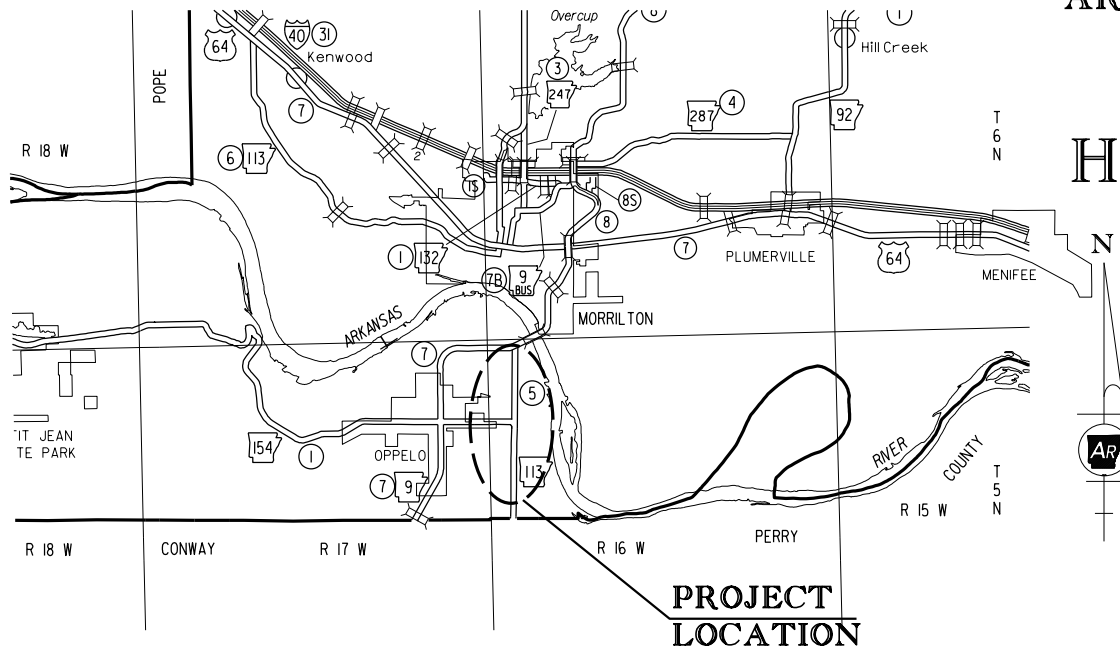


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	1	123
HIGHWAY 113 RELOCATION (CONWAY CO.) (S)						



VICINITY MAP

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS



HIGHWAY 113 RELOCATION
(CONWAY CO.) (S)

CONWAY COUNTY
ROUTE 113 SECTION 5

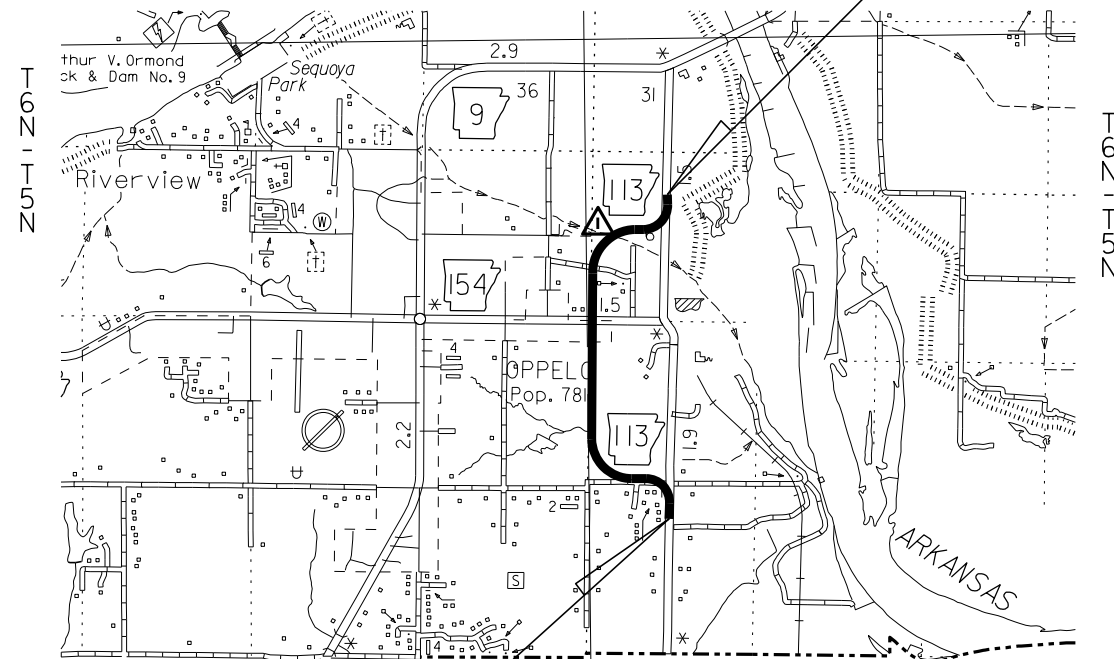
JOB 080711

FED. AID PROJ. STPR-0015(33)

NOT TO SCALE

R-17-W | R-16-W

STA. 228+95.00
END JOB 080711



R-17-W | R-16-W

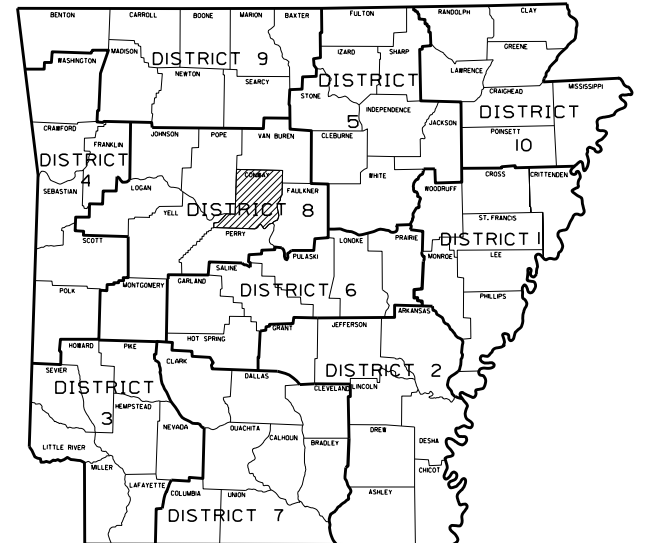
STA. 103+95.00
BEGIN JOB 080711
LOG MILE 0.855

STRUCTURES OVER 20'-0" SPAN

- △ STA. 204+27.44 CONSTRUCT
TRI. 9' X 9' X 114' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
WITH 35° RT. FWD SKEW
Q25=998 CFS D.A.= 2.67 SQ. MI.
SPAN= 37.03'

	BEGIN OF PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 35°05'05"	N 35°05'53"	N 35°06'48"
LONGITUDE	W 92°44'30"	W 92°44'55"	W 92°44'29"

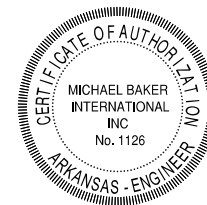
LENGTH COMPUTED ALONG C.L. HWY. 113 RELOCATION	
GROSS LENGTH OF PROJECT	12500.00 FEET 2.367 MILES
NET LENGTH OF ROADWAY	12462.97 FEET 2.360 MILES
NET LENGTH OF BRIDGES	37.03 FEET 0.007 MILES
NET LENGTH OF PROJECT	12500.00 FEET 2.367 MILES



ARKANSAS HIGHWAY DISTRICT 8

• DESIGN TRAFFIC DATA •

DESIGN YEAR-----2044
2024 ADT-----3400
2044 ADT-----4200
2044 DHV-----462
DIRECTIONAL DISTRIBUTION-----0.60
TRUCKS-----25%
DESIGN SPEED-----60 MPH



R:\proj\Chowdhury\3/25/2024 3:07:33 PM
 WORKSPACE\AR001
 Y:\Projects\AR001\96431.0807IL Highway IIS Relocation\Design\Civil Drawings\R0807IL 02_IND_001.dgn
 REVISED DATE: **REVDATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	2	123
		INDEX OF SHEETS AND STANDARD DRAWINGS				



INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 8	TYPICAL SECTIONS OF IMPROVEMENT
9 - 17	SPECIAL DETAILS
18 - 30	TEMPORARY EROSION CONTROL DETAILS
31 - 39	MAINTENANCE OF TRAFFIC DETAILS
40 - 48	PERMANENT PAVEMENT MARKING DETAILS
49 - 51	QUANTITIES
52	SUMMARY OF QUANTITIES AND REVISIONS
53 - 59	SURVEY CONTROL DETAILS
60 - 70	PLAN AND PROFILE SHEETS
71 - 123	CROSS SECTIONS

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

ROADWAY STANDARD DRAWING

DRWG.NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
DR-2	DETAILS OF DRIVEWAYS & STREET TURNOUTS	05-19-22
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
MB-1	MAILBOX DETAILS	11-18-04
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1	PAVEMENT MARKING DETAILS	02-27-20
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-3	CHAIN LINK FENCE	11-17-10

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PROJECT: ARDOT
REVISION DATE: \$*REDATE\$*

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
04-19-24		6	ARK.	08071I	3	123
		GOVERNING SPECIFICATIONS AND GENERAL NOTES				



GOVERNING SPECIFICATIONS

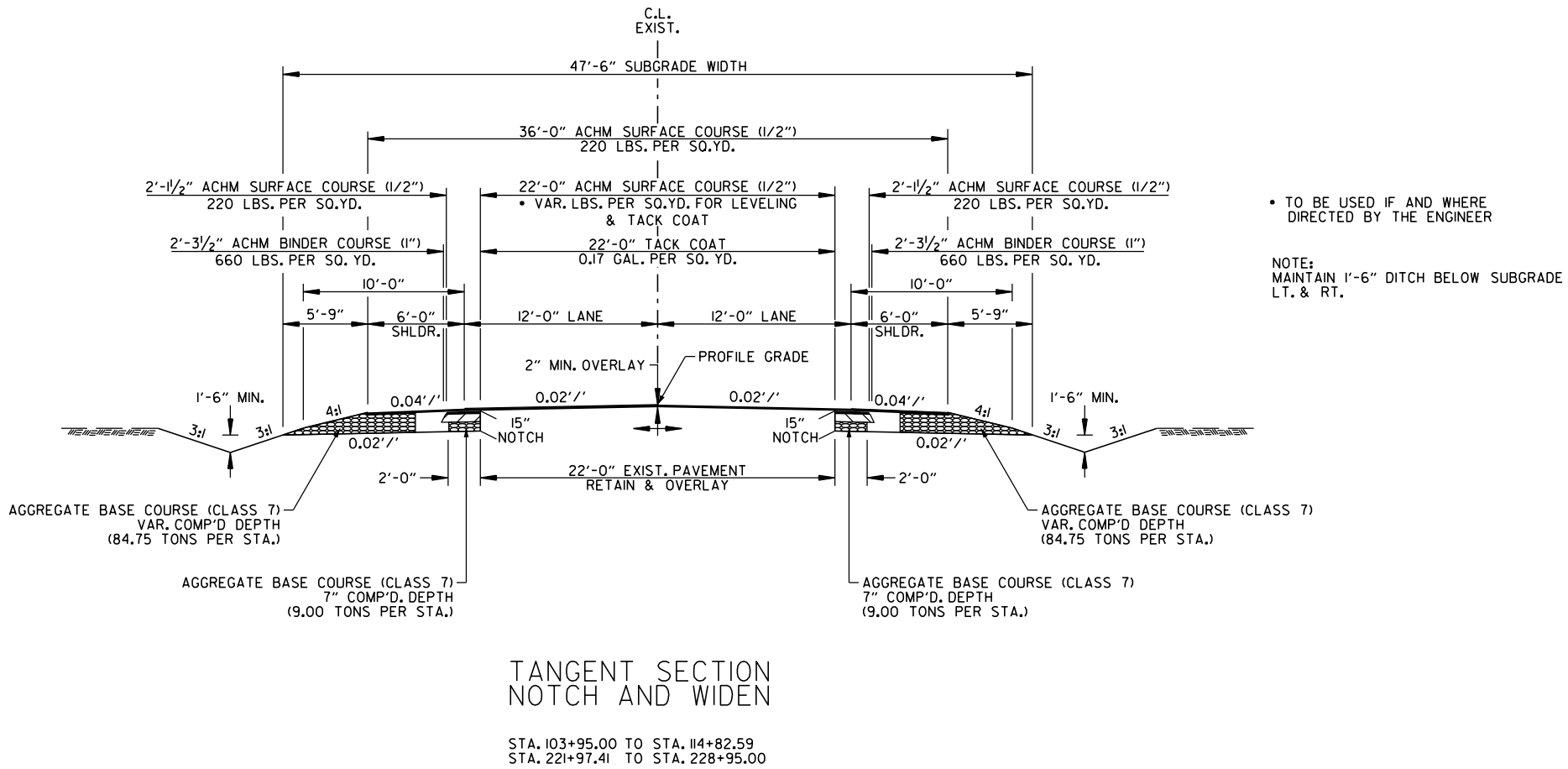
ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA ____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
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
FHWA-1273 ____	SUPPLEMENT - TRAINING PROGRAM - JOB 080711
100-3 ____	CONTRACTOR'S LICENSE
100-4 ____	DEPARTMENT NAME CHANGE
102-2 ____	ISSUANCE OF PROPOSALS
103-2 ____	CONTACT INFROMATION FOR MOTORIST DAMAGE CLAIMS
105-4 ____	MAINTENANCE DURING CONSTRUCTION
107-2 ____	RESTRAINING CONDITIONS
108-1 ____	LIQUIDATED DAMAGES
108-2 ____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
108-3 ____	WORK ORDER FOR FIXED COMPLETION DATE CONTRACTS
110-1 ____	PROTECTION OF WATER QUALITY AND WETLANDS
210-1 ____	UNCLASSIFIED EXCAVATION
303-1 ____	AGGREGATE BASE COURSE
306-1 ____	QUALITY CONTROL AND ACCEPTANCE
400-1 ____	TACK COATS
400-4 ____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5 ____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6 ____	LIQUID ANTI-STRIP ADDITIVE
400-7 ____	TRACKLESS TACK
404-3 ____	DESIGN OF ASPHALT MIXTURES
409-2 ____	ASPHALT LABORATORY FACILITY
410-1 ____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2 ____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
410-4 ____	EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
416-1 ____	RECYCLED ASPHALT PAVEMENT
501-2 ____	CEMENT
600-2 ____	INCIDENTAL CONSTRUCTION
603-1 ____	LANE CLOSURE NOTIFICATION
604-1 ____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3 ____	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
605-1 ____	CONCRETE DITCH PAVING
606-1 ____	PIPE CULVERTS FOR SIDE DRAINS
620-1 ____	MULCH COVER
800-1 ____	STRUCTURES
802-4 ____	CEMENT
804-2 ____	REINFORCING STEEL FOR STRUCTURES
JOB 080711 ____	AIRPORT CLEARANCE REQUIREMENTS
JOB 080711 ____	BIDDING REQUIREMENTS AND CONDITIONS
JOB 080711 ____	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080711 ____	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 080711 ____	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 080711 ____	CARGO PREFERENCE ACT REQUIREMENTS
JOB 080711 ____	COLD MILLING – COUNTY PROPERTY
JOB 080711 ____	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 080711 ____	CONSTRUCTION PROJECT INFORMATION SIGN
JOB 080711 ____	DESIGN AND QUALITY CONTROL ASPHALT MIXTURES
JOB 080711 ____	DESIGN OF ASPHALT MIXTURES - AGGREGATES
JOB 080711 ____	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 080711 ____	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 080711 ____	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 080711 ____	MANDATORY ELECTRONIC CONTRACT
JOB 080711 ____	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 080711 ____	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 080711 ____	PARTNERING REQUIREMENTS
JOB 080711 ____	PERCENT AIR VOIDS AND NDESIGN FOR ACHM SURFACE MIX DESIGNS
JOB 080711 ____	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS (IRI)
JOB 080711 ____	PLASTIC PIPE
JOB 080711 ____	PRE-BID ON SITE INVESTIGATION OF SOIL CONDITIONS
JOB 080711 ____	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 080711 ____	PRICE ADJUSTMENT FOR FUEL
JOB 080711 ____	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 080711 ____	SEQUENCE OF WORK
JOB 080711 ____	SHORING FOR CULVERTS
JOB 080711 ____	SOIL STABILIZATION
JOB 080711 ____	STORM WATER POLLUTION PREVENTION PLAN
JOB 080711 ____	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 080711 ____	UTILITY ADJUSTMENTS
JOB 080711 ____	VALUE ENGINEERING
JOB 080711 ____	WARM MIX ASPHALT

GENERAL NOTES

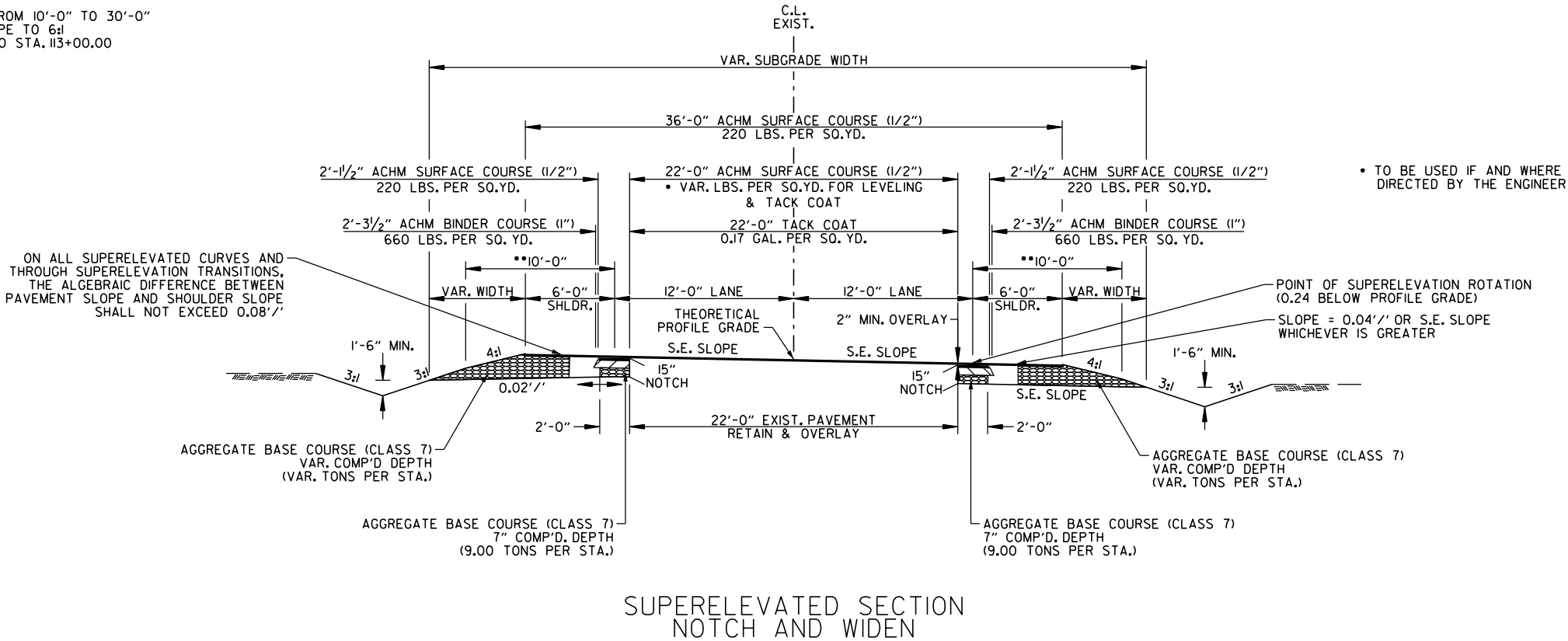
- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- 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 ENSURE 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.
- THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
- 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.
- THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
- CLEARING & GRUBBING OPERATIONS TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	4	123
TYPICAL SECTIONS						



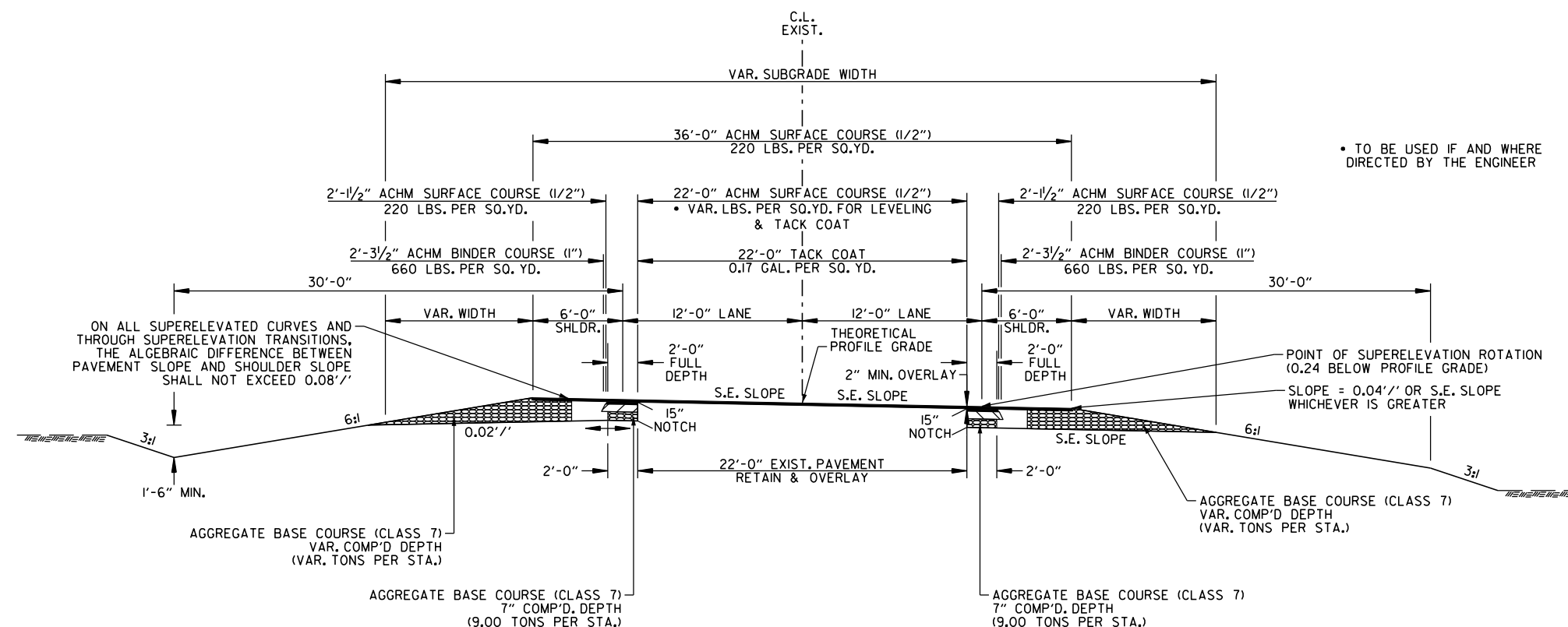
- NOTES:
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
 2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
 3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.
 4. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
 5. BLEEDER DITCHES - PRIOR TO AND DURING PLACEMENT OF PAVEMENT AT THE NOTCH, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) AND SPACING USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

•• TRANSITION FROM 10'-0" TO 30'-0"
AND 4:1 FORESLOPE TO 6:1
STA. 112+00.00 TO STA. 113+00.00

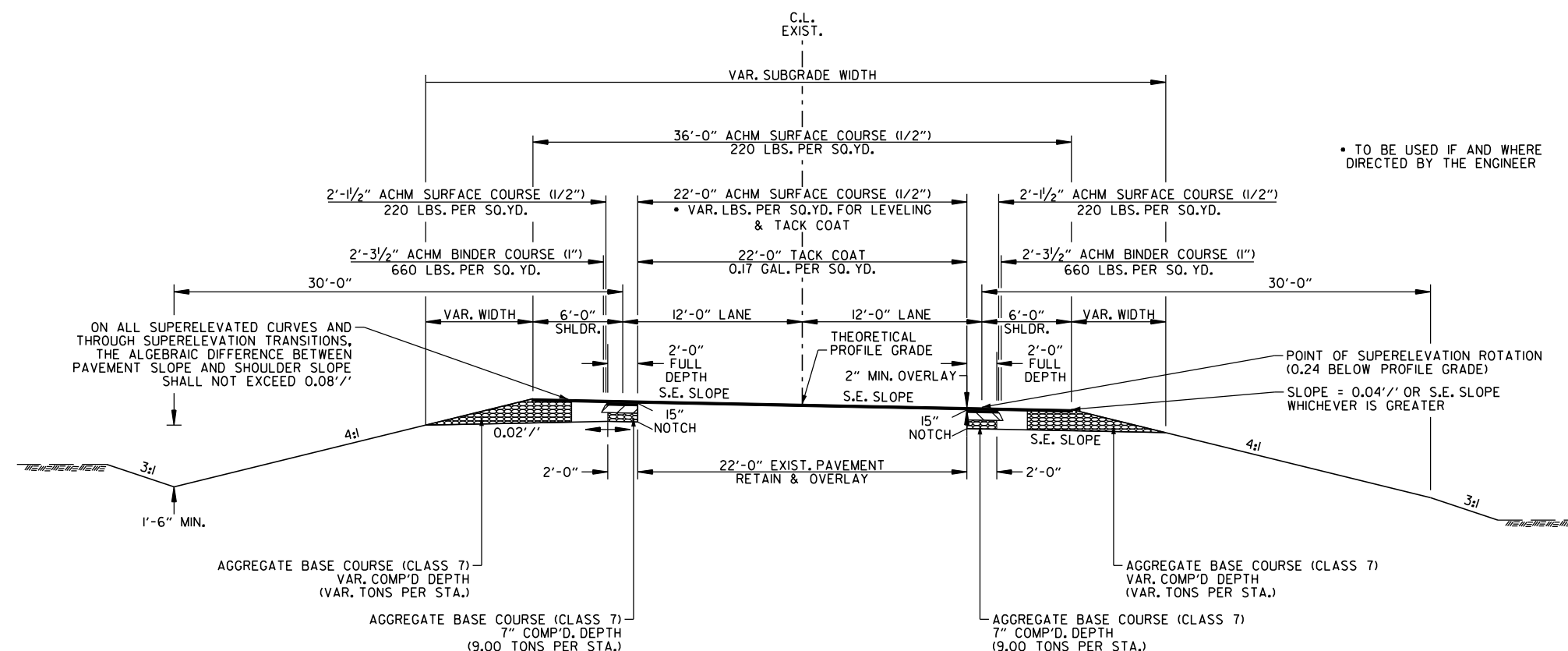


TYPICAL SECTIONS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	5	123
		TYPICAL SECTIONS				



NOTES:

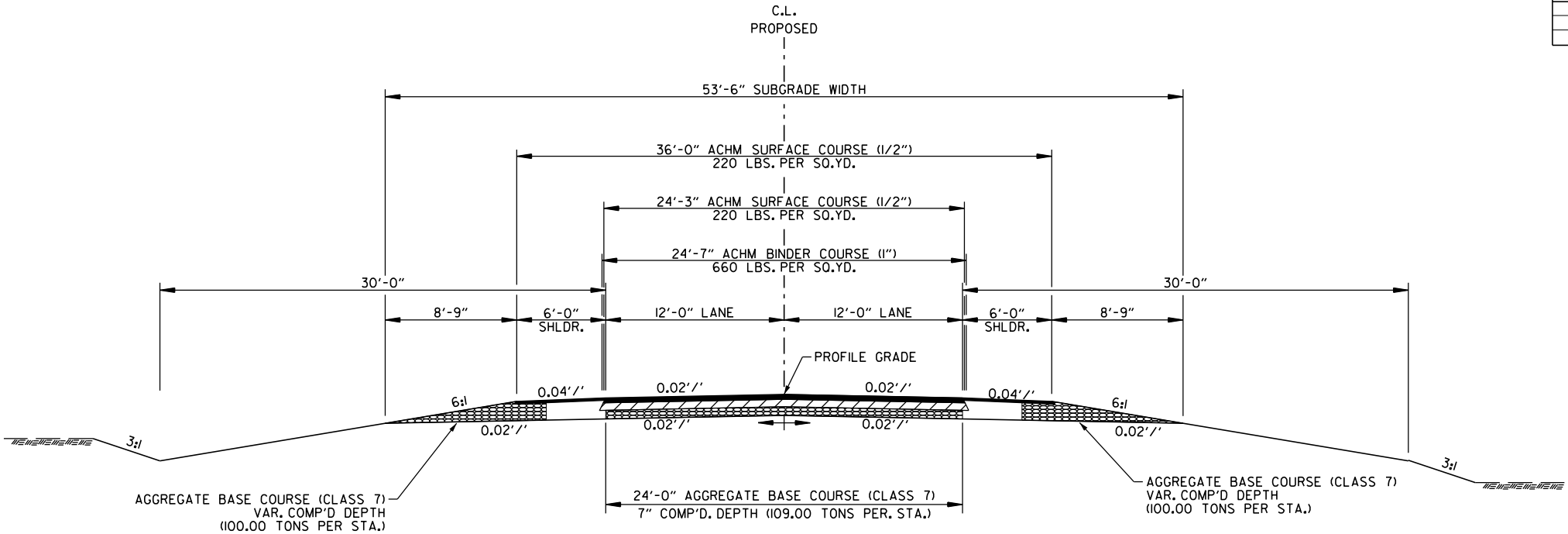


TYPICAL SECTIONS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	6	123
TYPICAL SECTIONS						

TRANSITION FROM 2 LANE TO 3 LANE
STA. 158+40.00 TO STA. 162+00.00

TRANSITION FROM 3 LANE TO 2 LANE
STA. 179+60.26 TO STA. 184+40.26

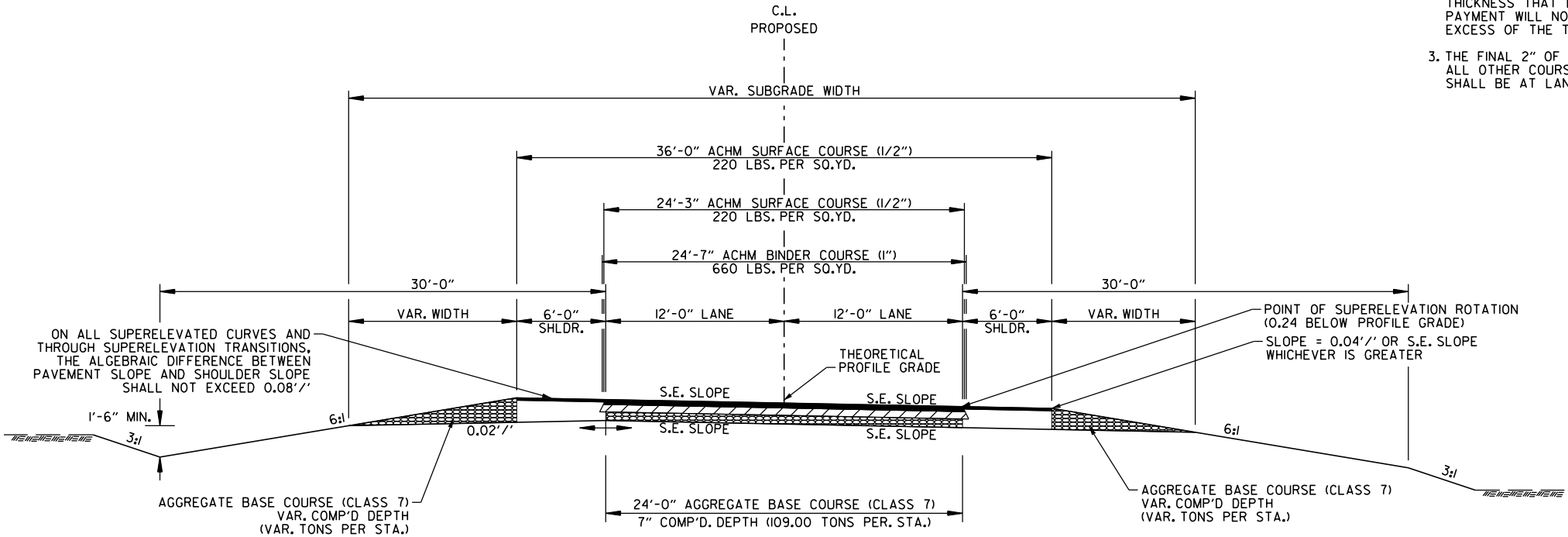


TANGENT SECTION
FULL DEPTH

STA. 114+82.59 TO STA. 158+40.00
STA. 184+40.26 TO STA. 221+97.41

NOTES:

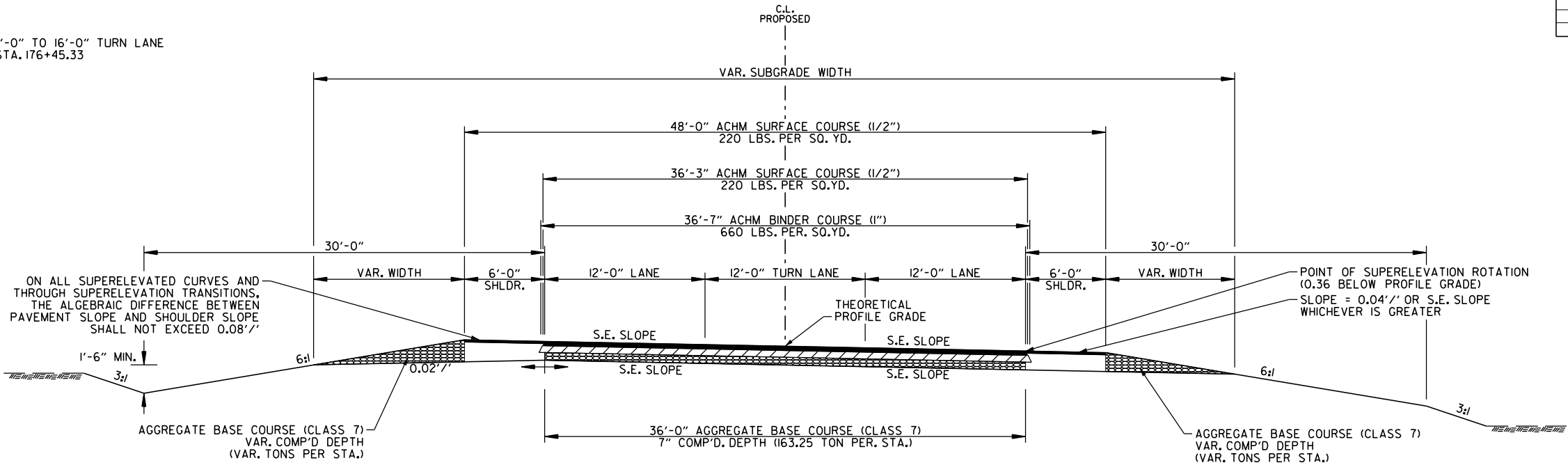
1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT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



SUPERELEVATED SECTION
FULL DEPTH - 2 LANE

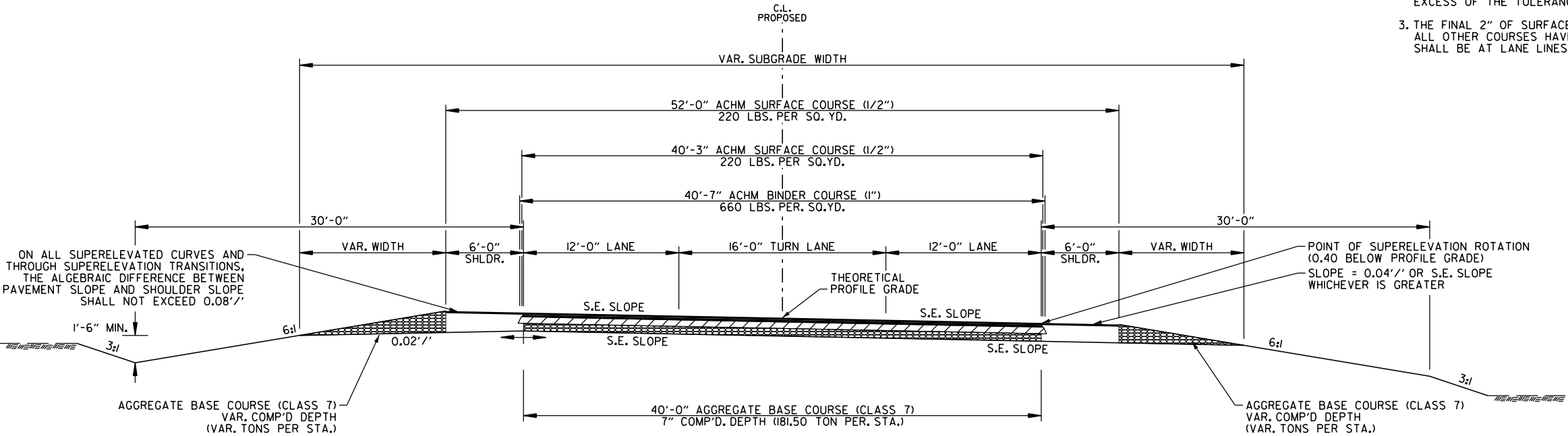
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	7	123
TYPICAL SECTIONS						

TRANSITION FROM 12'-0" TO 16'-0" TURN LANE
STA. 175+25.33 TO STA. 176+45.33



SUPERELEVATED SECTION
FULL DEPTH - 12' TURN LANE

- NOTES:
1. 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.
 2. 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.
 3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

