43+04	LT.	62.52	0.530	33.14	54.63	0.408	22.29	54.63	6.01
112+11	CO. RD. 65 RT.				348.81	0.408	142.31	348.81	38.37
115+90	LT.	67.16	0.530	35.59	54.63	0.408	22.29	54.63	6.01
116+71	RT.	64.74	0.530	34.31	54.63	0.408	22.29	54.63	6.01
122+45	RT.	173.25	0.530	91.82	54.63	0.408	22.29	54.63	6.01
123+86	LT.	111.94	0.530	59.33	54.63	0.408	22.29	54.63	6.01
131+10	LT.	133.33	0.530	70.66	54.63	0.408	22.29	54.63	6.01
132+34	TEMP. DRIVEWAY LT.						57.00		
132+34	LT.	119.11	0.530	63.13	54.63	0.408	22.29	54.63	6.01
132+85	RT.	87.41	0.530	46.33	54.63	0.408	22.29	54.63	6.01
141+11	RT.	98.30	0.530	52.10	54.63	0.408	22.29	54.63	6.01
141+21	LT.	110.22	0.530	58.42	54.63	0.408	22.29	54.63	6.01
146+58	LT.	119.11	0.530	63.13	54.63	0.408	22.29	54.63	6.01
156+39	CO. RD. 28 LT.				298.22	0.408	121.67	298.22	32.80
156+39	CO. RD. 28 RT.				389.40	0.408	158.88	389.40	42.83
• ENTIRE PROJECT ADDITIONAL FOR TEMPORARY DRIVEWAYS							100.00		
TOTALS				652.37			1018.22		232.19

•QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2") - MIN. AGG. = 94.7%, ASPH. BINDER (PG 64-22) = 5.3%
Nmax = 115

Crafton, Tull & Associates Inc.

QUANTITIES

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\Qty\020356 qty02.1.dgn
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	77	320
07117		QUANTITIES		49985

SCHEDULE OF BRIDGE QUANTITIES FOR JOB 020356

BRIDGE NO. / CODE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	801	SP & 802	SP & 802	803	SS & 804	SS & 804	805	805	807	807	SP & 808	809	812	816
		ITEM	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE - BRIDGE	CLASS S(AE) CONCRETE - BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL-BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	CONCRETE PILING (18" SQ.)	TEST PILE (18" SQ.)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270-GR. 50)	* PAINTING STRUCTURAL STEEL	ELASTOMERIC BEARINGS	PREFORMED JOINT SEAL	BRIDGE NAME PLATE (TYPE D)	CONCRETE RIPRAP
		UNIT	CUBIC YARD	CUBIC YARD	CUBIC YARD	GALLON	POUND	POUND	LINEAR FOOT	LINEAR FOOT	POUND	TON	CUBIC INCH	LINEAR FOOT	EACH	CUBIC YARD
07117 X771 HIGHWAY 530	BENT NO. 1			48.90		0.3	5,545		440	65	785	0.4	3,738.3			16
	BENT NO. 2		144	87.36			14,610		690	40			7,941.6			
	BENT NO. 3			48.84		0.3	5,545		440	65	785	0.4	3,538.9			16
	233'-0" CONT. COMP. PLATE GIRDER UNIT				297.00	24.4		65,710			223,900	111.8		90	1	
	TOTALS FOR BRIDGE NO. 07117		144	185.10	297.00	25.0	25,700	65,710	1,570	170	225,470	112.6	15,218.8	90	1	32
	TOTALS FOR JOB 020356		144	185.10	297.00	25.0	25,700	65,710	1,570	170	225,470	112.6	15,218.8	90	1	32

* Paint shall conform to Federal Standard 595B, Color Chip No. 24097, Green.

HEW/JPD 020H090/DWGN/BRG/QUANTITIES.DGN 4-9-11

ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8801 JOHN H. RUDDELL 12/14/11

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
HWY. 212-HWYS. 11/425 CONNECTOR
(BS. & SURF.) (F)
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_01.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: MRA DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 49985

REVISIONS

DATE	REVISION	SHEET NUMBER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/16/11
HUBERT BURNS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	78	320

(2) SUMMARY OF QUANTITIES & REVISIONS

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	192	STA.
201	GRUBBING	192	STA.
202	REMOVAL AND DISPOSAL OF SIGNS	4	EACH
202	REMOVAL AND DISPOSAL OF BARRICADES	8	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	9	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS	1	EACH
206	FLOWABLE SELECT MATERIAL	34	CU. YD.
207	STONE BACKFILL	10752	TON
SP & 210	UNCLASSIFIED EXCAVATION	660108	CU. YD.
SP & 210	COMPACTED EMBANKMENT	548201	CU. YD.
SP & 210	SOIL STABILIZATION	1000	TON
SP	SELECT GRANULAR BACKFILL	3276	CU. YD.
SP & 214	SUBGRADE PREPARATION	353.77	STA.
SP	MOWING	680.00	ACRE
301	PROCESSING LIME TREATED SUBGRADE	138089	SQ. YD.
301	QUICKLIME (SLURRY) IN TREATED SUBGRADE (ALTERNATE NO. 1)	3514	TON
301	QUICKLIME (DRY) IN TREATED SUBGRADE (ALTERNATE NO. 2)	2644	TON
301	HYDRATED LIME IN TREATED SUBGRADE (ALTERNATE NO. 3)	3514	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	24120.3	TON
401	TACK COAT	12333	GAL.
SP, SS & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	68048	TON
SP, SS & 405	ASPHALT BINDER (PG 70-22) IN ACHM BASE COURSE (1 1/2")	2688	TON
SP, SS & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	34698	TON
SP, SS & 406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")	1521	TON
SP, SS & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	34354	TON
SP, SS & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	12	TON
SP, SS & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	1834	TON
412	COLD MILLING ASPHALT PAVEMENT	839	SQ. YD.
SP, SS & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	150	TON
SP & 504	APPROACH SLABS	161.81	CU. YD.
SP & 504	APPROACH GUTTERS	120.55	CU. YD.
601	MOBILIZATION	1.00	L.S.
SP & 602	FURNISHING FIELD OFFICE	1	EACH
602	FURNISHING FIELD LABORATORY	1.00	L.S.
SS & 603	MAINTENANCE OF TRAFFIC	100	L.F.
603	24" TEMPORARY CULVERT	1156	L.F.
SS & 604	SIGNS LEFT IN PLACE	61	SQ. FT.
SP, SS & 604	SIGNS LEFT IN PLACE	272	SQ. FT.
SS & 604	BARRICADES	48	L.F.
SP, SS & 604	BARRICADES LEFT IN PLACE	66	L.F.
SS & 604	TRAFFIC DRUMS	345	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	296	L.F.
605	CONCRETE DITCH PAVING (TYPE A)	8810	SQ. YD.
605	CONCRETE DITCH PAVING (TYPE B)	2	EACH
SP	CULVERT CLEAN OUT	788	L.F.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	206	L.F.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	649	L.F.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	206	L.F.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	121	L.F.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	411	L.F.
SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	137	L.F.
SS & 606	60" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	206	L.F.
SS & 606	60" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	96	L.F.
606	12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	17	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	14	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	6	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
606	60" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	300	L.F.
SS & 606	18" SIDE DRAIN	119	L.F.
SS & 606	24" SIDE DRAIN	108	L.F.
SS & 606	30" SIDE DRAIN	1000	CU. YD.
606	SELECTED PIPE BEDDING	2000	CU. YD.
606	SELECTED PIPE BACKFILL	2	EACH
609	DROP INLETS (TYPE N2)	3	EACH
609	DROP INLETS (TYPE RM)	1000	L.F.
611	4" PIPE UNDERDRAINS	13	EACH
611	UNDERDRAIN OUTLET PROTECTORS	2	EACH
614	CONCRETE SPILLWAY (TYPE A)	1150	L.F.
SS & 617	GUARDRAIL (TYPE A)	25	L.F.
SS & 617	GUARDRAIL (TYPE C)	8	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	8	EACH
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	1092	L.F.
619	WIRE FENCE (TYPE A)	193	TON
620	LIME	96.32	ACRE
620	SEEDING	218.70	ACRE
SS & 620	WATER	12395.5	M. GAL.
621	TEMPORARY SEEDING	122.38	ACRE
621	SILT FENCE	19058	L.F.
621	SAND BAG DITCH CHECKS	4024	BAG
621	DIVERSION DITCH	10760	L.F.
621	DROP INLET SILT FENCE	67	L.F.
621	SEDIMENT BASIN	8043	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	8043	CU. YD.
621	PIPE FOR SLOPE DRAINS	1291	L.F.
621	SEDIMENT REMOVAL AND DISPOSAL	13500	CU. YD.
621	ROCK DITCH CHECKS	2272	CU. YD.
623	SECOND SEEDING APPLICATION	96.32	ACRE
624	SOLID SODDING	5327	SQ. YD.
625	GEOTEXTILE FABRIC (TYPE I)	25449	SQ. YD.
625	GEOTEXTILE FABRIC (TYPE 5)	4	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	8239	SQ. YD.
632	CONCRETE ISLAND	210	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	L.S.
637	MAILBOX SUPPORTS (SINGLE)	6	EACH
637	MAILBOXES	6	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	123285	L.F.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	1831	L.F.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	162	L.F.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (24")	186	L.F.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	120449	L.F.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (8")	804	L.F.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	1	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	1	EACH
SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING YELLOW (4") (ALTERNATE NO. 2)	1192	L.F.
SP	HIGH PERFORMANCE CONTRAST MARKING TAPE YELLOW (4") (ALTERNATE NO. 2)	1192	L.F.
721	RAISED PAVEMENT MARKERS (TYPE II)	1472	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	150	CU. YD.
802	CLASS S CONCRETE-ROADWAY	367.22	CU. YD.
SP	RETAINING WALL	7031	SQ. FT.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	74889	LB.
816	FILTER BLANKET	3509	SQ. YD.
816	DUMPED RIPRAP	1567	CU. YD.
SP	RESHAPE SLOPES	105	STA.
	STRUCTURES OVER 20' SPAN		
636	BRIDGE CONSTRUCTION CONTROL	1.00	L.S.
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	144	CU.YD.
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	119	CU. YD.
802	CLASS S CONCRETE-ROADWAY	214.84	CU. YD.
SP & 802	CLASS S CONCRETE - BRIDGE	185.10	CU.YD.
SP & 802	CLASS S(AE) CONCRETE - BRIDGE	297.00	CU.YD.
803	CLASS I PROTECTIVE SURFACE TREATMENT	25.0	GAL.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	30672	LB.
SS & 804	REINFORCING STEEL - BRIDGE (GRADE 60)	25700	LB.
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	65710	LB.
805	CONCRETE PILING (18" SQUARE)	1570	L.F.
805	TEST PILE (18" SQUARE)	170	L.F.
807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270-GR50)	225470	LB.
807	PAINTING STRUCTURAL STEEL	112.6	TON
SP & 808	ELASTOMERIC BEARINGS	1528.8	CU. IN.
809	PREFORMED JOINT SEAL	90	L.F.
812	BRIDGE NAME PLATE (TYPE D)	1	EACH
816	CONCRETE RIPRAP	32	CU. YD.

• DENOTES ALTERNATE BID ITEMS

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Crafton, Tull & Associates Inc.

SUMMARY OF QUANTITIES & REVISIONS

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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.		020356	79	320
				(2)	SURVEY CONTROL DETAILS			

COORDINATES

ARKANSAS STATE PLANE, BASED ON GPS CONTROL, PROJECTED TO GROUND

NAME	NORTHING	EASTING	ELEVATION	PREFERENCE	DESCRIPTION
310	1,741,077.5686	1,349,084.6986	253.30	CTL	1/2"RBR
311	1,741,694.7914	1,349,048.0668	261.17	SU	1/2"RBR
312	1,742,301.0053	1,349,006.2745	252.71	SU	1/2"RBR
313	1,742,619.8990	1,348,989.4812	243.88	SU	1/2"RBR
314	1,743,121.6358	1,348,952.2354	236.88	SU	1/2"RBR
315	1,743,398.2612	1,348,932.2268	245.73	SU	1/2"RBR
316	1,744,242.0376	1,348,856.4849	266.83	SU	1/2"RBR
317	1,744,481.9121	1,348,838.3125	266.19	SU	1/2"RBR
318	1,744,729.5553	1,348,821.7713	258.10	SU	1/2"RBR
319	1,744,879.4849	1,348,811.7975	261.97	SU	1/2"RBR
320	1,745,237.5476	1,348,788.8847	266.52	SU	1/2"RBR
321	1,745,676.3946	1,348,760.1445	277.50	SU	1/2"RBR
322	1,746,046.4752	1,348,738.4078	277.06	SU	1/2"RBR
323	1,746,371.2424	1,348,718.3733	287.22	SU	1/2"RBR
324	1,746,795.8822	1,348,687.4159	279.60	SU	1/2"RBR
325	1,747,139.4468	1,348,662.8250	273.26	SU	1/2"RBR
326	1,747,656.3508	1,348,627.8272	281.13	SU	1/2"RBR
327	1,748,024.8644	1,348,594.9317	291.79	SU	1/2"RBR
328	1,748,362.0075	1,348,577.3303	277.65	SU	1/2"RBR
329	1,748,466.7806	1,348,673.7978	278.51	SU	1/2"RBR
330	1,748,439.0054	1,348,141.6076	273.39	SU	ALUM.MON
331	1,744,721.4987	1,343,162.3192	265.51	SU	1/2"RBR
332	1,744,699.2850	1,343,296.6326	274.32	SU	1/2"RBR
333	1,744,591.3926	1,343,875.7554	256.97	SU	1/2"RBR
334	1,744,419.3123	1,344,754.4414	264.23	SU	1/2"RBR
335	1,744,362.7409	1,345,169.6366	265.30	SU	1/2"RBR
336	1,744,273.2590	1,345,653.0460	256.60	SU	1/2"RBR
337	1,744,176.2505	1,346,224.9442	245.60	SU	1/2"RBR
338	1,744,133.7712	1,346,439.3648	241.73	SU	1/2"RBR
339	1,744,092.9770	1,346,652.7014	253.62	SU	1/2"RBR
340	1,743,988.2789	1,347,277.2747	256.62	SU	1/2"RBR
341	1,743,912.5371	1,347,690.1047	259.71	SU	1/2"RBR
342	1,743,845.5539	1,348,041.6499	243.44	SU	1/2"RBR
343	1,743,673.2725	1,348,907.6609	251.43	SU	1/2"RBR
344	1,743,563.1930	1,349,511.4866	254.32	SU	1/2"RBR
345	1,743,271.5444	1,350,672.7405	248.61	SU	1/2"RBR
346	1,743,332.2141	1,350,833.4470	248.47	SU	1/2"RBR
347	1,743,201.4050	1,351,505.4050	280.25	SU	5/8"RBR
348	1,743,176.1581	1,351,702.1812	281.83	SU	5/8"RBR
349	1,743,119.0156	1,352,207.2533	279.23	SU	5/8"RBR
350	1,743,078.5665	1,352,242.2170	280.77	SU	ALUM. MON. BLANK
351	1,743,056.8178	1,352,710.9523	283.78	SU	5/8"RBR
352	1,743,055.2227	1,352,845.4487	283.13	SU	CPS
353	1,743,040.3005	1,354,340.6355	278.95	SU	5/8"RBR
354	1,743,073.2751	1,355,525.0041	267.03	SU	5/8"RBR
355	1,743,023.1092	1,356,507.3172	274.57	SU	5/8"RBR
356	1,743,046.2350	1,356,920.1001	267.23	SU	CPS
357	1,743,042.6367	1,358,105.8879	273.51	SU	1/2"RBR
358	1,743,054.3986	1,358,556.1098	271.53	SU	1/2"RBR
104	1,692,892.6198	1,341,716.0802	169.85	GPS	AHTD GPS POINT 220008
105	1,693,902.3189	1,340,487.9462	158.60	GPS	AHTD GPS POINT 220008A
114	1,723,497.6778	1,342,988.8957	238.42	GPS	AHTD GPS POINT 400009
115	1,722,053.5170	1,343,867.2858	210.83	GPS	AHTD GPS POINT 400009A
118	1,745,009.4270	1,343,219.2606	275.78	GPS	AHTD GPS POINT 400011
119	1,745,645.6922	1,342,871.2026	270.59	GPS	AHTD GPS POINT 400011A
S77	1,741,415.0	1,356,250.0	256.033	BM	NGS DISK IN CONCRETE

ALIGNMENT NAME: MAIN C.L.

POINT	STATION	TYPE	NORTHING	EASTING
8021	298+38.16	POT	1684389.6255	1347013.6485
8022	359+21.26	PC	1690389.8172	1348014.5034
8023	379+26.3	PI	1692367.5381	1348344.3948
8024	399+21.16	PT	1694372.4981	1348325.8549
8025	470+84.32	PC	1701535.3540	1348259.6199
8026	482+81.12	PI	1702732.0964	1348248.5536
8027	494+69.27	PT	1703900.7265	1347990.4479
8028	515+46.08	PC	1705928.6733	1347542.5521
8029	526+88.183	PI	1707043.8903	1347296.2434
8030	538+22.75	PT	1708185.7840	1347274.8928
8031	637+59.60	PC	1718120.8968	1347089.1310
8032	645+46.39	PI	1718907.5513	1347074.4225
8533	653+30.72	PT	1719688.8339	1347167.3694
8534	824+41.75	PC	1736680.0462	1349188.7654
8535	835+23.09	PI	1737753.8165	1349316.5087
8536	845+98.05	PT	1738832.5285	1349241.1333
8537	995+89.62	POT	1753787.6352	1348196.1394

ALIGNMENT NAME: HWYS. 11/425 CONNECTOR

POINT	STATION	TYPE	NORTHING	EASTING
8540	5+00.00	POT	1744432.0519	1341949.5177
8541	13+52.40	PC	1744629.8960	1342778.6427
8542	19+67.65	PI	1744772.6958	1343377.0884
8543	25+64.49	PT	1744657.1903	1343981.3959
8544	104+51.22	PC	1743176.5472	1351727.8951
8545	115+23.98	PI	1742975.1495	1352781.5768
8546	125+90.50	PT	1742972.8196	1353854.3306
8547	174+46.68	POT	1742962.2721	1358710.5017

ALIGNMENT NAME: RAMP 1, HWYS. 11/425 CONNECTOR

POINT	STATION	TYPE	NORTHING	EASTING
8555	886+54.17	PT	1742868.2655	1349238.1408
8556	894+51.56	POT	1743586.0475	1349585.4521

ALIGNMENT NAME: RAMP 2, HWYS. 11/425 CONNECTOR

POINT	STATION	TYPE	NORTHING	EASTING
8560	891+85.68	POT	1743586.0475	1349585.4521
8561	894+74.96	PC	1743874.5567	1349564.3708
8562	897+84.75	PI	1744183.5245	1349541.7945
8563	900+80.07	PT	1744439.0305	1349366.6161
8564	905+47.70	PC	1744824.7172	1349102.1840
8565	909+63.37	PI	1745167.5417	1348867.1388
8566	913+59.38	PT	1745582.1927	1348838.1649

ALIGNMENT NAME: FRONTAGE ROAD 2

POINT	STATION	TYPE	NORTHING	EASTING
8630	10+00.00	POT	1743529.7259	1349880.1179
8631	14+89.80	PC	1744018.2216	1349844.4235
8632	17+48.87	PI	1744276.6003	1349825.5438
8633	19+99.37	PT	1744501.7295	1349697.3530
8634	33+99.56	POT	1745718.4914	1349004.5169

ALIGNMENT NAME: RAMP 3, HWYS. 11/425 CONNECTOR

POINT	STATION	TYPE	NORTHING	EASTING
8570	895+34.72	POT	1743848.8813	1348210.3455
8571	903+65.44	PC	1744596.6636	1348572.1730
8572	906+10.16	PI	1744816.9484	1348678.7617
8573	908+47.63	PT	1745061.5565	1348686.0696
8574	913+85.97	PC	1745599.6569	1348702.1460
8575	914+81.19	PI	1745694.8321	1348704.9894
8576	915+76.25	PT	1745789.8181	1348698.3522

ALIGNMENT NAME: RAMP 4, HWYS. 11/425 CONNECTOR

POINT	STATION	TYPE	NORTHING	EASTING
8085	895+21.62	PT	1743565.4870	1348231.0530
8086	898+05.77	POT	1743848.8813	1348210.3455

NOTE: THE POINTS LISTED ON THIS DRAWING APPLY TO THE MAIN LANES FROM BEGIN PROJECT TO THE STATION EQUATION AT STA. 925+34.40 AND THE HWYS. 11/425 CONNECTOR AND INTERCHANGE. CONSTRUCTION NORTH OF THIS AREA HAS A DIFFERENT CAF AND SET OF CONTROL POINTS.

USE CAF = 1.0 FOR STAKEOUT OF THIS PROJECT.

TO CONVERT TO GRID USE CAF = 0.999922593

GRID DISTANCE = GROUND DISTANCE X CAF.

HORIZONTAL DATUM: NAD 83, VERTICAL DATUM: NAVD 88

BASED ON 3 WIRE LEVELS RAN THROUGH ALL CONTROL POINTS

FROM NGS POINT S77.

BASIS OF BEARINGS

GRID NORTH, BASED ON GPS CONTROL AT POINT NUMBER 115,

ARKANSAS STATE PLANE COORDINATES SOUTH ZONE,

NORTHING 1,722,053.517, EASTING 1,343,867.286

CONVERGENCE ANGLE 0° 03' 28.443173"

GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

SURVEY CONTROL DETAILS

RNFortner 12/12/2011 2:06:37 PM
WORKSPACE: AHTDV8
L:\2002\020110\90 I-69con\DwgCT\r-wy\69NALLSCOL.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.		020356	80	320

(2) SURVEY CONTROL DETAILS

SURVEY BASELINE CONTROL POINTS

COORDINATES

ARKANSAS STATE PLANE BASED ON GPS CONTROL, PROJECTED TO GROUND.

POINT	NORTHING	EASTING	ELEVATION	FEATURE	DESCRIPTION *
1	1761346.76410	1347920.89850	298.16	CTL	REBAR/CAP
2	1761044.15940	1347938.33490	312.22	CTL	REBAR/CAP
3	1760715.27110	1347915.41090	323.74	CTL	REBAR/CAP
4	1760375.66880	1347888.27600	351.32	CTL	REBAR/CAP
5	1760054.52320	1347946.03140	325.31	CTL	REBAR/CAP
6	1759807.79510	1347968.95310	350.88	CTL	REBAR/CAP
7	1759307.08840	1348044.21960	375.52	CTL	REBAR/CAP
8	1758914.39390	1348007.29650	369.77	CTL	REBAR/CAP
9	1758424.77520	1348000.21180	327.85	CTL	REBAR/CAP
10	1758038.93640	1348024.43110	331.84	CTL	REBAR/CAP
11	1757624.45790	1348160.68930	351.46	CTL	REBAR/CAP
12	1757253.25810	1348083.63500	326.87	CTL	REBAR/CAP
13	1756768.84650	1348083.51600	327.45	CTL	REBAR/CAP
14	1756102.78200	1348092.88260	344.92	CTL	REBAR/CAP
15	1755907.16990	1348108.10770	357.40	CTL	REBAR/CAP
16	1755480.48990	1348124.02510	335.45	CTL	REBAR/CAP
17	1754657.87960	1348164.34750	293.04	CTL	REBAR/CAP
18	1754095.67690	1348181.31850	283.80	CTL	REBAR/CAP
19	1753769.70180	1348197.27250	273.28	CTL	REBAR/CAP
20	1753281.39940	1348213.54210	275.18	CTL	REBAR/CAP
21	1752739.10850	1348256.67980	285.80	CTL	REBAR/CAP
22	1752196.83140	1348301.55480	265.22	CTL	REBAR/CAP
23	1751774.13170	1348333.89410	254.92	CTL	REBAR/CAP
24	1751215.06780	1348385.51800	259.42	CTL	REBAR/CAP
25	1750580.99500	1348436.86530	257.39	CTL	REBAR/CAP
26	1750057.68610	1348426.62260	278.07	CTL	REBAR/CAP
27	1749677.07250	1348445.48810	279.39	CTL	REBAR/CAP
28	1749192.89950	1348466.72200	290.86	CTL	REBAR/CAP
29	1748771.60030	1348574.42900	279.28	CTL	REBAR/CAP
30	1748499.70130	1348578.71970	275.08	CTL	REBAR/CAP
31	1761782.69390	1347907.14150	299.01	CTL	REBAR/CAP
32	1762199.94010	1347886.08140	296.94	CTL	REBAR/CAP
33	1762661.94760	1347855.54160	304.31	CTL	REBAR/CAP
34	1763338.12680	1347840.68350	314.42	CTL	REBAR/CAP
35	1763685.72980	1347830.29550	315.92	CTL	REBAR/CAP
36	1764069.82620	1347775.42140	329.02	CTL	REBAR/CAP
37	1764547.13870	1347844.91780	358.36	CTL	REBAR/CAP
38	1764969.30890	1347776.65350	378.61	CTL	REBAR/CAP
39	1765318.10850	1347763.08930	361.64	CTL	REBAR/CAP
40	1765779.31790	1347749.80540	324.24	CTL	REBAR/CAP
41	1766192.83410	1347691.64610	314.57	CTL	REBAR/CAP
42	1766541.84570	1347622.60650	314.83	CTL	REBAR/CAP
43	1766944.08640	1347683.66610	309.84	CTL	REBAR/CAP
44	1767316.16640	1347600.46930	307.21	CTL	REBAR/CAP
45	1768462.26820	1347298.56130	283.47	CTL	REBAR/CAP
46	1769239.65110	1347206.75040	279.56	CTL	REBAR/CAP
47	1770228.65540	1346897.39810	290.47	CTL	REBAR/CAP
48	1770583.62880	1346834.61040	282.12	CTL	REBAR/CAP
49	1771081.67580	1346654.31650	293.67	CTL	REBAR/CAP
50	1771535.19860	1346484.58300	301.01	CTL	REBAR/CAP
51	1771853.87950	1346429.29390	295.34	CTL	REBAR/CAP
52	1772182.22220	1346286.09260	316.06	CTL	REBAR/CAP
53	1772308.03280	1346232.08710	315.78	CTL	REBAR/CAP
54	1772540.43910	1346134.90450	305.25	CTL	REBAR/CAP
55	1773059.44310	1345918.85250	290.49	CTL	REBAR/CAP
56	1773597.98870	1345707.37770	286.32	CTL	REBAR/CAP
57	1774007.20440	1345447.96270	275.60	CTL	REBAR/CAP
58	1774347.69800	1345352.96290	269.42	CTL	REBAR/CAP
59	1774821.62600	1345048.14270	275.78	CTL	REBAR/CAP
60	1775259.93700	1344884.65500	274.97	CTL	REBAR/CAP
61	1775728.28900	1344565.09400	270.11	CTL	REBAR/CAP
62	1776134.26400	1344249.92200	280.36	CTL	REBAR/CAP
63	1776666.17900	1343951.43800	290.22	CTL	REBAR/CAP
64	1777265.59590	1343613.10630	303.32	CTL	REBAR/CAP
65	1777605.01290	1343371.27660	307.53	CTL	REBAR/CAP
66	1777961.41100	1343160.65600	299.10	CTL	REBAR/CAP
67	1778376.54600	1342910.67400	294.60	CTL	REBAR/CAP
68	1778832.89350	1342651.66940	291.31	CTL	REBAR/CAP
69	1779321.16450	1342357.96200	280.67	CTL	REBAR/CAP
70	1780126.03100	1341871.80800	268.68	CTL	REBAR/CAP
71	1780436.95000	1341640.93900	264.57	CTL	REBAR/CAP
72	1780845.93700	1341412.72300	281.89	CTL	REBAR/CAP
73	1781474.73800	1341025.21800	286.13	CTL	REBAR/CAP
74	1781991.51700	1340772.05300	287.63	CTL	REBAR/CAP
75	1782319.28500	1340544.70500	293.27	CTL	REBAR/CAP
116	1733318.71914	1344154.50744	N/A	GPS	REBAR/CAP GPS 400010
117	1733760.02313	1343302.98915	N/A	GPS	REBAR/CAP GPS 400010A
120	1743793.64278	1358628.54931	289.99	GPS	REBAR/CAP GPS 400006
121	1746277.81161	1358446.75866	379.33	GPS	REBAR/CAP GPS 400006A
132	1759214.43010	1345878.46780	291.95	GPS	REBAR/CAP GPS 400012
133	1762043.19460	1348595.15970	313.69	GPS	REBAR/CAP GPS 400012A
134	1772022.90860	1344228.73580	266.90	GPS	REBAR/CAP GPS 400013
135	1771376.06300	1343019.55280	274.96	GPS	REBAR/CAP GPS 400013A
136	1782926.66720	1338024.21177	277.48	GPS	REBAR/CAP GPS 400014
137	1782787.27520	1335838.07960	258.68	GPS	REBAR/CAP GPS 400014A
138	1802493.85946	1328515.33829	256.14	GPS	REBAR/CAP GPS 400015
139	1802527.19233	1327421.27611	249.26	GPS	REBAR/CAP GPS 400015A
140	1781307.99687	1359935.15478	N/A	GPS	REBAR/CAP GPS 400017
141	1760245.41588	1357526.86248	N/A	GPS	REBAR/CAP GPS 93400001
142	1758410.65496	1357512.96029	N/A	GPS	REBAR/CAP GPS 93400001A AZ
143	1782551.81193	1360339.88762	N/A	GPS	REBAR/CAP GPS 93400002
806	1745777.86258	1348852.54983	281.18	VPT	REBAR/CAP
807	1745734.74986	1349552.42507	284.71	HPT	REBAR/CAP
808	1745718.28345	1349963.68147	285.32	VPT	REBAR/CAP
809	1748472.73954	1348441.40744	270.12	VPT	REBAR/CAP
10100	1783706.21907	1339821.22982	277.57	CTL	REBAR/CAP
10101	1784523.69834	1339413.58968	263.05	CTL	REBAR/CAP

HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88
BASIS OF BEARINGS: ARKANSAS STATE PLANE GRID COORDINATES SOUTH ZONE - 302

USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.999913924 HAS BEEN USED TO COMPUTE THE ABOVE COORDINATES
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS (STA. 1090+05.00 - STA. 1479+81.82)
GRID DISTANCE = GROUND DISTANCE x CAF.
GRID COORDINATES ARE STORED UNDER 001930GI.CTL
ALL BEARING AND DISTANCES DISPLAYED ARE GRID PROJECTED TO GROUND FOR DESIGN.

BENCHMARKS

POINT	NORTHING	EASTING	ELEVATION	FEATURE	DESCRIPTION
500	1662574.16573	1375968.70488	298.13	BM	USGS DSK(E83)
501	1741564.90694	1356366.75062	256.033	BM	NGS POINT S 77
502	1862943.38772	1331213.86856	203.969	BM	NGS POINT K 124 USGS BM K124 (1957)
506	1657357.15867	1293251.81794	216.68	BM	WARREN MAG STATION
900	1671351.41931	1364183.20301	194.49	BM	CPS IN N. SIDE 8" PINE PP F376 CPS PP SOUTH ROW HWY 35
901	1699653.79013	1363207.13455	203.25	BM	CPS SET IN 10" PINE CPS 8"PINE EAST SIDE
902	1686693.56647	1347850.02104	189.97	BM	CPS IN N. SIDE 8" PINE CPS 5" PINE EAST SIDE
903	1685379.26417	1347682.51655	185.38	BM	CPS IN 10" OAK 118' FROM CPS 10" GUM
904	1684772.27647	1347260.69821	185.05	BM	CPS IN 18" PINE W OF 723 CPS NORTH SIDE 20" PINE
905	1684054.43804	1347143.19655	173.95	BM	CPS IN SE. SIDE/22" OAK CPS SE 26" OAK
906	1683053.50479	1346975.30035	171.34	BM	CPS IN NE. SIDE/8" OAK CPS 8" MULBERRY NE
908	1682093.93149	1347635.52896	182.40	BM	CPS IN S. SIDE/ 20" OAK
909	1682094.65407	1348269.34038	189.97	BM	CPS IN N. SIDE/22" PINE
910	1681406.52237	1347610.95261	202.54	BM	CPS IN W. SIDE/16" PINE CPS WEST SIDE 12" PINE
911	1680799.70608	1347341.19995	214.63	BM	CPS IN SW. SIDE/50" OAK
912	1680537.95904	1348288.03345	225.76	BM	CPS IN S. SIDE/24" PINE CPS NORTH SIDE 2" PINE
913	1679405.81301	1348297.78786	217.48	BM	CPS IN SW. SIDE/24" OAK CPS 28" OAK
914	1678334.38653	1348366.63593	204.41	BM	CPS IN W. SIDE/14" PINE CPS WEST SIDE 14" OAK
915	1689219.01114	1346326.34845	219.30	BM	CPS IN NEW PPOLE W. 1809 CPS EAST SIDE PP
916	1690026.51941	1345227.14189	218.22	BM	CPS IN NEW PPOLE N. 1809PP CPS EAST SIDE PP
917	1691036.15180	1344043.30270	201.77	BM	CPS IN PPOLE SPPA45-40 CPS EAST SIDE PP
918	1691874.06657	1342944.18978	169.95	BM	CPS IN PPOLE N. BM917 CPS EAST SIDE PP
921	1782826.29060	1339312.12600	280.50	BM	CHISELED SQUARE IN SE HEADWALL BRIDGE
930	1678035.58655	1439141.28693	197.59	BM	CPS IN E. SIDE/12" PINE CPS EAST SIDE 10"PINE
931	1676281.70552	1347946.38257	184.55	BM	CPS IN 10"PINE SE OF713 CPS NE 8" PINE
932	1675572.94743	1346763.82662	181.47	BM	CPS SE 10" PINE
933	1674662.16952	1345835.01697	188.11	BM	CPS EAST SIDE 8"PINE
934	1673145.80017	1345752.10968	190.14	BM	CPS IN 8"PINE CPS WEST SIDE 6"PINE
935	1671730.69732	1345838.15897	207.13	BM	CPS IN 8"PINE CPS EAST SIDE 5"PINE
936	1671934.25269	1347105.97869	213.80	BM	CPS IN 30" PINE WIT TREE CPS SOUTH SIDE 30"PINE
937	1684468.17931	1346500.52151	182.81	BM	CPS NE 10"PINE
938	1666981.12228	1347196.03838	192.08	BM	CPS IN 34IN OAK CPS SOUTH SIDE 30" OAK
939	1667014.25142	1346685.29947	186.19	BM	CPS IN 8" OAK CPS SOUTH SIDE 12" OAK
951	1761023.94250	1347634.02970	298.34	BM	BENCHMARK SET BY CTAR2
952	1782857.14520	1339367.05570	280.07	BM	PK NAIL SOUTH SIDE 212
953	1782855.18000	1340613.35920	286.16	BM	PK NAIL SOUTH SIDE 212
954	1782746.15690	1341703.80830	291.57	BM	PK NAIL SOUTH SIDE 212
958	1750630.42060	1348785.32720	259.08	BM	COTTON PICKER SPINDLE SET IN ELM TREE
959	1750736.45750	1348211.18560	258.26	BM	COTTON PICKER SPINDLE SET IN TREE
960	1665564.80072	1345844.76800	211.53	BM	CPS/E. SIDE 42IN. OAK NW. OF GPS100 ON LOG RD CPS WEST SIDE 36" OAK
961	1666878.69854	1345927.90900	187.07	BM	CPS 24"PINE ON LOGRD W. OF BM 960 CPS EASTSIDE 20" PINE
962	1668192.71510	1345841.95104	179.77	BM	CPS IN 36IN. OAK ON LOG RD CPS WEST SIDE 30" OAK W. OF PP 704
963	1668798.77601	1345418.57964	178.09	BM	CPS IN 12IN. OAK ON LOG RD CPS SE 16" GUM
964	1675571.57644	1345495.93832	189.99	BM	CPS IN 16IN. PINEON LOG RD CPS NORTH SIDE 20" PINE
976	1772318.34780	1345374.99100	286.95	BM	PK NAIL NORTH SIDE #114
977	1772440.93280	1346784.22710	336.32	BM	PK NAIL ON NORTH SIDE 114
978	1772863.80970	1347954.63040	351.43	BM	PK NAIL ON SOUTH SIDE 114
979	1773554.84120	1348976.95520	308.13	BM	PK NAIL SOUTH SIDE 114
987	1751632.63230	1348120.78870	254.30	BM	COTTON PICKER SPINDLE IN 12" TREE
988	1751835.27560	1348499.55210	257.18	BM	COTTON PICKER SPINDLE IN 12" OAK TREE
989	1689929.47068	1348860.18651	215.87	BM	CPS IN NW. SIDE/22"PINE CPS NW 16" PINE
990	1688917.25495	1347678.51327	234.14	BM	CPS IN W. SIDE/16"PINE CPS EAST SIDE 12" PINE
991	1693376.28007	1348678.75231	210.47	BM	CPS IN SW. SIDE/34"PINE CPS SW 36" PINE TREE
992	1694134.06934	1348373.75811	199.73	BM	CPS IN NW. SIDE/20"OAK CPS NW 24" OAK TREE
994	1693909.97277	1346861.89210	190.92	BM	CPS IN W. SIDE/12"PINE CPS WEST SIDE OF A 15" PINE TREE
995	1692797.77101	1346626.57970	192.52	BM	CPS IN SE. SIDE/14"PINE CPS SE SIDE OF A 15" PINE TREE
996	1691403.58723	1347346.21611	207.46	BM	CPS IN NW. SIDE/20"OAK CPS NORTH SIDE 24" OAK TREE
997	1691867.66239	1345580.02691	204.80	BM	CPS IN NE. SIDE/12"PINE CPS in NORTH SIDE OF A 12" PINE TREE
998	1691512.68175	1345419.88750	188.34	BM	CPS IN 6" PINE CPS in NW side of a 5" Pine Tree
999	1682881.92288	1347212.10783	173.35	BM	CPS IN S. SIDE/18" OAK CPS SOUTH SIDE 15" GUM
1901	1693351.31078	1341064.86774	158.82	BM	SQ SE COR BR LM 4.33
1902	1692726.97679	1341934.80965	169.33	BM	CPS 10" PINE LT C/L
1903	1691977.61917	1342738.83722	164.61	BM	CPS P POLE TBM-903
1904	1690624.93982	1344520.62416	204.07	BM	CPS P POLE
1905	1689579.56550	1345868.63776	216.21	BM	CPS P POLE
1906	1688482.72559	1347406.88717	227.27	BM	CPS 15" PINE
1907	1687158.26384	1348997.37522	207.82	BM	CPS P POLE
1908	1685583.21672	1351068.01848	187.40	BM	AHTD CAP S/W COR BR
1909	1684865.83029	1351920.12752	187.17	BM	CPS P POLE TBM-909
1910	1684015.89663	1353224.57118	200.65	BM	CPS COMB POLE TBM-910
1911	1683009.08626	1355051.63096	227.58	BM	CPS 8" RED OAK RT C/L
1999	1673326.52865	1372552.52494	288.36	BM	GPS MON2 1997 SSR
5173	1664643.28584	1346515.90270	208.28	BM	CPS/PINE N. OF HWY278 W OF PANEL PT. 703 single wire loop by RE from BM939. N. Side CPS in Pine
5189	1664693.29014	1348216.04904	214.71	BM	single wire loop by RE from BM940. N. Side CPS in Pine
5203	1664643.28584	1349416.15234	209.15	BM	single wire loop by RE from BM941. S side CPS in tree
5901	1678580.88753	1364238.64121	264.75	BM	TBM 901 CPS INS 48IN OAK
5902	1677114.11527	1367153.05707	294.82	BM	TBM 902 CPS INS CP
5903	1676184.82829	1368922.56338	293.11	BM	TBM 903 CPS INS CP
5904	1680537.16792	1368721.01303	303.38	BM	TBM 904 CPS INS CP
5905	1675800.86624	1374187.40756	280.62	BM	TBM 905 CPS PP W GUY
5908	1680289.43759	1373781.11758	271.31	BM	TBM 908 CPS INS 48 IN OAK
5909	1680165.21290	1376018.59518	266.05	BM	TBM 909 CPS INS CPS
5910	1679918.93370	1378387.48408	262.49	BM	TBM 910 CPS INS CP
5911	1674500.11827	1378612.21843	254.21	BM	TBM 911 CPS INS CP
5912	1681978.42874	1357314.46229	253.02	BM	CPS COMB POLE TBM-912
5913	1681604.64403	1358062.43856	243.42	BM	CPS COMB POLE TBM-913
5914	1681134.00407	1358980.39303	261.55	BM	CPS COMB POLE
5915	1680297.84453	1360702.50961	246.33	BM	CPS COMB POLE TBM-915
5916	1679161.15447	1362883.97911	274.69	BM	SQ CUT HDWL RT C/L
5977	1680693.91241	1371858.02005	275.42	BM	TBM9077\CH SQ TOP RCP
5997	1673074.01152	1369617.89123	294.73	BM	NAIL
5998	1677274.37307	1366487.62179	315.09	BM	NAIL
9029	1741583.43354	1356380.44380	256.033	BM	NGS POINT S 77
9907	1687158.26383	1348997.37520	208.07	BM	CPS IN NW. SIDE PPF373
9911	1769052.25340	1347145.58660	280.22	BM	COTTEN PICKER SPINDLE IN ELM TREE
9912	1769052.25340	1347146.58660	280.22	BM	COTTEN PICKER SPINDLE IN ELM TREE
9913	1769196.84340	1347555.90600	285.75	BM	COTTEN PICKER SPINDLE IN ELM TREE
30001	1762754.50660	1348196.66410	315.44	BM	COTTON PICKER SPINDLE IN SWEET GUM TREE
30002	1771934.00880	1346573.37420	303.17	BM	CPS IN TELEPHONE POLE
30003	1771735.89680	1346038.24770	287.91	BM	CPS IN TELEPHONE POLE
30004	1771943.72950	1345966.89120	290.10	BM	1/2" REBAR CM: ON SOUTH EDGE OF GAS R/W
30005	1772129.18280	1346548.45650	314.31	BM	1/2" REBAR CM: ON SOUTH EDGE OF GAS R/W

*NOTE: POINTS DESCRIBED AS
REBAR/CAP = 5/8" REBAR/2" DIAMETER ALUMINUM CAP STAMPED
"B&F ENGR." & POINT NO.

POINTS DESCRIBED AS
REBAR/CAP GPS = 2 1/2 ALUMINUM
CAP STAMPED "AHTD GPS SURVEY POINT NO. (AS INDICATED)

CERTIFICATION:
SURVEY CONTROL IS WITHIN THE
PRECISION REQUIREMENTS OF AHTD.

NOTE: POINTS LISTED ON THIS SHEET APPLY FROM STA. 1090+05.00 TO END OF JOB 020356.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS8NB.dgn
PLOTTED: 12/12/2011 17:53
SCALE: 2"

C:\021032-00\020356\Eng\Dgn\SurvCtl\SDS8NB.dgn 12/12/2011 17:53

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.		020356	81	320

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

MAIN LANE (MAIN LANE CL)

POINT	STATION	NORTHING	EASTING
8033	1090+05.00	1746764.71834	1348699.61943
8003	1155+05.43	1753249.33504	1348246.50428
8400	1160+60.28	1753802.84010	1348207.82790
8005	1166+15.04	1754357.30501	1348187.03423
8006	1270+77.68	1764812.58777	1347794.93775
8401	1329+93.46	1770724.21520	1347573.23850
8008	1386+56.50	1775789.98441	1344518.00172
8009	1461+86.94	1782238.41259	1340628.86383
8402	1470+84.84	1783007.29320	1340165.14110
8011	1479+81.82	1783810.09693	1339762.99394

NOTE:
POINT 8011 = POINT 8012 - JOB 001934

℄ HWY 11

POINT	STATION	NORTHING	EASTING
8034	4+49.80	1759520.34410	1346174.61592
8128	30+00.00	1761376.09993	1347923.81372
8035	48+56.00	1762726.69509	1349196.85733

BRANCHVILLE RD. (BRANCHVILLE RELOCATED)

POINT	STATION	NORTHING	EASTING
8036	1233+12.39	1761121.03233	1347683.39218
8037	1235+11.60	1761290.53260	1347578.73487
8403	1237+92.70	1761529.71580	1347431.05210
8039	1240+34.27	1761792.89032	1347529.83457
8040	1244+19.04	1762153.12253	1347665.04761
8404	1245+34.15	1762260.89962	1347705.50171
8042	1246+46.25	1762375.93798	1347701.18751
8043	1254+65.90	1763195.01859	1347670.47016
8405	1256+40.11	1763369.10447	1347663.94155
8045	1258+04.14	1763510.09268	1347561.61442
8046	1264+93.23	1764067.77952	1347156.85367

SANDERS CREEK (PROP_SANDERS_CRK)

POINT	STATION	NORTHING	EASTING
8097	6+74.33	1768847.81766	1347519.21870
8131	10+00.00	1769021.47911	1347243.71339
8140	11+54.33	1769103.77527	1347113.15750
8141	12+21.66	1769156.95300	1347071.86700

℄ EXIST. S.H. 114 (CL HWY 114)

POINT	STATION	NORTHING	EASTING
8047	125+28.09	1771698.50993	1343552.05195
8048	135+00.55	1772157.47083	1344409.39704
8406	138+39.27	1772317.33011	1344708.01632
8050	141+63.72	1772313.92507	1345046.71511
8051	149+65.88	1772305.86117	1345848.83059
8407	152+71.79	1772302.78595	1346154.72215
8124	153+44.56	1772327.05564	1346226.64179
8053	155+75.38	1772364.37082	1346454.36595
8054	165+52.46	1772561.07434	1347411.43520
8408	169+45.19	1772640.13836	1347796.12453
8056	172+99.67	1772962.63356	1348020.25360

℄ RELOC. S.H. 114 (SH 114 REALIGNMENT)

POINT	STATION	NORTHING	EASTING
8048	135+00.55	1772157.47083	1344409.39704
8113	136+35.64	1772215.03717	1344531.54093
8409	135+68.15	1772189.37654	1344468.99734
8125	152+48.31	1772827.17312	1346023.52169
8114	155+57.05	1772944.36560	1346309.15909
8410	159+21.86	1773082.83861	1346646.66430
8115	162+31.87	1772891.26147	1346957.11998
8116	163+87.18	1772809.70886	1347089.27807
8411	170+65.39	1772453.54742	1347666.44684
8117	174+73.17	1773010.47150	1348053.50022

S.H. 114 RAMP 1 (114 RAMP 1)

POINT	STATION	NORTHING	EASTING
8059	1326+05.00	1770273.32734	1346981.28181
8412	132700.22	1770364.87160	1346955.09060
8061	1327+95.28	1770458.56699	1346938.13463
8062	1332+49.03	1770905.06564	1346857.33220
8413	1335+31.82	1771183.33279	1346806.97446
8064	1338+10.52	1771464.25305	1346839.41390
8065	1342+12.54	1771863.61871	1346885.53088
8067	1345+15.89	1772165.40725	1346872.28325
8068	1347+94.92	1772438.71903	1346816.11031

S.H. 114 RAMP 2 (114 RAMP 2)

POINT	STATION	NORTHING	EASTING
8068	1345+12.25	1772438.71903	1346816.11031
8069	1348+29.77	1772749.73801	1346752.18754
8416	1352+03.29	1773115.60999	1346676.99090
8071	1355+41.87	1773333.36286	1346373.51033
8072	1359+73.02	1773584.71134	1346023.20773
8416	1364+43.00	1773858.70082	1345641.35050
8074	1368+94.68	1774278.60736	1345430.24941

S.H. 114 RAMP 3 (114 RAMP 3)

POINT	STATION	NORTHING	EASTING
8077	1349+31.67	1772308.08381	1345627.74421
8078	1356+34.63	1773011.00423	1345634.81089
8417	1360+06.91	1773383.27029	1345638.55340
8080	1363+69.98	1773729.68765	1345502.20445
8081	1369+05.44	1774227.94932	1345306.08999
8418	1370+00.66	1774316.55000	1345271.21700
8083	1370+95.72	1774401.24274	1345227.70441

S.H. 114 RAMP 4 (114 RAMP 4)

POINT	STATION	NORTHING	EASTING
8088	1327+67.82	1770394.86024	1346815.91014
8419	1332+78.04	1770884.38738	1346672.08387
8090	1337+64.97	1771236.96785	1346303.28878
8091	1342+26.31	1771555.76870	1345969.82679
8420	1344+98.90	1771744.14041	1345772.79217
8093	1347+57.37	1772008.14026	1345704.89061
8077	1350+67.07	1772308.08381	1345627.74421

S.H. 114 SE FRONTAGE RD (SH 114 SE FRONTAGE RD)

POINT	STATION	NORTHING	EASTING
8098	1326+03.02	1770416.48400	1347489.02300
8099	1332+24.54	1770914.67143	1347117.40396
8421	1335+72.62	1771193.67546	1346909.28307
8101	1338+72.54	1771529.70357	1347000.07215
8132	1344+09.54	1772048.11096	1347140.13703
8422	1345+45.69	1772179.54400	1347175.64800
8134	1346+76.87	1772312.90233	1347148.23946
8139	1348+66.98	1772499.11500	1347109.96800
8135	1348+81.73	1772513.55788	1347106.99962
8137	1351+46.66	1772774.37503	1347126.52794
8138	1351+59.01	1772785.96923	1347130.78870

℄ HWY 212 (CL HWY 212)

POINT	STATION	NORTHING	EASTING
8118	0+00.00	1782892.92240	1338119.54622
8119	19+77.82	1782850.38919	1340096.90793
8424	20+75.76	1782848.28300	1340194.82436
8126	21+52.95	1782851.33845	1340272.01520
8120	21+73.64	1782852.07333	1340292.69005
8121	29+01.01	1782880.22324	1341019.51533
8425	31+14.65	1782888.49124	1341232.99374
8122	33+24.90	1782891.60052	1341438.91809
8123	42+85.40	1782575.82438	1342364.73736

℄ RELOC. HWY 212 (CL HWY 212 VE)

POINT	STATION	NORTHING	EASTING
8105	148+00.00	1782871.10571	1339129.83537
8106	151+46.64	1782863.64828	1339476.39776
8426	152+98.84	1782860.37402	1339628.55980
8108	154+49.27	1782896.93208	1339776.30119
8109	161+35.17	1783061.68716	1340442.12274
8427	163+51.45	1783113.63726	1340652.06767
8111	165+55.25	1783040.70282	1340855.67577
8112	170+71.65	1782866.55790	1341341.82907
8428	171+78.29	1782830.59610	1341442.22215
8142	172+84.83	1782802.19763	1341545.01101
8143	176+64.90	1782700.98531	1341911.35100

CHANNEL 1239+48 LT

POINT	STATION	NORTHING	EASTING
8095	0+00.00	1761682.71423	1347853.74845
8096	3+05.77	1761749.19966	1347555.29255

NOTE: POINTS LISTED ON THIS SHEET APPLY FROM STA. 1090+05.00 TO END OF JOB 020356.

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS9NB.dgn
PLOTTED: 12/12/2011 17:53
SCALE: 2:1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	82	320

(2) SURVEY CONTROL DETAILS

N

300 150 0 300

Scale: 1" = 300'

STA. 894+00 BEGIN GRADING
LEFT LANES - JOB 020356

BEGIN JOB 020356 STA. 893+00
BEGIN GRADING RIGHT LANES

STA. 897+00 END GRADING
LEFT LANES - JOB 020356

STA. 907+00 BEGIN GRADING
LEFT LANES - JOB 020356

STA. 915+76.25 END GRADING
LEFT LANES - JOB 020356

STA. 912+00 BEGIN PAVING
RIGHT LANES - JOB 020356

C.L. HWYS. 11/425 CONN. STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 STA. 898+05.77

C.L. HWYS. 11/425 CONN. STA. 82+69.99 =
C.L. RAMP 1 STA. 894+51.56 =
C.L. RAMP 2 STA. 891+85.68

C.L. MEDIAN STA. 894+94.53 =
C.L. HWYS. 11/425 CONN. STA. 75+71.95

C.L. MEDIAN

SURVEY BASELINE

C.L. HWYS. 11/425 CONNECTOR

RAMP 1

RAMP 3

RAMP 3 TEMPORARY CROSSOVER

N4°14'43.8"W 503.1173'

N4°08'13.4"W 277.348'

N5°07'45.9"W 847.169'

N4°19'56.4"W 240.5619'

N3°49'16.9"W 248.1950'

N3°48'21.2"W 150.2610'

N3°39'41.1"W 358.795'

N3°44'49.1"W 439.7871'

N3°21'41.1"W 378.7184'

N3°31'48.1"W 325.3846'

N4°10'10.7"W 425.7667'

N4°05'38.43"W 344.44'

S79°40'05.7"E 847.2216'

S78°44'55.2"E 847.3882'

S79°21'44.8"E 367.8698'

S75°54'06.4"E 1181.3762'

CURVE DATA

CURVE	PC	PI	PT	Δ	D	TANGENT	LENGTH	e	Ls	DESIGN SPEED
						FEET		FT./FT.	FEET	
2-1	894+74.96	897+84.75	900+80.07	30°15'21"	5°00'00"	309.79	605.12	0.083	300	50 MPH
2-2	905+47.70	909+63.37	913+59.38	30°26'17"	3°45'00"	415.66	811.68	0.069	300	50 MPH
3-1	903+65.44	906+10.16	908+47.63	24°06'34"	5°00'00"	244.72	482.19	0.083	300	50 MPH
3-2	913+85.97	914+81.19	915+76.25	5°42'30"	3°00'00"	95.22	190.28	NC	N/A	50 MPH
3C-1	10+00.00	11+73.17	13+45.39	10°21'42"	3°00'00"	173.17	345.39	NC	N/A	50 MPH
3C-2	13+45.39	16+14.99	18+81.06	16°04'12"	3°00'00"	269.60	535.67	NC	N/A	50 MPH
F-1	14+89.80	17+48.87	19+99.37	25°28'42"	5°00'00"	259.07	509.57	0.061	200	40 MPH

SURVEY CONTROL DETAILS

RNFortner 12/12/2011 2:53:53 PM
WORKSPACE: AHTDV8
L:\2002\020M090 I-69Corr\Dwg\Trwy\69N425SC01.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.		020356	83	320

(2) SURVEY CONTROL DETAILS

STA. 12+50
BEGIN HWYS. 11/425 CONNECTOR

PC 13+52.40

8541 PC

15+00

10+00

N 76°34'45.0" E

C.L. HWYS. 11/425 CONNECTOR

C.L. HWYS. 11/425 CONNECTOR STA. 17+92.00 =
C.L. STATE HIGHWAY 11 STA. 10+00.00

331 1/2"RBR

S80°36'32.5"E
736.14'

N04°37'43.8"W

PI 19+67.65

8542 PI

C.L. HWYS. 11/425 CONNECTOR
P.I. 19+67.65
Δ = 24°14'30" RT.
D = 2°00'00"
T = 615.25
L = 1212.08
P.C. 13+52.40
P.T. 25+64.49
e = 0.04 ft/ft
Ls = 250

20+00

332 1/2"RBR

S79°26'47.8"E
589.09'

C.L. HWYS. 11/425 CONNECTOR

SURVEY BASELINE

333 1/2"RBR

100 50 0 100
Scale: 1" = 100'

N

PT 25+64.49

C.L. HWYS. 11/425 CONNECTOR

25+00

8543 PT

30+00

S 79°10'45.0" E

35+00

40+00

333 1/2"RBR

S78°55'10.3"E
895.38'

SURVEY BASELINE

334 1/2"RBR

S82°14'27.9"E
419.03'

335 1/2"RBR

S79°30'46.5"E
491.62'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

SURVEY CONTROL DETAILS
STA. 10+00 TO 40+00

RNFortner 12/12/2011 2:45:18 PM
WORKSPACE: AHTDV8
L:\2002\020110090 I-69Con\DwgCTV\rwy\69N425SC02.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.		020356	84	320

(2) SURVEY CONTROL DETAILS

100 50 0 100

Scale: 1" = 100'

N

C.L. HWYS. 11/425 CONNECTOR

45+00 50+00 55+00

S 79°10'45.0" E

S79°30'46.5"E 491.62'

336 1/2"RBR

S80°22'22.1"E 580.07'

337 1/2"RBR

S78°47'38.8"E 218.59'

338 1/2"RBR

S79°10'28.5"E 217.20'

339 1/2"RBR

S80°29'02.1"E 633.29'

SURVEY BASELINE

RAMP 3

N 25°49'15.0" E

N

C.L. HWYS. 11/425 CONNECTOR

60+00 65+00 70+00

S 79°10'45.0" E

340 1/2"RBR

S79°36'12.9"E 419.72'

341 1/2"RBR

S79°12'44.0"E 357.87'

342 1/2"RBR

8570 POT

S78°44'55.2"E 882.98'

N 10°10'45.0" W

RAMP 4

SURVEY BASELINE

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10887 SCOTT P. THORNSBERRY

12-13-2011

SURVEY CONTROL DETAILS
STA. 41+00 TO STA. 72+00

RNFortner 12/12/2011 2:28:18 PM
WORKSPACE: AHTDV8
L:\2002\020111390 I-69Corr\Dwg\Trwy\69N425SC03.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.		020356	85	320

(2) SURVEY CONTROL DETAILS

C.L. MEDIAN

N03°59'49.4"W

N5°07'45.94"W 6.84'

C.L. HWYS. 11/425 CONNECTOR

75+00

80+00

85+00

S 79°10'45.0" E

00+568

343 1/2"RBR

SURVEY BASELINE

S79°40'05.7"E 613.78'

895+00

8561 PC

PC 894+74.96

RAMP 2

N04°10'45.0"W

8560 POT

SURVEY BASELINE

RAMP 1

344 1/2"RBR

N 25°49'15.0" E

FRONTAGE RD. 2

N04°10'45.0"W

01+00

8630 POT

S75°54'06.4"E 1197.32'

100 50 0 100

Scale: 1" = 100'

N

C.L. HWYS. 11/425 CONNECTOR

90+00

95+00

100+00

S79°10'45.0"E

SURVEY BASELINE

345 1/2"RBR

N69°19'03.2"E 171.78'

346 1/2"RBR

S78°59'02.7"E 684.57'

347 5/8"RBR

S82°41'19.5"E 198.39'

348 5/8"RBR

N

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10887 SCOTT P. THORNSBERRY

12-13-2011

SURVEY CONTROL DETAILS
STA. 73+00 TO STA. 104+00

RNFortner 12/12/2011 2:24:51 PM
WORKSPACE: AHTDV8
L:\2002\020M090 I-69Conv\DwgCT\rwy\69N425SC04.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.		020356	86	320

(2) SURVEY CONTROL DETAILS

C.L. II/425 CONN.
P.I. = 115+23.98
Δ = 10°41'47.0"LT.
D = 00°30'00"
T = 1072.76
L = 2139.28
NO SUPER

100 50 0 100

Scale: 1" = 100'

N

SURVEY BASELINE

C.L. HWYS. II/425 CONNECTOR

PC 104+51.22

105+00

8544 PC

S83°32'42.6"E 508.29'

349 5/8"RBR

S40°50'23.0"E 331.11'

110+00

350 ALUM. MON. BLANK

S87°20'36.4"E 469.24'

351 5/8"RBR

115+00

S89°19'13.9"E 134.51'

352 GPS

120+00

8545 PI

PI 115+23.98

N

C.L. HWYS. II/425 CONNECTOR

SURVEY BASELINE

MB

S89°25'45.5"E 1495.26'

PT 125+90.50

125+00

8546 PT

S 89°52'32.0" E

353 5/8"RBR

130+00

135+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-18-2011

SURVEY CONTROL DETAILS
STA. 105+00 TO STA. 136+00

RNFortner 12/12/2011 2:39:27 PM
WORKSPACE: AHTDV8
L:\2002\020M090 I-69Con\DwgCT\rwy\69N425SCD5.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.		020356	87	320

(2) SURVEY CONTROL DETAILS

100 50 0 100

Scale: 1" = 100'

N

SURVEY BASELINE

N86°24'18.8"E 1184.83'

MB

354 5/8"RBR

MB

S87°04'35.4"E 982.59'

140+00

145+00

150+00

S 89°52'32.0" E

C.L. HWYS. 11/425 CONNECTOR

N

SURVEY BASELINE

N86°47'36.3"E 413.43'

355 5/8"RBR

356 CPS

S89°49'34.1"E 1185.79'

155+00

160+00

165+00

S 89°52'32.0" E

C.L. HWYS. 11/425 CONNECTOR

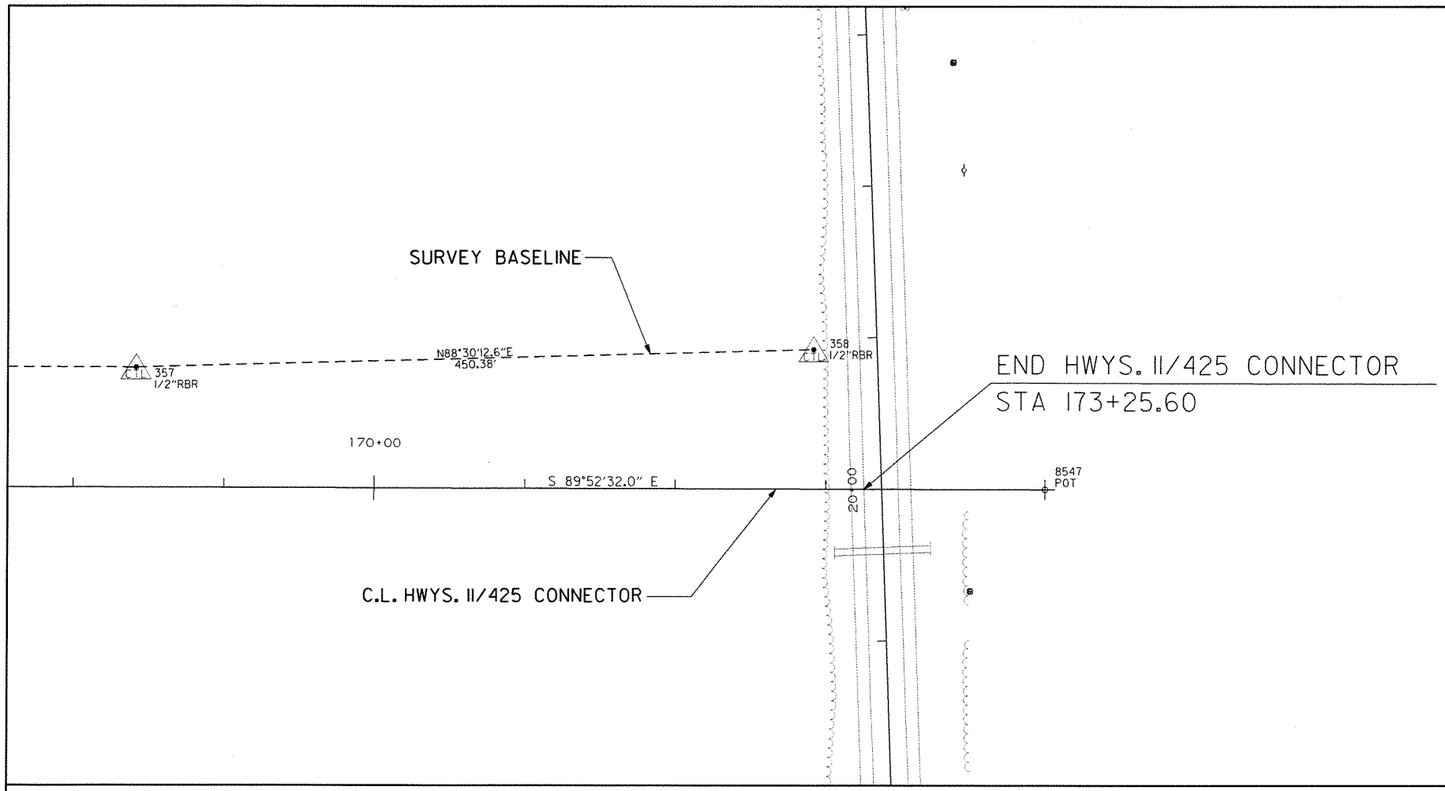
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-15-2011

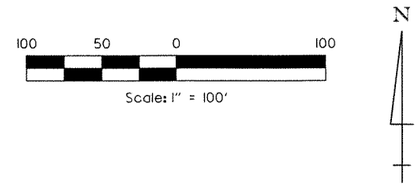
SURVEY CONTROL DETAILS
STA. 137+00 TO STA. 167+00

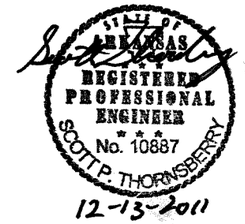
sphornsberry 12/13/2011 3:08:18 PM
WORKSPACE: AHTDV8
L:\2002\020110190 I-69Corr\DwgCT\rwy\69N425SC06.dgn
REVISED DATE:

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.		020356	88	320

(2) SURVEY CONTROL DETAILS







12-13-2011

SURVEY CONTROL DETAILS
STA. 168+00 TO STA. 174+00

RNFortner 12/12/2011 2:30:21 PM
WORKSPACE: AHTDV8
L:\2002\020M090 I-69Con\DwgCTvrwy\69N425SC07.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.		020356	89	320

(2) SURVEY CONTROL DETAILS

NOTE: POINTS DESCRIBED AS REBAR/CAP = 5/8" REBAR/2" DIA. ALUM. CAP STAMPED "B&F ENGR." & POINT NO.

POINTS DESCRIBED AS REBAR/CAP GPS = 5/8" REBAR WITH 2 1/2 DIA. ALUM. CAP STAMPED "AHTD GPS SURVEY POINT NO." AS INDICATED

EQUATION
STA. 925+34.40 BK =
STA. 1090+05.00 AHD

809 REBAR/CAP

1095 1100 1105 1110 1115 1120

℄ MEDIAN

SURVEY BASELINE

N3°59'49.4"W 2735.58' N5°44'41.6"W

N78°53'28.5"E 139.93'

N0°54'14.9"W 271.93'

N14°20'26.6"W 434.85'

N2°30'40.2"W 484.64'

PN: 806 PD: REBAR/CAP

PN: 807 PD: REBAR/CAP

PN: 808 PD: REBAR/CAP

N86°28'30.0"W 701.20'

N87°42'25.7"W 411.59'

PN: 30 PD: REBAR/CAP

PN: 29 PD: REBAR/CAP

PN: 28 PD: REBAR/CAP

PN: 27 PD: REBAR/C

1120 1125 1130 1135 1140 1145 1150

PN: 27 PD: REBAR/CAP

N2°50'15.1"W 381.08'

PN: 26 PD: REBAR/CAP

N1°07'16.4"E 523.41'

PN: 25 PD: REBAR/CAP

N4°37'46.9"W 636.15'

N3°59'49.4"W

PN: 24 PD: REBAR/CAP

N5°16'32.6"W 561.44'

℄ MEDIAN

PN: 23 PD: REBAR/CAP

N4°22'29.8"W 423.93'

PN: 22 PD: REBAR/CAP

N4°43'50.2"W 544.13'

PN: 21 PD: REB

NOTE: POINTS SHOWN ON THIS SHEET CORRESPOND TO THOSE LISTED ON SHEETS 76 & 77

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

1150 1155 1160 1165 1170 1175 1180

PN: 21 PD: REBAR/CAP

N4°32'53.4"W 544.00'

N3°59'49.4"W

PN: 20 PD: REBAR/CAP

N1°54'29.7"W 488.57'

8003

PC 1155+05.43

PI 1160+60.28

8400

PN: 19 PD: REBAR/CAP

N2°48'07.7"W 326.37'

℄ MEDIAN

PN: 18 PD: REBAR/CAP

N1°43'44.5"W 562.46'

8005

PT 1166+15.04

SURVEY BASELINE

PN: 17 PD: REBAR/CAP

N2°48'22.4"W 823.60'

N2°08'51.8"W

PN: 16 PD: REBAR/CAP

N2°08'11.0"W 426.98'

℄ MED.
P.I. 1160+60.28
Δ = 1°50'57.7" RT.
D = 0°10'00.0"
T = 554.85
L = 1109.61
R = 34377.47
P.C. 1155+05.43
P.T. 1166+15.04
NO SUPER

SCALE IN FEET
100 50 0 50 100 200

Crafton, Tull & Associates Inc.

SURVEY CONTROL DETAILS

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDSINB.dgn
PLOTTED: 12/12/2011 17:53
SCALE: 200ft

G:\021032-00\020356\Eng\Dgn\SurvCtl\SDSINB.dgn 12/12/2011 17:53

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.		020356	90	320

(2) SURVEY CONTROL DETAILS

NOTE: POINTS DESCRIBED AS REBAR/CAP = 5/8" REBAR/2" DIA. ALUM. CAP STAMPED "B&F ENGR." & POINT NO.

POINTS DESCRIBED AS REBAR/CAP GPS = 5/8" REBAR WITH 2 1/2 DIA. ALUM. CAP STAMPED "AHTD GPS SURVEY POINT NO." AS INDICATED

SURVEY BASELINE

℄ MEDIAN

℄ S.H. 11

℄ RELOCATED BRANCHVILLE RD.

℄ RELOC. BRANCHVILLE RD.
P.I. 1237+92.70
Δ = 52°16'00.2" RT.
D = 10°00'00.0"
T = 281.10
L = 522.67
R = 572.96
P.C. 1235+11.60
P.T. 1240+34.27

℄ RELOC. BRANCHVILLE RD.
P.I. 1245+34.16
Δ = 22°43'16.8" LT.
D = 10°00'00.0"
T = 115.12
L = 227.21
R = 572.96
P.C. 1244+19.04
P.T. 1246+46.25

℄ RELOC. BRANCHVILLE RD.
P.I. 1256+40.11
Δ = 33°49'25.9" LT.
D = 10°00'00.0"
T = 174.21
L = 338.24
R = 572.96
P.C. 1254+65.90
P.T. 1258+04.14

STA. 26+49.48 ℄ S.H. 11 =
STA. 1233+12.30 ℄ BRANCHVILLE RD.
DELTA = 75°00'00.0"

STA. 1239+47.79 ℄ MEDIAN 58.53' LT. =
STA. 0+00 ℄ CHANNEL

STA. 30+00.00 ℄ S.H. 11 =
STA. 1236+38.77 ℄ MED.
DELTA = 45°27'16.6"

NOTE: POINTS SHOWN ON THIS SHEET CORRESPOND TO THOSE LISTED ON SHEETS 76 & 77

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

SCALE IN FEET
100 50 0 50 100 200

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS2NB.dgn
PLOTTED: 12/12/2011 17:53
SCALE: 200:1

G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS2NB.dgn 12/12/2011 17:53

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.		020356	91	320

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5915.78
L = 11578.82
R = 22918.31
P.C. 1270+77.68
P.T. 1386+56.50
NO SUPER

℄ RAMP 4
P.I. 1332+78.04
Δ = 29°54'52." LT.
D = 3°00'00.0"
T = 510.22
L = 997.15
R = 1909.86
P.C. 1327+67.82
P.T. 1337+64.97

℄ RAMP 1
P.I. 1327+00.22
Δ = 5°42'29.9" RT.
D = 3°00'00.0"
T = 95.22
L = 190.28
R = 1909.86
P.C. 1326+05.00
P.T. 1327+95.28

NOTE: POINTS SHOWN ON THIS SHEET CORRESPOND TO THOSE LISTED ON SHEETS 76 & 77

NOTE: POINTS DESCRIBED AS REBAR/CAP = ⅝" REBAR/2" DIA. ALUM. CAP STAMPED "B&F ENGR." & POINT NO.

POINTS DESCRIBED AS REBAR/CAP GPS = ⅝" REBAR WITH 2½DIA. ALUM. CAP STAMPED "AHTD GPS SURVEY POINT NO." AS INDICATED

SCALE IN FEET
100 50 0 50 100 200

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS3NB.dgn
PLOTTED: 12/12/2011 17:53
SCALE: 200'

G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS3NB.dgn 12/12/2011 17:53

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.		020356	92	320

(2) SURVEY CONTROL DETAILS

℄ RAMP 4
P.I. 1332+78.04
Δ = 29°54'52.2" LT.
D = 3°00'00.0"
T = 510.22
L = 997.15
R = 1909.86
P.C. 1327+67.82
P.T. 1337+64.97

℄ RAMP 4
P.I. 1344+98.90
Δ = 31°51'49.1" RT.
D = 6°00'00.0"
T = 272.59
L = 531.06
R = 954.93
P.C. 1342+26.31
P.T. 1347+57.37

STA. 147+44.78 ℄ S.H. 114=
STA. 1349+31.67 ℄ RAMP 3
DELTA = 90°00'00.0"
STA. 1350+67.07 ℄ RAMP 4
DELTA = 105°00'00.0"

℄ RAMP 3
P.I. 1360+06.91
Δ = 22°03'37.7" LT.
D = 3°00'00.0"
T = 372.28
L = 736.35
R = 1909.86
P.C. 1356+34.63
P.T. 1363+69.98

℄ RELOC. S.H. 114

℄ S.H. 114

℄ MEDIAN

℄ EXIST. S.H. 114
P.I. 152+71.79
Δ = 12°11'24.3" LT.
D = 2°00'00.0"
T = 305.91
L = 609.50
R = 2864.79
P.C. 149+65.88
P.T. 155+75.38

STA. 1347+90.40 ℄ MED.=
STA. 153+44.56 ℄ S.H. 114
DELTA = 104°25'54.8"

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5915.78
L = 11578.82
R = 22918.31
P.C. 1270+77.68
P.T. 1386+56.50
NO SUPER

STA. 1353+30.20 ℄ MED.=
STA. 152+48.31 ℄ RELOC. S.H.114
DELTA = 90°28'17.3"

℄ RAMP 1
P.I. 1335+31.82
Δ = 16°50'41.4" RT.
D = 3°00'00.0"
T = 282.79
L = 561.49
R = 1909.86
P.C. 1332+49.03
P.T. 1338+10.52

℄ RAMP 1
P.I. 1343+65.51
Δ = 18°12'04.2" LT.
D = 6°00'00.0"
T = 152.97
L = 303.35
R = 954.93
P.C. 1342+12.54
P.T. 1345+15.89

℄ RAMP 2
P.I. 1352+03.29
Δ = 42°43'32.8" LT.
D = 6°00'00.0"
T = 373.52
L = 712.10
R = 954.93
P.C. 1348+29.77
P.T. 1355+41.87

℄ RELOCATED S.H. 114
P.I. 159+21.86
Δ = 53°59'08.2" RT.
D = 8°00'00.0"
T = 364.81
L = 674.82
R = 716.20
P.C. 155+57.05
P.T. 162+31.87

℄ RAMP 2

℄ SE FRONTAGE RD.
P.I. 1335+72.62
Δ = 51°50'24.6" RT.
D = 8°00'00.0"
T = 348.08
L = 648.00
R = 716.20
P.C. 1332+24.54
P.T. 1338+72.54

℄ SE FRONTAGE RD.
P.I. 1345+45.69
Δ = 26°44'00.2" LT.
D = 10°00'00.0"
T = 136.15
L = 267.33
R = 572.96
P.C. 1344+09.54
P.T. 1346+76.87

℄ SE FRONTAGE RD.
P.I. 1350+17.70
Δ = 31°47'31.0" RT.
D = 12°00'00.0"
T = 135.97
L = 264.93
R = 477.46
P.C. 1348+81.73
P.T. 1351+46.66

STA. 159+44.69 ℄ S.H. 114=
STA. 1347+94.92 ℄ RAMP 1
STA. 1345+12.25 ℄ RAMP 2
DELTA = 90°00'00.0"

STA. 162+44.69 ℄ S.H. 114=
STA. 1348+66.98 ℄ SE FRONTAGE RD.
DELTA = 89°59'59.8"

STA. 164+35.00 ℄ RELOC. S.H. 114=
STA. 1351+59.01 ℄ SE FRONTAGE RD.
DELTA = 82°19'34.1"

℄ S.E. FRONTAGE RD.

℄ EXIST. S.H. 114

℄ SURVEY BASELINE

PN: 48 PD: REBAR/CAP
PN: 49 PD: REBAR/CAP
PN: 50 PD: REBAR/CAP
PN: 51 PD: REBAR/CAP
PN: 52 PD: REBAR/CAP
PN: 53 PD: REBAR/CAP
PN: 54 PD: REBAR/CAP
PN: 55 PD: REBAR/CAP

N16°22'23.3"W 8419
N19°54'00.9"W 529.68'
N20°31'07.3"W 484.24'
N9°50'33.0"W 323.44'
N23°33'48.9"W 358.21'
N22°41'33.2"W 251.91'
N22°36'03.9"W 562.18'
N21°26'19.8"W 578.58'
N10°15'27.9"W
N36°43'14.9"W
N6°35'13.5"E
N11°36'50.7"W
N11°36'50.5"W
N5°07'09.7"E
N14°25'26.4"W
N0°34'33.6"E
N67°41'32.8"E
N54°20'23.5"W

P.I. 1360+06.91 8417
P.I. 1350+17.70 8423
P.I. 1329+93.46 8418
P.I. 1355+41.87 8415
P.I. 1335+72.62 8421
P.I. 1338+72.54 8422
P.I. 1346+76.87 8424
P.I. 1345+45.69 8422
P.I. 1344+98.90 8420
P.I. 1343+65.51 8414
P.I. 1335+31.82 8413
P.I. 1332+78.04 8419

8090 8091 8093 8077 8076 8078 8071 8072 8062 8063 8064 8065 8067 8068 8069 8099 8101 8132 8134 8135 8136 8137 8138

PT 1337+64.97
PC 1342+26.31
PT 1347+57.37
P.C. 149+65.88
PC 1356+34.63
PC 1332+49.03
PT 1338+10.52
PC 1342+12.54
PT 1345+15.89
P.C. 155+57.05
P.T. 155+75.38
P.C. 163+87.
P.T. 162+31.87
PC 1332+78.04
PT 1338+72.54
P.C. 1344+09.54
P.T. 1346+76.87
P.C. 1348+81.73
P.T. 1351+46.66
P.C. 1348+29.77
P.T. 1355+41.87
P.I. 1355+41.87
P.I. 1350+17.70
P.I. 159+21.86

1330 1335 1340 1345 1350 1355 1360

NOTE: POINTS DESCRIBED AS REBAR/CAP = 5/8" REBAR/2" DIA. ALUM. CAP STAMPED "B&F ENGR." & POINT NO.

POINTS DESCRIBED AS REBAR/CAP GPS = 5/8" REBAR WITH 2 1/2 DIA. ALUM. CAP STAMPED "AHTD GPS SURVEY POINT NO." AS INDICATED

NOTE: POINTS SHOWN ON THIS SHEET CORRESPOND TO THOSE LISTED ON SHEETS 76 & 77

STATE OF ARKANSAS
HUBERT BURNS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11

SCALE IN FEET
100 50 0 50 100 200

Crafton, Tull & Associates Inc.

SURVEY CONTROL DETAILS

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS4NB.dgn SCALE: 200ft
PLOTTED: 12/12/2011 17:53

G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS4NB.dgn 12/12/2011 17:53

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.		020356	93	320

(2) SURVEY CONTROL DETAILS

℄ RELOCATED S.H. 114
P.I. 135+68.15
Δ = 5°51'14" RT.
D = 4°20'00.0"
T = 67.60
L = 135.09
R = 1322.21
P.C. 135+00.55
P.T. 136+35.64

℄ EXIST. S.H. 114
P.I. 138+39.27
Δ = 28°44'14.6" RT.
D = 4°20'00.0"
T = 338.72
L = 663.17
R = 1322.21
P.C. 135+00.55
P.T. 141+63.72

℄ RELOCATED S.H. 114
P.I. 159+21.86
Δ = 53°59'08.2" RT.
D = 8°00'00.0"
T = 364.81
L = 674.82
R = 716.20
P.C. 155+57.05
P.T. 162+31.87

℄ RELOCATED S.H. 114
P.I. 170+65.39
Δ = 86°52'45.7" LT.
D = 8°00'00.0"
T = 678.21
L = 1085.99
R = 716.20
P.C. 163+87.18
P.T. 174+73.17

℄ EXIST. S.H. 114
P.I. 152+71.79
Δ = 12°11'24.3" LT.
D = 2°00'00.0"
T = 305.91
L = 609.50
R = 2864.79
P.C. 149+65.88
P.T. 155+75.38

℄ EXIST. S.H. 114
P.I. 169+45.19
Δ = 43°35'14.0" LT.
D = 5°50'00.0"
T = 392.73
L = 747.21
R = 982.21
P.C. 165+52.46
P.T. 172+99.67

℄ RELOC. S.H. 114

℄ RAMP 3

℄ RAMP 4

℄ RAMP 2

℄ RAMP 1

℄ EXIST. S.H. 114

℄ MEDIAN

℄ S.E. FRONTAGE RD.

SURVEY BASELINE

PN: 134 PD: REBAR/CAP GPS 400013

PN: 54 PD: REBAR/CAP

PN: 55 PD: REBAR/CAP

PN: 53 PD: REBAR/CAP

PN: 52 PD: REBAR/CAP

STA. 1353+30.20 ℄ MED.=
STA. 152+48.31 ℄ RELOC. S.H. 114
DELTA = 90°28'17.3"

STA. 1347+90.40 ℄ MED.=
STA. 153+44.56 ℄ S.H. 114
DELTA = 104°25'54.8"

STA. 159+44.69 ℄ S.H. 114=
STA. 1347+94.92 ℄ RAMP 1
STA. 1345+12.25 ℄ RAMP 2
DELTA = 90°00'00.0"

STA. 162+44.69 ℄ S.H. 114=
STA. 1348+66.98 ℄ SE FRONTAGE RD.
DELTA = 89°59'59.8"

STA. 164+35.00 ℄ RELOC. S.H. 114=
STA. 1351+59.01 ℄ SE FRONTAGE RD.
DELTA = 82°19'34.1"

STA. 147+44.78 ℄ S.H. 114=
STA. 1349+31.60 ℄ RAMP 3
DELTA = 90°00'00.0"
STA. 1350+67.00 ℄ RAMP 4
DELTA = 105°00'00.0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

NOTE: POINTS SHOWN ON THIS SHEET CORRESPOND TO THOSE LISTED ON SHEETS 76 & 77

NOTE: POINTS DESCRIBED AS REBAR/CAP = ⅝" REBAR/2" DIA. ALUM. CAP STAMPED "B&F ENGR." & POINT NO.

POINTS DESCRIBED AS REBAR/CAP GPS = ⅝" REBAR WITH 2½DIA. ALUM. CAP STAMPED "AHTD GPS SURVEY POINT NO." AS INDICATED

SCALE IN FEET
100 50 0 50 100 200

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS5NB.dgn SCALE: 200#
PLOTTED: 12/12/2011 17:53

G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS5NB.dgn 12/12/2011 17:53

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.		020356	94	320

2 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

℄ RAMP 3
P.I. 1360+06.91
Δ = 22°03'37.7" LT.
D = 3°00'00.0"
T = 372.28
L = 735.35
R = 1909.86
P.C. 1356+34.63
P.T. 1363+69.98

℄ RAMP 3
P.I. 1370+00.66
Δ = 5°42'29.8" LT.
D = 3°00'00.0"
T = 95.22
L = 190.28
R = 1909.86
P.C. 1369+05.44
P.T. 1370+95.72

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5915.78
L = 11578.82
R = ~~22918.31~~
P.C. 1270+77.68
P.T. 1386+56.50
NO SUPER

℄ RAMP 2
P.I. 1364+43.00
Δ = ~~27°38'58.8"~~ RT.
D = 3°00'00.0"
T = 469.98
L = 921.66
R = 1909.86
P.C. 1359+73.02
P.T. 1368+94.68

PI 1360+06.91
PT 1363+69.98
PC 1369+05.44
PT 1370+95.72
PI 1370+00.66
P.C. 1359+73.02
P.T. 1368+94.68
P.I. 1364+43.00
PT 1386+56.50

578.58'
N21°26'19.8"W
563.49'
N32°44'53.6"W
467.81'
N20°27'19.0"W
566.99'
N34°18'21.9"W
513.95'
N31°05'41.2"W
484.51'
N32°22'19.1"W
353.50'
N15°35'22.0"W
N21°29'04.1"W
N26°41'24.7"W
N54°20'23.5"W

PN: 56 PD: REBAR/ CAP
PN: 57 PD: REBAR/ CAP
PN: 58 PD: REBAR/ CAP
PN: 59 PD: REBAR/ CAP
PN: 60 PD: REBAR/ CAP
PN: 61 PD: REBAR/ CAP

℄ MEDIAN
SURVEY BASELINE

8417 8080 8081 8083 8418 8085 8084 8416 8082 8072

1360 1365 1370 1375 1380 1385 1390

1390 1395 1400 1405 1410 1415 1420

N29°17'56.2"W 609.94'
N29°26'30.9"W 688.31'
N31°05'41.2"W
N35°28'09.3"W 416.76'
N30°34'54.7"W 413.98'
N31°03'18.4"W 484.59'
N29°34'39.1"W 524.73'

PN: 62 PD: REBAR/ CAP
PN: 63 PD: REBAR/ CAP
PN: 64 PD: REBAR/ CAP
PN: 65 PD: REBAR/ CAP
PN: 66 PD: REBAR/ CAP
PN: 67 PD: REBAR/ CAP

℄ MEDIAN

1420 1425 1430 1435 1440 1445 1450

N29°34'39.1"W 524.73'
N31°01'40.6"W 569.80'
N31°07'57.9"W 940.30'
N31°05'41.2"W
N36°35'43.0"W 387.26'
N29°12'55.4"W 467.57'
N31°36'26.2"W 739.38'

PN: 68 PD: REBAR/ CAP
PN: 69 PD: REBAR/ CAP
PN: 70 PD: REBAR/ CAP
PN: 71 PD: REBAR/ CAP
PN: 72 PD: REBAR/ CAP

SURVEY BASELINE
℄ MEDIAN

NOTE: POINTS SHOWN ON THIS SHEET CORRESPOND TO THOSE LISTED ON SHEETS 76 & 77

NOTE: POINTS DESCRIBED AS REBAR/CAP = 5/8" REBAR/2" DIA. ALUM. CAP STAMPED "B&F ENGR." & POINT NO.

POINTS DESCRIBED AS REBAR/CAP GPS = 5/8" REBAR WITH 2 1/2 DIA. ALUM. CAP STAMPED "AHTD GPS SURVEY POINT NO." AS INDICATED

SCALE IN FEET
100 50 0 50 100 200

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\Survctl\SDS6NB.dgn
PLOTTED: 12/12/2011 17:53
SCALE: 200'

G:\021032-00\020356\Eng\Dgn\Survctl\SDS6NB.dgn 12/12/2011 17:53

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.		020356	95	320

(2) SURVEY CONTROL DETAILS

℄ EXIST. S.H. 212
P.I. 20+75.76
Δ = 3°27'00.7" LT.
D = 1°45'43.0"
T = 97.94
L = 195.82
R = 3251.87
P.C. = 19+77.82
P.T. = 21+73.64

℄ RELOC. S.H. 212

PN: 136
PD: REBAR/CAP GPS 400014

PN: 73
PD: REBAR/CAP

PN: 74
PD: REBAR/CAP

PN: 75
PD: REBAR/CAP

PN: 1010O
PD: REBAR/CAP

PN: 1010I
PD: REBAR/CAP

SURVEY BASELINE

END JOB 020356
℄ MED. STA. 1467+00.00

℄ MEDIAN

℄ EXIST. S.H. 212

EQUATION
STA. 1479+81.82 BK. =
STA. 1479+81.85 AHD.

N31°36'26.2"W 739.38'
N31°05'41.2"W
N26°05'59.2"W 575.46'
N34°44'46.1"W 398.90'
N26°36'27.3"W
913.48'
N26°30'12.1"W
N66°32'55.2"E 1958.82'
S41°01'20.9"W 2116.81'
N3°05'41.2"W 855.08'
N87°46'55.4"E
S88°46'03.9"E
S88°46'02.2"E
N76°06'05.6"E
S70°17'31.1"E
S74°33'20.2"E
N27°32'53.5"W 1564.29'
N66°32'55.2"E 1958.82'

P.C. 19+77.82
P.I. 20+75.76
P.T. 21+73.64
PC 161+35.17
PC 146I+86.94
PT 1479+81.82
PT 154+49.27
P.I. 152+98.84
P.I. 163+51.45
P.I. 170+84.84
P.I. 3I+14.65
P.I. 171+78.29
PC 170+71.65
P.C. 29+01.01
P.T. 33+24.90
P.O.B. 0+00.00
POB 148+00.00
P.O.E. 42+95.40
BM921
BENCHMARK 954

8011 8009 8426 8424 8119 8120 8121 8425 8112 8428 8122 8142 8143 8123 8427 8109 8111 8108 8127 8126 8106 8105 8118

R=3251.87 D=1°45'43.0" L=195.82 T=97.94
R=716.20 D=8°00'00.0" L=420.08 T=216.28
R=1145.92 D=5°00'00.0" L=302.62 T=152.20
R=2864.78 D=2°00'00.0" L=106.64 T=53.18
R=1375.11 D=4°09'59.9" L=213.64 T=107.12

℄ RELOC. S.H. 212
P.I. 152+98.84
Δ = 15°07'52.2" LT.
D = 5°00'00.0"
T = 152.20
L = 302.62
R = 1145.92
P.C. = 151+46.64
P.T. = 154+49.27

EQUATION
STA. 153+46.64 ℄ EXIST. S.H. 212 =
PC STA. 151+46.64 ℄ RELOC. S.H. 212

℄ RELOC. S.H. 212
P.I. 163+51.45
Δ = 33°36'23.3" RT.
D = 8°00'00.0"
T = 216.28
L = 420.08
R = 716.20
P.C. = 161+35.17
P.T. = 165+55.25

STA. 1470+65.47 ℄ MED. =
STA. 158+75.10 ℄ RELOC. S.H. 212
DELTA = 105°00'00.0"

STA. 468+96.21 ℄ MED. =
STA. 21+52.95 ℄ EXIST. S.H. 212
DELTA = 117°28'05.4"

℄ MED.
P.I. 1470+84.84
Δ = 4°29'13.9" RT.
D = 0°15'00.0"
T = 897.90
L = 1794.87
R = 22918.31
P.C. 1461+86.94
P.T. 1479+81.82
NO SUPER

℄ RELOC. S.H. 212
P.I. 171+78.29
Δ = 4°15'49.1" LT.
D = 2°00'00.0"
T = 106.64
L = 213.18
R = 2864.78
P.C. = 170+71.65
P.T. = 172+84.83

EQUATION
PT STA. 172+84.83 ℄ EXIST. S.H. 212 =
STA. 34+34.99 ℄ RELOC. S.H. 212

℄ EXIST. S.H. 212
P.I. 3I+14.65
Δ = 12°39'42.6" RT.
D = 4°09'59.9"
T = 213.64
L = 423.89
R = 1375.11
P.C. = 29+01.01
P.T. = 33+24.90

NOTE: POINTS SHOWN ON THIS SHEET CORRESPOND TO THOSE LISTED ON SHEETS 76 & 77

NOTE: POINTS DESCRIBED AS REBAR/CAP = 5/8" REBAR/2" DIA. ALUM. CAP STAMPED "B&F ENGR." & POINT NO.

POINTS DESCRIBED AS REBAR/CAP GPS = 5/8" REBAR WITH 2 1/2 DIA. ALUM. CAP STAMPED "AHTD GPS SURVEY POINT NO." AS INDICATED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

SCALE IN FEET
100 50 0 50 100 200

SURVEY CONTROL DETAILS

Crafton, Tull & Associates Inc.

USER: rc534
DESIGN FILE: G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS7NB.dgn
PLOTTED: 12/12/2011 17:53
SCALE: 200:1

G:\021032-00\020356\Eng\Dgn\SurvCtl\SDS7NB.dgn 12/12/2011 17:53

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.		020356	96	320

(2) PLAN & PROFILE STA. 885+00 TO STA. 900+00

NOTE: BEGINNING OF JOB 020356 TO STA. 925+34.40 USE SURVEY CONTROL SHOWN ON SHEETS 68 THRU 75. FROM STA. 1090+05.00 TO END OF JOB 020356 USE SURVEY CONTROL SHOWN ON SHEETS 76 THRU 84.

C.L. HWYS. 11/425 CONNECTOR

STA. 74+50.82 - STA. 76+86.08
HWYS. 11/425 CONNECTOR CONSTRUCT
235.26' X 40.0' (CLEAR ROADWAY)
CONTINOUS COMPOSITE PLATE GIRDER BRIDGE

S79°10'45.0"E

STA. 897+00 CONSTRUCT
TYPE RM DROP INLET IN
MEDIAN (4' X 3' X H=3')
24" X 96' R.C. PIPE OUTLET ON LT.
(CLASS III) TYPE 3 BEDDING WITH FES.

N

CONCRETE DITCH PAVING

WEST RETAINING WALL
SEE BRIDGE LAYOUT

STA. 894+00 BEGIN GRADING
LEFT LANES - JOB 020356

BEGIN JOB 020356 STA. 893+00
BEGIN GRADING & STRUCTURES
RIGHT LANES

STA. 897+00 END GRADING
LEFT LANES - JOB 020356

CONSTRUCTION LIMITS

10'
24'
6'

75.00

885+00 890+00 895+00 900+00

C.L. MEDIAN

N03°59'49.4"W

75°10'55.6"

8'
24'
10'

C.L. MEDIAN STA. 894+94.53 =
C.L. HWYS. 11/425 CONN. STA. 75+71.95

CONCRETE DITCH PAVING

STA. 77+19.86 CONSTRUCT
TYPE N2 D.I. RT. WITH
12" X 45' Z.C.C.S.P. WITH
CONCRETE SPILLWAY ON RT. (TYPE A) = 1EA.

8' 24' 8'

EAST RETAINING WALL
SEE BRIDGE LAYOUT

STA. 77+09.28 CONSTRUCT
TYPE N2 D.I. LT. WITH
12" X 51' Z.C.C.S.P. WITH
CONCRETE SPILLWAY ON LT. (TYPE A) = 1EA.

CONSTRUCTION LIMITS

886+54.17

BEGIN JOB 020356 STA. 893+00

ELEV. 246.42
PVI 885+46.33
ELEV. 244.85
P.G. ELEV. 246.58
VC=2000.00'
K 2893.59
0.00% 0.69%
3.1% LT. LANES

ELEV. 250.17
ELEV. 250.79
3.1% RT. LANES
3.1% LT. LANES
PROFILE GRADE
EXISTING GROUND
0.34% MEDIAN DITCH GRADE
0.50% RIGHT DITCH GRADE
0.20% LT. OF LT. LANES DITCH GRADE
+00.00 MED. 244.82
+00.00 RT. 244.82
+00.00 LT. OF LT. LANES 243.67
+00.00 MED. 245.67
+00.00 RT. 245.82
+00.00 LT. OF LT. LANES 245.18
0.73% LT. OF LT. LANES DITCH GRADE

PVT 895+46.33
ELEV. 251.16
ELEV. 252.83
3.1% LT. LANES
0.69%
1.31% MEDIAN DITCH GRADE
0.38% MEDIAN DITCH GRADE
+00.00 MED. 247.64
+00.00 LT. OF LT. LANES 248.95
+00.00 MED. 248.95
+00.00 LT. 249.72
ELEV. 254.90
TOP 248.95
INV 245.95
FL=245.73 LT.

T.B.M. 9034 CPS IN E. SIDE 18" OAK 30.84' LT.
STA. 886+20.64. ELEVATION = 237.698

280 270 260 250 240 230 220 210 200 190

885+00 886+00 887+00 888+00 889+00 890+00 891+00 892+00 893+00 894+00 895+00 896+00 897+00 898+00 899+00 900+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT A. THOMPSON
12-12-11

RNFortner 12/12/2011 2:45:26 PM
WORKSPACE: AHTD\8
L:\2002\020I090 I-69Con\DwgCT\rwy\69NMNLPP01.dgn

REVISED DATE:
I-5-09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	97	320

PLAN & PROFILE STA. 900+00 TO STA. 915+00

RAMP 3 STA. 904+55
24" X 104' R.C. PIPE CULVERT
45° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
DA = 9 CFS 050 = 3 ACRES

C.L. RAMP 3 (CURVE 3-1)
P.I. = 906+10.16
Δ = 24°06'34"LT.
D = 05°00'00"
T = 244.72
L = 482.19
e = 0.083
Ls = 300

STA. 907+98 CONSTRUCT
TYPE RM DROP INLET IN MEDIAN
(8'-4" X 3'-0" X H=6'-6") WITH
42" X 322' R.C. PIPE OUTLET
27° RT. FWD. SKEW
WITH FES LT.
(CLASS III) TYPE 3 BEDDING
050 = 68 CFS DA = 35 ACRES

RAMP 2 STA. 908+65.36
CONSTRUCT TYPE RM DROP INLET
(4'-3" X 3'-0" X H=5'-6") WITH
42" X 89' R.C. PIPE CULVERT
8° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES RT.
050 = 68 CFS DA = 35 ACRES

C.L. MEDIAN STA. 911+23.01, 92.29' LT.= C.L. RAMP 3 TEMP. CROSSOVER STA. 10+00.00

C.L. MEDIAN STA. 911+20.27, 80.00' LT. = C.L. RAMP 3 STA. 911+19.88, 12.50 ' RT.

C.L. MEDIAN STA. 912+12.84, 66.00' RT. = C.L. RAMP 2 STA. 912+13.53, 9.50 ' LT.

C.L. RAMP 2 (CURVE 2-2)
P.I. = 909+63.37
Δ = 30°26'17"RT.
D = 03°45'00"
T = 415.66
L = 811.68
e = 0.069
Ls = 300

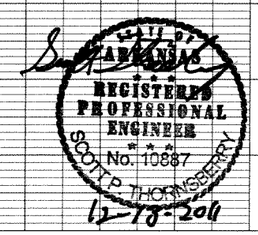
C.L. RAMP 3 (CURVE 3-2)
P.I. = 914+81.19
Δ = 05°42'30"LT.
D = 03°00'00"
T = 95.22
L = 190.28
NO SUPER

C.L. RAMP 3 TEMP. CROSSOVER (CURVE 3C-1)
P.I. = 11+73.17
Δ = 10°21'42"RT.
D = 03°00'00"
T = 173.17
L = 345.39
NO SUPER

CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ. YDS.
908+58.75	909+00.00	LT. = 43 LIN. FT.	6'-0"	28.70

CONSTRUCTION LIMITS
PROPOSED R/W C/A & FENCE
PROPOSED C/A & FENCE
700' ACCELERATION LANE
RAMP 3
RAMP 2
RAMP 3 TEMP. CROSSOVER
C.L. MEDIAN
STA. 907+00 BEGIN GRADING LEFT LANES - JOB 020356
STA. 912+00 BEGIN PAVING RIGHT LANES JOB 020356
N01°42'40.6"E
N03°59'49.4"W
PC 904+47.63
PT 906+10.16
PI 906+53.23
PC 910+00.00
PI 911+73.17
PC 913+85.95
PT 913+59.38
PRC 13+45.39
PI 914+81.19
PC 905+47.70
PT 907+93.70
PI 912+12.84
PT 913+83.52
STA. 912+12.84
915+00
ELEV. 264.90
ELEV. 255.27
EXISTING GROUND
PROFILE GRADE
0.69%
FL IN = 250.00 RT.
FL OUT = 247.79 LT.
TOP = 255.22
INV = 248.72
TOP = 254.89
INV = 249.59



RNFortner 12/12/2011 2:46:47 PM
WORKSPACE: AHTDVB
L:\2002\020090 I-69Con\DwgCTrwy\69NMNLPP02.dgn
REVISED DATE:
05-02-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	98	320

(2) PLAN & PROFILE STA. 915+00 TO STA. 925+34

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

PROPOSED R/W C/A & FENCE

C.L. RAMP 3 (CURVE 3-1)
P.I. = 914+81.19
Δ = 05°42'30"LT.
D = 03°00'00"
T = 95.22
L = 190.28
NO SUPER

C.L. RAMP 3 TEMP. CROSSOVER (CURVE 3C-2)
P.I. = 16+14.99
Δ = 16°04'12"LT.
D = 03°00'00"
T = 269.60
L = 535.67
NO SUPER

STA. 915+76.25 END GRADING
LEFT LANES - JOB 020356

C.L. MEDIAN STA. 919+90.39, 47.5' RT. =
C.L. RAMP 3 TEMP. CONN. STA. 18+81.06

CONSTRUCTION LIMITS

C.L. MEDIAN

N03°59'49.4"W

RAMP 3 TEMP. CROSSOVER

700' ACCELERATION LANE

300' TAPER

CONSTRUCTION LIMITS

PROPOSED R/W C/A & FENCE

STA. 915+38 RT.
25' GUARDRAIL (TYPE C) AND
THREE (3) REFLECTIVE RED DIAMOND
OBJECT MARKERS MOUNTED ON
U-CHANNEL POST DIRECTLY BEHIND
THE GUARDRAIL AT A HEIGHT OF 4'

EQUATION
STA. 925+34.40 BK=
STA. 1090+05.00 AHD

EXISTING GROUND

PROFILE GRADE

3:1 EXT. LANES

0.69%

ELEV. 265.27

PVI 925+34.40
ELEV. 272.42

T.B.M. 9031 CPS IN S. SIDE 20" OAK 60.00' RT.
STA. 915+42.67. ELEVATION = 277.165

RNorthner 12/12/2011 2:47:44 PM
WORKSPACE: AHTDV8
L:\2002\020090 I-69Con\DwgCT\rwy\69NMNLPP03.dgn
REVISED DATE:
11-6-08

NOTE: BEGINNING OF JOB 020356 TO STA. 925+34.40 USE SURVEY CONTROL SHOWN ON SHEETS 72 THRU 78. FROM STA. 1090+05.00 TO END OF JOB 020356 USE SURVEY CONTROL SHOWN ON SHEETS 79 THRU 85.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	99	320

(2) PLAN & PROFILE STA. 900+00 TO 1095+00

EQUATION
STA. 925+34.40 BK =
STA. 1090+05.00 AHD

CONSTRUCTION LIMITS
EXISTING R/W & C/A
PRESERVE VEGETATION
N3°59'49.4"W
24'
8'
SHLD.
10'
SHLD.
40'
CONSTRUCTION LIMITS
EXISTING R/W & C/A

STA. 1093+12 CONSTRUCT
DBL. 30"x 99' R.C. PIPE CULVERT
ON 20° LT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT.
WITH DUMPED RIPRAP AT OUTLET END
050= 58 CFS D.A.= 46 ACRES
DUMPED RIPRAP = 10 CU. YDS.

MAIN LANES

WIRE FENCE (TYPE A)

STA.	STA.	LOCATION	LIN. FT.
1090+05	1108+00	LT. OF R.M.L	1800
1090+05	1108+00	RT. OF R.M.L.	1800

EROSION CONTROL MATTING (CLASS 3)

STA.	STA.	SIDE	"W"	SQ. YDS.
1093+22	1094+30	LT. OF R.M.L.	8'-0"	96

FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM.
THE STREAM BANK ELEVATIONS ARE 268.5 FEET M.S.L.

PROPOSED GRADE
EXISTING GROUND
ELEV. 275.84
0.69%
+12 2.52% RT. DT. GR.
-1.07% RT. DT. GR.
-1.23% LT. DT. GR.
+12 3.36% LT. DT. GR.
+00 RT. 268.71
+00 LT. 268.59
+79 RT. 266.80
+12 LT. 265.98
+22 LT. 265.98
+30 LT. 270.71
+50 RT. 271.11
P.V.I. 1090+05.00
ELEV. 272.42
FL IN = 266.73 RT.
FL OUT = 266.05 LT.

EQUATION
STA. 925+34.40 BK =
STA. 1090+05 AHD

310 300 290 280 270 260 250 240 230 220

1090+00 1095+00

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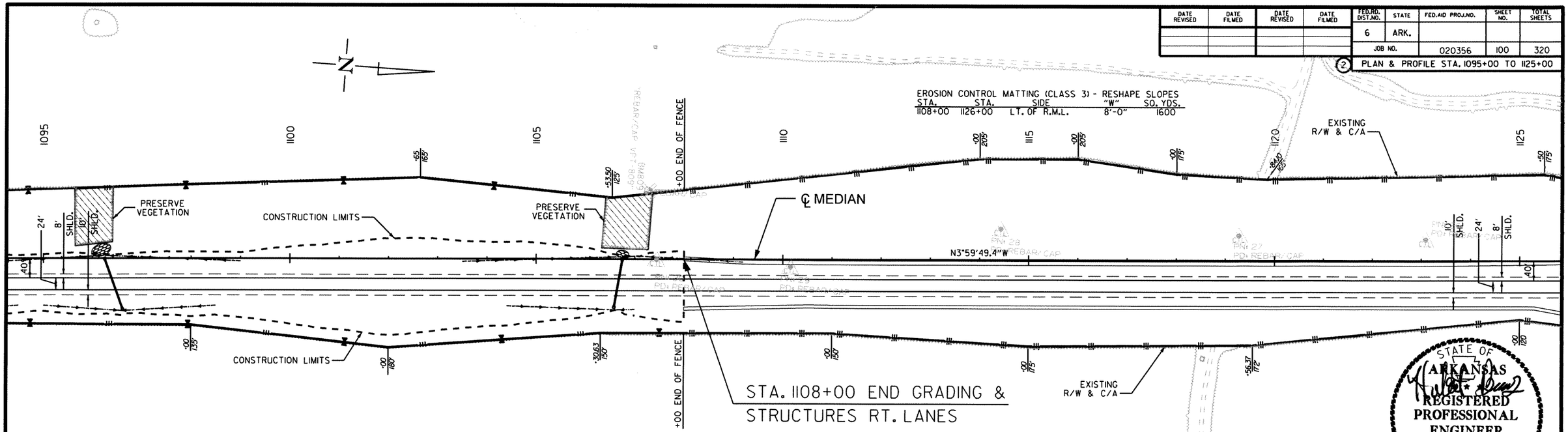
				6	ARK.			
				JOB NO.		020356	100	320

(2) PLAN & PROFILE STA. 1095+00 TO 1125+00

EROSION CONTROL MATTING (CLASS 3) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1108+00	1126+00	LT. OF R.M.L.	8'-0"	1600



STA. 1096+24 CONSTRUCT
30"x 99' R.C. PIPE CULVERT
ON 20° RT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT. WITH DUMPED RIPRAP AT OUTLET END
Q50= 22 CFS D.A.= 20 ACRES
DUMPED RIPRAP = 8 CU. YDS.

STA. 1106+75 CONSTRUCT
30"x 90' R.C. PIPE
ON 10° LT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT. WITH DUMPED RIPRAP AT OUTLET END
Q50= 23 CFS D.A.= 18 ACRES
DUMPED RIPRAP = 8 CU. YDS.

CONCRETE DITCH PAVING (TYPE B) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1108+00	1130+00	RT. OF R.M.L.	6'-6"	1588.89

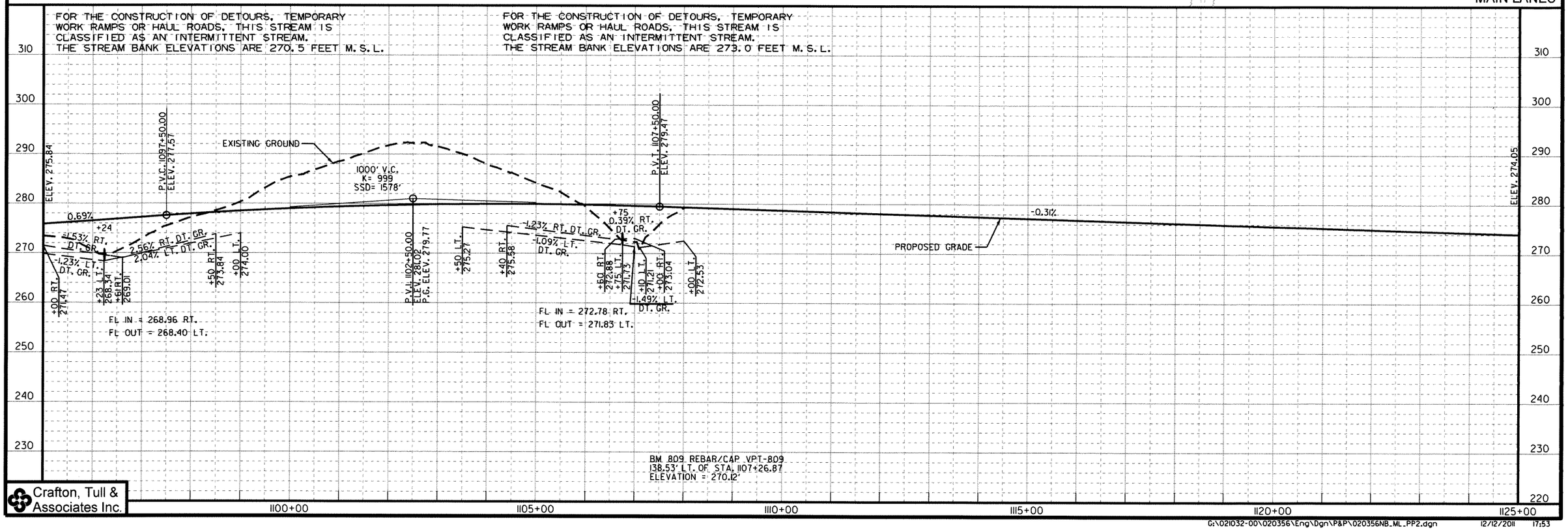
NOTE: EXISTING FENCE FROM STA. 1108+00 TO END OF JOB. (IN PLACE) (TO REMAIN)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11
HUBERT BURNS

MAIN LANES

FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATIONS ARE 270.5 FEET M.S.L.

FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATIONS ARE 273.0 FEET M.S.L.



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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.		020356	101	320

(2) PLAN & PROFILE STA. 1125+00 TO 1155+00

MILL CREEK

APPROX. LIMITS SPECIAL FLOOD HAZARD AREA

EXISTING R/W & C/A

PRESERVE VEGETATION

℄ MEDIAN

16' GATE

N3°59'49.4"W

8' SHLD. 24' 10' SHLD. 40'

STA. 1129+56 IN PLACE
DOUBLE 6'x 4'x 136' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 376 CFS D.A.= 329 ACRES
RETAIN

STA. 1138+59 IN PLACE
TRIPLE 8'x 6'x 113' R.C. BOX CULVERT
ON 15° RT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 1156 CFS D.A.= 1473 ACRES
SPAN= 27.61'
RETAIN

P.C. 1155+05.43

STATE OF ARKANSAS
HUBERT BURNS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11

MAIN LANES

ELEV. 274.05

PROPOSED GRADE

-0.31%

P.V.C. 1140+00.00
ELEV. 269.40

1000' V.C.
K= 578

P.V.I. 1145+00.00
ELEV. 267.85
P.G. ELEV. 270.10

1.42%

P.V.T. 1150+00.00
ELEV. 274.95

ELEV. 282.05

FL IN = 255.87 RT.
FL OUT = 255.28 LT.

FL IN = 255.43 RT.
FL OUT = 254.79 LT.

BM 958 COTTON PICKER SPINDLE
SET IN ELM TREE
354.96' RT. OF STA. 1128+55.33
ELEVATION = 259.08'

BM 959 COTTON PICKER SPINDLE
SET IN PINE TREE
210.39' LT. OF STA. 1130+01.12
ELEVATION = 258.26'

BM 987 COTTON PICKER SPINDLE
IN 12" TREE
238.10' LT. OF STA. 1139+01.42
ELEVATION = 254.30'

BM 988 COTTON PICKER SPINDLE
IN 12" OAK TREE
153.87' RT. OF STA. 1140+77.17
ELEVATION = 257.18'

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	102	320

(2) PLAN & PROFILE STA. 1155+00 TO 1185+00

STATE OF ARKANSAS
Hubert Burns
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

EROSION CONTROL MATTING (CLASS 3) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1174+00	1191+50	LT. OF R.M.L.	8'-0"	1556

EXISTING R/W & C/A

PRESERVE VEGETATION

℄ MEDIAN

N3°59'49.4"W

N2°08'51.8"W

8' SHLD. 24' 10' SHLD.

40'

P.C. 1155+05.43

STA. 1157+70 IN PLACE
48"× 167' R.C. PIPE CULVERT
ON 40° RT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT. WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 94 CFS D.A.= 103 ACRES
RETAIN

℄ MED.
P.I. 1160+60.28
Δ = 1°50'57.7" RT.
D = 0°10'00.0"
T = 554.85
L = 1109.61
R = 34377.47
P.C. 1155+05.43
P.T. 1166+15.04
NO SUPER

P.T. 1166+15.04

EXISTING R/W & C/A

CONCRETE DITCH PAVING (TYPE B) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1174+00	1193+00	RT. OF R.M.L.	9'-3"	1952.78

MAIN LANES

ELEV. 282.05

PROPOSED GRADE

1.42%

ELEV. 324.65

FL IN = 272.18 RT.
FL OUT = 270.20 LT.

Crafton, Tull & Associates Inc.

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	103	320

(2) PLAN & PROFILE STA. 1185+00 TO 1215+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/13/11

EROSION CONTROL MATTING (CLASS 3) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1213+00	1230+00	RT. OF R.M.L.	8'-0"	1511
1213+00	1230+00	LT. OF R.M.L.	8'-0"	1511

EXISTING R/W & C/A

PRESERVE VEGETATION

PRESERVE VEGETATION

℄ MEDIAN

PRESERVE VEGETATION

N2°08'51.8"W

8' SHLD. 24' 10' SHLD. 40'

8' SHLD. 24' 10' SHLD. 40'

STA. 1193+40 IN PLACE
48"x 147' R.C. PIPE CULVERT
ON 15° RT. FWD. SKEW
(CLASS IV) (TYPE 3 BEDDING) WITH
FES LT. & RT. WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 104 CFS D.A.= 59 ACRES
RETAIN

EXISTING R/W & C/A

STA. 1206+00 IN PLACE
42"x 170' R.C. PIPE CULVERT
ON 15° RT. FWD. SKEW
(CLASS IV) (TYPE 3 BEDDING) WITH
FES LT. & RT. WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 75 CFS D.A.= 89 ACRES
RETAIN

MAIN LANES

ELEV. 324.65

1.42%

P.V.C. 1197+00.00
ELEV. 341.69

FL IN = 320.05 RT.
FL OUT = 317.74 LT.

P.V.I. 1203+00.00
ELEV. 350.20
P.G. ELEV. 346.72

1200' V.C.
K= 516
SSD= 1056'

PROPOSED GRADE

-0.90%

P.V.T. 1209+00.00
ELEV. 344.79

FL IN = 326.49 RT.
FL OUT = 324.06 LT.

ELEV. 339.37

380 370 360 350 340 330 320 310 300 290

1190+00 1195+00 1200+00 1205+00 1210+00 1215+00

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	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 1232+32.76 TO STA. 1235+76.51 RT. OF R.M.L.	= 275 LIN. FT.	1 EACH	1 EACH
STA. 1234+15.60 TO STA. 1235+34.35 LT. OF R.M.L.	= 50 LIN. FT.	1 EACH	1 EACH
STA. 1238+08.72 TO STA. 1241+52.47 LT. OF R.M.L.	= 275 LIN. FT.	1 EACH	1 EACH
STA. 1238+50.88 TO STA. 1239+69.63 RT. OF R.M.L.	= 50 LIN. FT.	1 EACH	1 EACH

STATE OF ARKANSAS
Hubert Burns
REGISTERED PROFESSIONAL ENGINEER
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12/16/11

DUMPED RIPRAP - SLOPE REPAIR

STA.	STA.	SIDE	"W"	CU. YDS.
1215+00	1222+40	RT. OF R.M.L.	22'-2"	910

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	104	320

(2) PLAN & PROFILE STA. 1215+00 TO 1245+00

STA. 1223+40 IN PLACE
30"x 98' R.C. PIPE CULVERT
ON 10° RT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT. WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 22 CFS D.A.= 15 ACRES
RETAIN

SLOPE REPAIR - R.M.L. LT.
IN JOB 020356

SLOPE REPAIR - R.M.L. RT.
IN JOB 020356

PRESERVE VEGETATION

EXISTING R/W & C/A

EXISTING R/W

EXISTING C/A

℄ MEDIAN

S.H. 11

N43°18'24.8"E

N31°41'35.2"W

N2°08'51.8"W

STA. 26+49.48 ℄ S.H. II=
STA. 1233+12.39 ℄ BRANCHVILLE RD.
DELTA = 75°00'00.0"

STA. 1236+38.77 ℄ MED.=
STA. 30+00.00 ℄ S.H. II
DELTA = 45°27'16.6"

STA. 1239+48 ℄ MED.
IN PLACE CHANNEL LT.
(30' BOTTOM, 3:1 SIDE SLOPES)
RETAIN

45°27'16.6"

16' GATE

STA. 1235+00 IN PLACE
24"x 95' R.C. PIPE OUTLET ON RT.
(CLASS III) (TYPE 3 BEDDING) WITH FES RT.
PLUG INLET LT.
RETAIN

STA. 1239+35 IN PLACE
QUINTUPLE 5'x 3'x 194' R.C. BOX CULVERT
ON 15° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50= 420 CFS D.A.= 210 ACRES
RETAIN

P.I. 1237+92.70
P.I. 1240+34.27
P.I. 1245+34.16

MAIN LANES

CONCRETE DITCH PAVING (TYPE B) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1240+00	1242+20	LT. OF R.M.L.	6'-6"	159.40

ELEV. 339.37

PROPOSED GRADE

-0.90%

FL IN = 323.38 RT.
FL OUT = 322.85 LT.

STA. 1231+55 NORMAL CROWN
STA. 1233+05 TANGENT RUNOUT
STA. 1234+55 REVERSE CROWN BEGIN PAV'T. THICKNESS TRANSITION
STA. 1235+05 END PAV'T. THICKNESS TRANSITION
STA. 1235+54.11 N.B. BEGIN BRIDGE & EXCEPTION

IN PLACE 245'-0" CONT. COMP. W-BEAM UNIT
BRIDGE NO. BTI06
40'-0" CLEAR ROADWAY
RETAIN

STA. 1238+02.18 N.B. END BRIDGE & EXCEPTION
STA. 1238+80 BEGIN PAV'T. THICKNESS TRANSITION
STA. 1239+30 REVERSE CROWN END PAV'T. THICKNESS TRANSITION
P.V.C. 1240+00.00 ELEV. 316.78
STA. 1240+80 TANGENT RUNOUT
STA. 1242+30 NORMAL CROWN

1000' V.C.
K= 559

P.V.T. 1245+00.00
ELEV. 312.28
P.O. ELEV. 314.50

FL IN = 312.78 (PLUG)
FL OUT = 311.84 RT.

BM 951 BENCHMARK SET BY CTAR2
302.78' LT. OF STA. 1232+97.72
ELEVATION = 298.34'

FL IN = 292.38 RT.
FL OUT = 291.48 LT.

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	105	320

(2) PLAN & PROFILE STA. 1245+00 TO 1275+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/31/11

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5915.78
L = 11578.82
R = 22918.31
P.C. 1270+77.68
P.T. 1386+56.50
NO SUPER

EROSION CONTROL MATTING (CLASS 3) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1261+90	1280+00	LT. OF R.M.L.	8'-0"	1609

BRANCHVILLE RD.

P.C. 1244+19.04
P.T. 1246+46.25
P.C. 1254+65.90
P.T. 1258+04.74
N35°58'17.7"W
N2°08'51.8"W
P.I. 1256+40.11
1245+34.16
EXIST. P.C.E.
EXISTING R/W & C/A
4' SHLD.
20'
8' SHLD.
24'
10' SHLD.
40'
PRESERVE VEGETATION
IN PLACE PAVED CONCRETE DITCH RETAIN
℄ MEDIAN
P.C. 1270+77.68
12'
140'
PN= 31 PD= REBAR/CAP
PN= 34 PD= REBAR/CAP
PN= 36 PD= REBAR/CAP
PN= 38 PD= REBAR/CAP

STA. 1245+12 IN PLACE
42"× 133' R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING) WITH
FES LT. & RT. WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
050= 70 CFS D.A.= 42 ACRES
RETAIN

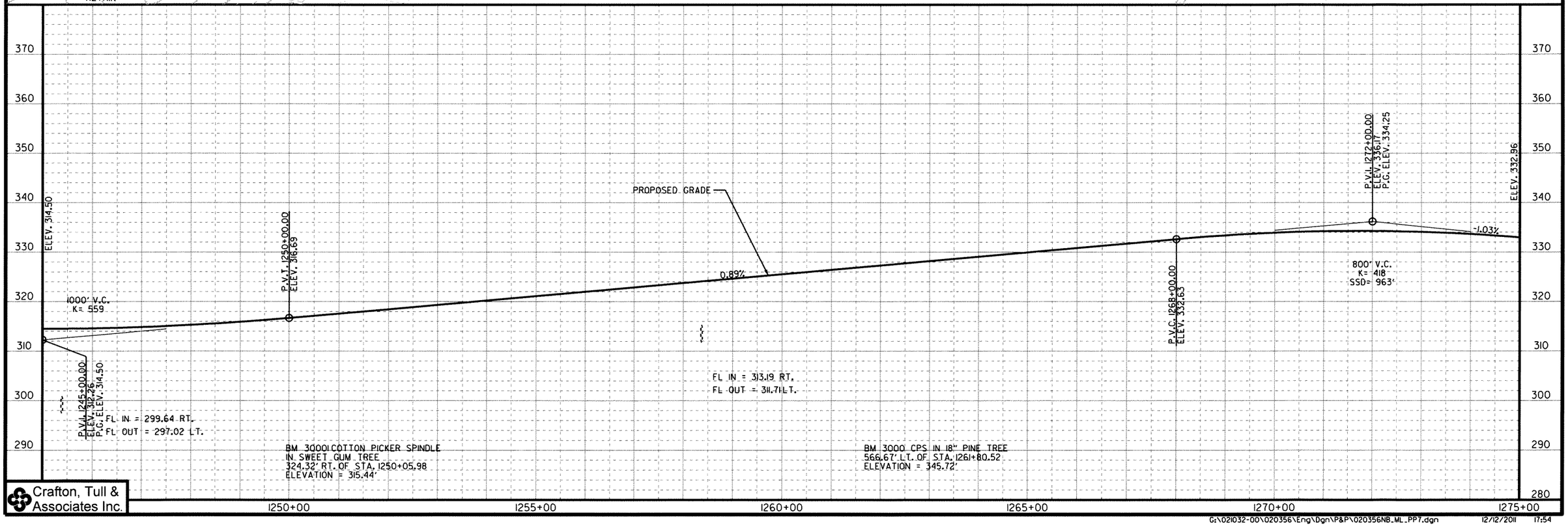
STA. 1253+50.00 ℄ MEDIAN RT. IN PLACE
25' GUARDRAIL (TYPE C) AND THREE (3)
REFLECTIVE RED DIAMOND OBJECT MARKERS
MOUNTED ON U-CHANNEL POSTS DIRECTLY
BEHIND THE GUARDRAIL AT A HEIGHT OF 4'.
RETAIN

STA. 1258+37 IN PLACE
42"× 143' R.C. PIPE CULVERT
ON 40° RT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
050= 62 CFS D.A.= 39 ACRES
RETAIN

CONCRETE DITCH PAVING (TYPE B) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1251+90	1255+00	RT. OF R.M.L.	6'-6"	223.89
1261+20	1280+00	RT. OF R.M.L.	6'-6"	1357.78

MAIN LANES



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				6	ARK.			
				JOB NO.		020356	106	320

(2) PLAN & PROFILE STA. 1275+00 TO 1305+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11
HUBERT BURNS

EROSION CONTROL MATTING (CLASS 3) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1301+00	1305+00	LT. OF R.M.L.	8'-0"	356

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5915.78
L = 11578.82
R = 22918.31
P.C. 1270+77.68
P.T. 1386+56.50
NO SUPER

1275 1280 1285 1290 1295 1300

EXISTING R/W & C/A

8' SHLD. 24' 10' SHLD.

PRESERVE VEGETATION

IN PLACE PAVED CONCRETE DITCH RETAIN

℄ MEDIAN

PRESERVE VEGETATION

EXISTING R/W & C/A

8' SHLD. 24' 10' SHLD.

40'

IN PLACE PAVED CONCRETE DITCH RETAIN

STA. 1284+25 IN PLACE
42"x 137' R.C. PIPE CULVERT
ON 35° RT. FWD. SKEW
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT.
050= 80 CFS D.A.= 57 ACRES
RETAIN

STA. 1280+00 IN PLACE
24"x 102' R.C. PIPE OUTLET ON RT.
(CLASS III) (TYPE 3 BEDDING) WITH FES RT.
PLUG INLET LT.
RETAIN

STA. 1290+00 IN PLACE
24"x 104' R.C. PIPE OUTLET ON RT.
(CLASS III) (TYPE 3) BEDDING WITH FES RT.
PLUG INLET LT.
RETAIN

STA. 1300+00 IN PLACE
24"x 124' R.C. PIPE OUTLET ON RT.
(CLASS III) (TYPE 3) BEDDING WITH FES RT.
PLUG INLET LT.
RETAIN

MAIN LANES

360 350 340 330 320 310 300 290 280 270

ELEV. 332.96

P.V.T. 1276+00.00
ELEV. 332.05

-1.03%

PROPOSED GRADE

ELEV. 302.18

FL IN = 319.20 (PLUG)
FL OUT = 318.18 RT.

FL IN = 311.48 LT.
FL OUT = 309.82 RT.

FL IN = 308.24 (PLUG)
FL OUT = 307.19 RT.

FL IN = 297.94 (PLUG)
FL OUT = 296.90 RT.

1280+00 1285+00 1290+00 1295+00 1300+00 1305+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.		020356	107	320

(2) PLAN & PROFILE STA. 1305+00 TO 1335+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11
HUBERT BURNS

STA. 1313+28.60 IN PLACE
QUINTUPLE 10'x 7'x 203' R.C. BOX CULVERT
ON 45° LT. FWD. SKEW
WITH 3:1 WINGS LT.& RT.
050= 1860 CFS D.A.= 2.9 SQ. MILES
SPAN = 77.19'
RETAIN

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5915.78
L = 11578.82
R = 22918.31
P.C. 1270+77.68
P.T. 1386+56.50
NO SUPER

STA. 1329+90 IN PLACE
DOUBLE 6'x 4'x 107' R.C. BOX CULVERT
ON 30° RT. FWD. SKEW
WITH 3:1 WINGS LT.& RT.
WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
050= 287 CFS D.A.= 226 ACRES
RETAIN

APPROX. LIMITS SPECIAL FLOOD HAZARD AREA

EXISTING R/W & C/A

EXISTING R/W

SANDERS CREEK

PRESERVE VEGETATION

16' GATE

8' SHLD. 24' 10' SHLD.

40'

℄ MEDIAN

CONCRETE DITCH PAVING (TYPE B) - RESHAPE SLOPES

STA.	STA.	SIDE	"W"	SQ. YDS.
1305+00	1309+00	RT. OF R.M.L.	6'-6"	288.89
1325+00	1328+00	RT. OF R.M.L.	6'-6"	216.67

IN PLACE
DUMPED RIPRAP 1'-6" THICK PLACED
ON GEOTEXTILE FABRIC TYPE 5.
DUMPED RIPRAP = 940 C.Y.
GEOTEXTILE FABRIC TYPE 5 = 1880 S.Y.
RETAIN

P.I. 1335+72.62

EXISTING C/A

MAIN LANES

ELEV. 302.18

-1.03%

P.V.C. 1312+00.00
ELEV. 294.97

P.V.I. 1317+00.00
ELEV. 289.82
P.C. ELEV. 291.28

1000' V.C.
K= 855

P.V.T. 1322+00.00
ELEV. 290.52

PROPOSED GRADE

0.14%

ELEV. 292.34

FL IN = 272.72 RT.
FL OUT = 272.31 LT.

FL IN = 282.64 RT.
FL OUT = 281.23 LT.

BM 9911 COTTON PICKER SPINDLE IN ELM TREE
87.86' LT. OF STA. 1313+80.29
ELEVATION = 280.22'

BM 9913 COTTON PICKER SPINDLE IN ELM TREE
343.47' RT. OF STA. 1314+29.08
ELEVATION = 285.75'

Crafton, Tull & Associates Inc.

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SCALE: 200:1

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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.		020356	108	320

(2) PLAN & PROFILE STA. 1335+00 TO 1365+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11
HUBERT BURNS

EXISTING R/W & C/A

PRESERVE VEGETATION

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5918.78
L = 11578.82
R = 22918.31
P.C. 1270+77.68
P.T. 1386+56.50
e = N.C.
NO SUPER

EXIST. S.H. 114

EXIST. R/W

P.C. 149+65.88

RELOC. S.H. 114

8' SHLD.

24'

8' SHLD.

STA. 1347+90.40 ℄ MED.=
STA. 153+44.56 ℄ S.H. 114
DELTA = 104°25'54.8"

P.I. 152+71.79

STA. 1351+92.78
END BASE & SURFACING

℄ MEDIAN

+64.03

+93.39

+92.78

+63.55

+68.42

STA. 1353+30.20 ℄ MED.=
STA. 152+48.31 ℄ TEMP. RELOC. S.H. 114
DELTA = 90°28'17.3"

75°34'05.2"

155

P.I. 155+75.38

R = 125 (TYP.)

+37.75

+35.79

90°28'17.3"

STA. 1354+68.42
BEG. BASE & SURFACING

P.C. 156+67.05

1348+00

1351+00

SLOPE REPAIR - R.M.L. RT.
IN JOB 020356

GAS LINE

HARRISON LINES

EXISTING C/A

EXISTING R/W

PRESERVE VEGETATION

EXISTING R/W & C/A

MAIN LANES

DUMPED RIPRAP - SLOPE REPAIR

STA.	STA.	SIDE	"W"	CU. YDS.
1348+00	1351+00	RT. OF R.M.L.	22'-2"	369

EXISTING PAVEMENT TO REMAIN

ELEV. 292.34

0.14%

P.V.I. 1348+00.00
ELEV. 294.16
P.C. ELEV. 293.42

P.V.C. 1343+00.00
ELEV. 293.46

1000' V.C.
K = 1695
SSD = 2329'

STA. 1351+92.78
END BASE & SURFACING

STA. 1354+68.42
BEG. BASE & SURFACING

P.V.T. 1353+00.00
ELEV. 291.91

-0.45%

PROPOSED GRADE

ELEV. 286.51

BM 30003 CPS IN TELEPHONE POLE
386.21' LT. OF STA. 1343+00.65
ELEVATION = 287.91'

BM 30002 CPS IN TELEPHONE POLE
184.41' RT. OF STA. 1343+01.73
ELEVATION = 303.17'

BM 30004 ½" REBAR CM:
ON SOUTH EDGE OF GAS R/W
380.32' LT. OF STA. 1345+24.05
ELEVATION = 290.10'

BM 30005 ½" REBAR
ON SOUTH EDGE OF GAS R/W
229.24' RT. OF STA. 1344+91.61
ELEVATION = 314.31'

BM 977 PK NAIL
ON NORTH SIDE S.H. 114
560.85' RT. OF STA. 1346+95.02
ELEVATION = 336.32'

BM 978 PK NAIL
ON SOUTH SIDE S.H. 114
1804.99' RT. OF STA. 1346+68.32
ELEVATION = 351.43'

BM 979 PK NAIL
SOUTH SIDE S.H. 114
3009.13' RT. OF STA. 1349+12.43
ELEVATION = 308.13'

BM 976 PK NAIL
NORTH SIDE S.H. 114
793.88' LT. OF STA. 1351+04.33
ELEVATION = 286.95'

Crafton, Tull & Associates Inc.

1340+00 1345+00 1350+00 1355+00 1360+00 1365+00

330 320 310 300 290 280 270 260 250 240

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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.		020356	109	320

(2) PLAN & PROFILE STA. 1365+00 TO 1395+00

℄ MED.
P.I. 1329+93.46
Δ = 28°56'49.4" LT.
D = 0°15'00.0"
T = 5915.78
L = 11578.82
R = 22918.31
P.C. 1270+77.68
P.T. 1386+56.50
NO SUPER

APPROX. LIMITS SPECIAL FLOOD HAZARD AREA

PRESERVE VEGETATION

16' GATE

EXISTING R/W & C/A

℄ MEDIAN

8' SHLD. 24' 10' SHLD. 40'

PK NAIL

PIN 57 PIN REBAR CAP

PIN 58 PIN REBAR CAP

PIN 59 PIN REBAR CAP

PIN 60 PIN REBAR CAP

PIN 61 PIN REBAR CAP

PIN 62 PIN REBAR CAP

N31°05'41.2"W

IN PLACE PAVED CONCRETE DITCH RETAIN

STA. 1370+05 IN PLACE
DOUBLE 6'x 6'x 133' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 721 CFS D.A.= 703 ACRES
RETAIN

STA. 1384+67 IN PLACE
DOUBLE 6'x 6'x 154' R.C. BOX CULVERT
ON 45° RT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 598 CFS D.A.= 730 ACRES
RETAIN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11
HUBERT BURNS

MAIN LANES

ELEV. 286.51

P.V.C. 1375+00.00
ELEV. 282.01

PROPOSED GRADE

-0.45%

1000' V.C.
K= 1754

P.V.I. 1380+00.00
ELEV. 279.76
P.G. ELEV. 280.47

P.V.I. 1385+00.00
ELEV. 280.36

0.12%

ELEV. 281.56

FL IN = 267.42 RT.
FL OUT = 267.01 LT.

FL IN = 266.31 RT.
FL OUT = 265.20 LT.

340 330 320 310 300 290 280 270 260

1370+00 1375+00 1380+00 1385+00 1390+00 1395+00

Crafton, Tull & Associates Inc.

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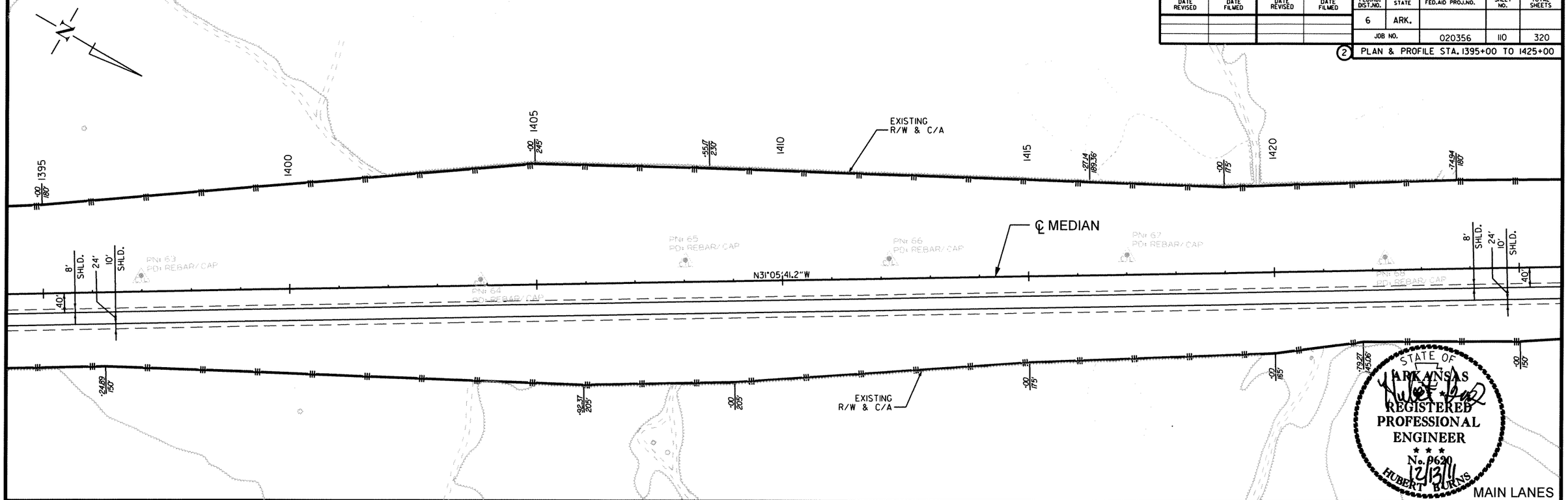
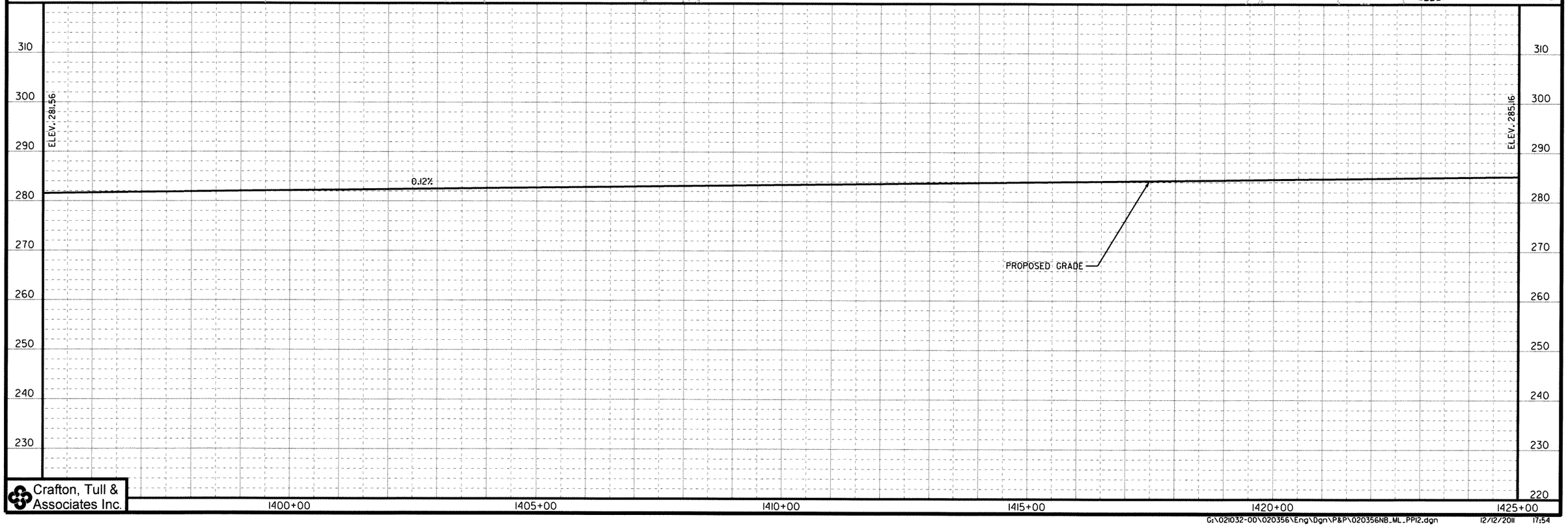
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	110	320

(2) PLAN & PROFILE STA. 1395+00 TO 1425+00



STATE OF ARKANSAS
HUBERT BURNS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11



Crafton, Tull & Associates Inc.

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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.		020356	III	320

(2) PLAN & PROFILE STA. 1425+00 TO 1455+00

APPROX. LIMITS SPECIAL FLOOD HAZARD AREA

PRESERVE VEGETATION

16' GATE

℄ MEDIAN

EXISTING R/W & C/A

N31°05'41.2"W

IN PLACE PAVED CONCRETE DITCH RETAIN

APPROX. LIMITS SPECIAL FLOOD HAZARD AREA

STA. 1438+68 IN PLACE
8'x 7'x 167' R.C. BOX CULVERT
ON 15° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
WITH DUMPED RIPRAP (GROUTED) AT OUTLET END
Q50= 566 CFS D.A.= 346 ACRES
RETAIN

STATE OF ARKANSAS
Hubert Burns
REGISTERED PROFESSIONAL ENGINEER
No. 9620
12/13/11
HUBERT BURNS

MAIN LANES

ELEV. 285.16

PROPOSED GRADE

0.12%

ELEV. 288.76

FL IN = 262.51 RT.
FL OUT = 261.88 LT.

Crafton, Tull & Associates Inc.

1430+00 1435+00 1440+00 1445+00 1450+00 1455+00

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SCALE: 200:1

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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.		020356	112	320

(2) PLAN & PROFILE STA. 1455+00 TO 1485+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12.13.11

EXISTING R/W

S.H. 212

EXISTING R/W

EXISTING R/W & C/A

STA. 1468+96.21 ℄ MED.=
STA. 21+52.95 ℄ EXIST. S.H. 212
DELTA = 117°28'05.4"

P.I. 20+75.76

END C/A

P.C. 19+77.82

℄ MEDIAN

8' SHLD. 24' 10' SHLD.

N31°05'41.2"W

N26°36'27.3"W

P.I. 21+73.64

EXISTING R/W & C/A

P.C. 1461+86.94

EXISTING R/W

N46°55'41.2"W

P.T. 1479+81.82

STA. 1456+71 IN PLACE
30"x 98' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50= 24 CFS D.A.= 23 ACRES.
RETAIN

℄ MED.
P.I. 1470+84.84
Δ = 4°29'13.9" RT.
D = 0°15'00.0"
T = 897.90
L = 1794.87
R = 22918.31
P.C. 1461+86.94
P.T. 1479+81.82
NO SUPER

MAIN LANES

END JOB 020356
STA. 1467+00.00

ELEV. 288.76

PROPOSED GRADE

0.12%

P.V.C. 1461+00.00
ELEV. 289.48

ELEV. 289.03

P.V.I. 1468+00.00
ELEV. 290.44
P.C. ELEV. 288.36

1600' V.C.
K= 1540
SSD= 1838'

EXISTING GRADE

-0.92%

P.V.T. 1477+00.00
ELEV. 283.09

FL IN = 280.60 RT.
FL OUT = 280.04 LT.

BM 952 PK NAIL
790.41' LT. OF STA. 1473+29.52
ELEVATION = 280.07'

BM 954 PK NAIL
1182.72' RT. OF STA. 1460+66.57
ELEVATION = 291.57'

BM 953 PK NAIL
298.90' RT. OF STA. 1467+30.23
ELEVATION = 286.16'

BM 921 CHISELED SQUARE IN
SE HEADWALL BRIDGE
853.41' LT. OF STA. 1473+28.37
ELEVATION = 280.50'

BM 981 COTTON PICKER SPINDLE
1555.95' RT. OF STA. 1534+84.10
ELEVATION = 236.88'

340 330 320 310 300 290 280 270 260

1460+00 1465+00 1470+00 1475+00 1480+00 1485+00

Crafton, Tull & Associates Inc.

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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.		020356	113	320

(2) INTERCHANGE LAYOUT HWYS. 11/425 CONNECTOR

CURVE DATA

CURVE	PC	PI	PT	Δ	D	TANGENT (FEET)	LENGTH (FEET)	e FT./FT.	Ls FEET	DESIGN SPEED
2-1	894+74.96	897+84.75	900+80.07	30°15'21" LT	5°00'00"	309.79	605.12	0.083	300	50 MPH
2-2	905+47.70	909+63.37	913+59.38	30°26'17" RT	3°45'00"	415.66	811.68	0.069	300	50 MPH
3-1	903+65.44	906+10.16	908+47.63	24°06'34" LT	5°00'00"	244.72	482.19	0.083	300	50 MPH
3-2	913+85.97	914+81.19	915+76.25	5°42'30" LT	3°00'00"	95.22	190.28	NC	N/A	50 MPH
3C-1	10+00.00	11+73.17	13+45.39	10°21'42" RT	3°00'00"	173.17	345.39	NC	N/A	50 MPH
3C-2	13+45.39	16+14.99	18+81.06	16°04'12" LT	3°00'00"	269.60	535.67	NC	N/A	50 MPH

HWYS. 11/425 CONNECTOR
STA. 67+80 CONSTRUCT
60" X 206' R.C. PIPE CULVERT
(CLASS V) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 162 CFS DA = 99 ACRES

STA. 896+58 RAMP 3 CONSTRUCT
24" X 206' R.C. PIPE CULVERT
16° RT. FWD. SKEW
(CLASS V) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 15 CFS DA = 6 ACRES

STA. 907+98 CONSTRUCT
TYPE RM DROP INLET IN MEDIAN
(8'-4" X 3'-0" X H=6'-6") WITH
42" X 322' R.C. PIPE OUTLET
27° RT. FWD. SKEW
WITH FES LT.
(CLASS III) TYPE 3 BEDDING
Q50 = 68 CFS DA = 35 ACRES

C.L. HWYS. 11/425 CONN. STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 STA. 898+05.77

C.L. TURNOUT FOR
RAMP 4 (GRADING ONLY) R=75'

C.L. MEDIAN STA. 894+94.53 =
C.L. HWYS. 11/425 CONN. STA. 75+71.95

RAMP 3 STA. 904+55 CONSTRUCT
24" X 104' R.C. PIPE CULVERT
45° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 9 CFS DA = 3 ACRES

C.L. MEDIAN STA. 911+20.27, 80.00' LT. =
C.L. RAMP 3 STA. 911+19.88, 12.50' RT.

C.L. MEDIAN STA. 911+23.01, 92.29' LT.=
C.L. RAMP 3 TEMP. CROSSOVER STA. 10+00.00

C.L. MEDIAN STA. 919+90.39, 47.50' RT. =
C.L. RAMP 3 TEMP. CROSSOVER STA. 18+81.06

BEGIN JOB 020356 STA. 893+00

PRESERVE VEGETATION

C.L. MEDIAN

PRESERVE VEGETATION

N03°59'49"W

75°10'56"

C.L. TURNOUT FOR
RAMP 1 (GRADING ONLY)

PRESERVE VEGETATION

PRESERVE VEGETATION

HWYS. 11/425 CONNECTOR
STA. 83+90 CONSTRUCT
30" X 86' R.C. PIPE CULVERT
30° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 19 CFS DA = 8 ACRES

C.L. HWYS. 11/425 CONN. STA. 82+69.99 =
C.L. RAMP 1 STA. 894+51.56 =
C.L. RAMP 2 STA. 891+85.68

HWYS. 11/425 CONNECTOR
STA. 88+01 CONSTRUCT-DOUBLE
36" X 103' R.C. PIPE CULVERT
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 62 CFS DA = 54 ACRES

C.L. HWYS. 11/425 CONN. STA. 85+69.99 =
C.L. FRONTAGE RD. 2 STA. 10+00.00

RAMP 2 STA. 892+60 CONSTRUCT
24" X 130' R.C. PIPE CULVERT
18° LT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 13 CFS DA = 7 ACRES

C.L. RAMP 2 STA. 912+13.53, 9.50' LT. =
C.L. MEDIAN STA. 912+12.84, 66.00' RT.

RAMP 2 STA. 908+65.36
CONSTRUCT TYPE RM DROP INLET
(4'-3" X 3'-0" X H=5'-6") WITH
42" X 89' R.C. PIPE CULVERT
8° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES RT.
Q50 = 68 CFS DA = 35 ACRES

STA. 915+38 RT.
25' GUARDRAIL (TYPE C) AND
THREE (3) REFLECTIVE RED DIAMOND
OBJECT MARKERS MOUNTED ON
U-CHANNEL POST DIRECTLY BEHIND
THE GUARDRAIL AT A HEIGHT OF 4'

FRONTAGE RD. 2 STA. 29+05 CONSTRUCT
36" X 121' R.C. PIPE CULVERT
18° RT. FWD. SKEW
(CLASS IV) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 41 CFS DA = 16 ACRES

ACCELERATION LANE 700' TAPER 300'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SCOTT A. THORNSBERRY
No. 10687
12-12-11

INTERCHANGE LAYOUT
HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDV8
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REVISED DATE:
11-7-08

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	114	320

(2) INTERCHANGE ROW HWYS. 11/425 CONNECTOR

N

TEMPORARY CONSTRUCTION EASEMENT

END C/A & FENCE

BEGIN C/A & FENCE
C.L. HWYS. 11/425 CONN. STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 STA. 898+05.77

PROPOSED R/W, C/A & FENCE

C.L. MEDIAN STA. 911+20.27, 80.00' LT. =
C.L. RAMP 3 STA. 911+19.88, 12.50 ' RT.

PRESERVE VEGETATION

C.L. MEDIAN STA. 894+94.53 =
C.L. HWYS. 11/425 CONN. STA. 75+71.95

C.L. MEDIAN STA. 912+12.84, 66.00' RT. =
C.L. RAMP 2 STA. 912+13.53, 9.50 ' LT.

PROPOSED R/W

C.L. HWYS. 11/425 CONN. STA.82+69.99 =
C.L. RAMP 1 STA. 894+51.56 =
C.L. RAMP 2 STA. 891+85.68

BEGIN C/A & FENCE

C.L. HWYS. 11/425 CONN. STA.85+69.99 =
FRONTAGE ROAD 2 STA. 10+00.00

C.L. HWYS. 11/425 CONNECTOR

RAMP 3 — N25°49'15.0"E 900.00'

RAMP 2 — N 34°26'06.3" W

FR. RD. 2 — N 39°39'27.4" W

N 79°10'45.0" E

N 1°42'40.6" E

N 3°59'49.4" W

N04°10'45.0"W

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

INTERCHANGE RIGHT OF WAY
HWYS. 11/425 CONNECTOR

RNFortner 12/12/2011 2:52:40 PM
WORKSPACE: AHTDV8
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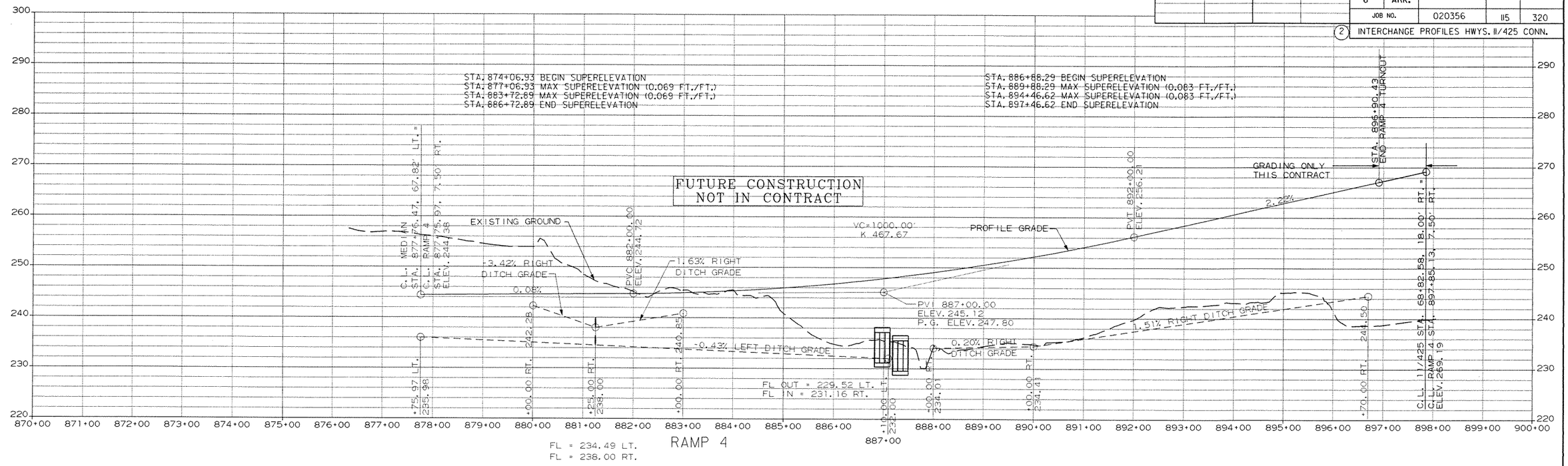
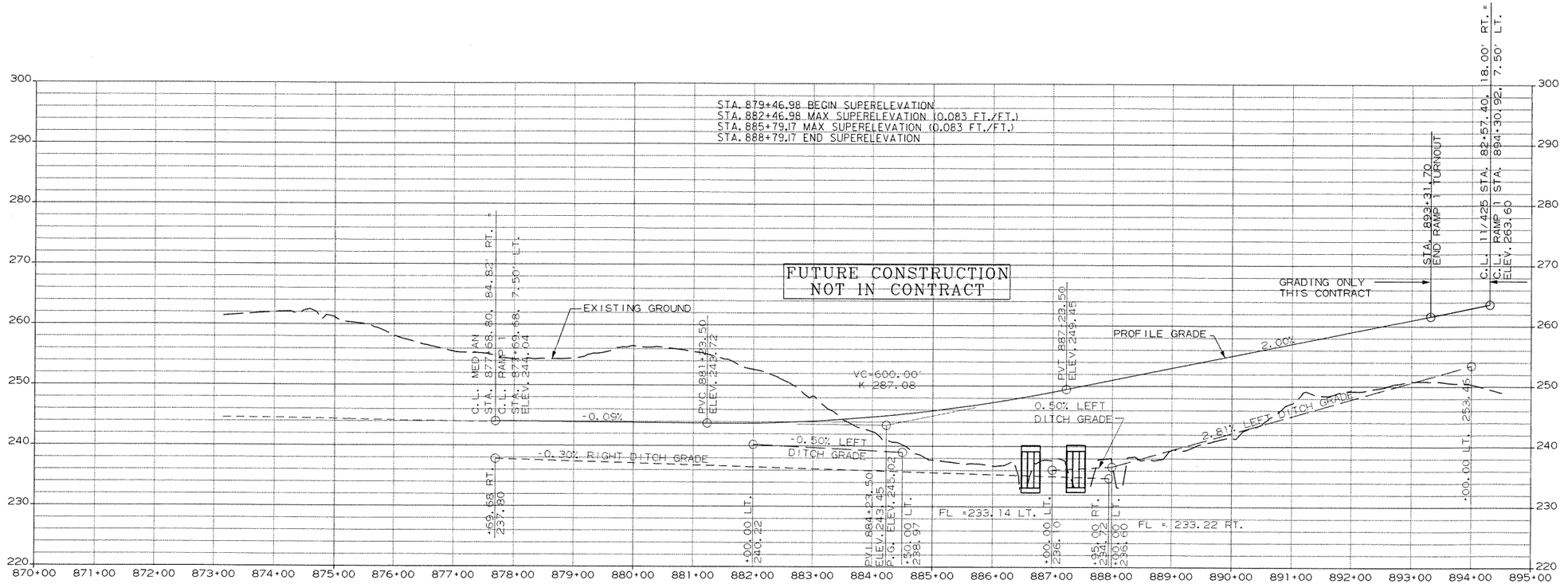
REVISED DATE:
11-7-2008

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	115	320

(2) INTERCHANGE PROFILES HWYS. 11/425 CONN.





STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 10887 SCOTT P. THORNSBERRY

12-13-2011

INTERCHANGE PROFILES
HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDV8
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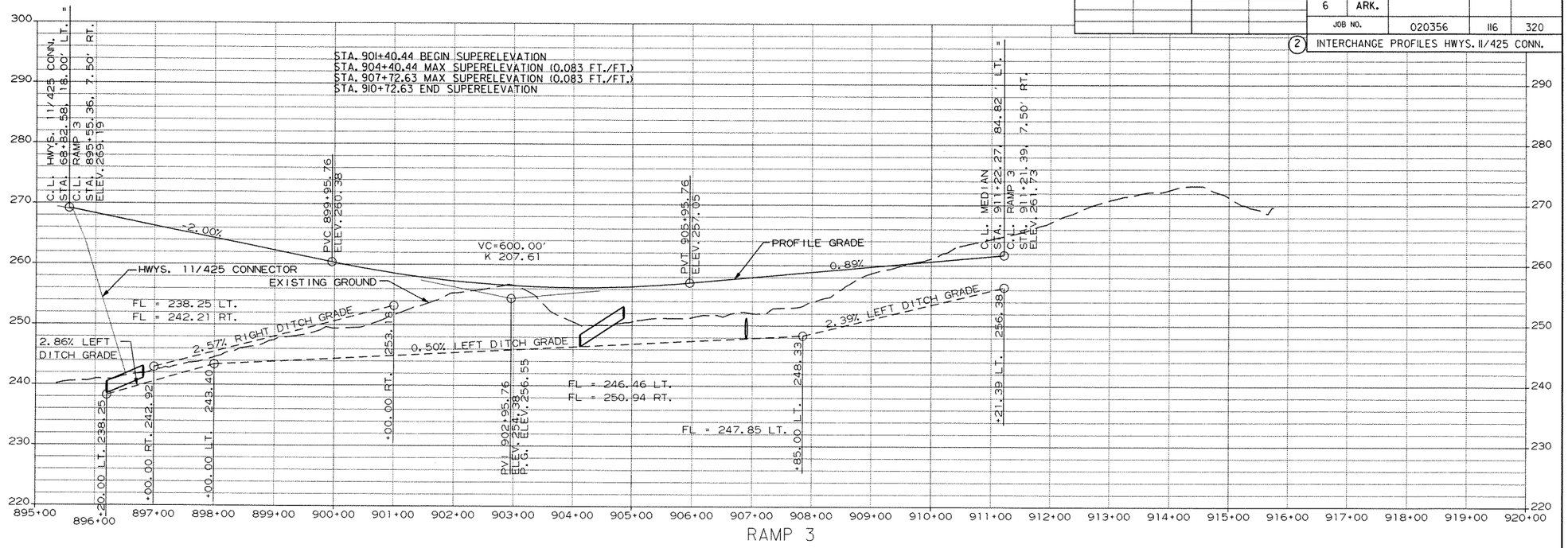
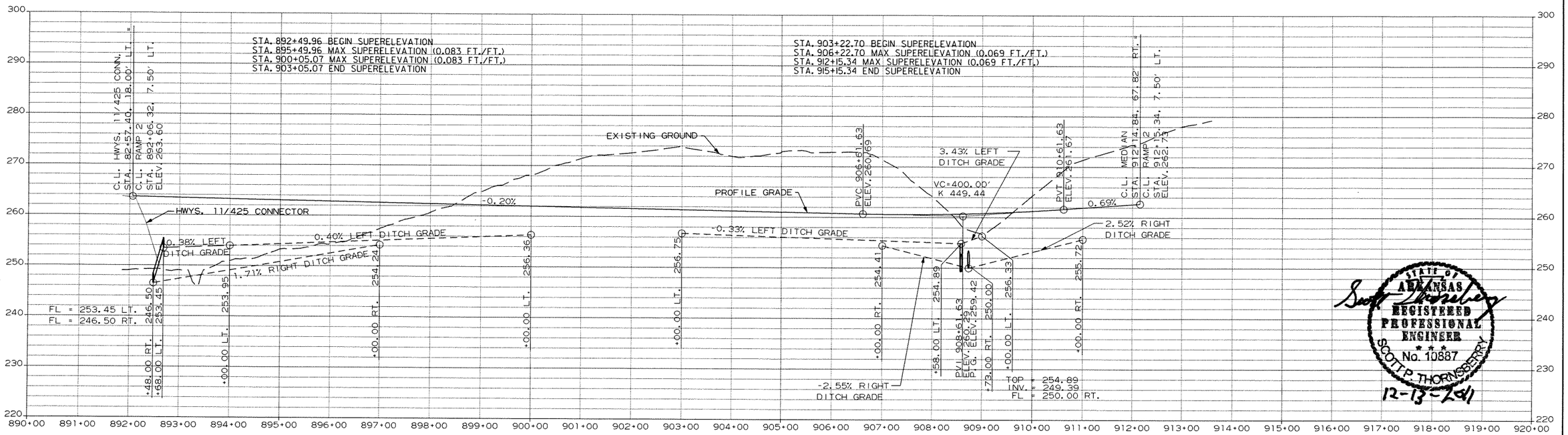
REVISED DATE:

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.		020356	116	320

(2) INTERCHANGE PROFILES HWYS. 11/425 CONN.



RAMP 3



RAMP 2

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No. 10887
12-13-11

INTERCHANGE PROFILES
HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTD V8
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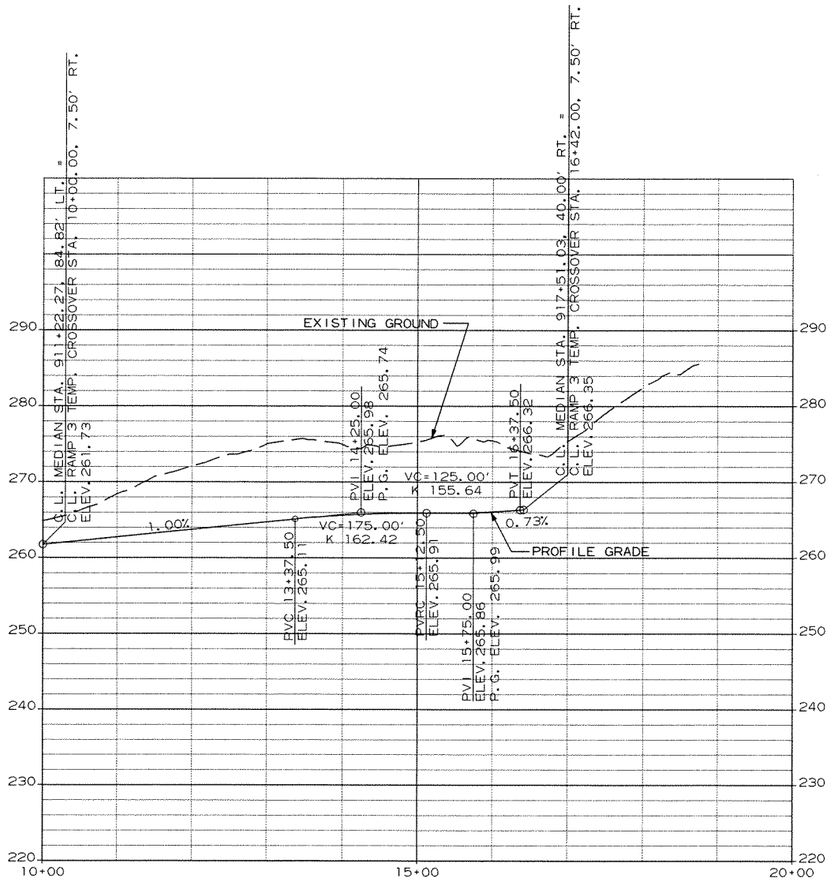
REVISED DATE:
09-20-06

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	117	320
				(2)	INTERCHANGE PROFILES HWYS. 11/425 CONN.			



RAMP 3 TEMPORARY CROSSOVER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. ROBERSON
12-13-2011

INTERCHANGE PROFILES
HWYS. 11/425 CONNECTOR

RNFortner 12/12/2011 3:06:03 PM
WORKSPACE: AHTDV8
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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.		020356	118	320

(2) PLAN & PROFILE STA. 10+00 TO STA. 20+00

N

EXISTING R/W

END STATE HIGHWAY II
STA 12+30.00

TEMPORARY CONSTRUCTION EASEMENT

S.H. II STA. 10+70 CONSTRUCT 24" X 86' R. C. PIPE CULVERT (CLASS III) TYPE 3 BEDDING WITH FES LT. & RT.
Q50 = 6 CFS D.A. = 2 ACRES

CONSTRUCTION LIMITS

PROPOSED R/W

C.L. HWYS. II/425 CONNECTOR

EXISTING R/W

EXISTING S.H. II

N76°34'45.0"E

BEGIN HWYS. II/425 CONNECTOR
STA 12+50.00

PROPOSED R/W

EXISTING R/W

CONSTRUCTION LIMITS

C.L. HWYS. II/425 CONN.
P.I. = 19+67.65
Δ = 24°14'30"RT.
D = 02°00'00"
T = 615.25
L = 1212.08
P.C. = 13+52.40
P.T. = 25+64.49
e = 0.040'/'
Ls = 250

C.L. HWYS. II/425 CONNECTOR STA. 17+92.00 = C.L. STATE HIGHWAY II STA. 10+00.00

STA. 12+50.00 BEGIN SUPERELEVATION
STA. 15+00.00 MAX. SUPERELEVATION (0.040 FT./FT.)
STA. 25+01.99 MAX SUPERELEVATION (0.040 FT./FT.)
STA. 27+51.99 END SUPERELEVATION

BEGIN STATE HIGHWAY II
STA 10+12.00

C.L. HWYS. 11/425 CONNECTOR STA. 17+92.00, 12.00' LT. = C.L. STATE HWY. 11 STA. 10+12.00
ELEV. 266.80

PVC 10+30.00
ELEV. 267.52

4.00%

VC=140.00'
K 108.33

PVI 11+00.00
ELEV. 270.32
P.G. ELEV. 270.09

2.71%

PVT 11+70.00
ELEV. 272.22

PVI 12+30.00
ELEV. 273.84

FL OUT = 261.30 LT.
FL IN = 261.50 RT.

END STATE HIGHWAY II
STA 12+30.00

STATE HIGHWAY II

BEGIN HWYS. II/425 CONNECTOR
STA 12+50.00

PVI 12+50.00
ELEV. 263.83

0.58%

PVI 13+35.00
ELEV. 265.16
P.G. ELEV. 264.96

PROFILE GRADE

0.20%

0.34% LEFT DITCH GRADE

0.28% RIGHT DITCH GRADE

0.40% LEFT DITCH GRADE

EXISTING GROUND

VC=120.00'
K 86.97

PVC 12+75.00
ELEV. 264.22

PVT 13+95.00
ELEV. 265.29

ELEV. 266.50

+26.00 LT. 258.57
+00.00 RT. 258.89
+00.00 LT. 259.50
+00.00 RT. 259.74
+44.00 LT. 261.30

HWYS. 11/425 CONNECTOR

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT R. THORNBERRY
12-13-2011

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WORKSPACE: AHTDV8
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	119	320

(2) PLAN & PROFILE STA. 20+00 TO STA. 35+00

N

PROPOSED R/W

C.L. HWYS. II/425 CONNECTOR

S79°10'45.0"E

CONSTRUCTION LIMITS

PROPOSED R/W

C.L. HWYS. II/425 CONNECTOR STA. 34+30.47 = C.L. COUNTY RD. 27

STA. 34+30.47 CONSTRUCT CO. RD 27 LT. TURNOUT APPROACH = 120 CU. YDS.

STA. 34+30.47 CONSTRUCT CO. RD 27 RT. TURNOUT APPROACH = 103 CU. YDS.

COUNTY ROAD 27

C.L. HWYS. II/425 CONN.
P.I. = 19+67.65
Δ = 24°14'30"RT.
D = 02°00'00"
T = 615.25
L = 1212.08
P.C. = 13+52.40
P.T. = 25+64.49
e = 0.040'/'
Ls = 250

STA. 24+00 CONSTRUCT 30" X 98' R.C. PIPE CULVERT 8° LT. FWD. SKEW (CLASS III) WITH TYPE 3 BEDDING WITH FES LT. & RT.
050 = 24 CFS DA = 20 ACRES

STA. 30+35 CONSTRUCT 24" X 93' R.C. PIPE CULVERT (CLASS III) WITH TYPE 3 BEDDING WITH FES LT. & RT.
050 = 19 CFS DA = 16 ACRES

STA. 12+50.00 BEGIN SUPERELEVATION
STA. 15+00.00 MAX SUPERELEVATION (0.040 FT./FT.)
STA. 25+01.99 MAX SUPERELEVATION (0.040 FT./FT.)
STA. 27+51.99 END SUPERELEVATION

FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM, THE STREAM BANK ELEVATIONS ARE 257.5 FEET MSL.

ELEV. 265.50

PROFILE GRADE

0.20%

0.23% LEFT DITCH GRADE

EXISTING GROUND

PVC 28+00.00 ELEV. 268.10

FL IN=257.85 LT.
FL OUT=254.72 RT.

+94.00 LT. 257.85

+00.00 LT. 258.30

+35.00 RT. 256.80

+35.00 LT. 258.04

FL IN =258.04 LT.
FL OUT =256.80 RT.

VC=1000.00'
K 666.67

1.37% LEFT DITCH GRADE

1.16% RIGHT DITCH GRADE

1.30%

PVI 33+00.00
ELEV. 267.22

+00.00 LT. 261.66

+00.00 RT. 261.04

T.B.M. 9033 CPS IN N. SIDE 50" PINE 201.39' LT.
HWYS. II/425 CONN. STA. 20+09.62. ELEVATION = 276.123

HWYS. II/425 CONNECTOR

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SCOTT No. 10697
12-13-2011

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WORKSPACE: AHTDWB
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	120	320

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

N

+90 75'

+25 90

+31.50 80

STA. 43+04 INSTALL
DBL. 30" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH=
29 CU. YDS.

+00 65

PROPOSED R/W

+00 80

CONSTRUCTION LIMITS

16

C.L. HWYS. 11/425 CONNECTOR

35+00 8' 24' 8'

40+00

20' R 20' R

45+00

50+00 8' 24' 8'

S79°10'45.0"E

20' R 20' R

16

+56.88 75'

STA. 42+46 INSTALL
30" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH=
42 CU. YDS.

PROPOSED R/W

+50 70

+00 85

LOGGING ROAD

STA. 49+95 CONSTRUCT
DOUBLE 4' X 3' X 83' R.C. BOX CULVERT
15° RT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 98 CFS DA = 121 ACRES

300 290 280 270 260 250 240 230 220 210 200

-1.30%

VC=1000.00'
K 666.67

PVT. 38+00.00
ELEV. 262.60

PROFILE GRADE

-1.30%

EXISTING GROUND

PVC 45+00.00
ELEV. 253.50

VC=1000.00'
K 400.36

1.16% LEFT
DITCH GRADE

-1.30%

FL IN =242.14 LT.
FL OUT =241.41 RT.

+84.00 LT. 242.14

STATE OF ARKANSAS
Scott Thornberry
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT THORNBERRY
12-13-2011

35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00

HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDV8
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	121	320

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

N

FIELD ROAD

80' +08.50 — PROPOSED R/W

85' +00

70' +00

CONSTRUCTION LIMITS

50+00 8' 24' 8'

55+00 — C.L. HWYS. II/425 CONNECTOR

60+00

S79°10'45.0"E

65+00 8' 24' 8'

300' TAPER

80' +00 — PROPOSED R/W

75' +35.55

71.22' +00

70.08' +10

110' +60

TEMPORARY CONSTRUCTION EASEMENT

DRAIN EXISTING POND AND GRADE TO PROVIDE POSITIVE DRAINAGE

65' +00 64+37.49

STA. 49+95 CONSTRUCT
DOUBLE 4' X 3' X 83' R.C. BOX CULVERT
15° RT. FWD. SKEW
WITH 32' WINGS LT. & RT.
Q50 = 98 CFS DA = 121 ACRES

STA. 54+33 CONSTRUCT
30" x 78' R.C. PIPE CULVERT
7° RT. FWD. SKEW
(CLASS III) WITH TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 28 CFS DA = 29 ACRES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
SCOTT P. THORNSBERRY
No. 10887

12-13-2011

290 280 270 260 250 240 230 220 210 200

PVI 50+00.00
ELEV. 247.00
P.G. ELEV. 250.12

VC=1000.00'
K 400.36

PVT 55+00.00
ELEV. 252.99

1.20%

1.16% LEFT DITCH GRADE

FL IN =242.14 LT.
FL OUT =241.41 RT.

+00.00 LT. 243.49

FL IN =246.41 LT.
FL OUT =245.65 RT.

PROFILE GRADE

1.20%

EXISTING GROUND

ELEV. 264.99

T.B.M. 9032 CPS IN SW SIDE S. POLE POWERLINE 536.25' RT.
HWYS. II/425 CONN. STA. 62+53.26. ELEVATION = 251.779

HWYS. 11/425 CONNECTOR

50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00

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WORKSPACE: AHTDVB
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	122	320

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

PROPOSED R/W
C/A & FENCE

C.L. HWYS. 11/425 CONN. STA. 68+69.99 =
C.L. RAMP 3 STA. 895+34.72 =
C.L. RAMP 4 (FUTURE) STA. 898+05.77

PROPOSED R/W

+75 RT

RAMP 3 N25°49'15.0"E

C.L. MEDIAN STA. 897+00 CONSTRUCT
TYPE RM DROP INLET IN MEDIAN (4' X 3' X H=3')
WITH 24" X 96' R.C. PIPE OUTLET ON LT.
(CLASS III) TYPE 3 BEDDING WITH FES.

STA. 897+00 END GRADING
LEFT LANES - JOB 020356

STA. 896+58 RAMP 3 - CONSTRUCT
24" X 206' R.C. PIPE CULVERT
16° RT. FWD. SKEW
(CLASS V) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 15 CFS DA = 6 ACRES

PRESERVE VEGETATION

CONSTRUCTION LIMITS

WEST RETAINING WALL
SEE BRIDGE LAYOUT

C.L. HWYS. 11/425 CONN. STA. 75+71.95 =
C.L. MEDIAN STA. 894+94.53

PRESERVE VEGETATION

EAST RETAINING WALL
SEE BRIDGE LAYOUT

STA. 77+09.28 CONSTRUCT
TYPE N2 D.I. LT. WITH
12" X 51' Z.C.C.S.P. WITH
CONCRETE SPILLWAY ON LT. (TYPE A) = 1EA.

BEGIN C/A & FENCE

R=125'

R=75'

6' 24' 4'

10' 24' 6'

8' 24' 10'

STA. 74+50.82
BEGIN BRIDGE

STA. 76+86.08
END BRIDGE

65+00 8' 36' 8'

70+00 8' 36' 8'

C.L. HWYS. 11/425 CONNECTOR

S79°10'45.0"E

75+00 8' 24' 8'

80+00 8' 36' 8'

75°10'56"

695.00'

105'

R=125'

R=75'

69+77.10

100' LT. TURN LANE

71+00.55

300' TAPER

74+00.55

67+37.49

300' TAPER

177+35.96

180+35.96

300' TAPER

C.L. TURNOUT FOR
RAMP 4 (FUTURE)

6' 15' 4'

PROPOSED R/W

BEGIN C/A & FENCE

STA. 67+80 CONSTRUCT
60" X 206' R.C. CULVERT
(CLASS V) WITH TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 162 CFS DA = 99 ACRES

+65 RT

PROPOSED R/W
C/A & FENCE

CONCRETE DITCH PAVING

PRESERVE VEGETATION

C.L. MEDIAN

PRESERVE VEGETATION

N03°59'49.4"W

CONCRETE DITCH PAVING

PRESERVE VEGETATION

STA. 77+19.86 CONSTRUCT
TYPE N2 D.I. RT. WITH
12" X 45' Z.C.C.S.P. WITH
CONCRETE SPILLWAY ON RT. (TYPE A) = 1EA.

STA. 894+00 BEGIN GRADING
LEFT LANES - JOB 020356

STA. 74+50.82 - STA. 76+86.08
HWYS. 11/425 CONNECTOR CONSTRUCT
235.26' X 40.0' (CLEAR ROADWAY)
CONTINUOUS COMPOSITE PLATE GIRDER BRIDGE

BEGIN JOB 020356 STA. 893+00
BEGIN GRADING RIGHT LANES

LEGEND

GRADING ONLY - JOB 020356

HWYS. 11/425 CONNECTOR STATIONING	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
STA. 71+76.40 TO STA. 74+45.15 RT.	= 200 LIN. FT.	1EACH	1EACH
STA. 73+15.81 TO STA. 74+34.56 LT.	= 50 LIN. FT.	1EACH	1EACH
STA. 76+91.75 TO STA. 79+60.50 LT.	= 200 LIN. FT.	1EACH	1EACH
STA. 77+02.34 TO STA. 78+21.09 RT.	= 50 LIN. FT.	1EACH	1EACH

CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ. YDS.
66+00.00	67+80.00	LT. = 180 LIN. FT.	6'-0"	120.0
73+93.00	74+68.00	BEHIND MSE WALL = 182 LIN. FT.	4'-0"	79.0
76+68.00	77+37.37	BEHIND MSE WALL = 178 LIN. FT.	4'-0"	81.0
74+50.00	74+76.00	FRONT OF MSE WALL = 77 LIN. FT.	6'-0"	51.3
76+62.00	76+86.00	FRONT OF MSE WALL = 77 LIN. FT.	5'-0"	42.8

FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM, THE STREAM BANK ELEVATIONS ARE 242.0 FEET MSL.

ELEV. 264.99

+00.00 LT. 246.65 @ 4.8% LEFT DITCH GRADE

180.00 LT.

238.00 LT.

FL IN = 238.00 LT.
FL OUT = 237.12 RT.

PVC 70+26.91
ELEV. 271.28

PROFILE GRADE

1.20%

EXISTING GROUND

STA. 74+50.82 BEGIN BRIDGE

STA. 76+86.08 END BRIDGE

PVI 76+26.91
ELEV. 278.46
P.G. ELEV. 273.22

1.20%

-2.30%

VC = 1200.00'
K 343.08

MSE RETAINING WALLS

42'

51'

-0.38% LEFT DITCH GRADE

+00.00 LT. 254.64

280 270 260 250 240 230 220 210 200 190

65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00 77+00 78+00 79+00 80+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT THOMASSEE
12-13-2011

HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDV8
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REVISED DATE:
11-21-08

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	123	320

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

C.L. RAMP 2

STA. 892+60 RAMP 2 - CONSTRUCT
24" X 130' R.C. PIPE CULVERT
18° LT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 13 CFS DA = 7 ACRES

PRESERVE VEGETATION

C.L. FRONTAGE ROAD 2

PROPOSED C/A & FENCE

PRESERVE VEGETATION

BEGIN C/A & FENCE

C.L. HWYS. 11/425 CONN. STA. 85+69.99 =
C.L. FRONTAGE RD. 2 STA. 10+00.00

PROPOSED R/W

C.L. HWYS. 11/425 CONNECTOR

S79°10'45.0"E

CONSTRUCTION LIMITS

C.L. HWYS. 11/425 CONNECTOR

C.L. TURNOUT FOR RAMP 1 (FUTURE)

300' TAPER

100' LT. TURN LANE

PRESERVE VEGETATION

C.L. HWYS. 11/425 CONN. STA. 82+69.99 =
RAMP 2 C.L. STA. 891+85.68

STA. 83+90 CONSTRUCT
30" X 86' R.C. PIPE CULVERT
30° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 19 CFS DA = 8 ACRES

STA. 88+01 CONSTRUCT
DBL. 36" X 103' R.C. PIPE CULVERT
1° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 62 CFS DA = 54 ACRES

STA. 91+90 CONSTRUCT
DOUBLE 11' X 6' X 93' R.C. BOX CULVERT
30° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 435 CFS DA = 536 ACRES

TEMPORARY CONSTRUCTION EASEMENT

LEGEND
- FILL EXISTING CHANNEL TO SURROUNDING GROUND LEVEL
- GRADING ONLY - JOB 020356

CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ. YDS.
83+30.00	83+45.00	LT. = 30 LIN. FT.	6'-0"	20.00
83+45.00	85+25.00	LT. = 180 LIN. FT.	6'-0"	120.00
86+00.00	87+00.00	LT. = 100 LIN. FT.	6'-0"	66.67

FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM, THE STREAM BANK ELEVATIONS ARE 244.0 FEET MSL.

STATE OF ARKANSAS
SCOTT P. THORNBERRY
REGISTERED PROFESSIONAL ENGINEER
No. 10687
12-13-2011

PROFILE GRADE
EXISTING GROUND
2.30%
-0.38% LEFT DITCH GRADE
-3.33% LEFT DITCH GRADE
-7.00% LEFT DITCH GRADE
-1.89% LEFT DITCH GRADE
-0.64% LEFT DITCH GRADE
-1.65% LEFT DITCH GRADE
0.68% RIGHT DITCH GRADE
20' FLAT BOTTOM
3.10%
2.53% LEFT DITCH GRADE

VC=1200.00'
K 343.08

VC=1000.00'
K 185.19

PVI 82+26.21
ELEV. 254.66

PVC 86+46.83
ELEV. 253.83

PVI 91+46.83
P.G. ELEV. 243.50
ELEV. 250.25

+97.00 LT. 253.51
+45.00 LT. 246.00
+25.00 LT. 252.00
+00.00 LT. 250.48
+00.00 LT. 243.48
+97.31 LT. 241.64
+50.00 RT. 237.53
+00.00 LT. 242.94
+85.75 RT. 238.39
+85.75 LT. 241.53
+50.00 RT. 238.89
+18.00 LT. 239.95
+00.00 LT. 243.95

FL IN = 246.00 LT.
FL OUT = 244.02 RT.

FL IN = 241.64 LT.
FL OUT = 239.42 RT.

FL IN = 239.35 LT.
FL OUT = 238.89 RT.

HWYS. 11/425 CONNECTOR

RNFortner 12/12/2011 3:13:58 PM
WORKSPACE: AHTDV8
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REVISED DATE:
11-21-08

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	124	320

(2) PLAN & PROFILE STA. 95+00 TO STA. 110+00

N

PROPOSED R/W

+28.35 70'

+25 85'

PC 104+51.22

CONSTRUCTION LIMITS

+17.15 75'

95+00 8' 24' 8'

100+00

C.L. HWYS. 11/425 CONNECTOR

S79°10'45.0"E

105+00

110+00 8' 24' 8'

+00 64.93'

+53.22 60'

+00 65'

+75 65'

PROPOSED R/W

+91.27 65'

PROPOSED R/W

+40.63 75'

STA. 108+77 - CONSTRUCT
24" X 107' R.C. PIPE CULVERT
11° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 7 CFS DA = 2 ACRES

CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SQ. YDS.
96+00	102+00	LT. = 600 LIN. FT.	7'-0"	466.67
97+00	102+00	RT. = 500 LIN. FT.	7'-0"	388.89
108+00	108+85	RT. = 85 LIN. FT.	6'-0"	56.67

C.L. HWYS. 11/425 CONN.
P.I. = 115+23.98
Δ = 10°41'47"LT.
D = 00°30'00"
T = 1072.76
P.C. = 104+51.22
P.T. = 125+90.50
L = 2139.28
NO SUPER

PVI 106+00.00
ELEV. 288.55
P.G. ELEV. 284.05

EXISTING GROUND

PROFILE GRADE

3.10%

-0.50%

VC=1000.00'
K 185.19

PVT 96+46.83
ELEV. 259.00

PVC 101+00.00
ELEV 273.05

VC=1000.00'
K 277.78

+00.00 RT. 280.37

-6.32% RIGHT DITCH GRADE

+85.00 RT. 275.00

2.37% RIGHT DITCH GRADE

FL IN = 272.43 LT.
FL OUT = 275.00 RT.

290 280 270 260 250 240 230 220 210 200

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
12-15-2011
JOHN C. THORNBERRY

HWYS. 11/425 CONNECTOR

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WORKSPACE: ANTDYS
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REVISED DATE:
11-21-08

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	125	320

(2) PLAN & PROFILE STA. 110+00 TO STA. 125+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

N

PROPOSED R/W

STA. 123+86 INSTALL
DBL 24" X 42' PIPE CULVERT
LT. SIDE DRAIN.
CONSTRUCT APPROACH = 211 CU. YD.

TEMPORARY CONSTRUCTION EASEMENT

STA. 115+90 INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN.
CONSTRUCT APPROACH = 115 CU. YD.

C.L. CO. RD. 65 STA. 10+00.00 =
C.L. HWYS. 11/425 CONN. STA. 112+11.54

C.L. HWYS. 11/425 CONNECTOR

CONSTRUCTION LIMITS

CONST. LIMITS

S79°10'45.0"E

S89°52'32.0"E

R=40'

90°

24'

20' R

16'

CO. RD. 65

50' TRANSITION TO MATCH EXISTING

TEMPORARY CONSTRUCTION EASEMENT

STA. 112+11.54 CONSTRUCT
CO. RD 65 TURNOUT APPROACH =
143 CU. YDS.

STA. 116+71 INSTALL
24" X 35' PIPE CULVERT
RT. SIDE DRAIN.
CONSTRUCT APPROACH = 86 CU. YD.

PROPOSED R/W

STA. 122+45 CONSTRUCT
APPROACH ON RT.= 265 CU. YD.

TEMPORARY CONSTRUCTION EASEMENT

TEMPORARY CONSTRUCTION EASEMENT

C.L. HWYS. 11/425 CONN.
P.I. = 115+23.98
Δ = 10°41'47"LT.
D = 00°30'00"
T = 1072.76
L = 2139.28
P.C. = 104+51.22
P.T. = 125+90.50
NO SUPER

LEGEND

OBLITERATE EXISTING PAVEMENT

VC=1000.00'
K 277.78

-0.50%

2.37% RIGHT DITCH GRADE

PVT 111+00.00
ELEV 286.05

+85.00 RT. 282.11

PROFILE GRADE

EXISTING GROUND

-0.50%

-0.59% LEFT DITCH GRADE

+00.00 LT. 270.43

ELEV. 279.05

T.B.M. 9027 CPS IN N. SIDE 18" OAK 3.56' LT.
HWYS. 11/425 CONN. STA. 114+08.10. ELEVATION = 285.326

HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDV8
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REVISED DATE:
04-13-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	126	320

(2) PLAN & PROFILE STA. 125+00 TO STA. 140+00

STA. 126+35 CONSTRUCT CHANNEL ACCORDING TO DETAIL BELOW

STA. 126+35 IN PLACE
24" X 30' R.C. PIPE CULVERT
LT. CROSS DRAIN
REMOVE

TEMPORARY CONSTRUCTION EASEMENT

C.L. CHANNEL STATION 126+35 95' LT.

PROPOSED R/W

STA. 131+10 INSTALL
18" x 46' PIPE CULVERT
LT. SIDE DRAIN.
CONSTRUCT APPROACH = 196 CU. YD.

STA. 132+37 IN PLACE
12" x 25' R.C. PIPE CULVERT
LT. SIDE DRAIN
PLUG & ABANDON
GRADE TO DRAIN

STA. 132+34 INSTALL
18" x 44' PIPE CULVERT
LT. SIDE DRAIN.
CONSTRUCT APPROACH = 169 CU. YD.

STA. 132+91 IN PLACE
12" x 29' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 137+50 IN PLACE
QUADRUPLE - 36" x 38' CM
PIPE CULVERT LT. CROSS DRAIN
REMOVE

STA. 137+47 CONSTRUCT CHANNEL ACCORDING TO DETAIL BELOW

TEMPORARY CONSTRUCTION EASEMENT

C.L. CHANNEL STATION 137+47 110' LT.

C.L. HWYS. 11/425 CONN.
P.I. = 115+23.98
Δ = 10°41'47"LT.
D = 00°30'00"
T = 1072.76
L = 2139.28
P.C. = 104+51.22
P.T. = 125+90.50
NO SUPER

STA. 126+25 - CONSTRUCT
5' X 3' X 104' R.C. BOX CULVERT
30° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 56 CFS DA = 26 ACRES

TEMPORARY CONSTRUCTION EASEMENT

CONSTRUCTION LIMITS

C.L. HWYS. 11/425 CONNECTOR

PROPOSED R/W

S89°52'32.0"E

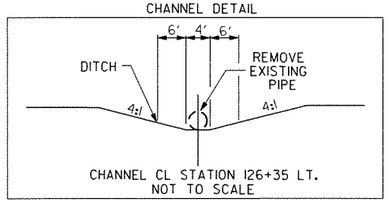
STA. 132+85 INSTALL
18" x 40' PIPE CULVERT
RT. SIDE DRAIN.
CONSTRUCT APPROACH = 49 CU. YD.

STA. 137+84 - CONSTRUCT
60" X 137' R.C. PIPE CULVERT
29° RT. FWD. SKEW
(CLASS IV) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 215 CFS DA = 249 ACRES

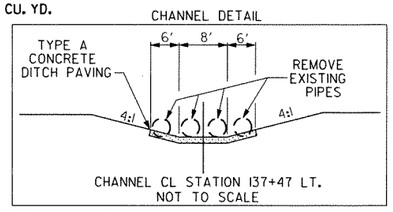
LEGEND

OBLITERATE EXISTING PAVEMENT

CHANNEL DETAIL

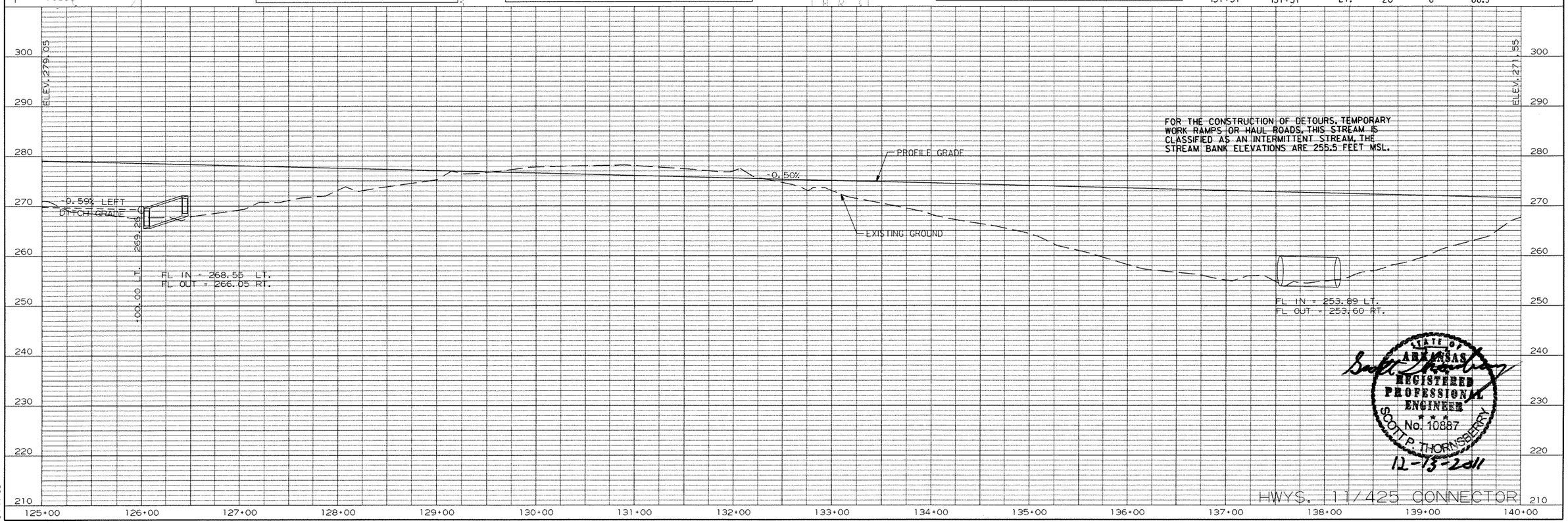


CHANNEL DETAIL



CONCRETE DITCH PAVING (TYPE A)

STA.	STA.	SIDE	"W"	"B"	SQ. YDS.
137+37	137+57	LT.	20'	8'	88.9



FOR THE CONSTRUCTION OF DETOURS, TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATIONS ARE 255.5 FEET MSL.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

HWY$. 11/425 CONNECTOR

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WORKSPACE: AHTD V8
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	127	320

(2) PLAN & PROFILE STA. 140+00 TO STA. 155+00

STA. 141+21 INSTALL
18" x 44' PIPE CULVERT
LT. SIDE DRAIN.
CONSTRUCT APPROACH = 401 CU. YD.

STA. 141+21 IN PLACE
18" x 26' R.C. PIPE CULVERT
LT. SIDE DRAIN.
PLUG & ABANDON
GRADE TO DRAIN

TEMPORARY CONSTRUCTION EASEMENT

STA. 145+07 IN PLACE
18" X 31' R.C. PIPE CULVERT
LT. CROSS DRAIN
REMOVE

STA. 145+07 CONSTRUCT CHANNEL
ACCORDING TO DETAIL BELOW

STA. 146+58 IN PLACE
24" X 24' R.C. PIPE CULVERT
LT. SIDE DRAIN
PLUG & ABANDON
GRADE TO DRAIN

STA. 147+51 CONSTRUCT CHANNEL
ACCORDING TO DETAIL BELOW

STA. 146+58 INSTALL
18" x 46' PIPE CULVERT
LT. SIDE DRAIN.
CONSTRUCT APPROACH = 630 CU. YD.

STA. 147+51 IN PLACE
18" X 32' R.C. PIPE CULVERT
LT. CROSS DRAIN
REMOVE

N

C.L. CHANNEL STATION 145+07 145' LT.

C.L. CHANNEL STATION 147+51 145' LT.

PROPOSED R/W

110' +02.90

79.22' +02.83

115' +25

+00 77.57'

MB

140+00

16'

24'

8'

CONSTRUCTION LIMITS

145+00

C.L. HWYS. II/425 CONNECTOR

S89°52'32.0"E

150+00

155+00

CONSTRUCTION LIMITS

STA. 141+11 INSTALL
18" x 40' PIPE CULVERT
RT. SIDE DRAIN.
CONSTRUCT APPROACH = 243 CU. YD.

80' +00

PROPOSED R/W

75' +03.33

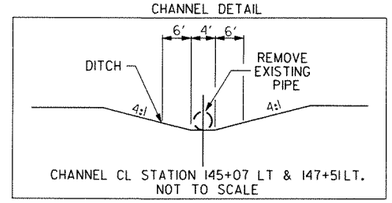
90' +75

STA. 145+45 CONSTRUCT
8' X 4' X 83' R.C. BOX CULVERT
15° RT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 71 CFS DA = 40 ACRES

LEGEND

OBLITERATE EXISTING PAVEMENT

CHANNEL DETAIL



CHANNEL CL STATION 145+07 LT & 147+51LT.
NOT TO SCALE

85.69' +15 101' +15

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

ELEV. 271.55

ELEV. 264.05

300 290 280 270 260 250 240 230 220 210

EXISTING GROUND

PROFILE GRADE

-0.50%

-2.80% RIGHT DITCH GRADE

-0.34% RIGHT DITCH GRADE

0.37% LEFT DITCH GRADE

-0.50% RIGHT DITCH GRADE

-0.25% LEFT DITCH GRADE

100.00 RT. 264.99

50.00 RT. 258.00

34.00 LT. 259.83

55.00 RT. 257.64

FL IN = 259.83 LT.
FL OUT = 257.64 RT.

00.00 LT. 260.44

00.00 LT. 258.99

00.00 RT. 258.99

HWYS. II/425 CONN. STA. 140+92.48. ELEVATION = 273.088
T.B.M. 9028 CPS SW SIDE PP 114.34' LT.

140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDV8
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	128	320

(2) PLAN & PROFILE STA. 155+00 TO STA. 170+00

STA. 156+61 IN PLACE
48" X 67' R.C. PIPE CULVERT
LT. CROSS DRAIN
REMOVE

STA. 156+54 CONSTRUCT CHANNEL ACCORDING TO DETAIL BELOW

TEMPORARY CONSTRUCTION EASEMENT

STA. 155+80 - CONSTRUCT
TRIPLE 4' X 2' X 93' R.C. BOX CULVERT
30° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 185 CFS DA = 108 ACRES

C.L. CHANNEL
STATION 156+85
112' LT.

STA. 156+39 CONSTRUCT
CO. RD 28 LT. TURNOUT APPROACH =
103 CU. YDS.

STA. 157+00 - CONSTRUCT
24" X 88' R.C. PIPE CULVERT
30° LT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 7 CFS DA = 4 ACRES

PROPOSED R/W

C.L. CHANNEL
STATION 156+23
57' LT.

C.L. BOX
STATION 155+72
70' RT.

C.L. BOX
STATION 156+00
86' RT.

C.L. HWYS. 11/425 CONN. STA. 156+39.00=
C.L. COUNTY RD 28 STA. 10+00

C.L. HWYS. 11/425 CONN. STA. 156+30.82=
C.L. COUNTY RD 28 STA. 10+00

STA. 160+50 CONSTRUCT
4' X 2' X 93' R.C. BOX CULVERT
30° LT. FWD. SKEW
WITH 3:1 WINGS LT. & RT.
Q50 = 82 CFS DA = 45 ACRES

C.L. HWYS. 11/425 CONNECTOR

CONSTRUCTION LIMITS

S89°52'32.0"E

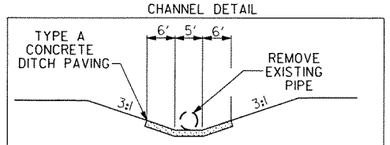
TEMPORARY CONSTRUCTION EASEMENT

STA. 155+86 - IN PLACE
7' X 2' X 24' R.C. BOX CULVERT RT.
REMOVE
CONSTRUCT TRIPLE 4' X 2' X 33' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 185 CFS DA = 108 ACRES

STA. 156+39 CONSTRUCT
CO. RD 28 RT. TURNOUT APPROACH =
217 CU. YDS.

COUNTY ROAD 28

CHANNEL DETAIL



CHANNEL CL STATION 156+54 LT.
NOT TO SCALE

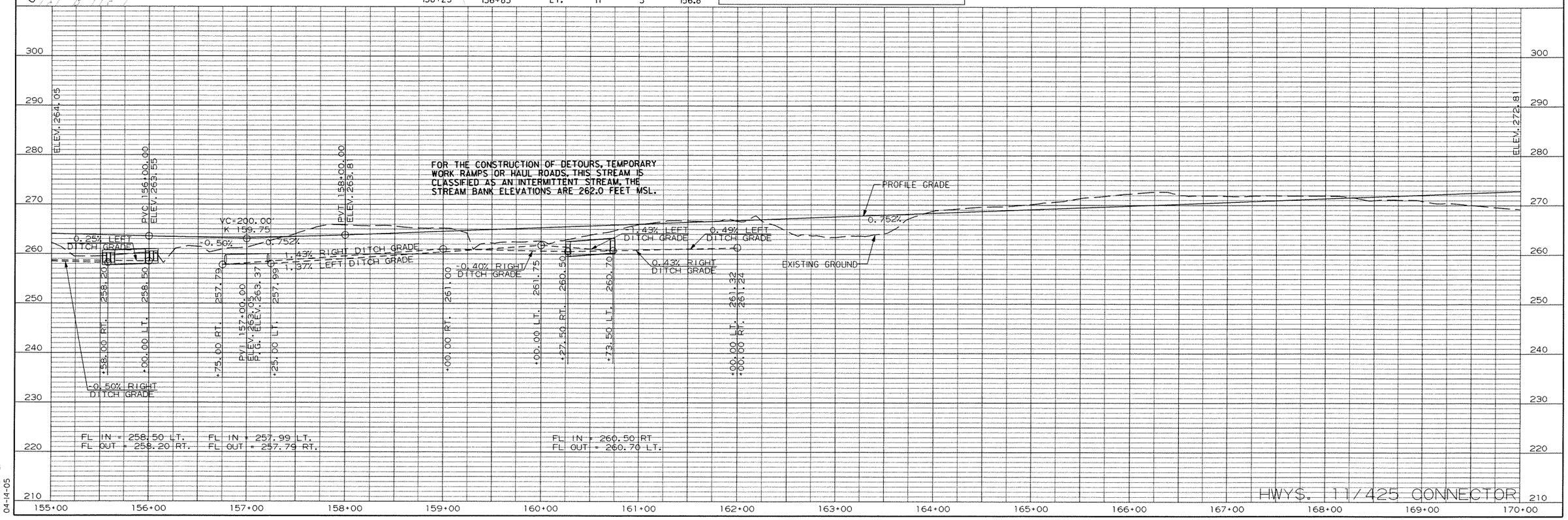
LEGEND

OBLITERATE EXISTING PAVEMENT

CONCRETE DITCH PAVING (TYPE A)

STA.	STA.	SIDE	"W"	"B"	SQ. YDS.
156+23	156+85	LT.	17'	5'	156.8

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011



HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDVB
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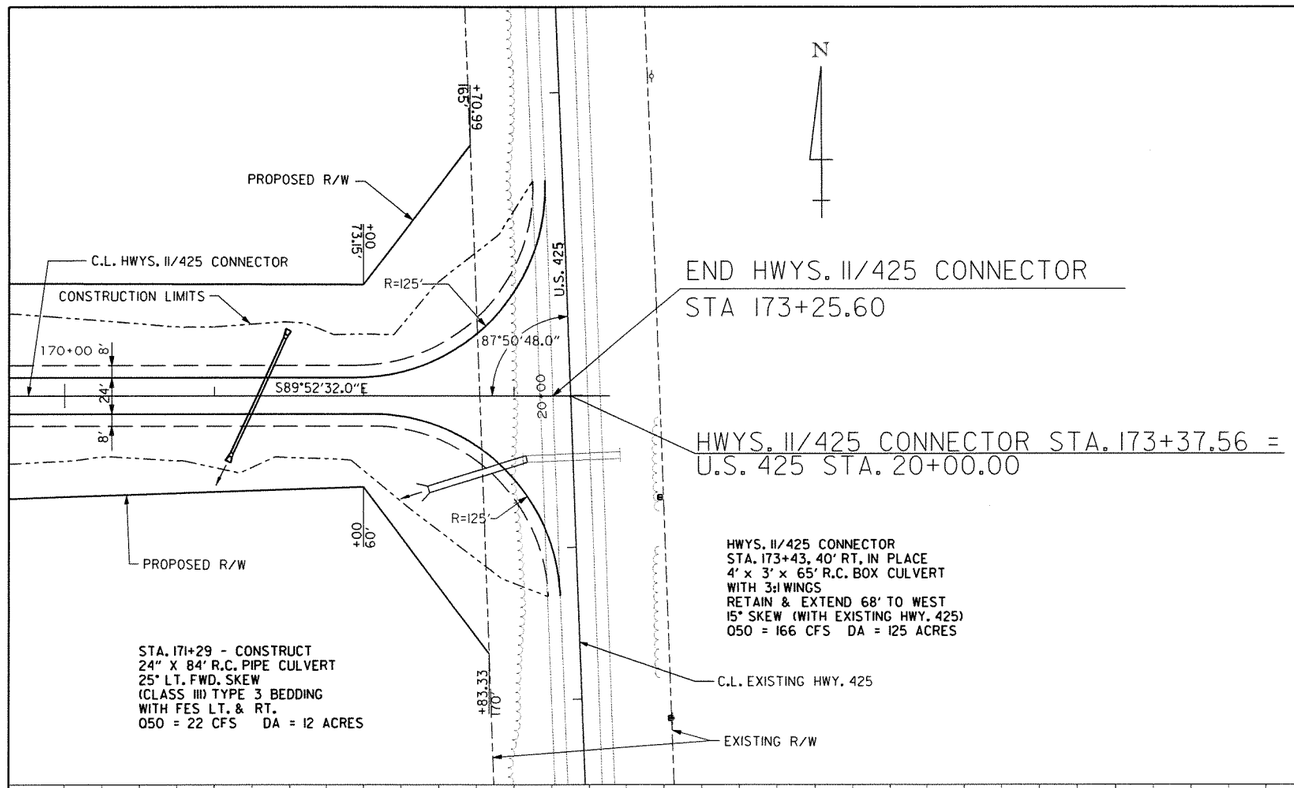
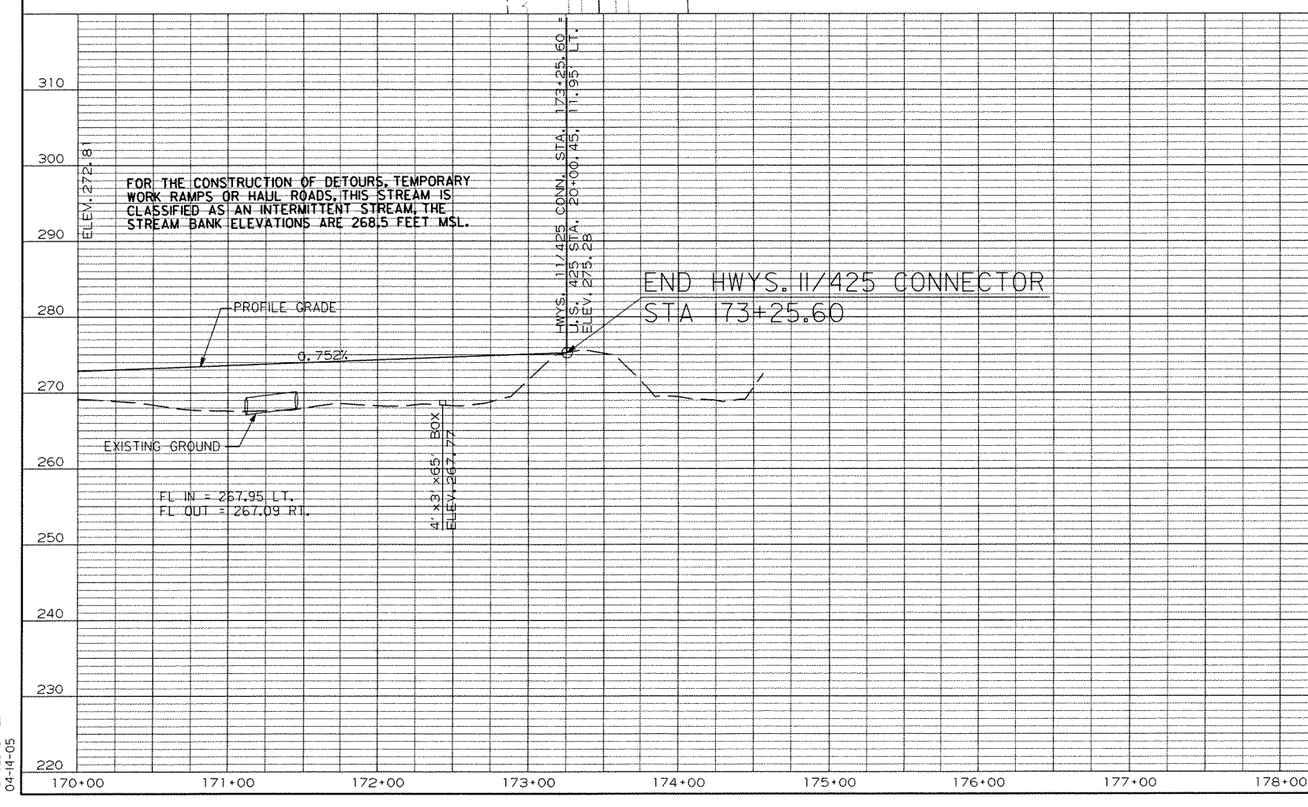
REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	129	320

(2) PLAN & PROFILE STA. 170+00 TO STA. 173+25.60





STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT THORNSBERRY
12-13-2011

HWYS. 11/425 CONNECTOR

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WORKSPACE: AHTDVB
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	130	320

(2) PLAN & PROFILE STA. 10+00 TO STA. 25+00

C.L. RAMP 2

895+00

HWYS. 11/425 CONNECTOR
STA. 83+90 CONSTRUCT
30" X 86' R.C. PIPE CULVERT
30° RT. FWD. SKEW
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 19 CFS DA = 8 ACRES

C.L. FRONTAGE RD.
P.I. = 17+48.87
Δ = 25°28'42.4"LT.
D = 05°00'00"
T = 259.07
L = 509.57
e = 0.061
Ls = 200

P1 897+84.75

PRESERVE VEGETATION

C.L. HWYS. 11/425 CONN. STA. 85+69.99 =
C.L. FRONTAGE RD. 2 STA. 10+00.00

85.00

10+00

75°

20'

PC 14+89.80

PT 19+99.37

N04°10'45.0"W

N29°39'27.4"W

20°00

15+00

25+00

+00
1025'

CONSTRUCTION LIMITS

C.L. FRONTAGE RD. 2

+75
1005'

PROPOSED R/W

P1 17+48.87

+00.36
996.97

HWYS. 11/425 CONNECTOR
STA. 88+01 CONSTRUCT
DBL. 36" X 103' R.C. PIPE CULVERT
(CLASS III) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 62 CFS DA = 54 ACRES

STA. 13+39.80 BEGIN SUPERELEVATION
STA. 15+39.80 MAX SUPERELEVATION (0.061FT./FT.)
STA. 19+49.37 MAX SUPERELEVATION (0.061FT./FT.)
STA. 21+49.37 END SUPERELEVATION

G.L.: HWYS. 11/425 CONN
STA. 85+66.65 114.73'
C.L. FRONTAGE RD. 2 ST
ELEV. 256.57

+35.00 RT. 250.48

0.00%

PVC 10+75.00
ELEV. 256.57

VC=250.00'
K 113.64

PVI 12+00.00
ELEV. 256.57
P.G. ELEV. 257.26

PVT 13+25.00
ELEV. 259.32

1.90% RIGHT DITCH GRADE

PROFILE GRADE

2.78% RIGHT DITCH GRADE

2.20%

EXISTING GROUND

+00.00 RT. 257.40

+00.00 RT. 268.53

+00.00 RT. 270.73

PVC 20+00.00
ELEV. 274.17

1.42% RIGHT DITCH GRADE

+00.00 RT. 275.00

PVI 22+00.00
ELEV. 278.57
P.G. ELEV. 277.86

0.79%

VC=400.00'
K 282.85

PVT 24+00.00
ELEV. 280.14

300 290 280 270 260 250 240 230 220 210

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

FRONTAGE ROAD 2

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WORKSPACE: AHTD\8_
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REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	131	320

(2) PLAN & PROFILE STA. 25+00 TO STA. 40+00

CONSTRUCTION LIMITS
C.L. FRONTAGE RD. 2
25+00
30+00
N29°39'27.4"W
PROPOSED C/A & FENCE
PRESERVE VEGETATION
R=50'
R=50'
R=50'
+89.52
170°
4'
20'
4'
16+89.90
595
05+00
CONSTRUCTION LIMITS
PROPOSED R/W
00+00
375
00+00
320
+72.93
505
00+00
+60
190°
15+00
C.L. MEDIAN
P.I. 16+14.99
PROPOSED R/W
C/A & FENCE

STA. 29+06 CONSTRUCT
36" X 140' R.C. PIPE CULVERT
22° RT. FWD. SKEW
(CLASS IV) TYPE 3 BEDDING
WITH FES LT. & RT.
Q50 = 41 CFS DA = 16 ACRES

C.L. MEDIAN STA. 915+38 RT.
25' GUARDRAIL (TYPE C) AND
THREE (3) REFLECTIVE RED DIAMOND
OBJECT MARKERS MOUNTED ON
U-CHANNEL POST DIRECTLY BEHIND
THE GUARDRAIL AT A HEIGHT OF 4'

CENTER OF CUL-DE-SAC
P.V.I. 34+00.00
ELEV. 288.00
50'
4' SHOULDER
4 %
-2.00%
PROFILE GRADE
0.79%
EXISTING GROUND

FL OUT = 262.04 LT.
FL IN = 264.19 RT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

FRONTAGE ROAD 2

300 290 280 270 260 250 240 230 220 210

25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00

RNFortner 12/12/2011 3:35:07 PM
WORKSPACE: AHTDVB
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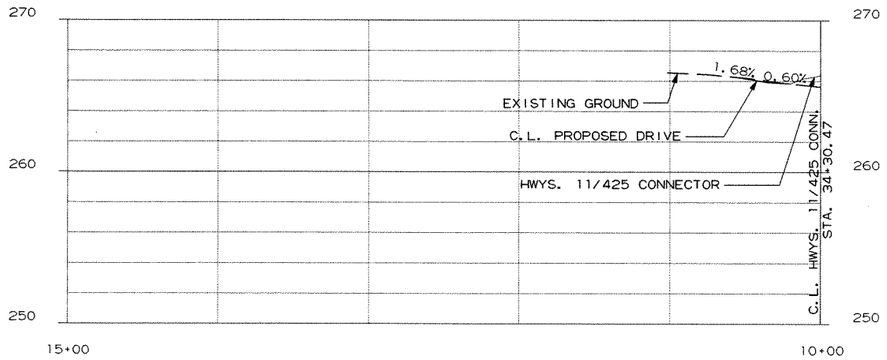
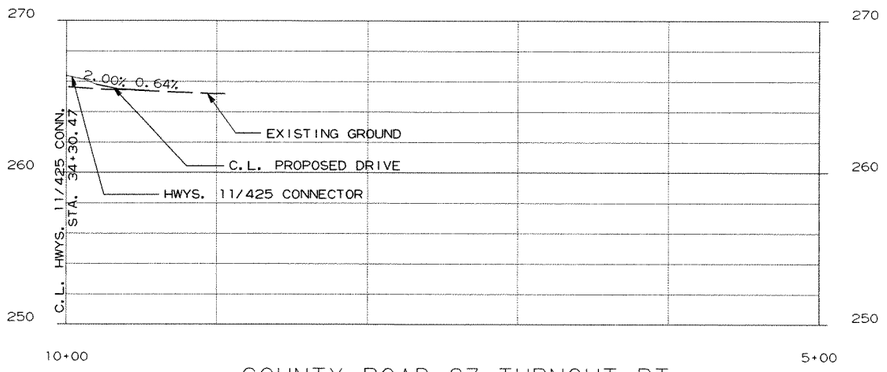
REVISED DATE:
04-14-05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	132	320

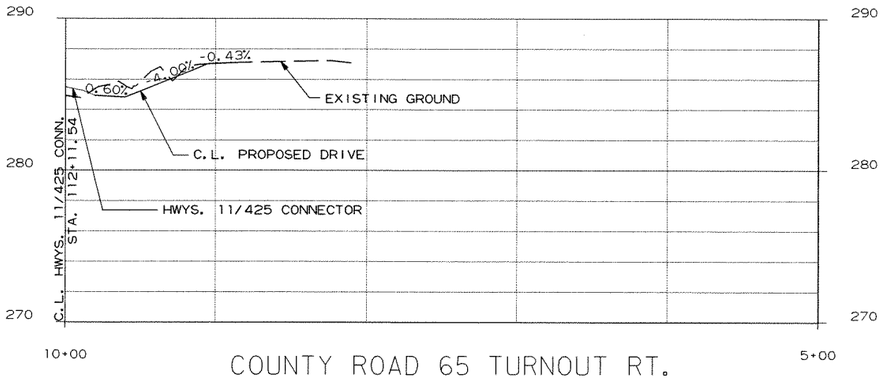
(2) COUNTY ROAD PROFILES



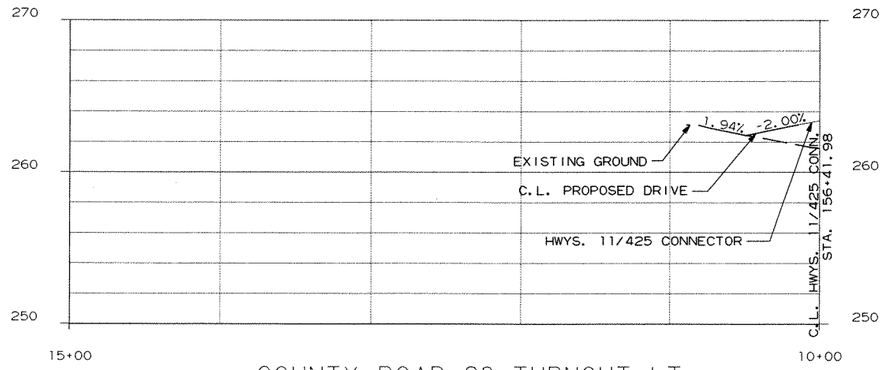
COUNTY ROAD 27 TURNOUT LT



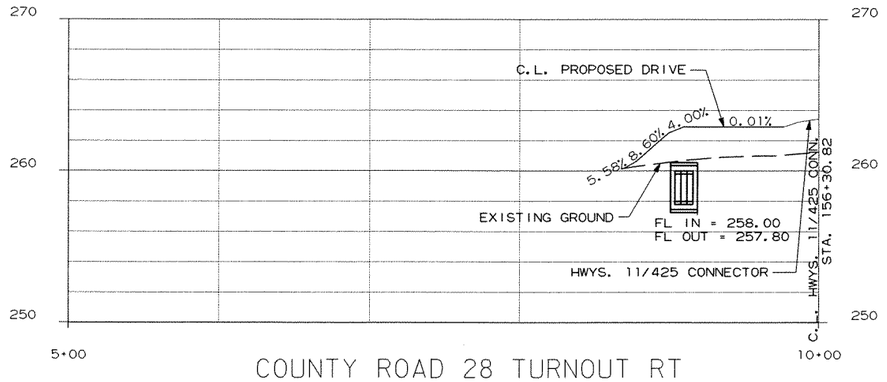
COUNTY ROAD 27 TURNOUT RT



COUNTY ROAD 65 TURNOUT RT.



COUNTY ROAD 28 TURNOUT LT



COUNTY ROAD 28 TURNOUT RT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNBERRY
12-13-2011

COUNTY ROAD PROFILES

RNFortner 12/12/2011 3:38:39 PM
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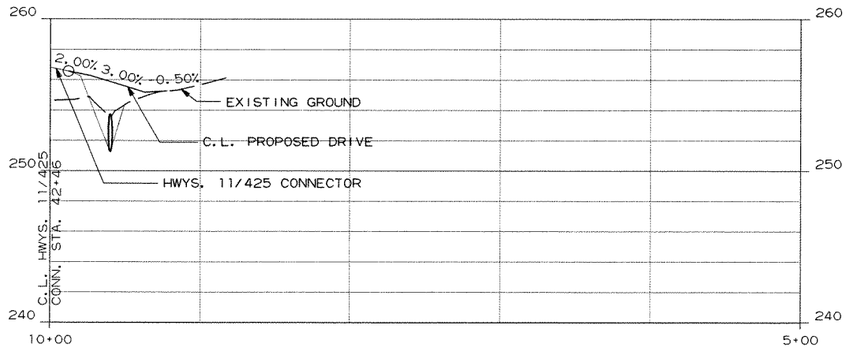
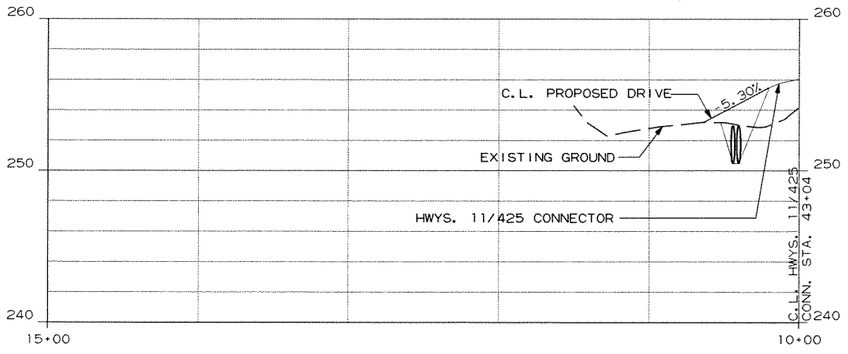
L:\2002\020110\90 I-69con\Dwg\Trwy\69NCRPR01.dgn
REVISED DATE:

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.		020356	133	320

(2) DRIVEWAY PROFILES



DRIVEWAY STA. 42+46 RT.



