DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	1	252
				(2)	HWY. 49 CONNECTION - WEST (S)			

"A PARTIALLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

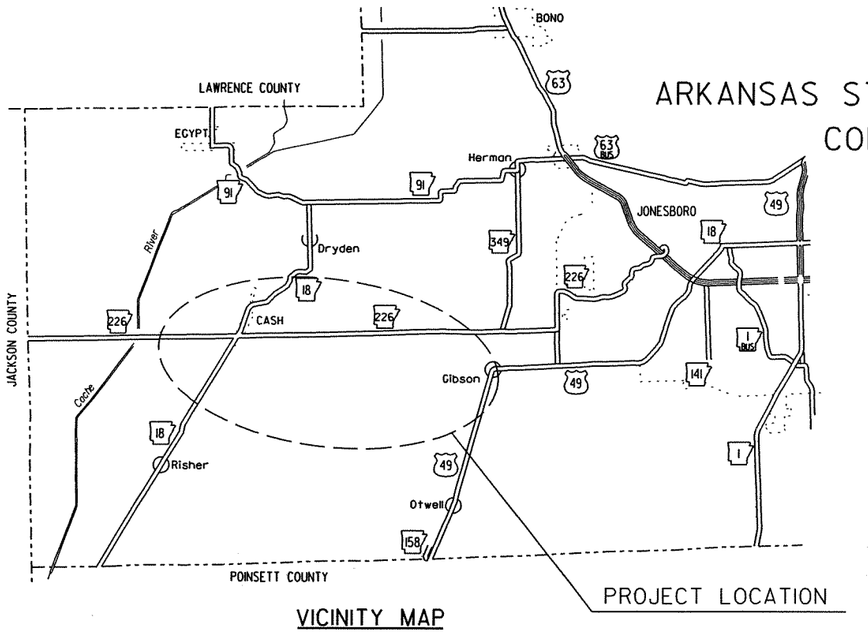
HWY. 49 CONNECTION - WEST (S)

CRAIGHEAD COUNTY

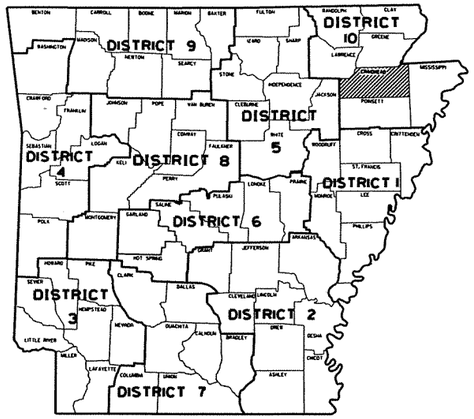
ROUTE 226 SECTION 2

FED. AID PROJECT NH-HIF-STPP-0016(57)

JOB 100679



VICINITY MAP



ARK. HWY. DIST. NO. 10

BRIDGE DATA

(4) BIG CREEK DITCH (W.B.)
STA. 547+97.92 BR. END
16 - 200'-0" CONT. COMP. W-BEAM UNITS
& 204'-0" CONT. COMP. W-BEAM UNIT
38' CLEAR ROADWAY
BR. NO. A7250
STA. 582+04.08 BR. END

(5) BIG CREEK DITCH (E.B.)
STA. 547+97.92 BR. END
16 - 200'-0" CONT. COMP. W-BEAM UNITS
& 204'-0" CONT. COMP. W-BEAM UNIT
38' CLEAR ROADWAY
BR. NO. B7250
STA. 582+04.08 BR. END

(6) BIG CREEK DITCH RELIEF (W.B.)
STA. 584+65.92 BR. END
6 - 201'-6" CONT. COMP. W-BEAM UNITS
38' CLEAR ROADWAY
BR. NO. A7251
STA. 596+68.08 BR. END

(7) BIG CREEK DITCH RELIEF (E.B.)
STA. 584+65.91 BR. END
6 - 198'-6" CONT. COMP. W-BEAM UNITS
38' CLEAR ROADWAY
BR. NO. B7251
STA. 596+68.09 BR. END

STRUCTURES OVER 20'-0" SPAN

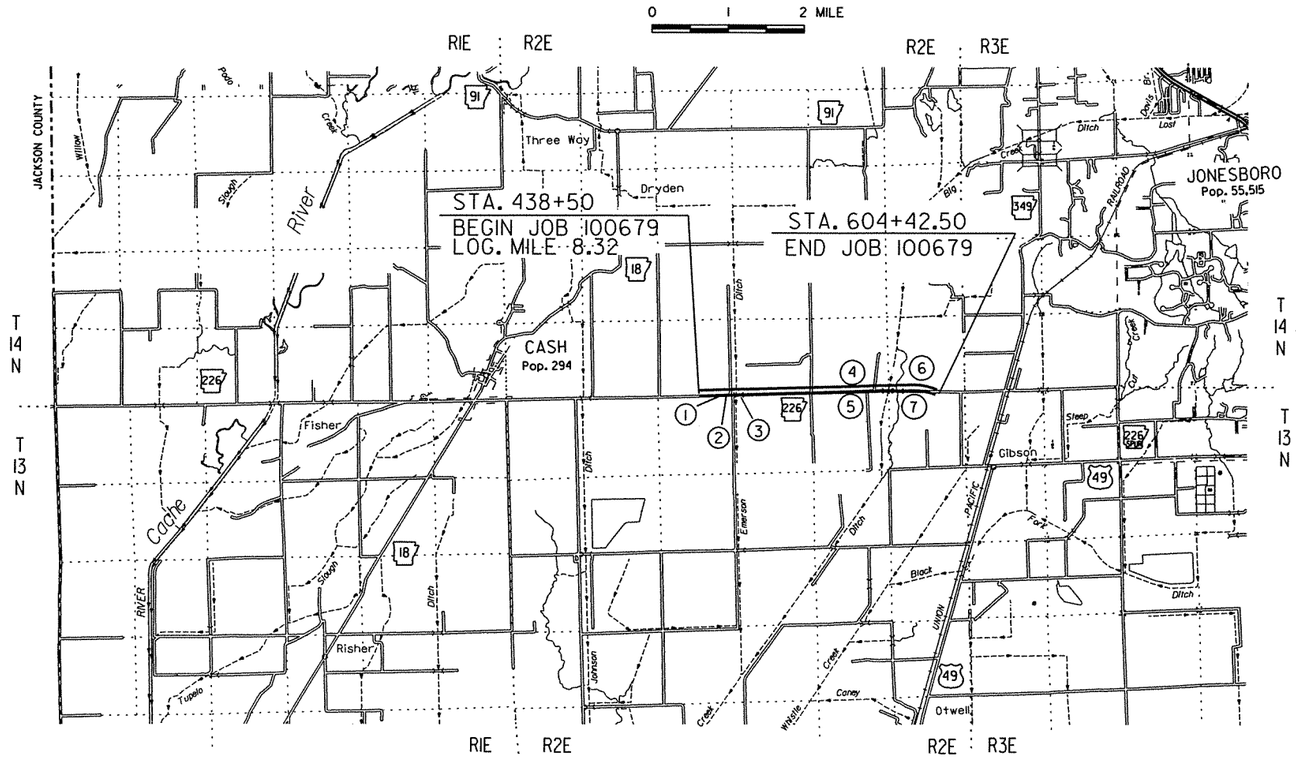
(1) STA. 456+25 - CONSTRUCT
QUINT. 6' x 3' x 177' R.C. BOX CULV'T.
W/ TYPE "TM" DROP INLET
(3'-0" x 2'-6½", H=1'-6")
33'-8" SPAN
WITH 3:1 WINGS LT. & RT.
Q50 = 1100 cfs; DA = 4096 ac

(2) STA. 466+25 - CONSTRUCT
QUINT. 6' x 3' x 179' R.C. BOX CULV'T.
W/ TYPE "TM" DROP INLET
(3'-0" x 2'-6½", H=2'-0")
33'-8" SPAN
WITH 3:1 WINGS LT. & RT.

(3) STA. 475+10 - CONSTRUCT
QUINT. 10' x 9' x 185' R.C. BOX CULV'T.
(15° LT. FWD. SKEW)
55'-10" SPAN
WITH 3:1 WINGS LT. & RT.

BEGIN PROJECT		MID-POINT OF PROJECT		END PROJECT	
LATITUDE	35° 47' 38" N	LATITUDE	35° 47' 37" N	LATITUDE	35° 47' 32" N
LONGITUDE	90° 53' 12" W	LONGITUDE	90° 51' 32" W	LONGITUDE	90° 49' 52" W

0 1 2 MILE



LENGTH COMPUTED ALONG HWY. 226 CENTERLINE MEDIAN

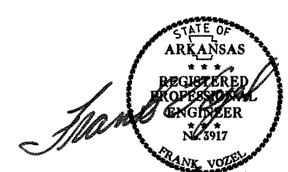
GROSS LENGTH OF PROJECT		16592.50	FEET OR	3.143	MILES		
NET	• •	ROADWAY	11861.00	• •	2.247	•	
NET	• •	BRIDGES	4731.50	• •	0.896	•	
NET	• •	PROJECT	16592.50	• •	3.143	•	

P.E. 100412
NON-PART.

DESIGN TRAFFIC DATA

DESIGN YEAR	2012
2012 ADT	5000
2032 ADT	6500
2032 DHV	715
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	17%
DESIGN SPEED	60 MPH

APPROVED



7/26/12

DEPUTY DIRECTOR
AND CHIEF ENGINEER

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

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				6	ARK.			
				JOB NO.		100679	2	252

(2) INDEX OF SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT

7/25/12

7/11/2012

R100679.DGN

INDEX OF SHEETS

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				6	ARK.			
				JOB NO.		100679	3	252

(2) GOVERNING SPECIFICATIONS AND GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

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__	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 100679
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
105-3_____	CONTROL OF WORK
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
404-2_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
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
604-2_____	INSPECTION OF TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
606-2_____	PIPE CULVERTS
718-2_____	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2_____	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1_____	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 100679__	ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS
JOB 100679__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 100679__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 100679__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 100679__	COORDINATION OF WORK
JOB 100679__	DRIVEN STEEL PILING BY METHOD B
JOB 100679__	EXCAVATION AND EMBANKMENT (SELECT MATERIAL)
JOB 100679__	FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER WALL
JOB 100679__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 100679__	HIGH PERFORMANCE PAVEMENT MARKING
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JOB 100679__	VALUE ENGINEERING
JOB 100679__	WARM MIX ASPHALT

GENERAL NOTES

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

7/11/2012

R100679.DGN

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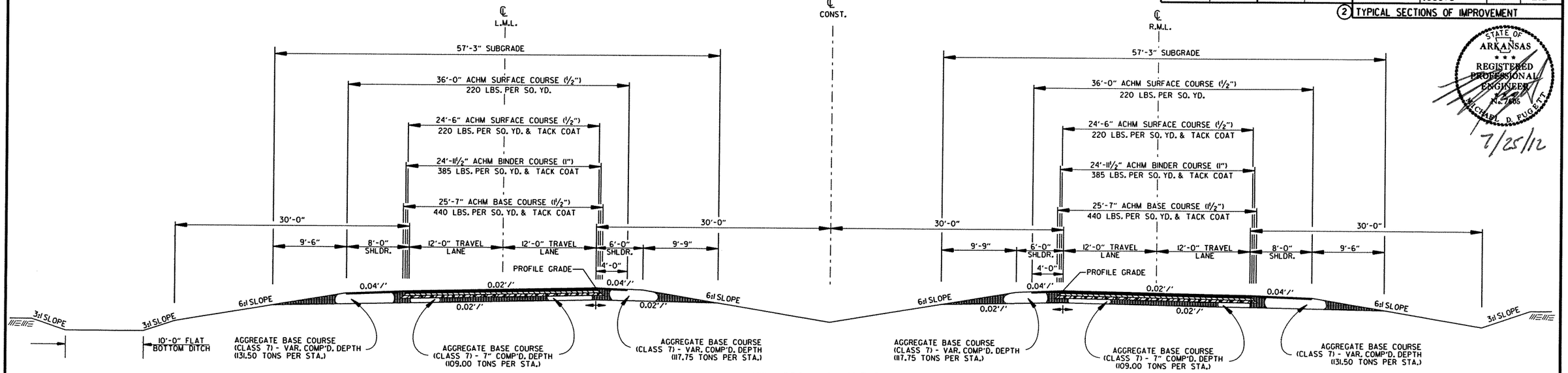
				6	ARK.			
				JOB NO.		100679	4	252

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



HWY. 226 - 4 LANE DIVIDED
FULL DEPTH SECTION

STA. 438+50.00	TO	STA. 443+94.00
STA. 453+02.00	TO	STA. 469+36.00
STA. 478+44.00	TO	STA. 496+54.00
STA. 505+62.00	TO	STA. 522+94.00
STA. 532+02.00	TO	STA. 547+63.00
STA. 582+39.50	TO	STA. 584+30.50
STA. 597+03.50	TO	STA. 604+42.50

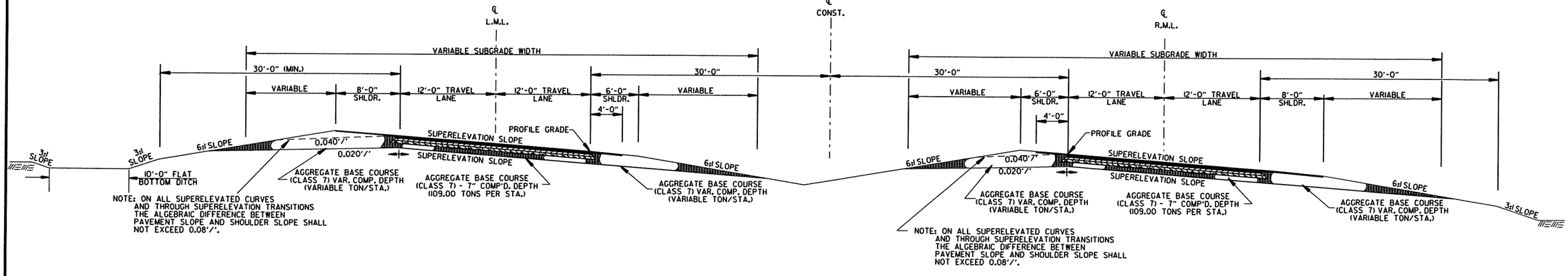
NOTES:

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

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

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

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



HWY. 226 - 4 LANE DIVIDED (SUPERELEVATED)
(PAVEMENT SECTION IS SAME AS SHOWN ABOVE)

NOTE: REVOLVE SUPERELEVATION AROUND INSIDE PAVEMENT EDGE

7/13/2012

R100679.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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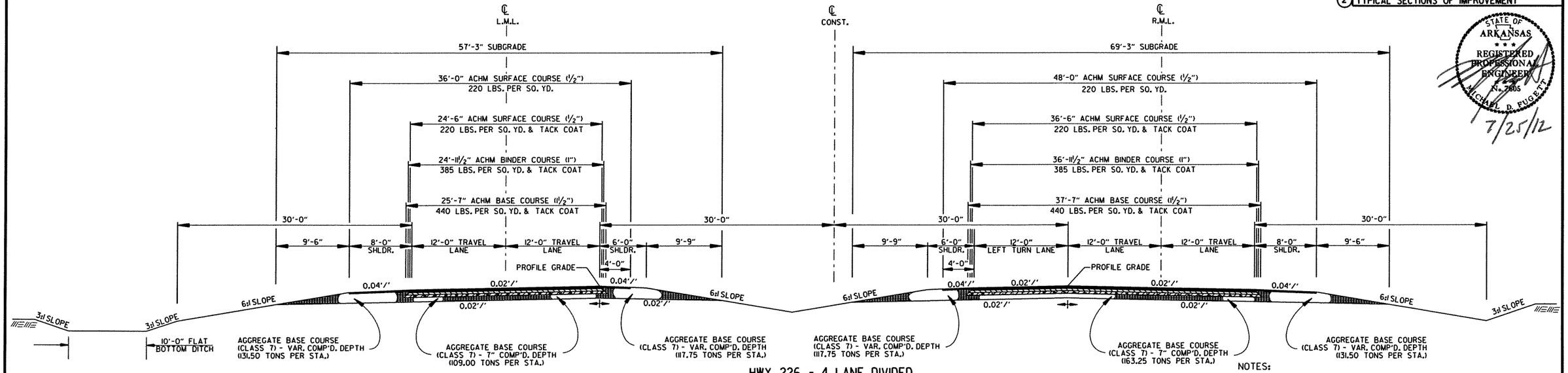
				6	ARK.			
				JOB NO.		100679	5	252

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7805
MICHAEL D. FUGETT
7/25/12



HWY. 226 - 4 LANE DIVIDED
RT. MAIN LANES W./ LEFT TURN LANE

STA. 445+94.00 TO STA. 448+04.00
STA. 471+36.00 TO STA. 473+46.00
STA. 498+54.00 TO STA. 500+64.00
STA. 524+94.00 TO STA. 527+04.00

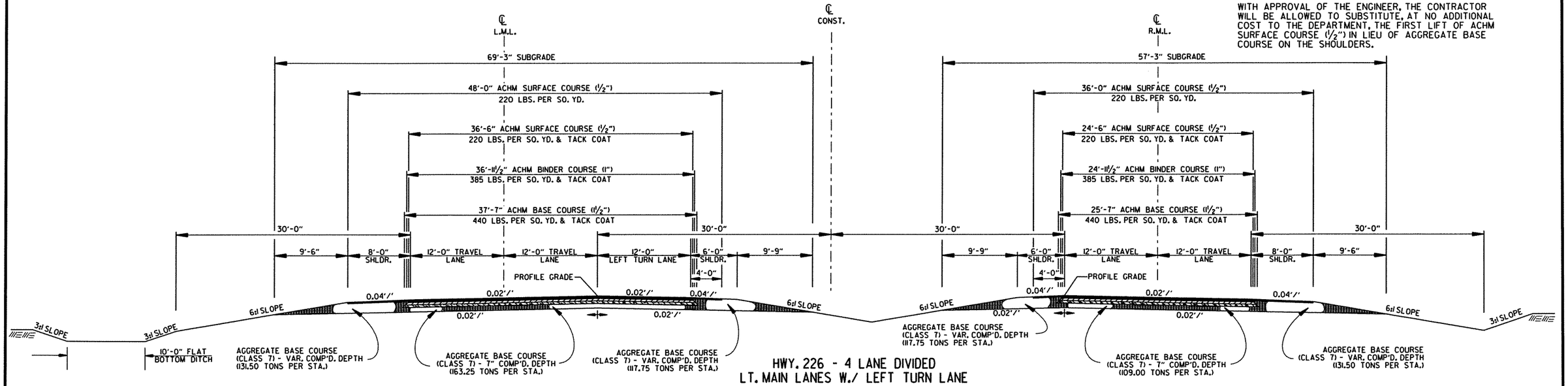
NOTES:

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

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

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

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



HWY. 226 - 4 LANE DIVIDED
LT. MAIN LANES W./ LEFT TURN LANE

STA. 448+92.00 TO STA. 451+02.00
STA. 474+34.00 TO STA. 476+44.00
STA. 501+52.00 TO STA. 503+62.00
STA. 527+91.00 TO STA. 530+02.00

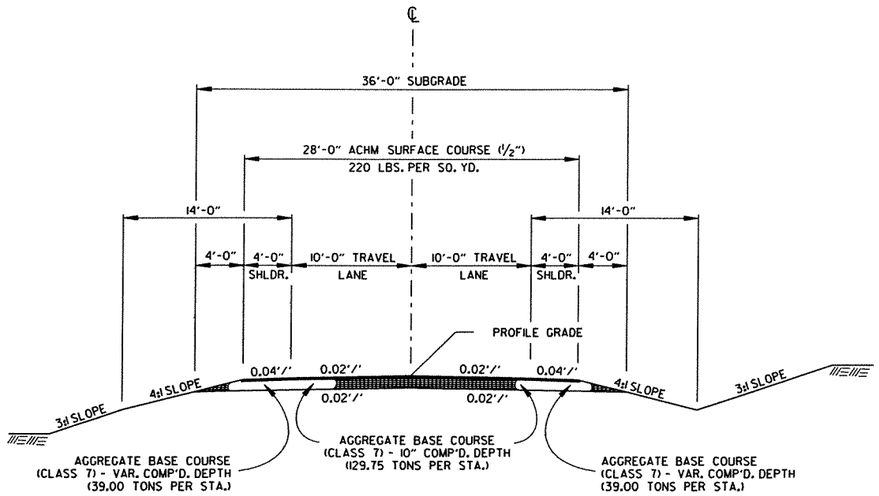
TYPICAL SECTIONS OF IMPROVEMENT

7/13/2012
R100679.DGN

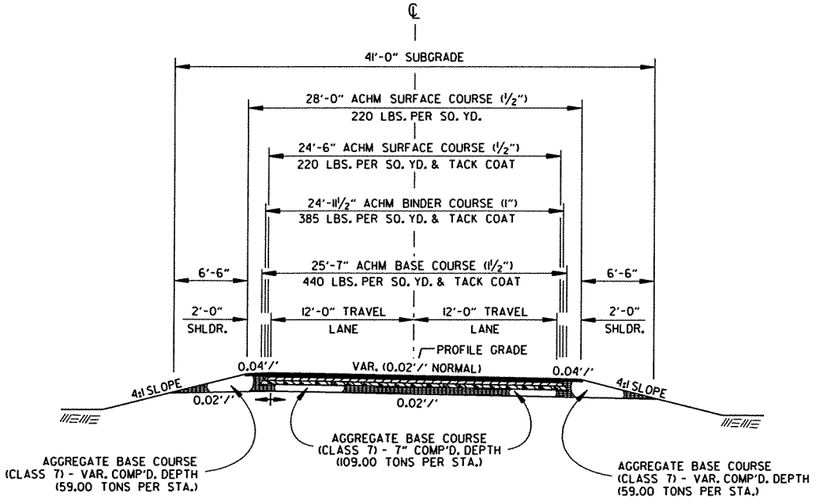
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	6	252

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



COUNTY ROAD 233



TEMPORARY GRADE RAISE
STA. 433+50.00 TO STA. 438+50.00

STAGE 1 CONSTRUCTION DETOUR
STA. 589+43.00 TO STA. 608+39.87

STAGE 2 CONSTRUCTION DETOUR
STA. 597+03.50 TO STA. 608+11.30

NOTES:

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

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

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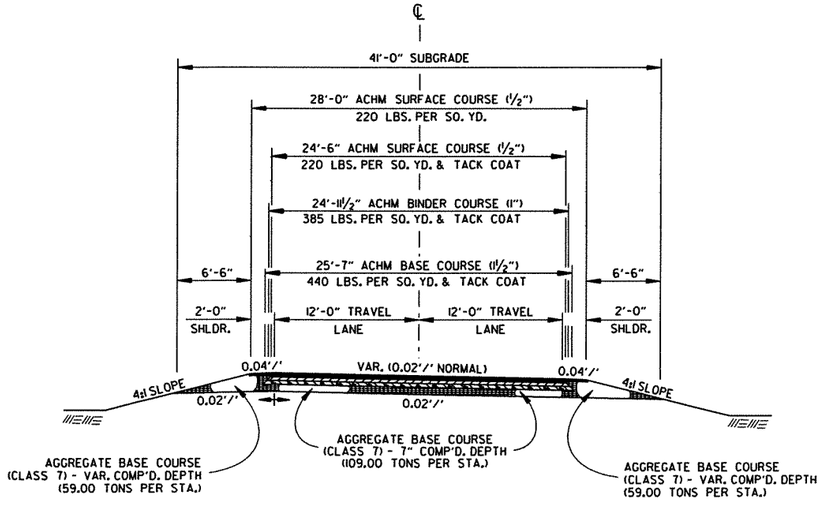
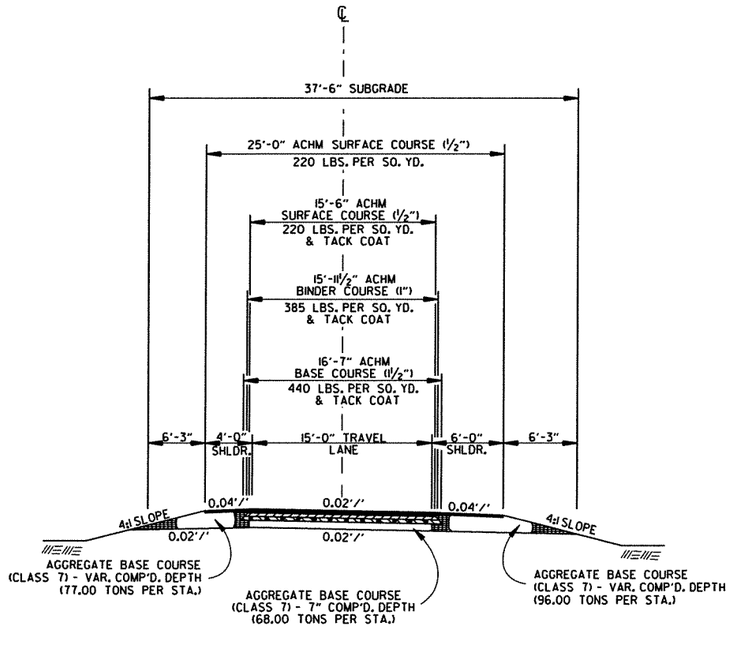


TEMPORARY M.O.T. CROSSOVER
STA. 438+50.00 TO STA. 445+00.00



TEMPORARY M.O.T. CROSSOVER
STA. 535+00.00 TO STA. 544+00.00

7/13/2012

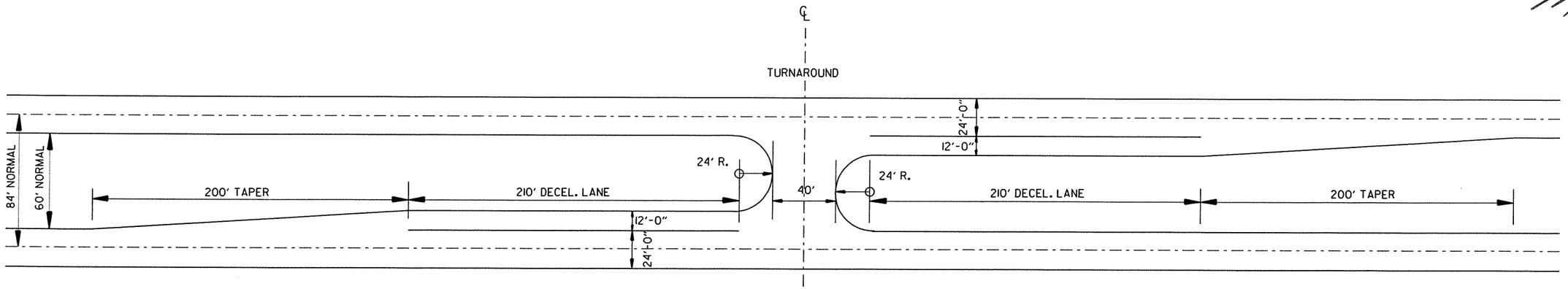
R100679.DGN

TYPICAL SECTIONS OF IMPROVEMENT

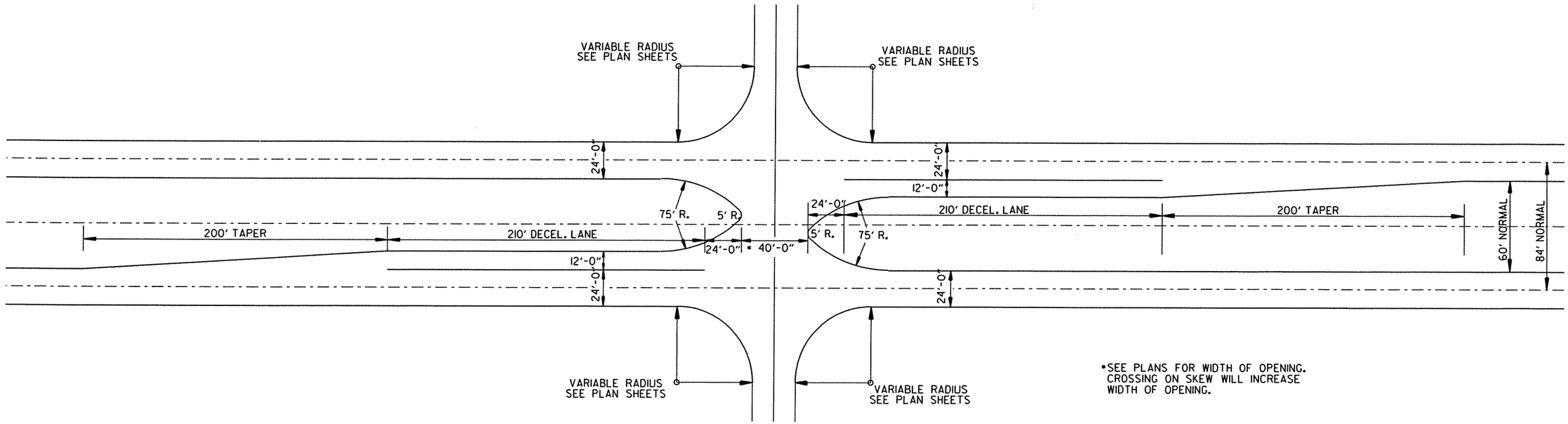
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	7	252

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. FUGETT
7/25/12



PLAN OF MEDIAN TURNAROUND



DETAIL OF HIGHWAY OR COUNTY ROAD CROSSING

6/15/2012

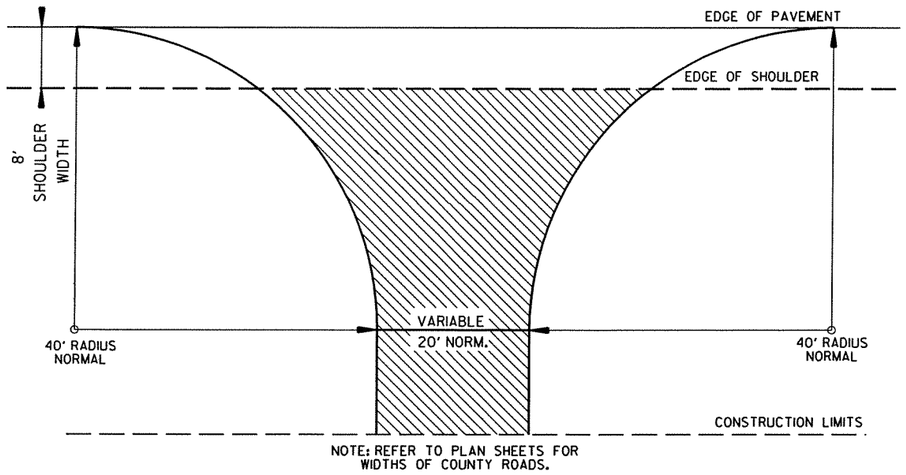
R100679.DGN

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	8	252

(2) SPECIAL DETAILS

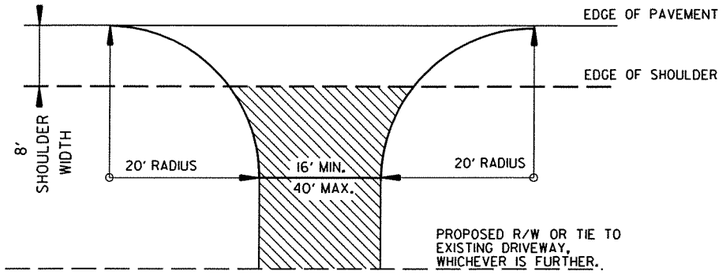
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/26/12



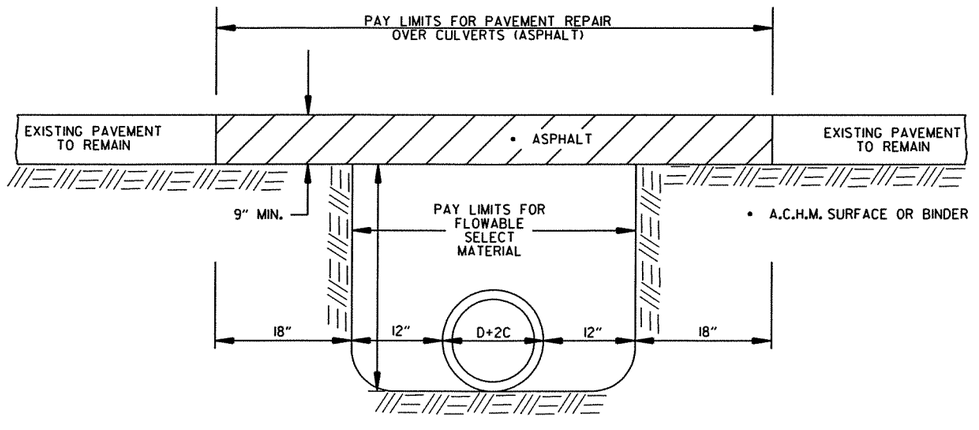
NOTE: REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUTS

A.C.H.M SURFACE COURSE (½") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING; OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.



DETAIL FOR DRIVEWAY TURNOUTS



PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

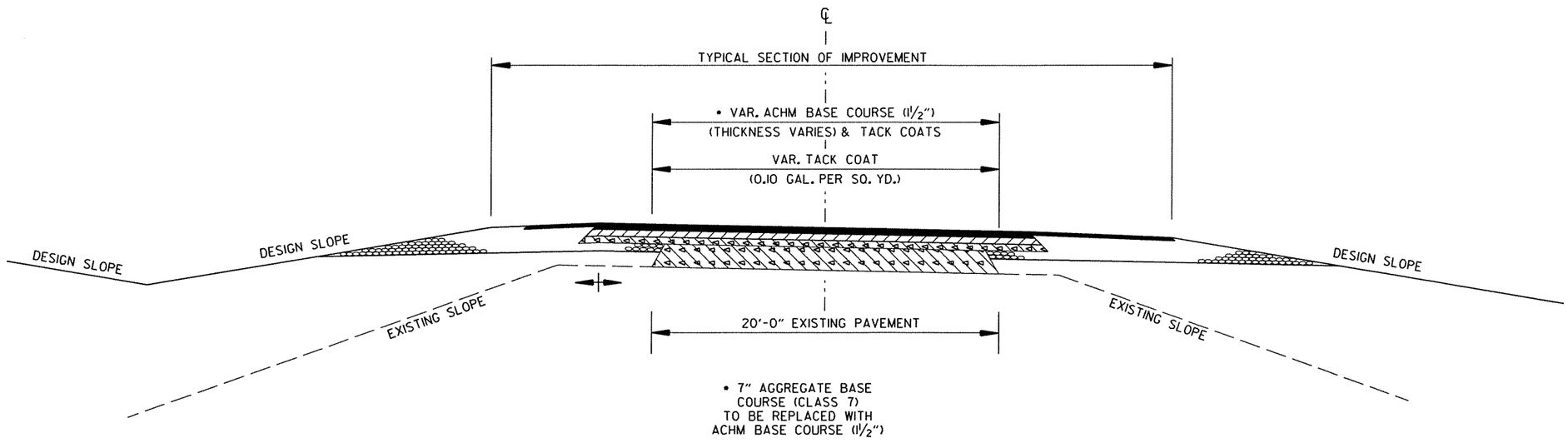
6/15/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	9	252

(2) SPECIAL DETAILS

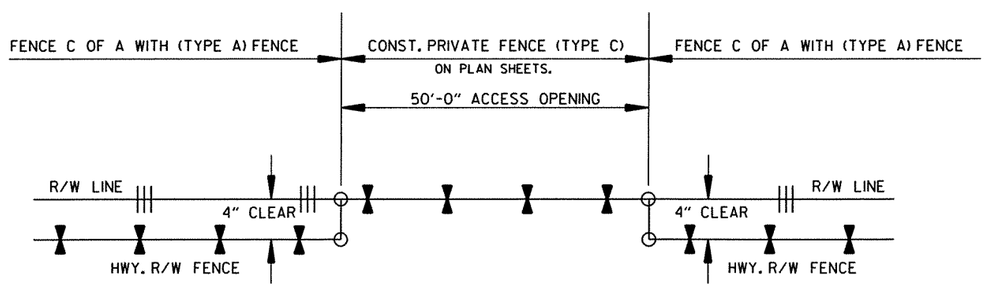
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



METHOD OF RAISING GRADE

NOTES:

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



DETAIL OF ACCESS OPENINGS

(NO SCALE)

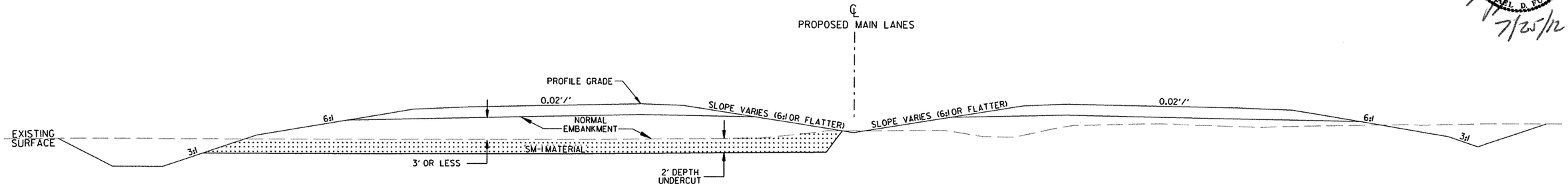
6/15/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	10	252

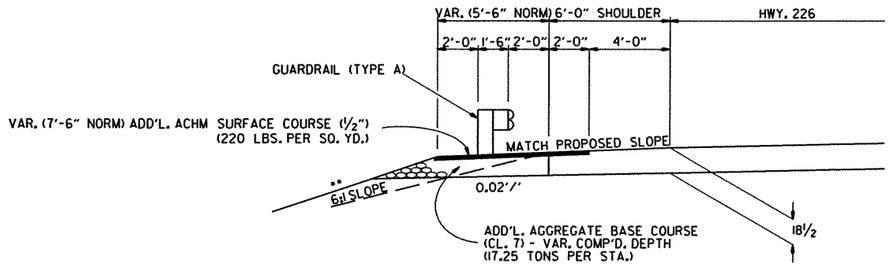
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 9603
MICHAEL D. FUGETT
7/25/12



DETAIL OF EMBANKMENTS (3 FEET OR LESS)

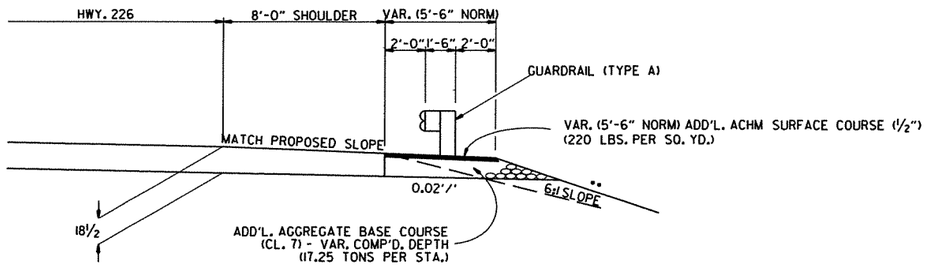
NOTE: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



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

WIDENING FOR GUARDRAIL - HWY. 226 INSIDE SHOULDER

(SHOWN IN THE DIRECTION OF TRAFFIC)



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

WIDENING FOR GUARDRAIL - HWY. 226 OUTSIDE SHOULDER

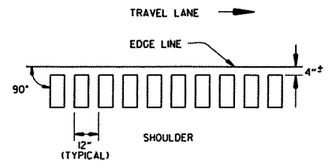
(SHOWN IN THE DIRECTION OF TRAFFIC)

6/15/2012

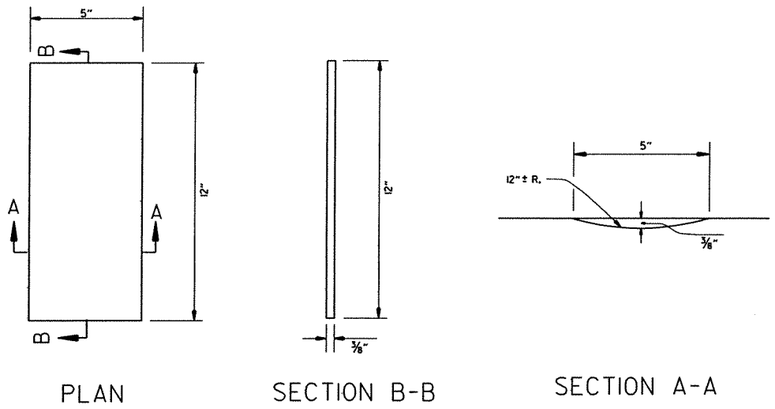
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	11	252

(2) SPECIAL DETAILS

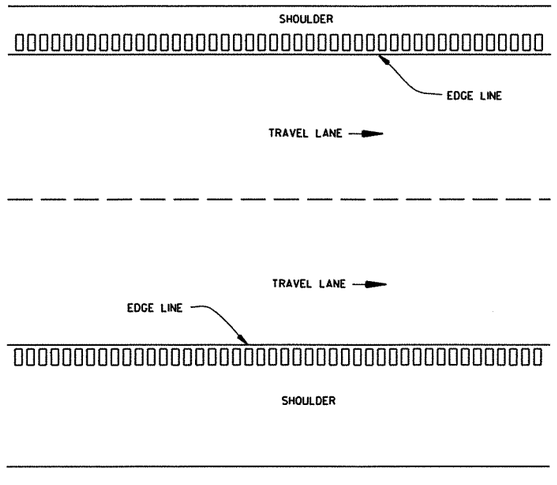


LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER

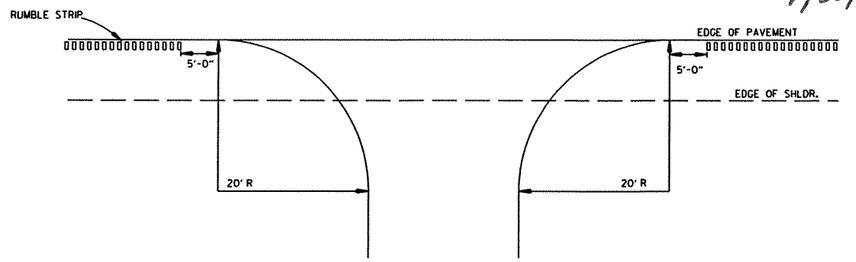


PLAN SECTION B-B SECTION A-A

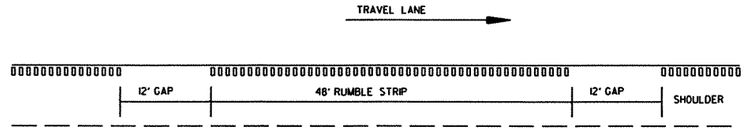
DETAILS OF RUMBLE STRIPS



PLAN VIEW



DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



DETAIL FOR GAP PATTERN RUMBLE STRIP

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

6/15/2012

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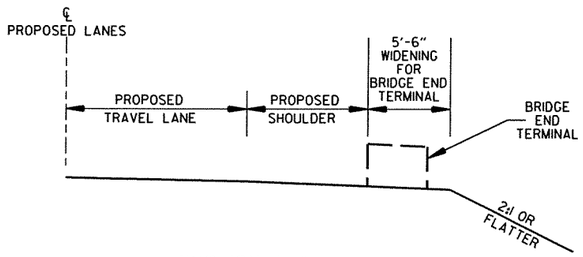
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	12	252

(2) SPECIAL DETAILS

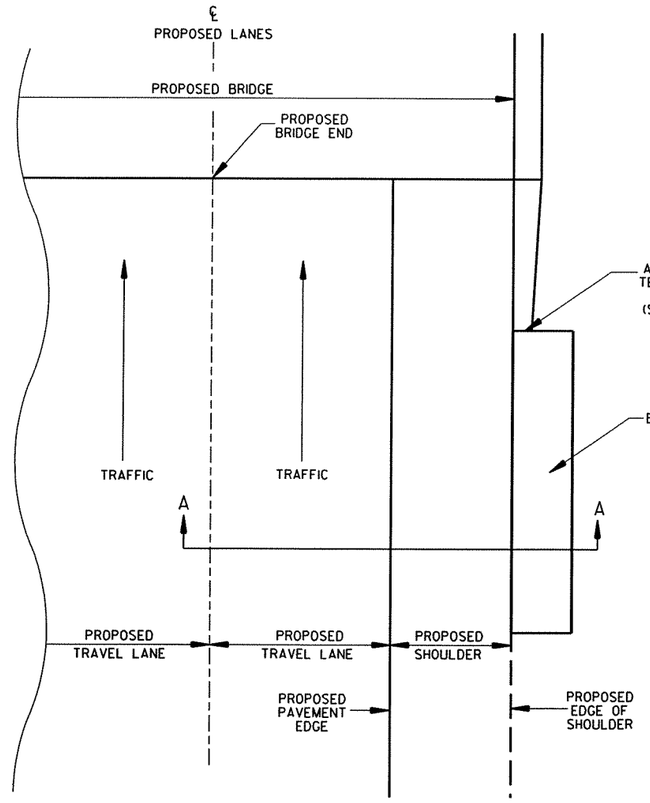
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



SECTION A-A

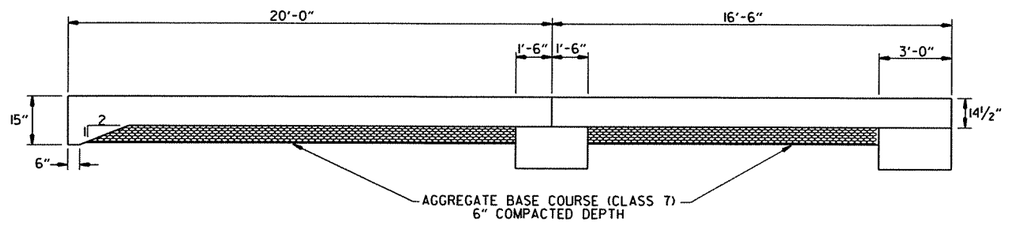
NOTE:
ELIMINATE OR MODIFY APPROACH CURB SECTION TO FIT BRIDGE END TERMINAL. NO PAYMENT SHALL BE MADE FOR ELIMINATING OR MODIFYING THIS CURB BUT SHALL BE CONSIDERED IN PAYMENT MADE FOR APPROACH GUTTERS OF THE TYPE SPECIFIED.

NOTE:
BRIDGE END TERMINAL SHALL CONFORM TO THE FOLLOWING:
-MAXIMUM LENGTH: 20'
-MAXIMUM HEIGHT: 2.75'
-DESIGN SPEED: 60 MPH



PLAN VIEW

BRIDGE END TERMINAL DETAILS



DETAIL OF APPROACH SLAB

6/15/2012

R100679.DGN

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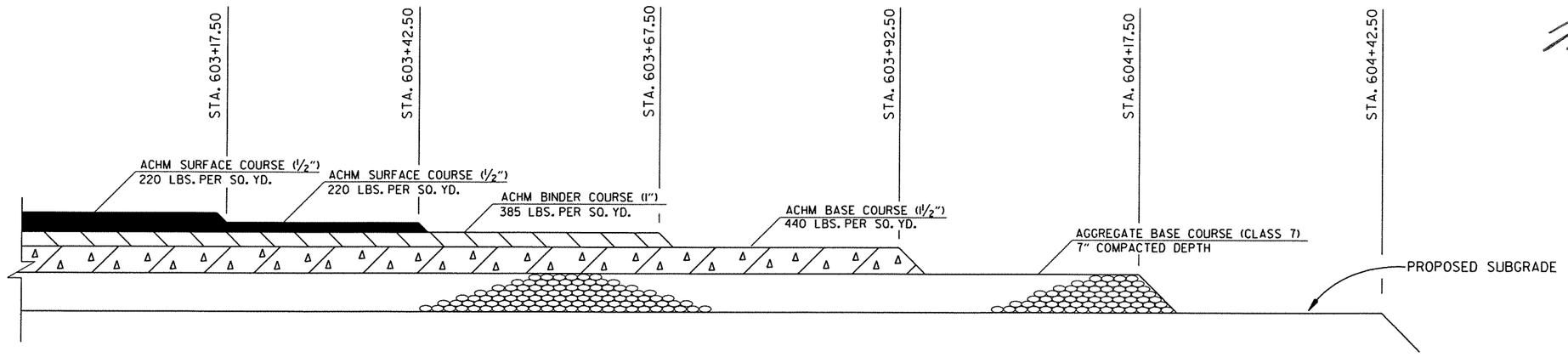
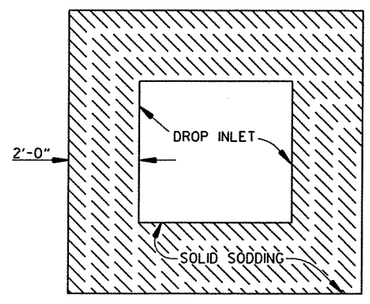
				JOB NO.		100679	13	252

(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



DETAIL OF PAVEMENT TRANSITION AT END OF JOB



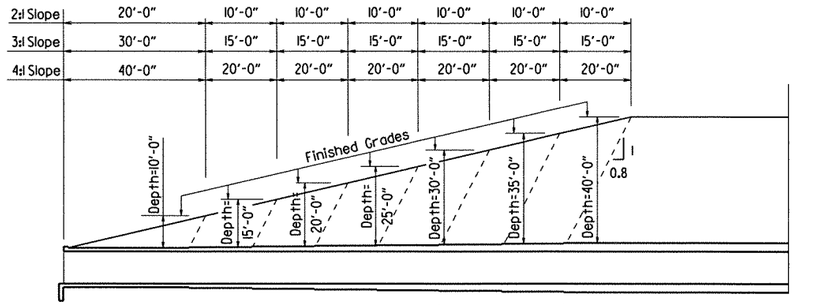
PLAN

DETAIL OF SOLID SODDING AROUND DROP INLET

6/15/2012
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	14	252

① SPECIAL DETAILS



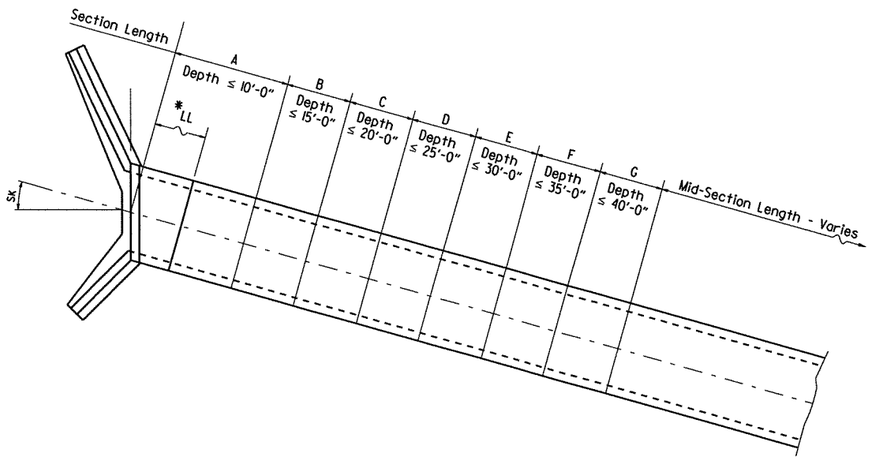
Slope Section Length @ 2:1 Slope	A=12'-0"	B=6'-0"	C=6'-0"	D=6'-0"	E=6'-0"	F=6'-0"	G=6'-0"	Mid-Section Length - Varies
Slope Section Length @ 3:1 Slope	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	G=11'-0"	Mid-Section Length - Varies
Slope Section Length @ 4:1 Slope	A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	G=16'-0"	Mid-Section Length - Varies

LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 5'

Lengths for Non-Skewed Boxes

Note: For fill depths 5' and under, use Mid-Section full length of box culvert.

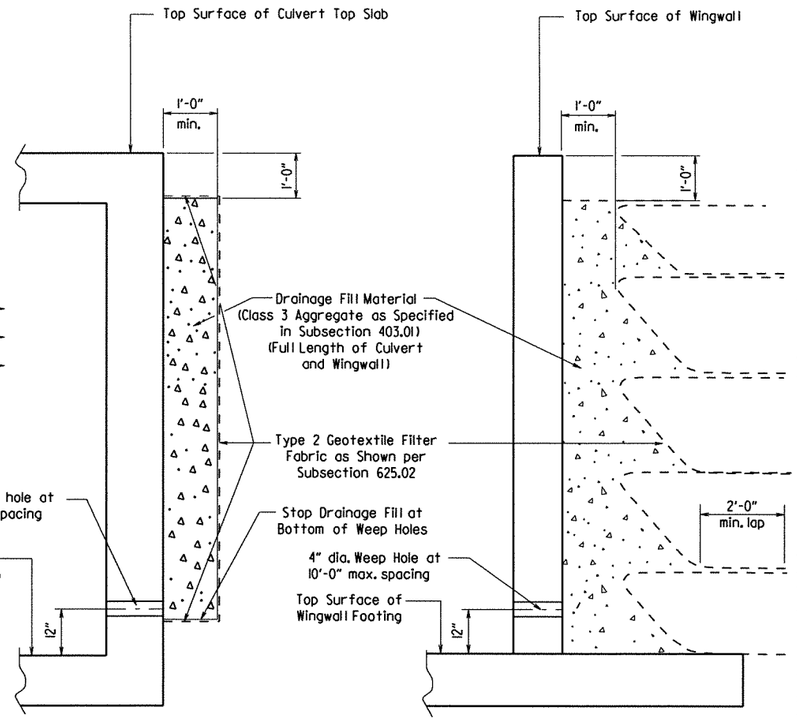
* LL = Skewed End Section Length - See "Skewed End Section Details"



SLOPE		2:1		3:1		4:1	
SECTION		A	B, C, D, E, F, G	A	B, C, D, E, F, G	A	B, C, D, E, F, G
SKEW ANGLE (SK)	15	12'-5 1/8"	6'-2 1/2"	22'-9 3/8"	11'-4 5/8"	33'-1 1/2"	16'-6 3/4"
	30	13'-10 1/4"	6'-11 1/8"	25'-4 7/8"	12'-8 3/8"	36'-11 3/8"	18'-5 3/4"
	45	16'-11 5/8"	8'-5 7/8"	31'-1 3/8"	15'-6 5/8"	45'-3"	22'-7 1/2"

LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTH OVER 5'

Lengths for Skewed Boxes



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

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

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

WINGWALL & CULVERT DRAINAGE DETAIL

STATE OF ARKANSAS
No. 7519
REGISTERED PROFESSIONAL ENGINEER
CARL J. FUSELIER
6/15/12

GENERAL NOTES

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 LRFD Bridge Design Specifications, Fifth Edition (2010) with 2010 interim revisions.

LIVE LOADING: HL-93

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

Reinforcing Steel shall be AASHTO M 31 or M 53, Grade 60.

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

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

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

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

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

Construction Joints between footings and walls shall be made only where shown on the Plans. The maximum length of culvert for which a continuous pour will be permitted is 75 ft. For longer culvert construction, joints shall be provided in slabs and walls at intervals not greater than 50 ft. Joints shall be normal to the centerline of barrel and shall be keyed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise.

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

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Special Provision "LRFD Precast Reinforced Concrete Box Culverts".

SHEET 1 OF 4

GENERAL DETAILS OF R.C. BOX CULVERT

GENERAL NOTES &
LONGITUDINAL SECTION LENGTH SCHEDULE

SPECIAL DETAILS

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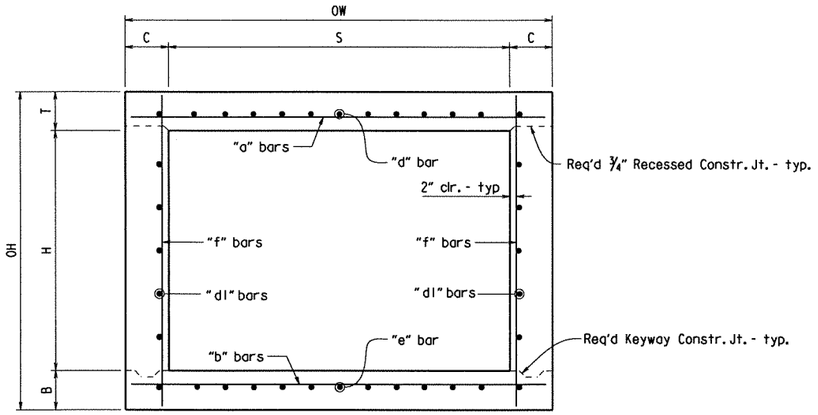
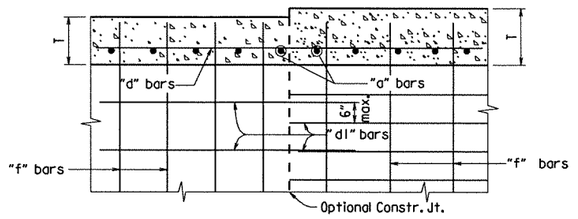
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	15	252

SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL G. FUSELIER

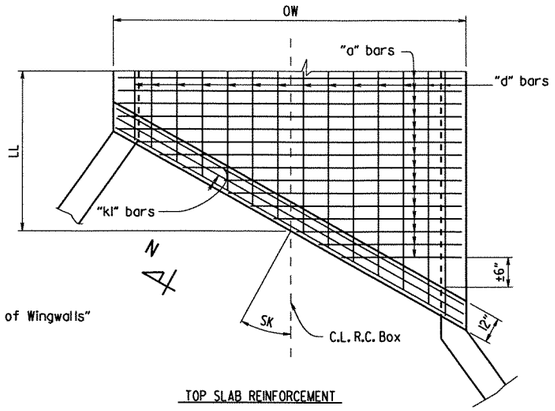


TYPICAL SECTION M-M

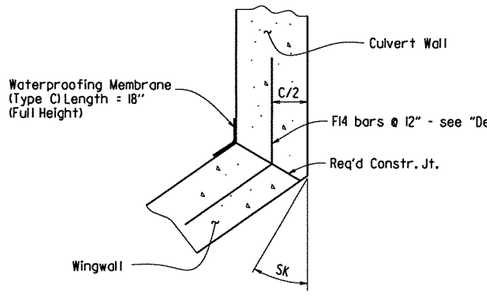


LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

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

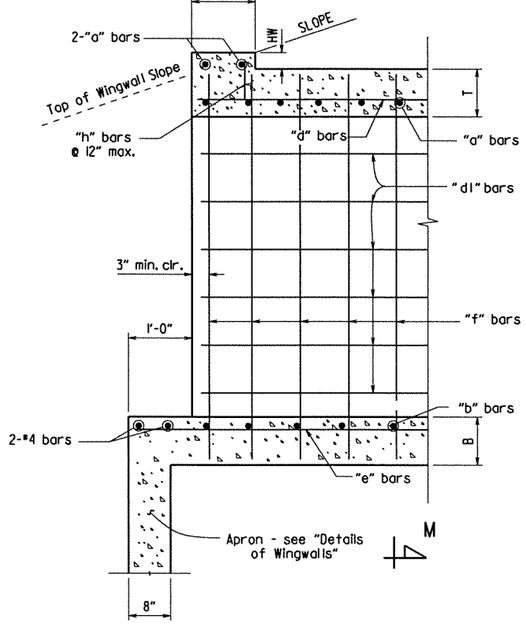


TOP SLAB REINFORCEMENT



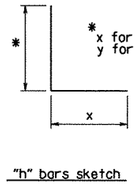
WINGWALL ATTACHMENT

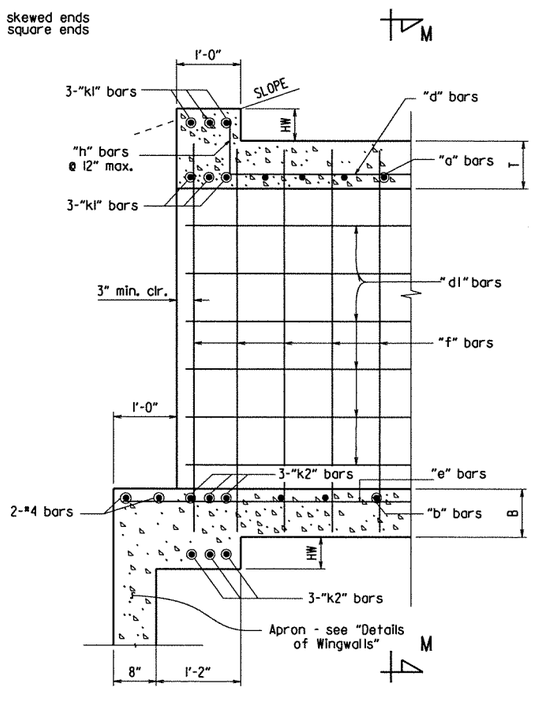
See "Details of Wingwalls" for additional information and wingwall details.



PART LONGITUDINAL SECTION

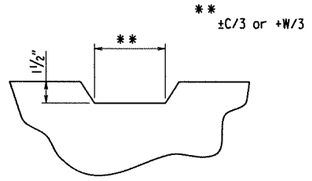
(Non-Skewed Ends)



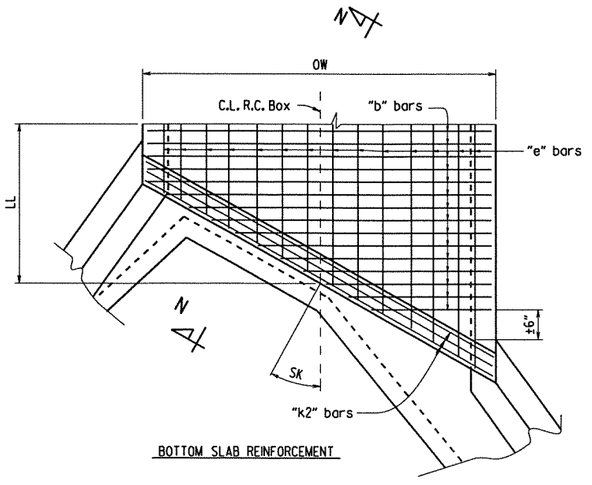


PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL



BOTTOM SLAB REINFORCEMENT

SKEWED END SECTION DETAILS

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

DETAILS OF SINGLE BARREL
R.C. BOX CULVERT

SPECIAL DETAILS

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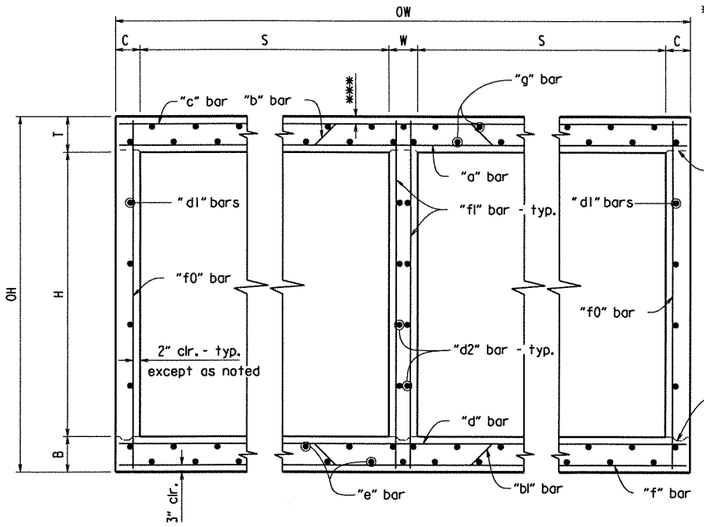
DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	16	252

SPECIAL DETAILS

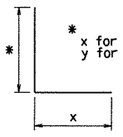


*** 2" clr. for fill depth (D) greater than 2 ft.
2½" clr. for fill depth (D) equal to or less than 2 ft.

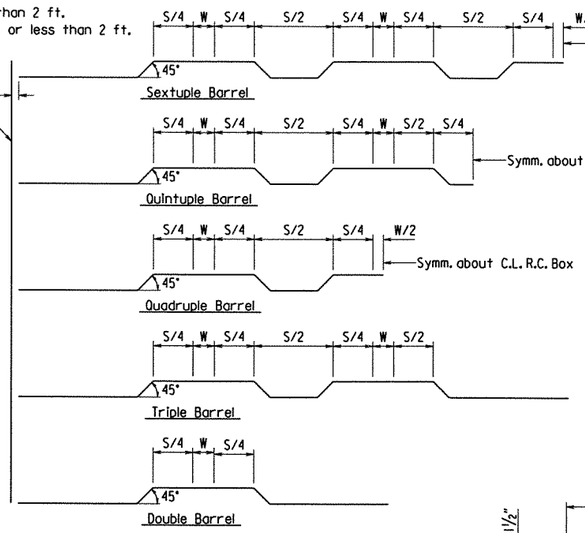
TYPICAL SECTION

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

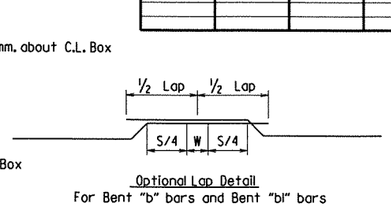
Bottom Slab
Straight "d" bars shall alternate with Bent "bl" bars in top.
Straight "f" bars shall alternate with Bent "bl" bars in bottom.



"h" bars sketch

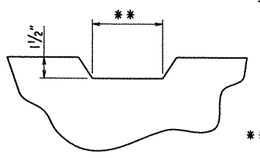


Bent "b" bars or Bent "bl" bars sketch



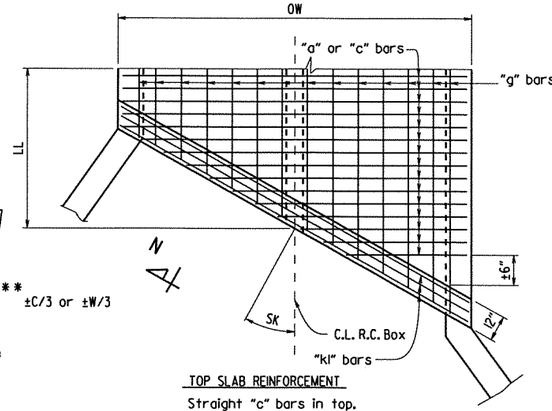
Optional Lap Detail
For Bent "b" bars and Bent "bl" bars

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

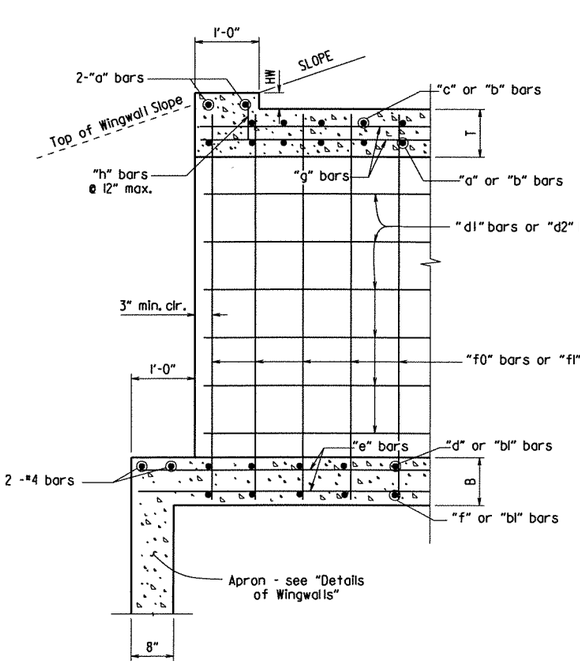


** ±C/3 or ±W/3

TYPICAL KEYWAY DETAIL

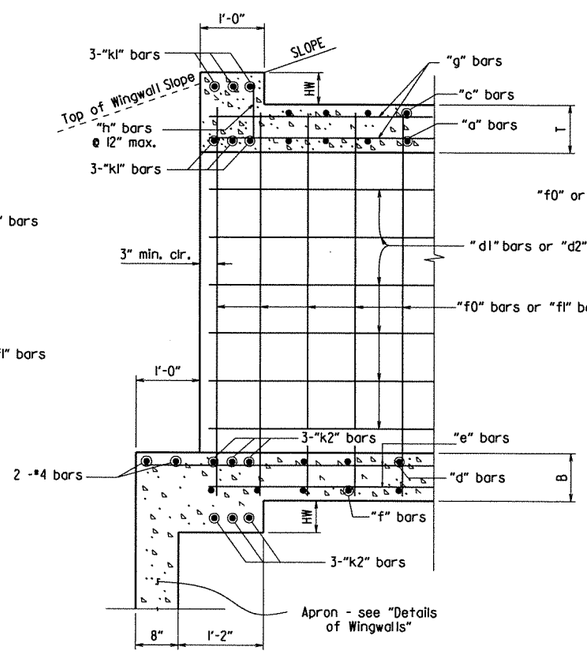


TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



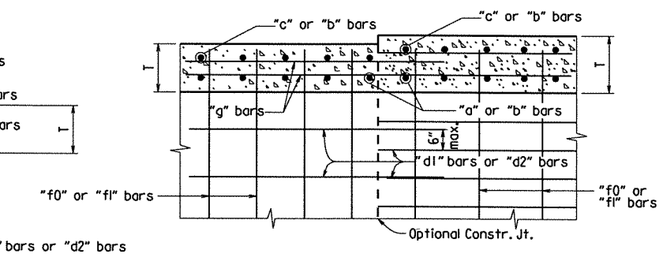
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



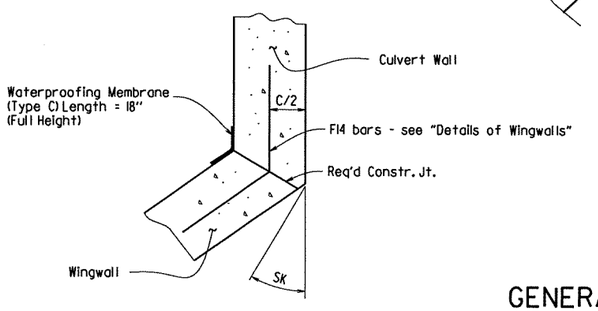
PART LONGITUDINAL SECTION N-N

(Skewed Ends)



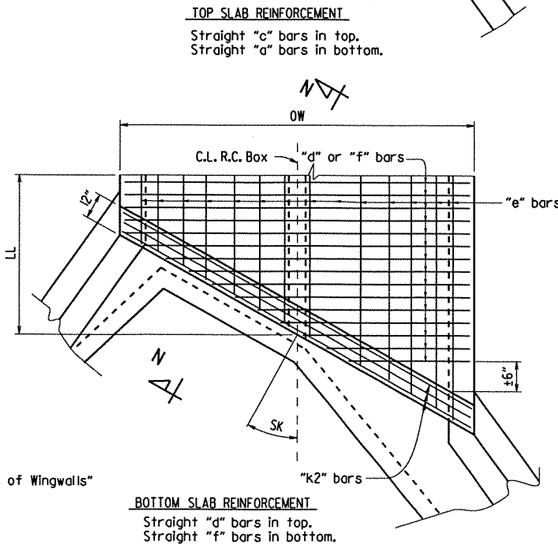
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

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



WINGWALL ATTACHMENT

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



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

SKEWED END SECTION DETAILS

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

DETAILS OF MULTI-BARREL R.C. BOX CULVERT

SPECIAL DETAILS

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL L. FUSELIER
1/15/2020

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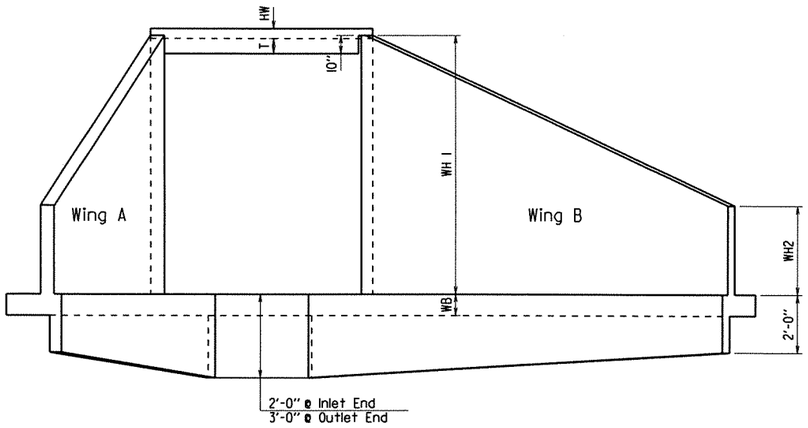
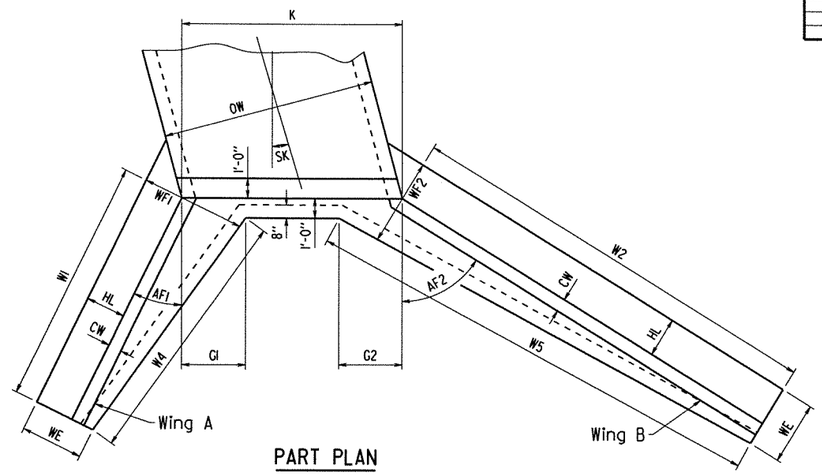
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	17	252
				①		SPECIAL DETAILS		

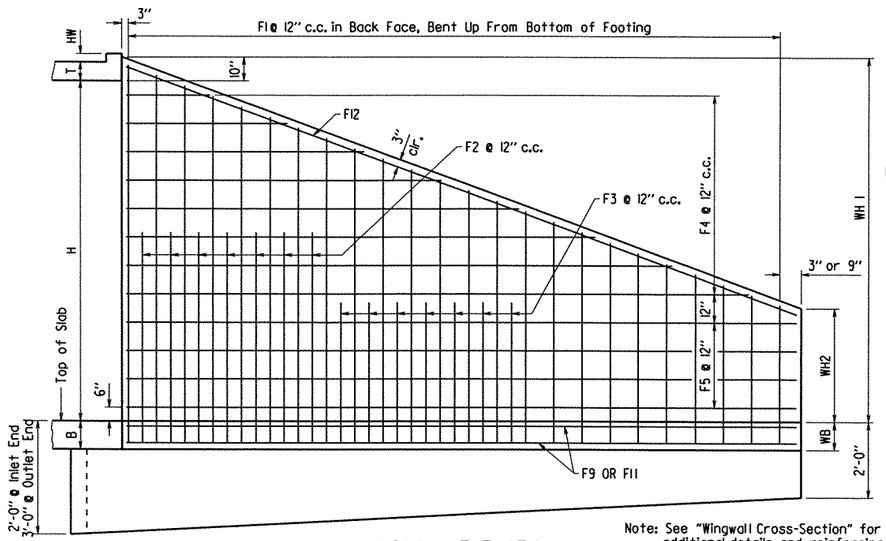
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
6/13/12



END ELEVATION

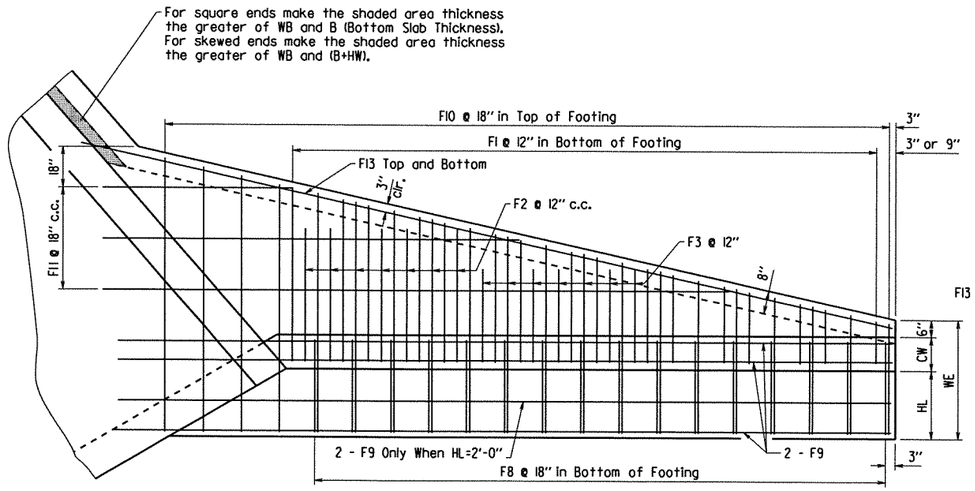


PART PLAN

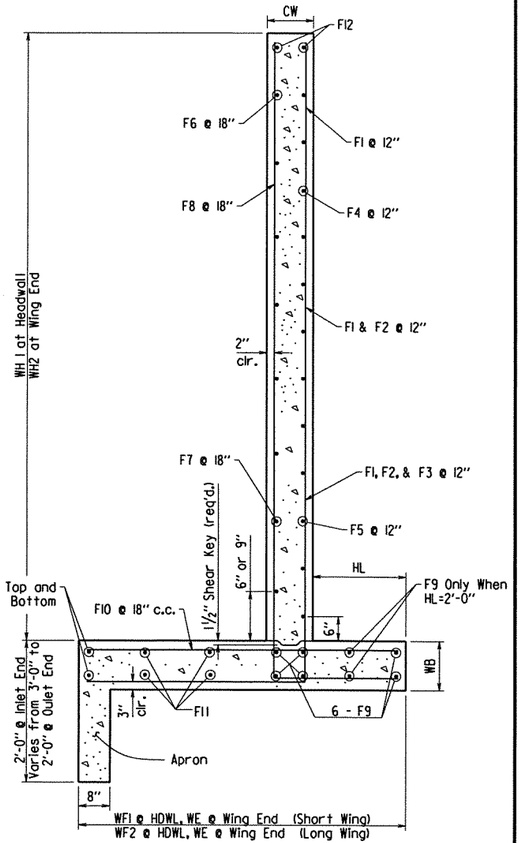


WINGWALL ELEVATION
Showing Back Face Reinforcement

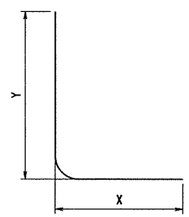
Note: See "Wingwall Cross-Section" for additional details and reinforcing



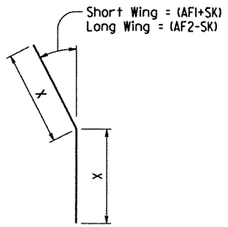
WINGWALL PLAN



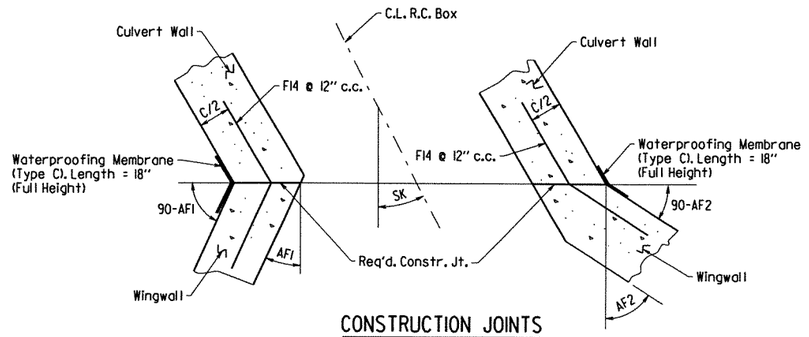
WINGWALL CROSS SECTION



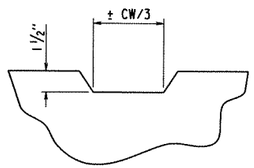
F1, F2, F3, & F8 SKETCH



F14 SKETCH



CONSTRUCTION JOINTS



TYPICAL KEYWAY DETAIL

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

LRFD

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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.		100679	18	252

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (deg.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (deg.) WING A	WINGWALL ANGLE (deg.) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	INSIDE FOOTING DIMENSIONS WING A	INSIDE FOOTING DIMENSIONS WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W4	W5
33'-8"	3'-0"	0'-9"	0'-8"	0	3:1	33'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-9 1/4"	0'-9 1/4"	9'-6"	9'-6"	9'-0 1/4"	9'-0 1/4"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
4.77	410

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS VARY	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F7 BAR SIZE	F7 SPACING	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY		F9 BAR SIZE	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 SPACING	F10 NO. REQ'D	F10 LENGTHS VARY	F11 BAR SIZE	F11 SPACING	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 NO. REQ'D	F12 LENGTHS	F13 BAR SIZE	F13 NO. REQ'D	F13 LENGTHS	F14 BAR SIZE	F14 SPACING	F14 NO. REQ'D	F14 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	10	L	Min	2'-0"	-	-	-	L	-	-	-	L	-	4	12	2	Min	4	12	1	9'-2"	4	18	2	Min	4	18	0	9'-2"	4	18	7	L	Min	2'-7"	4	6	12'-1"	4	18	7	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	205
					Max	4'-8"													3'-9"																Max	5'-3"																						X	1'-8"	
				X	Min	0'-9"				X	-			X	-				Min																Min	1'-4"																							
					Max	0'-9"													Max																Max	1'-4"																							
				Y	Min	1'-4"				Y	-			Y	-				7'-1"																Y	Min	1'-4"			1'-8"				-														
					Max	4'-0"																													Max	4'-0"																							
WING B	4	12	10	L	Min	2'-0"	-	-	-	L	-	-	-	L	-	4	12	2	Min	4	12	1	9'-2"	4	18	2	Min	4	18	0	9'-2"	4	18	7	L	Min	2'-7"	4	6	12'-1"	4	18	7	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	205
					Max	4'-8"													3'-9"																Max	5'-3"																						X	1'-8"	
				X	Min	0'-9"				X	-			X	-				Min																Min	1'-4"																							
					Max	0'-9"													Max																Max	1'-4"																							
				Y	Min	1'-4"				Y	-			Y	-				7'-1"																Y	Min	1'-4"			1'-8"				-														
					Max	4'-0"																													Max	4'-0"																							

INLET SKEWED END SECTION

SKEW (degree)	SLOPE	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL a SIZE	a SPACING	a LENGTHS VARY	a NO. REQ'D	c SIZE	c SPACING	c LENGTHS VARY	c NO. REQ'D	BOTTOM SLAB REINFORCING STEEL d SIZE	d SPACING	d LENGTHS VARY	d NO. REQ'D	f SIZE	f SPACING	f LENGTHS VARY	f NO. REQ'D	SIDE WALL REINFORCING STEEL f0 SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH	INTERIOR WALL REINFORCING STEEL f1 SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL g SIZE	g SPACING	g NO. REQ'D	g LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL e SIZE	e SPACING	e NO. REQ'D	e LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL d1 SIZE	d1 SPACING	d1 NO. REQ'D	d1 LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL d2 SIZE	d2 SPACING	d2 NO. REQ'D	d2 LENGTH
SK	SL	D	S	H	FL	T	HW	B	C	W	OW	OH			Max				Max				Max				Max														Max				Max														
															Min				Min				Min				Min														Min				Min														

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

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (feet)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
D	S	H	T	B	C	W	OW	OH	SL																																													
5	6	3																																																			

HDWL THK.	ADDITIONAL REINF. FOR HDWL	"h" BARS SIZE	"h" BARS X	"h" BARS Y	"h" BARS LENGTH	"h" BARS NO. REQ'D
HW	LBS.					
3"	45	4	1'-0"	0'-6"	1'-6"	35

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	② ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADTL. REINF. FOR TRANS. LAP LBS. PER LIN. FT.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADTL. REINF. FOR HDWL LBS.
				0.31	80

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (feet)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
D	S	H	T	B	C	W	OW	OH	SL																																													
A	5	6	3	8.5	8.5	6	8	33'-8"	4'-5"	177	4	33'-4"	6	34'-1"	6	33'-4"	15	141	4	33'-4"	4	33'-11"	4	33'-4"	15	141	4	9	472	4'-1"	4	12	1416	4'-1"	4	12	69	4	12	69	4	12	6	4	12	24

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	② ADTL. REINF. PER LONG. LAP LOCATION (S) LBS.	ADTL. REINF. FOR TRANS. LAP LBS. PER LIN. FT.
2.17	294	196	

③ MID-SECTION BAR LAP TABLE

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

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

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

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/15/12
CARL J. FUSELIER

TABULAR DATA BY: A.M.S. DATE: 6/15/12
CHECKED BY: CJW DATE: 6/15/12

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

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

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

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

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
STA. 456+25
SPECIAL DETAILS

bi00679_ci.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	19	252

① SPECIAL DETAILS

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/15/12

TABULAR DATA BY: A.M.S. DATE: 6/15/12
CHECKED BY: KWY DATE: 6/15/12

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (deg.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (deg.) WING A	WINGWALL ANGLE (deg.) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	INSIDE FOOTING DIMENSIONS WING A	INSIDE FOOTING DIMENSIONS WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W4	W5
33'-8"	3'-0"	0'-9"	0'-8"	0	3:1	33'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-9 1/4"	0'-9 1/4"	9'-6"	9'-8"	9'-0 1/4"	9'-0 1/4"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
5.79	410

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1	F1	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F2	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F3	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F4
WING A	4	12	10	L	Min	2'-0"	-	-	-	L	-	-	-	-	L	-	4	12	2	Min	2'-7"
					Max	4'-8"														3'-9"	
				X	Min	0'-9"				X	-				X	-				Max	7'-1"
					Max	0'-9"															
				Y	Min	1'-4"				Y	-				Y	-					
					Max	4'-0"															
WING B	4	12	10	L	Min	2'-0"	-	-	-	L	-	-	-	-	L	-	4	12	2	Min	2'-7"
					Max	4'-8"														3'-9"	
				X	Min	0'-9"				X	-				X	-				Max	7'-1"
					Max	0'-9"															
				Y	Min	1'-4"				Y	-				Y	-					
					Max	4'-0"															

WING	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F6	F7 BAR SIZE	F7 SPACING	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8	F8	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 SPACING	F10 NO. REQ'D	F10 LENGTHS VARY	F10
WING A	4	12	1	9'-2"	4	18	2	Min	2'-7"	4	18	0	9'-2"	4	18	7	L	Min	4	6 12'-1"	4	18	7	Min	
								3'-9"										Max						1'-8"	
								Max	7'-1"								X	Min						Max	
																		Max							
																	Y	Min							
																		Max							
WING B	4	12	1	9'-2"	4	18	2	Min	2'-7"	4	18	0	9'-2"	4	18	7	L	Min	4	6 12'-1"	4	18	7	Min	
								3'-9"										Max						1'-8"	
								Max	7'-1"								X	Min						Max	
																		Max							
																	Y	Min							
																		Max							

WING	F11 BAR SIZE	F11 SPACING	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 NO. REQ'D	F12 LENGTHS	F13 BAR SIZE	F13 NO. REQ'D	F13 LENGTHS	F14 BAR SIZE	F14 SPACING	F14 NO. REQ'D	F14 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	205
				-												
				Max										X	1'-8"	
				1'-8"												
WING B	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	205
				-												
				Max										X	1'-8"	
				1'-8"												

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

OUTLET SKEWED END SECTION

| SKEW (degree) | SLOPE | DESIGN FILL DEPTH (feet) | CLEAR SPAN (feet) | CLEAR HEIGHT (feet) | SECTION LENGTH | TOP SLAB THK. | HDWL THK. | BOTTOM SLAB THK. | SIDE WALL THK. | INTERIOR WALL THK. | OVERALL WIDTH | OVERALL HEIGHT | TOP SLAB REINFORCING STEEL a SIZE | a SPACING | a LENGTHS VARY | a NO. REQ'D | TOP SLAB REINFORCING STEEL c SIZE | c SPACING | c LENGTHS VARY | c NO. REQ'D | BOTTOM SLAB REINFORCING STEEL d SIZE | d SPACING | d LENGTHS VARY | d NO. REQ'D | BOTTOM SLAB REINFORCING STEEL f SIZE | f SPACING | f LENGTHS VARY | f NO. REQ'D | SIDE WALL REINFORCING STEEL f0 SIZE | f0 SPACING | f0 NO. REQ'D | f0 LENGTH | INTERIOR WALL REINFORCING STEEL f1 SIZE | f1 SPACING | f1 NO. REQ'D | f1 LENGTH | TOP SLAB DISTRIBUTION REINFORCING STEEL g SIZE | g SPACING | g NO. REQ'D | g LENGTHS VARY | BOTTOM SLAB DISTRIBUTION REINFORCING STEEL e SIZE | e SPACING | e NO. REQ'D | e LENGTHS VARY | SIDE WALL DISTRIBUTION REINFORCING STEEL d1 SIZE | d1 SPACING | d1 NO. REQ'D | d1 LENGTH | INTERIOR WALL DISTRIBUTION REINFORCING STEEL d2 SIZE | d2 SPACING | d2 NO. REQ'D | d2 LENGTH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---

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.		100679	20	252

(1) SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (deg.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (deg.) WING A	WINGWALL ANGLE (deg.) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	INSIDE FOOTING DIMENSIONS WING A	INSIDE FOOTING DIMENSIONS WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W4	W5
33'-8"	3'-0"	0'-9"	0'-8"	0	3:1	33'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-9 1/4"	0'-9 1/4"	9'-6"	9'-6"	9'-0 1/4"	9'-0 1/4"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
4.77	410

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1 LENGTHS	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F7 BAR SIZE	F7 SPACING	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 SPACING	F10 NO. REQ'D	F10 LENGTHS VARY	F11 BAR SIZE	F11 SPACING	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 NO. REQ'D	F12 LENGTHS	F13 BAR SIZE	F13 NO. REQ'D	F13 LENGTHS	F14 BAR SIZE	F14 SPACING	F14 NO. REQ'D	F14 LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	10	L	Min 2'-0"	-	-	-	L	-	-	-	L	-	4	12	2	Min	4	12	1	9'-2"	4	18	2	Min	4	18	0	9'-2"	4	18	7	L Min 2'-7"	4	6	12'-1"	4	18	7	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	205
					Max 4'-8"												3'-9"								3'-9"								Max 5'-3"						1'-8"				-										X	1'-8"	
				X	Min 0'-9"				X	-			X	-				Max				9'-2"				Max				9'-2"				X Min 1'-4"			12'-1"				Max				Max			9'-5"								
					Max 0'-9"												7'-1"								8'-9"								Max 1'-4"						1'-8"				-												
				Y	Min 1'-4"				Y	-			Y	-				Min								Min								Y Min 1'-4"											Min											
					Max 4'-0"																													Max 4'-0"											-											
WING B	4	12	10	L	Min 2'-0"	-	-	-	L	-	-	-	L	-	4	12	2	Min	4	12	1	9'-2"	4	18	2	Min	4	18	0	9'-2"	4	18	7	L Min 2'-7"	4	6	12'-1"	4	18	7	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	205
					Max 4'-8"												3'-9"								3'-9"								Max 5'-3"						1'-8"				-										X	1'-8"	
				X	Min 0'-9"				X	-			X	-				Max				9'-2"				Max				9'-2"				X Min 1'-4"			12'-1"				Max				Max			9'-5"								
					Max 0'-9"												7'-1"								8'-9"								Max 1'-4"						1'-8"				-												
				Y	Min 1'-4"				Y	-			Y	-				Min								Min								Y Min 1'-4"											Min											
					Max 4'-0"																													Max 4'-0"											-											

HDWL THK.	ADDITIONAL REINF. FOR HDWL	"h" BARS				
HW	LBS.	SIZE	X	Y	LENGTH	NO. REQ'D
3"	45	4	1'-0"	0'-6"	1'-6"	35

INLET SKEWED END SECTION

SKEW (degree)	SLOPE	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL a SIZE	a SPACING	a LENGTHS VARY	a NO. REQ'D	TOP SLAB REINFORCING STEEL c SIZE	c SPACING	c LENGTHS VARY	c NO. REQ'D	BOTTOM SLAB REINFORCING STEEL d SIZE	d SPACING	d LENGTHS VARY	d NO. REQ'D	BOTTOM SLAB REINFORCING STEEL f SIZE	f SPACING	f LENGTHS VARY	f NO. REQ'D	SIDE WALL REINFORCING STEEL f0 SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH	INTERIOR WALL REINFORCING STEEL f1 SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL g SIZE	g SPACING	g NO. REQ'D	g LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL e SIZE	e SPACING	e NO. REQ'D	e LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL d1 SIZE	d1 SPACING	d1 NO. REQ'D	d1 LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL d2 SIZE	d2 SPACING	d2 NO. REQ'D	d2 LENGTH
SK	SL	D	S	H	LL	T	HW	B	C	W	OW	OH	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH
															Max				Max						Max															Max				Max				LONG				LONG
															Min				Min						Min															Min				Min				SHORT				MID
																																																					SHORT

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

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (feet)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
D	S	H	T	B	C	W	OW	OH	SL																																											
A	5	6	3	8.5	8.5	6	8	33'-8"	4'-5"	179	4	33'-4"	6	34'-1"	6	33'-4"	15	143	4	33'-4"	4	33'-11"	4	33'-4"	15	143	4	9	476	4'-1"	4	12	1432	4'-1"	4	12	69	4	12	69	4	12	6	4	12	24

CLASS "S" CONCRETE (Includes HDWL) CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) (Includes HDWL) LBS. PER LIN. FT.	(1) ADTL. REINF. PER LONG. LAP LOCATION (S) LBS.	ADTL. REINF. FOR TRANS. LAP LBS. PER LIN. FT.
2.17	294	196	

(3) MID-SECTION BAR LAP TABLE

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

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

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELEER
6/15/12

TABULAR DATA BY: A.M.S. DATE: 6/15/12
CHECKED BY: KWY DATE: 6/15/12

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

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

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (feet)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
D	S	H	T	B	C	W	OW	OH	SL																																											

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	(2) ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADTL. REINF. FOR TRANS. LAP LBS. PER LIN. FT.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADTL. REINF. FOR HDWL LBS.
				0.31	80

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

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

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
STA. 466+25
SPECIAL DETAILS

b100679_c2.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	21	252

① SPECIAL DETAILS

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (deg.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (deg.) WING A	WINGWALL ANGLE (deg.) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	INSIDE FOOTING DIMENSIONS WING A	INSIDE FOOTING DIMENSIONS WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W4	W5
33'-8"	3'-0"	0'-9"	0'-8"	0	3:1	33'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-9 1/4"	0'-9 1/4"	9'-6"	9'-6"	9'-0 1/4"	9'-0 1/4"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
5.79	410

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F8	F7 BAR SIZE	F7 SPACING	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F8	F9 BAR SIZE	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 SPACING	F10 NO. REQ'D	F10 LENGTHS VARY	F11 BAR SIZE	F11 SPACING	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 NO. REQ'D	F12 LENGTHS	F13 BAR SIZE	F13 NO. REQ'D	F13 LENGTHS	F14 BAR SIZE	F14 SPACING	F14 NO. REQ'D	F14 LENGTHS	REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	10	L	Min 2'-0"	-	-	-	L -	-	-	-	L -	4	12	2	Min	4	12	1	9'-2"	4	18	2	Min		4	18	0	9'-2"	4	18	7	L Min 2'-7"		4	6	12'-1"	4	18	7	Min				Min		4	2	9'-5"	4	2	10'-7"	6	12	3	L 3'-4"	205
					Max 4'-8"												3'-9"								Max 5'-3"																													X 1'-8"	
				X	Min 0'-9"				X -				X -				Max								L Min 1'-4"								X Min 1'-4"								Max												
					Max 0'-9"												7'-1"								Max 1'-4"								Max 1'-4"																				
				Y	Min 1'-4"				Y -				Y -												Y Min 1'-4"																												
					Max 4'-0"																				Max 4'-0"																												
WING B	4	12	10	L	Min 2'-0"	-	-	-	L -	-	-	-	L -	4	12	2	Min	4	12	1	9'-2"	4	18	2	Min		4	18	0	9'-2"	4	18	7	L Min 2'-7"		4	6	12'-1"	4	18	7	Min				Min		4	2	9'-5"	4	2	10'-7"	6	12	3	L 3'-4"	205
					Max 4'-8"												3'-9"								Max 5'-3"																													X 1'-8"	
				X	Min 0'-9"				X -				X -				Max								L Min 1'-4"								X Min 1'-4"								Max												
					Max 0'-9"												7'-1"								Max 1'-4"								Max 1'-4"																				
				Y	Min 1'-4"				Y -				Y -												Y Min 1'-4"																												
					Max 4'-0"																				Max 4'-0"																												

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

TABULAR DATA BY: A.M.S. DATE: 6/15/12
CHECKED BY: KWY DATE: 6/15/12

OUTLET SKEWED END SECTION

SKEW (degree)	SLOPE	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL a SIZE	a SPACING	a LENGTHS VARY	a NO. REQ'D	TOP SLAB REINFORCING STEEL c SIZE	c SPACING	c LENGTHS VARY	c NO. REQ'D	BOTTOM SLAB REINFORCING STEEL d SIZE	d SPACING	d LENGTHS VARY	d NO. REQ'D	BOTTOM SLAB REINFORCING STEEL f SIZE	f SPACING	f LENGTHS VARY	f NO. REQ'D	SIDE WALL REINFORCING STEEL f0 SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH	INTERIOR WALL REINFORCING STEEL f1 SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL g SIZE	g SPACING	g NO. REQ'D	g LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL e SIZE	e SPACING	e NO. REQ'D	e LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL d1 SIZE	d1 SPACING	d1 NO. REQ'D	d1 LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL d2 SIZE	d2 SPACING	d2 NO. REQ'D	d2 LENGTH
SK	SL	D	S	H	LL	T	HW	B	C	W	OW	OH			Max				Max				Max																																			
															Min				Min				Min																																			

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

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

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (feet) D	CLEAR SPAN (feet) S	CLEAR HEIGHT (feet) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (feet) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	b L	c SIZE	c L	TOP SLAB REINFORCING STEEL SPACING	TOP SLAB REINFORCING STEEL NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	b1 L	f SIZE	f L	BOTTOM SLAB REINFORCING STEEL SPACING	BOTTOM SLAB REINFORCING STEEL NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	g SPACING	g NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	e SPACING	e NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	d1 SPACING	d1 NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	d2 SPACING	d2 NO. REQ'D
	5	6	3																																																		

HDWL THK. HW	ADDITIONAL REINF. FOR HDWL LBS.	"h" BARS SIZE	X	Y	LENGTH	NO. REQ'D
3"	45	4	1'-0"	0'-6"	1'-6"	35

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	② ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADTL. REINF. FOR TRANS. LAP LBS. PER LIN. FT.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADTL. REINF. FOR HDWL LBS.
				0.31	80

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

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

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

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

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
STA. 466+25

SPECIAL DETAILS

LRFD

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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.		100679	22	252

SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (deg.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT		WINGWALL ANGLE (deg.)		FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL		FOOTING DIMENSION PARALLEL WITH HDWL		LENGTH OF WINGWALLS		INSIDE FOOTING DIMENSIONS	
								AT HDWL	AT WING END	WING A	WING B		WING A	WING B	WING A	WING B	WING A	WING B	WING A	WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W4	W5
53'-11"	9'-0"	0'-10"	0'-9"	15	3:1	55'-10"	2'-0"	9'-10"	3'-0"	15	45	3'-3"	4'-7"	5'-1"	2'-4 5/8"	3'-6 1/4"	21'-0"	28'-6"	20'-8 1/4"	30'-4 1/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
19.85	1757

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS VARY			F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS VARY			F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	
WING A	4	12	21	L	Min	4'-4"	4	12	10	L	6'-1"		-	-	-	L	-		4	12	6	Min	
					Max	12'-2"																3'-5"	
				X	Min	0'-10"				X	1'-7"					X	-					Max	
					Max	2'-2"																18'-9"	
				Y	Min	3'-7"				Y	4'-7"					Y	-					Min	
					Max	10'-1"																3'-5"	
WING B	4	12	29	L	Min	4'-2"	4	12	13	L	6'-4"		-	-	-	L	-		4	12	6	Min	
					Max	12'-8"																4'-8"	
				X	Min	0'-10"				X	1'-10"					X	-					Max	
					Max	2'-8"																25'-7"	
				Y	Min	3'-5"				Y	4'-7"					Y	-					Min	
					Max	10'-1"																4'-8"	

WING	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY			F7 BAR SIZE	F7 SPACING	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY			F9 BAR SIZE	F9 NO. REQ'D	F9 LENGTHS
WING A	4	12	3	20'-8"	4	18	4	Min			4	18	2	20'-8"	4	18	14	L	Min	6'-1"	4	8	25'-4"
										3'-5"								Max	12'-5"				
								Max										X	Min	2'-5"			
										17'-3"									Max	2'-5"			
								Min										Y	Min	3'-9"			
										4'-0"									Max	10'-1"			
WING B	4	12	3	28'-2"	4	18	4	Min			4	18	2	28'-2"	4	18	19	L	Min	6'-0"	4	8	32'-10"
										4'-8"								Max	12'-5"			
								Max										X	Min	2'-5"			
										23'-6"									Max	2'-5"			
								Min										Y	Min	3'-8"			
										4'-8"									Max	10'-1"			

WING	F10 BAR SIZE	F10 SPACING	F10 NO. REQ'D	F10 LENGTHS VARY			F11 BAR SIZE	F11 SPACING	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 NO. REQ'D	F12 LENGTHS	F13 BAR SIZE	F13 NO. REQ'D	F13 LENGTHS	F14 BAR SIZE	F14 SPACING	F14 NO. REQ'D	F14 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	18	14	Min							4	2	21'-7"	4	2	22'-3"	6	12	9	L	3'-4"	765
				2'-9"			4	18	2	Min												
				Max						25'-4"										X	1'-8"	
				4'-0"						Max												
										25'-4"												
WING B	4	18	21	Min							4	2	28'-10"	4	2	32'-2"	6	12	9	L	3'-4"	992
				2'-9"			4	18	2	Min												
				Max						25'-3"										X	1'-8"	
				4'-8"						Max												
										25'-3"												

INLET SKEWED END SECTION

SKEW (degree)	SLOPE	DESIGN FILL DEPTH (feet)	CLEAR SPAN (feet)	CLEAR HEIGHT (feet)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL a SIZE	a SPACING	a LENGTHS VARY	a NO. REQ'D	TOP SLAB REINFORCING STEEL c SIZE	c SPACING	c LENGTHS VARY	c NO. REQ'D	BOTTOM SLAB REINFORCING STEEL d SIZE	d SPACING	d LENGTHS VARY	d NO. REQ'D	BOTTOM SLAB REINFORCING STEEL f SIZE	f SPACING	f LENGTHS VARY	f NO. REQ'D
SK	SL	D	S	H	LL	T	HW	B	C	W	OW	OH																
15	3:1	5	10	9	9'-3"	11	3	11	7.5	8	53'-11"	10'-10"	5	5	Max	31	7	6	Max	26	4	5	Max	31	4	6	Max	26
															53'-7"				53'-7"				53'-7"			53'-7"			53'-7"	
															Min				Min				Min				Min	
															6'-0"				6'-0"				6'-0"				6'-0"	
															53'-7"	5			53'-7"	4			53'-7"	5			53'-7"	4

SIDE WALL REINFORCING STEEL f0 SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH	INTERIOR WALL REINFORCING STEEL f1 SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL g SIZE	g SPACING	g NO. REQ'D	g LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL e SIZE	e SPACING	e NO. REQ'D	e LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL d1 SIZE	d1 SPACING	d1 NO. REQ'D	d1 LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL d2 SIZE	d2 SPACING	d2 NO. REQ'D	d2 LENGTH
6	7.5	31	10'-6"	4	12	88	10'-6"	4	10	129	Max	4	10	129	Max	4	12	9	LONG	4	12	18	LONG
											16'-3"				16'-3"				16'-3"				13'-5"
											Min				Min				SHORT				MID
											1'-10"				1'-10"				1'-10"				10'-6"
																		9				18	SHORT
																							4'-9"

k1 SIZE	k1 LENGTH	k1 NO. REQ'D	k2 SIZE	k2 LENGTH	k2 NO. REQ'D	h SIZE	h LENGTH	h X	h NO. REQ'D
4	28'-7"	12	4	28'-7"	12	4	1'-8"	0'-10"	57

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	REINFORCING STEEL (GR 60) (Includes HDWL) LBS.
24.28	8486

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (feet) D	CLEAR SPAN (feet) S	CLEAR HEIGHT (feet) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (feet) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	c SPACING	c NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	f SPACING	f NO. REQ'D
A	5	10	9	11	11	7.5	8	53'-11"	10'-10"	166.5	4	53'-7"	7	54'-10"	7	53'-7"	12	166	4	53'-7"	4	54'-8"	4	53'-7"	10	199

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
6	7.5	532	10'-6"	4	12	1328	10'-6"	4	10	129	4	10	129	4	12	18	4	12	72

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 60) LBS. PER LIN. FT.	④ ADTL. REINF. PER LONG. LAP LOCATION (S) LBS.	ADTL. REINF. FOR TRANS. LAP LBS. PER LIN. FT.
4.97	726	407	20

INLET SLOPE SECTIONS)

R.C. BOX SECTION	DESIGN FILL DEPTH (feet) D	CLEAR SPAN (feet) S	CLEAR HEIGHT (feet) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (feet) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS a SIZE	a L	Bent b SIZE	Bent b L	c SIZE	c L	c SPACING	c NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS d SIZE	d L	Bent b1 SIZE	Bent b1 L	f SIZE	f L	f SPACING	f NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

HDWL THK. HW	ADDITIONAL REINF. FOR HDWL LBS.	"h" BARS SIZE	X	Y	LENGTH	NO. REQ'D

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

③ MID-SECTION BAR LAP TABLE

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

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

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

STATE OF ARKANSAS — CARL L. FUSELIER — No. 7510 — REGISTERED PROFESSIONAL ENGINEER — 6/15/12

TABULAR DATA BY: A.M.S. DATE: 6/15/12
CHECKED BY: CLW DATE: 6/15/12

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

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

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

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

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
STA. 475+10

SPECIAL DETAILS

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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.		100679	23252	

① SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7519
CARLOS FUSELIER

TABULAR DATA BY: A.M.S. DATE: 6/15/12
CHECKED BY: CWF DATE: 6/15/12

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (deg.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (deg.) WING A	WINGWALL ANGLE (deg.) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	INSIDE FOOTING DIMENSIONS WING A	INSIDE FOOTING DIMENSIONS WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W4	W5
53'-11"	9'-0"	0'-10"	0'-9"	15	3:1	55'-10"	2'-0"	9'-10"	3'-0"	15	45	3'-3"	4'-7"	5'-1"	2'-4 5/8"	3'-6 1/4"	21'-0"	28'-6"	20'-8 1/4"	30'-4 1/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
21.71	1757

WING	BAR SIZE	MAX. SPACING	NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS			F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS			F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F7 BAR SIZE	F7 SPACING	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY		F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 SPACING	F10 NO. REQ'D	F10 LENGTHS VARY	F11 BAR SIZE	F11 SPACING	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 NO. REQ'D	F12 LENGTHS	F13 BAR SIZE	F13 NO. REQ'D	F13 LENGTHS	F14 BAR SIZE	F14 SPACING	F14 NO. REQ'D	F14 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	21	L	Min	4'-4"	4	12	10	L	6'-1"	-	-	-	L	-	4	12	6	Min	4	12	3	20'-8"	4	18	4	Min	4	18	2	20'-8"	4	18	14	L	Min	6'-1"	4	8	25'-4"	4	18	14	Min	4	18	2	Min	4	2	21'-7"	4	2	22'-3"	6	12	9	L	3'-4"	765
					Max	12'-2"														Max	3'-5"																	Max	12'-5"							Max	2'-9"																	
				X	Min	0'-10"				X	1'-7"				X	-				Min																	Min	2'-5"			25'-4"							Min															X	1'-8"	
					Max	2'-2"														Max																	Max	2'-5"							Max	2'-0"																	
				Y	Min	3'-7"				Y	4'-7"				Y	-				Min	3'-5"																	Min	3'-9"																									
					Max	10'-1"														Max	18'-9"																	Max	10'-1"							Max	17'-3"																	
WING B	4	12	29	L	Min	4'-2"	4	12	13	L	6'-4"	-	-	-	L	-	4	12	6	Min	4	12	3	28'-2"	4	18	4	Min	4	18	2	28'-2"	4	18	19	L	Min	6'-0"	4	8	32'-10"	4	18	21	Min	4	18	2	Min	4	2	26'-10"	4	2	32'-2"	6	12	9	L	3'-4"	992
					Max	12'-8"														Max	4'-8"																	Max	12'-5"							Max	2'-9"																	
				X	Min	0'-10"				X	1'-10"				X	-				Min																	Min	2'-5"			25'-3"							Min															X	1'-8"	
					Max	2'-8"														Max																	Max	2'-5"							Max	2'-5"																	
				Y	Min	3'-5"				Y	4'-7"				Y	-				Min	4'-8"																	Min	3'-8"																									
					Max	10'-1"														Max	25'-7"																	Max	10'-1"							Max	23'-6"																	

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

OUTLET SKEWED END SECTION

SKEW (degree) SK	SLOPE SL	DESIGN FILL DEPTH (feet) D	CLEAR SPAN (feet) S	CLEAR HEIGHT (feet) H	SECTION LENGTH FL	TOP SLAB THK. T	HDWL THK. HW	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVERALL WIDTH OW	OVERALL HEIGHT OH
15	3:1	5	10	9	9'-3"	11	3	11	7.5	8	53'-11"	10'-10"

TOP SLAB REINFORCING STEEL a SIZE	a SPACING	a LENGTHS VARY	a NO. REQ'D	c SIZE	c SPACING	c LENGTHS VARY	c NO. REQ'D
5	5	Max 53'-7"	31	7	6	Max 53'-7"	26
		Min 6'-0"				Min 6'-0"	
		53'-7"	5			53'-7"	4

BOTTOM SLAB REINFORCING STEEL d SIZE	d SPACING	d LENGTHS VARY	d NO. REQ'D	f SIZE	f SPACING	f LENGTHS VARY	f NO. REQ'D
4	5	Max 53'-7"	31	4	6	Max 53'-7"	26
		Min 6'-0"				Min 6'-0"	
		53'-7"	5			53'-7"	4

SIDE WALL REINFORCING STEEL f0 SIZE	f0 SPACING	f0 NO. REQ'D	f0 LENGTH
6	7.5	31	10'-6"

INTERIOR WALL REINFORCING STEEL f1 SIZE	f1 SPACING	f1 NO. REQ'D	f1 LENGTH
4	12	88	10'-6"

TOP SLAB DISTRIBUTION REINFORCING STEEL g SIZE	g SPACING	g NO. REQ'D	g LENGTHS VARY
4	10	129	Max 16'-3"
			Min 1'-10"

BOTTOM SLAB DISTRIBUTION REINFORCING STEEL e SIZE	e SPACING	e NO. REQ'D	e LENGTHS VARY
4	10	129	Max 16'-3"
			Min 1'-10"

SIDE WALL DISTRIBUTION REINFORCING STEEL d1 SIZE	d1 SPACING	d1 NO. REQ'D	d1 LENGTH
4	12	9	LONG 16'-3"
			SHORT 1'-10"

INTERIOR WALL DISTRIBUTION REINFORCING STEEL d2 SIZE	d2 SPACING	d2 NO. REQ'D	d2 LENGTH
4	12	18	LONG 13'-5"
		36	MID 10'-6"
		18	SHORT 4'-9"

k1 SIZE	k1 LENGTH	k1 NO. REQ'D	k2 SIZE	k2 LENGTH	k2 NO. REQ'D	h SIZE	h LENGTH	h X	h NO. REQ'D
4	28'-7"	12	4	28'-7"	12	4	1'-8"	0'-10"	57

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	① REINFORCING STEEL (GR 60) (Includes HDWL) LBS.
24.28	8486

OUTLET SLOPE SECTION(S)

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

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

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

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

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

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

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

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

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

HDWL THK. HW	ADDITIONAL REINF. FOR HDWL LBS.	"h" BARS SIZE	X	Y	LENGTH	NO. REQ'D

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

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

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

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

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

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
STA. 475+10

SPECIAL DETAILS

LRFD

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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.		100679	24	252

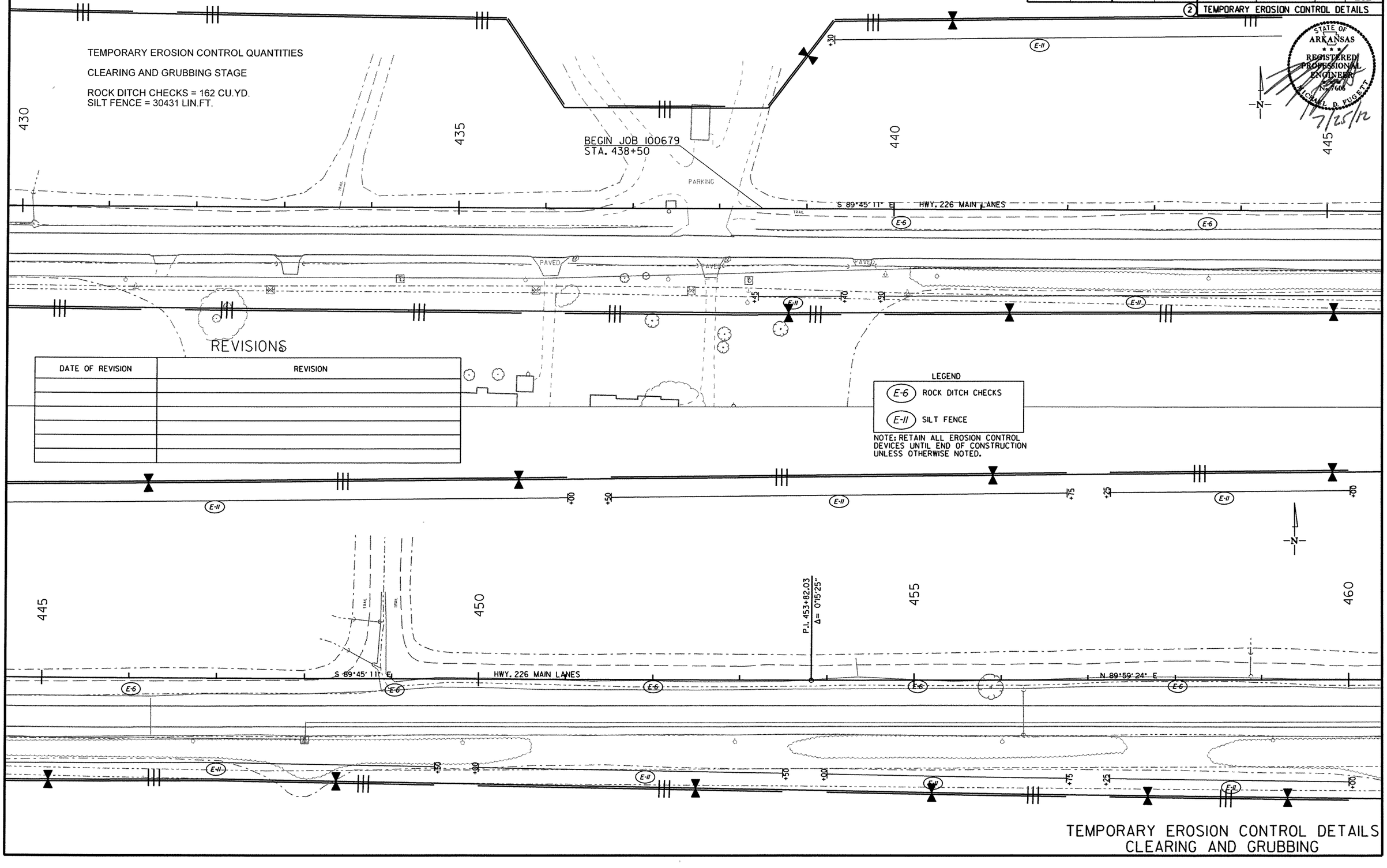
(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES

CLEARING AND GRUBBING STAGE

ROCK DITCH CHECKS = 162 CU.YD.
SILT FENCE = 30431 LIN.FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7608
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

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

6/12/2012

R100679.DGN

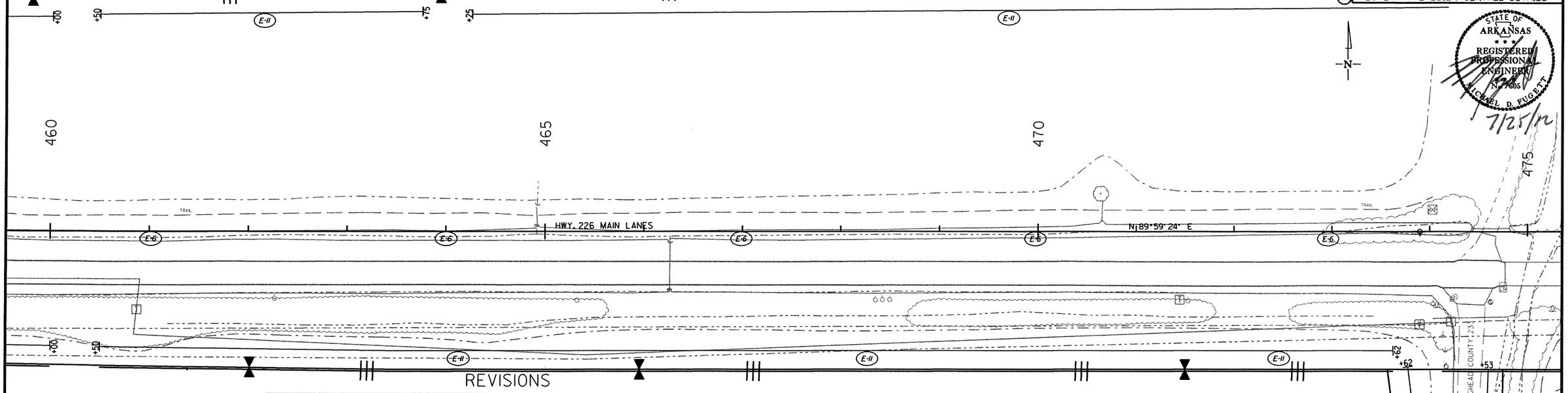
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100679	25	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 9005
MICHAEL D. FUGETT
7/25/12



REVISIONS

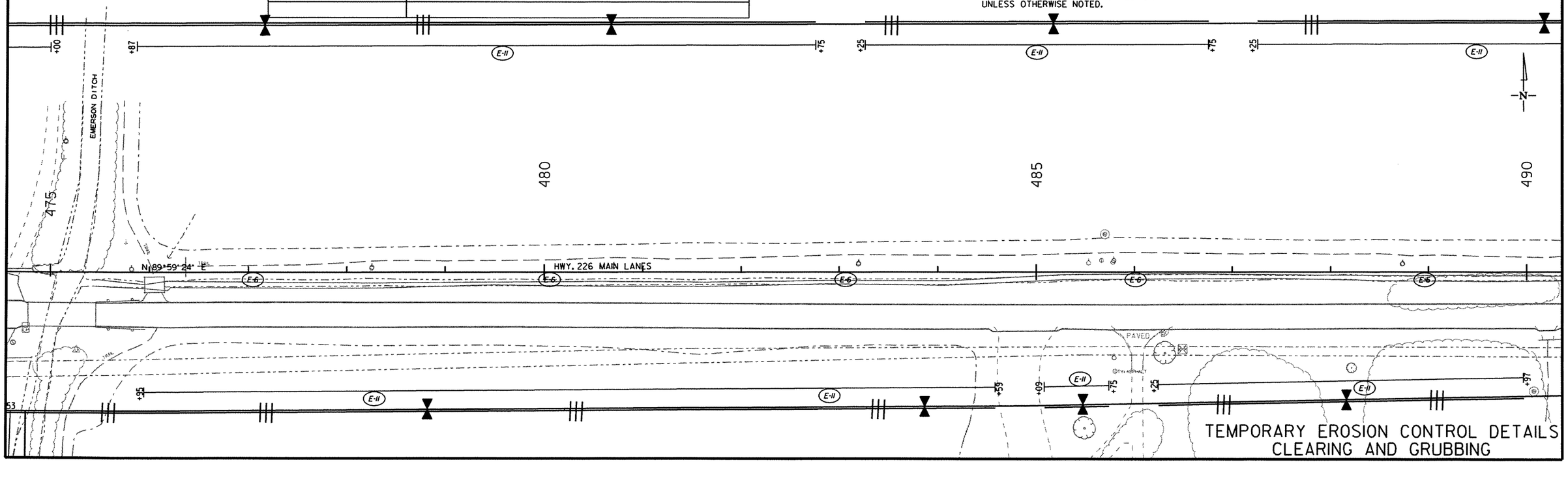
DATE OF REVISION	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

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



6/12/2012

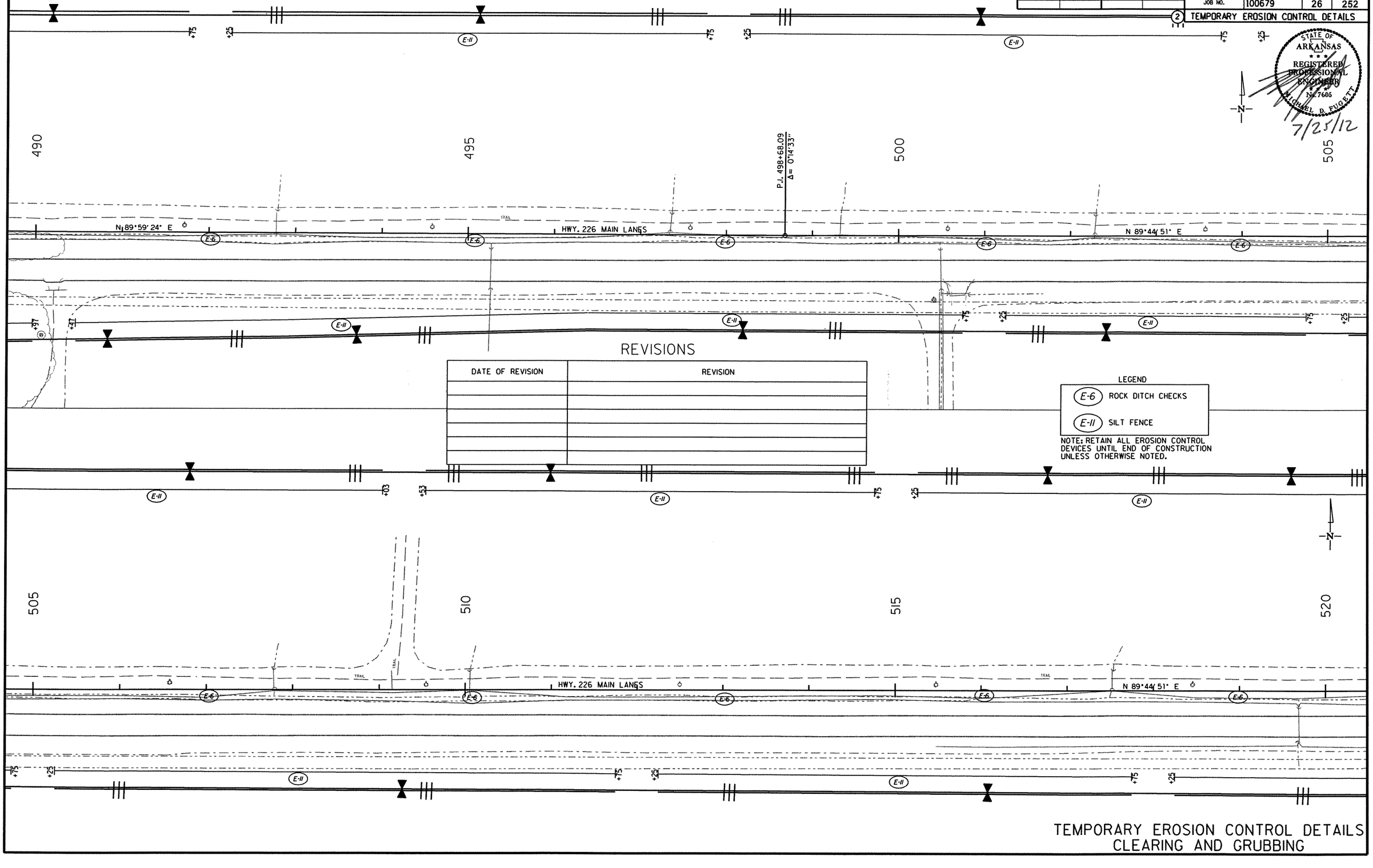
R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	26	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

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

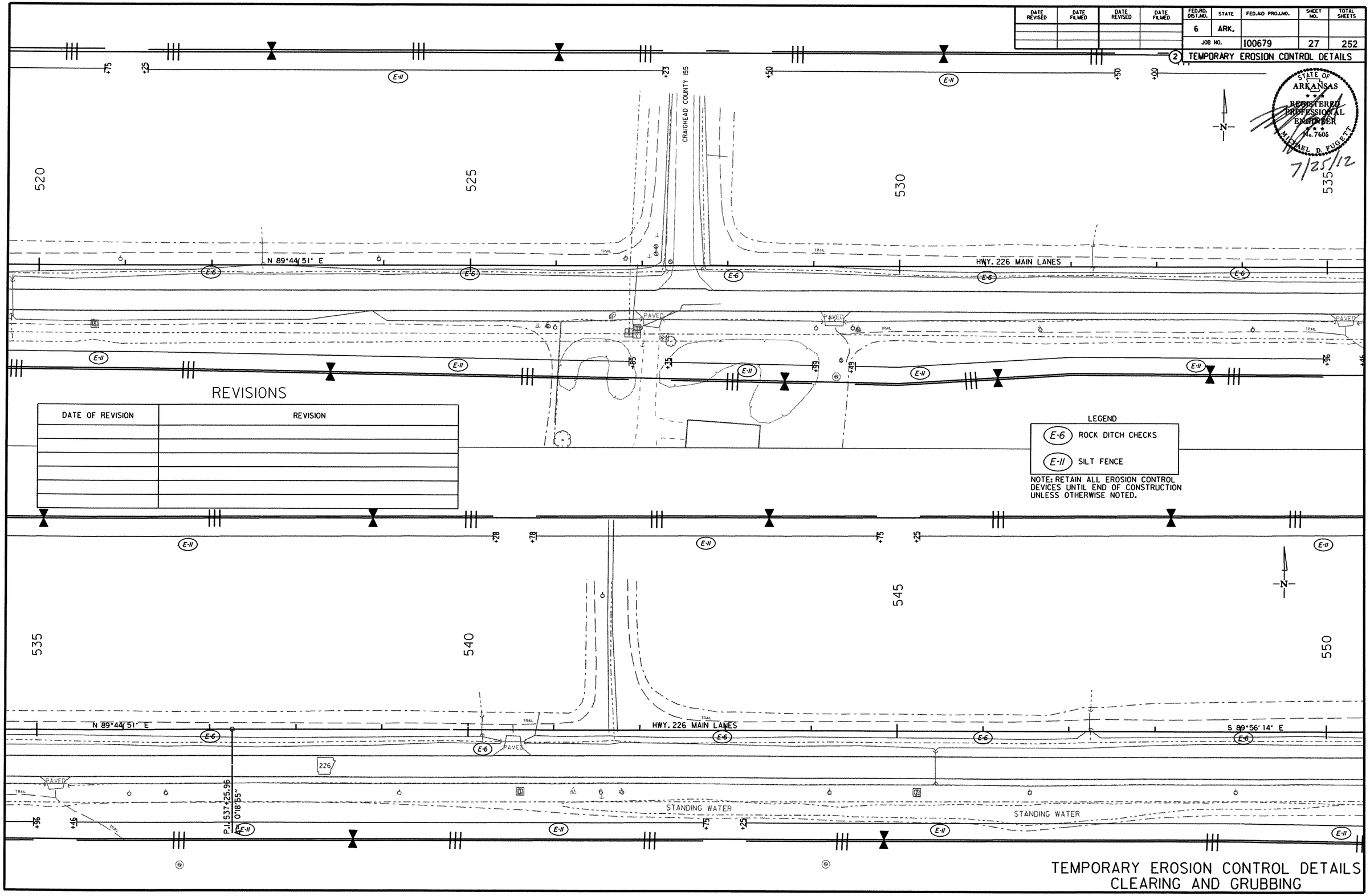
6/12/2012

R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	27	252

(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-6 ROCK DITCH CHECKS
- E-11 SILT FENCE

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

6/12/2012

R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100679	28	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13605
MICHAEL D. FUGETT
7/25/12

550 555 560

HWY. 226 MAIN LANES

S 89°56' 14" E

TRAIL

E-6 E-11

550 555 560

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

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

565 570 575 580

S 89°56' 14" E

HWY. 226 MAIN LANES

TRAIL

PAVED

E-6 E-11

565 570 575 580

6/12/2012

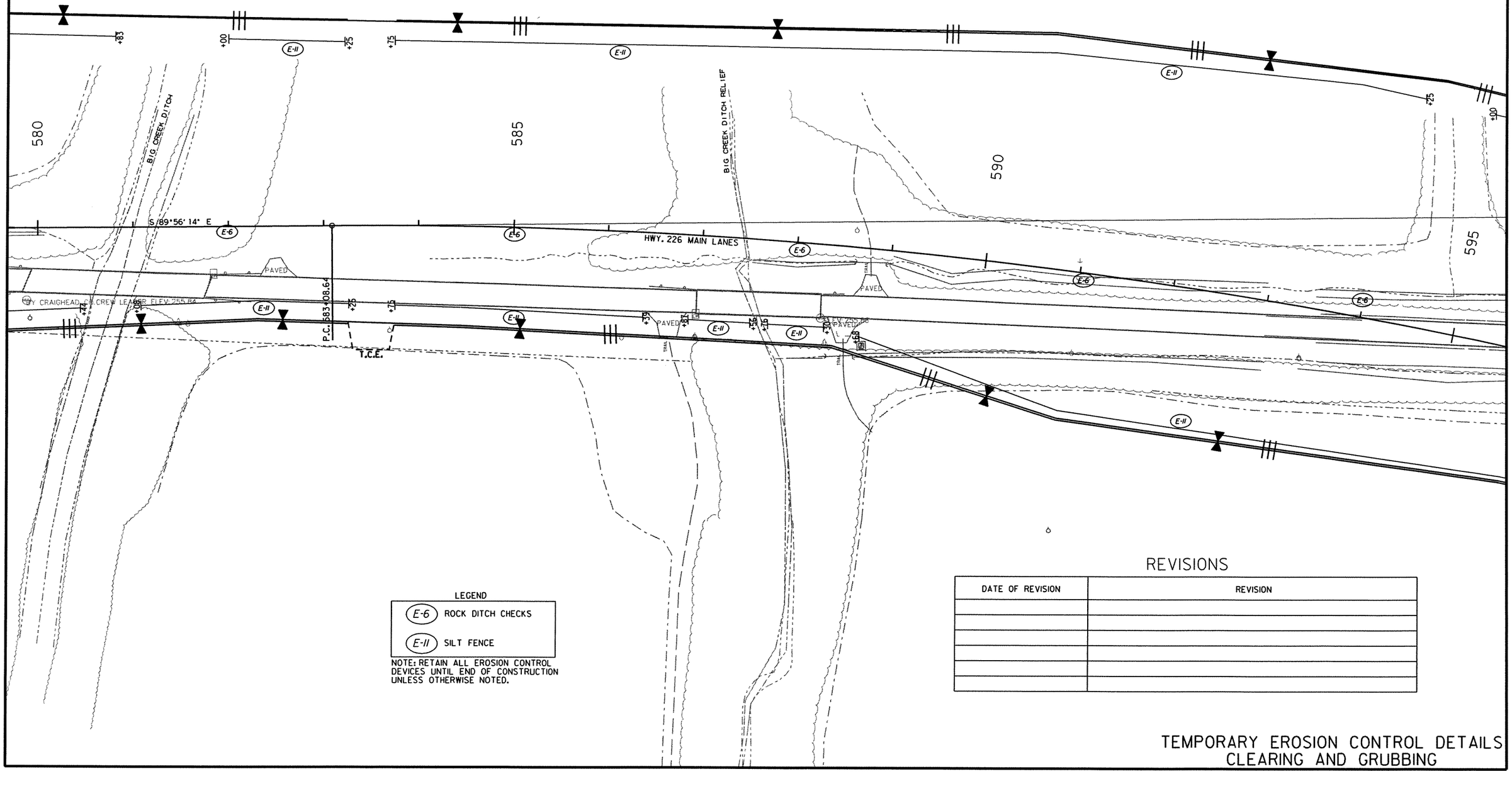
R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	29	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12



LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

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

REVISIONS

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

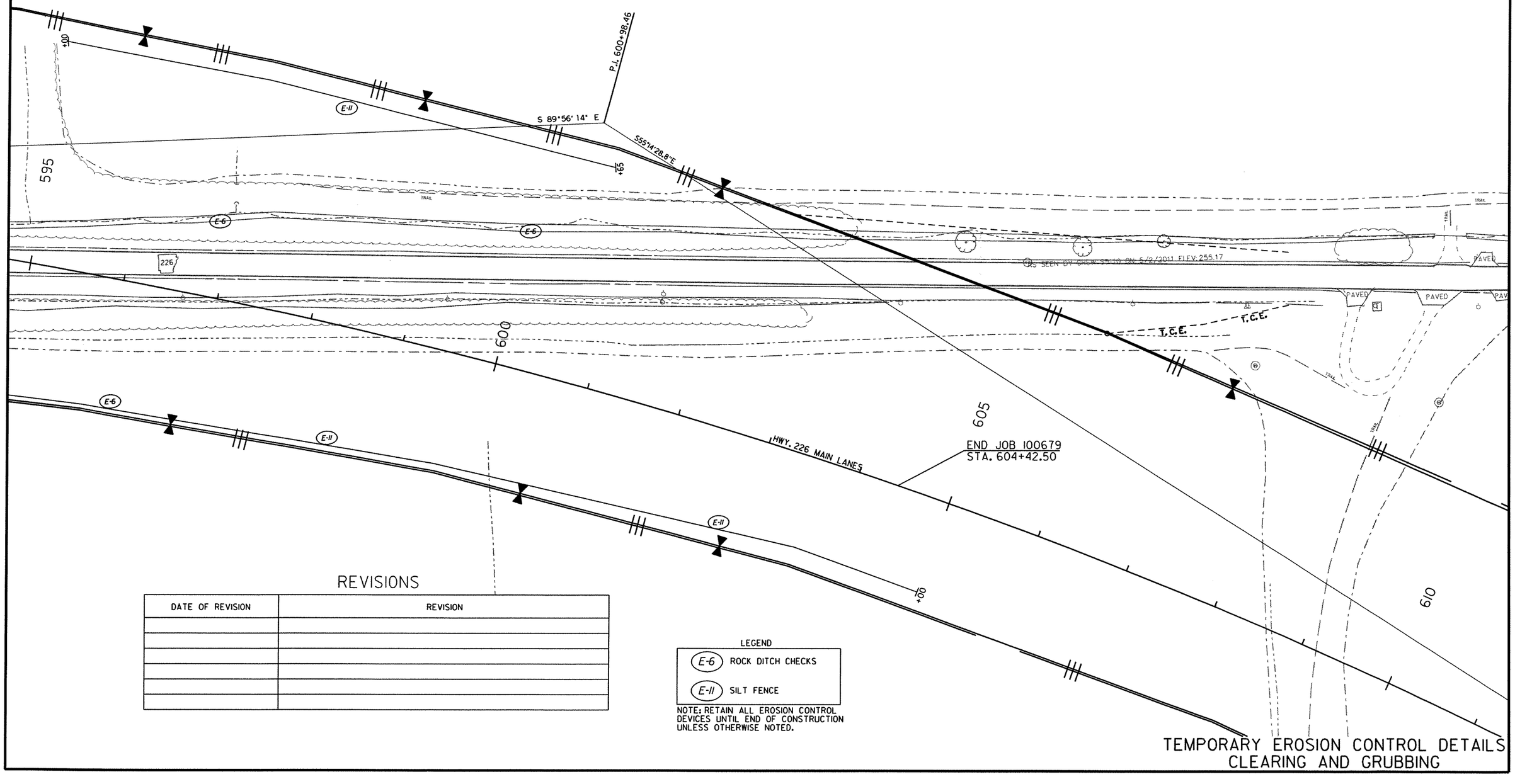
6/12/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	30	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-11	SILT FENCE

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

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

6/12/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	31	252

(2) TEMPORARY EROSION CONTROL DETAILS

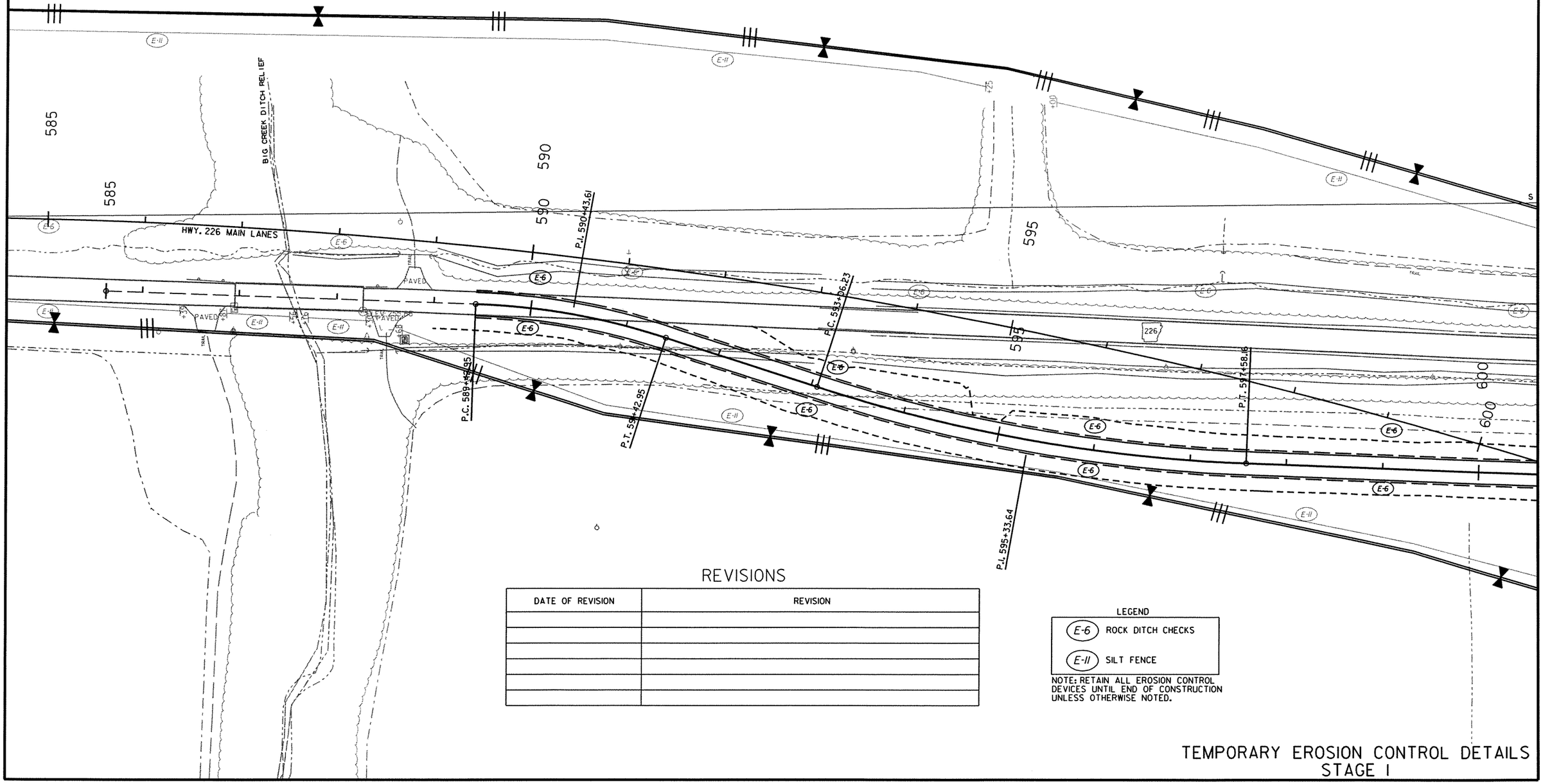
TEMPORARY EROSION CONTROL QUANTITIES

STAGE 1

ROCK DITCH CHECKS = 36 CU.YD.
DROP INLET SILT FENCE = 224 LIN.FT.
SEDIMENT BASIN = 1008 CU.YD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7606
MICHAEL D. PUGETT
7/25/12

N



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

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

6/12/2012

R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE I

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	32	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

P.I. 600+98.46
S 89°56' 14" E
S55°14'28.8"E
P.C. 604+70.88
P.T. 603+70.88
P.I. 607+29.88
P.C. 606+29.22
P.T. 608+29.22
T.C.E.
P.I. 602+71.53
HWY. 226 MAIN LANES
END JOB 100679
STA. 604+42.50
600
605
610
E-6
E-11
PAVED
TRAIL

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

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

TEMPORARY EROSION CONTROL DETAILS
STAGE I

R100679.DGN 6/12/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	33	252

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES

STAGE 2

ROCK DITCH CHECKS = 324 CU.YD.
SEDIMENT BASIN = 250 CU.YD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

BEGIN JOB 100679
STA. 438+50

PARKING

S 89°45' 11" E HWY. 226 MAIN LANES

R=10'

WESTERN M.O.T. CROSSOVER

PAVED

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

WESTERN M.O.T. CROSSOVER

370 CU. YD.

P.I. 453+82.03
Δ= 0°15'25"

S 89°45' 11" E HWY. 226 MAIN LANES N 89°59' 24" E

6/12/2012

R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	34	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

460 465 470 475

E-6 E-7 E-11 E-14

370 CU. YD.

30'

96'

HWY. 226 MAIN LANES

N 89°59'24" E

N 12°00'00" W

P.T. 12+64.98

P.I. 12+23.29

P.C. 11+80.72

CRAIGHEAD COUNTY 233

53

-13.35

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

EMERSON DITCH

268 CU. YD.

480 485 490

16'

96'

N 89°59'24" E

HWY. 226 MAIN LANES

PAVED

P.T. 12+64.98

P.C. 11+80.72

6/12/2012

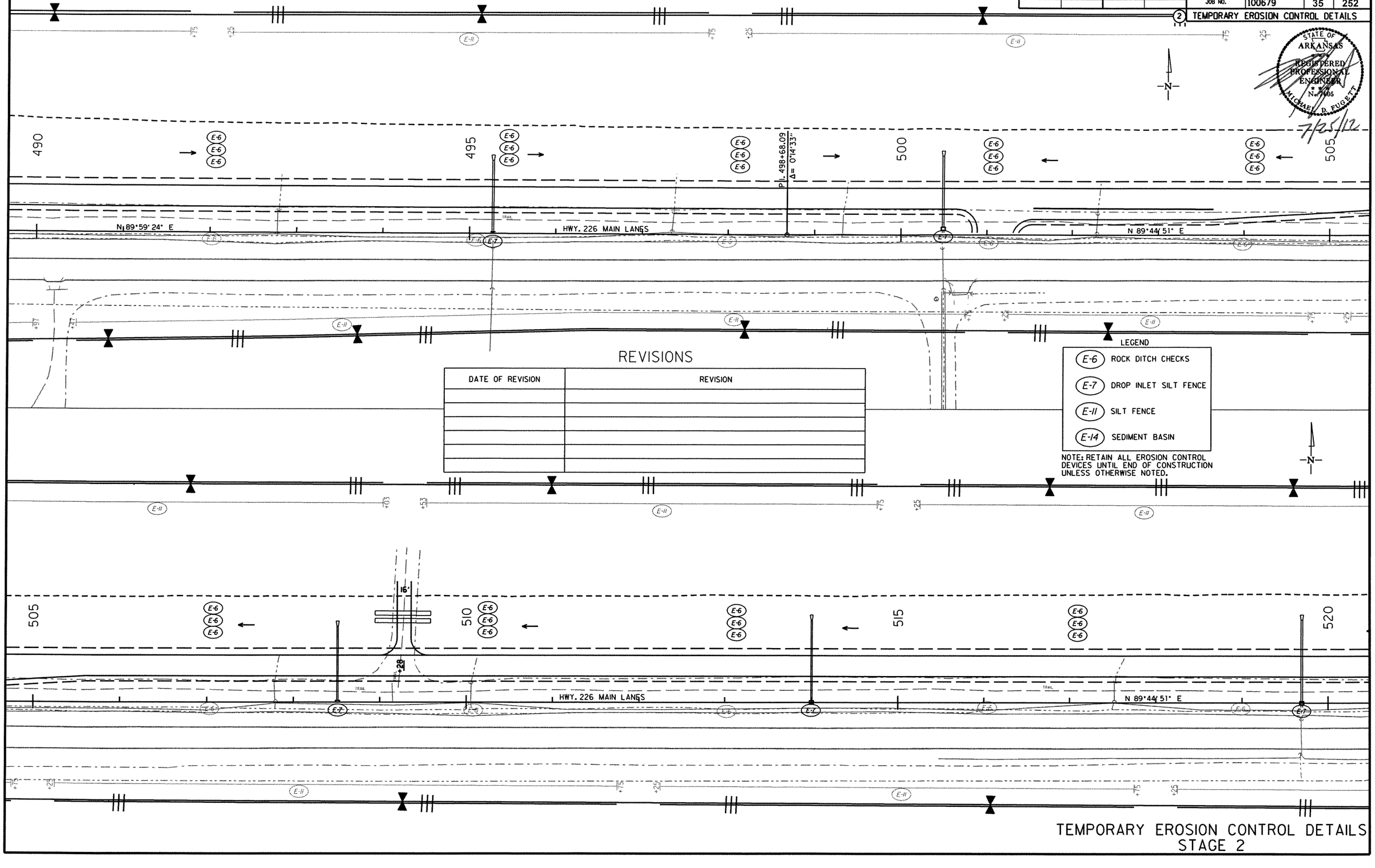
R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	35	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14005
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-7) DROP INLET SILT FENCE
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

