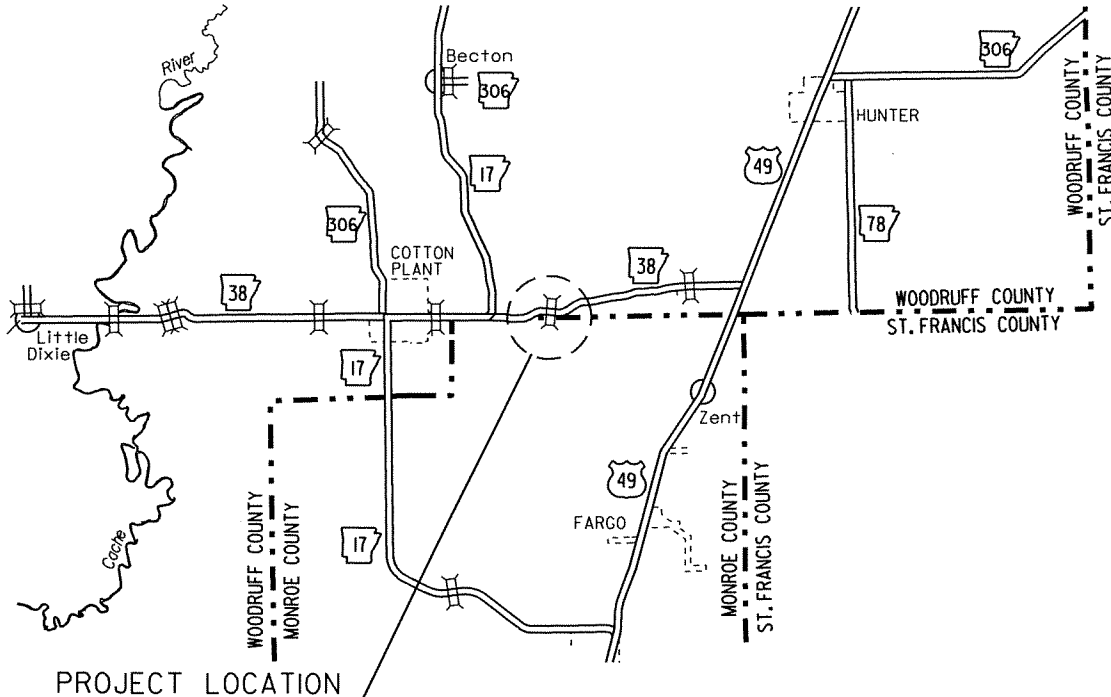


ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

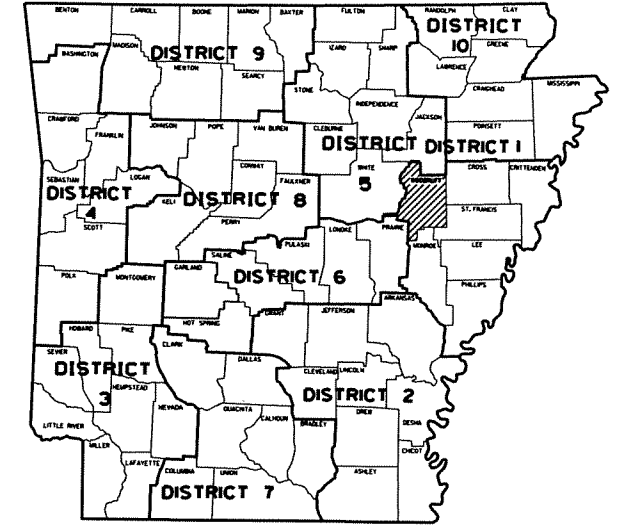
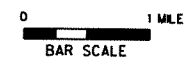
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110541	1	85
				2 BAYOU DEVIEU STR. & APPRS. (S)				



VICINITY MAP

BAYOU DEVIEU STR. & APPRS. (S)

WOODRUFF COUNTY
ROUTE 38 SECTION 3
F.A.P. STPR-0074(33)
JOB 110541



ARK. HWY. DIST. NO. 1

BRIDGE CONSTRUCTION DATA

- ① BR. END STA. 120+04.92
- BRIDGE NO. 07217
- 34' CLEAR ROADWAY
- 312'-2" TOTAL LENGTH
- 310'-0" CONTINUOUS COMPOSITE PRESTRESSED CONCRETE GIRDER UNIT TYPE III
- BR. END STA. 123+17.08

BEGINNING OF PROJECT

LATITUDE = N 35°0'16"
LONGITUDE = W 91°12'48"

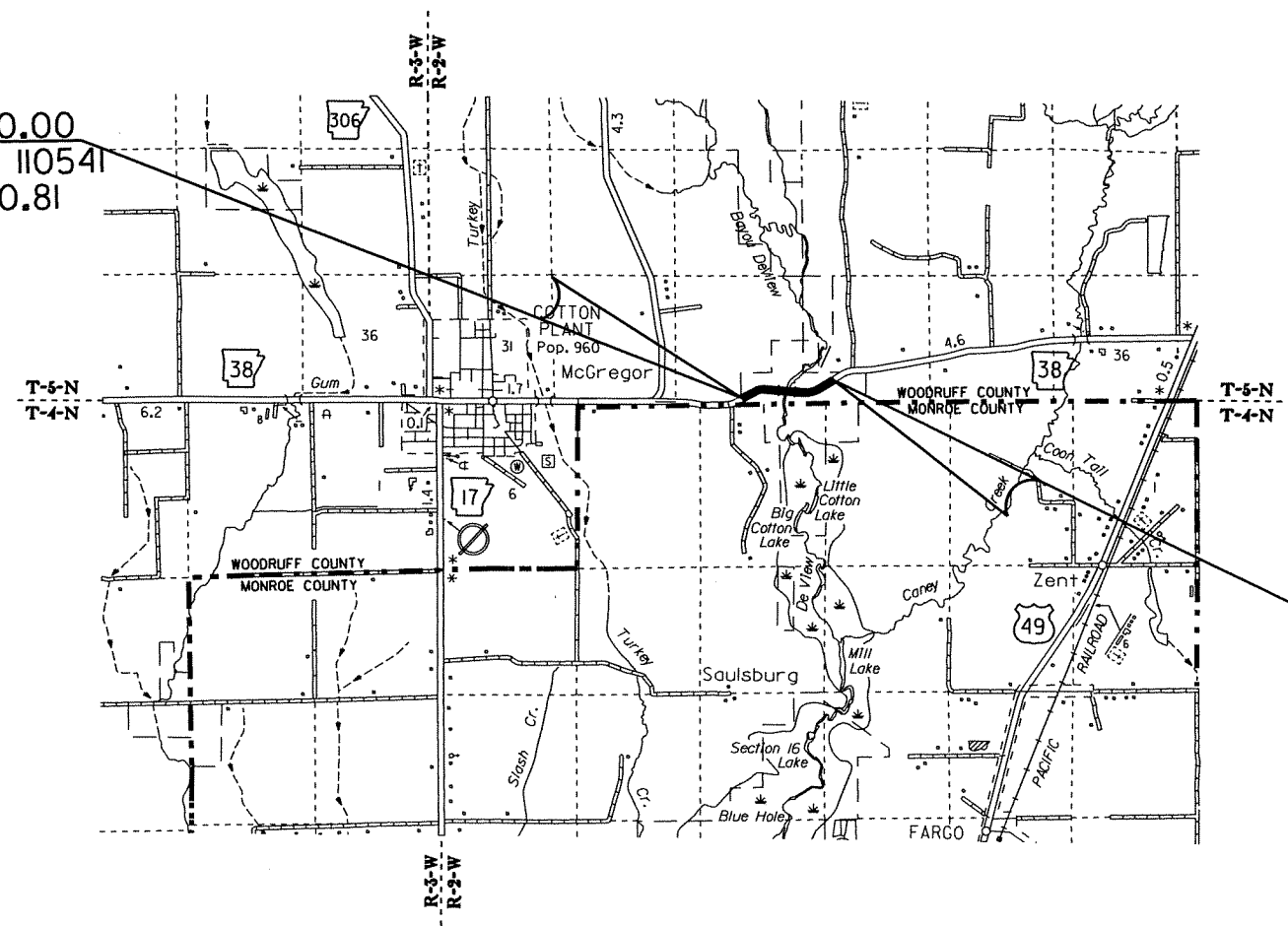
MID POINT OF PROJECT

LATITUDE = N 35°0'18"
LONGITUDE = W 91°12'28"

END OF PROJECT

LATITUDE = N 35°0'20"
LONGITUDE = W 91°12'08"

STA. 104+00.00
BEGIN JOB 110541
LOG MILE 0.81



STA. 139+00.00
END JOB 110541
LOG MILE 1.47

APPROVED



4/27/12
DEPUTY DIRECTOR
AND CHIEF ENGINEER

NET	GROSS LENGTH OF PROJECT	FEET OR	MILES
NET	3500.00	FEET OR	0.663 MILES
NET	3187.84		0.604
NET	312.16		0.059
NET	3500.00		0.663

PE JOB 110541
NON-PART.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 110541	2	85

INDEX OF SHEETS

2 INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES



11/26/12

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 - 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
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB 110541	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 110541	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 110541	DETAILS FOR BOATER SAFETY ON BAYOU DEVIEU
JOB 110541	DRIVEN STEEL PILING BY METHOD B
JOB 110541	FURNISHING FIELD LABORATORY
JOB 110541	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 110541	HIGH PERFORMANCE PAVEMENT MARKING
JOB 110541	INTERNET BIDDING
JOB 110541	NESTING SITES OF MIGRATORY BRDS
JOB 110541	PARTNERING REQUIREMENTS
JOB 110541	PLASTIC PIPE
JOB 110541	REMOVAL AND DISPOSAL OF GUARDRAIL
JOB 110541	SECTION 404 NATIONWIDE 23 PERMIT REQUIREMENTS
JOB 110541	SHORING
JOB 110541	SILICONE JOINT SEALANT
JOB 110541	SITE USE (A+C METHOD)
JOB 110541	SOIL STABILIZATION
JOB 110541	STEEL SHELL PILES
JOB 110541	STORM WATER POLLUTION PREVENTION PLAN
JOB 110541	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 110541	UTILITY ADJUSTMENTS
JOB 110541	VALUE ENGINEERING
JOB 110541	WARM MIX ASPHALT

SHEET NO.	TITLE	BRIDGE NO.	DRWG. NO.	DATE
1	TITLE SHEET			
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES			
3 - 5	TYPICAL SECTIONS OF IMPROVEMENT			
6 - 8	SPECIAL DETAILS			
9 - 14	TEMPORARY EROSION CONTROL DETAILS			
15 - 22	MAINTENANCE OF TRAFFIC DETAILS			
23	PERMANENT PAVEMENT MARKING DETAILS			
24 - 26	QUANTITY SHEETS			
27	SCHEDULE OF BRIDGE QUANTITIES	07217	52008	
28	SUMMARY OF QUANTITIES AND REVISIONS			
29 - 31	SURVEY CONTROL DETAILS			
32 - 34	PLAN AND PROFILE SHEETS			
35	LAYOUT OF BRIDGE OVER BAYOU DEVIEU	07217	52009	
36	SOIL BORINGS	07217	52010	
37	DETAILS OF END BENTS - SHEET 1 OF 2	07217	52011	
38	DETAILS OF END BENTS - SHEET 2 OF 2	07217	52012	
39	DETAILS OF INTERMEDIATE BENTS	07217	52013	
40	DETAILS OF CONCRETE FILLED STEEL SHELL PILES	07217	52014	
41	DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT - SHEET 1 OF 6	07217	52015	
42	DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT - SHEET 2 OF 6	07217	52016	
43	DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT - SHEET 3 OF 6	07217	52017	
44	DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT - SHEET 4 OF 6	07217	52018	
45	DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT - SHEET 5 OF 6	07217	52019	
46	DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT - SHEET 6 OF 6	07217	52020	
47	DETAILS OF ELASTOMERIC BEARINGS	07217	52021	
48	DETAILS OF TYPE SPECIAL APPROACH GUTTERS	07217	52022	
49	DETAILS OF TYPE SPECIAL APPROACH SLABS	07217	52023	
50	EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS		1888A	4-10-03
51	DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES		1891F	4-10-03
52	DETAILS OF STANDARD TYPE D BRIDGE NAME PLATES		2387	9-08-11
53	DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS		14991	4-10-03
54	GUARD RAIL DETAILS		GR-8	7-14-10
55	GUARD RAIL DETAILS		GR-8A	7-14-10
56	GUARD RAIL DETAILS		GR-9	4-17-08
57	GUARD RAIL DETAILS		GR-9A	4-17-08
58	GUARD RAIL DETAILS		GR-10	7-14-10
59	GUARD RAIL DETAILS		GR-10A	7-14-10
60	GUARD RAIL DETAILS		GRT-1	7-14-10
61	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING		PCC-1	12-15-11
62	METAL PIPE CULVERT FILL HEIGHTS & BEDDING		PCM-1	12-15-11
63	PAVEMENT MARKING DETAILS		PM-1	11-17-10
64	DETAILS OF PIPE UNDERDRAIN		PU-1	4-10-03
65	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC		SE-2	10-18-96
66	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-1	12-15-11
67	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-2	3-11-10
68	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-3	10-15-09
69	TEMPORARY EROSION CONTROL DEVICES		TEC-1	12-15-11
70	TEMPORARY EROSION CONTROL DEVICES		TEC-2	6-02-94
71	TEMPORARY EROSION CONTROL DEVICES		TEC-3	11-03-94
72 - 85	CROSS SECTIONS			

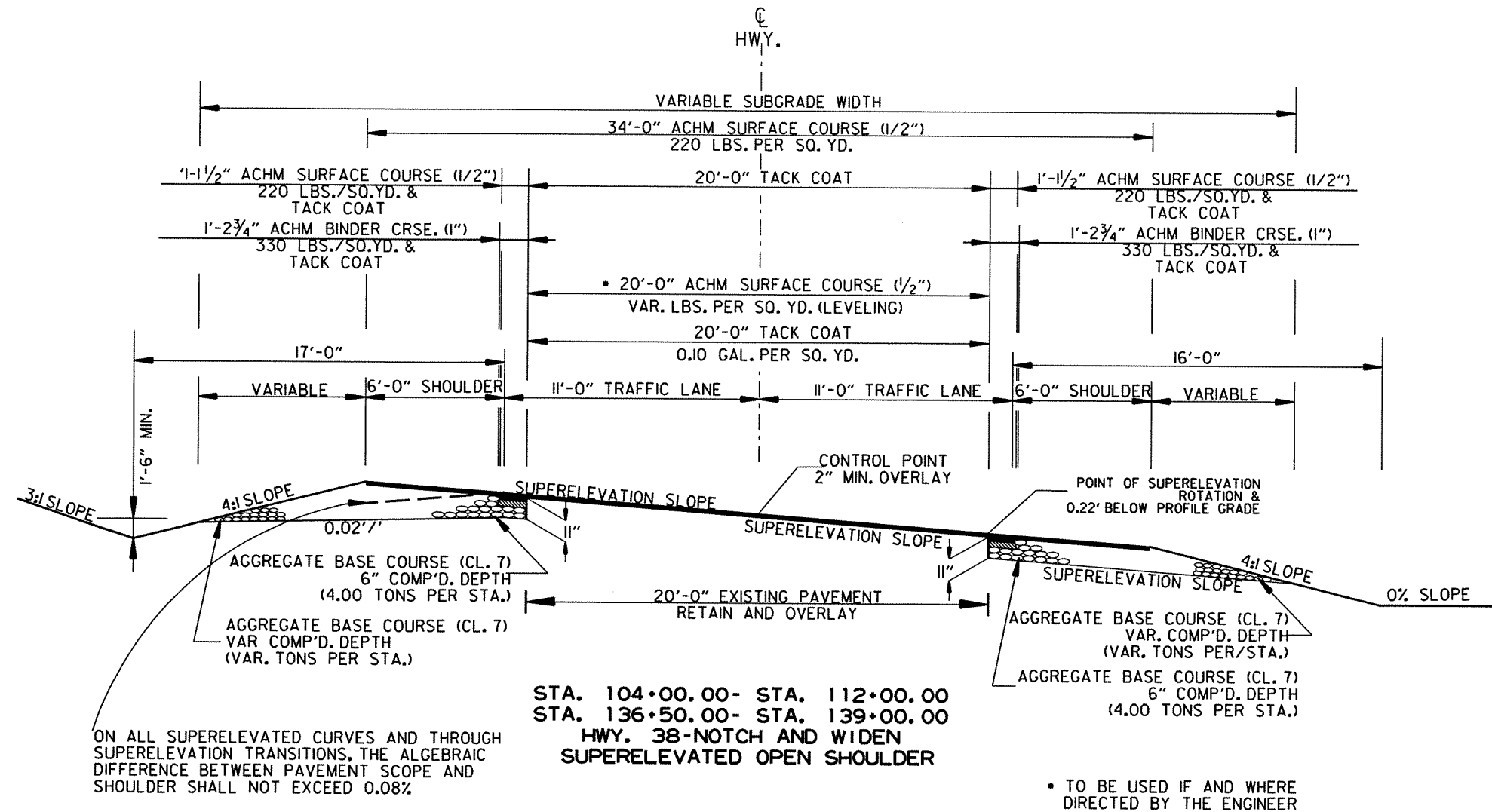
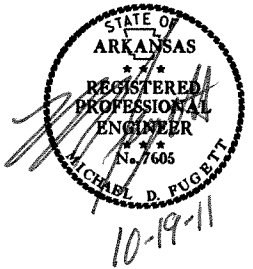
NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- 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.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- 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.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- 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.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	3	84

② TYPICAL SECTIONS OF IMPROVEMENT



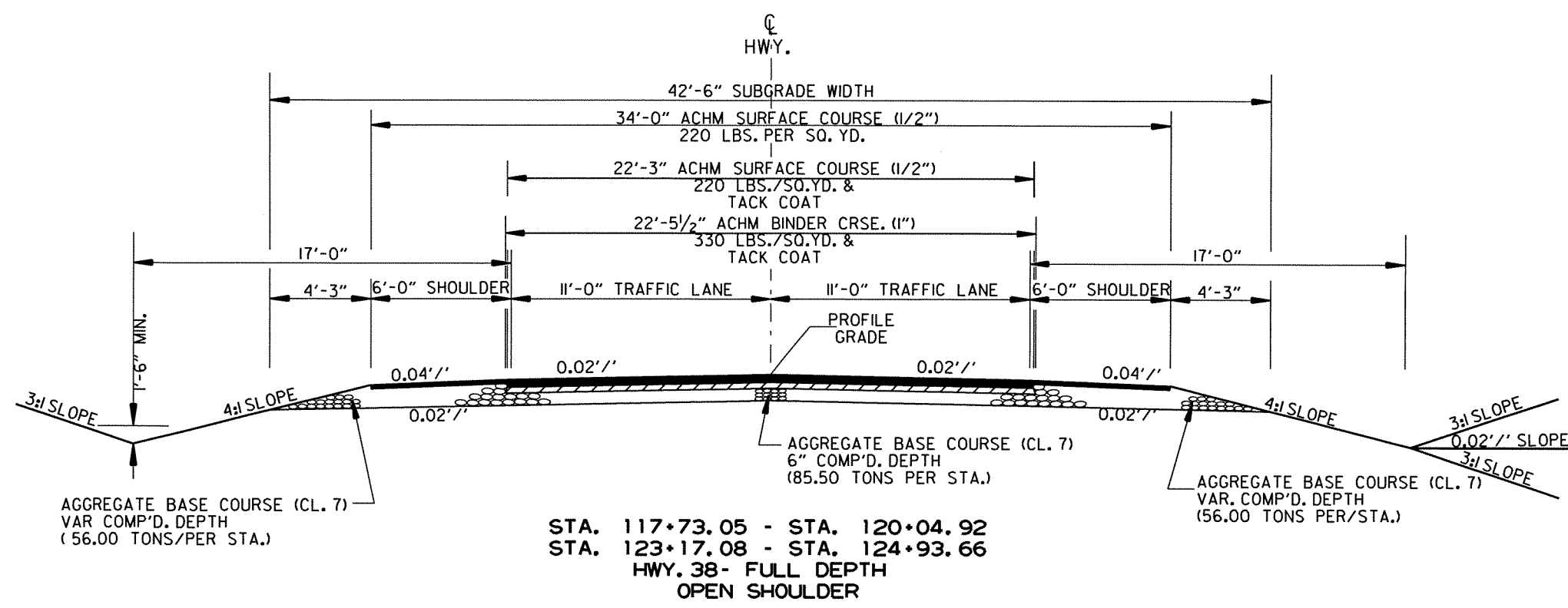
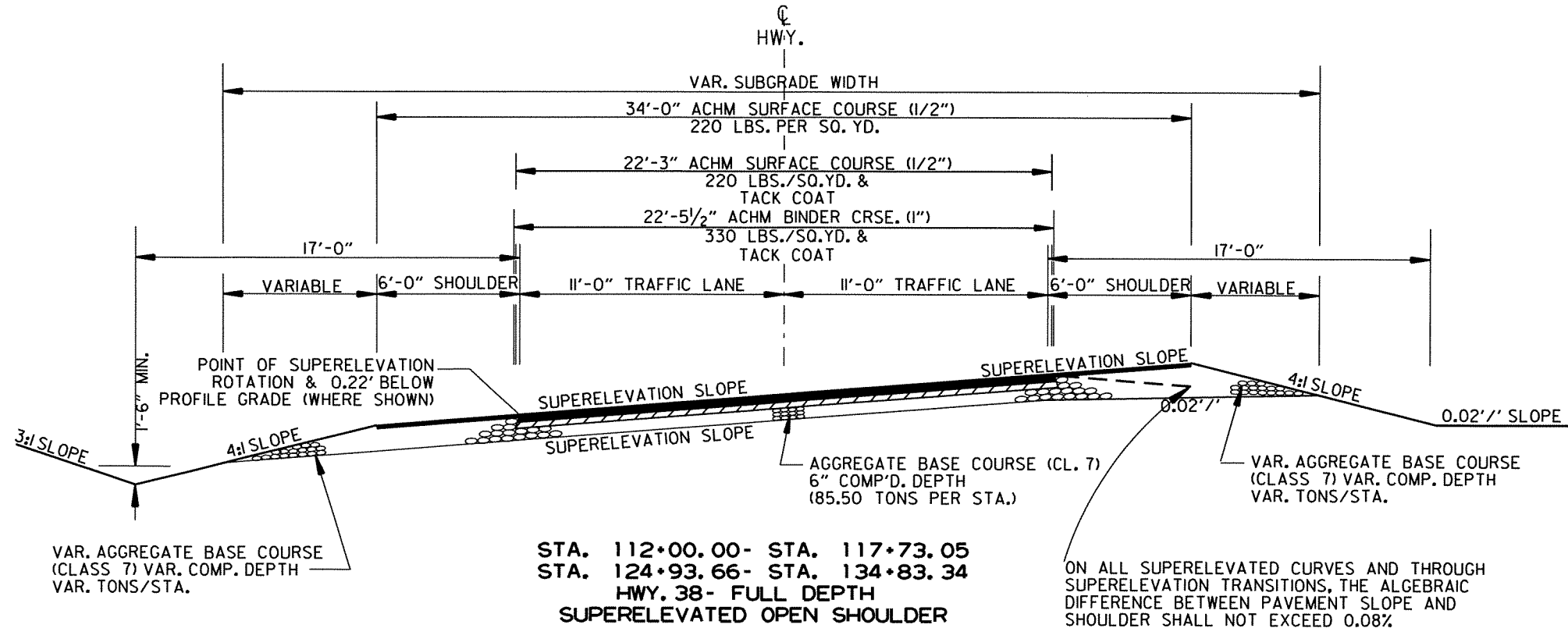
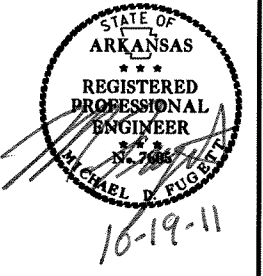
NOTES:

1. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
2. 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.
3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.
4. 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.
5. WITH THE 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.

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. 110541	4	85

2 TYPICAL SECTIONS OF IMPROVEMENT



NOTES:

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

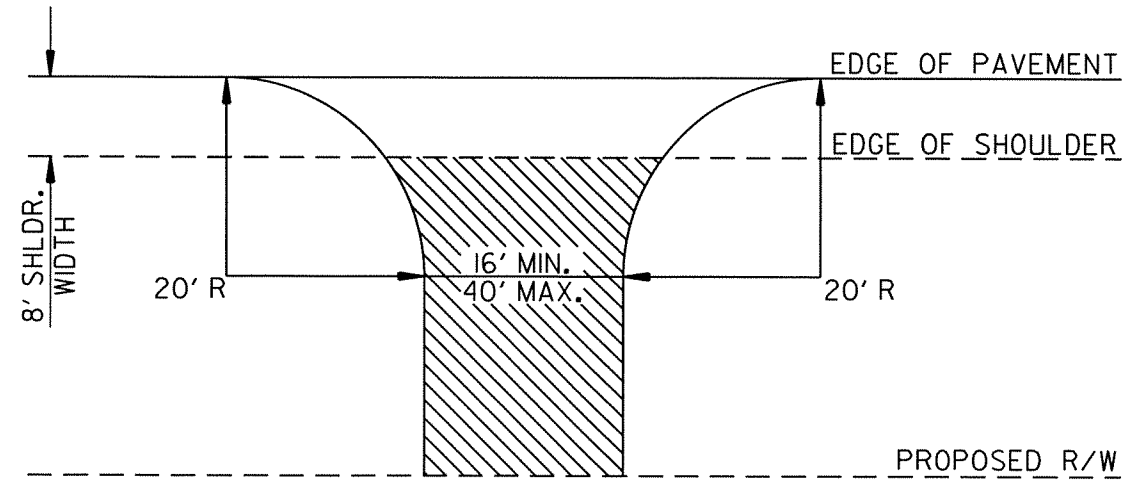
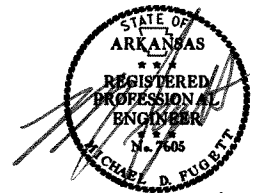
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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.

WITH THE 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.

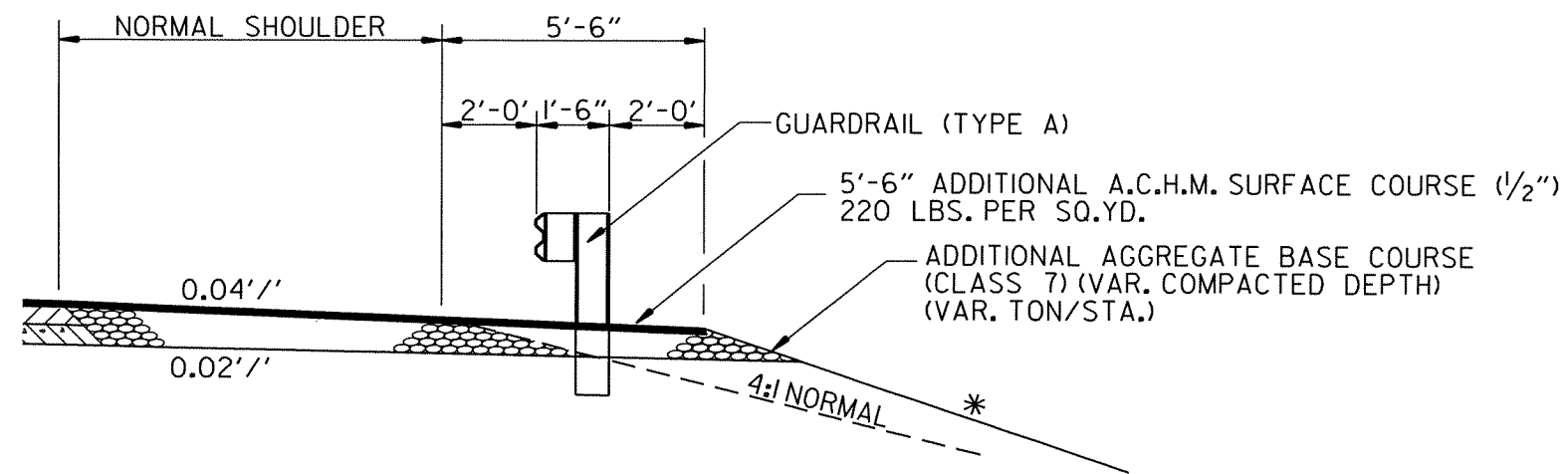
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							5	85

② SPECIAL DETAILS



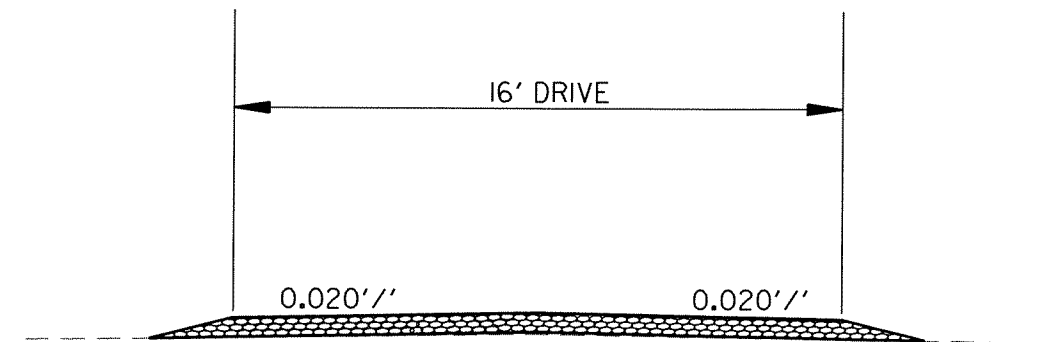
ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.)
 AGGREGATE BASE COURSE (CLASS 7)
 7" COMP. DEPTH IF ASPHALT DRIVE EXISTS

DETAIL FOR DRIVEWAY TURNOUTS



WIDENING FOR GUARDRAIL DETAIL

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



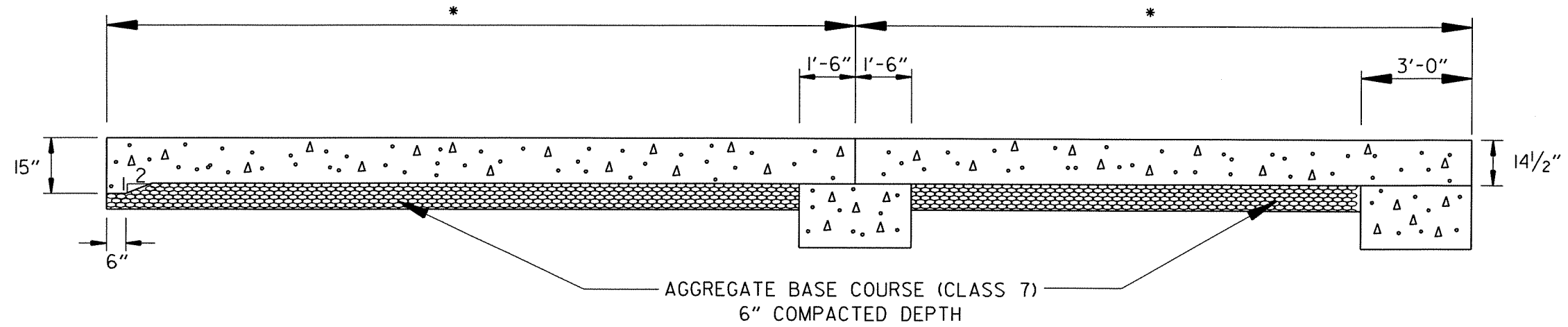
DETAIL FOR DRIVEWAY STA. 118+00

AGGREGATE BASE COURSE (CLASS 7)
 6" COMP. DEPTH FOR EXISTING DRIVE, EXISTING AND EXPANDED PARKING AREA AND BOAT RAMP AREA.

AGGREGATE BASE COURSE (CLASS 7) FOR DRIVE, PARKING AREA, AND BOAT RAMP AREA SHALL BE UNIFORMLY COMPACTED, STABLE AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 ARE WAIVED.

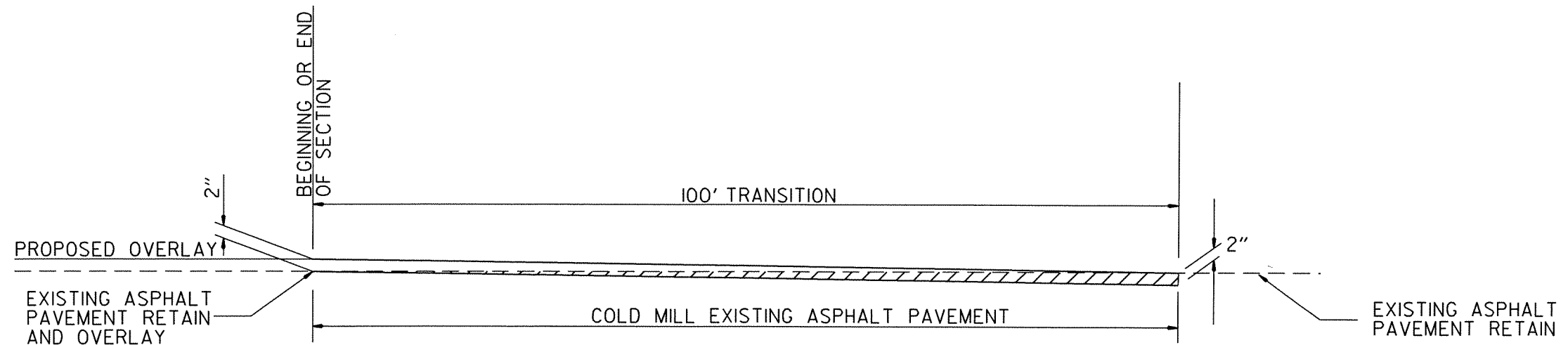
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541		6	85

② SPECIAL DETAILS



SPECIAL DETAIL OF APPROACH SLAB

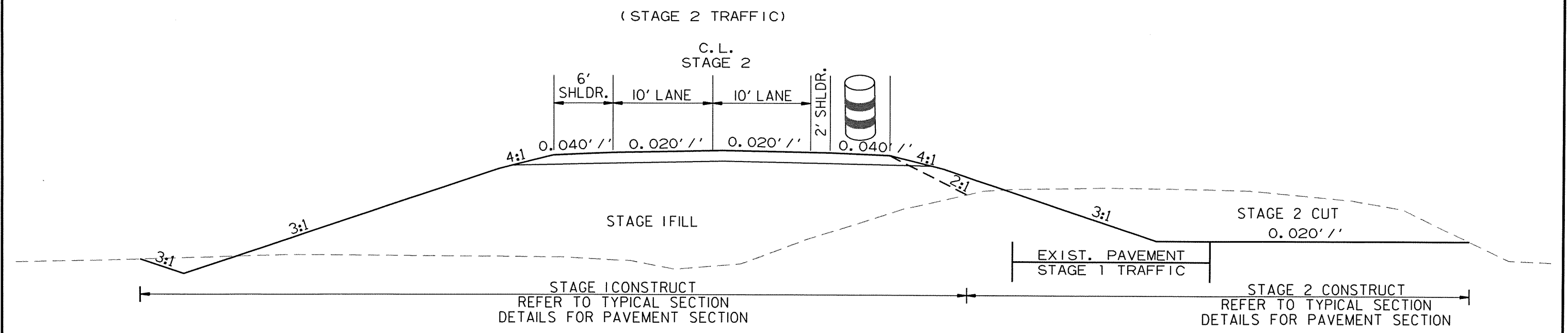
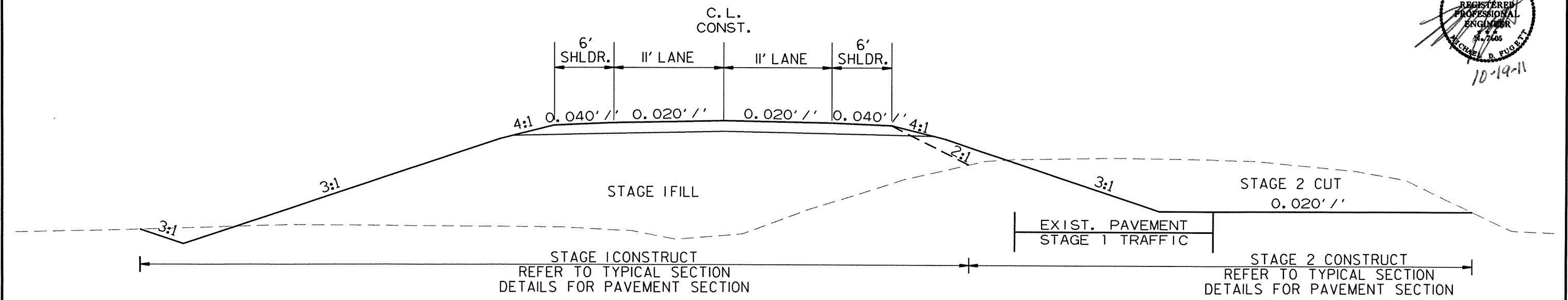
* REFER TO BRIDGE DRAWINGS



DETAIL FOR TRANSITIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							7	85

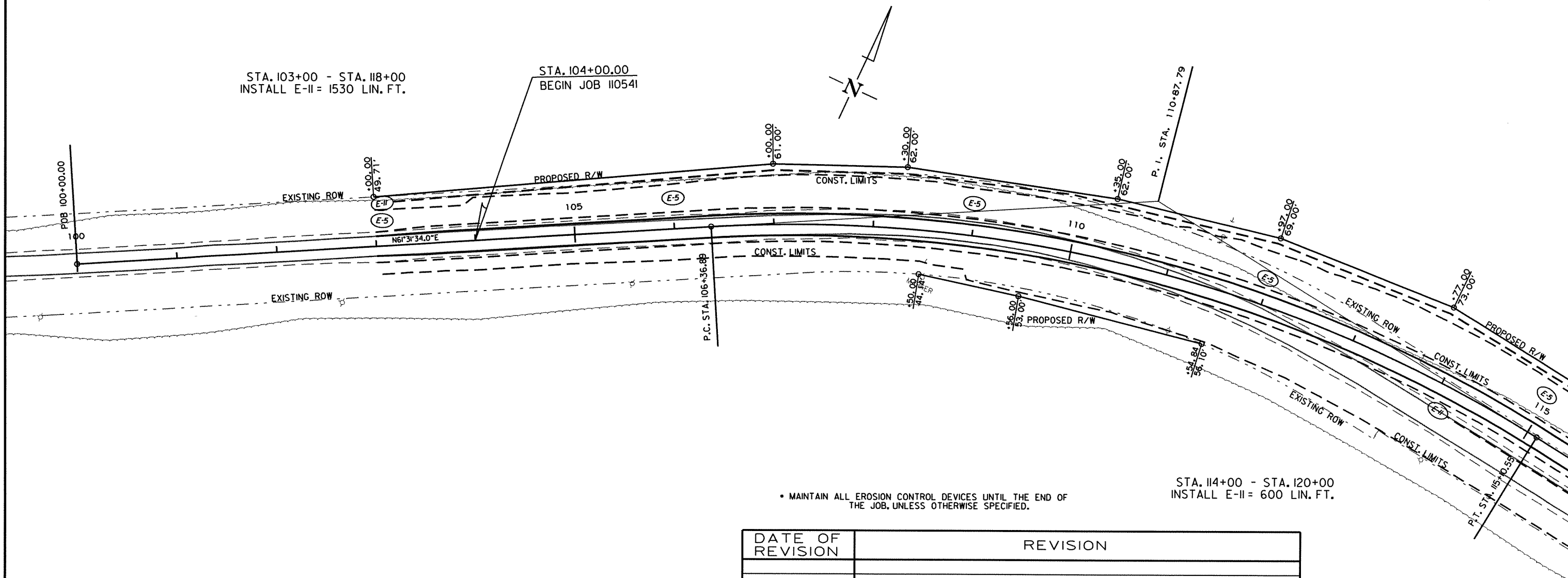
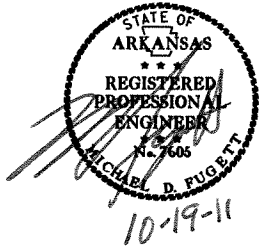
② SPECIAL DETAILS



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.	110541		8	85

2 TEMPORARY EROSION CONTROL DETAILS



STA. 103+00 - STA. 118+00
INSTALL E-II = 1530 LIN. FT.

STA. 104+00.00
BEGIN JOB 110541

STA. 114+00 - STA. 120+00
INSTALL E-II = 600 LIN. FT.

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND	
(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-11)	= SILT FENCE

DATE OF REVISION	REVISION

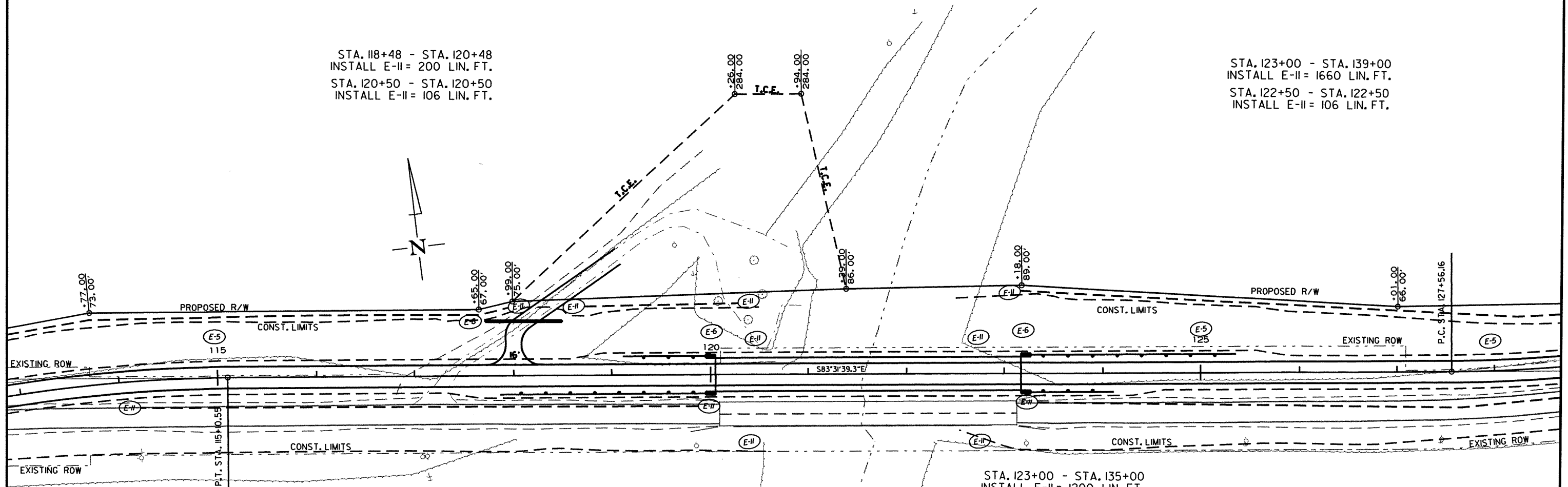
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							9	85

② TEMPORARY EROSION CONTROL DETAILS



STA. 118+48 - STA. 120+48
INSTALL E-II = 200 LIN. FT.
STA. 120+50 - STA. 120+50
INSTALL E-II = 106 LIN. FT.

STA. 123+00 - STA. 139+00
INSTALL E-II = 1660 LIN. FT.
STA. 122+50 - STA. 122+50
INSTALL E-II = 106 LIN. FT.



STA. 114+00 - STA. 120+00
INSTALL E-II = 600 LIN. FT.

STA. 123+00 - STA. 135+00
INSTALL E-II = 1200 LIN. FT.

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

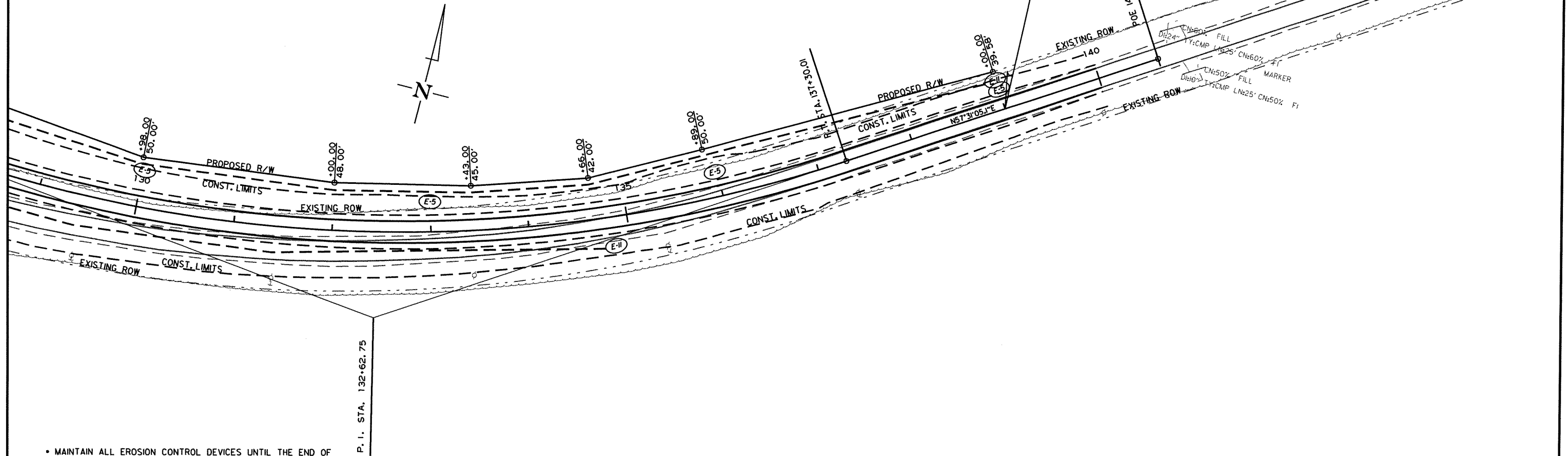
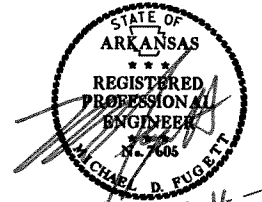
LEGEND	
	= SAND BAG DITCH CHECK
	= ROCK DITCH CHECK
	= SILT FENCE

DATE OF REVISION	REVISION

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							10	85

② TEMPORARY EROSION CONTROL DETAILS



• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

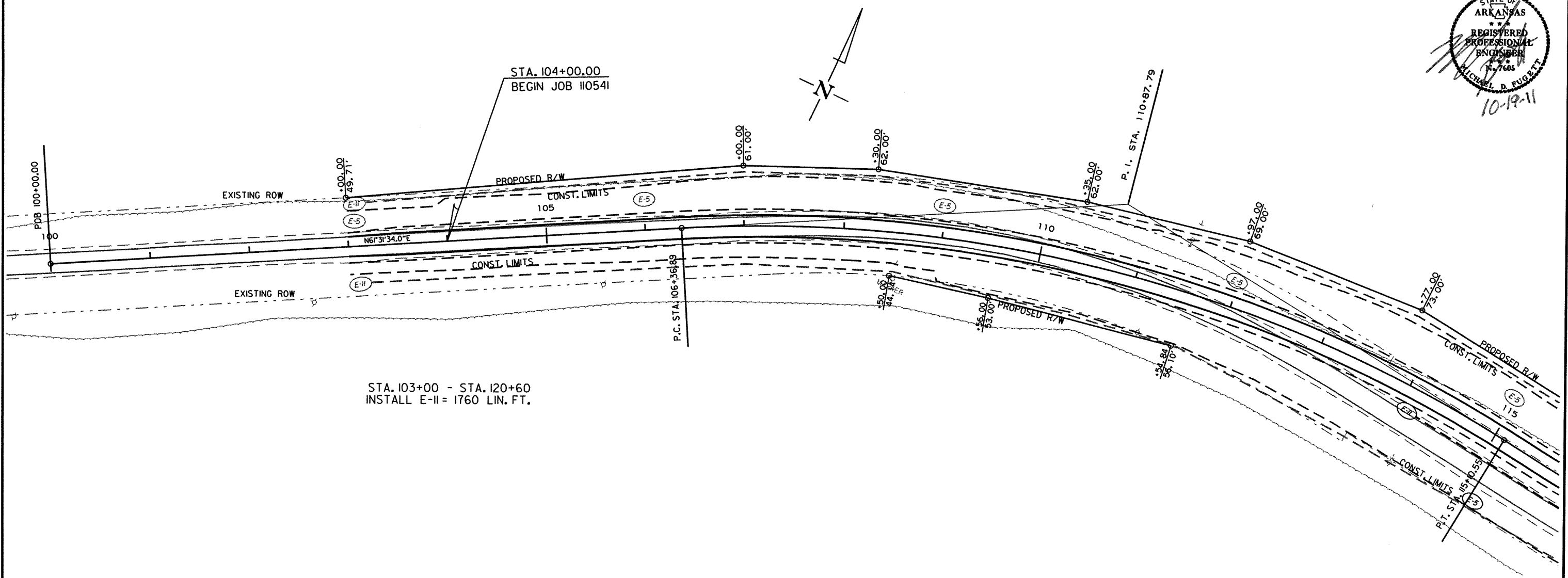
DATE OF REVISION	REVISION

LEGEND

- = SAND BAG DITCH CHECK
- = ROCK DITCH CHECK
- = SILT FENCE
- = CONST. LIMITS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	11	85

② TEMPORARY EROSION CONTROL DETAILS



STA. 103+00 - STA. 120+60
INSTALL E-II = 1760 LIN. FT.

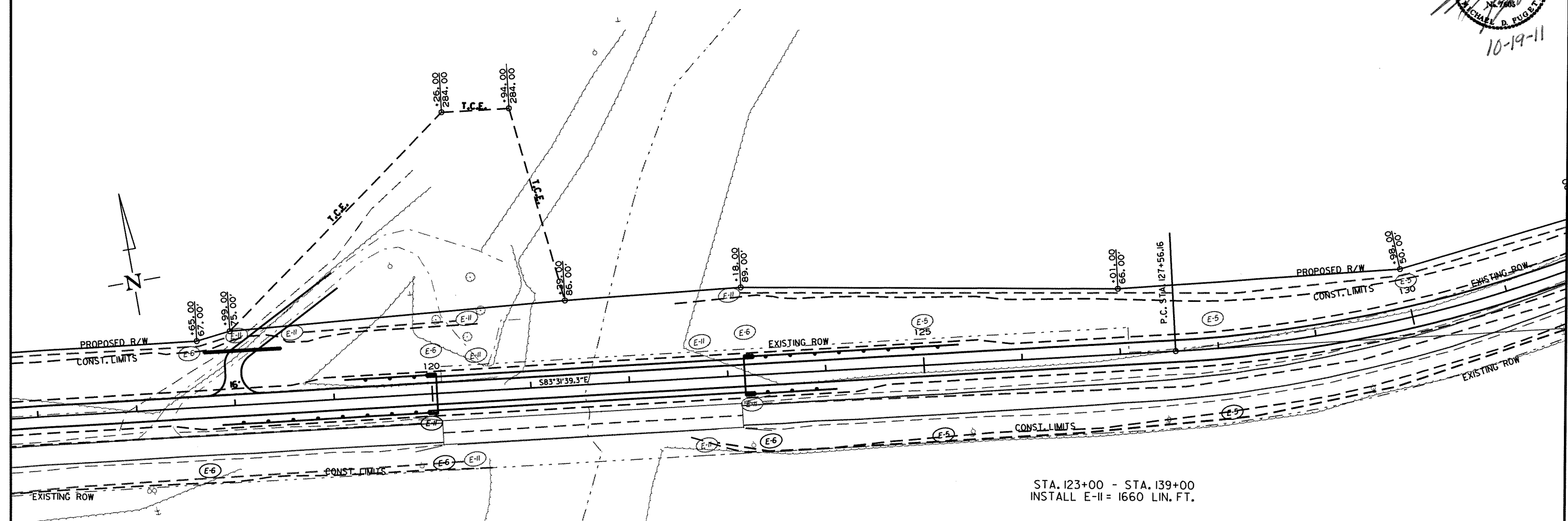
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND	
(E-5)	= SAND BAG DITCH CHECK
(E-6)	= ROCK DITCH CHECK
(E-II)	= SILT FENCE

DATE OF REVISION	REVISION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							12	85

② TEMPORARY EROSION CONTROL DETAILS



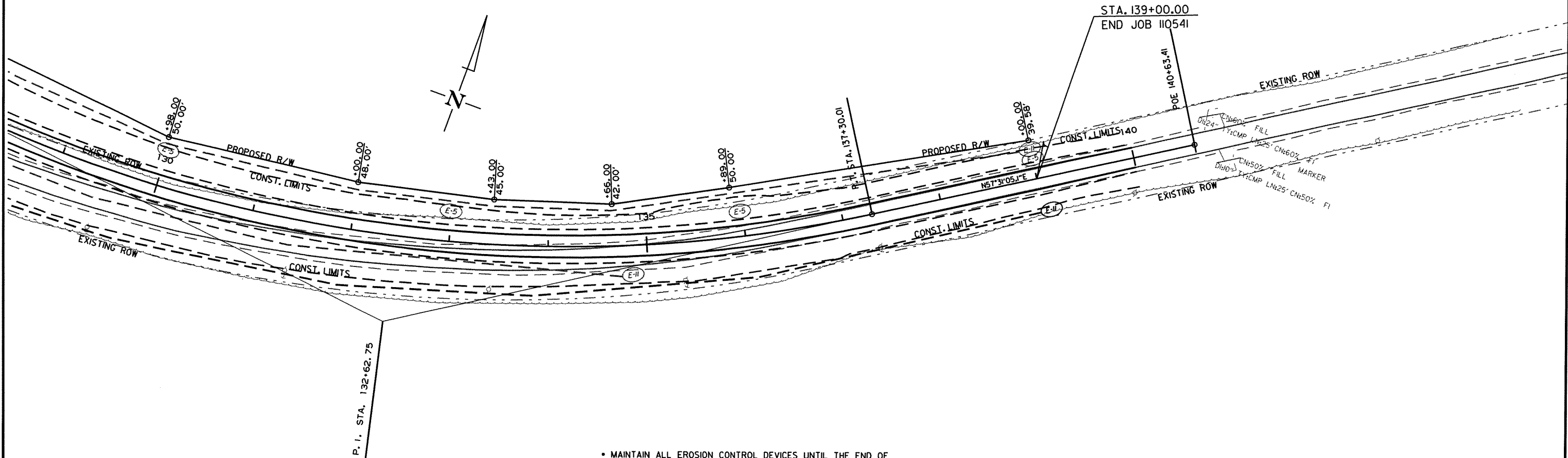
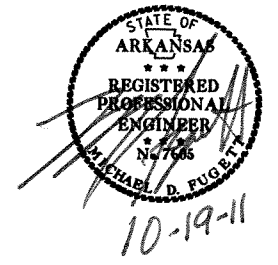
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND	
	= SAND BAG DITCH CHECK
	= ROCK DITCH CHECK
	= SILT FENCE

DATE OF REVISION	REVISION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							13	85

② TEMPORARY EROSION CONTROL DETAILS



• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

DATE OF REVISION	REVISION

LEGEND

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

SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 38
CONSTRUCT BRIDGE
CONSTRUCT AS MUCH OF APPROACHES AS POSSIBLE
INSTALL GUARDRAIL AND FINAL LIFT OF ACHM SURFACE FOR GUARDRAIL WIDENING

STAGE 2

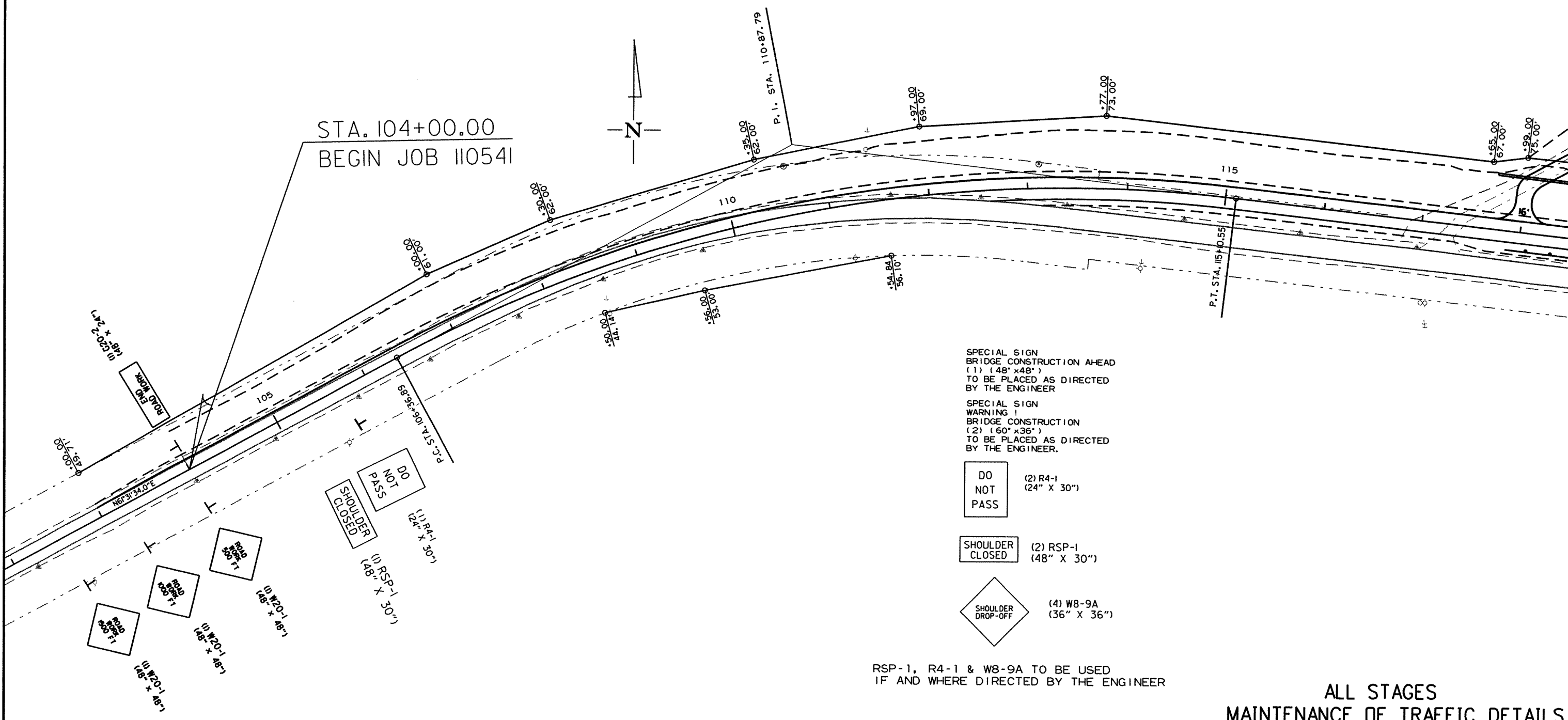
MAINTAIN TRAFFIC ON CONST. ALIGNMENT
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 38
REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

STAGE 3

SHIFT TRAFFIC TO FINAL ALIGNMENT
COLD MILL TRANSITIONS AT JOB ENDS
PLACE FINAL LIFT OF SURFACE
PLACE FINAL STRIPING

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 110541	14 85

② MAINTENANCE OF TRAFFIC DETAILS



SPECIAL SIGN
BRIDGE CONSTRUCTION AHEAD
(1) (48" x 48")
TO BE PLACED AS DIRECTED
BY THE ENGINEER

SPECIAL SIGN
WARNING !
BRIDGE CONSTRUCTION
(2) (60" x 36")
TO BE PLACED AS DIRECTED
BY THE ENGINEER.

DO NOT PASS (2) R4-1 (24" X 30")

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

SHOULDER DROP-OFF (4) W8-9A (36" X 36")

RSP-1, R4-1 & W8-9A TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							15	85

② MAINTENANCE OF TRAFFIC DETAILS



SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
 PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
 PLACE CONSTRUCTION PAVEMENT MARKINGS
 INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
 CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 38
 CONSTRUCT BRIDGE
 CONSTRUCT AS MUCH OF APPROACHES AS POSSIBLE
 INSTALL GUARDRAIL AND FINAL LIFT OF AC-M SURFACE FOR GUARDRAIL WIDENING

STAGE 2

MAINTAIN TRAFFIC ON CONST. ALIGNMENT
 PLACE CONSTRUCTION PAVEMENT MARKINGS
 INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
 CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 38
 REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

STAGE 3

SHIFT TRAFFIC TO FINAL ALIGNMENT
 COLD MILL TRANSITIONS AT JOB ENDS
 PLACE FINAL LIFT OF SURFACE
 PLACE FINAL STRIPING

SPECIAL SIGN
 BRIDGE CONSTRUCTION AHEAD
 (1) (48" x 48")
 TO BE PLACED AS DIRECTED
 BY THE ENGINEER

SPECIAL SIGN
 WARNING !
 BRIDGE CONSTRUCTION
 (2) (60" x 36")
 TO BE PLACED AS DIRECTED
 BY THE ENGINEER.

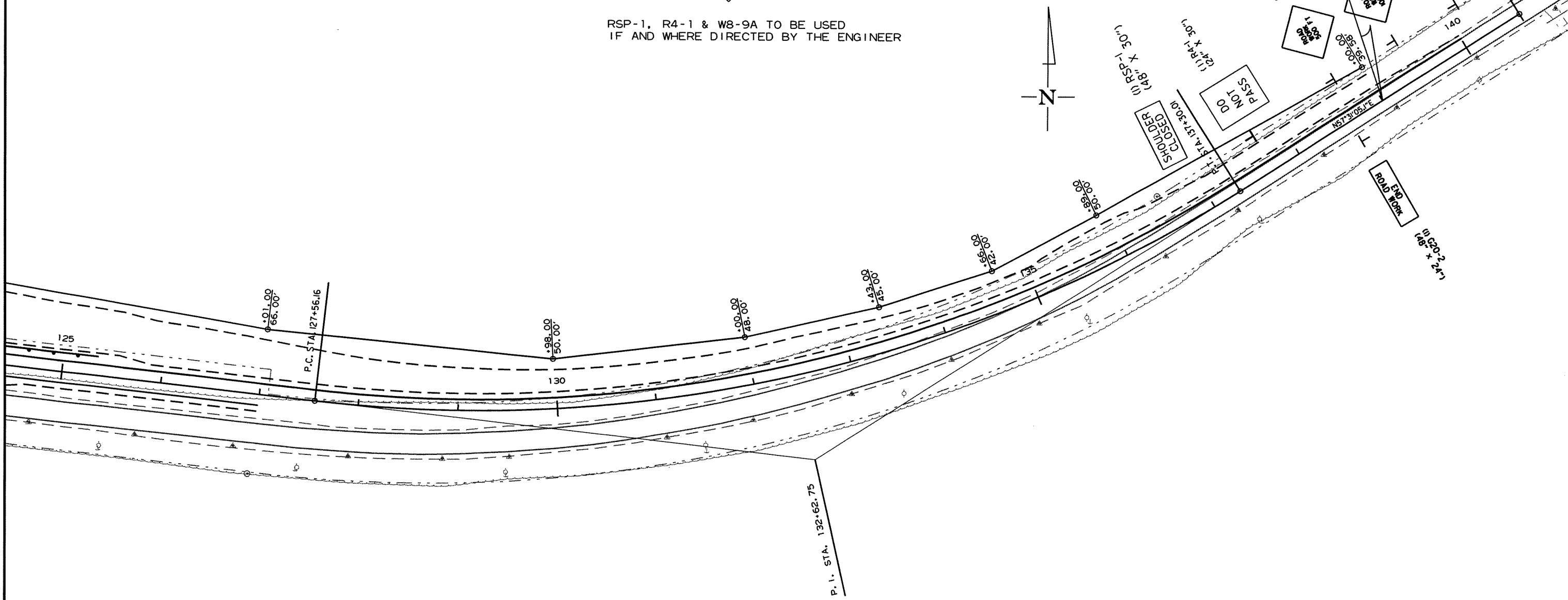
DO NOT PASS (2) R4-1 (24" X 30")

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

SHOULDER DROP-OFF (4) W8-9A (36" X 36")

RSP-1, R4-1 & W8-9A TO BE USED
 IF AND WHERE DIRECTED BY THE ENGINEER

STA. 139+00.00
 END JOB 110541



ALL STAGES
 MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 110541	16 85

② MAINTENANCE OF TRAFFIC DETAILS



STA. 104+55.00 - STA. 112+75.00 LT. OF TRAFFIC ON EXISTING PAVEMENT
 VERTICAL PANELS (55' O.C.) = 17 EACH

STA. 113+30.00 - STA. 118+30.00 LT. OF TRAFFIC ON EXISTING PAVEMENT
 TRAFFIC DRUMS (55' O.C.) = 9 EACH

STA. 118+00 LT. OF TRAFFIC ON EXISTING PAVEMENT
 TRAFFIC DRUMS (9 PER DRIVE) = 9 EACH

STA. 118+80-120+00 LT. OF TRAFFIC ON EXISTING PAVEMENT
 TRAFFIC DRUMS (55' O.C.) = 3 EACH

STA. 123+70.00 - STA. 129+15.00 LT. OF TRAFFIC ON EXISTING PAVEMENT
 TRAFFIC DRUMS (55' O.C.) = 11 EACH

STA. 129+70.00 - STA. 134+10.00 LT. OF TRAFFIC ON EXISTING PAVEMENT
 VERTICAL PANELS (55' O.C.) = 9 EACH

STA. 134+65.00 - STA. 139+00.00 LT. OF TRAFFIC ON EXISTING PAVEMENT
 VERTICAL PANELS (55' O.C.) = 9 EACH

STA. 104+00.00 - STA. 111+72.11
 LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 3089 LIN. FT.