DRIVEWAY STA. 43+04 LT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

DRIVEWAY PROFILES

RNFortner 12/12/2011 3:40:13 PM
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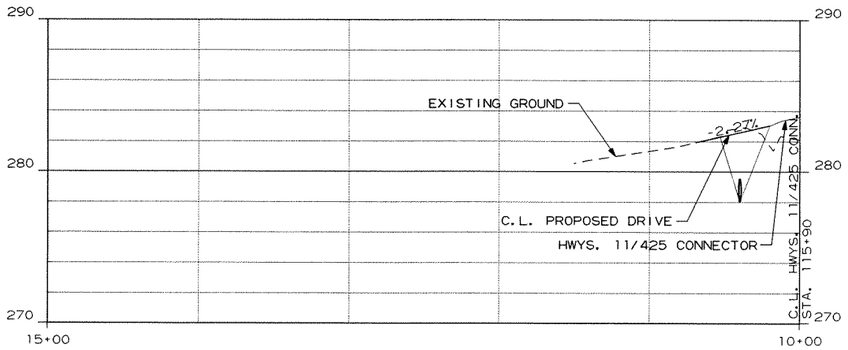
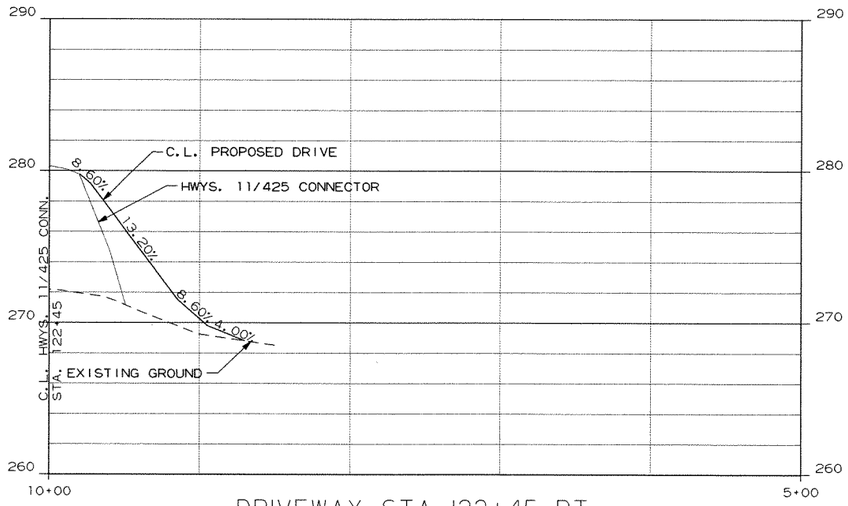
L:\2002\020090 I-69Con\Dwg\CT\rwy\69NDRWYPRO1.dgn
REVISED DATE:

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.		020356	134	320

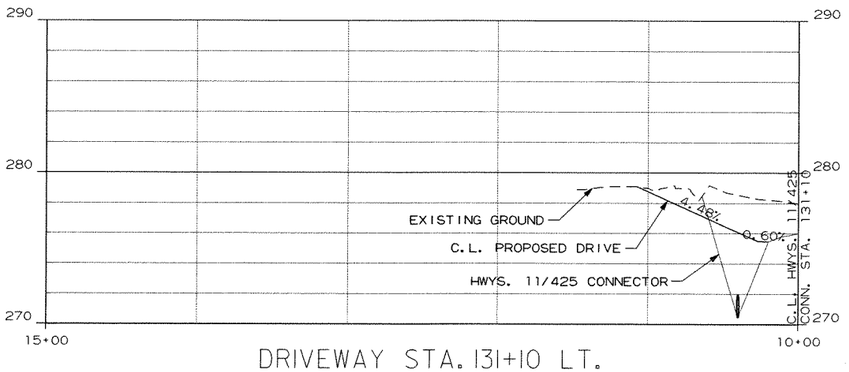
(2) DRIVEWAY PROFILES



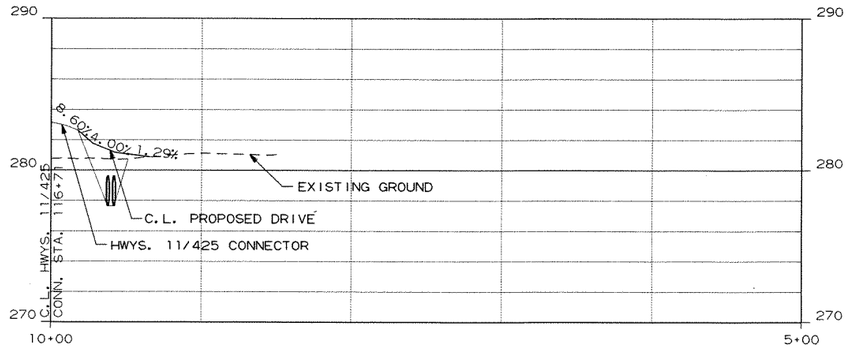
DRIVEWAY STA. 115+90 LT.



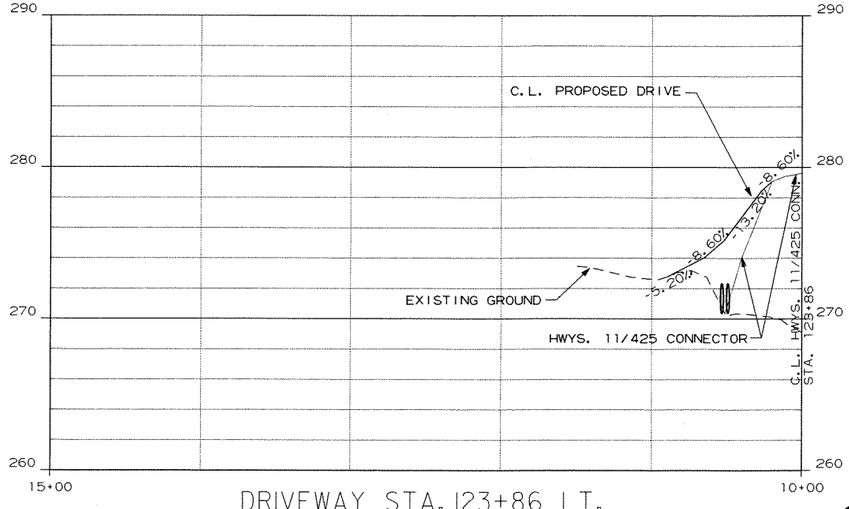
DRIVEWAY STA. 122+45 RT.



DRIVEWAY STA. 131+10 LT.



DRIVEWAY STA. 116+71 RT.



DRIVEWAY STA. 123+86 LT.

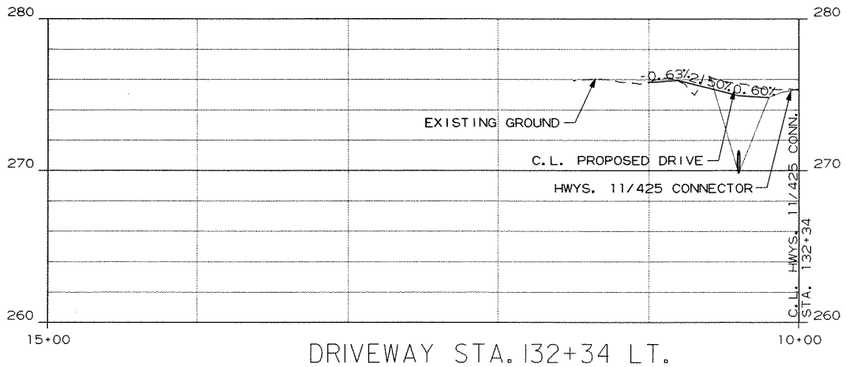
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

DRIVEWAY PROFILES

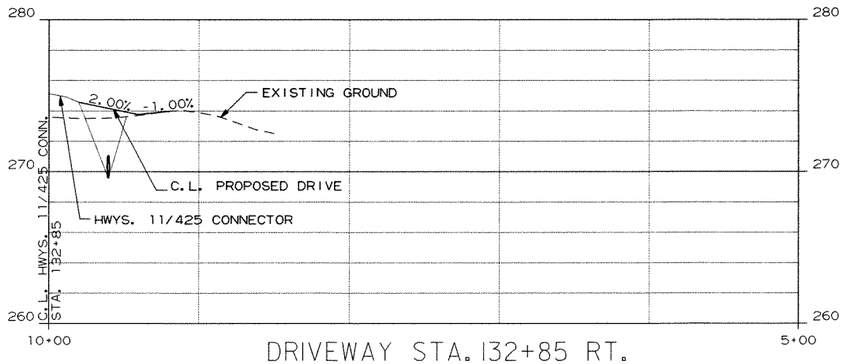
RNFortner 12/12/2011 3:46:29 PM
WORKSPACE: AHTDV8
L:\2002\020D90 I-69con\DwgCT\r-wy\69NDRWYPR02.dgn
REVISED DATE:

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.		020356	135	320

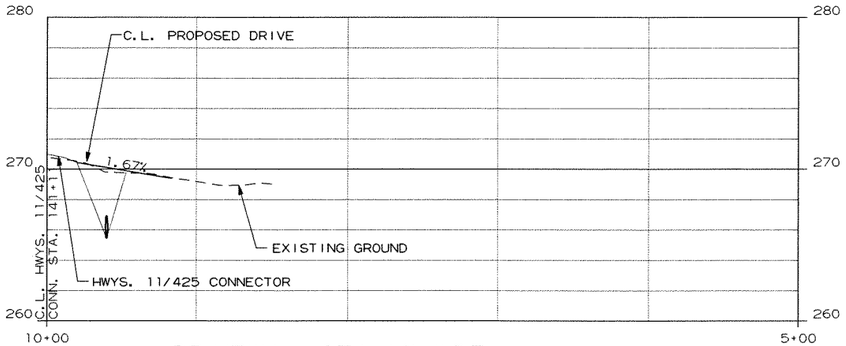
(2) DRIVEWAY PROFILES



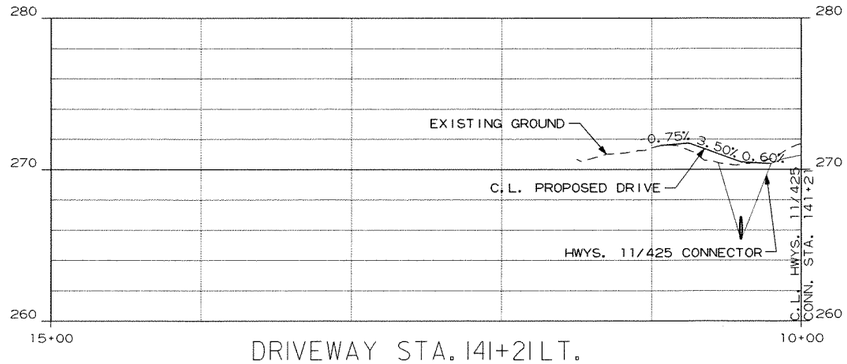
DRIVEWAY STA. 132+34 LT.



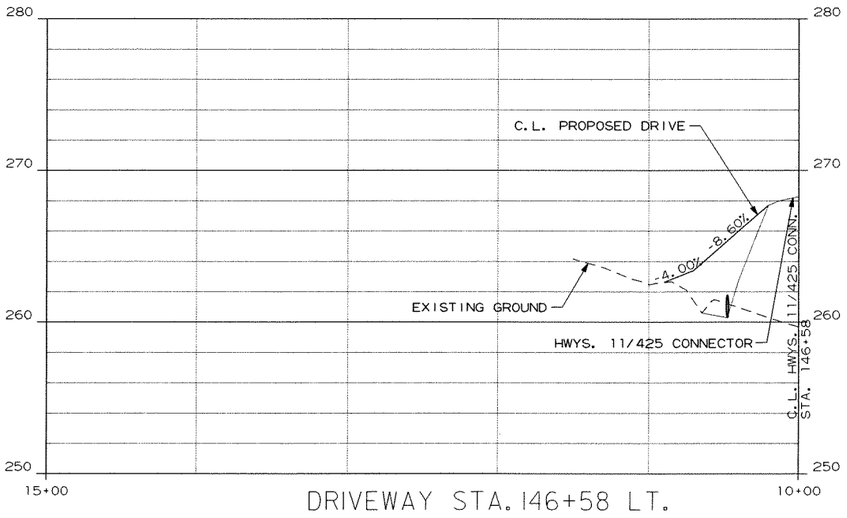
DRIVEWAY STA. 132+85 RT.



DRIVEWAY STA. 141+11 RT.



DRIVEWAY STA. 141+21 LT.

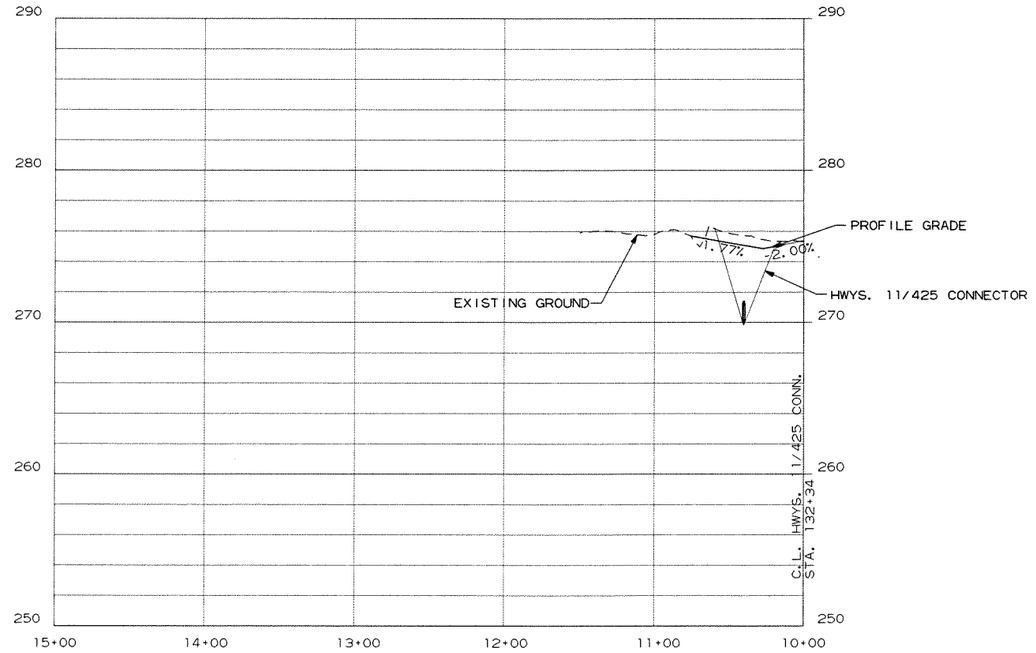


DRIVEWAY STA. 146+58 LT.

DRIVEWAY PROFILES

RNFortner 12/12/2011 3:43:00 PM
WORKSPACE: AHTDV8
L:\2012\020M090 I-69Con\DwgCT\rwy\69NDRWYPR03.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.		020356	136	320
				(2)	TEMP. DRIVE STA. 132+34			



TEMPORARY DRIVE STA. 132+34 LT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10887
SCOTT P. THORNSBERRY
12-13-2011

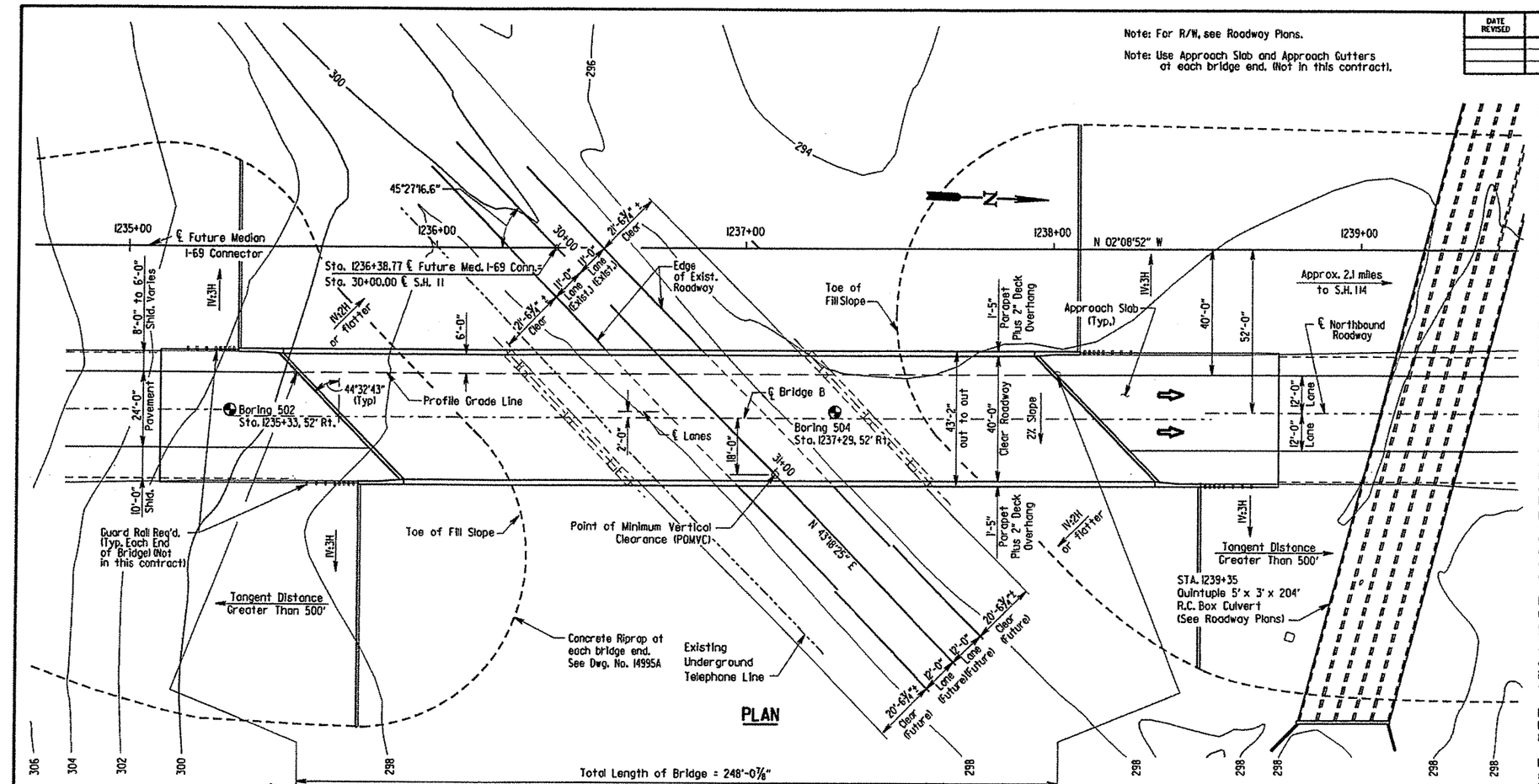
TEMPORARY DRIVE STA. 132+34

RNFortner 12/12/2011 3:46:29 PM
WORKSPACE: AHTDV8
L:\2002\020I090 I-69Con\DwgCT\r-wy\69NTEMPDRPROD.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.		020356	137	320
				(1) B7106		LAYOUT		49262

Note: For R/W, see Roadway Plans.

Note: Use Approach Slab and Approach Gutters at each bridge end. (Not in this contract).

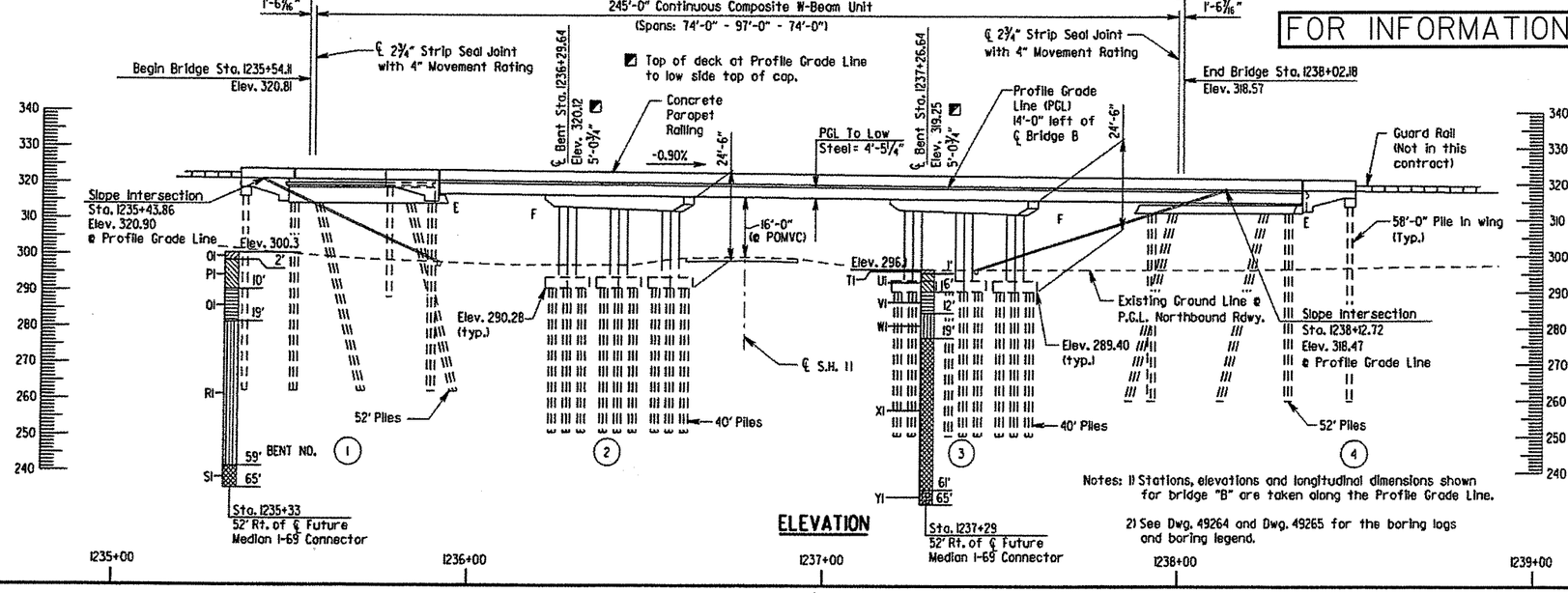


PLAN

Total Length of Bridge = 248'-0⅞"

1'-6⅞" | 245'-0" Continuous Composite W-Beam Unit (Spans: 74'-0" - 97'-0" - 74'-0") | 1'-6⅞"

FOR INFORMATION ONLY



ELEVATION

Notes: 1) Stations, elevations and longitudinal dimensions shown for bridge "B" are taken along the Profile Grade Line.

2) See Dwg. 49264 and Dwg. 49265 for the boring logs and boring legend.

GENERAL NOTES:

BENCH MARK: BM 951 Set By CTAR2. 302.78' Left of Sta. 1232+97.72, Elev. 298.34'.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and Special Provisions. Section and subsection refer to the Standard Construction Specifications unless otherwise noted in the plans.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (2002 Edition), with current interim specifications.

LIVE LOADING: HS20 & Alternate Military Loading METHOD OF DESIGN: Load Factor

SEISMIC PERFORMANCE CATAGORY: A

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy = 50,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

CONCRETE PILING: Piling for Bents 1 through 4 shall be 16" square precast concrete and shall be driven to a minimum safe bearing capacity of 60 tons per pile. All piling shall be driven with an approved air, steam, or diesel hammer. Piling in end bents shall be driven after embankment to bottom of cap is in place. Piling in Bents 1 and 4 shall have a minimum penetration of 15' below natural ground. Piling in Bents 2 and 3 shall have a minimum penetration of 15' below the bottom of footing. Piling at the ends of wingwalls shall have a minimum penetration of 10' below natural ground. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Drive one 57' test pile at bent 1 and one 45' test pile at bent 3.

Preboring, jetting, or other methods as approved by the Engineer may be required to obtain the minimum penetration requirements. The actual size and depth of preboring, if required, will be determined by the Engineer. The Contractor shall be responsible for keeping the prebored holes free from debris prior to backfilling which may require the use of temporary casings or other methods. The cost of temporary casings and the preboring, if required, will not be paid for directly but will be considered subsidiary to the item "Concrete Piling".

FOOTINGS: Footings shall have a minimum cover above top of footings of 2'. Foundations for footings shall be prepared in accordance with Section 801.04 of the Standard Specifications.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 (b)(5) for Class S Tined Bridge Roadway Surface Finish.

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and to the face and top of the concrete parapet rail.

TEXTURED COATING FINISH: Class 3 Textured Coating Finish shall be applied to bridge surfaces as specified in SP Job 020355 "Textured Coating Finish" and in accordance with Section 802.19. Textured Coating Finish shall not be applied on surfaces where Class I Protective Surface Treatment is applied.

PAINT: All structural steel except galvanized surfaces, some surfaces in contact with concrete, and steel otherwise noted shall be painted as specified in subsection 807.75. The color of the paint shall be Green and shall match Federal Standard 595B, Color Chip 24097.

DETAIL DRAWINGS:	DRAWING NO.
End Bents	49266 - 49269
Intermediate Bents	49270
W-Beam Unit	49271 - 49275
Concrete Piling	2383

BRIDGE B LAYOUT
BRIDGE OVER
STATE HIGHWAY 11
HWY. 212 - HWYS. 11/425 CONNECTOR (GR. & STRS.) (F)
LINCOLN COUNTY
ROUTE -- SEC. --

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

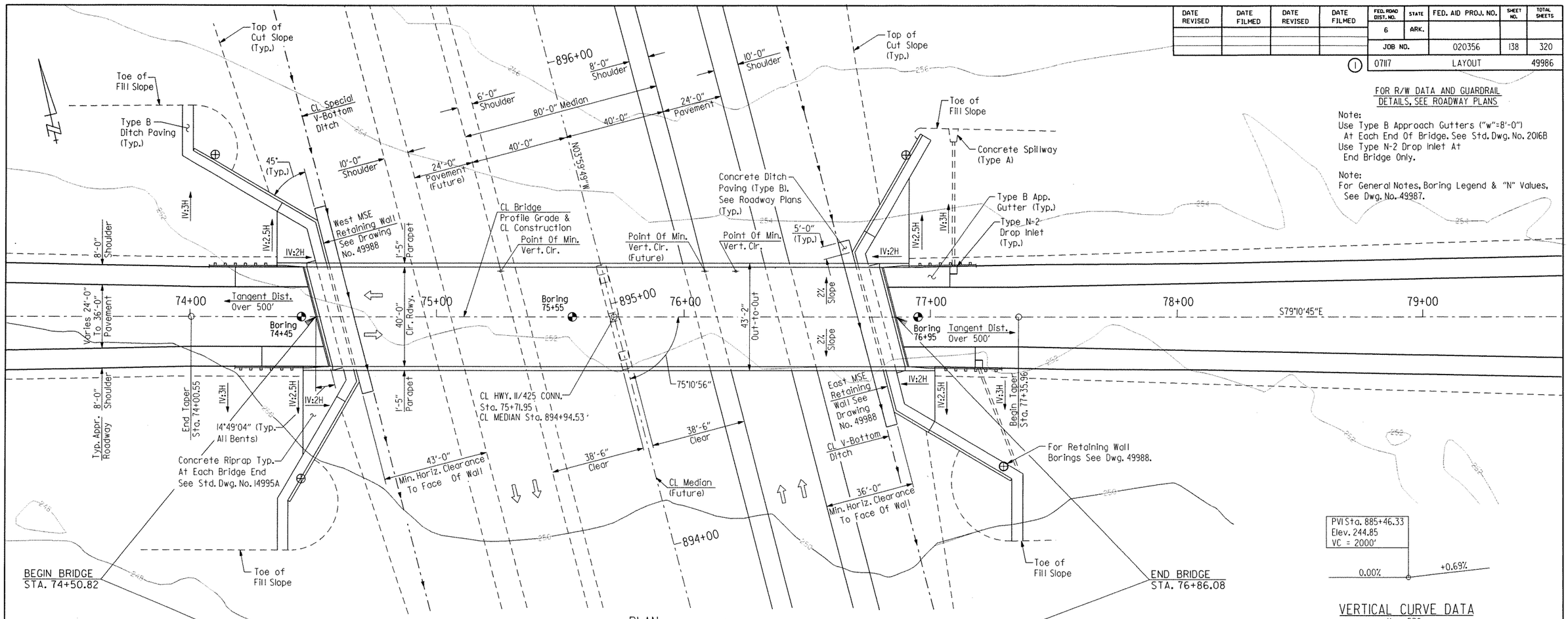
DRAWN BY: S.M. DATE: Aug. 17, 2006 FILENAME: B020355B1.11.dgn
CHECKED BY: H.R. DATE: Sept. 15, 2006 SCALE: 1" = 20'
DESIGNED BY: B.Z.P. DATE: Sept. 8, 2006
BRIDGE NO. B7106 DRAWING NO. 49262

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	138	320
				(1) 07117		LAYOUT		49986

FOR R/W DATA AND GUARDRAIL DETAILS, SEE ROADWAY PLANS

Note:
Use Type B Approach Gutters ("w"=8'-0") At Each End Of Bridge. See Std. Dwg. No. 2016B
Use Type N-2 Drop Inlet At End Bridge Only.

Note:
For General Notes, Boring Legend & "N" Values, See Dwg. No. 49987.



PLAN

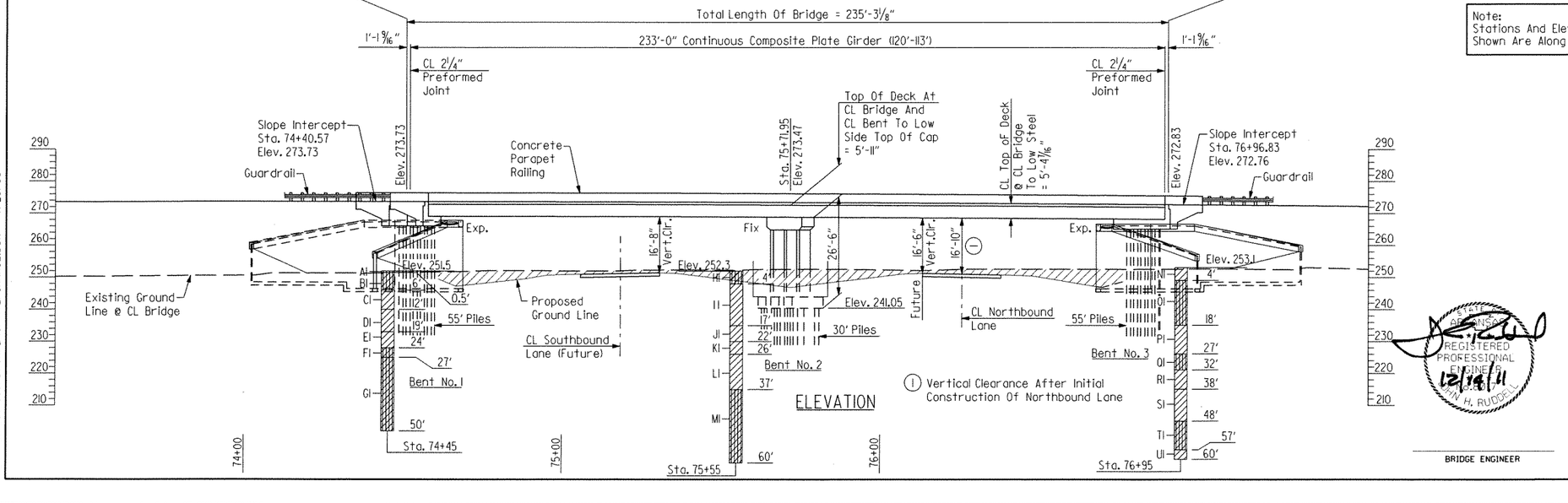
PVI Sta. 885+46.33
Elev. 244.85
VC = 2000'
0.00%
+0.69%

VERTICAL CURVE DATA
Hwy. 530
(Profile Grade Along Inside Edge Of Pavement)

Note:
Stations And Elevations Shown Are Along CL Bridge

PVI Sta. 76+26.91
Elev. 278.46
VC = 1200'
+1.20%
-2.30%

VERTICAL CURVE DATA
Hwy. 11/425
(Profile Grade Along CL Hwy. 11/425)



ELEVATION

(1) Vertical Clearance After Initial Construction Of Northbound Lane

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER JOHN H. RUDDELL 12/19/11

BRIDGE ENGINEER

SHEET 1 OF 5
LAYOUT OF BRIDGE
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
HWY. 212-HWYS. 11/425 CONNECTOR
(BS. & SURF) (F)
LINCOLN COUNTY

ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_LI.dgn
CHECKED BY: JHR DATE: JULY 2008 SCALE: 1"=20'
DESIGNED BY: WMM DATE: JULY 2008

BRIDGE NO. 07117 DRAWING NO. 49986

HEW L:/020II090/DWGN/BRG/INTERCHANGE.DGN 7/29/09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	139	320
				(1) 07117		LAYOUT		49987

GENERAL NOTES

BENCH MARK: T.B.M. 9034 CPS in East Side 18" Oak, 30.84' Lt.
Sta. 886+20.64
Elevation = 237.698

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway And Transportation Department Standard Specifications For Highway Construction (2003 Edition) With Applicable Supplemental Specifications And Special Provisions. Section And Subsection Refer To The Standard Construction Specifications Unless Otherwise Noted In The Plans.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications For Highway Bridges (2002 Edition) With Current Interim Specifications.

LIVE LOADING: HS20 & ALTERNATE MILITARY LOADING

METHOD OF DESIGN: Load Factor

SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 Or M 53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

FORM INSERT: State of Arkansas Form Insert To Be Used On MSE Walls (4 Locations) See Dwg. No. 49990.

PAINT: All Structural Steel Except Galvanized Members, Some Surfaces In Contact With Concrete, And As Otherwise Noted Shall Be Painted As Specified In Subsection 807.75. The Color Of The Paint Shall Be Green And Shall Match Federal Standard 595B, Color Chip No. 24097.

BORING LOGS: Boring Logs May Be Obtained From Programs And Contracts Division.

CONCRETE PILING: Piling Shall Be 18" Square Precast Concrete And Shall Be Driven With An Approved Air, Steam, Or Diesel Hammer To A Minimum Safe Bearing Capacity Of 64 Tons Per Pile For Bents 1 and 3 and 48 Tons Per Pile for Bent 2. Drive All Piles In Bents 1 & 3 To A Minimum Penetration Of 10' Below Leveling Pad And All Piles In Bent 2 To A Minimum Penetration Of 10' Below Bottom Of Footing. Piling In End Bents Shall Be Driven After Excavation To Top Of Leveling Pad Is Completed And Prior To Backfilling. Lengths Of Piling Shown Are Assumed For Estimating Quantities Only. Actual Lengths To Be Determined In The Field. Drive One 65' Test Pile In Bent No. 1 & 3 And One 40' Test Pile In Interior Bent No. 2.

PREBORING: Preboring, Jetting, Or Other Methods As Approved By The Engineer May Be Required To Obtain The Minimum Penetration Requirements. If Required, The Actual Size And Depth Of Preboring Or Depth Of Jetting Will Be Determined By The Engineer. The Contractor Shall Be Responsible For Keeping The Prebored Holes Free From Debris Prior To Backfilling Which May Require The Use Of Temporary Casings Or Other Methods. The Cost Of Temporary Casings And The Preboring Or Jetting, If Required, Will Not Be Paid For Directly But Will Be Considered Subsidiary To "Concrete Piling".

BRIDGE DECK: The Concrete Bridge Deck Shall Be Given A Tine Finish As Specified For Final Finishing In Subsection 802.19 For Class 5 Tined Bridge Roadway Surface Finish.

TEXTURED COATING FINISH: Class 3 Textured Coating Finish Shall Be Applied To Areas As Specified In Special Provision Job 020356 "Textured Coating Finish."

FOOTING: The Top Of Footings Shall Be Set A Minimum Of 2'-0" Below Finished Ground Line. Foundations For Footings Shall Be Prepared In Accordance With Section 801.04 And Shall Be Backfilled In Accordance With Section 801.08.

For Additional General Notes, See Dwg. No. 50001.

DETAIL DRAWINGS:	DRAWING NO.
End Bent	49991-49994
Intermediate Bent	49995
233' Cont. Plate Girder Unit	49996-50003
Elastomeric Bearing	50004
Preformed Joint	50003
Concrete Piling	2383
Type B Approach Gutters	2016B

BORING LEGEND

AI- Loose Brown Fine Sandy Silt
BI- Firm Gray And Tan Fine Sandy Clay, Silty w/Ferrous Stains and Roots
Stiff, w/Ferrous Nodules Below 4.5 Ft.
CI- Stiff Gray And Tan Fine Sandy Clay
Very Stiff, Reddish Brown, Gray And Tan w/Ferrous Nodules below 8.5 Ft.
DI- Stiff Brownish Yellow And Light Brown Fine Sandy Clay w/Fine Sand Pockets
EI- Medium Dense Light Brown Clayey Fine Sand
FI- Stiff Brown Silty Clay w/Silty Fine Sand Pockets
GI- Very Stiff Brownish Gray Silty Clay w/Silty Fine Sand Pockets And Partings
With More Silt Partings At 42-47 Ft.
Very Stiff To Hard Below 48 Ft.
HI- Firm Brown Silty Clay w/Rootlets
Red, Gray And Tan Below 2 Ft.
II- Stiff Red, Gray And Tan Fine Sandy Clay w/Ferrous Stains
Water At 6 Ft.
JI- Medium Dense Pale Red And Tan Clayey Fine Sand
KI- Medium Dense Tan And Light Brown Silty Fine Sand w/Clayey Fine Sand
Seams And Layers
LI- Very Stiff Brownish Gray Fine Sandy Clay w/Silty Fine Sand Pockets
MI- Very Stiff To Hard Brownish Gray Silty Clay w/Silty Fine Sand
Pockets And Partings.
NI- Firm Brown Fine Sandy Clay w/Rootlets
Tan And Gray Below 2 Ft.
OI- Stiff Red, Tan And Gray Silty Clay w/Fine Sand Pocket And Trace Fine Gravel, Clayey Sand And Ferrous Stains
Water At 10 Ft.
PI- Stiff Gray And Light Brown Clay, Slightly Blocky w/Silty Fine Sand Partings And Seams And Ferrous Stains
QI- Very Stiff Brownish Gray Silty Clay w/Ferrous Stains And Silty Fine Sand Partings And Pockets
Very Stiff Below 28 Ft.
RI- Very Stiff Brownish Gray Fine Sandy Clay w/Silty Fine Sand Partings And Pockets
SI- Very Stiff Brownish Gray Clay w/Occasional Lignite Inclusions
Very Stiff To Hard Below 43 Ft.
TI- Very Stiff Brownish Gray Silty Clay, Sandy
UI- Very Dense Brownish Gray Clayey Fine Sand

"N" VALUES

Sta. 74+45 at CL Hwy. 11/425 Conn.	Sta. 75+55 at CL Hwy. 11/425 Conn.	Sta. 76+95 at CL Hwy. 11/425 Conn.
0.5-1.5, N=10	0.5-1.5, N=8	0.5-1.5, N=9
2.5-3.5, N=8	2.5-3.5, N=9	2.5-3.5, N=9
4.5-5.5, N=12	4.5-5.5, N=13	4.5-5.5, N=14
6.5-7.5, N=20	6.5-7.5, N=16	6.5-7.5, N=17
9.0-10.0, N=25	9.0-10.0, N=21	9.0-10.0, N=21
14.0-15.0, N=17	14.0-15.0, N=16	14.0-15.0, N=14
19.0-20.0, N=25	19.0-20.0, N=20	19.0-20.0, N=19
24.0-25.0, N=22	24.0-25.0, N=22	24.0-25.0, N=20
29.0-30.0, N=27	29.0-30.0, N=31	29.0-30.0, N=30
34.0-35.0, N=42	34.0-35.0, N=40	34.0-35.0, N=46
39.0-40.0, N=43	39.0-40.0, N=47	39.0-40.0, N=48
44.0-45.0, N=47	44.0-45.0, N=50	44.0-44.92, N=50/11"
49.0-49.75, N=50/9"	49.0-49.83, N=50/10"	49.0-50, N=50
	54.0-55.0, N=50	54.0-54.67, N=50/8"
	59.0-60.0, N=50	59.0-59.58, N=50/7"

ARKANSAS REGISTERED PROFESSIONAL ENGINEER JOHN H. RUDDELL
12-14-11

BRIDGE ENGINEER

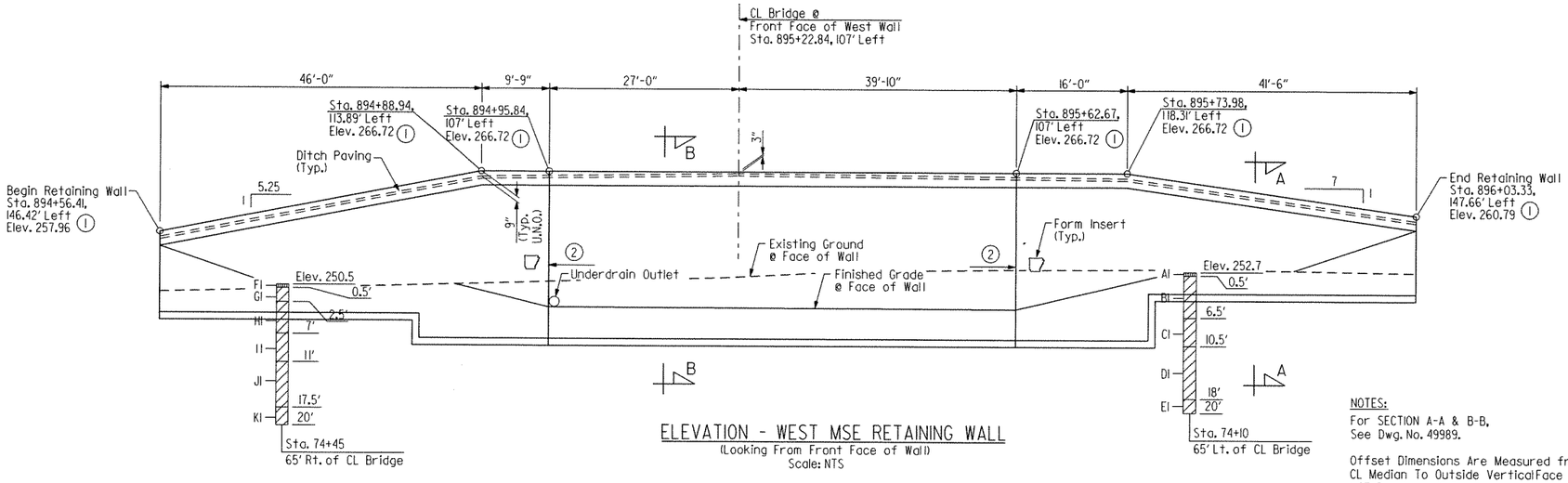
SHEET 2 OF 5
LAYOUT OF BRIDGE
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
HWY. 212-HWYS. 11/425 CONNECTOR
(BS. & SURF) (F)
LINCOLN COUNTY

ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_L2.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: AJK DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 49987

HEW L:/020ll090/DWGN/BRG/TYPSEC-INTERCHANGE2.DGN 7/29/09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	140	320
				(1) 07117		LAYOUT		49988



ELEVATION - WEST MSE RETAINING WALL

(Looking From Front Face of Wall)
Scale: NTS

(1) Stationing shown is along CL Median Hwys. 11/425 Connector

(2) 45° Break in Horizontal Alignment of MSE Retaining Wall

NOTES:

For SECTION A-A & B-B, See Dwg. No. 49989.

Offset Dimensions Are Measured from CL Median To Outside VerticalFace Of MSE Retaining Wall.

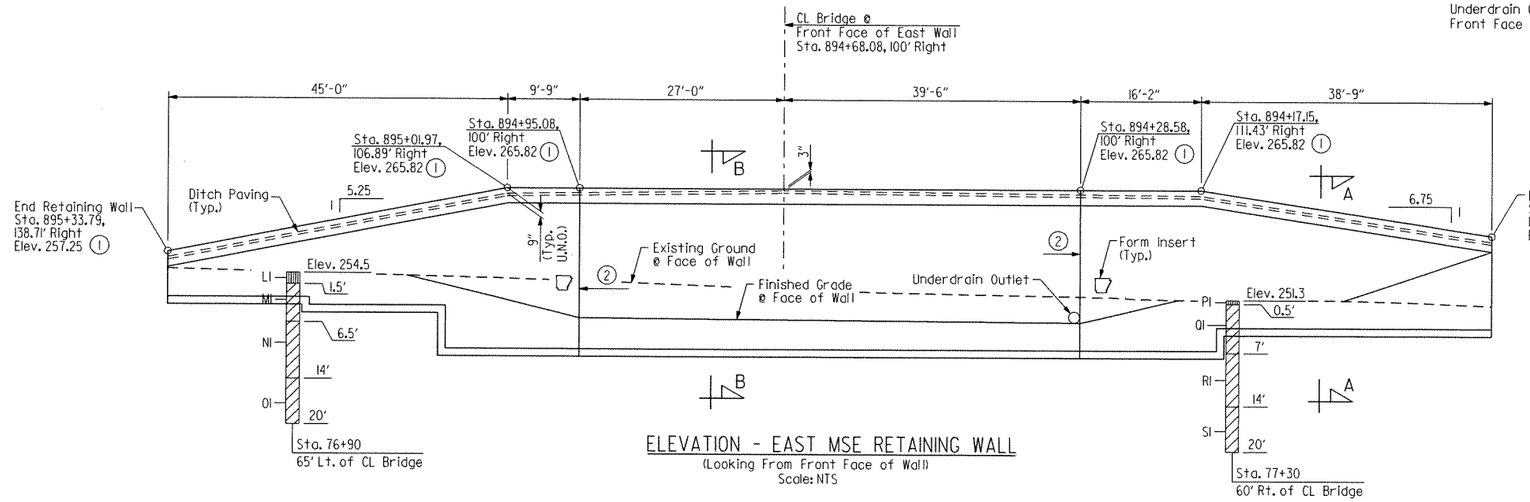
Elevation Shown Are At Profile Grade At Top Of Wall.

For Details of Form Insert, See Dwg. No. 49990.

Underdrain Outlet to Penetrate Front Face of MSE Wall.

BORING LEGEND

AI - Loose Brown Fine Sandy Silt w/Organics
BI - Soft Gray, Reddish Tan And Tan Fine Sandy Clay w/Rootlets And Trace Fine Gravel
Reddish Brown, Gray And Tan w/Ferrous Nodules Below 2.5 Ft.
CI - Firm To Stiff Yellow And Gray Clay w/Ferrous Nodules And OccasionalFine Sand Pockets
Stiff Below 8 Ft.
DI - Stiff Brownish Yellow And Light Brown Fine Sandy Clay w/Ferrous Nodules
Water At 13 Ft.
EI - Medium Dense Light Brown Clayey Fine Sand w/Ferrous Nodules
FI - Loose Brown Fine Sandy Silt w/Organics
GI - Very Soft Gray And Tan Fine Sandy Clay
HI - Soft Tan, Reddish Tan And Gray Fine Sandy Clay
Very Soft, Tan And Gray Below 4 Ft.
Stiff Below 6.5 Ft.
II - Stiff Brownish Yellow And Brownish Gray Fine Sandy Clay
Reddish Brown And Brownish Gray Below 9 Ft.
JI - Medium Dense Brownish Yellow And Light Brown Clayey Fine Sand
Water At 12 Ft.
KI - Stiff Brownish Gray Silty Clay w/Silty Fine Sand Pockets And Partings
LI - Very Loose Brown Fine Sandy Silt w/Organics
MI - Soft Reddish Tan, Tan And Gray Fine Sandy Clay w/Ferrous Nodules
Water At 2 Ft.
NI - Stiff Brownish Gray Fine Sandy Clay
Reddish Brown, Reddish Tan And Gray w/Silty Fine Sand Pockets, Partings And Seams Below 9 Ft.
OI - Medium Dense Brownish Yellow And Light Gray Clayey Fine Sand
Light Brown w/Ferrous Nodules Below 19 Ft.
PI - Very Loose Brown Fine Sandy Silt w/Organics
QI - Soft Gray, Tan And Brown Silty Clay, Sandy w/Occasional Organics
Reddish Tan, Gray And Tan Below 2.5 Ft.
Firm Below 4 Ft.
RI - Medium Dense Gray And Reddish Tan Clayey Fine Sand w/Silty Fine Sand Pockets
Water At 12 Ft.
SI - Medium Dense Brownish Yellow And Light Gray Clayey Fine Sand
Light Brown Below 19 Ft.



ELEVATION - EAST MSE RETAINING WALL

(Looking From Front Face of Wall)
Scale: NTS

LEGEND

U.N.O - Unless Noted Otherwise

"N" VALUES

Sta. 74+10 - 65' Lt. Of CL Bridge	Sta. 74+45 - 65' Rt. Of CL Bridge
0.5-1.5, N=5	0.5-1.5, N=3
2.5-3.5, N=6	2.5-3.5, N=4
4.0-5.0, N=5	4.0-5.0, N=3
6.5-7.5, N=11	6.5-7.5, N=15
9.0-10.0, N=20	9.0-10.0, N=16
14.0-15.0, N=19	14.0-15.0, N=20
19.0-20.0, N=16	19.0-20.0, N=12

Sta. 76+90 - 65' Lt. Of CL Bridge	Sta. 77+30 - 60' Rt. Of CL Bridge
0.5-1.5, N=2	0.5-1.5, N=5
2.5-3.5, N=4	2.5-3.5, N=5
4.0-5.0, N=5	4.0-5.0, N=11
6.5-7.5, N=13	6.5-7.5, N=12
9.0-10.0, N=15	9.0-10.0, N=21
11.5-12.5, N=13	14.0-15.0, N=18
14.0-15.0, N=22	19.0-20.0, N=21
19.0-20.0, N=24	

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 8801 JOHN H. RUDDELL 12/14/11

BRIDGE ENGINEER

SHEET 3 OF 5
LAYOUT OF BRIDGE
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
HWY. 212-HWYS. 11/425 CONNECTOR
(BS. & SURF.) (F)
LINCOLN COUNTY

ROUTE 530 SEC. 8

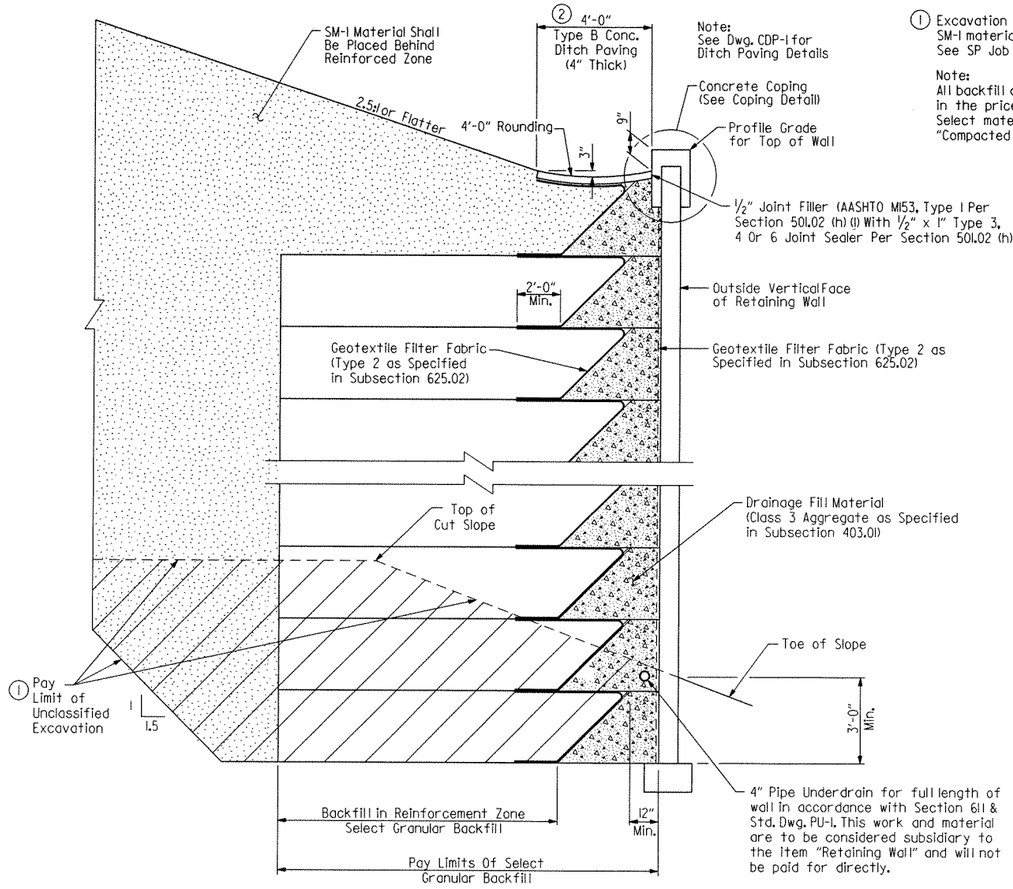
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_L3.DGN
CHECKED BY: WMM DATE: JULY 2008 SCALE: AS NOTED
DESIGNED BY: SFH DATE: JULY 2008

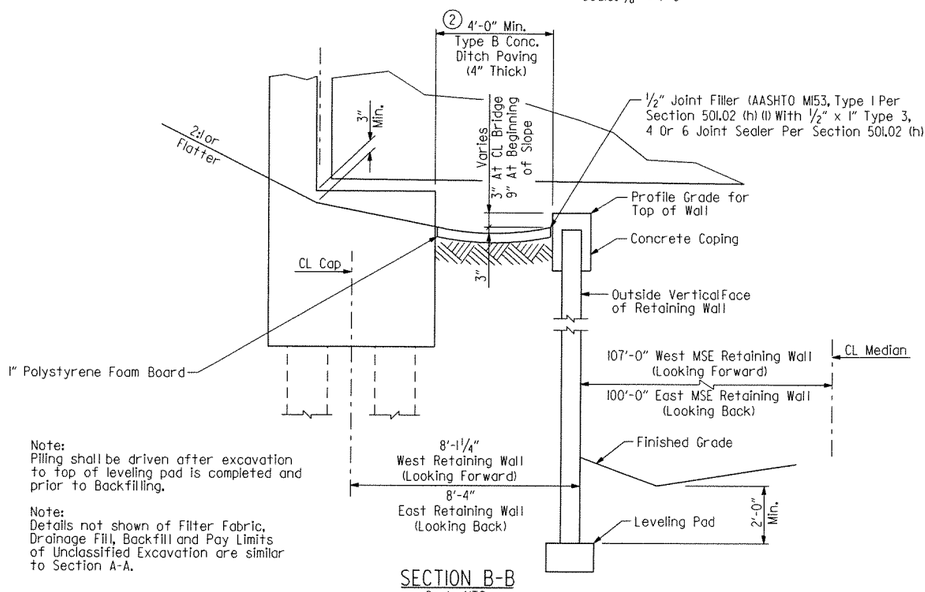
BRIDGE NO. 07117 DRAWING NO. 49988

HEW L:\020\B30\DWGN\BRG\INTERCHANGE-RETWALL.DGN 7/29/09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	141	320
				(1) 07117		LAYOUT		49989



SECTION A-A
Scale: 3/8" = 1'-0"



Note:
Piling shall be driven after excavation to top of leveling pad is completed and prior to Backfilling.

Note:
Details not shown of Filter Fabric, Drainage Fill, Backfill and Pay Limits of Unclassified Excavation are similar to Section A-A.

SECTION B-B
Scale: NTS

(1) Excavation required for Reinforcing Zone, Leveling Pad, and placement of SM-1 material will be paid for under the pay item "Unclassified Excavation". See SP Job 020356 "Retaining Wall".

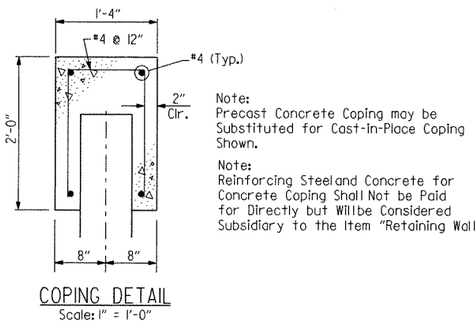
Note:
All backfill and drainage fill material within the Reinforcement Zone shall be included in the price bid for "Select Granular Material". See SP Job 020356 "Retaining Wall". Select material required behind Reinforced Zone shall be included in the price bid for "Compacted Embankment".

SPECIAL DESIGN NOTE:

The Internal Stability Calculations for the portion of the MSE wall directly in front of the end bent shall include an additional loading to account for pressure resulting from the lateral loading on the end bent piling. The additional loading shall be as follows:

Depth Below Abutment Cap (FT)	Additional Loading (KSF)
0	0.00
1	0.12
2	0.22
3	0.29
4	0.33
5	0.29
6	0.26
7	0.26
8	0.22
9	0.16
10	0.10
11	0.05
12	0.01

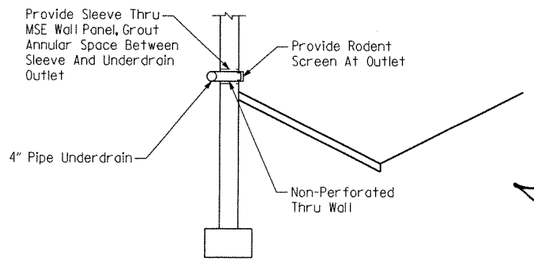
(2) The 4'-0" Concrete Ditch Paving Shall Be Constructed Without The 3" Weep Holes Shown On Std. Drawing CDP-1.



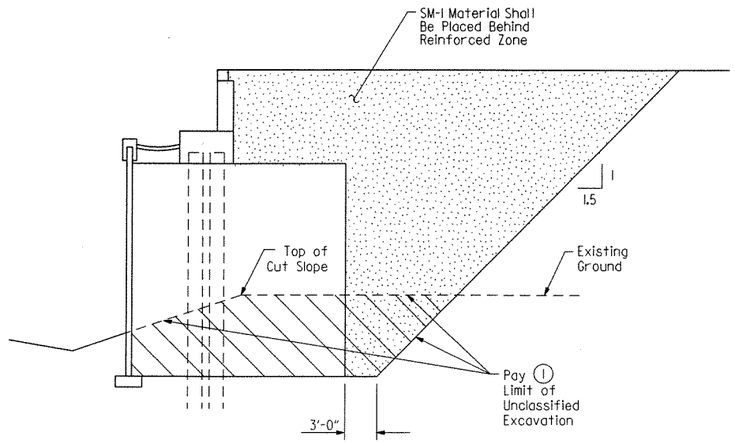
Note:
Precast Concrete Coping may be Substituted for Cast-in-Place Coping Shown.

Note:
Reinforcing Steel and Concrete for Concrete Coping Shall Not be Paid for Directly but Will be Considered Subsidiary to the Item "Retaining Wall".

COPING DETAIL
Scale: 1" = 1'-0"



OUTLET DETAIL
Scale: NTS



EMBANKMENT DETAIL
Scale: NTS

Notes:

4" Pipe Underdrain shall maintain a minimum slope of 1/8" per foot toward nearest outlet.

Design Specifications: AASHTO Standard Specifications for Highway Bridges (2002 Edition) with current interim specifications.

Seismic Performance Category: A

Elevations are approximate. Wall dimensions may vary depending on Wall Design selected.

Placement of reinforcing for retaining walls may be affected by end bent construction. See Dwg. Nos. 49991-49994 for pile locations and wingwall details.

For ditch paving see Standard Dwg. No. CDP-1.

See Special Provision Job 020356 "Retaining Walls" for additional information.

Boring logs, including laboratory results, may be obtained from Programs and Contracts Division.

Joint Filler, Joint Sealer, Polystyrene Foam Board and rodent screen will not be paid for directly but will be considered subsidiary to SP Job 020356 "Retaining Wall".

See Dwg. No. 49990 for Form Insert location and details.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9017 JOHN H. RUDDELL

BRIDGE ENGINEER

SHEET 4 OF 5
LAYOUT OF BRIDGE
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
HWY. 212-HWYS. 11/425 CONNECTOR
(BS. & SURF) (F)
LINCOLN COUNTY

ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

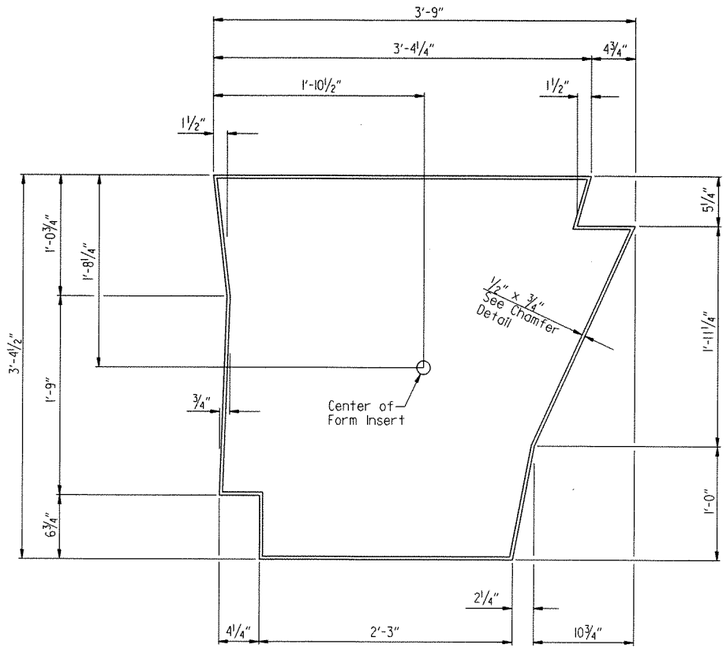
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_L4.DGN
CHECKED BY: WMM DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: SFH DATE: JULY 2008

BRIDGE NO. 07117 DRAWING NO. 49989

HEW L:\020\0930\DWGS\BRG\INTERCHANGE-RETWALLDTLS.DGN 7/29/09

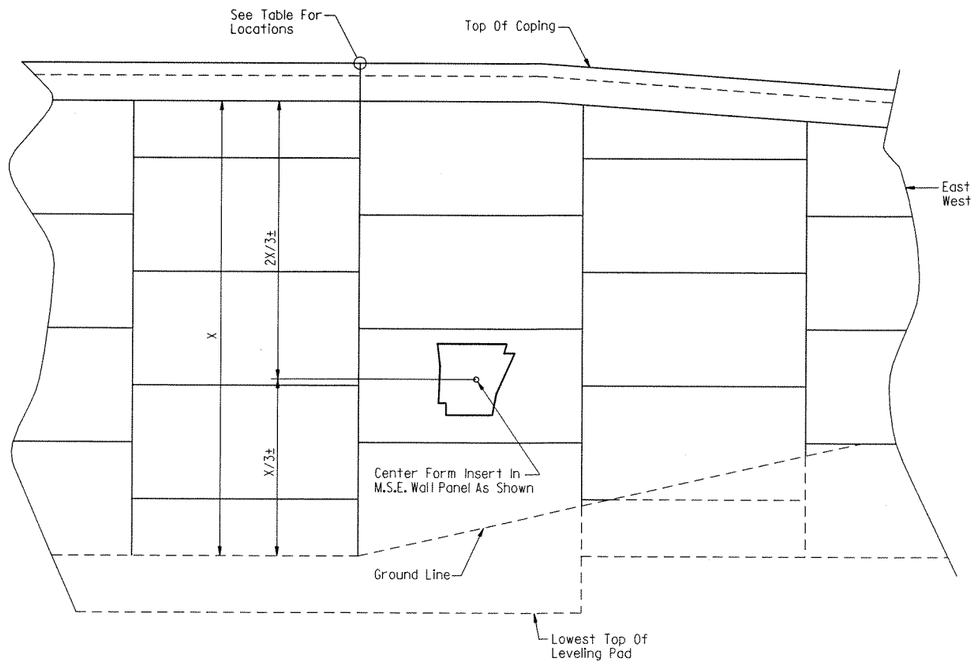
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	142	320
				1 07117		ARK. FORM INSERT		49990



Note:
Use Form Insert On Designated Walls As Noted On Details of M.S.E. Walls, Dwg. No. 49988.

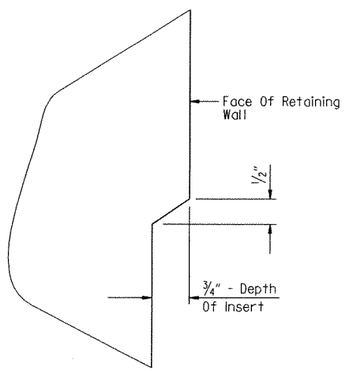
FORM INSERT DETAILS AT MSE WALL

Scale: 1 1/2" = 1'-0"



DEVELOPED ELEVATION AT MSE WALL

Scale: N.T.S.



CHAMFER DETAIL

Scale: N.T.S.

GENERAL NOTES:

Fabricate form insert as a one piece unit, without the use of splices, joints or glue.

Wash and clean multi-use form inserts before each use.

All work and materials for inserts shall be included in the unit price bid for the item "Retaining Wall".

Damaged or worn form inserts shall be replaced at the Contractor's expense.

The form shall be approved by the Engineer before its use.

Recessed Image (Including Chamfers) of State of Arkansas Insert shall be given a Class 3 Textured Coating Finish as specified in Special Provision Job 020356 "Textured Coating Finish."

LOCATION OF FORM INSERT	
Location	Station
East Wall	894+95.08 And 894+28.58
West Wall	894+95.84 And 895+62.67

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER JOHN H. RUDDELL 12-14-01

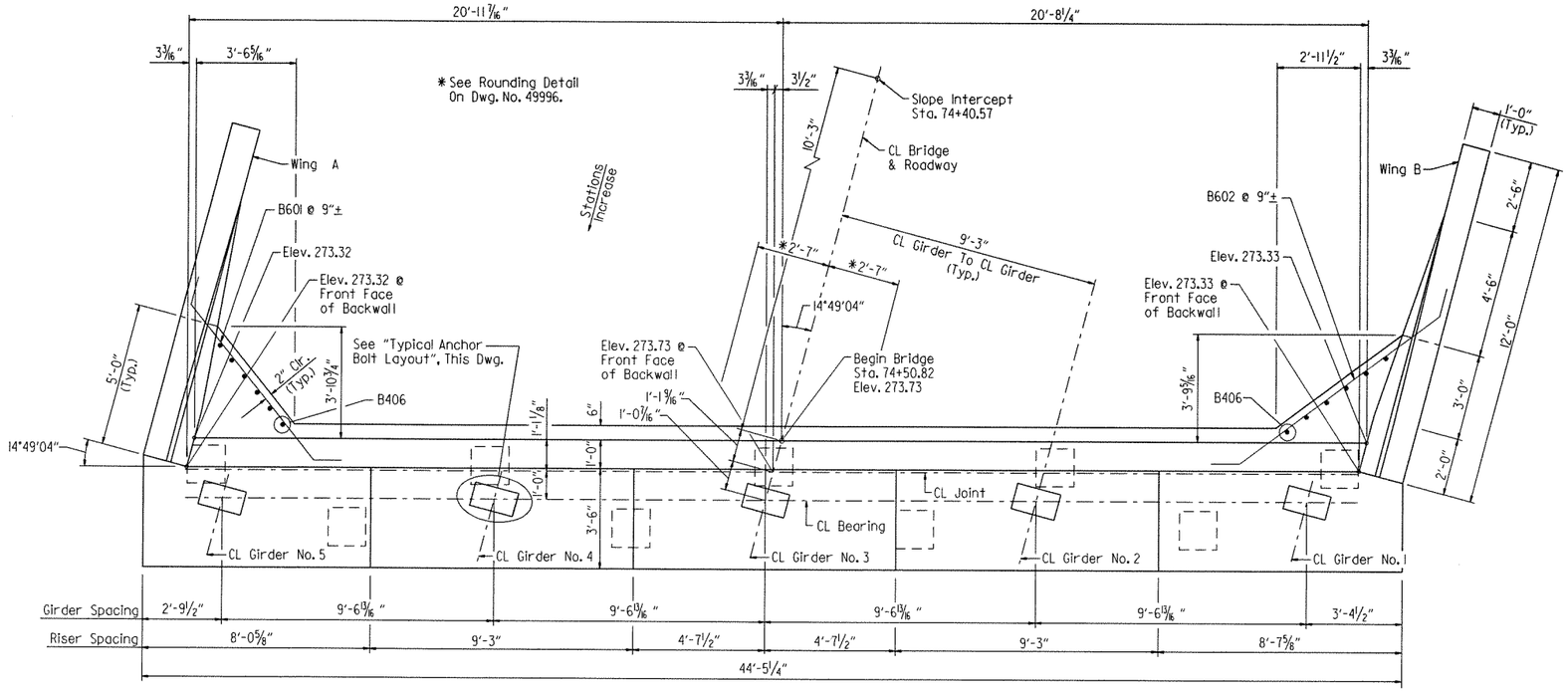
BRIDGE ENGINEER

SHEET 5 OF 5
LAYOUT OF BRIDGE
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
HWY. 212-HWYS. 11/425 CONNECTOR
(BS. & SURF) (F)
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

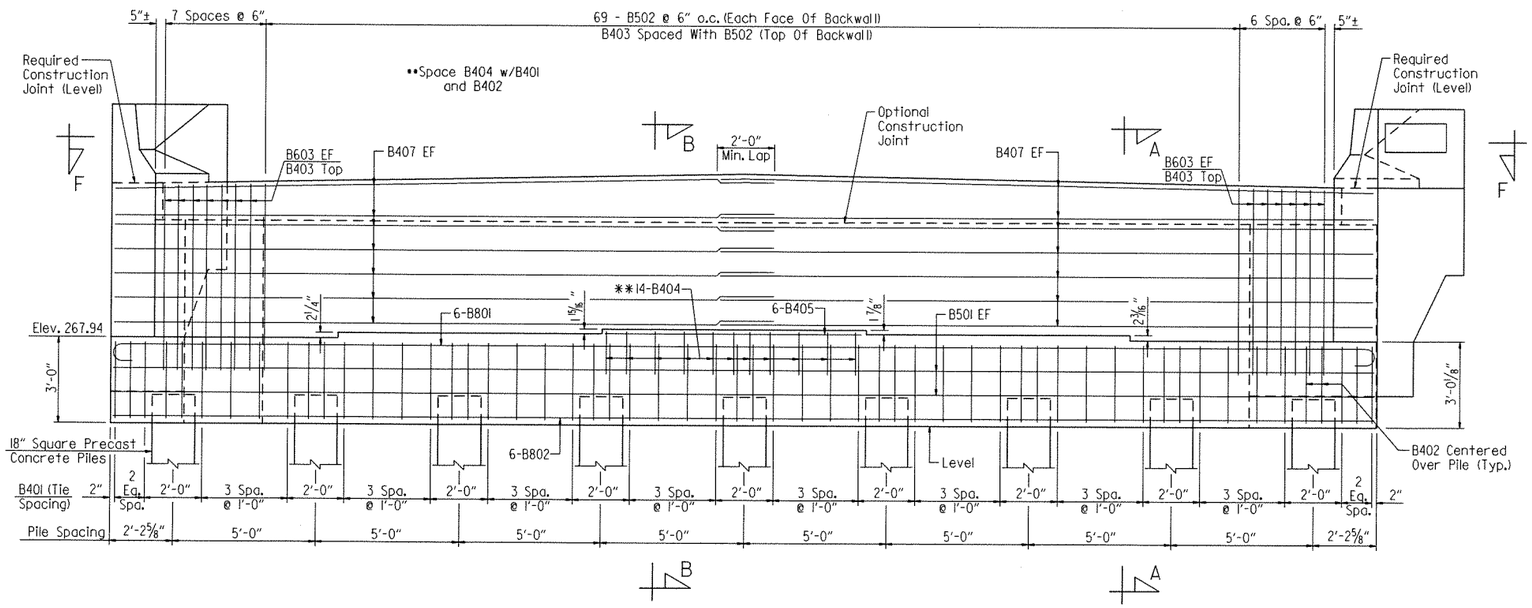
DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_L5.DGN
CHECKED BY: WMM DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: ABH DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 49990

HEW L:/020II090/DWGN/BRG/FORM-INSERT.DGN 7-29-09

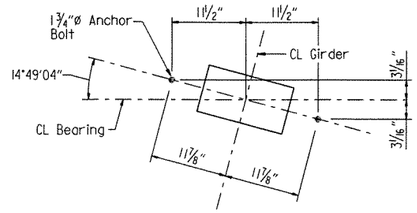
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	143	320
				(1) 07117		END BENTS		49991



PLAN - END BENT NO. 1
Scale: 3/8" = 1'-0"



ELEVATION - END BENT NO. 1
(Looking Back)
Scale: 3/8" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT
Scale: N.T.S.

GENERAL NOTES

All concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Gr. 60.

Structural steel in end bents shall be AASHTO M270, Gr. 50 and shall be paid for as "Structural Steel In Plate Girder Spans (AASHTO M270, Gr.50)". Structural steel shall be cleaned and painted in accordance with Section 807. The color of the paint shall be Green and shall match Fed. Std. 595B, Color Chip NO. 24097.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information, see LAYOUT.

Notes:
For Details Of Wing & Rail, See Dwg. Nos. 49993 & 49994.

For Details Of Elastomeric Bearing Pads, See Dwg. No. 50004.

For Bar List & Bending Diagram, See Dwg. No. 49994.

For Sections A-A & B-B, See Dwg. No. 49994.

For View F-F, See Dwg. No. 49994.

LEGEND
EF = Each Face

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8807 JOHN H. RUDDELL 12-11-08

BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF END BENTS
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY

ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

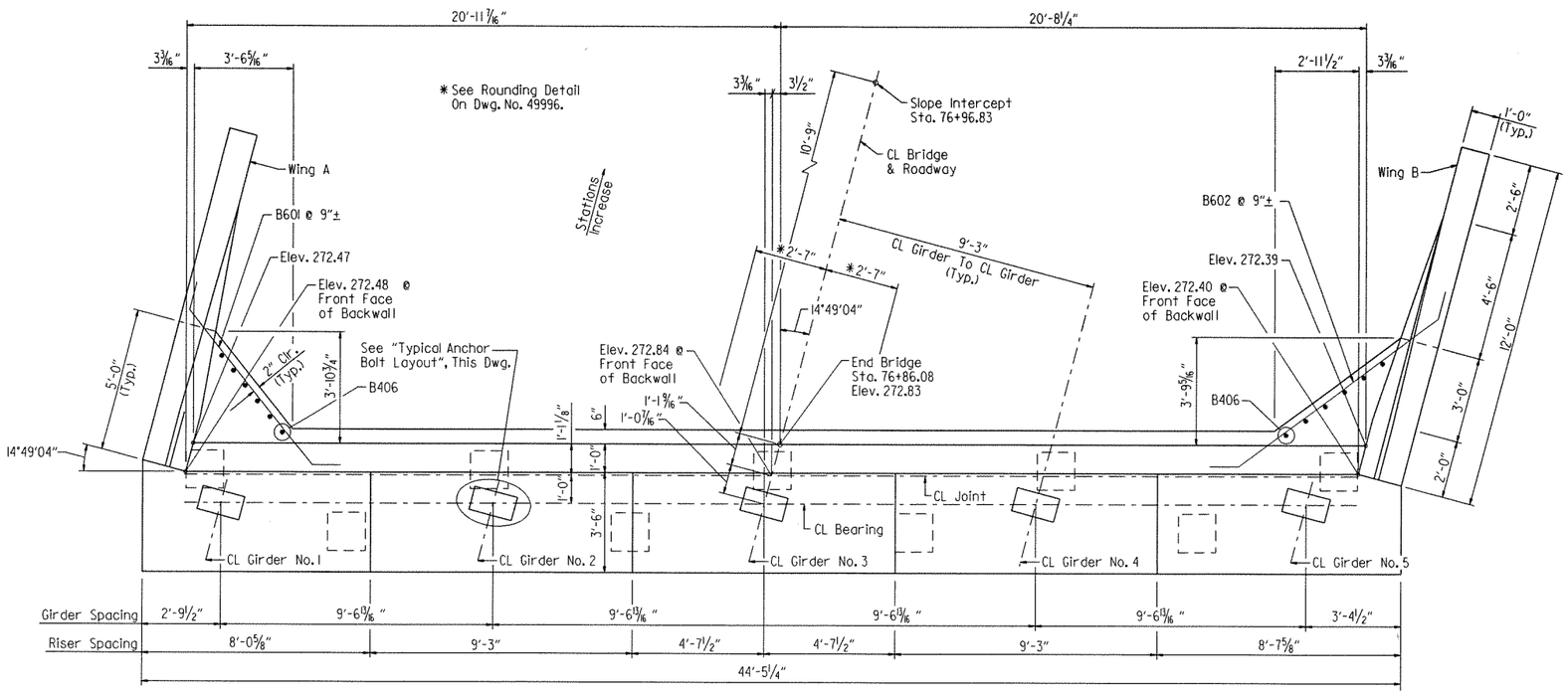
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_BI.DGN
CHECKED BY: WMM DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: SFH DATE: JULY 2008

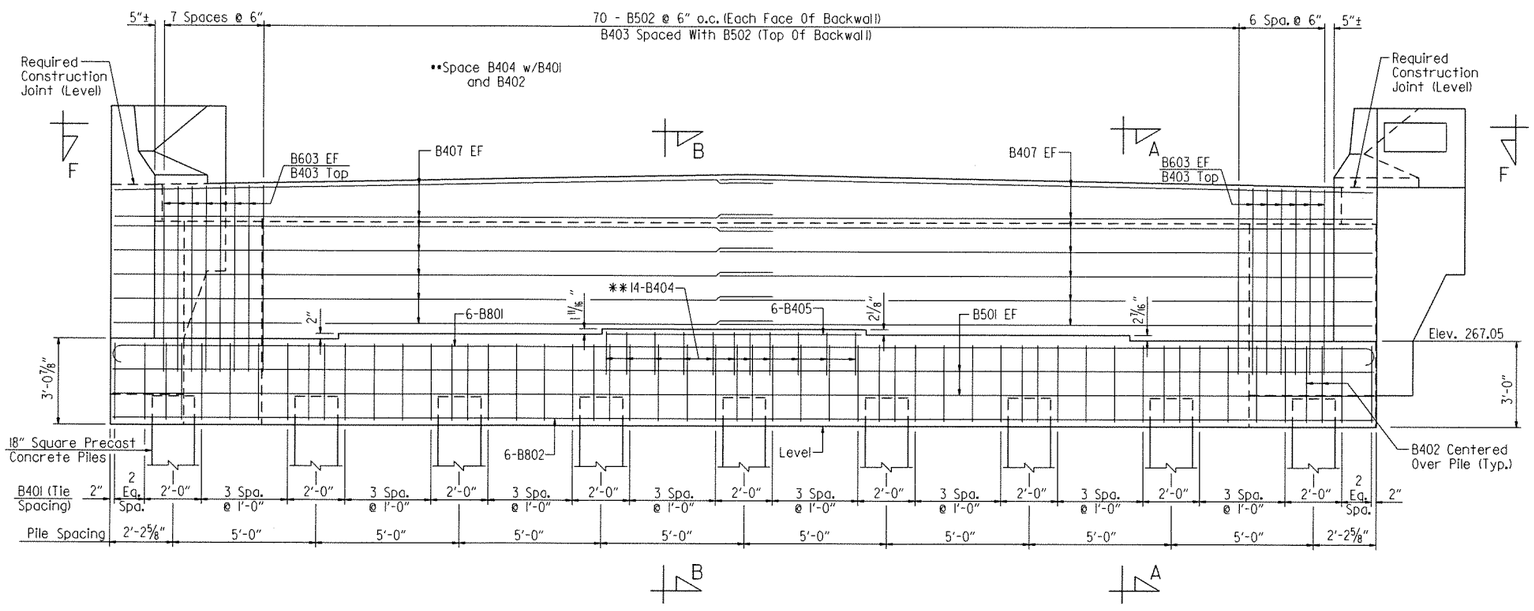
BRIDGE NO. 07117 DRAWING NO. 49991

HEW L:/020/1090/DWGN/BRG/II-425ENDBENT-1.DGN 7/29/09

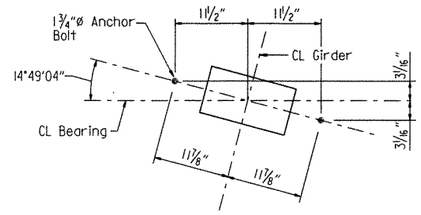
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	144	320
				(1) 07117		END BENTS		49992



PLAN - END BENT NO. 3
Scale: 3/8" = 1'-0"



ELEVATION - END BENT NO. 3
(Looking Ahead)
Scale: 3/8" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT

GENERAL NOTES

All concrete shall be Class "S" and be poured in the dry. All exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Gr. 60.

Structural steel in end bents shall be AASHTO M270, Gr. 50 and shall be paid for as "Structural Steel In Plate Girder Spans (AASHTO M270, Gr.50)". Structural steel shall be cleaned and painted in accordance with Section 807. The color of the paint shall be Green and shall match Fed. Std. 595B, Color Chip NO. 24097.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information, see LAYOUT.

Notes:
For Details Of Wing & Rail, See Dwg. No. 49993 & 49994.

For Details Of Elastomeric Bearing Pads, See Dwg. No. 50004.

For Bar List & Bending Diagram, See Dwg. No. 49994.

For Sections A-A & B-B, See Dwg. No. 49994.

For View F-F, See Dwg. No. 49994.

LEGEND
EF = Each Face

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER JOHN H. RUDDELL
12-18-08

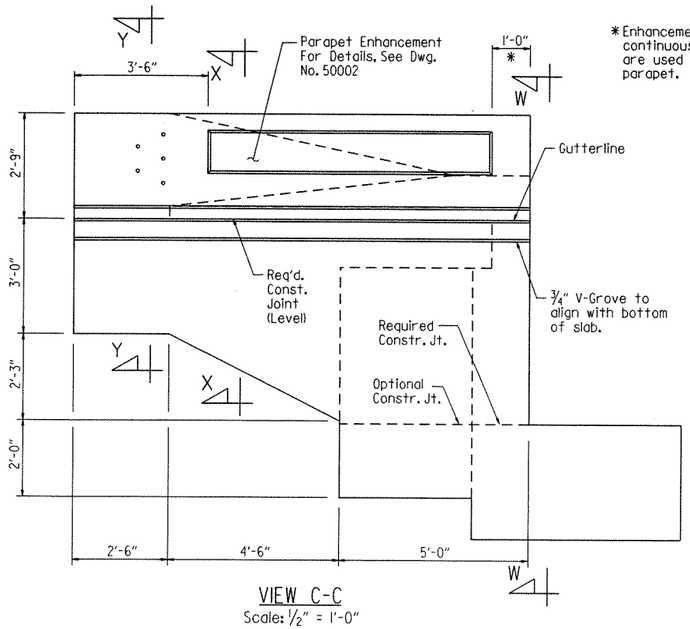
BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF END BENTS
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: JULY 2008
CHECKED BY: WMM DATE: JULY 2008
DESIGNED BY: SFH DATE: JULY 2008
FILENAME: B020356_B2.DGN
SCALE: AS SHOWN
BRIDGE NO. 07117 DRAWING NO. 49992

HEW L:/020II090/DWGN/BRG/II-425ENDBENT-3.DGN 7/29/09

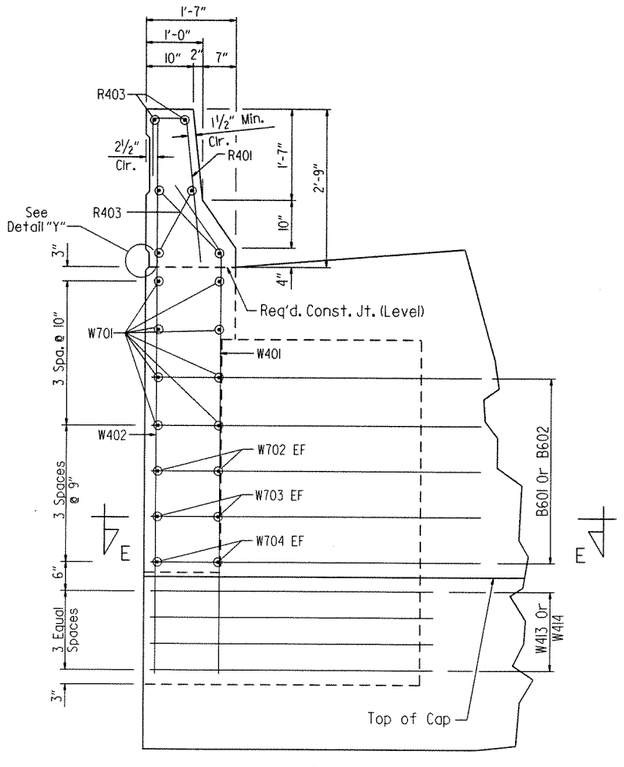
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	145	320
				(1) 07117		END BENTS		49993



*Enhancement shall be continuous if slip forms are used on the bridge parapet.

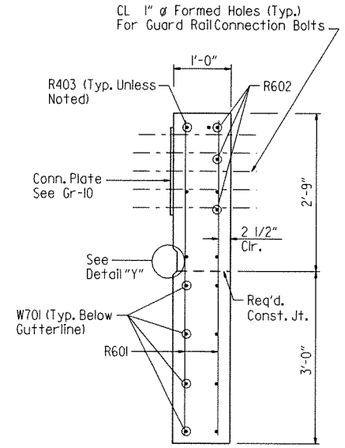
VIEW C-C
Scale: 1/2" = 1'-0"

LEGEND
FF = Front Face
BF = Back Face
EF = Each Face

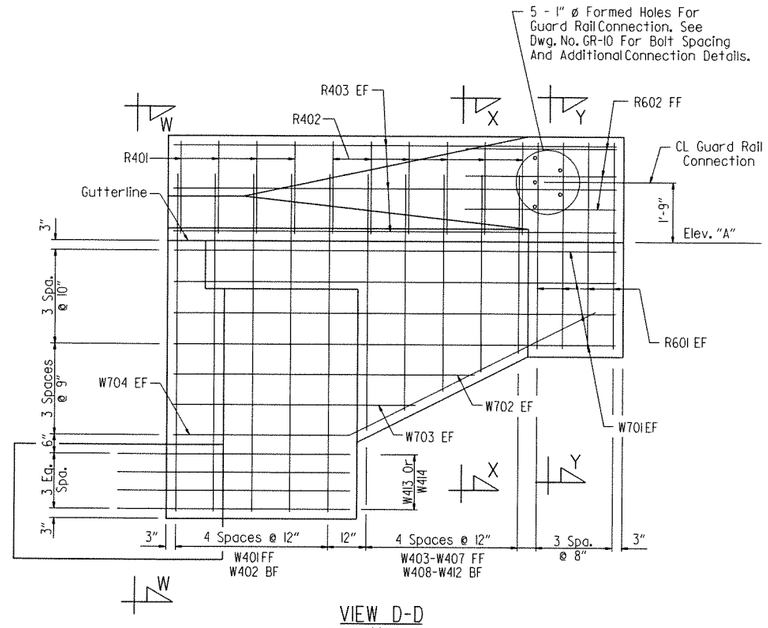


SECTION W-W
Scale: 3/4" = 1'-0"

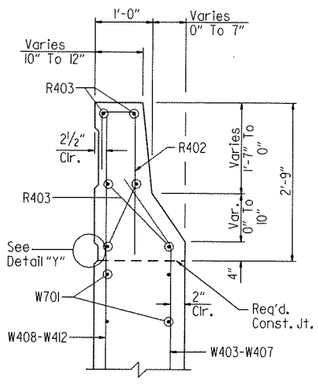
TABLE OF VARIABLES (ELEV. "A")		
Bent No.	Wing	Elev.
1	A	273.32
1	B	273.32
3	A	272.38
3	B	272.30



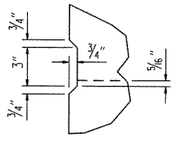
SECTION Y-Y
Scale: 3/4" = 1'-0"



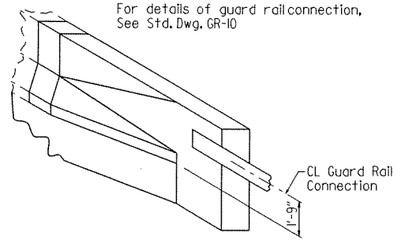
VIEW D-D
Scale: 1/2" = 1'-0"



SECTION X-X
Scale: 3/4" = 1'-0"



DETAIL "Y"
Scale: N.T.S.



THREE DIMENSIONAL VIEW OF RAIL
Scale: N.T.S.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8801
12-14-11
JOHN H. RUDDELL

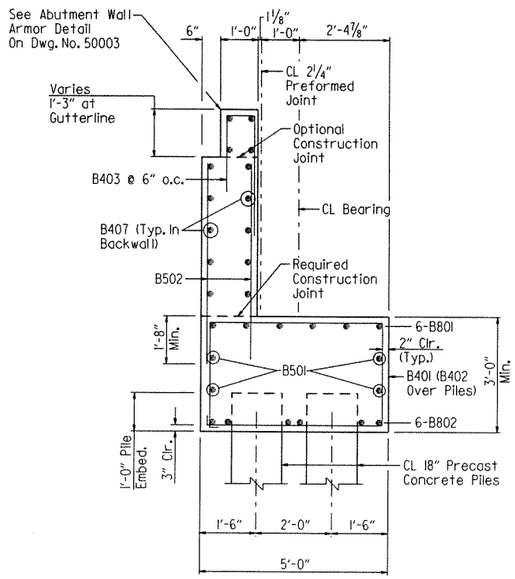
BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF END BENTS
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CWT DATE: JULY 2008
CHECKED BY: WMM DATE: JULY 2008
DESIGNED BY: SFH DATE: JULY 2008
FILENAME: B020356_B4.DGN
SCALE: AS SHOWN
BRIDGE NO. 07117 DRAWING NO. 49993

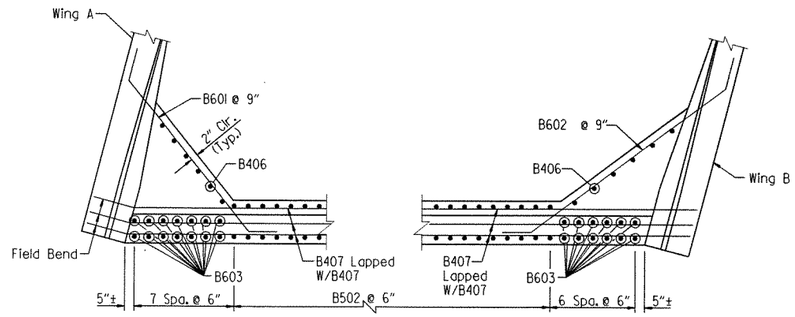
HEW L:/020II090/DWGN/BRG/II-425AUTDTLS2.DGN 7/29/09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	146	320
				(1) 07117		END BENTS		49994

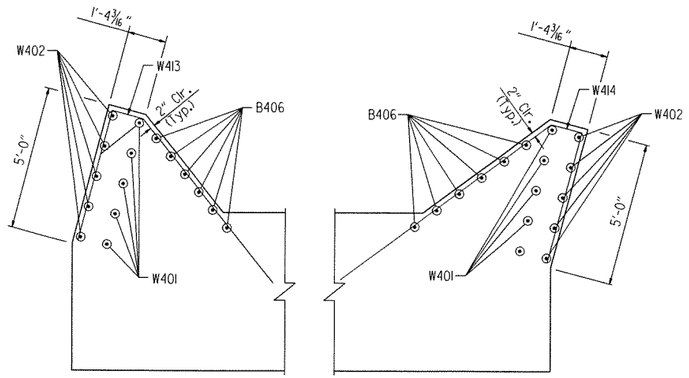


SECTION A-A
Scale: ¼" = 1'-0"

Note:
The backwall above the required construction joint shall not be poured until the girders are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. See "DETAILS FOR BLOCKING EXPANSION JOINT DEVICE" On Dwg. No. 50003 for additional information.

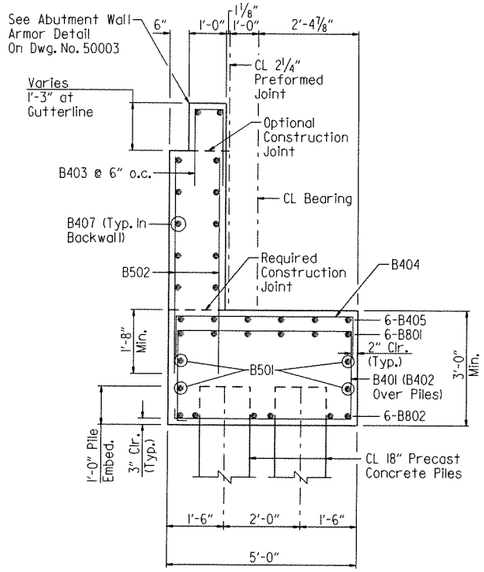


VIEW F-F
Scale: ⅜" = 1'-0"

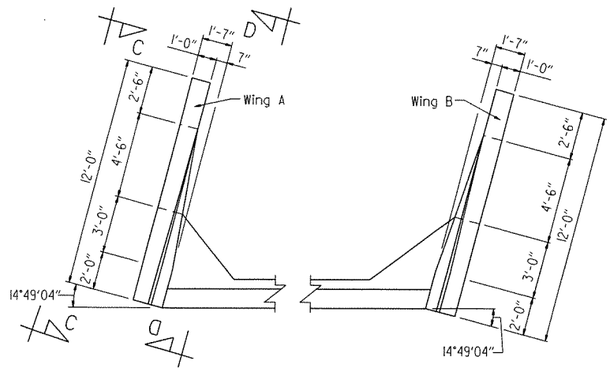


SECTION E-E (WING A)
Scale: ⅜" = 1'-0"

SECTION E-E (WING B)
Scale: ⅜" = 1'-0"



SECTION B-B
Scale: ¼" = 1'-0"



PLAN OF RAIL
Scale: ¼" = 1'-0"

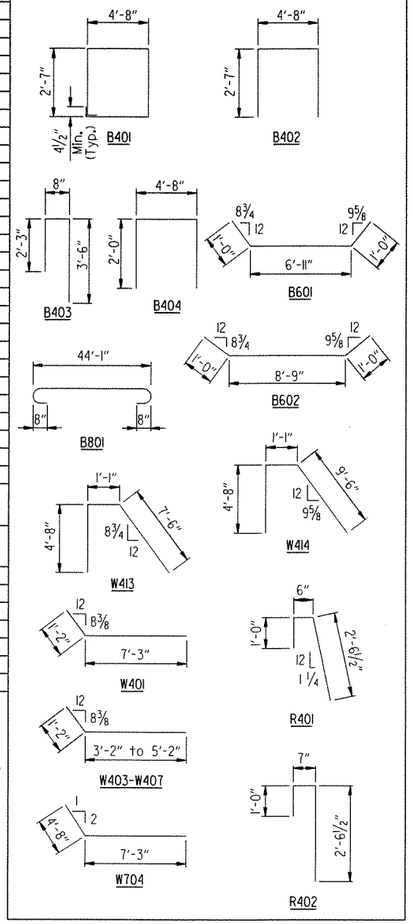
BAR LIST

MARK	NO. REQ'D.	LENGTH	PIN DIA.
B401	38	14'-10"	2"
B402	18	9'-8"	2"
B403	76	6'-3"	2"
B404	14	8'-6"	2"
B405	6	8'-11"	Str.
B406	12	5'-8"	Str.
B407	28	23'-1"	Str.
B501	4	44'-1"	Str.
B502	138	5'-9"	Str.
B601	5	8'-11"	4½"
B602	5	10'-9"	4½"
B603	26	6'-9"	Str.
B801	6	45'-11"	6"
B802	6	44'-1"	Str.
R401	8	3'-11"	2"
R402	12	4'-0"	2"
R403	12	11'-8"	Str.
R601	16	5'-5"	Str.
R602	6	5'-0"	Str.
W401	10	8'-5"	3"
W402	10	9'-7"	Str.
W403 to W407	2 Each	4'-4" to 6'-4"	3"
W408 to W412	2 Each	5'-6" to 7'-6"	Str.
W413	4	13'-1"	2"
W414	4	15'-1"	2"
W701	16	11'-8"	Str.
W702	4	7'-11"	Str.
W703	4	6'-5"	Str.
W704	4	11'-11"	5¼"

Note:
Dimensions Of Bars In Bending Diagrams Are Out-To-Out.

Number Of Bars Shown Is For One Bent Only.

BAR BENDING DIAGRAMS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8011
JOHN H. RUDDELL
12/19/11

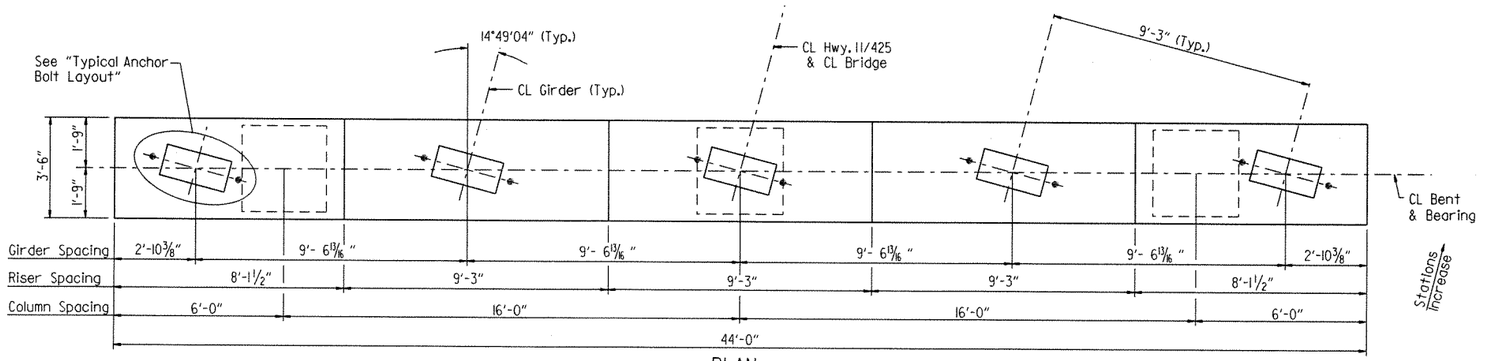
BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF END BENTS
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

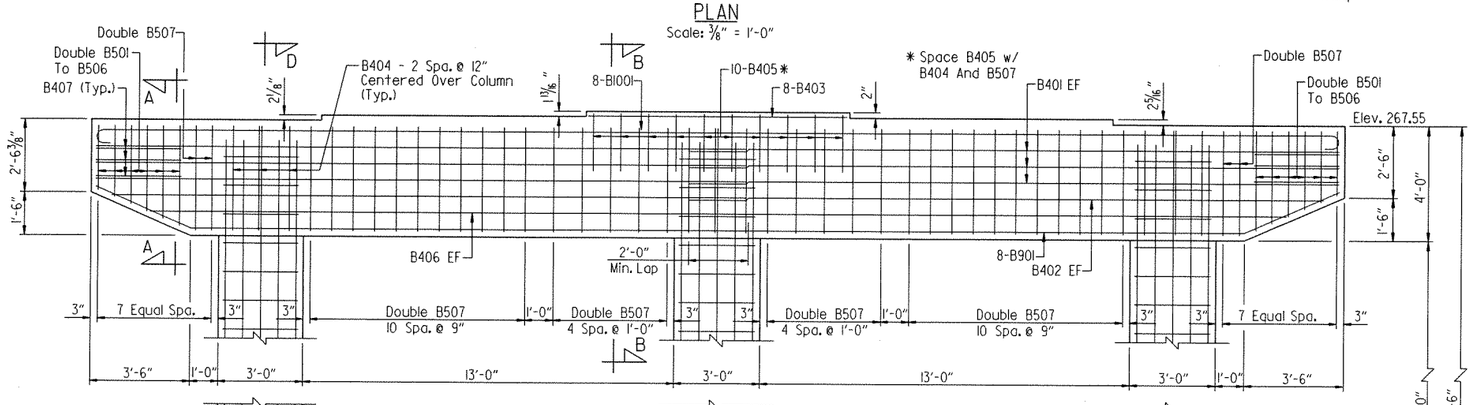
DRAWN BY: HEW DATE: JULY 2008
CHECKED BY: WMM DATE: JULY 2008
DESIGNED BY: SFH DATE: JULY 2008
FILENAME: B020356_B3.DGN
SCALE: AS SHOWN
BRIDGE NO. 07117
DRAWING NO. 49994

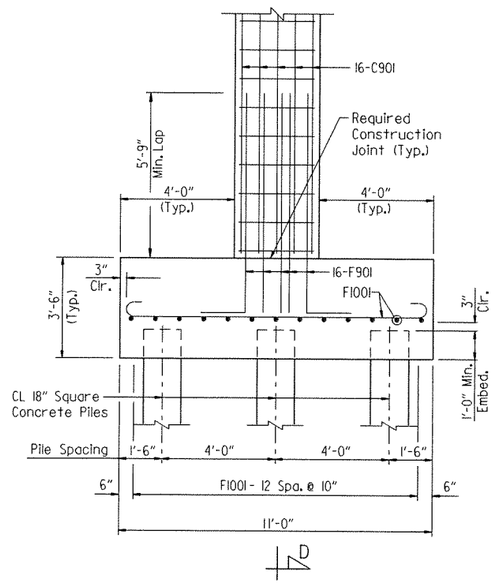
HEW L:/0201090/DWGN/BRG/II-425ABUTDTLS.DGN 7/29/09

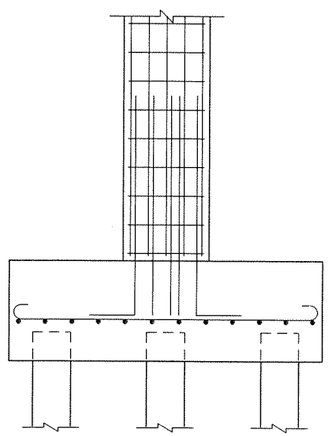
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	147	320
				(1) 07117		INT. BENT DETAILS		49995



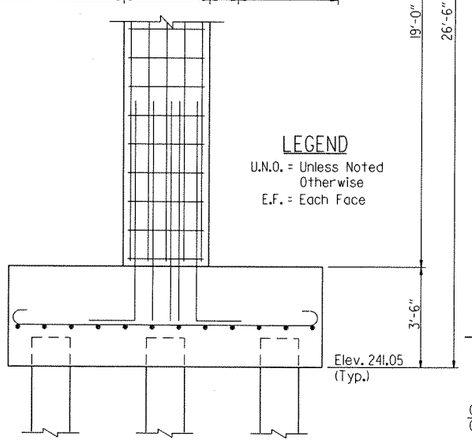
PLAN
Scale: 3/8" = 1'-0"

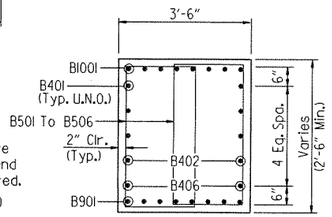




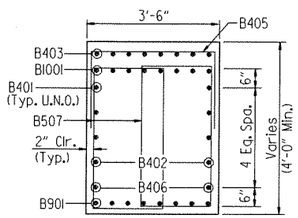


ELEVATION
Scale: 3/8" = 1'-0"

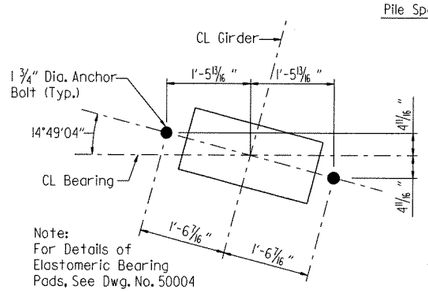




SECTION A-A
Scale: 1/2" = 1'-0"



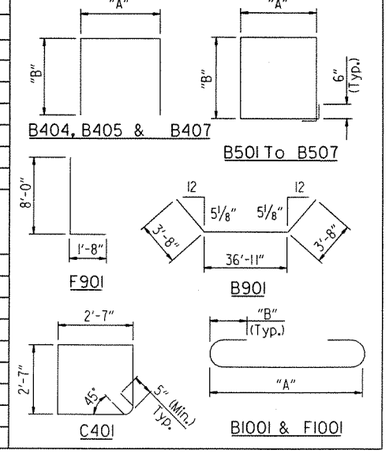
SECTION B-B
Scale: 1/2" = 1'-0"



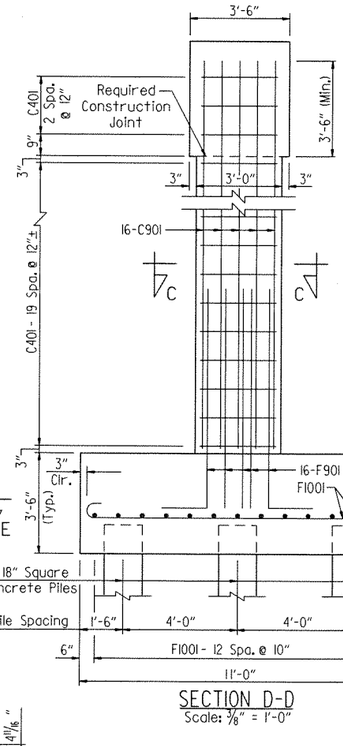
TYPICAL ANCHOR BOLT LAYOUT
Scale: NTS

BAR LIST

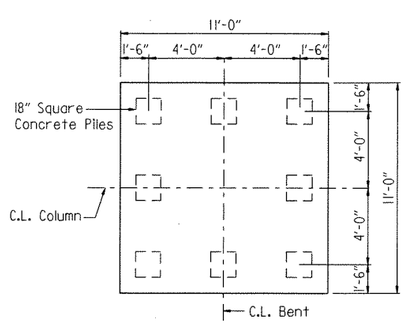
MARK	NO. REQ'D.	LENGTH	"A"	"B"	P.D.
B401	12	22'-10"			Str.
B402	4	22'-4"			Str.
B403	8	8'-11"			Str.
B404	9	10'-4"	3'-2"	3'-8"	2"
B405	10	7'-0"	3'-2"	2'-0"	2"
B406	2	39'-10 1/2"			Str.
B407	6	8'-10"	3'-0"	3'-0"	2"
B501 To B506	4 Ea.	8'-10" To 11'-4"	1'-11"	2'-3" To 3'-6"	2 1/2"
B507	72	11'-8"	1'-11"	3'-8"	2 1/2"
B90I	8	44'-3"			9"
B100I	8	46'-6"	43'-8"	11 1/2"	10"
C40I	69	10'-10"			3"
C90I	48	22'-6"			Str.
F100I	78	13'-4"	10'-6"	11 1/2"	10"
F90I	48	9'-5"			9"



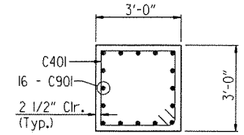
NOTE:
Dimension Of Bars Are Out-To-Out.



SECTION D-D
Scale: 3/8" = 1'-0"



SECTION E-E
Scale: 1/4" = 1'-0"



SECTION C-C
Scale: 3/8" = 1'-0"

GENERAL NOTES

All Concrete shall be Class "S" with a minimum 28-day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53. Grade 60 (Yield Strength = 60,000 psi).

Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see layout.