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

6/12/2012

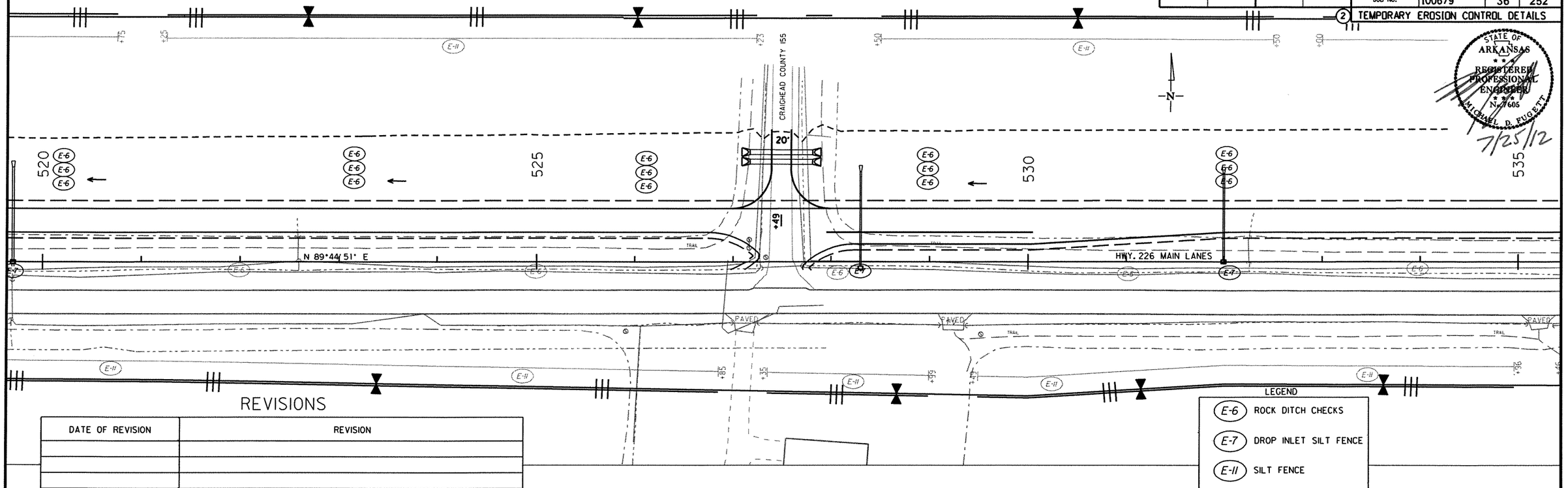
R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	36	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12



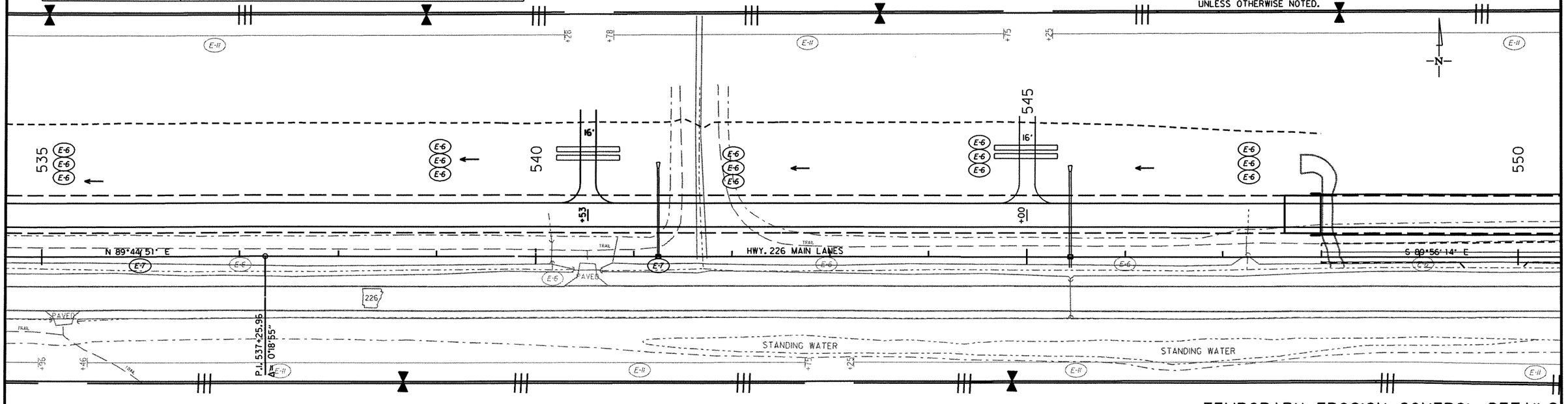
REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-7) DROP INLET SILT FENCE
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

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



6/12/2012

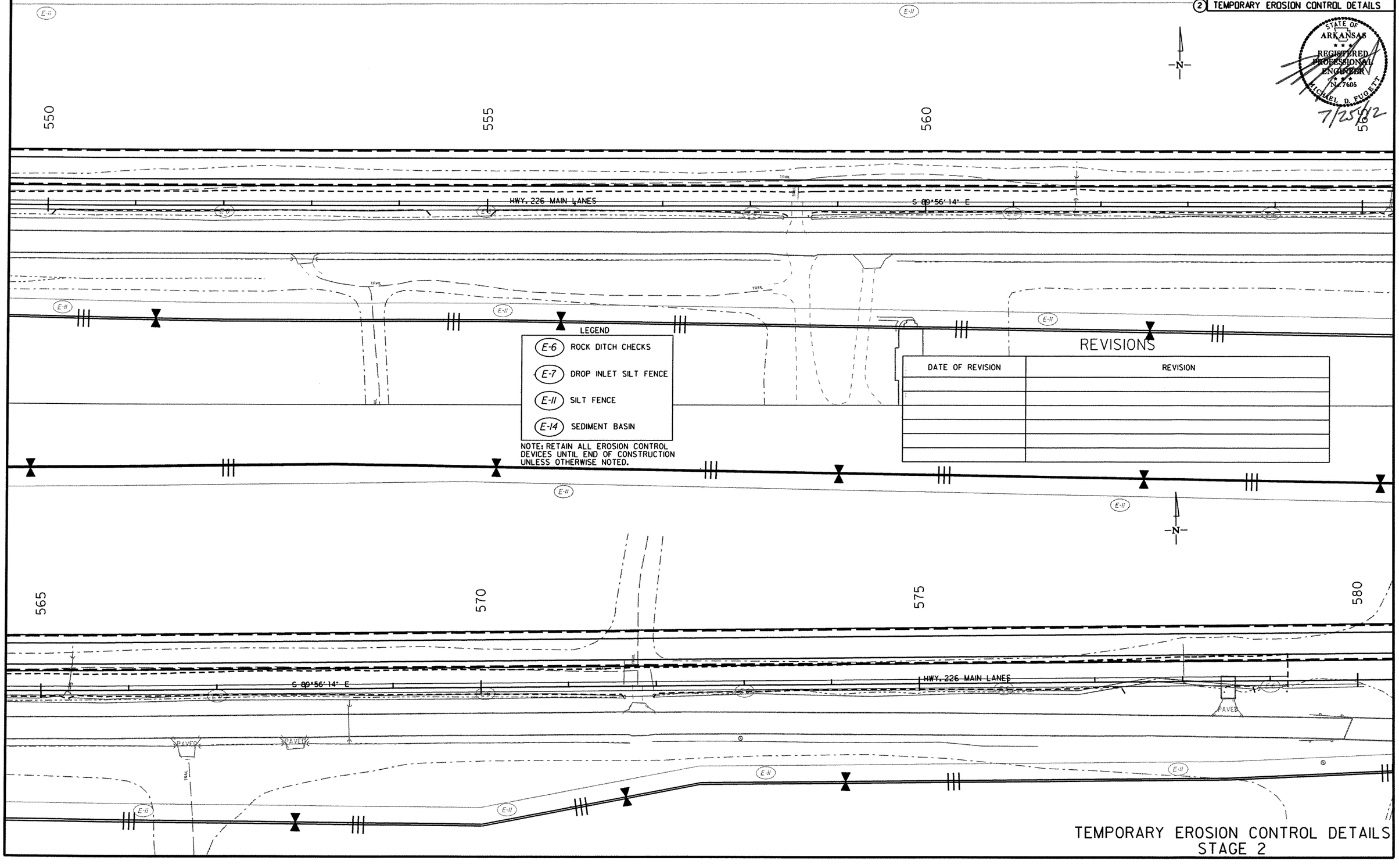
R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	37	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N.7605
MICHAEL D. FUGETT
7/25/12



LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

REVISIONS

DATE OF REVISION	REVISION

6/12/2012

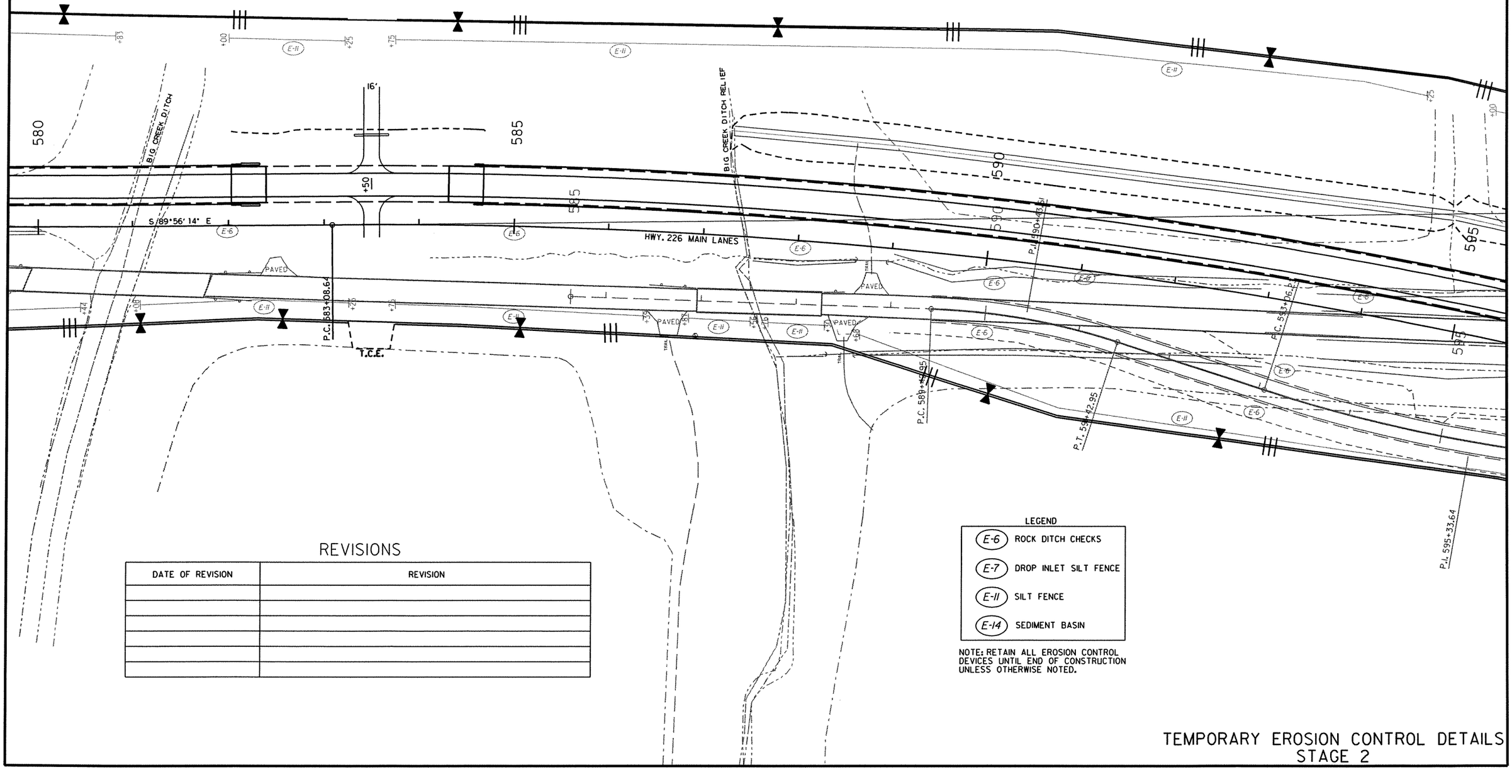
R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	38	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
E-14	SEDIMENT BASIN

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

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

6/12/2012

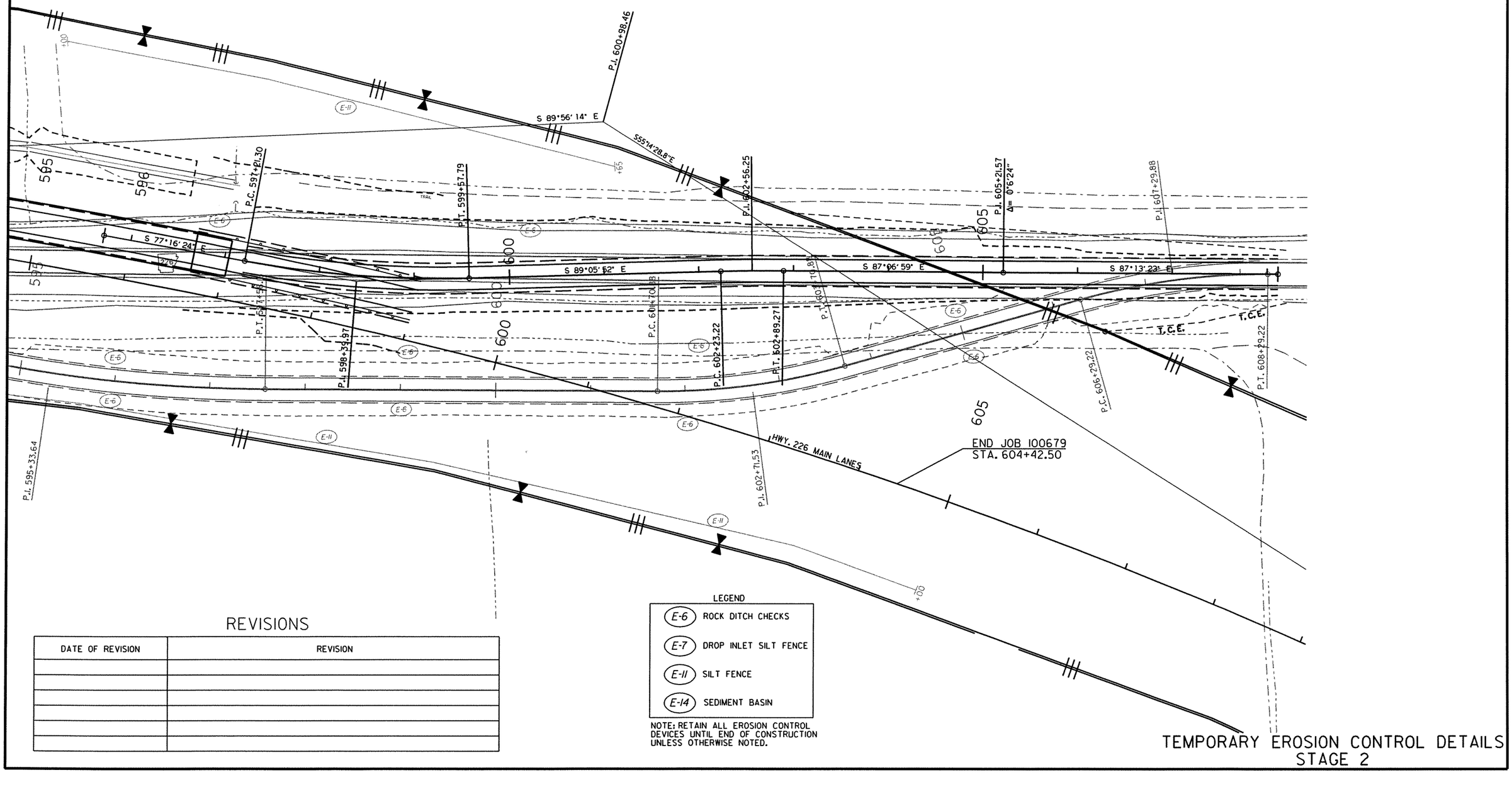
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100679	39	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
E-14	SEDIMENT BASIN

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

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

6/12/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	40	252

(2) TEMPORARY EROSION CONTROL DETAILS

TEMPORARY EROSION CONTROL QUANTITIES

STAGE 3

ROCK DITCH CHECKS = 222 CU.YD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

BEGIN JOB 100679
STA. 438+50

S 89°45' 11" E HWY. 226 MAIN LANES

N 89°59' 24" E

P.I. 453+82.03
Δ= 0°15'25"

370 CU. YD.

LEGEND

E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
E-14	SEDIMENT BASIN

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

REVISIONS

DATE OF REVISION	REVISION

6/12/2012

R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	41	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

460 465 470 475 480 485 490

HWY. 226 MAIN LANES

N 89°59'24" E

370 CU. YD.

185 CU. YD.

268 CU. YD.

65 CU. YD.

P.I. 12+64.38

P.I. 12+23.29

P.I. 10+90.18

P.O.T. 13+35

32.80'

EMERSON DITCH

CRAIGHEAD COUNTY

PAVED

40'

16'

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

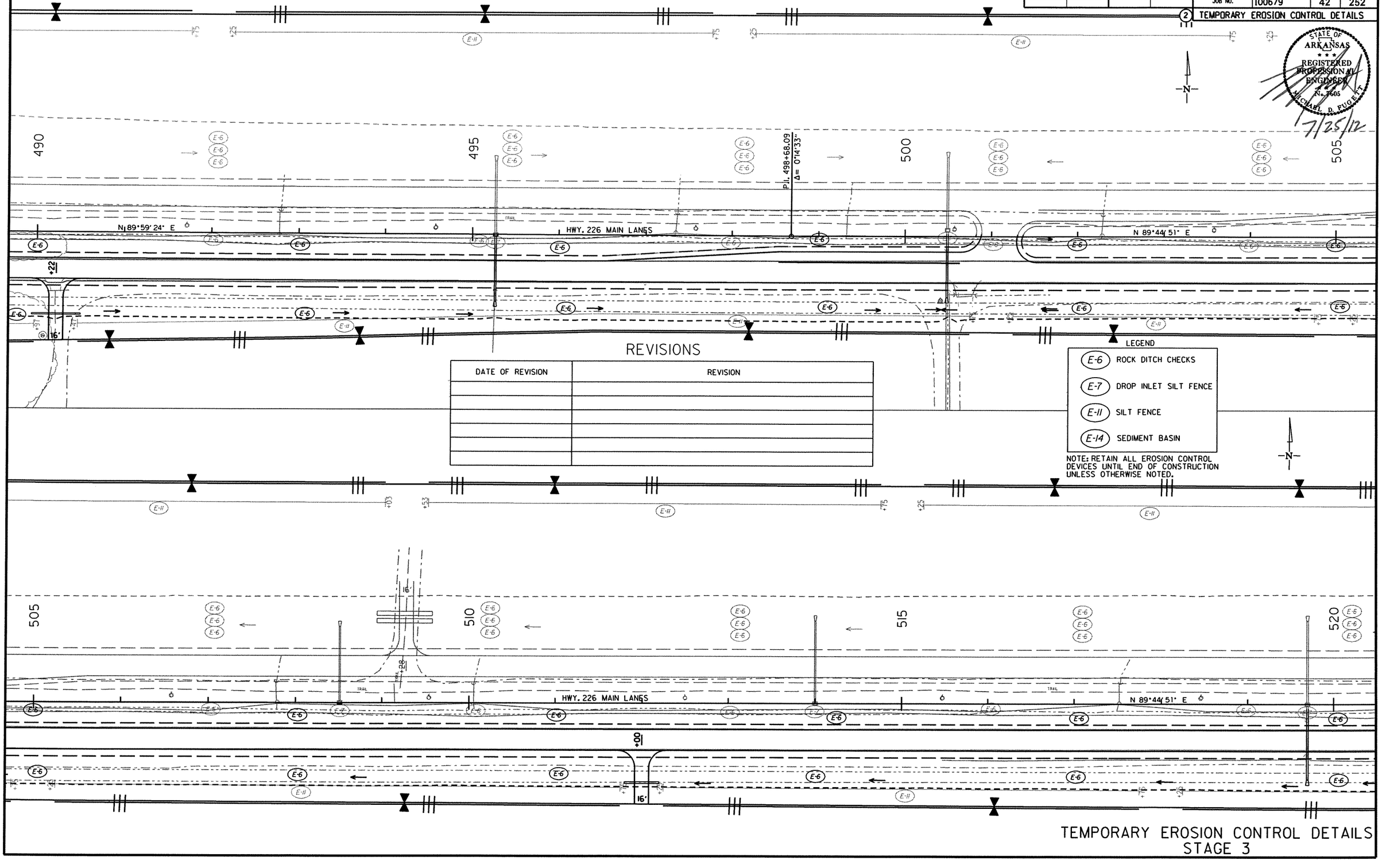
6/12/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	42	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

6/12/2012

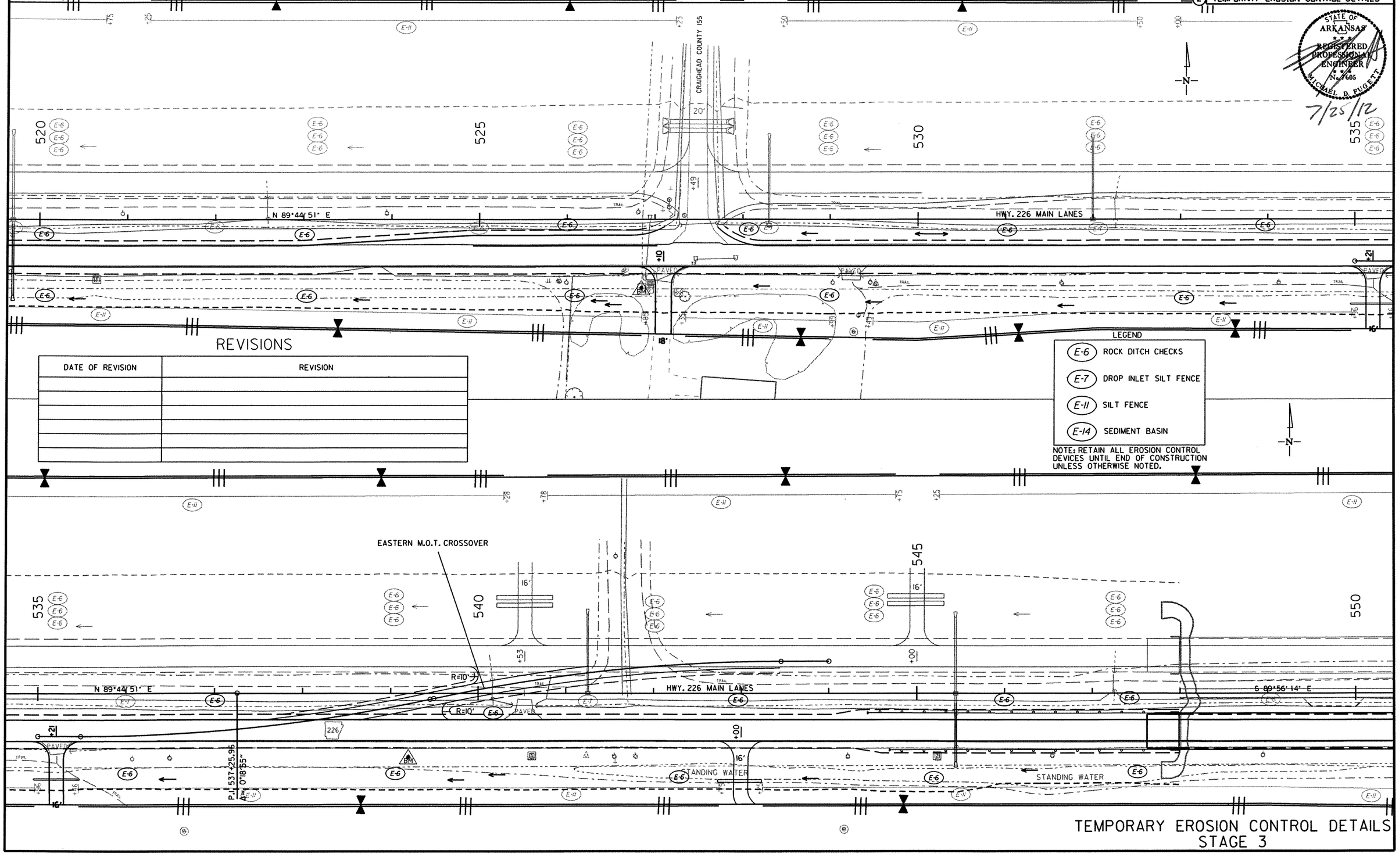
R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	43	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

6/12/2012

R100679.DGN

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	44	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

550 555 560

HWY. 226 MAIN LANES

S 89°56'14" E

TRAIL

BM

E-11

BASIN CHAIN

565 570 575 580

S 89°56'14" E

HWY. 226 MAIN LANES

PAVED

BM

TRAIL

LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

REVISIONS

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

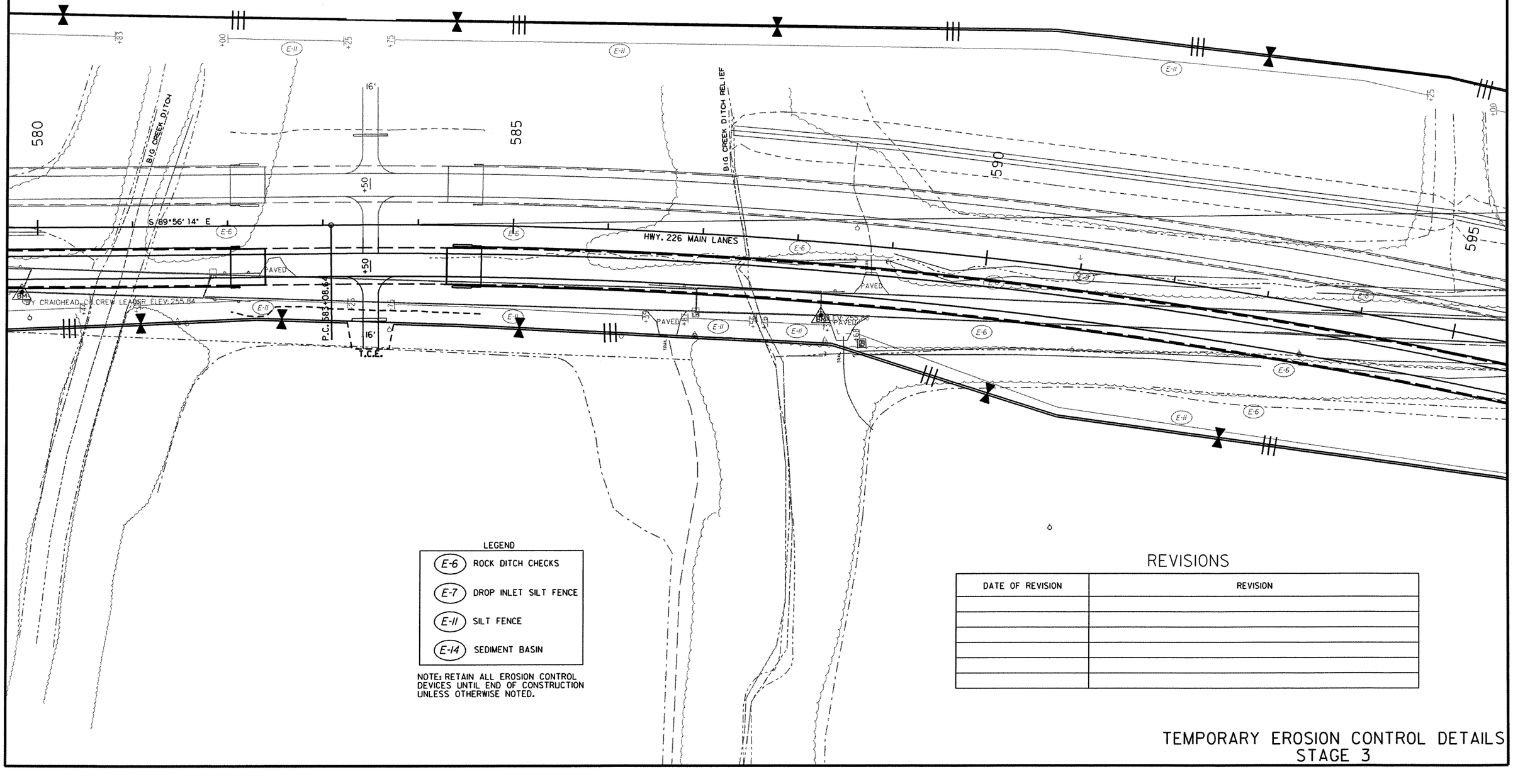
6/12/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	45	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



LEGEND

E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
E-14	SEDIMENT BASIN

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

REVISIONS

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

6/12/2012
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	46	252

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

P.I. 600+98.46
S 89°56' 14" E
S55°14'28.8"E
595
596
P.C. 597+21.30
S 77°16' 24" E
P.T. 598+59.87
P.C. 599+57.79
600
S 89°05' 52" E
P.I. 602+56.25
P.C. 602+23.22
P.T. 602+89.21
S 87°06' 59" E
605
P.I. 605+21.57
Δ= 0°6'24"
AS SEEN BY CREW SSTUD ON 5/27/2011 ELEV=256.17
S 87°13' 23" E
PAVED
T.C.E.
HWY. 226 MAIN LANES
END JOB 100679
STA. 604+42.50
610
E-6
E-7
E-11
E-14
TRAIL

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE
- E-14 SEDIMENT BASIN

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

TEMPORARY EROSION CONTROL DETAILS
STAGE 3

6/12/2012

R100679.DGN

SEQUENCE OF CONSTRUCTION NOTES:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING LANES. CONSTRUCT DETOUR ROAD STATION 589+42.95 TO STATION 608+29.22.

STAGE 2: SHIFT TRAFFIC TO STAGE 1 DETOUR ROAD. CONSTRUCT PROPOSED WESTBOUND BRIDGES, PROPOSED WESTBOUND LANES, AND DETOUR STATION 597+21.30 TO STATION 608+11.30.

STAGE 2B: CONSTRUCT TEMPORARY CROSSING STATION 433+50 TO STATION 447+00.

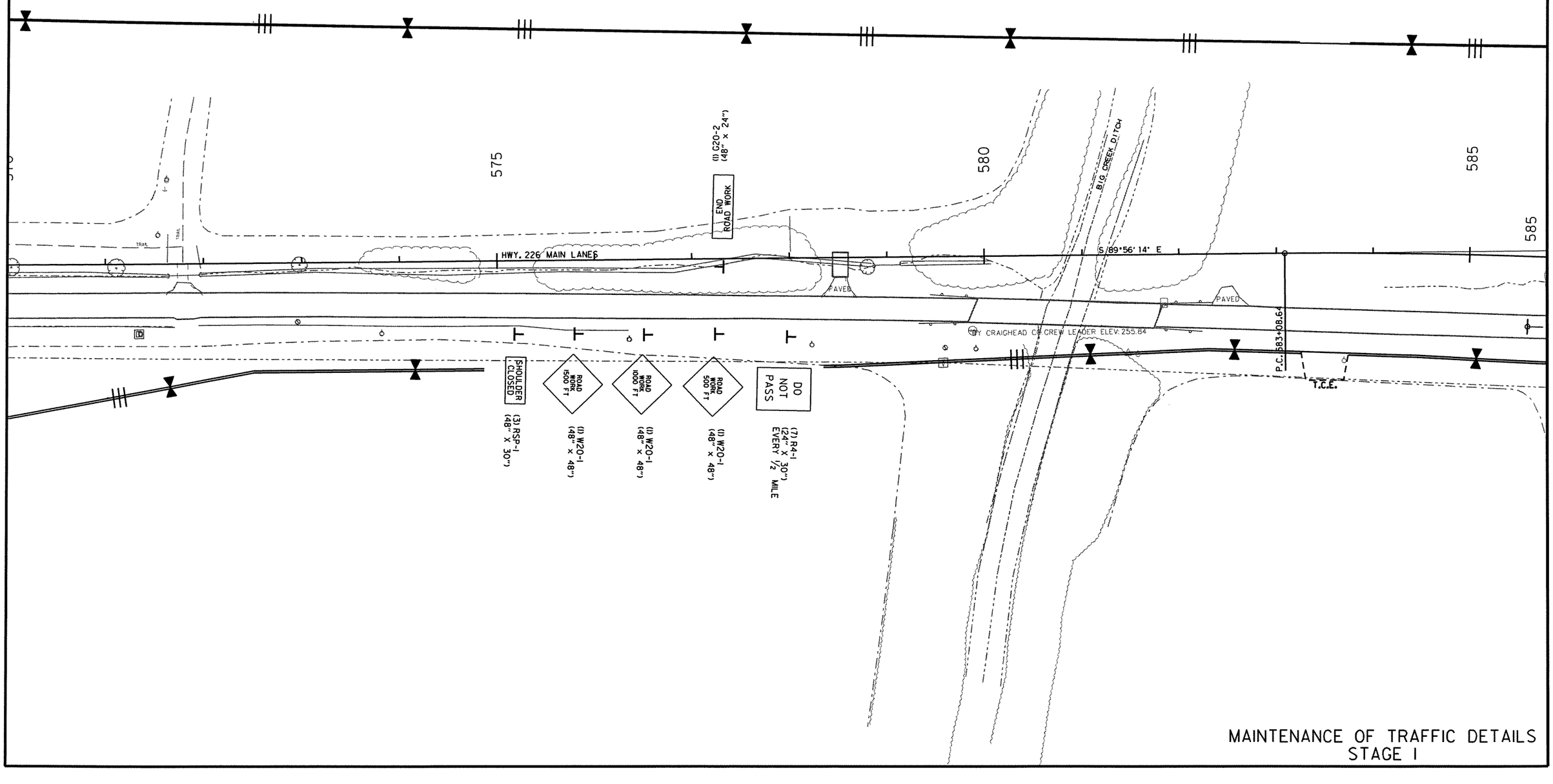
STAGE 3: SHIFT TRAFFIC TO PROPOSED WESTBOUND LANES. CONSTRUCT PROPOSED EASTBOUND LANES AND EASTBOUND BRIDGES.

STAGE 3B: CONSTRUCT TEMPORARY CROSSING STATION 535+00 TO STATION 543+50. SHIFT EASTBOUND TRAFFIC TO PROPOSED WESTBOUND LANES AT STATION 535+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.		100679	47	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
M.7605
MICHAEL D. FUGETT
7/25/12



MAINTENANCE OF TRAFFIC DETAILS
STAGE 1

R100679.DGN 7/23/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	48	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7603
MICHAEL D. FUGETT
7/25/12

N

585
585
590
590
595
595
600
600

B.I.G. CREEK DITCH RELIEF

HWY. 226 MAIN LANES

P.I. 590+43.61

P.C. 589+42.95

P.T. 591+58.16

P.C. 593+06.23

P.I. 595+33.64

ROAD CLOSED

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

16' BARR. TYP. III RT.

24 TRAFFIC DRUMS 45' O.C.

DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKINGS

WHITE CONSTRUCTION PAVEMENT MARKINGS

PAVED

TRAIL

226

S

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

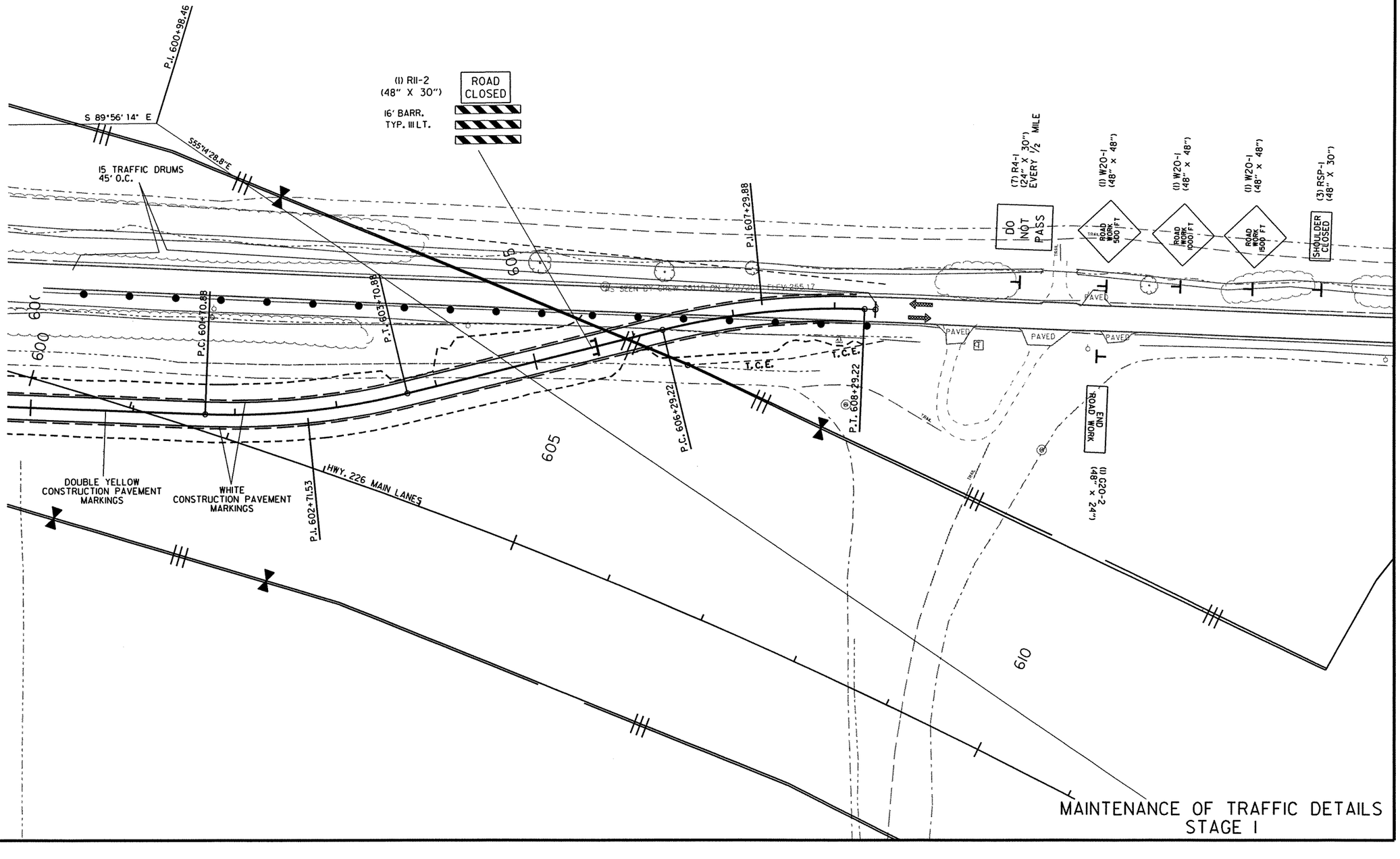
R100679.DGN 7/23/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	49	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

CONSTRUCTION PAVEMENT MARKINGS = 1949 LIN.FT.

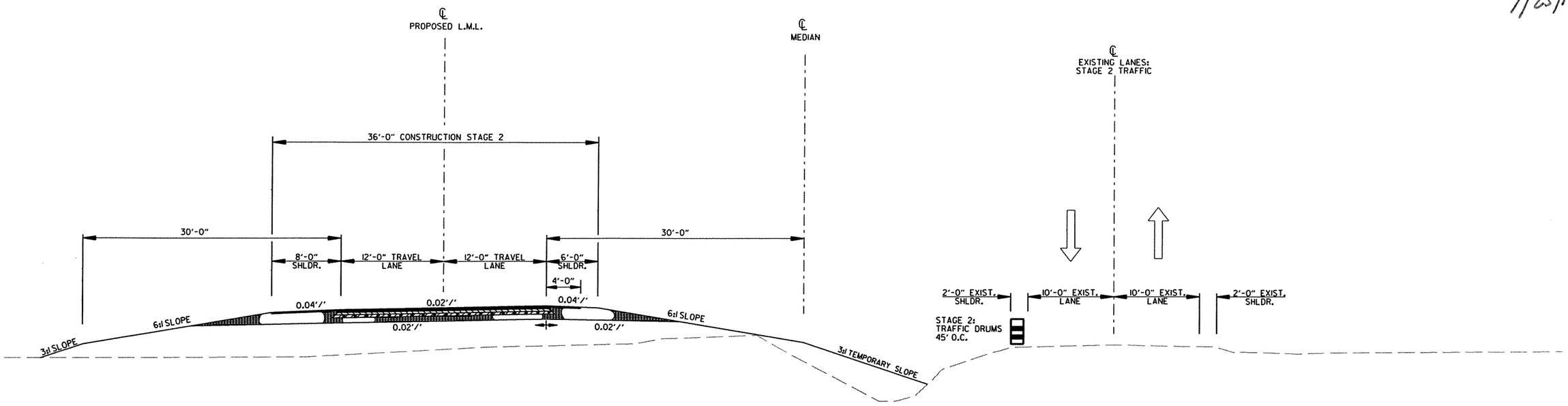


MAINTENANCE OF TRAFFIC DETAILS
STAGE I

R100679.DGN 7/23/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	50	252

(2) MAINTENANCE OF TRAFFIC DETAILS



HWY. 226 - 4 LANE DIVIDED
STAGE 2 CONSTRUCTION

NOTE:
REFER TO MAINTENANCE OF TRAFFIC PLANS FOR PLACEMENT OF TRAFFIC DRUMS. SPACING WILL VARY AT DRIVEWAYS.

SEQUENCE OF CONSTRUCTION NOTES:

STAGE 2: SHIFT TRAFFIC TO STAGE 1 DETOUR ROAD. CONSTRUCT PROPOSED WESTBOUND BRIDGES, PROPOSED WESTBOUND LANES, AND DETOUR STATION 597+21.30 TO STATION 608+11.30.

R100679.DGN 7/23/2012

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

SEQUENCE OF CONSTRUCTION NOTES:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING LANES. CONSTRUCT DETOUR ROAD STATION 589+42.95 TO STATION 608+29.22.

STAGE 2: SHIFT TRAFFIC TO STAGE 1 DETOUR ROAD. CONSTRUCT PROPOSED WESTBOUND BRIDGES, PROPOSED WESTBOUND LANES, AND DETOUR STATION 597+21.30 TO STATION 608+11.30.

STAGE 2B: CONSTRUCT TEMPORARY CROSSING STATION 433+50 TO STATION 447+00.

STAGE 3: SHIFT TRAFFIC TO PROPOSED WESTBOUND LANES. CONSTRUCT PROPOSED EASTBOUND LANES AND EASTBOUND BRIDGES.

STAGE 3B: CONSTRUCT TEMPORARY CROSSING STATION 535+00 TO STATION 543+50. SHIFT EASTBOUND TRAFFIC TO PROPOSED WESTBOUND LANES AT STATION 535+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.		100679	51	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

430 435 440 445 450 455 460

(1) G20-2 (48" x 24")
END ROAD WORK
PARKING
TRAIL
S 89°45' 11" E
HWY. 226 MAIN LANES
PAVED
SHOULDER CLOSED
(3) RSP-1 (48" X 30")
ROAD WORK 1500 FT
(1) W20-1 (48" x 48")
ROAD WORK 1000 FT
(1) W20-1 (48" x 48")
ROAD WORK 500 FT
(1) W20-1 (48" x 48")
DO NOT PASS
(1) R4-1 (24" X 30")
5 TRAFFIC DRUMS 25' O.C.
11 TRAFFIC DRUMS 45' O.C.
5 TRAFFIC DRUMS 25' O.C.

ROAD CLOSED
(1) R11-2 (48" X 30")
16' BARR. TYP. III RT.
16' BARR. TYP. III LT.
DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
P.I. 453+82.03
Δ= 0°15'25"
(3) OM-3L (12"X 36")
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 173 LIN.FT. INCLUDES (1) SPECIAL END UNIT
(4) OM-3R (12"X 36")
TEMPORARY IMPACT ATTENUATION BARRIER
S 89°45' 11" E
HWY. 226 MAIN LANES
N 89°59' 24" E
5 TRAFFIC DRUMS 25' O.C.
12 TRAFFIC DRUMS 45' O.C.
5 TRAFFIC DRUMS 25' O.C.
4 TRAFFIC DRUMS 45' O.C.
6 TRAFFIC DRUMS 45' O.C.

MAINTENANCE OF TRAFFIC DETAILS STAGE 2

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	52	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FIGGETT
7/25/12

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 173 LIN.FT. INCLUDES (1) SPECIAL END UNIT

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

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

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

(3) OM-3L (12"X 36")

(4) OM-3R (12"X 36")

460 465 470

TEMPORARY IMPACT ATTENUATION BARRIER

HWY. 226 MAIN LANES

N 89°59'24" E

N 0°00'21" W

30'

16'

(3) OM-3L (12"X 36")

P.T. 12+64.98

P.I. 12+23.29

P.C. 11+80.72

16 TRAFFIC DRUMS 20' O.C.

12 TRAFFIC DRUMS 45' O.C.

13 TRAFFIC DRUMS 45' O.C.

CRAIGHEAD COUNTY 23

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 253 LIN.FT. INCLUDES (1) SPECIAL END UNIT

(4) OM-3R (12"X 36")

EMERSON DITCH

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

7 TRAFFIC DRUMS 45' O.C.

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

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

480 485 490

HWY. 226 MAIN LANES

N 89°59'24" E

16'

P.I. 12+64.98

P.C. 11+80.72

TEMPORARY IMPACT ATTENUATION BARRIER

12 TRAFFIC DRUMS 45' O.C.

5 TRAFFIC DRUMS 25' O.C.

PAVED

TYP. ASPHALT

19 TRAFFIC DRUMS 20' O.C.

5 TRAFFIC DRUMS 25' O.C.

3 TRAFFIC DRUMS 45' O.C.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

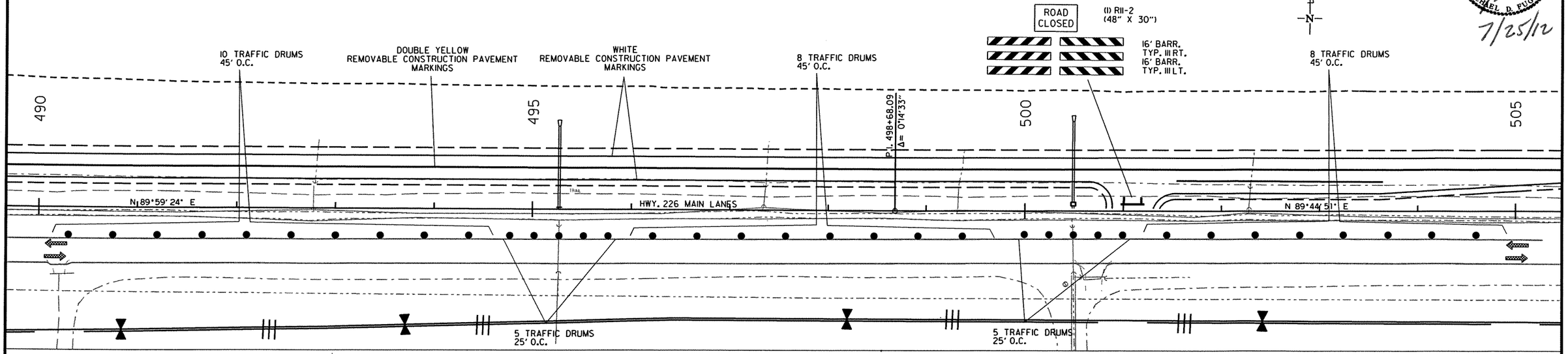
7/23/2012

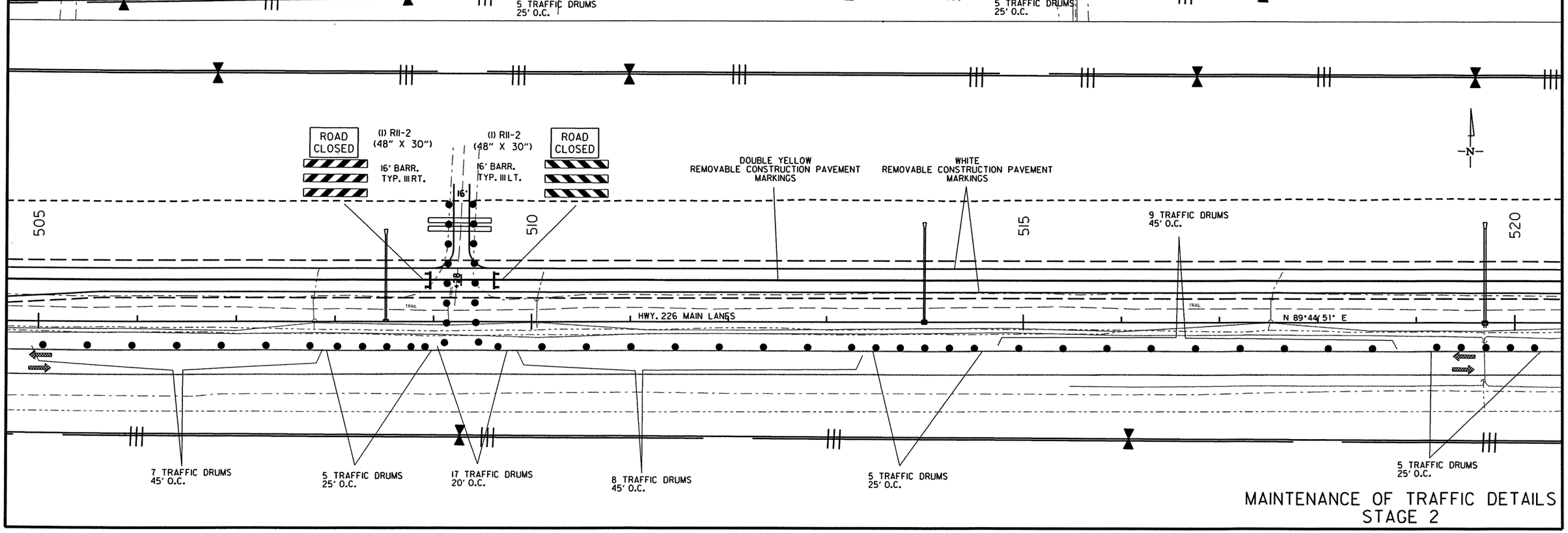
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	53	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. FUGETT
7/25/12





MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	54	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
NO. 7605
7/25/12

ROAD CLOSED
(1) R11-2 (48" X 30")
16' BARR. TYP. III RT.
(1) W20-1 (48" X 48") ROAD WORK AHEAD
CRAIGHEAD COUNTY 155
END ROAD WORK
(1) G20-2 (48" x 24")
(1) R11-2 (48" X 30")
16' BARR. TYP. III LT.
ROAD CLOSED

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

520 525 530 535

20' 16'

N 89°44'51" E

HWY. 226 MAIN LANES

PAVED TRAIL

15 TRAFFIC DRUMS 45' O.C.
17 TRAFFIC DRUMS 20' O.C.
5 TRAFFIC DRUMS 25' O.C.
5 TRAFFIC DRUMS 45' O.C.
5 TRAFFIC DRUMS 25' O.C.
5 TRAFFIC DRUMS 45' O.C.

535 540 545 550

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

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER = 53 LIN.FT. INCLUDES (1) SPECIAL END UNIT

(3) OM-3L (12"X 36") LEFT IN PLACE
(4) OM-3R (12"X 36") LEFT IN PLACE

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

N 89°44'51" E
HWY. 226 MAIN LANES
S 89°56'14" E

P.I. 537+25.96
Δ= 0°18'55"

STANDING WATER
STANDING WATER

11 TRAFFIC DRUMS 45' O.C.
19 TRAFFIC DRUMS 20' O.C.
5 TRAFFIC DRUMS 25' O.C.
5 TRAFFIC DRUMS 45' O.C.
19 TRAFFIC DRUMS 20' O.C.
3 TRAFFIC DRUMS 25' O.C.
5 TRAFFIC DRUMS 45' O.C.

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER = 193 LIN.FT. INCLUDES (1) SPECIAL END UNIT

MAINTENANCE OF TRAFFIC DETAILS STAGE 2

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	55	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/25/12

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

550 555 560 565

HWY. 226 MAIN LANES

S 89°56'14" E

TRAIL

34 TRAFFIC DRUMS 45' O.C.

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

565 570 575 580

S 89°56'14" E

HWY. 226 MAIN LANES

PAVED

PAVED

TRAIL

34 TRAFFIC DRUMS 45' O.C.

7/23/2012

R100679.DGN

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	56	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
N. 7605
MICHAEL D. FUGETT
7/25/12

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER = 53 LIN.FT. INCLUDES (1) SPECIAL END UNIT

ROAD CLOSED

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

16' BARR. TYP. III RT.

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

16' BARR. TYP. III LT.

ROAD CLOSED

(3) OM-3L (12"X 36") LEFT IN PLACE

WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

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

(1) WI-6 (48" X 24")

16' BARR. TYP. III LT.

ROAD CLOSED

580

585

590

595

BIG CREEK DITCH

BIG CREEK DITCH RELIEF

S 89°56' 14" E

HWY. 226 MAIN LANES

PAVED

TRAIL

P.C. 583+08.64

T.C.E.

P.I. 590+43.51

P.C. 593+16.21

P.C. 589+42.95

P.T. 590+42.95

P.I. 595+33.64

(4) OM-3R (12"X 36") LEFT IN PLACE

3 TRAFFIC DRUMS 45' O.C.

22 TRAFFIC DRUMS 20' O.C.

6 TRAFFIC DRUMS 45' O.C.

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER = 53 LIN.FT. INCLUDES (1) SPECIAL END UNIT

(1) W13-1 (18" X 18")

(1) WI-40R (48" X 48")

12 TRAFFIC DRUMS 45' O.C.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	57	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER = 193 LIN.FT. INCLUDES (1) SPECIAL END UNIT

(4) OM-3R (12"X 36") LEFT IN PLACE

(3) OM-3L (12"X 36") LEFT IN PLACE

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER = 53 LIN.FT. INCLUDES (1) SPECIAL END UNIT

29 TRAFFIC DRUMS 45' O.C.

DOUBLE YELLOW CONSTRUCTION PAVEMENT MARKINGS

WHITE CONSTRUCTION PAVEMENT MARKINGS

ROAD CLOSED

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

(1) W1-6 (48" X 24")

16' BARR. TYP. III RT.

P.I. 600+98.46
S 89°56' 14" E
S55°14'28.8"E
P.C. 591+21.30
P.T. 599+57.79
P.I. 602+56.25
P.I. 605+21.57
Δ= 0°6'24"
P.I. 601+29.88
S 77°16' 24" E
S 89°05' 52" E
S 87°06' 59" E
S 87°13' 23" E
P.I. 598+39.97
P.C. 601+10.88
P.C. 602+23.22
P.I. 602+89.27
P.I. 601+18.95
P.C. 606+29.22
P.I. 608+29.22
P.I. 595+33.64
P.I. 602+71.53
HWY. 226 MAIN LANES
PAVED
T.C.E.
595
596
597
598
599
600
601
602
603
604
605

7/23/2012

R100679.DGN

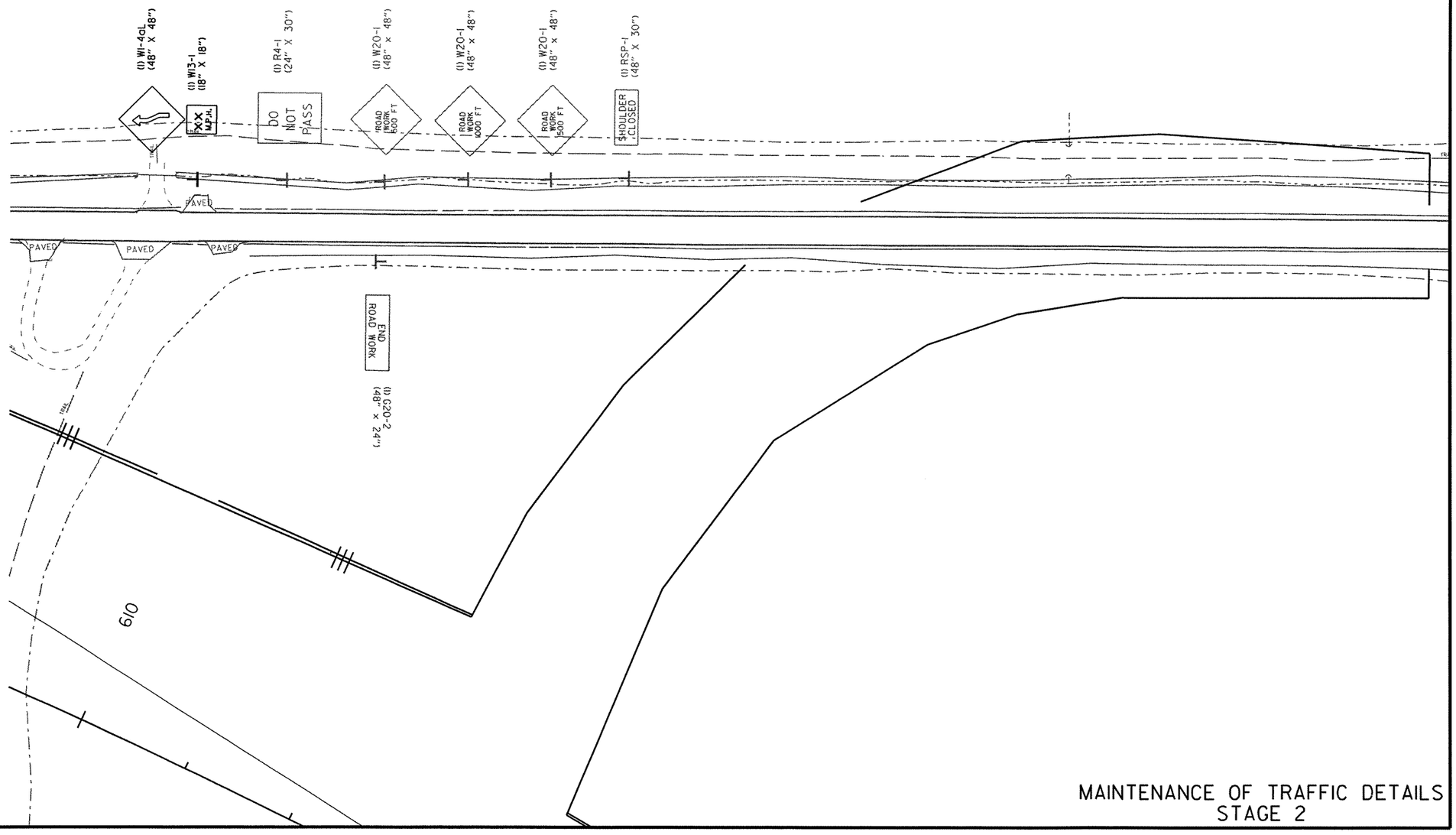
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	58	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14605
MICHAEL D. FUGETT
7/25/12

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 64445 LIN.FT.



MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

7/23/2012
R100679.DGN

SEQUENCE OF CONSTRUCTION NOTES:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING LANES. CONSTRUCT DETOUR ROAD STATION 589+42.95 TO STATION 608+29.22.

STAGE 2: SHIFT TRAFFIC TO STAGE 1 DETOUR ROAD. CONSTRUCT PROPOSED WESTBOUND BRIDGES, PROPOSED WESTBOUND LANES, AND DETOUR STATION 597+21.30 TO STATION 608+11.30.

STAGE 2B: CONSTRUCT TEMPORARY CROSSING STATION 433+50 TO STATION 447+00.

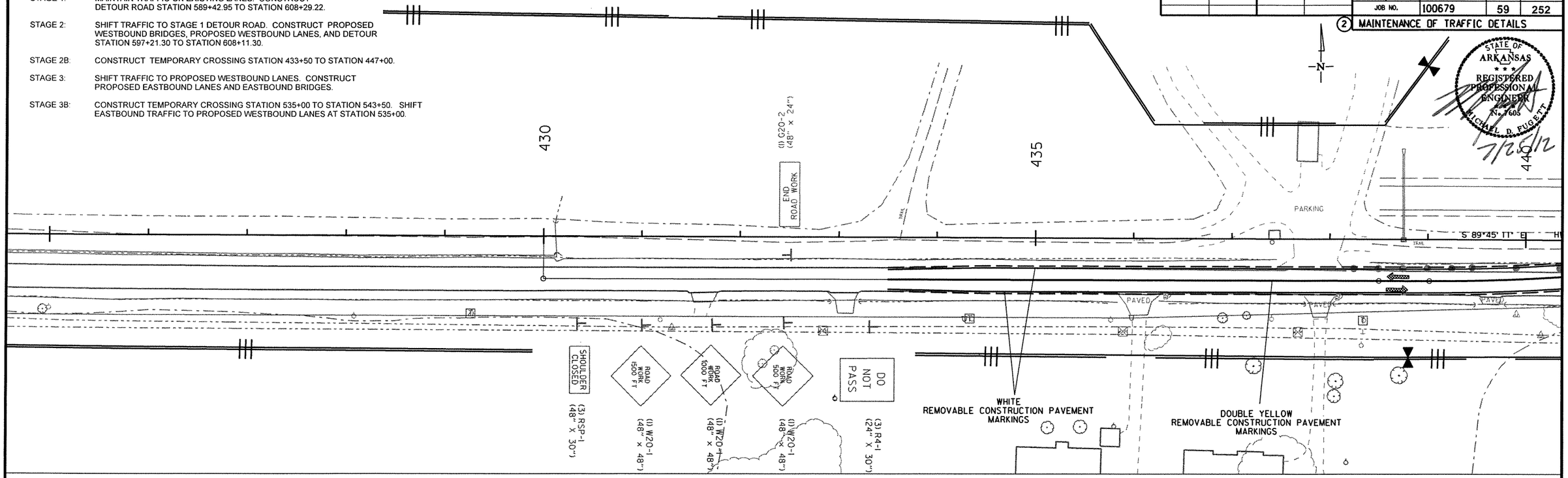
STAGE 3: SHIFT TRAFFIC TO PROPOSED WESTBOUND LANES. CONSTRUCT PROPOSED EASTBOUND LANES AND EASTBOUND BRIDGES.

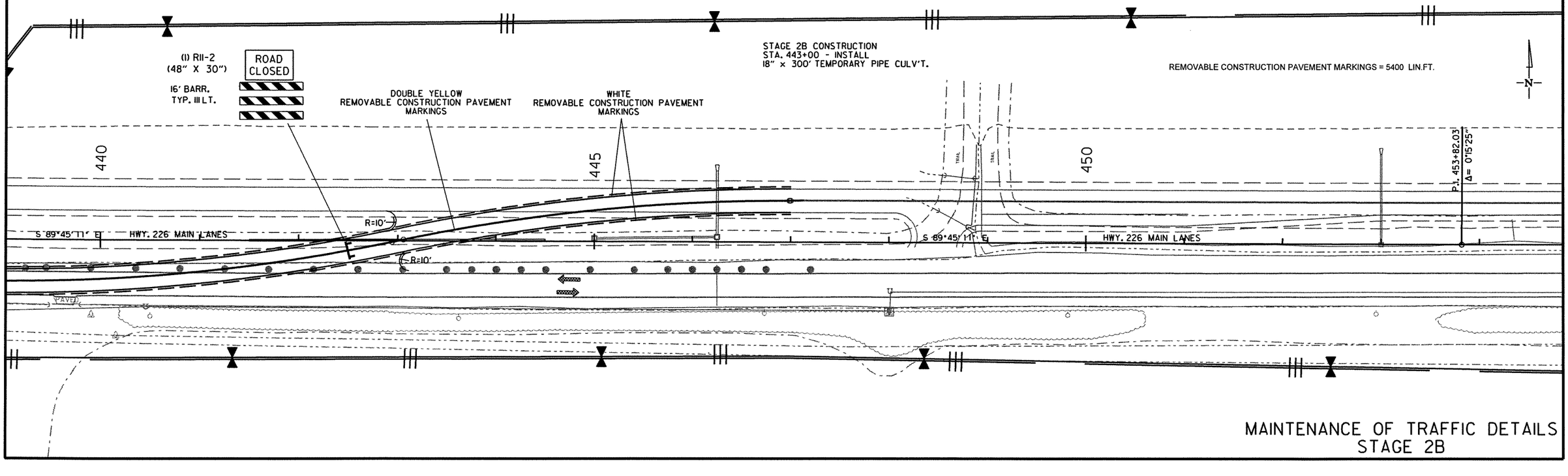
STAGE 3B: CONSTRUCT TEMPORARY CROSSING STATION 535+00 TO STATION 543+50. SHIFT EASTBOUND TRAFFIC TO PROPOSED WESTBOUND LANES AT STATION 535+00.

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.		100679	59	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. FUGETT
7/26/12





MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

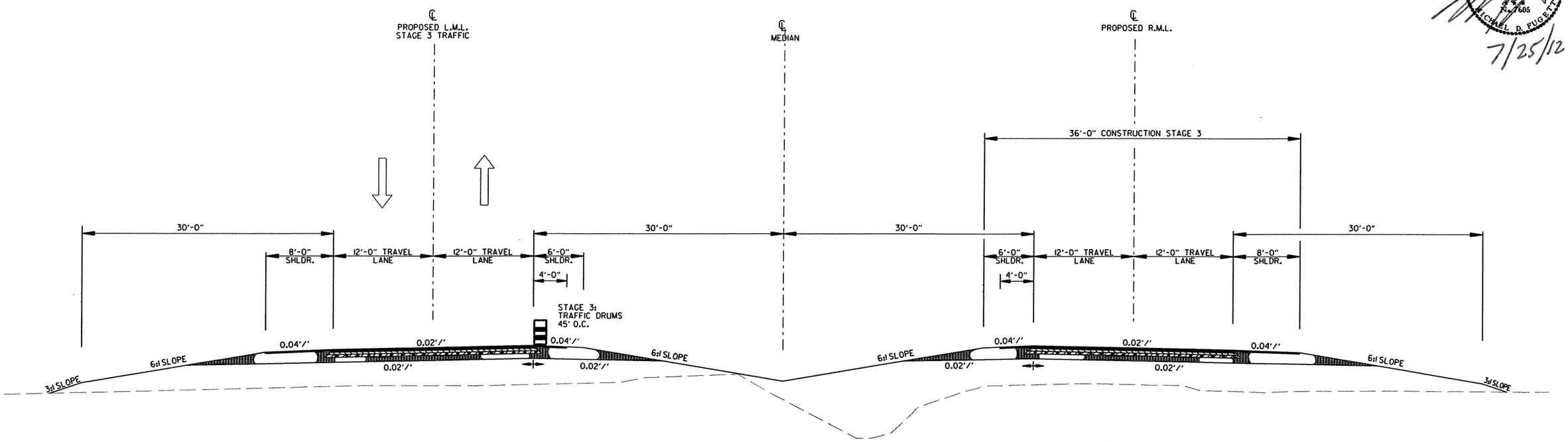
7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	60	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
9605
MICHAEL D. PUGETT
7/25/12



NOTE:
REFER TO MAINTENANCE OF TRAFFIC PLANS FOR PLACEMENT OF TRAFFIC DRUMS. SPACING WILL VARY AT DRIVEWAYS.

HWY. 226 - 4 LANE DIVIDED
STAGE 3 CONSTRUCTION

SEQUENCE OF CONSTRUCTION NOTES:

STAGE 3: SHIFT TRAFFIC TO PROPOSED WESTBOUND LANES. CONSTRUCT PROPOSED EASTBOUND LANES AND EASTBOUND BRIDGES.

7/23/2012

R100679.DGN

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

SEQUENCE OF CONSTRUCTION NOTES:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING LANES. CONSTRUCT DETOUR ROAD STATION 589+42.95 TO STATION 608+29.22.

STAGE 2: SHIFT TRAFFIC TO STAGE 1 DETOUR ROAD. CONSTRUCT PROPOSED WESTBOUND BRIDGES, PROPOSED WESTBOUND LANES, AND DETOUR STATION 597+21.30 TO STATION 608+11.30.

STAGE 2B: CONSTRUCT TEMPORARY CROSSING STATION 433+50 TO STATION 447+00.

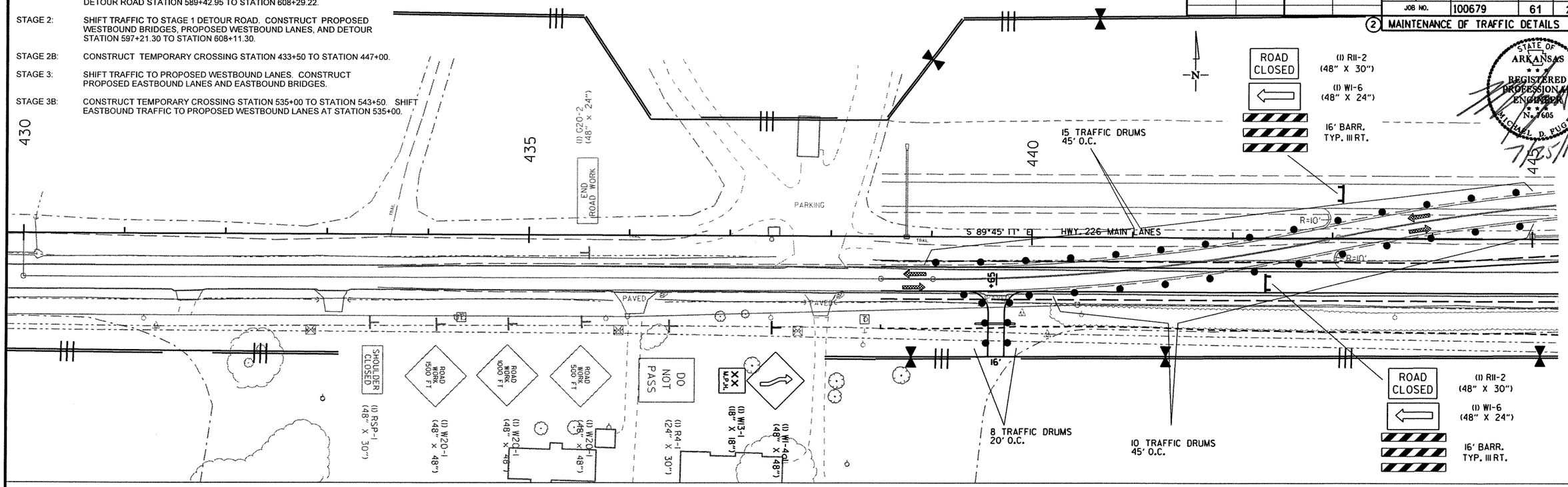
STAGE 3: SHIFT TRAFFIC TO PROPOSED WESTBOUND LANES. CONSTRUCT PROPOSED EASTBOUND LANES AND EASTBOUND BRIDGES.

STAGE 3B: CONSTRUCT TEMPORARY CROSSING STATION 535+00 TO STATION 543+50. SHIFT EASTBOUND TRAFFIC TO PROPOSED WESTBOUND LANES AT STATION 535+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.		100679	61	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	62	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

RELOCATING PRECAST CONCRETE BARRIER = 173 LIN.FT.
INCLUDES (1) SPECIAL END UNIT

TEMPORARY IMPACT ATTENUATION BARRIER

(4) OM-3R
(12"X 36")

(3) OM-3L
(12"X 36")

12 TRAFFIC DRUMS
45' O.C.

13 TRAFFIC DRUMS
45' O.C.

460

465

470

HWY. 226 MAIN LANES

N 89°59'24" E

RELOCATING PRECAST CONCRETE BARRIER = 173 LIN.FT.
INCLUDES (1) SPECIAL END UNIT

TEMPORARY IMPACT ATTENUATION BARRIER

(4) OM-3R
(12"X 36")

20 TRAFFIC DRUMS
20' O.C.

-N-

30'

M 12+00.00 BL

20'

P.I. 12+64.98

P.I. 12+23.29

P.C. 11+60.78

CRASH ATTENUATOR

N 13°13'45" W

32.80

P.I. 10+8

(1) W20-2
(48" X 24")

ROAD WORK END

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

16' BARR.
TYP. III LT.

ROAD CLOSED

ROAD CLOSED

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

16' BARR.
TYP. III RT.

ROAD WORK AHEAD

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

EMERSON DITCH

(3) OM-3L
(12"X 36")

18 TRAFFIC DRUMS
45' O.C.

475

480

485

490

N 89°59'24" E

HWY. 226 MAIN LANES

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

16' BARR.
TYP. III LT.

ROAD CLOSED

ROAD CLOSED

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

16' BARR.
TYP. III RT.

18 TRAFFIC DRUMS
20' O.C.

18 TRAFFIC DRUMS
20' O.C.

7 TRAFFIC DRUMS
45' O.C.

-N-

16'

AVG.

40'

16'

16'

P.I. 12+64.98

P.C. 11+60.78

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	63	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9605
MICHAEL D. PUGETT
7/25/12

-N-

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

ROAD CLOSED

ROAD CLOSED

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

8 TRAFFIC DRUMS 45' O.C.

5 TRAFFIC DRUMS 25' O.C.

9 TRAFFIC DRUMS 45' O.C.

5 TRAFFIC DRUMS 25' O.C.

ROAD CLOSED

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

8 TRAFFIC DRUMS 45' O.C.

19 TRAFFIC DRUMS 20' O.C.

490 495 500 505

P.I. 498+68.09
Δ= 0°14'33"

N 89°59' 24" E

HWY. 226 MAIN LANES

N 89°44' 51" E

+22

16'

-N-

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

ROAD CLOSED

ROAD CLOSED

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

14 TRAFFIC DRUMS 45' O.C.

19 TRAFFIC DRUMS 20' O.C.

14 TRAFFIC DRUMS 45' O.C.

5 TRAFFIC DRUMS 25' O.C.

505 510 515 520

+10

16'

HWY. 226 MAIN LANES

N 89°44' 51" E

7/25/2012

R100679.DGN

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	64	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
No. 7605
7/25/12

N

(1) R11-2 (48" X 30")
ROAD CLOSED
16' BARR. TYP. III LT.
CRAIGHEAD COUNTY 155
20'
(1) R11-2 (48" X 30")
ROAD CLOSED
16' BARR. TYP. III RT.
15 TRAFFIC DRUMS 45' O.C.
14 TRAFFIC DRUMS 45' O.C.
20 TRAFFIC DRUMS 20' O.C.
(1) W20-1 (48" X 48")
ROAD WORK AHEAD
END ROAD WORK
(1) G20-2 (48" X 24")
520
525
530
535
N 89°44'51" E
HWY. 226 MAIN LANES
PAVED
TRAIL
18'
16'

N

(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 RT.
19 TRAFFIC DRUMS 20' O.C.
14 TRAFFIC DRUMS 45' O.C.
(1) R11-2 (48" X 30")
ROAD CLOSED
16' BARR. TYP. III LT.
18 TRAFFIC DRUMS 20' O.C.
ROAD CLOSED
(1) R11-2 (48" X 30")
16' BARR. TYP. III RT.
3 TRAFFIC DRUMS 45' O.C.
5 TRAFFIC DRUMS 25' O.C.
(3) OM-3L (12"X 36") LEFT IN PLACE
(4) OM-3R (12"X 36") LEFT IN PLACE
535
540
545
550
N 89°44'51" E
HWY. 226 MAIN LANES
S 89°56'14" E
R=10'
226
P.I. 537+25.96
Δ= 0°18'55"
STANDING WATER
STANDING WATER
PAVED
TRAIL
16'

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	65	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14,760
MICHAEL D. PUGETT
7/23/12

550 555 560 565

HWY. 226 MAIN LANES

S 89°56' 14" E

TRAIL

565 570 575 580

S 89°56' 14" E

HWY. 226 MAIN LANES

PAVED

7/23/2012

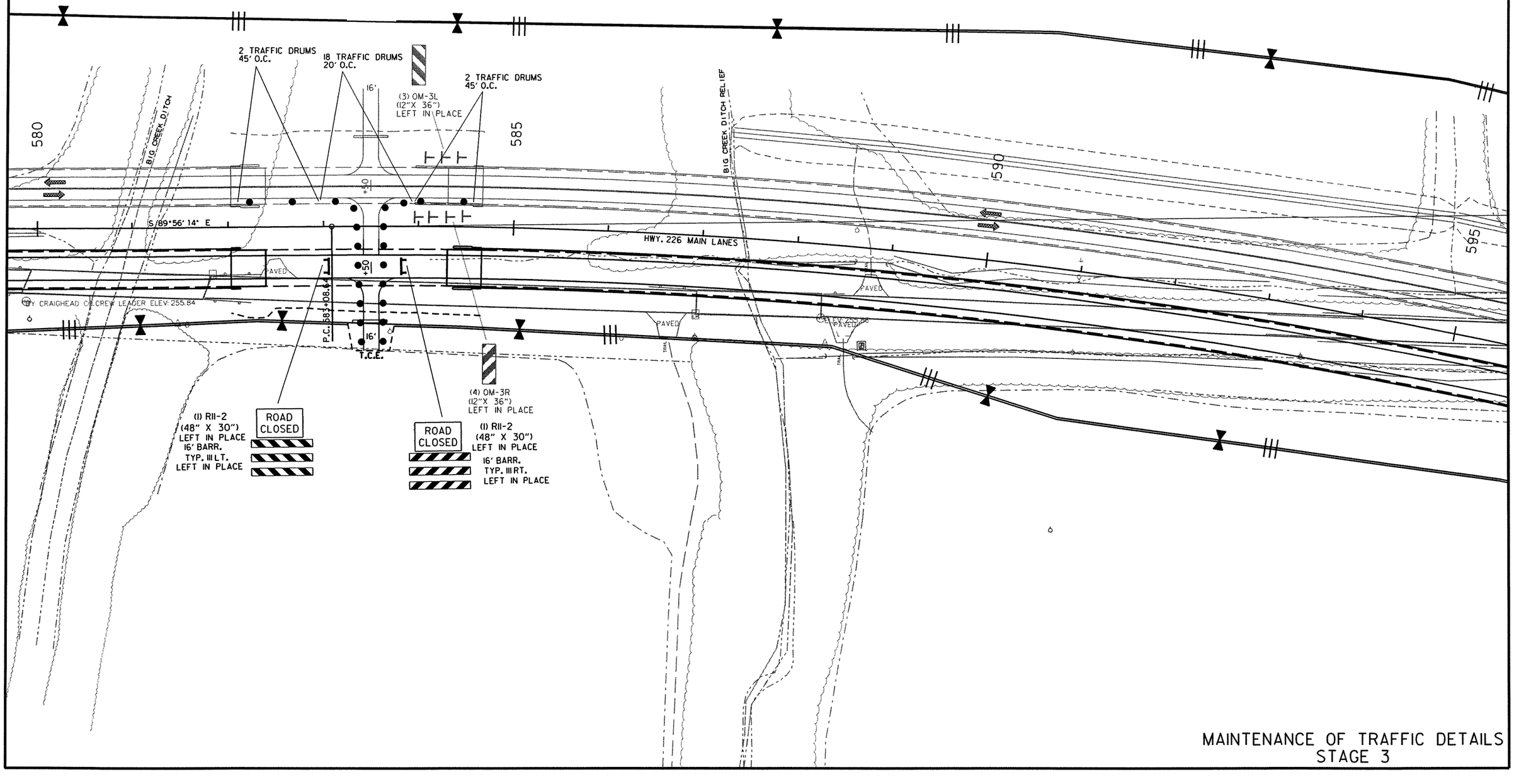
R100679.DGN

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	66	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PIGGETT
7/25/12



MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

7/23/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	67	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 17605
MICHAEL D. PUGETT
7/25/12

8 TRAFFIC DRUMS 45' O.C.

(3) OM-3L (12" X 36") LEFT IN PLACE

(4) OM-3R (12" X 36") LEFT IN PLACE

P.C. 597+21.30

P.T. 599+57.79

P.I. 600+98.46

S 89°56' 14" E

S 55°14'28.8"E

S 77°16' 24" E

S 89°05' 52" E

S 87°06' 59" E

S 87°13' 23" E

P.I. 602+56.25

P.I. 605+21.57

Δ= 0°6'24"

AS SEEN BY CREW SSITD ON 5/2/2011 ELEV. 255.17

P.I. 598+39.97

P.C. 602+23.22

P.T. 602+89.21

595

596

600

605

610

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

(1) W20-1 (48" X 48")
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) RSP-1 (48" X 30")
SHOULDER CLOSED

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

T.C.E.

PAVED

TRAIL

HWY. 226 MAIN LANES

8 TRAFFIC DRUMS 45' O.C.

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

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

7/23/2012

R100679.DGN

SEQUENCE OF CONSTRUCTION NOTES:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING LANES. CONSTRUCT DETOUR ROAD STATION 589+42.95 TO STATION 608+29.22.

STAGE 2: SHIFT TRAFFIC TO STAGE 1 DETOUR ROAD. CONSTRUCT PROPOSED WESTBOUND BRIDGES, PROPOSED WESTBOUND LANES, AND DETOUR STATION 597+21.30 TO STATION 608+11.30.

STAGE 2B: CONSTRUCT TEMPORARY CROSSING STATION 433+50 TO STATION 447+00.

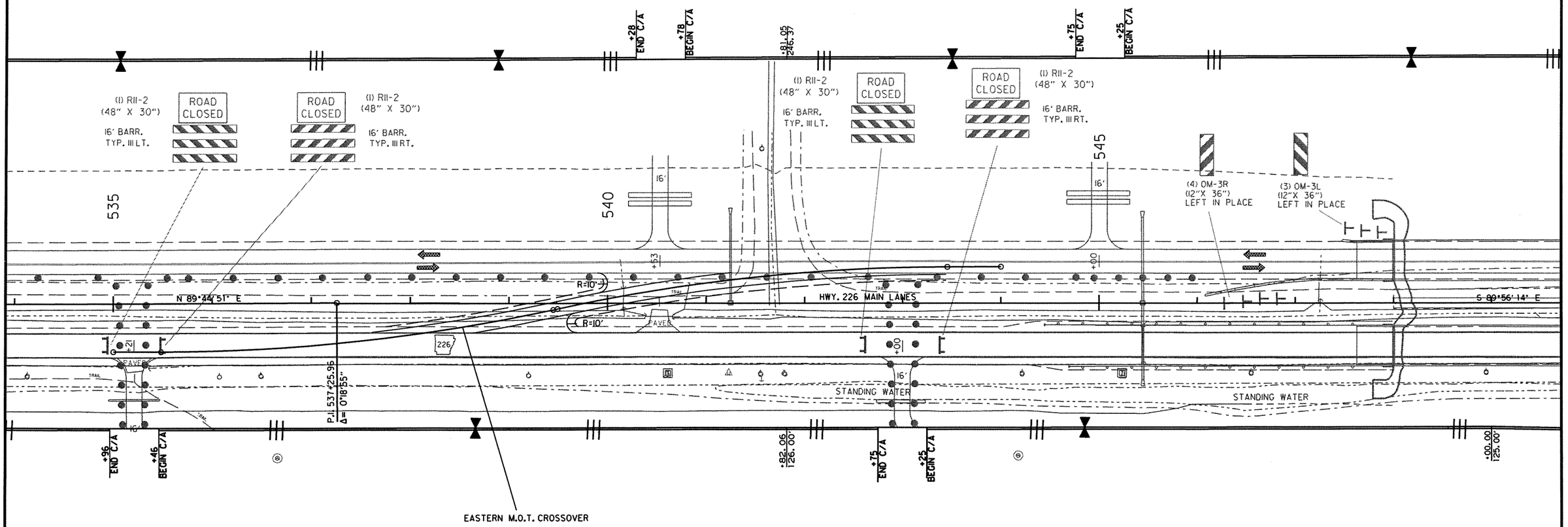
STAGE 3: SHIFT TRAFFIC TO PROPOSED WESTBOUND LANES. CONSTRUCT PROPOSED EASTBOUND LANES AND EASTBOUND BRIDGES.

STAGE 3B: CONSTRUCT TEMPORARY CROSSING STATION 535+00 TO STATION 543+50. SHIFT EASTBOUND TRAFFIC TO PROPOSED WESTBOUND LANES AT STATION 535+00.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	68	252

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



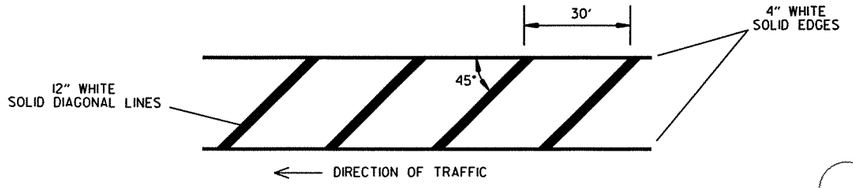
7/23/2012

R100679.DGN

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

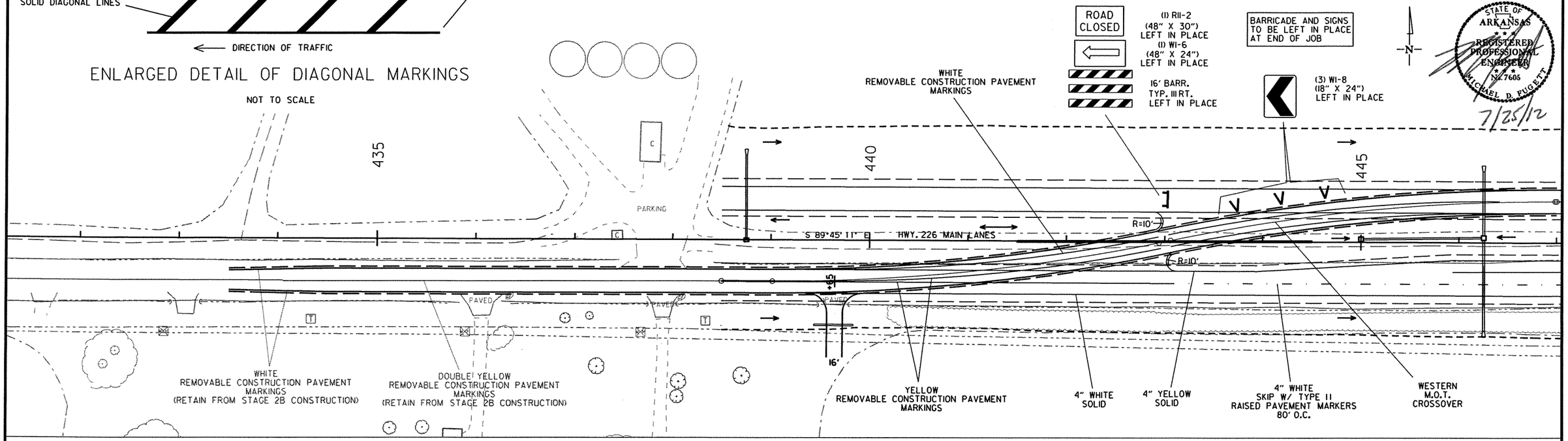
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	69	252

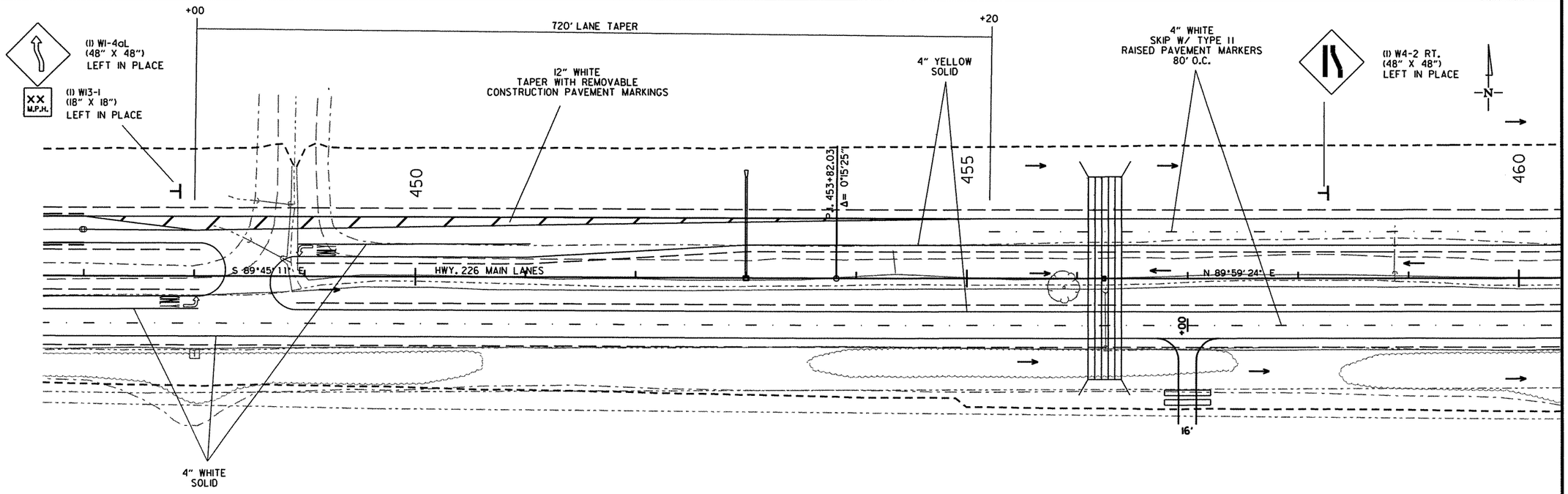
(2) PERMANENT PAVEMENT MARKING DETAILS



ENLARGED DETAIL OF DIAGONAL MARKINGS

NOT TO SCALE





PERMANENT PAVEMENT MARKING DETAILS

6/20/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	70	252

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

460 465 470 475

4" YELLOW SOLID

4" WHITE SOLID

HWY. 226 MAIN LANES

N 89°59'24" E

4" WHITE SKIP W/ TYPE II RAISED PAVEMENT MARKERS 80' O.C.

4" DBL. YELLOW W/ TY. II RAISED PAVEMENT MARKERS 80' O.C.

P.I. 12+23.29

P.C. 11+80.72

P.I. 12+64.56

N 0°00'21" W

+90

30'

20'

13.45'

CRAIGHEAD COUNTY

475 480 485 490

4" WHITE SOLID

4" YELLOW SOLID

EMERSON DITCH

N 89°59'24" E

HWY. 226 MAIN LANES

+84 +00 +22

40' 16' 16'

PAVED

4" WHITE SKIP W/ TYPE II RAISED PAVEMENT MARKERS 80' O.C.

P.I. 12+64.56

P.C. 11+80.72

P.I. 10+88.56

PERMANENT PAVEMENT MARKING DETAILS

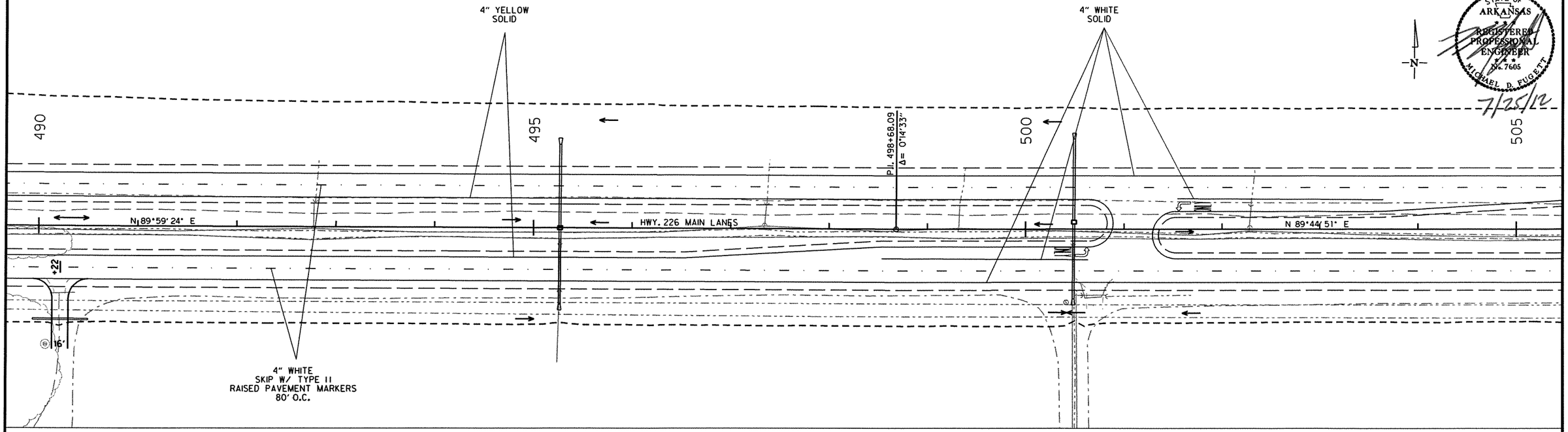
6/20/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	71	252

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



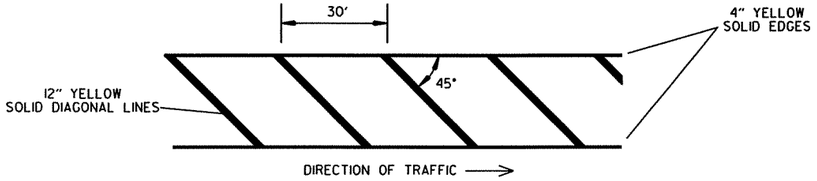
6/20/2012

R100679.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	72	252

(2) PERMANENT PAVEMENT MARKING DETAILS

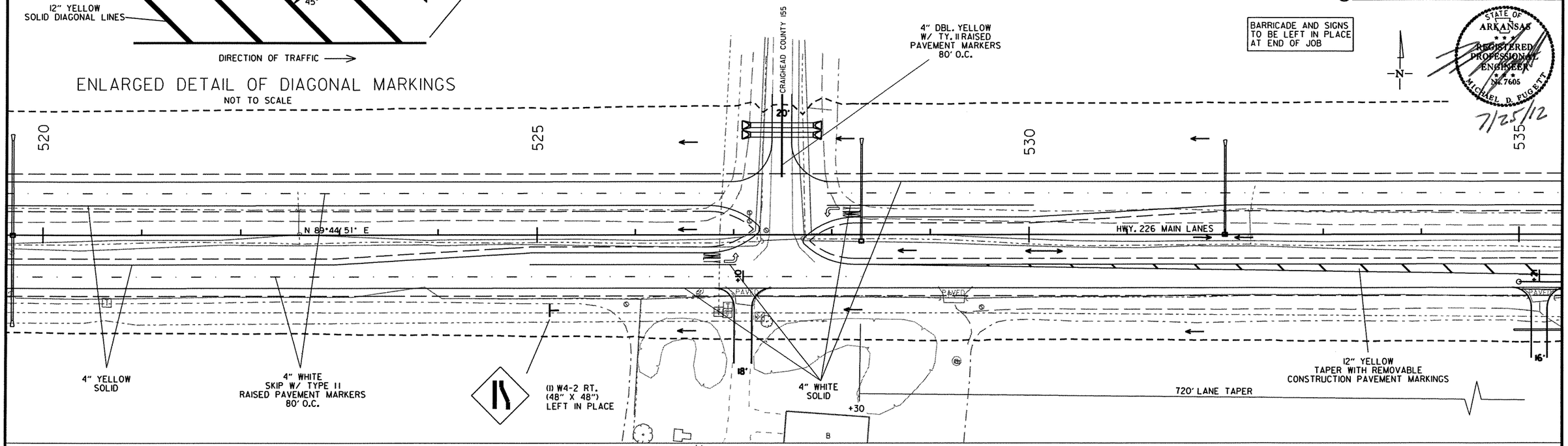


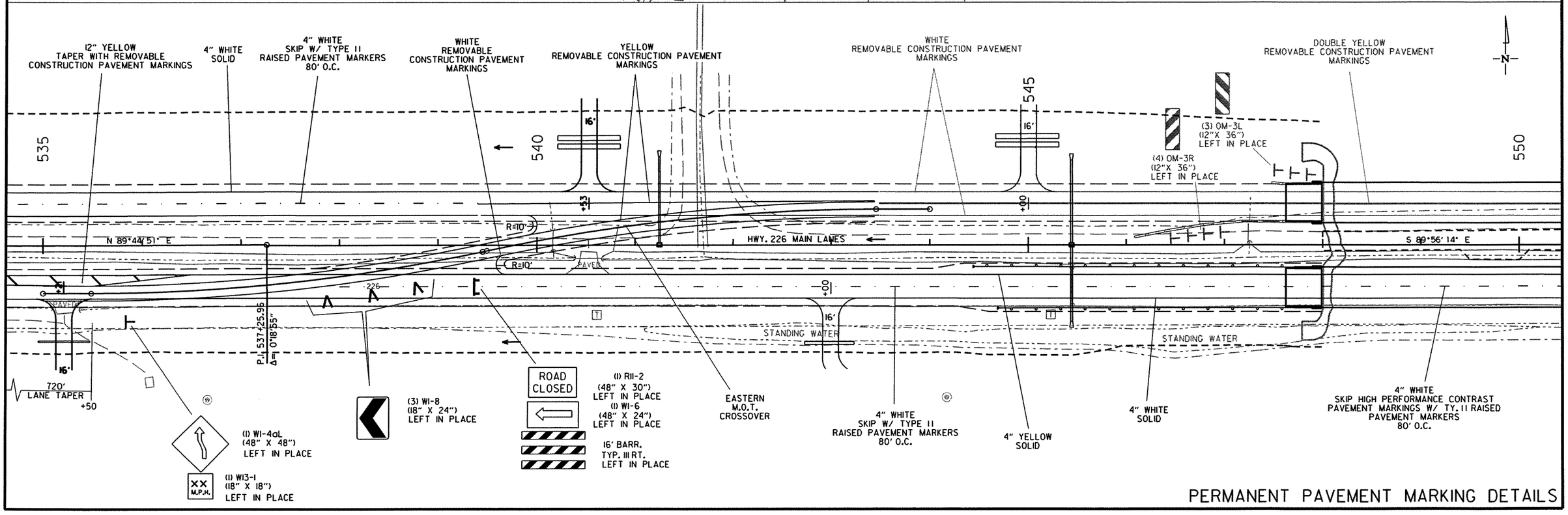
ENLARGED DETAIL OF DIAGONAL MARKINGS

NOT TO SCALE

BARRICADE AND SIGNS TO BE LEFT IN PLACE AT END OF JOB

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. PUGETT
7/25/12





6/20/2012

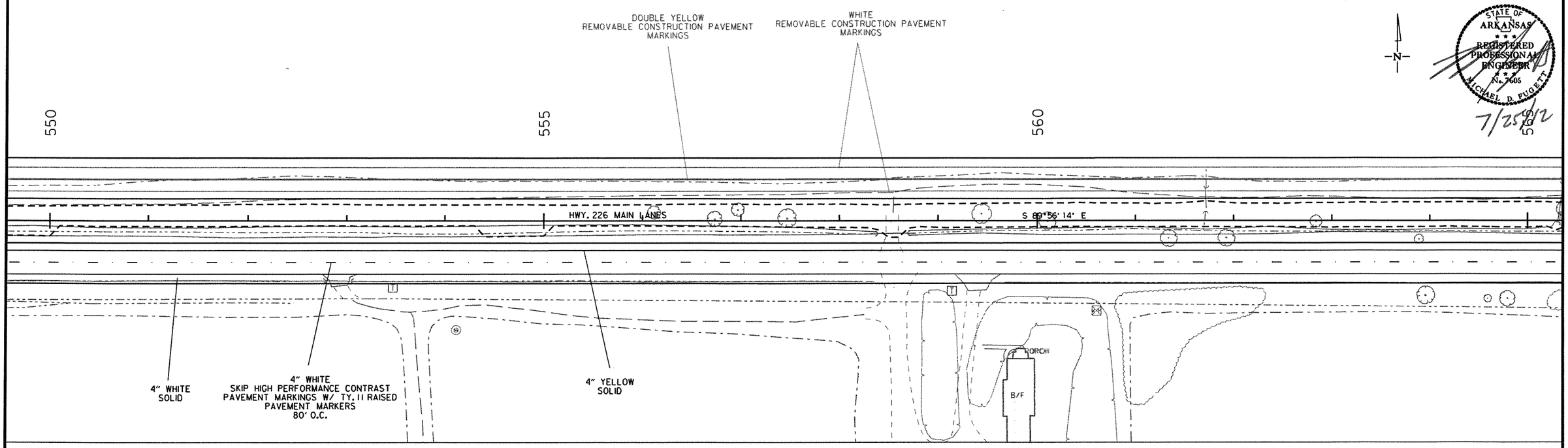
R100679.DGN

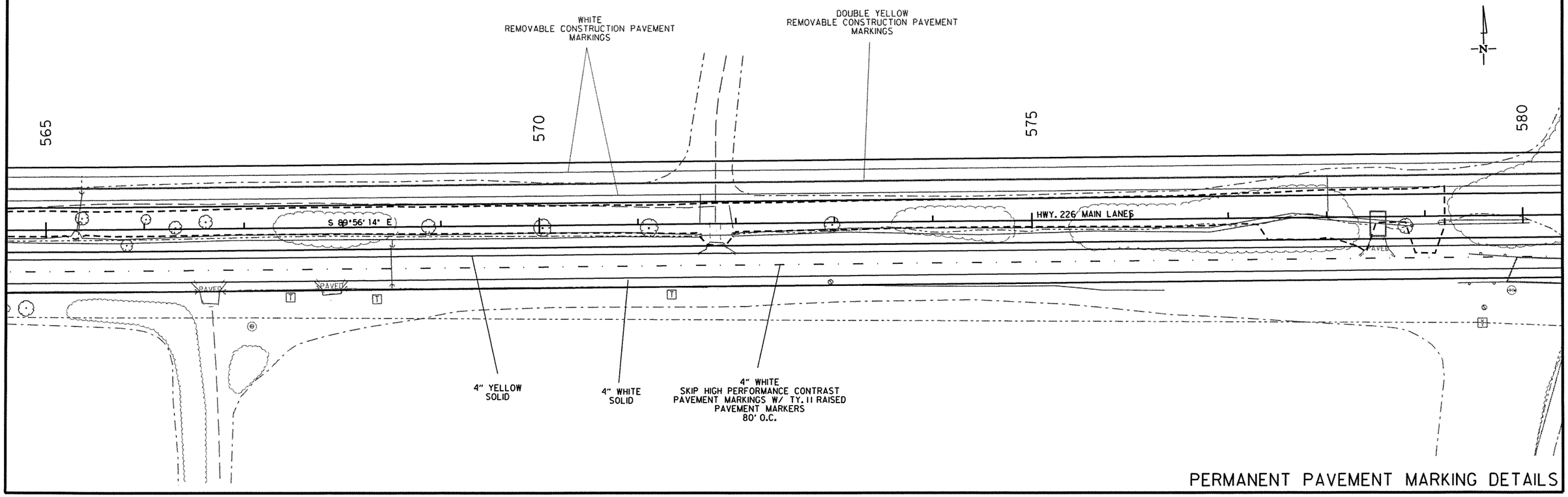
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	73	252

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12





PERMANENT PAVEMENT MARKING DETAILS

6/20/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	74	252

(2) PERMANENT PAVEMENT MARKING DETAILS

BARRICADE AND SIGNS TO BE LEFT IN PLACE AT END OF JOB

N

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

4" WHITE SKIP HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS W/ TY. II RAISED PAVEMENT MARKERS 80' O.C.

16'

(3) OM-3L (12"X 36") LEFT IN PLACE

580

585

590

595

BIG CREEK DITCH

BIG CREEK DITCH RELIEF

+50

S/89°56' 14" E

HWY. 226 MAIN LANES

PAVED

P.C. 583+08.64

16'

4" YELLOW SOLID

(4) OM-3R (12"X 36") LEFT IN PLACE

4" WHITE SOLID

4" WHITE SKIP HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS W/ TY. II RAISED PAVEMENT MARKERS 80' O.C.

4" WHITE SKIP W/ TYPE II RAISED PAVEMENT MARKERS 80' O.C.

(1) R11-2 (48" X 30") LEFT IN PLACE 16' BARR. TYP. III LT. LEFT IN PLACE

ROAD CLOSED

ROAD CLOSED

(1) R11-2 (48" X 30") LEFT IN PLACE 16' BARR. TYP. III RT. LEFT IN PLACE

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	75	252

(2) PERMANENT PAVEMENT MARKING DETAILS

BARRICADE AND SIGNS TO BE LEFT IN PLACE AT END OF JOB

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

P.I. 600+98.46
S 89°56' 14" E
S55°14'28.8"E
(4) OM-3R (12"X 36") LEFT IN PLACE
DOUBLE YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
P.C. 591+21.30
P.T. 599+57.79
P.I. 602+56.25
P.I. 605+21.57
Δ= 0°6'24"
S 77°16' 24" E
S 89°05' 52" E
S 87°06' 59" E
S 87°13' 23" E
P.I. 598+39.97
P.C. 602+23.22
P.T. 602+89.21
(3) OM-3L (12"X 36") LEFT IN PLACE
HWY. 226 MAIN LANES
PAVED
595
596
600
605
610
4" WHITE SKIP HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS W/ TY. II RAISED PAVEMENT MARKERS 80' O.C.
4" YELLOW SOLID
4" WHITE SOLID
4" WHITE SKIP W/ TYPE II RAISED PAVEMENT MARKERS 80' O.C.

P.I. 12+23.29
P.T. 11+32.80
P.C. 10+43.26
CO. RD. 233 - REALIGNMENT
N 1°15'44" E
N 0°00' 21" W
D=13°45'
+90
30'
CRAIGHEAD COUNTY
P.C. 11+80.72
P.T. 12+68.98
P.I. 10+88.56
475
EMERSON DITCH
4" DBL. YELLOW W/ TY. II RAISED PAVEMENT MARKERS 80' O.C.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	7871 LIN.FT.
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")	32456 LIN.FT.
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")	26051 LIN.FT.
THERMOPLASTIC PAVEMENT MARKINGS WORDS	8 EA.
THERMOPLASTIC PAVEMENT MARKINGS ARROWS	8 EA.
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE	1188 LIN.FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	120 EA.
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)	7 EA.

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R100679.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	76	252

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 2B	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	FURNISHING, INSTALLING, & LEAVING IN PLACE PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)
											RIGHT	LEFT					
			LIN. FT. - EACH					NO.	SQ. FT.	EACH	LIN. FT.					EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2			2	2	32.0								
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2			2	2	32.0								
W20-1	ROAD WORK 500 FT.	48"x48"	2	2			2	2	32.0								
W20-1	ROAD WORK AHEAD	48"x48"		1		2	2	2	32.0								
G20-2	END ROAD WORK	48"x24"	2	3		2	3	3	24.0								
W1-4AR	REVERSE CURVE RT.	48"x48"		1			1	1	16.0								
W1-4AL	REVERSE CURVE LT.	48"x48"		1		2	2	2	32.0								
W13-1	SPEED LIMIT (ADVISORY)	24"x24"		2		2	2	2	8.0								
R11-2	ROAD CLOSED	48"x30"	2	18	1	21	21	21	210.0								
OM-3L	OBJECT MARKER	12"x36"		9		9	9	9	27.0								
OM-3R	OBJECT MARKER	12"x36"		12		12	12	12	36.0								
W1-6	LARGE ARROW	48"x24"		2		3	3	3	24.0								
W1-8	CHEVRONS	18"x24"															
R4-1	DO NOT PASS	24"x30"	14				14	14	70.0								
RSP-1	SHOULDER CLOSED	48"x30"	2				2	2	20.0								
	TRAFFIC DRUMS		39	499		425	499	499		499							
	TYPE III BARRICADE-RT. (16')		1	10		13	13	13			208						
	TYPE III BARRICADE-LT. (16')		1	10	1	10	10	10				160					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			599			599						599				
	FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER			598			598							598			
	RELOCATING PRECAST CONCRETE BARRIER					519	519								519		
	TEMPORARY IMPACT ATTENUATION BARRIER			3		3	3									3	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			3		3	3										3
TOTALS:								595.0	499	208	160	599	598	519	3	3	

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

NO TRAFFIC CONTROL PLAN HAVING A SIGNIFICANT IMPACT ON TRAFFIC (FOR EXAMPLE: DETOURS, LANE CLOSURES, LANE WIDTH REDUCTIONS, SHOULDER CLOSURES, ETC.) SHALL BE PLACED IN OPERATION MORE THAN 72 HOURS BEFORE THE WORK REQUIRING THE TRAFFIC CONTROL CHANGES BEGIN. IF A TRAFFIC CONTROL PLAN IS PLACED IN OPERATION AND WORK DOES NOT BEGIN WITHIN 72 HOURS OR WORK BEGINS BUT IS SUBSEQUENTLY HALTED, THE ORIGINAL TRAFFIC OPERATIONS MUST BE RESTORED IF CONDITIONS ALLOW. RESTORATION(S) OF ORIGINAL TRAFFIC OPERATIONS WILL BE AT NO ADDITIONAL COST TO THE DEPARTMENT.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 2B	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKINGS				HIGH PERFORMANCE CONTRAST PAVEMENT MARKING
							TYPE II (WHITE/ RED)	TYPE II (YEL/YEL)	4"		WORDS	ARROWS	WHITE (4")
									WHITE	YELLOW			
	LIN. FT. - EACH				LIN. FT.	LIN. FT.	EACH		LIN. FT.		EACH		LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	1949				1949								
REMOVABLE CONSTRUCTION PAV'T MARKINGS		64445	5400	7871		77716							
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)				120			120						
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)				7				7					
THERMOPLASTIC PAVEMENT MARKINGS WHITE (4")				32456					32456				
THERMOPLASTIC PAVEMENT MARKINGS YELLOW (4")				26051						26051			
THERMOPLASTIC PAVEMENT MARKINGS WORDS				8							8		
THERMOPLASTIC PAVEMENT MARKINGS ARROWS				8								8	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")				1188									1188
TOTALS:					1949	77716	120	7	32456	26051	8	8	1188

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

7/6/2012

R100679.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	77	252

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/25/12

SIGNS AND DEVICES LEFT IN PLACE

SIGN NUMBER	DESCRIPTION	SIGN SIZE	MAXIMUM NUMBER REQUIRED	SIGNS LEFT IN PLACE		BARRICADES LEFT IN PLACE	
						RIGHT	LEFT
			LIN. FT. - EACH	NO.	SQ. FT.	LIN. FT.	
W1-4AL	REVERSE CURVE LT.	48"x48"	2	2	32.0		
W13-1	SPEED LIMIT (ADVISORY)	24"x24"	2	2	8.0		
R11-2	ROAD CLOSED	48"x30"	4	4	40.0		
W1-6	LARGE ARROW	48"x24"	2	2	16.0		
W1-8	CHEVRONS	18"x24"	6	6	18.0		
W4-2	LANE ENDS	48"x48"	2	2	32.0		
OM-3L	OBJECT MARKER	12"x36"	9	9	27.0		
OM-3R	OBJECT MARKER	12"x36"	12	12	36.0		
	TYPE III BARRICADE-RT. (16')		3	3		48	
	TYPE III BARRICADE-LT. (16')		1	1			16
TOTALS:					209.0	48	16

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
440+00	451+00	HWY. 226	11	11
453+00	466+00	HWY. 226	13	13
468+00	476+00	HWY. 226	8	8
486+00	490+00	HWY. 226	4	4
526+00	529+00	HWY. 226	3	3
556+00	558+00	HWY. 226	2	2
559+00	581+00	HWY. 226	22	22
585+00	595+00	HWY. 226	10	10
597+00	603+00	HWY. 226	6	6
TOTALS:			79	79

REMOVAL AND DISPOSAL OF GUARDRAIL

STATION	STATION	LOCATION	LIN. FT.
579+32.50	579+82.24	RT. OF C.L. HWY. 226	50
579+44.14	579+93.01	RT. OF C.L. HWY. 226	50
581+74.87	582+23.80	RT. OF C.L. HWY. 226	50
581+84.26	582+34.34	RT. OF C.L. HWY. 226	50
586+45.72	586+95.71	RT. OF C.L. HWY. 226	50
588+31.00	588+53.71	RT. OF C.L. HWY. 226	25
TOTAL:			275

REMOVAL OF EXISTING BRIDGE STRUCTURE

STATION	LOCATION	DESCRIPTION	LUMP SUM
476+05	HWY. 226	LT. OF HWY. 226 - SITE NO. 4	1.00
578+52	HWY. 226	LT. OF HWY. 226 - SITE NO. 5	1.00

REMOVAL AND DISPOSAL ITEMS

STATION	STATION	LOCATION	DESCRIPTION	SIGNS	CANOPY	CONCRETE SLAB	WELL
				EACH	EACH	SQ. YD.	EACH
437+40		LT. OF C.L. HWY. 226	CANOPY		1		
437+64		LT. OF C.L. HWY. 226	CONCRETE SLAB			89	
474+98		RT. OF C.L. HWY. 226	CLOSE WELL				1
476+00		LT. OF C.L. HWY. 226	CONCRETE SLAB			36	
485+40		LT. OF C.L. HWY. 226	SIGN	1			
485+64		LT. OF C.L. HWY. 226	CLOSE WELL				1
490+00		RT. OF C.L. HWY. 226	CLOSE WELL				1
527+18		LT. OF C.L. HWY. 226	SIGN	1			
TOTALS:				2	1	125	3

REMOVAL AND DISPOSAL OF PIPE CULVERTS

STATION	LOCATION	DESCRIPTION	EACH
439+65	RT. OF HWY. 226	12" X 26' PIPE CULVERT	1
446+25	HWY. 226	24" X 41' C.M. PIPE CULVERT	1
448+65	LT. OF HWY. 226	18" X 31' STEEL PIPE FIELD DRAIN	1
448+74	LT. OF HWY. 226	18" X 31' STEEL PIPE FIELD DRAIN	1
454+34	LT. OF HWY. 226	18" X 21' STEEL PIPE FIELD DRAIN	1
456+25	HWY. 226	18" X 24" X 49' C.M. ARCH PIPE CULVERT	1
458+87	LT. OF HWY. 226	18" X 21' STEEL PIPE FIELD DRAIN	1
464+92	LT. OF HWY. 226	18" X 20' STEEL PIPE FIELD DRAIN	1
466+26	HWY. 226	18" X 24" X 47' C.M. ARCH PIPE CULVERT	1
470+66	LT. OF HWY. 226	18" X 21' STEEL PIPE FIELD DRAIN	1
474+42	RT. OF HWY. 226	12" X 77' R.C. PIPE CULVERT	1
474+62	LT. OF HWY. 226	36" X 38' R.C. PIPE CULVERT	1
476+37	LT. OF HWY. 226	15" X 20' STEEL PIPE FIELD DRAIN	1
490+24	RT. OF HWY. 226	18" X 25' C.M. PIPE CULVERT	1
492+74	LT. OF HWY. 226	15" X 24' STEEL PIPE FIELD DRAIN	1
495+25	HWY. 226	24" X 48' C.M. PIPE CULVERT	1
497+35	LT. OF HWY. 226	15" X 22' STEEL PIPE FIELD DRAIN	1
499+32	LT. OF HWY. 226	15" X 22' STEEL PIPE FIELD DRAIN	1
500+50	HWY. 226	24" X 18" X 27' C.M. ARCH PIPE CULVERT	1
500+66	RT. OF HWY. 226	24" X 18" X 27' C.M. ARCH PIPE CULVERT	1
502+29	LT. OF HWY. 226	15" X 22' STEEL PIPE FIELD DRAIN	1
507+78	LT. OF HWY. 226	8" X 22' STEEL PIPE FIELD DRAIN	1
509+15	LT. OF HWY. 226	12" X 22' STEEL PIPE FIELD DRAIN	1
510+05	LT. OF HWY. 226	18" X 20' STEEL PIPE FIELD DRAIN	1
517+52	LT. OF HWY. 226	18" X 21' STEEL PIPE FIELD DRAIN	1
519+69	HWY. 226	24" x 18" X 39' C.M. ARCH PIPE CULVERT	1
522+59	LT. OF HWY. 226	15" X 24' STEEL PIPE FIELD DRAIN	1
527+10	RT. OF HWY. 226	17" X 13" X 26' C.M. ARCH PIPE CULVERT	1
527+49	LT. OF HWY. 226	36" X 40' C.M. PIPE CULVERT	1
527+87	LT. OF HWY. 226	15" X 25' STEEL PIPE FIELD DRAIN	1
529+24	RT. OF HWY. 226	17" X 13" X 26' C.M. ARCH PIPE CULVERT	1
532+25	LT. OF HWY. 226	15" X 24' STEEL PIPE FIELD DRAIN	1
535+21	RT. OF HWY. 226	17" X 13" X 27' C.M. ARCH PIPE CULVERT	1
540+16	LT. OF HWY. 226	10" X 21' STEEL PIPE FIELD DRAIN	1
540+53	LT. OF HWY. 226	36" X 27' PIPE CULVERT	1
540+80	LT. OF HWY. 226	10" X 26' STEEL PIPE FIELD DRAIN	1
545+45	HWY. 226	24" X 18" X 36' C.M. ARCH PIPE CULVERT	1
547+24	LT. OF HWY. 226	18" X 21' STEEL PIPE FIELD DRAIN	1
552+92	RT. OF HWY. 226	17" X 13" X 25' ARCH PIPE CULVERT	1
558+54	LT. OF HWY. 226	36" X 31' C.M. PIPE CULVERT	1
561+72	LT. OF HWY. 226	12" X 21' STEEL PIPE FIELD DRAIN	1
565+34	LT. OF HWY. 226	18" X 39' STEEP PIPE FIELD DRAIN	1
566+65	RT. OF HWY. 226	12" X 27' C.M. PIPE CULVERT	1
567+89	RT. OF HWY. 226	12" X 26' C.M. PIPE CULVERT	1
568+49	HWY. 226	24" X 18" X 37' C.M. ARCH PIPE CULVERT	1
571+63	LT. OF HWY. 226	15" X 29' STEEL PIPE FIELD DRAIN	1
571+80	LT. OF HWY. 226	36" X 30' C.M. PIPE CULVERT	1
571+95	LT. OF HWY. 226	6" X 24' STEEP PIPE FIELD DRAIN	1
578+01	LT. OF HWY. 226	15" X 36' STEEL PIPE FIELD DRAIN	1
579+00	LT. OF HWY. 226	36" x 29' C.M. PIPE CULVERT	1
588+54	RT. OF HWY. 226	30" X 32' STEEL PIPE	1
588+79	LT. OF HWY. 226	66" X 32' STEEP PIPE	1
596+97	LT. OF HWY. 226	STEEL PIPE	1
TOTAL:			53

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

7/6/2012

R100679.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	78	252

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SELECTED MATERIAL (CLASS SM-1)	SOIL STABILIZATION
			CU. YD.			TON
438+50.00	547+99.00	HWY. 226 - MAIN LANES	53727	276878		
582+03.00	584+67.00	HWY. 226 - MAIN LANES	57	3883		
596+67.00	604+42.00	HWY. 226 - MAIN LANES	3614	27614		
11+00.00	13+07.70	COUNTY ROAD 233	491	1144		
ENTIRE PROJECT		UNDERCUT FOR UNSUITABLE EXISTING MATERIAL	25551		25551	
ENTIRE PROJECT		APPROACHES		3760		
547+97.92	582+04.08	ADDITIONAL FOR BRIDGE - BIG CREEK STUCTURES A & B	18900			
584+65.92	596+68.08	ADDITIONAL FOR BRIDGE - BIG CREEK RELIEF STRUCTURES A & B	6970	5420		
438+50.00	451+25.00	HWY. 226 - REMOVAL OF EXISTING PAVEMENT	394			
468+00.00	472+70.00	HWY. 226 - REMOVAL OF EXISTING PAVEMENT	145			
478+10.00	488+30.00	HWY. 226 - REMOVAL OF EXISTING PAVEMENT	315			
509+90.00	528+60.00	HWY. 226 - REMOVAL OF EXISTING PAVEMENT	577			
433+50.00	438+50.00	TEMPORARY GRADE RAISE	526	403		
438+50.00	445+00.00	MAINTENANCE OF TRAFFIC CROSSOVER		624		
535+00.00	543+50.00	MAINTENANCE OF TRAFFIC CROSSOVER		213		
STAGE 1		DETOUR CONSTRUCTION	1412	7013		
STAGE 2		DETOUR CONSTRUCTION	44	12473		
* ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				1000
TOTALS:			**112723**	**339425**	**25551**	**1000**

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU. YD.	LIN. FT.	LIN. FT.	CU. YD.	CU. YD.	CU. YD.
ENTIRE PROJECT		CLEARING AND GRUBBING										162		30431			1181
ENTIRE PROJECT		STAGE 1										36	224		1008	1008	1028
ENTIRE PROJECT		STAGE 2						93.89	93.89	1915.4		324			250	250	262
ENTIRE PROJECT		STAGE 3						39.73	39.73	810.5		222					108
ENTIRE PROJECT		MAIN LANES	32.66	65.32	32.66	3331.3	32.66										
*ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	8.00	16.00	8.00	816.0	8.00	33.41	33.41	681.6	1364	186	56	7607	315	315	723
TOTALS:			**40.66**	**81.32**	**40.66**	**4147.3**	**40.66**	**167.03**	**167.03**	**3407.5**	**1364**	**930**	**280**	**38038**	**1573**	**1573**	**3302**

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

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

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

7/6/2012

R100679.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	79	252

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

BENCH MARKS

LOCATION	EACH
R.C. BOX CULVERT @ STA. 456+25 - PLACE ON RT. HEADWALL	1
R.C. BOX CULVERT @ STA. 466+25 - PLACE ON RT. HEADWALL	1
R.C. BOX CULVERT @ STA. 475+10 - PLACE ON RT. HEADWALL	1
BRIDGE END @ STA 547+99	1
BRIDGE END @ STA 584+66	1
TOTAL:	5

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

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	600	4
TOTALS:			600	4

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

MAILBOXES

STATION	LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
		EACH	
474+25	RT. HWY. 226	1	1
486+31	RT. HWY. 226	1	1
526+66	RT. HWY. 226	1	1
TOTALS:		3	3

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
544+44.77	547+88.52	LT. SIDE OF RT. MAIN LANES	275	1	1
544+69.77	547+88.52	RT. SIDE OF RT. MAIN LANES	250	1	1
596+77.48	599+96.23	LT. SIDE OF LT. MAIN LANES	250	1	1
596+77.48	600+21.23	RT. SIDE OF LT. MAIN LANES	275	1	1
TOTALS:			1050	4	4

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE A)	WIRE FENCE (TYPE C)	* 16'-0" GATES
			LIN. FT.		EACH
438+50	439+40	RT. HWY. 226	90		
439+90	449+50	RT. HWY. 226	960		
449+50	450+00	RT. HWY. 226		50	
450+00	453+50	RT. HWY. 226	350		
453+50	454+00	RT. HWY. 226		50	
454+00	456+75	RT. HWY. 226	275		
457+25	460+00	RT. HWY. 226	275		
460+00	460+50	RT. HWY. 226		50	
460+50	473+63	RT. HWY. 226	1313		
474+13	484+59	RT. HWY. 226	1106		1
485+09	485+75	RT. HWY. 226	66		
486+25	489+97	RT. HWY. 226	372		
490+47	500+75	RT. HWY. 226	1028		
500+75	501+25	RT. HWY. 226		50	
501+25	504+75	RT. HWY. 226	350		
504+75	505+25	RT. HWY. 226		50	
505+25	511+75	RT. HWY. 226	650		
511+75	512+25	RT. HWY. 226		50	
512+25	517+75	RT. HWY. 226	550		
517+75	518+25	RT. HWY. 226		50	
518+25	526+85	RT. HWY. 226	860		
527+35	528+99	RT. HWY. 226	164		
528+99	529+49	RT. HWY. 226		50	
529+49	534+96	RT. HWY. 226	547		
535+46	542+75	RT. HWY. 226	729		
543+25	583+25	RT. HWY. 226	4060		
583+75	604+43	RT. HWY. 226	2134		1
438+55	439+30	LT. HWY. 226	125		
439+30	451+00	LT. HWY. 226	1170		
451+00	451+50	LT. HWY. 226		50	
451+50	456+75	LT. HWY. 226	525		
456+75	457+25	LT. HWY. 226		50	
457+25	460+00	LT. HWY. 226	275		
460+00	460+50	LT. HWY. 226		50	
460+50	473+65	LT. HWY. 226	1315		
474+15	482+75	LT. HWY. 226	860		
482+75	483+25	LT. HWY. 226		50	
483+25	486+75	LT. HWY. 226	350		
486+75	487+25	LT. HWY. 226		50	
487+25	491+75	LT. HWY. 226	450		
491+75	492+25	LT. HWY. 226		50	
492+25	497+75	LT. HWY. 226	550		
497+75	498+25	LT. HWY. 226		50	
498+25	503+75	LT. HWY. 226	550		
503+75	504+25	LT. HWY. 226		50	
504+25	509+03	LT. HWY. 226	478		
509+53	514+75	LT. HWY. 226	522		
514+75	515+25	LT. HWY. 226		50	
515+25	520+75	LT. HWY. 226	550		
520+75	521+25	LT. HWY. 226		50	
521+25	527+23	LT. HWY. 226	598		
527+73	528+00	LT. HWY. 226	27		
528+00	528+50	LT. HWY. 226		50	
528+50	532+50	LT. HWY. 226	400		
532+50	533+00	LT. HWY. 226		50	
533+00	540+28	LT. HWY. 226	728		
540+78	544+75	LT. HWY. 226	580		1
545+25	583+25	LT. HWY. 226	3800		
583+75	604+43	LT. HWY. 226	2376		2
TOTALS:			32108	1000	5

* DENOTES ALTERNATE BID ITEM.

7/6/2012

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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.		100679	80	252

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE C)	APPROACH SLABS (TYPE SPECIAL)	REINFORCING STEEL RDWY. (GR 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU. YD.	CU. YD.	POUND	TON
547+61.42	547+97.92	LT. OF LT. MAIN LANES - HWY. 226	14.79		807	
547+61.42	547+97.92	MAIN LANES - HWY. 226		49.07	5802	27.5
547+61.42	547+97.92	RT. OF LT. MAIN LANES - HWY. 226	11.52		623	
582+04.08	582+40.58	LT. OF LT. MAIN LANES - HWY. 226	14.79		807	
582+04.08	582+40.58	MAIN LANES - HWY. 226		49.07	5802	27.5
582+04.08	582+40.58	RT. OF LT. MAIN LANES - HWY. 226	11.52		623	
547+61.42	547+97.92	LT. OF RT. MAIN LANES - HWY. 226	11.52		623	
547+61.42	547+97.92	MAIN LANES - HWY. 226		49.07	5802	27.5
547+61.42	547+97.92	RT. OF RT. MAIN LANES - HWY. 226	14.79		807	
582+04.08	582+40.58	LT. OF RT. MAIN LANES - HWY. 226	11.52		623	
582+04.08	582+40.58	MAIN LANES - HWY. 226		49.07	5802	27.5
582+04.08	582+40.58	RT. OF RT. MAIN LANES - HWY. 226	14.79		807	
584+29.42	584+65.92	LT. OF LT. MAIN LANES - HWY. 226	14.79		807	
584+29.42	584+65.92	MAIN LANES - HWY. 226		49.07	5802	27.5
584+29.42	584+65.92	RT. OF LT. MAIN LANES - HWY. 226	11.52		623	
596+68.08	597+04.58	LT. OF LT. MAIN LANES - HWY. 226	14.79		807	
596+68.08	597+04.58	MAIN LANES - HWY. 226		49.07	5802	27.5
596+68.08	597+04.58	RT. OF LT. MAIN LANES - HWY. 226	11.52		623	
584+29.42	584+65.92	LT. OF RT. MAIN LANES - HWY. 226	11.52		623	
584+29.42	584+65.92	MAIN LANES - HWY. 226		49.07	5802	27.5
584+29.42	584+65.92	RT. OF RT. MAIN LANES - HWY. 226	14.79		807	
596+68.08	597+04.58	LT. OF RT. MAIN LANES - HWY. 226	11.52		623	
596+68.08	597+04.58	MAIN LANES - HWY. 226		49.07	5802	27.5
596+68.08	597+04.58	RT. OF RT. MAIN LANES - HWY. 226	14.79		807	
TOTALS:			**210.48**	**392.56**	**57856**	**220.0**

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU. YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	270
ENGINEER	
TOTAL:	**270**

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

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	LOCATION	WIDTH	LENGTH	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)	TACK COAT (0.03 GAL./SQ.YD.)	FLOWABLE SELECT MATERIAL
		FEET		TON	GALLON	CU. YD.
446+25	HWY. 226	20	7.5	8.3	0.5	12.7
495+25	HWY. 226	20	7.5	8.3	0.5	18.5
500+50	HWY. 226	20	7.5	8.3	0.5	18.6
519+69	HWY. 226	20	7.5	8.3	0.5	15.4
545+45	HWY. 226	20	7.5	8.3	0.5	13.7
TOTALS:				**41.5**	**2.5**	**78.9**

STRUCTURES

STATION	LOCATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	(CLASS III) 24"	(CLASS III) 60"	(CLASS IV) 24"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	60"	TEMPORARY PIPE CULVERTS 18"	DROP INLETS TYPE RM	TYPE TM	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
			LIN. FT.				EACH			LIN. FT.	EACH		LIN. FT.			CU. YD.	POUND	CU. YD.	SQ. YD.	M.GAL	
438+75	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	88				1				1								10	0.1	FES-1, FPC-9D, PCC-1
443+00	HWY. 226	INSTALL TEMPORARY PIPE CULV'T.								300											
445+00	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET		126							1										FPC-9D, PCC-1
446+25	HWY. 226	CONST. DROP INLET W/ PIPE INLET & OUTLET		180				2			1								17	0.2	FES-1, FPC-9D, PCC-1
453+00	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	88				1				1								6	0.1	FES-1, FPC-9D, PCC-1
482+50	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	96				1				1								6	0.1	FES-1, FPC-9D, PCC-1
488+00	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	94				1				1								6	0.1	FES-1, FPC-9D, PCC-1
495+25	HWY. 226	CONST. DROP INLET W/ PIPE INLET & OUTLET		176				2			1								17	0.2	FES-1, FPC-9D, PCC-1
500+50	HWY. 226	CONST. DROP INLET W/ PIPE INLET & OUTLET		174				2			1								17	0.2	FES-1, FPC-9D, PCC-1
508+50	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	90				1				1								6	0.1	FES-1, FPC-9D, PCC-1
514+00	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	90				1				1								6	0.1	FES-1, FPC-9D, PCC-1
519+69	HWY. 226	CONST. DROP INLET W/ PIPE INLET & OUTLET		178				2			1								17	0.2	FES-1, FPC-9D, PCC-1
527+49	HWY. 226	CONST. PIPE CULVERT			96				4										96	1.2	FES-1, PCC-1
528+00	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	102				1				1								6	0.1	FES-1, FPC-9D, PCC-1
532+00	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	98				1				1								6	0.1	FES-1, FPC-9D, PCC-1
541+25	HWY. 226	CONST. DROP INLET W/ PIPE OUTLET	102				1				1								6	0.1	FES-1, FPC-9D, PCC-1
545+45	HWY. 226	CONST. DROP INLET W/ PIPE INLET & OUTLET		204				2			1								17	0.2	FES-1, FPC-9D, PCC-1
11+20	COUNTY RD. 233	CONST. PIPE CULVERT				44		2											16	0.2	FES-1, PCC-1
12+43	COUNTY RD. 233	CONST. DBL. PIPE CULVERT			144				4										96	1.2	FES-1, PCC-1
SUBTOTALS:			**848**	**1038**	**240**	**44**	**9**	**12**	**8**	**300**	**15**								**351**	**4.5**	
STRUCTURES OVER 20' - 0" SPAN																					
456+25	HWY. 226	CONST. QUINT. 6'X3' R.C. BOX CULV'T.										1	6	3	177	395.27	53802	154	23	0.3	FPC-9D, RCB-1, RCB-2, SPECIAL DETAILS
466+25	HWY. 226	CONST. QUINT. 6'X3' R.C. BOX CULV'T.										1	6	3	179	399.61	54390	156	23	0.3	FPC-9D, RCB-1, RCB-2, SPECIAL DETAILS
475+10	HWY. 226	CONST. QUINT. 10'X9' R.C. BOX CULV'T.											10	9	185	917.63	146323	356	47	0.6	RCB-1, RCB-2, SPECIAL DETAILS
SUBTOTALS:												**2**				**1712.51**	**254515**	**666**	**93**	**1.2**	
TOTALS:			**848**	**1038**	**240**	**44**	**9**	**12**	**8**	**300**	**15**	**2**				**1712.51**	**254515**	**666**	**444**	**5.7**	

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

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

7/6/2012

R100679.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	81	252

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17965
MICHAEL D. FUGETT
5/25/12

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS			STANDARD DRAWINGS
							18"	24"	60"	
			FEET	SQ. YD.	TON	TON	LIN. FT.			
439+65	RT.	HWY. 226	16	104.9	11.5	42.8	28			PCC-1, PCM-1
457+00	RT.	HWY. 226	16	126.4	13.9	51.6			56	PCC-1, PCM-1
473+90	LT.	HWY. 226	30	276.6	30.4	112.9			100	PCC-1, PCM-1
484+84	RT.	HWY. 226	40	328.5	36.1	134.1	64			PCC-1, PCM-1
486+00	RT.	HWY. 226	16	129.2	14.2	52.8	40			PCC-1, PCM-1
487+00	LT.	HWY. 226	16	163.4	18.0	66.7			80	PCC-1, PCM-1
490+22	RT.	HWY. 226	16	115.1	12.7	47.0	36			PCC-1, PCM-1
509+28	LT.	HWY. 226	16	128.8	14.2	52.6			56	PCC-1, PCM-1
512+00	RT.	HWY. 226	16	98.9	10.9	40.4		30		PCC-1, PCM-1
527+10	RT.	HWY. 226	18	141.2	15.5	57.7				
527+49	LT.	HWY. 226	20	194.6	21.4	79.5				
535+21	RT.	HWY. 226	16	116.5	12.8	47.6	40			PCC-1, PCM-1
540+53	LT.	HWY. 226	16	138.0	15.2	56.4			76	PCC-1, PCM-1
543+00	RT.	HWY. 226	16	122.4	13.5	50.0		34		PCC-1, PCM-1
545+00	LT.	HWY. 226	16	142.3	15.7	58.1			68	PCC-1, PCM-1
583+50	LT.	HWY. 226	16	151.0	16.6	61.7		38		PCC-1, PCM-1
583+50	RT.	HWY. 226	16	124.2	13.7	50.7		28		PCC-1, PCM-1
* ENTIRE PROJECT		TEMPORARY DRIVES				2550.0				
TOTALS:				2602.0	**286.3**	**3612.6**	**208**	**130**	**436**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

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

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	TYPE 2
			LIN. FT.
ENTIRE PROJECT		HWY. 226 - WB OUTSIDE SHOULDER	9071
ENTIRE PROJECT		HWY. 226 - WB INSIDE SHOULDER	9173
ENTIRE PROJECT		HWY. 226 - EB OUTSIDE SHOULDER	8795
ENTIRE PROJECT		HWY. 226 - EB INSIDE SHOULDER	9173
TOTAL:			**36212**

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	150
DIRECTED BY THE ENGINEER	
TOTAL:	**150**

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

7/6/2012
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	82	252

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								TOTAL TONS
				TON / STATION	TON	TOTAL WID.	SQ. YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ. YD.	POUND / SQ. YD.	PG 64-22	AVG. WID.	SQ. YD.	POUND / SQ. YD.	PG 64-22	AVG. WID.	SQ. YD.	POUND / SQ. YD.	PG 64-22	AVG. WID.	SQ. YD.	POUND / SQ. YD.	PG 64-22	
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	FEET			TON	
MAIN LANES																										
438+50.00	443+94.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	544.00	716.50	3897.76	150.08	9071.5	0.03	272.1	51.16	3092.3	440.0	680.3	49.92	3017.4	385	580.8	49.00	2961.8	220	325.8	72.00	4352.0	220	478.7	804.5
443+94.00	445+94.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
445+94.00	448+04.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
448+04.00	448+92.00	HWY. 226 - MEDIAN TURNAROUND	88.00	VAR.	712.72	VAR.	2557.8	0.03	76.7	VAR.	852.6	440.0	187.6	VAR.	852.6	385	164.1	VAR.	852.6	220	93.8	VAR.	1095.8	220	120.5	214.3
448+92.00	451+02.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
451+02.00	453+02.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
453+02.00	469+36.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	1634.00	716.50	11707.61	150.08	27247.9	0.03	817.4	51.16	9288.4	440.0	2043.4	49.92	9063.3	385	1744.7	49.00	8896.2	220	978.6	72.00	13072.0	220	1437.9	2416.5
469+36.00	471+36.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
471+36.00	473+46.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
473+46.00	474+34.00	HWY. 226 - MEDIAN CROSSING	88.00	VAR.	828.48	VAR.	2955.3	0.03	88.7	VAR.	985.1	440.0	216.7	VAR.	985.1	385	189.6	VAR.	985.1	220	108.4	VAR.	1095.8	220	120.5	228.9
474+34.00	476+44.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
476+44.00	478+44.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
478+44.00	496+54.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	1810.00	716.50	12968.65	150.08	30182.8	0.03	905.5	51.16	10288.8	440.0	2263.5	49.92	10039.5	385	1932.6	49.00	9854.4	220	1084.0	72.00	14480.0	220	1592.8	2676.8
496+54.00	498+54.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
498+54.00	500+64.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
500+64.00	501+52.00	HWY. 226 - MEDIAN TURNAROUND	88.00	VAR.	712.72	VAR.	2557.8	0.03	76.7	VAR.	852.6	440.0	187.6	VAR.	852.6	385	164.1	VAR.	852.6	220	93.8	VAR.	1095.8	220	120.5	214.3
501+52.00	503+62.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
503+62.00	505+62.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
505+62.00	522+94.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	1732.00	716.50	12409.78	150.08	28882.1	0.03	866.5	51.16	9845.5	440.0	2166.0	49.92	9606.8	385	1849.3	49.00	9429.8	220	1037.3	72.00	13856.0	220	1524.2	2561.5
522+94.00	524+94.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
524+94.00	527+04.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - R.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
527+04.00	527+92.00	HWY. 226 - MEDIAN CROSSING	88.00	VAR.	828.48	VAR.	2955.3	0.03	88.7	VAR.	985.1	440.0	216.7	VAR.	985.1	385	189.6	VAR.	985.1	220	108.4	VAR.	1095.8	220	120.5	228.9
527+92.00	530+02.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN.	210.00	770.75	1618.58	186.08	4341.9	0.03	130.3	63.16	1473.7	440.0	324.2	61.92	1444.8	385	278.1	61.00	1423.3	220	156.6	84.00	1960.0	220	215.6	372.2
530+02.00	532+02.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH - L.M.L. LEFT TURN LN. TAPER	200.00	743.63	1487.26	168.08	3735.1	0.03	112.1	57.16	1270.2	440.0	279.4	55.92	1242.7	385	239.2	55.00	1222.2	220	134.4	78.00	1733.3	220	190.7	325.1
532+02.00	547+63.00	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	1561.00	716.50	11184.57	150.08	26030.5	0.03	780.9	51.16	8873.4	440.0	1952.1	49.92	8658.3	385	1666.7	49.00	8498.8	220	934.9	72.00	12488.0	220	1373.7	2308.6
582+39.50	584+30.50	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	191.00	716.50	1368.52	150.08	3185.0	0.03	95.6	51.16	1085.7	440.0	238.9	49.92	1059.4	385	203.9	49.00	1039.9	220	114.4	72.00	1528.0	220	168.1	282.5
597+03.50	603+17.50	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	614.00	716.50	4399.31	150.08	10238.8	0.03	307.2	51.16	3490.2	440.0	767.8	49.92	3405.7	385	655.6	49.00	3342.9	220	367.7	72.00	4912.0	220	540.3	908.0
597+03.50	603+42.50	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	639.00	716.50	4578.44	150.08	10655.7	0.03	319.7	51.16	3632.4	440.0	799.1	49.92	3544.3	385	682.3	49.00	3479.0	220	382.7					382.7
597+03.50	603+67.50	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	664.00	716.50	4757.56	101.08	7457.5	0.03	223.7	51.16	3774.5	440.0	830.4	49.92	3683.0	385	709.0										
597+03.50	603+92.50	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	689.00	716.50	4936.69	51.16	3916.6	0.03	117.5	51.16	3916.6	440.0	861.7													
597+03.50	604+17.50	HWY. 226 - 4 LN. DIVIDED FULL DEPTH	714.00	716.50	5115.81																					
10+00.00	13+07.70	COUNTY ROAD 233 RELOCATION	307.70	207.75	639.25																	20.00	683.8	220	75.2	75.2
DETOUR CONSTRUCTION																										
589+43.00	608+29.22	STAGE 1 DETOUR CONSTRUCTION	1886.22	227.00	4281.72	75.04	15726.9	0.03	471.8	25.58	5361.1	440.0	1179.4	24.96	5231.1	385	1007.0	24.50	5134.7	220	564.8	28.00	5868.2	220	645.5	1210.3
597+03.50	608+11.41	STAGE 2 DETOUR CONSTRUCTION	1107.91	227.00	2514.96	75.04	9237.5	0.03	277.1	25.58	3148.9	440.0	692.8	24.96	3072.6	385	591.5	24.50	3016.0	220	331.8	28.00	3446.8	220	379.1	710.9
ADDITIONAL FOR GUARDRAIL WIDENING																										
544+27.85	544+60.85	ADDITIONAL FOR GUARDRAIL WIDENING - R.M.L. RT. SHOULDER	33.00	8.63	2.85																	2.75	10.1	220	1.1	1.1
544+60.85	547+62.50	ADDITIONAL FOR GUARDRAIL WIDENING - R.M.L. RT. SHOULDER	301.65	17.25	52.03																	5.50	184.3	220	20.3	20.3
544+02.85	544+35.85	ADDITIONAL FOR GUARDRAIL WIDENING - R.M.L. LT. SHOULDER	33.00	8.63	2.85																	4.75	17.4	220	1.9	1.9
544+35.85	547+62.50	ADDITIONAL FOR GUARDRAIL WIDENING - R.M.L. LT. SHOULDER	326.65	17.25	56.35																	7.50	272.2	220	29.9	29.9
597+03.50	600+05.75	ADDITIONAL FOR GUARDRAIL WIDENING - L.M.L. RT. SHOULDER	302.25	17.25	52.14																	7.50	251.9	220	27.7	27.7
600+05.75	600+38.75	ADDITIONAL FOR GUARDRAIL WIDENING - L.M.L. RT. SHOULDER	33.00	8.63	2.85																	4.75	17.4	220	1.9	1.9
597+03.50	599+80.75	ADDITIONAL FOR GUARDRAIL WIDENING - L.M.L. LT. SHOULDER	277.25	17.25	47.83																	5.50	169.4	220	18.6	18.6
599+80.75	600+13.75	ADDITIONAL FOR GUARDRAIL WIDENING - L.M.L. LT. SHOULDER	33.00	8.63	2.85																	2.75	10.1	220	1.1	1.1
TEMPORARY GRADE RAISE																										
433+50.00	434+50.00	HWY. 226 - PROPOSED R.M.L.	100.00	227.00	227.00	75.04	833.8	0.03	25.0	25.58	284.2	440.0	62.5	24.96	277.3	385	53.4	24.50	272.2	220	29.9	28.00	311.1	220	34.2	64.1
434+50.00	438+50.00	HWY. 226 - PROPOSED R.M.L.	400.00	227.00	908.00	75.04	3335.1	0.03	100.1	25.58	1136.9	440.0	250.1	24.96	1109.3	385	213.5	24.50	1088.9	220	119.8	28.00	1244.4	220	136.9	256.7
TEMPORARY M.O.T. CROSSOVERS																										
438+50.00	445+00.00	HWY. 226 - TEMPORARY M.O.T. CROSSOVER	650.00	227.00	1475.50	75.04	5419.6	0.03	162.6	25.58	1847.4	440.0	406.4	24.96	1802.7	385	347.0	24.50	1769.4	220	194.6	28.00	2022.2	220	222.4	417.0
535+00.00	544+00.00	HWY. 226 - TEMPORARY M.O.T. CROSSOVER	900.00	241.00	2169.00	48.04	4804.0	0.03	144.1	16.58	1658.0	440.0	364.8	15.96	1596.0	385	307.2	15.50	1550.0	220	170.5	25.00	2500.0	220	275.0	445.5
ADDITIONAL FOR SUPERELEVATION																										
582+39.50	583+96.14	HWY. 226 - SUPERELEVATION TRANSITION	156.64	32.13	50.33																					
583+96.14	584+30.50	HWY. 226 - MAXIMUM SUPERELEVATION	34.36	64.25	22.08																					
597+03.50	604+42.50	HWY. 226 - MAXIMUM SUPERELEVATION	739.00	64.25	474.81																					
ADDITIONAL FOR METHOD OF RAISING GRADE																										
451+25.21	468+00.00	HWY. 226 - PROPOSED R.M.L.	1674.79			20.00	VAR.	VAR.	707.1	20.00	VAR.	VAR.	4370.4													
488+30.00	509+90.00	HWY. 226 - PROPOSED R.M.L.	2160.00			20.00	VAR.	VAR.	912.0	20.00	VAR.	VAR.	5476.2													
TOTALS:					**118236.22**		271867.5		**9775.9**		96350.9		**31043.2**		90342.1		**17390.3**		85173.4		**9369.2**		115626.9		**12718.9**	**22088.1**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.3% MIN. AGGR.....3.7% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

7/6/2012

R100679.DGN

QUANTITIES

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.		100679	87	252
				① A&B7250 A&B7251		QUANTITIES		52731

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 100679

BRIDGE NO. / CODE NO. / NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	SP & 205	801	802	802	803	SS & 804	SS & 804	SP & 805	SP & 805	805	807	808	812	816	816	SP JOB 100679
		ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	CLASS 1 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL-BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	③ STEEL SHELL PILING (18" DIAMETER)	③ STEEL SHELL PILING (24" DIAMETER)	PILE ENCASEMENT	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W)	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	DUMPED RIPRAP	FILTER BLANKET	SILICONE JOINT SEALANT
		UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	CU. IN.	EACH	CU. YD.	SQ. YD.	LIN. FT.
A7250 X071 BIG CREEK DITCH	END BENT NOS. 1 & 68				60.39		0.5	7,225	885	550			1,437	2,550.2		192	339	
	INT. BENT NOS. 2-4, 6-8, 10-12, 14-16, 18-20, 22-24, 26-28, & 30-32				319.92			35,498	4,810	8,400		652						
	INT. BENT NOS. 5, 9, 13, 17, 21, 25, 29, & 33				163.12			14,986		2,800		210		19,743.8				
	INT. BENT NOS. 34-36, 38-40, 42-44, 46-48, 50-52, 54-56, 58-60, & 62-64				319.92			35,498	4,810	8,400		652						
	INT. BENT NOS. 37, 41, 45, 49, 53, 57, 61, & 65				164.83			15,392		2,800		207		19,826.0				
	INT. BENT NOS. 66 & 67				31.12			3,221	425		750	118						
	16 - 200'-0" CONT. W-BEAM UNITS					4,299.07	320.9		981,448				1,973,574					697
	1- 204'-0" CONT. W-BEAM UNIT					270.93	20.5		62,962				186,709		1			41
	TOTALS FOR BRIDGE NO. A7250			0	1,059.30	4,570.00	341.9	111,820	1,055,340	22,950	750	1,839	2,161,720	42,120.0	1	192	339	738
B7250 X071 BIG CREEK DITCH	END BENT NOS. 1 & 68			26	60.39		0.5	7,225	885	550			1,437	2,550.2		192	339	
	INT. BENT NOS. 2-4, 6-8, 10-12, 14-16, 18-20, 22-24, 26-28, & 30-32				319.92			35,498	4,810	8,400		652						
	INT. BENT NOS. 5, 9, 13, 17, 21, 25, 29, & 33				163.12			14,986		2,800		210		19,743.8				
	INT. BENT NOS. 34-36, 38-40, 42-44, 46-48, 50-52, 54-56, 58-60, & 62-64				319.92			35,498	4,810	8,400		652						
	INT. BENT NOS. 37, 41, 45, 49, 53, 57, 61, & 65				164.83			15,392		2,800		207		19,826.0				
	INT. BENT NOS. 66 & 67				31.12			3,221	425		750	129						
	16 - 200'-0" CONT. W-BEAM UNITS					4,299.07	320.9		981,448				1,973,574		1			697
	1- 204'-0" CONT. W-BEAM UNIT					270.93	20.5		62,962				186,709					41
	SITE NO. 2 (STA. 581+00) ①	1																
	TOTALS FOR BRIDGE NO. B7250			26	1,059.30	4,570.00	341.9	111,820	1,055,340	22,950	750	1,850	2,161,720	42,120.0	1	192	339	738
A7251 X071 BIG CREEK DITCH RELIEF	END BENT NOS. 1 & 25				59.93		0.5	7,095	885	400			1,437	3,037.5		155	265	
	INT. BENT NOS. 2-4, 6-8, 10-12, 14-16, 18-20, & 22-24				239.94			26,629	3,607	4,775		519						
	INT. BENT NOS. 5, 9, 13, 17 & 21				103.33			9,366		1,375		131		15,187.5				
	6 - 201'-6' CONT. W-BEAM UNITS					1,619.20	121.3		371,338				780,353		1			287
	TOTALS FOR BRIDGE NO. A7251			0	403.20	1,619.20	121.8	43,090	375,830	6,550	0	650	781,790	18,225.0	1	155	265	287
B7251 X071 BIG CREEK DITCH RELIEF	END BENT NOS. 1 AND 25			16	59.93		0.5	7,095	885	400			1,437	3,037.5		155	265	
	INT. BENT NOS. 2-4, 6-8, 10-12, 14-16, 18-20, 22-24				239.94			26,629	3,607	4,775		492						
	INT. BENT NOS. 5, 9, 13, 17 AND 21				103.33			9,366		1,375		120		15,187.5				
	6 - 198'-6" CONT. W-BEAM UNITS					1,600.60	119.5		365,478				771,493		1			287
	SITE NO. 3 (STA. 587+60)	1																
	TOTALS FOR BRIDGE NO. B7251			16	403.20	1,600.60	120.0	43,090	369,970	6,550	0	612	772,930	18,225.0	1	155	265	287
	SITE NO. 1 (STA. 475+19) ②	1																
	TOTALS FOR JOB NO. 100679			42	2,925.00	12,359.80	925.6	309,820	2,856,480	59,000	1,500	4,951	5,878,160	120,690.0	4	694	1,208	2,050

① See Special Provision Job 100679 "Removal of Historic Truss Span of Bridge No. M2407".