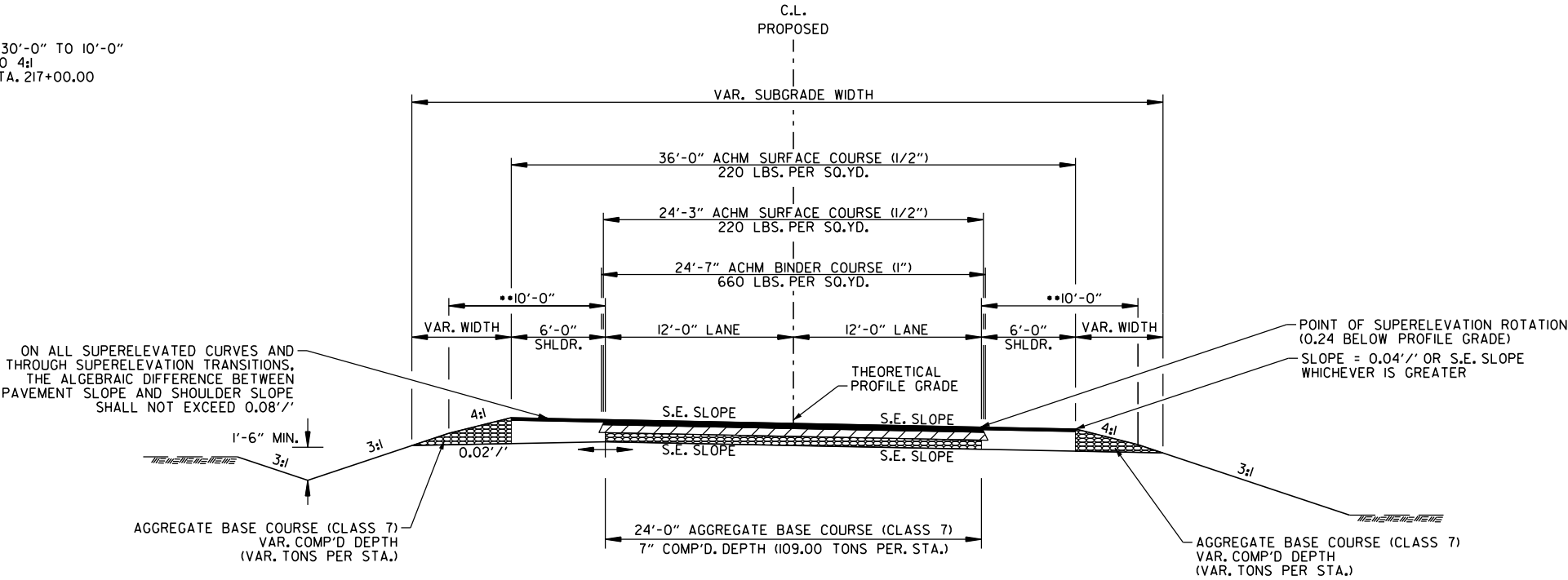


SUPERELEVATED SECTION
FULL DEPTH - 16' TURN LANE

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	8	123
TYPICAL SECTIONS						



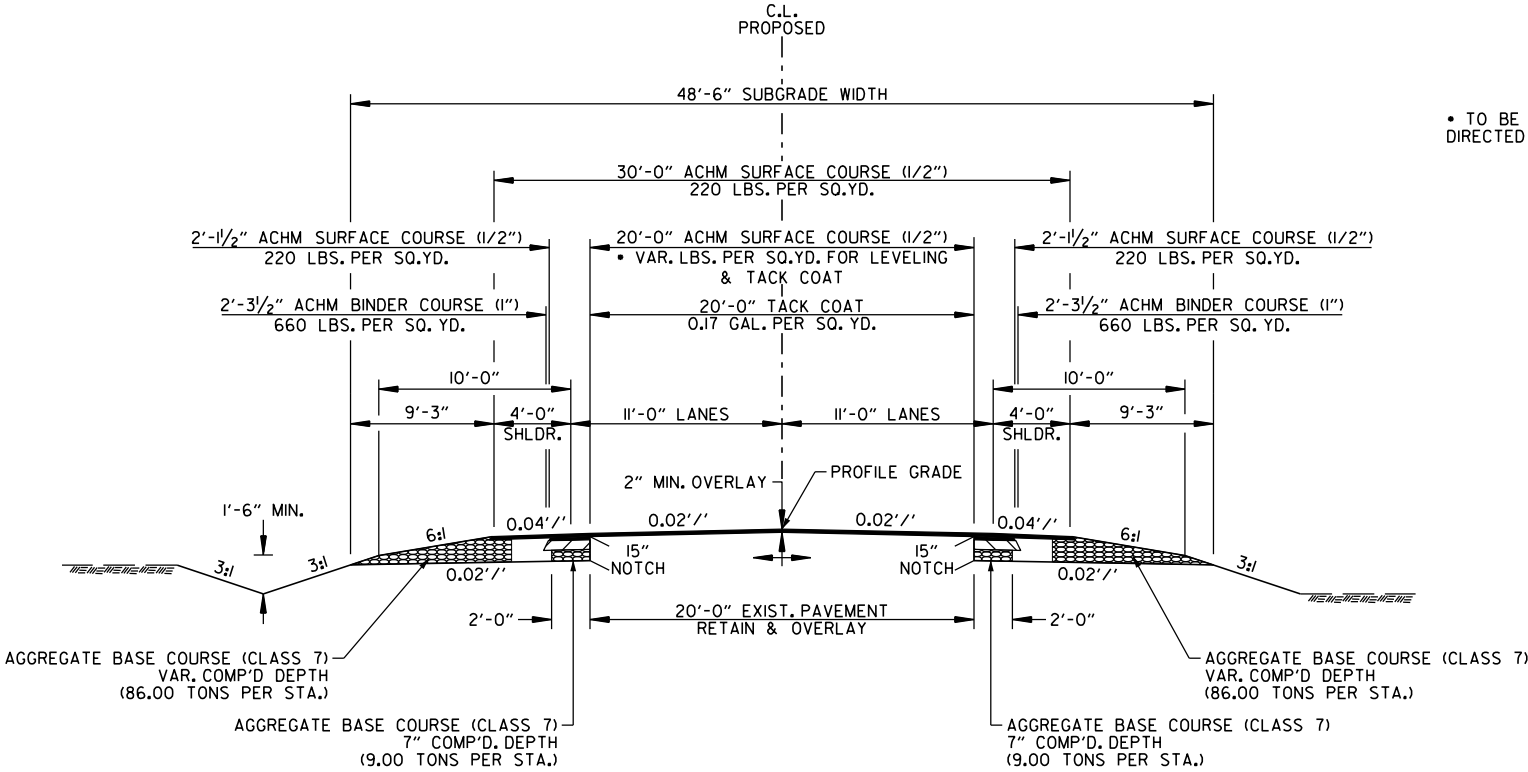
•• TRANSITION FROM 30'-0" TO 10'-0"
AND 6:1 FORESLOPE TO 4:1
STA. 216+00.00 TO STA. 217+00.00



SUPERELEVATED SECTION
FULL DEPTH - 2 LANE

NOTES:

1. 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.
2. 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.
3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.
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5. BLEEDER DITCHES - PRIOR TO AND DURING PLACEMENT OF PAVEMENT AT THE NOTCH, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) AND SPACING USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



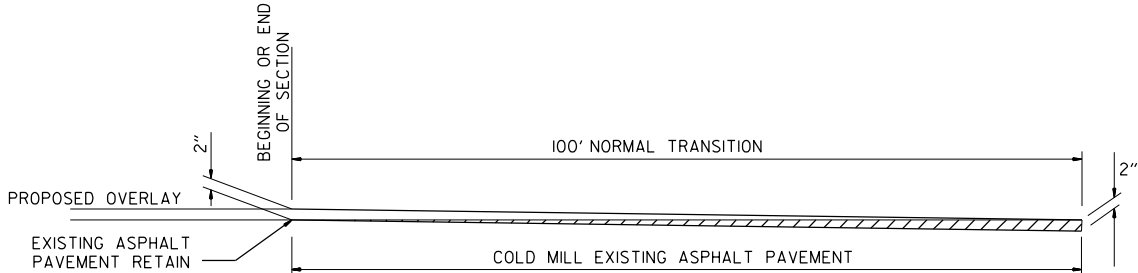
HWY. 154 - TANGENT SECTION
NOTCH AND WIDEN

STA. 2100+10.87 TO STA. 2103+89.80

TYPICAL SECTIONS

Pathan, Choudhury 3/11/2024 2:54:52 PM
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WORKSPACE: AR001
REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	9	123
SPECIAL DETAILS						



DETAIL FOR PAVEMENT TRANSITIONS

Job XXXXXX
Start Date Mo Year
Est Completion Mo Year
IDRIVE
ARKANSAS.COM

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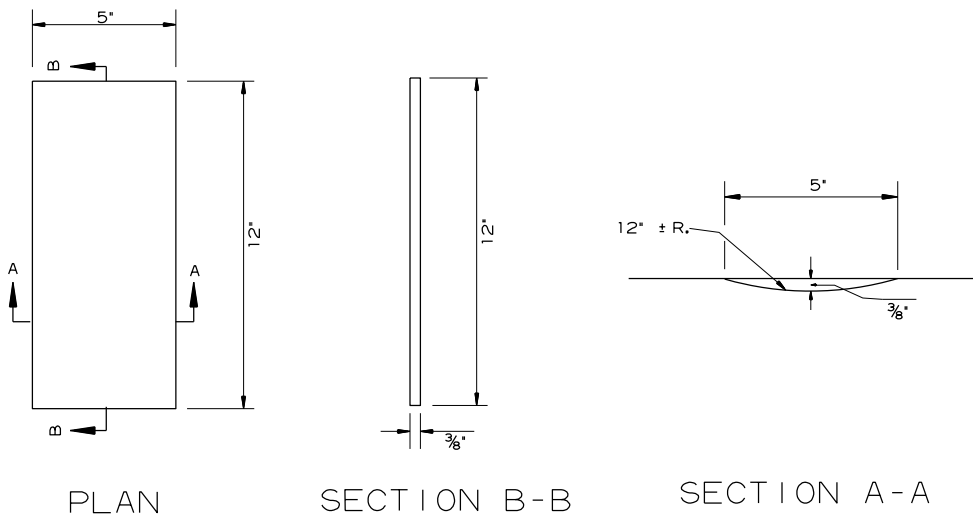
16.463.416.2

96

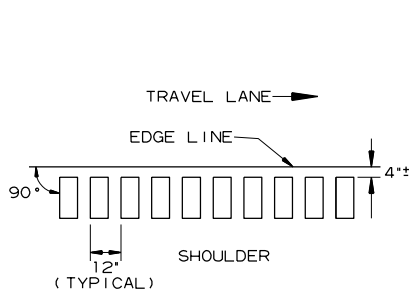
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"Job XXXXXX" C 2K; "Start Date Mo Year" C 2K;
"Est Completion Mo Year" C 2K; "IDRIVE
ARKANSAS.COM" Arial;

CONSTRUCTION PROJECT INFORMATION SIGN

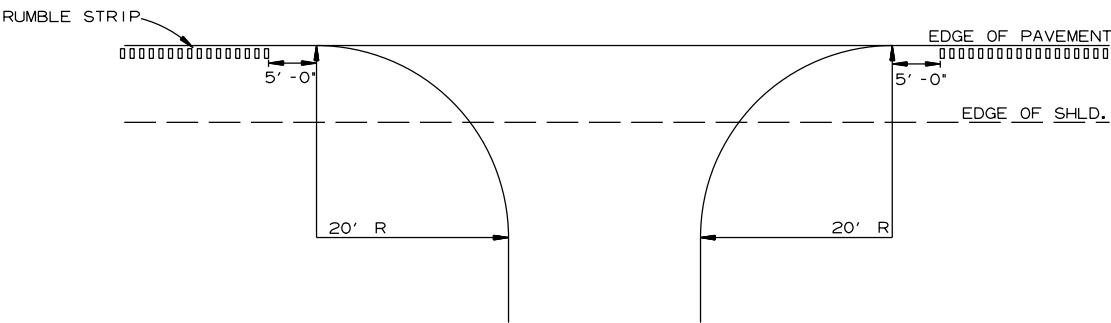
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	10	123
SPECIAL DETAILS						



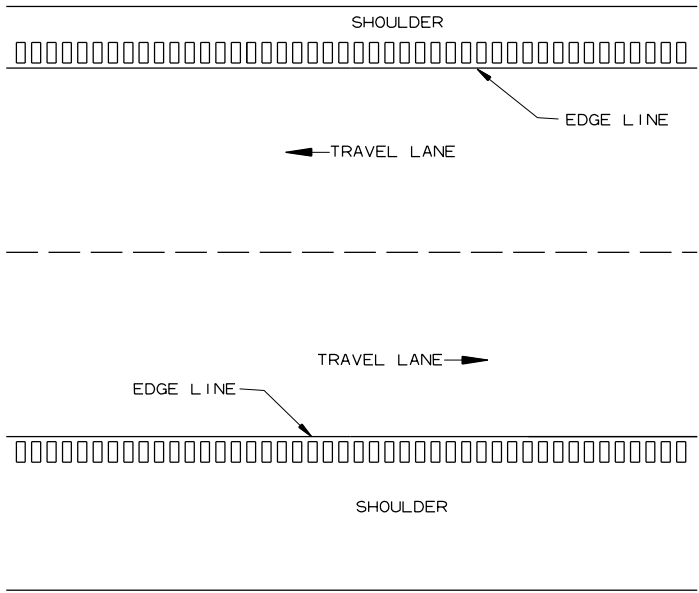
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



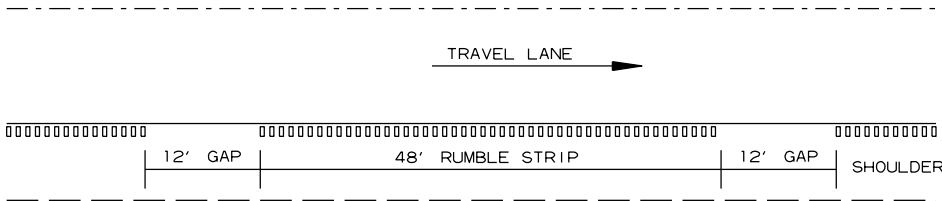
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

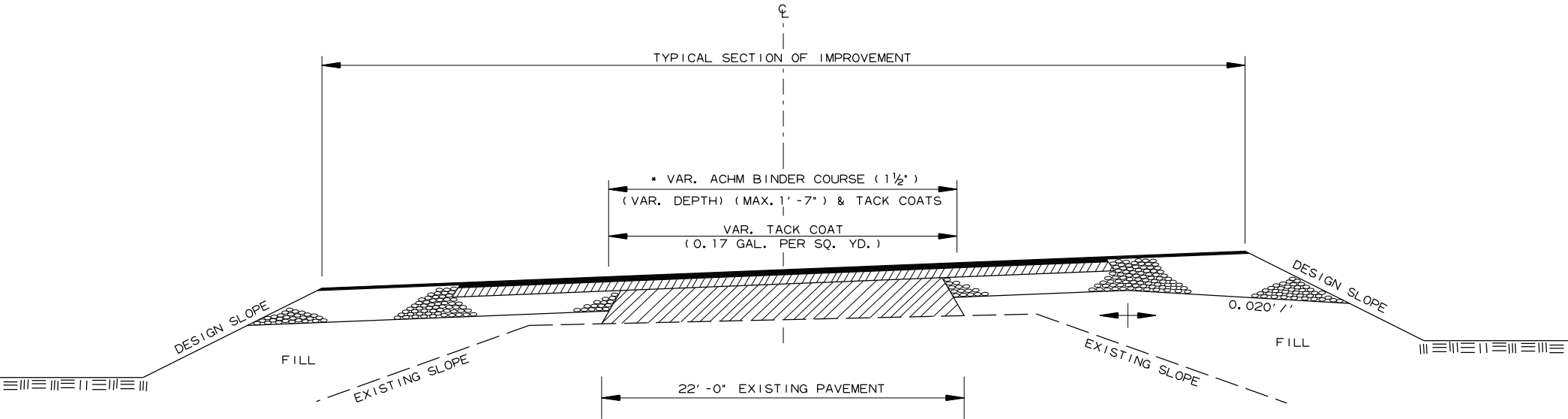
1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE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



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

DETAIL FOR GAP PATTERN RUMBLE STRIP

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		6	ARK.	0807II	II	123
SPECIAL DETAILS						



* 7" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH ACHM BINDER COURSE (1-1/2")

METHOD OF RAISING GRADE
(GRADE ADJUST)

HWY. 113
STA. 103+95.00 TO STA. 114+82.59
STA. 221+97.41 TO STA. 228+95.00

HWY. 154
STA. 2101+00 TO STA. 2103+89.80

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

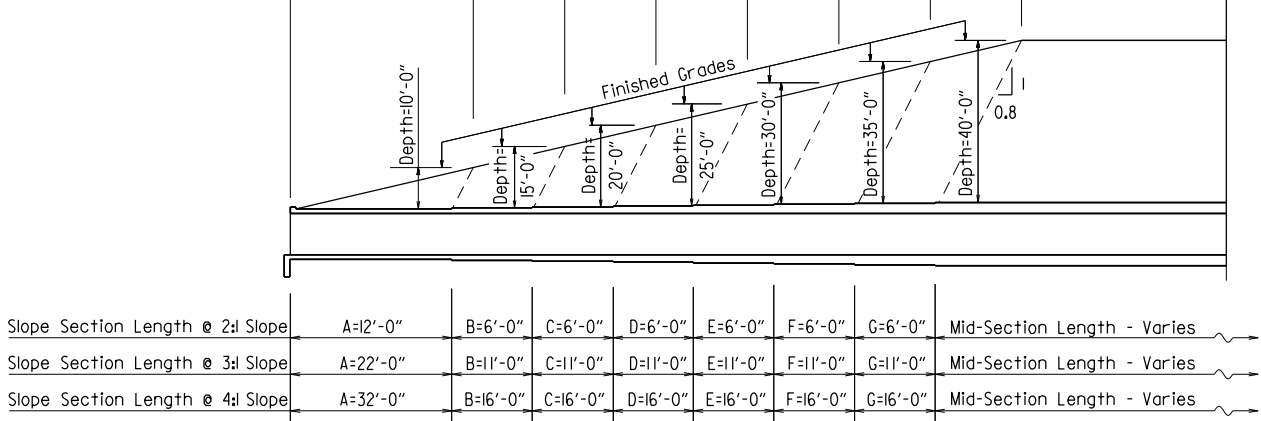
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REVISED DATE: \$REVDAT\$

2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"

Note: For fill depths 10' and under, use Mid-Section full length of box culvert.

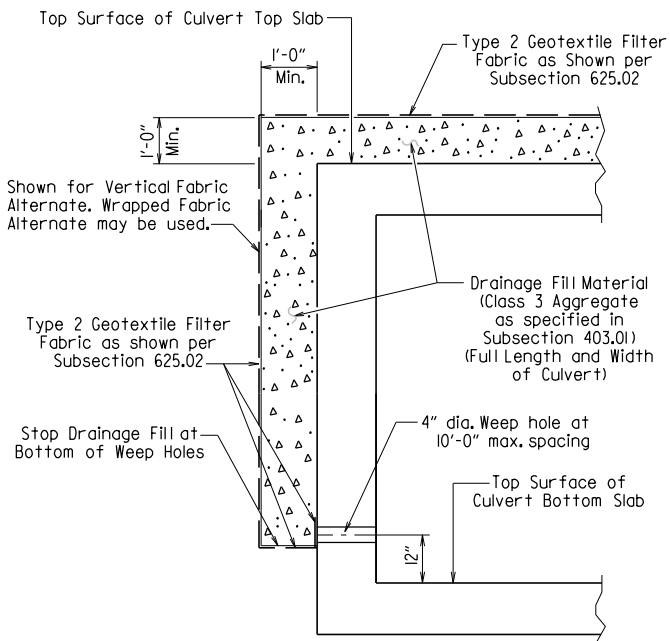
* LL = Skewed End Section Length - See "Skewed End Section Details"
Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	12	123
SPECIAL DETAILS						



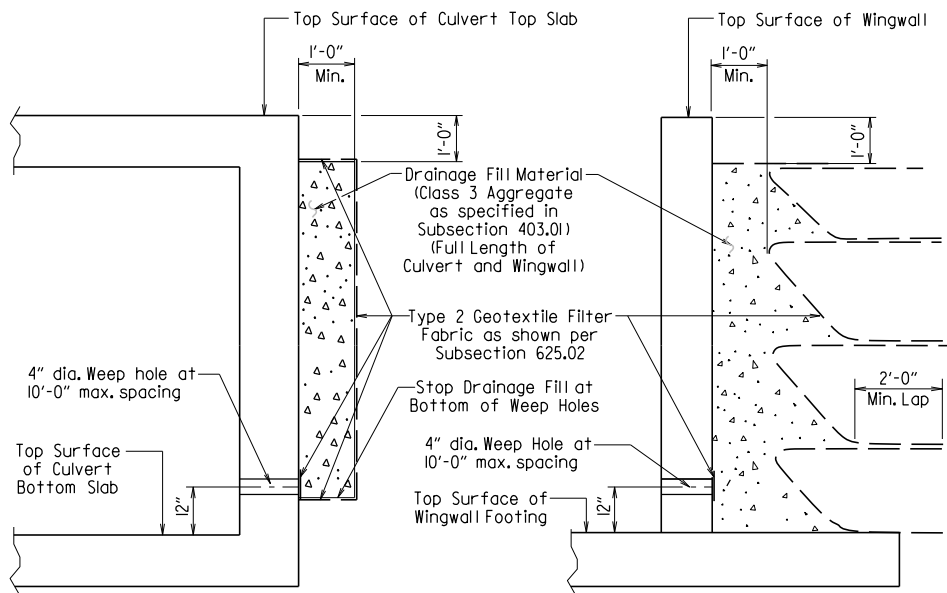
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes



CULVERT DRAINAGE DETAIL FOR ROCK FILL

This detail shall be used when rock fill is specified for embankment construction.



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

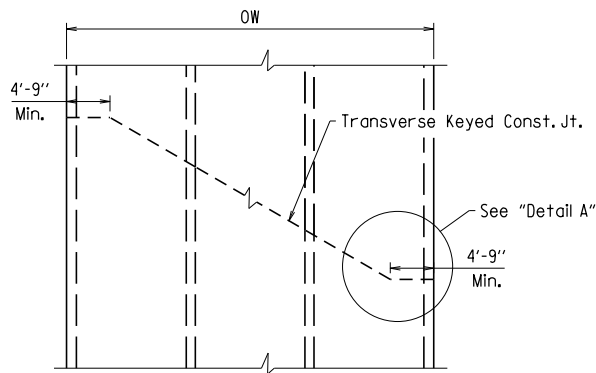
VERTICAL FABRIC ALTERNATE

(Shown for Culvert, Similar for Wingwall)

WRAPPED FABRIC ALTERNATE

(Shown for Wingwall, Similar for Culvert)

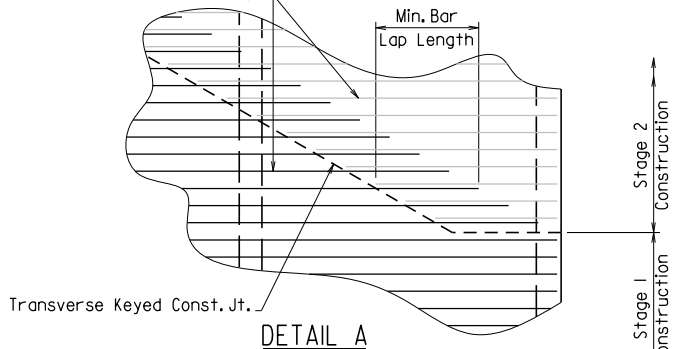
WINGWALL & CULVERT DRAINAGE DETAIL



SKewed TRANSVERSE JOINT DETAIL

This detail shall be used to construct a skewed transverse joint only for Multi-Barrel Culverts and only when required by the Maintenance of Traffic Plans. Otherwise, transverse joints should be made normal to the centerline of the barrel.

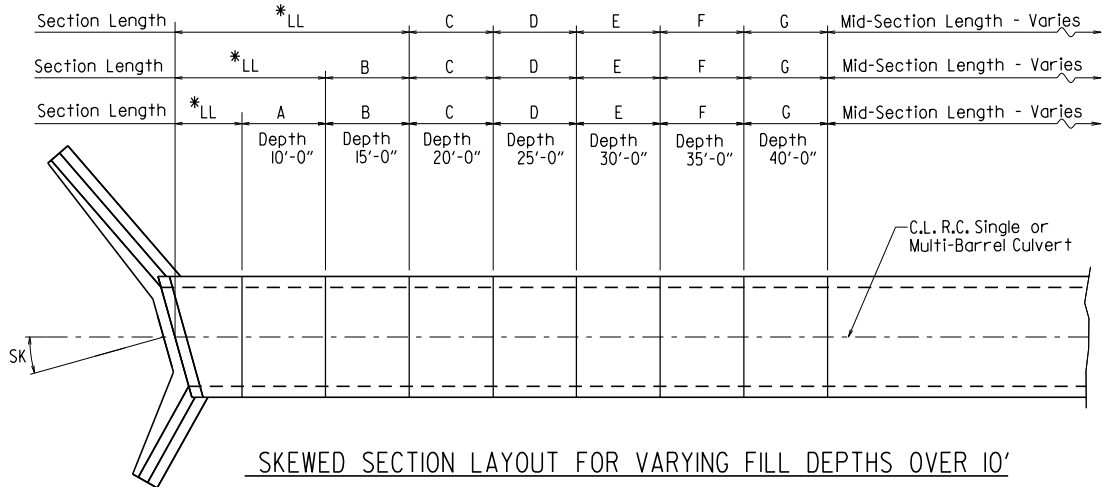
Slab bars "a", "b", "c", "d", "bl", or "f". Slab distribution and Wall reinforcing omitted for clarity.



DETAIL A

See Tabular Data Sheets For Minimum Bar Lap Lengths.

Shown for transverse reinforcing, longitudinal reinforcing similar.



SKewed SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

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

LIVE LOADING: HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have 3/4" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

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

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

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

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

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

The barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be keyed and shall be normal to the centerline of barrel except as noted. Reinforcing shall be continuous through joints unless noted otherwise. Reinforcing through stage construction joints shall provide the minimum bar lap length shown on the Tabular Data Sheets. All longitudinal construction joints shall be submitted to the Engineer for approval.

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

When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a fine finish shall be applied in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class S Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 Protective Surface Treatment".

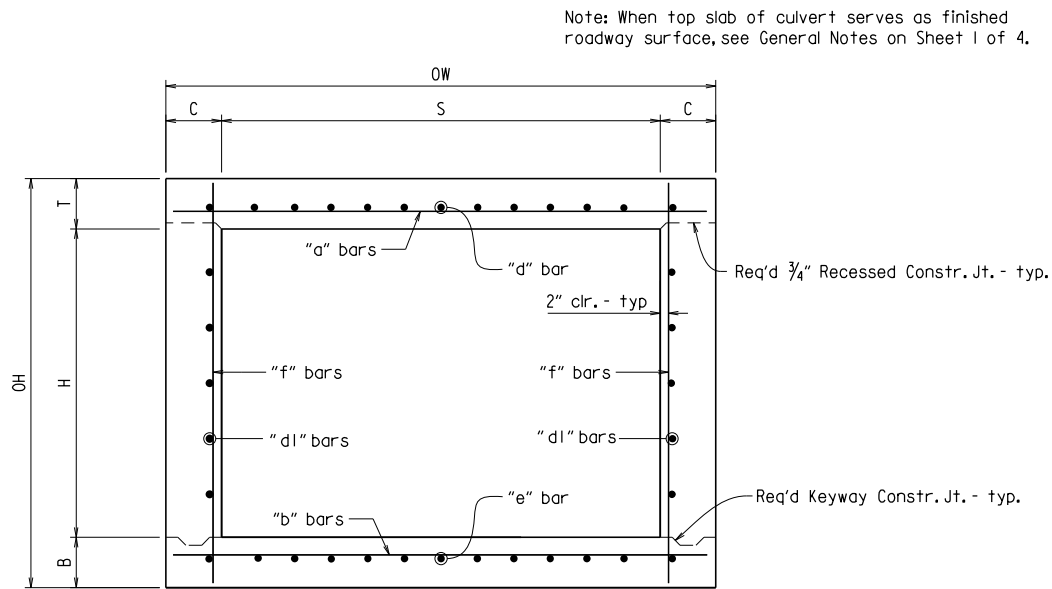
When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

SHEET 1 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
GENERAL NOTES &
LONGITUDINAL SECTION LENGTH SCHEDULE
SPECIAL DETAILS

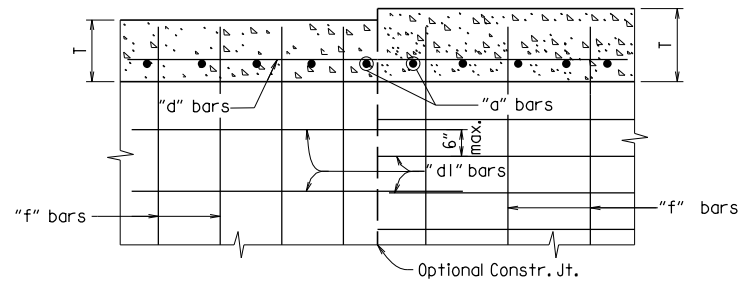


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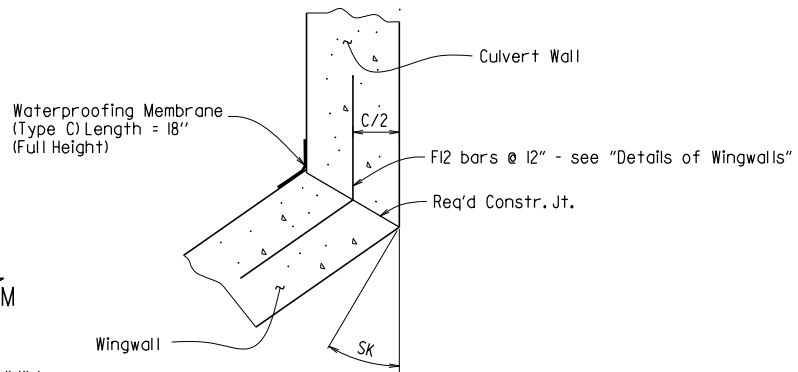
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SPECIAL DETAILS						



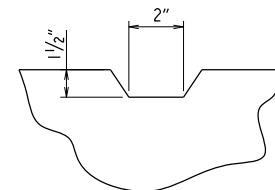
TYPICAL SECTION M-M



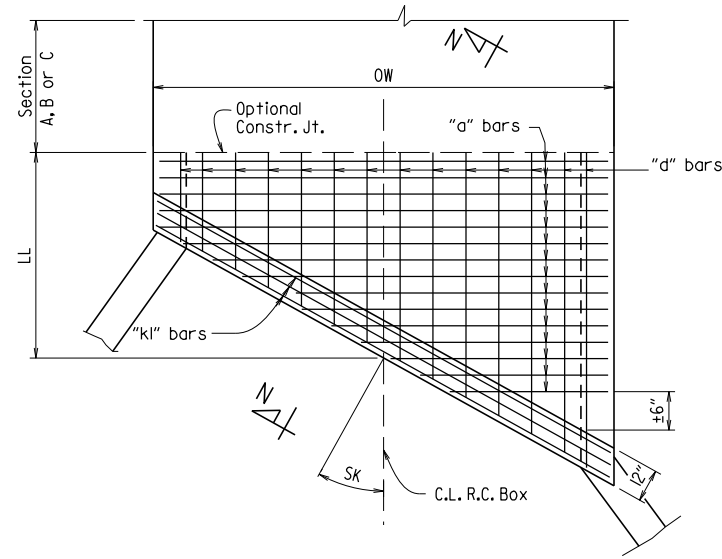
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



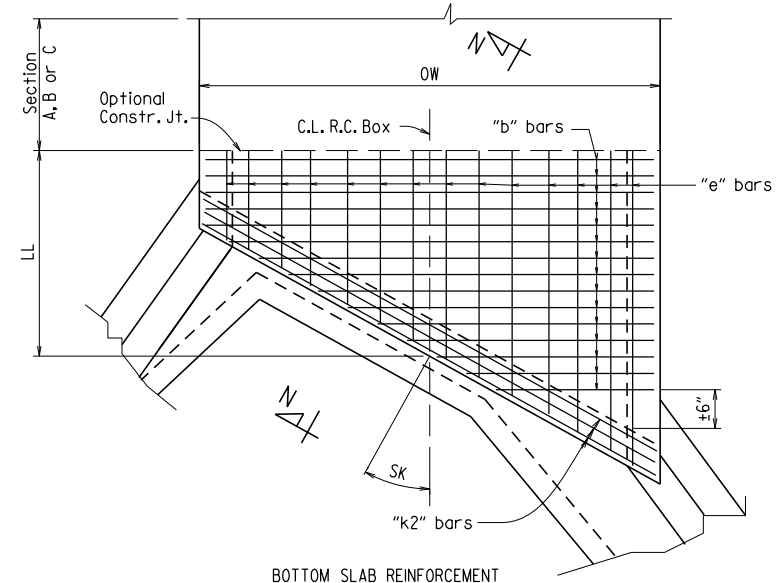
WINGWALL ATTACHMENT
See "Details of Wingwalls" for additional information and wingwall details.



TYPICAL KEYWAY DETAIL
(All Construction Joints)



TOP SLAB REINFORCEMENT



BOTTOM SLAB REINFORCEMENT

SKewed END SECTION DETAILS

SHEET 2 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF SINGLE BARREL
R.C. BOX CULVERT
SPECIAL DETAILS

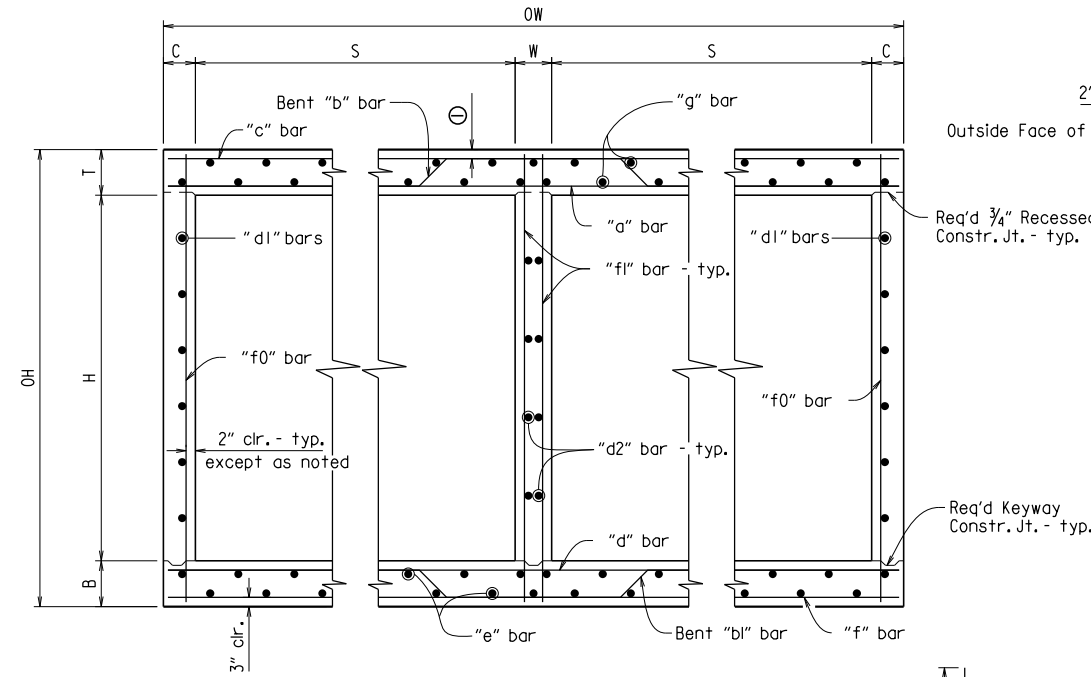


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		6	ARK.	080711	14	123
SPECIAL DETAILS						



① 2" clr. for fill depth (D) greater than 2 ft.
2 1/2" clr. for fill depth (D) equal to or less than 2 ft.

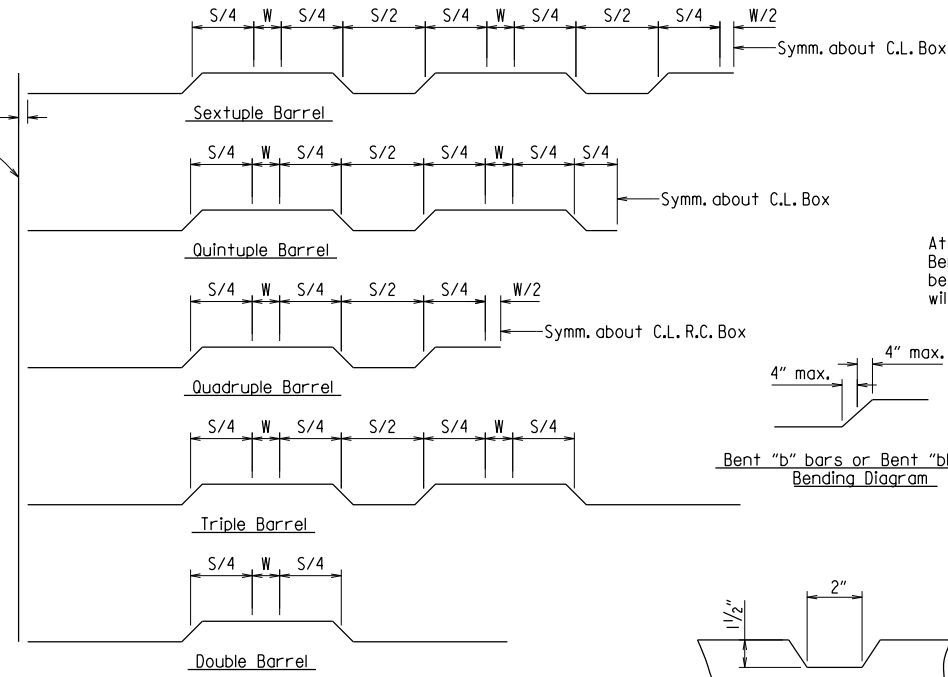
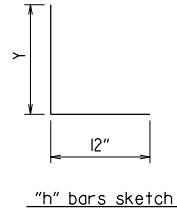
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



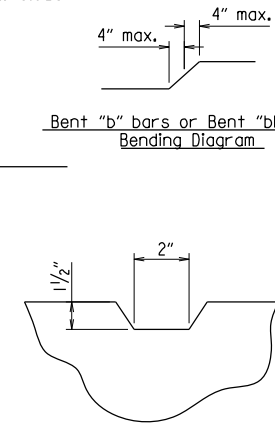
TYPICAL SECTION M-M

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

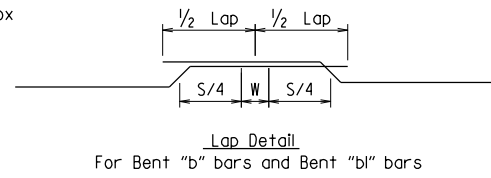
Bottom Slab
Straight "d" bars shall alternate with Bent "bl" bars in top.
Straight "f" bars shall alternate with Bent "bl" bars in bottom.