BRIDGE ENGINEER

DETAILS OF INTERMEDIATE BENT NO. 2
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY

ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	HEW	DATE:	JULY 2008	FILENAME:	B020356_B5.DGN
CHECKED BY:	JHR	DATE:	JULY 2008	SCALE:	AS SHOWN
DESIGNED BY:	SFH	DATE:	JULY 2008		

BRIDGE NO. 07117 DRAWING NO. 49995

HEW L:\020II090\DWGN\BRG\II-425PIER-1.DGN 1/29/09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	148	320
				(1) 07117		233' PL GIRDER UNIT		49996

Note:
Class I Protective Surface Treatment Shall Be Applied To The Roadway Surface And The Face And Top Of Concrete Parapet Rail. Class 3 Textured Coating Finish Shall Be Applied To All Areas Specified In Special Provision Job. 020356 "Textured Coating Finish".

Note:
One Epoxy Coated #5 Bar In The Top And One Epoxy Coated #5 Bar In The Bottom May Be Substitued For Each Bar S50IE. Payment Will Be Based On The Weight Of Bar S50IE.

Note:
All Bars Designated With An E Suffix Are To Be Epoxy Coated.

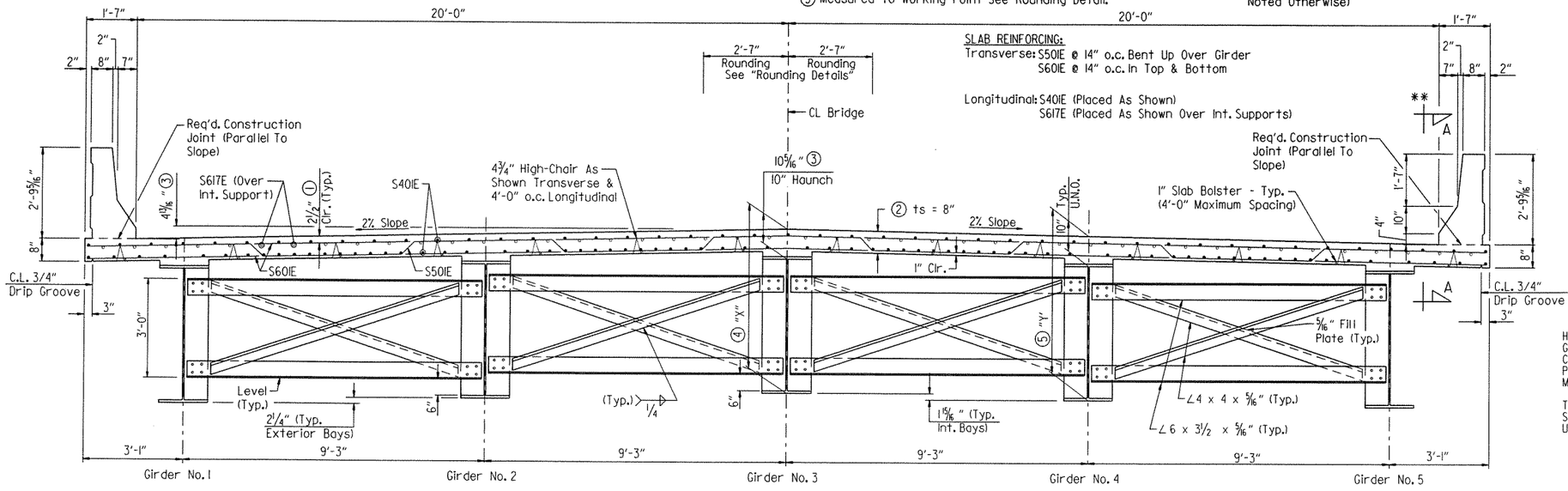
(1) TOLERANCE:
Minus = 1/4"
Plus = Equal To Amount Of Slab Thickening Used To Meet Slab Thickness Tolerance- See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".

(2) See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".

(3) Measured To Working Point-See Rounding Detail.

(4) "X" = 4'-10 5/16" + Bottom Flange Thickness measured At CL Bearing And CL Girder. (Measured to Working Point)

(5) "Y" = 4'-10" + Bottom Flange Thickness Measured At CL Bearing And CL Girder. (Typ. Unless Noted Otherwise)



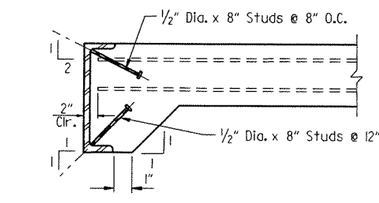
TYPICAL SECTION
Scale: ½" = 1'-0"

Note: t_S = Slab Thickness As Shown On "TYPICAL SECTION".
* Tolerance When Removable Deck Forming Is Used Is + 1/2", -1/4". Haunch Forming Is Required And Shall Be Adjusted To Maintain Slab Thickness Tolerance.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED
N.T.S.

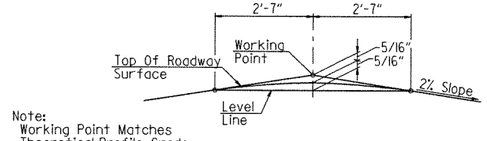
Haunch Dimension May Vary Within The Following Limits To Maintain The Grade And Slab Thickness Tolerance: Minimum - Occurs When The Top Flange Contacts The Bottom Reinforcing Steel; Maximum - Top Flange Thickness Plus 1 3/4". No Increase In Concrete And Structural Steel Quantities Will Be Made To Maintain Tolerances.

Tolerances Shown Are Applicable Only When Removable Deck Forming Is Used. See Std. Dwg. No. 14991 For Tolerances When Permanent Steel Deck Forms Are Used. Payment For Concrete Shall Be Based On Removable Deck Forming.



DETAIL OF ALTERNATE ANCHORS
N.T.S.

Note:
As An Alternate To 5/8" Dia. Studs, ½" Dia. x 8" Studs Spaced As Shown May Be Used. Use Weight Of 5/8" Dia. Stud As Basis Of Measurement Of Structural Steel In Anchors

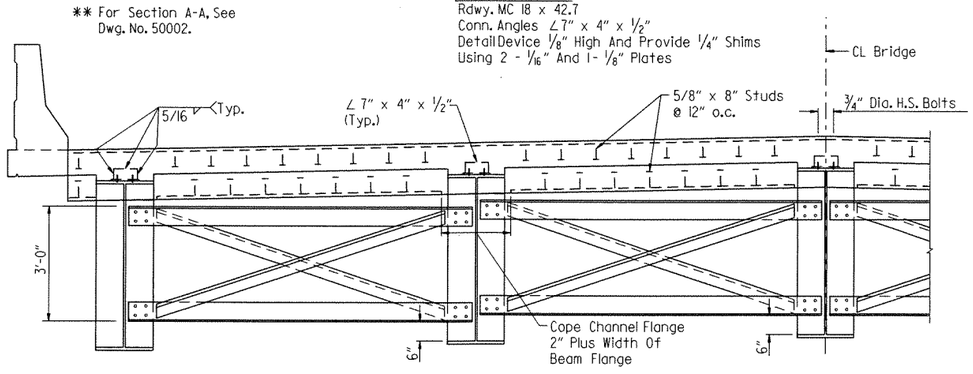


Note:
Working Point Matches Theoretical Profile Grade.

ROUNDING DETAIL
N.T.S.

** For Section A-A, See Dwg. No. 50002.

EXPANSION DEVICE:
Rdwy. MC 18 x 42.7
Conn. Angles ∠7" x 4" x ½"
Detail Device 1/8" High And Provide ¼" Shims Using 2 - 1/16" And 1 - 1/8" Plates



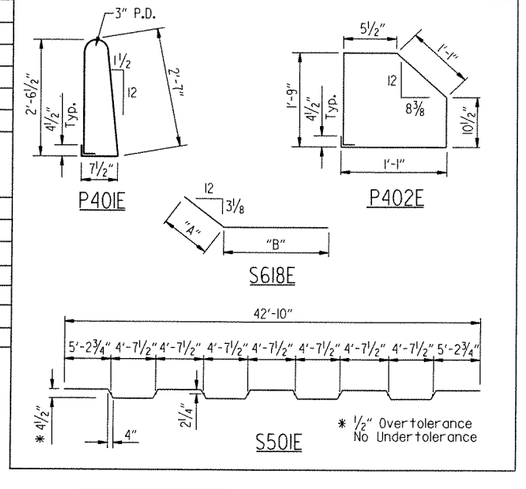
HALF-SECTION AT CL JOINT
(Looking Ahead - End Bent No. 1)
(Looking Back - End Bent No. 3)
N.T.S.

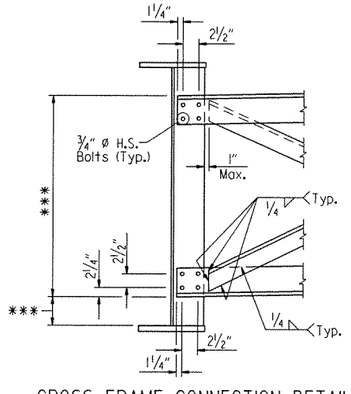
BAR LIST

Mark	No. Req'd.	Length	Pin. Dia.	"A"	"B"
S40IE	819	35'-5"	STR.		
S50IE	190	43'-8"	3"		
S60IE	382	42'-10"	STR.		
S602E To S616E	4 Each	8'-9" To 39'-7"	STR.		
S6I7E	132	28'-0"	STR.		
S6I8E	12	8'-5"	4½"	1'-5"	7'-0"
P40IE	466	6'-4"	2"		
P402E	466	5'-7"	2"		
P403E	130	11'-8"	STR.		
P404E	70	10'-8"	STR.		

NOTE:
1.) Dimension Of Bars Are Out-To-Out.
2.) Bar Designations Ending With "E" Indicates Epoxy Coated Bars.

BENDING DIAGRAM





*** See Typical Section

CROSS FRAME CONNECTION DETAIL
N.T.S.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8017 JOHN H. RUDDELL

BRIDGE ENGINEER

SHEET 1 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_SI.dgn
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: SFH DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 49996

HEW L:/020II090/DWGN/BRG/ II-425XSECTION.DGN 5/9/II

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		020356	149	320
(1) 07117		233' PL GIRDER UNIT		49997

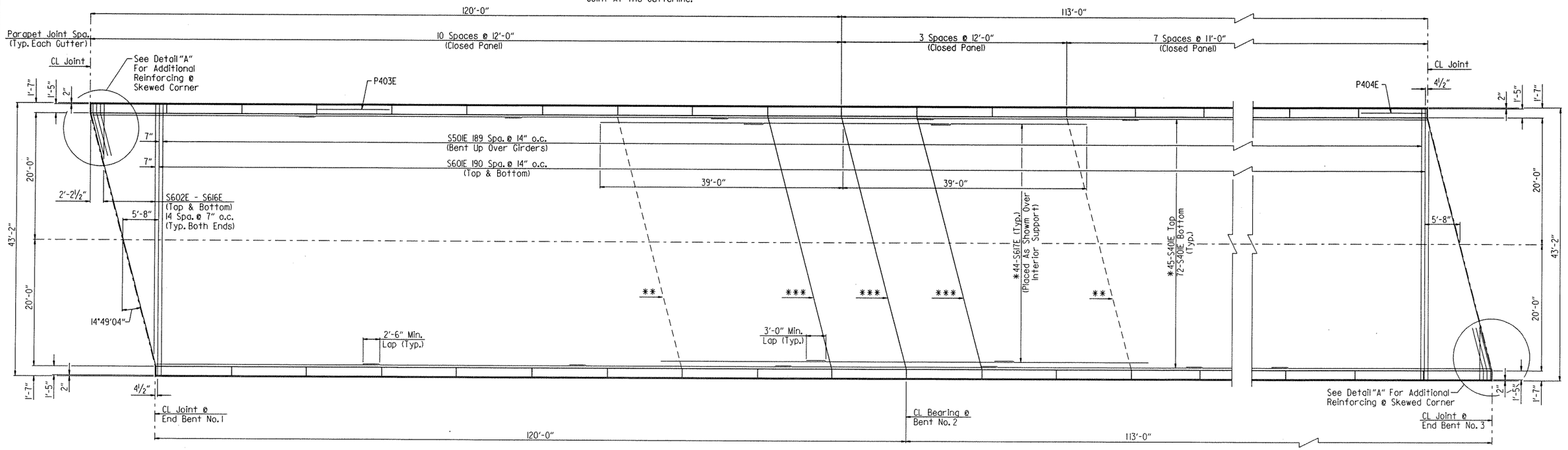
* Refer To "TYPICAL SECTION" On Dwg. 49996 For Placement

** Slab Joint At Pouring Sequence Construction Joint

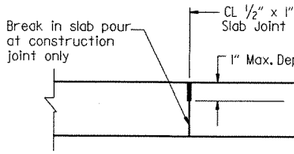
*** Required Slab Joint

Note:
Parapet Rail Joint Spacing And Reinforcing Shown Are Typical For Both Sides Of Roadway.

Note:
Required Slab Joints And Pouring Sequence Joints Shall Align With The Parapet Open Joint At The Gutterline.

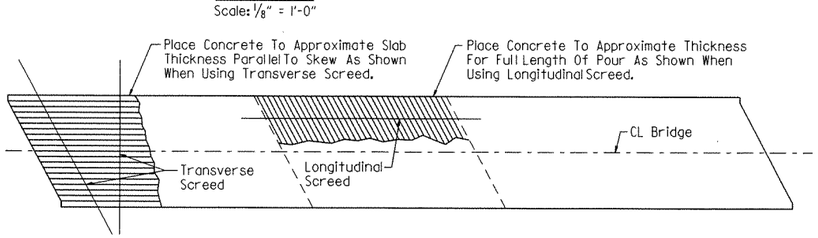


SLAB PLAN
Scale: ⅛" = 1'-0"



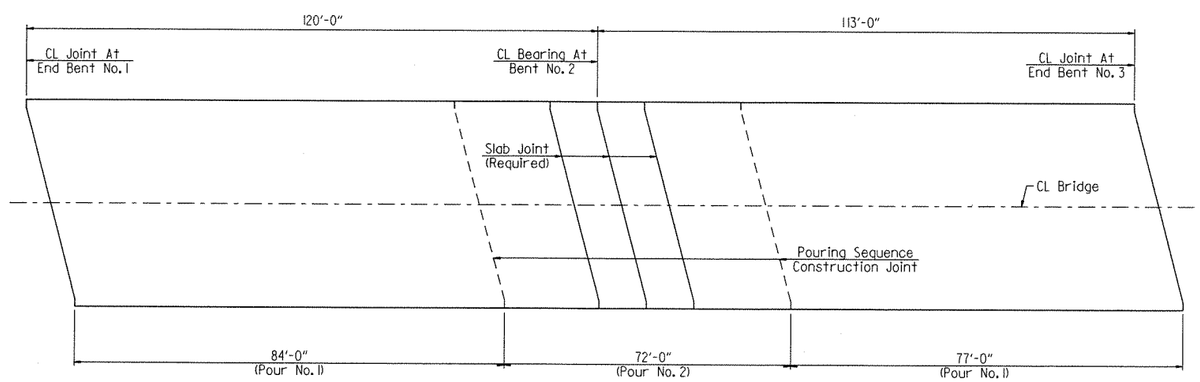
The ½" x 1" Poured Joint Sealer (Type 3, 4 or 6) in slab shall conform to Subsection 501.02 (H) And 501.05 (J). Backer Rod Filler will not be required.
The Poured Joint Sealer shall be paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. Slab Joints shall align with Parapet Open Joints.

SLAB JOINT DETAIL
Scale: NTS



CONCRETE PLACEMENT PROCEDURE
Scale: NTS

Note:
At The Contractor's Option, The Transverse Screed May Be Placed Parallel To The Skew Or Perpendicular To CL Bridge.



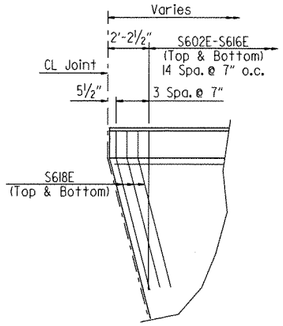
POURING SEQUENCE
Scale: N.T.S.

Note:
Pours With The Same Number May Be Placed Simultaneously Or Separately. All Pours (1) Must Be Placed Before Pours (2) Can Be Placed. 48 Hours Shall Elapse Before The End Of A Pour And The Start Of The Next Pour. 72 Hours Shall Elapse Between The End Of A Pour And The Start Of An Adjacent Pour. 72 Hours Shall Elapse Between The Completion of The Entire Deck and The Pouring of The Parapet. Any Railing Pours Made Before The Entire Slab Unit Has Been Placed Must Be Approved By The Engineer.

The Contractor Must Obtain Approval From The Engineer For Any Deviations From The Pouring Sequence Shown.

Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

BRIDGE ENGINEER



DETAIL "A"
Scale: N.T.S.

SHEET 2 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8

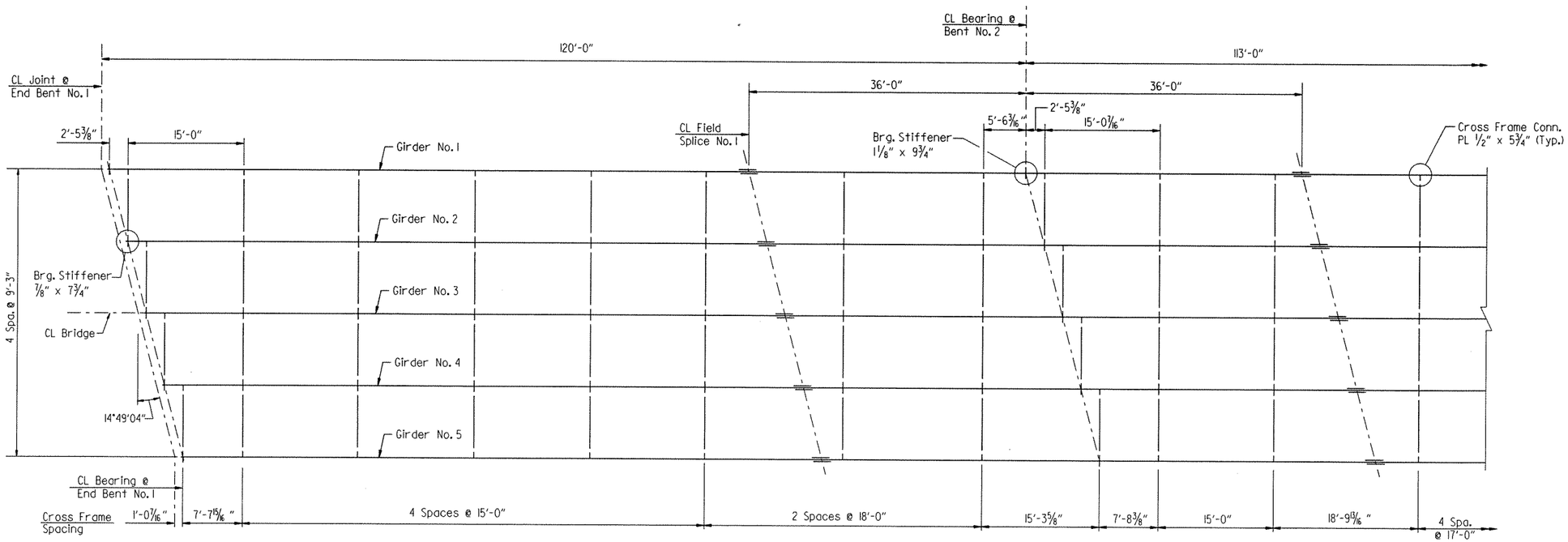
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_S5.dgn
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: SFH DATE: JULY 2008

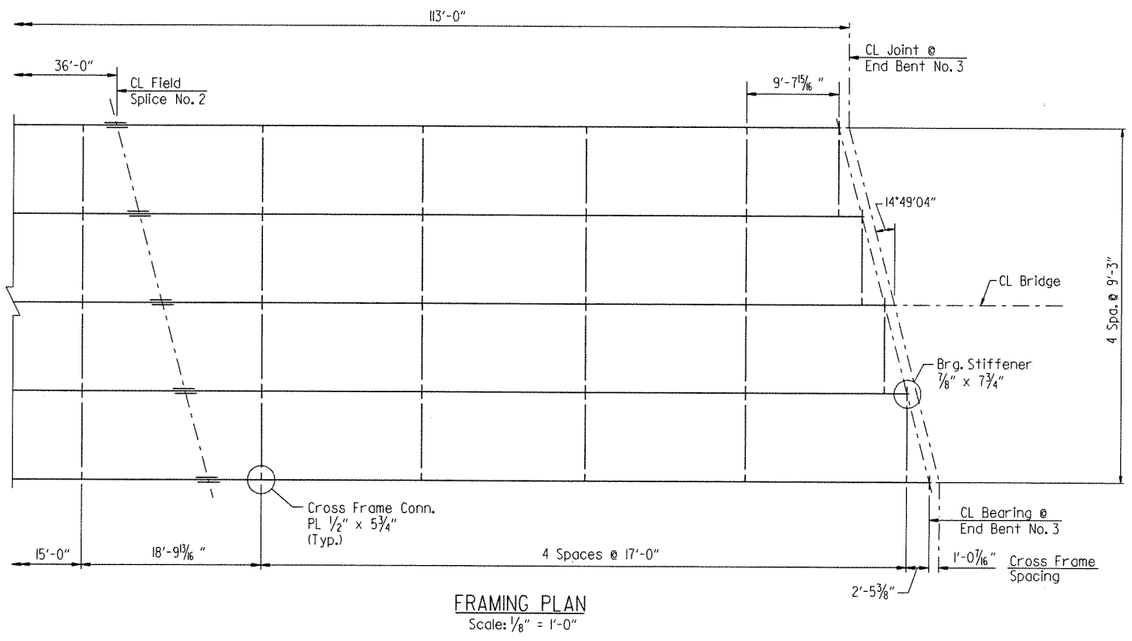
BRIDGE NO. 07117 DRAWING NO. 49997

HEW L:/020I090/DWGN/BRG/II-425-SLAB.DGN 7/29/09

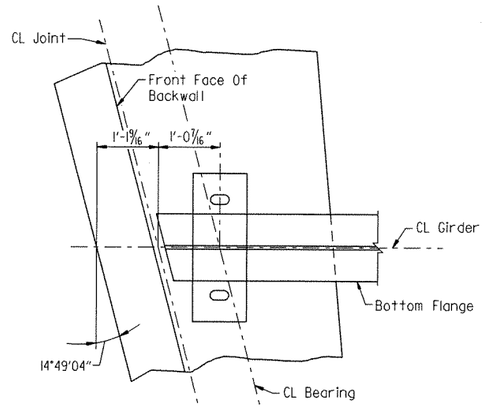
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	150	320
				(1) 07117		233' PL GIRD UNIT		49998



FRAMING PLAN
Scale: ⅛" = 1'-0"



FRAMING PLAN
Scale: ⅛" = 1'-0"



BEARING PLAN AT END BENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8017
JOHN H. RUDDELL

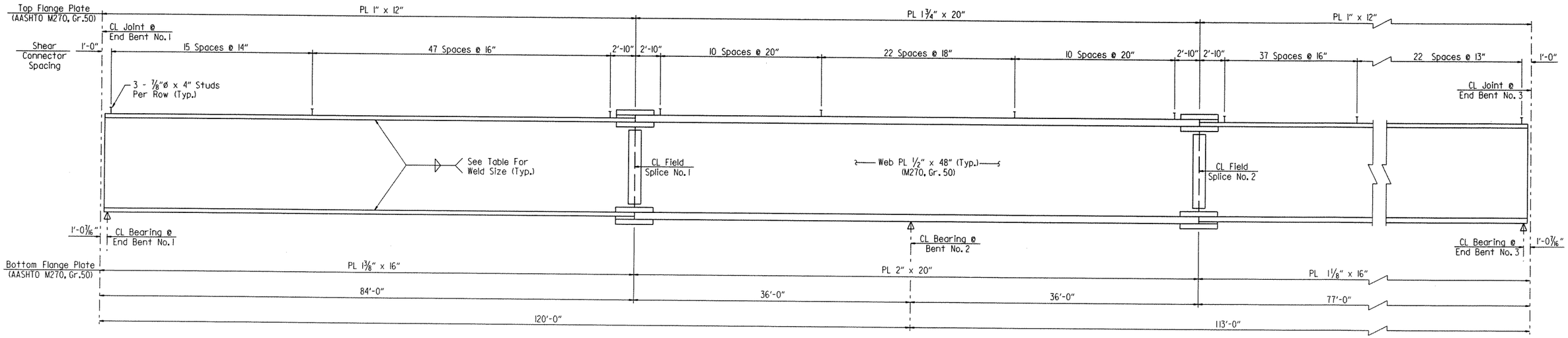
BRIDGE ENGINEER

SHEET 3 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_S2.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: ABH DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 49998

HEW FRAMING.DGN L:/020110190/DWGN/BRG/11-425FRAMING.DGN 7-29-09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	151	320
				(1) 07117		233' PL GIRDER UNIT		49999



TYP. GIRDER ELEVATION
Scale: NTS

SERVICE LOAD DIST. TABLE

	Int. Girder	Ext. Girder
Dead Load Non-Composite	925 PLF + Girder	771 PLF + Girder
Dead Load Composite **	348 PLF	348 PLF
Live Load To Composite Gir.	1.682 Wheels + Impact	1.466 Wheels + Impact

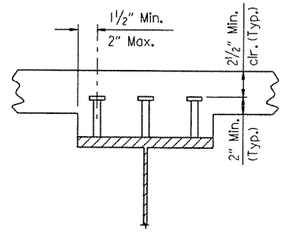
** Includes 192 PLF Allowance For Future Overlay.

TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4"	
Over 3/4"	5/16"	

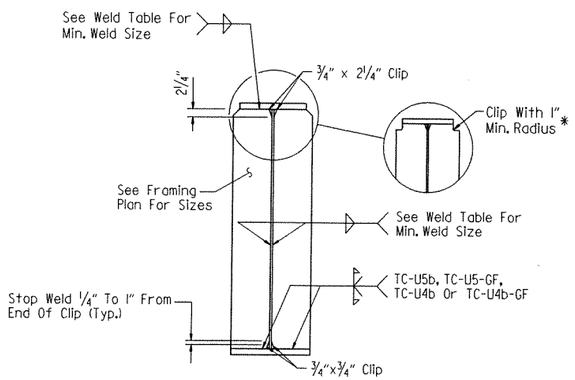
NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

NOTES:
1. For General Notes, See Drawing No. 50001.
2. All Structural Steel Including Girders, Cross Frames, Bearing Stiffeners And Conn. Plate's, Shall Be AASHTO M270 Grade 50.
3. For Elastomeric Bearing Details, See Drawing No. 50004.
4. For Details of Field Splices, See Drawing No. 50000.
5. For Typ. Haunch Details, See Dwg. No. 49996.
6. For Anchor Details, See Dwg. No. 49996.
7. For Dead Load Deflection Diagram, See Dwg. No. 50002.

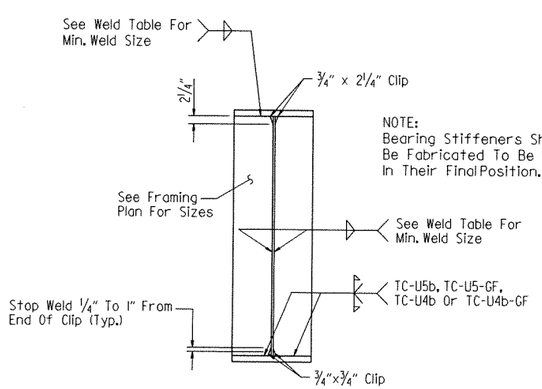


SHEAR CONNECTOR DETAIL
N.T.S.

Stud shear connectors shown shall be 7/8" dia. x 4" long. granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the manufacturer. 3/4" dia. studs may be used in place of the 7/8" dia. studs shown, at the ratio ratio of 1.361- 3/4" dia. studs in place of one 7/8" dia. stud. 7/8" dia. studs will be used as basis for measurement of structural steel in shear connectors.

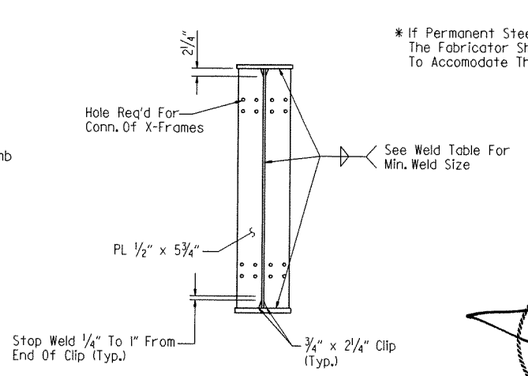


BEARING STIFFENER @ END BENTS



NOTE:
Bearing Stiffeners Shall Be Fabricated To Be Plumb In Their Final Position.

BEARING STIFFENER @ INTERIOR BENT



CONNECTION PLATE DETAIL
Scale: 1/2"=1'-0"

* If Permanent Steel Bridge Deck Forms Are Used, The Fabricator Shall Clip The Plate As Necessary To Accomodate The Deck Form Support.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9020 JOHN H. RUDDELL

BRIDGE ENGINEER

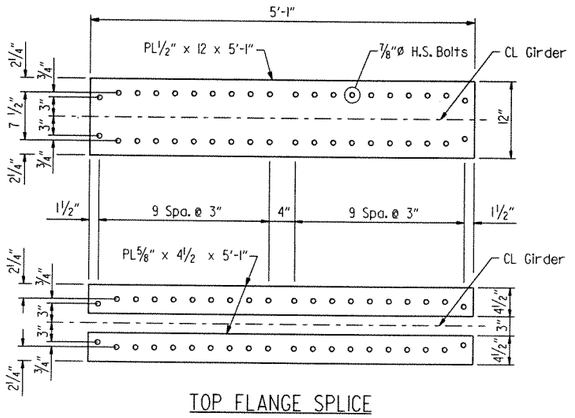
SHEET 4 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

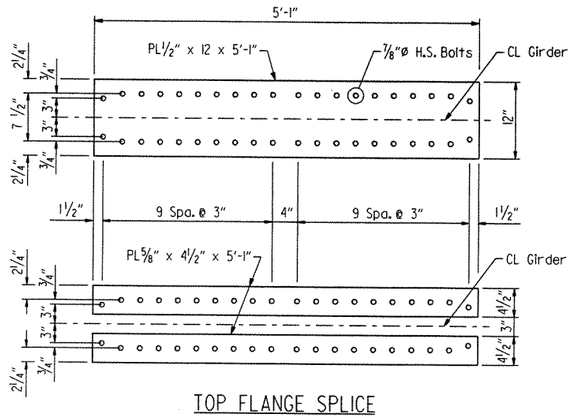
DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_S3.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: ABH DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 49999

HEW GIRDER-ELEV.DGN L:/020090/DWGN/BRG/11-425GIRDER-ELEV 7-29-09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	152	320
				(1) 07117		233' PL GIRDER UNIT		50000



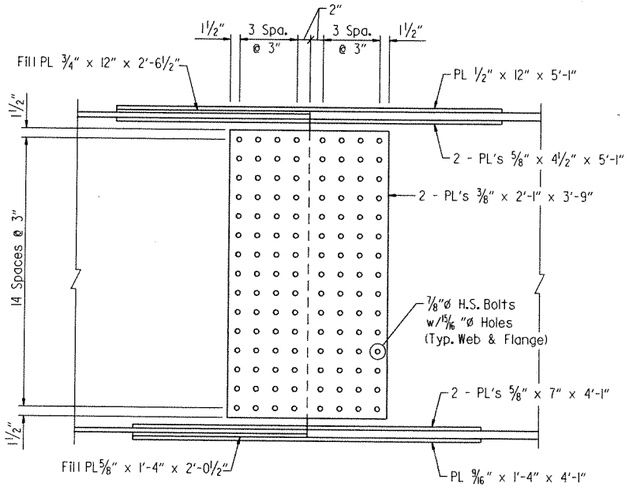
TOP FLANGE SPLICE



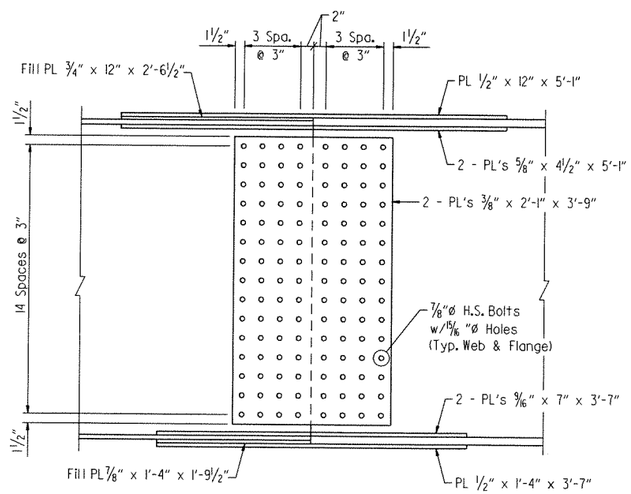
TOP FLANGE SPLICE

NOTE:
Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of the plan quantities.

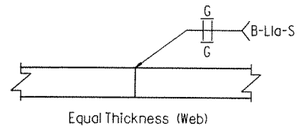
All field splice bolts shall be ⅞"ø H.S. Bolts.
All holes for splice bolts shall be 15/16 "ø.
All field splice plates shall be AASHTO M270 Gr. 50 steel.



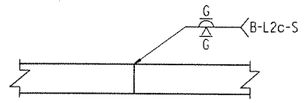
DETAILS OF FIELD SPLICE NO. 1



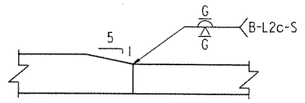
DETAILS OF FIELD SPLICE NO. 2



Equal Thickness (Web)

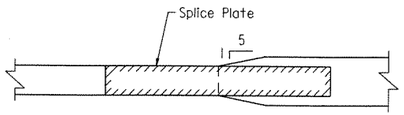


Equal Thickness (Flange)

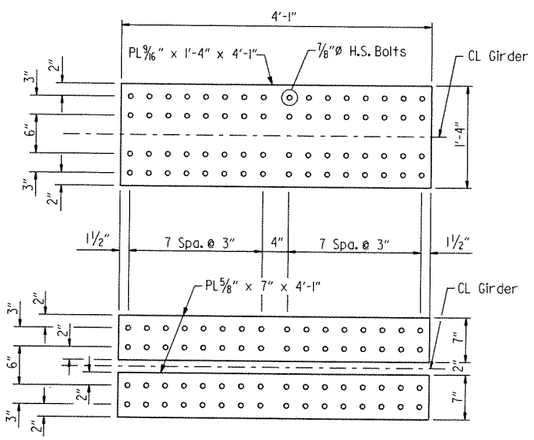


Unequal Thickness (Flange)

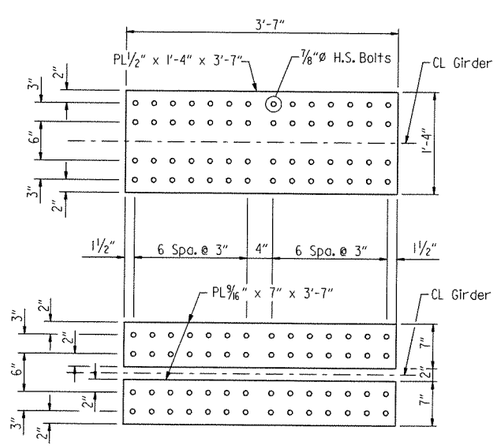
DETAILS OF WELDED SPLICES
Scale: NTS



FLANGE TRANSITION DETAIL
Scale: NTS



BOTTOM FLANGE SPLICE



BOTTOM FLANGE SPLICE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL
No. 8017
JOHN H. RUDDELL

BRIDGE ENGINEER

SHEET 5 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008
CHECKED BY: JHR DATE: JULY 2008
DESIGNED BY: ABH DATE: JULY 2008
FILENAME: B020356_S4.DGN
SCALE: AS SHOWN
BRIDGE NO. 07117 DRAWING NO. 50000

HEW 11-425SPLICE.DGN L:/020II090/DWGN/BRG./ 7-29-09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	153	320
				(1) 07117		233' PL GIRDER UNIT		50001

GENERAL NOTES:

CONCRETE:

Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurements of Class S(AE) Concrete. See Standard Drawing No. 14991 for allowable modifications and for tolerances when Permanent Steel Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete deck shall be given a tine finish in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing.

REINFORCING STEEL:

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL:

All structural steel shall be AASHTO M270, Gr. 50 and shall be paid for at the unit price per pound bid for "Structural Steel in Plate Girder Spans (M270, Gr.50)". All structural steel shall be cleaned in accordance with Section 807.84 unless noted otherwise. See Drawing No. 50004 for cleaning requirements of external load plates on elastomeric bearings.

All Structural Steel except galvanized members, steel which is completely encased in concrete shall be painted in accordance with subsection 807.75. The color of paint shall conform to Federal Standard 595B, Color Chip No. 24097, Green.

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

Drawings show general features of design only. Shop drawings shall be prepared in accordance with the specifications, submitted and approved before fabrication is begun.

Bolted field splices shown may be eliminated or shop welded splices may be substituted with approval of the Engineer. Payment will be made on the basis of plan quantities.

All girder webs & flanges of plate girders and splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Section 807.05. This work and material will not be paid for directly but are considered as subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50)".

Steel plates for main load carrying members (flange and web plates) and flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Girder webs may be made by shop splicing with a minimum length of 25'-0" for sections. Flange plates longer than 50'-0" may be made by shop splicing with a minimum length of 25'-0" for sections. Material specifications and locations of shop-welded splice, if any, shall be shown on the shop drawings. No additional payment for these welded splices will be made.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

All girders shall be blocked in their true position with webs horizontal in the shop as specified in section 807.54 (b)(2) of the Standard Specifications. The camber, length of sections, distance between bearings and opening of joints shall be measured with the girders in their true position and this information shall become a part of the permanent records of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60°F. A tolerance of +/- ¼" is allowed for camber.

Groove welds in flange and web plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required by the Standard Specifications.

Fillet welds at flange to web plate connections shall be Quality Control (Q.C.) tested by the magnetic particle method.

All quality control (q.c.) testing is at the contractor's expense.

All Connection Plates shall be fabricated normal to the top flange and on the side of the girder web as indicated on the framing plans. No Connection Plates are to be placed on the outside of the exterior girders except as noted. All bearing stiffeners shall be fabricated to be plumb in their final position.

Cross frames shall be installed as girders are erected. All bolts in cross frames and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring of the concrete deck.

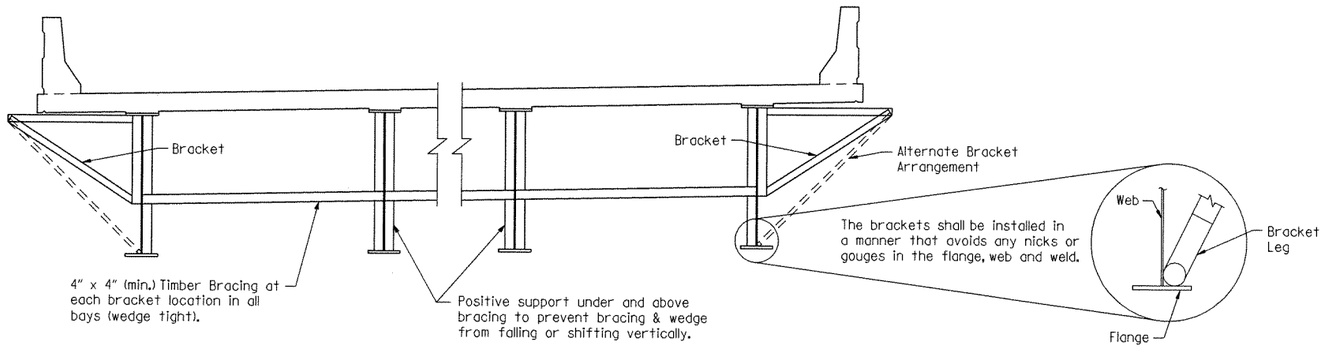
Field connections shall be bolted with high-strength bolts and shall be ¾"ø bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam webs and on the bottom of the beam flanges. Holes for ¾"ø high-strength bolts may be 15/16 "ø diameter if a washer is supplied for use under both the nut and head of the bolt.

All contact surfaces between plates at field splices shall be free of paint, oil, rust or scale before assembly.

All stud shear connectors shall be granular flux filled, solid fluxed or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

Bearings shall be firmly seated in accordance with section 808.08 of the Standard Specifications. This work is to be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270 Gr.50)" and will not be paid for directly.

Anchor bolts shall be AASHTO designation M314 Gr. 55, including supplemental requirement S1, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M298 Class 50. Anchor bolts will be paid for at the contract unit price bid for "Structural Steel in Plate Girder Spans (M 270, Gr. 50)".



Note:
If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if ½" x 5¾" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket shown above is used. The alternate bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for intermediate connection plates shown on Drawing No. 49999. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (M270, Gr. 50)."

SCREED RAIL SUPPORT DETAIL
No Scale

BRIDGE ENGINEER

SHEET 6 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY

ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_S6.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: ABH DATE: JULY 2008

BRIDGE NO. 07117 DRAWING NO. 50001

HEW 11-425GEN-NOTE.DGN L:/020II090/DWGN/BRG/ 5-9-11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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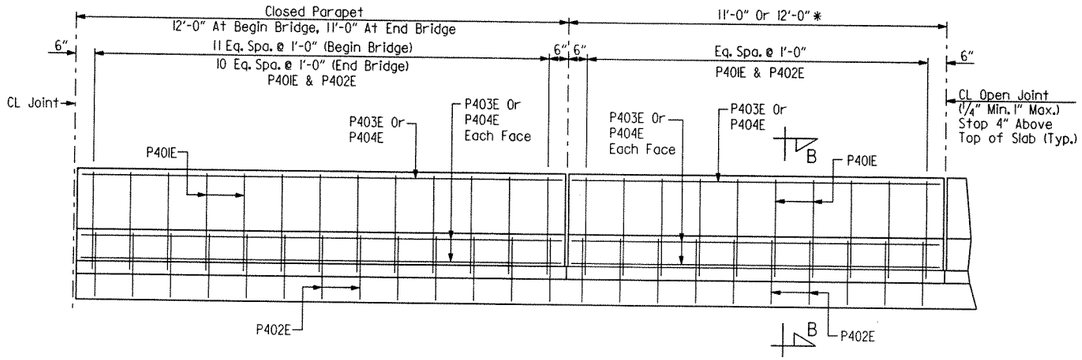
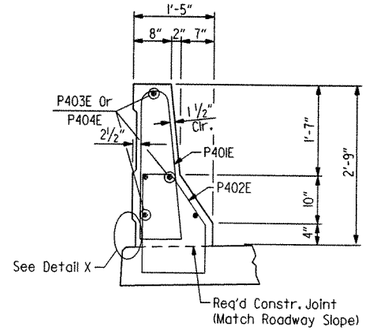
				JOB NO.		020356	154	320
				① 07117		233' PL GIRDER UNIT		50002

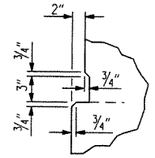


SECTION A-A (FOR CLOSED PARAPET RAIL)
Scale: 1/2" = 1'-0"

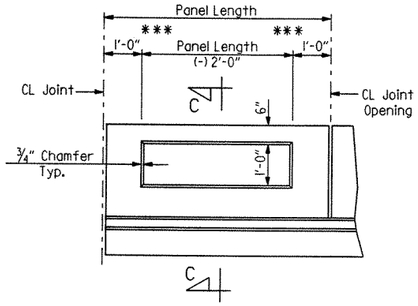
* See Slab Plan For Locations



SECTION B-B
Scale: 3/4" = 1'-0"

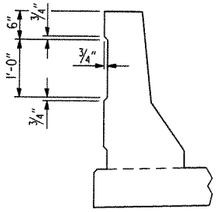


DETAIL X
No Scale

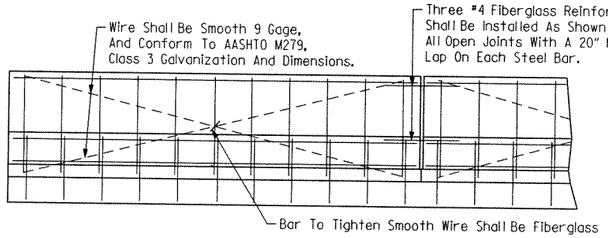


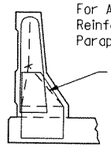
PARAPET ENHANCEMENT DETAILS
Scale: 1/2" = 1'-0"

*** - Panel Inset May Be Made Continuous If Slipforms Are Used.



SECTION C-C
Scale: 3/4" = 1'-0"

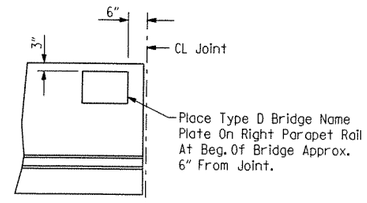




All Panels Shall Be Braced As Shown To Prevent Racking. All Open Joints Shall Be Sawed As Soon As Practical To A Minimum Width Of 1/4". To Control Cracking Before Sawing All Joints Must Be Grooved Before The Concrete Is Set. Sawing Of The Joints Must Be Controlled So It Will Follow The Grooved Joint.

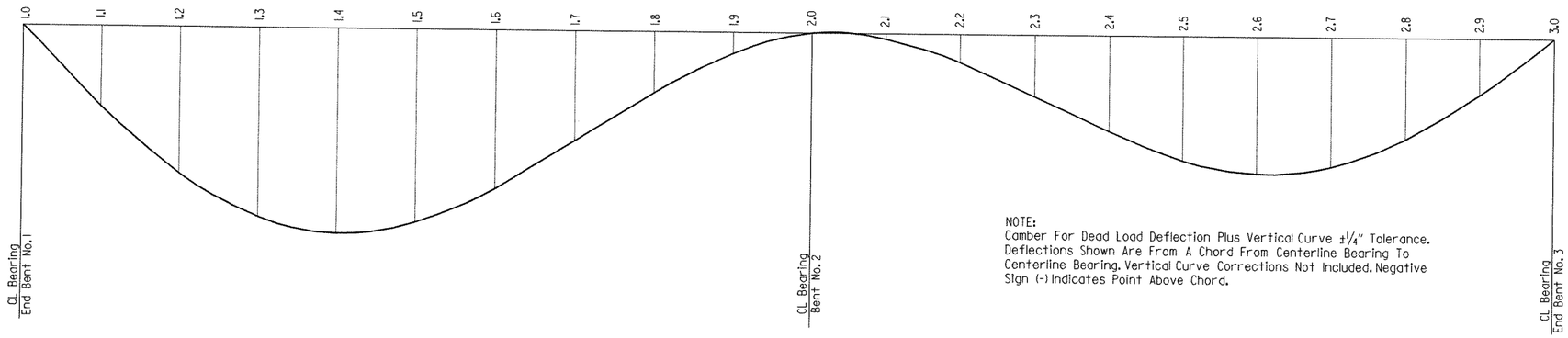
The Extruded Parapet Shall Conform To The Horizontal And Vertical Lines Shown On The Plans Or As Directed By The Engineer And Shall Present A Smooth, Uniform Appearance And Texture. Exposed Surfaces May Be Given A Light Brush Finish Or A Class 3, Textured Coating Finish, In Place Of Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL
No Scale



VIEW SHOWING LOCATION OF NAME PLATE
Scale: 1/2" = 1'-0"

TABLE OF DEAD LOAD DEFLECTIONS (Inches)			
Point Of Deflection	Wt. Of Girder And Cross Frames	Wt. Of Girder, Cross Frames And Slab	Wt. Of Girder, Cross Frames Slab And Parapet
1.0	0.00	0.00	0.00
1.1	0.22	1.05	1.13
1.2	0.40	1.92	2.06
1.3	0.52	2.49	2.68
1.4	0.57	2.70	2.90
1.5	0.55	2.56	2.75
1.6	0.46	2.11	2.27
1.7	0.33	1.48	1.59
1.8	0.19	0.83	0.89
1.9	0.07	0.29	0.31
2.0	0.00	0.00	0.00
2.1	0.01	0.07	0.08
2.2	0.07	0.38	0.41
2.3	0.16	0.81	0.88
2.4	0.24	1.27	1.38
2.5	0.31	1.64	1.77
2.6	0.34	1.80	1.95
2.7	0.32	1.70	1.84
2.8	0.25	1.33	1.44
2.9	0.14	0.73	0.79
3.0	0.00	0.00	0.00



DEAD LOAD DEFLECTION

NOTE:
Camber For Dead Load Deflection Plus Vertical Curve ±1/4" Tolerance. Deflections Shown Are From A Chord From Centerline Bearing To Centerline Bearing. Vertical Curve Corrections Not Included. Negative Sign (-) Indicates Point Above Chord.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8807
JOHN H. RUDDELL
12-9-11

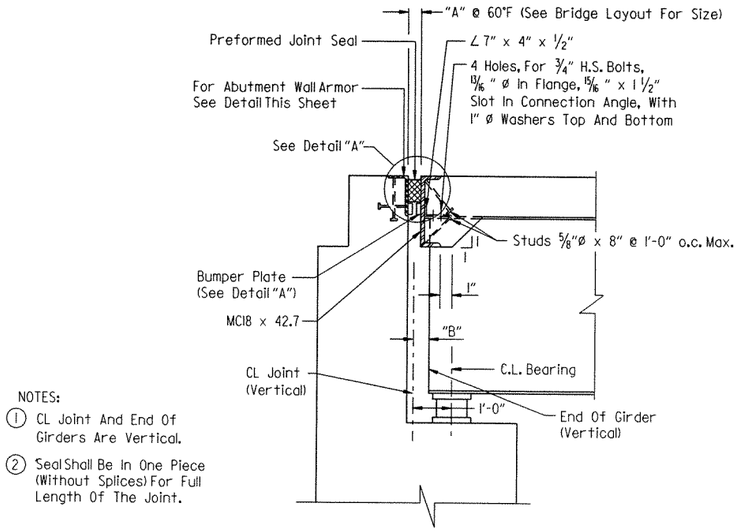
BRIDGE ENGINEER

SHEET 7 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_S7.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: ABH DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 50002

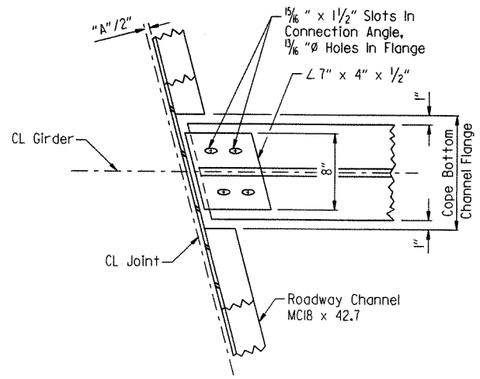
HEW II-425PARAPET.DGN L:/020II090/DWGN/BRG 7-29-09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	155	320
				(1) 07117		233' PL GIRDER UNIT		50003



NOTES:
(1) CL Joint And End Of Girders Are Vertical.
(2) Seal Shall Be In One Piece (Without Splices) For Full Length Of The Joint.

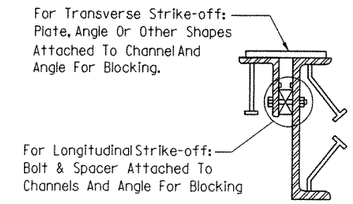
SECTION OF PREFORMED EXPANSION DEVICE AT ABUTMENTS
Scale: None



CHANNEL CONNECTION DETAIL
Scale: NTS

Notes:
1. The Uncompressed Width Of The Joint Filler Shall Be Adjusted If The Actual Joint Width, As Constructed, Is Not In Accordance With The Plan Dimensions.
2. All Structural Steel For The Preformed Expansion Joint Shall Be AASHTO M270 Grade 50.

One Of Two Different Blocking Systems Is Required Depending On The Type Of Span Finishing Machine That Is Used.



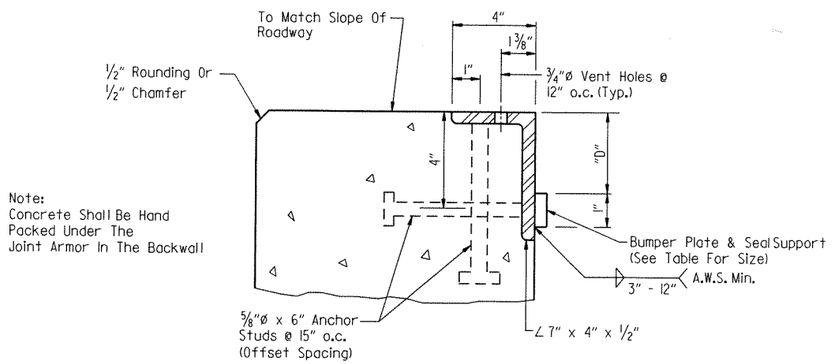
Note:
Each Expansion Joint Device Shall Be Blocked In The Shop By The Fabricator To The Dimension Shown For 60°F And The Blocking Details Shall Be Shown On The Shop Drawings. Blocking Shall Be Placed Within 2' Of Each End Of The Device And With A Maximum Spacing Of 8'.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE
Scale: None

PREFORMED JOINT SEAL DATA						
"A" Width Perpendicular To Joint At 24 Hour Average Temperature *** Of:			"B" Perpendicular To Joint At 60°F	"C" Uncompressed Joint Seal Width	"W" Width Between Plates At 60°F	Bumper Plate Size
40°F	60°F	80°F				
2⅛"	2¼"	2⅜"	2⅜"±	3½"	¾"	1" x ¾"

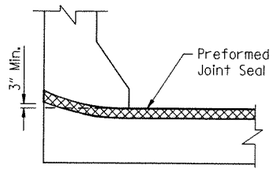
*** The Temperature Used To Set The Joint Opening Shall Be The Approximate Average Air Temperature During The 24 Hour Period Immediately Before The Bolts Are Tightened. The Engineer Shall Establish The Temperature. The Installation Temperature Is Limited To 40°F Min. And 80°F Max.

Note:
The Temperature Limitations Recommended By The Lubricant - Adhesive Manufacturer Shall Be Observed.

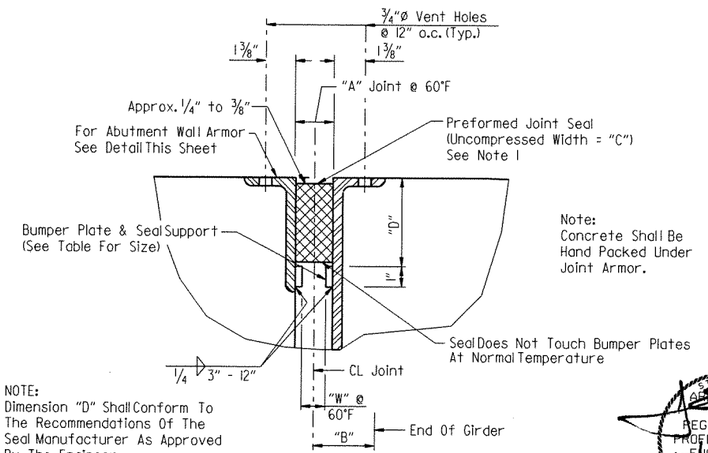


Note:
Concrete Shall Be Hand Packed Under The Joint Armor In The Backwall

ABUTMENT WALL ARMOR DETAIL
Scale: None



JOINT SEAL PLACEMENT @ CURB
Scale: None



Note:
Concrete Shall Be Hand Packed Under Joint Armor.

NOTE:
Dimension "D" Shall Conform To The Recommendations Of The Seal Manufacturer As Approved By The Engineer.

DETAIL "A"
Scale: None

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8807 JOHN H. RUDDELL

BRIDGE ENGINEER

EXPANSION DEVICE INSTALLATION AT END BENTS:

The Contractor May Elect To Install The Expansion Device Using One Of The Following Two Alternatives.

1) The Concrete Span Pour Adjacent To Joint Shall Be Placed Before The End Bent Backwall Is Placed. After The End Bent Backwall Forms Are In Place And The Girders Erected, The Blocked Expansion Device Shall Be Installed And Adjusted For Grade. All Connection Bolts Shall Be Fully Tightened Prior To Placing The Deck Concrete Adjacent To The Bent. Immediately Prior To Pouring The Backwall Concrete, The Blocking Shall Be Removed, The Opening Adjusted For Temperature, And The Backwall Constructed.

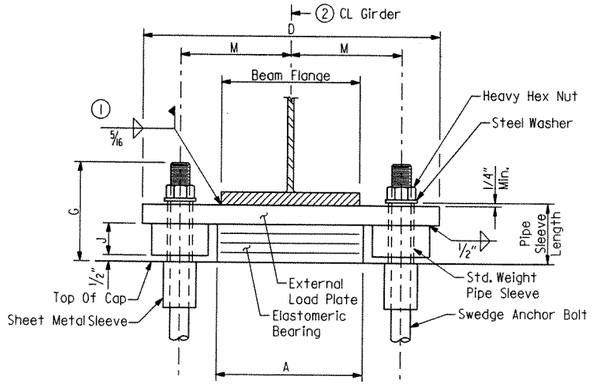
2) The Backwall Shall Be Poured To The Optional Construction Joint After Girders Are Erected. The Blocked Expansion Device Shall Be Installed And Adjusted For Grade. All Connection Bolts Shall Be Fully Tightened Prior To Placing The Deck Concrete Adjacent To The Bent. Immediately Prior To Pouring The Remainder Of The Backwall Concrete, The Blocking Shall Be Removed And The Opening Adjusted For Temperature.

SHEET 8 OF 8
DETAILS OF 233'-0" COMPOSITE PLATE GIRDER UNIT
HWYS. 11/425 CONNECTOR OVER HIGHWAY 530
LINCOLN COUNTY
ROUTE 530 SEC. 8
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

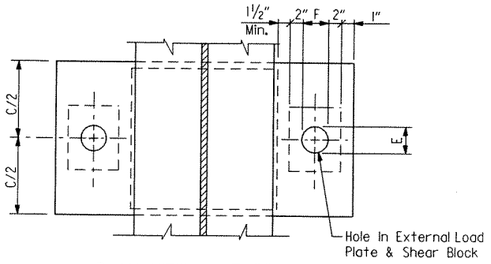
DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_S8.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: ABH DATE: JULY 2008
BRIDGE NO. 07117 DRAWING NO. 50003

HEW L:/020090/DWGN/BRG/H-425JOINT.DGN 5-9-11

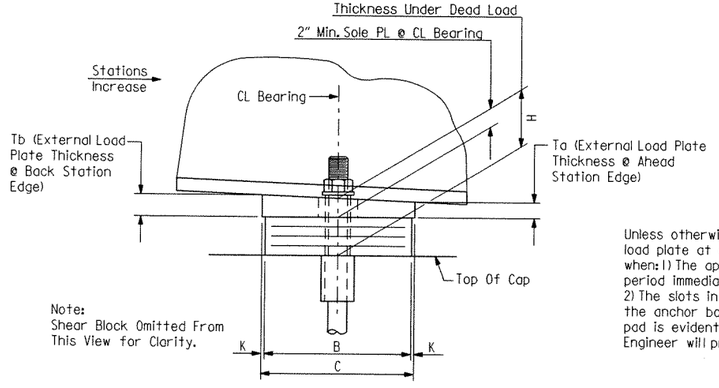
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	156	320
				①	07117	ELASTO. BRGS.		50004



FRONT VIEW - AT BENT 2



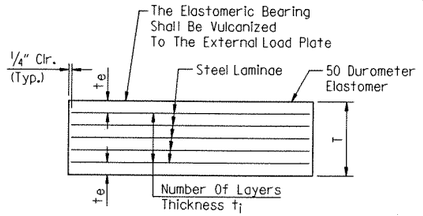
PLAN VIEW - AT BENT 2



SIDE VIEW - AT BENT 2

① Care shall be taken to ensure that the external load plate is in full and complete contact with the girder flange before welding begins.

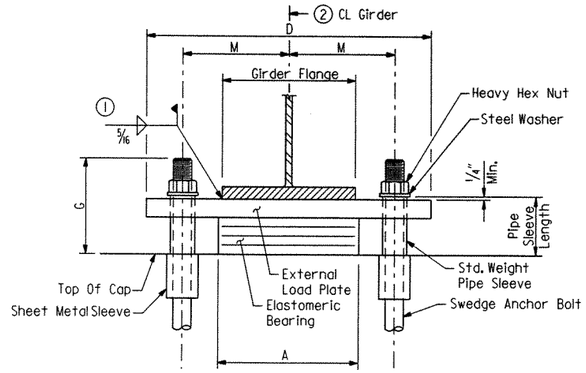
② Centerline elastomeric pad shall be aligned with centerline girder.



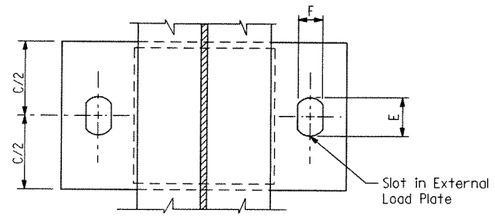
t_e = Thickness Of Elastomer Cover On Top And Bottom Of Pad
t_i = Thickness Of Elastomer Between Steel Laminae
N = Number Of Elastomer Layers Of Thickness t_i

ELASTOMERIC BEARING

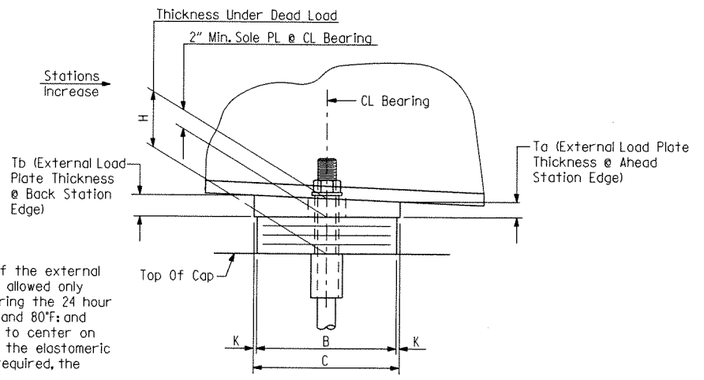
Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the beam will be allowed only when: 1) The approximate average air temperature during the 24 hour period immediately preceding welding is between 40°F and 80°F; and 2) The slots in the external load plate are positioned to center on the anchor bolts; and 3) No horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.



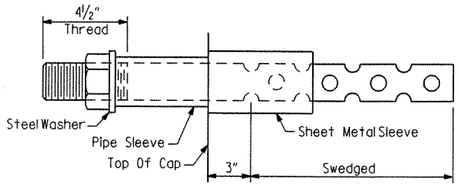
FRONT VIEW - AT BENTS 1, 3



PLAN VIEW - AT BENTS 1, 3



SIDE VIEW - AT BENTS 1, 3



ANCHOR BOLT DETAIL

Note: Anchor bolts may be cast in place or drilled and grouted into place. If anchor bolts are to be cast in place, the galvanized sheet metal sleeves will not be required.

If anchor bolts are to be drilled and grouted in place, the galvanized sheet metal sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of structural steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a QPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized sheet metal sleeves will not be paid for directly, but will be considered subsidiary to the item "Structural Steel in Plate Girder Spans, (M270, Gr. 50)"

GENERAL NOTES

Elastomeric bearings shall conform to Section 808 of the Standard Specifications and shall be paid for at the unit price bid for "Elastomeric Bearings." Long-duration testing of random lot samples specified in Subsection 808.05 is not required. See Special Provision Job 020356 "Elastomeric Bearings".

External load plates and shear blocks shall conform to AASHTO M270, Grade 50. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M232, Class C or AASHTO M298, Class 50.

External load plates (with shear blocks as applicable) shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808. Other surfaces shall be blast cleaned in accordance with Subsection 807.84(B) for painted steel and painted in accordance with Section 807.75. Mask areas of field welding. The color of paint shall be Green and shall match Fed. Std. 595B, Color Chip No. 24097. Painting will not be paid for directly but will be considered subsidiary to "Elastomeric Bearings".

Anchor bolts, washers and nuts shall conform to Subsection 807.07 of the Standard Specifications. The anchor bolt grade of steel shall be as specified in the "Table Of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe sleeves, anchor bolts, washers and nuts shall be paid for at the unit price bid for "Structural Steel In Plate Girder Spans (M270, Gr. 50)". External load plates and shear blocks will not be measured or paid for separately but will be considered included in the unit bid price for "Elastomeric Bearings".

Bearings shall be seated in accordance with Subsection 808.08.

TABLE OF FABRICATOR VARIABLES

Bridge No.	Location		Bearing Type	No. Of Bearings Each Bent	*Maximum Design Load (Kips)	G	H	Elastomeric Pad						External Load Plate									Anchor Bolt				
	Bent No.(s)	Beam Or Girder No.						A	B	N	t_i	t_e	No. & Thickness Of Steel Laminate	T	C	D	E	F	J	K	M	T_a	T_b	Anchor Bolt (Dia. x L)	Anchor Bolt Grade	Pipe Sleeve Size (Dia. x L)	Sheet Metal Sleeve Size (Dia. x L)	Steel Washer Size (O.D.)
07117	1	All	Exp.	5	134	8 3/16"	5 5/16"	18 3/4"	11"	5	1/2"	1/4"	6 @ 12 Ga.	3 5/8"	12"	29 3/4"	4 5/8"	2 5/8"	-	1/2"	11 7/8"	2.00	2.00	1 3/4" x 29"	55	2" x 5 11/16"	4" x 7"	3 3/8"
	2	All	Fixed	5	384	9 5/16"	6 5/16"	27 1/4"	13 1/4"	7	7/16"	1/4"	8 @ 12 Ga.	4 3/8"	14 1/4"	45 1/2"	2 5/8"	2 5/8"	3 3/16"	1/2"	18 1/16"	1.97	2.03	1 3/4" x 30"	55	2" x 6 7/16"	4" x 7"	3 3/8"
	3	All	Exp.	5	125	8 3/16"	5 5/16"	17 3/4"	11"	5	1/2"	1/4"	6 @ 12 Ga.	3 5/8"	12"	28 3/4"	4 1/2"	2 5/8"	-	1/2"	11 3/8"	1.96	2.04	1 3/4" x 29"	55	2" x 5 11/16"	4" x 7"	3 3/8"

* Maximum Design Load = Service Load

BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS HWYS. 11/425 CONNECTOR OVER HIGHWAY 530 LINCOLN COUNTY

ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

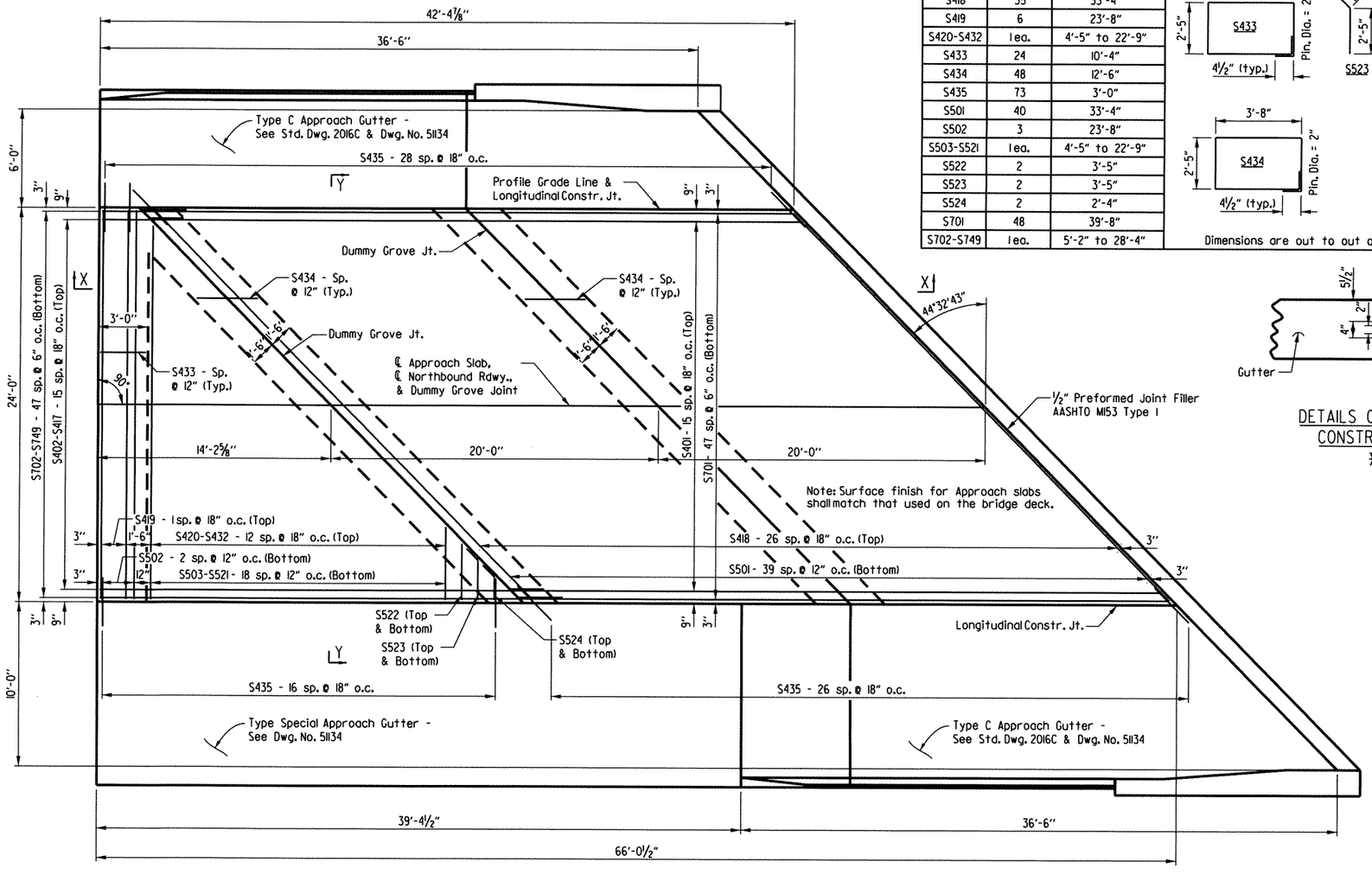
DRAWN BY: HEW DATE: JULY 2008 FILENAME: B020356_E1.DGN
CHECKED BY: JHR DATE: JULY 2008 SCALE: AS SHOWN
DESIGNED BY: MRA DATE: JULY 2008

BRIDGE NO. 07117 DRAWING NO. 50004

HEW L:/020II090/DWGN/BRG/II-425BEARINGS.DGN 7-29-09

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	157	320
				B7106		APPROACH SLAB		51132

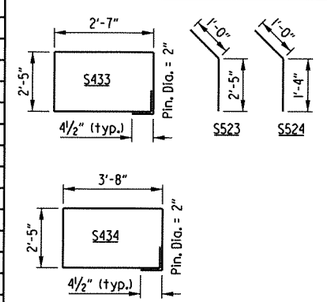
Note: 2'-0" min. lap for #4 bar
2'-8" min. lap for #7 bar



PLAN - APPROACH SLAB (TYPE SPECIAL)
¼" = 1'-0"

BAR LIST

Mark	No. Req'd	Length	Bending Diagrams
S401	16	39'-8"	
S402-S417	Iea.	5'-0" to 27'-2"	
S418	35	33'-4"	
S419	6	23'-8"	
S420-S432	Iea.	4'-5" to 22'-9"	
S433	24	10'-4"	
S434	48	12'-6"	
S435	73	3'-0"	
S501	40	33'-4"	
S502	3	23'-8"	
S503-S521	Iea.	4'-5" to 22'-9"	
S522	2	3'-5"	
S523	2	3'-5"	
S524	2	2'-4"	
S701	48	39'-8"	
S702-S749	Iea.	5'-2" to 28'-4"	



Dimensions are out to out of bar.

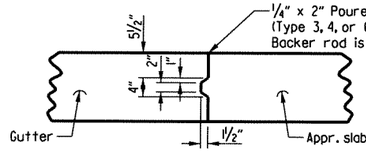
GENERAL NOTES

Concrete shall be Class S (AE) (f'c = 4,000 psi).

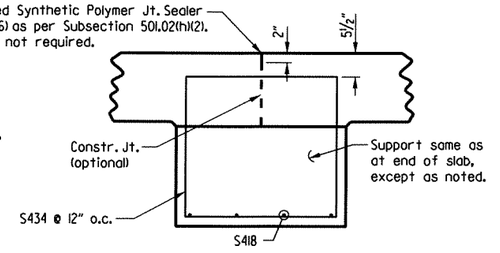
Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Slabs will be measured and paid for in accordance with Section 504.

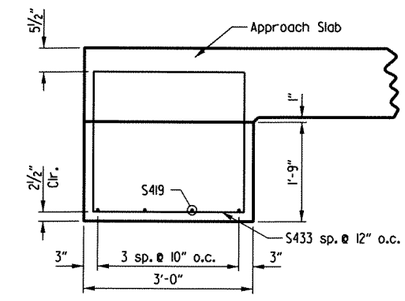
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/16/11



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT
¾" = 1'-0"



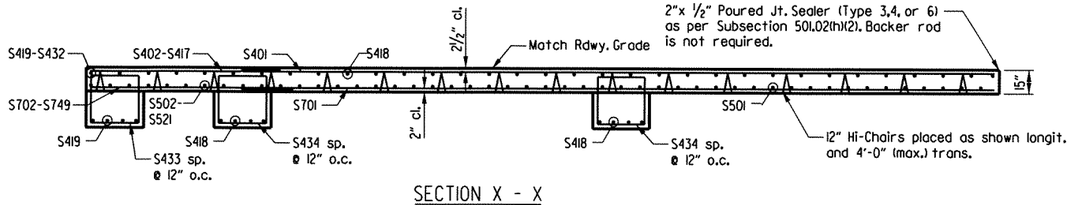
DETAILS OF DUMMY GROOVED JOINT
¾" = 1'-0"



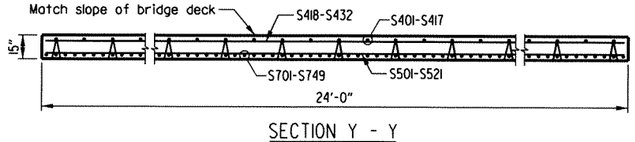
DETAILS OF SUPPORT AT END OF SLAB
¾" = 1'-0"

TABLE OF QUANTITIES FOR ONE SKEWED APPROACH SLAB (TYPE SPECIAL)

Slab Width	Reinforcing Steel	Concrete (Cu. Yds.)
24'-0"	9586 lbs.	78.59



SECTION X - X
N.T.S.



SECTION Y - Y
N.T.S.

SHEET 1 OF 2
DETAILS OF APPROACH SLAB
BRIDGE OVER
STATE HIGHWAY 11
HWY. 212 - HWYS. 11/ 425 CONNECTOR (BS. & SURF.) (F)
LINCOLN COUNTY
ROUTE 530 SEC. 8

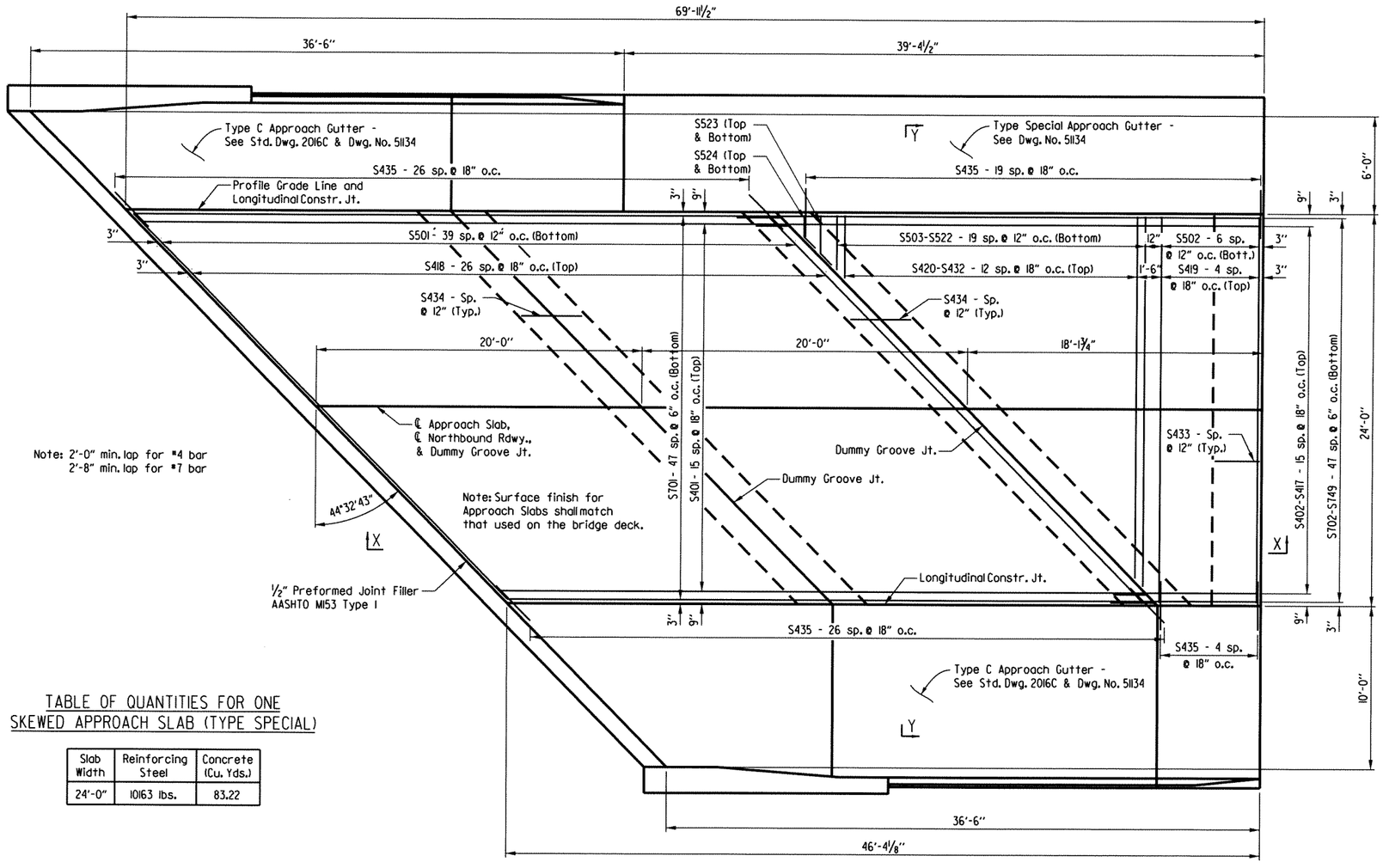
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

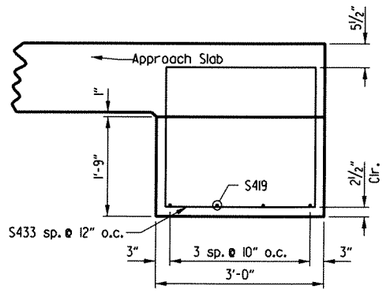
DRAWN BY: M.S.I. DATE: MARCH 2007 FILENAME: b020356bl_gl.dgn
CHECKED BY: C.A.W. DATE: MARCH 2007 SCALE: AS SHOWN
DESIGNED BY: H.M.B. DATE: MARCH 2007
BRIDGE NO. B7106 DRAWING NO. 51132

Crafton, Tull & Associates Inc.

USER: cw584
DESIGN FILE: G:\020132-00\020356\Eng\Dgn\SpecialDetails\b020356bl_gl.dgn
PLOTTED: 12/16/2011 15:23 SCALE: 8:1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	158	320
				B7106		APPROACH SLAB		51133





DETAILS OF SUPPORT AT END OF SLAB

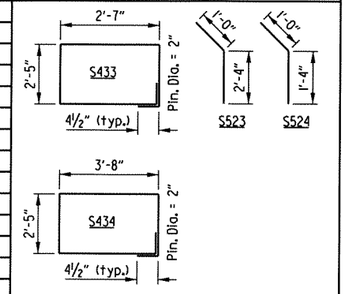
¾" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9620 HUBERT BURNS

12/16/11

BAR LIST

Mark	No. Req'd	Length	Bending Diagrams
S401	16	39'-8"	
S402-S417	lea.	8'-11" to 31'-1"	
S418	35	33'-4"	
S419	9	23'-8"	
S420-S432	lea.	3'-10" to 22'-2"	
S433	24	10'-4"	
S434	48	12'-6"	
S435	79	3'-0"	
S501	40	33'-4"	
S502	7	23'-8"	
S503-S522	lea.	3'-4" to 22'-8"	
S523	2	3'-4"	
S524	2	2'-4"	
S701	48	39'-8"	
S702-S749	lea.	9'-1" to 32'-3"	



Dimensions are out to out of bar.

GENERAL NOTES

Concrete shall be Class S (AE) (f'c = 4,000 psi).

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

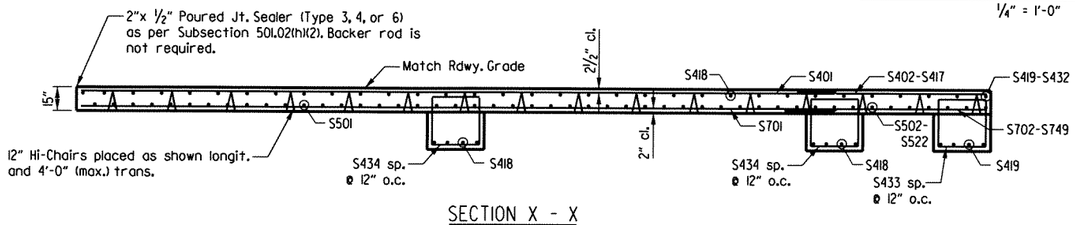
Approach Slabs will be measured and paid for in accordance with Section 504.

TABLE OF QUANTITIES FOR ONE SKEWED APPROACH SLAB (TYPE SPECIAL)

Slab Width	Reinforcing Steel	Concrete (Cu. Yds.)
24'-0"	10163 lbs.	83.22

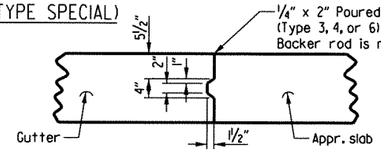
PLAN - APPROACH SLAB (TYPE SPECIAL)

¼" = 1'-0"



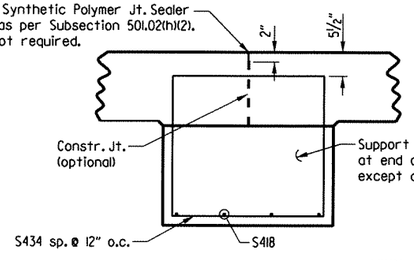
SECTION X - X

N.T.S.



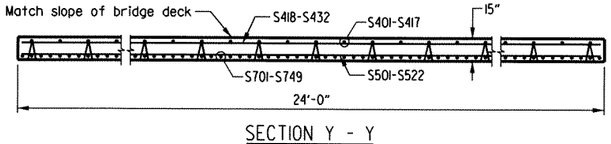
DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

¾" = 1'-0"



DETAILS OF DUMMY GROOVED JOINT

¾" = 1'-0"



SECTION Y - Y

N.T.S.

SHEET 2 OF 2
DETAILS OF APPROACH SLAB
BRIDGE OVER
STATE HIGHWAY 11
HWY. 212 - HWYS. 11/ 425 CONNECTOR (BS. & SURF.) (F)
LINCOLN COUNTY
ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

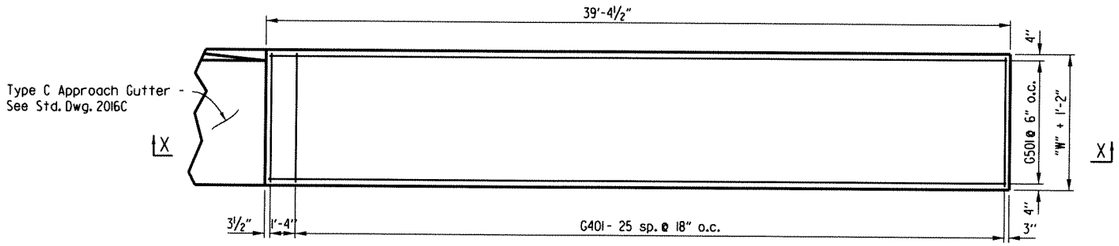
DRAWN BY: M.S.I. DATE: MARCH 2007 FILENAME: b020356bl_g2.dgn
CHECKED BY: C.A.W. DATE: MARCH 2007 SCALE: AS SHOWN
DESIGNED BY: H.M.B. DATE: MARCH 2007

BRIDGE NO. B7106 DRAWING NO. 51133

Crafton, Tull & Associates Inc.

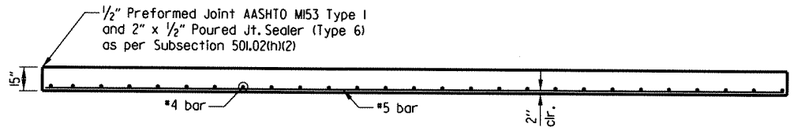
USER: cw584
DESIGN FILE: G:\020132-00\020356\Eng\Dgn\SpecialDetails\b020356bl_g2.dgn SCALE: 8d
PLOTTED: 12/16/2011 15:23

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		020356	159	320
				B7106		APPROACH GUTTERS		51134



PLAN - TYPE SPECIAL APPROACH GUTTER

(Northwest approach gutter shown - Southeast approach gutter opposite hand)
¼" = 1'-0"



SECTION X - X

N.T.S.

BAR LIST

Mark	No. Req'd for Width "W"		Length
	6'-0"	10'-0"	
G401	27	27	"W" + 10"
G501	14	22	39'-0"

TABLE OF QUANTITIES FOR ONE TYPE SPECIAL APPROACH GUTTER

"W" Width	Reinforcing Steel	Concrete (Cu. Yds.)
6'	693 lbs.	13.06
10'	1090 lbs.	20.36

GENERAL NOTES

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

See AHTD Std. Dwg. No. 2016C for additional details.

SPECIAL BAR LIST FOR ONE TYPE C GUTTER

Mark	No. Req'd for Width "W"	Length
	10'-0"	
G408	19	10'-10"
G409	1	10'-0"
G410	11	13'-6"
G504	1	22'-6"
G505	1	27'-10"
G508-G527	1 each	36'-4" to 45'-8"

Note: See Std. Dwg. 2016C

TABLE OF QUANTITIES FOR ONE TYPE C GUTTER

Appr.	"W" Width	Reinforcing Steel	Concrete (Cu. Yds.) T=15"
1	6'	•	12.48
1	10'	1151 lbs.	16.13
2	6'	•	10.83
2	10'	1151 lbs.	20.69

•Note: See Std. Dwg. 2016C

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9620
HUBERT BURNS
12/16/11

DETAILS OF TYPE SPECIAL APPROACH GUTTERS
BRIDGE OVER
STATE HIGHWAY 11
HWY. 212 - HWYS. 11/ 425 CONNECTOR (BS. & SURF.) (F)
LINCOLN COUNTY
ROUTE 530 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: F.J.S. DATE: MARCH 2007 FILENAME: b020356bl_g3.dgn
CHECKED BY: M.S.I. DATE: MARCH 2007 SCALE: AS SHOWN
DESIGNED BY: H.W.B. DATE: MARCH 2007
BRIDGE NO. B7106 DRAWING NO. 51134

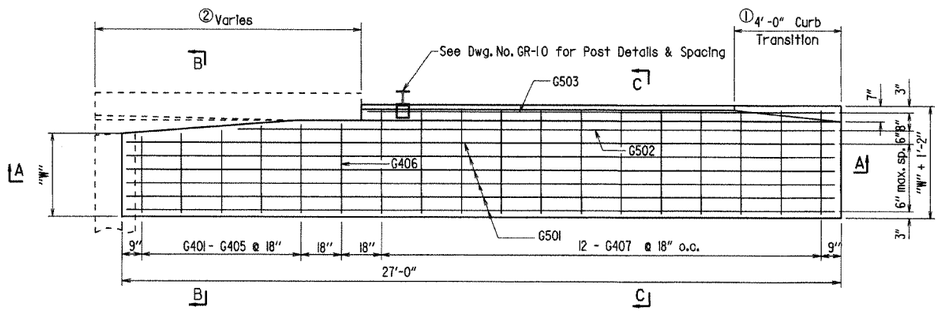
Crafton, Tull & Associates Inc.

USER: cw584
DESIGN FILE: G:\020320-00\020356\Engr\Dgn\SpecialDetails\b020356bl_g3.dgn
PLOTTED: 12/16/2011 15:23 SCALE: 8d

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
4-10-2003			
07-14-2010			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		160	
JOB NO.				

① TYPE B GUTTERS 2016B

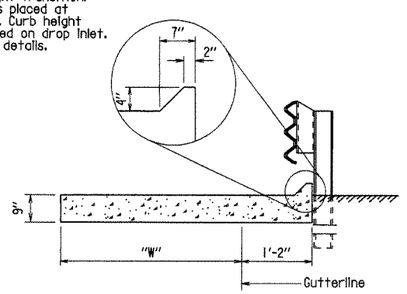


HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

② Length varies. See End Bent details for actual length. Quantities shown are for 10'-0" Transition Rail.

① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

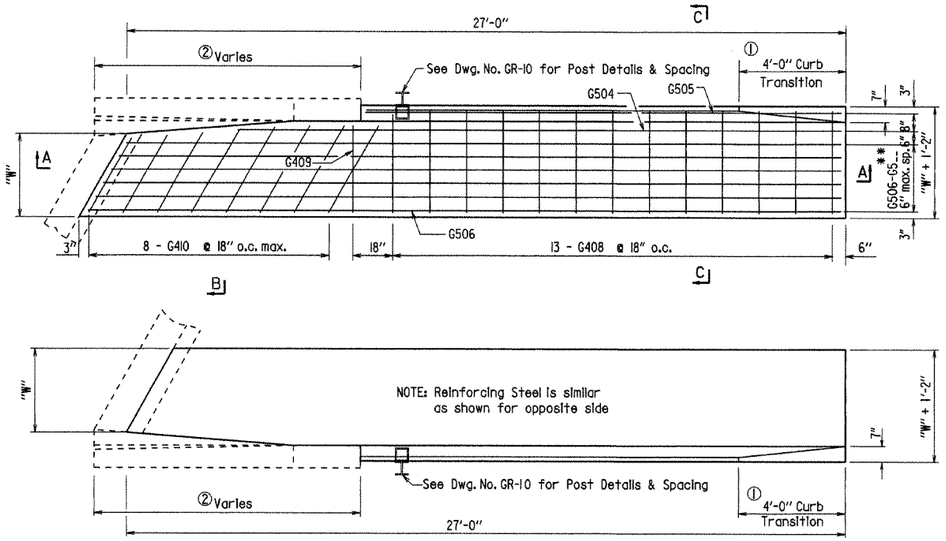


SECTION C - C

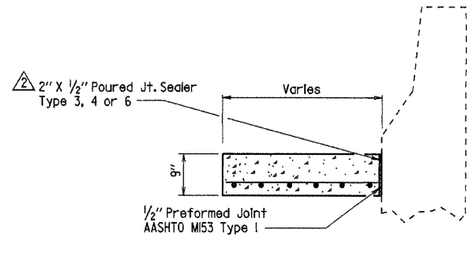
N.T.S.

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards)
3	252	3.00
4	319	3.75
6	459	5.25
8	590	6.75

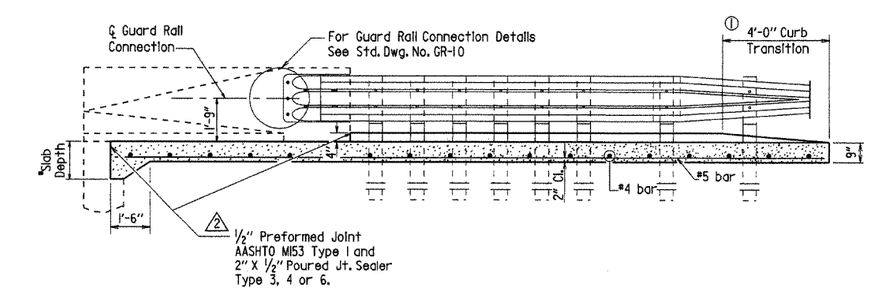


PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE



SECTION B - B

N.T.S.



SECTION A - A

*Slab Depth Varies - See Span and Bent Details

***BAR LIST ② TYPE B GUTTER

Mark	No. Required for Width "W"				Length	Square or Skewed
	3'-0"	4'-0"	6'-0"	8'-0"		
G401-G405	1 each	1 each	1 each	1 each	"W" - 3" to "W" + 3"	Square
G406	1	1	1	1	"W" + 3"	Square
G407	12	12	12	12	"W" + 10"	Square
G408	13	13	13	13	"W" + 10"	Skewed
G409	1	1	1	1	"W" + 3"	Skewed
G410	8	8	8	8	*	Skewed
G501	6	8	12	16	26'-8"	Square
G502	1	1	1	1	22'-2"	Square
G503	1	1	1	1	17'-8"	Square
G504	1	1	1	1	*	Skewed
G505	1	1	1	1	*	Skewed
G506-G5__**	1 each	1 each	1 each	1 each	*	Skewed

*Bar Lengths vary with Skew.

**G512 for "W" = 3'
G514 for "W" = 4'
G518 for "W" = 6'
G522 for "W" = 8'

***Special bar list required when skew angle exceeds 40° for W = 8'; 50° for W = 6'; or 60° for W = 4'.

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

⚠1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

⚠2 Added joint sealer type & revised transition rail length 07-14-2010 by MJT Checked by: CJF 07-14-2010

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF STANDARD TYPE B APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2016B.STD

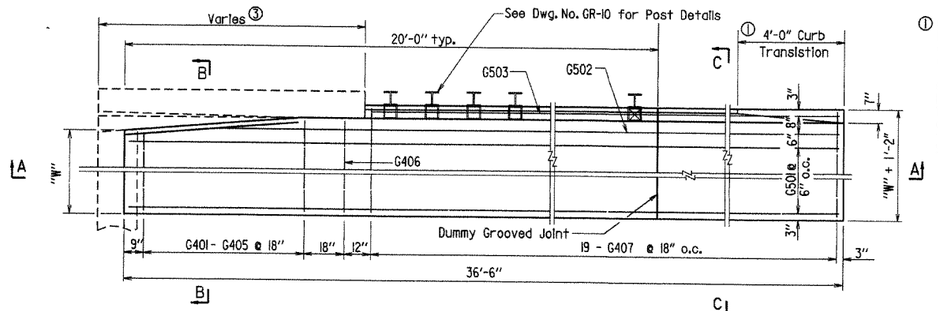
CHECKED BY: CJF DATE: 4-10-2003 SCALE: 3/8" = 1'-0"

DESIGNED BY: STD DATE:

BRIDGE NO. DRAWING NO. 2016B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		16	
07-14-2010				JOB NO.				

① TYPE C GUTTERS - 2016C

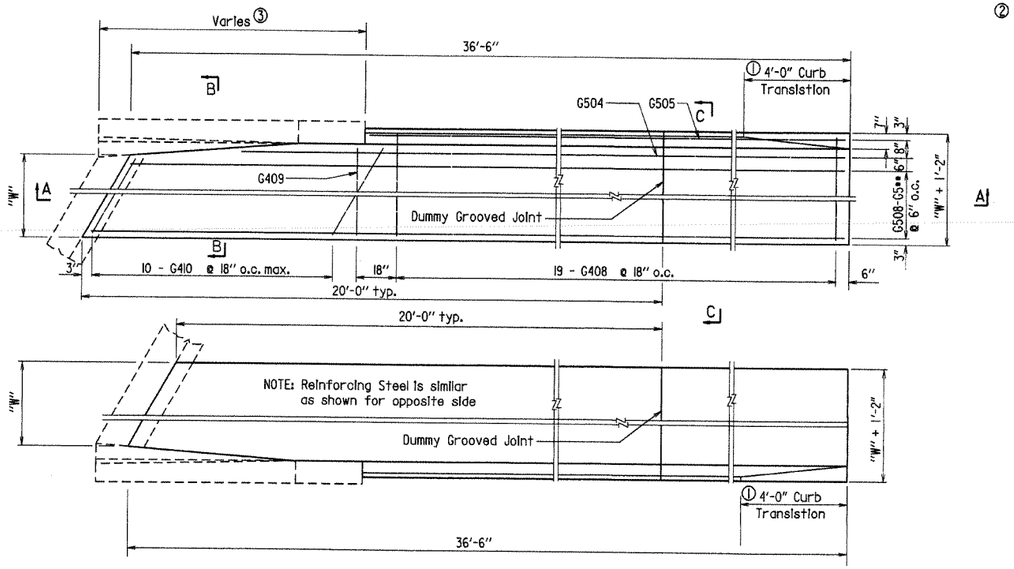


HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

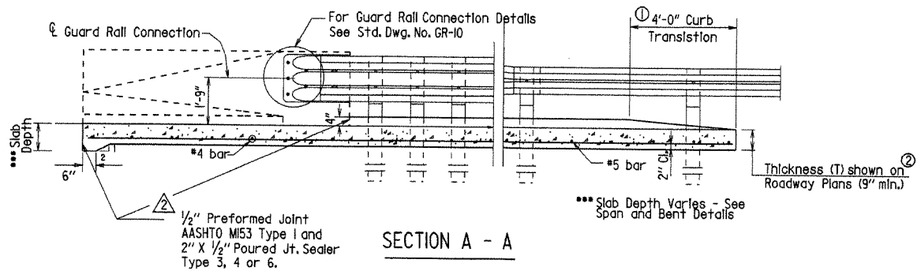
Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

③ Length Varies See End Bt. Details for Actual Length. Quantities Shown are for 10'-0" Transition Rail.

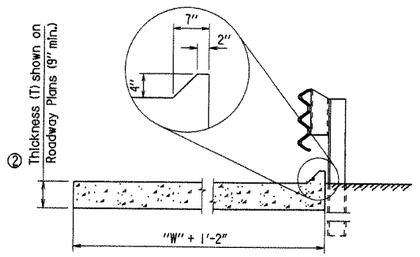


PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

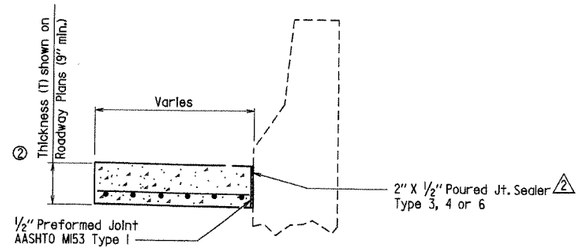
② Thickness shall match Approach Slab Thickness. Thickness shall be 9" If Approach Slab is not used.



SECTION A - A



SECTION C - C
N.T.S.



SECTION B - B
N.T.S.

***BAR LIST FOR ONE TYPE C GUTTER

Mark	No. Req'd. for Width "W" 4'-0"	6'-0"	8'-0"	10'-0"	Length	Square or Skewed
G401 - G405	1 each	1 each	1 each	1 each	"W"-3" to "W"+3"	Square
G406	1	1	1	1	"W"+3"	Square
G407	19	19	19	19	"W"+ 10"	Square
G408	19	19	19	19	"W"+ 10"	Skewed
G409	1	1	1	1	"W"+3"	Skewed
G410	10	10	10	10	*	Skewed
G501	8	12	16	20	36'-2"	Square
G502	1	1	1	1	31'-8"	Square
G503	1	1	1	1	27'-2"	Square
G504	1	1	1	1	*	Skewed
G505	1	1	1	1	*	Skewed
G508 - G5__ **	1 each	1 each	1 each	1 each	*	Skewed

*** Special bar list required when skew angle exceeds 35° for W = 10'; 40° for W = 8'; 50° for W = 6'; or 60° for W = 4'.

* Bar Lengths vary with Skew.

** G515 for W = 4'
G519 for W = 6'
G523 for W = 8'
G527 for W = 10'

QUANTITIES FOR ONE SQUARE APPROACH GUTTER ③

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards) T=9"	T=10"	T=11"	T=12"	T=1 4 1/2"
4	439	5.19	5.75	6.31	6.88	8.25
6	623	7.24	8.02	8.80	9.59	11.52
8	807	9.28	10.29	11.30	12.32	14.79
10	991	11.33	12.56	13.79	15.03	18.06

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

2 Added joint sealer type 07-14-2010 by MJT Checked by: CJF 7-14-2010

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF STANDARD TYPE C APPROACH GUTTERS

ROUTE SEC.

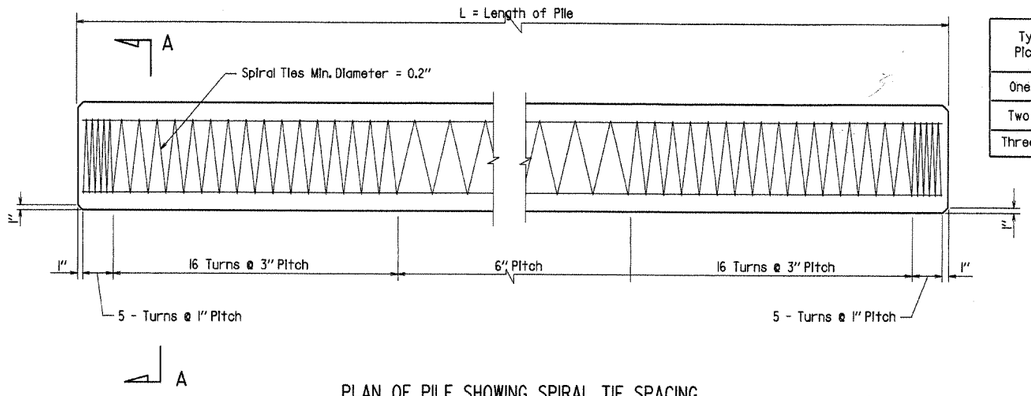
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2016C.STD
CHECKED BY: CJF DATE: 4-10-2003 SCALE: 3/8" = 1'-0"
DESIGNED BY: STD. DATE:

BRIDGE NO. DRAWING NO. 2016C

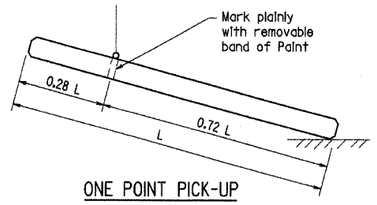
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003	4-10-2003			6	ARK.		10	
12-10-2009				JOB NO.				
				①		CONC. PILES		2383



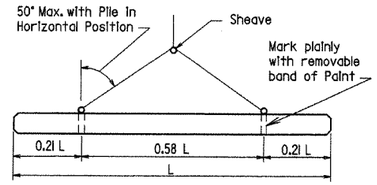
PLAN OF PILE SHOWING SPIRAL TIE SPACING

MAXIMUM PICKUP LENGTHS L

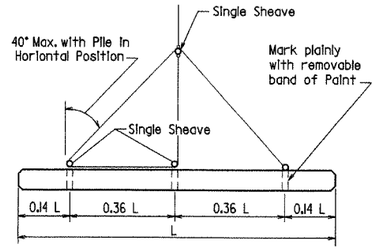
Type of Pick - Up	Prestressed		Precast	Prestressed			Precast		
	16" Oct.	18" Oct.	16" or 18" Oct.	14" Sq.	16" Sq.	18" Sq.	14" Sq.	16" Sq.	18" Sq.
One - Point	52'	55'	46'	55'	59'	63'	52'	51'	55'
Two - Point	75'	80'	67'	79'	84'	90'	75'	74'	79'
Three - Point	105'	112'	93'	110'	117'	126'	104'	103'	111'



ONE POINT PICK-UP

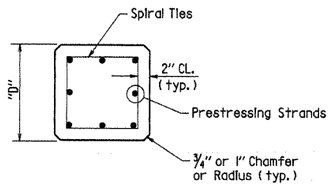


TWO POINT PICK-UP

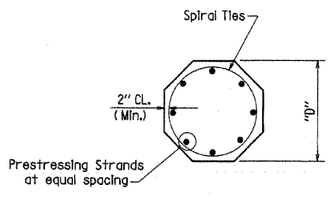


THREE POINT PICK-UP

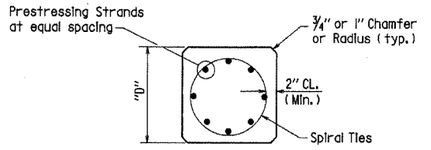
Note : Strand location shall be symmetrical about the axis of the pile with no more than one strand difference between any two adjacent sides. Circular spiral ties are required for odd number of strands.



SECTION A-A
SQUARE PILE



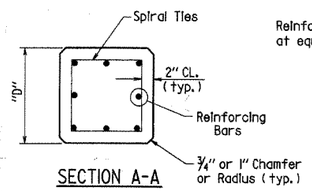
SECTION A-A
OCTAGONAL PILE



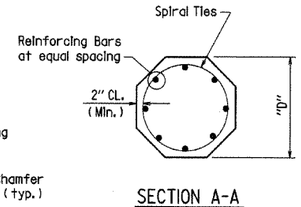
SECTION A-A
SQUARE PILE

PRECAST PILE REINFORCING

Pile Size	No. Req'd.	Bar Size
16" Oct.	8	# 7
18" Oct.	8	# 7
14" Sq.	8	# 7
16" Sq.	8	# 7
18" Sq.	8	# 8



SECTION A-A
SQUARE PILE



SECTION A-A
OCTAGONAL PILE

PRESTRESSED CONCRETE PILES

PRESTRESSED PILE PROPERTIES

	Grade	Strand Diameter	• Number of Strands per Size "D"					Minimum Ultimate Tensile Strength Per Strand (Lbs.)	Initial Prestressing Force Per Strand (Lbs.)
			16" Oct.	18" Oct.	14" Sq.	16" Sq.	18" Sq.		
Stress Relieved	250	7/16"	11	13	10	12	16	27,000	18,900
		½"	8	10	8	10	12	36,000	25,200
	270	7/16"	9	11	8	12	14	31,000	21,700
		½"	7	9	6	8	10	41,300	28,900
Low Relaxation	250	7/16"	9	11	8	11	13	27,000	20,200
		½"	7	8	6	8	10	36,000	27,000
	270	7/16"	8	10	7	9	11	31,000	23,300
		½"	6	7	5	7	9	41,300	31,000

• Number based on initial prestress force of "B" x Ultimate Tensile Stress, Prestress Losses, and min. 700 psi Unit Prestress on concrete after Losses.

"B" — 0.75 Low Relaxation; 0.70 Stress - Relieved

GENERAL NOTES

Construction Specifications : Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted, references to Section and subsection numbers in the plans refer to the Construction Specifications.

Design Specification : AASHTO Standard Specifications for Highway Construction (2002 Edition), with current Interim Specifications.

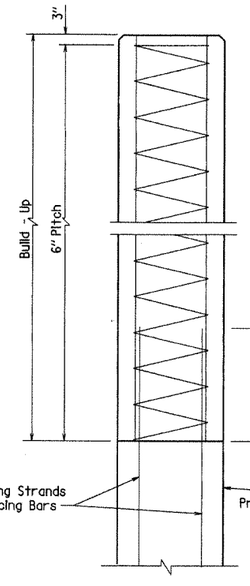
Concrete : Concrete in the Precast Prestressed Piles shall be Class S (AE) and shall have a Minimum Compressive Strength (f'c) of 5000 psi at 28 days, Compressive Strength at transfer of the Prestressing Force shall be not less than 4000 psi. Concrete in Build - Ups shall have a minimum Compressive Strength (f'c) of 4000 psi.

Prestressing Reinforcement : Seven wire stress relieved or low relaxation strands shall conform to the general requirements of AASHTO M203. Broken wires within individual strands will be permitted up to 2 % of the total number of wires in each pile, providing that there is not more than one broken wire per strand. Two or more broken wires per strand will be cause for replacement of the strand, even though the two broken wires are within the 2 % limitation.

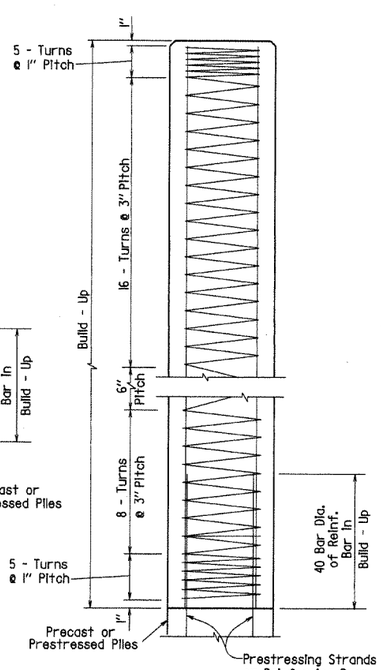
Build-Ups : To provide for Build-Ups of Piles where authorized by the Engineer, concrete shall be cut back to expose the strands for a distance sufficient to provide a lap of 40 diameters of the reinforcing bars required for Build-Up. Reinforcing of Build-Ups shall have a minimum area equal to 1½% of the gross section of pile. Placement of bars shall be in a symmetrical pattern of not less than four bars. See Section 805.11(b).