② Existing Br. No. M3186 (log mile 9.06) is 25.2' wide and 69' long and consists of precast concrete channel beams supported by timber piling. This bridge shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor except the guardrail materials which shall remain the property of the State. The Contractor shall provide temporary storage and on site loading onto AHTD equipment for removal of the guardrail materials from the site. Payment for this work shall be considered incidental to the item "Removal of Existing Bridge Structure".

③ Steel Shell Piles shall conform to ASTM A 252, Grade 3 (Fy = 45 ksi).

AILEEN SCHUBEL
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
CARL T. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/25/12
CARL T. FUSELIER

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
HWY. 49 CONNECTION - WEST (S)
CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/13/12 FILENAME: b100679_q1.dgn
CHECKED BY: JYP DATE: 6-25-12 SCALE: NONE
DESIGNED BY: DATE:

BRIDGE NO. A&B7250, A&B7251 DRAWING NO. 52731

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		79	STATION
201	GRUBBING		79	STATION
202	REMOVAL AND DISPOSAL OF WELL		3	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE SLABS		125	SQ. YD.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		53	EACH
202	REMOVAL AND DISPOSAL OF CANOPY		1	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		2	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL		275	LIN. FT.
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 4)		1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 5)		1.00	LUMP SUM
206	FLOWABLE SELECT MATERIAL		79	CU. YD.
210	UNCLASSIFIED EXCAVATION		112723	CU. YD.
SP & 210	COMPACTED EMBANKMENT		339425	CU. YD.
SP & 210	SOIL STABILIZATION		1000	TON
SP & 302	SELECTED MATERIAL (CLASS SM-1)		25551	CU. YD.
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		122069	TON
401	TACK COAT		9778	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		29894	TON
SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")		1149	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		16660	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		730	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		21211	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		1163	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		150	TON
504	APPROACH SLABS (TYPE SPECIAL)		392.56	CU. YD.
504	APPROACH GUTTERS (TYPE C)		210.48	CU. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SS & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	18" TEMPORARY CULVERT		300	LIN. FT.
SS & 604	SIGNS		595	SQ. FT.
SP, SS, & 604	SIGNS LEFT IN PLACE		209	SQ. FT.
SS & 604	BARRICADES		368	LIN. FT.
SP, SS, & 604	BARRICADES LEFT IN PLACE		64	LIN. FT.
SS & 604	TRAFFIC DRUMS		499	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		599	LIN. FT.
SP, SS, & 604	FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER		598	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER		519	LIN. FT.
SS & 604	CONSTRUCTION PAVEMENT MARKINGS		1949	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		77716	LIN. FT.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		848	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		1038	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		44	LIN. FT.
SS & 606	60" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		240	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN		208	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN		130	LIN. FT.
SS & 606	60" SIDE DRAIN		436	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		9	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		12	EACH
606	60" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		8	EACH
606	SELECTED PIPE BEDDING		270	CU. YD.
609	DROP INLETS (TYPE RM)		15	EACH
609	DROP INLETS (TYPE TM)		2	EACH
611	UNDERDRAIN OUTLET PROTECTORS		4	EACH
611	4" PIPE UNDERDRAINS		600	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)		42	TON
SS & 617	GUARDRAIL (TYPE A)		1050	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)		4	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL		4	EACH
619	WIRE FENCE (TYPE A)		32108	LIN. FT.
619	WIRE FENCE (TYPE C)		1000	LIN. FT.
* 619	16' STEEL GATES	(ALTERNATE NO. 1)	5	EACH
* 619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	5	EACH
620	LIME		81	TON
620	SEEDING		40.66	ACRE
620	MULCH COVER		207.69	ACRE
SS & 620	WATER		7560.5	M.GAL.
621	TEMPORARY SEEDING		167.03	ACRE
621	SILT FENCE		38038	LIN. FT.
621	SAND BAG DITCH CHECKS		1364	BAG
621	DROP INLET SILT FENCE		280	LIN. FT.
621	SEDIMENT BASIN		1573	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		1573	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		3302	CU. YD.
621	ROCK DITCH CHECKS		930	CU. YD.
623	SECOND SEEDING APPLICATION		40.66	ACRE
624	SOLID SODDING		444	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		3	EACH
637	MAILBOX SUPPORTS (SINGLE)		3	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS		36212	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		32456	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		26051	LIN. FT.
SS & 719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		8	EACH
SS & 719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		8	EACH
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	1188	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	1188	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		127	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		57856	POUND
SP	TEMPORARY IMPACT ATTENUATION BARRIER		3	EACH
SP	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		3	EACH
	STRUCTURES OVER 20' SPAN			
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)		1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)		1.00	LUMP SUM
SP & 205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3)		1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL		1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE		42	CU. YD.
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		666	CU. YD.
802	CLASS S CONCRETE-ROADWAY		1712.51	CU. YD.
802	CLASS S CONCRETE-BRIDGE		2925.00	CU. YD.
802	CLASS S(AE) CONCRETE-BRIDGE		12359.80	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT		925.6	GAL.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		254515	POUND
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)		309820	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)		2856480	POUND
SP & 805	STEEL SHELL PILING (18" DIAMETER)		59000	LIN. FT.
SP & 805	STEEL SHELL PILING (24" DIAMETER)		1500	LIN. FT.
805	PILE ENCASEMENT		4951	LIN. FT.
807	STRUCTURAL STEEL IN BEAM SPANS (M270-GR50W)		5878160	POUND
808	ELASTOMERIC BEARINGS		120690.0	CU. IN.
812	BRIDGE NAME PLATE (TYPE D)		4	EACH
816	FILTER BLANKET		1208	SQ. YD.
816	DUMPED RIPRAP		694	CU. YD.
SP	SILICONE JOINT SEALANT		2050	LIN. FT.

*ALTERNATE BID ITEMS

REVISIONS

DATE	REVISION	SHEET NUMBER

SUMMARY OF QUANTITIES AND REVISIONS

7/25/12

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER MICHAEL D. FUGETT No. 7605

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.
				6

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
ARK.		84	252

JOB NO. 100679

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

Point Name	Northing	Easting	Elev	Feature	Description
10	533885.8777	1604006.5166	241.763	CTL	5/8" Rebar with 2" Aluminum Cap
11	533869.9076	1605071.6633	240.587	CTL	5/8" Rebar with 2" Aluminum Cap
12	533852.3119	1606212.5228	240.711	CTL	5/8" Rebar with 2" Aluminum Cap
13	533835.3791	1607227.0847	241.246	CTL	5/8" Rebar with 2" Aluminum Cap
14	533818.3021	1608232.5536	241.097	CTL	5/8" Rebar with 2" Aluminum Cap
15	533806.2408	1609393.0025	241.063	CTL	5/8" Rebar with 2" Aluminum Cap
16	533790.7684	1610515.0489	239.944	CTL	5/8" Rebar with 2" Aluminum Cap
17	533790.1233	1611573.9150	241.374	CTL	5/8" Rebar with 2" Aluminum Cap
18	533782.3552	1612762.7185	241.147	CTL	5/8" Rebar with 2" Aluminum Cap
19	533768.8600	1613540.6041	240.136	CTL	5/8" Rebar with 2" Aluminum Cap
20	533765.5354	1614630.9721	240.742	CTL	5/8" Rebar with 2" Aluminum Cap
21	533736.9524	1615864.4039	239.974	CTL	5/8" Rebar with 2" Aluminum Cap
22	533723.4737	1616957.4919	239.898	CTL	5/8" Rebar with 2" Aluminum Cap
23	533702.1519	1617967.3834	239.328	CTL	5/8" Rebar with 2" Aluminum Cap
24	533679.3654	1619113.4602	241.023	CTL	5/8" Rebar with 2" Aluminum Cap
25	533651.5401	1620240.7353	242.260	CTL	5/8" Rebar with 2" Aluminum Cap
26	533627.4120	1621227.3049	242.211	CTL	5/8" Rebar with 2" Aluminum Cap
27	533615.9590	1621952.9022	242.268	CTL	5/8" Rebar with 2" Aluminum Cap
28	533601.5295	1622944.5000	242.711	CTL	5/8" Rebar with 2" Aluminum Cap
29	533581.6282	1624200.7396	242.985	CTL	5/8" Rebar with 2" Aluminum Cap
30	533560.1504	1625253.8630	243.585	CTL	5/8" Rebar with 2" Aluminum Cap
31	533548.8989	1626378.1614	242.998	CTL	5/8" Rebar with 2" Aluminum Cap
32	533514.9561	1627731.0375	247.911	CTL	5/8" Rebar with 2" Aluminum Cap
33	533523.6805	1628434.8243	248.794	CTL	5/8" Rebar with 2" Aluminum Cap
34	533509.1540	1629690.2926	249.353	CTL	5/8" Rebar with 2" Aluminum Cap
35	533499.1057	1630556.1290	249.518	CTL	5/8" Rebar with 2" Aluminum Cap
36	533500.2008	1631705.0818	249.454	CTL	5/8" Rebar with 2" Aluminum Cap
37	533490.7148	1632688.7760	248.513	CTL	5/8" Rebar with 2" Aluminum Cap
38	533489.1572	1633993.3326	247.320	CTL	5/8" Rebar with 2" Aluminum Cap
39	533459.1358	1635103.2571	245.352	CTL	5/8" Rebar with 2" Aluminum Cap
40	533467.8997	1636072.6025	245.367	CTL	5/8" Rebar with 2" Aluminum Cap
41	533446.9016	1636922.2134	245.213	CTL	5/8" Rebar with 2" Aluminum Cap
42	533425.7968	1638094.0713	246.003	CTL	5/8" Rebar with 2" Aluminum Cap
43	533408.8224	1639161.4861	245.906	CTL	5/8" Rebar with 2" Aluminum Cap
44	533381.1719	1640087.4799	246.656	CTL	5/8" Rebar with 2" Aluminum Cap
45	533412.8164	1643392.4657	246.426	CTL	5/8" Rebar with 2" Aluminum Cap
46	533407.6484	1644172.4141	248.243	CTL	5/8" Rebar with 2" Aluminum Cap
47	533410.9345	1645134.4474	247.940	CTL	5/8" Rebar with 2" Aluminum Cap
48	533366.9545	1645962.1648	250.061	CTL	5/8" Rebar with 2" Aluminum Cap
49	533405.4661	1647284.3494	250.366	CTL	5/8" Rebar with 2" Aluminum Cap
50	533409.4232	1648185.2243	250.241	CTL	5/8" Rebar with 2" Aluminum Cap
51	533411.8986	1649352.8260	250.736	CTL	5/8" Rebar with 2" Aluminum Cap
52	533418.0921	1650380.9714	250.337	CTL	5/8" Rebar with 2" Aluminum Cap
53	533379.5835	1653609.1588	253.834	CTL	5/8" Rebar with 2" Aluminum Cap
54	533382.1967	1654543.5737	251.723	CTL	5/8" Rebar with 2" Aluminum Cap
55	533422.2184	1655659.5637	252.896	CTL	5/8" Rebar with 2" Aluminum Cap
56	533408.7531	1656393.1439	258.129	CTL	5/8" Rebar with 2" Aluminum Cap
57	533328.4701	1657324.6234	256.731	CTL	5/8" Rebar with 2" Aluminum Cap
58	533294.0742	1658181.9484	253.708	CTL	5/8" Rebar with 2" Aluminum Cap
59	533230.6512	1659356.0443	254.550	CTL	5/8" Rebar with 2" Aluminum Cap
60	533234.4297	1660122.9707	254.518	CTL	5/8" Rebar with 2" Aluminum Cap
61	533138.0361	1661150.8527	253.394	CTL	5/8" Rebar with 2" Aluminum Cap
62	533156.2961	1662266.4828	256.539	CTL	5/8" Rebar with 2" Aluminum Cap
63	533164.2577	1663312.3536	256.809	CTL	5/8" Rebar with 2" Aluminum Cap
64	533140.8642	1664502.4744	257.656	CTL	5/8" Rebar with 2" Aluminum Cap
65	533184.1396	1665062.0045	265.094	CTL	5/8" Rebar with 2" Aluminum Cap
66	533102.0852	1666128.4078	257.659	CTL	5/8" Rebar with 2" Aluminum Cap
67	533102.8386	1667306.4401	261.594	CTL	5/8" Rebar with 2" Aluminum Cap
68	533109.2136	1668388.2136	260.822	CTL	5/8" Rebar with 2" Aluminum Cap
69	533135.4301	1669664.1468	261.658	CTL	5/8" Rebar with 2" Aluminum Cap
70	533134.2824	1670729.9592	264.428	CTL	5/8" Rebar with 2" Aluminum Cap
71	533153.2239	1672084.7771	273.500	CTL	5/8" Rebar with 2" Aluminum Cap
72	534237.4036	1598581.6389	254.802	CTL	5/8" Rebar with 2" Aluminum Cap
73	534876.8438	1598636.8475	244.456	CTL	5/8" Rebar with 2" Aluminum Cap
74	535475.6242	1598640.3721	242.282	CTL	5/8" Rebar with 2" Aluminum Cap
75	534057.9882	1611247.8694	238.372	CTL	5/8" Rebar with 2" Aluminum Cap
76	534745.7090	1611228.6603	238.003	CTL	5/8" Rebar with 2" Aluminum Cap
77	535400.8150	1611237.2881	237.892	CTL	5/8" Rebar with 2" Aluminum Cap
78	533602.8371	1614421.3900	236.092	CTL	5/8" Rebar with 2" Aluminum Cap
79	532992.9764	1614380.8071	235.621	CTL	5/8" Rebar with 2" Aluminum Cap
80	532355.9605	1614337.2860	235.103	CTL	5/8" Rebar with 2" Aluminum Cap
81	533866.0162	1619280.7712	238.827	CTL	5/8" Rebar with 2" Aluminum Cap
82	534471.5118	1619270.3061	238.927	CTL	5/8" Rebar with 2" Aluminum Cap
83	535120.1781	1619306.1267	238.924	CTL	5/8" Rebar with 2" Aluminum Cap
84	533296.6897	1635253.3796	245.512	CTL	5/8" Rebar with 2" Aluminum Cap
85	532657.0384	1635256.9269	244.924	CTL	5/8" Rebar with 2" Aluminum Cap
86	532026.6693	1635257.0908	244.738	CTL	5/8" Rebar with 2" Aluminum Cap
87	533667.3609	1640718.8090	245.292	CTL	5/8" Rebar with 2" Aluminum Cap
88	534331.6212	1640730.2701	245.336	CTL	5/8" Rebar with 2" Aluminum Cap
89	534943.3225	1640738.3673	247.483	CTL	5/8" Rebar with 2" Aluminum Cap
90	533200.3133	1645942.2895	247.226	CTL	5/8" Rebar with 2" Aluminum Cap
91	532601.5948	1645935.5342	248.323	CTL	5/8" Rebar with 2" Aluminum Cap
92	531913.3022	1645932.8911	248.882	CTL	5/8" Rebar with 2" Aluminum Cap
93	533729.0599	1651256.1029	249.950	CTL	5/8" Rebar with 2" Aluminum Cap
94	534100.7570	1651274.5768	250.361	CTL	5/8" Rebar with 2" Aluminum Cap
95	534736.3363	1651306.7902	250.392	CTL	5/8" Rebar with 2" Aluminum Cap
96	533462.1349	1665059.5417	263.146	CTL	5/8" Rebar with 2" Aluminum Cap
97	534050.6309	1665239.0715	263.484	CTL	5/8" Rebar with 2" Aluminum Cap
100	533445.9101	1640662.6166	246.637	GPS	160008 GPS
101	533359.9768	1642423.0597	247.568	GPS	160008A GPS
102	533457.7251	1651276.0473	252.669	GPS	160009A GPS
103	533450.0375	1652642.1920	252.126	GPS	160009 GPS
104	529775.0133	1663864.7028	251.983	GPS	160026 GPS
105	527888.0917	1663344.4477	251.590	BM	K-183 STD DSK
106	533377.4211	1622165.2816	242.411	GPS	160028 GPS
107	532889.2092	1620466.0898	243.486	GPS	160028A GPS
108	533964.2848	1603989.6098	245.244	GPS	160030 GPS
109	535811.9650	1603284.2999	253.002	GPS	160004A GPS
110	528280.9266	1624321.1650	247.623	GPS	160029 GPS
111	533623.4614	1672624.6200	280.913	GPS	160010 GPS
120	534551.6487	1668394.2032	263.699	CTL	5/8" Rebar with 2" Aluminum Cap
121	532912.8298	1668700.9149	261.010	CTL	5/8" Rebar with 2" Aluminum Cap
122	531597.2424	1668702.9780	254.747	CTL	5/8" Rebar with 2" Aluminum Cap
123	530591.1820	1668654.2225	254.983	CTL	5/8" Rebar with 2" Aluminum Cap
124	534204.7984	1672683.9568	288.057	CTL	5/8" Rebar with 2" Aluminum Cap
125	530733.6091	1671726.8798	262.210	CTL	5/8" Rebar with 2" Aluminum Cap
126	529583.6601	1672580.0339	263.642	CTL	5/8" Rebar with 2" Aluminum Cap
127	530665.1898	1672589.5177	266.553	CTL	5/8" Rebar with 2" Aluminum Cap
128	528059.8720	1663728.3793	251.156	CTL	5/8" Rebar with 2" Aluminum Cap
131	528018.5869	1664868.5859	251.287	CTL	5/8" Rebar with 2" Aluminum Cap
132	527976.8328	1665979.3225	251.357	CTL	5/8" Rebar with 2" Aluminum Cap
133	527990.0274	1666875.5379	251.415	CTL	5/8" Rebar with 2" Aluminum Cap
134	527985.8894	1667696.3918	250.894	CTL	5/8" Rebar with 2" Aluminum Cap
135	527955.9775	1668340.3240	251.374	CTL	5/8" Rebar with 2" Aluminum Cap
900	528669.8801	1624642.4947	247.410	BM	M246 USGS GOV BENCH
901	529868.9741	1625422.1050	244.639	BM	CH SQ IN HW
902	530907.7593	1626097.7598	244.963	BM	CH SQ IN HW
903	532139.0143	1626898.4489	246.657	BM	CH SQ IN HW
904	533472.6065	1627727.8152	251.376	BM	CH SQ IN TB PEDISTAL
905	533520.2875	1626348.6151	243.562	BM	CPS IN PP
906	533544.8077	1624630.6167	243.575	BM	CPS IN CP
907	533567.7778	1622901.9453	242.233	BM	CPS IN A CP
908	533608.6072	1622010.2771	240.465	BM	CH SQ IN HW
909	533680.1246	1620595.5126	240.724	BM	CH SQ IN HW
910	533671.6238	1618607.5509	241.608	BM	CH SQ IN BP OF FIELD ENT.
911	533719.8511	1616601.3916	238.472	BM	CHSLD SQR IN
912	533780.2910	1613620.3985	242.857	BM	CH SQ SW COR BR
913	533753.9026	1611241.3070	237.770	BM	CH SQ IN
914	533781.0593	1609032.5927	239.694	BM	CPS IN A PP
915	533854.5848	1607719.2158	241.980	BM	CH SQ IN NW
916	533888.0347	1605805.8539	242.066	BM	CH SQ IN NW
917	533929.7472	1603851.4782	241.541	BM	CH SQ W END OF HW
918	533500.1299	1629075.3156	248.219	BM	CH SQ IN TB PED.
919	533546.2370	1630312.6124	247.109	BM	TBM-919
920	533486.3795	1632334.2668	247.077	BM	CH SQ IN RCP
921	533474.1080	1634022.8001	246.104	BM	CH SQ IN RCP
923	533355.1205	1636321.9005	247.982	BM	CH SQ IN
924	533405.1077	1638069.3293	246.403	BM	CH SQ NE COR
926	533370.6017	1640081.4056	246.669	BM	CH SQ IN NW
927	533357.5275	1641608.9113	246.479	BM	CPS IN A PP
928	533411.4022	1643115.2124	244.960	BM	ON A CMP
929	533362.4278	1644091.2203	249.319	BM	CPS PP
930	533376.9641	1645967.4418	251.673	BM	TBM-930
931	533365.2610	1647110.0059	250.603	BM	CH SQ IN DW
932	533366.7648	1651175.3250	250.851	BM	TBM-932
933	533376.9794	1652410.0381	254.309	BM	CPS PP
934	533379.8320	1653642.0363	254.734	BM	CPS PP
935	533374.6226	1655129.6835	252.368	BM	CPS PP
936	533377.6557	1656473.3506	258.817	BM	CH SQ SW COR BR
937	533344.0044	1657313.0664	258.447	BM	CH SQ SE COR BR
938	533221.3071	1659393.4562	254.690	BM	CPS PP
939	533149.4943	1660796.1227	253.165	BM	CPS PP
940	533083.2207	1661796.2688	255.719	BM	CPS PP
941	533110.6057	1663429.9415	255.438	BM	CPS PP
942	533285.7903	1665050.8624	267.269	BM	CH SQ IN PED. 3FT
943	533106.3228	1667328.2947	261.863	BM	CHSLD SQ BR HW
944	533113.4028	1669295.7109	260.466	BM	CPS CP
951	528034.6853	1666051.5211	251.053	TBM	CHISELED SQR

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999306892 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME.S100412GI.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 111
CONVERGENCE ANGLE: 0-42-24.220508 RT AT LT: 35-47-37.05963 RT LG: 90-54-28.38572
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 226 - MAIN LANES

POINT NO.	TYPE	STATION	NORTHING	EASTING
8018	PI	453+82.03	533431.6946	1643872.1876
8019	PI	498+68.09	533432.4793	1648358.2470
8020	PI	537+25.96	533449.4821	1652216.0775
8021	PC	583+08.64	533444.4660	1656798.7517
8046	PI	600+98.46	533442.5069	1658588.5793
8023	PT	617+78.23	532422.0882	1660059.0324

COUNTY ROAD 233

POINT NO.	TYPE	STATION	NORTHING	EASTING
8029	POB	9+50.00	533026.8033	1645924.0031
8030	PC	10+43.26	533120.0360	1645926.0575
8047	PI	10+88.56	533165.3313	1645927.0557
8032	PT	11+32.80	533207.8430	1645911.3899
8033	PC	11+80.72	533252.8006	1645894.8228
8048	PI	12+23.29	533292.7494	1645880.1014
8035	PT	12+64.98	533335.3244	1645880.0972
8036	POE	13+61.70	533432.0458	1645880.0875

WESTERN M.O.T. CROSSOVER

POINT NO.	TYPE	STATION	NORTHING	EASTING
8057	POB	430+00.00	533398.9054	1641489.9934
8058	PI	438+50.00	533396.2995	1642339.9901
8059	PC	439+01.63	533396.0769	1642391.6179
8068	PI	441+00.00	533395.2217	1642589.9878
8061	PT	442+96.95	533435.1532	1642784.2990
8062	PC	443+08.94	533437.5650	1642796.0350
8069	PI	445+07.31	533477.4966	1642990.3462
8064	PT	447+04.26	533476.6414	1643188.7161
8065	POE	447+05.89	533476.6344	1643190.3443

EASTERN M.O.T. CROSSOVER

POINT NO.	TYPE	STATION	NORTHING	EASTING
8049	POB	535+00.00	533400.1601	1651990.3141
8050	PC	535+48.70	533400.2088	1652039.0131
8066	PI	537+48.95	533400.4088	1652239.2684
8052	PT	539+47.75	533442.1426	1652435.1267
8053	PC	539+52.20	533443.0705	1652439.4811
8067	PI	541+52.46	533484.8043	1652635.3395
8055	PT	543+51.26	533485.0043	1652835.5947
8056	POE	544+05.76	533485.0587	1652890.0953

STAGE 1 DETOUR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8068	POB	585+62.39	533366.8800	1657049.1671
8069	PC	589+42.95	533349.6538	1657429.3418
8090	PI	590+43.61	533345.0976	1657529.8935
8071	PT	591+42.95	533313.0022	1657625.2943
8072	PC	593+06.23	533260.9381	1657780.0499
8091	PI	595+33.64	533188.4244	1657995.5899
8074	PT	597+58.16	533177.4073	1658222.7337
8075	PC	601+70.88	533157.4127	1658634.9674
8092	PI	602+71.53	533152.5364	1658735.5041
8077	PT	603+70.88	533175.5607	1658833.4904
8078	PC	606+29.22	533234.6555	1659084.9853
8093	PI	607+29.88	533257.6798	1659182.9715
8080	PT	608+29.22	533252.8034	1659283.5083
8081	POE	608+39.87	533252.2879	1659294.1370

STAGE 2 DETOUR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8082	POB	595+70.95	533345.5050	1658060.2749
8083	PC	597+21.30	533312.3818	1658206.9371
8094	PI	598+39.97	533286.2399	1658322.688
8085	PT	599+57.79	533284.3715	1658441.3384
8086	PC	602+23.22	533280.1924	1658706.7335
8095	PI	602+56.25	533279.6724	1658739.758
8088	PT	602+89.27	533278.0107	1658772.7456
8089	PI	605+21.57	533266.3238	1659004.7547
8081	POE	608+11.30	533252.2879	1659294.1370

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	100679	85	252

SURVEY CONTROL DETAILS

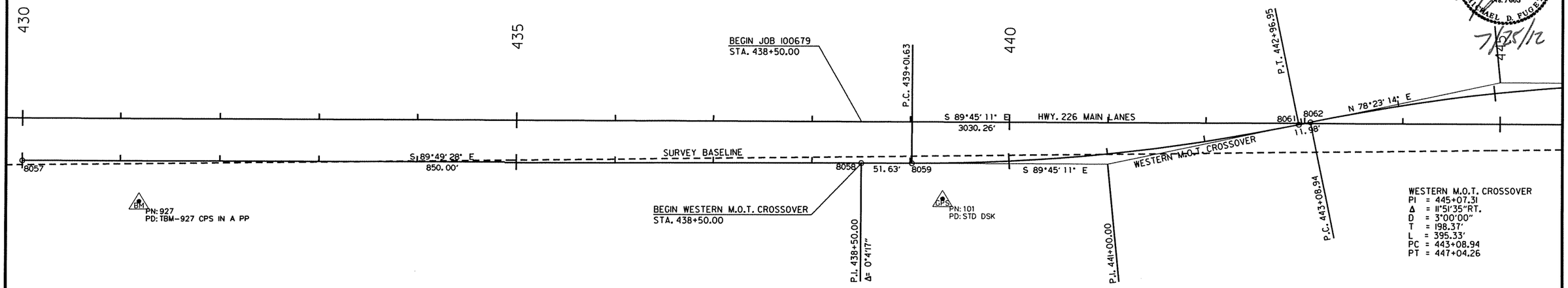
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER P. FAGERTT
7/25/12

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	86	252

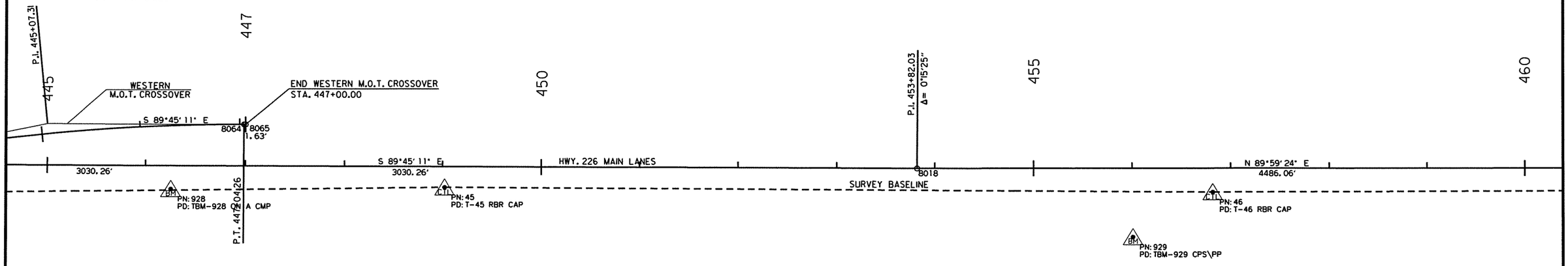
(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

WESTERN M.O.T. CROSSOVER
PI = 441+00.00
Δ = 11°51'35"LT.
D = 3°00'00"
T = 394.62'
L = 395.33'
PC = 439+01.63
PT = 442+96.95



WESTERN M.O.T. CROSSOVER
PI = 445+07.31
Δ = 11°51'35"RT.
D = 3°00'00"
T = 198.37'
L = 395.33'
PC = 443+08.94
PT = 447+04.26



4/3/2012

R100679.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	87	252

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

N

460 465 470

STATION 473+89.93 C.L. HWY. 167 =
STATION 13+61.70 C.L. COUNTY ROAD 233
Δ = 90°00'00"

HWY. 226 MAIN LANES

N 89°59'24" E
4486.06'

PT 8036

N 0°00'21" W
86.72'

SURVEY BASELINE

PN: 47
PD: T-47 RBR CAP

PN: 930
PD: TBM-930

PN: 48
PD: T-48 RBR

475 480 485 490

N

N 89°59'24" E
4486.06'

HWY. 226 MAIN LANES

PN: 930
PD: TBM-930

PN: 48
PD: T-48 RBR CAP

SURVEY BASELINE

PN: 931
PD: TBM-931 CH SQ IN DW

PN: 49
PD: T-49 RBR CAP

4/3/2012

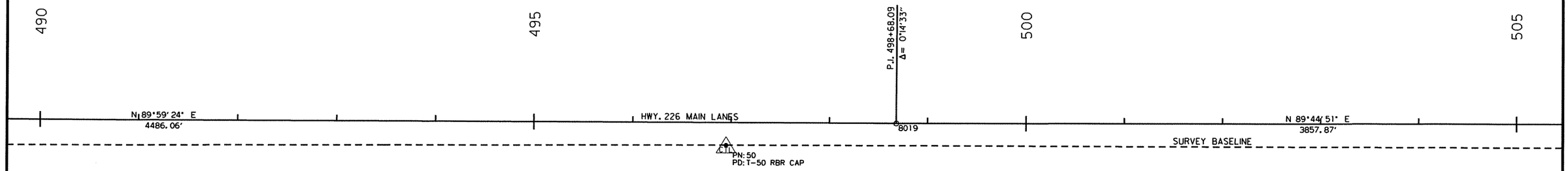
R100679.DGN

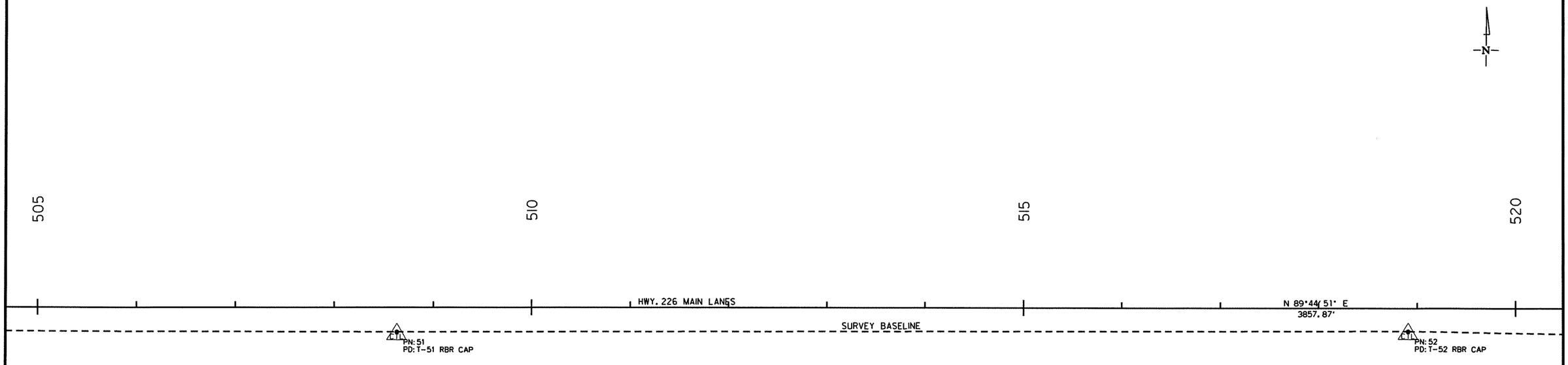
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	88	252

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12





4/3/2012

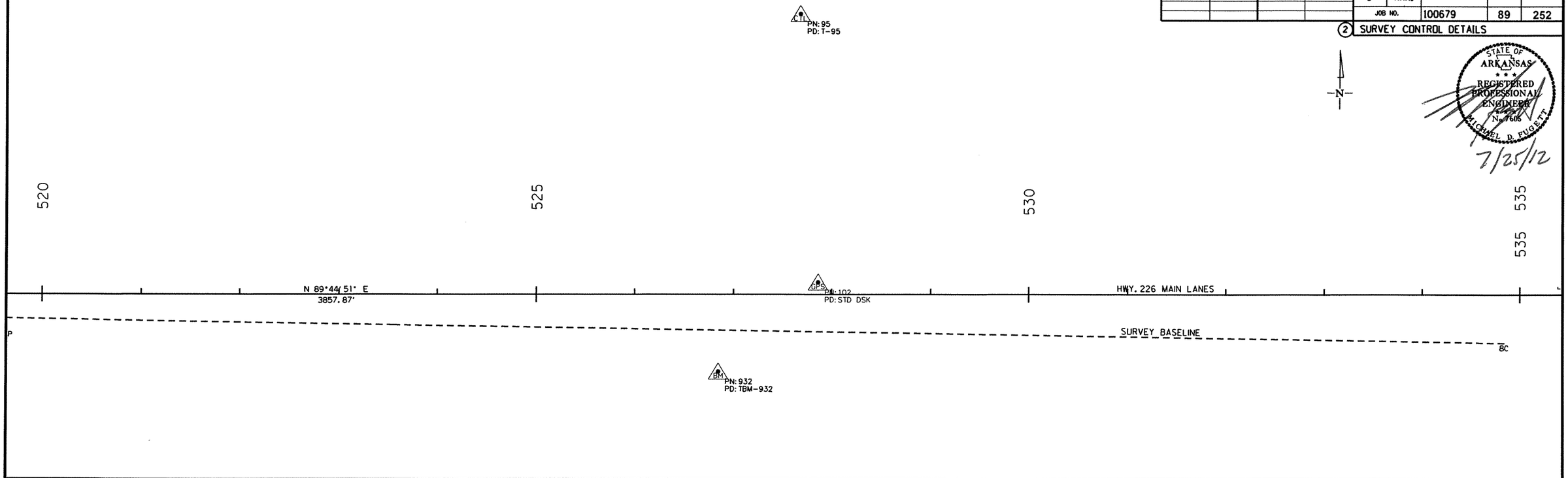
R100679.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	89	252

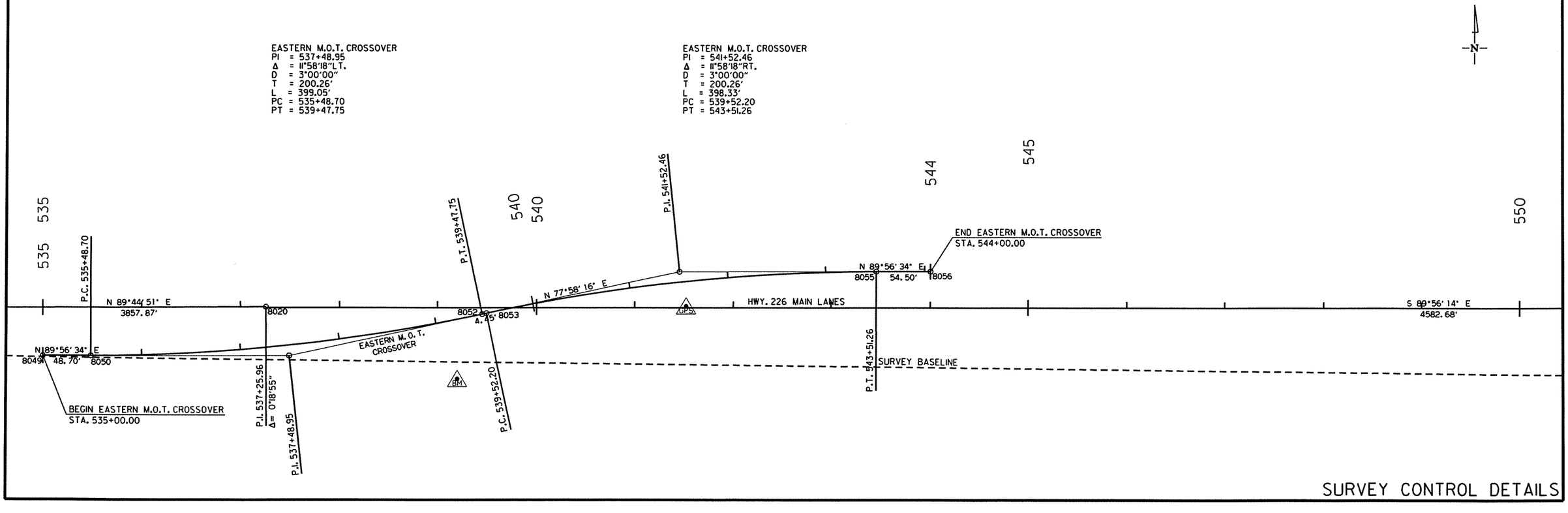
(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12



EASTERN M.O.T. CROSSOVER
PI = 537+48.95
Δ = 11°58'18"LT.
D = 3°00'00"
T = 200.26'
L = 399.05'
PC = 535+48.70
PT = 539+47.75

EASTERN M.O.T. CROSSOVER
PI = 541+52.46
Δ = 11°58'18"RT.
D = 3°00'00"
T = 200.26'
L = 398.33'
PC = 539+52.20
PT = 543+51.26



4/3/2012

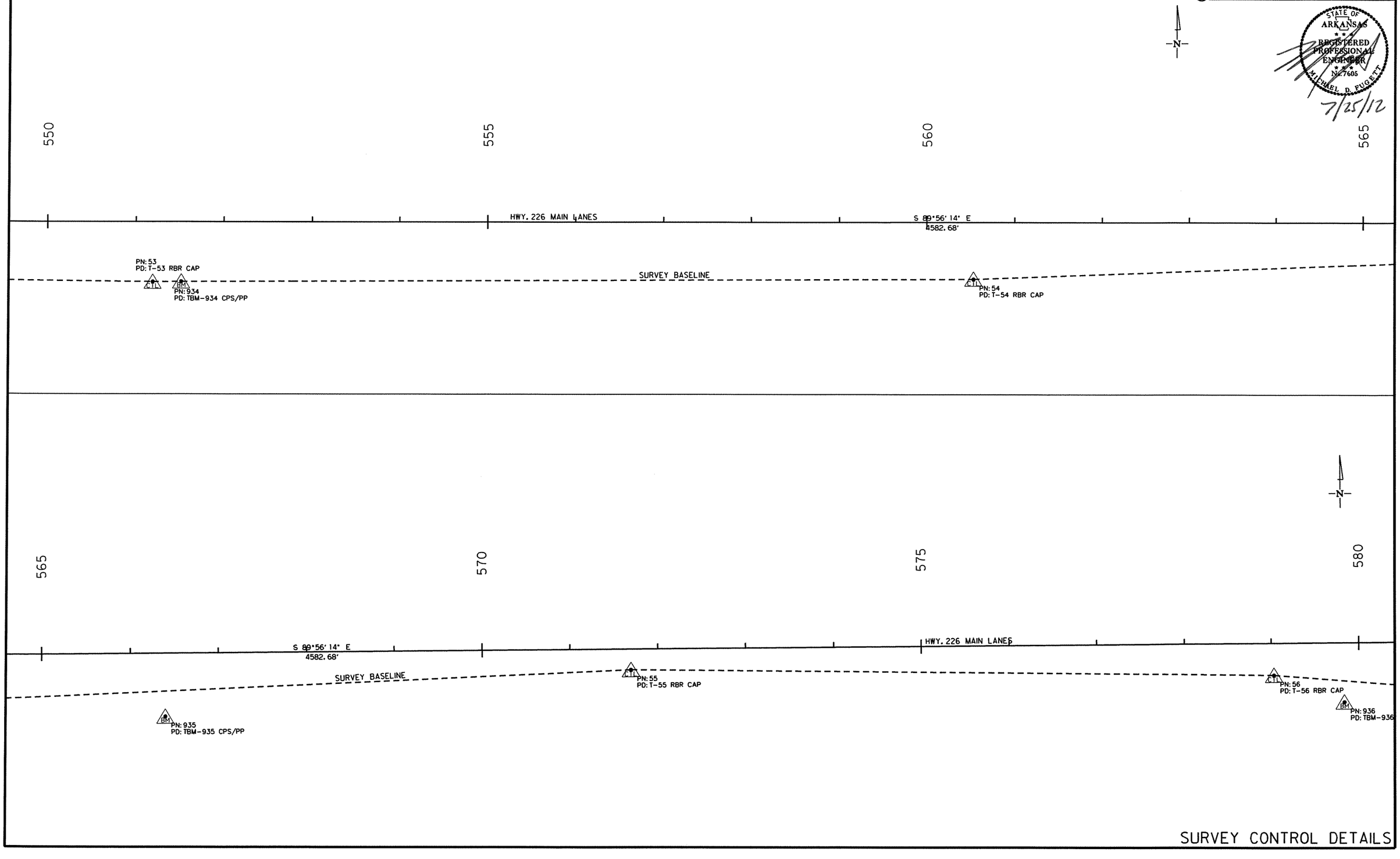
R100679.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	90	252

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/25/12



SURVEY CONTROL DETAILS

4/3/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	91	252

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/25/12

(8) HWY. 226 MAIN LANES
PI = 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83'
L = 3469.59'
PC = 583+08.64
PT = 617+78.23
e = 0.030'/''
Ls = 350'

580 585 590 595

S 89°56' 14" E
4582.68'

8021

HWY. 226 MAIN LANES

P.I. 590+43.61

CAP
PN: 936
PD: TBM-936 CH SQ SW COR BR

P.C. 583+08.64

BEGIN STAGE 1 DETOUR
STA. 585+00.00

8908

STAGE 1 DETOUR

S 87°24' 20" E
380.56'

6908

PN: 937
PD: TBM-937 CH SQ SE COR BR

PN: 57
PD: T-57 RBR CAP

SURVEY BASELINE

(1) STAGE 1 DETOUR
PI = 590+43.61
Δ = 16°00'00"RT.
D = 8°00'00"
T = 100.66'
L = 200.00'
PC = 589+42.95
PT = 591+42.95
NO SUPER

(2) STAGE 1 DETOUR
PI = 595+33.64
Δ = 15°49'03"LT.
D = 3°30'00"
T = 227.41'
L = 451.93'
PC = 593+06.23
PT = 597+58.16
NO SUPER

P.C. 589+42.95

P.T. 591+42.95

8071

S 71°24' 20" E
163.28'

8072

P.C. 593+06.23

(5) STAGE 2 DETOUR
PI = 598+39.97
Δ = 11°49'28"LT.
D = 5°00'00"
T = 118.67'
L = 236.49'
PC = 597+21.30
PT = 599+57.79
NO SUPER

(6) STAGE 2 DETOUR
PI = 598+39.97
Δ = 11°49'28"LT.
D = 5°00'00"
T = 118.67'
L = 236.49'
PC = 597+21.30
PT = 599+57.79
NO SUPER

P.I. 600+98.46

S 89°56' 14" E

S55°14'28.8"E

(8) HWY. 226 MAIN LANES
PI = 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83'
L = 3469.59'
PC = 583+08.64
PT = 617+78.23
e = 0.030'/''
Ls = 350'

P.I. 605+21.57
Δ = 0°6'24"

P.I. 607+29.88

P.I. 602+56.25

605

END STAGE 1 DETOUR (STA. 608+29.22)
END STAGE 2 DETOUR (STA. 608+11.41)

PN: 59
PD: T-59 RBR CAP

PN: 938
PD: TBM-938 CPS/PP

S 87°13' 23" E
289.72'

C. 64'

8068

P.C. 597+21.30

P.T. 599+57.79

595 596 600 605

S 87°06' 59" E
232.30'

BEGIN STAGE 1 DETOUR
STA. 585+00.00

STAGE 2 DETOUR

S 89°05' 52" E
265.43'

P.I. 601+70.88

P.T. 601+70.88

SURVEY BASELINE

N 76°46' 37" E
258.34'

P.C. 606+29.22

P.T. 608+29.22

S 77°16' 24" E
150.36'

PN: 58
PD: T-58 RBR CAP

P.T. 597+58.16

P.I. 598+39.97

P.C. 601+70.88

P.C. 602+23.22

P.T. 602+89.27

8075

END JOB 100679

S 87°13' 23" E
412.72'

STAGE 1 DETOUR

HWY. 226 MAIN LANES

P.I. 602+71.53

P.I. 595+33.64

(2) STAGE 1 DETOUR
PI = 595+33.64
Δ = 15°49'03"LT.
D = 3°30'00"
T = 227.41'
L = 451.93'
PC = 593+06.23
PT = 597+58.16
NO SUPER

(3) STAGE 1 DETOUR
PI = 602+71.53
Δ = 16°00'00"LT.
D = 8°00'00"
T = 100.66'
L = 200.00'
PC = 601+70.88
PT = 603+70.88
NO SUPER

(4) STAGE 1 DETOUR
PI = 607+29.88
Δ = 16°00'00"RT.
D = 8°00'00"
T = 100.66'
L = 200.00'
PC = 606+29.22
PT = 608+29.22
NO SUPER

610

4/3/2012

R100679.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	92	252

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/25/12

(8) HWY. 226 MAIN LANES
PI = 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83'
L = 3469.59'
PC = 583+08.64
PT = 617+78.23
e = 0.030'/"
Ls = 350'

610 615 620 625 630 635 640 645 650 655 660 665 670 675

HWY. 226 MAIN LANES (8)

8023

620+39.290 BACK =
620+00.000 AHEAD

P.T. 617+78.23

STATION 473+89.93 C.L. HWY. 167 =
STATION 13+61.70 C.L. COUNTY ROAD 233
Δ = 90°00'00"

N 89°59' 24" E
4486.06'

8036

N 0°00' 21" W
86.72'

PN: 47
PD: T-47 RBR CAP

SURVEY BASELINE

PN: 930
PD: TBM-930

PN: 48
PD: T-48 RBR CAP

P.T. 12+64.98

8035

(7) COUNTY ROAD 233
PI = 12+23.29
Δ = 20°13'24"RT.
D = 24°00'00"
T = 42.58'
L = 84.26'
PC = 11+80.72
PT = 12+64.98
NO SUPER

P.I. 12+23.29

P.C. 11+80.72

8033

N 19°13' 45" W
47.91'

8032

PN: 92
PD: T-92

P.I. 10+88.56

COUNTY ROAD 233

P.T. 11+32.80

(8) COUNTY ROAD 233
PI = 10+88.56
Δ = 21°29'29"LT.
D = 24°00'00"
T = 45.31'
L = 89.55'
PC = 10+43.26
PT = 11+32.80
NO SUPER

P.C. 10+43.26

8030

N 1°15' 44" E
93.26'

8029

01

4/3/2012

R100679.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	93	252

(2) SOIL BORING LOG

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

SOIL BORING LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
444+00	35	47	37.00	90	53	8.50	CL	0-5	25	8	A-4(4)	BROWN
444+00	35	47	37.00	90	53	8.50	CL	0-5	30	13	A-6(9)	BROWN
452+00	35	47	37.00	90	52	58.90	10'RT	0-5	38	22	A-6(19)	BROWN
460+00	35	47	36.80	90	52	49.30	CL	0-5	37	18	A-6(17)	BR/GR
468+00	35	47	36.80	90	52	39.50	CL	0-5	29	11	A-6(9)	BR/GR
472+00	35	47	36.50	90	52	34.70	35'RT	0-5	26	11	A-6(4)	BROWN
476+00	35	47	36.70	90	52	29.90	CL	0-5	27	7	A-4(4)	BROWN
480+00	35	47	36.20	90	52	25.10	45'RT	0-5	26	10	A-4(4)	RE/BR
480+00	35	47	36.20	90	52	25.10	52'RT	0-5	26	10	A-4(4)	RE/BR
484+00	35	47	36.60	90	52	20.30	CL	0-5	34	15	A-6(14)	GRAY
488+00	35	47	36.30	90	52	15.50	28'RT	0-5	34	15	A-6(14)	GRAY
488+00	35	47	36.30	90	52	15.50	35'RT	0-5	26	9	A-4(5)	BROWN
492+00	35	47	36.50	90	52	11.10	CL	0-5	34	15	A-6(14)	BR/GR
496+00	35	47	36.00	90	52	5.80	52'RT	0-5	34	15	A-6(14)	BR/GR
496+00	35	47	36.00	90	52	5.80	45'RT	0-5	25	9	A-4(4)	BROWN
500+00	35	47	36.10	90	52	1.10	CL	0-5	30	13	A-6(10)	GRAY
504+00	35	47	36.20	90	51	56.20	28'RT	0-5	46	28	A-7-6(29)	GRAY
504+00	35	47	36.60	90	51	56.30	35'RT	0-5	22	7	A-4(0)	BROWN
508+00	35	47	36.10	90	51	52.30	CL	0-5	33	15	A-6(13)	BROWN
512+00	35	47	35.90	90	51	46.60	45'RT	0-5	26	11	A-6(4)	BROWN
512+00	35	47	35.90	90	51	46.50	52'RT	0-5	26	11	A-6(4)	BROWN
516+00	35	47	36.10	90	51	42.20	CL	0-5	33	19	A-6(16)	BR/GR
520+00	35	47	36.10	90	51	36.90	28'RT	0-5	28	13	A-6(8)	GRAY
520+00	35	47	36.00	90	51	36.90	35'RT	0-5	22	6	A-4(3)	BROWN
524+00	35	47	36.10	90	51	32.70	CL	0-5	40	25	A-6(24)	BR/GR
528+00	35	47	35.80	90	51	27.20	52'RT	0-5	32	17	A-6(15)	GRAY
528+00	35	47	35.80	90	51	27.20	45'RT	0-5	26	8	A-4(5)	GR/BR
532+00	35	47	36.00	90	51	23.50	CL	0-5	37	20	A-6(17)	GR/BR
536+00	35	47	35.90	90	51	17.50	28'RT	0-5	37	22	A-6(20)	GR/BR
536+00	35	47	35.90	90	51	17.50	35'RT	0-5	24	7	A-4(4)	GRAY
540+00	35	47	35.90	90	51	13.20	10'RT	0-5	36	20	A-6(19)	BR/GR
544+00	35	47	35.90	90	51	7.90	45'RT	0-5	24	7	A-4(3)	GR/BR
544+00	35	47	35.80	90	51	7.90	52'RT	0-5	24	7	A-4(3)	GR/BR
548+00	35	47	35.90	90	51	3.40	CL	0-5	30	8	A-4(7)	BR/GR
552+00	35	47	35.80	90	50	58.30	28'RT	0-5	32	16	A-6(13)	GR/BR
552+00	35	47	35.60	90	50	58.30	35'RT	0-5	25	8	A-4(4)	GR/BR
556+00	35	47	35.70	90	50	54.20	10'RT	0-5	37	19	A-6(17)	BR/GR
560+00	35	47	35.40	90	50	47.90	52'RT	0-5	25	8	A-4(4)	BROWN
560+00	35	47	35.40	90	50	48.40	45'RT	0-5	24	7	A-4(2)	BR/GR
564+00	35	47	35.70	90	50	43.40	CL	0-5	33	16	A-6(14)	RD/BR
568+00	35	47	35.60	90	50	38.30	28'RT	0-5	26	11	A-6(7)	BROWN
568+00	35	47	35.40	90	50	38.40	35'RT	0-5	24	7	A-4(4)	RD/BR
572+00	35	47	35.60	90	50	33.90	CL	0-5	25	6	A-4(2)	GRAY
572+00	35	47	35.60	90	50	33.90	CL	0-5	27	3	A-4(2)	BROWN
576+00	35	47	35.20	90	50	28.70	52'RT	0-5	24	7	A-4(5)	GR/BR
576+00	35	47	35.20	90	50	28.70	45'RT	0-5	24	11	A-6(3)	GRAY
580+00	35	47	35.30	90	50	26.90	CL	0-5	24	5	A-4(2)	BROWN

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

7/9/2012
R100679.DGN

SOIL BORING LOG

WIRE FENCE			(TYPE A)
STA.	STA.	SIDE	LIN.FT.
438+50	439+40	RT.	90
439+90	449+50	RT.	960
438+55	439+30	LT.	125
439+30	451+00	LT.	1170

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	94	252

(2) PLAN AND PROFILE SHEETS

STA. 438+75 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 88' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

WESTERN M.O.T. CROSSOVER
PI = 441+00.00
Δ = 11°51'35"LT.
D = 3°00'00"
T = 394.62'
L = 395.33'
PC = 439+01.63
PT = 442+96.95
NO SUPER

WESTERN M.O.T. CROSSOVER
PI = 445+07.31
Δ = 11°51'35"RT.
D = 3°00'00"
T = 198.37'
L = 395.33'
PC = 443+08.94
PT = 447+04.26
NO SUPER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

STA. 438+50.00
BEGIN JOB 100679

PROPOSED ROW & C/A

STAGE 2B CONSTRUCTION
STA. 443+00 - INSTALL
18" x 300' TEMPORARY PIPE CULV'T.

REFER TO SHEET 7 FOR
MEDIAN TURNAROUND DETAILS

CONST. LIMITS

FLOOR OF GRAIN SILO

FLOOR OF METAL BUILDING

PARKING

S 89°45'11" E HWY. 226 MAIN LANES

R=10'

100' TAPER

200' TAPER

PAVED

CONST. LIMITS

PROPOSED ROW & C/A

STA. 439+65 - IN PLACE
12" x 26' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
18" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 55 CU. YD.

HWY. 226

BEGIN JOB 100679
STA. 438+50.00
ELEV. 252.00

-0.00%

+75
TOP D.I.
247.76

0.10% MED.DT.GR.
0.09% MED.DT.GR.
0.26% MED.DT.GR.
-0.04% MED.DT.GR.
0.16% RT.DT.GR.
-0.23% RT.DT.GR.
0.07% LT.DT.GR.
-0.04% LT.DT.GR.

-00.00 MED.DT.GR.
MED. ELEV. 246.25

-75.00 LT.DT.GR.
LT. ELEV. 243.23

-50.00 LT.DT.GR.
-50.00 RT.DT.GR.
-50.00 MED.DT.GR.
LT. ELEV. 243.30
RT.ELEV. 246.50
MED. ELEV. 247.76

F.L. D.I. 244.76
F.L. OUTLET 243.30 (LT.)

-00.00 MED.DT.GR.
MED. ELEV. 248.40

-00.00 MED.DT.GR.
MED. ELEV. 248.23

433+50.00
248.00

0.69%

K=497.40
VC=200'
e=0.10'

1.09%

437+50.00
251.76

K=183.37
VC=200'
e=-0.27'

438+50.00
251.76

435+00.00
249.03

TEMPORARY GRADE RAISE

BM: 927 TBM-927 CPS IN A PP
83.92 RT. OF STA. 431+19.10
ELEVATION = 246.48

7/24/2012

R100679.DGN

WIRE FENCE			(TYPE A)	(TYPE C)
STA.	STA.	SIDE	LIN.FT.	LIN.FT.
449+50	450+00	RT.		50
450+00	453+50	RT.	350	
453+50	454+00	RT.		50
454+00	456+75	RT.	275	
457+25	460+00	RT.	275	
451+00	451+50	LT.		50
450+50	456+75	LT.	525	
456+75	457+25	LT.		50
457+25	460+00	LT.	275	

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	95	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

STA. 448+65 - IN PLACE
18" x 31' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 448+74 - IN PLACE
18" x 31' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 453+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 88' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

STA. 454+34 - IN PLACE
18" x 21' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 458+87 - IN PLACE
18" x 21' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

WESTERN M.O.T. CROSSOVER
PI = 445+07.31
Δ = 11°51'35" RT.
D = 3°00'00"
T = 198.37'
L = 395.33'
PC = 443+08.94
PT = 447+04.26

REFER TO SHEET 7 FOR MEDIAN TURNAROUND DETAILS

PROPOSED ROW & C/A

CONST. LIMITS

210' LEFT TURN LANE

200' TAPER

HWY. 226 MAIN LANES

S 89°45' W

N 89°59' 24" E

PI 453+82.03
Δ = 0°15'25"

STA. 445+00 - CONSTRUCT
DROP INLET 3' LT. C.L.
W/24" x 126' R.C. PIPE OUTLET (CL. III)
(USE TYPE 3 BEDDING)
CONNECT TO D.I. @ STA. 446+25
TYPE RM = 3'-0" x 4'-0"
(H = 4'-0")

STA. 446+25 - IN PLACE
24" X 41' C.M. PIPE CULV'T.
REMOVE AND CONSTRUCT
DROP INLET 5' LT. C.L.
W/ 24" x 100' R.C. PIPE INLET RT.
& 24" x 80' R.C. PIPE OUTLET LT.
(CL. III)(USE TYPE 3 BEDDING)
W/ F.E.S. LT. & RT.
TYPE RM = 4'-0" x 4'-0"
(H = 4'-9")

STA. 456+25 - CONSTRUCT
QUINT. 6' x 3' x 177' R.C. BOX CULV'T.
W/ TYPE "TM" DROP INLET
(3'-0" x 2'-6½". H=1'-6")
33'-8" SPAN
WITH 3:1 WINGS LT. & RT.
050 = 1100 cfs; DA = 4096 ac

STA. 456+25 - IN PLACE
18" x 24" x 49' C.M. ARCH
PIPE CULV'T.
REMOVE

STA. 457+00 - INSTALL
DBL. 60" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 180 CU. YD.

HWY. 226

24" x 125' @ 0.648%

-0.00%

-0.23% RT.DT.GR.

-0.04% LT.DT.GR.

0.05% MED.DT.GR.

-0.04% LT.DT.GR.

-0.04% RT.DT.GR.

+00 TOP D.I. 248.23

+25 TOP D.I. 248.64

+00 TOP D.I. 247.77

+25 TOP D.I. 247.76

F.L. D.I. 244.23

F.L. D.I. 243.89
F.L. INLET 244.81 (RT.)
F.L. OUTLET 243.00 (LT.)

F.L. D.I. 244.77
F.L. OUTLET 242.73 (LT.)

F.L. INLET 242.60 (LT.)
F.L. OUTLET 242.50 (RT.)

-00.00 MED.DT.GR.
MED. ELEV. 248.23

-25.00 RT.DT.GR.
-25.00 MED.DT.GR.
RT.ELEV. 242.50
MED. ELEV. 247.76

BM: 928 TBM-928 ON A CMP
23.56 RT. OF STA. 446+25.15
ELEVATION = 244.96

BM: 929 TBM-929 CPS\PP
69.31 RT. OF STA. 456+01.05
ELEVATION = 249.32

265 260 255 250 245 240 235 230 225

445+00 446+00 447+00 448+00 449+00 450+00 451+00 452+00 453+00 454+00 455+00 456+00 457+00 458+00 459+00 460+00

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WIRE FENCE STA.	STA.	SIDE	(TYPE A) LIN.FT.	(TYPE C) LIN.FT.
460+00	460+50	RT.		50
460+50	473+63	RT.	1313	
460+00	460+50	LT.		50
460+50	473+65	LT.	1315	

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	96	252

(2) PLAN AND PROFILE SHEETS

STA. 464+92 - IN PLACE
18" x 20' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 470+66 - IN PLACE
18" x 21' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 473+90 - INSTALL
DBL. 60" x 50' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 475 CU. YD.

STA. 474+62 - IN PLACE
36" x 38' R.C. PIPE CULV'T.
SIDE DRAIN ON LT.
REMOVE

+00 END C/A | +50 BEGIN C/A | +24.44 240.24 | PROPOSED ROW & C/A | +65 END C/A | +15 BEGIN C/A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

REFER TO SHEET 7 FOR MEDIAN TURNAROUND DETAILS

CONST. LIMITS | 460 | 465 | 470 | 30' | +34.60 | 210' LEFT TURN LANE | 175

8" | 24' | 6' | HWY. 226 MAIN LANES | N 89°59'24" E | +90 | 40'

6' | 24' | 8" | 200' TAPER | 210' LEFT TURN LANE | 36 | +90 | 20' | P.I. 12+64.58 | 16' GATE

CONST. LIMITS | +36.00 | +36.00 | +46.00 | P.I. 12+23.29 | +52.60 END C/A | +00.00 BEGIN C/A CRAIGHEAD CO. RD. 233 | HWY. 226

+00 END C/A | +50 BEGIN C/A | +45.00 140.00' | +00.00 140.00'

STA. 466+26 - IN PLACE
18" x 24" x 47' C.M. ARCH
PIPE CULV'T.
REMOVE

STA. 466+25 - CONSTRUCT
QUINT. 6' x 3' x 179' R.C. BOX CULV'T.
W/ TYPE "TM" DROP INLET
(3'-0" x 2'-6½", H=2'-0")
33'-8" SPAN
WITH 3:1 WINGS LT. & RT.
050 = 1100 cfs; DA = 4096 ac

PROPOSED ROW & C/A

STA. 474+42 - IN PLACE
12" x 77' R.C. PIPE CULV'T.
RT. SIDE DRAIN
(COUNTY ROAD 233)
REMOVE

CRAIGHEAD CO. RD. 233

265 | 260 | 255 | 250 | 245 | 240 | 235 | 230 | 225

-0.00%

0.05% MED.DT.GR. | -0.05% MED.DT.GR.

-0.04% LT.DT.GR. | -0.04% RT.DT.GR.

+00.00 MED.DT.GR. MED. ELEV. 248.00

+25 TOP D.I. 247.76

+25.00 MED.DT.GR. +25.00 LT.DT.GR. +25.00 RT.DT.GR. MED. ELEV. 247.76 LT. ELEV. 242.20 RT. ELEV. 242.10

F.L. INLET 242.20 (LT.)
F.L. OUTLET 242.10 (RT.)

K=350.00 VC=350' e=0.44'

469+19.00 252.00

1.00%

K=199.95 VC=350' e=-0.77'

-0.11% LT.DT.GR. | -0.11% RT.DT.GR.

0.58% RT.DT.GR.

+95.00 RT.DT.GR. RT. ELEV. 241.10

BM: 930 TBM-930
55.1 RT. OF STA. 474+77.28
ELEVATION = 251.67

460+00 | 461+00 | 462+00 | 463+00 | 464+00 | 465+00 | 466+00 | 467+00 | 468+00 | 469+00 | 470+00 | 471+00 | 472+00 | 473+00 | 474+00 | 475+00

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WIRE FENCE			(TYPE A)	(TYPE C)	16' GATE
STA.	STA.	SIDE	LIN.FT.	LIN.FT.	
474+13	484+59	RT.	1106		1
485+09	485+75	RT.	66		
486+25	489+97	RT.	372		
474+15	482+75	LT.	860		
482+75	483+25	LT.		50	
483+25	486+75	LT.	350		
486+75	487+25	LT.		50	
487+25	491+75	LT.	450		

STA. 476+37 - IN PLACE
15" x 20' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 482+50 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 96' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

STA. 487+00 - INSTALL
DBL. 60" x 40' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 390 CU. YD.

STA. 488+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 94' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	97	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

REFER TO SHEET 7 FOR
MEDIAN TURNAROUND DETAILS

EMERSON DITCH

210' LEFT TURN LANE

200' TAPER

CONST. LIMITS

HWY. 226 MAIN LANES

PROPOSED ROW & C/A

-52.66 250.00

+75 END C/A

+25 BEGIN C/A

+44.00

+95.00 140.00'

+10 475+10.72

STA. 475+10 - CONSTRUCT
QUINT. 10' x 9' x 185' R.C. BOX CULV'T.
(15° LT. FWD. SKEW)
55'-10" SPAN
WITH 3:1 WINGS LT. & RT.
050 = 1100 cfs; DA = 4096 ac

STA. 474+77.10 TO STA. 475+45.85 - IN PLACE
25.2' x 69' BRIDGE CONSISTING OF PRECAST
CONCRETE CHANNEL BEAMS SUPPORTED BY TIMBER
PILE BENTS.
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 1) = 1.00 LUMP SUM

STA. 484+84 - INSTALL
18" x 64' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 275 CU. YD.

+59 END C/A

+90.00 135.00' +09

+75 END C/A

+25 BEGIN C/A

STA. 486+00 - INSTALL
18" x 40' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 150 CU. YD.

+97 END C/A

HWY. 226

475+19.00 258.00

K=199.95
VC=350'
e=-0.77'

-0.75%

K=466.37
VC=350'
e=0.33'

480+52.00 254.00

0.00%

+50 TOP D.I. 249.77

+00 TOP D.I. 249.76

0.08% MED.DT.GR.

-0.10% MED.DT.GR.

0.10% MED.DT.GR.

-0.03% RT.DT.GR.

0.58% RT.DT.GR.

0.10% LT.DT.GR.

-0.11% LT.DT.GR.

F.L. INLET 241.20 (LT.)
F.L. OUTLET 241.10 (RT.)

-39.00 LT.DT.GR. LT. ELEV. 241.20

-50.00 MED.DT.GR. MED. ELEV. 249.77

F.L. D.I. 246.77
F.L. OUTLET 241.89 (LT.)

-00.00 RT.DT.GR. RT. ELEV. 246.90

-50.00 MED.DT.GR. MED. ELEV. 240.00

-00.00 MED.DT.GR. MED. ELEV. 249.16

F.L. D.I. 246.76
F.L. OUTLET 242.52 (LT.)

NOTE:
FOR CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 248 FT. MSL. BETWEEN STATIONS 474+75 AND 475+50. REFER TO SECTION 110.06(C) OF THE 2003 STANDARD SPECIFICATIONS.

BM: 931 TBM-931 CH SO IN DW
67 RT. OF STA. 486+19.84
ELEVATION = 250.60

265 260 255 250 245 240 235 230 225

475+00 476+00 477+00 478+00 479+00 480+00 481+00 482+00 483+00 484+00 485+00 486+00 487+00 488+00 489+00 490+00

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WIRE FENCE			(TYPE A)	(TYPE C)
STA.	STA.	SIDE	LIN.FT.	LIN.FT.
490+47	500+75	RT.	1028	
500+75	501+25	RT.		50
501+25	504+75	RT.	350	
504+75	505+25	RT.		50
491+75	492+25	LT.		50
492+25	497+75	LT.	550	
497+75	498+25	LT.		50
498+25	503+75	LT.	550	
503+75	504+25	LT.		50
504+25	509+03	LT.	478	

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	98	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9605
RICHARD D. FUGETT
7/25/12

STA. 492+74 - IN PLACE
15" x 24' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 497+35 - IN PLACE
15" x 22' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 499+32 - IN PLACE
15" x 22' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 502+29 - IN PLACE
15" x 22' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

+75 END C/A
+25 BEGIN C/A
PROPOSED ROW & C/A
N

REFER TO SHEET 7 FOR
MEDIAN TURNAROUND DETAILS

CONST. LIMITS
490
495
500
505
Pl. 498+68.09
Δ= 0°14'33"
+52.00
210' LEFT TURN LANE
200' TAPER
8'
24'
6'
N 89°59' 24" E
HWY. 226 MAIN LANES
N 89°44' 51" E
36'
40'
22'
16'
CONST. LIMITS
200' TAPER
210' LEFT TURN LANE
+40.00
+64.00
+97 END C/A
+47 BEGIN C/A
+90.00
120.00'
+40.00
110.00'
+75 END C/A
+25 BEGIN C/A
+75 END C/A
+25 BEGIN C/A
GAS TANK
265

STA. 490+22 - IN PLACE
18" x 25' C.M. PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
18" x 36' PIPE CULV'T.
℄ STA. 490+22
RT. SIDE DRAIN
CONSTR. APPR. = 105 CU. YD.

STA. 495+25 - IN PLACE
24" X 48' C.M. PIPE CULV'T.
REMOVE AND CONSTRUCT
DROP INLET IN MEDIAN
W/ 24" x 92' R.C. PIPE INLET RT. (CL. III) &
24" x 84' R.C. PIPE OUTLET LT. (CL. III)
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 4'-9")

STA. 500+50 - IN PLACE
24" X 18" X 27' C.M. ARCH PIPE CULV'T.
REMOVE AND CONSTRUCT
DROP INLET 5' LT. C.L. W/
24" x 88' R.C. PIPE INLET RT. (CL. III) &
W/ 24" x 86' R.C. PIPE OUTLET LT. (CL. III)
W/ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 5'-6")

STA. 500+66 - IN PLACE
24" x 18" x 27' C.M. ARCH PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

HWY. 226

265
260
255
250
245
240
235
230
225

0.00%
+25
TOP D.I.
249.76
+50
TOP D.I.
250.64
0.10% MED.DT.GR.
-0.05% MED.DT.GR.
-0.03% RT.DT.GR.
0.10% LT.DT.GR.
0.05% RT.DT.GR.
0.05% LT.DT.GR.
+50.00 MED.DT.GR.
MED. ELEV. 250.00
-25.00 MED.DT.GR.
MED. ELEV. 249.76
-00.00 LT.DT.GR.
LT. ELEV. 243.77
+50.00 RT.DT.GR.
RT. ELEV. 244.50
F.L. D.I. 245.01
F.L. INLET 246.64 (RT.)
F.L. OUTLET 243.25 (LT.)
F.L. D.I. 245.14
F.L. INLET 246.50 (RT.)
F.L. OUTLET 243.77 (LT.)

490+00 491+00 492+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00

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WIRE FENCE STA.	STA.	SIDE	(TYPE A) LIN.FT.	(TYPE C) LIN.FT.
505+25	511+75	RT.	650	
511+75	512+25	RT.		50
512+25	517+75	RT.	550	
517+75	518+25	RT.		50
518+25	526+85	RT.	860	
509+53	514+75	LT.	522	
514+75	515+25	LT.		50
515+25	520+75	LT.	550	

STA. 508+50 - CONSTRUCT DROP INLET IN MEDIAN W/18" x 90' R.C. PIPE OUTLET (CL. III) & F.E.S. ON LT. USE TYPE 3 BEDDING TYPE RM = 3'-0" x 4'-0" (H = 4'-3")

STA. 507+78 - IN PLACE 8" x 22' STEEL PIPE FIELD DRAIN ON LT. REMOVE

STA. 509+15 - IN PLACE 12" x 22' STEEL PIPE FIELD DRAIN ON LT. REMOVE

STA. 509+28 - INSTALL DBL. 60" x 28' PIPE CULV'T. LT. SIDE DRAIN CONSTR. APPR. = 205 CU. YD.

STA. 510+05 - IN PLACE 18" x 20' STEEL PIPE FIELD DRAIN ON LT. REMOVE

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STA. 514+00 - CONSTRUCT DROP INLET IN MEDIAN W/18" x 90' R.C. PIPE OUTLET (CL. III) & F.E.S. ON LT. USE TYPE 3 BEDDING TYPE RM = 3'-0" x 4'-0" (H = 5'-0")

STA. 517+52 - IN PLACE 18" x 21' STEEL PIPE FIELD DRAIN ON LT. REMOVE

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				6	ARK.			
				JOB NO.		100679	99	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 7605 MICHAEL D. FUGETT 7/25/12

N

REFER TO SHEET 7 FOR MEDIAN TURNAROUND DETAILS

505 200' TAPER +62.00 | 510 | 515 | 520

CONST. LIMITS

8' | 24' | 6' | 16' | +28 | TRAIL | HWY. 226 MAIN LANES | TRAIL | N 89°44'51" E

+00 | CONST. LIMITS | 16'

+75 END C/A | +25 BEGIN C/A | PROPOSED ROW & C/A

STA. 519+69 - IN PLACE 24" X 18" X 39' C.M. ARCH PIPE CULV'T. REMOVE AND CONSTRUCT DROP INLET IN MEDIAN W/ 24" x 86' R.C. PIPE INLET RT. (CL. III) & 24" x 92' R.C. PIPE OUTLET LT. (CL. III) W/ F.E.S. LT. & RT. (USE TYPE 3 BEDDING) TYPE RM = 3'-0" x 4'-0" (H = 5'-3")

STA. 512+00 - INSTALL 24" x 30' PIPE CULV'T. RT. SIDE DRAIN CONSTR. APPR. = 85 CU. YD.

HWY. 226

K=1867.54
VC=350'
e=0.08'

0.00% | 0.19%

-0.08% MED.DT.GR. | 0.06% RT.DT.GR. | 0.05% LT.DT.GR.

+50 TOP D.I. 249.76 | +00 TOP D.I. 250.51 | +69 TOP D.I. 251.45

510+00.00 254.00

-00.00 MED.DT.GR. MED. ELEV. 250.03

-50.00 MED.DT.GR. MED. ELEV. 249.76

F.L. D.I. 245.51
F.L. OUTLET 244.20 (LT.)

F.L. D.I. 245.51
F.L. OUTLET 244.52 (LT.)

F.L. D.I. 246.20
F.L. INLET 247.54 (RT.)
F.L. OUTLET 244.79 (LT.)

265 | 260 | 255 | 250 | 245 | 240 | 235 | 230 | 225

505+00 | 506+00 | 507+00 | 508+00 | 509+00 | 510+00 | 511+00 | 512+00 | 513+00 | 514+00 | 515+00 | 516+00 | 517+00 | 518+00 | 519+00 | 520+00

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WIRE FENCE STA.	STA.	SIDE	(TYPE A) LIN.FT.	(TYPE C) LIN.FT.
527+35	528+99	RT.	164	
528+99	529+49	RT.		50
529+49	534+96	RT.	547	
520+75	521+35	LT.		50
521+25	527+23	LT.	598	
527+73	528+00	LT.	27	
528+00	528+50	LT.		50
528+50	532+50	LT.	400	
532+50	533+00	LT.		50
533+00	540+28	LT.	728	

STA. 522+59 - IN PLACE
15" x 24' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 527+49 - IN PLACE
36" x 40' C.M. PIPE CULV'T.
LT. SIDE DRAIN
REMOVE & CONSTRUCT
DBL. 60" x 48' R.C. PIPE CULV'T. (CL. III)
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
(COUNTY ROAD 155)
CONSTR. APPR. = 415 CU. YD.

STA. 527+87 - IN PLACE
15" x 25' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 528+00 - CONSTRUCT
DROP INLET 5' RT. C.L.
W/18" x 102' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-9")

STA. 532+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 98' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 4'-0")

STA. 532+25 - IN PLACE
15" x 24' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	100	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
No. 7605
7/25/12

+75 END C/A
+25 BEGIN C/A
PROPOSED ROW & C/A
+23.16 END C/A
+73.16 BEGIN C/A
+00 END C/A
+50 BEGIN C/A
+50 END C/A
+00 BEGIN C/A

REFER TO SHEET 7 FOR
MEDIAN TURNAROUND DETAILS

CRAIGHEAD COUNTY 155
CONST. LIMITS
20'
210' LEFT TURN LANE
200' TAPER
+02.00
520
525
530
535
8'
24'
6'
+49
36'
N 89°44'51" E
HWY. 226 MAIN LANES
40'
+10
+21
200' TAPER
210' LEFT TURN LANE
CONST. LIMITS
94.00
+04.00
+18.34
119.60
PROPOSED ROW & C/A
STA. 527+10 - IN PLACE
17" x 13" x 26' C.M. ARCH PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & CONSTRUCT
DRY RAMP @ STA. 527+10
CONSTR. APPR. = 165 CU. YD.
STORM SHELTER
+85 END C/A
+35 BEGIN C/A
+99 END C/A
+49 BEGIN C/A
+00.00
136.21'
+00.00
124.24'
+96 END C/A
STA. 529+24 - IN PLACE
17" x 13" x 26' C.M. ARCH PIPE CULV'T.
RT. SIDE DRAIN
REMOVE
HWY. 226

270
265
260
255
250
245
240
235
230

0.19%
+00
TOP D.I.
254.01
F.L. D.I. 250.26
F.L. OUTLET 245.28 (LT.)
+00
TOP D.I.
253.89
F.L. D.I. 249.89
F.L. OUTLET 245.49 (LT.)
0.06% RT.DT.GR.
0.05% LT.DT.GR.
0.03% RT.DT.GR.
+06.00 RT.DT.GR.
RT.ELEV. 248.00

BM: 932 TBM-932
78.13 RT. OF STA. 526+84.85
ELEVATION = 250.85

520+00 521+00 522+00 523+00 524+00 525+00 526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+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.		100679	101	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

WIRE FENCE STA.	STA.	SIDE	(TYPE A) LIN.FT.	(TYPE C) LIN.FT.	16' GATE
535+46	542+75	RT.	729		
543+25	583+25	RT.	4060		
540+78	544+75	LT.	580		
545+25	544+75	LT.	3800		

STA. 540+16 - IN PLACE
10" x 21' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 540+80 - IN PLACE
10" x 26' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 540+53 - IN PLACE
36" x 27' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE & INSTALL
DBL. 60" x 38' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 360 CU. YD.

STA. 541+25 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 102' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 5'-0")

STA. 545+00 - INSTALL
DBL. 60" x 34' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 300 CU. YD.

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STA. 547+24 - IN PLACE
18" x 21' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

PROPOSED ROW & C/A

+28 END C/A
+78 BEGIN C/A
+81.05 240.37
+75 END C/A
+25 BEGIN C/A

EASTERN M.O.T. CROSSOVER
PI = 537+48.95
Δ = 11°58'18"LT.
D = 3°00'00"
T = 200.26'
L = 399.05'
PC = 535+48.70
PT = 539+47.75
NO SUPER

EASTERN M.O.T. CROSSOVER
PI = 541+52.46
Δ = 11°58'18"RT.
D = 3°00'00"
T = 200.26'
L = 398.33'
PC = 539+52.20
PT = 543+51.26
NO SUPER

HWY. 226 E.B. CONSTRUCT
STA. 547+97.92 BR. END
16 - 200'-0" CONT. COMP. W-BEAM UNITS
& 204'-0" CONT. COMP. W-BEAM UNIT
38' CLEAR ROADWAY
BR. NO. B7250
STA. 582+04.08 BR. END

HWY. 226 W.B. CONSTRUCT
STA. 547+97.92 BR. END
16 - 200'-0" CONT. COMP. W-BEAM UNITS
& 204'-0" CONT. COMP. W-BEAM UNIT
38' CLEAR ROADWAY
BR. NO. A7250
STA. 582+04.08 BR. END

16' GATE

CONST. LIMITS

535 540 545 550

+53 +00 +00

R=10' R=10'

N 89°44'51" E

S 89°56'14" E

HWY. 226 MAIN LANES

TRAIL

PAVED

226

+21

P.I. 537+25.96
Δ = 0°18'55"

STANDING WATER STANDING WATER

16' 16' 16'

CONST. LIMITS

PROPOSED ROW & C/A

+96 END C/A
+46 BEGIN C/A
+82.06 126.00'
+75 END C/A
+25 BEGIN C/A
+00.00 125.00'

WELL

12" TYP PVC

STA. 535+21 - IN PLACE
17" x 13" x 27' C.M. ARCH PIPE CULV'T.
RT. SIDE DRAIN
REMOVE & INSTALL
18" x 40' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 155 CU. YD.

STA. 543+00 - INSTALL
24" x 34' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 135 CU. YD.

STA. 545+45 - IN PLACE
24" X 18" X 36' C.M. ARCH PIPE CULV'T.
REMOVE AND CONSTRUCT
DROP INLET 2' LT. C.L.
W/ 24" x 102' R.C. PIPE INLET RT. (CL. III)
& 24" x 102' R.C. PIPE OUTLET LT. (CL. III)
W/ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 9'-3")

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
544+44.77	547+88.52	R.M.L. - LT.	275 LIN. FT.	1EA.	1EA.
544+69.77	547+88.52	R.M.L. - RT.	250 LIN. FT.	1EA.	1EA.

HWY. 226

270 265 260 255 250 245 240 235 230

0.19%

+25 TOP D.I. 255.57

+45 TOP D.I. 256.64

545+75.00 260.70

K=1867.54
VC=350'
e=-0.08'

B.E. STA. 547+97.92
ELEV. 260.44

0.00%

21'

0.03% RT.DT.GR.

0.05% LT.DT.GR.

0.57% LT.DT.GR.

F.L. D.I. 250.57
F.L. OUTLET 245.98 (LT.)

F.L. D.I. 247.39
F.L. INLET 248.51 (RT.)
F.L. OUTLET 246.20 (LT.)

+00.00 LT.DT.GR. LT. ELEV. 246.20

-99.00 RT.DT.GR. ELEV. 247.89
-99.00 LT.DT.GR. LT. ELEV. 247.89 RT. ELEV. 248.60

CONSTRUCT
3404'-0" CONTINUOUS COMPOSITE
W-BEAM UNIT (16 - 200'-0" & 204'-0")
BR. NOS. A7250 & B7250

BM: 933 TBM-933 CPS/PP
72.29 RT. OF STA. 539+20.00
ELEVATION = 254.31

535+00 536+00 537+00 538+00 539+00 540+00 541+00 542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00

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				6	ARK.			
				JOB NO.		100679	102	252

(2) PLAN AND PROFILE SHEETS

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STA. 558+54 - IN PLACE
36" x 31' C.M. PIPE CULV'T.
LT. SIDE DRAIN
REMOVE

STA. 561+72 - IN PLACE
12" x 21' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9605
MICHAEL D. FUGETT
7/25/12

PROPOSED ROW & C/A

108.29
250.68

550 555 560 565

HWY. 226 MAIN LANES

S 89°56'14" E

TRAIL

+12 TY. PVC

PROPOSED ROW & C/A

+00.00
130.00'

+98.45
130.00

+00.00
145.00'

STA. 552+92 - IN PLACE
17" x 13" x 25' ARCH PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

HORCH

B/F

HWY. 226

275 270 265 260 255 250 245 240 235

0.00%

CONSTRUCT
3404'-0" CONTINUOUS COMPOSITE
W-BEAM UNIT (16 - 200'-0" & 204'-0")
BR. NOS. A7250 & B7250

BM: 934 TBM-934 CPS/PP
68.09 RT. OF STA. 551+51.99
ELEVATION = 254.73

550+00 551+00 552+00 553+00 554+00 555+00 556+00 557+00 558+00 559+00 560+00 561+00 562+00 563+00 564+00 565+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.		100679	103	252

(2) PLAN AND PROFILE SHEETS

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STA. 565+34 - IN PLACE
18" x 39' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 571+63 - IN PLACE
15" x 29' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 571+80 - IN PLACE
36" x 30' C.M. PIPE CULV'T.
LT. SIDE DRAIN
REMOVE

STA. 571+95 - IN PLACE
6" x 24' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 578+01 - IN PLACE
15" x 36' STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

STA. 579+00 - IN PLACE
36" x 29' C.M. PIPE CULV'T.
LT. SIDE DRAIN
REMOVE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

N

PROPOSED ROW & C/A

•35.26
255.00

565 570 575 580

S 89°56'14" E

HWY. 226 MAIN LANES

PAVED

PAVED

10 FT. STEEL PIPE

PROPOSED ROW & C/A

•50.00
110.00'

•50.00
110.00'

•00.00
145.00'

•00.00
155.00'

STA. 566+65 - IN PLACE
12" x 27' C.M. PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

STA. 567+89 - IN PLACE
12" x 26' C.M. PIPE CULV'T.
RT. SIDE DRAIN
REMOVE

STA. 568+49 - IN PLACE
24" x 18" x 37' C.M. ARCH
PIPE CULV'T.
REMOVE

REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 579+32.50 TO STA. 579+82.24 RT. OF C.L. HWY. 226 = 50 LIN.FT.
STA. 579+44.14 TO STA. 579+93.01 RT. OF C.L. HWY. 226 = 50 LIN.FT.

HWY. 226

STA. 580+46.14 BEGIN SUPERELEVATION (0.020'/')
STA. 583+96.14 MAX. SUPERELEVATION (0.030'/')
STA. 616+89.29 MAX. SUPERELEVATION (0.030'/')
STA. 620+39.29 END SUPERELEVATION (0.020'/')

0.00%

CONSTRUCT
3404'-0" CONTINUOUS COMPOSITE
W-BEAM UNIT (16 - 200'-0" & 204'-0")
BR. NOS. A7250 & B7250

BM: 935 TBM-935 CPS/PP
71.67 RT. OF STA. 566+39.64
ELEVATION = 252.37

BM: 936 TBM-936 CH SQ SW COR BR
67.17 RT. OF STA. 579+83.31
ELEVATION = 258.82

275 270 265 260 255 250 245 240 235

565+00 566+00 567+00 568+00 569+00 570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00 580+00

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WIRE FENCE			(TYPE A)	(TYPE C)	16' GATE
STA.	STA.	SIDE	LIN.FT.	LIN.FT.	
583+75	604+43	RT.	2134		1
583+75	604+43	LT.	2376		2

STA. 583+50 - INSTALL
24" x 38' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 225 CU. YD.

STA. 588+79 - IN PLACE
66" x 32' STEEL PIPE
LT. SIDE DRAIN
REMOVE

STA. 596+97 - IN PLACE
STEEL PIPE
FIELD DRAIN ON LT.
REMOVE

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	104	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/25/12

+62.21 219.87 — +25 END C/A — +75 BEGIN C/A — PROPOSED ROW & C/A — +45.00 285.00

16' GATE — 16' — CONST. LIMITS — 580 — 585 — 590 — 595

B/G CREEK DITCH

PN: 1110A PD: 1110 8"SPIKE

PN: 1118A PD: 1118 8"SPIKE

S 89°56' 14" E

HWY. 226 MAIN LANES

8' 24' 6' 6' 24' 8'

+50 +50

PN: 1109A PD: 1109 8"SPIKE

HWY 226 SEC 2 LM 11.05

PAVED

BY CRAIGHEAD CO. CREW LEADER ELEV: 255.84

P.C. 583+06.64

PN: 1107A PD: 1107 8"SPIKE

16' GATE

+30.00 96.77 — +25.00 100.67 — +25 END C/A — +30.00 — +70.00 — +30.00 130.00 — +75 BEGIN C/A — +75.00 102.34 — +45.00 103.96

PROPOSED ROW & C/A

BENCH ELEV. 255.88

GUY WIRE LINE

PN: 1114 8"SPIKE

+45.00 105.00

BIG CREEK DITCH RELIEF

+95.00 155.00 — +80.00 140.00

STA.	STA.	SIDE	BRIDGE END TERMINAL
582+13	582+33	LT. L.M.L. HWY. 226	1EA.
582+13	582+33	RT. L.M.L. HWY. 226	1EA.
584+37	584+57	LT. R.M.L. HWY. 226	1EA.
584+37	584+57	RT. R.M.L. HWY. 226	1EA.

REMOVAL AND DISPOSAL OF GUARDRAIL

STA.	581+74.87	TO	STA.	582+23.80	RT. OF C.L. HWY. 226 = 50 LIN.FT.
STA.	581+84.26	TO	STA.	582+34.34	RT. OF C.L. HWY. 226 = 50 LIN.FT.
STA.	586+45.72	TO	STA.	586+95.71	RT. OF C.L. HWY. 226 = 50 LIN.FT.
STA.	588+31.00	TO	STA.	588+53.71	RT. OF C.L. HWY. 226 = 25 LIN.FT.

HWY. 226 MAIN LANES
PI = 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83'
L = 3469.59'
PC = 583+08.64
PT = 617+78.23
e = 0.030'/'
Ls = 350'

STA. 583+50 - INSTALL
24" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 85 CU. YD.

PN: 1113 PD: 1113

STA. 588+54 - IN PLACE
30" x 32' STEEL PIPE
RT. SIDE DRAIN
REMOVE

STA. 579+88.36 TO STA. 581+78.65 - IN PLACE
25.5' x 192' BRIDGE CONSISTING OF A STEEL TRUSS MAIN SPAN AND TIMBER BEAM APPROACH SPANS WITH A CONCRETE DECK SUPPORTED BY TIMBER AND STEEL TRESTLE PILE BENTS.
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 2) = 1.00 LUMP SUM

STA. 586+97.06 TO STA. 588+29.93 - IN PLACE
24.8' x 132' BRIDGE CONSISTING OF A STEEL I-BEAM MAIN SPAN AND TIMBER BEAM APPROACH SPANS WITH A CONCRETE DECK SUPPORTED BY TIMBER TRESTLE PILE BENTS.
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 3) = 1.00 LUMP SUM

HWY. 226 W.B. CONSTRUCT
STA. 584+65.92 BR. END
6 - 201'-6" CONT. COMP. W-BEAM UNITS
38' CLEAR ROADWAY
BR. NO. A7251
STA. 596+68.08 BR. END

HWY. 226 E.B. CONSTRUCT
STA. 584+65.91 BR. END
6 - 198'-6" CONT. COMP. W-BEAM UNITS
38' CLEAR ROADWAY
BR. NO. A7251
STA. 596+68.09 BR. END

HWY. 226

STA. 580+46.14 BEGIN SUPERELEVATION (0.020'/')
STA. 583+96.14 MAX. SUPERELEVATION (0.030'/')
STA. 616+89.29 MAX. SUPERELEVATION (0.030'/')
STA. 620+39.29 END SUPERELEVATION (0.020'/')

B.E. STA. 582+04.08
ELEV. 260.73 - BR. A7250 (WESTBOUND)
ELEV. 260.38 - BR. B7250 (EASTBOUND)

B.E. STA. 584+65.92
ELEV. 261.09

0.00%

2:1 — 2:1

050 DESIGN H.W. ELEV. 253.7

NOTE:
FOR CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 245 FT. MSL. BETWEEN STATIONS 580+65 AND 581+40. REFER TO SECTION 110.06(C) OF THE 2003 STANDARD SPECIFICATIONS.

CONSTRUCT
3404'-0" CONTINUOUS COMPOSITE
W-BEAM UNIT (16 - 200'-0" & 204'-0")
BR. NOS. A7250 & B7250

BM: 937 TBM-937 CH SO SE COR BR
76.44 RT. OF STA. 588+30.74
ELEVATION = 258.45

-00.00 LT.DT.GR. LT. ELEV. 243.70

050 DESIGN H.W. ELEV. 253.7

NOTE:
FOR CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 247 FT. MSL. BETWEEN STATIONS 587+25 AND 588+00. REFER TO SECTION 110.06(C) OF THE 2003 STANDARD SPECIFICATIONS.

0.10% LT.DT.GR.

CONSTRUCT
1191'-0" CONTINUOUS COMPOSITE
W-BEAM UNIT (6 - 198'-6")
BR. NOS. A7251
1191'-0" CONTINUOUS COMPOSITE
W-BEAM UNIT (6 - 201'-6")
BR. NO. B7251

-00.00 LT.DT.GR. LT. ELEV. 244.50

275 270 265 260 255 250 245 240 235

580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00 593+00 594+00 595+00

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				6	ARK.			
				JOB NO.		100679	105	252

(2) PLAN AND PROFILE SHEETS

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/25/12

PROPOSED ROW & C/A
16' GATE
CONST. LIMITS
595
600
605
610
HWY. 226 MAIN LANES
8'
24'
6'
6'
24'
8'
CONST. LIMITS
PROPOSED ROW & C/A
+95.00 255.00
S 89°56'14" E P.I. 600+98.46
+65.00 256.00
S55°14'28.8"E
+30.00 237.44
+45.00 225.00
+75 END C/A
+25 BEGIN C/A
T.C.E.
180.00 270.00
+32.50 225.00
+99.05 216.96
+75 END C/A
+80.00 140.00'
+65.00 125.00'
+60.00 115.00'
+75 END C/A
+25 BEGIN C/A
+45.00 110.00'
+75 C/A
HWY. 226

STA. 604+42.50
END JOB 100679

HWY. 226 MAIN LANES
PI = 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83'
L = 3469.59'
PC = 583+08.64
PT = 617+78.23
e = 0.030'/''
Ls = 350'

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
596+77.48	599+96.23	L.M.L. - LT.	250 LIN. FT.	IEA.	IEA.
596+77.48	600+21.23	L.M.L. - RT.	275 LIN. FT.	IEA.	IEA.

STA. 580+46.14 BEGIN SUPERELEVATION (0.020'/')
STA. 583+96.14 MAX. SUPERELEVATION (0.030'/')
STA. 616+89.29 MAX. SUPERELEVATION (0.030'/')
STA. 620+39.29 END SUPERELEVATION (0.020'/')

B.E. STA. 596+68.08
ELEV. 261.09
0.00%
2%
598+85.00
260.70
K=875.00
VC=350'
e=-0.17'
0.40%
K=875.00
VC=350'
e=0.17'
602+67.50
259.17
END JOB 100679
STA. 604+42.50
ELEV. 259.17
0.00%
0.15% LT.DT.GR.
0.22% RT.DT.GR.
0.22% RT.DT.GR.
0.15% LT.DT.GR.
0.51% RT.DT.GR.
1.30% LT.DT.GR.
0.16% LT.DT.GR.
0.02% LT.DT.GR.
+00.00 LT.DT.GR. LT.ELEV. 244.80
+67.00 RT.DT.GR. RT.ELEV. 247.27
+00.00 LT.DT.GR. LT.ELEV. 244.80
+00.00 RT.DT.GR. RT.ELEV. 248.96
+00.00 LT.DT.GR. LT.ELEV. 250.00
+42.50 LT.DT.GR. +42.50 RT.DT.GR. RT.ELEV. 249.94 LT. ELEV. 250.21
+00.00 LT.DT.GR. LT.ELEV. 244.80

CONSTRUCT
1191'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (6 - 198'-6") BR. NOS. A7251
1191'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (6 - 201'-6") BR. NO. B7251

BM: 938 TBM-938 CPS/PP
360.22 LT. OF STA. 608+30.75
ELEVATION = 254.69

270 265 260 255 250 245 240 235 230

595+00 596+00 597+00 598+00 599+00 600+00 601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00

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THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	106	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/20/12

P.I. 600+98.46
14° E
S55°14'28.8"E
T.C.E.
CONST. LIMITS
605
610
615
HWY. 226 MAIN LANES
PROPOSED ROW & C/A
PAVED
TRAIL
BEGIN C/A
END C/A
STA. 604+42.50
END JOB 100679

HWY. 226 MAIN LANES
PI = 600+98.46
Δ = 34°41'45"RT.
D = 1°00'00"
T = 1789.83'
L = 3469.59'
PC = 583+08.64
PT = 617+78.23
e = 0.030'/''
Ls = 350'

HWY. 226 CONNECTOR (SHOWN FOR INFORMATION ONLY)

7/24/2012
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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.		100679	107	252

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
M. 12605
MICHAEL D. FUGETT
7/25/12

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STA. 11+20 - CONSTRUCT
24" x 44' R.C. PIPE CULV'T. (CL. IV)
W/ F.E.S. LT. & RT.
USE TYPE 3 BEDDING

STA. 12+43 - CONSTRUCT
DBL. 60" x 72' R.C. PIPE CULV'T. (CL. III)
W/ F.E.S. LT. & RT.
USE TYPE 3 BEDDING

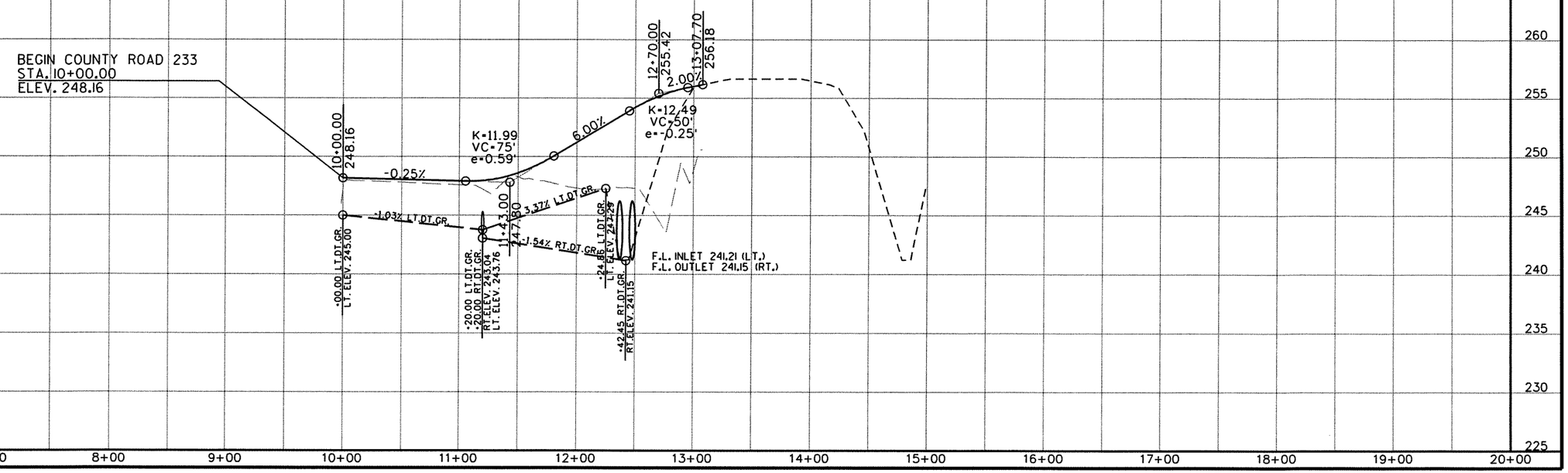
BEGIN COUNTY ROAD 233
STA. 10+00.00

STATION 473+89.93 C.L. HWY. 167 =
STATION 13+61.70 C.L. COUNTY ROAD 233
Δ = 90°00'00"

COUNTY ROAD 233
PI = 10+88.56
Δ = 21°29'29"LT.
D = 24°00'00"
T = 45.31'
L = 89.55'
PC = 10+43.26
PT = 11+32.80
NO SUPER

COUNTY ROAD 233
PI = 12+23.29
Δ = 20°13'24"RT.
D = 24°00'00"
T = 42.58'
L = 84.26'
PC = 11+80.72
PT = 12+64.98
NO SUPER

COUNTY ROAD 233



7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AND PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	108	252

(2) PLAN AND PROFILE SHEETS

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/25/12

HWY. 226 MAIN LANES

S 89°56'14" E

S 87°24'20" E

S 71°24'20" E

BIG CREEK DITCH

BIG CREEK DITCH RELIEF

PAVED

T.C.E.

END C/A +25

BEGIN C/A +75

P.C. 583+08.64

P.I. 590+43.61

P.C. 589+42.95

P.T. 591+42.95

P.C. 593+06.23

P.I. 595+33.64

P.T. 597+58.16

CONST. LIMITS

PROPOSED ROW & C/A

(1) STAGE I DETOUR
PI = 590+43.61
Δ = 16°00'00"RT.
D = 8°00'00"
T = 100.66'
L = 200.00'
PC = 589+42.95
PT = 591+42.95
NO SUPER

(2) STAGE I DETOUR
PI = 595+33.64
Δ = 15°49'03"LT.
D = 3°30'00"
T = 227.41'
L = 451.93'
PC = 593+06.23
PT = 597+58.16
NO SUPER

HWY. 226 - STAGE I DETOUR

585+00.00
258.33

588+40.00
258.33

591+00.00
254.15

0.00%

K=124.33
VC=200'
e=-0.40'

1.61%

K=145.65
VC=250'
e=0.54'

0.11%

BM: 937 TBM-937 CH SO SE COR BR
76.44 RT. OF STA. 588+30.74
ELEVATION = 258.45

310 300 290 280 270 260 250 240 230 220 210

580+00 581+00 582+00 583+00 584+00 585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00 593+00 594+00 595+00

7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	109	252

(2) PLAN AND PLOT SHEETS

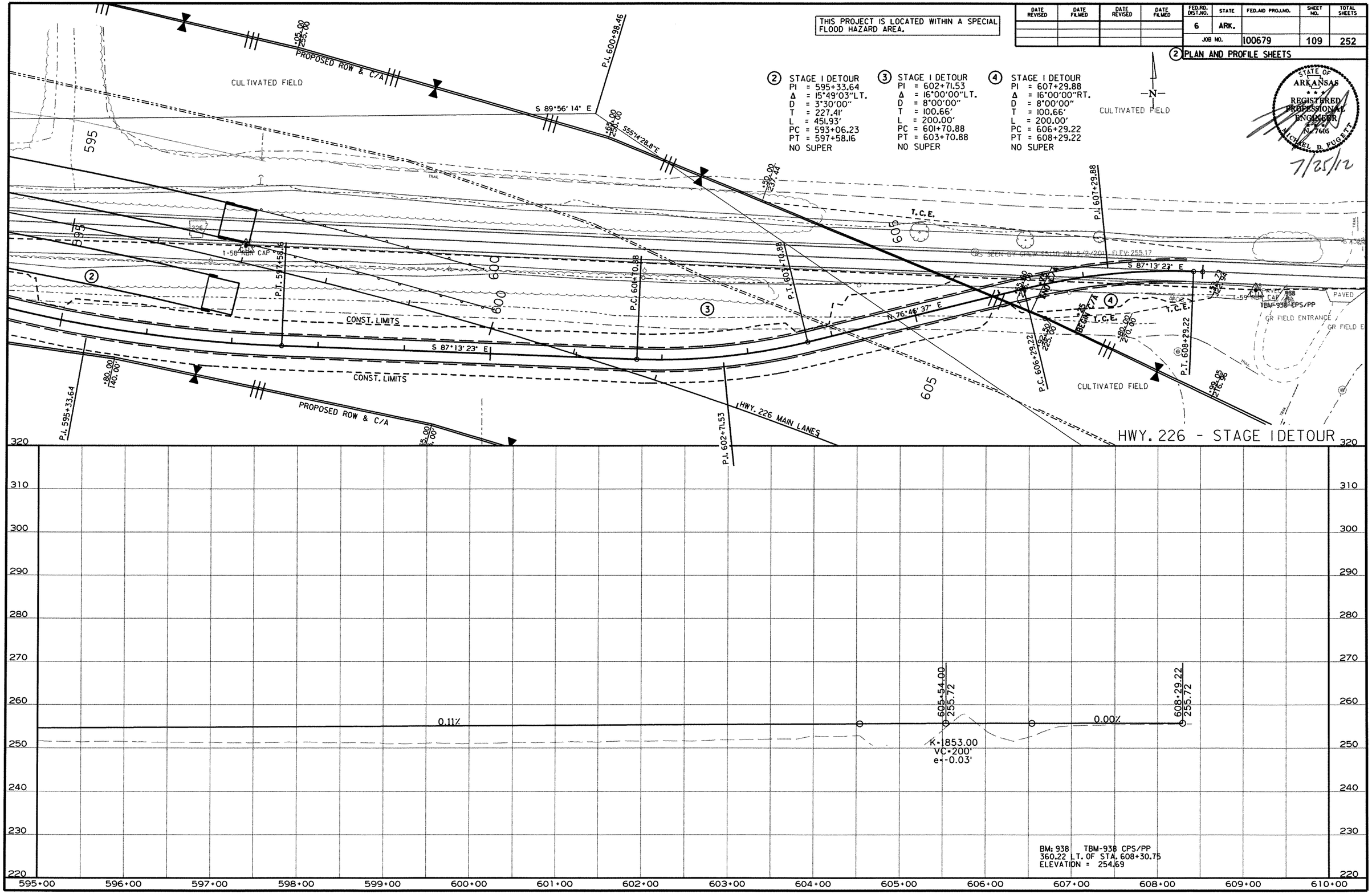
THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

(2) STAGE I DETOUR
PI = 595+33.64
Δ = 15°49'03"LT.
D = 3°30'00"
T = 227.41'
L = 451.93'
PC = 593+06.23
PT = 597+58.16
NO SUPER

(3) STAGE I DETOUR
PI = 602+71.53
Δ = 16°00'00"LT.
D = 8°00'00"
T = 100.66'
L = 200.00'
PC = 601+70.88
PT = 603+70.88
NO SUPER

(4) STAGE I DETOUR
PI = 607+29.88
Δ = 16°00'00"RT.
D = 8°00'00"
T = 100.66'
L = 200.00'
PC = 606+29.22
PT = 608+29.22
NO SUPER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. FUGETT
N. 7605
7/25/12



R100679.DGN 7/24/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	110	252

(2) PLAN AND PROFILE SHEETS

THIS PROJECT IS LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. PUGETT
7/25/12

CULTIVATED FIELD
S 89°56' 14" E
S 55°14'28.8"E
P.C. 597+21.30
P.T. 599+57.79
P.I. 602+56.25
P.I. 605+21.57
Δ= 0°6'24"
S 77°16' 24" E
S 89°05' 52" E
S 87°06' 59" E
S 87°13' 23" E
CONST. LIMITS
T.C.E.
P.I. 598+39.97
P.C. 602+23.22
P.T. 602+89.47
END C/A
BEGIN C/A
T-58 HUB CAP
T-59 HUB CAP
TBM-938 CPS/PP
PAVED
GR FIELD ENTRANCE
CULTIVATED FIELD
PROPOSED ROW & C/A
HWY. 226 MAIN LANES
HWY. 226 - STAGE 2 DETOUR

(5) STAGE 2 DETOUR
PI = 598+39.97
Δ = 11°49'28"LT.
D = 5°00'00"
T = 118.67'
L = 236.49'
PC = 597+21.30
PT = 599+57.79
NO SUPER

(6) STAGE 2 DETOUR
PI = 598+39.97
Δ = 11°49'28"LT.
D = 5°00'00"
T = 118.67'
L = 236.49'
PC = 597+21.30
PT = 599+57.79
NO SUPER

596+00.00
261.06
0.00%
601+00.00
261.06
K=190.62
VC=200'
e=-0.26'
-1.05%
K=191.09
VC=200'
e=0.26'
606+07.35
255.74
-0.00%
608+11.41
255.73

BM: 938 TBM-938 CPS/PP
360.22 LT. OF STA. 608+30.75
ELEVATION = 254.69

595+00 596+00 597+00 598+00 599+00 600+00 601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00

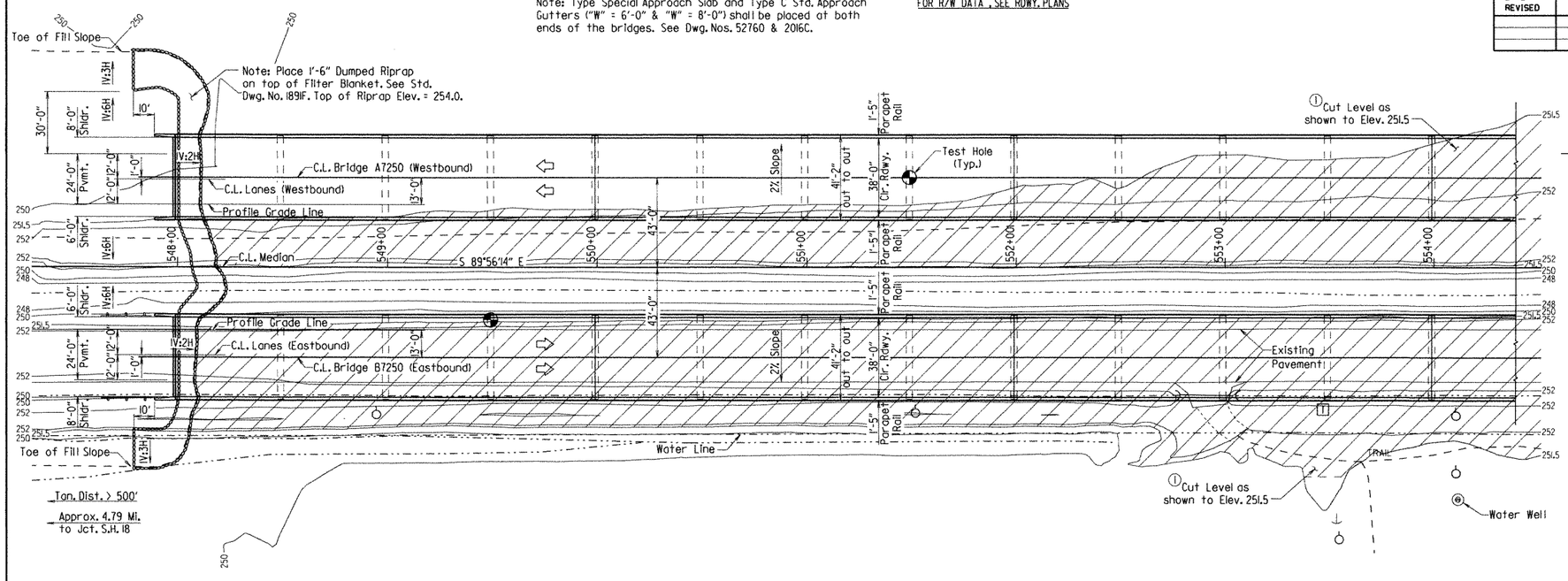
320 310 300 290 280 270 260 250 240 230 220

7/24/2012
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	111	252
				①		A&B7250 - LAYOUT - 52732		

Note: Type Special Approach Slab and Type C Std. Approach Gutters ("W" = 6'-0" & "W" = 8'-0") shall be placed at both ends of the bridges. See Dwg. Nos. 52760 & 20116C.

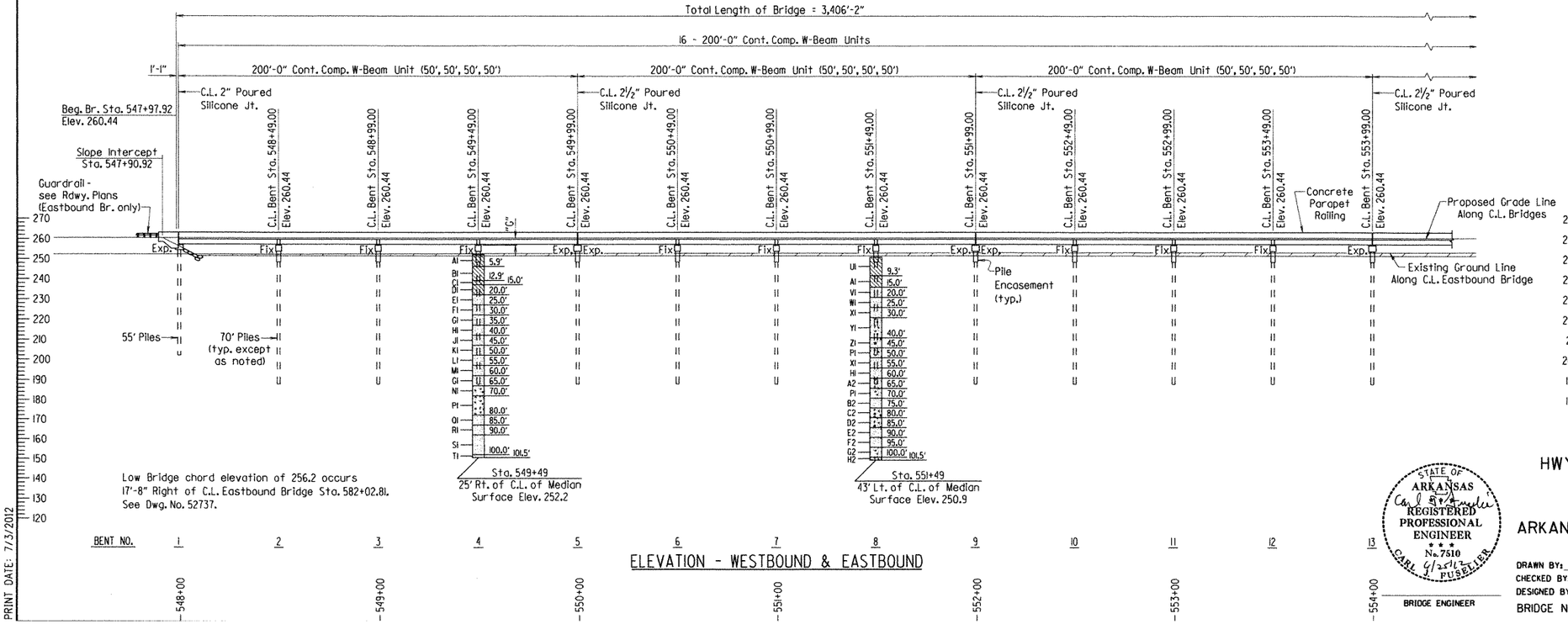
FOR R/W DATA, SEE RDWY. PLANS



PLAN - WESTBOUND & EASTBOUND

Note: Bridge stations shown are along C.L. Median.
Elevations shown are actual elevations along C.L. Bridge.

BRIDGE IS IN LEVEL GRADE
P.G.L. Elevation is 260.70



ELEVATION - WESTBOUND & EASTBOUND

① Limit level excavation to 100' right and left of C.L. Median. Transition to existing ground using 1V:2H slope. From Beginning of Bridge to West of Big Creek Ditch, approximately 18,900 cubic yards of excavation.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts in the median area.

TABLE OF VARIABLES

Bent No.	Bent Type	C.L. Deck @ C.L. Bent to Low Side Top of Cap "C"
2	A	3'-10⅝"
3	A	3'-10⅝"
4	A	3'-10⅝"
5	C	3'-11⅛"
6	A	3'-10⅝"
7	A	3'-10⅝"
8	A	3'-10⅝"
9	C	3'-11⅛"
10	A	3'-10⅝"
11	A	3'-10⅝"
12	A	3'-10⅝"
13	C	3'-11⅛"

"N" VALUES

Sta. 549+49 - 25' Rt. of C.L. of Median	Sta. 551+49 - 43' Lt. of C.L. of Median
6.4 - 7.4, N=9	4.8 - 5.8, N=8
9.9 - 10.9, N=11	9.8 - 10.8, N=12
13.4 - 14.4, N=15	15.5 - 16.5, N=8
15.5 - 16.5, N=11	20.5 - 21.5, N=18
20.5 - 21.5, N=18	25.5 - 26.5, N=13
25.5 - 26.5, N=10	30.5 - 31.5, N=27
30.5 - 31.5, N=18	35.5 - 36.5, N=21
35.5 - 36.5, N=22	40.5 - 41.5, N=18
40.5 - 41.5, N=33	45.5 - 46.5, N=18
45.5 - 46.5, N=27	50.5 - 51.5, N=30
50.5 - 51.5, N=39	55.5 - 56.5, N=21
55.5 - 56.5, N=42	60.5 - 61.5, N=54
60.5 - 61.5, N=20	65.5 - 66.5, N=22
65.5 - 66.5, N=34	70.5 - 71.5, N=39
70.5 - 71.5, N=28	75.5 - 76.5, N=36
75.5 - 76.5, N=25	80.5 - 81.5, N=29
80.5 - 81.5, N=25	85.5 - 86.5, N=72
85.5 - 86.5, N=40	90.5 - 91.5, N=58
90.5 - 91.5, N=69	95.5 - 96.5, N=64
95.5 - 96.5, N=100	100.5 - 101.5, N=90
100.5 - 101.5, N=45	

Note: For General Notes, Boring Legend and Hydraulic Data, see Dwg. No. 52738.

SHEET 1 OF 7

LAYOUT OF BRIDGES OVER BIG CREEK DITCH HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS
Carl G. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL G. FUSELIER 6/22/12
BRIDGE ENGINEER

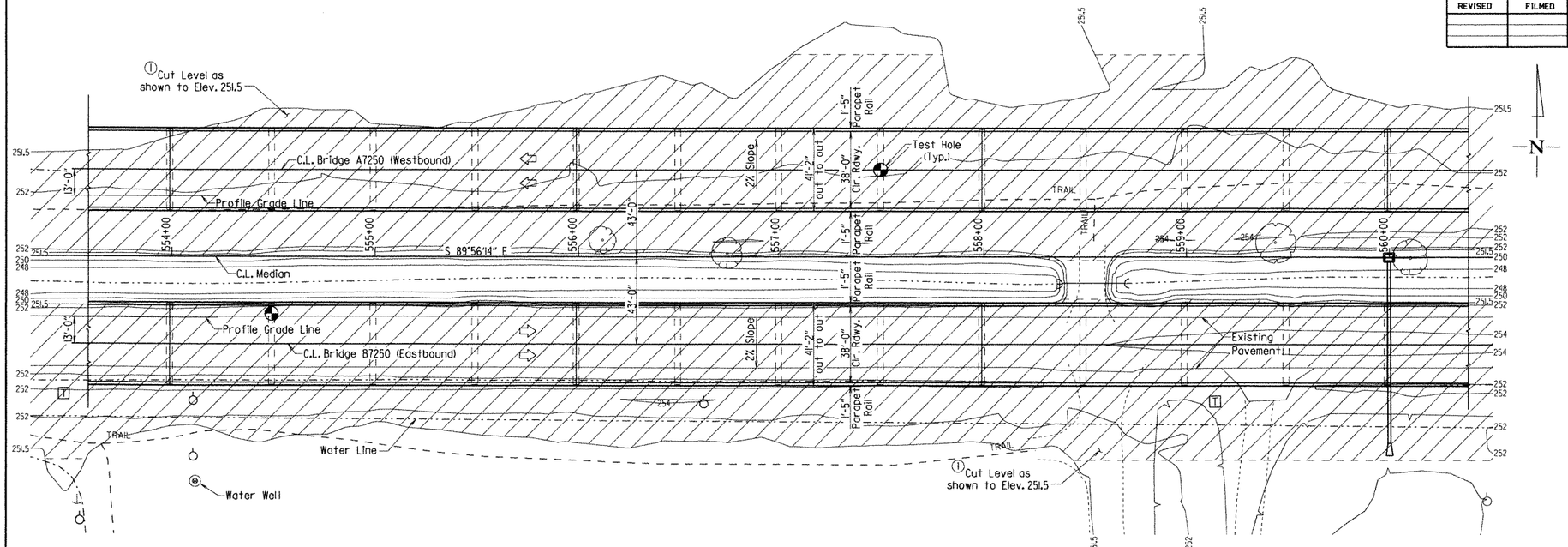
DRAWN BY: JYP DATE: 1/27/12
CHECKED BY: [illegible] DATE: 2-10-12
DESIGNED BY: JYP DATE: 1-12
FILENAME: b100679xl_ll.dgn
SCALE: 1" = 30'

BRIDGE NO. A&B7250 DRAWING NO. 52732

PRINT DATE: 7/3/2012

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.		100679	112	252
①	A&B7250 - LAYOUT - 52733			



① Limit level excavation to 100' right and left of C.L. Median. Transition to existing ground using IV:2H slope.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts in the median area.

TABLE OF VARIABLES

Bent No.	Bent Type	C.L. Deck @ C.L. Bent to Low Side Top of Cap "G"
13	C	3'-10 11/16"
14	A	3'-10 5/16"
15	A	3'-10 5/16"
16	A	3'-10 5/16"
17	C	3'-10 11/16"
18	A	3'-10 5/16"
19	A	3'-10 5/16"
20	A	3'-10 5/16"
21	C	3'-10 11/16"
22	A	3'-10 5/16"
23	A	3'-10 5/16"
24	A	3'-10 5/16"
25	C	3'-10 11/16"

PLAN - WESTBOUND & EASTBOUND

Note: Bridge stations shown are along C.L. Median.
Elevations shown are actual elevations along C.L. Bridge.

BRIDGE IS IN LEVEL GRADE
P.G.L. Elevation is 260.70

Total Length of Bridge = 3,406'-2"

16 - 200'-0" Cont. Comp. W-Beam Units

200'-0" Cont. Comp. W-Beam Unit (50', 50', 50', 50')

200'-0" Cont. Comp. W-Beam Unit (50', 50', 50', 50')

200'-0" Cont. Comp. W-Beam Unit (50', 50', 50', 50')

C.L. 2½" Poured Silicone Jt.

C.L. Bent Sta. 553+99.00 Elev. 260.44
C.L. Bent Sta. 554+49.00 Elev. 260.44
C.L. Bent Sta. 554+99.00 Elev. 260.44
C.L. Bent Sta. 555+49.00 Elev. 260.44
C.L. Bent Sta. 555+99.00 Elev. 260.44
C.L. Bent Sta. 556+49.00 Elev. 260.44
C.L. Bent Sta. 556+99.00 Elev. 260.44
C.L. Bent Sta. 557+49.00 Elev. 260.44
C.L. Bent Sta. 557+99.00 Elev. 260.44
C.L. Bent Sta. 558+49.00 Elev. 260.44
C.L. Bent Sta. 558+99.00 Elev. 260.44
C.L. Bent Sta. 559+49.00 Elev. 260.44
C.L. Bent Sta. 559+99.00 Elev. 260.44

"G"

Concrete Parapet Railing

Proposed Grade Line Along C.L. Bridges

Existing Ground Line Along C.L. Eastbound Bridge

Exp. Fix

70' Piles (typ. except as noted)

Pile Encasement (typ.)

Sta. 554+49
28' Rt. of C.L. of Median
Surface Elev. 253.1

Sta. 557+49
43' Lt. of C.L. of Median
Surface Elev. 251.5

Low Bridge chord elevation of 256.2 occurs 17'-8" Right of C.L. Eastbound Bridge Sta. 582+02.81. See Dwg. No. 52737.

ELEVATION - WESTBOUND & EASTBOUND

BENT NO. 13 14 15 16 17 18 19 20 21 22 23 24 25

554+00 555+00 556+00 557+00 558+00 559+00 560+00

"N" VALUES

Sta. 554+49 - 28' Rt. of C.L. of Median	Sta. 557+49 - 43' Lt. of C.L. of Median
4.5- 5.5, N=9	4.6- 5.6, N=14
9.5- 10.5, N=15	9.6- 10.6, N=17
15.5- 16.5, N=11	15.5- 16.5, N=7
20.5- 21.5, N=16	20.5- 21.5, N=4
25.5- 26.5, N=13	25.5- 26.5, N=11
30.5- 31.5, N=18	30.5- 31.5, N=13
35.5- 36.5, N=14	35.5- 36.5, N=21
40.5- 41.5, N=24	40.5- 41.5, N=33
45.5- 46.5, N=25	45.5- 46.5, N=40
50.5- 51.5, N=49	50.5- 51.5, N=28
55.5- 56.5, N=35	55.5- 56.5, N=26
60.5- 61.5, N=25	60.5- 61.5, N=22
65.5- 66.5, N=43	65.5- 66.5, N=46
70.5- 71.5, N=37	70.5- 71.5, N=57
75.5- 76.5, N=39	75.5- 76.5, N=34
80.5- 81.5, N=28	80.5- 81.5, N=63
85.5- 86.5, N=50	85.5- 86.5, N=59
90.5- 91.5, N=34	90.5- 91.5, N=86
95.5- 96.5, N=49	95.5- 96.5, N=40
100.5-101.5, N=70	100.5-101.5, N=65

Note: For General Notes, Boring Legend and Hydraulic Data, see Dwg. No. 52738.

PRINT DATE: 7/3/2012

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER 4/25/12
BRIDGE ENGINEER

SHEET 2 OF 7

LAYOUT OF BRIDGES OVER BIG CREEK DITCH HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

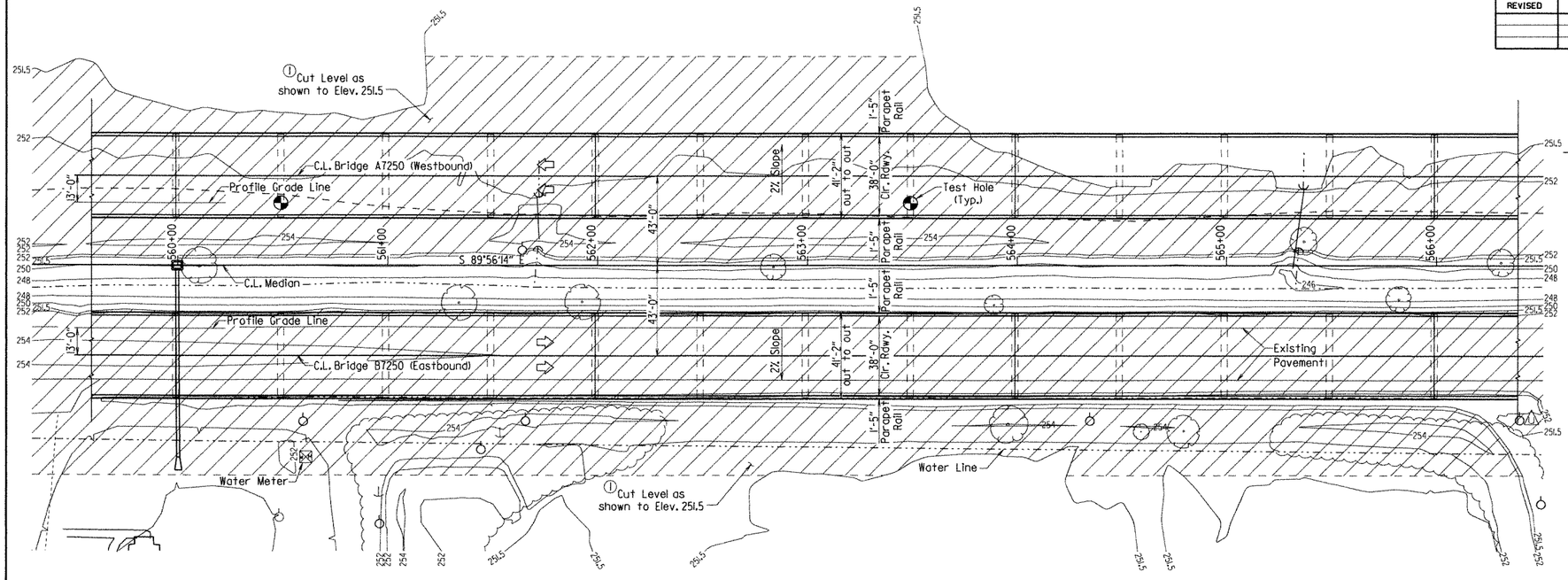
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 1/27/12
CHECKED BY: AMS DATE: 2-10-12
DESIGNED BY: JYP DATE: 1-12
FILENAME: b100679xl_ll.dgn
SCALE: 1" = 30'

BRIDGE NO. A&B7250 DRAWING NO. 52733

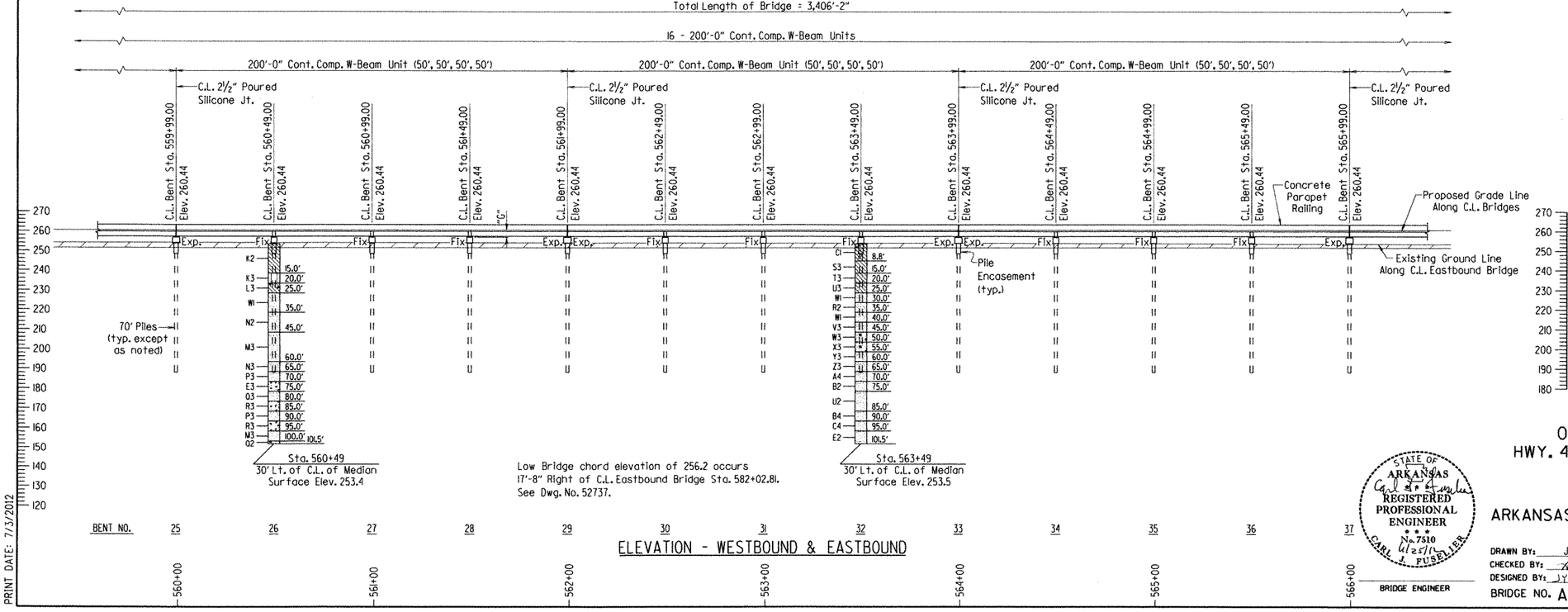
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100679	113 252	
(1)	A&B7250 - LAYOUT - 52734			



PLAN - WESTBOUND & EASTBOUND

Note: Bridge stations shown are along C.L. Median.
Elevations shown are actual elevations along C.L. Bridge.



Low Bridge chord elevation of 256.2 occurs 17'-8" Right of C.L. Eastbound Bridge Sta. 582+02.81. See Dwg. No. 52737.

ELEVATION - WESTBOUND & EASTBOUND

BRIDGE IS IN LEVEL GRADE
P.G.L. Elevation is 260.70

(1) Limit level excavation to 100' right and left of C.L. Median. Transition to existing ground using 1V:2H slope.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts in the median area.

TABLE OF VARIABLES

Bent No.	Bent Type	C.L. Deck @ C.L. Bent to Low Side Top of Cap "G"
25	C	3'-10 11/16"
26	A	3'-10 5/16"
27	A	3'-10 5/16"
28	A	3'-10 5/16"
29	C	3'-10 11/16"
30	A	3'-10 5/16"
31	A	3'-10 5/16"
32	A	3'-10 5/16"
33	C	3'-10 11/16"
34	A	3'-10 5/16"
35	A	3'-10 5/16"
36	A	3'-10 5/16"
37	C	3'-10 11/16"

"N" VALUES

Sta. 560+49 - 30' Lt. of C.L. of Median	Sta. 563+49 - 30' Lt. of C.L. of Median
4.3- 5.3, N=22	4.3- 5.3, N=10
9.3- 10.3, N=22	9.3- 10.3, N=16
15.5- 16.5, N=15	15.5- 16.5, N=12
20.5- 21.5, N=6	20.5- 21.5, N=8
25.5- 26.5, N=18	25.5- 26.5, N=17
30.5- 31.5, N=22	30.5- 31.5, N=13
35.5- 36.5, N=21	35.5- 36.5, N=17
40.5- 41.5, N=25	40.5- 41.5, N=18
45.5- 46.5, N=33	45.5- 46.5, N=16
50.5- 51.5, N=33	50.5- 51.5, N=20
55.5- 56.5, N=34	55.5- 56.5, N=26
60.5- 61.5, N=26	60.5- 61.5, N=35
65.5- 66.5, N=38	65.5- 66.5, N=28
70.5- 71.5, N=38	70.5- 71.5, N=31
75.5- 76.5, N=32	75.5- 76.5, N=38
80.5- 81.5, N=44	80.5- 81.5, N=50
85.5- 86.5, N=33	85.5- 86.5, N=35
90.5- 91.5, N=33	90.5- 91.5, N=69
95.5- 96.5, N=43	95.5- 96.5, N=65
100.5-101.5, N=46	100.5-101.5, N=62

Note: For General Notes, Boring Legend and Hydraulic Data, see Dwg. No. 52738.

SHEET 3 OF 7

LAYOUT OF BRIDGES OVER BIG CREEK DITCH HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
12/31/13
CARL J. FUSELIER
BRIDGE ENGINEER

DRAWN BY: JYP DATE: 1/27/12
CHECKED BY: AMS DATE: 2-10-12
DESIGNED BY: JYP DATE: 1-12

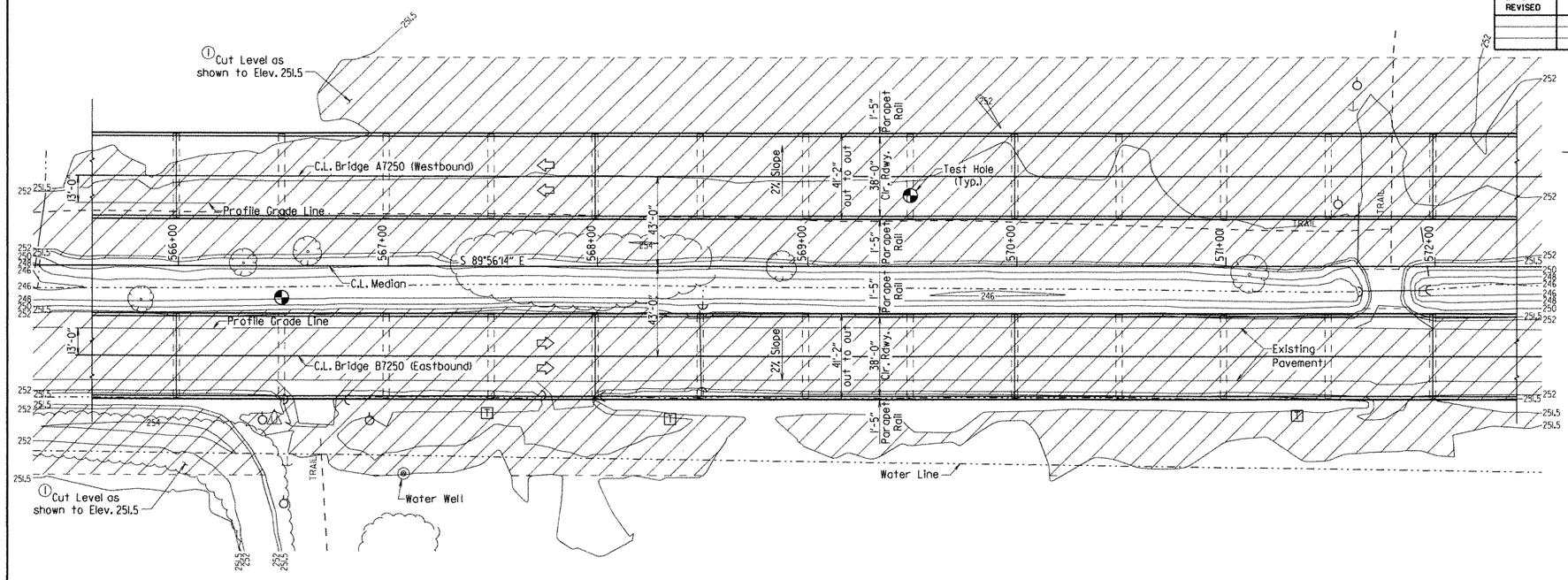
FILENAME: bl00679xl_ll.dgn
SCALE: 1" = 30'

BRIDGE NO. A&B7250 DRAWING NO. 52734

PRINT DATE: 7/3/2012

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.		100679	114	252
(1)		A&B7250 - LAYOUT - 52735		



(1) Limit level excavation to 100' right and left of C.L. Median. Transition to existing ground using IV:2H slope.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts in the median area.

TABLE OF VARIABLES

Bent No.	Bent Type	C.L. Deck @ C.L. Bent to Low Side Top of Cap "C"
37	C	3'-10 15/16"
38	A	3'-10 5/16"
39	A	3'-10 5/16"
40	A	3'-10 5/16"
41	C	3'-10 15/16"
42	A	3'-10 5/16"
43	A	3'-10 5/16"
44	A	3'-10 5/16"
45	C	3'-10 15/16"
46	A	3'-10 5/16"
47	A	3'-10 5/16"
48	A	3'-10 5/16"
49	C	3'-10 15/16"

PLAN - WESTBOUND & EASTBOUND

Note: Bridge stations shown are along C.L. Median.
Elevations shown are actual elevations along C.L. Bridge.

BRIDGE IS IN LEVEL GRADE
P.G.L. Elevation is 260.70

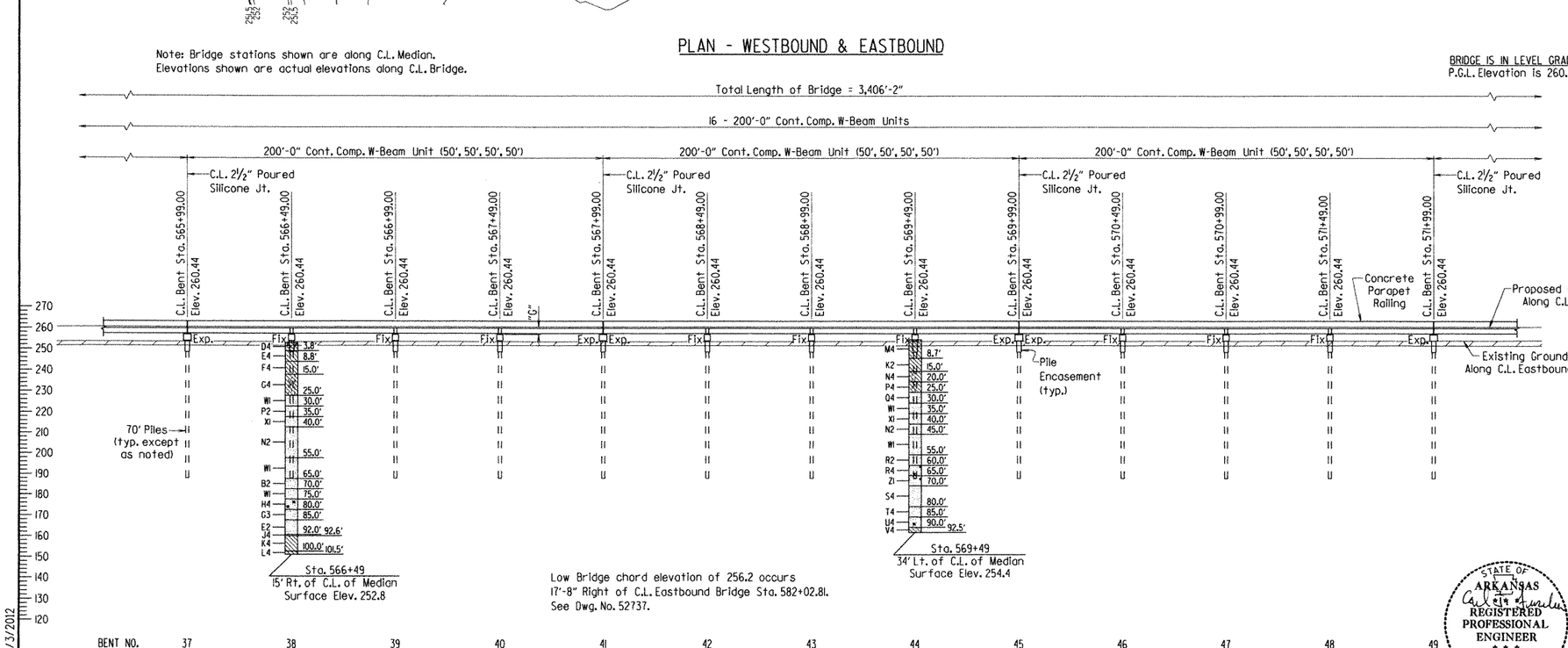
Total Length of Bridge = 3,406'-2"

16 - 200'-0" Cont. Comp. W-Beam Units

200'-0" Cont. Comp. W-Beam Unit (50', 50', 50', 50')

200'-0" Cont. Comp. W-Beam Unit (50', 50', 50', 50')

200'-0" Cont. Comp. W-Beam Unit (50', 50', 50', 50')



Sta. 566+49
15' Rt. of C.L. of Median
Surface Elev. 252.8

Sta. 569+49
34' Lt. of C.L. of Median
Surface Elev. 254.4

Low Bridge chord elevation of 256.2 occurs
17'-8" Right of C.L. Eastbound Bridge Sta. 582+02.81.
See Dwg. No. 52737.

BENT NO.	37	38	39	40	41	42	43	44	45	46	47	48	49
	566+00	567+00	568+00	569+00	570+00	571+00	572+00						

ELEVATION - WESTBOUND & EASTBOUND

"N" VALUES

Sta. 566+49 - 15' Rt. of C.L. of Median	Sta. 569+49 - 34' Lt. of C.L. of Median
4.3- 5.3, N=7	4.2- 5.2, N=26
9.3- 10.3, N=16	9.2- 10.2, N=18
15.5- 16.5, N=18	15.5- 16.5, N=26
20.5- 21.5, N=9	20.5- 21.5, N=11
25.5- 26.5, N=15	25.5- 26.5, N=10
30.5- 31.5, N=34	30.5- 31.5, N=17
35.5- 36.5, N=20	35.5- 36.5, N=21
40.5- 41.5, N=17	40.5- 41.5, N=20
45.5- 46.5, N=19	45.5- 46.5, N=27
50.5- 51.5, N=16	50.5- 51.5, N=28
55.5- 56.5, N=30	55.5- 56.5, N=25
60.5- 61.5, N=25	60.5- 61.5, N=27
65.5- 66.5, N=39	65.5- 66.5, N=26
70.5- 71.5, N=28	70.5- 71.5, N=24
75.5- 76.5, N=29	75.5- 76.5, N=28
80.5- 81.5, N=51	80.5- 81.5, N=6
85.5- 86.5, N=55	85.5- 86.5, N=37
90.5- 91.5, N=97	90.5- 91.5, N=32
95.5- 96.5, N=25	
100.5-101.5, N=31	

Note: For General Notes, Boring Legend and Hydraulic Data, see Dwg. No. 52738.