STA. 134+83.34 - STA. 139+00.00
 LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 1667 LIN. FT.

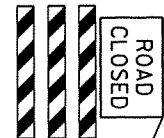
SEQUENCE OF OPERATIONS

STAGE 1

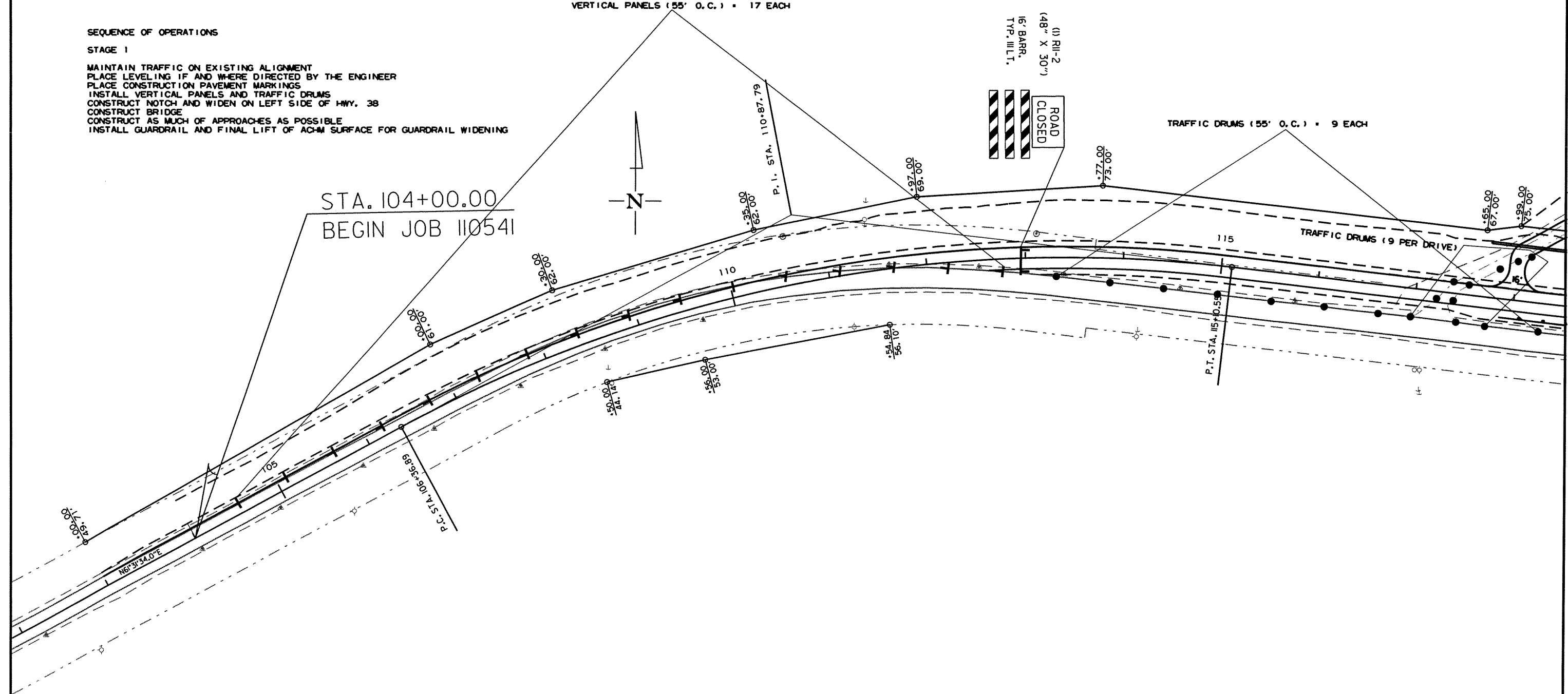
- MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
- PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
- PLACE CONSTRUCTION PAVEMENT MARKINGS
- INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
- CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 38
- CONSTRUCT BRIDGE
- CONSTRUCT AS MUCH OF APPROACHES AS POSSIBLE
- INSTALL GUARDRAIL AND FINAL LIFT OF AC-HM SURFACE FOR GUARDRAIL WIDENING

VERTICAL PANELS (55' O.C.) = 17 EACH

(1) RII-2
 (48" X 30")
 1/8" BARR.
 TYP. III LT.



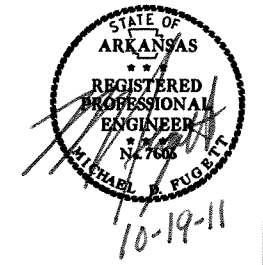
TRAFFIC DRUMS (55' O.C.) = 9 EACH



STA. 104+00.00
 BEGIN JOB 110541

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							17	85

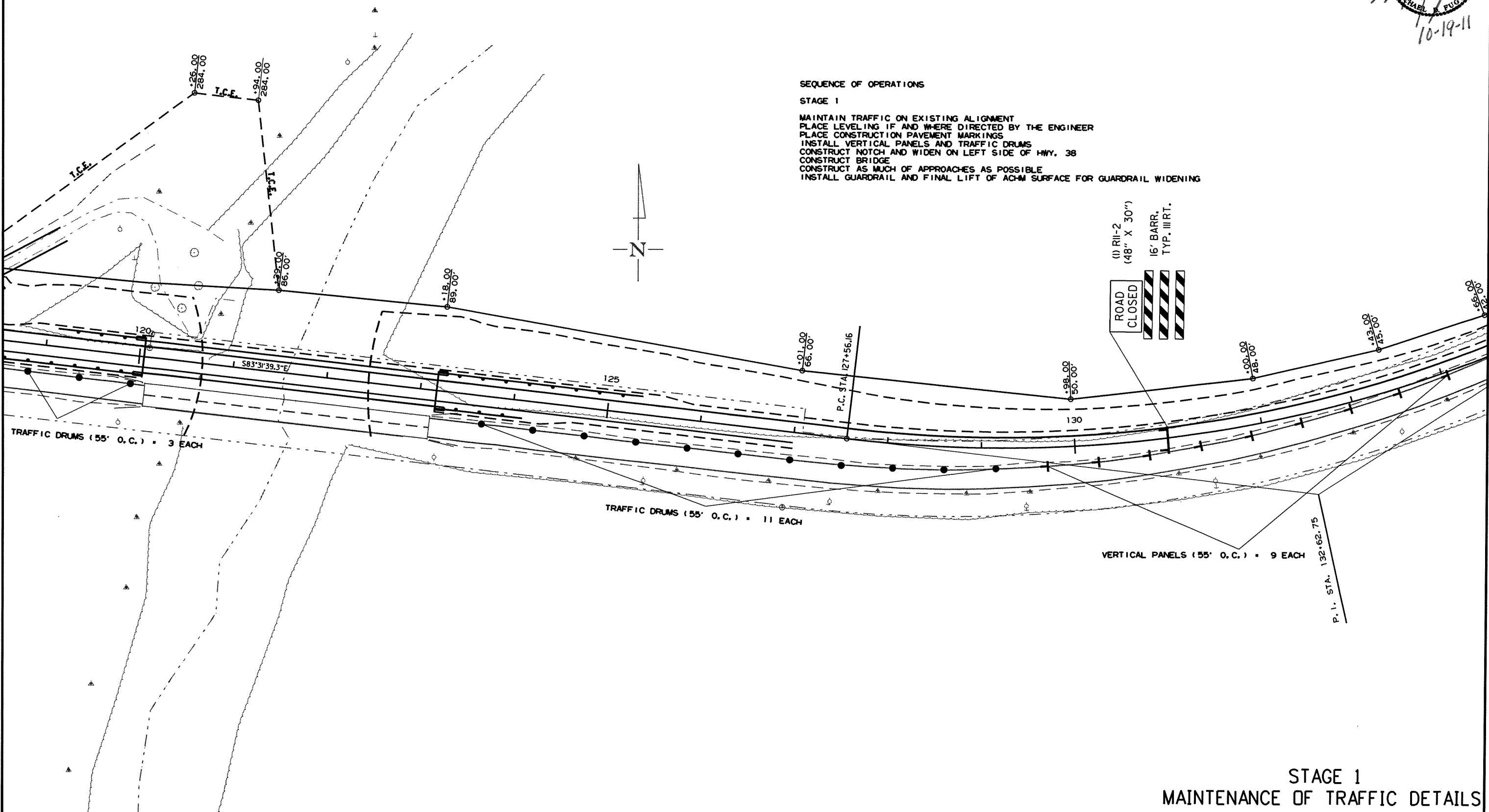
② MAINTENANCE OF TRAFFIC DETAILS



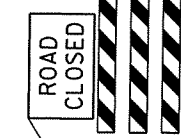
SEQUENCE OF OPERATIONS

STAGE 1

- MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
- PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
- PLACE CONSTRUCTION PAVEMENT MARKINGS
- INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
- CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 38
- CONSTRUCT BRIDGE
- CONSTRUCT AS MUCH OF APPROACHES AS POSSIBLE
- INSTALL GUARDRAIL AND FINAL LIFT OF AC-M SURFACE FOR GUARDRAIL WIDENING



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



VERTICAL PANELS (55' O.C.) = 9 EACH

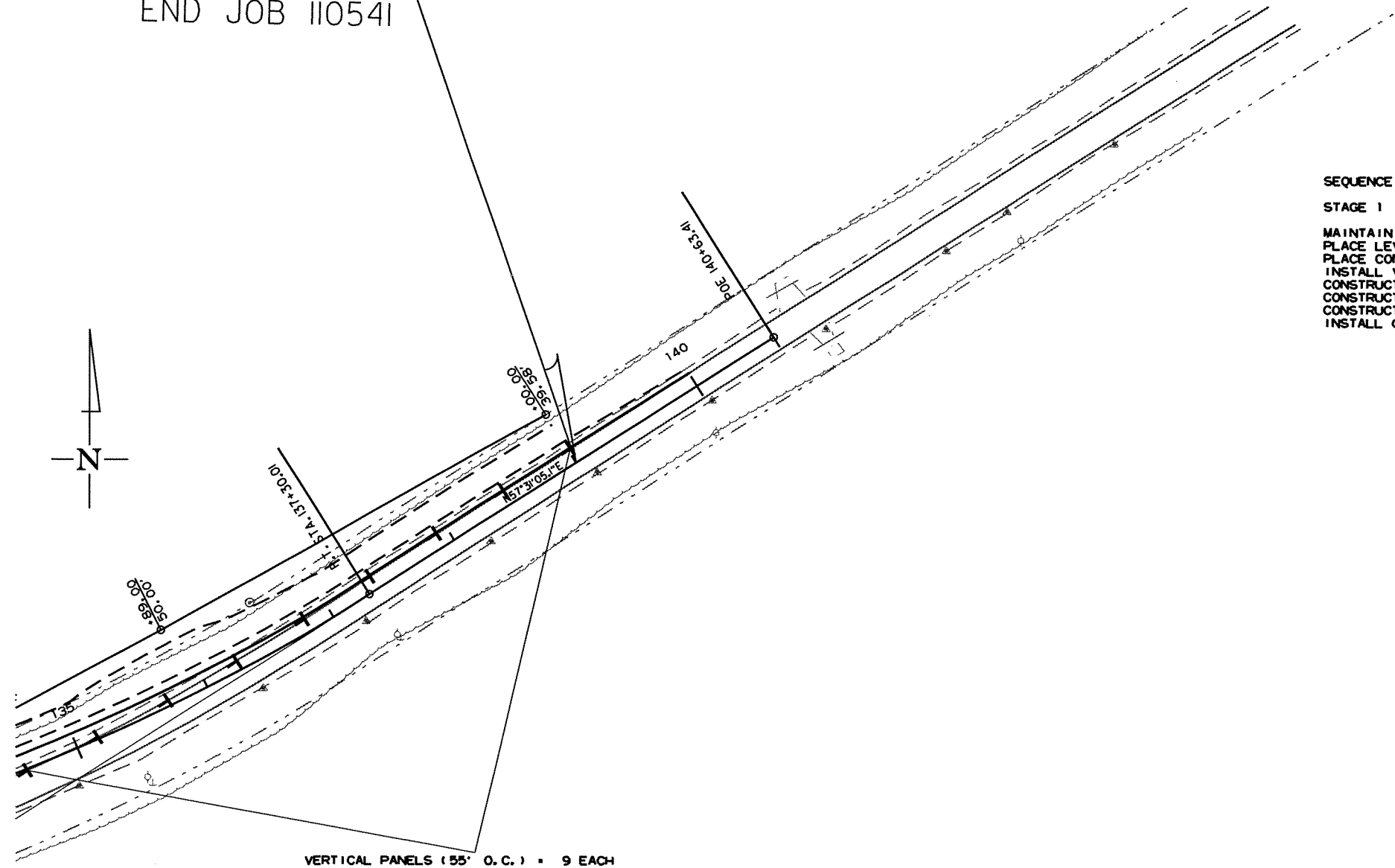
STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	18	85

② MAINTENANCE OF TRAFFIC DETAILS



STA. 139+00.00
END JOB 110541



SEQUENCE OF OPERATIONS

STAGE 1

- MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
- PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
- PLACE CONSTRUCTION PAVEMENT MARKINGS
- INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
- CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 38
- CONSTRUCT BRIDGE
- CONSTRUCT AS MUCH OF APPROACHES AS POSSIBLE
- INSTALL GUARDRAIL AND FINAL LIFT OF AC-11M SURFACE FOR GUARDRAIL WIDENING

STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

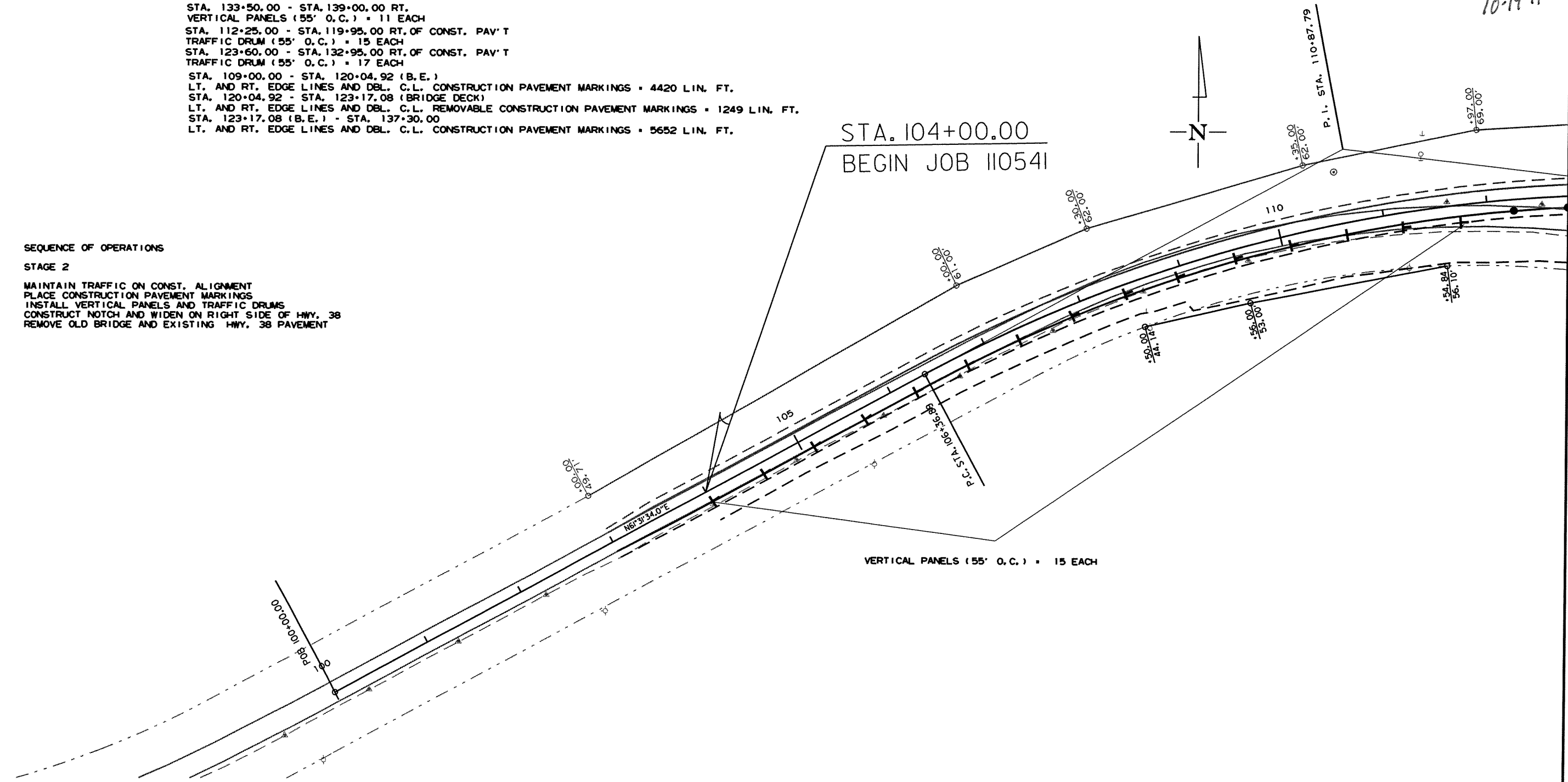
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							19	85

② MAINTENANCE OF TRAFFIC DETAILS



STA. 104+00.00 - STA. 111+70.00 RT.
 VERTICAL PANELS (55' O.C.) = 15 EACH
 STA. 133+50.00 - STA. 139+00.00 RT.
 VERTICAL PANELS (55' O.C.) = 11 EACH
 STA. 112+25.00 - STA. 119+95.00 RT. OF CONST. PAV'T
 TRAFFIC DRUM (55' O.C.) = 15 EACH
 STA. 123+60.00 - STA. 132+95.00 RT. OF CONST. PAV'T
 TRAFFIC DRUM (55' O.C.) = 17 EACH
 STA. 109+00.00 - STA. 120+04.92 (B.E.)
 LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 4420 LIN. FT.
 STA. 120+04.92 - STA. 123+17.08 (BRIDGE DECK)
 LT. AND RT. EDGE LINES AND DBL. C.L. REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 1249 LIN. FT.
 STA. 123+17.08 (B.E.) - STA. 137+30.00
 LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 5652 LIN. FT.

SEQUENCE OF OPERATIONS
 STAGE 2
 MAINTAIN TRAFFIC ON CONST. ALIGNMENT
 PLACE CONSTRUCTION PAVEMENT MARKINGS
 INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
 CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 38
 REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

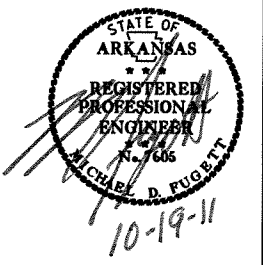


VERTICAL PANELS (55' O.C.) = 15 EACH

STAGE 2
 MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	20	85


② MAINTENANCE OF TRAFFIC DETAILS

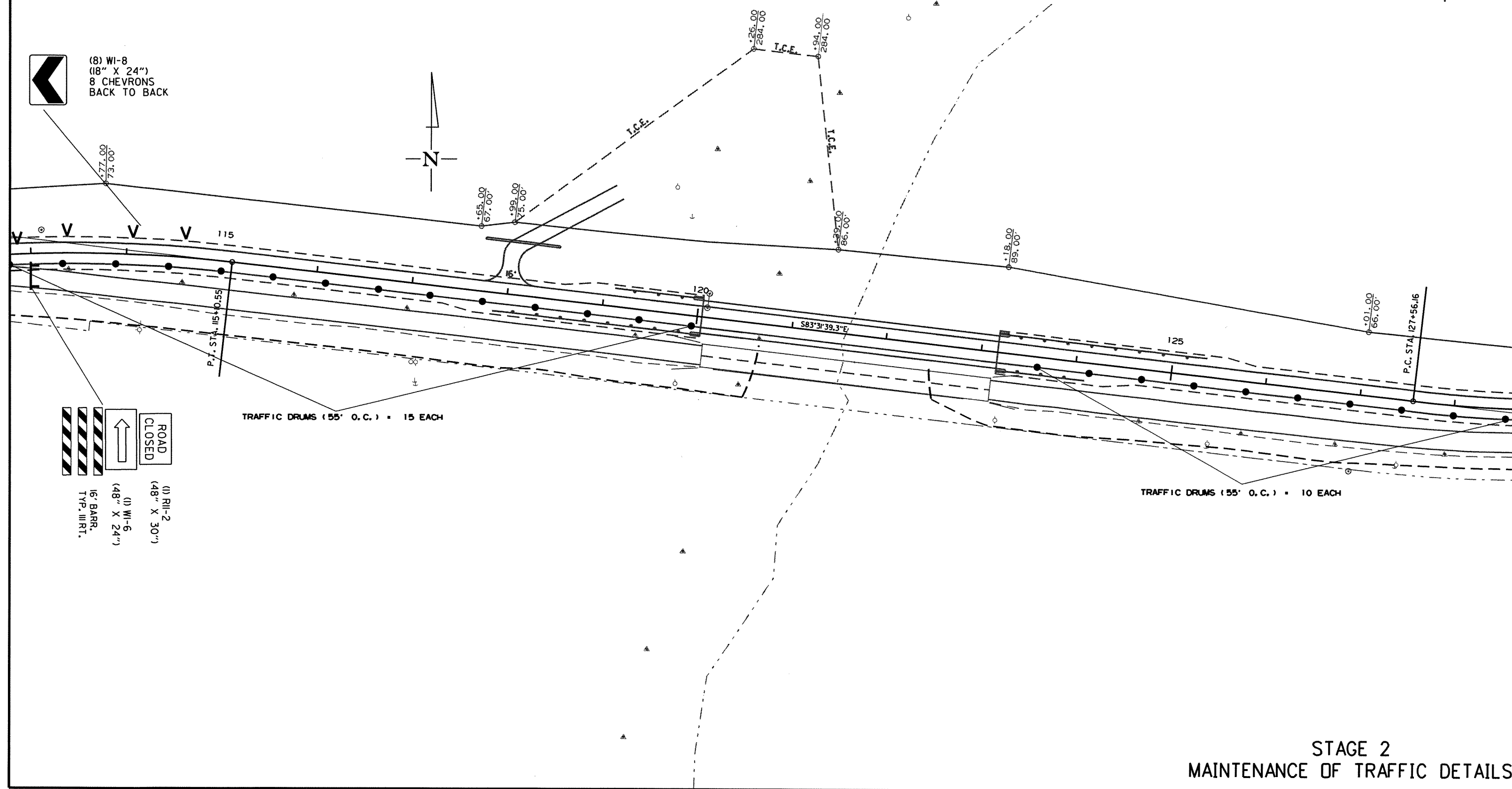




SEQUENCE OF OPERATIONS

STAGE 2

MAINTAIN TRAFFIC ON CONST. ALIGNMENT
 PLACE CONSTRUCTION PAVEMENT MARKINGS
 INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
 CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 38
 REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

 (8) W1-8
 (18" X 24")
 8 CHEVRONS
 BACK TO BACK

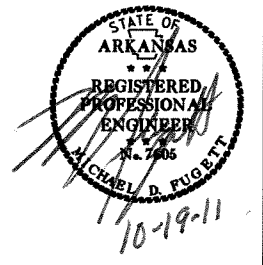


 (1) R11-2
 (48" X 30")
 (1) W1-6
 (48" X 24")
 16' BARR.
 TYP. III RT.

STAGE 2
 MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							21	85

② MAINTENANCE OF TRAFFIC DETAILS

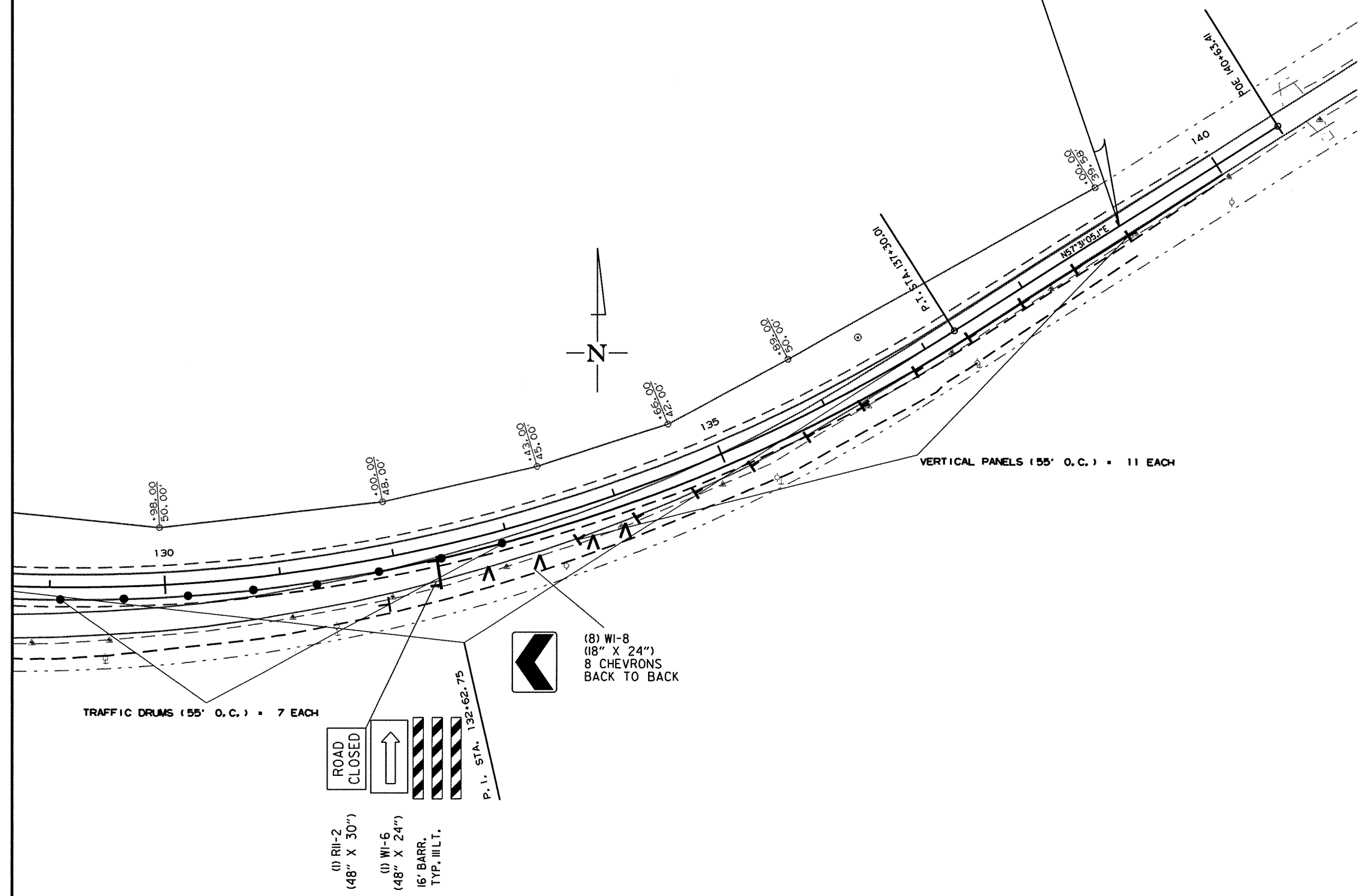


SEQUENCE OF OPERATIONS

STAGE 2

MAINTAIN TRAFFIC ON CONST. ALIGNMENT
 PLACE CONSTRUCTION PAVEMENT MARKINGS
 INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
 CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 38
 REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

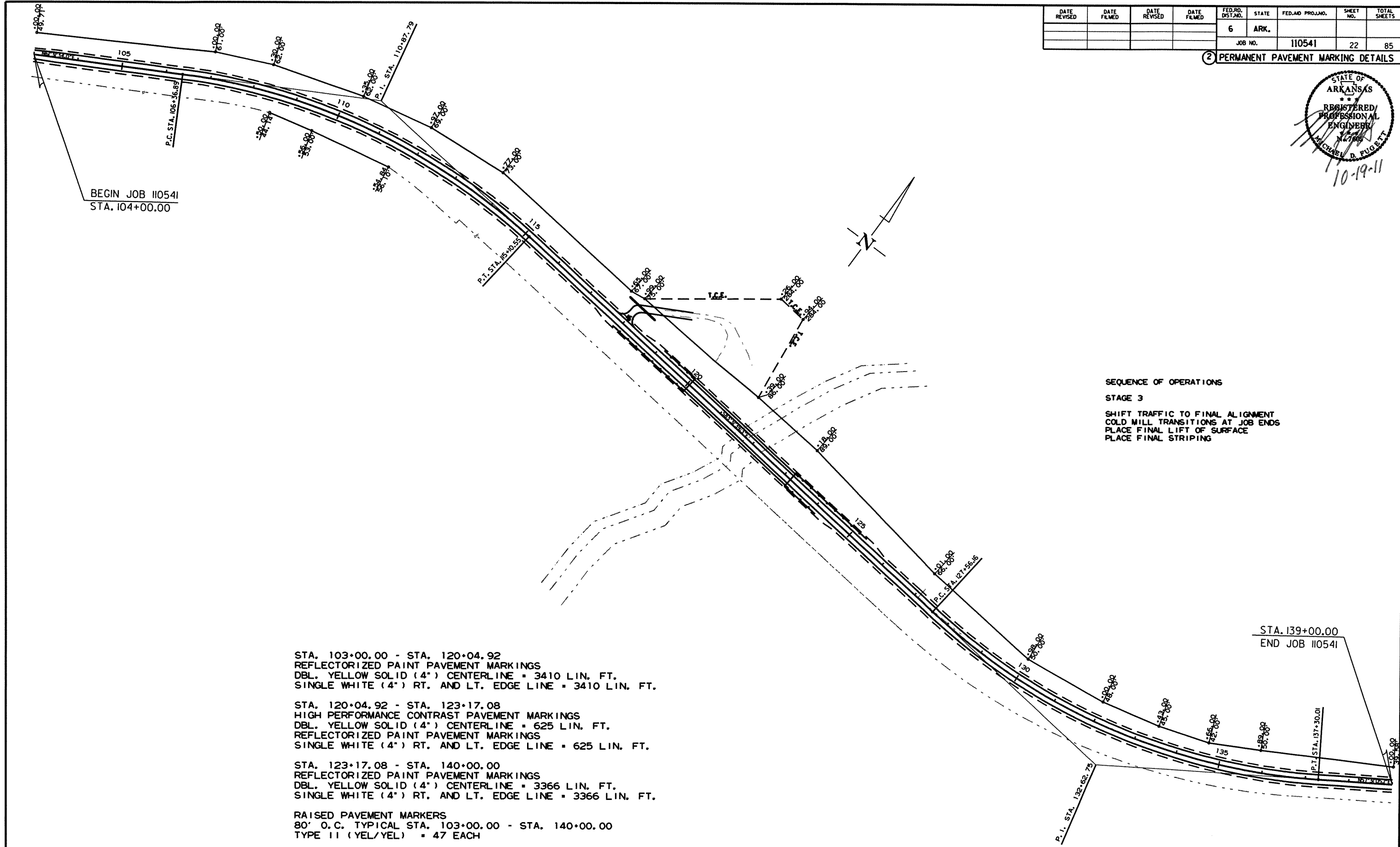
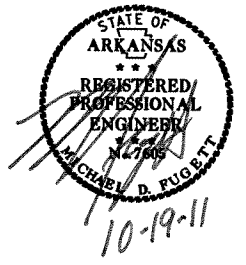
STA. 139+00.00
 END JOB 110541



STAGE 2
 MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110541	22	85

② PERMANENT PAVEMENT MARKING DETAILS



BEGIN JOB 110541
STA. 104+00.00

SEQUENCE OF OPERATIONS
STAGE 3
SHIFT TRAFFIC TO FINAL ALIGNMENT
COLD MILL TRANSITIONS AT JOB ENDS
PLACE FINAL LIFT OF SURFACE
PLACE FINAL STRIPING

STA. 103+00.00 - STA. 120+04.92
REFLECTORIZED PAINT PAVEMENT MARKINGS
DBL. YELLOW SOLID (4") CENTERLINE = 3410 LIN. FT.
SINGLE WHITE (4") RT. AND LT. EDGE LINE = 3410 LIN. FT.

STA. 120+04.92 - STA. 123+17.08
HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
DBL. YELLOW SOLID (4") CENTERLINE = 625 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS
SINGLE WHITE (4") RT. AND LT. EDGE LINE = 625 LIN. FT.

STA. 123+17.08 - STA. 140+00.00
REFLECTORIZED PAINT PAVEMENT MARKINGS
DBL. YELLOW SOLID (4") CENTERLINE = 3366 LIN. FT.
SINGLE WHITE (4") RT. AND LT. EDGE LINE = 3366 LIN. FT.

RAISED PAVEMENT MARKERS
80' O.C. TYPICAL STA. 103+00.00 - STA. 140+00.00
TYPE 11 (YEL/YEL) = 47 EACH

STA. 139+00.00
END JOB 110541

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.	110541
							SHEET NO.	23
							TOTAL SHEETS	85

② QUANTITIES



ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)			
							NO.	SQ. FT.			RIGHT	LEFT		
			LIN.FT. - EACH					EACH		LIN.FT.				
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0						
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0						
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0						
W8-9A	SHOULDER DROP-OFF	36"x36"	4	4	4	4	4	36.0						
G20-2	END ROAD WORK	48"x24"	2	2	2	2	2	16.0						
R11-2	ROAD CLOSED	48"x30"	2	2	2	2	2	20.0						
W1-6	LARGE ARROW	48"x24"		2	2	2	2	16.0						
W1-8	CHEVRONS	18"x24"		16	16	16	16	48.0						
R4-1	DO NOT PASS	24"x30"	4	4	4	4	4	20.0						
RSP-1	SHOULDER CLOSED	48"x30"	4	4	4	4	4	40.0						
	SPECIAL SIGN "BRIDGE CONSTRUCTION AHEAD"	48"x48"	1	1	1	1	1	16.0						
	SPECIAL SIGN "WARNING! BRIDGE CONSTRUCTION"	60"x36"	2	2	2	2	2	30.0						
	VERTICAL PANELS		35	26		35	35		35					
	TRAFFIC DRUMS		32	32	32	32	32		32					
	TYPE III BARRICADE-RT. (16')		1	1	1	1	1				16			
	TYPE III BARRICADE-LT. (16')		1	1	1	1	1					16		
TOTALS:								338.0		35		32	16	16

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKINGS		HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	
							TYPE II (YEL/YEL)	4"		4"	
								EACH	WHITE	YELLOW	WHITE
LIN.FT. - EACH			LIN.FT.	LIN.FT.		LIN.FT.		LIN.FT.			
CONSTRUCTION PAVEMENT MARKINGS	4756	10072		14828							
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			1249		1249						
REMOVABLE CONSTRUCTION PAV'T MARKINGS		1249				1249					
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			47				47				
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (4")			6776					6776			
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (4")			6776					6776			
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")			625							625	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")			625								625
TOTALS:				14828	1249	1249	47	6776	6776	625	625

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

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.						110541	24	85

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
103+00	121+00	MAIN LANES	18	18
122+60	139+00	MAIN LANES	17	17
TOTALS:			35	35

REMOVAL AND DISPOSAL OF GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL
			LIN. FT.
119+79	129+75	RT. MAIN LANES	30
119+79	129+75	LT. MAIN LANES	30
123+16	123+42	LT. MAIN LANES	30
123+16	123+42	RT. MAIN LANES	30
TOTAL:			120

SELECTED PIPE BEDDING

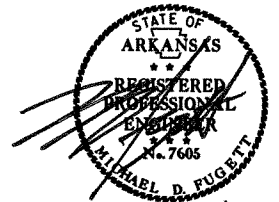
LOCATION	SELECTED PIPE BEDDING
	CU. YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	10
TOTAL:	10

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
120+04.92	BRIDGE END	1
TOTAL:		1

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



11/26/12

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE PROJECT		MAIN LANES	9614	28073	
ENTIRE PROJECT		DRIVEWAY	580		
ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			50
TOTALS:			10194	28073	50

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

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

APPROACH SLABS AND GUTTERS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE SPECIAL)	APPROACH SLABS (TYPE SPECIAL)	REINFORCING STEEL RDWY. (GR 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU. YD.	CU. YD.	POUND	TON
119+77.92	120+04.92	LT. OF MAIN LANES	8.45		459	
119+77.92	120+04.92	RT. OF MAIN LANES	8.45		459	
123+17.08	123+44.08	LT. OF MAIN LANES	8.45		459	
123+17.08	123+44.08	RT. OF MAIN LANES	8.45		459	
119+77.92	120+04.92	MAIN LANES		35.68	4028	35.7
123+17.08	123+44.08	MAIN LANES		35.68	4028	35.7
TOTALS:			33.80	71.36	9892	71.4

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
				FEET	SQ. YD.		
118+00	LT.	MAIN LANES	16	241.5	26.6	98.6	78
118+00	LT.	EXISTING DRIVE, PARKING AREA AND BOAT RAMP	VAR			726.0	
ENTIRE PROJECT TEMPORARY DRIVES						30.0	
TOTALS:					26.6	854.6	78

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% 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

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			1000	6
TOTALS:			1000	6

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

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	110541
							SHEET NO.	25
							TOTAL SHEETS	85

② QUANTITIES

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
103+00	104+00	MAIN LANES	20	222.22
139+00	140+00	MAIN LANES	20	222.22
TOTAL:				444.44

NOTE: AVERAGE MILLING DEPTH 1".

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	15	30
TOTALS:	15	30

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

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
			LIN.FT.	EACH	
117+76.77	119+95.52	RT. SIDE	200	1	1
119+01.77	119+95.52	LT. SIDE	75	1	1
123+26.48	124+20.23	RT. SIDE	75	1	1
123+26.48	125+45.23	LT. SIDE	200	1	1
TOTALS:			550	4	4

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	100
TOTAL:	100

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

EROSION CONTROL

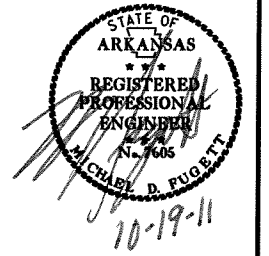
STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-5)	(E-6)	(E-11)	(E-9)	CU.YD.	CU. YD.
ENTIRE PROJECT	STAGE 1		3.44	6.88	3.44	350.9	3.44				242	9	5402		214	
ENTIRE PROJECT	STAGE 2		3.61	7.22	3.61	368.2	3.61				66	9	3420		133	
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								8.40	8.40	171.4	154	9	1000	75	112	
TOTALS:			7.05	14.10	7.05	719.1	7.05	8.40	8.40	171.4	462	27	9822	75	459	

BASIS OF ESTIMATE:

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

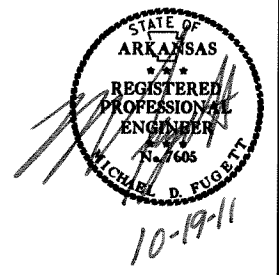
NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

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



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	26	85

2 QUANTITIES



BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	TOTAL WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON
MAIN LANES																	
103+00	104+00	TRANSITION	100.0	120.00	120.0	20.0	222.2	0.10	22.2					34.0	377.8	220.0	41.6
104+00	112+00.00	NOTCH AND WIDEN SUPERELEVATED OPEN SHOULDER	800.0	120.00	960.0	24.8	2204.4	0.03	66.1	2.5	222.2	330.0	36.7	36.3	3226.7	220.0	354.9
112+00.00	117+73.05	FULL DEPTH SUPERELEVATED OPEN SHOULDER	573.0	197.50	1131.7	44.8	2852.3	0.03	85.6	22.5	1432.5	330.0	236.4	56.3	3584.4	220.0	394.3
117+73.05	120+04.92	FULL DEPTH OPEN SHOULDER	231.9	197.50	458.0	44.8	1154.3	0.03	34.6	22.5	579.8	330.0	95.7	56.3	1450.7	220.0	159.6
123+17.08	124+93.66	FULL DEPTH OPEN SHOULDER	176.6	197.50	348.8	44.8	879.1	0.03	26.4	22.5	441.5	330.0	72.8	56.3	1104.7	220.0	121.5
124+93.66	134+83.34	FULL DEPTH SUPERELEVATED OPEN SHOULDER	989.7	197.50	1954.7	44.8	4926.5	0.03	147.8	22.5	2474.3	330.0	408.3	56.3	6191.1	220.0	681.0
134+83.34	139+00	NOTCH AND WIDEN SUPERELEVATED OPEN SHOULDER	416.7	120.00	500.0	24.8	1148.2	0.03	34.4	2.5	115.8	330.0	19.1	36.3	1680.7	220.0	184.9
139+00	140+00	TRANSITION	100.0	120.00	120.0	20.0	222.2	0.10	22.2					34.0	377.8	220.0	41.6
ADDITIONAL FOR SUPERELEVATION																	
104+00	107+24.39	TRANSITION	324.4	32.14	104.3												
107+24.39	114+23.05	MAX SUPER	698.7	64.28	449.1												
114+23.05	117+73.05	TRANSITION	350.0	32.14	112.5												
124+93.66	128+43.66	TRANSITION	350.0	32.14	112.5												
128+43.66	136+42.51	MAX SUPER	798.9	64.28	513.5												
136+42.51	139+92.51	TRANSITION	350.0	32.14	112.5												
ADDITIONAL FOR LEVELING																	
104+00	112+00	HWY. 38	800.0			20.0	1777.8	0.10	177.8					20.0	1777.8	VAR.	198.0
134+83.34	139+00	HWY. 38	416.7			20.0	926.0	0.10	92.6					20.0	926.0	VAR.	150.5
ADDITIONAL FOR GUARDRAIL																	
117+33.17	117+66.17	HWY. 38 RIGHT	33.0	14.50	4.8									2.8	10.3	220.0	1.1
117+66.17	119+94.92	HWY. 38 RIGHT	228.8	28.25	64.6									5.5	139.8	220.0	15.4
123+27.08	124+30.83	HWY. 38 RIGHT	103.8	28.25	29.3									5.5	63.4	220.0	7.0
124+30.83	124+63.83	HWY. 38 RIGHT	33.0	14.50	4.8									2.8	10.3	220.0	1.1
118+58.17	118+91.17	HWY. 38 LEFT	33.0	14.50	4.8									2.8	10.3	220.0	1.1
118+91.17	119+94.92	HWY. 38 LEFT	103.8	28.25	29.3									5.5	63.4	220.0	7.0
123+24.52	125+53.32	HWY. 38 LEFT	228.8	28.25	64.6									5.5	139.8	220.0	15.4
125+53.32	125+86.32	HWY. 38 LEFT	33.0	14.50	4.8									2.8	10.3	220.0	1.1
TOTALS:						7204.6			709.7			869.0					2377.1

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% ASPHALT BINDER
 ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC						
108+00	35	00	17.30	91	12	43.80	30' RT	0-5	30	14	A-6 (10)	RD/BR
108+00	35	00	17.40	91	12	43.70	5' RT	0-5	30	16	A-6 (9)	GRAY
108+00	35	00	17.30	91	12	43.80	30' RT	0-5	25	11	A-6 (7)	RD/BR
116+00	35	00	18.10	91	12	34.60	14' RT	0-5	28	10	A-4 (7)	BROWN
127+00	35	00	18.30	91	12	22.90	9' RT	0-5	38	25	A-6 (20)	GR/BR
135+00	35	00	17.80	91	12	12.00	5' RT	0-5	42	31	A-7-6 (24)	BROWN
135+00	35	00	17.90	91	12	12.00	30' RT	0-5	24	8	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.

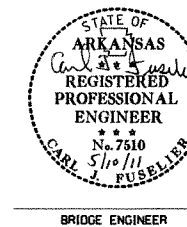
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541		27	85
				07217	QUANTITIES			52008

SCHEDULE OF BRIDGE QUANTITIES-JOB 110541

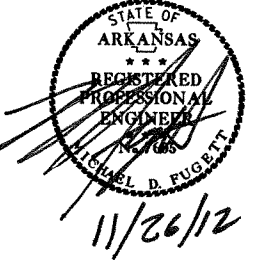
BRIDGE NO. 07217	CODE NO. X081	NAME PLATE TITLE BAYOU DEVIEW	UNIT OF STRUCTURE	ITEM NO.	205	802	802	802	803	SS#804	SP & 805	SP & 805	805	807	808	812	816	816	SP JOB 110541												
				ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	CLASS S CONCRETE- BRIDGE	CLASS S(AE) CONCRETE- BRIDGE	PRESTRESSED CONCRETE GIRDERS (TYPE III)	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL- BRIDGE (GRADE 60)	① STEEL SHELL PILING (16" DIA.)	① STEEL SHELL PILING (24" DIA.)	PILE ENCASEMENT	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W)	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP	SILICONE JOINT SEALANT	UNIT	LUMP SUM	CU.YD.	CU.YD.	LIN.FT.	GAL.	LB.	LIN.FT.	LIN.FT.	LIN.FT.	LB.	CU.IN.
			END BENTS 1 & 6			73.18			0.5	8,940	870			1,330			478	270													
			INT. BENTS 2 - 5			67.92				8,854		1,620	237																		
			310'-0" PRESTRESSED GIRDER UNIT				427.50	1,525	28.4	81,506				3,200	2,393.0	1			74												
			EXISTING BR. NO. M0849 (SITE NO. 1)		1																										
TOTALS FOR JOB NO. 110541						141.0	427.50	1,525	28.9	99,300	870	1,620	237	4,530	2,393.0	1	478	270	74												

① ASTM A252 GRADE 3, (Fy = 45,000 psi.)

JIM TRIBO
DESIGN SECTION SUPERVISOR



SCHEDULE OF BRIDGE QUANTITIES
BRIDGE OVER BAYOU DEVIEW
BAYOU DEVIEW STR. & APPRS. (S)
WOODRUFF COUNTY
ROUTE 38 SEC. 3
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: BEF DATE: 3/31/11 FILENAME: B110541_01.dgn
CHECKED BY: JGT DATE: 4/29/11 SCALE:
DESIGNED BY: DATE:
BRIDGE NO. 07217 DRAWING NO. 52008



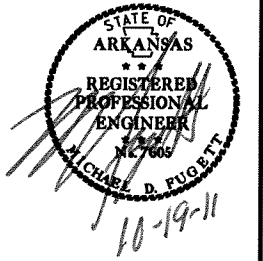
ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	35	STATION
201	GRUBBING	35	STATION
SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL	120	LIN. FT.
210	UNCLASSIFIED EXCAVATION	10194	CU. YD.
210	COMPACTED EMBANKMENT	28073	CU. YD.
SP & 210	SOIL STABILIZATION	50	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	8131	TON
401	TACK COAT	740	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	832	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	37	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	2274	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	130	TON
412	COLD MILLING ASPHALT PAVEMENT	444	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	15	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	100	TON
504	APPROACH SLABS (TYPE SPECIAL)	71.36	CU. YD.
504	APPROACH GUTTERS (TYPE SPECIAL)	33.80	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD LABORATORY	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	338	SQ. FT.
SS & 604	BARRICADES	32	LIN. FT.
SS & 604	TRAFFIC DRUMS	32	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS	14828	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	1249	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	1249	LIN. FT.
SS & 604	VERTICAL PANELS	35	EACH
SP, SS & 606	24" SIDE DRAIN	78	LIN. FT.
606	SELECTED PIPE BEDDING	10	CU. YD.
611	UNDERDRAIN OUTLET PROTECTORS	6	EACH
611	4" PIPE UNDERDRAINS	1000	LIN. FT.
SS & 617	GUARDRAIL (TYPE A)	550	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)	4	EACH
SS & 617	THREE BEAM GUARDRAIL TERMINAL	4	EACH
620	LIME	14	TON
620	SEEDING	7.05	ACRE
620	MULCH COVER	15.45	ACRE
SS & 620	WATER	890.5	M.GAL.
621	TEMPORARY SEEDING	8.40	ACRE
621	SILT FENCE	9822	LIN. FT.
621	SAND BAG DITCH CHECKS	462	BAG
621	SEDIMENT BASIN	75	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	75	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	459	CU. YD.
621	ROCK DITCH CHECKS	27	CU. YD.
623	SECOND SEEDING APPLICATION	7.05	ACRE
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")	6776	LIN. FT.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	6776	LIN. FT.
SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	625	LIN. FT.
SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	625	LIN. FT.
SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING YELLOW (4")	625	LIN. FT.
SP	HIGH PERFORMANCE CONTRAST MARKING TAPE YELLOW (4")	625	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	47	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	9892	POUND
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
802	CLASS S CONCRETE - BRIDGE	141.10	CU. YD.
802	CLASS S(AE) CONCRETE - BRIDGE	427.50	CU. YD.
802	PRESTRESSED CONCRETE GIRDERS (TYPE III)	1525	LIN. FT.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	28.9	GAL.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	99300	POUND
SP & 805	STEEL SHELL PILING (16" DIAMETER)	870	LIN. FT.
SP & 805	STEEL SHELL PILING (24" DIAMETER)	1620	LIN. FT.
805	PILE ENCASUREMENT	237	LIN. FT.
807	STRUCTURAL STEEL IN BEAM SPANS (M270-GR60W)	4530	POUND
808	ELASTOMERIC BEARINGS	2393	CU. IN.
812	BRIDGE NAME PLATE (TYPE D)	1	EACH
816	FILTER BLANKET	478	SQ. YD.
816	DUMPED RIPRAP	270	CU. YD.
SP	SILICONE JOINT SEALANT	74	LIN. FT.

*ALTERNATE BID ITEMS

DATE	REVISION	SHEET NUMBER

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	110541	29 85

② SURVEY CONTROL DETAILS



SURVEY CONTROL COORDINATES

Project Name: s110541
 Date: 5/12/2010
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
 PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	244814.4860	1546401.7294	186.13	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
2	244836.3048	1547201.3505	186.78	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
3	245137.5151	1547870.0536	185.34	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
4	245462.3435	1548542.6742	186.86	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
5	245411.4374	1549285.7029	185.47	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
6	245347.7955	1549839.2856	186.01	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
7	245282.2064	1550499.0509	183.85	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
8	245435.8729	1551010.1545	183.86	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
9	245915.8940	1551718.4730	192.13	CTL	*5/8" REBAR W/ 2" ALUMINUM CAP
100	246167.0961	1552421.1148	193.54	GPS	*AHTD GPS 740006
101	248011.7333	1552405.8425	194.80	GPS	*AHTD GPS 740006A
900	245932.9493	1535722.3728	191.33	BM	*CAP STAMPED B74, 1934
901	245183.2126	1535520.0683	191.15	BM	*CAP STAMPED D85 1935
902	244861.3864	1537078.2361	191.10	BM	*CAP STAMPED A74 1934
903	245161.2931	1539272.2571	193.20	TBM	*CHISELED SQ NW BACK WALL
904	245095.2606	1541194.5400	188.73	TBM	*OF HEADWALL, 17' NORTH OF CENTERLINE HWY. 38
905	245062.6809	1543499.2645	189.15	TBM	*CHISELED SQ CTR HEADWALL
906	245078.6692	1544247.8842	189.71	TBM	*CHISELED SQ CTR HEADWALL
907	244779.5725	1547336.7652	184.82	TBM	*CPS IN 30" SWEET GUM TREE
908	245389.4752	1549489.1813	187.33	TBM	*CHISELED SQUARE
909	245355.2444	1549790.1560	187.32	TBM	*CHISELED SQUARE

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap 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 0.9999776634 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, S110541G1.CTL
 HORIZONTAL DATUM: NAD 83 (1997)
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
 AT A SPECIFIC POINT.

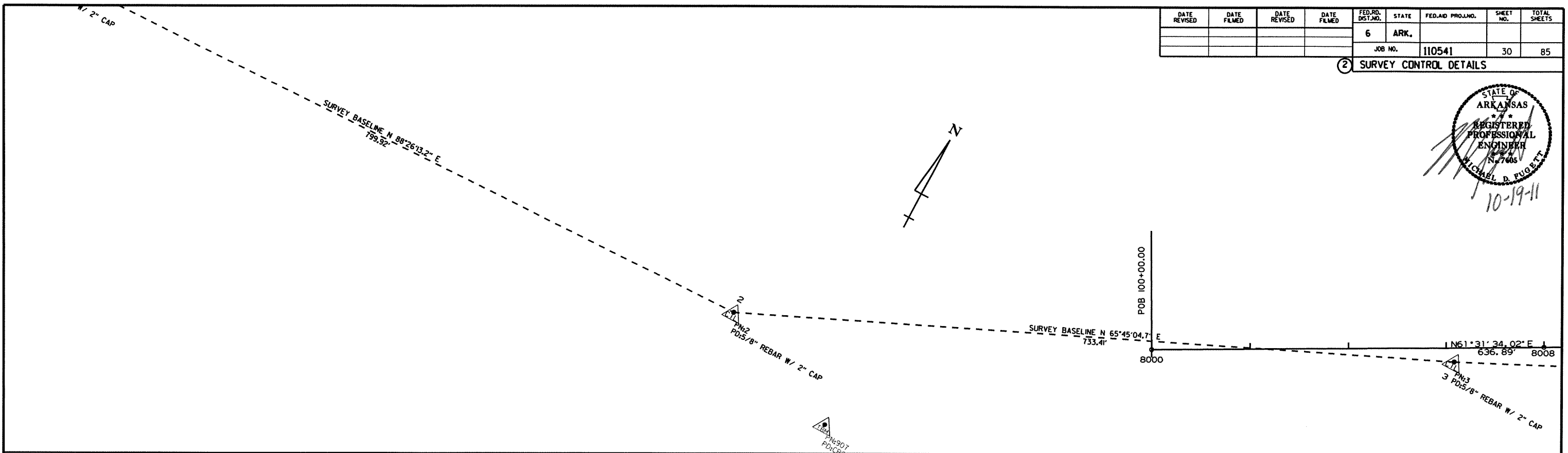
REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL
 IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
 REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE or 0302-SOUTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: 740006 - 740006A
 CONVERGENCE ANGLE: 0-27-41.1 RIGHT AT LT: 35-00-17.1 LG: 091-12-25.3
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

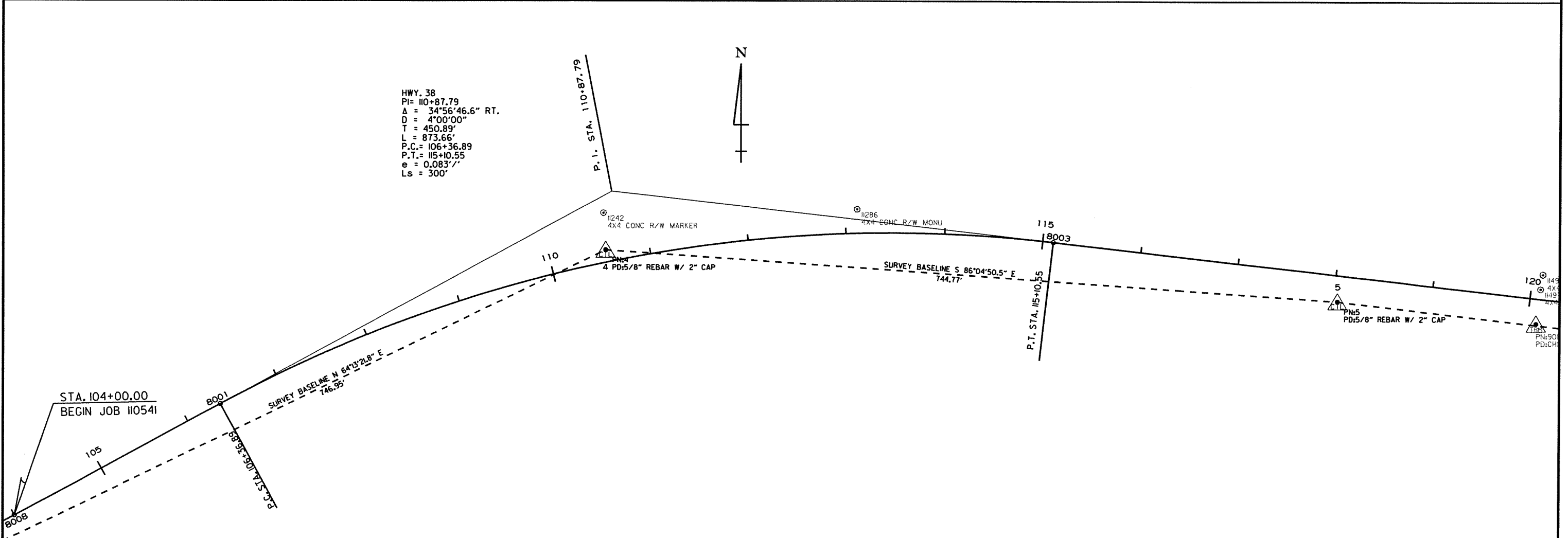
CONST				
POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	245003.0511	1547592.4637
8008	BEGIN	104+00.00	245193.7544	1547944.0775
8001	P. C. STA.	106+36.89	245306.6959	1548152.3162
8003	P. T. STA.	115+10.55	245470.8365	1548996.6881
8004	P. C. STA.	127+56.16	245330.4261	1550234.3534
8006	P. T. STA.	137+30.01	245545.3788	1551165.0632
8009	END	139+00.00	245636.6667	1551308.4564
8007	POE	140+63.41	245724.4242	1551446.3041

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							30	85

② SURVEY CONTROL DETAILS



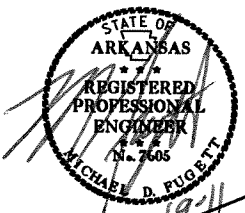
HWY. 38
 PI= 110+87.79
 Δ = 34°56'46.6" RT.
 D = 4°00'00"
 T = 450.89'
 L = 873.66'
 P.C. = 106+36.89
 P.T. = 115+10.55
 e = 0.083'/'
 Ls = 300'



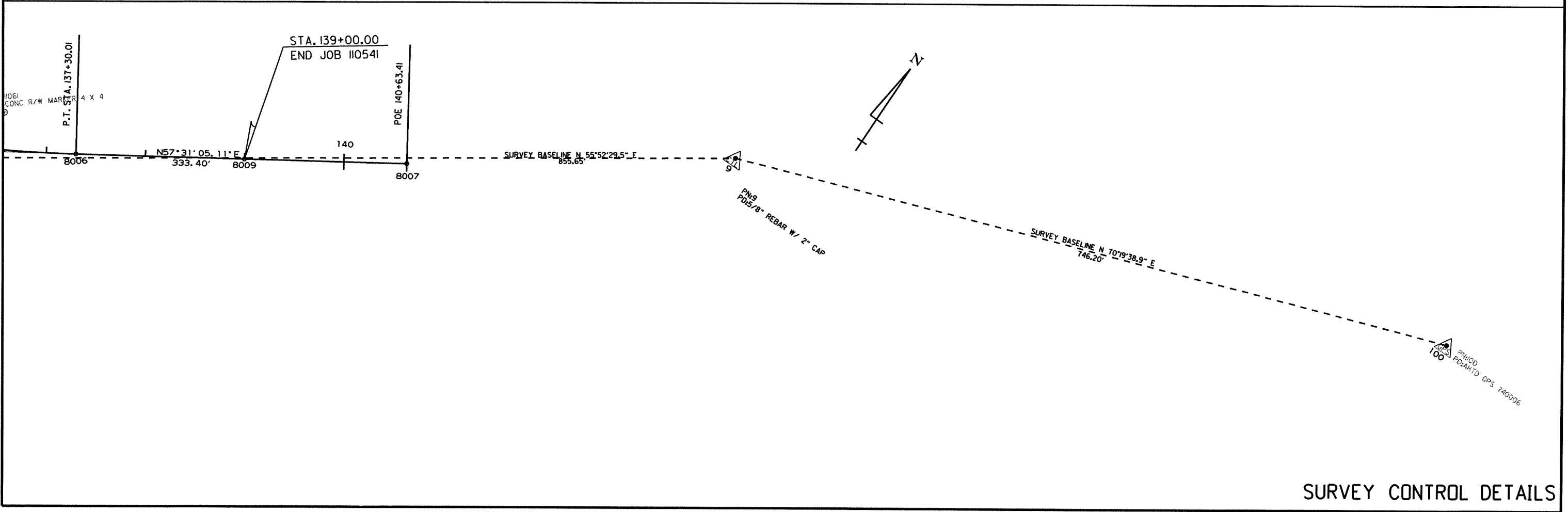
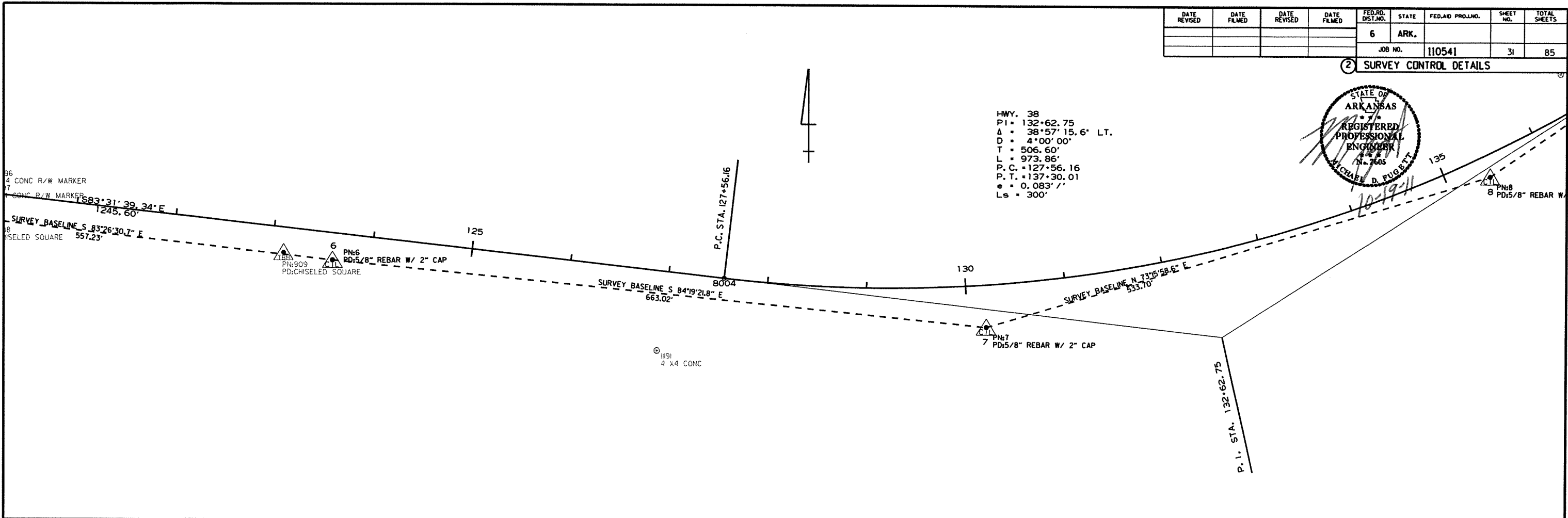
SURVEY CONTROL DETAILS

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. 110541							31	85

2 SURVEY CONTROL DETAILS



HWY. 38
 PI = 132+62.75
 Δ = 38°57'15.6" LT.
 D = 4°00'00"
 T = 506.60'
 L = 973.86'
 P.C. = 127+56.16
 P.T. = 137+30.01
 e = 0.083' /'
 Ls = 300'

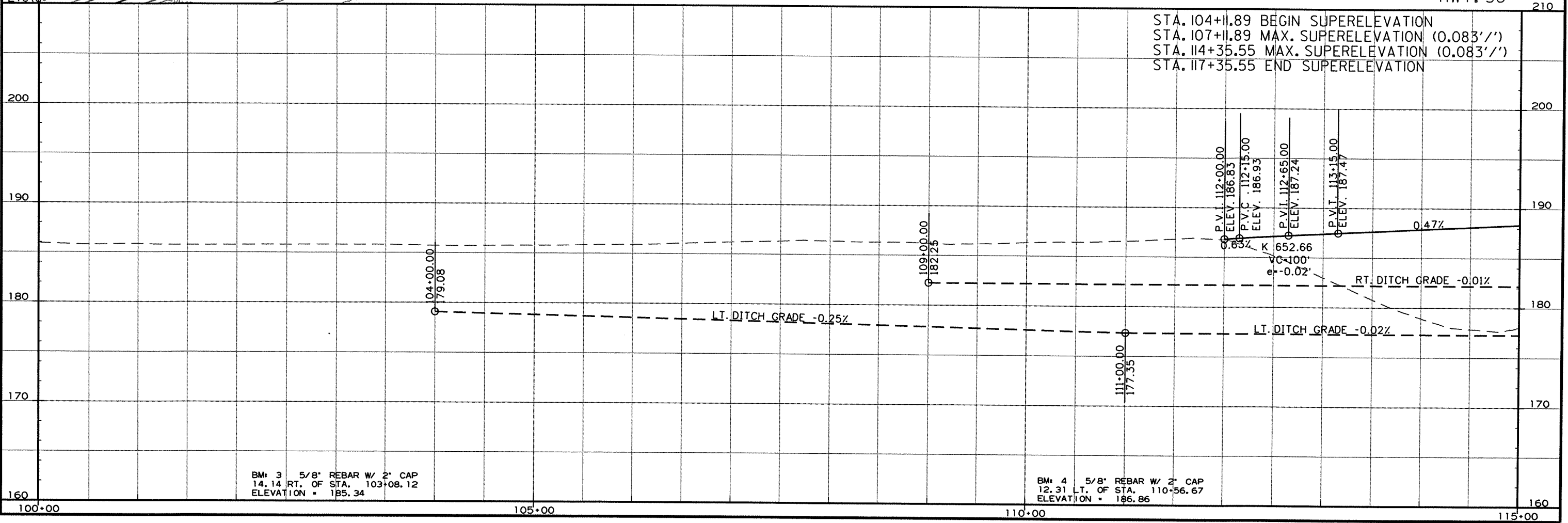
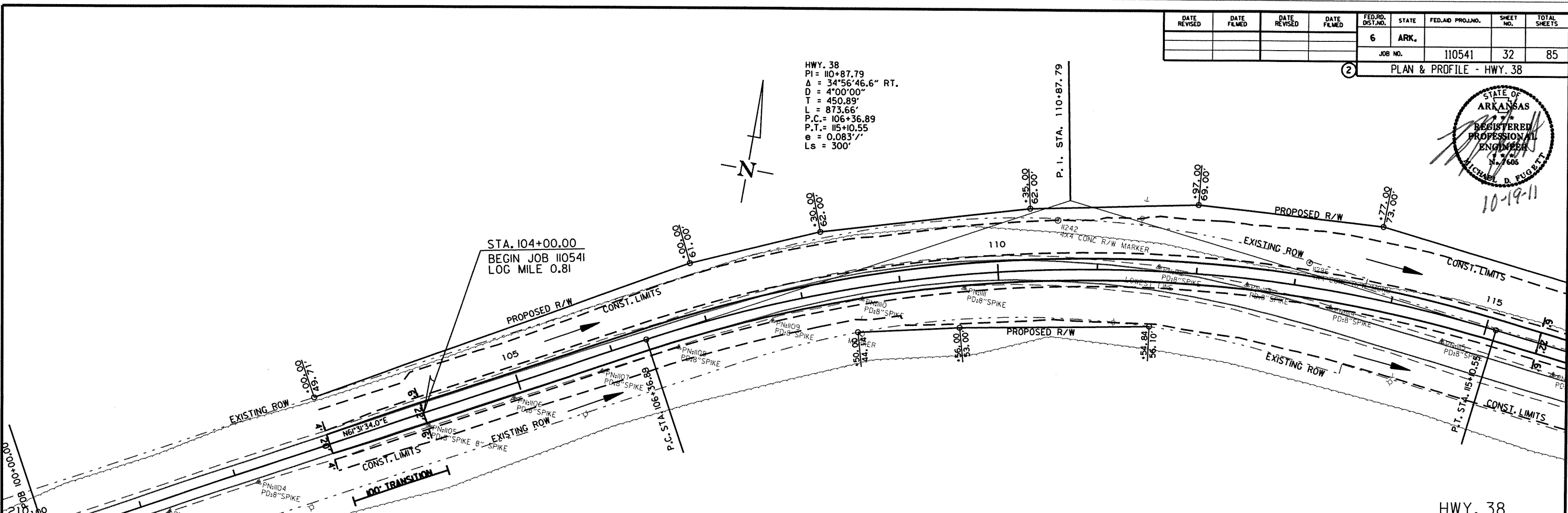
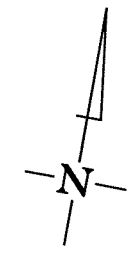


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541	32	85	

PLAN & PROFILE - HWY. 38



HWY. 38
 PI = 110+87.79
 Δ = 34°56'46.6" RT.
 D = 4°00'00"
 T = 450.89'
 L = 873.66'
 P.C. = 106+36.89
 P.T. = 115+10.55
 e = 0.083'/'
 Ls = 300'



STA. 104+11.89 BEGIN SUPERELEVATION
 STA. 107+11.89 MAX. SUPERELEVATION (0.083'/'')
 STA. 114+35.55 MAX. SUPERELEVATION (0.083'/'')
 STA. 117+35.55 END SUPERELEVATION

BM# 3 5/8" REBAR W/ 2" CAP
 14.14 RT. OF STA. 103+08.12
 ELEVATION = 185.34

BM# 4 5/8" REBAR W/ 2" CAP
 12.31 LT. OF STA. 110+56.67
 ELEVATION = 186.86

STA. 118+00 INSTALL
24' x 78' PIPE CULV'T.
LT. SIDE DRAIN
CONST. APPR. = 580 CU. YDS.