Forms : For forming exterior of piles, the use of steel forms on concrete founded casting beds is required, unless otherwise approved by the Engineer. Side forms may have a maximum drift on each side not exceeding ¼" per foot.

Tolerances : Pile ends shall be plane surfaces and perpendicular to axis of pile with a maximum tolerance of ⅛" per foot transversely.



BUILD - UP
WITHOUT DRIVING



BUILD - UP
WITH DRIVING

PRECAST CONCRETE PILES

GENERAL NOTES

The maximum sweep (deviation from straightness measured along two perpendicular faces of the pile, while not subject to bending forces) shall not exceed ⅛" in 10 ft. of its length.

General: Shipment of piles from the plant site or pile driving will not be permitted until the required minimum compressive strength is reached, and in no case less than 10 days after pouring the concrete. Piles may be removed from casting bed to a nearby storage any time after transfer of stress.

Spiral Reinforcing : Spiral reinforcing shall be steel wire meeting the requirements of AASHTO M32 with a minimum diameter of 0.2" or shall be plain round steel bars meeting the requirements of AASHTO M31 or M53, GR. 60 with a minimum diameter of 0.25".

Manufacture, Transportation and Storage : See Section 802 "Concrete for Structures".

⚠2 Unless otherwise approved by the Engineer, all protruding or exposed pile lifting or transporting devices above the finished ground shall be removed after pile driving is complete. Removal shall be a minimum of 1" below the surface of the pile and the cavity shall be filled with a non-shrink grout listed on the Department's QPL.

Installation, Measurement and Payment : See Section 805 "Piling". Precast Prestressed Concrete Piling will be paid for at the contract unit price per Linear Foot bid for "Concrete Piling".

The Contractor may elect to use a Precast Concrete Pile in lieu of the Prestressed Concrete Pile. The following notes apply to Precast Concrete Piles:

All concrete shall be Class S (AE) and shall have a minimum compressive strength (f'c) of 4000 psi at 28 days.

All longitudinal reinforcing bars shall be deformed bars of AASHTO M31 or M53, Gr. 60.

All spiral reinforcing shall be the same as that shown for prestressed concrete.

⚠2 Added paragraph to General Notes KDH 12-10-2009
Checked by: CJF Date: 12-10-2009

⚠1 Revised and redrawn MJT 04-10-03
Chkd. By: CJF 04-10-03

STATE OF ARKANSAS ★★★ REGISTERED PROFESSIONAL ENGINEER ★★★ No. 4337 CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF STANDARD CONCRETE PILES

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B2383.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: 1" = 1'-0"
DESIGNED BY: STD. DATE: —

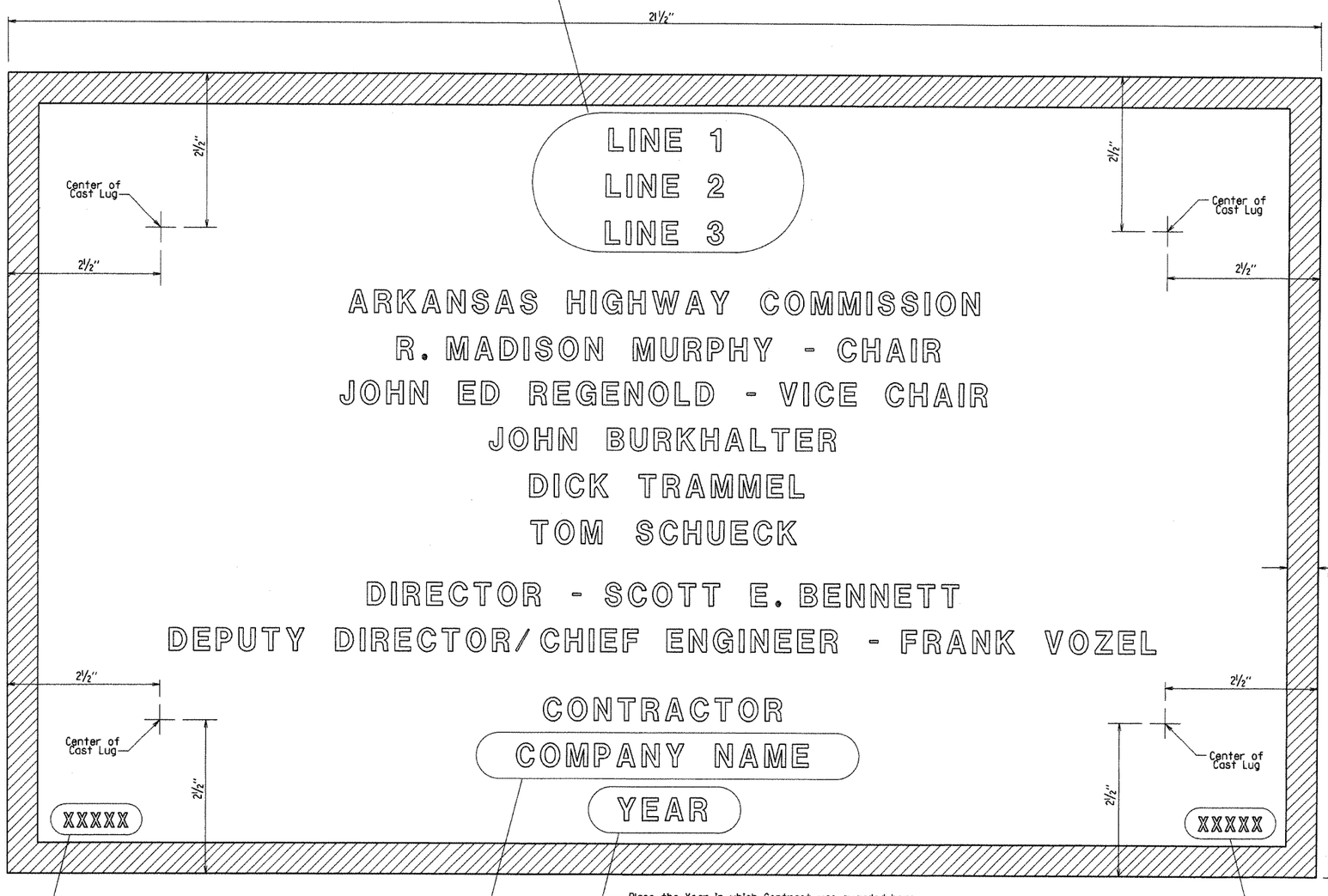
BRIDGE NO. DRAWING NO. 2383

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9-8-11				6	ARK.		163	
				JOB NO.				

(1) NAME PLATE 2387

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



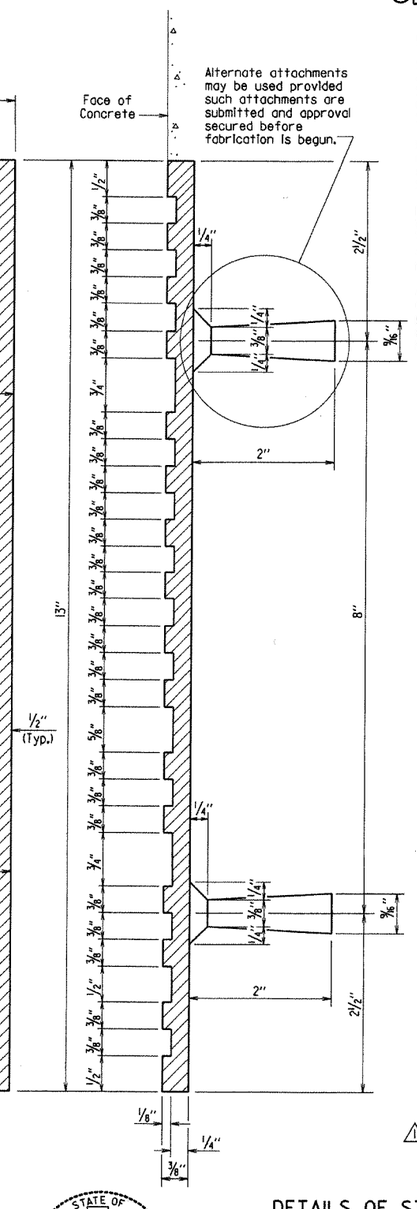
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20
HL-93

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example : ABCD CONSTRUCTION, INC.

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples : A1234
05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 3/8"x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered. The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

⚠ Revised and Redrawn 9-8-11 KDH Checked By: CRE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

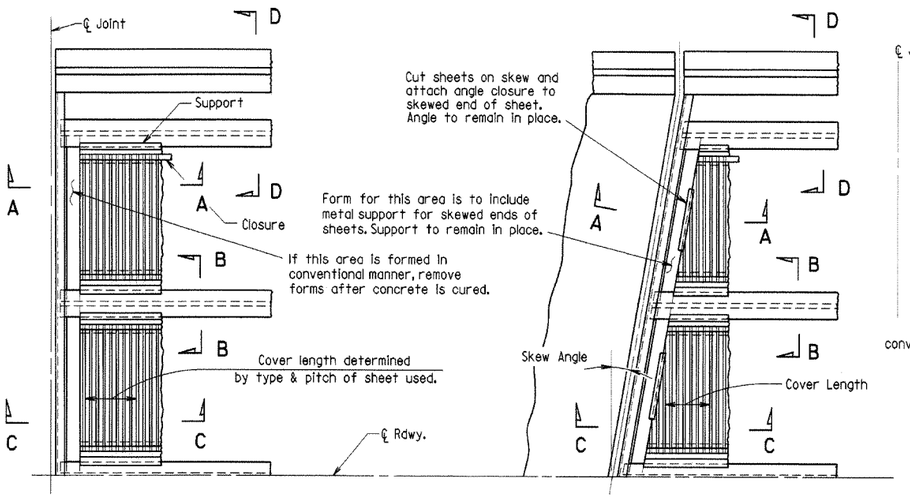
DETAILS OF STANDARD TYPE D
BRIDGE NAME PLATE
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 9-8-11 FILENAME: B2387.STD
CHECKED BY: CRE DATE: 9-8-11 SCALE: 1'-0" = 1'-0" OR AS NOTED
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 2387

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-27-96						6	ARK.		164	
04-10-2003						JOB NO.				

(1) BR. DECK FORMS 14991

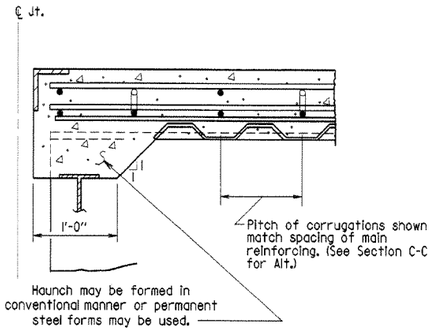


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

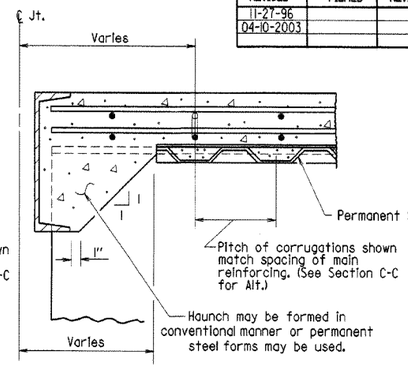
3/8" = 1'-0"



SECTION A-A

N.T.S.

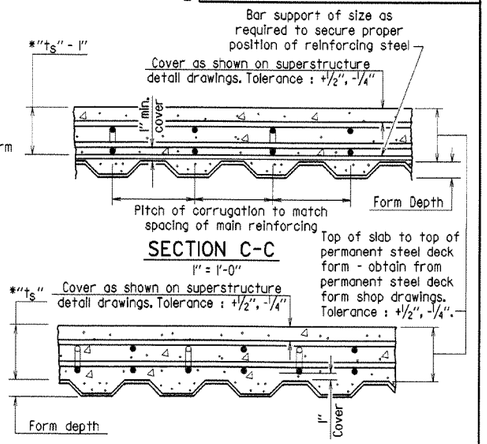
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



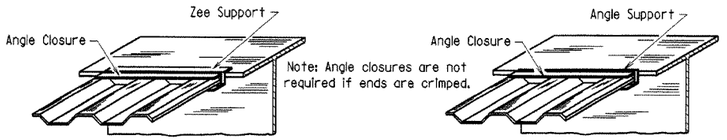
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

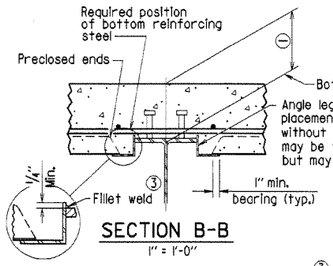
1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

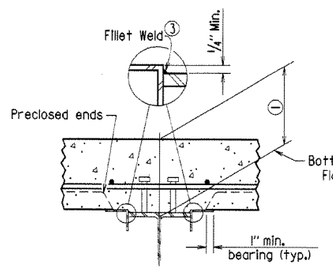


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

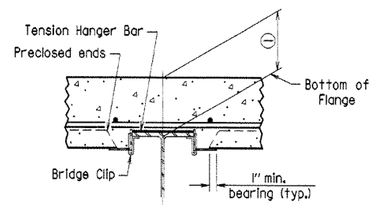
(3) Minimum weld: 1/8" x 1" ℄ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

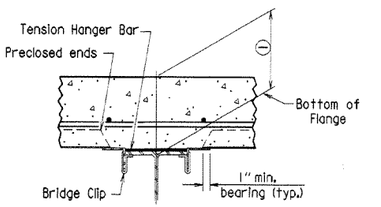
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

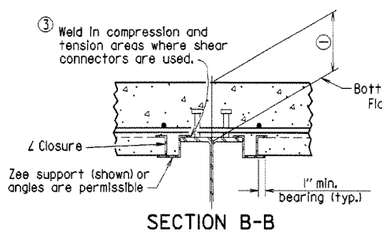
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

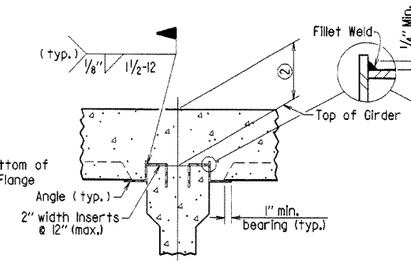
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

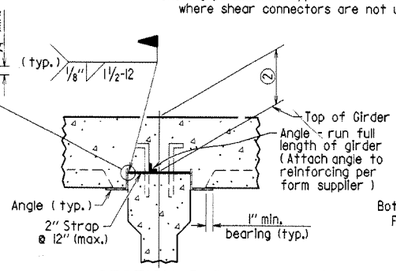


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Insert cast in girder)

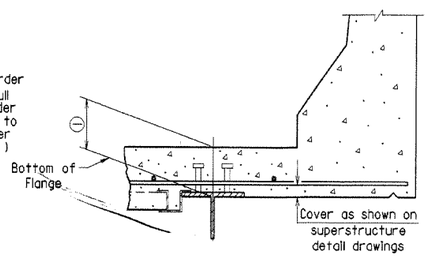


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Strap)



SECTION D-D

1" = 1'-0"

Note: Only Bottom Reinforcing is shown.

(1) Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

(2) Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

(2) Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

(1) Redrawn and revised 11/27/96; MJT

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to subsection 802.14(b) of the Standard Specifications. Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Bridge Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Bridge Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

(2) Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and special provisions.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4837
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 10-17-96

CHECKED BY: CPB DATE: 10-17-96 SCALE: as noted

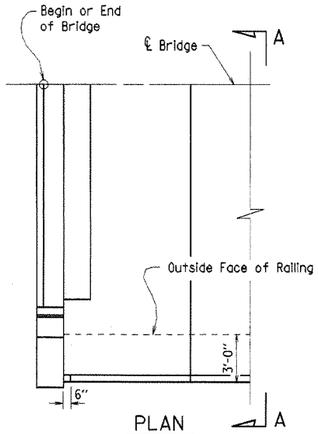
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 14991

B14991.STD

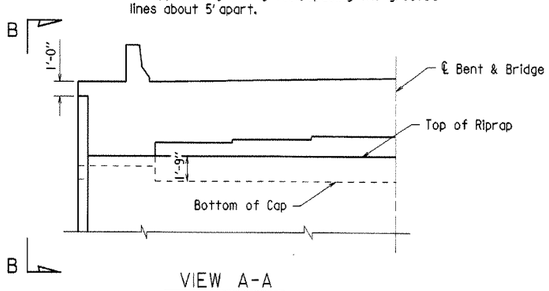
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		165	
				JOB NO.				

1 RIPRAP & PILE - 14995A

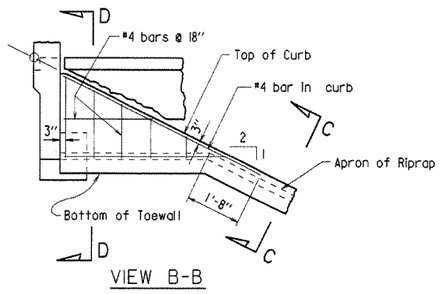


PLAN

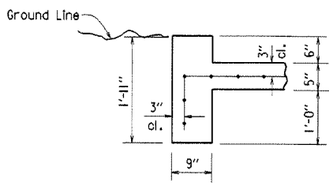
Note:
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



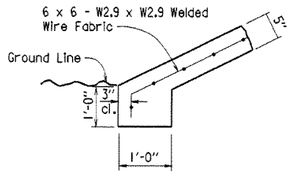
VIEW A-A



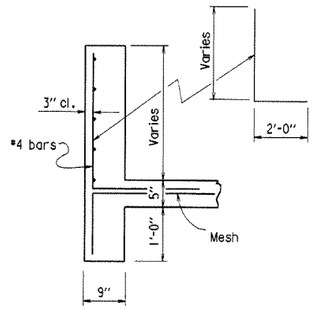
VIEW B-B



SECTION C-C

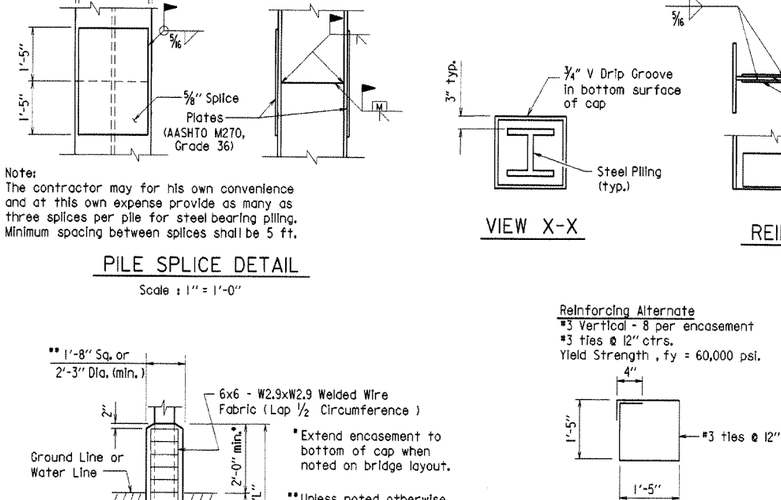


TOE WALL



SECTION D-D

DETAILS OF CONCRETE RIPRAP



Note:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under Item 807.

Omit bottom bracing where "H" is less than 10 ft. Omit all bracing where "H" is less than 5 ft.

Note:
Where required by the bridge layout sheet, pile encasements shall be constructed.

Omit bracing (and V-groove in cap) where pile encasement is extended to bottom of bent cap.

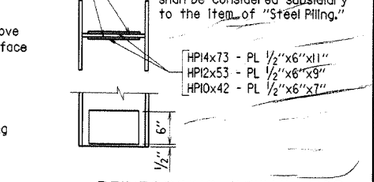
TYPICAL BRACING FOR INT. STEEL PILE BENTS

Note:
The contractor may for his own convenience and at this own expense provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 ft.

PILE SPLICE DETAIL

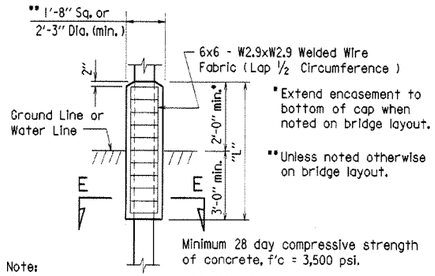
Scale : 1" = 1'-0"

VIEW X-X



REINFORCING DETAIL FOR STEEL PILE TIP

Scale : 1" = 1'-0"

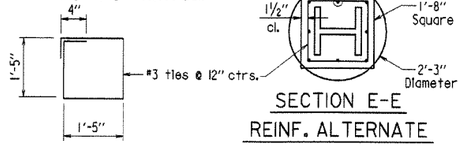


Minimum 28 day compressive strength of concrete, f'c = 3,500 psi.

Note:
If concrete cannot be placed in the dry, seal concrete may be deposited under water. Concrete & welded wire fabric or reinforcing in encasements shall be paid for at the contract unit price per linear foot bid for "Pile Encasement."

PILE ENCASEMENT DETAIL

Reinforcing Alternate
#3 Vertical - 8 per encasement
#3 ties @ 12" ctrs.
Yield Strength, fy = 60,000 psi.



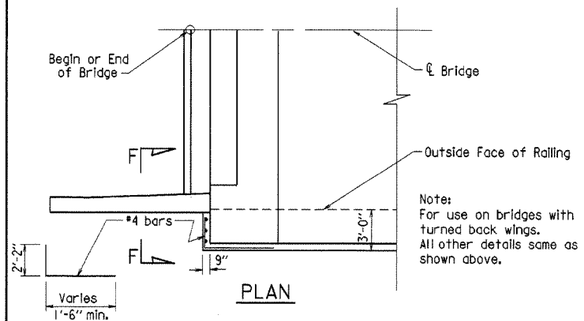
SECTION E-E
REINF. ALTERNATE

ELEVATION

SECTION F-F

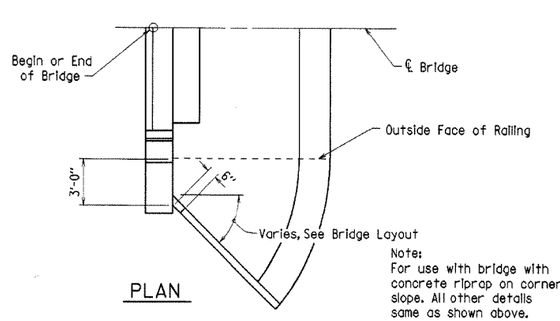
Note:
For use on bridges with turned back wings and concrete riprap on corner slopes. All other details same as shown above.

PLAN



PLAN

Note:
For use on bridges with turned back wings. All other details same as shown above.



PLAN

Note:
For use with bridge with concrete riprap on corner slope. All other details same as shown above.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

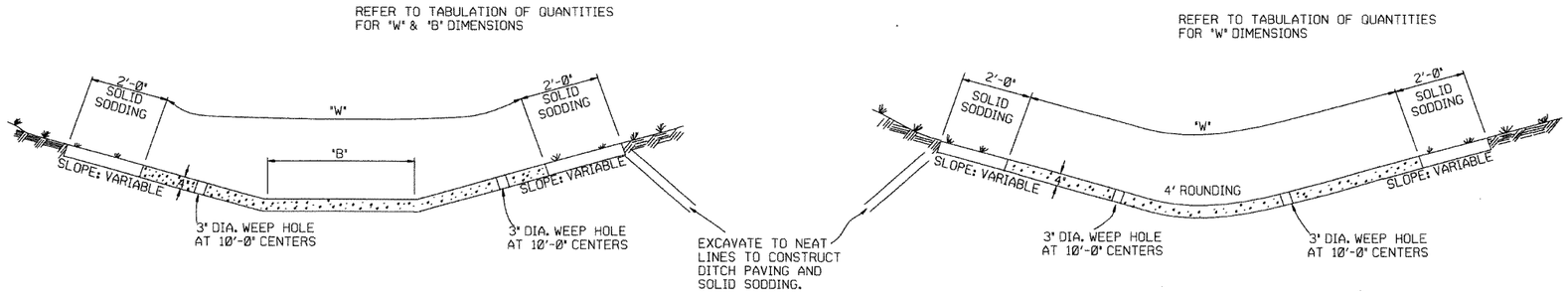
DETAILS OF CONCRETE RIPRAP AND MISC. DETAILS OF STEEL PILING

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

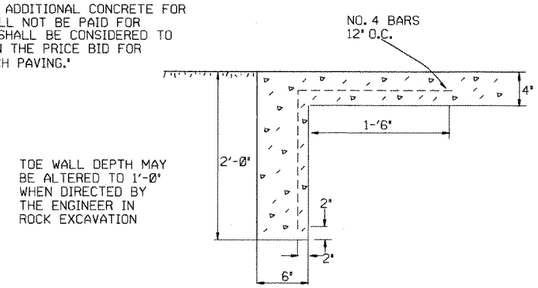
DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI4995A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: No Scale or As Noted
DESIGNED BY: STD. DATE: —
BRIDGE NO. DRAWING NO. 14995A



TYPE A

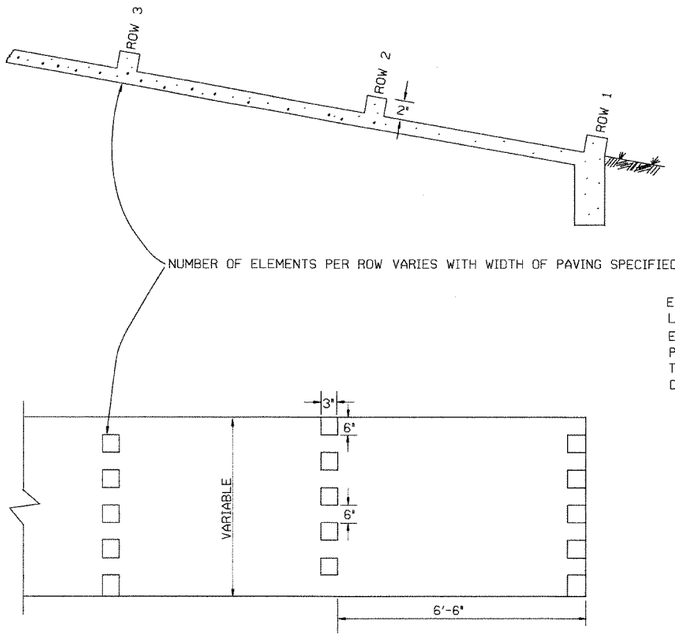
TYPE B

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



TOE WALL 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.

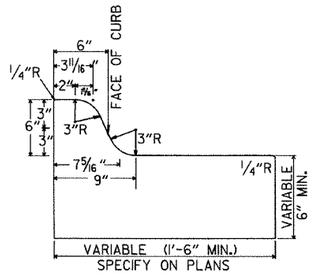
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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 ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

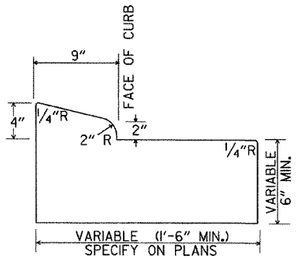
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

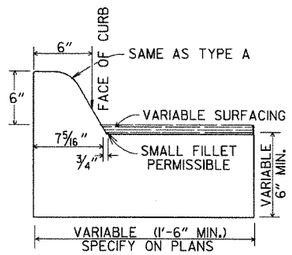
STANDARD DRAWING CDP-1



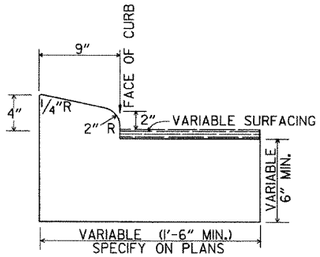
TYPE A



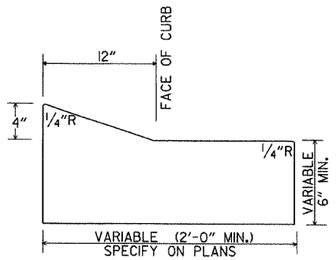
TYPE B-1



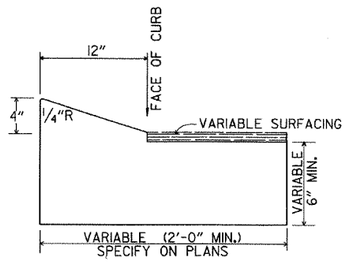
TYPE C



TYPE B-2

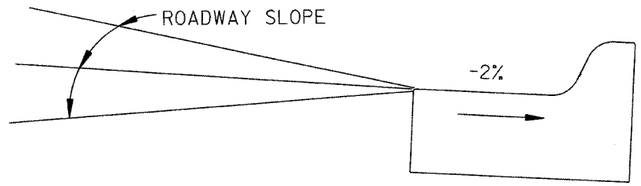


TYPE E-1



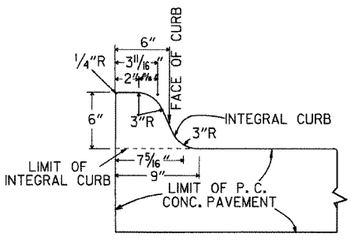
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

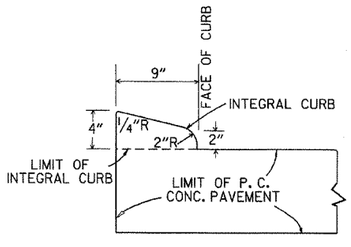


DETAIL OF GUTTER SLOPE

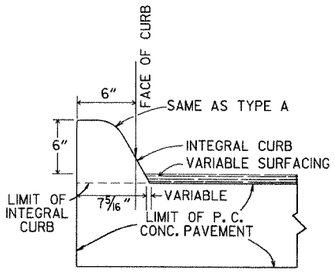
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

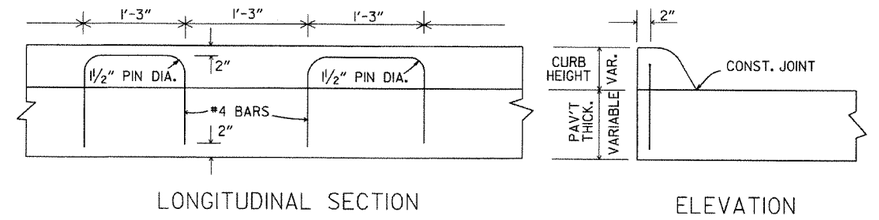


TYPE B

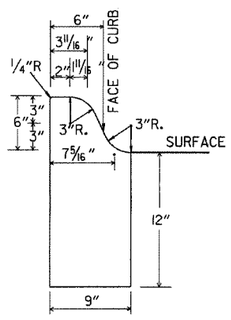


TYPE C

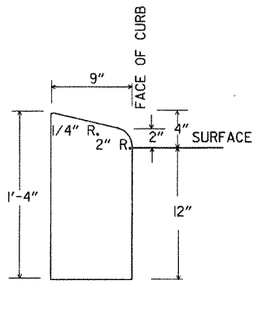
INTEGRAL CURB



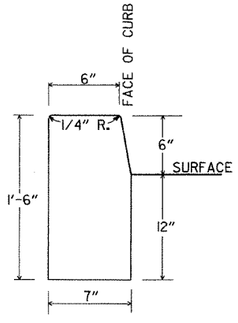
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



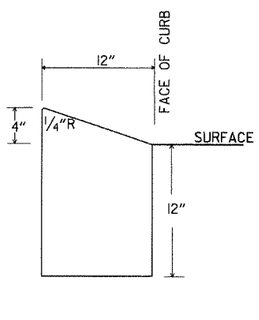
TYPE A



TYPE B

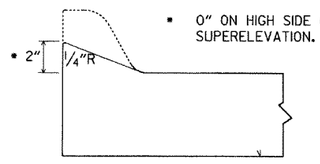


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

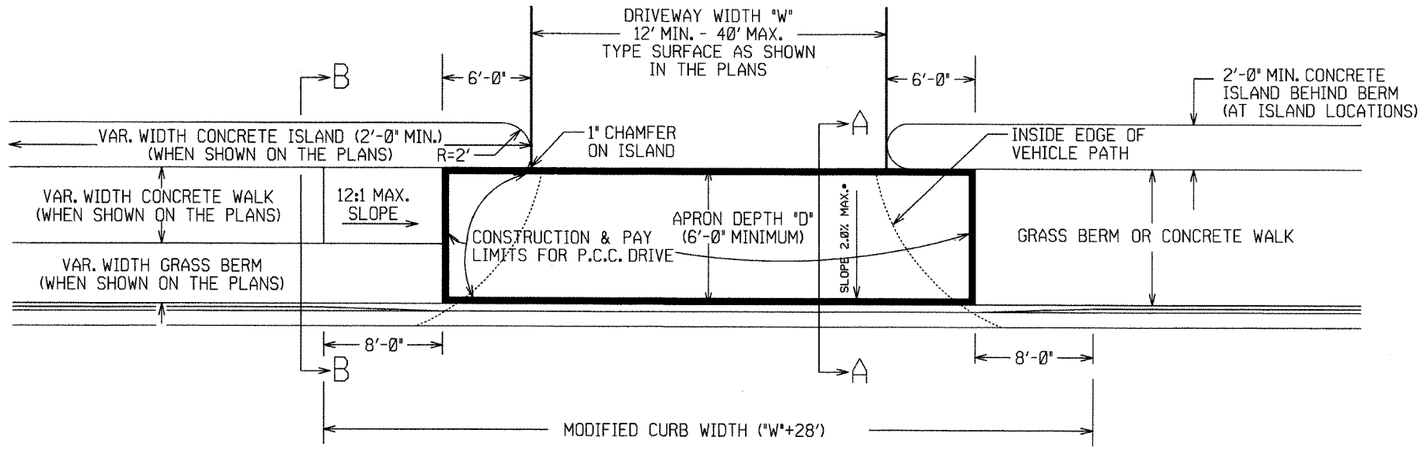
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B 1	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

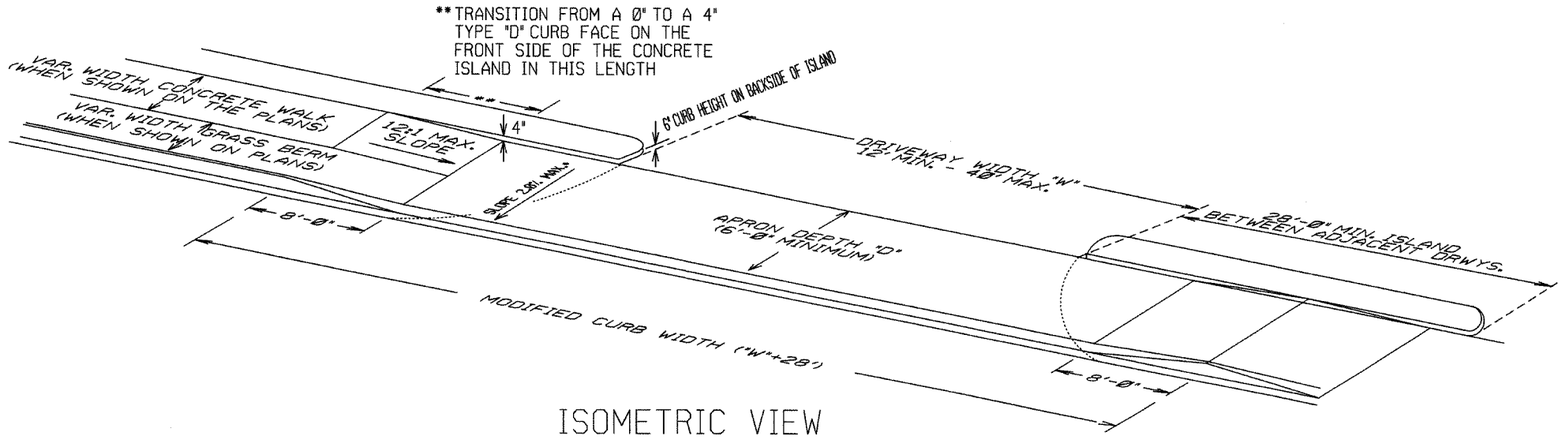
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

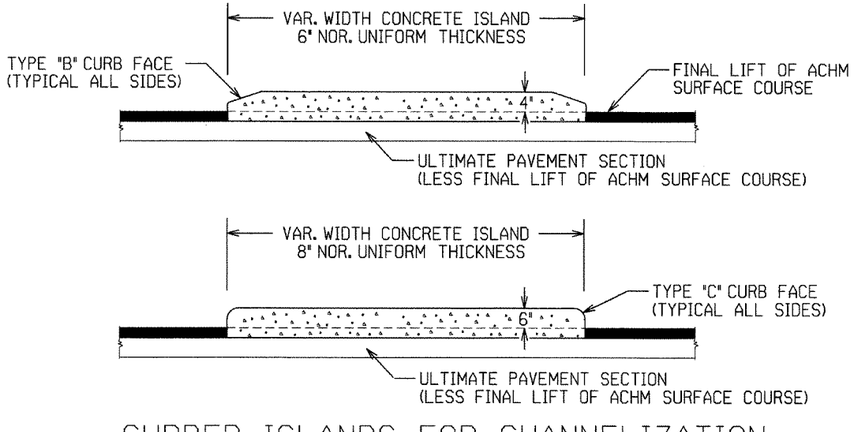
STANDARD DRAWING CG-1



PLAN VIEW

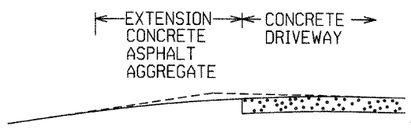


ISOMETRIC VIEW



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

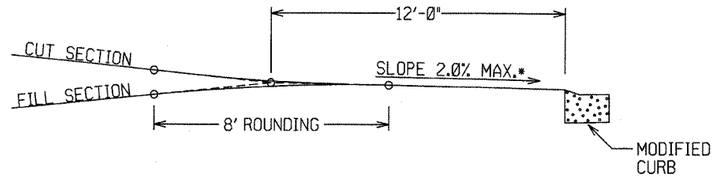
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

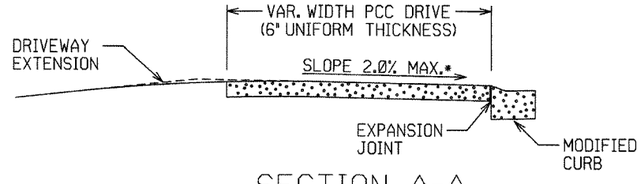
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

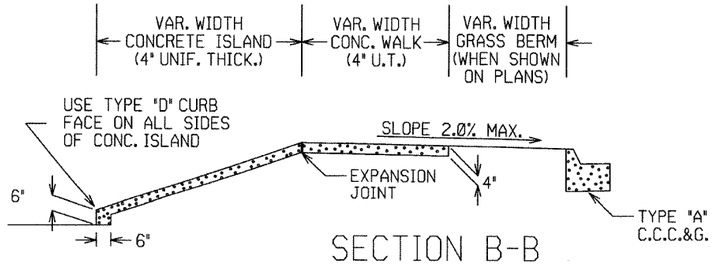


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



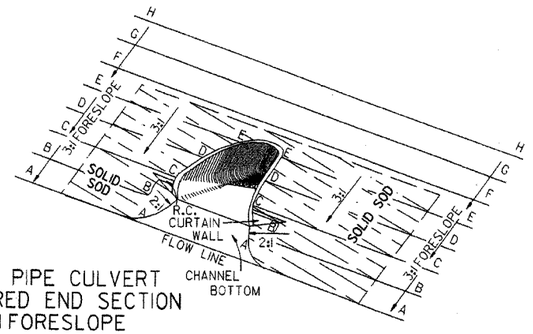
SECTION A-A



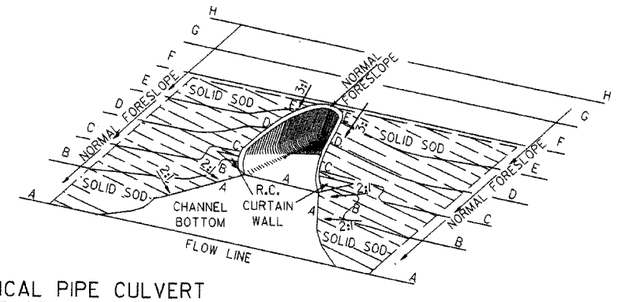
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
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

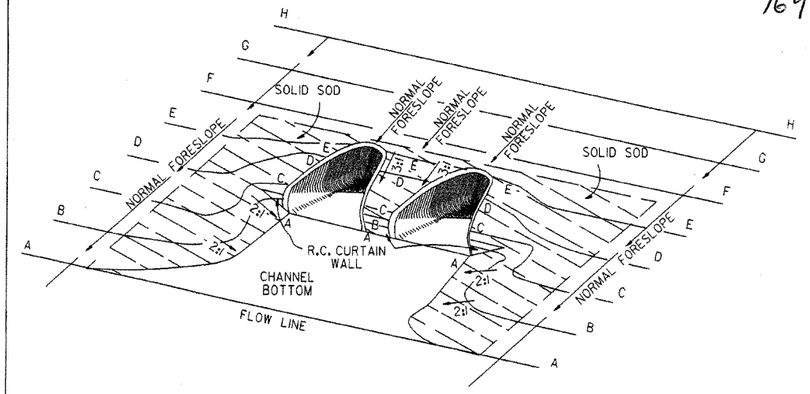
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

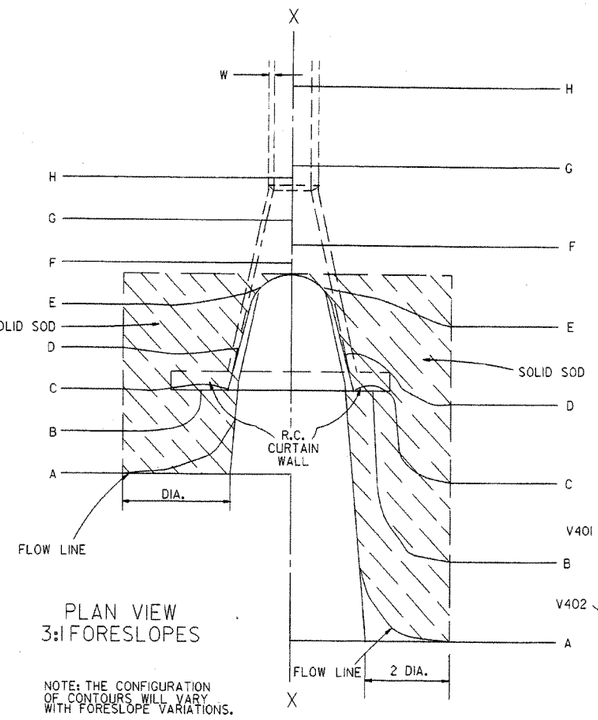
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0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

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

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	V401 L	NO.	V402 L	NO.	DOUBLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	H403 L	NO.	V401 L	NO.	V402 L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

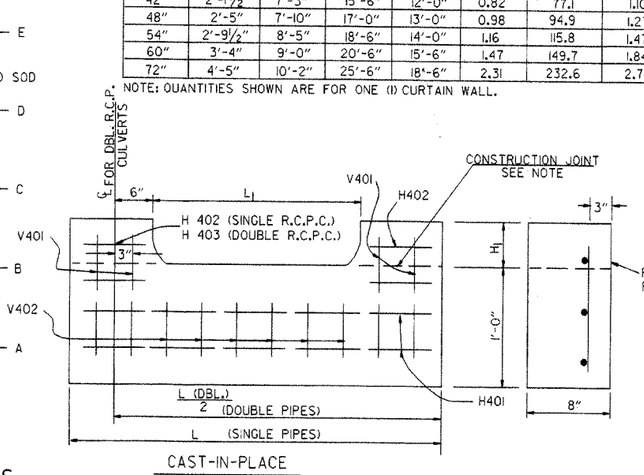
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

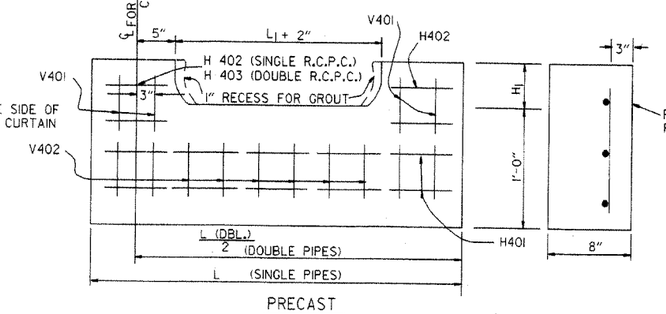
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

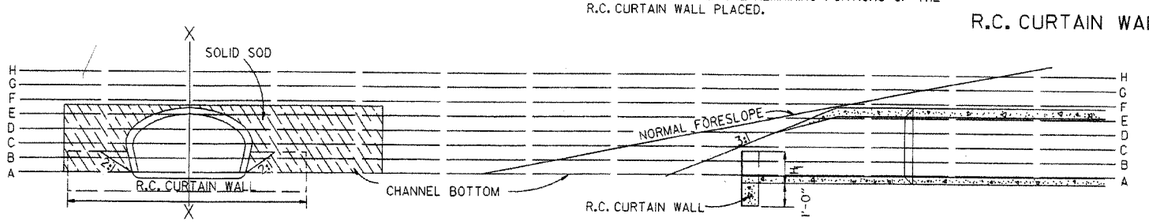
SOLID SODDING

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

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

GENERAL NOTES

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



END VIEW

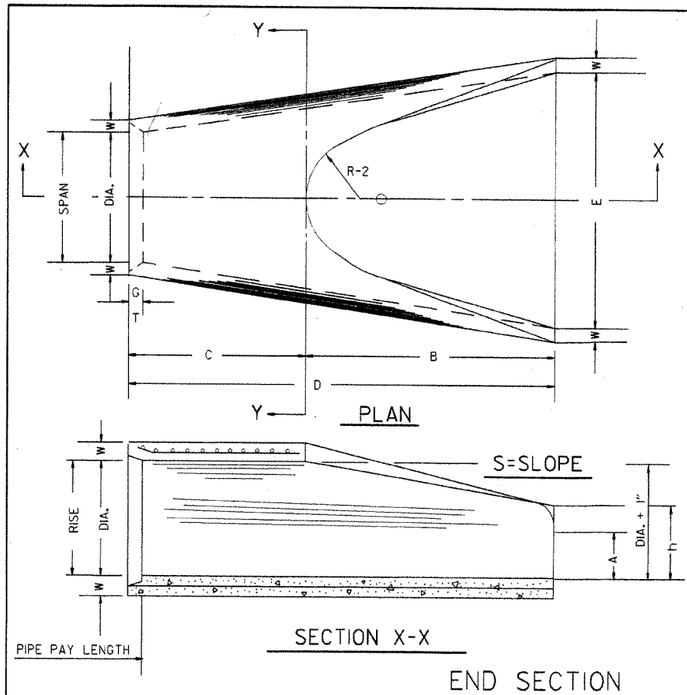
SECTIONAL VIEW "X-X"

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

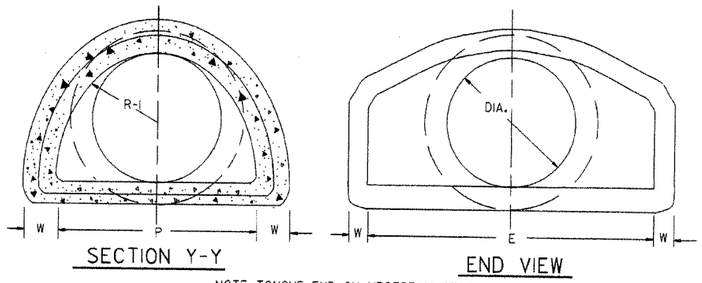
STANDARD DRAWING FES-1



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. ± 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-11½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47 11/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅜"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-0"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 13/16"	24"	5"	13250	4'-6"

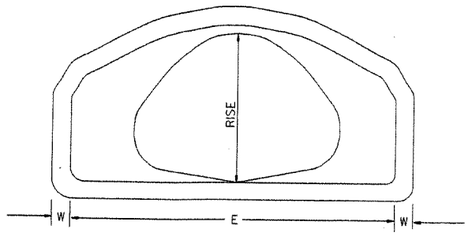


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

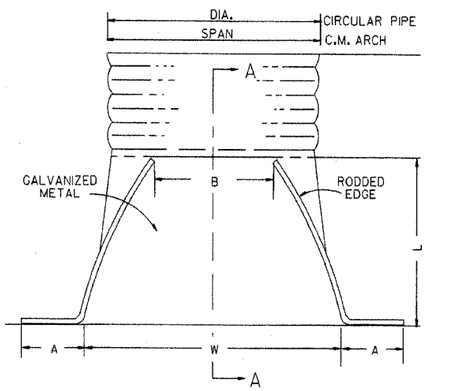
ARCH PIPE

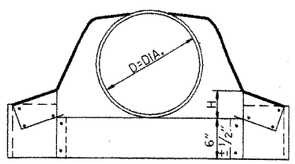
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 11/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 13/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2¼:1

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

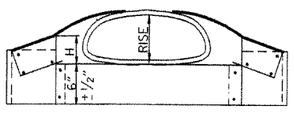


END VIEW
CONCRETE ARCH PIPE





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

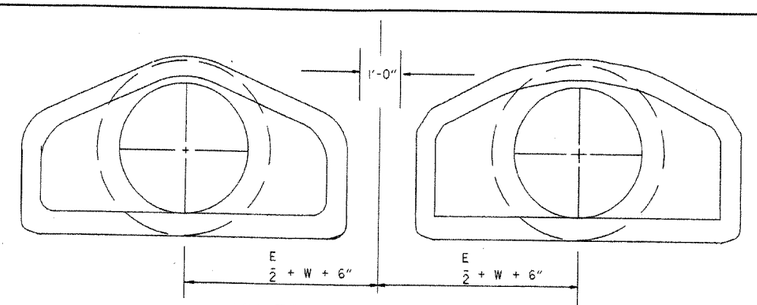
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

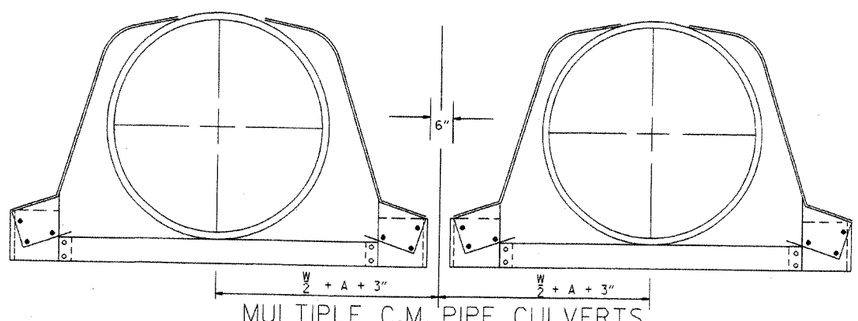
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12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

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



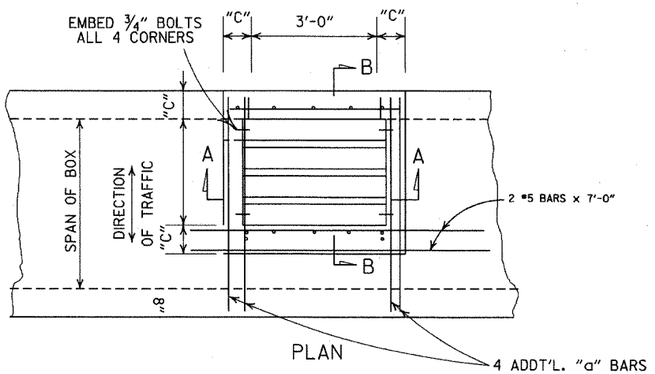
MULTIPLE C.M. PIPE CULVERTS

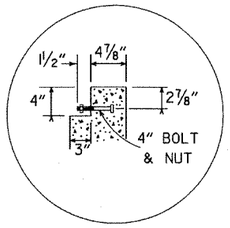
DATE	REVISION	FILE NO.
10-18-96	REVISED ASTM REF. TO AASHTO	16-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
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

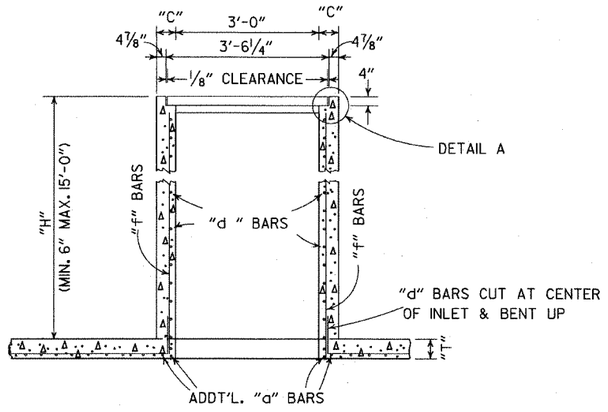
FLARED END SECTION

STANDARD DRAWING FES-2

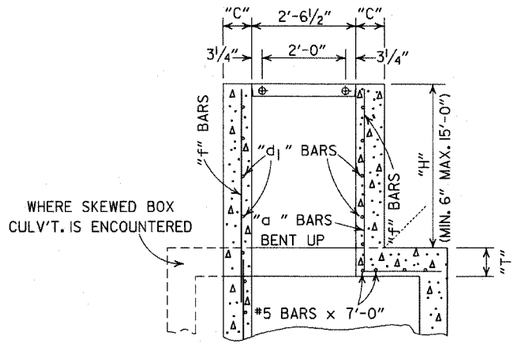




DETAIL A



SECTION A-A

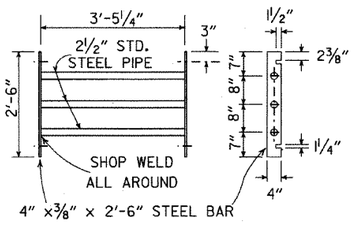


SECTION B-B

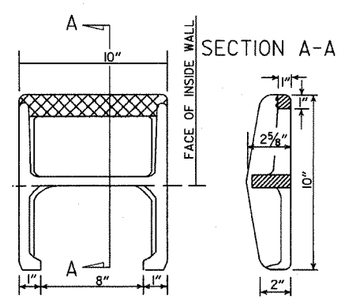
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM" FOR REINFORCED CONC. BOX CULVERTS



GRATE DETAIL



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

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

DETAIL OF STEP FOR DROP INLET

GENERAL NOTES:

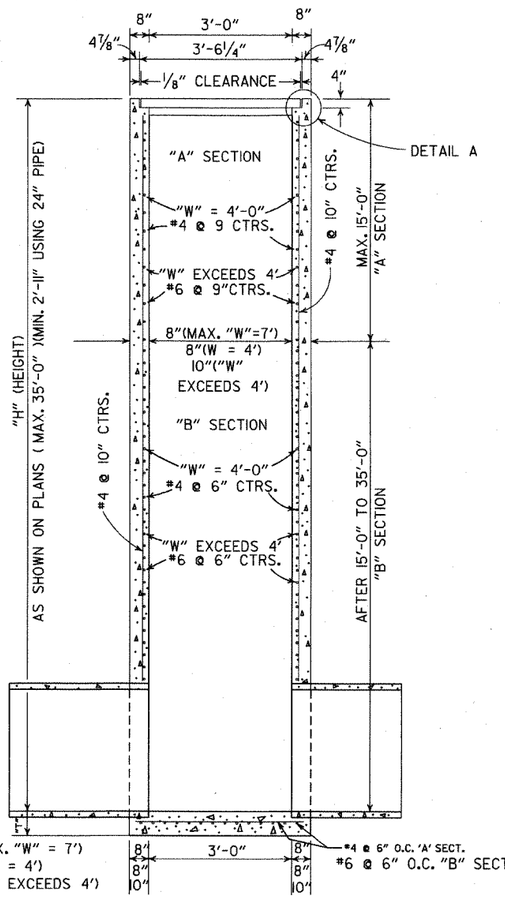
1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TABLE OF "W" DIMENSIONS

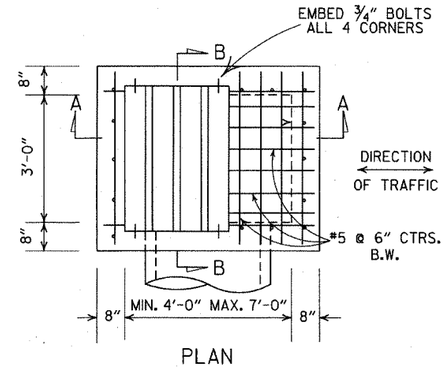
I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.

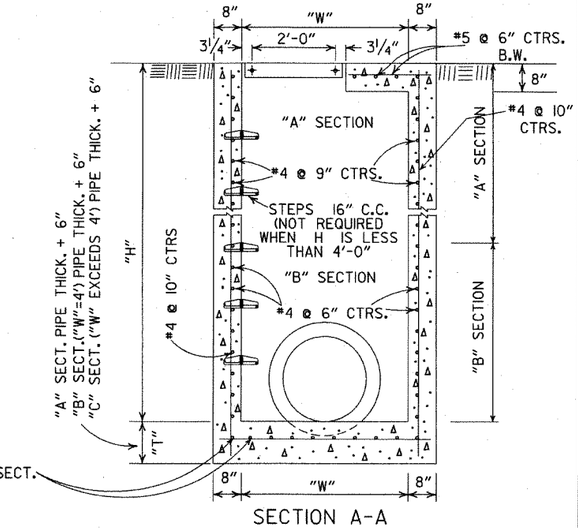
171



SECTION B-B



PLAN



SECTION A-A

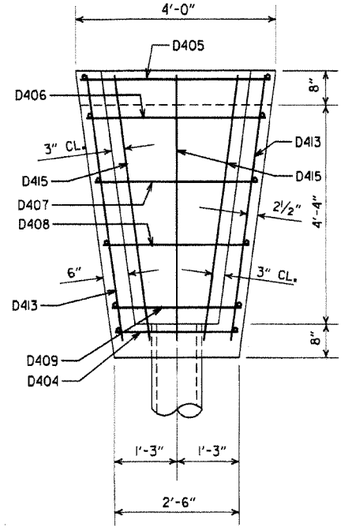
DROP INLET(TYPE RM)

REVISED		DATE FILMED
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72

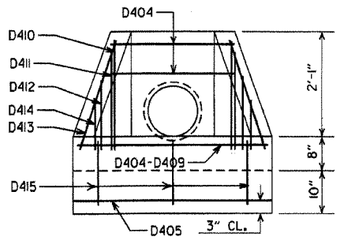
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

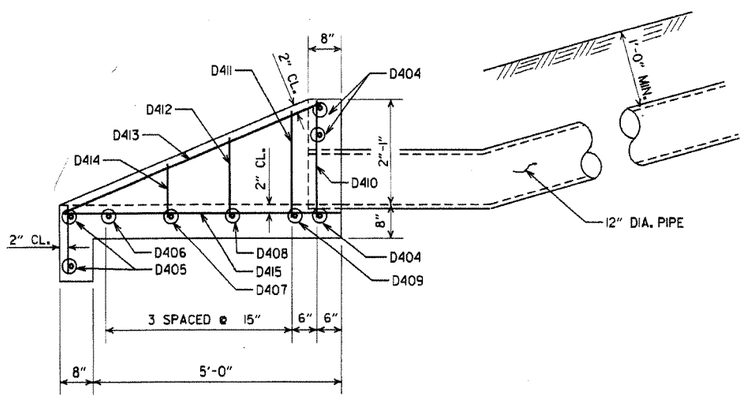
STANDARD DRAWING FPC-9D



PLAN



FRONT ELEVATION

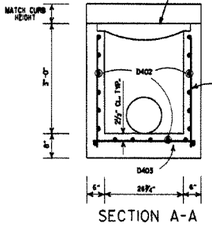


SIDE ELEVATION
CONCRETE SPILLWAY

DETAILS OF CONCRETE SPILLWAY (TYPE A)

BAR LIST (CONCRETE SPILLWAY)

MARK	NO. REQ'D.	LENGTH	BENDING DIAGRAM
D404	3	2'-2"	
D405	2	3'-8"	
D406	1	3'-5"	
D407	1	3'-1"	
D408	1	2'-9"	
D409	1	2'-5"	
D410	2	2'-5"	
D411	2	2'-2"	
D412	2	1'-9"	
D413	2	5'-6"	
D414	2	1'-2"	
D415	3	6'-5"	

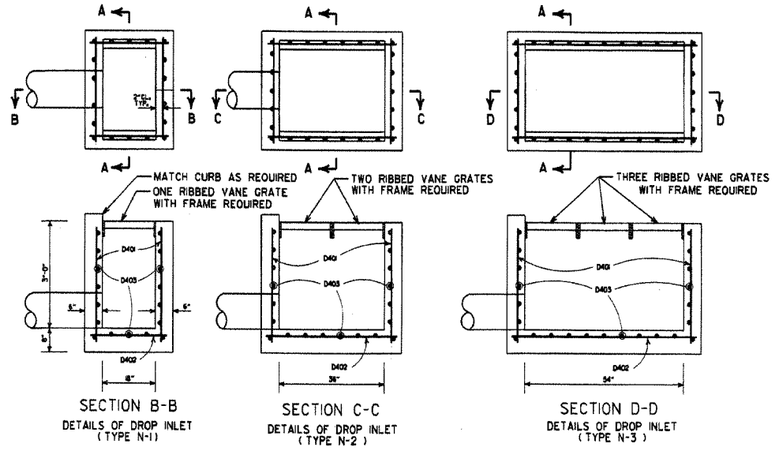


SECTION A-A

BAR LIST (DROP INLET)

MARK	TYPE N-1		TYPE N-2		TYPE N-3	
	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
D401	20	3'-0"	26	3'-0"	32	3'-0"
D402	19	2'-2"	19	3'-8"	19	5'-2"
D403	17	2'-11"	20	2'-11"	23	2'-11"

ALL BARS #4 @ 6" SPACING



SECTION B-B
DETAILS OF DROP INLET
(TYPE N-1)

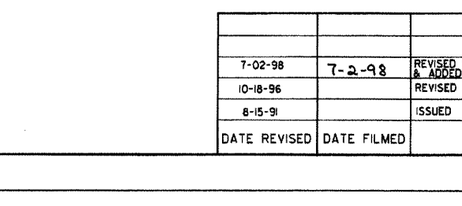
SECTION C-C
DETAILS OF DROP INLET
(TYPE N-2)

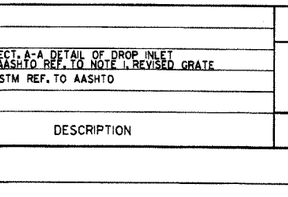
SECTION D-D
DETAILS OF DROP INLET
(TYPE N-3)

DETAILS OF DROP INLET

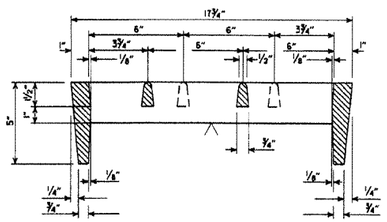
GENERAL NOTES (GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.

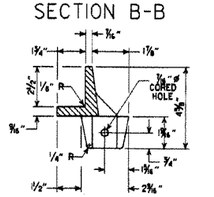




SECTION A-A



SECTION B-B

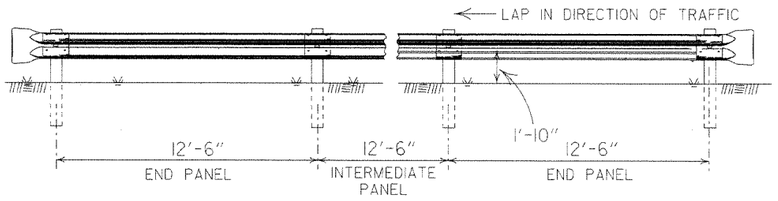


SECTION THRU FRAME

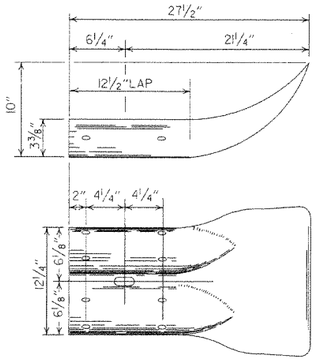
DETAILS OF RIBBED VANE GRATE AND FRAME

			ARKANSAS STATE HIGHWAY COMMISSION
			DETAILS OF DROP INLETS AND SPILLWAY OUTLET
7-02-98	7-2-98	REVISED SECT. A-A DETAIL OF DROP INLET & ADDED AASHTO REF. TO NOTE 1, REVISED GRATE	
10-18-96		REVISED ASTM REF. TO AASHTO	
8-15-91		ISSUED	STANDARD DRAWING FPC-9N
DATE REVISED	DATE FILMED	DESCRIPTION	

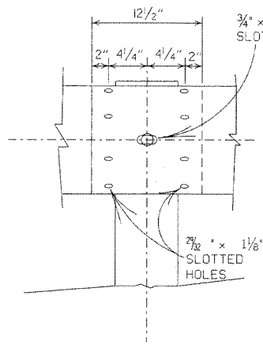
PLAN



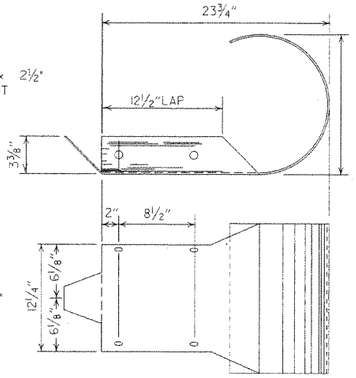
ELEVATION



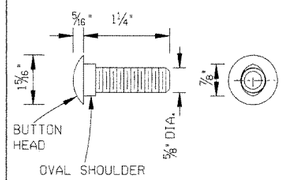
TERMINAL SECTION



RAIL SPLICE

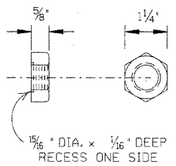


TERMINAL SECTION

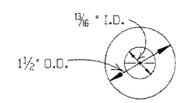


SPLICE BOLT

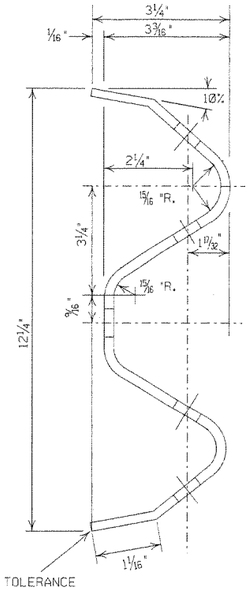
NOTE: POST BOLT SAME EXCEPT LENGTH.



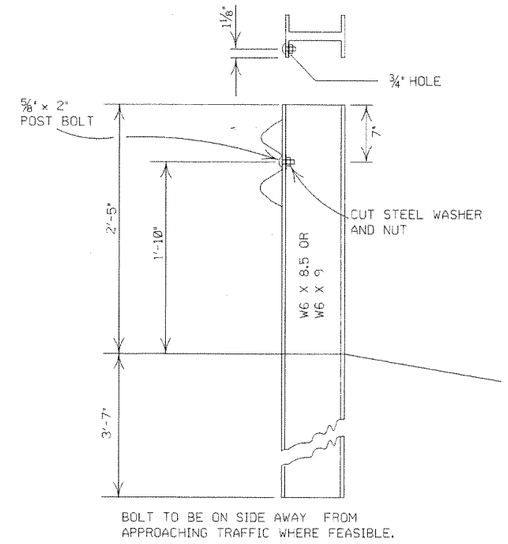
NUT



CUT STEEL WASHER

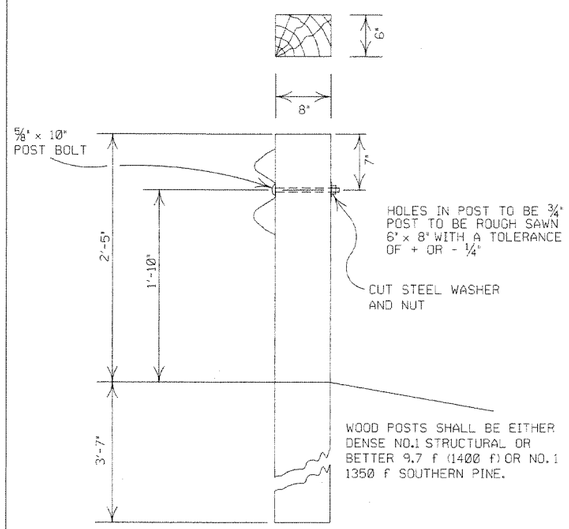


SECTION THRU RAIL



BOLT TO BE ON SIDE AWAY FROM APPROACHING TRAFFIC WHERE FEASIBLE.

STEEL POST



WOOD POST

DETAILS OF POST CONNECTIONS

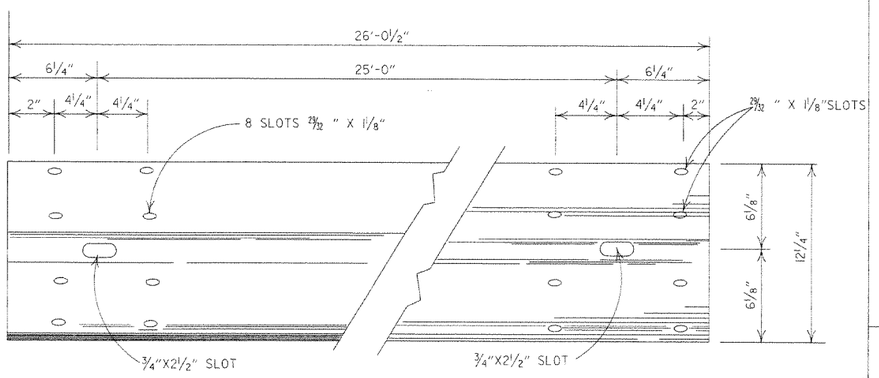
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
8-22-22	REVISED DIMENSION ON STEEL POST	
11-16-01	REVISED STEEL AND WOOD POST	
8-12-98	REMOVED CONCRETE POST	
10-18-96	CHANGED WOOD POST NOTE	10-18-96
6-2-94	ADDED ALTERNATE STEEL POST SIZE	
8-5-93	REVISED STEEL POSTS SIZE	8-5-93
8-15-91	DELETE STEEL PLATE WASHER & ADDED TYPE C TO TITLE	8-15-91
10-30-87	REMOVED DET. PLCMNT. ON HWY.	555-11-20-87
1-4-83	GRADE FOR WOOD POSTS	679-1-4-83
10-1-77	HARDENED WASHER	922-10-1-72
10-2-72	REVISED & REDRAWN	521-10-2-72

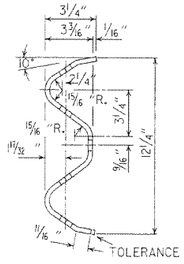
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS (TYPE C)

STREET / ROAD BARRICADE OR TEMPORARY INSTALLATION

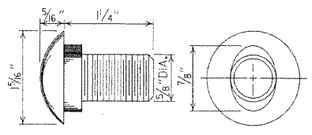
STANDARD DRAWING GR-7



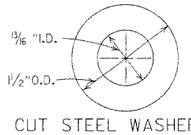


DETAILS OF W-BEAM GUARD RAIL

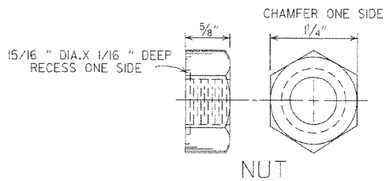
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



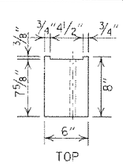
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



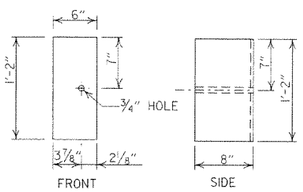
CUT STEEL WASHER



NUT



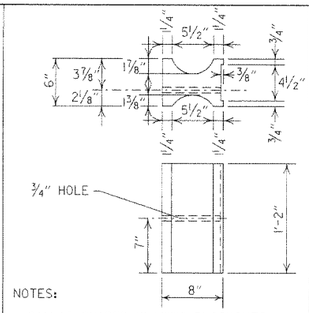
TOP



FRONT SIDE

WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

WOOD BLOCKOUT (W-BEAM)

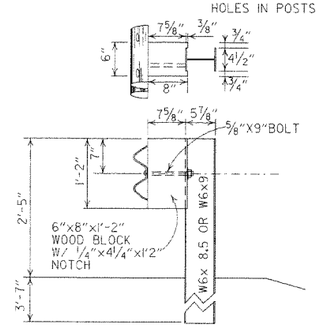


NOTES:

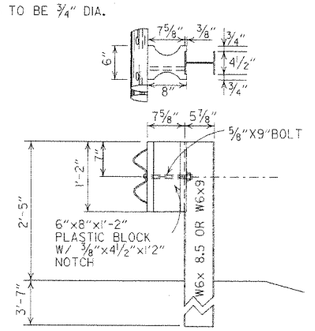
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

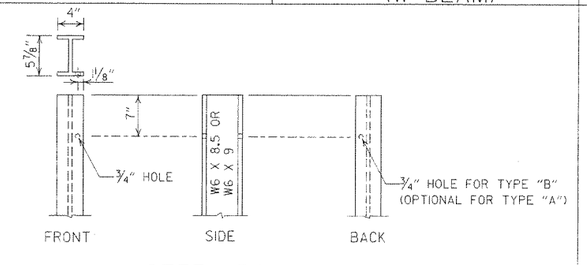


WOOD BLOCKOUT CONNECTIONS

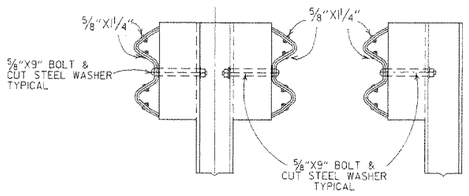


PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

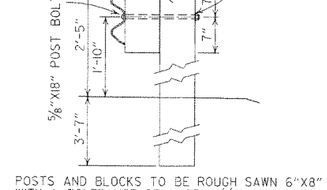
USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

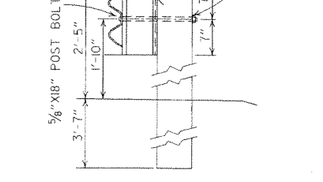
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

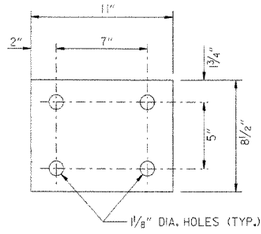
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

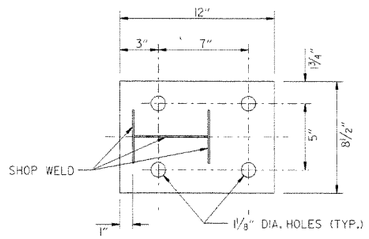
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8

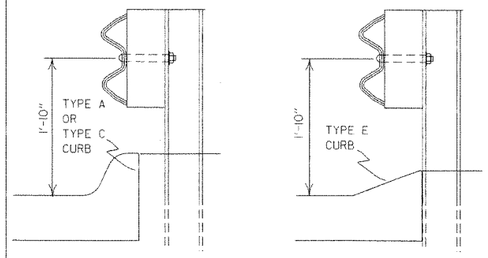


WASHER PLATE



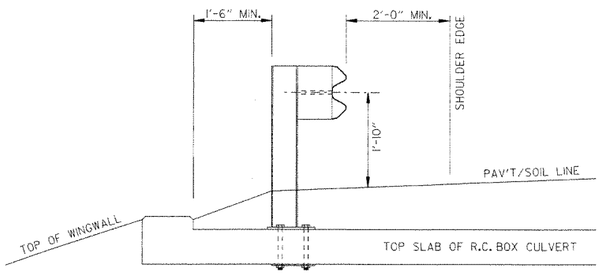
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

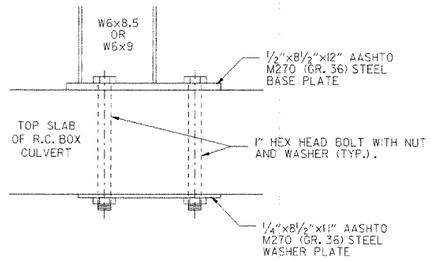


DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

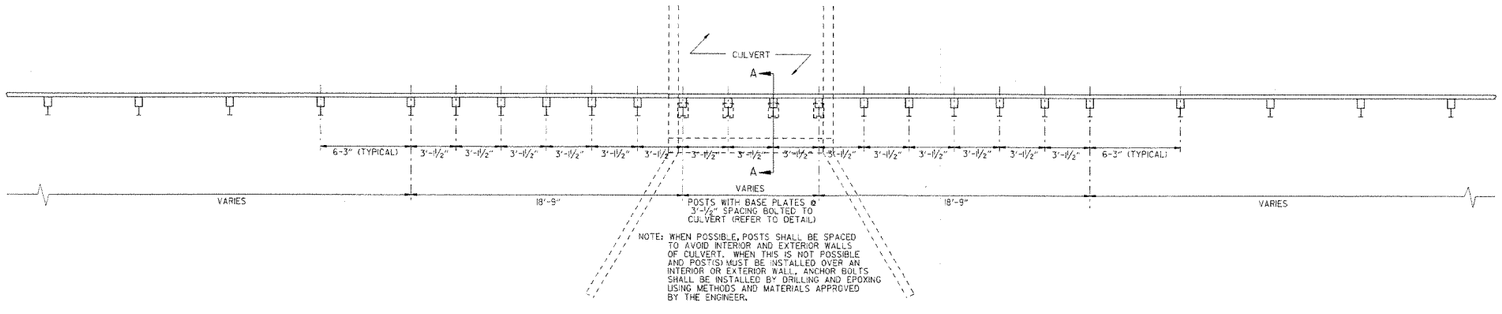
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CC-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



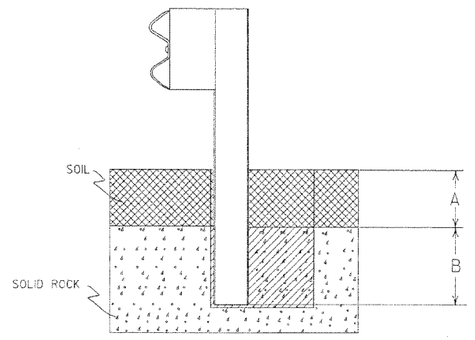
DETAIL OF CONNECTION



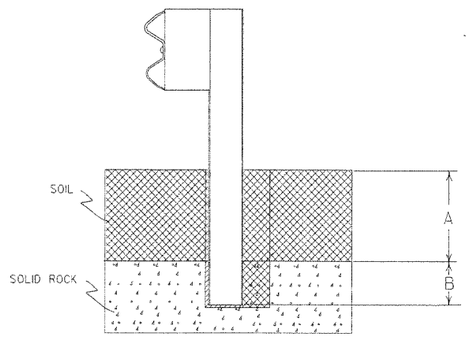
PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DWG. GR-8.

Case 1

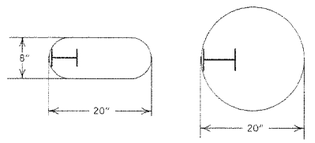


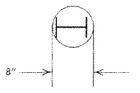
Case 2



Plan View Steel Posts

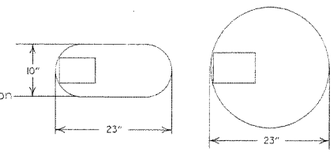
Either hole configuration acceptable





Plan View Wood Posts

Either hole configuration acceptable



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)

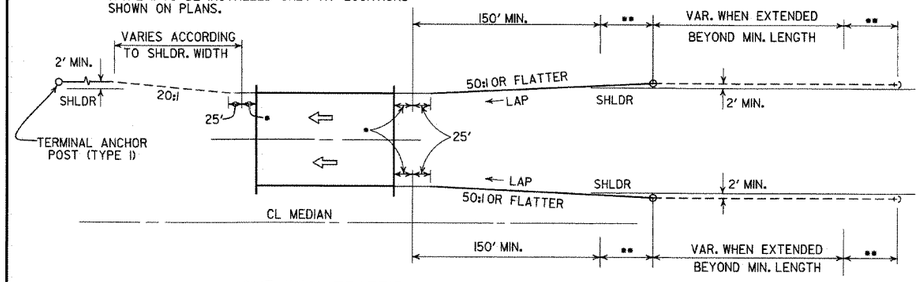
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULVT. DELETED DET. OF STEEL LINE POST CONN.& ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-5-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
7-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

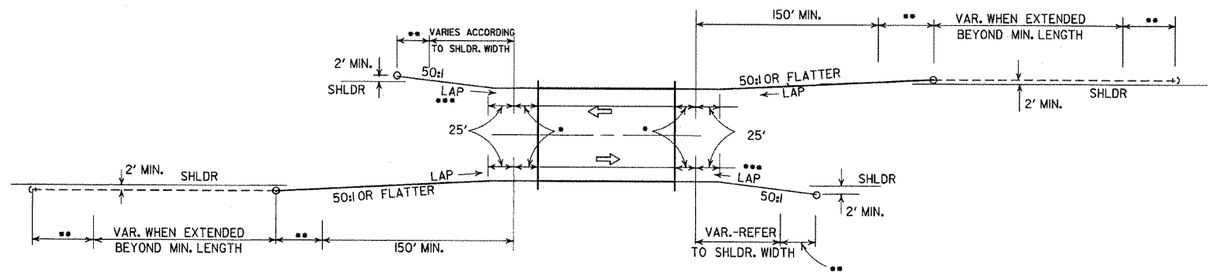
STANDARD DRAWING GR-8A

NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

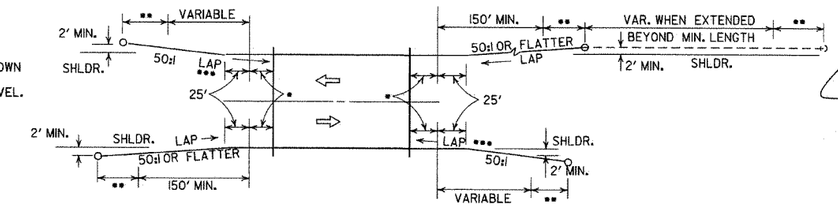
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

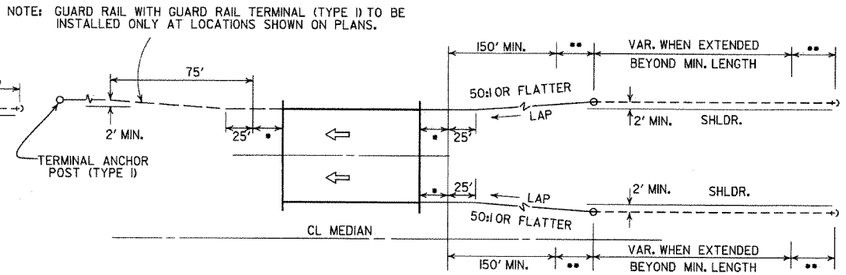
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

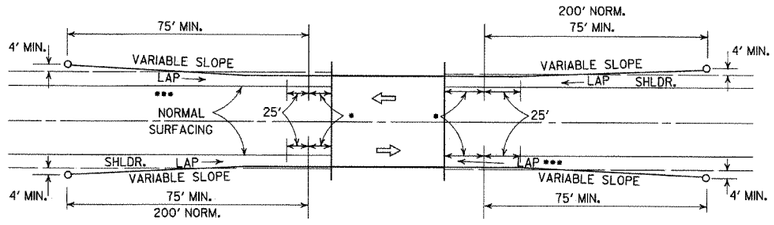
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

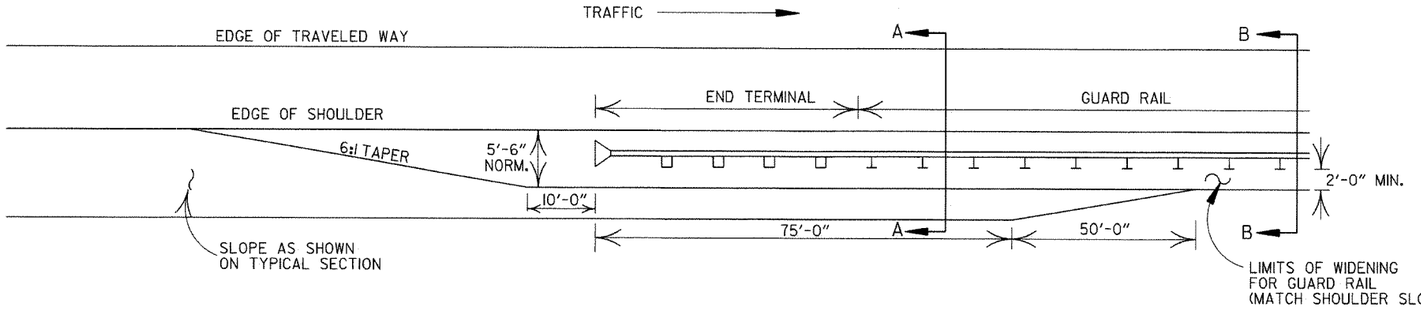
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

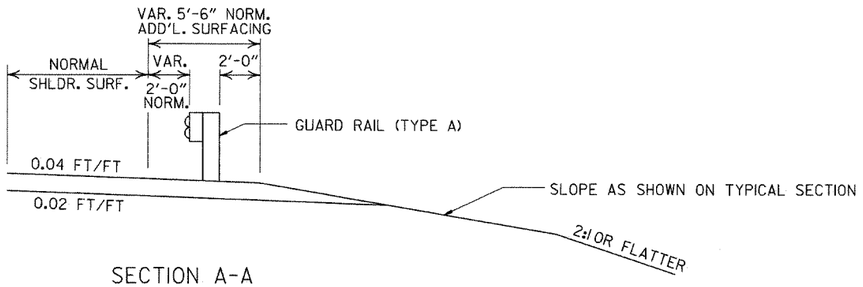
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

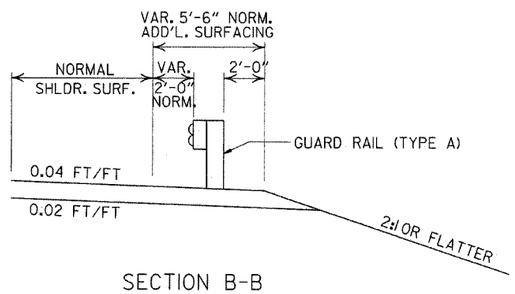
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





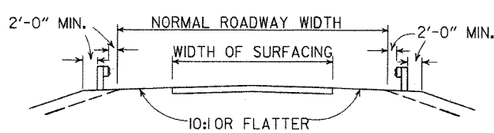
SECTION A-A



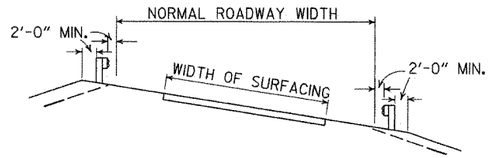
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

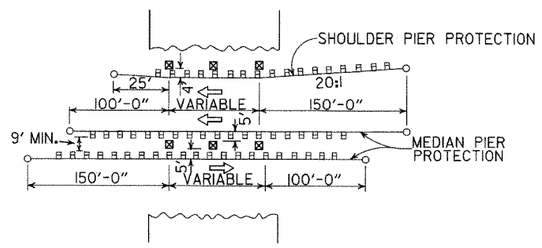


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



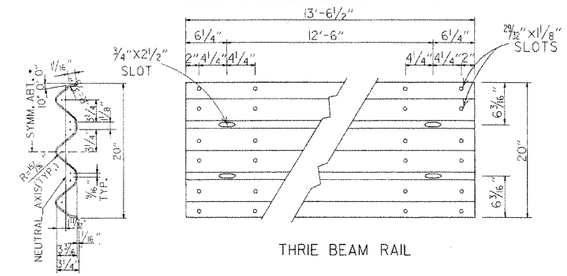
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

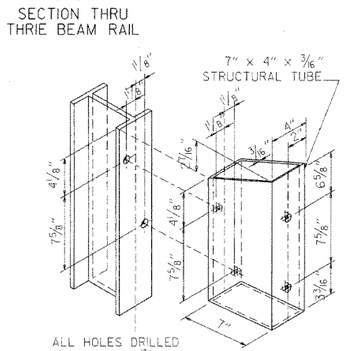
ARKANSAS STATE HIGHWAY COMMISSION

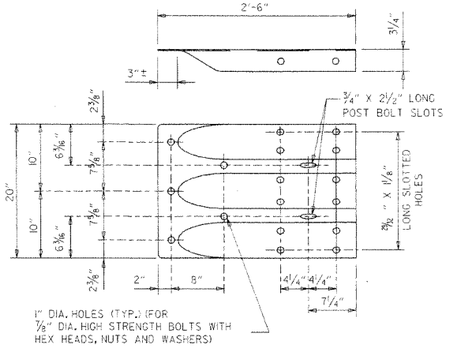
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A



THRIE BEAM RAIL





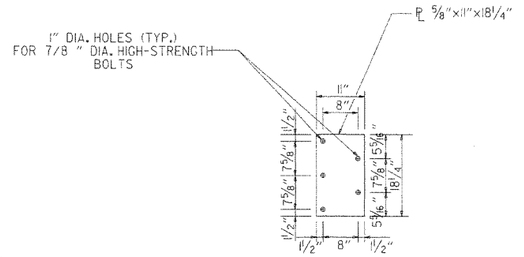
1" DIA. HOLES (TYP.) (FOR ⅞" DIA. HIGH STRENGTH BOLTS WITH HEX HEADS, NUTS AND WASHERS)

SPECIAL END SHOE

ALL HOLES DRILLED OR PUNCHED ⅞" DIA.

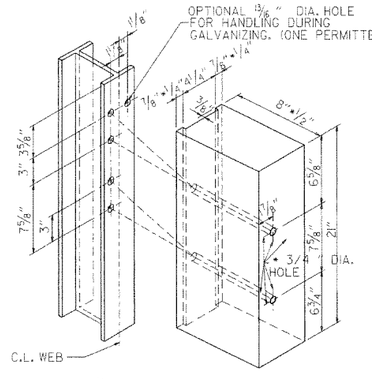
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.



CONNECTOR PLATE

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.



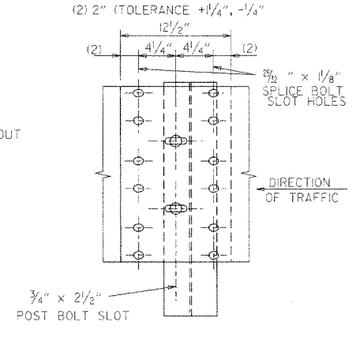
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

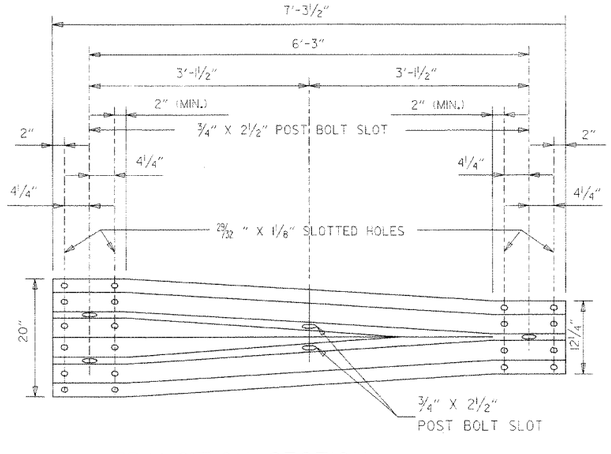
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.

CONNECTOR PLATE

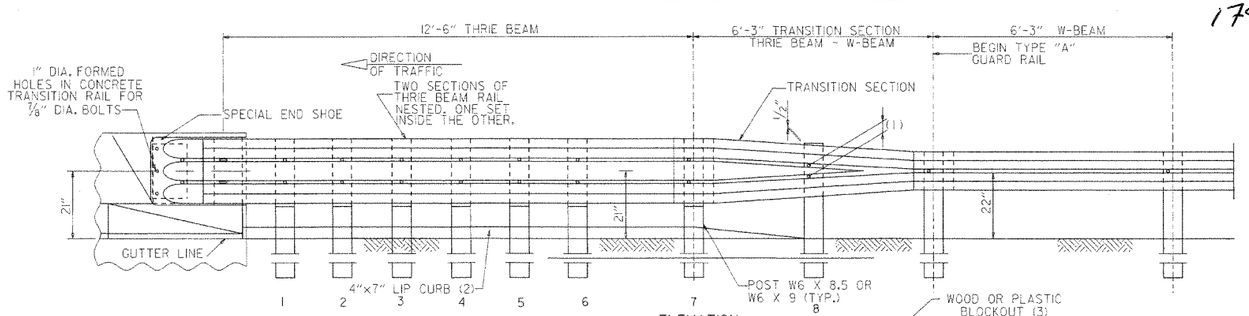
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



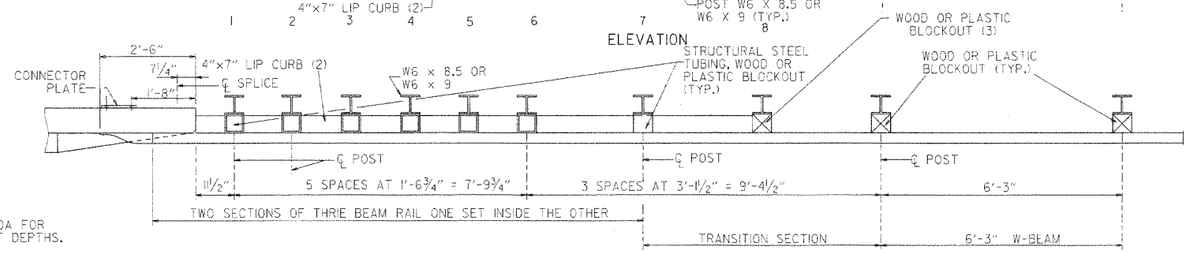
THRIE BEAM RAIL SPLICE AT POST



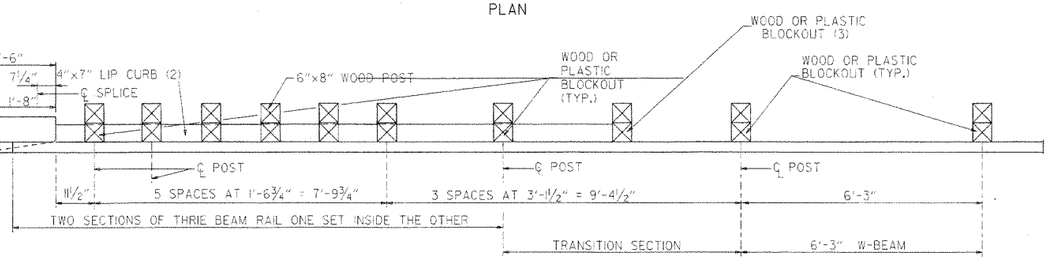
TRANSITION SECTION



ELEVATION



PLAN



PLAN

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

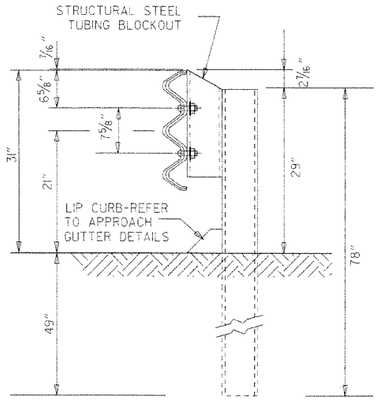
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

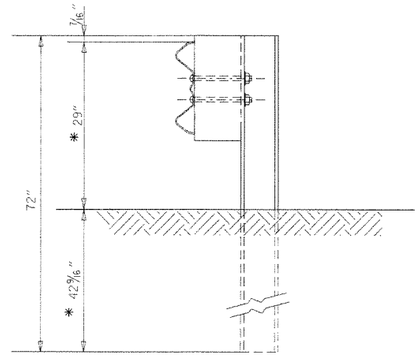
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

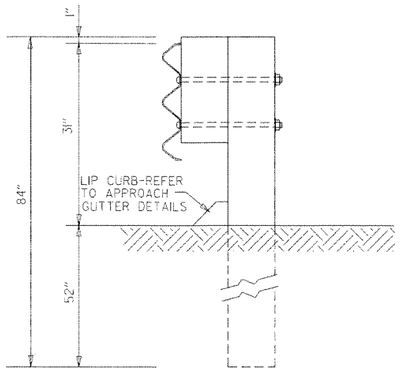


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

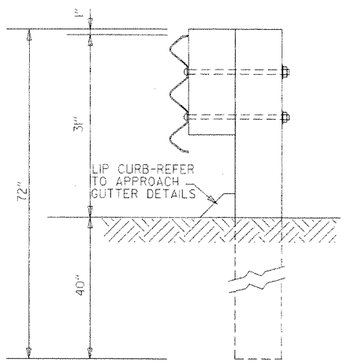


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

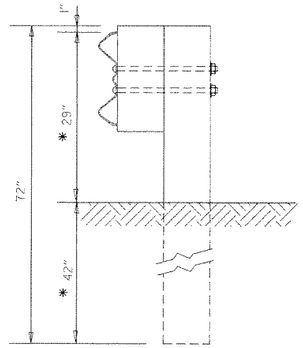
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

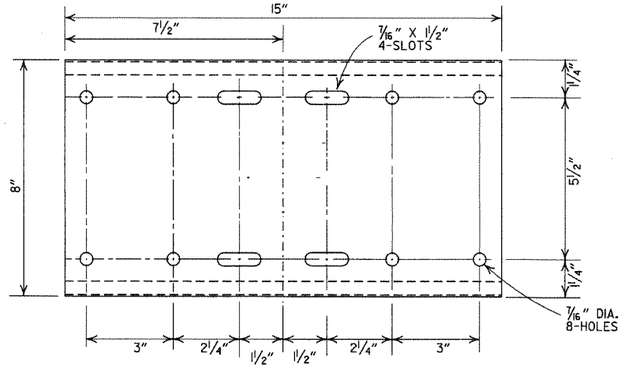
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

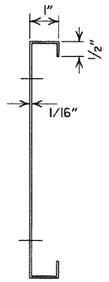
ARKANSAS STATE HIGHWAY COMMISSION

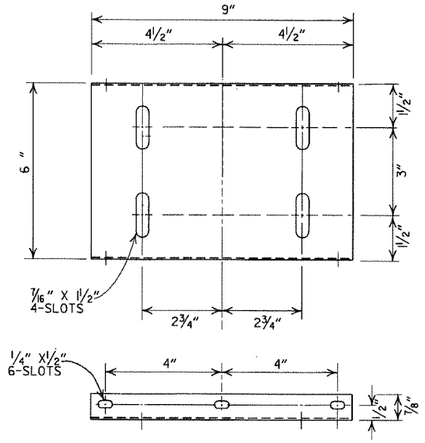
GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

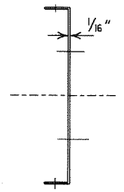


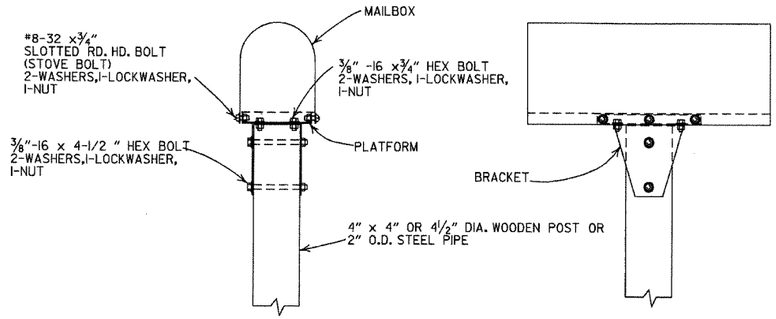
SHELF



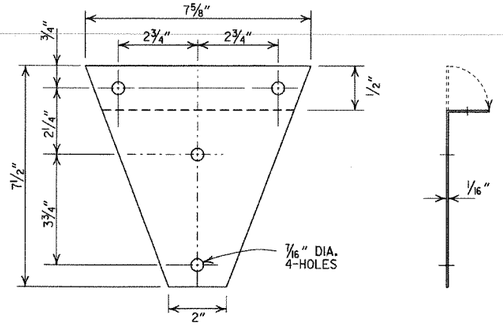


PLATFORM

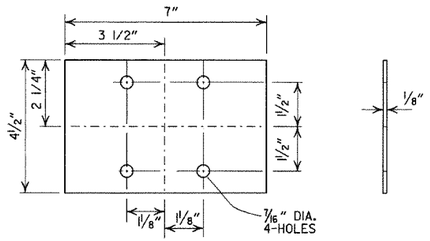




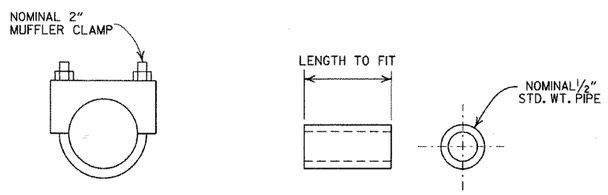
SINGLE INSTALLATION



BRACKET



ANTI-TWIST PLATE

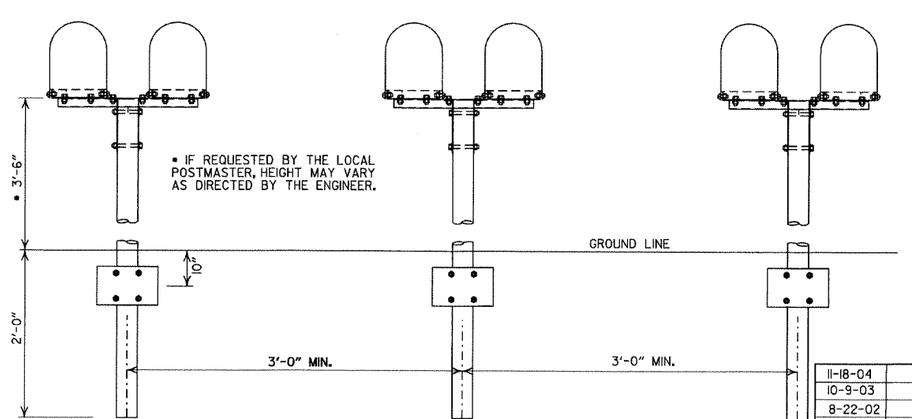


CLAMP

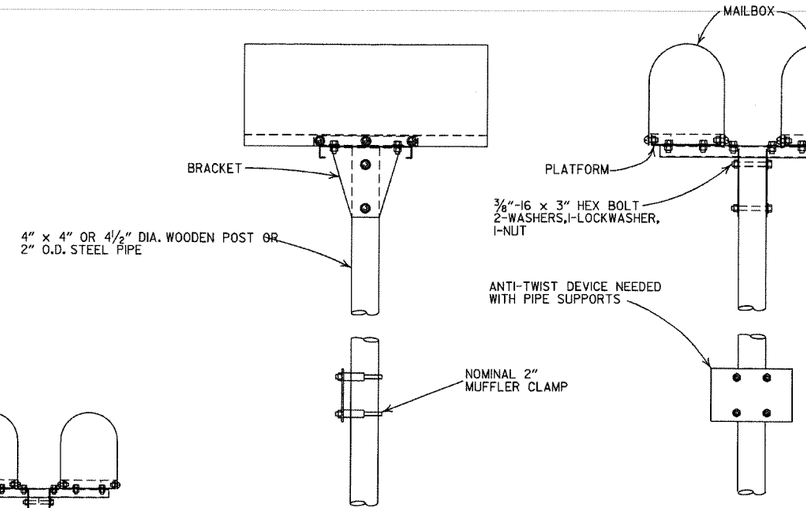
SPACER

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.



SPACING FOR MULTIPLE POST INSTALLATION



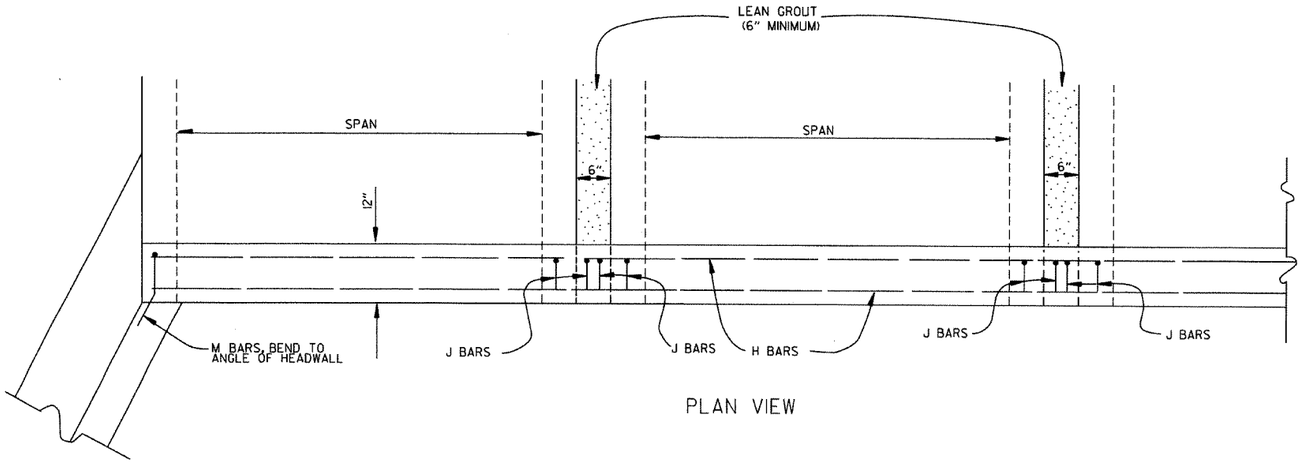
DOUBLE INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

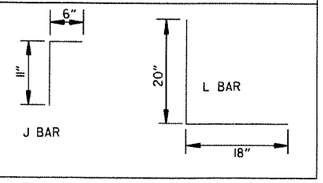
STANDARD DRAWING MB-1



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.

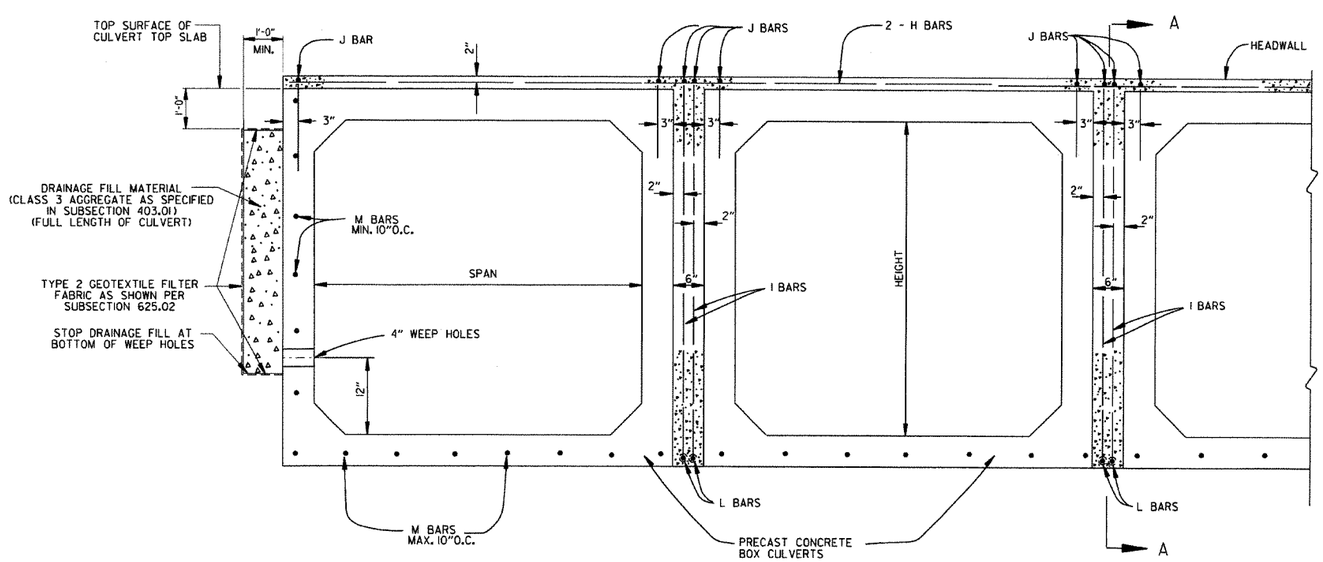
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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.

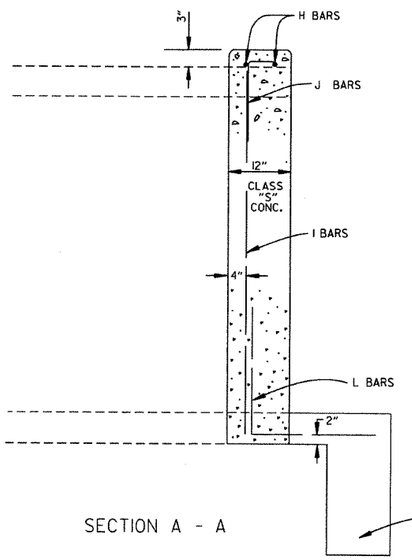
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

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.