STATE OF ARKANSAS
CARL GLEN FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
BRIDGE ENGINEER

SHEET 4 OF 7

LAYOUT OF BRIDGES OVER BIG CREEK DITCH HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 1/27/12
CHECKED BY: AMS DATE: 2-10-12
DESIGNED BY: JYP DATE: 1-12
FILENAME: bl00679xl_ll.dgn
SCALE: 1" = 30'

BRIDGE NO. A&B7250 DRAWING NO. 52735

PRINT DATE: 7/3/2012

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.		100679	115	252
①	A&B7250 - LAYOUT - 52736			

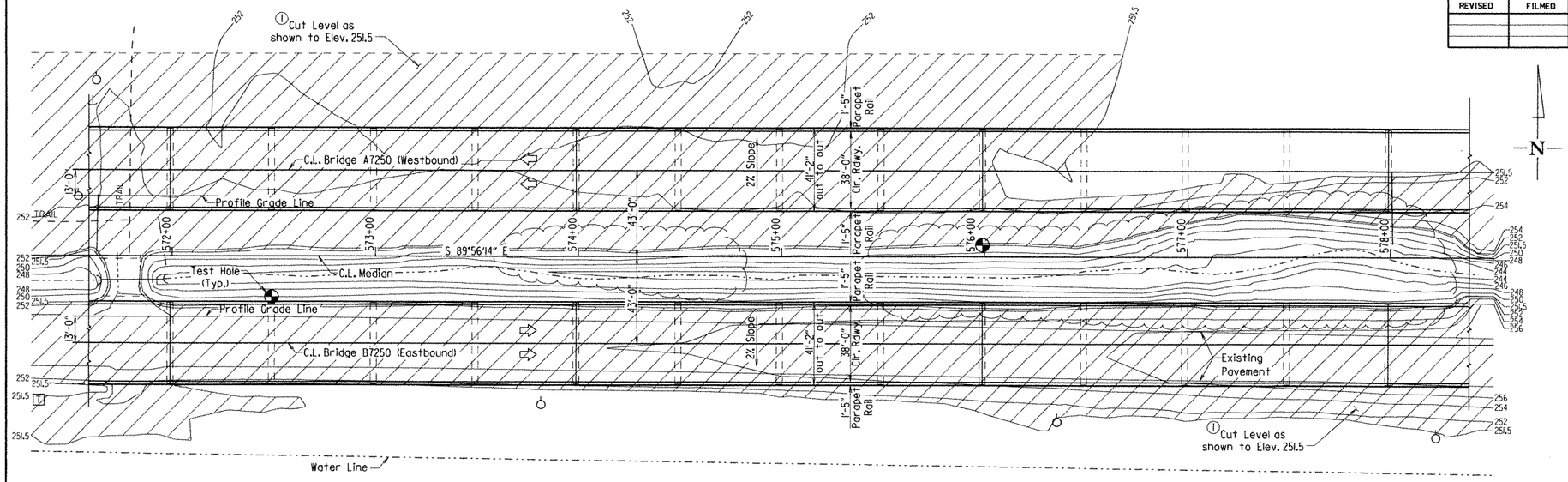


TABLE OF VARIABLES

Bent No.	Bent Type	C.L. Deck @ C.L. Bent to Low Side Top of Cap "C"
49	C	3'-10 11/16"
50	A	3'-10 5/16"
51	A	3'-10 5/16"
52	A	3'-10 5/16"
53	C	3'-10 11/16"
54	A	3'-10 5/16"
55	A	3'-10 5/16"
56	A	3'-10 5/16"
57	C	3'-10 11/16"
58	A	3'-10 5/16"
59	A	3'-10 5/16"
60	A	3'-10 5/16"
61	C	3'-10 11/16"

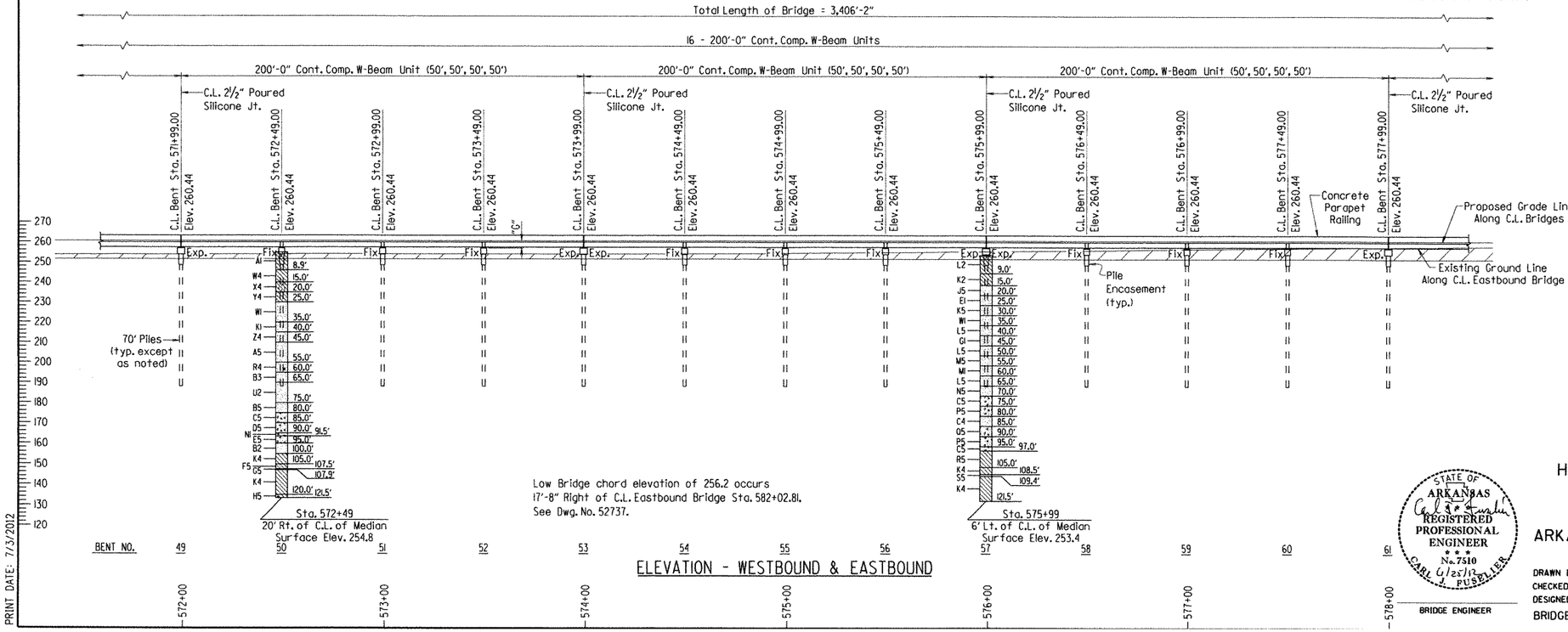
"N" VALUES

Sta. 572+49 - 20' Rt. of C.L. of Median	Sta. 575+99 - 6' Lt. of C.L. of Median
4.4- 5.4, N=9	4.5- 5.5, N=9
9.4- 10.4, N=14	9.5- 10.5, N=20
15.5- 16.5, N=14	15.5- 16.5, N=10
20.5- 21.5, N=15	20.5- 21.5, N=11
25.5- 26.5, N=24	25.5- 26.5, N=10
30.5- 31.5, N=21	30.5- 31.5, N=16
35.5- 36.5, N=25	35.5- 36.5, N=20
40.5- 41.5, N=29	40.5- 41.5, N=16
45.5- 46.5, N=35	45.5- 46.5, N=21
50.5- 51.5, N=32	50.5- 51.5, N=55
55.5- 56.5, N=24	55.5- 56.5, N=32
60.5- 61.5, N=30	60.5- 61.5, N=29
65.5- 66.5, N=34	65.5- 66.5, N=33
70.5- 71.5, N=44	70.5- 71.5, N=32
75.5- 76.5, N=40	75.5- 76.5, N=26
80.5- 81.5, N=43	80.5- 81.5, N=85
85.5- 86.5, N=52	85.5- 86.5, N=60
90.5- 91.5, N=31	90.5- 91.5, N=25
95.5- 96.5, N=42	95.5- 96.5, N=32
100.5-101.5, N=22	100.5-101.5, N=22
105.5-105.9, N=60 (5')	105.5-106.5, N=24
110.5-111.5, N=29	110.5-111.5, N=29
120.5-121.5, N=59	115.5-116.5, N=27
	120.5-121.5, N=27

Note: Bridge stations shown are along C.L. Median.
Elevations shown are actual elevations along C.L. Bridge.

PLAN - WESTBOUND & EASTBOUND

BRIDGE IS IN LEVEL GRADE
P.G.L. Elevation is 260.70



ELEVATION - WESTBOUND & EASTBOUND

Note: For General Notes, Boring Legend and Hydraulic Data, see Dwg. No. 52738.

SHEET 5 OF 7

LAYOUT OF BRIDGES OVER BIG CREEK DITCH HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

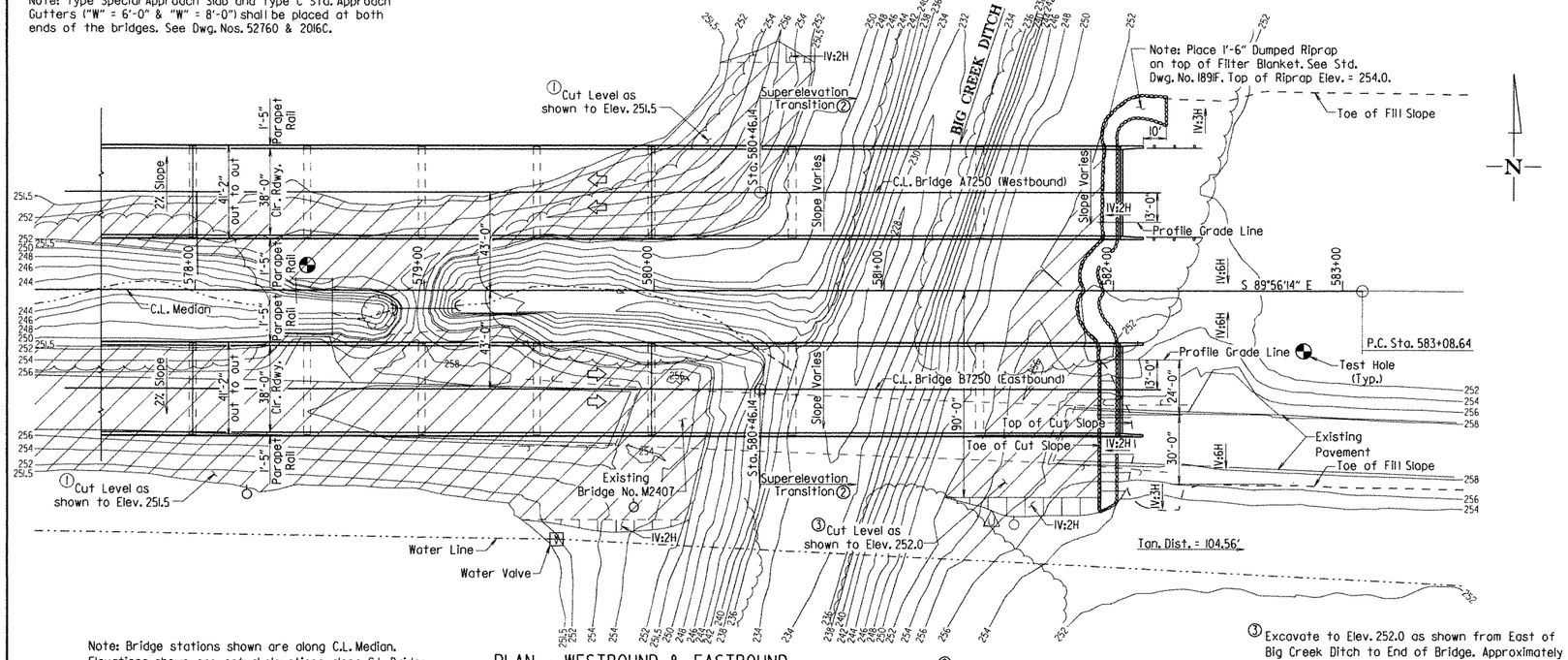
STATE OF ARKANSAS
Carl G. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL G. FUSELIER
1/25/12
BRIDGE ENGINEER

DRAWN BY: JYP DATE: 1/27/12
CHECKED BY: AMS DATE: 2-10-12
DESIGNED BY: JYP DATE: 1-12
FILENAME: bl00679xl_11.dgn
SCALE: 1" = 30'

BRIDGE NO. A&B7250 DRAWING NO. 52736

PRINT DATE: 7/3/2012

Note: Type Special Approach Slab and Type C Std. Approach Gutters ("W" = 6'-0" & "W" = 8'-0") shall be placed at both ends of the bridges. See Dwg. Nos. 52760 & 2016C.

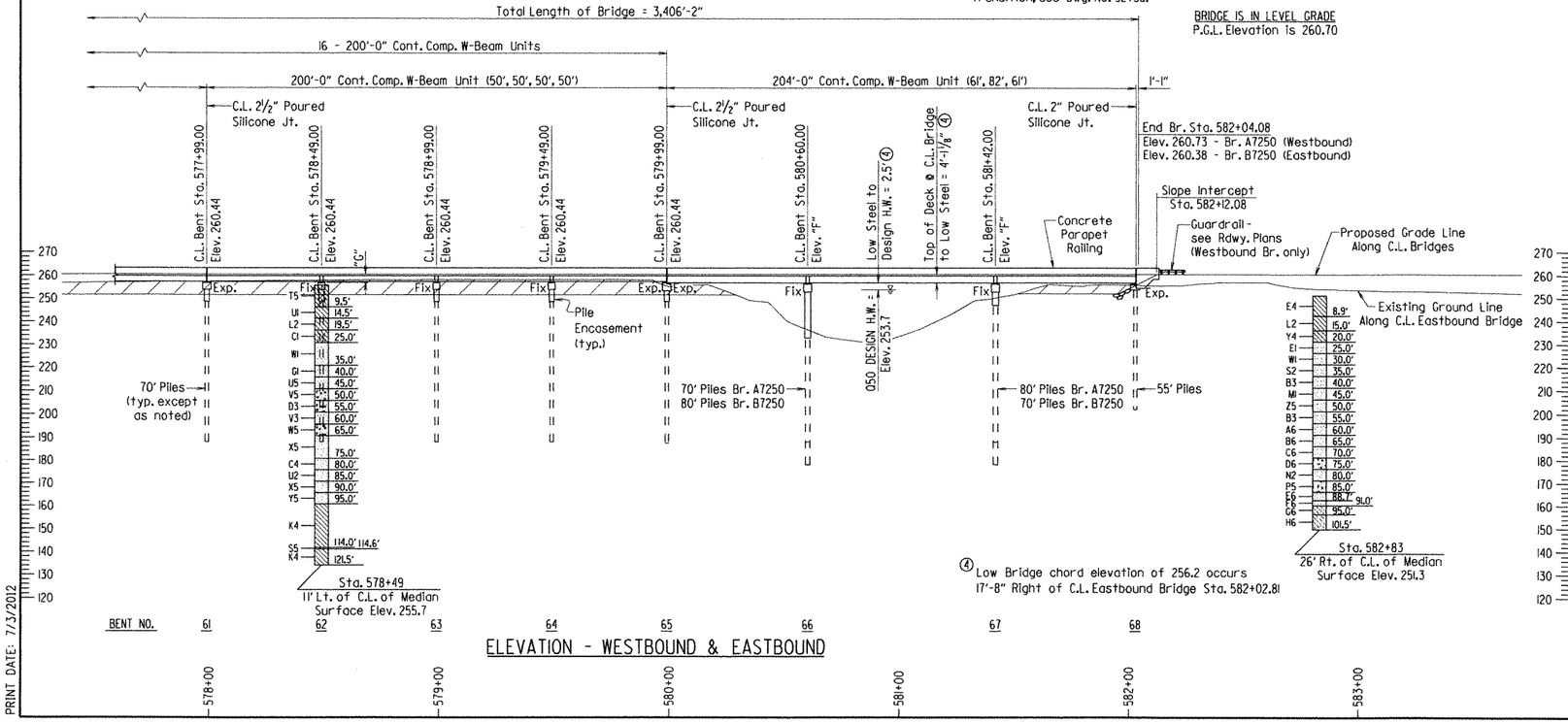


Note: Bridge stations shown are along C.L. Median. Elevations shown are actual elevations along C.L. Bridge.

PLAN - WESTBOUND & EASTBOUND

② For details of superelevation transition, see Dwg. No. 52738.

③ Excavate to Elev. 252.0 as shown from East of Big Creek Ditch to End of Bridge. Approximately 520 cubic yards of excavation.



ELEVATION - WESTBOUND & EASTBOUND

④ Low Bridge chord elevation of 256.2 occurs 17'-8" Right of C.L. Eastbound Bridge Sta. 582+02.81

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.		100679	116	252
				①		A&B7250 - LAYOUT - 52737		

① Limit level excavation to 100' right and left of C.L. Median. Transition to existing ground using 1V:2H slope.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts in the median area.

TABLE OF VARIABLES

Bent No.	Bent Type	Deck Elev. @ C.L. Bridge "F" Westbound	Deck Elev. @ C.L. Bridge "F" Eastbound	C.L. Deck @ C.L. Bent to Low Side Top of Cap "G" Westbound	C.L. Deck @ C.L. Bent to Low Side Top of Cap "G" Eastbound
61	C	See Elevation View	See Elevation View	3'-10⅝"	3'-10⅝"
62	A			3'-10⅝"	3'-10⅝"
63	A			3'-10⅝"	3'-10⅝"
64	A			3'-10⅝"	3'-10⅝"
65	D			4'-4⅞"	4'-4⅞"
66	B	260.47	260.43	4'-4⅞"	4'-5⅛"
67	B	260.62	260.40	4'-1⅞"	4'-5⅝"

"N" VALUES

Sta. 578+49 - 11' Lt. of C.L. of Median	N	Sta. 582+83 - 26' Rt. of C.L. of Median	N
7.0 - 8.0	6	4.4 - 5.4	6
12.0 - 13.0	5	9.4 - 10.4	11
17.0 - 18.0	12	15.5 - 16.5	10
22.0 - 23.0	8	20.5 - 21.5	15
25.5 - 26.5	24	25.5 - 26.5	19
30.5 - 31.5	21	30.5 - 31.5	47
35.5 - 36.5	20	35.5 - 36.5	24
40.5 - 41.5	11	40.5 - 41.5	33
45.5 - 46.5	27	45.5 - 46.5	54
50.5 - 51.5	26	50.5 - 51.5	28
55.5 - 56.5	30	55.5 - 56.5	24
60.5 - 61.5	53	60.5 - 61.5	28
65.5 - 66.5	39	65.5 - 66.5	33
70.5 - 71.5	49	70.5 - 71.5	30
75.5 - 76.5	57	75.5 - 76.5	30
80.5 - 81.5	38	80.5 - 81.5	30
85.5 - 86.5	40	85.5 - 86.5	25
90.5 - 91.5	55	90.5 - 91.5	41
95.5 - 96.5	25	95.5 - 96.5	41
100.5 - 101.5	21	100.5 - 101.5	38
105.5 - 106.5	30		
110.5 - 111.5	28		
115.5 - 116.5	29		
120.5 - 121.5	27		

Note: For General Notes, Boring Legend and Hydraulic Data, see Dwg. No. 52738.

STATE OF ARKANSAS
Carl Gilson Puselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL GILSON PUSELIER
BRIDGE ENGINEER

SHEET 6 OF 7

LAYOUT OF BRIDGES OVER BIG CREEK DITCH HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 1/27/12
CHECKED BY: ARS DATE: 2-10-12
DESIGNED BY: JYP DATE: 1-12
FILENAME: bl00679xl_ll.dgn
SCALE: 1" = 30'

BRIDGE NO. A&B7250 DRAWING NO. 52737

PRINT DATE: 7/3/2012

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.		100679	117	253
				①		A&B7250 - LAYOUT - 52738		

GENERAL NOTES

BENCH MARK: CH SO SW COR BR, 67.17' Rt. of C.L. Median Sta. 579+83.31, Elev. 258.82.

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, Section and Subsection refer to the Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition, with 2010 Interim Revisions.

LIVE LOADING: HL93
SEISMIC PERFORMANCE ZONE: 4

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. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

⑤ STEEL SHELL PILING: Piling for all bents shall be concrete filled steel shell piles and shall be driven with an approved air, steam or diesel hammer to the required ultimate bearing capacity per pile and minimum tip elevation. Piling diameter, ultimate bearing capacity and minimum tip elevation shall be as shown below. Piling in end bents shall be driven after embankment to bottom of cap is in place.

Bent Type	Pile Diameter	Minimum Tip Elevation	Ultimate Bearing Capacity	Minimum Rated Hammer Energy
End	18"ø	202.0	200 Tons	31,000
A	18"ø	188.0	295 Tons	55,000
B	24"ø	188.0	385 Tons	66,000
C	18"ø	188.0	335 Tons	66,000
D	18"ø	188.0	335 Tons	66,000

Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No payment will be made for cut-off or build-up. Test Piles are not required but may be driven for the Contractor's information in accordance with subsection 805.08(g).

Water jetting may be needed to achieve the minimum pile penetration. Water jetting shall stop once the minimum tip elevation is achieved. Any cost associated with achieving the minimum pile penetration shall be included in the item "Steel Shell Piling".

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". The estimated minimum rated hammer energy in foot pounds per blow required to obtain the ultimate bearing capacities are as shown in the above table.

PILE ENCASEMENT: For Bents 2 thru 67, Pile Encasement shall extend from the bottom of the cap to 3' below natural ground or excavated ground elevation, whichever is lower. See Dwg. No. 52747.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class S Tined Bridge Roadway Surface Finish.

DETAIL DRAWINGS	DRAWING NOS.
End Bents	52739-52742
Intermediate Bents	52743-52746
Elastomeric Bearings	52748
200' Continuous W-Beam Unit	52749-52754, 52758-52759
204' Continuous W-Beam Unit	52749-52751, 52755-52759
Type C Approach Gutter	2016C
Type Special Approach Slab	52760
Concrete Filled Steel Shell Piling	52747

EXISTING BRIDGE: Existing Bridge No. M2407 (Logmile 11.05) is 25.5' wide and 192' long. The superstructure consists of a steel truss main span and timber beam approach spans with concrete deck. The substructure consists of timber and steel trestle pile bents. Some of the timber piles are encased in concrete filled drums.

REMOVAL AND SALVAGE: After Bridge A7250 is open to traffic, existing Bridge No. M2407 shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor except the following which shall remain the property of the State:

90' Truss Span
All Guardrail Materials

Handling and salvage of the existing truss span shall be in accordance with Special Provision Job 100679 "Removal of Historic Truss Span of Bridge No. M2407".

The Contractor shall provide temporary storage and on site loading onto AHTD equipment for removal of the guardrail materials from the site. Exposed piling and debris from a previous structure shall also be removed to a minimum depth of 2' below natural ground. Payment for this work shall be considered incidental to the item "Removal of Existing Bridge Structure".

MAINTENANCE OF TRAFFIC: See Roadway Plans for maintenance of traffic.

BORING LEGEND

A1-Moist, Stiff, Brown and Gray Clay with some Organic Matter
B1-Moist, Stiff, Brown Clay with some Organic Matter and Iron Nodules
C1-Moist, Stiff, Brown Silty Clay with some Organic Matter
D1-Moist, Stiff, Brown Clay with Sand and some Organic Matter
E1-Moist, Medium Dense, Brown Sand
F1-Wet, Loose, Brown Sand with some Organic Matter
G1-Wet, Medium Dense, Brown Sand with some Gravel and Organic Matter
H1-Wet, Medium Dense, Brown and Gray Sand with some Organic Matter
J1-Wet, Dense, Brown Sand with some Organic Matter
K1-Wet, Medium Dense, Brown Sand with some Organic Matter
L1-Wet, Dense, Brown Sand with some Organic Matter and Trace of Gravel
M1-Wet, Dense, Brown Sand with some Gravel
N1-Wet, Dense, Brown and Gray Sand with Gravel
P1-Wet, Medium Dense, Brown and Gray Sand with Gravel
Q1-Wet, Medium Dense, Brown and Gray Sand with some Gravel and Organic Matter
R1-Wet, Dense, Gray Sand with some Organic Matter
S1-Wet, Very Dense, Gray Sand with some Organic Matter
T1-Wet, Dense, Brown and Gray Sand with some Gravel and Organic Matter
U1-Moist, Medium Stiff, Brown and Gray Clay with some Organic Matter
V1-Wet, Loose, Brown and Gray Sand
W1-Wet, Medium Dense, Brown Sand
X1-Wet, Medium Dense, Brown and Gray Sand
Y1-Wet, Medium Dense, Brown Sand with Gravel and Trace of Organic Matter
Z1-Wet, Medium Dense, Gray Sand with Organic Matter
A2-Wet, Very Dense, Brown and Gray Sand with Gravel
B2-Wet, Dense, Brown and Gray Sand
C2-Wet, Dense, Brown and Gray Sand with Gravel and organic Matter
D2-Wet, Medium Dense, Brown and Gray Sand with Gravel and organic Matter
E2-Wet, Very Dense, Gray Sand
F2-Wet, Very Dense, Gray Sand with Trace of Gravel
G2-Wet, Very Dense, Gray Sand with Gravel and some Organic Matter
H2-Wet, Very Dense, Gray and Brown Sand with Gravel and some Organic Matter
J2-Moist, Stiff, Brown Clay with SB-2 and Asphalt Fragments and some Organic Matter
K2-Moist, Very Stiff, Brown and Gray Clay with some Organic Matter
L2-Moist, Stiff, Brown Clay with some Organic Matter
M2-Moist, Medium Dense, Gray Sand
N2-Wet, Medium Dense, Gray Sand
P2-Wet, Dense, Reddish Brown Sand
Q2-Wet, Dense, Gray Sand with Organic Matter
R2-Wet, Medium Dense, Brown Sand with Trace of Organic Matter
S2-Wet, Dense, Brown Sand with Trace of Gravel
T2-Wet, Dense, Dark Brown Sand
U2-Wet, Dense, Gray Sand
V2-Wet, Very Dense, Gray and Brown Sand with Trace of Gravel
W2-Moist, Very Stiff, Brown Silty Clay with some Organic Matter
X2-Wet, Medium Stiff, Brown Clay with Sand and some Organic Matter
Y2-Wet, Very Loose, Brown and Gray Sand with Clay
Z2-Wet, Medium Dense, Brown and Gray Sand with Gravel and some Organic Matter

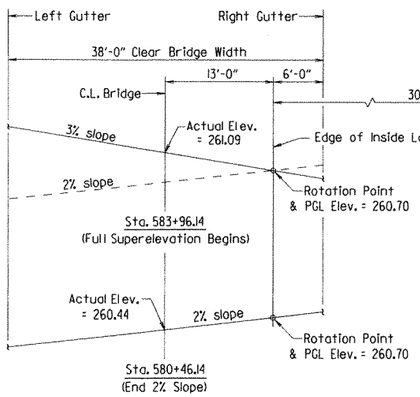
A3-Wet, Dense, Brown and Gray Sand with Gravel and some Organic Matter
B3-Wet, Medium Dense, Brown Sand with Trace of Gravel
C3-Wet, Medium Dense, Brown and Gray Sand with Gravel and Organic Matter
D3-Wet, Medium Dense, Brown Sand with Gravel and Organic Matter
E3-Wet, Dense, Brown Sand with Gravel and Trace of Organic Matter
F3-Wet, Very Dense, Brown and Gray Sand with some Organic Matter
G3-Wet, Very Dense, Gray Sand with Trace of Organic Matter
H3-Wet, Very Dense, Gray Sand with some Gravel and Organic Matter
J3-Wet, Dense, Gray Gravelly Sand with some Organic Matter
K3-Moist, Medium Dense, Brown Silt with some Organic Matter
L3-Moist, Medium Stiff, Brown and Gray Clay with Sand and Organic Matter
M3-Wet, Dense, Brown and Gray Sand with some Organic Matter
N3-Wet, Medium Dense, Brown and Gray Sand with Trace of Organic Matter
P3-Wet, Dense, Brown Sand with Trace of Organic Matter
Q3-Wet, Dense, Brown and Gray Sand with Trace of Gravel
R3-Wet, Dense, Brown and Gray Sand with Gravel and Trace of Organic Matter
S3-Moist, Very Stiff, Brown Clay with some Iron Nodules
T3-Moist, Stiff, Brown Clay with Sand with Trace of Organic Matter
U3-Moist, Stiff, Light Gray Sandy Clay with Trace of Organic Matter
V3-Wet, Medium Dense, Gray and Brown Sand with Trace of Organic Matter
W3-Wet, Medium Dense, Brown and Gray Sand with Organic Matter and Trace of Gravel
X3-Wet, Medium Dense, Reddish Brown Sand with Organic Matter
Y3-Wet, Medium Dense, Reddish Brown Sand
Z3-Wet, Very Dense, Brown and Gray Sand
A4-Wet, Medium Dense, Brown and Gray Sand with Trace of Gravel
B4-Wet, Dense, Gray Sand with Trace of Organic Matter
C4-Wet, Very Dense, Gray Sand with some Gravel
D4-Moist, Medium Stiff, Brown Clay with Asphalt Fragments and some Organic Matter
E4-Moist, Medium Stiff, Brown Clay with some Organic Matter
F4-Moist, Very Stiff, Brown Clay
G4-Moist, Very Stiff to Stiff, Brown Silty Clay
H4-Wet, Medium Dense, Brown Sand with organic Matter
J4-Hard, Gray Cemented Sand
K4-Moist, Very Stiff, Gray Clay
L4-Moist, Hard, Gray Clay
M4-Moist, Very Stiff, Brown Clay with some Organic Matter
N4-Moist, Very Stiff, Brown Silty Clay with Trace of Organic Matter
P4-Moist, Stiff, Light Brown Silty Clay with some Organic Matter
Q4-Wet, Loose, Gray and Brown Sand
R4-Wet, Medium Dense, Brown Sand with Organic Matter
S4-Wet, Medium Dense, Gray Sand with Trace of Organic Matter
T4-Wet, Loose, Gray Sand with Trace of Organic Matter
U4-Wet, Dense, Gray Sand with Organic Matter (Wood)
V4-Moist, Hard, Gray Clay with Sand and some Organic Matter
W4-Moist, Stiff, Gray and Brown Clay
X4-Moist, Stiff, Brown Silty Clay
Y4-Moist, Stiff, Brown Clay with Sand
Z4-Wet, Medium Dense, Brown Sand with some Organic Matter and Trace of Gravel

A5-Wet, Dense, Brown Sand
B5-Wet, Dense, Gray Sand with Trace of Gravel
C5-Wet, Dense, Gray Sand with Gravel
D5-Wet, Very Dense, Gray Sand with Gravel and Trace of Organic Matter
E5-Wet, Dense, Brown and Gray Sand with Gravel and Cemented Sand Seams
F5-Moist, Very Hard, Gray Clay with Sand
G5-Hard, Gray Cemented Sand (107.5' to 107.9')
H5-Moist, Hard, Gray Clay with Lignite
J5-Moist, Loose, Brown Sand
K5-Wet, Loose, Brown Sand with some Gravel
L5-Wet, Medium Dense, Brown Sand with some Gravel
M5-Wet, Very Dense, Brown and Gray Sand with some Gravel
N5-Wet, Dense, Brown Sand with some Gravel and Organic Matter
P5-Wet, Medium Dense, Gray Sand with Gravel
Q5-Wet, Very Dense, Gray Sand with Gravel
R5-Moist, Very Stiff, Gray Clay with some Gravel
S5-Hard, Cemented Sand
T5-Moist, Medium Stiff, Brown and Gray Silty Clay with some Organic Matter
U5-Wet, Medium Dense, Gray Sand with some Organic Matter
V5-Wet, Medium Dense, Brown Sand with Gravel
W5-Wet, Very Dense, Gray and Brown Sand with Gravel and Organic Matter
X5-Wet, Dense, Gray Sand with some Gravel
Y5-Wet, Very Dense, Gray and Brown Sand with some Gravel and Organic Matter
Z5-Wet, Very Dense, Brown Sand with Trace of Gravel and Organic Matter
A6-Wet, Medium Dense, Gray Sand with Trace of Gravel and some Organic Matter
B6-Wet, Medium Dense, Gray Sand with Trace of Gravel and Organic Matter
C6-Wet, Dense, Gray Sand with Trace of Gravel and Organic Matter
D6-Wet, Medium Dense, Gray Sand with Gravel and Trace of Organic Matter
E6-Wet, Medium Dense, Gray Sand with Trace of Gravel
F6-Hard, Gray Cemented Sand Layers
G6-Moist, Dense, Gray Sand with Clay and Cemented Sand Layers
H6-Moist, Dense, Gray Sand with Clay

Note: Use the following equations to calculate centerline bridge and gutterline elevations within the limits of superelevation transition.

"X" = Desired Station (in Stations)

Left Gutterline Elev. = 260.060 + 0.457I("X" - 580.46I)
C.L. Bridge Elev. = 260.440 + 0.I857("X" - 580.46I)
Right Gutterline Elev. = 260.820 - 0.0857("X" - 580.46I)

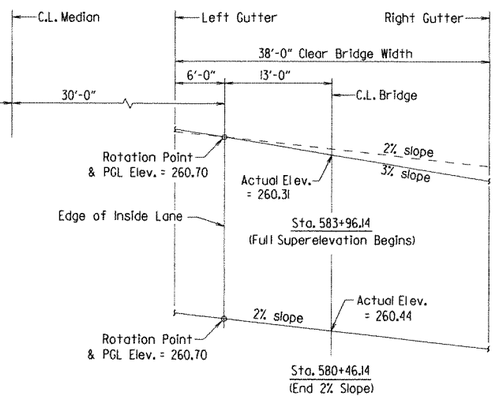


WESTBOUND SUPERELEVATION TRANSITION
(STA. 580+46.14 TO STA. 583+96.14)
Looking Ahead Station
No Scale

Note: Use the following equations to calculate centerline bridge and gutterline elevations within the limits of superelevation transition.

"X" = Desired Station (in Stations)

Left Gutterline Elev. = 260.820 + 0.0I7I("X" - 580.46I)
C.L. Bridge Elev. = 260.440 - 0.037I("X" - 580.46I)
Right Gutterline Elev. = 260.060 - 0.09I4("X" - 580.46I)



EASTBOUND SUPERELEVATION TRANSITION
(STA. 580+46.14 TO STA. 583+96.14)
Looking Ahead Station
No Scale

⑤ Bridge B7250 shall be constructed to avoid interference with existing piling. The Contractor shall verify measurements before driving any piling. Any adjustments necessary to fit bridge B7250 to the existing bridge location and to maintain bent alignment between "A" and "B" bridges shall be submitted for the Engineers approval.

⑥ HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	**TOTAL DISCHARGE	DISCHARGE THIS BRIDGE	*NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	CFS	FEET	FEET
Design	50	15,300	12,270	253.6	253.7
Base	100	18,900	15,180	254.1	254.2
Extreme	500	29,800	23,600	255.2	255.4
Overtopping	>500	N/A	N/A	N/A	N/A

*Unconstricted water surface without structure or roadway approaches.

**Includes flow at Big Creek Ditch and Big Creek Ditch Relief constructed under Job 100679 and a Box Culvert at Sta. 649+27 constructed under Job 100677.

Total Drainage Area = 99.2 square miles
Q100 Backwater Elevation for existing structures = 254.2

Proposed Low Bridge Chord Elev. = 256.2 (Big Creek Ditch)
Proposed Low Bridge Chord Elev. = 256.6 (Big Creek Ditch Relief)

⑥ Bridge Length and Hydraulics by Department Hydraulics Section.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/27/11
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 7 OF 7

LAYOUT OF BRIDGES OVER BIG CREEK DITCH HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 1/27/12 FILENAME: b100679xl_11.dgn
CHECKED BY: DATE: 2-10-12 SCALE: 1" = 30'
DESIGNED BY: DATE: 1-12

BRIDGE NO. A&B7250 DRAWING NO. 52738

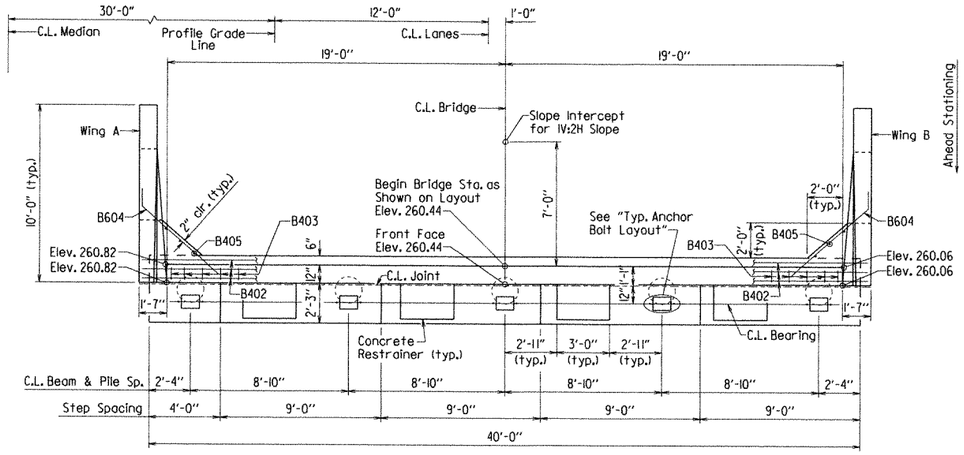
PRINT DATE: 7/3/2012

Note: Class I Protective Surface Treatment shall be applied to the top of the backwall and to the roadway face and top of the wing rails.

For "Section X-X" and Details of Wing & Rail, see Dwg. No. 52741.

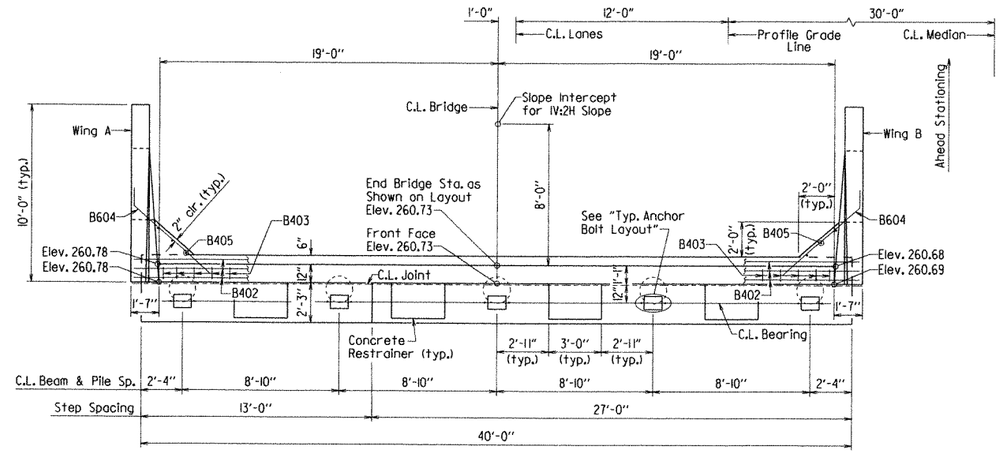
For Details of General Notes, Concrete Restrainers and Bar List, see Dwg. No. 52742.

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.		100679	119	252
				(1) A7250		END BENTS		52739



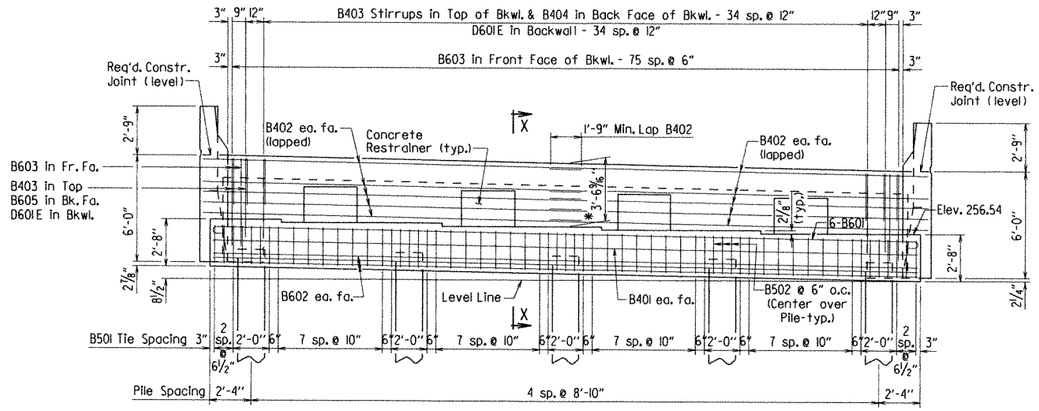
PLAN - BENT 1

1/4" = 1'-0"



PLAN - BENT 68

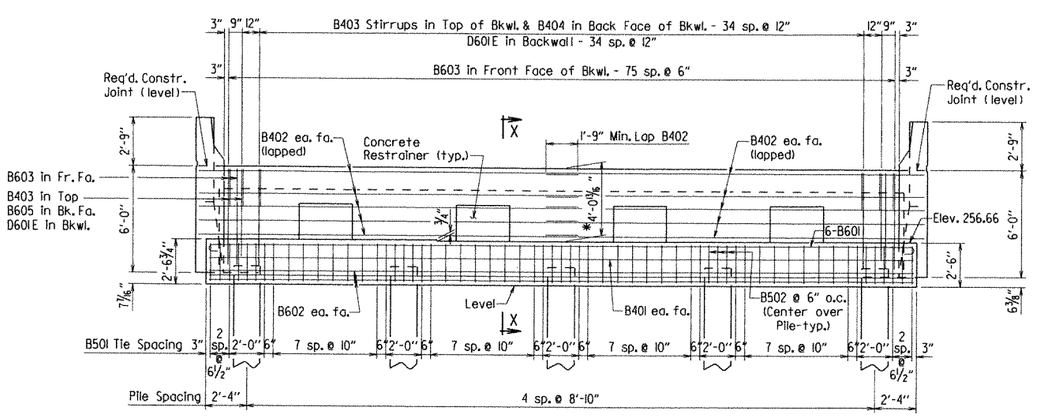
1/4" = 1'-0"



ELEVATION - BENT 1

Looking Back

1/4" = 1'-0"

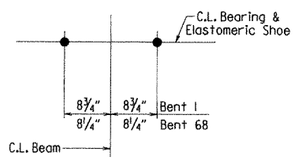


ELEVATION - BENT 68

Looking Ahead

1/4" = 1'-0"

*Measured at C.L. Bridge & front face of backwall.



For Details of Elastomeric Bearings, see Dwg. No. 52748.

TYPICAL ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
Carl J. Pusellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELLIER

BRIDGE ENGINEER

DETAILS OF WESTBOUND END BENTS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2-29-12
CHECKED BY: ACTS DATE: 4-16-12
DESIGNED BY: JYP DATE: 2-12

FILENAME: bl00679xl_bl.dgn
SCALE: As Noted

BRIDGE NO. A7250 DRAWING NO. 52739

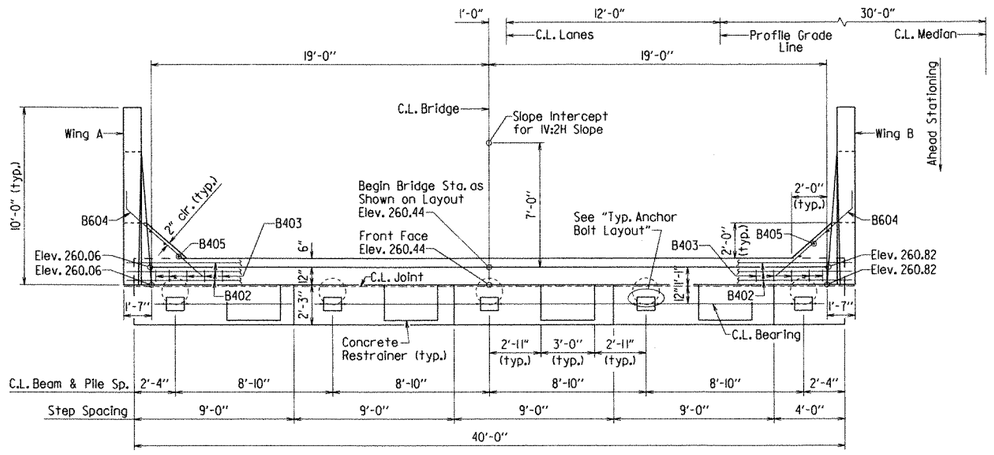
PRINT DATE: 6/25/2012

Note: Class I Protective Surface Treatment shall be applied to the top of the backwall and to the roadway face and top of the wing rails.

For "Section X-X" and Details of Wing & Rail, see Dwg. No. 52741.

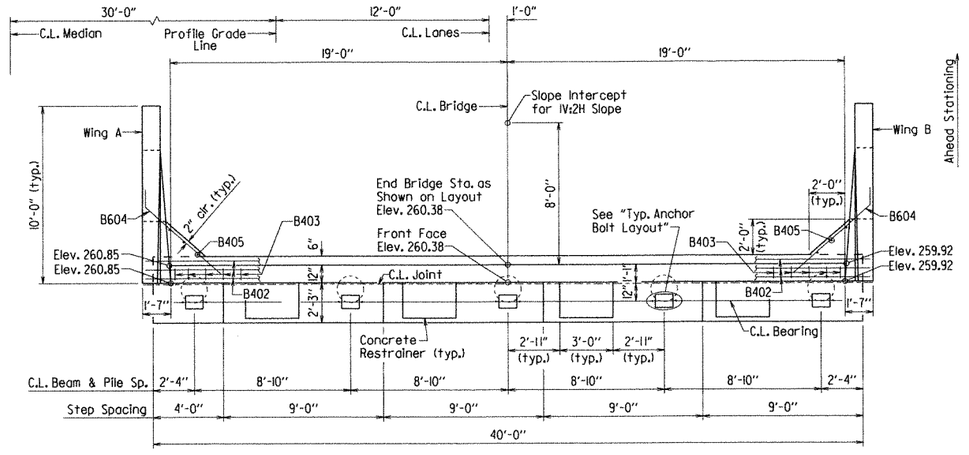
For Details of General Notes, Concrete Restrainers and Bar List, see Dwg. No. 52742.

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.		100679	119	232
				(1) B7250		END BENTS		52740



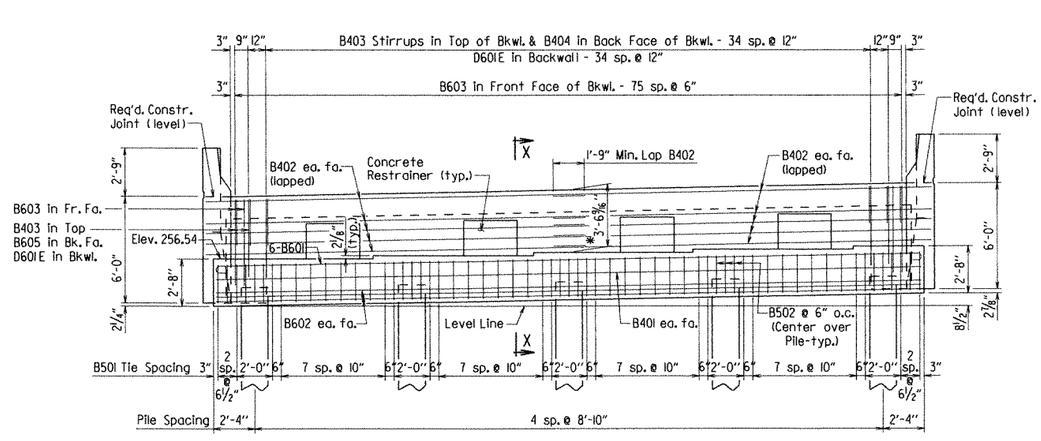
PLAN - BENT 1

1/4" = 1'-0"



PLAN - BENT 68

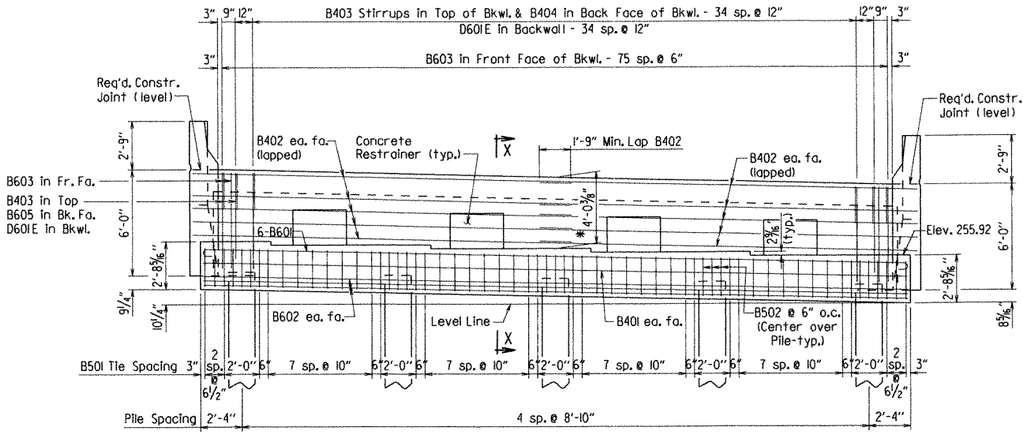
1/4" = 1'-0"



ELEVATION - BENT 1

Looking Back

1/4" = 1'-0"

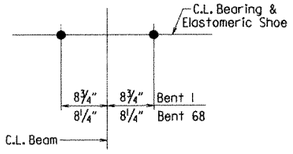


ELEVATION - BENT 68

Looking Ahead

1/4" = 1'-0"

*Measured at C.L. Bridge & front face of backwall.



For Details of Elastomeric Bearings, see Dwg. No. 52748.

TYPICAL ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
Carl G. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL G. FUSELIER
12/5/12

BRIDGE ENGINEER

DETAILS OF EASTBOUND END BENTS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2-29-12 FILENAME: bl00679xl_bl.dgn

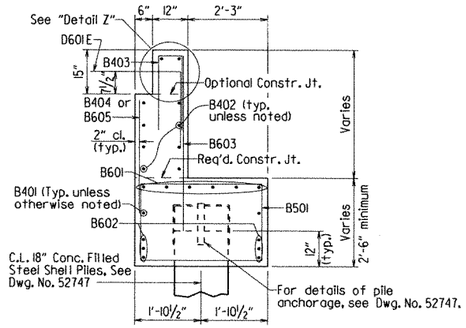
CHECKED BY: ARLS DATE: 4-16-12 SCALE: As Noted

DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. B7250 DRAWING NO. 52740

PRINT DATE: 6/25/2012

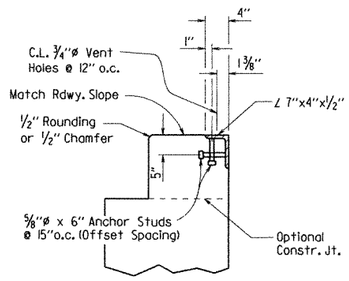
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	120	252
				①	A&B7250	END BENTS		52741



SECTION X-X

½" = 1'-0"

NOTE: The Backwall above the required construction joint shall not be poured until the beams are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. See Dwg. No. 52759, "Expansion Device Installation at End Bents", for additional information.

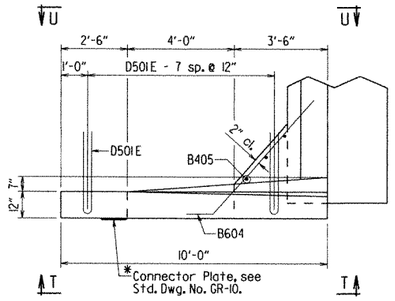


NOTE: For additional joint details, see Dwg. No. 52759.

DETAIL Z

No Scale

NOTE: Concrete shall be hand packed under the joint armor in the backwall.



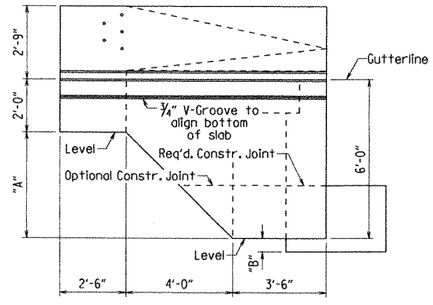
PLAN OF WING

⅜" = 1'-0"

*Connector Plate as required. See Roadway Plans for guardrail location.

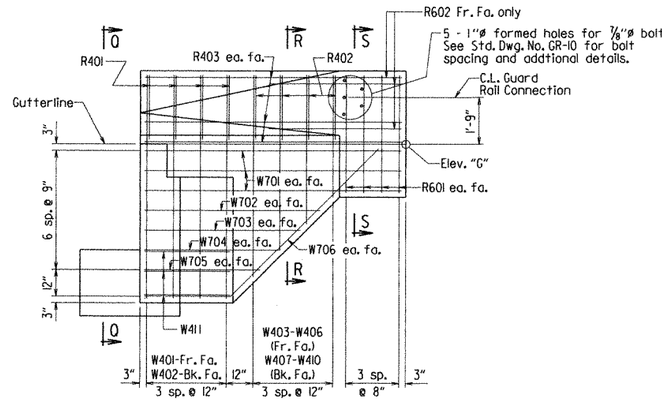
TABLE OF VARIABLES

Bridge No.	Bent	Wing	Elev. "G"	"A"	"B"
A7250	1	A	260.82	4'-0"	2⅞"
		B	260.06	4'-0"	2¼"
	68	A	260.82	4'-0⅜"	7 1/16"
		B	260.68	3'-11⅞"	6⅜"
B7250	1	A	260.06	4'-0"	2¼"
		B	260.82	4'-0"	2⅞"
	68	A	260.85	4'-0"	9¼"
		B	259.91	3'-11⅞"	8⅜"



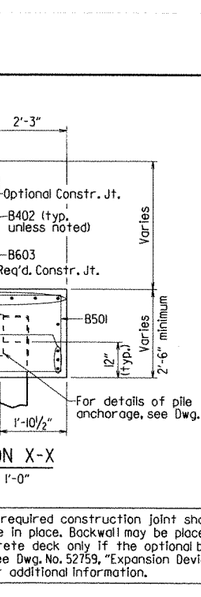
VIEW T-T

⅜" = 1'-0"



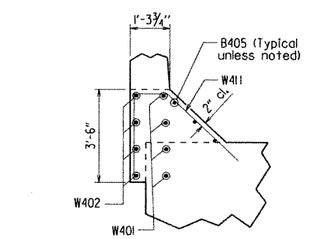
VIEW U-U

⅜" = 1'-0"



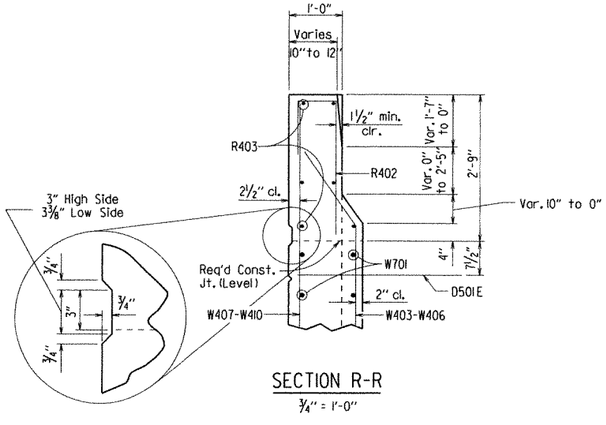
VIEW O-O

¾" = 1'-0"



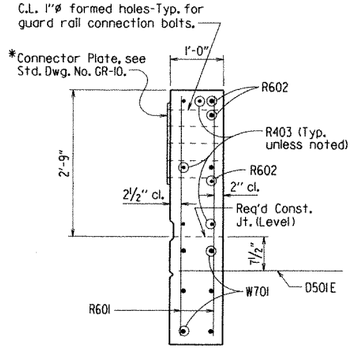
SECTION P-P

⅜" = 1'-0"



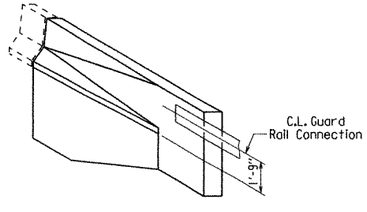
SECTION R-R

¾" = 1'-0"



SECTION S-S

¾" = 1'-0"



THREE DIMENSIONAL VIEW OF RAIL

No Scale

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/25/12
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 2

DETAILS COMMON TO END BENTS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 3-2-12 FILENAME: b100679xl_bl.dgn

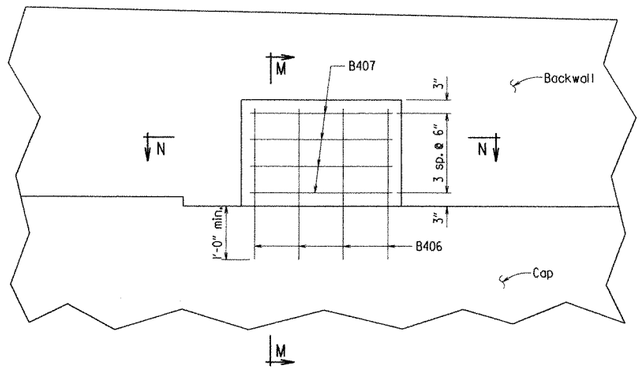
CHECKED BY: AMS DATE: 4-16-12 SCALE: As Noted

DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7250 DRAWING NO. 52741

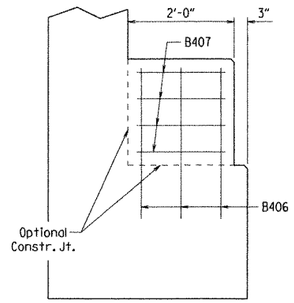
PRINT DATE: 6/25/2012

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.		100679	13	252
				(1) A&B7250		END BENTS		52742



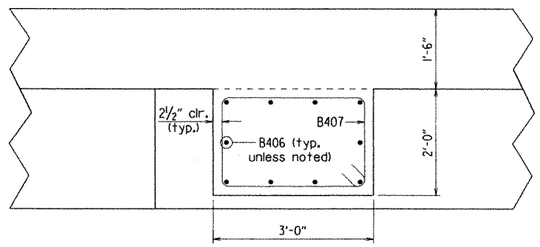
ELEVATION - CONCRETE RESTRAINER

3/4" = 1'-0"



SECTION M-M

3/4" = 1'-0"



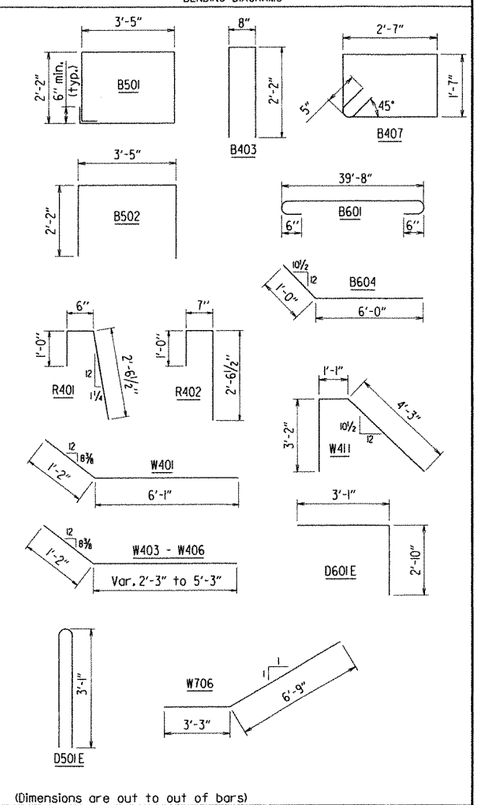
SECTION N-N

3/4" = 1'-0"

BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.
B401	2	39'-8"	Str.
B402	10	21'-4"	Str.
B403	39	4'-10"	2"
B404	35	(1)	Str.
B405	6	4'-5"	Str.
B406	40	2'-10"	Str.
B407	16	8'-10"	3"
B501	46	11'-8"	2 1/2"
B502	15	7'-7"	2 1/2"
B601	6	41'-0"	4 1/2"
B602	6	39'-8"	Str.
B603	76	(2)	Str.
B604	6	7'-0"	4 1/2"
B605	4	(3)	Str.
R401	8	3'-11"	2"
R402	8	4'-0"	2"
R403	12	9'-8"	Str.
R601	16	4'-5"	Str.
R602	6	5'-0"	Str.
W401	8	7'-3"	2"
W402	8	8'-5"	Str.
W403-W406	2 each	Var. 3'-5" to 6'-5"	2"
W407-W410	2 each	Var. 4'-7" to 7'-7"	Str.
W411	6	8'-5"	2"
W701	12	9'-8"	Str.
W702	4	6'-7"	Str.
W703	4	5'-10"	Str.
W704	4	5'-1"	Str.
W705	4	4'-4"	Str.
W706	4	10'-0"	5 1/4"
D501E	16	6'-4"	3 3/4"
D601E	39	5'-9"	4 1/2"

BENDING DIAGRAMS



(Dimensions are out to out of bars)

NOTE: Bars with an "E" suffix are to be epoxy coated.

(1) Length = 3'-5" @ Bent 1
Length = 4'-0" @ Bent 68

(2) Length = 4'-10" @ Bent 1
Length = 5'-4" @ Bent 68

(3) Length = 3'-8" @ Bent 1
Length = 4'-3" @ Bent 68

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 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.). If anchor bolts are drilled into cap, top reinforcing bars and pile anchorage shall be placed to avoid damage.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)".

All piling shall be Grade 3, Fy = 45 ksi.

For additional information, see Layout.

STATE OF ARKANSAS
Carl E. Pusellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL E. PUSELLIER
6/25/12

BRIDGE ENGINEER

SHEET 2 OF 2

DETAILS COMMON TO END BENTS
BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

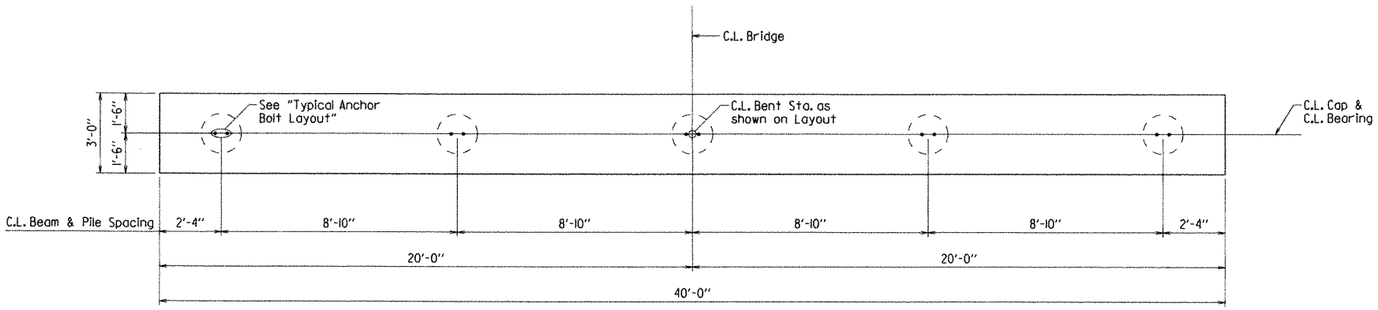
LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 3-2-12 FILENAME: b100679xl_bl.dgn
CHECKED BY: ARLS DATE: 4-16-12 SCALE: As Noted
DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7250 DRAWING NO. 52742

PRINT DATE: 6/25/2012

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.		100679	132	252
				(1) A&B7250		TYPE A INT. BENTS		52743

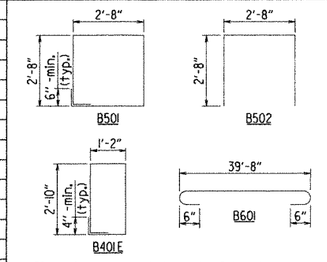


PLAN

3/8" = 1'-0"

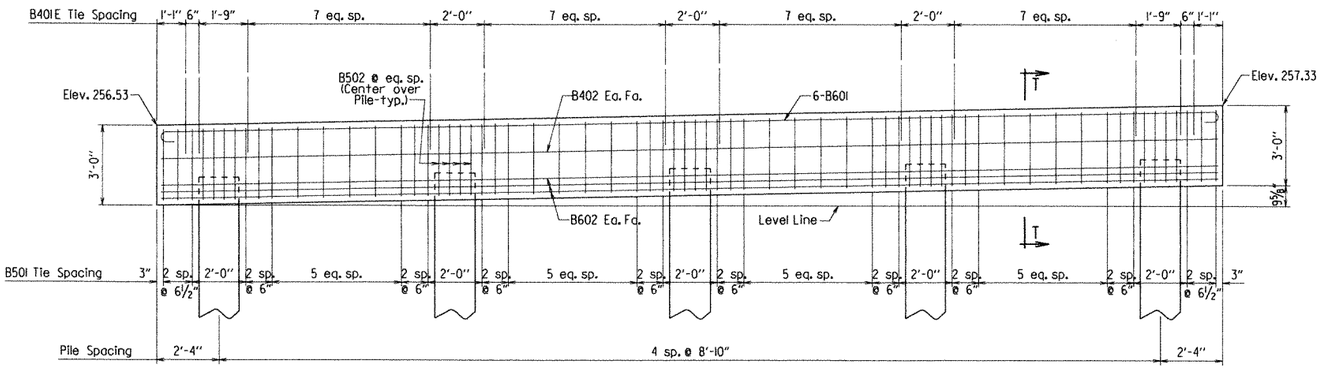
BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.	BENDING DIAGRAMS
B401E	36	8'-4"	2"	
B402	2	39'-8"	Str.	
B501	46	11'-2"	2½"	
B502	20	7'-10"	2½"	
B601	6	41'-0"	4½"	
B602	6	39'-8"	Str.	



(Dimensions are out to out of bars)

NOTE: Bars with an "E" suffix are to be epoxy coated.

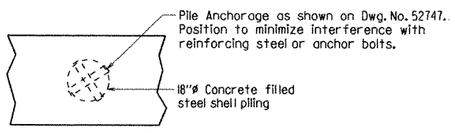


ELEVATION

Looking Ahead A Bridge

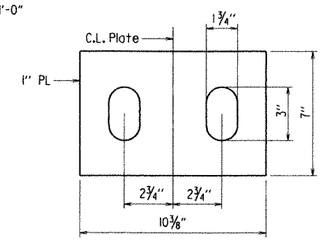
Looking Back B Bridge

3/8" = 1'-0"



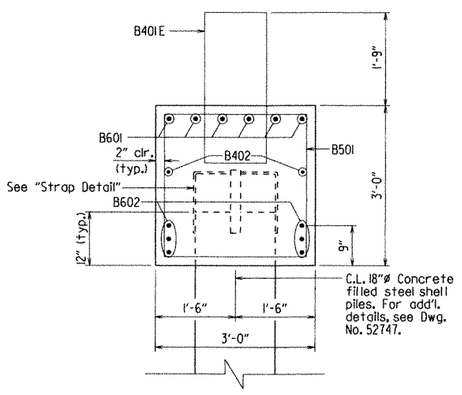
STRAP DETAIL

No Scale



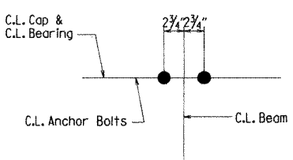
BEARING PLATE

No Scale



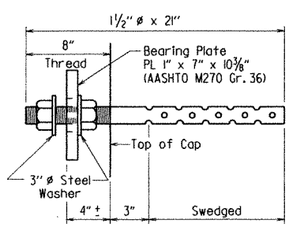
SECTION T-T

¾" = 1'-0"



TYPICAL ANCHOR BOLT LAYOUT

No Scale



NOTE: Anchor bolts, nuts and washers shall conform to subsection 807.07. Indentations shall be circular with rounded bottoms and staggered as shown in the details. All anchor bolts shall be grade 55. Bolts, nuts, washers and bearing plates shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".

Use lower nut and washer to adjust grade. Snug tight top nut and washer after grade is adjusted.

DETAIL OF ANCHOR BOLT

No Scale

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53. Grade 60 (yield strength = 60,000 psi.)

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/25/12
CARL J. FUSELIER

BRIDGE ENGINEER

This drawing is applicable to Bents 2-4, 6-8, 10-12, 14-16, 18-20, 22-24, 26-28, 30-32, 34-36, 38-40, 42-44, 46-48, 50-52, 54-56, 58-60, and 62-64.

DETAILS OF TYPE A INTERMEDIATE BENTS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2-24-12 FILENAME: b100679xl_b2.dgn

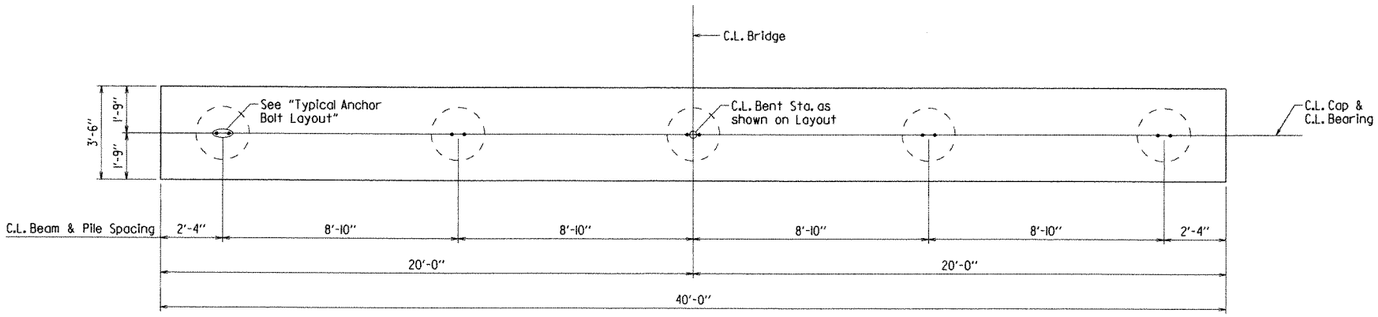
CHECKED BY: AHS DATE: 4-17-12 SCALE: As Noted

DESIGNED BY: JYP DATE: 4-12

BRIDGE NO. A&B7250 DRAWING NO. 52743

PRINT DATE: 6/25/2012

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.		100679	183	254
				(1) A&B7250		TYPE B INT. BENTS		52744



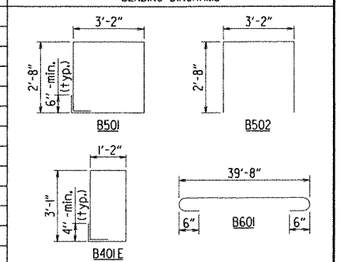
PLAN

⅜" = 1'-0"

BAR LIST - PER BENT

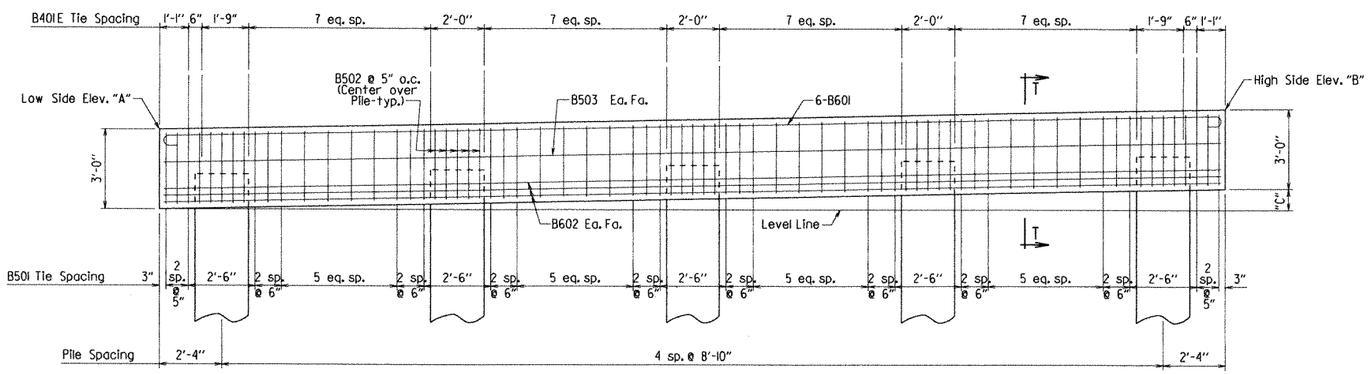
MARK	NO. REQ'D.	LENGTH	P.D.
B401E	36	8'-10"	2"
B501	46	12'-2"	2½"
B502	25	8'-4"	2½"
B503	2	39'-8"	Str.
B601	6	41'-0"	4½"
B602	6	39'-8"	Str.

BENDING DIAGRAMS



(Dimensions are out to out of bars)

NOTE: Bars with an "E" suffix are to be epoxy coated.



ELEVATION

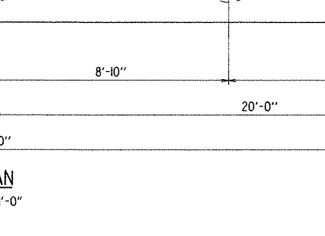
Looking Ahead A Bridge

Looking Back B Bridge

⅜" = 1'-0"

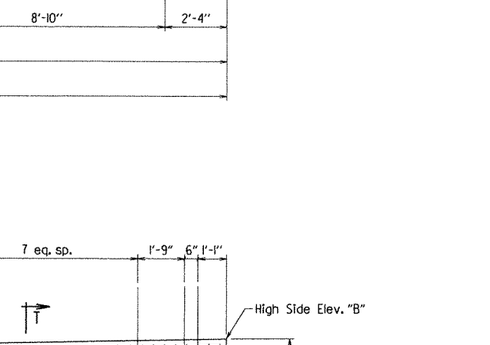
STRAP DETAIL

No Scale



BEARING PLATE

No Scale



SECTION T-T

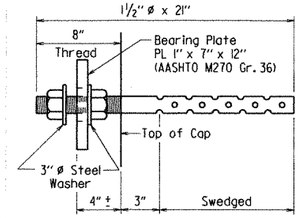
¾" = 1'-0"

TYPICAL ANCHOR BOLT LAYOUT

No Scale

TABLE OF VARIABLES

Bridge No.	Bent	Elev. "A"	Elev. "B"	"C"
A7250	66	256.08	256.81	8⅝"
	67	256.47	256.72	3"
B7250	66	256.01	256.82	9⅜"
	67	255.93	256.84	10 15/16"



NOTE: Anchor bolts, nuts and washers shall conform to subsection 807.07. Indentations shall be circular with rounded bottoms and staggered as shown in the details. All anchor bolts shall be grade 55. Bolts, nuts, washers and bearing plates shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".

Use lower nut and washer to adjust grade. Snug tight top nut and washer after grade is adjusted.

DETAIL OF ANCHOR BOLT

No Scale

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.

This drawing is applicable to Bents 66 and 67.

DETAILS OF TYPE B INTERMEDIATE BENTS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS Carl J. Fuselier REGISTERED PROFESSIONAL ENGINEER No. 7510 6/25/12 CARL J. FUSELIER

BRIDGE ENGINEER

DRAWN BY: JYP DATE: 2-24-12 FILENAME: b100679xl_b2.dgn

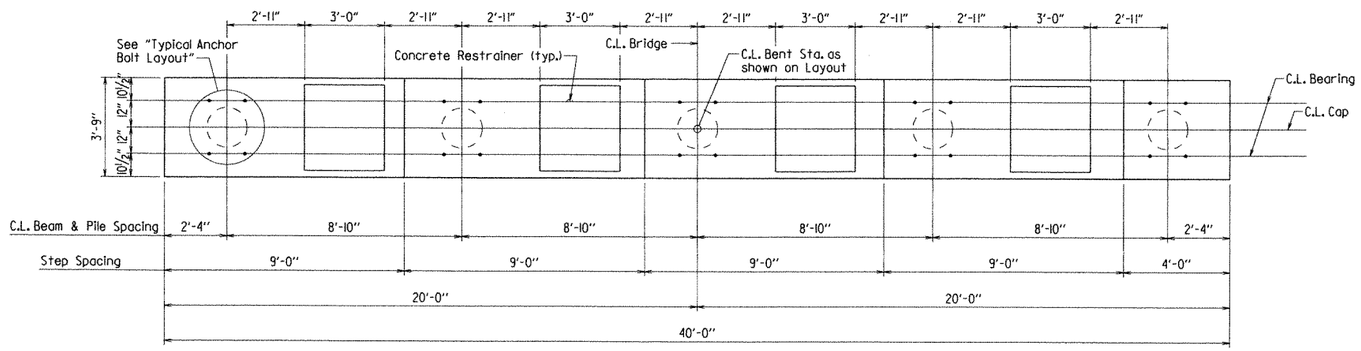
CHECKED BY: AHS DATE: 4-17-12 SCALE: As Noted

DESIGNED BY: JHP DATE: 2-12

BRIDGE NO. A&B7250 DRAWING NO. 52744

PRINT DATE: 6/25/2012

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.		100679	124	25A
				(1) A&B7250		TYPE C INT. BENTS		52745



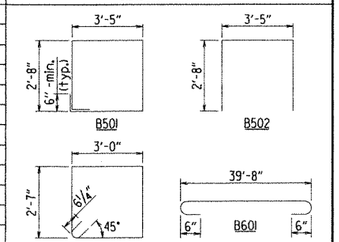
PLAN

⅜" = 1'-0"

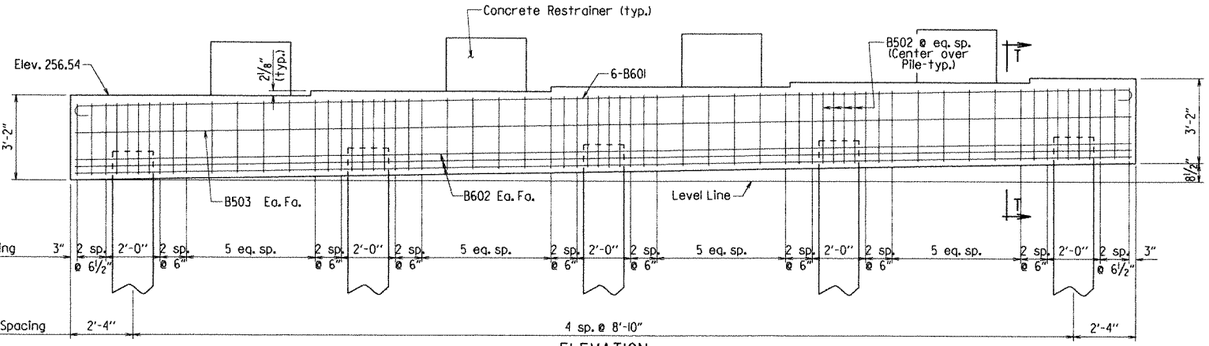
BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.
B501	46	12'-8"	2½"
B502	20	8'-7"	2½"
B503	2	39'-8"	Str.
B504	40	3'-1"	Str.
B505	12	11'-10"	3¾"
B601	6	41'-0"	4½"
B602	6	39'-8"	Str.

BENDING DIAGRAMS



(Dimensions are out to out of bars)

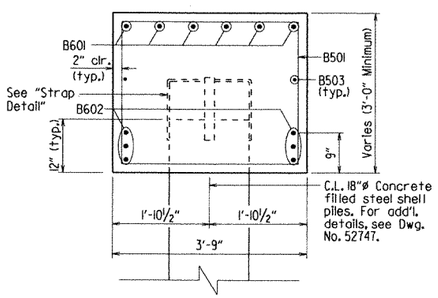


ELEVATION

Looking Ahead A Bridge

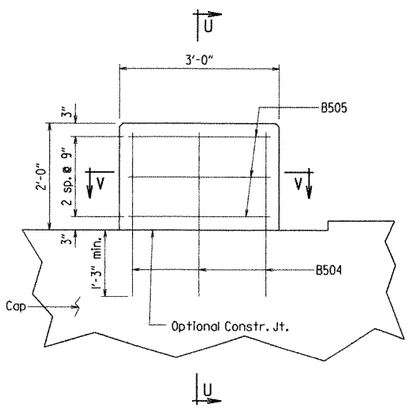
Looking Back B Bridge

⅜" = 1'-0"



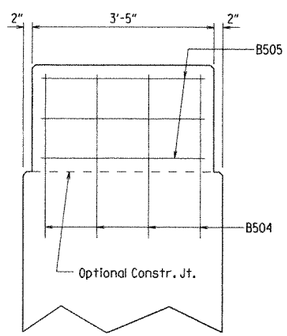
SECTION T-T

¾" = 1'-0"



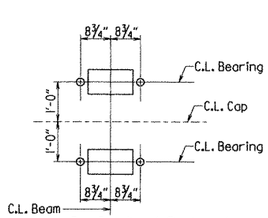
ELEVATION-CONCRETE RESTRAINER

¾" = 1'-0"



SECTION U-U

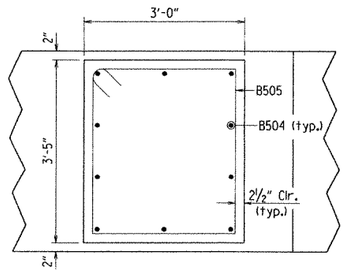
¾" = 1'-0"



For Details of Elastomeric Bearings, see Dwg. No. 52748.

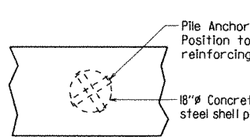
TYPICAL ANCHOR BOLT LAYOUT

No Scale



SECTION V-V

¾" = 1'-0"



STRAP DETAIL

No Scale

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53. Grade 60 (yield strength = 60,000 psi.)

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.

STATE OF ARKANSAS
CARL J. PUSELLIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
BRIDGE ENGINEER

This drawing is applicable to Bents 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57 and 61.

DETAILS OF TYPE C INTERMEDIATE BENTS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2-27-12 FILENAME: bl00679xl_b2.dgn

CHECKED BY: ARLS DATE: 4-17-12 SCALE: As Noted

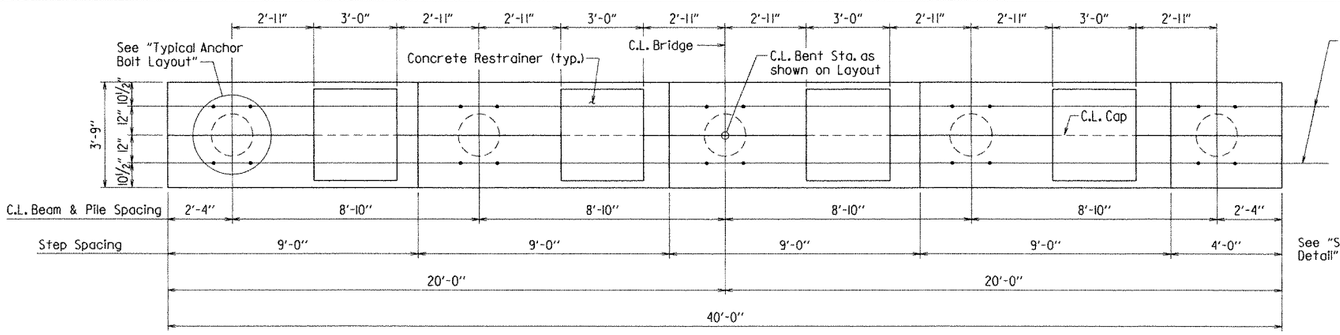
DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7250 DRAWING NO. 52745

PRINT DATE: 6/25/2012

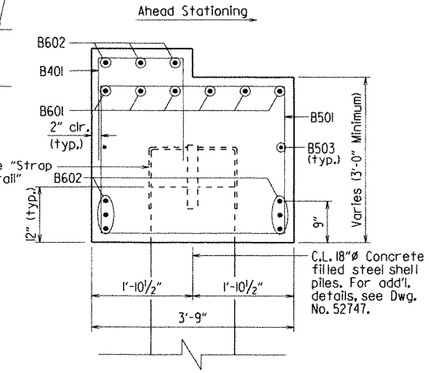
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100679	125	252
①	A&B7250	TYPE D INT. BENTS		52746



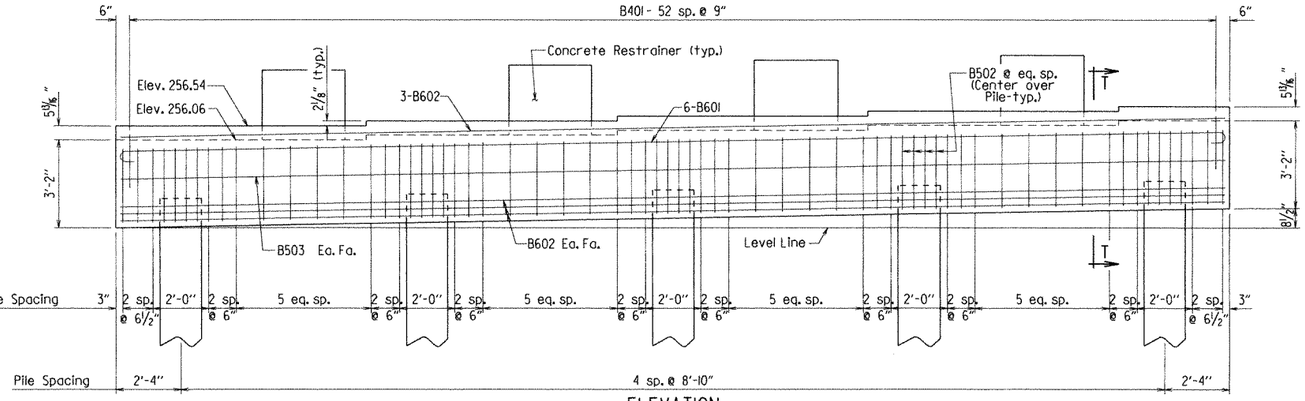
PLAN

⅜" = 1'-0"



SECTION T-T

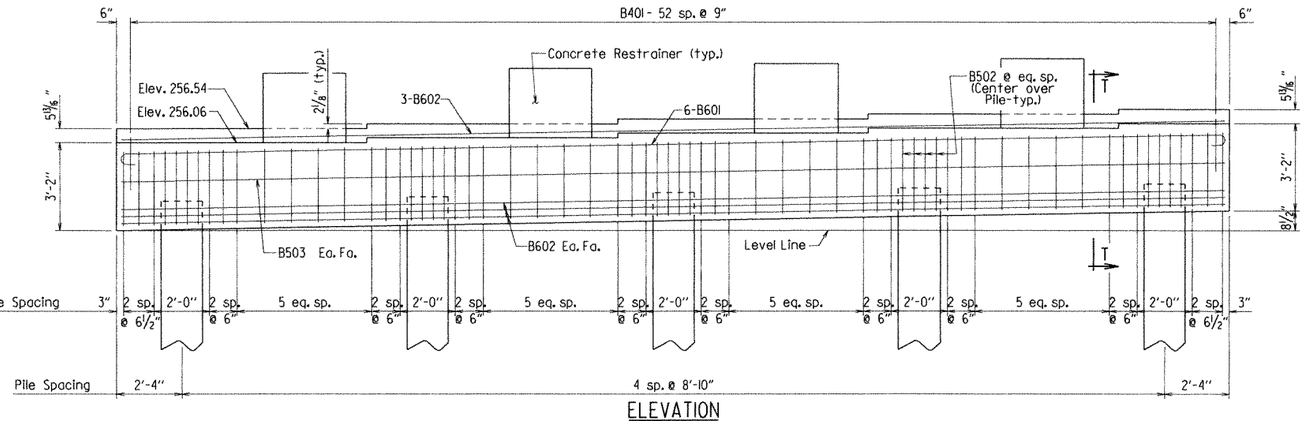
¾" = 1'-0"



ELEVATION

Looking Ahead A Bridge

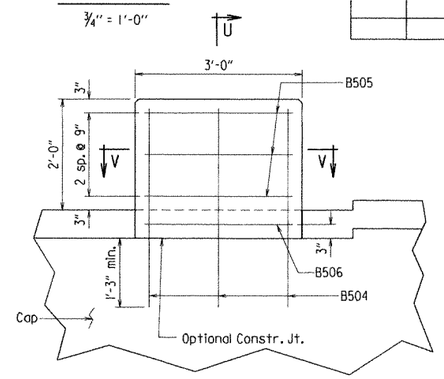
⅜" = 1'-0"



ELEVATION

Looking Back B Bridge

⅜" = 1'-0"



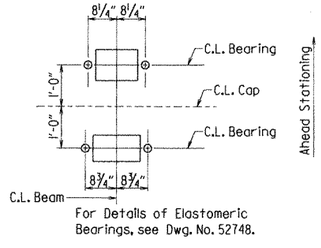
U

U

ELEVATION-CONCRETE RESTRAINER

(B Bridge Looking Back Shown, A Bridge is Similar)

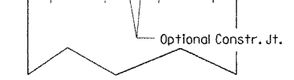
¾" = 1'-0"



For Details of Elastomeric Bearings, see Dwg. No. 52748.

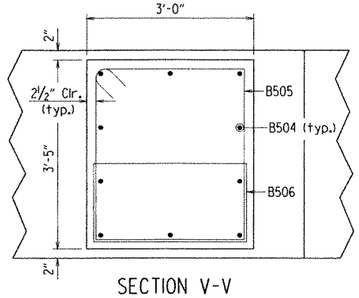
TYPICAL ANCHOR BOLT LAYOUT

No Scale



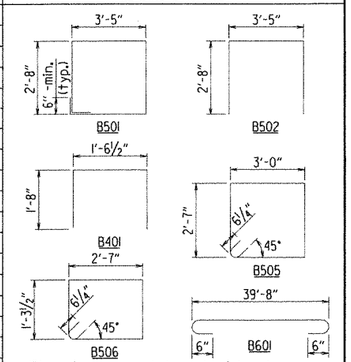
SECTION U-U

¾" = 1'-0"



SECTION V-V

¾" = 1'-0"



(Dimensions are out to out of bars)

BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.
B401	53	4'-9"	2"
B501	46	12'-8"	2½"
B502	20	8'-7"	2½"
B503	2	39'-8"	Str.
B504	40	3'-8"	Str.
B505	12	11'-10"	3¾"
B506	4	8'-5"	3¾"
B601	6	41'-0"	4½"
B602	9	39'-8"	Str.

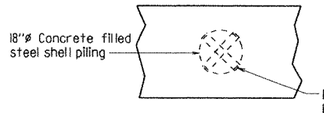
GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53. Grade 60 (yield strength = 60,000 psi.)

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.



Pile Anchorage as shown on Dwg. No. 52747. Position to minimize interference with reinforcing steel or anchor bolts.

STRAP DETAIL

No Scale

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/22/12
CARL J. FUSELIER

BRIDGE ENGINEER

This drawing is applicable to Bent 65.

DETAILS OF TYPE D INTERMEDIATE BENTS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2-28-12 FILENAME: bl00679xl_b2.dgn

CHECKED BY: AMS DATE: 4-17-12 SCALE: As Noted

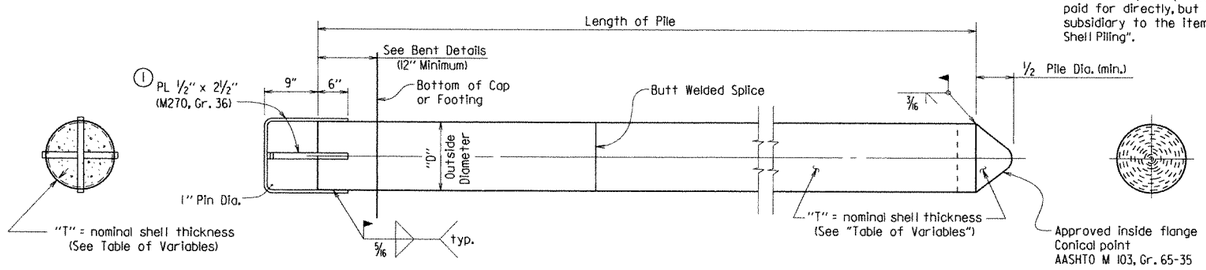
DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7250 DRAWING NO. 52746

PRINT DATE: dateprinted

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.		100679	26	252

(1) A&B7250, A&B7251 STEEL SHELL PILES 52747

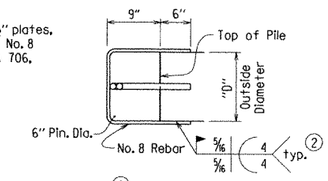


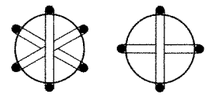
Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

(1) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

CONCRETE FILLED STEEL SHELL PILE

(1) In place of the ½" x 2½" plates, the Contractor may use No. 8 reinforcing bars (ASTM A 706, Grade 60).





(2) Welding shall comply with ANSI/AWS D1.4 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D1.5 Bridge Welding Code.

ALTERNATE FOR ½" x 2½" PLATE

GENERAL NOTES FOR CONCRETE FILLED STEEL SHEEL PILES:

Seismic Performance Zone: 4

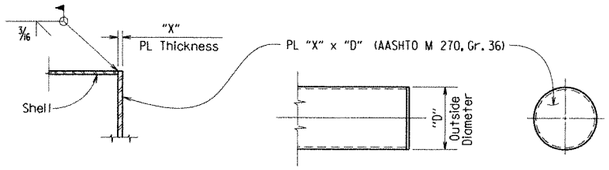
Steel shells shall conform ASTM A252, Grade 3, (Fy = 45,000 psi.).

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

Steel shell piling that extends above the ground and is not protected by pile encasement shall be painted in accordance with subsection 805.02 of the Standard Specifications for Highway Construction.

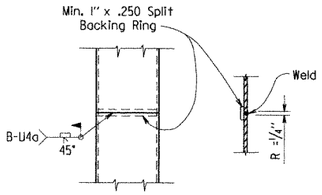
See Bridge Layout for size and estimated length of steel shell piles and for additional driving information.

Concrete, structural steel, reinforcing steel (including welding), and painting will not be paid for separately, but will be considered included in the contract unit price bid for "Steel Shell Piling".

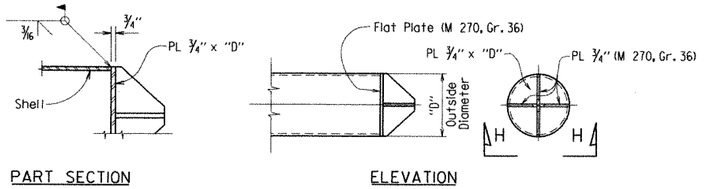


PART SECTION ELEVATION

ALTERNATE FLAT TIP DETAIL



TYPICAL SPLICE DETAILS



PART SECTION ELEVATION VIEW H-H

ALTERNATE VANED TIP DETAIL

TABLE OF VARIABLES

OUTSIDE DIAMETER "D"	NOMINAL SHELL THICKNESS "T"	PLATE THICKNESS "X"
18"	0.50"	1¼"
24"	0.50"	1¾"

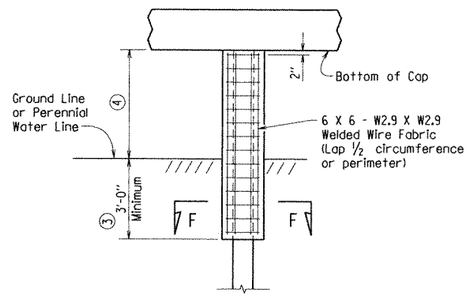
GENERAL NOTES FOR PILE ENCASEMENTS:

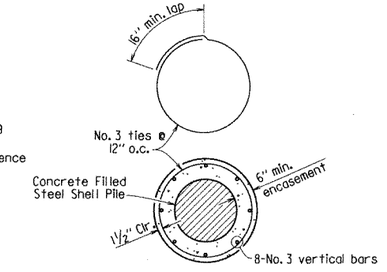
See Bridge Layout for required location of pile encasements. Only interior trestle pile bents shall have pile encasements.

Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall conform to AASHTO M 31 or M 53, Grade 60.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe will not be paid for separately, but will be considered included in the unit price bid for "Pile Encasement".





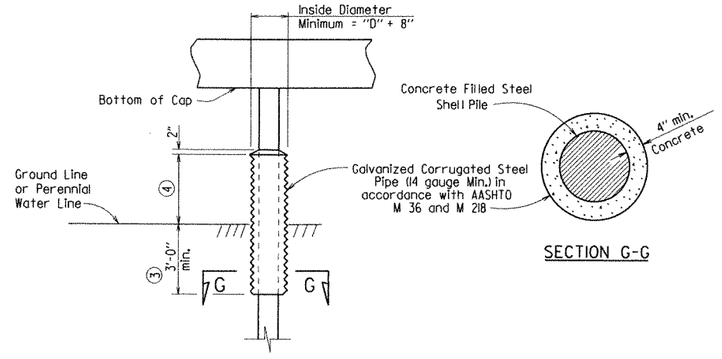
SECTION F-F (REINF. ALTERNATE)

PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES
(Shown with Encasement to Bottom of Cap) (5)

(3) Unless otherwise noted on Bridge Layout.

(4) See Bridge Layout for height of pile encasement (3'-0" Minimum).

(5) Pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the detail for partial height encasement.



SECTION G-G

ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES
(Shown with Partial Height Encasement)

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/27/12
CARL J. FUSELIER
BRIDGE ENGINEER

DETAILS OF CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS

ROUTE SECTION

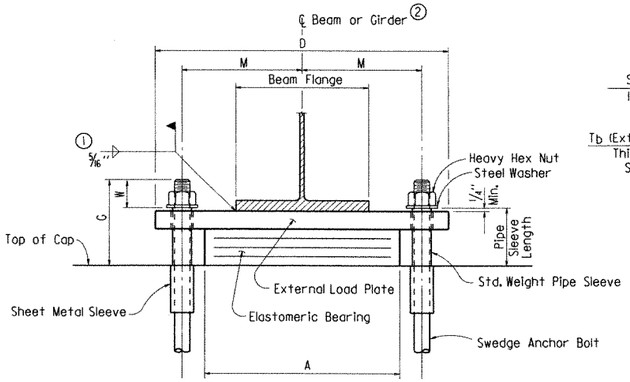
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

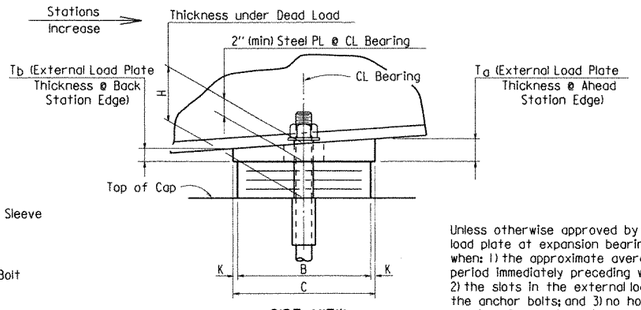
DRAWN BY: JYP DATE: 3-6-12 FILENAME: bl00679_piles.dgn
CHECKED BY: ARS DATE: 6-7-12 SCALE: NONE
DESIGNED BY: STD. DATE: —

BRIDGE NO. A&B7250, A&B7251 DRAWING NO. 52747

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.		100679	127	252
				(1)	A&B7250, A&B7251	Elast. Bearings		52748



FRONT VIEW

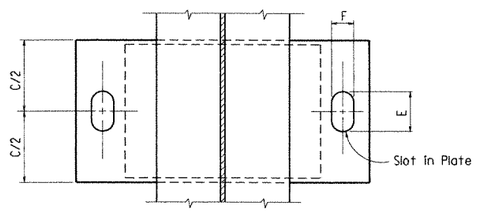


SIDE VIEW

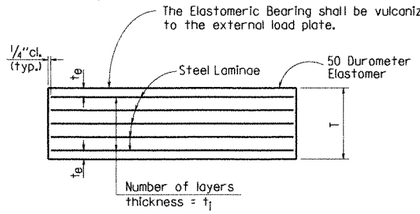
(1) Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

(2) C.L Elastomeric pad shall be aligned with C.L. Beam.

Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the girder 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.



PLAN VIEW



t_e = thickness of elastomer cover on top and bottom of pad

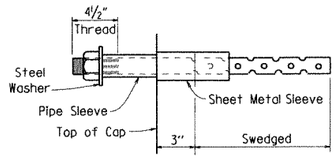
t_1 = thickness of elastomer between steel laminae

N = number of elastomer layers of thickness t_1

ELASTOMERIC BEARING

TABLE FOR EXTERNAL LOAD PL THICKNESS

BENT	BEAM	NO. OF BEARINGS	Ta	Tb
68	1	1	2.21"	2.21"
68	2	1	2.00"	2.00"
68	3	1	2.48"	2.48"
68	4	1	2.24"	2.24"
68	5	1	2.00"	2.00"



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 Beam Spans (M 270, Gr. 50W)."

TABLE OF FABRICATOR VARIABLES

*Maximum Design Load = Service I Limit State

BRIDGE NO.	LOCATION: BENT NO(S).	LOCATION: BEAM OR GIRDER NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD: A	B	N	t_1	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE: C	D	E	F	K	M	Ta	Tb	ANCHOR BOLT: (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
A7250	1	All	Exp.	5	90	6 7/8"	4 3/8"	13 1/2"	7 1/2"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	8 1/2"	22 1/2"	3 5/8"	2"	1/2"	8 3/4"	2.00"	2.00"	1 1/4"ø x 21"	55	1 1/4"ø x 4 5/8"	3"ø x 6"	2 1/2"
	**	All	Exp.	10	90	6 7/8"	4 3/8"	13 1/2"	7 1/2"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	8 1/2"	22 1/2"	3 5/8"	2"	1/2"	8 3/4"	2.00"	2.00"	1 1/4"ø x 21"	55	1 1/4"ø x 4 5/8"	3"ø x 6"	2 1/2"
	65 Back	All	Exp.	5	90	6 7/8"	4 3/8"	13 1/2"	7 1/2"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	8 1/2"	22 1/2"	3 5/8"	2"	1/2"	8 3/4"	2.00"	2.00"	1 1/4"ø x 23"	55	1 1/4"ø x 4 5/8"	3"ø x 15"	2 1/2"
	65 Ahead	All	Exp.	5	99	6 7/8"	4 3/8"	12"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	10"	21 1/2"	3 3/4"	2"	1/2"	8 1/4"	2.00"	2.00"	1 1/4"ø x 21"	55	1 1/4"ø x 4 5/8"	3"ø x 6"	2 1/2"
	68	All	Exp.	5	99	6 7/8"	4 3/8"	12"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	10"	21 1/2"	3 3/4"	2"	1/2"	8 1/4"	See Table		1 1/4"ø x 21"	55	1 1/4"ø x 4 5/8"	3"ø x 6"	2 1/2"
B7250	1	All	Exp.	5	90	6 7/8"	4 3/8"	13 1/2"	7 1/2"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	8 1/2"	22 1/2"	3 5/8"	2"	1/2"	8 3/4"	2.00"	2.00"	1 1/4"ø x 21"	55	1 1/4"ø x 4 5/8"	3"ø x 6"	2 1/2"
	**	All	Exp.	10	90	6 7/8"	4 3/8"	13 1/2"	7 1/2"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	8 1/2"	22 1/2"	3 5/8"	2"	1/2"	8 3/4"	2.00"	2.00"	1 1/4"ø x 21"	55	1 1/4"ø x 4 5/8"	3"ø x 6"	2 1/2"
	65 Back	All	Exp.	5	90	6 7/8"	4 3/8"	13 1/2"	7 1/2"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	8 1/2"	22 1/2"	3 5/8"	2"	1/2"	8 3/4"	2.00"	2.00"	1 1/4"ø x 23"	55	1 1/4"ø x 4 5/8"	3"ø x 15"	2 1/2"
	65 Ahead	All	Exp.	5	99	6 7/8"	4 3/8"	12"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	10"	21 1/2"	3 3/4"	2"	1/2"	8 1/4"	2.00"	2.00"	1 1/4"ø x 21"	55	1 1/4"ø x 4 5/8"	3"ø x 6"	2 1/2"
	68	All	Exp.	5	99	6 7/8"	4 3/8"	12"	9"	3	1/2"	1/4"	4 @ 12 Ga.	2 7/16"	10"	21 1/2"	3 3/4"	2"	1/2"	8 1/4"	2.00"	2.00"	1 1/4"ø x 22"	55	1 1/4"ø x 4 5/8"	3"ø x 9"	2 1/2"
A725I	1 & 25	All	Exp.	5	89	7 3/4"	5"	13 1/2"	7 1/2"	4	1/2"	1/4"	5 @ 12 Ga.	3"	8 1/2"	23 1/2"	3 1/8"	2 1/4"	1/2"	9"	2.00"	2.00"	1 1/2"ø x 25"	55	1 1/2"ø x 5 1/4"	3"ø x 9"	3"
	***	All	Exp.	10	89	7 3/4"	5"	13 1/2"	7 1/2"	4	1/2"	1/4"	5 @ 12 Ga.	3"	8 1/2"	23 1/2"	3 1/8"	2 1/4"	1/2"	9"	2.00"	2.00"	1 1/2"ø x 25"	55	1 1/2"ø x 5 1/4"	3"ø x 9"	3"
B725I	1 & 25	All	Exp.	5	89	7 3/4"	5"	13 1/2"	7 1/2"	4	1/2"	1/4"	5 @ 12 Ga.	3"	8 1/2"	23 1/2"	3 1/8"	2 1/4"	1/2"	9"	2.00"	2.00"	1 1/2"ø x 25"	55	1 1/2"ø x 5 1/4"	3"ø x 9"	3"
	***	All	Exp.	10	89	7 3/4"	5"	13 1/2"	7 1/2"	4	1/2"	1/4"	5 @ 12 Ga.	3"	8 1/2"	23 1/2"	3 1/8"	2 1/4"	1/2"	9"	2.00"	2.00"	1 1/2"ø x 25"	55	1 1/2"ø x 5 1/4"	3"ø x 9"	3"

**Bent No's. 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57 and 61.

***Bent No's. 5, 9, 13, 17 and 21.

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".

External load plates shall conform to AASHTO M 270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M 298, Class 50.

External load plates 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 808.03. Other surfaces shall be blast cleaned in accordance with subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

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 Beam Spans (M270, Gr. 50W)."

Bearings shall be seated in accordance with subsection 808.08. This work and materials are considered as subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

STATE OF ARKANSAS
Carl Gerald Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL GERALD FUSELIER

BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS

ROUTE SEC

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

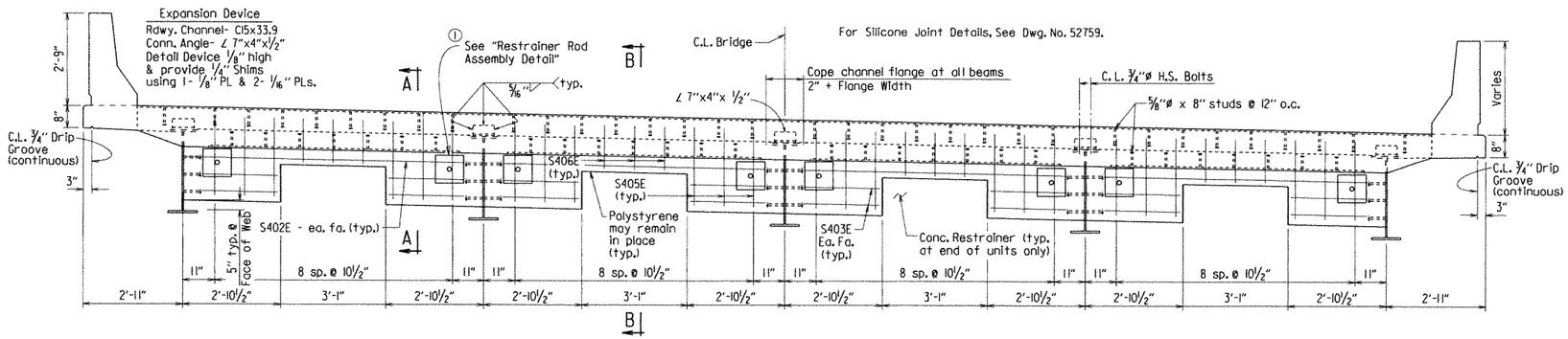
DRAWN BY: ACW DATE: 02-02-12 FILENAME: bl00679_el.dgn

CHECKED BY: MP DATE: 6-25-12 SCALE: NONE

DESIGNED BY: ACW DATE: 02-12

BRIDGE NO. A&B7250, A&B7251 DRAWING NO. 52748

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.		100679		
				①	A&B7250	CONT. UNIT		52749



① NOTE: Longitudinal restrainer rods located at Bents 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57, 61, and 65.

ROADWAY SECTION NEAR JOINT

Looking Ahead - B Bridge
Looking Back - A Bridge
1/2" = 1'-0"

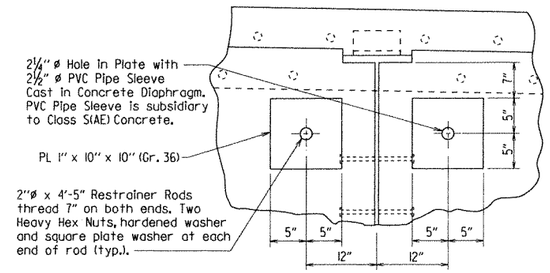
Note: 1/2" Polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place.

NOTE: For dimensions and reinforcing not shown, see "Typ. Roadway Section" on Dwg. Nos. 52752 & 52755.

NOTES: Forms for concrete diaphragms shall be removable.

Concrete diaphragms shall be vertical.

NOTE: Longitudinal Restrainer Rod shall conform to AASHTO M270, Grade 50 with threads conforming to American Standard Course, Class 2 Fit, ASA Specification B1.1. Hardened washers for longitudinal restrainer rod shall conform to AASHTO M293. Nuts for longitudinal restrainers shall conform to subsection 807.06. Rods, Nuts, Washers, and Plates for the longitudinal restrainers shall be galvanized in accordance with AASHTO M232 Class C or AASHTO M298 Class 50. See "Restrainer Rod Installation Detail". Restrainer rod, nut, washers and plates shall be paid for as "Structural Steel In Beam Spans (M270, Gr. 50W)".



RESTRAINER ROD ASSEMBLY DETAIL

NTS

SECTION A-A

NTS

SECTION A-A

NTS

Note: Restrainer rods not shown.

SECTION A-A

NTS

Note: Restrainer rods not shown.

SECTION B-B

NTS

JOINT DETAILS AT END OF UNITS

(Bents 1 and 68)

SECTION B-B

NTS

JOINT DETAILS AT END OF UNITS

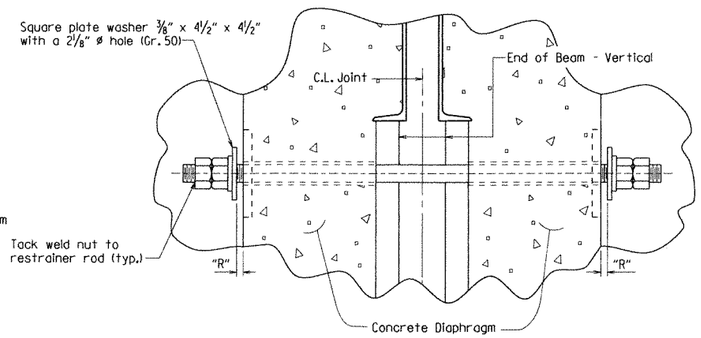
(Bents 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57 and 61)

SECTION B-B

NTS

JOINT DETAILS AT END OF UNITS

(Bent 65)



RESTRAINER ROD INSTALLATION DETAIL

NTS

	"R" - Gap Width at 24 hour average temp. of:		
	40°	60°	80°
*	7/16"	5/8"	1/16"

* Bents - 5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, 49, 53, 57, 61 and 65

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3
COMMON DETAILS OF 200'-0" AND 204'-0" CONTINUOUS W-BEAM UNITS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

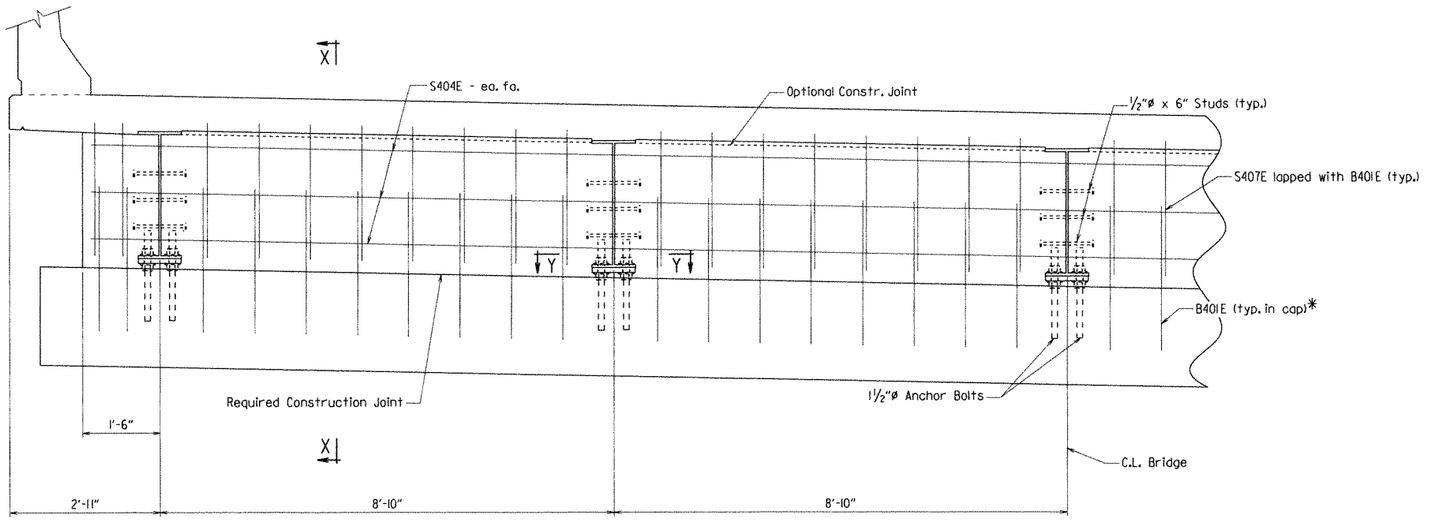
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 02/24/12 FILENAME: bi00679xl_sl.dgn
CHECKED BY: JYP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 02-12

BRIDGE NO. A&B7250 DRAWING NO. 52749

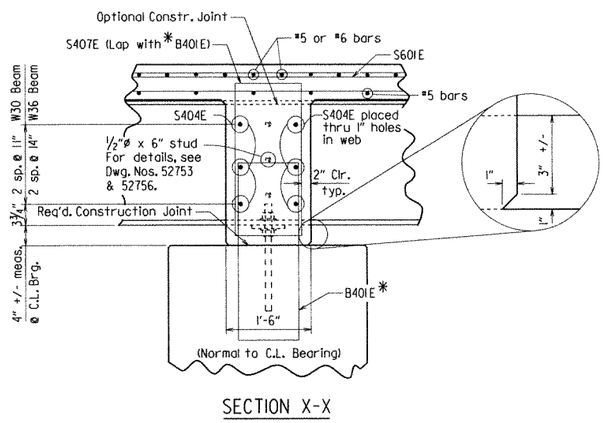
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100679	189	252
① A&B7250		CONT. UNIT		52750

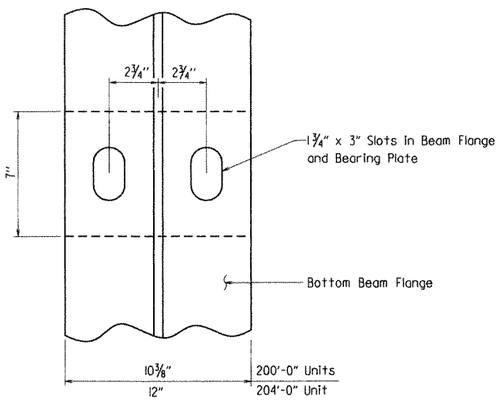


* See Drawing Nos. 52743 & 52744 for reinforcing details and placement.

ROADWAY SECTION AT FIXED INTERMEDIATE BENTS



SECTION X-X



SECTION Y-Y

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3

COMMON DETAILS OF 200'-0" AND 204'-0" CONTINUOUS W-BEAM UNITS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW	DATE: 02/24/12	FILENAME:	b100679xl_sl.dgn
CHECKED BY: JWP	DATE: 6-25-12	SCALE:	No Scale
DESIGNED BY: ACW	DATE: 02-12-		

BRIDGE NO. A&B7250 DRAWING NO. 52750

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.		100679	130	252
				(1) A&B7250		CONT. UNIT		52751

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

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

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c = 4,000 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (M 270, Gr. 50)	Fy = 50,000 psi
Structural Steel (M 270, Gr. 36)	Fy = 36,000 psi

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 measurement of Class S(AE) Concrete. See Standard Drawing No. 14991 for allowable modifications and for tolerances when Permanent Steel Bridge 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 beam. 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. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

Removable forms shall be used for concrete diaphragms. Interior bent diaphragms may be poured separately from deck.

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 M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e). Structural steel completely embedded in concrete may be AASHTO M 270, Grade 36 unless otherwise noted.

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

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

Beams and field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)."

All beams shall be blocked in their true position in the shop with the webs horizontal in groups as specified in subsection 807.54(b)(2). The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in their true position and this information shall become part of the permanent records for this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

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.

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 permanent or temporary, 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.

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.

Steel diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

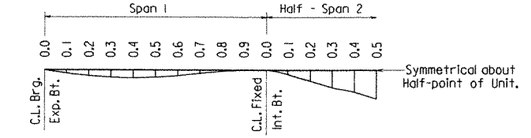
All shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

204'-0" UNIT - TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Rail	
		Ext. Beam	Int. Beam	Ext. Beam	Int. Beam	Ext. Beam	Int. Beam
1	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.025	0.028	0.153	0.190	0.165	0.202
	0.2	0.045	0.051	0.278	0.346	0.301	0.367
	0.3	0.058	0.065	0.357	0.444	0.386	0.472
	0.4	0.062	0.070	0.380	0.473	0.411	0.502
	0.5	0.057	0.064	0.348	0.433	0.377	0.460
	0.6	0.045	0.050	0.271	0.337	0.293	0.358
	0.7	0.028	0.031	0.168	0.209	0.182	0.222
	0.8	0.011	0.012	0.066	0.082	0.071	0.087
	0.9	0.000	0.000	-0.003	-0.003	-0.003	-0.003
2	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.027	0.030	0.161	0.200	0.175	0.213
	0.2	0.070	0.079	0.422	0.525	0.458	0.559
	0.3	0.114	0.128	0.690	0.858	0.748	0.913
	0.4	0.146	0.164	0.884	1.099	0.958	1.169
	0.5	0.158	0.177	0.954	1.187	1.034	1.263

Symmetrical about Half-point of Unit.

Note: Camber for Dead Load Deflection ± ¼" tolerance.
Deflections shown are along C.L. Beam from a chord from C.L. Bearing to C.L. Bearing. Negative sign (-) indicates point above chord.
Corrections for superelevation transition not included.



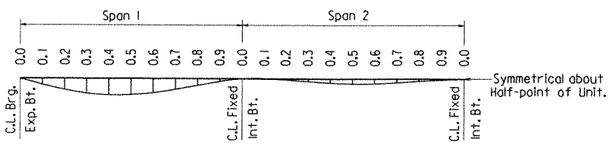
204'-0" UNIT - DEAD LOAD DEFLECTION DIAGRAM
No Scale

200'-0" UNIT - TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel		Structural Steel + Slab		Structural Steel + Slab + Rail	
		Ext. Beam	Int. Beam	Ext. Beam	Int. Beam	Ext. Beam	Int. Beam
1	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.024	0.030	0.200	0.251	0.214	0.267
	0.2	0.044	0.055	0.371	0.466	0.398	0.496
	0.3	0.058	0.073	0.491	0.617	0.526	0.656
	0.4	0.065	0.081	0.550	0.691	0.590	0.735
	0.5	0.065	0.080	0.543	0.682	0.582	0.725
	0.6	0.056	0.070	0.475	0.596	0.509	0.634
	0.7	0.043	0.053	0.359	0.451	0.385	0.480
	0.8	0.026	0.032	0.220	0.276	0.236	0.294
	0.9	0.010	0.013	0.087	0.109	0.089	0.116
2	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	-0.001	-0.001	-0.008	-0.010	-0.009	-0.011
	0.2	0.004	0.006	0.038	0.047	0.041	0.050
	0.3	0.012	0.015	0.101	0.127	0.108	0.135
	0.4	0.018	0.023	0.155	0.195	0.166	0.207
	0.5	0.022	0.027	0.184	0.231	0.197	0.246
	0.6	0.021	0.026	0.179	0.225	0.192	0.239
	0.7	0.017	0.021	0.142	0.178	0.152	0.189
	0.8	0.010	0.013	0.085	0.106	0.091	0.113
	0.9	0.003	0.004	0.027	0.034	0.029	0.036
	0	0.000	0.000	0.000	0.000	0.000	0.000

Symmetrical about Half-point of Unit.

Note: Camber for Dead Load Deflection ± ¼" tolerance.
Deflections shown are along C.L. Beam from a chord from C.L. Bearing to C.L. Bearing. Negative sign (-) indicates point above chord.



200'-0" UNIT - DEAD LOAD DEFLECTION DIAGRAM
No Scale

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3

COMMON DETAILS OF 200'-0" AND 204'-0" CONTINUOUS W-BEAM UNITS BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

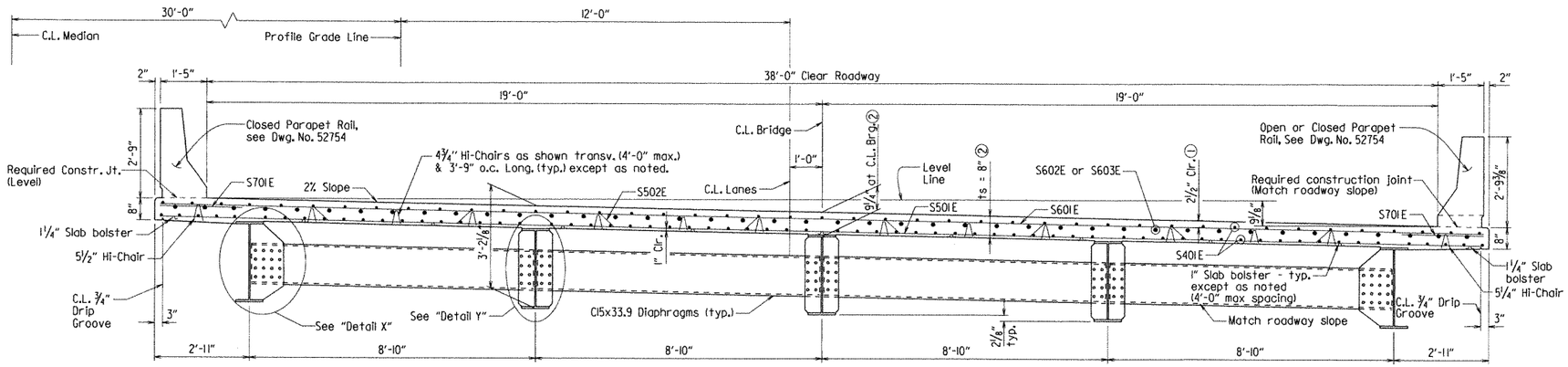
DRAWN BY: ACW DATE: 04/06/11 FILENAME: bl00679xl_sl.dgn
CHECKED BY: JVP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 04-11

BRIDGE NO. A&B7250 DRAWING NO. 52751

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.		100679	131	252
				①	A&B7250	CONT. UNIT		52752

NOTE: At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bar S502E. Payment for reinforcing will be based on the weight of bar S502E.

NOTE: Class I Protective Surface Treatment shall be applied to the Roadway Surface and to the Face & Top of the Concrete Parapet Rail.



TYPICAL ROADWAY SECTION

Looking Ahead - B Bridge
Looking Back - A Bridge
½" = 1'-0"

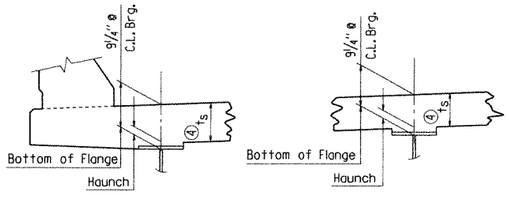
SLAB REINFORCING

Transverse: S601E - Top; S501E - Bottom @ 15" o.c. — Alternate
S502E @ 15" o.c. - Bent up over beams — Alternate
S701E @ 15" (in overhang)

Longitudinal: S401E as shown
S602E or S603E placed as shown on "Reinforcing Plan and Pouring Sequence", See Dwg. No. 52754.

① Tolerance: Minus = ¼"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance.
See "Adjustment for Slab Thickness Tolerance"

② See "Adjustment for Slab Thickness Tolerance"



t_s = slab thickness as shown in "Typical Roadway Section"

EXTERIOR BEAM INTERIOR BEAM

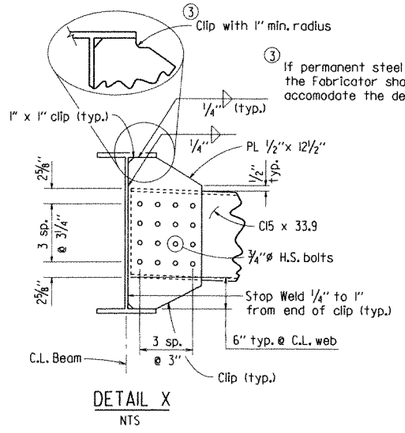
④ Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Notes:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1¾". 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. 149911 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

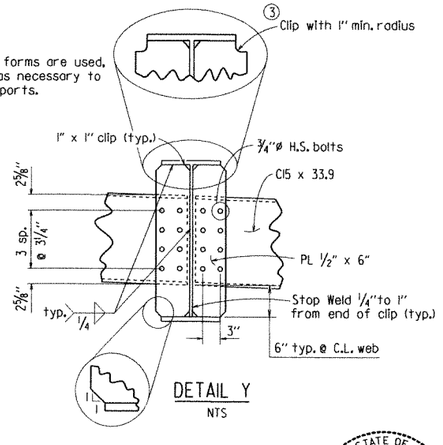
NTS



DETAIL X

NTS

③ If permanent steel bridge deck forms are used, the Fabricator shall clip plate as necessary to accomodate the deck form supports.



DETAIL Y

NTS

Note: Diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

TABLE FOR WELD

Material Thickness Of Thicker Part Joined (Inches)	Minimum Size Of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	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.

STATE OF ARKANSAS
Carl E. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL E. FUSELIER
4/25/12

BRIDGE ENGINEER

SHEET 1 OF 3

DETAILS OF 200'-0" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

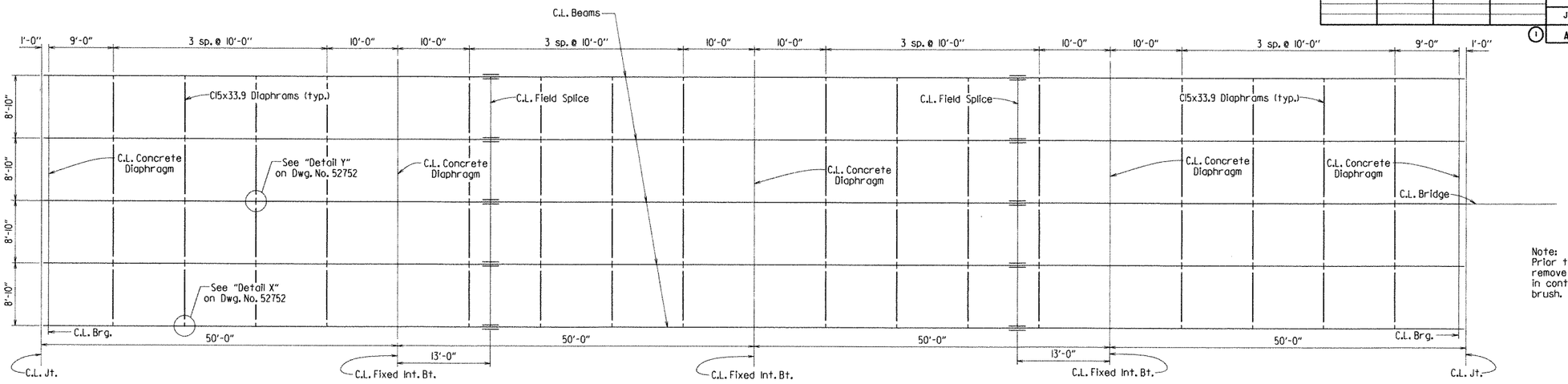
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 03/21/11
CHECKED BY: JHP DATE: 6-25-12
DESIGNED BY: ACW DATE: 03-11

FILENAME: bl00679xl_sl.dgn
SCALE: As Noted

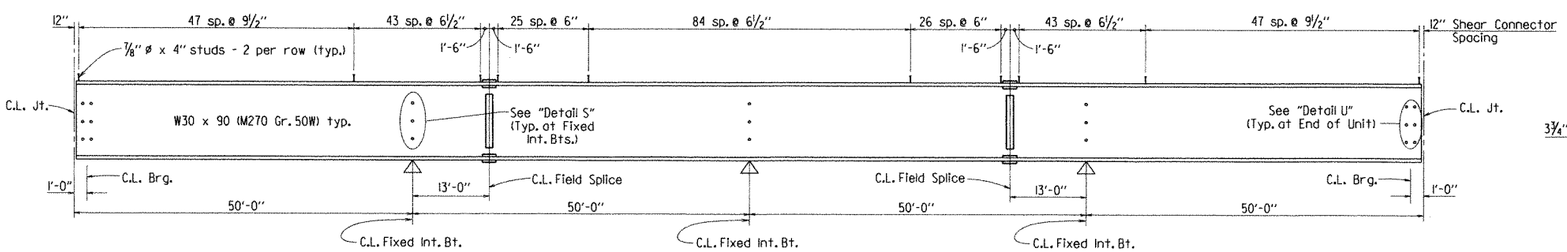
BRIDGE NO. A&B7250 DRAWING NO. 52752

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.		100679	132	252
				(1) A&B7250		CONT. UNIT	52753	

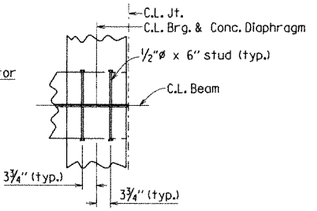


FRAMING PLAN
1/8" = 1'-0"

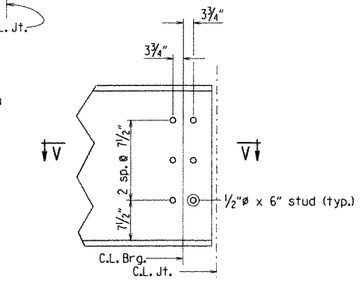
Note:
Prior to pouring concrete diaphragms, remove mill scale from surfaces to be in contact with concrete with a wire brush.



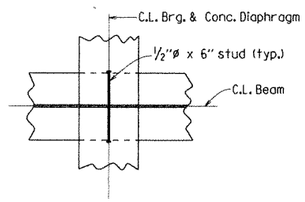
TYP. BEAM ELEVATION
NTS



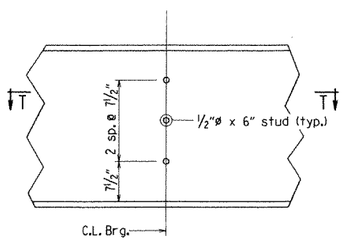
SECTION V-V
NTS



DETAIL U
NTS



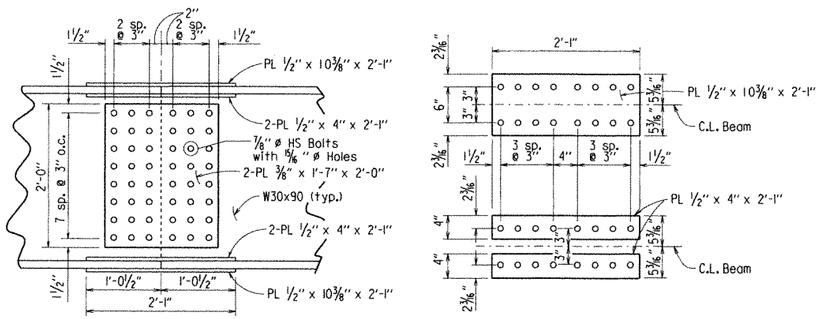
SECTION T-T
NTS



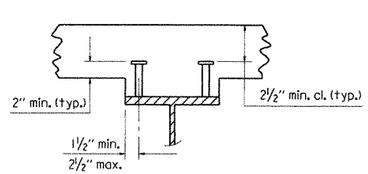
DETAIL S
NTS

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 Hi-str. bolts
All holes for splice bolts shall be 15/16"ø
All field splice plates shall be AASHTO M270 Gr. 50W steel.



DETAILS OF FIELD SPLICE
1"= 1'-0"



SHEAR CONNECTOR DETAIL
NTS

Stud Shear Connectors shown shall be ⅞"ø 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. ¾"ø studs may be used in place of the ⅞"ø studs shown, at the ratio of 1.361 - ¾"ø studs in place of one ⅞"ø stud. ⅞"ø studs will be used as basis for measurement of structural steel in shear connectors.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

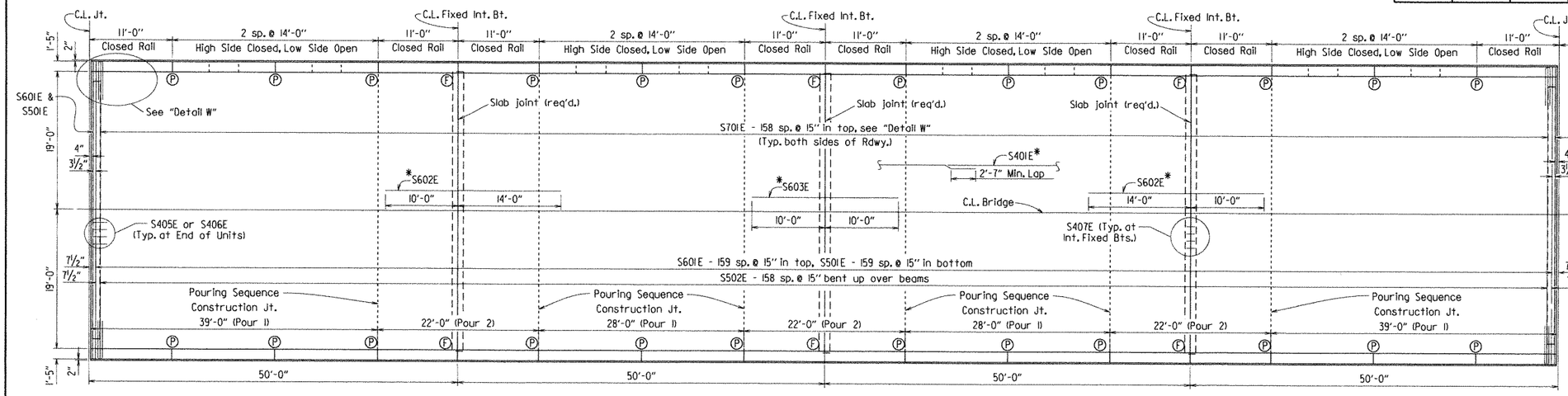
BRIDGE ENGINEER

SHEET 2 OF 3

DETAILS OF
200'-0" CONTINUOUS W-BEAM UNIT
BIG CREEK DITCH
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 04/06/11 FILENAME: bl00679xl_sl.dgn
CHECKED BY: JNP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 04-11
BRIDGE NO. A&B7250 DRAWING NO. 52753

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.		100679	133	252
				① A&B7250		CONT. UNIT	52754	



Ⓟ Partial Depth Parapet Joint at this location
Ⓕ Full Depth Parapet Joint at this location
*Placed as shown in "Typical Roadway Section," see Dwg. No. 52752.

REINFORCING PLAN AND POURING SEQUENCE
⅛" = 1'-0"

Notes:
Req'd. slab joints and pouring sequence joints shall align with open joints in parapet rail at the gutterline.

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 between the end of a pour and the start of the next pour. 72 hours shall elapse between adjacent pours.

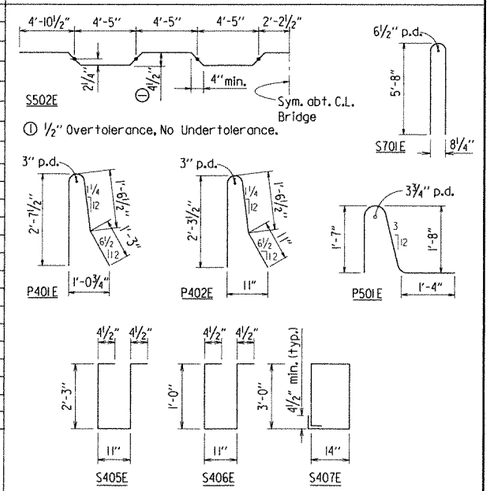
Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequences shown.

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.

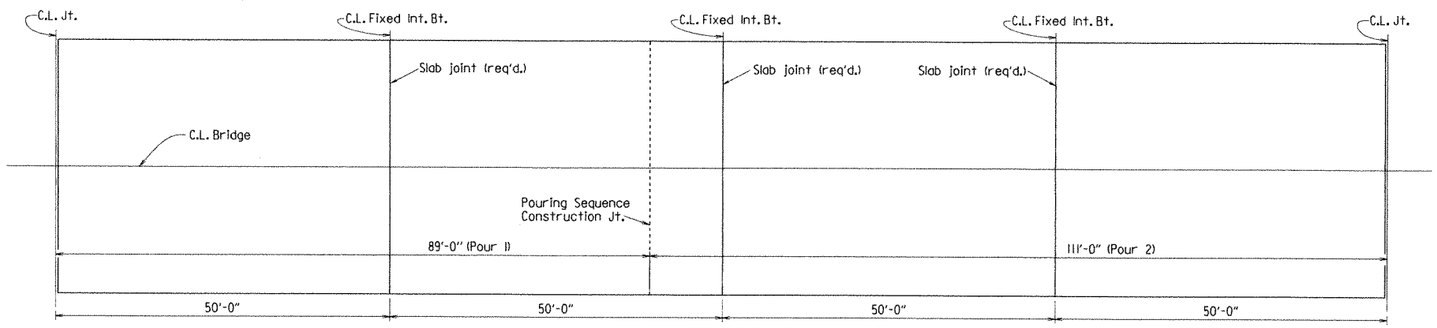
BAR LIST - PER UNIT

Mark	No. Req'd.	Length	Pin Dia.
S401E	654	35'-6"	Str.
S402E	16	8'-6"	Str.
S403E	64	2'-6"	Str.
S404E	18	38'-0"	Str.
S405E	48	5'-10"	2"
S406E	24	3'-4"	2"
S407E	108	8'-8"	2"
S501E	162	40'-10"	Str.
S502E	159	41'-6"	3"
S601E	162	40'-10"	Str.
S602E	84	24'-0"	Str.
S603E	42	20'-0"	Str.
S701E	318	11'-9"	6½"
P401E	736	5'-6"	3"
P402E	64	4'-10"	3"
P403E	96	5'-6"	Str.
P404E	112	10'-8"	Str.
P405E	112	13'-8"	Str.
P501E	736	4'-8"	3¾"

Bending Diagrams (Dimensions are out to out of bars.)

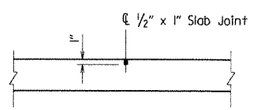


Bars designated with an "E" suffix are epoxy coated.



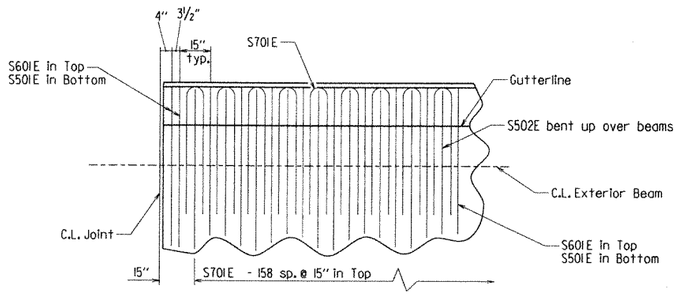
Note: Pour (1) must be placed before Pour (2) can be placed. 72 hours shall elapse between the end of a pour and the start of the next pour.

ALTERNATE POURING SEQUENCE
3/32" = 1'-0"



Use Type 3, 4, or 6 Joint Sealer. See subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab Joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. 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. The joint sealer shall extend across the deck from gutterline to gutterline.

SLAB JOINT DETAIL
NTS



DETAIL W
NTS

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
01-27-12
CARL J. FUSELIER

BRIDGE ENGINEER

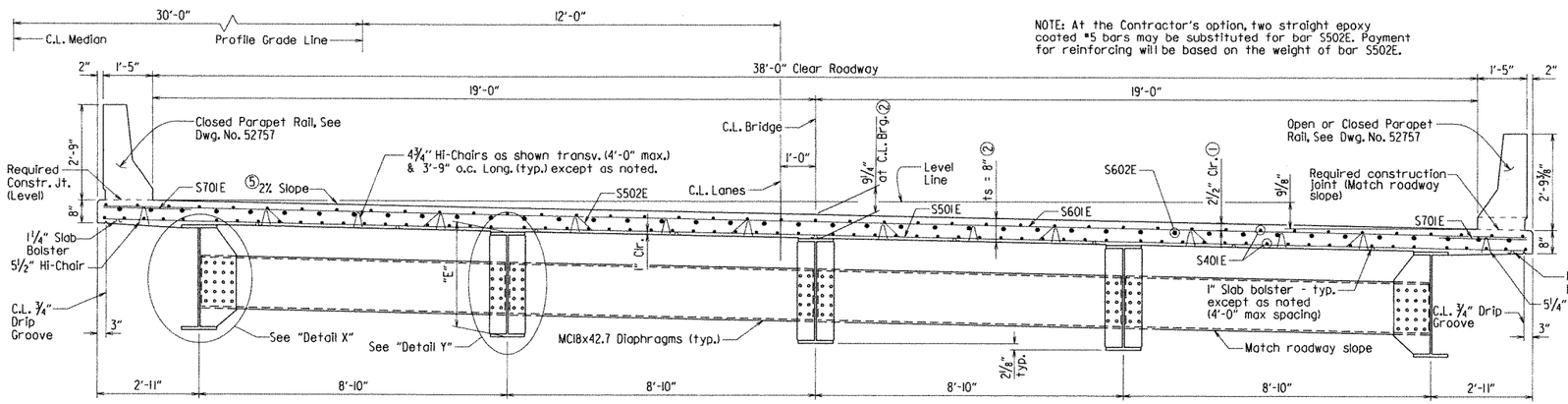
SHEET 3 OF 3
DETAILS OF 200'-0" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 04/06/11 FILENAME: b100679xl_sl.dgn
CHECKED BY: JWP DATE: 6-27-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 04-11

BRIDGE NO. A&B7250 DRAWING NO. 52754

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.		100679	134	252
				①	A&B7250	CONT. UNIT		52755



NOTE: At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bar S502E. Payment for reinforcing will be based on the weight of bar S502E.

NOTE: Class I Protective Surface Treatment shall be applied to the Roadway Surface and to the Face & Top of the Concrete Parapet Rail.

TABLE FOR WELD

Material Thickness Of Thicker Part Joined (Inches)	Minimum Size Of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" inclusive	¼"	
Over ¾"	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.

TYPICAL ROADWAY SECTION

Sta. 579+99.00 to Sta. 580+46.14
Looking Ahead - B Bridge
Looking Back - A Bridge
½" = 1'-0"

SLAB REINFORCING

Transverse: S601E - Top; S501E - Bottom @ 15" o.c. — Alternate
S502E @ 15" o.c. - Bent up over beams
S701E @ 15" (In overhang)
Longitudinal: S401E as shown
S602E placed as shown on "Reinforcing Plan and Pouring Sequence", See Dwg. No. 52757.

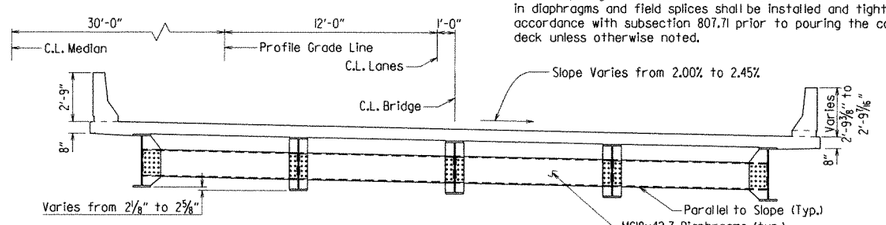
① Tolerance: Minus = ¼"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance.
See "Adjustment for Slab Thickness Tolerance"

② See "Adjustment for Slab Thickness Tolerance"

⑤ Bridge B - Slope Varies from -2.00% at Sta. 580+46.14 to -2.45% at Sta. 582+04.08.
Bridge A - Slope Varies from -2.00% at Sta. 580+46.14 to +0.26% at Sta. 582+04.08.
See "Roadway Cross-Slope Transition".

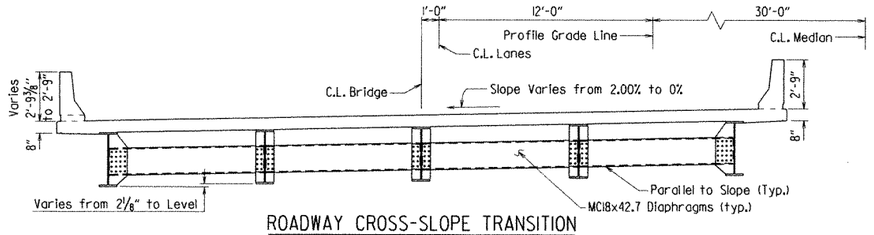
"E" = 3'-7⅝" for W36x135 beam
"E" = 3'-8¼" for W36x160 beam

Note: Diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.11 prior to pouring the concrete deck unless otherwise noted.



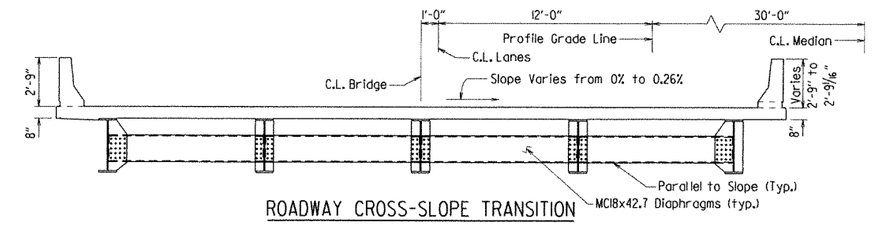
ROADWAY CROSS-SLOPE TRANSITION

Sta. 580+46.14 to Sta. 582+04.08
Looking Ahead - B Bridge
¼" = 1'-0"



ROADWAY CROSS-SLOPE TRANSITION

Sta. 580+46.14 to Sta. 581+86.14
Looking Ahead - A Bridge
¼" = 1'-0"

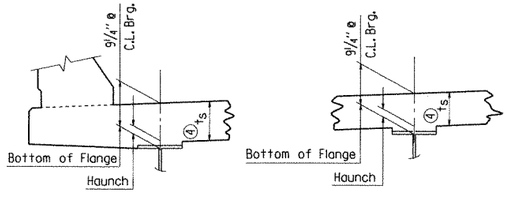


ROADWAY CROSS-SLOPE TRANSITION

Sta. 581+86.14 to Sta. 582+04.08
Looking Ahead - A Bridge
¼" = 1'-0"

Notes: See Layout for Method of Superelevation Transition.