NOTE:
CLEARING NOT REQUIRED FOR EXISTING AND
EXPANDED PARKING AREA.
EQUIPMENT OR MATERIAL STORAGE NOT
ALLOWED IN T.C.E.

AGGREGATE ON THE FOLLOWING:
EXISTING ROAD
EXISTING AND EXPANDED PARKING AREA
BOAT RAMP
AGGREGATE TOTAL = 2074 SQ. YD.; 726 TONS

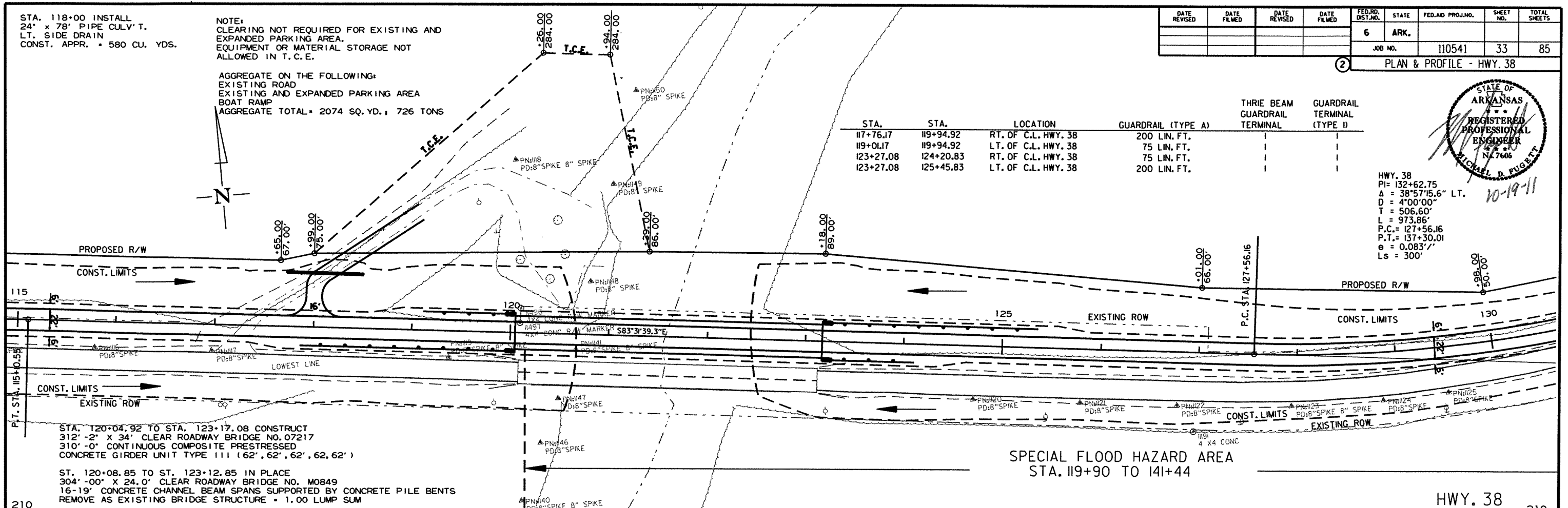
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 110541		33		85

PLAN & PROFILE - HWY. 38



HWY. 38
PI = 132+62.75
A = 38°57'15.6" LT.
D = 4°00'00"
T = 506.60'
L = 973.86'
P.C. = 127+56.16
P.T. = 137+30.01
e = 0.083'/'
Ls = 300'

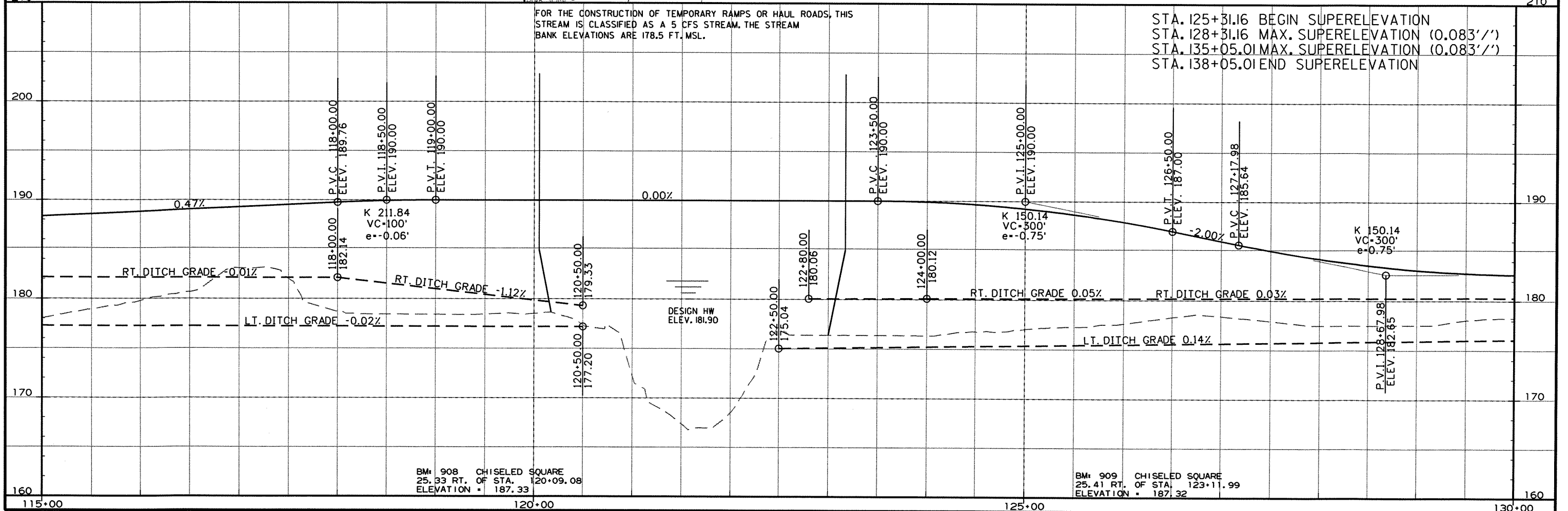
STA.	STA.	LOCATION	GUARDRAIL (TYPE A)	THREE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE D)
117+76.17	119+94.92	RT. OF C.L. HWY. 38	200 LIN. FT.		
119+01.17	119+94.92	LT. OF C.L. HWY. 38	75 LIN. FT.		
123+27.08	124+20.83	RT. OF C.L. HWY. 38	75 LIN. FT.		
123+27.08	125+45.83	LT. OF C.L. HWY. 38	200 LIN. FT.		



STA. 120+04.92 TO STA. 123+17.08 CONSTRUCT
312'-2" X 34' CLEAR ROADWAY BRIDGE NO. 07217
310'-0" CONTINUOUS COMPOSITE PRESTRESSED
CONCRETE GIRDER UNIT TYPE 111 (62', 62', 62.62')

ST. 120+08.85 TO ST. 123+12.85 IN PLACE
304'-00" X 24.0' CLEAR ROADWAY BRIDGE NO. M0849
16-19' CONCRETE CHANNEL BEAM SPANS SUPPORTED BY CONCRETE PILE BENTS
REMOVE AS EXISTING BRIDGE STRUCTURE = 1.00 LUMP SUM

SPECIAL FLOOD HAZARD AREA
STA. 119+90 TO 141+44



FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, THIS
STREAM IS CLASSIFIED AS A 5 CFS STREAM, THE STREAM
BANK ELEVATIONS ARE 178.5 FT. MSL.

STA. 125+31.16 BEGIN SUPERELEVATION
STA. 128+31.16 MAX. SUPERELEVATION (0.083'/')
STA. 135+05.01 MAX. SUPERELEVATION (0.083'/')
STA. 138+05.01 END SUPERELEVATION

BM: 908 CHISELED SQUARE
25.33 RT. OF STA. 120+09.08
ELEVATION = 187.33

BM: 909 CHISELED SQUARE
25.41 RT. OF STA. 123+11.99
ELEVATION = 187.32

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541		34	85

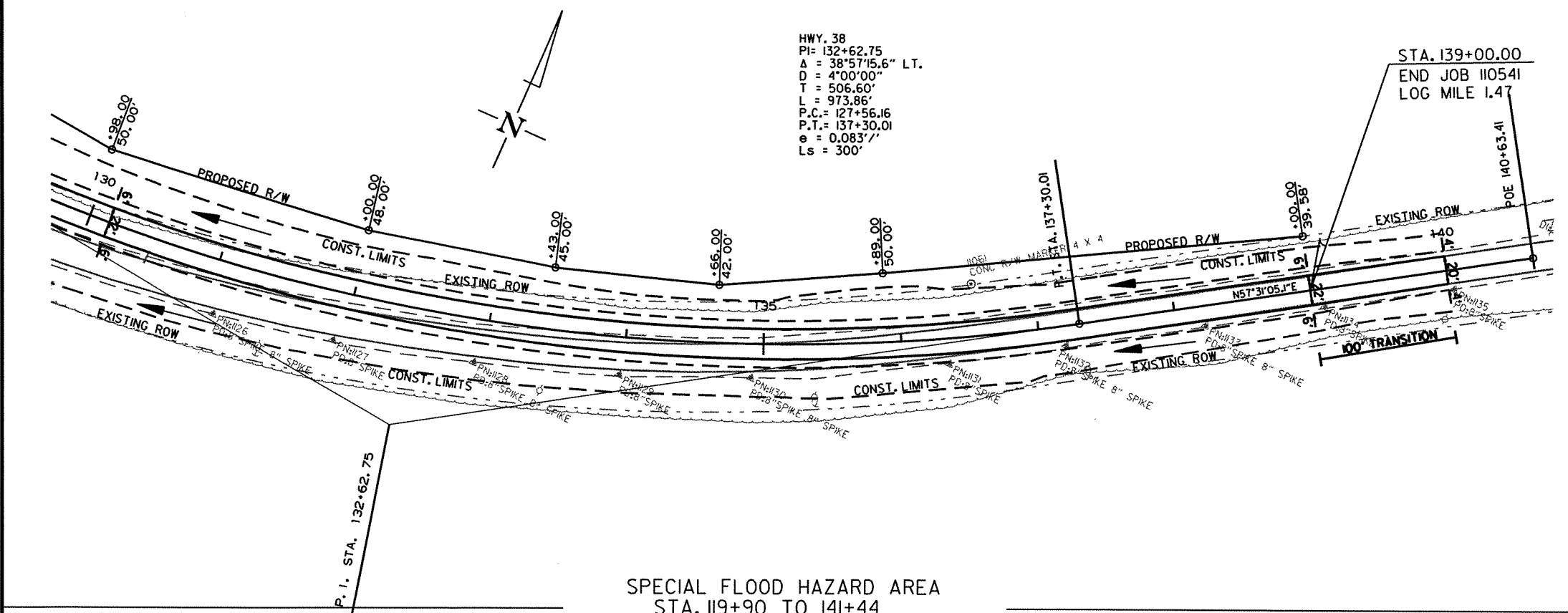
2 PLAN & PROFILE - HWY. 38



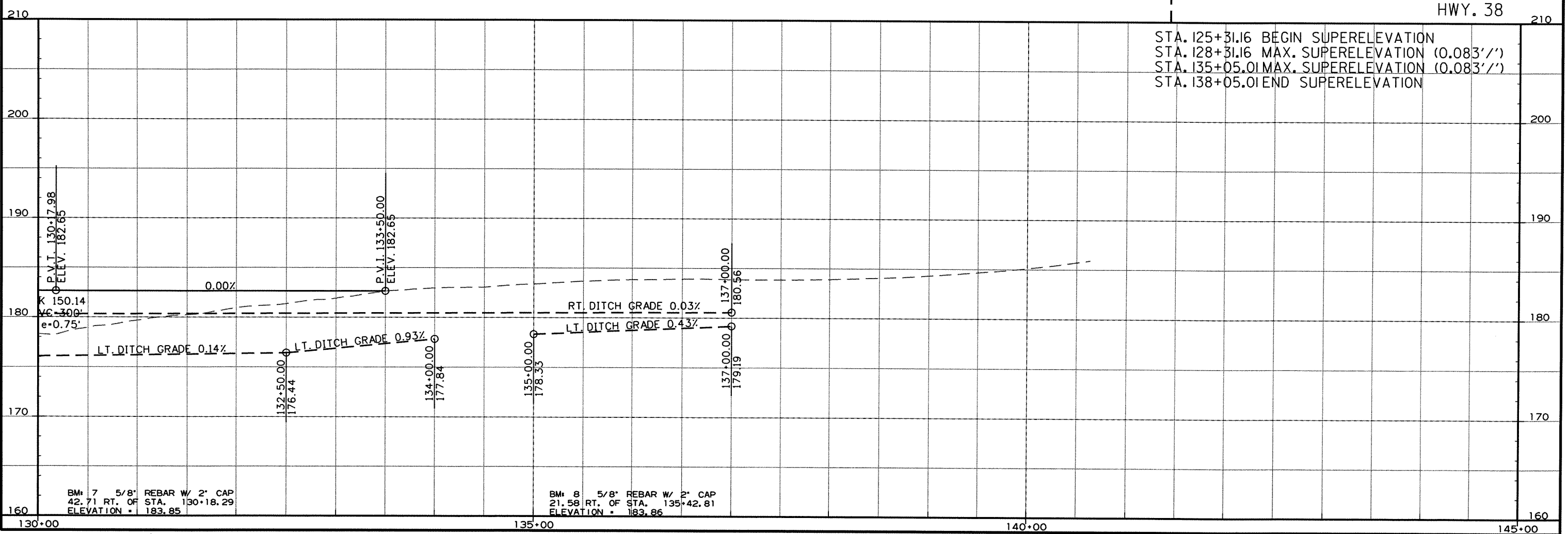
10-19-11

HWY. 38
 PI= 132+62.75
 $\Delta = 38^{\circ}57'15.6''$ LT.
 $D = 4^{\circ}00'00''$
 $T = 506.60'$
 $L = 973.86'$
 $P.C. = 127+56.16$
 $P.T. = 137+30.01$
 $e = 0.083'/'$
 $Ls = 300'$

STA. 139+00.00
 END JOB 110541
 LOG MILE 1.47

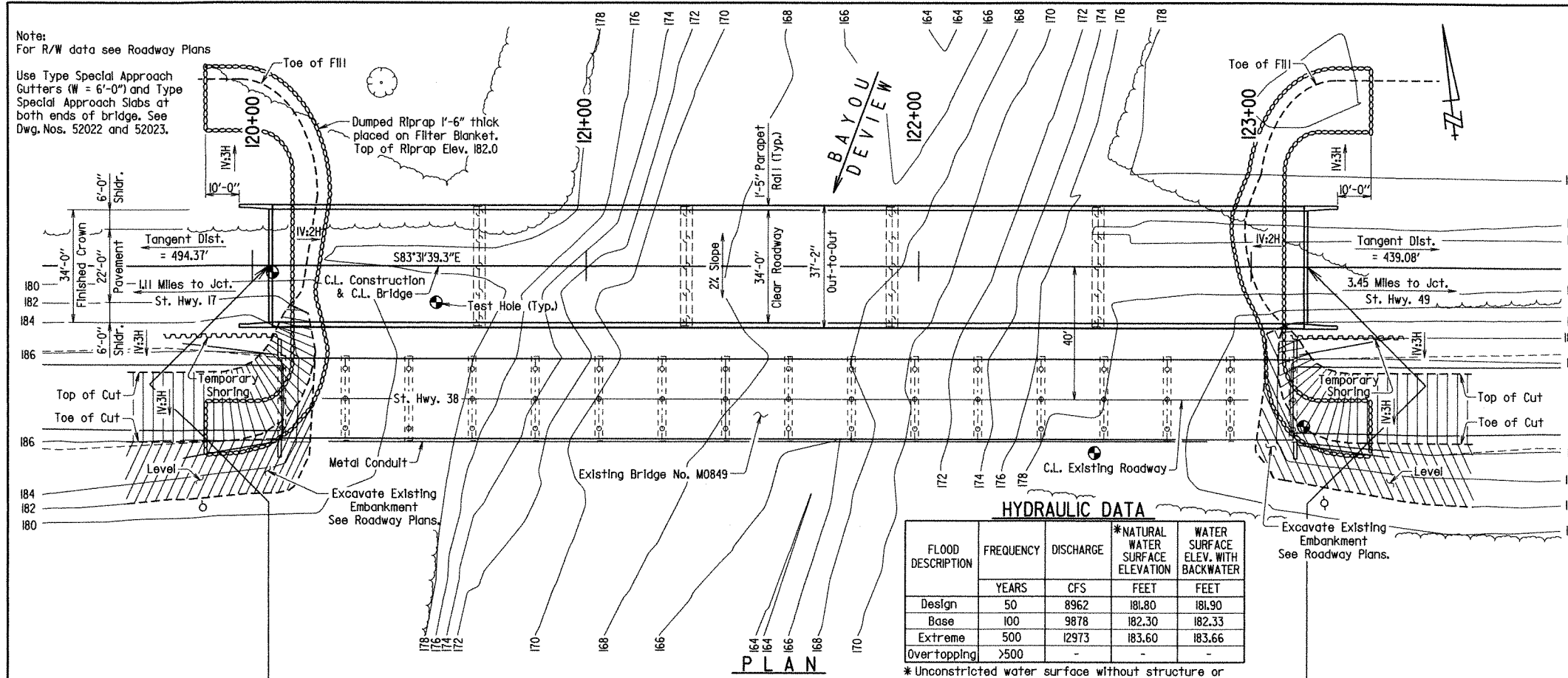


SPECIAL FLOOD HAZARD AREA
 STA. 119+90 TO 141+44



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.		110541	35	85
				07217	LAYOUT			52009

Notes:
For R/W data see Roadway Plans
Use Type Special Approach Gutters (W = 6'-0") and Type Special Approach Slabs at both ends of bridge. See Dwg. Nos. 52022 and 52023.



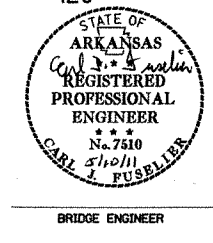
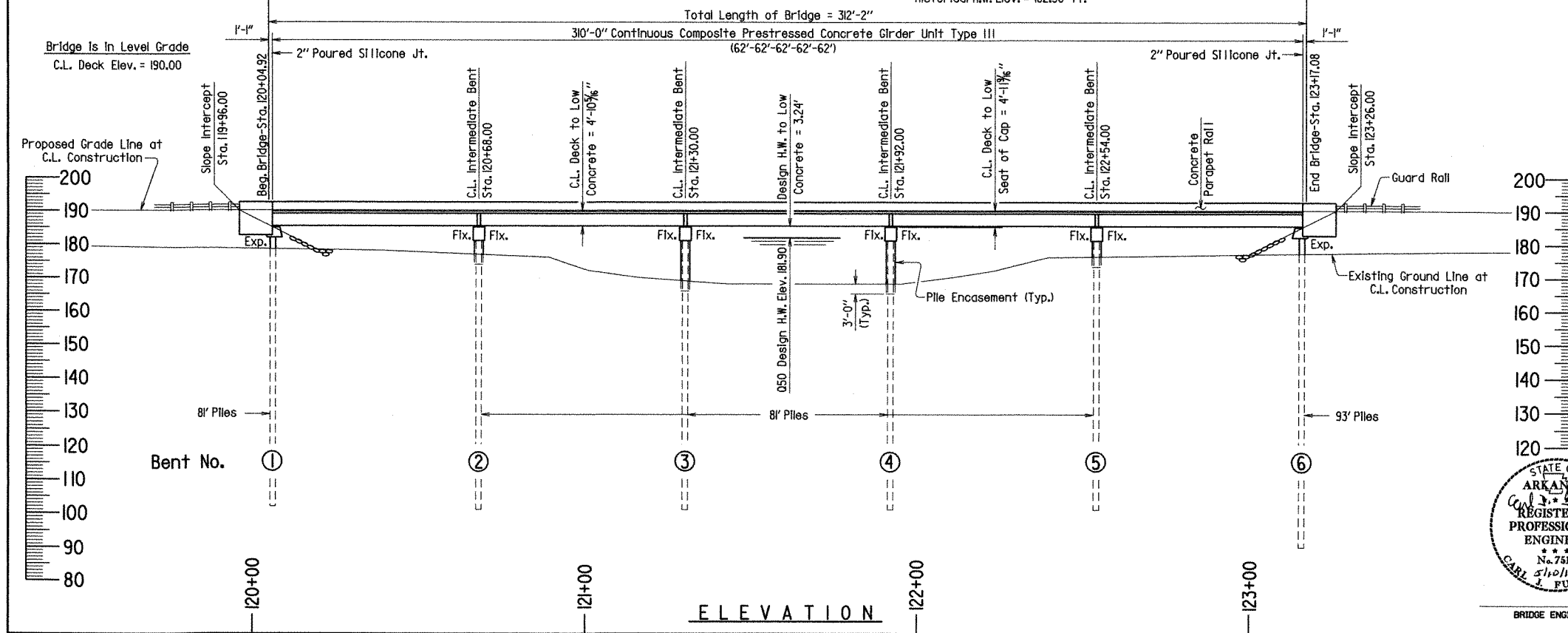
HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY YEARS	DISCHARGE CFS	*NATURAL WATER SURFACE ELEVATION FEET	WATER SURFACE ELEV. WITH BACKWATER FEET
Design	50	8962	181.80	181.90
Base	100	9878	182.30	182.33
Extreme	500	12973	183.60	183.66
Overtopping	>500	-	-	-

*Unconstricted water surface without structure or roadway approaches.
 †1000 backwater elevation for existing structure = 182.35 feet.
 Proposed Low Bridge Chord Elev. = 185.14 feet.
 Drainage area = 523.00 square miles.
 Historical H.W. Elev. = 182.30 ft.

GENERAL NOTES

BENCH MARK: BM 908, Chiseled Square 25.33' Rt. C.L. Const., Sta. 120 + 09.08, Elev. 187.33
 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 in the plans Section and Subsection refer to the Standard Construction Specifications.
 DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications Fifth Edition (2010) with 2010 interim specifications.
 LIVE LOADING: HL-93
 SEISMIC ZONE: 3
 MATERIALS AND STRENGTHS:
 Class S(AE) Concrete (superstructure) f'c = 4,000 psi
 Class S Concrete (substructure) f'c = 3,500 psi
 Class S Concrete (Prestressed Girders) f'c = 6,000 psi
 Reinforcing Steel (AASHTO M 31 or M 53, Gr. 60) fy = 60,000 psi
 Structural Steel (AASHTO M 270, Gr. 36) Fy = 36,000 psi
 BORING LOGS: Boring logs may be obtained from the Programs and Contracts Division.
 PILING: Piling for Bents 1 and 6 shall be 16" concrete filled steel shell and shall be driven to a minimum ultimate bearing capacity of 208 tons per pile. Piling in Bents 2 through 5 shall be 24" concrete filled steel shell and shall be driven to a minimum ultimate bearing capacity of 422 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer. Piling in end bents shall be driven after embankment to bottom of cap is in place. All piling for Bent 1 shall have a minimum tip elevation of 102.0 or lower and all piling for Bent 6 shall have a minimum tip elevation of 90.0 or lower. All piling for Bents 2 through 5 shall have a minimum tip elevation of 102.0 or lower. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. Test piles are not required but may be driven for the Contractor's information in accordance with subsection 805.0(g). There will be no additional payment for cut-off or build-up of piles.
 DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of section 805.09(b), "Method B-Wave Equation Analysis (WEAP)" of the standard specifications. It is estimated that the minimum required rated energy of the hammer to obtain the minimum capacity on 16" dia. piles will be 45,000 foot pounds per blow, and 24" dia. piles will be 75,000 foot pounds per blow.
 JETTING: Water jetting or other methods approved by the Engineer may be needed to achieve the minimum pile penetration. Any cost associated with achieving the minimum pile penetration shall be incidental to "Steel Shell Piling".
 PILE ENCASEMENT: Pile encasement for Bents 2 through 5 shall extend 3' below the ground line and to the bottom of cap. See Drawing No. 52014 for additional information.
 BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.
 DETAIL DRAWINGS: DRAWING NO.
 End Bents 52011 & 52012
 Intermediate Bents 52013
 Concrete Filled Steel Shell Piles 52014
 310' Prestressed Conc. Girder Unit 52015 - 52020
 Elastomeric Bearings 52021
 Type Special Approach Gutters 52022
 Type Special Approach Slabs 52023
 EXISTING BRIDGE: Existing Bridge No. M0849 (LM 1.11) is 304' in length, 25.1' wide and is comprised of 16 - 19' concrete channel beam spans supported by concrete pile bents. Centerline of existing bridge is located approximately 40' downstream of the proposed roadway centerline.
 SHORING: Temporary Shoring may be required for construction and/or maintenance of traffic at Bents 1 and 6. See SP Job 110541 "Shoring".
 REMOVAL AND SALVAGE: After the new bridge is open to traffic, existing Bridge No. M0849 shall be removed in accordance with Section 205 of the Standard Specifications. The removal of any abandoned utility lines on or under the existing bridge shall be considered included in the price paid for "Removal of Existing Bridge Structure (Site. No.1)". All material from the existing bridge shall become the property of the Contractor.
 MAINTENANCE OF TRAFFIC: See Roadway Plans.

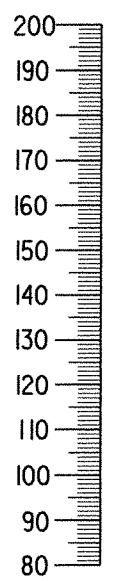
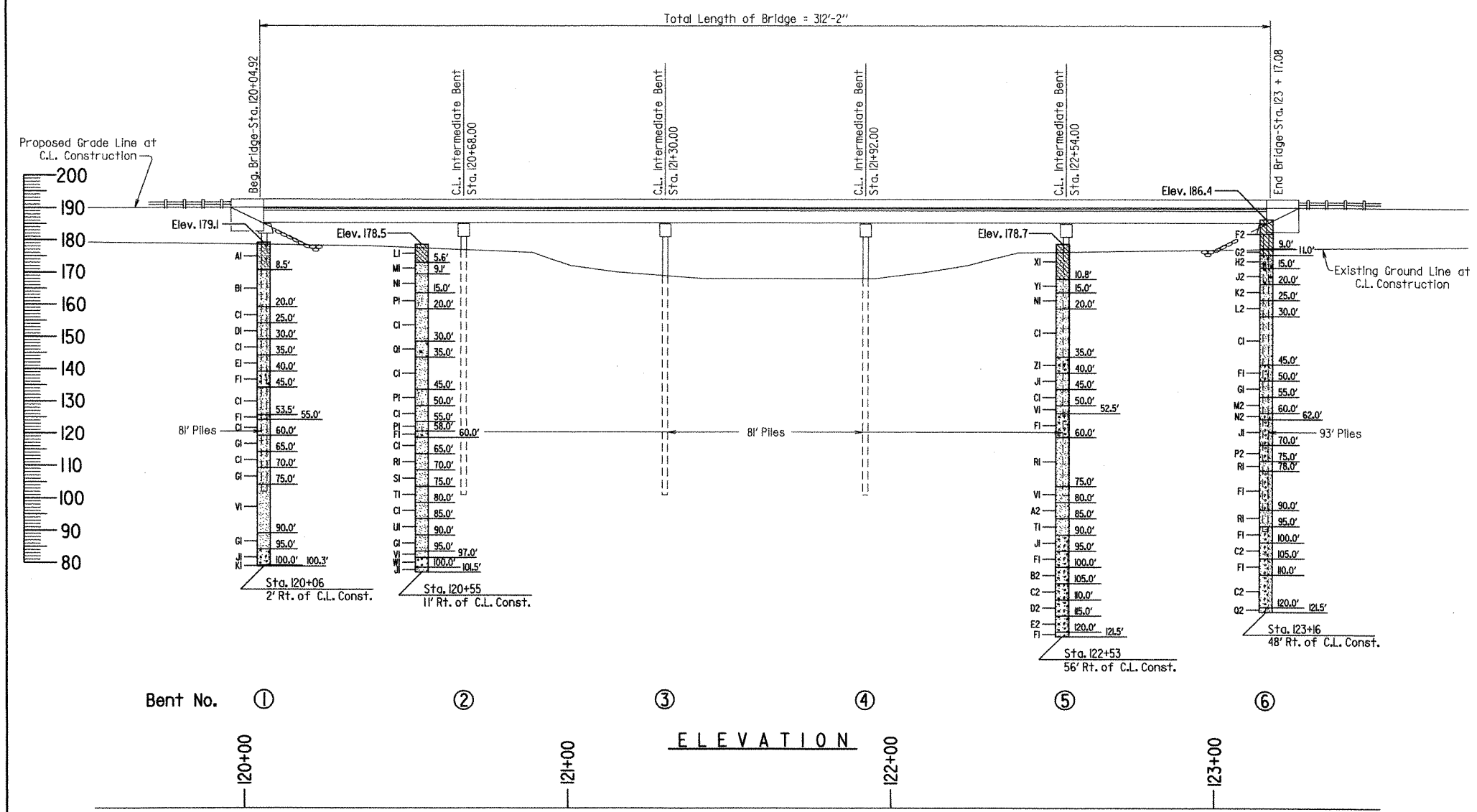


Notes: For Soil Borings, see Dwg. No. 52010.

LAYOUT OF BRIDGE OVER BAYOU DEVIEU
 BAYOU DEVIEU STR. & APPRS. (S)
 WOODRUFF COUNTY
 ROUTE 38 SEC. 3
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 08-26-10 FILENAME: B10541X1.LLDGN
 CHECKED BY: JGT DATE: 4-15-11 SCALE: 1" = 20'-0"
 DESIGNED BY: DBJ DATE: 02/17/10
 BRIDGE NO. 07217 DRAWING NO. 52009

DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110541	36	85
				07217	LAYOUT			52010



BORING LEGEND

- A1-Moist, Loose, Brown Sand with Clay
- B1-Wet, Loose, Gray Sand with some Organic Matter
- C1-Wet, Medium Dense, Gray Sand
- D1-Wet, Medium Dense, Gray Sand with Trace of Organic Matter
- E1-Wet, Loose, Gray Sand
- F1-Wet, Medium Dense, Gray Sand with Gravel
- G1-Wet, Medium Dense, Gray Sand with Trace of Gravel
- H1-Wet, Medium Dense, Gray Sand with Trace of Gravel
- J1-Wet, Dense, Gray Sand with Gravel
- K1-Wet, Very Dense, Gray Sand with Cemented Sand Seams
- L1-Moist, Very Loose, Gray and Brown Sandy Clay
- M1-Wet, Very Loose, Gray Sand
- N1-Wet, Loose, Gray Sand
- P1-Wet, Medium Dense, Gray Sand with Silt
- Q1-Wet, Medium Dense, Gray Sand with Organic Matter
- R1-Wet, Medium Dense, Gray Sand with some Gravel
- S1-Wet, Medium Dense, Gray Sand with some Gravel and Organic Matter
- T1-Wet, Dense, Gray Sand
- U1-Wet, Medium Dense, Gray Sand with Trace of Gravel and Organic Matter
- V1-Wet, Dense, Gray Sand with some Gravel
- W1-Gravel
- X1-Moist, Soft, Gray and Brown Clay with Sand and some Organic Matter
- Y1-Moist to Wet, Very Loose, Gray Sand with some Organic Matter
- Z1-Wet, Medium Dense, Gray Sand with Gravel and some Cemented Sand Seams
- A2-Wet, Dense, Gray Sand with Trace of Gravel
- B2-Wet, Medium Dense, Gray Sand with Gravel and Cemented Sand Seams
- C2-Wet, Very Dense, Gray Sand with Gravel
- D2-Wet, Medium Dense, Gray Gravel with Sand and Trace of Cemented Sand
- E2-Wet, Dense, Gray Gravel with Sand
- F2-Moist, Medium Stiff, Gray and Brown Clay with some Organic Matter
- G2-Moist, Medium Stiff, Gray Clay
- H2-Moist, Loose, Gray Sand with Clay and Organic Matter (Wood)
- J2-Wet, Medium Dense, Gray Silty Sand with Organic Matter (Wood)
- K2-Wet, Loose, Gray Sand with some Organic Matter
- L2-Wet, Medium Dense, Gray Sand with some Organic Matter
- M2-Wet, Medium Dense, Gray Sand with some Gravel and Clay
- N2-Wet, Medium Dense, Gray Sand with Gravel and Organic Matter
- P2-Wet, Medium Dense, Gray Sand with Gravel
- Q2-Wet, Very Dense, Gray Silty Sand with Gravel

Bent No. ① ② ③ ④ ⑤ ⑥

120+00 121+00 122+00 123+00

ELEVATION

"N" VALUES

Sta. 120+06 - 2' Rt. of C.L. Const.

4.0- 5.0, N=6
9.0- 10.0, N=9
15.5- 16.5, N=8
20.5- 21.5, N=24
25.5- 26.5, N=18
30.5- 31.5, N=24
35.5- 36.5, N=8
40.5- 41.5, N=12
45.5- 46.5, N=18
50.5- 51.5, N=19
55.5- 56.5, N=17
60.5- 61.5, N=26
65.5- 66.5, N=25
70.5- 71.5, N=19
75.5- 76.5, N=38
80.5- 81.5, N=33
85.5- 86.5, N=33
90.5- 91.5, N=28
95.5- 96.5, N=33
100.0-100.2, N=60(3')

Sta. 120+55 - 11' Rt. of C.L. Const.

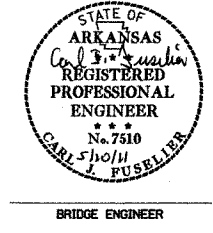
4.6- 5.6, N=4
9.6- 10.6, N=5
15.5- 16.5, N=15
20.5- 21.5, N=22
25.5- 26.5, N=28
30.5- 31.5, N=13
35.5- 36.5, N=19
40.5- 41.5, N=13
45.5- 46.5, N=24
50.5- 51.5, N=19
55.5- 56.5, N=14
60.5- 61.5, N=20
65.5- 66.5, N=17
70.5- 71.5, N=22
75.5- 76.5, N=35
80.5- 81.5, N=25
85.5- 86.5, N=40
90.5- 91.5, N=25
95.5- 96.5, N=31
100.5-101.5, N=39

Sta. 122+53 - 56' Rt. of C.L. Const.

4.8- 5.8, N=3
11.3- 12.3, N=4
15.5- 16.5, N=9
20.5- 21.5, N=14
25.5- 26.5, N=16
30.5- 31.5, N=15
35.5- 36.5, N=15
40.5- 41.5, N=38
45.5- 46.5, N=22
50.5- 51.5, N=38
55.5- 56.5, N=17
60.5- 61.5, N=18
65.5- 66.5, N=25
70.5- 71.5, N=25
75.5- 76.5, N=33
80.5- 81.5, N=42
85.5- 86.5, N=38
90.5- 91.5, N=50
95.5- 96.5, N=17
100.5-101.5, N=27
105.5-106.5, N=92
110.5-111.5, N=30
115.5-116.5, N=32
120.5-121.5, N=25

Sta. 123+16 - 48' Rt. of C.L. Const.

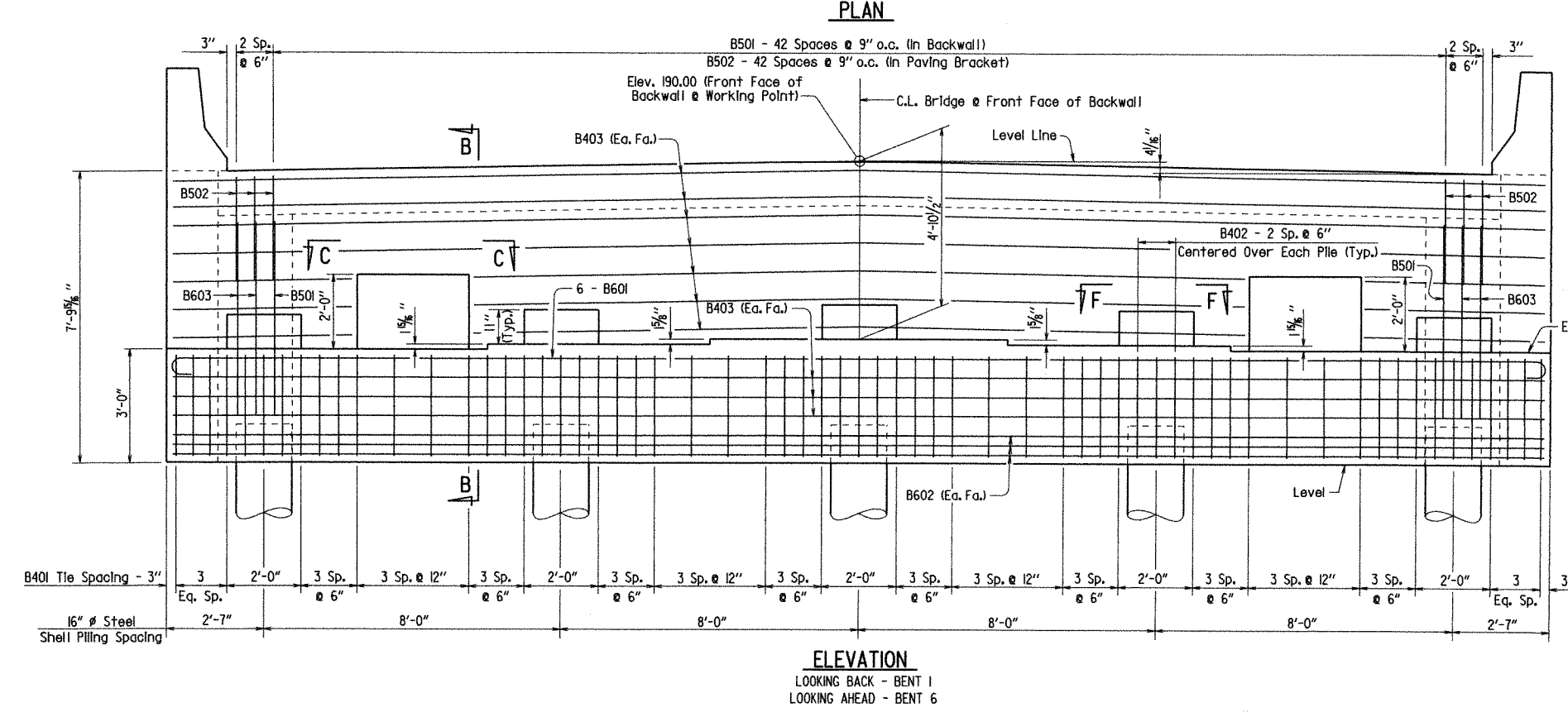
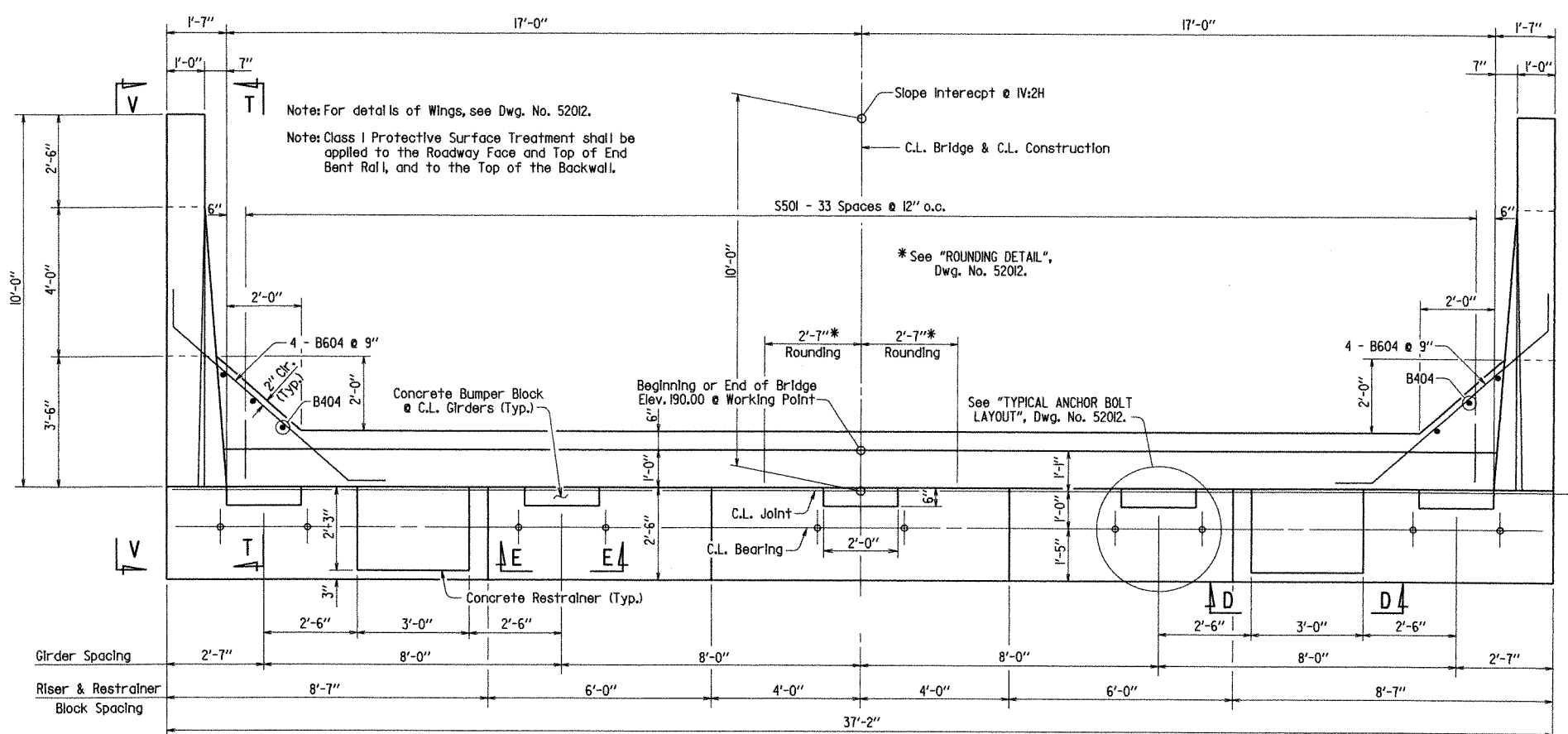
4.5- 5.5, N=6
11.5- 12.5, N=7
15.5- 16.5, N=13
20.5- 21.5, N=10
25.5- 26.5, N=21
30.5- 31.5, N=23
35.5- 36.5, N=18
40.5- 41.5, N=18
45.5- 46.5, N=21
50.5- 51.5, N=17
55.5- 56.5, N=17
60.5- 61.5, N=15
65.5- 66.5, N=47
70.5- 71.5, N=29
75.5- 76.5, N=17
80.5- 81.5, N=19
85.5- 86.5, N=23
90.5- 91.5, N=29
95.5- 96.5, N=30
100.5-101.5, N=59
105.5-106.5, N=13
110.5-111.1, N=98(7')
115.5-116.5, N=60
120.5-121.5, N=79



SOIL BORINGS
ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

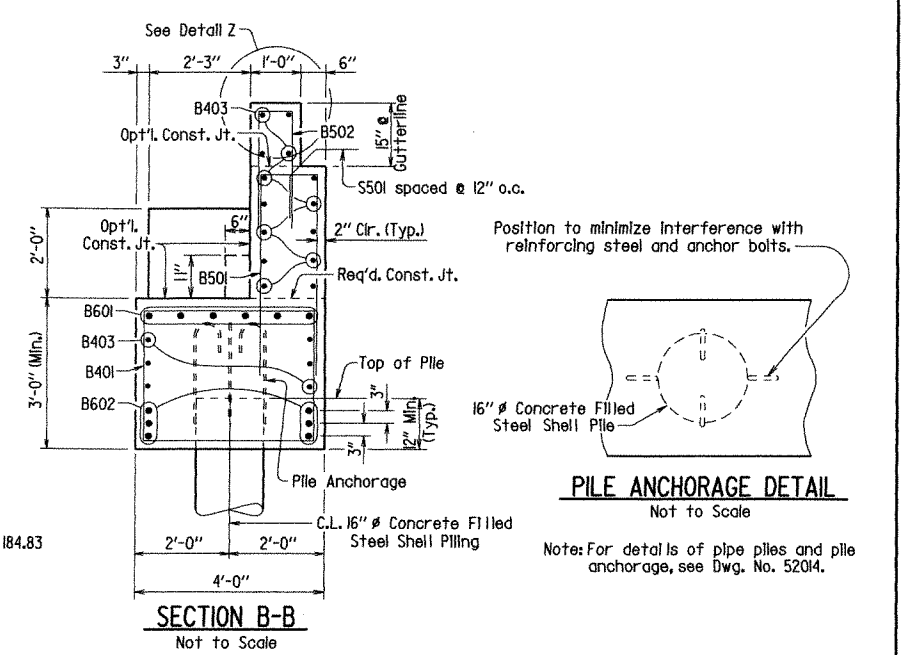
DRAWN BY: MJT DATE: 08-26-10 FILENAME: B10541X1.LLDGN
 CHECKED BY: JGT DATE: 9-15-11 SCALE: 1" = 20'-0"
 DESIGNED BY: DBS DATE: 08/17/10
 BRIDGE NO. 07217 DRAWING NO. 52010

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.	110541		37	85
				07217	END BENTS		52011	

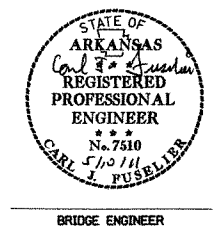


BAR LIST PER END BENT

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
B401	48	13'-0"	2"	
B402	15	8'-10"	2"	
B403	20	36'-8"	Str.	
B404	6	6'-2"	Str.	
B405	8	9'-8"	2"	
B406	25	1'-8"	Str.	
B501	43	10'-4"	2 1/2"	
B502	47	5'-6"	2 1/2"	
B601	6	38'-2"	4 1/2"	
B602	6	36'-10"	Str.	
B603	4	10'-8"	4 1/2"	
B604	8	8'-0"	4 1/2"	
B701	24	3'-10"	5 1/4"	
S501	34	3'-7"	2 1/2"	



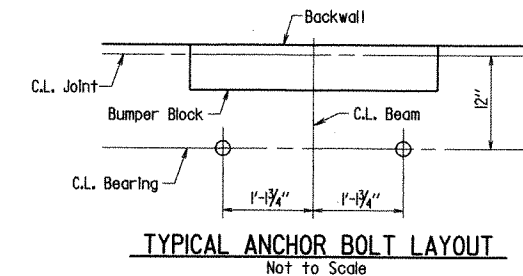
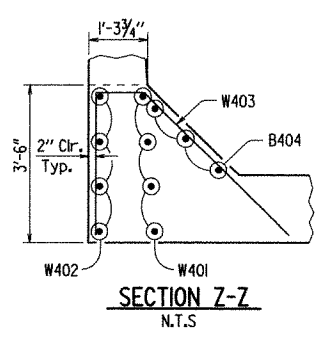
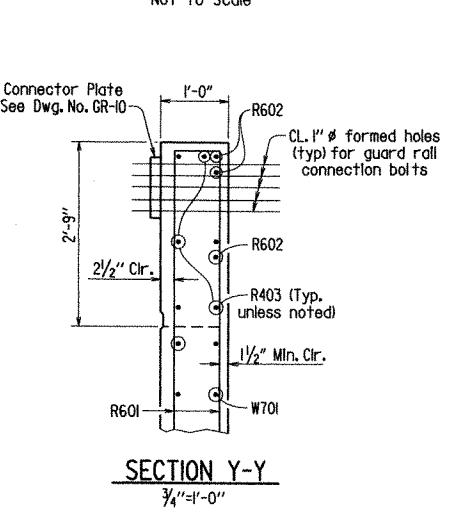
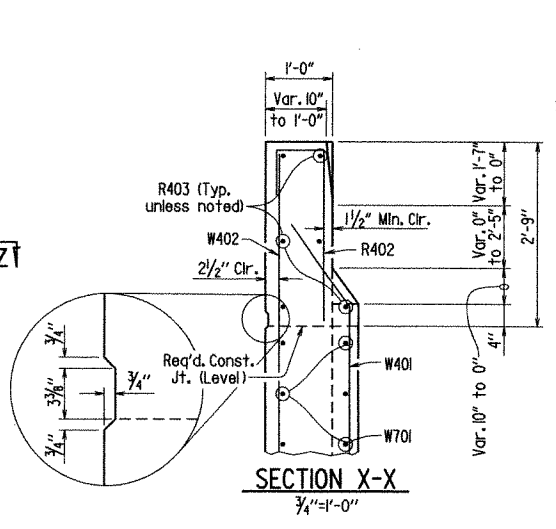
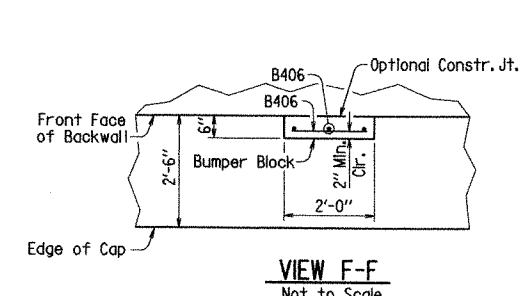
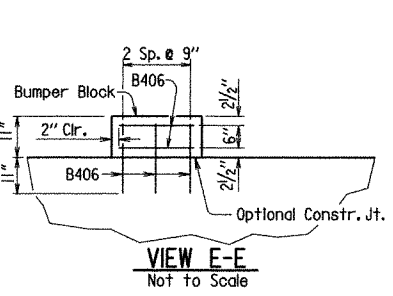
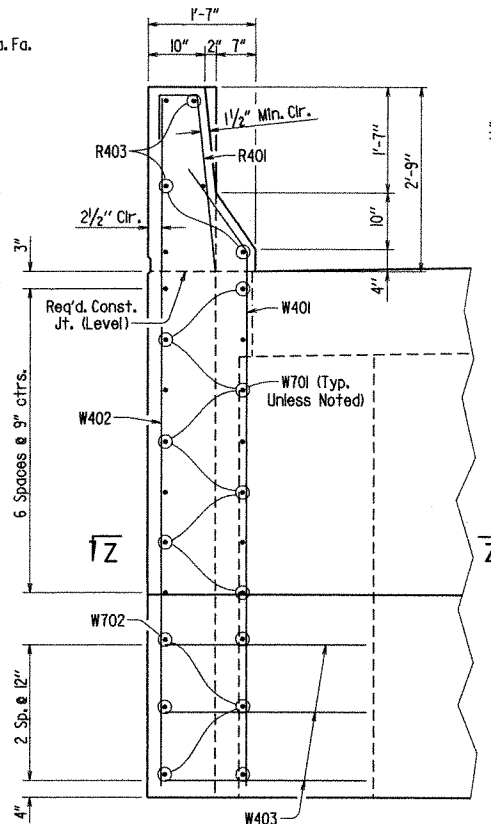
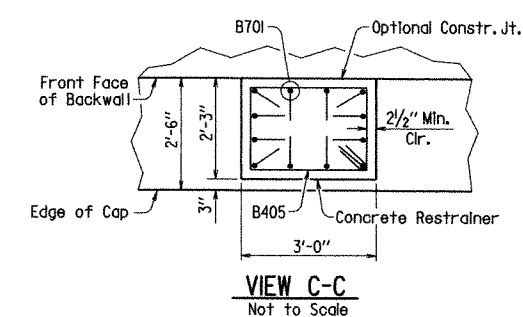
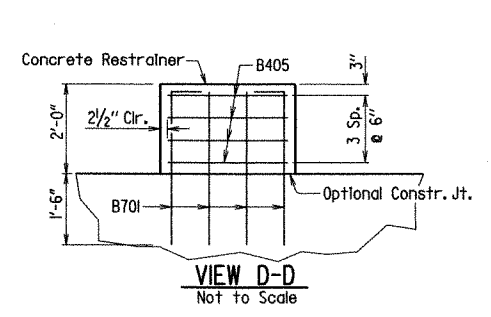
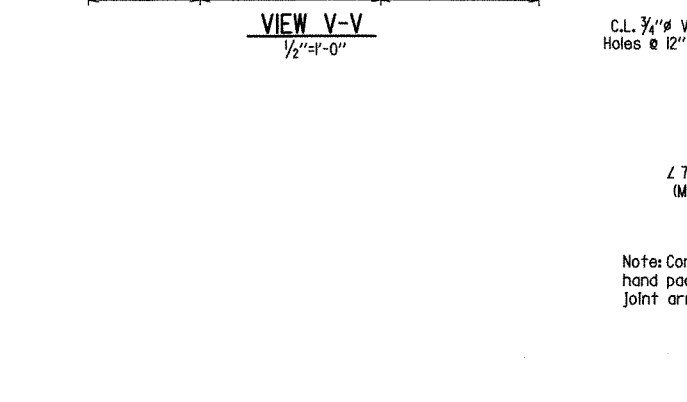
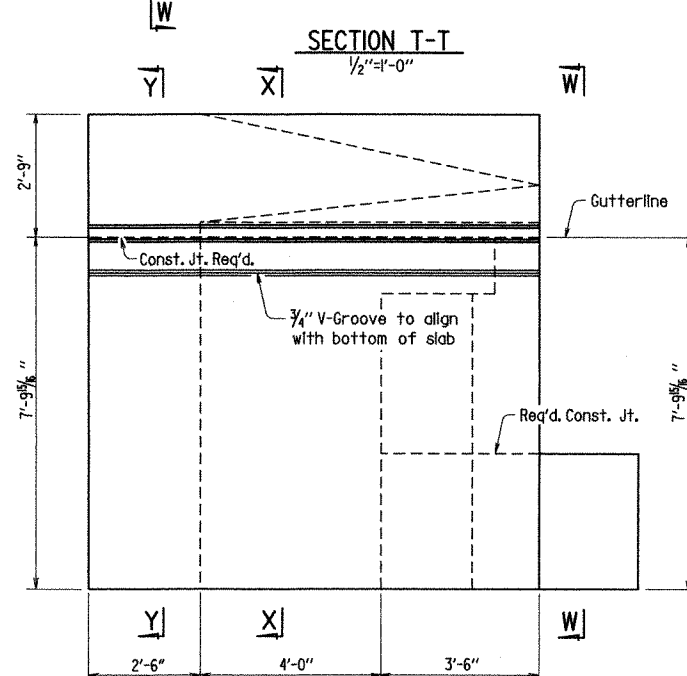
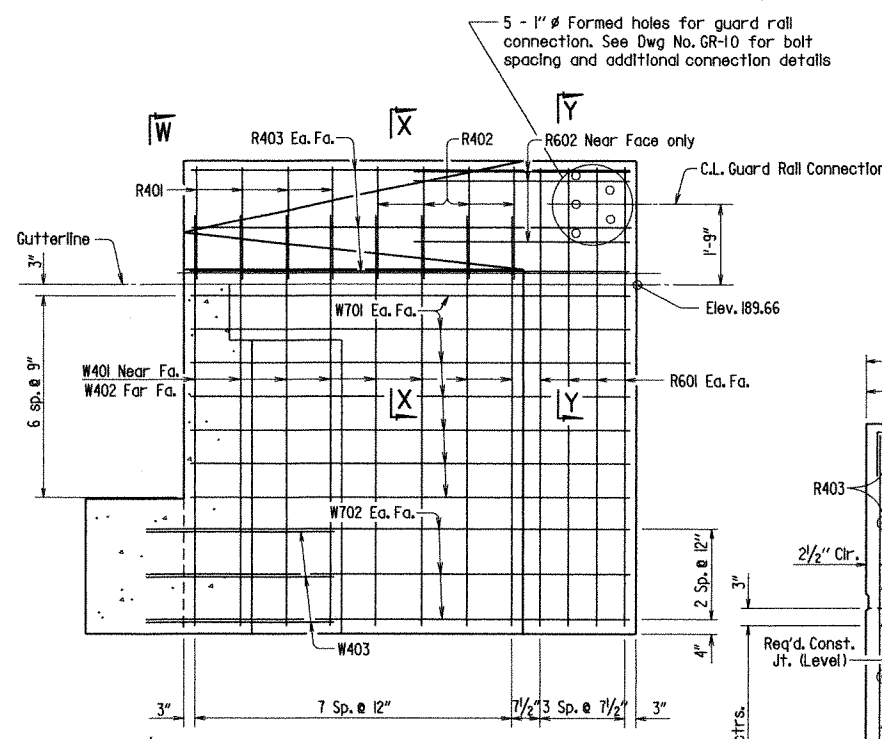
Note: For "VIEW C-C", "VIEW D-D", "VIEW E-E" and "VIEW F-F", see Dwg. No. 52012.



SHEET 1 OF 2
 DETAILS OF END BENTS
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 03/09/11 FILENAME: B10541X1.B2.DGN
 CHECKED BY: BEF DATE: 4/6/11 SCALE: 1/2" = 1'-0"
 DESIGNED BY: DBS DATE: 03/11 OR AS NOTED
 BRIDGE NO. 07217 DRAWING NO. 52011

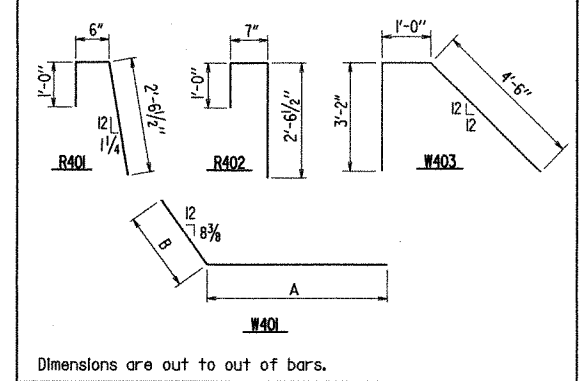
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		38	85
				JOB NO.	110541		38	85
				07217	END BENTS		52012	



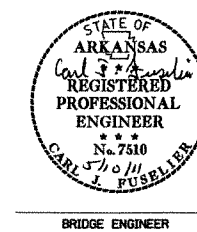
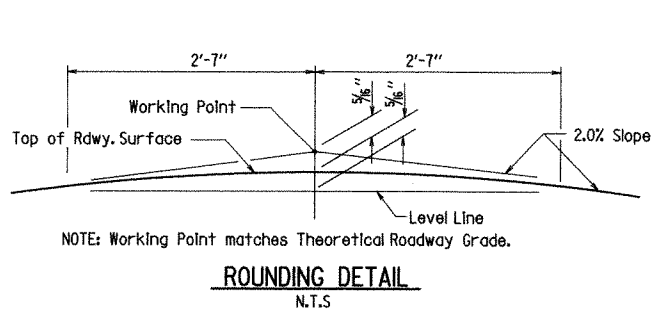
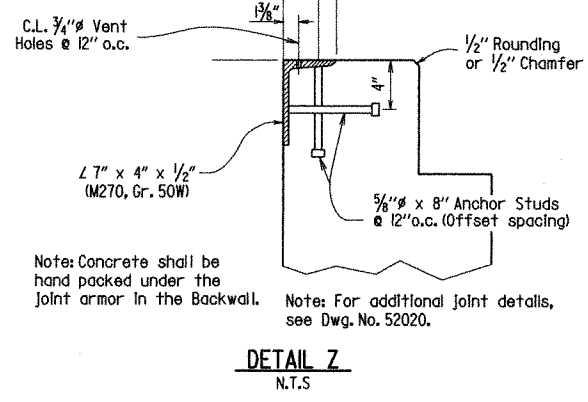
BAR LIST OF WINGS & RAILS PER END BENT

MARK	NO. REQ'D.	LENGTH	A	B	PIN DIA.
R401	8	3'-11"	—	—	2"
R402	8	4'-0"	—	—	2"
R403	12	9'-8"	—	—	Str.
R601	16	10'-2"	—	—	Str.
R602	6	5'-0"	—	—	Str.
W401	16	9'-4"	7'-10"	1'-6"	2"
W402	16	10'-2"	—	—	Str.
W403	6	8'-6"	—	—	2"
W701	28	9'-8"	—	—	Str.
W702	12	11'-6"	—	—	Str.