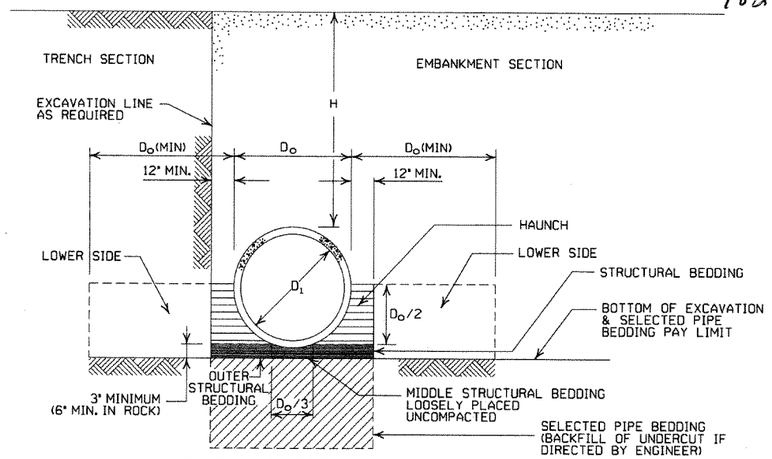
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

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

CORRUGATED ALUMINUM PIPE (ROUND)

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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			

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

CONSTRUCTION SEQUENCE

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

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

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

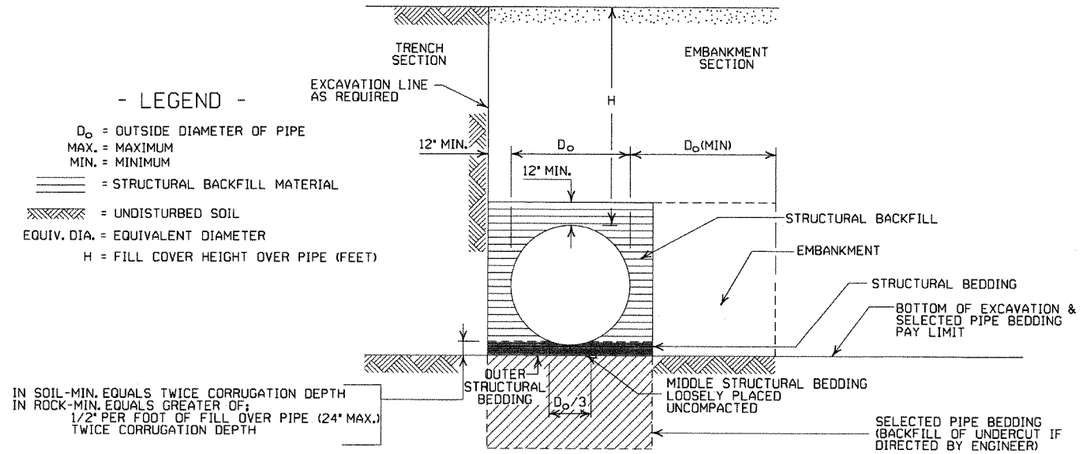
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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

- 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 (2003 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.

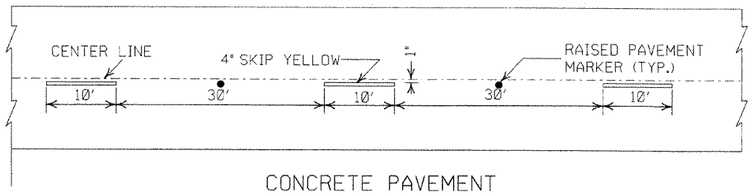
② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED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

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

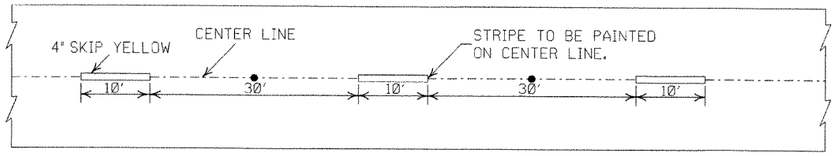
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

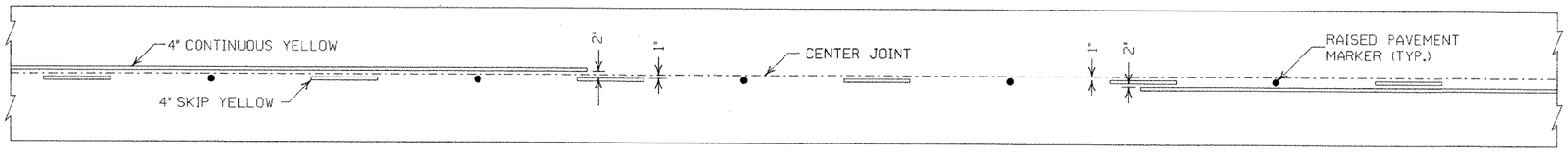


CONCRETE PAVEMENT

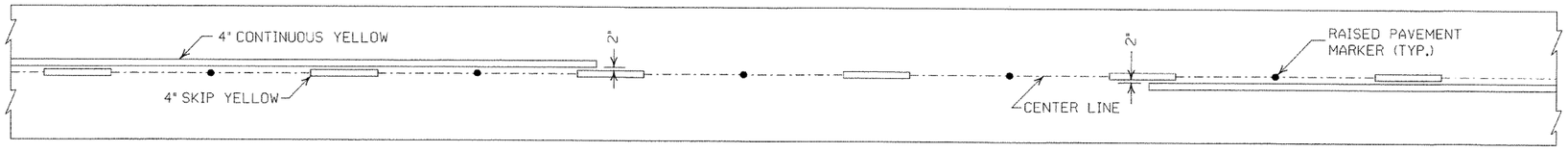


ASPHALT PAVEMENT

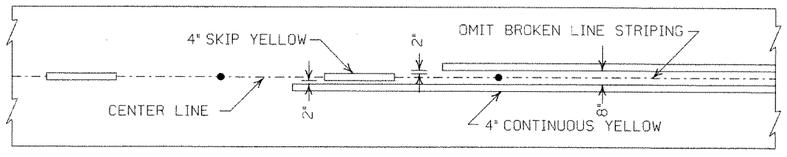
BROKEN LINE STRIPING



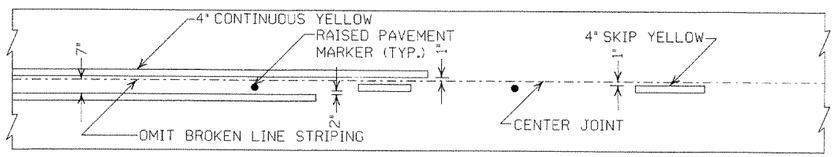
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



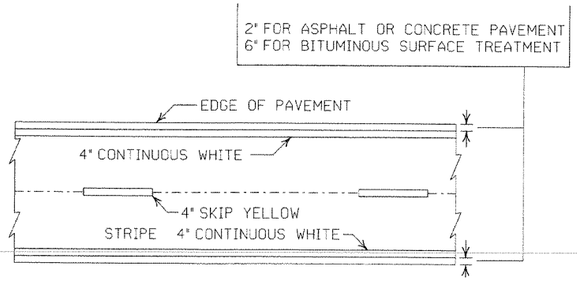
ASPHALT PAVEMENT



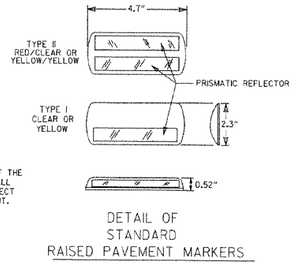
CONCRETE PAVEMENT

NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.'
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



PAVEMENT EDGE LINE MARKING



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

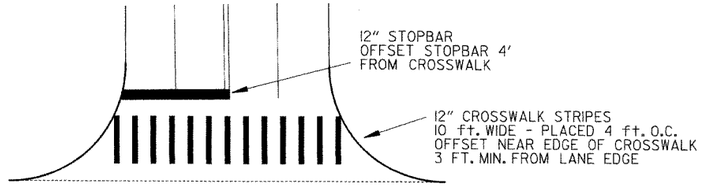
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:

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

STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS

DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

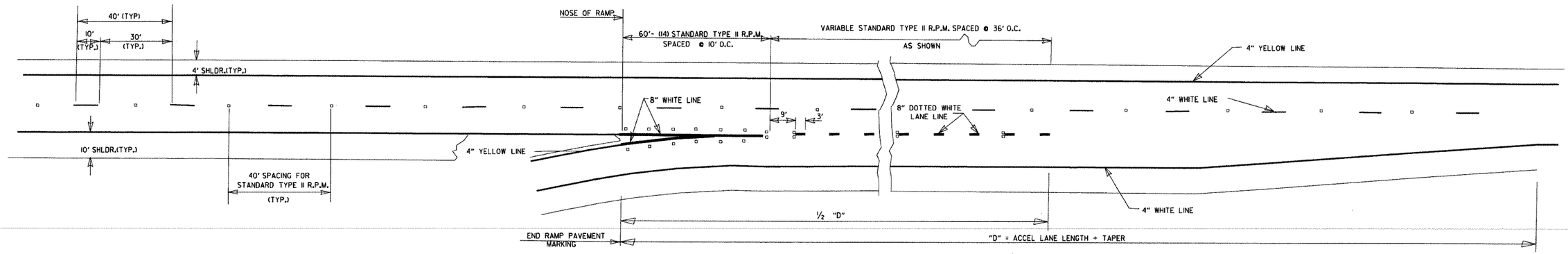
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

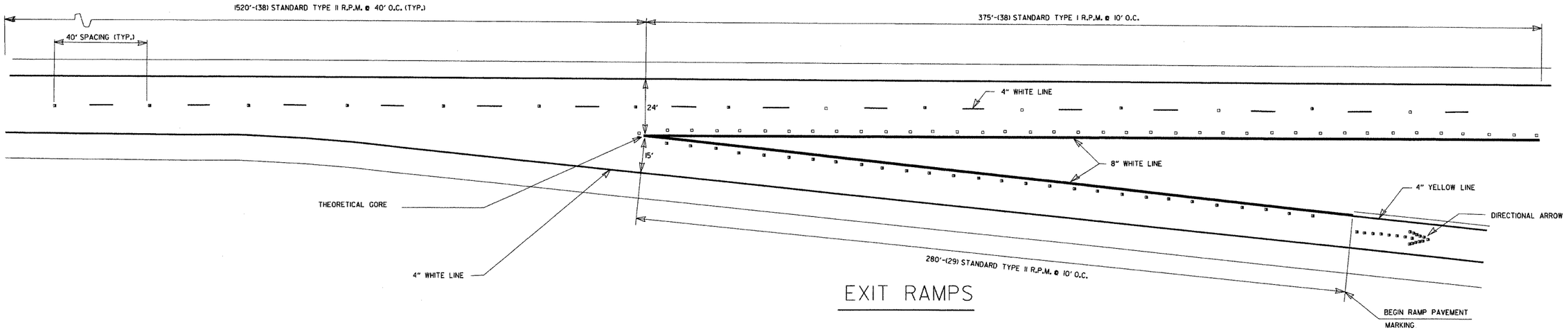
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

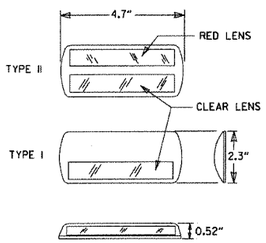
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

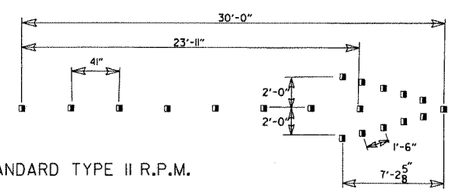


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



(19) STANDARD TYPE II R.P.M.

DIRECTIONAL ARROWS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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

DATE	REVISION	FILMED
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

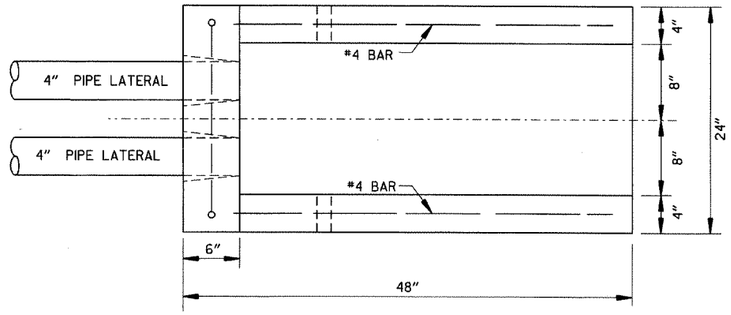
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

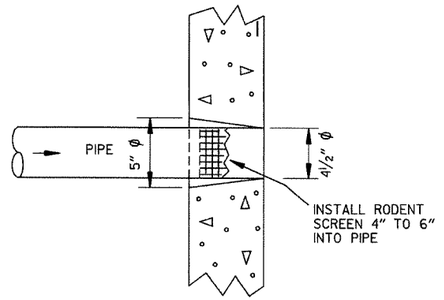
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

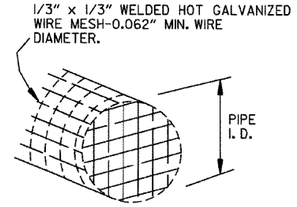
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



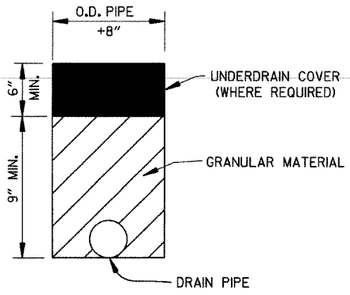
PLAN VIEW

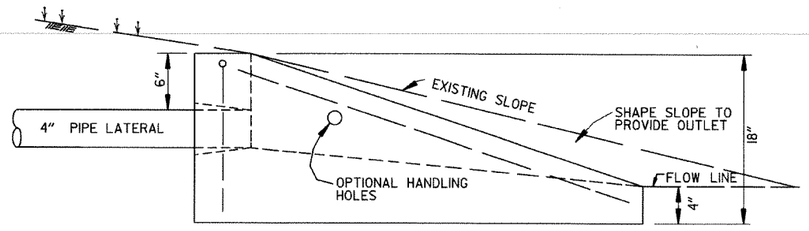


DETAIL OF HOLE FOR 4" PIPE

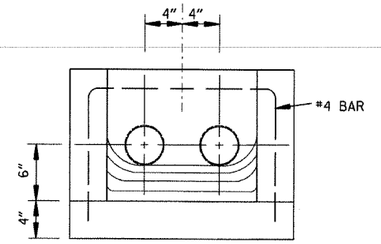


DETAIL OF RODENT SCREEN

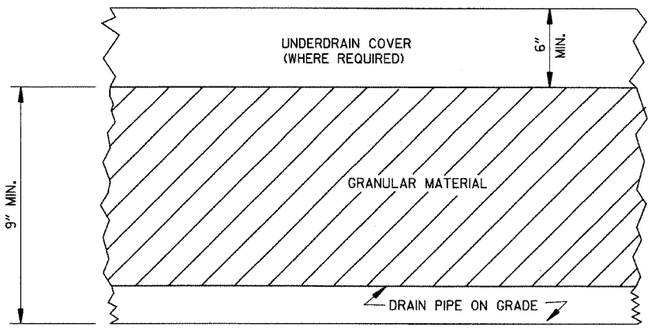




SIDE VIEW

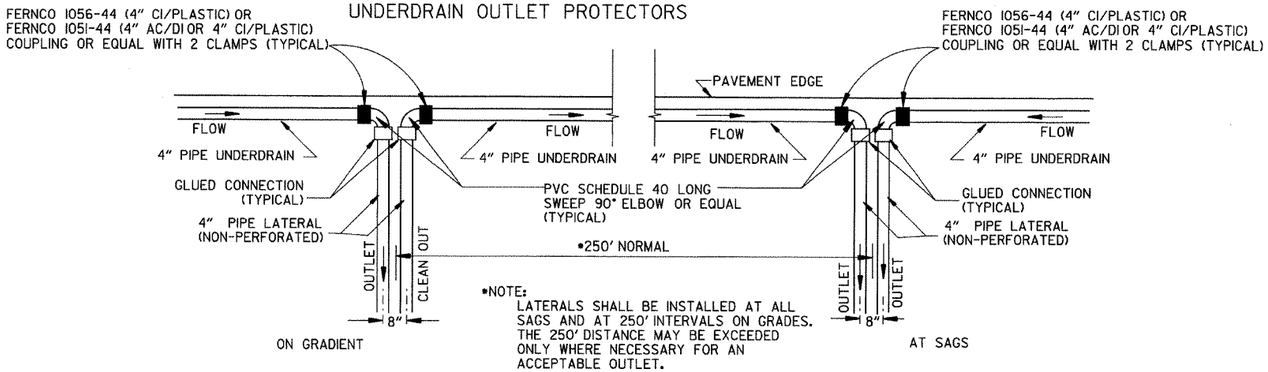


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

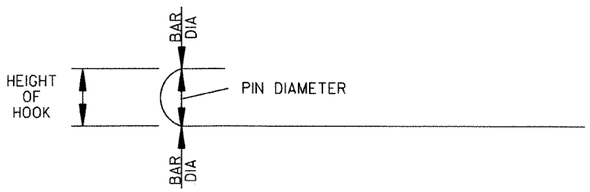
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

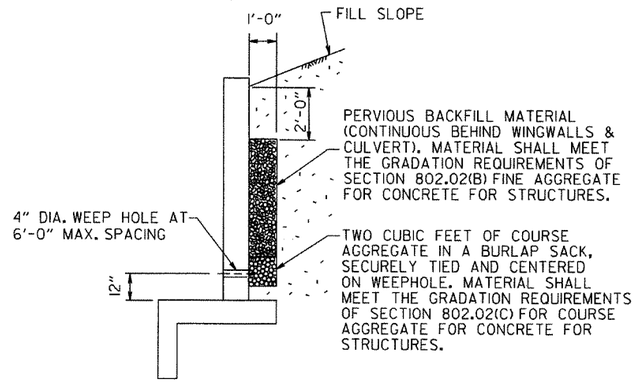
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

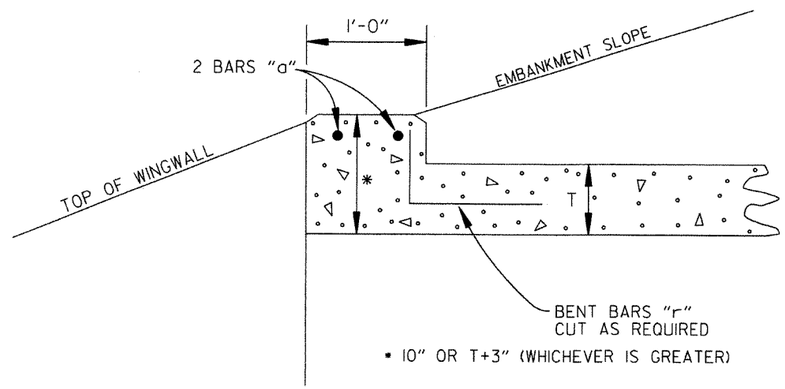
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



* 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.

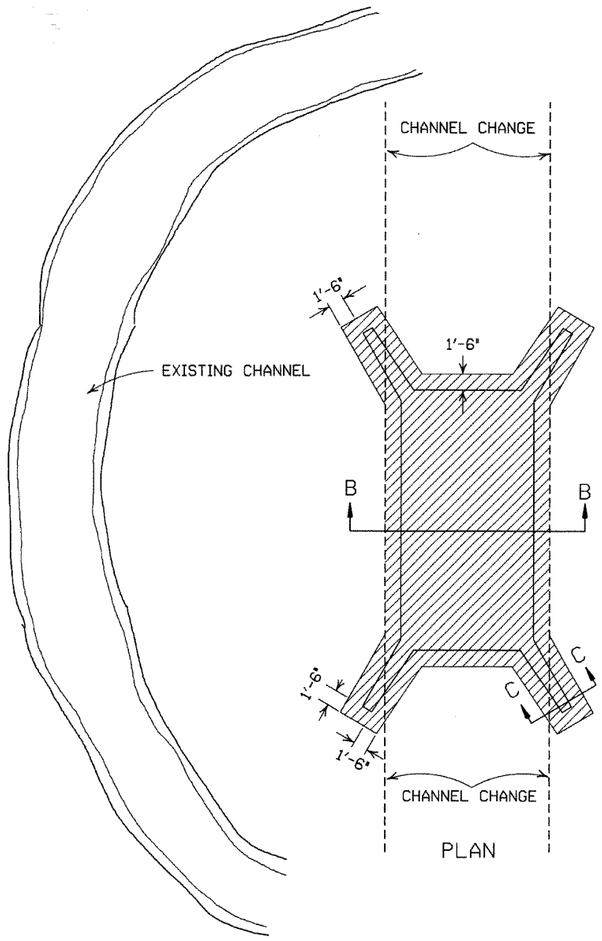
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
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

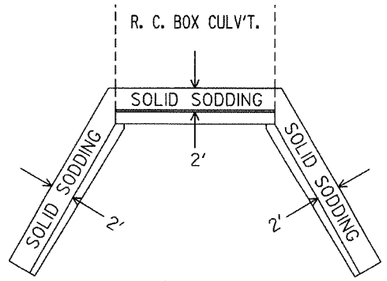
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

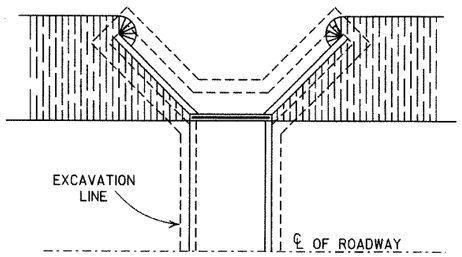
SOLID SODDING



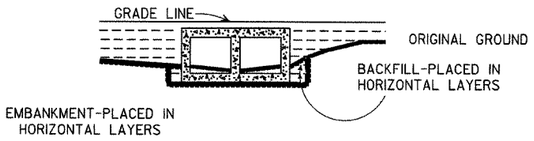
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

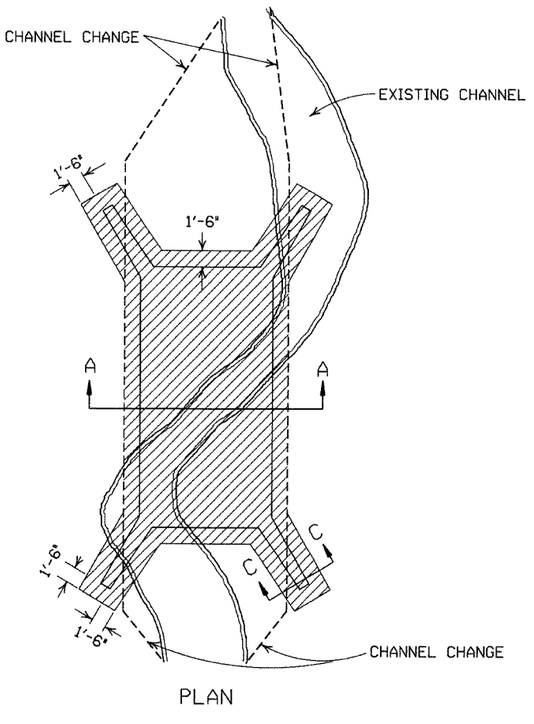


PLAN

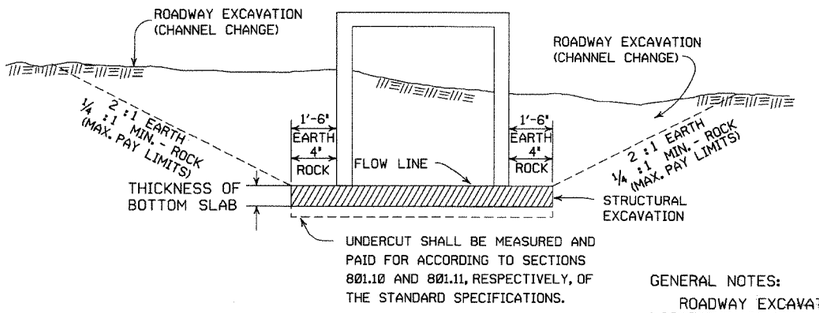


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

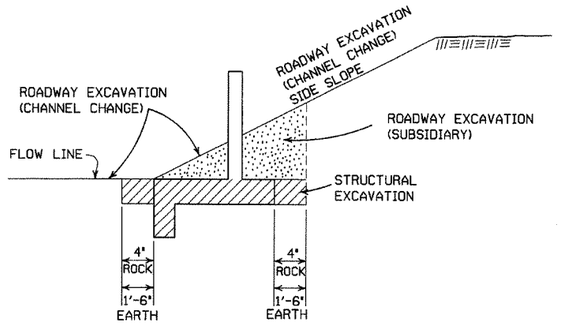


PLAN

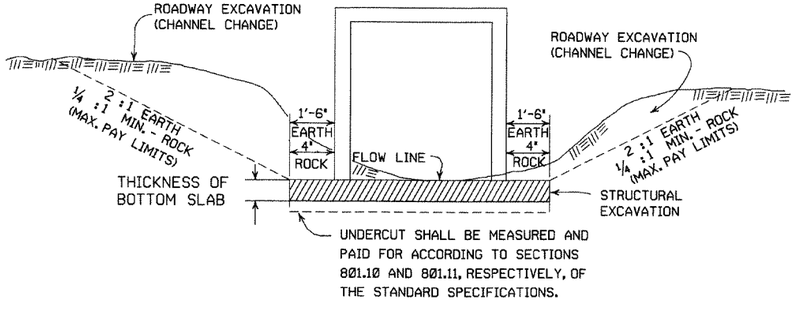


SECTION B-B

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.

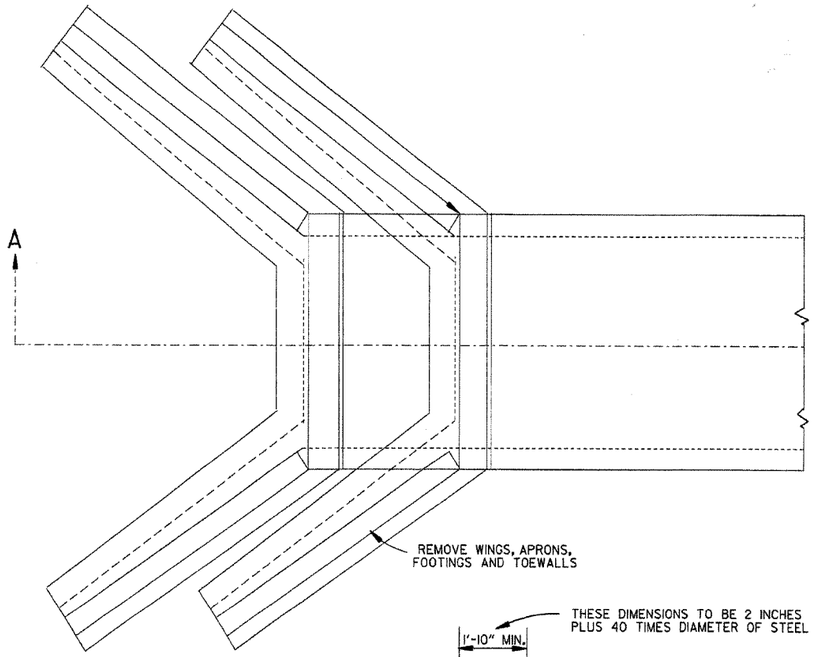
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

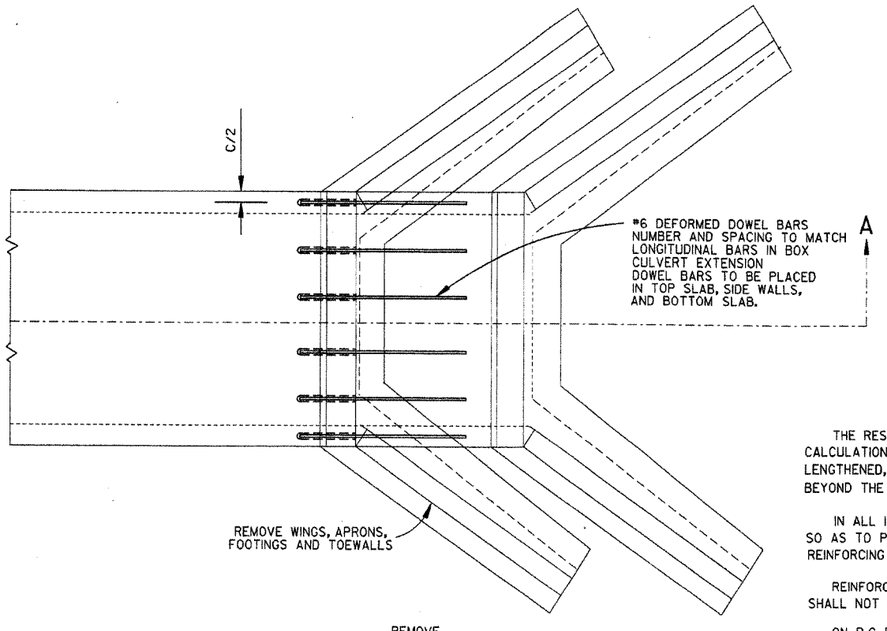
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2



TOP VIEW
R.C. BOX CULVERT

SECTION A-A
METHOD 1



TOP VIEW
R.C. BOX CULVERT

SECTION A-A
METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

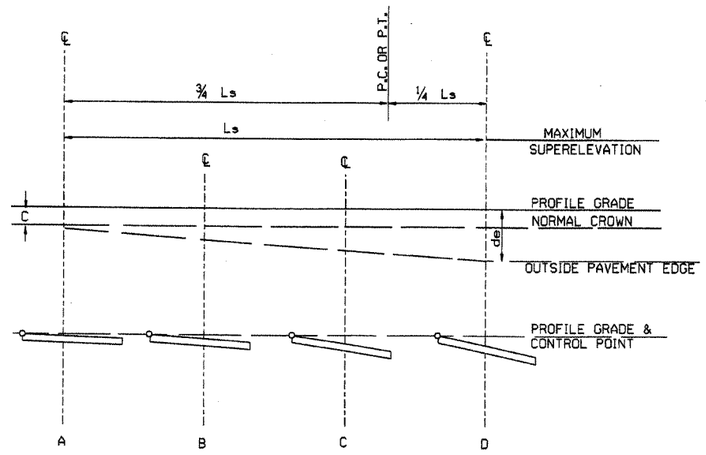
METHOD OF EXTENDING
EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			N.C.			N.C.			N.C.			N.C.		
1° 00′	N.C.			N.C.			0.021			N.C.			N.C.			N.C.			N.C.		
1° 15′	N.C.			R.C.			0.026			0.022			0.023			0.025			0.028		
1° 30′	N.C.			0.021			0.031			0.028			0.030			0.033			0.037		
1° 45′	N.C.			0.025			0.036			0.033			0.037			0.041			0.046		
2° 00′	R.C.			0.028	175		0.040	200		0.037	225		0.043	250		0.048	250		0.054	275	
2° 15′	R.C.			0.031			0.045			0.043			0.048			0.055			0.062		
2° 30′	0.021			0.034			0.049			0.048			0.055			0.061			0.069		
2° 45′	0.023			0.037			0.053			0.053			0.061			0.067			0.075		
3° 00′	0.025			0.040			0.057			0.058			0.067			0.072			0.081		
3° 15′	0.027	150		0.043		250	0.061			0.063			0.072			0.077	260		0.087	315	
3° 30′	0.029			0.046			0.065	205		0.067	230		0.077	260		0.082	275		0.093	335	
3° 45′	0.031		250	0.049			0.069	215		0.072	245		0.082	275		0.086	285		0.095	340	
4° 00′	0.033			0.051			0.072	225		0.076	255		0.086	285		0.090	295	400	0.097	345	400
4° 30′	0.037			0.056			0.078	240		0.080	265		0.090	295	400	0.093	305		0.099	350	
5° 00′	0.040			0.061			0.083	250		0.083	270		0.093	305		0.096	315				
5° 30′	0.043			0.066	185		0.088	260		0.087	280		0.096	315		0.098	320				
6° 00′	0.046			0.070	190		0.092	270		0.091	295		0.098	320							
6° 30′	0.050			0.074	200		0.095	280	350	0.094	300	400									
7° 00′	0.053			0.078	210		0.098	285		0.096	305										
7° 30′	0.056			0.081	215		0.099	290		0.100	315										
8° 00′	0.058			0.084	220	300	0.100	290													
8° 30′	0.061			0.087	225																
9° 00′	0.063			0.089	230																
10° 00′	0.068	160		0.094	235																
11° 00′	0.072	170		0.097	250																
12° 00′	0.076	175		0.099	250																
13° 00′	0.080	180		0.100	250																
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200																			
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215	300																		
21° 00′	0.098	215																			
22° 00′	0.099	215																			
23° 00′	0.099	215																			
24° 00′	0.100	220																			

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 4° 15′ | D MAX = 3° 30′



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

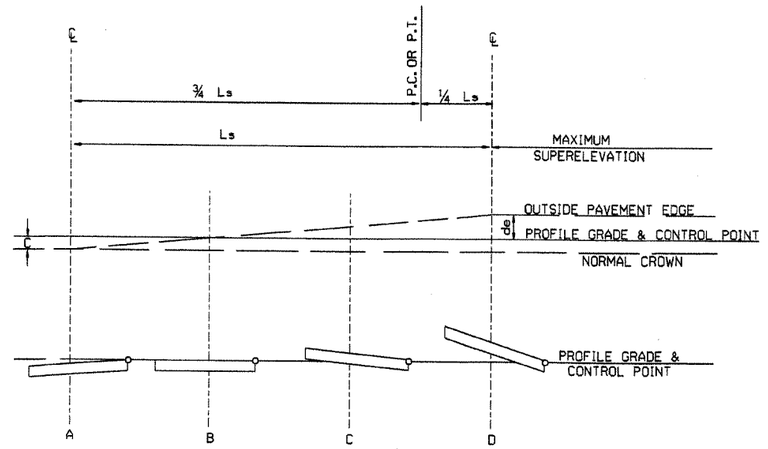
ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
S - SUPERELEVATION
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT
e - MAXIMUM RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
C - NORMAL CROWN (FT.)

GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30′	N.C.			0.021			0.031	200		0.037	225		0.043	250		0.054		
1° 45′	N.C.			0.025	175		0.036			0.043		300	0.049		300	0.062		
2° 00′	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15′	R.C.			0.031			0.045		250	0.053			0.061			0.078	300	
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																
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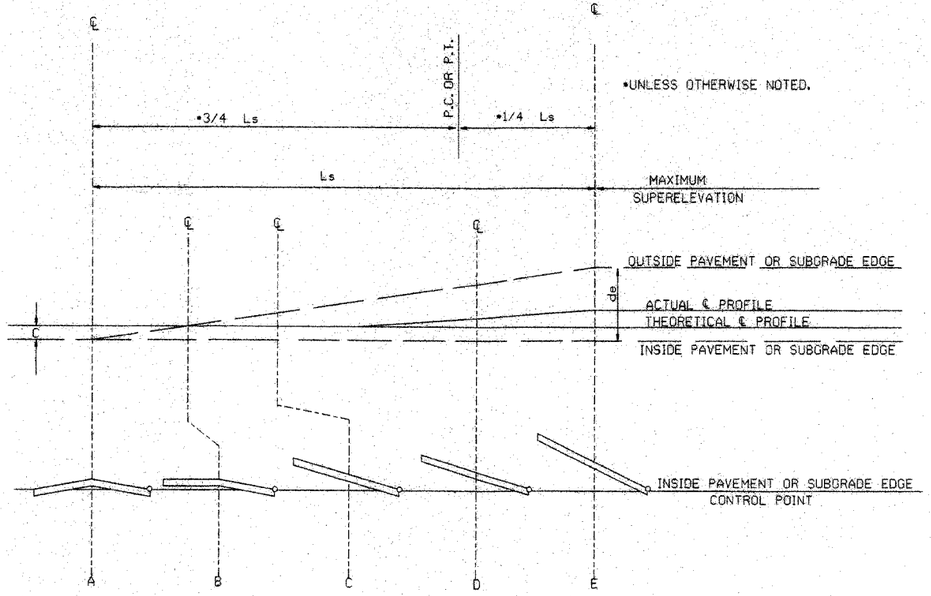
18° 00′	0.093	205																
19° 00′	0.095	210																
20° 00′	0.097	215	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

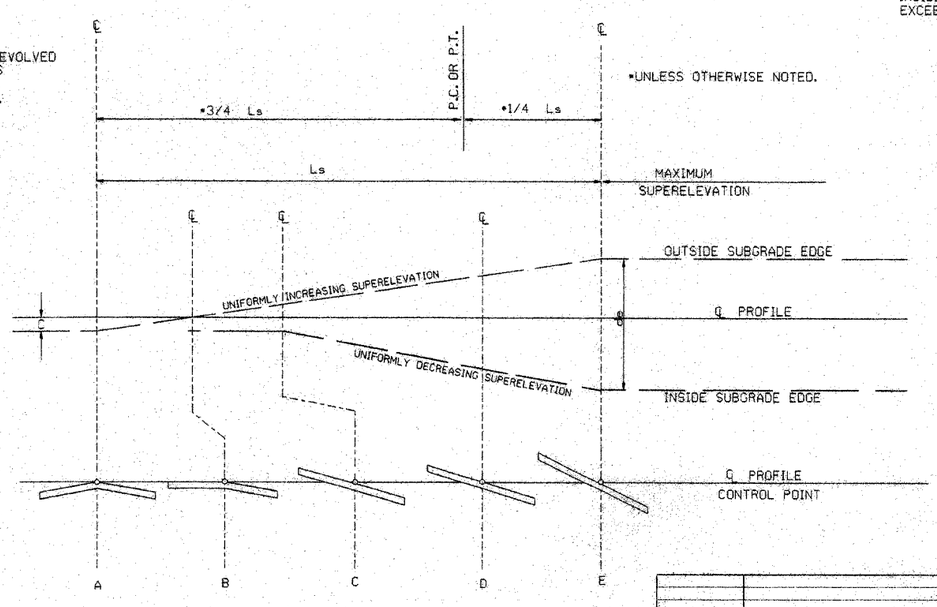
GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

FILE STDSE2.DGN

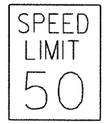
R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2

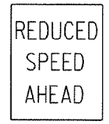
STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



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

R2-5A



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

R2-5C

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

R4-1

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

R4-2

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

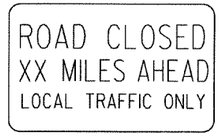
R5-1

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

R11-2

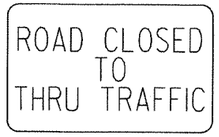
48"X30"

R11-3A



60"X30"

R11-4

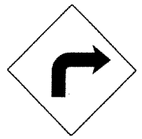


60"X30"

RSP-1

48"X30"

W1-1



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

W1-2

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

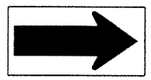
W1-3

STD. 48"X48"

W1-4

STD. 48"X48"

W1-6

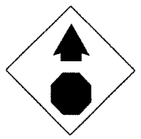


STD. 48"X24"
SPECIAL 60"X30"

W1-8

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

W3-1

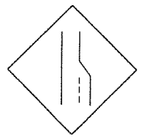


STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

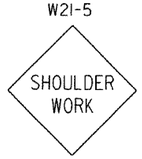
W20-7a

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

W21-2

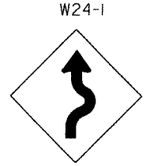
STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b

STD. 48"X48"

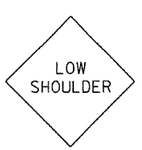
R56-1

STD. 18"X18"

W8-11

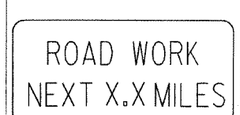
STD. 36"X36"
FWY. 48"X48"

W8-9



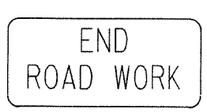
STD. 36"X36"
FWY. 48"X48"

G20-1



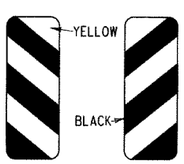
60"X24"

G20-2



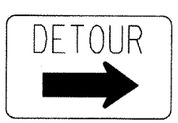
48"X24"

OM-3L OM-3R



12"X36"

M4-9

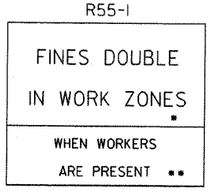


STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	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.

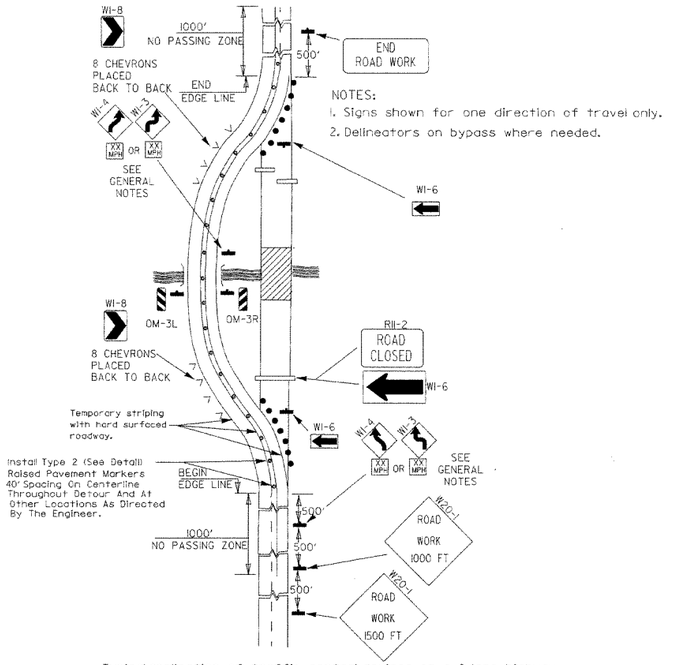
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

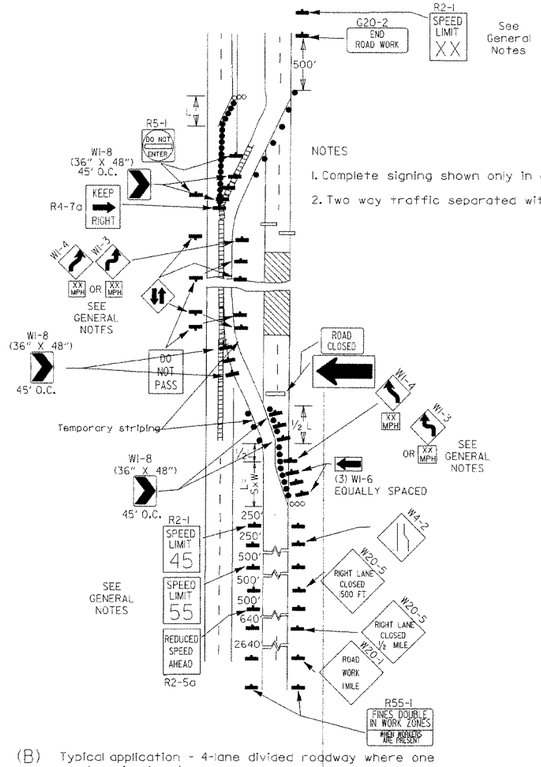
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



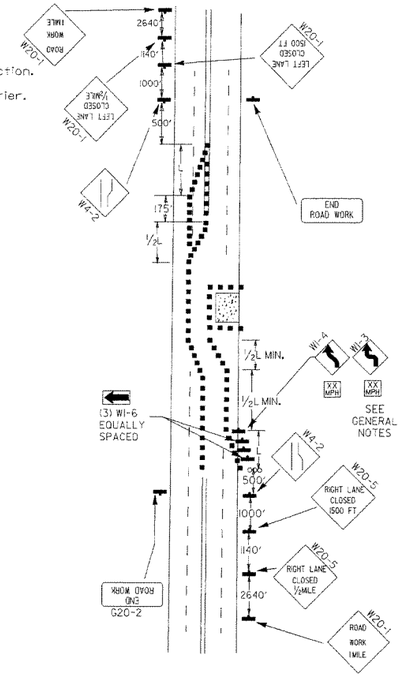
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.

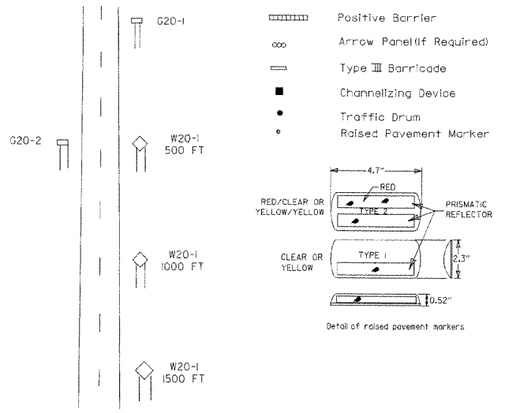


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

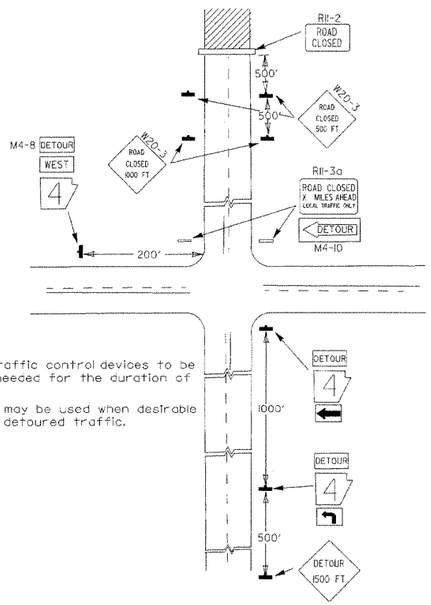
(B) Typical application - 4-lane divided roadway where one roadway is closed.



(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.

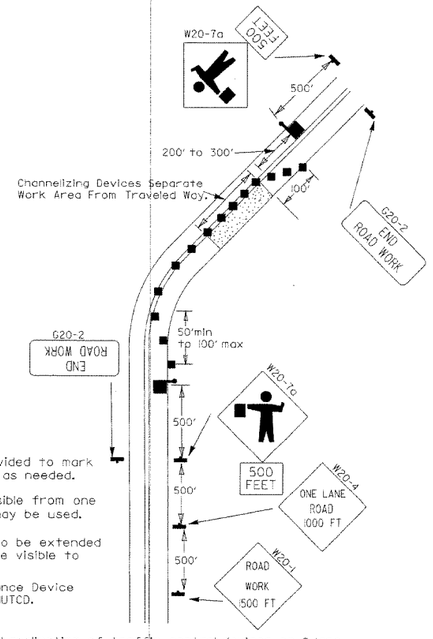


Typical advance warning sign placement



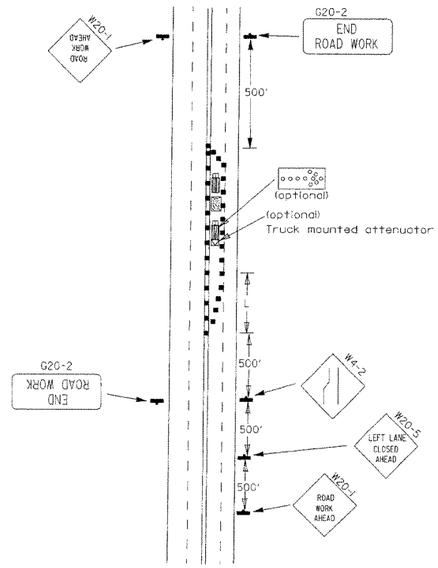
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

(D) Typical application - roadway closed beyond detour point.



NOTES:
1. Flood lights should be provided to mark flagger stations at night as needed.
2. If entire work area is visible from one station, a single flagger may be used.
3. Channelizing devices are to be extended to a point where they are visible to approaching traffic.
4. Automated Flagger Assistance Device (AFAD) optional. Refer to MUTCD.

(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.



(F) Typical application - 4-lane undivided roadway with inside lane closed.

Taper formulae:

L=SxW for speeds of 45mph or more.

$L = \frac{WS^2}{60}$ for speeds of 40mph or less.

Where:
L= Minimum length of taper.
S= Numerical value of posted speed limit prior to work or 85th percentile speed.
W= Width of offset.

GENERAL NOTES:

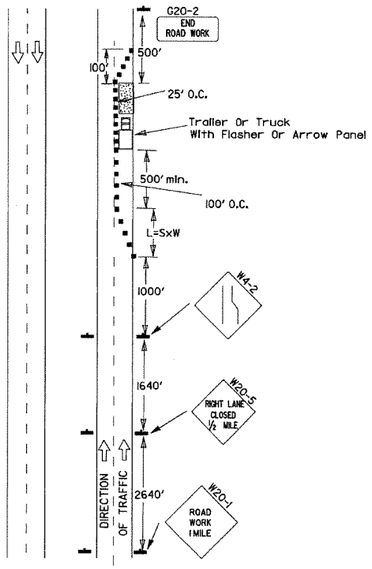
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed 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.

DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
1-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

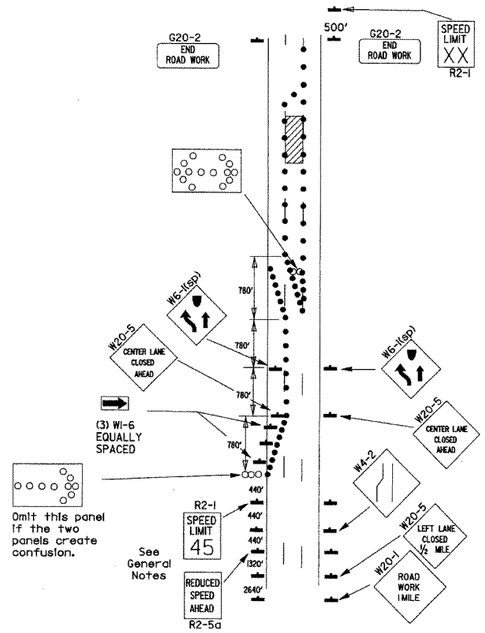
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

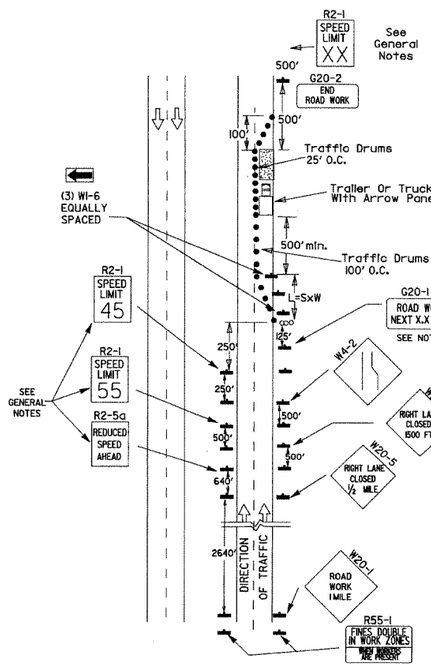
STANDARD DRAWING TC-2



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



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



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

KEY:

ooo Arrow Panel (if Required)

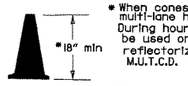
■ Channelizing Device

● Traffic drum

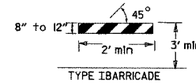
GENERAL NOTES:

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

Channelizing devices

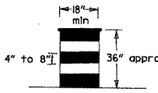


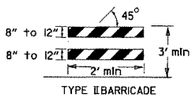
CONES



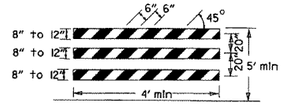
TYPE I BARRICADE

PLASTIC DRUM



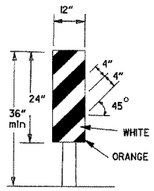


TYPE II BARRICADE



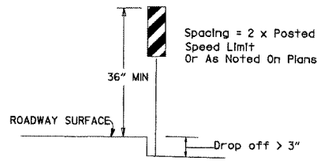
TYPE III BARRICADE

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



VERTICAL PANEL
VP-1R

VERTICAL PANEL PLACEMENT



TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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

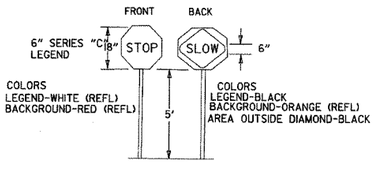
* When shown on the plans concrete barrier will be used.

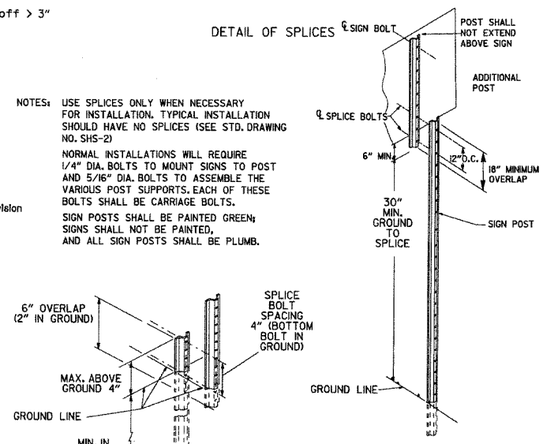
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

Flag shall be of good grade red material

STOP SLOW PADDLE

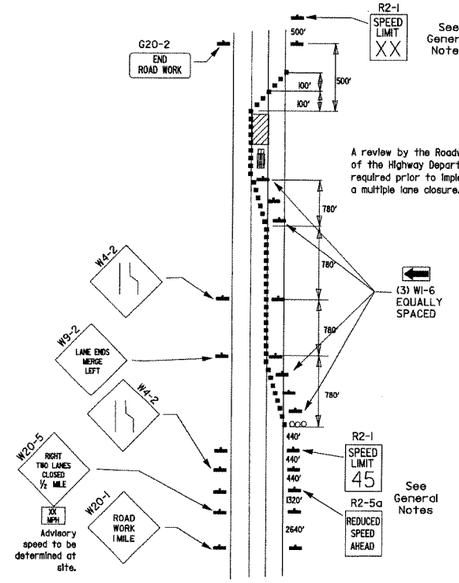




NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

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

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



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

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

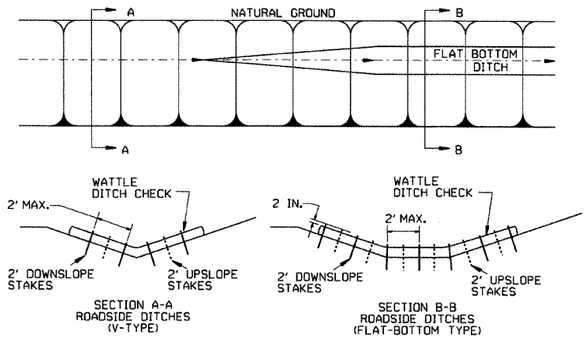
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

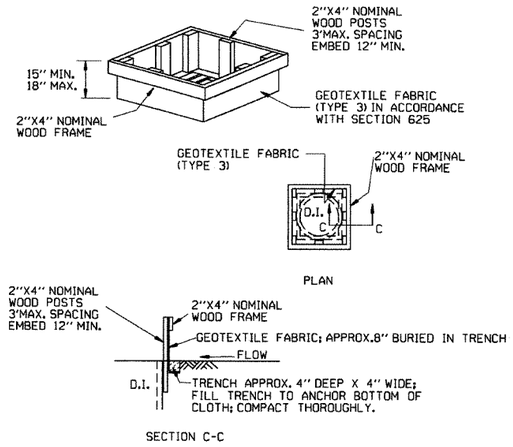
STANDARD DRAWING TC-3

GENERAL NOTES

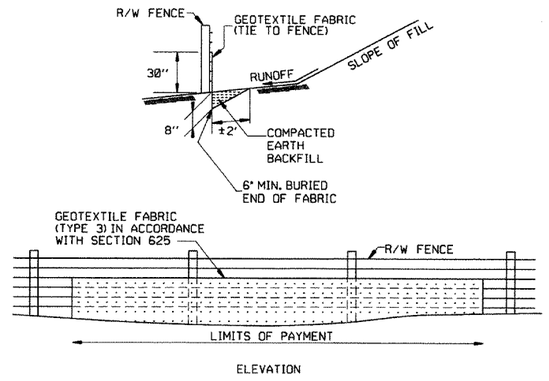
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

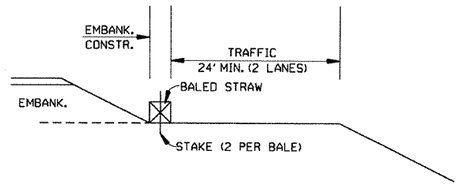
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

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

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

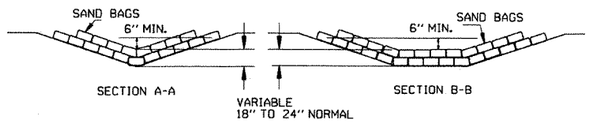
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



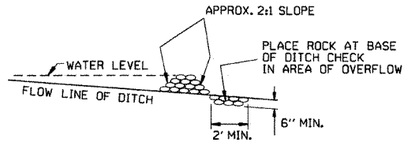
BALED STRAW FILTER BARRIER (E-2)

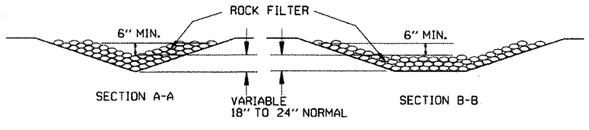
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.

PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



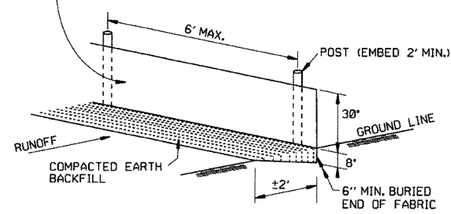
SAND BAG DITCH CHECK (E-5)





ROCK DITCH CHECK (E-6)

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625



SILT FENCE (E-11)

GENERAL NOTES

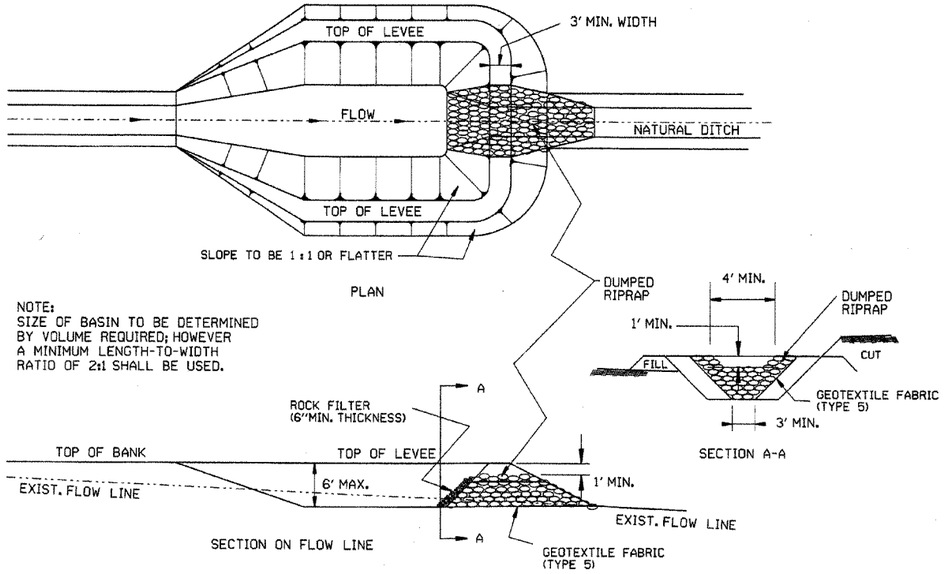
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

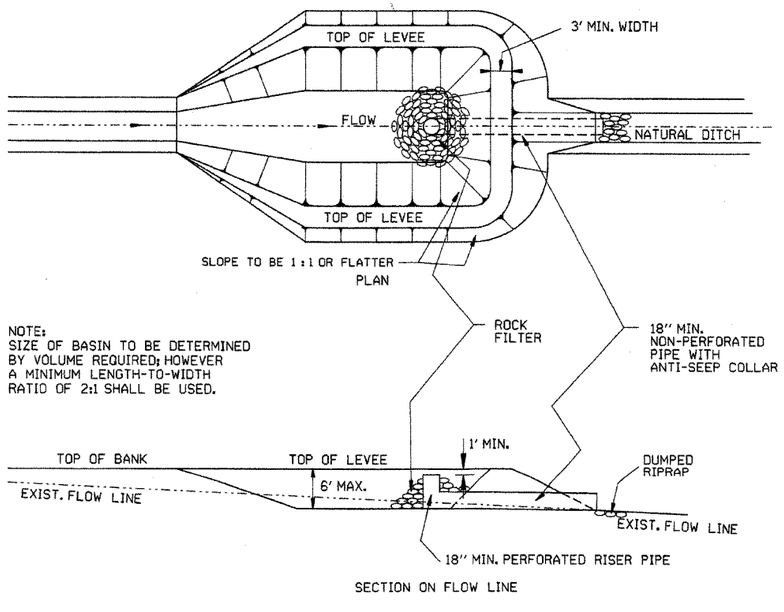
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

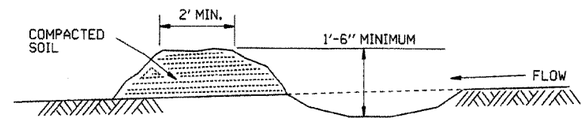
STANDARD DRAWING TEC-1



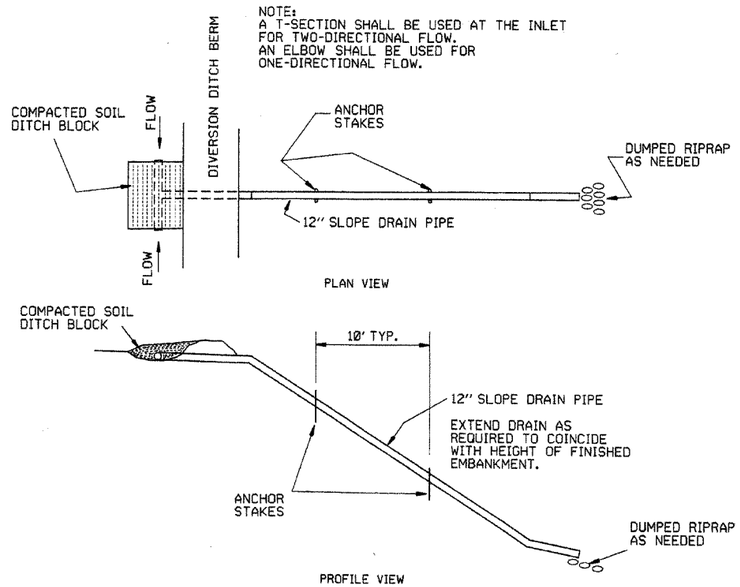
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



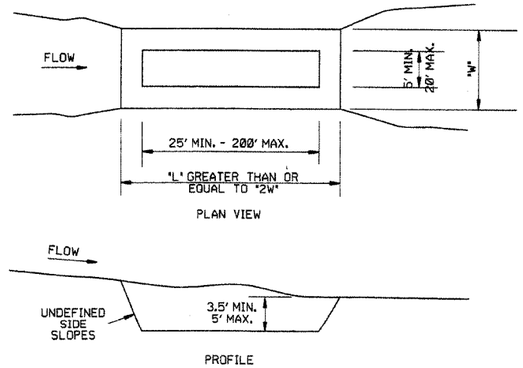
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

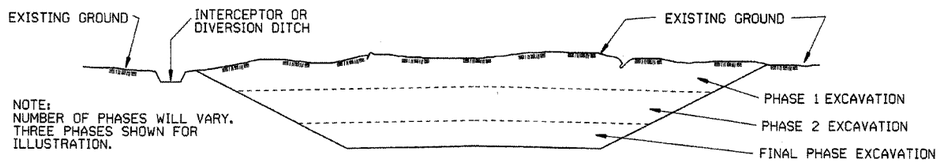
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



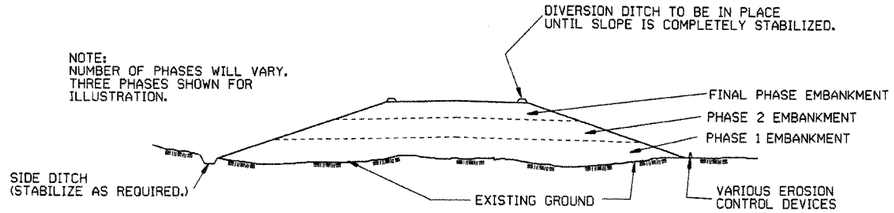
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

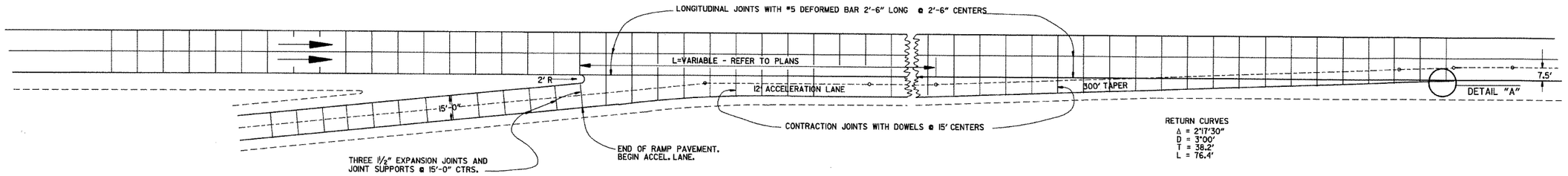
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

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

ARKANSAS STATE HIGHWAY COMMISSION

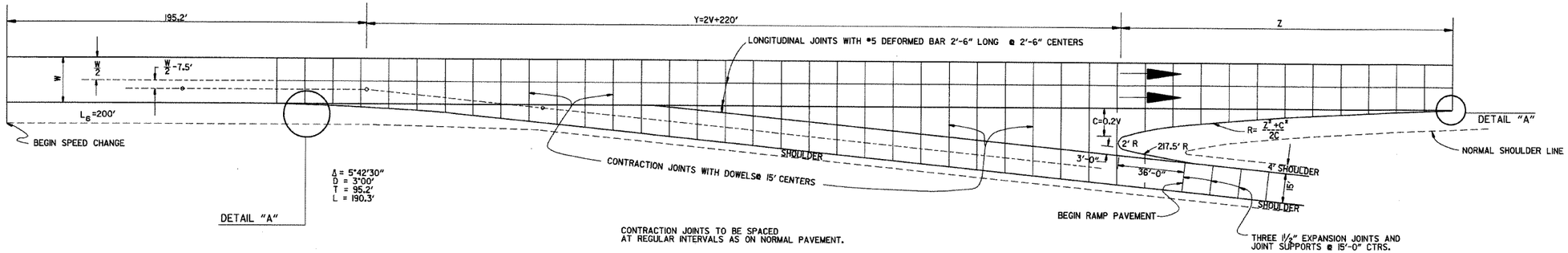
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



ENTRANCE RAMP

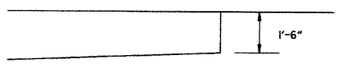
NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.



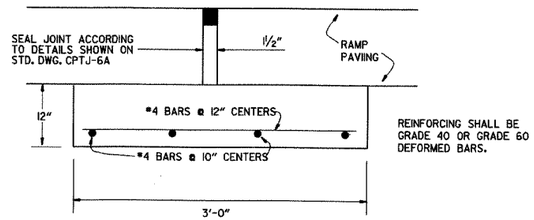
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

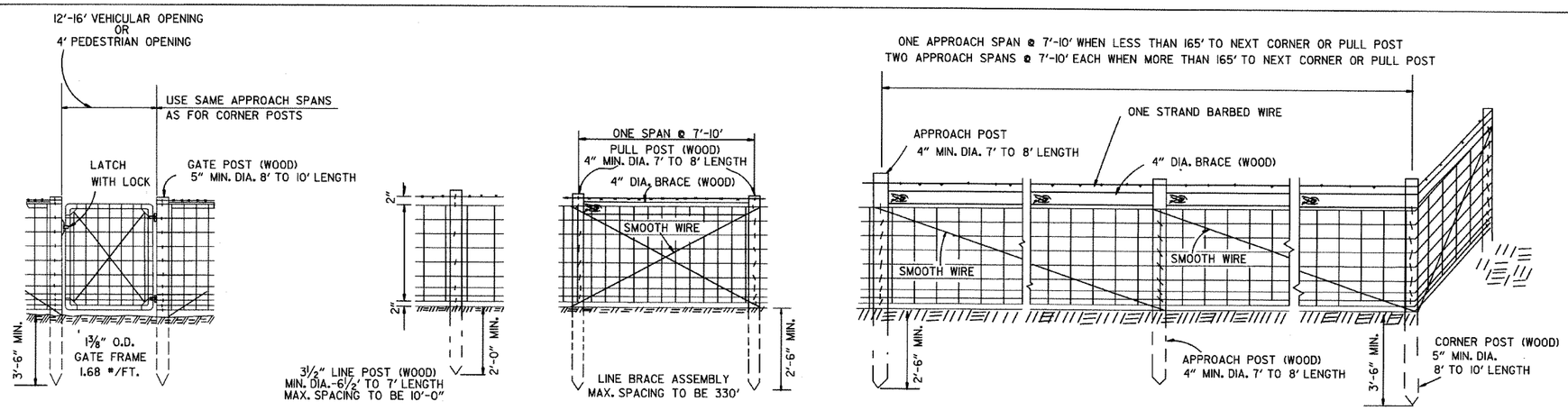
NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED.
THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

DATE	REVISION	DATE FILM'D
8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL A & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM'D TO 1988 SPECIFICATIONS	65C-7-15-88
3-2-81	ISSUED	511-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

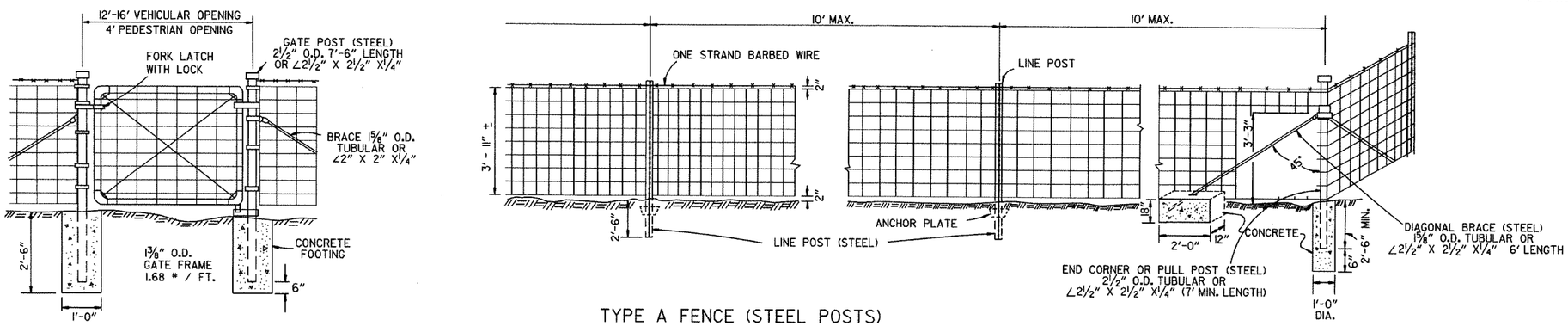
DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

STANDARD DRAWING TR-1A

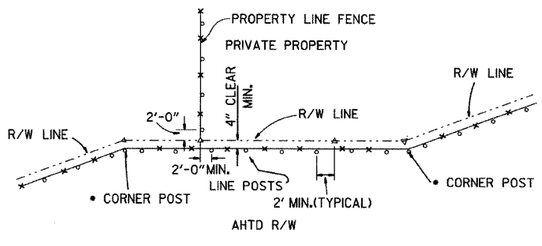


NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)



TYPE A FENCE (STEEL POSTS)

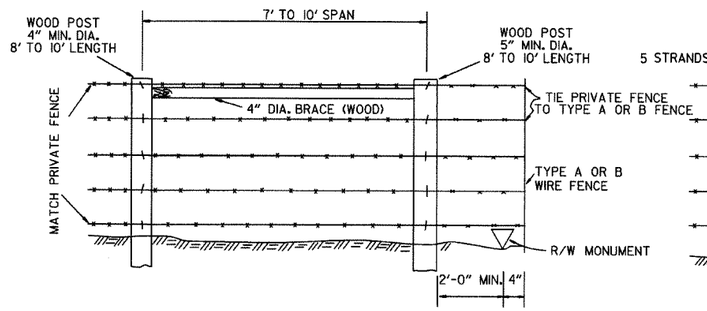


*NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

△ - R/W MONUMENTS

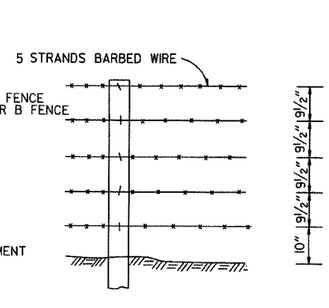
○ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



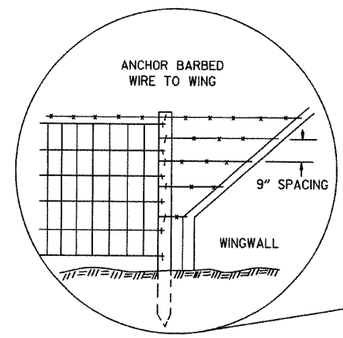
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

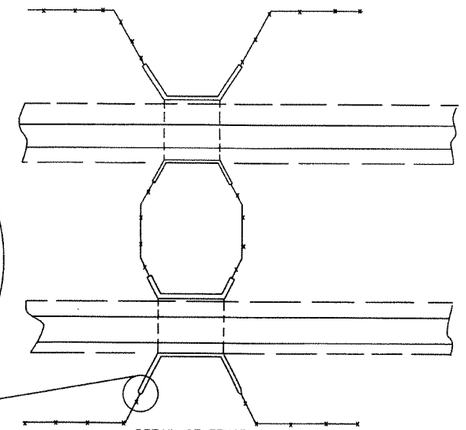
PRIVATE FENCE TERMINAL INSTALLATION



SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

TYPE B FENCE





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

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.

TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

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

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

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

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

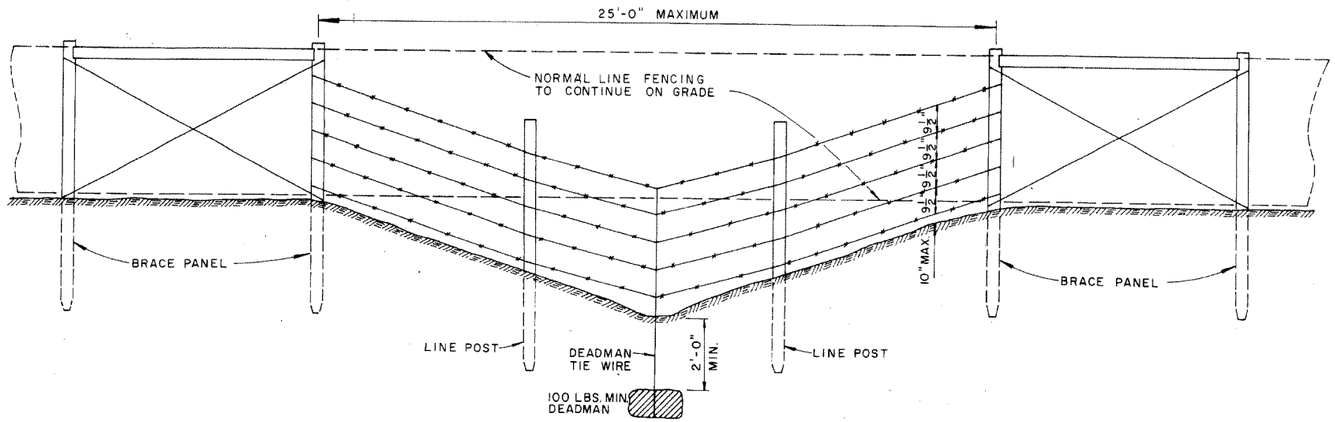
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD": AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF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

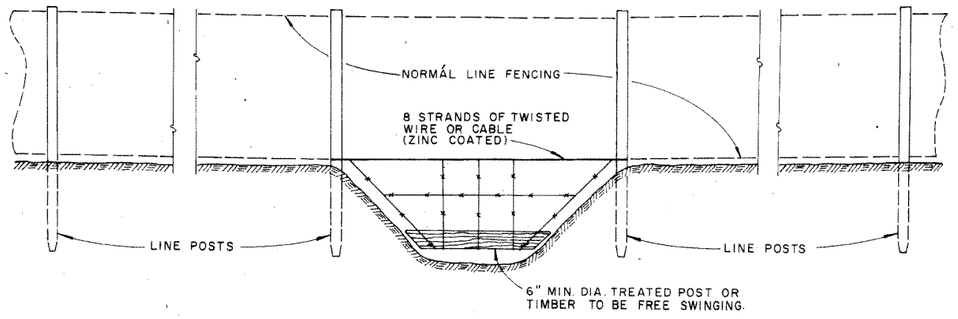
DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES	
	AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

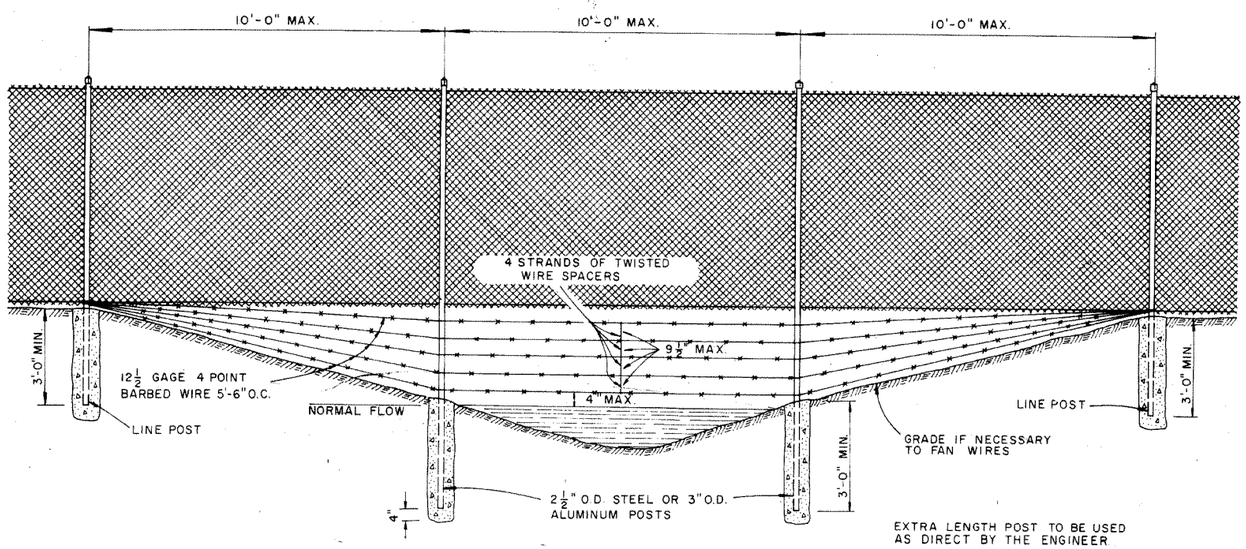
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1







GENERAL NOTES:

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

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

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

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

DATE	REVISION	DATE FILM'D.
4-20-79	REVISED TOP RAIL & TENSION WIRE	696 4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

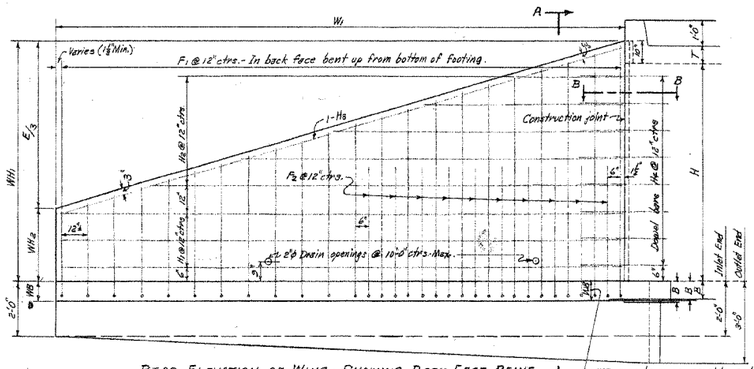
WIRE FENCE WATER GAPS

STANDARD DRAWING

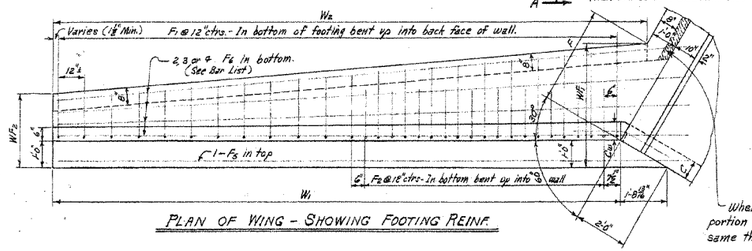
WF-2

1M—11-71—6700—PPASCo

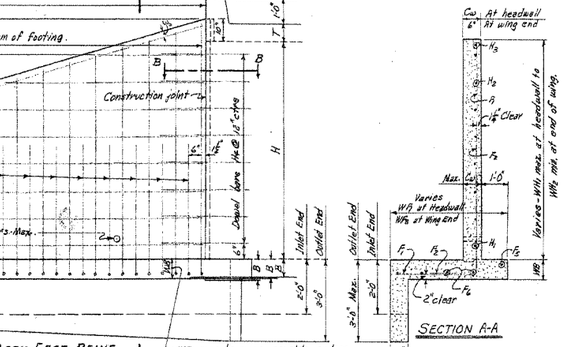
FED. ROAD DIV. NO.	STATE	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
6	ARK.			201
JOB NO.				



REAR ELEVATION OF WING - SHOWING BACK FACE REINF.

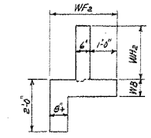


PLAN OF WING - SHOWING FOOTING REINF.

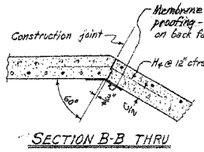


SECTION A-A

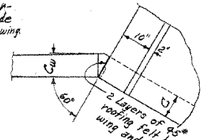
When B is more than WB, the shaded portion of the apron shall be made the same thickness as the barrel base B.



END VIEW OF WING



SECTION B-B THRU CONSTRUCTION JOINT



DETAIL AT TOP OF WING

Note:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WINGWALLS	THICKNESS OF WING AT HEADWALL	WINGWALL HEIGHTS		WIDTHS OF WING FOOTINGS		PERPENDICULAR DIST. FROM TOE TO END OF WING	LENGTH OF WINGWALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE	
			AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING				INLET END	OUTLET END
H	WB	C_W	W_{H_1}	W_{H_2}	W_{F_1}	W_{F_2}	F	E	W_1	W_2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-9"	2'-0"	0'-11⅜"	6'-6"	7'-6"	7'-1½"	0.889	0.996
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-3⅜"	8'-6"	9'-9⅜"	9'-2½"	1.338	1.466
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-9"	10'-6"	12'-1⅛"	12'-1½"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅜"	12'-6"	14'-5⅝"	14'-2½"	2.478	2.668
		7"	5'-10"	1'-8"	3'-5"	2'-4½"	2'-1⅜"	12'-6"	14'-5⅝"	14'-2½"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1⅝"	3.940	3.661
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅝"	14'-6"	16'-9"	17'-1½"	3.811	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅝"	14'-6"	16'-9"	17'-1½"	3.582	3.803
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-9½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-8⅜"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-9½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-8⅜"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	18'-6"	21'-4⅝"	22'-0"	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

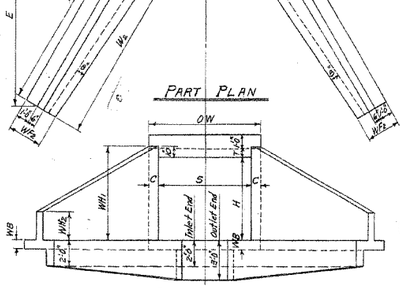
$W_3 = (OW - 2F)$

CLEAR SPAN	CLEAR HEIGHT	2 × FOOTING DIMENSION	SINGLE BARREL CULVERT		DOUBLE BARREL CULVERT		TRIPLE BARREL CULVERT		QUADRUPLE BARREL CULVERT		QUINTUPLE BARREL CULVERT	
			OW	W_3	OW	W_3	OW	W_3	OW	W_3	OW	W_3
S	H	2F										
4'	2'	1'-11½"	5'-0"	3'-0⅛"	9'-8"	7'-8⅛"	14'-4"	12'-4⅛"	19'-0"	17'-0⅛"	23'-8"	21'-8⅛"
	3'	2'-8⅝"	5'-0"	2'-3⅜"	9'-8"	6'-11⅛"	14'-4"	11'-7⅛"	19'-0"	16'-3⅛"	23'-8"	20'-11⅛"
	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'-3⅛"	5'-0"	0'-8⅝"	9'-8"	5'-4⅜"	14'-4"	10'-0⅜"	19'-0"	14'-9⅜"	23'-8"	19'-9⅜"
	6'	5'-0⅝"	5'-2"	0'-1½"	9'-11"	4'-10⅝"	14'-8"	9'-7½"	19'-5"	14'-2⅝"	24'-2"	19'-1⅝"
5'	3'	2'-8⅝"	6'-0"	3'-3⅜"	11'-8"	8'-11⅛"	17'-4"	14'-1⅞"	23'-0"	20'-3⅝"	28'-8"	25'-1⅛"
	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'-3⅛"	6'-0"	1'-8⅜"	11'-8"	7'-4⅜"	17'-4"	13'-0⅜"	23'-0"	18'-9⅜"	28'-8"	24'-9⅜"
	6'	5'-0⅛"	6'-2"	1'-1½"	11'-11"	6'-10⅝"	17'-8"	12'-7½"	23'-5"	18'-4⅝"	29'-2"	24'-1⅝"
	7'	6'-2⅝"	6'-3"	0'-0⅝"	12'-1"	5'-10⅛"	17'-11"	11'-8⅝"	23'-8"	17'-6⅛"	29'-7"	23'-6⅛"
6'	3'	2'-8⅝"	7'-0"	4'-3⅜"	13'-8"	10'-11⅛"	20'-4"	17'-1⅞"	27'-0"	24'-3⅝"	33'-8"	30'-1⅛"
	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'-3⅛"	7'-0"	2'-8⅜"	13'-8"	9'-4⅜"	20'-4"	16'-0⅜"	27'-0"	22'-9⅜"	33'-8"	29'-9⅜"
	6'	5'-0⅛"	7'-2"	2'-1½"	13'-11"	8'-10⅝"	20'-8"	15'-7½"	27'-5"	22'-2⅝"	34'-2"	29'-1⅝"
	7	6'-2⅝"	7'-3"	1'-0⅝"	14'-1"	7'-10⅛"	20'-11"	14'-8⅝"	27'-8"	21'-6⅛"	34'-7"	28'-6⅛"
	8'	7'-1"	7'-3"	0'-0"	14'-1"	6'-10"	21'-0"	13'-8"	27'-10"	20'-6"	34'-8"	27'-8"
8'	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'-3⅛"	8'-0"	3'-8⅜"	15'-8"	11'-4⅜"	23'-4"	19'-0⅜"	31'-0"	26'-8⅜"	38'-8"	34'-8⅜"
	6'	5'-0⅛"	8'-2"	3'-1⅛"	15'-11"	10'-10⅝"	23'-8"	18'-7½"	31'-5"	26'-2⅝"	39'-2"	34'-1⅝"
	7'	6'-2⅝"	8'-3"	2'-0⅝"	16'-1"	9'-10⅛"	23'-11"	17'-6⅝"	31'-8"	25'-6⅛"	39'-7"	33'-6⅛"
	8'	7'-1"	8'-3"	1'-0"	16'-2"	8'-10"	24'-0"	16'-8"	31'-10"	24'-6"	39'-8"	32'-8"
9'	5'	4'-3⅛"	10'-2"	5'-0⅜"	19'-11"	15'-7⅜"	29'-8"	25'-4⅜"	39'-5"	35'-1⅜"	49'-2"	44'-10⅜"
	6'	5'-0⅛"	10'-3"	5'-1⅛"	20'-1"	15'-0⅝"	29'-11"	24'-5⅝"	39'-8"	34'-3⅛"	49'-7"	43'-7⅛"
	7'	6'-2⅝"	10'-3"	4'-0⅝"	20'-1"	14'-0⅛"	29'-11"	23'-6⅝"	39'-8"	33'-4⅛"	49'-7"	42'-8⅛"
	8'	7'-1"	10'-4"	3'-0"	20'-2"	12'-10"	30'-0"	22'-8"	39'-10"	32'-6"	49'-8"	41'-8"
10'	5'	4'-3⅛"	11'-2"	6'-0⅜"	21'-11"	17'-7⅜"	32'-8"	28'-4⅜"	43'-5"	39'-1⅜"	54'-2"	49'-10⅜"
	6'	5'-0⅛"	11'-3"	6'-2⅛"	22'-1"	17'-0⅝"	32'-11"	27'-10⅝"	43'-9"	38'-6⅛"	54'-7"	49'-1⅛"
	7'	6'-2⅝"	11'-3"	5'-0⅝"	22'-1"	15'-10⅛"	32'-11"	26'-6⅝"	43'-9"	37'-4⅛"	54'-7"	47'-8⅛"
	8'	7'-1"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-8"	43'-10"	36'-6"	54'-8"	47'-8"
11'	6'	5'-0⅛"	12'-3"	7'-3⅛"	24'-2"	19'-7⅛"	36'-0"	30'-11⅝"	47'-10"	42'-9⅛"		
	7'	6'-2⅝"	12'-4"	6'-1⅝"	24'-2"	17'-11⅛"	36'-0"	29'-3⅝"	47'-10"	41'-1⅛"		
	8'	7'-1"	12'-5"	5'-0"	24'-3"	16'-10"	36'-0"	28'-0"	47'-10"	40'-0"		
12'	6'	5'-0⅛"	13'-4"	8'-3⅛"	26'-2"	21'-1⅛"	39'-0"	32'-5⅝"	51'-10"	44'-3⅛"		
	7'	6'-2⅝"	13'-4"	7'-1⅝"	26'-2"	19'-3⅛"	39'-0"	32'-5⅝"	51'-10"	45'-1⅛"		
	8'	7'-1"	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	5.46	6.42	7.38	8.34
	3'	6"	7"	169.9	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	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"	169.9	6.97	7.68	8.79	9.96	11.12
	4'	6"	7"	254.6	8.54	9.70	10.87	10.03	12.20
	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	1139.6	18.94	20.15	21.37	22.59	23.80
6'	3'	6"	7"	169.9	6.68	8.06	9.42	10.80	12.18
	4'	6"	7"	254.6	8.75	10.15	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	14.99	16.39	17.78	19.18	20.59
	7'	7½	8½	1139.6	19.15	20.58	22.00	23.43	24.86
	8'	8"	9"	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	14.58	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7½	8½	1139.6	19.38	21.02	22.68	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	15.92	17.27	19.08	20.93	22.75
	7'	7½	8½	1139.6	19.59	21.46	23.30	25.16	26.99
	8'	8"	9"	1425.6	24.54	26.41	28.28	30.11	31.96
9'	5'	7"	7"	357.8	12.26	13.89	16.87	18.45	20.47
	6'	7½	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7½	8½	1139.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	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	1139.6	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	1139.6	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	1139.6	20.87	23.69	26.40	29.13	
	8'	8"	9"	1425.6	25.42	28.25	30.96	33.69	

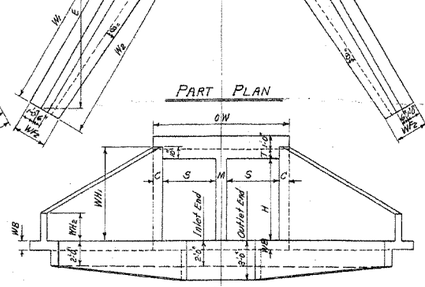
® For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.



PART PLAN

END ELEVATION

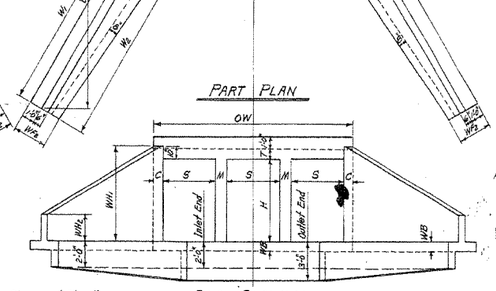
SINGLE BARREL CULVERT



PART PLAN

END ELEVATION

DOUBLE BARREL CULVERT

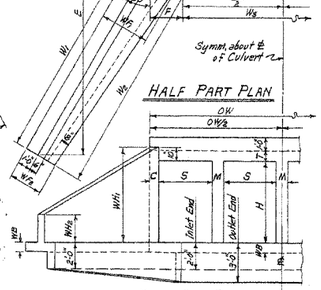


PART PLAN

END ELEVATION

TRIPLE BARREL CULVERT

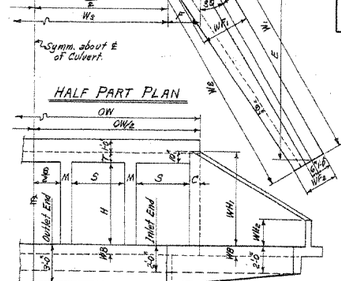
NOTE:- Plans and Elevations are not to scale.



HALF PART PLAN

HALF END ELEVATION

QUADRUPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

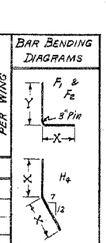
QUINTUPLE BARREL CULVERT

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three 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.

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. REQD	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. REQD	LENGTH	X	Y	F_3 STRAIGHT: Longitudinal in top of wing footing heel. SIZE	NO. REQD	LENGTH	F_4 STRAIGHT: Longitudinal in bottom of wing footing toe. SIZE	NO. REQD	LENGTH	H_1 STRAIGHT: Horizontal in back face of wing. SIZE	SPACING	NO. REQD	LENGTH	H_2 STRAIGHT: Horizontal in back face of wing. One bar of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MAX.	LENGTHS VARY MIN.	H_3 STRAIGHT: In back face of wing at top - on slope. SIZE	NO. REQD	LENGTH	H_4 BENT: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQD	LENGTH	X	QUANTITY REINFORCING STEEL PER WING LB.
H																																									
2'	#3	12"	8	1'-6"	3'-10"	0'-8"	1'-0"	0'-11"	2'-11"	—	—	—	—	—	—	#3	1	9'-8"	#3	2	8'-6"	#3	12"	1	7'-2"	#3	12"	1	——	4'-0"	#3	1	7'-4"	#3	12"	2	2'-8"	1'-4"		27.0
3'	#3	12"	10	2'-2"	5'-2"	0'-10"	1'-3"	1'-5"	4'-0"	—	—	—	—	—	—	#3	1	12'-0"	#3	2	11'-6"	#3	12"	1	9'-6"	#3	12"	2	7'-6"	4'-0"	#8	1	9'-9"	#3	12"	3	2'-8"	1'-4"		41.1
4'	#3	12"	13	2'-9"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—	#3	1	14'-9"	#3	3	13'-6"	#8	12"	1	11'-10"	#3	12"	3	10'-11"	4'-0"	#3	1	12'-2"	#3	12"	4	2'-8"	1'-4"		63.7
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	1'-11"	6'-0"	#3	12"	4	3'-6"	1'-1"	2'-6"	#3	1	16'-8"	#3	3	16'-0"	#8	12"	2	14'-2"	#3	12"	3	10'-11"	4'-0"	#3	1	14'-7"	#3	12"	5	2'-8"	1'-4"		89.5
6'	#4	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	2'-5"	7'-1"	#3	12"	4	4'-6"	1'-2"	3'-3"	#3	1	19'-0"	#3	3	18'-6"	#3	12"	2	16'-5"	#3	12"	4	14'-4"	4'-0"	#3	1	17'-0"	#3	12"	6	2'-8"	1'-4"		145.8
7'	#4	12"	20	3'-9"	10'-9"	1'-3"	2'-8"	2'-7"	8'-1"	#4	12"	7	5'-6"	1'-7"	4'-0"	#4	1	21'-6"	#4	4	21'-0"	#4	12"	2	18'-9"	#4	12"	5	17'-9"	4'-0"	#4	1	19'-5"	#4	12"	7	3'-6"	1'-9"		288.7
8'	#4	12"	22	4'-4"	12'-3"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	23'-8"	#4	4	23'-9"	#4	12"	3	21'-1"	#4	12"	5	17'-9"	4'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"		356.4

BAR BENDING DIAGRAMS



REVISIONS:- Membrane added. 5-10-66 W.C.H.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS

4, 5, 6, 7, 8, 9, 10, 11 & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

Designed By:- W.C.H. 8-20-62. Checked By:- RWS - 1-9-63
Drawn By:- W.C.H. 12-4-62. Checked By:- RWS - 1-31-63
Quantities By:- W.C.H. 12-14-62. Checked By:- RWS - 3-20-63
Reviewed By:-

RESHOT 3-4-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			202	
JOB No.					

BAR LIST FOR VARIOUS SECTIONS OF BARREL

SECTION & BAR GROUP	LENGTH OF SECTIONS	DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT: In Top and Bottom Slabs of Barrel. 2 Add'l in Apron and Headwall - Each. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	"b" bars BENT - See Diagram at Right. In Top and Bottom Slabs of Barrel Alternate with "a" bars. SIZE	SPACING	NUMBER REQ'D	LENGTH	X	"c" bars STRAIGHT: Longitudinal in Top Slab of Barrel SIZE	SPACING	NO. REQ'D	LENGTH	"d" bars STRAIGHT: Longitudinal in Sidewalls SIZE	SPACING	NO. REQ'D	LENGTH	"e" bars. Longitudinal in Bottom Slab of Barrel SIZE	SPACING	NO. REQ'D	LENGTH	"f" bars STRAIGHT: Verticals in Sidewalls SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
SECTION "A" & BAR GROUP "A"	3:1 = 32'-0"	0' TO 10'-0"	@ 4'	3'	#4	12"	48	68	4'-2"9	#4	12"	44	64	5'-2"9	4'-8"8	#4	12"	5	#4	12"	6	#4	12"	5	#4	12"	44	64	3'-10"
	4:1 = 32'-0"			4'			48	68	4'-3"8			44	64	5'-2"9	4'-8"8			5			8			5			44	64	4'-10"
				5'			48	68	4'-4"8			44	64	5'-2"9	4'-8"8			5			10			5			44	64	5'-10"
				6'			48	68	4'-11"			44	64	5'-3"8	4'-10"8			5			12			5			44	64	6'-10"
			@ 4'	3'			48	68	5'-3"8			44	64	6'-8"8	5'-8"8			6			6			6			44	64	3'-11"
				4'			48	68	5'-3"8			44	64	6'-8"8	5'-8"8			6			8			6			44	64	4'-11"
			@ 5'	5'	#5	12"	48	68	5'-3"8	#5	12"	44	64	6'-8"8	5'-8"8	#4	12"	6	#4	12"	10	#4	12"	6	#4	12"	44	64	5'-11"
				6'			48	68	5'-11"			44	64	6'-10"8	5'-10"8			6			12			6			44	64	6'-10"
				7'			48	68	6'-10"			44	64	6'-11"8	5'-11"8			6			14			6			44	64	7'-10"
			@ 6'	4'			48	68	4'-2"9			44	64	7'-10"	6'-8"			7			8			7			44	64	5'-0"
				5'			48	68	4'-3"9			44	64	7'-10"	6'-8"			7			10			7			44	64	6'-0"
				6'	#6	12"	48	68	4'-11"	#6	12"	44	64	8'-1"	6'-11"	#4	12"	7	#4	12"	12	#4	12"	7	#4	12"	44	64	7'-0"
				7'			48	68	5'-0"			44	64	8'-1"	6'-11"			7			14			7			44	64	8'-0"
				8'			48	68	7'-1"			44	64	8'-2"4	7'-0"			7			16			7			44	64	9'-0"
SECTION "B" & BAR GROUP "B"	3:1 = 32'-0"	10'-0" TO 15'-0"	@ 4'	3'	#4	12"	22	32	4'-2"9	#4	12"	22	32	5'-2"9	4'-8"8	#4	12"	5	#4	12"	6	#4	12"	5	#4	12"	22	32	3'-10"
	4:1 = 32'-0"			4'			22	32	4'-3"8			22	32	5'-2"9	4'-8"8			5			8			5			22	32	4'-10"
				5'			22	32	4'-9"			22	32	5'-3"8	4'-8"8			5			10			5			22	32	5'-10"
				6'			22	32	4'-11"			22	32	5'-3"8	4'-10"8			5			12			5			22	32	6'-10"
			@ 4'	3'			22	32	5'-9"			22	32	6'-10"	5'-8"			6			6			6			22	32	3'-11"
				4'			22	32	5'-9"			22	32	6'-10"	5'-8"			6			8			6			22	32	4'-11"
			@ 5'	5'	#5	12"	22	32	5'-9"	#6	12"	22	32	6'-10"	5'-8"	#4	12"	6	#4	12"	10	#4	12"	6	#4	12"	22	32	5'-11"
				6'			22	32	5'-11"			22	32	7'-0"	5'-10"			6			12			6			22	32	6'-10"
				7'			22	32	6'-10"			22	32	7'-1"	5'-11"			6			14			6			22	32	7'-10"
			@ 6'	4'			22	32	6'-9"			22	32	7'-10"	6'-8"			7			8			7			22	32	5'-0"
				5'			22	32	6'-9"			22	32	7'-10"	6'-8"			7			10			7			22	32	6'-0"
				6'	#6	12"	22	32	6'-11"	#6	12"	22	32	8'-1"	6'-10"	#4	12"	7	#4	12"	12	#4	12"	7	#4	12"	22	32	7'-0"
				7'			22	32	7'-10"			22	32	8'-1"	6'-11"			7			14			7			22	32	8'-0"
				8'			22	32	7'-11"			22	32	8'-2"4	7'-0"			7			16			7			22	32	9'-0"
SECTION "C" & BAR GROUP "C"	3:1 = 11'-0"	15'-0" TO 20'-0"	@ 4'	3'	#5	12"	22	32	4'-9"	#5	12"	22	32	5'-9"	4'-8"8	#4	12"	5	#4	12"	6	#4	12"	5	#4	12"	22	32	3'-10"
	4:1 = 11'-0"			4'			22	32	4'-9"			22	32	5'-9"	4'-8"8			5			8			5			22	32	4'-10"
				5'			22	32	4'-9"			22	32	5'-9"	4'-8"8			5			10			5			22	32	5'-10"
				6'			22	32	4'-11"			22	32	5'-10"	4'-10"8			5			12			5			22	32	6'-10"
			@ 4'	3'			24	34	5'-9"			24	34	6'-10"	5'-8"			6			6			6			24	34	4'-0"
				4'			24	34	5'-9"			24	34	6'-10"	5'-8"			6			8			6			24	34	5'-0"
			@ 5'	5'	#5	11"	24	34	5'-9"	#6	11"	24	34	6'-11"	5'-10"	#4	12"	6	#4	12"	10	#4	12"	6	#4	12"	24	34	5'-1"
				6'			24	34	5'-11"			24	34	7'-0"	5'-10"			6			12			6			24	34	6'-1"
				7'			24	34	6'-0"			24	34	7'-1"	5'-11"			6			14			6			24	34	7'-1"
			@ 6'	4'			24	34	6'-9"			24	34	7'-10"	6'-8"			7			8			7			24	34	5'-2"
				5'			24	34	6'-9"			24	34	7'-10"	6'-8"			7			10			7			24	34	6'-2"
				6'	#6	11"	24	34	6'-11"	#6	11"	24	34	8'-0"	6'-10"	#4	12"	7	#4	12"	12	#4	12"	7	#4	12"	24	34	7'-2"
				7'			24	34	7'-1"			24	34	8'-1"	6'-11"			7			14			7			24	34	8'-1"
				8'			24	34	7'-2"			24	34	8'-2"4	7'-0"			7			16			7			24	34	9'-1"
SECTION "D" & BAR GROUP "D"	3:1 = 11'-0"	20'-0" TO 25'-0"	@ 4'	3'	#5	11"	24	34	4'-9"	#5	11"	24	34	5'-8"	4'-8"8	#4	12"	5	#4	12"	6	#4	12"	5	#4	12"	22	32	3'-11"
	4:1 = 16'-0"			4'			24	34	4'-9"			24	34	5'-8"	4'-8"8			5			8			5			22	32	4'-11"
				5'			24	34	4'-9"			24	34	5'-8"	4'-8"8			5			10			5			22	32	5'-11"
				6'			24	34	4'-11"			24	34	5'-10"	4'-10"8			5			12			5			22	32	6'-11"
			@ 4'	3'			22	32	5'-9"			22	32	6'-10"	5'-8"			6			6			6			22	32	4'-1"
				4'			22	32	5'-9"			22	32	6'-10"	5'-8"			6			8			6			22	32	5'-1"
			@ 5'	5'	#7	12"	22	32	5'-9"	#6	12"	22	32	6'-11"	5'-10"	#4	12"	6	#4	12"	10	#4	12"	6	#4	12"	22	32	6'-1"
				6'			22	32	5'-11"			22	32	7'-1"	5'-11"			6			12			6			22	32	7'-1"
				7'			22	32	6'-1"			22	32	7'-2"4	6'-0"			6			14			6			22	32	8'-1"
			@ 6'	4'			22	32	6'-10"			22	32	7'-10"	6'-8"			7			8			7			22	32	5'-2"
				5'			22	32	6'-10"			22	32	7'-10"	6'-8"			7			10			7			22	32	6'-2"
				6'	#7	12"	22	32	6'-11"	#6	12"	22	32	8'-0"	6'-10"	#4	12"	7	#4	12"	12	#4	12"	7	#4	12"	22	32	7'-2"
				7'			22	32	7'-0"			22	32	8'-1"	6'-11"			7			14			7			22	32	8'-1"
				8'			22	32	7'-1"			22	32	8'-2"4	7'-0"			7			16			7			22	32	9'-1"
SECTION "E" & BAR GROUP "E"	3:1 = 11'-0"	25'-0" TO 30'-0"	@ 4'	3'	#6	11"	24	34	4'-9"	#5	12"	22	32	5'-8"	4'-8"8	#4	12"	5	#4	12"	6	#4	12"	5	#4	12"	22	32	4'-10"
	4:1 = 16'-0"			4'			24	34	4'-9"			22	32	5'-8"	4'-8"8			5			8			5			22	32	5'-0"
				5'			24	34	4'-10"			22	32	5'-9"	4'-9"8			5			10			5			22	32	6'-0"
				6'			24	34	5'-0"			22	32	5'-11"	4'-11"8			5			12			5			22	32	7'-0"
			@ 4'	3'			24	34	5'-9"			24	36	6'-10"	5'-8"			6			6			6			24	34	4'-1"
				4'			24	34	5'-9"			24	36	6'-10"	5'-8"			6			8			6			24	34	5'-1"
			@ 5'	5'	#7	11"	24	34	5'-10"	#6	11"	24	36	7'-0"	5'-10"	#4	12"	6	#4	12"	10	#4	12"	6	#4	12"	24	34	6'-1"
				6'			24	34	6'-0"			24	36	7'-1"	5'-11"			6			12			6			24	34	7'-1"
				7'			24	34	6'-2"			24	36	7'-2"4	6'-0"			6			14			6			24	34	8'-1"
			@ 6'	4'			24	34	6'-9"			24	36	7'-10"	6'-8"			8			8			8			24	36	5'-2"
				5'			24	34	6'-11"			24	36	8'-0"	6'-10"			8			10			8			24	36	6'-2"
				6'	#7	11"	24	34	7'-0"	#6	11"	24	36	8'-1"	6'-11"	#4	12"	8	#4	12"	12	#4	12"	8	#4	12"	24	36	7'-2"
				7'			24	34	7'-1"			24	36	8'-2"4	7'-0"			8			14			8			24	36	8'-2"
				8'			24	34	7'-2"			24	36	8'-3"4	7'-1"			8			16			8			24	36	9'-2"
SECTION "F" & BAR GROUP "F"	3:1 = 11'-0"	30'-0" TO 35'-0"	@ 4'	3'	#6	15"	20	30	4'-9"	#6	13"	20	30	5'-10"	4'-8"	#4	12"	5	#4	12"	6	#4	12"	5	#4	12"	20	30	4'-1"
	4:1 = 16'-0"			4'			20	30	4'-9"			20	30	5'-10"	4'-8"			5			8			5			20	30	5'-1"
				5'			20	30	4'-11"			20	30	6'-0"	4'-10"			5			10			5			20	30	6'-1"
				6'			20	30	5'-1"			20	30	6'-2"	5'-0"			5			12			5			20	30	7'-1"
			@ 4'	3'			22	32	5'-9"			22	32	6'-10"	5'-8"			6			6			6			22	32	4'-2"
				4'			22	32	5'-9"			22	32	6'-11"	5'-9"			6			8			6			22	32	5'-2"
			@ 5'	5'	#7	12"	22	32	5'-11"	#6	12"	22	32	7'-1"	5'-11"	#4	10½"	7	#4	12"	10	#4	10½"	7	#4	12"	22	32	6'-2"
				6'			22	32	6'-1"			22	32	7'-2"4	6'-0"			7			12			7			22	32	7'-2"
				7'			22	32	6'-2"			22	32	7'-3"4	6'-1"			7			14			7			22	32	8'-2"
			@ 6'	4'					6'-10"	6'-9"																				
				5'					6'-10"	6'-11"																				
				6'	#7	12"			7'-0"	7'-0"	#7	12"																		
				7'					7'-1"	7'-2"																				
				8'					7'-2"	7'-3"																				
SECTION "G" & BAR GROUP "G"	Varies with Length of Barrel	35'-0" TO 40'-0"	@ 4'	3'					5'-10"	4'-8"																				
				4'					5'-10"	4'-9"																				
			@ 5'	5'	#7	11"			6'-0"	4'-11"	#6	12"																		
				6'					6'-2"	5'-1"																				
			@ 6'	4'					6'-10"	5'-6"																				
				5'					7'-0"	5'-8"																				
				6'	#7	11"			7'-2"	6'-0"	#6	11"																		
				7'					7'-4"	6'-2"																				
				8'					7'-5"	6'-3"																				

Varies with Length of Barrel — Varies with Length of Barrel — Varies with Length of Barrel — Varies with Length of Barrel — Varies with Length of Barrel — Varies with Length of Barrel

Section B, the bars should be marked 2a, 2b, 2c, 2d, 2e and 2f.