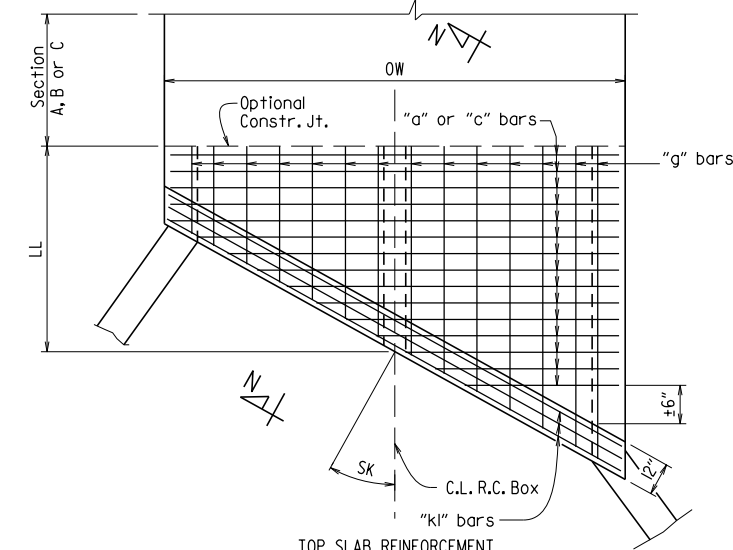
Bent "b" bars or Bent "bl" bars sketch



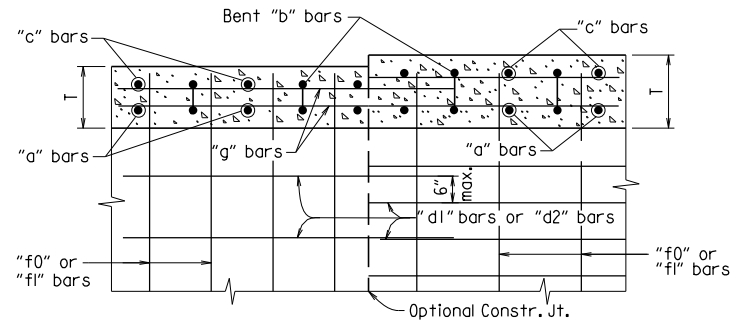
TYPICAL KEYWAY DETAIL
(All Construction Joints)



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



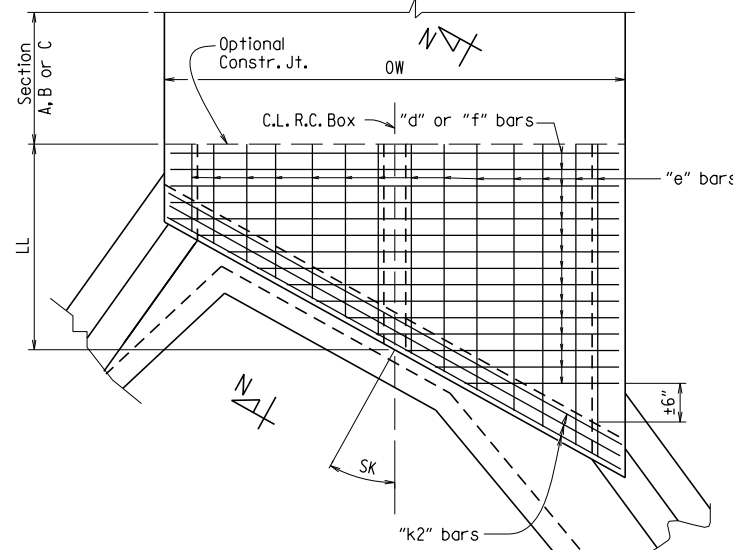
TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



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

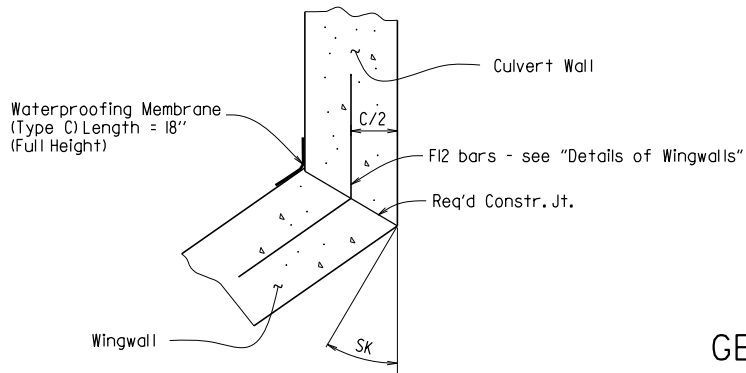
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



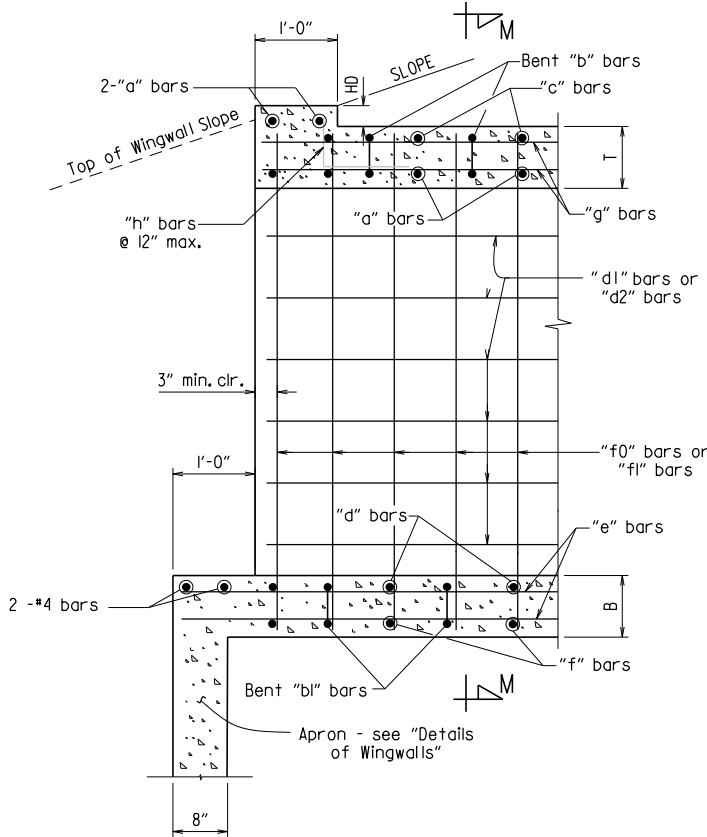
BOTTOM SLAB REINFORCEMENT
Straight "d" bars in top.
Straight "f" bars in bottom.

SKewed END SECTION DETAILS



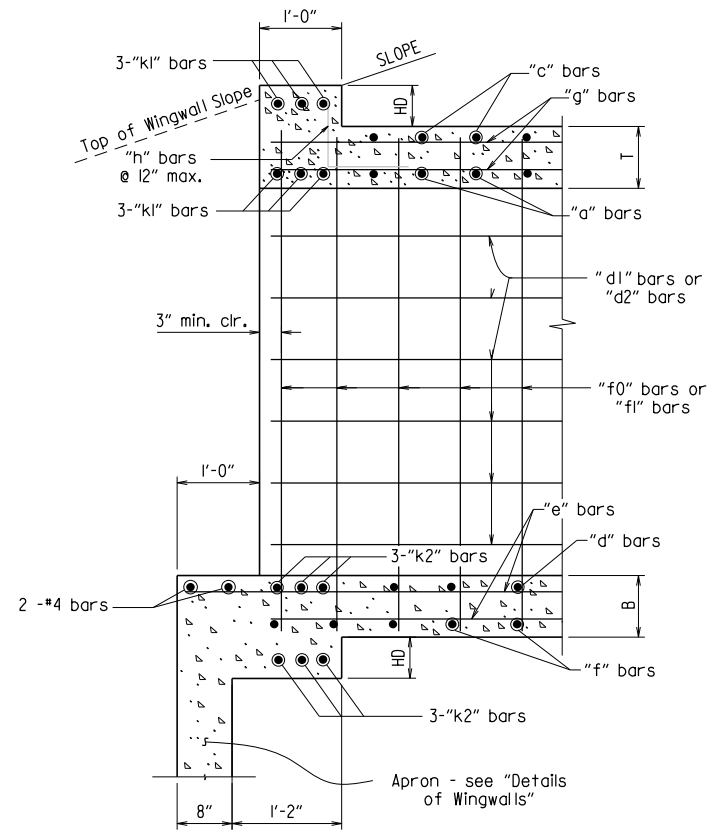
WINGWALL ATTACHMENT

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



PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

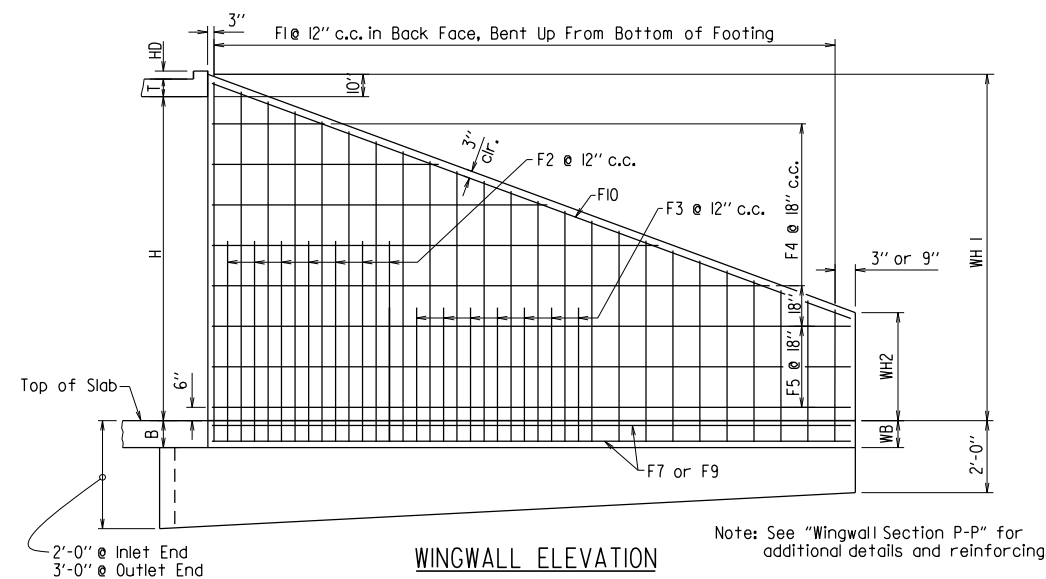
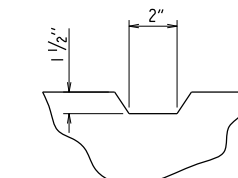
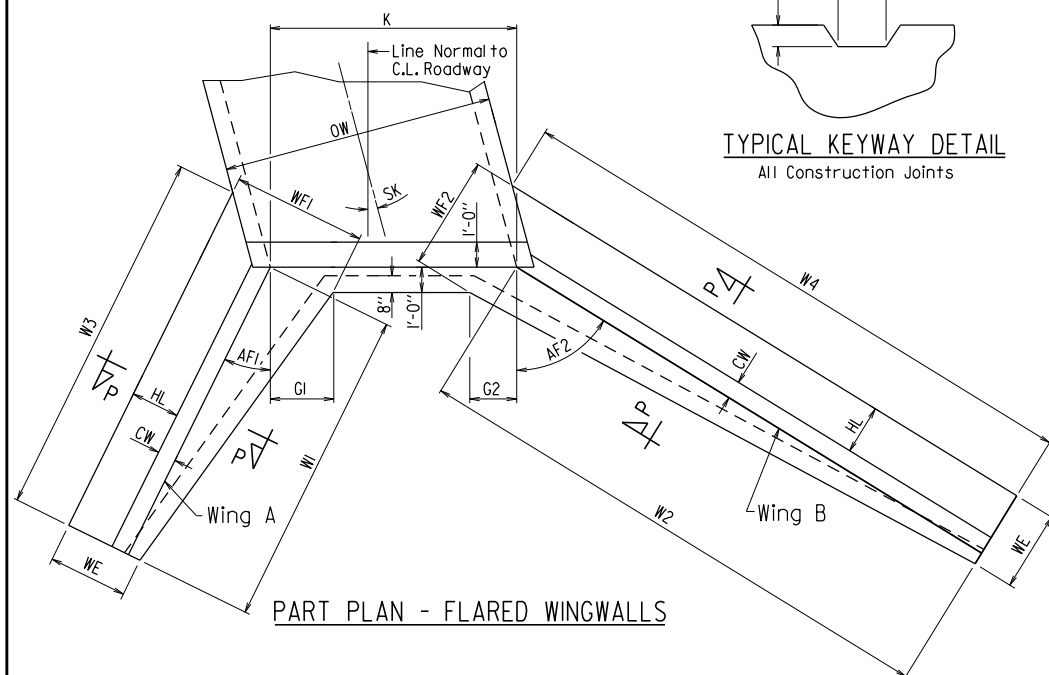
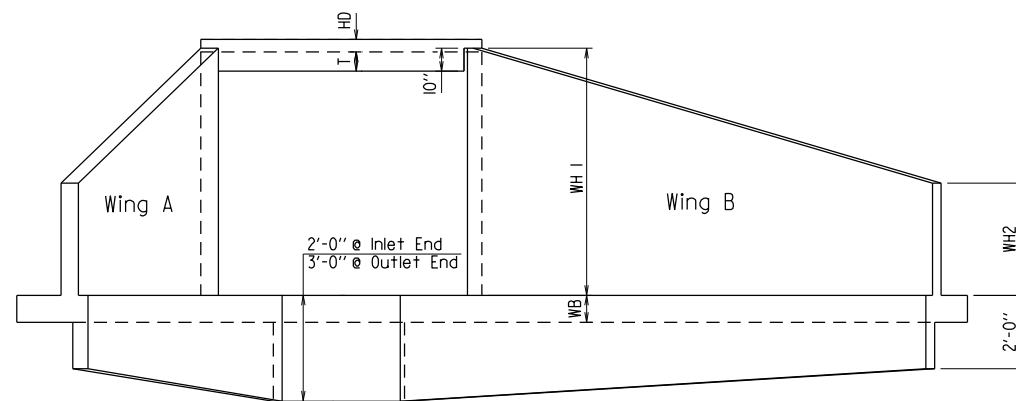
(Skewed Ends)

SHEET 3 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF MULTI-BARREL
R.C. BOX CULVERT
SPECIAL DETAILS

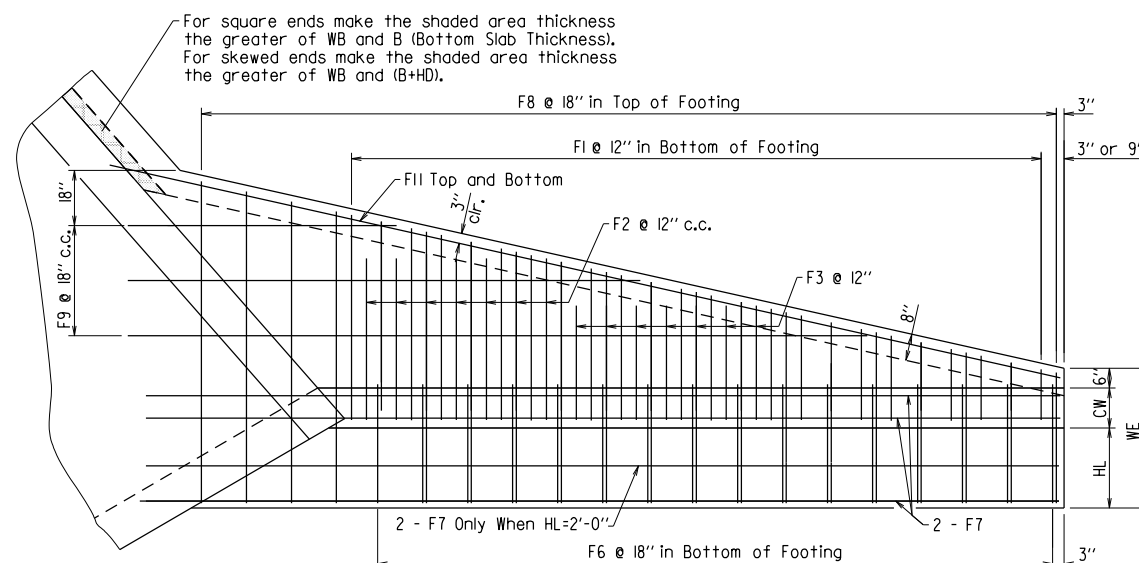


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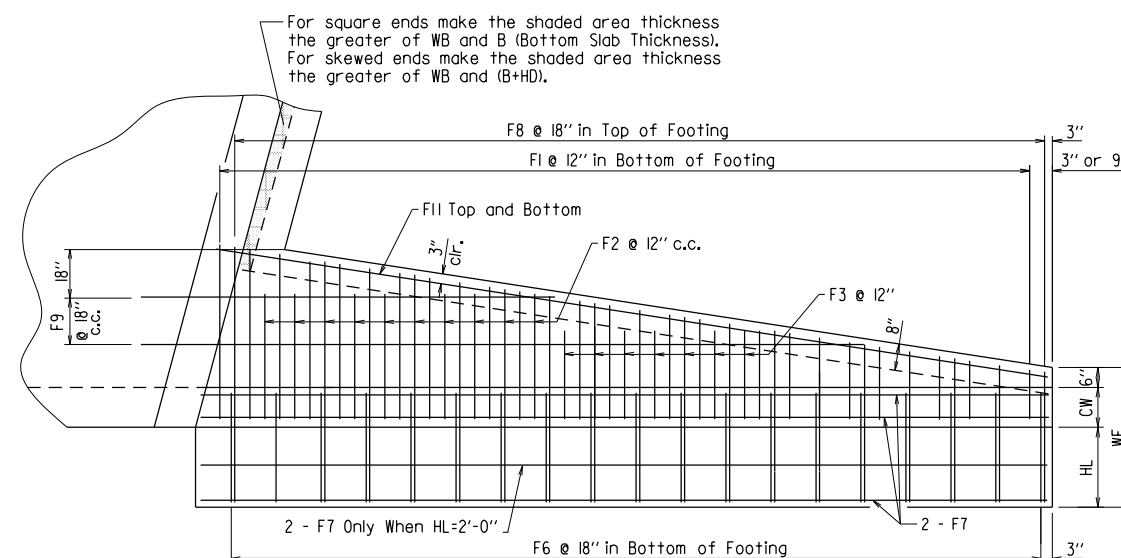
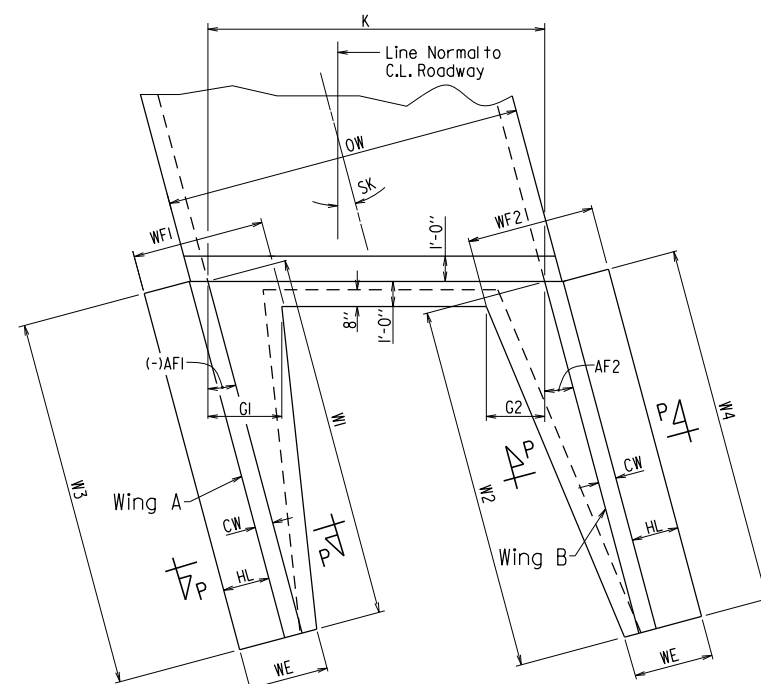
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			SPECIAL DETAILS				



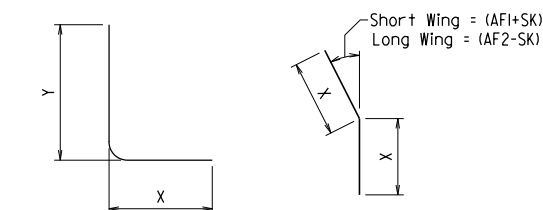
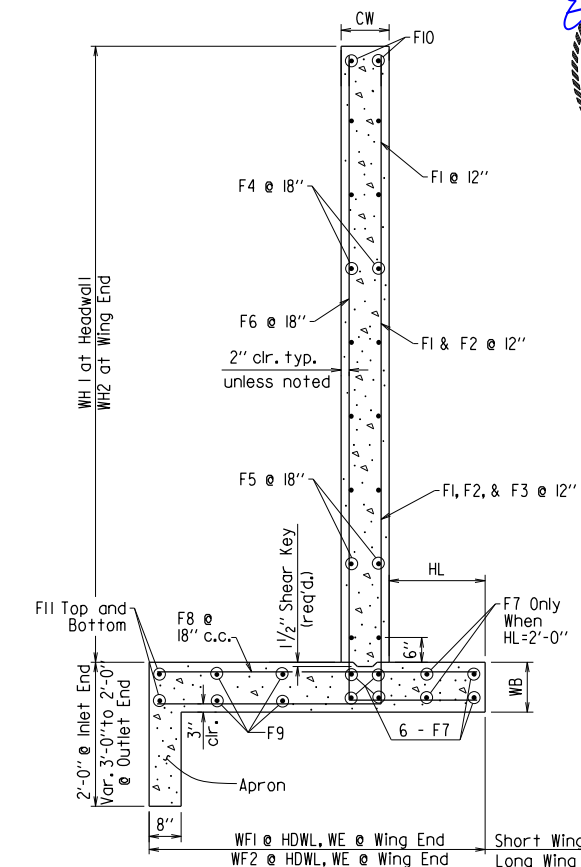
Note: See "Wingwall Section P-P" for additional details and reinforcing



Showing Footing Reinforcement

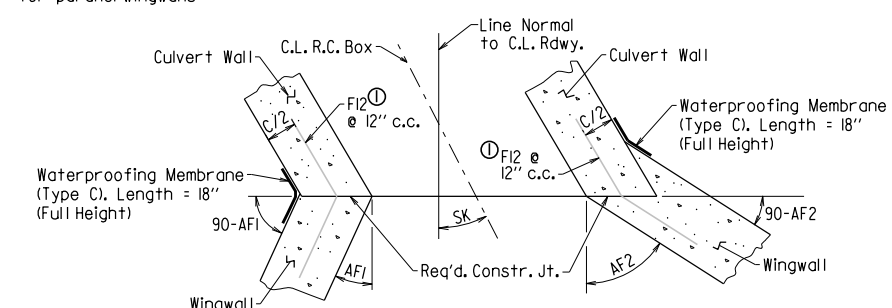


Showing Footing Reinforcement



① F12 BAR

① FI2 is a straight bar for parallel windwalls



Flared Wingwalls Shown

SHEET 4 OF 4

GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF WINGWALLS

SPECIAL DETAILS



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INLET WINGWALL TABLE

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

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION		DESIGN FILL DEPTH (FT.)		CLEAR SPAN (FT.)		CLEAR HEIGHT (FT.)		TOP SLAB THK.		BOTTOM SLAB THK.		SIDE WALL THK.		INTERIOR WALL THK.		OVER ALL WIDTH		OVER ALL HEIGHT		SECTION LENGTH (FT.)		BOTTOM SLAB REINFORCING STEEL								SIDE WALL REINFORCING STEEL				INTERIOR WALL REINFORCING STEEL				TOP SLAB DISTRIBUTION REINFORCING STEEL				BOTTOM SLAB DISTRIBUTION REINFORCING STEEL				SIDE WALL DISTRIBUTION REINFORCING STEEL				INTERIOR WALL DISTRIBUTION REINFORCING STEEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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OUTLET SKEWED END SECTION

SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH	TOP SLAB REINFORCING STEEL								BOTTOM SLAB REINFORCING STEEL								SIDE WALL REINFORCING STEEL				INTERIOR WALL REINFORCING STEEL				TOP SLAB DISTRIBUTION REINFORCING STEEL				BOTTOM SLAB DISTRIBUTION REINFORCING STEEL				SIDE WALL DISTRIBUTION REINFORCING STEEL				INTERIOR WALL DISTRIBUTION REINFORCING STEEL				CLASS "S" CONCRETE (includes HDWL)	REINFORCING STEEL (GR 60) (includes HDWL)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
													"a"				"c"				"d"				"f"				"f0"				"f1"				"g"				"e"				"d1"				"d2"																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT		WINGWALL ANGLE (DEGREE)		FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL		FOOTING DIMENSION PARALLEL WITH HDWL		LENGTH OF WINGWALLS		LENGTH OF FOOTING HEEL		CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
								AT HDWL	AT WING END	AF1	AF2		WING A	WING B	WING A	WING B	WING A	WING B	WING A	WING B		
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
29'-9"	9'-0"	0'-10"	0'-9"	35	3:1	34'-7 1/8"	2'-0"	9'-10"	3'-0"	0	60	3'-3"	4'-4 3/8"	5'-4 1/2"	1'-7 3/8"	3'-6 1/4"	20'-6"	41'-0"	23'-2 1/4"	45'-2 5/8"	24.20	2081

WING	F1				F2				F3				F4				F5				F6				F7			F8				F9				F10			F11			F12				REINF. STEEL QTY. PER WING (LBS)																											
	BAR SIZE	MAX. SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS	BAR SIZE	NO. REQ'D	LENGTHS																																
WING A	4	12	21	L	Min	4'-2"	4	12	6	L	5'-2"	-	-	-	X	-	4	18	8	Min	4'-10"	4	18	4	20'-2"	4	18	14	X	Min	5'-11"	4	8	24'-0"	6	18	14	Min	2'-9"	4	18	2	Min	28'-2"	4	2	21'-2"	4	2	21'-4"	6	12	9	L	3'-4"	697																	
				X	Min	0'-10"																							X	1'-8"	X																							-	X		-	X	-	X	1'-8"												
				Max	2'-0"	Max																							3'-5"	Y	-																							Max	18'-4"		Y	Min	3'-7"	Max	10'-1"	Y	Max	10'-1"	Max	3'-10"	Max	28'-2"	X	1'-8"			
				Y	Max	10'-1"																							Y	3'-7"	Y																							-	Y		Min	3'-7"	Y	Max	10'-1"	Y	Max	10'-1"	Y	3'-10"	Y	28'-2"	Y	1'-8"			
WING B	4	12	41	L	Min	4'-3"	4	12	18	L	6'-5"	-	-	-	X	-	4	18	8	Min	9'-10"	4	18	4	40'-8"	4	18	28	X	Min	5'-8"	4	8	46'-1"	6	18	30	Min	2'-9"	4	18	2	Min	33'-5"	4	2	41'-1"	4	2	46'-8"	6	12	9	L	3'-4"	1384																	
				X	Min	0'-10"																							X	1'-11"	X																							-	X		-	X	-	X	-	X	Min	2'-5"	X	Min	2'-5"	Max	3'-4"	Max	33'-5"	X	1'-8"
				Max	2'-10"	Max																							3'-6"	Y	-																							Max	36'-10"		Y	Min	3'-4"	Y	Max	10'-2"	Y	Max	10'-2"	Y	4'-11"	Y	33'-5"	Y	1'-8"		
				Y	Max	10'-2"																							Y	4'-7"	Y																							-	Y		Min	3'-6"	Y	Max	10'-2"	Y	Max	10'-2"	Y	4'-11"	Y	33'-5"	Y	1'-8"			

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

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

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



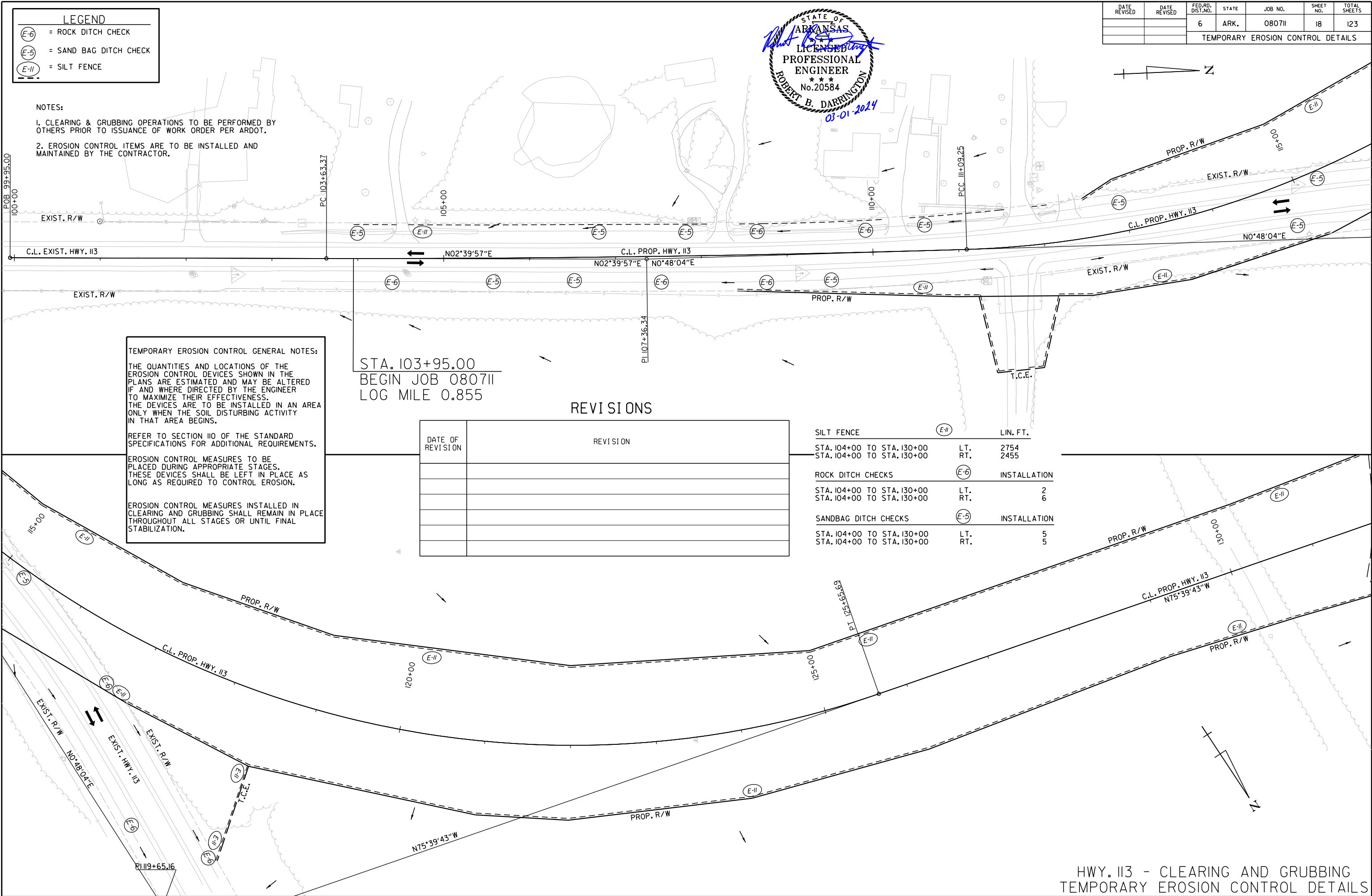
TABULAR DATA BY: TBK DATE: 1/17/2024
CHECKED BY: MHA DATE: 1/25/2024



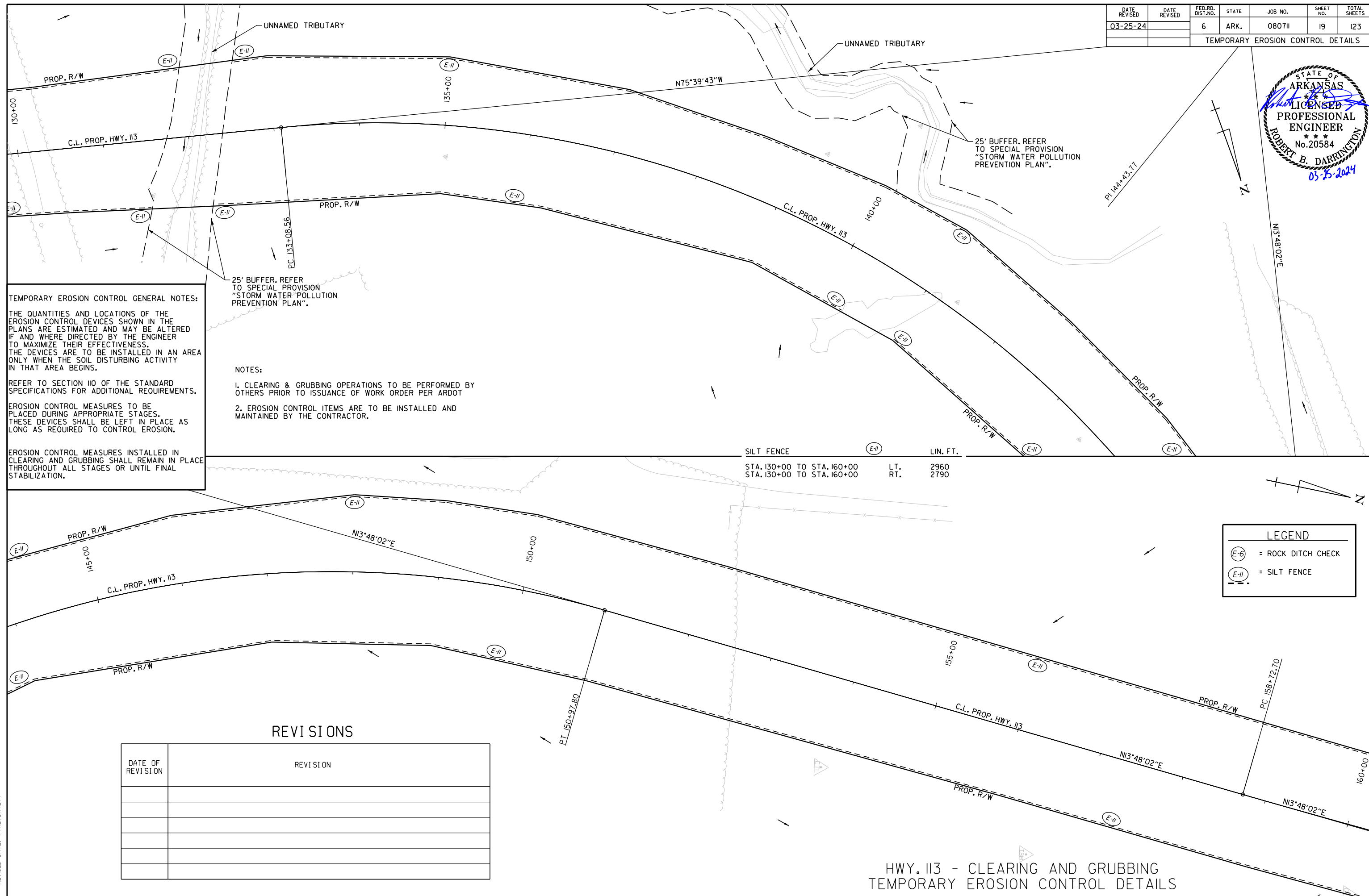
The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

Revision: 3/11/2024 2:52:36 PM
WORKSPACE: ARDOT
Y:\Projects\AR001\06431\080711\Highway 113 Relocation\Design\Civil\Drawings\RO80711_05_EC00_000.dgn
REVISED DATE: \$*REVIDATE\$*



DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	19	123
		TEMPORARY EROSION CONTROL DETAILS				



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WORKSPACE: ARDOT
REVIS DATE: **REDATE**

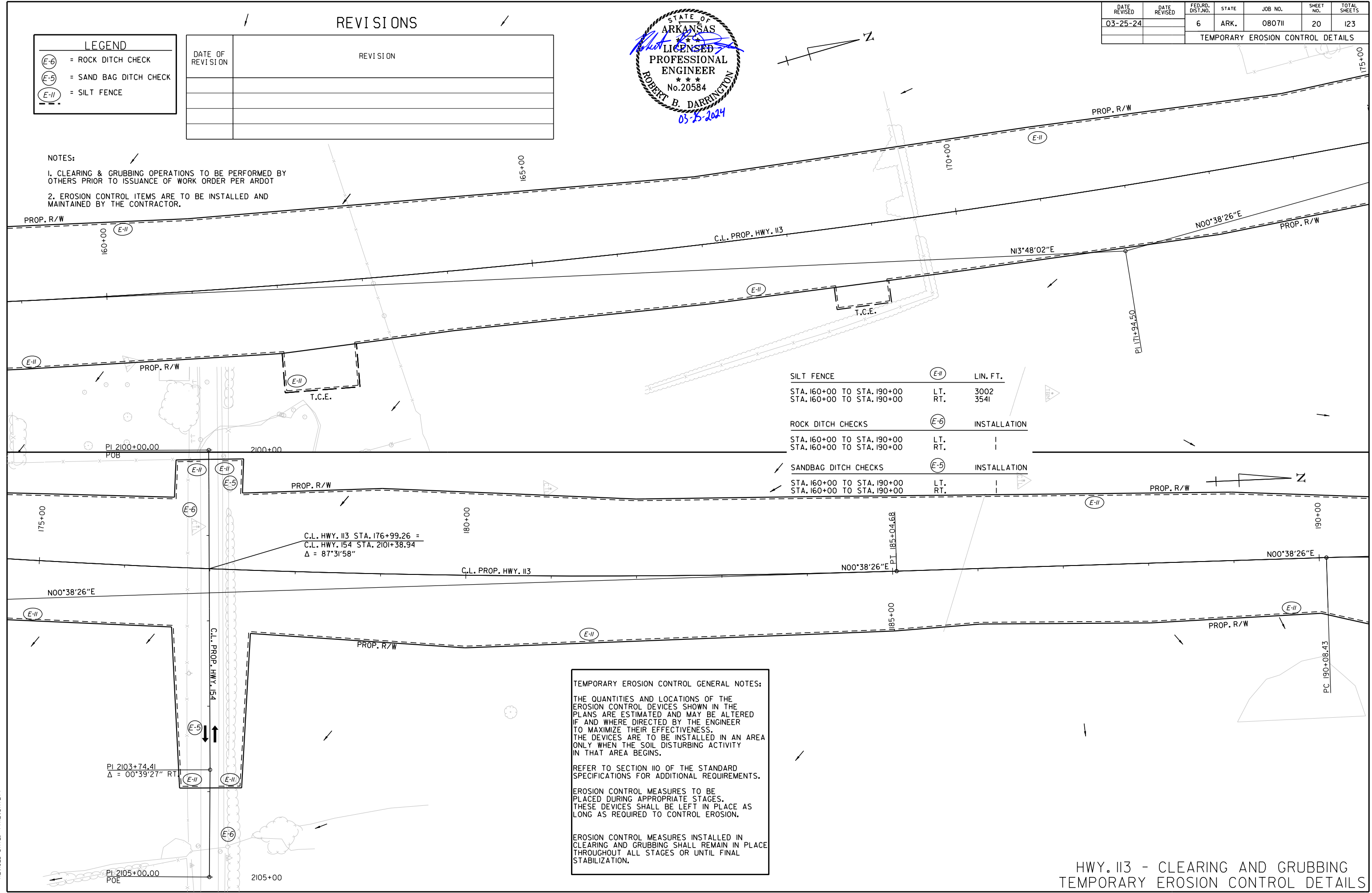
LEGEND	
(E-6)	= ROCK DITCH CHECK
(E-5)	= SAND BAG DITCH CHECK
(E-11)	= SILT FENCE

DATE OF REVISION	REVISION



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	20	123
TEMPORARY EROSION CONTROL DETAILS						

- NOTES:
- CLEARING & GRUBBING OPERATIONS TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT
 - EROSION CONTROL ITEMS ARE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.



