

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.	050012	1	90	

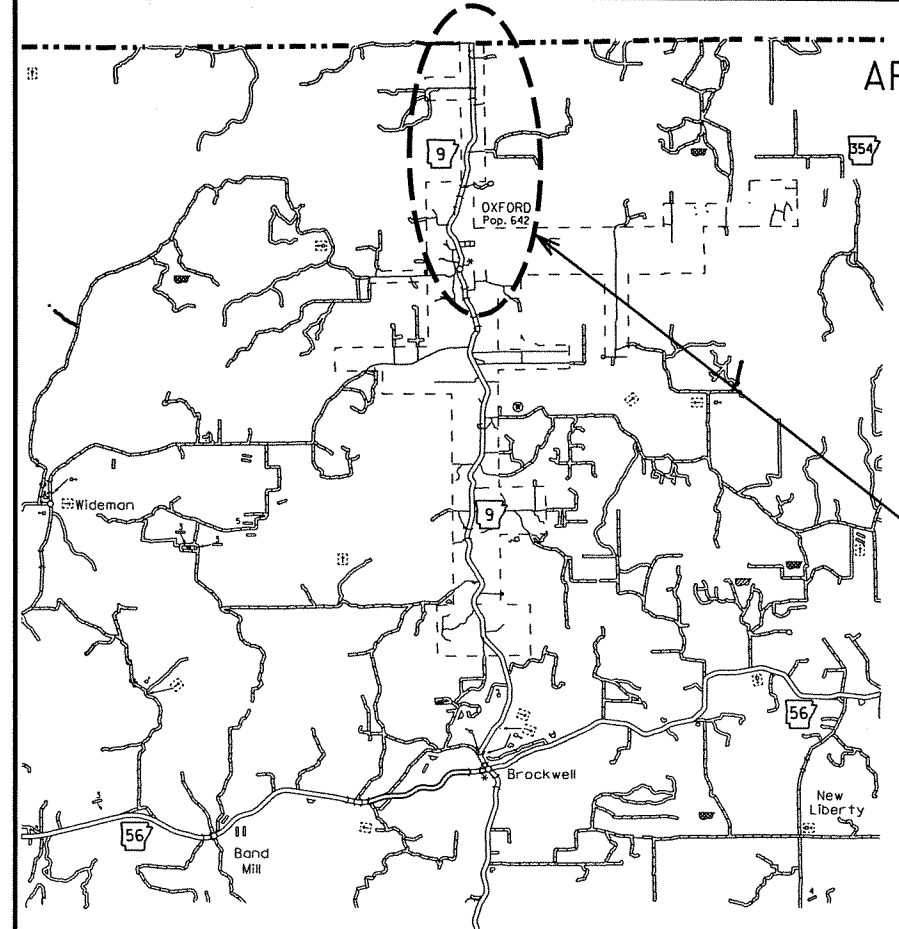
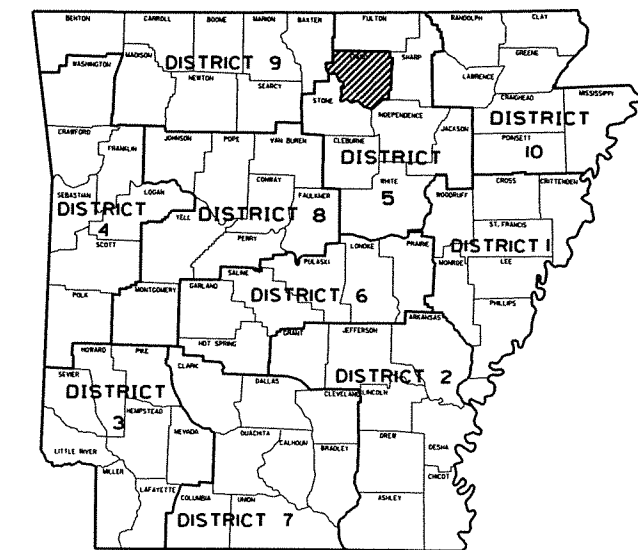
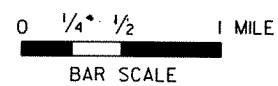
(2) FULTON CO. LINE - SOUTH STRS. & APPRS. (OXFORD) (S)

FULTON CO. LINE - SOUTH STRS. & APPRS. (OXFORD) (S)

IZARD COUNTY
ROUTE 9 SECTION 13

JOB 050012

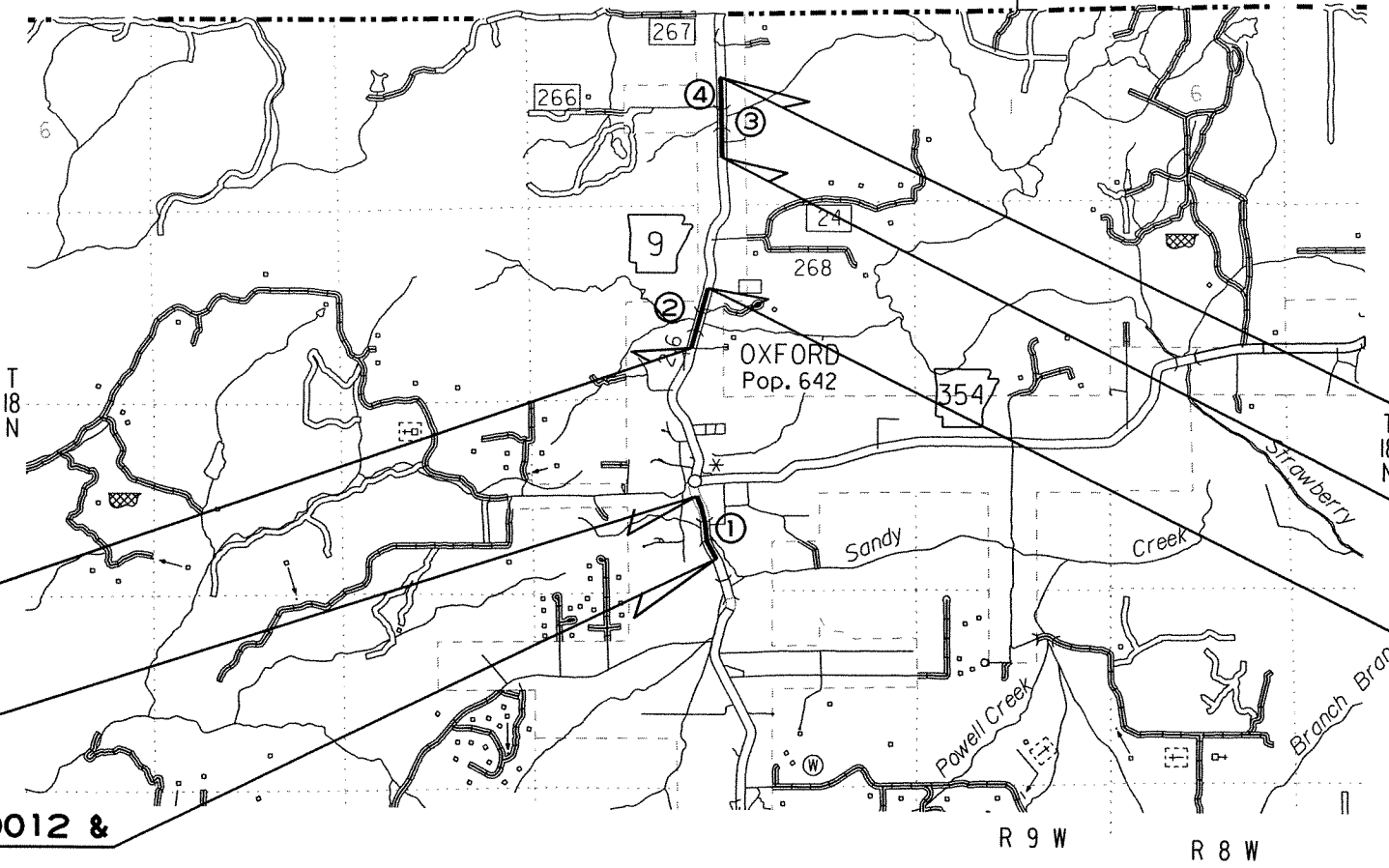
FED. AID PROJ. BRN-0033(20)



PROJECT LOCATION



SITE STATIONING ARE NOT RELATED R 9 W R 8 W



DESIGN TRAFFIC DATA

DESIGN YEAR	2031
2011 ADT	1200
2031 ADT	1600
2031 DHV	176
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	3%
DESIGN SPEED	50 MPH

STRUCTURES OVER 20' -0" SPAN

- ① STA. 107+05 CONSTRUCT QUAD. 9' x 5' x 72' R.C. BOX CULVERT ON A 15° LT. FWD. SKEW W/WINGWALLS LT. & RT. Q50 = 520 CFS D.A. = 0.4 SQ. MI. SPAN = 40' 9 3/4"
- ② STA. 205+25 CONSTRUCT QUAD. 10' x 7' x 64' R.C. BOX CULVERT W/WINGWALLS LT. & RT. Q50 = 1460 CFS D.A. = 1.4 SQ. MI. SPAN = 43' 9"
- ③ STA. 305+10 CONSTRUCT QUAD. 10' x 6' x 67' R.C. BOX CULVERT ON 15° RT. FWD SKEW W/WINGWALLS LT. & RT. Q50 = 380 CFS D.A. = 0.3 SQ. MI. SPAN = 45' 3 1/2"
- ④ STA. 306+55 CONSTRUCT TR1. 6' x 6' x 64' R.C. BOX CULVERT W/WINGWALLS LT. & RT. Q50 = 380 CFS D.A. = 0.3 SQ. MI. SPAN = 20' 8"

STA. 202+50.00
BEGIN SECTION 2
LOG MILE 13.11

STA. 110+10.00
END SECTION 1

STA. 101+00.00 - BEGIN JOB 050012 &
BEGIN SECTION 1
LOG MILE 11.87

STA. 307+40.00 - END SECTION 3
& END JOB 050012

STA. 303+15.00
BEGIN SECTION 3
LOG MILE 14.23

STA. 205+60.00
END SECTION 2

APPROVED



DEPUTY DIRECTOR
AND CHIEF ENGINEER

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT	1645.00	FEET	OR	0.312	MILES
NET ROADWAY	1494.48			0.283	MILES
NET BRIDGES	150.52			0.029	MILES
NET PROJECT	1645.00			0.312	MILES

P.E. JOB 050012
NON-PART.

BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE N 36°12'56.0"	N 36°13'59.8"	N 36°15'1.1"
LONGITUDE W 91°55'37.3"	W 91°55'40.6"	W 91°55'30.8"

INDEX OF SHEETS

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67 - 90	CROSS SECTIONS		

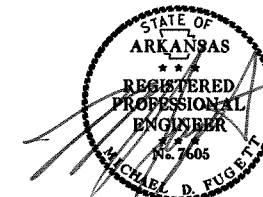
NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAIL BOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
- THIS PROJECT IS COVERED UNDER A NATIONWIDE (14) SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.
- 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.

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						JOB NO.	050012	2 90

2 INDEX OF SHEETS, GOV SPEC, & GEN NOTES



8-9-11

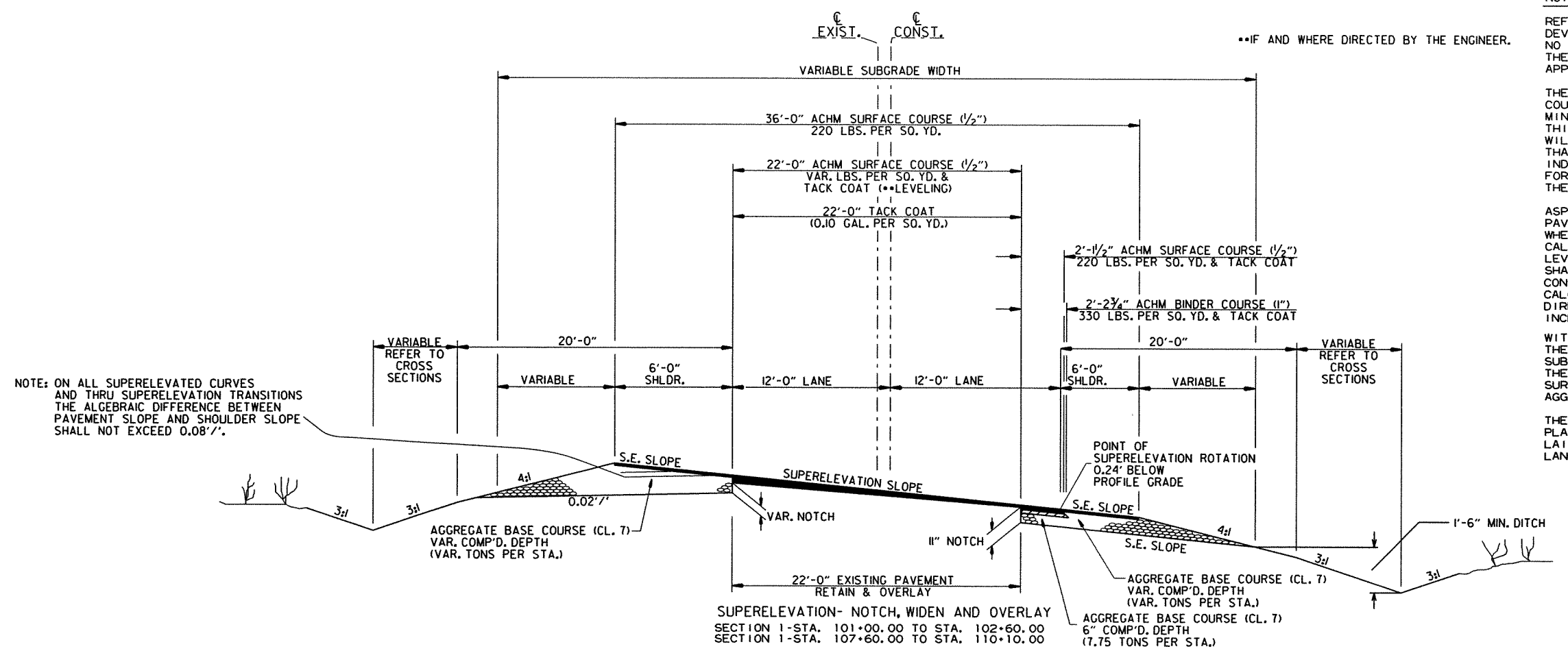
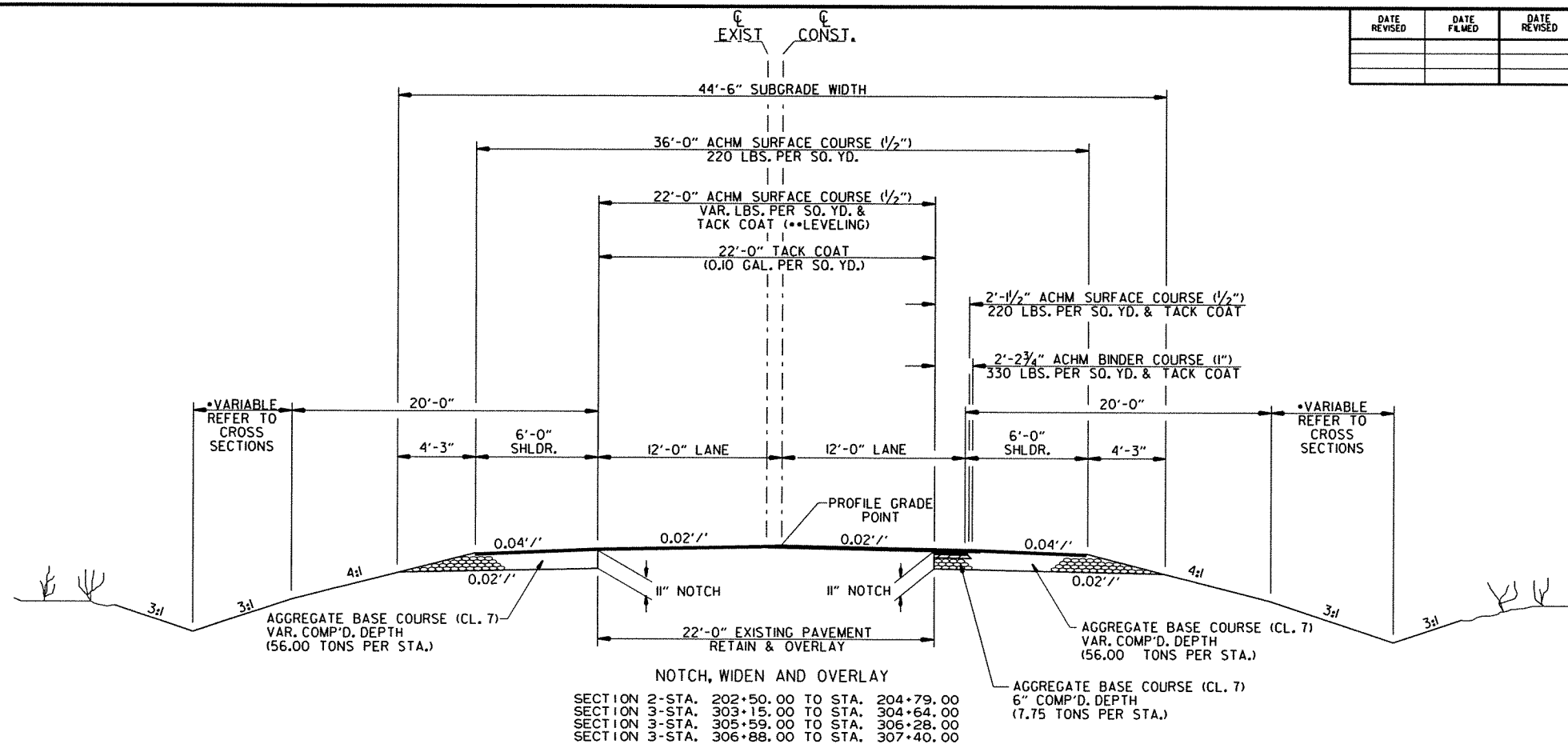
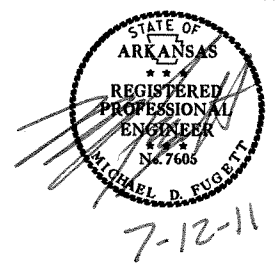
GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
JOB 050012	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 050012	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 050012	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 050012	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 050012	INTERNET BIDDING
JOB 050012	NESTING SITES OF MIGRATORY BIRDS
JOB 050012	SOIL STABILIZATION
JOB 050012	STORM WATER POLLUTION PREVENTION PLAN
JOB 050012	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 050012	UTILITY ADJUSTMENTS
JOB 050012	WARM MIX ASPHALT
JOB 050012	WELL HEAD PROTECTION

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2 TYPICAL SECTIONS OF IMPROVEMENT



NOTE: ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

**IF AND WHERE DIRECTED BY THE ENGINEER.

NOTES:

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

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

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

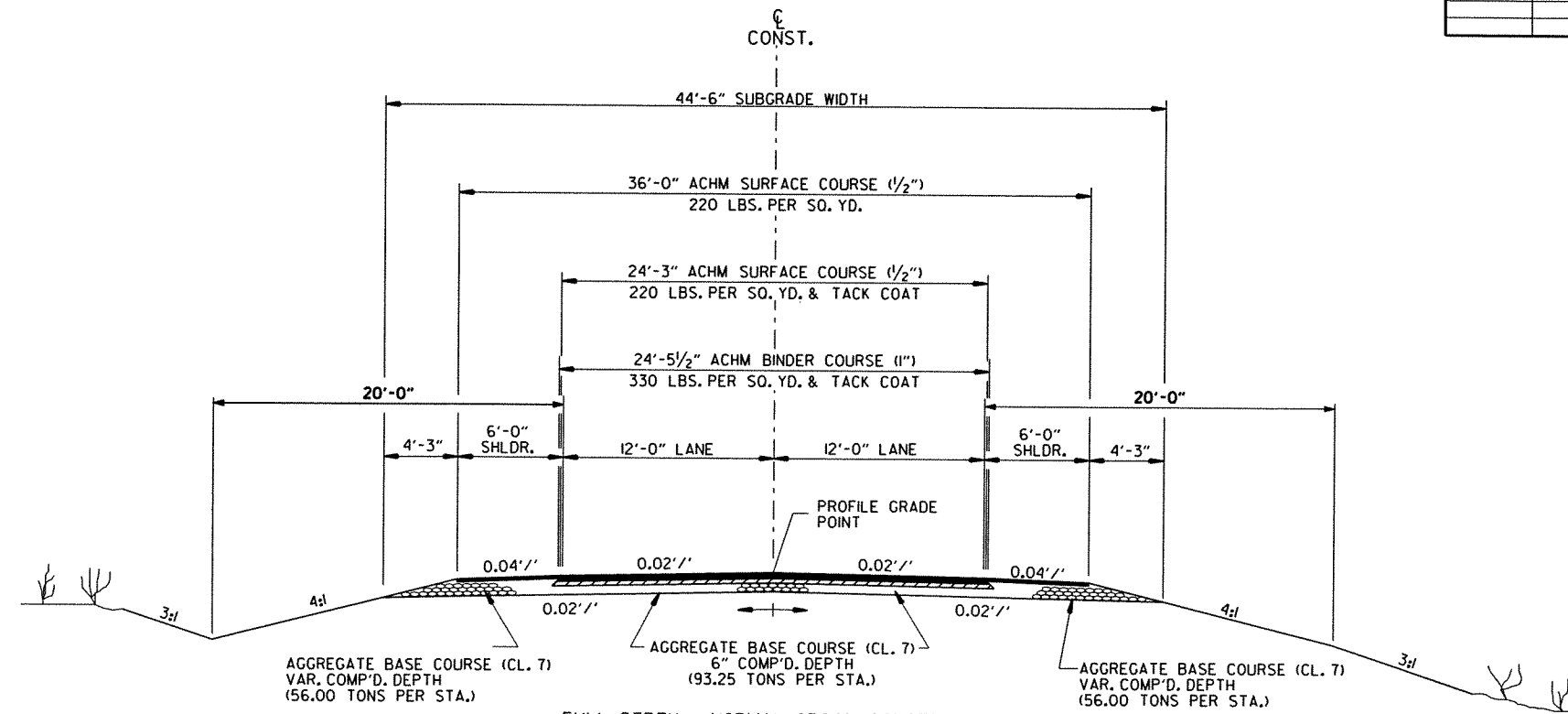
WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

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

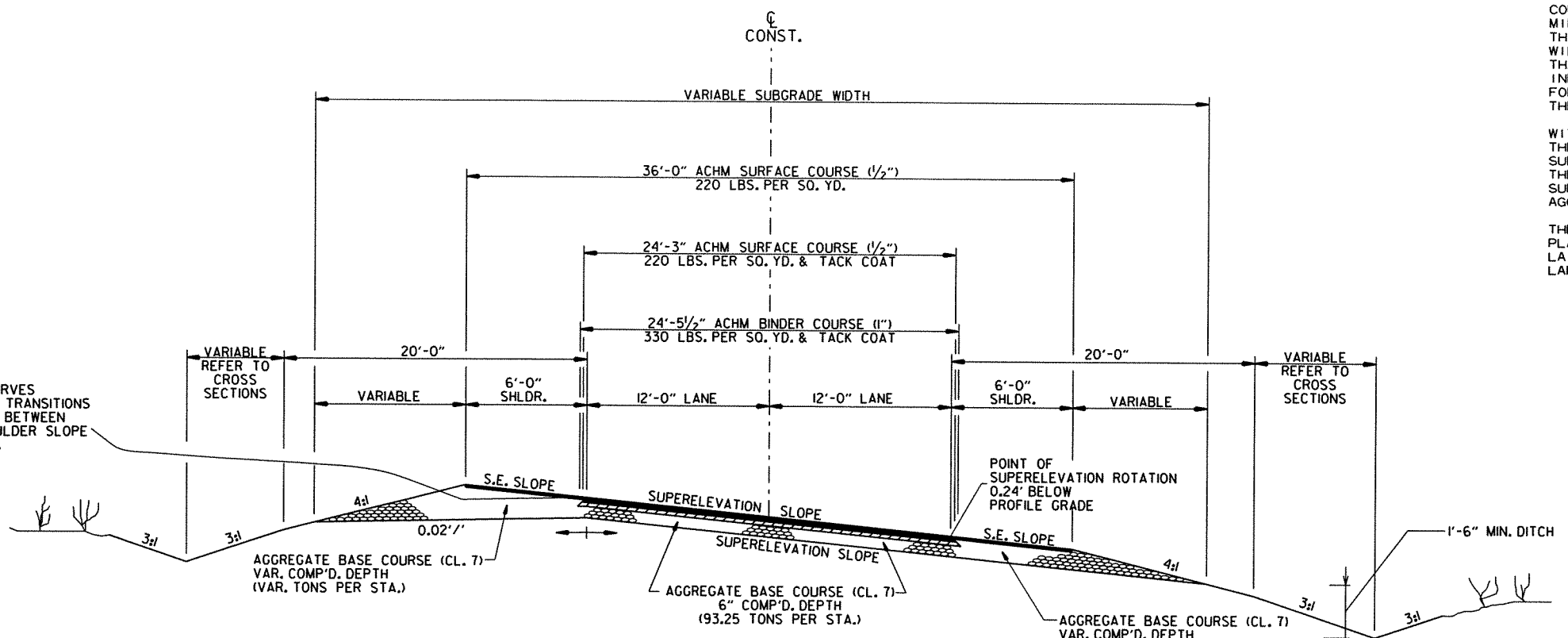
TYPICAL SECTIONS OF IMPROVEMENT

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2 TYPICAL SECTIONS OF IMPROVEMENT



FULL DEPTH - NORMAL CROWN CONSTRUCTION
 SECTION 2-STA. 204+79.00 TO STA. 205+60.00
 SECTION 3-STA. 304+64.00 TO STA. 305+59.00
 SECTION 3-STA. 306+28.00 TO STA. 306+88.00



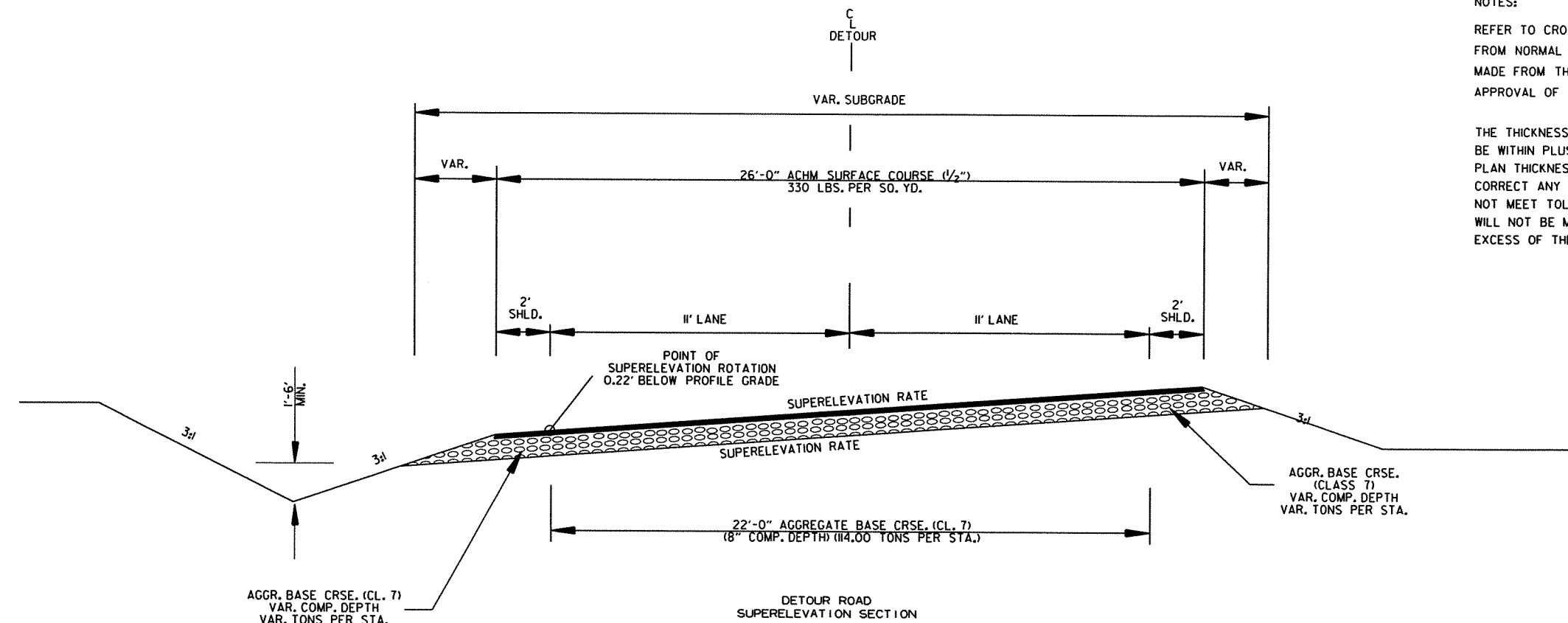
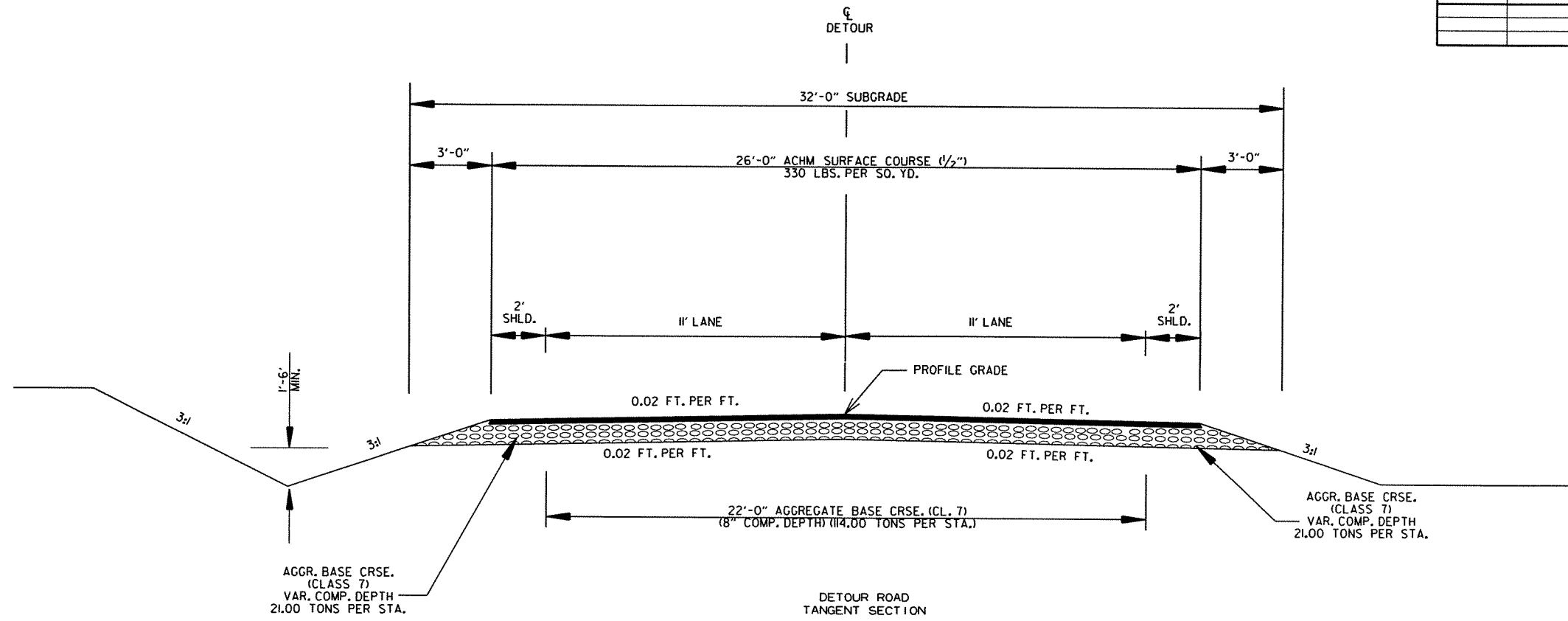
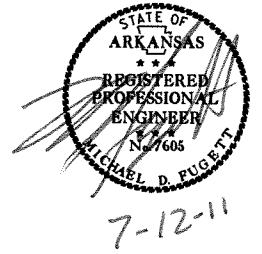
FULL DEPTH SUPERELEVATION CONSTRUCTION (CURVE TO LEFT)
 SECTION 1-STA. 102+60.00 TO STA. 107+60.00

NOTE: ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

NOTES:
 REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
 THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
 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.
 THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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JOB NO. 050012								

2 TYPICAL SECTIONS OF IMPROVEMENT



NOTES:

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

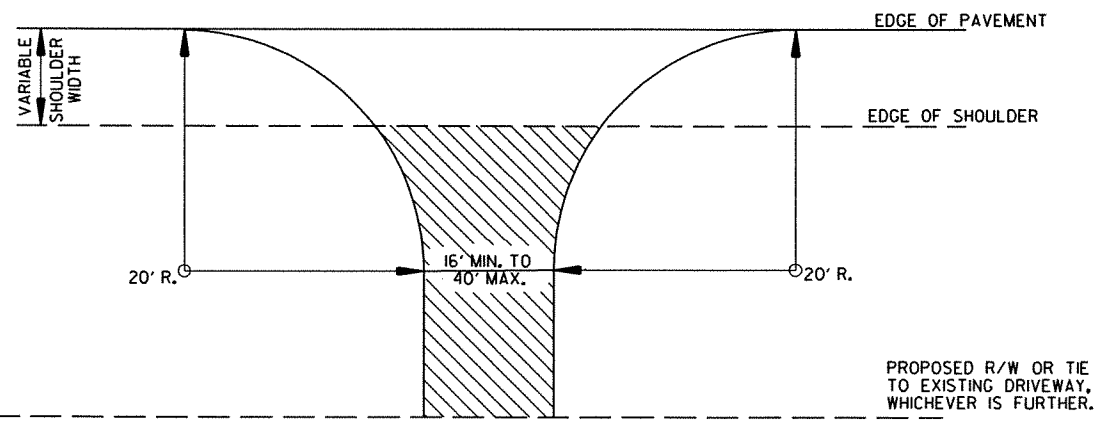
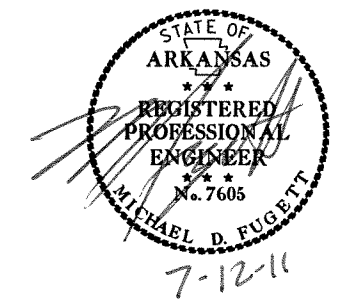
THE THICKNESS OF AGG. BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

TYPICAL SECTIONS OF IMPROVEMENT

r050012.dgn 06/30/2011

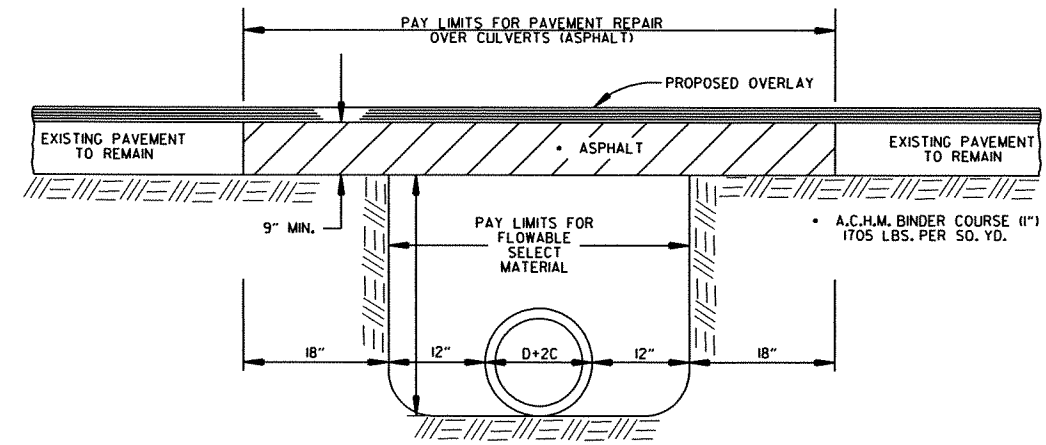
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2 SPECIAL DETAILS



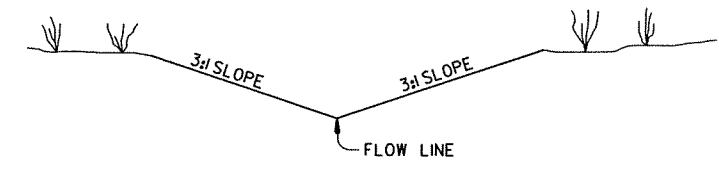
ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) (7" COMP. DEPTH) IF ASPHALT DRIVE EXISTING

DETAIL FOR DRIVEWAY TURNOUT

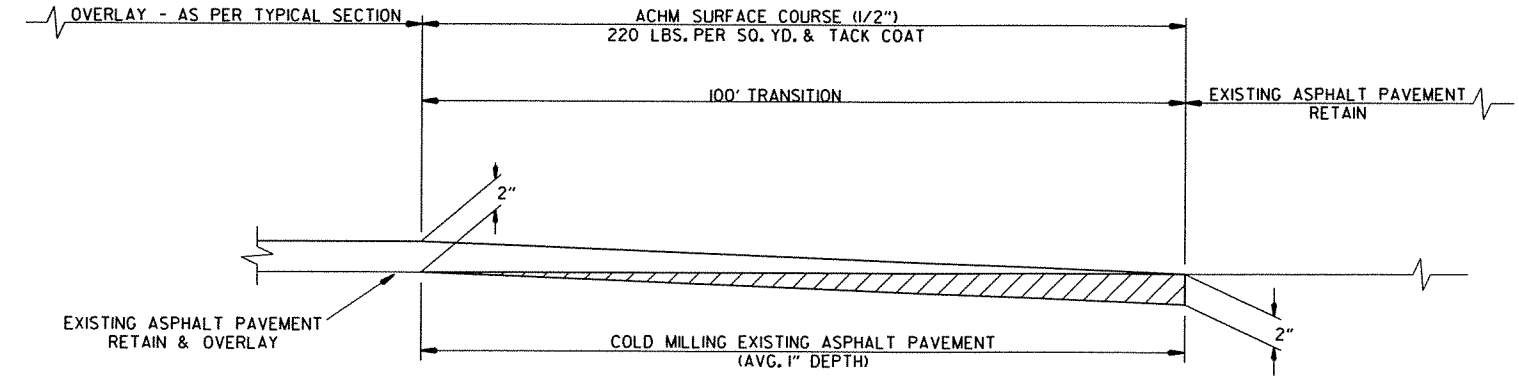


PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

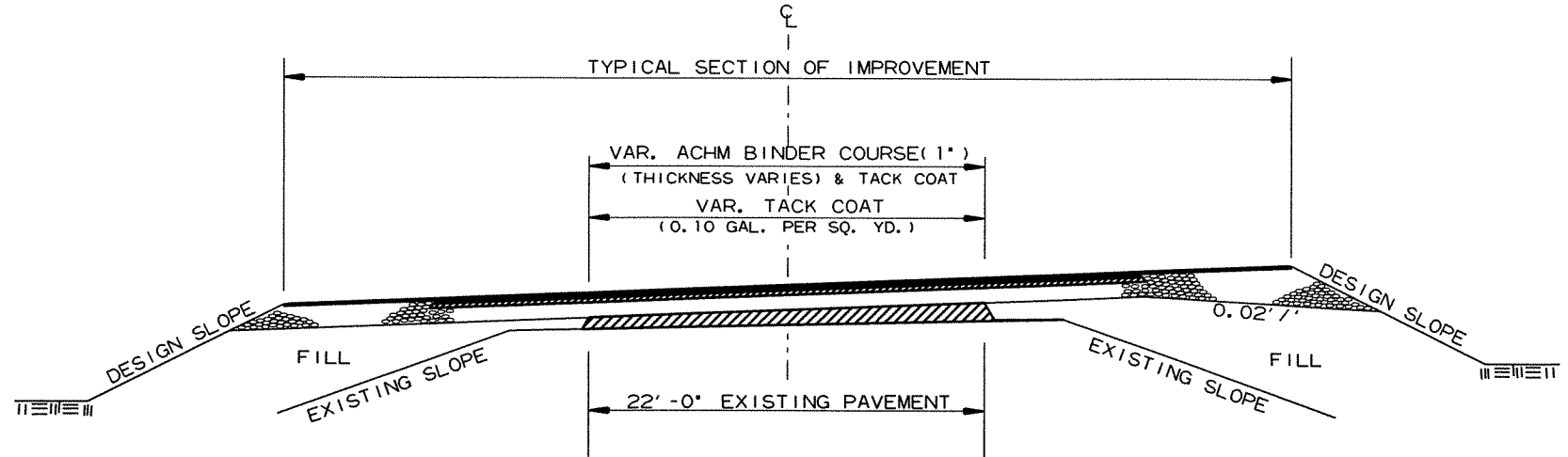


DETAIL OF STREAM RELOCATION



PAVEMENT TRANSITION

C.L. HWY. 9



METHOD OF RAISING GRADE

NOTES:

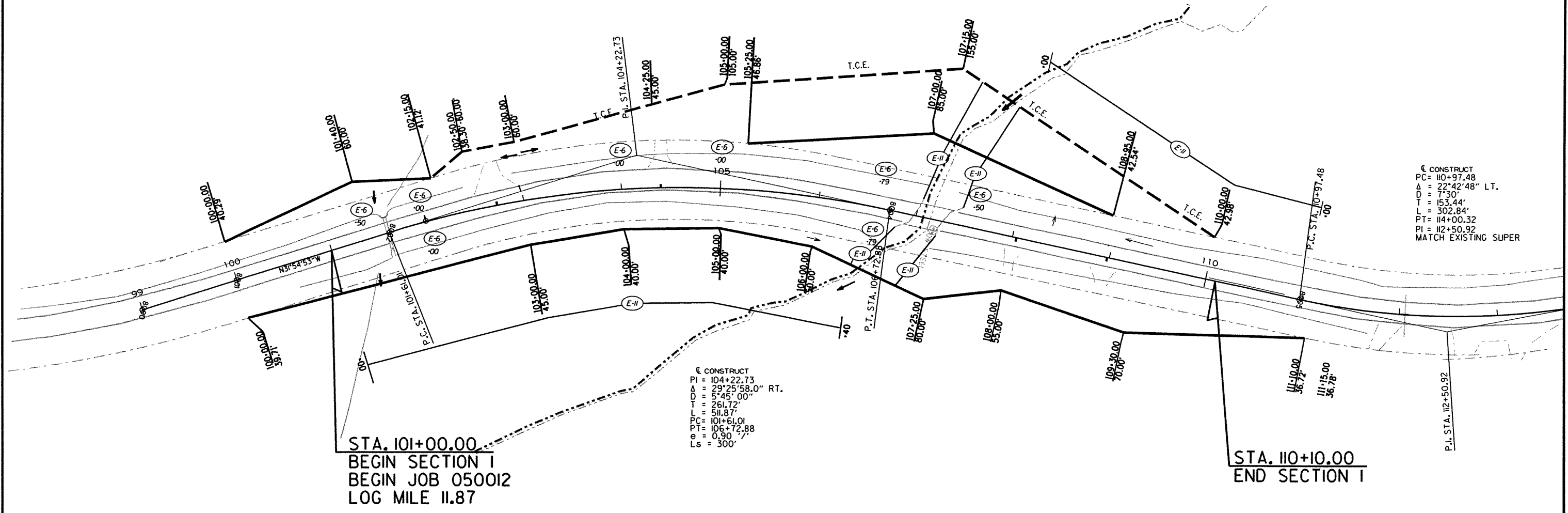
- (1) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
- (2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
- (3) IN LOCATIONS WHERE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

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2 TEMPORARY EROSION CONTROL DETAILS



7-12-11



€ CONSTRUCT
 PC = 110+97.48
 Δ = 22°42'48" LT.
 D = 7°30'
 T = 153.44'
 L = 302.84'
 PT = 114+00.32
 PI = 112+50.92
 MATCH EXISTING SUPER

€ CONSTRUCT
 PI = 104+22.73
 Δ = 29°25'58.0" RT.
 D = 5°45'00"
 T = 261.72'
 L = 511.87'
 PC = 101+61.01
 PT = 106+72.88
 e = 0.90
 Ls = 300'

STA. 101+00.00
 BEGIN SECTION I
 BEGIN JOB 050012
 LOG MILE 11.87

STA. 110+10.00
 END SECTION I

REVISION BOX

	CENTERLINE CONSTRUCTION
	EXISTING PAVEMENT EDGE
	PROPOSED PAVEMENT EDGE
	DITCHES
	TREES
	FENCE
	OBLITERATION

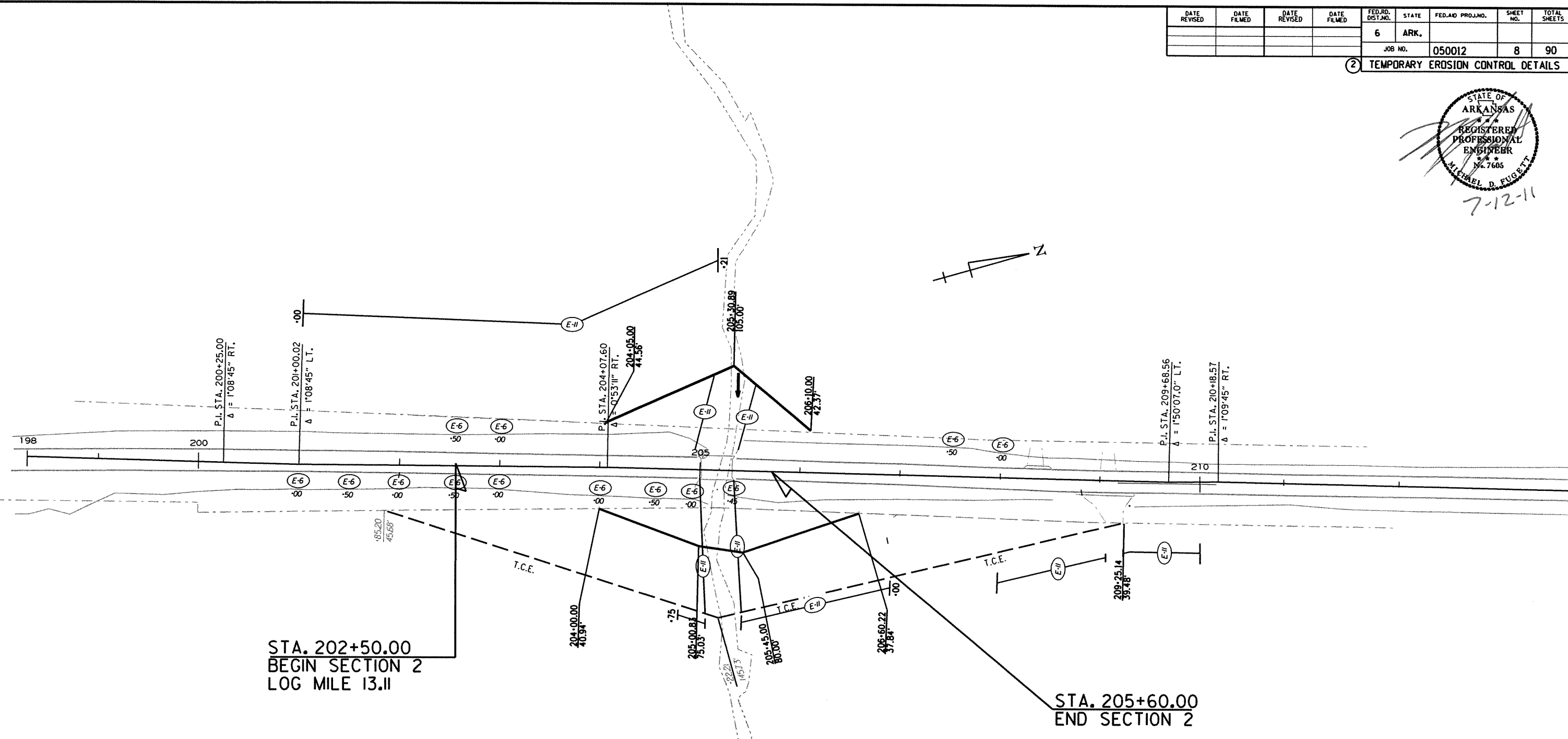
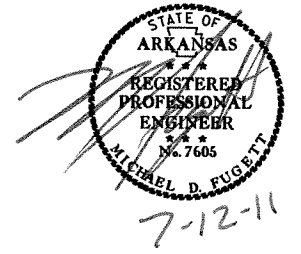
LEGEND

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
 CLEARING AND GRUBBING

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② TEMPORARY EROSION CONTROL DETAILS



	CENTERLINE CONSTRUCTION
	EXISTING PAVEMENT EDGE
	PROPOSED PAVEMENT EDGE
	DITCHES
	TREES
	FENCE
	OBLITERATION

LEGEND

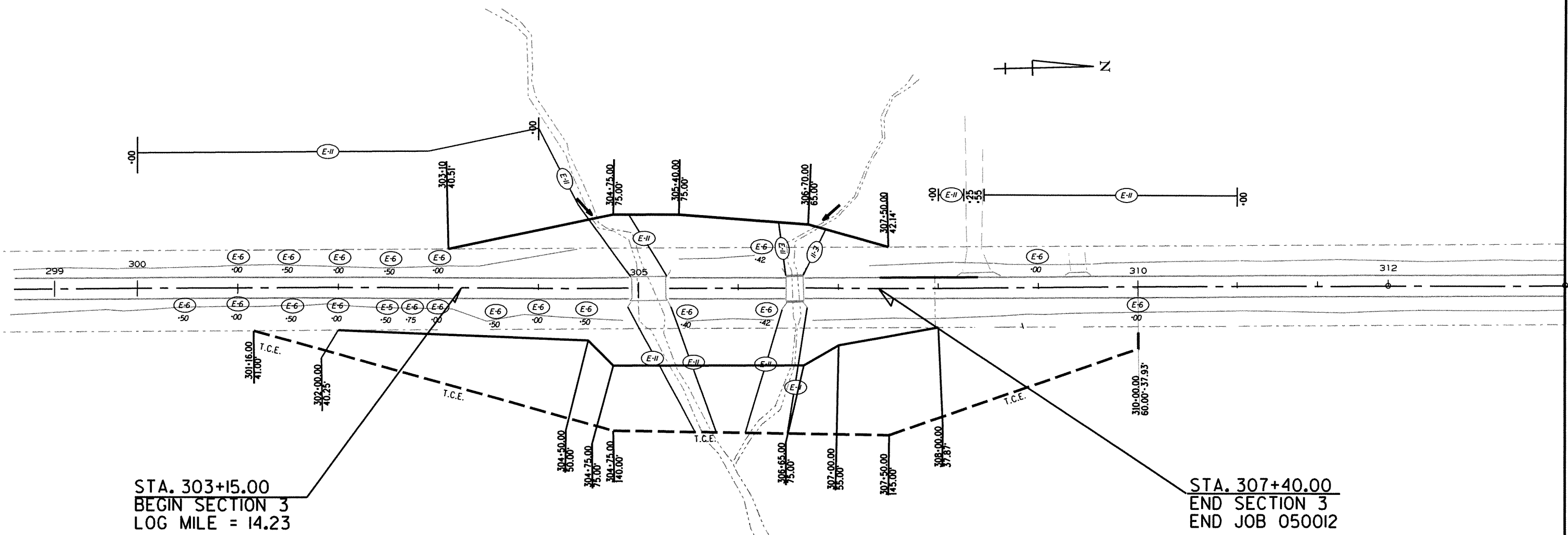
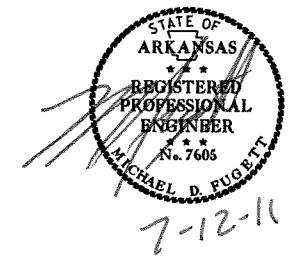
REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050012	9	90

② TEMPORARY EROSION CONTROL DETAILS



STA. 303+15.00
BEGIN SECTION 3
LOG MILE = 14.23

STA. 307+40.00
END SECTION 3
END JOB 050012

REVISION BOX

SYMBOL	DESCRIPTION
---+---+---+---	CENTERLINE CONSTRUCTION
====	EXISTING PAVEMENT EDGE
====	PROPOSED PAVEMENT EDGE
- - - - -	DITCHES
⊙ ⊙ ⊙ ⊙ ⊙ ⊙ ⊙ ⊙	TREES
- x - x - x - x -	FENCE
▨	OBLITERATION

LEGEND

DATE OF REVISION	REVISION

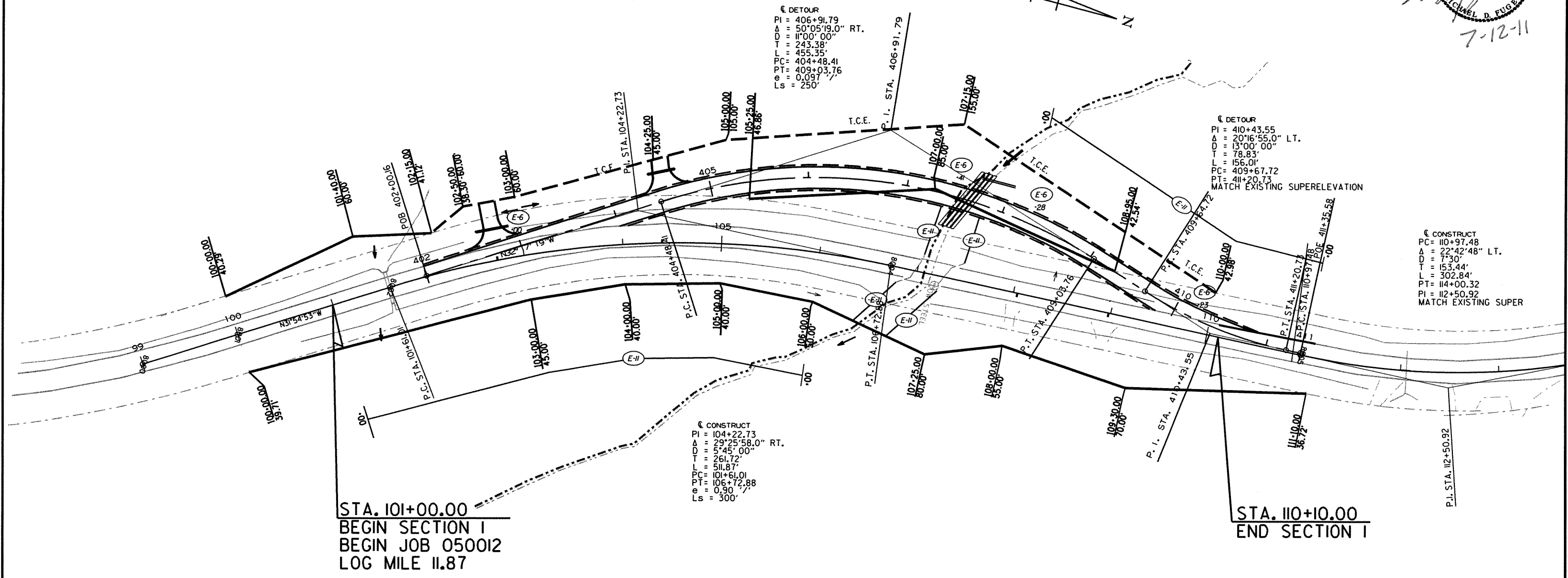
TEMPORARY EROSION CONTROL DETAILS
CLEARING AND GRUBBING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							10	90

② TEMPORARY EROSION CONTROL DETAILS



7-12-11



STA. 101+00.00
BEGIN SECTION I
BEGIN JOB 050012
LOG MILE 11.87

STA. 110+10.00
END SECTION I

REVISION BOX

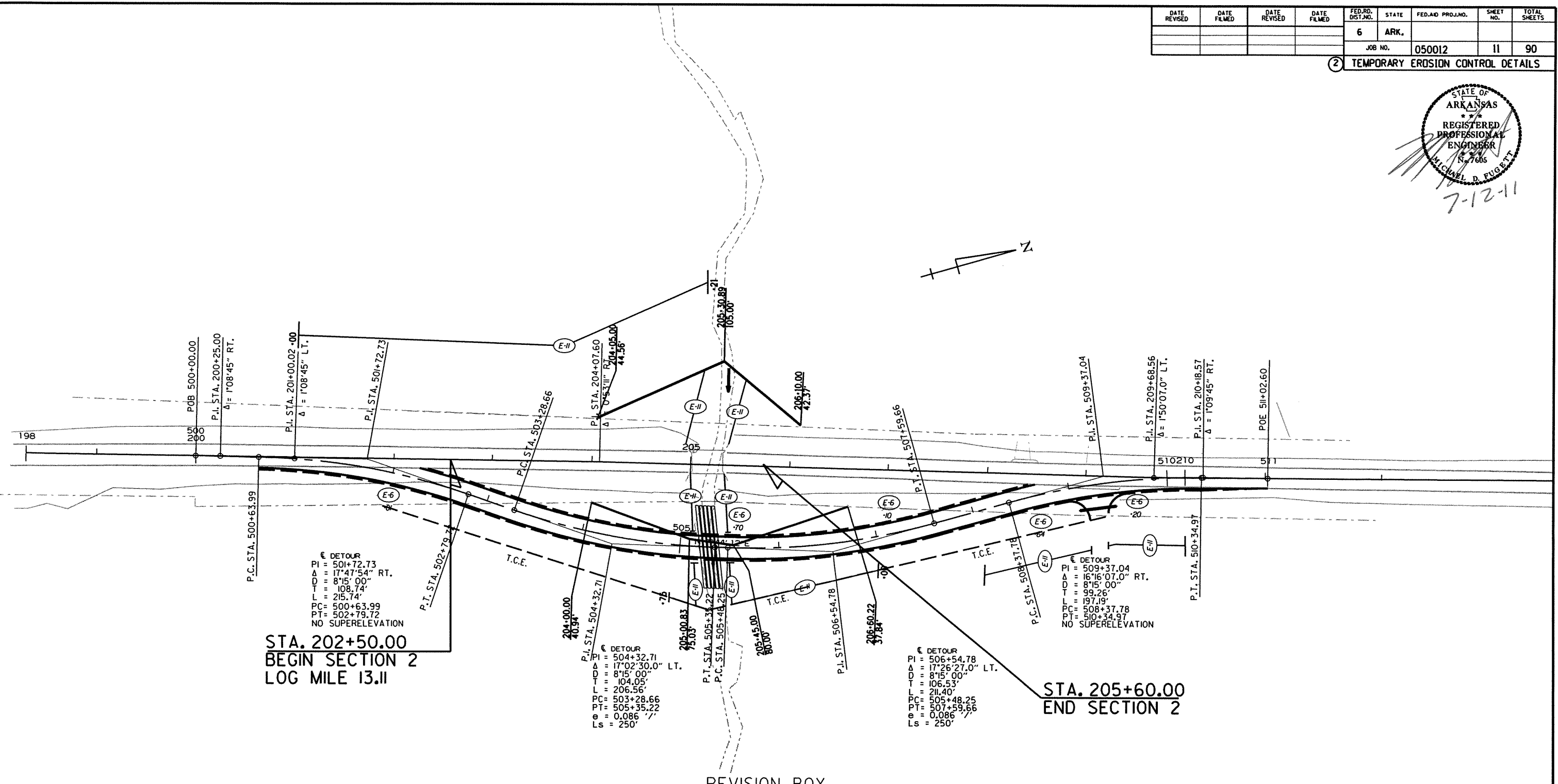
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	CENTERLINE CONSTRUCTION
	EXISTING PAVEMENT EDGE
	PROPOSED PAVEMENT EDGE
	DITCHES
	TREES
	FENCE
	OBLITERATION

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
DETOUR CONSTRUCTION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							11	90

2 TEMPORARY EROSION CONTROL DETAILS



STA. 202+50.00
 BEGIN SECTION 2
 LOG MILE 13.11

STA. 205+60.00
 END SECTION 2

REVISION BOX

SYMBOL	DESCRIPTION
---+---+---+---	CENTERLINE CONSTRUCTION
====	EXISTING PAVEMENT EDGE
====	PROPOSED PAVEMENT EDGE
- - - - -	DITCHES
⊙	TREES
- x - x -	FENCE
▨	OBLITERATION

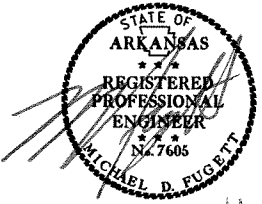
LEGEND

DATE OF REVISION	REVISION

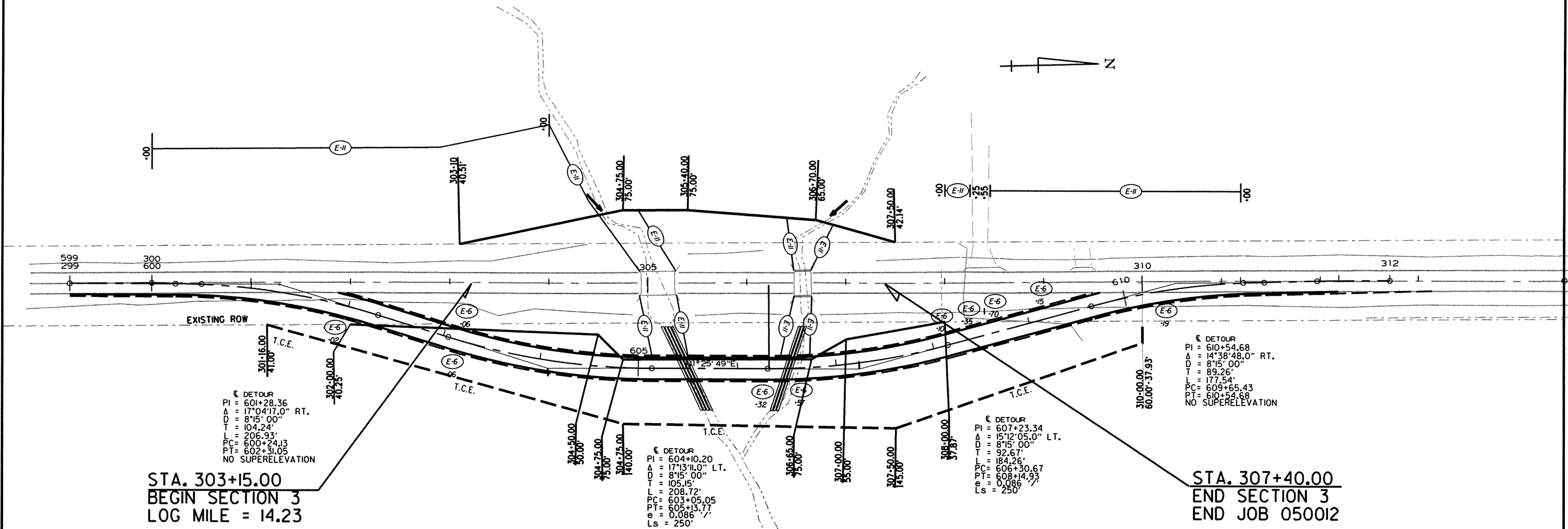
TEMPORARY EROSION CONTROL DETAILS
 DETOUR CONSTRUCTION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							12	90

2 TEMPORARY EROSION CONTROL DETAILS



7-12-11



STA. 303+15.00
BEGIN SECTION 3
LOG MILE = 14.23

STA. 307+40.00
END SECTION 3
END JOB 050012

REVISION BOX

DATE OF REVISION	REVISION

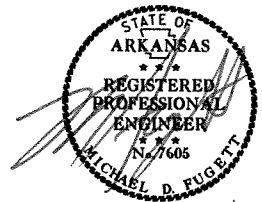
LEGEND

- CENTERLINE CONSTRUCTION
- EXISTING PAVEMENT EDGE
- PROPOSED PAVEMENT EDGE
- DITCHES
- TREES
- FENCE
- OBLITERATION

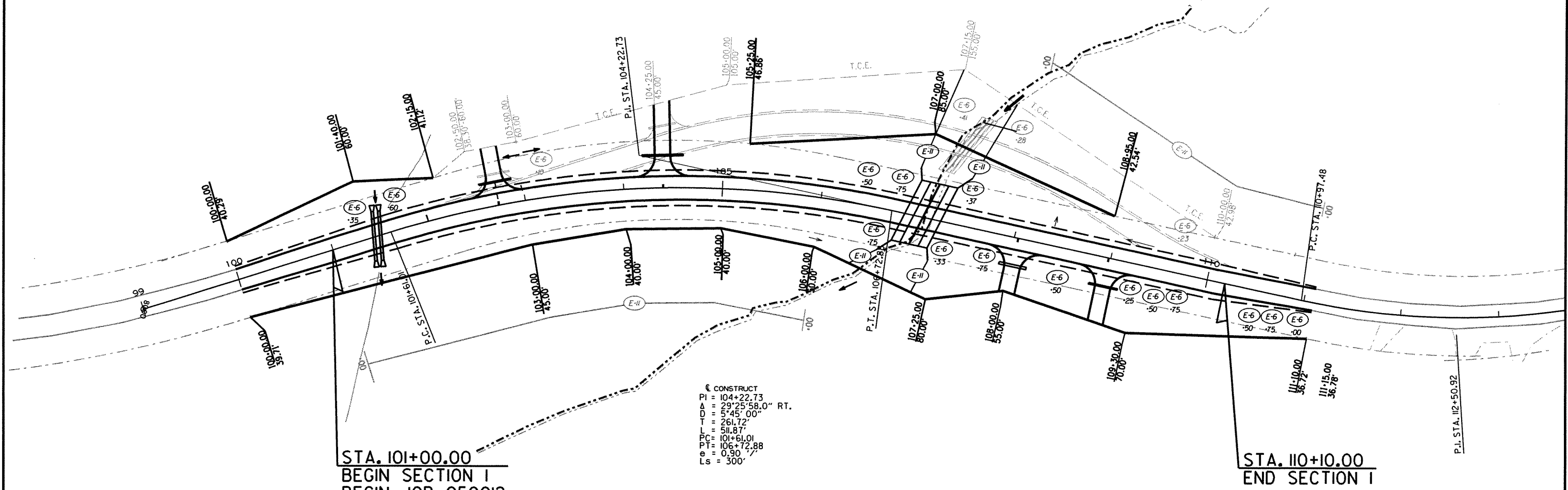
TEMPORARY EROSION CONTROL DETAILS
DETOUR CONSTRUCTION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							13	90

② TEMPORARY EROSION CONTROL DETAILS



7-12-11



€ CONSTRUCT
 PI = 104+22.73
 Δ = 29°25'58.0" RT.
 D = 5°45'00"
 T = 261.72'
 L = 511.87'
 PC = 101+61.01
 PT = 106+72.88
 e = 0.90'
 Ls = 300'

STA. 101+00.00
 BEGIN SECTION I
 BEGIN JOB 050012
 LOG MILE 11.87

STA. 110+10.00
 END SECTION I

REVISION BOX

DATE OF REVISION	REVISION

Symbol	Description
---+---+---	CENTERLINE CONSTRUCTION
====	EXISTING PAVEMENT EDGE
-----	PROPOSED PAVEMENT EDGE
- - - - -	DITCHES
⊙	TREES
-x-x-	FENCE
▨	OBLITERATION

LEGEND

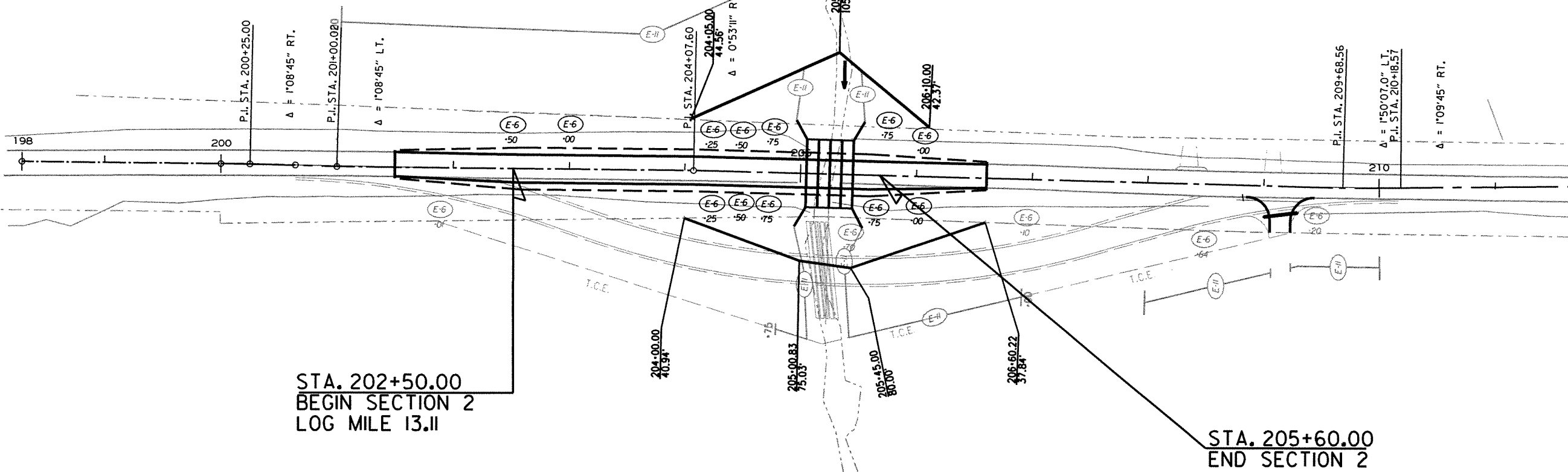
TEMPORARY EROSION CONTROL DETAILS
MAIN LANE CONST. & DETOUR OBLIT.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		14	90
				JOB NO. 050012				

2 TEMPORARY EROSION CONTROL DETAILS



7-12-11



STA. 202+50.00
BEGIN SECTION 2
LOG MILE 13.11

STA. 205+60.00
END SECTION 2

LEGEND	
	CENTERLINE CONSTRUCTION
	EXISTING PAVEMENT EDGE
	PROPOSED PAVEMENT EDGE
	DITCHES
	TREES
	FENCE
	OBLITERATION

REVISION BOX

DATE OF REVISION	REVISION

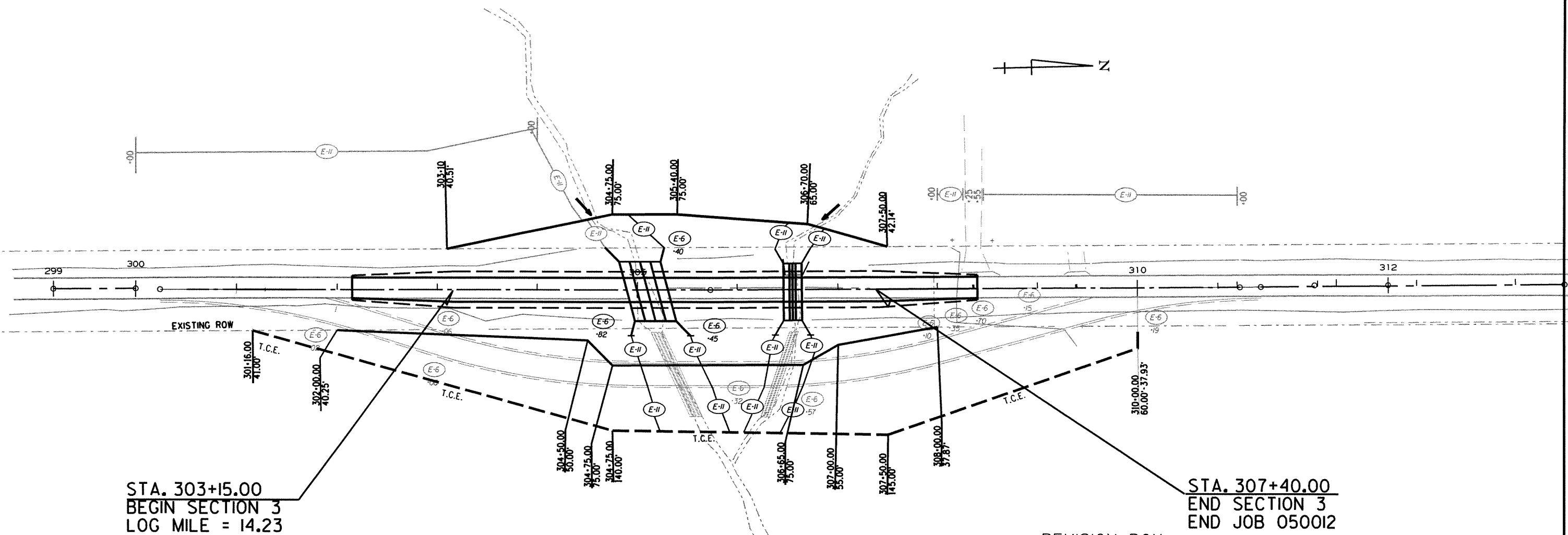
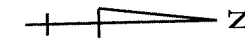
TEMPORARY EROSION CONTROL DETAILS
MAIN LANE CONST. & DETOUR OBLIT.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							15	90

2 TEMPORARY EROSION CONTROL DETAILS



7-12-11



STA. 303+15.00
BEGIN SECTION 3
LOG MILE = 14.23

STA. 307+40.00
END SECTION 3
END JOB 050012

	CENTERLINE CONSTRUCTION
	EXISTING PAVEMENT EDGE
	PROPOSED PAVEMENT EDGE
	DITCHES
	TREES
	FENCE
	OBLITERATION

LEGEND

REVISION BOX

DATE OF REVISION	REVISION

TEMPORARY EROSION CONTROL DETAILS
MAIN LANE CONST. & DETOUR OBLIT.

SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOUR ON LEFT

STAGE 2
STRIPE DETOUR ON LEFT AND MOVE TRAFFIC TO DETOUR ON LEFT
CONSTRUCT MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS AND MAIN LANES ON LEFT BETWEEN DETOUR TIE-INS

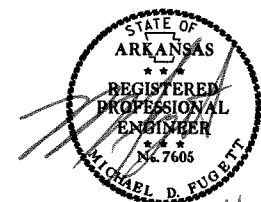
STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON LEFT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON LEFT AND RIGHT AT DETOUR TIE-INS

END OF JOB
INSTALL FINAL STRIPING

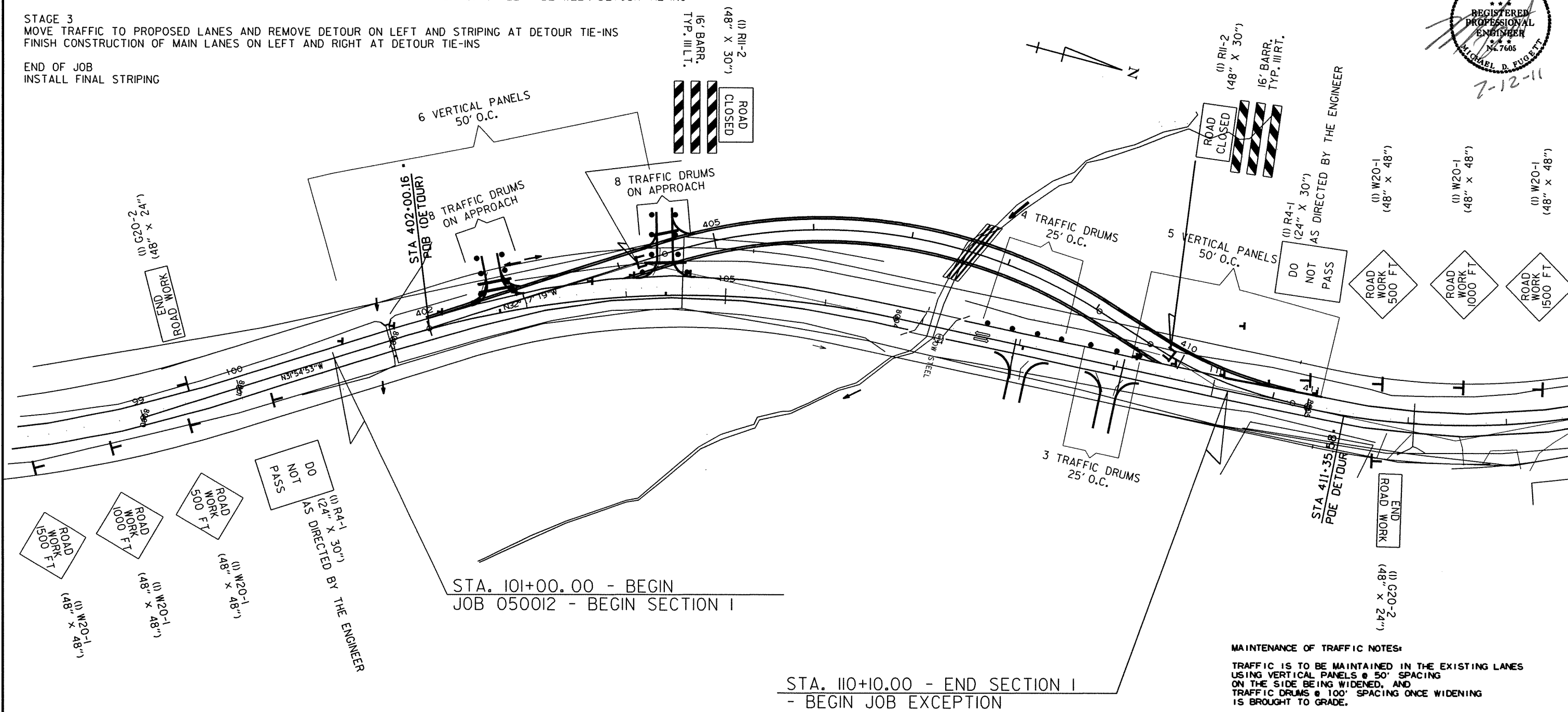
VERTICAL PANELS = 11 EACH
TRAFFIC DRUMS = 32 EACH

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		16	90
				JOB NO. 050012				

② MAINTENANCE OF TRAFFIC DETAILS



7-12-11

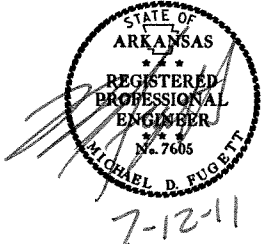


MAINTENANCE OF TRAFFIC NOTES:
TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES USING VERTICAL PANELS @ 50' SPACING ON THE SIDE BEING WIDENED, AND TRAFFIC DRUMS @ 100' SPACING ONCE WIDENING IS BROUGHT TO GRADE.

MAINTENANCE OF TRAFFIC DETAILS
SECTION 1: STAGE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							17	90

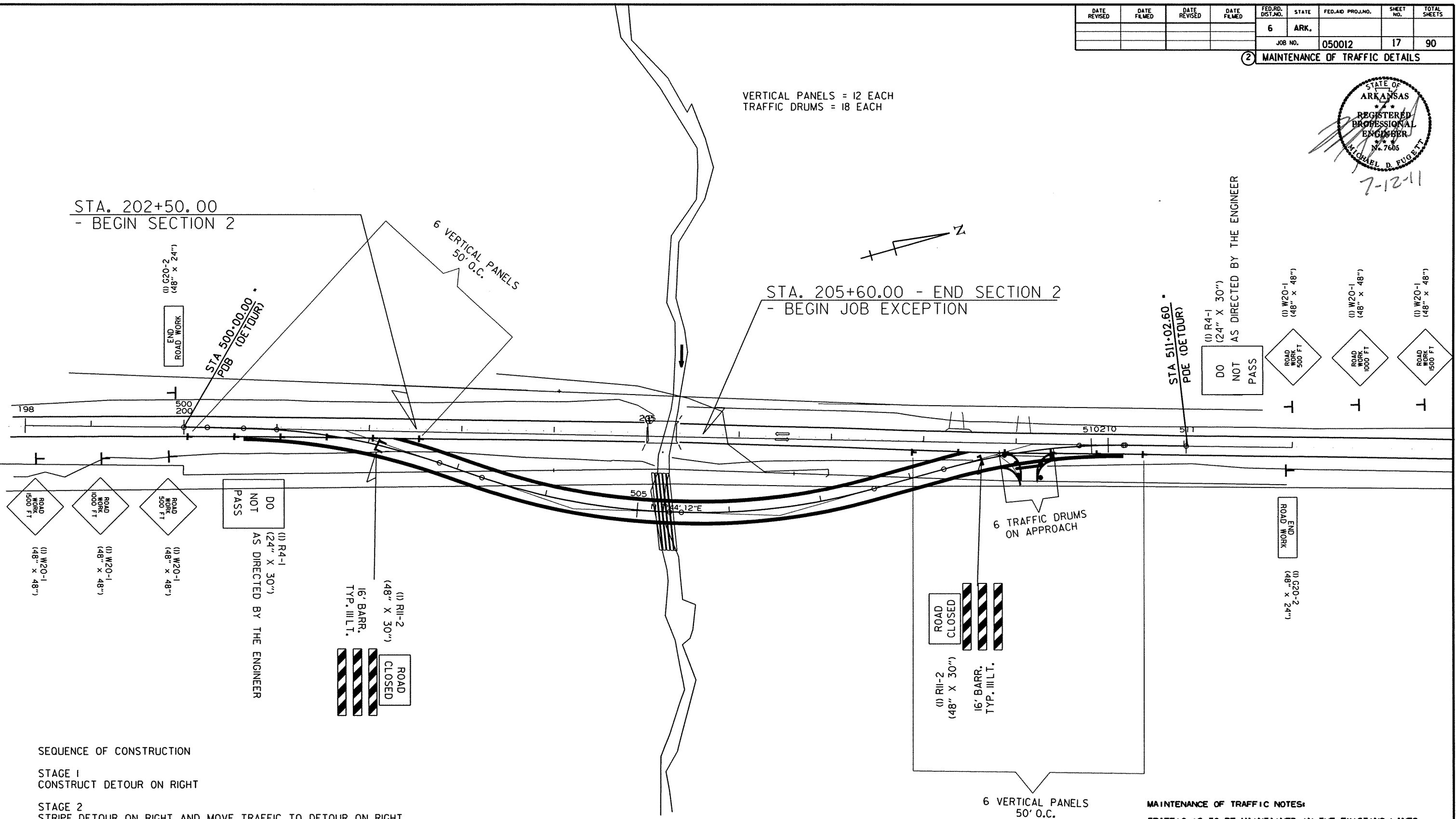
② MAINTENANCE OF TRAFFIC DETAILS



VERTICAL PANELS = 12 EACH
TRAFFIC DRUMS = 18 EACH

STA. 202+50.00
- BEGIN SECTION 2

STA. 205+60.00 - END SECTION 2
- BEGIN JOB EXCEPTION



SEQUENCE OF CONSTRUCTION

- STAGE 1
CONSTRUCT DETOUR ON RIGHT
- STAGE 2
STRIP DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
CONSTRUCT MAIN LANES ON LEFT FOR LENGTH OF SITE AND MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS
- STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON RIGHT AT DETOUR TIE-INS
- END OF JOB
INSTALL FINAL STRIPING

MAINTENANCE OF TRAFFIC NOTES:
TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES USING VERTICAL PANELS @ 50' SPACING ON THE SIDE BEING WIDENED, AND TRAFFIC DRUMS @ 100' SPACING ONCE WIDENING IS BROUGHT TO GRADE.

MAINTENANCE OF TRAFFIC DETAILS
SECTION 2: STAGE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		18	90
				JOB NO. 050012				

② MAINTENANCE OF TRAFFIC DETAILS

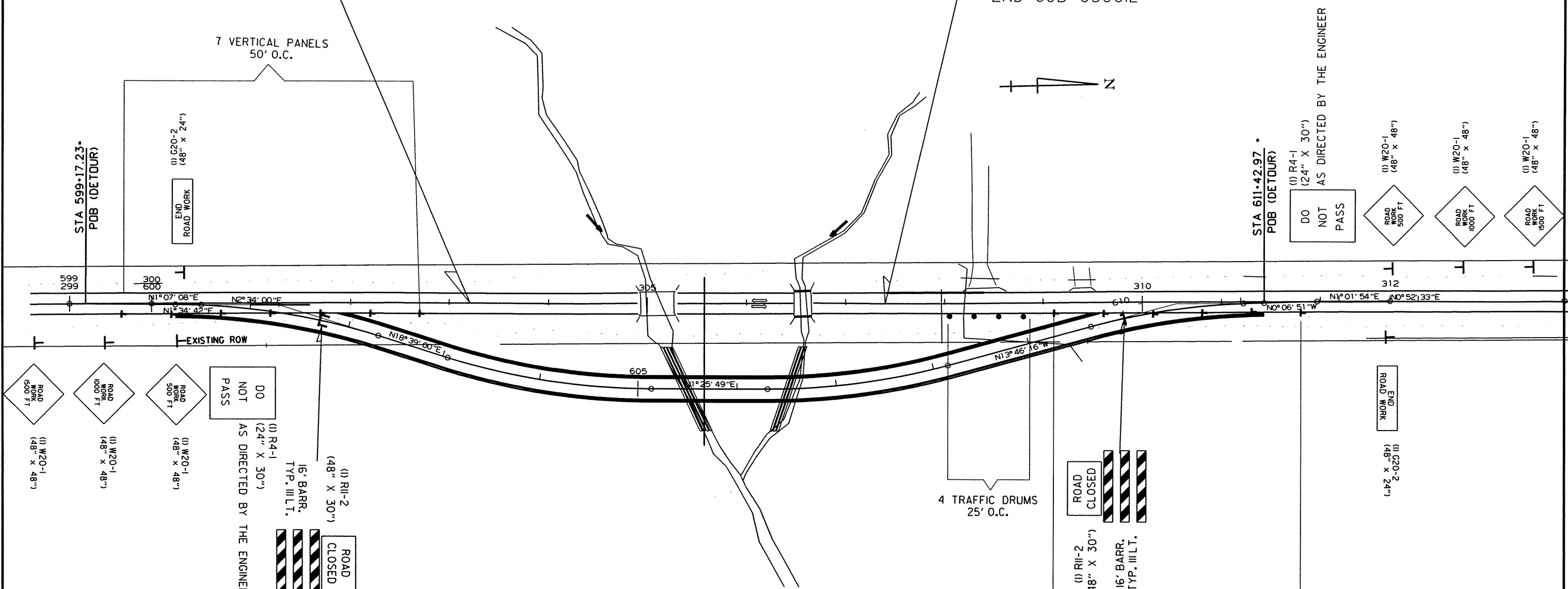


MAINTENANCE OF TRAFFIC NOTES:
 TRAFFIC IS TO BE MAINTAINED IN THE EXISTING LANES USING VERTICAL PANELS @ 50' SPACING ON THE SIDE BEING WIDENED, AND TRAFFIC DRUMS @ 100' SPACING ONCE WIDENING IS BROUGHT TO GRADE.

VERTICAL PANELS = 13 EACH
 TRAFFIC DRUMS = 17 EACH

STA. 303+15.00
 - BEGIN SECTION 3

STA. 307+40.00 - END SECTION 3
 - END JOB 050012



SEQUENCE OF CONSTRUCTION

- STAGE 1
CONSTRUCT DETOUR ON RIGHT
- STAGE 2
STRIP DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
CONSTRUCT MAIN LANES ON LEFT AND ON RIGHT FOR LENGTH OF SITE
- STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS
- END OF JOB
INSTALL FINAL STRIPING

MAINTENANCE OF TRAFFIC DETAILS
 SECTION 3: STAGE 1

SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOUR ON LEFT

STAGE 2
STRIPE DETOUR ON LEFT AND MOVE TRAFFIC TO DETOUR ON LEFT
CONSTRUCT MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS AND MAIN LANES ON LEFT BETWEEN DETOUR TIE-INS

STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON LEFT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON LEFT AND RIGHT AT DETOUR TIE-INS

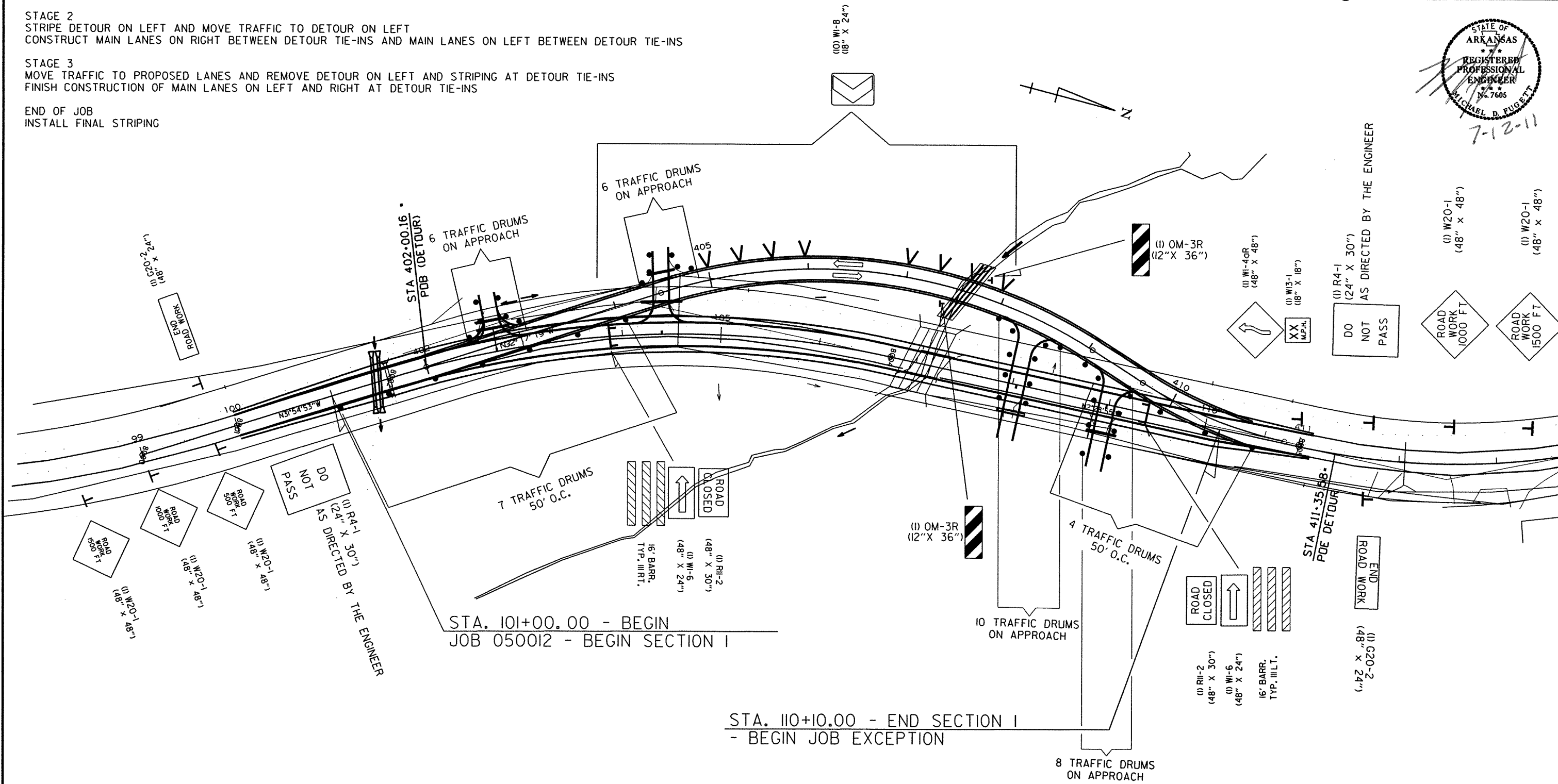
END OF JOB
INSTALL FINAL STRIPING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		19	90

② MAINTENANCE OF TRAFFIC DETAILS



7-12-11

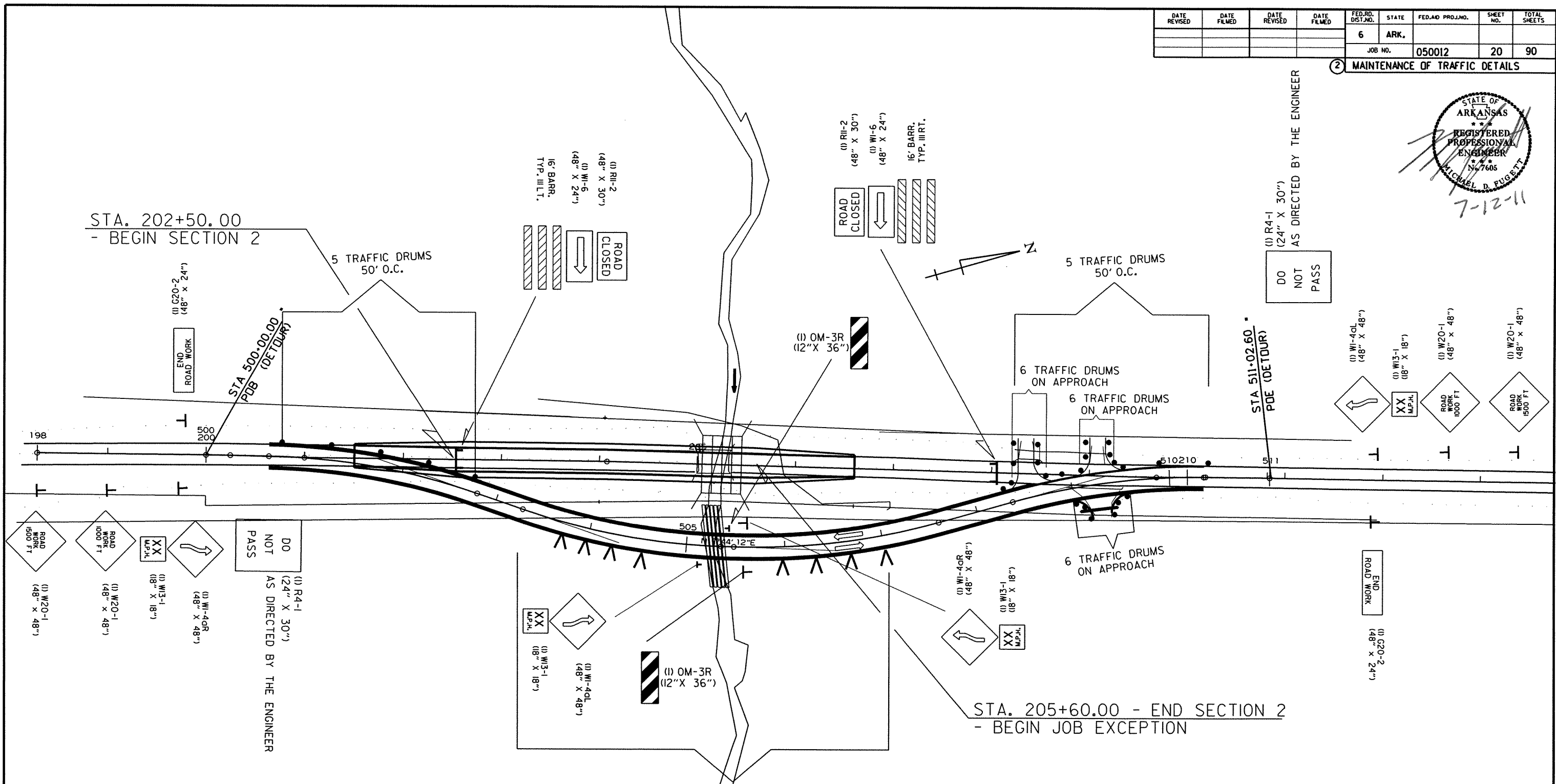
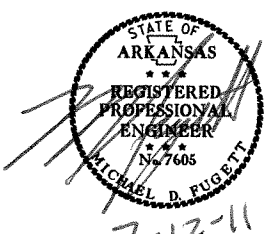


TRAFFIC DRUMS = 37 EACH
REMOVAL OF PERMANENT PAVEMENT MARKINGS = 2480 LIN. FT.
REMOVABLE CONST. PAVEMENT MARKINGS = 2240 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 2200 LIN. FT.
RAISED PAVEMENT MARKERS TY. II YELLOW/YELLOW = 28 EA.

MAINTENANCE OF TRAFFIC DETAILS
SECTION 1: STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		20	90
				JOB NO.	050012			

② MAINTENANCE OF TRAFFIC DETAILS



SEQUENCE OF CONSTRUCTION

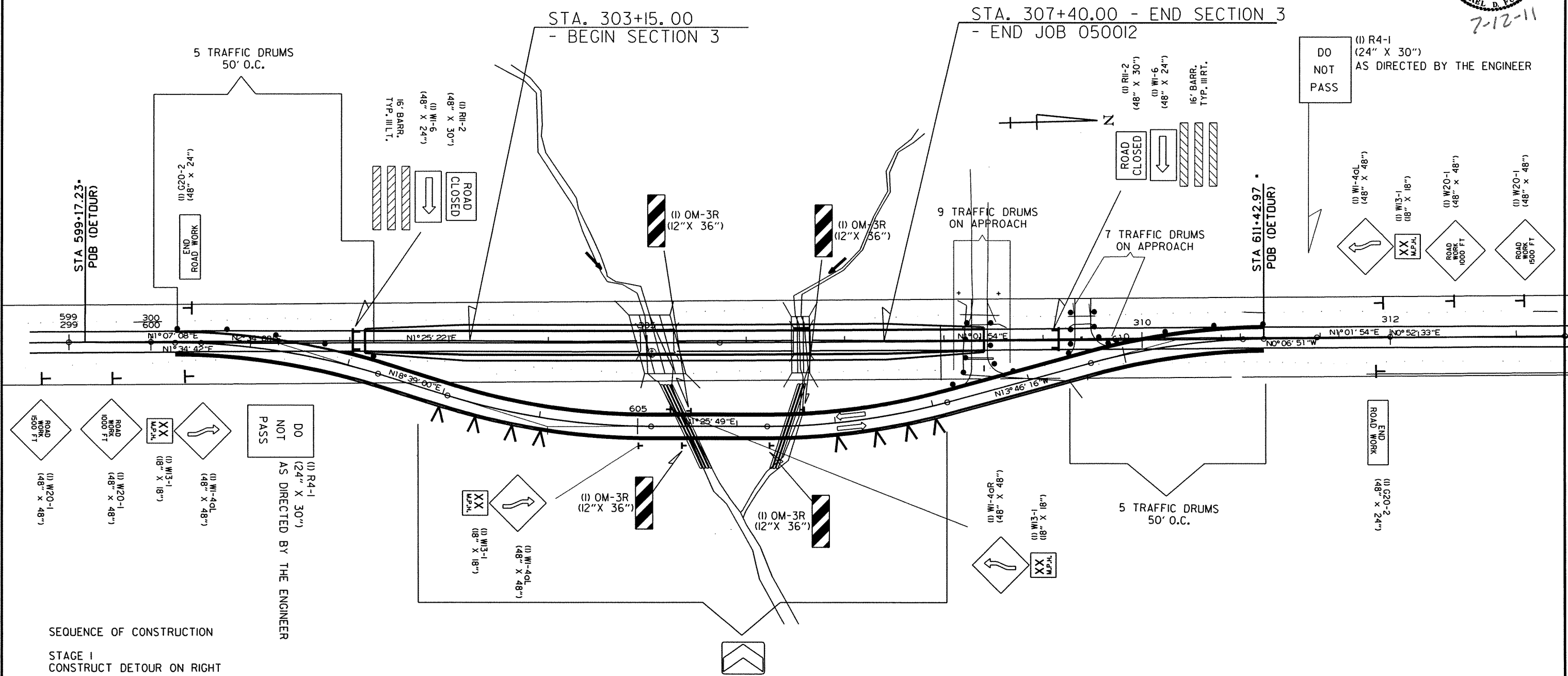
- STAGE 1
CONSTRUCT DETOUR ON RIGHT
- STAGE 2
STRIP DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
CONSTRUCT MAIN LANES ON LEFT FOR LENGTH OF SITE AND MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS
- STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON RIGHT AT DETOUR TIE-INS
- END OF JOB
INSTALL FINAL STRIPING

TRAFFIC DRUMS = 28 EACH
 REMOVAL OF PERMANENT PAVEMENT MARKINGS = 1880 LIN. FT.
 REMOVABLE CONST. PAVEMENT MARKINGS = 1740 LIN. FT.
 CONSTRUCTION PAVEMENT MARKINGS = 2400 LIN. FT.
 RAISED PAVEMENT MARKERS TY. II YELLOW/YELLOW = 26 EA.

MAINTENANCE OF TRAFFIC DETAILS
SECTION 2: STAGE 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050012		21	90

② MAINTENANCE OF TRAFFIC DETAILS



DO NOT PASS AS DIRECTED BY THE ENGINEER

SEQUENCE OF CONSTRUCTION

- STAGE 1
CONSTRUCT DETOUR ON RIGHT
- STAGE 2
STRIPE DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
CONSTRUCT MAIN LANES ON LEFT AND ON RIGHT FOR LENGTH OF SITE
- STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS
- END OF JOB
INSTALL FINAL STRIPING

TRAFFIC DRUMS = 26 EACH
 REMOVAL OF PERMANENT PAVEMENT MARKINGS = 2000 LIN. FT.
 REMOVABLE CONST. PAVEMENT MARKINGS = 1600 LIN. FT.
 CONSTRUCTION PAVEMENT MARKINGS = 3000 LIN. FT.
 RAISED PAVEMENT MARKERS TY. II YELLOW/YELLOW = 29 EA.

MAINTENANCE OF TRAFFIC DETAILS
SECTION 3: STAGE 2

SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOUR ON LEFT

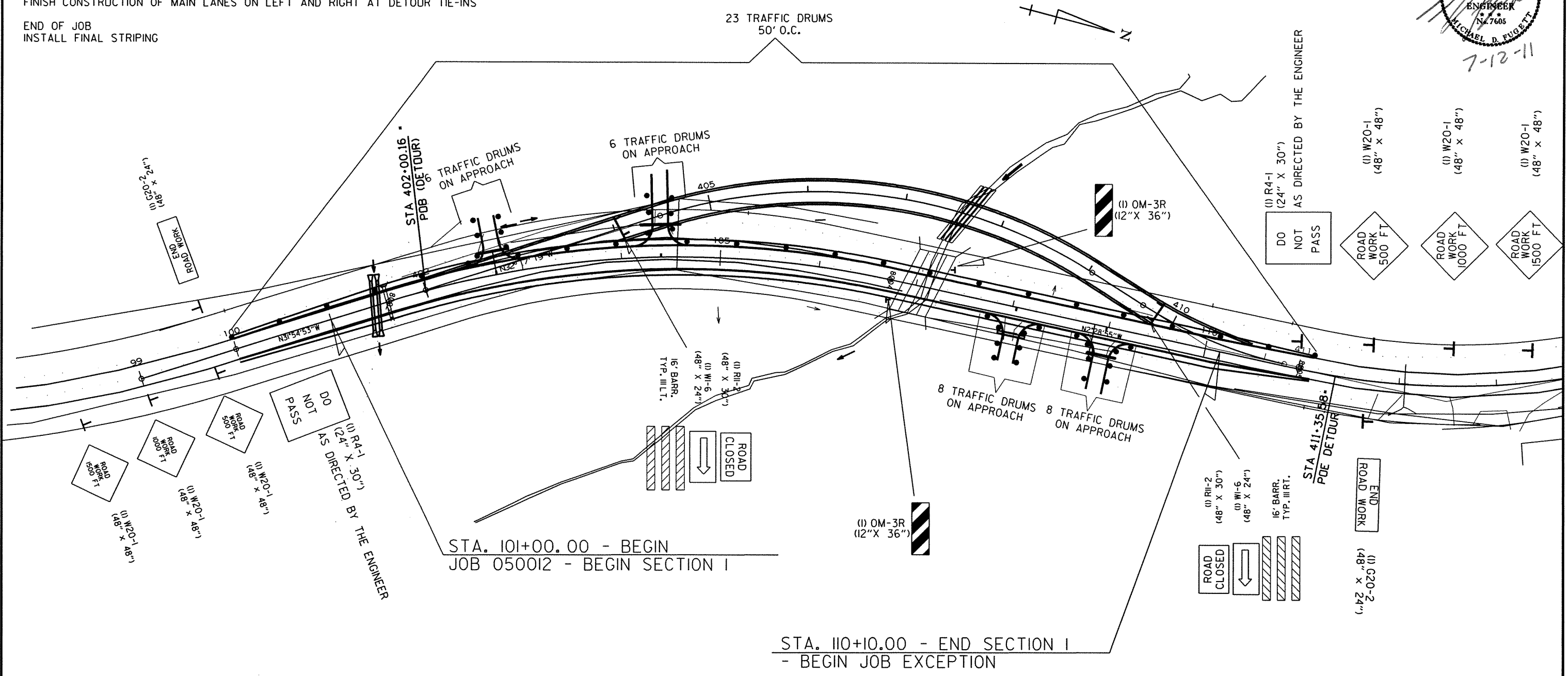
STAGE 2
STRIP DETOUR ON LEFT AND MOVE TRAFFIC TO DETOUR ON LEFT
CONSTRUCT MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS AND MAIN LANES ON LEFT BETWEEN DETOUR TIE-INS

STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON LEFT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON LEFT AND RIGHT AT DETOUR TIE-INS

END OF JOB
INSTALL FINAL STRIPING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							22	90

② MAINTENANCE OF TRAFFIC DETAILS

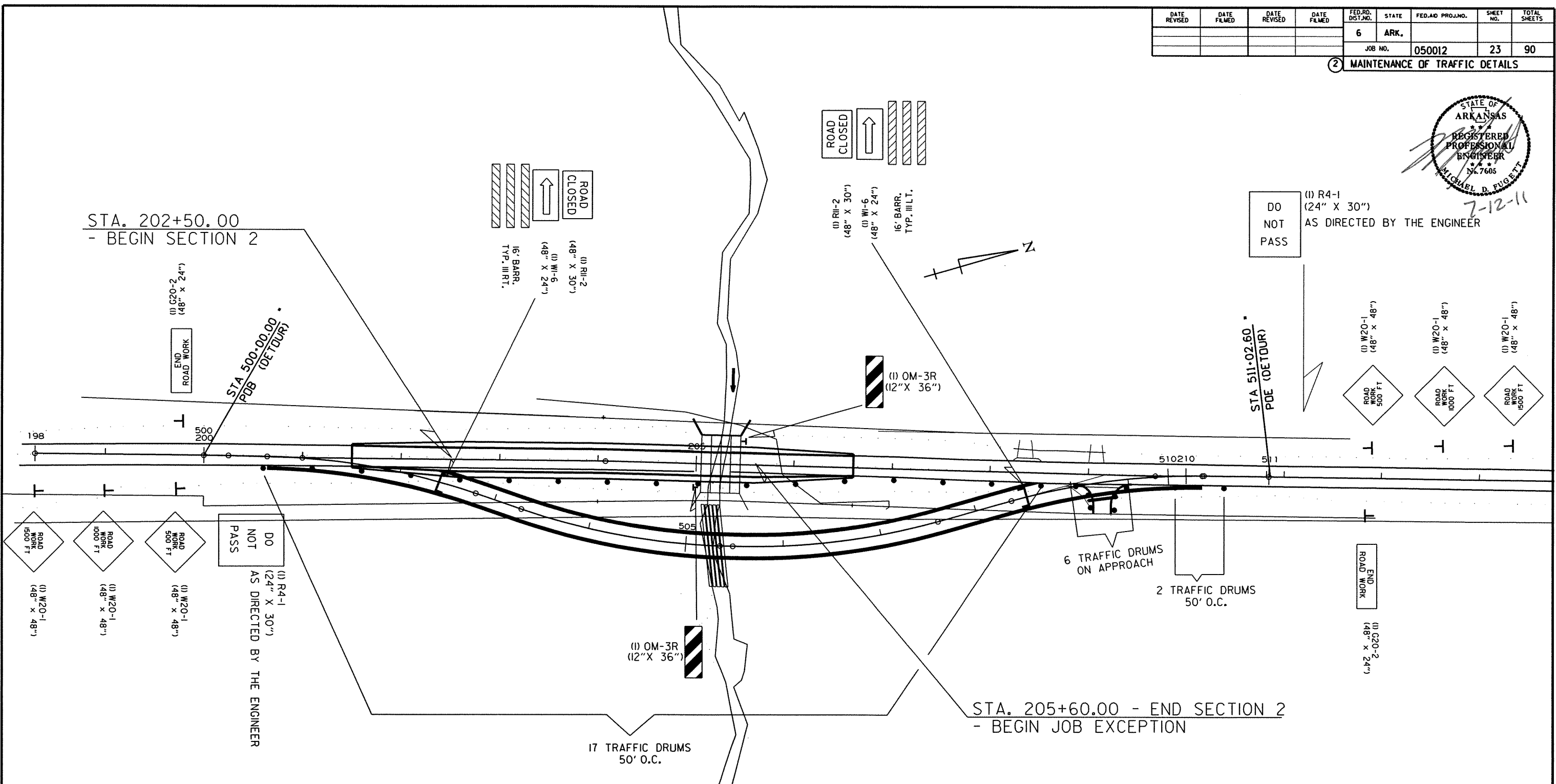


STAGE 3
CONSTRUCTION PAVEMENT MARKINGS
ONE EDGE LINE + DBL CENTERLINE ON CL CONSTRUCTION
AT DETOUR TIE-IN LOCATIONS
= 2480 LIN. FT.
TRAFFIC DRUMS = 53 EACH

MAINTENANCE OF TRAFFIC DETAILS
SECTION 1: STAGE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							23	90

② MAINTENANCE OF TRAFFIC DETAILS



SEQUENCE OF CONSTRUCTION

- STAGE 1
CONSTRUCT DETOUR ON RIGHT
- STAGE 2
STRIPE DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
CONSTRUCT MAIN LANES ON LEFT FOR LENGTH OF SITE AND MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS
- STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON RIGHT AT DETOUR TIE-INS
- END OF JOB
INSTALL FINAL STRIPING

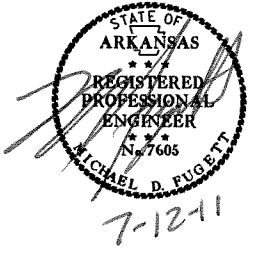
TRAFFIC DRUMS = 25 EACH

MAINTENANCE OF TRAFFIC DETAILS
SECTION 2: STAGE 3

r050012.dgn 12/13/2010

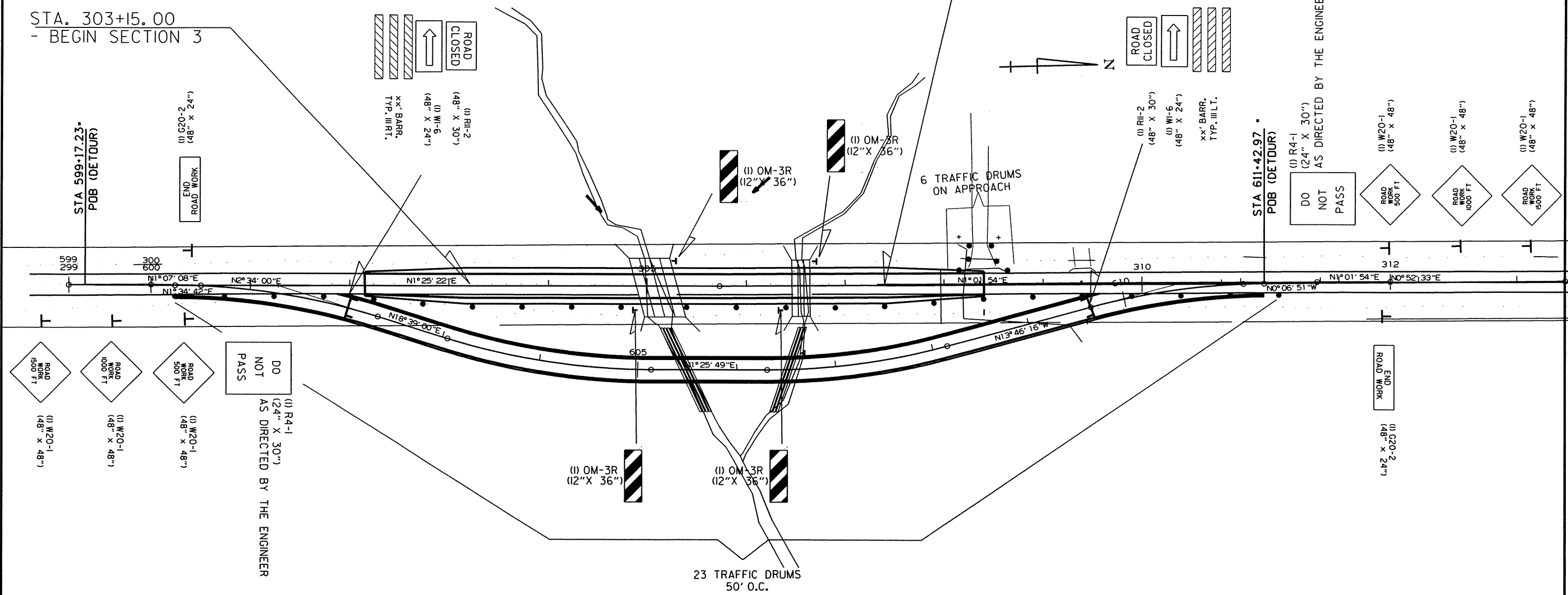
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							24	90

② MAINTENANCE OF TRAFFIC DETAILS



STA. 307+40.00 - END SECTION 3
- END JOB 050012

STA. 303+15.00
- BEGIN SECTION 3



- SEQUENCE OF CONSTRUCTION
- STAGE 1
CONSTRUCT DETOUR ON RIGHT
 - STAGE 2
STRIP DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
CONSTRUCT MAIN LANES ON LEFT AND ON RIGHT FOR LENGTH OF SITE
 - STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS
- END OF JOB
INSTALL FINAL STRIPING

TRAFFIC DRUMS = 29 EACH

MAINTENANCE OF TRAFFIC DETAILS
SECTION 3: STAGE 3

r050012.dgn 12/13/2010

SEQUENCE OF CONSTRUCTION

STAGE 1
CONSTRUCT DETOUR ON LEFT

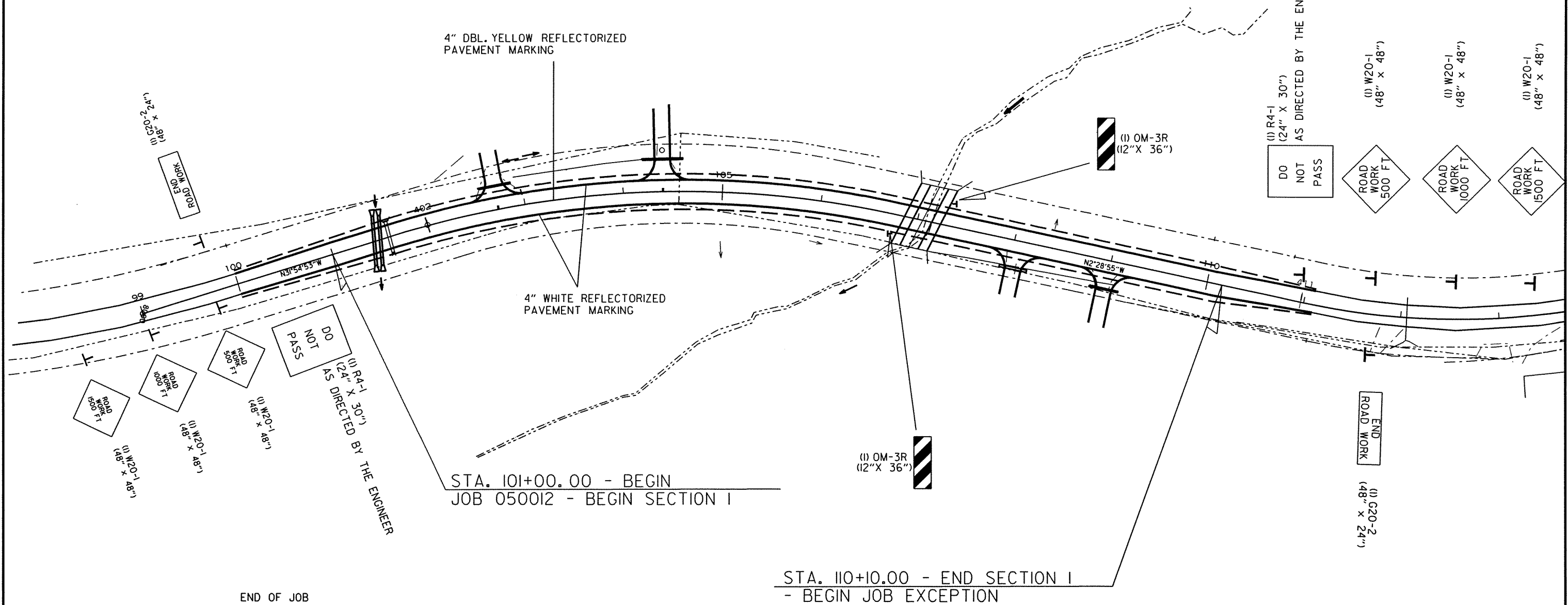
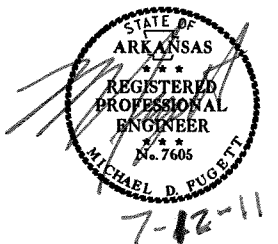
STAGE 2
STRIPE DETOUR ON LEFT AND MOVE TRAFFIC TO DETOUR ON LEFT
CONSTRUCT MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS AND MAIN LANES ON LEFT BETWEEN DETOUR TIE-INS

STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON LEFT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON LEFT AND RIGHT AT DETOUR TIE-INS

END OF JOB
INSTALL FINAL STRIPING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		25	90

② PERMANENT PAVEMENT MARKING DETAILS



END OF JOB

REFLECTORIZED PAINT MARKINGS
 LT. & RT. EDGE LINES = 2220 LIN. FT. 4" WHITE
 • DBL. CENTERLINE = 2220 LIN. FT. 4" YELLOW

RAISED PAVEMENT MARKERS 40' O.C.
 TYPE II (YEL/YEL) ON CENTERLINE = 28 EACH

• NOTE:
 CONTACT MAINTENANCE DIVISION TO DETERMINE NO PASSING ZONES.

PERMANENT PAVEMENT MARKING DETAILS
SECTION 1

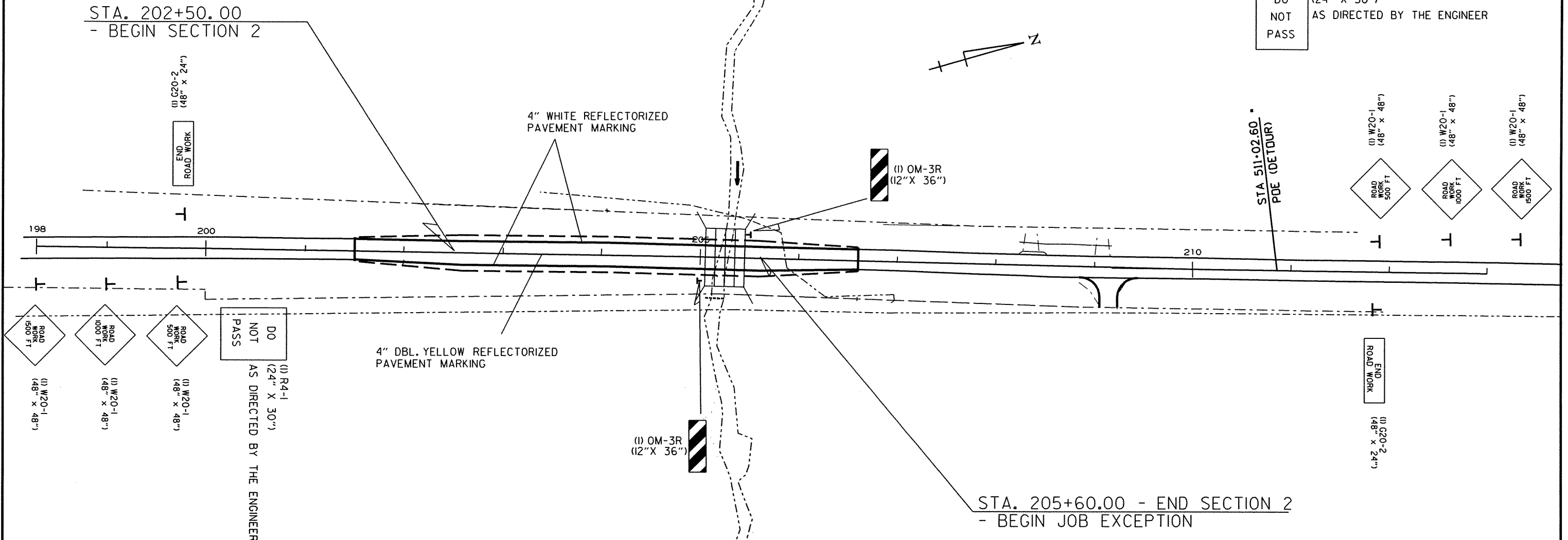
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							26	90

PERMANENT PAVEMENT MARKING DETAILS



END OF JOB
 REFLECTORIZED PAINT MARKINGS
 LT. & RT. EDGE LINES = 2040 LIN. FT. 4" WHITE
 • DBL. CENTERLINE = 2040 LIN. FT. 4" YELLOW
 RAISED PAVEMENT MARKERS 40' O.C.
 TYPE II (YEL/YEL) ON CENTERLINE = 26 EACH
 • NOTE:
 CONTACT MAINTENANCE DIVISION TO DETERMINE
 NO PASSING ZONES.

DO (1) R4-1 (24" X 30")
 NOT AS DIRECTED BY THE ENGINEER
 PASS



SEQUENCE OF CONSTRUCTION

- STAGE 1
CONSTRUCT DETOUR ON RIGHT
- STAGE 2
STRIPE DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
CONSTRUCT MAIN LANES ON LEFT FOR LENGTH OF SITE AND MAIN LANES ON RIGHT BETWEEN DETOUR TIE-INS
- STAGE 3
MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS
FINISH CONSTRUCTION OF MAIN LANES ON RIGHT AT DETOUR TIE-INS
- END OF JOB
INSTALL FINAL STRIPING

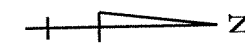
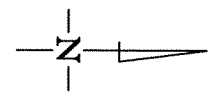
PERMANENT PAVEMENT MARKING DETAILS
SECTION 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		27	90
				JOB NO.		050012	27	90

PERMANENT PAVEMENT MARKING DETAILS

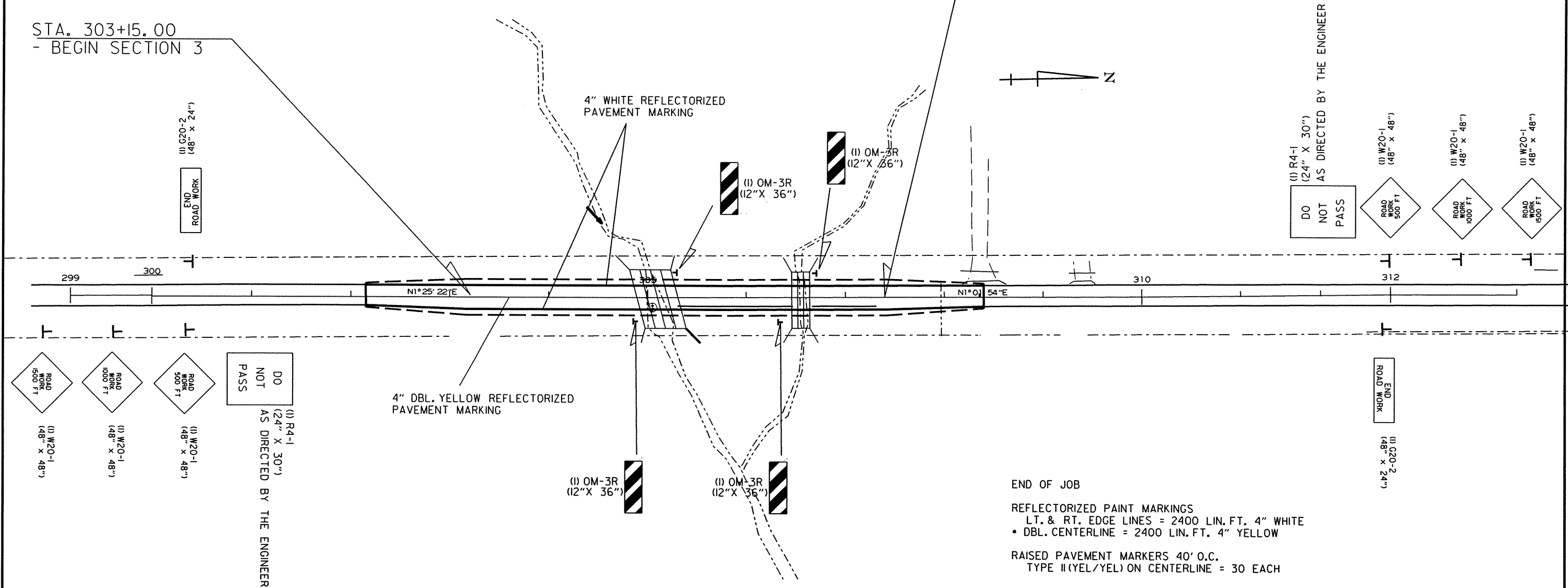


7-12-11



STA. 303+15.00
- BEGIN SECTION 3

STA. 307+40.00 - END SECTION 3
- END JOB 050012



END OF JOB

REFLECTORIZED PAINT MARKINGS
 LT. & RT. EDGE LINES = 2400 LIN. FT. 4" WHITE
 • DBL. CENTERLINE = 2400 LIN. FT. 4" YELLOW

RAISED PAVEMENT MARKERS 40' O.C.
 TYPE II (YEL/YEL) ON CENTERLINE = 30 EACH

• NOTE:
 CONTACT MAINTENANCE DIVISION TO DETERMINE
 NO PASSING ZONES.

SEQUENCE OF CONSTRUCTION

STAGE 1
 CONSTRUCT DETOUR ON RIGHT

STAGE 2
 STRIPE DETOUR ON RIGHT AND MOVE TRAFFIC TO DETOUR ON RIGHT
 CONSTRUCT MAIN LANES ON LEFT AND ON RIGHT FOR LENGTH OF SITE

STAGE 3
 MOVE TRAFFIC TO PROPOSED LANES AND REMOVE DETOUR ON RIGHT AND STRIPING AT DETOUR TIE-INS

END OF JOB
 INSTALL FINAL STRIPING

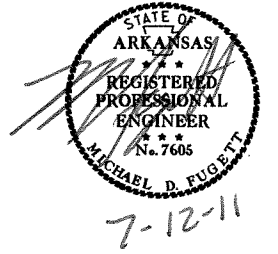
PERMANENT PAVEMENT MARKING DETAILS
SECTION 3

r050012.dgn 12/13/2010

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.	050012		28	90

ADVANCE WARNING SIGNS AND DEVICES

② QUANTITIES



SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		
								NO.	SQ. FT.			EACH	RIGHT	LEFT
													LIN. FT. - EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	6	6	6	6	6	6	96.0					
W20-1	ROAD WORK 1000 FT.	48"x48"	6	6	6	6	6	6	96.0					
W20-1	ROAD WORK 500 FT.	48"x48"	6	6	6	6	6	6	96.0					
G20-2	END ROAD WORK	48"x24"	6	6	6	6	6	6	48.0					
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	2	2	20.0					
W1-4AR	REVERSE CURVE RT.	48"x48"		5			5	5	80.0					
W1-4AL	REVERSE CURVE LT.	48"x48"		4			4	4	64.0					
W13-1	SPEED LIMIT (ADVISORY)	24"x24"		6			6	6	24.0					
R11-2	ROAD CLOSED	48"x30"	6	6	6		6	6	60.0					
OM-3L	OBJECT MARKER	12"x36"		16	16	16	16	16	48.0					
OM-3R	OBJECT MARKER	12"x36"		16	16	16	16	16	48.0					
W1-6	LARGE ARROW	48"x24"		6	6		6	6	48.0					
W1-8	CHEVRONS	18"x24"		48			48	48	144.0					
R4-1	DO NOT PASS	24"x30"	6	6	6	6	6	6	30.0					
TOTALS:									902.0	36	105	48	48	

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKINGS	
								TYPE II (YEL/YEL)	4"	
									EACH	WHITE
TOTALS:					6360	10080	5580	167	6660	6660

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

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
TOTALS:			500	3

* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
 * NOTE: QUANTITIES ARE ESTIMATED.
 SEE SECTION 104.03 OF THE STD. SPECS.