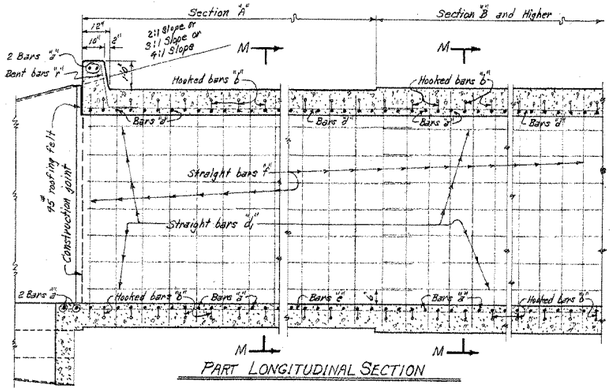
Designed By:- W.C.H. 9-5-62 Checked By:- J.S.M. 11-8-62
Drawn By:- W.C.H. 10-10-62 Checked By:- J.S.M. 11-12-62
Quantities By:- W.C.H. 11-7-62 Checked By:- J.S.M. 11-16-62

NOTE:- Bars for each Section to be marked with the Section Letter. Use for Section B, Bars

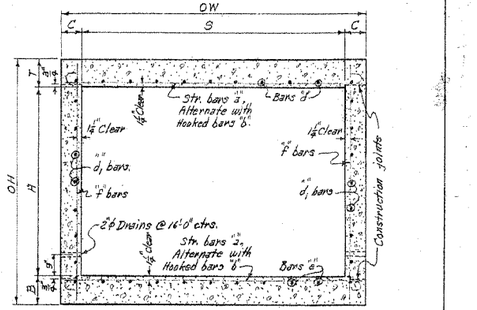
DIMENSIONS AND QUANTITIES

MAX. DESIGN DEPTH OF COVER	BARREL DIMENSIONS: CLEAR SPAN	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES: CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL: PER LIN. FT. OF BARREL	ADDITIONAL: PER LAP	ADDITIONAL: TWO HEADWALLS & WINGWALLS
D	S	H	A	OW	T	C	B	OH	CU.YD.	LB.	LB.	LB.
SECTION "A" - 10'-0"	@ 4'	3'	12	5'-0"	6½"	6"	6½"	4'-1"	0.312	29.62	15.36	51.94
		4'	16	5'-0"		6"		5'-1"	0.349	32.29	15.03	51.94
		5'	20	5'-0"		6"		6'-1"	0.386	34.96	16.70	51.94
		6'	24	5'-2"		7"		7'-1"	0.467	38.08	18.37	52.33
	@ 5'	3'	15	6'-0"	7"	6"	7"	4'-2"	0.370	33.16	15.03	79.37
		4'	20	6'-0"		6"		5'-2"	0.907	35.83	16.70	79.37
		5'	25	6'-0"		6"		6'-2"	0.444	38.50	18.37	79.37
		6'	30	6'-2"		7"		7'-2"	0.526	51.87	20.04	80.77
		7'	35	6'-3"		7½"		8'-2"	0.594	57.00	21.71	81.76
	@ 6'	4'	24	7'-0"	7½"	6"	7½"	5'-3"	0.972	58.99	18.37	93.29
		5'	30	7'-0"		6"		6'-3"	0.509	61.66	20.04	93.29
		6'	36	7'-2"		7"		7'-3"	0.591	65.18	21.71	94.68
		7'	42	7'-3"		7½"		8'-3"	0.660	70.41	23.38	95.37
		8'	48	7'-4"		8"		9'-3"	0.735	79.83	25.05	96.07
SECTION "B" - 15'-0"	@ 4'	3'	12	5'-0"	6½"	6"	6½"	4'-1"	0.312	33.96	19.86	
		4'	16	5'-0"		6"		5'-1"	0.349	36.65	15.09	
		5'	20	5'-0"		6"		6'-1"	0.386	39.32	16.70	
		6'	24	5'-2"		7"		7'-1"	0.467	44.39	18.37	
	@ 5'	3'	15	6'-0"	7"	6"	7"	4'-2"	0.370	49.76	15.03	
		4'	20	6'-0"		6"		5'-2"	0.907	52.45	16.70	
		5'	25	6'-0"		6"		6'-2"	0.444	55.12	18.37	
		6'	30	6'-2"		7"		7'-2"	0.526	59.98	20.04	
		7'	35	6'-3"		7½"		8'-2"	0.594	67.68	21.71	
	@ 6'	4'	24	7'-0"	7½"	6"	8"	5'-3"	0.999	65.30	18.37	
		5'	30	7'-0"		6"		6'-3"	0.536	66.63	20.04	
		6'	36	7'-2"		8"		7'-3"	0.619	73.58	21.71	
		7'	42	7'-3"		7½"		8'-3"	0.688	82.61	23.38	
		8'	48	7'-4"		8"		9'-3"	0.763	98.19	25.05	
SECTION "C" - 20'-0"	@ 4'	3'	12	5'-0"	6½"	6"	6½"	4'-1"	0.312	37.54	13.36	
		4'	16	5'-0"		6"		5'-1"	0.353	40.21	15.03	
		5'	20	5'-0"		6"		6'-1"	0.390	44.94	16.70	
		6'	24	5'-2"		7"		7'-1"	0.471	51.38	18.37	
	@ 5'	3'	15	6'-0"	7½"	6"	7½"	4'-2"	0.394	52.65	15.03	
		4'	20	6'-0"		6"		5'-2"	0.431	55.52	16.70	
		5'	25	6'-0"		6"		6'-2"	0.468	58.32	18.37	
		6'	30	6'-2"		7"		7'-2"	0.550	67.04	20.04	
		7'	35	6'-3"		7½"		8'-2"	0.618	78.27	21.71	
	@ 6'	4'	24	7'-0"	8"	6"	9"	5'-3"	0.526	69.39	18.37	
		5'	30	7'-0"		6"		6'-3"	0.563	72.06	20.04	
		6'	36	7'-2"		7"		7'-3"	0.644	81.20	21.71	
		7'	42	7'-3"		7½"		8'-3"	0.716	92.67	23.38	
		8'	48	7'-4"		8"		9'-3"	0.791	105.06	25.05	
SECTION "D" - 25'-0"	@ 4'	3'	12	5'-0"	6½"	6"	6½"	4'-2"	0.327	39.63	13.36	
		4'	16	5'-0"		6"		5'-2"	0.364	42.30	15.03	
		5'	20	5'-0"		6"		6'-2"	0.401	44.97	16.70	
		6'	24	5'-2"		7"		7'-2"	0.483	55.14	18.37	
	@ 5'	3'	15	6'-0"	8"	6"	8"	4'-3"	0.417	55.28	15.03	
		4'	20	6'-0"		6"		5'-3"	0.454	57.95	16.70	
		5'	25	6'-0"		6"		6'-3"	0.501	61.61	18.37	
		6'	30	6'-2"		7"		7'-3"	0.585	71.20	20.04	
		7'	35	6'-3"		8"		8'-3"	0.668	81.95	21.71	
	@ 6'	4'	24	7'-0"	9"	6"	10"	5'-3"	0.559	72.95	18.37	
		5'	30	7'-0"		6"		6'-3"	0.616	76.21	20.04	
		6'	36	7'-2"		7"		7'-3"	0.691	85.22	21.71	
		7'	42	7'-3"		8"		8'-3"	0.776	97.23	23.38	
		8'	48	7'-4"		8"		9'-3"	0.869	108.02	25.05	
SECTION "E" - 30'-0"	@ 4'	3'	12	5'-0"	7½"	6"	7½"	4'-3"	0.349	42.12	13.36	
		4'	16	5'-0"		6"		5'-3"	0.380	44.79	15.03	
		5'	20	5'-1"		6½"		6'-3"	0.936	52.39	16.70	
		6'	24	5'-3"		7½"		7'-3"	0.521	63.09	18.37	
	@ 5'	3'	15	6'-0"	8½"	6"	9½"	4'-4"	0.944	58.94	15.03	
		4'	20	6'-0"		6"		5'-4"	0.981	61.61	16.70	
		5'	25	6'-1"		6½"		6'-4"	0.569	66.77	18.37	
		6'	30	6'-3"		7½"		7'-4"	0.637	75.68	20.04	
		7'	35	6'-5"		8½"		8'-4"	0.724	88.37	21.71	
	@ 6'	4'	24	7'-0"	10"	6"	10½"	5'-3"	0.591	79.04	20.04	
		5'	30	7'-0"		6"		6'-3"	0.669	83.78	21.71	
		6'	36	7'-2"		8"		7'-3"	0.760	92.53	23.38	
		7'	42	7'-5"		8½"		8'-3"	0.850	104.59	25.05	
		8'	48	7'-7"		9½"		9'-3"	0.949	115.61	26.72	
SECTION "F" - 35'-0"	@ 4'	3'	12	5'-0"	7½"	6"	8½"	4'-4"	0.358	45.89	13.36	
		4'	16	5'-0"		6"		5'-4"	0.395	48.16	15.03	
		5'	20	5'-2"		7"		6'-4"	0.471	66.32	16.70	
		6'	24	5'-4"		8"		7'-4"	0.560	67.17	18.37	
	@ 5'	3'	15	6'-0"	9½"	6"	10½"	4'-5"	0.963	68.18	16.70	
		4'	20	6'-0"		6½"		5'-5"	0.509	66.11	18.37	
		5'	25	6'-2"		7½"		6'-7"	0.588	71.65	20.04	
		6'	30	6'-4"		8½"		7'-7"	0.679	80.70	21.71	
		7'	35	6'-6"		9"		8'-7"	0.770	93.59	23.38	
SECTION "G" - 40'-0"	@ 4'	3'	12	5'-0"	8½"	6"	10½"	4'-5"	0.373	49.38	15.03	
		4'	16	5'-0"		6½"		5'-5"	0.927	52.56	16.70	
		5'	20	5'-1"		7½"		6'-5"	0.507	60.85	18.37	
		6'	24	5'-3"		8½"		7'-5"	0.599	71.86	20.04	
	@ 5'	3'	15	6'-0"	9¾"	6"	11½"	4'-6"	0.481	67.30	16.70	
		4'	20	6'-1"		6½"		5'-6"	0.595	70.89	18.37	
		5'	25	6'-3"		7½"		6'-6"	0.628	76.56	20.04	
		6'	30	6'-5"		8½"		7'-6"	0.723	85.78	21.71	
		7'	35	6'-7"		9½"		8'-6"	0.817	98.84	23.38	

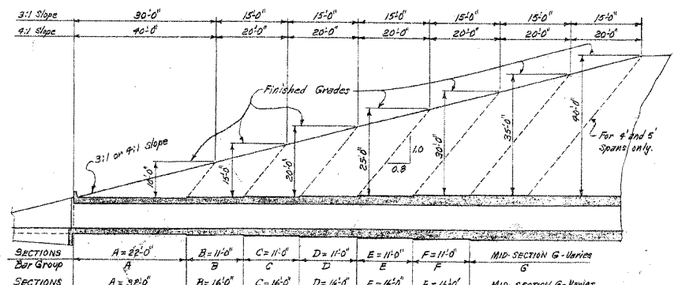
Notes:- For details of wings and bar lists, see Drawing Nos. W-X002-1, W-X003-1, and W-X004-1.



PART LONGITUDINAL SECTION



TYPICAL SECTION M-M



3:1 Slope =	SECTIONS	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	MID-SECTION G-Varies
	Bar Group	A	B	C	D	E	F	G
4:1 Slope =	SECTIONS	A=32'-0"	B=16'0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	MID-SECTION G-Varies
	Bar Group	A	B	C	D	E	F	G

TYPICAL LONGITUDINAL SECTION-SHOWING SECTIONS AND BAR GROUPS FOR VARIOUS DEPTHS OF COVER

NOTE:- Lengths of Sections, with Bar Groups to be shown on Cross Section Sheets.

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	Bars "b"
#4	2"	4"	0'-10⅝"	
#5	2½"	4⅝"	0'-11⅞"	
#6	3"	5"	1'-2"	
#7	3½"	5⅜"	1'-4"	

NOTE:- Dimensions are to centers of bars.

DOWEL BARS FOR TWO HEAD

BAR LIST FOR VARIOUS SECTIONS OF BARREL

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			203	
JOB No.					

SECTION & BAR GROUP	LENGTH OF SECTION	DEPTH OF COVER	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slabs of Barrel. 2 Add'l in Apron and Headwall - Each.					"b" bars BENT - See Diagram at Right In top and Bottom Slabs of Barrel - Hooked. Alternate with "a" bars.							"j" bars Longitudinal in Top Slab of Barrel				"d" bars STRAIGHT Longitudinal in Sidewalls.				"e" bars Longitudinal in Bottom Slab of Barrel.				"f" bars STRAIGHT Verticals in Sidewalls			
		D	S	H	SIZE	SPACING	NUMBER REQ'D 2:1	3:1	4:1	LENGTH	SIZE	SPACING	NUMBER REQ'D 2:1	3:1	4:1	LENGTH	X	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D 2:1	3:1	4:1	LENGTH
"A"	2'1"+20'0"+3'1"+20'0"	1@																														
		4'	2'		#4	12"	28	48	68	4'9"	#4	18"	26	44	64	5'7"	4'8½"	#4	12"	5		#4	12"	4		#4	12"	5		#4	12"	24	44	64	2'10"
		6'	3'		#5	12"	28	48	68	6'9"	#6	18"	26	44	64	8'10"	7'8"	#4	12"	6		#4	12"	6		#4	12"	7		#4	12"	24	44	64	4'0"
		7'	4'		#5	12"	28	48	68	7'9"	#6	18"	26	44	64	8'10"	7'8"	#4	12"	8		#4	12"	8		#4	12"	8		#4	12"	24	44	64	5'1"
		8'	4'		#6	12"	28	48	68	8'9"	#6	18"	26	44	64	9'10"	8'8"	#4	12"	9		#4	12"	9		#4	12"	9		#4	12"	24	44	64	5'8"
			5'				28	48	68	8'11"			26	44	64	10'0"	8'10"			10				10				10				24	44	64	6'3"
	2'1"+20'0", 3'1"+40'0"	9'	5'	TO 10'0"	#6	12"	30	52	74	9'11"	#7	11"	26	48	70	11'2"	9'10"	#4	12"	10		#4	12"	10		#4	12"	10		#4	12"	24	44	64	6'5"
			6'				30	52	74	10'0"			26	48	70	11'2"	9'10"			10				10				10				24	44	64	7'5"
		10'	5'		#7	12"	28	48	68	10'11"	#7	12"	24	44	64	12'5"	10'11"	#4	12"	11		#4	12"	11		#4	12"	11		#7	12"	24	44	64	6'7"
			6'				28	48	68	11'0"			24	44	64	12'5"	10'11"			11				11				11				24	44	64	7'7"
			7'				28	48	68	11'0"			24	44	64	12'5"	10'11"			11				11				11				24	44	64	8'7"
"B"	2'1"+20', 3'1"+40', 4'1"+60'	4'	2'		#4	12"	12	22	32	4'9"	#5	12"	12	22	32	5'8"	4'8½"	#4	12"	5		#4	12"	5		#4	12"	5		#4	12"	12	22	32	2'10"
		6'	3'		#6	12"	12	22	32	6'9"	#6	12"	12	22	32	7'10"	6'8"	#4	12"	7		#4	12"	6		#4	12"	7		#4	12"	12	22	32	4'1"
		7'	4'		#6	11"	14	24	34	7'9"	#6	11"	12	24	34	8'10"	7'8"	#4	12"	8		#4	12"	8		#4	12"	8		#4	12"	12	22	32	5'8"
		8'	4'		#7	12"	12	22	32	8'9"	#6	12"	12	22	32	9'10"	8'8"	#4	12"	9		#4	12"	9		#4	12"	9		#4	12"	12	22	32	5'5"
			5'				12	22	32	8'11"			12	22	32	9'11"	8'9"			10				10				10				12	22	32	6'5"
	2'1"+20', 3'1"+40', 4'1"+60'	9'	5'	TO 10'0"	#7	12"	12	22	32	9'11"	#7	12"	12	22	32	10'11"	9'9"	#4	12"	10		#4	12"	10		#4	12"	10		#4	12"	12	22	32	6'2"
			6'				12	22	32	10'0"			12	22	32	10'11"	9'9"			10				10				10				12	22	32	7'2"
		10'	5'		#8	12"	12	22	32	10'11"	#7	12"	12	22	32	11'10"	10'8"	#4	12"	11		#4	12"	11		#4	12"	11		#4	12"	12	22	32	6'10"
			6'				12	22	32	11'0"			12	22	32	11'10"	10'8"			11				11				11				12	22	32	7'10"
			7'				12	22	32	11'0"			12	22	32	12'3"	10'11"			12				12				12				12	22	32	8'10"
"C"	2'1"+20', 3'1"+40', 4'1"+60'	4'	2'		#5	12"	12	22	32	4'9"	#5	12"	12	22	32	5'8"	4'8½"	#4	12"	5		#4	12"	5		#4	12"	5		#4	12"	12	22	32	2'10"
		6'	3'		#7	11"	14	24	34	6'9"	#6	11"	12	24	34	7'10"	6'8"	#4	12"	7		#4	12"	7		#4	12"	7		#4	12"	12	22	32	4'1"
		7'	4'		#7	13"	12	20	30	7'9"	#7	13"	10	20	30	9'1"	7'8"	#4	12"	8		#4	12"	8		#4	12"	8		#4	12"	12	22	32	5'5"
		8'	4'		#7	12"	12	22	32	8'9"	#7	12"	12	22	32	10'1"	8'8"	#4	11"	10		#4	12"	8		#4	11"	10		#4	12"	12	22	32	5'11"
			5'				12	22	32	8'11"			12	22	32	10'1"	8'10"			10				10				10				12	22	32	6'7"
	2'1"+20', 3'1"+40', 4'1"+60'	9'	5'	TO 20'0"	#8	12"	12	22	32	9'11"	#7	12"	12	22	32	11'2"	9'10"	#4	11"	11		#4	12"	10		#4	11"	11		#4	12"	12	22	32	6'10"
			6'				12	22	32	10'0"			12	22	32	11'2"	9'10"			11				11				11				12	22	32	7'10"
		10'	5'		#8	12"	12	22	32	10'11"	#8	12"	12	22	32	12'5"	10'11"	#4	10"	13		#4	12"	12		#4	10"	13		#4	12"	12	22	32	7'9"
			6'				12	22	32	11'0"			12	22	32	12'5"	10'11"			13				13				13				12	22	32	8'9"
			7'				12	22	32	11'0"			12	22	32	12'5"	10'11"			13				13				13				12	22	32	9'9"
"D"	2'1"+20', 3'1"+40', 4'1"+60'	4'	2'		#5	11"	14	24	34	4'9"	#5	11"	12	24	34	5'8"	4'8½"	#4	12"	5		#4	12"	5		#4	12"	5		#6	12"	12	22	32	2'11"
		6'	3'		#7	12"	12	22	32	6'9"	#6	12"	12	22	32	7'10"	6'8"	#4	12"	7		#4	12"	7		#4	12"	7		#6	12"	12	22	32	4'2"
		7'	4'		#7	12"	12	22	32	7'9"	#7	12"	12	22	32	9'0"	7'8"	#4	11"	9		#4	12"	8		#4	11"	9		#6	12"	12	22	32	5'7"
		8'	4'		#8	12"	12	22	32	8'9"	#7	12"	12	22	32	10'0"	8'8"	#4	10"	11		#4	12"	8		#4	10"	11		#6	12"	12	22	32	5'9"
			5'				12	22	32	8'11"			12	22	32	10'2"	8'10"			10				10				10				12	22	32	6'9"
	2'1"+20', 3'1"+40', 4'1"+60'	9'	5'	TO 20'0"	#8	12"	12	22	32	9'11"	#7	12"	12	22	32	11'3"	9'11"	#4	10"	12		#4	12"	10		#4	10"	12		#6	12"	12	22	32	7'0"
			6'				12	22	32	10'0"			12	22	32	11'3"	9'11"			12				12				12				12	22	32	8'0"
		10'	5'		#8	12"	12	22	32	10'11"	#8	12"	12	22	32	12'5"	10'11"	#4	9½"	14		#4	12"	12		#4	9½"	14		#6	12"	12	22	32	7'9"
			6'				12	22	32	11'0"			12	22	32	12'5"	10'11"			14				14				14				12	22	32	8'9"
			7'				12	22	32	11'2"			12	22	32	12'7"	11'1"			14				14				14				12	22	32	9'9"
"E"	2'1"+6'0", 3'1"+20'0", 4'1"+34'0"	4'	2'		#6	12"	12	22	32	4'9"	#5	12"	12	22	32	5'8"	4'8½"	#4	12"	5		#4	12"	5		#4	12"	5		#6	12"	12	22	32	3'0"
		6'	3'		#7	11"	14	24	34	6'9"	#6	11"	12	24	34	7'10"	6'8"	#4	11"	8		#4	12"	6		#4	11"	8		#6	12"	12	22	32	4'5"
		7'	4'		#7	11"	14	24	34	7'9"	#7	11"	12	24	34	9'0"	7'8"	#4	11"	9		#4	12"	8		#4	11"	9		#6	12"	12	22	32	5'8"
		8'	4'		#8	11"	14	24	36	8'10"	#7	11"	12	24	36	10'1"	8'9"	#4	10"	11		#4	12"	8		#4	10"	11		#6	12"	12	22	32	5'11"
			5'				14	24	36	9'11"			12	24	36	10'2"	8'10"			11				11				11				12	22	32	6'11"
	2'1"+6'0", 3'1"+20'0", 4'1"+34'0"	9'	5'	TO 25'0"	#8	11"	14	24	36	10'0"	#7	11"	12	24	36	11'5"	9'11"	#4	9½"	13		#4	12"	10		#4	9½"	13		#6	12"	12	22	32	7'2"
			6'				14	24	36	10'1"			12	24	36	11'5"	9'11"			13				13				13				12	22	32	8'2"
		10'	5'		#8	11"	14	24	36	10'1"	#8	11"	12	24	34	11'6"	10'0"	#4	9"	13		#4	12"	10		#4	9"	13		#6	12"	12	22	32	8'8"
			6'				14	24	36	10'2"			12	24	34	11'6"	10'0"			13				13				13				12	22	32	9'8"
			7'				14	24	36	10'3"			12	24	34	11'7"	10'1"			13				13				13				12	22	32	10'8"
"F"	2'1"+6'0", 3'1"+20'0", 4'1"+34'0"	4'	2'		#6	12"	12	22	32	4'9"	#5	12"	12	22	32	5'8"	4'8½"	#4	12"	5		#4	12"	5		#4	12"	5		#6	12"	12	22	32	3'1"
		6'	3'		#7	11"	14	24	34	6'9"	#6	11"	12	24	34	7'10"	6'8"	#4	11"	8		#4	12"	6		#4	11"	8		#6	12"	12	22	32	4'6"
		7'	4'		#7	11"	14	24	36	7'9"	#7	11"	12	24	36	9'0"	7'8"	#4	11"	9		#4	12"	8		#4	11"	9		#6	12"	12	22	32	5'8"
		8'	4'		#8	11"	14	24	36	8'10"	#7	11"	12	24	36	10'1"	8'9"	#4	10"	11		#4	12"	8		#4	10"	11		#6	12"	12	22	32	5'11"
			5'				14	24	36	9'11"			12	24	36	10'2"	8'10"			11				11				11				12	22	32	6'11"
	2'1"+6'0", 3'1"+20'0", 4'1"+34'0"	9'	5'	TO 25'0"	#8	11"	14	24	36	10'0"	#8	11"	12	24	34	11'5"	9'11"	#4	9"	13		#4	12"	10		#4	9"	13		#6	12"	12	22	32	7'2"
			6'				14	24	36	10'1"			12	24	34	11'5"	9'11"			13				13				13				12	22	32	8'2"
		10'	5'		#8	11"	14	24	36	10'1"	#8	11"	12	24	34	11'6"	10'0"	#4	8½"	13		#4	12"	10		#4	8½"	13		#6	12"	12	22	32	8'8"
			6'				14	24	36	10'2"			12	24	34	11'6"	10'0"			13				13				13				12	22	32	9'8"
			7'				14	24	36	10'3"			12	24	34	11'7"	10'1"			13				13				13				12	22	32	10'8"
"G"	Varies with Length of Barrel	Varies		30'0" TO 40'0"						4'9"						5'8"	4'8½"																2'9"
			3'							6'9"						8'2"	6'8"																4'1"
		6'	4'		#7	11"	Varies with Length of Barrel.			7'9"	#7	11"	Varies with Length of Barrel.			9'2"	7'8"	#4	9½"	Varies with Length of Barrel.		#4	12"	Varies with Length of Barrel.		#4	9½"	Varies with Length of Barrel.		#6	12"	Varies with Length of Barrel.			5'3"
			5'							8'9"						10'2"	8'10"																6'3"
		8'	5'		#8	11"				8'11"	#7	11"				10'2"	8'10"	#4	10"			#4	12"			#4	10"			#6	12"				6'3"
			6'							9'11"						11'5"	9'11"																7'3"
		10'	6'		#8	11"				9'11"	#8	11"				11'5"	9'11"	#4	9"			#4	12"			#4	9"			#6	12"				7'3"
			7'							10'1"						11'6"	10'0"																8'3"
			8'							10'2"						11'7"	10'1"																9'3"
			9'							10'3"						11'8"	10'2"																10'3"
			10'							10'4"						11'9"	10'3"																11'3"
		12'	6'		#8	11"				9'11"	#8	11"				11'5"	9'11"	#4	8½"			#4	12"			#4	8½"			#6	12"				7'3"
			7'							10'1"						11'6"	10'0"																8'3"
			8'							10'2"						11'7"	10'1"																9'3"
			9'							10'3"						11'8"	10'2"																10'3"
			10'							10'4"						11'9"	10'3"																11'3"
		14'	6'		#8	11"				9'11"	#8	11"				11'5"	9'11"	#4	8"			#4	12"			#4	8"			#6	12"				7'3"
			7'							10'1"						11'6"	10'0"																8'3"
			8'							10'2"						11'7"	10'1"																9'3"
			9'							10'3"						11'8"	10'2"																10'3"
			10'							10'4"						11'9"	10'3"																11'3"
		16'	6'		#8	11"				9'11"	#8	11"				11'5"	9'11"	#4	7½"			#4	12"			#4	7½"			#6	12"				7'3"
			7'							10'1"						11'6"	10'0"																8'3"
			8'							10'2"						11'7"	10'1"																9'3"
			9'							10'3"						11'8"	10'2"																10'3"
			10'							10'4"						11'9"	10'3"																11'3"

NOTE:- Bars for each Section to be marked with the Section Letter, thus for Section B, Mark "B".

Designed By:- W.C.H. 12-9-64 Checked By:-
Drawn By:- W.C.H. 12-11-64 Checked By:-
Quantities By:- W.C.H. 12-17-64 Checked By:-

DIMENSIONS AND QUANTITIES

SECTION	MAX. DESIGN DEPTH OF COVER	BARREL DIMENSIONS: CLEAR SPAN	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES: CLASS S CONC. PER BARREL FT	REINFORCING STEEL: PER LIN. FT. BARREL	ADDITIONAL: PER LAP	ADDITIONAL: TWO HEADWALLS & WINGS
	D	S	H	A	OW	T	C	B	OH	CU.YD.	LB.	LB.	LB.
SECTION "A"-10'0"	1@												
	4'	2'	8	5'-0"	6⅝"	6"	6⅝"	3'-1"		0.275	24.94	11.69	51.93
	6'	3'	18	7'-0"	7⅝"	6"	7⅝"	4'-5"		0.435	56.32	16.70	93.29
	7'	4'	28	8'-0"	8"	6"	8⅛"	5'-1½"		0.556	66.53	20.04	107.92
	8'	5'	40	9'-2"	8⅝"	6"	7"	5'-6"		0.698	80.21	21.71	134.99
		5'	42	9'-3"		6"	7"	5'-6"		0.705	83.88	23.38	136.95
	9'	6'	54	10'-5"	9⅛"	7"	7⅝"	6'-4"		0.894	110.91	25.05	176.61
		6'	54	10'-5"		7"	7⅝"	6'-8"		0.911	114.23	26.72	177.61
	10'	5'	50	11'-3"	10⅛"	7"	7⅝"	6'-10"		0.974	124.54	26.72	208.97
		6'	60	11'-5"		7"	7⅝"	7'-10"		1.092	128.22	28.39	245.94
		7'	70	11'-5"		7"	7⅝"	8'-10"		1.088	130.64	30.06	245.84
SECTION "B"-15'0"	4'	2'	8	5'-0"	6⅝"	6"	6⅝"	3'-1"		0.275	31.30	11.69	51.93
	6'	3'	18	7'-0"	8"	6"	8⅛"	4'-5"		0.462	62.62	16.70	118.07
	7'	4'	28	8'-0"	8⅝"	6"	8⅝"	5'-6"		0.593	77.39	20.04	135.58
	8'	5'	32	9'-0"	9⅛"	6"	9⅛"	5'-6"		0.718	88.91	21.71	192.88
		5'	40	9'-2"		7"	10⅜"	6'-2"		0.796	93.77	23.38	195.61
	9'	6'	54	10'-5"	10⅜"	7"	11⅝"	6'-10"		0.922	115.08	25.05	219.61
		6'	54	10'-5"		7"	11⅝"	7'-10"		0.990	118.38	26.72	220.97
	10'	5'	50	11'-3"	11⅝"	7"	12⅝"	7'-10"		1.060	139.74	28.39	298.66
		6'	60	11'-5"		7⅝"		8'-10"		1.188	193.32	30.06	300.42
		7'	70	11'-3"		7⅝"		9'-10"		1.175	152.45	31.73	300.92
SECTION "C"-20'0"	4'	2'	8	5'-0"	6⅝"	6"	6⅝"	3'-1"		0.279	34.87	11.69	
	6'	3'	18	7'-0"	8⅛"	6"	9"	4'-5"		0.493	66.72	16.70	
	7'	4'	28	8'-0"	9⅜"	6"	10⅜"	5'-6"		0.642	86.98	20.04	
	8'	4'	32	9'-0"	11"	6"	11⅝"	5'-10½"		0.773	102.81	23.38	
		5'	40	9'-2"		6"		6'-10½"		0.859	106.85	25.05	
	9'	5'	45	10'-2"	12"	7"	15"	7'-1"		1.001	129.11	26.72	
		6'	54	10'-5"		7"		8'-1"		1.069	139.64	28.39	
	10'	6'	50	11'-5"	13⅜"	7"	16⅝"	7'-3⅜"		1.164	157.54	30.06	
		6'	60	11'-5"		7⅝"		8'-3⅜"		1.293	163.24	31.73	
		7'	70	11'-3⅜"		7⅝"		9'-3⅜"		1.298	170.56	33.40	
SECTION "D"-25'0"	4'	2'	8	5'-0"	6⅝"	6"	7⅛"	3'-2"		0.290	36.95	11.69	
	6'	3'	18	7'-0"	8⅝"	6"	9⅜"	4'-7"		0.522	70.27	16.70	
	7'	4'	28	8'-0"	10⅛"	6"	11⅛"	5'-10"		0.691	93.30	21.71	
	8'	4'	32	9'-0"	12"	6"	12⅝"	6'-0⅛"		0.869	115.33	25.05	
		5'	40	9'-2"		7"		7'-0⅛"		0.909	119.57	26.72	
	9'	5'	45	10'-2"	13⅝"	7"	14⅝"	7'-3⅝"		1.079	145.54	28.39	
		6'	54	10'-5"		7⅝"		8'-3⅝"		1.149	155.10	30.06	
	10'	6'	50	11'-2"	14⅝"	7"	15⅝"	7'-6"		1.250	175.16	31.73	
		6'	60	11'-5"		7⅝"		8'-6"		1.353	181.05	33.40	
		7'	70	11'-5⅛"		8⅛"		9'-6"		1.493	190.98	35.07	
SECTION "E"-30'0"	4'	2'	8	5'-0"	7⅛"	6"	7⅝"	3'-3"		0.306	39.95	11.69	
	6'	3'	18	7'-0"	10"	6"	10⅛"	4'-8½"		0.534	76.37	16.37	
	7'	4'	28	8'-0"	11⅛"	6"	11⅝"	5'-11½"		0.728	99.69	21.71	
	8'	4'	32	9'-1"	13"	6⅝"	13⅛"	6'-2½"		0.903	124.37	25.05	
		5'	40	9'-2½"		7⅛"		7'-2½"		0.977	128.94	26.72	
	9'	5'	45	10'-3"	14⅛"	7⅝"	14⅝"	7'-5½"		1.165	160.90	30.06	
		6'	54	10'-5½"		8⅛"		8'-5½"		1.250	168.15	31.73	
	10'	6'	50	11'-5"		7⅝"		7'-8½"		1.360	195.95	55.63	
		6'	60	11'-5"		8⅛"		8'-8½"		1.460	208.10	59.10	
		7'	70	11'-7"	15⅝"	9⅛"	16⅝"	9'-8½"		1.578	210.29	62.58	
		8'	80	11'-9"		10⅛"		10'-8½"		1.697	260.26	66.06	
		9'	90	11'-11"		11⅛"		11'-8½"		1.834	252.03	69.58	
		10'	100	12'-0½"		12⅛"		12'-8½"		1.964	250.98	73.01	
SECTION "F"-35'0"	4'	2'	8	5'-0"	7⅝"	6"	8⅛"	3'-4"		0.321	92.82	11.69	
	6'	3'	18	7'-0"	10⅝"	6"	11⅝"	4'-10"		0.586	82.45	20.04	
		4'	28	8'-2½"		7"		6'-1"		0.803	110.80	23.38	
	7'	5'	35	8'-3½"	12⅝"	7"	13⅝"	7'-1"		0.868	118.79	25.05	
		5'	42	8'-5½"		8⅛"		8'-1"		0.964	125.56	26.72	
		7'	49	8'-7"		9⅛"		9'-1"		1.073	131.96	28.39	
	8'	5'	56	8'-9"		10⅛"		10'-1"		1.194	145.80	30.06	
	9'	6'	63	8'-11"		11⅛"		11'-1"		1.327	160.88	31.73	
		4'	32	9'-1½"		6⅝"		6'-4½"		0.962	136.57	26.72	
		5'	40	9'-3½"		7⅛"		7'-4½"		1.099	142.02	28.39	
	8'	6'	48	9'-5½"	13⅝"	7⅝"	14⅝"	8'-4½"		1.149	150.75	30.06	
		7'	56	9'-7½"		8⅛"		9'-4½"		1.261	157.78	31.73	
		8'	64	9'-9½"		10⅛"		10'-4½"		1.385	170.62	33.40	
	9'	9'	72	9'-11½"		11⅛"		11'-4½"		1.521	183.51	35.07	
		10'	80	10'-1½"		12⅛"		12'-4½"		1.670	200.66	36.74	
		5'	45	10'-4"		8"		7'-7⅛"		1.244	177.60	52.15	
		6'	54	10'-6"		9"		8'-7⅛"		1.396	186.70	55.63	
	9'	7'	63	10'-8"	15⅝"	10"	16"	9'-7⅛"		1.461	194.03	59.10	
		8'	72	10'-10"		11"		10'-7⅛"		1.588	202.30	62.58	
		9'	81	11'-0"		12"		11'-7⅛"		1.728	220.59	66.06	
SECTION "G"-40'0"	4'	2'	8	5'-0"	8½"	6"	8⅝"	3'-5"		0.336	45.38	11.69	
	6'	3'	18	7'-0"		6"		4'-11"		0.613	88.05	20.04	
		3'	29	7'-2"		7"		5'-11"		0.688	92.21	21.71	
	6'	5'	30	7'-9"	11⅝"	8"	12"	6'-11"		0.779	93.15	23.38	
		6'	36	7'-6"		9"		7'-11"		0.877	106.27	25.05	
		7'	42	7'-8"		10"		8'-11"		0.988	119.16	26.72	
		8'	48	7'-10"		11"		9'-11"		1.111	130.77	28.39	
		4'	28	8'-3"		7⅛"		6'-8½"		0.860	116.80	25.05	
		5'	35	8'-4½"		8⅛"		7'-8½"		0.960	121.18	26.72	
	7'	6'	42	8'-6½"	12"	9⅛"	13⅝"	8'-8½"		1.041	125.65	28.39	
		7'	49	8'-8½

REVISED 3-5-63 TAN 420

BAR LIST FOR VARIOUS SECTIONS OF BARREL

SECTION & BAR GROUP	DEPTH OF SECTION	DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"a" bars STRAIGHT — In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each.				"b" bars BENT - See Diagram at Right. — In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with "a" and "c" bars.							"b2" bars BENT - See Diagram at Right. — In Top of Bottom Slab bent down under Division Wall - hooked. Alternate with "a" and "c" bars.							"c" bars STRAIGHT — In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars.				"d" bars STRAIGHT — Longitudinal in Top Slab of Barrel			"d1" bars STRAIGHT — Longitudinal in Sidewalls and Division Walls			"e" bars STRAIGHT — Longitudinal in Bottom Slab of Barrel			"f" bars STRAIGHT — Vertical in Sidewalls and Division Walls		
							NUMBER REQ'D				NUMBER REQ'D						NUMBER REQ'D						NUMBER REQ'D						NUMBER REQ'D						NUMBER REQ'D		
		D	S	H	SIZE	SPACING	3:1	4:1	LENGTH	SIZE	SPACING	3:1	4:1	LENGTH	X	Y	Z	SIZE	SPACING	3:1	4:1	LENGTH	X	Y	Z	SIZE	SPACING	3:1	4:1	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	3:1	4:1	LENGTH
SECTION "A" & BAR GROUP "A"	3:1 = 4'-0" 4:1 = 3'-6"	0' TO 10'-0"	2 @ 4'-0"	3'	#4	13"	46	64	9'-5"	#4	13"	20	29	10'-5"	0'-2⅜"	2'-1"	3'-5"	#4	13"	20	29	10'-5"	0'-2⅜"	2'-1"	3'-5"	#4	13"	20	29	10'-5"	0'-2⅜"	2'-1"	3'-5"	#5	13"	42	60	4'-8"	#4	12"	14	12"	88	128	3'-9"
				4'			46	64	9'-5"			20	29	10'-5"	0'-2⅜"	2'-1"	8'-5"			20	29	10'-5"	0'-2⅜"	2'-1"	3'-5"			20	29	10'-5"	0'-2⅜"	2'-2"	3'-6"			42	60	4'-9"			16		88	128	4'-5"
				5'			46	64	9'-5"			20	29	10'-5"	0'-2⅜"	2'-1"	8'-5"			20	29	10'-8"	0'-2⅜"	2'-2"	3'-6"			20	29	10'-8"	0'-2⅜"	2'-2"	3'-6"			42	60	4'-9"			20		88	128	5'-5"
				6'			46	64	9'-8"			20	29	10'-8"	0'-2⅜"	2'-2"	8'-6"			20	29	10'-8"	0'-2⅜"	2'-2"	3'-6"			20	29	10'-8"	0'-2⅜"	2'-3"	3'-7"			42	60	4'-9"			24		88	128	6'-5"
			2 @ 5'-0"	3'			52	74	11'-5"			24	35	12'-6"	0'-3"	2'-6½"	4'-2"			24	35	12'-6"	0'-3"	2'-6½"	4'-2"			24	35	12'-6"	0'-3"	2'-6½"	4'-2"			48	70	5'-8"			12		88	128	3'-10"
				4'			52	74	11'-5"			24	35	12'-6"	0'-3"	2'-6½"	4'-2"			24	35	12'-6"	0'-3"	2'-6½"	4'-2"			24	35	12'-6"	0'-3"	2'-6½"	4'-2"			48	70	5'-8"			16		88	128	4'-10"
				5'			52	74	11'-5"			24	35	12'-6"	0'-3"	2'-6½"	4'-2"			24	35	12'-9"	0'-3"	2'-6½"	4'-3"			24	35	12'-9"	0'-3"	2'-6½"	4'-3"			48	70	5'-8"			20		88	128	5'-10"
				6'			52	74	11'-8"			24	35	12'-9"	0'-3"	2'-7"	4'-3"			24	35	12'-9"	0'-3"	2'-7"	4'-3"			24	35	12'-9"	0'-3"	2'-7"	4'-3"			48	70	5'-8"			24		88	128	6'-10"
				7'			52	74	11'-10"			24	35	12'-11"	0'-3"	2'-8½"	4'-3½"			24	35	12'-11"	0'-3"	2'-8½"	4'-3½"			24	35	12'-11"	0'-3"	2'-8½"	4'-3½"			48	70	5'-10"			28		88	128	7'-10"
			2 @ 6'-0"	4'			48	68	13'-5"			22	32	14'-7"	0'-3⅜"	2'-11"	4'-11"			22	32	14'-7"	0'-3⅜"	2'-11"	4'-11"			22	32	14'-7"	0'-3⅜"	2'-11"	4'-11"			44	64	6'-9"			16		88	128	5'-10"
				5'			48	68	13'-5"			22	32	14'-7"	0'-3⅜"	2'-11"	4'-11"			22	32	14'-9"	0'-3⅜"	3'-0"	5'-0"			22	32	14'-9"	0'-3⅜"	3'-0"	5'-0"			44	64	6'-9"			20		88	128	6'-10"
				6'			48	68	13'-8"			22	32	14'-10"	0'-3⅜"	3'-0"	5'-0"			22	32	14'-10"	0'-3⅜"	3'-0"	5'-0"			22	32	14'-10"	0'-3⅜"	3'-0"	5'-0"			44	64	6'-10"			24		88	128	7'-10"
				7'			48	68	13'-11"			22	32	15'-0"	0'-3⅜"	3'-1"	5'-0½"			22	32	15'-0"	0'-3⅜"	3'-1"	5'-0½"			22	32	15'-0"	0'-3⅜"	3'-1"	5'-0½"			44	64	6'-10"			28		88	128	8'-10"
				8'			48	68	13'-11"			22	32	15'-1"	0'-3⅜"	3'-1"	5'-1"			22	32	15'-1"	0'-3⅜"	3'-1"	5'-1"			22	32	15'-1"	0'-3⅜"	3'-1"	5'-1"			44	64	6'-10"			32		88	128	9'-10"
SECTION "B" & BAR GROUP "B"	3:1 = 11'-0" 4:1 = 16'-0"	10'-0" TO 15'-0"	2 @ 4'-0"	3'	#4	11"	24	34	9'-5"	#4	11"	12	18	10'-5"	0'-2⅜"	2'-1"	3'-5"	#4	11"	12	18	10'-5"	0'-2⅜"	2'-1"	3'-5"	#5	11"	12	18	10'-5"	0'-2⅜"	2'-1"	3'-5"	#5	11"	24	36	4'-8"	#4	12"	14	12"	88	128	3'-9"
				4'			24	34	9'-5"			12	18	10'-5"	0'-2⅜"	2'-1"	3'-5"			12	18	10'-5"	0'-2⅜"	2'-1"	3'-5"			12	18	10'-5"	0'-2⅜"	2'-1"	3'-5"			24	34	4'-9"			16		88	128	4'-5"
				5'			24	34	9'-5"			12	18	10'-5"	0'-2⅜"	2'-1"	3'-5"			12	18	10'-8"	0'-2⅜"	2'-2"	3'-6"			12	18	10'-8"	0'-2⅜"	2'-2"	3'-6"			24	34	4'-9"			20		88	128	5'-5"
				6'			24	34	9'-8"			12	18	10'-8"	0'-2⅜"	2'-2"	3'-6"			12	18	10'-8"	0'-2⅜"	2'-2"	3'-6"			12	18	10'-8"	0'-2⅜"	2'-3"	3'-7"			24	34	4'-9"			24		88	128	6'-5"
			2 @ 5'-0"	3'			24	36	11'-5"			12	17	12'-7"	0'-3⅛"	2'-5½"	4'-2"			12	17	12'-7"	0'-3⅛"	2'-5½"	4'-2"			12	17	12'-7"	0'-3⅛"	2'-5½"	4'-2"			24	36	5'-8"			12		88	128	3'-10"
				4'			24	36	11'-5"			12	17	12'-7"	0'-3⅛"	2'-5½"	4'-2"			12	17	12'-7"	0'-3⅛"	2'-5½"	4'-2"			12	17	12'-7"	0'-3⅛"	2'-5½"	4'-2"			24	36	5'-8"			16		88	128	4'-10"
				5'			24	36	11'-5"			12	17	12'-7"	0'-3⅛"	2'-5½"	4'-2"			12	17	12'-10"	0'-3⅛"	2'-6"	4'-2½"			12	17	12'-10"	0'-3⅛"	2'-6"	4'-2½"			24	36	5'-8"			20		88	128	5'-10"
				6'			24	36	11'-8"			12	17	13'-0"	0'-3⅛"	2'-7⅛"	4'-3⅛"			12	17	13'-0"	0'-3⅛"	2'-7⅛"	4'-3⅛"			12	17	13'-0"	0'-3⅛"	2'-7⅛"	4'-3⅛"			24	36	5'-8"			24		88	128	6'-10"
				7'			24	36	11'-10"			12	17	13'-3"	0'-3⅛"	2'-7⅝"	4'-3⅝"			12	17	13'-3"	0'-3⅛"	2'-7⅝"	4'-3⅝"			12	17	13'-3"	0'-3⅛"	2'-7⅝"	4'-3⅝"			24	36	5'-8"			28		88	128	7'-10"
				8'			24	36	12'-1"			12	17	13'-6"	0'-3⅛"	2'-8"	4'-4"			12	17	13'-6"	0'-3⅛"	2'-8"	4'-4"			12	17	13'-6"	0'-3⅛"	2'-8"	4'-4"			24	36	5'-8"			32		88	128	8'-10"
			2 @ 6'-0"	4'			24	36	13'-5"			12	17	14'-7"	0'-3⅝"	2'-9½"	4'-4½"			12	17	14'-7"	0'-3⅝"	2'-9½"	4'-4½"			12	17	14'-7"	0'-3⅝"	2'-9½"	4'-4½"			24	36	6'-9"			16		88	128	5'-10"
				5'			24	36	13'-5"			12	17	14'-7"	0'-3⅝"	2'-9½"	4'-4½"			12	17	14'-9"	0'-3⅝"	2'-10"	4'-5"			12	17	14'-9"	0'-3⅝"	2'-10"	4'-5"			24	36	6'-9"			20		88	128	6'-10"
				6'			24	36	13'-8"			12	17	14'-10"	0'-3⅝"	2'-10⅝"	4'-5⅛"			12	17	14'-10"	0'-3⅝"	2'-10⅝"	4'-5⅛"			12	17	14'-10"	0'-3⅝"	2'-10⅝"	4'-5⅛"			24	36	6'-9"			24		88	128	7'-10"
				7'			24	36	13'-11"			12	17	15'-0"	0'-4"	2'-11⅜"	4'-5⅜"			12	17	15'-0"	0'-4"	2'-11⅜"	4'-5⅜"			12	17	15'-0"	0'-4"	2'-11⅜"	4'-5⅜"			24	36	6'-9"			28		88	128	8'-10"
				8'			24	36	14'-2"			12	17	15'-1"	0'-4"	3'-0"	4'-6"			12	17	15'-1"	0'-4"	3'-0"	4'-6"			12	17	15'-1"	0'-4"	3'-0"	4'-6"			24	36	6'-9"			32		88	128	9'-10"
SECTION "C" & BAR GROUP "C"	3:1 = 11'-0" 4:1 = 16'-0"	15'-0" TO 20'-0"	2 @ 4'-0"	3'	#4	10"	26	40	9'-5"	#4	10"	14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"	#4	10"	14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"	#5	10"	14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"	#5	10"	26	40	4'-8"	#4	12"	14	12"	88	128	3'-9"
				4'			26	40	9'-5"			14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"			14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"			14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"			26	40	4'-8"			16		88	128	4'-5"
				5'			26	40	9'-5"			14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"			14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"			14	19	10'-6"	0'-3⅜"	2'-10"	3'-5"			26	40	4'-8"			20		88	128	5'-5"
				6'			26	40	9'-8"			14	19	10'-9"	0'-3⅜"	2'-11"	3'-6"			14	19	10'-9"	0'-3⅜"	2'-11"	3'-6"			14	19	10'-9"	0'-3⅜"	2'-11"	3'-6"			26	40	4'-8"			24		88	128	6'-5"
			2 @ 5'-0"	3'			24	34	11'-5"			12	18	12'-7"	0'-4⅛"	2'-4"	4'-2"			12	18	12'-7"	0'-4⅛"	2'-4"	4'-2"			12	18	12'-7"	0'-4⅛"	2'-4"	4'-2"			24	34	5'-8"			12		88	128	3'-10"
				4'			24	34	11'-5"			12	18	12'-7"	0'-4⅛"	2'-4"	4'-2"			12	18	12'-8"	0'-4⅛"	2'-4"	4'-2½"			12	18	12'-8"	0'-4⅛"	2'-4"	4'-2½"			24	34	5'-8"			16		88	128	4'-10"
				5'			24	34	11'-8"			12	18	12'-10"	0'-4⅛"	2'-4½"	4'-2½"			12	18	12'-10"	0'-4⅛"	2'-4½"	4'-2½"			12	18	12'-10"	0'-4⅛"	2'-4½"	4'-2½"			24	34	5'-8"			20		88	128	5'-10"
				6'			24	34	11'-11"			12	18	13'-0"	0'-4⅛"	2'-5"	4'-3"			12	18	13'-0"	0'-4⅛"	2'-5"	4'-3"			12	18	13'-0"	0'-4⅛"	2'-5"	4'-3"			24	34	5'-8"			24		88	128	6'-10"
				7'			24	34	11'-11"			12	18	13'-2"	0'-4⅛"	2'-5"	4'-3"			12	18	13'-2"	0'-4⅛"	2'-5"	4'-3"			12	18	13'-2"	0'-4⅛"	2'-5"	4'-3"			24	34	5'-8"			28		88	128	7'-10"
				8'			24	34	12'-2"			12	18	13'-5"	0'-4⅛"	2'-5½"	4'-3½"			12	18	13'-5"	0'-4⅛"	2'-5½"	4'-3½"			12	18	13'-5"	0'-4⅛"	2'-5½"	4'-3½"			24	34	5'-8"			32		88	128	8'-10"
			2 @ 6'-0"	4'			26	38	13'-5"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-3"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-3"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-3"			26	38	6'-9"			16		88	128	5'-10"
				5'			26	38	13'-5"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-3"			13	19	12'-9"	0'-4⅝"	2'-3½"	4'-3½"			13	19	12'-9"	0'-4⅝"	2'-3½"	4'-3½"			26	38	6'-9"			20		88	128	6'-10"
				6'			26	38	13'-8"			13	19	12'-11"	0'-4⅝"	2'-3½"	4'-3½"			13	19	12'-11"	0'-4⅝"	2'-3½"	4'-3½"			13	19	12'-11"	0'-4⅝"	2'-3½"	4'-3½"			26	38	6'-9"			24		88	128	7'-10"
				7'			26	38	13'-11"			13	19	13'-2"	0'-4⅝"	2'-4"	4'-3⅝"			13	19	13'-2"	0'-4⅝"	2'-4"	4'-3⅝"			13	19	13'-2"	0'-4⅝"	2'-4"	4'-3⅝"			26	38	6'-9"			28		88	128	8'-10"
				8'			26	38	14'-2"			13	19	13'-5"	0'-4⅝"	2'-4½"	4'-3½"			13	19	13'-5"	0'-4⅝"	2'-4½"	4'-3½"			13	19	13'-5"	0'-4⅝"	2'-4½"	4'-3½"			26	38	6'-9"			32		88	128	9'-10"
SECTION "D" & BAR GROUP "D"	3:1 = 11'-0" 4:1 = 16'-0"	20'-0" TO 25'-0"	2 @ 4'-0"	3'	#4	10"	20	28	9'-5"	#4	10"	10	15	10'-7"	0'-3½"	2'-7"	3'-5"	#4	10"	10	15	10'-7"	0'-3½"	2'-7"	3'-5"	#5	10"	10	15	10'-7"	0'-3½"	2'-7"	3'-5"	#5	10"	20	28	4'-8"	#4	12"	14	12"	88	128	3'-9"
				4'			20	28	9'-5"			10	15	10'-7"	0'-3½"	2'-7"	3'-5"			10	15	10'-7"	0'-3½"	2'-7"	3'-5"			10	15	10'-7"	0'-3½"	2'-7"	3'-5"			20	28	4'-8"			16		88	128	4'-5"
				5'			20	28	9'-5"			10	15	10'-7"	0'-3½"	2'-7"	3'-5"			10	15	10'-7"	0'-3½"	2'-7"	3'-5"			10	15	10'-7"	0'-3½"	2'-7"	3'-5"			20	28	4'-8"			20		88	128	5'-5"
				6'			20	28	9'-8"			10	15	10'-8"	0'-3½"	2'-8"	3'-6"			10	15	10'-8"	0'-3½"	2'-8"	3'-6"			10	15	10'-8"	0'-3½"	2'-8"	3'-6"			20	28	4'-8"			24		88	128	6'-5"
			2 @ 5'-0"	3'			28	38	11'-5"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			28	38	5'-8"			12		88	128	3'-10"
				4'			28	38	11'-5"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			28	38	5'-8"			16		88	128	4'-10"
				5'			28	38	11'-5"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			13	19	12'-8"	0'-4⅝"	2'-3"	4'-2"			28	38	5'-8"			20		88	128	5'-10"
				6'			28	38	11'-8"			13	19	12'-11"	0'-4⅝"	2'-3½"	4'-2½"			13	19	12'-11"	0'-4⅝"	2'-3½"	4'-2½"			13	19	12'-11"	0'-4⅝"	2'-3½"	4'-2½"			28	38	5'-8"			24		88	128	6'-10"
				7'			28	38	11'-11"			13	19	13'-2"	0'-4⅝"	2'-4"	4'-3"			13	19	13'-2"	0'-4⅝"	2'-4"	4'-3"			13	19	13'-2"	0'-4⅝"	2'-4"	4'-3"			28	38	5'-8"			28		88	128	7'-10"
				8'			28	38	12'-2"			13	19	13'-5"	0'-4⅝"	2'-4½"	4'-3½"			13	19	13'-5"	0'-4⅝"	2'-4½"	4'-3½"			13	19	13'-5"	0'-4⅝"	2'-4½"	4'-3½"			28	38	5'-8"			32		88	128	8'-10"
			2 @ 6'-0"	4'			30	42	13'-5"			15	21	12'-10"	0'-5⅛"	2'-1"	4'-2"			15	21	12'-10"	0'-5⅛"	2'-1"	4'-2"			15	21	12'-10"	0'-5⅛"	2'-1"	4'-2"			30	42	6'-9"			16		88	128	5'-10"
				5'			30	42	13'-5"			15	21	12'-11"	0'-5⅛"	2'-1"	4'-2⅛"			15	21	12'-11"	0'-5⅛"	2'-1"	4'-2⅛"			15	21	12'-11"	0'-5⅛"	2'-1"	4'-2⅛"			30	42	6'-9"			20		88	128	6'-10"
				6'			30	42	13'-8"			15	21	13'-0"	0'-5⅛"	2'-1½"	4'-2⅛"			15	21	13'-0"	0'-5⅛"	2'-1½"	4'-2⅛"			15	21	13'-0"	0'-5⅛"	2'-1½"	4'-2⅛"			30	42	6'-9"			24		88	128	7'-10"
				7'			30	42	13'-11"			15	21	13'-3"	0'-5⅛"	2'-2"	4'-2⅜"			15	21	13'-3"	0'-5⅛"	2'-2"	4'-2⅜"			15	21	13'-3"	0'-5⅛"	2'-2"	4'-2⅜"			30	42	6'-9"			28		88	128	8'-10"
				8'			30	42	14'-2"			15	21	13'-6"	0'-5⅛"	2'-2½"	4'-2½"			15	21	13'-6"	0'-5⅛"	2'-2½"	4'-2½"			15	21	13'-6"	0'-5⅛"	2'-2½"	4'-2½"			30	42	6'-9"			32		88	128	9'-10"
SECTION "E" & BAR GROUP "E"	3:1 = 11'-0" 4:1 = 16'-0"	25'-0" TO 30'-0"	2 @ 4'-0"	3'	#5	13"	22	32	9'-5"	#5	13"	11	16	10'-7"	0'-4"	1'-10⅝"	3'-5"	#5	13"	11	16	10'-7"	0'-4"	1'-10⅝"	3'-5"	#6	13"	11	16	10'-7"	0'-4"	1'-10⅝"	3'-5"	#6	13"	22	32	6'-9"	#4	12"	14	12"	88	128	3'-9"
				4'			22	32	9'-5"			11	16	10'-7"	0'-4"	1'-10⅝"	3'-5"			11	16	10'-7"	0'-4"	1'-10⅝"	3'-5"			11	16	10'-7"	0'-4"	1'-10⅝"	3'-5"			22	32	6'-9"			16		88	128	4'-5"
				5'			22	32	9'-5"			11	16	10'-7"	0'-4"	1'-10⅝"	3'-5"			11	16	10'-8"	0'-4"	1'-11"	3'-5½"			11	16	10'-8"	0'-4"	1'-11"	3'-5½"			22	32	6'-9"			20		88	128	5'-5"
				6'			22	32	9'-8"			11	16	10'-11"	0'-4"	1'-11⅜"	3'-6"			11	16	10'-11"	0'-4"	1'-11⅜"	3'-6"			11	16	10'-11"	0'-4"	1'-11⅜"	3'-6"			22	32	6'-9"			24		88	128	6'-5"
			2 @ 5'-0"	3'			30	42	11'-5"			15	21	12'-10"	0'-5⅛"	2'-1"	4'-2"			15	21	12'-10"	0'-5⅛"	2'-1"	4'-2"			15	21	12'-10"	0'-5⅛"	2'-1"	4'-2"			30	42	5'-8"			12		88	128	3'-10"
				4'			30	42	11'-5"			15	21	12'-10"	0'-5⅛"	2'-1"	4'-2"			15	21	12'-11"	0'-5⅛"	2'-1"	4'-2⅛"			15	21	12'-11"	0'-5⅛"	2'-1"	4'-2⅛"			30	42	5'-8"			16		88	128	4'-10"
				5'			30	42	11'-8"			15	21	12'-11"	0'-5⅛"	2'-1"	4'-2⅛"			15	21	13'-0"	0'-5⅛"	2'-1½"	4'-2⅛"			15	21	13'-0"	0'-5⅛"	2'-1½"	4'-2⅛"			30	42	5'-8"			20		88	128	5'-10"
				6'			30	42	11'-11"			15	21	13'-2"	0'-5⅛"	2'-2"	4'-2⅜"			15	21	13'-2"	0'-5⅛"	2'-2"	4'-2⅜"			15	21	13'-2"	0'-5⅛"	2'-2"	4'-2⅜"			30	42	5'-8"			24		88	128	6'-10"
				7'			30	42	12'-2"			15	21	13'-5"	0'-5⅛"	2'-2½"	4'-2½"			15	21	13'-5"	0'-5⅛"	2'-2½"	4'-2½"			15	21	13'-5"	0'-5⅛"	2'-2½"	4'-2½"			30	42	5'-8"			28		88	128	7'-10"
				8'			30	42	12'-5"			15	21	13'-8"	0'-5⅛"	2'-3"	4'-2⅝"			15	21	13'-8"	0'-5⅛"	2'-3"	4'-2⅝"			15	21	13'-8"	0'-5⅛"	2'-3"	4'-2⅝"			30	42	5'-8"			32		88	128	8'-10"
			2 @ 6'-0"	4'			32	44	13'-5"			16	23	13'-1"	0'-5⅝"	2'-3"	4'-3"			16	23	13'-1"	0'-5⅝"	2'-3"	4'-3"			16	23	13'-1"	0'-5⅝"	2'-3"	4'-3"			32	44	6'-9"			16		88	128	5'-10"
				5'			32	44	13'-5"			16	23	13'-2"	0'-5⅝"	2'-3"	4'-3"			16	23	13'-2"	0'-5⅝"	2'-3"	4'-3"			16	23	13'-2"	0'-5⅝"	2'-3"	4'-3"			32	44	6'-9"			20		88	128	6'-10"
				6'			32	44	13'-8"			16	23	13'-4"	0'-5⅝"	2'-3½"	4'-3½"			16	23	13'-4"	0'-5⅝"	2'-3½"	4'-3½"			16	23	13'-4"	0'-5⅝"	2'-3½"	4'-3½"			32	44	6'-9"			24		88	128	7'-10"
				7'			32	44	13'-11"			16	23	13'-5"	0'-5⅝"	2'-4"	4'-3⅝"			16	23	13'-5"	0'-5⅝"	2'-4"	4'-3⅝"			16	23	13'-5"	0'-5⅝"	2'-4"	4'-3⅝"			32	44	6'-9"			28		88	128	8'-10"
				8'			32	44	14'-2"			16	23	13'-8"	0'-5⅝"	2'-4½"	4'-3½"			16	23	13'-8"	0'-5⅝"	2'-4½"	4'-3½"			16	23	13'-8"	0'-5⅝"	2'-4½"	4'-3½"			32	44	6'-9"			32		88	128	9'-10"
SECTION "F" & BAR GROUP "F"	3:1 = 11'-0" 4:1 = 16'-0"	30'-0" TO 35'-0"	2 @ 4'-0"	3'	#5	10"	24	36	9'-5"	#5	10"	12	17	10'-7"	0'-4⅛"	1'-9⅜"	3'-5"	#5	10"	12	17	10'-7"	0'-4⅛"	1'-9⅜"	3'-5"	#6	10"	12	17	10'-7"	0'-4⅛"	1'-9⅜"	3'-5"	#6	10"	24	36	6'-9"	#4	12"	14	12"	88	128	3'-9"
				4'			24	36	9'-5"		

Reshot 3-5-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			205	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'a' bars STRAIGHT: In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each. SIZE	'a' bars STRAIGHT: In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each. SPACING	'a' bars STRAIGHT: In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each. NUMBER REQ'D 3:1	'a' bars STRAIGHT: In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each. NUMBER REQ'D 4:1	'a' bars STRAIGHT: In Top and Bottom Slab of Barrel. 2 Add'l in Apron and Headwall - Each. LENGTH
0'-0 TO 5'-0" MIN. FROM TOP OF BARREL TO TOP OF ROADWAY	3 @ 4'-0"	2'			128	128	14'-1"
		3'			128	128	14'-1"
		4'	#5	18"	128	128	14'-1"
		5'			128	128	14'-1"
		6'			128	128	14'-5"
	3 @ 5'-0"	3'			128	128	17'-1"
		4'			128	128	17'-1"
		5'	#5	12"	128	128	17'-1"
		6'			128	128	17'-5"
		7'			128	128	17'-8"
	3 @ 6'-0"	3'			140	140	20'-1"
		4'			140	140	20'-1"
		5'	#5	11"	140	140	20'-1"
		6'			140	140	20'-5"
		7'			140	140	20'-8"
		8'			140	140	20'-8"
	3 @ 7'-0"	4'			128	128	23'-1"
		5'			128	128	23'-1"
		6'	#6	12"	128	128	23'-5"
		7'			128	128	23'-8"
		8'			128	128	23'-8"
		9'			128	128	24'-1"
	3 @ 8'-0"	4'			140	140	26'-1"
		5'			140	140	26'-5"
		6'			140	140	26'-5"
		7'	#6	11"	140	140	26'-8"
		8'			140	140	26'-9"
		9'			140	140	27'-1"
		10'			140	140	27'-5"
	3 @ 9'-0"	5'			140	140	29'-5"
		6'			140	140	29'-8"
		7'	#6	11"	140	140	29'-8"
		8'			140	140	29'-9"
		9'			140	140	30'-1"
		10'			140	140	30'-5"
		11'			140	140	30'-7"
	3 @ 10'-0"	5'			128	128	32'-5"
		6'			128	128	32'-8"
		7'			128	128	32'-8"
		8'	#7	12"	128	128	32'-9"
		9'			128	128	33'-1"
		10'			128	128	33'-5"
		11'			128	128	33'-7"
		12'			128	128	33'-9"
	3 @ 11'-0"	6'			140	140	35'-9"
		7'			140	140	35'-9"
		8'	#7	11"	140	140	35'-9"
		9'			140	140	36'-1"
		10'			140	140	36'-5"
		11'			140	140	36'-7"
		12'			140	140	36'-9"
	3 @ 12'-0"	6'			140	140	38'-9"
		7'			140	140	38'-9"
		8'	#7	11"	140	140	38'-9"
		9'			140	140	39'-1"
		10'			140	140	39'-5"
		11'			140	140	39'-7"
		12'			140	140	39'-9"

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'b' bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with 'a' and 'c' bars. SIZE	'b' bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with 'a' and 'c' bars. SPACING	'b' bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with 'a' and 'c' bars. NUMBER REQ'D 3:1	'b' bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with 'a' and 'c' bars. NUMBER REQ'D 4:1	'b' bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with 'a' and 'c' bars. LENGTH	X	Y	Z
0'-0 TO 5'-0" MIN. FROM TOP OF BARREL TO TOP OF ROADWAY	3 @ 4'-0"	2'								
		3'								
		4'	#5	12"	59	59	15'-3"	0'-2½"	2'-5"	3'-4½"
		5'			59	59	15'-3"	0'-2½"	2'-5"	3'-4½"
		6'			59	59	15'-3"	0'-2½"	2'-5"	3'-4½"
	3 @ 5'-0"	3'								
		4'								
		5'	#5	12"	59	59	18'-3"	0'-2½"	2'-5"	3'-4½"
		6'			59	59	18'-3"	0'-2½"	2'-5"	3'-4½"
		7'			59	59	18'-3"	0'-2½"	2'-5"	3'-4½"
	3 @ 6'-0"	3'								
		4'								
		5'	#6	12"	59	59	18'-6"	0'-3"	2'-8"	4'-1⅛"
		6'			59	59	18'-6"	0'-3"	2'-8"	4'-1⅛"
		7'			59	59	18'-6"	0'-3"	2'-8"	4'-1⅛"
		8'			59	59	18'-11"	0'-3"	2'-10"	4'-2⅝"
	3 @ 7'-0"	4'								
		5'								
		6'	#6	12"	59	59	19'-0"	0'-3½"	2'-9"	4'-2⅝"
		7'			59	59	19'-0"	0'-3½"	2'-9"	4'-2⅝"
		8'			59	59	19'-0"	0'-3½"	2'-9"	4'-2⅝"
	3 @ 8'-0"	4'								
		5'								
		6'	#6	11"	65	65	21'-6"	0'-4"	3'-0"	4'-10⅝"
		7'			65	65	21'-6"	0'-4"	3'-0"	4'-10⅝"
		8'			65	65	21'-6"	0'-4"	3'-0"	4'-10⅝"
		9'			65	65	21'-10"	0'-4"	3'-1"	4'-11⅝"
		10'			65	65	22'-1"	0'-4"	3'-2"	5'-0⅛"
		11'			65	65	22'-2"	0'-4"	3'-2"	5'-0⅛"
	3 @ 9'-0"	5'								
		6'								
		7'	#6	12"	59	59	24'-8"	0'-4½"	3'-5"	5'-5"
		8'			59	59	24'-8"	0'-4½"	3'-5"	5'-5"
		9'			59	59	25'-0"	0'-4½"	3'-6"	5'-6½"
		10'			59	59	25'-3"	0'-4½"	3'-6"	5'-6½"
		11'			59	59	25'-6"	0'-4½"	3'-6"	5'-7"
		12'			59	59	25'-8"	0'-4½"	3'-7"	5'-7½"
	3 @ 10'-0"	5'								
		6'								
		7'								
		8'	#6	11"	65	65	27'-9"	0'-5"	3'-10"	6'-0"
		9'			65	65	28'-1"	0'-5"	3'-10"	6'-0"
		10'			65	65	28'-4"	0'-5"	3'-11"	6'-0"
		11'			65	65	28'-9"	0'-5"	4'-0"	6'-1"
		12'			65	65	28'-11"	0'-5"	4'-0"	6'-2"
		13'			65	65	28'-9"	0'-5"	4'-1"	6'-2"
		14'			65	65	28'-9"	0'-5"	4'-1"	6'-3"
		15'			65	65	28'-9"	0'-5"	4'-1"	6'-3"
	3 @ 11'-0"	6'								
		7'								
		8'								
		9'	#6	11"	65	65	31'-2"	0'-5½"	4'-4"	7'-2"
		10'			65	65	31'-5"	0'-5½"	4'-5"	7'-2½"
		11'			65	65	31'-5"	0'-5½"	4'-5"	7'-2½"
		12'			65	65	31'-6"	0'-5½"	4'-5"	7'-3"
		13'			65	65	31'-10"	0'-5½"	4'-6"	7'-3"
		14'			65	65	32'-2"	0'-5½"	4'-7"	7'-3"
		15'			65	65	32'-4"	0'-5½"	4'-7"	7'-4"
	3 @ 12'-0"	6'								
		7'								
		8'								
		9'	#7	12"	59	59	34'-3"	0'-6"	4'-9"	7'-11"
		10'			59	59	34'-6"	0'-6"	4'-10"	7'-11½"
		11'			59	59	34'-6"	0'-6"	4'-10"	7'-11½"
		12'			59	59	34'-7"	0'-6"	4'-10"	8'-0"
		13'			59	59	34'-11"	0'-6"	4'-11"	8'-0"
		14'			59	59	35'-3"	0'-6"	5'-0"	8'-0"
		15'			59	59	35'-5"	0'-6"	5'-0"	8'-0"
	3 @ 13'-0"	6'								
		7'								
		8'								
		9'	#7	12"	65	65	37'-8"	0'-6½"	5'-3"	8'-5"
		10'			65	65	37'-8"	0'-6½"	5'-3"	8'-5"
		11'			65	65	37'-8"	0'-6½"	5'-3"	8'-5"
		12'			65	65	37'-9"	0'-6½"	5'-3"	8'-5"
		13'			65	65	38'-0"	0'-6½"	5'-4"	8'-6"
		14'			65	65	38'-3"	0'-6½"	5'-4"	8'-6"
		15'			65	65	38'-5"	0'-6½"	5'-4"	8'-6"
	3 @ 14'-0"	6'								
		7'								
		8'								
		9'	#7	12"	65	65	40'-3"	0'-7"	5'-8"	9'-0"
		10'			65	65	40'-3"	0'-7"	5'-8"	9'-0"
		11'			65	65	40'-3"	0'-7"	5'-8"	9'-0"
		12'			65	65	40'-3"	0'-7"	5'-8"	9'-0"
		13'			65	65	40'-6"	0'-7"	5'-8"	9'-1"
		14'			65	65	40'-9"	0'-7"	5'-8"	9'-1"
		15'			65	65	41'-0"	0'-7"	5'-8"	9'-1"
	3 @ 15'-0"	6'								
		7'								
		8'								
		9'	#7	12"	65	65	42'-9"	0'-7½"	6'-0"	9'-5"
		10'			65	65	42'-9"	0'-7½"	6'-0"	9'-5"
		11'			65	65	42'-9"	0'-7½"	6'-0"	9'-5"
		12'			65	65	42'-9"	0'-7½"	6'-0"	9'-5"
		13'			65	65	43'-0"	0'-7½"	6'-0"	9'-6"
		14'			65	65	43'-3"	0'-7½"	6'-0"	9'-6"
		15'			65	65	43'-5"	0'-7½"	6'-0"	9'-6"

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'c' bars STRAIGHT: In Top and Bottom Slab of Barrel. Alternate with 'b' and b_2 bars. SIZE	'c' bars STRAIGHT: In Top and Bottom Slab of Barrel. Alternate with 'b' and b_2 bars. SPACING	'c' bars STRAIGHT: In Top and Bottom Slab of Barrel. Alternate with 'b' and b_2 bars. NUMBER REQ'D 3:1	'c' bars STRAIGHT: In Top and Bottom Slab of Barrel. Alternate with 'b' and b_2 bars. NUMBER REQ'D 4:1	'c' bars STRAIGHT: In Top and Bottom Slab of Barrel. Alternate with 'b' and b_2 bars. LENGTH
0'-0 TO 5'-0" MIN. FROM TOP OF BARREL TO TOP OF ROADWAY	3 @ 4'-0"	2'					
		3'					
		4'	#5	12"	120	120	9'-1"
		5'			120	120	9'-1"
		6'			120	120	9'-1"
	3 @ 5'-0"	3'					
		4'					
		5'	#5	12"	120	120	11'-0"
		6'			120	120	11'-0"
		7'			120	120	11'-0"
	3 @ 6'-0"	3'					
		4'					
		5'	#6	12"	120	120	11'-4"
		6'			120	120	11'-4"
		7'			120	120	11'-4"
		8'			120	120	11'-8"
	3 @ 7'-0"	4'					
		5'					
		6'	#6	12"	120	120	12'-1"
		7'			120	120	12'-1"
		8'			120	120	12'-1"
	3 @ 8'-0"	4'					
		5'					
		6'	#6	11"	120	120	12'-5"
		7'			120	120	12'-5"
		8'			120	120	12'-5"
		9'			120	120	12'-9"
		10'			120	120	12'-9"
		11'			120	120	12'-9"
		12'			120	120	13'-1"
		13'			120	120	13'-1"
		14'			120	120	13'-1"
		15'			120	120	13'-5"
	3 @ 9'-0"	5'					
		6'					
		7'	#6	11"	120	120	13'-9"
		8'			120	120	13'-9"
		9'			120	120	13'-9"
		10'			120	120	14'-1"
		11'			120	120	14'-1"
		12'			120	120	14'-1"
	3 @ 10'-0"	5'					
		6'					
		7'					
		8'	#7	11"	120	120	14'-5"
		9'			120	120	14'-5"
		10'			120	120	14'-5"
		11'			120	120	14'-9"
		12'			120	120	14'-9"
		13'			120	120	14'-9"
		14'			120	120	15'-1"
		15'			120	120	15'-1"
	3 @ 11'-0"	6'					
		7'					
		8'					
		9'	#7	11"	120	120	15'-9"
		10'			120	120	15'-9"
		11'			120	120	15'-9"
		12'			120	120	15'-9"
		13'			120	120	16'-1"
		14'			120	120	16'-1"
		15'			120	120	16'-1"
	3 @ 12'-0"	6'					
		7'					
		8'					
		9'	#7	11"	120	120	16'-5"
		10'			120	120	16'-5"
		11'			120	120	16'-5"
		12'			120	120	16'-5"
		13'			120	120	16'-9"
		14'			120	120	16'-9"
		15'			120	120	16'-9"
	3 @ 13'-0"	6'					
		7'					
		8'					
		9'	#7	11"	120	120	17'-1"
		10'			120	120	17'-1"
		11'			120	120	17'-1"
		12'			120	120	17'-1"
		13'			120	120	17'-5"
		14'			120	120	17'-5"
		15'			120	120	17'-5"
	3 @ 14'-0"	6'					
		7'					
		8'					
		9'	#7	11"	120	120	17'-9"
		10'			120	120	17'-9"
		11'			120	120	17'-9"
		12'			120	120	17'-9"
		13'			120	120	18'-1"
		14'			120	120	18'-1"
		15'			120	120	18'-1"
	3 @ 15'-0"	6'					
		7'					
		8'					
		9'	#7	11"	132	132	18'-6"
		10'			132	132	18'-6"
		11'			132	132	18'-6"
		12'			132	132	18'-10"
		13'			132	132	18'-10"
		14'			132	132	18'-10"
		15'			132	132	19'-2"

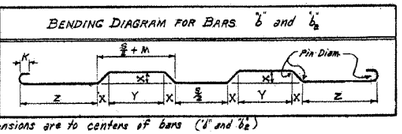
DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'd' bars STRAIGHT: Longitudinal in Top Slab of Barrel. SIZE	'd' bars STRAIGHT: Longitudinal in Top Slab of Barrel. SPACING	'd' bars STRAIGHT: Longitudinal in Top Slab of Barrel. NO. REQ'D	'd' bars STRAIGHT: Longitudinal in Top Slab of Barrel. LENGTH
0'-0 TO 5'-0" MIN. FROM TOP OF BARREL TO TOP OF ROADWAY	3 @ 4'-0"	2'				
		3'				
		4'	#5	12"	22	2 @ 30'-8" for 60'-0" Length Barrel. (18" Lap)
		5'			22	
		6'			22	
	3 @ 5'-0"	3'				
		4'				
		5'	#5	12"	22	
		6'			22	
		7'			22	
	3 @ 6'-0"	3'				
		4'				
		5'	#6	12"	22	
		6'			22	
		7'			22	
		8'			22	
	3 @ 7'-0"	4'				
		5'				
		6'	#6	12"	22	
		7'			22	
		8'			22	
	3 @ 8'-0"	4'				
		5'				
		6'	#6	11"	22	
		7'			22	
		8'			22	
		9'			22	
		10'			22	
		11'			22	
	3 @ 9'-0"	5'				
		6'				
		7'	#6	11"	22	
		8'			22	
		9'			22	
		10'			22	
		11'			22	
		12'			22	
	3 @ 10'-0"	5'				
		6'				
		7'				
		8'	#6	11"	22	
		9'			22	
		10'			22	
		11'			22	
		12'			22	
		13'			22	
		14'			22	
		15'			22	
	3 @ 11'-0"	6'				
		7'				
		8'				
		9'	#6	11"	22	
		10'			22	
		11'			22	
		12'			22	
		13'			22	
		14'			22	
		15'			22	
	3 @ 12'-0"	6'				
		7'				
		8'				
		9'	#6	11"	22	
		10'			22	
		11'			22	
		12'			22	
		13'			22	
		14'			22	
		15'			22	
	3 @ 13'-0"	6'				
		7'				
		8'				
		9'	#6	11"	22	
		10'			22	
		11'			22	
		12'			22	
		13'			22	
		14'			22	
		15'			22	
	3 @ 14'-0"	6'				
		7'				
		8'				
		9'	#6	11"	22	
		10'			22	
		11'			22	
		12'			22	
		13'			22	
		14'			22	
		15'			22	
	3 @ 15'-0"	6'				
		7'				
		8'				
		9'	#6	11"	22	
		10'			22	
		11'			22	
		12'			22	
		13'			22	
		14'			22	
		15'			22	

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'd1' bars STRAIGHT: Longitudinal in Sidewalls and Division Walls. SIZE	'd1' bars STRAIGHT: Longitudinal in Sidewalls and Division Walls. SPACING	'd1' bars STRAIGHT: Longitudinal in Sidewalls and Division Walls. NO. REQ'D	'd1' bars STRAIGHT: Longitudinal in Sidewalls and Division Walls. LENGTH
0'-0 TO 5'-0" MIN. FROM TOP OF BARREL TO TOP OF ROADWAY	3 @ 4'-0"	2'				
		3'				
		4'	#4	12"	18	2 @ 30'-8" for 60'-0" Length Barrel. (18" Lap)
		5'			24	
		6'			30	
	3 @ 5'-0"	3'				
		4'				
		5'	#4	12"	24	
		6'			30	
		7'			36	
	3 @ 6'-0"	3'				
		4'				
		5'	#4	12"	30	
		6'			36	
		7'			42	
		8'			42	
	3 @ 7'-0"	4'				
		5'				
		6'	#4	12"	36	
		7'			42	
		8'			48	
	3 @ 8'-0"	4'				
		5'				
		6'	#4	12"	42	
		7'			48	
		8'			54	
		9'			54	
		10'			60	
		11'			60	
	3 @ 9'-0"	5'				
		6'				
		7'	#4	12"	48	
		8'			54	
		9'			60	
		10'			66	
		11'			66	
		12'			72	
	3 @ 10'-0"	5'				
		6'				
		7'				
		8'	#4	12"	54	
		9'			60	
		10'			66	
		11'			72	
		12'			72	
		13'			72	
		14'			72	
		15'			72	
	3 @ 11'-0"	6'				
		7'				
		8'				
		9'	#4	12"	66	
		10'			72	
		11'			72	
		12'			78	
		13'			78	
		14'			78	
		15'			78	
	3 @ 12'-0"	6'				
		7'				
		8'				
		9'	#4	12"	72	
		10'			78	
		11'			78	
		12'			84	
		13'			84	
		14'			84	
		15'			84	
	3 @ 13'-0"	6'				
		7'				
		8'				
		9'	#4	12"	78	
		10'			84	
		11'			84	
		12'			90	
		13'			90	
		14'			90	
		15'			90	
	3 @ 14'-0"	6'				
		7'				
		8'				
		9'	#4	12"	84	
		10'			90	
		11'			90	
		12'			96	
		13'			96	
		14'			96	
		15'			96	
	3 @ 15'-0"	6'				
		7'				
		8'				
		9'	#4	12"	90	
		10'			96	
		11'			96	
		12'			102	
		13'			102	
		14'			102	
		15'			102	

DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	'e' bars STRAIGHT: Longitudinal in Bottom Slab of Barrel. SIZE	'e' bars STRAIGHT: Longitudinal in Bottom Slab of Barrel. SPACING	'e' bars STRAIGHT: Longitudinal in Bottom Slab of Barrel. NO. REQ'D	'e' bars STRAIGHT: Longitudinal in Bottom Slab of Barrel. LENGTH
0'-0 TO 5'-0" MIN. FROM TOP OF BARREL TO TOP OF ROADWAY	3 @ 4'-0"	2'				
		3'				
		4'	#4	12"	22	2 @ 30'-8" for 60'-0" Length Barrel. (18" Lap)
		5'			22	
		6'			22	
	3 @ 5'-0"	3'				
		4'				
		5'	#4	12"	22	
		6'			22	
		7'			22	
	3 @ 6'-0"	3'				
		4'				
		5'	#4	12"	24	
		6'			28	
		7'			28	
		8'			28	
	3 @ 7'-0"	4'				
		5'				
		6'	#4	12"	28	
		7'			28	
		8'			28	
	3 @ 8'-0"	4'				
		5'				
		6'	#4	12"	30	
		7'			30	
		8'			30	
		9'			30	
		10'			30	
		11'			30	
	3 @ 9'-0"	5'				
		6'				
		7'	#4	12"	30	
		8'			30	
		9'			30	
		10'			30	
		11'			30	
		12'			30	
	3 @ 10'-0"	5'				
		6'				
		7'				
		8'	#4	12"	30	
		9'			30	
		10'			30	
		11'			30	
		12'			30	
		13'			30	
		14'			30	
		15'			30	
	3 @ 11'-0"	6'				
		7'				
		8'				
		9'	#4	12"	30	
		10'			30	
		11'			30	
		12'			30	
		13'			30	
		14'			30	
		15'			30	
	3 @ 12'-0"	6'				
		7'				
		8'				
		9'	#4	12"	30	
		10'			30	
		11'			30	
		12'			30	
		13'			30	
		14'			30	
		15'			30	
	3 @ 13'-0"	6'				
		7'				
		8'				
		9'	#4	12"	30	
		10'			30	
		11'			30	
		12'			30	
		13'			30	
		14'			30	
		15'			30	
	3 @ 14'-0"	6'				
		7'				
		8'				
		9'	#4	12"	30	
		10'			30	
		11'			30	
		12'			30	
		13'			30	
		14'			30	
		15'			30	
	3 @ 15'-0"	6'				
		7'				
		8'				
		9'	#4	12"	30	
		10'			30	
		11'			30	
		12'			30	
		13'			30	
		14'			30	
		15'			30	

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#5	2½"	4½"	0'-11½"
#6	3"	5"	1'-2"

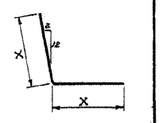
BENDING DIAGRAM FOR BARS 'b' and 'b_2'



NOTE:- Dimensions are to centers of bars ('d' and 'b_2')

DOWEL BARS FOR TWO HEADWALLS

3 SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH	X	Bars 'r' Dowel bars in Headwalls.
4'	#4	12"±	30	2'-5"	1'-2½"	
5'	#4	12"±	36	2'-6"	1'-3"	
6'	#4	12"±	42	2'-7"	1'-3½"	
7'	#4	12"±	48	2'-8"	1'-4"	
8'	#4	12"±	54	2'-9"	1'-4½"	
9	#4	12"±	60	2'-10"	1'-5"	
10'	#4	12"±	66	2'-11"	1'-5½"	
11'	#4	12"±	72	3'-0"	1'-6"	
12'	#4	12"±	78	3'-1"	1'-6½"	



Designed By:- W.C.H. 1-22-63.
Drawn By:- W.C.H. 2-28-63.
Quantities By:- W.C.H. 3-4-63.
Checked By:- TMS 5-17-63
Checked By:- TMS 5-24-63
Checked By:- TMS 5-24-63

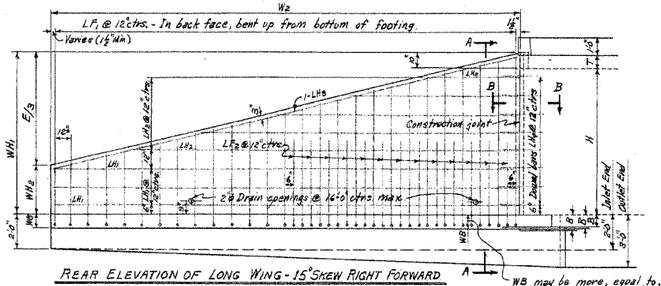
DIMENSIONS

MAX. DESIGN DEPTH OF COVER D	CLEAR SPANS S	BARREL DIMENSIONS: CLEAR HEIGHT H	SQ. FT. OPENING A	OVERALL WIDTH OW	THICKNESS OF TOP SLAB T	THICKNESS OF SIDE WALLS C	THICKNESS OF DIVISION WALLS M	THICKNESS OF BOTTOM SLAB B	OVERALL HEIGHT OH
5'-0"	3 @ 4'-0"	2'	24	14'-6"	6½"	6"	8"		3'-0½"
		3'	36	14'-6"

RESHOT 3-8-93

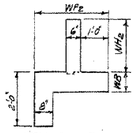
175

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.			206	
JOB No.					

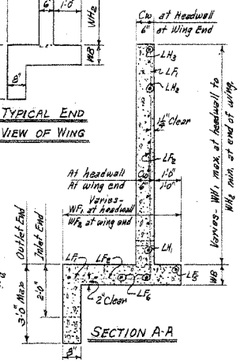


REAR ELEVATION OF LONG WING - 15° SKEW RIGHT FORWARD
SHOWING BACK FACE REINFORCING

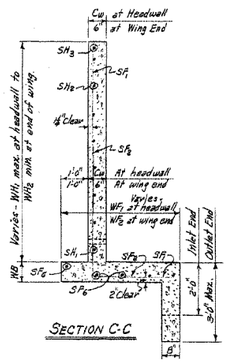
WB may be more, equal to, or less than the bottom slab thickness B.



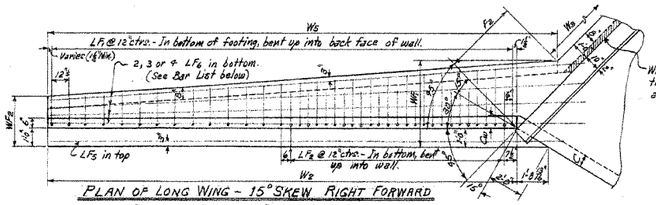
TYPICAL END VIEW OF WING



SECTION A-A



SECTION C-C



When B is more than WB, the shaded portion of the apron shall be made the same thickness as the bottom slab B.

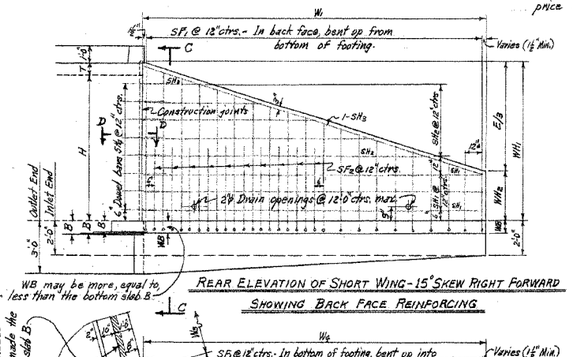
PLAN OF LONG WING - 15° SKEW RIGHT FORWARD
SHOWING FOOTING REINFORCING.

Note:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

SECTION B-B

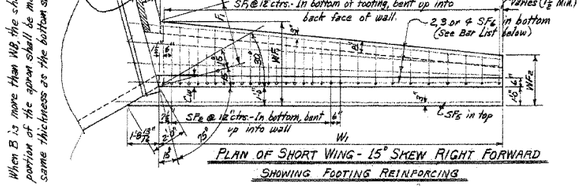
SECTION D-D

SECTIONS THRU CONSTRUCTION JOINTS



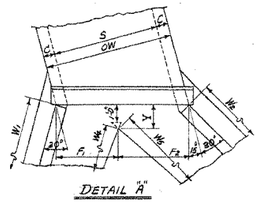
WB may be more, equal to, or less than the bottom slab B.

REAR ELEVATION OF SHORT WING - 15° SKEW RIGHT FORWARD
SHOWING BACK FACE REINFORCING



When B is more than WB the shaded portion of the apron shall be made the same thickness as the bottom slab B.

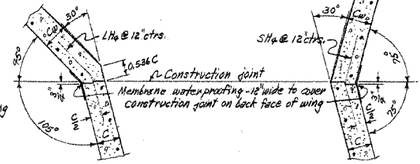
PLAN OF SHORT WING - 15° SKEW RIGHT FORWARD
SHOWING FOOTING REINFORCING

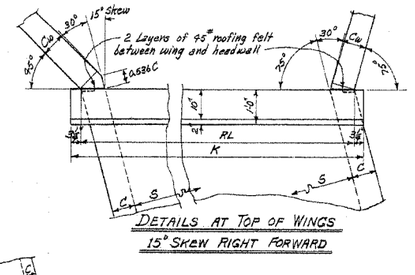


DETAIL "A"

TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F1	F2	W4	W5	W3	Y
5'	7'	3'-0"	3'-5⅝"	16'-10⅝"	25'-0⅜"	0"	1'-0⅛"
6'	8'	3'-6"	4'-1⅛"	19'-0⅛"	28'-3⅞"	0"	1'-1"



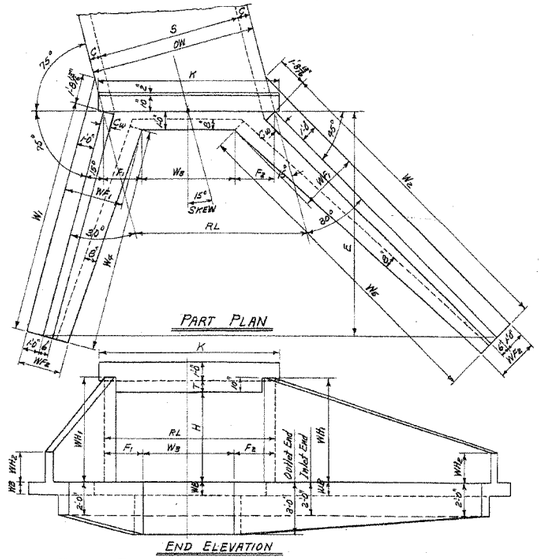


DETAILS AT TOP OF WINGS
15° SKEW RIGHT FORWARD

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 DIMENSIONS PARALLEL WITH HEADWALL SHORT WING	FOOTING DIMENSIONS PARALLEL WITH HEADWALL LONG WING	PERPENDICULAR DIST. FROM HDWL. TO END OF WING	LENGTHS OF WINGWALLS SHORT WING	LENGTHS OF WINGWALLS LONG WING	INSIDE FOOTING DIMENSIONS SHORT WING	INSIDE FOOTING DIMENSIONS LONG WING	* QUANTITY PER WING CLASS S CONCRETE INLET END SHORT WING	* QUANTITY PER WING CLASS S CONCRETE INLET END LONG WING	* QUANTITY PER WING CLASS S CONCRETE OUTLET END SHORT WING	* QUANTITY PER WING CLASS S CONCRETE OUTLET END LONG WING
H	WB	C_W	WH_1	WH_2	WF_1	WF_2	F_1	F_2	E	W_1	W_2	W_4	W_5	CU.YD.	CU.YD.	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	1'-1⅜"	0'-10⅝"	6'-6"	6'-0⅝"	9'-2⅝"	6'-0⅝"	9'-1⅝"	0.789	1.094	0.876	1.212
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-5⅝"	1'-4⅜"	8'-6"	8'-9⅜"	12'-10⅝"	8'-2⅝"	12'-3⅝"	1.186	1.650	1.300	1.808
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-9⅜"	1'-1⅜"	10'-6"	10'-10⅝"	14'-10⅝"	10'-4⅝"	15'-5⅝"	1.656	2.305	1.797	2.502
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-6½"	2'-1⅜"	1'-3⅝"	12'-6"	12'-11⅝"	17'-0⅝"	12'-6⅝"	18'-7⅝"	2.196	3.059	2.363	3.295
		7"	5'-10"	1'-8"	3'-4"	2'-8½"	2'-1⅜"	1'-3⅝"	12'-6"	12'-11⅝"	17'-0⅝"	12'-6⅝"	18'-7⅝"	2.287	3.188	2.455	3.429
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅝"	1'-5⅝"	14'-6"	15'-0⅝"	20'-6"	14'-8⅝"	21'-9"	3.052	4.242	3.296	4.517
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅝"	1'-5⅝"	14'-6"	15'-0⅝"	20'-6"	14'-8⅝"	21'-9"	3.114	4.329	3.309	4.605
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-5⅝"	1'-5⅝"	14'-6"	15'-0⅝"	20'-6"	14'-8⅝"	21'-9"	3.177	4.417	3.371	4.693
* 7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-10½"	3'-0⅜"	1'-6⅝"	16'-6"	17'-1"	23'-4"	16'-10⅜"	25'-1"	3.998	5.560	4.220	5.877
		8"	7'-10"	2'-4"	4'-2"	2'-10½"	3'-0⅜"	1'-6⅝"	16'-6"	17'-1"	23'-4"	16'-10⅜"	25'-1"	4.079	5.675	4.301	5.991
* 8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-6⅜"	1'-7⅝"	18'-6"	19'-1⅝"	26'-2"	19'-1½"	28'-5"	5.111	7.111	5.360	7.470

* Quantity per wing does not include headwall or that portion of apron or footwall for the length Wa.
* See Table 'A' for special values of F1 & F2 and W4 & W5 for Single 5'x7' and 6'x8' Box Culverts.



PART PLAN

END ELEVATION

SINGLE BARREL CULVERT - 15° SKEW RIGHT FORWARD
Details of Culvert with 15° Skew Left Forward is reversed, see Drwg. No. W-X.15

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-X.15. For values of RL, K, and Wa for each box, see the above Std. also.

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mopings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING AT END	⊕ STEEL - REINFORCING	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"	117	4.79	5.78	6.77	7.77	8.76
	3'	6"	7"	174	6.63	7.84	9.63	9.63	10.62
	4'	6"	7"	267	8.85	9.89	10.96	11.88	12.82
	5'	6"	7"	379	11.90	12.38	13.38	14.37	15.36
	6'	7"	8"	626	15.95	16.96	17.98	18.51	19.53
5'	3'	6"	7"	176	6.87	8.07	9.28	10.48	11.69
	4'	6"	7"	267	9.08	10.28	11.48	12.69	13.90
	5'	6"	7"	379	11.41	12.81	14.02	15.23	16.44
	6'	7"	8"	626	15.67	16.90	18.14	19.38	20.61
	7'	7½"	8½"	1210	20.11	21.36	22.62	23.88	25.14
6'	3'	6"	7"	176	7.09	8.52	9.92	11.36	12.78
	4'	6"	7"	267	9.29	10.73	12.18	13.56	14.96
	5'	6"	7"	379	11.83	13.26	14.67	16.10	17.53
	6'	7"	8"	626	15.89	17.35	18.79	20.25	21.70
	7'	7½"	8½"	1210	20.33	21.81	23.28	24.76	26.24
	8'	8"	9"	1533	25.56	27.05	28.53	30.02	31.50
7'	4'	6"	7"	267	9.52	11.18	12.81	14.47	16.09
	5'	6"	7"	378	12.05	13.72	15.35	17.01	18.63
	6'	7"	8"	626	16.12	17.80	19.45	21.13	22.78
	7'	7½"	8½"	1210	20.56	22.24	23.94	25.64	27.33
	8'	8"	9"	1533	25.80	27.50	29.20	30.90	32.60
8'	4'	6"	7"	267	9.75	11.45	13.51	15.91	17.23
	5'	7"	7"	379	12.74	14.69	16.35	18.47	20.31
	6'	7"	8"	626	16.34	18.26	20.18	22.06	23.90
	7'	7½"	8½"	1210	20.78	22.72	24.62	26.55	28.42
	8'	8"	9"	1533	26.03	27.96	29.86	31.80	33.71
9'	5'	7"	7"	379	12.99	15.15	17.25	19.40	21.95
	6'	7½"	8"	626	16.83	18.07	21.19	23.36	25.42
	7'	7½"	8½"	1210	21.01	23.19	25.31	27.48	29.54
	8'	8"	9"	1533	26.25	28.42	30.55	32.72	34.78
10'	5'	7"	7"	379	13.23	15.62	17.95	20.34	22.59
	6'	7½"	8"	626	17.19	19.54	21.89	24.20	26.56
	7'	7½"	8½"	1210	21.44	23.66	26.01	28.32	30.68
	8'	8"	9"	1533	26.48	28.89	31.25	33.56	35.92
11'	6'	8"	8"	626	17.67	20.39	22.92	25.98	——
	7'	8"	8½"	1210	21.88	24.55	27.13	29.69	——
	8'	8"	9"	1533	26.70	29.37	31.96	34.52	——
12'	6'	8"	8"	626	17.91	20.64	23.28	26.46	——
	7'	8"	8½"	1210	22.11	25.04	27.85	30.67	——
	8'	8"	9"	1533	26.93	29.86	32.67	35.49	——

⊕ For reinforcing steel in Headwalls and Aprons, see Drawings 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 Std. Barrel Sections, Drawing Nos.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-115X-0	R-215X-0	R-315X-0	R-415X-0	R-515X-0
R-115X-1	R-215X-1	R-315X-1	R-415X-1	R-515X-1
	R-215X-2	R-315X-2		

BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

CLEAR HEIGHT	WING LOCATION	SF1 & LF1 BENT: In bottom of footing, bent up into back face of wing. One bar of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MIN.	MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	SF2 & LF2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. SIZE	SPACING	NO. REQD	LENGTH	SF3 & LF3 STRAIGHT: Longitudinal in top of wing footing heel. SIZE	NO. REQD	LENGTH	SF4 & LF4 STRAIGHT: Longitudinal in bottom of wing footing toe. SIZE	NO. REQD	LENGTH	SH1 & LH1 STRAIGHT: Horizontal in back face of wing. SIZE	SPACING	NO. REQD	LENGTH	SH2 & LH2 STRAIGHT: Horizontal in back face of wing. One bar of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MAX.	MIN.	SH3 & LH3 STRAIGHT: In back face of wing at top or on slope. SIZE	NO. REQD	LENGTH	SH4 & LH4 BENT: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQD	LENGTH	X	BAR BENDING DIAGRAM	QUANTITY REINFORCING STEEL PER WING - LBS. SHORT WING	LONG WING
H	SHORT or LONG																																											
2'	Short	#3	12"	7	1'-7"	3'-11"	0'-8"	1'-0"	1'-0"	3'-0"	—	—	—	—	#3	1	9'-2"	#3	2	7'-10"	#3	12"	1	6'-5"	#3	12"	1	—	3'-6"	#3	1	6'-10"	#3	12"	2	2'-8"	1'-9"	24.9	33.4
	Long	#3	12"	10	1'-7"	3'-11"	0'-8"	1'-0"	0'-10"	3'-0"	—	—	—	—	#3	1	11'-8"	#3	2	10'-10"	#3	12"	1	8'-11"	#3	12"	1	—	4'-8"	#3	1	9'-1"	#3	12"	2	"	"		
3'	Short	#3	12"	9	2'-2"	5'-3"	0'-10"	1'-4"	1'-5"	4'-0"	—	—	—	—	#3	1	11'-8"	#3	2	10'-0"	#3	12"	1	8'-6"	#3	12"	2	6'-7"	3'-6"	#3	1	9'-0"	#3	12"	3	"	"	37.7	50.3
	Long	#3	12"	13	1'11"	5'-2"	0'-10"	1'-3"	1'-2"	4'-0"	—	—	—	—	#3	1	14'-6"	#3	2	14'-0"	#3	12"	1	11'-9"	#3	12"	2	8'-11"	4'-8"	#3	1	12'-0"	#3	12"	3	"	"		
4'	Short	#3	12"	11	2'-7"	6'-7"	0'-11"	1'-8"	1'-9"	5'-0"	—	—	—	—	#3	1	13'-8"	#3	3	12'-8"	#3	12"	1	10'-7"	#3	12"	3	9'-8"	3'-6"	#3	1	11'-2"	#3	12"	4	"	"	57.3	76.4
	Long	#3	12"	15	2'-6"	6'-6"	0'-11"	1'-7"	1'-8"	5'-0"	—	—	—	—	#3	1	17'-6"	#3	3	17'-2"	#3	12"	1	14'-7"	#3	12"	3	12'-2"	4'-8"	#3	1	14'-11"	#3	12"	4	"	"		
5'	Short	#3	12"	13	3'-1"	7'-11"	1'-1"	2'-0"	2'-1"	6'-0"	#3	12"	4	3'-6"	1'-1"	2'-6"	#3	1	15'-5"	#3	3	14'-9"	#3	12"	2	12'-8"	#3	12"	3	9'-8"	2'-6"	#3	1	13'-6"	#3	12"	5	"	"	81.1	108.4
	Long	#3	12"	18	3'-0"	7'-10"	1'-1"	1'-11"	2'-0"	6'-0"	#3	12"	5	3'-6"	1'-1"	2'-6"	#3	1	20'-8"	#3	3	20'-4"	#3	12"	2	17'-5"	#3	12"	3	13'-2"	4'-8"	#3	1	17'-10"	#3	12"	5	"	"		
6'	Short	#4	12"	16	3'-8"	9'-4"	1'-2"	2'-4"	2'-5"	7'-1"	#3	12"	6	4'-6"	1'-4"	3'-3"	#3	1	17'-6"	#3	3	16'-6"	#3	12"	2	14'-8"	#3	12"	4	12'-9"	3'-6"	#3	1	15'-6"	#3	12"	6	"	"	134.8	178.1
	Long	#4	12"	21	3'-5"	9'-3"	1'-2"	2'-3"	2'-4"	7'-1"	#3	12"	5	4'-6"	1'-4"	3'-5"	#3	1	23'-0"	#3	3	23'-4"	#3	12"	2	20'-3"	#3	12"	4	17'-5"	4'-8"	#3	1	20'-9"	#3	12"	6	2'-8"	1'-4"		
7'	Short	#4	12"	18	3'-9"	10'-10"	1'-3"	2'-10"	2'-7"	8'-1"	#4	12"	7	5'-6"	1'-7"	4'-0"	#4	1	19'-7"	#4	4	18'-9"	#4	12"	2	16'-8"	#4	12"	5	15'-10"	3'-6"	#4	1	17'-8"	#4	12"	7	3'-6"	1'-9"	259.5	345.2
	Long	#4	12"	24	3'-10"	10'-8"	1'-3"	2'-10"	2'-8"	8'-1"	#4	12"	9	5'-6"	1'-7"	4'-0"	#4	1	25'-10"	#4	4	26'-10"	#4	12"	2	23'-1"	#4	12"	5	21'-8"	4'-8"	#4	1	23'-8"	#4	12"	7	"	"		
8'	Short	#4	12"	20	4'-2"	12'-5"	1'-5"	3'-4"	3'-0"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	21'-8"	#4	4	21'-0"	#4	12"	3	18'-11"	#4	12"	6	15'-10"	3'-6"	#4	1	19'-10"	#4	12"	8	"	"	328.0	438.3
	Long	#4	12"	27	4'-1"	12'-3"	1'-5"	3'-3"	3'-0"	9'-2"	#4	12"	13	6'-6"	1'-10"	4'-9"	#4	1	28'-3"	#4	4	30'-3"	#4	12"	3	25'-11"	#4	12"	5	21'-8"	4'-8"	#4	1	24'-7"	#4	12"	8	3'-6"	1'-9"		

NOTE:- Bars for short wing shall be marked with prefix letter 'S', while those for long wing shall be marked with letter 'L'.

Note:- Dimensions are to bar centers.

REVISIONS:- Membrane Added. 5-10-66 W.C.H.

Designed By- W.C.H. 5-13-63 Checked By- 2145 - 8-7-63
Drawn By- W.C.H. 6-20-63 Checked By-
Quantities By- W.C.H. 9-23-63 Checked By-

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF STANDARD WINGS
FOR
REINFORCED CONCRETE BOX CULVERTS
15° 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

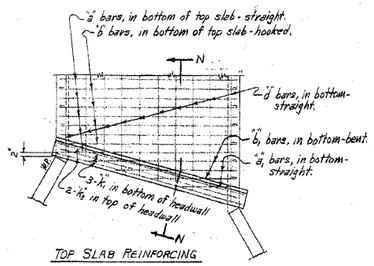
STANDARD DRAWING NO. W-X153-1

34

RESHOT 3-8-93

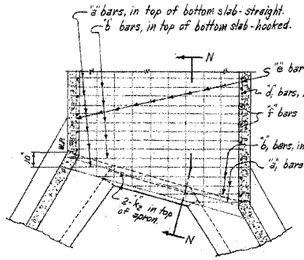
180

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
8	ARK.			207	
JOB No.					



TOP SLAB REINFORCING

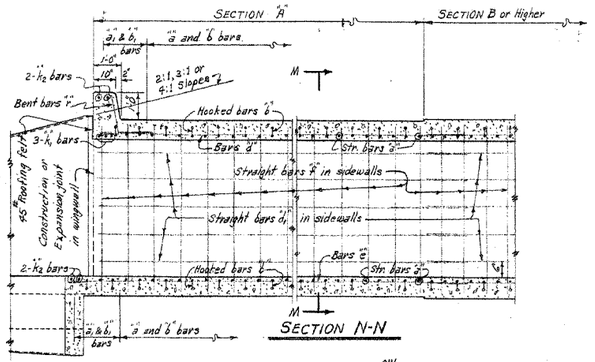
PART PLAN AT END OF CULVERT



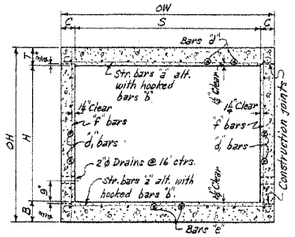
BOTTOM SLAB REINFORCING

PART PLAN AT END OF CULVERT

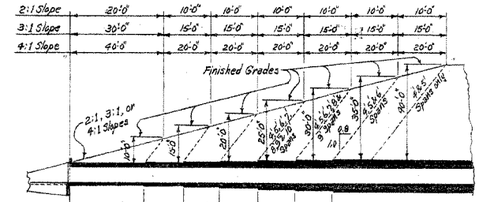
NOTE:- The "d", "d1" and "e" bars vary in length. They should extend 1'9" into SECTION B.