SILT FENCE		(E-11)	LIN. FT.
STA. 160+00 TO STA. 190+00	LT.	1	3002
STA. 160+00 TO STA. 190+00	RT.	1	3541
ROCK DITCH CHECKS		(E-6)	INSTALLATION
STA. 160+00 TO STA. 190+00	LT.	1	
STA. 160+00 TO STA. 190+00	RT.	1	
SANDBAG DITCH CHECKS		(E-5)	INSTALLATION
STA. 160+00 TO STA. 190+00	LT.	1	
STA. 160+00 TO STA. 190+00	RT.	1	

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

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

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THROUGHOUT ALL STAGES OR UNTIL FINAL STABILIZATION.

HWY. 113 - CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	21	123
		TEMPORARY EROSION CONTROL DETAILS				

LEGEND

(E-II) = SILT FENCE

(E-5) = SANDBAG DITCH CHECK



NOTES:

1. CLEARING & GRUBBING OPERATIONS TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT

2. EROSION CONTROL ITEMS ARE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

REVI SI ONS

[illegible]

TEMPORARY EROSION CONTROL GENERAL NOTES:

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SILT FENCE

STA. 190+00 TO STA. 220+00
STA. 190+00 TO STA. 220+00

1 (E-11) LIN. FT.

LT.	2932
RT.	2745

SANDBAG DITCH CHECKS

STA. 190+00 TO STA. 220+00

(E-5) INSTALLATION

RT.

HWY. 113 - CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

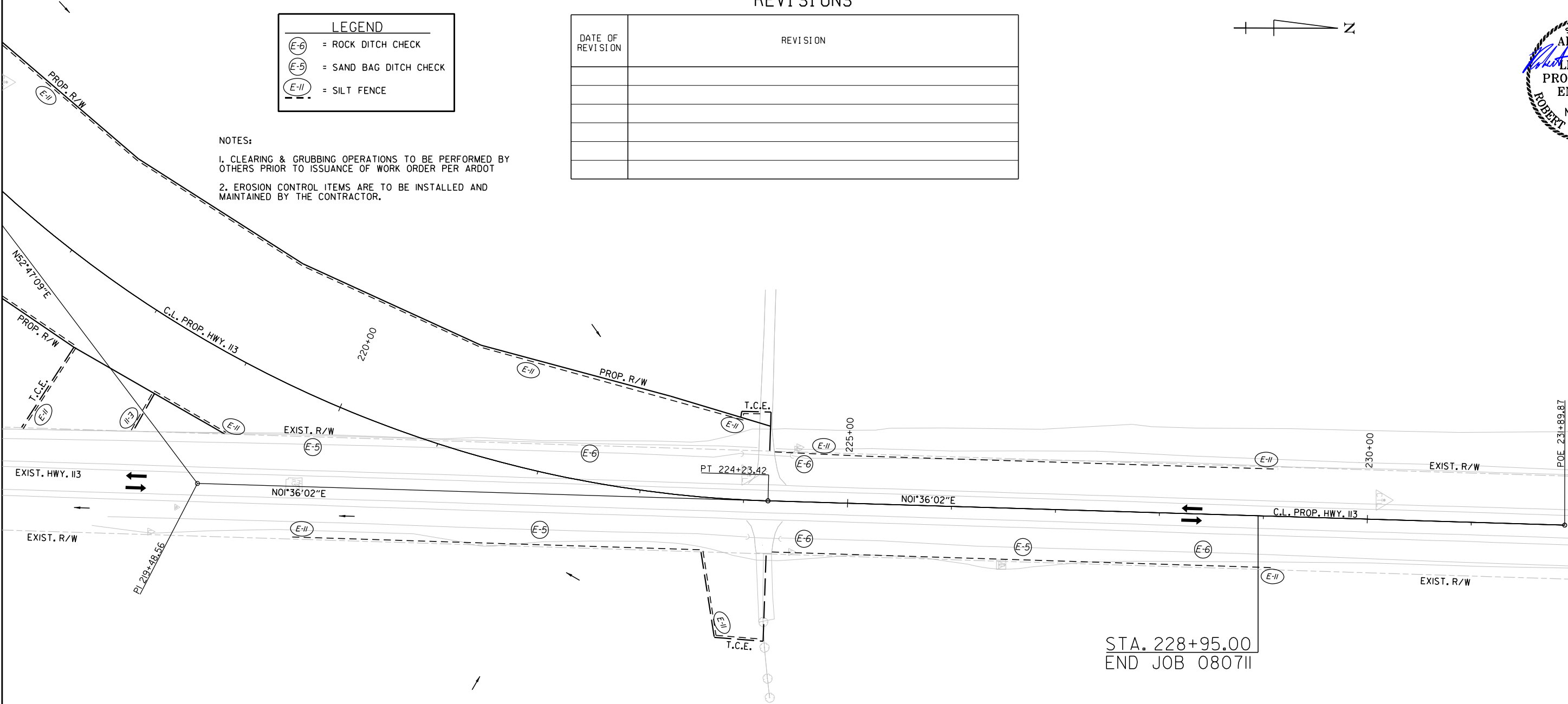
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03-25-24		6	ARK.	080711	22	123
TEMPORARY EROSION CONTROL DETAILS						

REVISIONS

DATE OF REVISION	REVISION

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

- NOTES:
1. CLEARING & GRUBBING OPERATIONS TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT
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REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

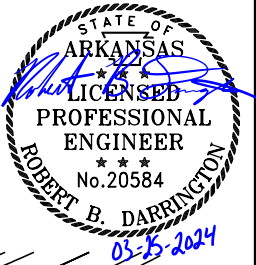
EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

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SILT FENCE	(E-11)	LIN. FT.
STA. 220+00 TO STA. 229+00	LT.	1328
STA. 220+00 TO STA. 229+00	RT.	1002
ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 220+00 TO STA. 229+00	LT.	2
STA. 220+00 TO STA. 229+00	RT.	2
SANDBAG DITCH CHECKS	(E-5)	INSTALLATION
STA. 220+00 TO STA. 229+00	RT.	2

HWY. 113 - CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	23	123
TEMPORARY EROSION CONTROL DETAILS						



LEGEND

E-6

= ROCK DITCH CHECK

E-5

= SANDBAG DITCH CHECK

STA. 103+95.00
BEGIN JOB 0807II
LOG MILE 0.855

TEMPORARY EROSION CONTROL GENERAL NOTES:

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REVISIONS

DATE OF REVISION	REVISION

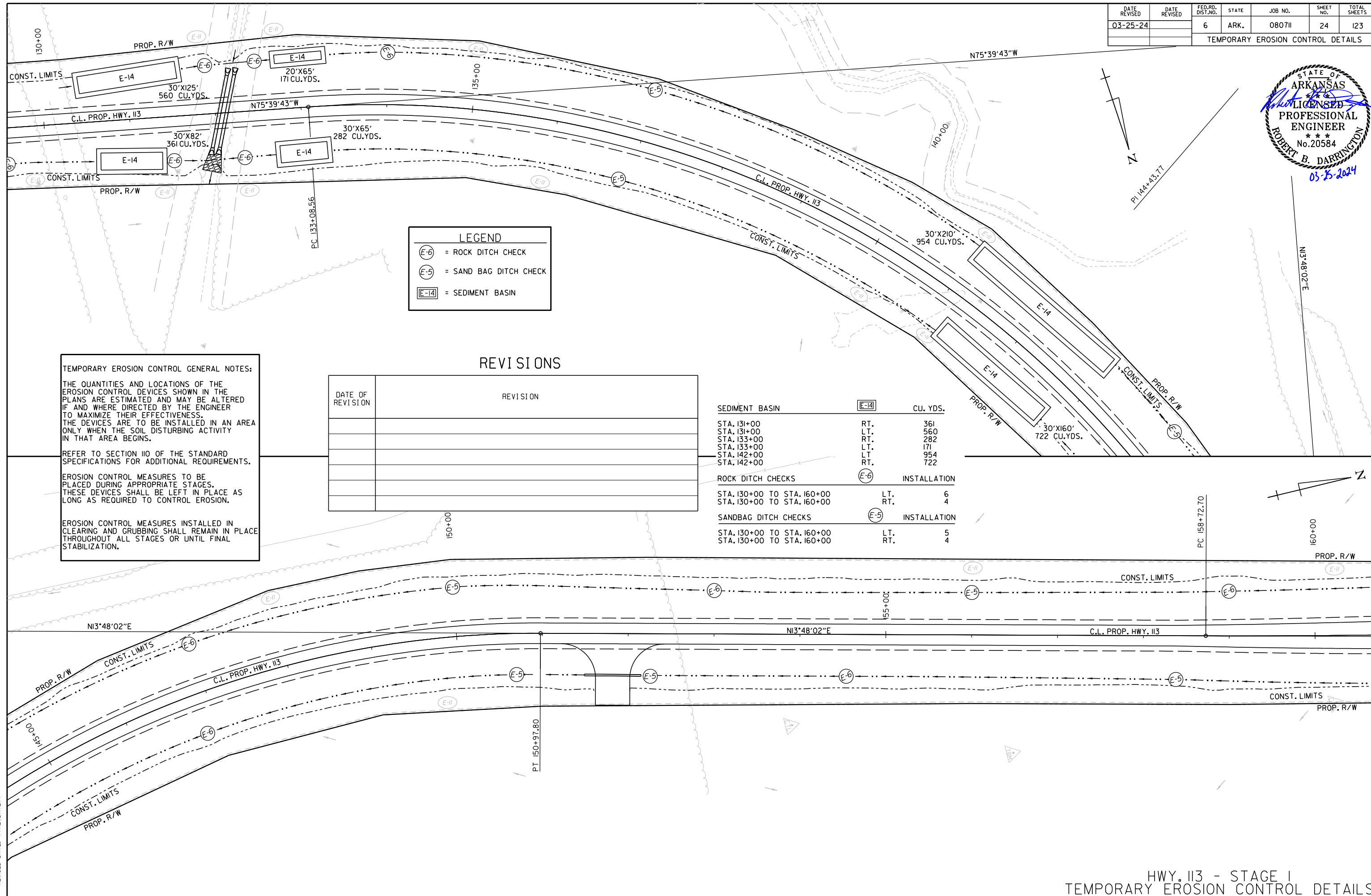
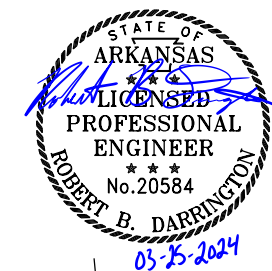
ROCK DITCH CHECKS	E-6	INSTALLATION
STA. 104+00 TO STA. 130+00	LT.	8
STA. 104+00 TO STA. 130+00	RT.	3

SANDBAG DITCH CHECKS	E-5	INSTALLATION
STA. 104+00 TO STA. 130+00	LT.	8
STA. 104+00 TO STA. 130+00	RT.	1

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HWY. 113 - STAGE I
TEMPORARY EROSION CONTROL DETAILS

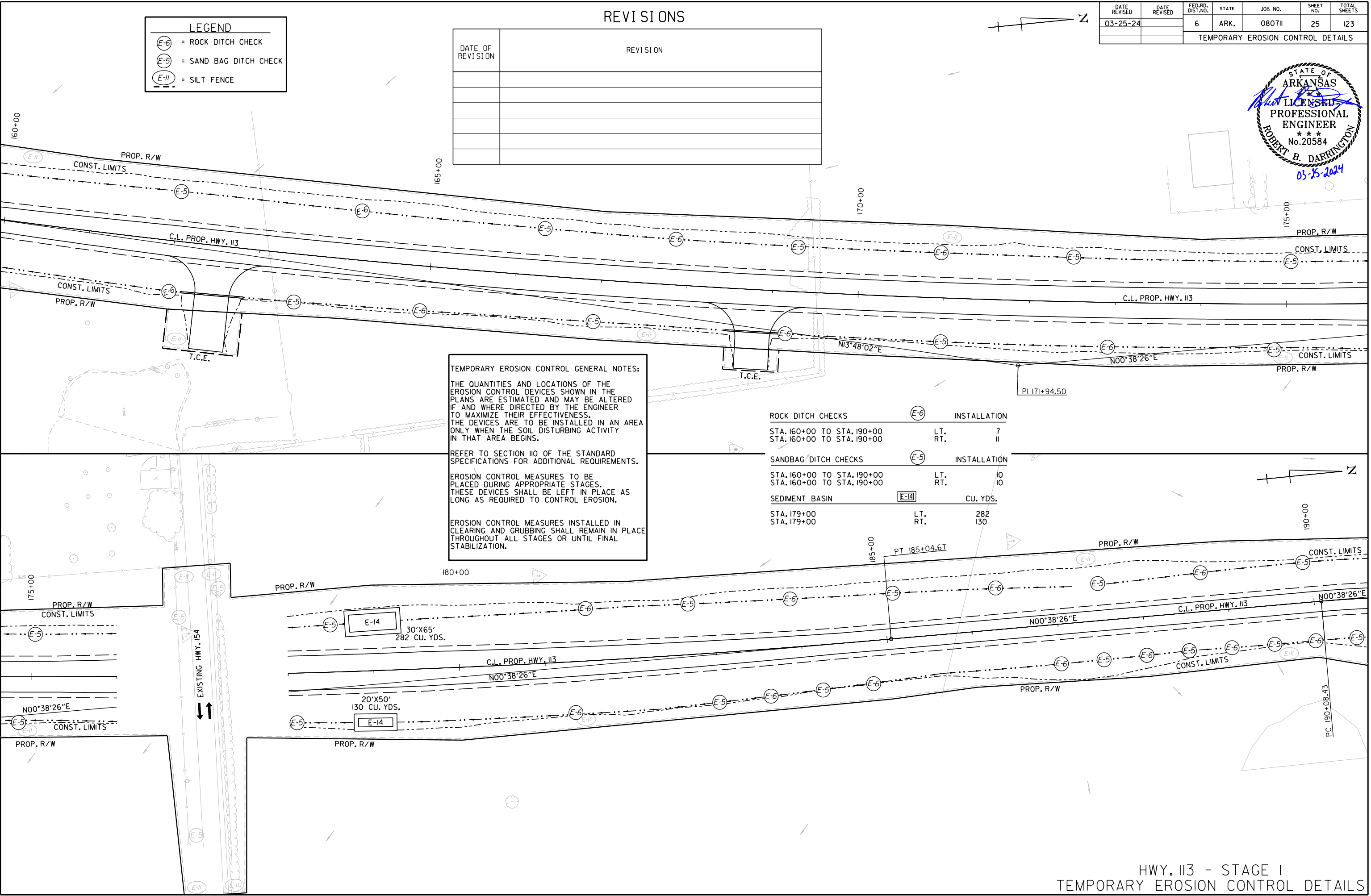
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	24	123
		TEMPORARY EROSION CONTROL DETAILS				



HWY. 113 - STAGE I
TEMPORARY EROSION CONTROL DETAILS

Rajyan, Chowdhury, 3/25/2024 3:08:26 PM
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WORKSPACE\AR001
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REVISED DATE: **REDATE**



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

REVISIONS	
DATE OF REVISION	REVISION

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	25	123
TEMPORARY EROSION CONTROL DETAILS						



TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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ROCK DITCH CHECKS		INSTALLATION	
STA. 160+00 TO STA. 190+00		LT.	7
STA. 160+00 TO STA. 190+00		RT.	11
SAND BAG DITCH CHECKS		INSTALLATION	
STA. 160+00 TO STA. 190+00		LT.	10
STA. 160+00 TO STA. 190+00		RT.	10
SEDIMENT BASIN		CU. YDS.	
STA. 179+00		LT.	282
STA. 179+00		RT.	130

HWY. 113 - STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	27	123
TEMPORARY EROSION CONTROL DETAILS						



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

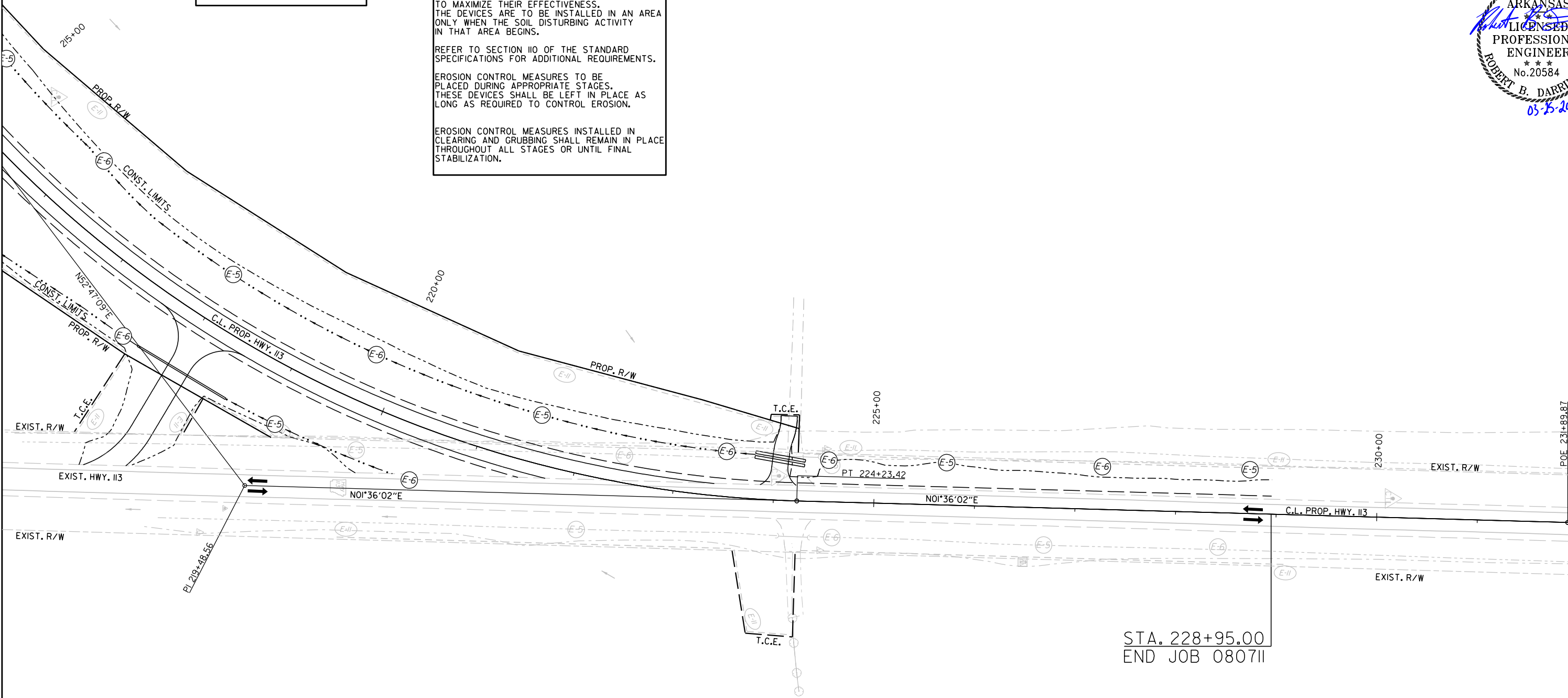
TEMPORARY EROSION CONTROL GENERAL NOTES:

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

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STA. 228+95.00
END JOB 080711

REVISIONS

DATE OF REVISION	REVISION

ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 215+00 TO STA. 229+00	LT.	5
STA. 215+00 TO STA. 229+00	RT.	2
SANDBAG DITCH CHECKS	(E-5)	INSTALLATION
STA. 215+00 TO STA. 229+00	LT.	4
STA. 215+00 TO STA. 229+00	RT.	1

1	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
	03-25-24		6	ARK.	0807II	28	123
	TEMPORARY EROSION CONTROL DETAILS						



LEGEND

(E-6) = ROCK DITCH CHECK

(E-5) = SAND BAG DITCH CHECK

TEMPORARY EROSION CONTROL GENERAL NOTES:

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STABILIZATION.

$$\begin{array}{r} \text{C.L. HWY. 113 STA. 176+99.26} = \\ \text{C.L. HWY. 154 STA. 2101+38.94} \\ \hline \Delta = 87^{\circ}31'58'' \end{array}$$

ROCK DITCH CHECKS		(E-6)	INSTALLATION
STA. 2100+00 TO STA. 2105+00		L.T.	1
STA. 2100+00 TO STA. 2100+00		RT.	2
SANDBAG DITCH CHECKS		(E-5)	INSTALLATION
STA. 2100+00 TO STA. 2105+00		L.T.	2
STA. 2100+00 TO STA. 2105+00		RT.	1

NOTE:
OBLITERATE SEDIMENT BASINS ALONG PROP. HWY. 113
BEFORE STAGE 3 TRAFFIC SHIFT= 4754 CY

REV I S I O N S

DATE OF REVISION	REVISION

INTERSECTION HWY. 113 & HWY. 154 - STAGE 2
TEMPORARY EROSION CONTROL DETAILS

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REVISION DATE: 3/25/2024

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	29	123
TEMPORARY EROSION CONTROL DETAILS						

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

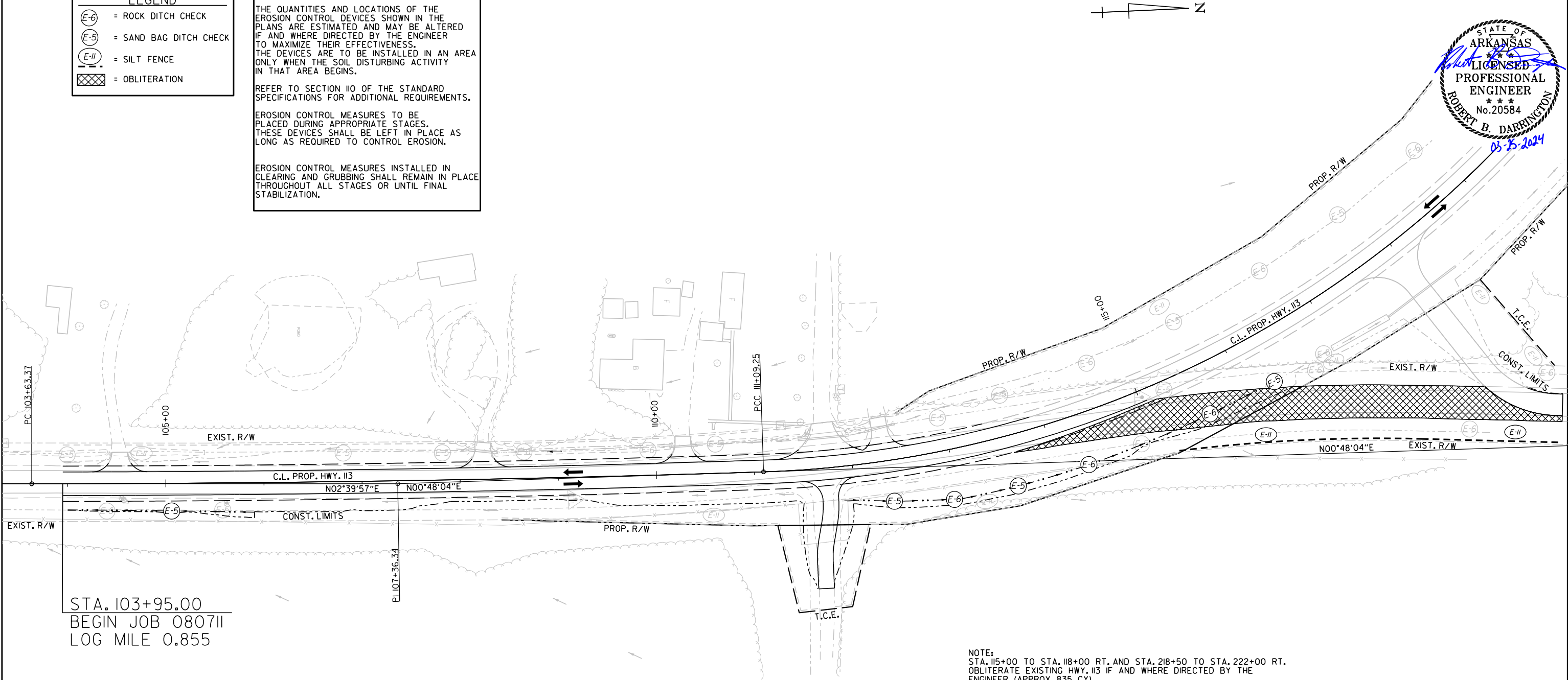
TEMPORARY EROSION CONTROL GENERAL NOTES:

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

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

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

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THROUGHOUT ALL STAGES OR UNTIL FINAL STABILIZATION.

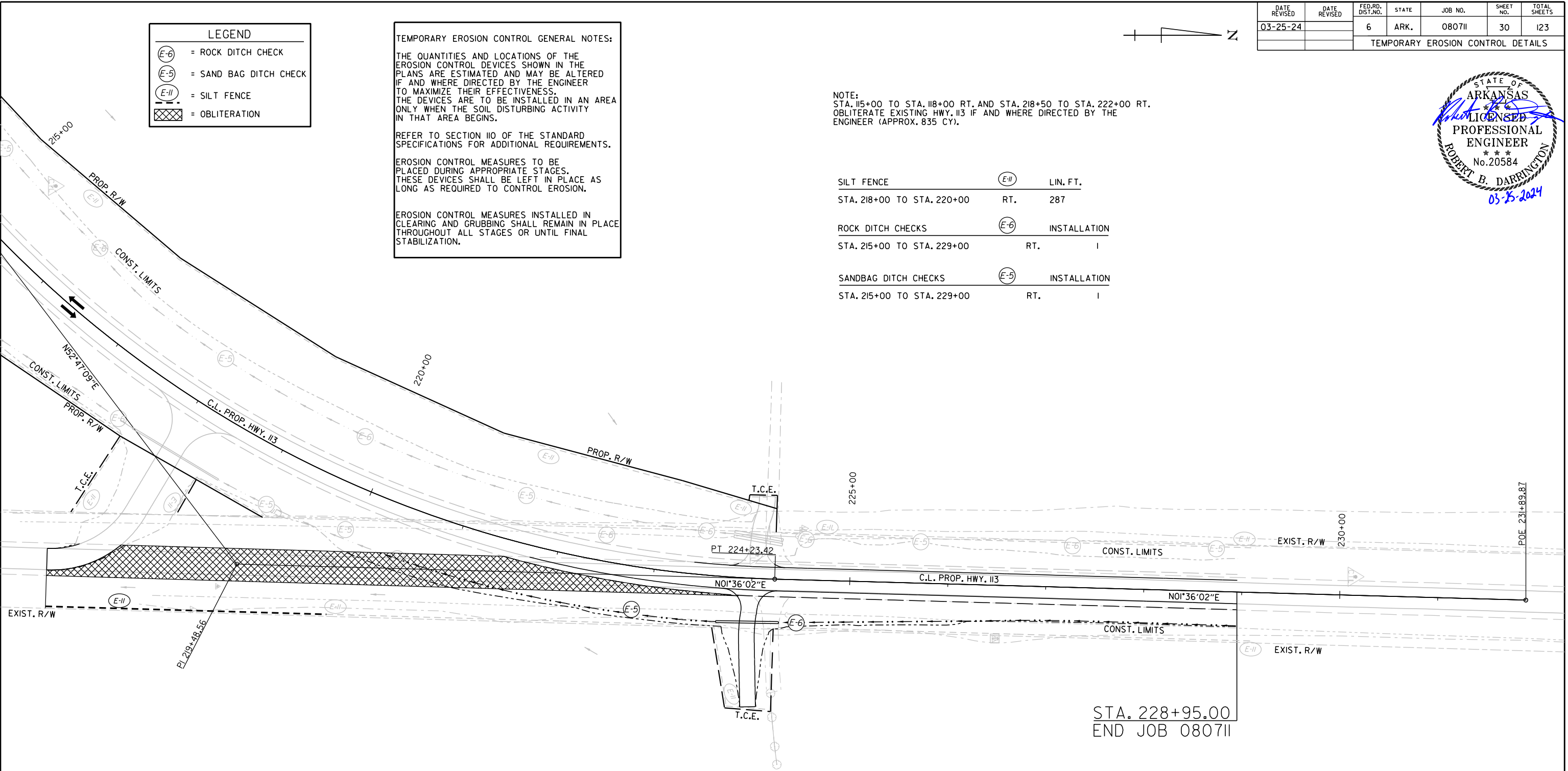


REVISIONS

DATE OF REVISION	REVISION

SILT FENCE		LIN. FT.
STA. 115+00 TO STA. 118+00	RT.	390
ROCK DITCH CHECKS		INSTALLATION
STA. 104+00 TO STA. 119+00	RT.	3
SANDBAG DITCH CHECKS		INSTALLATION
STA. 104+00 TO STA. 119+00	RT.	4

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REVISED DATE: **REDATE**



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

TEMPORARY EROSION CONTROL GENERAL NOTES:

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

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

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

EROSION CONTROL MEASURES INSTALLED IN CLEARING AND GRUBBING SHALL REMAIN IN PLACE THROUGHOUT ALL STAGES OR UNTIL FINAL STABILIZATION.

NOTE:
STA. 115+00 TO STA. 118+00 RT. AND STA. 218+50 TO STA. 222+00 RT.
OBLITERATE EXISTING HWY. 113 IF AND WHERE DIRECTED BY THE ENGINEER (APPROX. 835 CY).

SILT FENCE		LIN. FT.
STA. 218+00 TO STA. 220+00	RT.	287
ROCK DITCH CHECKS		INSTALLATION
STA. 215+00 TO STA. 229+00	RT.	1
SANDBAG DITCH CHECKS		INSTALLATION
STA. 215+00 TO STA. 229+00	RT.	1

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	30	123
TEMPORARY EROSION CONTROL DETAILS						



REVISIONS

DATE OF REVISION	REVISION

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	31	123
MAINTENANCE OF TRAFFIC DETAILS						



CONSTRUCTION SEQUENCE

STAGE 1:

INSTALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. CLEARING AND GRUBBING OPERATIONS ARE TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT. EROSION CONTROL ITEMS ARE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

MAINTAIN TRAFFIC ON EXISTING ROADWAY. INSTALL ALL DRAINAGE STRUCTURES AND CONSTRUCT FULL DEPTH SECTIONS OF HIGHWAY I13 ROADWAY STATION I15+00 - I76+00 AND STATION I78+00 - 222+00 THROUGH FIRST SURFACE LIFT.

PLACE ACHM LEVELING UNDER TRAFFIC IF AND WHERE DIRECTED BY THE ENGINEER, STATION I04+00 - I14+00 AND STATION 223+00 - 232+00. COLD MILL EXISTING RIGHT SHOULDER AND PROVIDE AGGREGATE FOR TEMPORARY SHOULDER AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER FOR TEMPORARY TRAFFIC SHIFT.

CONSTRUCT NOTCH AND WIDENING STATION I04+00 - I14+00 AND STATION 223+00 - 232+00 LEFT.

STAGE 2:

INSTALL ALL DRAINAGE STRUCTURES AND RECONSTRUCT EXISTING HIGHWAY I54 TO PROPOSED TYPICAL SECTIONS INCLUDING NOTCH AND WIDEN SECTIONS THROUGH FIRST SURFACE LIFT INCLUDING TIE-INS TO PROPOSED HIGHWAY I13.

PLACE TEMPORARY PAVEMENT MARKINGS AND OPEN HIGHWAY I54 TO TRAFFIC.

STAGE 3:

CONSTRUCT HIGHWAY I13 TRANSITIONS TO NEW ROADWAY SECTION UNDER TRAFFIC BY METHOD OF RAISING GRADE IF AND WHERE DIRECTED BY THE ENGINEER, STATION I04+00 - I15+00 AND STATION 222+00 - 232+00. PROVIDE AGGREGATE FOR TEMPORARY SHOULDERS AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKINGS AND REROUTE TRAFFIC TO NEW ALIGNMENT.

CONSTRUCT HIGHWAY I13 NOTCH AND WIDENING STATION I04+00 - I15+00 AND STATION 222+00 - 232+00 RIGHT.

STAGE 4:

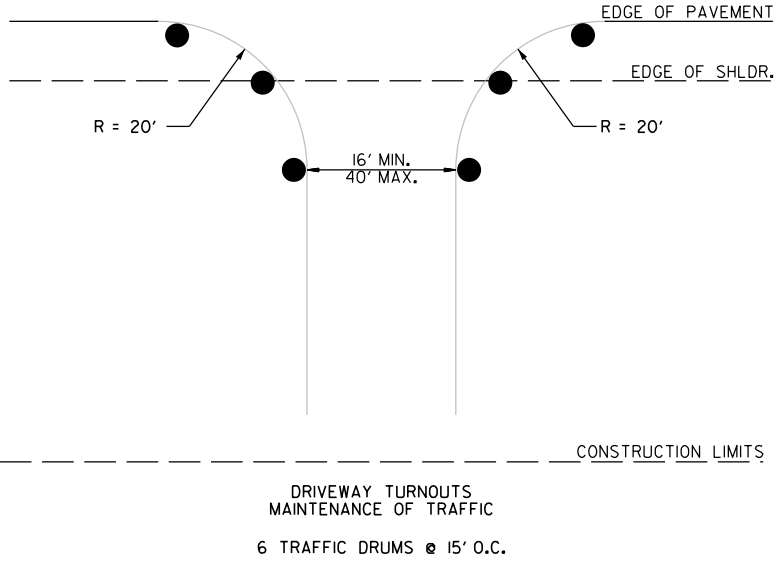
PLACE FINAL ACHM SURFACE AND ALL PERMANENT PAVEMENT MARKINGS FOR HIGHWAY I13, HIGHWAY I54 AND DRIVEWAYS AT STATIONS I17+95.00 AND 218+03.00. RETURN TRAFFIC TO NORMAL OPERATIONS.

LEGEND

- 

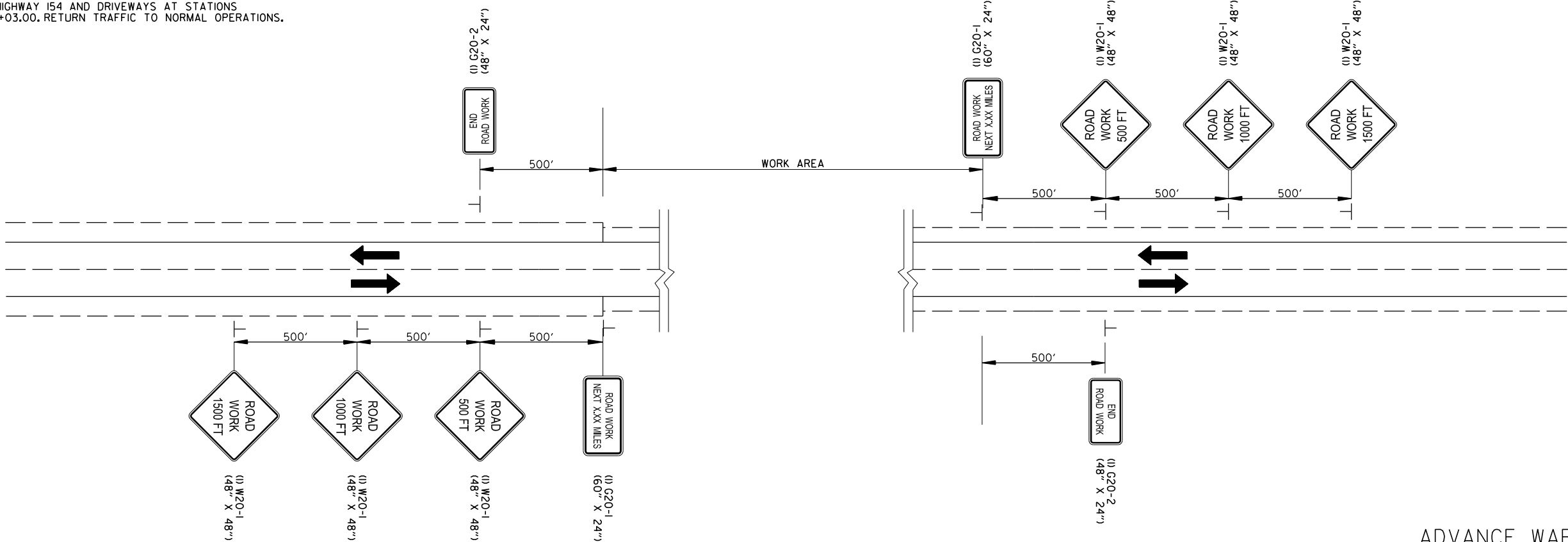
TRAFFIC FLOW ARROWS
- 

TEMPORARY MOT SIGN
- 
 - (2) W21-5a (36" X 36")
- 
 - (10) R4-1 (24" X 30")
 - IF AND WHERE DIRECTED BY THE ENGINEER
- 
 - (4) W8-1 (30" X 30")



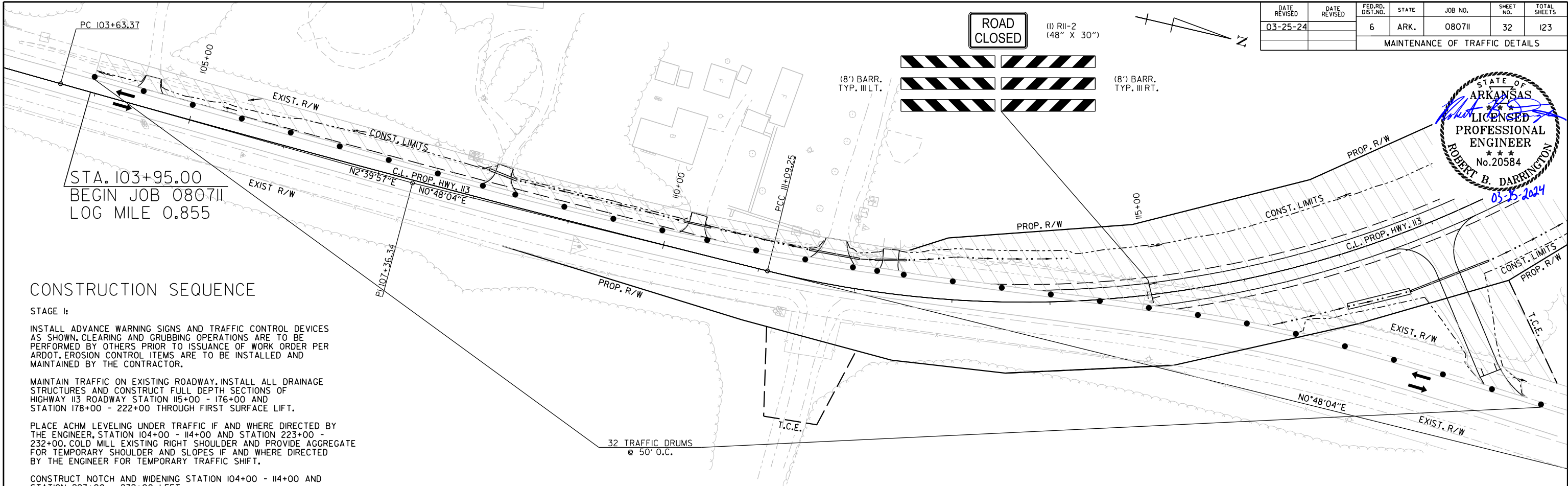
STAGE 1		STAGE 3	
STA. I04+53	LT.	STA. III+74	RT.
STA. I08+23	LT.	STA. 224+02	RT.
STA. I10+27	LT.		
STA. III+74	LT.		
STA. I12+34	LT.		
STA. 224+02	LT.		