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
106+00	106+79	LT. OF MAIN LANES	79.00	7.5	65.83	35.11	0.44
107+13	107+58	RT. OF MAIN LANES	45.00	7.5	37.50	20.00	0.25
108+18	108+83	RT. OF MAIN LANES	65.00	7.5	54.17	28.89	0.36
109+13	109+85	RT. OF MAIN LANES	72.00	7.5	60.00	32.00	0.40
107+37	107+58	LT. OF MAIN LANES	21.00	7.5	17.50	9.33	0.12
109+00	109+85	LT. OF MAIN LANES	85.00	7.5	70.83	37.78	0.48
205+45	206+00	RT. OF MAIN LANES	55.00	7.5	45.83	24.44	0.31
205+45	206+00	LT. OF MAIN LANES	55.00	7.5	45.83	24.44	0.31
204+00	205+00	RT. OF MAIN LANES	100.00	7.5	83.33	44.44	0.56
204+00	205+00	LT. OF MAIN LANES	100.00	7.5	83.33	44.44	0.56
303+00	304+00	RT. OF MAIN LANES	100.00	7.5	83.33	44.44	0.56
305+40	305+64	RT. OF MAIN LANES	24.00	7.5	20.00	10.67	0.13
305+40	305+64	LT. OF MAIN LANES	24.00	7.5	20.00	10.67	0.13
TOTALS:					687.48	366.65	4.61

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

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.	TON		18"	24"	
							LIN. FT.		
102+73	LT	SECTION 1	16	80.2	8.8	32.7	32		
104+40	LT	SECTION 1	16	59.7	6.6	24.4	40		
108+04	RT	SECTION 1	16	73.7	8.1	30.1		28	
108+98	RT	SECTION 1	16	90.0	9.9	36.8	30		
209+15	RT	SECTION 2	16	54.8	6.0	22.4			
TOTALS:						39.4	246.4	102	28

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

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

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.	050012	29	90	

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	STATION
101+00	111+00	CL CONST	10	10
201+00	210+00	CL CONST	9	9
300+00	311+00	CL CONST	11	11
TOTALS:			30	30

REMOVAL AND DISPOSAL OF ITEMS

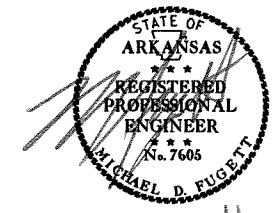
STATION	STATION	LOCATION	BOX CULVERT	SIGNS
			EACH	EACH
110+81		LT. OF MAIN LANES		1
306+48		17' X 24' R.C. BOX. CULVERT	1	
TOTALS:			1	1

NOTE: STA. 101+59 R.C. BOX CULVERT TO BE PLUGGED AND ABANDONED

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
ENTIRE PROJECT	3	1	1
TOTALS:		3	1

QUANTITIES



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REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
107+42	110+80	4 STRAND BARB LT. OF MAIN LANES	430
110+35	111+63	2 STRAND WEB RT. OF MAIN LANES	170
204+05	205+12	5 STRAND BARB LT. OF MAIN LANES	162
200+00	206+93	1 STRAND BARB & WEB RT. OF MAIN LANES	761
301+00	310+00	1 STRAND BARB & WEB RT. OF MAIN LANES	900
303+10	307+50	5 STRAND BARB LT. OF MAIN LANES	440
TOTAL:			2863

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
100+00	101+00	SECTION 1 MAIN LANES	22	244.44
110+10	111+10	SECTION 1 MAIN LANES	22	244.44
201+50	202+50	SECTION 2 MAIN LANES	22	244.44
205+60	206+60	SECTION 2 MAIN LANES	22	244.44
302+15	303+15	SECTION 3 MAIN LANES	22	244.44
307+40	308+40	SECTION 3 MAIN LANES	22	244.44
TOTAL:				1466.64

NOTE: AVERAGE MILLING DEPTH 1".

FLOWABLE SELECT MATERIAL

STATION	LOCATION	CU. YD.
101+47	MAIN LANES	22.48
*ENTIRE	PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	15
TOTAL:		37.48

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	25	50
TOTALS:		50

NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS. BASIS OF ESTIMATE: ASPH. CONC. PATCHING FOR MAINT. OF TRAFFIC - 25 TONS/MILE TACK COAT - 50 GAL./MILE

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	*CLASS 3
			LIN. FT.	SQ. YD.
ENTIRE	PROJECT	IF AND WHERE DIRECTED BY THE ENGINEER	500.0	444.4
TOTAL:				444.4

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

REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)

STATION	STATION	LOCATION	LUMP SUM
106+98	107+28	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00
205+01	205+32	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00
304+93	305+27	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3)	1.00

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION	*TOPSOIL FURNISHED AND PLACED
			CU. YD.	CU. YD.	TON	CU. YD.
ENTIRE	SECTION	SECTION 1-DETOUR	1320	4104		
ENTIRE	SECTION	SECTION 1-MAIN LANES	436	1849		
ENTIRE	SECTION	SECTION 1 - DETOUR OBLITERATION	2671	377		
ENTIRE	SECTION	SECTION 2-DETOUR	1171	1958		
ENTIRE	SECTION	SECTION 2-MAIN LANES	180	2887		
ENTIRE	SECTION	SECTION 2 - DETOUR OBLITERATION	3727	138		
ENTIRE	SECTION	SECTION 3-DETOUR	520	3679		
ENTIRE	SECTION	SECTION 3-MAIN LANES	698	5781		
ENTIRE	SECTION	SECTION 3 - DETOUR OBLITERATION	5916	1031		
ENTIRE	PROJECT	APPROACHES		275		
ENTIRE	PROJECT	TEMPORARY APPROACHES		100		
ENTIRE	PROJECT	CHANNEL CHANGE		575		
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			200	3000
TOTALS:			16639	22754	200	3000

QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS. NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
104+00	36	12	59.80	91	55	39.80	5' RT OF CL	0-5	17	6	A-4(0)	BR/RD
104+00	36	12	59.80	91	55	39.60	20' RT OF CL	0-5	21	11	A-6(2)	BR/RD
112+00	36	13	5.60	91	55	40.50	5' LT. OF CL	0-3Z	55	42	A-7-6(34)	BR/RD
112+00	36	13	5.60	91	55	40.70	15' LT. OF CL	0-4Z	45	30	A-7-6(24)	BR/RD
201+00	36	13	56.70	91	55	41.80	5' RT OF CL	0-5	15	4	A-4(0)	BROWN
201+00	36	13	56.70	91	55	41.60	20' RT OF CL	0-5	ND	NP	A-2-4(0)	BROWN
209+00	36	14	3.40	91	55	39.30	5' LT. OF CL	0-5	52	38	A-7-6(30)	BR/RD
209+00	36	14	3.40	91	55	39.50	15' LT. OF CL	0-5	46	32	A-7-6(20)	BR/RD
301+00	36	14	52.10	91	55	31.00	5' RT OF CL	0-5	66	48	A-7-6(41)	BROWN
301+00	36	14	52.10	91	55	30.80	15' RT. OF CL	0-3Z	52	36	A-7-6(27)	BROWN
307+00	36	14	58.20	91	55	31.00	5' LT. OF CL	0-5	27	14	A-6(3)	BROWN

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

Z- AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050012		30	90

② QUANTITIES



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FENCING

STATION	STATION	LOCATION	WIRE FENCE			* 16'-0" GATES EACH
			(TYPE C) LIN. FT.	(TYPE D)	(TYPE D-1)	
107+97	110+80	SECTION 1 LT. OF MAIN LANES		297		
110+35	111+63	SECTION 1 RT. OF MAIN LANES	130			
200+00	204+95	SECTION 2 RT. OF MAIN LANES	523			
204+05	205+12	SECTION 2 LT. OF MAIN LANES			118	
205+55	206+93	SECTION 2 RT. OF MAIN LANES	238			1
301+00	304+94	SECTION 3 RT. OF MAIN LANES	420			
303+10	307+50	SECTION 3 LT. OF MAIN LANES			440	
305+54	306+40	SECTION 3 RT. OF MAIN LANES	120			
306+72	310+00	SECTION 3 RT. OF MAIN LANES	342			
TOTALS:			1773	297	558	1

* DENOTES ALTERNATE BID ITEM.

SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU. YD.	
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	50	100
TOTALS:	50	100

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

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
104+40	SECTION 1 - LT	1
108+04	SECTION 1 - RT	1
108+98	SECTION 1 - RT	1
TOTAL:		3

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	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-6) CU. YD.	(E-11) LIN. FT.	(E-14) CU. YD.	CU. YD.	CU. YD.
ENTIRE PROJECT		CLEARING AND GRUBBING						8.00	8.00	163.2	123	4271			199
ENTIRE PROJECT		DETOUR CONSTRUCTION						3.03	3.03	61.8	57				19
ENTIRE PROJECT		MAIN LANES AND DETOUR OBLIT.	8.00	16.00	8.00	816.0	8.00				90				30
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								1.00	1.00	20.4	66	500	100	100	119
TOTALS:			8.00	16.00	8.00	816.0	8.00	12.03	12.03	245.4	336	4771	100	100	367

BASIS OF ESTIMATE:
 LIME 2 TONS / ACRE OF SEEDING
 WATER 102.0 M.G. / ACRE OF SEEDING.
 WATER 20.4 M.G. / ACRE OF TEMPORARY SEEDING.
 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.

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE (CLASS III)	FLARED END SECTIONS FOR R.C. PIPE CULVERTS	TEMPORARY PIPE CULVERTS			SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL. EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		29"X18"	29"X18"	18"	24"	36"									
		LIN. FT.	EACH	LIN. FT.	LIN. FT.	LIN. FT.									
101+47	DBL. 29" x 18" X 60' ARCH PIPE CULVERT	60	2										10	0.13	PCC-1, FES-1, FES-2
407+63	QUAD. 36" x 70' TEMP. PIPE CULVERT ON A 20° LT. FWD. SKEW					280									PCC-1, PCM-1
505+21	QUINT. 36" x 88' TEMP. PIPE CULVERT ON A 8° RT. FWD. SKEW					440									PCC-1, PCM-1
605+40	QUAD. 24" x 94' TEMP. PIPE CULVERT ON A 25° RT. FWD. SKEW					376									PCC-1, PCM-1
606+52	TRI. 24" x 92' TEMP. PIPE CULVERT ON A 20° LT. FWD. SKEW					276									PCC-1, PCM-1
402+73.91	18" x 32' TEMP. PIPE CULVERT - LT. SIDE DRAIN					28									PCC-1, PCM-1
404+48.37	18" x 28' TEMP. PIPE CULVERT - LT. SIDE DRAIN					30									PCC-1, PCM-1
408+50	18" x 28' TEMP. PIPE CULVERT - RT. SIDE DRAIN					36									PCC-1, PCM-1
509+32.72	18" x 30' TEMP. PIPE CULVERT - RT. SIDE DRAIN					28									PCC-1, PCM-1
608+60	18" x 28' TEMP. PIPE CULVERT - LT. SIDE DRAIN					28									PCC-1, PCM-1
SUBTOTALS:		60	2	150	652	720							10	0.13	

STRUCTURES OVER 20' - 0" SPAN

107+05	QUAD. 9' x 5' R.C. BOX ON A 15° LT. FWD. SKEW					9	5	72	222.66	40009	103	34	0.43	R-415X-0, W-X153-1, W-X15, RCB-1, RCB-2, PBC-1
205+25	QUAD. 10' x 7' R.C. BOX					10	7	64	253.30	43607	115	38	0.48	R-400X-0, W-X003-1, RCB-1, RCB-2, PBC-1
305+10	QUAD. 10' x 6' R.C. BOX ON A 15° RT. FWD. SKEW					10	6	67	251.93	45386	115	38	0.48	R-415X-0, W-X153-1, W-X15, RCB-1, RCB-2, PBC-1
306+55	TRI. 6' x 6' R.C. BOX					6	6	64	114.87	17866	52	26	0.33	R-300X-0, W-X003-1, RCB-1, RCB-2, PBC-1
SUBTOTALS:									842.76	146868	385	136	1.72	
TOTALS:		60	2	150	652	720			842.76	146868	385	146	1.85	

BASIS OF ESTIMATE:
 WATER 12.6 GAL. / SQ. YD. OF SOLID SODDING.
 NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
 NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

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.	050012		31	90

BENCH MARKS

STATION	LOCATION	BENCH MARKS EACH
106+85	10.89' RT. OF CL	1
205+00	9.62' RT. OF CL	1
306+57	11.33' RT. OF CL	1
TOTAL:		3

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

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
101+47	SECTION 1 MAIN LANES	14.00	24	12.4
TOTAL:				12.4

AVG. DEPTH = 1'-0"

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	10
TOTAL:	10

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

QUANTITIES



7-12-11

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																	
100+00.00	101+00.00	SECTION 1 - TRANSITION	100.00	VAR.	59.88	VAR.	292.80	0.03	8.78	VAR.	12.40	330.00	2.05	VAR.	356.25	220.00	39.19
101+00.00	102+60.00	SECTION 1 - OVERLAY	160.00	119.75	191.60	26.36	468.62	0.03	14.06	2.23	39.64	330.00	6.54	38.13	677.87	220.00	74.57
102+60.00	107+60.00	SECTION 1 - FULL DEPTH	500.00	205.25	1026.25	48.71	2706.11	0.03	81.18	24.46	1358.89	330.00	224.22	60.25	3347.22	220.00	368.19
107+60.00	110+10.00	SECTION 1 - OVERLAY	250.00	119.75	299.38	26.36	732.22	0.03	21.97	2.23	61.94	330.00	10.22	38.13	1059.17	220.00	116.51
110+10.00	111+10.00	SECTION 1 - TRANSITION	100.00	VAR.	59.88	VAR.	292.80	0.03	8.78	VAR.	12.40	330.00	2.05	VAR.	356.25	220.00	39.19
201+50.00	202+50.00	SECTION 2 - TRANSITION	100.00	VAR.	59.88	VAR.	292.80	0.03	8.78	VAR.	12.40	330.00	2.05	VAR.	356.25	220.00	39.19
202+50.00	204+79.00	SECTION 2 - OVERLAY	229.00	119.75	274.23	26.36	670.72	0.03	20.12	2.23	56.74	330.00	9.36	38.13	970.20	220.00	106.72
204+79.00	205+60.00	SECTION 2 - FULL DEPTH	81.00	205.25	166.25	48.71	438.39	0.03	13.15	24.46	220.14	330.00	36.32	60.25	542.25	220.00	59.65
205+60.00	206+60.00	SECTION 2 - TRANSITION	100.00	VAR.	59.88	VAR.	292.80	0.03	8.78	VAR.	12.40	330.00	2.05	VAR.	356.25	220.00	39.19
302+15.00	303+15.00	SECTION 3 - TRANSITION	100.00	VAR.	59.88	VAR.	292.80	0.03	8.78	VAR.	12.40	330.00	2.05	VAR.	356.25	220.00	39.19
303+15.00	304+64.00	SECTION 3 - OVERLAY	149.00	119.75	178.43	26.36	436.40	0.03	13.09	2.23	36.92	330.00	6.09	38.13	631.26	220.00	69.44
304+64.00	305+59.00	SECTION 3 - FULL DEPTH	95.00	205.25	194.99	48.71	514.16	0.03	15.42	24.46	258.19	330.00	42.60	60.25	635.97	220.00	69.96
305+59.00	306+28.00	SECTION 3 - OVERLAY	69.00	119.75	82.63	26.36	202.09	0.03	6.06	2.23	17.10	330.00	2.82	38.13	292.33	220.00	32.16
306+28.00	306+88.00	SECTION 3 - FULL DEPTH	60.00	205.25	123.15	48.71	324.73	0.03	9.74	24.46	163.07	330.00	26.91	60.25	401.67	220.00	44.18
306+88.00	307+40.00	SECTION 3 - OVERLAY	52.00	119.75	62.27	26.36	152.30	0.03	4.57	2.23	12.88	330.00	2.13	38.13	220.31	220.00	24.23
307+40.00	308+40.00	SECTION 3 - TRANSITION	100.00	VAR.	59.88	VAR.	292.80	0.03	8.78	VAR.	12.40	330.00	2.05	VAR.	356.25	220.00	39.19
DETOUR																	
402+00.16	404+00.00	SECTION 1 - TRANSITION	199.84	VAR.	130.64									VAR.	279.93	VAR.	46.19
404+00.00	409+64.72	SECTION 1 - FULL DEPTH	564.72	156.00	880.96									26.00	1631.41	330.00	269.18
409+64.72	411+35.58	SECTION 1 - TRANSITION	170.86	VAR.	89.31									VAR.	191.38	VAR.	31.58
500+00.00	502+25.00	SECTION 2 - TRANSITION	225.00	VAR.	114.37									VAR.	245.08	VAR.	40.44
502+25.00	508+70.00	SECTION 2 - FULL DEPTH	645.00	156.00	1006.20									26.00	1863.33	330.00	307.45
508+70.00	511+02.60	SECTION 2 - TRANSITION	232.60	VAR.	100.10									VAR.	214.50	VAR.	35.39
600+00.00	601+95.00	SECTION 3 - TRANSITION	195.00	VAR.	116.71									VAR.	250.09	VAR.	41.26
601+95.00	609+70.00	SECTION 3 - FULL DEPTH	775.00	156.00	1209.00									26.00	2238.89	330.00	369.42
609+70.00	612+00.00	SECTION 3 - TRANSITION	230.00	VAR.	115.70									VAR.	247.93	VAR.	40.91
ADDITIONAL FOR LEVELING																	
101+00.00	102+60.00	SECTION 1 MAIN LANES	160.00			22.00	391.11	0.10	39.11					22.00	391.11	220.00	43.02
107+60.00	110+10.00	SECTION 1 MAIN LANES	250.00			22.00	611.11	0.10	61.11					22.00	611.11	220.00	67.22
202+50.00	204+79.00	SECTION 2 MAIN LANES	229.00			22.00	559.78	0.10	55.98					22.00	559.78	220.00	61.58
303+15.00	304+64.00	SECTION 3 MAIN LANES	149.00			22.00	364.22	0.10	36.42					22.00	364.22	220.00	40.06
305+59.00	306+28.00	SECTION 3 MAIN LANES	69.00			22.00	168.67	0.10	16.87					22.00	168.67	220.00	18.55
306+88.00	307+40.00	SECTION 3 MAIN LANES	52.00			22.00	127.11	0.10	12.71					22.00	127.11	220.00	13.98
METHOD OF GRADE RAISE																	
102+73.00	103+10.00	MAIN LANES	37.00			22.00	90.44	0.10	9.04	22.00	90.44	VAR.	48.91				
ADDITIONAL FOR SUPERELEVATION																	
101+16.95	108+85.17	SECTION 1 - SUPERELEVATION	768.22	VAR.	277.43												
TOTALS:					6998.88				483.28				428.42				2626.98

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....94.6% MIN. AGGR.....5.4% ASPHALT BINDER
 ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	30	STATION
201	GRUBBING	30	STATION
202	REMOVAL AND DISPOSAL OF FENCE	2863	LIN. FT.
202	REMOVAL AND DISPOSAL OF BOX CULVERTS	1	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	3	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	1	EACH
206	FLOWABLE SELECT MATERIAL	37	CU. YD.
210	UNCLASSIFIED EXCAVATION	16639	CU. YD.
210	COMPACTED EMBANKMENT	22754	CU. YD.
SP & 210	SOIL STABILIZATION	200	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	7245	TON
401	TACK COAT	533	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	410	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	18	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	2522	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	144	TON
412	COLD MILLING ASPHALT PAVEMENT	1467	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	25	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	10	TON
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	18" TEMPORARY CULVERT	150	LIN. FT.
603	24" TEMPORARY CULVERT	652	LIN. FT.
603	36" TEMPORARY CULVERT	720	LIN. FT.
SS & 604	SIGNS	902	SQ. FT.
SS & 604	BARICADES	96	LIN. FT.
SS & 604	TRAFFIC DRUMS	105	EACH
SS & 604	CONSTRUCTION PAVEMENT MARKINGS	10080	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	5580	LIN. FT.
SS & 604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	6360	LIN. FT.
SS & 604	VERTICAL PANELS	36	EACH
605	CONCRETE DITCH PAVING (TYPE B)	687	SQ. YD.
SS & 606	28" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	60	LIN. FT.
SS & 606	18" SIDE DRAIN	102	LIN. FT.
SS & 606	24" SIDE DRAIN	28	LIN. FT.
606	29" X 18" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	2	EACH
606	SELECTED PIPE BEDDING	50	CU. YD.
606	SELECTED PIPE BACKFILL	100	CU. YD.
611	UNDERDRAIN OUTLET PROTECTORS	3	EACH
611	4" PIPE UNDERDRAINS	500	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	12.4	CU. YD.
619	WIRE FENCE (TYPE C)	1773	LIN. FT.
619	WIRE FENCE (TYPE D)	297	LIN. FT.
619	WIRE FENCE (TYPE D-1)	558	LIN. FT.
619	16" STEEL GATES	1	EACH
619	16" ALUMINUM GATES	1	EACH
620	LIME	16	TON
620	SEEDING	8.00	ACRE
620	MULCH COVER	20.03	ACRE
SS & 620	WATER	1067.9	M. GAL.
621	TEMPORARY SEEDING	12.03	ACRE
621	SILT FENCE	4771	LIN. FT.
621	SEDIMENT BASIN	100	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	100	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	367	CU. YD.
621	ROCK DITCH CHECKS	336	CU. YD.
623	SECOND SEEDING APPLICATION	8.00	ACRE
624	SOLID SODDING	513	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	444	SQ. YD.
628	TOPSOIL FURNISHED AND PLACED	3000	CU. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	3	EACH
637	MAILBOX SUPPORTS (SINGLE)	1	EACH
637	MAILBOX SUPPORTS (DOUBLE)	1	EACH
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")	6660	LIN. FT.
SS & 718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")	6660	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	167	EACH
STRUCTURES OVER 20' SPAN			
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	385	CU. YD.
802	CLASS 5 CONCRETE-ROADWAY	842.76	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)	146868	POUND

* DENOTES ALTERNATE BID ITEMS

REVISION BOX

DATE	REVISION	SHEET NUMBER
8/10/2011	ADDED WELLHEAD PROTECTION SPECIAL PROVISION	2 & 32

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
8-10-11				6	ARK.			
				JOB NO. 050012		32		90

② SUMMARY OF QUANTITIES & REVISIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	050012	33
						(2) SURVEY CONTROL DETAILS		

SURVEY CONTROL COORDINATES

Project Name: s050012
Date: 2/4/2010
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

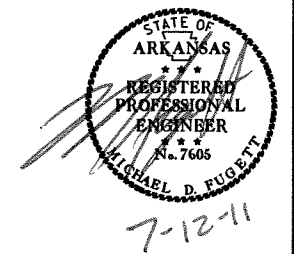
*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped (standard markings common to all caps), or as indicated (other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999575867 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 S050012G1.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 330002 - 330002A
CONVERGENCE ANGLE: 0-2-32.2 LEFT AT POINT 102
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

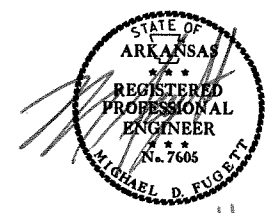
Point Name	Northing	Easting	Elev	Feature	Description
1	654424.0879	1334096.8173	701.41	CTL	T-1RBR/CAP
2	654975.1069	1334119.9046	695.71	CTL	T-2 RBR/CAP
3	655335.3561	1334146.7495	687.34	CTL	T-3 RBR/CAP
4	656392.1808	1334555.2102	677.82	CTL	T-4 RBR/CAP
5	656984.8167	1334678.5166	664.63	CTL	T-5 RBR/CAP
6	657966.2844	1334847.2924	631.39	CTL	T-6 RBR/CAP
7	658580.8942	1334551.6954	610.71	CTL	T 7 REBAR CAP
8	658934.2932	1335161.7178	658.09	CTL	T 8 REBAR CAP
9	658813.0603	1334227.7971	616.70	CTL	T 9 REBAR CAP
10	659565.6357	1333831.4128	618.17	CTL	T 10 REBAR CAP
11	659981.6062	1333999.1000	634.23	CTL	T 11 REBAR CAP
12	660419.9934	1334263.7934	636.94	CTL	T 12 REBAR CAP
13	661092.6472	1334662.3064	637.47	CTL	T 13 REBAR CAP
14	661511.4254	1335053.3296	659.58	CTL	T 14 REBAR CAP
15	662814.4057	1335647.8303	678.52	CTL	T 15 REBAR CAP
16	663625.9299	1335631.6775	695.20	CTL	T 16 REBAR CAP
17	665137.7963	1335196.1297	733.56	CTL	T 17 REBAR CAP
18	665730.7015	1334741.5254	770.40	CTL	T 18 REBAR CAP
19	666093.1101	1334368.5559	774.94	CTL	T 19 REBAR CAP
20	666422.0888	1334181.7705	751.51	CTL	T 20 REBAR CAP
21	667461.7145	1334132.7060	783.83	CTL	T 21 REBAR CAP
22	668333.4762	1333694.5843	815.55	CTL	T 22 REBAR CAP
23	668881.3908	1333963.3515	840.34	CTL	T 23 REBAR CAP
24	669184.5760	1334179.6680	850.71	CTL	T 24 REBAR CAP
25	669480.3553	1334193.8992	847.00	CTL	T 25 REBAR CAP
26	670341.7006	1333668.2600	825.22	CTL	T 26 REBAR CAP
27	670949.6721	1333422.2202	793.03	CTL	T 27 REBAR CAP
28	671573.0224	1333587.5559	769.61	CTL	T 28 REBAR CAP
29	672082.9902	1333410.5115	741.37	CTL	T 29 REBAR CAP
30	673282.9341	1333775.0146	790.42	CTL	T 30 REBAR CAP
31	674121.0573	1333738.7340	832.38	CTL	T 31 REBAR CAP
32	674782.7463	1333762.3385	847.83	CTL	T 32 REBAR CAP
33	675046.0564	1333884.2967	855.13	CTL	T 33 REBAR CAP
34	675519.4624	1333683.4002	862.85	CTL	T 34 REBAR CAP
35	676200.2987	1334144.3897	866.72	CTL	T 35 REBAR CAP
36	676743.4239	1334424.8248	853.54	CTL	T 36 REBAR CAP
37	677657.8308	1334477.4382	864.69	CTL	T 37 REBAR CAP
38	678082.5398	1334424.5354	861.12	CTL	T 38 REBAR CAP
39	679029.4378	1334471.9475	840.34	CTL	T 39 REBAR CAP
40	679589.5818	1334571.5542	822.65	CTL	T 40 REBAR CAP
41	680323.2603	1334819.3771	822.83	CTL	T 41 REBAR CAP
42	681401.1796	1334322.1035	758.28	CTL	T 42 REBAR CAP
43	682409.7453	1333829.8546	731.40	CTL	T 43 REBAR CAP
44	683506.7401	1334164.8295	719.59	CTL	T 44 REBAR CAP
45	684030.3870	1334297.1826	716.31	CTL	T45 5/8"RBR 2"ALUM CAP
46	684859.9408	1334065.6017	724.14	CTL	T46 5/8"RBR 2"ALUM CAP
47	685557.8081	1333733.4052	723.20	CTL	T47 5/8"RBR 2"ALUM CAP
48	686406.8844	1333641.9853	753.31	CTL	T48 5/8"RBR 2"ALUM CAP
49	687018.8424	1333381.0222	792.70	CTL	T49 5/8"RBR 2"ALUM CAP
50	687403.9749	1333493.8091	810.98	CTL	T 50 REBAR CAP
51	687899.6331	1333540.8957	812.61	CTL	T 51 REBAR CAP
52	688549.2965	1333331.9029	815.52	CTL	T-52 RBR/CAP
53	689006.4435	1333094.8103	813.61	CTL	T-53 RBR/CAP
54	689499.6184	1332848.8997	783.18	CTL	T-54 RBR/CAP
55	690231.3884	1333146.1598	751.08	CTL	T-55 RBR/CAP
56	690598.4311	1333367.9050	726.10	CTL	T56 5/8 RBR 2" ALUM CAP
57	691443.9638	1333573.8567	692.89	CTL	T57 5/8 RBR 2"ALUM CAP
58	692165.1210	1333797.6982	700.72	CTL	T58 5/8RBR 2"ALM CAP
59	693145.8617	1333990.9534	712.92	CTL	T 59 REBAR CAP
60	693752.4255	1333992.1791	720.22	CTL	T 60 REBAR CAP
61	694698.1372	1334469.0760	750.62	CTL	T 61 REBAR CAP
62	695799.3587	1334430.1415	762.57	CTL	5/8RBR 2" ALM CAP
63	696483.6240	1334395.2769	748.03	CTL	5" RBR 2"CAP
64	697274.1465	1334413.3691	727.06	CTL	5/8RBR 2"ALM CAP
65	698343.1212	1334460.3407	765.18	CTL	5/8RBR 2"ALM CAP
66	699242.2607	1334445.1138	759.45	CTL	5/8RBR 2"ALM CAP
67	700098.0515	1334449.5542	778.25	CTL	T 67 REBAR CAP
68	700565.5941	1334801.3390	770.39	CTL	T 68 REBAR CAP
69	701006.6584	1335190.6016	771.08	CTL	T 69 BR CAP
100	659483.6106	1336173.5625	708.16	GPS	330002 AHTD CAP
101	657473.1750	1334702.1841	642.75	GPS	330002A AHTD CAP
102	673449.4244	1333826.0990	802.65	GPS	330003 AHTD CAP
103	673470.4882	1335976.1012	858.87	GPS	330003A AHTD CAP
104	692396.6041	1333916.6608	697.08	GPS	104-330004
105	690549.4659	1333295.7105	732.97	GPS	GPS 330004A
905	664576.3941	1335351.3560	702.39	BM	TBM 905 CH SO TOP HDW
906	666829.6128	1334189.5450	739.29	BM	TBM 906 CH SO SO END HDW
907	669292.8988	1334228.2498	848.74	BM	TBM 907 CPS INS PP
908	670912.2377	1333420.2165	793.55	BM	TBM 908 CH SO HDW
909	672244.8618	1333454.5846	740.00	BM	TBM 909 CH NW COR BR

POINT NO.	TYPE	STATION	NORTHING	EASTING
CONST 1				
8000	POB	99+00.00	685066.0412	1333966.2624
8001	P.I. STA.	100+00.00	685150.8718	1333913.3118
8002	P.C. STA.	101+61.01	685287.5445	1333828.1922
8004	P.T. STA.	106+72.88	685771.1685	1333781.5009
8005	P.C. STA.	110+97.48	686195.3699	1333660.1128
8007	P.T. STA.	114+00.32	686487.5010	1333588.1493
8008	P.I. STA.	115+99.21	686667.4647	1333503.4827
8009	POE	116+99.21	686758.0844	1333461.1970
CONST 2				
8010	POB	198+28.20	690919.7366	1333433.3449
8012	P.I. STA.	200+25.00	691108.4458	1333489.1944
8014	P.I. STA.	201+00.02	691179.9366	1333511.9168
8015	P.I. STA.	204+07.60	691474.8736	1333599.2049
8016	P.I. STA.	209+68.56	692010.2483	1333766.7010
8017	P.I. STA.	210+18.57	692058.4334	1333780.0979
8018	POE	214+64.84	692485.9138	1333908.2118
CONST 3				
8036	POB	299+17.23	696593.8151	1334411.4972
8019	P.I. STA.	300+00.00	696676.5590	1334413.1136
8020	P.I. STA.	300+50.01	696726.5188	1334415.3532
8021	P.I. STA.	305+73.40	697249.7507	1334428.3484
8022	P.I. STA.	311+02.78	697779.0432	1334437.8801
8023	P.I. STA.	311+77.80	697854.0580	1334437.7308
8024	POE	312+52.00	697928.2543	1334439.0669
DET 1				
8025	POB	402+00.16	685320.4562	1333807.6948
8026	P.C. STA.	404+52.19	685534.3908	1333674.4560
8028	P.T. STA.	409+01.31	685966.2832	1333619.7956
8029	P.C. STA.	409+64.84	686026.8755	1333638.8871
8031	P.T. STA.	411+18.46	686178.4115	1333658.8461
8032	POE	411+34.54	686194.4736	1333658.1498
DET 2				
8033	POB	500+00.00	691084.4729	1333482.0994
8034	P.C. STA.	500+63.99	691145.6708	1333500.7861
8037	P.T. STA.	502+79.72	691338.9921	1333594.5709
8038	P.C. STA.	503+28.66	691379.1871	1333622.4845
8040	P.T. STA.	505+35.22	691563.7552	1333713.5331
8041	P.C. STA.	505+48.25	691576.1655	1333717.5025
8043	P.T. STA.	507+59.66	691784.1517	1333750.5043
8044	P.C. STA.	508+37.78	691862.2717	1333750.9075
8046	P.T. STA.	510+34.97	692056.6792	1333779.7189
8047	POE	511+02.60	692121.4985	1333799.9983
DET 3				
8036	POB	599+17.23	696593.8051	1334411.4972
8048	P.C. STA.	600+24.13	696700.6614	1334414.4417
8050	P.T. STA.	602+31.05	696903.6196	1334450.6458
8051	P.C. STA.	603+05.05	696973.7295	1334474.3084
8053	P.T. STA.	605+13.77	697178.4830	1334510.5596
8054	P.C. STA.	606+30.67	697295.3456	1334513.4775
8056	P.T. STA.	608+14.93	697477.9996	1334493.7304
8057	P.C. STA.	609+65.43	697624.1736	1334457.9050
8059	P.T. STA.	611+42.97	697800.1076	1334438.0227
8013	POE	614+49.61	698106.7207	1334442.7096

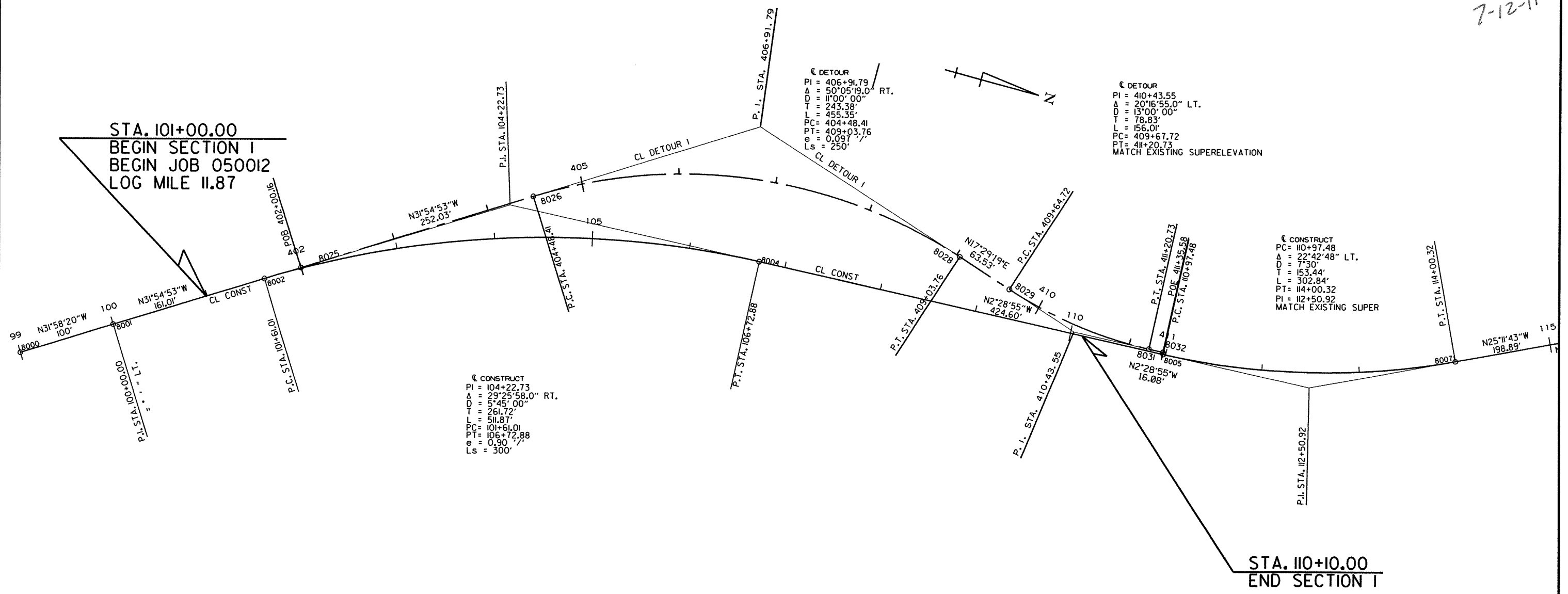


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050012							34	90

2 SURVEY CONTROL DETAILS



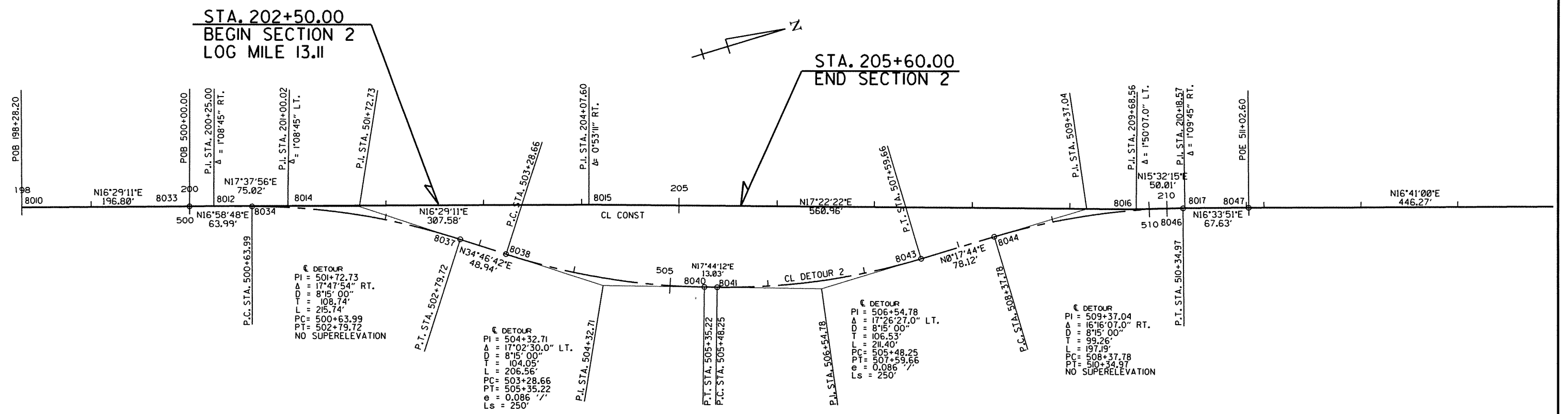
7-12-11



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 050012	35	90
② SURVEY CONTROL DETAILS									

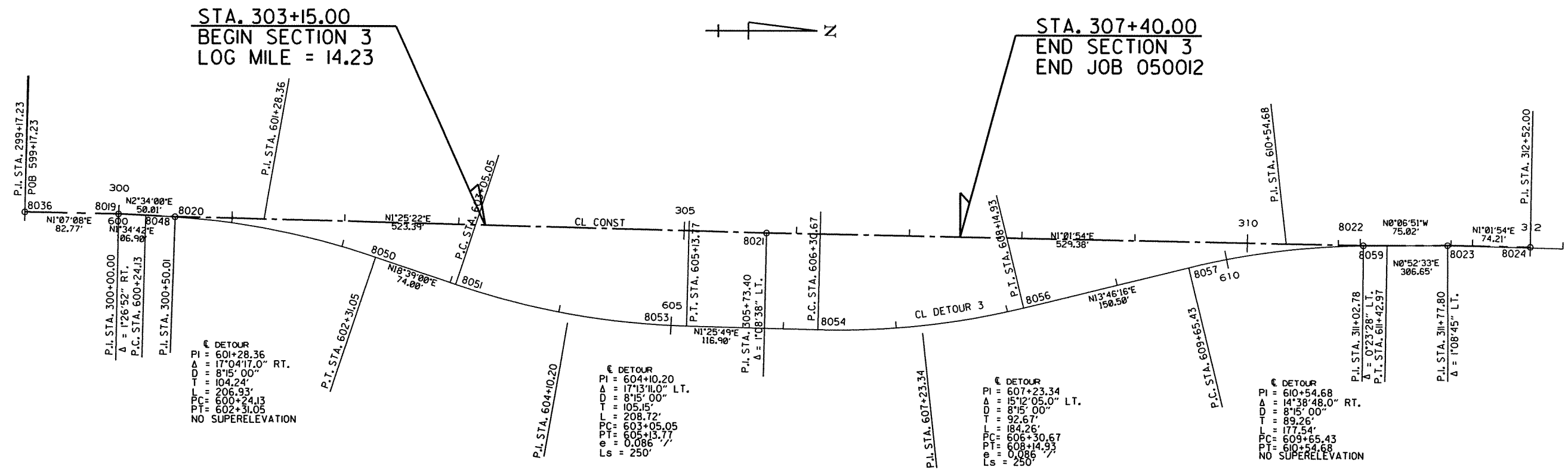


7-12-11



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 050012	36	90

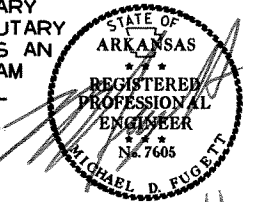
2 SURVEY CONTROL DETAILS



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. 050012	37	90

2 PLAN AND PROFILE SHEETS

STA. 407+45 TO STA. 407+65 FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, THIS TRIBUTARY TO SANDY CREEK IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATIONS ARE 723 FT. MSL



CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SO. YDS.
106+00	106+79	LT.	7'-6"	65.83
107+13	107+58	RT.	7'-6"	37.50
107+37	107+58	LT.	7'-6"	17.50
108+18	108+58	RT.	7'-6"	34.17
108+00	108+82	LT.	7'-6"	20.83
109+13	109+85	RT.	7'-6"	60.00

STA. 102+73 INSTALL 18" x 32" PIPE CULVERT LT. SIDE DRAIN CONST. APPR. = 60 CU. YD.

STA. 402+73.91 INSTALL 18" x 28" TEMPORARY PIPE CULVERT LT. SIDE DRAIN CONST. APPR. = 10 CU. YD.

STA. 104+40 IN PLACE 18" x 21" CM PIPE CULVERT LT. SIDE DRAIN REMOVE AND INSTALL 18" x 40" PIPE CULVERT LT. SIDE DRAIN CONST. APPR. = 130 CU. YD.

STA. 404+48.37 INSTALL 18" x 30" TEMPORARY PIPE CULVERT LT. SIDE DRAIN CONST. APPR. = 25 CU. YD.

STA. 101+59 IN PLACE 3' x 3' x 32' RC BOX CULVERT PLUG AND ABANDON

STA. 104+22.73 P.I. STA. 104+22.73

DETOUR
 PI = 406+91.79
 Δ = 50°05'19.0" RT.
 D = 11°00'00"
 T = 243.38'
 L = 455.35'
 PC = 404+48.41
 PT = 409+03.76
 e = 0.097'
 LS = 250'

STA. 101+47 CONSTRUCT DEL. 29" x 18" x 60' RC ARCH PIPE CULVERT ON A 10° LT. FWD. SKEW W/FES LT. & RT. (CLASS III) TYPE 3 BEDDING) Q50 = 35 CFS D.A. = 0.15 ACRES

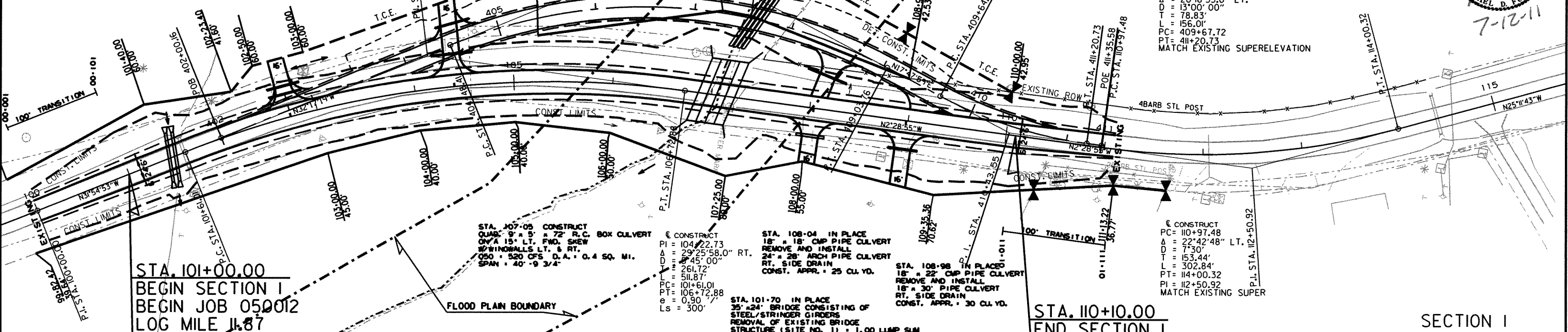
DETOUR STA. 407+63 INSTALL QUAD. 30" x 70" TEMPORARY CULVERT ON A 20° LT. FWD. SKEW Q2 = 150 CFS D.A. = 0.4 SQ. MI.

DETOUR STA. 408+50 INSTALL 18" x 36" TEMPORARY PIPE CULVERT LT. SIDE DRAIN CONST. APPR. = 100 CU. YD.

DETOUR STA. 409+45 CONSTRUCT TEMPORARY APPR. ON LT. 5 CU. YD.

DETOUR
 PI = 410+43.55
 Δ = 20°16'55.0" LT.
 D = 13°00'00"
 T = 78.83'
 L = 156.01'
 PC = 409+67.72
 PT = 411+20.73
 MATCH EXISTING SUPERELEVATION

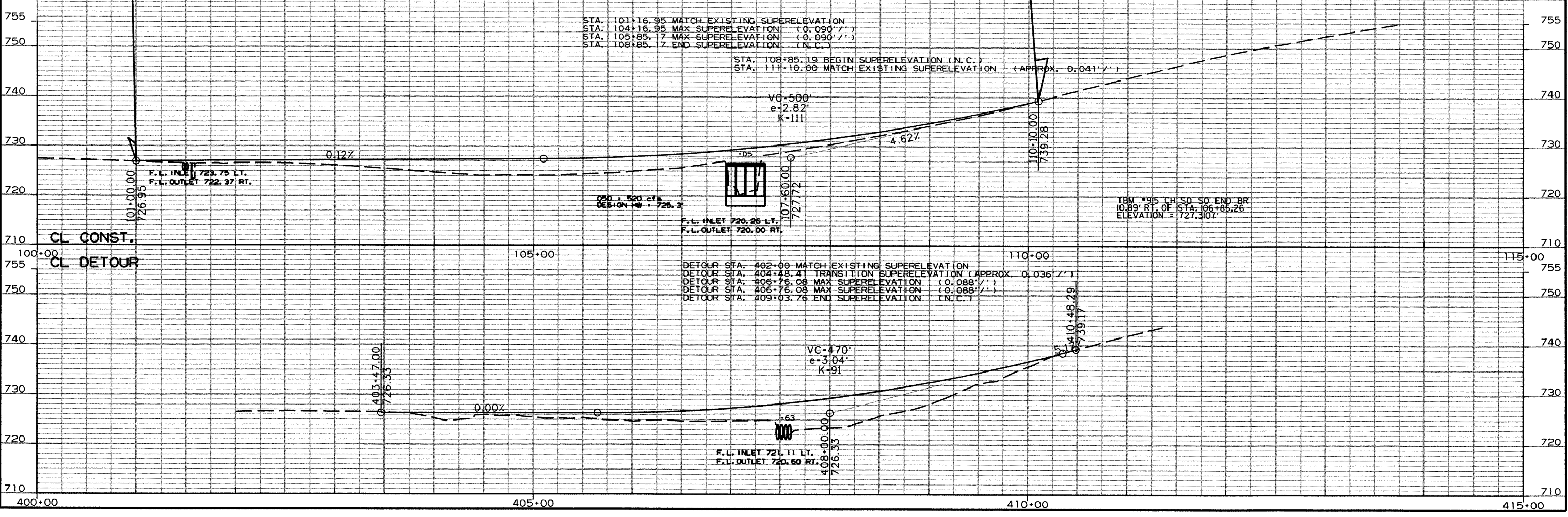
CONSTRUCT
 PC = 110+97.48
 Δ = 22°42'48" LT.
 D = 7°30"
 T = 153.44'
 L = 302.84'
 PT = 114+00.32
 PI = 112+50.92
 MATCH EXISTING SUPER



STA. 101+00.00
 BEGIN SECTION I
 BEGIN JOB 050012
 LOG MILE 11.87

STA. 110+10.00
 END SECTION I

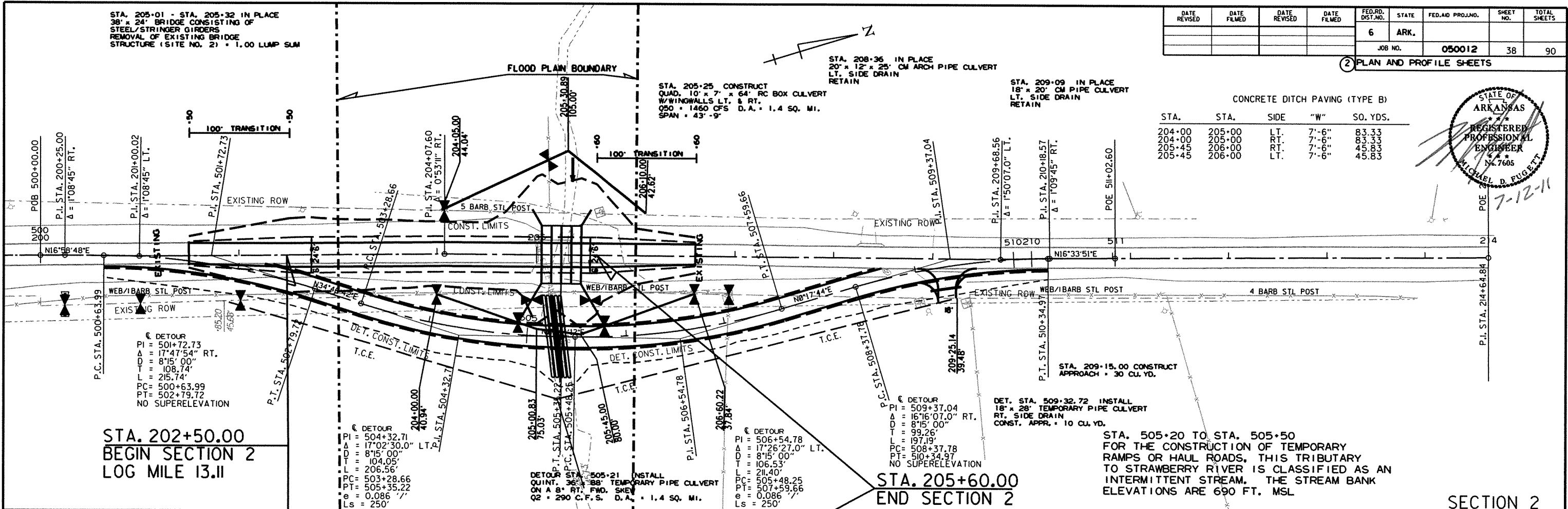
SECTION I



STA. 205-01 - STA. 205-32 IN PLACE
38' x 24' BRIDGE CONSISTING OF
STEEL/STRINGER GIRDERS
REMOVAL OF EXISTING BRIDGE
STRUCTURE (SITE NO. 2) - 1.00 LUMP SUM

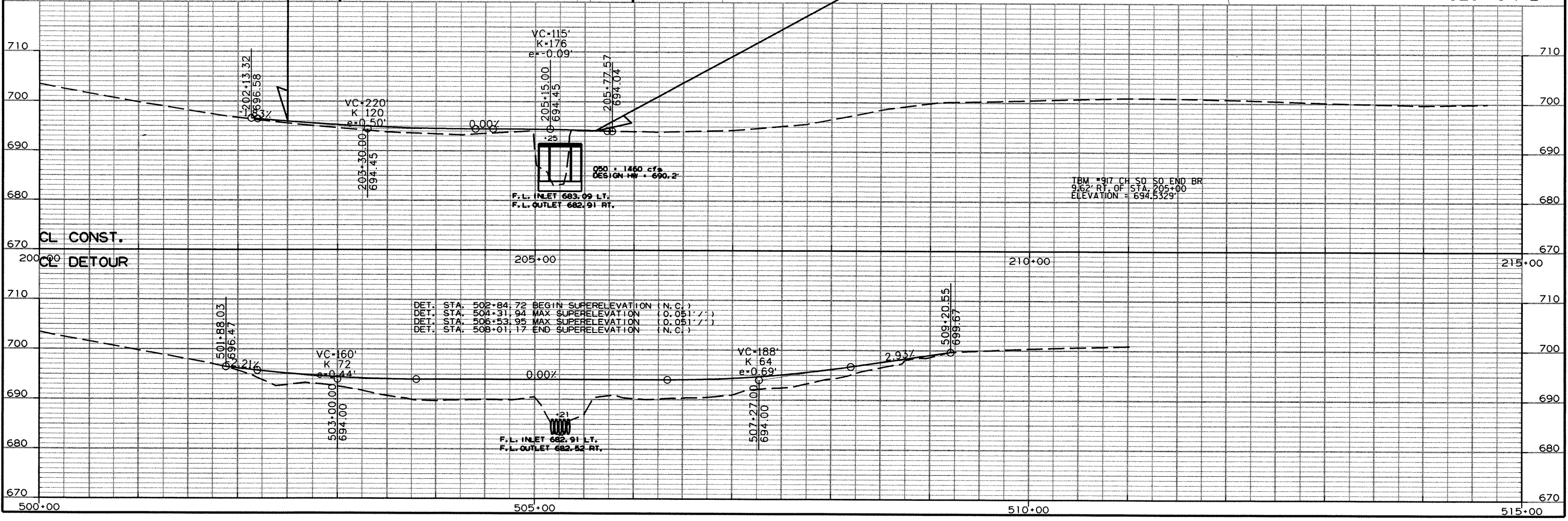
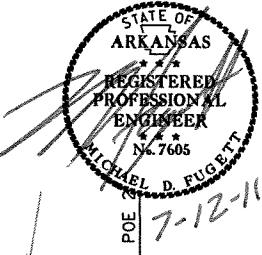
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	050012		38	90

2 PLAN AND PROFILE SHEETS



CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SO. YDS.
204+00	205+00	LT.	7'-6"	83.33
204+00	205+00	RT.	7'-6"	83.33
205+45	206+00	RT.	7'-6"	45.83
205+45	206+00	LT.	7'-6"	45.83



STA. 304+93 - STA. 305+27 IN PLACE
39' x 24' BRIDGE CONSISTING OF
STEEL STRINGER GIRDERS
REMOVAL OF EXISTING BRIDGE
STRUCTURE (SITE NO. 3) - 1.00 LUMP SUM

STA. 306+48 - STA. 306+65 IN PLACE
17' x 24' BOX CULVERT
REMOVE

STA. 308+36 IN PLACE
18' x 39' RC PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 311+15 IN PLACE
18' x 22' PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 305+10 CONSTRUCT
QUAD. 10' x 6' x 67' RC BOX CULVERT
ON 15° RT. FWD SKEW
W/WINGWALLS LT. & RT.
Q50 = 380 CFS D.A. = 0.3 SQ. MI.
SPAN = 45' - 3 1/2'

STA. 306+55 CONSTRUCT
TRI. 6' x 6' x 64' RC BOX CULVERT
W/WINGWALLS LT. & RT.
Q50 = 380 CFS D.A. = 0.3 SQ. MI.
SPAN = 20' - 8'

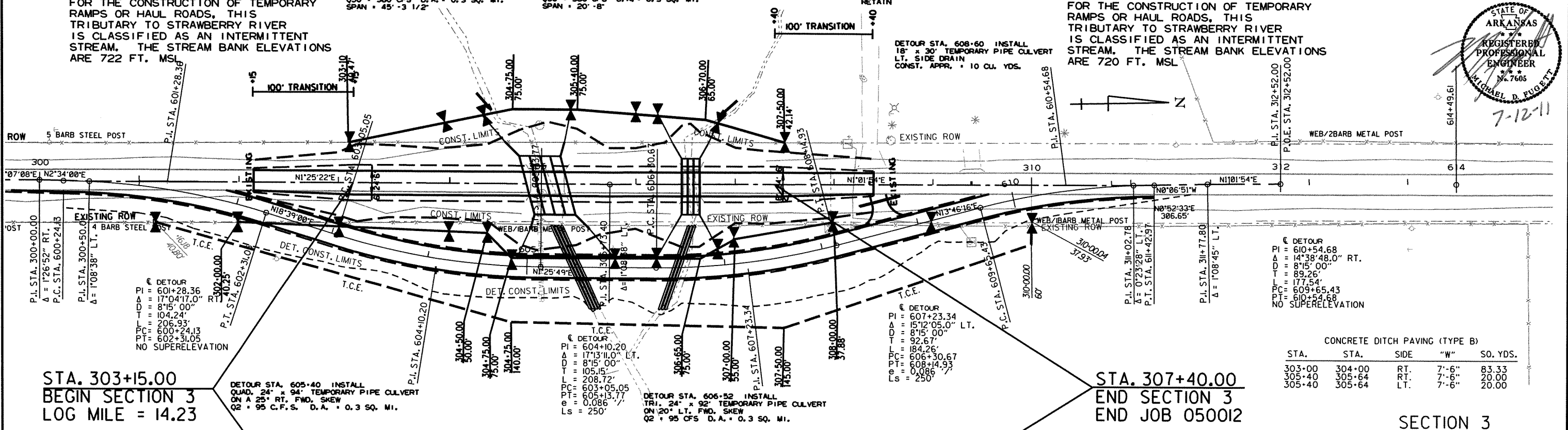
STA. 309+39 IN PLACE
18' x 27' CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 606+50 TO STA. 606+75
FOR THE CONSTRUCTION OF TEMPORARY
RAMPS OR HAUL ROADS, THIS
TRIBUTARY TO STRAWBERRY RIVER
IS CLASSIFIED AS AN INTERMITTENT
STREAM. THE STREAM BANK ELEVATIONS
ARE 720 FT. MSL

STA. 605+35 TO STA. 605+65
FOR THE CONSTRUCTION OF TEMPORARY
RAMPS OR HAUL ROADS, THIS
TRIBUTARY TO STRAWBERRY RIVER
IS CLASSIFIED AS AN INTERMITTENT
STREAM. THE STREAM BANK ELEVATIONS
ARE 722 FT. MSL

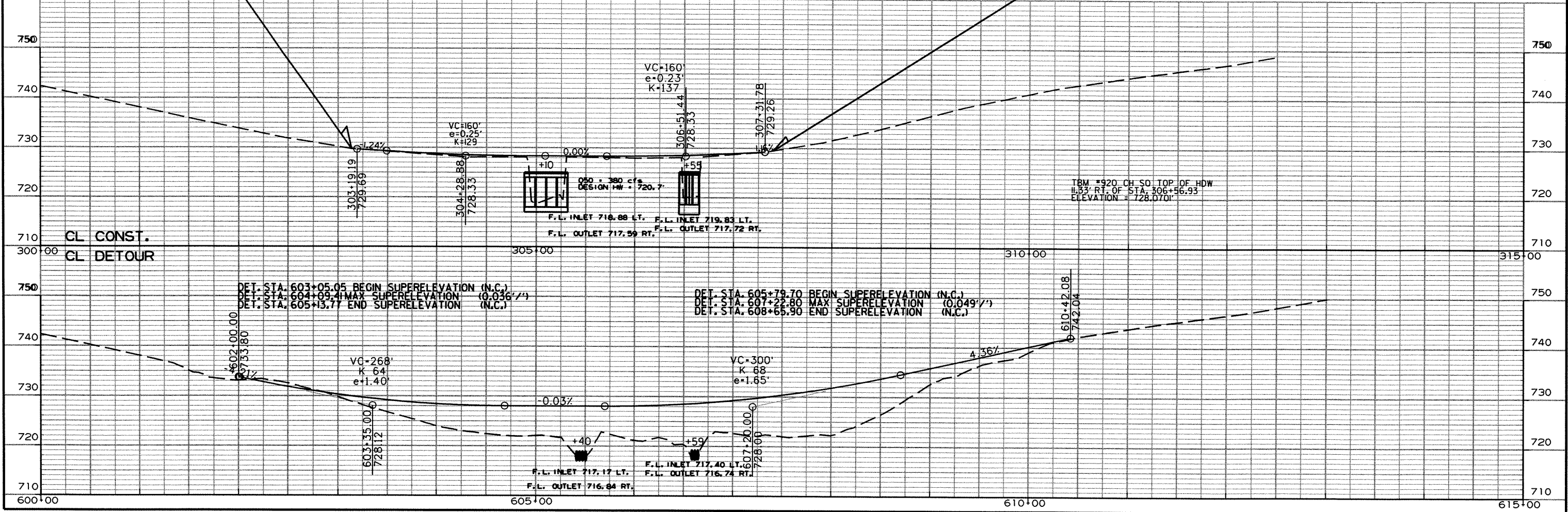
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		39	90

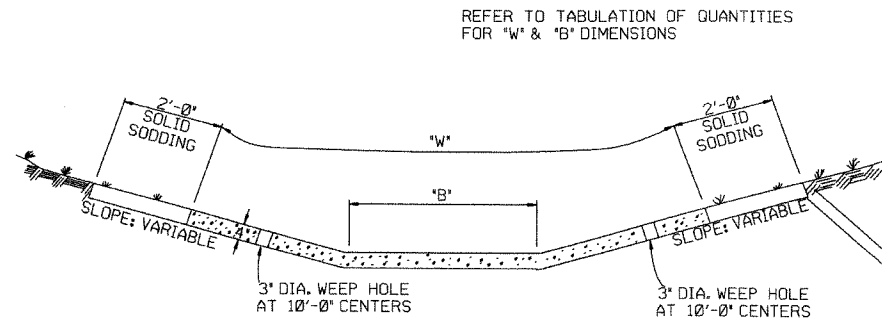
PLAN AND PROFILE SHEETS



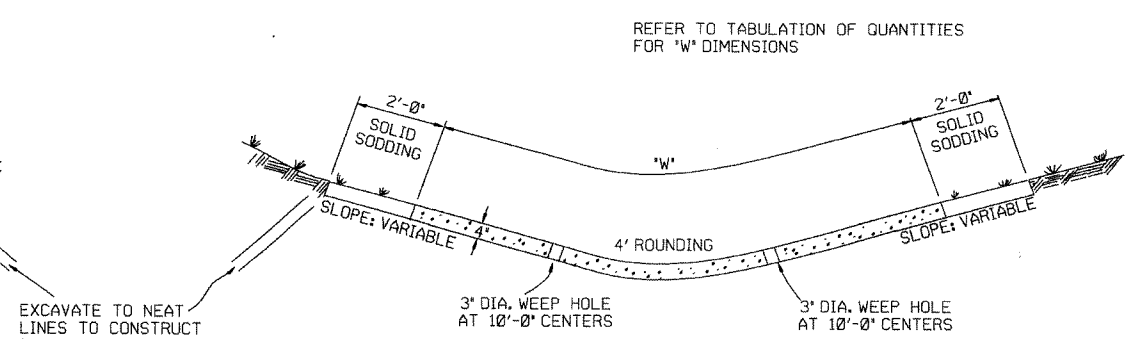
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	SIDE	"W"	SO. YDS.
303+00	304+00	RT.	7'-6"	83.33
305+40	305+64	RT.	7'-6"	20.00
305+40	305+64	LT.	7'-6"	20.00





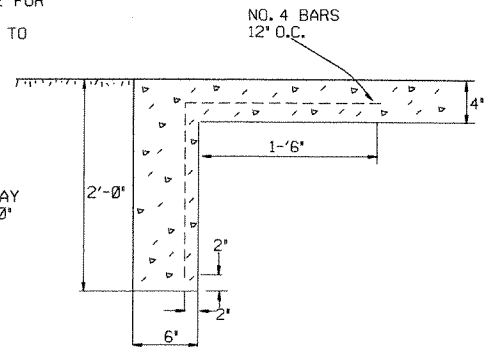
TYPE A



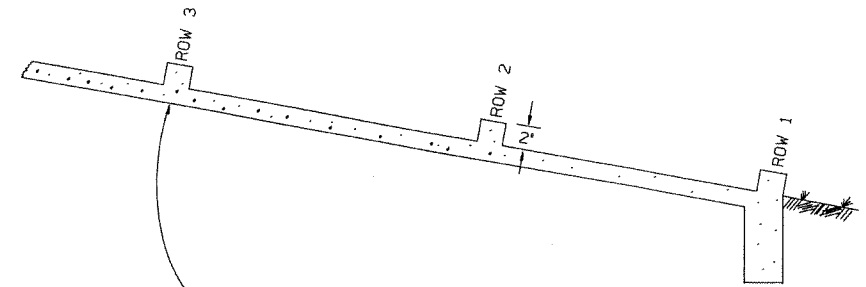
TYPE B

EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

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

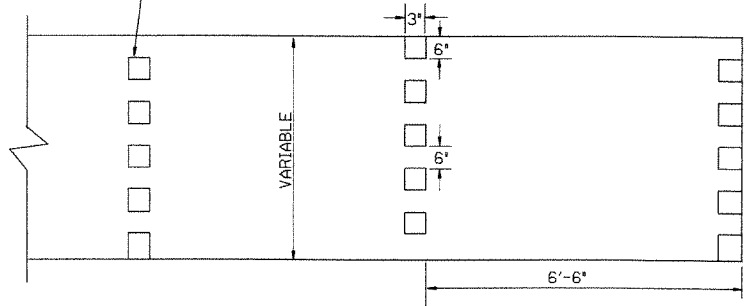


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

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

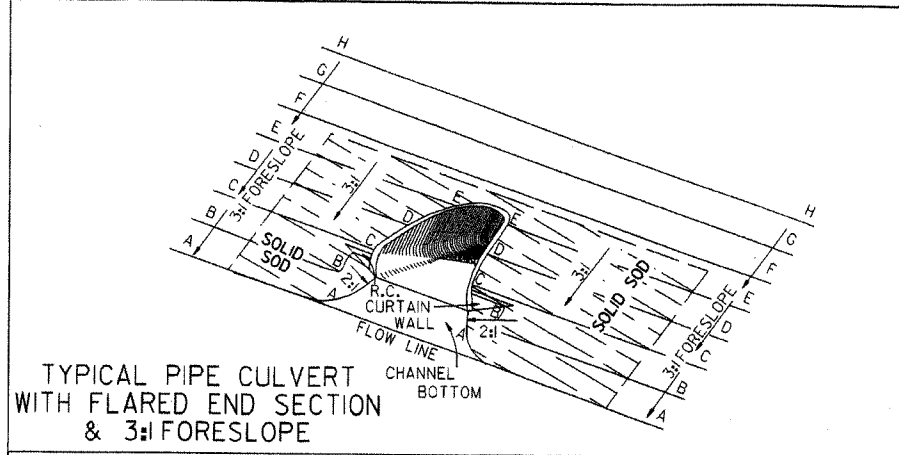


ENERGY DISSIPATORS
(NO SCALE)