SECTION N-N



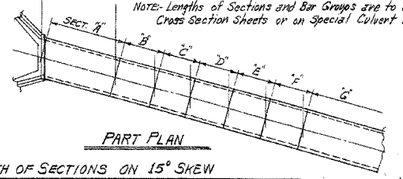
TYPICAL SECTION M-M



		A	B	C	D	E	F	MID-SECTION G-Varies
2:1 Slope =	SECTIONS	16'-0"	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"	
	Bar Group	A	B	C	D	E	F	G
3:1 Slope =	SECTIONS	22'-0"	11'-0"	6'-0"	11'-0"	11'-0"	11'-0"	
	Bar Group	A	B	C	D	E	F	G
4:1 Slope =	SECTIONS	32'-0"	16'-0"	6'-0"	16'-0"	16'-0"	16'-0"	
	Bar Group	A	B	C	D	E	F	G

These lengths are perpendicular to ℄ of roadway. See Table of Skew Lengths below.

TYPICAL LONGITUDINAL SECTION - SHOWING SECTIONS AND BAR GROUPS FOR VARIOUS DEPTHS OF COVER



NOTE:- Lengths of Sections and Bar Groups are to be shown on Cross Section Sheets or on Special Culvert Layout Sheet.

PART PLAN

LENGTH OF SECTIONS ON 15° SKEW

SLOPE	2:1		3:1		4:1	
SECTIONS	A	B, C, D, E & F	A	B, C, D, E & F	A	B, C, D, E & F
LENGTHS	12'-5"	6'-2½"	22'-3⅛"	11'-4⅝"	33'-1½"	16'-4⅜"

NOTE:- For Details and Bar Lists for Sections B thru G, see Barrel Drawing Nos. R-100X-X.1 or R-100X-X.2.

SECTIONS AND BAR GROUPS TO BE USED FOR VARIOUS DEPTHS OF COVER

DEPTHS OF COVER	SECTIONS & BAR GROUPS FOR END SECTIONS						MID-SECTION AND BAR GROUP
	A	B	C	D	E	F	
5.0' to 9.5'	A						A
10.0' to 14.5'	A						B
15.0' to 19.5'	A	B					C
20.0' to 24.5'	A	B	C				D
25.0' to 29.5'	A	B	C	D			E
30.0' to 34.5'	A	B	C	D	E		F
35.0' to 40.0'	A	B	C	D	E	F	G

OR ALT.

DEPTHS OF COVER	SECTIONS & BAR GROUPS FOR END SECTIONS						MID-SECTION AND BAR GROUP
	A	B	C	D	E	F	
5.0' to 9.5'	A						A
10.0' to 14.5'	A						B
15.0' to 19.5'	A	B					C
20.0' to 24.5'	A	2@C					D
25.0' to 29.5'	A	B	2@D				E
30.0' to 34.5'	A	2@C		2@E			F
35.0' to 40.0'	A	B	2@D		2@F		G

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM FOR BARS "b"
#4	2"	4"	0'-10½"	K, Pin diam., X
#5	2½"	4½"	0'-11½"	
#6	3"	5"	1'-2"	
#7	3½"	5⅝"	1'-4"	

BAR SIZE	PIN DIAM.	K	ADD FOR 1 HOOK	BENDING DIAGRAM FOR BARS "b1"
#4	2"	4"	0'-5½"	K, Pin diam., X
#5	2½"	4½"	0'-5⅝"	
#6	3"	5"	0'-7"	
#7	3½"	5⅝"	0'-8"	

NOTE:- Dimensions are to centers of bars ("b" and "b1").

DOWEL BARS FOR ONE HEADWALL

SPAN	SIZE	SPACING	No. REQ'D	LENGTH	X	Dowel bars "x" in One Headwall.
4'	#4	12"ø	6	2'-5"	1'-2½"	x, 12, X
5'	#4	12"ø	7	2'-6"	1'-3"	
6'	#4	12"ø	8	2'-7"	1'-3½"	
7'	#4	12"ø	9	2'-8"	1'-4"	
8'	#4	12"ø	10	2'-10"	1'-5"	
9'	#4	12"ø	11	3'-0"	1'-6"	
10'	#4	12"ø	12	3'-2"	1'-7"	

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961

AND

SPECIAL MILITARY LOADING

Two 24,000 Lb. Axles @ 9'-0" ctrs.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"

Reinforcing Steel 20,000#/□"

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.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X152-1 or W-X152-2, W-X153-1 or W-X153-2, and W-X154-1 or W-X154-2. Also W-X15.

For Barrels of 4', 5' & 6' Spans, See Drawing No. R-100X-X1.

For Barrels of 7', 8', 9' & 10' Spans, See Drawing No. R-100X-X.2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS

FOR

REINFORCED CONCRETE BOX CULVERTS

15° SKEW ~ SECTIONS "A" ONLY

4', 5', 6', 7', 8', 9' & 10' SPANS SINGLES

2:1, 3:1 OR 4:1 SLOPES OVER 5'-0" COVER

STANDARD DRAWING NO. R-115X-1

BAR LIST FOR SECTION "A" ON 15° SKEW - ONE END ONLY.

SECTION "A" & BAR GROUP "A"

2:1 = 12'-5" 3:1 = 22'-3⅛" 4:1 = 33'-1⅝"

0'-0" TO 10'-0" MAXIMUM.

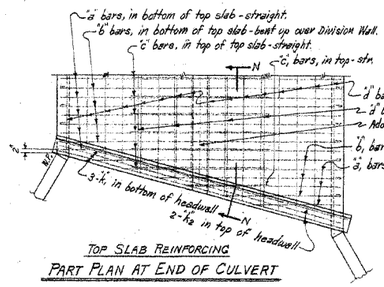
Designed by:- W.C.H. 9-5-62. Checked by:- R.H.S. 11-8-62.
Drawn by:- W.C.H. 10-29-63. Checked by:-
Quantities by:- W.C.H. 12-6-63 Checked by:-

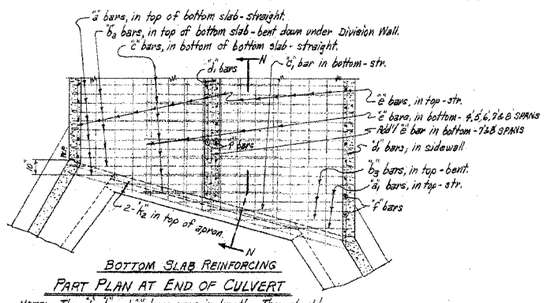
| SECTION & BAR GROUP | LENGTH OF SECTION | DEPTH OF COVER | CLEAR SPAN | CLEAR HEIGHT | "a" bars STRAIGHT In Top and Bottom Slabs of Barrel. SIZE | SPACING | NUMBER REQ'D 2:1 | 3:1 | 4:1 | LENGTH | "a1" bars STRAIGHT In Top and Bottom Slab of Barrel - (Two of each Length) SIZE | SPACING | NUMBER REQ'D | LENGTH | "b" bars BENT - See Diagrams at Right. In Top and Bottom Slabs of Barrel - Alternate with "a" bars. SIZE | SPACING | NUMBER REQ'D 2:1 | 3:1 | 4:1 | LENGTH | X MAX. | X MIN. | "b1" bars In Top and Bottom Slabs of Barrel - one end hooked. (Two of each Length.) Alternate with "a1" bars. SIZE | SPACING | NUMBER REQ'D | LENGTH | X MAX. | X MIN. | "j" bars Longitudinal in Top Slab of Barrel. SIZE | SPACING | NO. REQ'D | LENGTH | "d" bars STRAIGHT Longitudinal in Sidewalls SIZE | SPACING | NO. REQ'D | LENGTH | "d1" bars Longitudinal in Bottom Slab of Barrel. SIZE | SPACING | NO. REQ'D | LENGTH | "e" bars STRAIGHT Verticals in Sidewalls. SIZE | SPACING | NUMBER REQ'D 2:1 | 3:1 | 4:1 | LENGTH | "k" bars STRAIGHT In Bottom of Headwall. NO. REQ'D | LENGTH | "k1" bars STRAIGHT In Top of Headwall and Apron. (2 Each) SIZE | NO. REQ'D | LENGTH |
|---|---|---|---|---|---|---|---|---

RESHOT 3-8-93

T11 18E

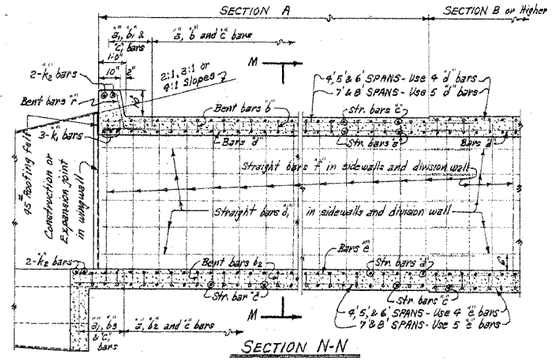
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
8	ARK.			208	
JOB No.					

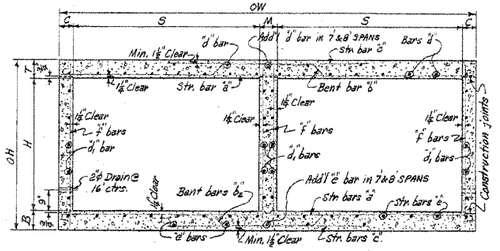


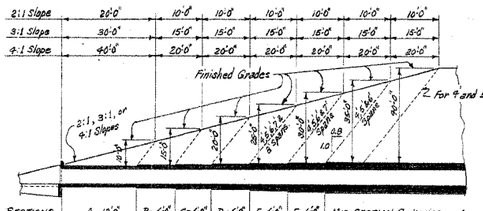


NOTE:- The "d", "d" and "a" bars vary in length. They should extend 1'-8" into SECTION B.

NOTE:- For Details of Standard Wings and Bar lists, see Drawing No. W-X.152-1 or W-X.152-2; W-X.153-1 or W-X.153-2, and W-X.154-1 or W-X.154-2. Also W-X.15.





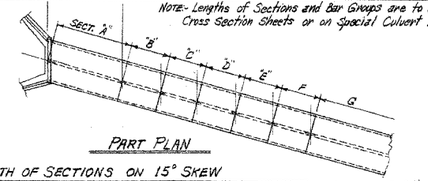


2:1 Slope =	Sections	A=12'-0"	B=6'-0"	C=6'-0"	D=6'-0"	E=6'-0"	F=6'-0"	MID-SECTION	G-Varies
	Bar Group	A	B	C	D	E	F		G
3:1 Slope =	Sections	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	MID-SECTION	G-Varies
	Bar Group	A	B	C	D	E	F		G
4:1 Slope =	Sections	A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	MID-SECTION	G-Varies
	Bar Group	A	B	C	D	E	F		G

These lengths are perpendicular to ℄ of roadway. See Table of Skew Lengths below.

TYPICAL LONGITUDINAL SECTION - SHOWING SECTIONS AND BAR GROUPS FOR VARIOUS DEPTHS OF COVER

NOTE:- Lengths of Sections and Bar Groups are to be shown on Cross Section Sheets or on Special Culvert Layout Sheet.



PART PLAN

LENGTH OF SECTIONS ON 15° SKEW

SLOPE	2:1			3:1			4:1		
SECTIONS	A	B, C, D, E & F		A	B, C, D, E & F		A	B, C, D, & E	
LENGTHS	12'-5"	6'-2⅝"		22-5⅛"	11'-4⅝"		33'-1½"	16'-4⅜"	

NOTE:- For Details and Bar Lists for SECTIONS B thru G, see Barrel Drawing Nos. R-200X-X1, R-200X-X2, or R-200X-X3.

SECTIONS AND BAR GROUPS TO BE USED FOR VARIOUS DEPTHS OF COVER

DEPTHS OF COVER	SECTIONS & BAR GROUPS FOR END SECTIONS						MID-SECTION AND BAR GROUP
	A	B	C	D	E	F	
5.0' to 9.5'	A						A
10.0' to 19.5'	A						B
20.0' to 29.5'	A	B					C
30.0' to 39.5'	A	B	C				D
40.0' to 49.5'	A	B	C	D			E
50.0' to 59.5'	A	B	C	D	E		F
60.0' to 70.0'	A	B	C	D	E	F	G

OR ALT.

DEPTHS OF COVER	SECTIONS & BAR GROUPS FOR END SECTIONS						MID-SECTION AND BAR GROUP
	A	B	C	D	E	F	
5.0' to 9.5'	A						A
10.0' to 14.5'	A						B
15.0' to 19.5'	A	B					C
20.0' to 24.5'	A	2@C					D
25.0' to 29.5'	A	B	2@D				E
30.0' to 39.5'	A	2@C	2@E				F
35.0' to 40.0'	A	B	2@D	2@F			G

MAX. DESIGN DEPTH OF COVER	BARREL DIMENSIONS											QUANTITIES - ONE SECTION "A"					
	CLEAR SPANS	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF DIVISION WALL	THICKNESS OF BOTTOM SLABS	OVERALL HEIGHT	ROADWAY LENGTH	LENGTH OF HEADWALL	CLASS S CONCRETE			REINFORCING STEEL		
												BARREL ONLY			BARREL, APRON AND HEADWALL		
												2:1	3:1	4:1	2:1	3:1	4:1
D	S	H	A	OW	T	C	M	B	OH	RL	K	Cu.Yd.	Cu.Yd.	Cu.Yd.	Lb.	Lb.	Lb.
SECTION "A" = 10'-0"	2 @ 4'-0"	2'-0"	16	9'-8"	6"	6"	8"	6"	3'-0"	10'-0"	10'-6½"	5.97	10.95	15.93	967	1629	2303
		3'-0"	24	9'-8"		6"	8"		4'-0"	"	"	6.74	12.36	17.99	1039	1756	2495
		4'-0"	32	9'-8"		6"	8"		5'-0"	"	"	7.51	13.78	20.04	1112	1882	2669
		5'-0"	40	9'-8"		6"	8"		6'-0"	"	"	8.28	15.19	22.09	1184	2003	2850
		6'-0"	48	9'-11"		7"	9"		7'-0"	10'-3⅜"	10'-9⅞"	9.85	18.06	26.27	1270	2157	3062
	2 @ 5'-0"	3'-0"	30	11'-8"	6½"	6"	8"	6½"	4'-1"	12'-1"	12'-7¾"	8.11	14.87	21.63	1396	2386	3409
		4'-0"	40	11'-8"		6"	8"		5'-1"	"	"	8.86	16.28	23.68	1468	2513	3592
		5'-0"	50	11'-8"		6"	8"		6'-1"	"	"	9.65	17.69	25.74	1541	2640	3775
		6'-0"	60	11'-11"		7"	9"		7'-1"	12'-6"	12'-10½"	11.22	20.58	29.94	1680	2795	3997
		7'-0"	70	12'-1"		7½"	10"		8'-1"	12'-6⅜"	13'-0⅝"	12.73	23.34	33.95	1868	3213	4602
	2 @ 6'-0"	3'-0"	36	13'-8"	7"	6"	8"	7½"	4'-3"	14'-1⅞"	14'-6⅝"	10.16	18.63	27.10	1580	2732	3898
		4'-0"	48	13'-8"		6"	8"		5'-3"	"	"	10.93	20.04	29.15	1658	2859	4080
		5'-0"	60	13'-8"		6"	8"		6'-3"	"	"	11.68	21.43	31.17	1725	2986	4263
		6'-0"	72	13'-11"		7"	9"		7'-3"	14'-5"	14'-11⅝"	13.29	24.36	35.44	1815	3142	4486
		7'-0"	84	14'-1"		7½"	10"		8'-3"	14'-7"	15'-1⅝"	14.80	27.14	39.48	2056	3565	5100
		8'-0"	96	14'-2"		8"	10"		9'-3"	14'-8"	15'-2⅝"	16.12	29.56	43.00	2190	3772	5381
	2 @ 6'-0"	4'-0"	56	15'-8"	8"	6"	8"	8½"	5'-5"	16'-2⅝"	16'-9"	13.27	24.36	35.41	2156	3667	5154
		5'-0"	70	15'-8"		6"	8"		6'-5"	"	"	14.04	25.75	37.46	2209	3794	5337
		6'-0"	84	15'-11"		7"	9"		7'-5"	16'-5¾"	17'-0⅝"	15.66	28.71	41.77	2302	3956	5568
		7'-0"	98	16'-1"		7½"	10"		8'-5"	16'-7¾"	17'-11⅝"	17.18	31.51	45.84	2549	4330	6196
		8'-0"	112	16'-3"		8"	10"		9'-5"	16'-9¾"	17'-3⅝"	18.50	33.93	49.36	2686	4638	6558
		9'-0"	126	16'-5"		9"	11"		10'-5"	17'-0"	17'-6⅝"	20.70	37.96	55.22	2846	4950	7000
	2 @ 8'-0"	4'-0"	64	17'-8"	9"	6"	8"	9½"	5'-7"	18'-3⅝"	18'-10"	15.93	29.21	42.50	2384	4168	5973
		5'-0"	80	17'-11"		7"	9"		6'-7"	18'-6⅝"	19'-1"	17.46	32.02	46.57	2640	4493	6369
		6'-0"	96	17'-11"		7"	9"		7'-7"	"	"	18.34	33.63	48.93	2712	4620	6552
		7'-0"	112	18'-1"		7½"	10"		8'-7"	18'-8⅝"	19'-3"	19.38	36.94	53.03	2847	4875	6919
		8'-0"	128	18'-2"		8"	10"		9'-7"	18'-9⅝"	19'-4"	21.20	38.87	56.54	3068	5235	7491
		9'-0"	144	18'-5"		9"	11"		10'-7"	19'-0⅜"	19'-7⅝"	23.42	42.95	62.47	3229	5523	7866
		10'-0"	160	18'-8"		10"	12"		11'-7"	19'-3⅜"	19'-10⅝"	26.85	47.91	68.97	3560	6116	8714

* For remainder of quantities see Std. Wing and Barrel Drawings listed below.

BAR LIST FOR SECTION "A" ON 15° SKEW - ONE END ONLY.

SECTION & BAR GROUP	LENGTH OF SECTION	DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slab of Barrel. SIZE	SPACING	NUMBER Req'd 2:1	3:1	4:1	LENGTH	"a1" bars STRAIGHT In Top and Bottom Slab of Barrel - (Two of each Length.) SIZE	SPACING	No. Req'd	LENGTH	"b" bars BENT - See Diagrams below. In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with "a" and "c" bars. SIZE	SPACING	NUMBER Req'd 2:1	3:1	4:1	LENGTH	X	Y	Z	"b1" bars BENT - See Diagrams below. In Bottom of Top Slab - may or may not be bent up over Division Wall - one end hooked. Alternate with "a1" and "c" or "c1" bars. SIZE	SPACING	No. Req'd	LENGTH Max.	LENGTH Min.	L Max.	L Min.
SECTION "A" & BAR GROUP "A"	4:1 = 33'-1½"	0'-0" TO 10'-0" MAXIMUM.	2 @ 4'-0"	2'-0"	#4	18"	28	91	61	9'-5"			2	5'-5"	#4	13"	10	20	29	10'-5"	0'-2⅝"	2'-1"	3'-5"	#4	13"	2	8'-0"	3'-0"	7'-5"	3'-5"
				3'-0"			25	91	61	"			2	"			10	20	29	"	"	"	"			2	"	"	"	"
				4'-0"			23	91	61	"	#4	18"	2	"			10	20	29	"	"	"	"			2	"	"	"	"
				5'-0"			23	91	61	"			2	"			10	20	29	"	"	"	"			2	"	"	"	"
				6'-0"			23	91	61	9'-8"			2	5'-8"			10	20	29	10'-8"	0'-2⅝"	2'-2"	3'-6"			2	8'-3"	4'-1"	7'-8"	3'-8"
			2 @ 5'-0"	3'-0"			25	97	71	11'-5"			4	8'-0"	4'-7"		12	23	34	12'-6"	0'-3"	2'-6½"	4'-2"			2	10'-4"	6'-10"	9'-8"	6'-3"
				4'-0"			25	97	71	"			4	"	"		12	23	34	"	"	"	"			2	"	"	"	"
				5'-0"			26	90	71	"	#4	1'-0"	4	"	"		12	23	34	"	"	"	"			2	"	"	"	"
				6'-0"			25	97	71	11'-8"			4	8'-3"	4'-10"		12	23	34	12'-9"	"	2'-7½"	4'-3"			2	10'-7"	7'-1"	9'-11"	6'-6"
				7'-0"			25	97	71	11'-10"			4	8'-5"	5'-0"		12	23	34	12'-11"	0'-3"	2'-8⅜"	4'-3⅜"			2	10'-9"	7'-4"	10'-1"	6'-8"
			2 @ 6'-0"	3'-0"			23	93	65	13'-5"			4	9'-8"	5'-11"		10	21	31	13'-7"	0'-3⅜"	2'-11"	4'-7"			3	12'-2"	8'-6"	11'-6"	8'-0"
				4'-0"			23	93	65	"			4	"	"		10	21	31	"	"	"	"			3	"	"	"	"
				5'-0"			23	93	65	"	#4	12"	4	9'-11"	6'-12"		10	21	31	14'-10"	"	3'-0"	5'-0"			3	12'-5"	9'-8"	11'-9"	8'-5"
				6'-0"			23	93	65	13'-10"			4	10'-2"	6'-9"		10	21	31	15'-0"	"	3'-0"	5'-0⅝"			3	12'-7"	9'-11"	11'-11"	8'-5"
				7'-0"			23	93	65	13'-11"			4	10'-4"	6'-10"		10	21	31	15'-1"	0'-3⅝"	3'-1"	5'-1"			3	12'-9"	10'-1"	12'-0"	8'-6"
				8'-0"			23	93	65	13'-11"			4	10'-6"	6'-11"		10	21	31	15'-2"	0'-3⅝"	3'-1"	5'-1"			3	12'-11"	10'-2"	12'-1"	8'-6"
			2 @ 8'-0"	4'-0"			23	93	65	15'-5"			6	11'-8"	9'-2"		10	21	31	16'-10"	0'-4⅛"	3'-4⅝"	5'-7"			3	14'-5"	6'-7"	13'-6"	6'-0"
				5'-0"			23	93	65	"			6	"	"		10	21	31	"	"	"	"			3	"	"	"	"
				6'-0"			23	93	65	15'-8"	#4	12"	6	11'-11"	9'-5"		10	21	31	17'-1"	"	3'-5⅛"	5'-8"			3	14'-8"	6'-10"	13'-9"	6'-3"
				7'-0"			23	93	68	15'-10"			6	12'-1"	9'-7"		10	21	31	17'-3"	"	3'-5⅝"	5'-8⅝"			3	14'-10"	7'-0"	13'-11"	6'-5"
				8'-0"			23	93	68	15'-11"			6	12'-2"	9'-8"		10	21	31	17'-4"	"	3'-6⅛"	5'-9"			3	14'-11"	7'-1"	14'-0"	6'-6"
				9'-0"			23	93	68	16'-2"			6	12'-5"	9'-11"		10	21	31	17'-5"	0'-4⅝"	3'-6⅝"	5'-9⅝"			3	15'-2"	7'-2"	14'-2"	6'-8"
			2 @ 8'-0"	4'-0"			21	89	59	17'-5"			6	13'-5"	10'-5"		9	19	28	18'-0"	0'-5⅜"	3'-7"	6'-5"			4	16'-6"	8'-0"	15'-5"	3'-5"
				5'-0"			21	89	59	17'-8"			6	13'-8"	10'-8"		9	19	28	19'-1"	"	3'-8"	6'-6"			4	16'-7"	8'-3"	15'-8"	3'-8"
				6'-0"			21	89	59	"			6	13'-11"	10'-11"		9	19	28	"	"	"	"			4	"	"	"	"
				7'-0"			21	89	59	17'-11"	#5	13"	6	14'-2"	11'-2"		9	19	28	19'-3"	"	3'-9"	6'-6⅝"			4	16'-9"	8'-5"	15'-10"	3'-10"
				8'-0"			21	89	59	18'-0"			6	14'-5"	11'-5"		9	19	28	19'-4"	"	3'-9"	6'-7"			4	16'-10"	8'-6"	15'-11"	3'-11"
				9'-0"			21	89	59	18'-2"			6	14'-8"	11'-8"		9	19	28	19'-5"	"	3'-9"	6'-7"			4	17'-1"	8'-7"	16'-0"	4'-0"
				10'-0"			21	89	59	18'-5"			6	14'-11"	11'-11"		9	19	28	19'-6"	0'-5⅜"	3'-10"	6'-7⅜"			4	17'-2"	8'-8"	16'-1"	4'-1"
				11'-0"			21	89	59	18'-8"			6	15'-2"	12'-2"		9	19	28	19'-7"	"	3'-10"	6'-8"			4	17'-3"	8'-9"	16'-2"	4'-2"
				12'-0"			21	89	59	18'-10"			6	15'-5"	12'-5"		9	19	28	19'-8"	"	3'-10"	6'-8⅝"			4	17'-4"	8'-10"	16'-3"	4'-3"
			2 @ 9'-0"	4'-0"			21	89	59	19'-0"			6	15'-8"	12'-8"		9	19	28	19'-9"	0'-5⅝"	3'-11"	6'-9"			4	17'-5"	8'-11"	16'-4"	4'-4"
				5'-0"			21	89	59	19'-2"			6	15'-11"	12'-11"		9	19	28	19'-10"	"	3'-11"	6'-9"			4	17'-6"	9'-0"	16'-5"	4'-5"
				6'-0"			21	89	59	"			6	16'-2"	13'-2"		9	19	28	"	"	"	"			4	"	"	"	"
				7'-0"			21	89	59	19'-3"	#5	13"	6	16'-5"	13'-5"		9	19	28	19'-11"	"	3'-11"	6'-10"			4	17'-7"	9'-1"	16'-6"	4'-6"
				8'-0"			21	89	59	19'-5"			6	16'-8"	13'-8"		9	19	28	20'-0"	"	3'-11"	6'-10⅝"			4	17'-8"	9'-2"	16'-7"	4'-7"
				9'-0"			21	89	59	19'-7"			6	16'-11"	13'-11"		9	19	28	20'-1"	"	3'-11"	6'-11"			4	17'-9"	9'-3"	16'-8"	4'-8"
				10'-0"			21	89	59	19'-8"			6	17'-2"	14'-2"		9	19	28	20'-2"	0'-5⅞"	3'-11"	6'-11⅝"			4	17'-10"	9'-4"	16'-9"	4'-9"

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#4	2"	4"	0'-10⅝"
#5	2½"	4½"	0'-11⅝"
#6	5"	5"	1'-2"

BENDING DIAGRAM FOR BARS "b" AND "b2"

BAR SIZE	PIN DIAM.	K	ADD FOR 1 HOOK
#4	2"	4"	0'-5¼"
#5	2½"	4½"	0'-5⅝"
#6	3"	5"	0'-7"

BENDING DIAGRAM FOR BARS "b1" AND "b3"

SPAN	SIZE	SPACING	No. REQ'D	LENGTH	X	Dowel bars "r" in One Headwall.
4'	#4	12"s	10	2'-4"	1'-2"	
5'	#4	12"s	12	2'-5"	1'-2½"	
6'	#4	12"s	14	2'-6"	1'-3"	
7'	#4	12"s	16	2'-8"	1'-4"	
8'	#4	12"s	18	2'-9"	1'-5"	

Note:- Dimensions are to centers of bars. (b, b1, b2, & b3). The X, Y & Z values for "b" bars are same as for "b" bars and for "b3" bars same as for "b2" bars.

These bars are in the skewed portion of barrel only. The length of "a1" and "c1" bars and oversill length L of "b1" and "b2" bars vary by 4'-0" for 13" spacing, 3'-9" for 12" spacing, and 3'-5" for 11" spacing.

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.
CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls, division wall 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 LORDING 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#/in²
Reinforcing Steel 20,000#/in²

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X.152-1 or W-X.152-2, W-X.153-1 or W-X.153-2, and W-X.154-1 or W-X.154-2. Also W-X.15.
For Barrels of 4', 5', & 6' Spans, see Drawing No. R-200X-X1, of 7' Spans Drawing No. R-200X-X3, and of 8' Spans Drawing No. R-200X-X2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

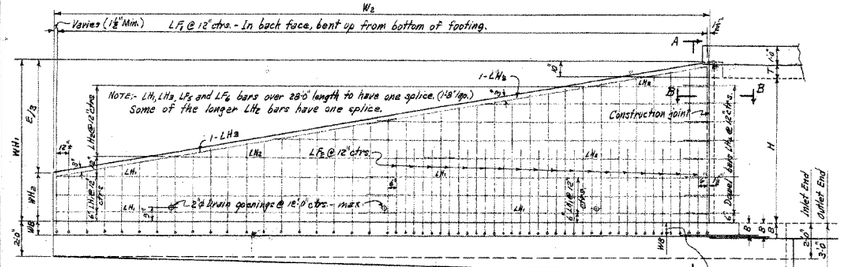
DETAILS OF STANDARD BARREL SECTIONS
FOR
REINFORCED CONCRETE BOX CULVERTS
15° SKEW - SECTIONS "A" ONLY
4', 5', 6', 7' AND 8' SPANS 2:1, 3:1 OR 4:1 SLOPES
DOUBLES OVER 5'-0" COVER

STANDARD DRAWING NO. R-215X-1

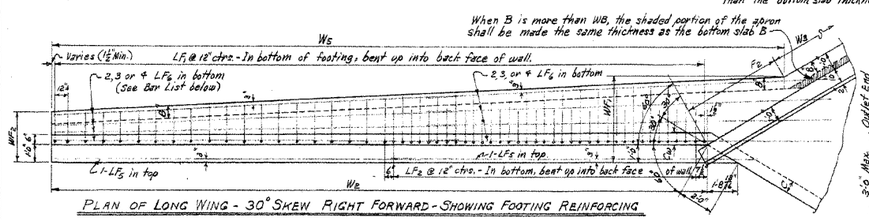
Designed by:- W.C.H. 9-17-62 Checked by:- R.A.S. 11-12-62
Drawn by:- W.C.H. 10-3-63 Checked by:-
Quantities by:- W.C.H. 12-6-63 Checked by:-

Reshot 3-8-93

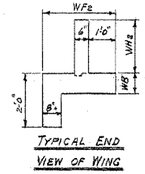
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			209	
JOB No.					



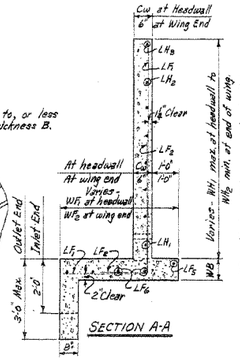
REAR ELEVATION OF LONG WING - 30° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING



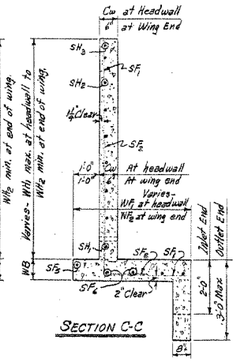
PLAN OF LONG WING - 30° SKEW RIGHT FORWARD - SHOWING FOOTING REINFORCING



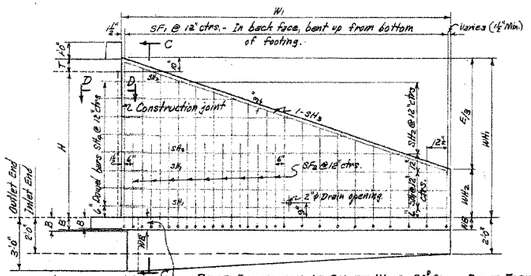
TYPICAL END VIEW OF WING



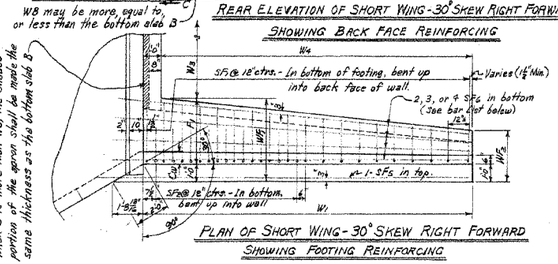
SECTION A-A



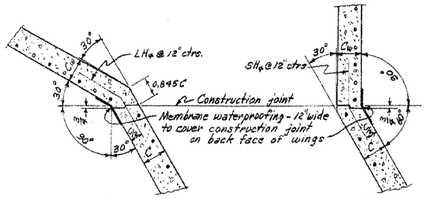
SECTION C-C



REAR ELEVATION OF SHORT WING - 30° SKEW RIGHT FORWARD SHOWING BACK FACE REINFORCING



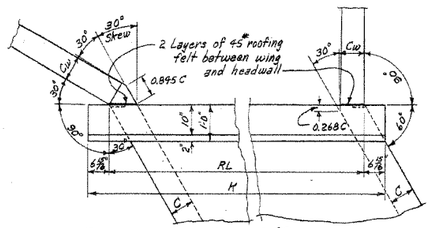
PLAN OF SHORT WING - 30° SKEW RIGHT FORWARD SHOWING FOOTING REINFORCING



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

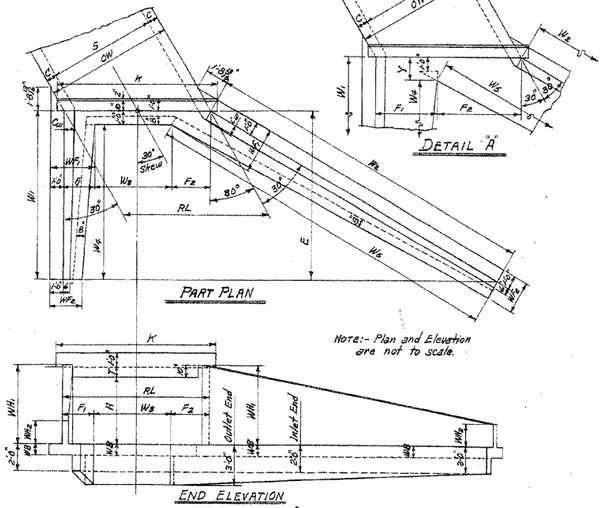
REGULAR WING DIMENSIONS - 3:1 SLOPES

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL	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 HDWL 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'-6"	0'-11½"	6'-6"	6'-6"	13'-0"	5'-6"	19'-3⅜"	0.752	1.599	0.836	1.717
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-8"	1'-7½"	8'-6"	8'-6"	17'-0"	7'-6"	17'-10⅜"	1.130	2.360	1.239	2.565
4'	7"	6"	4'-10"	1'-0"	3'-0"	2'-3"	2'-0"	2'-3⅛"	10'-6"	10'-6"	21'-0"	8'-6"	22'-5⅛"	1.577	3.270	1.711	3.552
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-4"	2'-11⅛"	12'-6"	12'-6"	25'-0"	11'-6"	27'-0⅛"	2.098	4.391	2.252	4.680
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-4"	2'-11⅛"	12'-6"	12'-6"	25'-0"	11'-6"	27'-0⅛"	2.179	4.529	2.337	4.862
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-2⅛"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7⅛"	2.908	6.084	3.092	6.919
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-2⅛"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7⅛"	2.966	6.197	3.150	6.993
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-8"	3'-2⅛"	14'-6"	14'-6"	29'-0"	13'-6"	31'-7⅛"	3.025	6.272	3.208	6.667
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-2"	3'-7⅛"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5⅜"	3.811	7.895	4.019	8.350
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-2"	3'-7⅛"	16'-6"	16'-6"	33'-0"	15'-6"	36'-5⅜"	3.887	8.057	4.095	8.512
◎ 8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	3'-7⅛"	18'-6"	18'-6"	37'-0"	17'-6"	41'-4⅛"	4.874	10.097	5.107	10.612

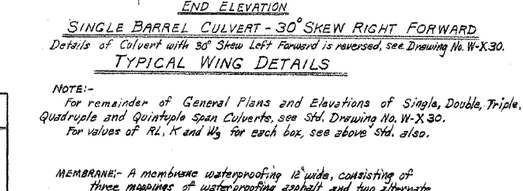
* Quantity per wing does not include headwall or that portion of apron or toewall for the length W3.
◎ See Table 'A' for special values of F1 & F2 and W4 & W5 for Single 9'6", 6'x7' and 6'x8' Box Culverts.

TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F1	F2	W3	Y	W4	W5
4'	6'	2'-7⅞"	3'-8⅜"	0"	1'-1⅞"	13'-9⅜"	31'-3⅜"
5'	7'	3'-1⅝"	4'-1"	0"	1'-3⅜"	15'-2⅛"	35'-10⅜"
6'	8'	3'-7½"	4'-10⅝"	0"	1'-6⅝"	17'-1⅛"	40'-6"



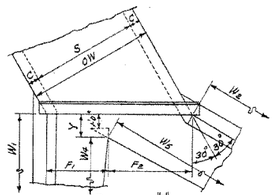
PART PLAN



END ELEVATION

SINGLE BARREL CULVERT - 30° SKEW RIGHT FORWARD

Details of Culvert with 30° Skew Left Forward is reversed, see Drawing No. W-X30.



DETAIL "A"

Note:- Plan and Elevation are not to scale.

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 W4 for each box, see above Std. also.

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mappings 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	◎ STEEL - LBS. 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"	218	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'	7⅞"	8½"	1474	24.51	25.96	27.35	28.75	30.16
6'	3'	6"	7"	218	8.57	10.17	11.79	13.33	14.92
	4'	6"	7"	327	11.27	12.86	14.49	16.03	17.62
	5'	6"	7"	460	14.38	15.98	17.55	19.15	20.79
	6'	7"	8"	762	19.35	20.98	22.59	24.21	25.83
	7'	7⅞"	8½"	1474	24.73	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	14.68	16.49	18.31	20.16	21.97
	6'	7"	8"	762	19.61	21.98	23.32	25.20	27.04
	7'	7⅞"	8½"	1474	25.05	26.99	28.82	30.71	32.59
	8'	8"	9"	1870	31.97	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	15.44	17.60	19.70	21.83	23.89
	6'	7"	8"	762	19.86	21.98	24.05	26.17	28.20
	7'	7⅞"	8½"	1474	25.30	27.96	29.58	31.78	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'	7⅞"	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	18.45	21.25	23.80	26.92
	6'	7½"	8"	762	20.74	23.45	26.07	28.69	31.28
	7'	7⅞"	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	32.97	35.95	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#/sq.in.
Reinforcing Steel 20,000#/sq.in.

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

BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

CLEAR HEIGHT	WING LOCATION	SF1 & LF1 BENT: In bottom of footing, bent up into back face of wing. One bar (or two bars) of each length — SIZE	SPACING	NO. REQ'D	LENGTHS VARY MIN.	MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	SF2 & LF2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F1 bars. SIZE	SPACING	NO. REQ'D	LENGTH	X	Y	SF3 & LF3 STRAIGHT: Longitudinal in top of wing footing heel. SIZE	NO. REQ'D	LENGTH	SF4 & LF4 STRAIGHT: Longitudinal in bottom of wing footing toe. SIZE	NO. REQ'D	LENGTH	SH1 & LH1 STRAIGHT: Horizontal in back face of wing. SIZE	SPACING	NO. REQ'D	LENGTH	SH2 & LH2 STRAIGHT: Horizontal in back face of wing. One bar of each length. ✱ SIZE	SPACING	NO. REQ'D	LENGTHS VARY MAX.	MIN.	SH3 & LH3 STRAIGHT: In back face of wing at top - on slope. SIZE	NO. REQ'D	LENGTH	SH4 & LH4 BENT: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQ'D	LENGTH	X	BAR BENDING DIAGRAM	QUANTITY: REINFORCING STEEL PER WING - LBS. SHORT WING	LONG WING
H	SHORT / LONG																																																	
2'	Short	#3	12"	7	1'-7"	3'-11"	0'-8"	1'-0"	1'-6"	3'-0"	—	—	—	—	—	—	#3	1	9'-6"	#3	2	8'-6"	#3	12"	1	6'-9"	#3	12"	1	6'-9"	#3	12"	1	—	3'-3"	#3	1	6'-7"	#3	12"	2	2'-8"	1'-4"		24.7	95.6
	Long	#3	12"	14	1'-5"	3'-11"	0'-8"	1'-0"	0'-10"	3'-0"	—	—	—	—	—	—	#3	1	15'-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'-4"	1'-4"	4'-0"	—	—	—	—	—	—	#3	1	11'-0"	#3	2	10'-6"	#3	12"	1	8'-3"	#3	12"	2	6'-3"	#3	12"	1	8'-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	2	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'-8"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	13'-0"	#3	3	12'-0"	#3	12"	1	10'-3"	#3	12"	3	9'-8"	9'-8"	#3	1	10'-9"	#3	12"	4	"	"		56.2	107.2						
	Long	#3	12"	22	2'-5"	6'-6"	0'-11"	1'-7"	1'-8"	5'-0"	—	—	—	—	—	—	#3	1	23'-6"	#3	3	24'-10"	#3	12"	1	20'-8"	#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'-0"	#3	3	14'-0"	#3	12"	2	12'-3"	#3	12"	3	9'-3"	9'-8"	#3	1	10'-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	4'-6"	1'-11"	2'-6"	#3	1	27'-6"	#3	3	28'-0"	#3	12"	3	18'-6"	6'-6"	#3	1	25'-1"	#3	12"	5	"	"											
6'	Short	#4	15"	15	3'-6"	9'-9"	1'-2"	2'-4"	2'-5"	7'-1"	#3	12"	8	4'-6"	1'-4"	3'-3"	#3	2	17'-0"	#3	3	16'-0"	#3	12"	2	14'-5"	#3	12"	4	12'-3"	8'-3"	#3	1	15'-0"	#3	12"	6	"	"		127.8	253.1						
	Long	#4	12"	30	3'-4"	9'-8"	1'-2"	2'-3"	2'-3"	7'-1"	#3	12"	6	4'-6"	1'-4"	3'-3"	#3	2	14'-8"	#3	4	16'-0"	#3	12"	2	16'-3"	#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'-10"	2'-9"	8'-1"	#4	12"	6	5'-6"	1'-7"	4'-0"	#4	1	19'-6"	#4	4	18'-0"	#4	12"	2	16'-3"	#4	12"	5	15'-8"	8'-3"	#4	1	13'-1"	#4	12"	7	3'-6"	1'-9"		267.0	489.8						
	Long	#4	12"	34	3'-9"	10'-8"	1'-3"	2'-8"	2'-7"	8'-1"	#4	12"	12	5'-6"	1'-7"	4'-0"	#4	2	18'-8"	#4	4	20'-6"	#4	12"	4	18'-3"	#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"	3'-4"	3'-2"	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"	8'-3"	#4	1	19'-5"	#4	12"	8	"	"		312.9	622.3						
	Long	#4	12"	38	4'-6"	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"											

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:- 2-19-63
Drawn By:- W.C.H. 7-26-63 Checked By:- DART 7-15-64
Quantities By:- W.C.H. 1-7-64

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

(53)

RESHOT 3-8-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			210	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH - TWO 30° SKEWED ENDS.

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	'a' bars STRAIGHT In Top and Bottom Slabs of Barrel. SIZE	SPACING	No. PER SP.	LENGTH	'a1' bars STRAIGHT In Top and Bottom Slab of Barrel - (Four of each Length) SIZE	SPACING	No. PER SP.	LENGTH	'b' bars BENT - See Diagrams below In Top and Bottom Slabs of Barrel - hooked. Alternate with 'a' bars SIZE	SPACING	No. PER SP.	LENGTH	X	'b1' bars BENT - See Diagrams below In Top and Bottom Slabs of Barrel - one end hooked. (Four of each Length) Alternate with 'a1' bars SIZE	SPACING	No. PER SP.	LENGTH MAX.	LENGTH MIN.	X MAX.	X MIN.	'j' bars STRAIGHT Longitudinal in Top Slab of Barrel. SIZE	SPACING	No. PER SP.	LENGTH	'o' bars STRAIGHT Longitudinal in Sidewalls. SIZE	SPACING	No. PER SP.	LENGTH	'e' bars STRAIGHT Longitudinal in Bottom Slab of Barrel. SIZE	SPACING	No. PER SP.	LENGTH	't' bars STRAIGHT Verticals in Sidewalls. SIZE	SPACING	No. PER SP.	LENGTH	'h' bars STRAIGHT In Bottom of Headwall. SIZE	No. PER SP.	LENGTH	h_2 bars STRAIGHT In Top of Headwall and Apron (2 Each) SIZE	No. PER SP.	LENGTH
D	S	H																																													
0'-0" TO 5'-0" MAXIMUM	4'	2'			108	4'-9"			4	2'-11"	—			108	5'-10"	4'-8"			4	4'-5"	—	3'-10"	—			6																	6	5'-6"		8	6'-8"
		3'			108	4'-9"			4	"	—			108	5'-10"	"			4	"	—	"	—			6																	6	"		8	"
		4'			108	4'-9"			4	"	—			108	5'-10"	"			4	"	—	"	—			6																	6	"		8	"
		5'			108	4'-9"			4	"	—			108	5'-10"	"			4	"	—	"	—			6																	6	"		8	"
		6'			108	4'-9 1/4"			4	3'-1"	—			108	6'-0"	4'-10"			8	4'-8"	2'-8"	4'-0"	2'-1"			6																	6	6'-8"		8	6'-10"
	4½'	3'			108	5'-9"			4	3'-11"	—			106	6'-1 1/4"	5'-8"			8	5'-5"	3'-6"	4'-10"	2'-1"			7																	6	6'-8"		8	7'-10"
		4'			108	5'-9"			4	"	—			106	6'-1 1/4"	"			8	"	"	"	"			7																	6	"		8	"
		5'	6	13"	108	5'-9"	#6	13"	4	4'-1"	—	#6	13"	106	7'-0"	5'-11"	#6	13"	8	5'-7"	3'-8"	5'-0"	3'-1"	#4	10½"	7																	6	6'-10"		8	8'-0"
		6'			108	5'-9"			4	4'-2"	—			106	7'-1"	5'-11"			8	5'-8"	3'-8"	5'-1"	3'-2"			7																	6	6'-11"		8	8'-1"
		7'			108	6'-0"			4	4'-3"	—			106	7'-1"	5'-11"			8	5'-8"	3'-8"	5'-1"	3'-2"			12																	6	"		8	"
	5'	4'			114	6'-9"			8	5'-0"	3'-3"			114	7'-1 1/2"	6'-8"			12	6'-5"	2'-11"	5'-10"	2'-9"			8																	6	"		8	9'-0"
		5'			114	6'-9"			8	"	"			114	7'-10"	"			12	"	"	"	"			8																	6	"		8	"
		6'	12"	114	6'-11"	#6	12"	8	5'-2"	3'-5"		12"	114	8'-0"	6'-10"	#6	12"	12	6'-7"	3'-1"	6'-0"	2'-6"	#5	10½"	8																	6	8'-0"		8	9'-2"
		7'			114	7'-0"			8	5'-3"	3'-6"			114	8'-1"	6'-11"			12	6'-8"	3'-2"	6'-1"	2'-7"			9																	6	8'-1"		8	9'-3"
		8'			116	7'-1"			8	5'-4"	3'-7"			114	8'-2"	7'-0"			12	6'-9"	3'-3"	6'-2"	2'-8"			9																	6	8'-2"		8	9'-4"
	6'	4'			124	7'-9"			12	6'-2"	3'-0"			122	8'-10"	7'-8"			12	7'-6"	4'-4"	6'-10"	3'-9"			9																	6	9'-0"		8	10'-2"
		5'			124	7'-9"			12	"	"			122	8'-10"	"			12	"	"	"	"			10																	6	"		8	"
	7'	6'	11"	124	7'-11"	#6	11"	12	6'-4"	3'-2"		11"	122	9'-0"	7'-11"	#6	11"	12	7'-8"	2'-11"	7'-1"	2'-6"	#5	10½"	9																	6	9'-3"		8	10'-4"
		7'			124	8'-0"			12	6'-5"	3'-3"			122	9'-1"	7'-11"			12	7'-9"	3'-0"	7'-2"	2'-5"			9																	6	9'-6"		8	10'-5"
		8'			124	8'-1"			12	6'-6"	3'-4"			122	9'-2"	8'-0"			12	7'-10"	3'-1"	7'-3"	2'-5"			9																	6	9'-6"		8	10'-6"
		9'			124	8'-3"			12	6'-8"	3'-4"			122	9'-4"	8'-2"			12	8'-0"	3'-3"	7'-5"	2'-5"			9																	6	9'-6"		8	10'-8"
	8'	4'			112	6'-8"			12	7'-0"	3'-6"			112	9'-10"	8'-8"			16	8'-5"	3'-2"	7'-10"	2'-7"			11																	6	10'-1"		8	11'-3"
		5'			112	6'-11"			12	7'-2"	3'-8"			112	10'-0"	8'-10"			16	8'-7"	3'-1"	8'-0"	2'-10"			11																	6	10'-3"		8	11'-4"
	1'	6'	12"	112	8'-11"	#6	12"	12	7'-3"	3'-9"		12"	112	10'-1"	8'-11"	#6	12"	16	8'-8"	3'-5"	8'-1"	2'-10"	#5	10"	11																	6	10'-5"		8	11'-6"
	@	7'			112	9'-0"			12	7'-4"	3'-10"			112	10'-2"	9'-0"			16	8'-9"	3'-4"	8'-2"	2'-11"			11																	6	10'-6"		8	11'-8"
	1'	8'			112	9'-1"			12	7'-6"	3'-10"			112	10'-3"	9'-2"			16	8'-10"	3'-4"	8'-3"	2'-11"			11																	6	10'-8"		8	11'-10"
	8"	9'			112	9'-3"			12	7'-6"	3'-10"			112	10'-4"	9'-3"			16	8'-11"	3'-5"	8'-4"	3'-0"			11																	6	10'-9"		8	12'-0"
		10'			112	9'-5"			16	7'-8"	2'-5"			110	10'-6"	9'-4"			16	9'-1"	3'-10"	8'-6"	3'-3"			11																	6	10'-11"		8	12'-0"
		5'			122	9'-11"			16	8'-9"	3'-7"			120	11'-0"	9'-10"			20	9'-8"	3'-6"	9'-1"	2'-9"			12																	6	11'-5"		8	12'-7"
		6'			122	10'-0"			16	9'-5"	3'-8"			120	11'-1"	9'-11"			20	9'-9"	3'-5"	9'-2"	2'-10"			12																	6	11'-7"		8	12'-9"
		7'	11"	122	10'-1"	#7	11"	16	9'-6"	3'-9"		#6	11"	120	11'-2"	10'-0"	#6	11"	20	9'-10"	3'-4"	9'-3"	2'-11"	#5	10"	12																	6	11'-8"		8	12'-10"
		8'			120	10'-3"			20	8'-8"	2'-9"			120	11'-4"	10'-2"			20	10'-0"	3'-8"	9'-5"	3'-1"			12																	6	11'-10"		8	13'-0"
		9'			120	10'-5"			20	8'-10"	2'-6"			120	11'-6"	10'-4"			20	10'-2"	3'-10"	9'-7"	3'-3"			12																	6	12'-1"		8	13'-2"
		10'			120	10'-7"			20	9'-0"	2'-5"			120	11'-8"	10'-6"			20	10'-4"	4'-0"	9'-9"	3'-5"			12																	6	12'-3"		8	13'-5"
		11'			120	10'-7"			20	9'-0"	2'-8"			120	11'-8"	10'-6"			20	10'-4"	4'-0"	9'-9"	3'-5"			12																	6	12'-3"		8	13'-5"
		6'			110	10'-11"			16	9'-2"	3'-11"			110	12'-2"	10'-10"			20	10'-8"	3'-6"	10'-0"	3'-0"			13																	6	12'-7"		8	13'-9"
		7'			110	11'-0"			16	9'-3"	4'-0"			110	12'-3"	10'-11"			20	10'-9"	3'-9"	10'-1"	3'-1"			13																	6	12'-8"		8	13'-10"
		8'			110	11'-0"			16	"	"			110	12'-3"	10'-11"			20	"	"	"	"			13																	6	"		8	"
	7'	9'	12"	110	11'-1"	#7	12"	20	9'-4"	2'-4"		11"	110	12'-4"	11'-0"	#7	12"	20	10'-10"	3'-10"	10'-2"	3'-2"	#5	10"	13																	6	13'-0"		8	14'-0"
		10'			110	11'-2"			20	9'-5"	2'-5"			108	12'-6"	11'-2"			20	11'-0"	4'-0"	10'-4"	3'-4"			13																	6	13'-2"		8	14'-2"
		11'			110	11'-3"			20	9'-8"	2'-10"			108	12'-10"	11'-6"			20	11'-2"	4'-1"	10'-5"	3'-5"			13																	6	13'-3"		8	14'-4"
		12'			110	11'-3"			20	10'-0"	3'-0"			108	13'-0"	11'-8"			20	11'-5"	4'-2"	10'-7"	3'-6"			13																	6	13'-5"		8	14'-6"
		6'			118	12'-1"			24	10'-6"	2'-7"			118	13'-4"	12'-0"			24	11'-11"	4'-0"	11'-3"	3'-4"			15																	6	13'-7"		8	15'-1"
		7'			118	12'-1"			24	"	"			118	13'-4"	"			24	"	"	"	"			15																	6	"		8	"
		8'			118	12'-1"			24	"	"			118	13'-4"	"			24	"	"	"	"			15																	6	"		8	"
	7'	9'	12"	118	12'-2"	#7	11"	24	10'-8"	2'-9"		11"	118	13'-4"	12'-2"	#7	11"	24	12'-1"	4'-2"	11'-5"	3'-6"	#5	9½"	15																	6	13'-8"		8	15'-3"
		10'			118	12'-5"			24	10'-10"	2'-11"			116	13'-8"	12'-4"			24	12'-3"	4'-3"	11'-7"	3'-8"			15																	6	13'-10"		8	15'-5"
		11'			118	12'-7"			24	11'-0"	3'-0"			116	13'-10"	12'-6"			24	12'-5"	4'-5"	11'-9"	3'-10"			15																	6	13'-11"		8	15'-7"
		12'			118	12'-9"			24	11'-2"	3'-3"			116	14'-0"	12'-8"			24	12'-7"	4'-6"	11'-11"	4'-0"			15																	6	14'-1"		8	15'-11"
		6'			108	13'-1"			24	11'-4"	2'-7"			106	14'-4"	13'-0"			28	12'-10"	4'-1"	12'-2"	3'-5"			16																	6	14'-3"		8	16'-3"
		7'			108	13'-1"			24	"	"			106	14'-6"	"			28	"	"	"	"			16																	6	"		8	"
		8'			108	13'-1"			24	"	"			106	14'-6"	"			28	"	"	"	"			16																	6	"		8	"
	8'	9'	12"	108	13'-3"	#8	12"	24	11'-6"	2'-9"		12"	106	14'-8"	13'-2"	#7	12"	28	12'-11"	4'-3"	12'-4"	3'-7"	#5	9½"	16																	6	14'-5"	#8	8	16'-5"
		10'			108	13'-5"			24	11'-8"	2'-11"			106	14'-10"	13'-4"			28	13'-0"	4'-5"	12'-6"	3'-9"			16																	6	14'-7"		8	16'-7"
		11'			108	13'-7"			24	11'-10"	3'-1"			106	14'-10"	13'-6"			28	13'-1"	4'-6"	12'-8"	3'-10"			16																	6	14'-9"		8	16'-10"
		12'			108	13'-9"			24	12'-0"	3'-3"			106	15'-0"	13'-8"			28	13'-2"	4'-7"	12'-10"	4'-1"			16																	6	15'-0"		8	17'-0"

Note:- For Details of Standard Wings and bar lists, see Drawing No. W-X.302-1 or W-X.302-2; W-X.303-1 or W-X.303-2, and W-X.304-1 or W-X.304-2. Also W-X.30.

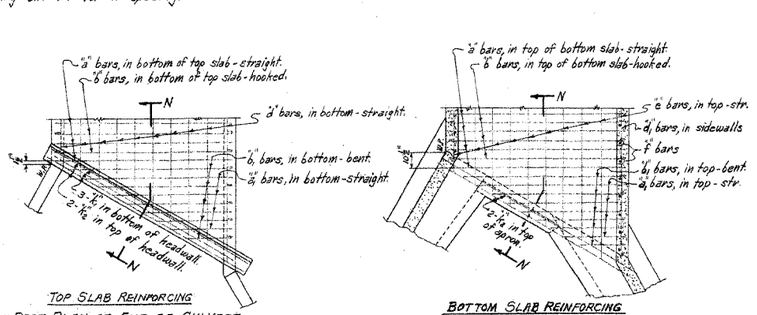
These bars are in the skewed portion of barrel only. The length of 'a' bars and overall length X of 'b' bars vary by 1'-11" for 18" spacing, 1'-9" for 12" spacing and 1'-7" for 11" spacing.

BAR SIZE	PIN DIAM.	K	ADD FOR HOOKS	BENDING DIAGRAMS FOR BARS 'b' & 'b1'
#6	3"	5"	1'-2"	2 HOOKS — K, Pin diam, "b" bars, X
#7	3½"	5⅝"	1'-4"	
#6	3"	5"	0'-7"	1 HOOK — K, Pin diam. "b1" bars, X
#7	3½"	5⅝"	0'-8"	

NOTE:- Dimensions are to centers of bars. ('b' and 'b1')

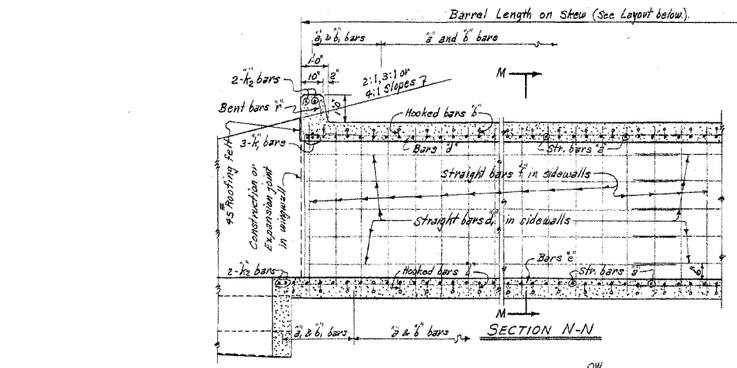
DOWEL BARS FOR TWO HEADWALLS

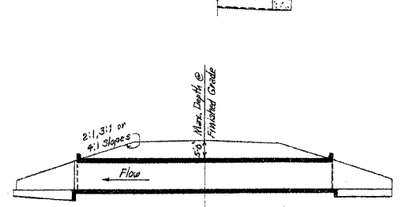
SPAN	SIZE	SPACING	No. PER END	LENGTH	X	Dowel bars 'x' in Two Headwalls.
4'	#6	12"c	12	2'-6"	1'-3"	
5'	#6	12"c	16	2'-7"	1'-3½"	
6'	#6	12"c	18	2'-8"	1'-4"	
7'	#6	12"c	20	2'-9"	1'-4½"	
8'	#6	12"c	22	2'-10"	1'-5½"	
9'	#6	12"c	26	3'-0"	1'-6"	
10'	#6	12"c	28	3'-1"	1'-6½"	
11'	#6	12"c	30	3'-2"	1'-7"	
12'	#6	12"c	32	3'-3"	1'-7½"	

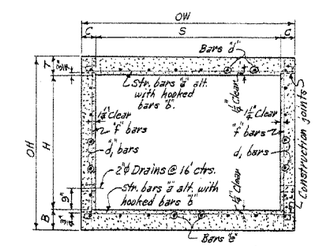


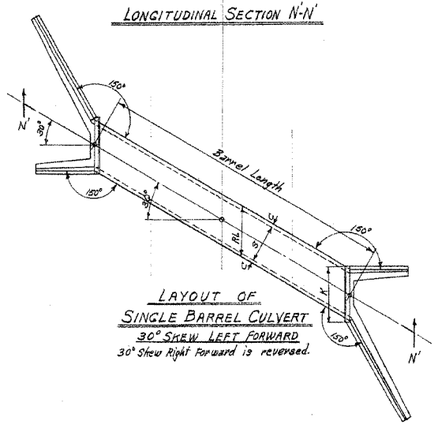
TOP SLAB REINFORCING
PART PLAN AT END OF CULVERT

BOTTOM SLAB REINFORCING
PART PLAN AT END OF CULVERT









LAYOUT OF
SINGLE BARREL CULVERT
30° SKEW LEFT FORWARD
30° Skew Right Forward is reversed.

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 #/in²
Reinforcing Steel 20,000 #/in²

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X.302-1 or W-X.302-2, W-X.303-1 or W-X.303-2, and W-X.304-1 or W-X.304-2. Also W-X.30.

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 min.
CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls and slabs shall be only where shown on plans.
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

MAX. DESIGN DEPTH OF COVER	CLEAR SPANS	BARREL DIMENSIONS: CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	* QUANTITIES: OVERALL HEIGHT	ROADWAY LENGTH	LENGTH OF HEADWALLS	REINFORCING STEEL: CLASS 'S' CONC. PER LIN. FT. OF BARREL	TOTAL FOR 100 LIN. FT. OF BARREL	PER LIN. FT. OF BARREL	ADDITIONAL PER LAP
D	S	H	A	OW	T	C	B	OH	RL	K	Cu.Yd.	LB.	LB.	LB.
5'-0"	1 @ 4'	2'	8	5'-0"	7"	6"	6½"	3'-1½"	5'-9½"	6'-1½"	0.282	2 622	41.49	17.35
		3'	12	5'-0"		6"		4'-1½"	"	"	0.319	2789	44.16	18.62
		4'	16	5'-0"		6"		5'-1½"	"	"	0.356	2946	46.83	21.29
		5'	20	5'-0"		6"		6'-1½"	"	"	0.394	3107	49.50	22.36
		6'	24	5'-2"		7"		7'-1½"	5'-11⅜"	7'-1½"	0.434	3335	52.96	24.43
	1 @ 5'	3'	15	6'-0"	7"	6"	6½"	4'-2½"	6'-1⅛"	8'-1"	0.380	3 561	56.55	22.19
		4'	20	6'-0"		6"		5'-2½"	"	"	0.417	3703	58.23	23.86
		5'	25	6'-0"	7½"	6"	7"	6'-2½"	"	"	0.456	3845	60.90	25.53
		6'	30	6'-2"		7"		7'-2½"	7'-1⅝"	8'-3⅝"	0.535	4031	64.99	27.20
		7'	35	6'-3"	7½"			8'-2½"	7'-2⅜"	8'-4⅜"	0.604	4283	67.63	28.87
	1 @ 6'	3'	18	7'-0"	7"	6"	7½"	4'-3½"	6'-1"	9'-2⅝"	0.446	4221	66.29	26.74
		4'	24	7'-0"		6"		5'-3½"	"	"	0.493	4383	68.96	26.43
		5'	30	7'-0"	8"	6"	7½"	6'-3½"	"	"	0.520	4595	71.69	28.10
		6'	36	7'-2"		7"		7'-3½"	8'-3⅜"	9'-5⅛"	0.602	4772	75.31	29.77
		7'	42	7'-3"	8½"	7½"	8"	8'-3½"	8'-4½"	9'-6⅜"	0.671	4966	78.98	31.44
		8'	48	7'-4"		8"		9'-3½"	8'-5⅝"	9'-7½"	0.746	5570	88.97	33.11
	1 @ 7'	4'	28	8'-0"	8"	6"	8½"	5'-5"	9'-2⅝"	10'-4⅝"	0.568	5196	81.32	29.01
		5'	35	8'-0"		6"		6'-6"	"	"	0.605	5307	84.00	30.68
		6'	42	8'-0"		7"		7'-5"	9'-5⅛"	10'-7"	0.688	5558	87.76	32.35
		7'	49	8'-3"	8½"	7½"	8½"	8'-5"	9'-6⅛"	10'-8⅜"	0.767	5755	90.98	34.02
		8'	56	8'-6"		8"		9'-5"	9'-7⅛"	10'-9⅜"	0.832	6100	96.65	35.69
		9'	63	8'-8"		9"		10'-5"	9'-9⅜"	10'-11⅜"	0.946	6699	105.59	37.36
	1 @ 8'	4'	32	9'-0"	9"	6"	9½"	5'-7"	10'-0⅜"	11'-4⅝"	0.676	6118	96.24	33.32
		5'	40	9'-0"		7"		6'-7"	10'-1"	11'-5⅜"	0.759	6357	99.12	34.99
		6'	48	9'-2"		7"		7'-7"	"	"	0.797	6518	101.79	36.66
		7'	56	9'-3"	9½"	7½"	9½"	8'-7"	10'-1⅝"	11'-6⅛"	0.867	6720	105.05	38.33
		8'	64	9'-6"		8"		9'-7"	10'-3⅛"	11'-7⅝"	0.892	7070	110.81	40.00
		9'	72	9'-6"		9"		10'-7"	10'-3⅝"	12'-1⅝"	1.057	7627	119.92	41.67
		10'	80	9'-8"		10"		11'-7"	11'-2"	12'-3⅜"	1.184	8093	126.67	43.34
	1 @ 9'	5'	45	10'-2"	10½"	7"	11"	6'-8"	11'-8⅜"	12'-10⅝"	0.844	7356	114.72	37.56
		6'	54	10'-3"		7½"		7'-8"	11'-10"	13'-0"	0.910	7567	118.04	38.23
		7'	63	10'-3"		8"		8'-8"	"	"	0.957	7725	120.71	40.90
		8'	72	10'-4"	10"	8"	10"	9'-8"	11'-11⅝"	13'-1"	1.033	8081	126.59	42.57
		9'	81	10'-6"		9"		10'-7"	12'-1⅛"	13'-2⅝"	1.198	8625	135.80	44.24
		10'	90	10'-8"		10"		11'-7"	12'-3⅜"	13'-4⅞"	1.296	9063	142.68	45.91
		11'	99	10'-10"		11"		12'-8"	12'-5⅝"	13'-8"	1.496	9526	150.40	47.58
	1 @ 10'	5'	50	11'-2"	11"	7"	11½"	6'-9½"	12'-10⅜"	14'-0⅝"	0.857	8359	130.64	40.13
		6'	60	11'-3"		7½"		7'-9½"	12'-10⅞"	14'-1⅜"	1.024	8567	132.99	41.80
		7'	70	11'-3"		8"		8'-9½"	"	"	1.071	8729	136.66	43.47
		8'	80	11'-4"	10½"	8"	11"	9'-9½"	13'-1"	14'-3"	1.197	9110	142.55	45.14
		9'	90	11'-6"		9"		10'-3½"	13'-3⅜"	14'-5⅝"	1.263	9634	151.32	46.81
		10'	100	11'-8"		10"		11'-3½"	13'-5⅝"	14'-7½"	1.391	10,019	158.89	48.98
		11'	110	11'-10"		11"		12'-3½"	13'-8"	14'-9⅝"	1.532	10,547	166.71	50.15
		12'	120	12'-0"		12"		13'-3½"	13'-10⅛"	15'-0⅝"	1.685	11,278	178.67	51.82
	1 @ 11'	6'	66	12'-4"	11½"	8"	12"	7'-10½"	14'-2⅜"	15'-4⅝"	1.153	9888	155.16	46.12
		7'	77	12'-4"		8"		8'-10½"	"	"	1.202	10,049	157.83	47.79
		8'	88	12'-6"		9"		9'-10½"	"	"	1.252	10,369	163.06	49.96
		9'	99	12'-6"		9"		10'-10½"	14'-5⅝"	15'-7"	1.868	10,952	172.60	51.13
		10'	110	12'-8"		10"		11'-10½"	14'-7⅝"	15'-9⅜"	1.997	11,393	179.70	52.80
		11'	121	13'-0"		11"		12'-10½"	14'-9⅝"	15'-11⅞"	1.639	11,927	187.67	54.47
		12'	132	13'-0"		12"		13'-10½"	15'-0⅛"	16'-2"	1.792	12,543	198.79	56.14
	1 @ 12'	6'	72	13'-4"	12"	8"	13"	8'-0"	15'-4⅜"	16'-6⅝"	1.284	11,081	172.20	48.69
		7'	84	13'-5"		8"		9'-0"	"	"	1.333	11,243	174.87	50.36
		8'	96	13'-5"		8"		10'-0"	"	"	1.383	11,561	180.15	52.03
		9'	108	13'-6"	11¾"	9"	13¼"	11'-0"	15'-7⅜"	16'-9"	1.500	12,162	189.85	53.70
		10'	120	13'-8"		10"		12'-0"	15'-9⅜"	16'-11⅛"	1.630	12,625	197.67	55.37
		11'	132	13'-10"		11"		13'-0"	15'-11⅜"	17'-1½"	1.772	13,113	205.16	57.04
		12'	144	14'-0"		12"		14'-0"	16'-1⅜"	17'-3⅝"	1.926	13,795	217.45	58.71

* For remainder of quantities see Std. Wing Drawings listed at left.
Total steel quantities listed above include one lap of longitudinal bars.

CLASS 'S' CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS
FOR
REINFORCED CONCRETE BOX CULVERTS
30° SKEW

4',5',6',7',8',9',10',11' & 12' SPANS — 2:1, 3:1 OR 4:1 SLOPES
SINGLES — UNDER 5'-0" COVER

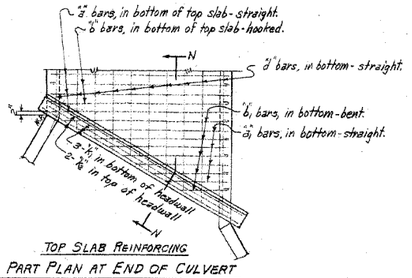
STANDARD DRAWING NO. R-130X-0

Designed by:- W.C.H. 1-23-63. Checked by:- R.H.S. 5-8-63
Drawn by:- W.C.H. 2-24-64. Checked by:-
Quantities by:- W.C.H. 4-2-64. Checked by:-

Reshot 3-8-93

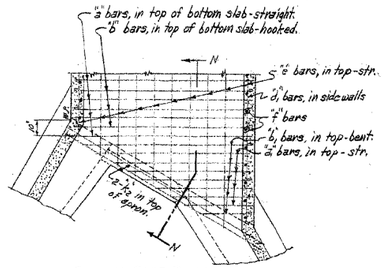
199

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			211	
JOB No.					



TOP SLAB REINFORCING

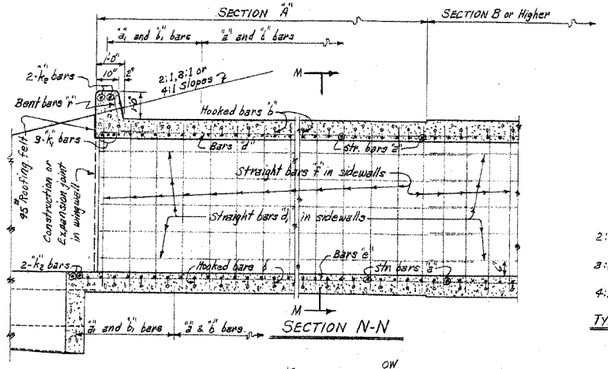
PART PLAN AT END OF CULVERT



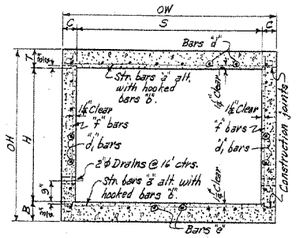
BOTTOM SLAB REINFORCING

PART PLAN AT END OF CULVERT

NOTE:- The "d", "d1" and "a" bars vary in length. They should extend 1'-0" min. into "SECTION B".

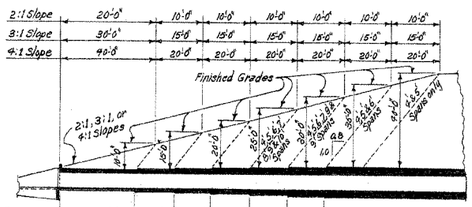


SECTION N-N



TYPICAL SECTION M-M

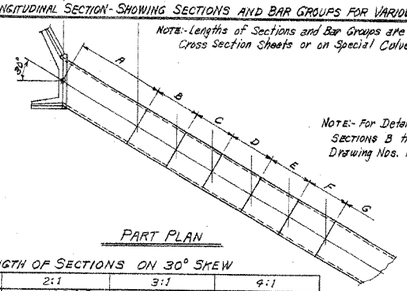
2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"		
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"		
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"		



2:1 Slope =	SECTIONS	A=16'-0"	B=6'-6"	C=6'-0"	D=6'-6"	E=6'-6"	F=6'-0"	MID-SECTION G-Varies	These lengths are perpendicular to ℄ of roadway. See Table of Skew Lengths below.
	Bar Group	A	B	C	D	E	F	G	
3:1 Slope =	SECTIONS	A=22'-0"	B=11'-6"	C=11'-0"	D=11'-6"	E=11'-6"	F=11'-0"	MID-SECTION G-Varies	
	Bar Group	A	B	C	D	E	F	G	
4:1 Slope =	SECTIONS	A=28'-0"	B=16'-3"	C=16'-0"	D=16'-3"	E=16'-3"	F=16'-0"	MID-SECTION G-Varies	
	Bar Group	A	B	C	D	E	F	G	

TYPICAL LONGITUDINAL SECTION - SHOWING SECTIONS AND BAR GROUPS FOR VARIOUS DEPTHS OF COVER

NOTE:- Lengths of Sections and Bar Groups are to be shown on Cross Section Sheets or on Special Culvert Layout Sheet.



PART PLAN

NOTE:- For Details and Bar Lists for SECTIONS B thru G, see Barrel Drawing Nos. R-100X-X.1 or R-100X-X.2.

LENGTH OF SECTIONS ON 30° SKEW

SLOPE	2:1		3:1		4:1	
SECTIONS	A	B, C, D, E & F	A	B, C, D, E & F	A	B, C, D, E & F
LENGTHS	13'-10⅛"	6'-11⅝"	25'-4⅞"	12'-8⅜"	36'-11⅝"	18'-5⅞"

NOTE:- Minimum ℄ Length of Section "A" on 30° Skew = (0.288425 OW+2').

SECTIONS AND BAR GROUPS TO BE USED FOR VARIOUS DEPTHS OF COVER

DEPTHS OF COVER	SECTIONS & BAR GROUPS FOR END SECTIONS						MID-SECTION AND BAR GROUP
	A	B	C	D	E	F	
5.0' to 9.5'	A						A
10.0 to 14.5'	A	B					B
15.0 to 19.5'	A	B	C				C
20.0' to 24.5'	A	B	C	D			D
25.0 to 29.5'	A	B	C	D	E		E
30.0 to 39.5'	A	B	C	D	E	F	F
350 to 90.0	A	B	C	D	E	F	G

OR ALT.

DEPTHS OF COVER	SECTIONS & BAR GROUPS FOR END SECTIONS						MID-SECTION AND BAR GROUP
	A	B	C	D	E	F	
5.0 to 9.5'	A						A
10.0 to 14.5'	A						B
15.0 to 19.5'	A	B					C
20.0' to 24.5'	A	B	C				D
25.0 to 29.5'	A	B	2@C				D
30.0 to 39.5'	A	B	C	D			E
35.0 to 90.0'	A	B	2@D		2@E		F
30.0 to 39.5'	A	B	C	D	E		F
35.0 to 90.0'	A	B	2@D		2@F		G

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM FOR BARS "b"
#4	2"	4"	0'-10⅝"	K, Pin diam., X
#5	2½"	4⅝"	0'-11⅝"	
#6	3"	5"	1'-0"	
#7	3½"	5⅝"	1'-1"	

NOTE:- Dimensions are to centers of bars. ("b" and "b1")

BAR SIZE	PIN DIAM.	K	ADD FOR 1 HOOK	BENDING DIAGRAM FOR BARS "b1"
#4	2"	4"	0'-5⅝"	K, Pin diam., X
#5	2½"	4⅝"	0'-5⅞"	
#6	3"	5"	0'-7"	
#7	3½"	5⅝"	0'-8"	

DOWEL BARS FOR ONE HEADWALL

SPAN	SIZE	SPACING	NO. REQ'D	LENGTH	X	Dowel bars "f" in One Headwall
4'	#4	12"c	6	2'-5"	1'-2⅝"	2", 12", X
5'	#4	12"c	8	2'-6"	1'-3"	
6'	#4	12"c	9	2'-7"	1'-3⅝"	
7'	#4	12"c	10	2'-8"	1'-4"	
8'	#4	12"c	11	2'-10"	1'-5"	
9'	#4	12"c	13	3'-0"	1'-6"	
10'	#4	12"c	14	3'-2"	1'-7"	

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961 AND SPECIAL MILITARY LOADING

Two 24,000 Lb. Axles @ 9'-0" ctrs.

UNIT STRESSES:-

Class S Concrete (n=10) 1200 #/□"

Reinforcing Steel 20,000 #/□"

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.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

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.

For Barrels of 4,5 & 6' Spans, See Drawing No. R-100X-X.1.

For Barrels of 7,8,9 & 10' Spans, See Drawing No. R-100X-X.2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

30° SKEW - SECTIONS "A" ONLY

4', 5', 6', 7', 8', 9' & 10' SPANS SINGLES

2:1, 3:1 OR 4:1 SLOPES OVER 5'-0" COVER

STANDARD DRAWING No. R-130X-1

BAR LIST FOR SECTION "A" ON 30° SKEW - ONE END ONLY.

SECTION "A" x BAR GROUP "A", 2:1 = 13'10⅛", 3:1 = 25'4⅞", 4:1 = 36'11⅝", 0'-0" TO 10'-0" MAXIMUM.

Designed by- W.C.H. 9-5-62
Drawn by- W.C.H. 1-24-64
Quantities by- W.C.H 4-21-64
Checked by- R.H.S 11-9-62
Checked by-
Checked by-

| SECTION & BAR GROUP | LENGTH OF SECTION | DEPTH OF COVER | CLEAR SPAN | CLEAR HEIGHT | "a" bars STRAIGHT In Top and Bottom Slabs of Barrel. SIZE | SPACING | NUMBER REQ'D 2:1 | 3:1 | 4:1 | LENGTH | "a1" bars STRAIGHT In Top and Bottom Slab of Barrel - (Two of each Length.) SIZE | SPACING | NO. REQ'D | LENGTH | "b" bars BENT - See Diagrams at Right. In Top and Bottom Slabs of Barrel - hooked. Alternate with "a" bars SIZE | SPACING | NUMBER REQ'D | LENGTH | X | "b1" bars STRAIGHT In Top and Bottom Slabs of Barrel - one end hooked. (Two of each Length) Alternate with "a1" bars. SIZE | SPACING | NO. REQ'D | LENGTH | X | "d" bars STRAIGHT Longitudinal in Top Slab of Barrel. SIZE | SPACING | NO. REQ'D | LENGTH | "d1" bars STRAIGHT Longitudinal in Sidewalls SIZE | SPACING | NO. REQ'D | LENGTH | "e" bars STRAIGHT Longitudinal in Bottom Slab of Barrel. SIZE | SPACING | NO. REQ'D | LENGTH | "f" bars STRAIGHT Verticale in Sidewalls. SIZE | SPACING | NUMBER REQ'D 2:1 | 3:1 | 4:1 | LENGTH | "k" bars STRAIGHT In Bottom of Headwall. SIZE | NO. REQ'D | LENGTH | "k1" bars STRAIGHT In Top of Headwall and Apron (2 Each) SIZE | NO. REQ'D | LENGTH |
|---|---|---|---|---|---|---|---|---|---|---

Reshot 3-8-93 441

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH - TWO 30° SKEWED ENDS.

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			212	
JOB No.					

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"a" bars STRAIGHT: In Top and Bottom Slab of Barrel. SIZE	SPACING	NO. REQ'D	LENGTH	"a1" bars STRAIGHT: In Top and Bottom Slab of Barrel. (Four of each Length.) SIZE	SPACING	NO. REQ'D	LENGTH
D	S	H								
0'-0" TO 5'-0" MAXIMUM	2 @ 9'	5'	#6	11"	110	19'-8"	#6	11"	40	19'-11" 3'-11"
		6'			110	19'-10"			40	19'-8" 4'-0"
		7'			110	19'-10"			40	" "
		8'			110	19'-11"			44	19'-9" 21'-6"
		9'			110	20'-2"			44	19'-11" 21'-9"
		10'			110	20'-5"			44	19'-10" 3'-0"
		11'			108	20'-7"			44	19'-9" 3'-2"
	2 @ 10'	5'	#7	12"	98	21'-8"	#7	12"	40	19'-11" 4'-2"
		6'			98	21'-10"			44	20'-1" 3'-3"
		7'			98	21'-10"			44	" "
		8'			98	21'-11"			44	20'-2" 3'-4"
		9'			98	22'-2"			44	20'-5" 3'-5"
		10'			98	22'-5"			44	20'-8" 3'-6"
		11'			98	22'-7"			44	20'-10" 4'-0"
		12'			98	22'-9"			44	21'-0" 4'-2"
	2 @ 11'	6'	#7	12"	96	23'-1"	#7	12"	48	22'-2" 2'-11"
		7'			96	23'-1"			48	" "
		8'			96	23'-11"			48	" "
		9'			96	24'-2"			48	22'-5" 3'-2"
		10'			96	24'-5"			48	22'-8" 3'-5"
		11'			96	24'-7"			48	22'-10" 3'-7"
		12'			96	24'-9"			48	23'-0" 3'-9"
	2 @ 12'	6'	#7	11"	102	25'-1"	#7	11"	56	24'-6" 3'-9"
		7'			102	25'-1"			56	" "
		8'			102	25'-11"			56	" "
		9'			102	26'-2"			56	24'-9" 4'-0"
		10'			102	26'-5"			56	24'-11" 4'-2"
		11'			102	26'-7"			56	25'-0" 21'-0"
		12'			102	26'-9"			60	25'-2" 3'-0"

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"b" bars BENT - See Diagrams below: In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with "a" and "c" bars. SIZE	SPACING	NO. REQ'D	LENGTH	X	Y	Z	"b1" bars BENT - See Diagrams below: In Bottom of Top Slab - some bent up over Division Wall - one end hooked. (2 of Each Length.) Alternate with "a1" and "c1" bars. SIZE	SPACING	NO. REQ'D	LENGTH Max.	LENGTH Min.	L Max.	L Min.
D	S	H														
0'-0" TO 5'-0" MAXIMUM	2 @ 9'	5'	#6	11"	52	21'-1"	0'-5⅝"	4'-6"	7'-6"	#6	11"	22	19'-9"	3'-7"	18'-10"	3'-0"
		6'			52	21'-3"	"	4'-5"	7'-2⅝"			22	19'-11"	3'-8"	19'-0"	3'-2"
		7'			52	21'-3"	"	"	"			22	"	"	"	"
		8'			52	21'-4"	"	"	7'-3"			22	20'-0"	3'-10"	19'-1"	3'-3"
		9'			52	21'-7"	"	4'-5⅝"	7'-4"			22	20'-3"	4'-1"	19'-4"	3'-6"
		10'			52	21'-10"	"	4'-5"	7'-5"			22	20'-6"	4'-4"	19'-7"	3'-9"
		11'			52	22'-0"	0'-5⅝"	"	7'-6"			22	20'-8"	4'-6"	19'-9"	3'-11"
	2 @ 10'	5'	#6	12"	47	23'-2"	0'-6"	4'-9"	7'-11"	#6	12"	22	21'-9"	3'-10"	20'-9"	3'-8"
		6'			47	23'-4"	"	4'-8"	7'-11⅝"			22	21'-11"	4'-0"	20'-11"	3'-5"
		7'			47	23'-4"	"	"	"			22	"	"	"	"
		8'			44	23'-5"	"	"	8'-0"			22	22'-0"	4'-1"	21'-0"	3'-6"
		9'			47	23'-8"	"	4'-11"	8'-1"			22	22'-3"	4'-4"	21'-3"	3'-9"
		10'			47	23'-11"	"	5'-0"	8'-2"			22	22'-6"	4'-7"	21'-6"	4'-0"
		11'			46	24'-1"	"	"	8'-3"			22	22'-8"	4'-9"	21'-8"	4'-2"
		12'			46	24'-3"	0'-6"	5'-0"	8'-4"			24	22'-10"	3'-2"	21'-10"	2'-7"
	2 @ 11'	6'	#6	12"	46	25'-5"	0'-6⅝"	5'-3"	8'-9"	#6	12"	24	24'-0"	4'-2"	23'-0"	3'-8"
		7'			46	25'-5"	"	"	"			24	"	"	"	"
		8'			46	25'-5"	"	"	"			24	"	"	"	"
		9'			46	25'-8"	"	5'-4"	8'-10"			24	24'-3"	4'-7"	23'-3"	4'-0"
		10'			45	25'-11"	"	5'-5"	9'-1"			24	24'-6"	5'-1"	23'-6"	2'-6"
		11'			45	26'-1"	"	"	9'-0"			24	24'-8"	5'-3"	23'-8"	2'-8"
		12'			45	26'-3"	0'-6⅝"	5'-5"	9'-1"			24	24'-10"	5'-5"	23'-10"	2'-10"
	2 @ 12'	6'	#7	11"	49	27'-7"	0'-7"	5'-8"	9'-6"	#7	11"	30	26'-1"	3'-4"	25'-1"	2'-11"
		7'			49	27'-5"	"	"	"			30	"	"	"	"
		8'			49	27'-5"	"	5'-8"	9'-7"			30	26'-4"	3'-9"	25'-4"	3'-2"
		9'			48	27'-8"	"	5'-9"	9'-7"			30	26'-7"	4'-0"	25'-7"	3'-5"
		10'			50	28'-0"	"	5'-10"	9'-8"			30	26'-9"	4'-2"	25'-9"	3'-7"
		11'			48	28'-1"	"	"	9'-9"			30	26'-11"	4'-4"	25'-11"	3'-9"
		12'			48	28'-3"	0'-7½"	5'-10"	9'-10"			30	27'-1"	4'-6"	25'-11"	3'-9"

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"b2" bars BENT - See Diagrams below: In Top of Bottom Slab bent down under Division Wall - hooked. Alternate with "a" and "c" bars. SIZE	SPACING	NO. REQ'D	LENGTH	X	Y	Z	"b3" bars BENT - See Diagrams below: In Top of Bottom Slab - some bent down under Division Wall - one end hooked. (2 of Each Length.) Alternate with "a1" and "c1" bars. SIZE	SPACING	NO. REQ'D	LENGTH Max.	LENGTH Min.	L Max.	L Min.
D	S	H														
0'-0" TO 5'-0" MAXIMUM	2 @ 9'	5'	#6	11"	54	21'-1"	0'-5⅝"	4'-3⅝"	7'-2"	#6	11"	22	19'-9"	3'-7"	18'-10"	3'-0"
		6'			54	21'-3"	"	4'-4½"	7'-2⅝"			22	19'-11"	3'-8"	19'-0"	3'-2"
		7'			54	21'-3"	"	"	"			22	"	"	"	"
		8'			54	21'-4"	"	"	7'-3"			22	20'-0"	3'-10"	19'-1"	3'-3"
		9'			54	21'-7"	"	4'-5⅝"	7'-4"			22	20'-3"	4'-1"	19'-4"	3'-6"
		10'			54	21'-10"	"	4'-6⅛"	7'-5"			22	20'-6"	4'-4"	19'-7"	3'-9"
		11'			54	22'-0"	0'-5⅝"	"	7'-6"			22	20'-8"	4'-6"	19'-9"	3'-11"
	2 @ 10'	5'	#6	12"	49	23'-2"	0'-6⅝"	4'-8"	7'-11"	#6	12"	22	21'-9"	3'-10"	20'-9"	3'-8"
		6'			49	23'-4"	"	4'-8"	7'-11⅝"			22	21'-11"	4'-0"	20'-11"	3'-5"
		7'			49	23'-4"	"	"	"			22	"	"	"	"
		8'			48	23'-5"	"	"	8'-0"			22	22'-0"	4'-1"	21'-0"	3'-6"
		9'			48	23'-8"	"	4'-11"	8'-1"			22	22'-3"	4'-4"	21'-3"	3'-9"
		10'			49	23'-11"	"	4'-11"	8'-2"			22	22'-6"	4'-7"	21'-6"	4'-0"
		11'			48	24'-1"	"	"	8'-3"			22	22'-8"	4'-9"	21'-8"	4'-2"
		12'			48	24'-3"	0'-6⅝"	5'-0"	8'-4"			24	22'-10"	3'-2"	21'-10"	2'-7"
	2 @ 11'	6'	#6	12"	48	25'-6"	0'-7"	5'-3"	8'-9"	#6	12"	24	24'-0"	4'-2"	23'-0"	3'-8"
		7'			48	25'-6"	"	"	"			24	"	"	"	"
		8'			48	25'-6"	"	"	"			24	"	"	"	"
		9'			48	25'-9"	"	5'-4"	8'-10"			24	24'-3"	4'-7"	23'-3"	4'-0"
		10'			47	26'-0"	"	5'-5"	8'-11"			24	24'-6"	5'-1"	23'-6"	2'-6"
		11'			47	26'-2"	"	"	9'-0"			24	24'-8"	5'-3"	23'-8"	2'-8"
		12'			47	26'-4"	0'-7½"	5'-5"	9'-1"			24	24'-10"	5'-5"	23'-10"	2'-10"
	2 @ 12'	6'	#7	11"	51	27'-7"	0'-8⅛"	5'-8"	9'-6"	#7	11"	30	26'-3"	3'-6"	25'-1"	2'-11"
		7'			51	27'-5"	"	"	"			30	"	"	"	"
		8'			51	27'-7"	"	5'-8"	9'-7"			30	26'-6"	3'-9"	25'-4"	3'-2"
		9'			50	27'-10"	"	5'-7"	9'-7"			30	26'-9"	4'-0"	25'-7"	3'-5"
		10'			50	28'-1"	"	5'-7"	9'-8"			30	26'-11"	4'-2"	25'-9"	3'-7"
		11'			50	28'-3"	"	"	9'-9"			30	27'-1"	4'-4"	25'-11"	3'-9"
		12'			50	28'-5"	0'-8⅛"	5'-7"	9'-10"			30	27'-3"	4'-6"	25'-11"	3'-9"

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"c" bars STRAIGHT: In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars. SIZE	SPACING	NO. REQ'D	LENGTH	"c1" bars STRAIGHT: In Top and Bottom Slab of Barrel. Alt. with ⅞" & 1⅛" bars (Four of each Length) SIZE	SPACING	NO. REQ'D	LENGTH Max.	LENGTH Min.
D	S	H									
0'-0" TO 5'-0" MAXIMUM	2 @ 9'	5'	#7	12"	122	9'-9"	#7	11"	16	8'-5"	3'-8"
		6'			122	9'-10"			16	8'-6"	3'-9"
		7'			122	9'-10"			16	"	"
		8'			122	9'-11"			16	8'-7"	3'-10"
		9'			122	9'-11"			16	8'-8"	4'-0"
		10'			122	10'-0"			16	8'-9"	4'-1"
		11'			122	10'-0"			20	8'-11"	2'-7"
		12'			120	10'-0"			20	9'-0"	2'-8"
	2 @ 10'	5'	#7	12"	110	10'-9"	#7	12"	16	9'-3"	4'-0"
		6'			110	10'-10"			16	9'-4"	4'-1"
		7'			110	10'-10"			16	"	"
		8'			110	10'-11"			16	9'-5"	4'-2"
		9'			110	10'-11"			20	9'-7"	2'-7"
		10'			110	11'-0"			20	9'-8"	2'-8"
		11'			110	11'-0"			20	9'-10"	2'-10"
		12'			110	11'-0"			20	9'-11"	2'-11"
	2 @ 11'	6'	#7	12"	108	11'-10"	#7	12"	20	10'-1"	3'-11"
		7'			108	11'-10"			20	"	"
		8'			108	11'-10"			20	"	"
		9'			108	11'-11"			20	10'-2"	4'-0"
		10'			108	12'-0"			20	10'-3"	4'-1"
		11'			108	12'-0"			24	11'-4"	2'-9"
		12'			108	12'-0"			24	11'-5"	2'-10"
	2 @ 12'	6'	#7	11"	118	12'-10"	#7	11"	24	11'-6"	3'-9"
		7'			118	12'-10"			24	"	"
		8'			118	12'-11"			24	"	"
		9'			118	12'-11"			24	11'-8"	3'-9"
		10'			118	13'-0"			24	11'-10"	3'-11"
		11'			118	13'-0"			24	11'-11"	4'-0"
		12'			118	13'-0"			24	12'-0"	4'-1"

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"d" bars STRAIGHT: Longitudinal in Top Slab of Barrel SIZE	SPACING	NO. REQ'D	LENGTH	"d1" bars STRAIGHT: Longitudinal in Sidewalls and Division Wall. SIZE	SPACING	NO. REQ'D	LENGTH
D	S	H								
0'-0" TO 5'-0" MAXIMUM	2 @ 9'	5'	1½"		26		#6	12"	20	
		6'			26				24	
		7'			26				28	
		8'			26				28	
		9'			26				32	
		10'			26				32	
		11'			26				36	
		12'			26				36	
	2 @ 10'	5'	1½"		28		#6	12"	24	
		6'			28				28	
		7'			28				28	
		8'			28				32	
		9'			28				32	
		10'			28				36	
		11'			28				40	
		12'			28				40	
	2 @ 11'	6'	1½"		30		#6	12"	24	
		7'			30				28	
		8'			30				28	
		9'			30				32	
		10'			30				32	
		11'			30				36	
		12'			30				36	
	2 @ 12'	6'	1½"		32		#6	12"	24	
		7'			32				28	
		8'			32				28	
		9'			32				32	
		10'			32				32	
		11'			32				36	
		12'			32				36	

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"e" bars STRAIGHT: Longitudinal in Bottom of Barrel. SIZE	SPACING	NO. REQ'D	LENGTH	"f" bars STRAIGHT: Verticals in Sidewalls and Division Wall. SIZE	SPACING	NO. REQ'D	LENGTH
D	S	H								
0'-0" TO 5'-0" MAXIMUM	2 @ 9'	5'	1½"		25		#6	12"	240	6'-3"
		6'			25				240	7'-3"
		7'			25				240	8'-3"
		8'			25				288	9'-3"
		9'			25				288	10'-3"
		10'			25				288	11'-3"
		11'			25				288	12'-3"
		12'			25				288	13'-3"
	2 @ 10'	5'	1½"		27		#6	12"	240	6'-4"
		6'			27				240	7'-4"
		7'			27				240	8'-4"
		8'			27				288	9'-4"
		9'			27				288	10'-4"
		10'			27				288	11'-4"
		11'			27				288	12'-4"
		12'			27				288	13'-4"
	2 @ 11'	6'	1½"		29		#6	12"	240	7'-5"
		7'			29				240	8'-5"
		8'			29				240	9'-5"
		9'			29				288	10'-5"
		10'			29				288	11'-5"
		11'			29				288	12'-5"
		12'			29				288	13'-5"
	2 @ 12'	6'	1½"		31		#6	12"	240	7'-7"
		7'			31				240	8'-7"
		8'			31				240	9'-7"
		9'			31				288	10'-7"
		10'			31				288	11'-7"
		11'			31				288	12'-7"
		12'			31				288	13'-7"

DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	"k" bars STRAIGHT: In Bottom of Headwalls SIZE	NO. REQ'D	LENGTH	"k2" bars. STRAIGHT: In Top of Headwalls and Aprons. (2 Each) SIZE	NO. REQ'D	LENGTH
D	S	H						
0'-0" TO 5'-0" MAXIMUM	2 @ 9'	5'	#6	6	22'-9"	#6	8	23'-10"
		6'		6	22'-11"		8	24'-1"
		7'		6	"		8	"
		8'		6	23'-0"		8	24'-2"
		9'		6	23'-2"		8	24'-3"
		10'		6	23'-3"		8	24'-5"
		11'		6	23'-5"		8	24'-6"
		12'		6	23'-6"		8	24'-7"
	2 @ 10'	5'	#6	6	25'-0"	#6	8	26'-2"
		6'		6	25'-2"		8	26'-4"
		7'		6	25'-3"		8	"
		8'		6	25'-4"		8	26'-5"
		9'		6	25'-6"		8	26'-7"
		10'		6	26'-1"		8	27'-2"
		11'		6	26'-3"		8	27'-4"
		12'		6	26'-5"		8	27'-6"
	2 @ 11'	6'	#7	6	27'-0"	#7	8	28'-2"
		7'		6	27'-2"		8	28'-4"
		8'		6	27'-3"		8	"
		9'		6	27'-5"		8	28'-6"
		10'		6	27'-6"		8	28'-7"
		11'		6	27'-8"		8	28'-9"
		12'		6	27'-9"		8	28'-11"
	2 @ 12'	6'	#7	6	28'-9"	#7	8	29'-11"
		7'		6	28'-11"		8	30'-1"
		8'		6	29'-0"		8	"
		9'		6	29'-2"		8	30'-3"
		10'		6	29'-3"		8	30'-4"
		11'		6	29'-5"		8	30'-6"
		12'		6	29'-6"		8	30'-7"

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM FOR BARS "b" AND "b2"
#6	9"	5"	1'-2"	K, Pin diam., Z, X, Y, X, Z

BAR SIZE	PIN DIAM.	K	ADD FOR 1 HOOK	BENDING DIAGRAM FOR BARS "b1" AND "b3".
#6	3"	5"	0'-7"	K, Pin diameter, Z, X, Y, X, Less than Z; L, Min. 44", X, Z, X, 3X Max., L; L, Less than Z, Z, 3X Max., L

SPAN	SIZE	SPACING	NO. REQ'D	LENGTH	X
9'	#4	12"	48	2'-10"	1'-5"
10'	#4	12"	52	2'-11"	1'-5½"
11'	#4	12"	58	3'-0"	1'-6"
12'	#4	12"	62	3'-1"	1'-6½"

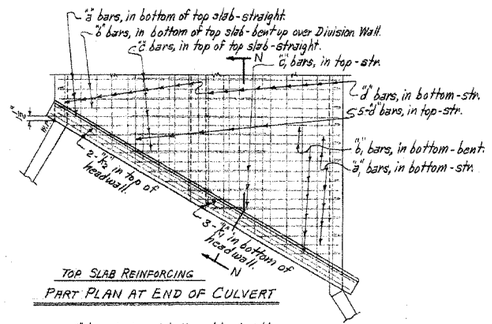
Dowel bars "f" in Two Headwalls: 12", X

NOTE:- Dimensions are to centers of bars (b, b1, b2, & b3). The X, Y & Z values for "b" bars are same as for "b" bars and for "b3" bars same as for "b2" bars.

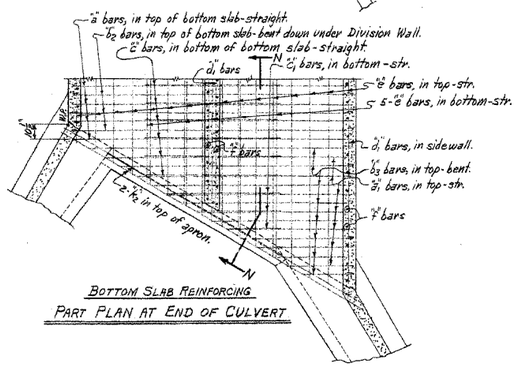
† These bars are in the skewed portion of barrel only. The length of "a" and "c" bars and overall length L of "b" and "b2" bars vary by 1'-9" for 12" spacing and 1'-7" for 11" spacing.

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.

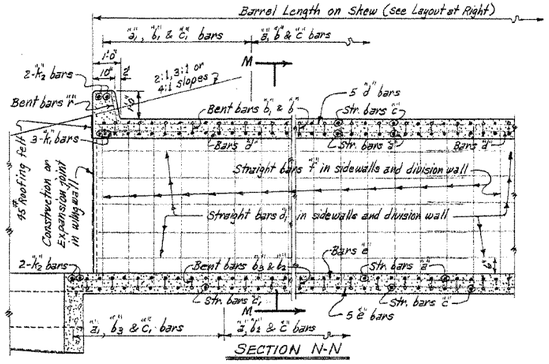
NOTE:- For Details of Standard Wings and bar lists, see Drawing No. W-X302-1 or W-X302-2; W-X303-1 or W-X303-2, and W-X304-1 or W-X304-2. Also W-X30.



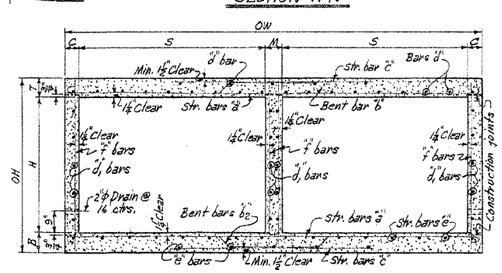
TOP SLAB REINFORCING
PART PLAN AT END OF CULVERT



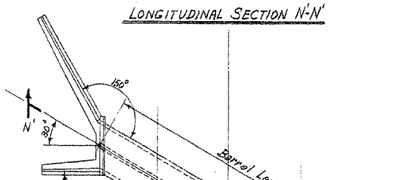
BOTTOM SLAB REINFORCING
PART PLAN AT END OF CULVERT



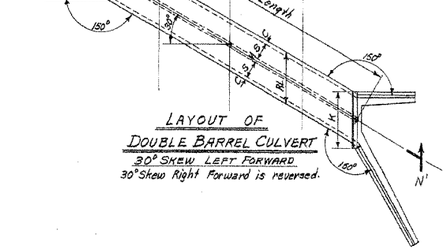
SECTION N-N



TYPICAL SECTION M-M



LONGITUDINAL SECTION N'-N'



LAYOUT OF
DOUBLE BARREL CULVERT
30° SKEW LEFT FORWARD
30° Skew Right Forward is reversed.

BARREL DIMENSIONS

MAX. DESIGN DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF WINGWALLS	THICKNESS OF SIDEWALL	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	ROADWAY WIDTH	LENGTH OF HEADWALLS
D	S	H	A	OW	T	C	M	OH	RL	K
5'-0"	2 @ 9'	5'	90	19'-11"	9"	7"	9"	6'-6⅜"	23'-0"	26'-8⅛"
		6'	108	20'-1"		7½"	10"	7'-6⅜"	23'-2"	26'-10⅛"
		7'	126	20'-1"		7½"	10"	8'-6⅜"	"	"
		8'	144	20'-2"		8"	10"	9'-6⅜"	23'-3"	26'-9"
		9'	162	20'-5"		9"	11"	10'-6⅜"	23'-5"	26'-8"
		10'	180	20'-8"		10"	12"	11'-6⅜"	23'-8"	26'-8"
		11'	198	20'-10"		11"	12"	12'-6⅜"	24'-0"	26'-9"
	2 @ 10'	5'	100	21'-11"	9½"	7"	9"	6'-7½"	25'-8"	26'-5"
		6'	120	22'-1"		7½"	10"	7'-7½"	25'-6"	26'-7"
		7'	140	22'-1"		7½"	10"	8'-7½"	"	"
		8'	160	22'-2"		8"	10"	9'-7½"	25'-7"	26'-9"
		9'	180	22'-5"		9"	11"	10'-7½"	25'-8"	27'-0"
		10'	200	22'-8"		10"	12"	11'-7½"	26'-2"	27'-4"
		11'	220	22'-10"		11"	12"	12'-7½"	26'-4"	27'-6"
		12'	240	23'-0"		12"	12"	13'-7½"	26'-6"	27'-8"
	2 @ 11'	6'	132	24'-2"	9½"	8"	10"	7'-9"	27'-10"	28'-10"
		7'	154	24'-2"		8"	10"	8'-9"	"	"
		8'	176	24'-2"		8"	10"	9'-9"	"	"
		9'	198	24'-5"		9"	11"	10'-9"	28'-2"	29'-1"
		10'	220	24'-8"		10"	12"	11'-9"	28'-5"	29'-3"
		11'	242	24'-8"		11"	12"	12'-9"	28'-6"	29'-4"
		12'	264	25'-0"		12"	12"	13'-9"	28'-8"	29'-6"
	2 @ 12'	6'	144	26'-3"	10½"	8"	10"	7'-11½"	30'-6"	31'-5"
		7'	168	26'-3"		8"	10"	8'-11½"	"	"
		8'	192	26'-3"		8"	10"	9'-11½"	"	"
		9'	216	26'-5"		9"	11"	10'-11½"	30'-6"	31'-8"
		10'	240	26'-8"		10"	12"	11'-11½"	30'-9"	31'-10"
		11'	264	26'-10"		11"	12"	12'-11½"	30'-11"	32'-1"
		12'	288	27'-0"		12"	12"	13'-11½"	31'-2"	32'-4"

* For quantities in Wings see Standard Wing Drawings listed below. Total steel quantities listed above included one lap of longitudinal bars.

* QUANTITIES

REINFORCING STEEL: TOTAL FOR 60'-0" LENGTH OF BARREL	CLASS S CONC. PER LIN. FT. OF BARREL	PER LIN. FT. OF BARREL	ADDITIONAL PER LAP
CU.YD.	LB.	LB.	LB.
1.977	15,084	239.37	82.77
1.596	15,508	246.08	86.11
1.671	15,831	251.93	83.95
1.779	16,307	242.26	92.79
1.954	17,695	279.95	96.13
2.152	18,996	292.97	93.97
2.329	18,963	306.84	102.91
1.674	17,744	279.69	87.92
1.792	18,227	286.50	91.26
1.869	18,551	291.85	99.60
1.976	19,122	302.77	97.94
2.155	20,353	320.74	101.28
2.358	21,210	338.99	104.62
2.529	21,976	348.01	107.96
2.718	23,353	370.23	111.30
2.098	19,701	309.86	96.91
2.126	20,025	319.70	99.75
2.208	20,652	325.12	103.09
2.388	21,600	343.25	106.43
2.586	22,586	356.57	109.77
2.769	23,956	370.67	113.11
2.954	24,823	393.05	116.45
2.299	22,496	363.31	101.55
2.879	22,822	358.65	104.89
2.959	23,962	369.12	108.23
2.640	25,476	387.52	111.57
2.890	25,917	401.07	114.91
3.018	26,278	416.31	118.25
3.208	27,459	437.88	121.59

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 add'l 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diam. min.

CONSTRUCTION JOINTS:- Construction joints between

Reshot 3-8-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			213	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH - TWO 30° SKEWED ENDS

| DEPTH OF COVER D | CLEAR SPAN S | CLEAR HEIGHT H | 'a' bars STRAIGHT In Top and Bottom Slab of Barrel. Size | Spacing | No. Read | Length | 'a1' bars STRAIGHT In Top and Bottom Slab of Barrel (Four of Each Length) Size | Spacing | No. Read | Length | 'b' bars BENT - See Diagrams below In Bottom of Top Slab bent up over Division Walls - hooked. Alternate with 'a' and 'c' bars. Size | Spacing | No. Read | Length | X | Y | Z | 'b1' bars BENT - See Diagrams below. In Bottom of Top Slab bent up over Division Walls - one end hooked (2 of Each Length) Alternate with 'b2' and 'c2' or 'c3' bars. Size | Spacing | No. Read | Length | L Max. | L Min. | L Max. | L Min. | 'b2' bars BENT - See Diagrams below. In Top of Bottom Slab bent down under Division Walls - hooked. Alternate with 'a' and 'c' bars Size | Spacing | No. Read | Length | X | Y | Z | 'b3' bars BENT - See Diagrams below. In Top of Bottom Slab - one end hooked (2 of Each Length) Alternate with 'b2' and 'c2' or 'c3' bars. Size | Spacing | No. Read | Length | L Max. | L Min. | L Max. | L Min. | 'c' bars STRAIGHT In Top and Bottom Slab of Barrel. Alternate with 'b' bars. Size | Spacing | No. Read | Length | 'c1' bars STRAIGHT In Top and Bottom Slab of Barrel. All with 'b2' or 'b3' bars. (Four of each Length) Size | Spacing | No. Read | Length Max. | Length Min. | 'd' bars STRAIGHT Longitudinal in Top Slab of Barrel. Size | Spacing | No. Read | Length | 'd1' bars STRAIGHT Longitudinal in Sidewalls and Division Walls. Size | Spacing | No. Read | Length | 'e' bars STRAIGHT Longitudinal in Bottom Slab of Barrel. Size | Spacing | No. Read | Length | 'f' bars STRAIGHT Verticals in Sidewalls and Division Walls. Size | Spacing | No. Read | Length | 'h1' bars STRAIGHT In Bottom of Headwalls Size | No. Read | Length | 'h2' bars STRAIGHT In Top of Headwalls and Aprons (2 Each) Size | No. Read | Length |
|---|---|---|---|---|---