BENDING DIAGRAMS

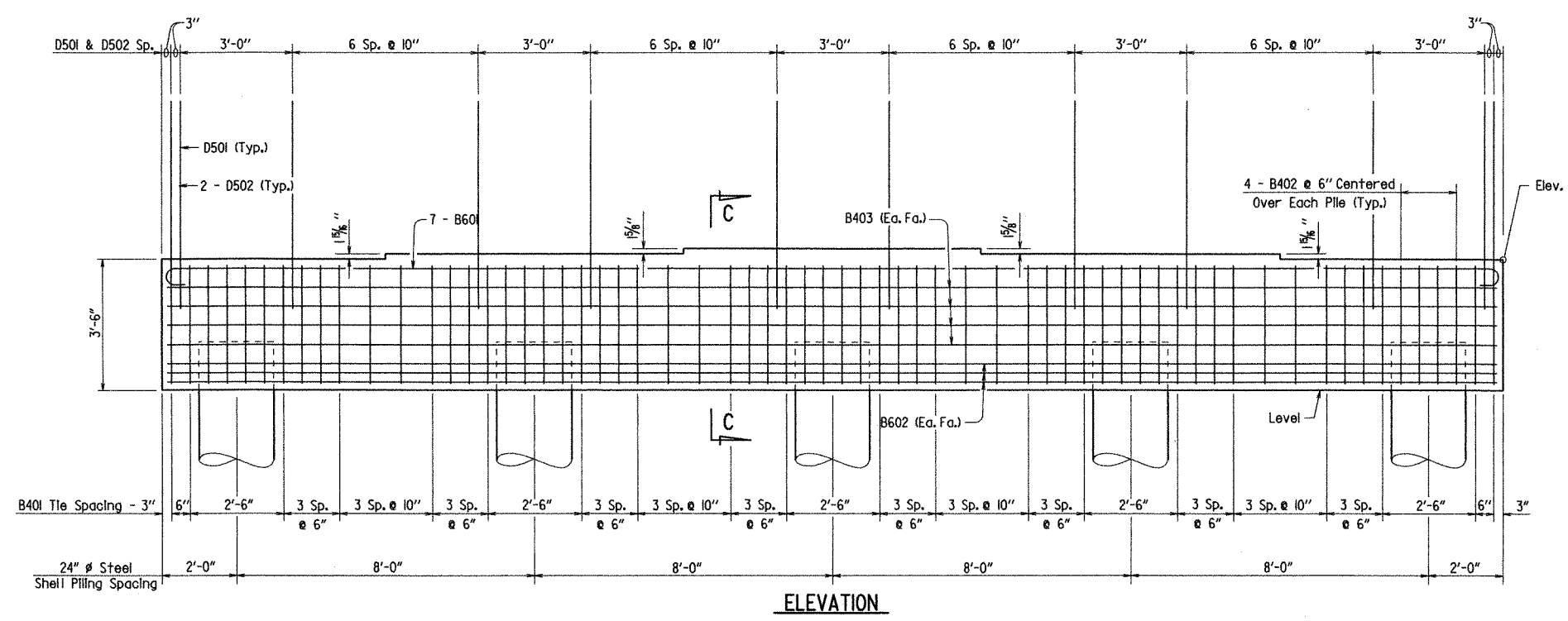
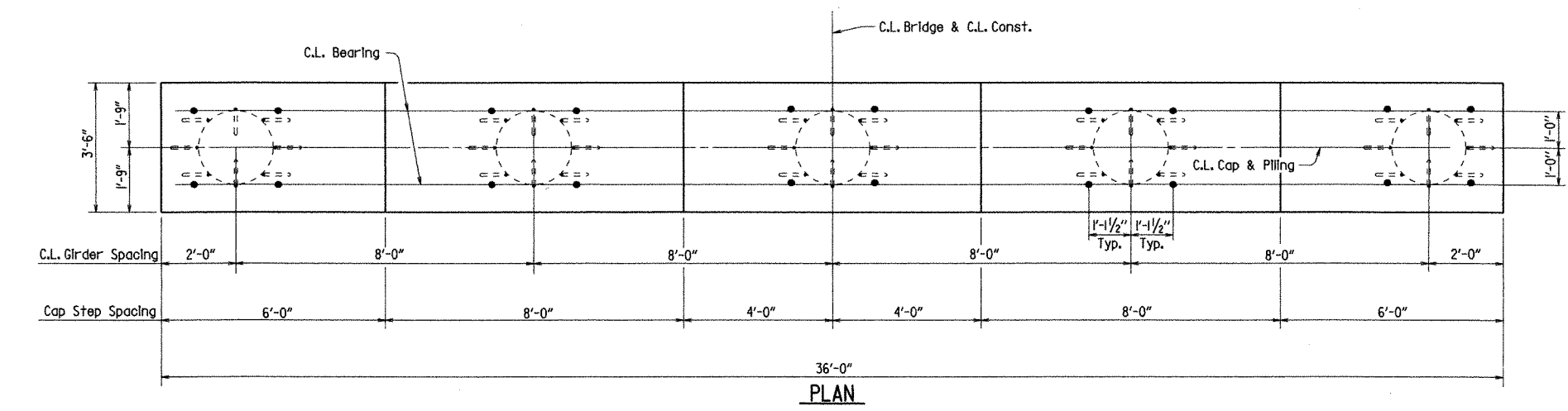


General Notes:
 All concrete shall be Class "S" with 28-Day Compressive strength $f'c = 3500$ psi. Concrete shall be poured in the dry and all exposed corners to be chamfered $3/4"$ unless otherwise noted.
 All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (Yield Strength = 60,000 psi).
 Structural Steel in End Bents shall be AASHTO M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Girder Spans (M270, Gr. 50W)".
 No Portion of the Backwall shall be poured before girders are in place. The portion of the backwall above the optional construction joint shall not be placed until the adjacent deck pour has been made. See Expansion Device Installation on Dwg. No. 52020 for additional information.
 If anchor bolts are drilled into cap, top reinforcing bars shall be placed to avoid damage.
 For additional information, see layout.



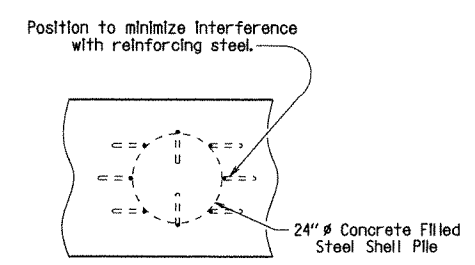
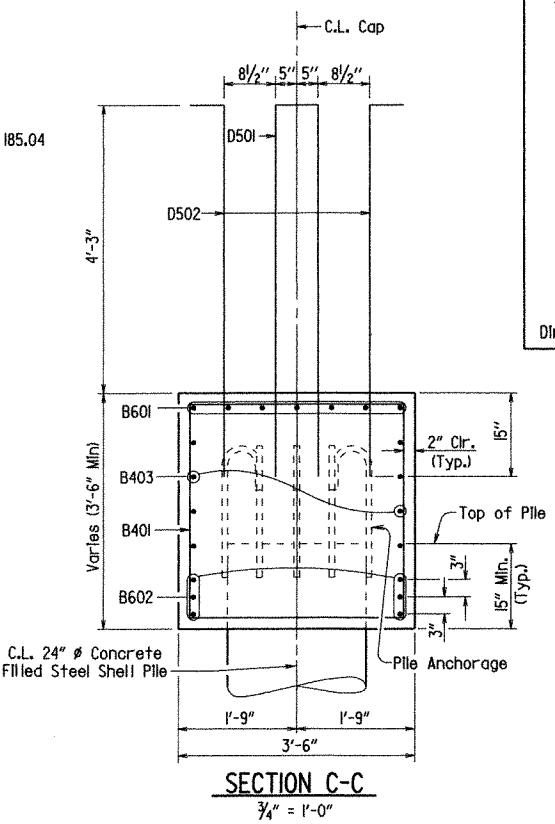
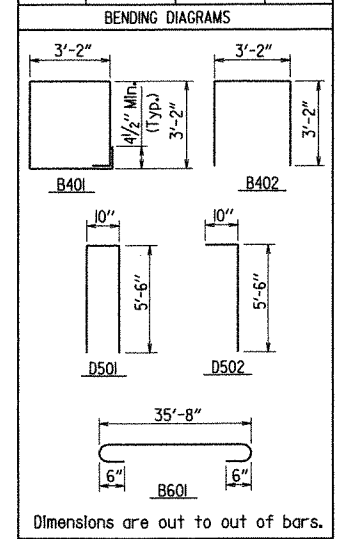
SHEET 2 OF 2
DETAILS OF END BENTS
ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 DRAWN BY: MJT DATE: 03/09/11 FILENAME: BH0541L.B2.DGN
 CHECKED BY: REF DATE: 4/16/11 SCALE: 3/8" = 1'-0"
 DESIGNED BY: DBS DATE: 03/11 OR AS NOTED
 BRIDGE NO. 07217 DRAWING NO. 52012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				X	ARK.			
				JOB NO.		110541	3A	85
				07217	INT. BENTS		52013	



BAR LIST (PER BENT)

MARK	NO. REQ'D.	LENGTH	P.D.
B401	44	13'-0"	2"
B402	20	9'-4"	2"
B403	8	35'-8"	Str.
B601	7	37'-0"	4 1/2"
B602	6	35'-8"	Str.
D501	32	11'-8"	3 3/4"
D502	64	6'-3"	3 3/4"



PILE ANCHORAGE DETAIL
Not to Scale

GENERAL NOTES

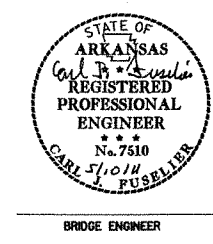
All concrete shall be Class "S" with a minimum 28 day compressive strength $f'_c = 3,500$ psi. Concrete shall be poured in the dry and all exposed corners to be chamfered $3/4"$ unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.).

For details of pipe piles, pile anchorage, & pile encasement, see Dwg. No. 5204.

For additional information, see layout.

For details of Elastomeric Bearings, see Dwg. No. 52021.

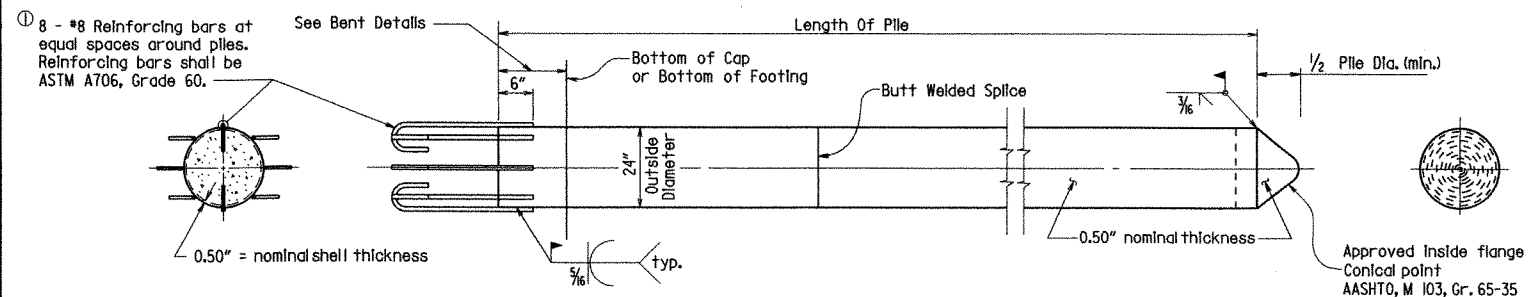


DETAILS OF INTERMEDIATE BENTS
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 01/07/11 FILENAME: B110541X1.B2.DGN
 CHECKED BY: BEF DATE: 4/14/11 SCALE: 1/2" = 1'-0" OR
 DESIGNED BY: DBJ DATE: 03/11 AS NOTED

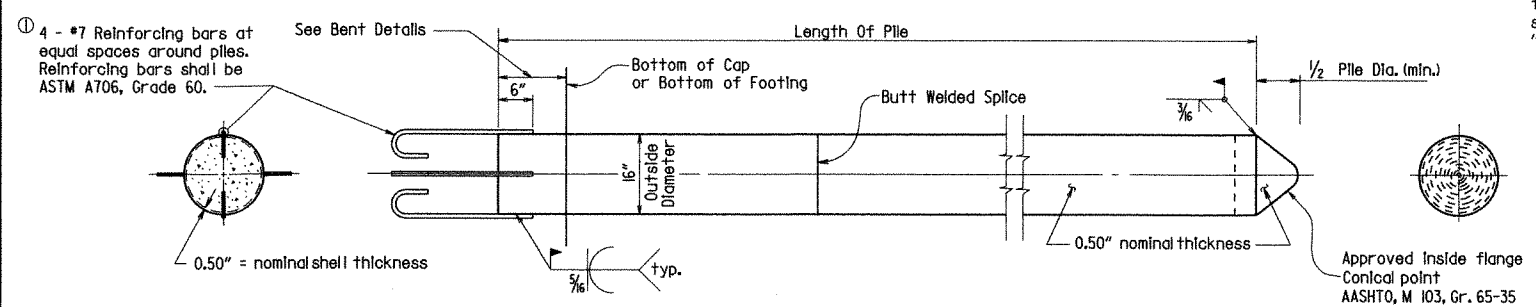
BRIDGE NO. 07217 DRAWING NO. 52013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		40	85
				JOB NO.	110541		40	85
				07217	PILE DETAILS		52014	



① Anchorage straps shall be arranged so as to clear Anchor Bolts and reinforcing

24" DIA. CONCRETE FILLED STEEL SHELL PILES



16" DIA. CONCRETE FILLED STEEL SHELL PILES

Note:
Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling"

GENERAL NOTES FOR CONCRETE FILLED STEEL SHELL PILES

Steel shells shall conform to ASTM A252, Grade 3, (F_y = 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.

See bridge layout for size and length of shell piles and for additional driving information.

Concrete, structural steel and reinforcing bars, including welding, will not be paid for directly, but will be considered as part of the corresponding items "Steel Shell Piling ("D" Dia.)"

GENERAL NOTES FOR PILE ENCASEMENTS

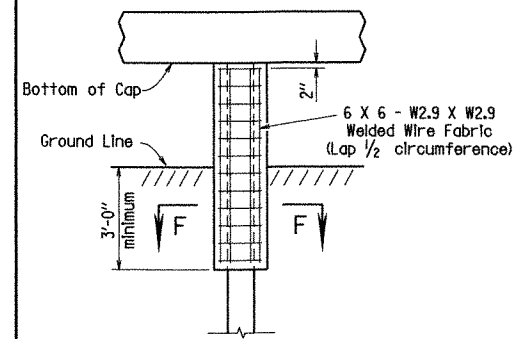
See bridge layouts for required location of encasements.

Concrete shall have a minimum 28 day compressive strength, f'_c = 3,500 psi. If concrete cannot be placed in the dry, Class S concrete may be used as Seal Concrete and placed continuously from bottom to top of encasement.

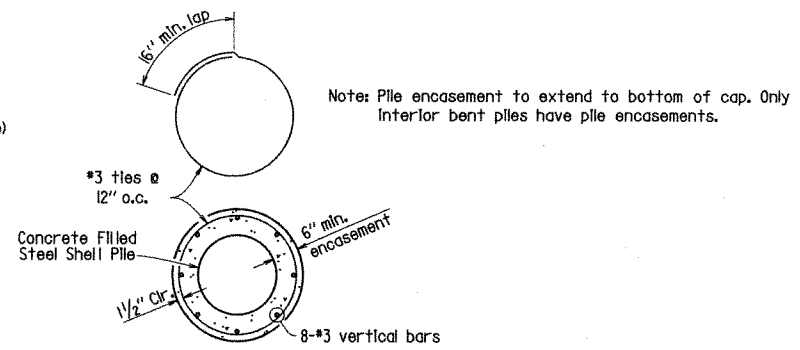
Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60.

Concrete, welded wire fabric or reinforcing steel will not be paid for directly, but will be considered as part of the item "Pile Encasements".

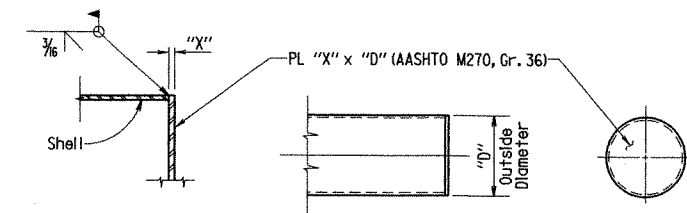
Galvanized corrugated steel pipe will not be allowed for pile encasement.



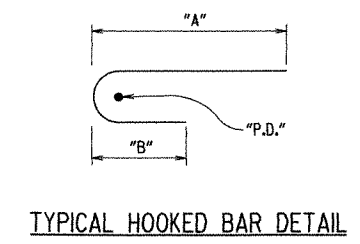
PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES



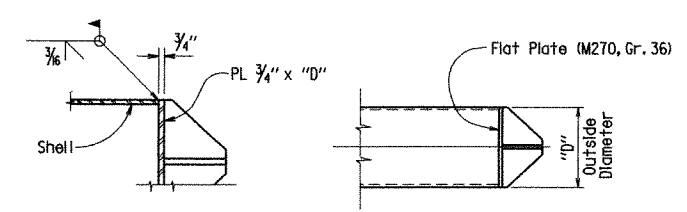
SECTION F-F



ALTERNATE FLAT TIP DETAIL

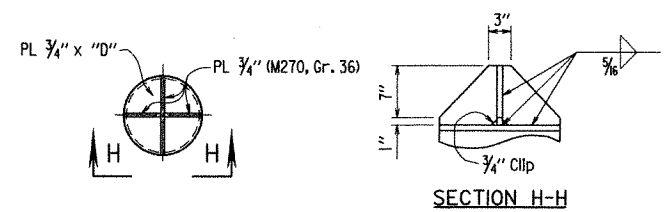


TYPICAL HOOKED BAR DETAIL



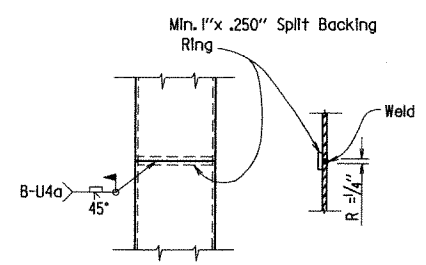
PART SECTION

ELEVATIONS



SECTION H-H

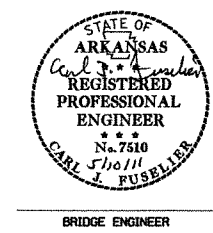
ALTERNATE VANED TIP DETAIL



TYPICAL SPLICE DETAILS

TABLE FOR SHELL PILES

OUTSIDE DIAMETER "D"	"P.D."	"A"	"B"	"X"
16"	5 1/4"	2'-0"	7"	1"
24"	6"	2'-3"	8"	1 3/4"



DETAILS OF CONCRETE FILLED STEEL SHELL PILES

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

DRAWN BY: BEF DATE: 3/31/11 FILENAME: B10541-PI.DGN
 CHECKED BY: JGT DATE: 4/1/11 SCALE: None
 DESIGNED BY: STB DATE: 3/31/11
 BRIDGE NO. 07217 DRAWING NO. 52014

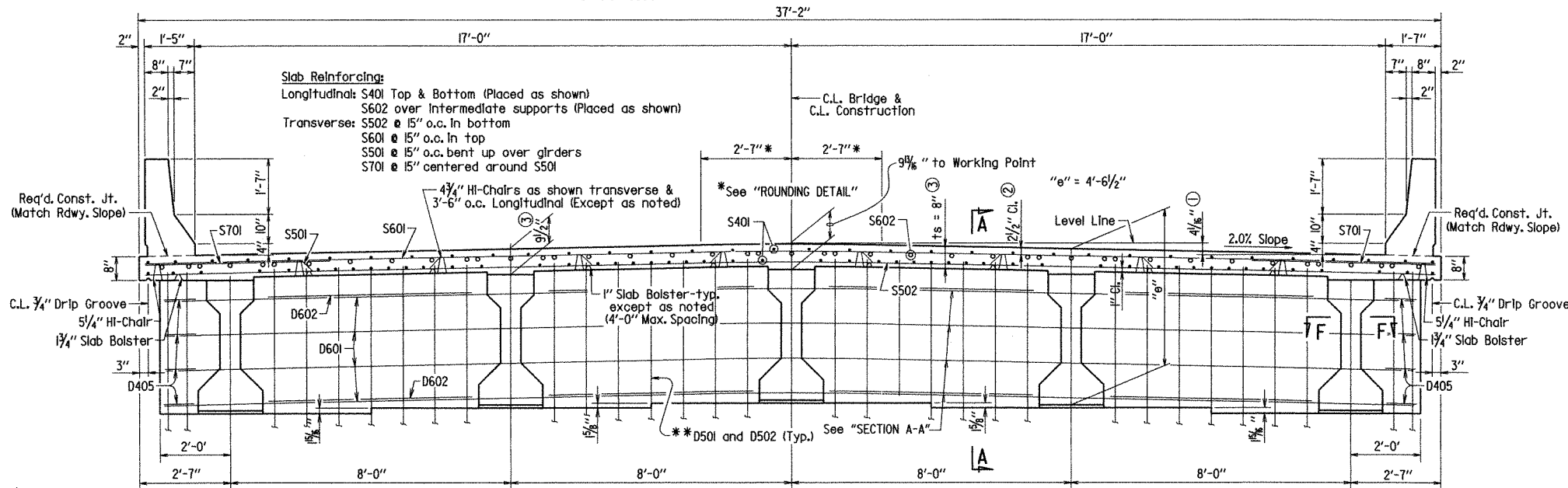
BRIDGE ENGINEER

Note: Class I Protective Surface Treatment shall be applied to the Roadway Surface and to the Roadway Face and Top of the Concrete Parapet Rail.

Note: At Contractor's option, in lieu of providing Bar S501 two straight #5 bars may be substituted. Payment for Reinforcing will be based on the Weight of bar S501.

Note: The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class I(AE) Concrete.

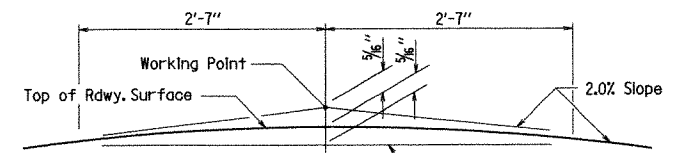
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110541	41	85
						07217	SPAN DETAILS	52015



*** TYPICAL SECTION AT INTERMEDIATE BENTS**

- ① Working Point to Gutterline
- ② Tolerance: Minus = 1/4" Plus = Equal to amount of slab thickening used to meet slab thickness tolerance - see "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".
- ③ See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".

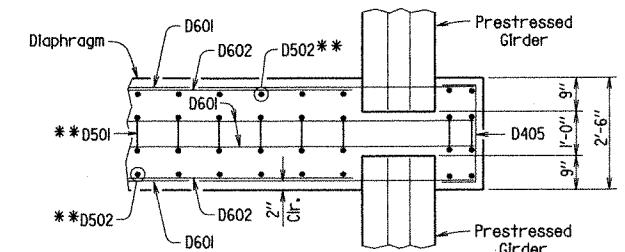
Note: 1/2" polystyrene shall be used as a bond breaker between the concrete restrainer and the concrete diaphragm and may remain in place. Polystyrene shall not be paid for directly but shall be considered subsidiary to the item "Class S Concrete Bridge".



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

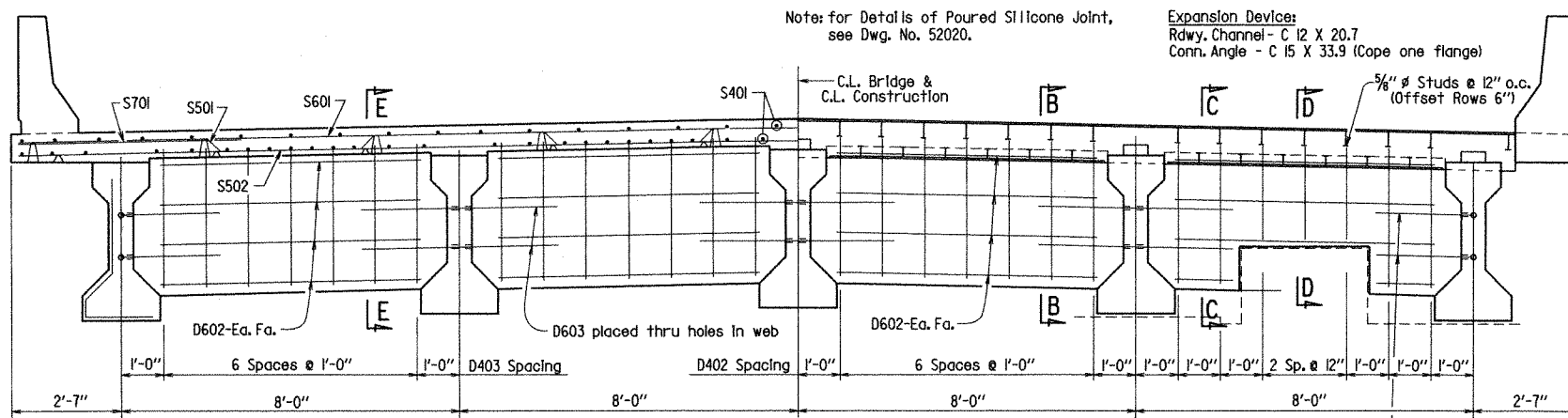
No Scale



SECTION F-F

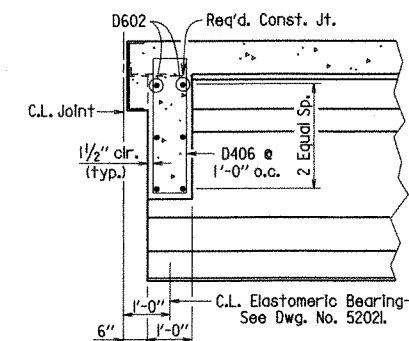
1/2" = 1'-0"

** See Intermediate Bent Dwg. No. 52013 for additional details.



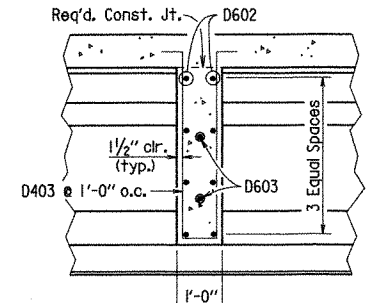
HALF-SECTION AT MIDSPAN

HALF-SECTION AT ENDS OF UNIT



SECTION D-D

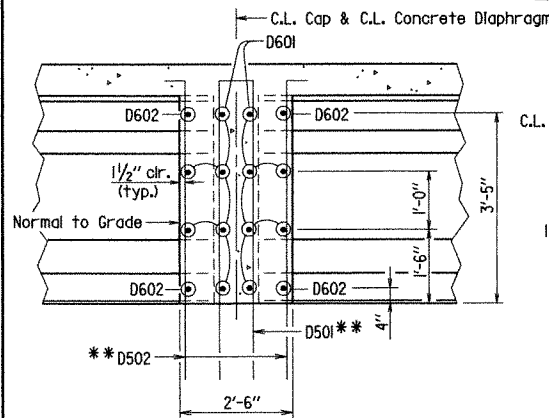
End of Unit Diaphragm
1/2" = 1'-0"



SECTION E-E

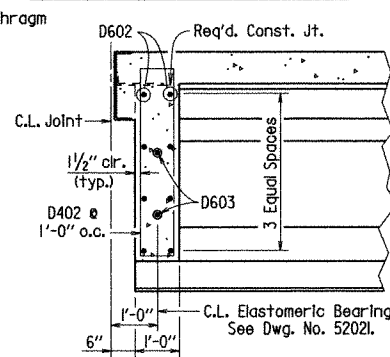
Midspan Diaphragms
1/2" = 1'-0"

Note: See "DETAIL OF ALTERNATE MIDSPAN DIAPHRAGM", Dwg. No. 52017.



SECTION A-A

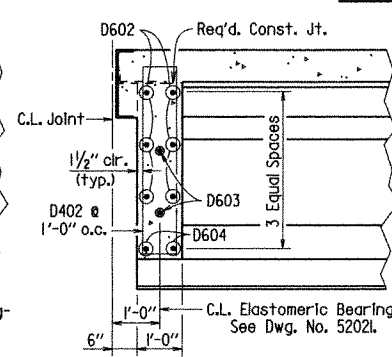
Bent Diaphragm
1/2" = 1'-0"



SECTION B-B

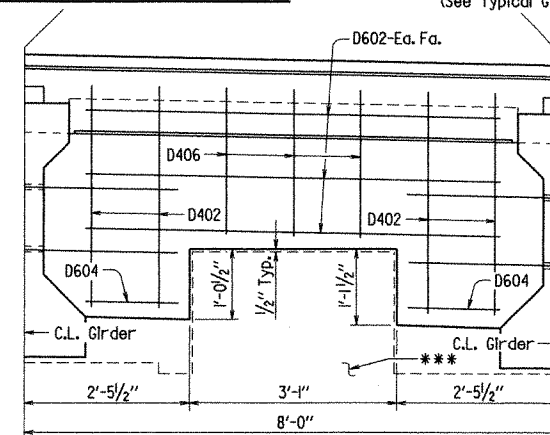
End of Unit Diaphragm
1/2" = 1'-0"

Note: All diaphragms shall be formed normal to Deck Grade at C.L. Bridge.



SECTION C-C

End of Unit Diaphragm
1/2" = 1'-0"



ENLARGED VIEW

④ Galvanized Threaded Inserts & 3/4" x 3'-0" Threaded Rods @ Exterior Girders (See Typical Girder Elevations on Dwg. No. 52016 for number and location).

④ Note: Galvanized Threaded Inserts shall be Dayton-Richmond F-42 Loop Ferule Inserts or approved equal. 3/4" Galvanized Threaded Rods shall be AASHTO M 270, Grade 36 or AASHTO M 31 or M 53, Grade 60. Galvanizing shall be in accordance with AASHTO M 232, Class C or AASHTO M 298, Class 50. These items will not be paid for directly, but shall be considered subsidiary to the item "Prestressed Concrete Girders (Type III)".

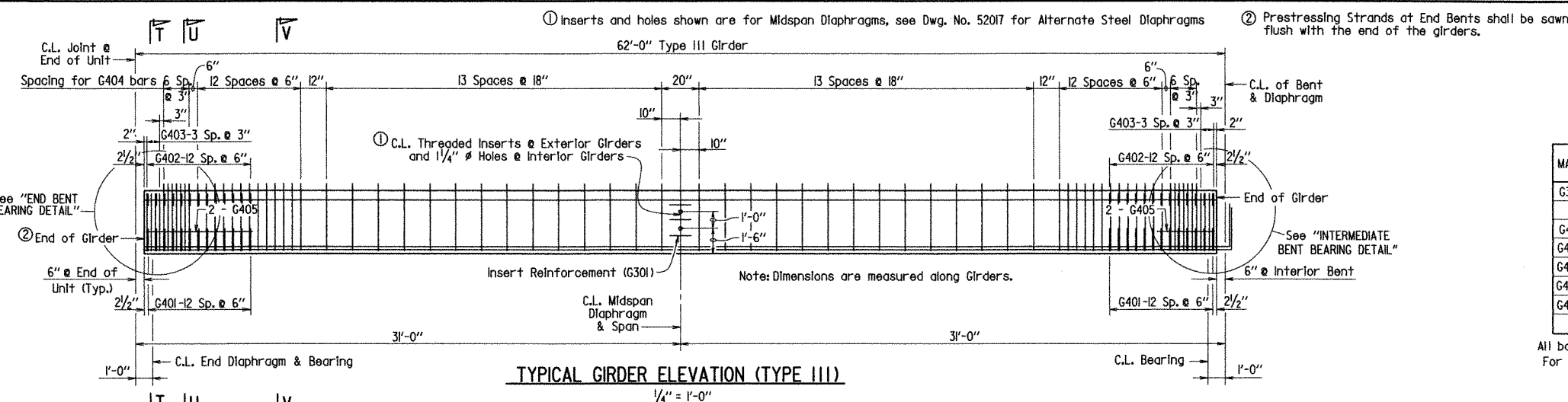
*** Concrete Restrainer (See End Bent Detail, Dwg. No. 52011 & 52012)



BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: MJT DATE: 12-09-10 FILENAME: B110541X1.SLDGN
CHECKED BY: BEF DATE: 4/6/11 SCALE: 3/8" = 1'-0" UNLESS
DESIGNED BY: DBS DATE: 03/11 NOTED OTHERWISE
BRIDGE NO. 07217 DRAWING NO. 52015

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		42	85
				JOB NO.	110541		42	85
				07217 SPAN DETAILS		52016		



BAR LIST PER GIRDER

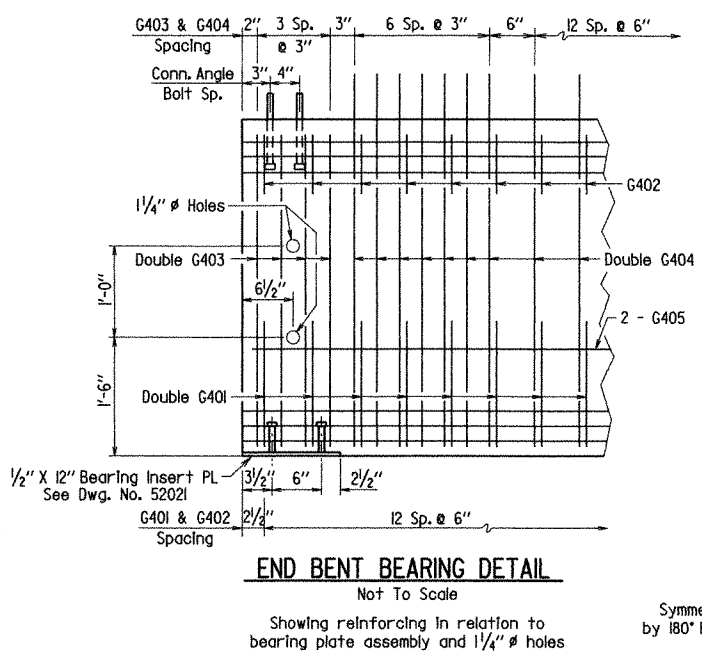
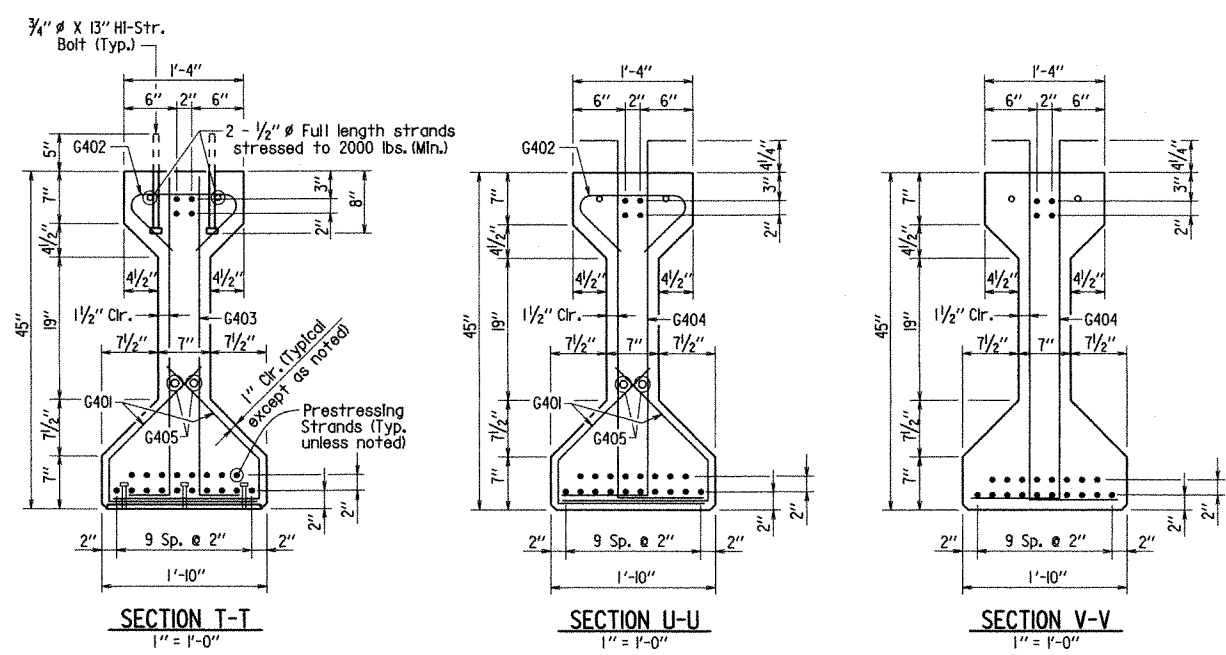
MARK	NO. REQ'D.	LENGTH	P. D.	BENDING DIAGRAMS
G301	6	1'-3"	Str.	
G401	52	3'-4"	2"	
G402	26	2'-9"	3"	
G403	16	3'-10"	2"	
G404	136	5'-5"	2"	
G405	4	6'-3"	Str.	

Dimensions are out to out of bars.

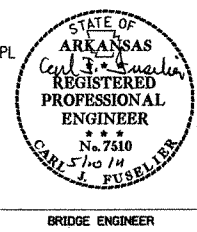
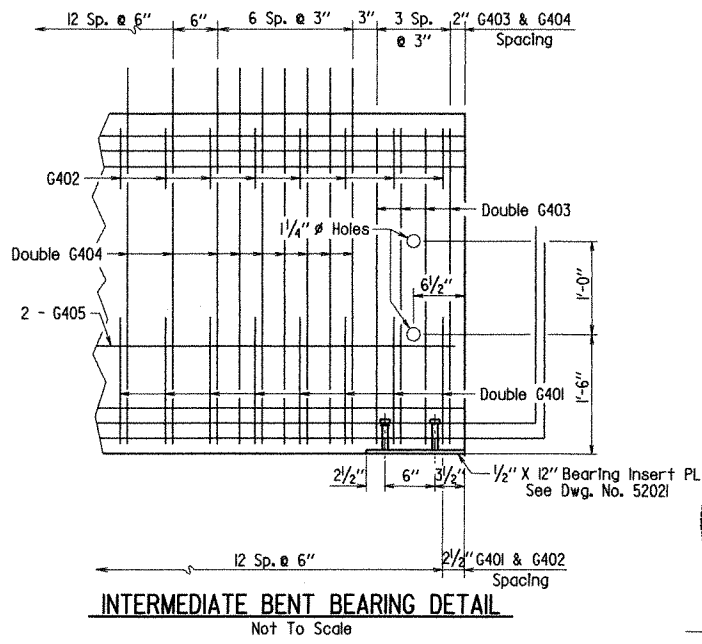
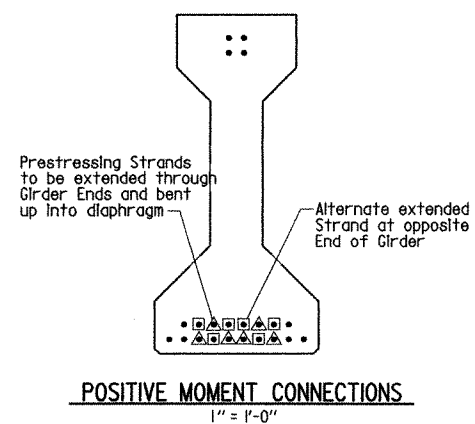
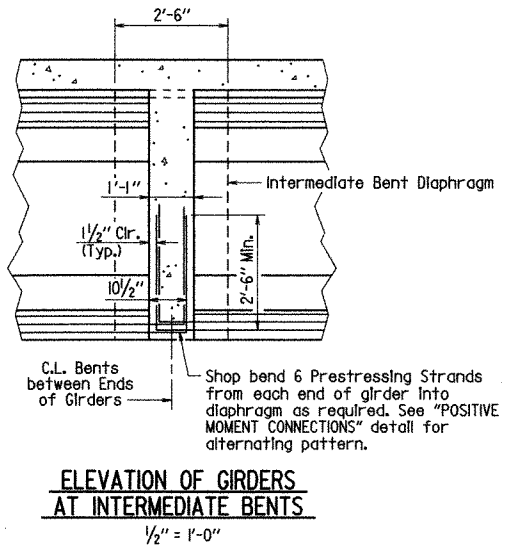
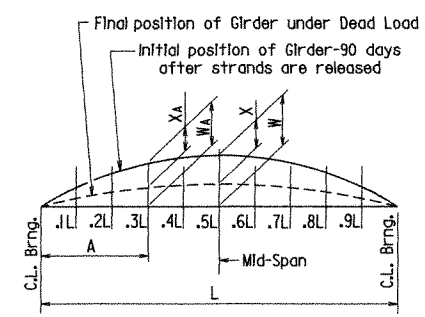
All bars in this list shall be subsidiary to the item "Prestressed Concrete Girders (Type III)". For Bar List of Span Reinforcing, See Dwg. Nos. 52017 & 52018.

TABLE OF GIRDER VARIABLES

STRAND DESIGNATION	VARIABLES OF BONDING/DEBONDING	"A"			ROW 4
		Bonded	"B"	"C"	
ROW	LINE	"A"	"B"	"C"	ROW ?
1	A,B,C,D,E,F,G,H,I,J,K	6'			
2	B,C,D,E,F,G,H,J	6'			
3	E,F	6'			
4	E,F	6'			



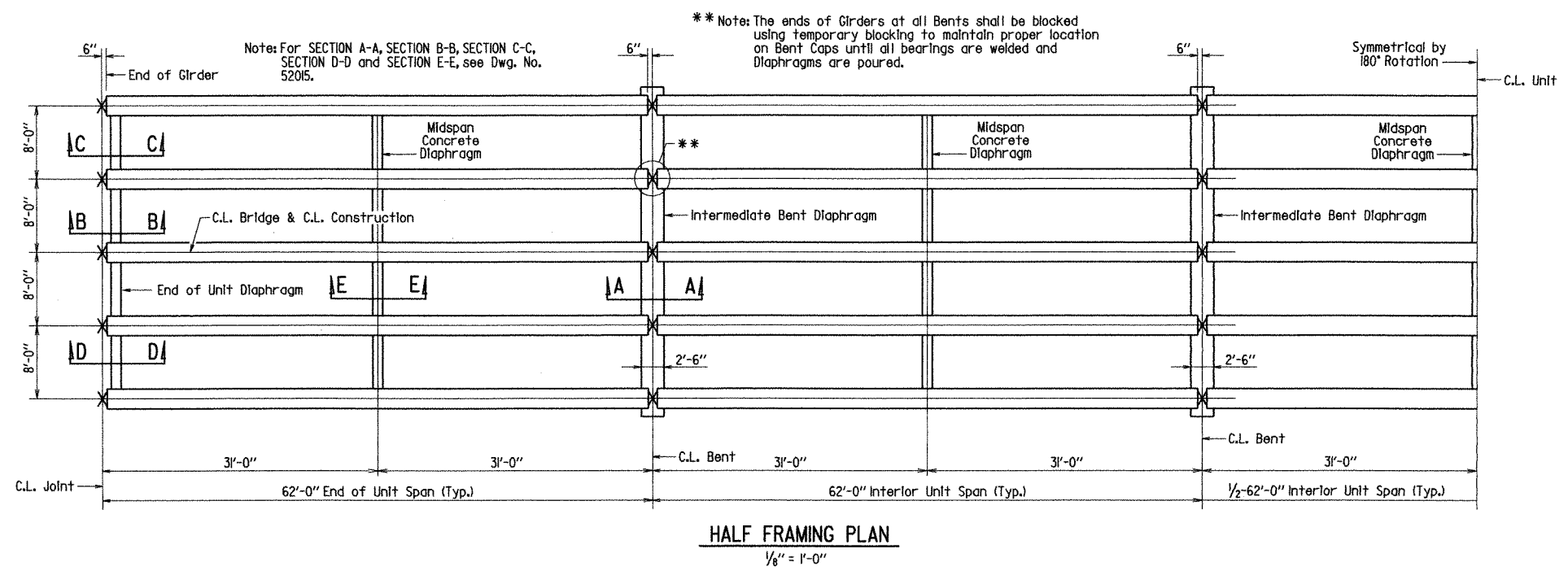
Span Pt.	Inches	
	W _A	X _A
0.00	0.000	0.000
0.10	0.366	0.143
0.20	0.629	0.283
0.30	0.805	0.393
0.40	0.905	0.463
0.50	0.938	0.486



SHEET 2 OF 6
 DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 12-09-10 FILENAME: B110541X.SLDGN
 CHECKED BY: BEF DATE: 4/6/11 SCALE: 3/8" = 1'-0" OR AS NOTED
 DESIGNED BY: DBS DATE: 03/11
 BRIDGE NO. 07217 DRAWING NO. 52016

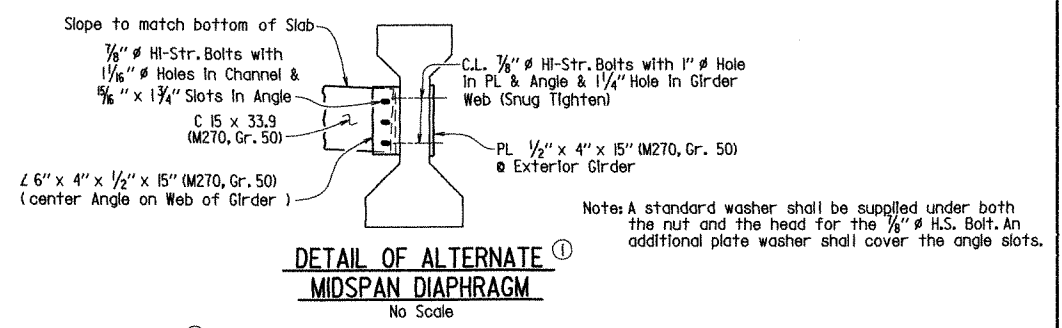
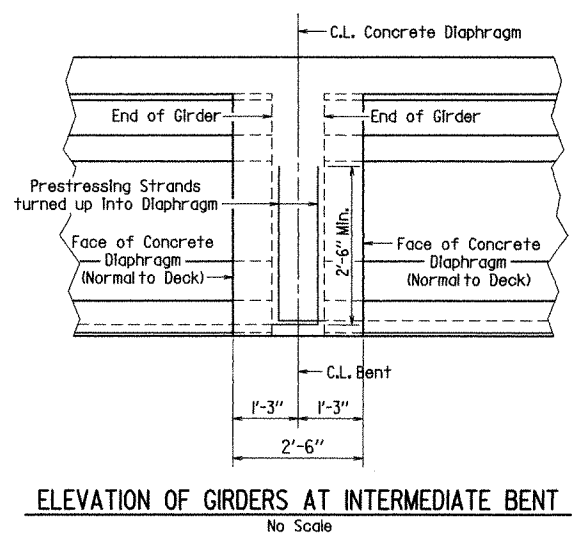
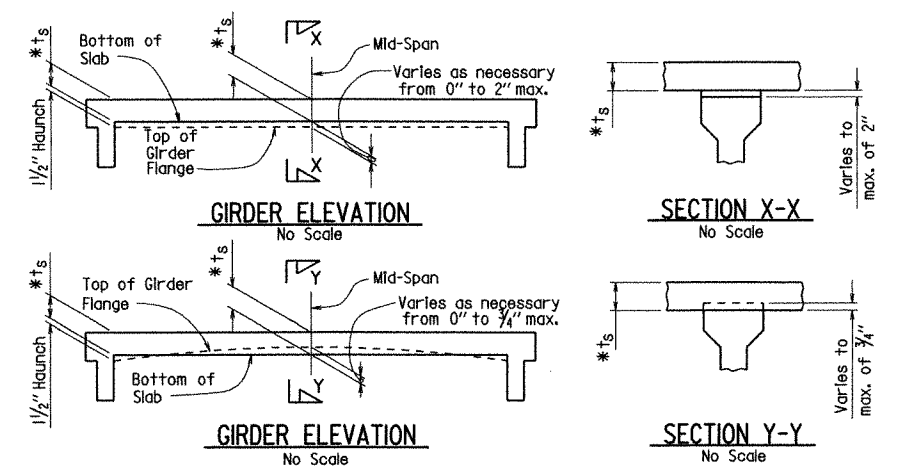
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541	43	85	
				07217	SPAN DETAILS	52017		



DIAPHRAGM BAR LIST (310'-0" UNIT)

MARK	NO. REQ'D.	LENGTH	P.D.
D402	44	8'-10"	2"
D403	140	8'-5"	2"
D405	32	3'-9"	2"
D406	12	6'-4"	2"
D601	48	35'-8"	Str.
D602	280	6'-4"	Str.
D603	42	4'-6"	Str.
D604	8	3'-1"	4 1/2"

BENDING DIAGRAMS
Dimensions are out to out of bars.



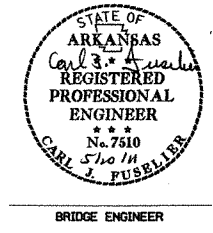
① Galvanized Steel Diaphragms may be used in place of Concrete at Midspan Diaphragms only. All components of the Alternate Steel Diaphragms shall be Galvanized. Payment will be based on concrete diaphragms.

Note: t_s = slab thickness as shown on superstructure details-See "Typical Section at Intermediate Bents".

*Tolerance when removable deck forming is used is $+1/2"$, $-1/4"$. Haunch forming is required and shall be adjusted to maintain slab thickness tolerance. See Dwg. No. 14931 for tolerances when permanent steel deck forms are used.

'Girder Elevation' sketches show the range of acceptability of the top of the Girder relative to bottom of slab after the placement of the slab. When the top of the Girder projects more than $1/4"$ into the slab, a raise in grade will be necessary. Girders shall be set in a sufficient number of spans so when adjustment is necessary the Profile Grade can be adjusted over suitable increments so the revised grade line will produce a smooth riding surface. Variation of haunch height will be at the Contractor's expense.

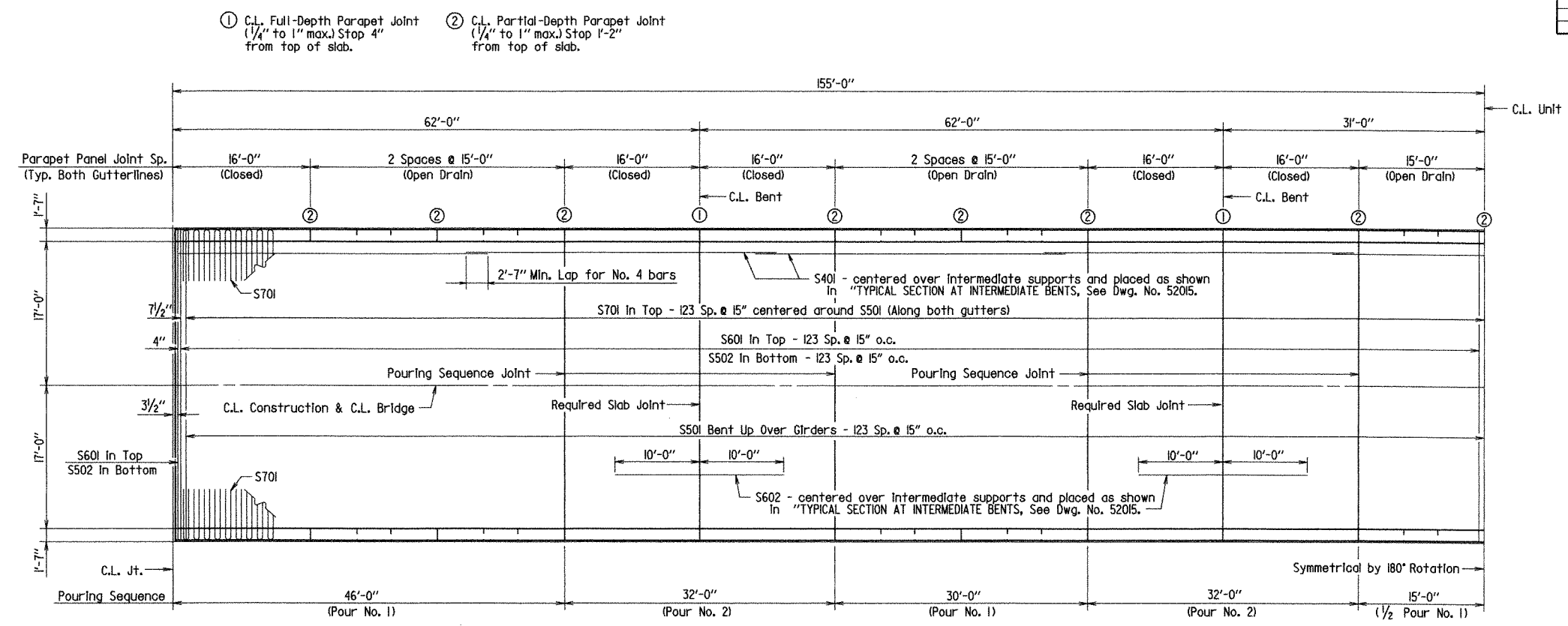
ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED



SHEET 3 OF 6
DETAILS OF 310'-0" PRESTRESSED CONCRETE GIRDER UNIT
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 12-09-10 FILENAME: B10541X1.SLDGN
CHECKED BY: BEF DATE: 4/16/11 SCALE: AS NOTED
DESIGNED BY: DJS DATE: 03/11
BRIDGE NO. 07217 DRAWING NO. 52017

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		44	85
				JOB NO.	110541		44	85
				07217	SPAN DETAILS		52018	



BAR LIST

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
S401	756	36'-8"	Str.	
S501	247	37'-6"	3"	
S502	250	36'-10"	Str.	
S601	250	36'-10"	Str.	
S602	172	20'-0"	Str.	
S701	247	11'-7"	6"	
P401	920	5'-5"	2"	
P402	120	4'-10"	2"	
P403	120	3'-0"	Str.	
P404	140	15'-8"	Str.	
P405	140	14'-8"	Str.	
P501	1080	4'-9"	3 3/4"	

① 1/2" Overtolerance, No Undertolerance.

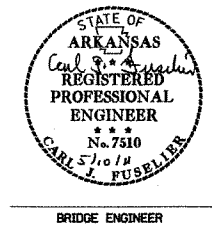
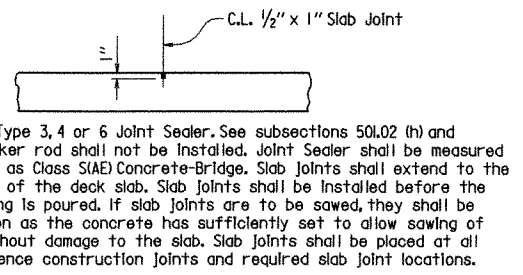
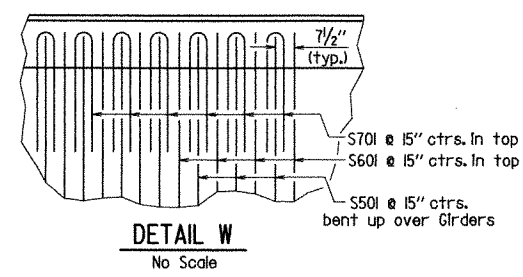
HALF-REINFORCING PLAN & DECK POURING SEQUENCE

1/8" = 1'-0"

Note: Pours with the same number may be poured 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 the end of a pour and the start of an adjacent pour.

Diaphragm Pours: End of unit diaphragms (Section B-B) and Midspan Diaphragms (Section E-E) shall be poured at least 48 hours prior to deck pours. Diaphragms at Int. Bents (Section A-A) shall be poured monolithically with the slab but shall not be poured until 90 days after girders are cast. See Dwg. No. 52015 for Section Details.

No ralling pours shall be made before the entire slab unit has been placed unless approval of the Engineer has been obtained. The Contractor must obtain approval from the Engineer for any deviation from the pouring sequence as shown.

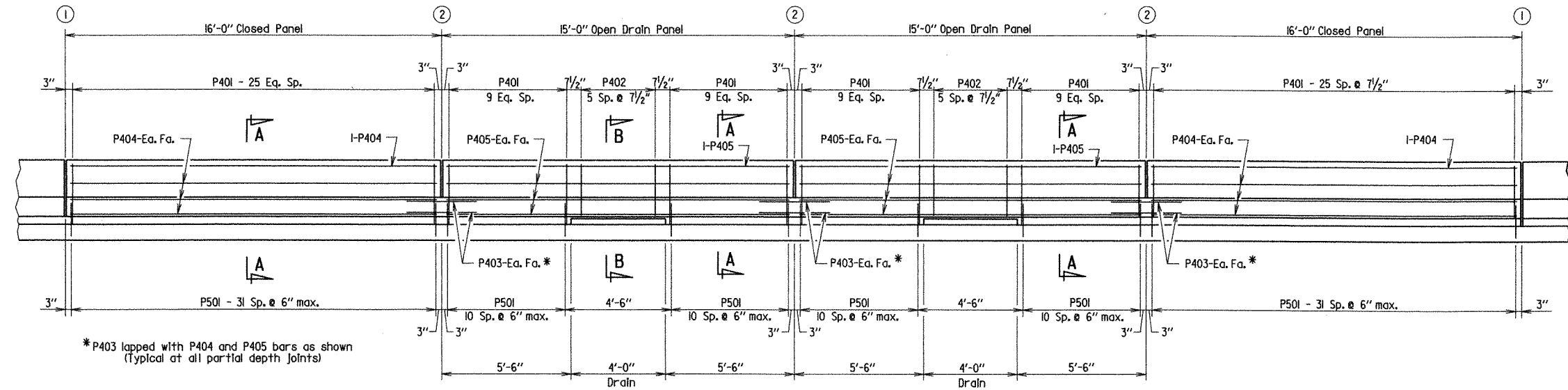


SHEET 4 OF 6
DETAILS OF 310'-0" PRESTRESSED
CONCRETE GIRDER UNIT
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

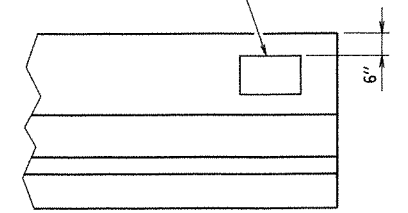
DRAWN BY: MJT DATE: 12-16-10 FILENAME: B10541XL.SLDGN
CHECKED BY: BEF DATE: 4/11/11 SCALE: AS NOTED
DESIGNED BY: TBS DATE: 02/11
BRIDGE NO. 07217 DRAWING NO. 52018

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.		110541	45	85
				07217	SPAN DETAILS			52019

- ① C.L. Full-Depth Parapet Joint (1/4" to 1" max.) Stop 4" from top of slab.
- ② C.L. Partial-Depth Parapet Joint (1/4" to 1" max.) Stop 1'-2" from top of slab.



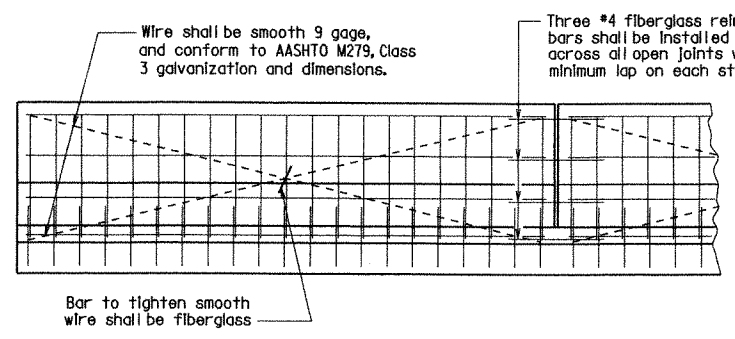
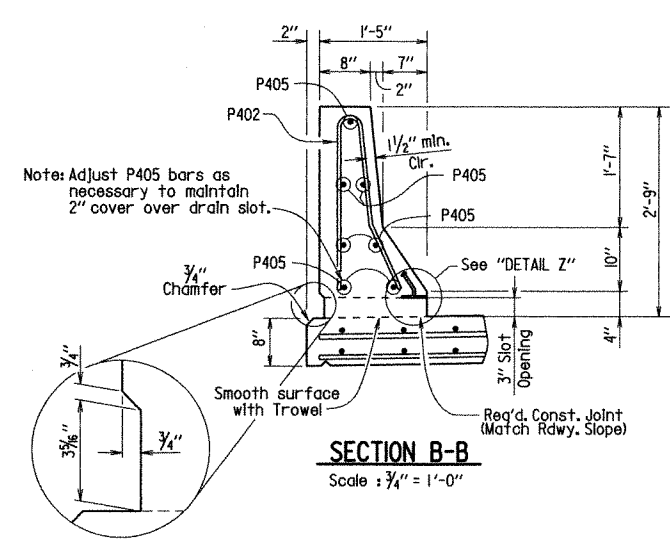
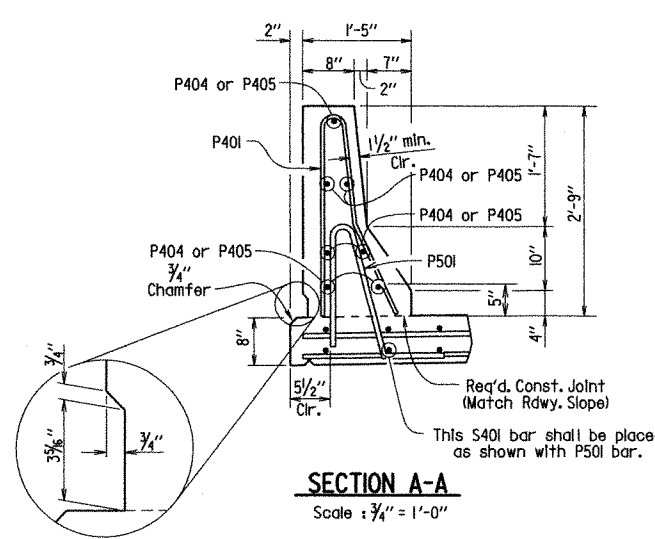
Place Type D Bridge Name Plate on front face of span rail approx. 2'-0" from beginning of bridge. (Right side of roadway only) See Std. Dwg. No. 2387



NAME PLATE DETAIL
N.T.S.

DETAILS OF PARAPET RAIL
N.T.S.

Note: See Dwg. No. 52018 for Bar List.

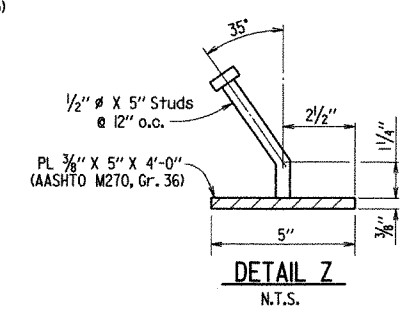


All smooth wire bracing shall be placed on the inside faces of the reinforcing
For actual placement of reinforcing steel, see parapet details.

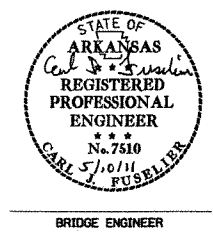
All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL
N.T.S.



Note: Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)". The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted 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 included in the item for structural steel.



BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS OF 30'-0" PRESTRESSED CONCRETE GIRDER UNIT
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: MJT DATE: 12/09/10 FILENAME: B110541X1.SLDGN
CHECKED BY: BEF DATE: 4/16/11 SCALE: AS NOTED
DESIGNED BY: DBS DATE: 03/11
BRIDGE NO. 07217 DRAWING NO. 52019

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.		110541	46	85
				07217	SPAN DETAILS			52020

PRESTRESSED GIRDERS GENERAL NOTES

Pretensioning steel shall be 1/2" dia. Low Relaxation strands with a minimum ultimate strength of 270 ksi, and shall conform to AASHTO M 203.

Distances from the forms and spacing of the Prestressing Steel shall be maintained by stays, ties, hangers, spacers, or other approved supports which shall be shown on the Shop Drawings.

All girders shall be Type III as noted on the details and shall be the standard prestressed sections adopted by the Joint Committee of AASHTO and the Prestressed Concrete Institute. All girders shall be cast in concrete floor slabs and in metal forms. All work and materials shall be as specified in subsection 802.22.

Concrete shall be Class S and shall have a minimum 28 day compressive strength, f'c = 6,000 psi.

The initial tensile force applied to each 1/2" dia. strand shall be 31,000 lbs. except as noted. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 4,500 psi.

Dimensions shown are to the center of the strands.

The Contractor shall submit the method and sequence for release of strands to the Engineer for approval prior to casting of the girders.

The first 16" along the tops of the Girders at beginning and end of units shall have a smooth surface. The tops of the remaining length of girders shall be rough floated at approximately the time of set. This portion of the tops of girders shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface for bonding slabs.

All exposed steel at end of unit girders shall be protected against corrosion with a coating of tar or other waterproofing material.

Extreme care shall be exercised in handling and moving precast prestressed concrete girders. Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregard of this requirement may lead to collapse of the girder. The Contractor's proposed lifting details shall be submitted on shop drawings to the Engineer for approval. The use of holes for lifting purposes will not be permitted.

The points of support and directions of the reactions with respect to the member shall be approximately the same during transportation and storage as when the member is in its final position.

Reinforcing steel shall be AASHTO M31 or M53, Gr. 60 (Fy = 60,000 psi).

The Contractor may submit alternate strand patterns with design calculations for review and approval in accordance with subsection 802.22, except that only 1/2" diameter strands shall be allowed.

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

SUPERSTRUCTURE GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Dept. Standard Specifications for Highway Construction, 2003 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition (2010) with 2010 Interim specifications.

LIVE LOADING: HL-93

REINFORCING STEEL: Reinforcing Steel shall conform to AASHTO M31 or M53, Grade 60 (Fy = 60,000 psi).

Reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports sufficient in size and number 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 of "Reinforcing Steel - Bridge".

CONCRETE: Concrete in Slab, Parapet, and Diaphragms shall be Class S (AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry. All end of unit and midspan diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured. Interior bent diaphragms shall be cast monolithically with the slab. The slab and intermediate bent diaphragms for the Prestressed Concrete Girder Units shall not be poured until at least 90 days after the release of the Prestressing Strands.

All exposed corners to be chamfered 3/4" unless otherwise noted.

The superstructure details shown are for 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.

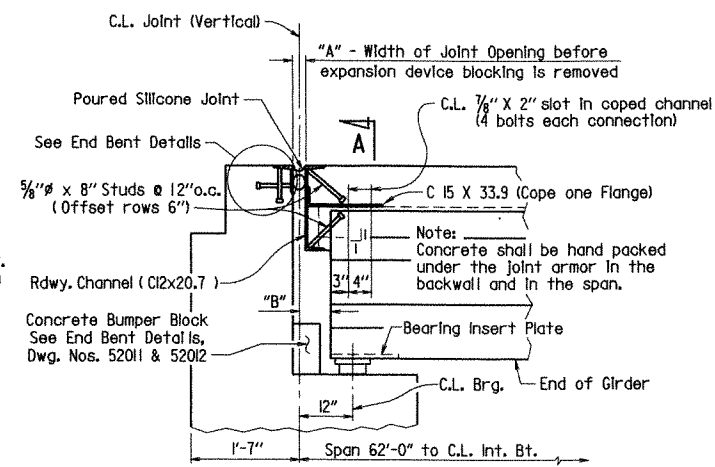
Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The concrete bridge deck shall be given a fine finish as specified for final finishing in subsection 802.19 for a Class 5 tined bridge roadway surface finish. Movement of the finishing machine across the new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder.