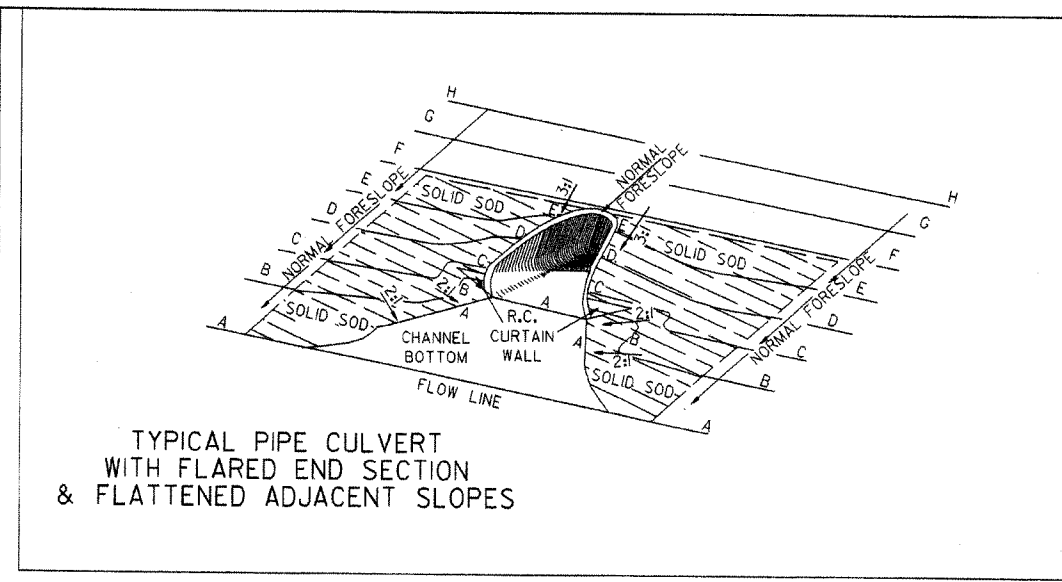
GENERAL NOTES:

- THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.
- TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.
- SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.
- 1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

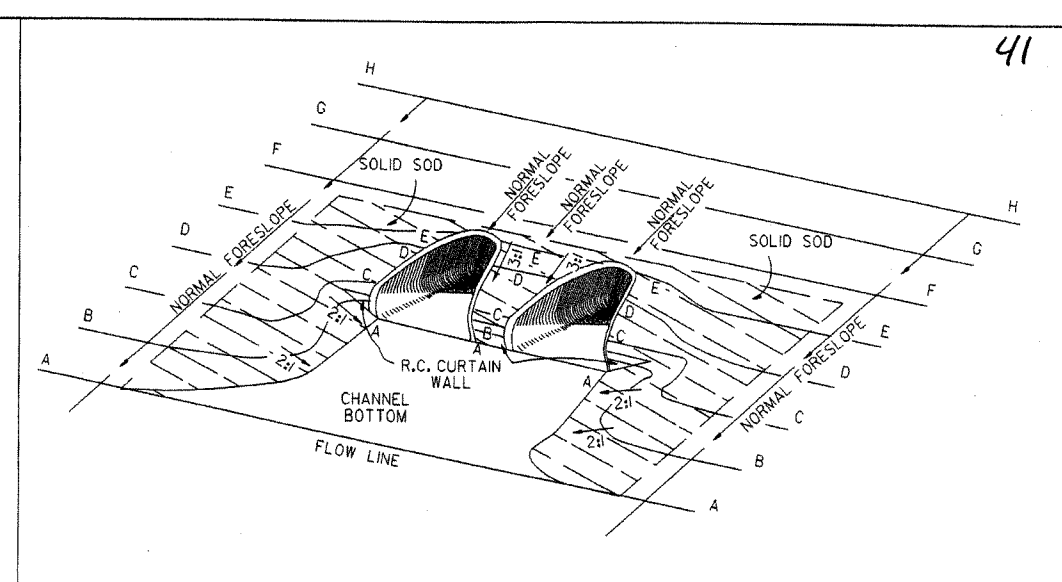
			ARKANSAS STATE HIGHWAY COMMISSION
			CONCRETE DITCH PAVING
			STANDARD DRAWING CDP-1
11-17-10	ADDED GENERAL NOTE		
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING		
11-30-88	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89	
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88	
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87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



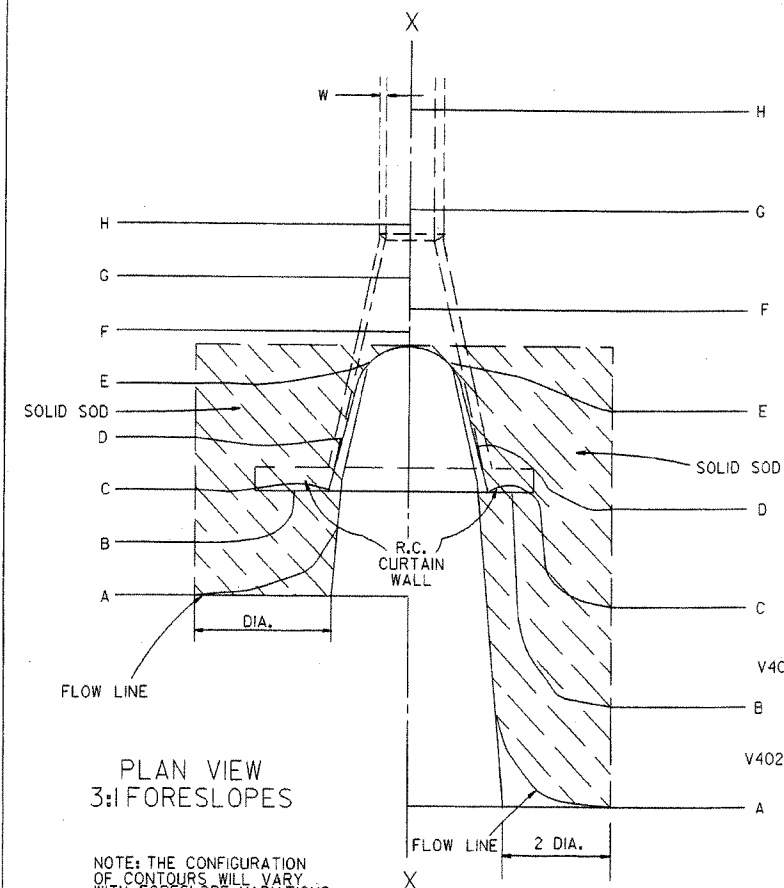
TYPICAL PIPE CULVERT WITH FLARED END SECTION & 3:1 FORESLOPE



TYPICAL PIPE CULVERT WITH FLARED END SECTION & FLATTENED ADJACENT SLOPES



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

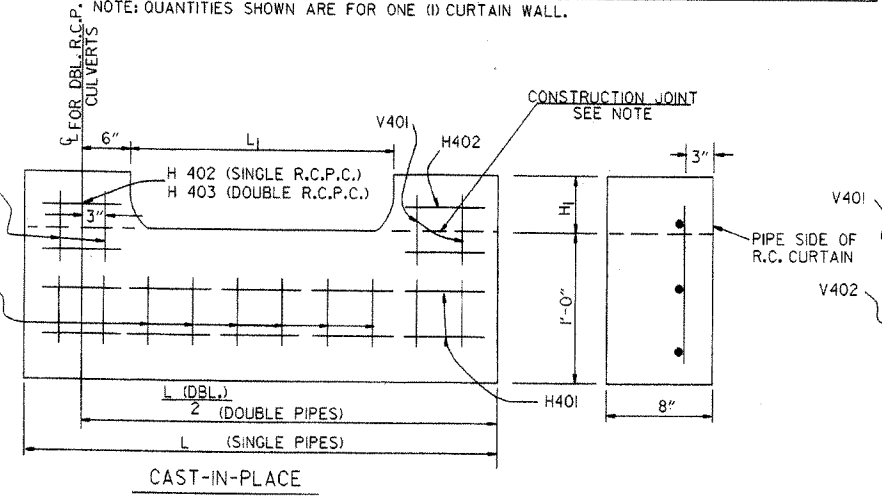


NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

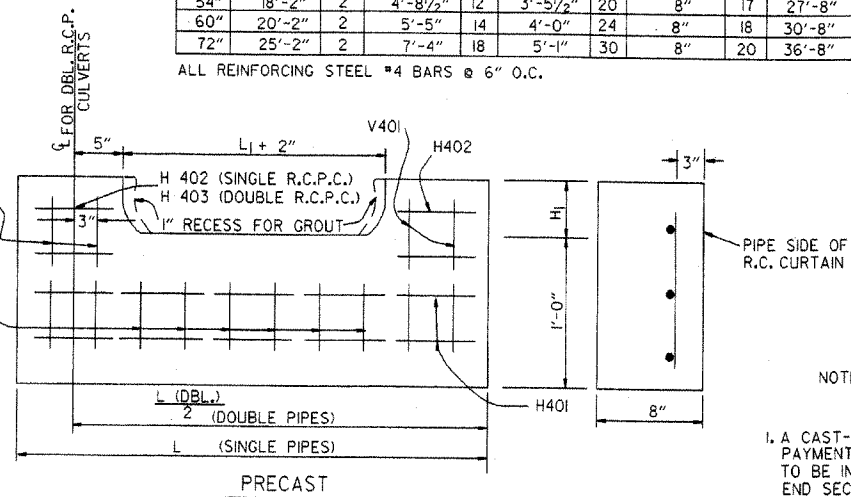
PIPE DIA.	H ₁	L ₁	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"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

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



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

R.C. CURTAIN WALL DETAILS



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

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11 1/2"	4	1'-7 1/2"	8	8"	8	12'-2"	2	1'-11 1/2"	4	8"	2	1'-7 1/2"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8 1/2"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8 1/2"	12	8"	18
30"	10'-8"	2	2'-4 1/2"	4	1'-11 1/2"	10	8"	12	17'-8"	2	2'-4 1/2"	4	8"	2	1'-11 1/2"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9 1/2"	8	2'-9 1/2"	16	8"	15	23'-8"	2	3'-9 1/2"	8	8"	4	2'-9 1/2"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5 1/2"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

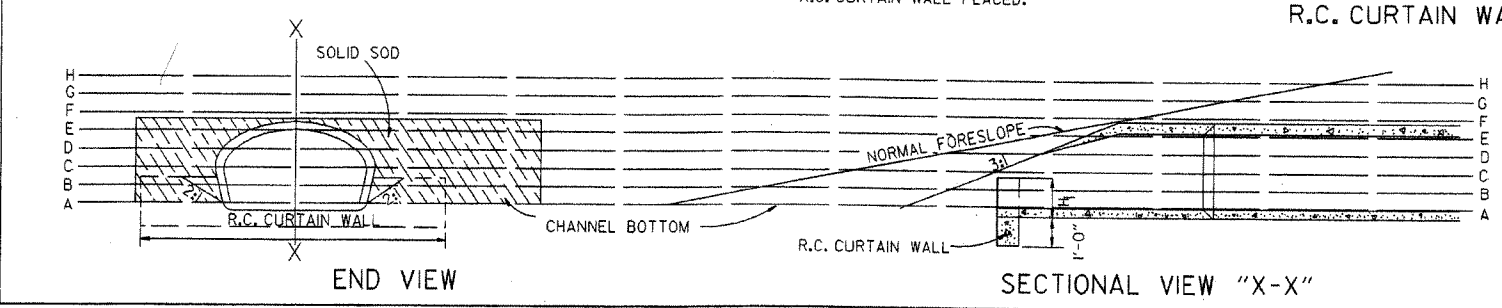
SOLID SODDING

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

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

GENERAL NOTES

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



END VIEW

SECTIONAL VIEW "X-X"

10-18-96	ADDED NOTE TO SOLID SODDING		
10-12-95	CORRECTED SPELLING	10-18-96	
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	

ARKANSAS STATE HIGHWAY COMMISSION
FLARED END SECTION
STANDARD DRAWING FES-1

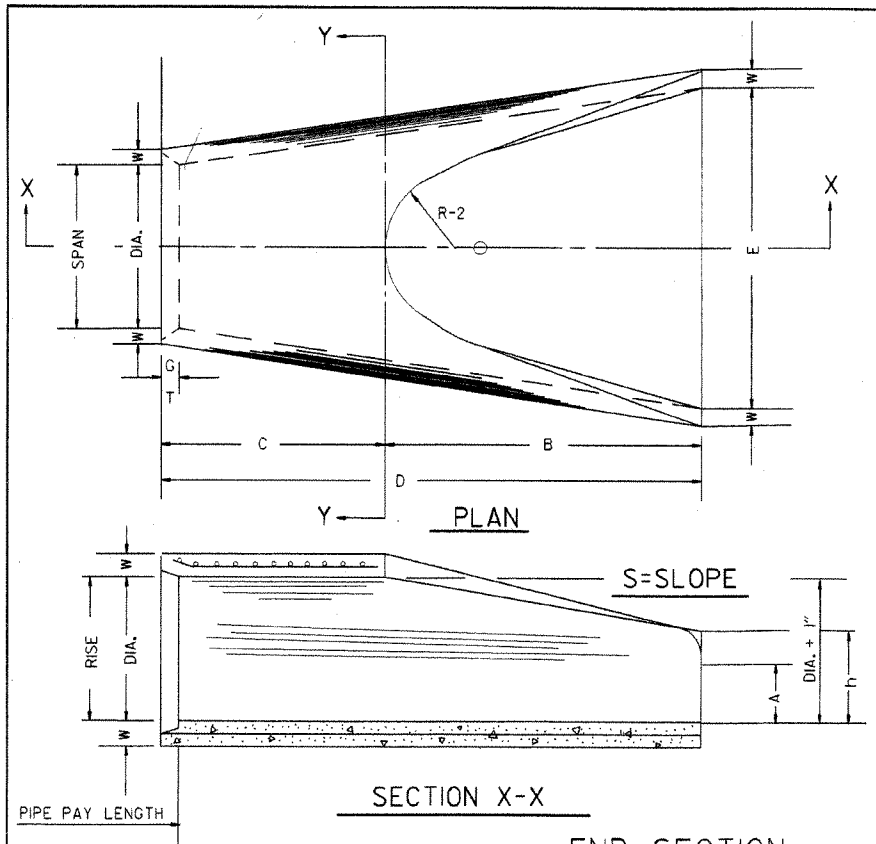


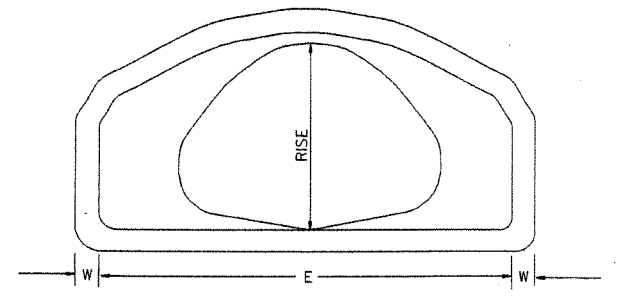
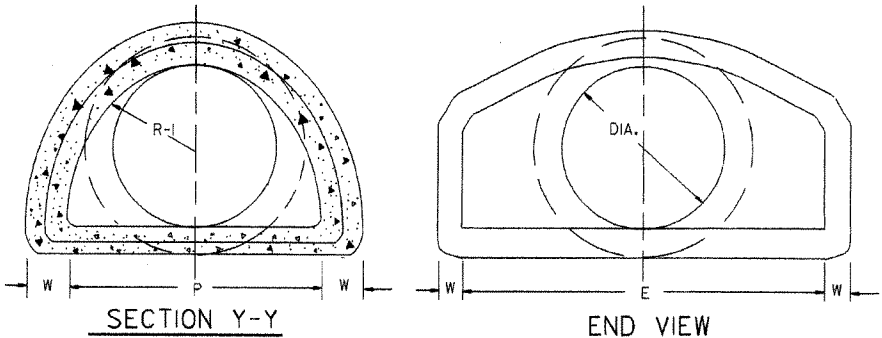
TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 3/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-3 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 3/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 5/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 1/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 3/8"	38 3/8"	24"	5"	13250	4'-6"

ARCH PIPE

EQUIV. DIA.	SPAN		RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 1/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 5/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 3/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 1/8	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 1/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2 1/2:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/8"	24"	5"	2 1/4:1

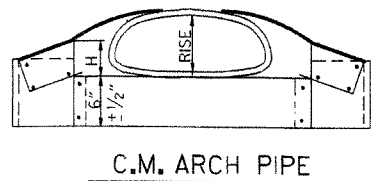
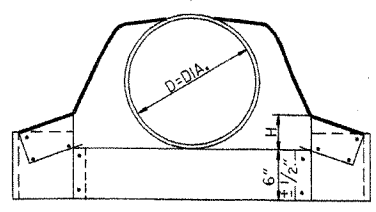
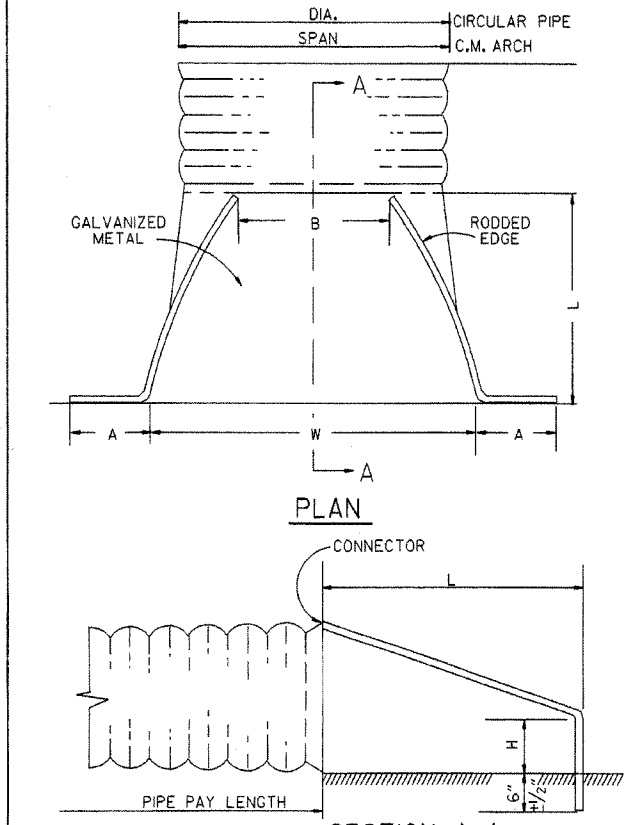
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

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

END VIEW CONCRETE ARCH PIPE

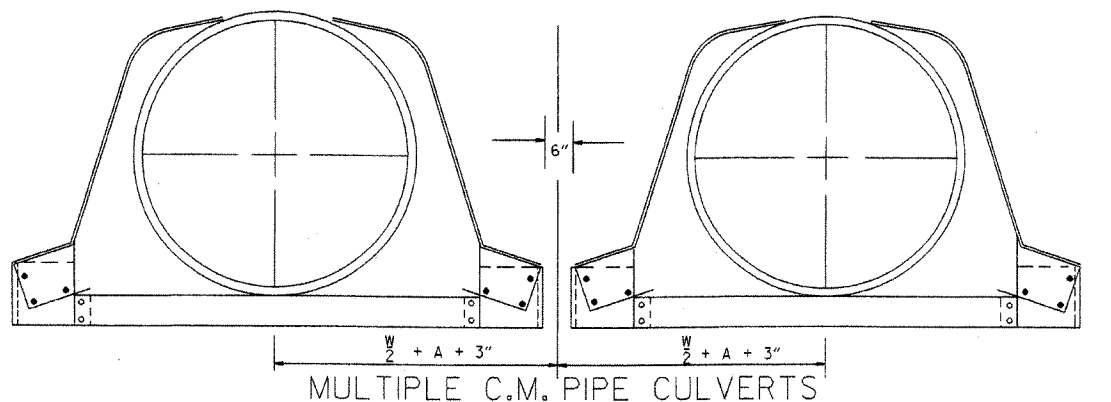
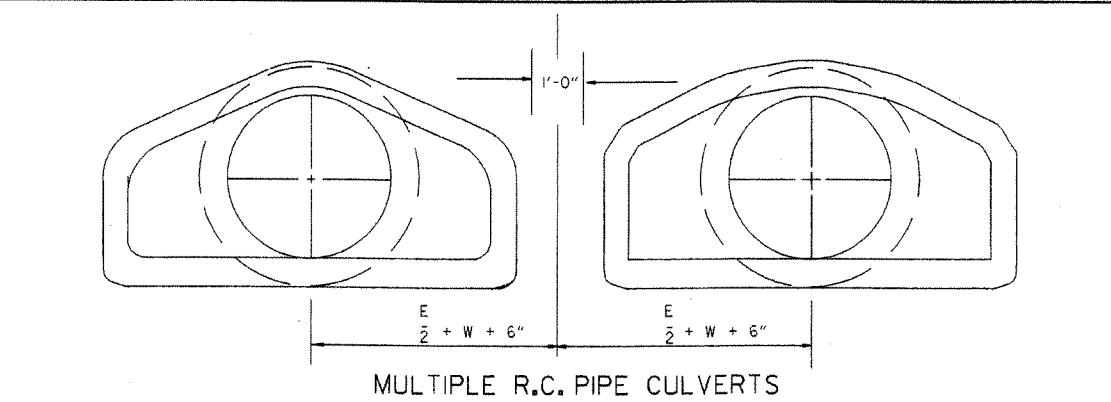


CIRCULAR PIPE

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

C.M. ARCH PIPE

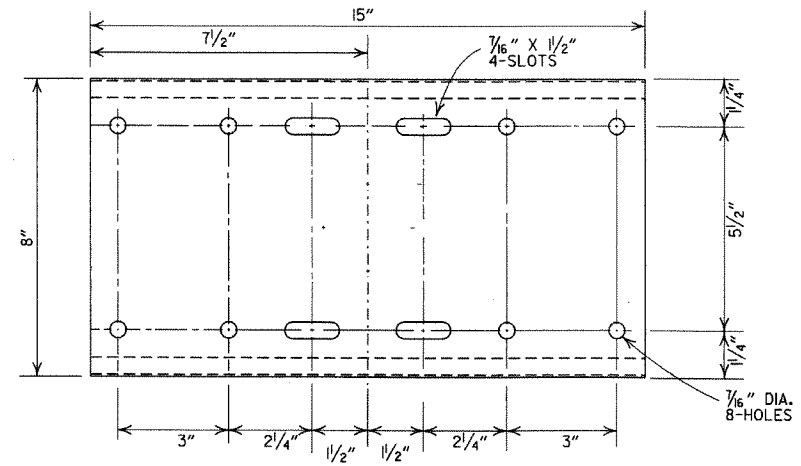
EQUIV. DIA.	SPAN	RISE	A 1" ±	B. MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S	GAUGE
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33	13	21	9	53	85	2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



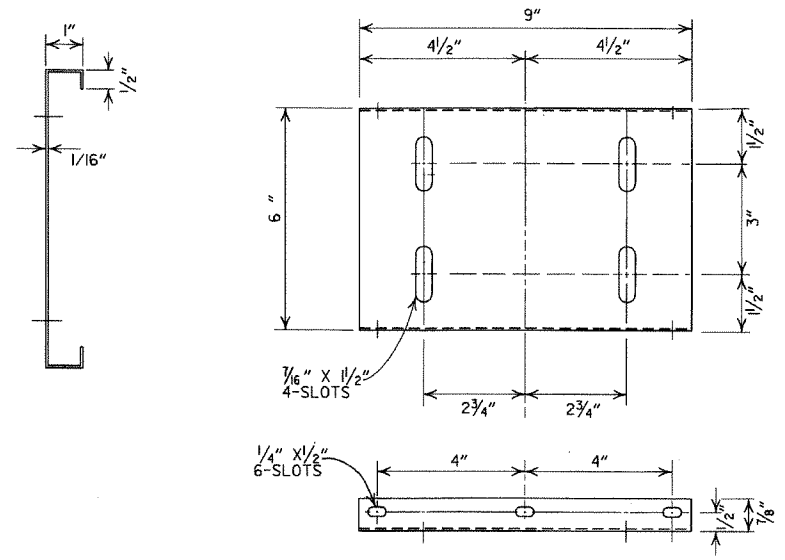
NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

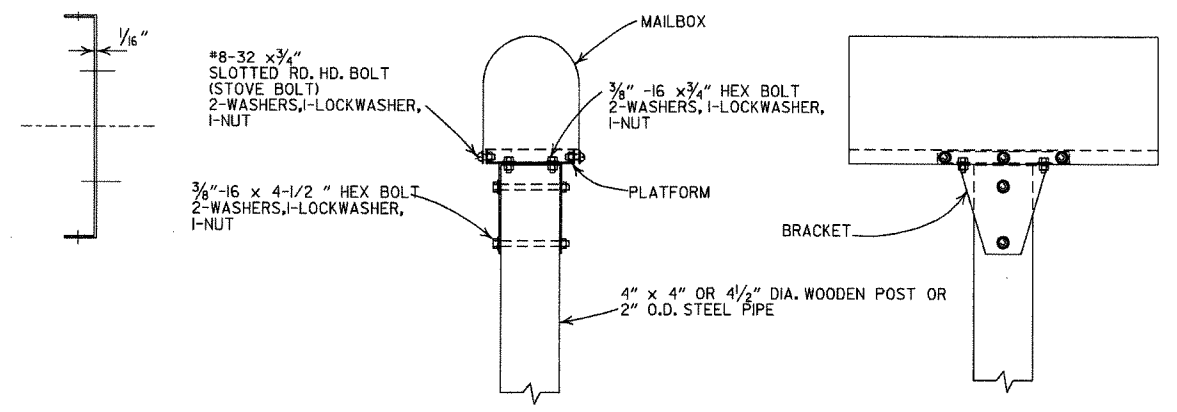
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	FLARED END SECTION
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	
12-5-74	REMOVED NOTE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



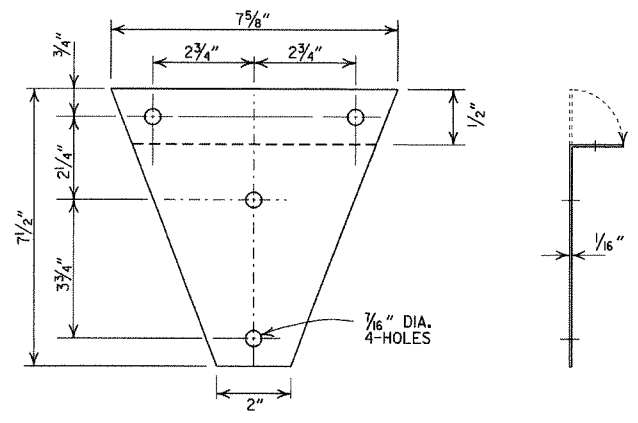
SHELF



PLATFORM

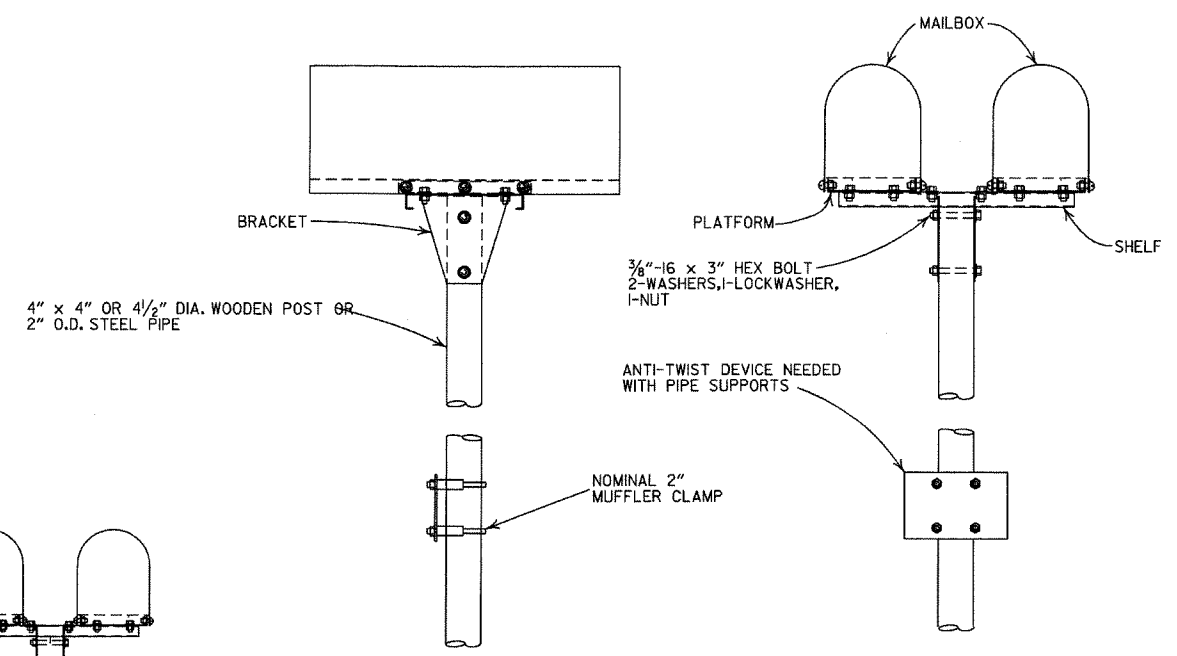


SINGLE INSTALLATION

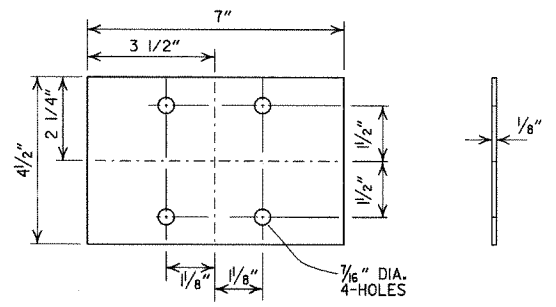


BRACKET

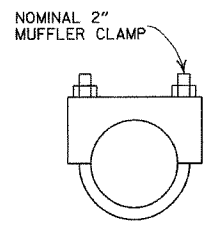
- GENERAL NOTES
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
 2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
 3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED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



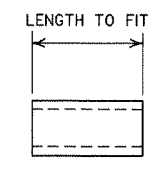
DOUBLE INSTALLATION



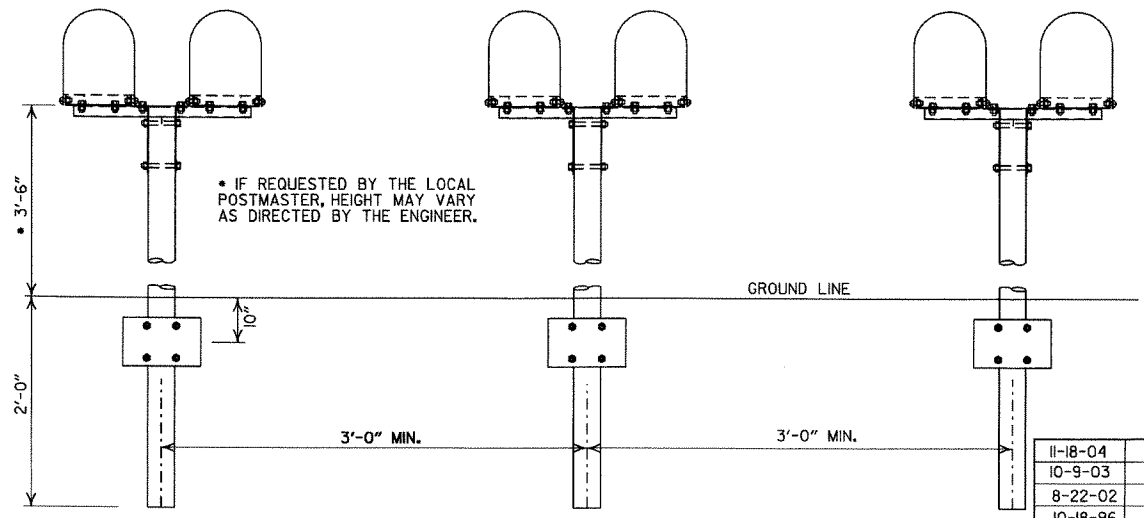
ANTI-TWIST PLATE



CLAMP



SPACER



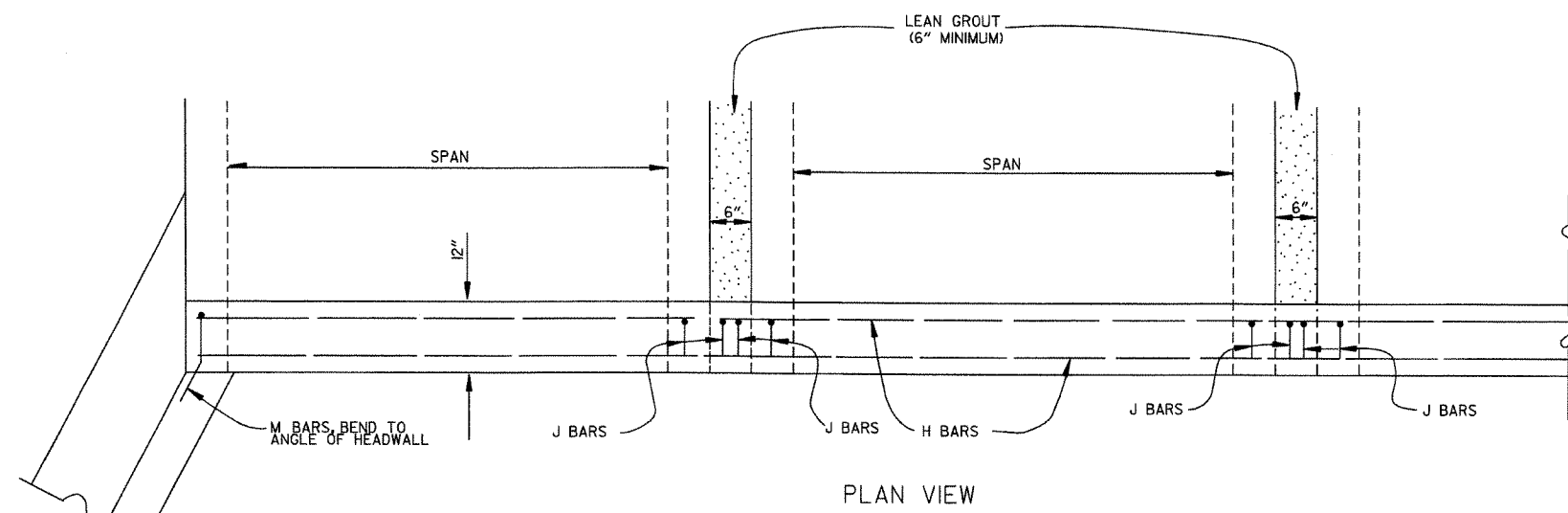
SPACING FOR MULTIPLE POST INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1



BAR LIST

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

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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

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

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

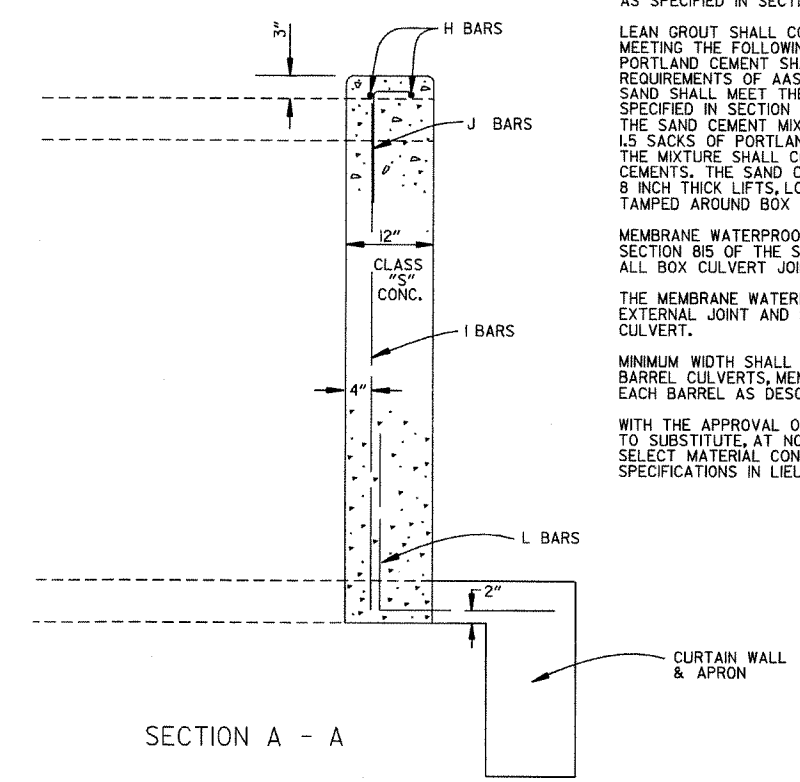
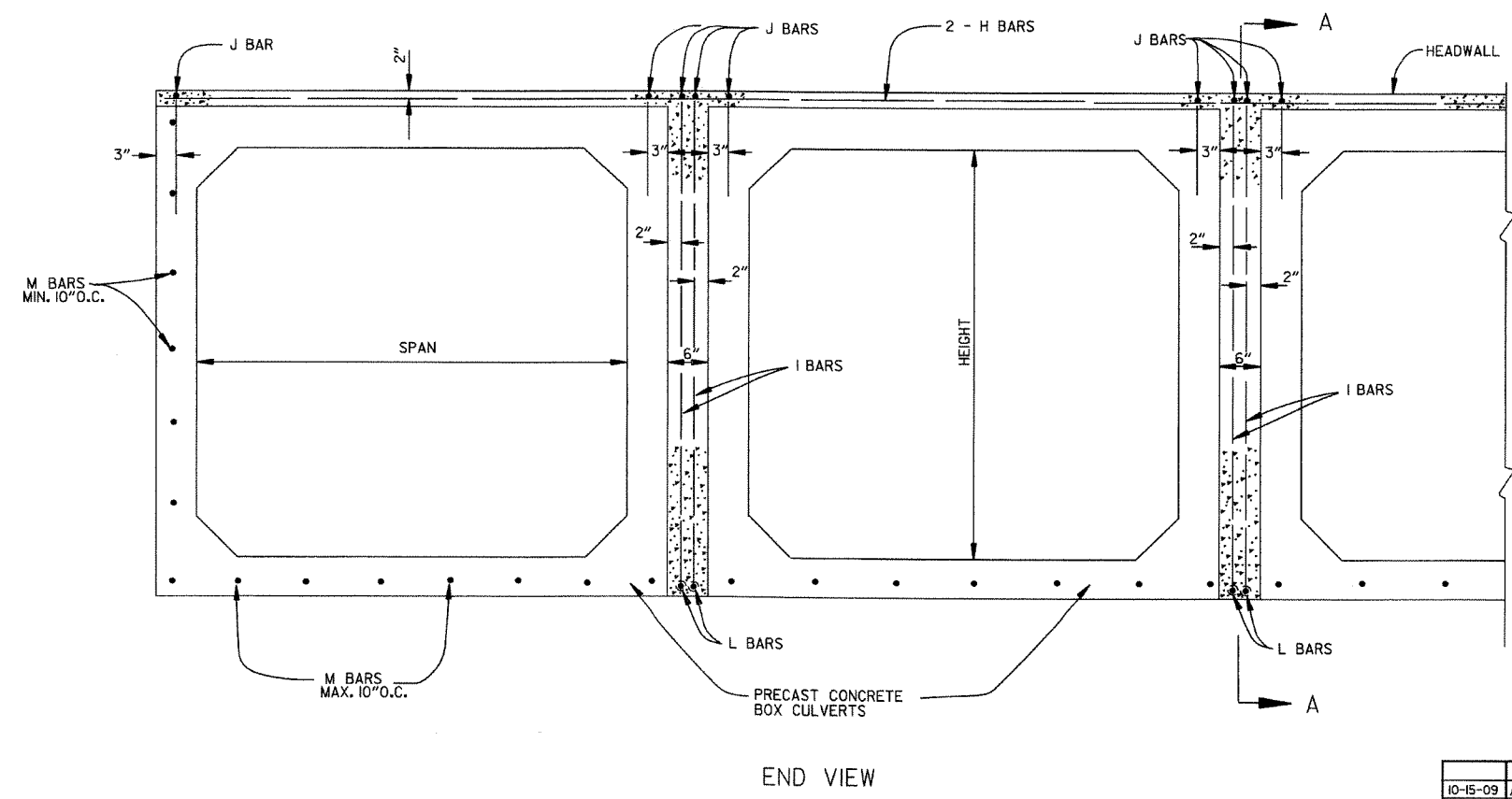
LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
 PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
 SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS. THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 15 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE. THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

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

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

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

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



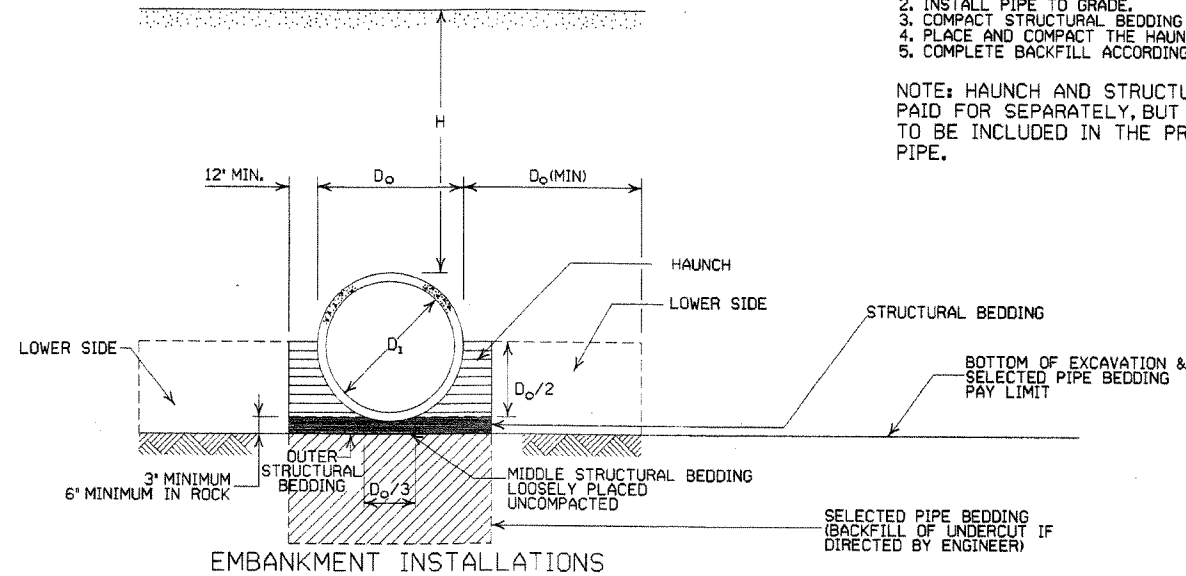
DATE	ISSUED BY	REVISION	DATE FILMED
10-15-09	JABE	ADDED GENERAL NOTE	
11-10-05	JABE	REVISED SPACING OF "M" BARS	
4-10-03	JABE	REVISED GENERAL NOTES	
10-18-96	JABE	CORRECTED AASHTO REF.	
10-1-92	JABE	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	JABE	ADDED NOTE FOR LEAN GROUT	
11-8-90	JABE	REVISED FOR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

ARKANSAS STATE HIGHWAY COMMISSION
 PRECAST CONCRETE BOX CULVERTS
 STANDARD DRAWING PBC-1

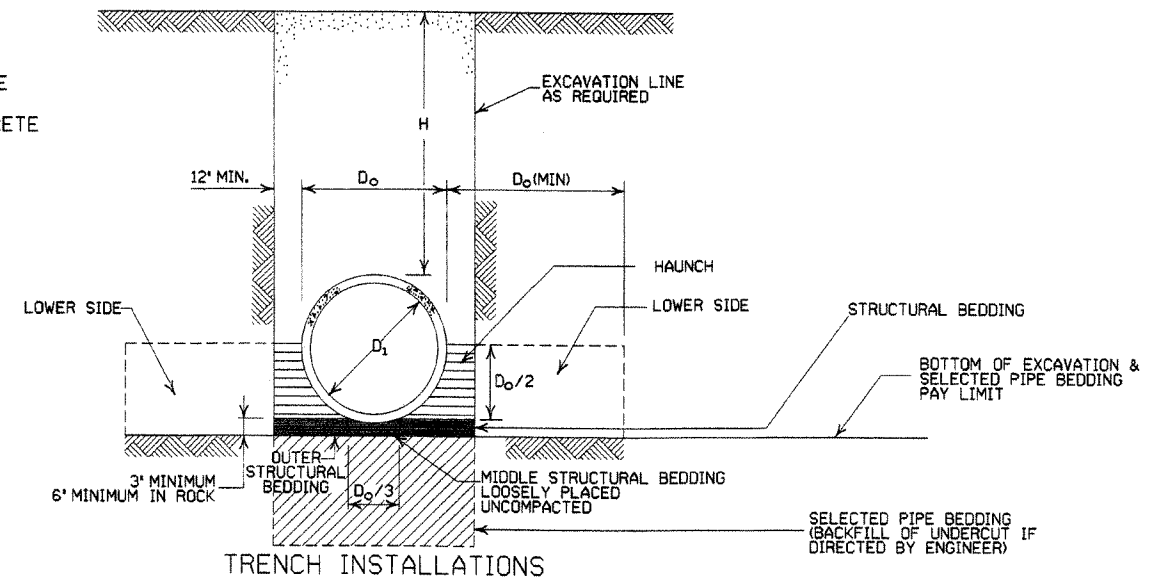
CONSTRUCTION SEQUENCE

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 SPECIFICATIONS.

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.



1. MATERIAL IN THE LOWER SIDE, HAUNCH, AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.



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.

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	*SPAN		*RISE	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD 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 3/4	44	26 3/8	27
42	51 1/2	51	31 1/8	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 1/4	77
108	138	138	87 1/2	87
120	154	154	96 1/2	97
132	168 3/4	169	106 1/2	107

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

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-3) OR TYPE 1 INSTALLATION MATERIAL
TYPE 3	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.

MAXIMUM HEIGHT OF FILL OVER R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	17	27	41
TYPE 3	13	20	32

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

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.
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 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.'

- LEGEND -

- D₁ = NORMAL INSIDE DIAMETER OF PIPE
- D_o = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- /// = UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

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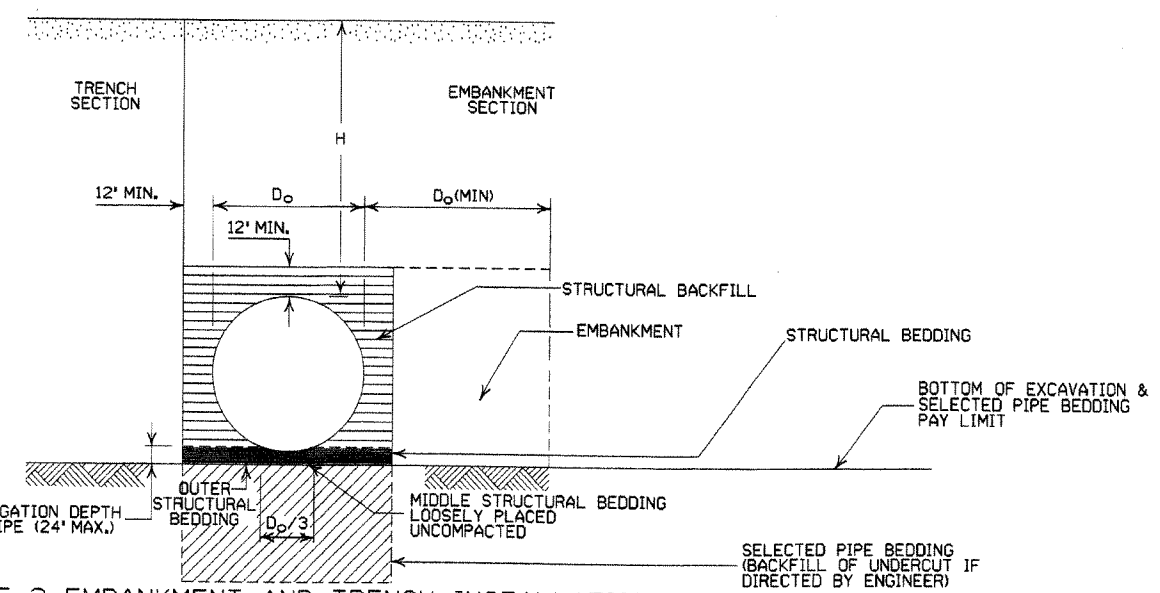
CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND) H-2Ø LOADING

PIPE DIAMETER (INCHES)	MINIMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT ABOVE TOP OF PIPE (FEET)							
		METAL THICKNESS IN INCHES							
		0.064	0.079	0.109	0.138	0.168			
		2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL							
12	12	84	91						
15	12	67	73						
18	12	56	61						
24	12	46	42						
30	12	34	36	47					
36*	12		30	39	41				
42*	12		43	46	67	48	70	50	73
48*	12		37	45	58	46	61	47	64
		3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION** RIVETED, WELDED, HELICAL, OR BOLTED							
36	12	48	60	78	88	89	111	101	131
42	12	41	51	64	72	71	90	79	102
48	12	36	45	57	64	61	77	66	85
54	12	32	40	52	59	55	71	59	79
60*	12	29	36	49	53	51	64	54	71
66	12	26	33	47	49	49	58	51	64
72*	12	24	30	44	47	47	53	49	59
78	12		28	41	46	49	47	47	54
84*	12		26	38	45	45	46	46	51
90	12		24	35	43	43	45	45	51
96*	12		22	33	40	40	44	44	51
102*	24			31	38	38	42	42	51
108*	24			30	38	35	39	39	51
114	24			28	34	34	37	37	51
120*	24			27	32	32	35	35	51

* MAX. FILL CAN BE INCREASED IN THESE DIAMETER PIPES BY USING THE NEXT LARGER CORRUGATION. REFER TO 'CORRUGATED METAL PIPE', REVISED 1970, PUBLISHED BY U.S. DEPARTMENT OF TRANSPORTATION, F.H.W.A., B.P.R.
 ** WHERE THE STANDARD 2 1/2 x 1/2 CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A 3' x 1' OR 5' x 1' CORRUGATION PIPE OF THE SAME DIAMETER 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



IN SOIL - MIN. TWICE CORRUGATION DEPTH
 IN ROCK - MIN. 1/2' PER FOOT OF FILL OVER PIPE (24' MAX.)

TYPE 2 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.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-3)

* AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL

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.

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.'
8. 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 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.'

- LEGEND -

- D_o = OUTSIDE DIAMETER OF PIPE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- [Hatched pattern] = STRUCTURAL BACKFILL MATERIAL
- [Diagonal lines] = UNDISTURBED SOIL
- ELONG. = ELONGATED
- EQUIV. DIA. = EQUIVALENT DIAMETER
- H = FILL COVER HEIGHT OVER PIPE (FEET)

CORRUGATED ALUMINUM PIPE (ROUND) H-2Ø LOADING

PIPE DIAMETER (INCHES)	MINIMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL				
12	12	45	45			
18	12	30	30	52	41	
24	12	22	22	39	28	
30	12	18	18	31	28	34
36	12		15	26	27	28
42	12		26	43	43	44
48	12			40	41	43
54	12			35	37	38
60	12				33	34
66	12				30	31
72	12					29

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8
0.188	0.1838		7
0.218	0.2145		5
0.249	0.2451		3
0.280	0.2758		1

CORRUGATED METAL PIPE ARCHES (H - 2Ø LOADING)

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE FOR 2 TONS PER SQ. FT. (INCHES)	STEEL			ALUMINUM		
				MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHT ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.		MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHTS ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.	
					2 TONS	3 TONS		2 TONS	3 TONS
				2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL					
15	17x13	3	12	0.064	13	15+	0.060	16	
18	21x15	3	12	0.064	12	15+	0.060	14	
21	24x18	3	12	0.064	10	15+	0.060	12	15+
24	28x20	3	12	0.064	10	15	0.060	10	15+
30	35x24	3	12	0.079	9	14	0.075	9	14
36	42x29	3 1/2	12	0.079	9	13	0.075	9	13
42	49x33	4	12	0.079	8	12	0.105	8	12
48	57x38	5	12	0.109	8	12	0.135	8	12
54	64x43	6	12	0.109	8	12	0.135	8	12
60	71x47	7	12	0.138	8	12	0.164	8	12
66	77x52	8	12	0.168	8	12	0.164	8	12
72	83x57	9	12	0.168	9	13			
				3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION** RIVETED, WELDED, OR HELICAL					
36	40x31	5	12	0.079	15	15+			
42	46x36	6	12	0.079	15	15+			
48	53x41	7	12	0.079	15	15+			
54	60x46	8	12	0.079	15	15+			
60	66x51	9	12	0.079	15	15+			
66	73x55	12	12	0.079	15	15+			
72	81x59	14	18	0.079	15	15+			
78	87x63	14	18	0.079	14	15+			
84	95x67	16	18	0.109	13	15+			
90	103x71	16	24	0.109	12	15+			
96	112x75	18	24	0.109	11	15+			
102	117x79	18	24	0.109	10	15			
108	128x83	18	24	0.138	9	14			

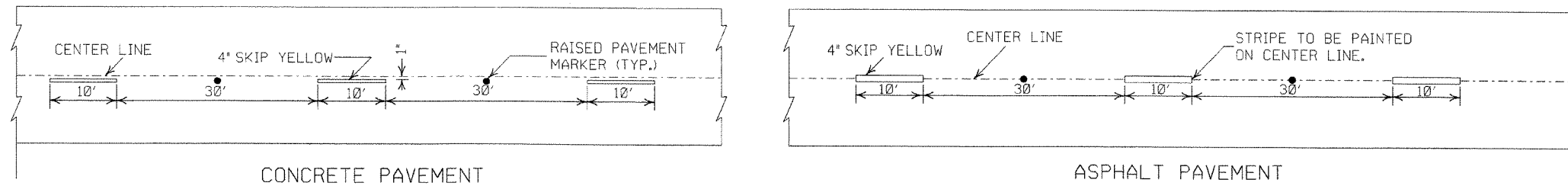
1 WHERE BEARING PRESSURE EXCEEDING 2 TONS PER SQUARE FOOT IS REQUIRED FOR GIVEN FILL HEIGHTS, THE FOUNDATION MATERIAL SHALL BE INVESTIGATED TO DETERMINE THE BEARING CAPACITY.
 ** WHERE THE STANDARD 2 1/2 x 1/2 CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A 3' x 1' OR 5' x 1' CORRUGATION PIPE OF THE SAME DIAMETER MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

DATE	REVISION	DATE FILMED
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

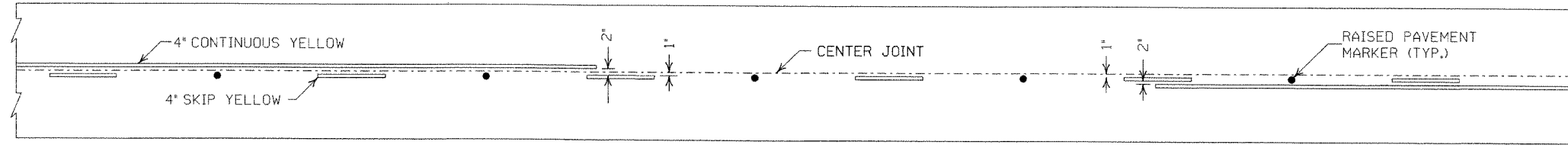
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT
 FILL HEIGHTS & BEDDING

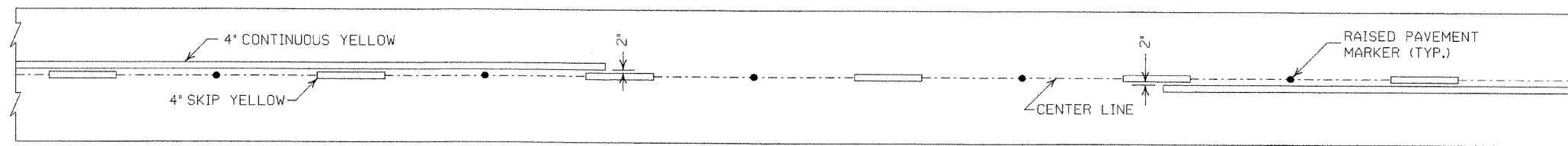
STANDARD DRAWING PCM-1



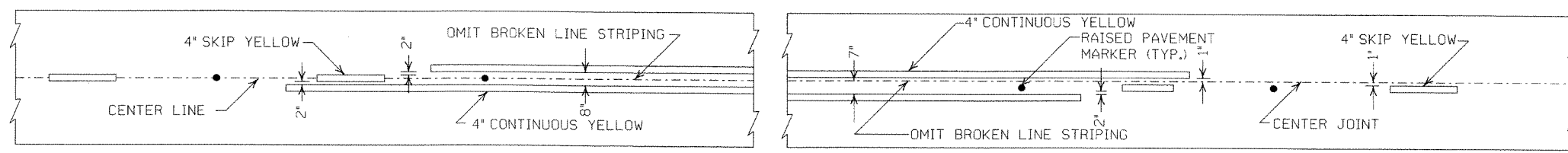
BROKEN LINE STRIPING



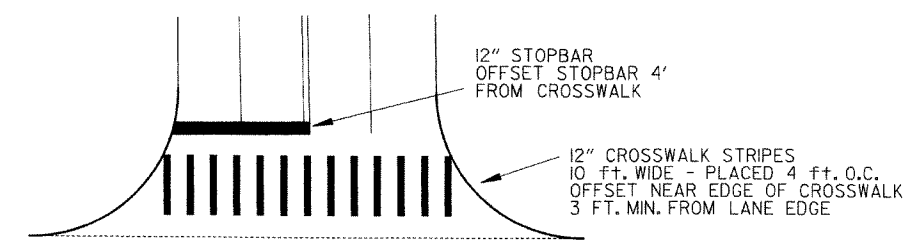
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT



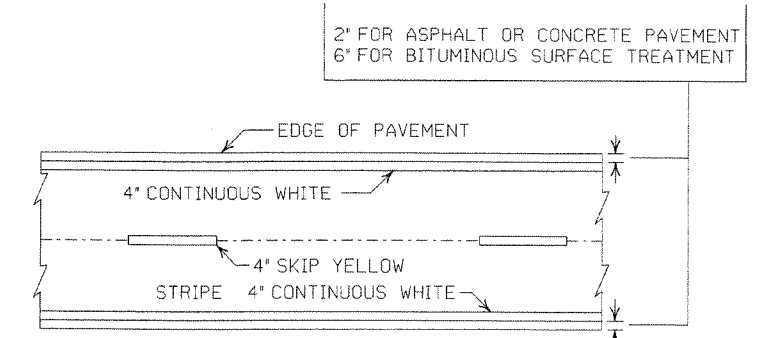
STRIPING AT ADJACENT NO PASSING LANES



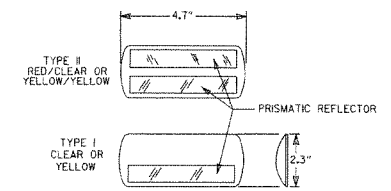
CROSSWALK AND STOPBAR DETAILS

NOTES:

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



PAVEMENT EDGE LINE MARKING



NOTE: THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

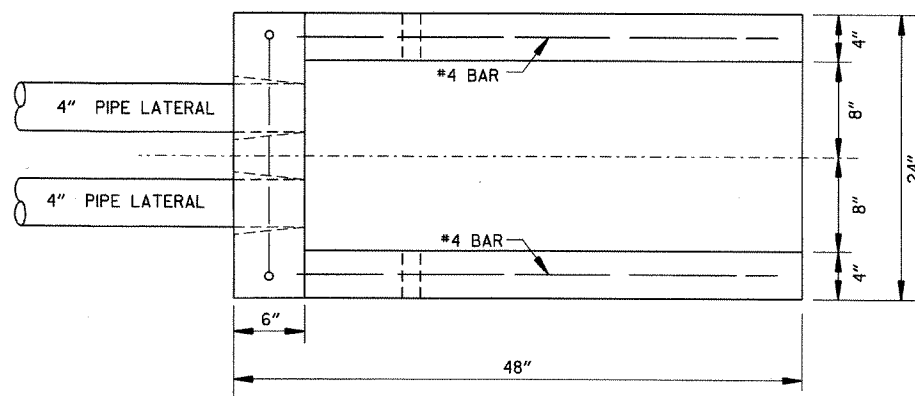
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

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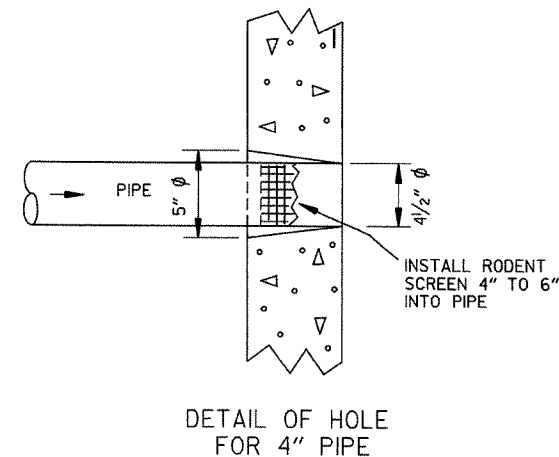
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

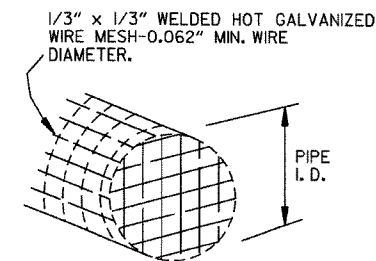
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH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



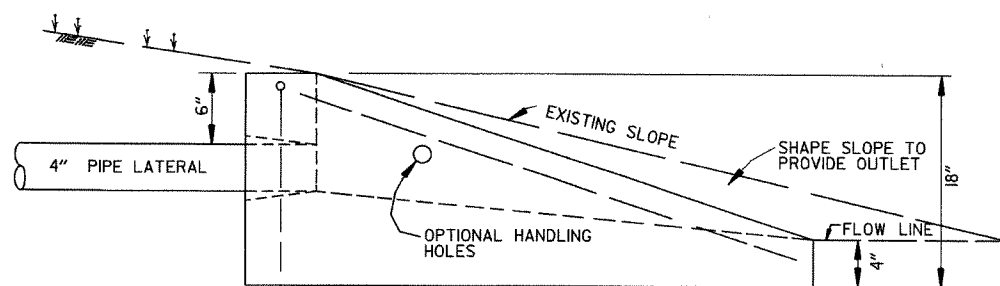
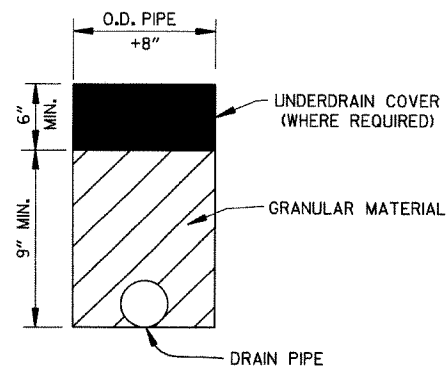
PLAN VIEW



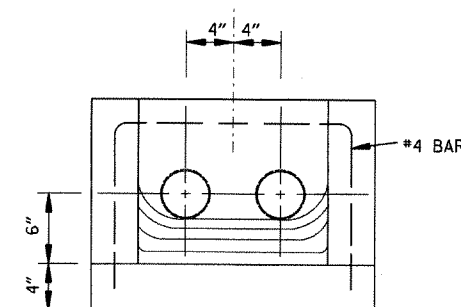
DETAIL OF HOLE FOR 4" PIPE



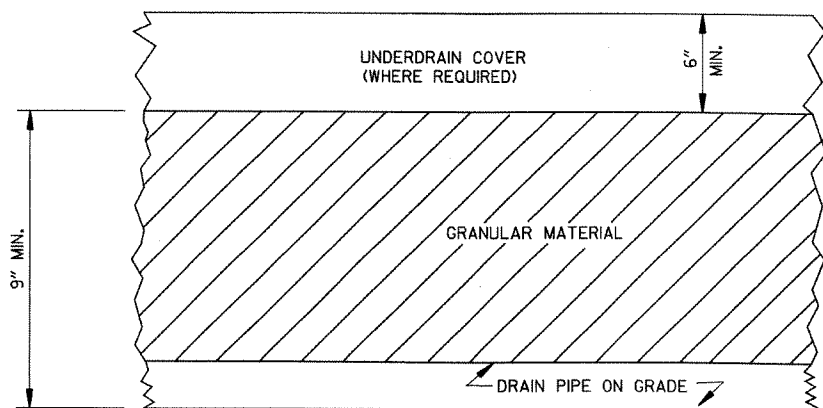
DETAIL OF RODENT SCREEN



SIDE VIEW



FRONT VIEW

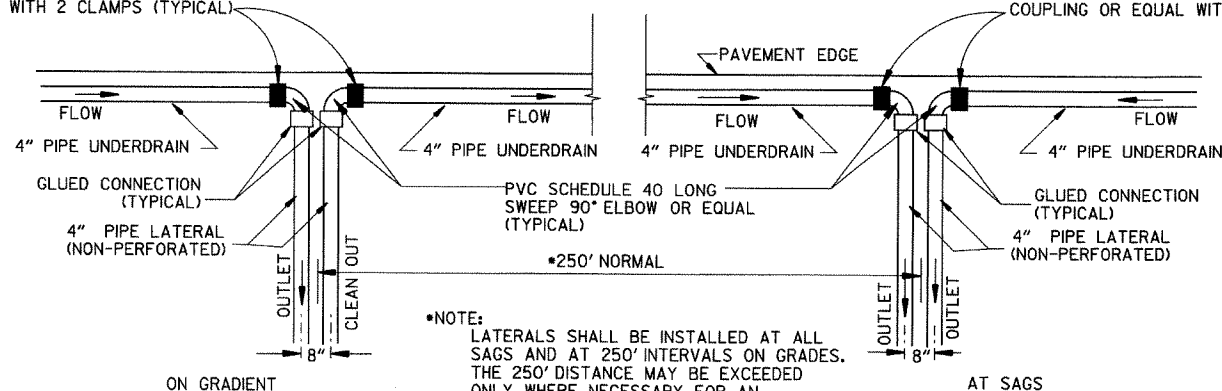


DETAILS OF PIPE UNDERDRAIN

FERNCO 1056-44 (4" CI/PLASTIC) OR
 FERNCO 1051-44 (4" AC/DIOR 4" CI/PLASTIC)
 COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

UNDERDRAIN OUTLET PROTECTORS

FERNCO 1056-44 (4" CI/PLASTIC) OR
 FERNCO 1051-44 (4" AC/DIOR 4" CI/PLASTIC)
 COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)



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

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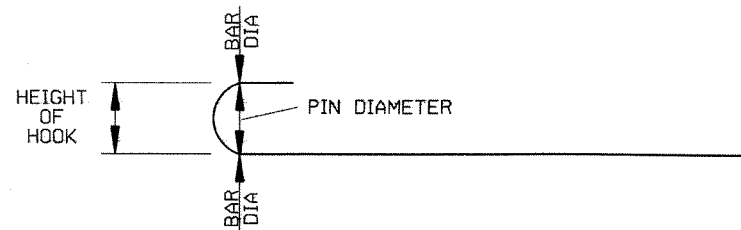
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2 1/4"	4"
4	3"	4 1/2"
5	3 3/4"	5"
6	4 1/2"	6"
7	5 1/4"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2 3/4 INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

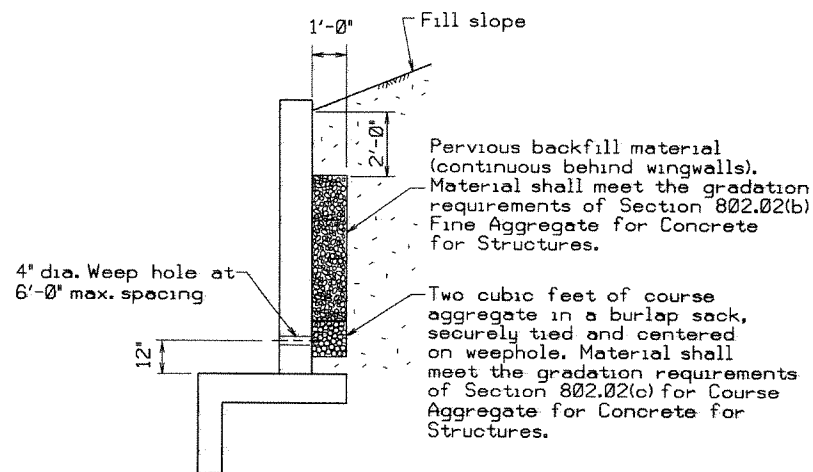
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

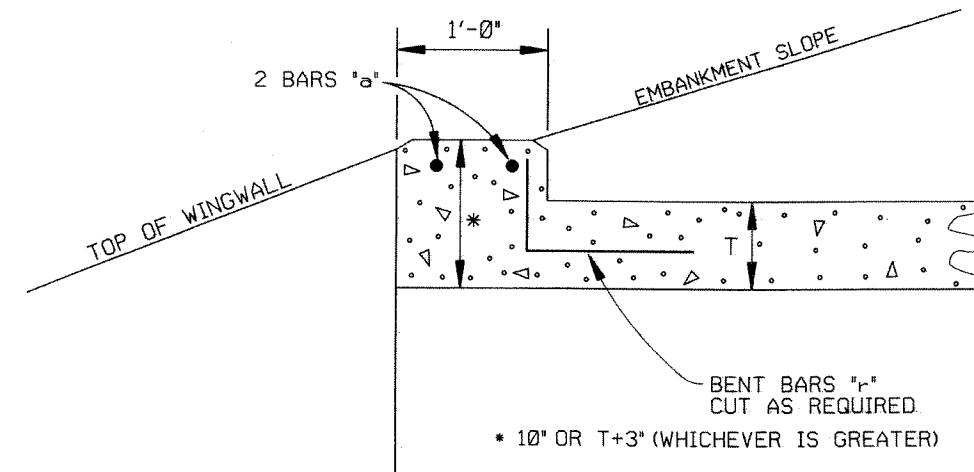
MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS 1/2 INCH.