ADVANCE WARNING DETAILS



ADVANCE WARNING SIGNS
MAINTENANCE OF TRAFFIC DETAILS

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CONSTRUCTION SEQUENCE

STAGE I:

INSTALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. CLEARING AND GRUBBING OPERATIONS ARE TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT. EROSION CONTROL ITEMS ARE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

MAINTAIN TRAFFIC ON EXISTING ROADWAY. INSTALL ALL DRAINAGE STRUCTURES AND CONSTRUCT FULL DEPTH SECTIONS OF HIGHWAY I13 ROADWAY STATION 115+00 - 176+00 AND STATION 178+00 - 222+00 THROUGH FIRST SURFACE LIFT.

PLACE ACHM LEVELING UNDER TRAFFIC IF AND WHERE DIRECTED BY THE ENGINEER. STATION 104+00 - 114+00 AND STATION 223+00 - 232+00. COLD MILL EXISTING RIGHT SHOULDER AND PROVIDE AGGREGATE FOR TEMPORARY SHOULDER AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER FOR TEMPORARY TRAFFIC SHIFT.

CONSTRUCT NOTCH AND WIDENING STATION 104+00 - 114+00 AND STATION 223+00 - 232+00 LEFT.

CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY I13
STA. 116+00 TO STA. 130+00 C.L. - 2800 LIN. FT.

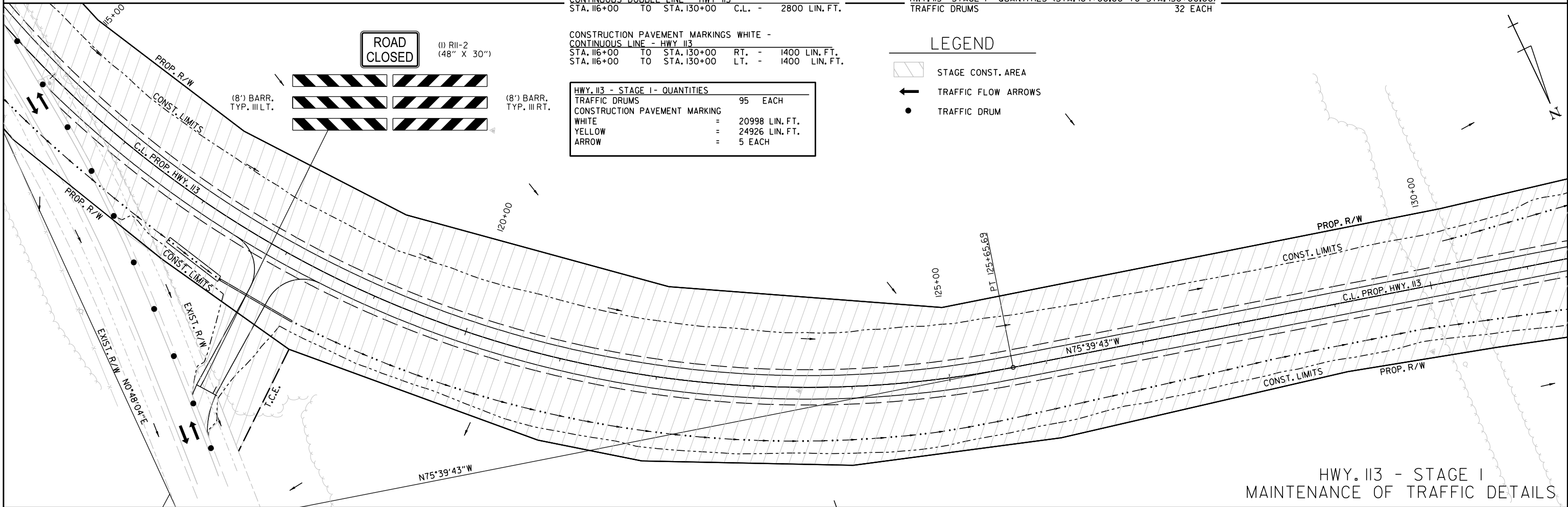
HWY. I13- STAGE I- QUANTITIES (STA. 104+00.00 TO STA. 130+00.00)
TRAFFIC DRUMS 32 EACH

CONSTRUCTION PAVEMENT MARKINGS WHITE -
CONTINUOUS LINE - HWY I13
STA. 116+00 TO STA. 130+00 RT. - 1400 LIN. FT.
STA. 116+00 TO STA. 130+00 LT. - 1400 LIN. FT.

HWY. I13 - STAGE I- QUANTITIES	
TRAFFIC DRUMS	95 EACH
CONSTRUCTION PAVEMENT MARKING	
WHITE	= 20998 LIN. FT.
YELLOW	= 24926 LIN. FT.
ARROW	= 5 EACH

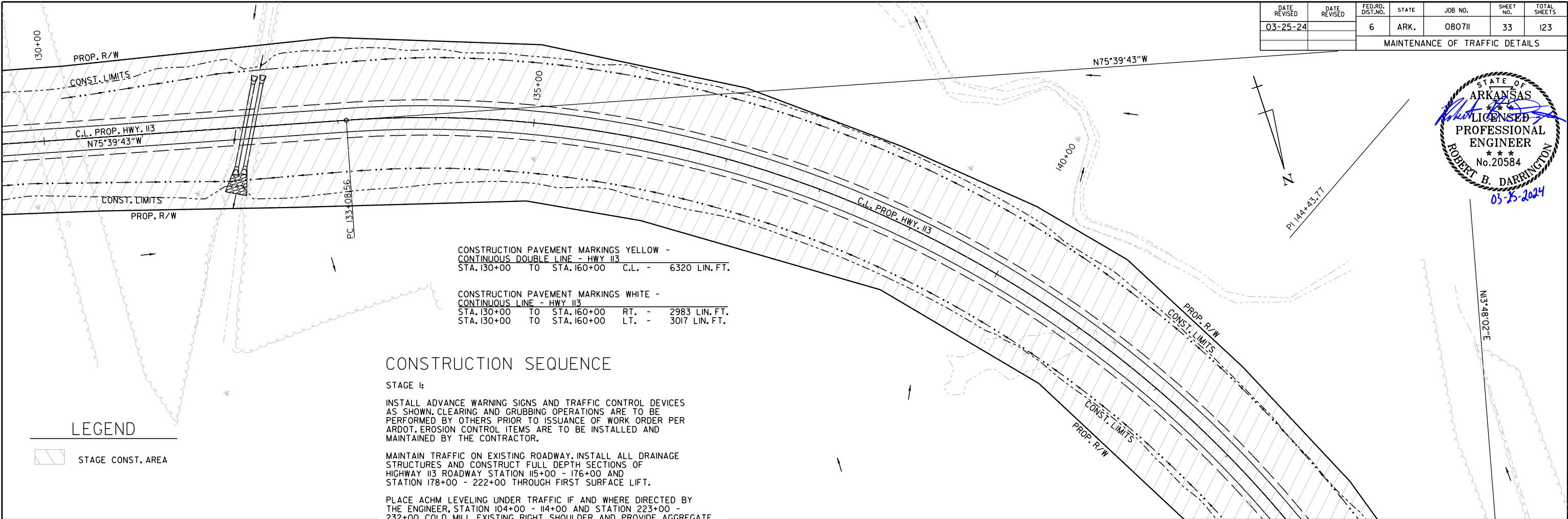
LEGEND

- STAGE CONST. AREA
- TRAFFIC FLOW ARROWS
- TRAFFIC DRUM



HWY. I13 - STAGE I
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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MAINTENANCE OF TRAFFIC DETAILS						



CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY 113
STA. 130+00 TO STA. 160+00 C.L. - 6320 LIN. FT.

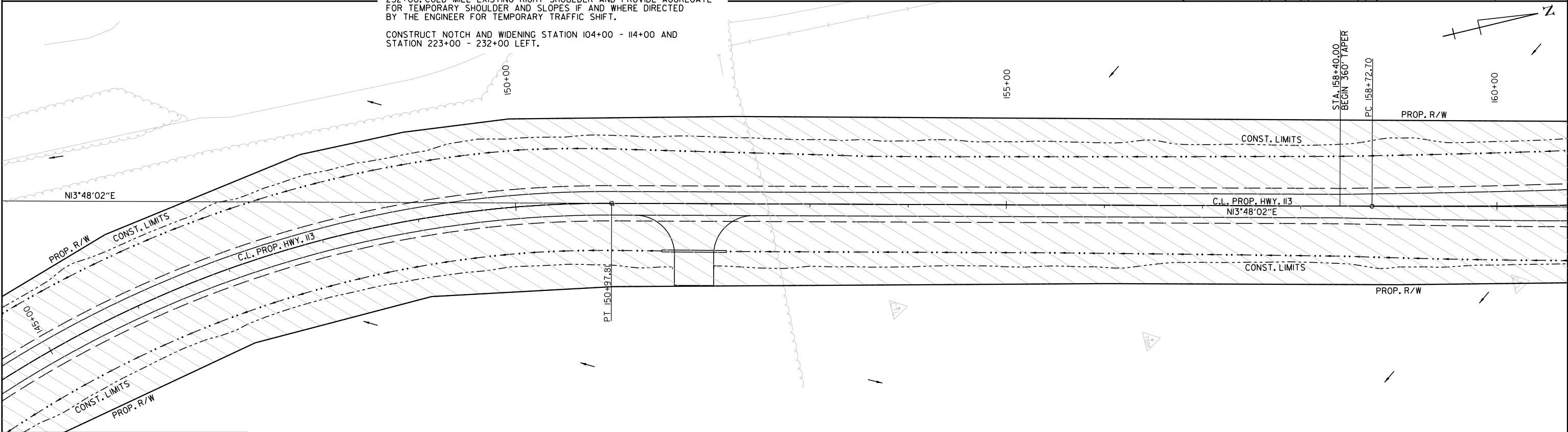
CONSTRUCTION PAVEMENT MARKINGS WHITE -
CONTINUOUS LINE - HWY 113
STA. 130+00 TO STA. 160+00 RT. - 2983 LIN. FT.
STA. 130+00 TO STA. 160+00 LT. - 3017 LIN. FT.

CONSTRUCTION SEQUENCE

- STAGE 1:
- INSTALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. CLEARING AND GRUBBING OPERATIONS ARE TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT. EROSION CONTROL ITEMS ARE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.
 - MAINTAIN TRAFFIC ON EXISTING ROADWAY. INSTALL ALL DRAINAGE STRUCTURES AND CONSTRUCT FULL DEPTH SECTIONS OF HIGHWAY 113 ROADWAY STATION 115+00 - 176+00 AND STATION 178+00 - 222+00 THROUGH FIRST SURFACE LIFT.
 - PLACE ACHM LEVELING UNDER TRAFFIC IF AND WHERE DIRECTED BY THE ENGINEER, STATION 104+00 - 114+00 AND STATION 223+00 - 232+00. COLD MILL EXISTING RIGHT SHOULDER AND PROVIDE AGGREGATE FOR TEMPORARY SHOULDER AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER FOR TEMPORARY TRAFFIC SHIFT.
 - CONSTRUCT NOTCH AND WIDENING STATION 104+00 - 114+00 AND STATION 223+00 - 232+00 LEFT.

LEGEND

STAGE CONST. AREA



HWY. 113 - STAGE 1- QUANTITIES		
TRAFFIC DRUMS	95	EACH
CONSTRUCTION PAVEMENT MARKING		
WHITE	20998	LIN. FT.
YELLOW	24926	LIN. FT.
ARROW	5	EACH

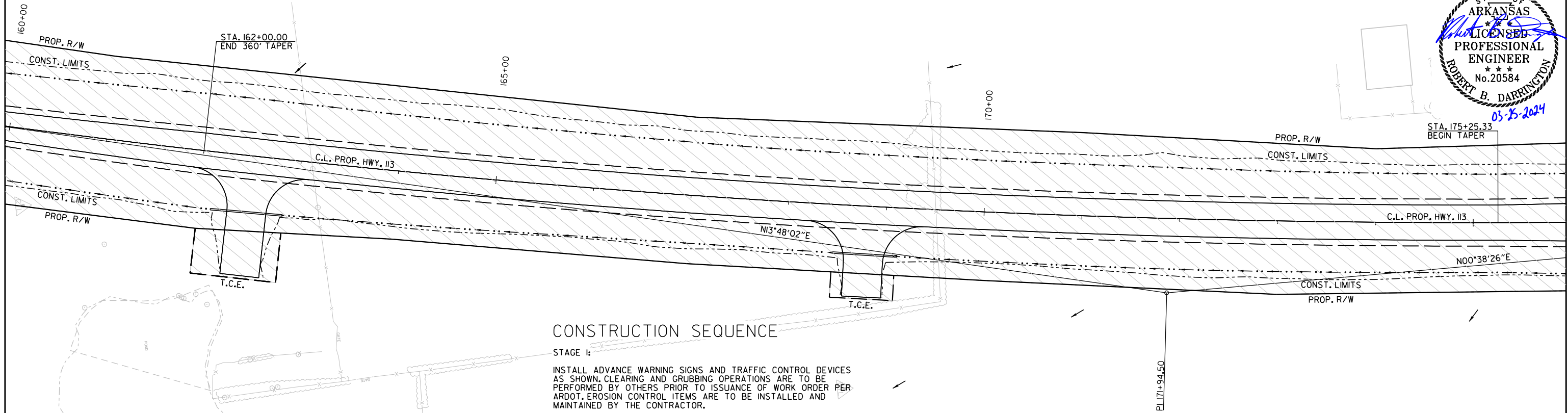
HWY. 113 - STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

Relocation Highway 113
WORKSPACE: ARDOT
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LEGEND

- STAGE CONST. AREA
TYPE 3 BARRICADE

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	34	123
MAINTENANCE OF TRAFFIC DETAILS						



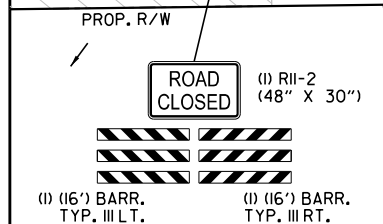
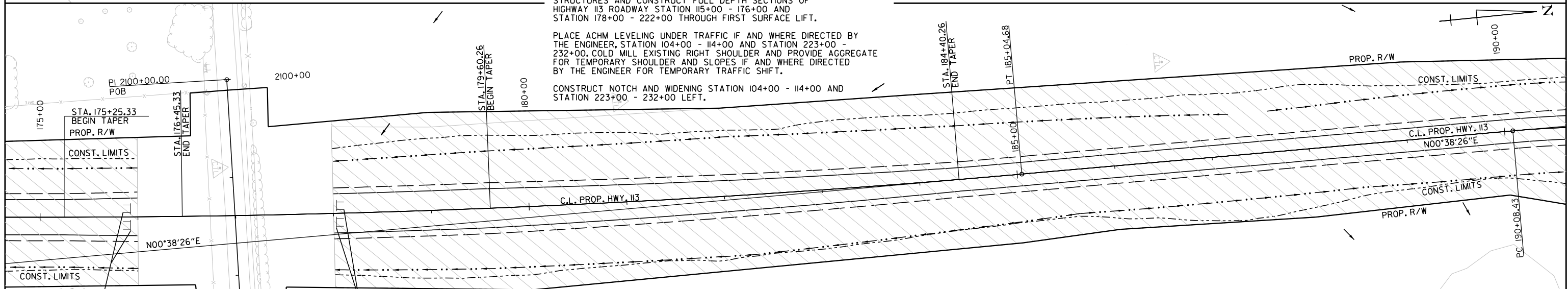
CONSTRUCTION SEQUENCE

STAGE I:
INSTALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. CLEARING AND GRUBBING OPERATIONS ARE TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT. EROSION CONTROL ITEMS ARE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

MAINTAIN TRAFFIC ON EXISTING ROADWAY. INSTALL ALL DRAINAGE STRUCTURES AND CONSTRUCT FULL DEPTH SECTIONS OF HIGHWAY 113 ROADWAY STATION 115+00 - 176+00 AND STATION 178+00 - 222+00 THROUGH FIRST SURFACE LIFT.

PLACE ACHM LEVELING UNDER TRAFFIC IF AND WHERE DIRECTED BY THE ENGINEER, STATION 104+00 - 114+00 AND STATION 223+00 - 232+00. COLD MILL EXISTING RIGHT SHOULDER AND PROVIDE AGGREGATE FOR TEMPORARY SHOULDER AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER FOR TEMPORARY TRAFFIC SHIFT.

CONSTRUCT NOTCH AND WIDENING STATION 104+00 - 114+00 AND STATION 223+00 - 232+00 LEFT.



CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY 113
STA. 160+00 TO STA. 176+00 C.L. - 5488 LIN. FT.
STA. 178+00 TO STA. 190+00 C.L. - 3488 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS WHITE -
CONTINUOUS LINE - HWY 113
STA. 160+00 TO STA. 176+00 RT. - 1602 LIN. FT.
STA. 178+00 TO STA. 190+00 RT. - 1201 LIN. FT.
STA. 160+00 TO STA. 176+00 LT. - 1598 LIN. FT.
STA. 162+70 TO STA. 164+20 LT. - 150 LIN. FT.
STA. 168+99 TO STA. 170+49 LT. - 150 LIN. FT.
STA. 178+00 TO STA. 190+00 LT. - 1199 LIN. FT.
STA. 178+00 TO STA. 178+98 LT. - 98 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS
(ARROW)
STA. 162+75 C.L. - IEACH
STA. 164+12 C.L. - IEACH
STA. 169+05 C.L. - IEACH
STA. 170+40 C.L. - IEACH
STA. 178+90 C.L. - IEACH

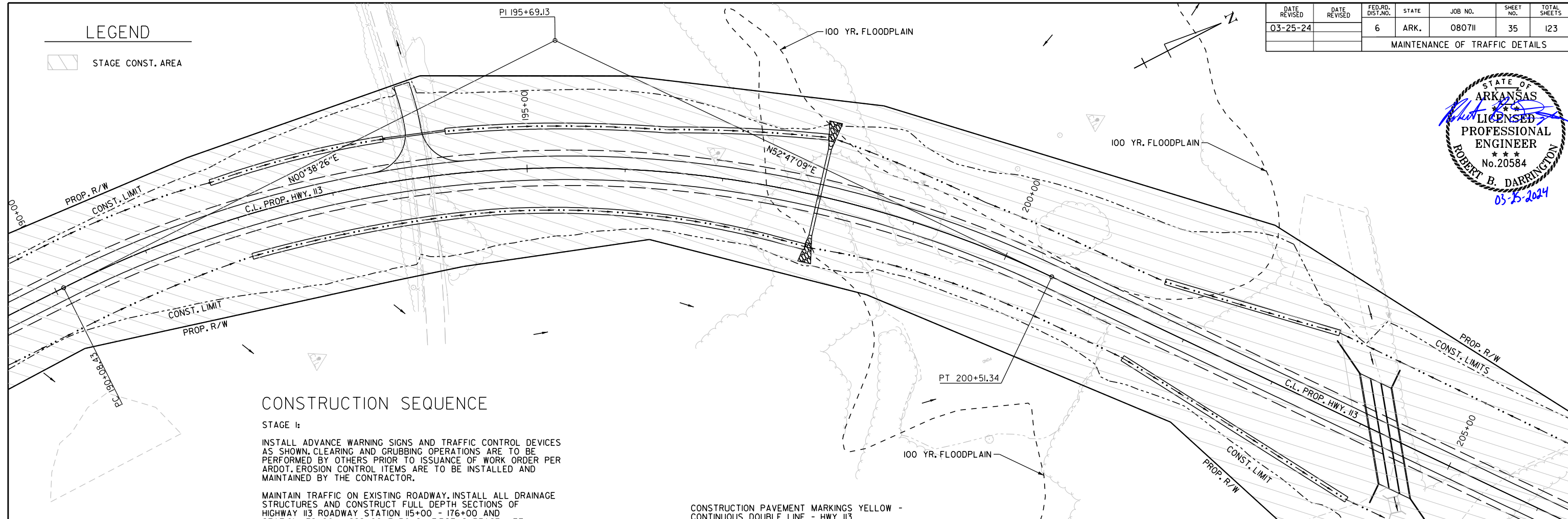
HWY. 113 - STAGE I - QUANTITIES		
TRAFFIC DRUMS	95	EACH
CONSTRUCTION PAVEMENT MARKING		
WHITE	=	20998 LIN. FT.
YELLOW	=	24926 LIN. FT.
ARROW	=	5 EACH

HWY. 113 - STAGE I
MAINTENANCE OF TRAFFIC DETAILS

LEGEND

STAGE CONST. AREA

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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MAINTENANCE OF TRAFFIC DETAILS						



CONSTRUCTION SEQUENCE

STAGE I:

INSTALL ADVANCE WARNING SIGNS AND TRAFFIC CONTROL DEVICES AS SHOWN. CLEARING AND GRUBBING OPERATIONS ARE TO BE PERFORMED BY OTHERS PRIOR TO ISSUANCE OF WORK ORDER PER ARDOT. EROSION CONTROL ITEMS ARE TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR.

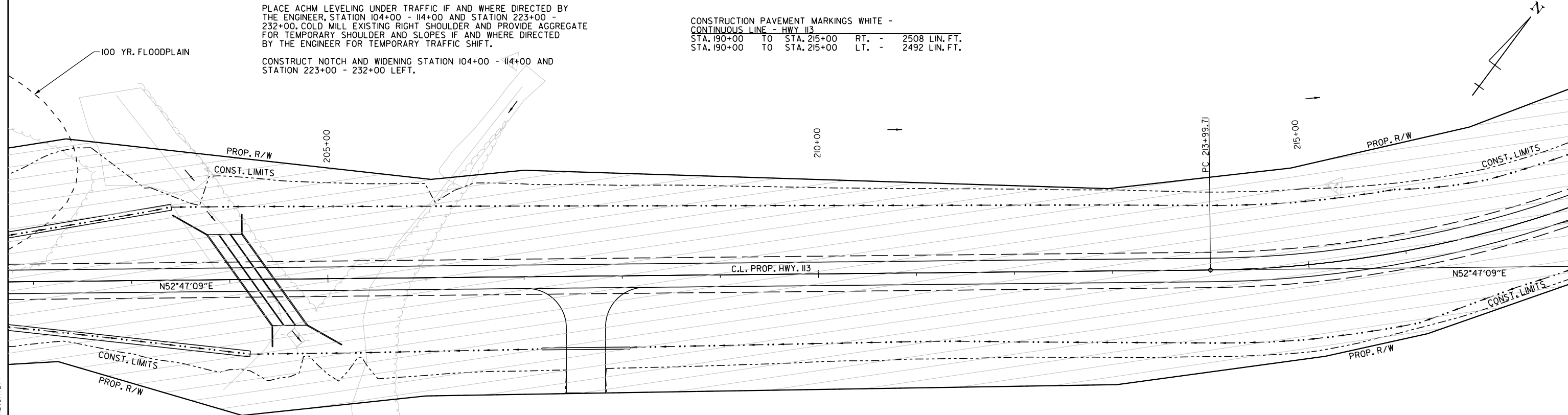
MAINTAIN TRAFFIC ON EXISTING ROADWAY. INSTALL ALL DRAINAGE STRUCTURES AND CONSTRUCT FULL DEPTH SECTIONS OF HIGHWAY 113 ROADWAY STATION 115+00 - 176+00 AND STATION 178+00 - 222+00 THROUGH FIRST SURFACE LIFT.

PLACE ACHM LEVELING UNDER TRAFFIC IF AND WHERE DIRECTED BY THE ENGINEER. STATION 104+00 - 114+00 AND STATION 223+00 - 232+00. COLD MILL EXISTING RIGHT SHOULDER AND PROVIDE AGGREGATE FOR TEMPORARY SHOULDER AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER FOR TEMPORARY TRAFFIC SHIFT.

CONSTRUCT NOTCH AND WIDENING STATION 104+00 - 114+00 AND STATION 223+00 - 232+00 LEFT.

CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY 113
STA. 190+00 TO STA. 215+00 C.L. - 5000 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS WHITE -
CONTINUOUS LINE - HWY 113
STA. 190+00 TO STA. 215+00 RT. - 2508 LIN. FT.
STA. 190+00 TO STA. 215+00 LT. - 2492 LIN. FT.



HWY. 113 - STAGE I - QUANTITIES		
TRAFFIC DRUMS	95	EACH
CONSTRUCTION PAVEMENT MARKING		
WHITE	=	20998 LIN. FT.
YELLOW	=	24926 LIN. FT.
ARROW	=	5 EACH

HWY. 113 - STAGE I
MAINTENANCE OF TRAFFIC DETAILS

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REVISION DATE: \$REVISION\$

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	37	123
MAINTENANCE OF TRAFFIC DETAILS						



LEGEND	
	STAGE CONSTRUCTION
	TYPE 3 BARRICADE

CONSTRUCTION SEQUENCE
STAGE 2:

INSTALL ALL DRAINAGE STRUCTURES AND RECONSTRUCT EXISTING HIGHWAY 154 TO PROPOSED TYPICAL SECTIONS INCLUDING NOTCH AND WIDEN SECTIONS THROUGH FIRST SURFACE LIFT INCLUDING TIE-INS TO PROPOSED HIGHWAY 113.

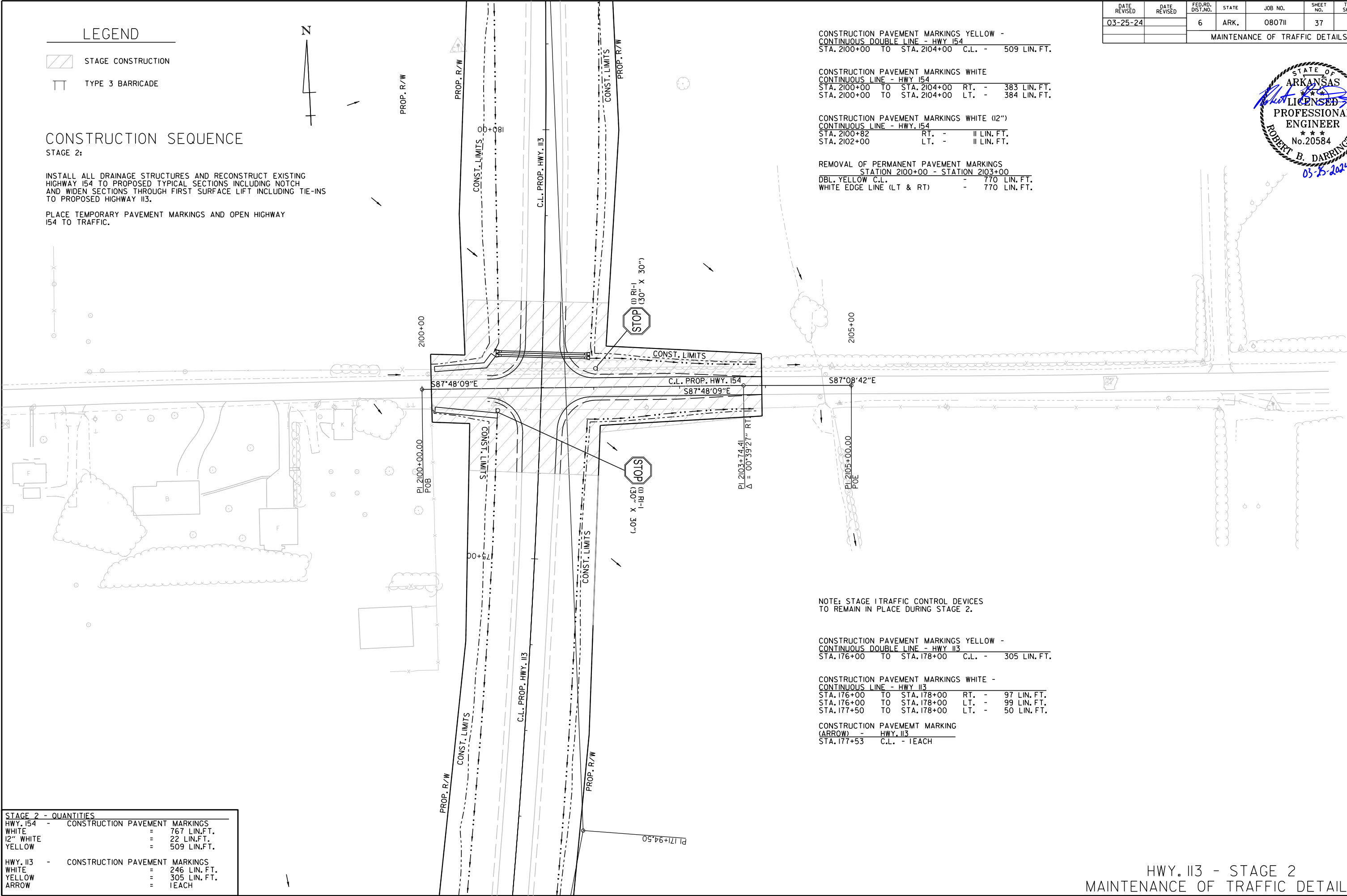
PLACE TEMPORARY PAVEMENT MARKINGS AND OPEN HIGHWAY 154 TO TRAFFIC.

CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY 154
STA. 2100+00 TO STA. 2104+00 C.L. - 509 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS WHITE
CONTINUOUS LINE - HWY 154
STA. 2100+00 TO STA. 2104+00 RT. - 383 LIN. FT.
STA. 2100+00 TO STA. 2104+00 LT. - 384 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS WHITE (12")
CONTINUOUS LINE - HWY 154
STA. 2100+82 RT. - 11 LIN. FT.
STA. 2102+00 LT. - 11 LIN. FT.

REMOVAL OF PERMANENT PAVEMENT MARKINGS
STATION 2100+00 - STATION 2103+00
DBL. YELLOW C.L. - 770 LIN. FT.
WHITE EDGE LINE (LT & RT) - 770 LIN. FT.



NOTE: STAGE 1 TRAFFIC CONTROL DEVICES
TO REMAIN IN PLACE DURING STAGE 2.

CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY 113
STA. 176+00 TO STA. 178+00 C.L. - 305 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS WHITE -
CONTINUOUS LINE - HWY 113
STA. 176+00 TO STA. 178+00 RT. - 97 LIN. FT.
STA. 176+00 TO STA. 178+00 LT. - 99 LIN. FT.
STA. 177+50 TO STA. 178+00 LT. - 50 LIN. FT.

CONSTRUCTION PAVEMENT MARKING
(ARROW) - HWY 113
STA. 177+53 C.L. - 1 EACH

STAGE 2 - QUANTITIES			
HWY. 154	-	CONSTRUCTION PAVEMENT MARKINGS	
WHITE	=	767 LIN. FT.	
12" WHITE	=	22 LIN. FT.	
YELLOW	=	509 LIN. FT.	
HWY. 113	-	CONSTRUCTION PAVEMENT MARKINGS	
WHITE	=	246 LIN. FT.	
YELLOW	=	305 LIN. FT.	
ARROW	=	1 EACH	

HWY. 113 - STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

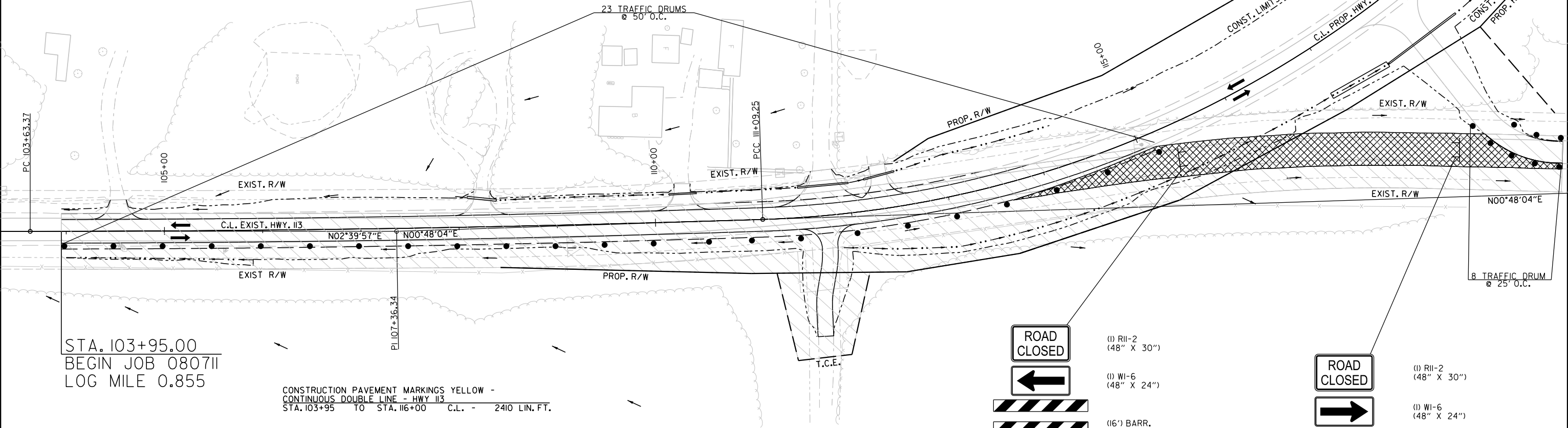
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	38	123
MAINTENANCE OF TRAFFIC DETAILS						

LEGEND

- STAGE CONST. AREA
TRAFFIC FLOW ARROWS
TRAFFIC DRUM
OBLITERATION

CONSTRUCTION SEQUENCE

STAGE 3:
CONSTRUCT HIGHWAY 113 TRANSITIONS TO NEW ROADWAY SECTION UNDER TRAFFIC BY METHOD OF RAISING GRADE IF AND WHERE DIRECTED BY THE ENGINEER, STATION 104+00 - 115+00 AND STATION 222+00 - 232+00. PROVIDE AGGREGATE FOR TEMPORARY SHOULDERS AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER.
PLACE TEMPORARY PAVEMENT MARKINGS AND REROUTE TRAFFIC TO NEW ALIGNMENT.
CONSTRUCT HIGHWAY 113 NOTCH AND WIDENING STATION 104+00 - 115+00 AND STATION 222+00 - 232+00 RIGHT.
STAGE 4:
PLACE FINAL ACHM SURFACE AND ALL PERMANENT PAVEMENT MARKINGS FOR HIGHWAY 113, HIGHWAY 154 AND DRIVEWAYS AT STATIONS 117+95.00 AND 218+03.00. RETURN TRAFFIC TO NORMAL OPERATIONS.



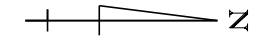
STA. 103+95.00
BEGIN JOB 080711
LOG MILE 0.855

- CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY 113
STA. 103+95 TO STA. 116+00 C.L. - 2410 LIN. FT.
- CONSTRUCTION PAVEMENT MARKINGS WHITE -
CONTINUOUS LINE - HWY 113
STA. 103+95 TO STA. 116+00 RT. - 1205 LIN. FT.
STA. 103+95 TO STA. 116+00 LT. - 1205 LIN. FT.
- CONSTRUCTION PAVEMENT MARKINGS WHITE (12") -
CONTINUOUS LINE - HWY 113
STA. 118+00 TO STA. 118+11 RT. - 11 LIN. FT.
- REMOVAL OF PERMANENT PAVEMENT MARKINGS
STATION 103+95 - STATION 119+00
DBL. YELLOW C.L. - 3067 LIN. FT.
WHITE EDGE LINE (LT & RT) - 3067 LIN. FT.
- HWY. 113- STAGE 3 - QUANTITIES (STA. 103+95.00 TO STA. 130+00.00)
TRAFFIC DRUMS 31 EACH

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

HWY. 113 - STAGE 3 - QUANTITIES	
CONSTRUCTION PAVEMENT MARKINGS	
WHITE	4000 LIN. FT.
YELLOW	4000 LIN. FT.
12" WHITE	22 LIN. FT.
TRAFFIC DRUMS	64 EACH

HWY. 113 - STAGE 3
MAINTENANCE OF TRAFFIC DETAILS



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MAINTENANCE OF TRAFFIC DETAILS						



LEGEND

- STAGE CONST. AREA
- TRAFFIC FLOW ARROWS
- TRAFFIC DRUM
- OBLITERATION

CONSTRUCTION SEQUENCE

STAGE 3:
CONSTRUCT HIGHWAY I13 TRANSITIONS TO NEW ROADWAY SECTION UNDER TRAFFIC BY METHOD OF RAISING GRADE IF AND WHERE DIRECTED BY THE ENGINEER, STATION 104+00 - 115+00 AND STATION 222+00 - 232+00. PROVIDE AGGREGATE FOR TEMPORARY SHOULDERS AND SLOPES IF AND WHERE DIRECTED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKINGS AND REROUTE TRAFFIC TO NEW ALIGNMENT.

CONSTRUCT HIGHWAY I13 NOTCH AND WIDENING STATION 104+00 - 115+00 AND STATION 222+00 - 232+00 RIGHT.

STAGE 4:
PLACE FINAL ACHM SURFACE AND ALL PERMANENT PAVEMENT MARKINGS FOR HIGHWAY I13, HIGHWAY 154 AND DRIVEWAYS AT STATIONS 117+95.00 AND 218+03.00. RETURN TRAFFIC TO NORMAL OPERATIONS.