STRUCTURAL STEEL: All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W). All exposed surfaces to be cleaned in accordance with subsection 807.84(b) of the Standard Specifications.

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 and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

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.

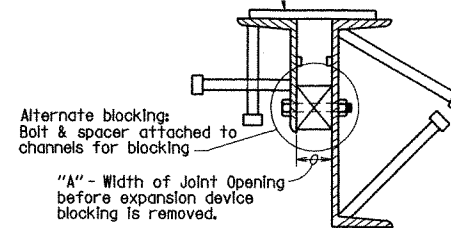
Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted, and approval secured before fabrication is begun.



SECTION THRU JOINT AT END BENTS

Scale: 3/4" = 1'-0"

Plate, Angle, or other shapes, attached to Channel (or Angle) for Blocking. One of two different blocking systems is required depending on the type of span finishing machine that is used.



Note: Each expansion joint device shall be blocked in the shop by the Fabricator to the dimension shown for 60°F, and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

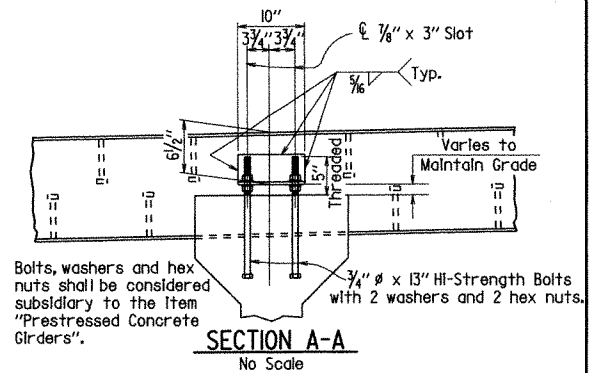
DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

No Scale

EXPANSION DEVICE INSTALLATION AT END BENTS:

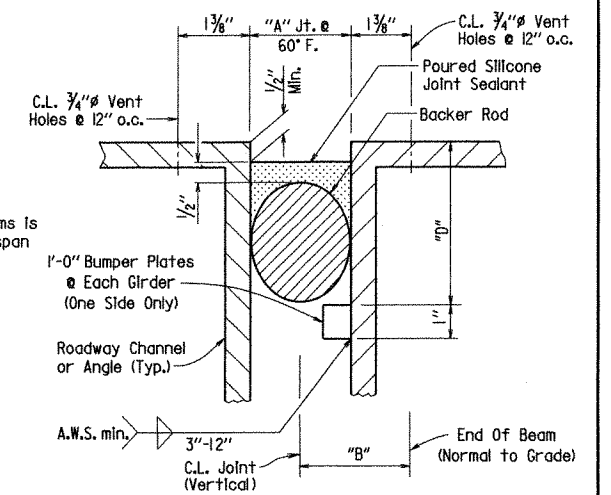
The Contractor may elect to install the expansion device using one of the following two alternatives.

- 1) The concrete span pour adjacent to the expansion device shall be placed before the end bent backwall concrete is placed. The joint assembly shall be installed on the girders, adjusted for grade, and the bolts fully tightened prior to placing the adjacent span concrete pour. Immediately prior to pouring the backwall concrete supporting the expansion device, the blocking shall be removed, the joint opening shall be adjusted for temperature, and the backwall constructed.
- 2) The backwall shall be poured to the optional construction joint after girders are erected. The 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, the joint opening shall be adjusted for temperature, and the remainder of the backwall constructed.



SECTION A-A

No Scale



DETAIL OF POURED SILICONE JOINT

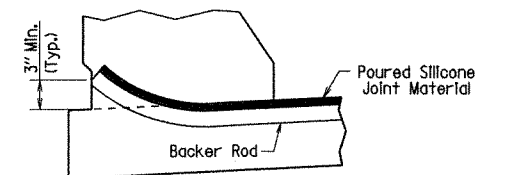
No Scale

BACKER ROD NOTE:

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.

Except as 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.



DETAILS OF POURED SILICONE JOINT AT GUTTERS

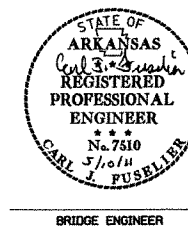
No Scale

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 1/4"	2"	1 3/4"	6"	5"	1" x 1"

*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.

Notes: The temperature limitations recommended by the sealant manufacturer shall be observed. Interpolation of the table may be necessary.

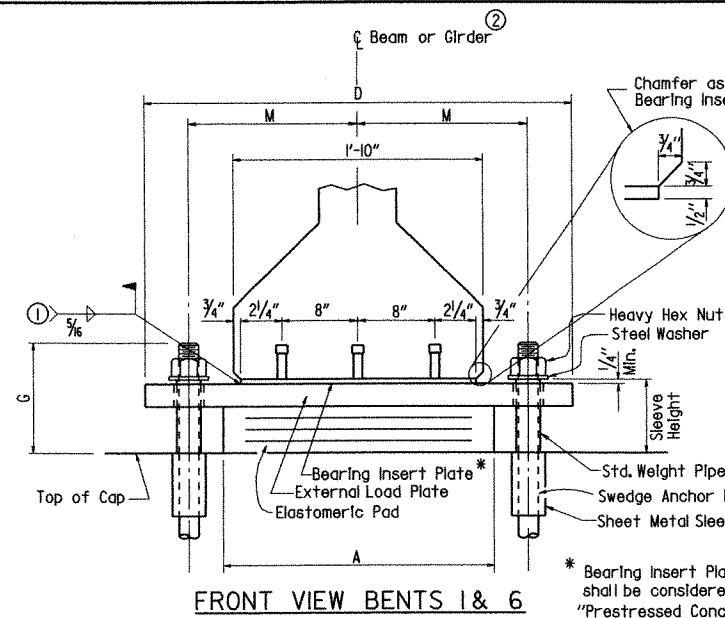


BRIDGE ENGINEER

SHEET 6 OF 6
 DETAILS OF 310'-0" PRESTRESSED
 CONCRETE GIRDER UNIT
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 12-09-10 FILENAME: B10541X1.SLDGN
 CHECKED BY: BEF DATE: 4/6/11 SCALE: AS NOTED
 DESIGNED BY: DBS DATE: 03/11
 BRIDGE NO. 07217 DRAWING NO. 52020

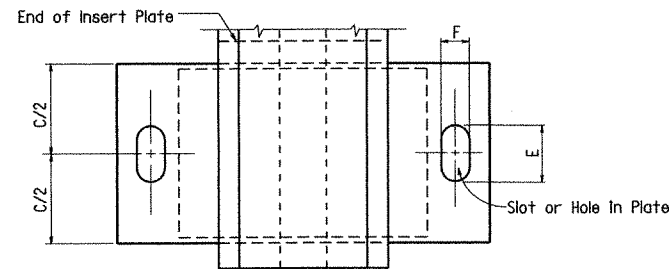
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110541	4785	
				07217	BEARINGS		52021	



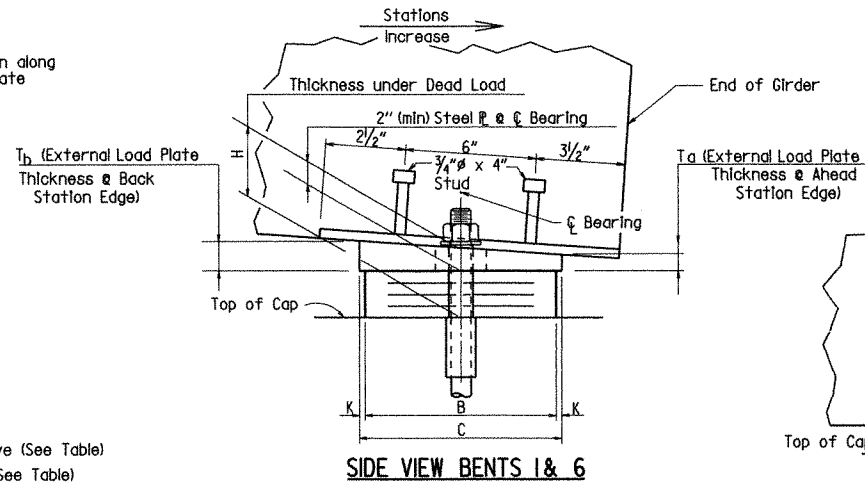
FRONT VIEW BENTS 1 & 6

* Bearing Insert Plate (M270, Gr. 50W) & Stud shall be considered subsidiary to the Item "Prestressed Concrete Girders (Type III)".

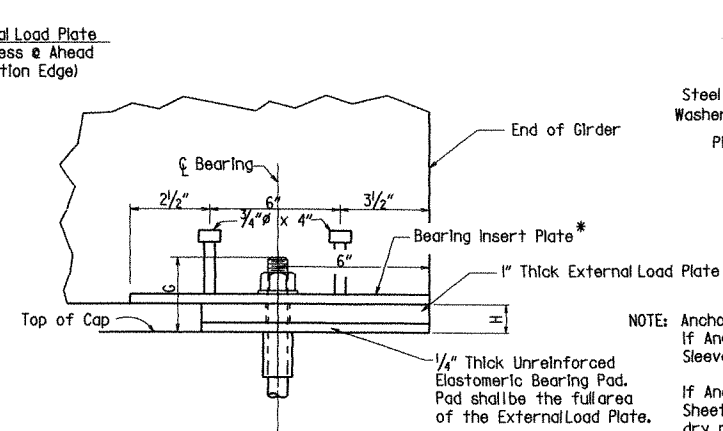
- ① Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.
- ② ζ Elastomeric pad shall be aligned with ζ Girder.



PLAN VIEW BENTS 1 & 6



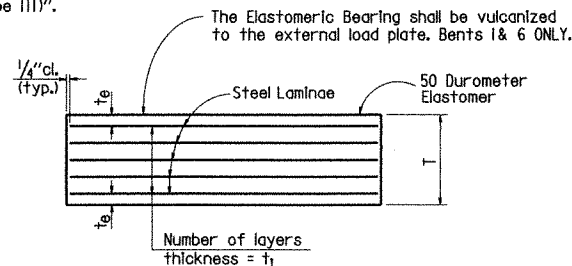
SIDE VIEW BENTS 1 & 6



SIDE VIEW BENTS 2-5

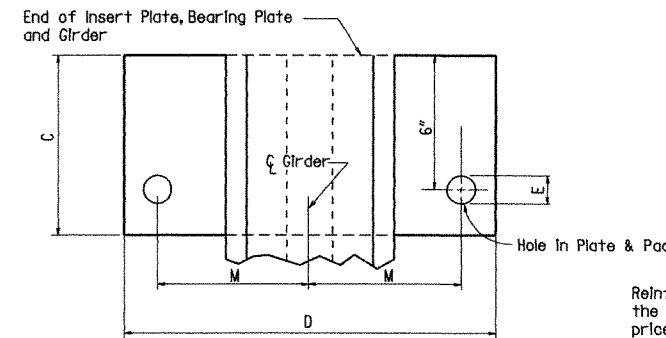
NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

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)".



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



PLAN VIEW BENTS 2-5

GENERAL NOTES

Reinforced Elastomeric Bearings and Unreinforced Pads shall conform to Section 808 of the Standard Specifications. Reinforced Elastomeric Bearings shall be paid for at the unit price bid for "Elastomeric Bearings". Unreinforced Pads shall not be paid for directly but shall be considered subsidiary to the Item "Class 5 Concrete-Bridge".

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.

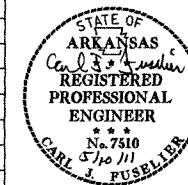
External load plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the Reinforced Elastomeric Bearing as noted. The surface in contact with the Elastomeric Bearing shall be cleaned in accordance with subsection 808.03. Other surfaces shall 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.

Tabular Data by: BEF Date: 3/31/11
 Checked by: JCT Date: 4/18/11
 Designed by: DBS Date: 1/13/11



DETAILS OF ELASTOMERIC BEARINGS

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

DRAWN BY: BEF DATE: 3/31/11 FILENAME: B10541X1.EBL.DGN
 CHECKED BY: JCT DATE: 4/18/11 SCALE: NONE
 DESIGNED BY: SHD DATE: 1/13/11

BRIDGE ENGINEER

BRIDGE NO. 07217

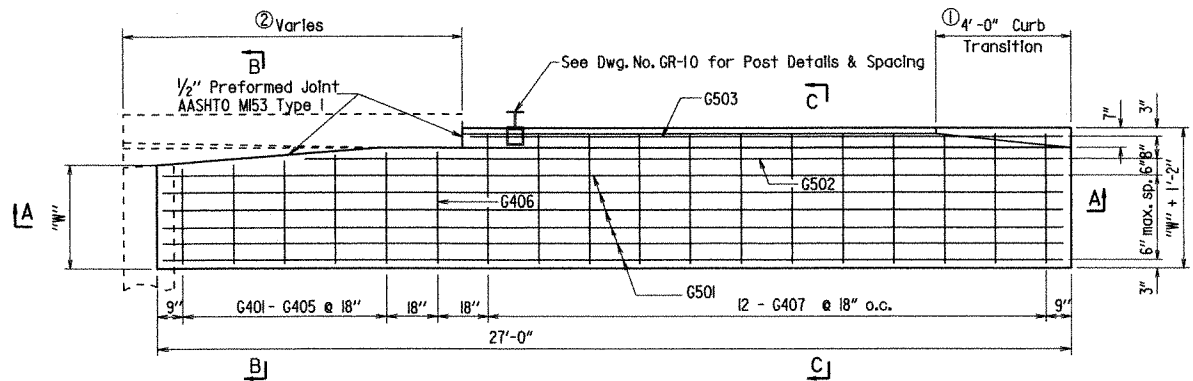
DRAWING NO. 52021

TABLE OF FABRICATOR VARIABLES

* Maximum Design Load = Service I Limit State

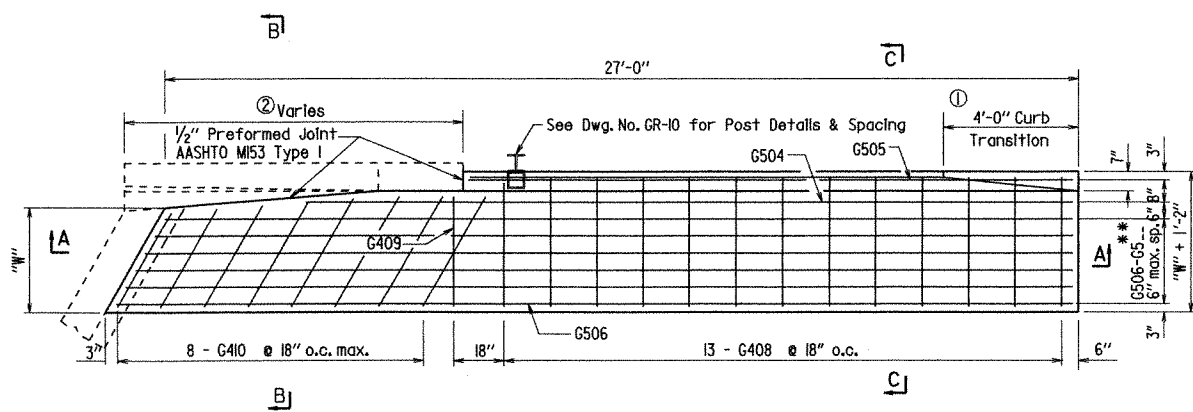
BRIDGE NO.	LOCATION BENT NO(S)	SPAN BEAM NO.	BEARING TYPE	NO. OF BEARINGS EACH BENT	* MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD						EXTERNAL LOAD PLATE										ANCHOR BOLT				
								A	B	N	t_1	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	C	D	E	F	K	M	T_a	T_b	ANCHOR BOLT ($\phi \times L$)	PIPE SLEEVE SIZE ($\phi \times L$)	SHEET METAL SLEEVE SIZE ($\phi \times L$)	STEEL WASHER SIZE (O.D.)		
07217	1	1	ALL	EXP	5	115	6 3/4"	3 3/4"	22"	6"	3	1/2"	1/4"	3 @ 12 Ga.	1 9/16"	9 1/4"	33 1/2"	5 1/4"	2 5/8"	1 5/8"	1'-1 3/4"	2"	2"	1 3/4" x 25"	55	2" x 4"	4" x 6"	3 3/8"
	6	5	ALL	EXP	5	115	6 3/4"	3 3/4"	22"	6"	3	1/2"	1/4"	3 @ 12 Ga.	1 9/16"	9 1/4"	33 1/2"	5 1/4"	2 5/8"	1 5/8"	1'-1 3/4"	2"	2"	1 3/4" x 25"	55	2" x 4"	4" x 6"	3 3/8"
	2-5	1-5	ALL	FIX	5	NA	4"	1 1/4"	NA	NA	NA	NA	NA	NA	NA	9"	32 1/2"	1 3/4"	NA	NA	1'-1 1/2"	1"	1"	1 1/2" x 21"	55	NA	3" x 6"	3"

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.	110541		48	85
				07217	TYPE SPECIAL GUTTERS		52022	



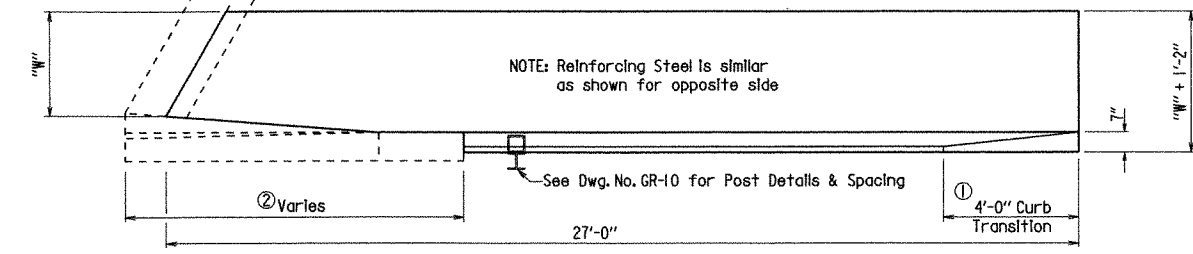
HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

② Length varies. See End Bent details for actual length. Quantities shown are for 10'-0" Transition Roll.

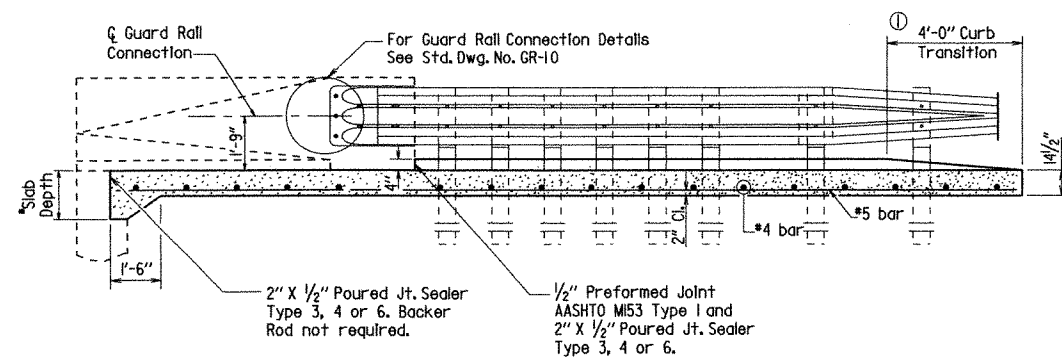


PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

NOTE: Reinforcing Steel is similar as shown for opposite side



PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

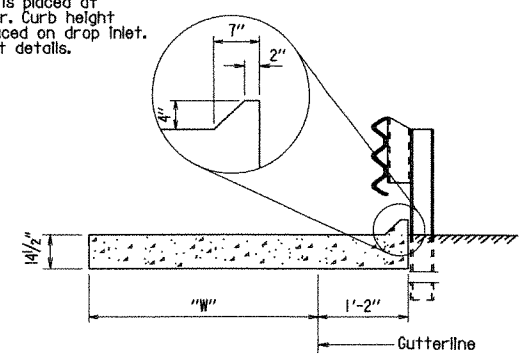


SECTION A - A
N.T.S.

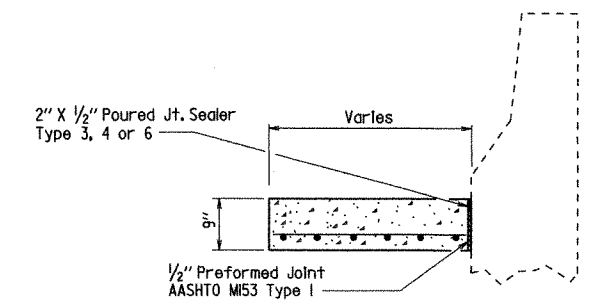
Slab Depth Varies - See Span and Bent Details

① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.



SECTION C - C
N.T.S.



SECTION B - B
N.T.S.

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards)
3	252	4.83
4	319	6.04
6	459	8.45
8	590	10.87

*** BAR LIST ②
TYPE SPECIAL GUTTER

Mark	No. Required for Width "W"				Length	Square or Skewed
	3'-0"	4'-0"	6'-0"	8'-0"		
G401-G405	1 each	1 each	1 each	1 each	"W" - 3" to "W" + 3"	Square
G406	1	1	1	1	"W" + 3"	Square
G407	12	12	12	12	"W" + 10"	Square
G408	13	13	13	13	"W" + 10"	Skewed
G409	1	1	1	1	"W" + 3"	Skewed
G410	8	8	8	8	*	Skewed
G501	6	8	12	16	26'-8"	Square
G502	1	1	1	1	22'-2"	Square
G503	1	1	1	1	17'-8"	Square
G504	1	1	1	1	*	Skewed
G505	1	1	1	1	*	Skewed
G506-G5**	1 each	1 each	1 each	1 each	*	Skewed

* Bar Lengths vary with Skew,
** G512 for "W" = 3'
G514 for "W" = 4'
G518 for "W" = 6'
G522 for "W" = 8'

*** Special bar list required when skew angle exceeds 40° for W = 8'; 50° for W = 6'; or 60° for W = 4'.

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.



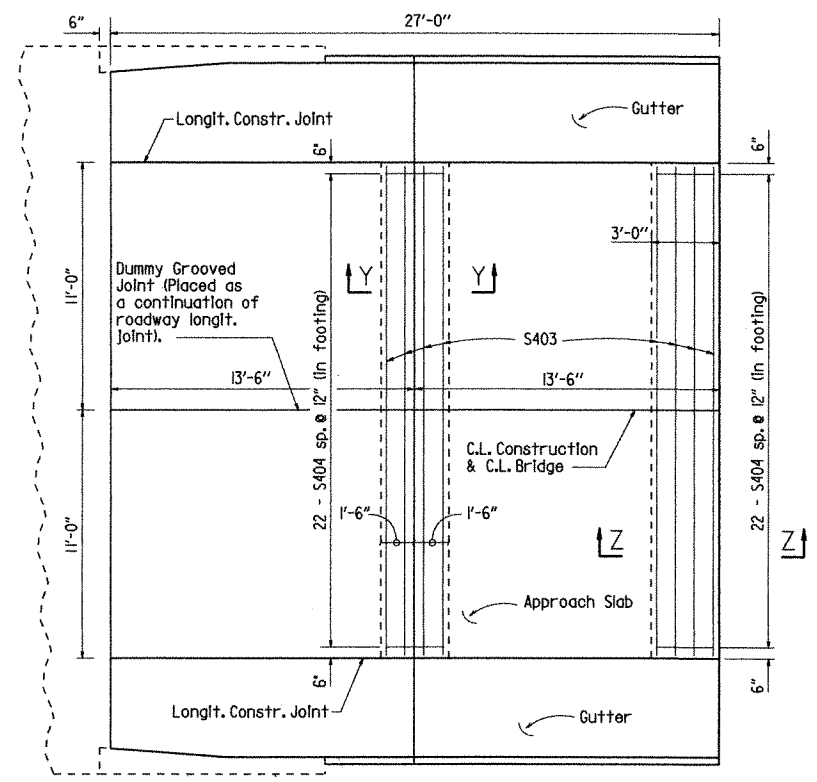
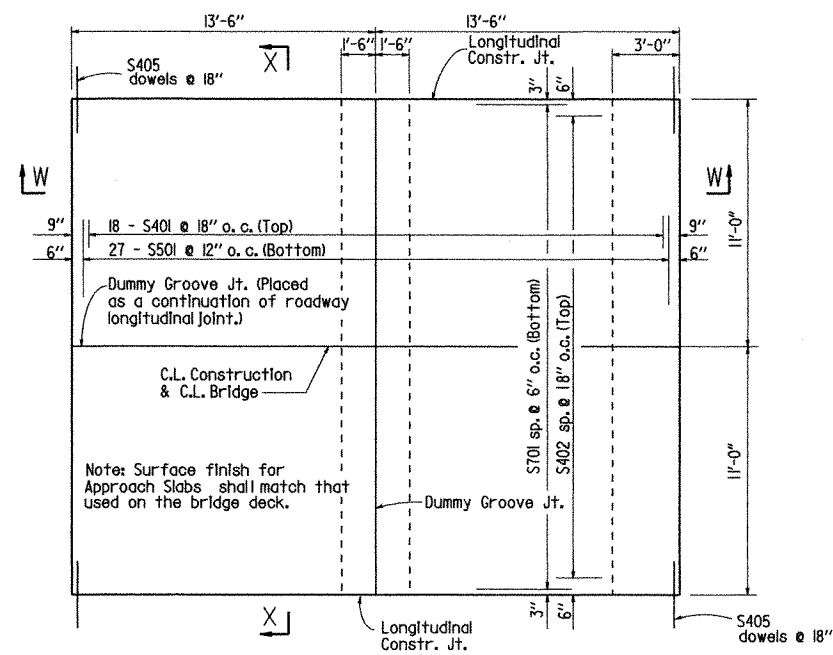
BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL APPROACH GUTTERS

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

DRAWN BY: BEF DATE: 3/31/11 FILENAME: B110541.AG.DGN
CHECKED BY: JST DATE: 4/13/11 SCALE: 3/8" = 1'-0" OR AS SHOWN
DESIGNED BY: STD DATE: BRIDGE NO. 07217 DRAWING NO. 52022

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541	49	85	
				07217	TYPE SPECIAL APPROACH SLAB	52023		

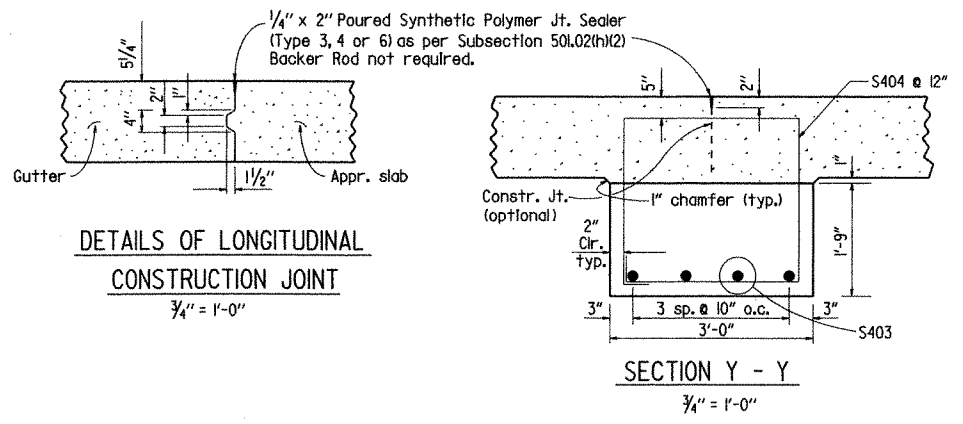
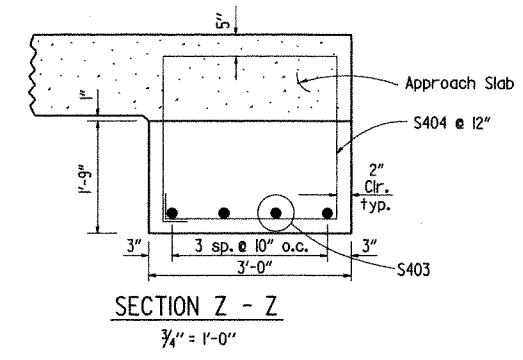
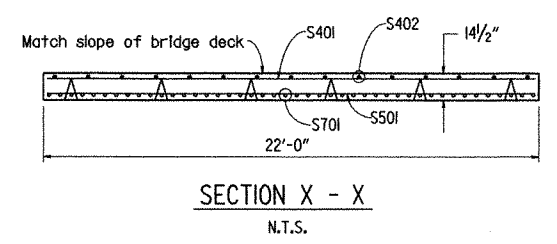
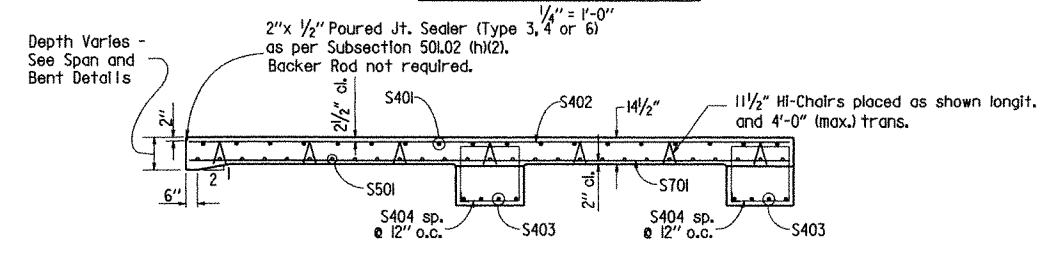


BAR LIST

MARK	NUMBER REQUIRED	LENGTH	P.D.	BENDING DIAGRAMS
S401	18	2'-8"	Str.	Dimensions are out to out of bars.
S402	15	26'-8"	Str.	
S403	8	2'-8"	Str.	
S404	44	10'-4"	2"	
S405	36	3'-0"	Str.	
S501	27	2'-8"	Str.	
S701	44	26'-8"	Str.	

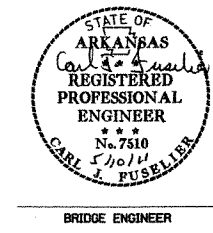
TABLE OF QUANTITIES FOR ONE TYPE SPECIAL APPROACH SLAB

Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
4028 lb.	35.68



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 of the Standard Specifications.



DETAILS OF TYPE SPECIAL APPROACH SLABS

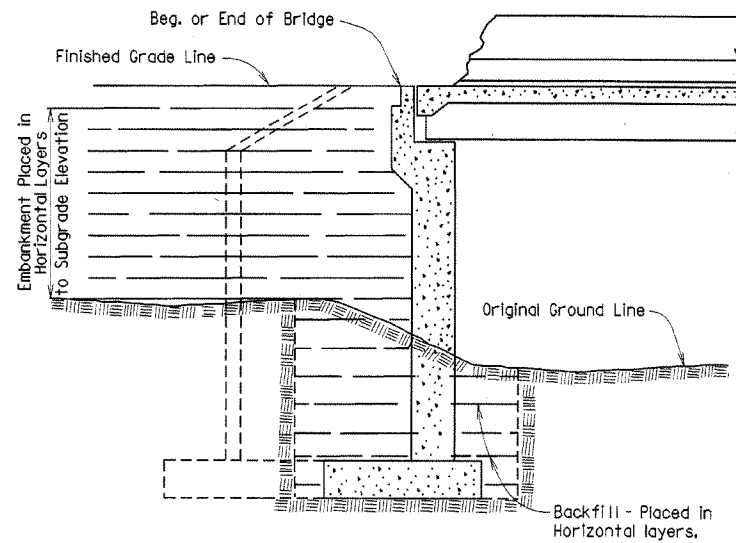
ROUTE _____ SEC. _____
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.

DRAWN BY: BEF DATE: 3/31/11 FILENAME: B110541.LAS.DGN
 CHECKED BY: JGT DATE: 4/13/11 SCALE: AS SHOWN
 DESIGNED BY: STD DATE: _____
 BRIDGE NO. 07217 DRAWING NO. 52023

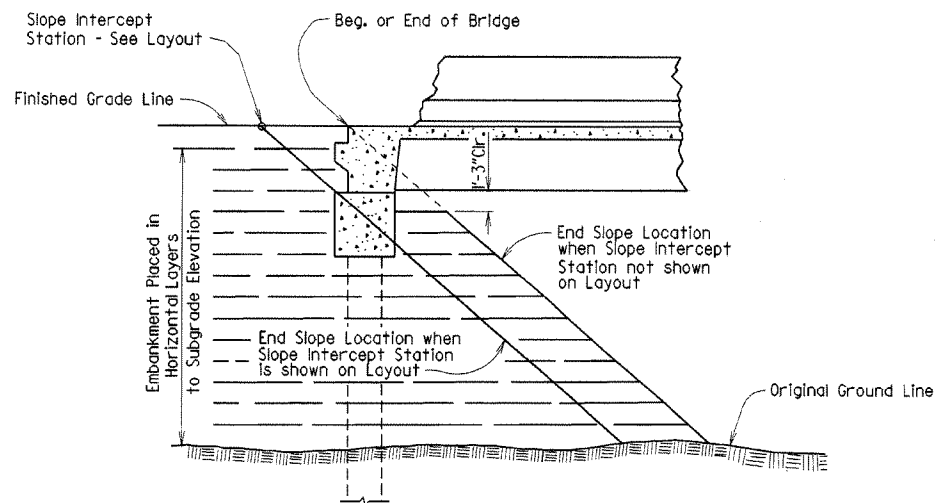
BRIDGE ENGINEER

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.		50	

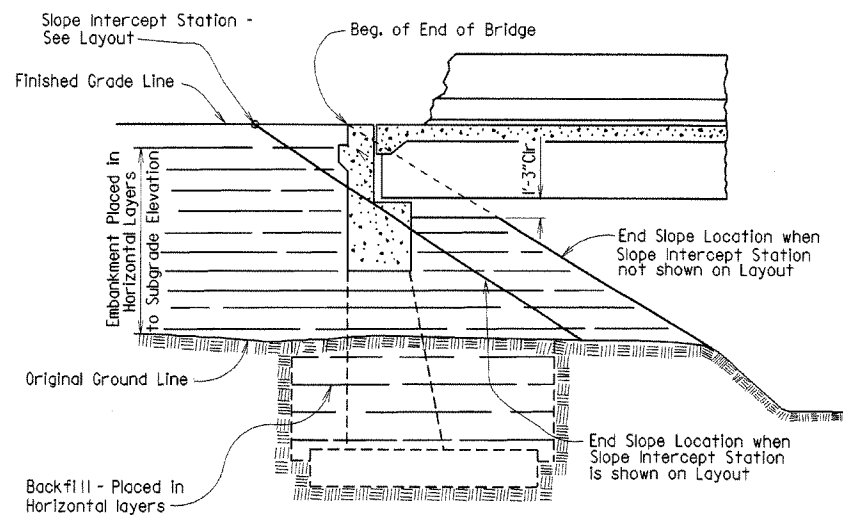
EMBANKMENT & BACKFILL 1888A



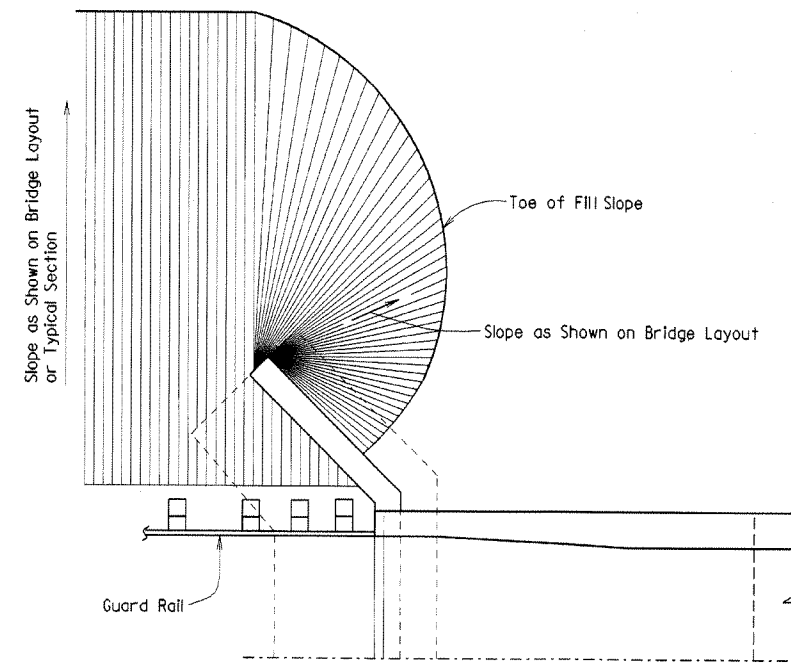
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



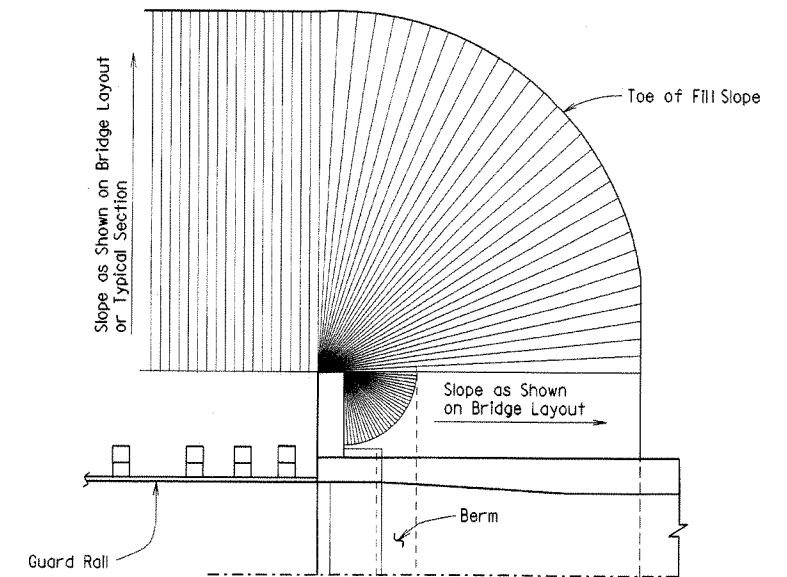
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



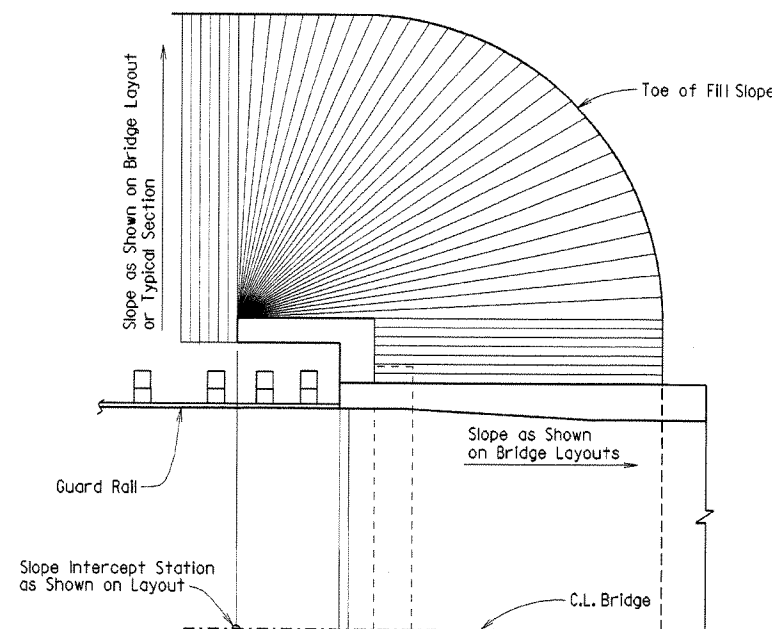
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



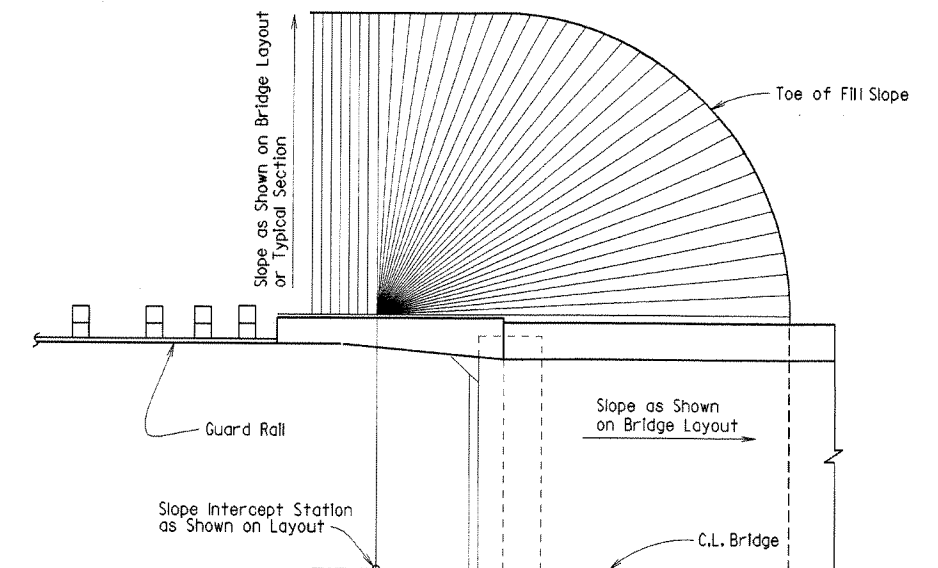
VERTICAL WALL ABUTMENTS



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



BRIDGE ENGINEER

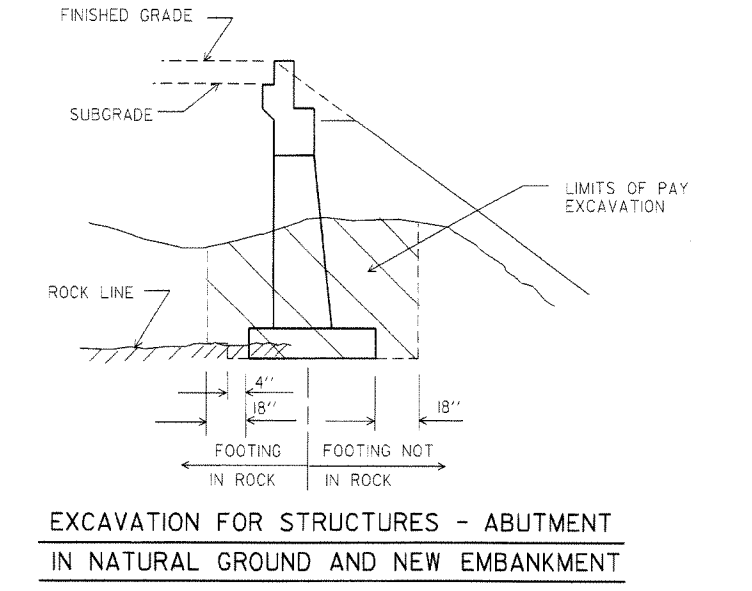
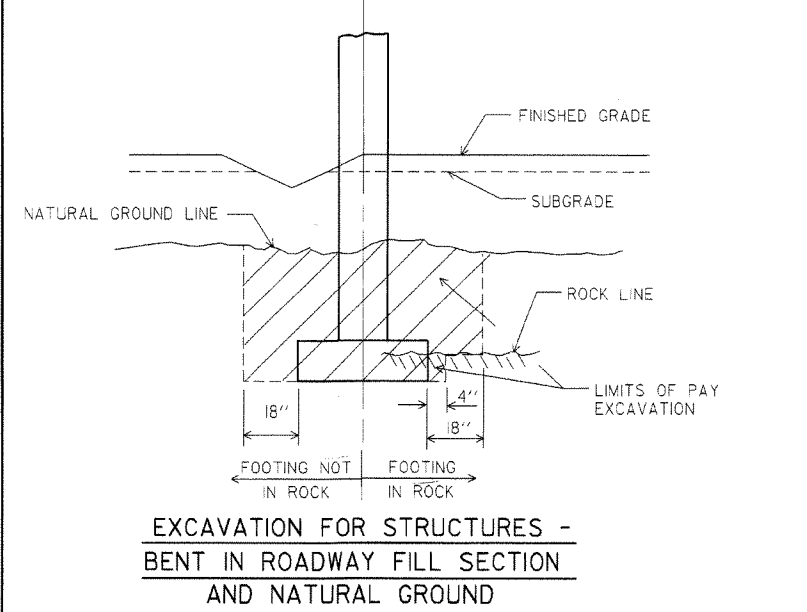
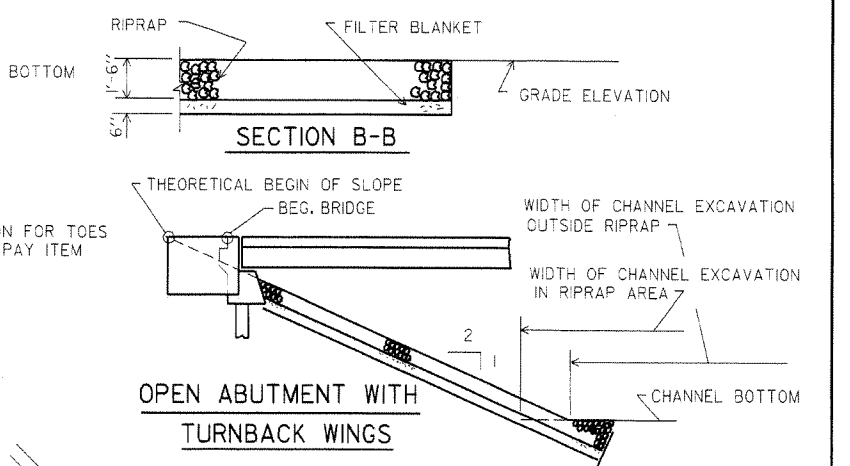
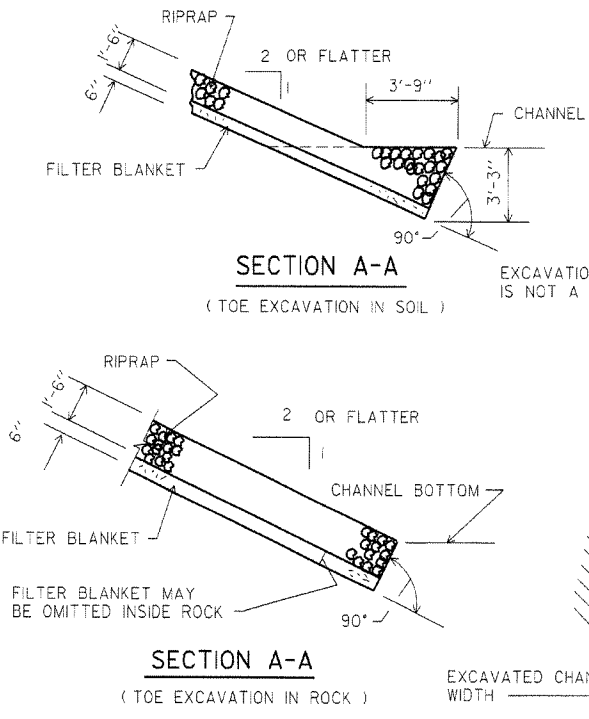
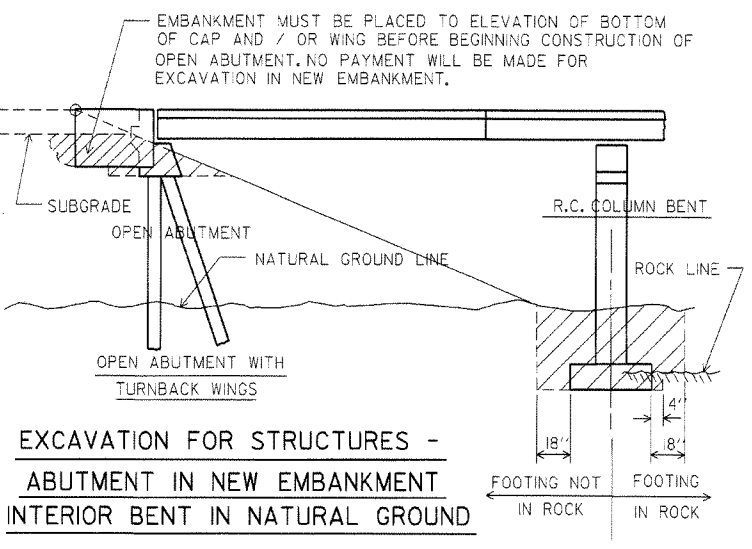
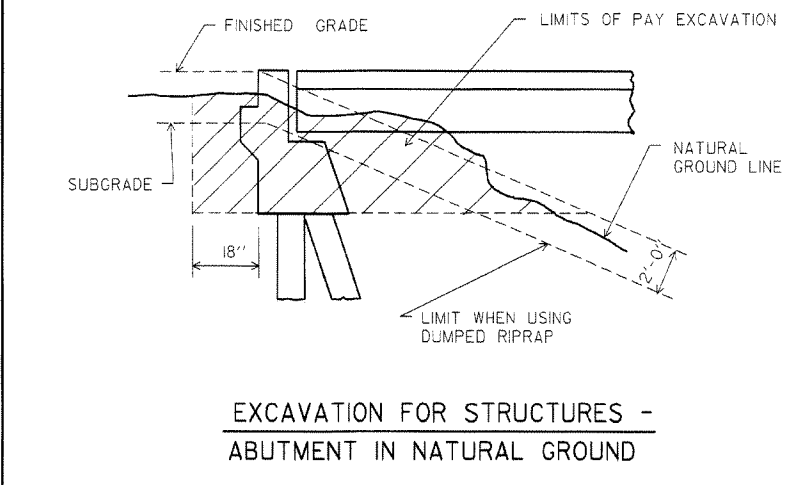
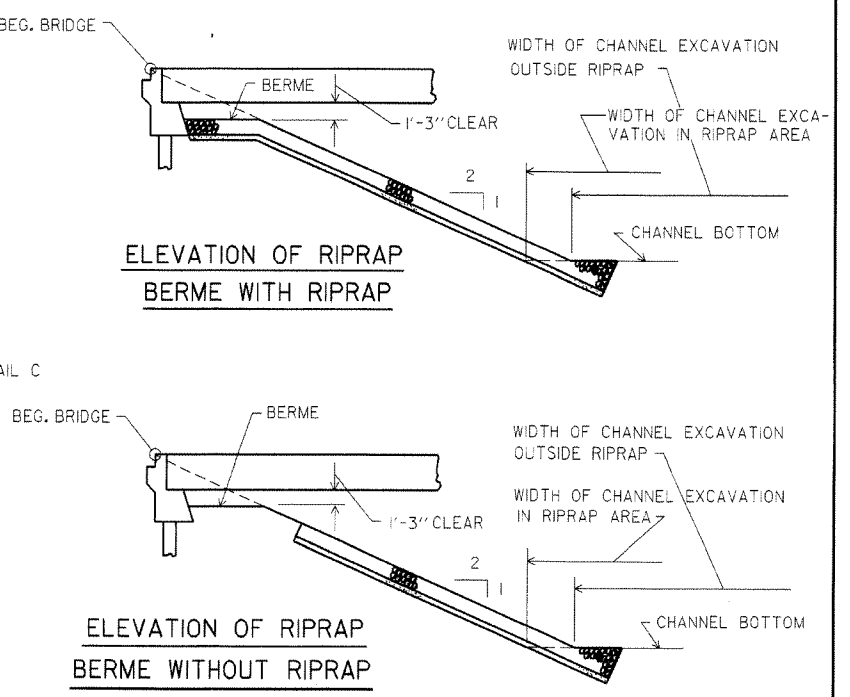
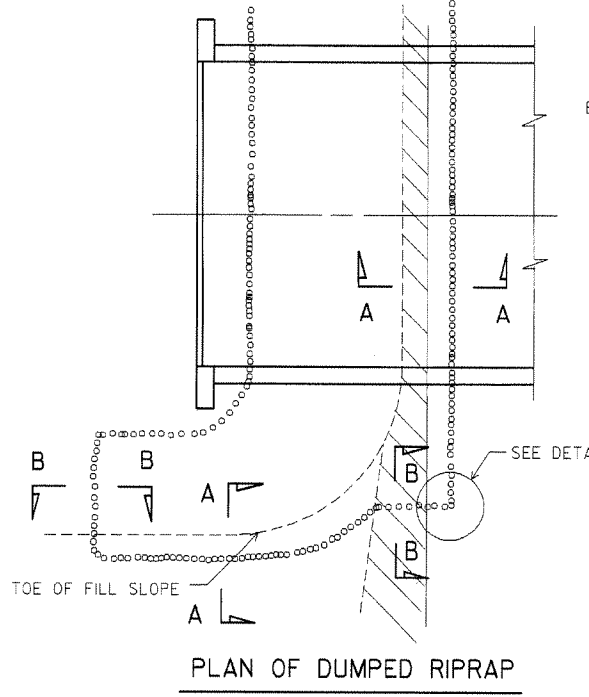
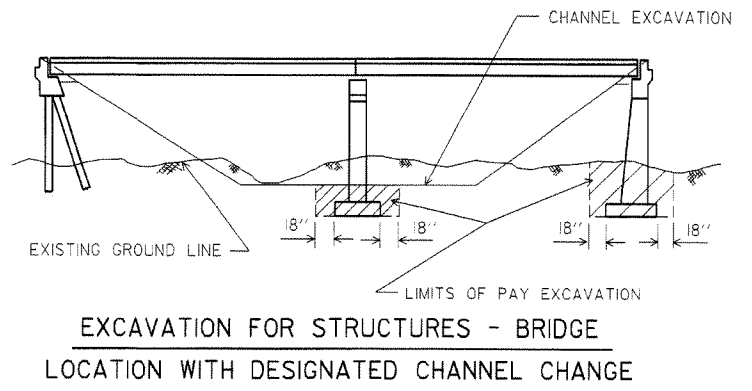
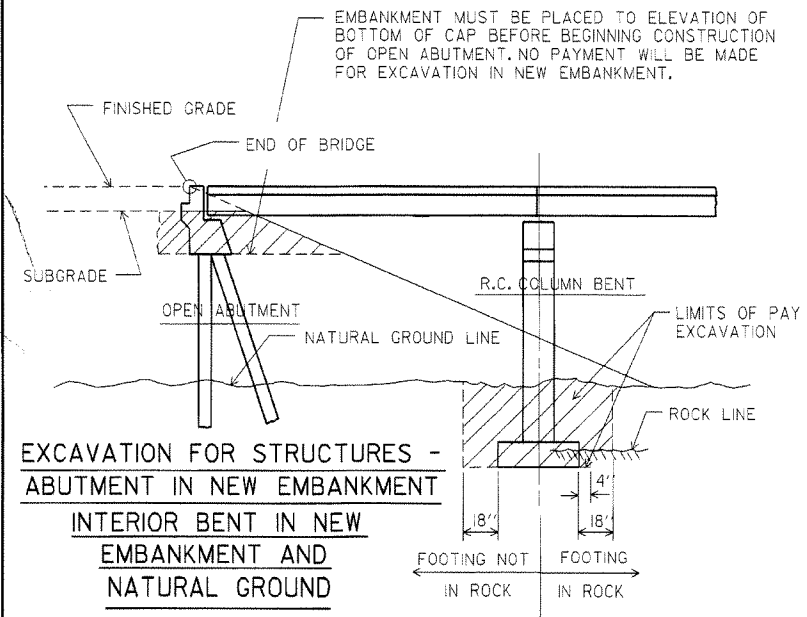
EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

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

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B1888A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD DATE: _____

BRIDGE NO. _____ DRAWING NO. 1888A

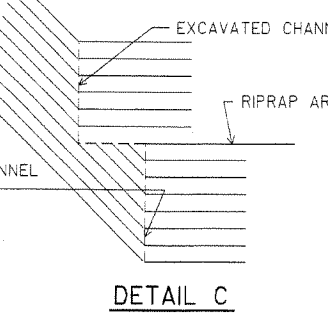
DATE REVISED	DATE FILLED	DATE REVISED	DATE FILLED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		51	
JOB NO.							1	
RIP. & EXCAV.							1891F	



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(6) 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.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRASD
BRIDGE ENGINEER

Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

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: NO SCALE

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
9-8-11				6	ARK.		52	
JOB NO.							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	Highway 5
Line 2	Relief	Railroad	River	
Line 3		Overpass	Relief	

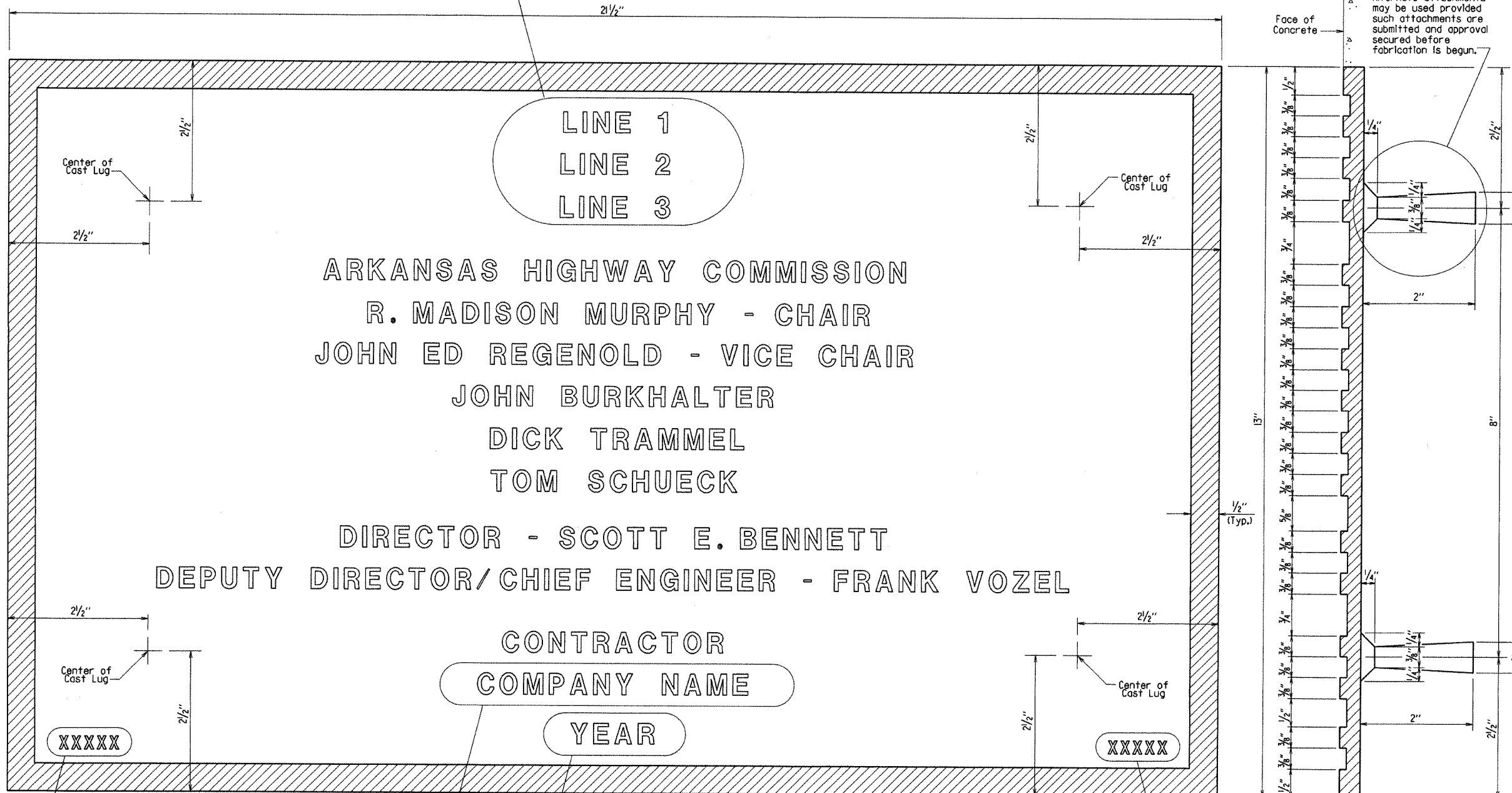
GENERAL NOTES

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 7/8" x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered. The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.



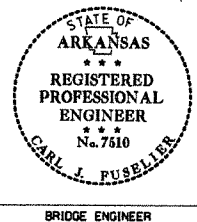
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples: HS 20 HL-93

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example: 2001

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example: ABCD CONSTRUCTION, INC.

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples: A1234 05432

TYPICAL BRIDGE NAME PLATE

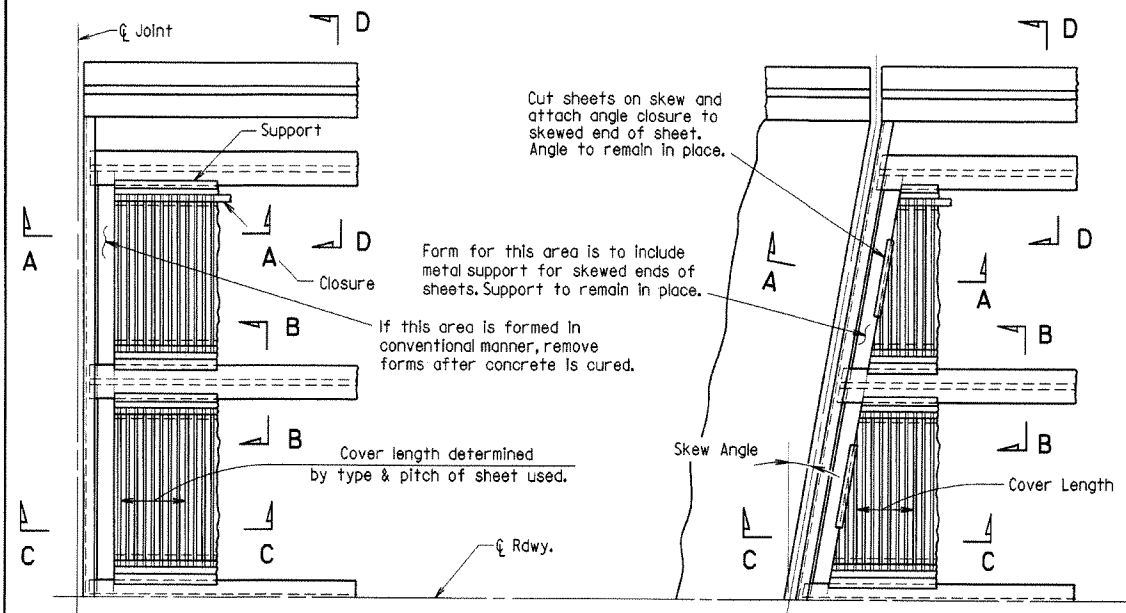


DETAILS OF STANDARD TYPE D BRIDGE NAME PLATE
 ROUTE SEC.
 ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 DRAWN BY: KDH DATE: 9-8-11 FILENAME: B2387.STD
 CHECKED BY: CRE DATE: 9-8-11 SCALE: 1'-0" = 1'-0"
 DESIGNED BY: STD. DATE: OR AS NOTED
 BRIDGE NO. DRAWING NO. 2387

Revised and Redrawn 9-8-11 KDH Checked By: CAE

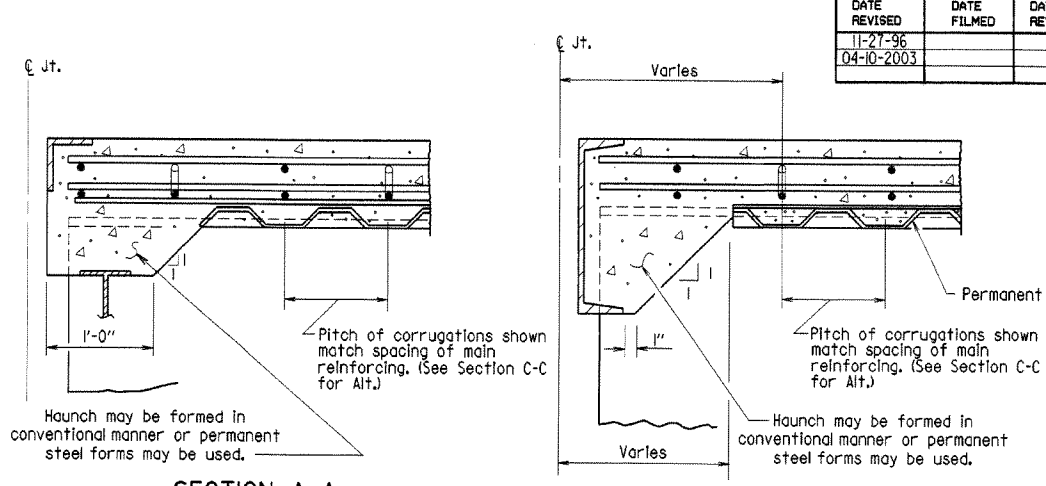
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-27-96						6	ARK.		53	
04-10-2003										

BR. DECK FORMS 14991



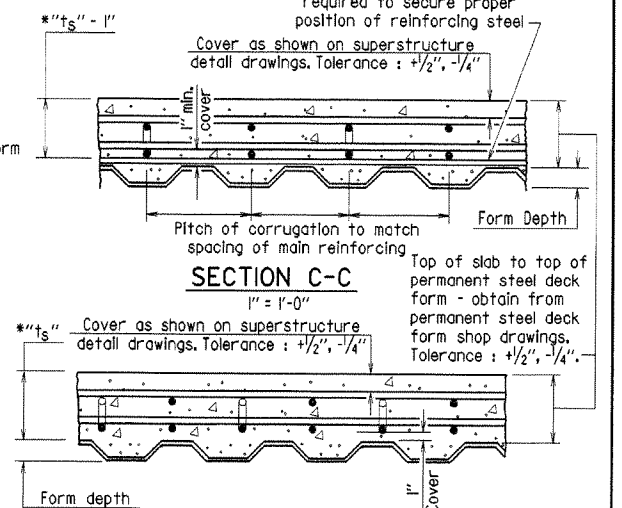
PART PLAN - SQUARE SPAN
3/8" = 1'-0"

PART PLAN - SKEWED SPAN
3/8" = 1'-0"



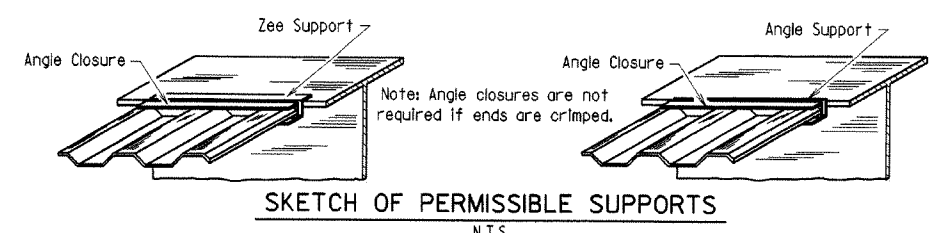
SECTION A-A
N.T.S.
(Angle at end of span)

SECTION A-A
N.T.S.
(Channel at end of span)

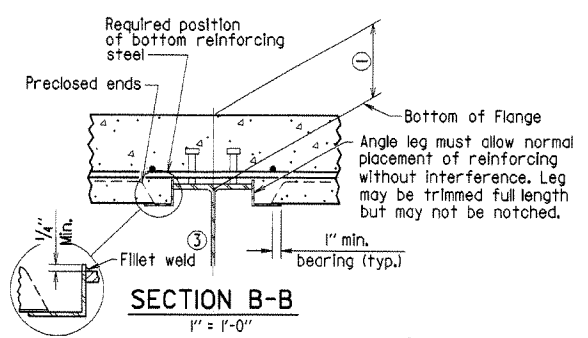


SECTION C-C
1" = 1'-0"

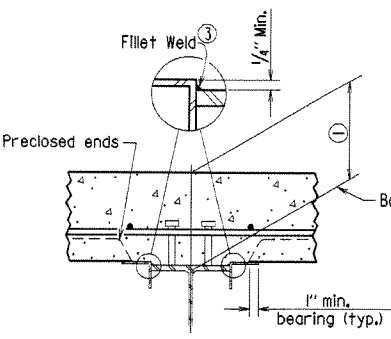
SECTION C-C - ALTERNATE
1" = 1'-0"



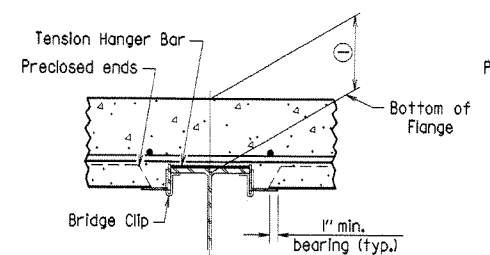
SKETCH OF PERMISSIBLE SUPPORTS
N.T.S.