WEEP HOLES IN WINGWALLS: THE MAXIMUM HORIZONTAL SPACING OF WEEP HOLES IN WINGWALLS SHALL BE 6'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND PLACED 12" ABOVE TOP OF WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

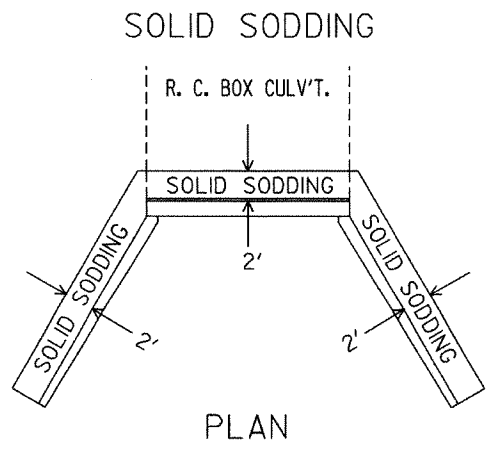
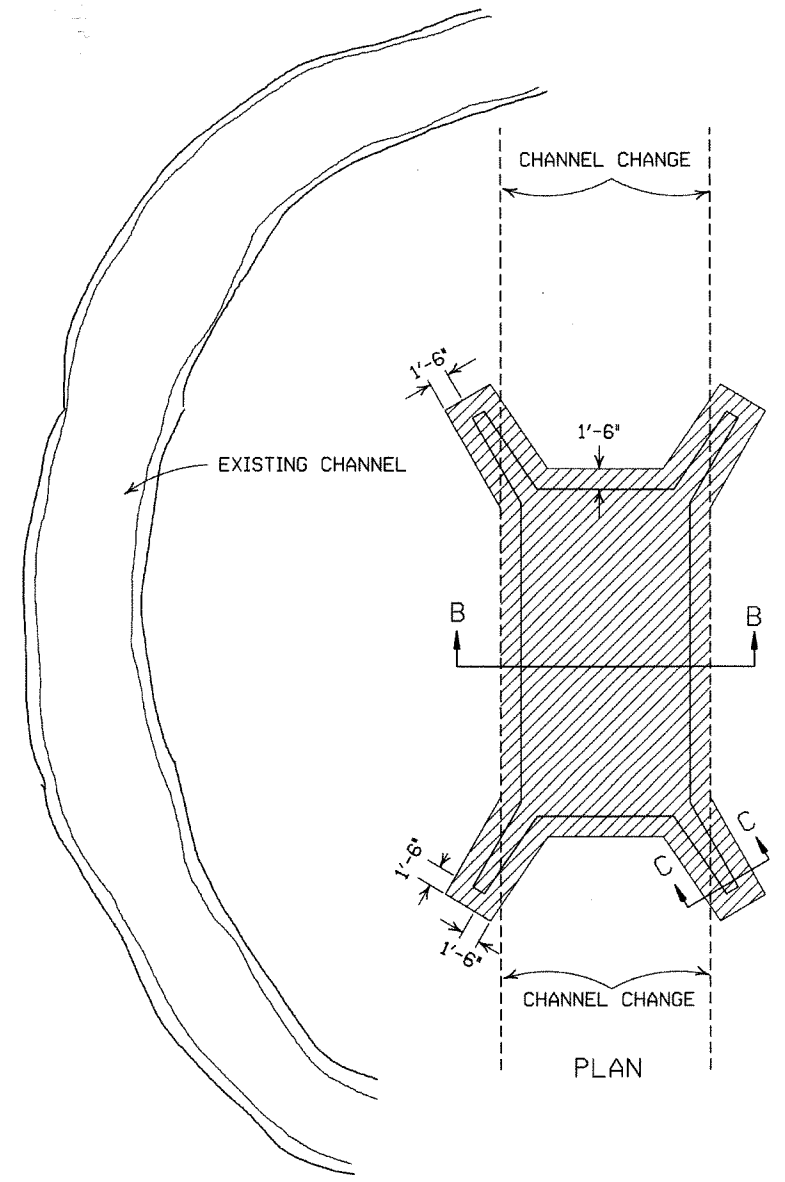
R.C. BOX CULVERT HEADWALL MODIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

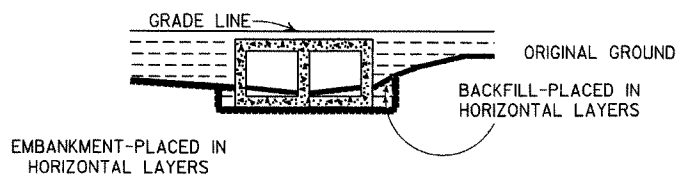
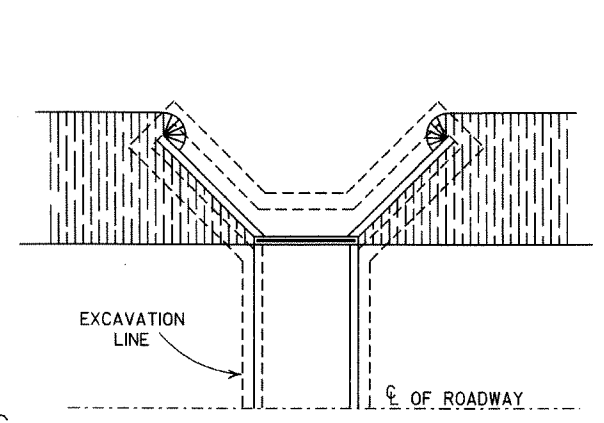
STANDARD DRAWING RCB-1

DATE	REVISION	DATE FILMED
05-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SOODING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SOODING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

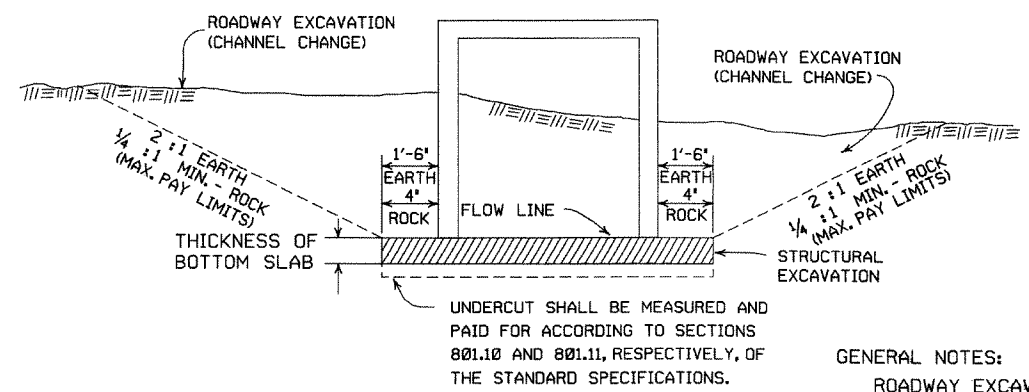
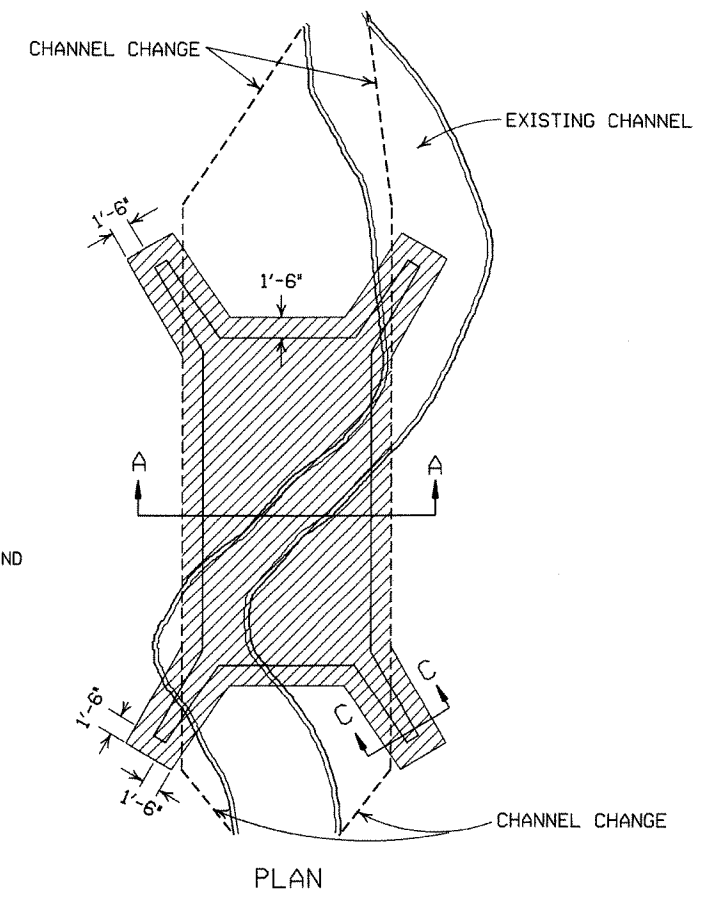


PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

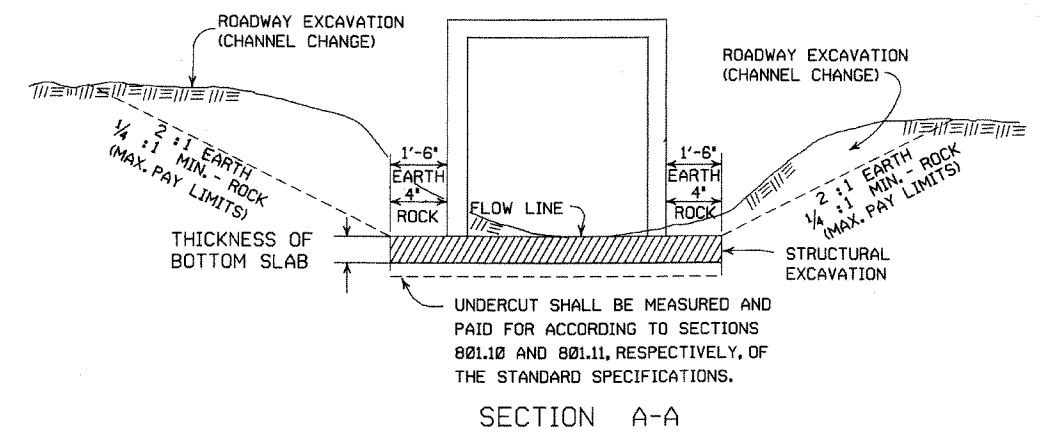
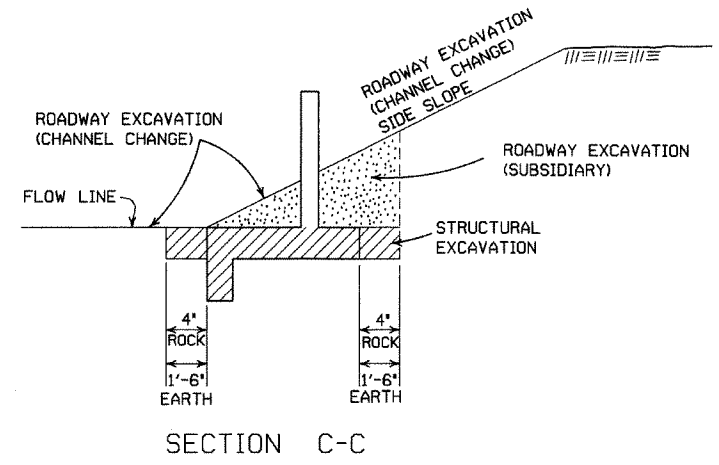
NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.



BACKFILL DETAILS FOR BOX CULVERT



SECTION B-B
DETAILS FOR NEW CHANNELS



SECTION A-A
DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES AND ADDED MAXIMUM PAY LIMIT NOTES.	674-1-4-83
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

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.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 15'	R.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 30'	D.021		0.021		0.031		0.037		0.043		0.054	
2° 45'	D.023		0.025		0.036		0.043		0.049		0.062	
3° 00'	D.025		0.028		0.040		0.048		0.055		0.070	
3° 15'	D.027		0.031		0.045		0.053		0.061		0.075	
3° 30'	D.029		0.034		0.049		0.058		0.067		0.085	
3° 45'	D.031		0.037		0.053		0.063		0.072		0.091	
4° 00'	D.033		0.040		0.057		0.067		0.077		0.096	
4° 30'	D.037		0.043		0.061		0.072		0.082		0.098	
5° 00'	D.040		0.046		0.065		0.076		0.086		D.100	
5° 30'	D.043		0.049		0.069		0.080		0.090			
6° 00'	D.046		0.051		0.072		0.083		0.093			
6° 30'	D.050		0.056		0.078		0.087		0.096			
7° 00'	D.053		0.061		0.083		0.091		0.098			
7° 30'	D.056		0.066		0.088		0.094		0.099			
8° 00'	D.059		0.070		0.092		0.096		0.100			
8° 30'	D.061		0.074		0.095		0.098					
9° 00'	D.063		0.078		0.097		0.099					
10° 00'	D.068		0.081		0.099		0.100					
11° 00'	D.072		0.084		0.094							
12° 00'	D.076		0.087		0.097							
13° 00'	D.080		0.089		0.099							
14° 00'	D.083		0.091									
15° 00'	D.086		0.093									
16° 00'	D.089		0.095									
17° 00'	D.091		0.097									
18° 00'	D.093		0.099									
19° 00'	D.095											
20° 00'	D.097											
21° 00'	D.098											
22° 00'	D.099											
23° 00'	D.099											
24° 00'	D.100											

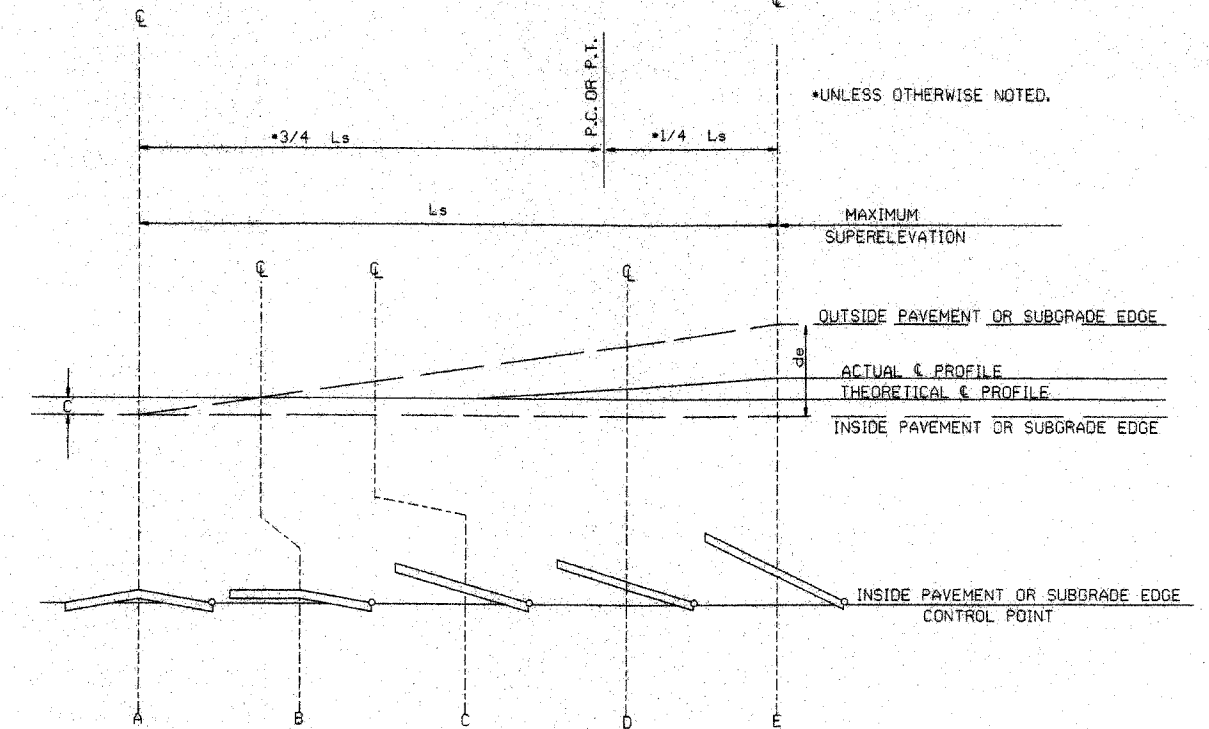
ABBREVIATIONS

- 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%

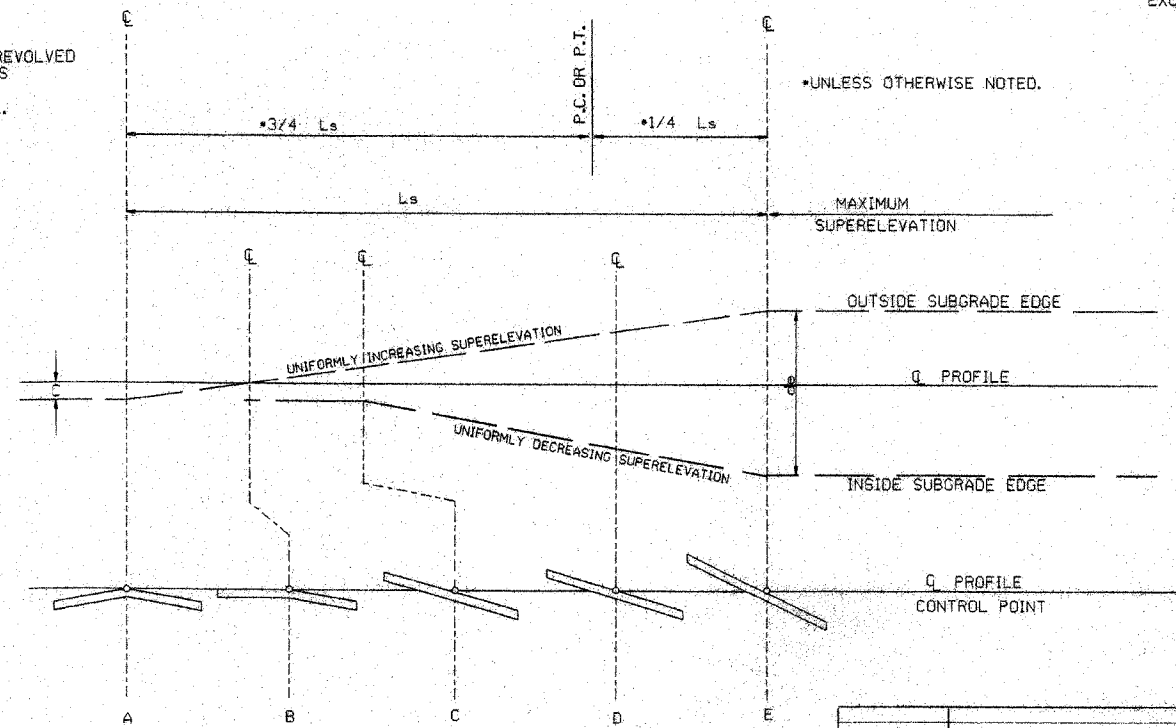
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.
 RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



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

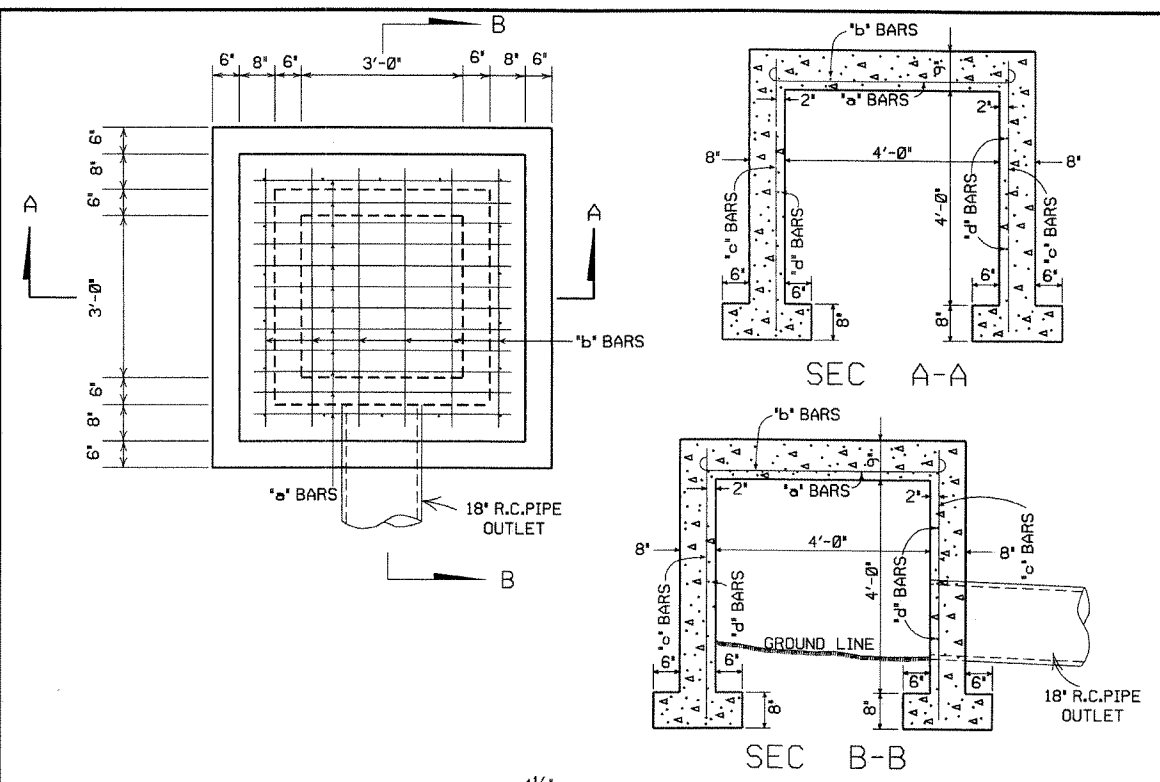
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

ARKANSAS STATE HIGHWAY COMMISSION	
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	
10-18-96 ADDED FORMULA	10-18-96
01-03-87 ISSUED	534-1-9-87
DATE	REVISION
	DATE FILMED



STEEL SCHEDULE

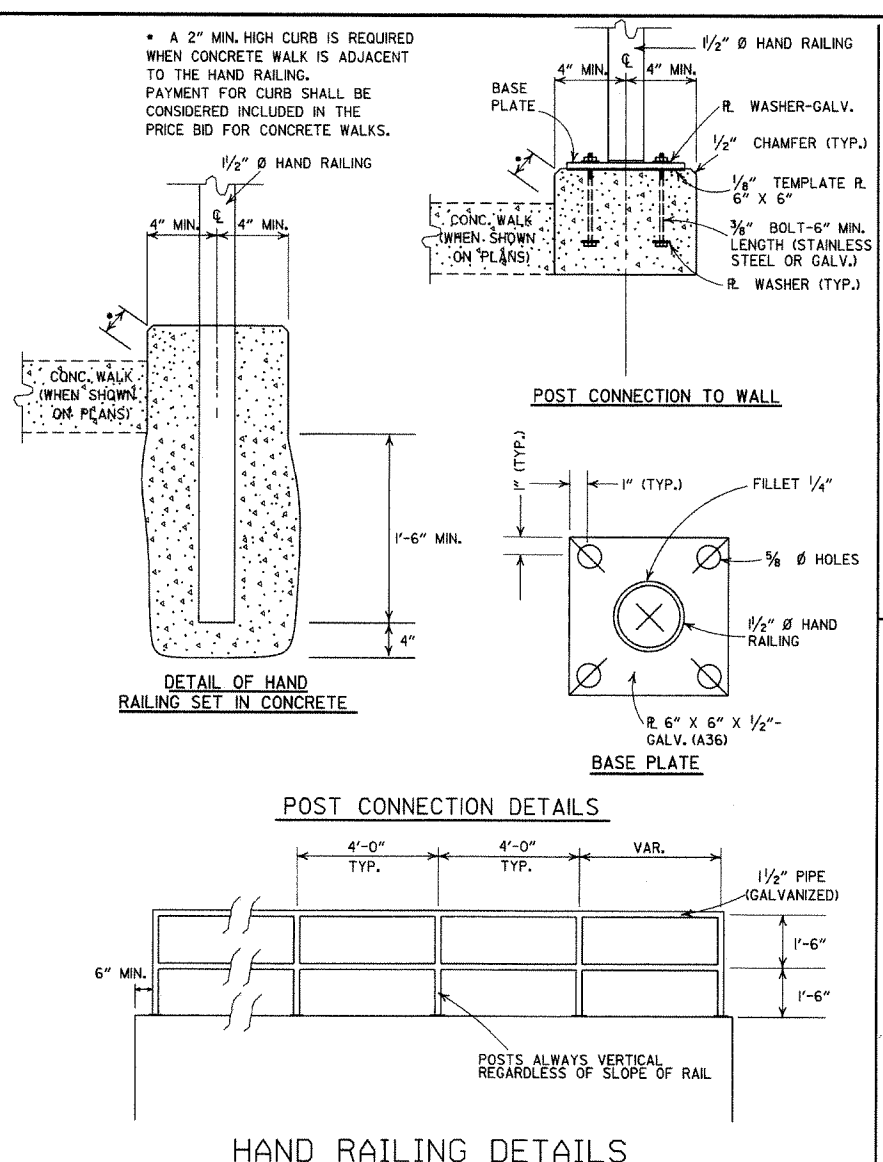
BAR	NUMBER	LENGTH	SPACING
'a'	11	6'-0"	5'
'b'	6	6'-0"	10'
'c'	16	5'-1"	12'
'd'	16	5'-0"	12'

ALL STEEL TO BE #4 BARS

QUANTITIES
 CONCRETE 3.40 CU. YDS.
 REINFORCING STEEL 176 LB.

GENERAL NOTE:
 THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

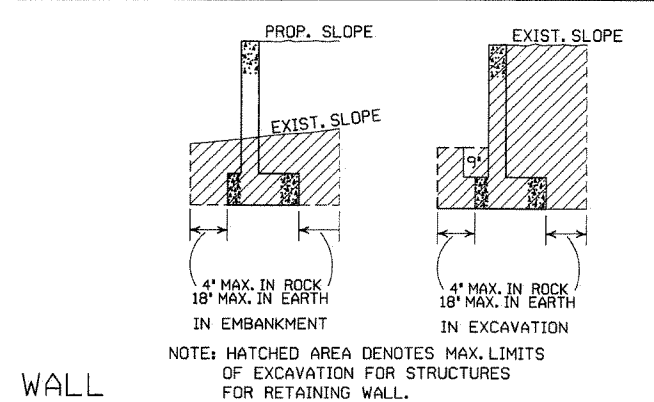
REINFORCED CONCRETE SPRING BOX



HAND RAILING DETAILS

STEEL SCHEDULE

'c'	'd'	'h'	'a'	'b'	V ₁ BARS		F ₁ BARS		H ₁	V ₂	F ₂
					SIZE	SPACING	SIZE	SPACING			
8'	8'	1'-0"	8'	2'-0"	#4	12"	#4	18"	18'	18'	5
8'	8'	2'-0"	8'	2'-0"	#4	12"	#4	18"	18'	18'	5
8'	8'	3'-0"	8'	2'-0"	#4	12"	#4	18"	18'	18'	5
8'	8'	4'-0"	1'-2"	2'-6"	#4	12"	#4	12"	18'	18'	5
8'	8'	5'-0"	1'-8"	3'-0"	#4	9"	#4	9"	18'	18'	5
8'	8'	6'-0"	2'-2"	3'-6"	#4	6"	#4	6"	18'	18'	6
12'	8'	7'-0"	2'-4"	4'-0"	#4	8"	#4	8"	18'	18'	6
12'	8'	8'-0"	2'-10"	4'-6"	#4	6"	#4	6"	18'	18'	6
15'	10'	9'-0"	2'-11"	5'-0"	#4	5"	#4	5"	18'	18'	6
17'	10'	10'-0"	3'-3"	5'-6"	#5	6"	#5	6"	18'	18'	7



REINFORCED CONCRETE RETAINING WALL

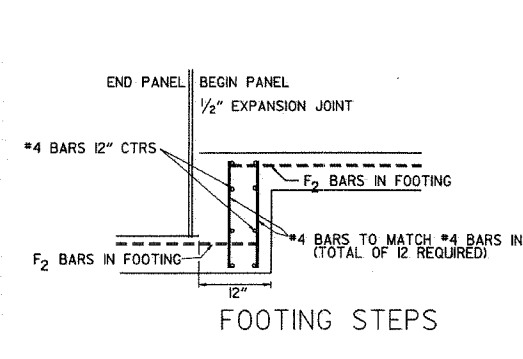
GENERAL NOTES

THE PAY ITEMS FOR THE CONSTRUCTION OF REINFORCED CONCRETE RETAINING WALL SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL AND EXCAVATION FOR STRUCTURES.

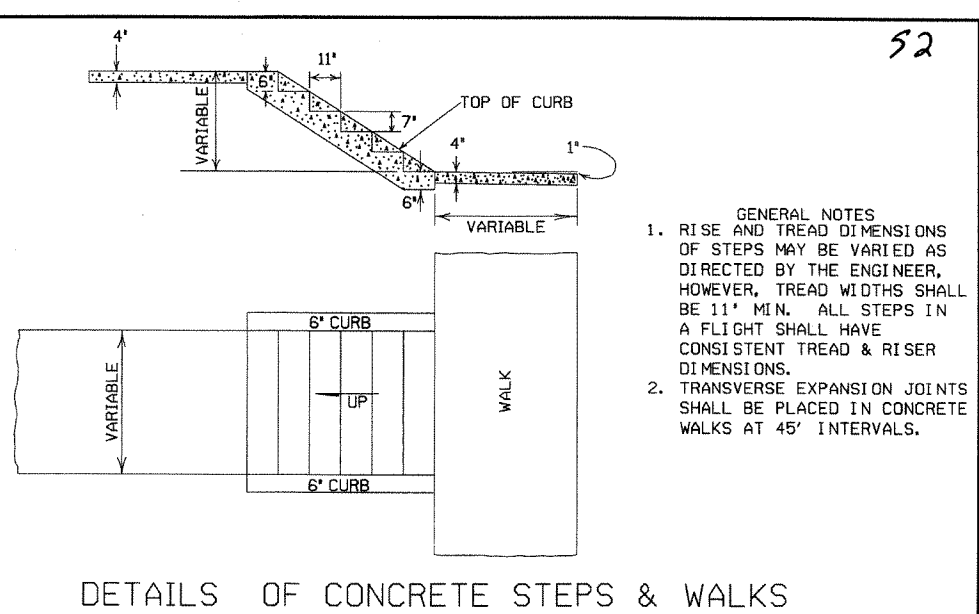
MINERAL AGGREGATE WRAPPED WITH GEOTEXTILE FABRIC (CONTINUOUS) TO BE PLACED 1'-0" IN WIDTH AND 1'-0" IN HEIGHT AS A SUBSIDIARY ITEM TO THE VARIOUS PAY ITEMS.

3" WEEP HOLES (MAX. SPACING 10'-0" CTRS.) TO BE PLACED WHERE SPECIFIED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO PLACE CONTRACTION JOINTS ON 20' CENTERS AND EXPANSION JOINTS ON 60' CENTERS.

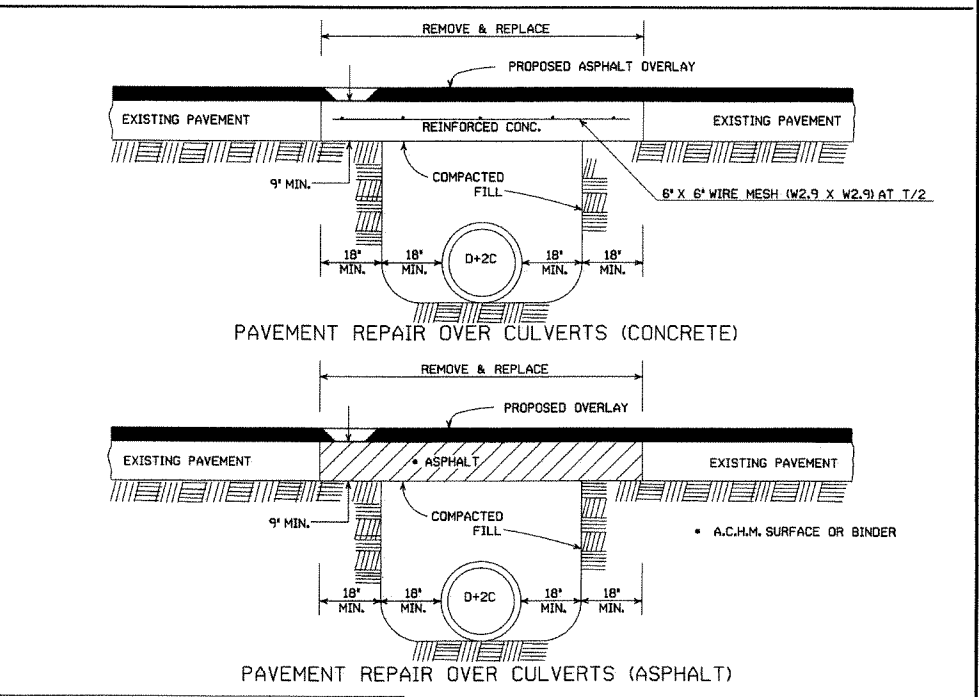
ALL EXPOSED EDGES TO BE CHAMFERED 3/4".



FOOTING STEPS



DETAILS OF CONCRETE STEPS & WALKS



PAVEMENT REPAIR OVER CULVERTS (ASPHALT)


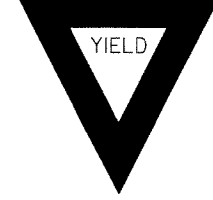
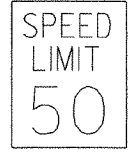
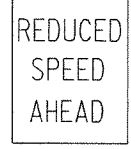




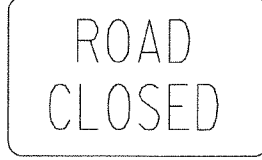
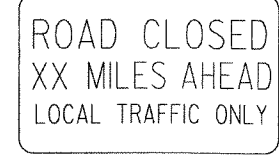
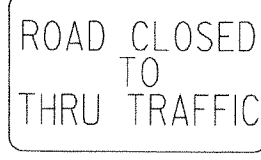
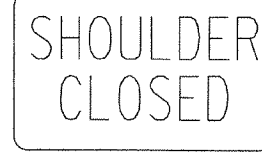
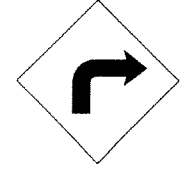
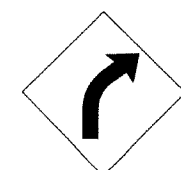




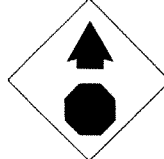
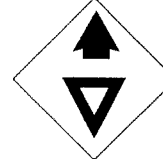
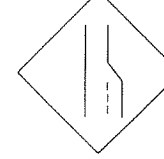



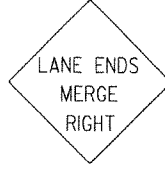


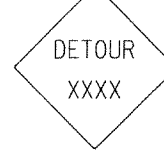



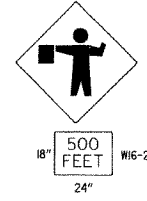


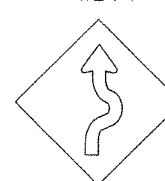
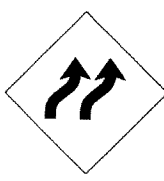


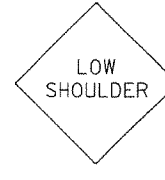

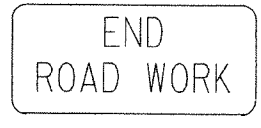
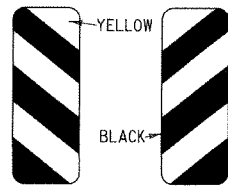
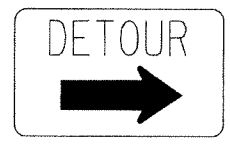

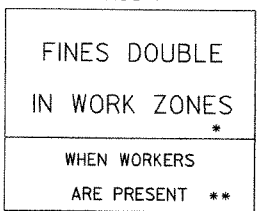
DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLES REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HOWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV.T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
	ADDED HDWL. MODS. DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF 'UNDERDRAIN'	721-3-2-81
4-20-79	REV. UNDERDRAIN DET. & PAVEMENT REPAIR	674-4-20-79
2-2-76	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72
DATE	REVISION	DATE FILMED

4-17-08 REV. JOINT & FOOTING STEP DETAILS
 11-29-07 REVISED RETAINING WALL DRAINAGE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

<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>W1-1</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	<p>W1-2</p>  <p>STD. 36"X36" FWY. 48"X48"</p>
<p>W1-3</p>  <p>STD. 48"X48"</p>	<p>W1-4</p>  <p>STD. 48"X48"</p>	<p>W1-6</p>  <p>STD. 48"X24" SPECIAL 60"X30"</p>	<p>W1-8</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>W1-4b</p>  <p>STD. 48"X48"</p>	<p>R56-1</p>  <p>STD. 18"X18"</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>R55-1</p>  <p>36"X60" * USE 6" C LETTERS ** USE 4" D LETTERS</p>				

ADVANCE DISTANCES (XXXX)

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

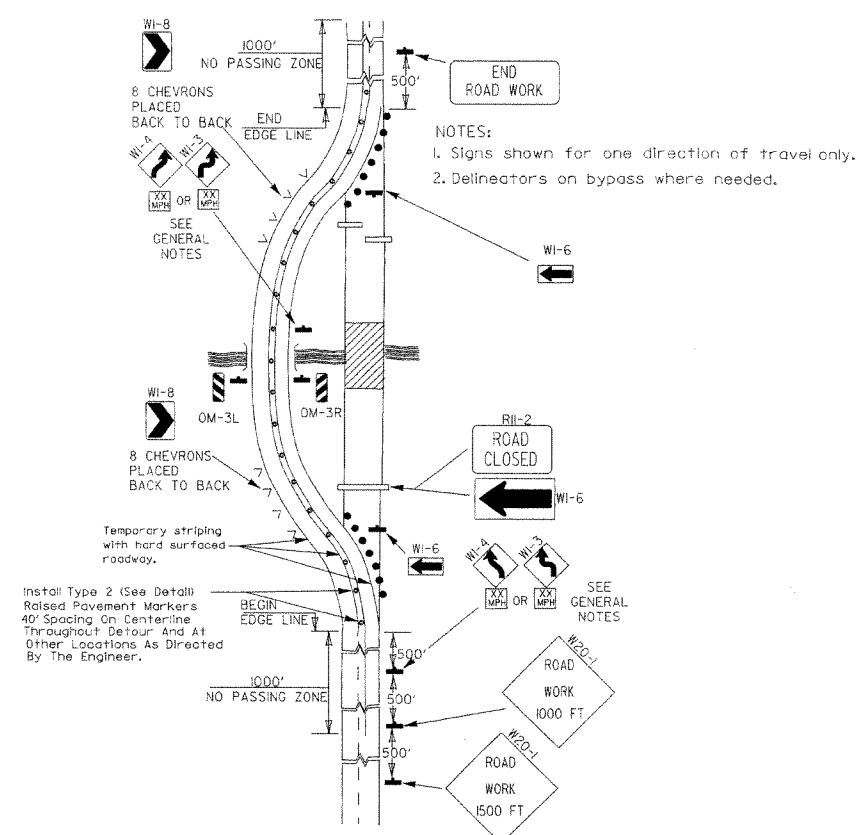
GENERAL NOTES:

- 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 REPLUMED, 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.

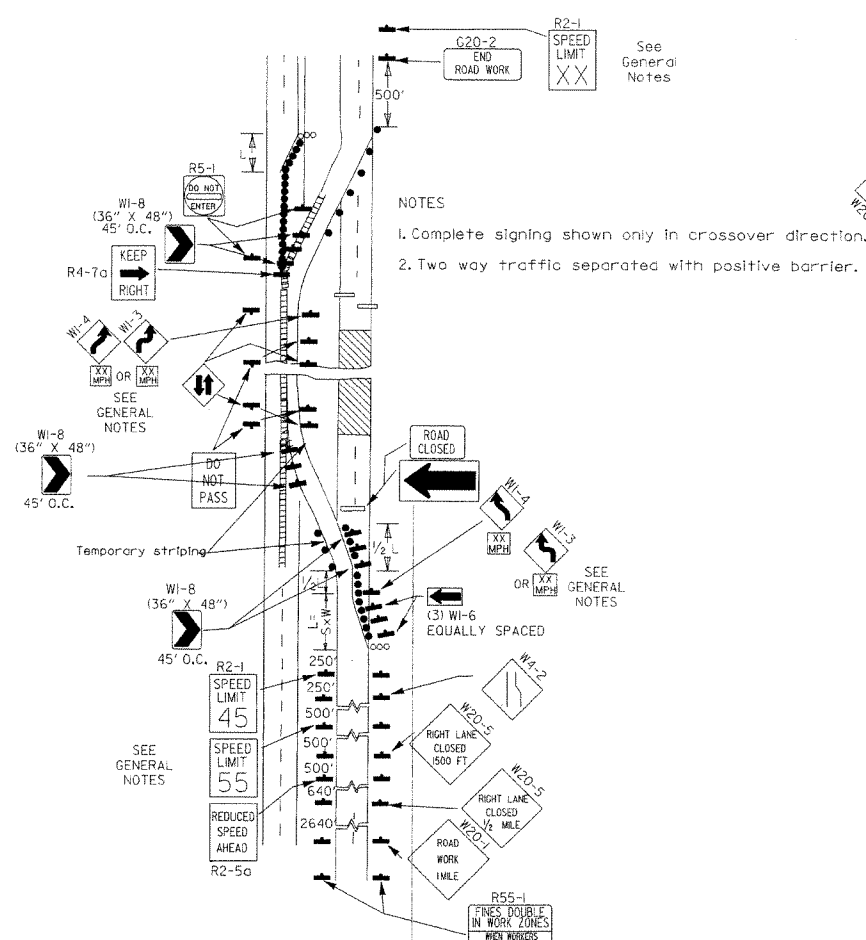
* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

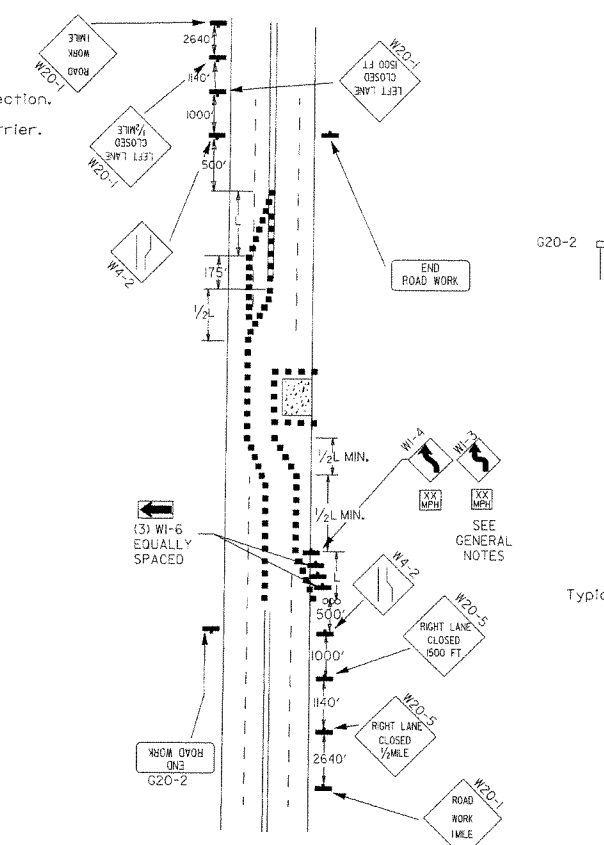
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



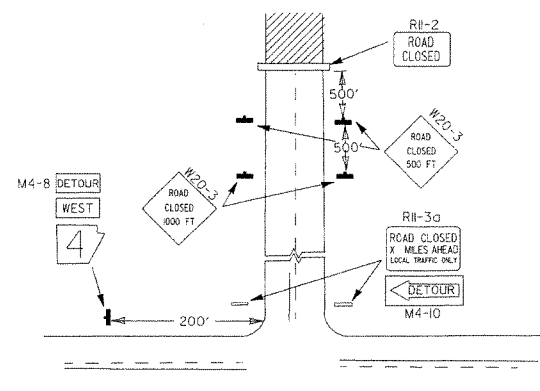
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



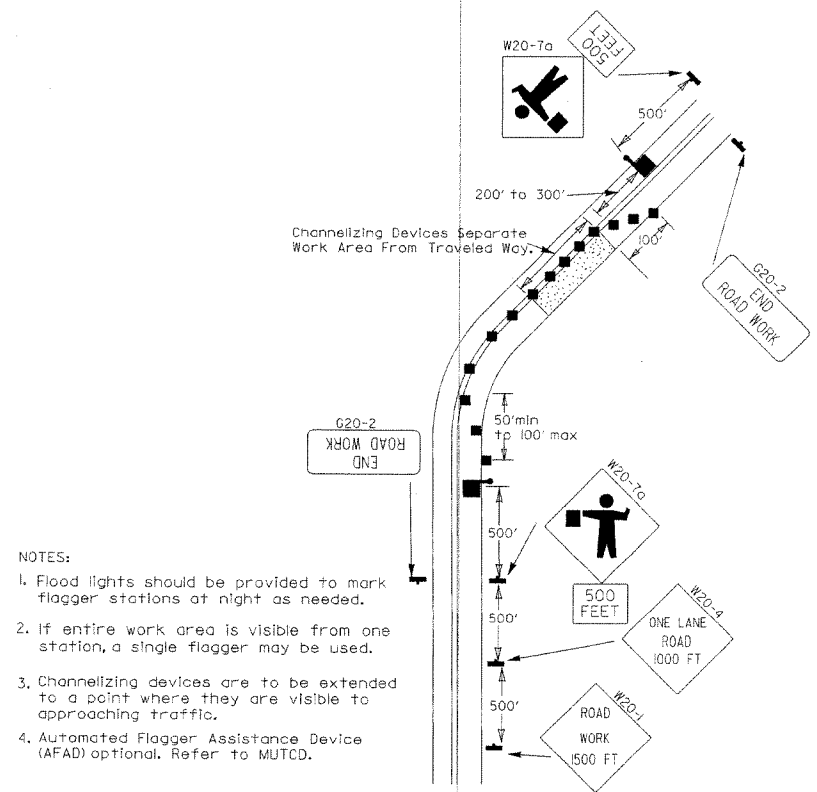
(B) Typical application - 4-lane divided roadway where one roadway is closed.



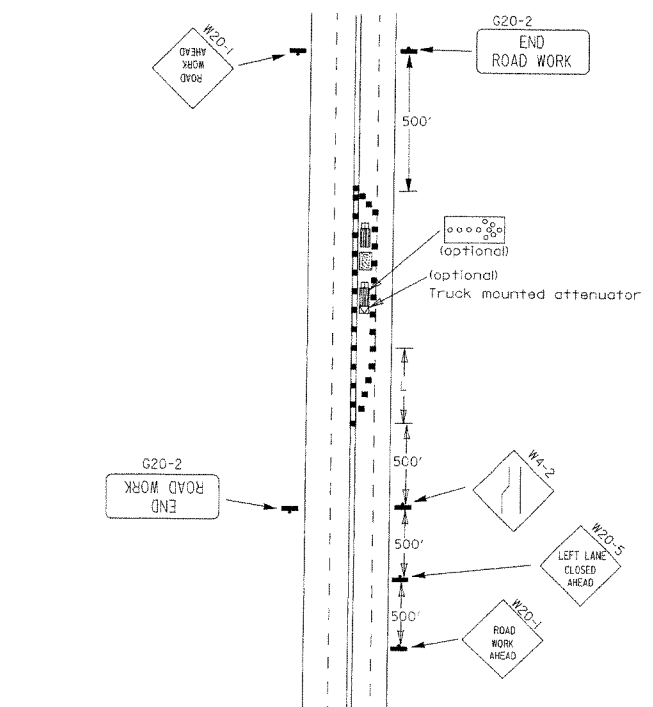
(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



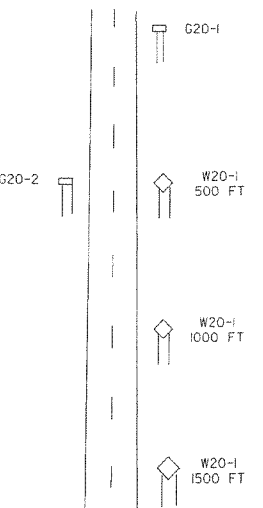
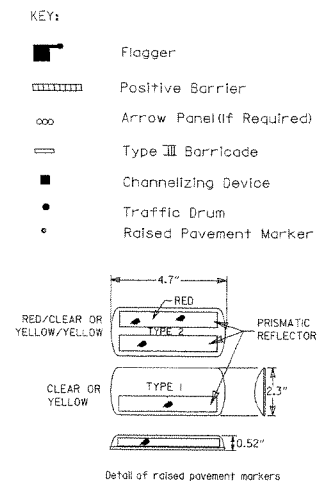
(D) Typical application - roadway closed beyond detour point.



(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.



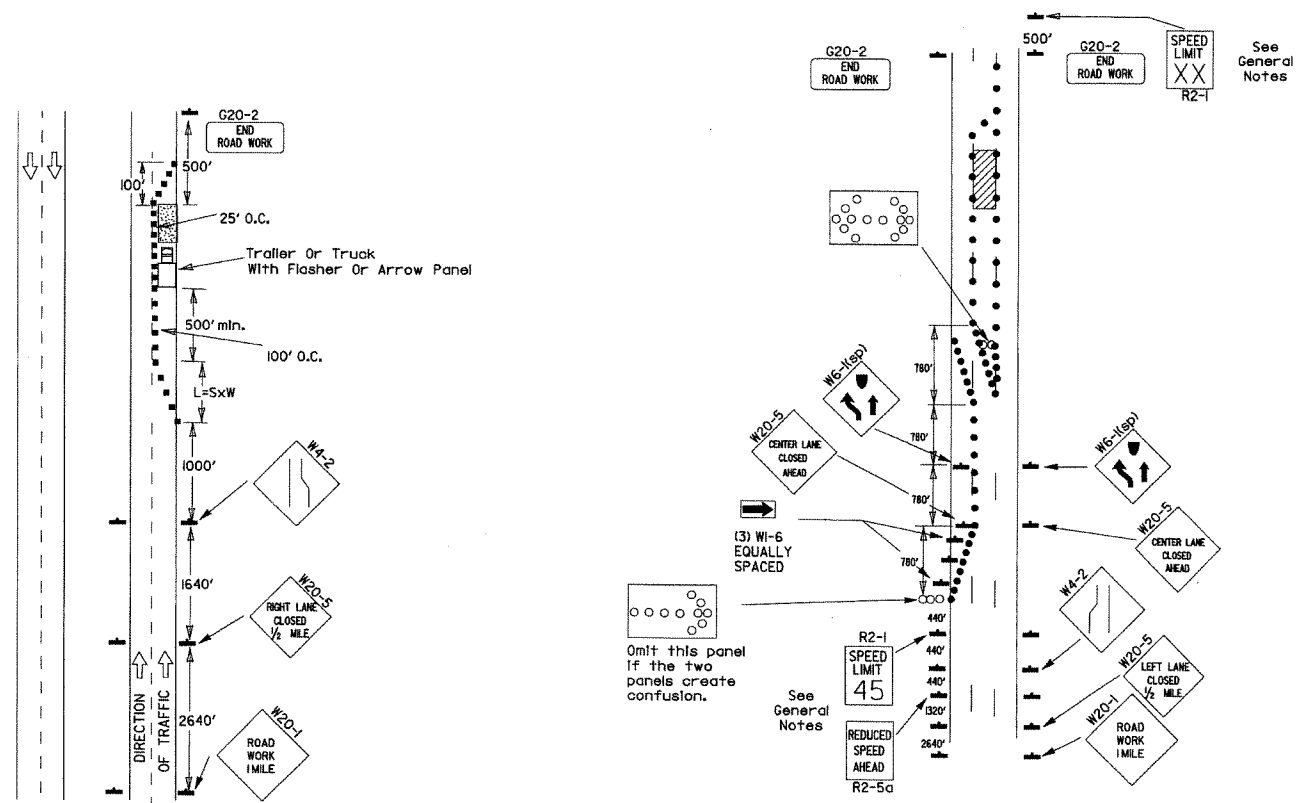
Typical advance warning sign placement

Taper formulae:
 L = SxW for speeds of 45mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40mph or less.
 Where:
 L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85th percentile speed.
 W = Width of offset.

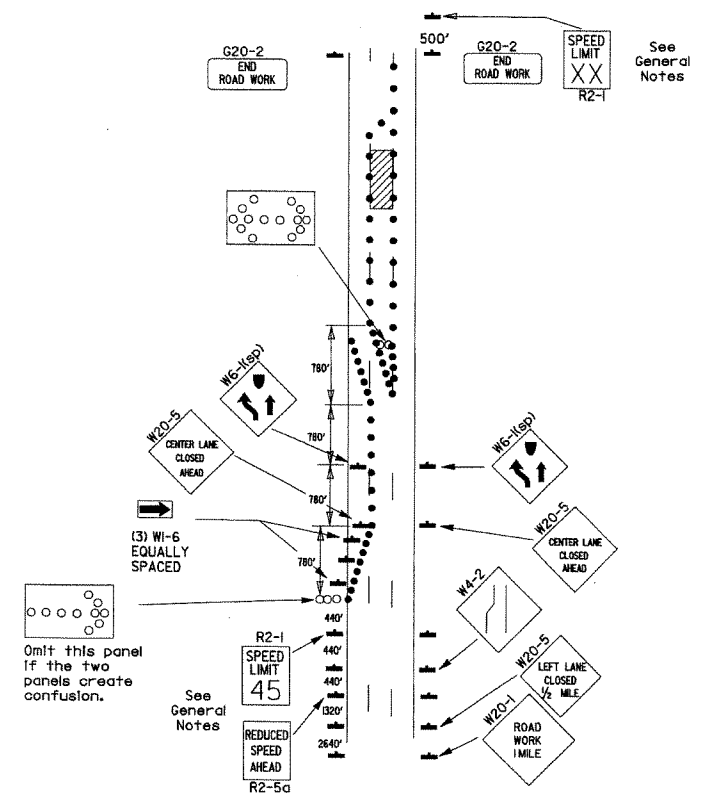
- GENERAL NOTES:
- Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
 - When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A 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(45) 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(55) 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.
 - Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

Channelizing devices

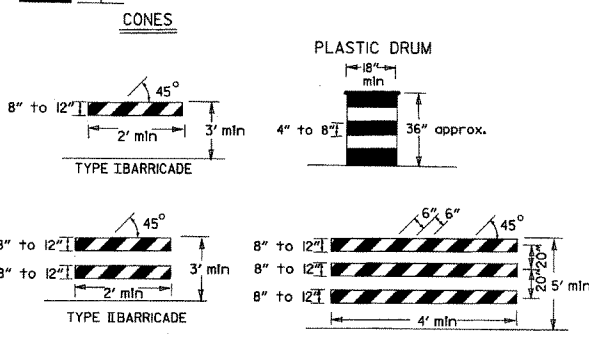


(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.

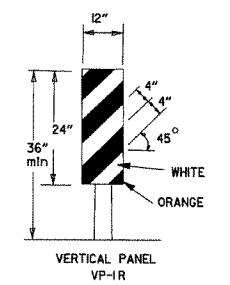


(B) Typical application - 3-lane oneway roadway where center lane is closed.

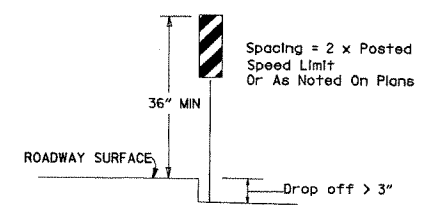
When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.



NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



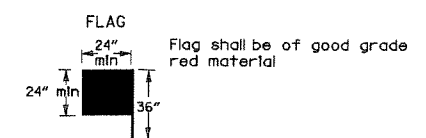
VERTICAL PANEL PLACEMENT



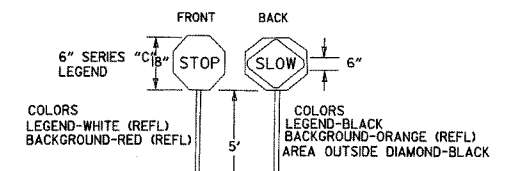
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

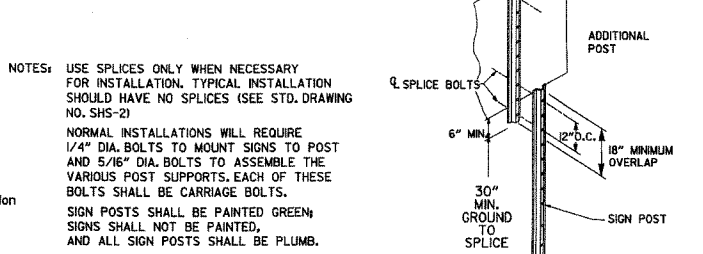
When shown on the plans concrete barrier will be used. When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



STOP SLOW PADDLE



DETAIL OF SPLICES

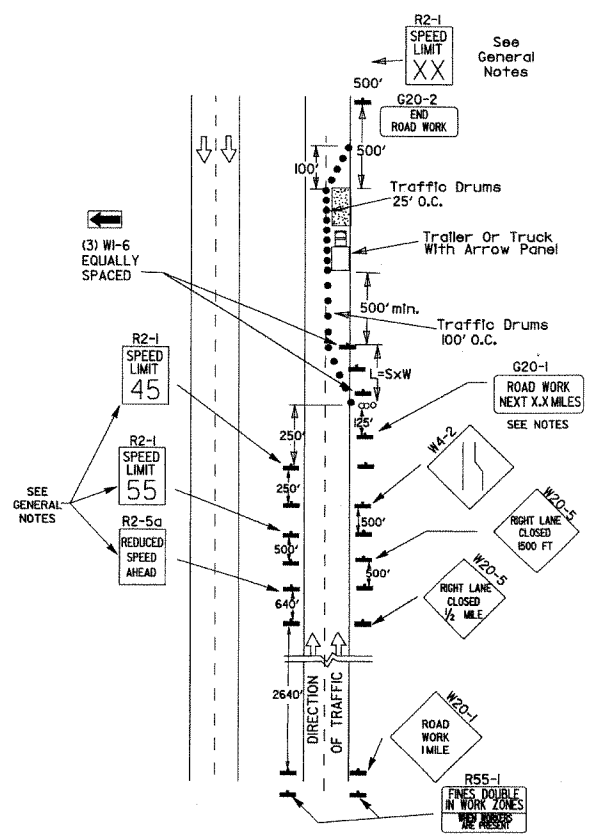


NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2) NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS. SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

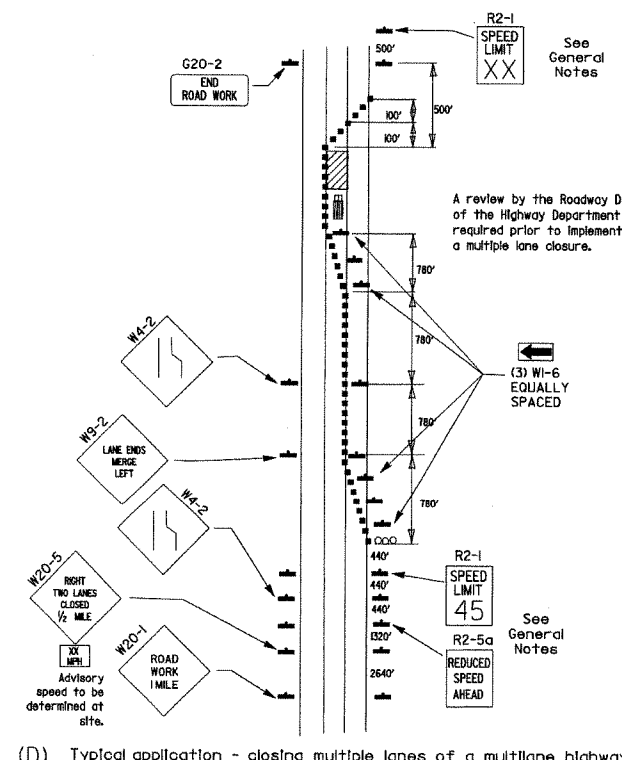
- KEY:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

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-(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-(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-(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-(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.

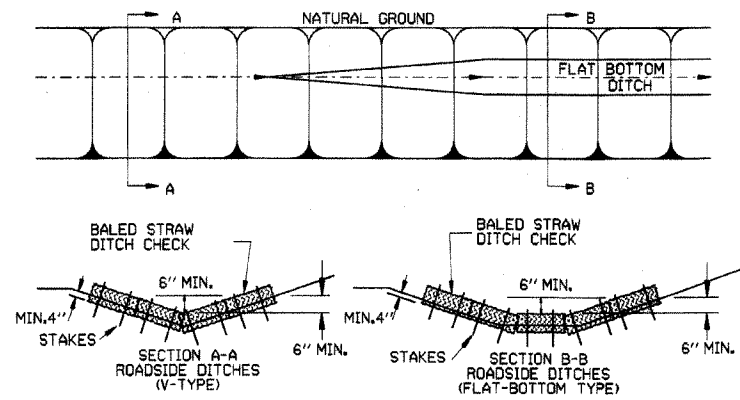


(D) Typical application - closing multiple lanes of a multi-lane highway.

DATE	REVISION	FILMED
10-18-09	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	

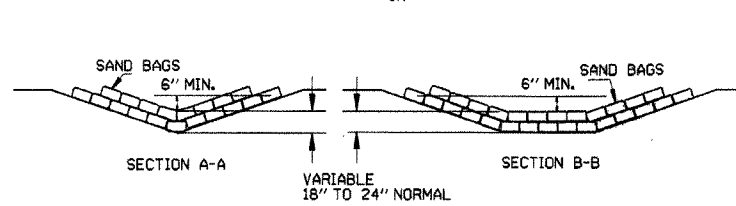
GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. STRAW BALES SHALL BE KEYED INTO SOIL A MINIMUM OF 4' AND NO GAPS SHALL BE LEFT BETWEEN BALES.

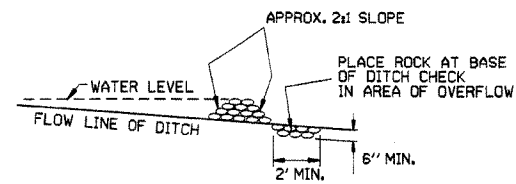


BALED STRAW DITCH CHECK (E-1)

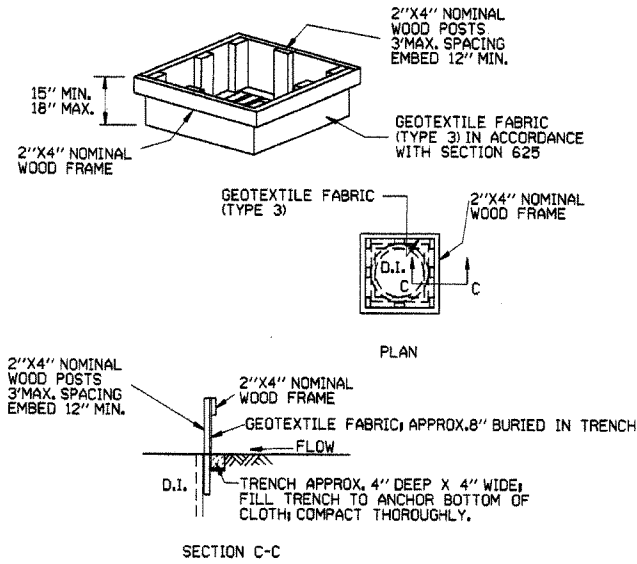
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS. PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.



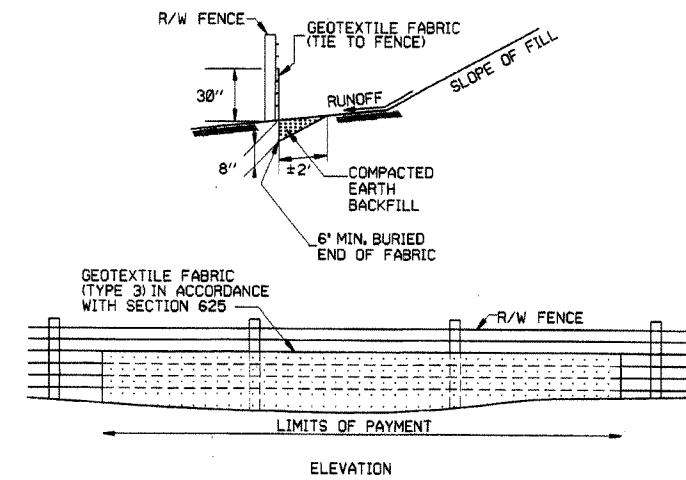
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)

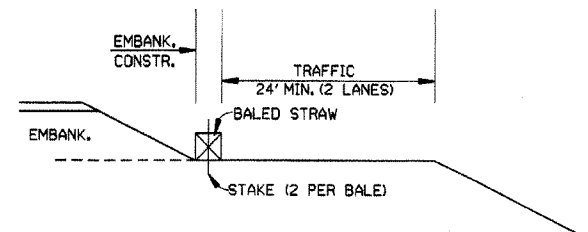


DROP INLET SILT FENCE (E-7)

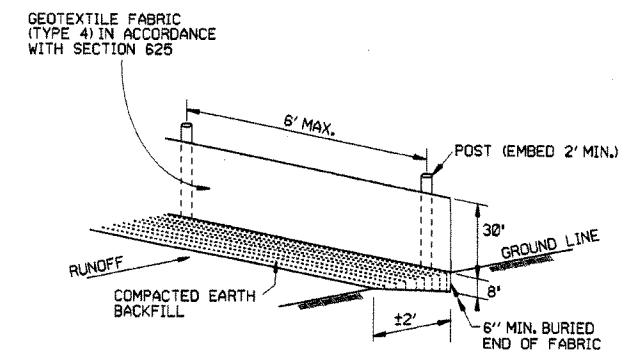


SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES
 GEOTEXTILE FABRIC SHALL BE SPliced TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



BALED STRAW FILTER BARRIER (E-2)



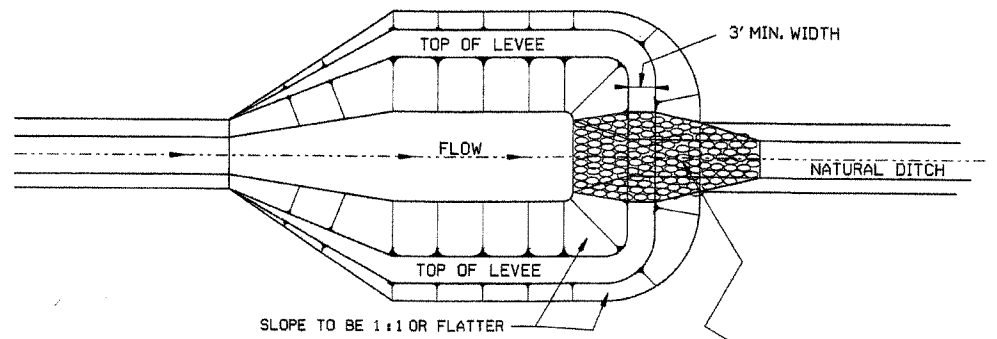
SILT FENCE (E-11)

GENERAL NOTES
 GEOTEXTILE FABRIC SHALL BE SPliced TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

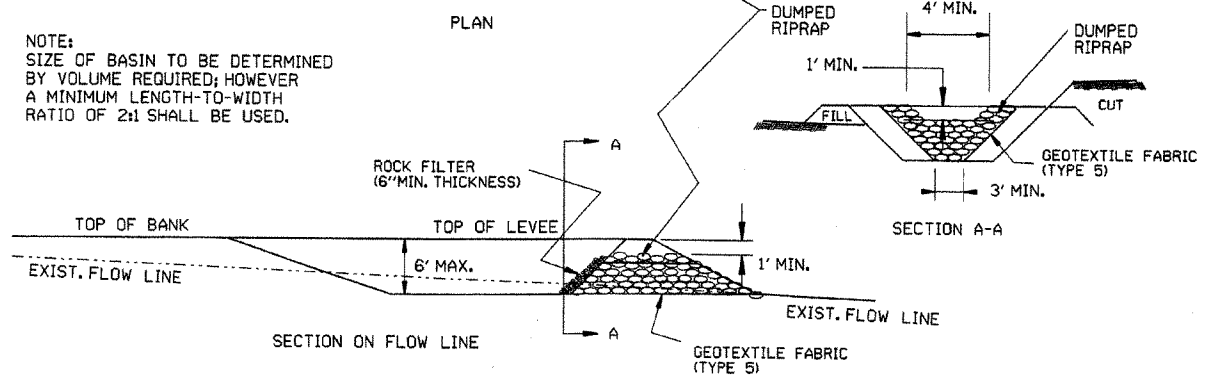
11-18-98	ADDED NOTES	11-18-98	ARKANSAS STATE HIGHWAY COMMISSION
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	Rev. E-4 & E-11 Min. 13' Buried End of Fabric		
6-2-94	Revised E-1, 4, 7, & 11 Deleted E-2 & 3	6-2-94	
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	

TEMPORARY EROSION CONTROL DEVICES

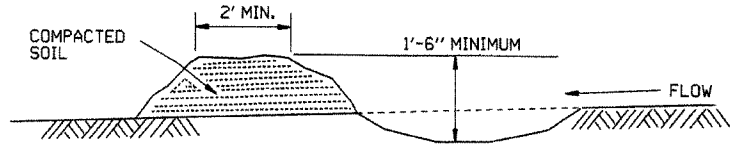
STANDARD DRAWING TEC-1



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

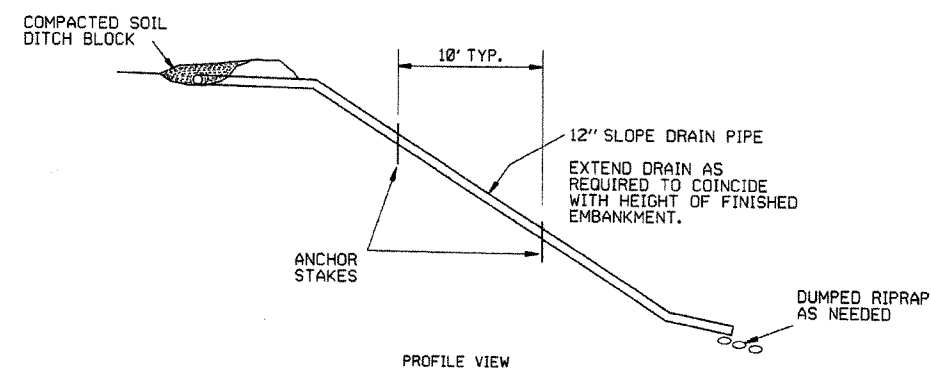
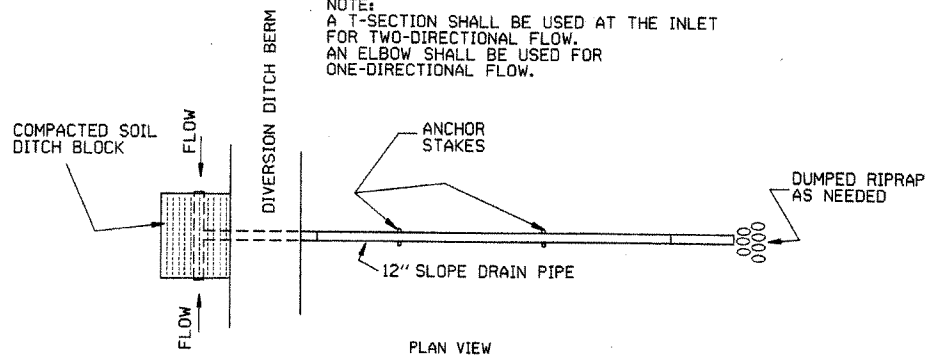


SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

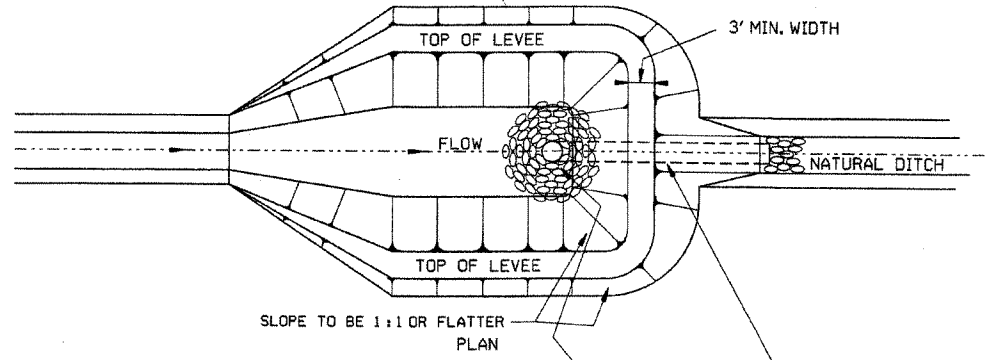


DIVERSION DITCH (E-8)

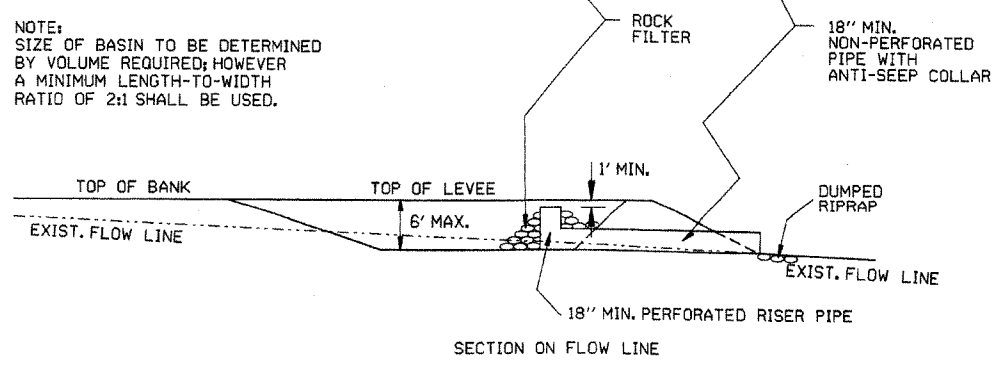
NOTE:
A T-SECTION SHALL BE USED AT THE INLET
FOR TWO-DIRECTIONAL FLOW.
AN ELBOW SHALL BE USED FOR
ONE-DIRECTIONAL FLOW.



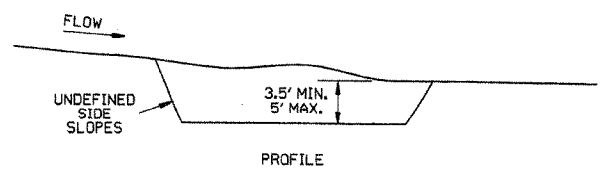
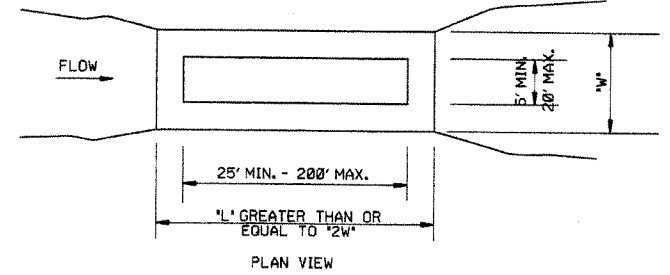
SLOPE DRAIN (E-12)



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)

6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED

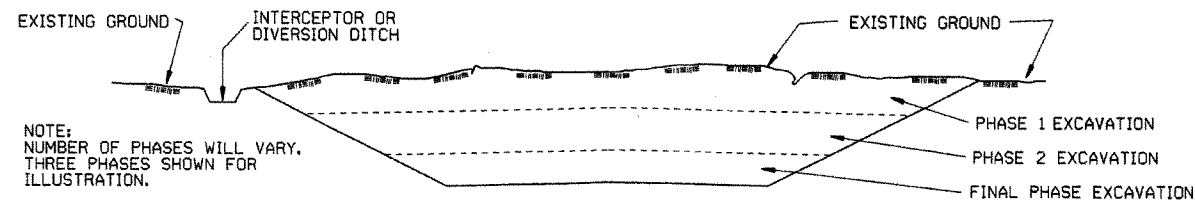
ARKANSAS STATE HIGHWAY COMMISSION
 TEMPORARY EROSION
 CONTROL DEVICES
 STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



GENERAL NOTE

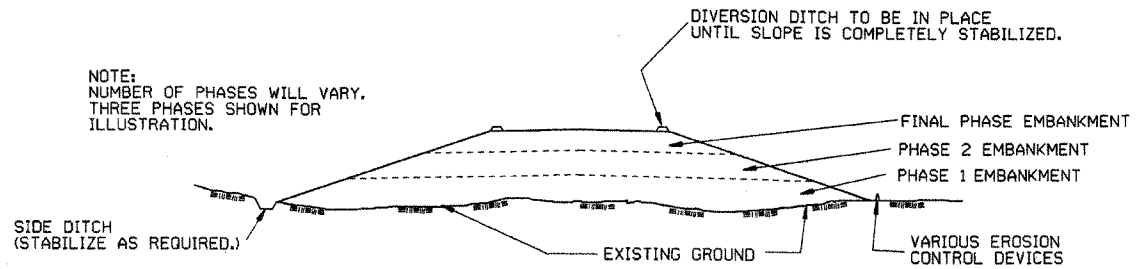
ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

58



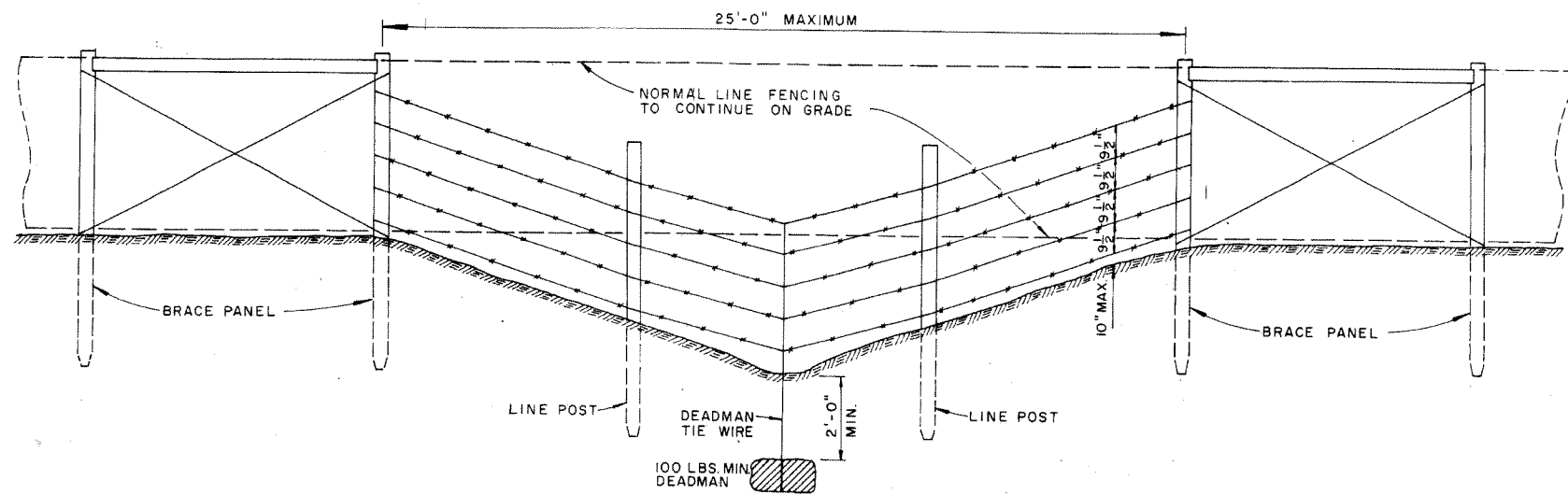
GENERAL NOTE

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.

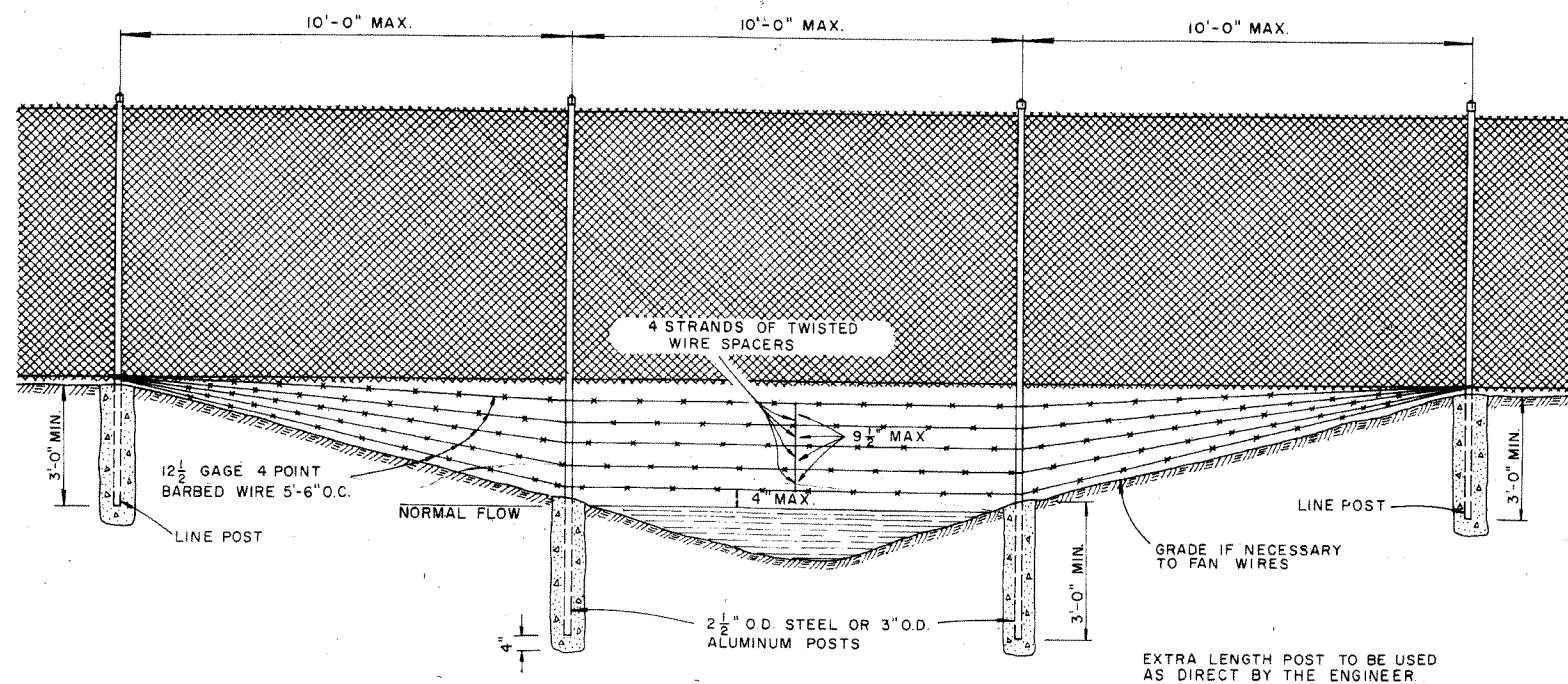
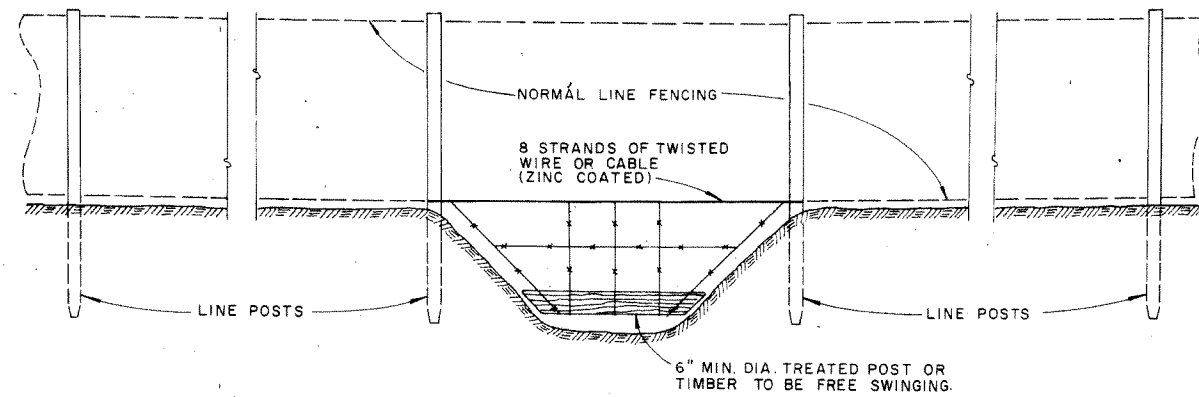
CONSTRUCTION SEQUENCE

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	
		STANDARD DRAWING TEC-3	
11-23-94	CORRECTED SPELLING		
6-2-94	Drawn & Issued	6-2-94	FILMED
DATE	REVISION		

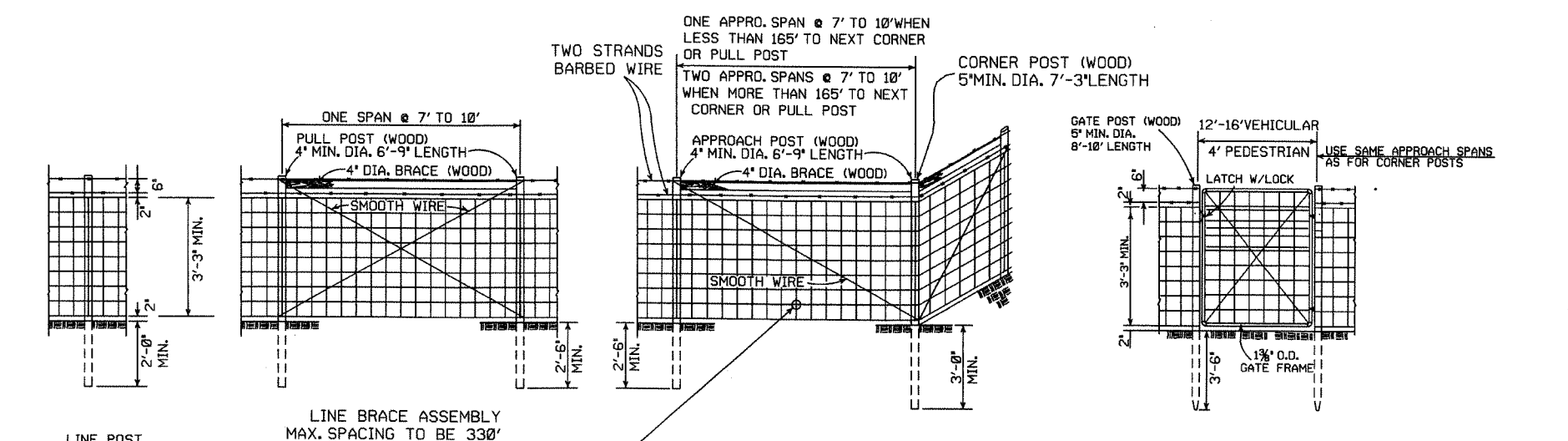


GENERAL NOTES:
 THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.
 WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.
 IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.
 PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.



ARKANSAS STATE HIGHWAY COMMISSION		
WIRE FENCE WATER GAPS		
STANDARD DRAWING		
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED & REDRAWN	529-10-2-72
DATE	REVISION	DATE FILMD

WF-2



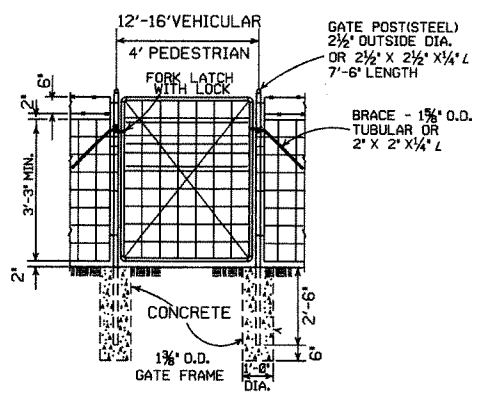
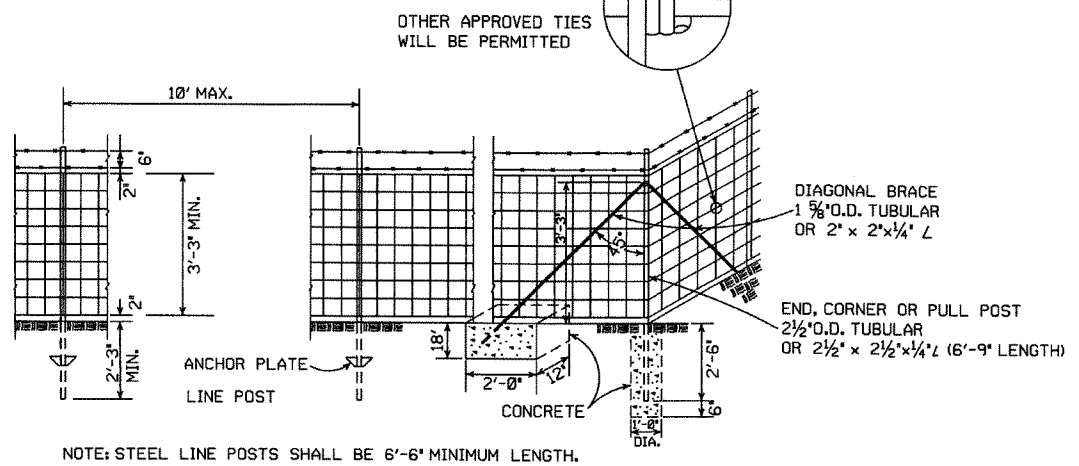
GENERAL NOTES:
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE -1" TO +2". TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

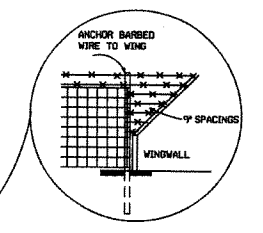
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

TYPE C FENCE (WOOD POSTS)



NOTE: USE 3/8" x 1 1/2" LAG BOLT & SHIELD OR AS APPROVED BY THE ENGINEER.

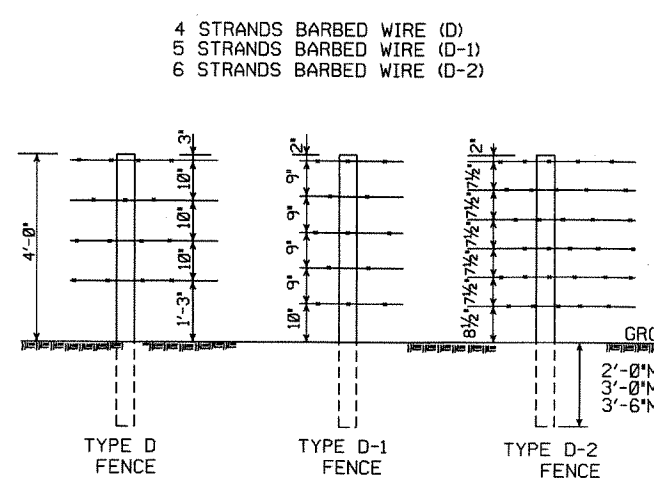


SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

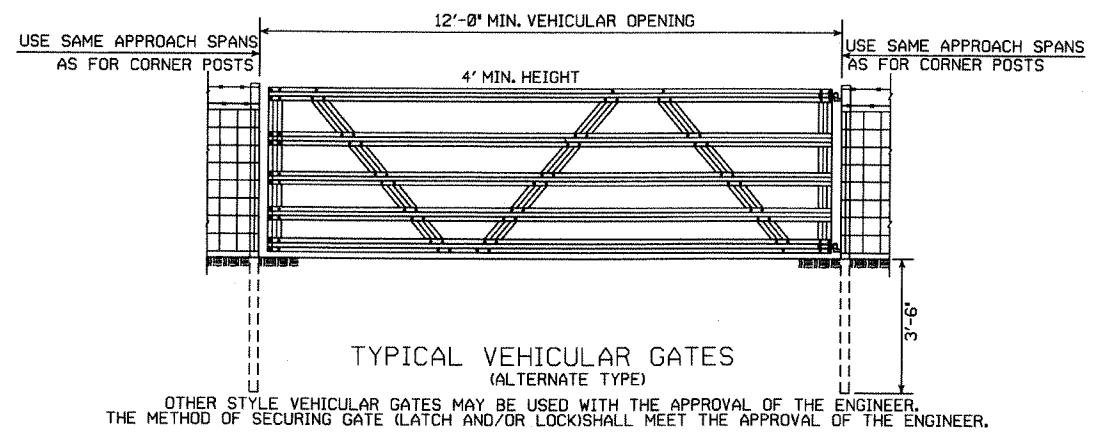
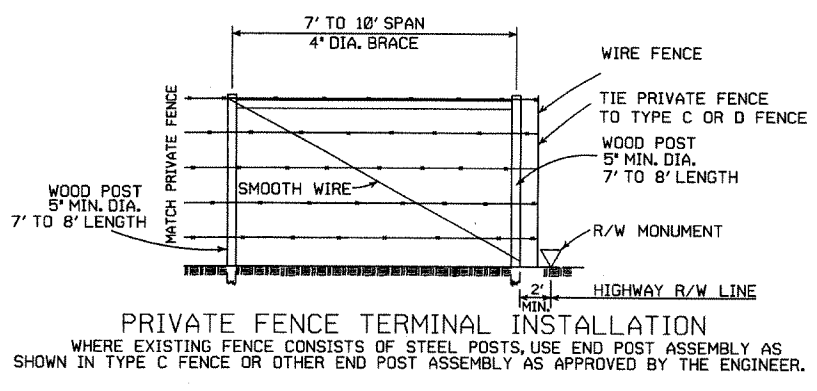
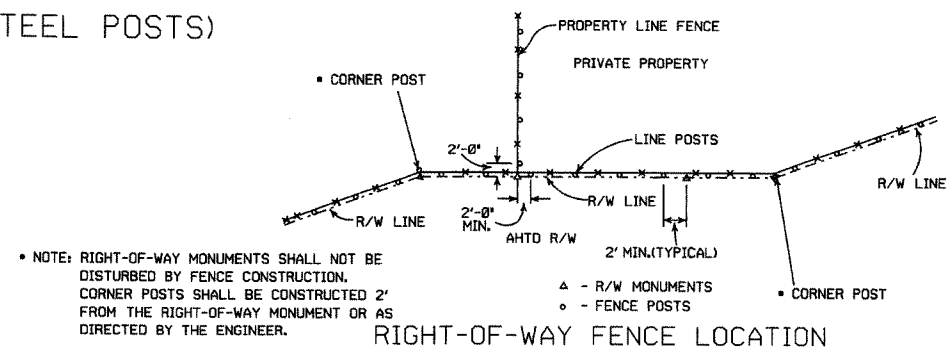
SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE 'WESTERN UNION METHOD' AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)



NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



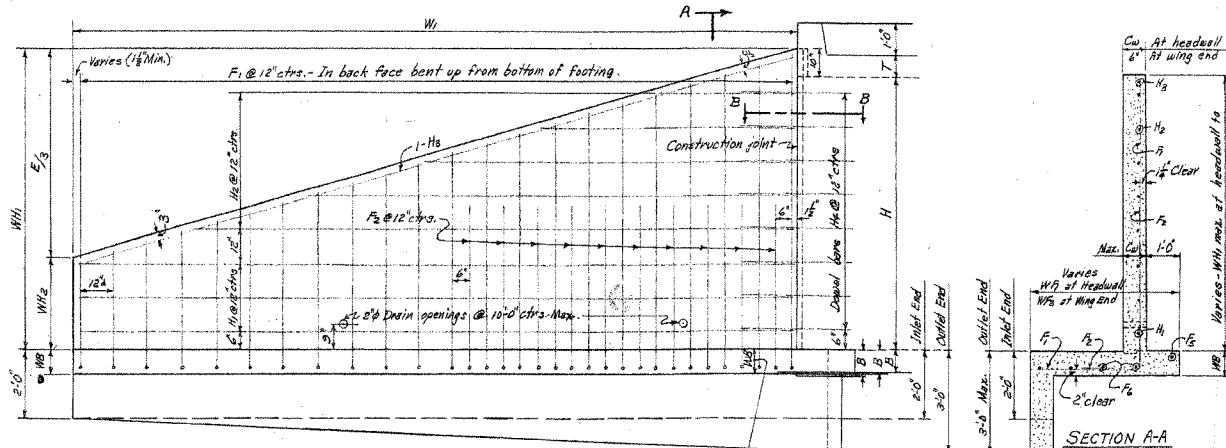
8-22-82	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

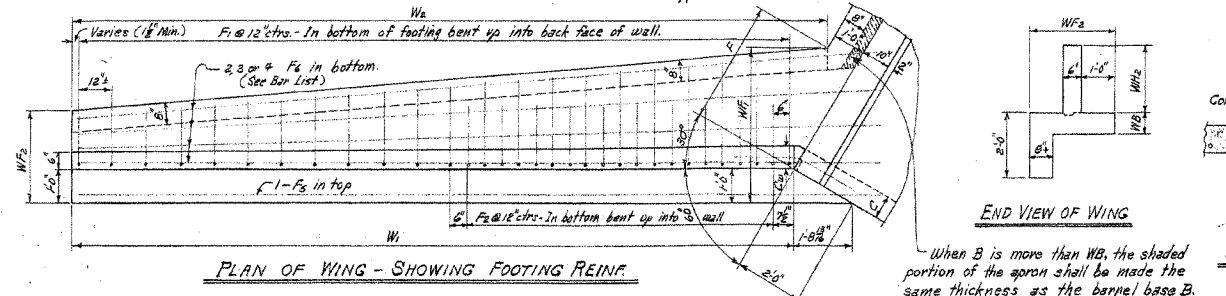
WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4

REV. NO.	DATE	BY	CHKD.	APP. NO.
1	10-1-63	W.C.H.	W.C.H.	61
2	12-14-66	W.C.H.	W.C.H.	
3	5-22-63	W.C.H.	W.C.H.	



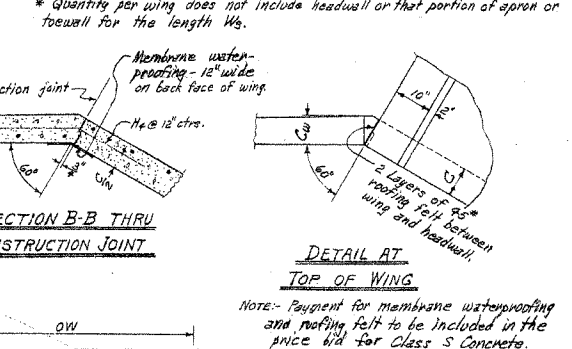
REAR ELEVATION OF WING - SHOWING BACK FACE REIN.



PLAN OF WING - SHOWING FOOTING REIN.

WING DIMENSIONS

CLEAR HEIGHT OF BOX OF WING FOOTING	THICKNESS OF WING AT HEADWALL = C	WINGWALL HEIGHTS AT HEADWALL	WIDTHS OF WING FOOTINGS AT HEADWALL	PERPENDICULAR FOOTING DIMENSION TO END OF WING	LENGTH OF WING WALLS INSIDE FOOTING DIMENSION	QUANTITY PER WING CONCRETE																																																																																																			
						INLET END	OUTLET END																																																																																																		
H	WB	CW	W1, W2, W3, W4, W5, W6, W7, W8, W9, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W20, W21, W22, W23, W24, W25, W26, W27, W28, W29, W30, W31, W32, W33, W34, W35, W36, W37, W38, W39, W40, W41, W42, W43, W44, W45, W46, W47, W48, W49, W50, W51, W52, W53, W54, W55, W56, W57, W58, W59, W60, W61, W62, W63, W64, W65, W66, W67, W68, W69, W70, W71, W72, W73, W74, W75, W76, W77, W78, W79, W80, W81, W82, W83, W84, W85, W86, W87, W88, W89, W90, W91, W92, W93, W94, W95, W96, W97, W98, W99, W100	F	E	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	W22	W23	W24	W25	W26	W27	W28	W29	W30	W31	W32	W33	W34	W35	W36	W37	W38	W39	W40	W41	W42	W43	W44	W45	W46	W47	W48	W49	W50	W51	W52	W53	W54	W55	W56	W57	W58	W59	W60	W61	W62	W63	W64	W65	W66	W67	W68	W69	W70	W71	W72	W73	W74	W75	W76	W77	W78	W79	W80	W81	W82	W83	W84	W85	W86	W87	W88	W89	W90	W91	W92	W93	W94	W95	W96	W97	W98	W99	W100

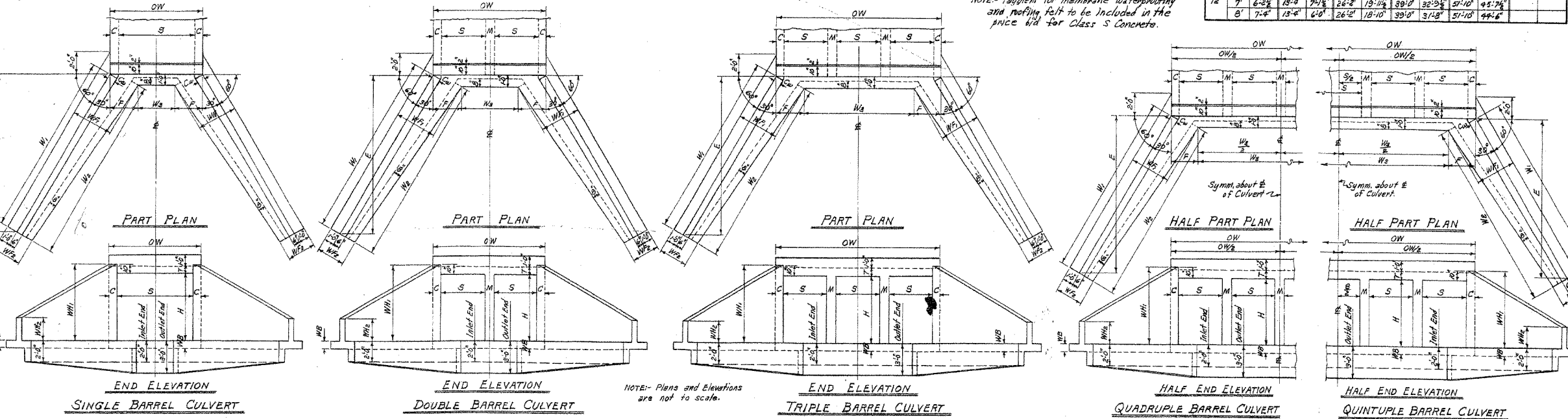


SECTION B-B THRU CONSTRUCTION JOINT.

APRON DIMENSION W3

CLEAR SPAN	CLEAR HEIGHT	W3 = (CW-2F)				
		SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
2'	2'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"
3'	3'-0"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
4'	4'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
5'	5'-0"	2'-6"	2'-6"	2'-6"	2'-6"	2'-6"
6'	6'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"
7'	7'-0"	3'-6"	3'-6"	3'-6"	3'-6"	3'-6"
8'	8'-0"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"
9'	9'-0"	4'-6"	4'-6"	4'-6"	4'-6"	4'-6"
10'	10'-0"	5'-0"	5'-0"	5'-0"	5'-0"	5'-0"
11'	11'-0"	5'-6"	5'-6"	5'-6"	5'-6"	5'-6"
12'	12'-0"	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"

APRON DIMENSION W3



QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	CLASS S CONCRETE - 4 WINGS									
		HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS									
H	WB	CW	WB	LB	C.U.Y.D.	C.U.Y.D.	C.U.Y.D.	C.U.Y.D.	C.U.Y.D.	C.U.Y.D.	C.U.Y.D.
2'	2'	6'	7'	100.0	4.50	5.44	6.42	7.38	8.34	9.30	
3'	3'	6'	7'	169.9	6.22	7.21	8.17	9.13	10.09	11.05	
4'	4'	6'	7'	254.6	8.33	9.28	10.24	11.20	12.16	13.12	
5'	5'	6'	7'	357.8	10.72	11.68	12.64	13.60	14.56	15.52	
6'	6'	6'	7'	583.1	14.55	15.51	16.47	17.43	18.39	19.35	
7'	7'	6'	7'	837.0	19.94	20.90	21.86	22.82	23.78	24.74	
8'	8'	6'	7'	1134.6	27.27	28.23	29.19	30.15	31.11	32.07	
9'	9'	6'	7'	1475.6	36.54	37.50	38.46	39.42	40.38	41.34	
10'	10'	6'	7'	1960.0	47.76	48.72	49.68	50.64	51.60	52.56	
11'	11'	6'	7'	2588.4	60.93	61.89	62.85	63.81	64.77	65.73	
12'	12'	6'	7'	3370.0	77.11	78.07	79.03	80.00	80.96	81.92	

GENERAL NOTES:

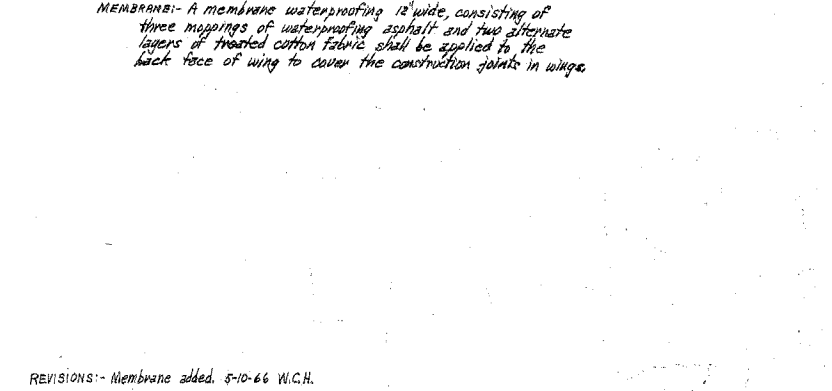
- CONCRETE: All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/4 chamfers.
- REINFORCING STEEL: Reinforcing steel to be deformed bars of intermediate or hard grade.
- CONSTRUCTION JOINTS: Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.
- SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.
- UNIT STRESSES: Class S Concrete (n=10) 12000 PSI; Reinforcing Steel 20,000 PSI.

NOTE: This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-1	R-200X-1	R-300X-1	R-400X-1	R-500X-1
R-100X-2	R-200X-2	R-300X-2	R-400X-2	R-500X-2
	R-200X-3	R-300X-3		

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT	F1		F2		F3		F4		H1		H2		H3		H4		QUANTITY REINFORCING STEEL PER WING	BAR BENDING DIAGRAMS
	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING		
2'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	27.0	
3'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	41.1	
4'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	63.7	
5'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	89.5	
6'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	145.8	
7'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	283.7	
8'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	356.4	



REVISIONS: Membrane added. 5-10-66 W.C.H.

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS

FOR

REINFORCED CONCRETE BOX CULVERTS

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS

3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, ALL DEPTHS OF COVER

QUADRUPLES & QUINTUPLES. FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

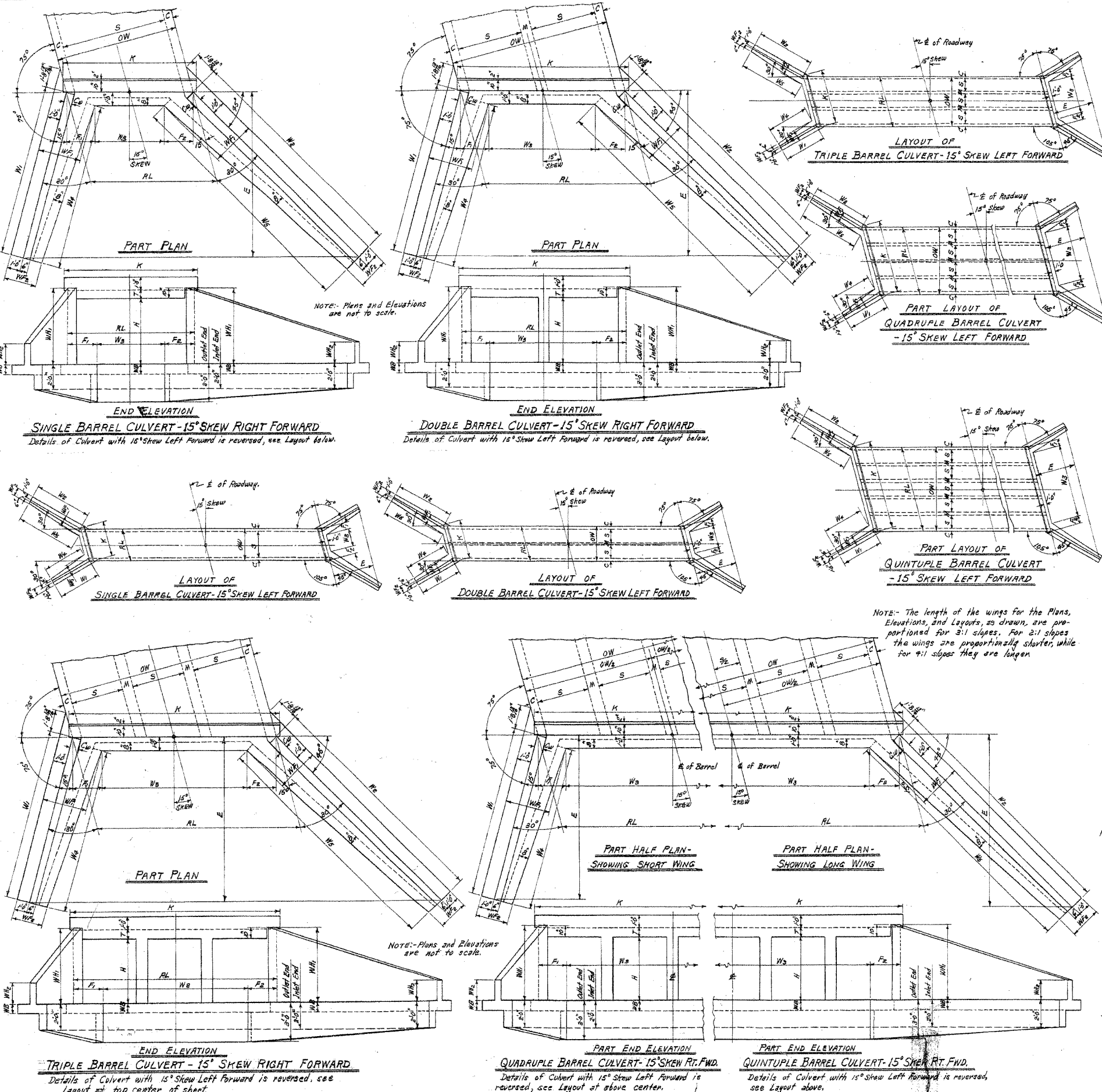
Designed By: W.C.H. 5-20-62. Checked By: RWS - 1-9-63

Drawn By: W.C.H. 12-4-62. Checked By: RWS - 1-31-63

Quantity: R/W.C.H. 12-14-62. Checked By: RWS - 1-31-63

Revised By: W.C.H. 5-22-63

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			602	
JOB No.					



USE WITH DRAWING No.	CLEAR SPAN	CLEAR HEIGHT	ROADWAY LENGTH RL															HEADWALL LENGTH K															APRON DIMENSION W ₃																																																																																																																																																																		
			RL = OW × 1.035276															K = RL × (6/5)															W ₃ = RL × (F ₁ + F ₂)																																																																																																																																																																		
			SINGLE BARREL CULVERT			DOUBLE BARREL CULVERT			TRIPLE BARREL CULVERT			QUADRUPLE BARREL CULVERT			QUINTUPLE BARREL CULVERT			SINGLE BARREL CULVERT			DOUBLE BARREL CULVERT			TRIPLE BARREL CULVERT			QUADRUPLE BARREL CULVERT			QUINTUPLE BARREL CULVERT																																																																																																																																																																					
7	2'	2'-0"	5'-0"	5'-2"	5'-8"	6'-2"	6'-8"	7'-2"	7'-8"	8'-2"	8'-8"	9'-2"	9'-8"	10'-2"	10'-8"	11'-2"	11'-8"	12'-2"	12'-8"	13'-2"	13'-8"	14'-2"	14'-8"	15'-2"	15'-8"	16'-2"	16'-8"	17'-2"	17'-8"	18'-2"	18'-8"	19'-2"	19'-8"	20'-2"	20'-8"	21'-2"	21'-8"	22'-2"	22'-8"	23'-2"	23'-8"	24'-2"	24'-8"	25'-2"	25'-8"	26'-2"	26'-8"	27'-2"	27'-8"	28'-2"	28'-8"	29'-2"	29'-8"	30'-2"	30'-8"	31'-2"	31'-8"	32'-2"	32'-8"	33'-2"	33'-8"	34'-2"	34'-8"	35'-2"	35'-8"	36'-2"	36'-8"	37'-2"	37'-8"	38'-2"	38'-8"	39'-2"	39'-8"	40'-2"	40'-8"	41'-2"	41'-8"	42'-2"	42'-8"	43'-2"	43'-8"	44'-2"	44'-8"	45'-2"	45'-8"	46'-2"	46'-8"	47'-2"	47'-8"	48'-2"	48'-8"	49'-2"	49'-8"	50'-2"	50'-8"	51'-2"	51'-8"	52'-2"	52'-8"	53'-2"	53'-8"	54'-2"	54'-8"	55'-2"	55'-8"	56'-2"	56'-8"	57'-2"	57'-8"	58'-2"	58'-8"	59'-2"	59'-8"	60'-2"	60'-8"	61'-2"	61'-8"	62'-2"	62'-8"	63'-2"	63'-8"	64'-2"	64'-8"	65'-2"	65'-8"	66'-2"	66'-8"	67'-2"	67'-8"	68'-2"	68'-8"	69'-2"	69'-8"	70'-2"	70'-8"	71'-2"	71'-8"	72'-2"	72'-8"	73'-2"	73'-8"	74'-2"	74'-8"	75'-2"	75'-8"	76'-2"	76'-8"	77'-2"	77'-8"	78'-2"	78'-8"	79'-2"	79'-8"	80'-2"	80'-8"	81'-2"	81'-8"	82'-2"	82'-8"	83'-2"	83'-8"	84'-2"	84'-8"	85'-2"	85'-8"	86'-2"	86'-8"	87'-2"	87'-8"	88'-2"	88'-8"	89'-2"	89'-8"	90'-2"	90'-8"	91'-2"	91'-8"	92'-2"	92'-8"	93'-2"	93'-8"	94'-2"	94'-8"	95'-2"	95'-8"	96'-2"	96'-8"	97'-2"	97'-8"	98'-2"	98'-8"	99'-2"	99'-8"	100'-2"	100'-8"

Special case for these boxes. See Detail 'a' and Table 'A' for revised values of F₁, F₂, W₁ and W₂, when apron width is more than 1'0" and W₃ > 0. For Detail 'A' and Table 'A' for each slope, see Drawing Nos. W-X152-1, W-X152-2, or W-X153-1, W-X153-2, or W-X154-1, W-X154-2.

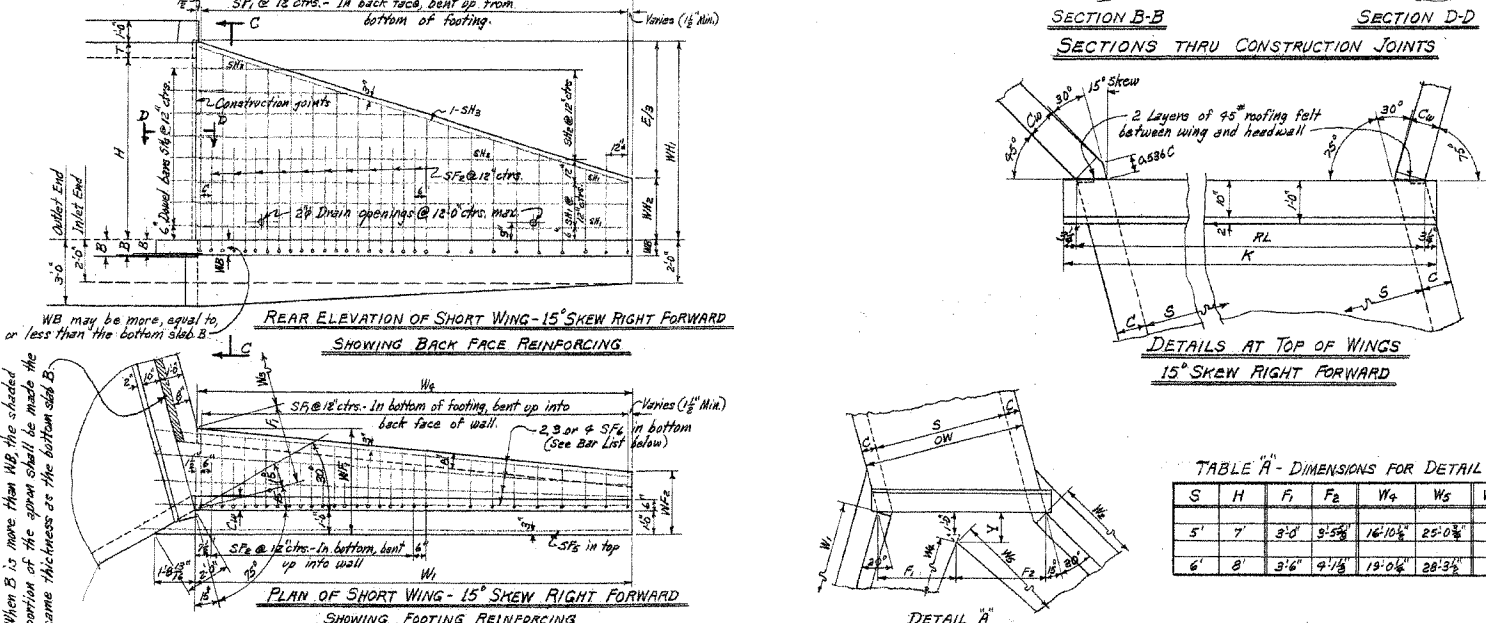
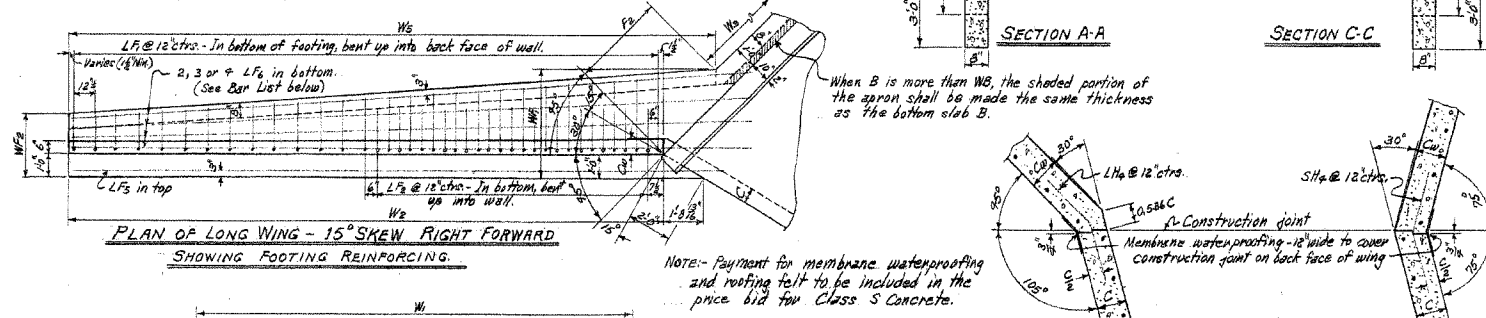
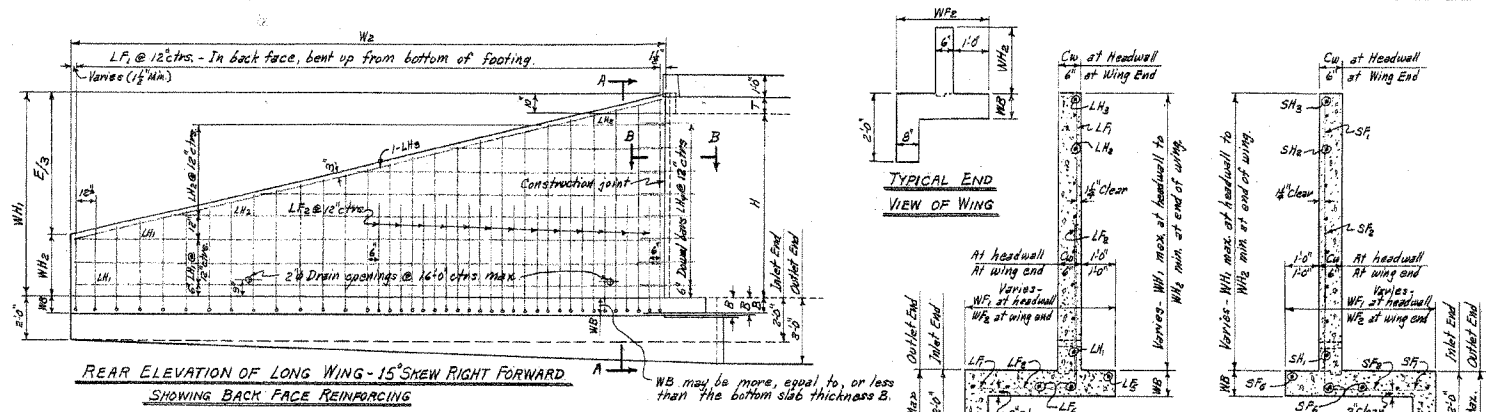
NOTE: This drawing to be used in conjunction with standard Wing Drawings for 15° Skews for each slope as listed below.
 2:1 Slopes
 W-X152-1 or W-X152-2
 3:1 Slopes
 W-X153-1 or W-X153-2
 4:1 Slopes
 W-X154-1 or W-X154-2.