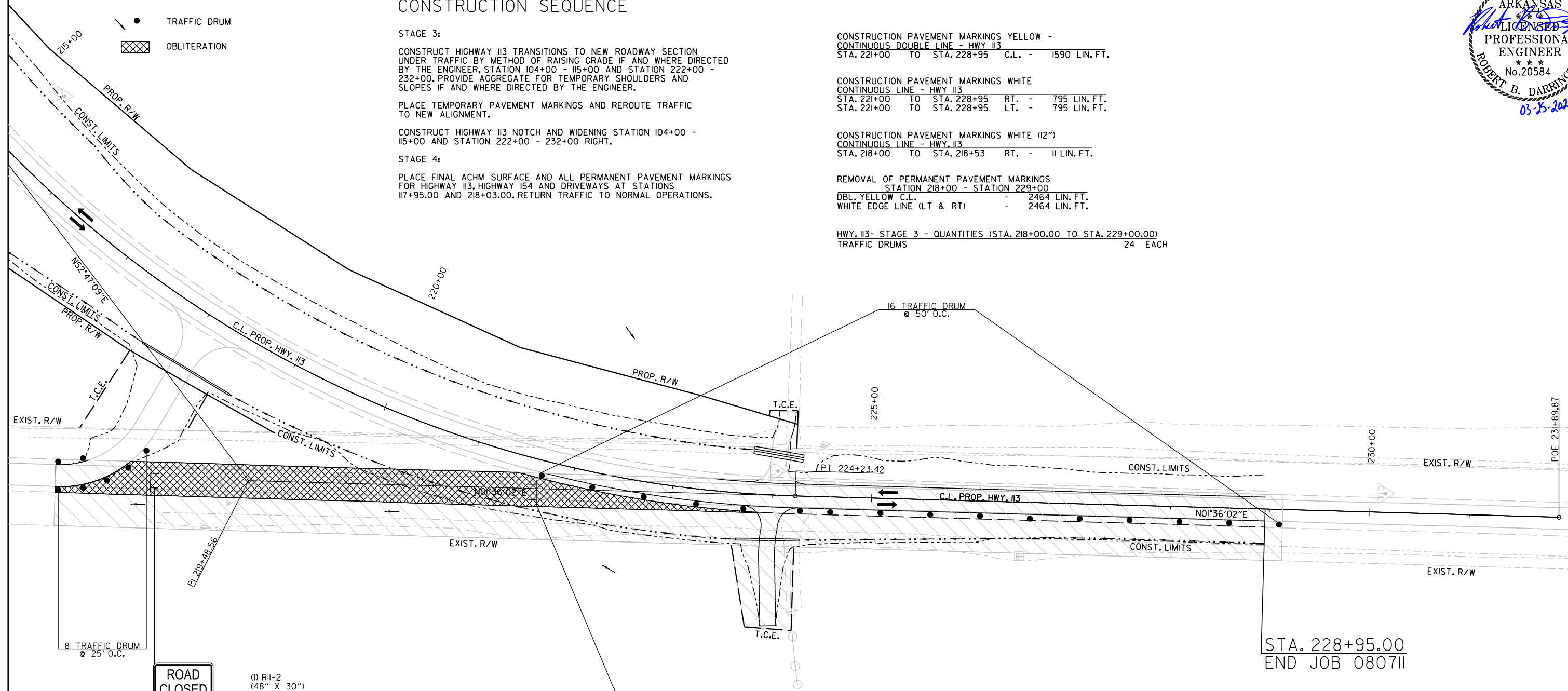
CONSTRUCTION PAVEMENT MARKINGS YELLOW -
CONTINUOUS DOUBLE LINE - HWY. I13
STA. 221+00 TO STA. 228+95 C.L. - 1590 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS WHITE
CONTINUOUS LINE - HWY. I13
STA. 221+00 TO STA. 228+95 RT. - 795 LIN. FT.
STA. 221+00 TO STA. 228+95 LT. - 795 LIN. FT.

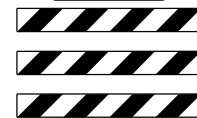
CONSTRUCTION PAVEMENT MARKINGS WHITE (12")
CONTINUOUS LINE - HWY. I13
STA. 218+00 TO STA. 218+53 RT. - 11 LIN. FT.

REMOVAL OF PERMANENT PAVEMENT MARKINGS
STATION 218+00 - STATION 229+00
DBL. YELLOW C.L. - 2464 LIN. FT.
WHITE EDGE LINE (LT & RT) - 2464 LIN. FT.

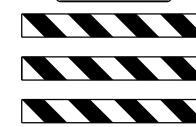
HWY. I13- STAGE 3 - QUANTITIES (STA. 218+00.00 TO STA. 229+00.00)
TRAFFIC DRUMS 24 EACH



ROAD
CLOSED



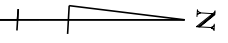
ROAD
CLOSED



HWY. I13 - STAGE 3 - QUANTITIES	
CONSTRUCTION PAVEMENT MARKINGS	
WHITE	4000 LIN. FT.
YELLOW	4000 LIN. FT.
12" WHITE	22 LIN. FT.
TRAFFIC DRUMS	64 EACH

HWY I13 - STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

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WORKSPACE: ARDOT
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REVISION DATE: **REDATE**



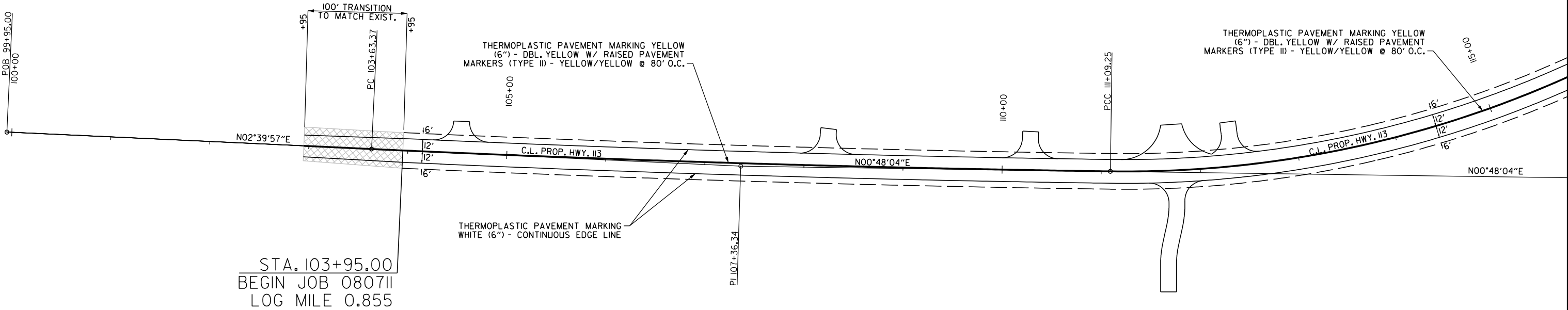
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	40	123
PERMANENT PAVEMENT MARKING DETAILS						



THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. II3
STA. 102+95 TO STA. 115+00 C.L. - 2410 LIN. FT. - 15 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. II3
STA. 102+95 TO STA. 115+00 LT. - 1205 LIN. FT.
STA. 102+95 TO STA. 115+00 RT. - 1205 LIN. FT.

NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE
DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO
SCHEDULE THE ZONING OF PROJECT.



HWY. II3 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 27492 LIN. FT.
6" YELLOW = 30344 LIN. FT.
12" WHITE = 22 LIN. FT.
ARROW = 6 EACH
WORD (ONLY) = 3 EACH
YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH
WHITE/RED RAISED PAVEMENT MARKERS = 12

HWY. I54 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 510 LIN. FT.
12" WHITE = 22 LIN. FT.
6" YELLOW = 510 LIN. FT.
YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	41	123
PERMANENT PAVEMENT MARKING DETAILS						



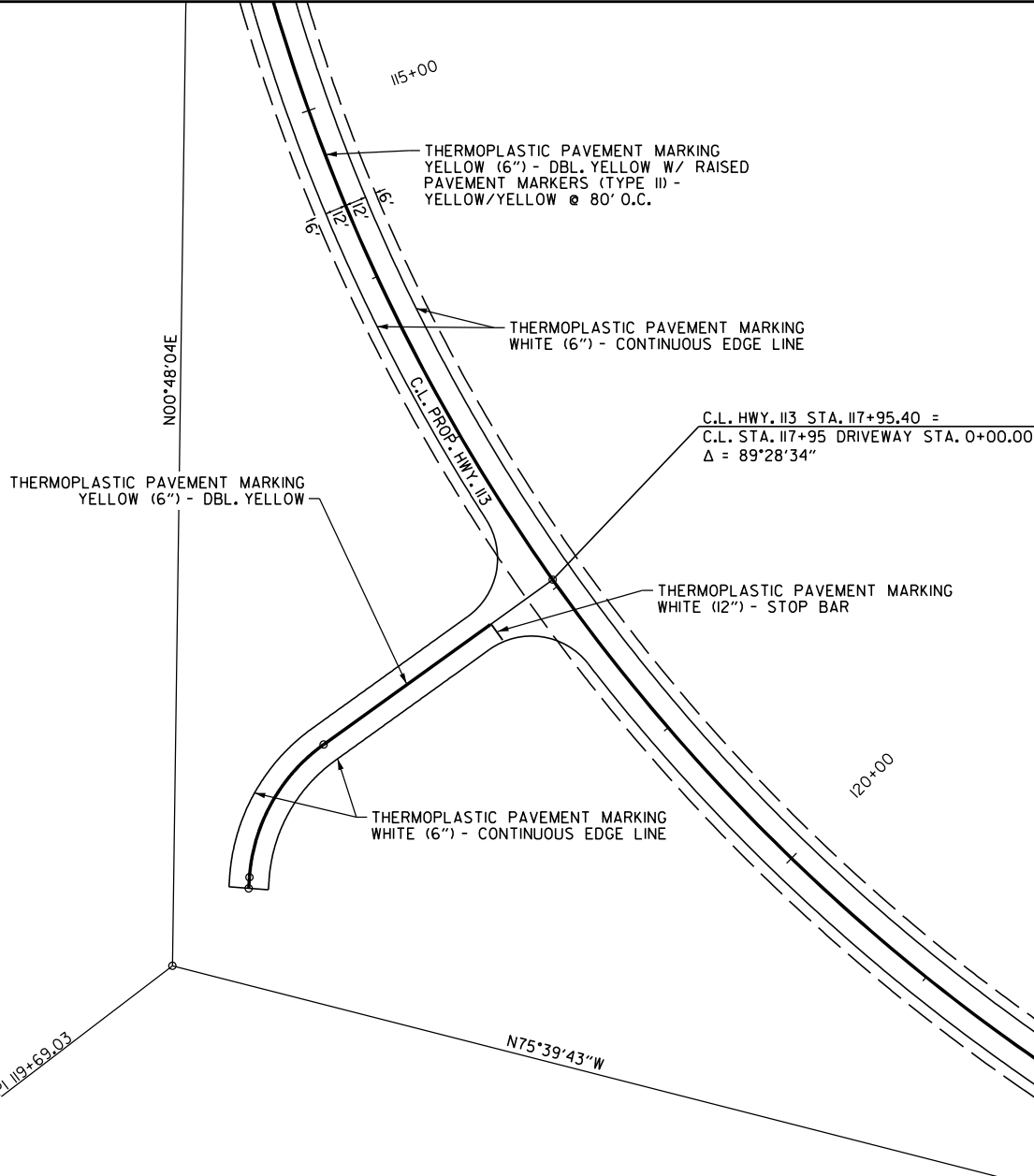
THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. 113
STA. 115+00 TO 130+00 C.L. - 3000 LIN. FT. - 19 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. 113
STA. 115+00 TO STA. 130+00 LT. - 1500 LIN. FT.
STA. 115+00 TO STA. 130+00 RT. - 1500 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (12") -
STOP BAR - STA. 118+00 DRIVEWAY
STA. 00+50.91 RT. - 11 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE - STA. 117+95 DRIVEWAY
STA. 00+50.91 TO STA. 02+58.93 C.L. - 416 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS LINE. - STA. 117+95 DRIVEWAY
STA. 00+12.00 TO STA. 02+58.93 LT. - 279 LIN. FT.
STA. 00+12.00 TO STA. 02+58.93 RT. - 258 LIN. FT.



HWY. 113 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 27492 LIN. FT.
6" YELLOW = 30344 LIN. FT.
12" WHITE = 22 LIN. FT.
ARROW = 6 EACH
WORD (ONLY) = 3 EACH
YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH
WHITE/RED RAISED PAVEMENT MARKERS = 12

HWY. 154 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 510 LIN. FT.
12" WHITE = 22 LIN. FT.
6" YELLOW = 510 LIN. FT.
YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH

NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE
DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO
SCHEDULE THE ZONING OF PROJECT.

PERMANENT PAVEMENT MARKING DETAILS

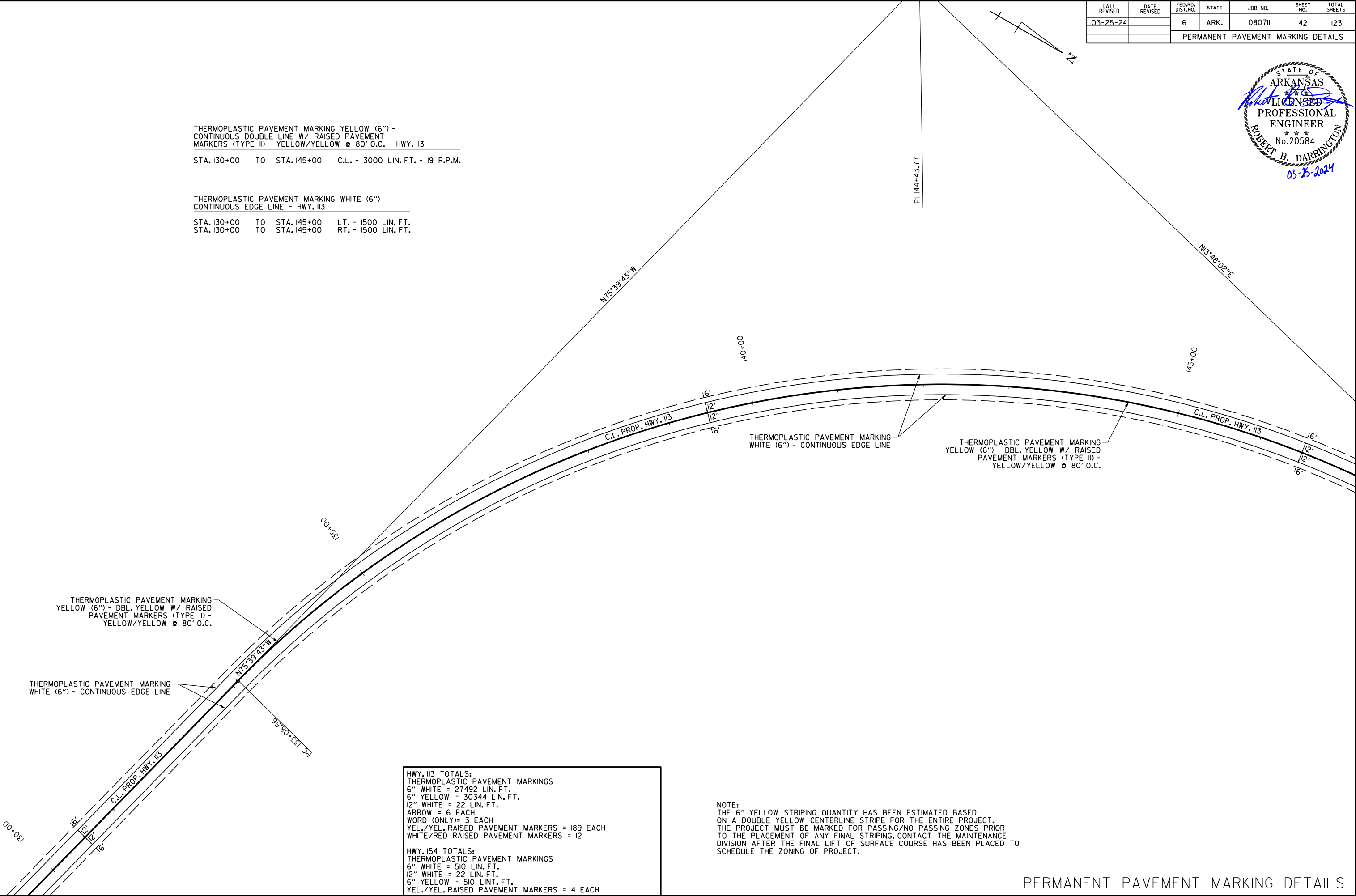
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REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	42	123
PERMANENT PAVEMENT MARKING DETAILS						



THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. 113
STA. 130+00 TO STA. 145+00 C.L. - 3000 LIN. FT. - 19 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. 113
STA. 130+00 TO STA. 145+00 LT. - 1500 LIN. FT.
STA. 130+00 TO STA. 145+00 RT. - 1500 LIN. FT.



THERMOPLASTIC PAVEMENT MARKING
YELLOW (6") - DBL. YELLOW W/ RAISED
PAVEMENT MARKERS (TYPE II) -
YELLOW/YELLOW @ 80' O.C.

THERMOPLASTIC PAVEMENT MARKING
WHITE (6") - CONTINUOUS EDGE LINE

THERMOPLASTIC PAVEMENT MARKING
WHITE (6") - CONTINUOUS EDGE LINE

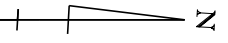
THERMOPLASTIC PAVEMENT MARKING
YELLOW (6") - DBL. YELLOW W/ RAISED
PAVEMENT MARKERS (TYPE II) -
YELLOW/YELLOW @ 80' O.C.

HWY. 113 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 27492 LIN. FT.
6" YELLOW = 30344 LIN. FT.
12" WHITE = 22 LIN. FT.
ARROW = 6 EACH
WORD (ONLY) = 3 EACH
YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH
WHITE/RED RAISED PAVEMENT MARKERS = 12

HWY. 154 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 510 LIN. FT.
12" WHITE = 22 LIN. FT.
6" YELLOW = 510 LIN. FT.
YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH

NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE
DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO
SCHEDULE THE ZONING OF PROJECT.

PERMANENT PAVEMENT MARKING DETAILS



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	44	123
PERMANENT PAVEMENT MARKING DETAILS						



THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. 113

STA. 160+00 TO STA. 162+30 C.L. - 922 LIN. FT. - 7 R.P.M.
STA. 162+70 TO STA. 168+59 C.L. - 2060 LIN. FT. - 15 R.P.M.
STA. 168+99 TO STA. 175+00 C.L. - 2106 LIN. FT. - 15 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. 113

STA. 160+00 TO STA. 175+00 LT. - 1500 LIN. FT.
STA. 160+00 TO STA. 175+00 RT. - 1500 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6") -
CONTINUOUS LINES W/ RAISED PAVEMENT MARKERS
(TYPE II) - WHITE/RED @ 40' O.C. - HWY. 113

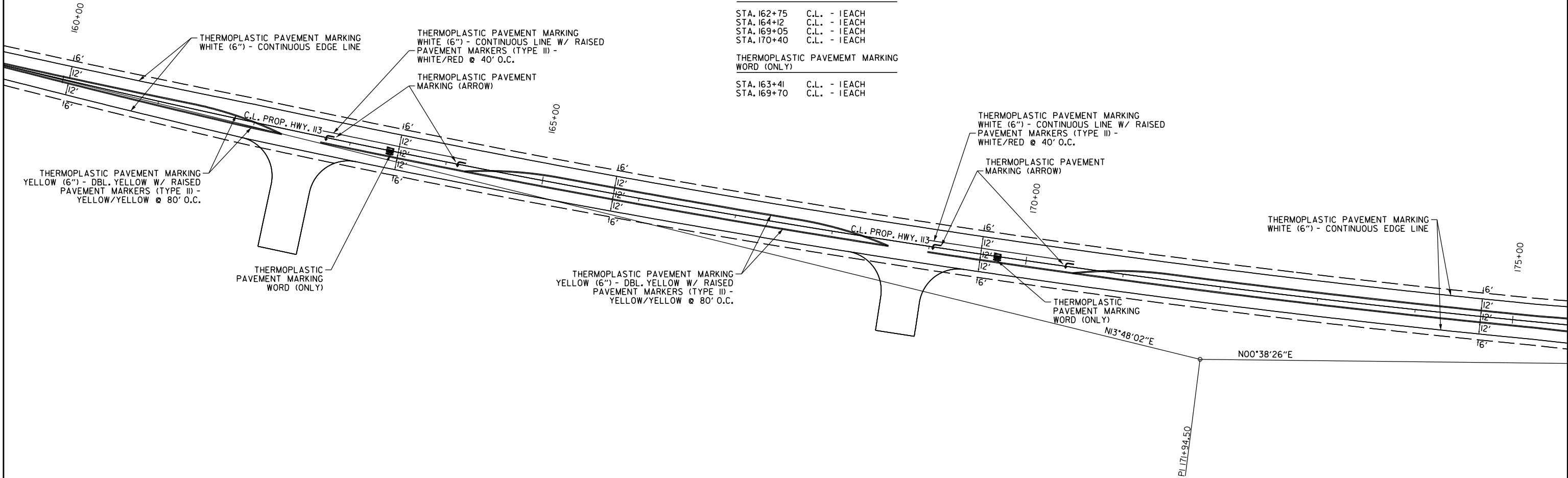
STA. 162+70 TO STA. 164+20 LT. - 150 LIN. FT. - 4 R.P.M.
STA. 168+99 TO STA. 170+49 LT. - 150 LIN. FT. - 4 R.P.M.

THERMOPLASTIC PAVEMENT MARKING
(ARROW)

STA. 162+75 C.L. - 1 EACH
STA. 164+12 C.L. - 1 EACH
STA. 169+05 C.L. - 1 EACH
STA. 170+40 C.L. - 1 EACH

THERMOPLASTIC PAVEMENT MARKING
WORD (ONLY)

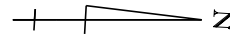
STA. 163+41 C.L. - 1 EACH
STA. 169+70 C.L. - 1 EACH



HWY. 113 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 27492 LIN. FT.
6" YELLOW = 30344 LIN. FT.
12" WHITE = 22 LIN. FT.
ARROW = 6 EACH
WORD (ONLY) = 3 EACH
YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH
WHITE/RED RAISED PAVEMENT MARKERS = 12

HWY. 154 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 510 LIN. FT.
12" WHITE = 22 LIN. FT.
6" YELLOW = 510 LIN. FT.
YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH

NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
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DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO
SCHEDULE THE ZONING OF PROJECT.



DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	45	123
PERMANENT PAVEMENT MARKING DETAILS						



THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. 113

STA. 175+00 TO STA. 176+76 C.L. - 600 LIN. FT. - 4 R.P.M.
STA. 177+22 TO STA. 190+00 C.L. - 3592 LIN. FT. - 24 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. 113

STA. 175+00 TO STA. 190+00 LT. - 1525 LIN. FT.
STA. 175+00 TO STA. 190+00 RT. - 1530 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6") -
CONTINUOUS LINE W/ RAISED PAVEMENT MARKERS
(TYPE II) - WHITE/RED @ 40' O.C. - HWY. 113

STA. 177+48 TO STA. 178+98 LT. - 150 LIN. FT. - 4 R.P.M.

THERMOPLASTIC PAVEMENT MARKING
(ARROW)

STA. 177+53 C.L. - 1 EACH
STA. 178+90 C.L. - 1 EACH

THERMOPLASTIC PAVEMENT MARKING
WORD (ONLY)

STA. 178+23 C.L. - 1 EACH

THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. 154

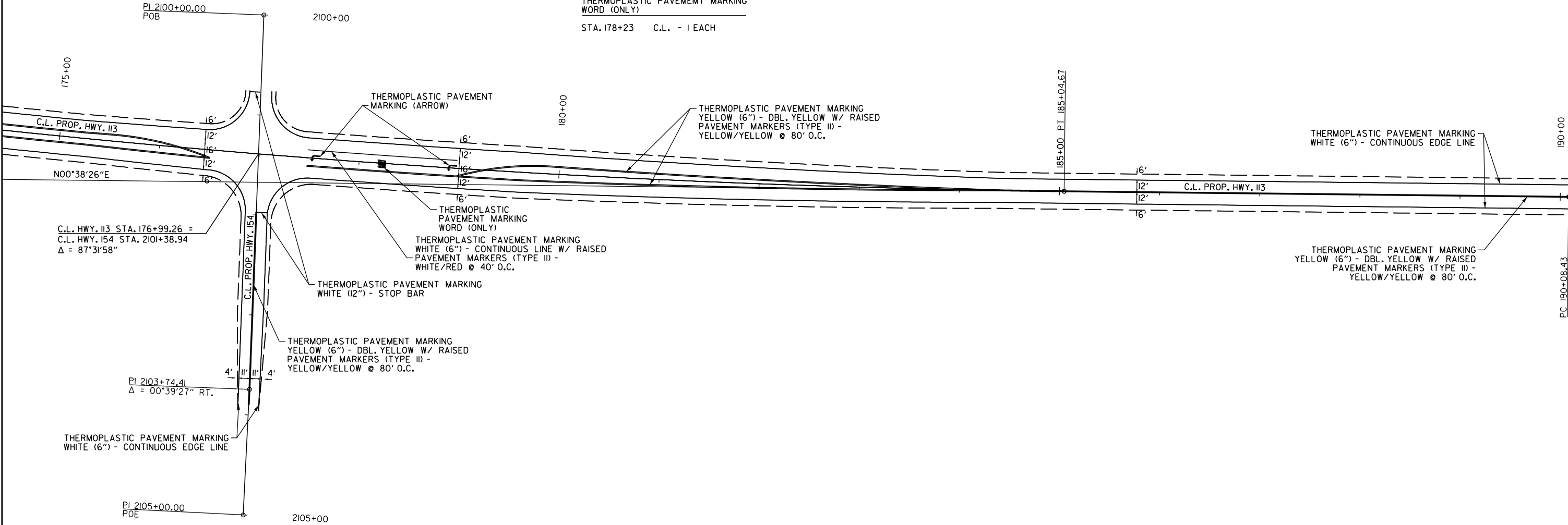
STA. 2100+15 TO STA. 2103+85 C.L. - 510 LIN. FT. - 4 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. 154

STA. 2100+15 TO STA. 2103+85 LT. - 255 LIN. FT.
STA. 2100+15 TO STA. 2103+85 RT. - 255 LIN. FT.

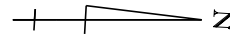
THERMOPLASTIC PAVEMENT MARKING WHITE (12")
STOP BAR - HWY. 154

STA. 2100+82 RT. - 11 LIN. FT.
STA. 2102+00 LT. - 11 LIN. FT.

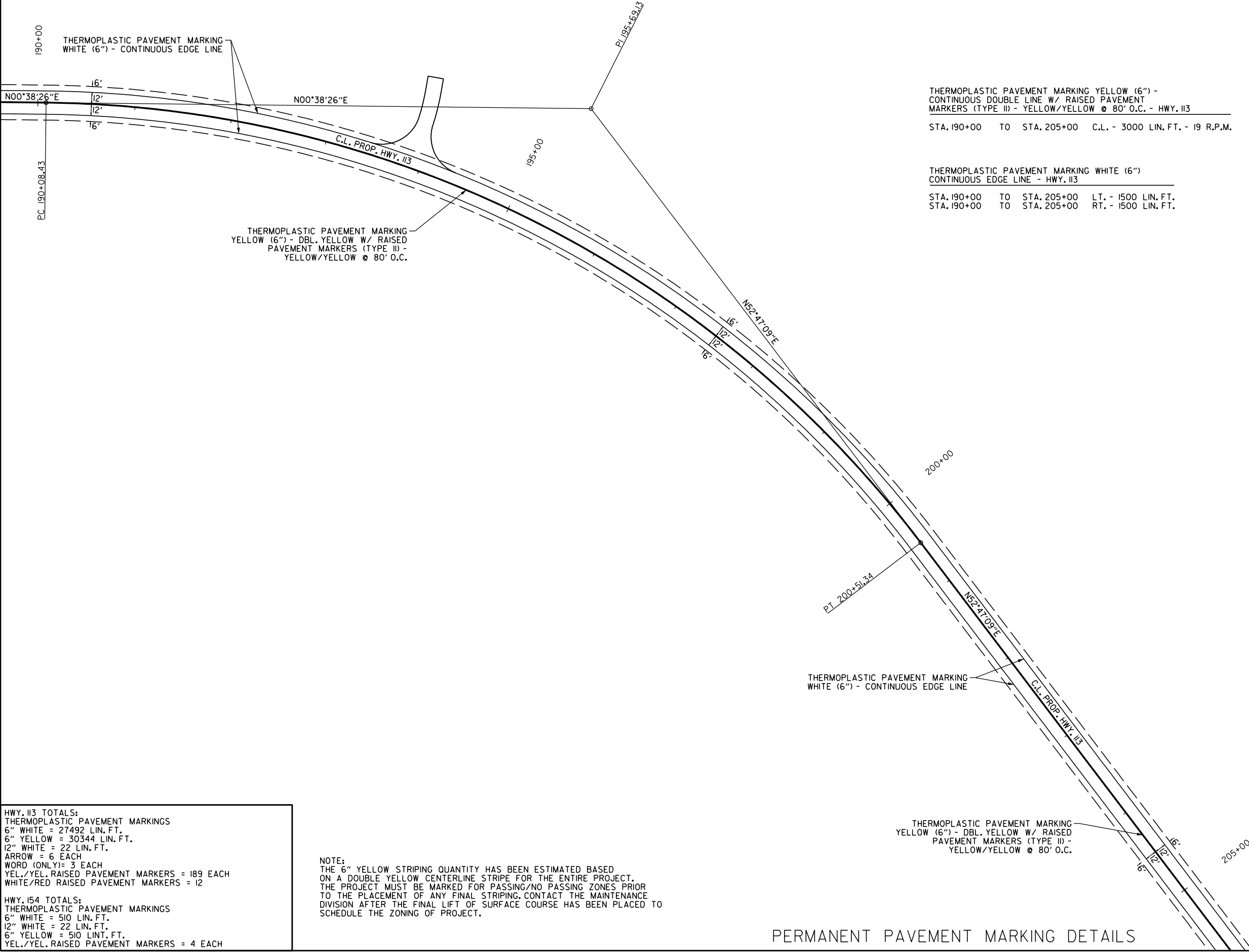


HWY. 113 TOTALS: THERMOPLASTIC PAVEMENT MARKINGS 6" WHITE = 27492 LIN. FT. 6" YELLOW = 30344 LIN. FT. 12" WHITE = 22 LIN. FT. ARROW = 6 EACH WORD (ONLY) = 3 EACH YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH WHITE/RED RAISED PAVEMENT MARKERS = 12	HWY. 154 TOTALS: THERMOPLASTIC PAVEMENT MARKINGS 6" WHITE = 510 LIN. FT. 12" WHITE = 22 LIN. FT. 6" YELLOW = 510 LIN. FT. YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH
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NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
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THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
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DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO
SCHEDULE THE ZONING OF PROJECT.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	46	123
PERMANENT PAVEMENT MARKING DETAILS						



THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. 113
STA. 190+00 TO STA. 205+00 C.L. - 3000 LIN. FT. - 19 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. 113
STA. 190+00 TO STA. 205+00 LT. - 1500 LIN. FT.
STA. 190+00 TO STA. 205+00 RT. - 1500 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING
WHITE (6") - CONTINUOUS EDGE LINE

THERMOPLASTIC PAVEMENT MARKING
YELLOW (6") - DBL. YELLOW W/ RAISED
PAVEMENT MARKERS (TYPE II) -
YELLOW/YELLOW @ 80' O.C.

HWY. 113 TOTALS: THERMOPLASTIC PAVEMENT MARKINGS 6" WHITE = 27492 LIN. FT. 6" YELLOW = 30344 LIN. FT. 12" WHITE = 22 LIN. FT. ARROW = 6 EACH WORD (ONLY) = 3 EACH YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH WHITE/RED RAISED PAVEMENT MARKERS = 12
HWY. 154 TOTALS: THERMOPLASTIC PAVEMENT MARKINGS 6" WHITE = 510 LIN. FT. 12" WHITE = 22 LIN. FT. 6" YELLOW = 510 LIN. FT. YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH

NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
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SCHEDULE THE ZONING OF PROJECT.

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	47	123
PERMANENT PAVEMENT MARKING DETAILS						



THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. 113

STA. 205+00 TO STA. 220+00 C.L. - 3000 LIN. FT. - 19 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. 113

STA. 205+00 TO STA. 220+00 LT. - 1500 LIN. FT.
STA. 205+00 TO STA. 220+00 RT. - 1500 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE - STA. 218+00 DRIVEWAY

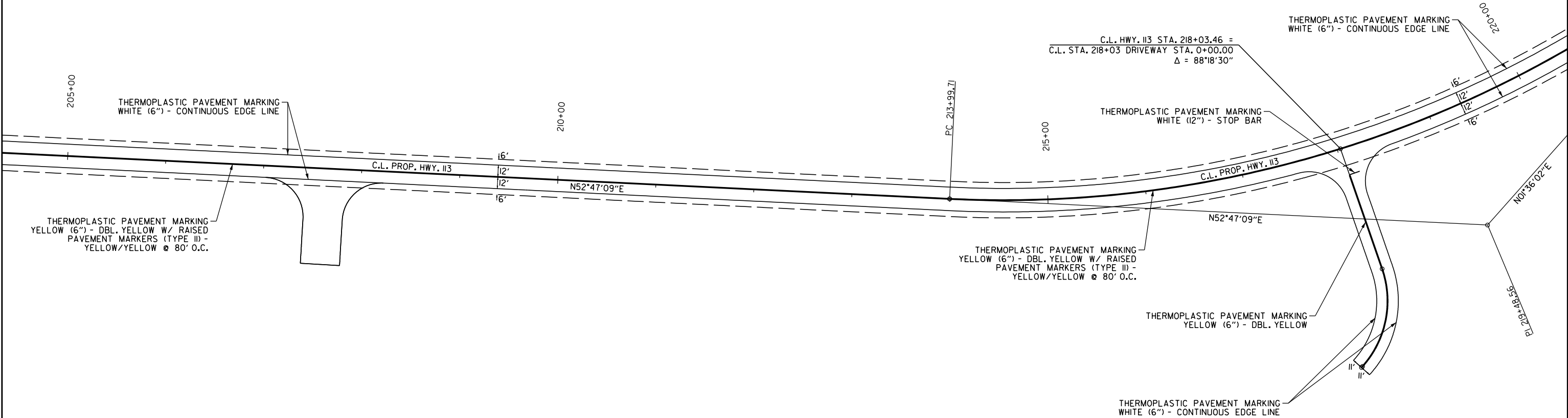
STA. 00+51.12 TO STA. 02+60.00 C.L. - 418 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - STA. 218+00 DRIVEWAY

STA. 00+12.00 TO STA. 02+60.00 LT. - 281 LIN. FT.
STA. 00+12.00 TO STA. 02+60.00 RT. - 259 LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (12")
STOP BAR - STA. 218+00 DRIVEWAY

STA. 00+51.12 RT. - 11 LIN. FT.

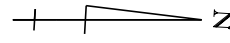


HWY. 113 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 27492 LIN. FT.
6" YELLOW = 30344 LIN. FT.
12" WHITE = 22 LIN. FT.
ARROW = 6 EACH
WORD (ONLY) = 3 EACH
YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH
WHITE/RED RAISED PAVEMENT MARKERS = 12

HWY. 154 TOTALS:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 510 LIN. FT.
12" WHITE = 22 LIN. FT.
6" YELLOW = 510 LIN. FT.
YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH

NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
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SCHEDULE THE ZONING OF PROJECT.

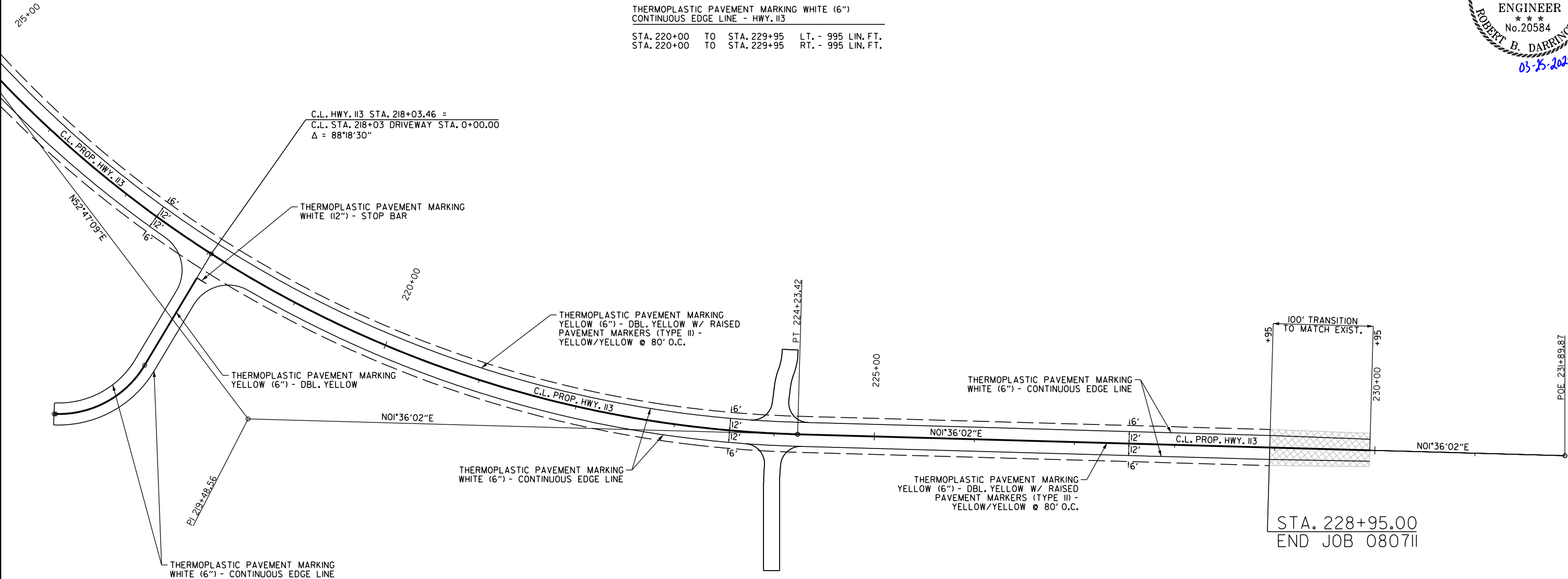
PERMANENT PAVEMENT MARKING DETAILS



DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	48	123
PERMANENT PAVEMENT MARKING DETAILS						

THERMOPLASTIC PAVEMENT MARKING YELLOW (6") -
CONTINUOUS DOUBLE LINE W/ RAISED PAVEMENT
MARKERS (TYPE II) - YELLOW/YELLOW @ 80' O.C. - HWY. II3
STA. 220+00 TO STA. 229+95 C.L. - 1990 LIN. FT. - 12 R.P.M.

THERMOPLASTIC PAVEMENT MARKING WHITE (6")
CONTINUOUS EDGE LINE - HWY. II3
STA. 220+00 TO STA. 229+95 LT. - 995 LIN. FT.
STA. 220+00 TO STA. 229+95 RT. - 995 LIN. FT.