For details not otherwise shown, see "Typical Roadway Section" and "Roadway Section Near Joint" as applicable.



t_s = slab thickness as shown in "Typical Roadway Section"

EXTERIOR BEAM	INTERIOR BEAM

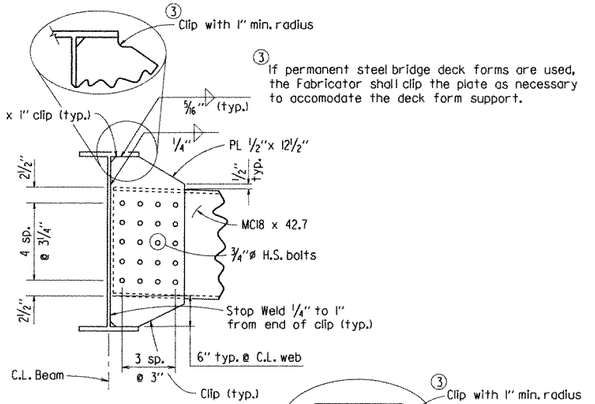
④ Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Notes:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1¾". 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. 1499 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

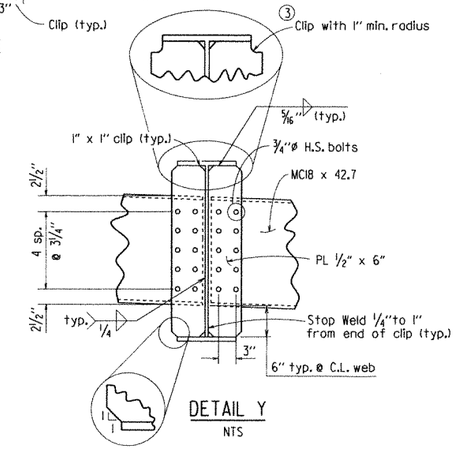
NTS



③ If permanent steel bridge deck forms are used, the Fabricator shall clip the plate as necessary to accomodate the deck form support.

DETAIL X

NTS



DETAIL Y

NTS

STATE OF ARKANSAS
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6/22/12
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3

DETAILS OF 204'-0" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH

ROUTE SEC.

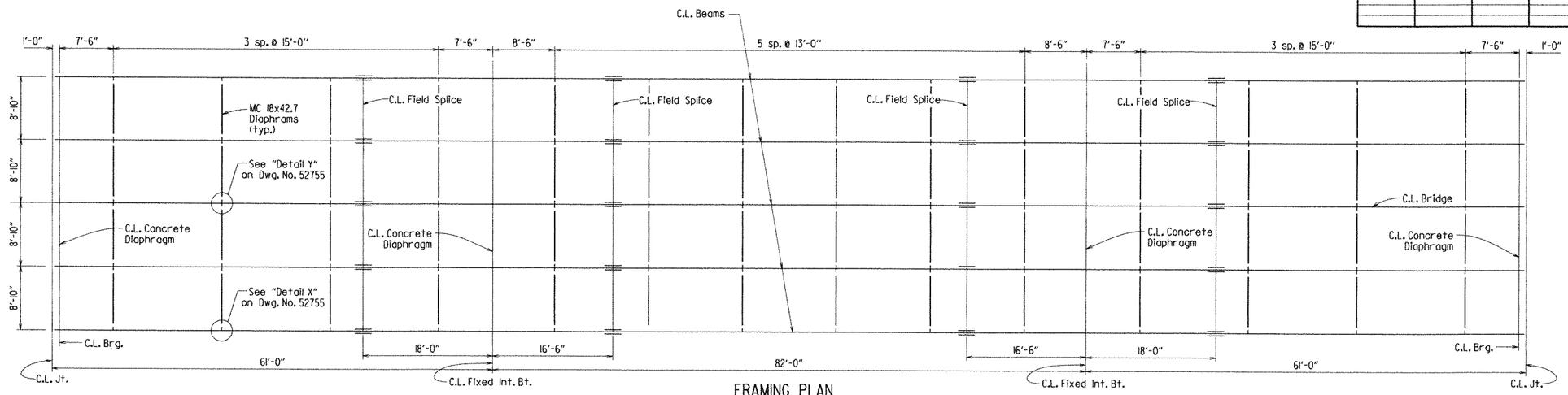
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 03/21/11 FILENAME: bl00679xl_sl.dgn
CHECKED BY: JNF DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: PGT DATE: 2-11
BRIDGE NO. A&B7250 DRAWING NO. 52755

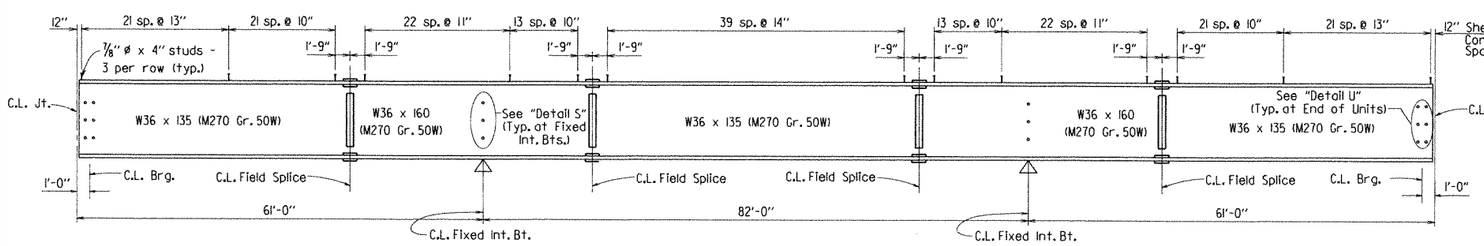
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100679	135	252
A&B7250		CONT. UNIT		52756

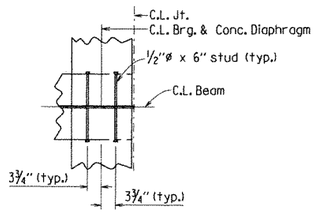


FRAMING PLAN
1/8" = 1'-0"

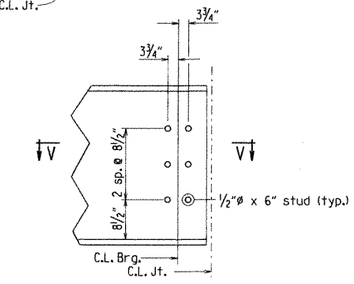
Note:
Prior to pouring concrete diaphragms, remove mill scale from surfaces to be in contact with concrete with a wire brush.



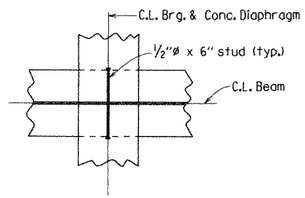
TYP. BEAM ELEVATION
NTS



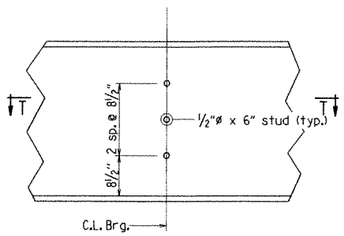
SECTION V-V
NTS



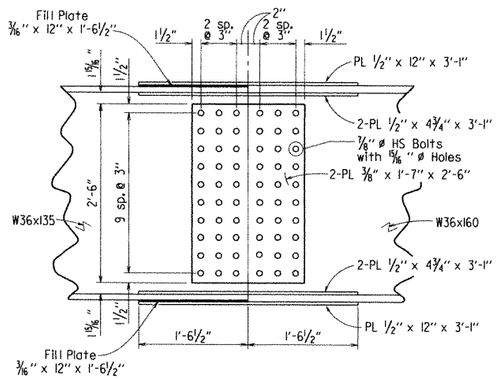
DETAIL U
NTS



SECTION T-T
NTS



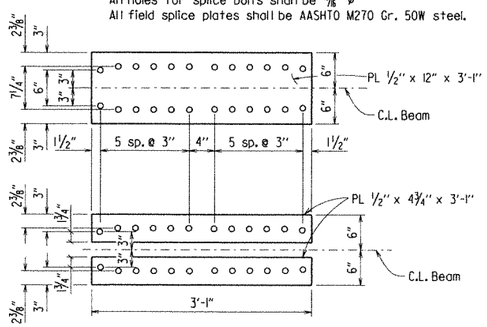
DETAIL S
NTS

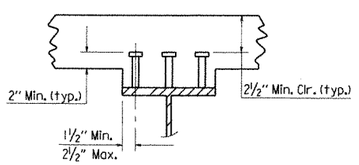


DETAILS OF FIELD SPLICE
1"= 1'-0"

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 7/8"ø Hi-str. bolts
All holes for splice bolts shall be 15/16 "ø
All field splice plates shall be AASHTO M270 Gr. 50W steel.





Stud Shear Connectors shown shall be 7/8"ø 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"ø studs may be used in place of the 7/8"ø studs shown, at the ratio of 1.361 - 3/4"ø studs in place of one 7/8"ø stud. 7/8"ø studs will be used as basis for measurement of structural steel in shear connectors.

SHEAR CONNECTOR DETAIL
NTS

STATE OF ARKANSAS
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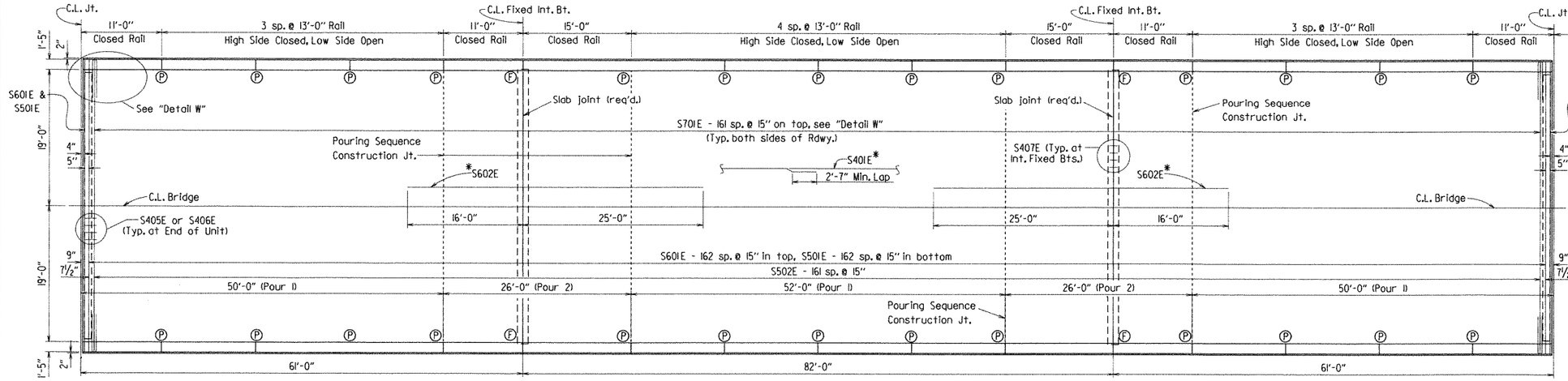
BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF
204'-0" CONTINUOUS W-BEAM UNIT
BIG CREEK DITCH
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 04/07/11 FILENAME: bi00679xl_sl.dgn
CHECKED BY: JVP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: PGT DATE: 2-11
BRIDGE NO. A&B7250 DRAWING NO. 52756

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.		100679	136	252
				(1) A&B7250		CONT. UNIT		52757



Notes:
Req'd. slab joints and pouring sequence joints shall align with open joints in parapet rail at the gutterline.

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 between the end of a pour and the start of the next pour. 72 hours shall elapse between adjacent pours.

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 sequences shown.

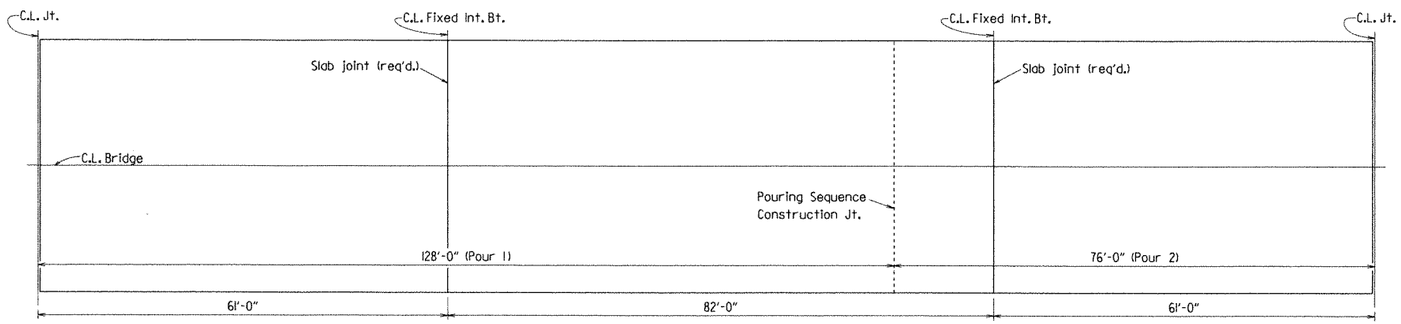
Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

(P) Partial Depth Parapet Joint at this location
(F) Full Depth Parapet Joint at this location

* Placed as shown in "Typical Roadway Section," see Dwg. No. 52755.

REINFORCING PLAN AND POURING SEQUENCE

1/8" = 1'-0"



Note: Pour (1) must be placed before Pour (2) can be placed. 72 hours shall elapse between the end of a pour and the start of the next pour.

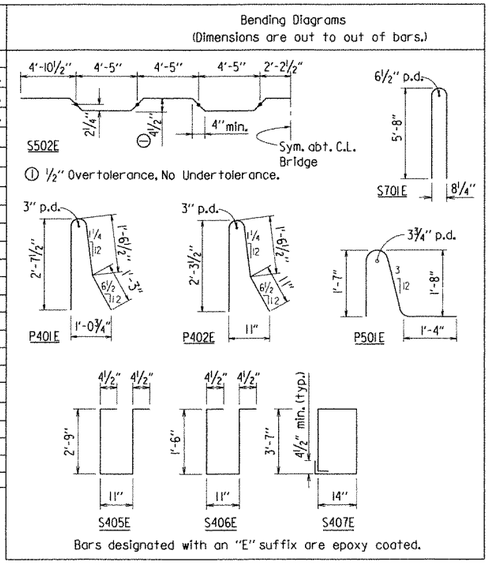
ALTERNATE POURING SEQUENCE

3/32" = 1'-0"

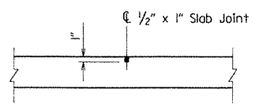
BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
S401E	654	36'-2"	Str.
S402E	16	8'-6"	Str.
S403E	64	2'-6"	Str.
S404E	12	38'-0"	Str.
S405E	48	6'-10"	2"
S406E	24	4'-4"	2"
S407E	72	9'-10"	2"
S501E	165	40'-10"	Str.
S502E	162	41'-6"	3"
S601E	165	40'-10"	Str.
S602E	84	41'-0"	Str.
S701E	324	11'-9"	6½"
P401E	736	5'-6"	3"
P402E	80	4'-10"	3"
P403E	104	5'-6"	Str.
P404E	56	10'-8"	Str.
P405E	140	12'-8"	Str.
P406E	28	14'-8"	Str.
P501E	736	4'-8"	3¾"

Bending Diagrams (Dimensions are out to out of bars.)



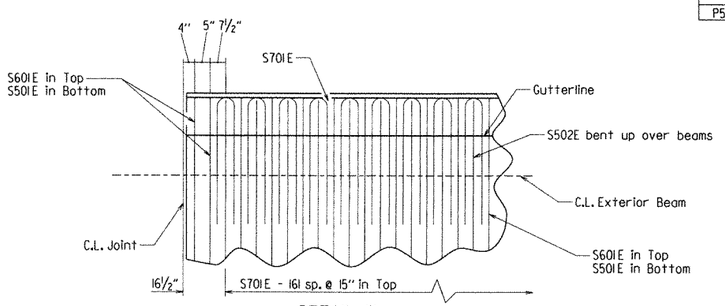
Bars designated with an "E" suffix are epoxy coated.



Use Type 3, 4, or 6 Joint Sealer. See subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. 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. The joint sealer shall extend across the deck from gutterline to gutterline.

SLAB JOINT DETAIL

NTS



DETAIL W

NTS

STATE OF ARKANSAS
Carl J. Puselier
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No. 7510
6/28/12
CARL J. PUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3

DETAILS OF 204'-0" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 04/07/11 FILENAME: bi00679xl_sl.dgn
CHECKED BY: JNP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: PGT DATE: 2-11
BRIDGE NO. A&B7250 DRAWING NO. 52757

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.		100679	137	252
				(1) A&B7250, A&B7251		PARAPET DETAILS		52758

TABLES OF PARAPET RAIL VARIABLES

BIG CREEK DITCH (204' CONT. UNIT)

Closed Parapet	"D"	P4xx Bar
11'-0"	21	P404E
13'-0"	25	P405E
15'-0"	29	P406E

Open Parapet	"F"	"G"	"H"	P4xx Bar
13'-0"	8	6"	4'-6"	P405E

BIG CREEK DITCH (200' CONT. UNIT)

Closed Parapet	"D"	P4xx Bar
11'-0"	21	P404E
14'-0"	27	P405E

Open Parapet	"F"	"G"	"H"	P4xx Bar
14'-0"	9	6"	5'-0"	P405E

BIG CREEK DITCH RELIEF (201'-6" CONT. UNIT)

Closed Parapet	"D"	P4xx Bar
9'-2½"	18	P404E
9'-3¼"	18	P404E
16'-0"	31	P406E

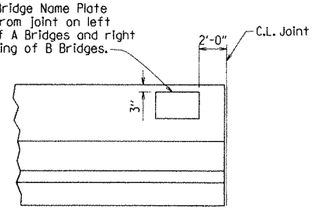
Open Parapet	"F"	"G"	"H"	P4xx Bar
15'-10¾"	11	6"	5'-11⅜"	P405E

BIG CREEK DITCH RELIEF (198'-6" CONT. UNIT)

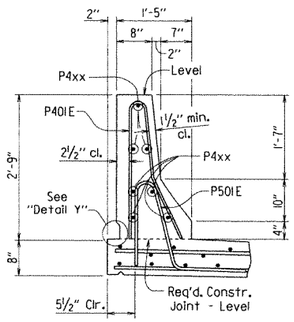
Closed Parapet	"D"	P4xx Bar
8'-10"	17	P404E
8'-10¾"	17	P404E
16'-0"	31	P406E

Open Parapet	"F"	"G"	"H"	P4xx Bar
15'-10¾"	11	6"	5'-11⅜"	P405E

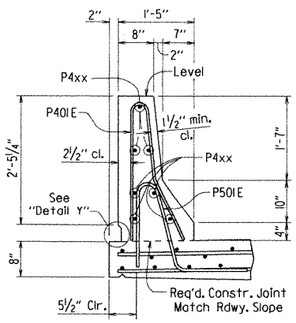
Place Type D Bridge Name Plate approx. 2'-0" from joint on left side at end of A Bridges and right side at beginning of B Bridges.



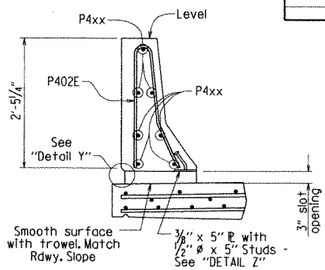
NAME PLATE DETAIL
No Scale



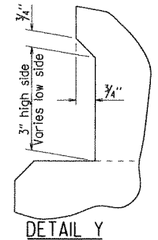
SECTION A-A
(High Side)
¾" = 1'-0"



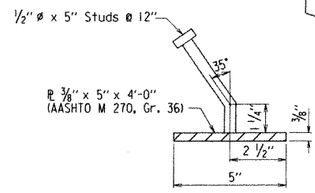
SECTION A-A
(Low Side)
¾" = 1'-0"



SECTION B-B
(Low Side)
¾" = 1'-0"



DETAIL Y
No Scale



DETAIL Z
No Scale

Wire shall be smooth 9 gage, and conform to AASHTO M 279, Class 3 galvanization and dimensions.

Three #4 fiberglass reinforcing bars shall be installed as shown across all open joints with a 20" minimum lap on each steel bar.

Bar to tighten smooth wire shall be fiberglass

All smooth wire bracing shall be placed on the inside faces of the reinforcing

For actual placement of reinforcing steel, see parapet details.

All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of ¼". 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.

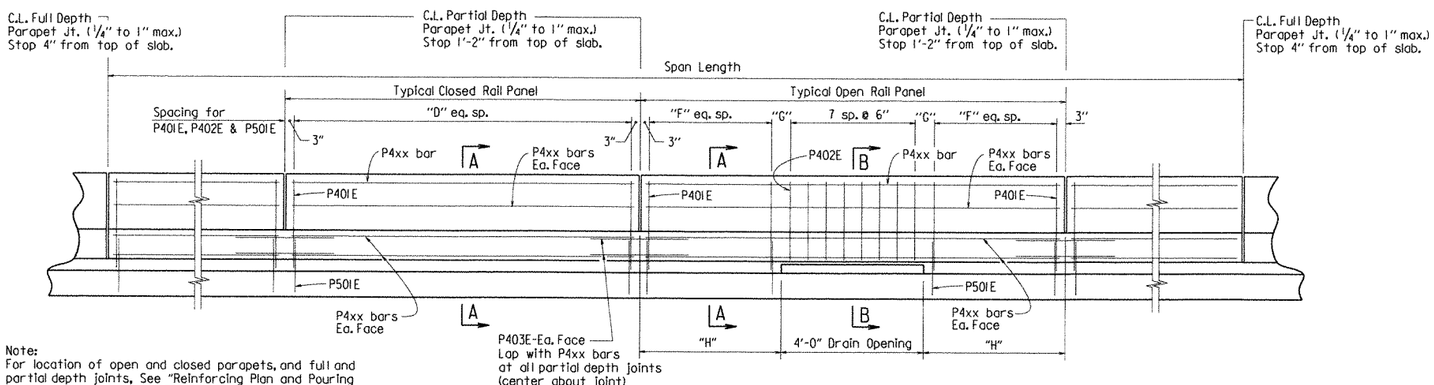
The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Unless otherwise noted, exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.

Note:
The surfaces of the ⅜" plates which will not be in contact with concrete shall be painted with aluminum epoxy paint in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to "Structural Steel in Beam Spans (M270, Gr. 50W)."

Parapet studs shall be 5" long, granular flux filled, solid fluxed or equal, and automatically end welded to the plate. Studs and plates shall meet the requirements of Section 807 and shall be measured and paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)."

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale



Note:
For location of open and closed parapets, and full and partial depth joints, See "Reinforcing Plan and Pouring Sequence" on Dwg. Nos. 52754, 52757, 52777 and 52780.

ELEVATION - CONCRETE PARAPET RAIL
½" = 1'-0"

STATE OF ARKANSAS
CARL J. FUSELIER
No. 7510
REGISTERED PROFESSIONAL ENGINEER
BRIDGE ENGINEER

PARAPET DETAILS
BIG CREEK DITCH AND
BIG CREEK DITCH RELIEF

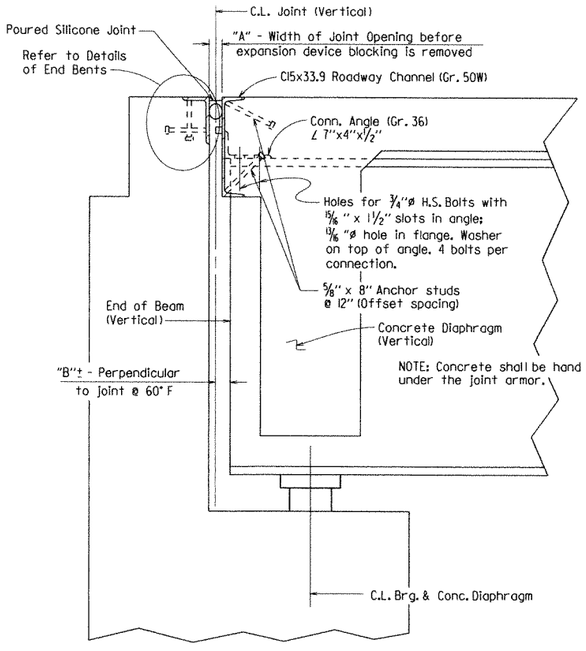
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 01-30-12 FILENAME: bl00679xl_sl.dgn
CHECKED BY: JYP DATE: 6-25-12 SCALE: AS NOTED
DESIGNED BY: ACW DATE: 01-12

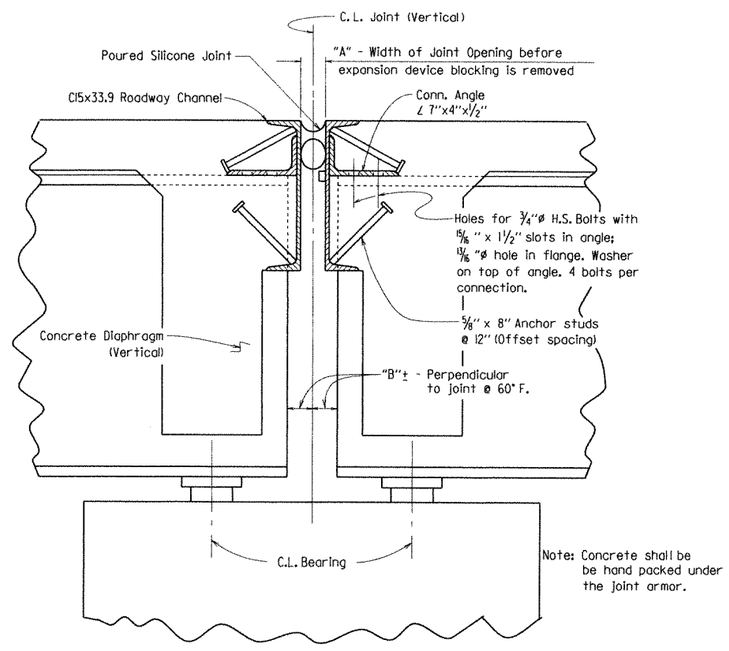
BRIDGE NO. A&B7250, A&B7251 DRAWING NO. 52758

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.		100679	131	252
				(1) A&B7250, A&B7251		JOINT DETAILS		52759



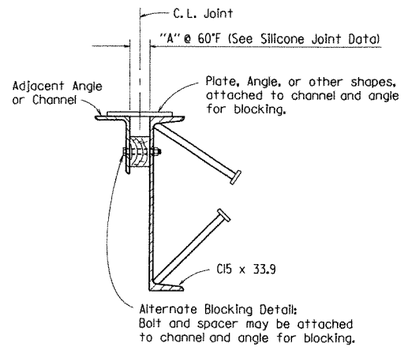
NOTE: Section taken perpendicular to C.L. Joint

SECTION THRU JOINT AT END BENT



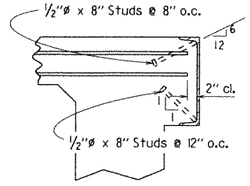
Note: Section taken perpendicular to C.L. Joint

SECTION THRU JOINT AT INTERIOR BENT



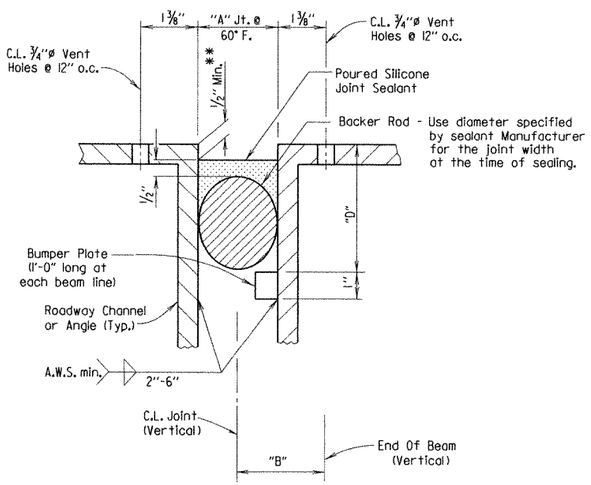
DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "A" shown for 60°F and the blocking details shall be shown on the shop drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.



NOTE: As an alternate to 5/8"ø studs, 1/2"ø x 8" studs spaced as shown may be used. Use weight of 5/8" ø stud as basis of measurement of structural steel in anchors.

DETAILS OF ALTERNATE ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT



DETAIL OF POURED SILICONE JOINT

SILICONE JOINT DATA

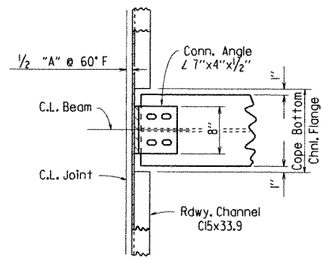
"A" Width Perpendicular to Joint at 24 Hour Average Temperature* Of:			"B" Perpendicular to Joint at 60°F	"D"	Bumper Plate Size
40°F	60°F	80°F			
2 3/16"	2"	1 13/16"	2 1/4" ±	4 1/2"	1" x 1"
2 11/16"	2 1/2"	2 3/16"	2 1/2" ±	5"	1" x 1 1/4"

* 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. Interpolation of the table may be necessary.

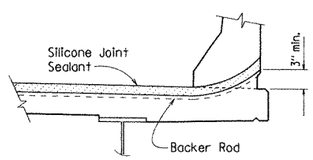
Notes:
The temperature limitations recommended by the sealant Manufacturer shall be observed. The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80° F.

Use an appropriately sized backer rod at the depth shown in the Manufacturer's literature based on the joint width at the time of sealing. Unless otherwise noted, do not install more backer rod than can be sealed in the same day.

The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.



CHANNEL CONNECTION DETAIL



JOINT SEAL PLACEMENT AT CURB

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 beams 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, and the opening adjusted for temperature and grade.

2) The backwall shall be poured to the optional construction joint after beams 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 and grade.

EXPANSION DEVICE INSTALLATION AT INTERIOR BENTS:

After all beams on each side of the joint are erected the blocked expansion device shall be installed and adjusted for grade. Deck concrete shall be placed for the entire unit or span on one side of the joint before deck concrete on the other side is placed. Connection bolts for the first side to have deck concrete placed shall be completely bolted. Bolts on the other side shall be loosely installed so that thermal and rotational movements will not be restricted during concrete placement on the first side.

Connection bolts on the second side shall remain loose until the concrete pour adjacent to the joint is to be placed. Immediately prior to pouring the span concrete on the second side, the blocking shall be removed, the joint adjusted for temperature and grade, and the connection bolts tightened.

STATE OF ARKANSAS
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No. 7510
4/25/12
CARL J. FUSELIER
BRIDGE ENGINEER

JOINT DETAILS
BIG CREEK DITCH AND
BIG CREEK DITCH RELIEF

ROUTE SEC.

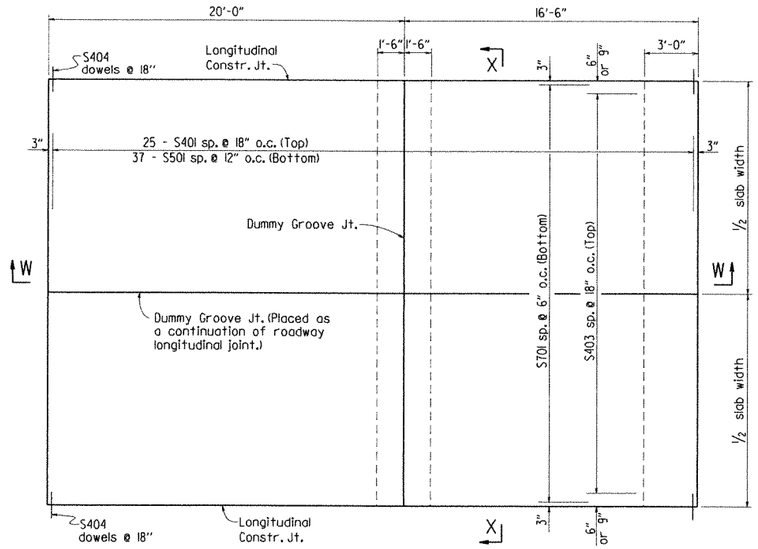
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 01-30-12 FILENAME: bl00679xl_sl.dgn
CHECKED BY: JNF DATE: 6-25-12 SCALE: No Scale
DESIGNED BY: ACW DATE: 01-12

BRIDGE NO. A&B7250, A&B7251 DRAWING NO. 52759

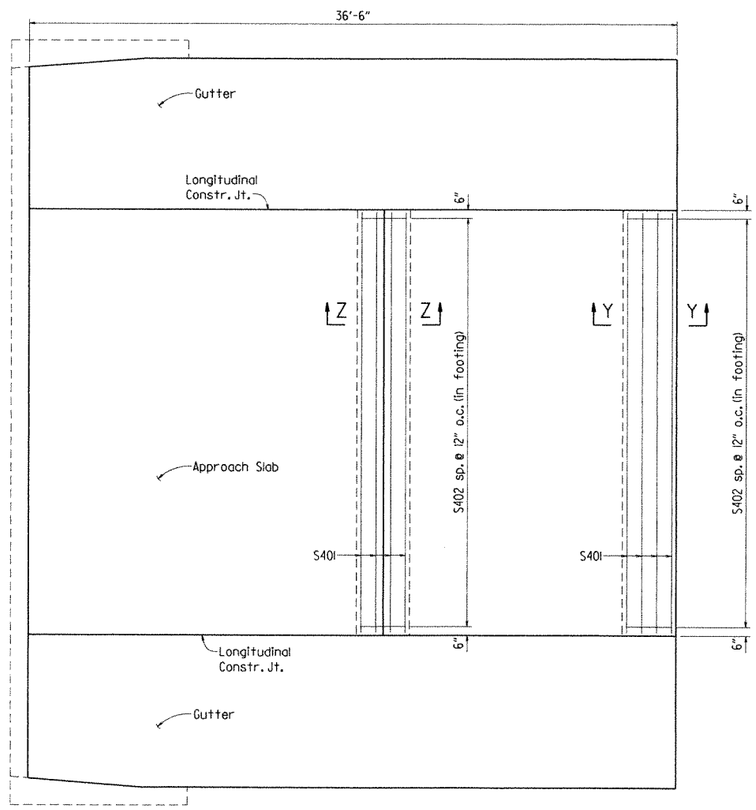
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	139	252
				(1) A&B7250, A&B7251		APPROACH SLAB		52760



Note: Surface finish for Approach Slabs shall match that used on the bridge deck.

PLAN OF APPROACH SLAB

1/4" = 1'-0"



PLAN OF APPROACH SLAB SHOWING GUTTERS

1/4" = 1'-0"

BAR LIST
TYPE SPECIAL APPROACH SLAB

	Mark	No. Req'd.	Length	Pin Dia.	Bending Diagram
22'-0" slab width	S401	33	21'-8"	Str.	2'-7", S402, 2'-5", 4½" Min. (typ.)
	S402	44	10'-4"	2"	
	S403	15	36'-2"	Str.	
	S404	50	3'-0"	Str.	
	S501	37	21'-8"	Str.	
	S701	44	36'-2"	Str.	
24'-0" slab width	S401	33	23'-8"	Str.	
	S402	48	10'-4"	2"	
	S403	16	36'-2"	Str.	
	S404	50	3'-0"	Str.	
	S501	37	23'-8"	Str.	
	S701	48	36'-2"	Str.	
36'-0" slab width	S401	33	35'-8"	Str.	
	S402	72	10'-4"	2"	
	S403	24	36'-2"	Str.	
	S404	50	3'-0"	Str.	
	S501	37	35'-8"	Str.	
	S701	72	36'-2"	Str.	

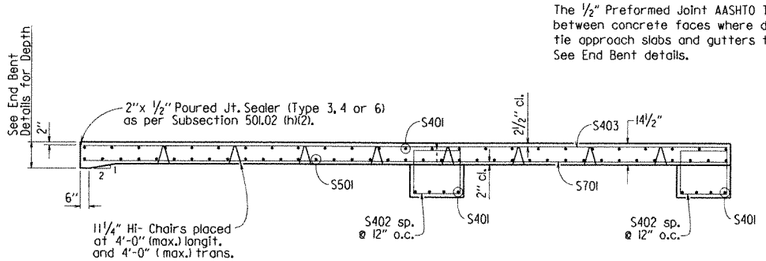
Dimensions are out to out of bars

TABLE OF QUANTITIES FOR ONE TYPE SPECIAL APPROACH SLAB

Slab Width	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
22'-0"	5,333	44.97
24'-0"	5,802	49.07
36'-0"	8,662	73.63

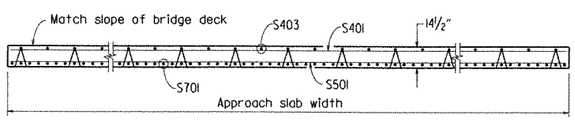
Notes:
At Bridge Nos. A&B7251, construct slab & gutters on arcs concentric to C.L. Median. Place longitudinal bars on arcs concentric to C.L. Median. Place transverse bars radially.

The ½" Preformed Joint AASHTO Type I shall be eliminated between concrete faces where dowel bars are used to tie approach slabs and gutters to the bent components. See End Bent details.



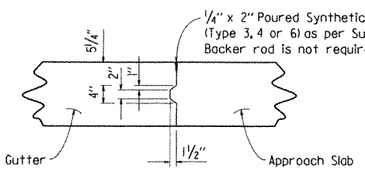
SECTION W - W

1/4" = 1'-0"



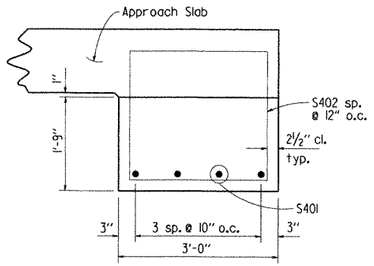
SECTION X - X

No Scale



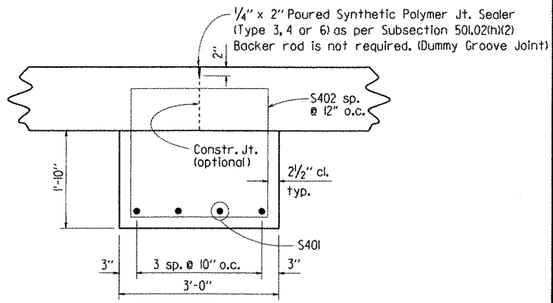
DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

¾" = 1'-0"



SECTION Y - Y

¾" = 1'-0"



SECTION Z - Z

¾" = 1'-0"

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
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/25/12
CARL J. FUSELIER

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL APPROACH SLAB

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

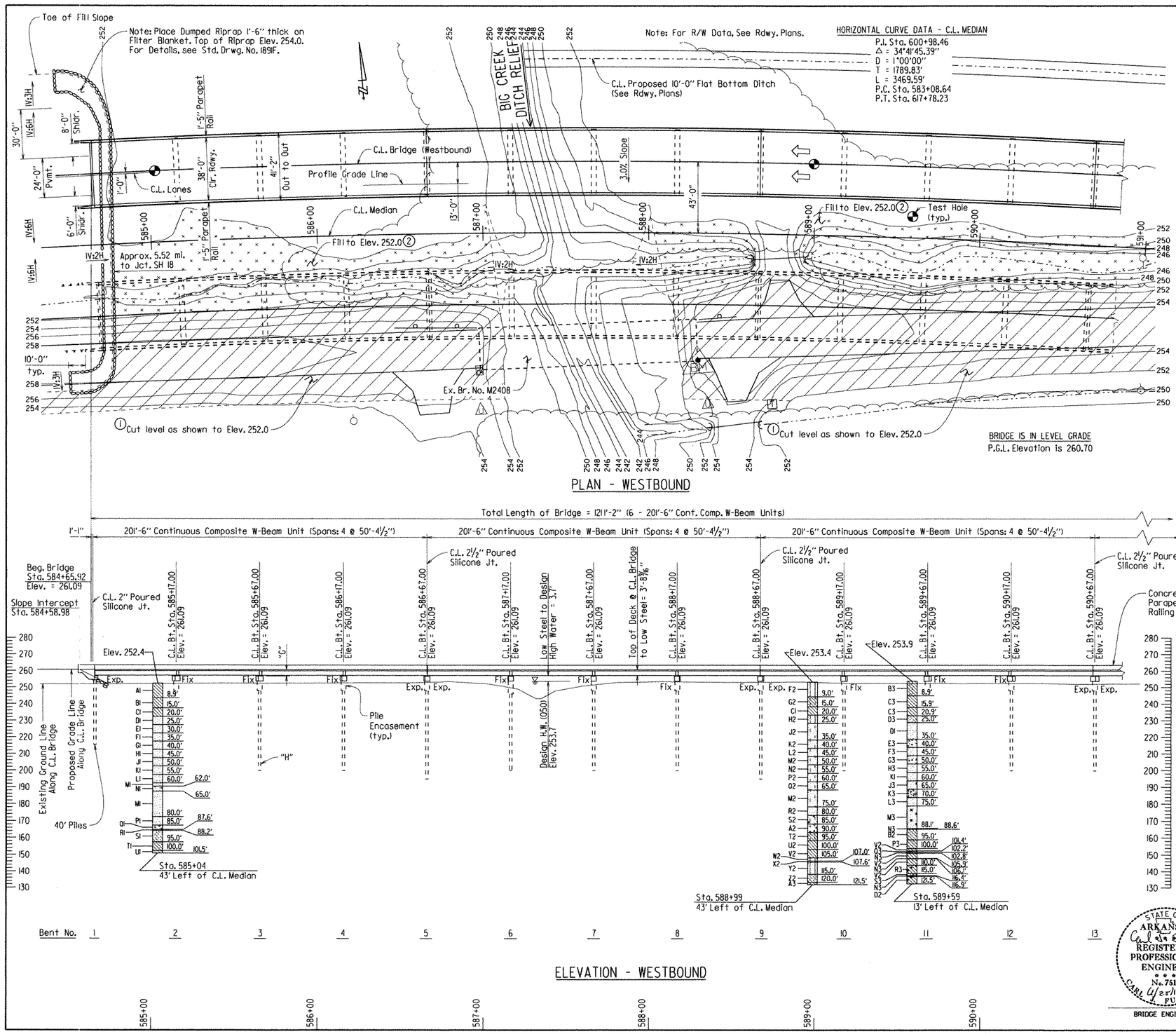
DRAWN BY: JYP DATE: 10-14-11 FILENAME: bl00679_as.dgn

CHECKED BY: AJS DATE: 4/7/12 SCALE: AS SHOWN

DESIGNED BY: STD. DATE:

BRIDGE NO. A&B7250, A&B7251 DRAWING NO. 52760

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.		100679	149	252
				① A725I		LAYOUT		52761



Notes: Use Type C Std. Approach Gutters ("W" = 6'-0" & "W" = 8'-0") at both ends of bridge - Dwg. No. 2016C

Use Type Special Approach Slab at both ends of bridge - Dwg. No. 52760.

C.L. Bridge, C.L. beams and the longitudinal lines of the bridge, approach slabs, and approach gutters shall be constructed on curves concentric with C.L. Median. C.L. Joints of end bents and C.L. Bents of intermediate bents shall be constructed on radial lines to C.L. Bridge.

Bridge Stations shown are along C.L. Median. Span Lengths and total length of bridge are measured along C.L. Bridge. Elevations shown are actual elevations along C.L. Bridge.

Note: For General Notes, Boring Legend, and Hydraulic Data, see Dwg. No. 52765.

① Limit level excavation to 100' Right of C.L. Median. Transition to existing ground using IV:2H slope. Approximately 6970 cubic yards of excavation between Bridges A&B725I end slopes.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts.

② Fill existing areas shown to Elev. 252.0 in accordance with the item Compacted Embankment. This work and materials shall be paid for under the item "Compacted Embankment". Approximately 5420 cubic yards of fill between Bridges A&B725I end slopes.

TABLE OF VARIABLES

Bent No.	Bent Type	C.L. Deck @ C.L. Bent to Low Side Top of Cap "G"	Pile Length "H"
2	E	4'-0⅜"	55'
3	E	4'-0½"	55'
4	E	4'-0⅜"	55'
5	F	4'-1⅜"	60'
6	E	4'-0⅜"	55'
7	E	4'-0½"	55'
8	E	4'-0⅜"	55'
9	F	4'-1⅜"	60'
10	E	4'-0⅜"	55'
11	E	4'-0½"	55'
12	E	4'-0⅜"	55'
13	F	4'-1⅜"	55'

STATE OF ARKANSAS
Carl J. Puselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELIER
BRIDGE ENGINEER

SHEET 1 OF 5
LAYOUT OF BRIDGES OVER BIG CREEK DITCH RELIEF HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: PGT DATE: 1-12 FILENAME: bl00679x2_Ll.dgn
CHECKED BY: AMS DATE: 2-9-12 SCALE: 1" = 30'
DESIGNED BY: PGT DATE: 1-12

BRIDGE NO. A725I DRAWING NO. 52761

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.		100679	[illegible]	[illegible]
				① A725I		LAYOUT		52762

Note: For R/W Data, See Rdwy. Plans.

HORIZONTAL CURVE DATA - C.L. MEDIAN
P.I. Sta. 600+98.46
Δ = 34°41'45.39"
D = 1°00'00"
T = 1789.83'
L = 3469.59'
P.C. Sta. 583+08.64
P.T. Sta. 617+78.23

C.L. Proposed 10'-0" Flat Bottom Ditch (See Rdwy. Plans)

1'-5" Parapet Rail
38'-0" Cir. Rdwy.
41'-2" Out to Out
3.0% Slope
C.L. Bridge (Westbound)
Profile Grade Line
13'-0"
43'-0"
C.L. Median
Fill to Elev. 252.0 ②
10'-0" typ.
Test Hole (typ.)
1V:3H
1V:2H
1V:6H
8'-0"
30'-0"

① Cut level as shown to Elev. 252.0

① Cut level as shown to Elev. 252.0

Toe of Fill Slope

Note: Place Dumped Riprap 1'-6" thick on Filter Blanket. Top of Riprap Elev. 254.0. For Details, see Std. Drwg. No. 1891F.

PLAN - WESTBOUND

BRIDGE IS IN LEVEL GRADE
P.G.L. Elevation is 260.70

Total Length of Bridge = 1211'-2" (6 - 201'-6" Cont. Comp. W-Beam Units)

201'-6" Continuous Composite W-Beam Unit (Spans: 4 @ 50'-4½") | 201'-6" Continuous Composite W-Beam Unit (Spans: 4 @ 50'-4½") | 201'-6" Continuous Composite W-Beam Unit (Spans: 4 @ 50'-4½") | 1'-1"

C.L. 2½" Poured Silicone Jt. | C.L. 2½" Poured Silicone Jt. | C.L. 2½" Poured Silicone Jt. | C.L. 2" Poured Silicone Jt.

End Bridge Sta. 596+68.08 Elev. = 261.09

Slope Intercept Sta. 596+75.02

For Guard Rail, see Rdwy. Plans

C.L. Bt. Sta. 590+67.00 Elev. = 261.09
C.L. Bt. Sta. 591+17.00 Elev. = 261.09
C.L. Bt. Sta. 591+67.00 Elev. = 261.09
C.L. Bt. Sta. 592+17.00 Elev. = 261.09
C.L. Bt. Sta. 592+67.00 Elev. = 261.09
C.L. Bt. Sta. 593+17.00 Elev. = 261.09
C.L. Bt. Sta. 593+67.00 Elev. = 261.09
C.L. Bt. Sta. 594+17.00 Elev. = 261.09
C.L. Bt. Sta. 594+67.00 Elev. = 261.09
C.L. Bt. Sta. 595+17.00 Elev. = 261.09
C.L. Bt. Sta. 595+67.00 Elev. = 261.09
C.L. Bt. Sta. 596+17.00 Elev. = 261.09

Concrete Parapet Railing
"G"
Top of Deck @ C.L. Bridge to Low Steel = 3'-8⅜"
Elev. 253.4
Elev. 253.3
Pile Encasement (typ.)
"H"
40' Piles
Proposed Grade Line Along C.L. Bridge
Existing Ground Line Along C.L. Bridge

Exp. Fix Exp. Exp. Fix Fix Fix Fix Exp. Exp. Fix Fix Fix Fix Exp.

Bent No.	13	14	15	16	17	18	19	20	21	22	23	24	25
Pile Length "H"	55'	50'	50'	50'	50'	50'	50'	50'	50'	50'	50'	50'	55'

Sta. 594+67
19' Left of C.L. Median

Sta. 596+67
50' Left of C.L. Median

ELEVATION - WESTBOUND

Note: For General Notes, Boring Legend, and Hydraulic Data, see Dwg. No. 52765.

① Limit level excavation to 100' Right of C.L. Median. Transition to existing ground using 1V:2H slope.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts.

② Fill existing areas shown to Elev. 252.0 in accordance with the item Compacted Embankment.

TABLE OF VARIABLES

Bent No.	Bent Type	C.L. Deck @ C.L. Bent to Low Side Top of Cap "G"	Pile Length "H"
13	F	4'-1⅜"	55'
14	E	4'-0⅜"	50'
15	E	4'-0½"	50'
16	E	4'-0⅜"	50'
17	F	4'-1⅜"	50'
18	E	4'-0⅜"	50'
19	E	4'-0½"	50'
20	E	4'-0⅜"	50'
21	F	4'-1⅜"	50'
22	E	4'-0⅜"	50'
23	E	4'-0½"	55'
24	E	4'-0⅜"	55'

STATE OF ARKANSAS
Carl L. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL L. PUSELLER
BRIDGE ENGINEER

SHEET 2 OF 5
LAYOUT OF BRIDGES OVER BIG CREEK DITCH RELIEF HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

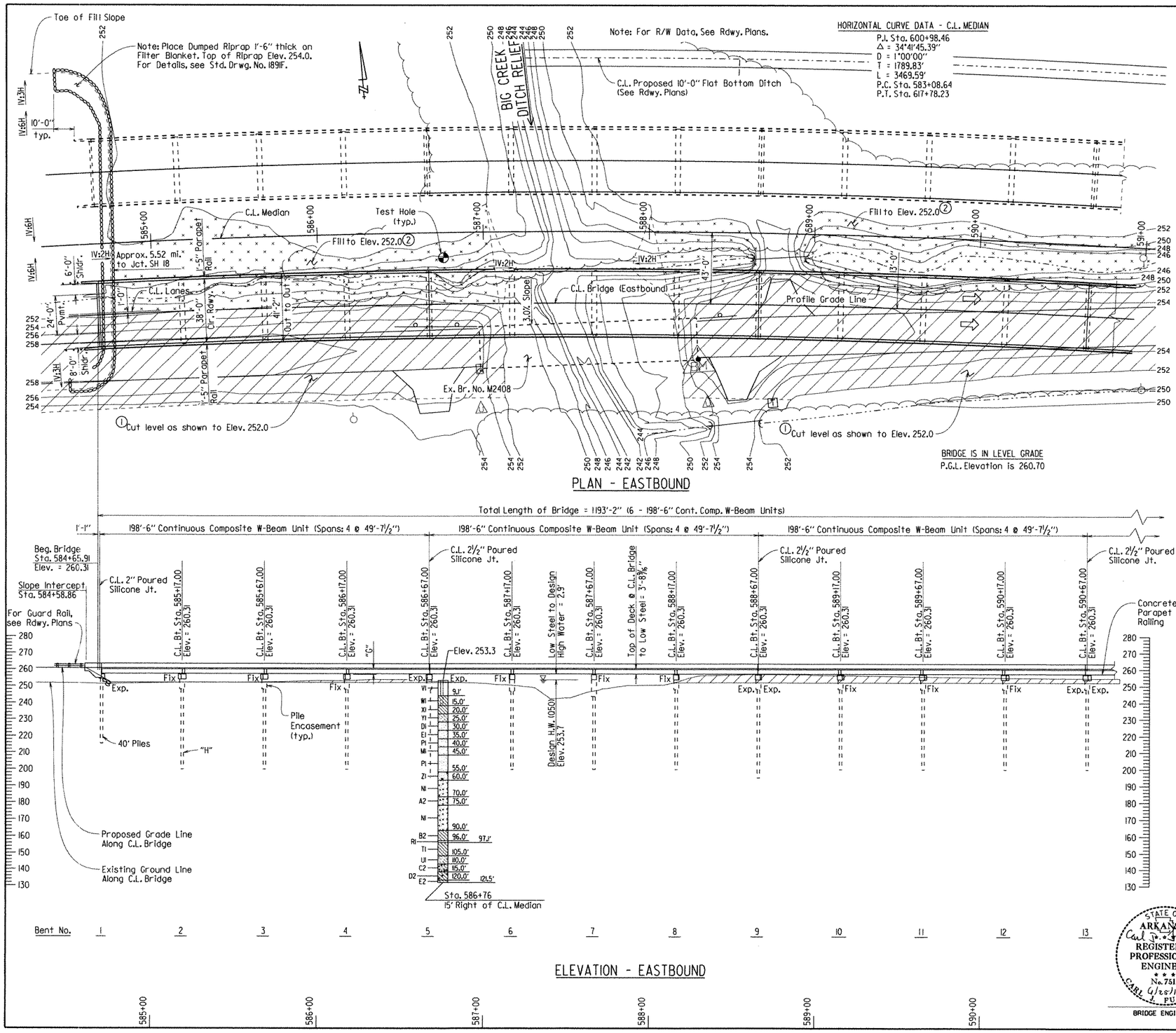
ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: PGT DATE: 1-12
CHECKED BY: AHS DATE: 2-9-12
DESIGNED BY: PGT DATE: 1-12.
FILENAME: bl00679x2.Ll.dgn
SCALE: 1" = 30'

BRIDGE NO. A725I DRAWING NO. 52762

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.		100679	142	252
				① B7251		LAYOUT		52763



Notes: Use Type C Std. Approach Gutters ("W" = 6'-0" & "W" = 8'-0") at both ends of bridge - Dwg. No. 2016C

Use Type Special Approach Slab at both ends of bridge - Dwg. No. 52760.

C.L. Bridge, C.L. beams and the longitudinal lines of the bridge, approach slabs, and approach gutters shall be constructed on curves concentric with C.L. Median. C.L. Joints of end bents and C.L. Bents of intermediate bents shall be constructed on radial lines to C.L. Bridge.

Bridge Stations shown are along C.L. Median. Span Lengths and total length of bridge are measured along C.L. Bridge. Elevations shown are actual elevations along C.L. Bridge.

Note: For General Notes, Boring Legend, and Hydraulic Data, see Dwg. No. 52765.

① Limit level excavation to 100' Right of C.L. Median. Transition to existing ground using 1V:2H slope.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts.

② Fill existing areas shown to Elev. 252.0 in accordance with the item Compacted Embankment.

TABLE OF VARIABLES

Bent No.	C.L. Deck @ C.L. Bent to Low Side Top of Cap "G"	Pile Length "H"
2	4'-0 9/16"	55'
3	4'-0 1/2"	55'
4	4'-0 9/16"	55'
5	4'-1 1/16"	60'
6	4'-0 9/16"	55'
7	4'-0 1/2"	55'
8	4'-0 9/16"	55'
9	4'-1 1/16"	60'
10	4'-0 9/16"	55'
11	4'-0 1/2"	55'
12	4'-0 9/16"	55'
13	4'-1 1/16"	55'

STATE OF ARKANSAS
Carl J. Puseliter
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/25/12
CARL J. PUSELIER
BRIDGE ENGINEER

SHEET 3 OF 5
LAYOUT OF BRIDGES OVER BIG CREEK DITCH RELIEF HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: PGT DATE: 1-12 FILENAME: bl00679x2_Ll.dgn
CHECKED BY: AMS DATE: 2-9-12 SCALE: 1" = 30'
DESIGNED BY: PGT DATE: 1-12

BRIDGE NO. B7251 DRAWING NO. 52763

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.		100679	143 25A	
				(1) B725I		LAYOUT		52764

Note: For R/W Data, See Rdwy. Plans.

HORIZONTAL CURVE DATA - C.L. MEDIAN
P.I. Sta. 600+98.46
Δ = 34°41'45.39"
D = 1°00'00"
T = 1789.83'
L = 3469.59'
P.C. Sta. 583+08.64
P.T. Sta. 617+78.23

C.L. Proposed 10'-0" Flat Bottom Ditch (See Rdwy. Plans)

Fill to Elev. 252.0 (2)

10'-0" typ.

1V:3H

C.L. Median

Test Hole (typ.)

1'-5" Parapet Rail

30'-0" Clr. Rdwy.

41'-2" Cut to Out

43'-0"

3.0% Slope

C.L. Bridge (Eastbound)

Profile Grade Line

13'-0"

(1) Cut to Elev. 252.0

(1) Cut to Elev. 252.0

1V:2H

1V:6H

Toe of Fill Slope

8'-0"

30'-0"

Note: Place Dumped Riprap 1'-6" thick on Filter Blanket. Top of Riprap Elev. 254.0. For Details, see Std. Drwg. No. 1891F.

PLAN - EASTBOUND

BRIDGE IS IN LEVEL GRADE
P.G.L. Elevation is 260.70

Total Length of Bridge = 1193'-2" (6 - 198'-6" Cont. Comp. W-Beam Units)

198'-6" Continuous Composite W-Beam Unit (Spans: 4 @ 49'-7½") | 198'-6" Continuous Composite W-Beam Unit (Spans: 4 @ 49'-7½") | 198'-6" Continuous Composite W-Beam Unit (Spans: 4 @ 49'-7½") | 1'-1"

C.L. 2½" Poured Silicone Jt. | C.L. 2½" Poured Silicone Jt. | C.L. 2½" Poured Silicone Jt. | C.L. 2" Poured Silicone Jt.

End Bridge Sta. 596+68.09 Elev. = 260.31

Slope Intercept Sta. 596+75.14

C.L. Brg. Sta. 590+67.00 Elev. = 260.31
C.L. Brg. Sta. 591+17.00 Elev. = 260.31
C.L. Brg. Sta. 591+67.00 Elev. = 260.31
C.L. Brg. Sta. 592+17.00 Elev. = 260.31
C.L. Brg. Sta. 592+67.00 Elev. = 260.31
C.L. Brg. Sta. 593+17.00 Elev. = 260.31
C.L. Brg. Sta. 593+67.00 Elev. = 260.31
C.L. Brg. Sta. 594+17.00 Elev. = 260.31
C.L. Brg. Sta. 594+67.00 Elev. = 260.31
C.L. Brg. Sta. 595+17.00 Elev. = 260.31
C.L. Brg. Sta. 595+67.00 Elev. = 260.31
C.L. Brg. Sta. 596+17.00 Elev. = 260.31

Top of Deck @ C.L. Bridge to Low Steel = 3'-8⅜"

Concrete Parapet Railing

Elev. 253.5

"C"

"H"

Fix | Exp. | Fix | Exp. | Exp. | Fix | Fix | Fix | Exp. | Exp. | Fix | Fix | Fix | Exp.

Pile Encasement (typ.)

40' Piles

T3	9.9'
U2	15.0'
U3	20.0'
D1	25.0'
V3	35.0'
W3	40.0'
H3	45.0'
E3	50.0'
X3	55.0'
M3	60.0'
Y3	65.0'
Z3	70.0'
L3	80.0'
A4	90.0' 90.9'
Z3	
B4	98.0' 100.0'
C4	101.5'
D4	

Sta. 591+67
20' Right of C.L. Median

Proposed Grade Line Along C.L. Bridge

Existing Ground Line Along C.L. Bridge

Bent No. 13 14 15 16 17 18 19 20 21 22 23 24 25

ELEVATION - EASTBOUND

591+00 592+00 593+00 594+00 595+00 596+00

Note: For General Notes, Boring Legend, and Hydraulic Data, see Dwg. No. 52765.

(1) Limit level excavation to 100' Right of C.L. Median. Transition to existing ground using 1V:2H slope.

Note: See Roadway Plans for excavation details and quantities for the removal of existing driveways and culverts.

(2) Fill existing areas shown to Elev. 252.0 in accordance with the item Compacted Embankment.

TABLE OF VARIABLES

Bent No.	C.L. Deck @ C.L. Bent to Low Side Top of Cap "C"	Pile Length "H"
13	4'-1⅞"	55'
14	4'-0⅞"	50'
15	4'-0½"	50'
16	4'-0⅞"	50'
17	4'-1⅞"	50'
18	4'-0⅞"	50'
19	4'-0½"	50'
20	4'-0⅞"	50'
21	4'-1⅞"	50'
22	4'-0⅞"	50'
23	4'-0½"	55'
24	4'-0⅞"	55'

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/27/12
CARL J. FUSELIER
BRIDGE ENGINEER

SHEET 4 OF 5
LAYOUT OF BRIDGES OVER BIG CREEK DITCH RELIEF HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: PGT DATE: 1-12 FILENAME: b100679x2_Ll.dgn
CHECKED BY: AHS DATE: 2-9-12 SCALE: 1" = 30'
DESIGNED BY: PGT DATE: 1-12

BRIDGE NO. B725I DRAWING NO. 52764

GENERAL NOTES

BENCH MARK: CH SQ SE COR BR, 76.44' Rt. of C.L. Median Sta. 588+30.74, Elev. 258.45.

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, Section and Subsection refer to the Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition, with 2010 Interim Revisions.

LIVE LOADING: HL93
SEISMIC PERFORMANCE ZONE: 4

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. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.

(3) STEEL SHELL PILING: Piling for all bents shall be 18" ø diameter concrete filled steel shell piles. All piling shall be driven with an approved air, steam or diesel hammer to the required ultimate bearing capacity per pile and minimum tip elevation. Ultimate bearing capacity and minimum tip elevation shall as be shown below. Piling in end bents shall be driven after embankment to bottom of cap is in place.

Bent Type	Bent Numbers	Minimum Tip Elevation	Ultimate Bearing Capacity	Minimum Rated Hammer Energy
End	1, 25	218.0	200 Tons	22,000
E	2-4, 6-8, 10-12	202.0	295 Tons	40,000
	14-16, 18-20, 22-24	218.0		
F	5, 9, 13	202.0	335 Tons	48,000
	17, 21	218.0		

Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No payment will be made for cut-off or build-up. Test Piles are not required but may be driven for the Contractor's information in accordance with subsection 805.08(g).

Water jetting may be needed to achieve the minimum pile penetration. Water jetting shall stop once the minimum tip elevation is achieved. Any cost associated with achieving the minimum pile penetration shall be included in the item "Steel Shell Piling".

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". The estimated minimum rated hammer energy in foot pounds per blow required to obtain the ultimate bearing capacities are as shown in the above table.

PILE ENCASEMENT: For Bents 2 thru 24, Pile Encasement shall extend from the bottom of the cap to 3' below natural ground or finished ground surface elevation, whichever is lower. See Dwg. No. 52747.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in subsection 802.19 for Class S Tined Bridge Roadway Surface Finish.

DETAIL DRAWINGS	DRAWING NOS.
End Bents	52766 - 52769
Intermediate Bents	52770 - 52771
Elastomeric Bearings	52748
20'-6" Continuous W-beam Unit	52772 - 52777
198'-6" Continuous W-beam Unit	52772 - 52774, 52778 - 52780
Type Special Approach Slab	52760
Type C Approach Gutter	2016C
Concrete Filled Steel Shell Piling	52747

EXISTING BRIDGE: Existing Bridge No. M2408 (Logmile 11.18) is 24.8' wide and 132' long. The superstructure consists of a steel I-beam main span and timber beam approach spans with concrete deck. The substructure consists of timber trestle pile bents.

REMOVAL AND SALVAGE: After Bridge A7521 is open to traffic, existing bridge no. M2408 shall be removed in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor except all guardrail materials which shall remain the property of the State.

The Contractor shall provide temporary storage and on site loading onto AHTD equipment for removal of the guardrail materials from the site. Exposed piling and debris from a previous structure shall also be removed to a minimum depth of 2' below natural ground. Payment for this work shall be considered incidental to the item "Removal of Existing Bridge Structure".

MAINTENANCE OF TRAFFIC: See Roadway Plans for maintenance of traffic.

(4) HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	**TOTAL DISCHARGE	DISCHARGE THIS BRIDGE	*NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	CFS	FEET	FEET
Design	50	15,300	2,550	253.6	253.7
Base	100	18,900	3,260	254.1	254.2
Extreme	500	29,800	5,770	255.2	255.4
Overtopping	>500	N/A	N/A	N/A	N/A

*Unconstricted water surface without structure or roadway approaches.

**Includes flow at Big Creek Ditch and Big Creek Ditch Relief constructed under Job 100679 and a Box Culvert at Sta. 649+27 constructed under Job 100677.

Total Drainage Area = 99.2 square miles
Q100 Backwater Elevation for existing structures = 254.2

Proposed Low Bridge Chord Elev. = 256.2 (Big Creek Ditch)
Proposed Low Bridge Chord Elev. = 256.6 (Big Creek Ditch Relief)

(4) Bridge Length and Hydraulics by Department Hydraulics Section

(3) Bridge B7251 shall be constructed to avoid interference with existing piling. The Contractor shall verify measurements before driving any piling. Any adjustments necessary to fit bridge B7251 to the existing bridge location and to maintain bent alignment between "A" and "B" bridges shall be submitted for the Engineer's approval.

BORING LEGEND

A1-Moist, Stiff, Brown and Gray Clay with some Organic Matter
B1-Moist, Medium Stiff, Brown and Gray Clay with some Organic Matter
C1-Moist, Stiff, Brown Clay with some Organic Matter
D1-Wet, Medium Dense, Brown Sand
E1-Wet, Medium Dense, Brown Sand with Trace of Gravel
F1-Wet, Medium Dense, Brown and Gray Sand with some Organic Matter
G1-Wet, Dense, Brown Sand with some Gravel
H1-Wet, Medium Dense, Brown and Gray Sand with some Gravel
J1-Wet, Medium Dense, Gray Sand with some Gravel
K1-Wet, Medium Dense, Gray Sand with Trace of Gravel
L1-Wet, Medium Dense, Gray Sand with some Gravel and Organic Matter
M1-Wet, Dense, Gray Sand with some Gravel
N1-Wet, Dense, Gray Sand with Gravel
P1-Wet, Dense, Gray Sand with some Gravel and Organic Matter
Q1-Wet, Very Dense, Gray Sand with Gravel
R1-Hard, Cemented Sand
S1-Moist, Dense, Gray Sand with Clay and Trace of Gravel
T1-Moist, Hard, Gray Clay with Sand
U1-Moist, Dense, Gray Sand with Clay
V1-Moist, Medium Dense, Brown and Gray Silt with some Organic Matter
W1-Moist, Medium Stiff, Brown and Gray Silty Clay with some Organic Matter
Y1-Wet, Loose, Brown Sand with Clay
Z1-Wet, Medium Dense, Gray Sand with Organic Matter and some Gravel
A2-Wet, Medium Dense, Gray Sand with Gravel
B2-Moist, Very Stiff, Gray Clay with Sand
C2-Wet, Dense, Gray Sand with Clay, Gravel and Organic Matter
D2-Moist, Hard, Gray Clay with Lignite
E2-Moist, Very Stiff, Gray Lignitic Clay
F2-Moist, Stiff, Light Brown Silt with some Organic Matter
G2-Moist, Stiff, Light Brown Silty Clay with some Organic Matter
H2-Wet, Medium Dense, Brown Sandy Silt
J2-Wet, Medium Dense, Brown Sand with Silt
K2-Wet, Dense, Brown Sand with Silt and Pea Gravel
L2-Wet, Medium Dense, Brown Sand with Silt
M2-Wet, Dense, Brown Sand with Silt and some Gravel and Organic Matter
N2-Wet, Dense, Brown Sand with Silt and some Gravel
P2-Wet, Medium Dense, Gray Sand with Silt and Trace of Gravel and Organic Matter
Q2-Wet, Dense, Brown Sand with Silt and Trace of Gravel and Organic Matter
R2-Wet, Dense, Gray Sand with some Gravel and Trace of Organic Matter
S2-Wet, Very Dense, Gray Sand with Silt and Organic Matter
T2-Moist, Very Stiff, Gray Silty Clay with Sand
U2-Moist, Very Stiff, Gray Clay with some Organic Matter
V2-Moist, Very Stiff, Gray Clay
W2-Moist, Hard, Gray Sandy Silt
X2-Hard, Gray Cemented Sand
Y2-Moist, Dense, Gray Sandy Silt
Z2-Moist, Dense, Gray Silty, Clayey Sand with some Lignite
A3-Moist, Dense, Gray Silty, Clayey Sand
B3-Dry, Stiff, Brown and Gray Silty Clay with some Organic Matter
C3-Moist, Very Stiff, Gray Clay with some Iron Nodules
D3-Moist, Medium Dense, Brown Sand with Clay
E3-Wet, Very Dense, Brown Sand with Gravel
F3-Wet, Medium Dense, Brown Sand with some Gravel and Organic Matter
G3-Wet, Dense, Brown Sand with Gravel
H3-Wet, Dense, Brown and Gray Sand
J3-Wet, Dense, Gray Sand with Organic Matter and some Gravel
K3-Wet, Very Dense, Gray Sand with Gravel and Organic Matter
L3-Wet, Dense, Gray Sand with Trace of Gravel
M3-Wet, Dense, Gray Sand with Organic Matter
N3-Hard, Brown Cemented Sand
P3-Moist, Very Stiff, Gray Clay with Sand and Trace of Lignite
Q3-Moist, Very Stiff, Gray Clay with Cemented Sand Seams
R3-Moist, Very Stiff, Gray Clay with Lignite
S3-Moist, Very Hard, Gray Clay with Brown Cemented Sand and some Lignite
T3-Moist, Stiff, Gray and Brown Clay with some Organic Matter
U3-Moist, Stiff, Gray and Brown Clay
V3-Wet, Medium Dense to Dense, Reddish Brown Sand
W3-Wet, Very Dense, Brown Sand with Trace of Gravel
X3-Wet, Dense, Brown Sand with Organic Matter
Y3-Wet, Very Dense, Gray Sand with Trace of Gravel
Z3-Wet, Very Dense, Gray Sand
A4-Wet, Very Dense, Gray Sand with Organic Matter
B4-Moist, Very Hard, Gray Clay
C4-Moist, Hard, Gray Clay with Cemented Sand Seams
D4-Moist, Dense, Gray Sand with Clay Layers
E4-Moist, Very Stiff, Brown and Gray Silty Clay with some Organic Matter
F4-Moist, Very Stiff, Brown Clay
G4-Wet, Dense, Brown Sand with Gravel
H4-Wet, Dense, Brown and Gray Sand with some Gravel
J4-Wet, Dense, Brown Sand
K4-Wet, Medium Dense, Gray Sand
L4-Wet, Dense, Brown and Gray Sand with Gravel and some Organic Matter
M4-Wet, Dense, Brown and Gray Sand with Trace of Gravel
N4-Wet, Medium Dense, Brown and Gray Sand
P4-Wet, Dense to Very Dense, Gray Sand with Gravel
Q4-Wet, Very Dense, Brown and Gray Sand
R4-Wet, Very Dense, Gray Sand with Cemented Sand Seams
S4-Moist, Very Hard, Brown and Gray Clay with Sand and Lignite
T4-Moist, Hard, Gray Clay
U4-Moist, Stiff, Brown and Gray Sandy Clay with Gravel and some Organic Matter (Grass Roots)
V4-Moist, Hard, Gray Silty Clay
W4-Moist, Very Stiff, Mottled Gray and Brown Clay with Iron Nodules (Blocky)
X4-Moist, Very Stiff, Mottled Brown Clay with Iron Nodules (Blocky)
Y4-Wet, Medium Dense, Reddish Brown Sand
Z4-Wet, Medium Dense, Brown and Gray Sand with Trace of Gravel
A5-Wet, Dense, Brown and Gray Sand with Trace of Large Gravel
B5-Hard, Cemented Sand (61.7' to 61.8')
C5-Hard, Cemented Sand (63.0' to 63.2')
D5-Wet, Very Dense, Brown and Gray Sand with Trace of Gravel
E5-Wet, Dense, Brown and Gray Sand with Gravel
G5-Wet, Very Dense, Gray Sand with Gravel and Trace of Organic Matter
H5-Wet, Very Dense, Brown Sand with frequent Hard, Cemented Sand Seams
J5-Hard, Cemented Sand (87.0' to 87.2')
K5-Hard, Black Lignite
L5-Moist, Hard, Black Lignite with Gray Clay
M5-Moist, Hard, Gray Clay with Trace of Lignite
N5-Moist, Dense, Gray Sand with Clay and Trace of Lignite
P5-Moist, Hard, Gray Sandy Clay with Trace of Lignite

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.		100679	114	252
				(1) A&B7251		LAYOUT		52765

"N" VALUES

Sta. 585+04 - 43' Left of C.L. Median

4.4- 5.4, N=10
9.4- 10.4, N=6
15.5- 16.5, N=9
20.5- 21.5, N=13
25.5- 26.5, N=20
30.5- 31.5, N=14
35.5- 36.5, N=34
40.5- 41.5, N=30
45.5- 46.5, N=19
50.5- 51.5, N=48
55.5- 56.5, N=30
60.5- 61.5, N=43
65.5- 66.5, N=40
70.5- 71.5, N=31
75.5- 76.5, N=39
80.5- 81.5, N=35
85.5- 85.9, N=60(5")
90.5- 91.5, N=42
95.5- 96.5, N=48
100.5-101.5, N=49

Sta. 586+76 - 15' Right of C.L. Median

4.6- 5.6, N=14
9.6- 10.6, N=8
15.5- 16.5, N=7
20.5- 21.5, N=8
25.5- 26.5, N=13
30.5- 31.5, N=18
35.5- 36.5, N=37
40.5- 41.5, N=38
45.5- 46.5, N=40
50.5- 51.5, N=36
55.5- 56.5, N=17
60.5- 61.5, N=31
65.5- 66.5, N=39
70.5- 71.5, N=27
75.5- 76.5, N=37
80.5- 81.5, N=40
85.5- 86.5, N=34
90.5- 91.5, N=17
95.5- 96.3, N=74(10")
100.5-101.5, N=37
105.5-106.5, N=42
110.5-111.5, N=45
115.5-116.5, N=46
120.5-121.5, N=27

Sta. 588+99 - 43' Left of C.L. Median

4.5- 5.5, N=14
9.5- 10.5, N=13
15.5- 16.5, N=12
20.5- 21.5, N=12
25.5- 26.5, N=21
30.5- 31.5, N=25
35.5- 36.5, N=33
40.5- 41.5, N=27
45.5- 46.5, N=31
50.5- 51.5, N=32
55.5- 56.5, N=30
60.5- 61.5, N=42
65.5- 66.5, N=39
70.5- 71.5, N=38
75.5- 76.5, N=33
80.5- 81.5, N=53
85.5- 86.5, N=14
90.5- 91.5, N=28
95.5- 96.5, N=22
100.5-101.5, N=30
105.5-106.5, N=51
110.5-111.5, N=43
115.5-116.5, N=41
120.5-121.5, N=42

Sta. 589+59 - 13' Left of C.L. Median

6.4- 7.4, N=24
11.4- 12.4, N=21
16.4- 17.4, N=8
21.4- 22.4, N=20
25.5- 26.5, N=22
30.5- 31.5, N=20
35.5- 36.5, N=54
40.5- 41.5, N=28
45.5- 46.5, N=37
50.5- 51.5, N=37
55.5- 56.5, N=28
60.5- 61.5, N=31
65.5- 66.5, N=54
70.5- 71.5, N=23
75.5- 76.5, N=33
80.5- 81.5, N=48
85.5- 86.5, N=31
90.5- 91.5, N=21
95.5- 96.5, N=22
100.5-101.5, N=21
105.5-106.5, N=60(1")
110.5-111.5, N=21
115.5-116.5, N=60(1")
120.5-121.5, N=31

Sta. 591+67 - 20' Right of C.L. Median

4.6- 5.6, N=9
9.6- 10.6, N=17
15.5- 16.5, N=15
20.5- 21.5, N=17
25.5- 26.5, N=25
30.5- 31.5, N=36
35.5- 36.5, N=65
40.5- 41.5, N=43
45.5- 46.5, N=55
50.5- 51.5, N=48
55.5- 56.5, N=36
60.5- 61.5, N=60
65.5- 66.5, N=70
70.5- 71.5, N=48
75.5- 76.5, N=47
80.5- 81.5, N=76
85.5- 86.5, N=69
90.5- 90.9, N=60(5")
95.5- 95.7, N=60(2")
100.5-101.5, N=41

Sta. 594+67 - 19' Left of C.L. Median

4.2- 5.2, N=13
9.2- 10.2, N=28
15.5- 16.5, N=25
20.5- 21.5, N=13
25.5- 26.5, N=29
30.5- 31.5, N=35
35.5- 36.5, N=48
40.5- 41.5, N=45
45.5- 46.5, N=43
50.5- 51.5, N=25
55.5- 56.5, N=45
60.5- 61.5, N=38
65.5- 66.5, N=30
70.5- 71.5, N=44
75.5- 76.5, N=67
80.5- 81.5, N=111
85.5- 86.5, N=63
90.5- 91.5, N=54
95.5- 96.5, N=91
100.5-101.5, N=34

Sta. 596+67 - 50' Left of C.L. Median

6.6- 7.6, N=31
11.6- 12.6, N=20
16.6- 17.6, N=14
20.5- 21.5, N=16
25.5- 26.5, N=26
30.5- 31.5, N=26
35.5- 36.5, N=62
40.5- 41.5, N=36
45.5- 46.5, N=31
50.5- 51.5, N=41
55.5- 56.5, N=40
60.5- 61.5, N=36
65.5- 66.5, N=48
70.5- 71.5, N=63
75.5- 76.5, N=49
80.5- 81.5, N=54
85.5- 86.5, N=59
90.5- 91.5, N=19
95.5- 96.5, N=24
100.0-100.4, N=60(5")
105.5-106.5, N=35
110.5-111.5, N=32
115.5-116.5, N=43
120.5-121.5, N=49

STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELLER
4/23/12
BRIDGE ENGINEER

SHEET 5 OF 5
LAYOUT OF BRIDGES OVER BIG CREEK DITCH RELIEF HWY. 49 CONNECTION - WEST (S) CRAIGHEAD COUNTY

ROUTE 226 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: PGT DATE: 1-12 FILENAME: b100679x2_LI.dgn
CHECKED BY: AHS DATE: 2-9-12 SCALE: 1" = 30'
DESIGNED BY: PGT DATE: 1-12

BRIDGE NO. A&B7251 DRAWING NO. 52765

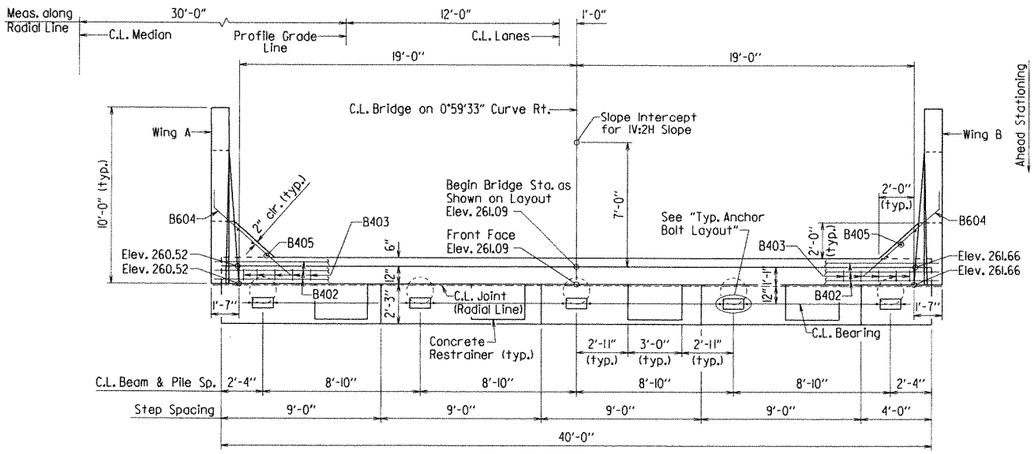
Note: Class I Protective Surface Treatment shall be applied to the top of the backwall and to the roadway face and top of the wing rails.

For "Section X-X" and Details of Wing & Rail, see Dwg. No. 52768.

For Details of General Notes, Concrete Restrainers and Bar List, see Dwg. No. 52769.

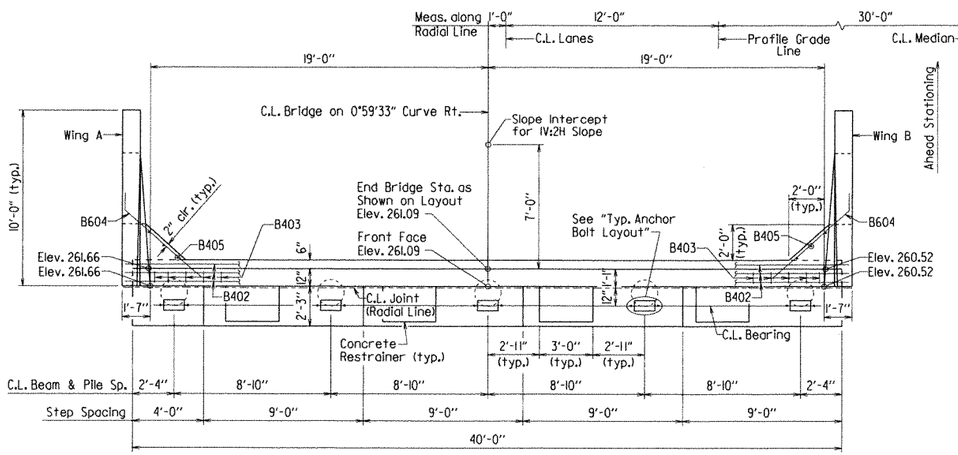
Note: Wings and rails are constructed on curves concentric to C.L. Bridge.

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.		100679	145	252
				(1) A7251		END BENTS		52766



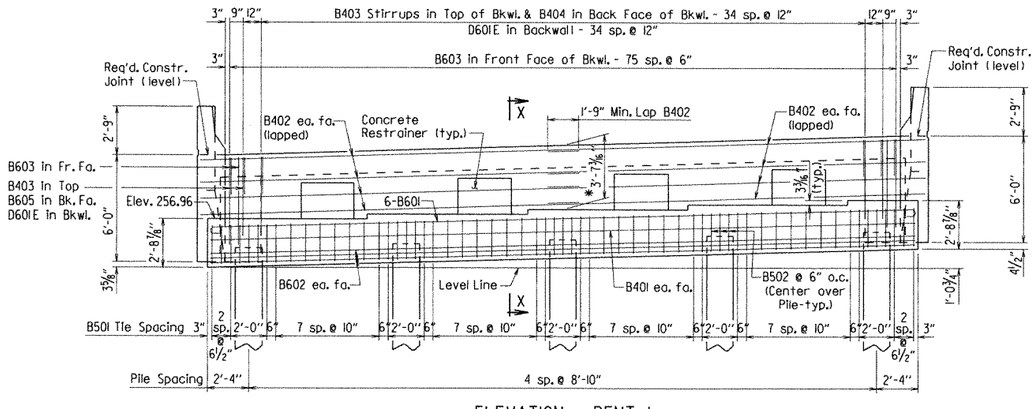
PLAN - BENT 1

1/4" = 1'-0"



PLAN - BENT 25

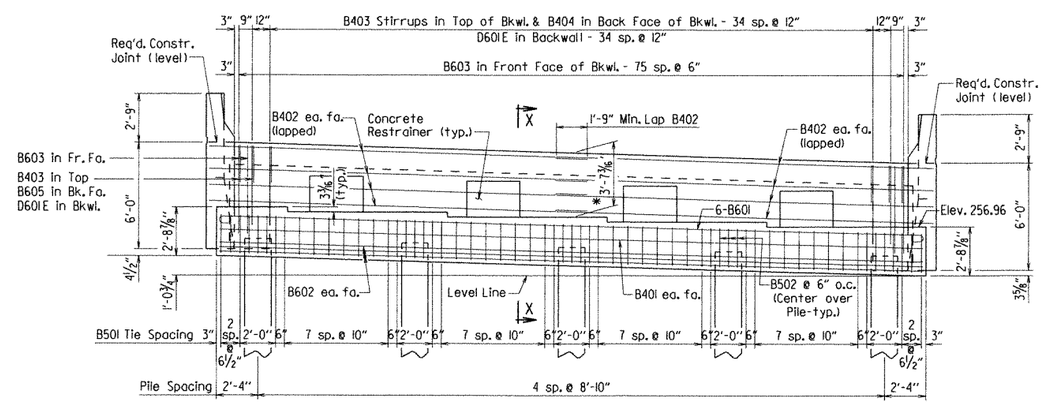
1/4" = 1'-0"



ELEVATION - BENT 1

Looking Back

1/4" = 1'-0"

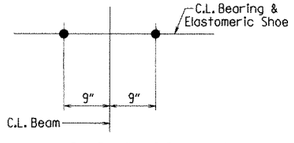


ELEVATION - BENT 25

Looking Ahead

1/4" = 1'-0"

*Measured at C.L. Bridge & front face of backwall.



For Details of Elastomeric Bearings, see Dwg. No. 52748.

TYPICAL ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
6/25/12

BRIDGE ENGINEER

DETAILS OF WESTBOUND END BENTS BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 3-5-12 FILENAME: bl00679x2_bl.dgn

CHECKED BY: AHS DATE: 4/23/12 SCALE: As Noted

DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A7251 DRAWING NO. 52766

PRINT DATE: 6/25/2012

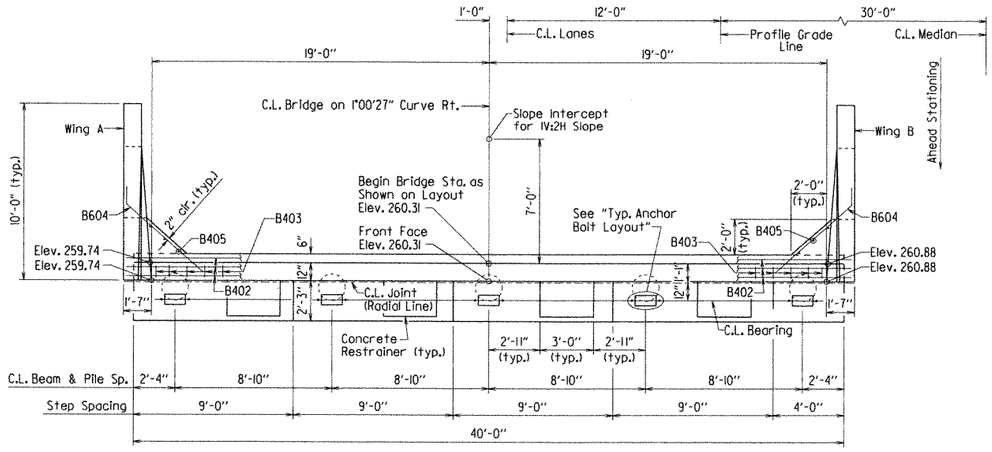
Note: Class I Protective Surface Treatment shall be applied to the top of the backwall and to the roadway face and top of the wing rails.

For "Section X-X" and Details of Wing & Rail, see Dwg. No. 52768.

For Details of General Notes, Concrete Restrainers and Bar List, see Dwg. No. 52769.

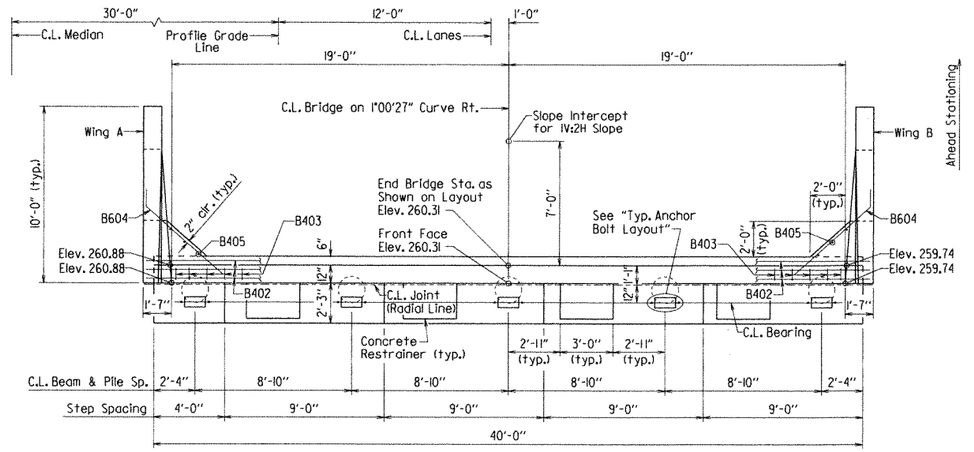
Note: Wings and rails are constructed on curves concentric to C.L. Bridge.

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.		100679	146	252
				(1) B7251		END BENTS		52767



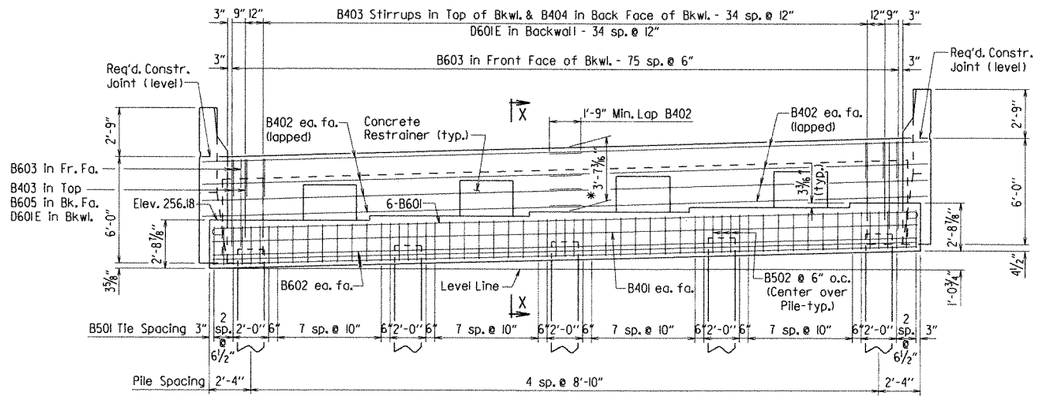
PLAN - BENT 1

1/4" = 1'-0"



PLAN - BENT 25

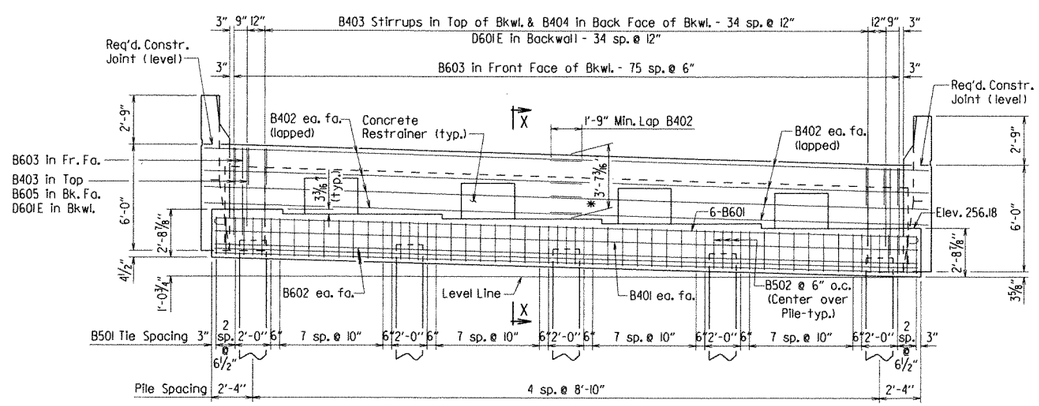
1/4" = 1'-0"



ELEVATION - BENT 1

Looking Back

1/4" = 1'-0"

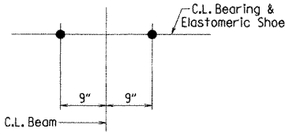


ELEVATION - BENT 25

Looking Ahead

1/4" = 1'-0"

*Measured at C.L. Bridge & front face of backwall.



For Details of Elastomeric Bearings, see Dwg. No. 52748.

TYPICAL ANCHOR BOLT LAYOUT

No Scale

STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/25/12
CARL L. FUSELIER

BRIDGE ENGINEER

DETAILS OF EASTBOUND END BENTS BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 3-5-12 FILENAME: bl00679x2_bi.dgn

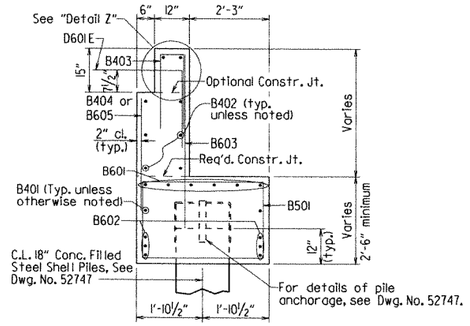
CHECKED BY: AMS DATE: 4-23-12 SCALE: As Noted

DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. B7251 DRAWING NO. 52767

PRINT DATE: 6/25/2012

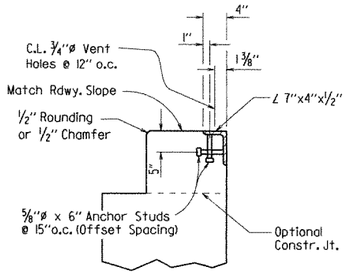
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	1	2
				(1)	A&B7251	END BENTS		52768



SECTION X-X

½" = 1'-0"

NOTE: The Backwall above the required construction joint shall not be poured until the beams are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. See Dwg. No. 52759, "Expansion Device Installation at End Bents", for additional information.

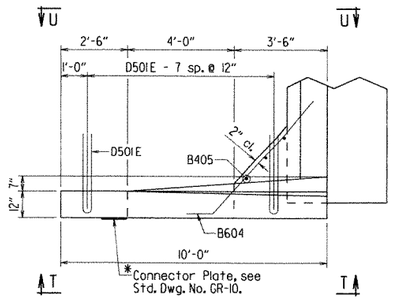


NOTE: For additional joint details, see Dwg. No. 52759.

DETAIL Z

No Scale

NOTE: Concrete shall be hand packed under the joint armor in the backwall.



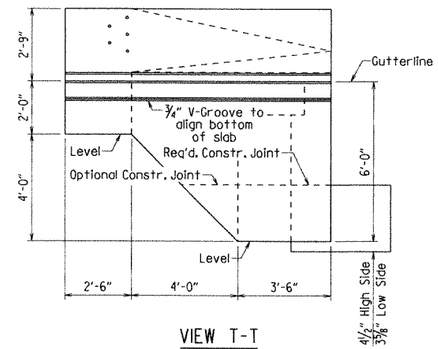
*Connector Plate as required. See Roadway Plans for guardrail location.

PLAN OF WING

⅜" = 1'-0"

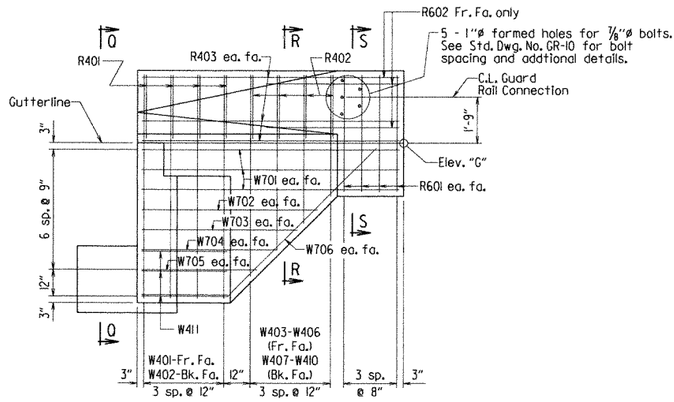
TABLE OF VARIABLES

Bridge No.	Bent	Wing	Elev. "G"
A7251	1	A	260.52
		B	261.66
	25	A	261.66
		B	260.52
B7251	1	A	259.74
		B	260.88
	25	A	260.88
		B	259.74



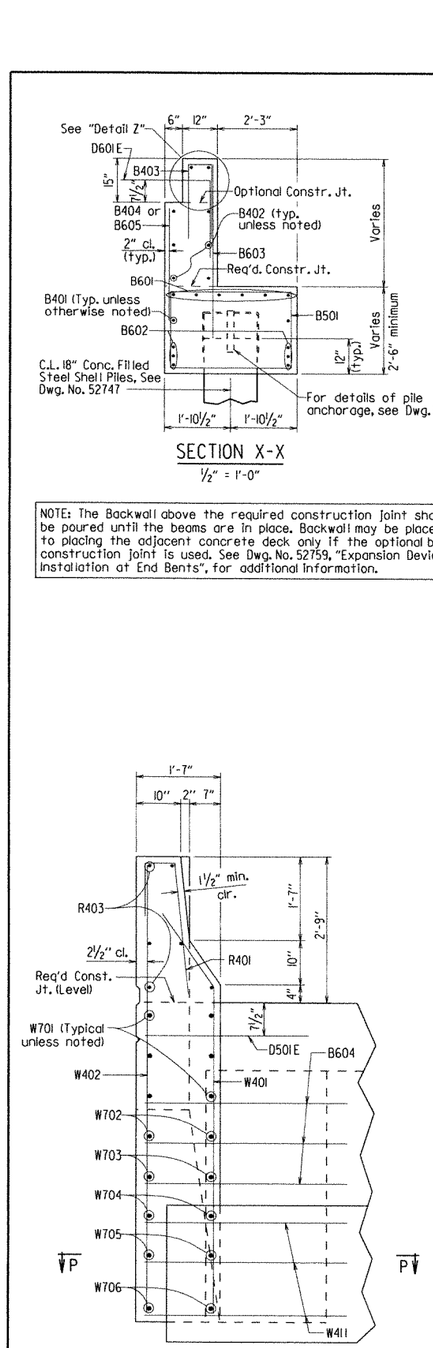
VIEW T-T

⅜" = 1'-0"



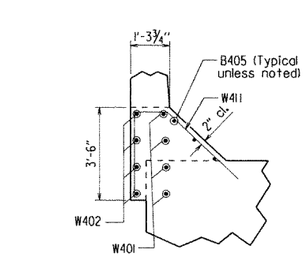
VIEW U-U

⅜" = 1'-0"



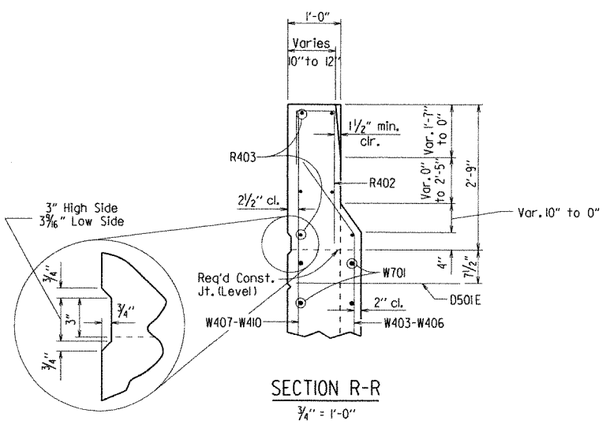
VIEW Q-Q

¾" = 1'-0"



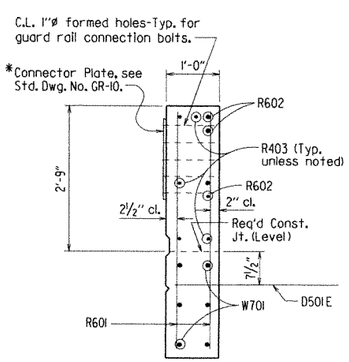
SECTION P-P

⅜" = 1'-0"



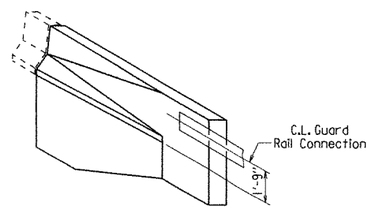
SECTION R-R

¾" = 1'-0"



SECTION S-S

¾" = 1'-0"



THREE DIMENSIONAL VIEW OF RAIL

No Scale

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 2

DETAILS COMMON TO END BENTS
BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

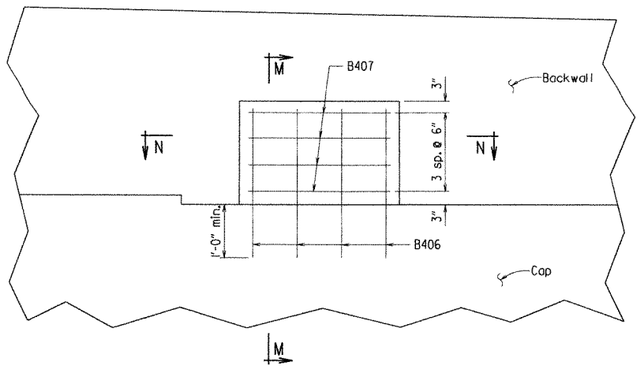
LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 3-5-12 FILENAME: bl00679x2_bl.dgn
CHECKED BY: AMS DATE: 4-23-12 SCALE: As Noted
DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7251 DRAWING NO. 52768

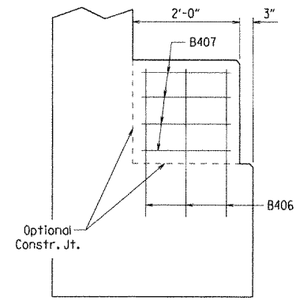
PRINT DATE: 6/25/2012

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.		100679	1-48	2 52
				(1) A&B7251		END BENTS		52769



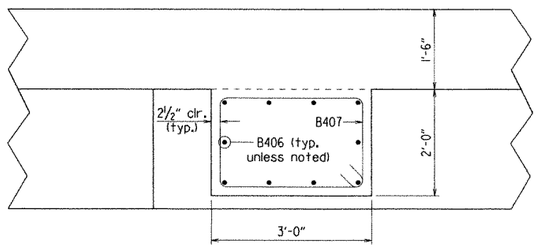
ELEVATION - CONCRETE RESTRAINER

3/4" = 1'-0"



SECTION M-M

3/4" = 1'-0"



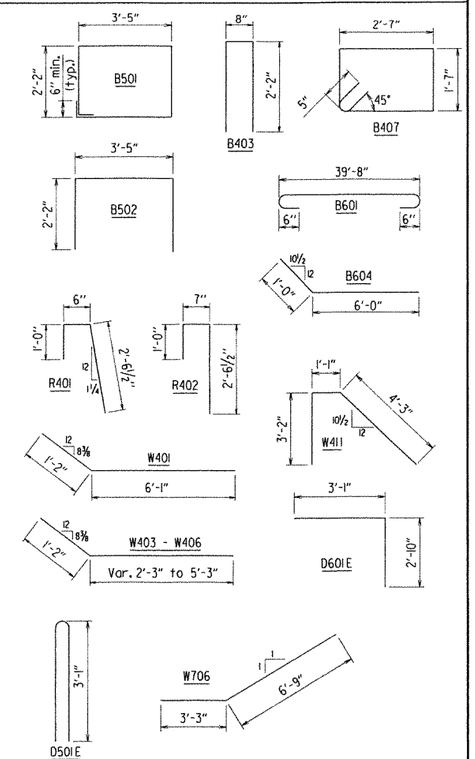
SECTION N-N

3/4" = 1'-0"

BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.
B401	2	39'-8"	Str.
B402	8	21'-4"	Str.
B403	39	4'-10"	2"
B404	35	3'-5"	Str.
B405	6	4'-5"	Str.
B406	40	2'-10"	Str.
B407	16	8'-10"	3"
B501	46	11'-8"	2 1/2"
B502	15	7'-7"	2 1/2"
B601	6	41'-0"	4 1/2"
B602	6	39'-8"	Str.
B603	76	4'-10"	Str.
B604	6	7'-0"	4 1/2"
B605	4	3'-8"	Str.
R401	8	3'-11"	2"
R402	8	4'-0"	2"
R403	12	9'-8"	Str.
R601	16	4'-5"	Str.
R602	6	5'-0"	Str.
W401	8	7'-3"	2"
W402	8	8'-5"	Str.
W403-W406	2 each	Var. 3'-5" to 6'-5"	2"
W407-W410	2 each	Var. 4'-7" to 7'-7"	Str.
W411	6	8'-5"	2"
W701	12	9'-8"	Str.
W702	4	6'-7"	Str.
W703	4	5'-10"	Str.
W704	4	5'-1"	Str.
W705	4	4'-4"	Str.
W706	4	10'-0"	5 1/4"
D501E	16	6'-4"	3 3/4"
D601E	39	5'-9"	4 1/2"

BENDING DIAGRAMS



(Dimensions are out to out of bars)

NOTE: Bars with an "E" suffix are to be epoxy coated.

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 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.). If anchor bolts are drilled into cap, top reinforcing bars and pile anchorage shall be placed to avoid damage.

Structural steel in end bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)".

All piling shall be Grade 3, Fy = 45 ksi.

For additional information, see Layout.

STATE OF ARKANSAS
CARL E. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
12/31/12

BRIDGE ENGINEER

SHEET 2 OF 2

DETAILS COMMON TO END BENTS
BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 3-5-12 FILENAME: bl00679x2_bl.dgn

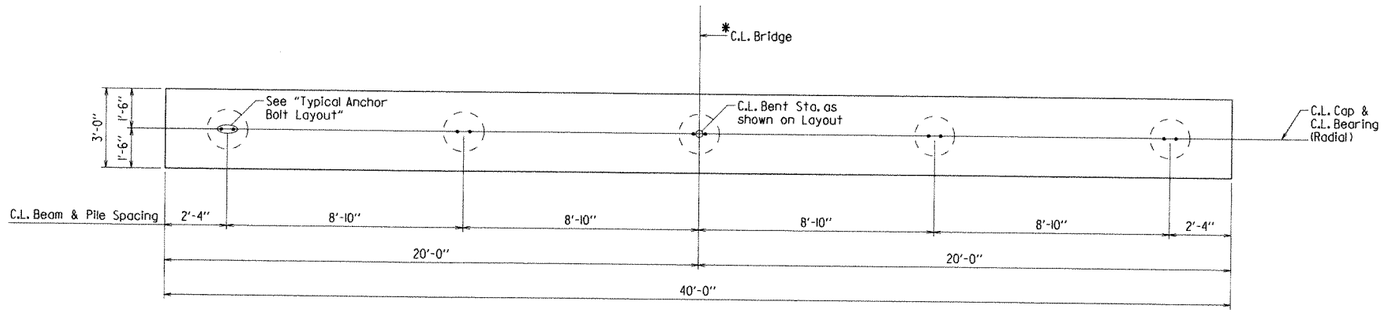
CHECKED BY: AMS DATE: 4-23-12 SCALE: As Noted

DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7251 DRAWING NO. 52769

PRINT DATE: 6/25/2012

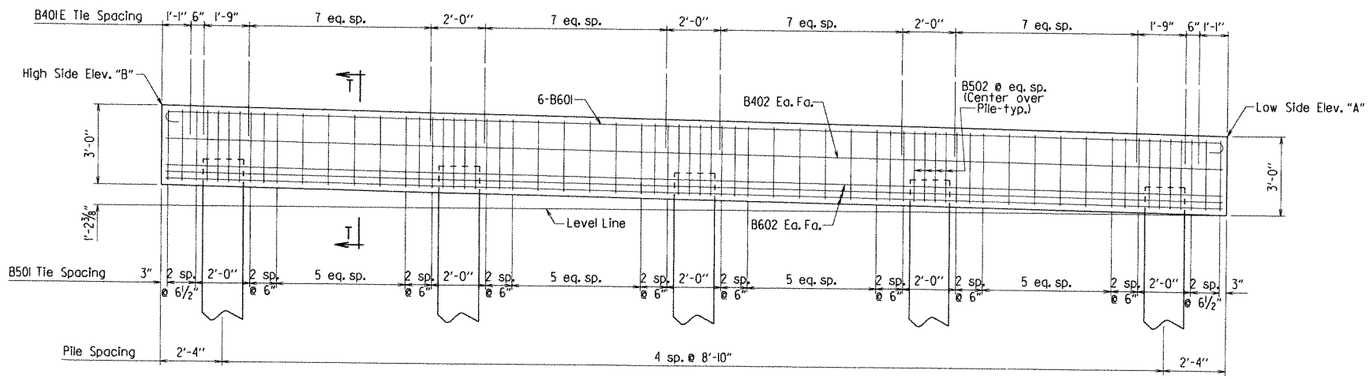
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	149	252
				(1)	A&B7251	TYPE E INT. BENTS		52770



PLAN

3/8" = 1'-0"

*C.L. Bridge A7251 along 0°59'33" curve Rt.
C.L. Bridge B7251 along 1°00'27" curve Rt.



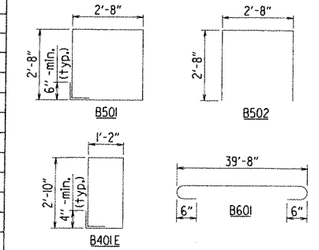
ELEVATION

Looking Ahead A & B Bridges

3/8" = 1'-0"

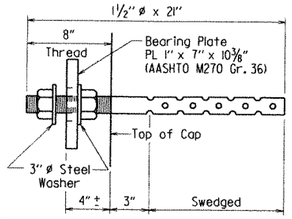
BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.	BENDING DIAGRAMS
B401E	36	8'-4"	2"	
B402	2	39'-8"	Str.	
B501	46	11'-2"	2 1/2"	
B502	20	7'-10"	2 1/2"	
B601	6	41'-0"	4 1/2"	
B602	6	39'-8"	Str.	



(Dimensions are out to out of bars)

NOTE: Bars with an "E" suffix are to be epoxy coated.

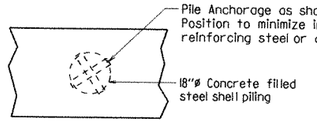


NOTE: Anchor bolts, nuts and washers shall conform to subsection 807.07. Indentations shall be circular with rounded bottoms and staggered as shown in the details. All anchor bolts shall be grade 55. Bolts, nuts, washers and bearing plates shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".

Use lower nut and washer to adjust grade. Snug tight top nut and washer after grade is adjusted.

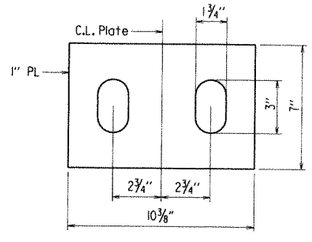
DETAIL OF ANCHOR BOLT

No Scale



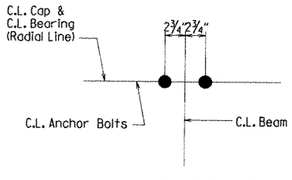
STRAP DETAIL

No Scale



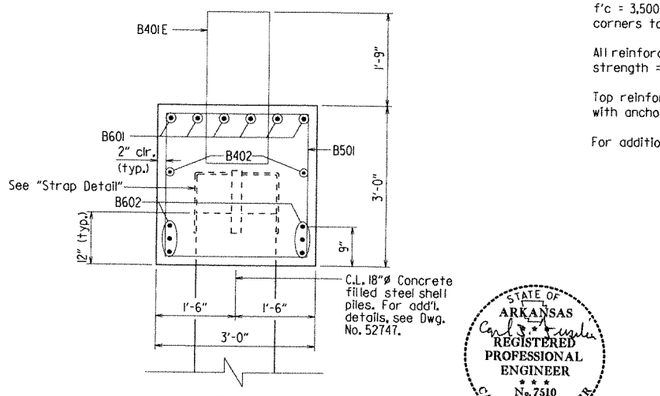
BEARING PLATE

No Scale



TYPICAL ANCHOR BOLT LAYOUT

No Scale



SECTION T-T

3/4" = 1'-0"

TABLE OF VARIABLES

Bridge No.	Bent	Elev. "A"	Elev. "B"
A7251	2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 and 24	256.97	258.17
	3, 7, 11, 15, 19 and 23	256.98	258.18
B7251	2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 and 24	256.19	257.39
	3, 7, 11, 15, 19 and 23	256.20	257.40

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 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.)

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.

This drawing is applicable to Bents 2-4, 6-8, 10-12, 14-16, 18-20, and 22-24.

STATE OF ARKANSAS
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REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

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DETAILS OF TYPE E INTERMEDIATE BENTS BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2-24-12 FILENAME: bi00679x2_b2.dgn

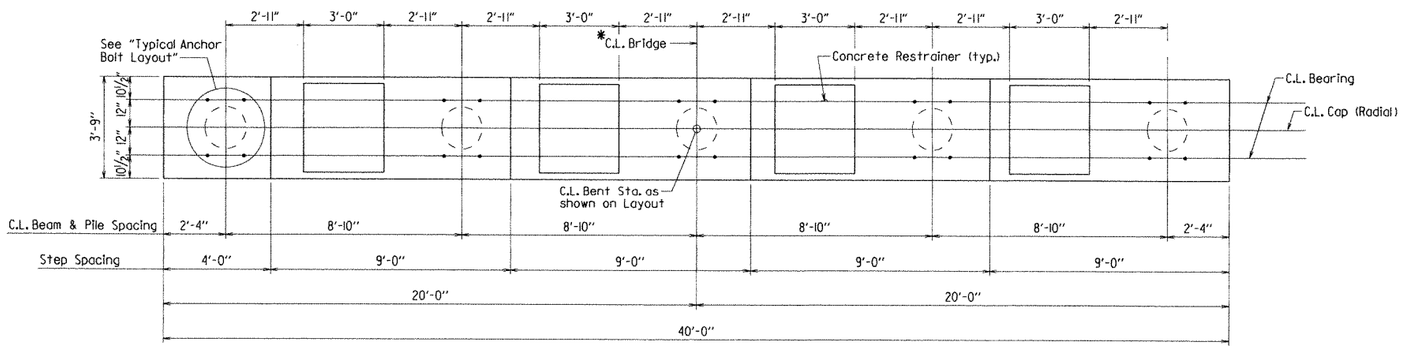
CHECKED BY: AMF DATE: 4-23-12 SCALE: As Noted

DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7251 DRAWING NO. 52770

PRINT DATE: 6/25/2012

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.		100679	150	852
				(1) A&B7251		TYPE F INT. BENTS		52771



PLAN

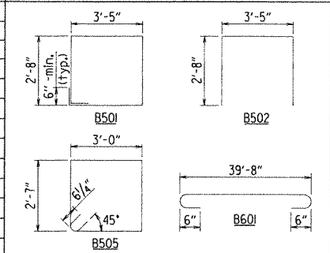
⅜" = 1'-0"

*C.L. Bridge A7251 along 0°59'33" curve Rt.
C.L. Bridge B7251 along 1°00'27" curve Rt.

BAR LIST - PER BENT

MARK	NO. REQ'D.	LENGTH	P.D.
B501	46	12'-8"	2½"
B502	20	8'-7"	2½"
B503	2	39'-8"	Str.
B504	40	3'-1"	Str.
B505	12	11'-10"	3¾"
B601	6	41'-0"	4½"
B602	6	39'-8"	Str.

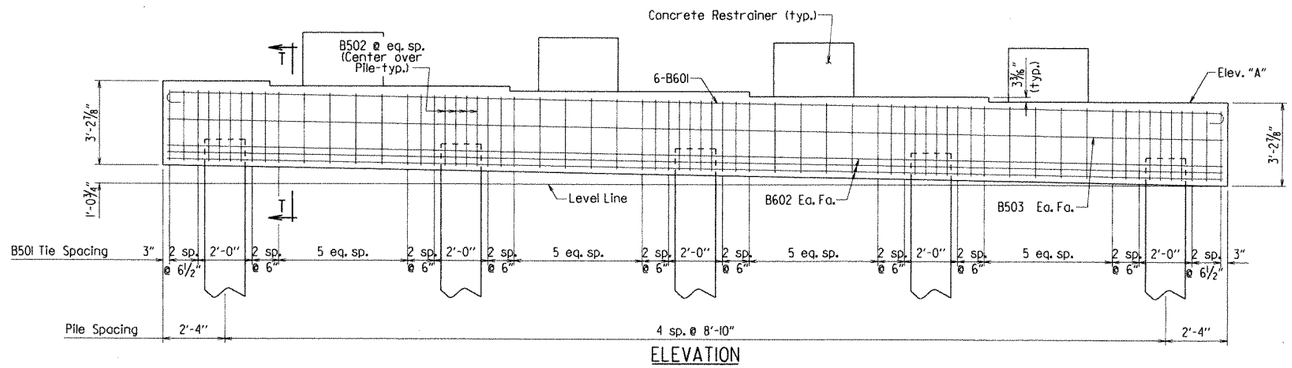
BENDING DIAGRAMS



(Dimensions are out to out of bars)

TABLE OF VARIABLES

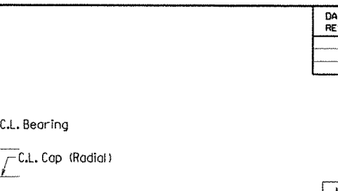
Bridge No.	Bent	Elev. "A"
A7251	5, 9, 13, 17, 21	256.96
B7251	5, 9, 13, 17, 21	256.18



ELEVATION

Looking Ahead A & B Bridges

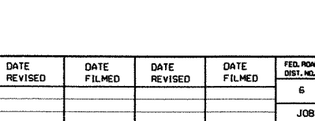
⅜" = 1'-0"



For Details of Elastomeric Bearings, see Dwg. No. 52748.

TYPICAL ANCHOR BOLT LAYOUT

No Scale



STRAP DETAIL

No Scale

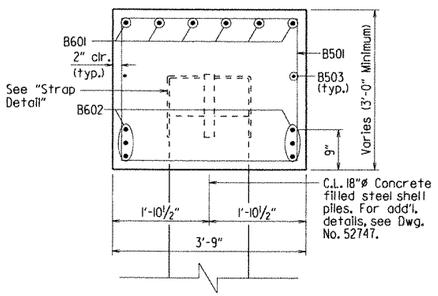
GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53. Grade 60 (yield strength = 60,000 psi.)

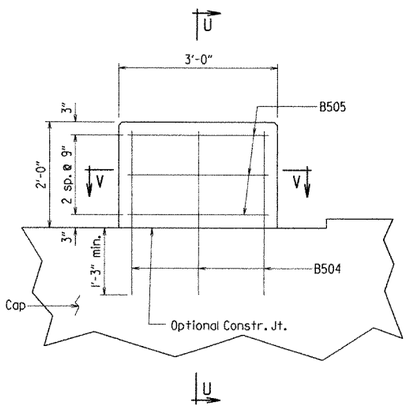
Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

For additional information, see Layout.



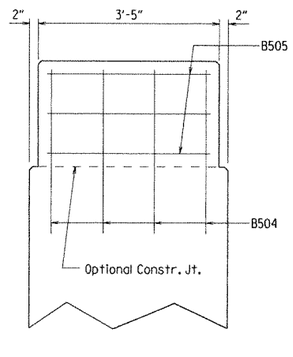
SECTION T-T

¾" = 1'-0"



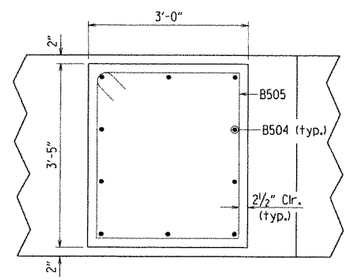
ELEVATION-CONCRETE RESTRAINER

¾" = 1'-0"



SECTION U-U

¾" = 1'-0"



SECTION V-V

¾" = 1'-0"

STATE OF ARKANSAS
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BRIDGE ENGINEER

This drawing is applicable to Bents 5, 9, 13, 17 and 21.

DETAILS OF TYPE F INTERMEDIATE BENTS BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 2-27-12 FILENAME: b100679x2_b2.dgn
CHECKED BY: AHS DATE: 4-23-12 SCALE: As Noted
DESIGNED BY: JYP DATE: 2-12

BRIDGE NO. A&B7251 DRAWING NO. 52771

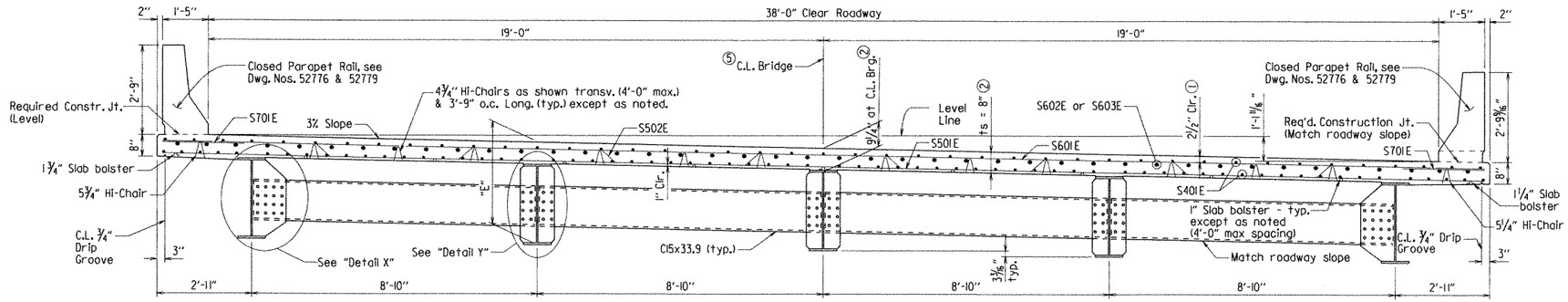
PRINT DATE: 6/25/2012

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.		100679	151	252
				①	A&B725I	CONT. UNIT		52772

⑤ C.L. Bridge A725I is on 0°59'33" curve Rt.
C.L. Bridge B725I is on 1°00'27" curve Rt.

NOTE: At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bar S502E. Payment for reinforcing will be based on the weight of bar S502E.

NOTE: Class 1 Protective Surface Treatment shall be applied to the Roadway Surface and to the Face & Top of the Concrete Parapet Rail.



TYPICAL ROADWAY SECTION

Looking Ahead - A & B Bridges

½" = 1'-0"

SLAB REINFORCING

Transverse: S601E - Top; S501E - Bottom @ 15" o.c. — Alternate
S502E @ 15" o.c. - Bent up over beams — Alternate
S701E @ 15" (in overhang)

Longitudinal: S401E as shown
S602E and S603E as shown on "Reinforcing Plan and Slab Pouring Sequence", See Dwg. Nos. 52776 & 52779

"E" = 3'-2⅛" for W30x90 beam
"E" = 3'-2⅞" for W30x99 beam

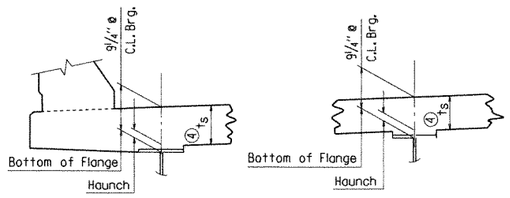
① Tolerance: Minus = ¼"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance. See "Adjustment for Slab Thickness Tolerance"

② See "Adjustment for Slab Thickness Tolerance"

TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	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.



t_s = slab thickness as shown in "Typical Roadway Section"

EXTERIOR BEAM	INTERIOR BEAM

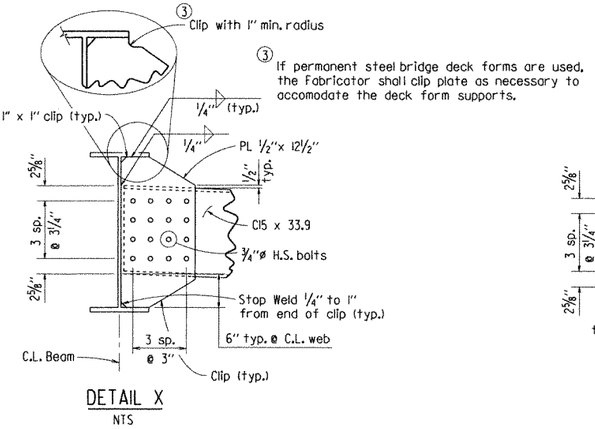
④ Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Notes:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1¾". 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. 1499I for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

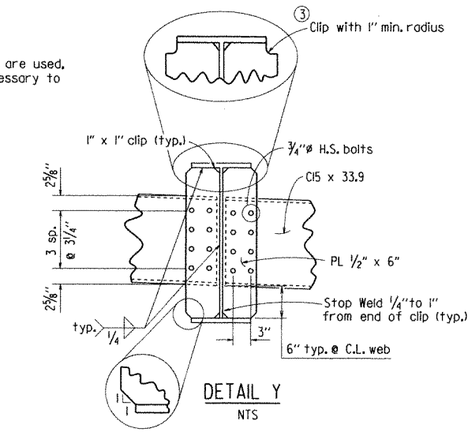
ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

NTS



③ If permanent steel bridge deck forms are used, the Fabricator shall clip plate as necessary to accomodate the deck form supports.

DETAIL X
NTS



DETAIL Y
NTS

Note: Diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

STATE OF ARKANSAS
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6/25/12
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SHEET 1 OF 3

COMMON DETAILS OF 201'-6" AND 198'-6" CONTINUOUS W-BEAM UNITS BIG CREEK DITCH RELIEF

ROUTE SEC.

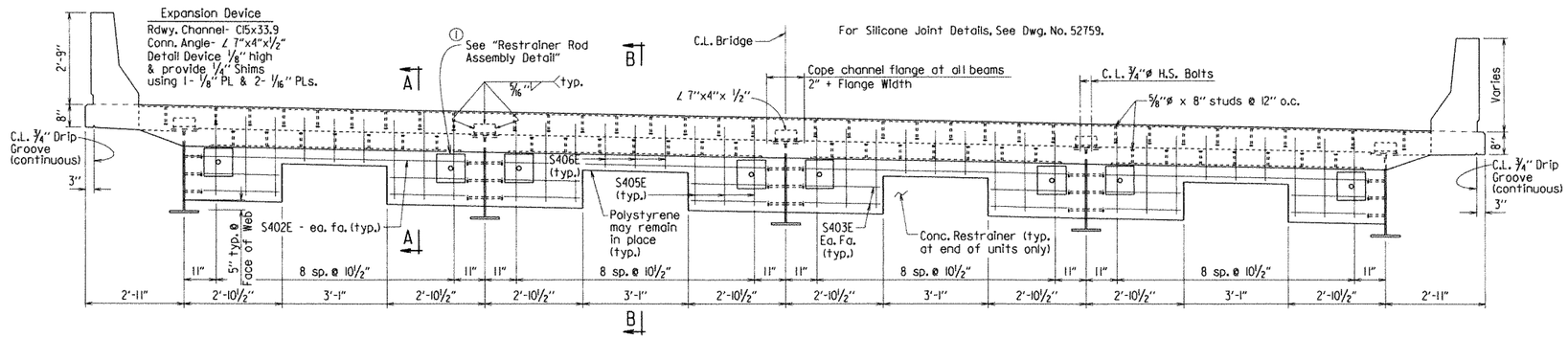
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 03/21/11 FILENAME: bI00679x2_cl.dgn
CHECKED BY: JYP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 03-11

BRIDGE NO. A&B725I DRAWING NO. 52772

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.		100679	52	454
				①	A&B7251	CONT. UNIT		52773



① NOTE: Longitudinal restrainers only located at double expansion bents (including Bt. Nos. 5, 9, 13, 17, and 21).

ROADWAY SECTION NEAR JOINT

Looking Ahead - A & B Bridges

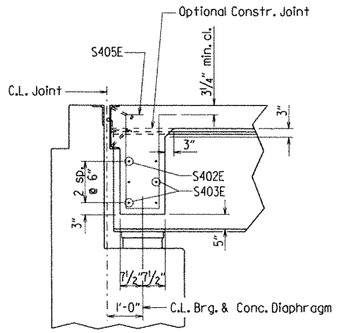
½" = 1'-0"

NOTE: For dimensions and reinforcing not shown, see "Typical Roadway Section" on Dwg. No. 52772.

NOTES: Forms for concrete diaphragms shall be removable.

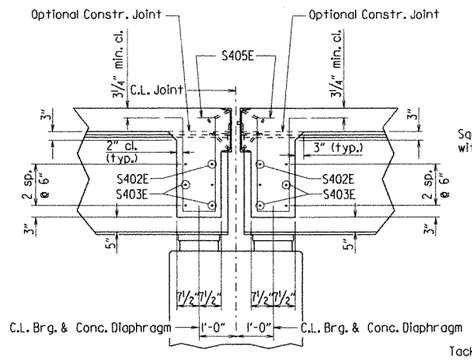
Concrete diaphragms shall be vertical.

Note: ½" Polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place.



SECTION A-A

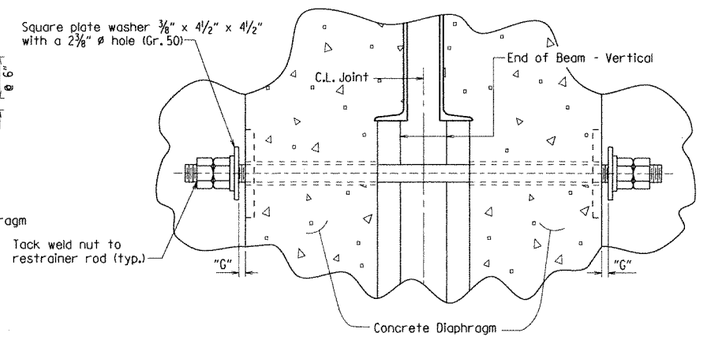
NTS



SECTION A-A

NTS

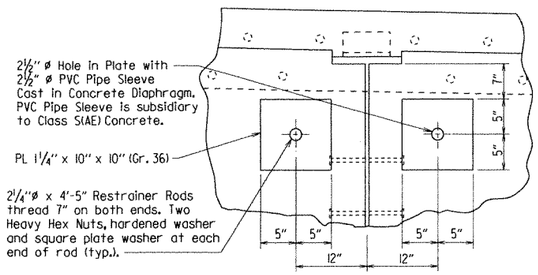
Note: Restrainer rods not shown.



RESTRAINER ROD INSTALLATION DETAIL

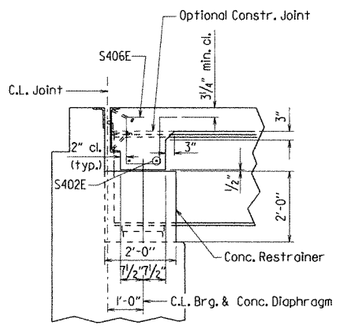
NTS

NOTE: Longitudinal Restrainer Rod shall conform to AASHTO M270, Grade 50 with threads conforming to American Standard Course, Class 2 Fit, ASA Specification B1.1. Hardened washers for longitudinal restrainer rod shall conform to AASHTO M293. Nuts for longitudinal restrainers shall conform to subsection 807.06. Rods, Nuts, Washers, and Plates for the longitudinal restrainers shall be galvanized in accordance with AASHTO M232 Class C or AASHTO M298 Class 50. See "Restrainer Rod Installation Detail". Restrainer rod, nut, washers and plates shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)".



RESTRAINER ROD ASSEMBLY DETAIL

NTS

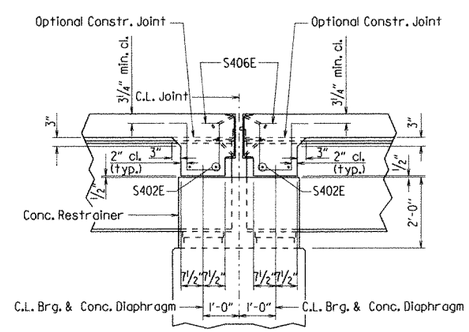


SECTION B-B

NTS

JOINT DETAILS AT END OF UNITS

(Bents 1 and 25)



SECTION B-B

NTS

JOINT DETAILS AT END OF UNITS

(Bents 5, 9, 13, 17 and 21)

Bent	"G" - Gap Width at 24 hour average temp. of:		
	40°	60°	80°
5, 9, 13, 17 and 21	7/16"	5/8"	13/16"

STATE OF ARKANSAS
Carl Wesley Fussellier
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No. 7510
CARL WESLEY FUSSELLIER

BRIDGE ENGINEER

SHEET 2 OF 3

COMMON DETAILS OF 201'-6" AND 198'-6" CONTINUOUS W-BEAM UNITS BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

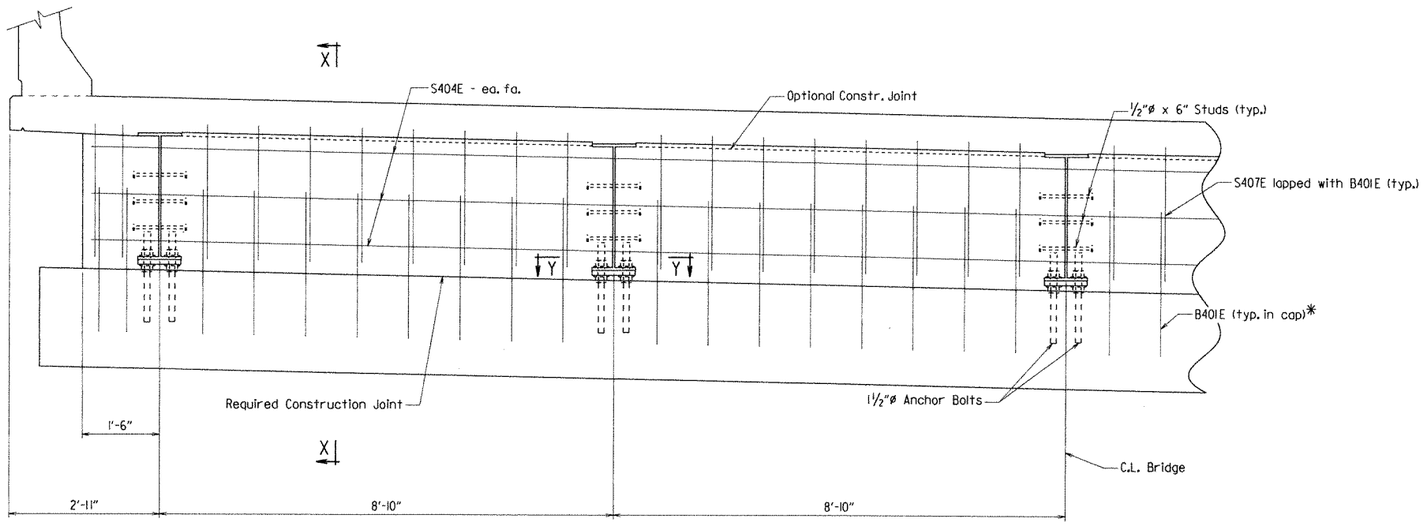
DRAWN BY: ACW DATE: 02/24/12 FILENAME: bl00679x2_cl.dgn

CHECKED BY: JYF DATE: 6-25-12 SCALE: As Noted

DESIGNED BY: ACW DATE: 02-12

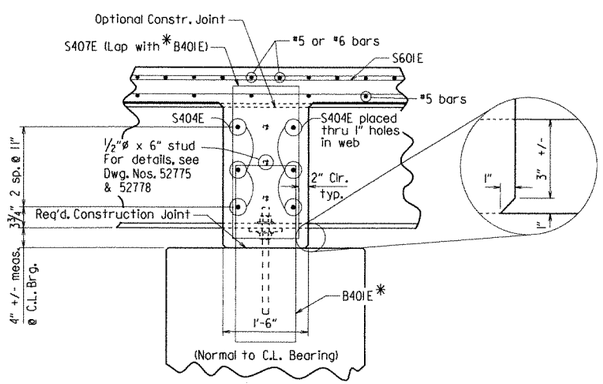
BRIDGE NO. A&B7251 DRAWING NO. 52773

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.		100679	15	15a
				(1) A&B725I		CONT. UNIT		52774

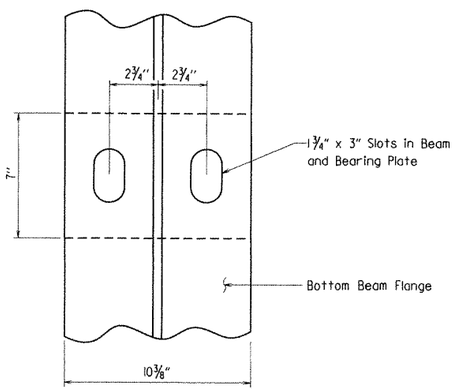


*See Drawing No. 52770 for reinforcing details and placement.

ROADWAY SECTION AT FIXED INTERMEDIATE BENTS



SECTION X-X



SECTION Y-Y

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/15/12
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3

COMMON DETAILS OF 201'-6" AND 198'-6" CONTINUOUS W-BEAM UNITS BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 02/24/12 FILENAME: bl00679x2_cl.dgn

CHECKED BY: JYP DATE: 6-25-12 SCALE: No Scale

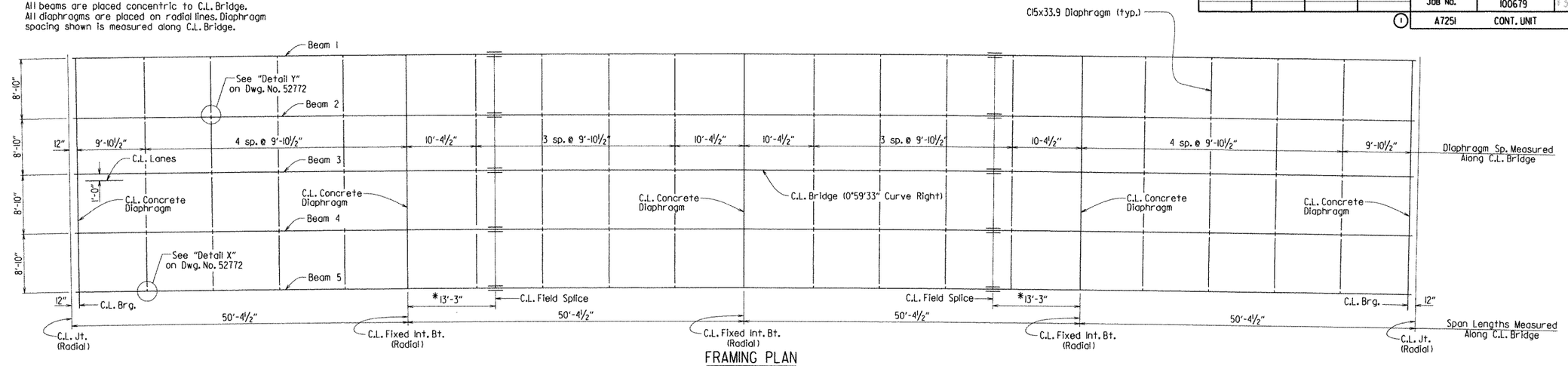
DESIGNED BY: ACW DATE: 02-12

BRIDGE NO. A&B725I DRAWING NO. 52774

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.		100679	1	3
				A7251		CONT. UNIT	52775	

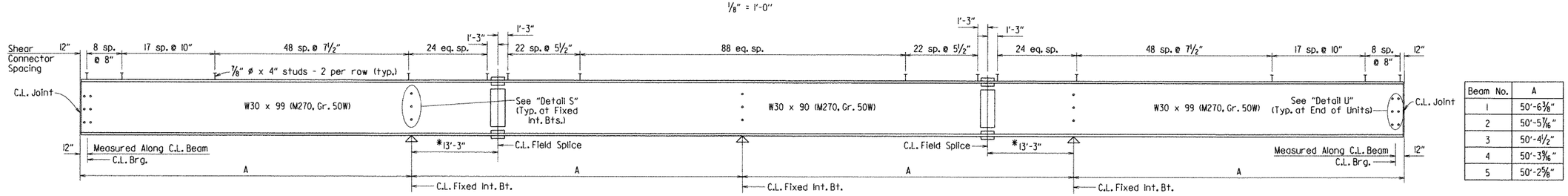
Notes:

All beams are placed concentric to C.L. Bridge.
All diaphragms are placed on radial lines. Diaphragm spacing shown is measured along C.L. Bridge.



FRAMING PLAN

1/8" = 1'-0"

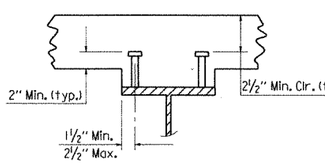


Beam No.	A
1	50'-6⅜"
2	50'-5⅞"
3	50'-4½"
4	50'-3⅛"
5	50'-2⅝"

TYPICAL BEAM ELEVATION

NTS

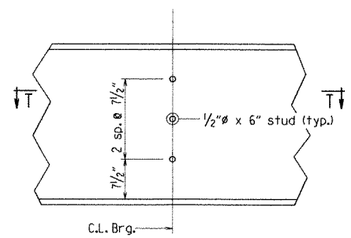
*Measured from C.L. Bent to C.L. Field Splice along each Beam



SHEAR CONNECTOR DETAIL

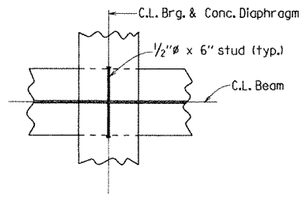
NTS

Stud Shear Connectors shown shall be ⅞"ø 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. ¾"ø studs may be used in place of the ⅞"ø studs shown, at the ratio of 1.361 - ¾"ø studs in place of one ⅞"ø stud. ⅞"ø studs will be used as basis for measurement of structural steel in shear connectors.



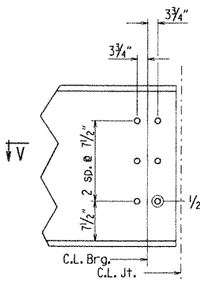
DETAIL S

NTS



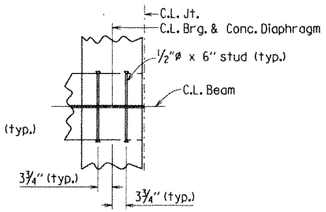
SECTION T-T

NTS



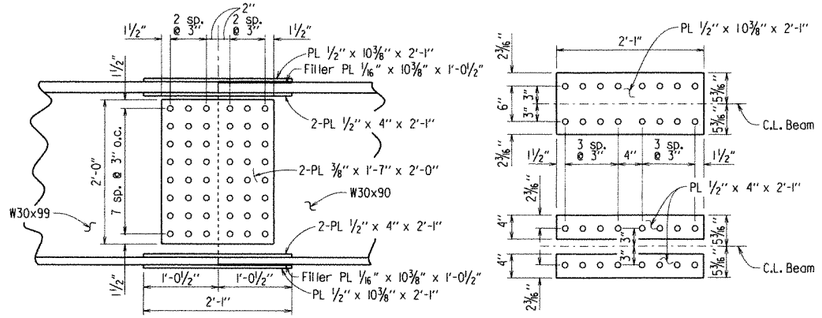
DETAIL U

NTS



SECTION V-V

NTS



DETAILS OF FIELD SPLICE

1"= 1'-0"

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 Hi-str. bolts
All holes for splice bolts shall be 15/16 "ø
All field splice plates shall be AASHTO M270 Gr. 50W steel.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3

DETAILS OF 201'-6" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

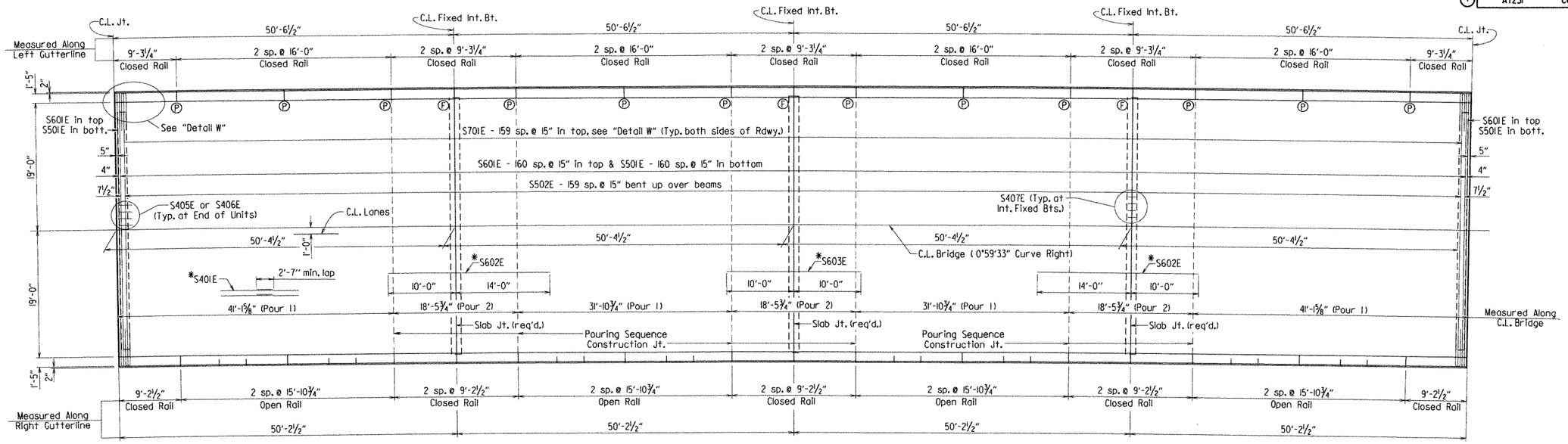
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 01-24-12 FILENAME: bl00679a2_sl.dgn
CHECKED BY: JHP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 01-12

BRIDGE NO. A7251 DRAWING NO. 52775

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.		100679	155	252
(1) A7251		CONT. UNIT		52776



REINFORCING PLAN AND SLAB POURING SEQUENCE

⅛" = 1'-0"

*Placed as shown in "Typical Roadway Section," see Dwg. No. 52772.

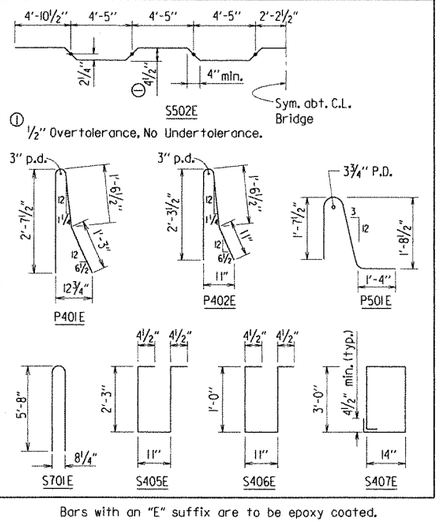
Ⓟ Partial Depth Parapet Joint at this location

Ⓕ Full Depth Parapet Joint at this location

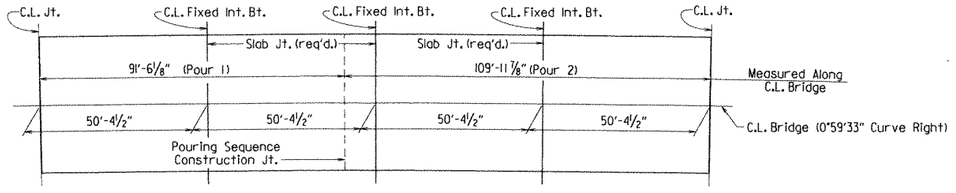
Note: Parapet joint types typical for both sides of roadway.

Mark	No. Req'd.	Length	Pin Dia.
S401E	654	35'-10"	Str.
S402E	16	8'-6"	Str.
S403E	64	2'-6"	Str.
S404E	18	38'-0"	Str.
S405E	48	5'-10"	2"
S406E	24	3'-4"	2"
S407E	108	8'-8"	2"
S501E	163	40'-10"	Str.
S502E	160	41'-6"	3"
S601E	163	40'-10"	Str.
S602E	84	24'-0"	Str.
S603E	42	20'-0"	Str.
S701E	320	11'-9"	6½"
P401E	752	5'-6"	3"
P402E	64	4'-10"	3"
P403E	96	5'-6"	Str.
P404E	112	8'-10"	Str.
P405E	56	15'-6"	Str.
P406E	56	15'-8"	Str.
P501E	752	4'-9"	3¾"

Bending Diagrams (Dimensions are out to out of bars.)