This drawing to be used in conjunction with Std. Barrel Sections, Drawing Nos.
 SINGLES DOUBLES TRIPLES QUADRUPLES QUINTUPLES
 R-115X-0 R-215X-0 R-315X-0 R-415X-0 R-515X-0
 R-115X-1 R-215X-1 R-315X-1 R-415X-1 R-515X-1
 R-215X-2 R-315X-2

CLASS S CONCRETE
 ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD WINGS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 15° SKEW
 4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS
 2:1, 3:1 & 4:1 SLOPES
 SINGLES, DOUBLES, TRIPLES, ALL DEPTHS OF COVER
 QUADRUPLES & QUINTUPLES. H=2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12.
 STANDARD DRAWING NO. W-X15

Designed by: W.C.H. 5-22-63
 Traced by: W.C.H. 6-13-63
 Checked by: J.E.M.
 Checked by: G.20-63
 Checked by:

FED. ROAD NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.			63	
JOB No.					



BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

CLEAR HEIGHT OF WING	WING LOCATION	SF & LF								SF ₂ & LF ₂								SF ₃ & LF ₃								SF ₄ & LF ₄								SH ₁ & LH ₁								SH ₂ & LH ₂								SH ₃ & LH ₃								SH ₄ & LH ₄								BAR BENDING DIAGRAM	QUANTITY
		BENT				STRAIGHT				BENT				STRAIGHT				STRAIGHT				STRAIGHT				BENT				STRAIGHT				STRAIGHT				BENT																													
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.																														
2'	Short	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10																												
3'	Short	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12	9	12																												
4'	Short	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14	11	14																												
5'	Short	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16	13	16																												
6'	Short	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18																												
7'	Short	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20	17	20																												
8'	Short	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22	19	22																												

REGULAR WING DIMENSIONS - 3:1 SLOPES

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL	WING WALL HEIGHTS		WIDTHS OF WING FOOTINGS		FOOTING DIMENSIONS - PARALLEL WITH HEADWALL		LENGTHS OF WING WALLS		INSIDE FOOTING DIMENSIONS		QUANTITY PER WING CLASS S CONCRETE					
			AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING	SHORT WING	LONG WING	SHORT WING	LONG WING	SHORT WING	LONG WING	SHORT WING	LONG WING	INLET END		OUTLET END	
			H	WB	WH ₁	WH ₂	WF ₁	WF ₂	F ₁	F ₂	E	W ₁	W ₂	W ₃	W ₄	Cu.Yd.	Cu.Yd.	Cu.Yd.
2'	7"	6"	2'-0"	0'-8"	2'-4"	2'-0"	1'-4"	0'-10"	6'-6"	6'-0"	9'-2"	6'-0"	9'-1"	0.789	1.094	0.876	1.212	
3'	7"	6"	3'-0"	1'-0"	3'-0"	2'-4"	1'-4"	0'-10"	8'-6"	8'-0"	12'-2"	8'-0"	12'-1"	1.186	1.650	1.320	1.808	
4'	7"	6"	4'-0"	1'-4"	3'-0"	2'-4"	1'-4"	0'-10"	10'-6"	10'-0"	15'-2"	10'-0"	15'-1"	1.656	2.305	1.797	2.502	
5'	7"	6"	5'-0"	1'-8"	3'-4"	2'-4"	1'-4"	0'-10"	12'-6"	12'-0"	18'-2"	12'-0"	18'-1"	2.196	3.059	2.363	3.295	
6'	7"	6"	6'-0"	2'-0"	3'-4"	2'-4"	1'-4"	0'-10"	14'-6"	14'-0"	21'-2"	14'-0"	21'-1"	2.827	3.888	2.955	4.244	
7'	7"	6"	7'-0"	2'-4"	3'-4"	2'-4"	1'-4"	0'-10"	16'-6"	16'-0"	24'-2"	16'-0"	24'-1"	3.542	4.822	3.696	5.177	
8'	7"	6"	8'-0"	2'-8"	3'-4"	2'-4"	1'-4"	0'-10"	18'-6"	18'-0"	27'-2"	18'-0"	27'-1"	4.332	5.822	4.536	6.222	

QUANTITIES CLASS S CONCRETE - 4 WINGS

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING AT FOOTING	REINFORCING STEEL FOR 4 WINGS	CLASS S CONCRETE - 4 WINGS												
					HEADWALLS, WING WALLS, FOOTINGS, SIDEWALLS AND APRONS												
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT	SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT				
5	7	6	7	117	4.79	5.78	6.77	7.77	8.74	11.7	14.7	17.7	20.7	23.7	26.7	29.7	32.7
6	7	6	7	176	6.45	7.44	8.43	9.43	10.42	17.6	21.6	25.6	29.6	33.6	37.6	41.6	45.6
7	7	6	7	267	9.85	9.84	10.84	11.83	12.82	26.7	30.7	34.7	38.7	42.7	46.7	50.7	54.7
8	7	6	7	379	13.90	12.88	13.88	14.87	15.86	37.9	41.9	45.9	49.9	53.9	57.9	61.9	65.9
9	7	6	7	513	19.55	16.42	17.42	18.41	19.40	51.3	55.3	59.3	63.3	67.3	71.3	75.3	79.3
10	7	6	7	676	27.11	19.98	20.98	21.97	22.96	67.6	71.6	75.6	79.6	83.6	87.6	91.6	95.6
11	7	6	7	867	36.60	22.47	23.47	24.46	25.45	86.7	90.7	94.7	98.7	102.7	106.7	110.7	114.7
12	7	6	7	1086	48.11	26.34	27.34	28.33	29.32	108.6	112.6	116.6	120.6	124.6	128.6	132.6	136.6

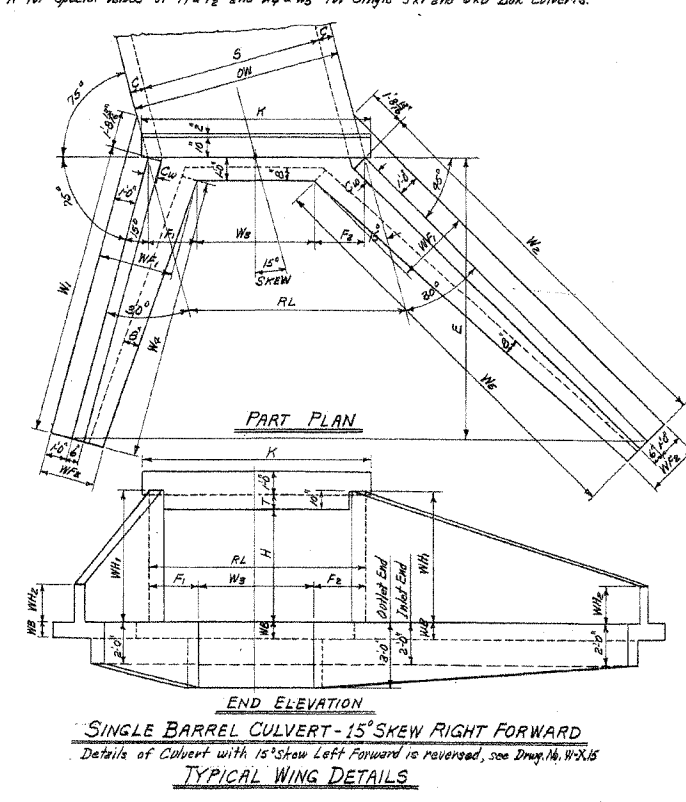


TABLE "A" - DIMENSIONS FOR DETAIL "A"

S	H	F ₁	F ₂	W ₄	W ₅	W ₃	Y
5'	7'	3'-0"	3'-5"	16'-10"	23'-0"	0'	1'-0 1/4"
6'	8'	3'-6"	4'-1"	19'-0"	26'-3"	0'	1"

GENERAL NOTES:-
 CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/8" chamfers.
 REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.
 CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.
 SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable special provisions.
 UNIT STRESSES:-
 Class S Concrete (n=10) 1200 psi
 Reinforcing Steel 20,000 psi

NOTE:- For remainder of General Plans and Elevations of Single, Double, Triple, Quadruple and Quintuple Span Culverts, see Std. Drawing No. W-X-15. For values of RL, K, and W₅ for each box, see the above Std. also.

NOTE:- This drawing to be used in conjunction with Std. Barrel Sections, Drawing Nos. R-115X-0 R-215X-0 R-315X-0 R-415X-0 R-515X-0 R-115X-1 R-215X-1 R-315X-1 R-415X-1 R-515X-1 R-215X-2 R-315X-2

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mappings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS

FOR

REINFORCED CONCRETE BOX CULVERTS

15° SKEW

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS

3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES

ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X-15-1

Designed By: W.C.H. 5-15-65 Checked By: W.C.H. 6-20-65
 Drawn By: W.C.H. 8-7-63 Checked By: W.C.H. 9-23-65
 Quantities by: W.C.H.

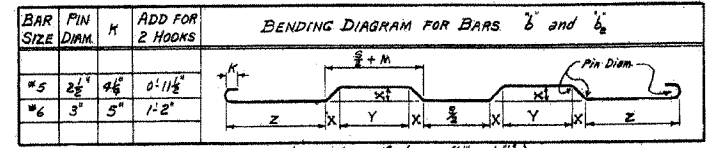
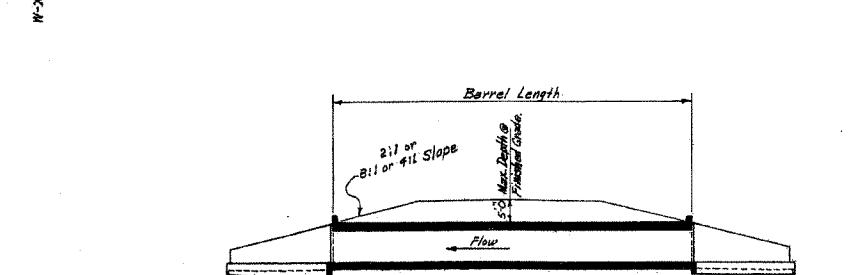
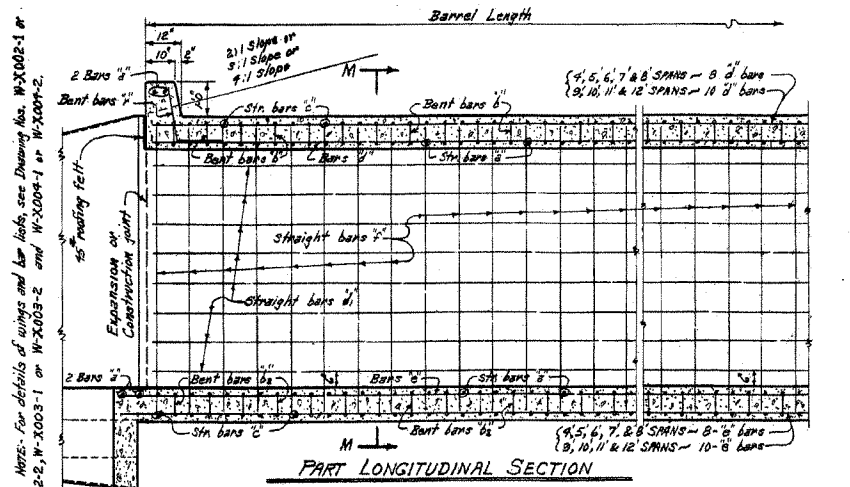
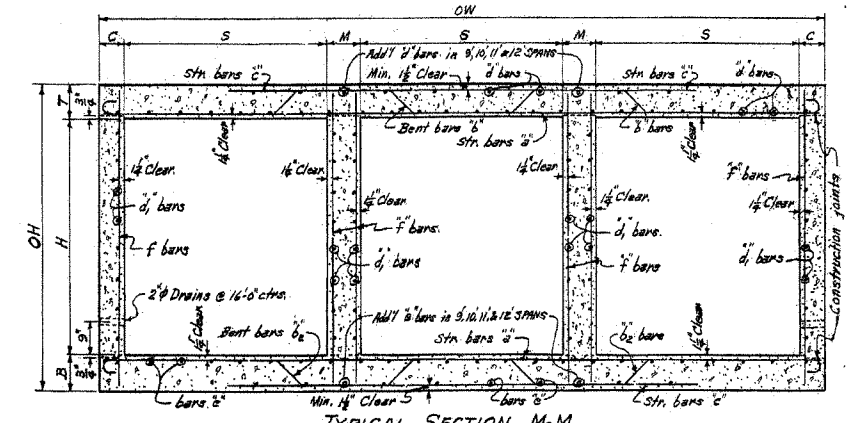
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			64	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH												
			3' bars			6' bars			6' bars			6' bars			6' bars
D	S	H	STRAIGHT	BENT - See Diagram below.	BENT - See Diagram below.	STRAIGHT	STRAIGHT	STRAIGHT	STRAIGHT	STRAIGHT	STRAIGHT	STRAIGHT	STRAIGHT	STRAIGHT	STRAIGHT
3	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
4	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
5	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
6	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
7	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
8	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
9	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
10	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
11	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12
12	12	12	120 120 141"	59 59 15'-0"	0'-5" 2'-2" 3'-4"	120 120 91"	22	12	12	12	12	12	12	12	12

DIMENSIONS QUANTITIES

MAX. DESIGN DEPTH OF COVER	CLEAR SPANS	CLEAR HEIGHT	DIMENSIONS QUANTITIES											
			BARREL DIMENSIONS						UNIT QUANTITIES					
D	S	H	A	OW	T	C	M	B	OH	CUYD	LB.	LB.	LB.	LB.
3	12	12	24	141"	6"	6"	6"	6"	6"	0.726	137.76	66.63	195.33	
4	12	12	36	141"	6"	6"	6"	6"	6"	0.812	145.78	71.64	195.33	
5	12	12	48	141"	6"	6"	6"	6"	6"	0.899	153.79	76.65	195.33	
6	12	12	60	141"	6"	6"	6"	6"	6"	0.985	161.81	81.66	195.33	
7	12	12	72	141"	6"	6"	6"	6"	6"	1.071	169.82	86.67	195.33	
8	12	12	84	141"	6"	6"	6"	6"	6"	1.157	177.84	91.68	195.33	
9	12	12	96	141"	6"	6"	6"	6"	6"	1.243	185.85	96.69	195.33	
10	12	12	108	141"	6"	6"	6"	6"	6"	1.329	193.87	101.70	195.33	
11	12	12	120	141"	6"	6"	6"	6"	6"	1.415	201.88	106.71	195.33	
12	12	12	132	141"	6"	6"	6"	6"	6"	1.501	209.90	111.72	195.33	



DOWEL BARS FOR TWO HEADWALLS

SPANS @	SIZE	SPACING	No. REB'D	LENGTH	X
4'	3"	12"	30	2'-5"	1'-2 1/2"
5'	3"	12"	36	2'-6"	1'-3"
6'	3"	12"	42	2'-7"	1'-3 1/2"
7'	3"	12"	48	2'-8"	1'-4"
8'	3"	12"	54	2'-9"	1'-4 1/2"
9'	3"	12"	60	2'-10"	1'-5"
10'	3"	12"	66	2'-11"	1'-5 1/2"
11'	3"	12"	72	3'-0"	1'-6"
12'	3"	12"	78	3'-1"	1'-6 1/2"

GENERAL NOTES:
 CONCRETE: All concrete to be Class S, and shall be poured in the dry.
 All exposed corners to have 3/4" chamfers.
 REINFORCING STEEL: Reinforcing to be deformed bars of intermediate or hard grade.
 BAR LAP: In computing the quantities of steel from the tables add one lap for each additional 30' length of barrel over 30'. Lap longitudinal bars 30 diameters.
 CONSTRUCTION JOINTS: Construction joints between wingwalls, sidewalls, division walls and slabs shall be only where shown on plans.
 SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD
 H20-S16 LOADING A.A.S.H.O. 1961
 AND
 SPECIAL MILITARY LOADING
 Two 24,000 Lb. Axles @ 7'-0" cto.
UNIT STRESSES:
 Class S Concrete (n=10) 1200 psi
 Reinforcing Steel 20,000 psi

NOTE: This drawing to be used in conjunction with Standard Mine Drawing Nos. W-X002-1 or W-X002-2 and W-X004-1 or W-X004-2. Also Drawing No. W-X002-1 or W-X002-2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD BARREL SECTIONS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS 3:1 OR 4:1 SLOPES
 UNDER 5'-0" COVER
 TRIPLES STANDARD DRAWING NO. R-300X-0

Designed By: W.C.H. 1-22-63. Checked By: T.M.S. 5-17-63.
 Drawn By: W.C.H. 2-28-63. Checked By: T.M.S. 5-24-63.
 Quantities By: W.C.H. 3-4-63. Checked By: T.M.S. 5-24-63.

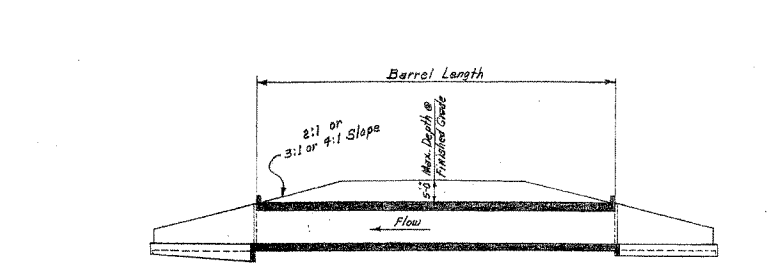
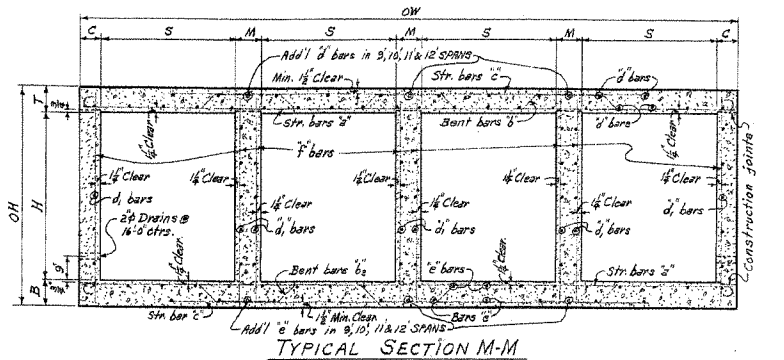
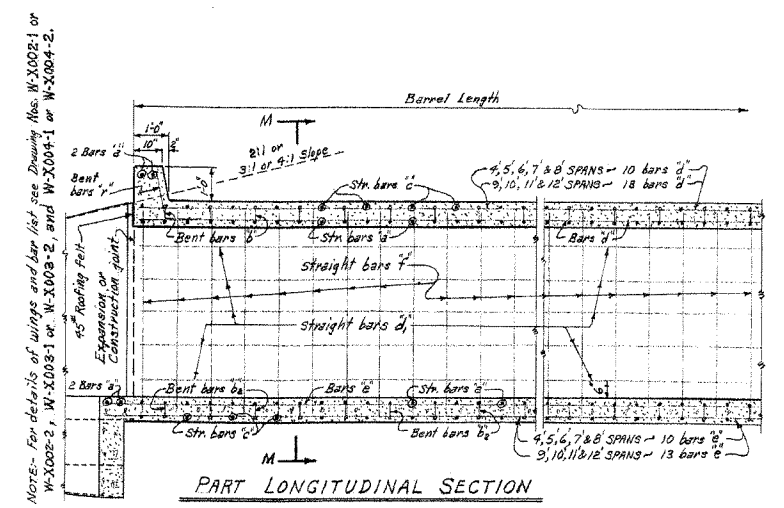
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

Table with columns for bar size, length, and quantity. Includes sub-sections for 'a' bars, 'b' bars, 'c' bars, 'd' bars, 'e' bars, and 'f' bars. Each sub-section has columns for straight and bent bars with various dimensions and quantities.

DIMENSIONS QUANTITIES

Table with columns for barrel dimensions (S, H, A, OW, T, C, M, B, OH) and unit quantities (Class S Conc., Reinforcing Steel, Additional). Includes a section for 'MAX. DESIGN DEPTH OF COVER'.

Summary table with columns: FED. ROAD NO., STATE, FED. AID PROJECT, FISCAL YEAR, SHEET NO., TOTAL SHEETS. Values: 6, ARK, , , 65, .



These 'a', 'b' and 'c' bars are to be spliced at center of middle division wall to make a full length bar. Lap 'a' bars 2'-6" min. and 'b' bars 2'-4" min.

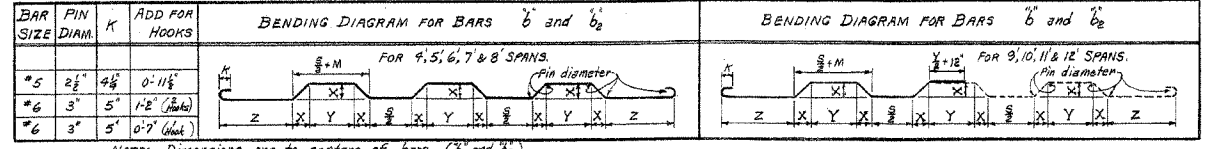


Table for DOWEL BARS FOR TWO HEADWALLS. Columns: Spans, Size, Spacing, No. Bars, Length, X. Includes a diagram of a headwall cross-section.

GENERAL NOTES: CONCRETE- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/4" chamfers. REINFORCING STEEL- Reinforcing to be deformed bars of intermediate or hard grade. BAR LAP- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters. CONSTRUCTION JOINTS- Construction joints between wingwalls, side walls, division walls and slabs shall be only where shown on plans. SPECIFICATIONS- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD H20-S16 LOADING A.A.S.H.O. 1961 AND SPECIAL MILITARY LOADING Two 24,000 lb. Axles @ 4'-0" ctrs. UNIT STRESSES:- Class S Concrete (n=10) 1200 psi Reinforcing Steel 20000 psi

CLASS S CONCRETE ARKANSAS STATE HIGHWAY COMMISSION FOR REINFORCED CONCRETE BOX CULVERTS 4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS 3:1 OR 4:1 SLOPES UNDER 5'-0" COVER STANDARD DRAWING NO. R-400X-0

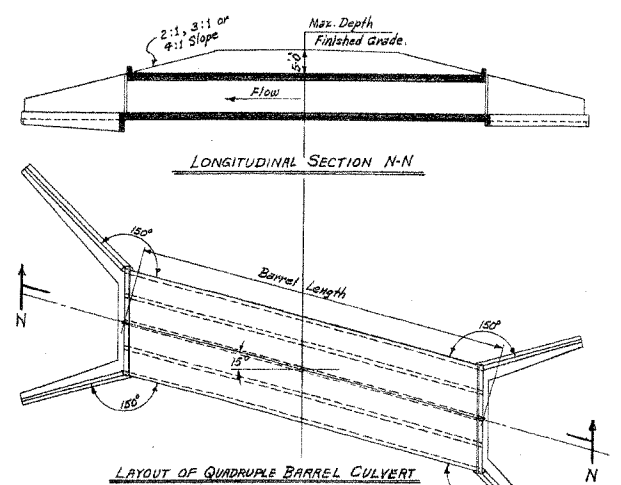
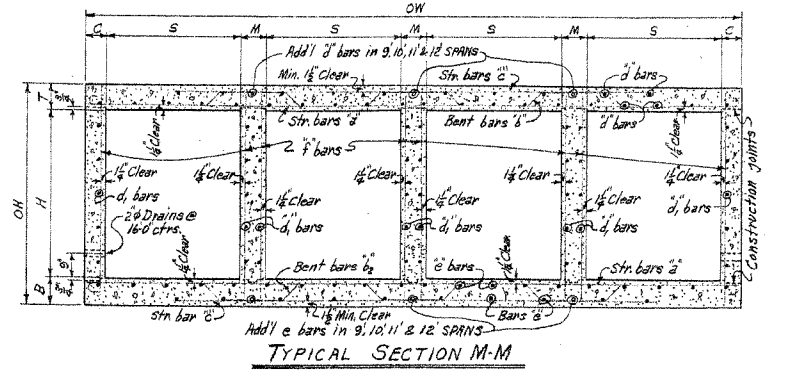
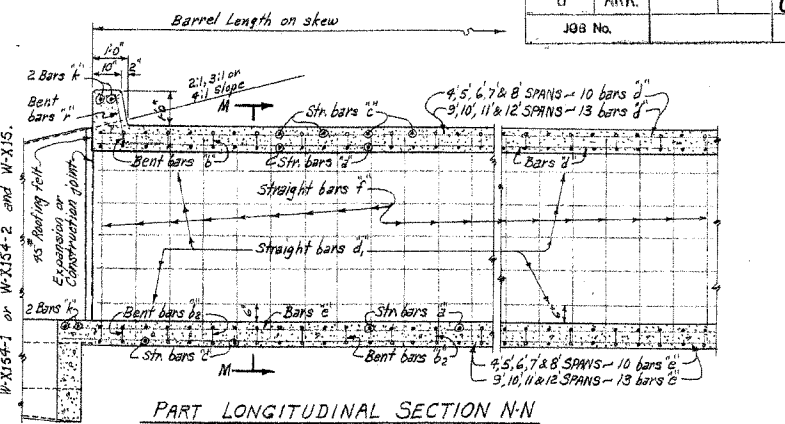
Designed By: W.C.H. 1-23-63. Checked By: Z.B.S. 5-21-63. Drawn By: W.C.H. 3-18-63. Checked By: R.H.S. 5-24-63. Quantities By: W.C.H. 3-20-63. Checked By: R.H.S. 5-24-63.

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

Table with columns for bar size, spacing, length, and quantity for various bar types (a through k) across different span lengths and depths.

DIMENSIONS QUANTITIES

Table with columns for dimensions (clear span, height, etc.) and quantities (concrete volume, steel weight, etc.) for different barrel sizes.



Notes regarding the placement of bars 'a', 'b', 'c', and 'e' relative to the headwalls and division walls.

Notes regarding the spacing and lap requirements for bars 'a', 'b', 'c', and 'e'.

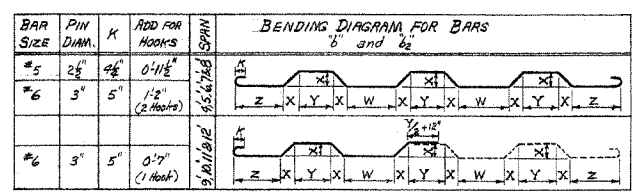
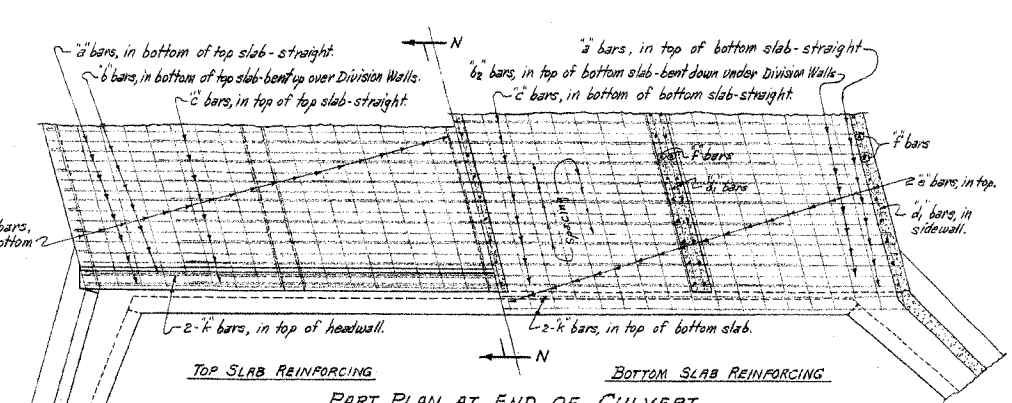


Table for DOWEL BARS FOR TWO HEADWALLS, listing bar size, spacing, and length for different span lengths.



Notes for the part plan at the end of the culvert, detailing bar placement and lap requirements.

GENERAL NOTES: Concrete to be Class S, and shall be poured in the dry. Reinforcing steel to be deformed bars of intermediate or hard grade.

DESIGN LIVE LOAD: H20-S16 LOADING A.A.S.H.O. 1961 AND SPECIAL MILITARY LOADING Two 28,000 lb. Axles @ 9'0" ctrs.

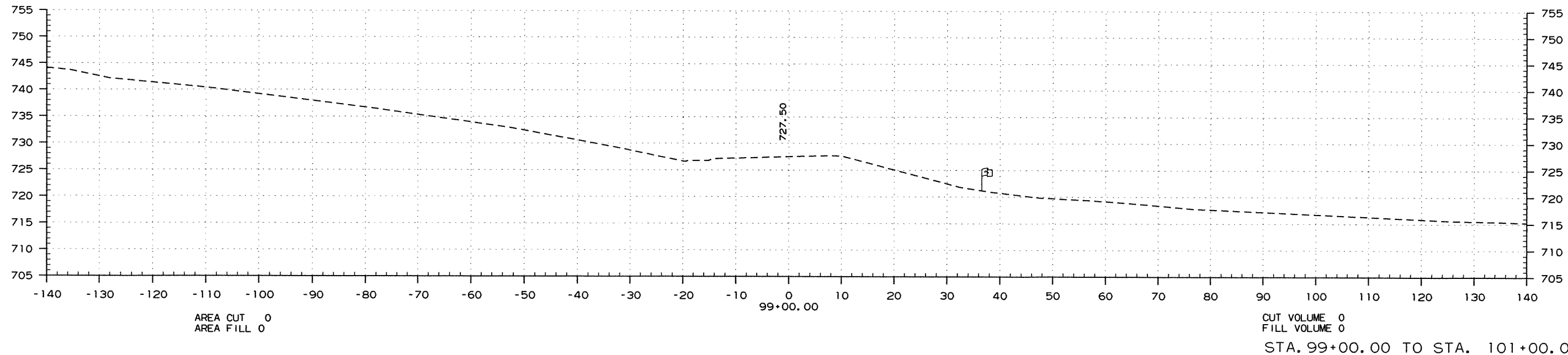
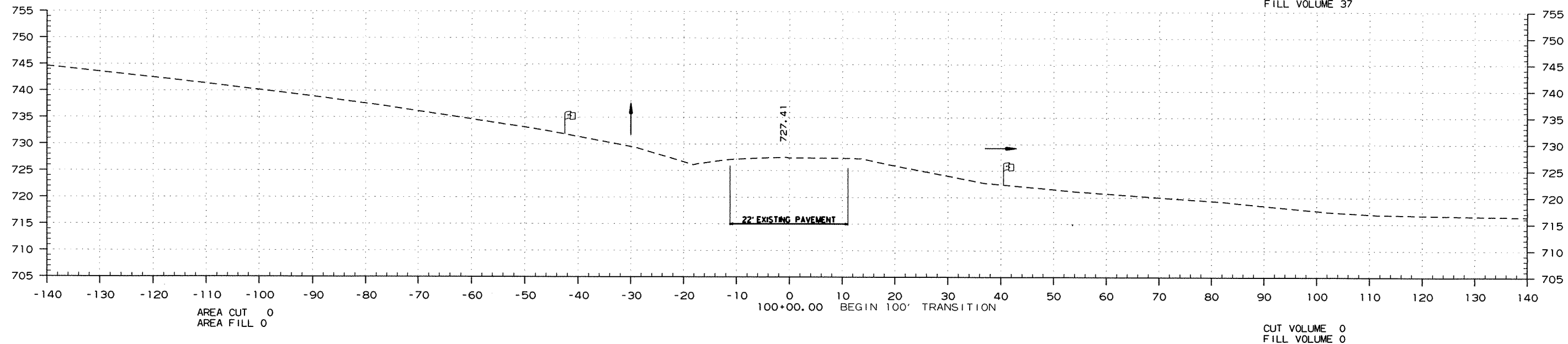
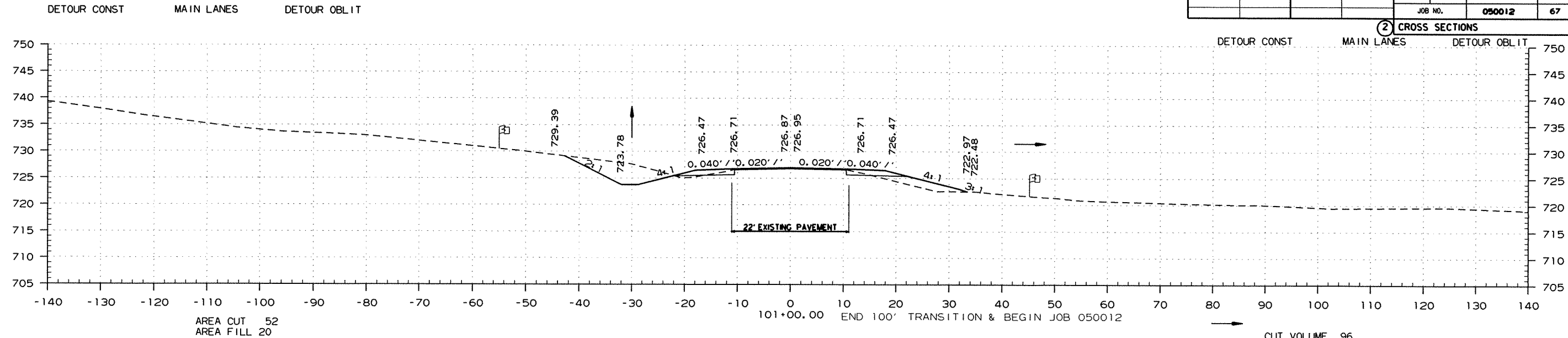
NOTE: This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X152-1 or W-X152-2; W-X153-1 or W-X153-2 and W-X154-1 or W-X154-2. Also W-X15.

ARKANSAS STATE HIGHWAY COMMISSION DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS 15° SKEW CLASS S CONCRETE

Designed By: W.C.H. 1-23-63. Checked By: R.M.S. 5-21-63. Drawn By: W.C.H. 9-9-62. Quantities By: W.C.H. 9-5-63.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		67	90
				JOB NO.		050012		

2 CROSS SECTIONS

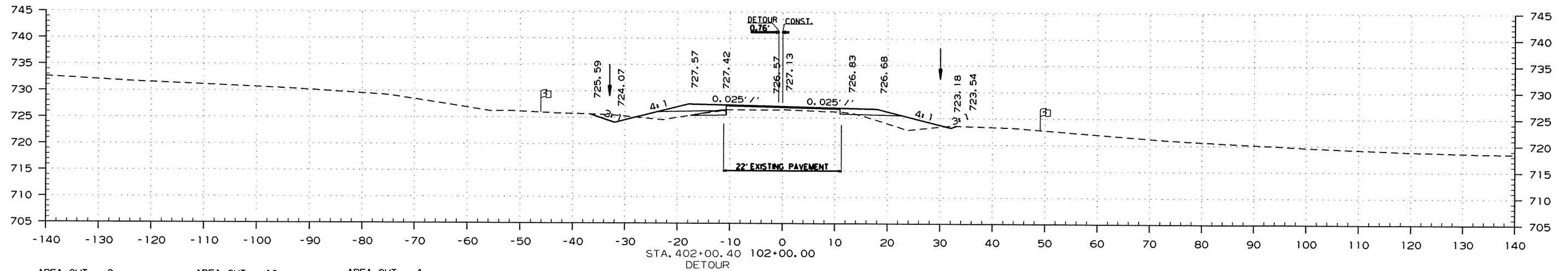


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		68	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



AREA CUT 3
AREA FILL 0

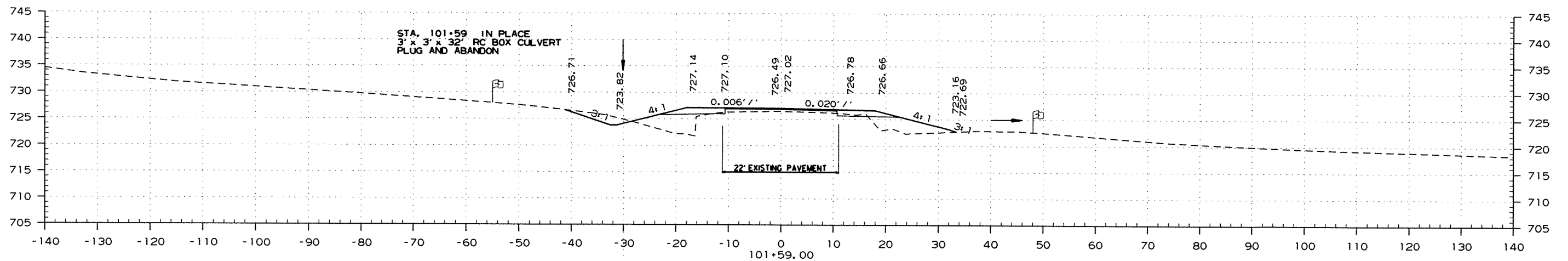
AREA CUT 10
AREA FILL 34

AREA CUT 4
AREA FILL 0

CUT VOLUME 0
FILL VOLUME 0

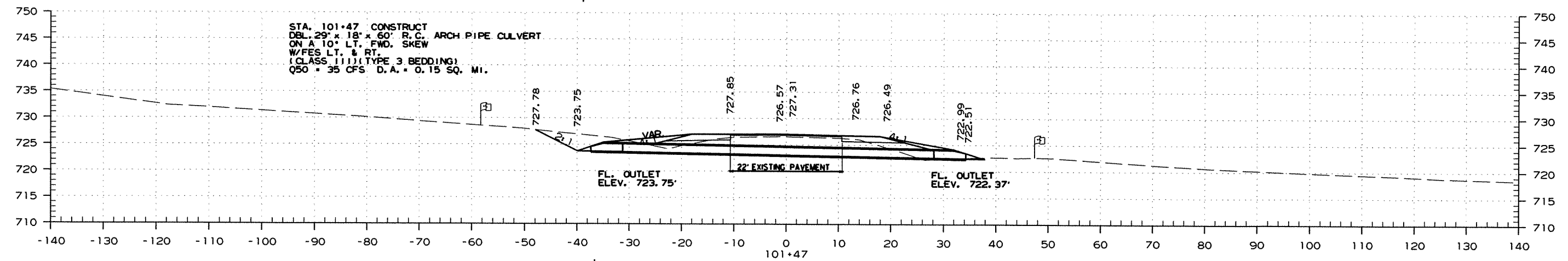
CUT VOLUME 18
FILL VOLUME 74

CUT VOLUME 0
FILL VOLUME 0



AREA CUT 14
AREA FILL 63

CUT VOLUME 10
FILL VOLUME 26



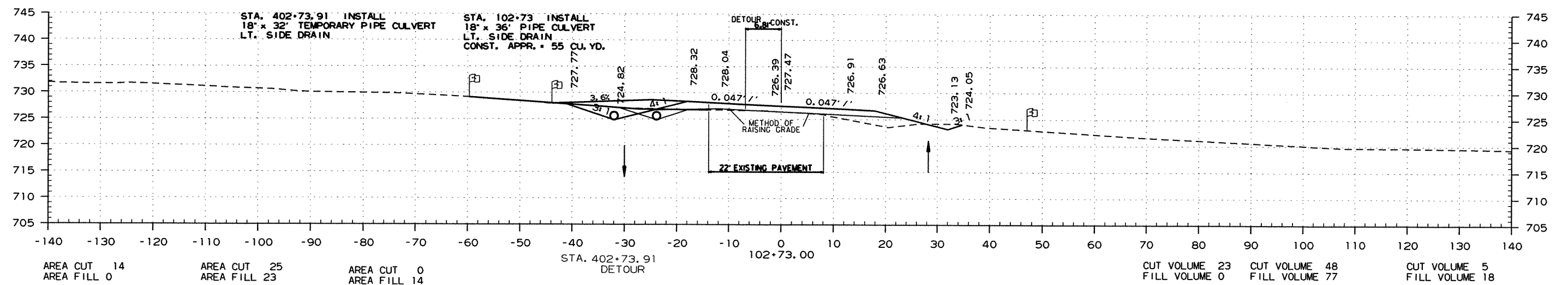
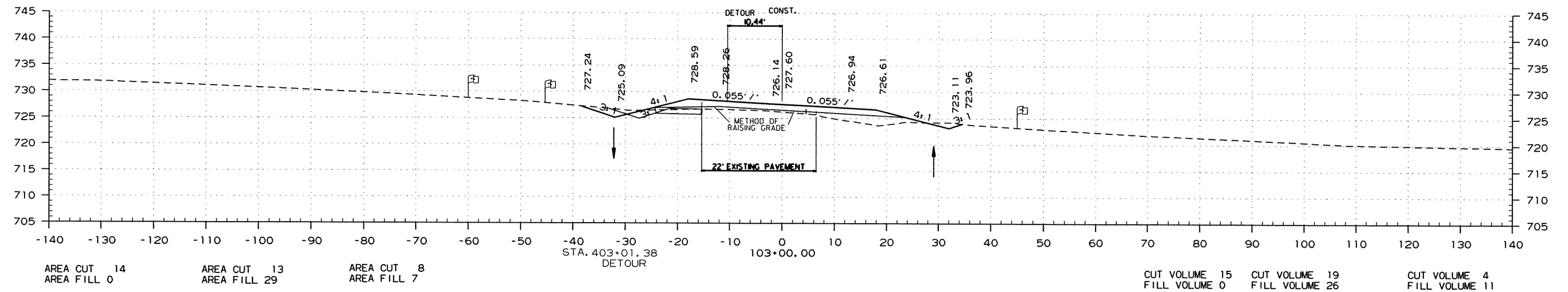
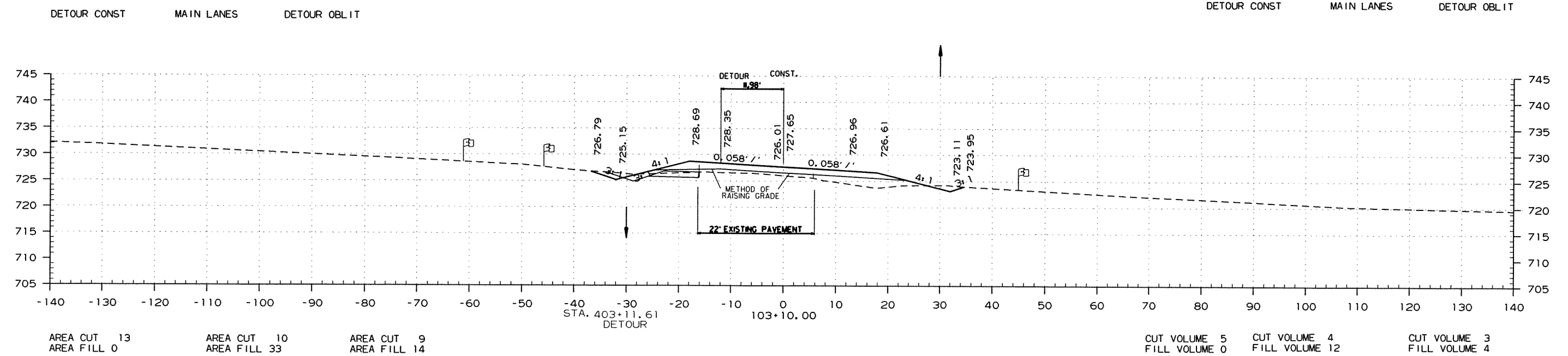
AREA CUT 29
AREA FILL 52

CUT VOLUME 70
FILL VOLUME 63

STA. 101+47.00 TO STA. 102+00.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		69	90
						JOB NO.	050012	

2 CROSS SECTIONS

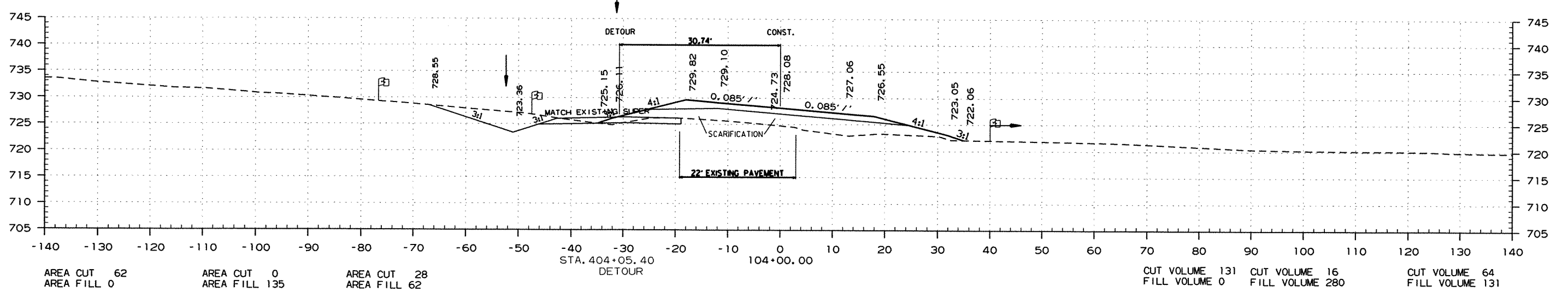
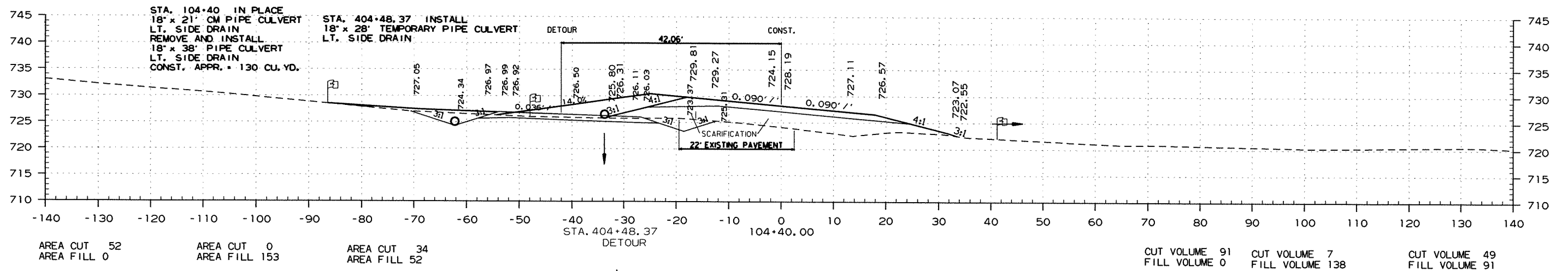
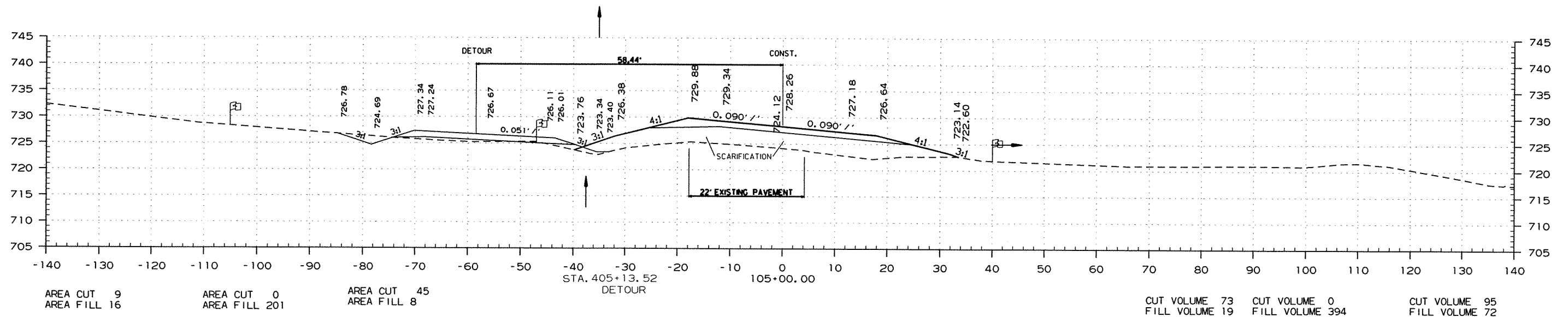


STA. 102+73.00 TO STA. 103+10.00

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		050012		

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT



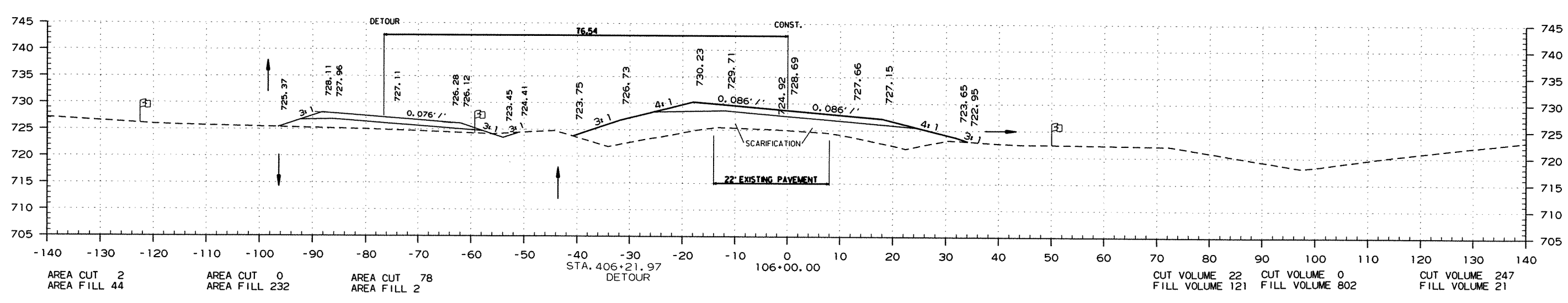
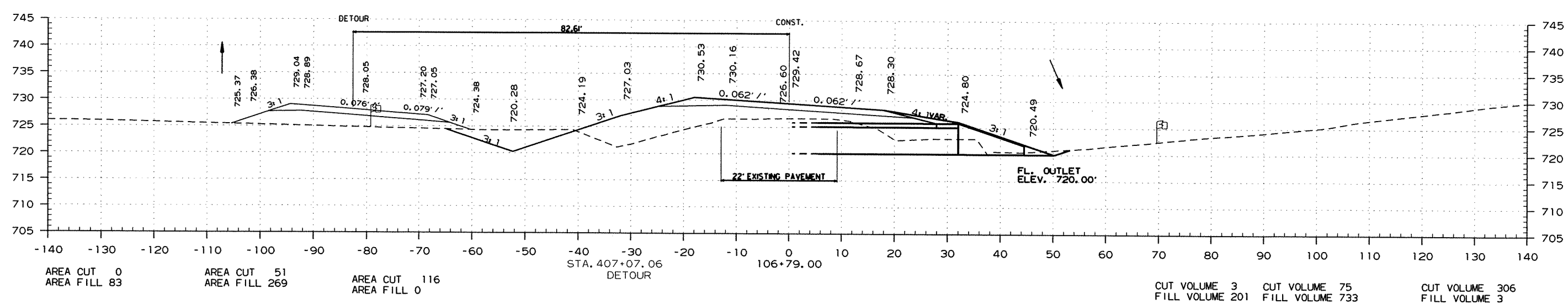
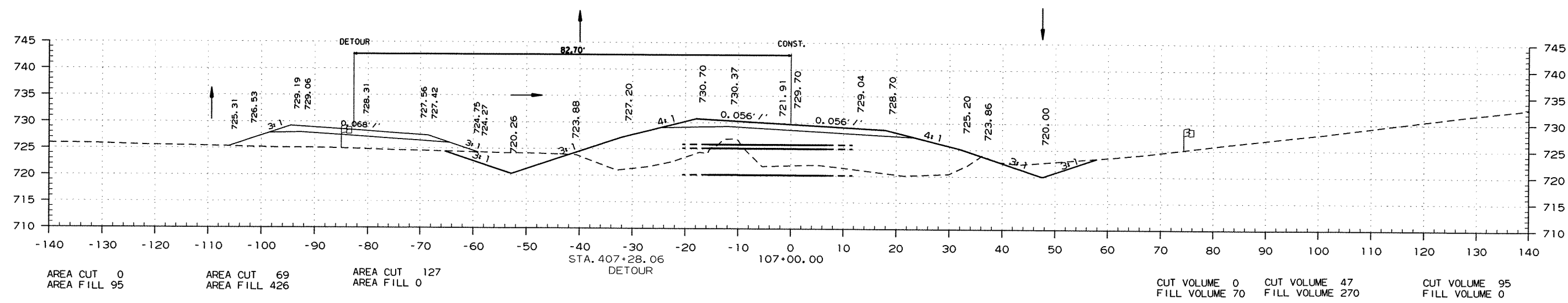
STA. 104+00.00 TO STA. 105+00.00

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. 050012							71	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



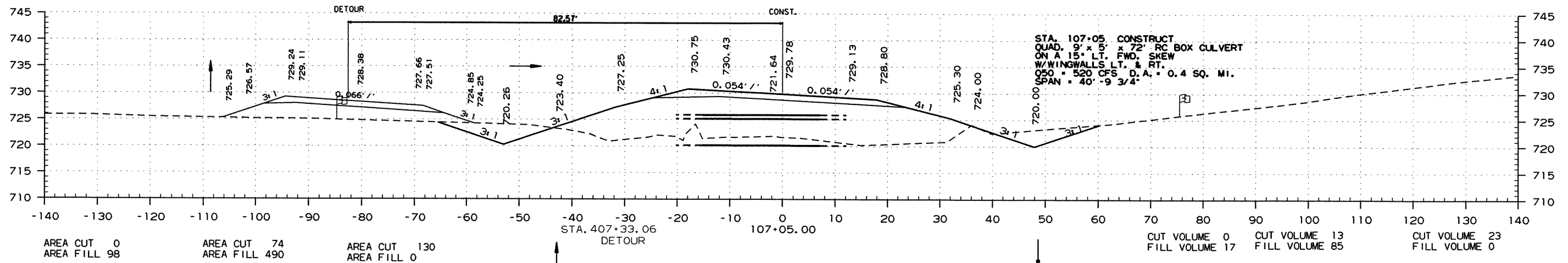
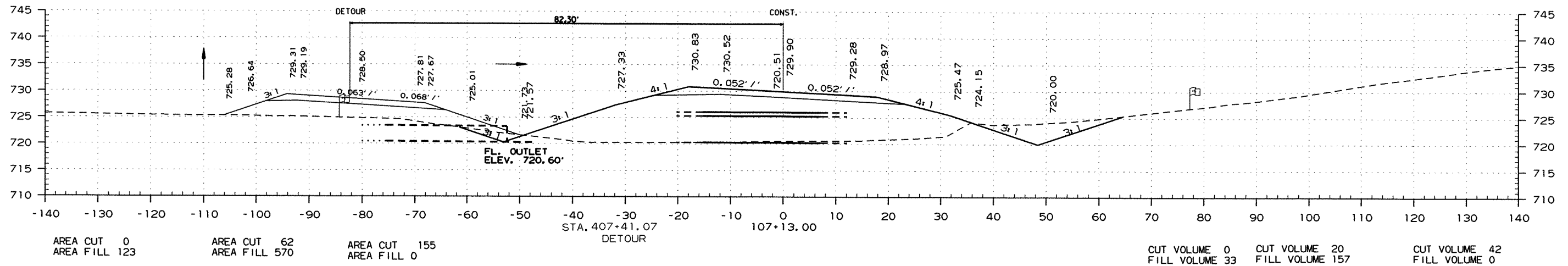
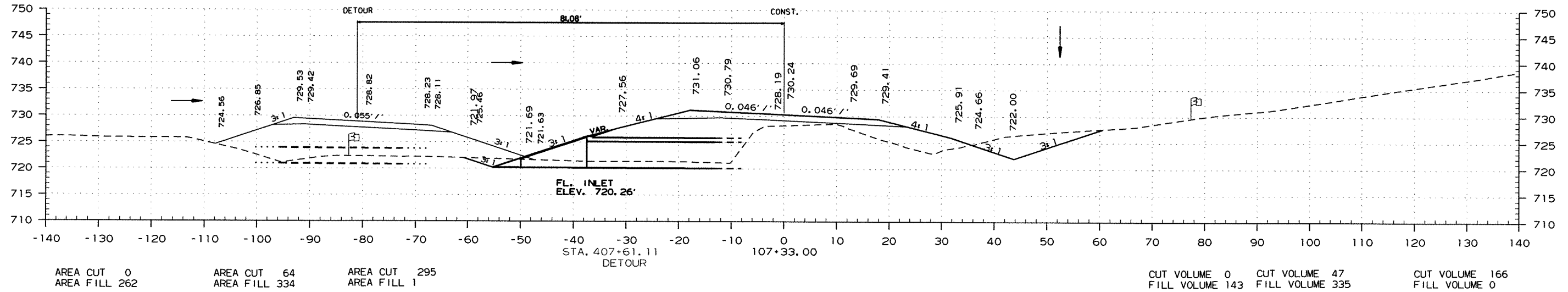
STA. 106+00.00 TO STA. 107+00.00

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. 050012						72	90	

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

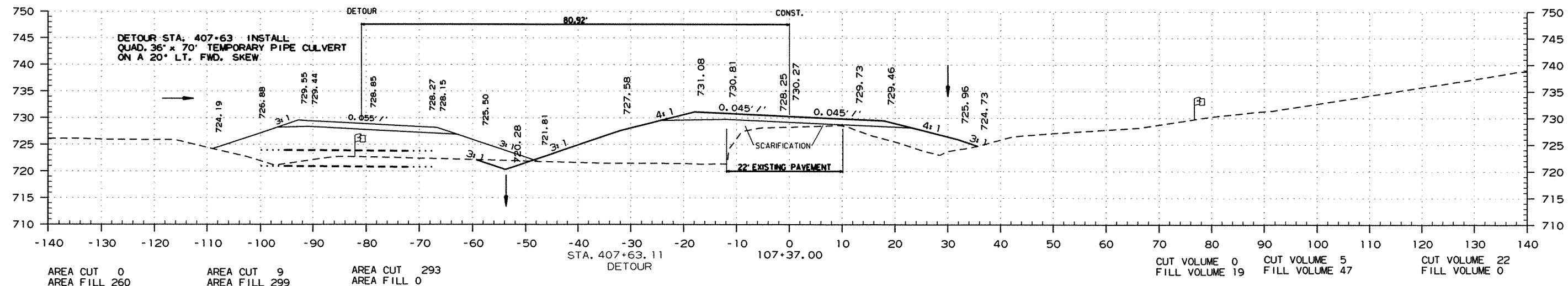
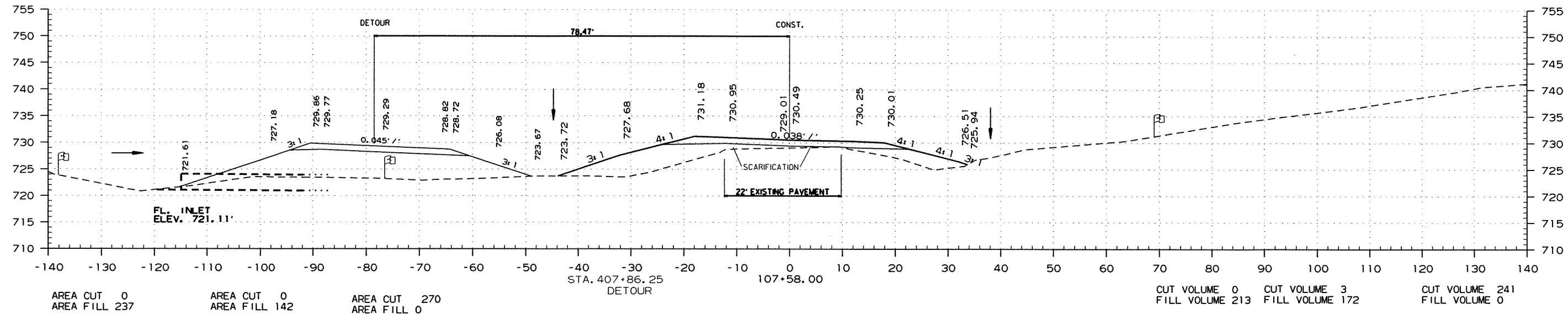
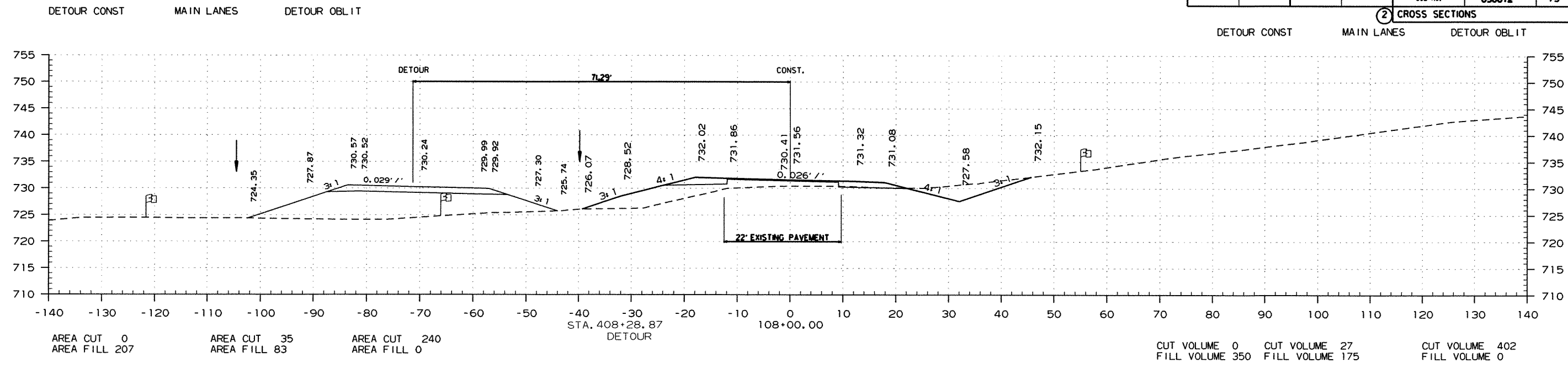
DETOUR CONST MAIN LANES DETOUR OBLIT



STA. 107+05.00 TO STA. 107+33.00

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.	050012	73	90	

② CROSS SECTIONS



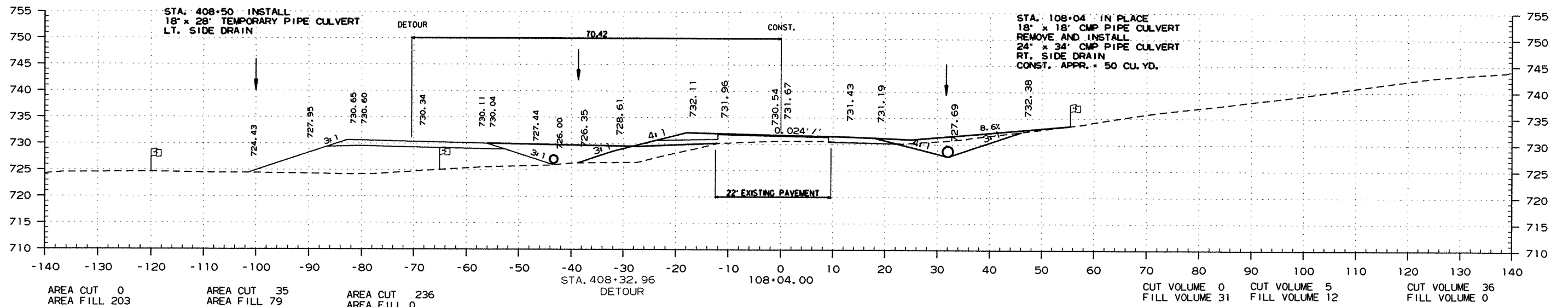
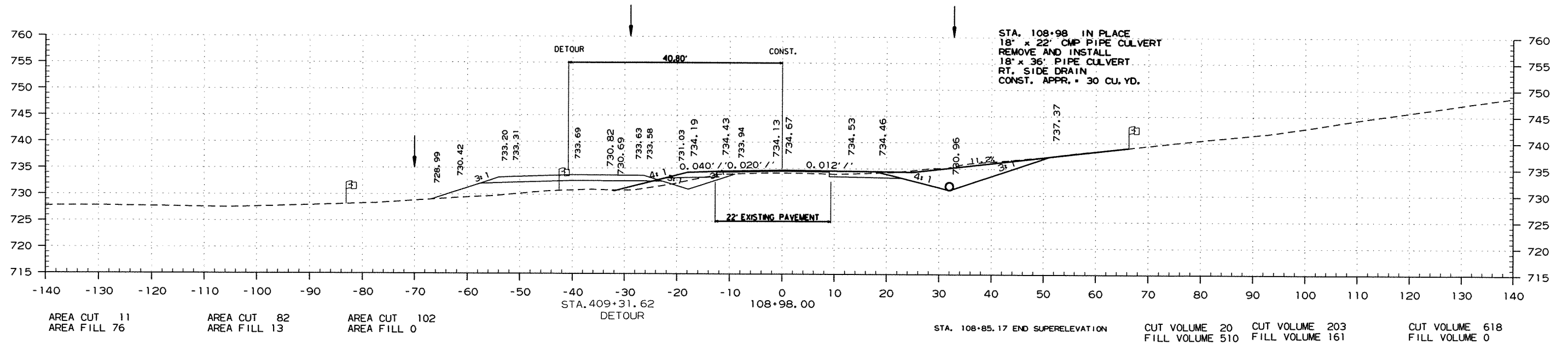
STA. 107+37.00 TO STA. 108+00.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		74	90
				JOB NO.		050012		