STA. 228+95.00
END JOB 0807II

HWY. II3 TOTALS: THERMOPLASTIC PAVEMENT MARKINGS 6" WHITE = 27492 LIN. FT. 6" YELLOW = 30344 LIN. FT. 12" WHITE = 22 LIN. FT. ARROW = 6 EACH WORD (ONLY) = 3 EACH YEL./YEL. RAISED PAVEMENT MARKERS = 189 EACH WHITE/RED RAISED PAVEMENT MARKERS = 12	HWY. I54 TOTALS: THERMOPLASTIC PAVEMENT MARKINGS 6" WHITE = 510 LIN. FT. 12" WHITE = 22 LIN. FT. 6" YELLOW = 510 LIN. FT. YEL./YEL. RAISED PAVEMENT MARKERS = 4 EACH
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NOTE:
THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED
ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
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SCHEDULE THE ZONING OF PROJECT.

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 REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	49	123
QUANTITY SHEETS						

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)		CONSTRUCTION PROJECT INFORMATION SIGN UPDATE
							NO.	SQ. FT.		EACH	RIGHT	
			LIN. FT. - EACH									
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0				
G20-2	END ROAD WORK	48"x24"	2	2	2	2	2	16.0				
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	2	20.0				
R11-2	ROAD CLOSED	48"x30"	6	4	4	6	6	60.0				
W1-6	LARGE ARROW	48"x24"			4	4	4	32.0				
R4-1	DO NOT PASS	24"x30"	10	10	10	10	10	50.0				
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2	2	2	2	18.0				
W8-1	BUMP	30"x30"	4	4	4	4	4	25.0				
R1-1	STOP	30"x30"		2		2	2	12.5				
	TRAFFIC DRUMS		95	95	67	95			95			
	TYPE III BARRICADE-RT. (8')		4	4		4				32		
	TYPE III BARRICADE-LT. (8')		4	4		4					32	
	TYPE III BARRICADE-RT. (16')		2		2	2				32		
	TYPE III BARRICADE-LT. (16')		2		2	2					32	
	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE											4
TOTALS:								329.5	95	64	64	4

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	60	120
TOTALS:	60	120

BASIS OF ESTIMATE:
 ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
 TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE



ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	20
TOTAL:	20

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

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	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING					
								TYPE II (WHITE/RED)	TYPE II (YELLOW/YELLOW)	6"		12"	WORDS	ARROWS	
										WHITE	YELLOW				WHITE
REMOVAL OF PERMANENT PAVEMENT MARKINGS		1540	11062		12602										
CONSTRUCTION PAVEMENT MARKINGS	45294	1849	8022			55165									
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	5	1					6								
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)				12				12							
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)				193					193						
THERMOPLASTIC PAVEMENT MARKING WHITE (6")				27492						27492					
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")				30344							30344				
THERMOPLASTIC PAVEMENT MARKING WHITE (12")				44								44			
THERMOPLASTIC PAVEMENT MARKING (WORDS)				3									3		
THERMOPLASTIC PAVEMENT MARKING (ARROWS)				6									6		
TOTALS:					12602	55165	6	12	193	27492	30344	44	3	6	

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

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT.
 THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING.
 CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

FENCING

STATION	STATION	LOCATION	* 6' CHAIN LINK FENCE	* 16'-0" GATES
			LIN. FT.	EACH
109+09	115+03	RT. OF C.L. HWY. 113	688	1
TOTALS:			688	1

* DENOTES ALTERNATE BID ITEM.

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
132+09	RT. C.L. HWY. 113	1
204+30	RT. C.L. HWY. 113	1
TOTAL:		2

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

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.
116+93.00	117+55.00	RT. C.L. HWY. 113	62.00	6.00	41.33	27.56	0.35
191+84.00	193+59.00	LT. C.L. HWY. 113	175.00	6.00	116.67	77.78	0.98
192+03.00	198+00.00	RT. C.L. HWY. 113	597.00	6.00	398.00	265.33	3.34
194+21.00	198+00.00	LT. C.L. HWY. 113	379.00	6.00	252.67	168.44	2.12
201+52.00	204+20.00	RT. C.L. HWY. 113	268.00	6.00	178.67	119.11	1.50
201+58.00	203+41.00	LT. C.L. HWY. 113	183.00	6.00	122.00	81.33	1.02
2100+14.94	2100+87.00	RT. C.L. HWY. 154	72.06	6.00	48.04	32.03	0.40
2100+14.94	2100+83.48	LT. C.L. HWY. 154	68.54	6.00	45.69	30.46	0.38
TOTALS:					1203.07	802.04	10.09

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

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
109+09	115+03	RT. C.L. HWY. 113	760
2100+11	2103+96	RT. C.L. HWY. 154	385
2100+11	2103+96	LT. C.L. HWY. 154	343
TOTAL:			1488

NOTE: REMOVAL AND DISPOSAL OF FENCE SHALL INCLUDE REMOVAL OF ALL EXISTING POSTS & GATES.

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 WORKSPACE: AR001
 REVISED DATE: **REVE DATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	08071I	50	123
QUANTITY SHEETS						

EARTHWORK					
STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	
			CU. YD.		
ENTIRE	PROJECT	STAGE 1-MAIN LANES	76316	83173	
ENTIRE	PROJECT	STAGE 2-MAIN LANES	557	1461	
ENTIRE	PROJECT	STAGE 3-MAIN LANES	1404	2308	
ENTIRE	PROJECT	APPROACHES	10	7570	
ENTIRE	PROJECT	EXISTING ROADBED OBLITERATION	835		
ENTIRE	PROJECT	CHANNEL CHANGE	2280		
TOTALS:			81402	94512	

4" PIPE UNDERDRAIN				
STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN.FT.	EACH
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			1000	8
TOTALS:			1000	8
NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.				

REMOVAL AND DISPOSAL OF CULVERTS			
STATION	DESCRIPTION	PIPE CULVERTS	BOX CULVERTS
		EACH	EACH
108+23	LT. C.L. HWY. 113	1	
110+27	LT. C.L. HWY. 113	1	
111+74	LT. C.L. HWY. 113	1	
112+34	LT. C.L. HWY. 113	1	
204+67	RT. C.L. HWY. 113		1
224+02	LT. C.L. HWY. 113	1	
224+02	RT. C.L. HWY. 113	1	
TOTALS:		6	1
NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.			



STRUCTURES																					
STATION	DESCRIPTION	PIPE CULVERT ALTERNATES						FLARED END SECTION ALTERNATES FOR PIPE CULVERT ALTERNATES			TEMPORARY CULVERTS **		SPAN	HEIGHT	LENGTH	CLASS S CONCRETE - ROADWAY	REINF. STEEL- ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.- ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		ALT. 1 (CLASS III)		ALT. 2, 3, 4, 5, 6 AND 7* (WITH CLASS III ALT. 1)		ALT. 1 (CLASS IV)		ALT. 2, 3, 4, 5, 6 AND 7* (WITH CLASS IV ALT. 1)													
		36"	42"	36"	42"	24"	24"	24"	36"	42"	18"	24"									
				LIN. FT.							LIN. FT.										
132+09	C.L. HWY. 113		172		180					4		4							50	0.63	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3, FES-1, FES-2
177+38	C.L. HWY. 113					194		202		4		2							18	0.23	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3, SES-1
198+00	C.L. HWY. 113	90		94															34	0.43	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3, FES-1, FES-2
ENTIRE PROJECT	TEMPORARY DRIVES										40	40									PCC-1, PCM-1, PCP-1, PCP-2, PCP-3, FES-1, FES-2
SUBTOTALS:		90	172	94	180	194		202		4	2	4	40	40					102	1.29	
STRUCTURES OVER 20' - 0" SPAN																					
204+30	C.L. HWY. 113 - TRI.R.C. BOX CULVERT												9	9	114	379.33	56198	136	48	0.60	PBC-1, RCB-1, RCB-2, SPECIAL DETAILS
SUBTOTALS:																379.33	56198	136	48	0.60	
TOTALS:		90	172	94	180	194		202		4	2	4	40	40		379.33	56198	136	150	1.89	

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.
 * ALTERNATE 7, PVC PIPE LIMITED TO A MAXIMUM OF 36" IN DIAMETER
 **QUANTITY ESTIMATED
 SEE SECTION 104.03 OF THE STD. SPECS.
 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

SOIL STABILIZATION			
STATION	STATION	LOCATION / DESCRIPTION	SOIL STABILIZATION TON
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	200
TOTAL:			200

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

SELECTED PIPE BEDDING	
LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	55
TOTAL:	55
NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.	

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		
							18"	24"	49"X33"
				FEET	SQ. YD.	TON	LIN. FT.		
104+53	LT.	C.L. HWY. 113	16	30.43	3.35	12.43			DR-2
108+23	LT.	C.L. HWY. 113	16	30.43	3.35	17.56		30	DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
110+27	LT.	C.L. HWY. 113	16	30.43	3.35	18.96	28		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
111+74	RT.	C.L. HWY. 113	16	30.43	3.35	105.76			DR-2
111+74	LT.	C.L. HWY. 113 (SIMPSON LN.)	20	117.56	12.93	63.17	52		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
112+34	LT.	C.L. HWY. 113	16	30.43	3.35	24.56	32		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
117+95	RT.	C.L. HWY. 113	22	610.94	67.20	249.47	86		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
151+82	RT.	C.L. HWY. 113	40	193.11	21.24	154.68		66	DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
162+50	RT.	C.L. HWY. 113	40	193.11	21.24	230.52	74		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
168+79	RT.	C.L. HWY. 113	40	193.11	21.24	160.52	62		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
193+90	LT.	C.L. HWY. 113 (ANDREWS RD.)	20	117.56	12.93	100.50	64		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
207+63	RT.	C.L. HWY. 113	40	193.11	21.24	232.59		90	DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
218+03	RT.	C.L. HWY. 113	22	578.38	63.62	236.17	102		DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
224+02	LT.	C.L. HWY. 113	16	30.43	3.35	61.89		100	DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
224+02	RT.	C.L. HWY. 113	16	30.43	3.35	104.00		64	DR-2, PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
* ENTIRE PROJECT TEMPORARY DRIVES						200.00			
TOTALS:				2409.89	265.09	1972.78	500	250	100

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....93.8% MIN. AGGR.....6.2% ASPHALT BINDER

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

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
 NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.
 NOTE: THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

RUMBLE STRIPS IN ASPHALT SHOULDERS			
STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN. FT.
103+95	228+95	LT. OF C.L. HWY. 113	10000
103+95	228+95	RT. OF C.L. HWY. 113	10000
TOTAL:			20000

* QUANTITY ESTIMATED.
 SEE SECTION 104.03 OF THE STD. SPECS.
 TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
 NOTE: REFER TO SPECIAL DETAILS FOR RUMBLE STRIP BREAKS AT DRIVEWAY AND COUNTY ROADS.

COLD MILLING ASPHALT PAVEMENT				
STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
102+95.00	103+95.00	MAIN LANES - HWY. 113	35.00	388.89
228+95.00	229+95.00	MAIN LANES - HWY. 113	35.00	388.89
2100+10.87	2101+10.87	MAIN LANES - HWY. 154	25.00	277.78
2102+95.64	2103+95.64	MAIN LANES - HWY. 154	25.00	277.78
TOTAL:				1333.34
STOCKPILE LOCATION: CONWAY COUNTY ROAD SHOP, 33 SOUTHERN VALLEY DRIVE, MORRILTON, AR 72110				

Relocation\Drawings\3/25/2024 3:08:42 PM
WORKSPACE\AR001\96431.08071L Highway 113
PROJECTS\AR001\96431.08071L Highway 113
REVISED DATE: **REVE DATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	08071I	51	123
QUANTITY SHEETS						



EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
											(E-5) BAG	(E-6) CU.YD.	(E-11) LIN. FT.	(E-14) CU.YD.		
ENTIRE	PROJECT	CLEARING AND GRUBBING						34.50	34.50	703.8	330	42	25509			974
ENTIRE	PROJECT	STAGE 1	34.09	68.18	34.09	3477.2	34.09	68.18	68.18	1390.9	1870	162		4754		4893
ENTIRE	PROJECT	STAGE 2	0.41	0.82	0.41	41.8	0.41	0.82	0.82	16.7	66	9		4754		6
ENTIRE	PROJECT	STAGE 3	2.04	4.08	2.04	208.1	2.04	4.08	4.08	83.2	110	12	677			34
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			9.14	18.28	9.14	932.3	9.14	26.90	26.90	548.8	594	56	6547	1189	1189	1477
TOTALS:			45.68	91.36	45.68	4659.4	45.68	134.48	134.48	2743.4	2970	281	32733	5943	5943	7384

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

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

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

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	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 70-22 TON	TOTAL PG 70-22 TON
						TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON														
MAIN LANES																									
102+95.00	103+95.00	HWY. 113 - TRANSITION	100.00	178.50	178.50	13.25	147.22	7.36	22.00	244.44	41.55	48.91	4.50	50.00	660.00	16.50	4.25	47.22	220.00	5.19	35.00	388.89	220.00	42.78	47.97
103+95.00	114+82.59	HWY. 113 - NOTCH AND WIDENING	1087.59	195.50	2126.24	18.53	2239.23	111.96				111.96	6.26	756.48	660.00	249.64	6.01	726.27	220.00	79.89	36.00	4350.36	220.00	478.54	558.43
114+82.59	158+40.00	HWY. 113 - FULL DEPTH 2 LANE	4357.41	309.00	13464.40	73.41	35541.94	1777.10				1777.10	24.58	11900.57	660.00	3927.19	24.25	11740.80	220.00	1291.49	36.00	17429.64	220.00	1917.26	3208.75
158+40.00	162+00.00	HWY. 113 - FULL DEPTH 2 LANE TO 3 LANE	360.00	336.25	1210.50	91.41	3656.40	182.82				182.82	30.58	1223.20	660.00	403.66	30.25	1210.00	220.00	133.10	42.00	1680.00	220.00	184.80	317.90
162+00.00	175+25.33	HWY. 113 - FULL DEPTH 3 LANE - 12' TURN LANE	1325.33	363.25	4814.26	109.41	16111.60	805.58				805.58	36.58	5386.73	660.00	1777.62	36.25	5338.13	220.00	587.19	48.00	7068.43	220.00	777.53	1364.72
175+25.33	176+45.33	HWY. 113 - FULL DEPTH 3 LANE - 12' TO 16' TURN LANE	120.00	372.50	447.00	115.41	1538.80	76.94				76.94	38.58	514.40	660.00	169.75	38.25	510.00	220.00	56.10	50.00	666.67	220.00	73.33	129.43
176+45.33	179+60.26	HWY. 113 - FULL DEPTH 3 LANE - 16' TURN LANE	314.93	381.50	1201.46	121.41	4248.41	212.42				212.42	40.58	1419.98	660.00	468.59	40.25	1408.44	220.00	154.93	52.00	1819.60	220.00	200.16	355.09
179+60.26	184+40.26	HWY. 113 - FULL DEPTH 3 LANE TO 2 LANE	480.00	345.25	1657.20	97.41	5195.20	259.76				259.76	32.58	1737.60	660.00	573.41	32.25	1720.00	220.00	189.20	44.00	2346.67	220.00	258.13	447.33
184+40.26	216+00.00	HWY. 113 - FULL DEPTH 2 LANE	3159.74	309.00	9763.60	73.41	25772.95	1288.65				1288.65	24.58	8629.60	660.00	2847.77	24.25	8513.74	220.00	936.51	36.00	12638.96	220.00	1390.29	2326.80
216+00.00	221+97.41	HWY. 113 - FULL DEPTH 2 LANE	597.41	278.50	1663.79	73.41	4872.87	243.64				243.64	24.58	1631.59	660.00	538.42	24.25	1609.69	220.00	177.07	36.00	2389.64	220.00	262.86	439.93
221+97.41	228+95.00	HWY. 113 - NOTCH AND WIDENING	697.59	199.00	1388.20	20.93	1622.28	81.11				81.11	7.06	547.22	660.00	180.58	6.81	527.84	220.00	58.06	36.00	2790.36	220.00	306.94	365.00
228+95.00	229+95.00	HWY. 113 - TRANSITION	100.00	178.50	178.50	13.25	147.22	7.36	22.00	244.44	41.55	48.91	4.50	50.00	660.00	16.50	4.25	47.22	220.00	5.19	35.00	388.89	220.00	42.78	47.97
2100+10.87	2101+10.87	HWY. 154 - TRANSITION	100.00	122.00	122.00	7.05	78.33	3.92	20.00	222.22	37.78	41.70	2.46	27.33	660.00	9.02	2.13	23.67	220.00		25.00	277.78	220.00	30.56	30.56
2101+10.87	2102+95.64	HWY. 154 - NOTCH AND WIDENING	184.77	131.00	242.05	13.41	275.31	13.77				13.77	4.58	94.03	660.00	31.03	4.25	87.25	220.00	9.60	30.00	615.90	220.00	67.75	77.35
2102+95.64	2103+95.64	HWY. 154 - TRANSITION	100.00	122.00	122.00	7.05	78.33	3.92	20.00	222.22	37.78	41.70	2.46	27.33	660.00	9.02	2.13	23.67	220.00	2.60	25.00	277.78	222.00	30.83	33.43
ADDITIONAL FOR LEVELING AND METHOD OF RAISING GRADE																									
103+95.00	114+82.59	HWY. 113 - LEVELING AND METHOD OF RAISING GRADE	1087.59			101.20	12229.35	611.47	20.24	2445.87	415.80	1027.27	20.24	2445.87	1375.00	1681.54	20.24	2445.87	220.00	269.05					269.05
221+97.41	228+95.00	HWY. 113 - LEVELING AND METHOD OF RAISING GRADE	697.59			116.64	9040.77	452.04	19.44	1506.79	256.15	708.19	19.44	1506.79	1485.00	1118.79	19.44	1506.79	220.00	165.75					165.75
2101+00.00	2103+89.80	HWY. 154 - LEVELING AND METHOD OF RAISING GRADE	289.80			80.00	2576.00	128.80	20.00	644.00	109.48	238.28	20.00	644.00	1045.00	336.49	20.00	644.00	220.00	70.84					70.84
ADDITIONAL FOR SUPERELEVATION																									
108+46.75	128+28.19	HWY. 113 - SUPERELEVATION	1981.44	67.00	1327.56																				
130+46.06	153+60.31	HWY. 113 - SUPERELEVATION	2314.25	67.00	1550.55																				
156+02.70	186+84.68	HWY. 113 - SUPERELEVATION	3081.98	36.75	1132.63																				
187+98.43	203+13.83	HWY. 113 - SUPERELEVATION	1515.40	67.00	1015.32																				
211+37.21	216+00.00	HWY. 113 - SUPERELEVATION	462.79	67.00	310.07																				
216+00.00	226+85.92	HWY. 113 - SUPERELEVATION	1085.92	44.75	485.95																				
ADDITIONAL FOR MAINTENANCE OF TRAFFIC																									
111+40.00	117+44.00	EXISTING HWY. 113 MOT STAGE 3	640.00	102.75	657.60	110.00	7822.22	391.11	22.00	1564.44	265.95	657.06	22.00	1564.44	1724.00	1348.55	22.00	1564.44	220.00	172.09					172.09
219+77.00	228+95.00	EXISTING HWY. 113 MOT STAGE 3	1340.00	225.00	3015.00	154.00	22928.89	1146.44	22.00	3275.56	556.85	1703.29	22.00	3275.56	2455.00	4020.75	22.00	3275.56	220.00	360.31					360.31
TOTALS:					48074.38		156123.32	7806.17		10369.98	1762.89	9569.06		43432.72		19724.82		42970.60		4724.16		55129.57		6064.54	10788.70

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2") 93.8% MIN. AGGR.....6.2% ASPHALT BINDER
ACHM BINDER COURSE (1") 95.5% MIN. AGGR.....4.5% ASPHALT BINDER

MAILBOXES

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

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF FENCE	1488	LN.FT.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	6	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS	1	EACH
SP_SS.&210	UNCLASSIFIED EXCAVATION	81402	CU.YD.
SP & 210	COMPACTED EMBANKMENT	94512	CU.YD.
SP & 210	SOIL STABILIZATION	200	TON
SP_SS.&303	AGGREGATE BASE COURSE (CLASS 7)	50047	TON
SS & 401	TRUCK COAT	9689	GAL.
SP_SS.&406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	18837	TON
SP_SS.&406	ASPHALT BINDER (PG 70-22) IN ACHM BINDER COURSE (1")	888	TON
SP_SS.&407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	10369	TON
SP_SS.&407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	16	TON
SP_SS.&407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (1/2")	669	TON
SP & 412	COLD MILLING ASPHALT PAVEMENT	1333	SQ.YD.
SP_SS.&414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	60	TON
SP_SS.&415	ACHM PATCHING OF EXISTING ROADWAY	20	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	40	LN.FT.
603	24" TEMPORARY CULVERT	40	LN.FT.
SS & 604	SIGNS	330	SQ.FT.
SP_SS.&604	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE	4	EACH
SS & 604	BARRICADES	128	LN.FT.
SS & 604	TRAFFIC DRUMS	95	EACH
604	CONSTRUCTION PAVEMENT MARKINGS	55165	LN.FT.
604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)	6	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	12602	LN.FT.
SP_SS.&605	CONCRETE DITCH PAVING (TYPE B)	1203	SQ.YD.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	194	LN.FT.
SS & 606	24" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	202	LN.FT.
SS & 606	24" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	202	LN.FT.
SS & 606	24" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	202	LN.FT.
SP_SS.&606	24" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	202	LN.FT.
SP_SS.&606	24" HIGH DENSITY POLYETHYLENE PIPE	202	LN.FT.
SP_SS.&606	24" POLYPROPYLENE PIPE	202	LN.FT.
SP_SS.&606	24" PVC PIPE	202	LN.FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	90	LN.FT.
SS & 606	36" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	94	LN.FT.
SS & 606	36" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	94	LN.FT.
SS & 606	36" POLYMER PRECOATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	94	LN.FT.
SP_SS.&606	36" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (14 GAUGE)	94	LN.FT.
SP_SS.&606	36" HIGH DENSITY POLYETHYLENE PIPE	94	LN.FT.
SP_SS.&606	36" POLYPROPYLENE PIPE	94	LN.FT.
SP_SS.&606	36" PVC PIPE	94	LN.FT.
SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	172	LN.FT.
SS & 606	42" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	180	LN.FT.
SS & 606	42" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	180	LN.FT.
SS & 606	42" POLYMER PRECOATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	180	LN.FT.
SP_SS.&606	42" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (14 GAUGE)	180	LN.FT.
SP_SS.&606	42" HIGH DENSITY POLYETHYLENE PIPE	180	LN.FT.
SP_SS.&606	42" POLYPROPYLENE PIPE	180	LN.FT.
SP_SS.&606	18" SIDE DRAIN	500	LN.FT.
SP_SS.&606	24" SIDE DRAIN	250	LN.FT.
SS & 606	48" X 33" SIDE DRAIN	100	LN.FT.
SS & 606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
SS & 606	24" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	4	EACH
SS & 606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
SS & 606	36" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	2	EACH
SS & 606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
SS & 606	42" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	4	EACH
SS & 606	SELECTED PIPE BEDDING	55	CU.YD.
SS & 611	4" PIPE UNDERDRAINS	1000	LN.FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	8	EACH
SS & 619	6" STEEL CHAIN LINK FENCE	688	LN.FT.
SS & 619	6" ALUMINUM CHAIN LINK FENCE	688	LN.FT.
SS & 619	16" STEEL GATES	1	EACH
SS & 619	16" ALUMINUM GATES	1	EACH
620	LIME	91	TON
620	SEEDING	45.68	ACRE
SS & 620	MULCH COVER	180.16	ACRE
620	WATER	7414.8	M.GAL.
621	TEMPORARY SEEDING	134.48	ACRE
621	SILT FENCE	32733	LN.FT.
621	SAND BAG DITCH CHECKS	2970	BAG
621	SEDIMENT BASIN	5943	CU.YD.
621	OBLITERATION OF SEDIMENT BASIN	5943	CU.YD.
621	SEDIMENT REMOVAL AND DISPOSAL	7384	CU.YD.
621	ROCK DITCH CHECKS	281	CU.YD.
623	SECOND SEEDING APPLICATION	45.68	ACRE
624	SOLID SODDING	952	SQ.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
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	20000	LN.FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	27492	LN.FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (12")	44	LN.FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	30344	LN.FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	3	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	6	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	205	EACH
SS & 816	FILTER BLANKET	105	SQ.YD.
SS & 816	DUMPED RIPRAP	53	CU.YD.
		</	

* DENOTES ALTERNATE BID ITEMS.

DATE	REVISION	SHEET NUMBER
3/25/2024	REMOVED SES-1, ADDED TYPICAL SECTION, REVISED WIDTH, SIDE SLOPE AND CONSTRUCTION LIMITS FROM STATION 216+00 TO STATION 223+00, REVISED PROPOSED RIGHT-OF-WAY BETWEEN STATIONS 135+00 - 140+00, 176+00 - 190+00, 207+00 - 225+00, REVISED CROSS DRAIN AT STATION 177+38, ADDED CONTRACTOR DESIGNATED WORK AREA, REVISED SIDE DRAIN AT STATION 224+02 LT, REVISED CONCRETE DITCH PAVING, PAVEMENT MARKING, STRUCTURES, EARTHWORK, DRIVEWAYS, COLD MILLING, AND BASE & SURFACING QUANTITIES.	2, 5, 8, 19, 30, 32, 39, 40, 52 60-62, 64-70, 99, 114-118, 122-123
4/19/2024	ADDED SPECIAL SPECIFICATION 108-3 "WORK ORDER FOR FIXED COMPLETION DATE PROJECTS"; ADDED SPECIAL PROVISION "SEQUENCE OF WORK"; REMOVED SPECIAL PROVISION "ESTABLISHING CONTRACT TIME - CALENDAR DAY CONTRACT".	3, 52

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	52	123
04-19-24		SUMMARY OF QUANTITIES AND REVISIONS				



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REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	53	123
SURVEY CONTROL DETAILS						



SURVEY CONTROL COORDINATES

Project Name: s080711
Date: 7/19/2023
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	274184.1846	1090500.3114	295.079	CTL	*ARDOT STD MON STAMPED PN: 1 JOB 113
2	274840.9951	1090528.0636	311.446	CTL	*ARDOT STD MON STAMPED PN: 2 JOB 113
3	275422.2077	1090450.7173	314.922	CTL	*ARDOT STD MON STAMPED PN: 3 JOB 113
10	277933.0726	1088311.8863	308.715	CTL	*ARDOT STD MON STAMPED PN: 10
11	278555.4632	1088435.2777	307.478	CTL	*ARDOT STD MON STAMPED PN: 11
12	279372.6901	1088704.4096	316.860	CTL	*ARDOT STD MON STAMPED PN: 12
13	280269.2579	1087794.5276	339.515	CTL	*ARDOT STD MON STAMPED PN: 13
14	280216.4735	1088566.8885	327.843	CTL	*ARDOT STD MON STAMPED PN: 14
15	280165.3854	1089466.6960	320.977	CTL	*ARDOT STD MON STAMPED PN: 15
16	280630.3435	1088540.0813	329.900	CTL	*ARDOT STD MON STAMPED PN: 16
17	281184.8864	1088554.2360	339.840	CTL	*ARDOT STD MON STAMPED PN: 17
18	281733.1674	1088843.2737	331.537	CTL	*ARDOT STD MON STAMPED PN: 18
19	282190.9303	1088844.1957	307.766	CTL	*ARDOT STD MON STAMPED PN: 19
20	282549.7288	1088991.6512	311.517	CTL	*ARDOT STD MON STAMPED PN: 20
21	283006.4846	1089494.2522	284.083	CTL	*ARDOT STD MON STAMPED PN: 21
22	283397.7256	1090237.5849	282.818	CTL	*ARDOT STD MON STAMPED PN: 22
23	284113.5063	1090613.7754	288.763	CTL	*ARDOT STD MON STAMPED PN: 23
24	284723.4646	1090636.3234	291.168	CTL	*ARDOT STD MON STAMPED PN: 24
100	275920.4557	1090439.3808	304.042	GPS	*ARDOT GPS MON 150014
101	277081.5700	1090499.5784	300.160	GPS	*ARDOT GPS MON 150014A
102	285438.4738	1090589.7544	291.010	GPS	*ARDOT GPS MON 150015
103	286714.0236	1090633.5503	286.076	GPS	*ARDOT GPS MON 150015A
900	278176.1691	1088403.7954	308.353	TBM	*5/8 RBR & CAP 260FT N OF T-10
901	280198.8440	1089913.0906	320.077	TBM	*CHIS SQUARE 18FT N CL HWY 154
902	281222.3951	1088453.6085	341.247	TBM	*5/8 RBR & CAP
903	283116.9530	1089499.2885	284.904	TBM	*7FT W EDGE OF DL

*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).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999560849 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 s080711gi.ctb
HORIZONTAL DATUM: NAD 83 (2011)
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: 150015-150015A-150014-150014A
CONVERGENCE ANGLE: 00 26 07.6 LEFT AT LAT N35-06'12.5581" LON W92-44'53.8957"
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

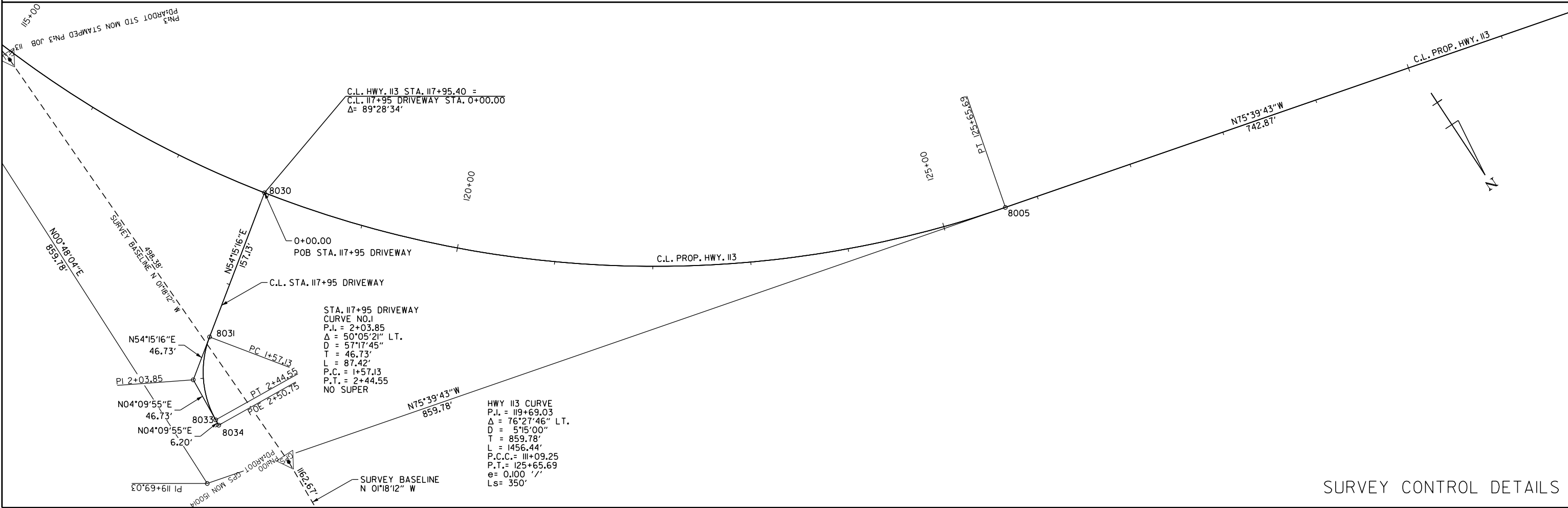
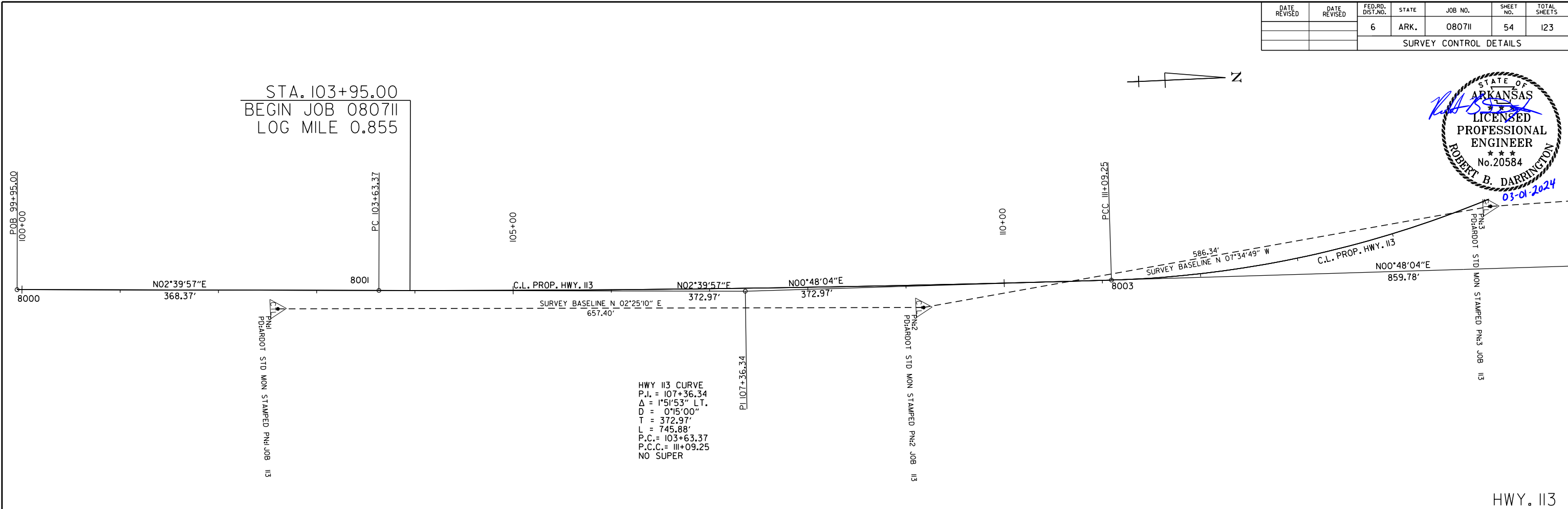
Alignment Name: PROP. HWY 113				
Point	Station	Type	Northing	Easting
8000	99+95.00	POB	273919.7624	1090468.9570
8001	103+63.37	PC	274287.7412	1090486.0901
8003	111+09.25	PCC	275033.2425	1090508.6514
8005	125+65.69	PT	276105.8545	1089687.6767
8006	133+08.56	PC	276289.8234	1088967.9426
8008	150+97.81	PT	277673.3942	1088138.8873
8009	158+72.70	PC	278425.9196	1088323.7327
8011	185+04.68	PT	281031.2857	1088653.8184
8012	190+08.43	PC	281535.0132	1088659.4511
8014	200+51.34	PT	282434.7843	1089112.2490
8015	213+99.71	PC	283250.2773	1090186.0676
8017	224+23.42	PT	284130.8561	1090638.4900
8018	231+89.87	POE	284897.0122	1090659.8969

Alignment Name: HWY 154				
Number	Station	Type	Northing	Easting
8025	2100+00.00	POB	280232.2275	1088477.6873
8026	2103+74.41	PI	280217.8711	1088851.8215
8027	2105+00.00	POE	280211.6159	1088977.2561

Alignment Name: STA. 117+95 DRIVEWAY				
Number	Station	Type	Northing	Easting
8030	0+00.00	POB	275677.9267	1090308.9614
8031	1+57.13	PC	275769.7180	1090436.4888
8033	2+44.55	PT	275843.6165	1090477.8062
8034	2+50.75	POE	275849.8035	1090478.2567

Alignment Name: STA. 218+03 DRIVEWAY				
Number	Station	Type	Northing	Easting
8040	0+00.00	POB	283545.4990	1090458.4158
8041	1+29.60	PC	283478.9297	1090569.6147
8043	2+35.95	PT	283389.9213	1090618.1988
8044	2+37.43	POE	283388.4361	1090618.1512

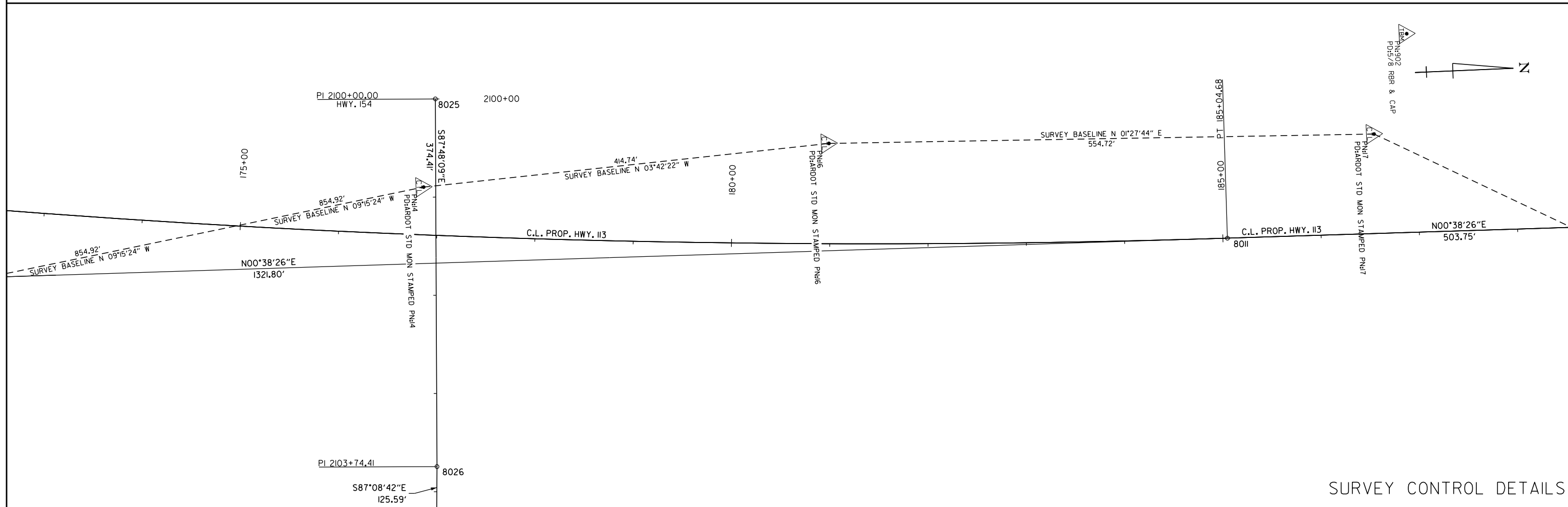
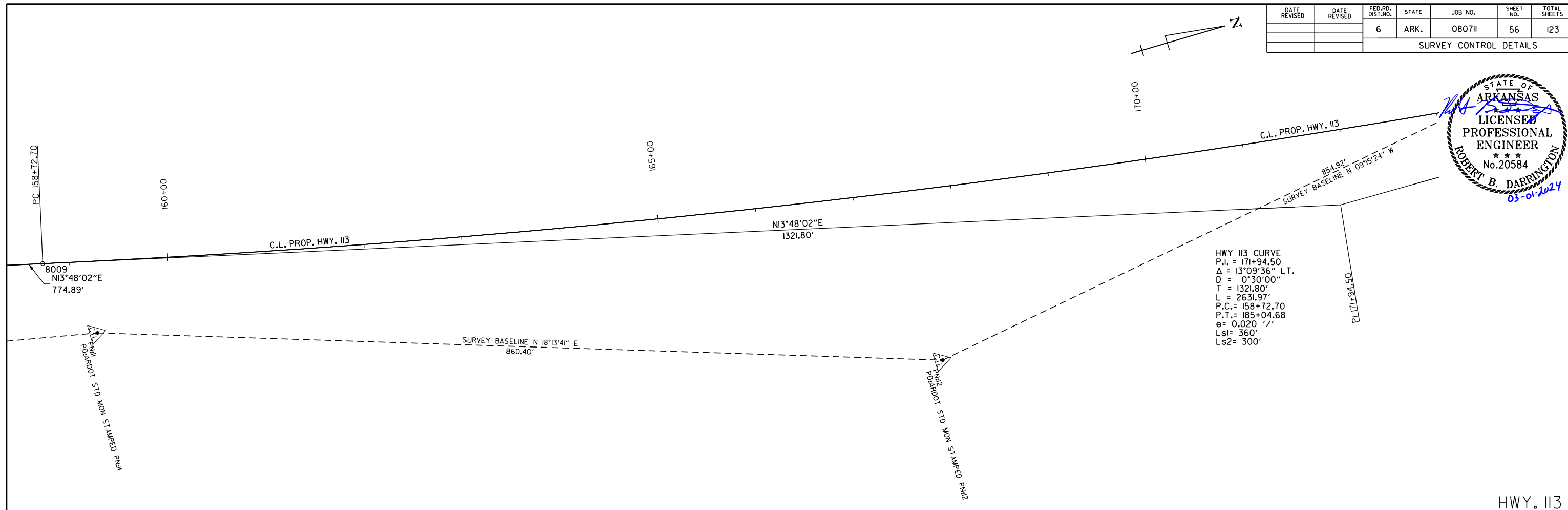
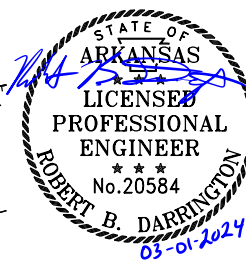
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SURVEY CONTROL DETAILS						