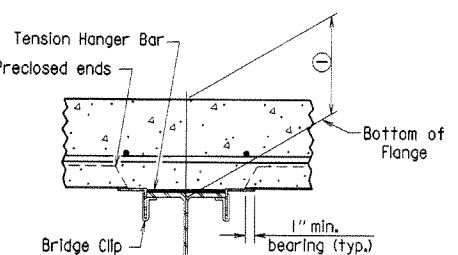
SECTION B-B
1" = 1'-0"



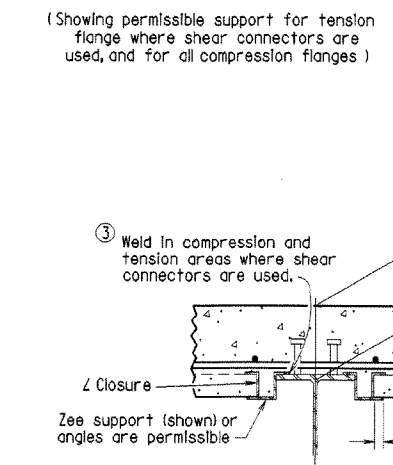
SECTION B-B
1" = 1'-0"



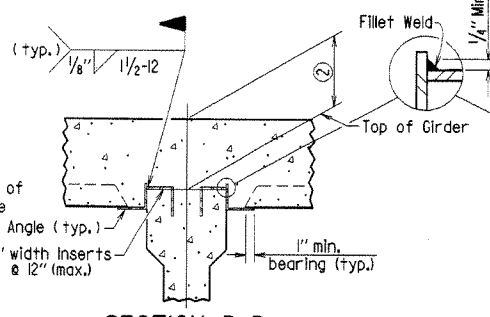
SECTION B-B
1" = 1'-0"



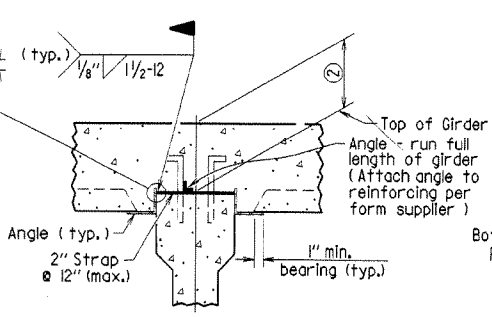
SECTION B-B
1" = 1'-0"



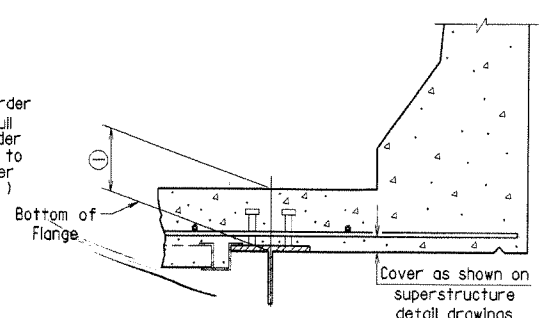
SECTION B-B
1" = 1'-0"



SECTION B-B
(FOR CONCRETE GIRDERS)
1" = 1'-0"



SECTION B-B
(FOR CONCRETE GIRDERS)
1" = 1'-0"



SECTION D-D
1" = 1'-0"

*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 L 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.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and special provisions.

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 + 1/4" + 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.

Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CDF 04-10-2003

Note: Only Bottom Reinforcing is shown.

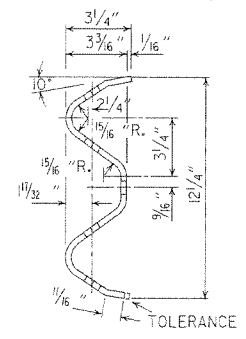
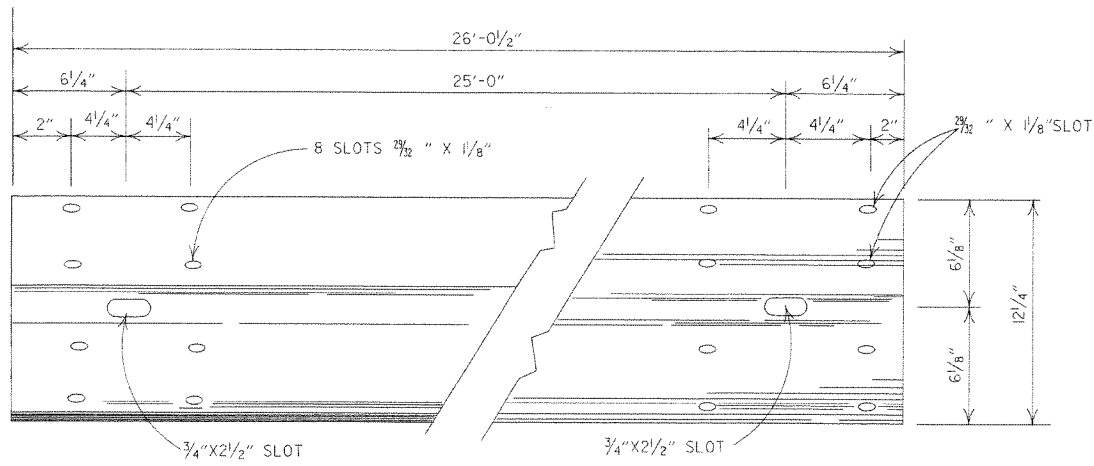
Redrawn and revised 11/27/96; MJT



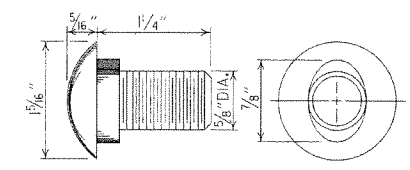
DETAILS OF PERMISSIBLE TYPE
PERMANENT STEEL BRIDGE DECK FORMS
FOR STEEL & CONCRETE GIRDER SPANS

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

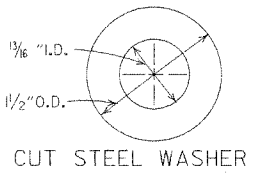
DRAWN BY: MJT DATE: 10-17-96
CHECKED BY: CPB DATE: 10-17-96 SCALE: as noted
DESIGNED BY: STD. DATE: ---
BRIDGE NO. DRAWING NO. 14991



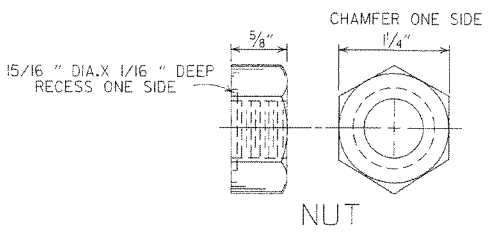
DETAILS OF W-BEAM GUARD RAIL
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



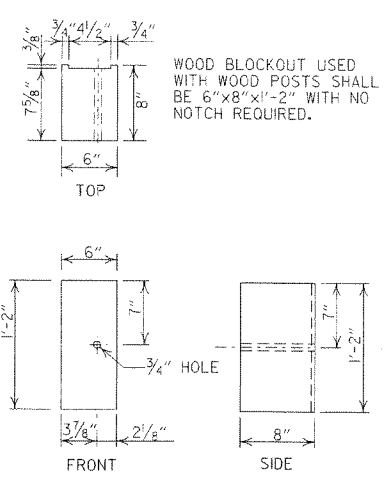
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



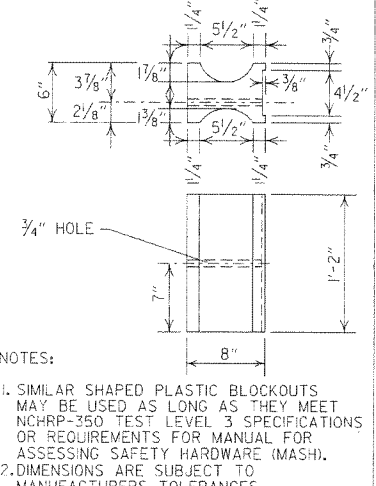
CUT STEEL WASHER



NUT

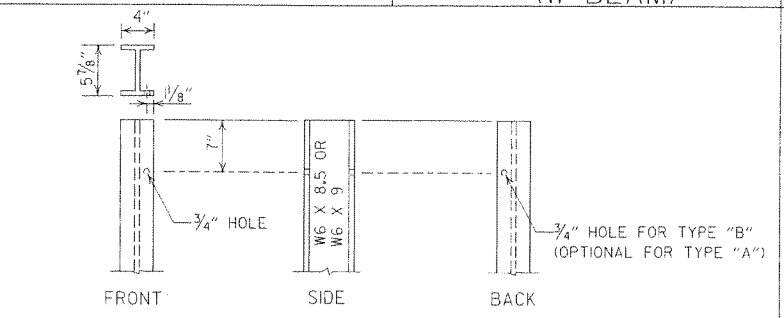


WOOD BLOCKOUT (W-BEAM)

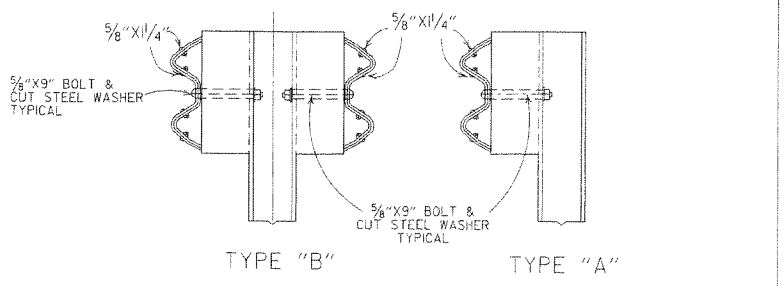


PLASTIC BLOCKOUT (W-BEAM)

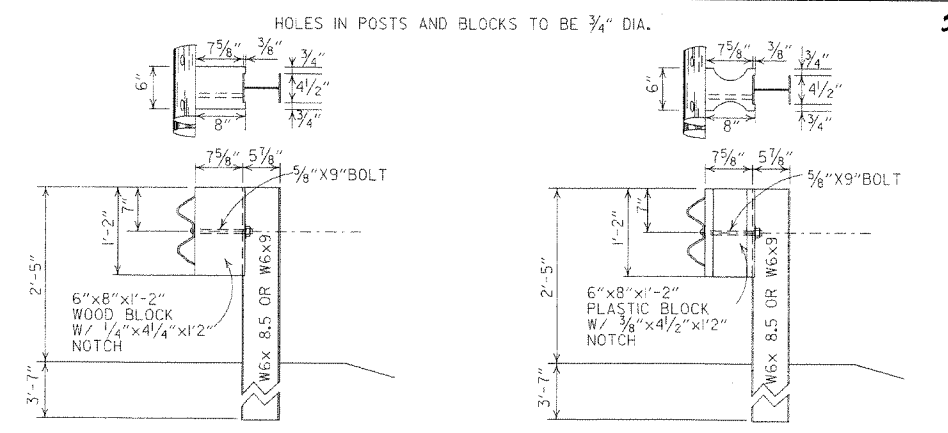
NOTES:
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.



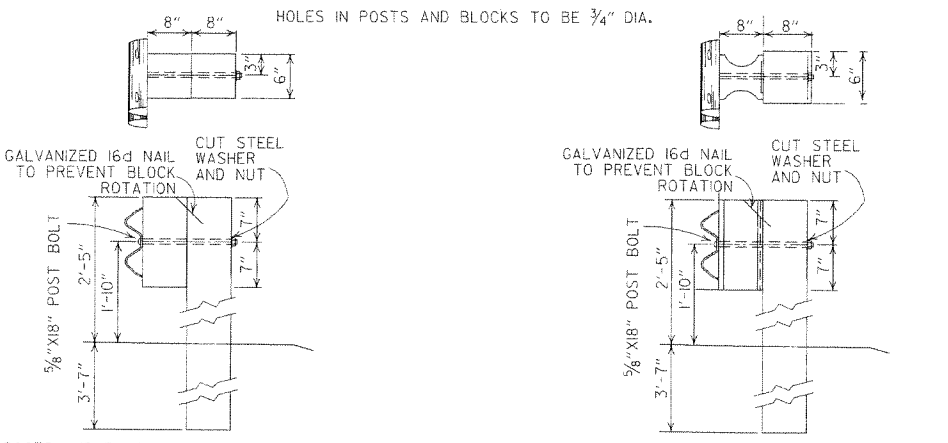
STEEL POST



DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



WOOD BLOCKOUT CONNECTIONS **PLASTIC BLOCKOUT CONNECTIONS**
DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



WOOD BLOCKOUT CONNECTIONS **PLASTIC BLOCKOUT CONNECTIONS**
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

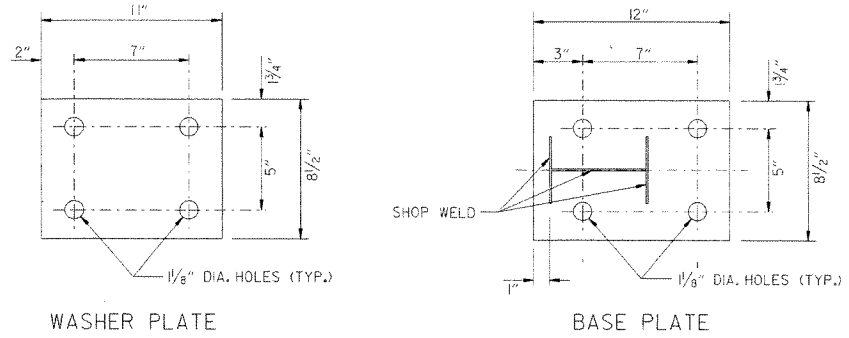
ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.
WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.
W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED 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 9.7f (1400 f) OR NO. 1 350 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.

7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-5-91
8-2-90	REV. GEN. NOTE & DEPTH 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
DATE	REVISION	DATE FILM

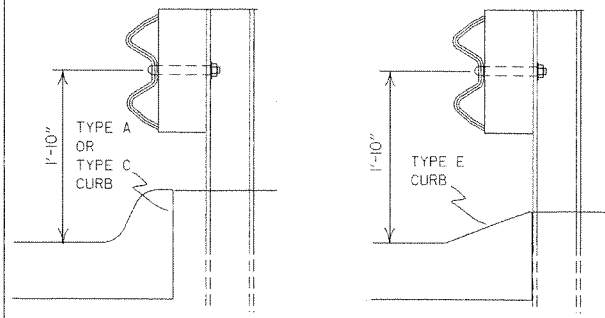
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8

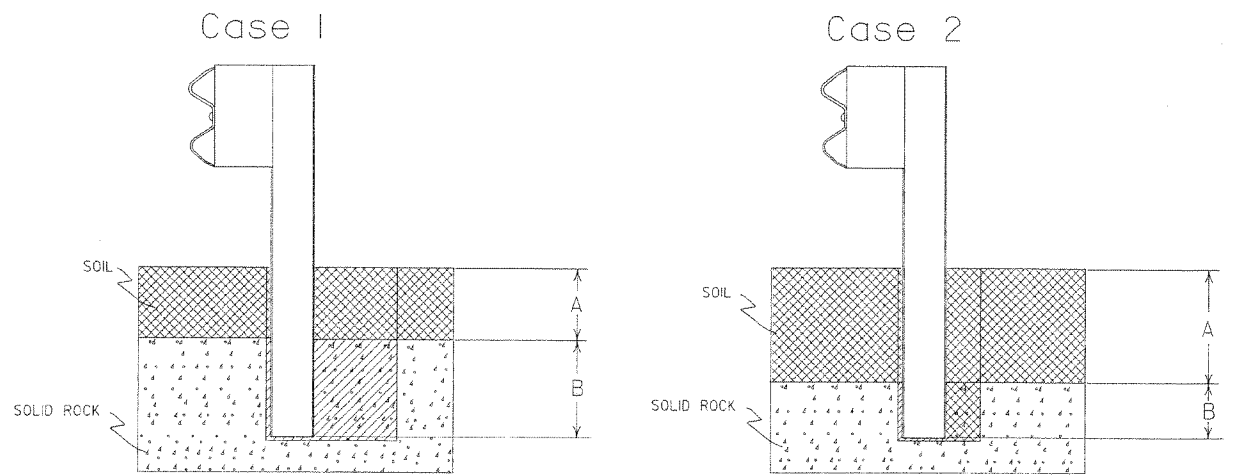


Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.



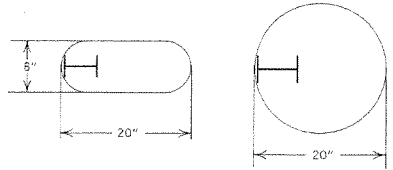
DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



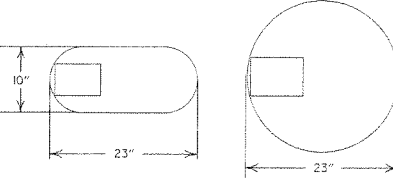
Plan View Steel Posts

Either hole configuration acceptable



Plan View Wood Posts

Either hole configuration acceptable



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

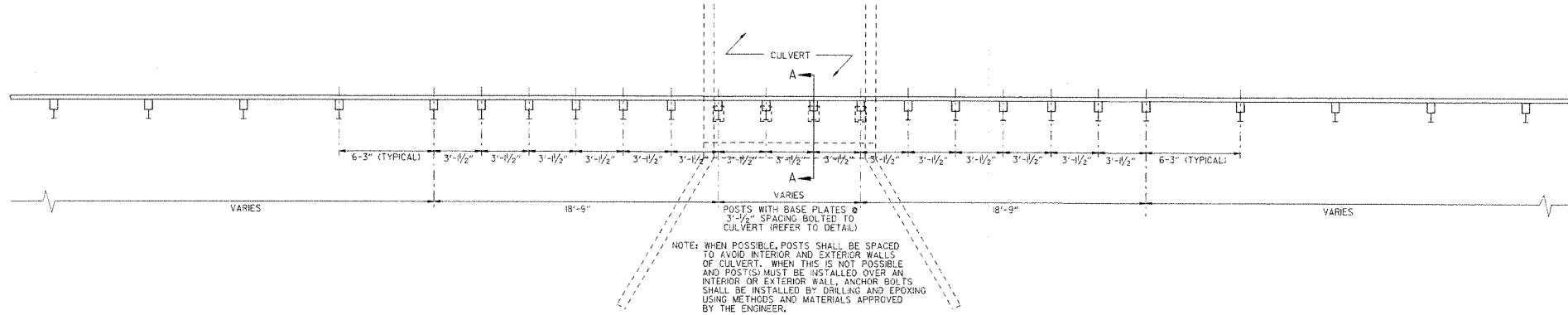
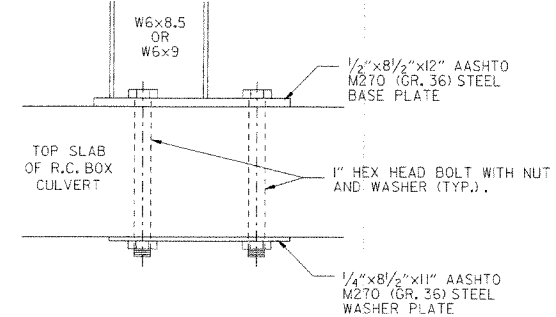
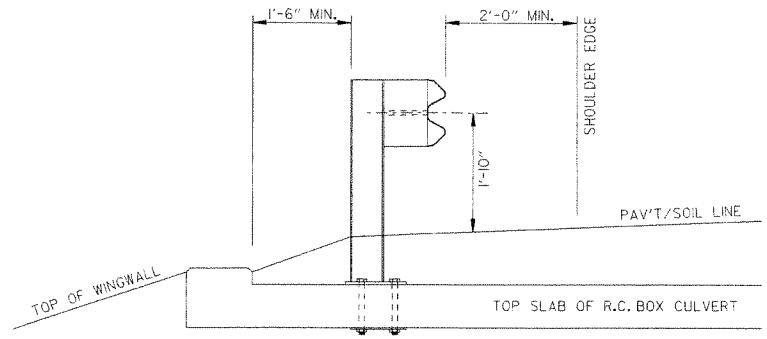
Zone A: Backfill according to Section 617.03(d).

Zone B: Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B: Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



NOTE: WHEN POSSIBLE, POSTS SHALL BE SPACED TO AVOID INTERIOR AND EXTERIOR WALLS OF CULVERT. WHEN THIS IS NOT POSSIBLE AND POST(S) MUST BE INSTALLED OVER AN INTERIOR OR EXTERIOR WALL, ANCHOR BOLTS SHALL BE INSTALLED BY DRILLING AND EPOXYING USING METHODS AND MATERIALS APPROVED BY THE ENGINEER.

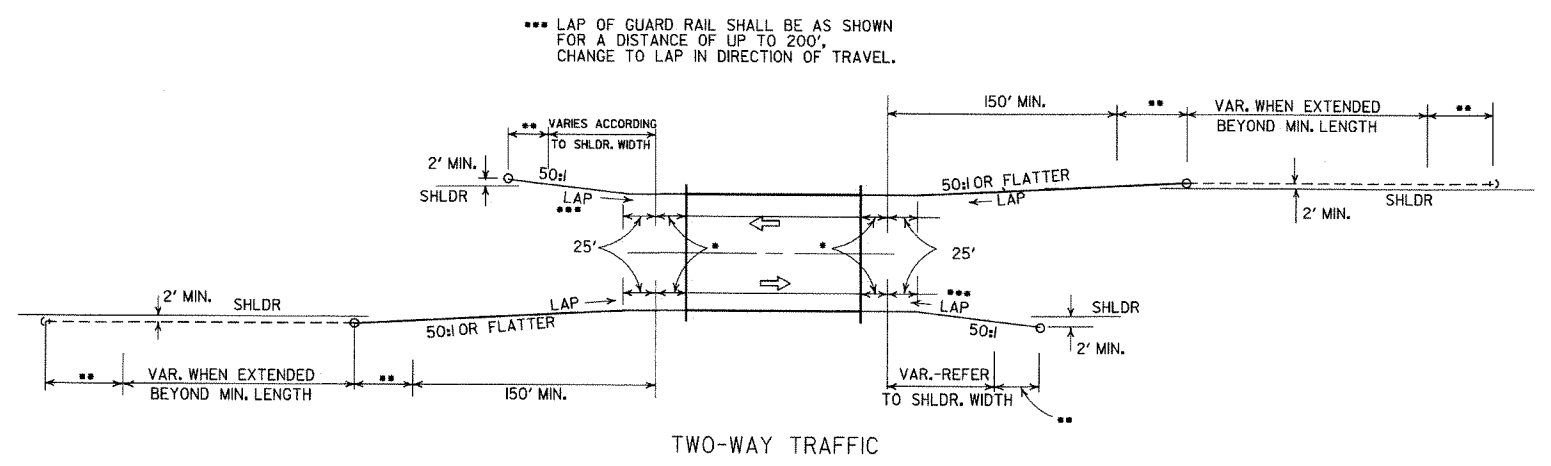
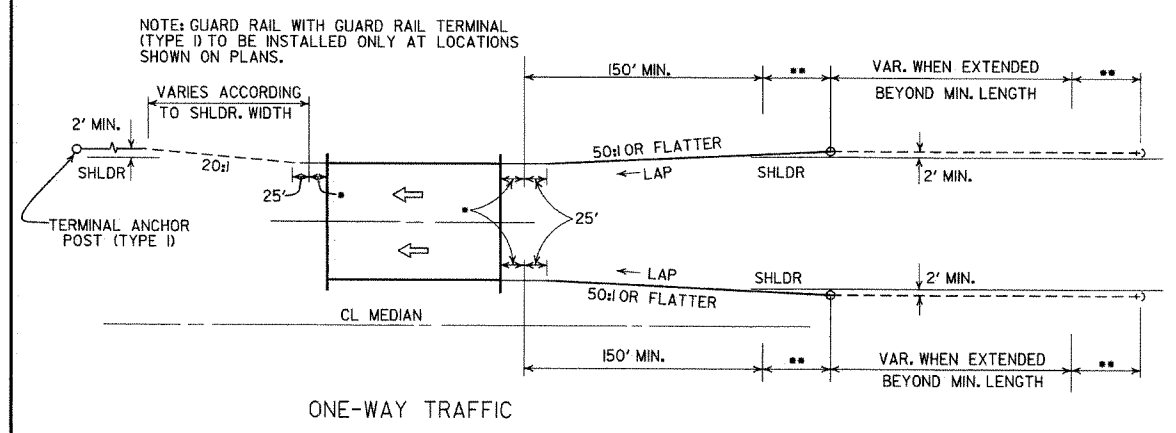
NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DRWG. GR-8.

7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT; ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULVERT; DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
8-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-5-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
7-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	10-30-87
10-9-87	REDRAWN & REVISED	10-9-87
DATE	REVISION	DATE FILED

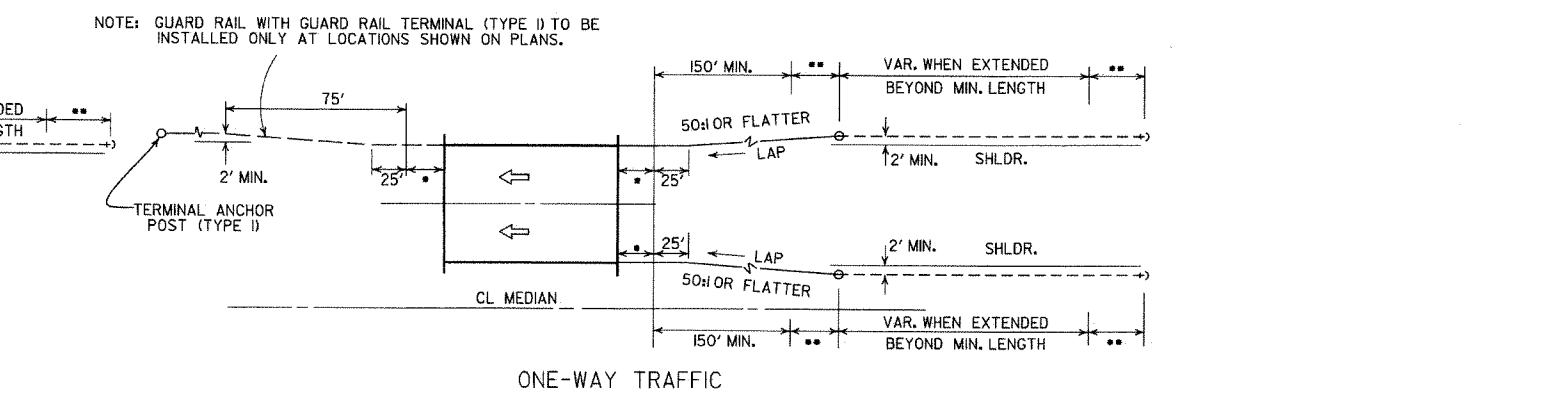
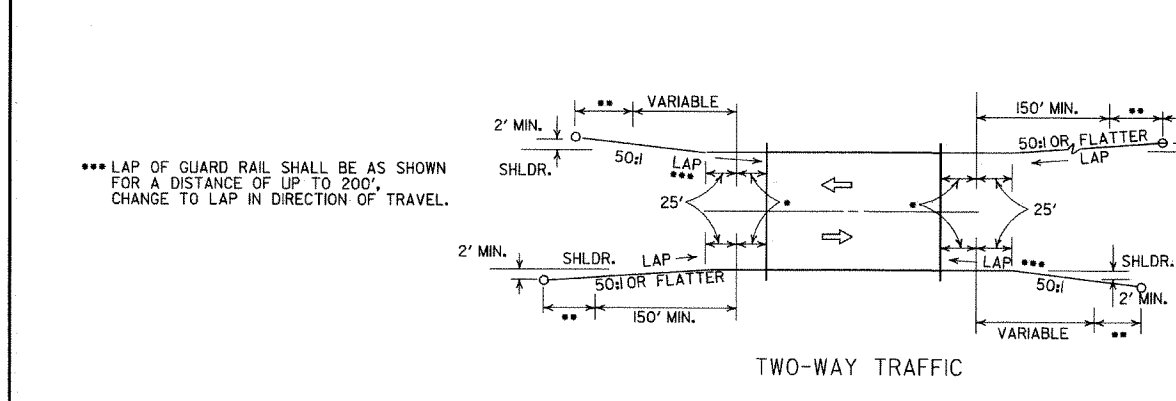
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

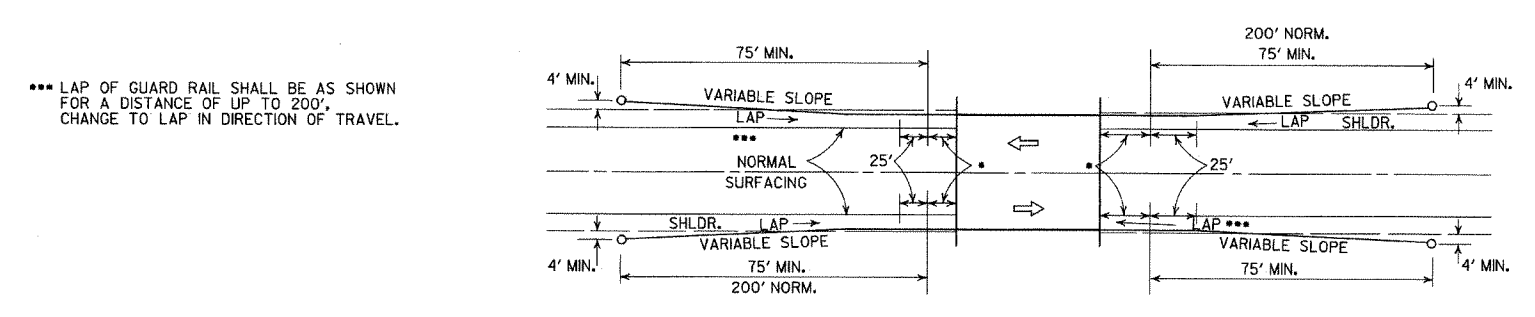
STANDARD DRAWING GR-8A



METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)



METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

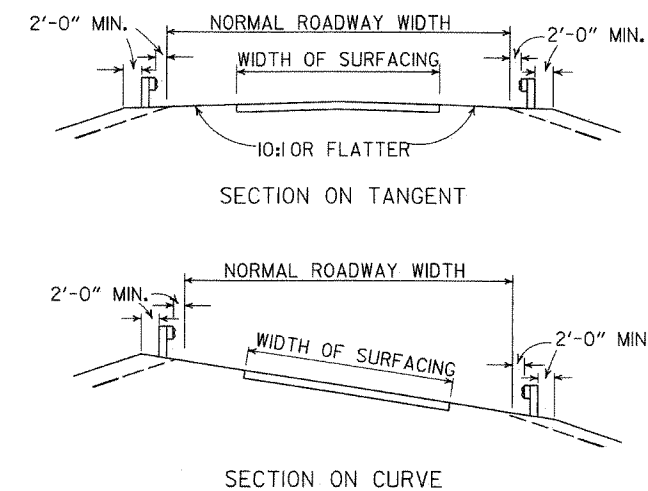
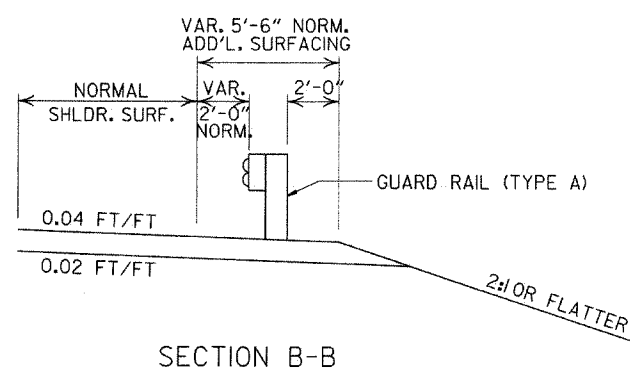
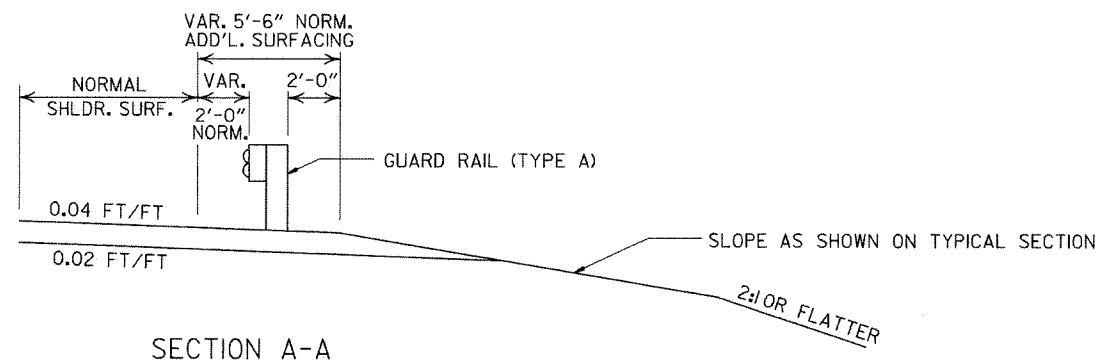
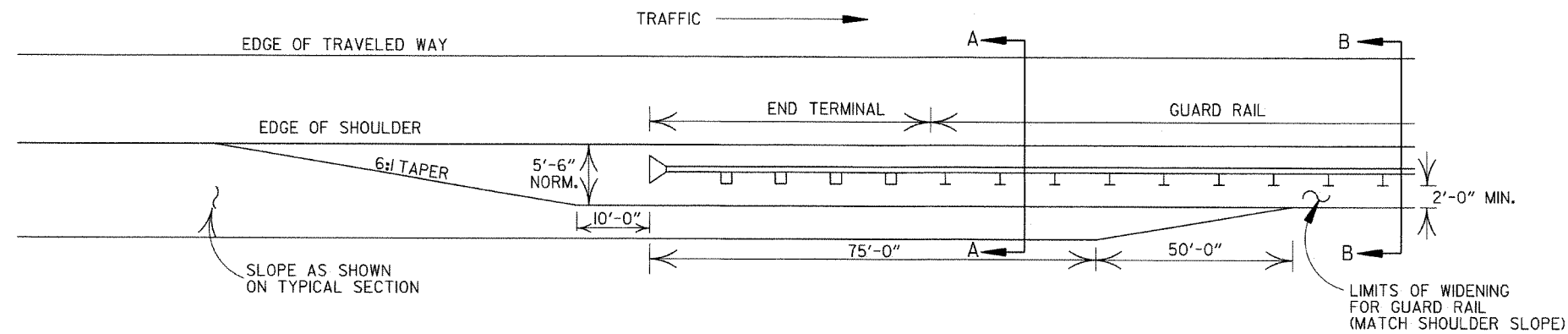


LEGEND

- THRIE BEAM GUARD RAIL TERMINAL
- GUARD RAIL TERMINAL (TYPE 2)

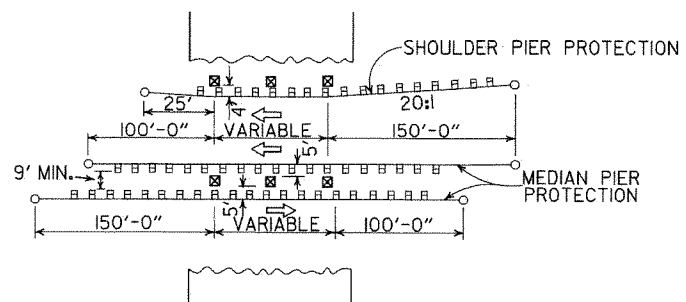
METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

ARKANSAS STATE HIGHWAY COMMISSION		
GUARD RAIL DETAILS		
STANDARD DRAWING GR-9		
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
10-9-87	ADDED NOTE	
10-9-87	REDRAWN & REVISED	
DATE	REVISION	DATE FILED



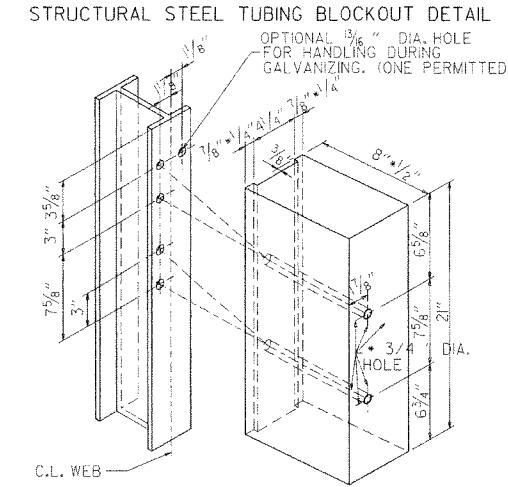
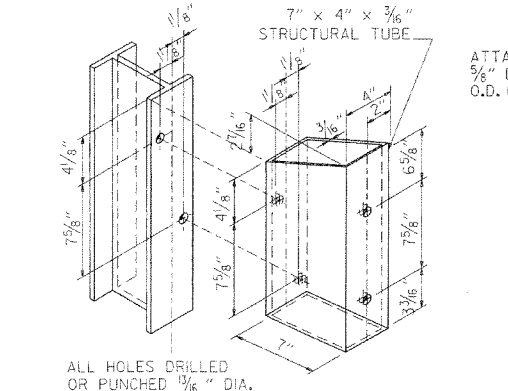
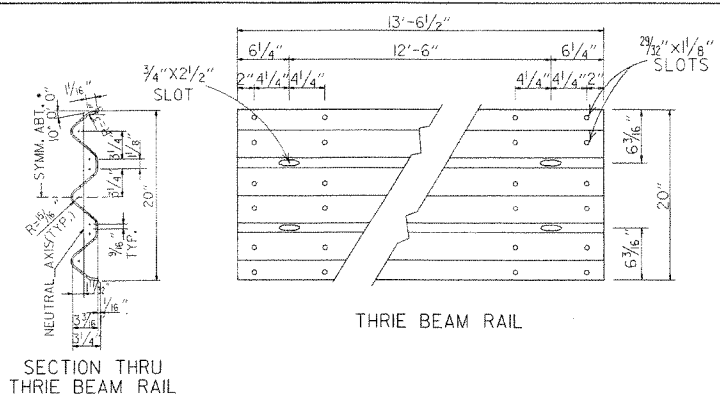
DETAILS OF WIDENING FOR GUARD RAIL

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY

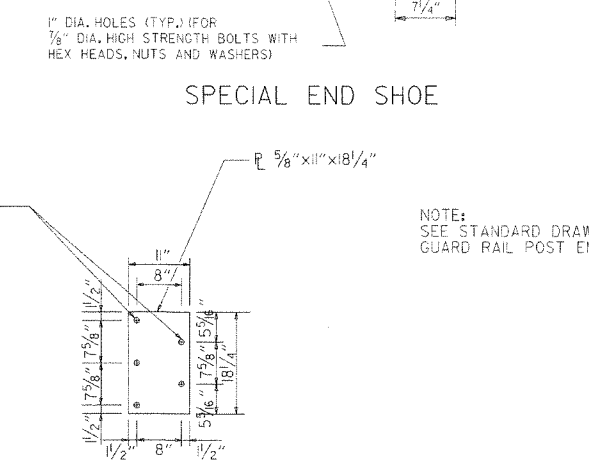
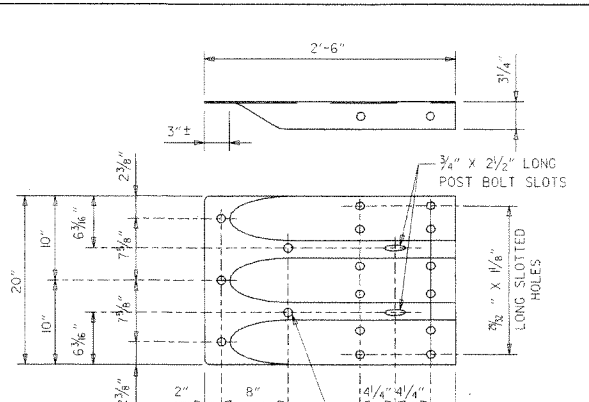


METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

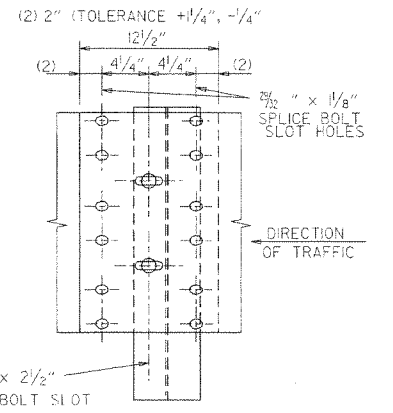
ARKANSAS STATE HIGHWAY COMMISSION			
GUARD RAIL DETAILS			
STANDARD DRAWING GR-9A			
4-17-08	MINOR REVISION		
11-10-05	DRAWN		
DATE	REVISION	DATE	FILM



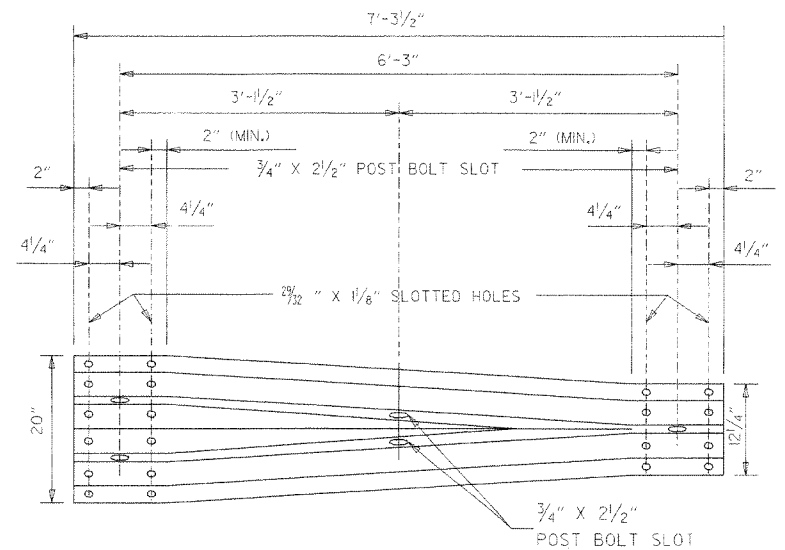
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



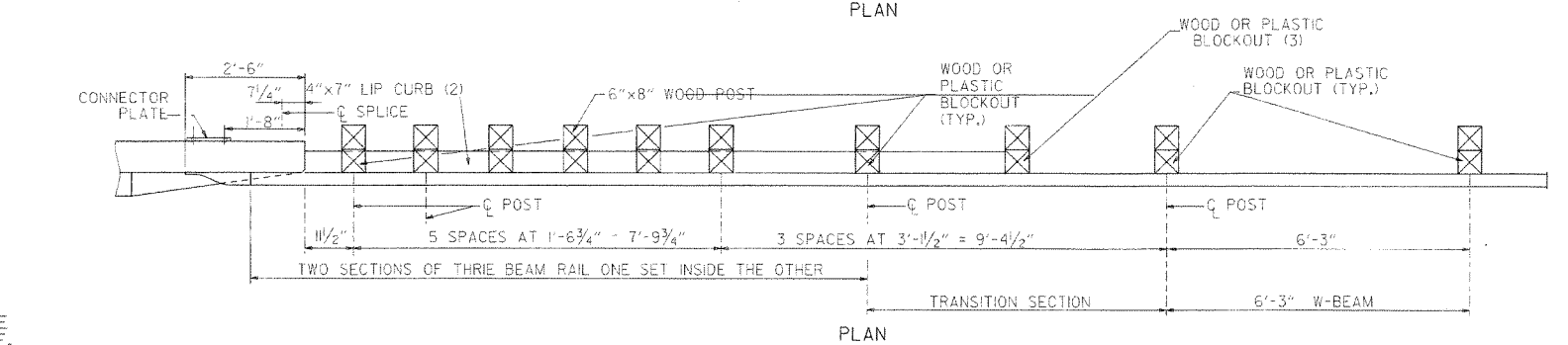
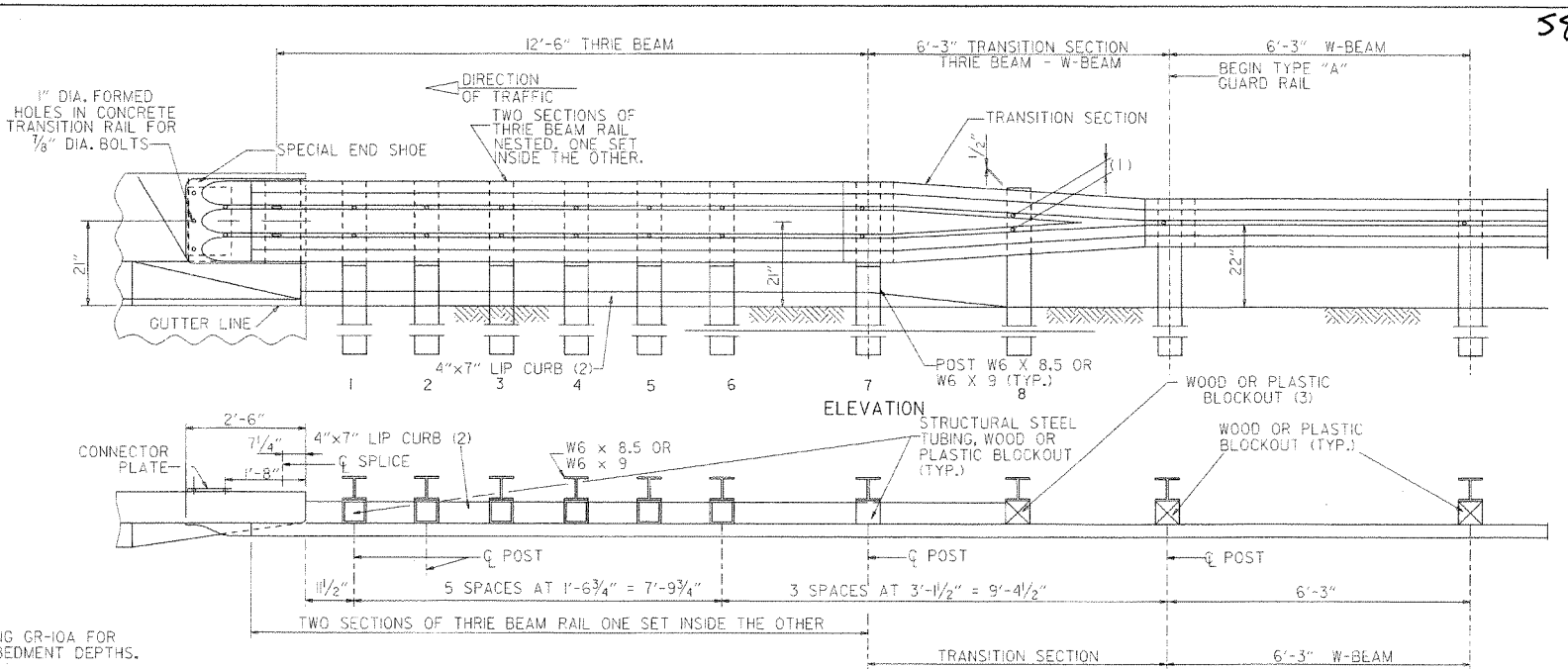
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING 7/8" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS 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

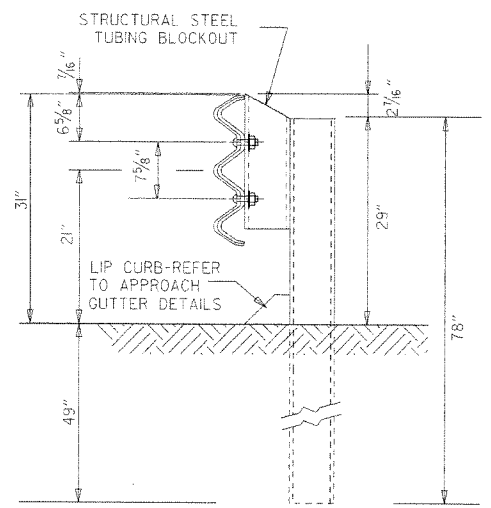


- (1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
- (2) REFER TO APPROACH GUTTER DETAILS.
- (3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

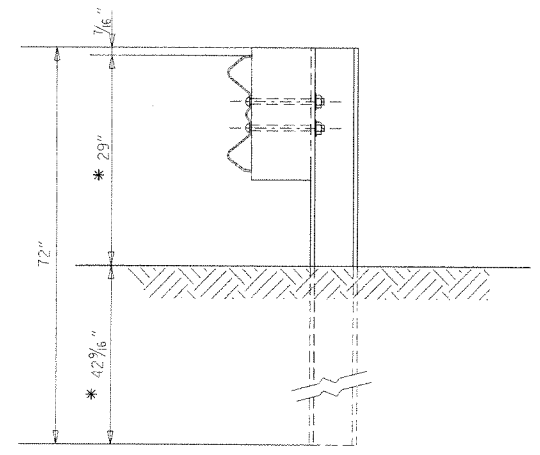
THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

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 3/4" 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 9.7F (1400 F) OR NO. 1 350 F SOUTHERN PINE.
 REFER TO STD. DRWG. GR-10A FOR POST DETAILS.
 USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.
 THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

7-14-10	RAISED HEIGHT OF W-BEAM 1"		ARKANSAS STATE HIGHWAY COMMISSION
11-29-07	ADDED PLASTIC BLOCKOUTS		
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT		GUARD RAIL DETAILS
11-18-04	REVISED GENERAL NOTES		
10-9-03	REVISED GENERAL NOTES		STANDARD DRAWING GR-10
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		
DATE	REVISION	DATE FILM	

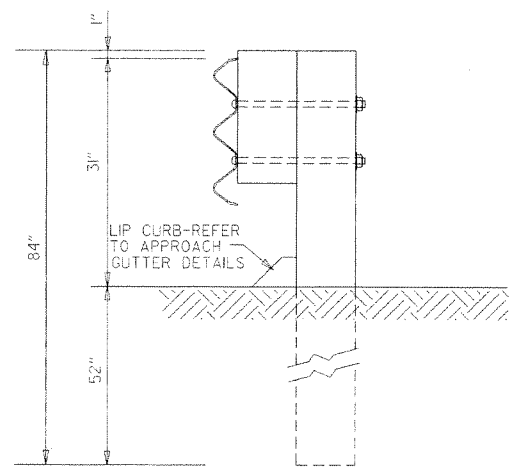


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT AND STEEL POST
POSTS 1-7

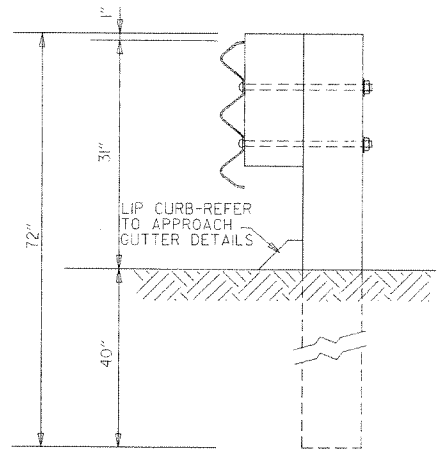


W-BEAM TO THRIE BEAM TRANSITION RAIL WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

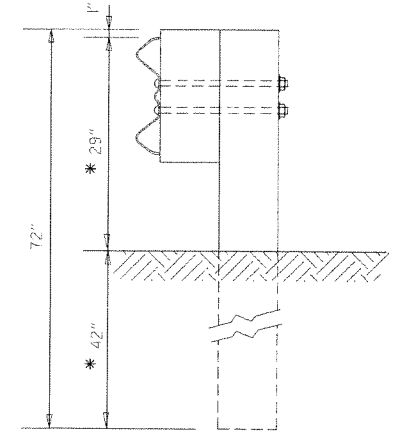
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



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

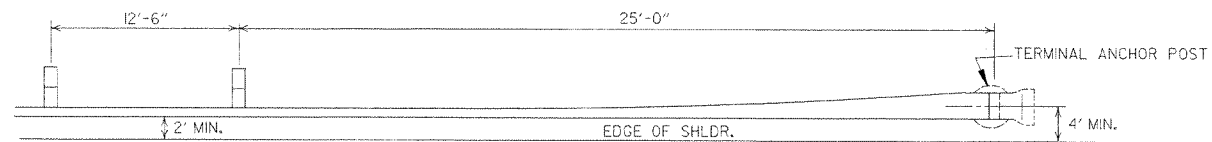


W-BEAM TO THRIE BEAM TRANSITION RAIL WITH WOOD OR PLASTIC BLOCKOUT & WOOD POST
POST 8

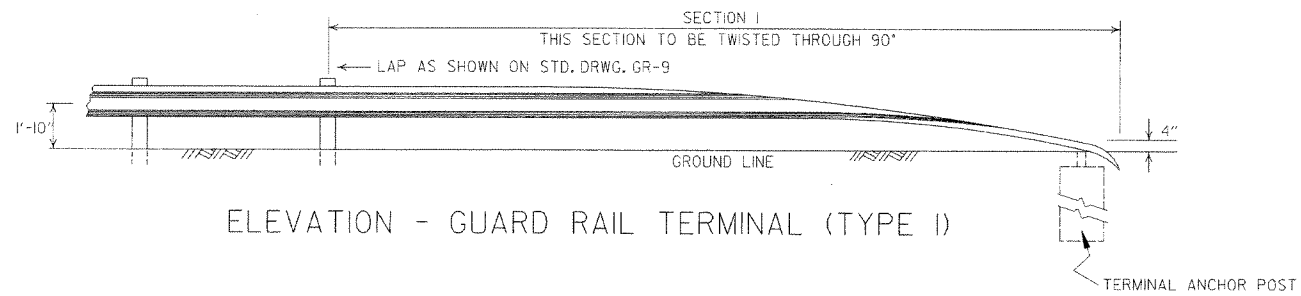
GENERAL NOTES:
RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7F (400 F) OR NO. 1 1350 F SOUTHERN PINE.

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

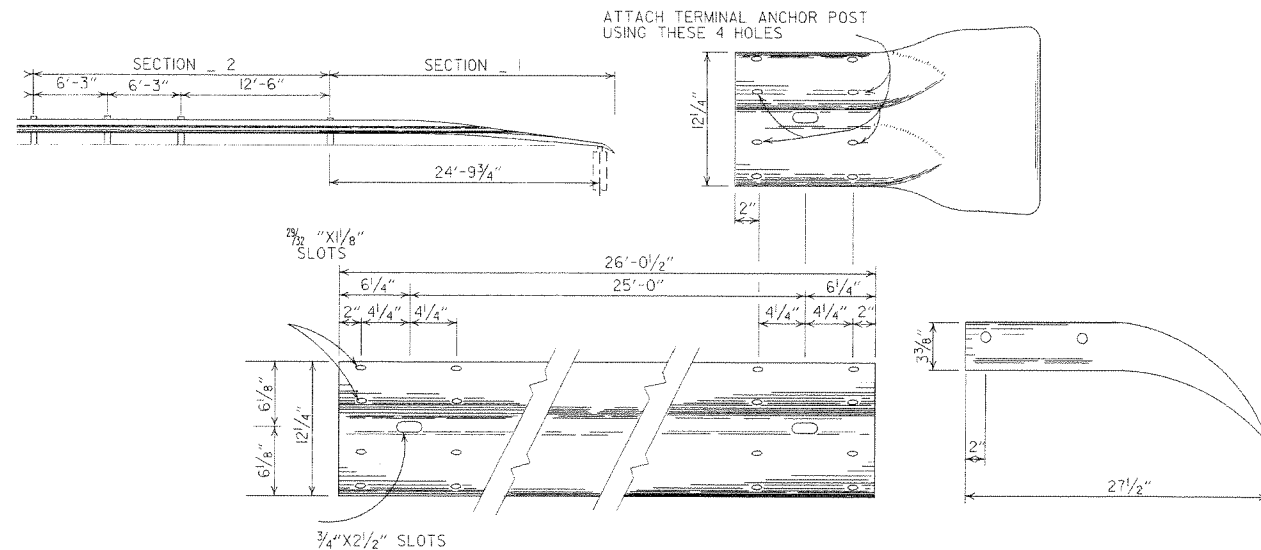


PLAN - GUARD RAIL TERMINAL (TYPE I)



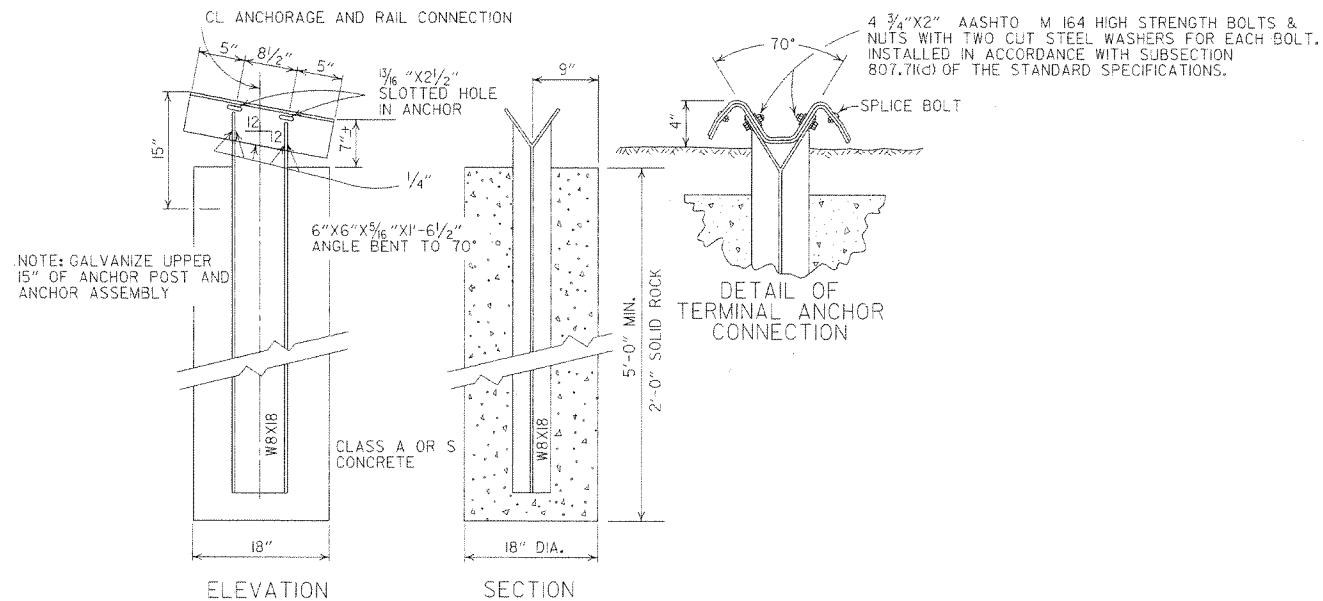
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION 1

TERMINAL SECTION



ELEVATION

SECTION

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8" W/ 17" POST IF CONTRACTOR SO DESIRES.

		ARKANSAS STATE HIGHWAY COMMISSION
		GUARD RAIL DETAILS
		STANDARD DRAWING GRT-1
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
6-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-3-94	DIMENSION TERMINAL DETAIL	
11-1-92	ADDED NOTE FOR PAYMENT	11-1-92
10-1-92	DRAWN & ISSUED	10-1-92
DATE	REVISION	DATE FILM

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	13 1/2	14
21	26	26	15 1/2	16
24	28 1/2	29	18	18
30	36 1/4	36	22 1/2	23
36	43 3/8	44	26 3/8	27
42	51 1/8	51	31 3/8	31
48	58 1/2	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	77 1/2	77
108	138	138	87 1/8	87
120	154	154	96 1/8	97
132	168 3/4	169	106 1/2	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).

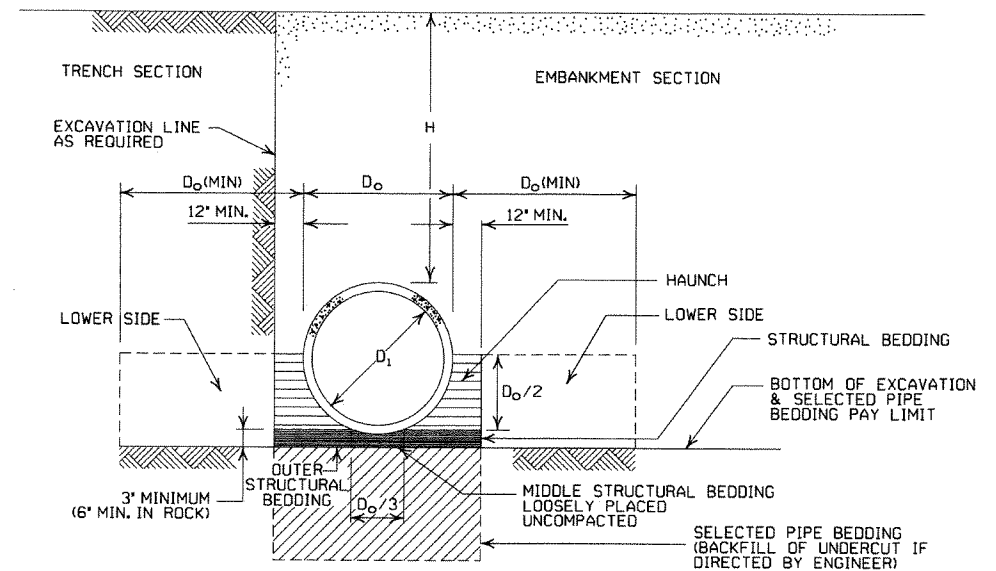
NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

- 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

INSTALLATION TYPE	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
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
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
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
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)

Table with columns for PIPE DIAMETER (INCHES), MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET), MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET), and METAL THICKNESS (INCHES) for 2 1/2 inch by 1/2 inch and 3 inch by 1 inch corrugations.

CONSTRUCTION SEQUENCE

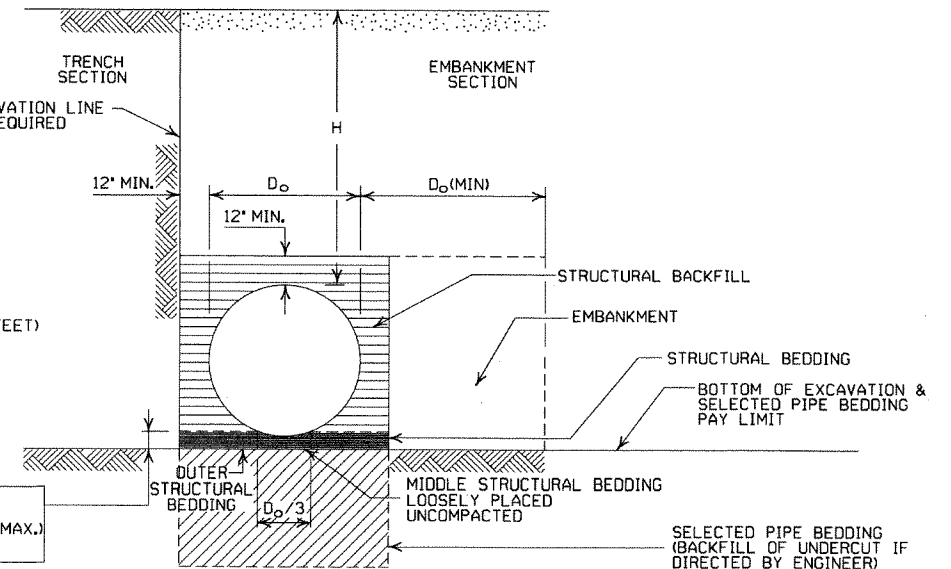
- 1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE...