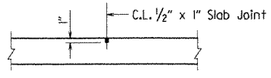
Bars with an "E" suffix are to be epoxy coated.



Note: Pour (1) must be placed before Pour (2) can be placed. 72 hours shall elapse between the end of a pour and the start of the next pour.

ALTERNATE SLAB POURING SEQUENCE

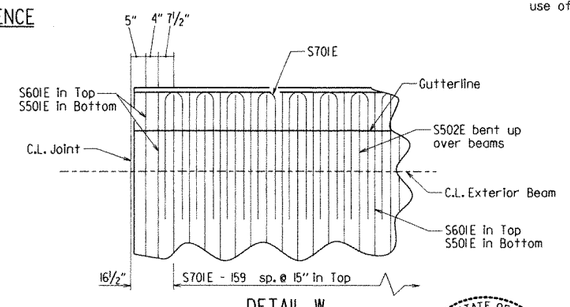
No Scale



Use ½" x 1" Type 3, 4 or 6 Joint Sealer. See subsections 501.02(h) and 501.05(j). Backer rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab Joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. 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 damaging the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline.

SLAB JOINT DETAIL

No Scale



DETAIL W

No Scale

Notes:
All transverse reinforcing shall be placed on radial lines to C.L. Bridge. Spacing shown is measured along C.L. Bridge

All longitudinal lines and longitudinal reinforcing steel shall be spaced on curves concentric with C.L. Bridge.

Required slab joints and pouring sequence joints shall align with parapet open joints at the gutterline.

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 between the end of a pour and the start of the next pour. 72 hours shall elapse between adjacent pours.

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 sequences 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.

STATE OF ARKANSAS
Carl J. Fuselier
No. 7510
REGISTERED PROFESSIONAL ENGINEER
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 3

DETAILS OF 201'-6" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 1/11/12 FILENAME: b100679a2_sl.dgn

CHECKED BY: JNP DATE: 6-25-12 SCALE: As Noted

DESIGNED BY: ACW DATE: 6-25-12

BRIDGE NO. A7251 DRAWING NO. 52776

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.		100679	156	252
				(1)	A7251	CONT. UNIT	52777	

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

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

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy =	60,000 psi
Structural Steel (M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (M 270, Gr. 50)	Fy =	50,000 psi
Structural Steel (M 270, Gr. 36)	Fy =	36,000 psi

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 measurement of Class S(AE) Concrete. See Standard Drawing No. 14991 for allowable modifications and for tolerances when Permanent Steel Bridge 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 beam. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

Removable forms shall be used for concrete diaphragms. Interior bent diaphragms may be poured separately from the deck.

Use of a longitudinal screed is prohibited.

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."

STRUCTURAL STEEL :

All structural steel shall be AASHTO M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e). Structural steel completely embedded in concrete may be AASHTO M 270, Grade 36 unless otherwise noted.

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

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

Beams, field splice plates, diaphragms, and connection plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)."

All beams shall be blocked in their true position in the shop with the webs horizontal in groups as specified in subsection 807.54(b)(2). The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in their true position and this information shall become part of the permanent records for this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

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.

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 permanent or temporary, 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.

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 ⅞" ø diameter if a washer is supplied for use under both the nut and head of the bolt.

Steel diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

All shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Beam 1 Structural Steel	Beam 1 Structural Steel + Slab	Beam 1 Str. Steel + Slab + Rail
1	0.0	0.000	0.000	0.000
	0.1	0.026	0.212	0.225
	0.2	0.047	0.378	0.402
	0.3	0.062	0.499	0.531
	0.4	0.070	0.558	0.594
	0.5	0.068	0.543	0.578
	0.6	0.061	0.481	0.512
	0.7	0.044	0.350	0.372
	0.8	0.028	0.222	0.236
	0.9	0.010	0.080	0.084
2	0.0	0.000	0.000	0.000
	0.1	0.000	0.007	0.010
	0.2	0.003	0.039	0.046
	0.3	0.011	0.110	.0123
	0.4	0.017	0.159	0.176
	0.5	0.020	0.188	0.207
	0.6	0.020	0.185	0.203
	0.7	0.015	0.136	0.150
	0.8	0.010	0.087	0.096
	0.9	0.002	0.021	0.023
	0.0	0.000	0.000	0.000

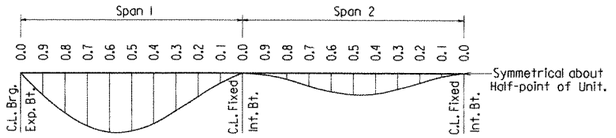
Symmetrical about Half-point of Unit.

Span	Point of Deflection	Beams 2, 3, & 4 Structural Steel	Beams 2, 3, & 4 Structural Steel + Slab	Beams 2, 3, & 4 Str. Steel + Slab + Rail
1	0.0	0.000	0.000	0.000
	0.1	0.028	0.248	0.261
	0.2	0.051	0.442	0.465
	0.3	0.068	0.584	0.615
	0.4	0.076	0.653	0.688
	0.5	0.074	0.634	0.668
	0.6	0.066	0.561	0.591
	0.7	0.048	0.407	0.429
	0.8	0.030	0.258	0.272
	0.9	0.011	0.093	0.097
2	0.0	0.000	0.000	0.000
	0.1	0.000	0.012	0.015
	0.2	0.004	0.052	0.059
	0.3	0.013	0.138	0.151
	0.4	0.019	0.197	0.213
	0.5	0.023	0.231	0.249
	0.6	0.023	0.227	0.244
	0.7	0.017	0.167	0.180
	0.8	0.011	0.106	0.115
	0.9	0.003	0.025	0.027
	0.0	0.000	0.000	0.000

Symmetrical about Half-point of Unit.

Span		Beam 5 Structural Steel	Beam 5 Structural Steel + Slab	Beam 5 Str. Steel + Slab + Rail
1	0.0	0.000	0.000	0.000
	0.1	0.026	0.205	0.218
	0.2	0.046	0.365	0.388
	0.3	0.060	0.483	0.514
	0.4	0.068	0.541	0.576
	0.5	0.066	0.526	0.560
	0.6	0.059	0.466	0.496
	0.7	0.043	0.339	0.361
	0.8	0.027	0.215	0.229
	0.9	0.010	0.078	0.082
2	0.0	0.000	0.000	0.000
	0.1	0.000	0.008	0.011
	0.2	0.003	0.038	0.045
	0.3	0.011	0.108	0.121
	0.4	0.017	0.156	0.173
	0.5	0.020	0.183	0.201
	0.6	0.020	0.180	0.198
	0.7	0.015	0.133	0.146
	0.8	0.009	0.085	0.094
	0.9	0.002	0.021	0.023
	0.0	0.000	0.000	0.000

Symmetrical about Half-point of Unit.



DEAD LOAD DEFLECTION DIAGRAM

N.T.S.

Notes:
Camber for Dead Load Deflection ± ¼" tolerance. Deflections shown are along C.L. Beam from the plane perpendicular to the web extending from C.L. Bearing to C.L. Bearing.

STATE OF ARKANSAS
Carl J. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/25/12
CARL J. FUSSELIER

BRIDGE ENGINEER

SHEET 3 OF 3

DETAILS OF 201'-6" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

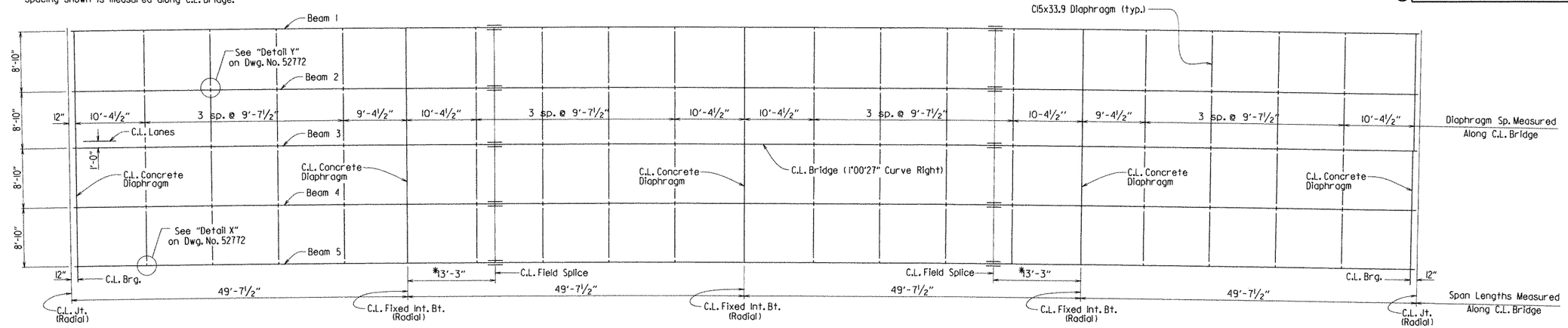
DRAWN BY: ACW DATE: 01-31-12 FILENAME: bl00679a2_sl.dgn
CHECKED BY: JYP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 01-12.

BRIDGE NO. A7251 DRAWING NO. 52777

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.		100679	1ST	ASR
				① B7251		CONT. UNIT		52778

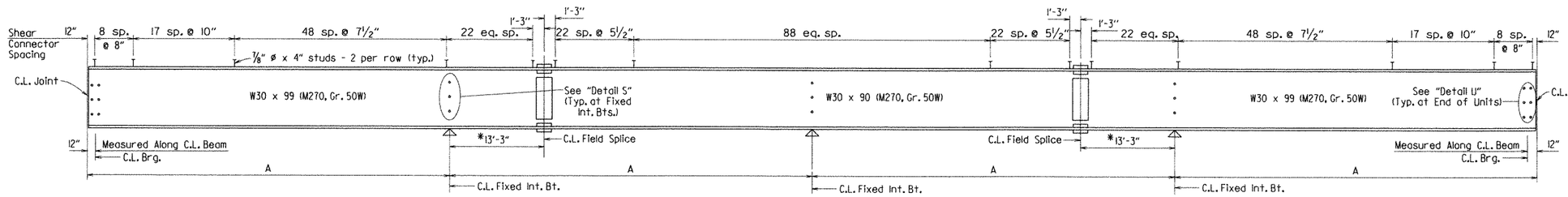
Notes:

All beams are placed concentric to C.L. Bridge.
All diaphragms are placed on radial lines. Diaphragm spacing shown is measured along C.L. Bridge.



FRAMING PLAN

1/8" = 1'-0"

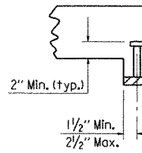


Beam No.	A
1	49'-9⅜"
2	49'-8⅞"
3	49'-7½"
4	49'-6⅜"
5	49'-5⅝"

TYPICAL BEAM ELEVATION

NTS

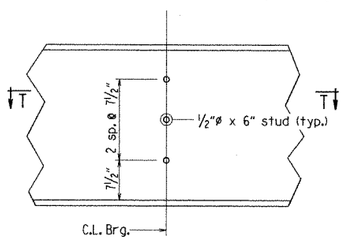
*Measured from C.L. Bent to C.L. Field Splice along each Beam



SHEAR CONNECTOR DETAIL

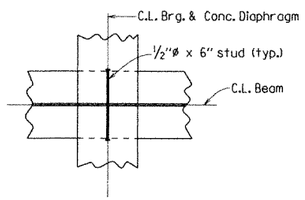
NTS

Stud Shear Connectors shown shall be ⅞"ø 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. ¾"ø studs may be used in place of the ⅞"ø studs shown, at the ratio of 1.361 -¾"ø studs in place of one ⅞"ø stud. ⅞"ø studs will be used as basis for measurement of structural steel in shear connectors.



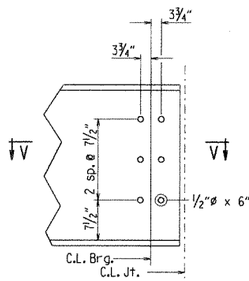
DETAIL S

NTS



SECTION T-T

NTS



DETAIL U

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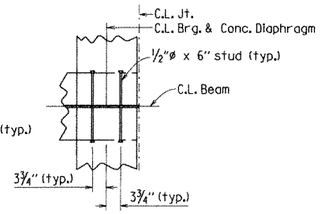
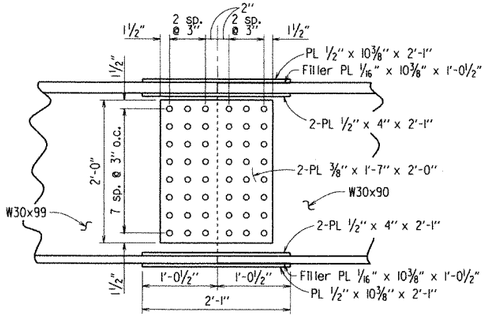
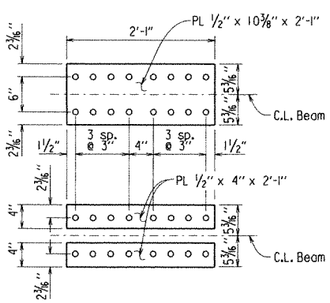


SECTION V-V

NTS





DETAILS OF FIELD SPLICE

1"= 1'-0"

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 Hi-str. bolts
All holes for splice bolts shall be 15/16 "ø
All field splice plates shall be AASHTO M270 Gr. 50W steel.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 3

DETAILS OF 198'-6" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH RELIEF

ROUTE SEC.

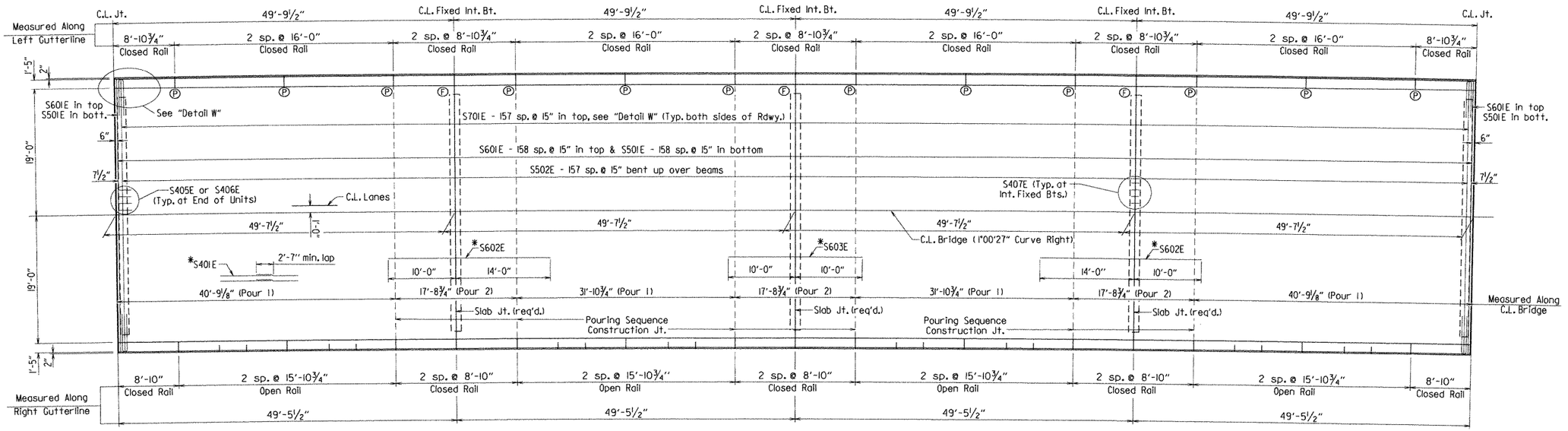
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 01-27-12 FILENAME: b100679b2_si.dgn
CHECKED BY: JVP DATE: 6-25-14 SCALE: As Noted
DESIGNED BY: ACW DATE: 01-12

BRIDGE NO. B7251 DRAWING NO. 52778

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.		100679	158	352
				(1) B7251		CONT. UNIT		52779



*Placed as shown in "Typical Roadway Section," see Dwg. No. 52772.

Ⓟ Partial Depth Parapet Joint at this location

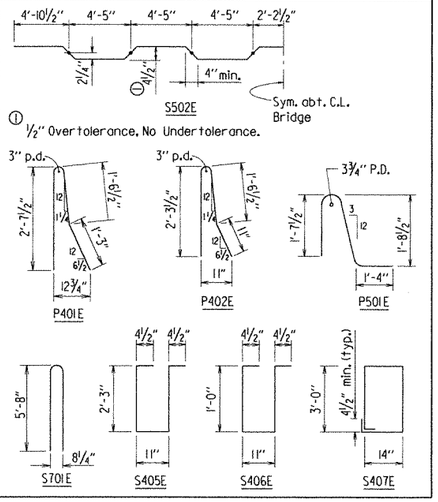
Ⓕ Full Depth Parapet Joint at this location

Note: Parapet joint types typical for both sides of roadway.

BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
S401E	654	35'-4"	Str.
S402E	16	8'-6"	Str.
S403E	64	2'-6"	Str.
S404E	18	38'-0"	Str.
S405E	48	5'-10"	2"
S406E	24	3'-4"	2"
S407E	108	8'-8"	2"
S501E	159	40'-10"	Str.
S502E	158	41'-6"	3"
S601E	159	40'-10"	Str.
S602E	84	24'-0"	Str.
S603E	42	20'-0"	Str.
S701E	316	11'-9"	6½"
P401E	736	5'-6"	3"
P402E	64	4'-10"	3"
P403E	96	5'-6"	Str.
P404E	112	8'-6"	Str.
P405E	56	15'-6"	Str.
P406E	56	15'-8"	Str.
P501E	736	4'-9"	3¾"

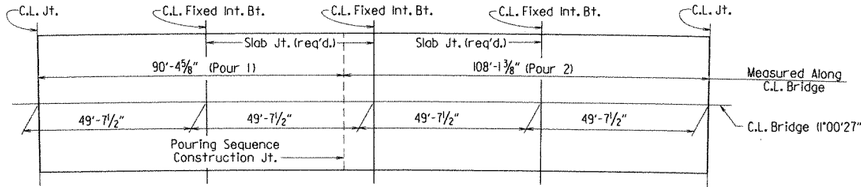
Bending Diagrams (Dimensions are out to out of bars.)



Bars with an "E" suffix are to be epoxy coated.

REINFORCING PLAN AND SLAB POURING SEQUENCE

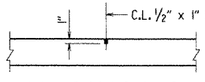
⅛" = 1'-0"



Note: Pour (1) must be placed before Pour (2) can be placed. 72 hours shall elapse between the end of a pour and the start of the next pour.

ALTERNATE SLAB POURING SEQUENCE

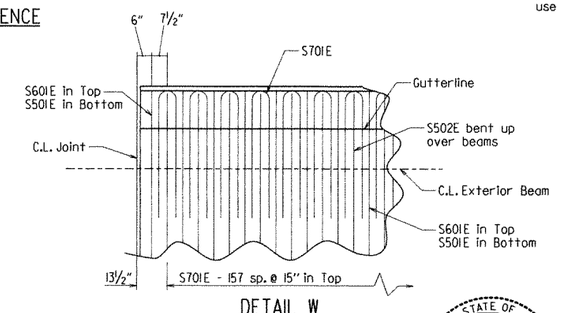
No Scale



Use ½" x 1" Type 3, 4 or 6 Joint Sealer. See subsections 501.02(h) and 501.05(j). Backer rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. 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 damaging the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline.

SLAB JOINT DETAIL

No Scale



DETAIL W

No Scale

STATE OF ARKANSAS
Carl J. Pusellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELLIER

BRIDGE ENGINEER

Notes:
All transverse reinforcing shall be placed on radial lines to C.L. Bridge. Spacing shown is measured along C.L. Bridge

All longitudinal lines and longitudinal reinforcing steel shall be spaced on curves concentric with C.L. Bridge.

Required slab joints and pouring sequence joints shall align with parapet open joints at the gutterline.

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 between the end of a pour and the start of the next pour. 72 hours shall elapse between adjacent pours.

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 sequences 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.

SHEET 2 OF 3

DETAILS OF 198'-6" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 1/11/12 FILENAME: bl00679b2_sl.dgn

CHECKED BY: JHP DATE: 6-25-12 SCALE: As Noted

DESIGNED BY: ACW DATE: 01-12

BRIDGE NO. B7251 DRAWING NO. 52779

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.		100679	159	253
				(1) B7251		CONT. UNIT	52780	

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition) with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition, with 2010 Interim revisions.

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy =	60,000 psi
Structural Steel (M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (M 270, Gr. 50)	Fy =	50,000 psi
Structural Steel (M 270, Gr. 36)	Fy =	36,000 psi

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 measurement of Class S(AE) Concrete. See Standard Drawing No. 14991 for allowable modifications and for tolerances when Permanent Steel Bridge 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 beam. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

Removable forms shall be used for concrete diaphragms. Interior bent diaphragms may be poured separately from the deck.

Use of a longitudinal screed is prohibited.

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."

STRUCTURAL STEEL :

All structural steel shall be AASHTO M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e). Structural steel completely embedded in concrete may be AASHTO M 270, Grade 36 unless otherwise noted.

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

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

Beams, field splice plates, diaphragms, and connection plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)."

All beams shall be blocked in their true position in the shop with the webs horizontal in groups as specified in subsection 807.54(b)(2). The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in their true position and this information shall become part of the permanent records for this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

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.

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 permanent or temporary, 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.

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 ⅞" ø diameter if a washer is supplied for use under both the nut and head of the bolt.

Steel diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

All shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Beam 1 Structural Steel	Beam 1 Structural Steel + Slab	Beam 1 Str. Steel + Slab + Rail
1	0.0	0.000	0.000	0.000
	0.1	0.025	0.199	0.211
	0.2	0.044	0.355	0.377
	0.3	0.059	0.469	0.499
	0.4	0.066	0.525	0.559
	0.5	0.064	0.511	0.544
	0.6	0.057	0.453	0.482
	0.7	0.042	0.329	0.350
	0.8	0.027	0.209	0.222
	0.9	0.010	0.076	0.080
2	0.0	0.000	0.000	0.000
	0.1	0.000	0.007	0.010
	0.2	0.003	0.036	0.043
	0.3	0.011	0.103	0.115
	0.4	0.016	0.150	0.166
	0.5	0.019	0.177	0.195
	0.6	0.019	0.174	0.191
	0.7	0.014	0.128	0.141
	0.8	0.009	0.082	0.090
	0.9	0.002	0.020	0.022
	0.0	0.000	0.000	0.000

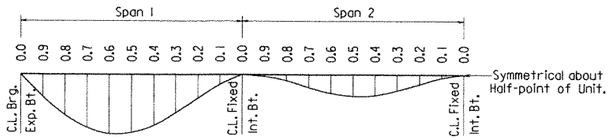
Symmetrical about Half-point of Unit.

Span	Point of Deflection	Beams 2, 3, & 4 Structural Steel	Beams 2, 3, & 4 Structural Steel + Slab	Beams 2, 3, & 4 Str. Steel + Slab + Rail
1	0.0	0.000	0.000	0.000
	0.1	0.027	0.233	0.245
	0.2	0.048	0.416	0.438
	0.3	0.064	0.550	0.579
	0.4	0.072	0.614	0.647
	0.5	0.070	0.597	0.629
	0.6	0.062	0.529	0.557
	0.7	0.045	0.383	0.403
	0.8	0.029	0.243	0.256
	0.9	0.010	0.087	0.091
2	0.0	0.000	0.000	0.000
	0.1	0.000	0.011	0.014
	0.2	0.004	0.049	0.055
	0.3	0.012	0.130	0.142
	0.4	0.018	0.186	0.201
	0.5	0.022	0.218	0.235
	0.6	0.022	0.214	0.230
	0.7	0.016	0.157	0.169
	0.8	0.010	0.100	0.108
	0.9	0.002	0.024	0.026
	0.0	0.000	0.000	0.000

Symmetrical about Half-point of Unit.

Span	Point of Deflection	Beam 5 Structural Steel	Beam 5 Structural Steel + Slab	Beam 5 Str. Steel + Slab + Rail
1	0.0	0.000	0.000	0.000
	0.1	0.024	0.192	0.204
	0.2	0.043	0.343	0.365
	0.3	0.057	0.454	0.483
	0.4	0.064	0.508	0.541
	0.5	0.062	0.494	0.526
	0.6	0.055	0.438	0.466
	0.7	0.040	0.318	0.338
	0.8	0.026	0.202	0.215
	0.9	0.010	0.073	0.077
2	0.0	0.000	0.000	0.000
	0.1	0.000	0.007	0.010
	0.2	0.003	0.036	0.043
	0.3	0.010	0.101	0.113
	0.4	0.016	0.146	0.162
	0.5	0.019	0.172	0.189
	0.6	0.019	0.169	0.186
	0.7	0.014	0.125	0.138
	0.8	0.009	0.079	0.087
	0.9	0.002	0.019	0.021
	0.0	0.000	0.000	0.000

Symmetrical about Half-point of Unit.



DEAD LOAD DEFLECTION DIAGRAM

N.T.S.

Notes:
Camber for Dead Load Deflection ± ¼" tolerance. Deflections shown are along C.L. Beam from the plane perpendicular to the web extending from C.L. Bearing to C.L. Bearing.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/22/12
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 3

DETAILS OF 198'-6" CONTINUOUS W-BEAM UNIT BIG CREEK DITCH RELIEF

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

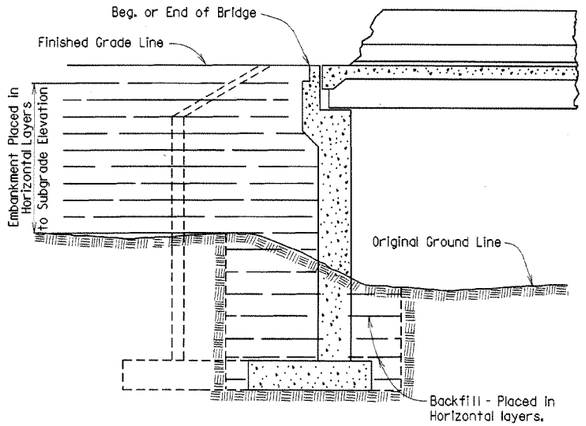
LITTLE ROCK, ARK.

DRAWN BY: ACW DATE: 01-31-12 FILENAME: bl00679b2_sl.dgn
CHECKED BY: JAP DATE: 6-25-12 SCALE: As Noted
DESIGNED BY: ACW DATE: 01-12

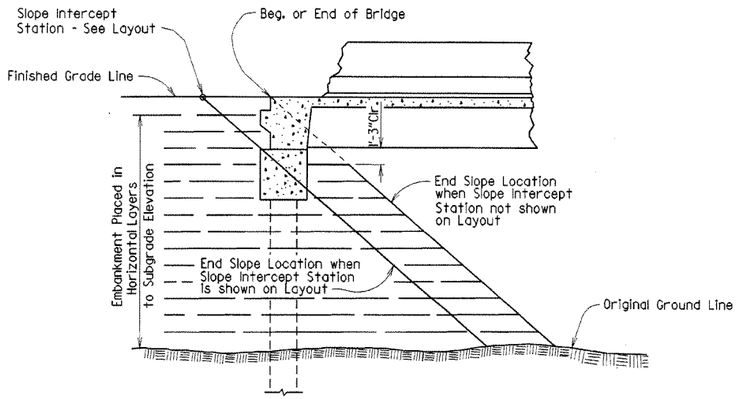
BRIDGE NO. B7251 DRAWING NO. 52780

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.		160	
				JOB NO.				

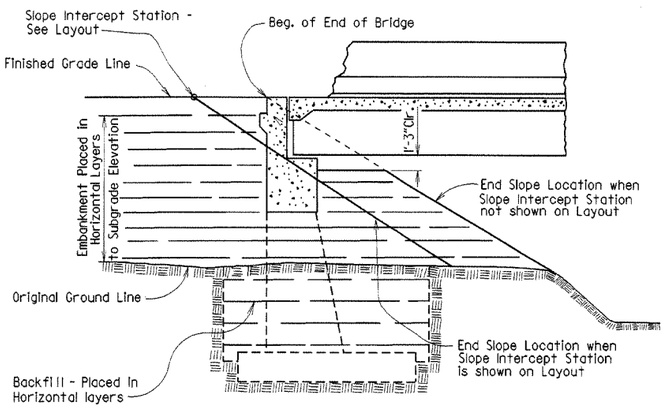
① EMBANKMENT & BACKFILL 1888A



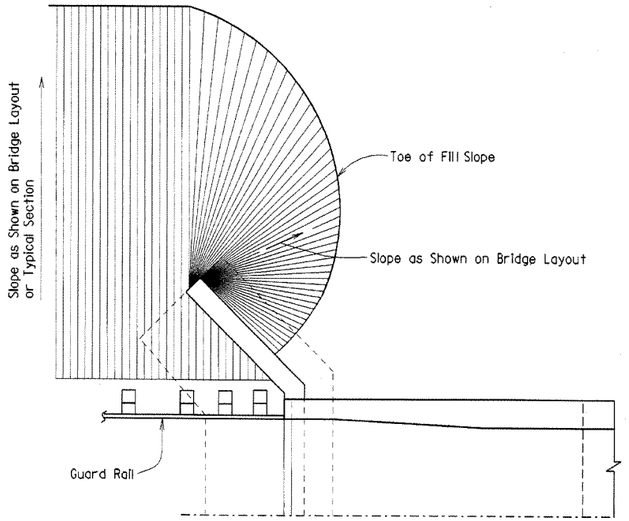
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



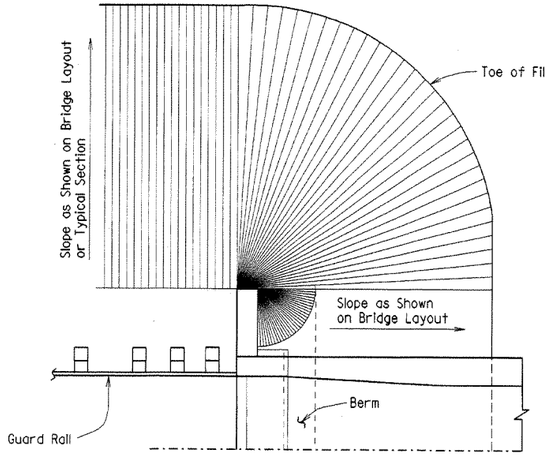
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



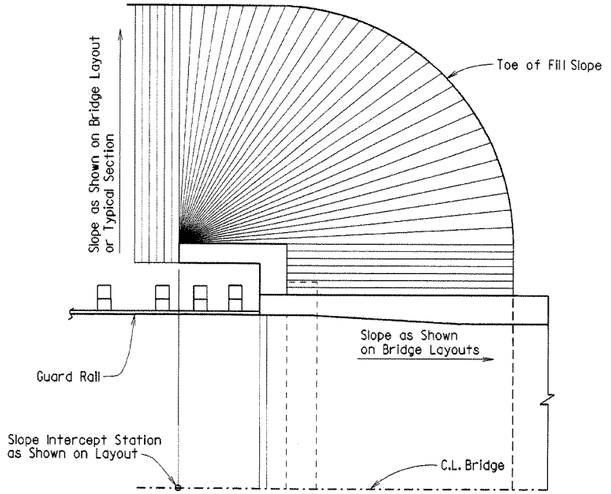
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



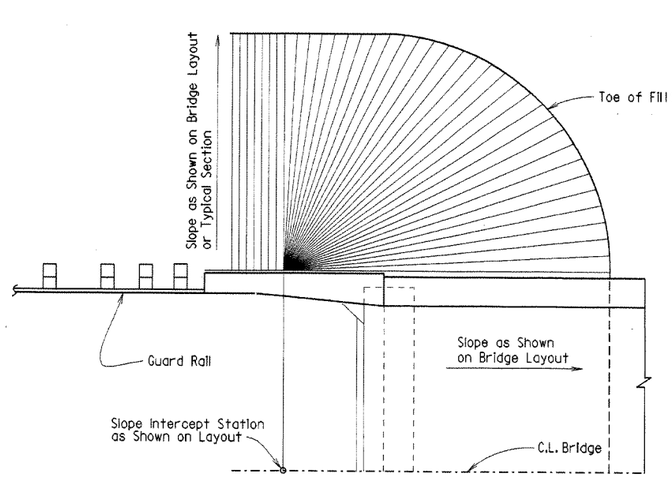
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 4 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to subsections 210.09, 210.10 and 801.08 of the Specifications for construction requirements.

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

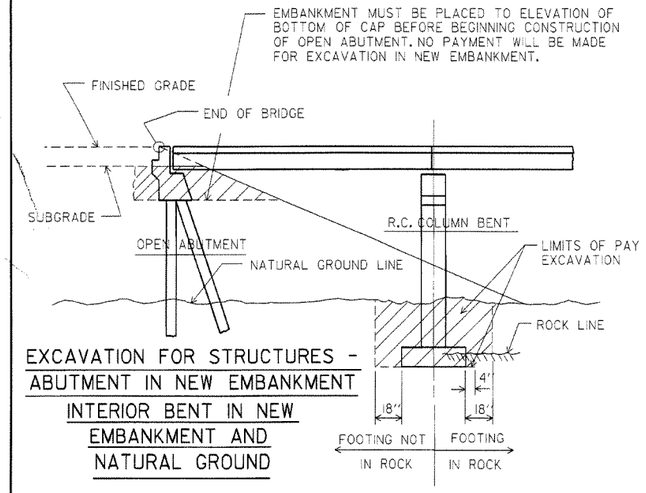
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI888A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

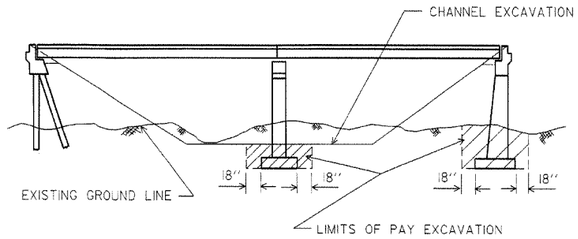
BRIDGE NO. DRAWING NO. 1888A

BI888A.STD

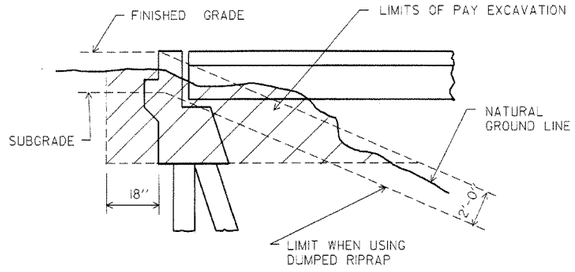
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		161	
				JOB NO.				
				①	RIP. & EXCAV.		1891F	



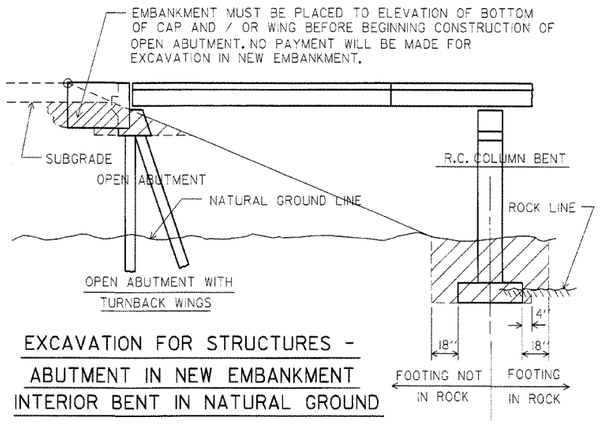
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



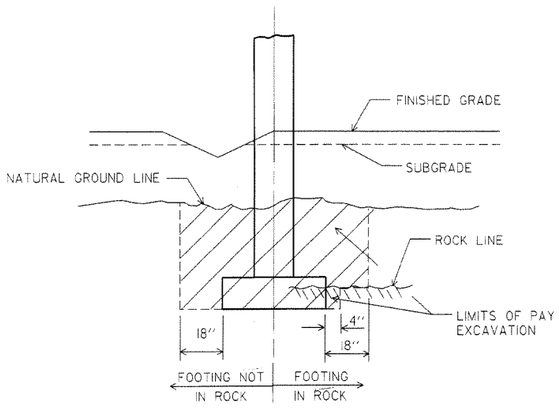
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



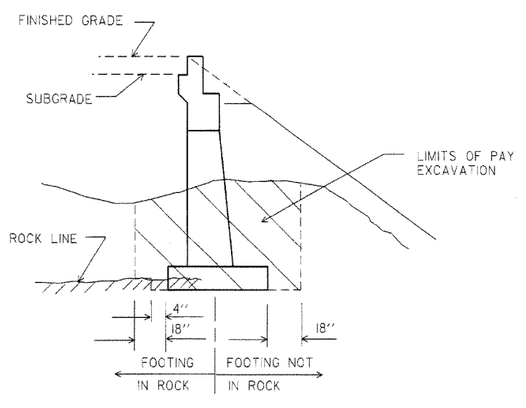
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



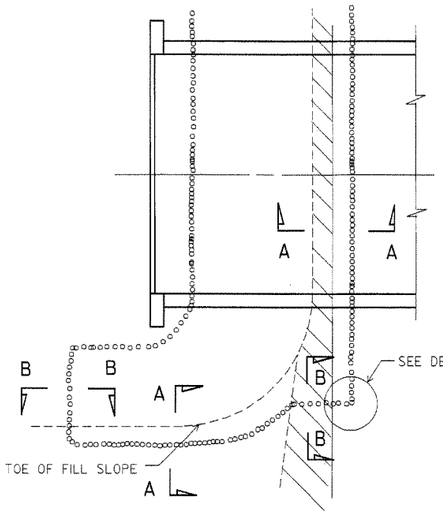
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



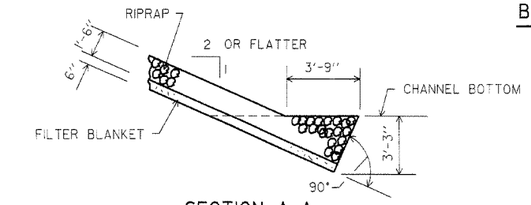
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



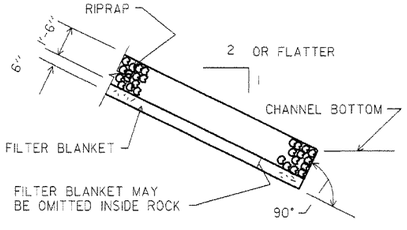
PLAN OF DUMPED RIPRAP



SECTION A-A

(TOE EXCAVATION IN SOIL)

EXCAVATION FOR TOES IS NOT A PAY ITEM



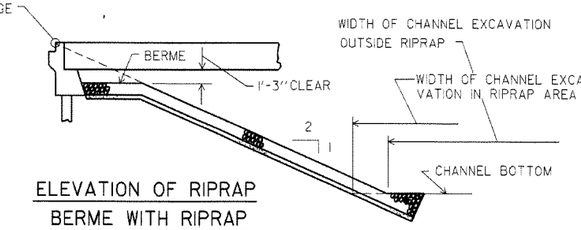
SECTION A-A

(TOE EXCAVATION IN ROCK)

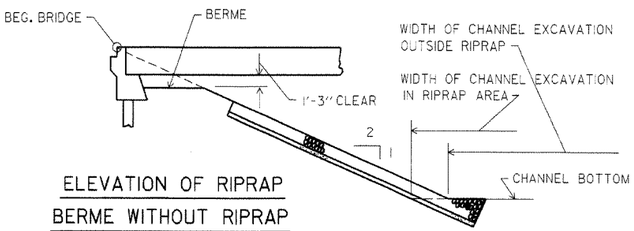
NOTE : USE THIS TYPE OF TOE WHEN ROCK IS ENCOUNTERED WHICH IS IN A STABLE CONDITION.

NOTE : IN LIEU OF AN AGGREGATE FILTER BLANKET, A SYNTHETIC FIBER GEOTEXTILE FABRIC COMPLYING WITH THE REQUIREMENTS OF SUBSECTION 816.02(e) MAY BE USED.

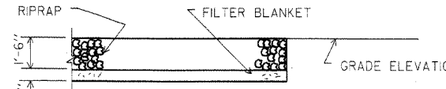
NOTE : DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES ARE INCLUDED FOR INFORMATION AS TO HOW PLAN QUANTITIES WERE CALCULATED AND FOR USE WHEN ADJUSTING QUANTITIES WHEN CHANGING FOOTING ELEVATION.



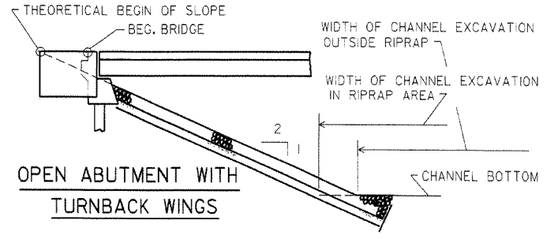
ELEVATION OF RIPRAP BERME WITH RIPRAP



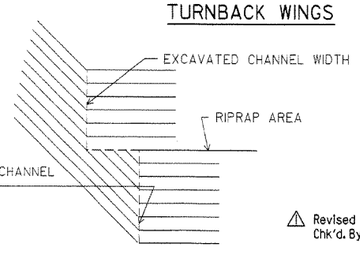
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

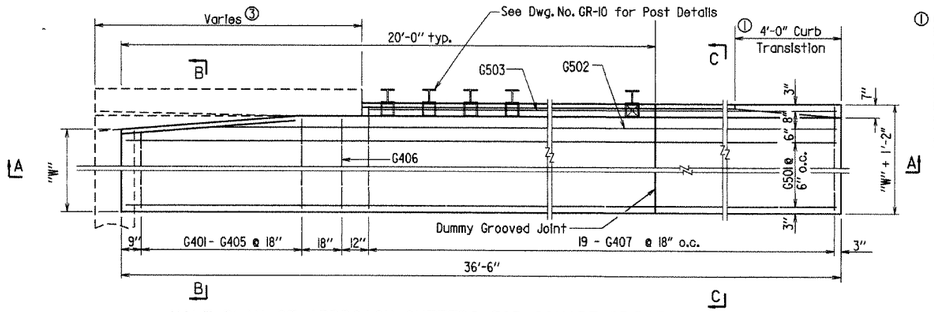
LITTLE ROCK, ARK.

DRAWN BY:	MJT	DATE:	04-10-2003	FILENAME:	B1891F.STD
CHECKED BY:	CJF	DATE:	04-10-2003	SCALE:	NO SCALE
DESIGNED BY:	STD.	DATE:	—		

BRIDGE NO. DRAWING NO. 1891F

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.		102	
07-14-2010				JOB NO.				

① TYPE C GUTTERS - 2016C

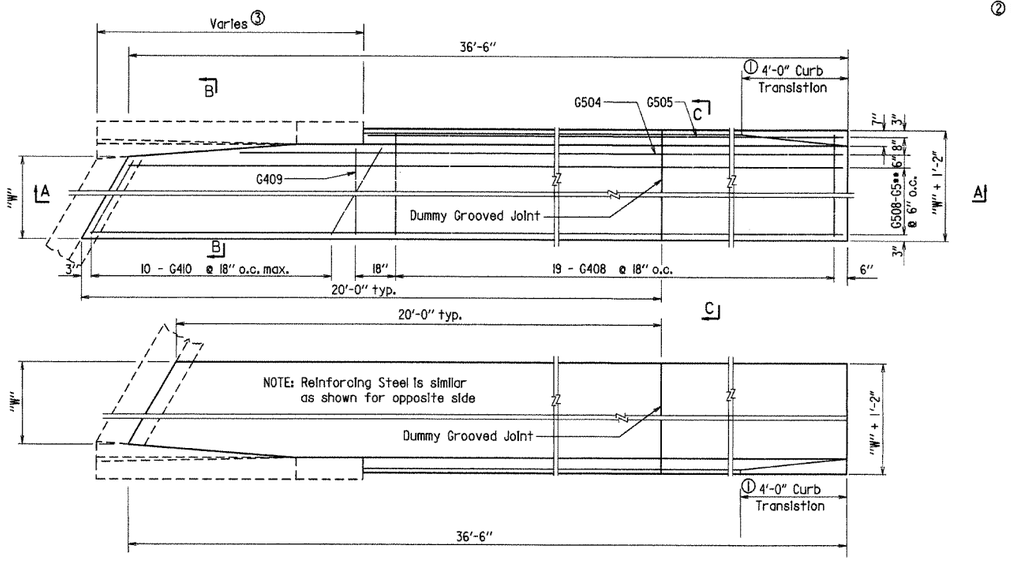


HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

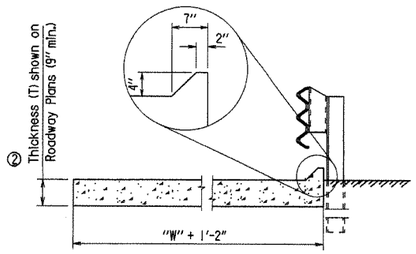
Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

③ Length Varies See End Bt. Details for Actual Length. Quantities Shown are for 10'-0" Transition Rail.

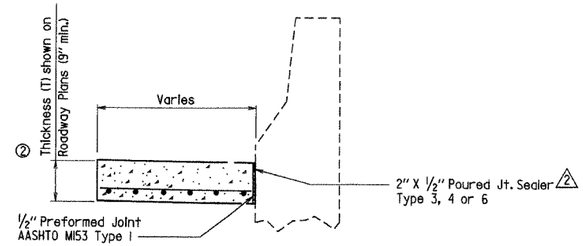


PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

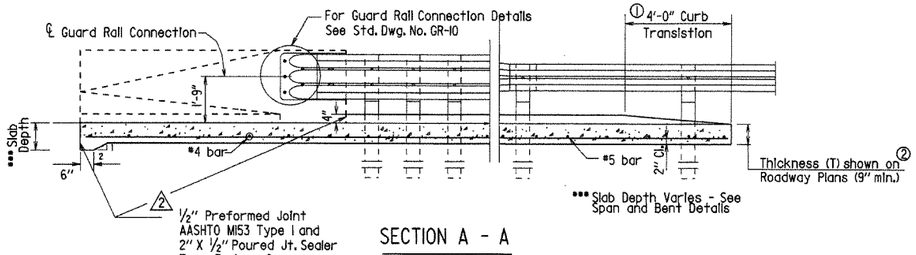
② Thickness shall match Approach Slab Thickness. Thickness shall be 9" if Approach Slab is not used.



SECTION C - C
N.T.S.



SECTION B - B
N.T.S.



SECTION A - A

*** 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=14½"
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
CHECKED BY: CJF DATE: 4-10-2003
DESIGNED BY: STD. DATE:
FILENAME: B2016C.STD
SCALE: 3/8" = 1'-0"

BRIDGE NO.

DRAWING NO. 2016C

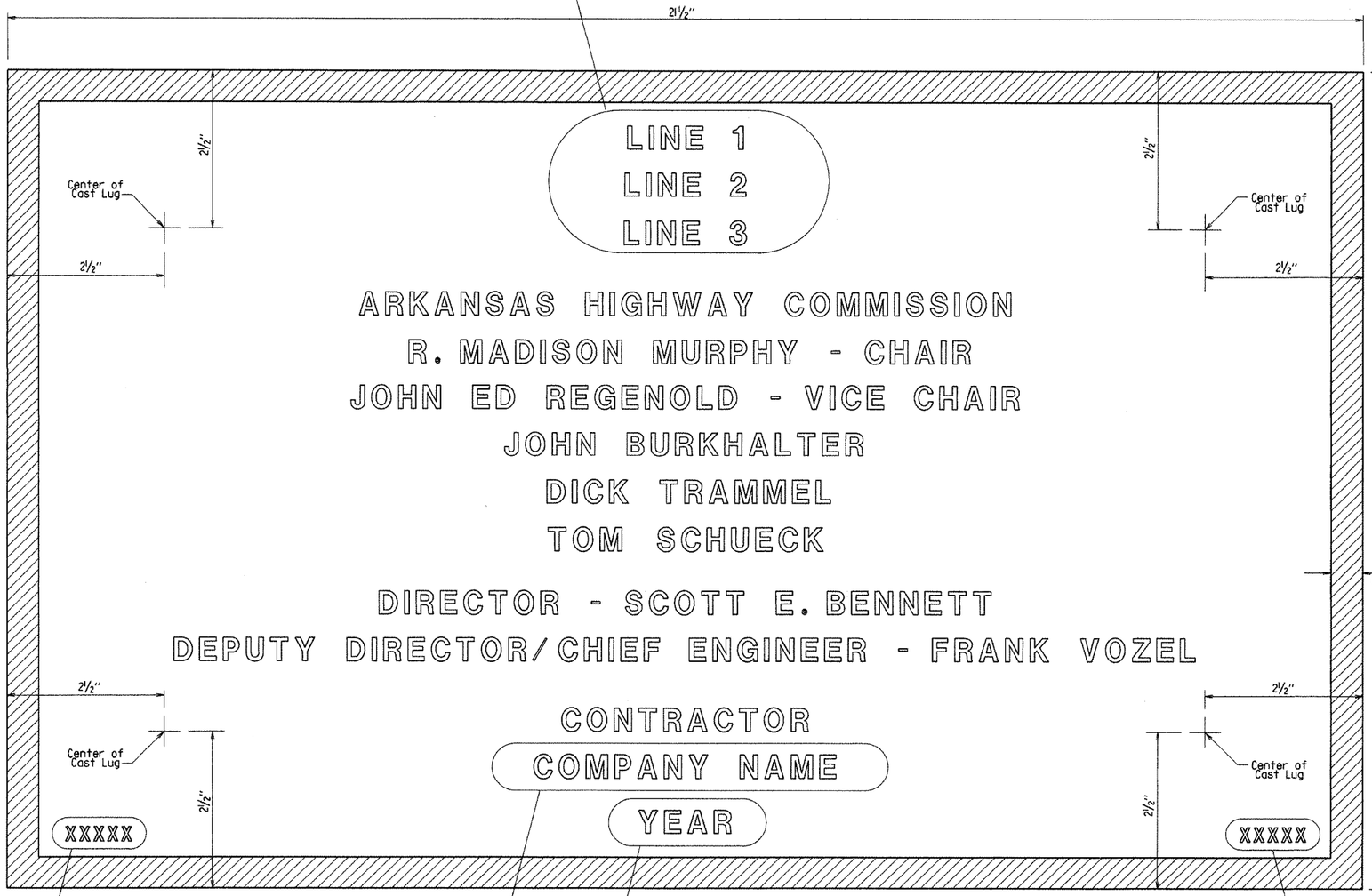
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9-8-11			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		163	
JOB NO.				

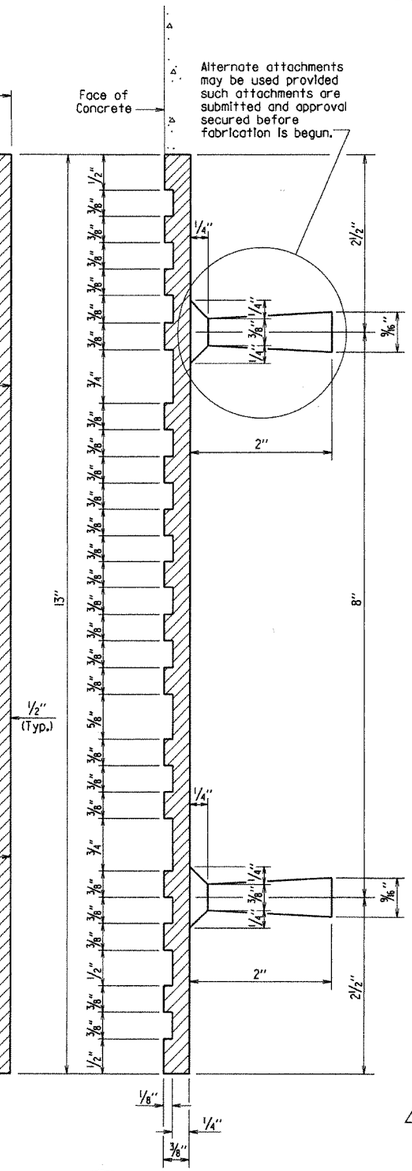
① NAME PLATE 2387

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	



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 9/16" 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. 7610
CARL J. PUSELLER
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

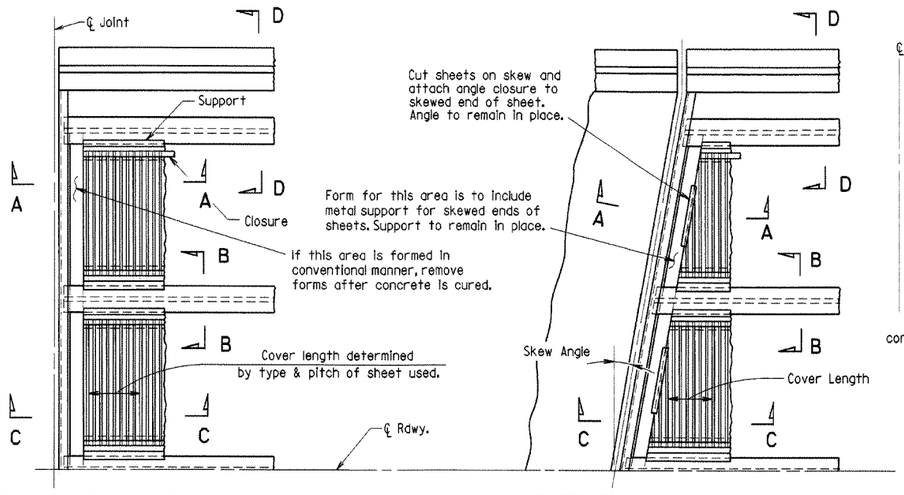
DESIGNED BY: STD. DATE: —

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

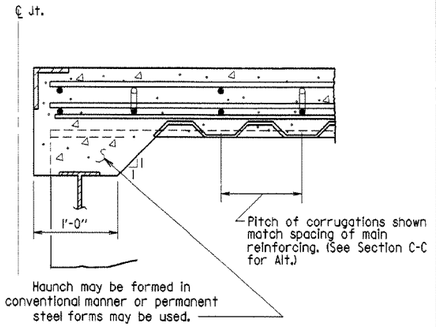


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

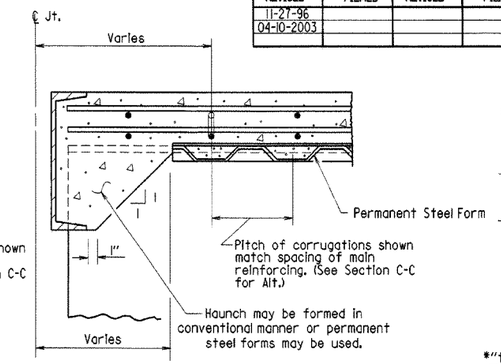
3/8" = 1'-0"



SECTION A-A

N.T.S.

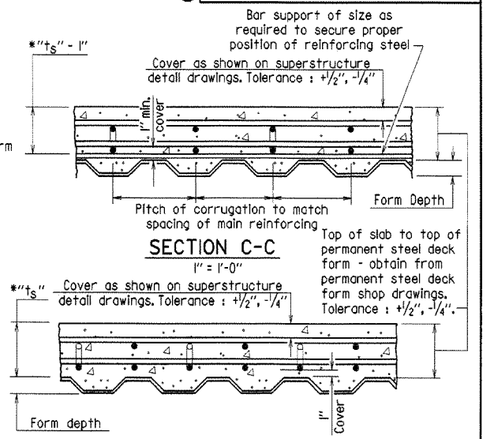
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



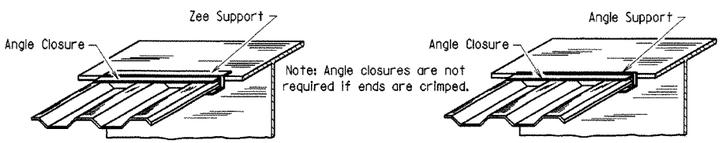
SECTION C-C

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.

*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.

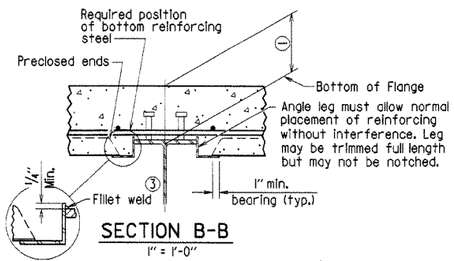
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

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.

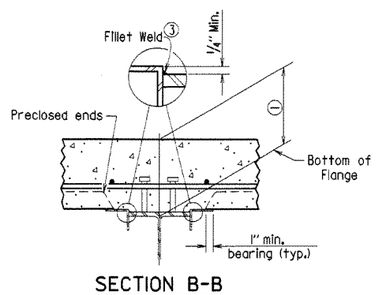


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

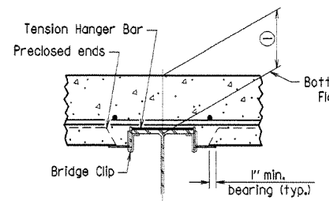
③ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

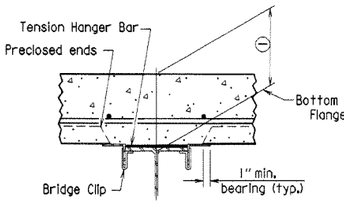
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

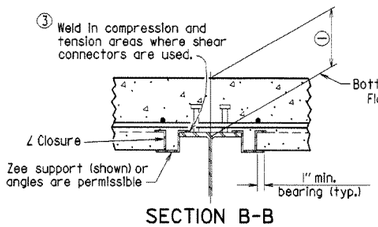
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

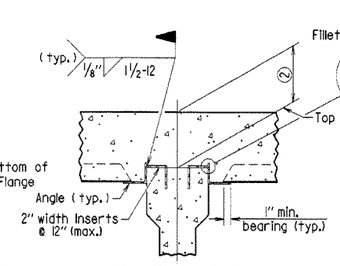
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

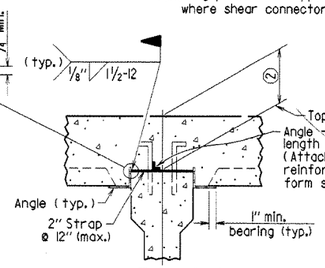


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by insert cast in girder)

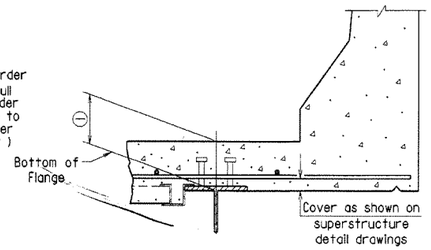


SECTION B-B

(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.

⚠1 Redrawn and revised 11/27/96; MJT

⚠2 Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CPB 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ROUTE SEC.

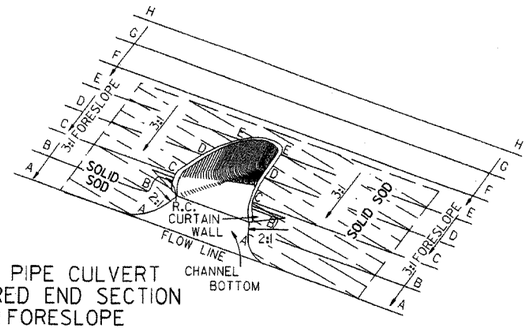
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

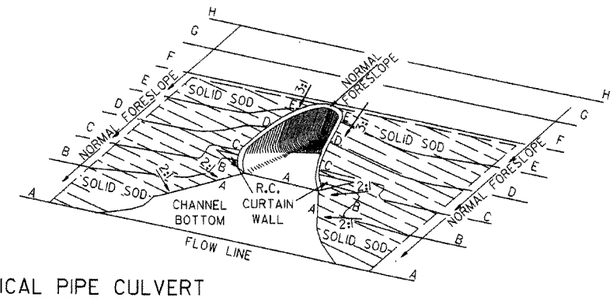
DRAWN BY: MJT DATE: 10-17-96
CHECKED BY: CPB DATE: 10-17-96
DESIGNED BY: STD. DATE: —
SCALE: as noted

BRIDGE NO. DRAWING NO. 14991

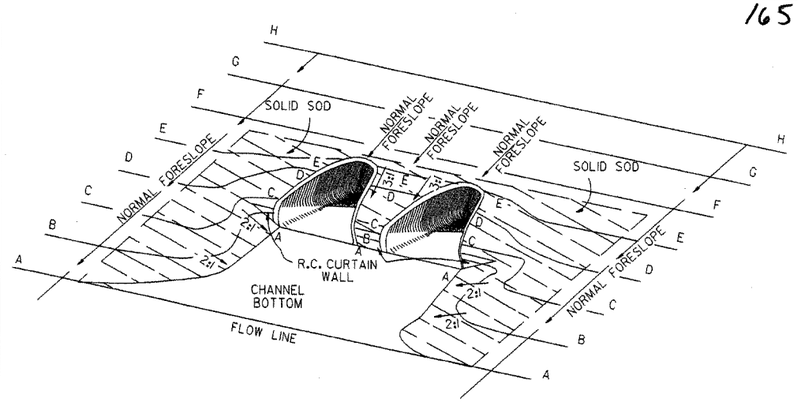
B14991.STD



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



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

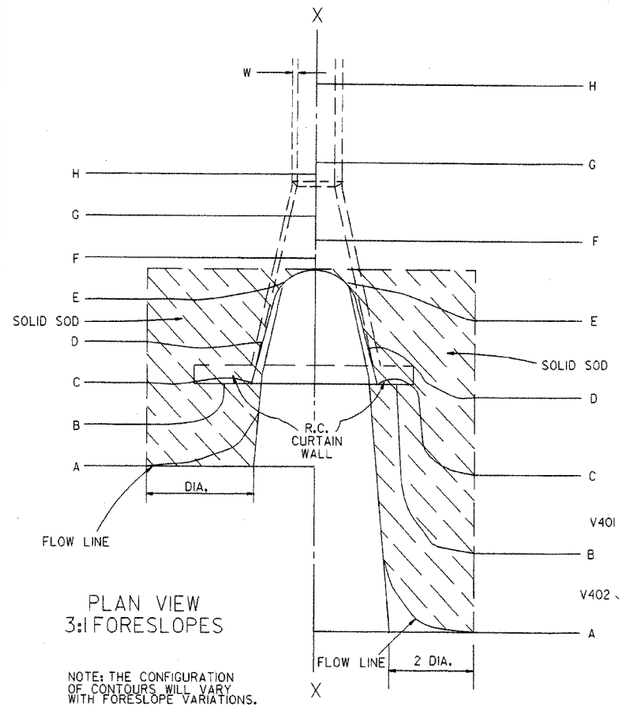
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"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

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

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
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

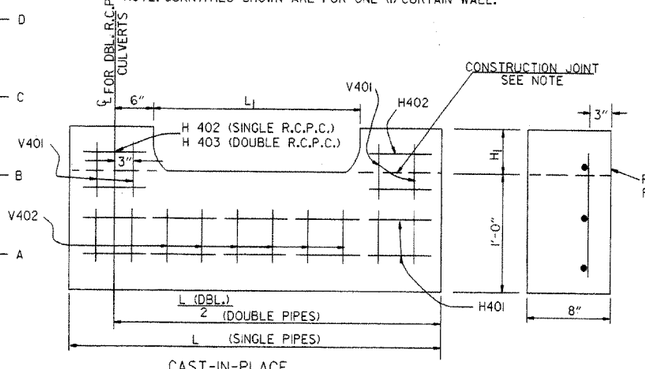
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

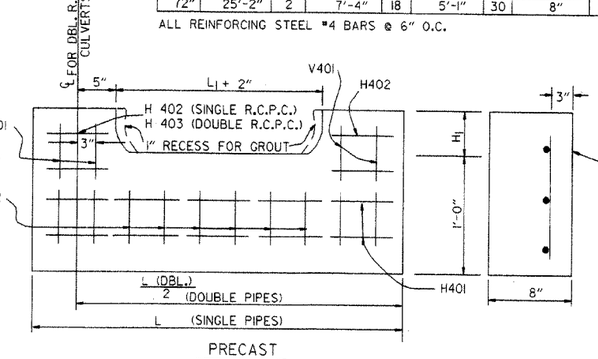
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

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.

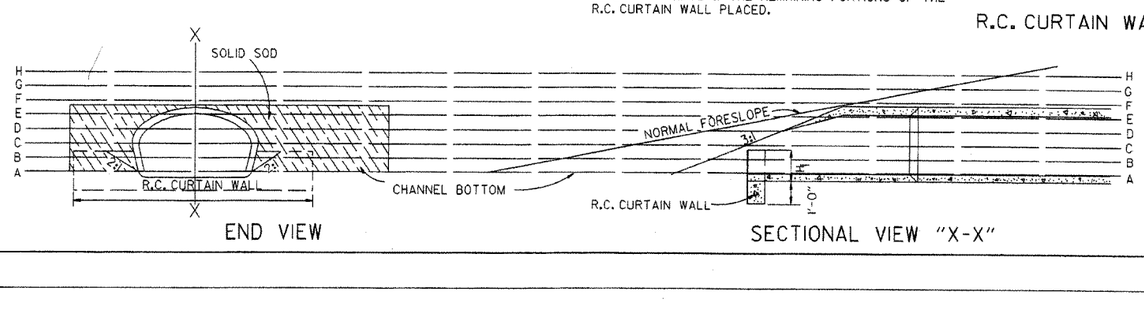
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	56	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 × 3 W10 × W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

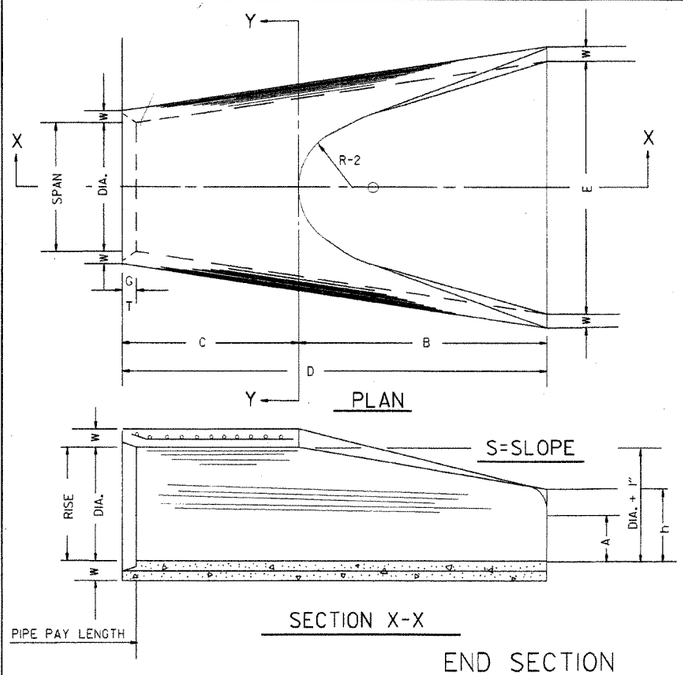
R.C. CURTAIN WALL DETAILS

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

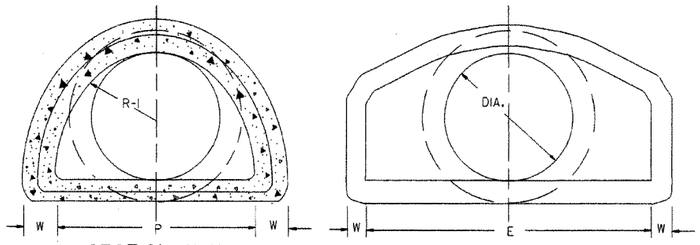
STANDARD DRAWING FES-1



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"	33⅜"	16⅝"	14"	2½"	1600	1'-11½"
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"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77⅞"	38⅝"	24"	5"	13250	4'-6"

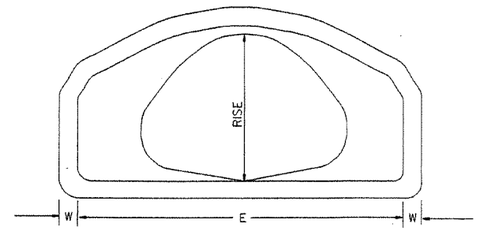


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

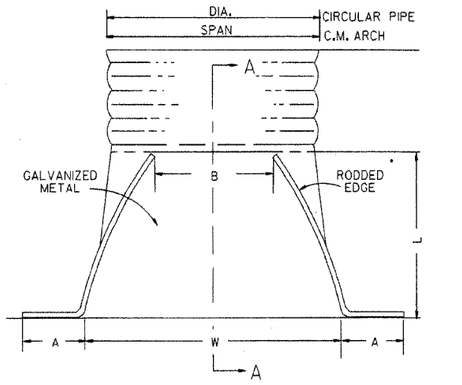
ARCH PIPE

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"	2/2:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2/2:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2/2:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅞"	15"	2½"	2/2:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅞"	20"	3"	2/2:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2/2:1
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2/2:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2/2:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2/4:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅞"	24"	5"	2/4:1

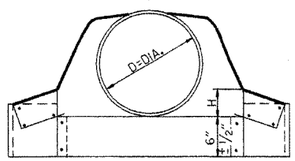
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

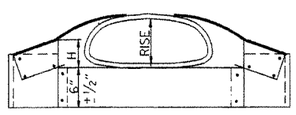


END VIEW
CONCRETE ARCH PIPE



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





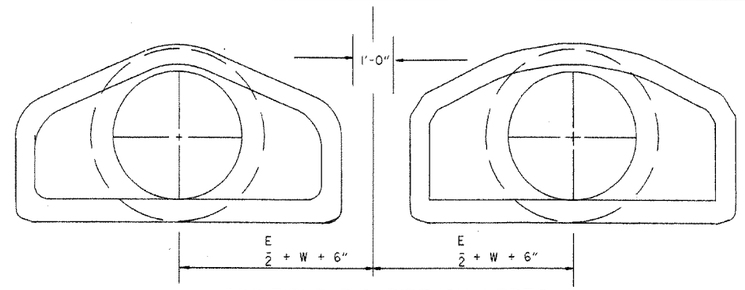
CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2/2:1
15	16	7	8	6	26	30	2/2:1
18	16	8	10	6	31	36	2/2:1
21	16	9	12	6	36	42	2/2:1
24	16	10	13	6	41	48	2/2:1
30	14	12	16	8	51	60	2/2:1
36	14	14	19	9	60	72	2/2:1
42	12	16	22	11	69	84	2/2:1
48	12	18	27	12	78	90	2/2:1
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

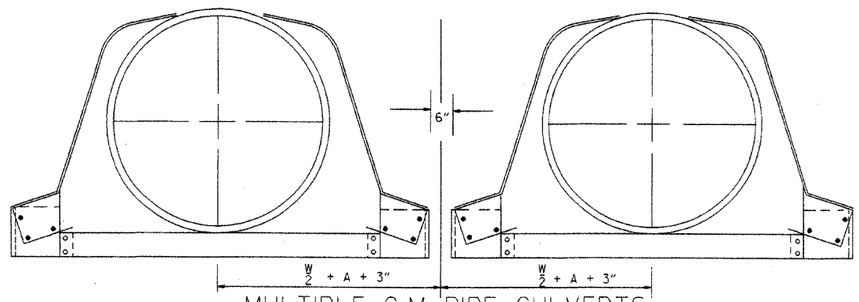
C.M. ARCH PIPE

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	2/2:1	16
18"	21	15	7	10	6	23	36	2/2:1	16
21"	24	18	8	12	6	28	42	2/2:1	16
24"	28	20	9	14	6	32	48	2/2:1	16
30"	35	24	10	16	6	39	60	2/2:1	14
36"	42	29	12	18	8	46	75	2/2:1	14
42"	49	33	13	21	9	53	85	2/2:1	12
48"	57	38	18	26	12	63	90	2/2:1	12
54"	64	43	18	30	12	70	102	2/4:1	12
60"	71	47	18	33	12	77	114	2/4:1	12

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

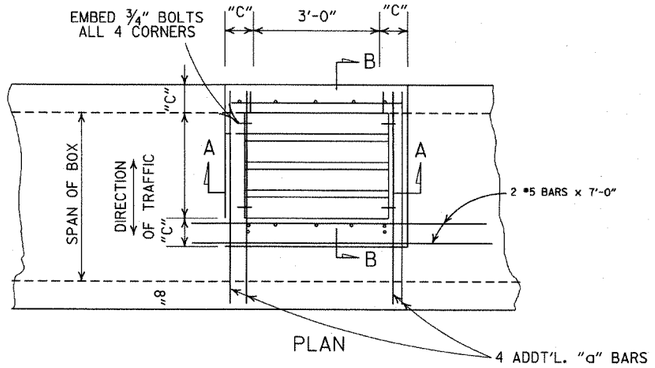
DATE	REVISION	BY	APPROVED
10-18-96	REVISED ASTM REF. TO AASHTO		10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.		664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES		752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS		517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.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

ARKANSAS STATE HIGHWAY COMMISION

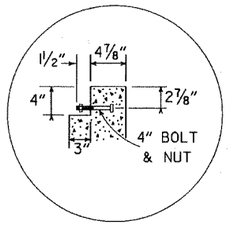
FLARED END SECTION

STANDARD DRAWING FES-2

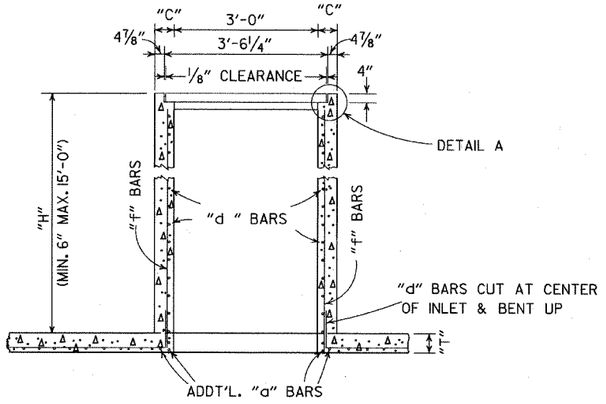
stdfes2.dgn



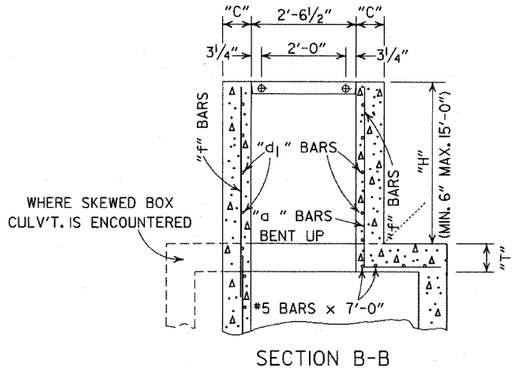
PLAN



DETAIL A



SECTION A-A

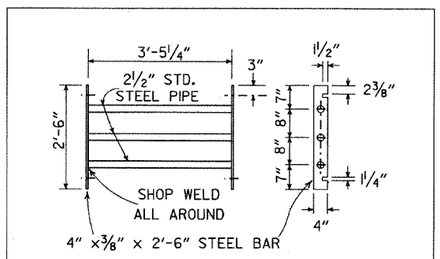


SECTION B-B

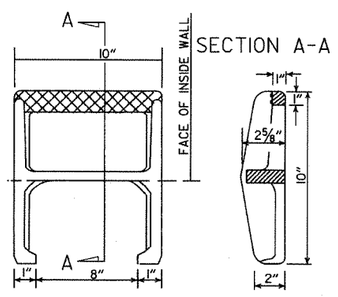
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM" FOR REINFORCED CONC. BOX CULVERTS



GRATE DETAIL



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

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

DETAIL OF STEP FOR DROP INLET

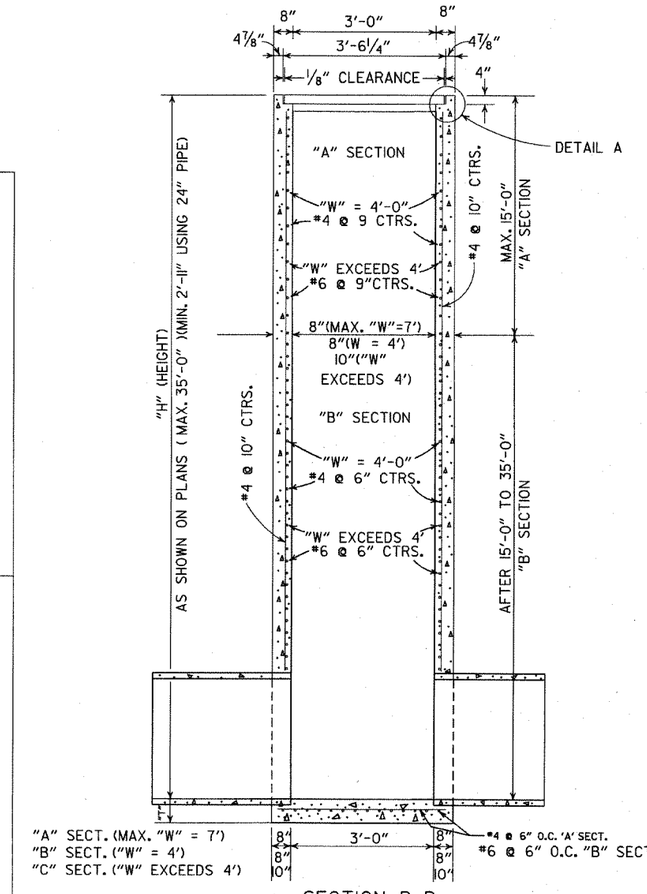
GENERAL NOTES:

1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

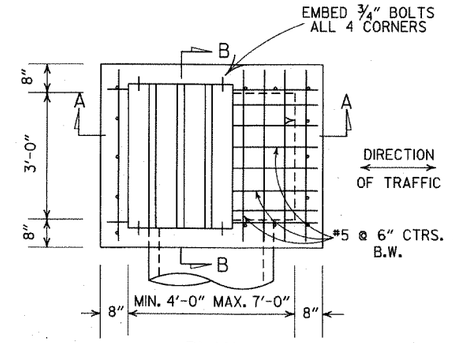
TABLE OF "W" DIMENSIONS

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

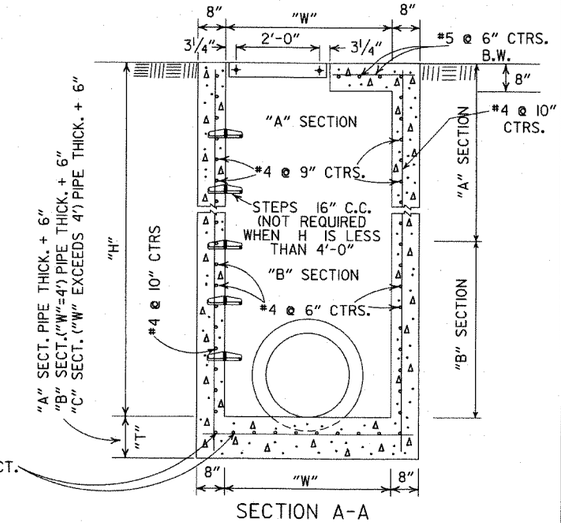
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



SECTION B-B



PLAN



SECTION A-A

DROP INLET(TYPE RM)

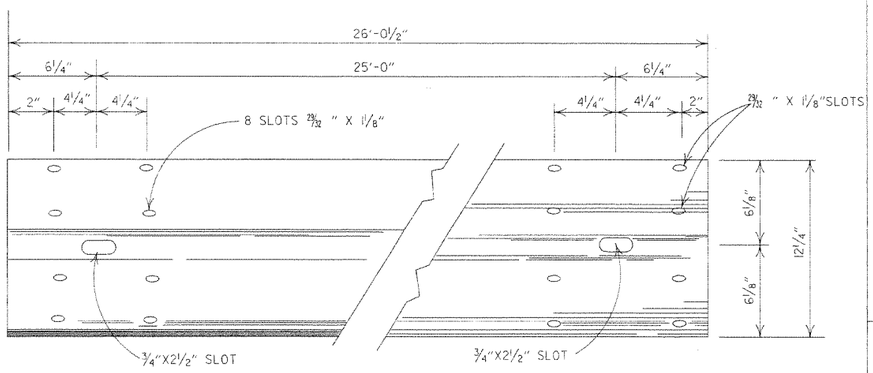
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	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
REVISED		DATE FILMED

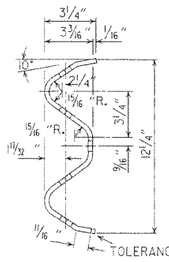
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D

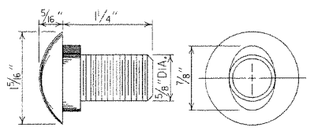
167



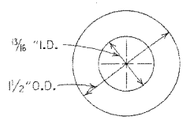


DETAILS OF W-BEAM GUARD RAIL

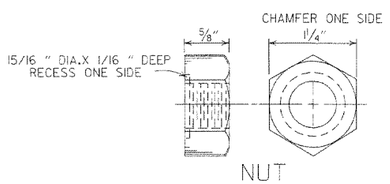
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



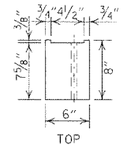
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

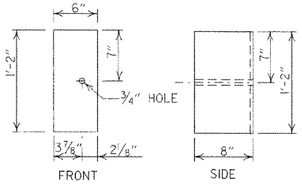


NUT

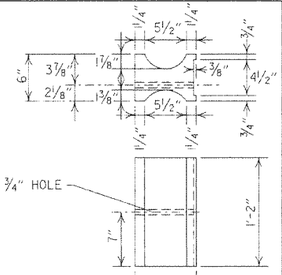


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



WOOD BLOCKOUT (W-BEAM)

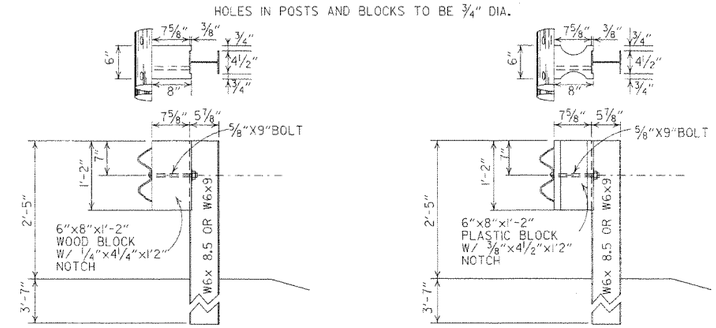


NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)

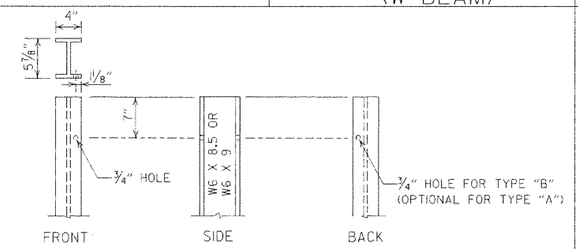
HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



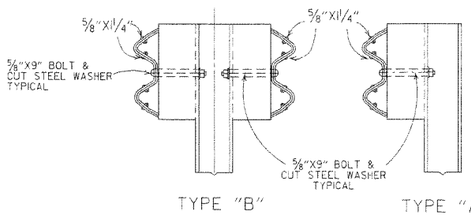
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



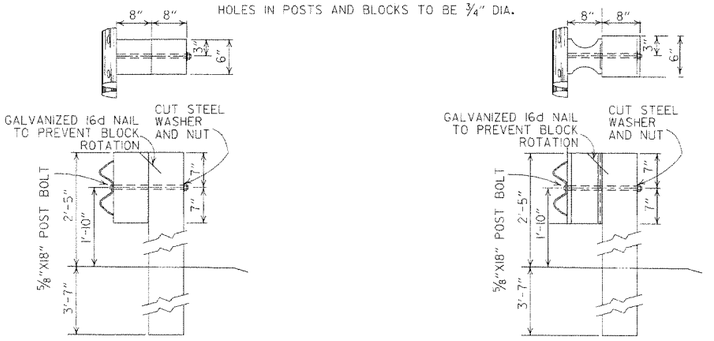
STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - 1/4".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD 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 3/4" 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# (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.

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 AT. 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

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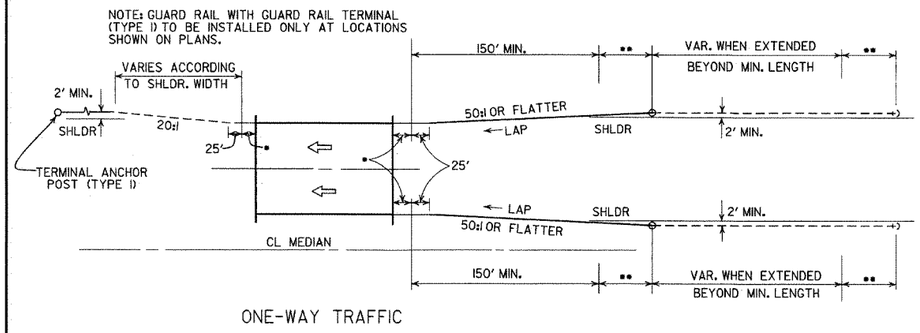
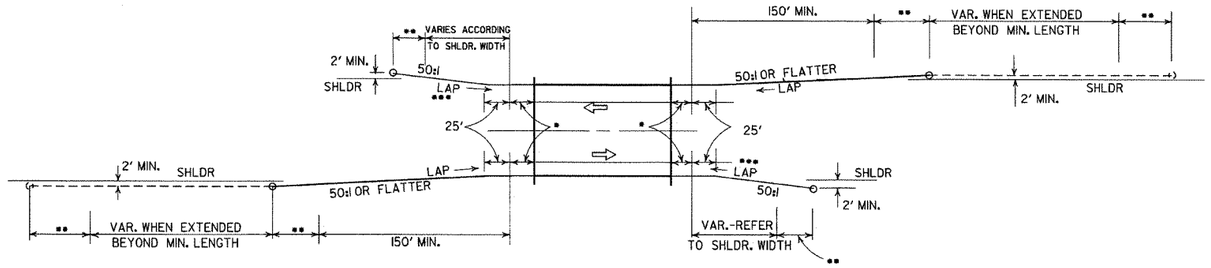
GUARD RAIL DETAILS

STANDARD DRAWING GR-8



ONE-WAY TRAFFIC

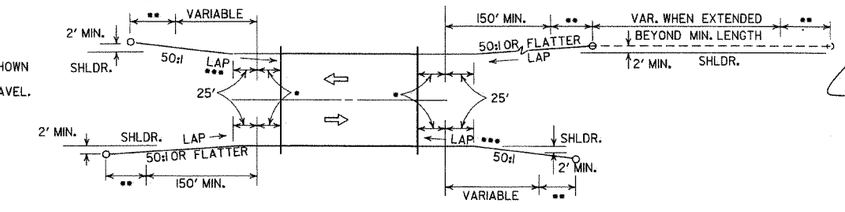
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



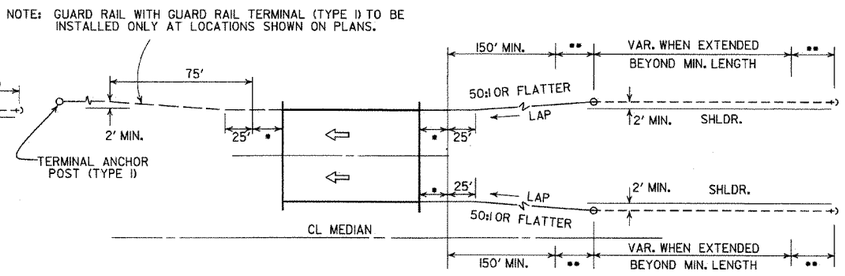
TWO-WAY TRAFFIC

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.



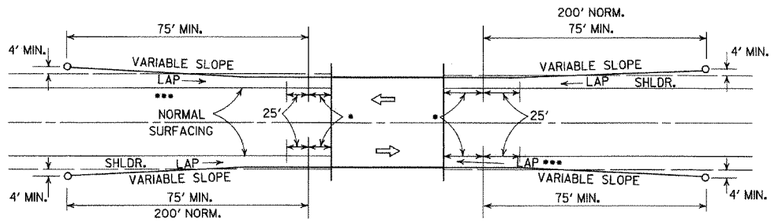
TWO-WAY TRAFFIC



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	

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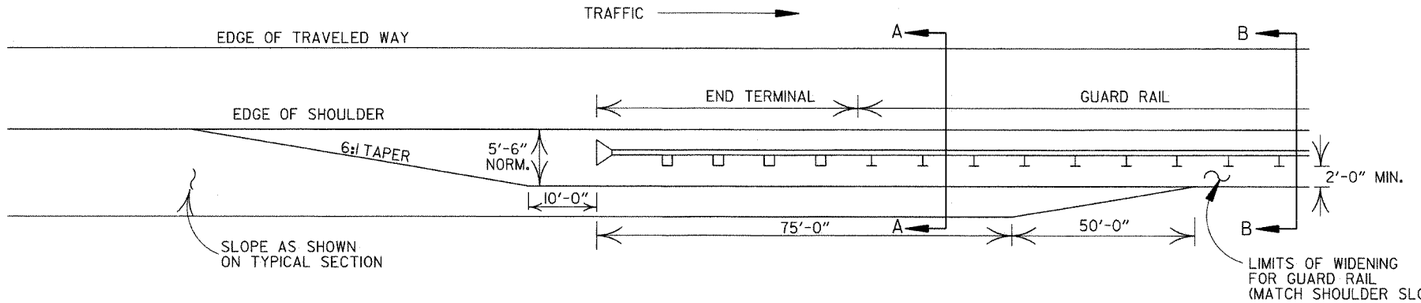
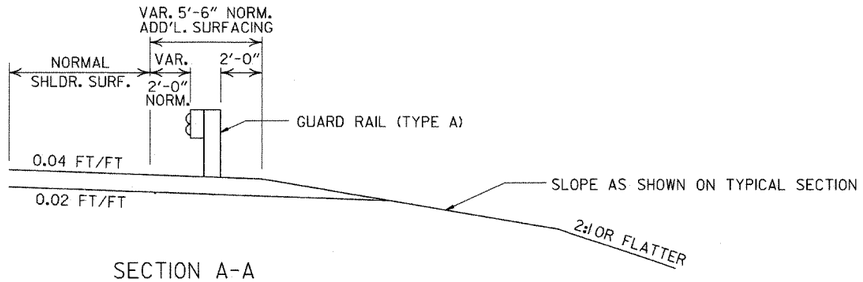
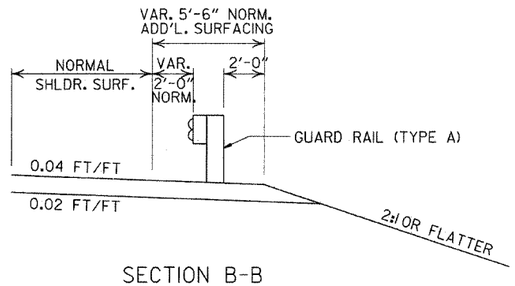
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





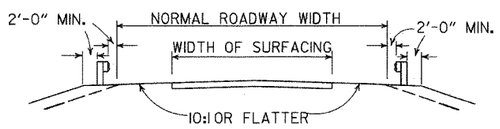
SECTION A-A



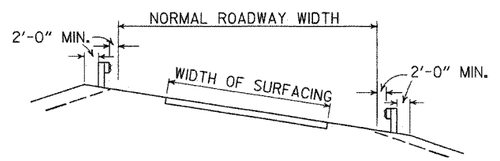
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

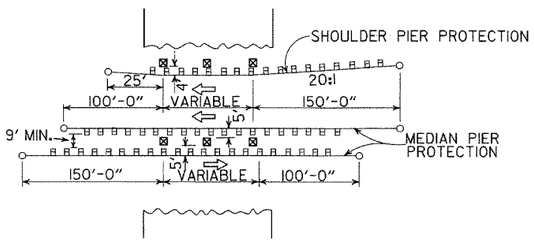


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



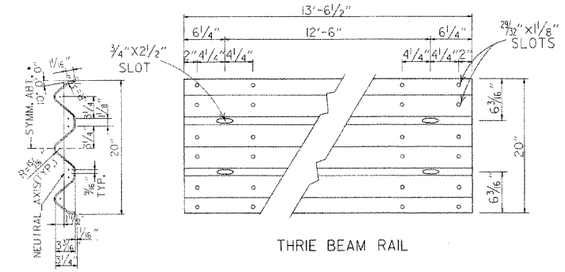
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

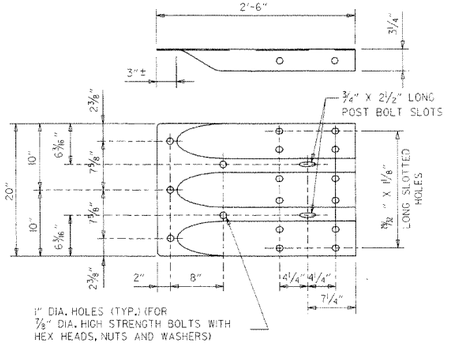
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A



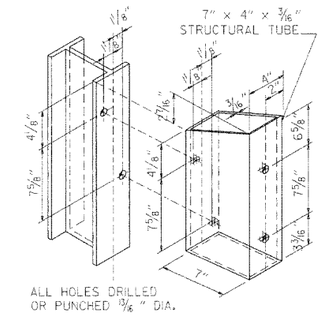
THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL



1" DIA. HOLES (TYP.) (FOR ⅞" DIA. HIGH STRENGTH BOLTS WITH HEX HEADS, NUTS AND WASHERS)

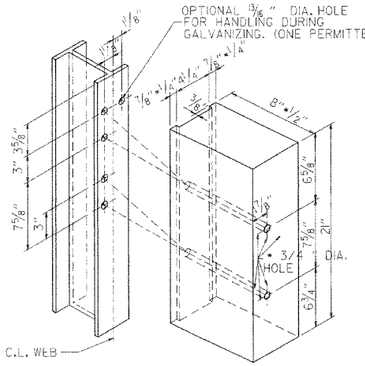
SPECIAL END SHOE



ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

ALL HOLES DRILLED OR PUNCHED ⅜" DIA.

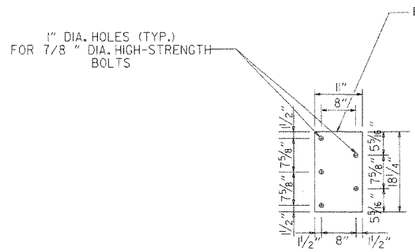
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES ⅜" DIAMETER EXCEPT AS NOTED

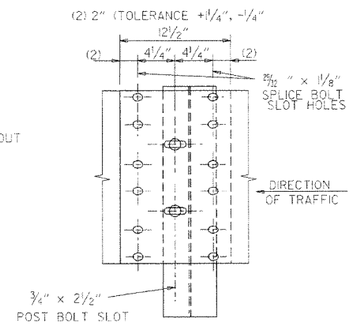
HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.

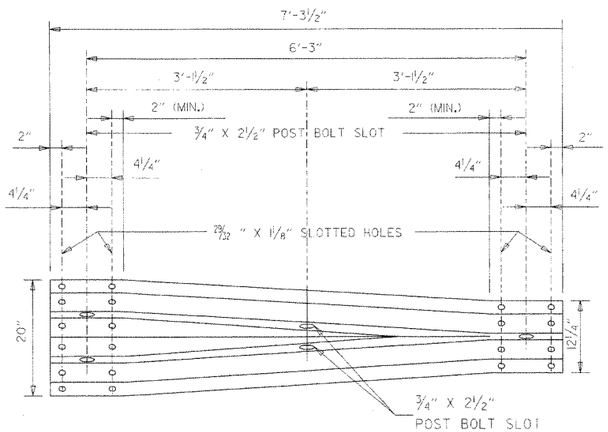


CONNECTOR PLATE

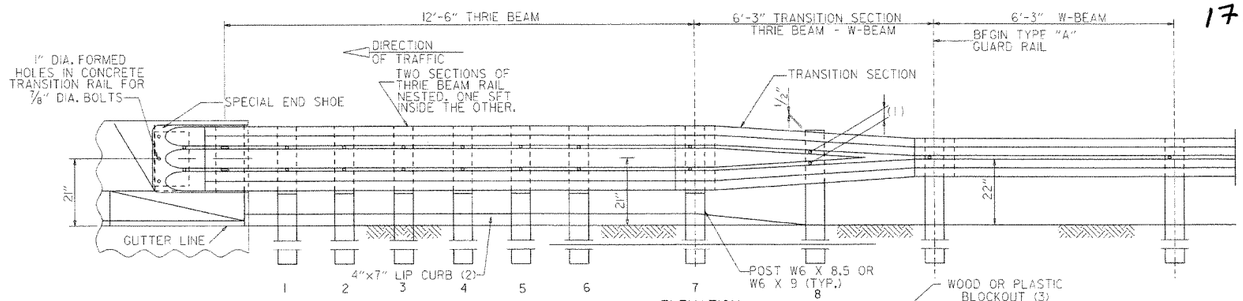
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



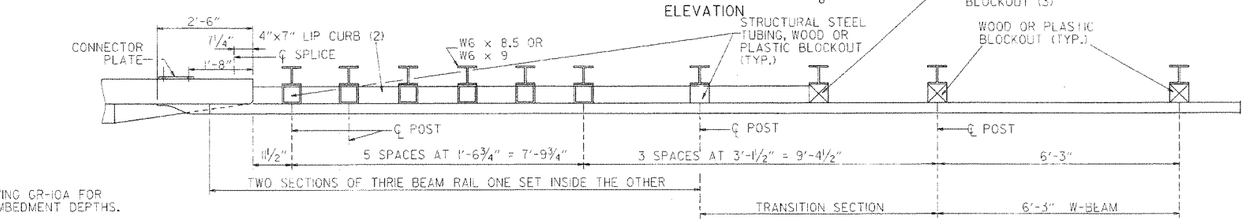
THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

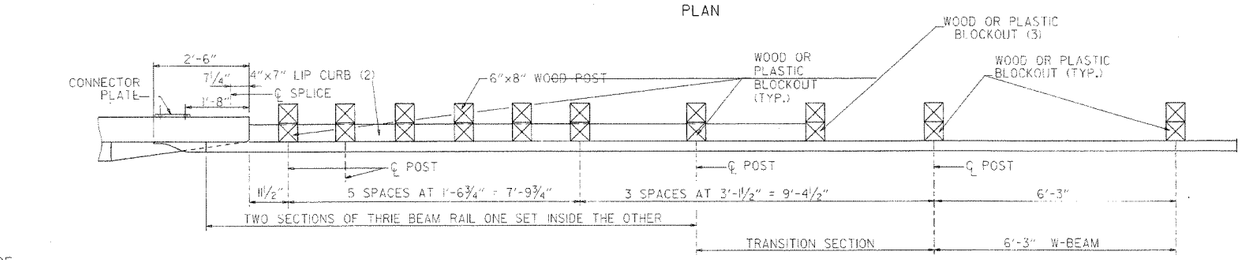


ELEVATION



PLAN

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.



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 ¼" 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 ƒ) OR NO. 1 1350 ƒ 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	

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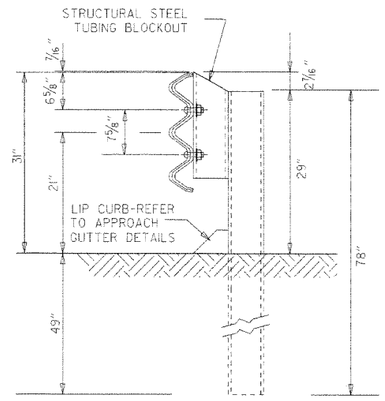
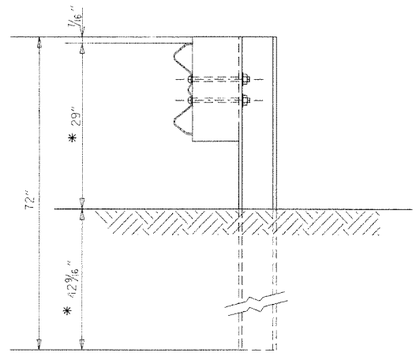
GUARD RAIL DETAILS

STANDARD DRAWING GR-10

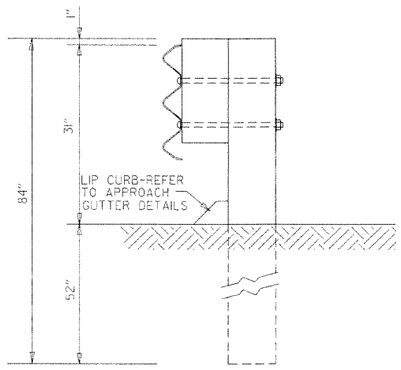


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

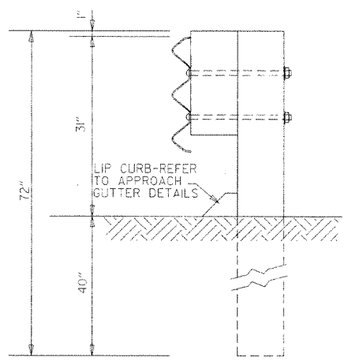


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

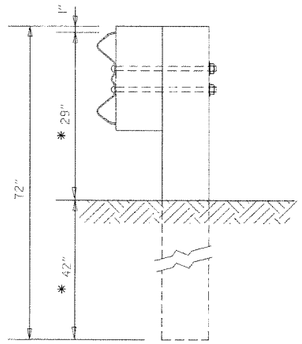
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



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.

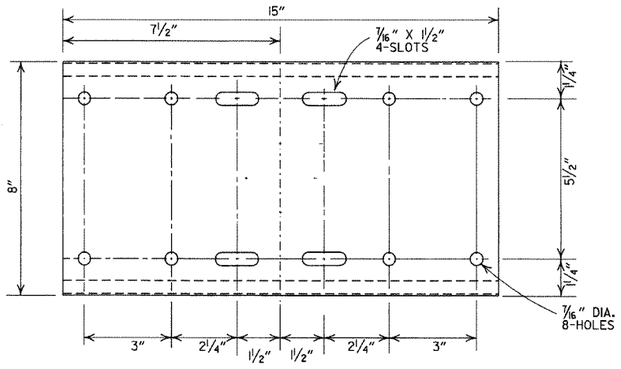
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

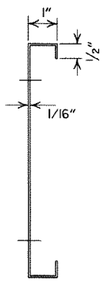
ARKANSAS STATE HIGHWAY COMMISSION

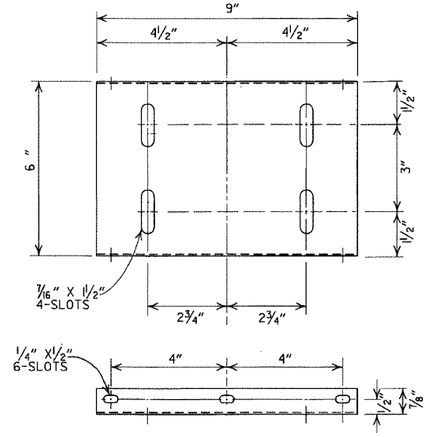
GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

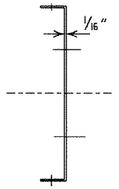


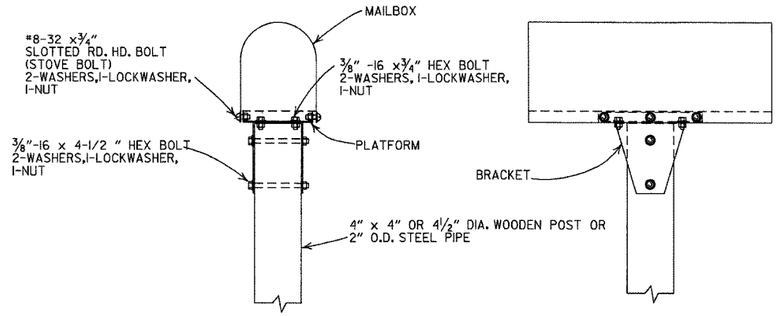
SHELF



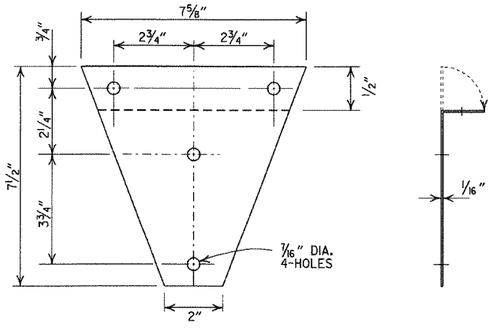


PLATFORM





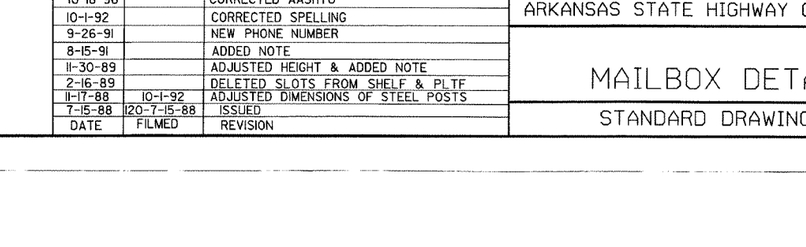
SINGLE INSTALLATION



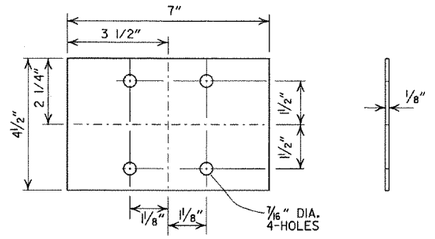
BRACKET

GENERAL NOTES

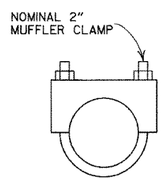
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED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



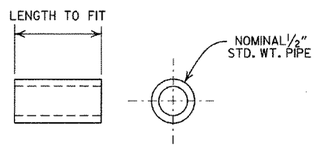
DOUBLE INSTALLATION



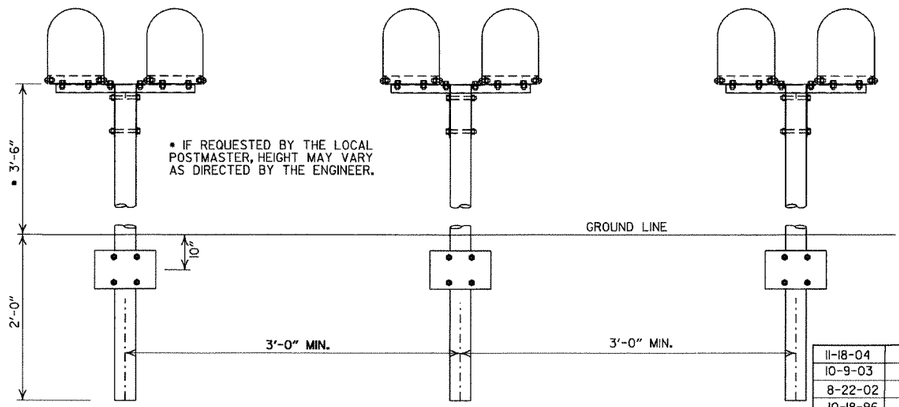
ANTI-TWIST PLATE



CLAMP



SPACER



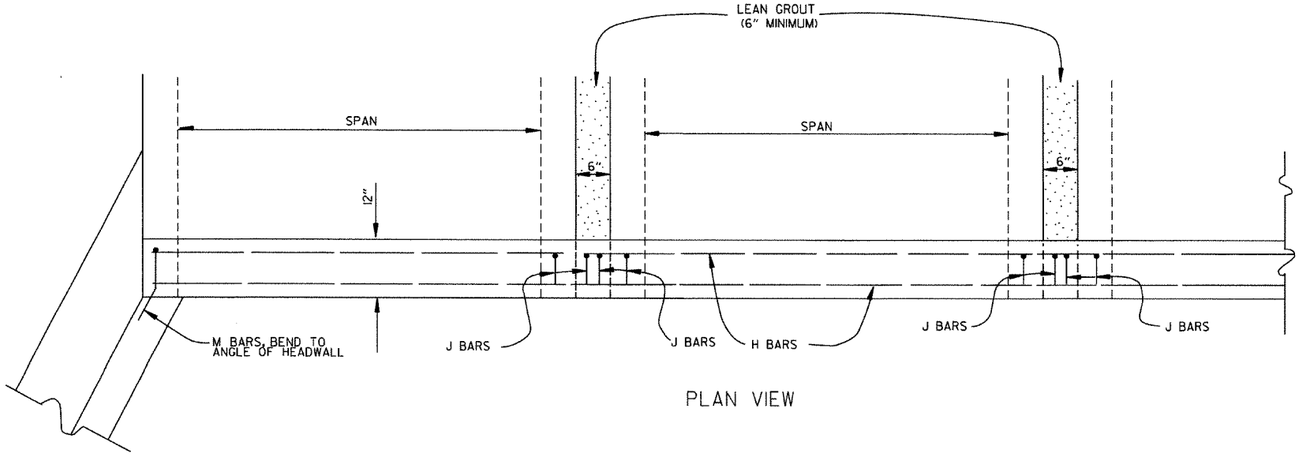
SPACING FOR MULTIPLE POST INSTALLATION

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	120-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

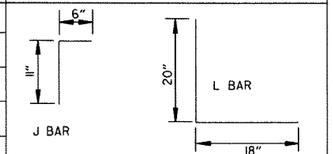
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

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



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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

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

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

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

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

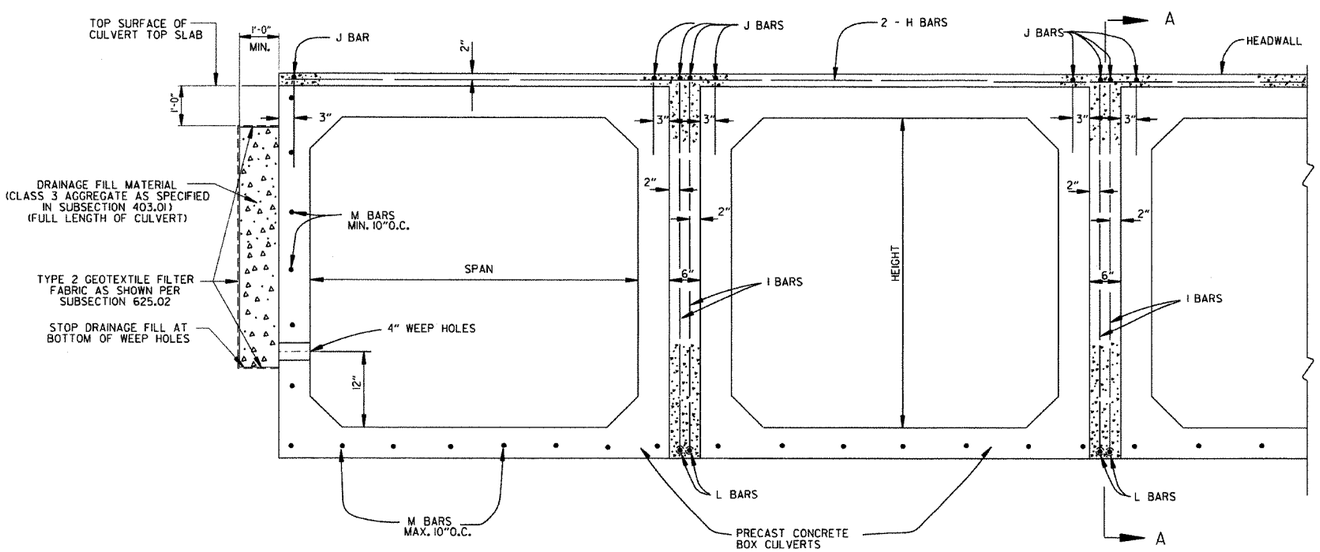
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

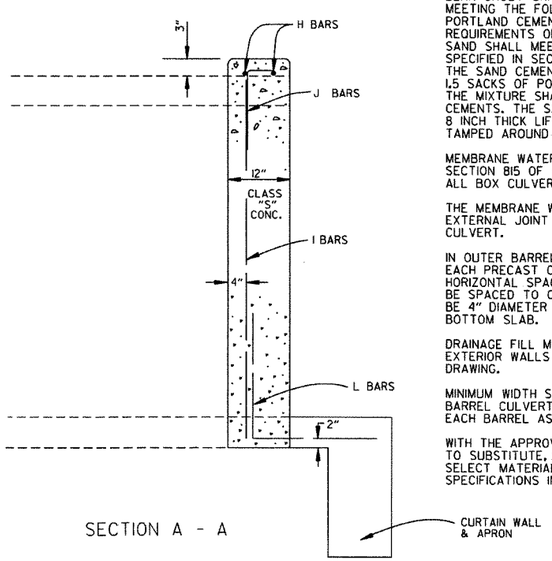
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

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

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



END VIEW



SECTION A - A

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

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

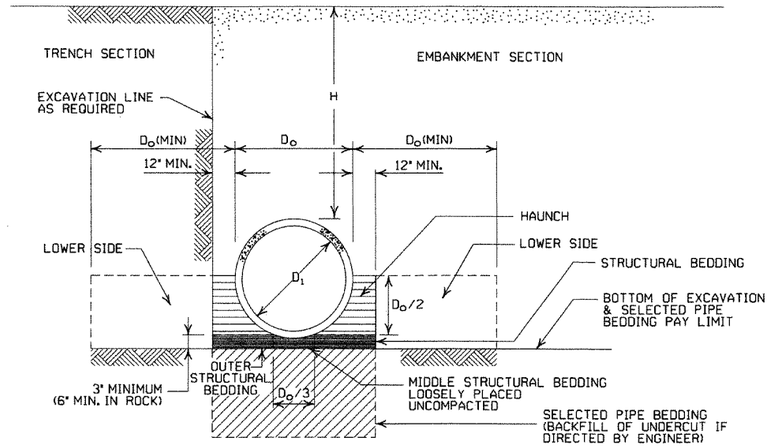
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (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)	①MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)		MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	
				INSTALLATION	INSTALLATION			INSTALLATION	INSTALLATION	
				TYPE 1	TYPE 1			TYPE 1	TYPE 1	
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2	15		0.060	2	15	
18	21x15	3	0.064	2	15		0.060	2	15	
21	24x18	3	0.064	2.25	15		0.060	2.25	15	
24	28x20	3	0.064	2.5	15		0.075	2.5	15	
30	35x24	3	0.079	3	12		0.075	3	12	
36	42x29	3½	0.079	3	12		0.105	3	12	
42	49x33	4	0.079	3	12		0.105	3	12	
48	57x38	5	0.109	3	13		0.135	3	13	
54	64x43	6	0.109	3	14		0.135	3	14	
60	71x47	7	0.138	3	15		0.164	3	15	
66	77x52	8	0.168	3	15					
72	83x57	9	0.168	3	15					
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

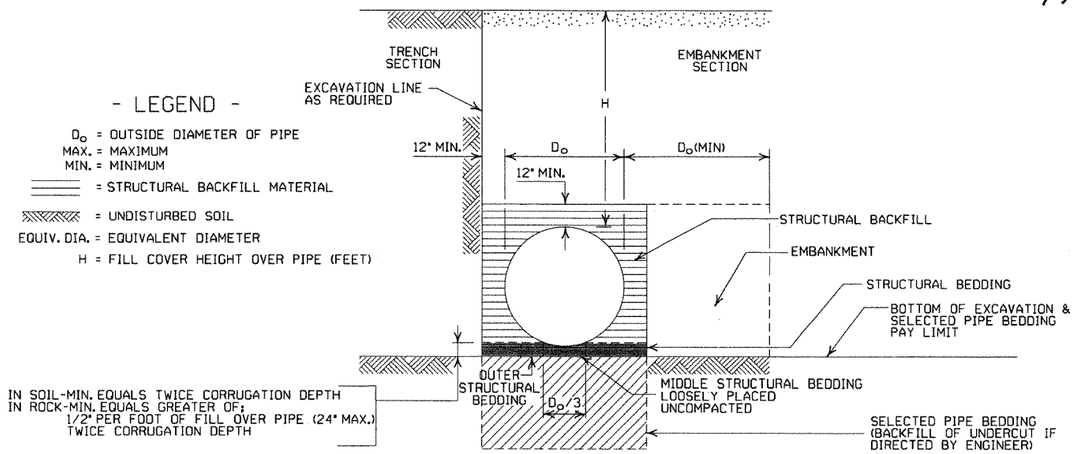
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (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.

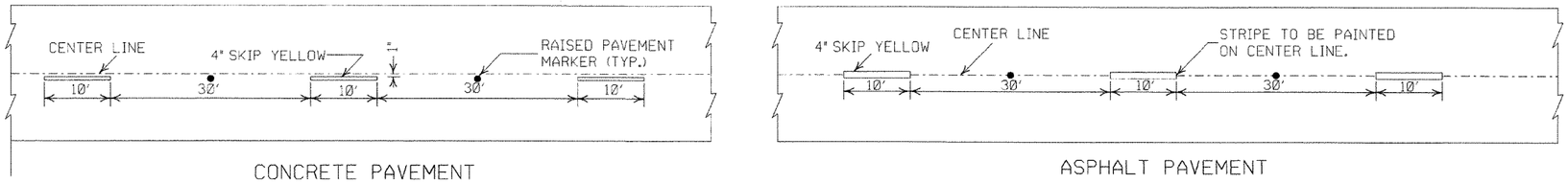
② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED 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

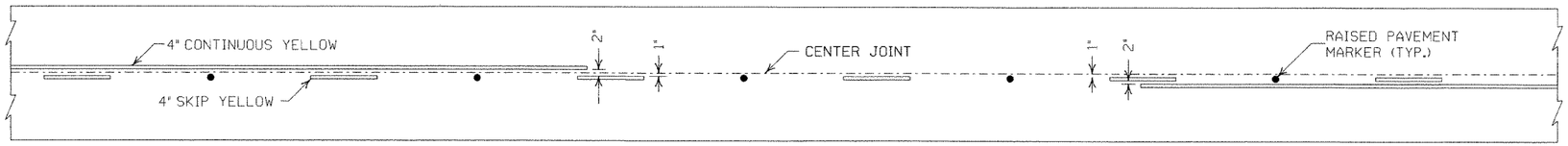
STANDARD DRAWING PCM-1



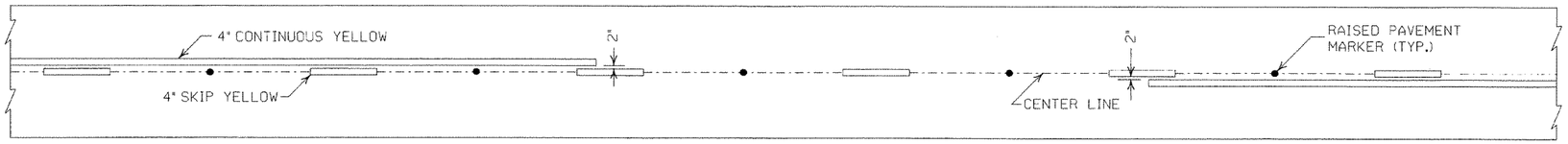
CONCRETE PAVEMENT

ASPHALT PAVEMENT

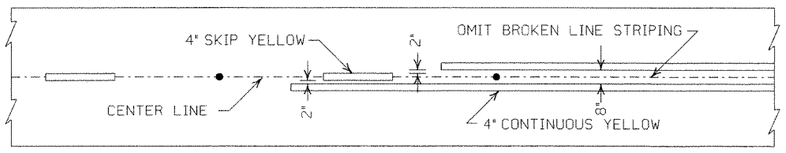
BROKEN LINE STRIPING



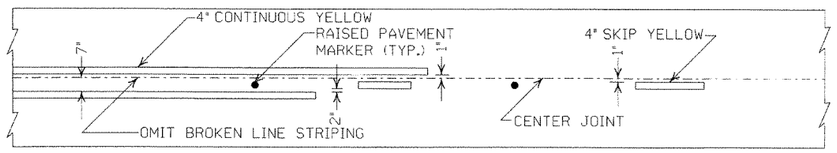
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

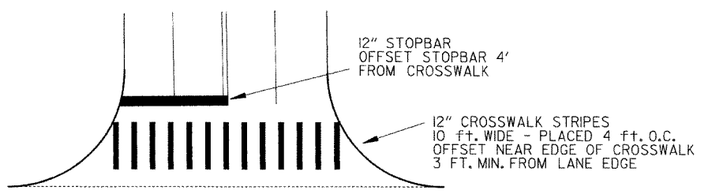


ASPHALT PAVEMENT



CONCRETE PAVEMENT

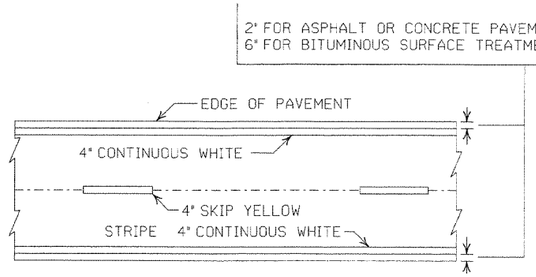
STRIPING AT ADJACENT NO PASSING LANES



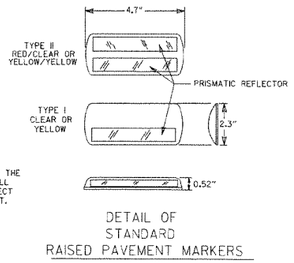
CROSSWALK AND STOPBAR DETAILS

NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.'
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



PAVEMENT EDGE LINE MARKING



NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

DATE	REVISION	FILMED
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

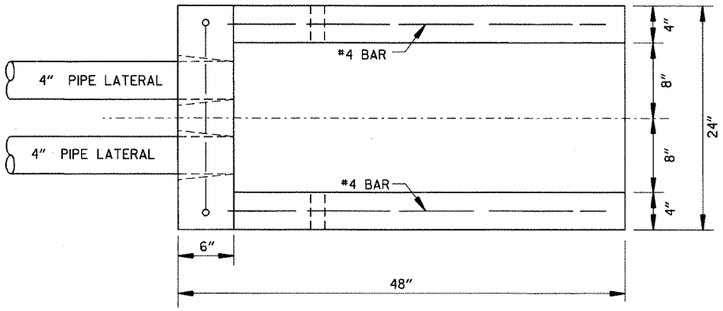
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

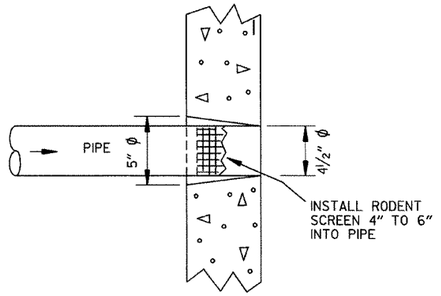
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

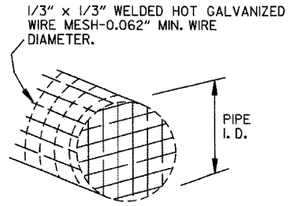
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



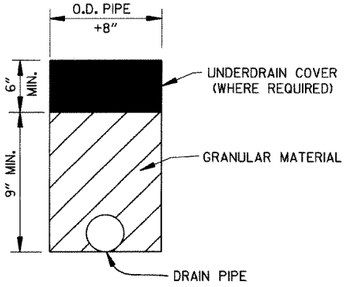
PLAN VIEW

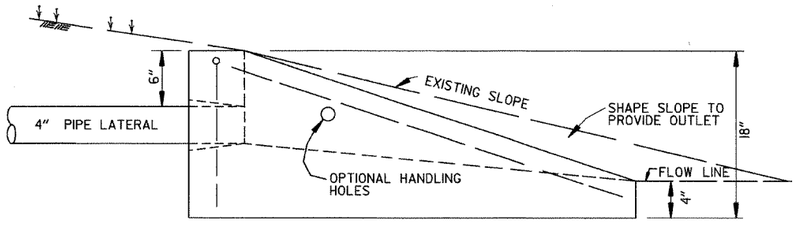


DETAIL OF HOLE FOR 4" PIPE

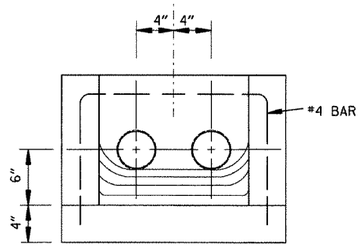


DETAIL OF RODENT SCREEN

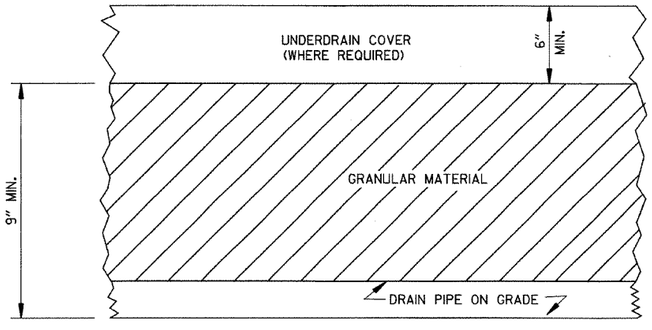




SIDE VIEW

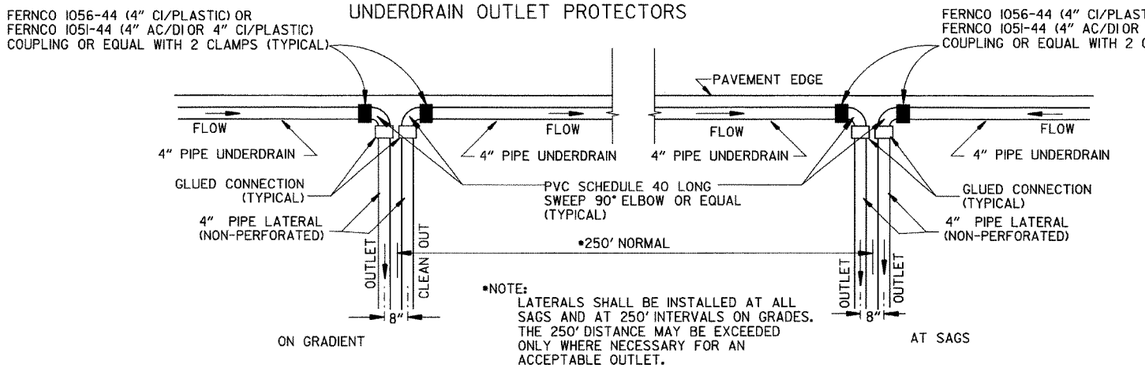


FRONT VIEW



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

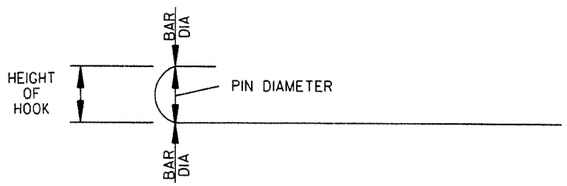
STANDARD DRAWING PU-1

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

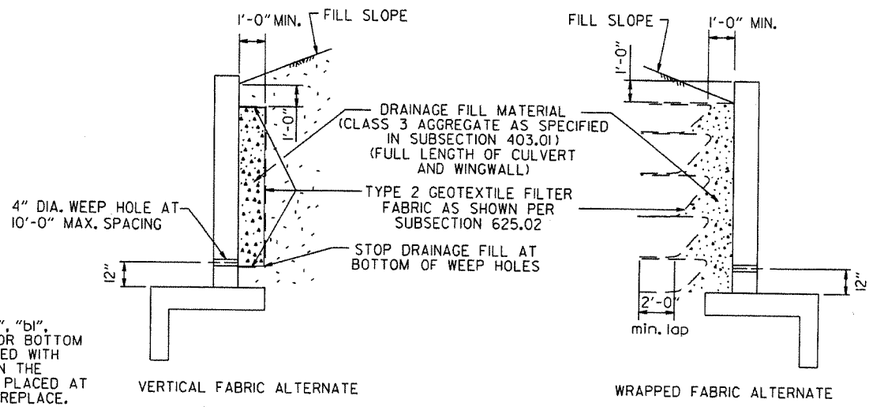
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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.

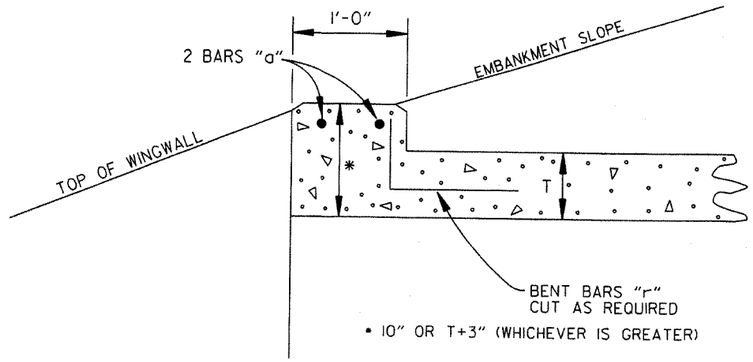
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

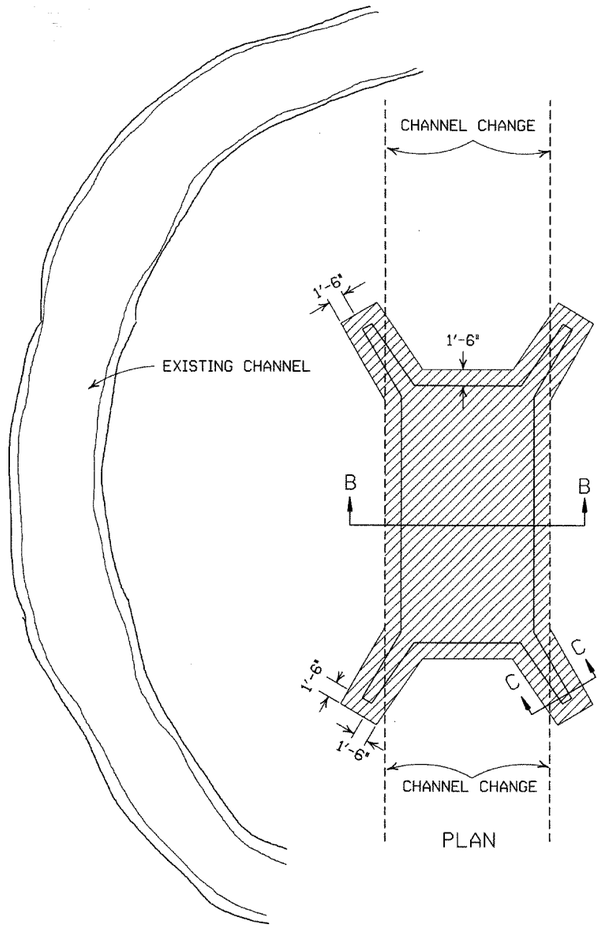
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

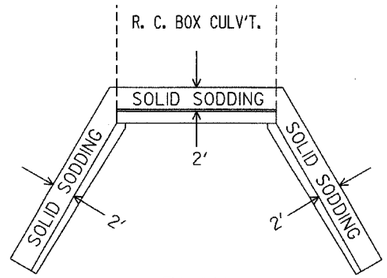
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

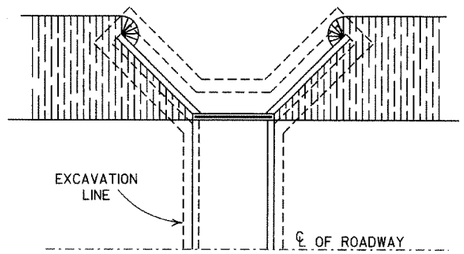
SOLID SODDING



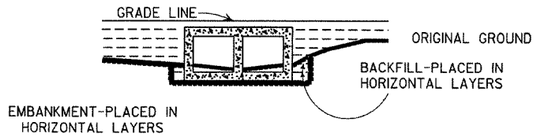
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

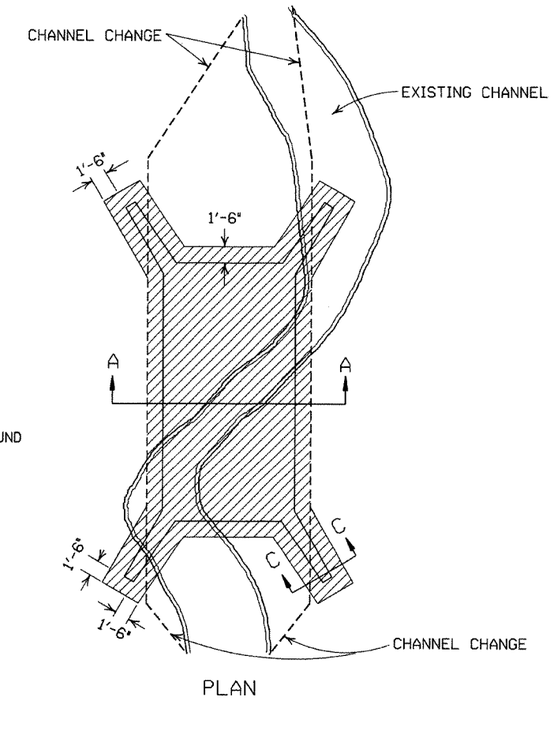


PLAN

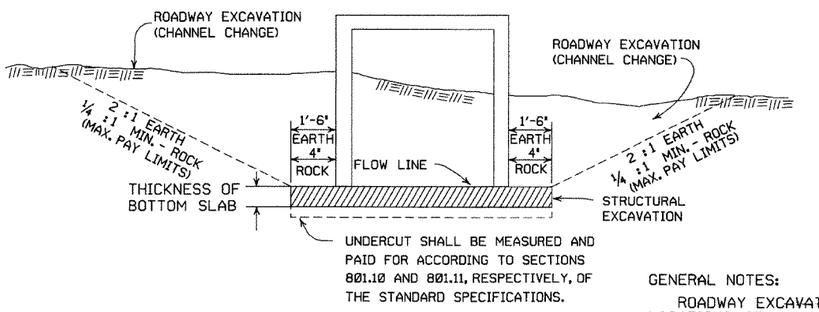


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

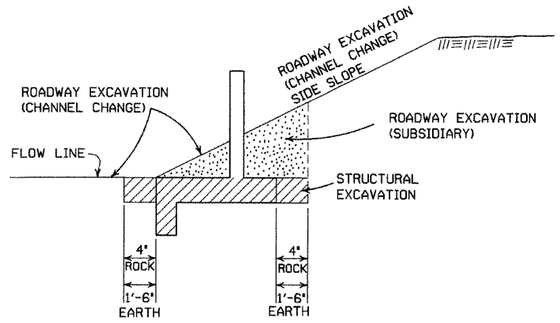


PLAN

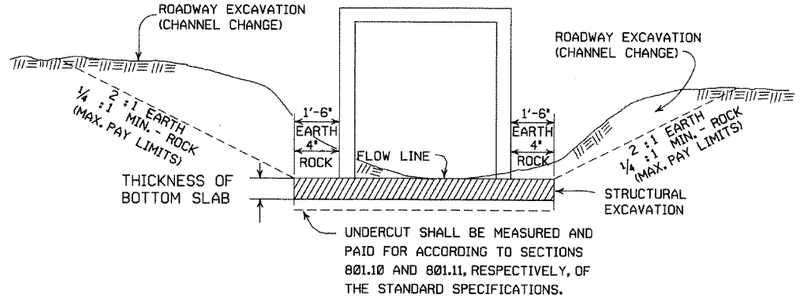


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES AND ADDED MAXIMUM PAY LIMIT NOTES.	674-1-4-83
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

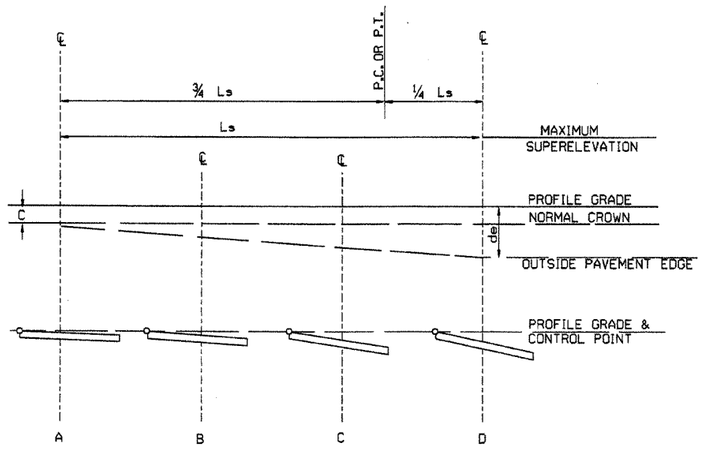
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 30′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 45′	N. C.			N. C.			R. C.			0.022			0.023			0.025			0.028		
1° 00′	N. C.			N. C.			0.021			0.026			0.030			0.033			0.037		
1° 15′	N. C.			R. C.			0.026			0.032			0.037			0.041			0.046		
1° 30′	N. C.			0.021			0.031	200		0.037	225		0.043	250		0.048	250		0.054	275	
1° 45′	N. C.			0.025			0.036			0.043			0.049			0.055			0.062		
2° 00′	R. C.			0.028	175		0.040			0.048			0.055			0.062			0.070		
2° 15′	R. C.			0.031			0.045		300	0.053			0.061			0.069	265		0.078	300	
2° 30′	0.021			0.034			0.049			0.058		350	0.067		350	0.075	280		0.085	315	400
2° 45′	0.023			0.037		250	0.053			0.063			0.072			0.081	300		0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.087	315		0.096	350	
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.093	325	400	0.098	360	450
3° 30′	0.029			0.046	185		0.065	205		0.076	255		0.086	285		0.095	340		0.100	360	
3° 45′	0.031			0.049	190		0.069	215		0.080	265		0.090	295		0.097	345				
4° 00′	0.033			0.051	200		0.072	225		0.083	270		0.093	305		0.099	350				
4° 30′	0.037			0.056	210		0.078	240		0.087	280		0.096	315							
5° 00′	0.040			0.061	215		0.083	250		0.091	295		0.098	320							
5° 30′	0.043			0.066	220		0.088	260		0.094	300	400									
6° 00′	0.046			0.070	225		0.092	270		0.096	305										
6° 30′	0.050			0.074	230		0.095	280	350	0.100	315										
7° 00′	0.053			0.078	235		0.098	285													
7° 30′	0.056			0.081	240		0.099	290													
8° 00′	0.058			0.084	245		0.100	290													
8° 30′	0.061			0.087	250	300															
9° 00′	0.063			0.089	250																
10° 00′	0.068	160		0.094	250																
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 = $S = -\frac{L(de-C)}{Ls} - C$

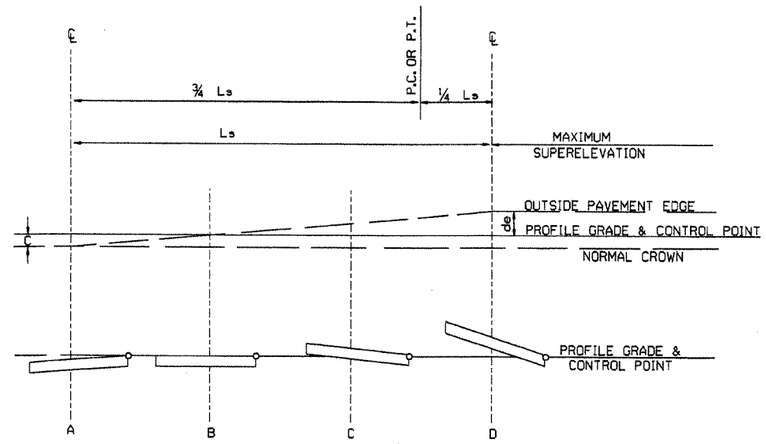
ABBREVIATIONS

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

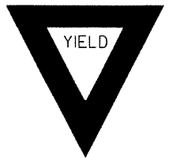
TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

R1-1

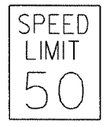
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

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"

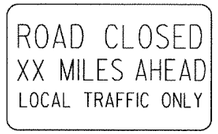
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2

48"X30"

R11-3A



60"X30"

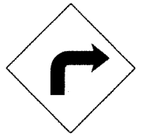
R11-4

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"

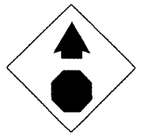
W1-6

STD. 48"X24"
SPECIAL 60"X30"

W1-8

STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1

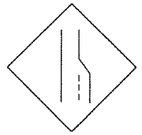


STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

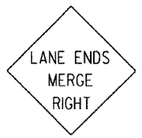
W6-3

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"

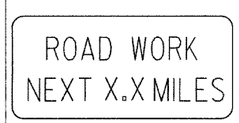
W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

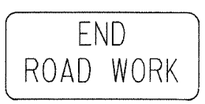
STD. 36"X36"
FWY. 48"X48"

G20-1



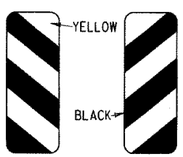
60"X24"

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

FINES DOUBLE
IN WORK ZONES
*

WHEN WORKERS
ARE PRESENT **

36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

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

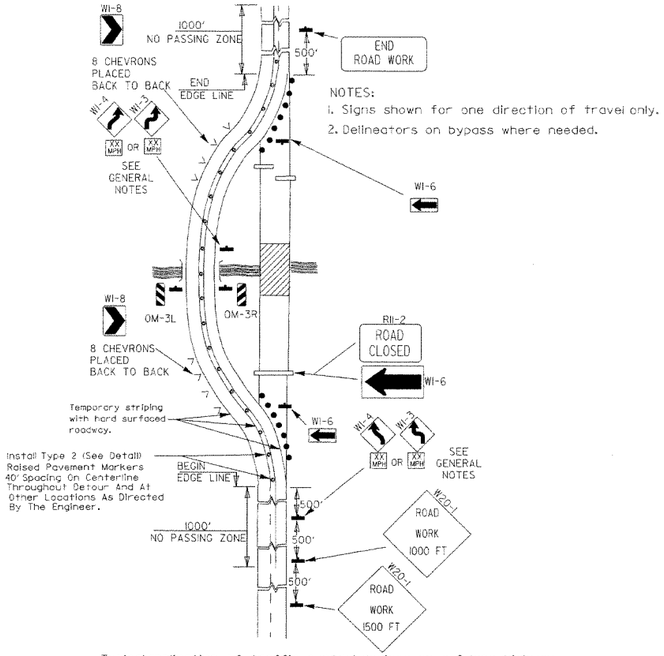
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

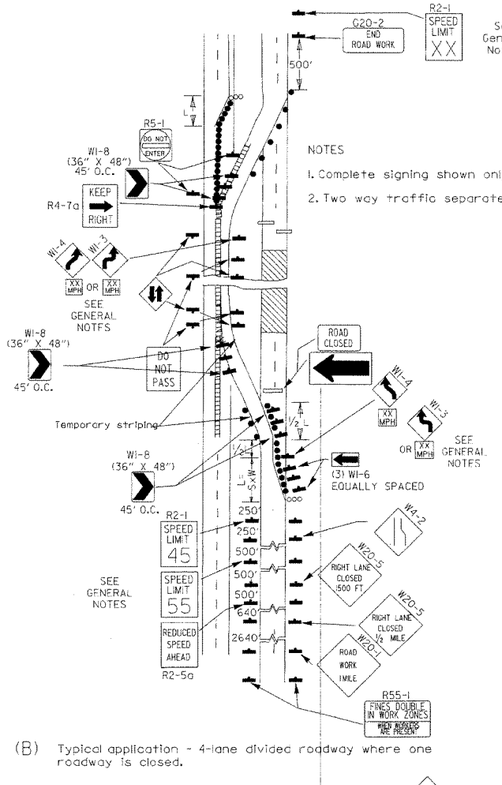
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



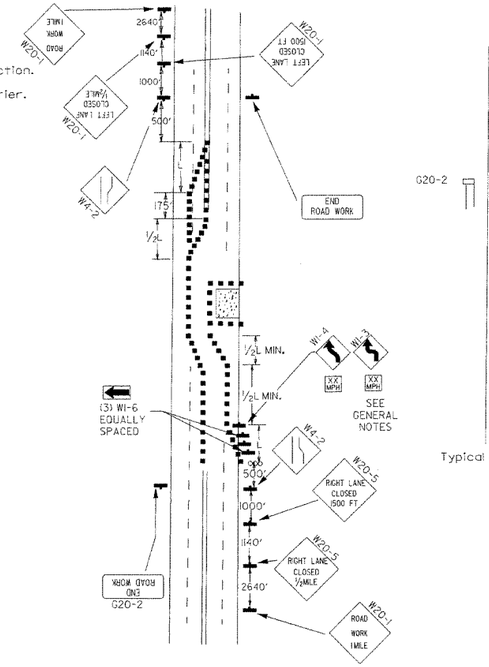
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.

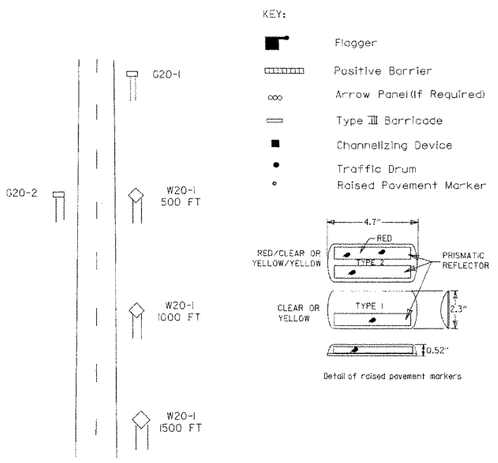


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

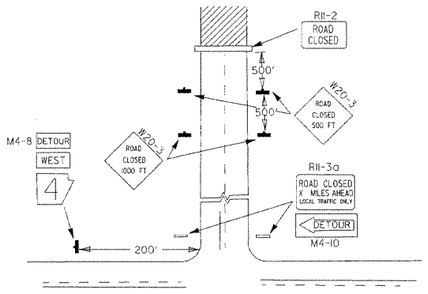
(B) Typical application - 4-lane divided roadway where one roadway is closed.



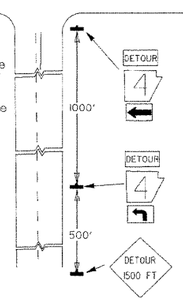
(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



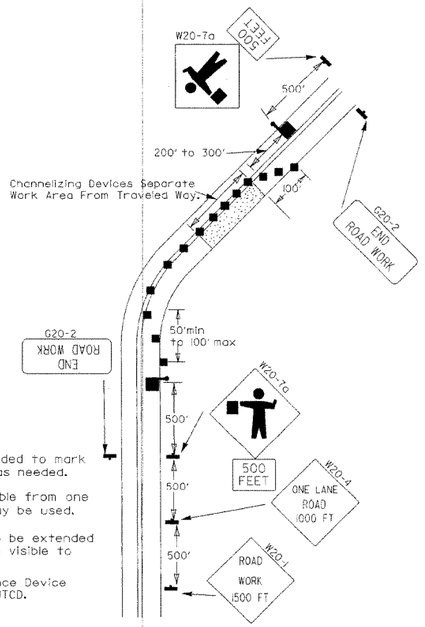
Typical advance warning sign placement



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.