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



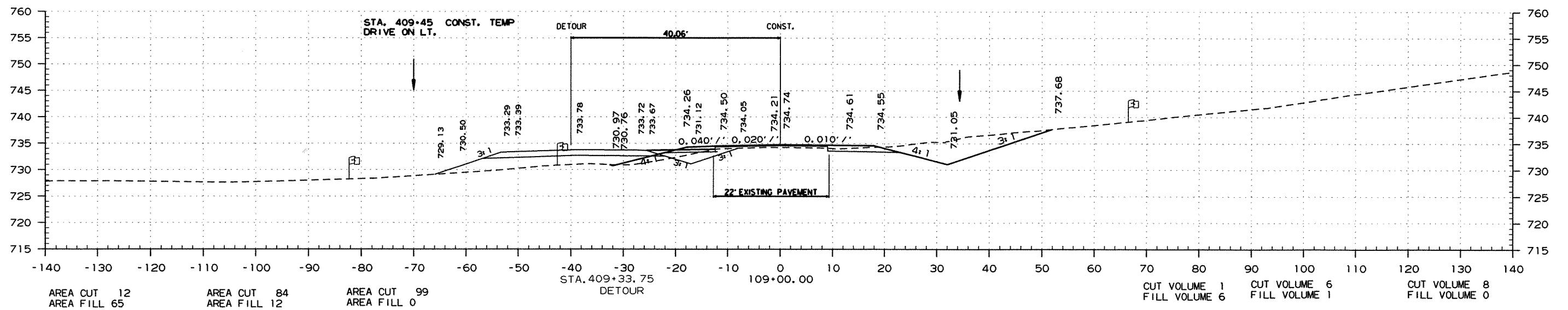
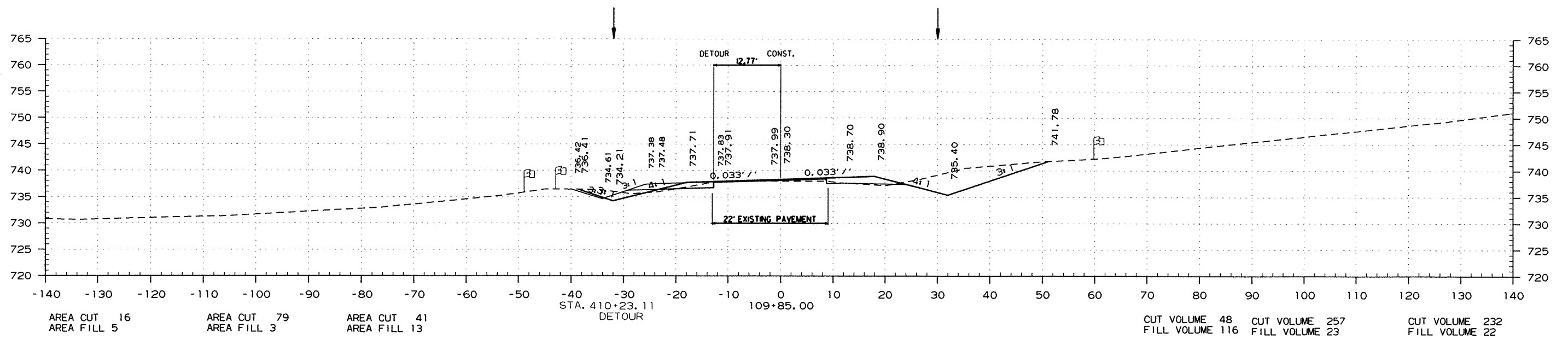
STA. 108+04.00 TO STA. 108+98.00

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.						050012	75	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

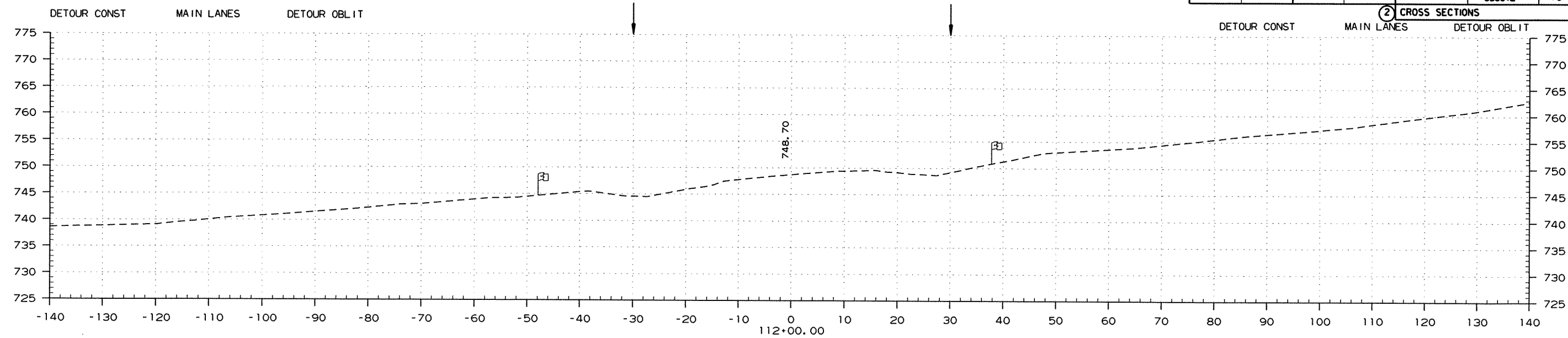
DETOUR CONST MAIN LANES DETOUR OBLIT



STA. 109+00.00 TO STA. 109+85.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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JOB NO.						050012	76	90

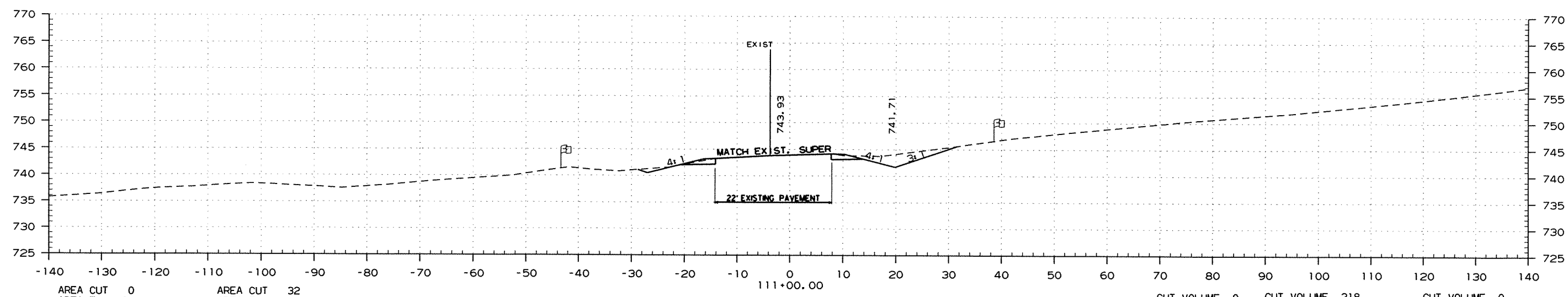
② CROSS SECTIONS



AREA CUT 0 AREA CUT 0
 AREA FILL 0 AREA FILL 0

CUT VOLUME 60
 FILL VOLUME 0 CUT VOLUME 0
 FILL VOLUME 0

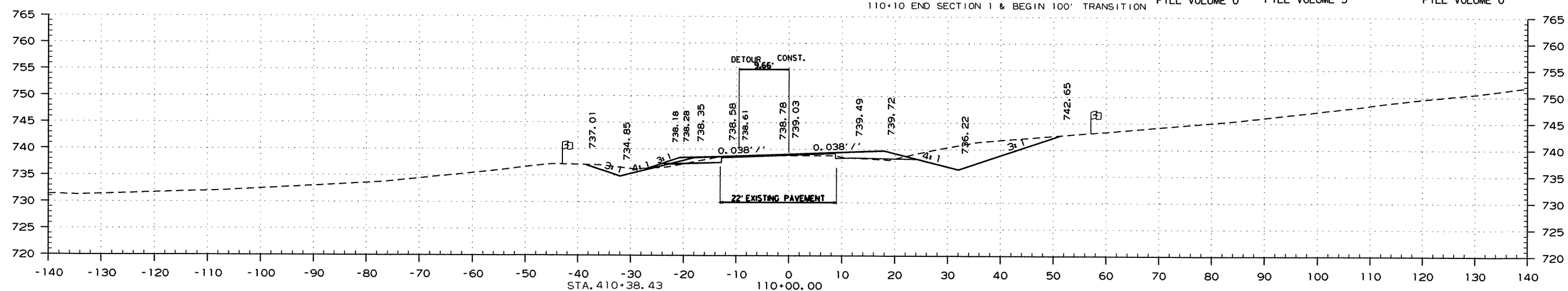
STA. 111+10 END 100' TRANSITION



AREA CUT 0 AREA CUT 32
 AREA FILL 0 AREA FILL 0

CUT VOLUME 0 CUT VOLUME 218
 FILL VOLUME 0 FILL VOLUME 5

110+10 END SECTION 1 & BEGIN 100' TRANSITION



AREA CUT 0 AREA CUT 86 AREA CUT 10
 AREA FILL 3 AREA FILL 3 AREA FILL 2

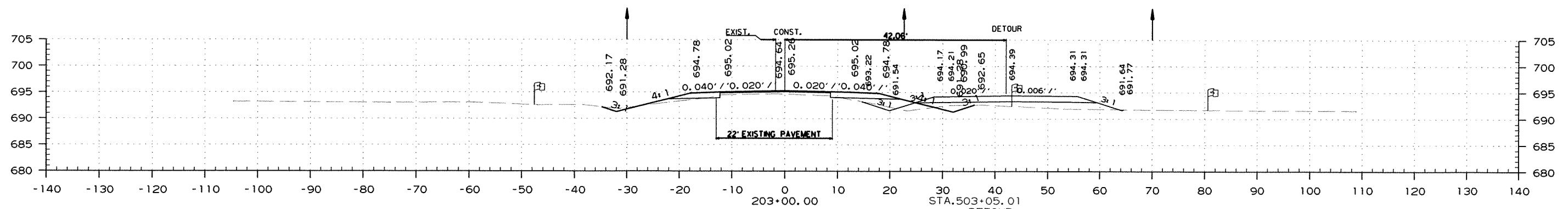
CUT VOLUME 5 CUT VOLUME 46 CUT VOLUME 15
 FILL VOLUME 2 FILL VOLUME 2 FILL VOLUME 4

STA. 110+00.00 TO STA. 112+00.00

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.	050012	77
						2 CROSS SECTIONS		

DETOUR CONST MAIN LANES DETOUR OBLIT

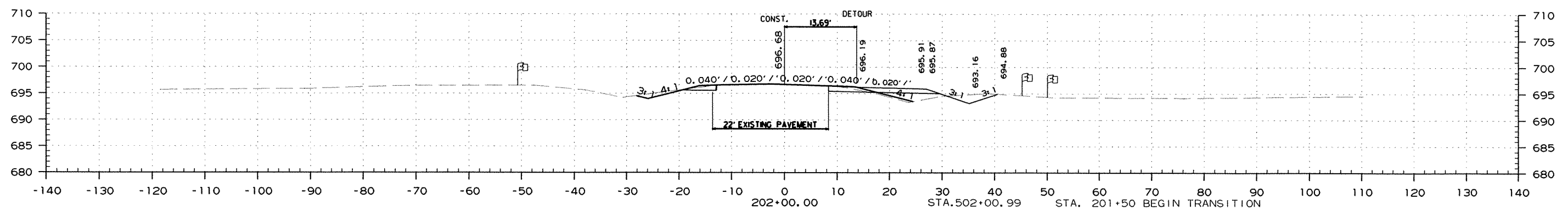
DETOUR CONST MAIN LANES DETOUR OBLIT



AREA CUT 2 AREA CUT 8 AREA CUT 74
 AREA FILL 40 AREA FILL 23 AREA FILL 2

STA. 202+50 BEGIN SECTION 2

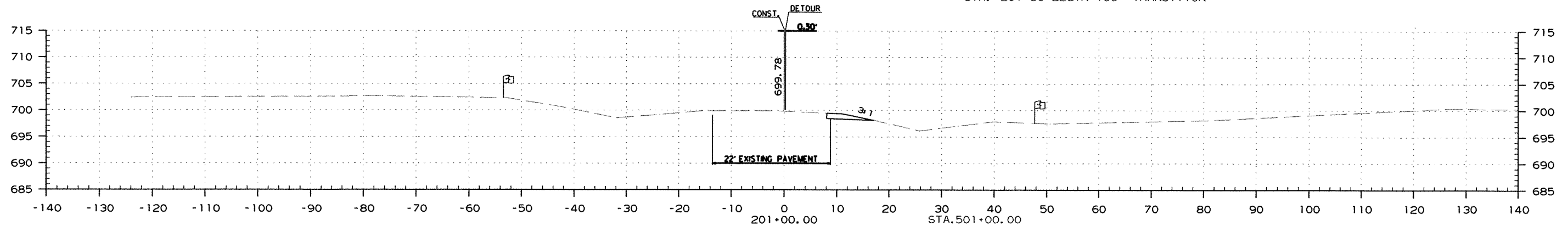
CUT VOLUME 29 CUT VOLUME 37 CUT VOLUME 198
 FILL VOLUME 104 FILL VOLUME 47 FILL VOLUME 13



AREA CUT 13 AREA CUT 12 AREA CUT 29
 AREA FILL 14 AREA FILL 2 AREA FILL 4

STA. 201+50 BEGIN 100' TRANSITION

CUT VOLUME 34 CUT VOLUME 22 CUT VOLUME 55
 FILL VOLUME 26 FILL VOLUME 4 FILL VOLUME 8



AREA CUT 6 AREA CUT 0 AREA CUT 0
 AREA FILL 0 AREA FILL 0 AREA FILL 0

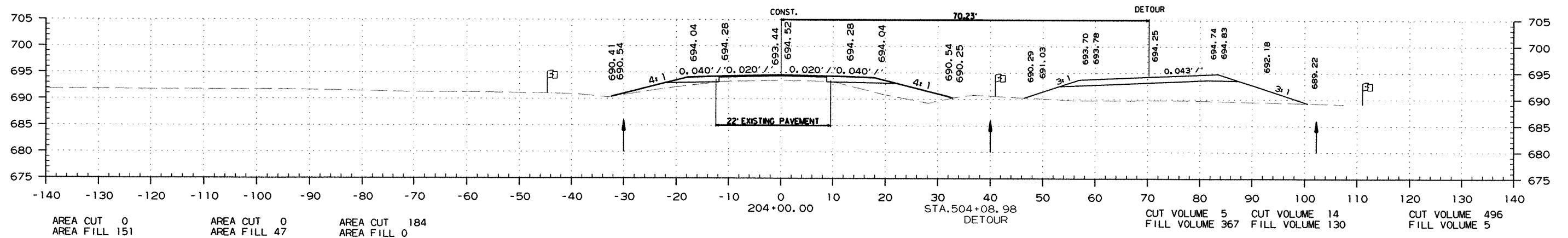
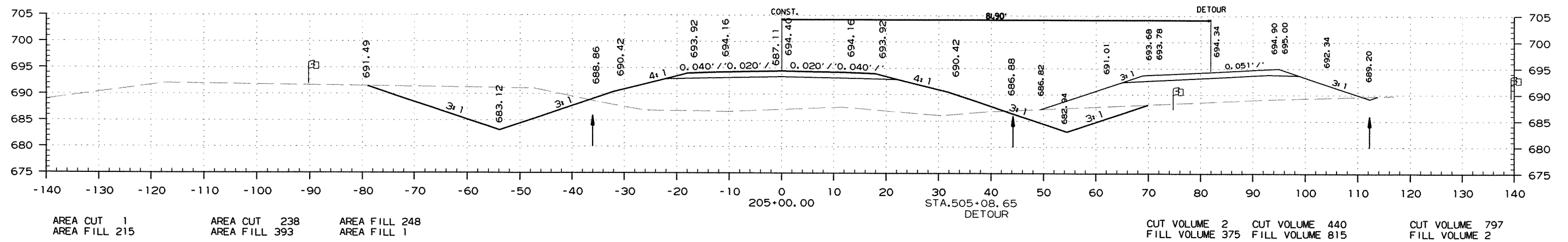
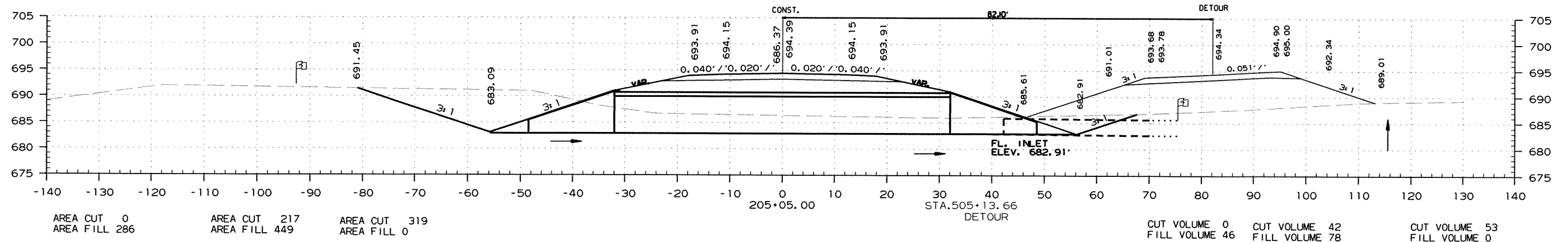
DET. STA. 500+63.99 BEGIN DETOUR

CUT VOLUME 0 CUT VOLUME 0 CUT VOLUME 0
 FILL VOLUME 0 FILL VOLUME 0 FILL VOLUME 0

STA. 201+00.00 TO STA. 203+00.00

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.	050012	78

2 CROSS SECTIONS



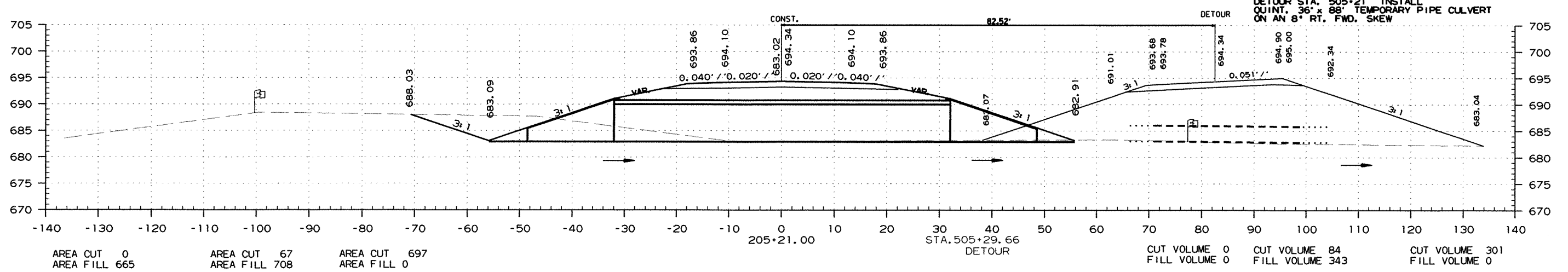
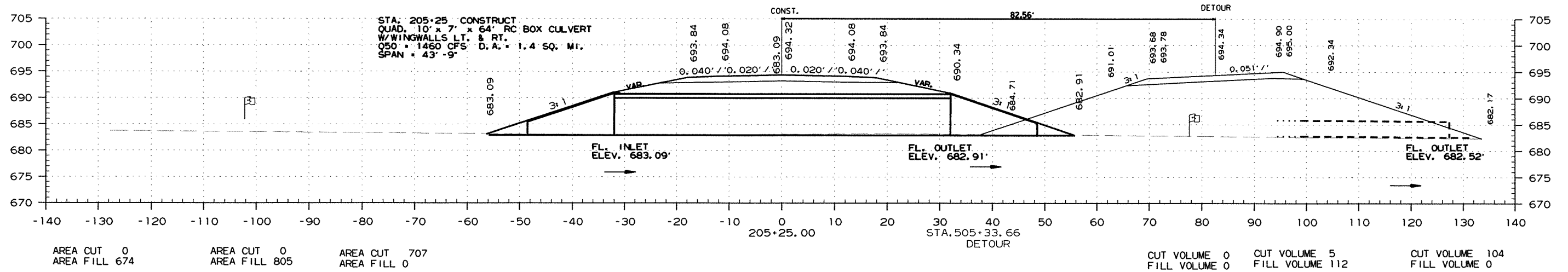
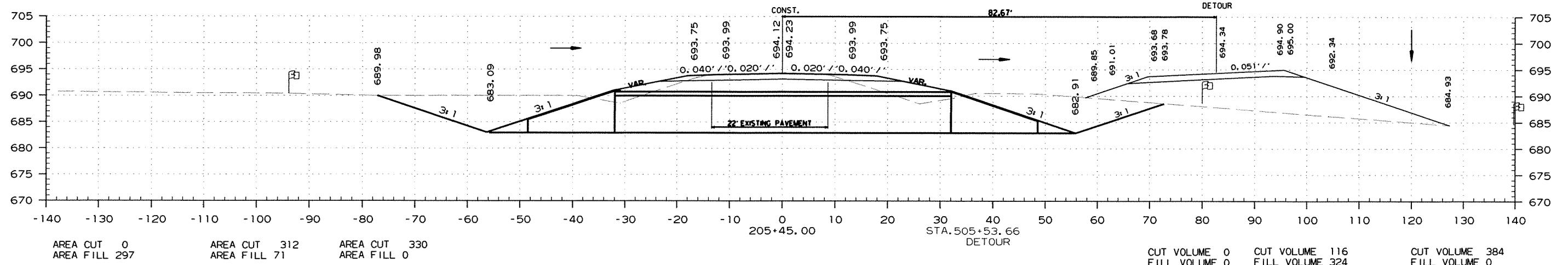
STA. 204+00.00 TO STA. 205+05.00

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. 050012	79	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



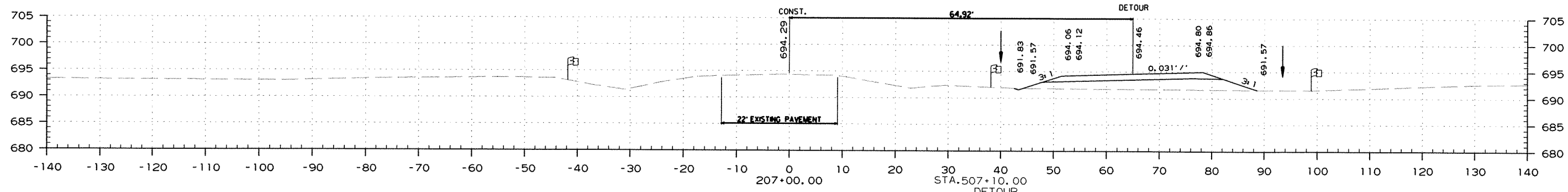
STA. 205+21.00 TO STA. 205+45.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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						JOB NO. 050012	80	90

2 CROSS SECTIONS

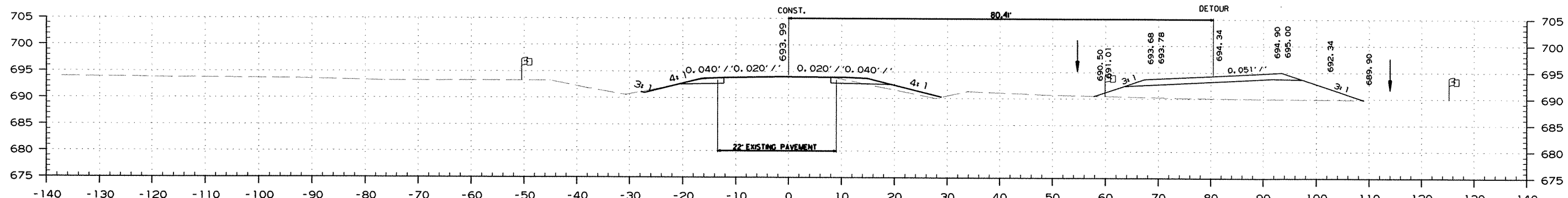
DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



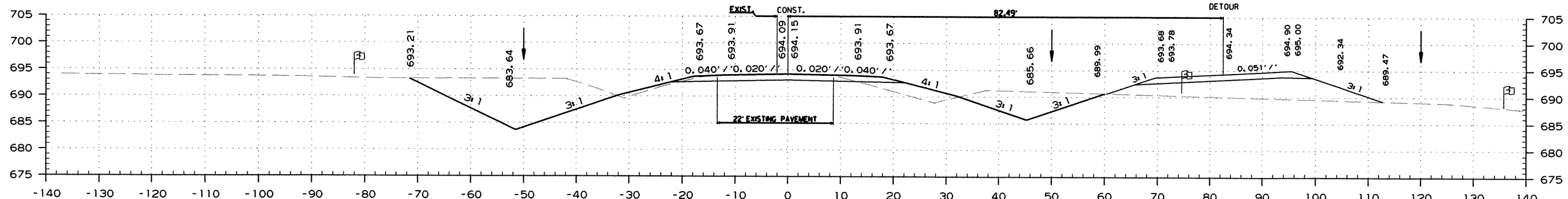
AREA CUT 0	AREA CUT 0	AREA CUT 104	CUT VOLUME 0	CUT VOLUME 20	CUT VOLUME 506
AREA FILL 71	AREA FILL 0	AREA FILL 0	FILL VOLUME 0	FILL VOLUME 16	FILL VOLUME 0

STA. 206+60 END 100' TRANSITION



AREA CUT 0	AREA CUT 11	AREA CUT 166	CUT VOLUME 0	CUT VOLUME 239	CUT VOLUME 250
AREA FILL 133	AREA FILL 9	AREA FILL 0	FILL VOLUME 0	FILL VOLUME 59	FILL VOLUME 0

STA. 506+08.72



AREA CUT 0	AREA CUT 234	AREA CUT 172	CUT VOLUME 0	CUT VOLUME 152	CUT VOLUME 139
AREA FILL 139	AREA FILL 35	AREA FILL 0	FILL VOLUME 0	FILL VOLUME 29	FILL VOLUME 0

END SECTION 2
BEGIN 100' TRANSITION

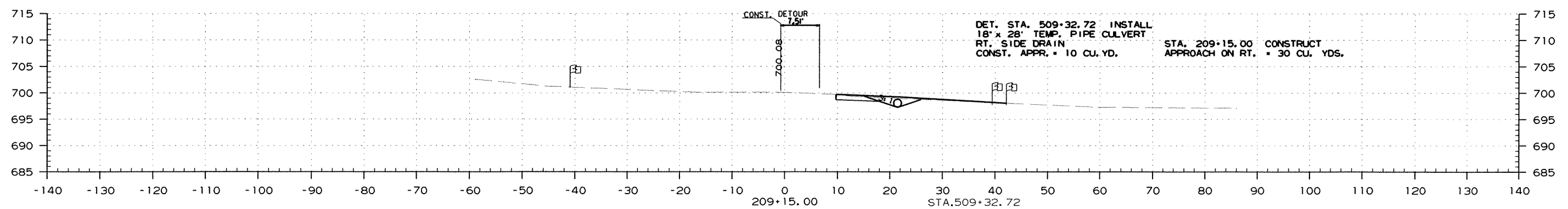
STA. 205+60.00 TO STA. 207+00.00

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.	050012	81 90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



AREA CUT 14
AREA FILL 0

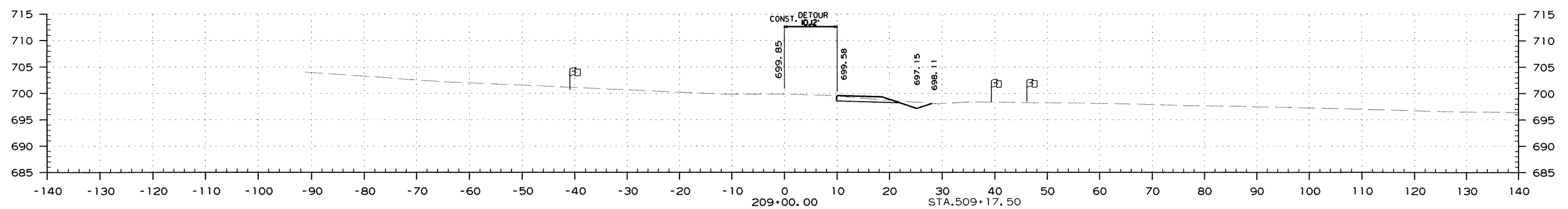
AREA CUT 0
AREA FILL 0

AREA CUT 7
AREA FILL 14

CUT VOLUME 0
FILL VOLUME 0

CUT VOLUME 0
FILL VOLUME 0

CUT VOLUME 4
FILL VOLUME 7



AREA CUT 11
AREA FILL 0

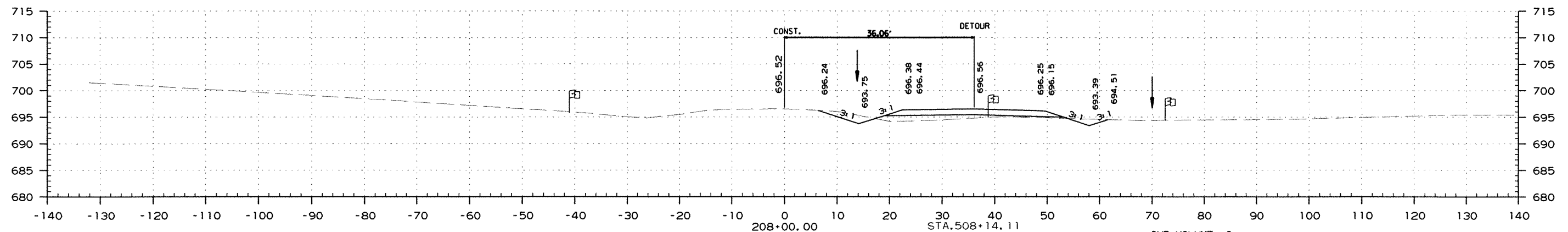
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AREA FILL 0

AREA CUT 7
AREA FILL 11

CUT VOLUME 0
FILL VOLUME 0

CUT VOLUME 0
FILL VOLUME 0

CUT VOLUME 119
FILL VOLUME 48



AREA CUT 14
AREA FILL 22

AREA CUT 0
AREA FILL 0

AREA CUT 55
AREA FILL 14

CUT VOLUME 0
FILL VOLUME 0

CUT VOLUME 0
FILL VOLUME 0

CUT VOLUME 308
FILL VOLUME 28

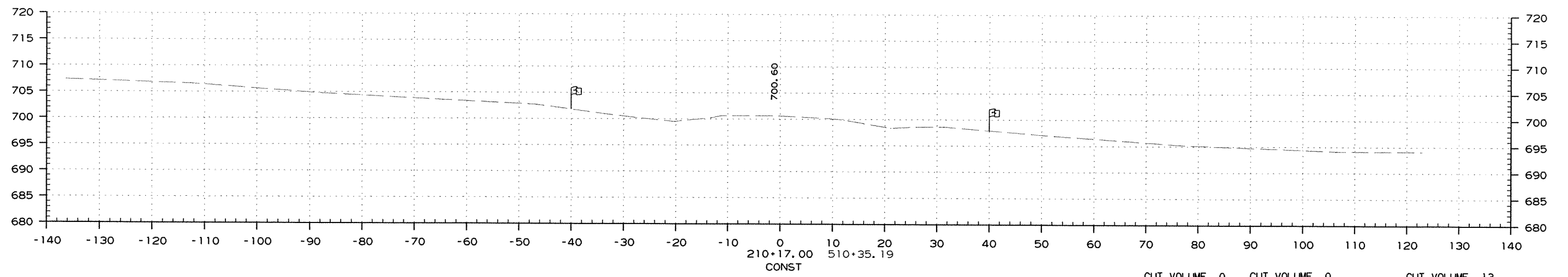
STA. 208+00.00 TO STA. 209+15.00

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.	050012	82

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



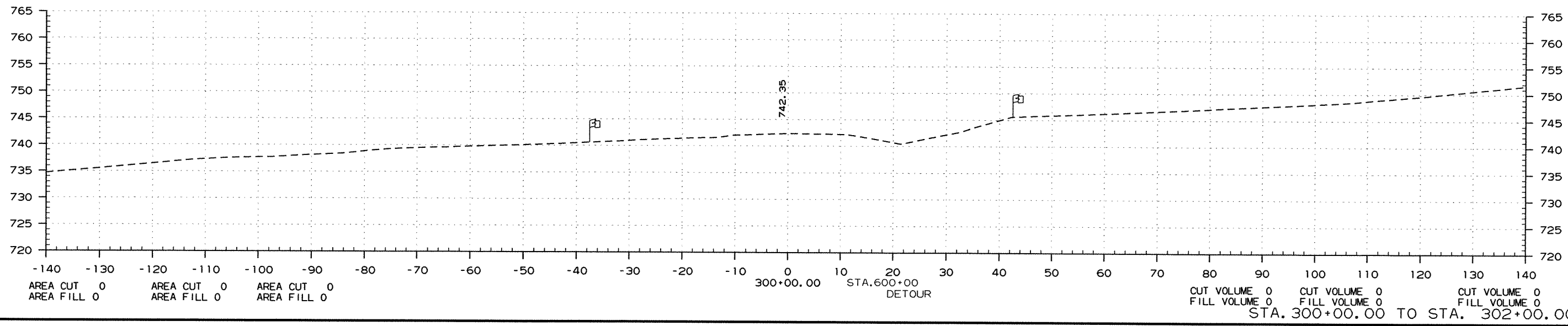
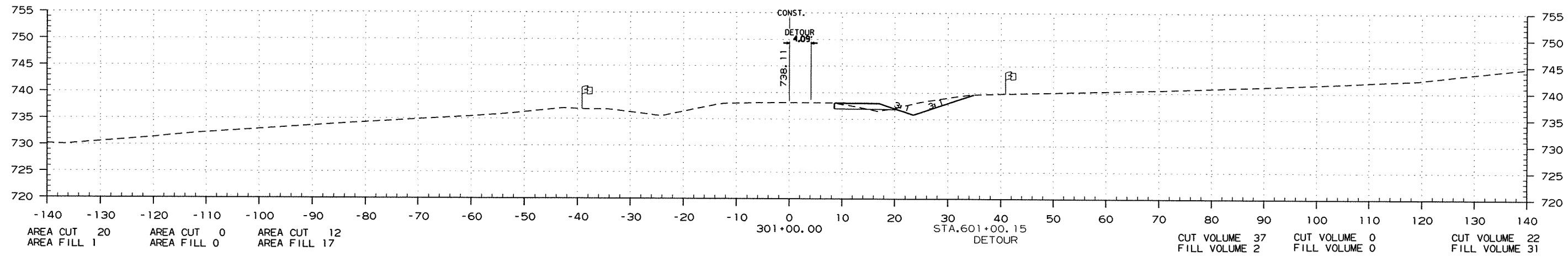
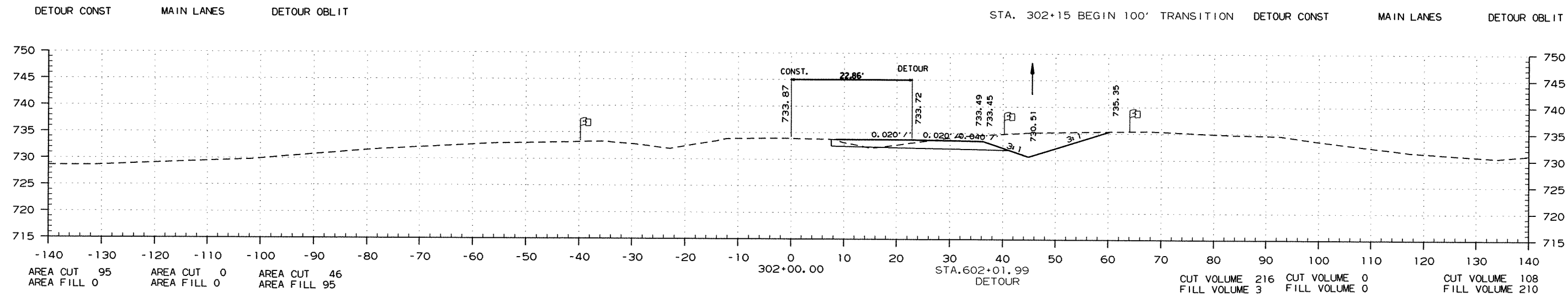
AREA CUT 0 AREA CUT 0 AREA CUT 0
 AREA FILL 0 AREA FILL 0 AREA FILL 0

CUT VOLUME 0 CUT VOLUME 0 CUT VOLUME 13
 FILL VOLUME 0 FILL VOLUME 0 FILL VOLUME 27

DET. STA. 510+34.97 END DETOUR

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050012	83	90

2 CROSS SECTIONS

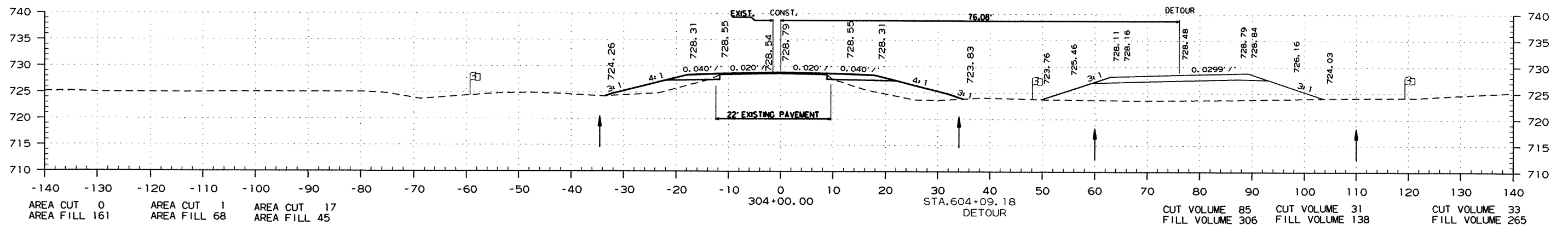
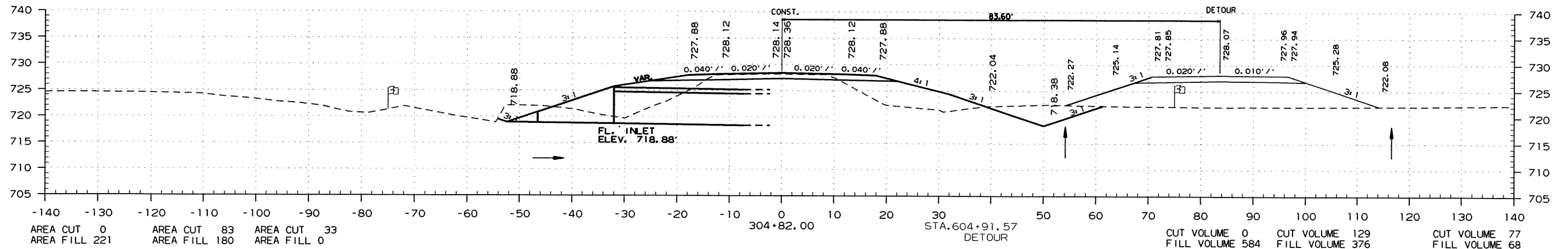


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050012	84	90

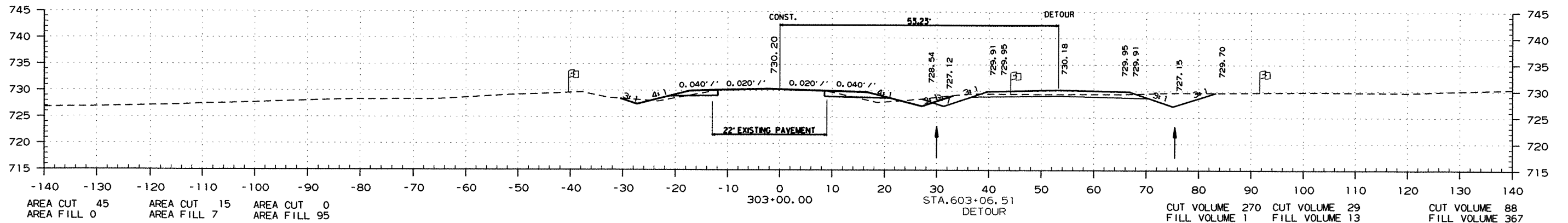
2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



STA. 303+15 BEGIN SECTION 3 & END 100' TRANSITION



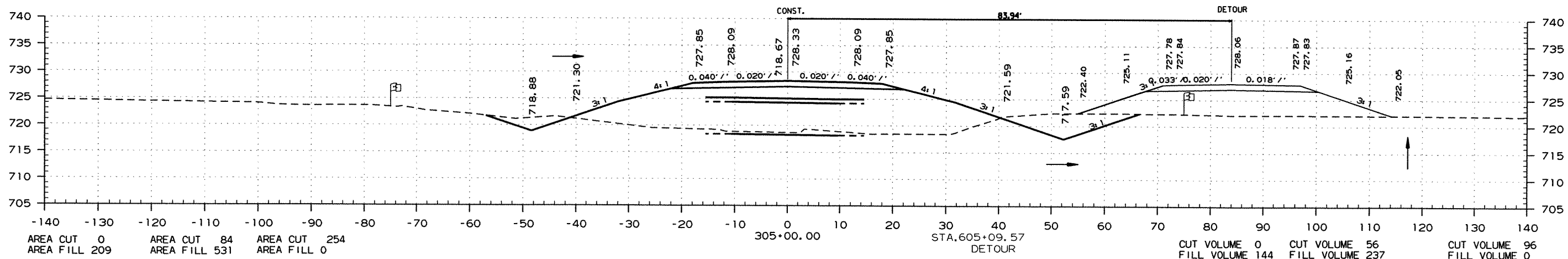
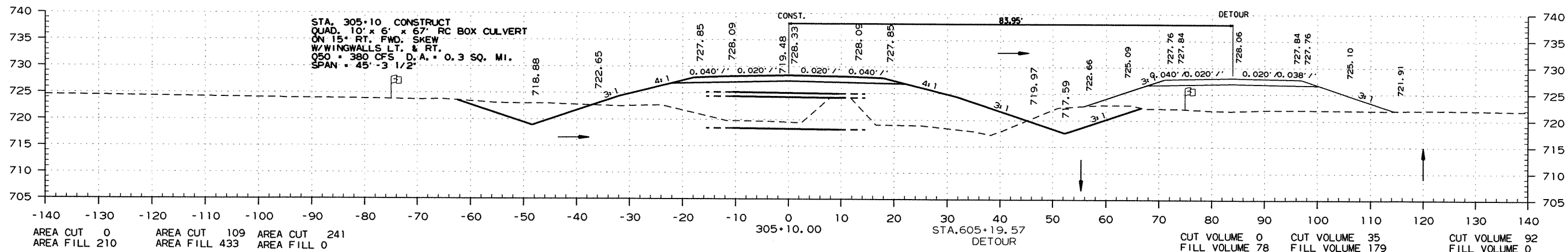
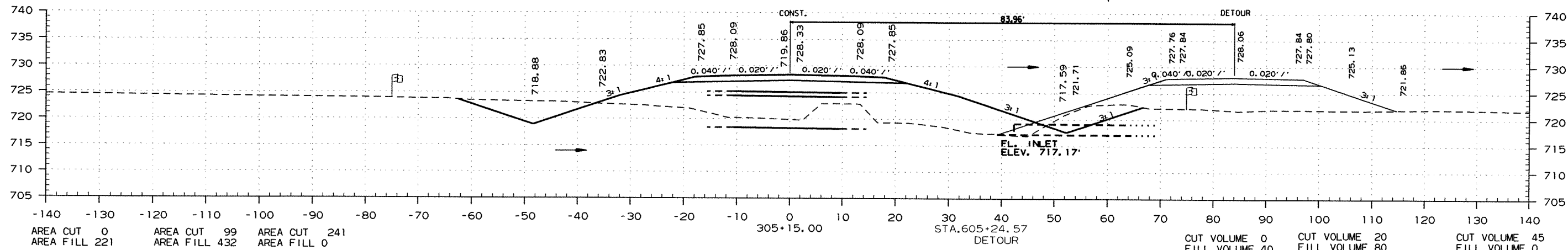
STA. 303+00.00 TO STA. 304+82.00

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. 050012	85	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



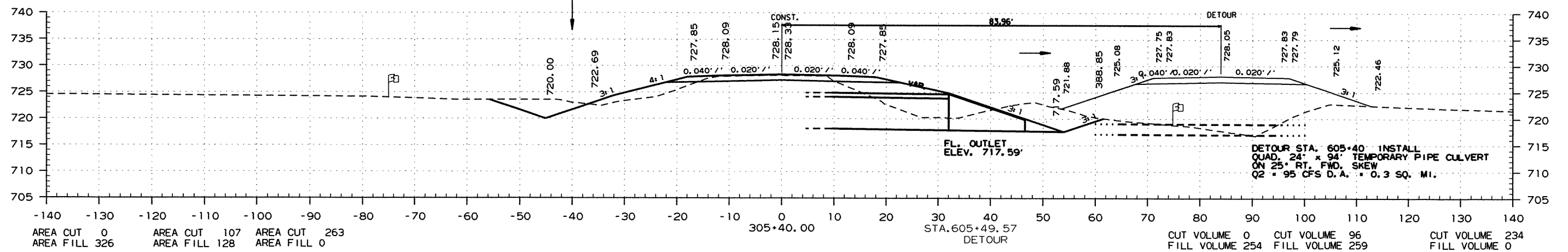
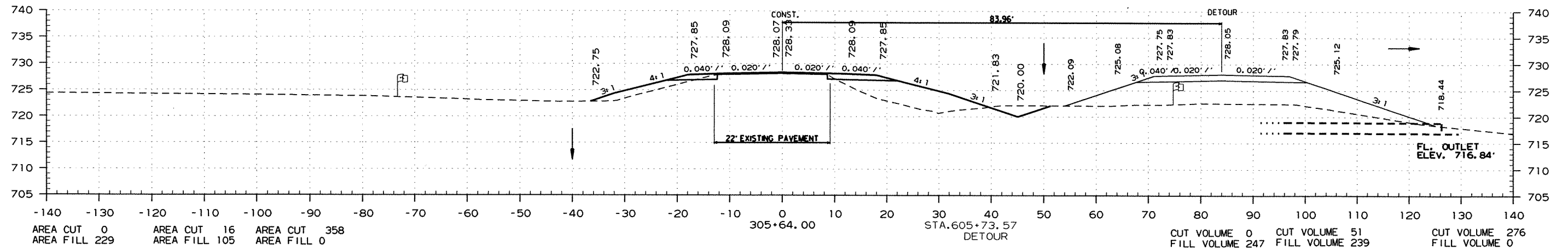
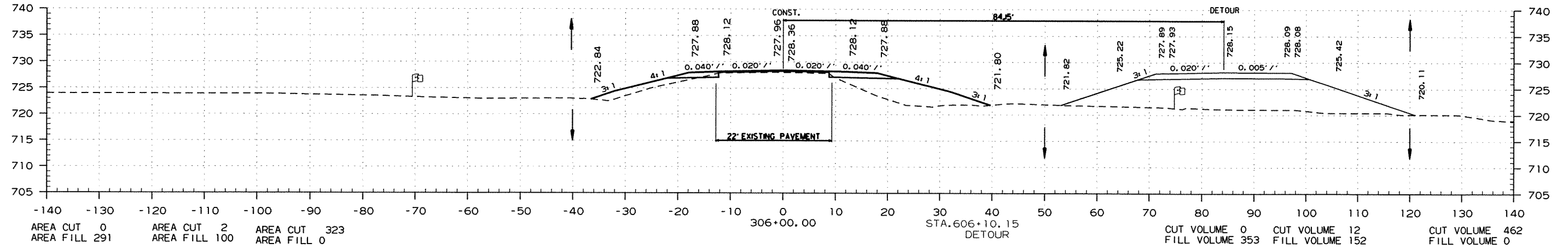
STA. 305+00.00 TO STA. 305+15.00

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.	050012	86
							90	

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



STA. 305+40.00 TO STA. 306+00.00

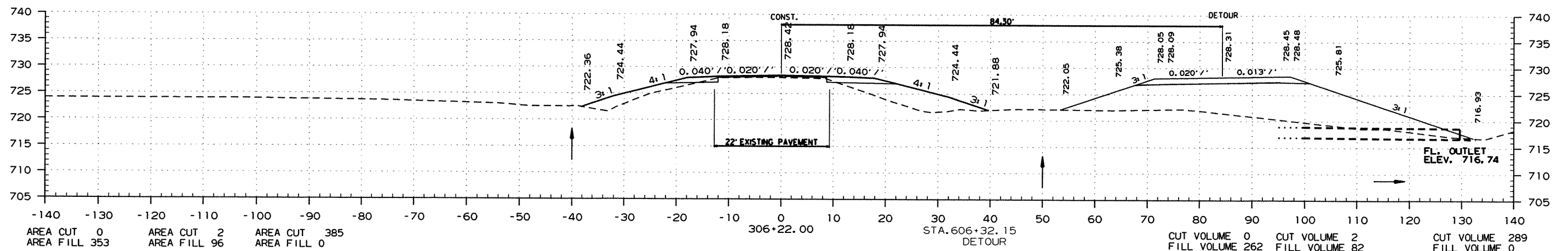
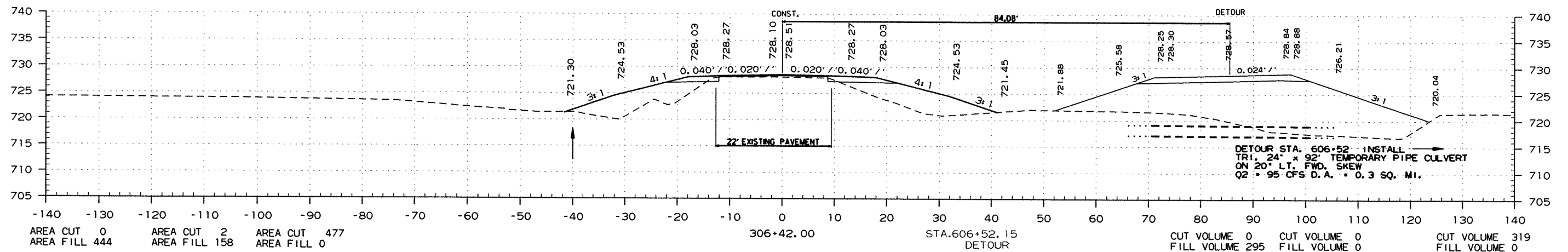
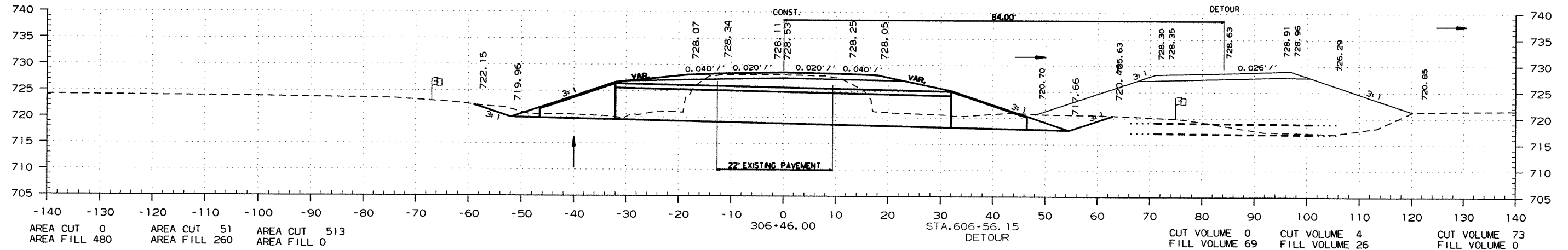
DETOUR STA. 605+40' INSTALL QUAD. 24" x 94" TEMPORARY PIPE CULVERT ON 25' RT. FWD. SKEW Q2 = 95 CFS D.A. = 0.3 SQ. MI.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	050012	87 90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



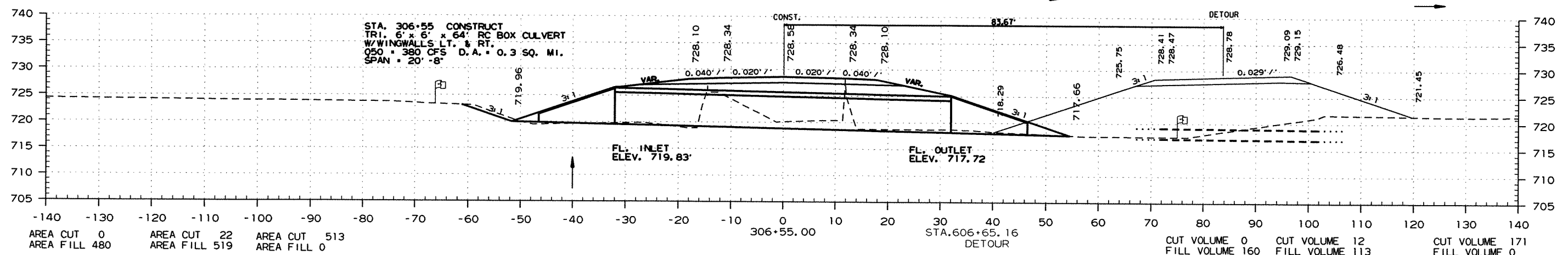
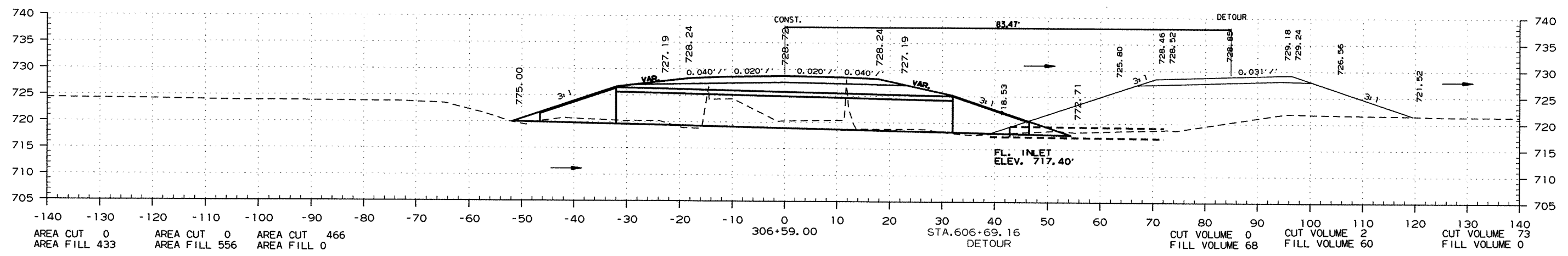
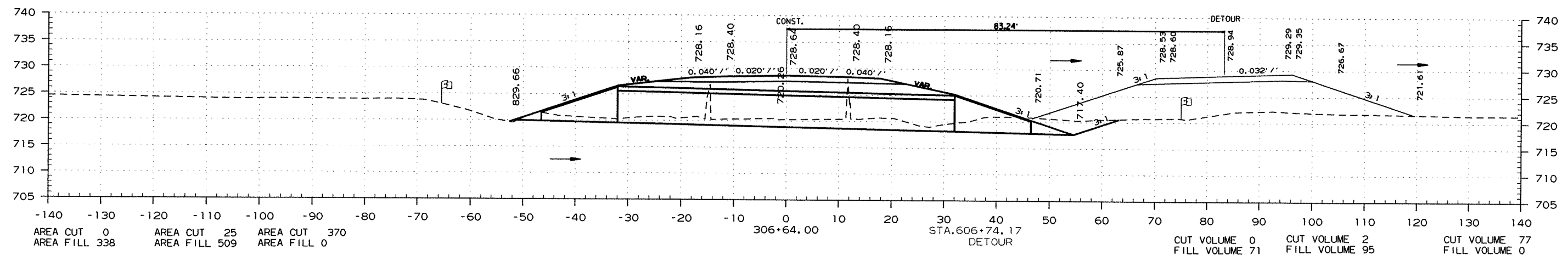
STA. 306+22.00 TO STA. 306+46.00

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.	050012
							SHEET NO.	88
							TOTAL SHEETS	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



STA. 306+55.00 TO STA. 306+64.00

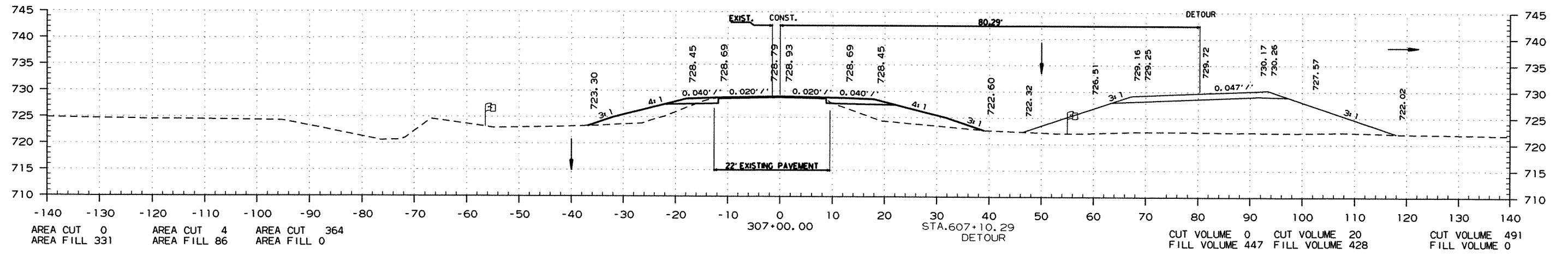
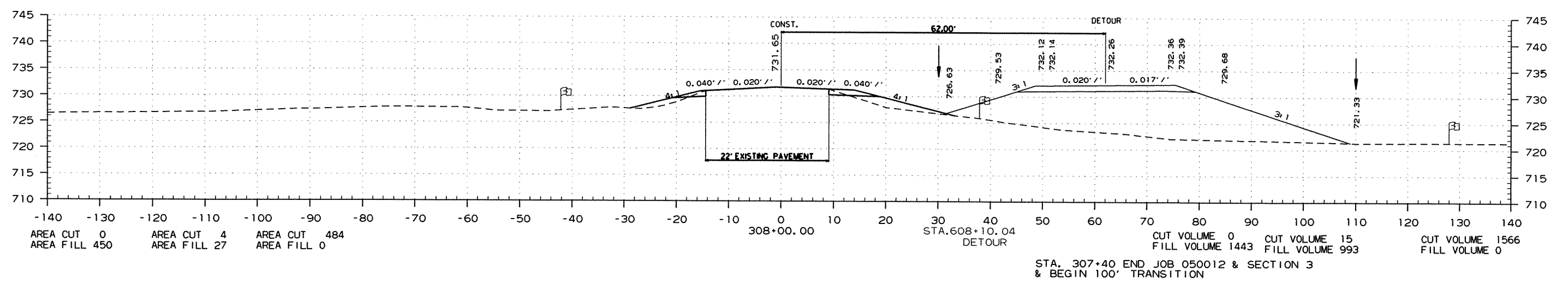
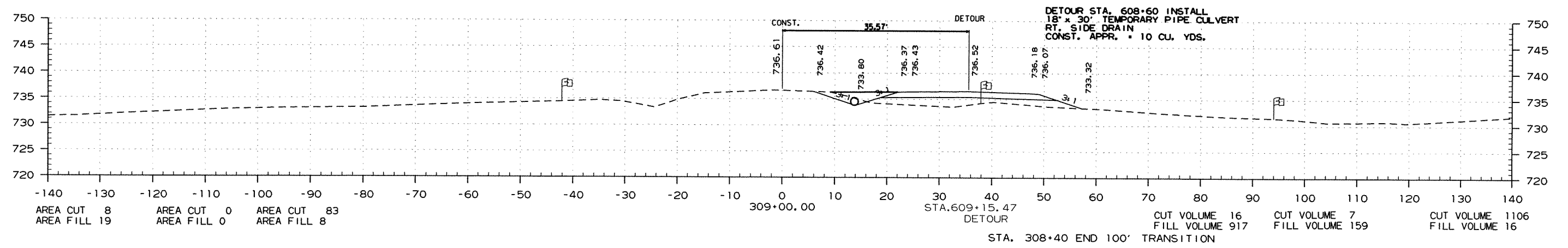
STA. 306+55 CONSTRUCT
 TRI. 6' x 6' x 64' RC BOX CULVERT
 W/ WINGWALLS L.T. & RT.
 550' x 380' CFS D.A. = 0.3 SQ. MI.
 SPAN = 20' - 8"

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050012	89	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



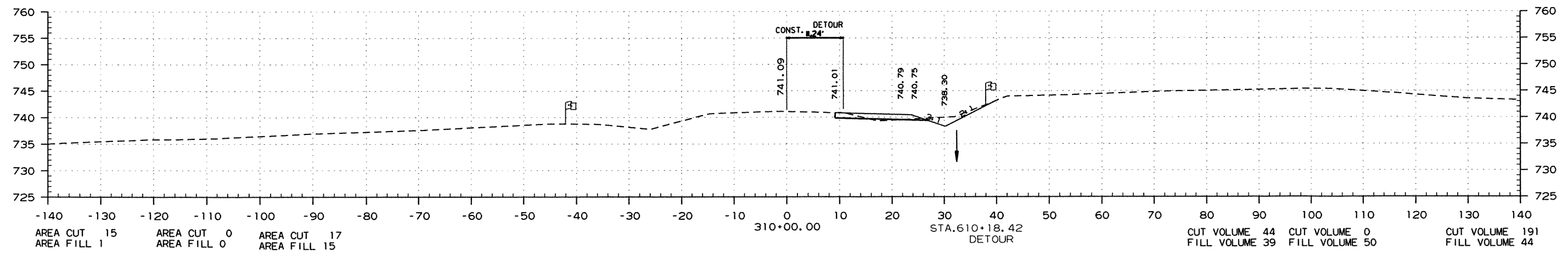
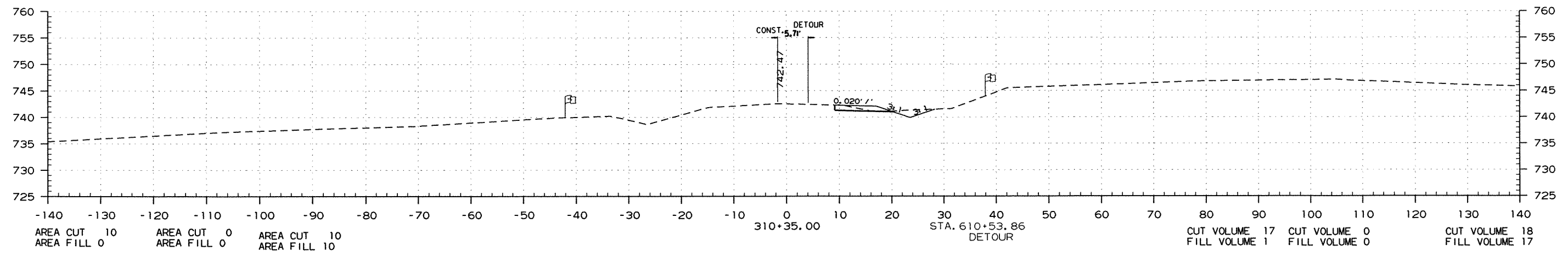
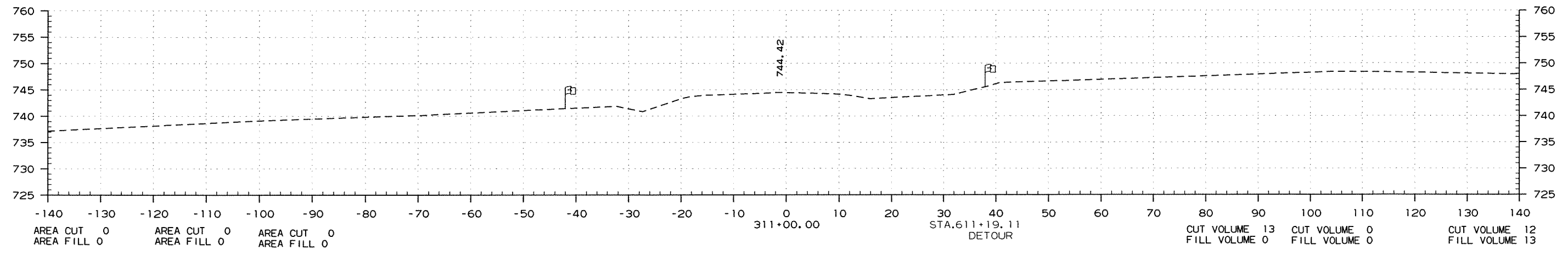
STA. 307+00.00 TO STA. 309+00.00

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.	050012	90

2 CROSS SECTIONS

DETOUR CONST MAIN LANES DETOUR OBLIT

DETOUR CONST MAIN LANES DETOUR OBLIT



STA. 310+00.00 TO STA. 311+00.00