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.

Table with columns for INSTALLATION TYPE and MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING, listing Type 1 and Type 2 materials.

3 SM-3 WILL NOT BE ALLOWED.

- LEGEND -
Do = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

- 1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 1/2" x 1/2" 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.
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."

CORRUGATED ALUMINUM PIPE (ROUND)

Table with columns for PIPE DIAMETER (INCHES), MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET), MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET), and METAL THICKNESS IN INCHES for 2 1/2 inch by 1/2 inch and 3 inch by 1 inch corrugations.

EQUIVALENT METAL THICKNESSES AND GAUGES

Table with columns for METAL THICKNESS IN INCHES (STEEL, ZINC COATED, UNCOATED, ALUMINUM) and GAUGE NUMBER.

CORRUGATED METAL PIPE ARCHES

Table with columns for EQUIV. DIA. (INCHES), PIPE DIMENSION (SPAN X RISE), MINIMUM CORNER RADIUS, MIN. THICKNESS REQUIRED, MIN. HEIGHT OF FILL, MAX. HEIGHT OF FILL, MIN. THICKNESS REQUIRED, MIN. HEIGHT OF FILL, and MAX. HEIGHT OF FILL for STEEL and ALUMINUM pipes.

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

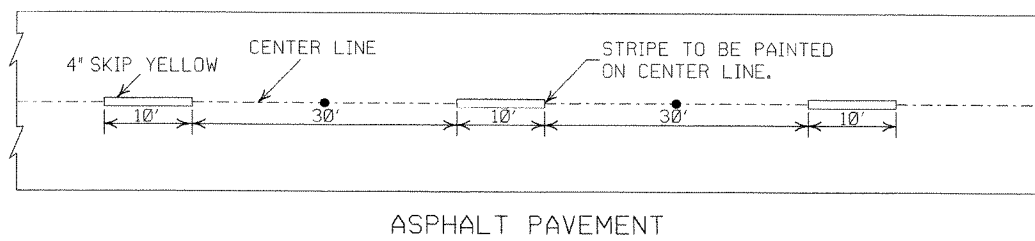
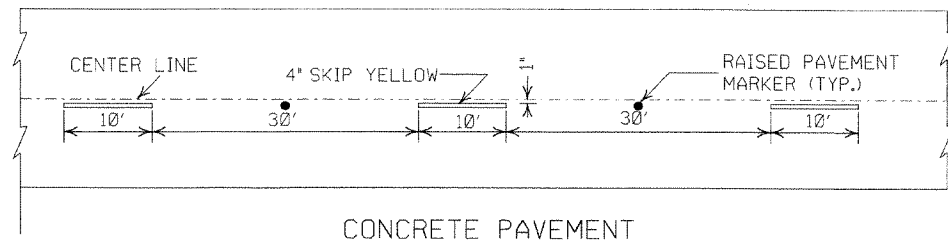
2 WHERE THE STANDARD 2 2/3" x 1/2" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

Table with columns for DATE, REVISION, and DATE FILMED, showing revision history from 12-15-11 to 11-06-97.

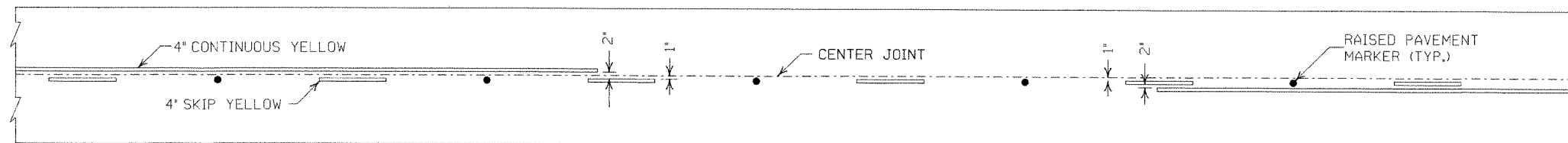
ARKANSAS STATE HIGHWAY COMMISSION
METAL PIPE CULVERT
FILL HEIGHTS & BEDDING
STANDARD DRAWING PCM-1

NOTES:

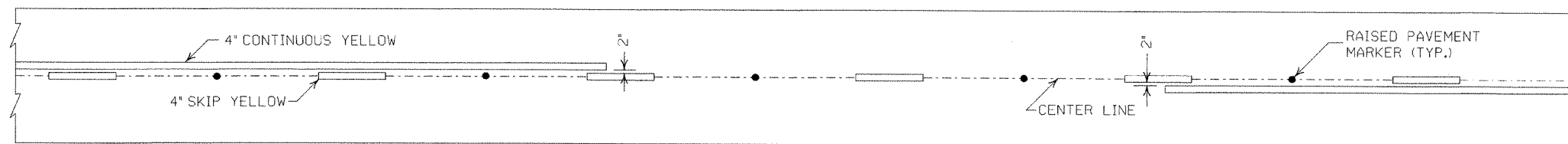
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



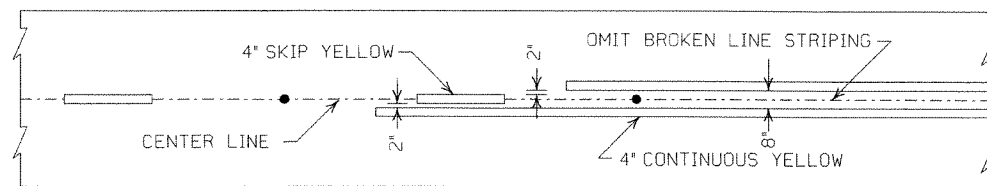
BROKEN LINE STRIPING



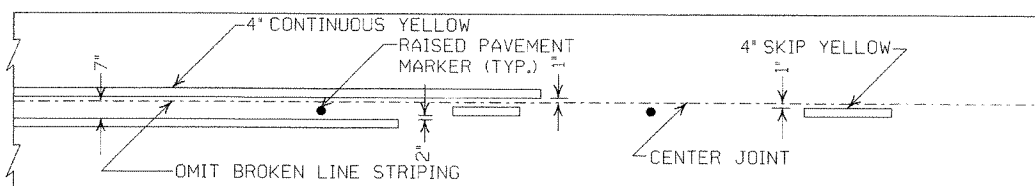
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

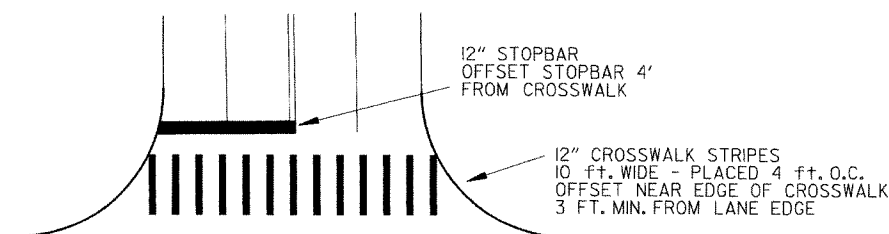


ASPHALT PAVEMENT

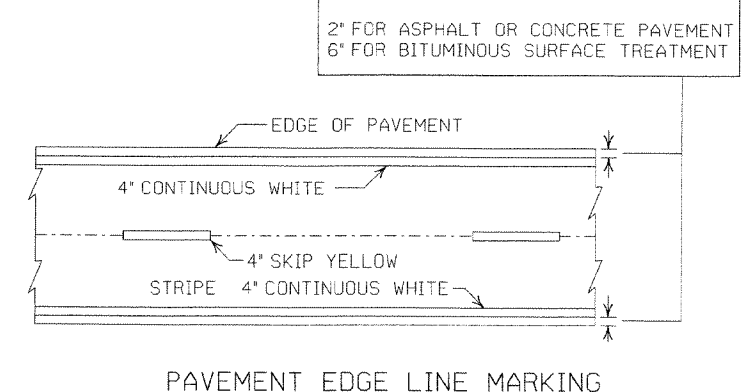


CONCRETE PAVEMENT

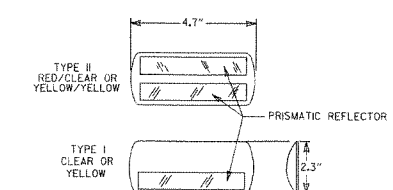
STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS



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.

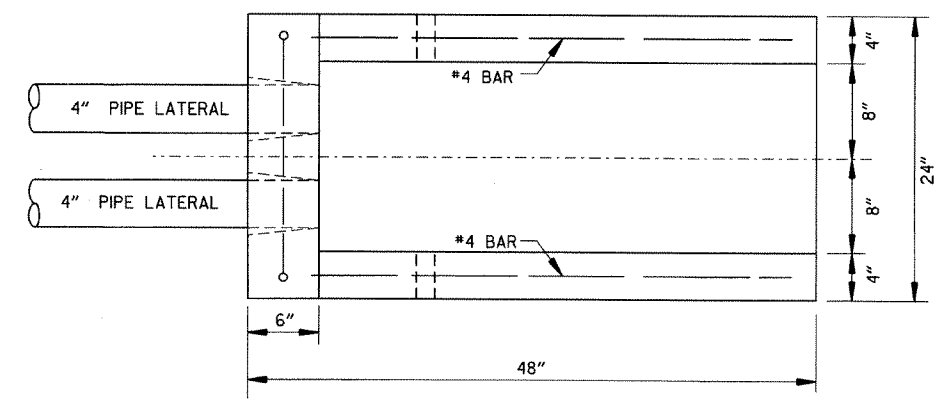
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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.

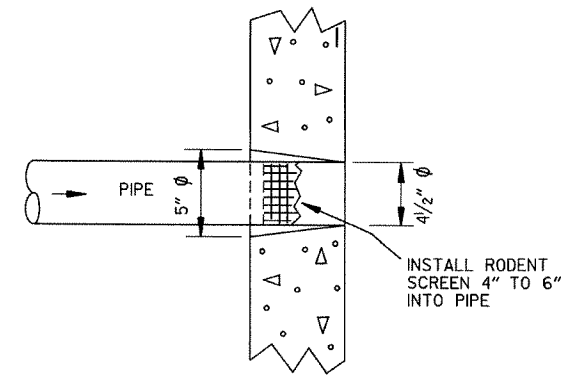
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION	
PAVEMENT MARKING DETAILS	
STANDARD DRAWING PM-1	

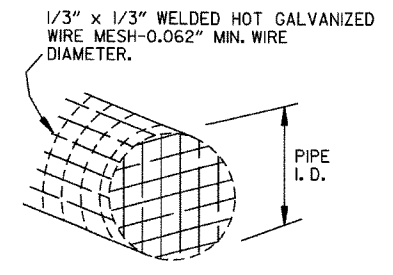
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH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



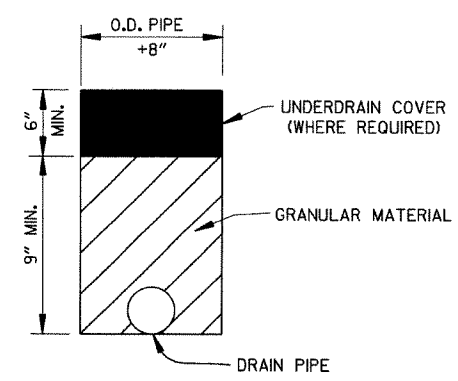
PLAN VIEW



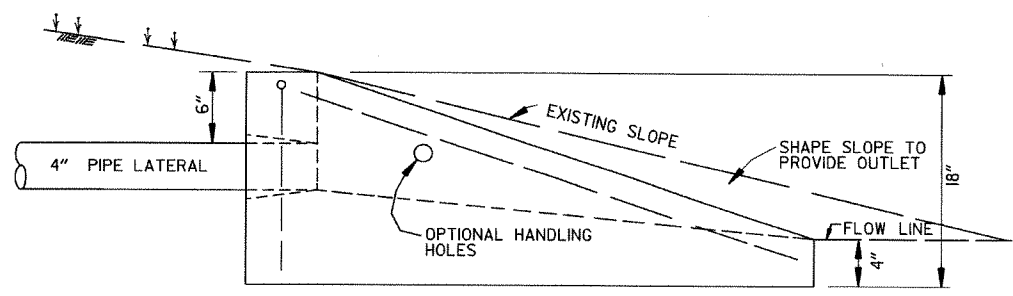
DETAIL OF HOLE FOR 4" PIPE



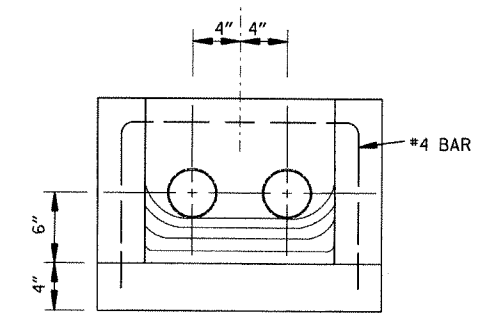
DETAIL OF RODENT SCREEN



DETAILS OF PIPE UNDERDRAIN

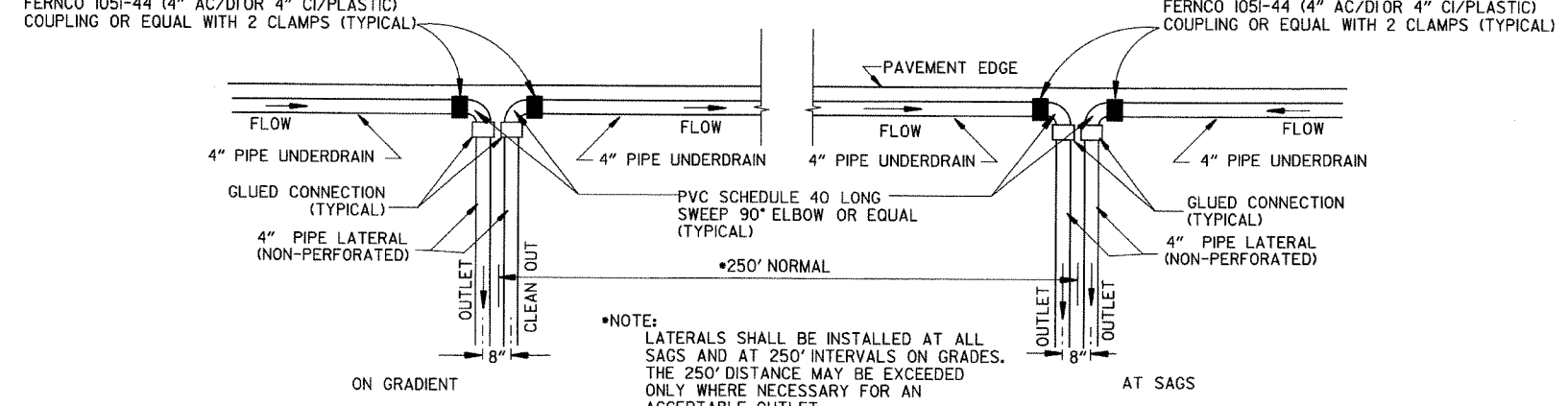


SIDE VIEW



FRONT VIEW

UNDERDRAIN OUTLET PROTECTORS



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE
 NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)	
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
0° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 00'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 00'	R.C.		175		200		225		250		275	
2° 15'	R.C.											
2° 30'	0.021											
2° 45'	0.023											
3° 00'	0.025	150										
3° 15'	0.027											
3° 30'	0.029											
3° 45'	0.031											
4° 00'	0.033											
4° 30'	0.037											
5° 00'	0.040											
5° 30'	0.043											
6° 00'	0.046											
6° 30'	0.050											
7° 00'	0.053											
7° 30'	0.056											
8° 00'	0.058											
8° 30'	0.061											
9° 00'	0.063											
10° 00'	0.068	160										
11° 00'	0.072	170										
12° 00'	0.076	175										
13° 00'	0.080	180										
14° 00'	0.083	185										
15° 00'	0.086	190										
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										
21° 00'	0.098	215										
22° 00'	0.099	215										
23° 00'	0.099	215										
24° 00'	0.100	220										

D MAX = 24° 45'

ABBREVIATIONS

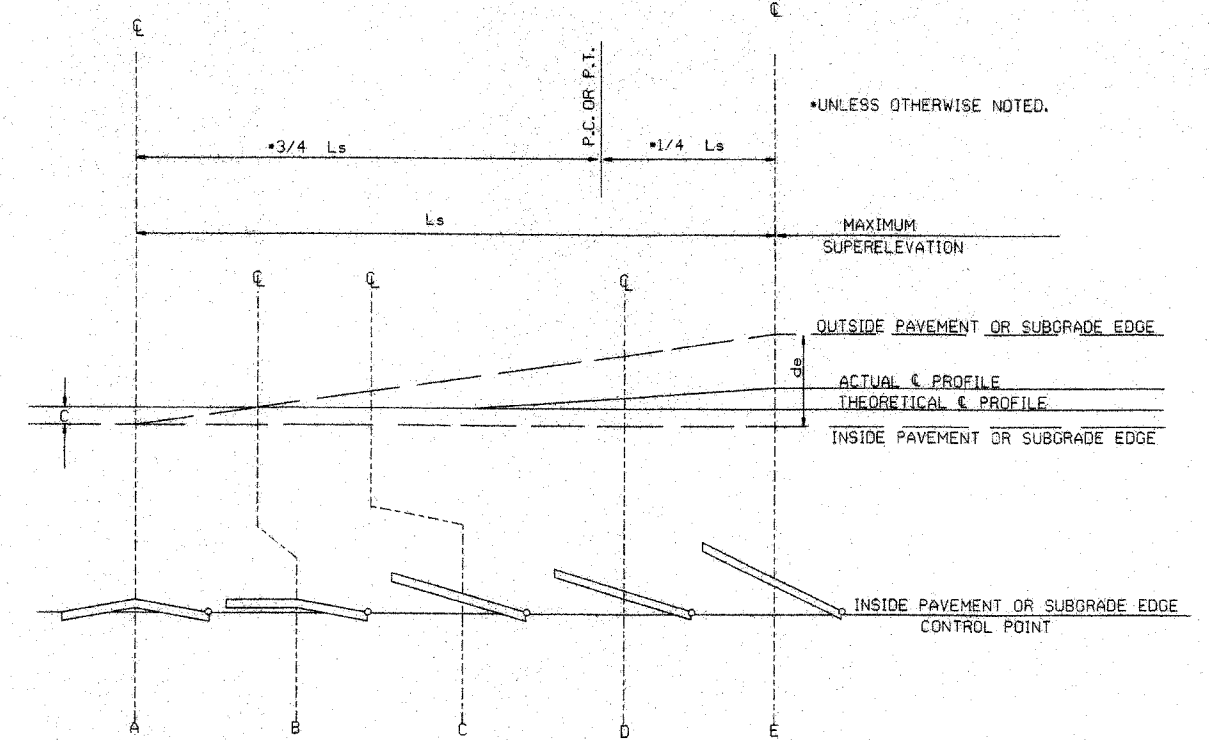
- NC - NORMAL CROWN
- RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
- e - RATE OF SUPERELEVATION (FT. PER FT.)
- Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
- L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
- d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
- C - NORMAL CROWN (FT.)

GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

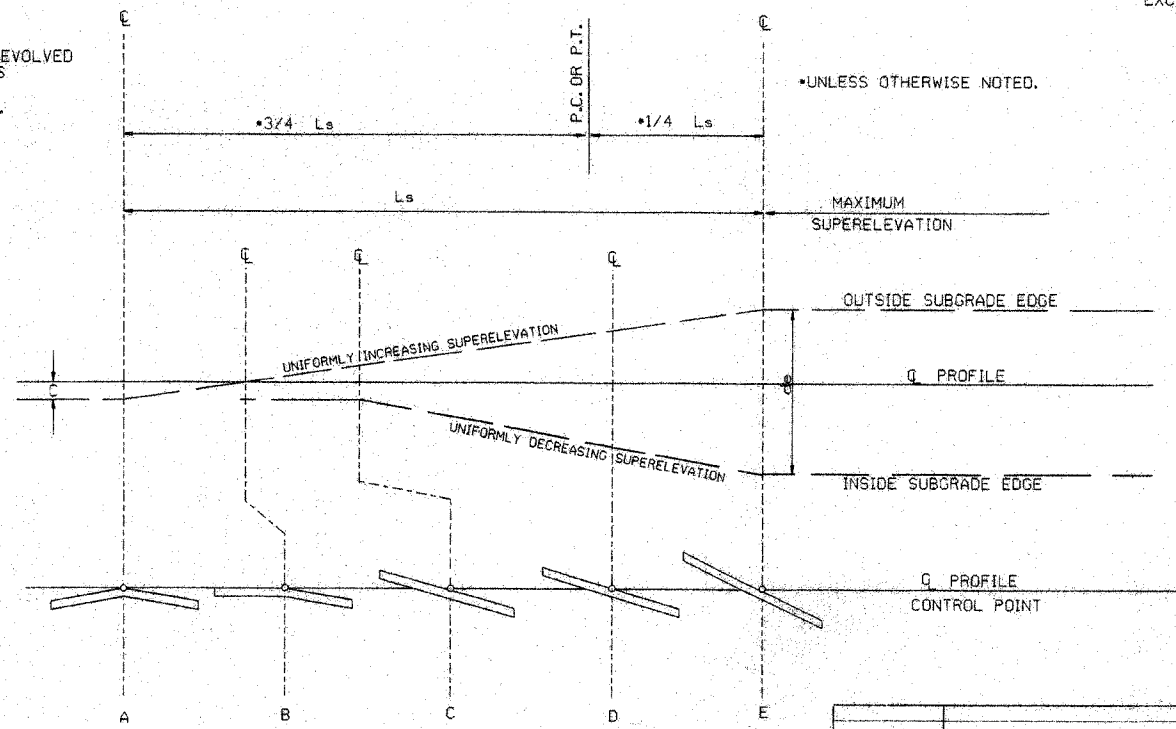
- 3 LANE UNDIVIDED - - - - +20%
- 4 LANE UNDIVIDED - - - - +50%
- 5 LANE UNDIVIDED - - - - +80%
- 6 LANE UNDIVIDED - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C. RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

ADVANCE DISTANCES (XXXX)

500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD


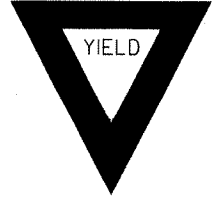
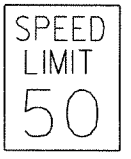
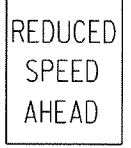

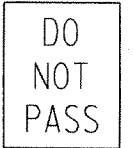



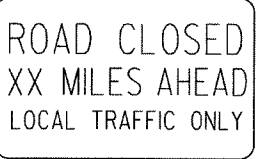
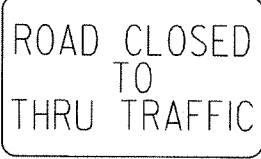
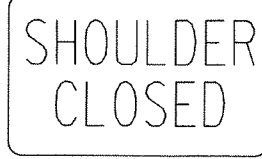
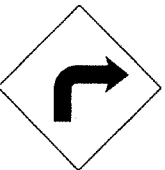
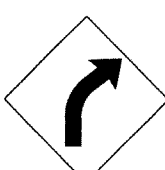
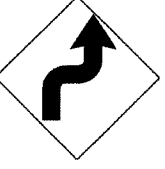



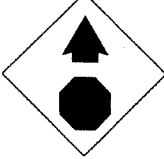
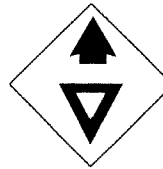
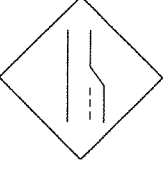

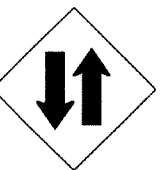

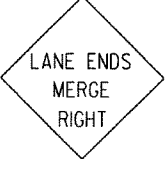


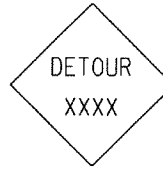



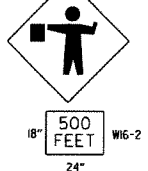

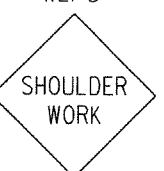
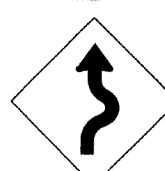

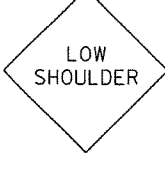
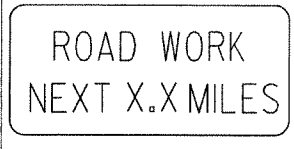
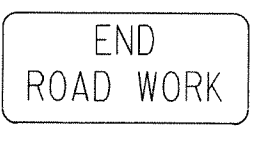
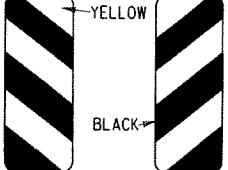

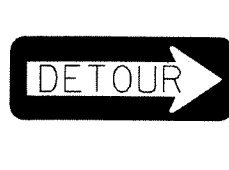

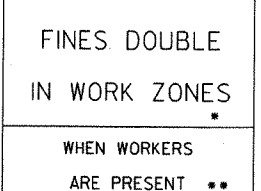
GENERAL NOTES:

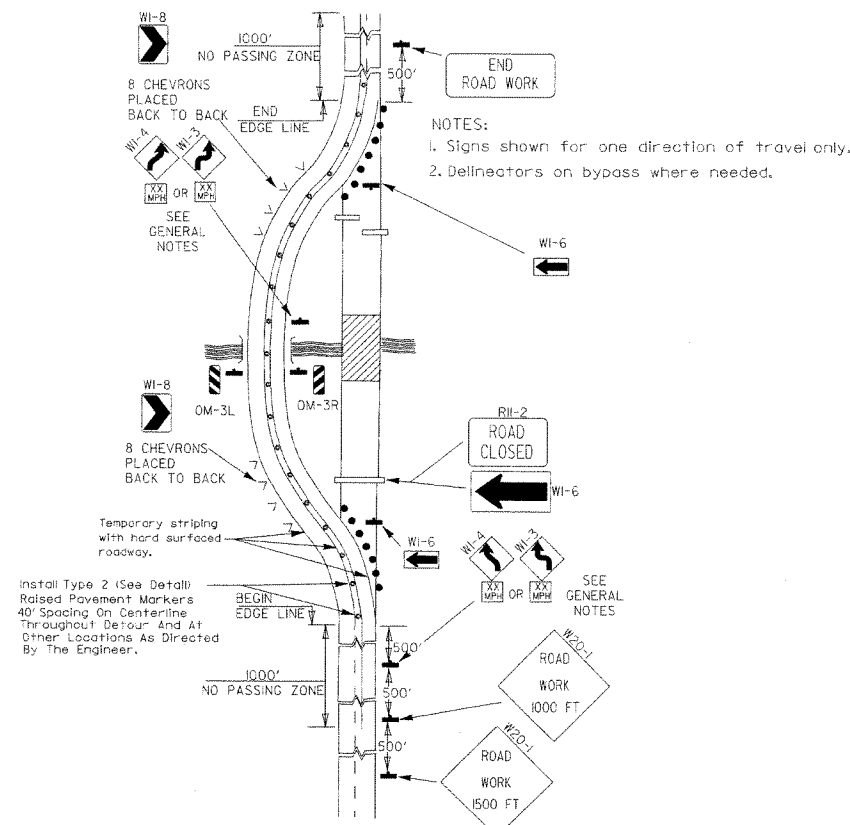
- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START 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.
- 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.
- 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.
- 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.
- 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.
- 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.

- FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- 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.
- 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.

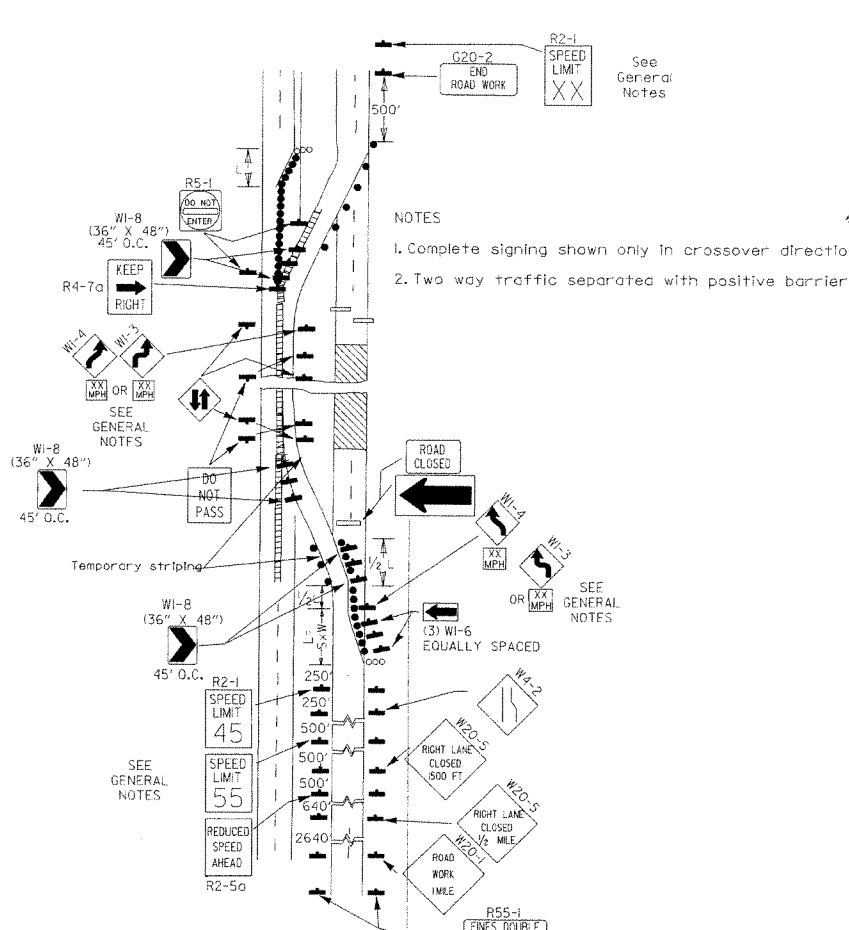
NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

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	
1-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
1-18-98	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	
DATE	REVISION	FILMED

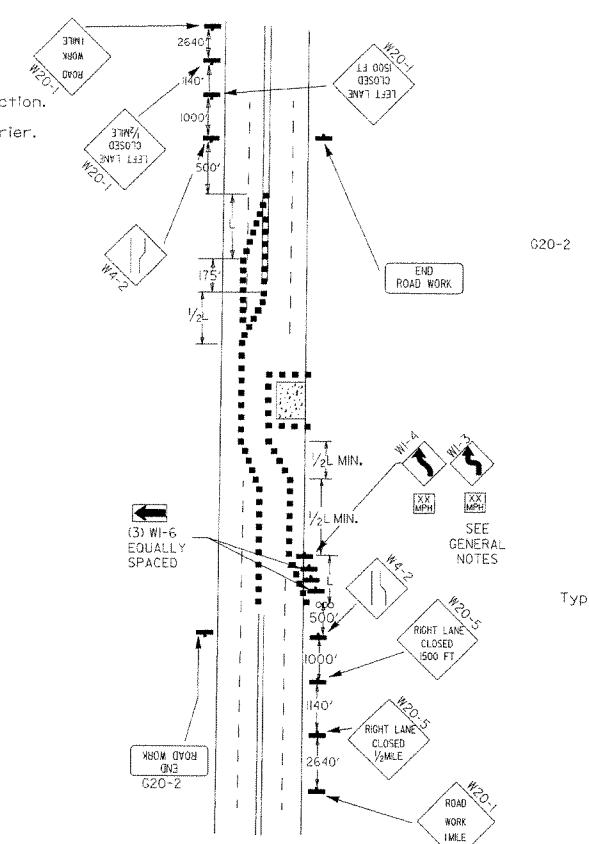
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>WI-3</p>  <p>STD. 48"x48"</p>	<p>WI-4</p>  <p>STD. 48"x48"</p>	<p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>WI-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>
<p>W20-3</p>  <p>STD. 48"x48"</p>	<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>
<p>R56-1</p>  <p>STD. 18"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>WHEN WORKERS ARE PRESENT **</p> <p>* USE 6" C LETTERS ** USE 4" D LETTERS</p>					



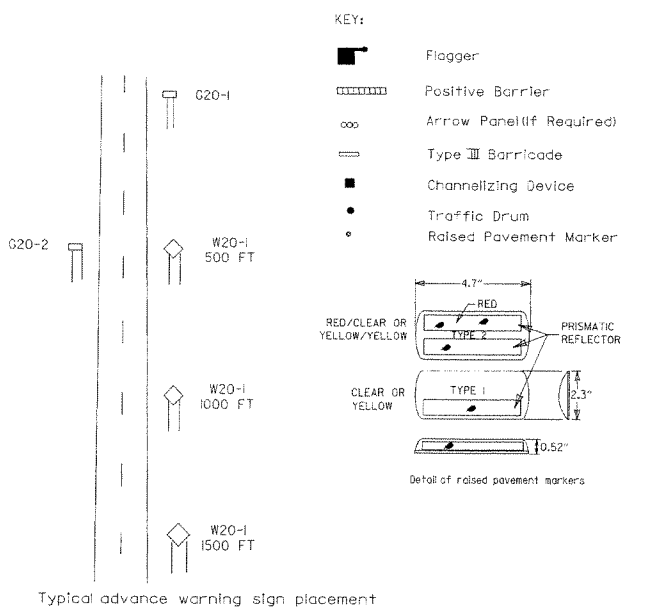
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



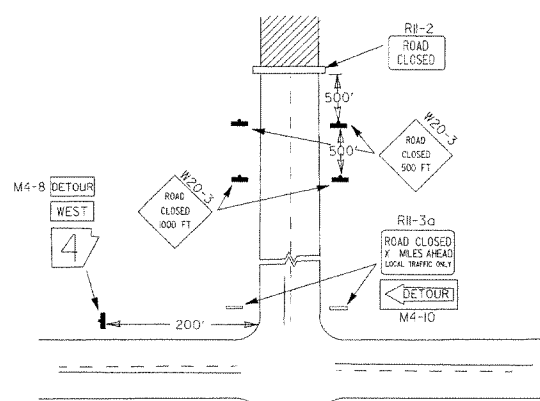
(B) Typical application - 4-lane divided roadway where one roadway is closed.



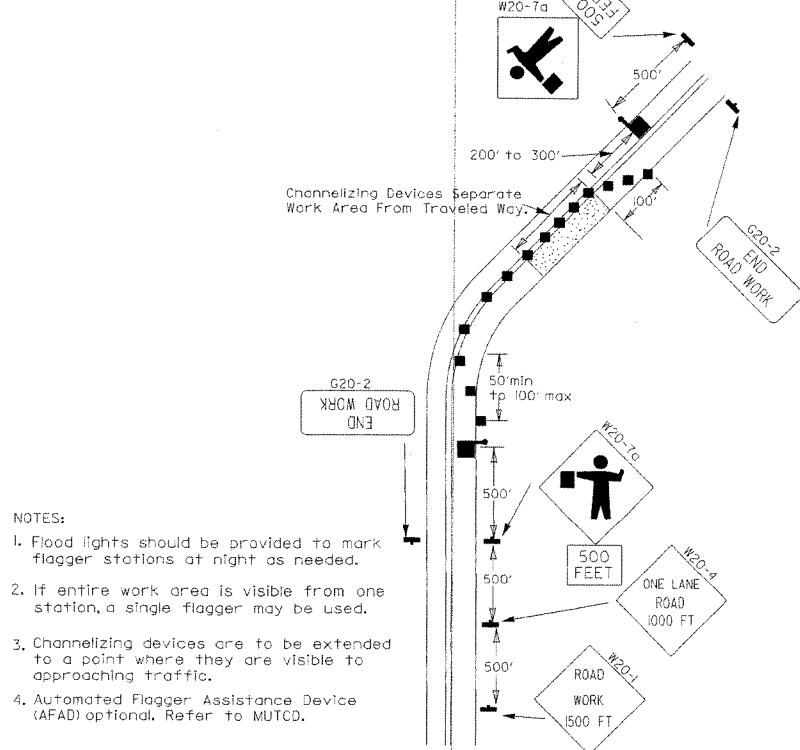
(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



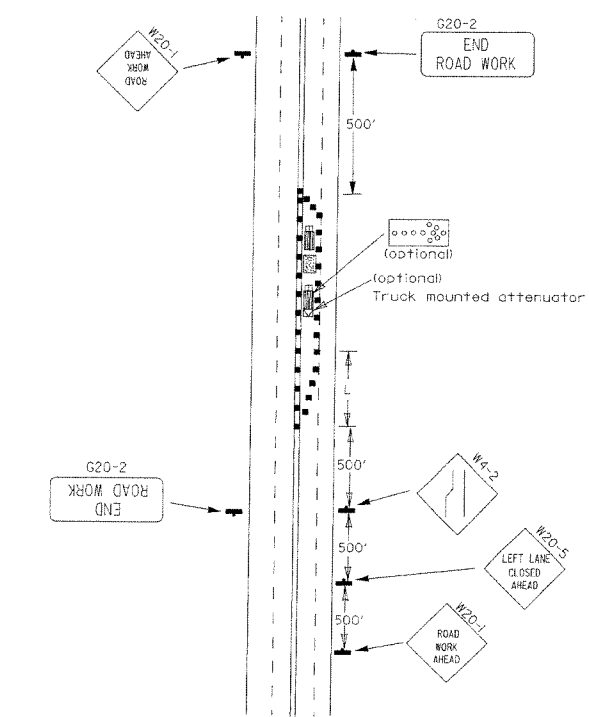
Taper formulae:
 $L = S \times W$ for speeds of 45mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40mph or less.
 Where:
 L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85th percentile speed.
 W = Width of offset.
 GENERAL NOTES:
 1. Advisory speed posted on 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(45) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(45) 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 R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(45) 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.



(D) Typical application - roadway closed beyond detour point.



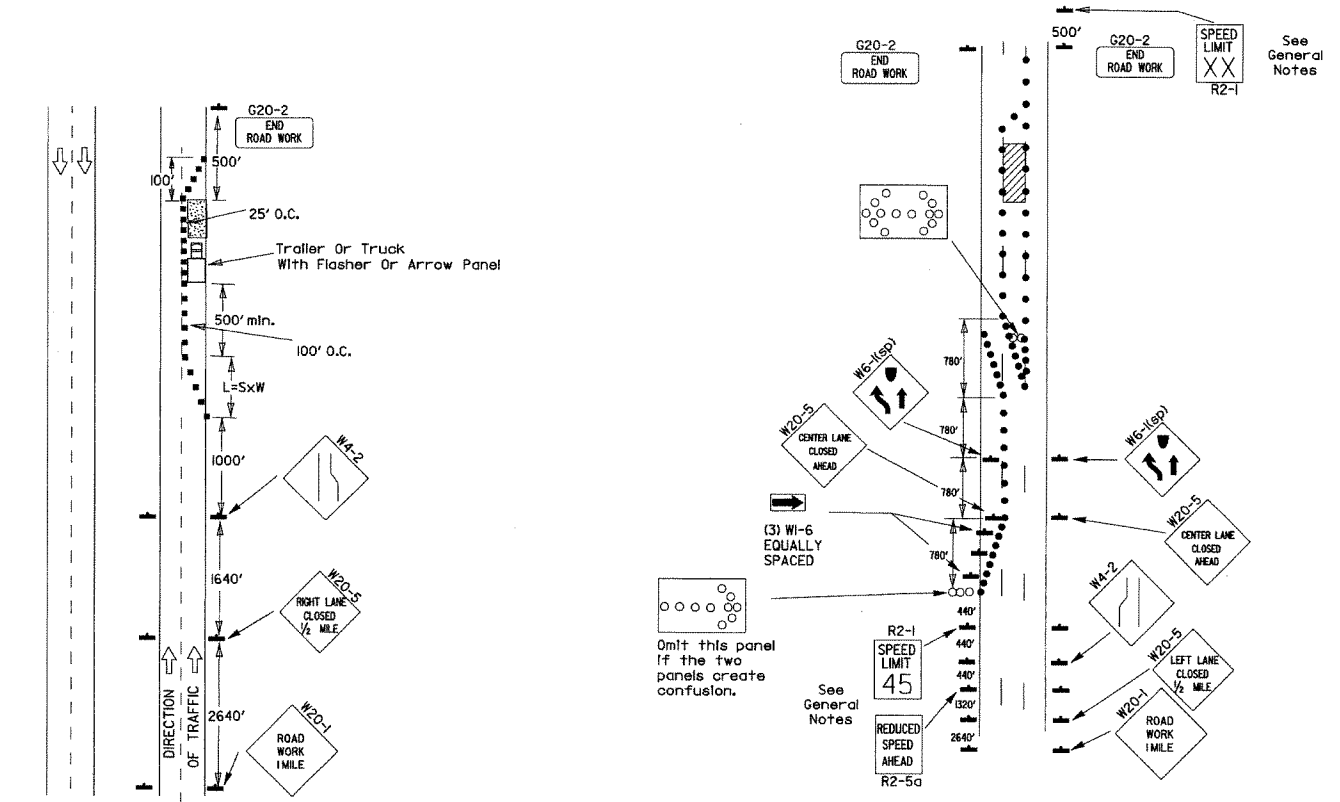
(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.



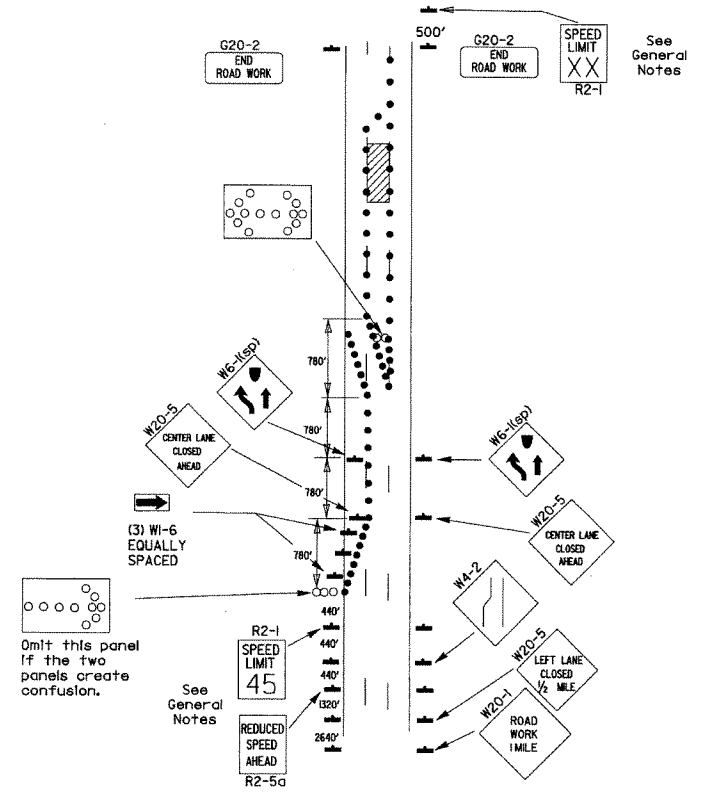
(F) Typical application - 4-lane undivided roadway with inside lane closed.

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	
8-5-91	DRAWN AND PLACED IN USE	

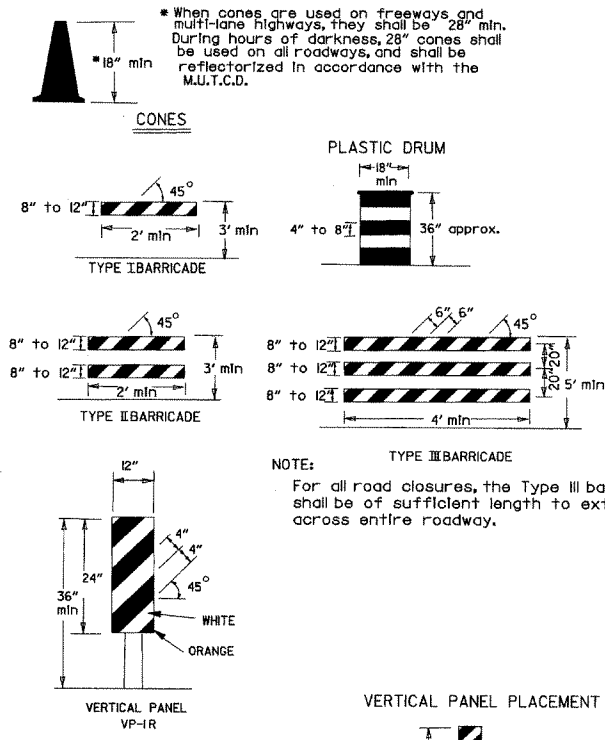
Channelizing devices



(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.

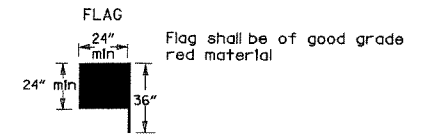


TRAFFIC CONTROL DEVICES

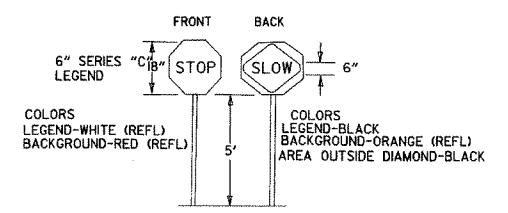
FOR VERTICAL PAVEMENT DIFFERENTIALS

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

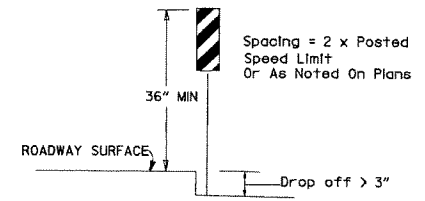
* When shown on the plans concrete barrier will be used.
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



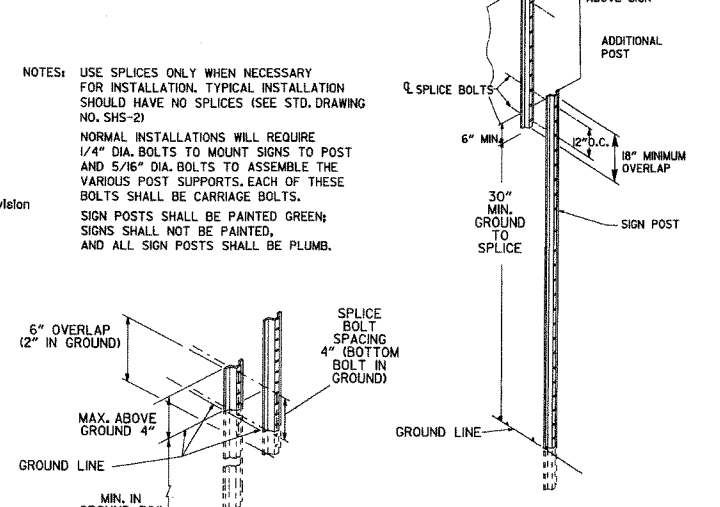
STOP SLOW PADDLE



VERTICAL PANEL PLACEMENT



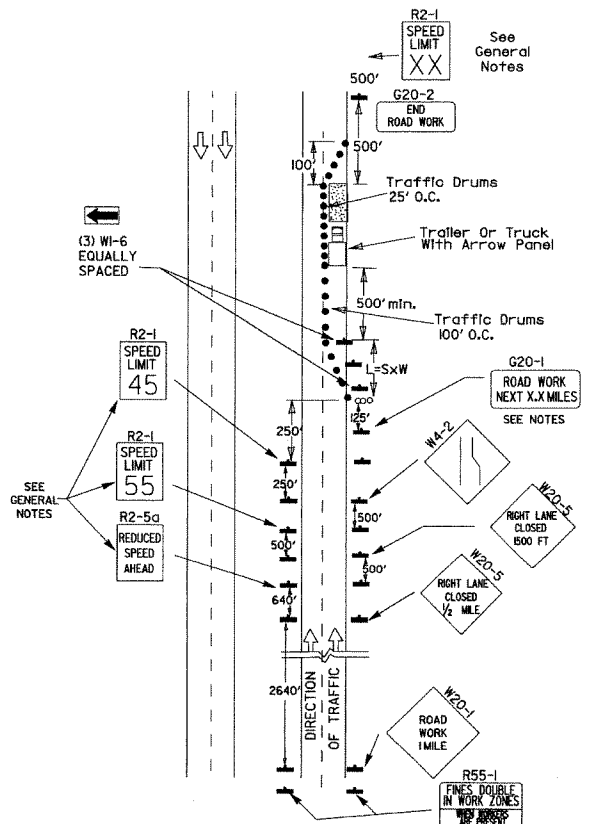
DETAIL OF SPLICES



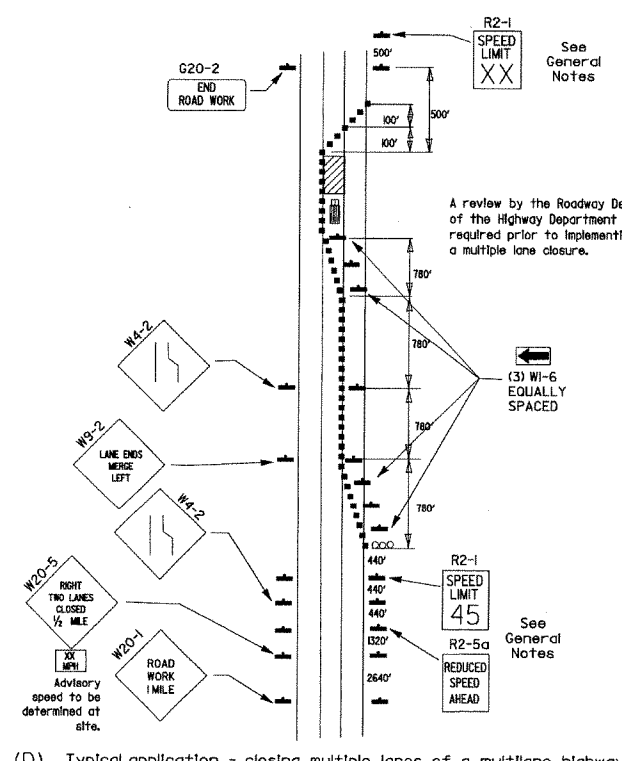
- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
- The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1/2 MILE) signs are not required in advance of lane closures that begin inside the project limits.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
- Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

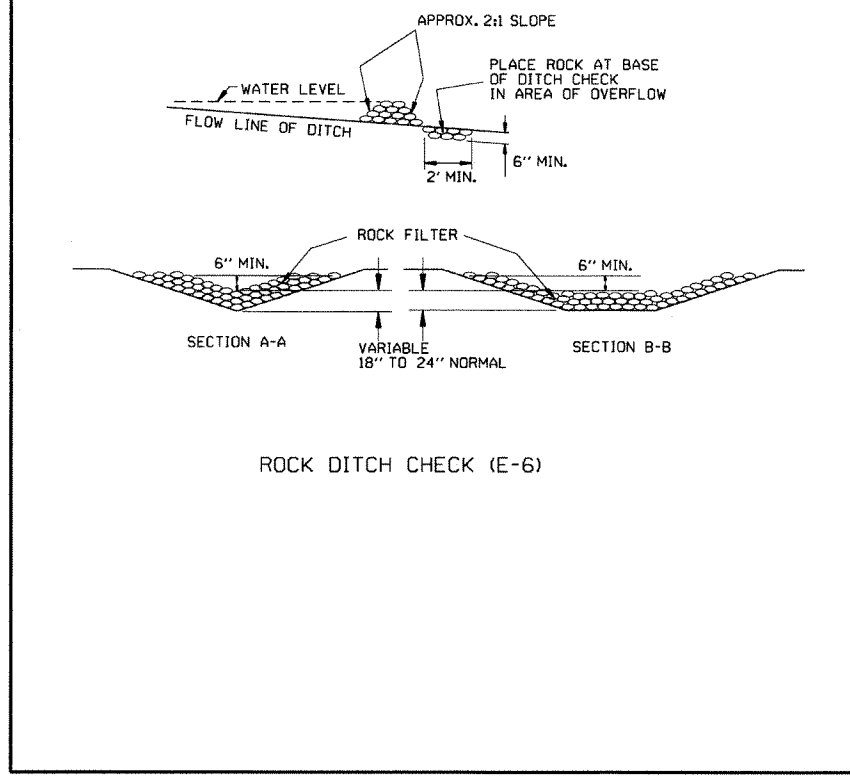
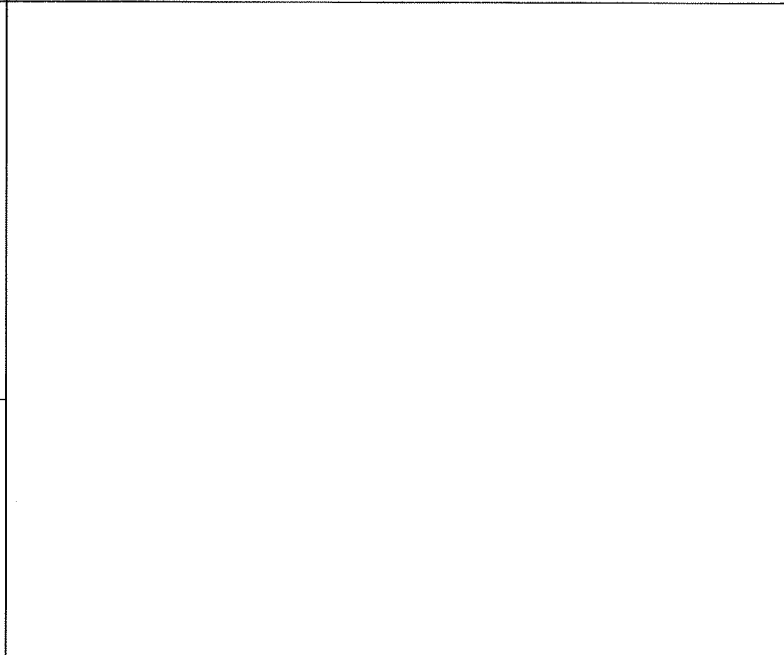
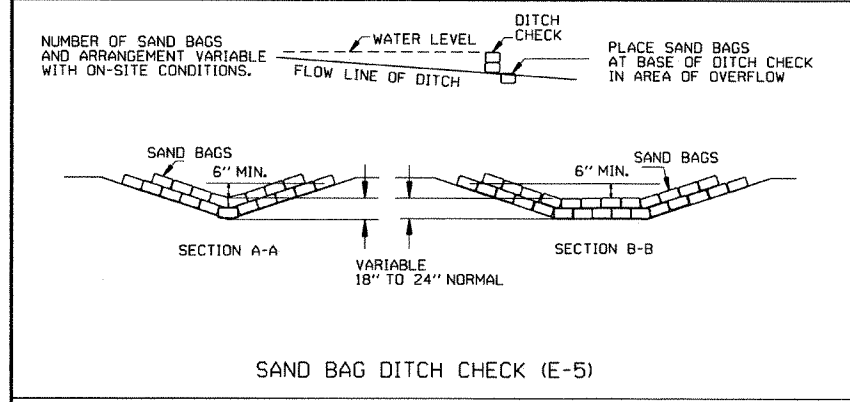
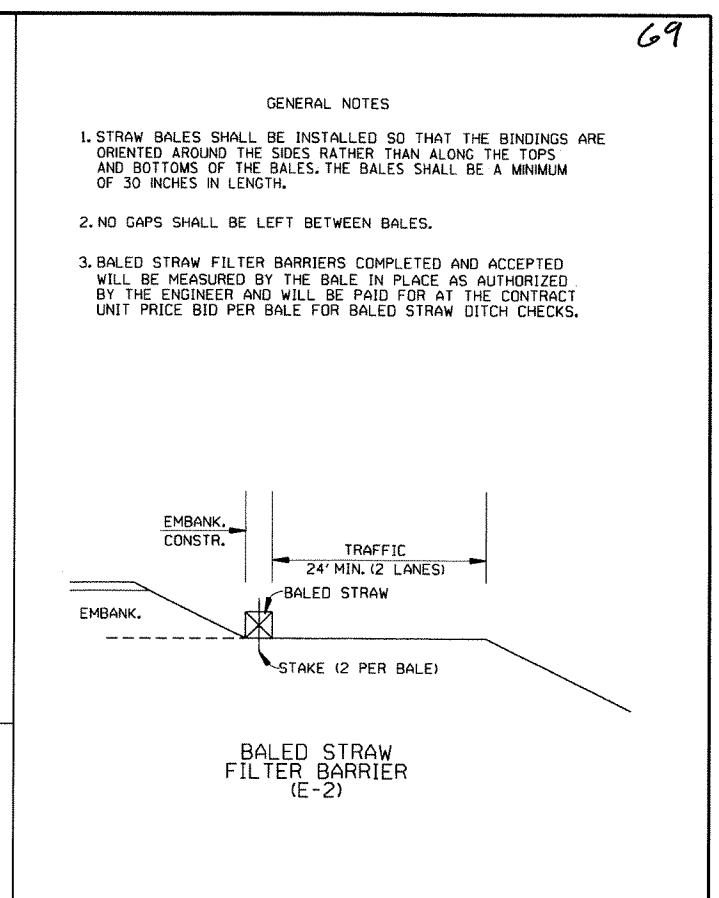
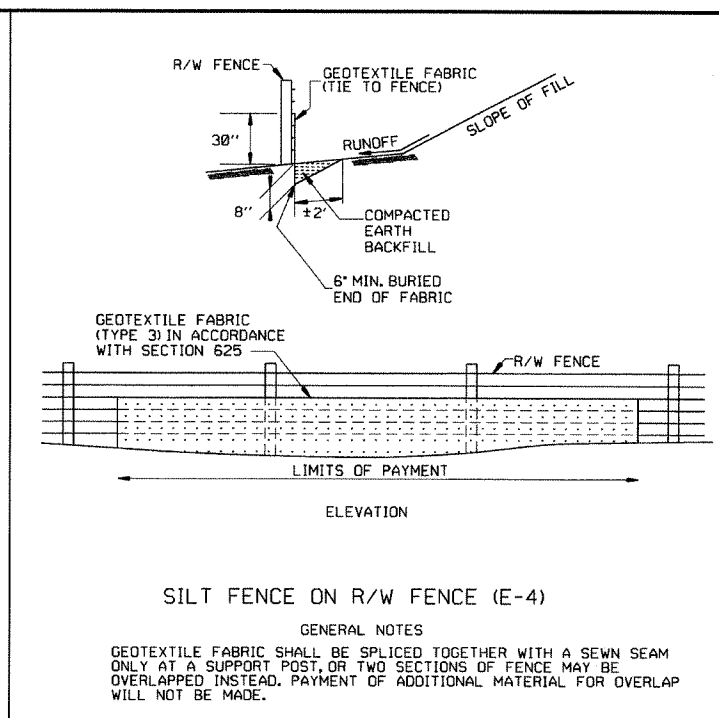
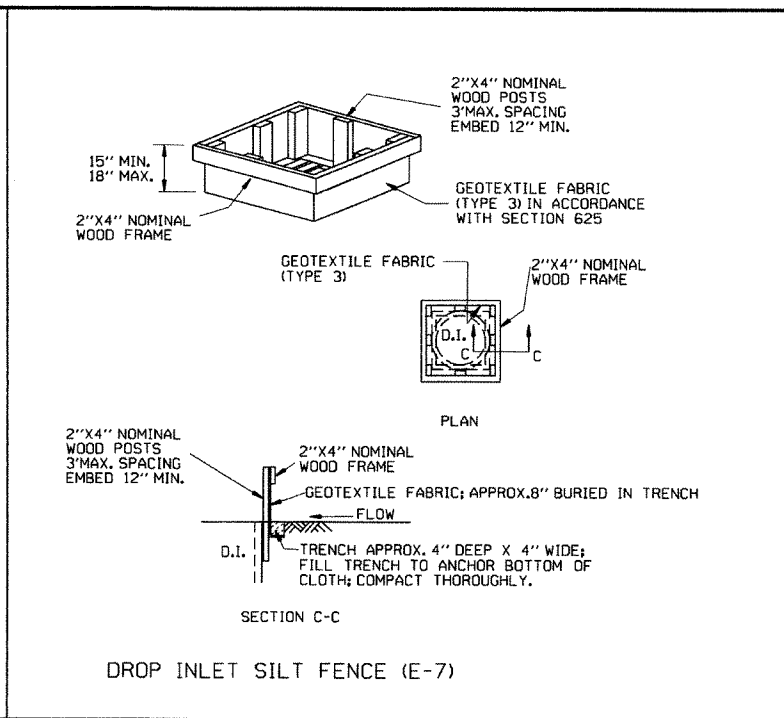
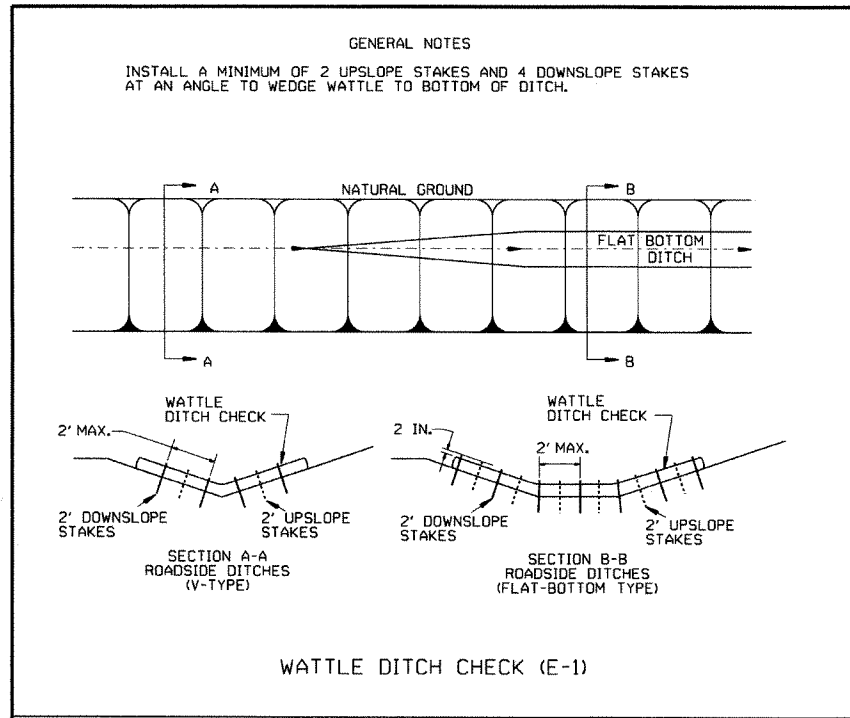


(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



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

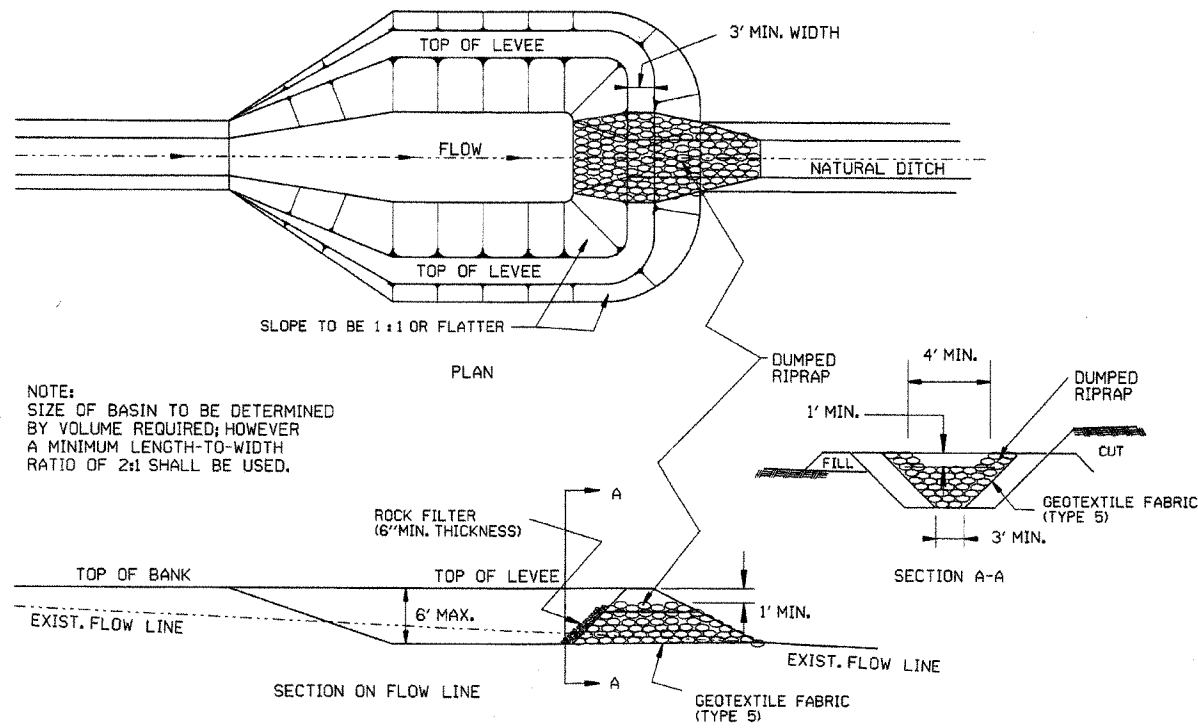
DATE	REVISION	FILED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	