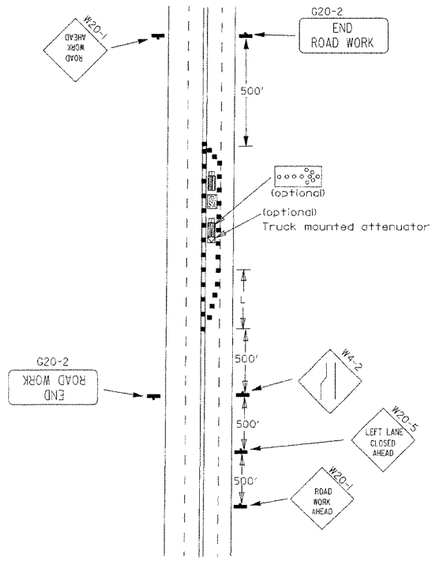


(D) Typical application - roadway closed beyond detour point.



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:

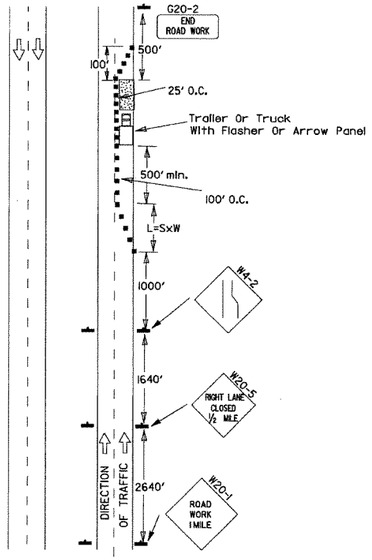
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed 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	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

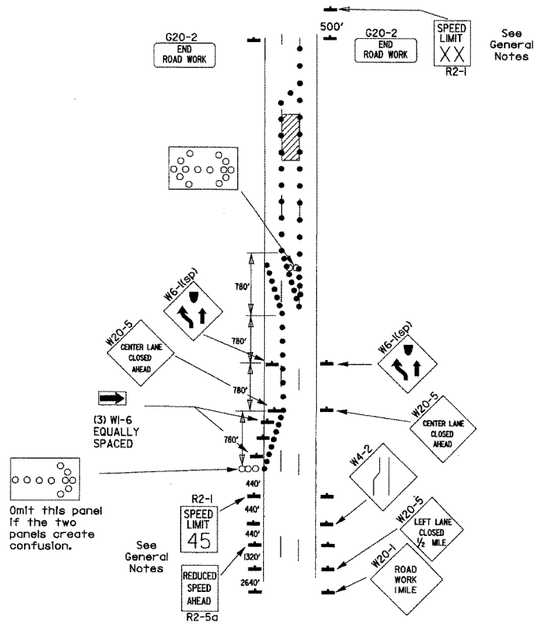
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

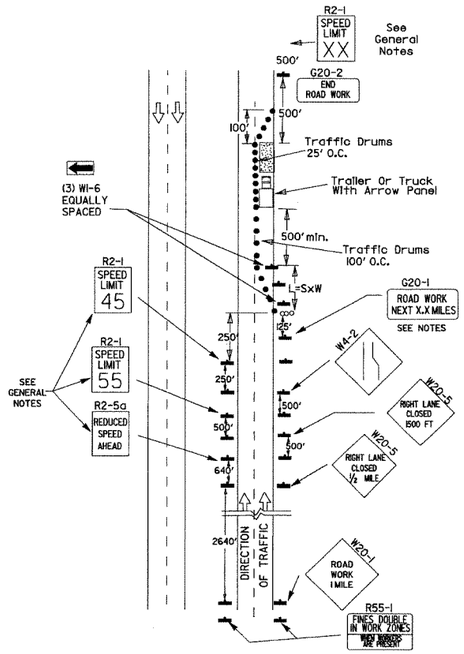
STANDARD DRAWING TC 2



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



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



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

KEY:

○○○ Arrow Panel (If Required)

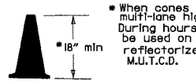
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

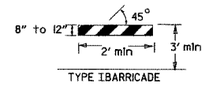
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional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

Channelizing devices



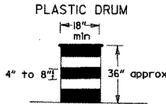
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

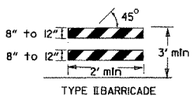
CONES



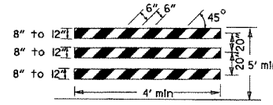
TYPE I BARRICADE

PLASTIC DRUM



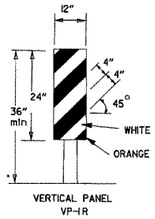


TYPE II BARRICADE



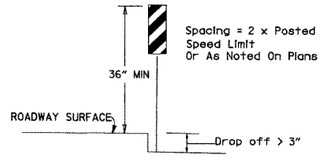
TYPE III BARRICADE

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



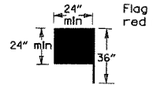
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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.

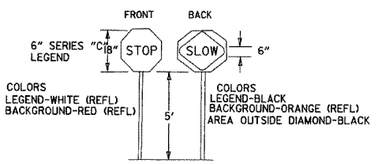
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

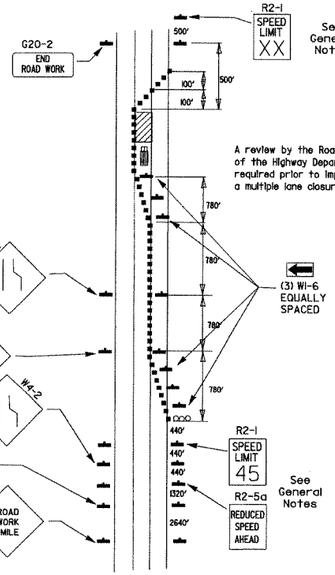
FLAG



Flag shall be of good grade red material

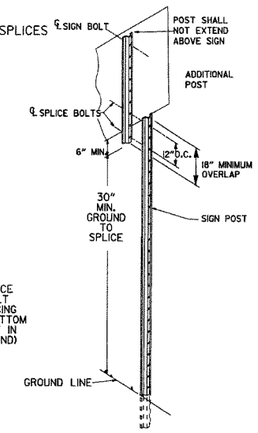
STOP SLOW PADDLE





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

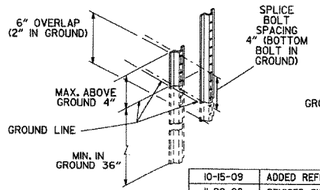
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

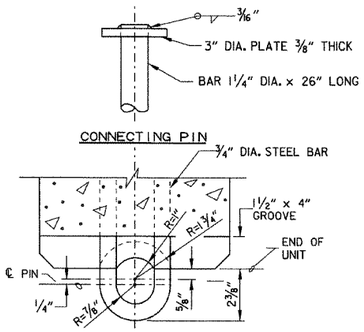
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

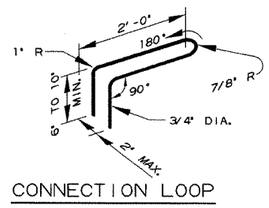
REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9"; 2 3/16" R; 12°; ±9 1/2"; 2'-1 3/8"; 4 3/8"

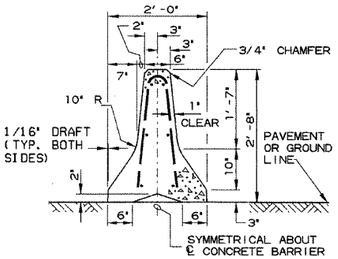


SECTION E-E

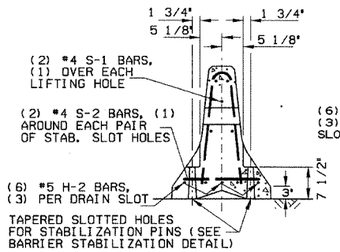
CONNECTION DETAILS



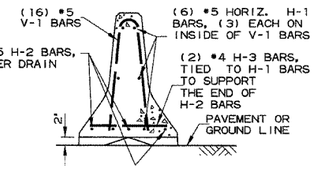
CONNECTION LOOP



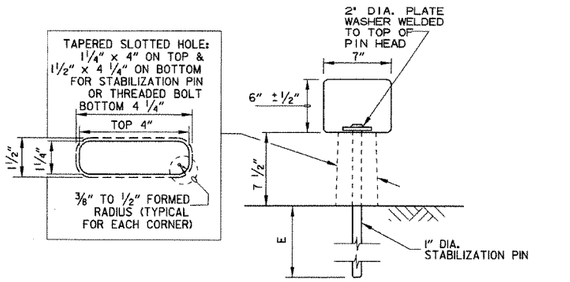
SECTION A-A



SECTION B-B



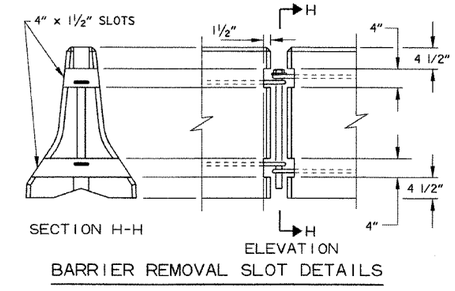
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



VIEW D-D

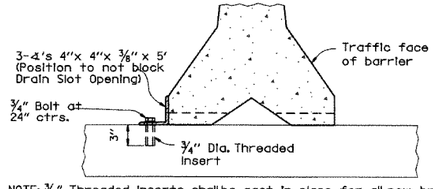
VIEW D'-D'

ELEVATION

SECTION H-H

ELEVATION

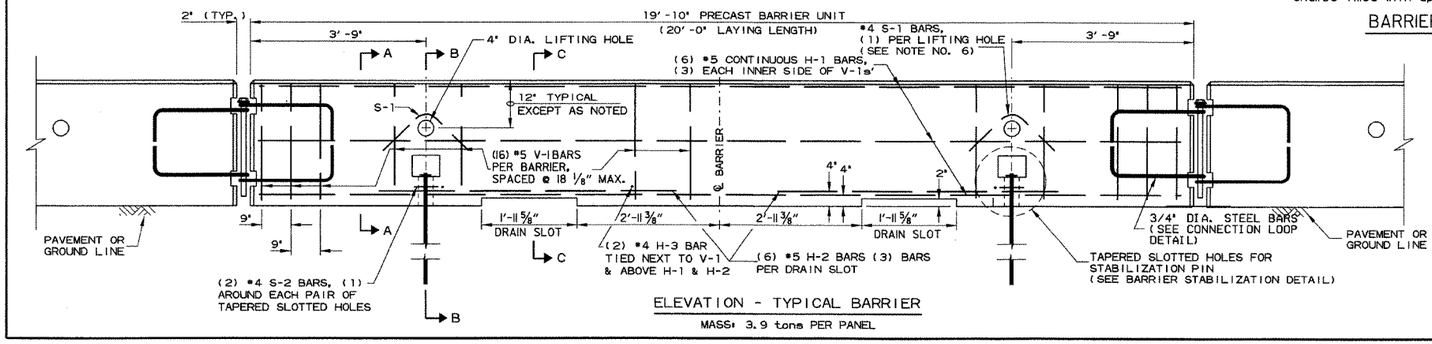
BARRIER REMOVAL SLOT DETAILS



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

BRIDGE DECKS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier".
The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

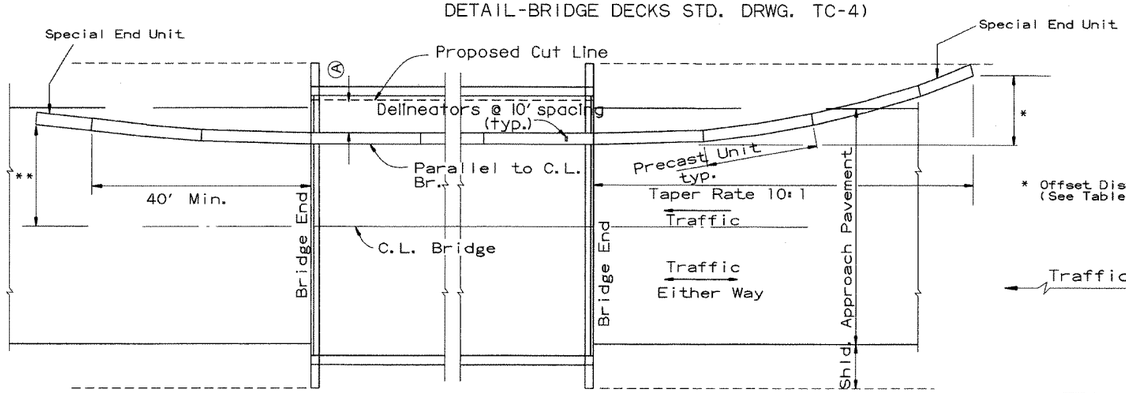
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

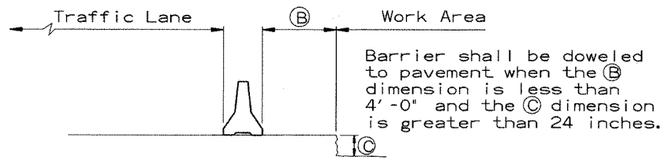
STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

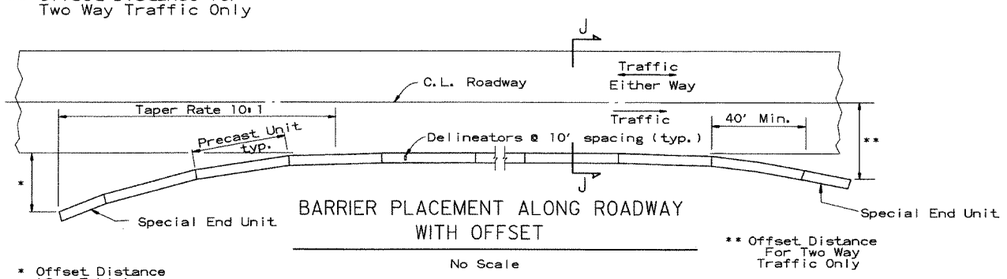


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

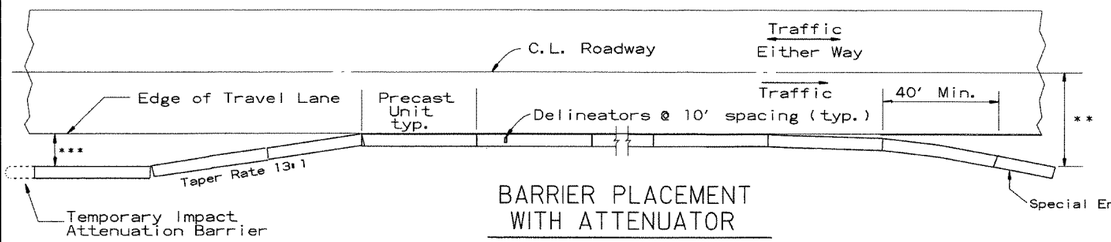
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

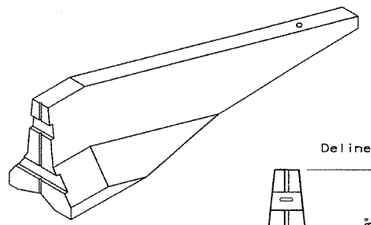


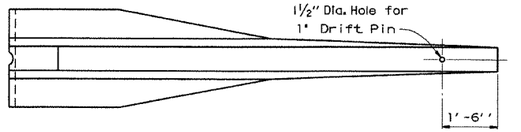
BARRIER PLACEMENT WITH ATTENUATOR

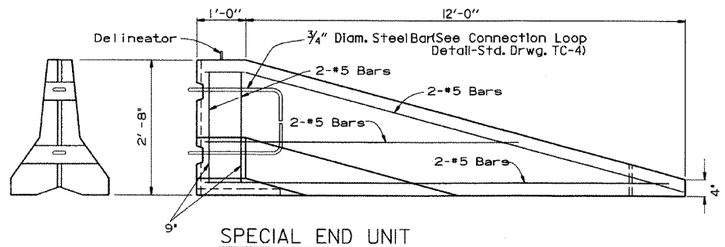
No Scale

** Offset Distance For Two Way Traffic Only

***Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator







SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

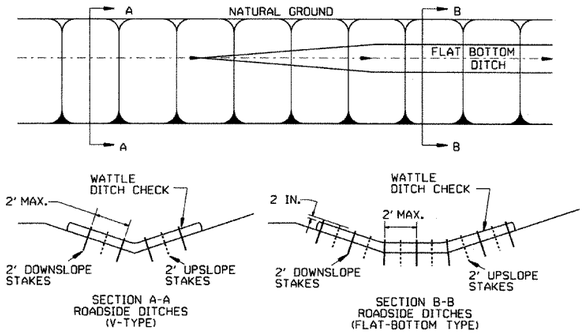
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

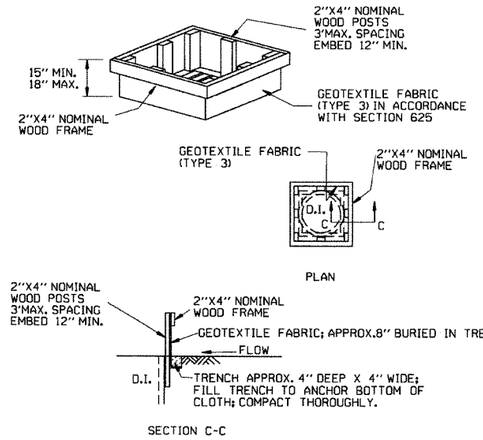
STANDARD DRAWING TC-5

GENERAL NOTES

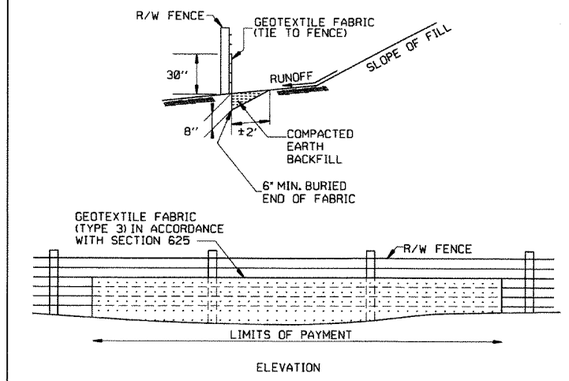
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



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

GENERAL NOTES

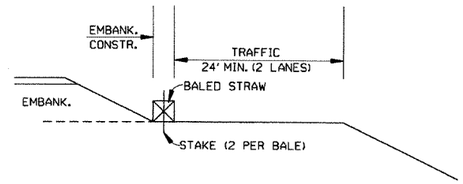
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

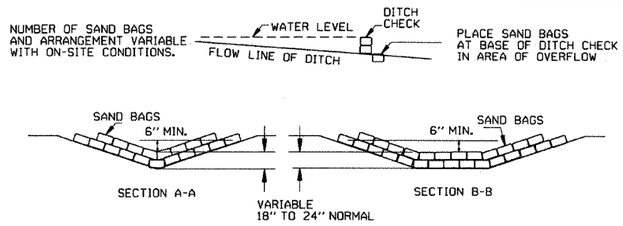
2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

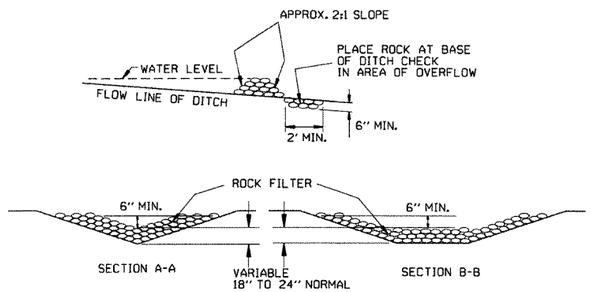


BALED STRAW FILTER BARRIER (E-2)

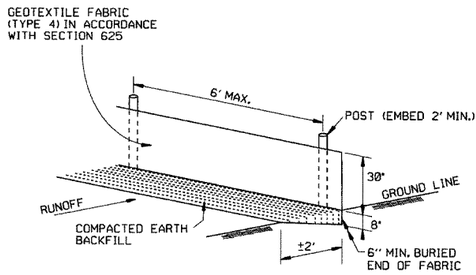
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

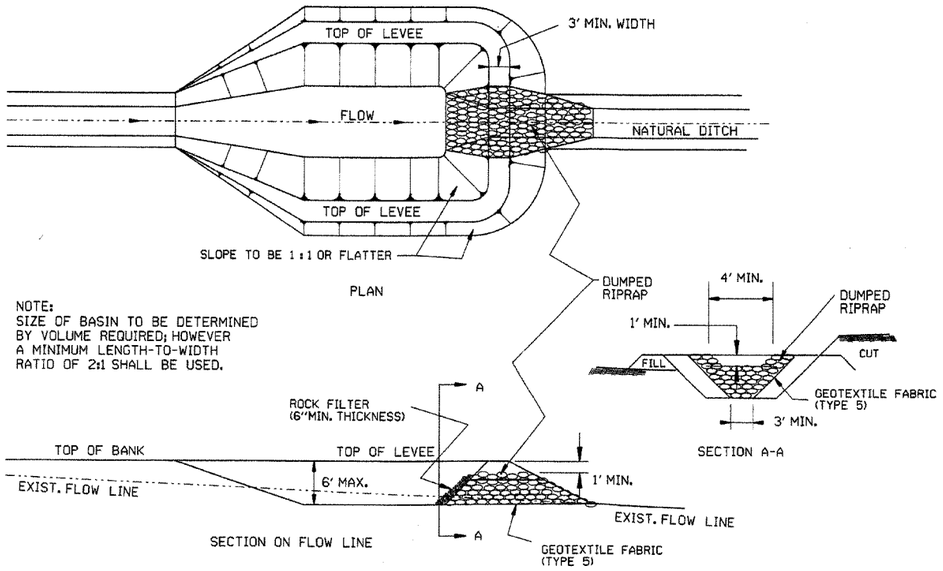
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

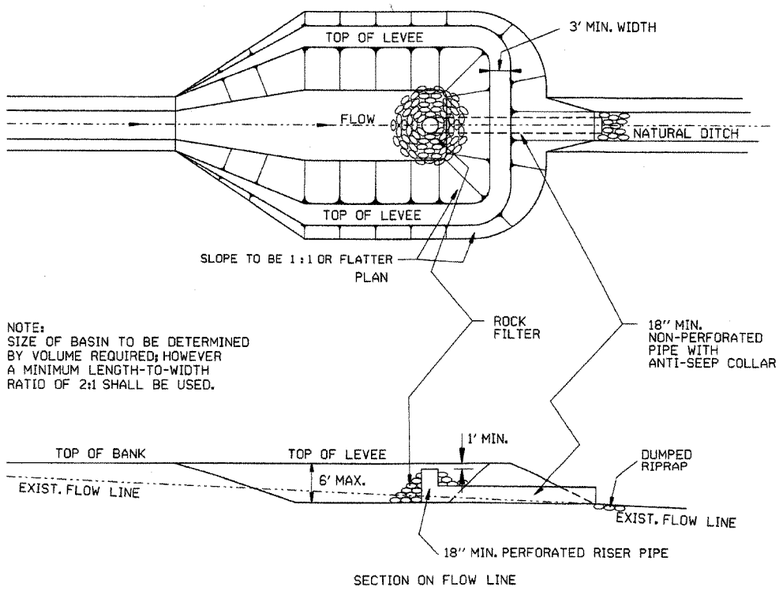
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

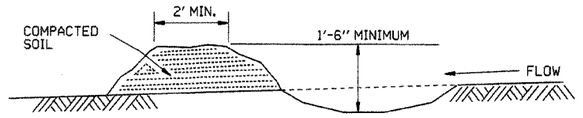
STANDARD DRAWING TEC-1



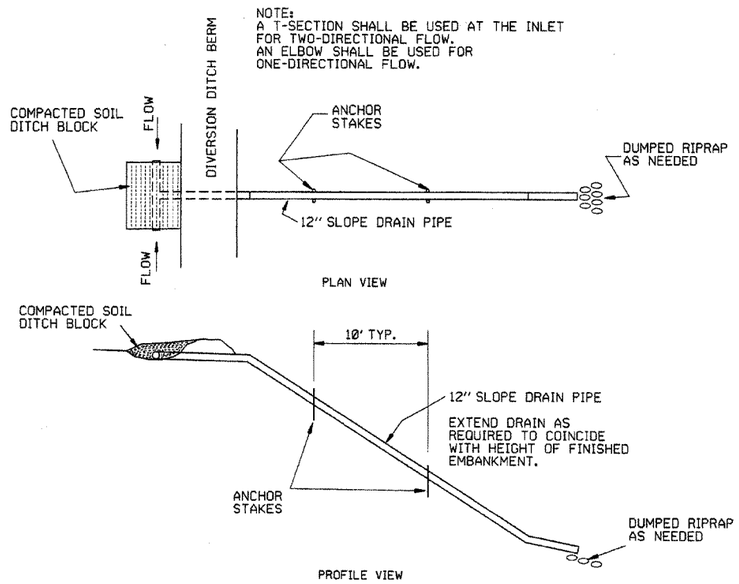
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



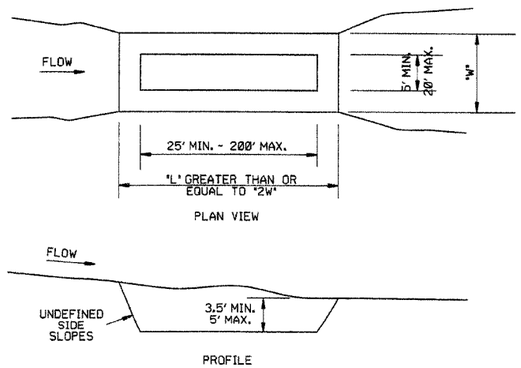
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

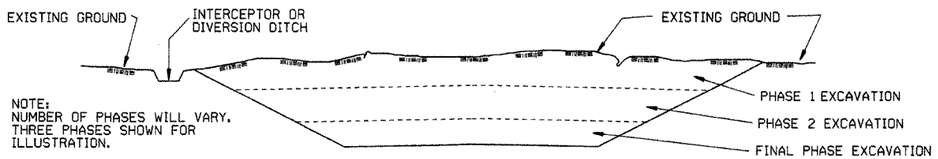
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



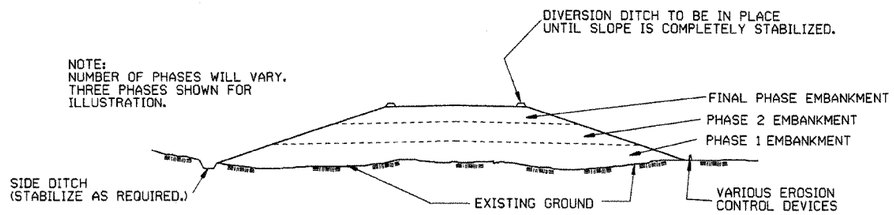
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

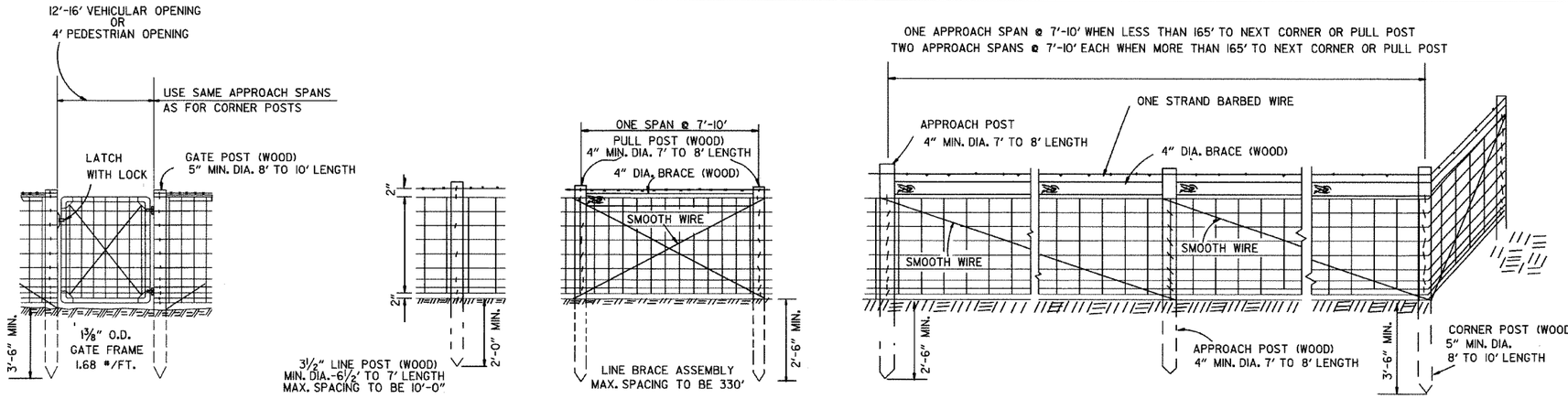
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

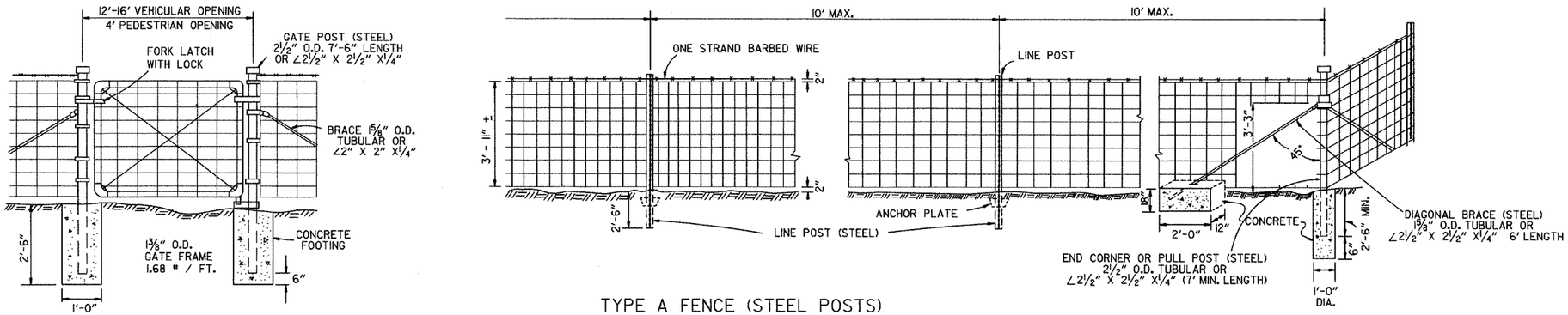
STANDARD DRAWING TEC-3

stdtec3.dgn

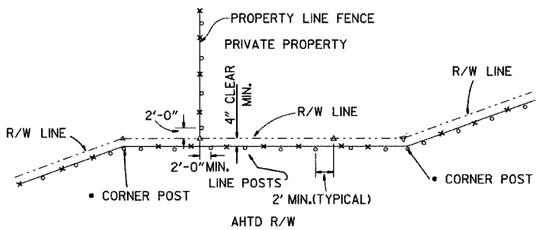


NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)



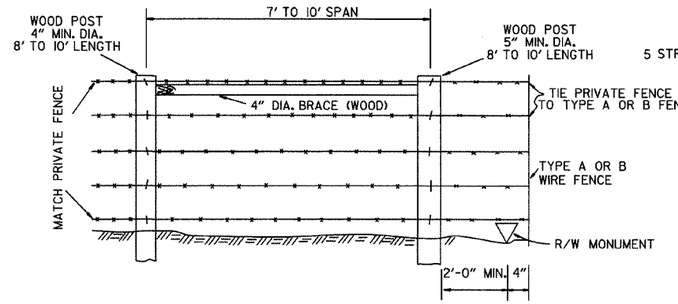
TYPE A FENCE (STEEL POSTS)



•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.

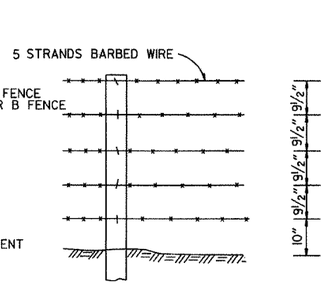
△ - R/W MONUMENTS
○ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



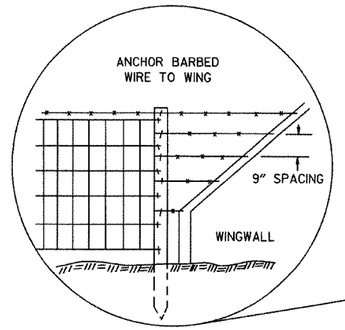
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

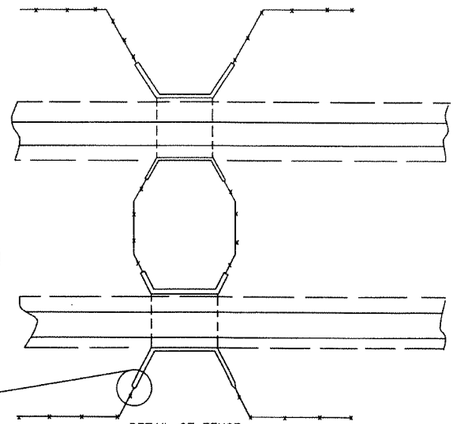
PRIVATE FENCE TERMINAL INSTALLATION



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.

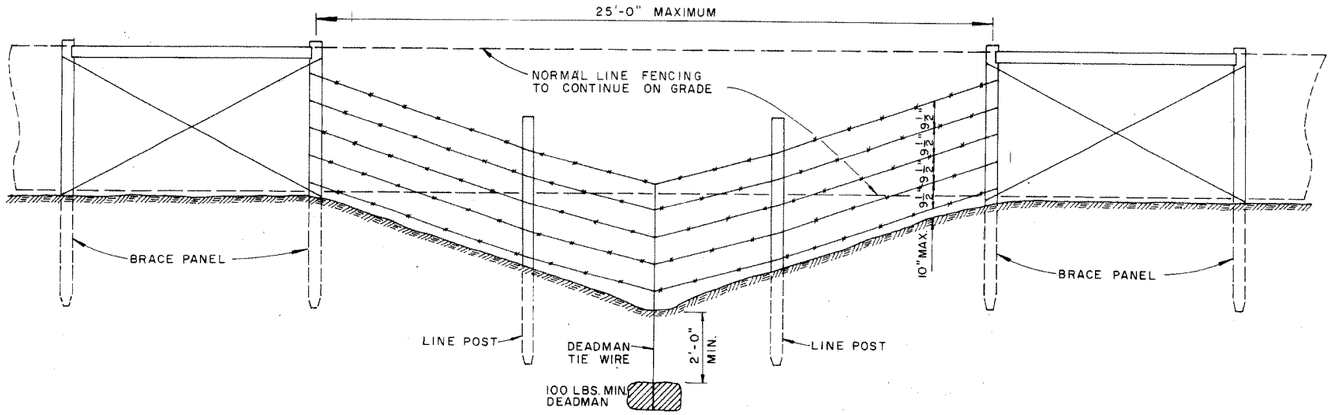
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF 4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

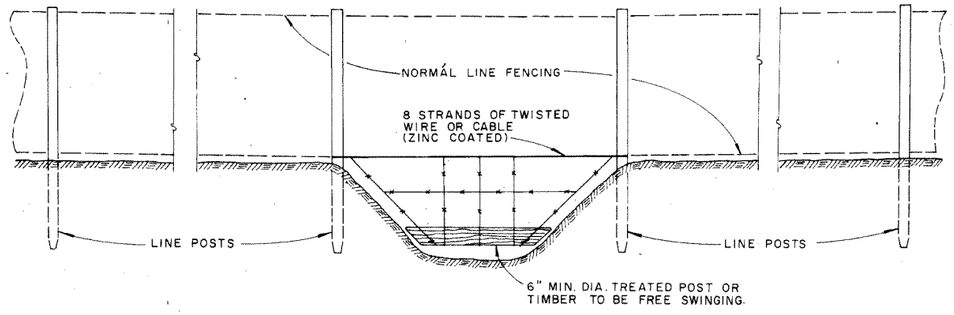
DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
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	

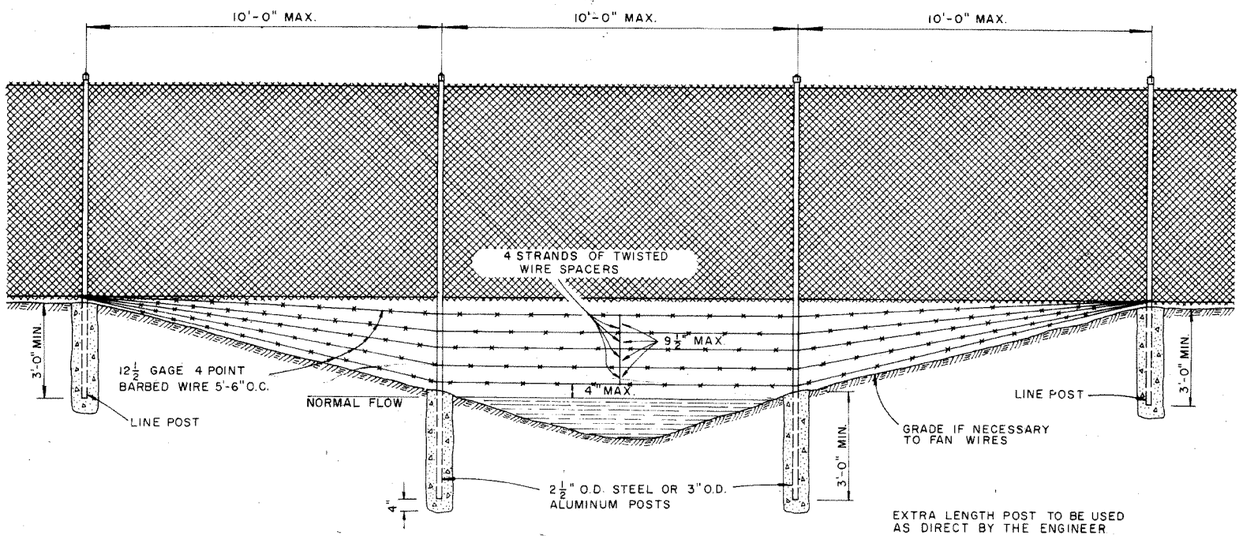
ARKANSAS STATE HIGHWAY COMMISSION

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

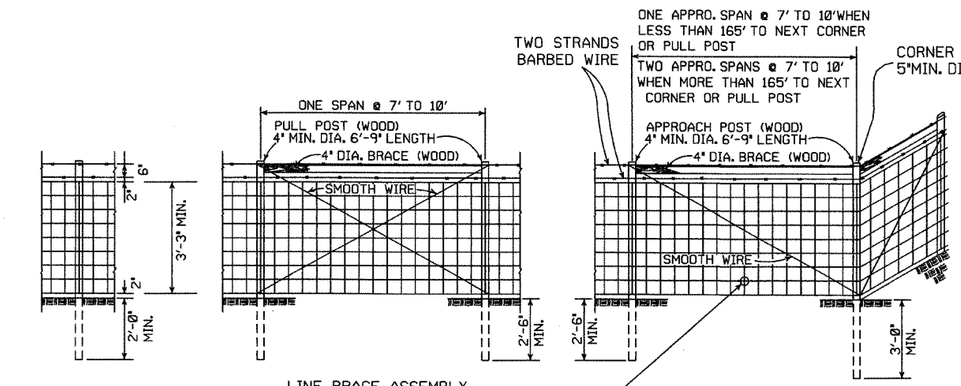
ARKANSAS STATE HIGHWAY COMMISSION

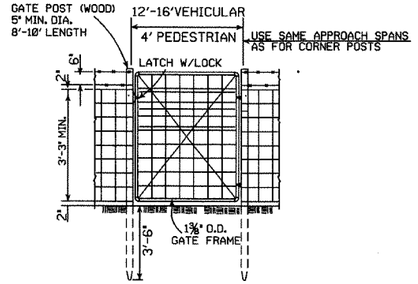
WIRE FENCE WATER GAPS

STANDARD DRAWING

WF-2

1M—11-71—47001—PP&SC





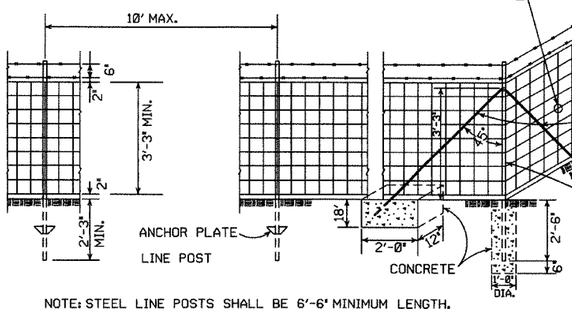
GENERAL NOTES:

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

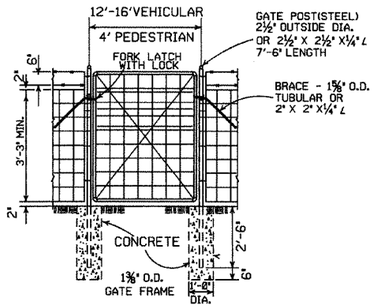
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

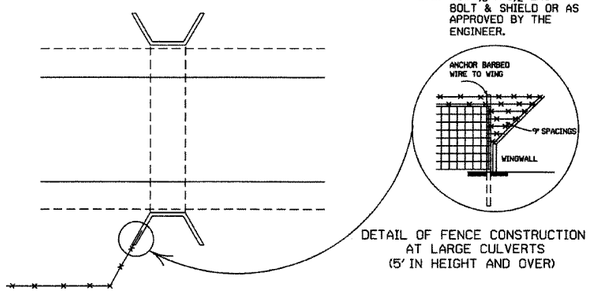
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED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

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



NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.





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

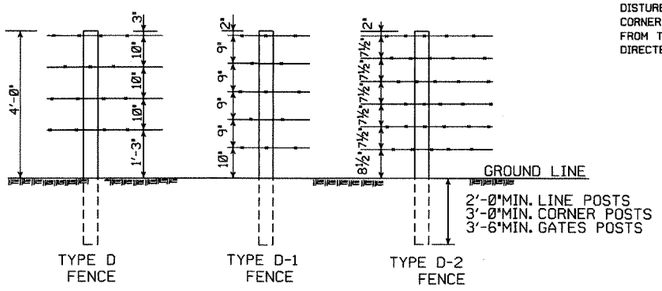
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

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

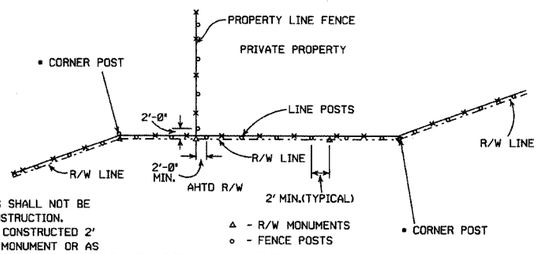
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

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

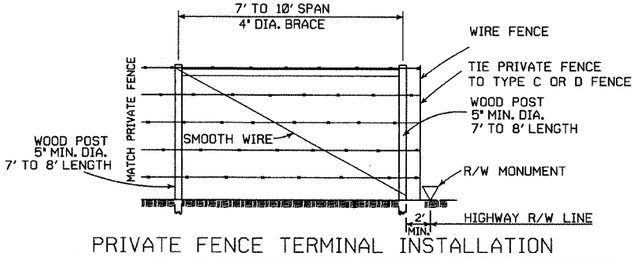


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



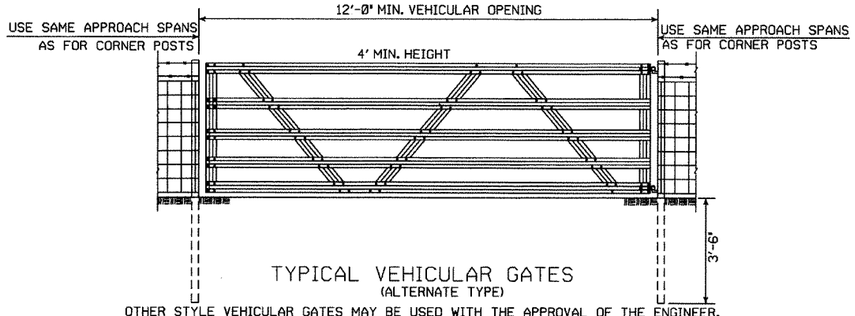
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

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

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

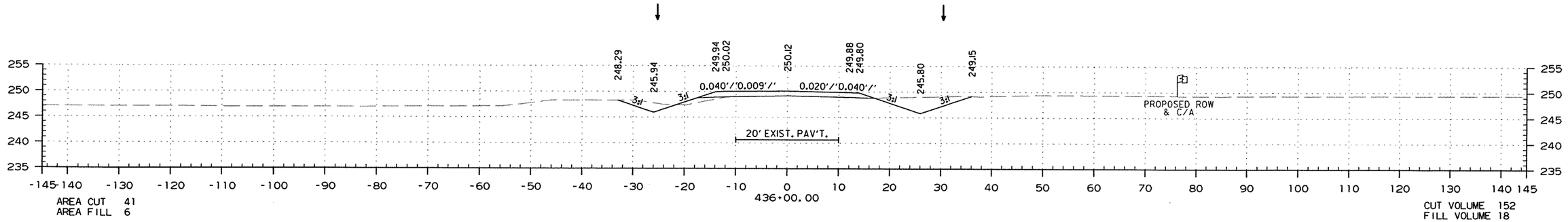
ARKANSAS STATE HIGHWAY COMMISSION

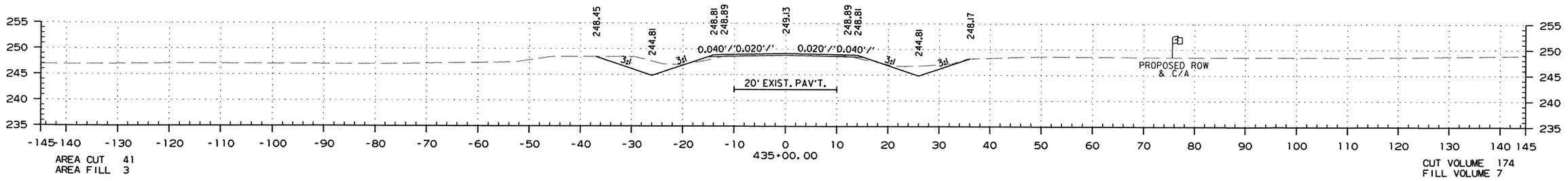
WIRE FENCE TYPE C AND D

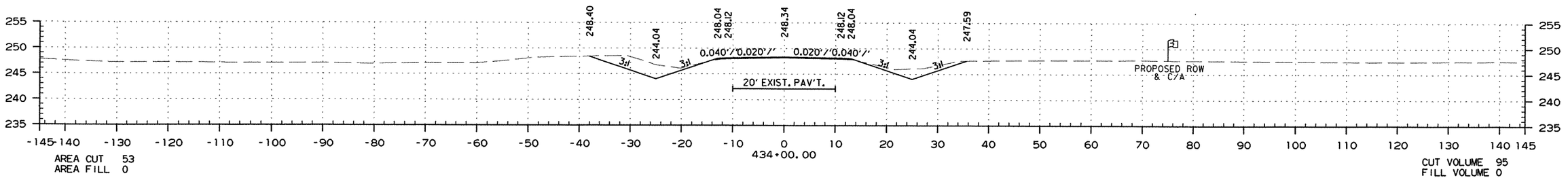
STANDARD DRAWING WF-4

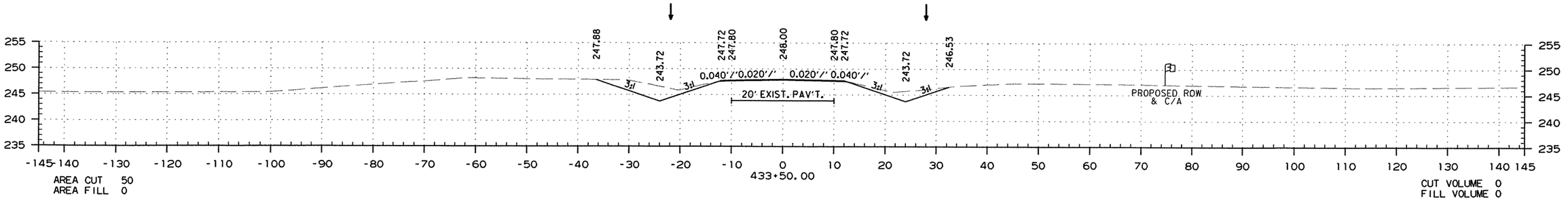
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	193	252

(2) CROSS SECTIONS - TEMPORARY GRADE RAISE









TEMPORARY GRADE RAISE (BEGIN JOB)

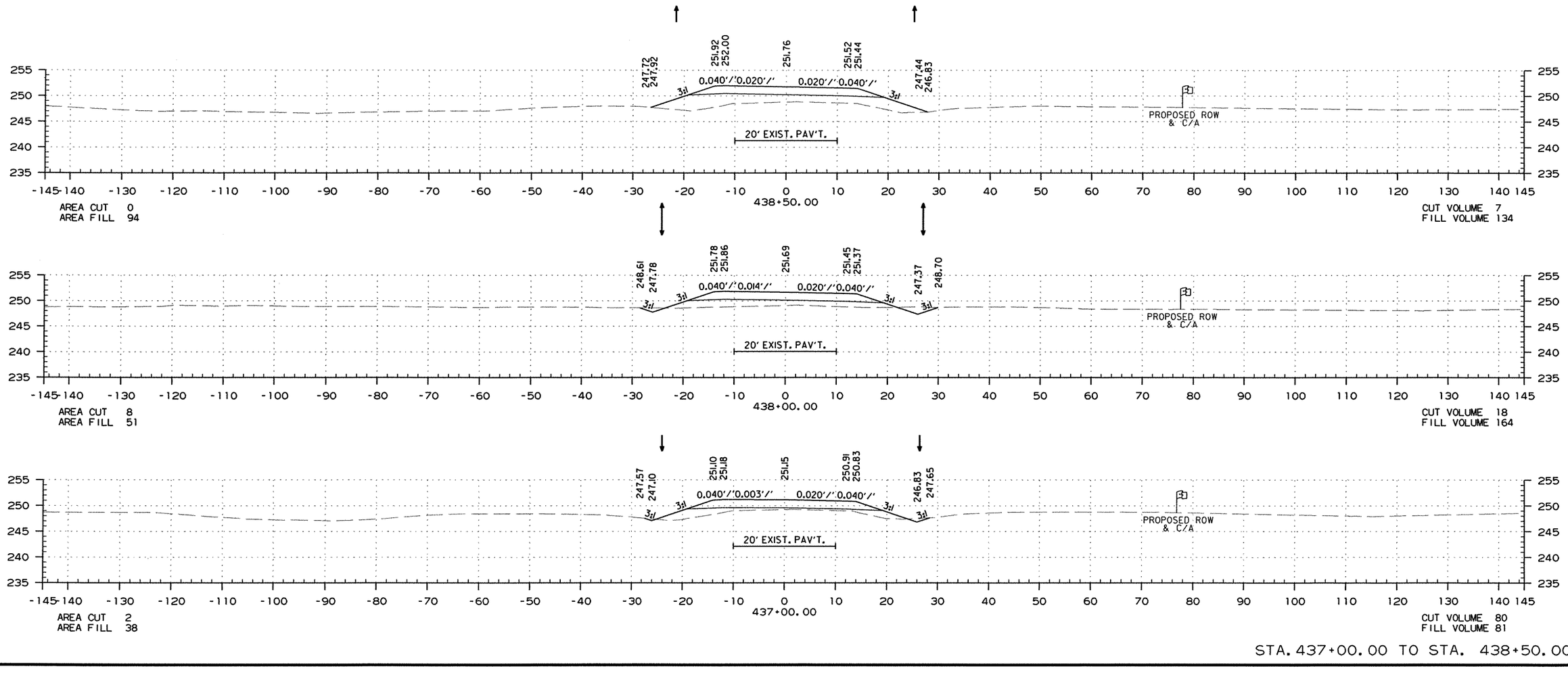
STA. 433+50.00 TO STA. 436+00.00

7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	194	252

(2) CROSS SECTIONS - TEMPORARY GRADE RAISE



STA. 437+00.00 TO STA. 438+50.00

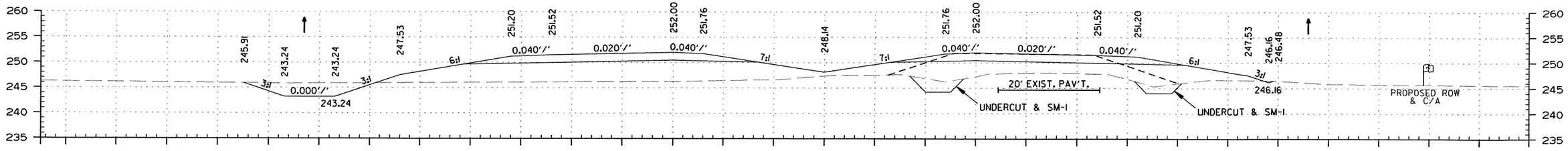
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	195	252

(2) CROSS SECTIONS

CROSSOVER



AREA CUT 48
AREA FILL 514

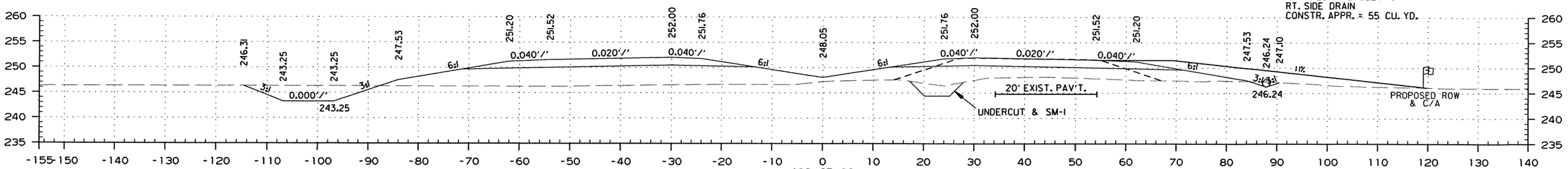
UNDERCUT AREA=30 SM-1 FILL MATERIAL AREA=30

UNDERCUT VOLUME=38 SM-1 FILL MATERIAL VOLUME=38

CUT VOLUME 69
FILL VOLUME 633

CROSSOVER

STA. 439+65 - INSTALL
18" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 55 CU. YD.



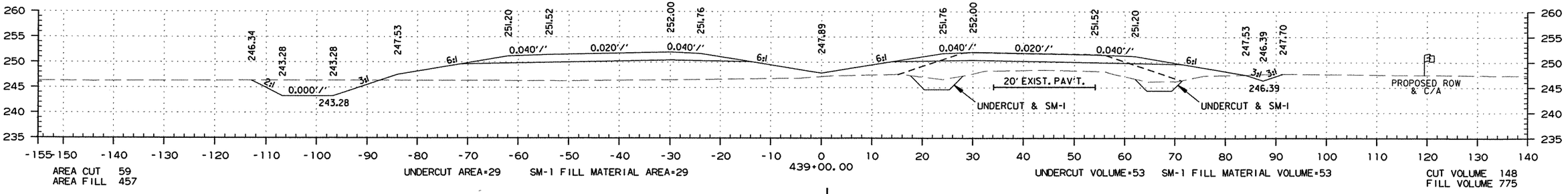
AREA CUT 59
AREA FILL 463

UNDERCUT AREA=30 SM-1 FILL MATERIAL AREA=30

UNDERCUT VOLUME=71 SM-1 FILL MATERIAL VOLUME=71

CUT VOLUME 142
FILL VOLUME 1108

CROSSOVER



AREA CUT 59
AREA FILL 457

UNDERCUT AREA=29 SM-1 FILL MATERIAL AREA=29

UNDERCUT VOLUME=53 SM-1 FILL MATERIAL VOLUME=53

CUT VOLUME 148
FILL VOLUME 775

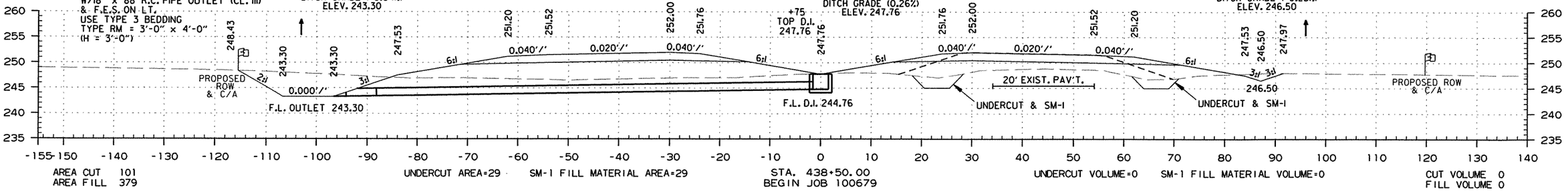
CROSSOVER

STA. 438+75 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 88' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

+50.00 BEGIN LT.
DITCH GRADE (-0.04%)
ELEV. 243.30

+50.00 BEGIN MED.
DITCH GRADE (0.26%)
ELEV. 247.76

+50.00 BEGIN RT.
DITCH GRADE (-0.23%)
ELEV. 246.50



AREA CUT 101
AREA FILL 379

UNDERCUT AREA=29 SM-1 FILL MATERIAL AREA=29

UNDERCUT VOLUME=0 SM-1 FILL MATERIAL VOLUME=0

CUT VOLUME 0
FILL VOLUME 0

STA. 438+50.00 TO STA. 440+00.00

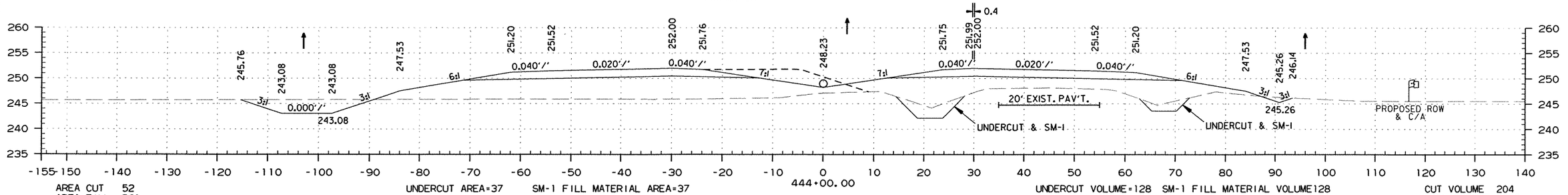
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	196	252

(2) CROSS SECTIONS

CROSSOVER



AREA CUT 52
AREA FILL 561

UNDERCUT AREA=37 SM-1 FILL MATERIAL AREA=37

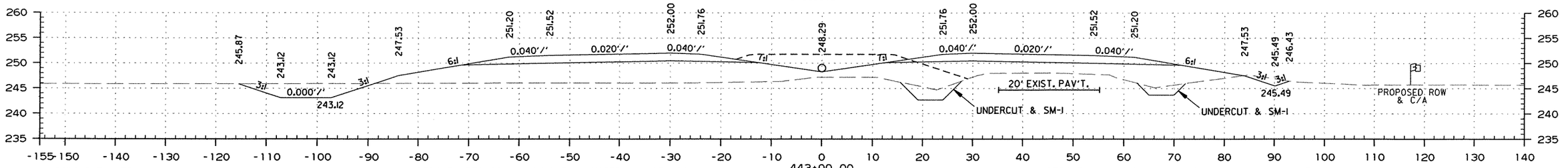
UNDERCUT VOLUME=128 SM-1 FILL MATERIAL VOLUME128

CUT VOLUME 204
FILL VOLUME 2052

STA. 443+94
BEGIN 200' TAPER

STAGE 2B CONSTRUCTION
STA. 443+00 - INSTALL
18" x 300' TEMPORARY PIPE CULV'T.

CROSSOVER



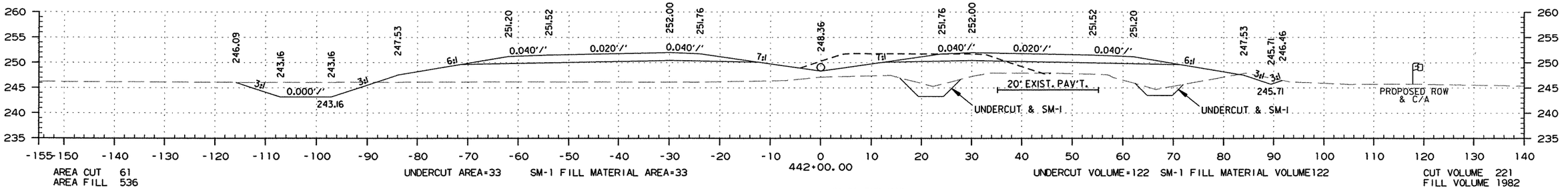
AREA CUT 58
AREA FILL 547

UNDERCUT AREA=33 SM-1 FILL MATERIAL AREA=33

UNDERCUT VOLUME=122 SM-1 FILL MATERIAL VOLUME=122

CUT VOLUME 220
FILL VOLUME 2007

CROSSOVER



AREA CUT 61
AREA FILL 536

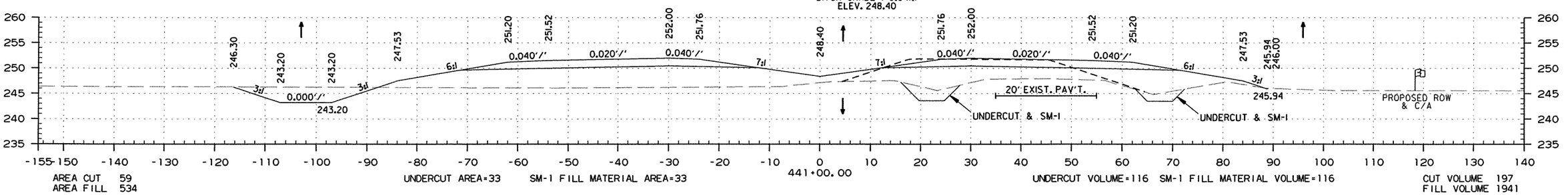
UNDERCUT AREA=33 SM-1 FILL MATERIAL AREA=33

UNDERCUT VOLUME=122 SM-1 FILL MATERIAL VOLUME122

CUT VOLUME 221
FILL VOLUME 1982

+00.00 END MED.
DITCH GRADE (0.26%)
BEGIN MED.
DITCH GRADE (-0.04%)
ELEV. 248.40

CROSSOVER



AREA CUT 59
AREA FILL 534

UNDERCUT AREA=33 SM-1 FILL MATERIAL AREA=33

UNDERCUT VOLUME=116 SM-1 FILL MATERIAL VOLUME=116

CUT VOLUME 197
FILL VOLUME 1941

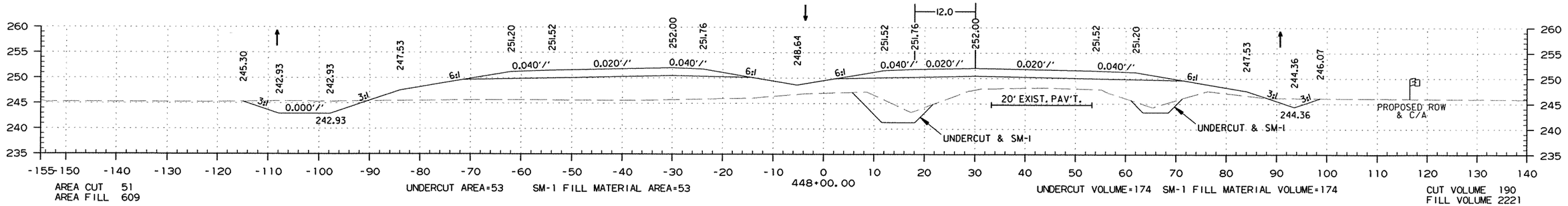
STA. 441+00.00 TO STA. 444+00.00

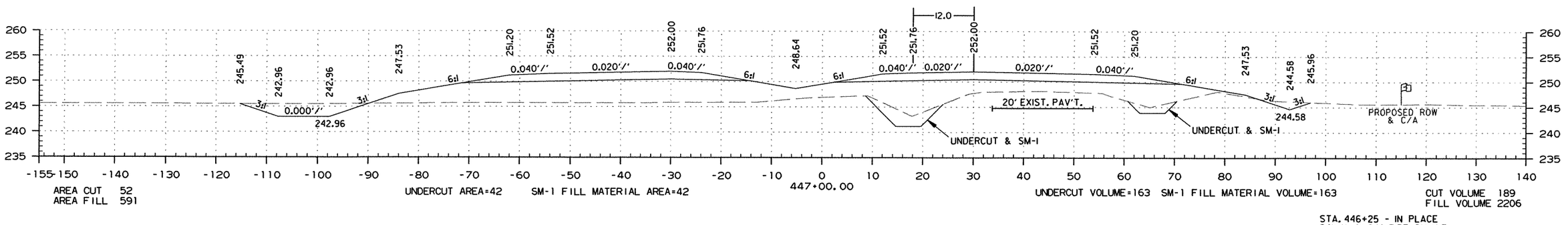
7/24/2012

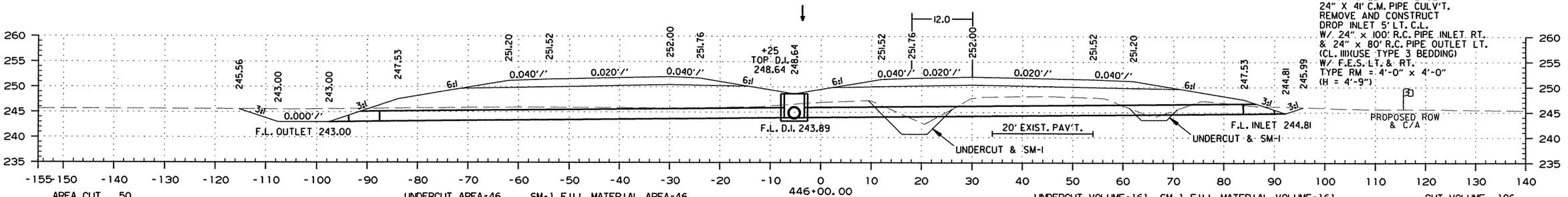
R100679.DGN

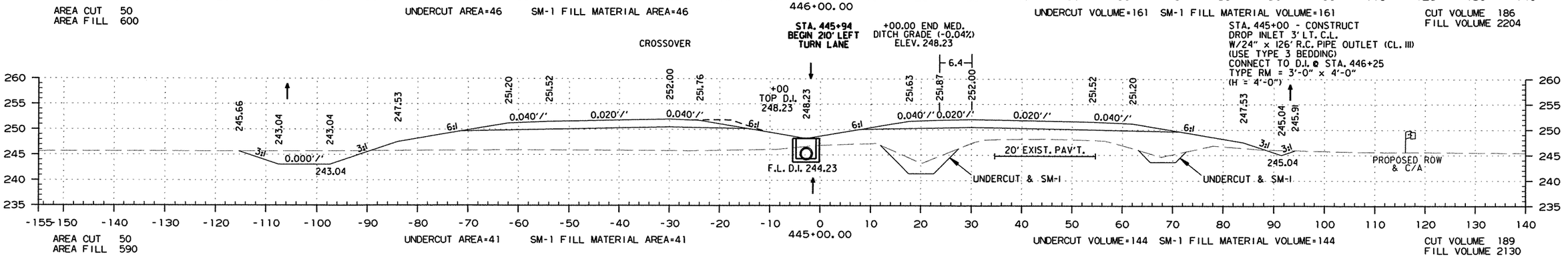
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	197	252

(2) CROSS SECTIONS









STA. 445+00.00 TO STA. 448+00.00

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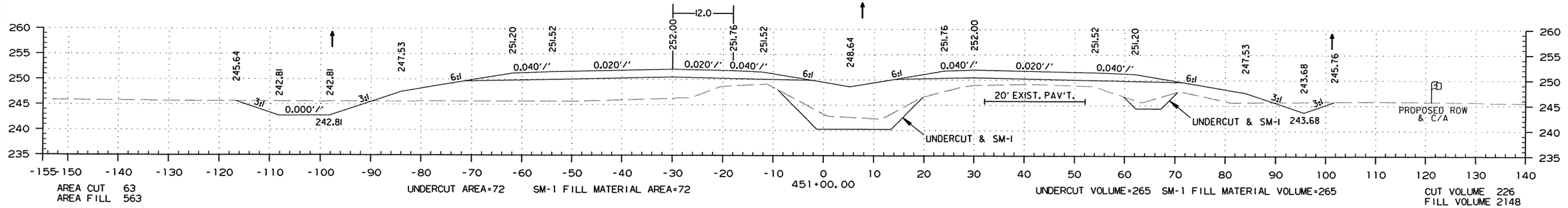
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	198	252

(2) CROSS SECTIONS

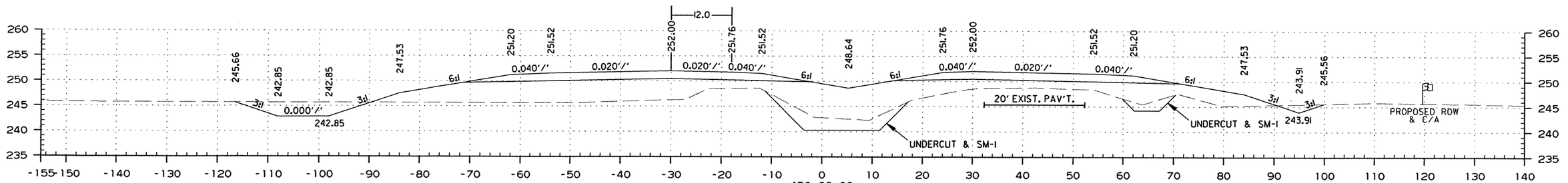


AREA CUT 63
AREA FILL 563

UNDERCUT AREA=72 SM-1 FILL MATERIAL AREA=72

UNDERCUT VOLUME=265 SM-1 FILL MATERIAL VOLUME=265

CUT VOLUME 226
FILL VOLUME 2148

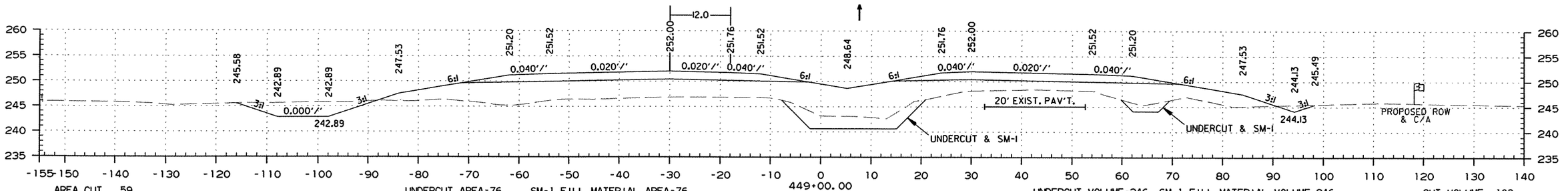


AREA CUT 58
AREA FILL 597

UNDERCUT AREA=71 SM-1 FILL MATERIAL AREA=71

UNDERCUT VOLUME=272 SM-1 FILL MATERIAL VOLUME=272

CUT VOLUME 216
FILL VOLUME 2229



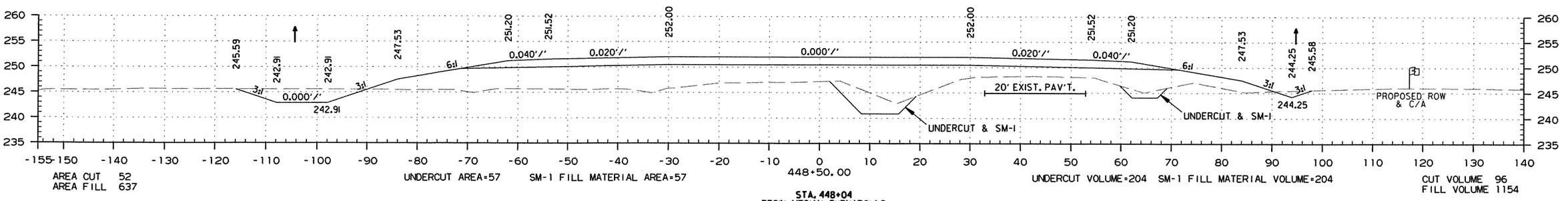
AREA CUT 59
AREA FILL 607

UNDERCUT AREA=76 SM-1 FILL MATERIAL AREA=76

UNDERCUT VOLUME=246 SM-1 FILL MATERIAL VOLUME=246

CUT VOLUME 103
FILL VOLUME 1152

STA 448+92
BEGIN 210'
LEFT TURN LANE



AREA CUT 52
AREA FILL 637

UNDERCUT AREA=57 SM-1 FILL MATERIAL AREA=57

UNDERCUT VOLUME=204 SM-1 FILL MATERIAL VOLUME=204

CUT VOLUME 96
FILL VOLUME 1154

STA. 448+04
BEGIN MEDIAN TURNAROUND

STA. 448+50.00 TO STA. 451+00.00

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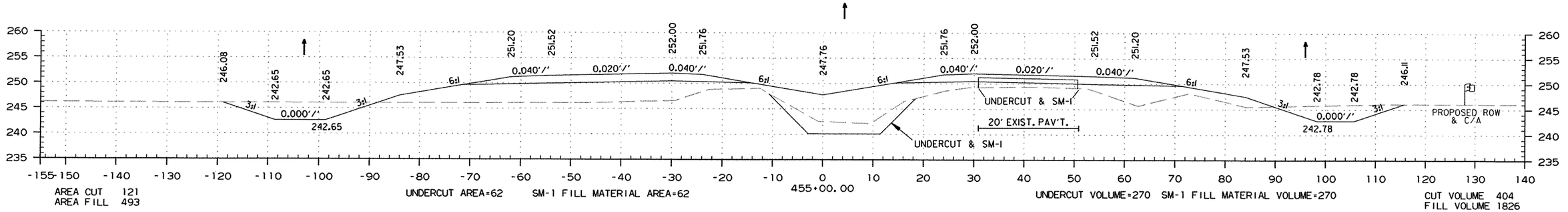
				6	ARK.			
				JOB NO.		100679	199	252

(2) CROSS SECTIONS

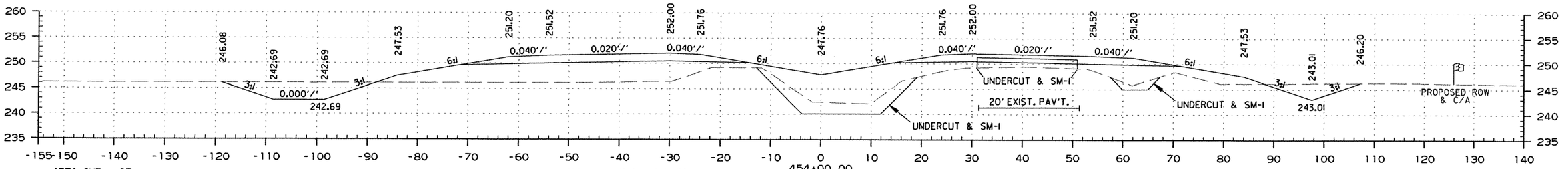


AREA CUT 121
AREA FILL 493

UNDERCUT AREA=62 SM-1 FILL MATERIAL AREA=62

UNDERCUT VOLUME=270 SM-1 FILL MATERIAL VOLUME=270

CUT VOLUME 404
FILL VOLUME 1826



AREA CUT 97
AREA FILL 493

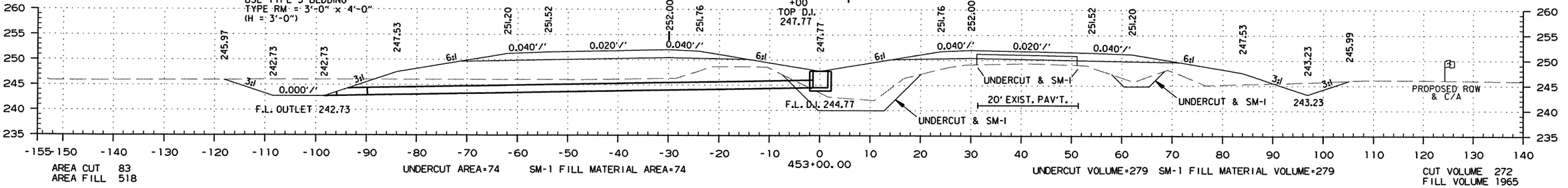
UNDERCUT AREA=84 SM-1 FILL MATERIAL AREA=84

UNDERCUT VOLUME=292 SM-1 FILL MATERIAL VOLUME=292

CUT VOLUME 334
FILL VOLUME 1872

STA. 453+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 88' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

STA. 453+02
END 200' TAPER



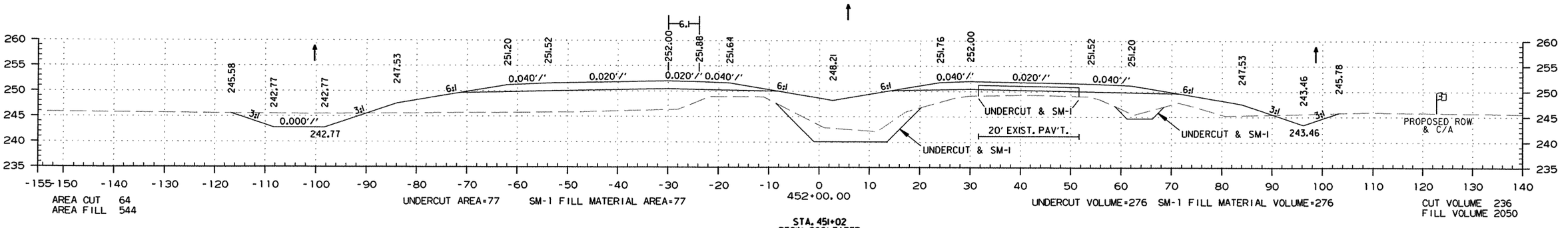
AREA CUT 83
AREA FILL 518

UNDERCUT AREA=74 SM-1 FILL MATERIAL AREA=74

UNDERCUT VOLUME=279 SM-1 FILL MATERIAL VOLUME=279

CUT VOLUME 272
FILL VOLUME 1965

STA. 451+02
BEGIN 200' TAPER



AREA CUT 64
AREA FILL 544

UNDERCUT AREA=77 SM-1 FILL MATERIAL AREA=77

UNDERCUT VOLUME=276 SM-1 FILL MATERIAL VOLUME=276

CUT VOLUME 236
FILL VOLUME 2050

STA. 452+00.00 TO STA. 455+00.00

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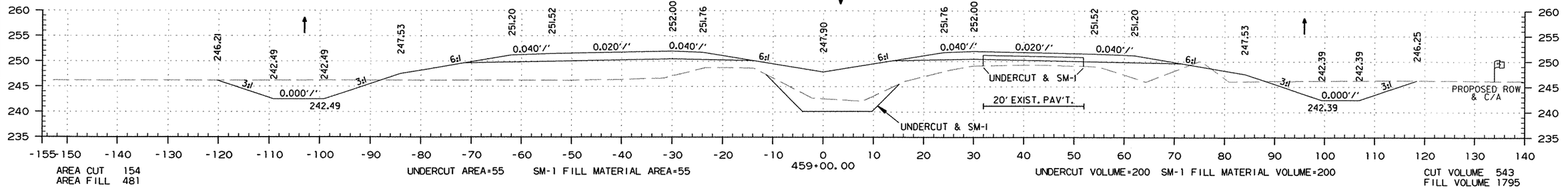
				6	ARK.			
				JOB NO.		100679	200	252

(2) CROSS SECTIONS

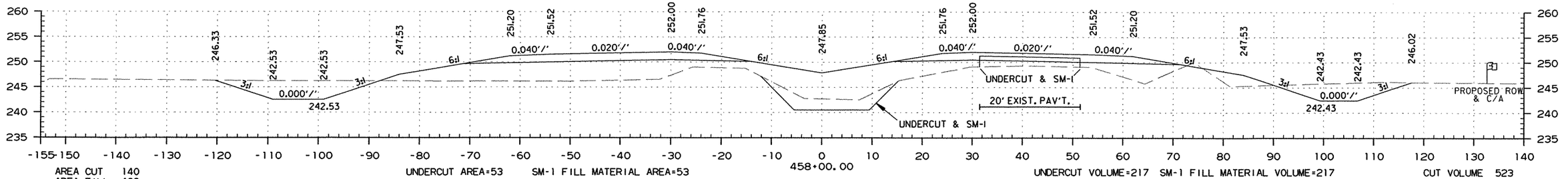


AREA CUT 154
AREA FILL 481

UNDERCUT AREA=55 SM-1 FILL MATERIAL AREA=55

UNDERCUT VOLUME=200 SM-1 FILL MATERIAL VOLUME=200

CUT VOLUME 543
FILL VOLUME 1795



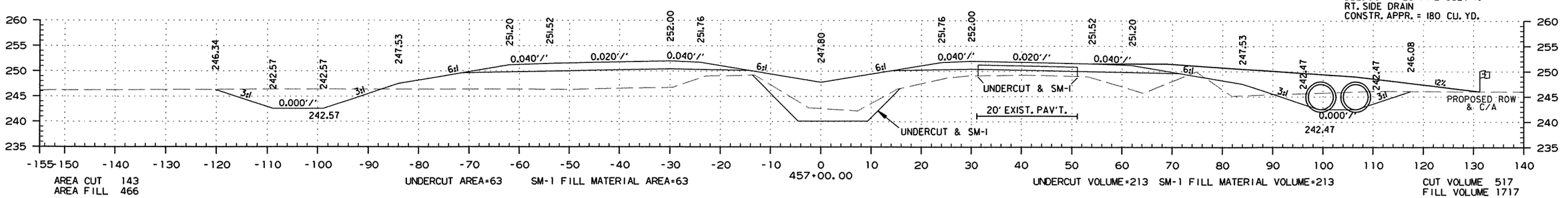
AREA CUT 140
AREA FILL 489

UNDERCUT AREA=53 SM-1 FILL MATERIAL AREA=53

UNDERCUT VOLUME=217 SM-1 FILL MATERIAL VOLUME=217

CUT VOLUME 523
FILL VOLUME 1767

STA. 457+00 - INSTALL
DBL. 60" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 180 CU. YD.



AREA CUT 143
AREA FILL 466

UNDERCUT AREA=63 SM-1 FILL MATERIAL AREA=63

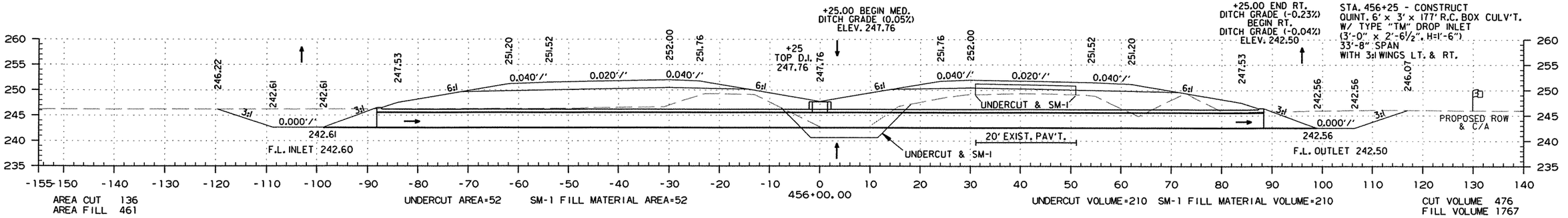
UNDERCUT VOLUME=213 SM-1 FILL MATERIAL VOLUME=213

CUT VOLUME 517
FILL VOLUME 1717

+25.00 BEGIN MED. DITCH GRADE (0.05%) ELEV. 247.76

+25.00 END RT. DITCH GRADE (-0.23%) BEGIN RT. DITCH GRADE (-0.04%) ELEV. 242.50

STA. 456+25 - CONSTRUCT QUINT. 6' x 3' x 177' R.C. BOX CULV'T. W/ TYPE "TM" DROP INLET (3'-0" x 2'-6½", H=1'-6") 33'-8" SPAN WITH 3:1 WINGS LT. & RT.



AREA CUT 136
AREA FILL 461

UNDERCUT AREA=52 SM-1 FILL MATERIAL AREA=52

UNDERCUT VOLUME=210 SM-1 FILL MATERIAL VOLUME=210

CUT VOLUME 476
FILL VOLUME 1767

STA. 456+00.00 TO STA. 459+00.00

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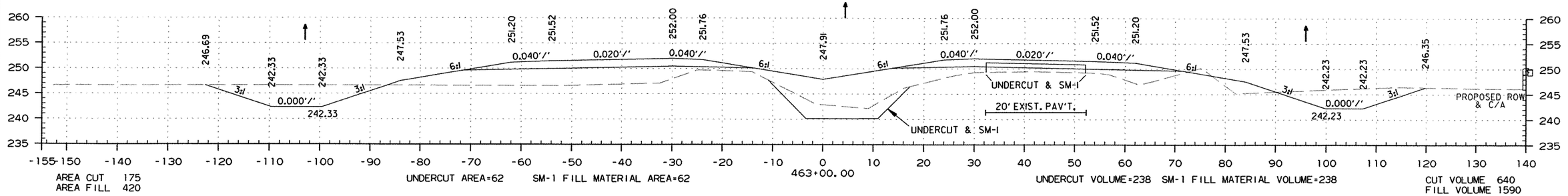
				6	ARK.			
				JOB NO.		100679	201	252

(2) CROSS SECTIONS

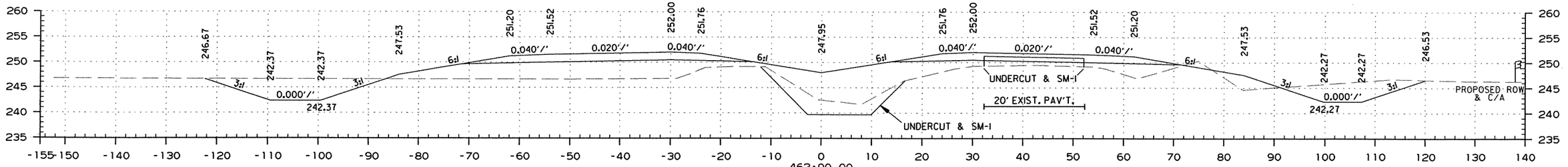


AREA CUT 175
AREA FILL 420

UNDERCUT AREA=62 SM-1 FILL MATERIAL AREA=62

UNDERCUT VOLUME=238 SM-1 FILL MATERIAL VOLUME=238

CUT VOLUME 640
FILL VOLUME 1590



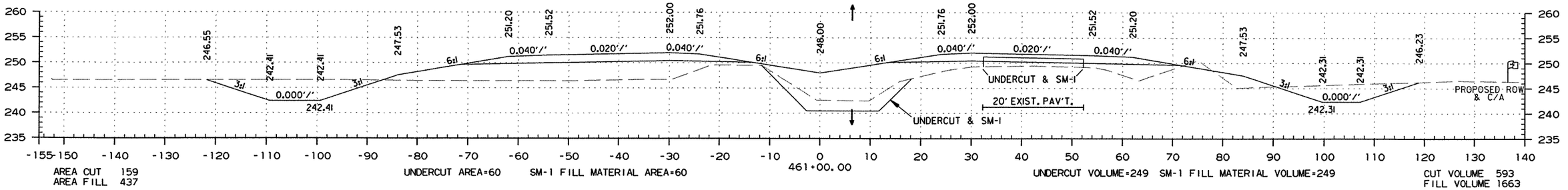
AREA CUT 171
AREA FILL 438

UNDERCUT AREA=66 SM-1 FILL MATERIAL AREA=66

UNDERCUT VOLUME=234 SM-1 FILL MATERIAL VOLUME=234

CUT VOLUME 610
FILL VOLUME 1622

+00.00 END MED.
DITCH GRADE (0.05%)
BEGIN MED.
DITCH GRADE (-0.05%)
ELEV. 248.00

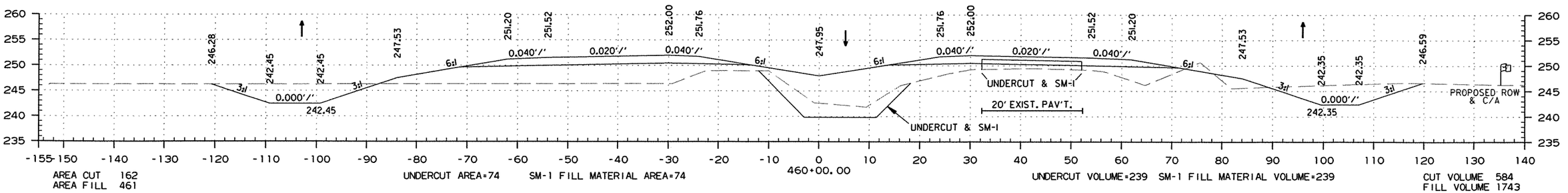


AREA CUT 159
AREA FILL 437

UNDERCUT AREA=60 SM-1 FILL MATERIAL AREA=60

UNDERCUT VOLUME=249 SM-1 FILL MATERIAL VOLUME=249

CUT VOLUME 593
FILL VOLUME 1663



AREA CUT 162
AREA FILL 461

UNDERCUT AREA=74 SM-1 FILL MATERIAL AREA=74

UNDERCUT VOLUME=239 SM-1 FILL MATERIAL VOLUME=239

CUT VOLUME 584
FILL VOLUME 1743

STA. 460+00.00 TO STA. 463+00.00

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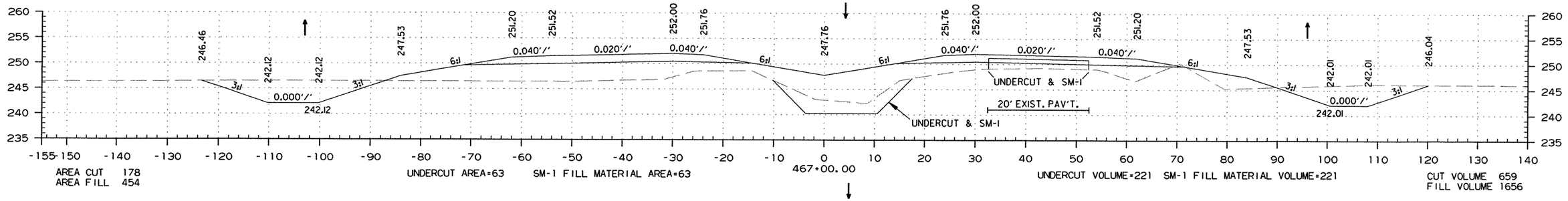
				6	ARK.			
				JOB NO.		100679	202	252

(2) CROSS SECTIONS

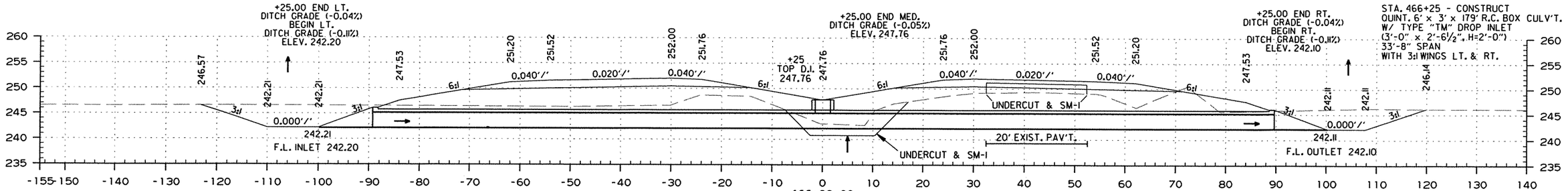


AREA CUT 178
AREA FILL 454

UNDERCUT AREA=63 SM-1 FILL MATERIAL AREA=63

UNDERCUT VOLUME=221 SM-1 FILL MATERIAL VOLUME=221

CUT VOLUME 659
FILL VOLUME 1656

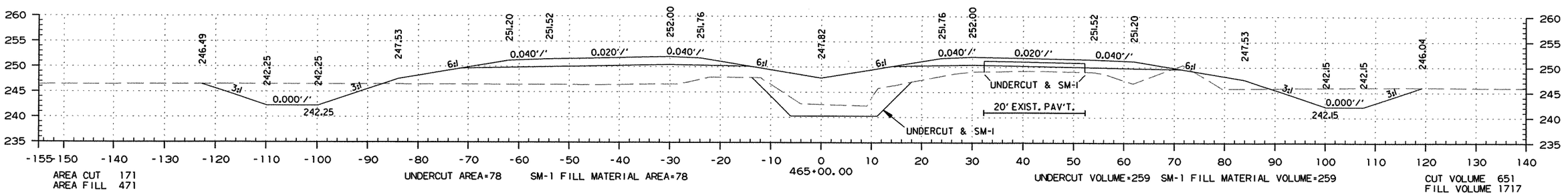


AREA CUT 178
AREA FILL 440

UNDERCUT AREA=57 SM-1 FILL MATERIAL AREA=57

UNDERCUT VOLUME=250 SM-1 FILL MATERIAL VOLUME=250

CUT VOLUME 647
FILL VOLUME 1688

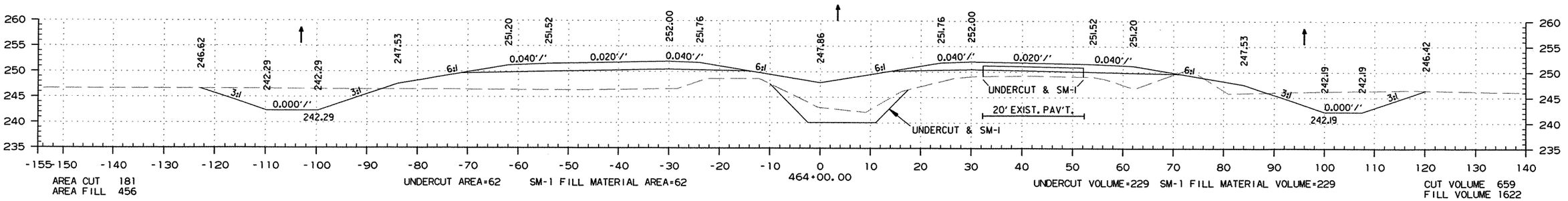


AREA CUT 171
AREA FILL 471

UNDERCUT AREA=78 SM-1 FILL MATERIAL AREA=78

UNDERCUT VOLUME=259 SM-1 FILL MATERIAL VOLUME=259

CUT VOLUME 651
FILL VOLUME 1717



AREA CUT 181
AREA FILL 456

UNDERCUT AREA=62 SM-1 FILL MATERIAL AREA=62

UNDERCUT VOLUME=229 SM-1 FILL MATERIAL VOLUME=229

CUT VOLUME 659
FILL VOLUME 1622

STA. 464+00.00 TO STA. 467+00.00

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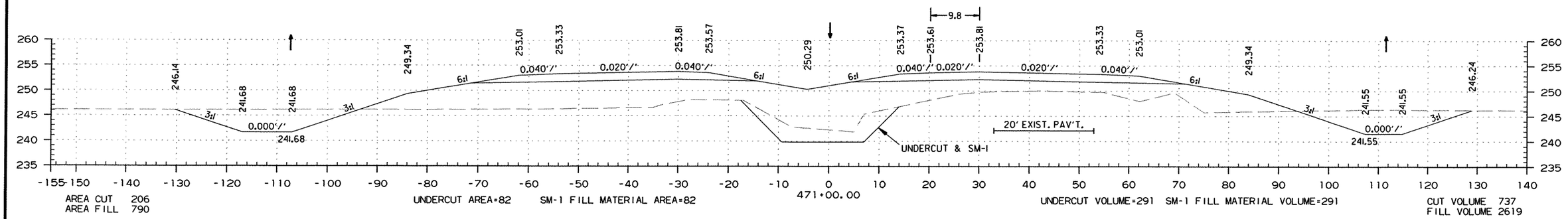
				6	ARK.			
				JOB NO.		100679	203	252

(2) CROSS SECTIONS

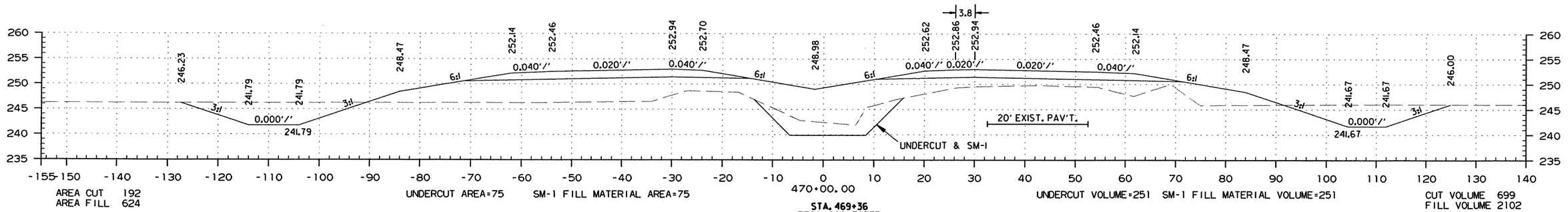


AREA CUT 206
AREA FILL 790

UNDERCUT AREA=82 SM-1 FILL MATERIAL AREA=82

UNDERCUT VOLUME=291 SM-1 FILL MATERIAL VOLUME=291

CUT VOLUME 737
FILL VOLUME 2619



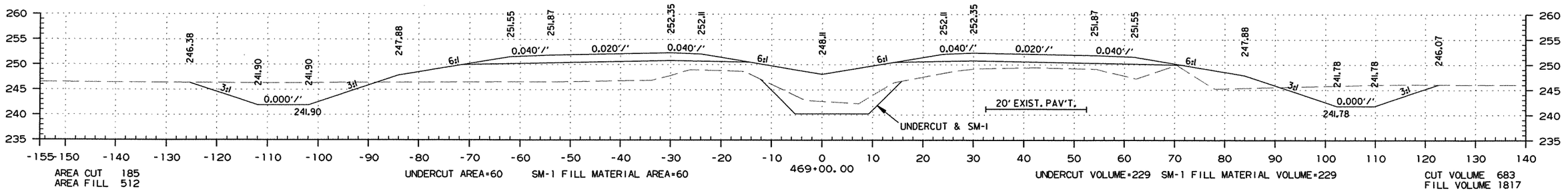
AREA CUT 192
AREA FILL 624

UNDERCUT AREA=75 SM-1 FILL MATERIAL AREA=75

STA. 469+36
BEGIN 200' TAPER

UNDERCUT VOLUME=251 SM-1 FILL MATERIAL VOLUME=251

CUT VOLUME 699
FILL VOLUME 2102

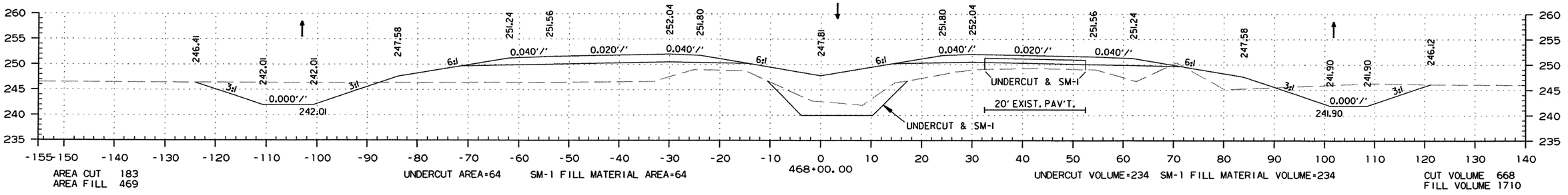


AREA CUT 185
AREA FILL 512

UNDERCUT AREA=60 SM-1 FILL MATERIAL AREA=60

UNDERCUT VOLUME=229 SM-1 FILL MATERIAL VOLUME=229

CUT VOLUME 683
FILL VOLUME 1817



AREA CUT 183
AREA FILL 469

UNDERCUT AREA=64 SM-1 FILL MATERIAL AREA=64

UNDERCUT VOLUME=234 SM-1 FILL MATERIAL VOLUME=234

CUT VOLUME 668
FILL VOLUME 1710

STA. 468+00.00 TO STA. 471+00.00

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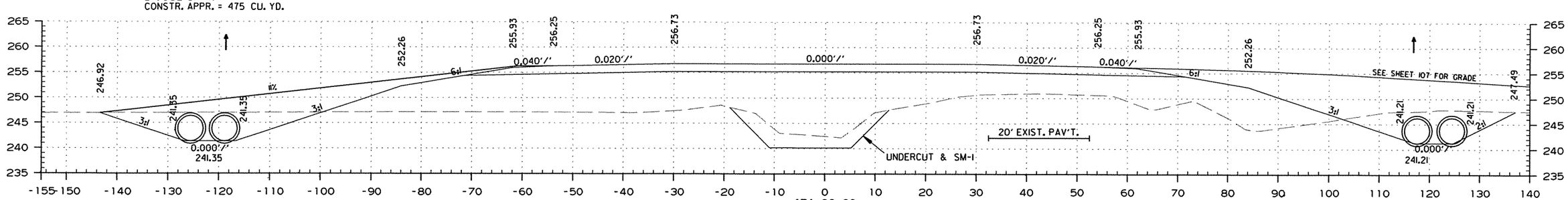
				JOB NO.		100679	204	252

(2) CROSS SECTIONS

STA. 473+90 - INSTALL
DBL. 60" x 50' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 475 CU. YD.

COUNTY ROAD 233



AREA CUT 306
AREA FILL 1310

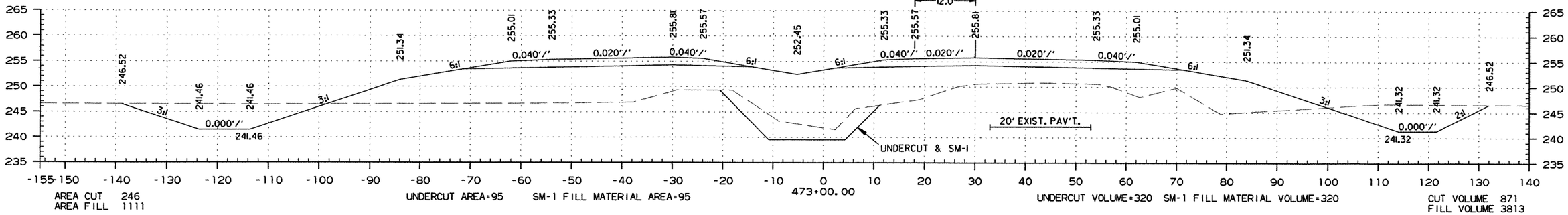
UNDERCUT AREA=81 SM-1 FILL MATERIAL AREA=81

474+00.00

UNDERCUT VOLUME=326 SM-1 FILL MATERIAL VOLUME=326

CUT VOLUME 1022
FILL VOLUME 4485

STA. 473+46
BEGIN MEDIAN TURNAROUND



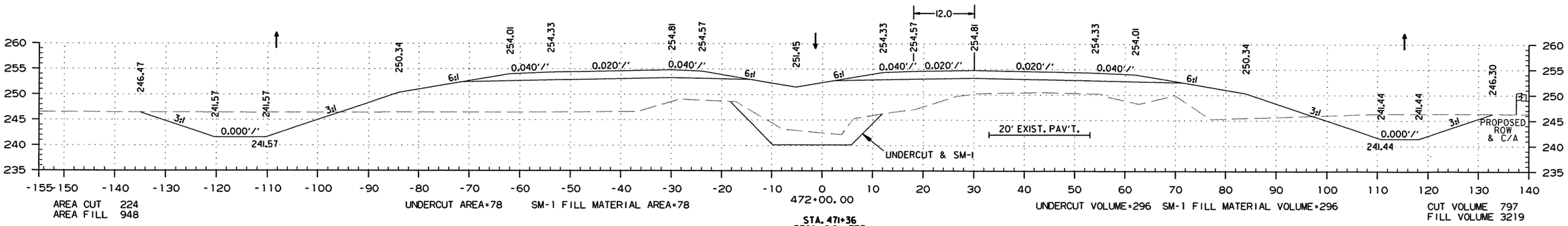
AREA CUT 246
AREA FILL 1111

UNDERCUT AREA=95 SM-1 FILL MATERIAL AREA=95

473+00.00

UNDERCUT VOLUME=320 SM-1 FILL MATERIAL VOLUME=320

CUT VOLUME 871
FILL VOLUME 3813



AREA CUT 224
AREA FILL 948

UNDERCUT AREA=78 SM-1 FILL MATERIAL AREA=78

472+00.00

UNDERCUT VOLUME=296 SM-1 FILL MATERIAL VOLUME=296

CUT VOLUME 797
FILL VOLUME 3219

STA. 471+36
BEGIN 210' LEFT
TURN LANE

STA. 472+00.00 TO STA. 474+00.00

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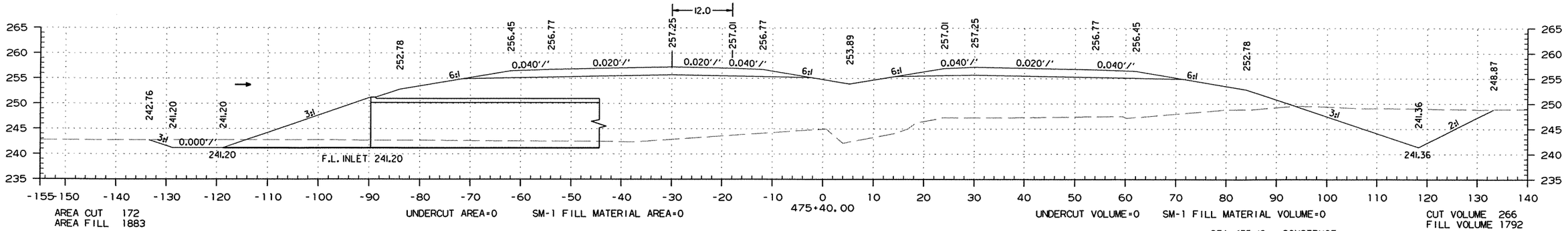
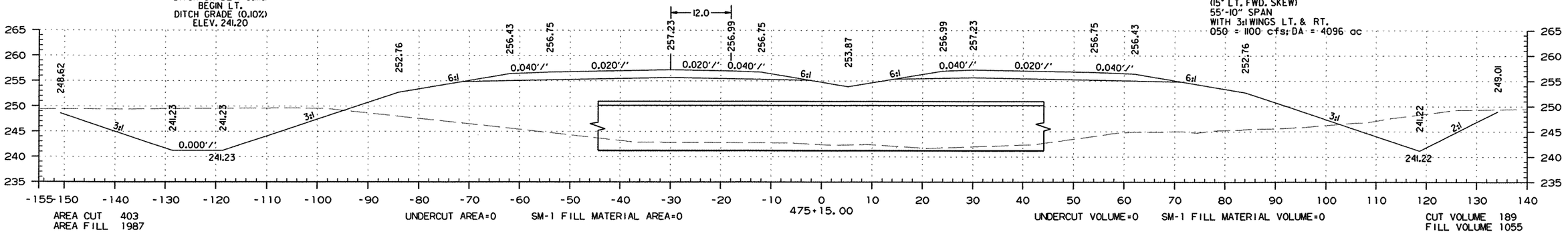
				JOB NO.		100679	205	252

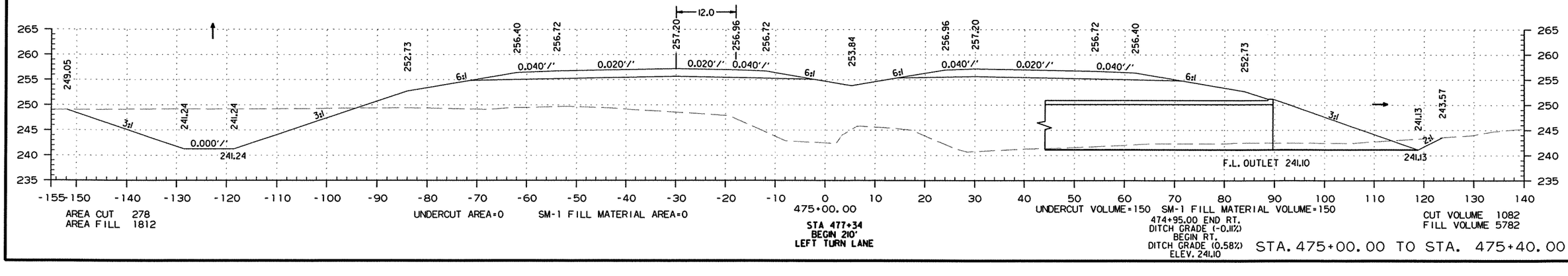
(2) CROSS SECTIONS



+39.00 END LT.
DITCH GRADE (-0.11%)
BEGIN LT.
DITCH GRADE (0.10%)
ELEV. 241.20

STA. 475+10 - CONSTRUCT
QUINT. 10' x 9' x 185' R.C. BOX CULV'T.
(15° LT. FWD. SKEW)
55'-10" SPAN
WITH 3:1 WINGS LT. & RT.
Q50 = 1100 cfs; DA = 4096 ac





474+95.00 END RT.
DITCH GRADE (-0.11%)
BEGIN RT.
DITCH GRADE (0.58%)
ELEV. 241.10

STA. 475+00.00 TO STA. 475+40.00

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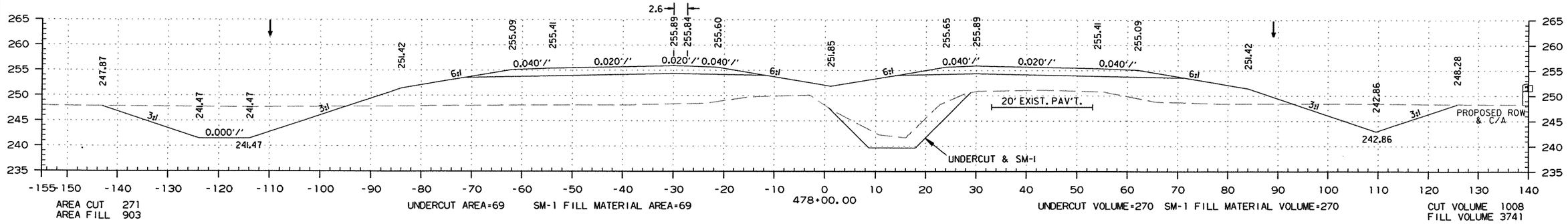
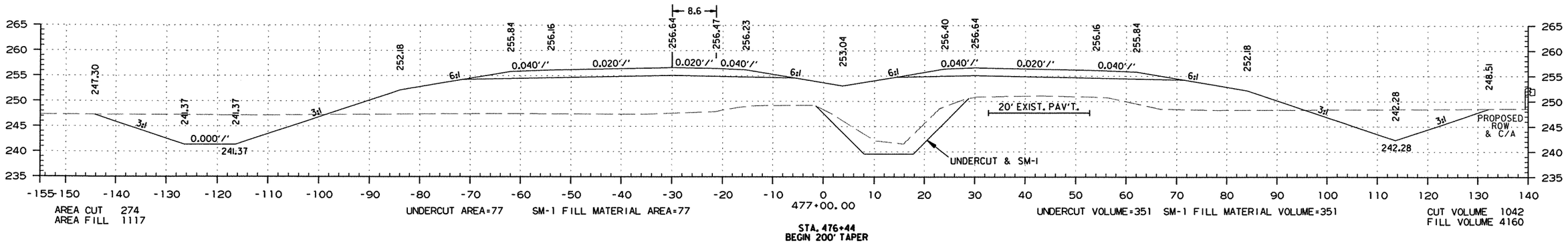
				6	ARK.			
				JOB NO.		100679	206	252

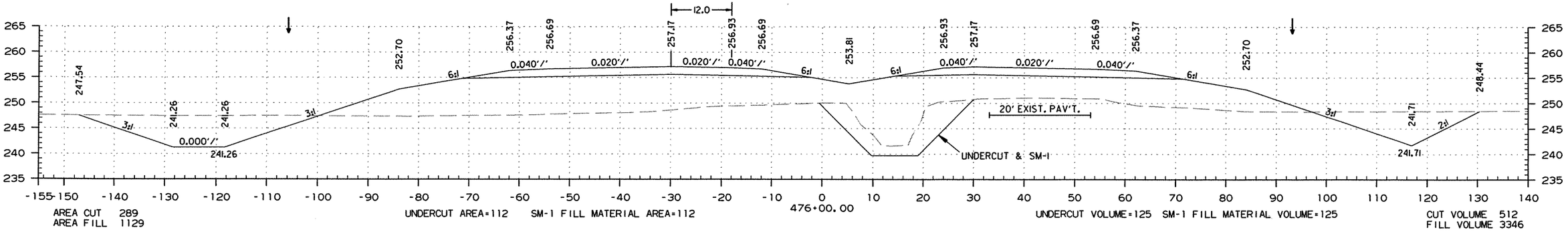
(2) CROSS SECTIONS

STA. 478+44
END 200' TAPER





STA. 476+44
BEGIN 200' TAPER



STA. 476+00.00 TO STA. 478+00.00

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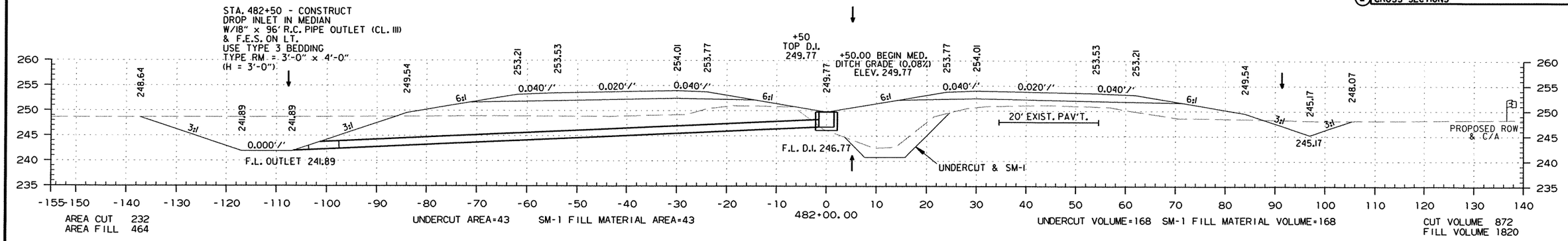
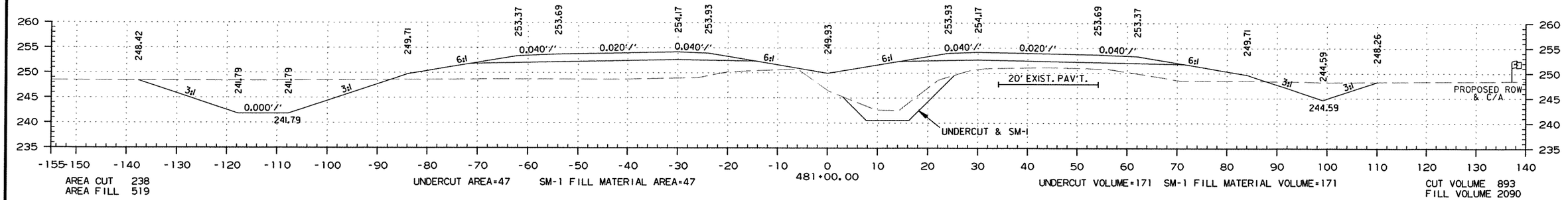
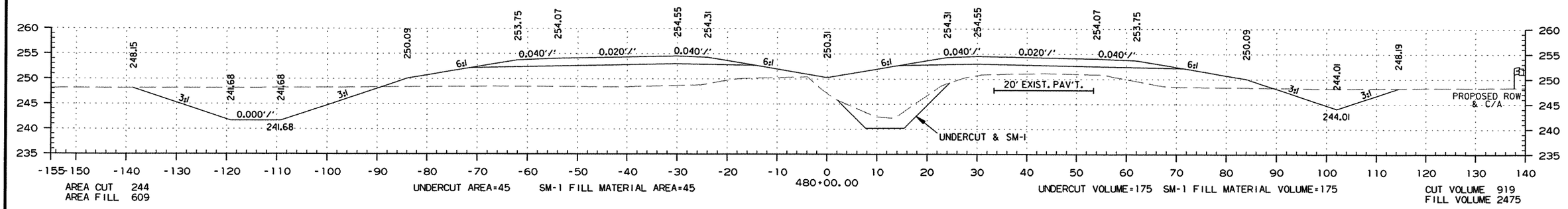
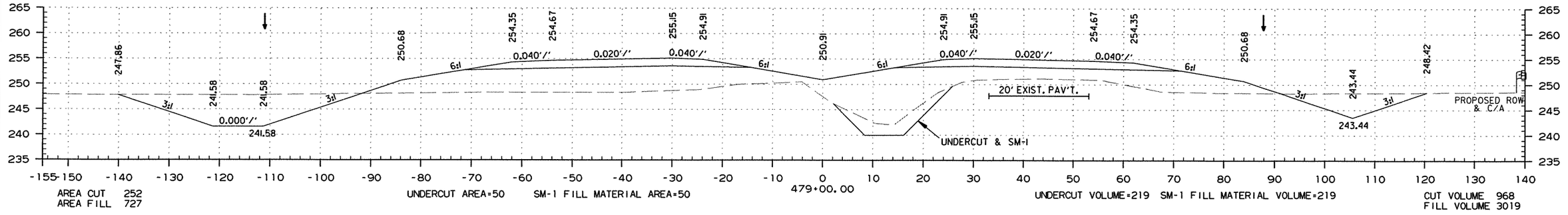
				6	ARK.			
				JOB NO.		100679	207	252

(2) CROSS SECTIONS









STA. 479+00.00 TO STA. 482+00.00

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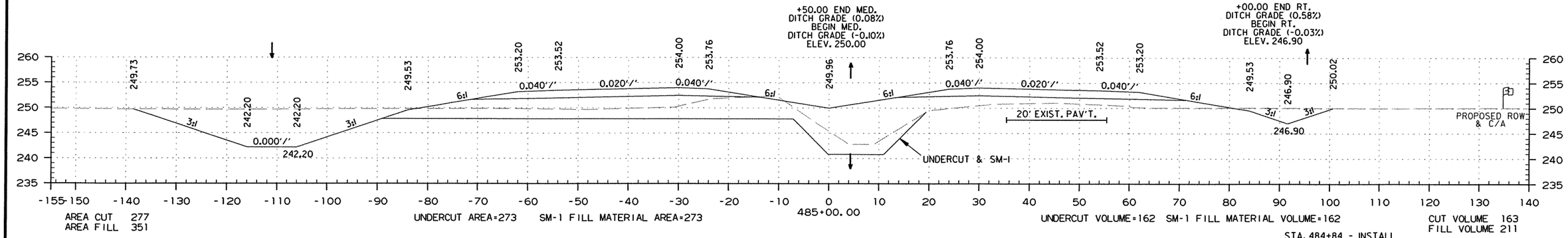
				6	ARK.			
				JOB NO.		100679	208	252

(2) CROSS SECTIONS



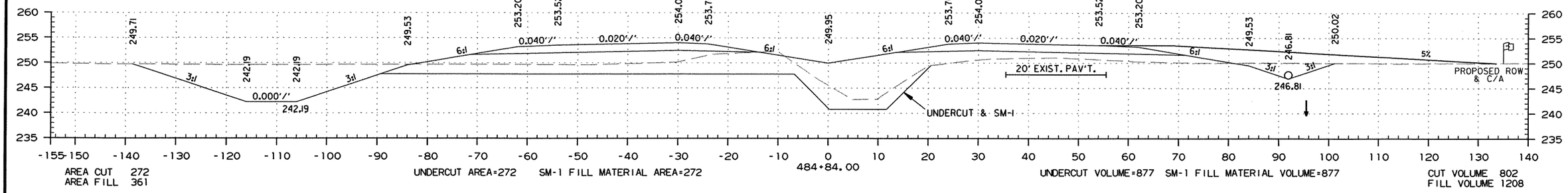
AREA CUT 277
AREA FILL 351

UNDERCUT AREA=273 SM-1 FILL MATERIAL AREA=273

UNDERCUT VOLUME=162 SM-1 FILL MATERIAL VOLUME=162

CUT VOLUME 163
FILL VOLUME 211

STA. 484+84 - INSTALL
18" x 64' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 275 CU. YD.

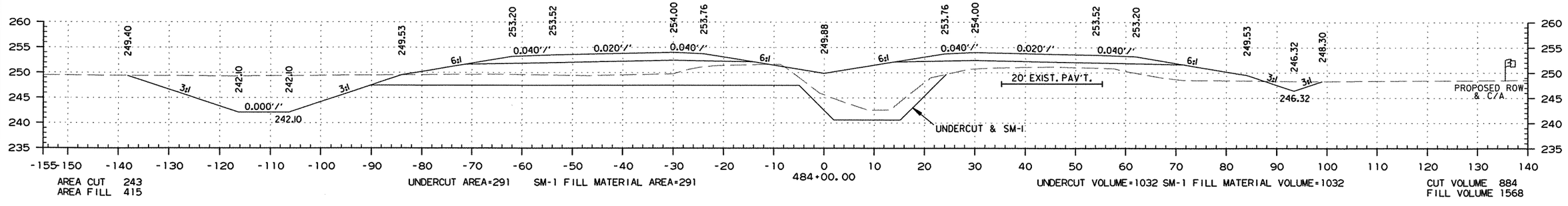


AREA CUT 272
AREA FILL 361

UNDERCUT AREA=272 SM-1 FILL MATERIAL AREA=272

UNDERCUT VOLUME=877 SM-1 FILL MATERIAL VOLUME=877

CUT VOLUME 802
FILL VOLUME 1208

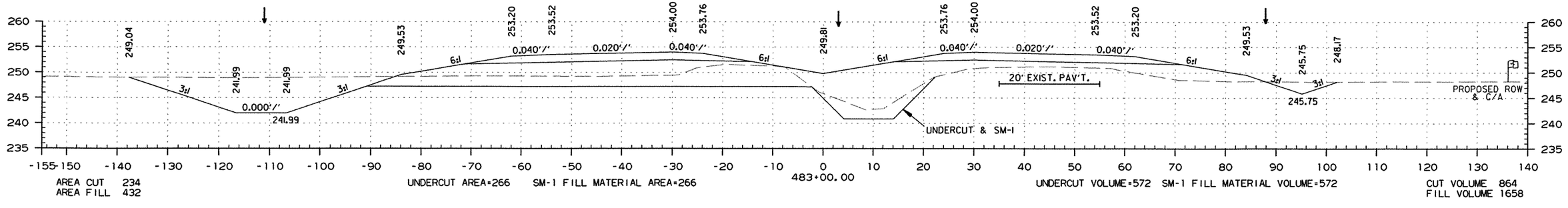


AREA CUT 243
AREA FILL 415

UNDERCUT AREA=291 SM-1 FILL MATERIAL AREA=291

UNDERCUT VOLUME=1032 SM-1 FILL MATERIAL VOLUME=1032

CUT VOLUME 884
FILL VOLUME 1568



AREA CUT 234
AREA FILL 432

UNDERCUT AREA=266 SM-1 FILL MATERIAL AREA=266

UNDERCUT VOLUME=572 SM-1 FILL MATERIAL VOLUME=572

CUT VOLUME 864
FILL VOLUME 1658

STA. 483+00.00 TO STA. 485+00.00

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				6	ARK.			
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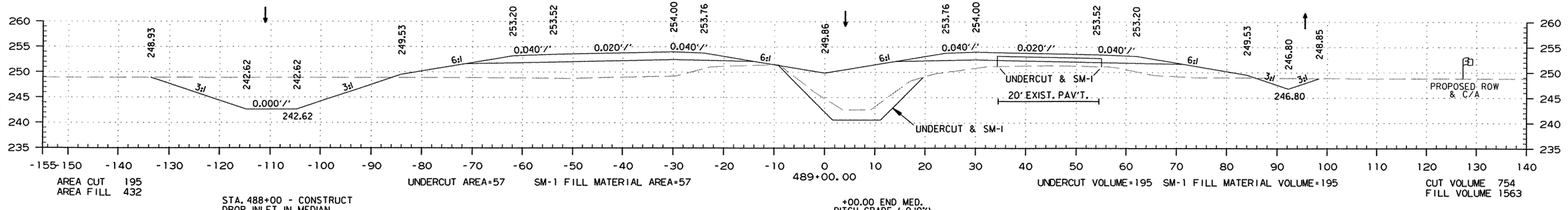
(2) CROSS SECTIONS



AREA CUT 195
AREA FILL 432

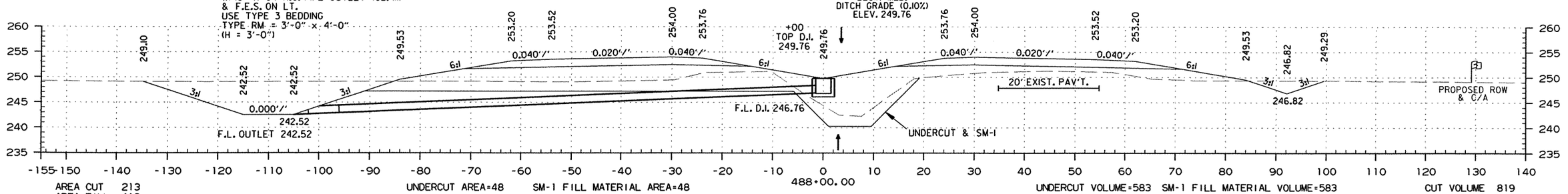
UNDERCUT AREA=57 SM-1 FILL MATERIAL AREA=57

UNDERCUT VOLUME=195 SM-1 FILL MATERIAL VOLUME=195

CUT VOLUME 754
FILL VOLUME 1563

STA. 488+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 94' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 3'-0")

+00.00 END MED.
DITCH GRADE (-0.10%)
BEGIN MED.
DITCH GRADE (0.10%)
ELEV. 249.76



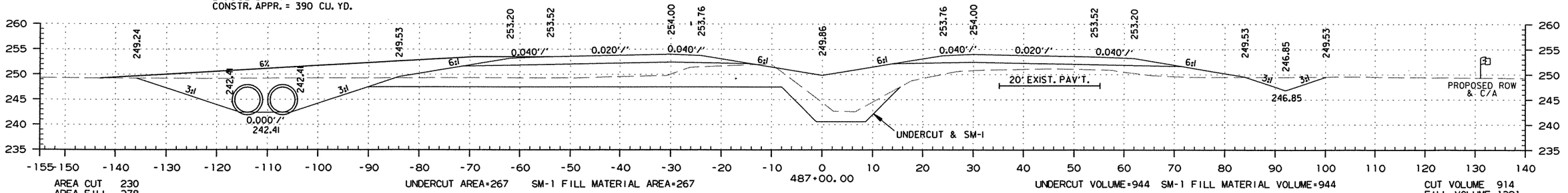
AREA CUT 213
AREA FILL 412

UNDERCUT AREA=48 SM-1 FILL MATERIAL AREA=48

UNDERCUT VOLUME=583 SM-1 FILL MATERIAL VOLUME=583

CUT VOLUME 819
FILL VOLUME 1464

STA. 487+00 - INSTALL
DBL. 60" x 40' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 390 CU. YD.



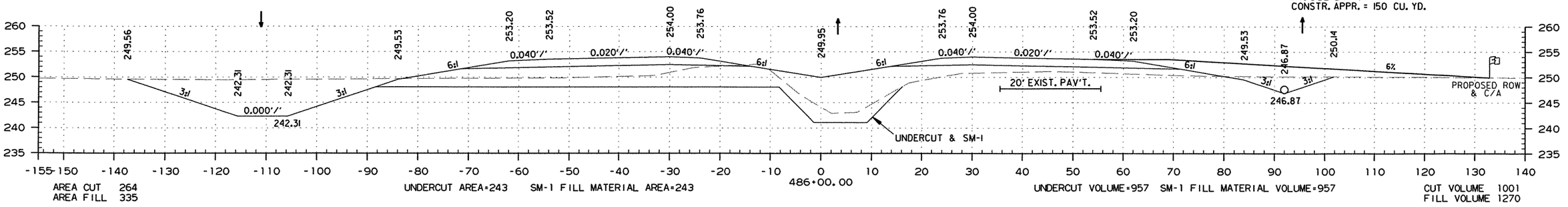
AREA CUT 230
AREA FILL 378

UNDERCUT AREA=267 SM-1 FILL MATERIAL AREA=267

UNDERCUT VOLUME=944 SM-1 FILL MATERIAL VOLUME=944

CUT VOLUME 914
FILL VOLUME 1321

STA. 486+00 - INSTALL
18" x 40' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 150 CU. YD.



AREA CUT 264
AREA FILL 335

UNDERCUT AREA=243 SM-1 FILL MATERIAL AREA=243

UNDERCUT VOLUME=957 SM-1 FILL MATERIAL VOLUME=957

CUT VOLUME 1001
FILL VOLUME 1270

STA. 486+00.00 TO STA. 489+00.00

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				6	ARK.			
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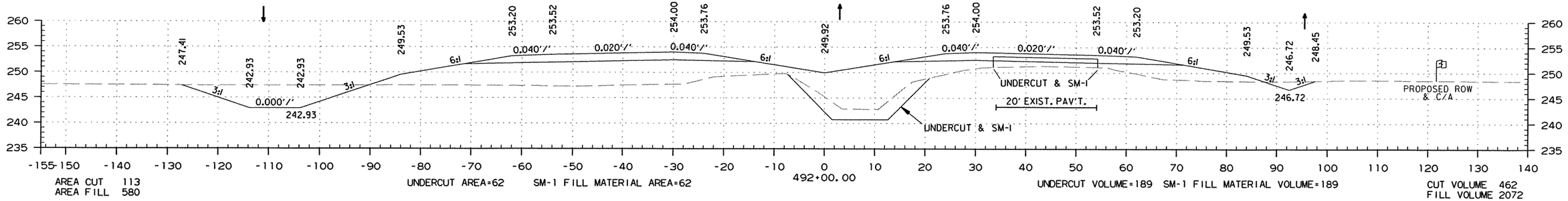
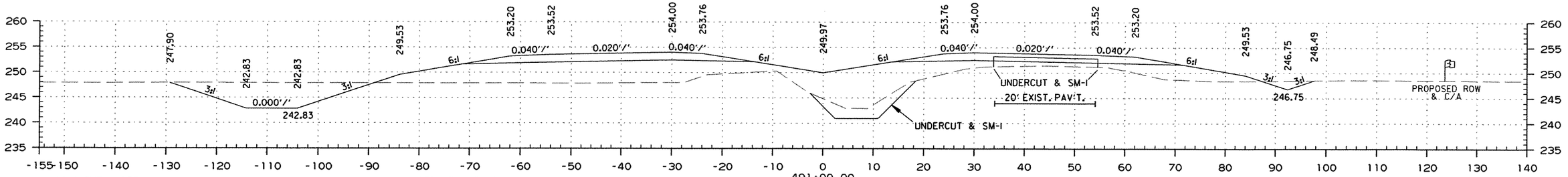
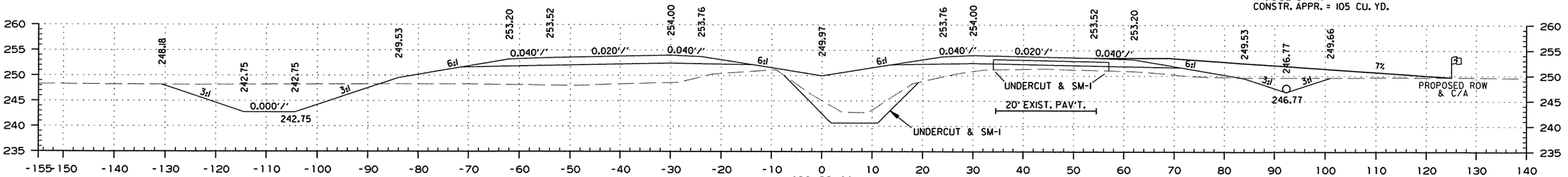
(2) CROSS SECTIONS

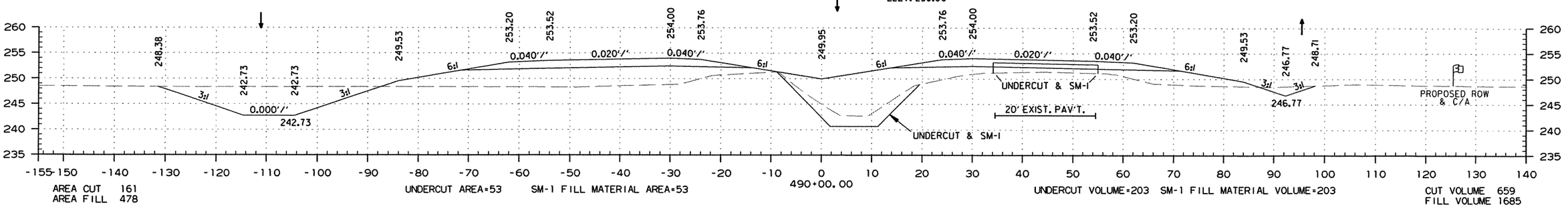




STA. 490+22 - INSTALL
18" x 36' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 105 CU. YD.