12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
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	
DATE	REVISION	FILMED	

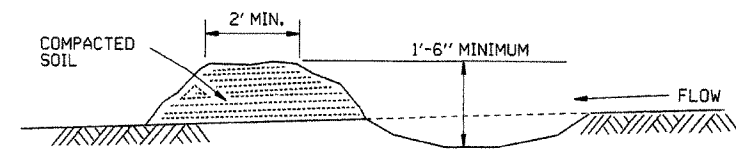
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1

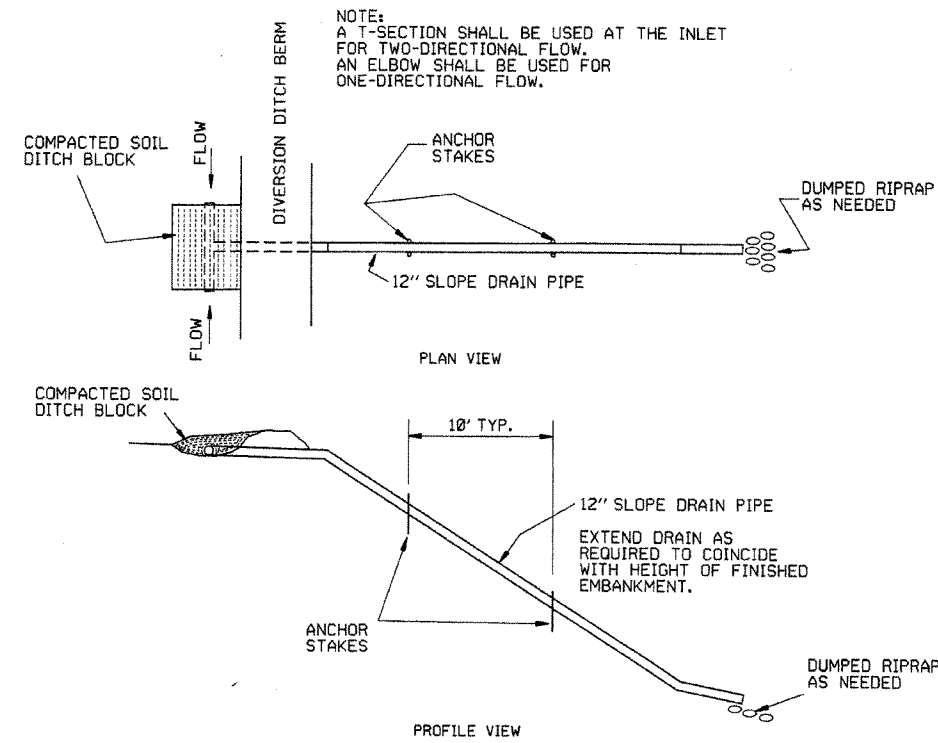


NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

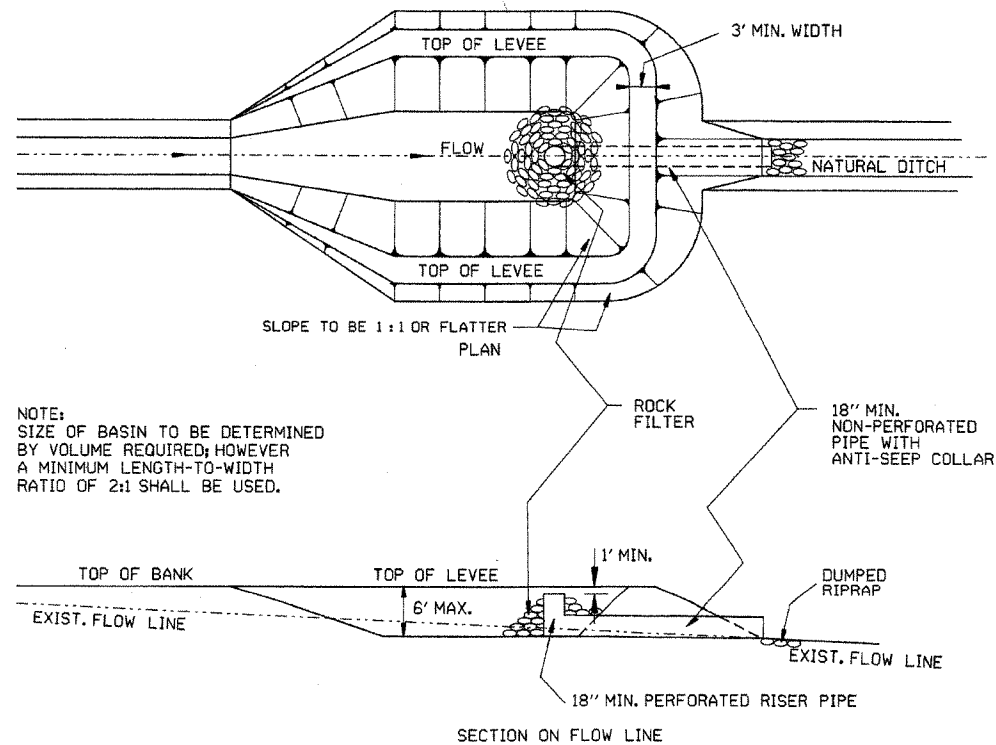
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



DIVERSION DITCH (E-8)

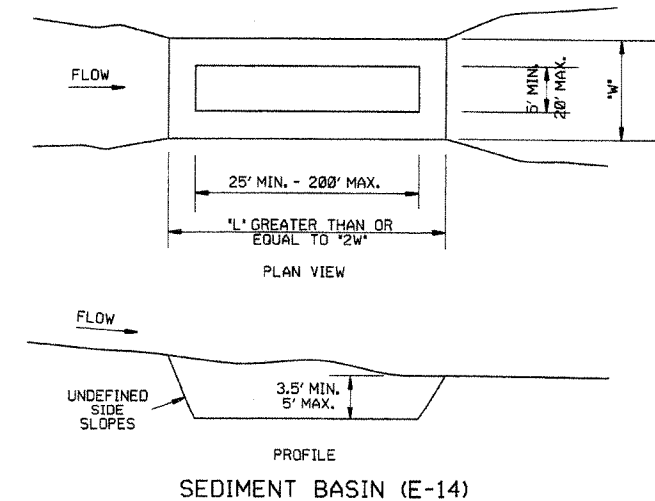


SLOPE DRAIN (E-12)



NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH PIPE OUTLET (E-10)



SEDIMENT BASIN (E-14)

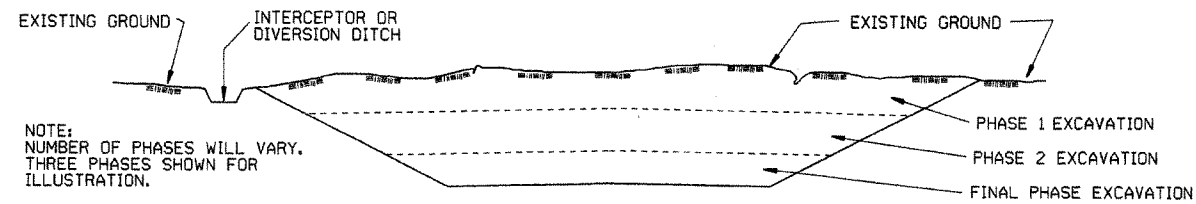
		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

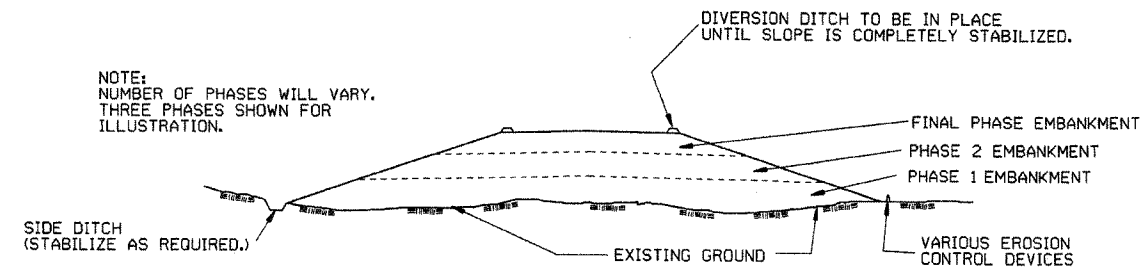
GENERAL NOTE

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



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

GENERAL NOTE

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

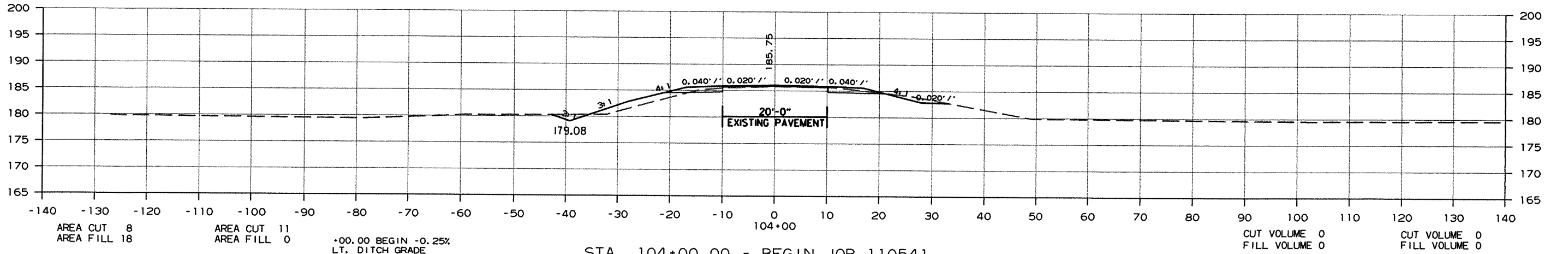
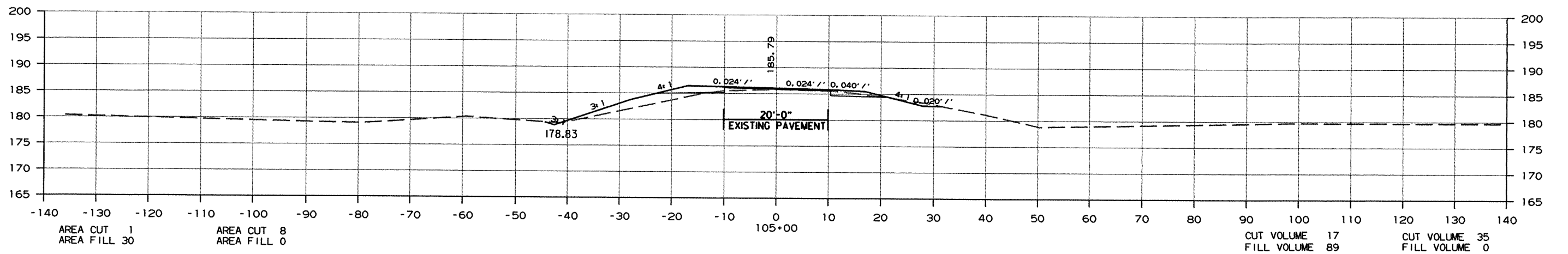
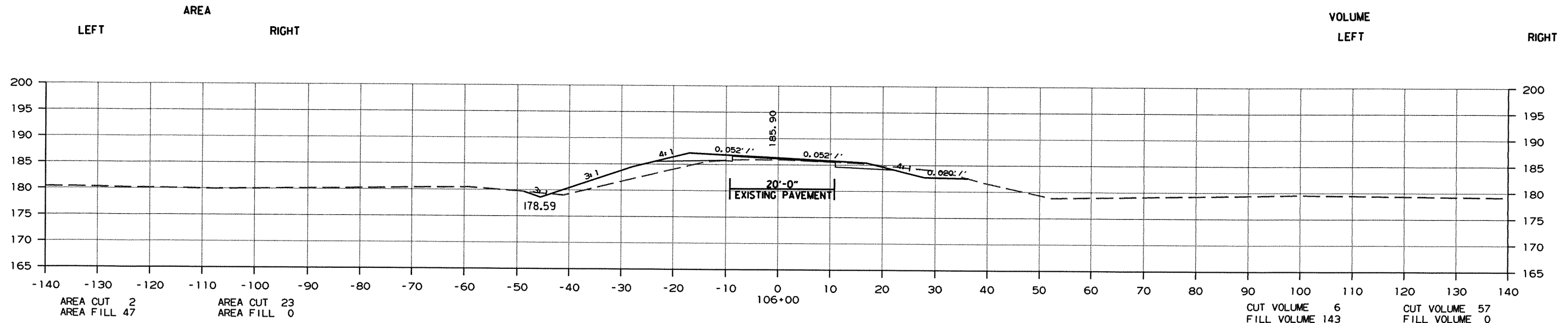
CONSTRUCTION SEQUENCE

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

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
11-03-94	CORRECTED SPELLING		
6-2-94	Drawn & Issued		6-2-94 FILMED
DATE	REVISION		STANDARD DRAWING TEC-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. 110541							72	85

② CROSS SECTIONS



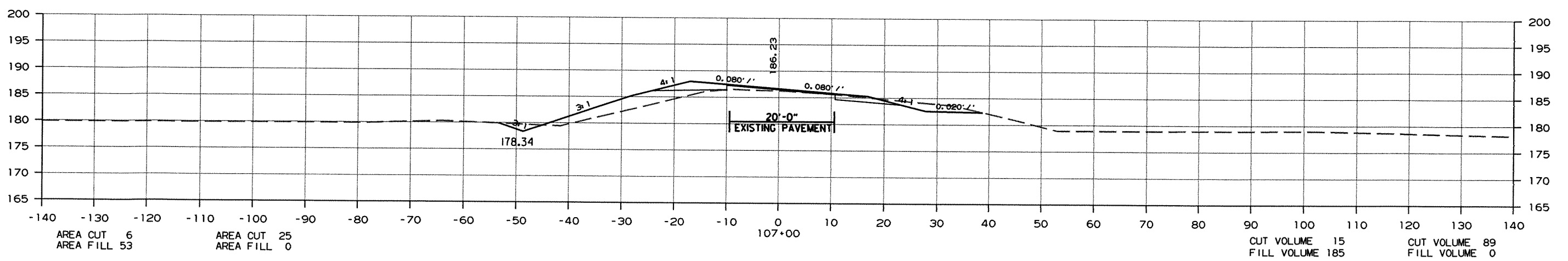
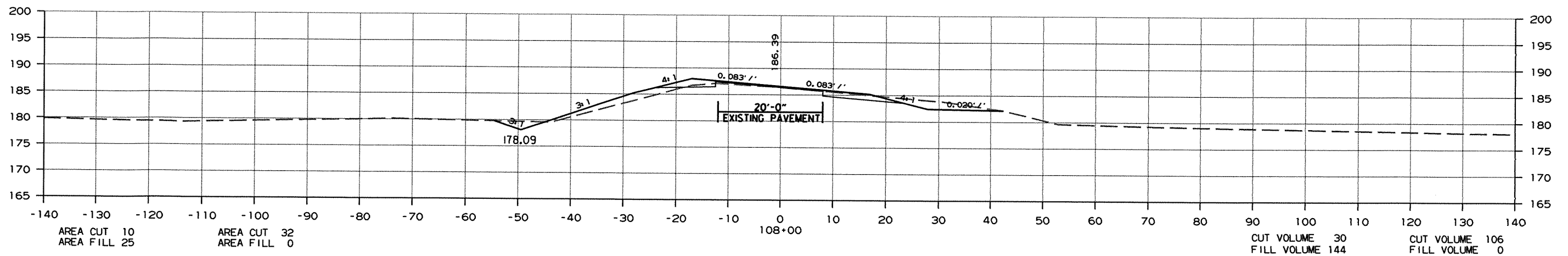
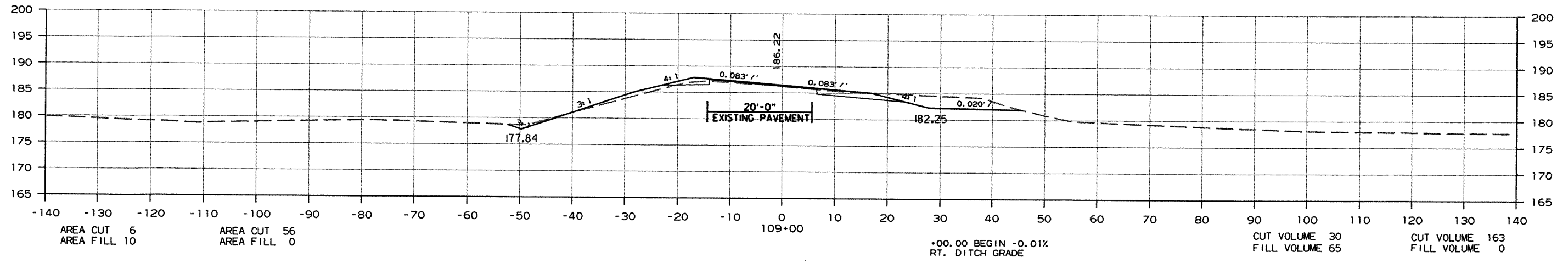
STA. 104+00.00 - BEGIN JOB 110541

CROSS SECTION STA. 104+00 TO STA. 106+00

R110541.DGN 10/13/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	73	85

2 CROSS SECTIONS



CROSS SECTION STA. 107+00 TO STA. 109+00

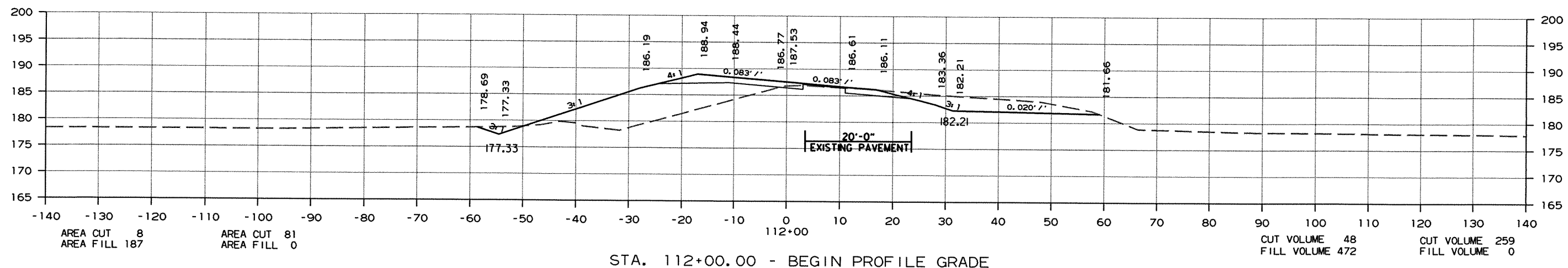
R110541.DGN 10/13/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	74	85

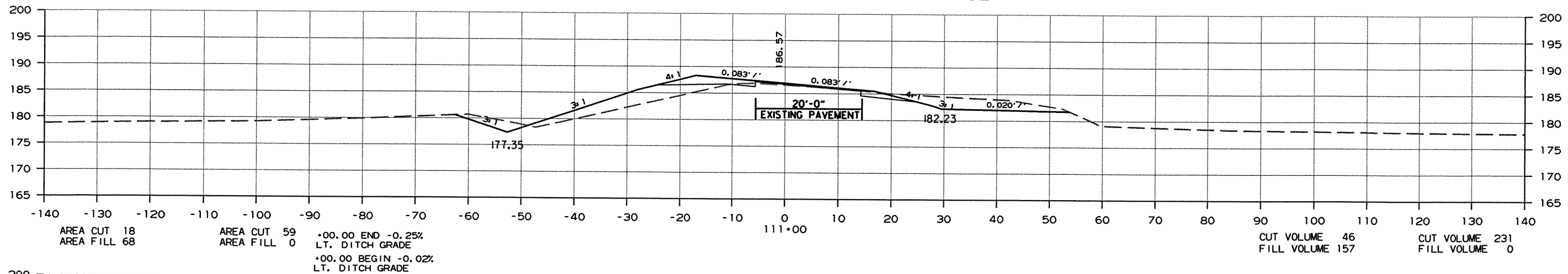
2 CROSS SECTIONS

AREA
LEFT RIGHT

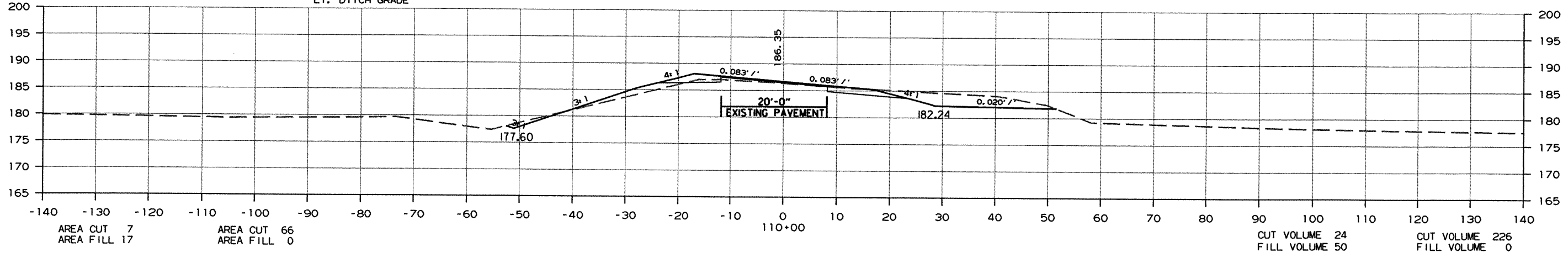
VOLUME
LEFT RIGHT



STA. 112+00.00 - BEGIN PROFILE GRADE



STA. 111+00



CROSS SECTION STA. 110+00 TO STA. 112+00

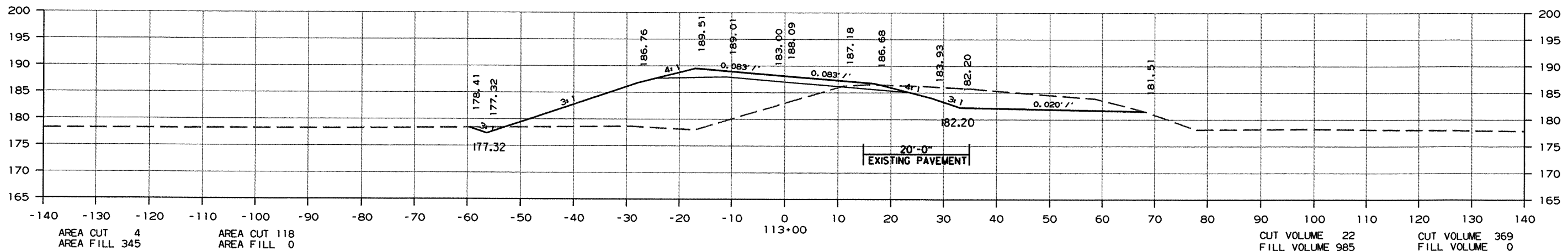
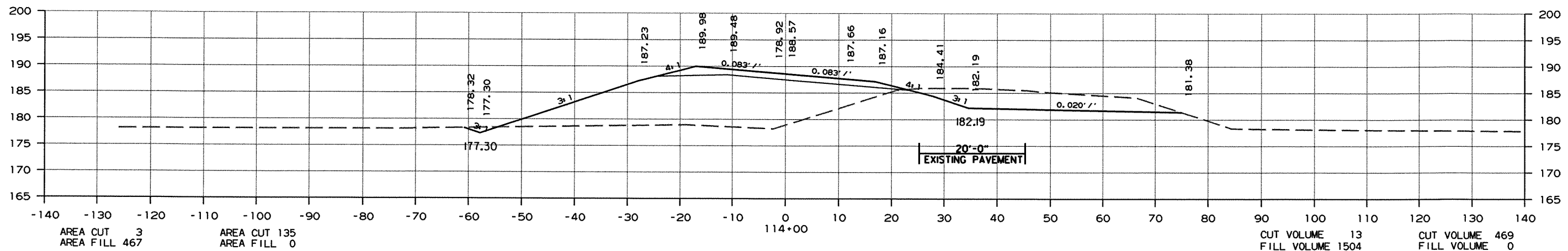
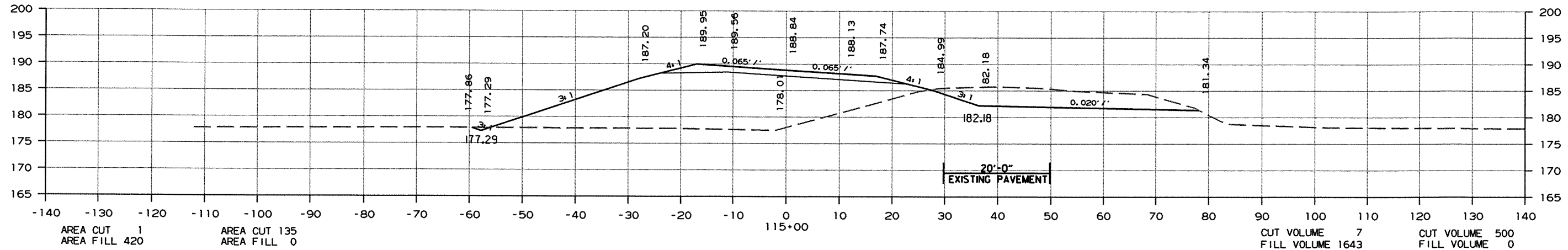
R110541.DGN 10/13/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541		75	85

2 CROSS SECTIONS

LEFT AREA RIGHT

LEFT VOLUME RIGHT



CROSS SECTION STA. 113+00 TO STA. 115+00

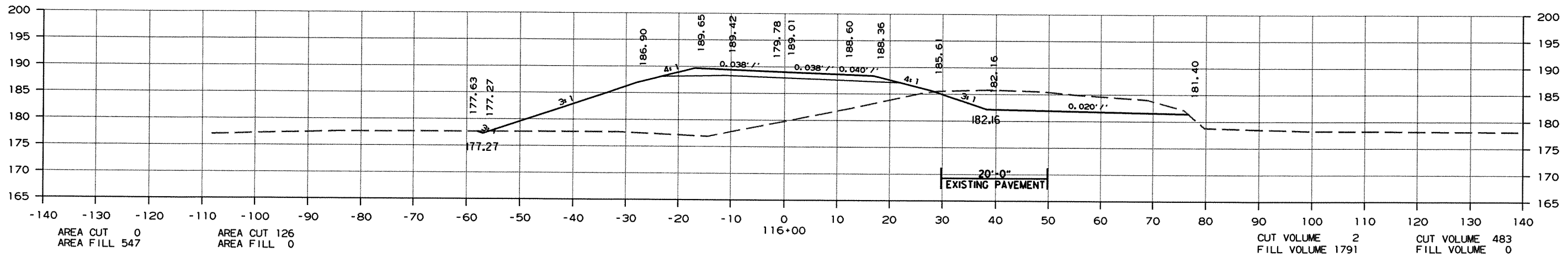
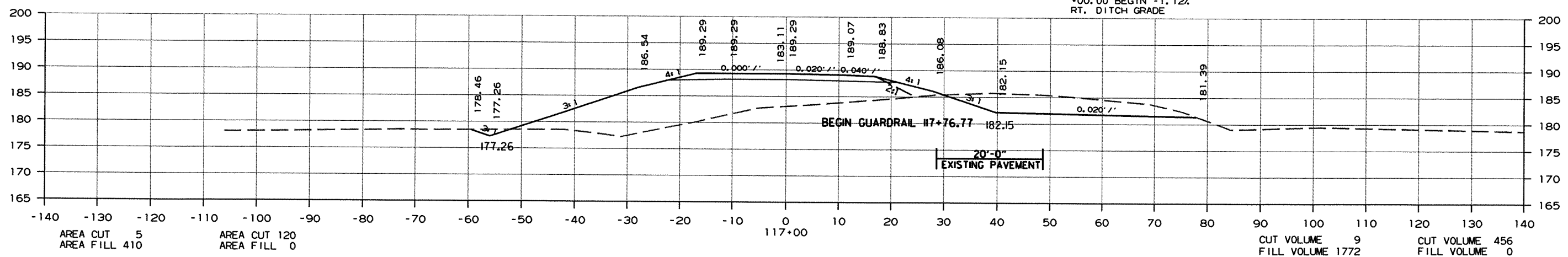
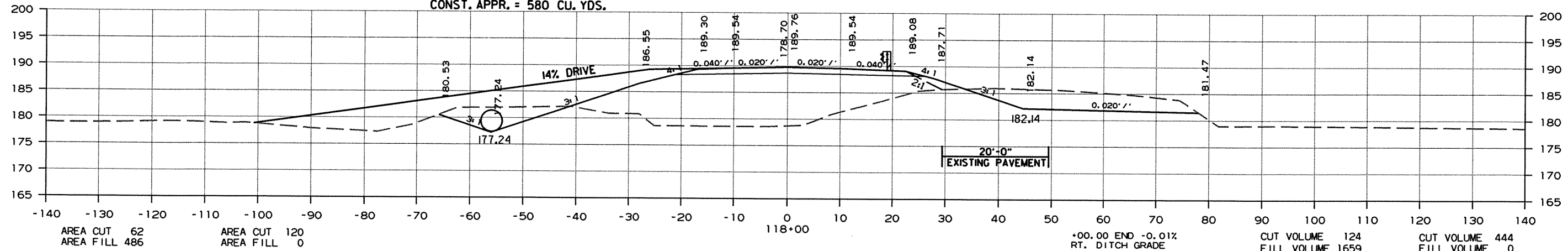
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	76	85

2 CROSS SECTIONS

AREA
LEFT RIGHT

VOLUME
LEFT RIGHT

STA. 118+00 INSTALL
24" x 78' PIPE CULV'T.
RT. SIDE DRAIN
CONST. APPR. = 580 CU. YDS.



CROSS SECTION STA. 116+00 TO STA. 118+00

RI10541.DGN 10/13/2011

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	77	85

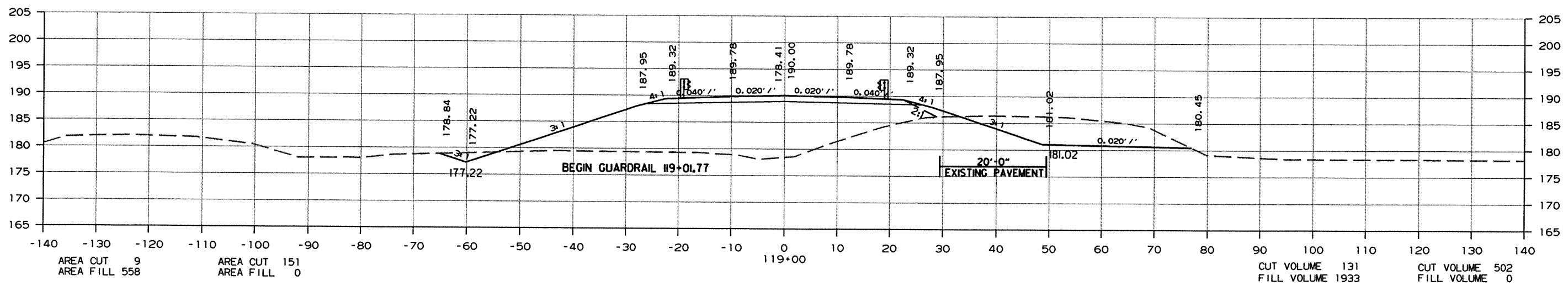
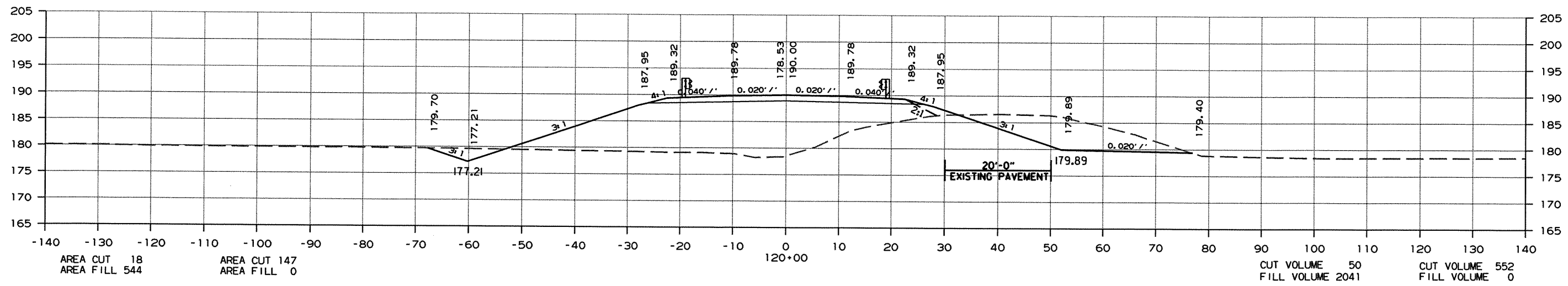
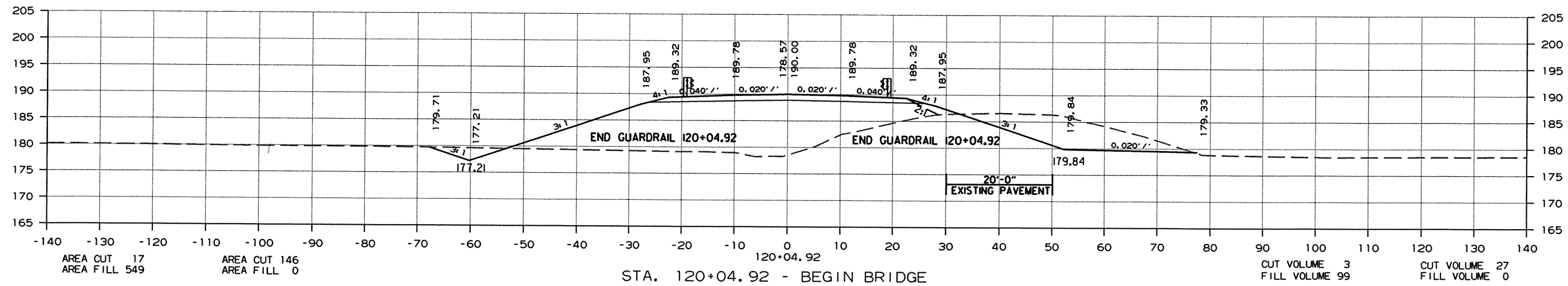
2 CROSS SECTIONS

AREA
LEFT RIGHT

STA. 120+04.92 TO STA. 123+17.08 CONSTRUCT
312'-2" X 34' CLEAR ROADWAY BRIDGE NO. 07217
310'-0" CONTINUOUS COMPOSITE PRESTRESSED
CONCRETE GIRDER UNIT TYPE 111 (62', 62', 62', 62', 62')

ST. 120+08.85 TO ST. 123+12.85 IN PLACE
304'-00" X 24.0' CLEAR ROADWAY BRIDGE NO. M0849
16-19' CONCRETE CHANNEL BEAM SPANS SUPPORTED BY CONCRETE PILE BENTS
REMOVE AS EXISTING BRIDGE STRUCTURE = 1.00 LUMP SUM

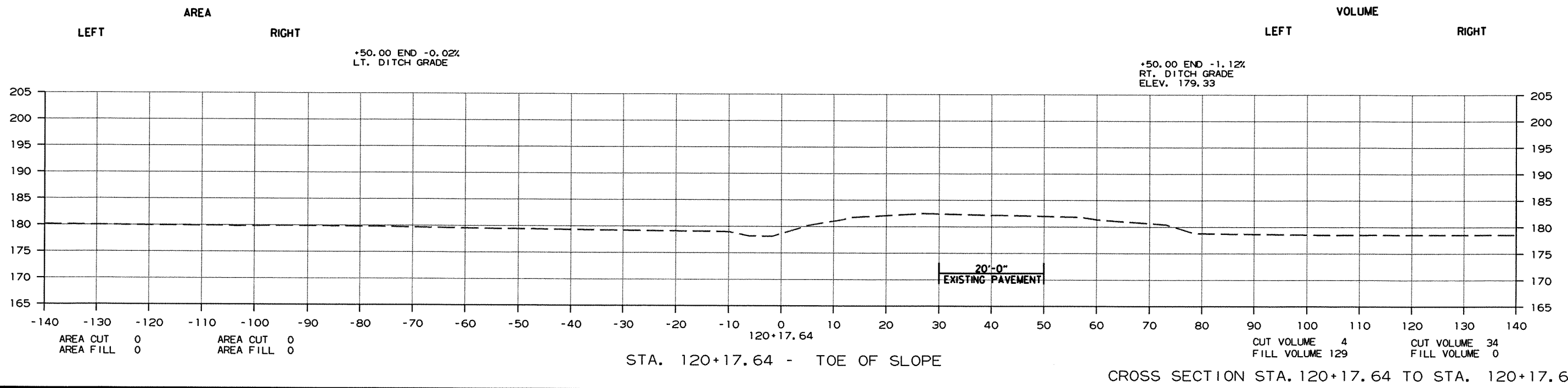
VOLUME
LEFT RIGHT



CROSS SECTION STA. 119+00 TO STA. 120+05

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	110541	78 85

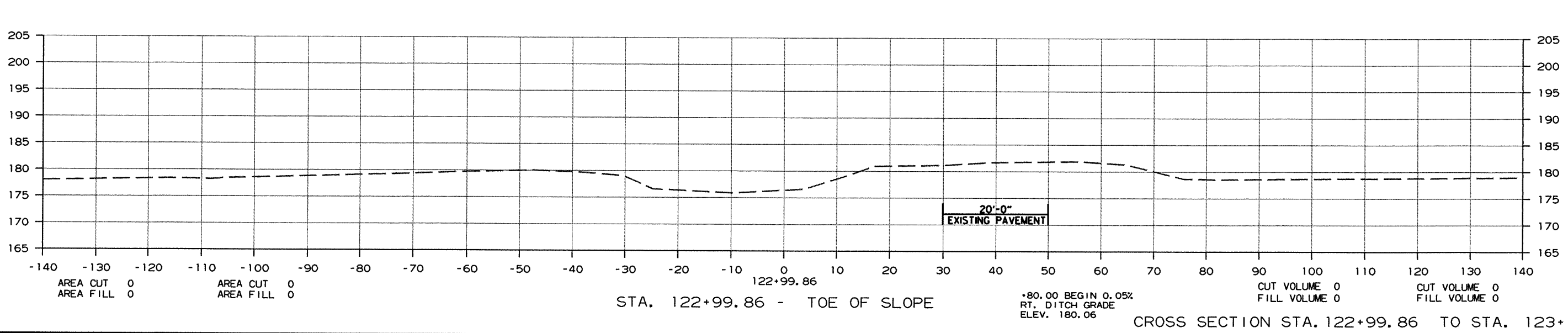
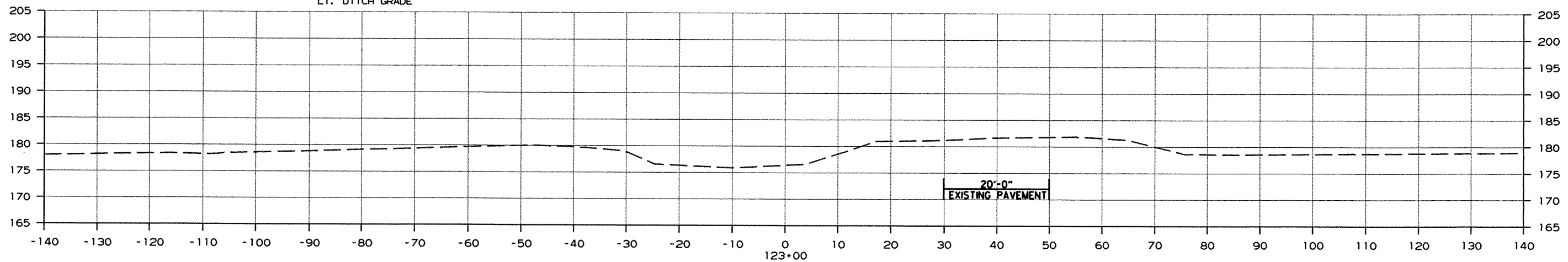
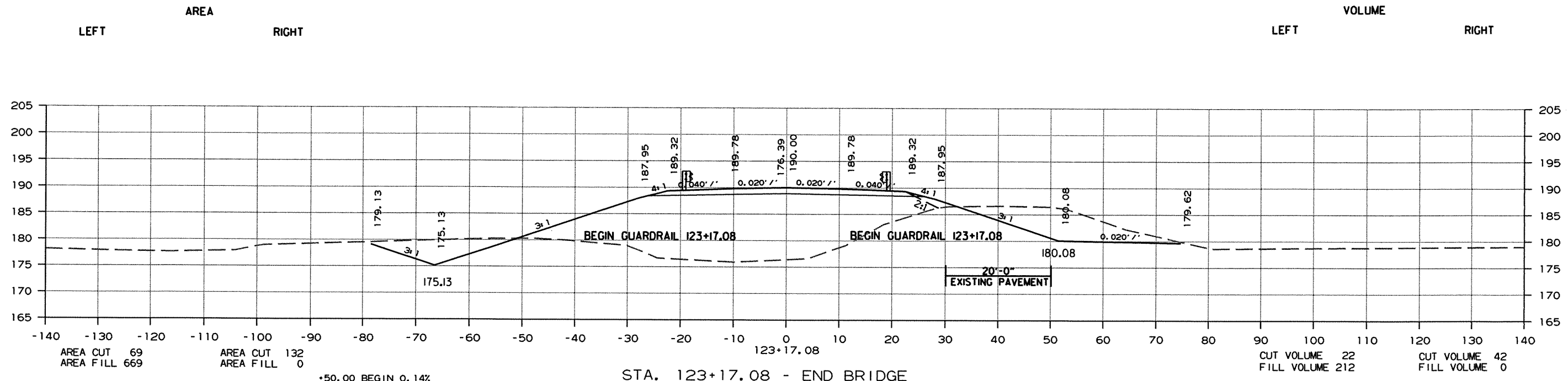
② CROSS SECTIONS



R110541.DGN 10/13/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							79	85

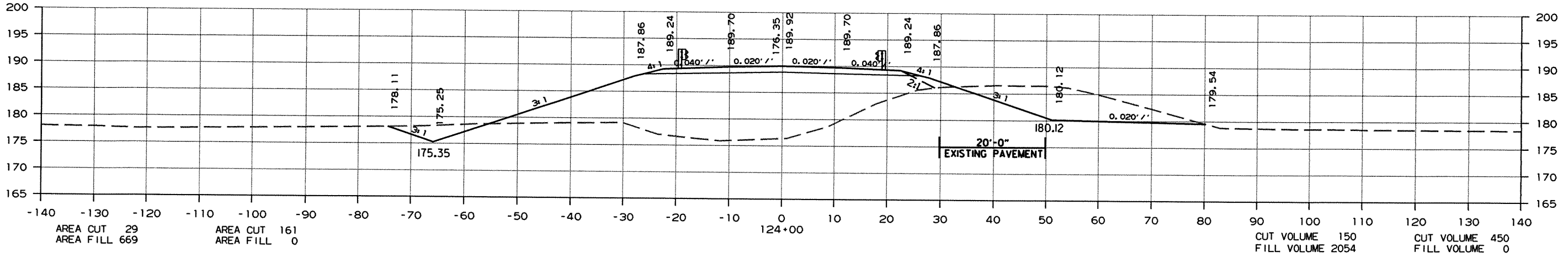
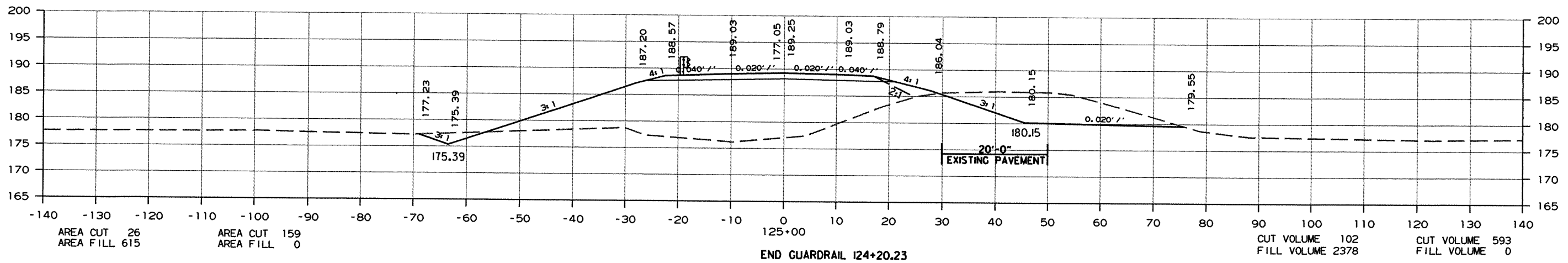
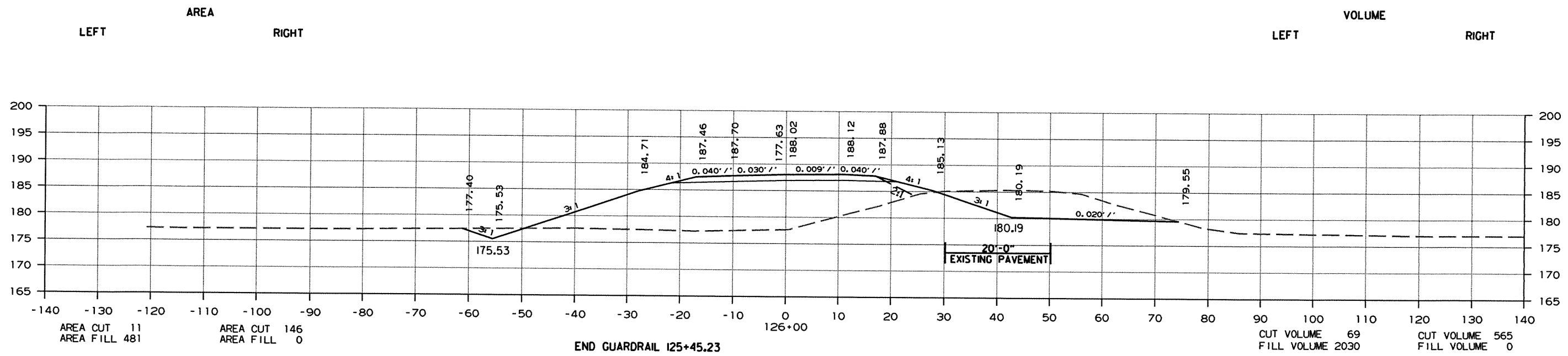
2 CROSS SECTIONS



ZBORNER.CEL 8/30/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	80	85

2 CROSS SECTIONS

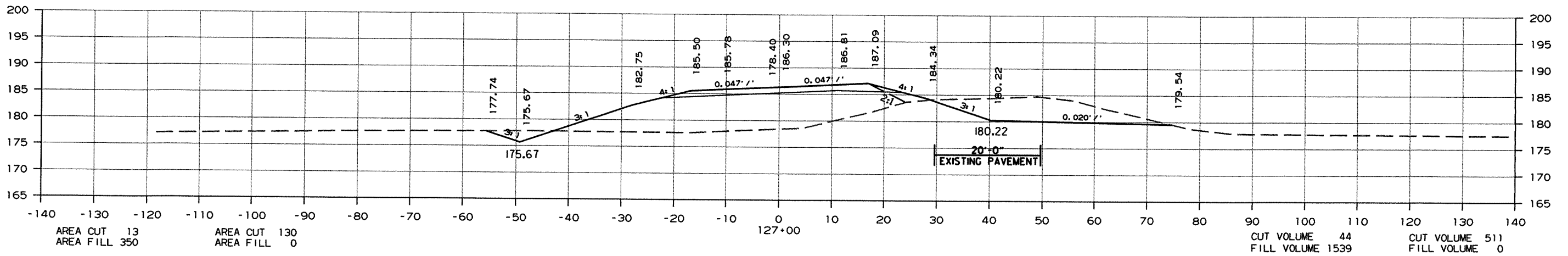
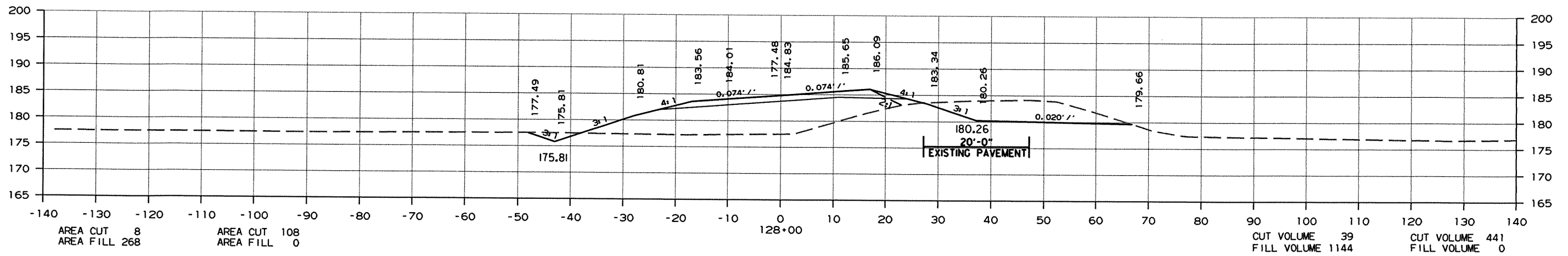
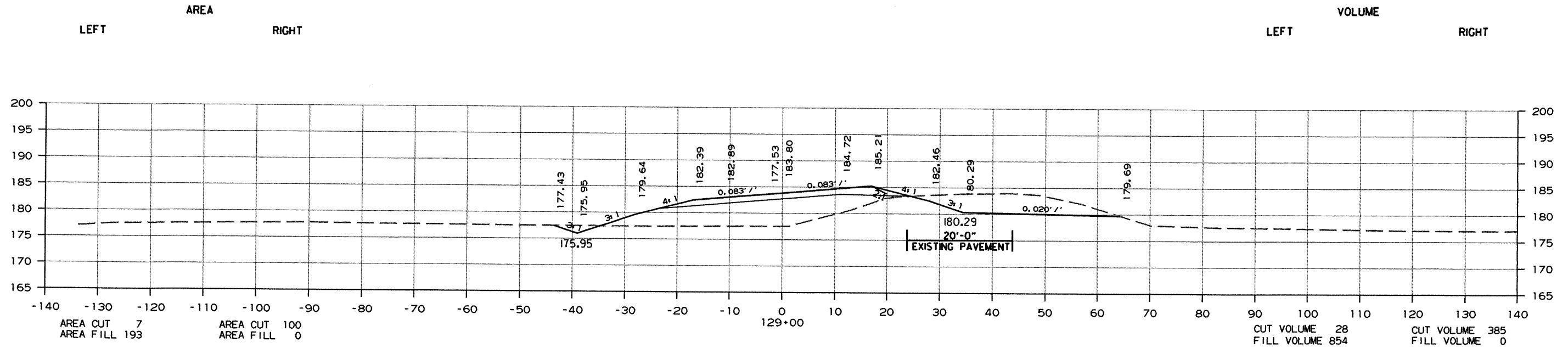


CROSS SECTION STA. 124+00 TO STA. 126+00

ZBORDER.CEL 8/30/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 110541							81	85

2 CROSS SECTIONS

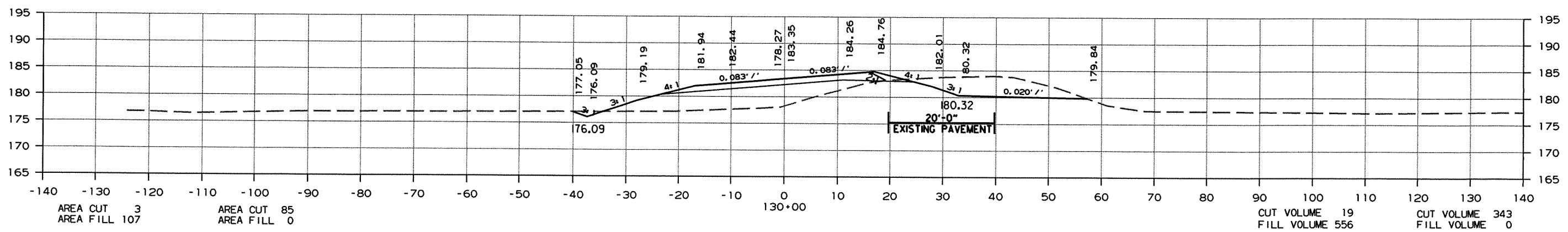
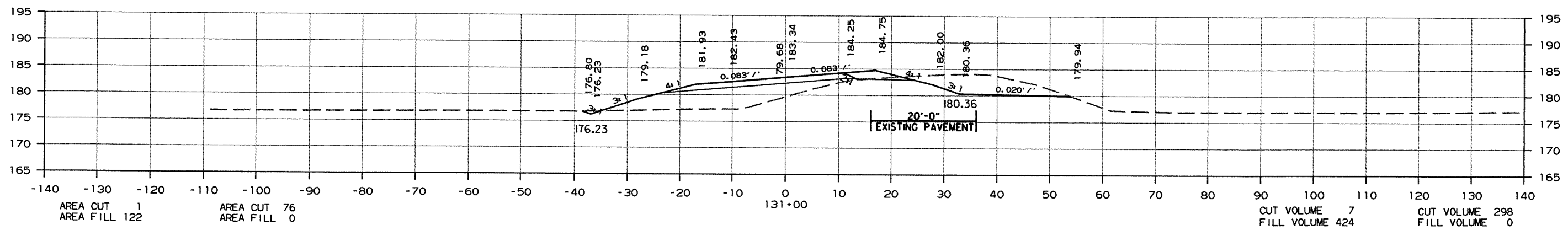
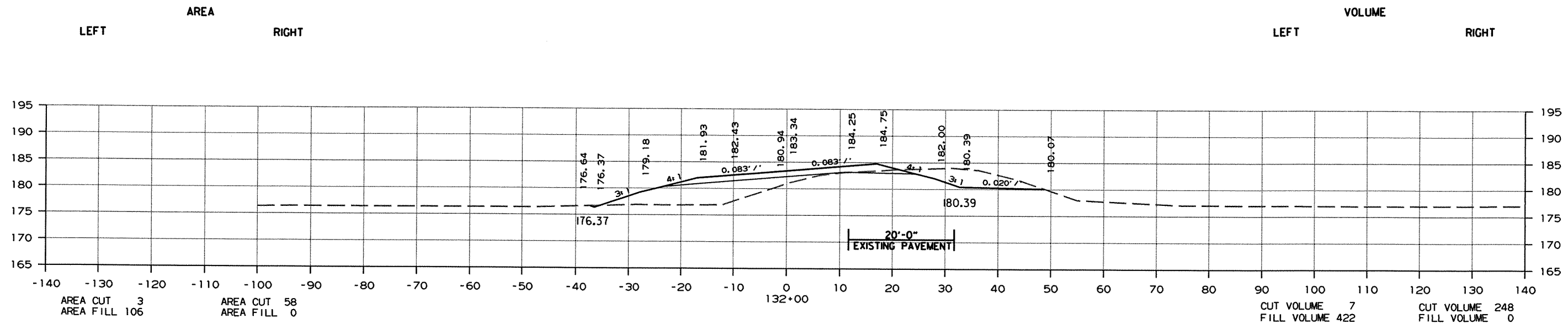


CROSS SECTION STA. 127+00 TO STA. 129+00

ZBORNER.CEL 8/30/2010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	110541		82	85

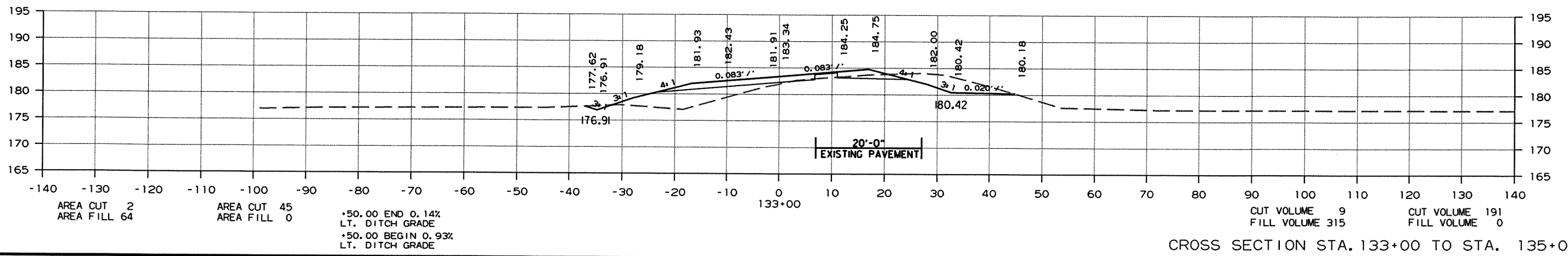
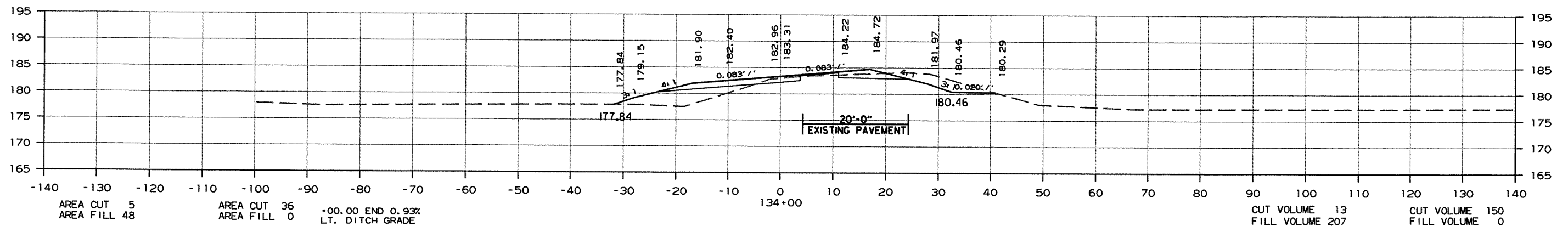
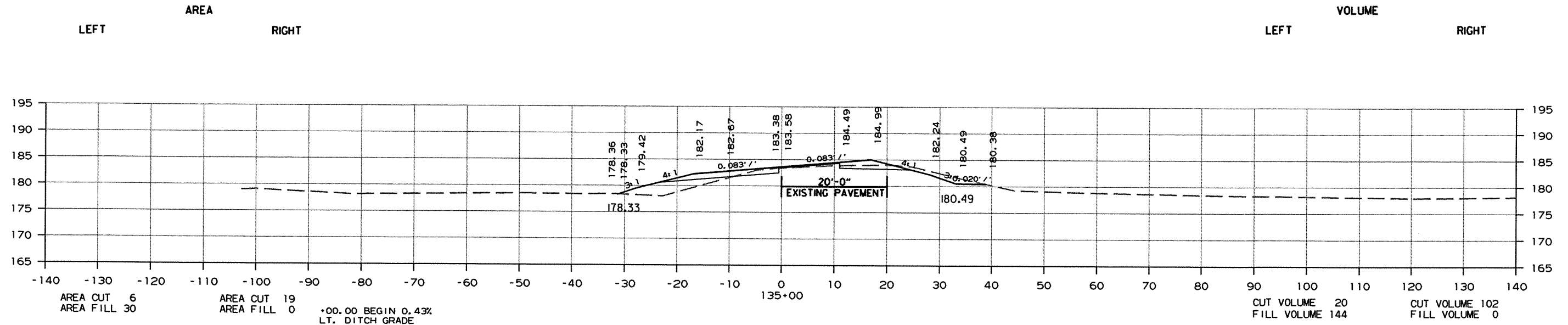
② CROSS SECTIONS



CROSS SECTION STA. 130+00 TO STA. 132+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. 110541							83	85

② CROSS SECTIONS



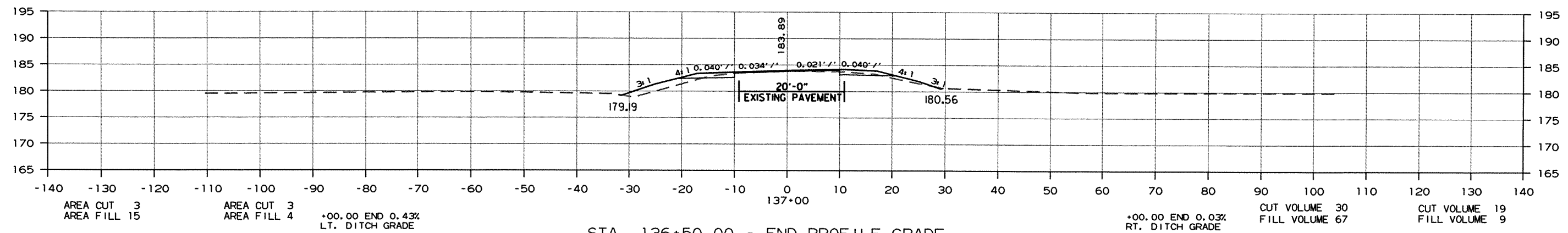
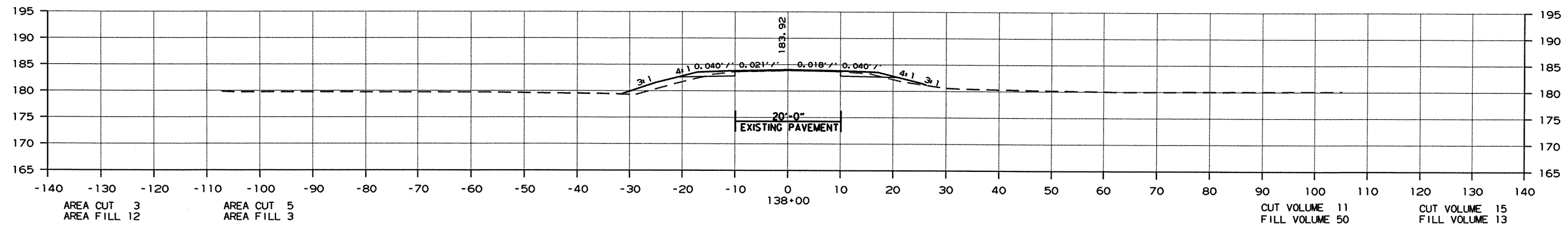
CROSS SECTION STA. 133+00 TO STA. 135+00

ZBORNER.CEL 8/30/2010

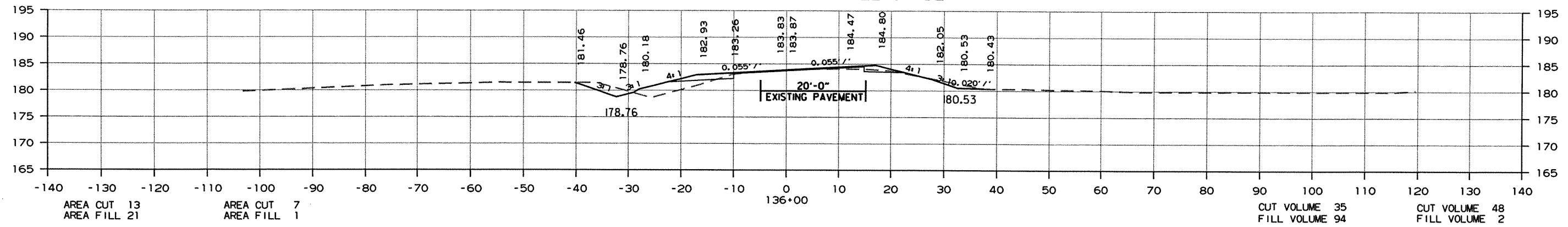
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 110541	84	85

2 CROSS SECTIONS

LEFT AREA RIGHT LEFT VOLUME RIGHT



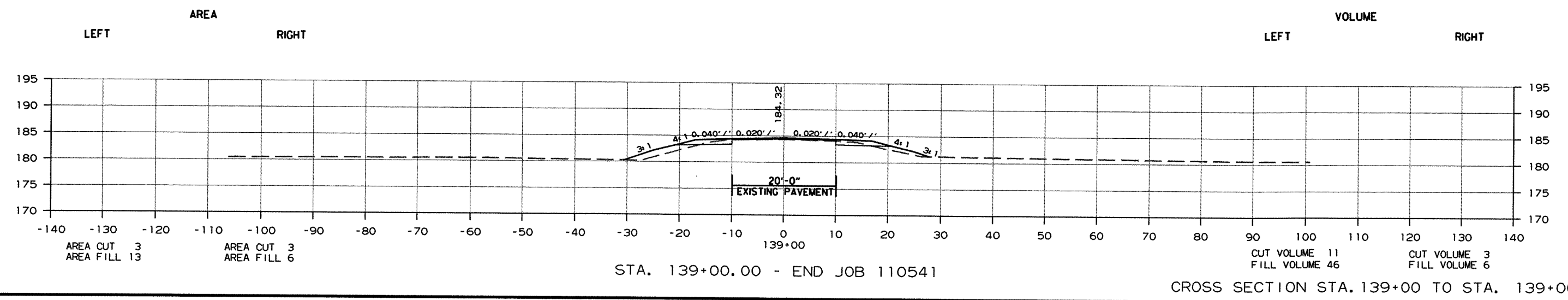
STA. 136+50.00 - END PROFILE GRADE



CROSS SECTION STA. 136+00 TO STA. 138+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.	110541	85

② CROSS SECTIONS



RI10541.DGN 10/14/2011