+50.00 END MED.
DITCH GRADE (0.10%)
BEGIN MED.
DITCH GRADE (-0.05%)
ELEV. 250.00



STA. 490+00.00 TO STA. 492+00.00

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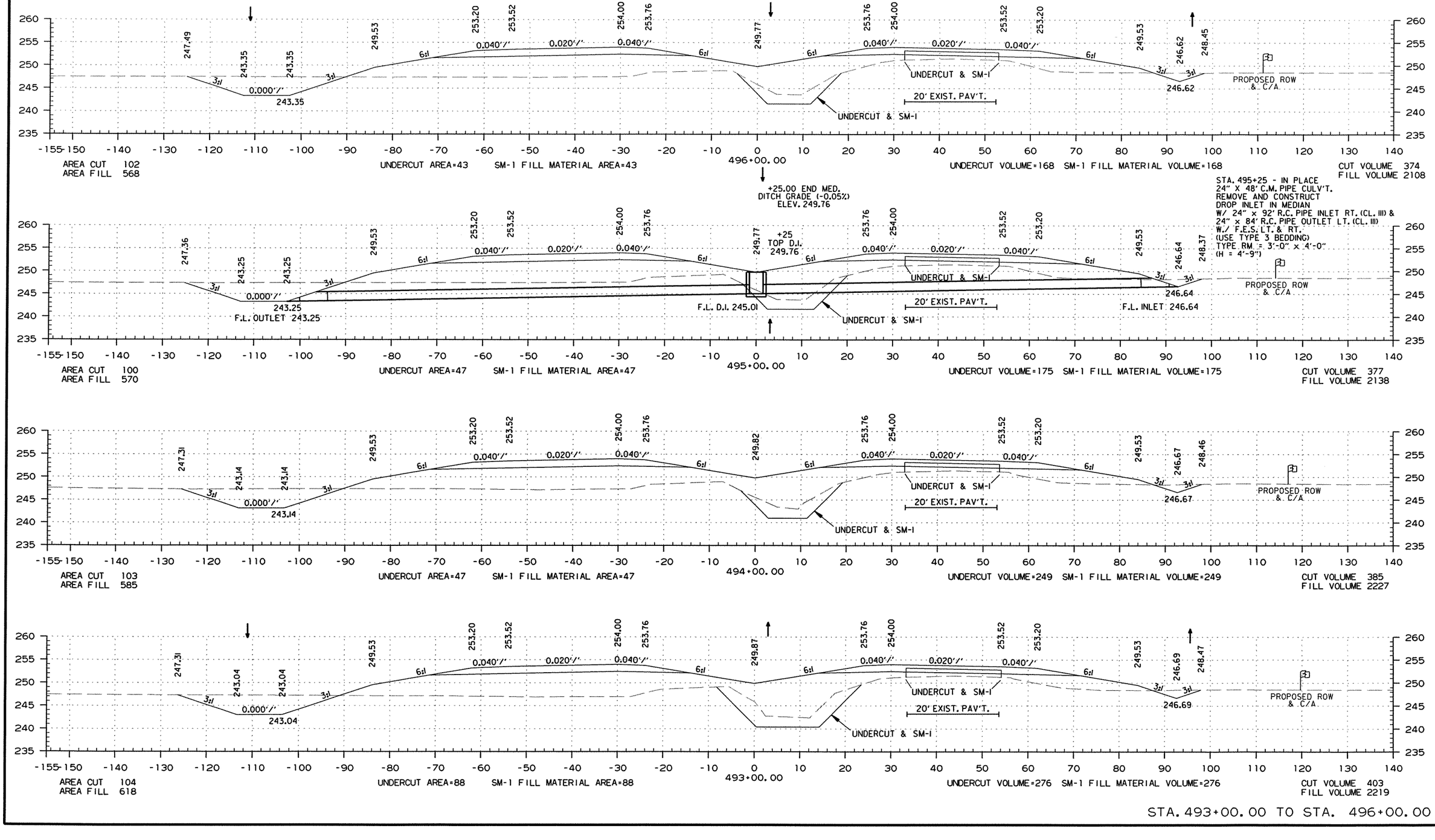
				6	ARK.			
				JOB NO.		100679	211	252

(2) CROSS SECTIONS



STA. 493+00.00 TO STA. 496+00.00

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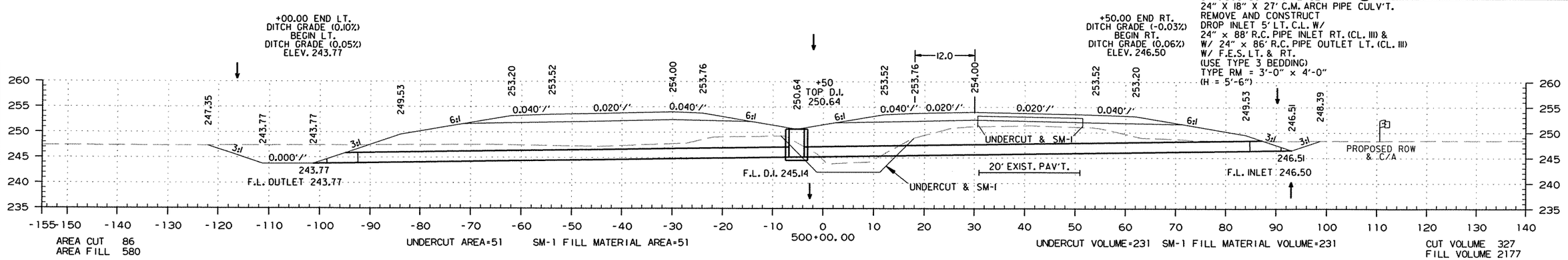
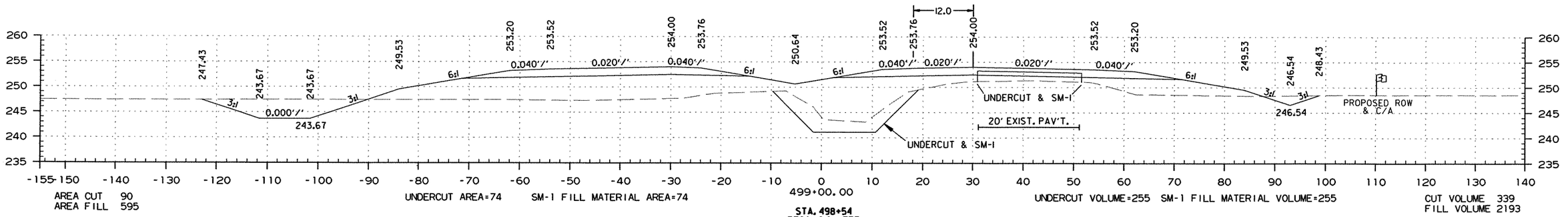
				6	ARK.			
				JOB NO.		100679	212	252

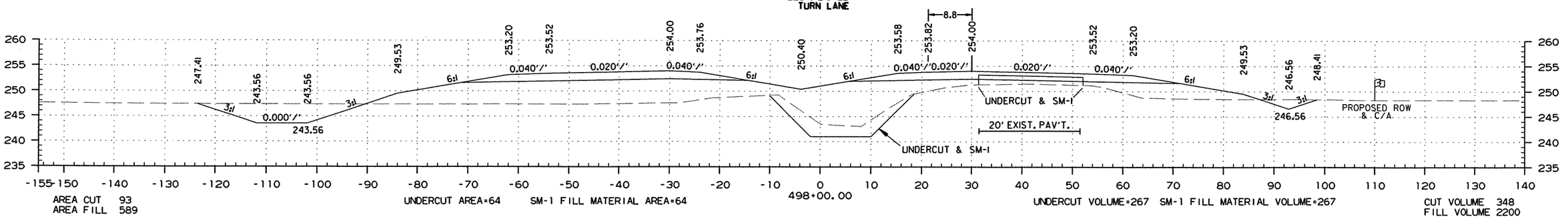
(2) CROSS SECTIONS

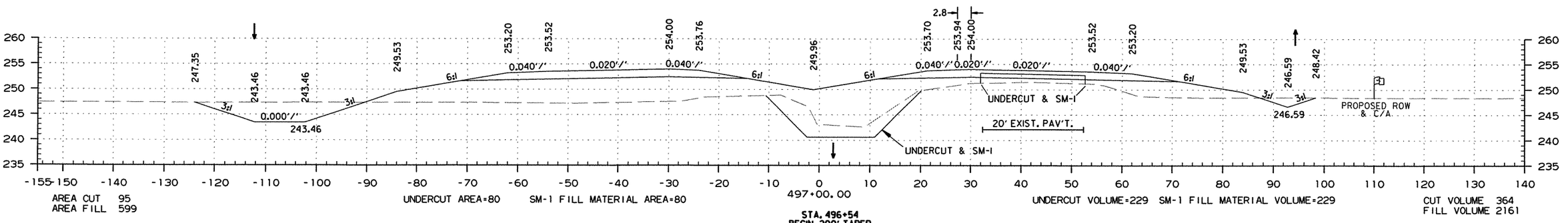
STA. 500+50 - IN PLACE
24" X 18" X 27' C.M. ARCH PIPE CULV'T.
REMOVE AND CONSTRUCT
DROP INLET 5' LT. C.L. W/
24" x 88' R.C. PIPE INLET RT. (CL. III) &
W/ 24" x 86' R.C. PIPE OUTLET LT. (CL. III)
W/ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 5'-6")





STA. 498+54
BEGIN 210' LEFT
TURN LANE





STA. 496+54
BEGIN 200' TAPER

STA. 497+00.00 TO STA. 500+00.00

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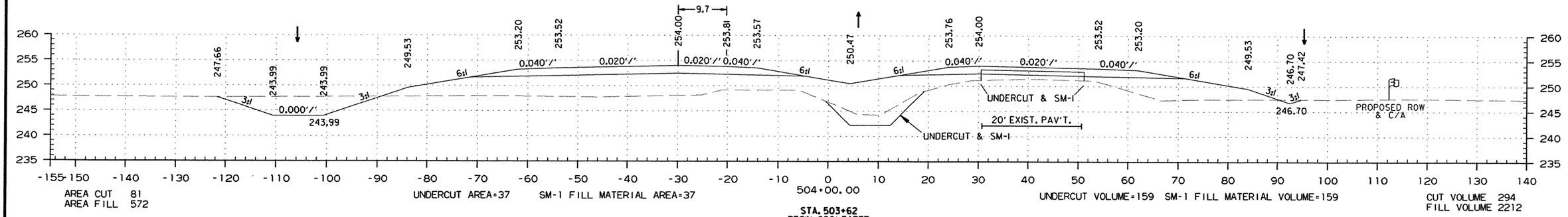
				6	ARK.			
				JOB NO.		100679	213	252

(2) CROSS SECTIONS



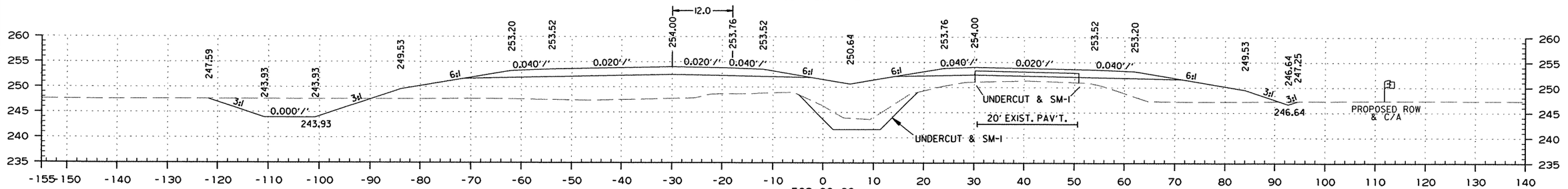
AREA CUT 81
AREA FILL 572

UNDERCUT AREA=37 SM-1 FILL MATERIAL AREA=37

UNDERCUT VOLUME=159 SM-1 FILL MATERIAL VOLUME=159

CUT VOLUME 294
FILL VOLUME 2212

STA. 503+62
BEGIN 200' TAPER

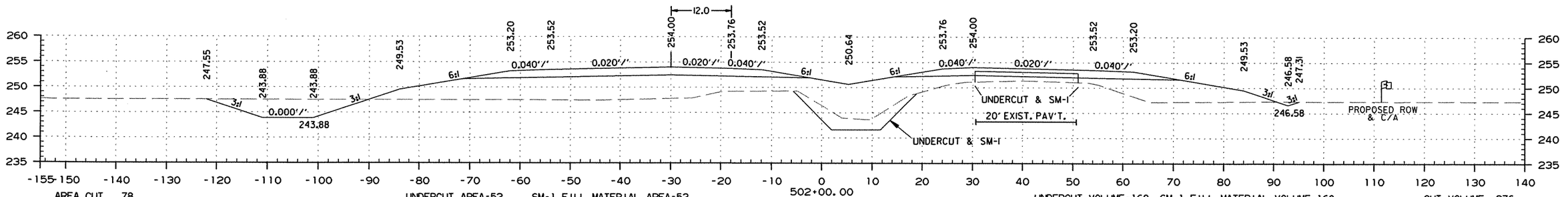


AREA CUT 78
AREA FILL 622

UNDERCUT AREA=49 SM-1 FILL MATERIAL AREA=49

UNDERCUT VOLUME=188 SM-1 FILL MATERIAL VOLUME=188

CUT VOLUME 289
FILL VOLUME 2281



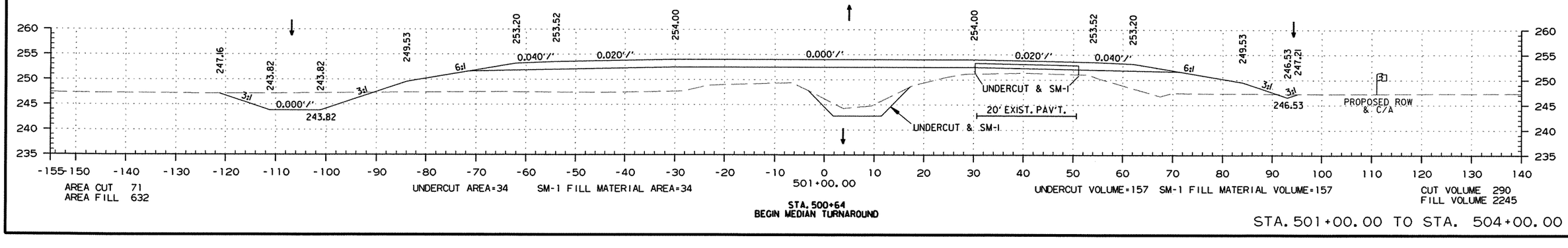
AREA CUT 78
AREA FILL 609

UNDERCUT AREA=52 SM-1 FILL MATERIAL AREA=52

UNDERCUT VOLUME=160 SM-1 FILL MATERIAL VOLUME=160

CUT VOLUME 276
FILL VOLUME 2299

STA 501+52
BEGIN 210'
LEFT TURN LANE



AREA CUT 71
AREA FILL 632

UNDERCUT AREA=34 SM-1 FILL MATERIAL AREA=34

UNDERCUT VOLUME=157 SM-1 FILL MATERIAL VOLUME=157

CUT VOLUME 290
FILL VOLUME 2245

STA. 500+64
BEGIN MEDIAN TURNAROUND

STA. 501+00.00 TO STA. 504+00.00

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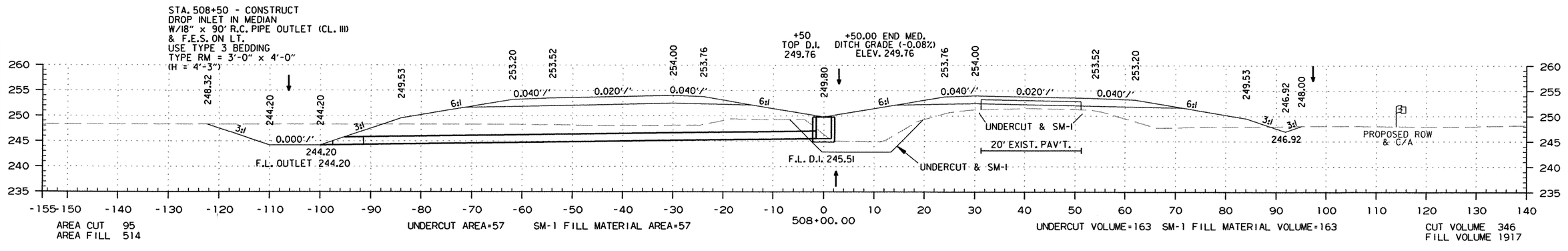
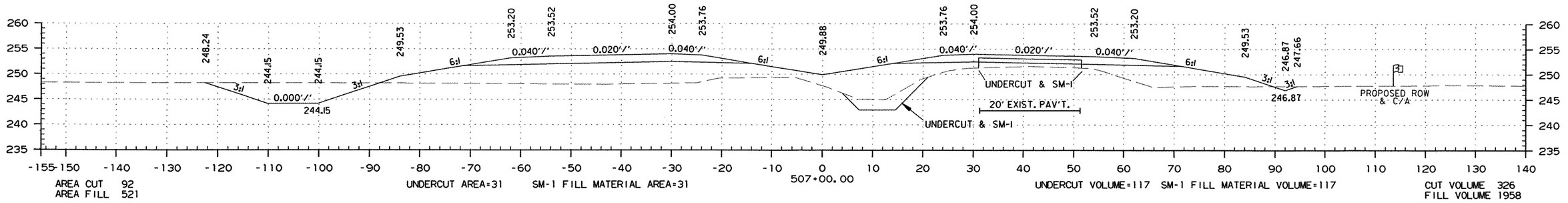
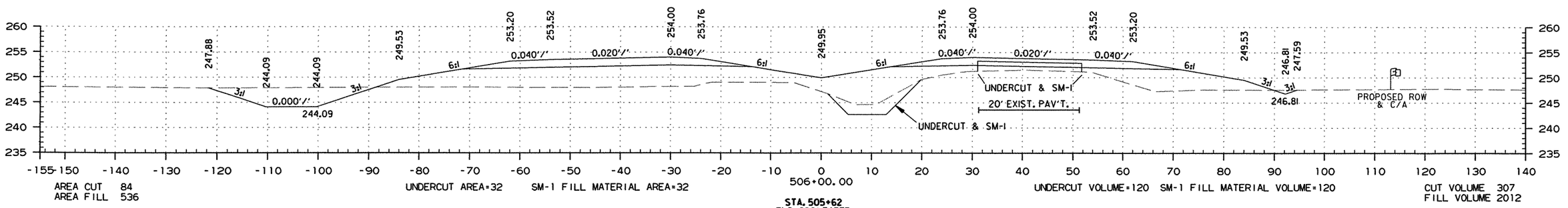
				6	ARK.			
				JOB NO.		100679	214	252

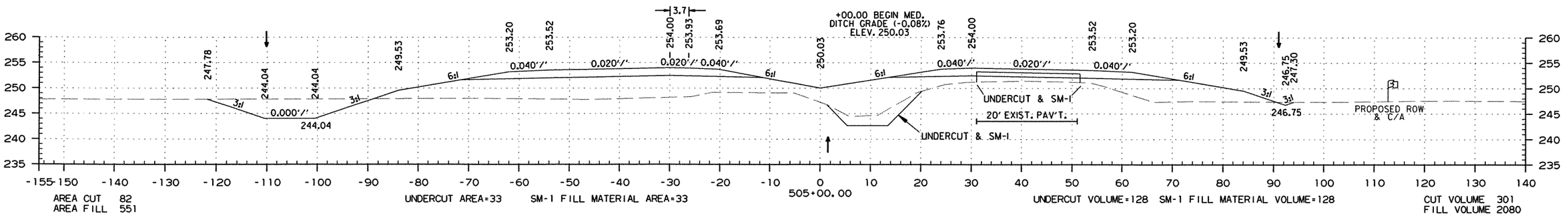
(2) CROSS SECTIONS







STA. 505+62
END 200' TAPER



STA. 505+00.00 TO STA. 508+00.00

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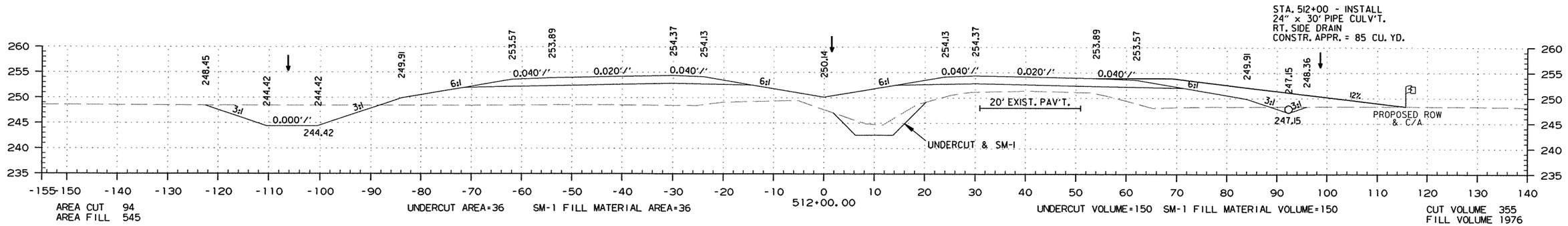
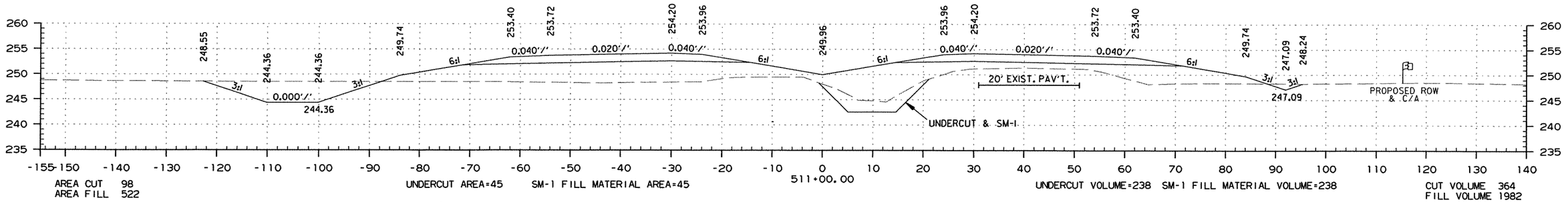
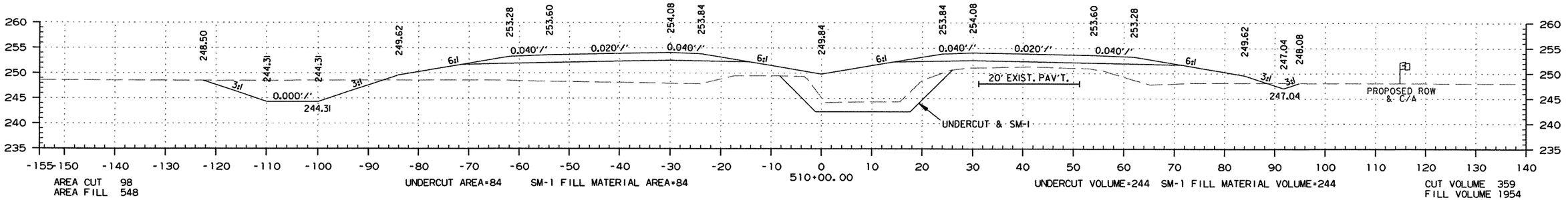
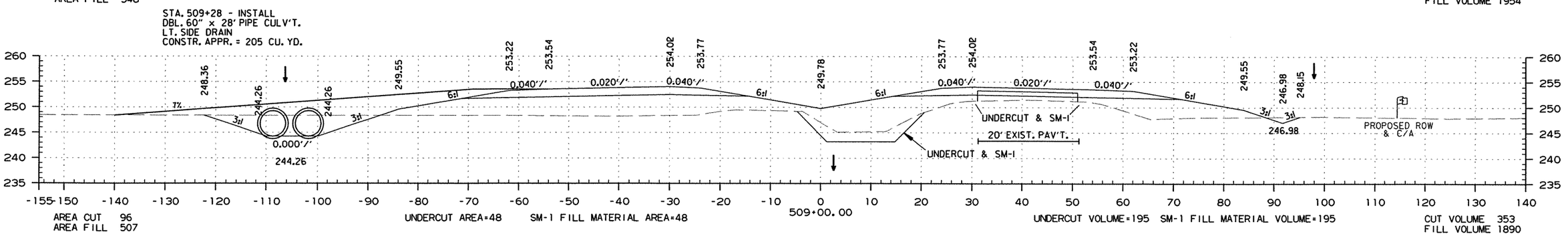
				6	ARK.			
				JOB NO.		100679	215	252

(2) CROSS SECTIONS









STA. 509+00.00 TO STA. 512+00.00

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R100679.DGN

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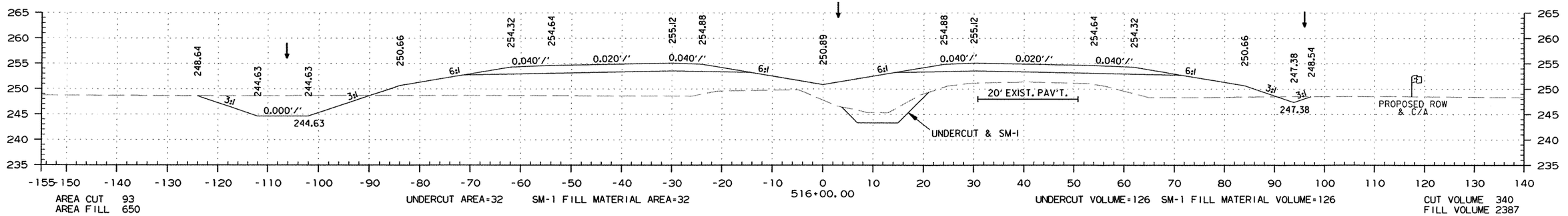
				6	ARK.			
				JOB NO.		100679	216	252

(2) CROSS SECTIONS

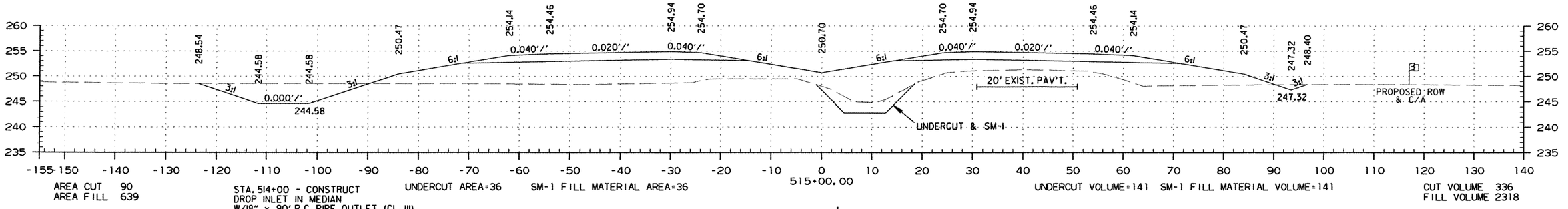


AREA CUT 93
AREA FILL 650

UNDERCUT AREA=32 SM-1 FILL MATERIAL AREA=32

UNDERCUT VOLUME=126 SM-1 FILL MATERIAL VOLUME=126

CUT VOLUME 340
FILL VOLUME 2387



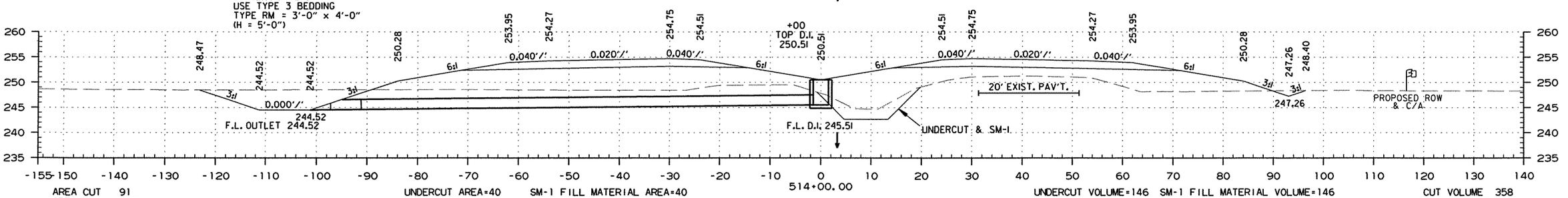
AREA CUT 90
AREA FILL 639

STA. 514+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 90' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 5'-0")

UNDERCUT AREA=36 SM-1 FILL MATERIAL AREA=36

UNDERCUT VOLUME=141 SM-1 FILL MATERIAL VOLUME=141

CUT VOLUME 336
FILL VOLUME 2318

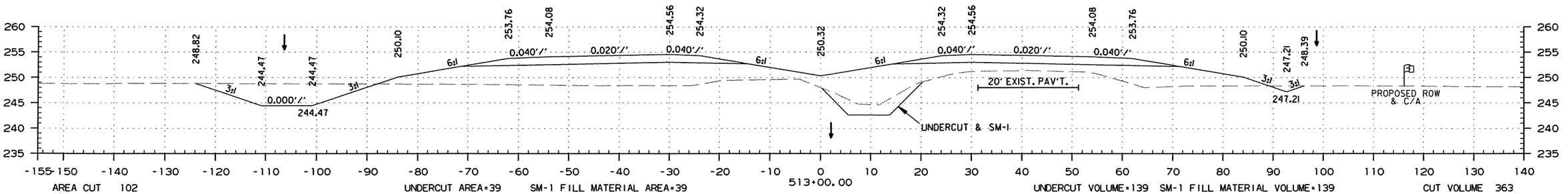


AREA CUT 91
AREA FILL 613

UNDERCUT AREA=40 SM-1 FILL MATERIAL AREA=40

UNDERCUT VOLUME=146 SM-1 FILL MATERIAL VOLUME=146

CUT VOLUME 358
FILL VOLUME 2191



AREA CUT 102
AREA FILL 570

UNDERCUT AREA=39 SM-1 FILL MATERIAL AREA=39

UNDERCUT VOLUME=139 SM-1 FILL MATERIAL VOLUME=139

CUT VOLUME 363
FILL VOLUME 2065

STA. 513+00.00 TO STA. 516+00.00

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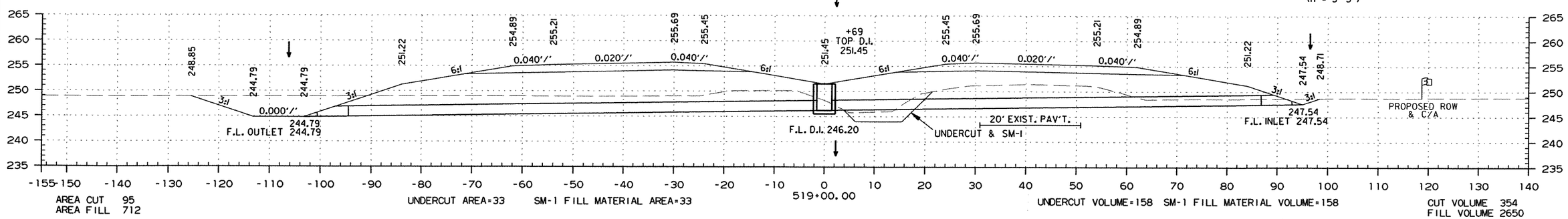
				6	ARK.			
				JOB NO.		100679	217	252

(2) CROSS SECTIONS

STA. 519+69 - IN PLACE
24" X 18" X 39' C.M. ARCH PIPE CULV'T.
REMOVE AND CONSTRUCT
DROP INLET IN MEDIAN
W/ 24" x 86' R.C. PIPE INLET RT. (CL. III) &
24" x 92' R.C. PIPE OUTLET LT. (CL. III)
W/ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 5'-3")

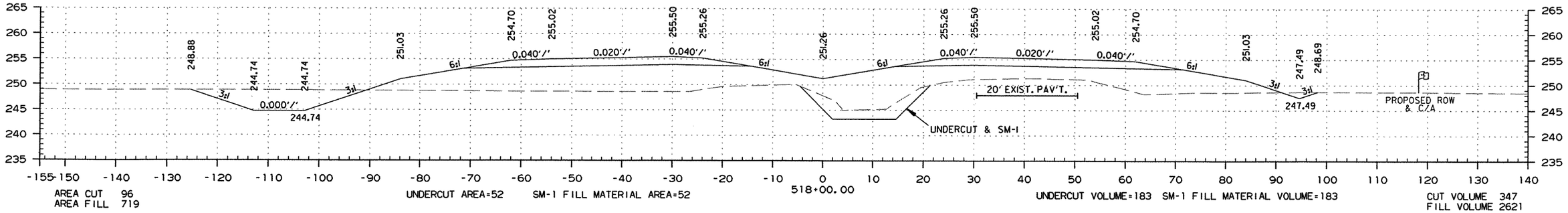


AREA CUT 95
AREA FILL 712

UNDERCUT AREA=33 SM-1 FILL MATERIAL AREA=33

UNDERCUT VOLUME=158 SM-1 FILL MATERIAL VOLUME=158

CUT VOLUME 354
FILL VOLUME 2650

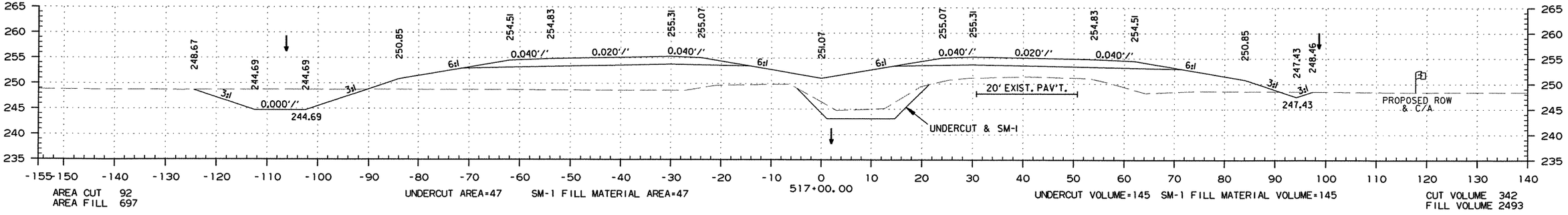


AREA CUT 96
AREA FILL 719

UNDERCUT AREA=52 SM-1 FILL MATERIAL AREA=52

UNDERCUT VOLUME=183 SM-1 FILL MATERIAL VOLUME=183

CUT VOLUME 347
FILL VOLUME 2621



AREA CUT 92
AREA FILL 697

UNDERCUT AREA=47 SM-1 FILL MATERIAL AREA=47

UNDERCUT VOLUME=145 SM-1 FILL MATERIAL VOLUME=145

CUT VOLUME 342
FILL VOLUME 2493

STA. 517+00.00 TO STA. 519+00.00

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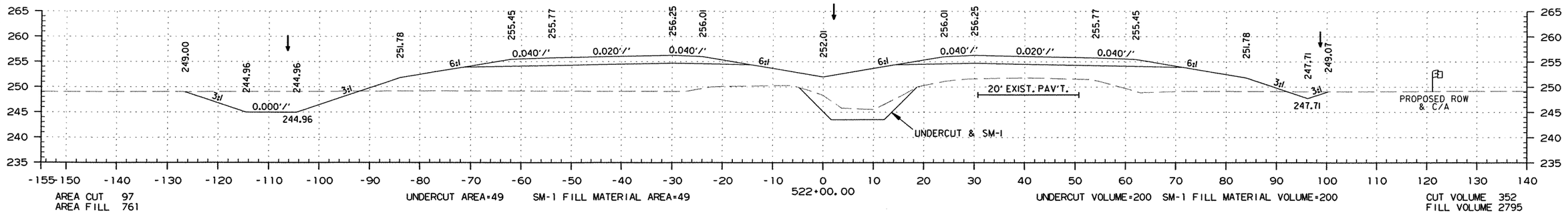
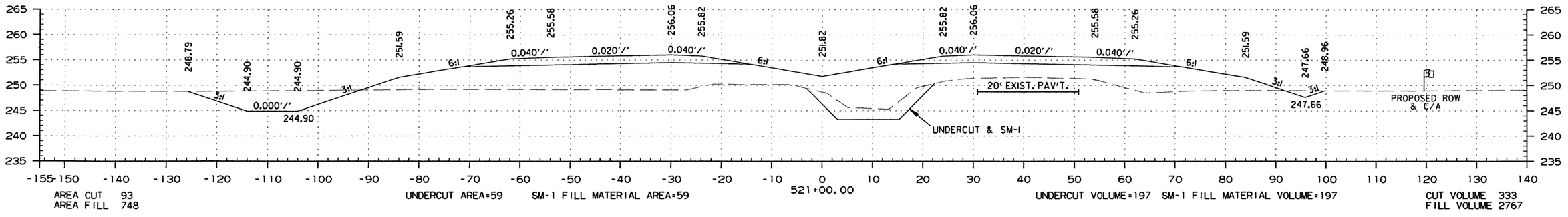
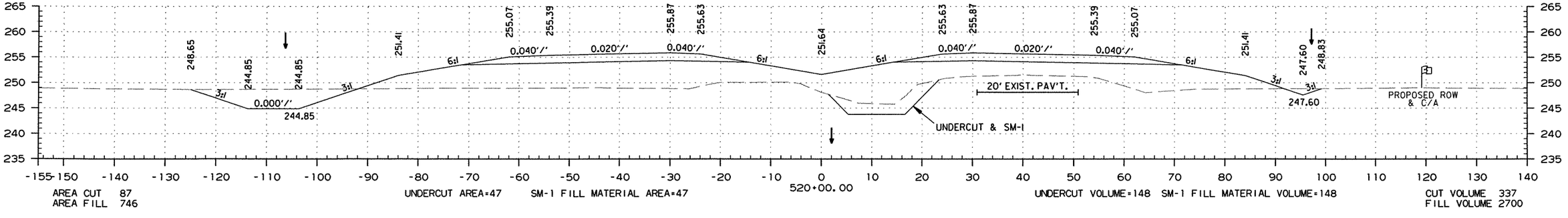
				6	ARK.			
				JOB NO.		100679	218	252

(2) CROSS SECTIONS







STA. 520+00.00 TO STA. 522+00.00

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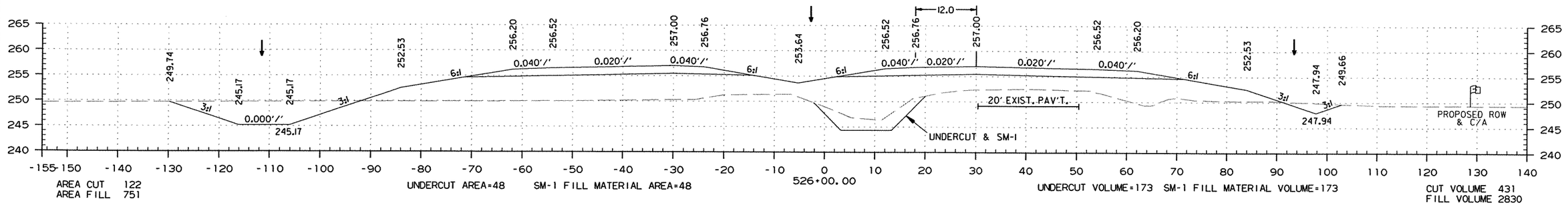
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	219	252

(2) CROSS SECTIONS

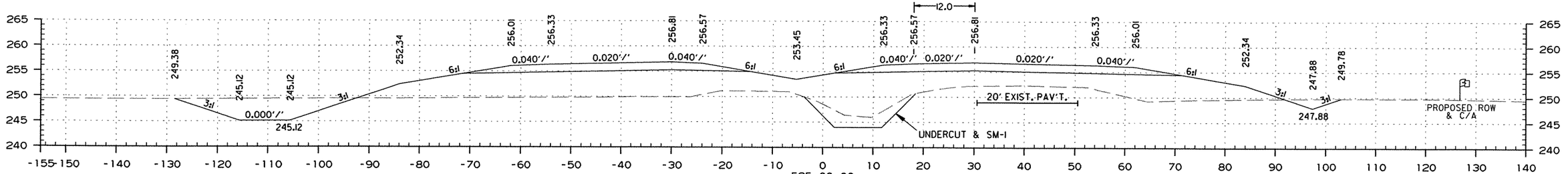


AREA CUT 122
AREA FILL 751

UNDERCUT AREA=48 SM-1 FILL MATERIAL AREA=48

UNDERCUT VOLUME=173 SM-1 FILL MATERIAL VOLUME=173

CUT VOLUME 431
FILL VOLUME 2830



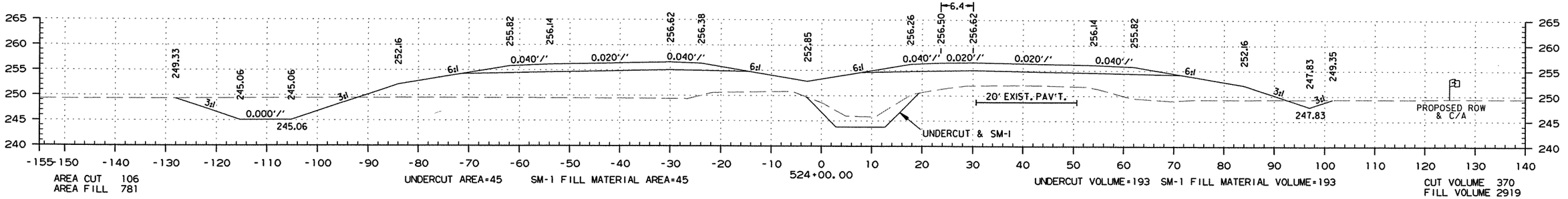
AREA CUT 110
AREA FILL 777

UNDERCUT AREA=45 SM-1 FILL MATERIAL AREA=45

UNDERCUT VOLUME=168 SM-1 FILL MATERIAL VOLUME=168

CUT VOLUME 402
FILL VOLUME 2886

STA. 524+94
BEGIN 210' LEFT TURN LANE

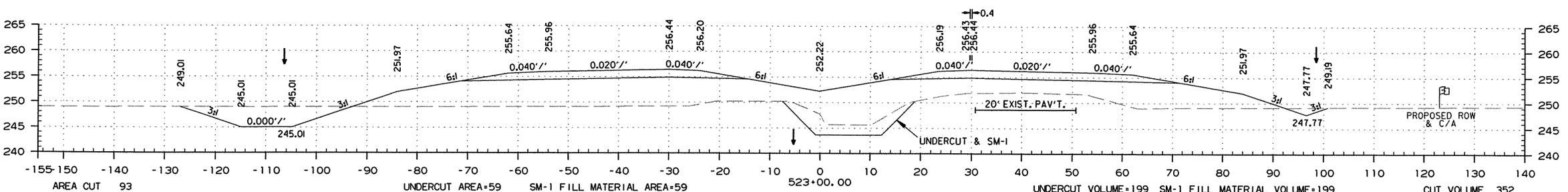


AREA CUT 106
AREA FILL 781

UNDERCUT AREA=45 SM-1 FILL MATERIAL AREA=45

UNDERCUT VOLUME=193 SM-1 FILL MATERIAL VOLUME=193

CUT VOLUME 370
FILL VOLUME 2919



AREA CUT 93
AREA FILL 795

UNDERCUT AREA=59 SM-1 FILL MATERIAL AREA=59

UNDERCUT VOLUME=199 SM-1 FILL MATERIAL VOLUME=199

CUT VOLUME 352
FILL VOLUME 2882

STA. 522+94
BEGIN 200' TAPER

STA. 523+00.00 TO STA. 526+00.00

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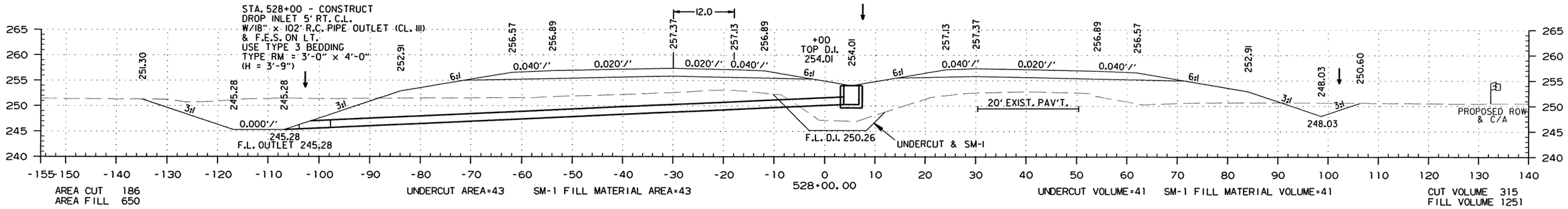
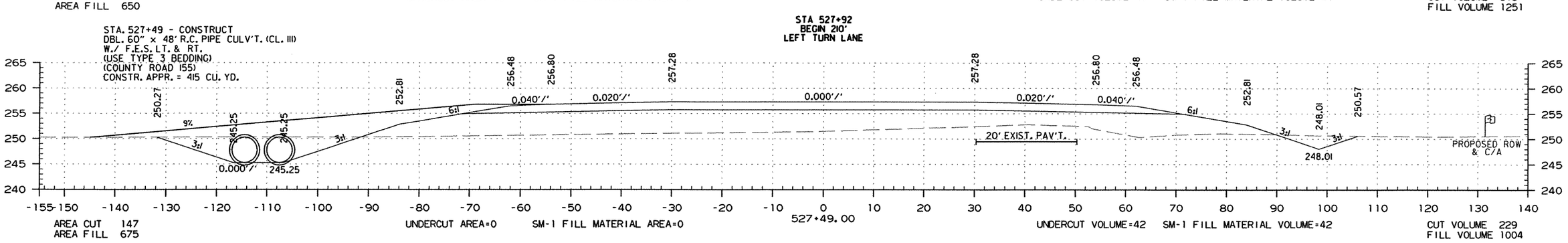
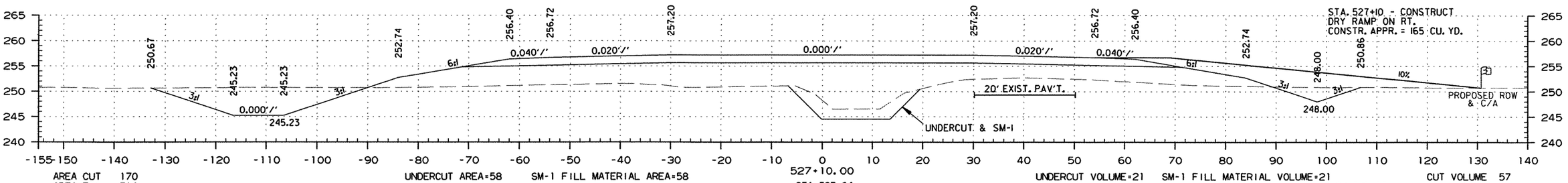
				6	ARK.			
				JOB NO.		100679	220	252

(2) CROSS SECTIONS

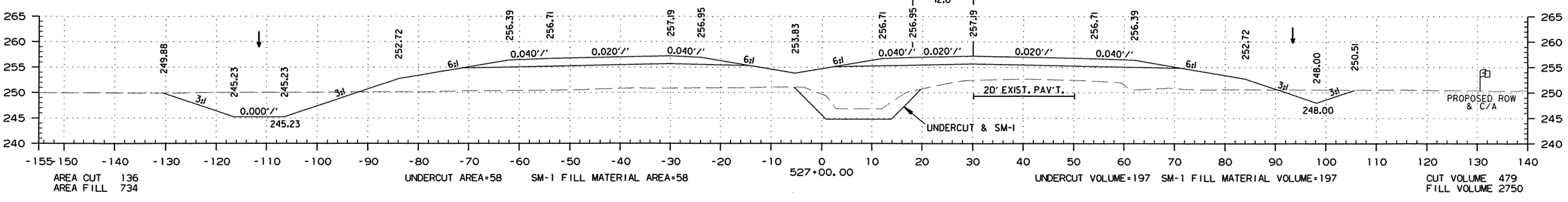






STA. 527+04
BEGIN MEDIAN TURNAROUND

+06.00 END RT.
DITCH GRADE (0.06%)
BEGIN RT.
DITCH GRADE (0.03%)
ELEV. 248.00



STA. 527+00.00 TO STA. 528+00.00

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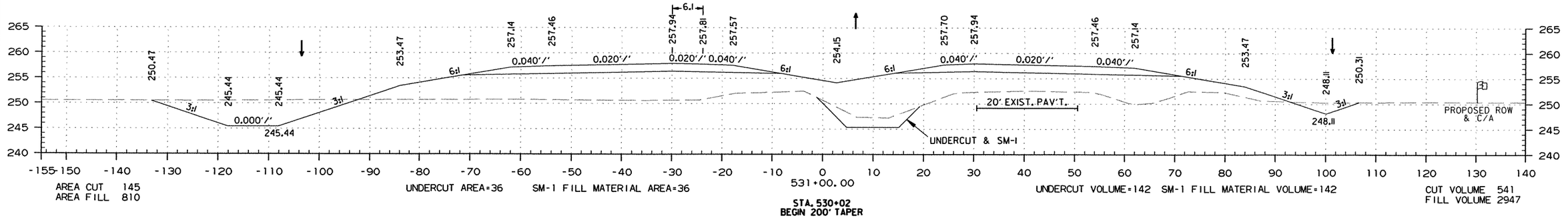
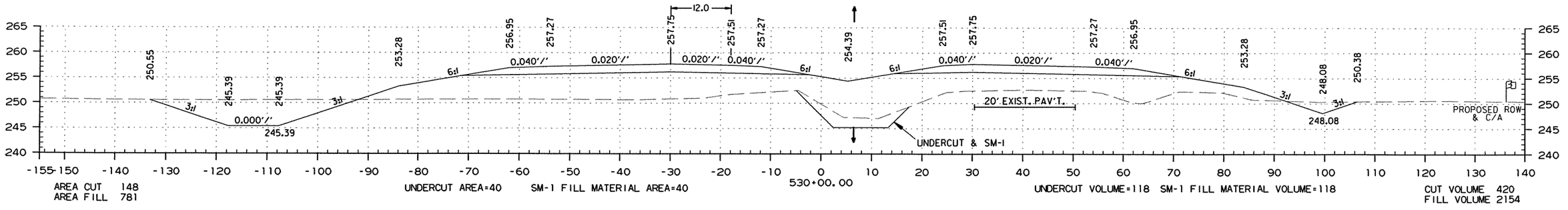
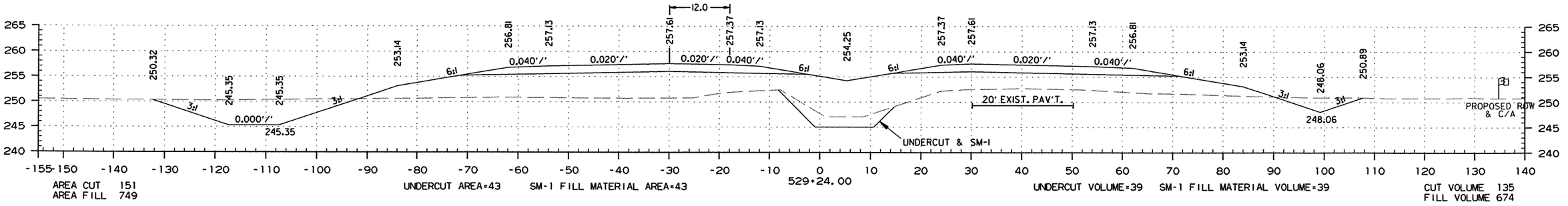
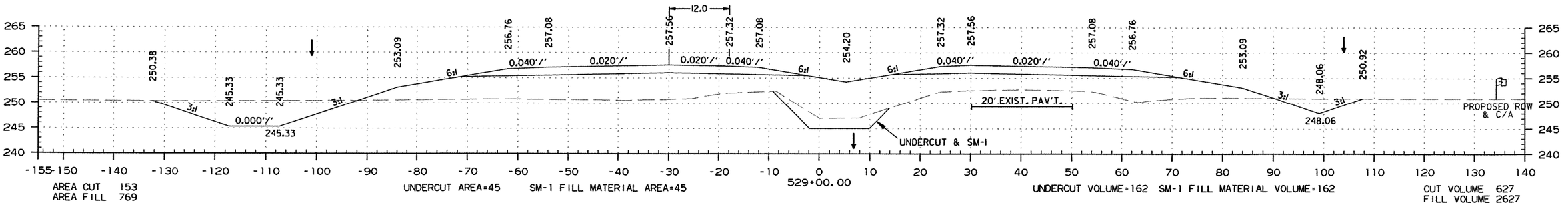
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	221	252

(2) CROSS SECTIONS









STA. 529+00.00 TO STA. 531+00.00

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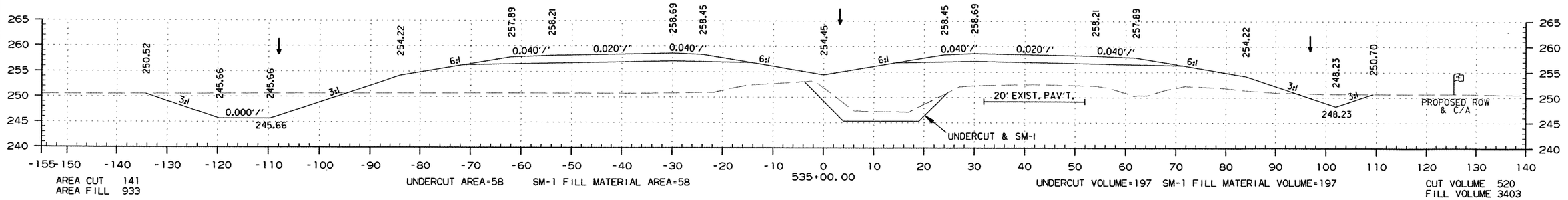
				6	ARK.			
				JOB NO.		100679	222	252

(2) CROSS SECTIONS

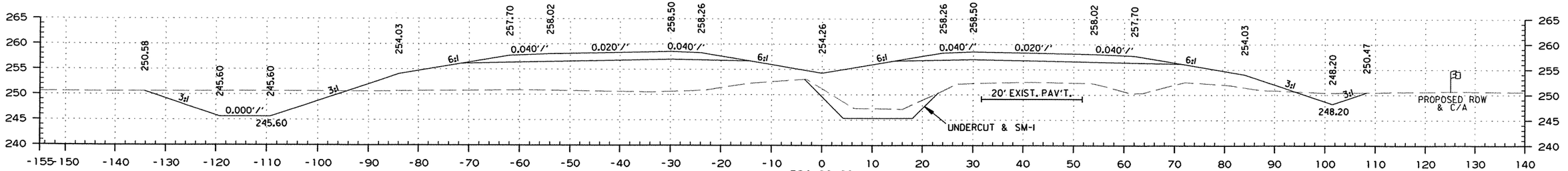


AREA CUT 141
AREA FILL 933

UNDERCUT AREA=58 SM-1 FILL MATERIAL AREA=58

UNDERCUT VOLUME=197 SM-1 FILL MATERIAL VOLUME=197

CUT VOLUME 520
FILL VOLUME 3403

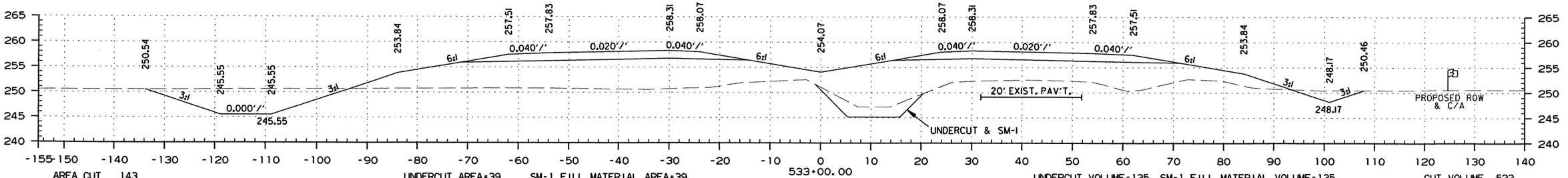


AREA CUT 140
AREA FILL 905

UNDERCUT AREA=49 SM-1 FILL MATERIAL AREA=49

UNDERCUT VOLUME=162 SM-1 FILL MATERIAL VOLUME=162

CUT VOLUME 524
FILL VOLUME 3265



AREA CUT 143
AREA FILL 858

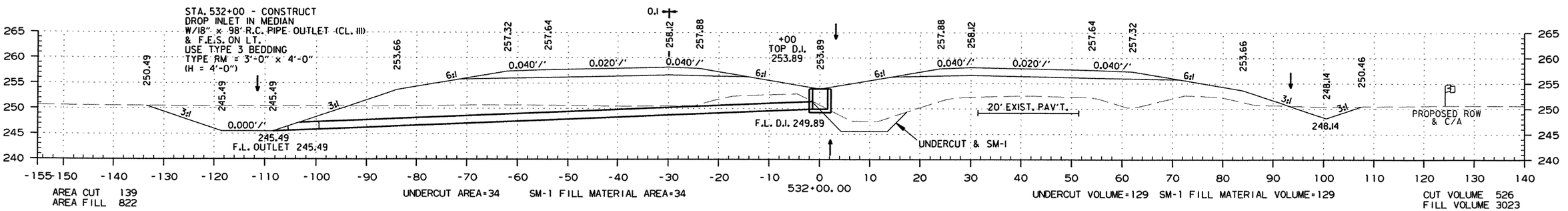
UNDERCUT AREA=39 SM-1 FILL MATERIAL AREA=39

UNDERCUT VOLUME=135 SM-1 FILL MATERIAL VOLUME=135

CUT VOLUME 523
FILL VOLUME 3112

STA. 532+02
END 200' TAPER

STA. 532+00 - CONSTRUCT
DROP INLET IN MEDIAN
W/18" x 98' R.C. PIPE OUTLET (CL. III)
& F.E.S. ON LT.
USE TYPE 3 BEDDING
TYPE RM = 3'-0" x 4'-0"
(H = 4'-0")



AREA CUT 139
AREA FILL 822

UNDERCUT AREA=34 SM-1 FILL MATERIAL AREA=34

UNDERCUT VOLUME=129 SM-1 FILL MATERIAL VOLUME=129

CUT VOLUME 526
FILL VOLUME 3023

STA. 532+00.00 TO STA. 535+00.00

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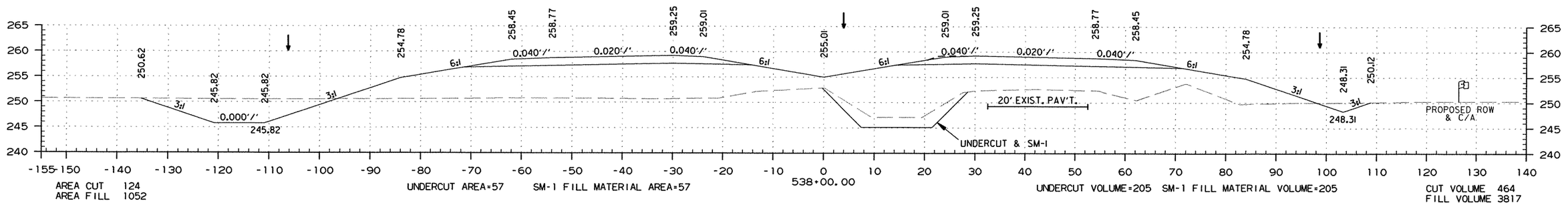
				6	ARK.			
				JOB NO.		100679	223	252

(2) CROSS SECTIONS

CROSSOVER

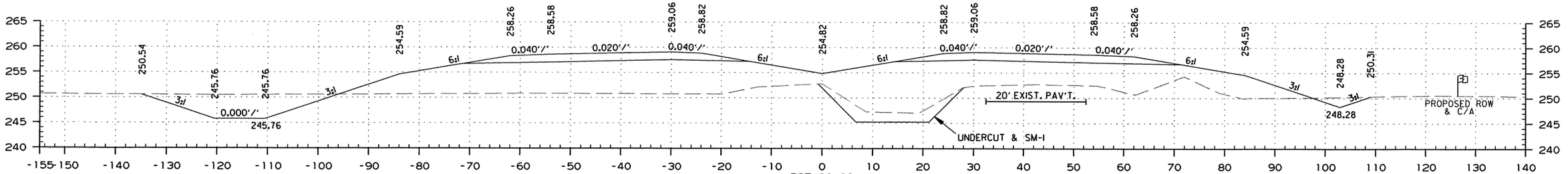


AREA CUT 124
AREA FILL 1052

UNDERCUT AREA=57 SM-1 FILL MATERIAL AREA=57

UNDERCUT VOLUME=205 SM-1 FILL MATERIAL VOLUME=205

CUT VOLUME 464
FILL VOLUME 3817

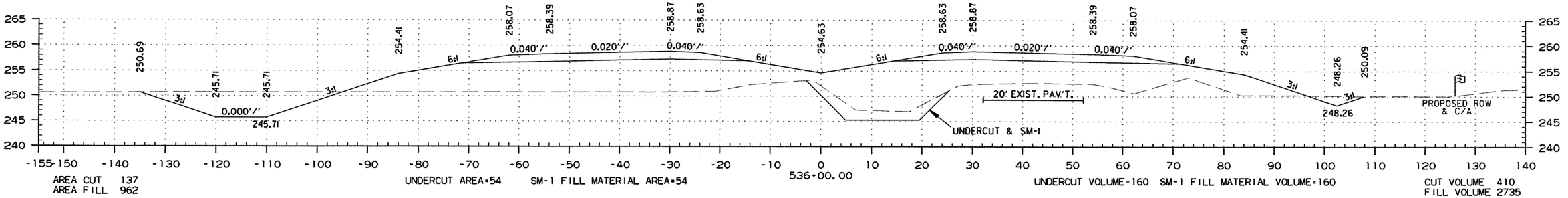


AREA CUT 126
AREA FILL 1010

UNDERCUT AREA=54 SM-1 FILL MATERIAL AREA=54

UNDERCUT VOLUME=200 SM-1 FILL MATERIAL VOLUME=200

CUT VOLUME 487
FILL VOLUME 3651

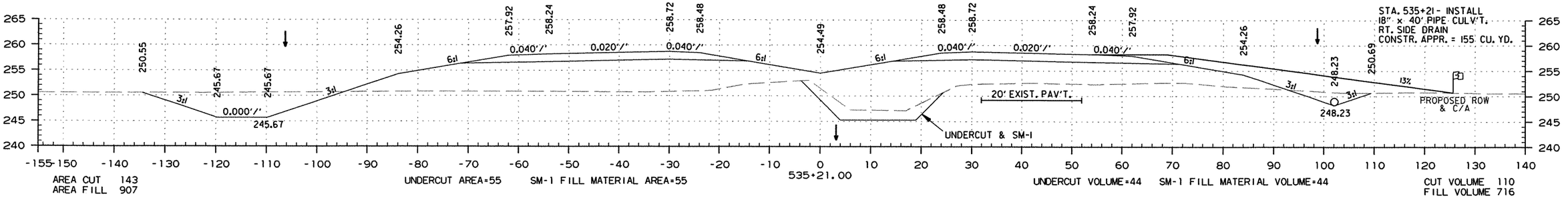


AREA CUT 137
AREA FILL 962

UNDERCUT AREA=54 SM-1 FILL MATERIAL AREA=54

UNDERCUT VOLUME=160 SM-1 FILL MATERIAL VOLUME=160

CUT VOLUME 410
FILL VOLUME 2735



AREA CUT 143
AREA FILL 907

UNDERCUT AREA=55 SM-1 FILL MATERIAL AREA=55

UNDERCUT VOLUME=44 SM-1 FILL MATERIAL VOLUME=44

CUT VOLUME 110
FILL VOLUME 716

STA. 535+21.00 TO STA. 538+00.00

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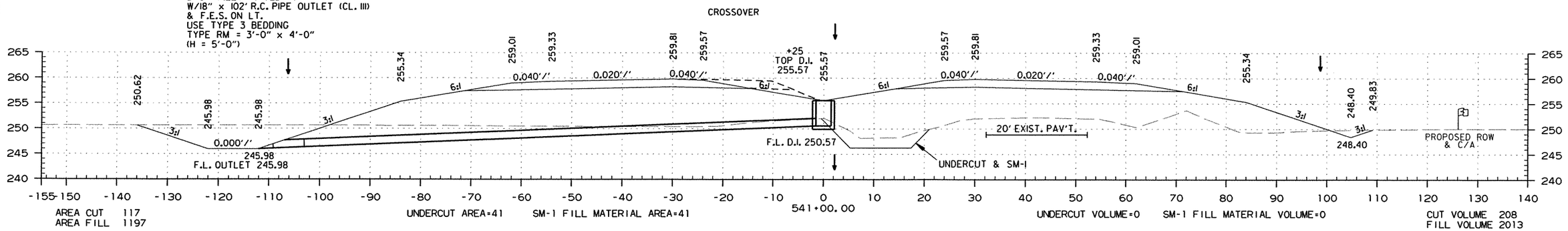
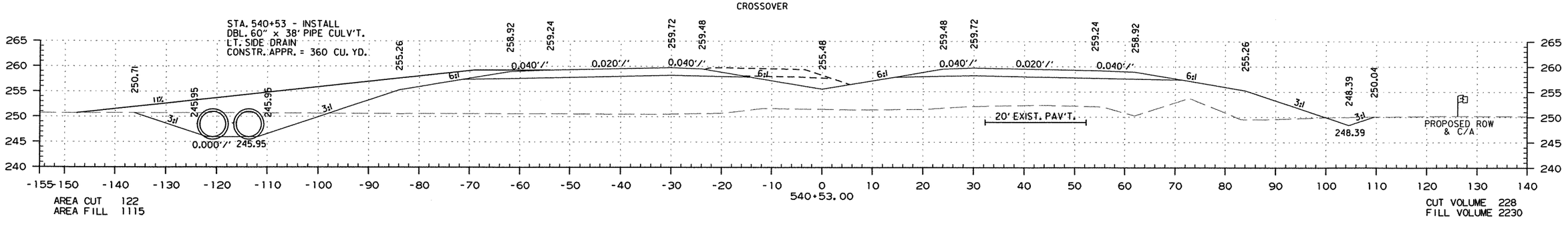
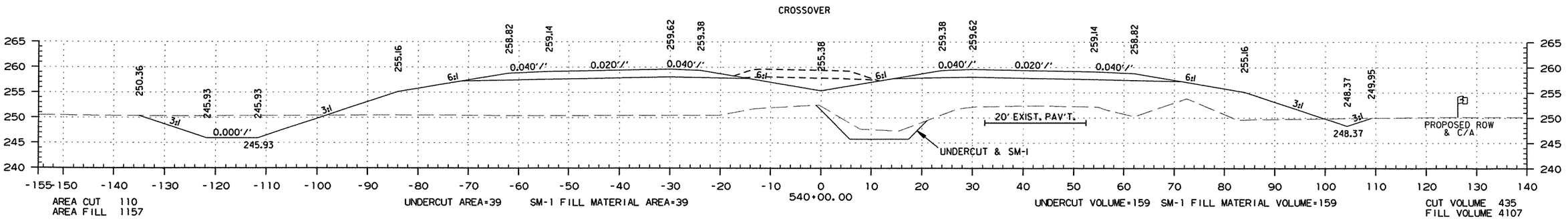
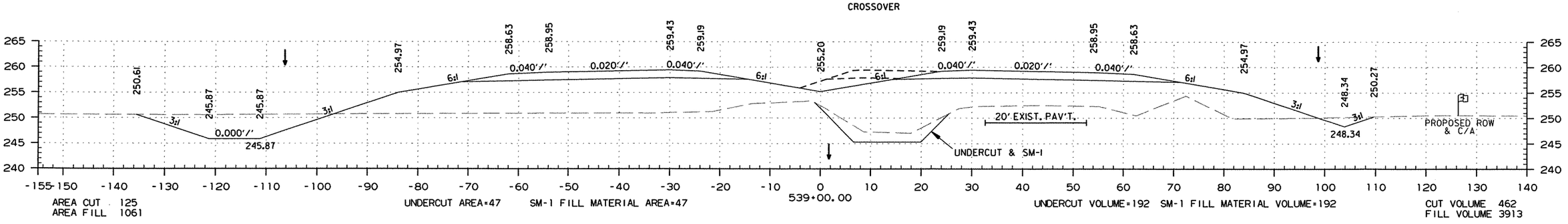
				6	ARK.			
				JOB NO.		100679	224	252

(2) CROSS SECTIONS









STA. 539+00.00 TO STA. 541+00.00

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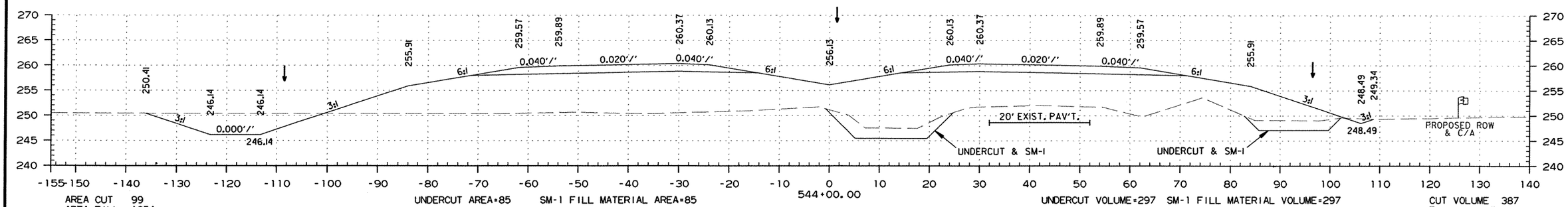
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	225	252

(2) CROSS SECTIONS

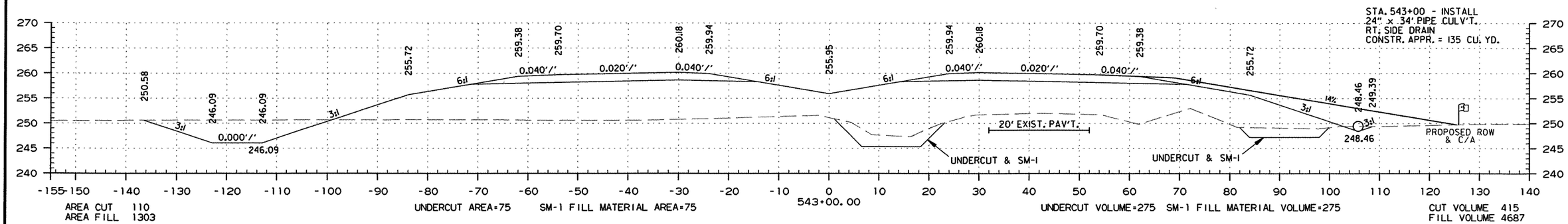


AREA CUT 99
AREA FILL 1354

UNDERCUT AREA=85 SM-1 FILL MATERIAL AREA=85

UNDERCUT VOLUME=297 SM-1 FILL MATERIAL VOLUME=297

CUT VOLUME 387
FILL VOLUME 4920



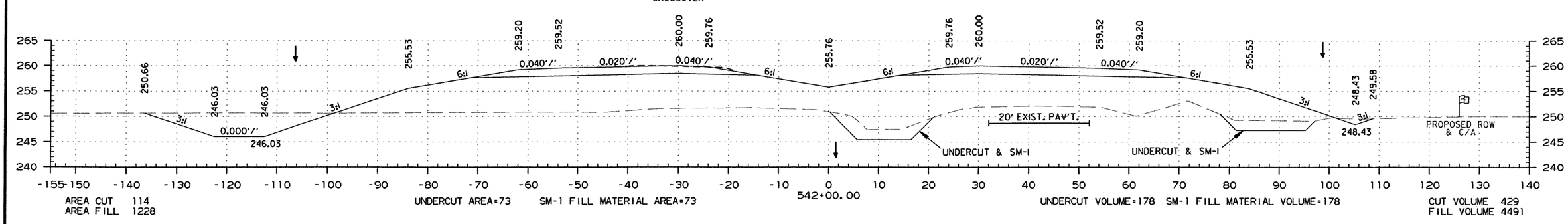
AREA CUT 110
AREA FILL 1303

UNDERCUT AREA=75 SM-1 FILL MATERIAL AREA=75

UNDERCUT VOLUME=275 SM-1 FILL MATERIAL VOLUME=275

CUT VOLUME 415
FILL VOLUME 4687

CROSSOVER



AREA CUT 114
AREA FILL 1228

UNDERCUT AREA=73 SM-1 FILL MATERIAL AREA=73

UNDERCUT VOLUME=178 SM-1 FILL MATERIAL VOLUME=178

CUT VOLUME 429
FILL VOLUME 4491

STA. 542+00.00 TO STA. 544+00.00

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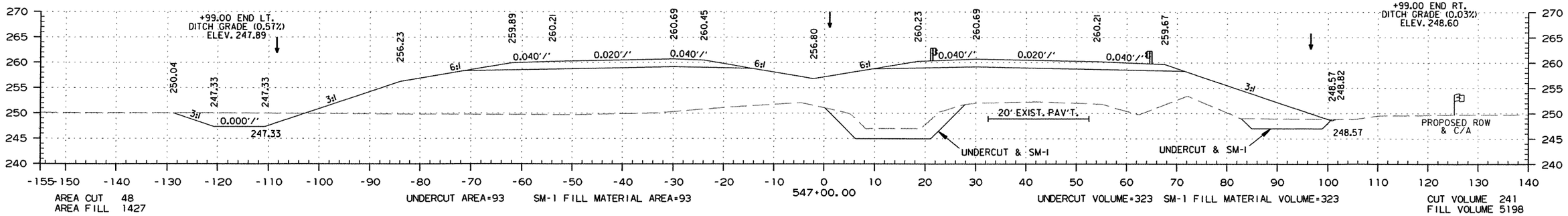
				6	ARK.			
				JOB NO.		100679	226	252

(2) CROSS SECTIONS

TOE OF SLOPE STATION 548+11.96
B.E. STATION 547+97.92



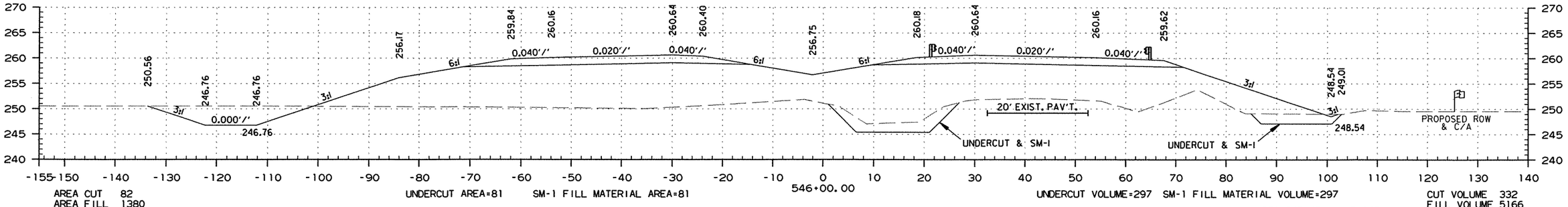
AREA CUT 48
AREA FILL 1427

UNDERCUT AREA=93 SM-1 FILL MATERIAL AREA=93

UNDERCUT VOLUME=323 SM-1 FILL MATERIAL VOLUME=323

CUT VOLUME 241
FILL VOLUME 5198

TOE OF SLOPE STATION 548+09.50
B.E. STATION 547+97.92



AREA CUT 82
AREA FILL 1380

UNDERCUT AREA=81 SM-1 FILL MATERIAL AREA=81

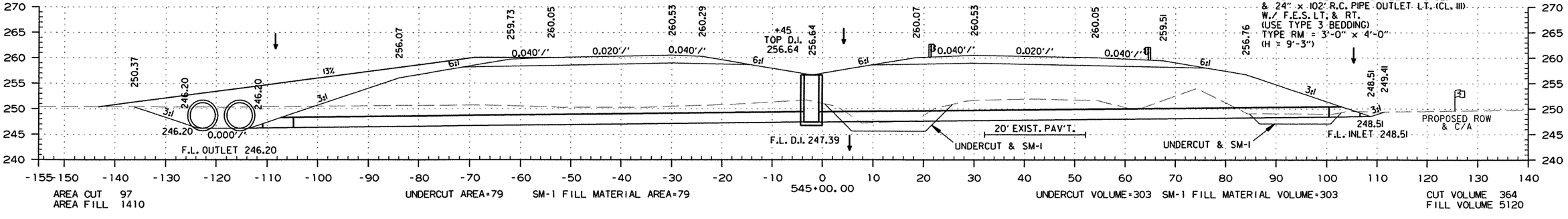
UNDERCUT VOLUME=297 SM-1 FILL MATERIAL VOLUME=297

CUT VOLUME 332
FILL VOLUME 5166

STA. 545+00 - INSTALL DBL. 60" x 34' PIPE CULV'T. LT. SIDE DRAIN CONSTR. APPR. = 300 CU. YD.

+00.00 END LT.
DITCH GRADE (0.05%)
BEGIN LT.
DITCH GRADE (0.57%)
ELEV. 246.20

STA. 545+45 - IN PLACE
24" X 18" X 36' C.M. ARCH PIPE CULV'T.
REMOVE AND CONSTRUCT
DROP INLET 2' LT. C.L.
W/ 24" x 102' R.C. PIPE INLET RT. (CL. III)
& 24" x 102' R.C. PIPE OUTLET LT. (CL. III)
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
TYPE RM = 3'-0" x 4'-0"
(H = 9'-3")



AREA CUT 97
AREA FILL 1410

UNDERCUT AREA=79 SM-1 FILL MATERIAL AREA=79

UNDERCUT VOLUME=303 SM-1 FILL MATERIAL VOLUME=303

CUT VOLUME 364
FILL VOLUME 5120

STA. 545+00.00 TO STA. 548+00.00

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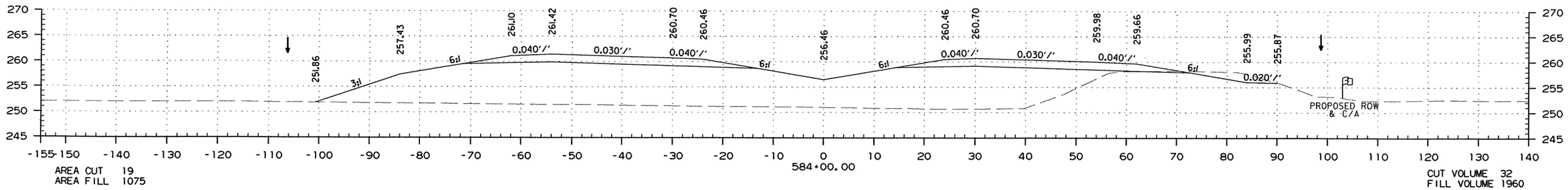
				6	ARK.			
				JOB NO.		100679	227	252

(2) CROSS SECTIONS

TOE OF SLOPE STATION 584+77.52
B.E. STATION 584+65.92

TOE OF SLOPE STATION 584+77.51
B.E. STATION 584+65.91



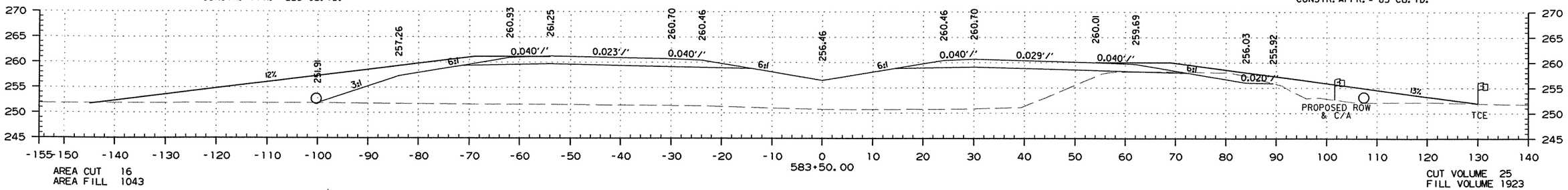
AREA CUT 19
AREA FILL 1075

CUT VOLUME 32
FILL VOLUME 1960

STA. 583+50 - INSTALL
24" x 38' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 225 CU. YD.

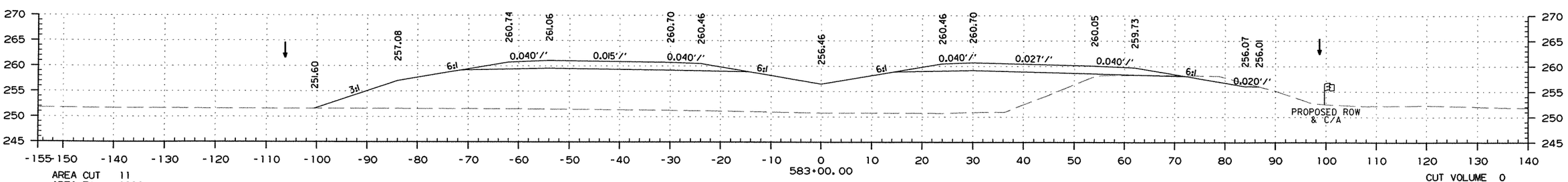
STA. 583+96.14
MAX. SUPERELEVATION

STA. 583+50 - INSTALL
24" x 28' PIPE CULV'T.
RT. SIDE DRAIN
CONSTR. APPR. = 85 CU. YD.



AREA CUT 16
AREA FILL 1043

CUT VOLUME 25
FILL VOLUME 1923



AREA CUT 11
AREA FILL 1034

CUT VOLUME 0
FILL VOLUME 0

B.E. STATION 582+04.08
TOE OF SLOPE STATION 581+94.57

STA. 580+46.14
BEGIN SUPERELEVATION

B.E. STATION 582+04.08
TOE OF SLOPE STATION 581+93.56

STA. 583+00.00 TO STA. 585+00.00

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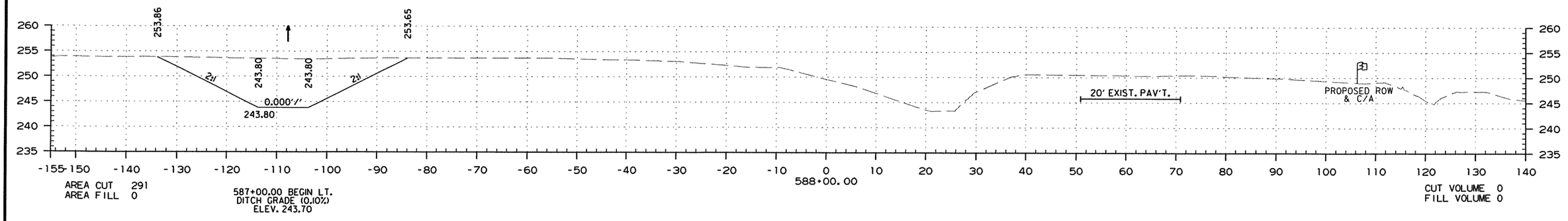
				6	ARK.			
				JOB NO.		100679	228	252

(2) CROSS SECTIONS



STA. 588+00.00 TO STA. 589+00.00

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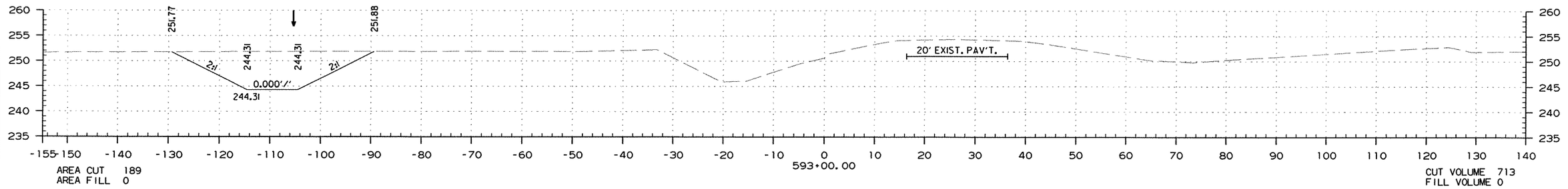
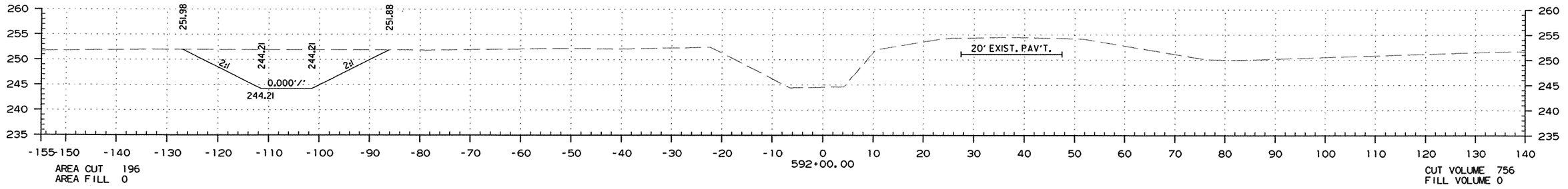
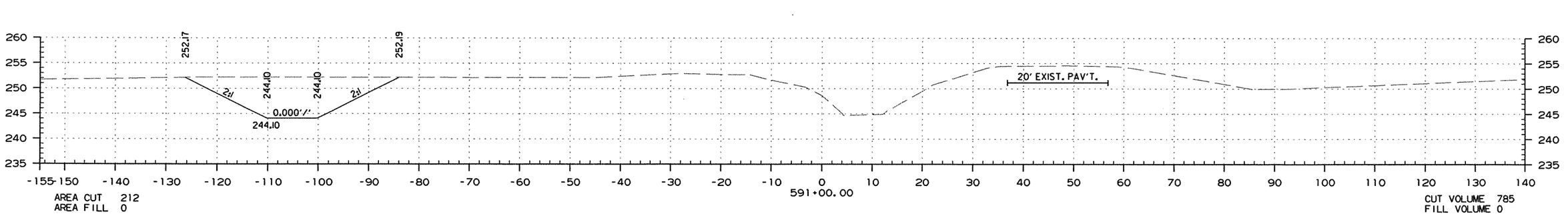
R100679.DGN

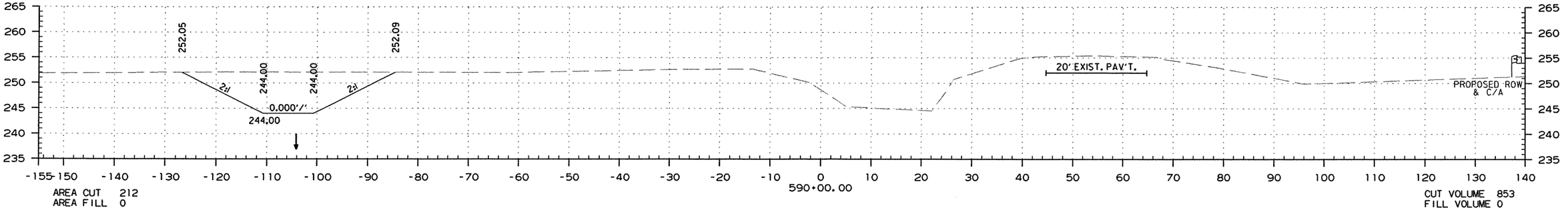
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	229	252

(2) CROSS SECTIONS









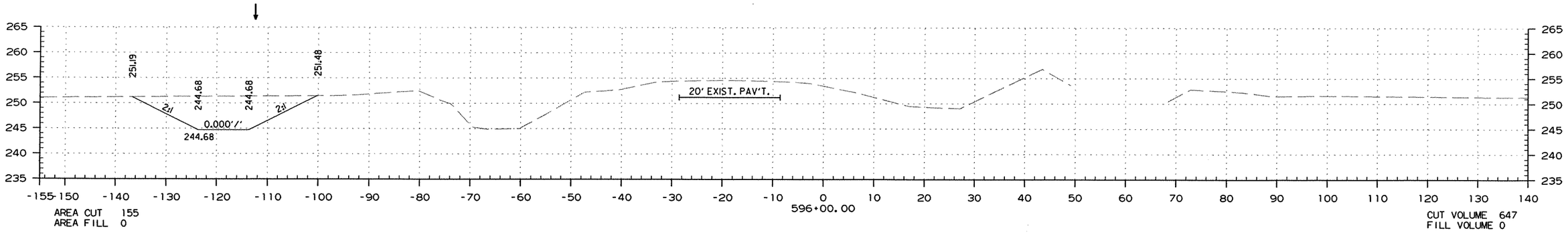
STA. 590+00.00 TO STA. 593+00.00

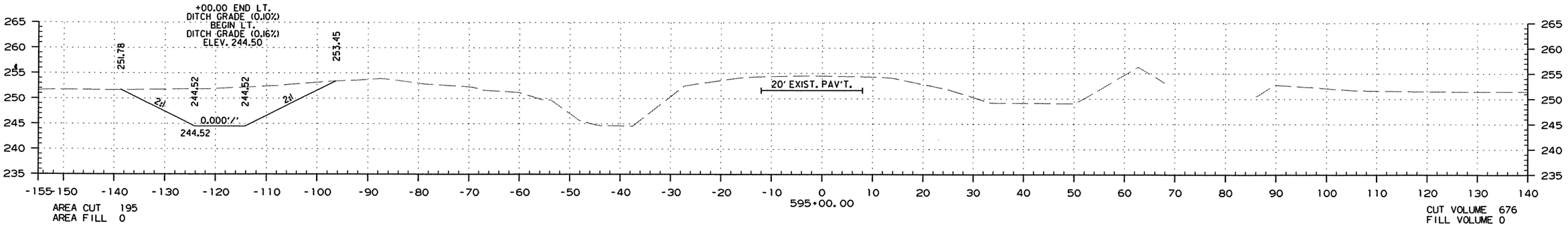
7/24/2012

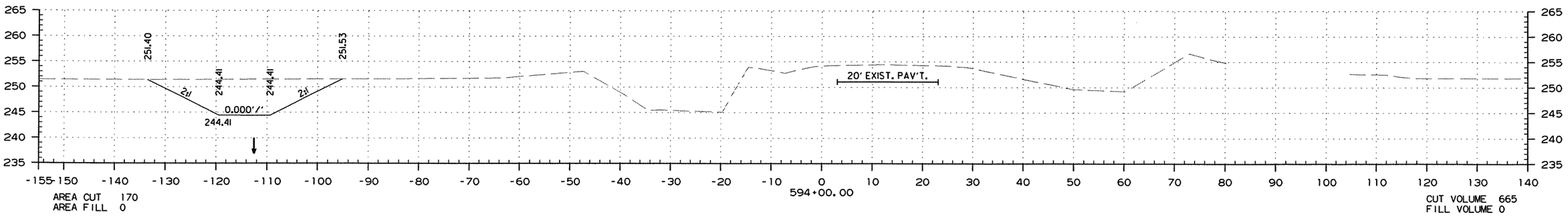
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	230	252

(2) CROSS SECTIONS







STA. 594+00.00 TO STA. 596+00.00

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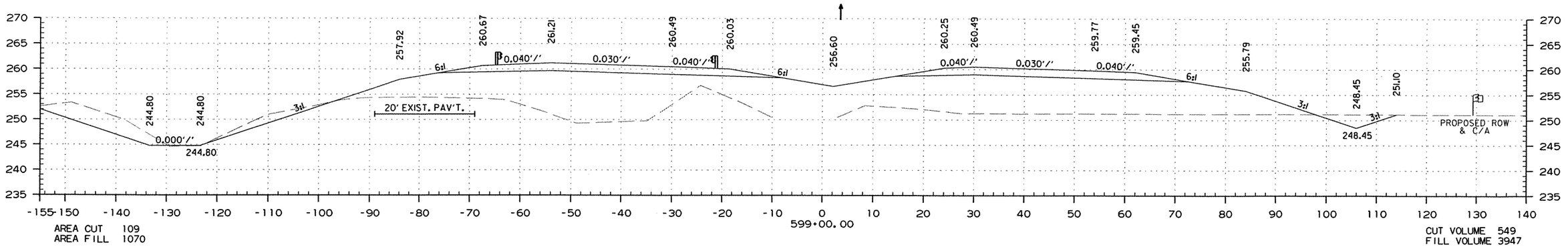
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	231	252

(2) CROSS SECTIONS

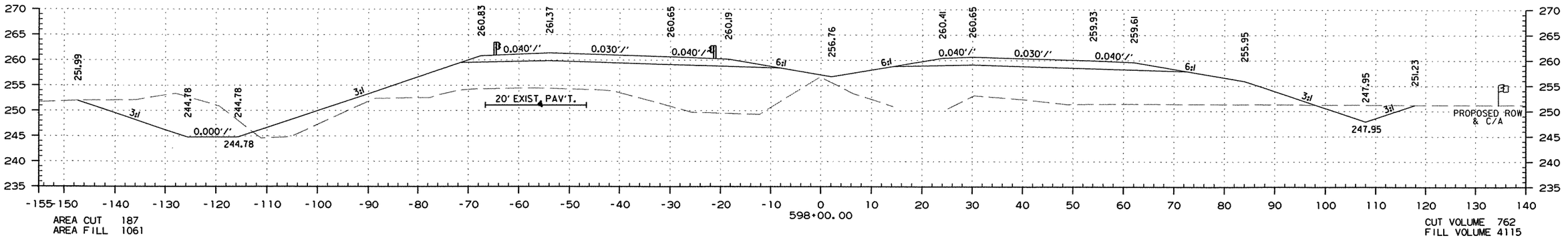
+00.00 END LT.
DITCH GRADE (0.02%)
BEGIN LT.
DITCH GRADE (1.30%)
ELEV. 244.80



AREA CUT 109
AREA FILL 1070

599+00.00

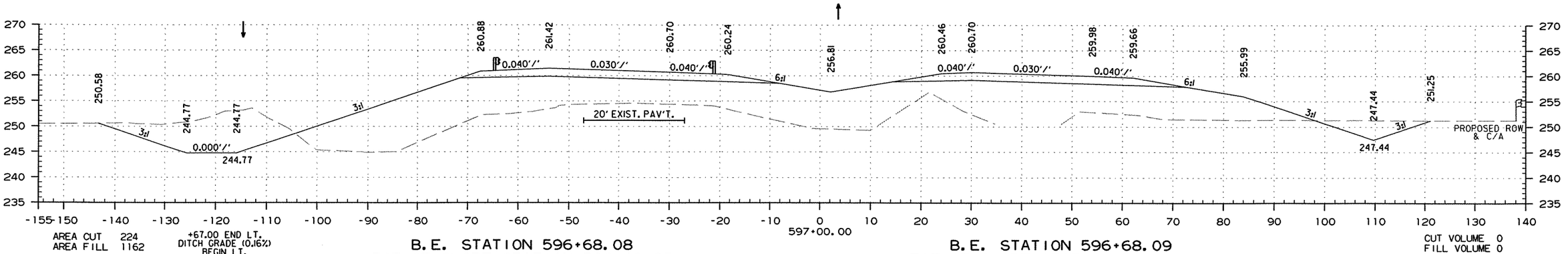
CUT VOLUME 549
FILL VOLUME 3947



AREA CUT 187
AREA FILL 1061

598+00.00

CUT VOLUME 762
FILL VOLUME 4115



AREA CUT 224
AREA FILL 1162

+67.00 END LT.
DITCH GRADE (0.16%)
BEGIN LT.
DITCH GRADE (0.02%)
ELEV. 244.76

597+00.00

CUT VOLUME 0
FILL VOLUME 0

B.E. STATION 596+68.08
TOE OF SLOPE STATION 596+49.25

B.E. STATION 596+68.09
TOE OF SLOPE STATION 596+49.26

STA. 597+00.00 TO STA. 599+00.00

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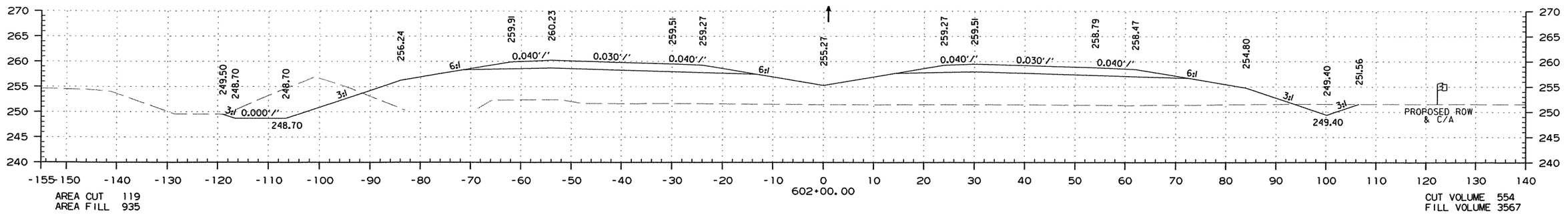
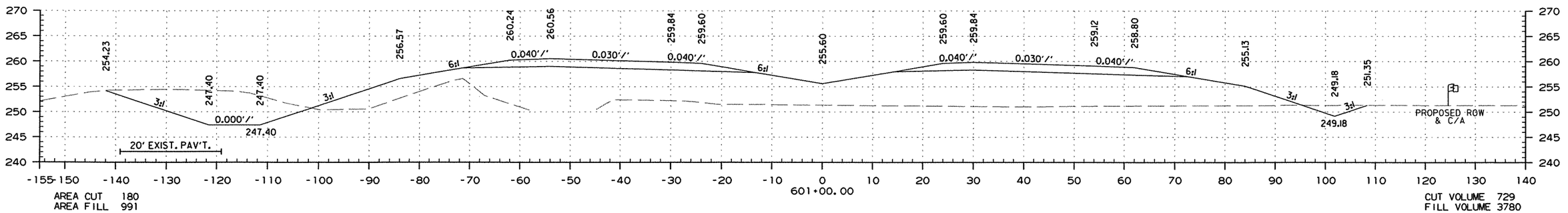
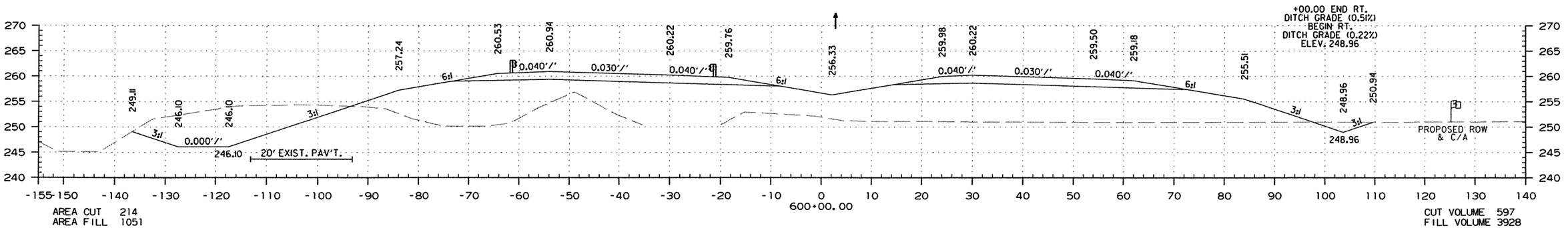
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	232	252

(2) CROSS SECTIONS







STA. 600+00.00 TO STA. 602+00.00

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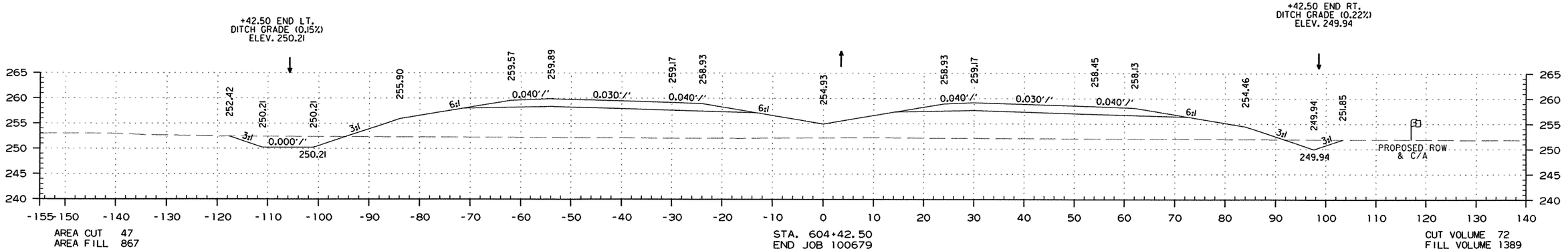
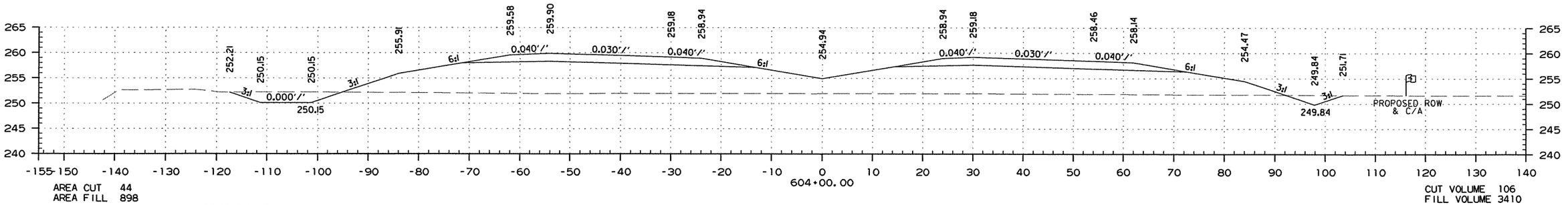
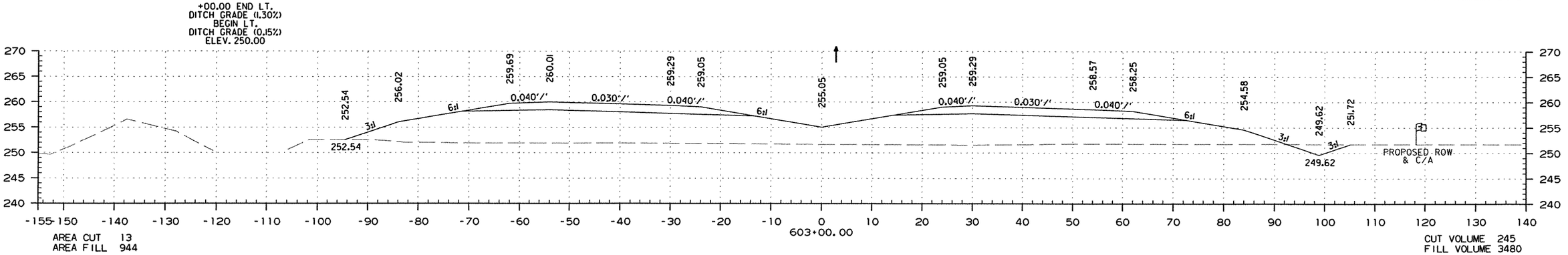
R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	233	252

(2) CROSS SECTIONS







STA. 603+00.00 TO STA. 604+42.50

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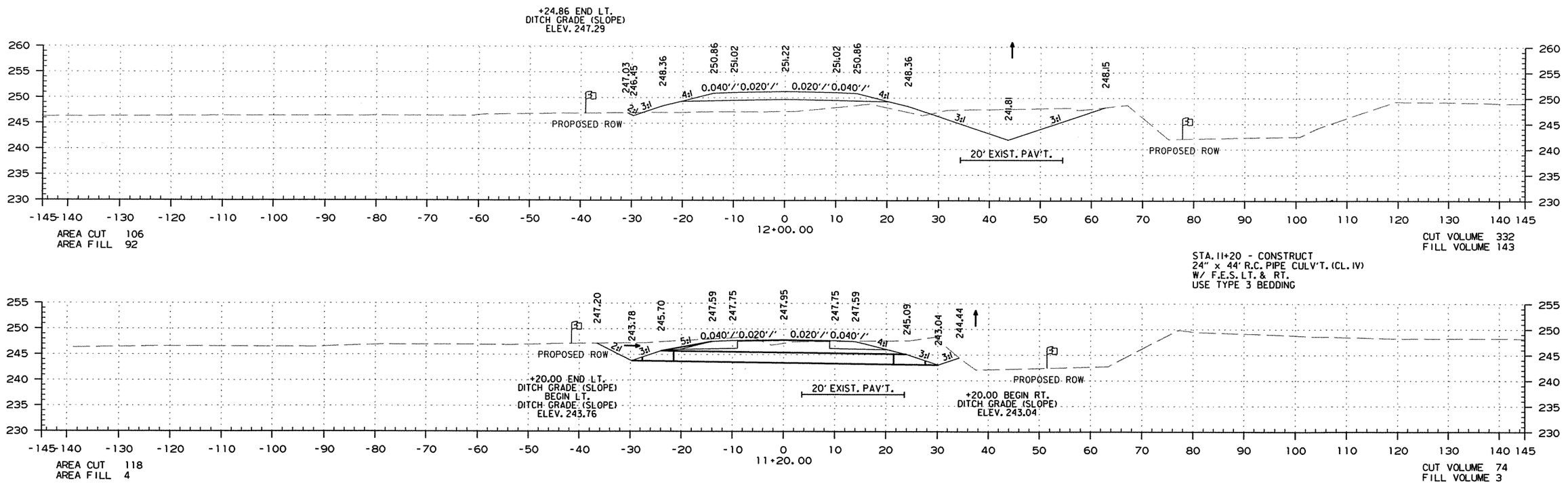
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	234	252

(2) CROSS SECTIONS - COUNTY ROAD 233



STA. 11+00.00 TO STA. 12+00.00

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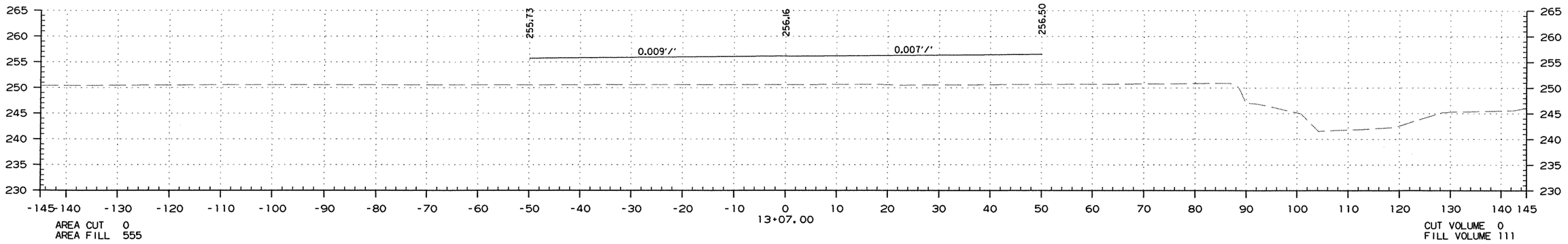
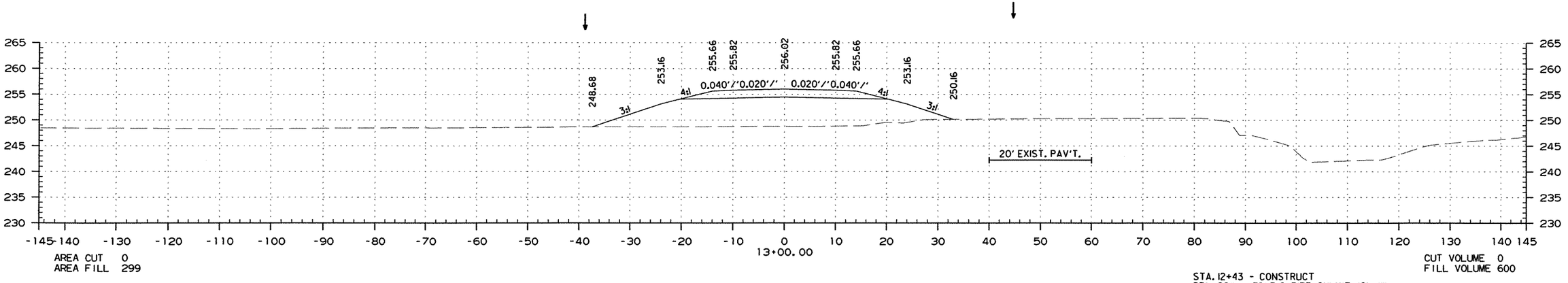
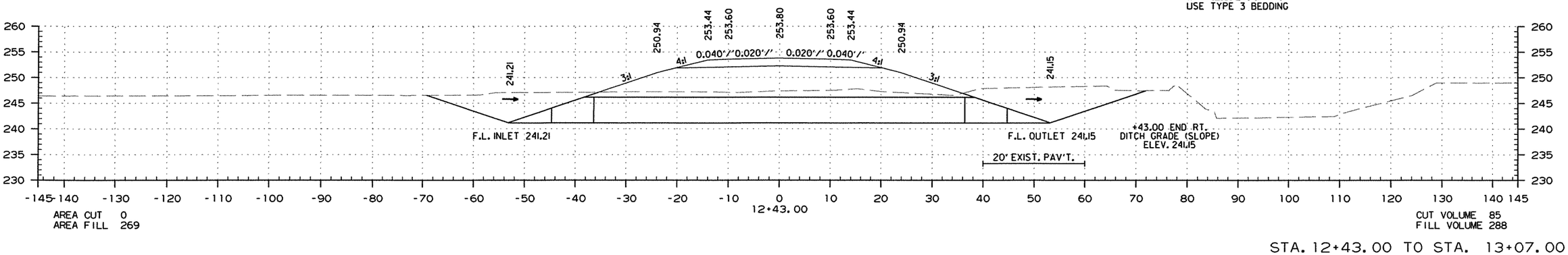
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	235	252

(2) CROSS SECTIONS - COUNTY ROAD 233





STA. 12+43 - CONSTRUCT
DBL. 60" x 72' R.C. PIPE CULV'T. (CL. III)
W/ F.E.S. LT. & RT.
USE TYPE 3 BEDDING



STA. 12+43.00 TO STA. 13+07.00

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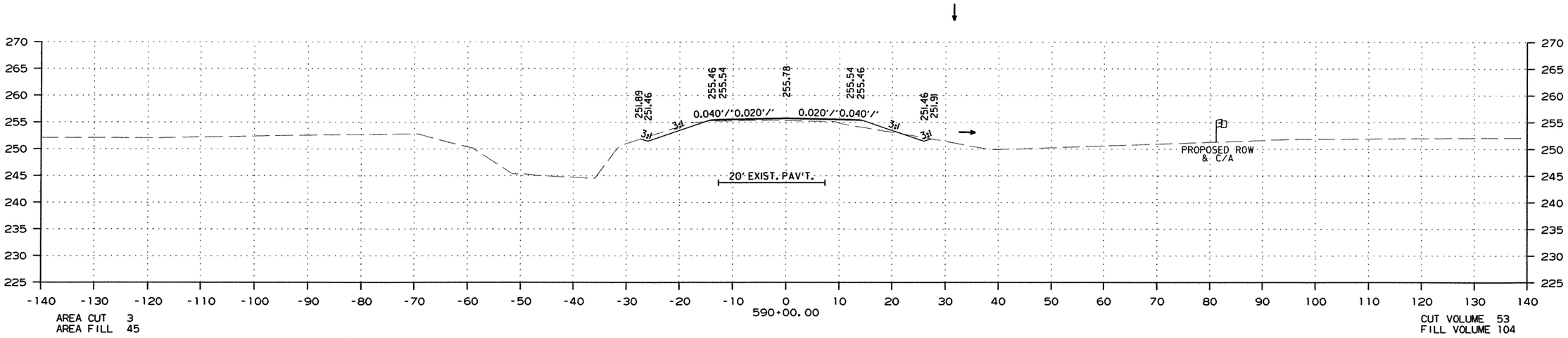
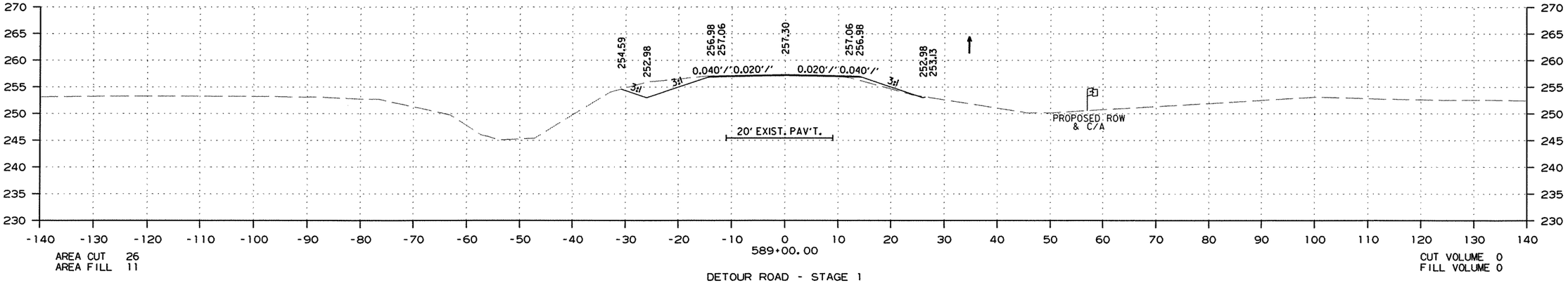
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	236	252

(2) CROSS SECTIONS - STAGE I DETOUR





DETOUR ROAD - STAGE 1

STA. 589+00.00 TO STA. 590+00.00

7/24/2012

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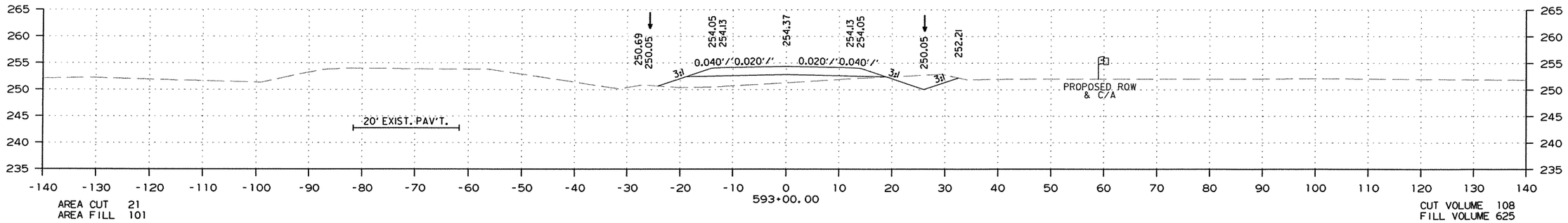
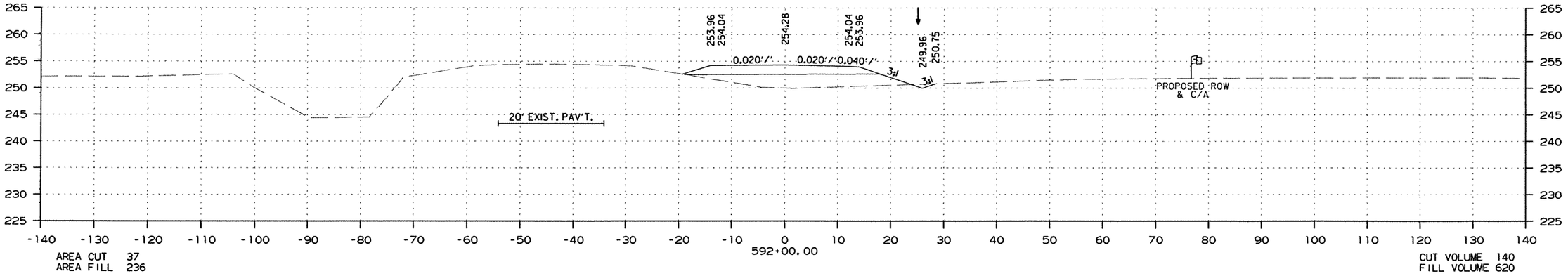
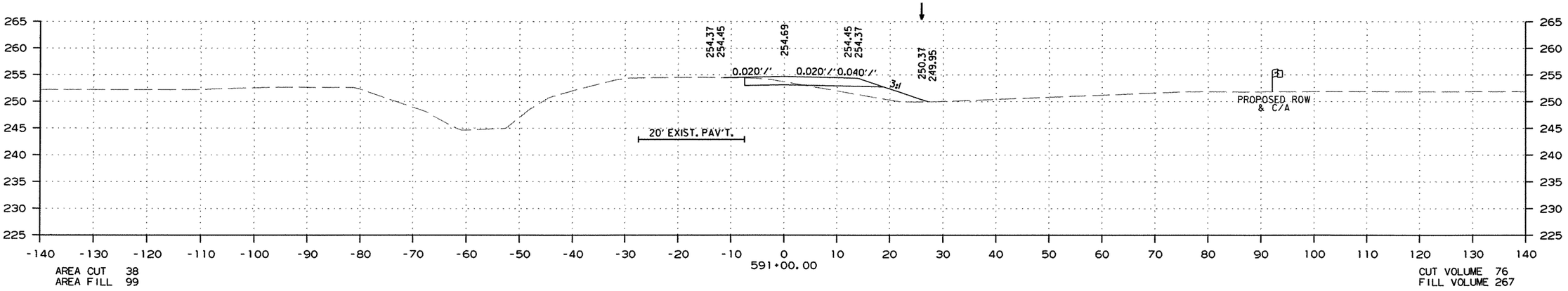
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	237	252

(2) CROSS SECTIONS - STAGE I DETOUR







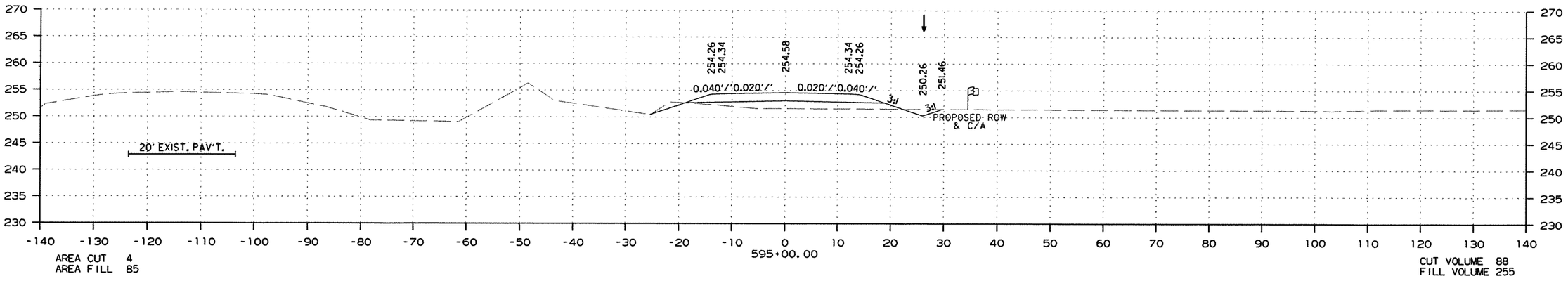
STA. 591+00.00 TO STA. 593+00.00

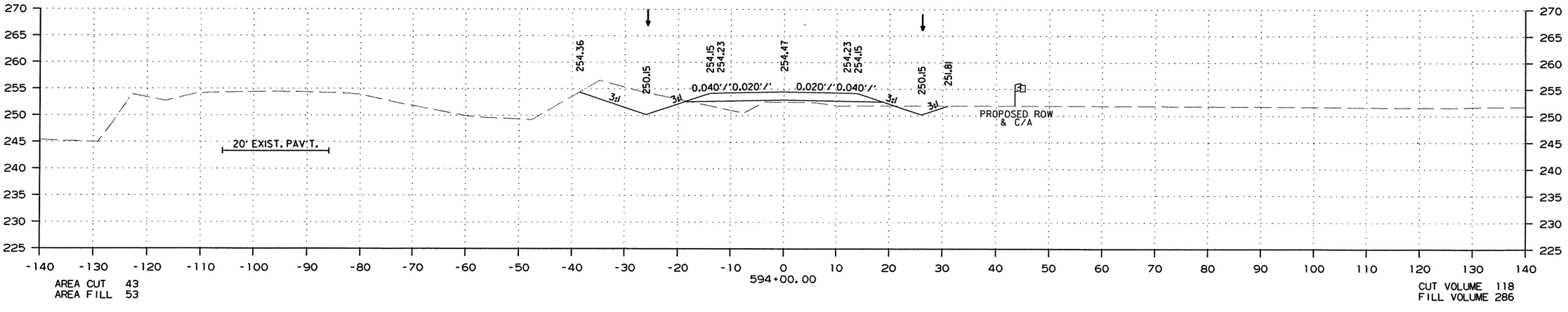
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	238	252

(2) CROSS SECTIONS - STAGE I DETOUR





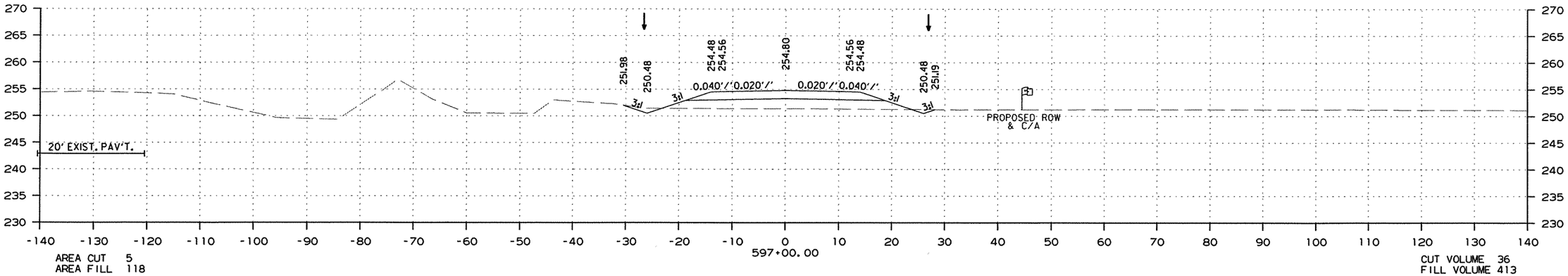
STA. 594+00.00 TO STA. 595+00.00

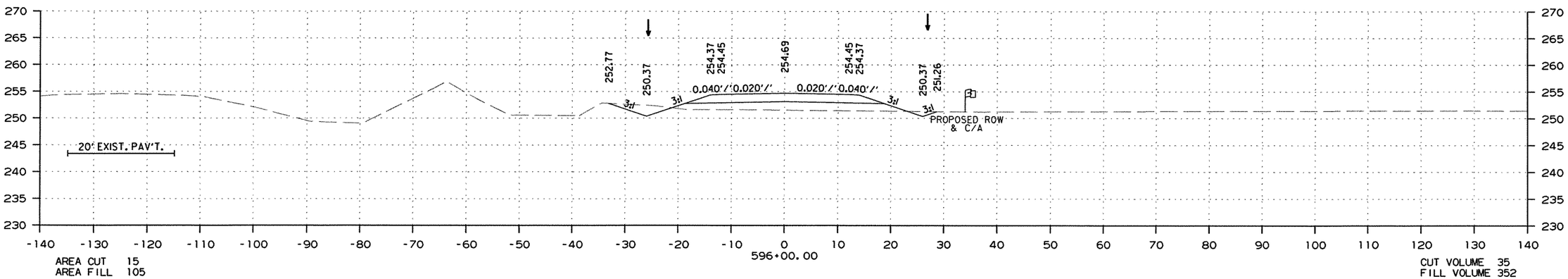
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	239	252

(2) CROSS SECTIONS - STAGE I DETOUR





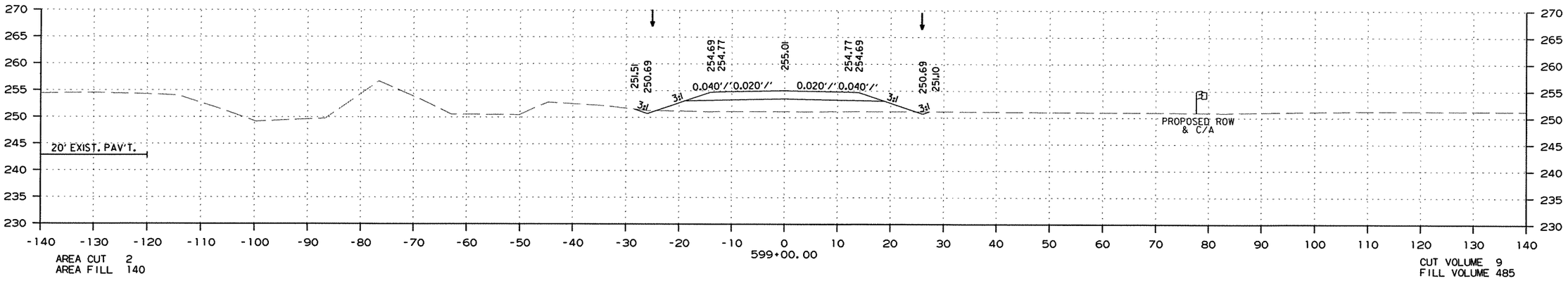
STA. 596+00.00 TO STA. 597+00.00

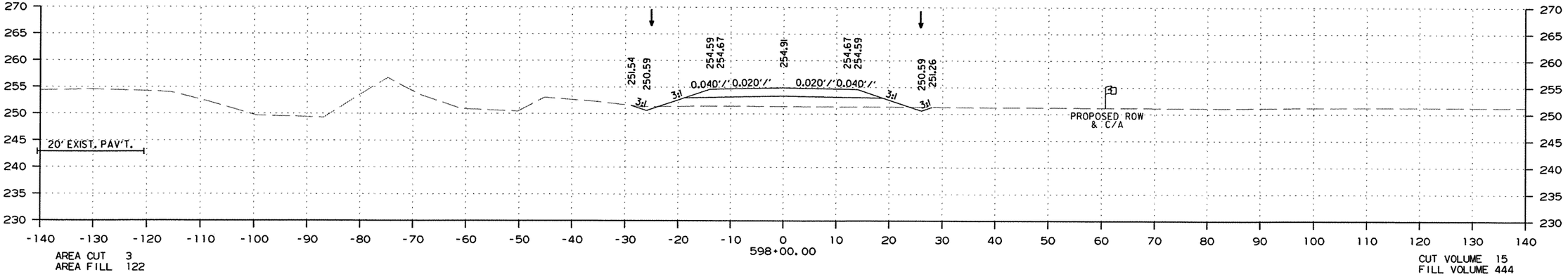
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	240	252

(2) CROSS SECTIONS - STAGE I DETOUR





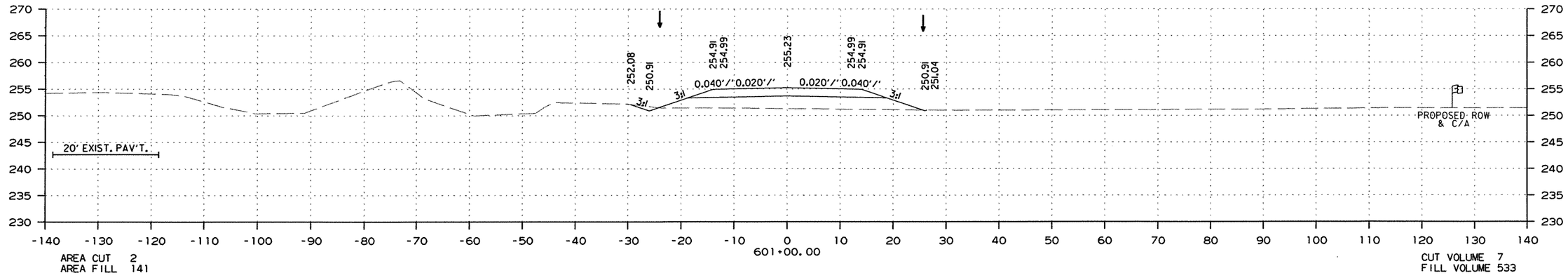
STA. 598+00.00 TO STA. 599+00.00

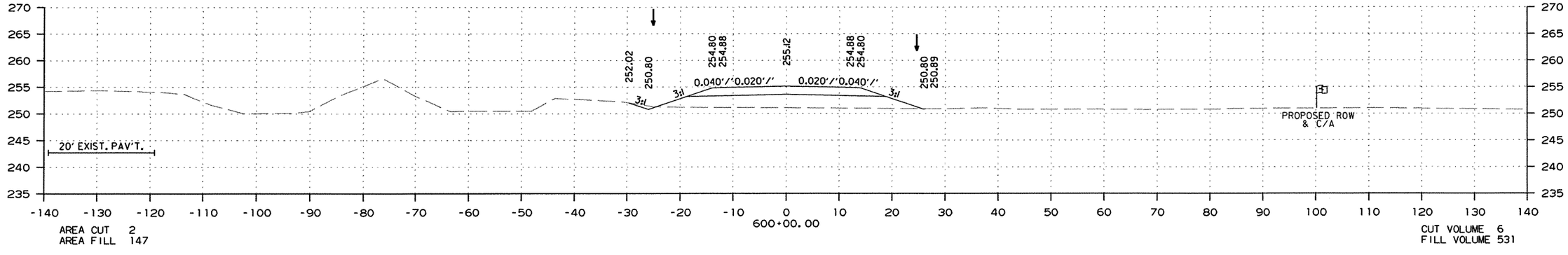
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	241	252

(2) CROSS SECTIONS - STAGE I DETOUR





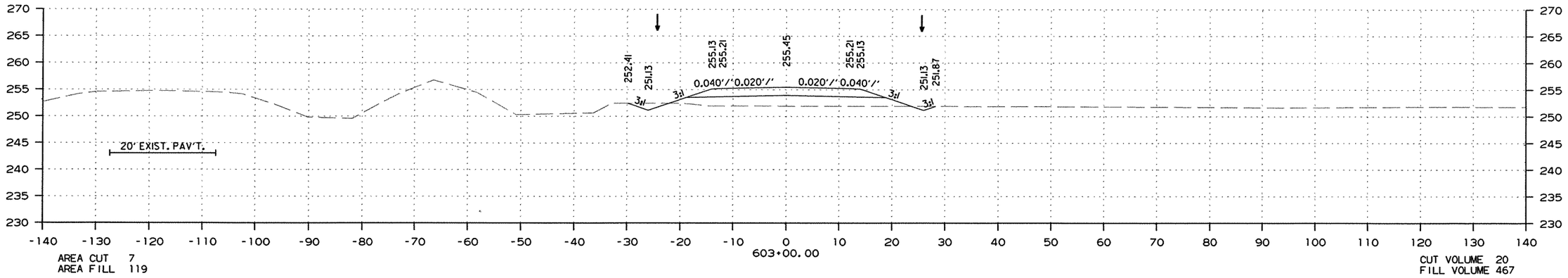
STA. 600+00.00 TO STA. 601+00.00

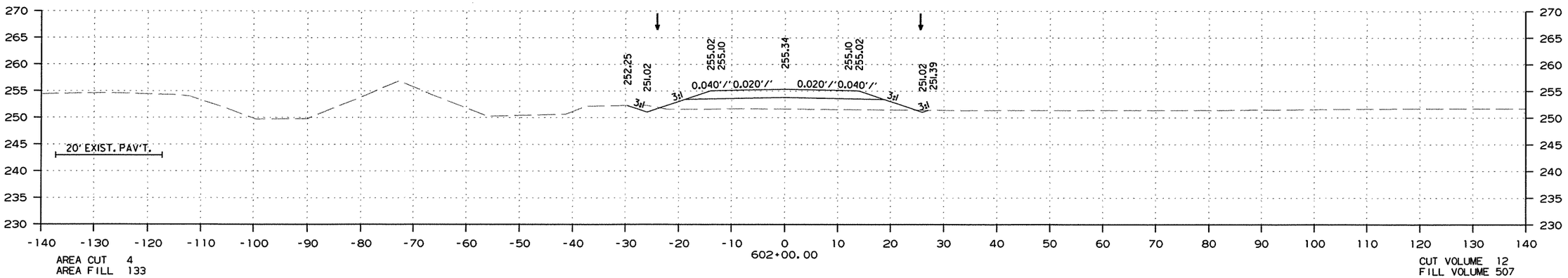
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	242	252

(2) CROSS SECTIONS - STAGE I DETOUR





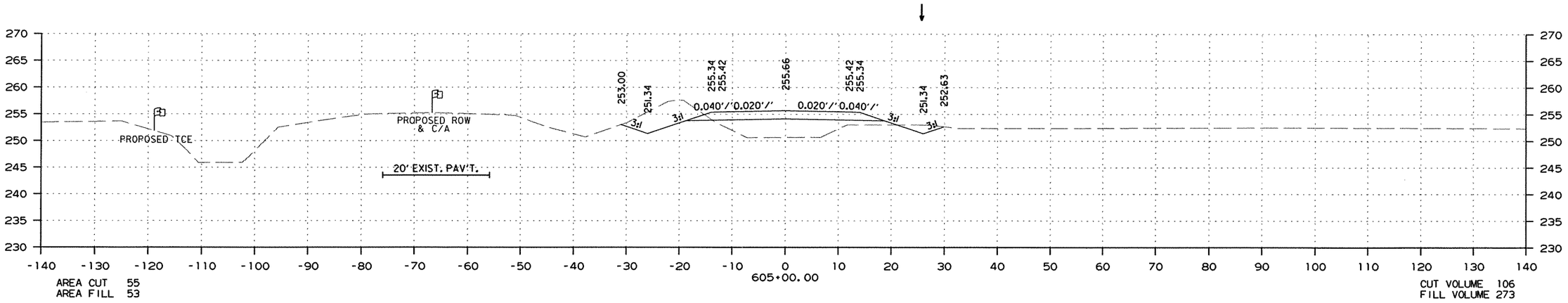
STA. 602+00.00 TO STA. 603+00.00

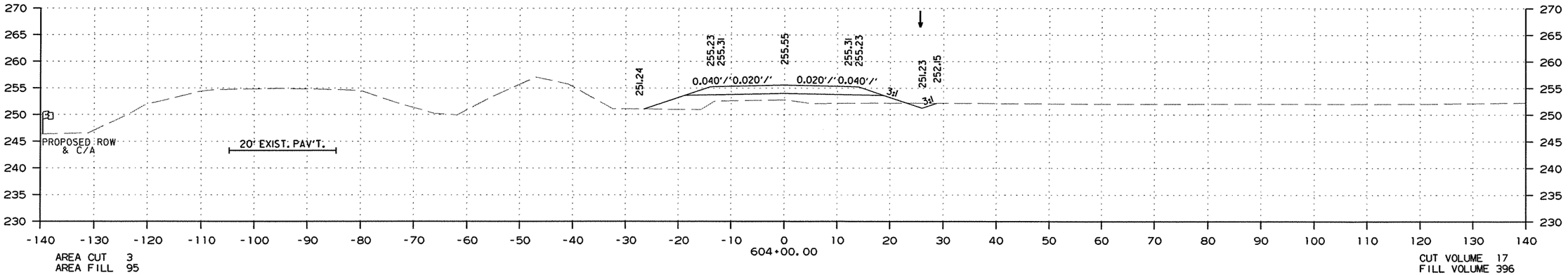
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	243	252

(2) CROSS SECTIONS - STAGE I DETOUR





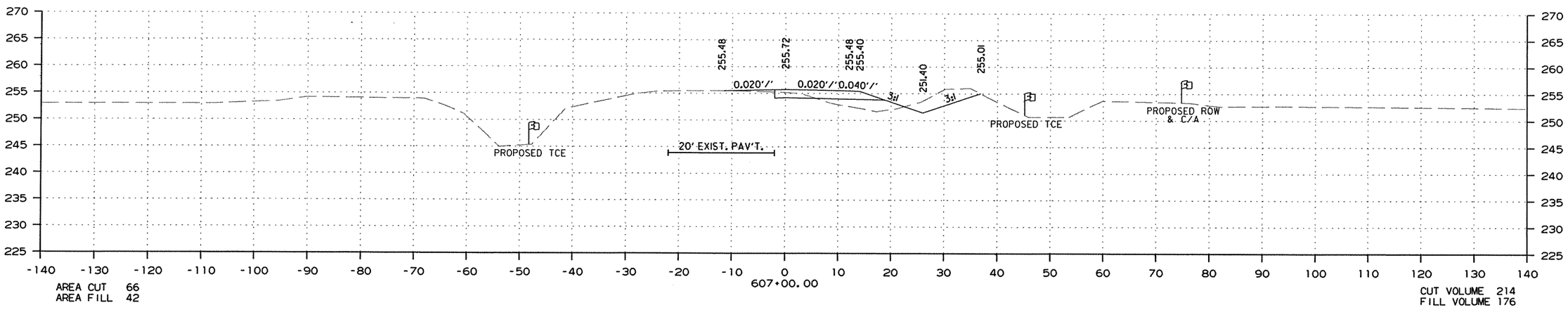
STA. 604+00.00 TO STA. 605+00.00

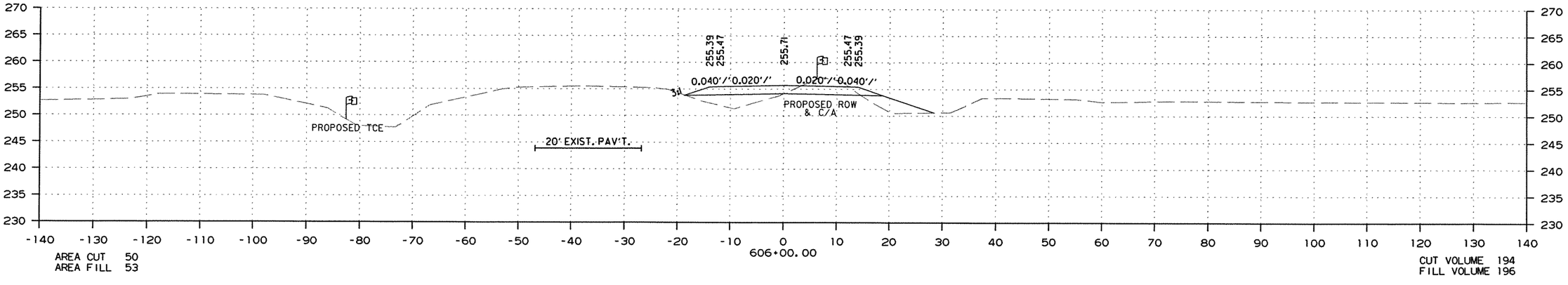
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	244	252

(2) CROSS SECTIONS - STAGE I DETOUR





STA. 606+00.00 TO STA. 607+00.00

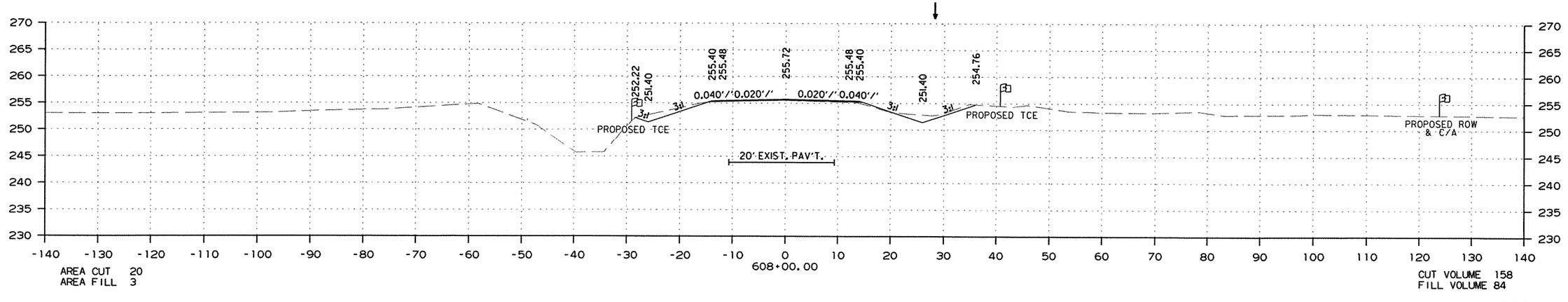
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	245	252

(2) CROSS SECTIONS - STAGE I DETOUR

STA. 608+29.22
END STAGE 1 DETOUR



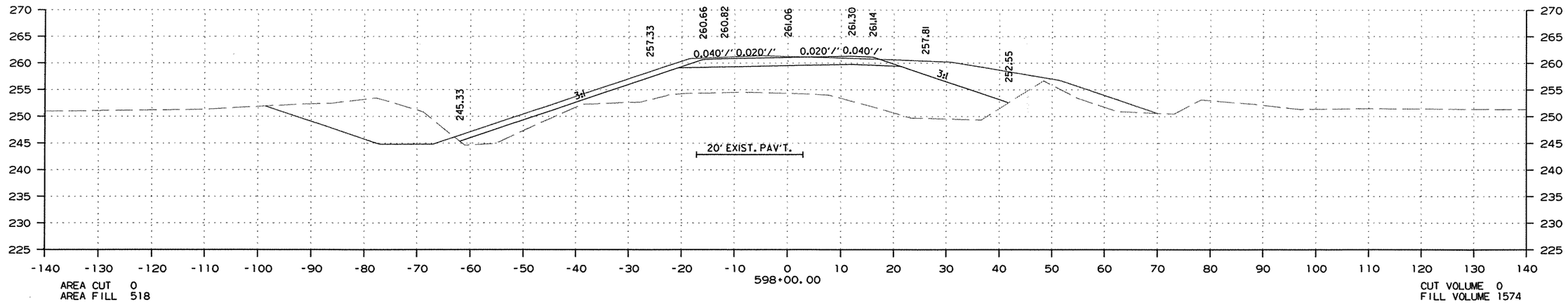
STA. 608+00.00

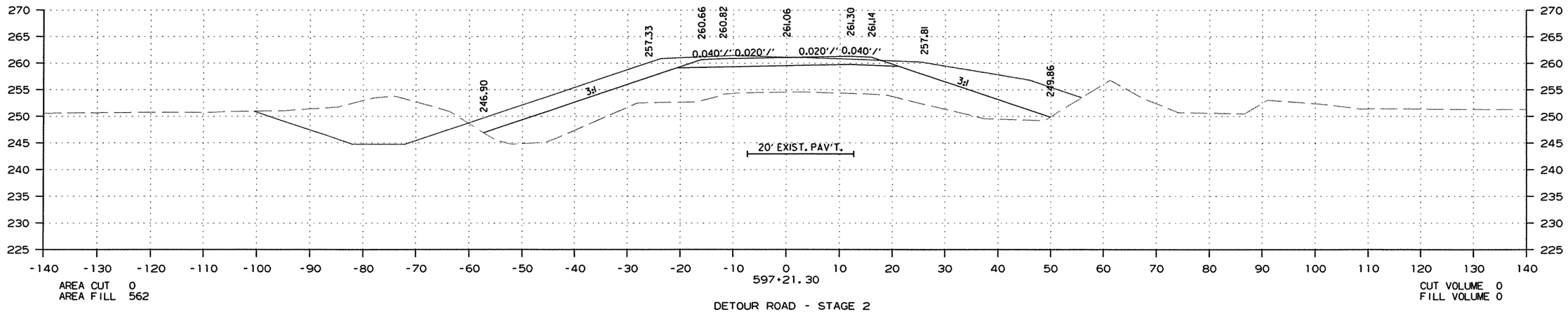
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	246	252

(2) CROSS SECTIONS - STAGE 2 DETOUR





DETOUR ROAD - STAGE 2

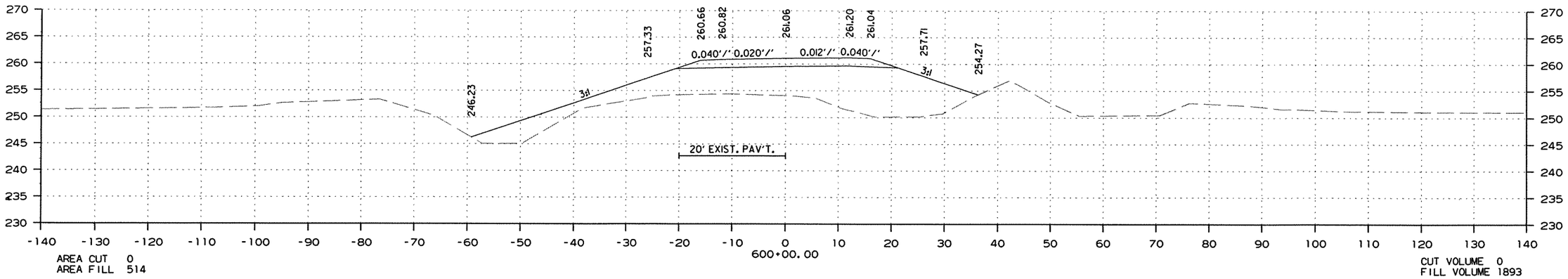
STA. 597+21.30 TO STA. 598+00.00

7/24/2012

R100679.DGN

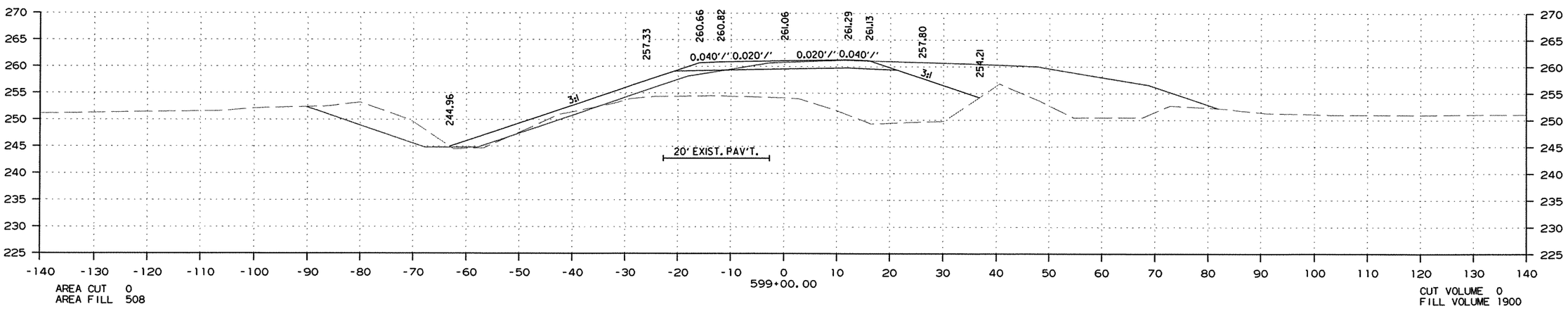
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	247	252

(2) CROSS SECTIONS - STAGE 2 DETOUR



AREA CUT 0
AREA FILL 514

CUT VOLUME 0
FILL VOLUME 1893



AREA CUT 0
AREA FILL 508

CUT VOLUME 0
FILL VOLUME 1900

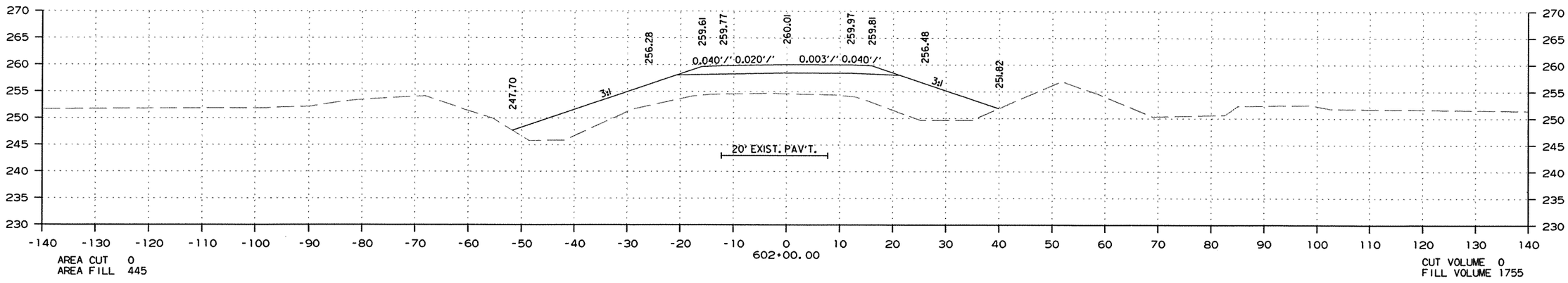
STA. 599+00.00 TO STA. 600+00.00

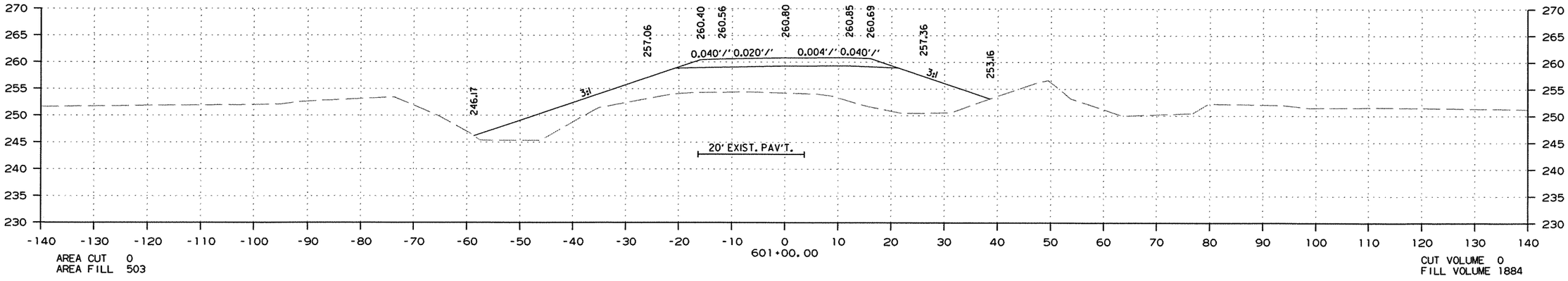
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	248	252

(2) CROSS SECTIONS - STAGE 2 DETOUR





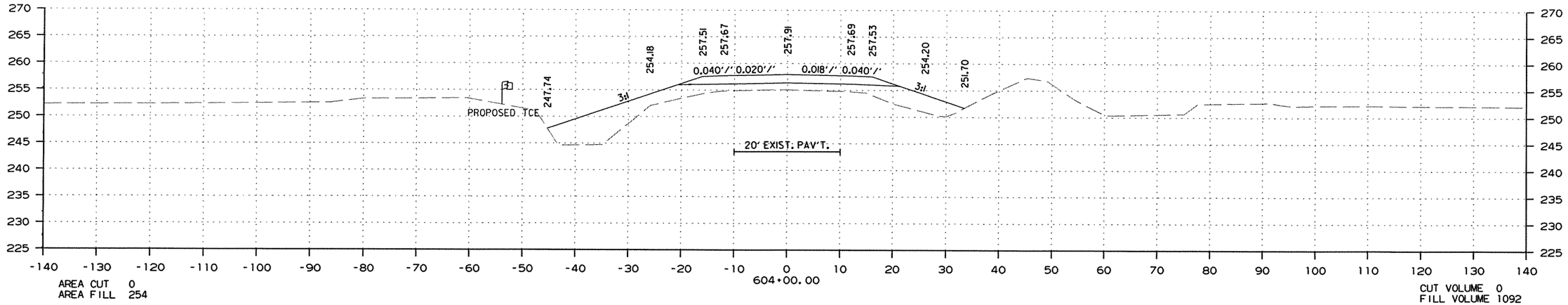
STA. 601+00.00 TO STA. 602+00.00

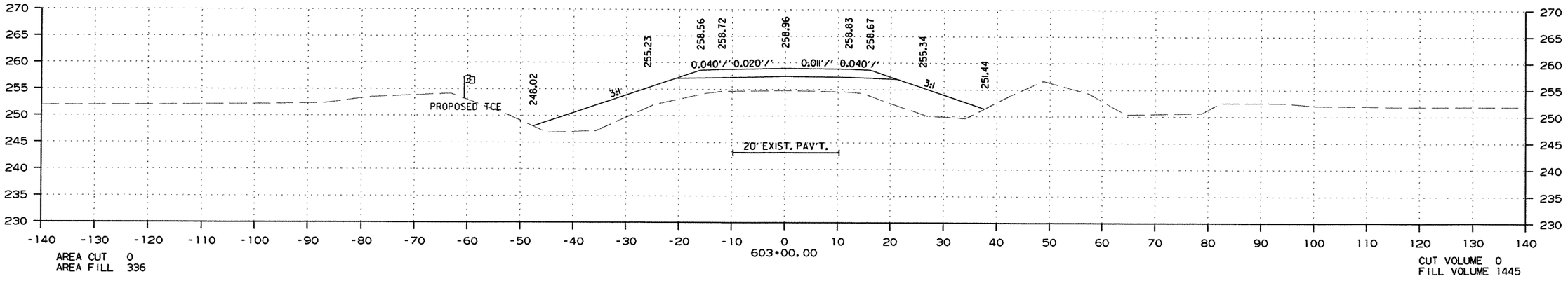
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	249	252

(2) CROSS SECTIONS - STAGE 2 DETOUR





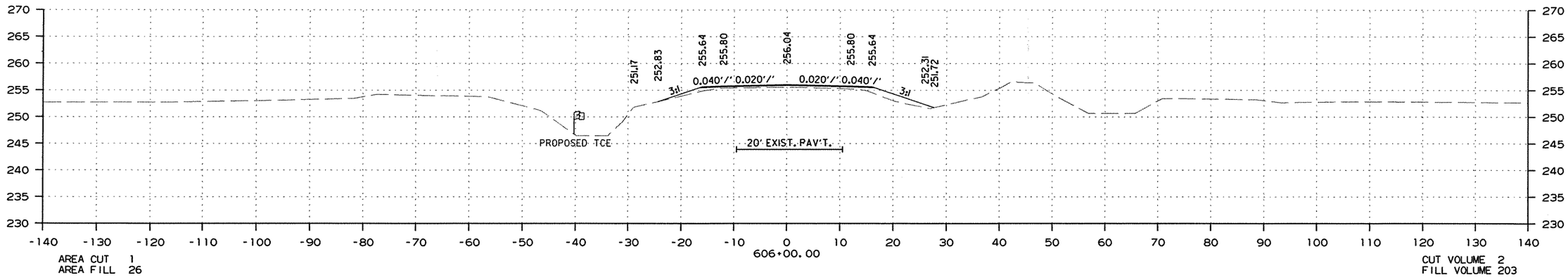
STA. 603+00.00 TO STA. 604+00.00

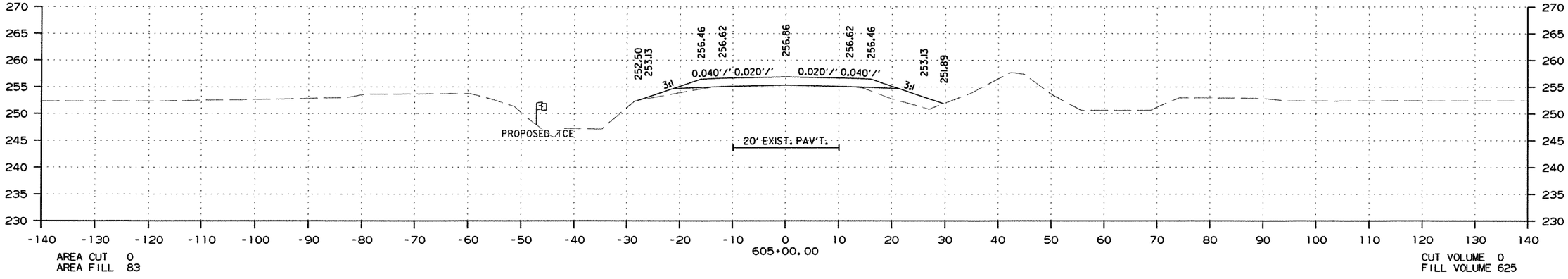
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	250	252

(2) CROSS SECTIONS - STAGE 2 DETOUR





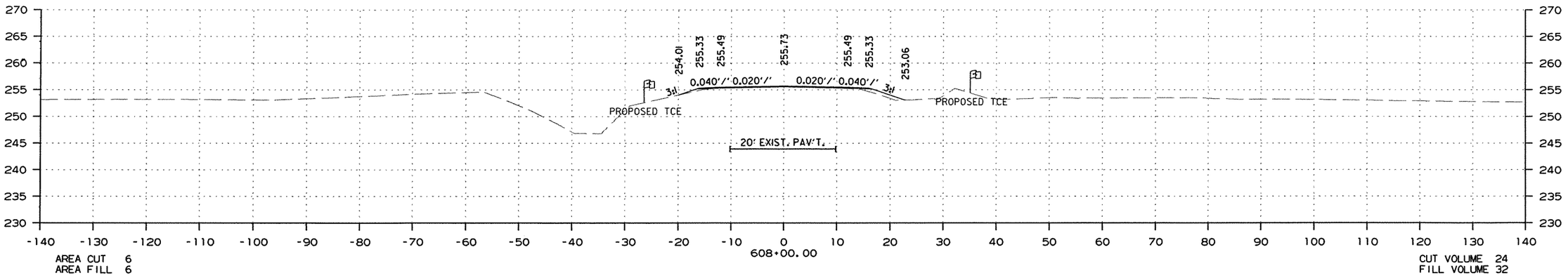
STA. 605+00.00 TO STA. 606+00.00

7/24/2012

R100679.DGN

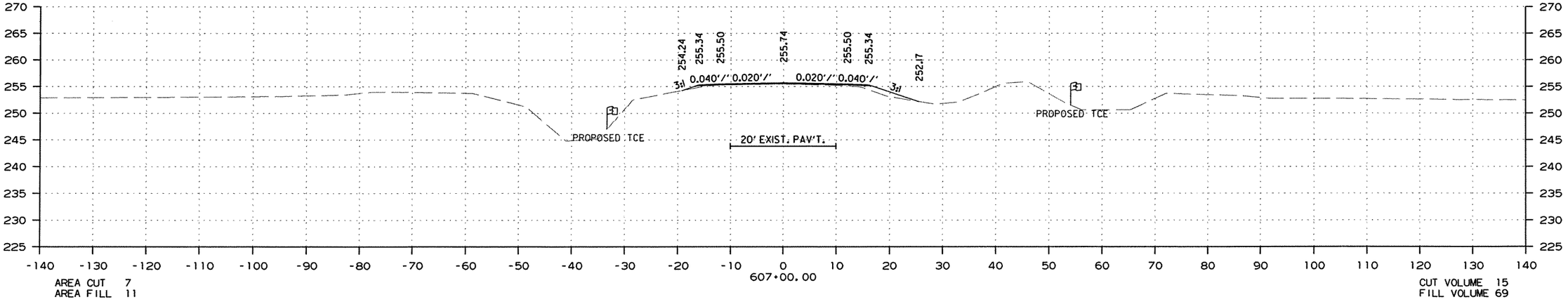
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	251	252

(2) CROSS SECTIONS - STAGE 2 DETOUR



AREA CUT 6
AREA FILL 6

CUT VOLUME 24
FILL VOLUME 32



AREA CUT 7
AREA FILL 11

CUT VOLUME 15
FILL VOLUME 69

STA. 607+00.00 TO STA. 608+00.00

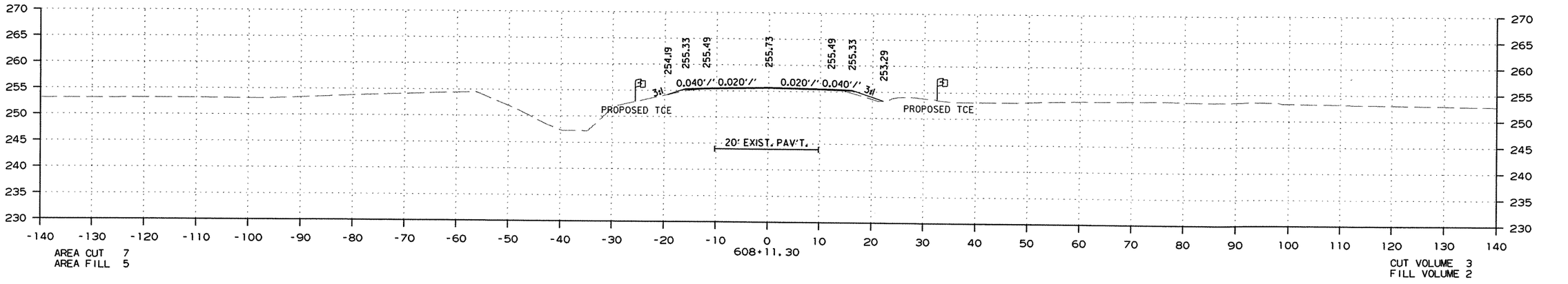
7/24/2012

R100679.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100679	252	252

(2) CROSS SECTIONS - STAGE 2 DETOUR

STA. 608+11.41
END STAGE 2 DETOUR



STA. 608+11.30

7/24/2012

R100679.DGN