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SURVEY CONTROL DETAILS

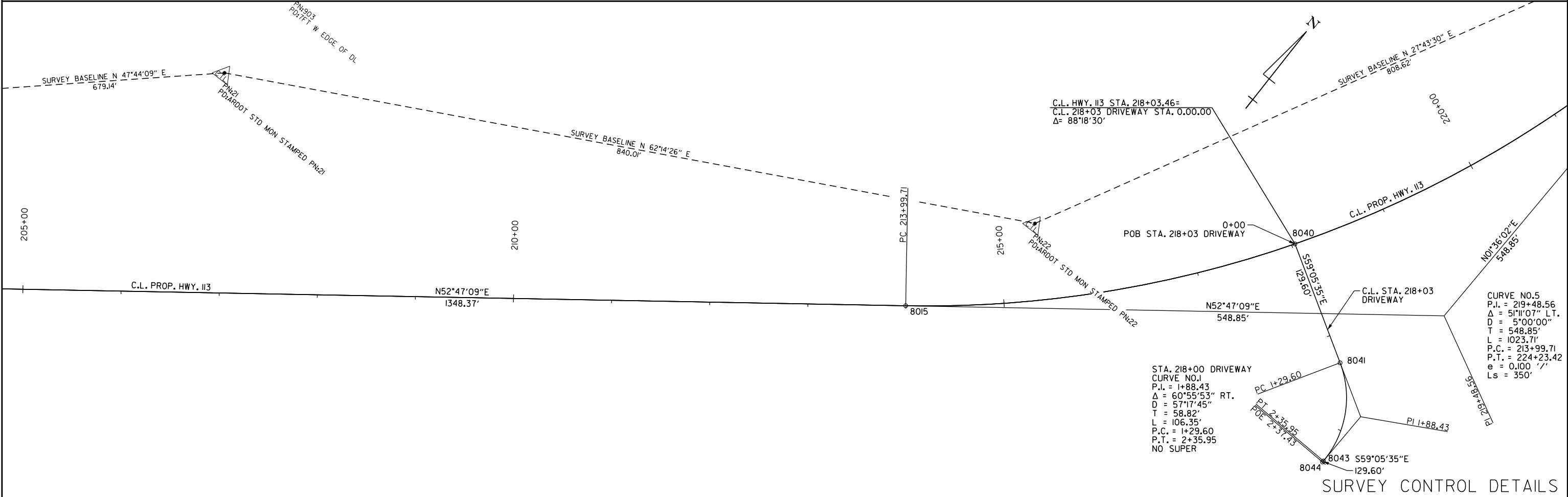
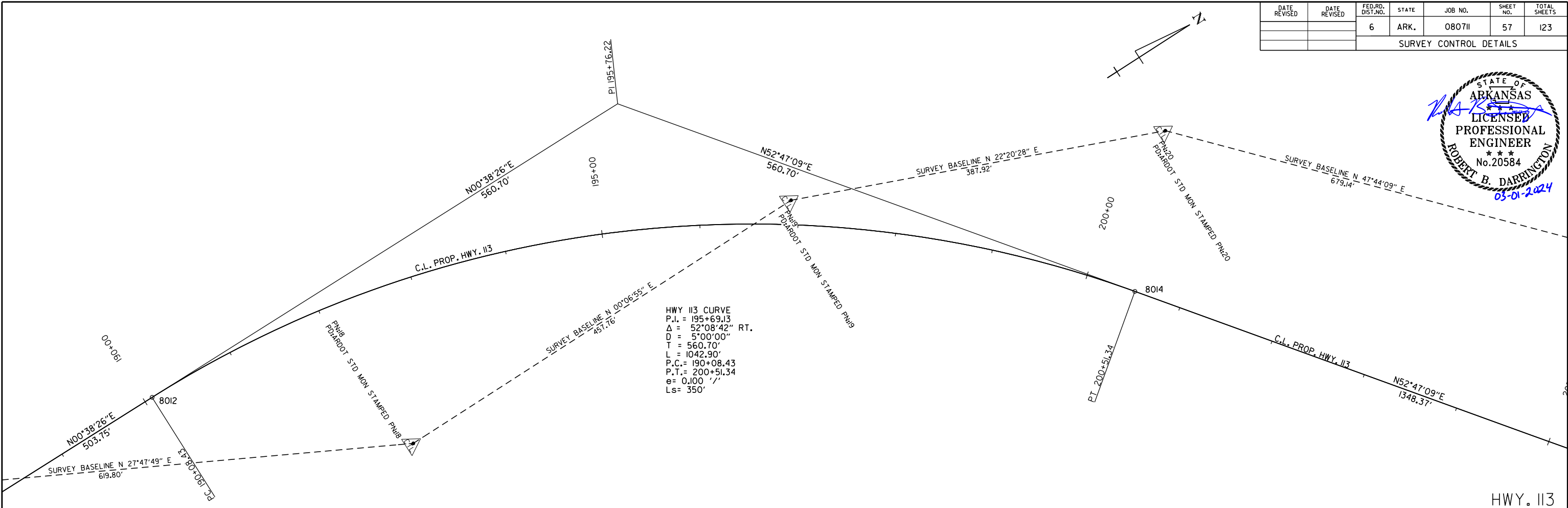
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REVISED DATE: \$\$REVDATE\$\$

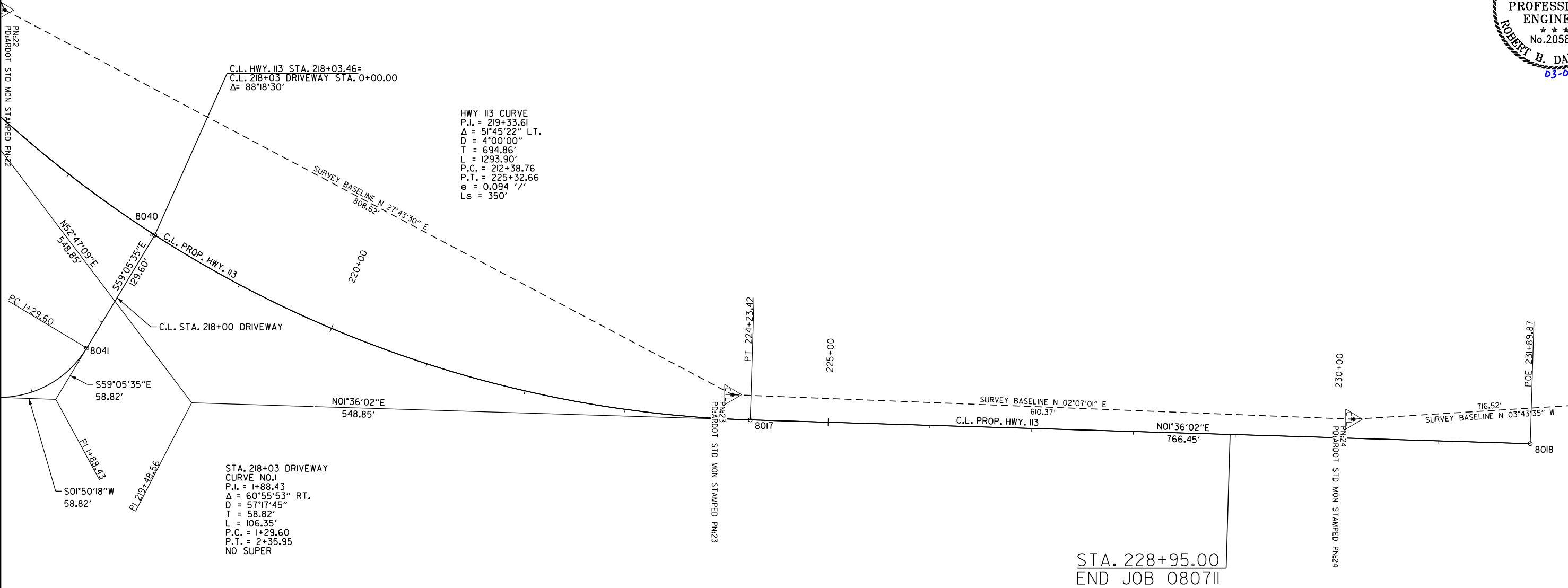
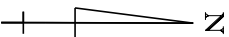
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REVISED DATE: **REDATE**

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		6	ARK.	080711	57	123
SURVEY CONTROL DETAILS						



SURVEY CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	58	123
SURVEY CONTROL DETAILS						



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LEGEND



STA. 104+53.00 IN PLACE
24" X 24" C.M. PIPE
RETAIN
CONST. APPROACH = 5 CU. YDS.

STA. 108+23.00 IN PLACE
24" X 24" C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30" LT. SIDE DRAIN
CONST. APPROACH = 25 CU. YDS.

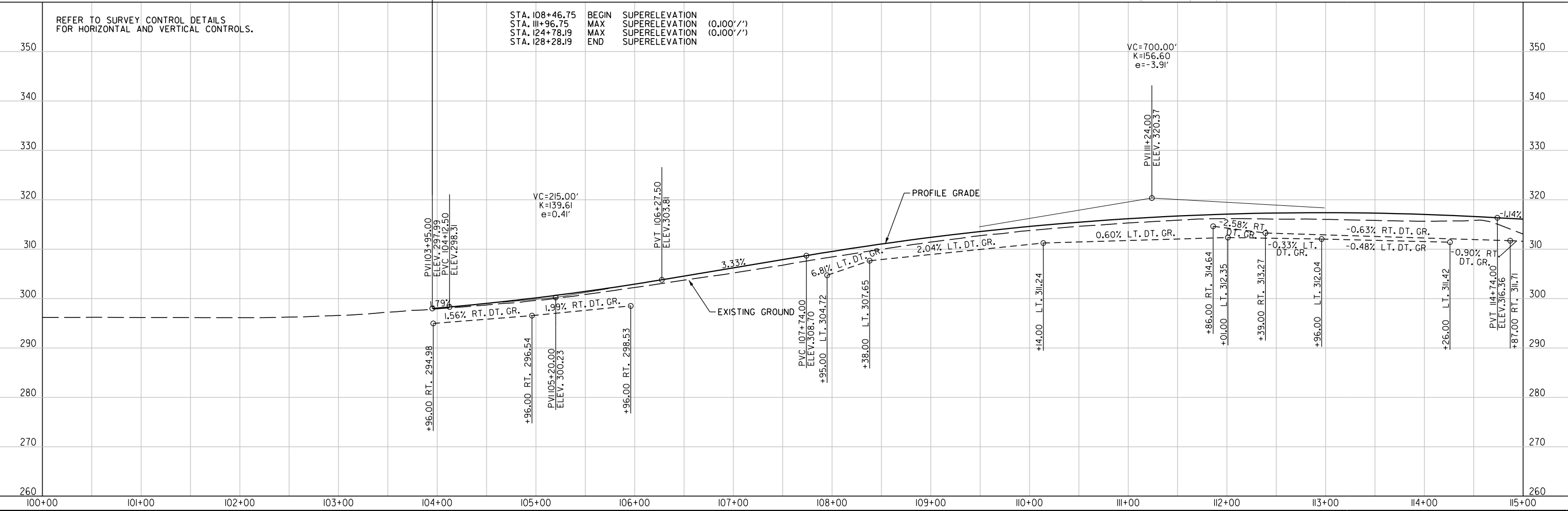
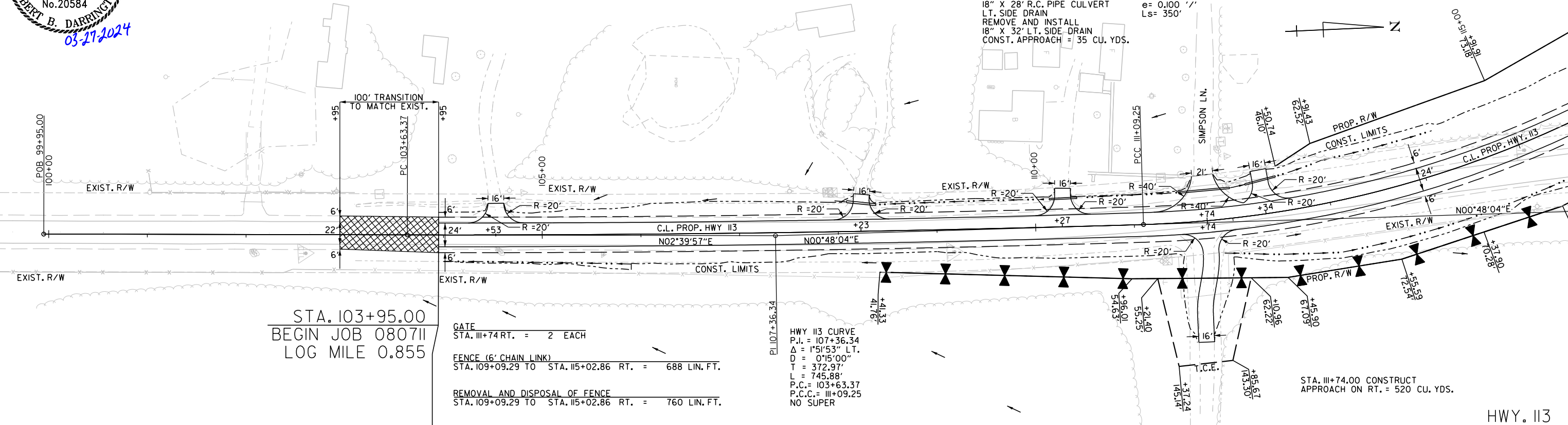
STA. 110+27.00 IN PLACE
18" X 28" R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28" LT. SIDE DRAIN
CONST. APPROACH = 20 CU. YDS.

STA. 111+74.00 IN PLACE
18" X 28" C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 52" LT. SIDE DRAIN
CONST. APPROACH = 35 CU. YDS.

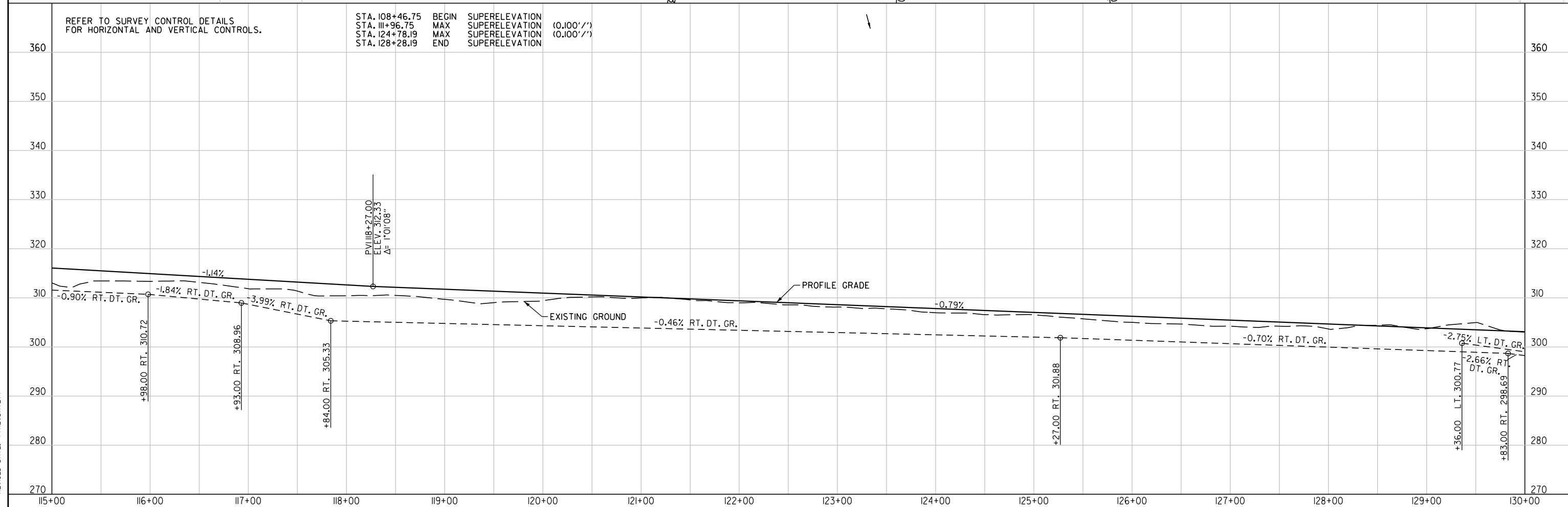
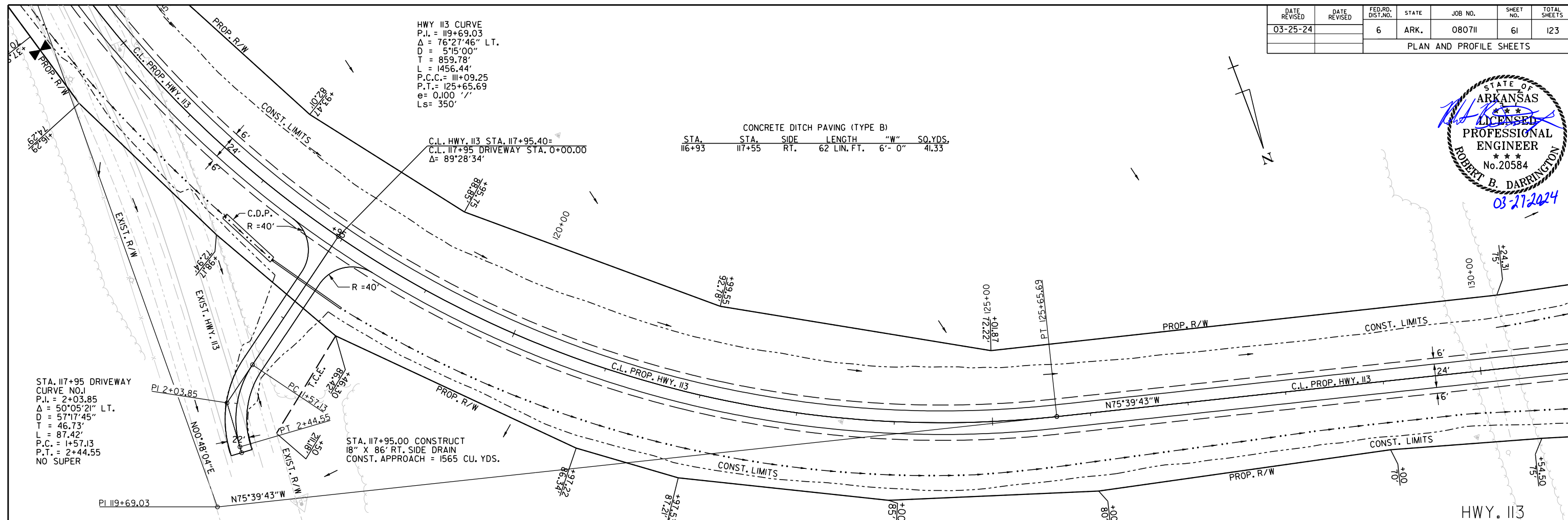
STA. 112+34.00 IN PLACE
18" X 28" R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32" LT. SIDE DRAIN
CONST. APPROACH = 35 CU. YDS.

HWY 113 CURVE
P.I. = 119+69.03
 $\Delta = 76^\circ 27' 46''$ LT.
D = 515'00"
T = 859.78'
L = 1456.44'
P.C.C. = 111+09.25
P.T. = 125+65.69
e = 0.100' /'
Ls = 350'

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	60	123
PLAN AND PROFILE SHEETS						



DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	61	123
		PLAN AND PROFILE SHEETS				

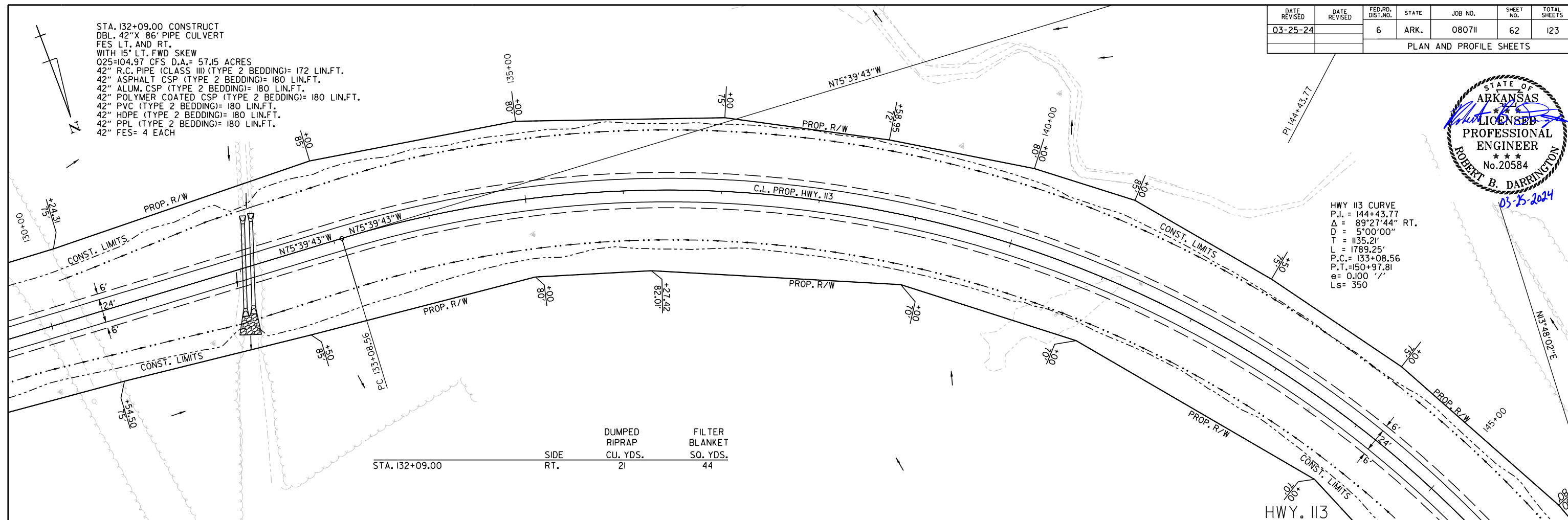


DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	62	123
		PLAN AND PROFILE SHEETS				



STA. 132+09.00 CONSTRUCT
DBL. 42"X 86" PIPE CULVERT
FES LT. AND RT.
WITH 15' LT. FWD SKEW
Q25=104.97 CFS D.A.= 57.15 ACRES
42" R.C. PIPE (CLASS III) (TYPE 2 BEDDING)= 172 LIN.FT.
42" ASPHALT CSP (TYPE 2 BEDDING)= 180 LIN.FT.
42" ALUM. CSP (TYPE 2 BEDDING)= 180 LIN.FT.
42" POLYMER COATED CSP (TYPE 2 BEDDING)= 180 LIN.FT.
42" PVC (TYPE 2 BEDDING)= 180 LIN.FT.
42" HDPE (TYPE 2 BEDDING)= 180 LIN.FT.
42" PPL (TYPE 2 BEDDING)= 180 LIN.FT.
42" FES= 4 EACH

HWY 113 CURVE
P.I. = 144+43.77
 $\Delta = 89^{\circ}27'44''$ RT.
D = 5°00'00"
T = 1135.21'
L = 1789.25'
P.C. = 133+08.56
P.T. = 150+97.81
e = 0.100'/'
Ls = 350

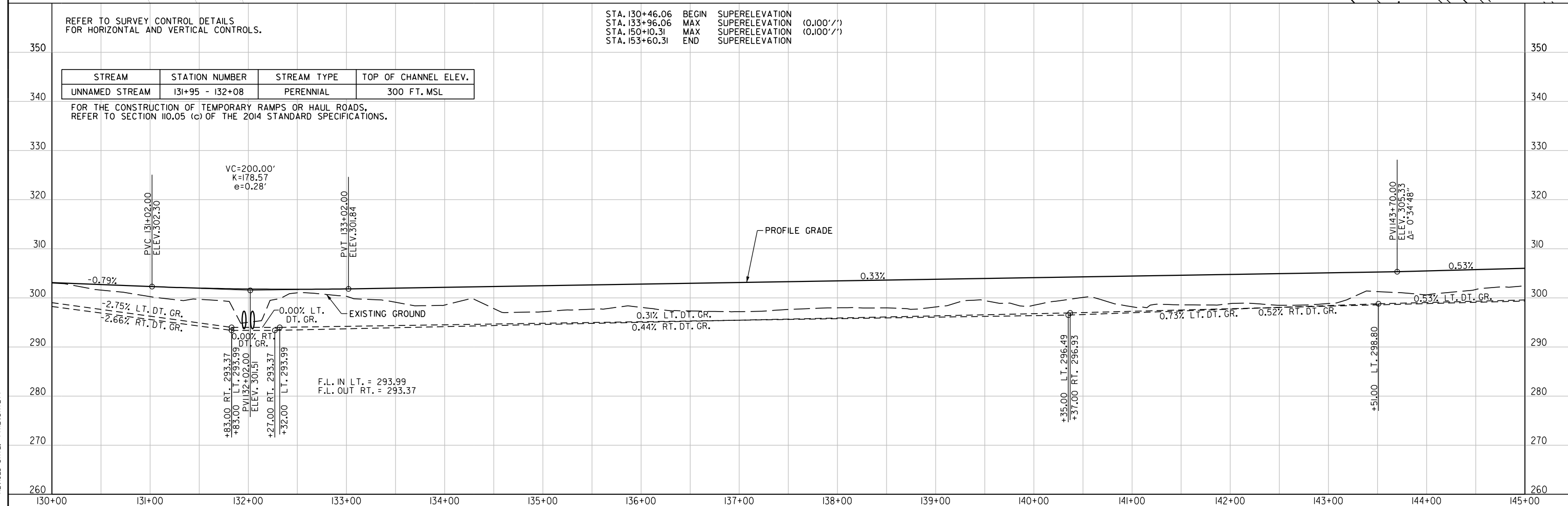


REFER TO SURVEY CONTROL DETAILS
FOR HORIZONTAL AND VERTICAL CONTROLS.

STA. 130+46.06	BEGIN	SUPERELEVATION	
STA. 133+96.06	MAX	SUPERELEVATION	(0.100'/'
STA. 150+10.31	MAX	SUPERELEVATION	(0.100'/'
STA. 153+60.31	END	SUPERELEVATION	

STREAM	STATION NUMBER	STREAM TYPE	TOP OF CHANNEL ELEV.
UNNAMED STREAM	I31+95 - I32+08	PERENNIAL	300 FT. MSL

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS,
REFER TO SECTION 110.05 (c) OF THE 2014 STANDARD SPECIFICATIONS.



Rajivan,Chowdhury,3/25/2024 3:08:50 PM
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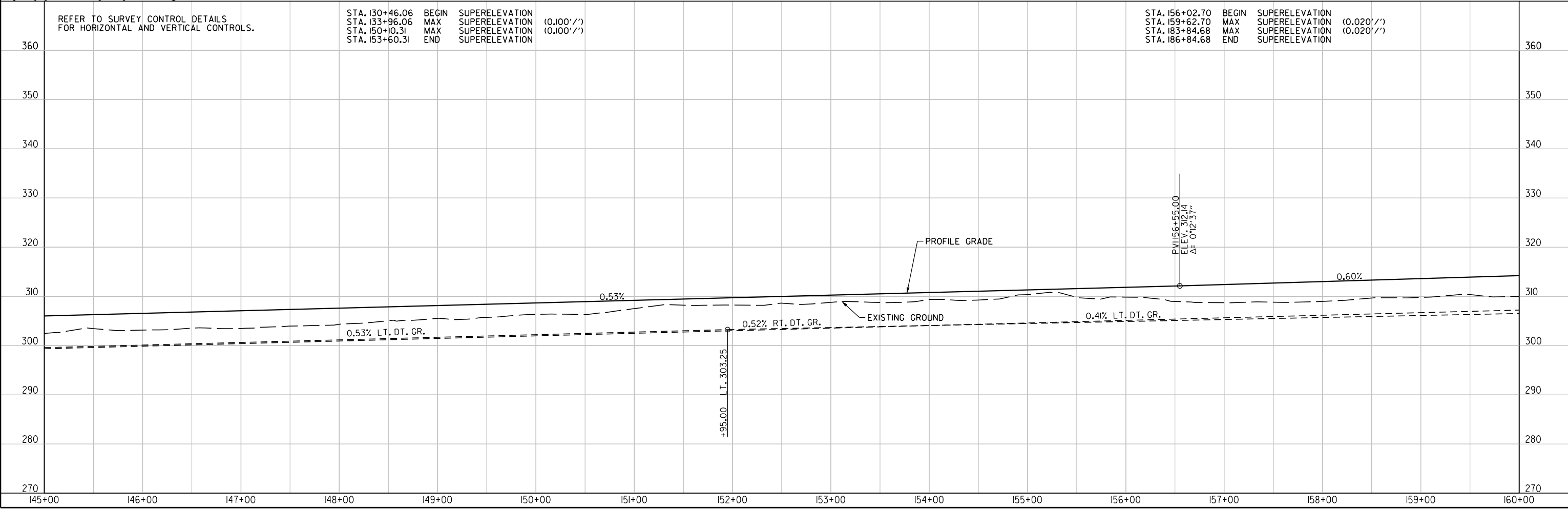
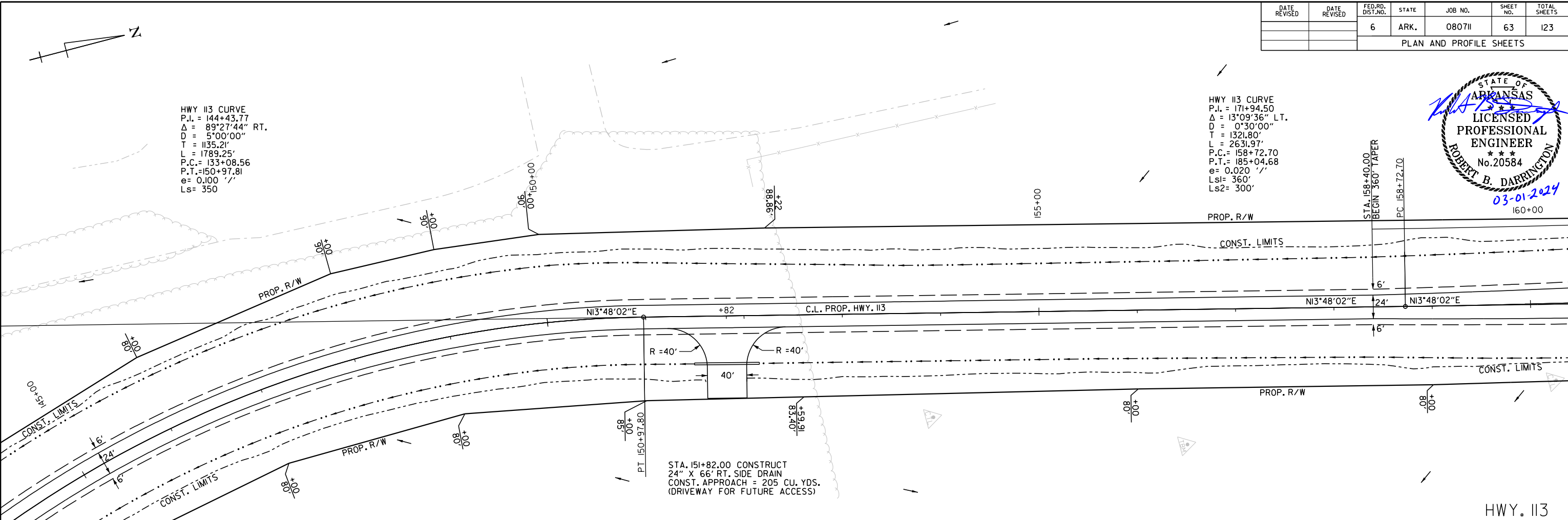
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REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	63	123
PLAN AND PROFILE SHEETS						



HWY 113 CURVE
P.I. = 144+43.77
 Δ = 89°27'44" RT.
D = 5°00'00"
T = 1135.21'
L = 1789.25'
P.C. = 133+08.56
P.T. = 150+97.81
e = 0.100'/'
Ls = 350

HWY 113 CURVE
P.I. = 171+94.50
 Δ = 13°09'36" LT.
D = 0°30'00"
T = 1321.80'
L = 2631.97'
P.C. = 158+72.70
P.T. = 185+04.68
e = 0.020'/'
Ls1 = 360'
Ls2 = 300'



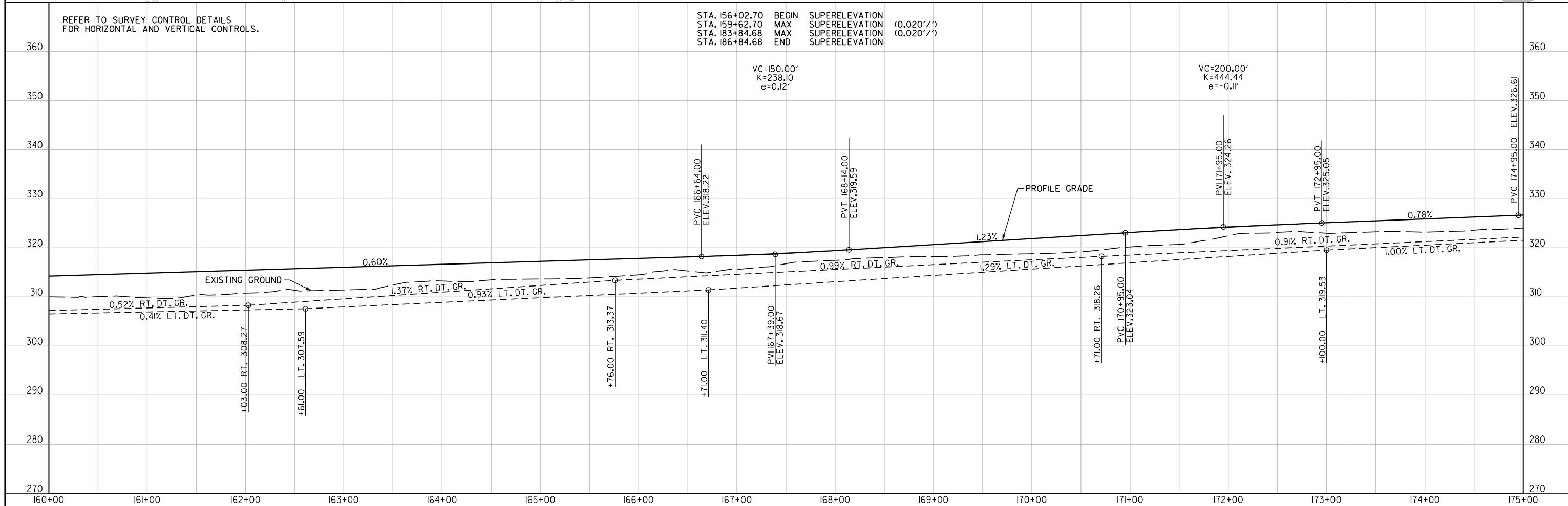
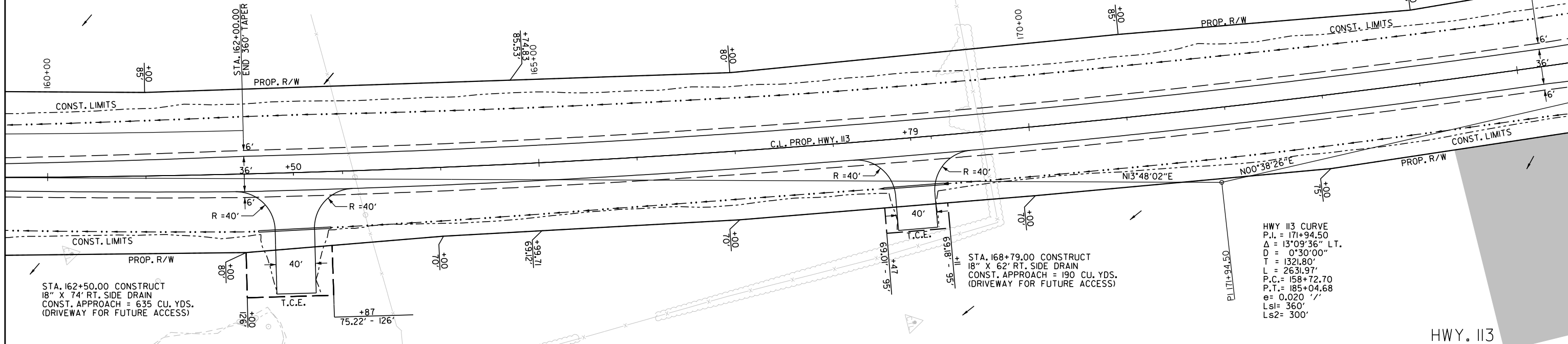
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REVISED DATE: **REVISOR**

LEGEND

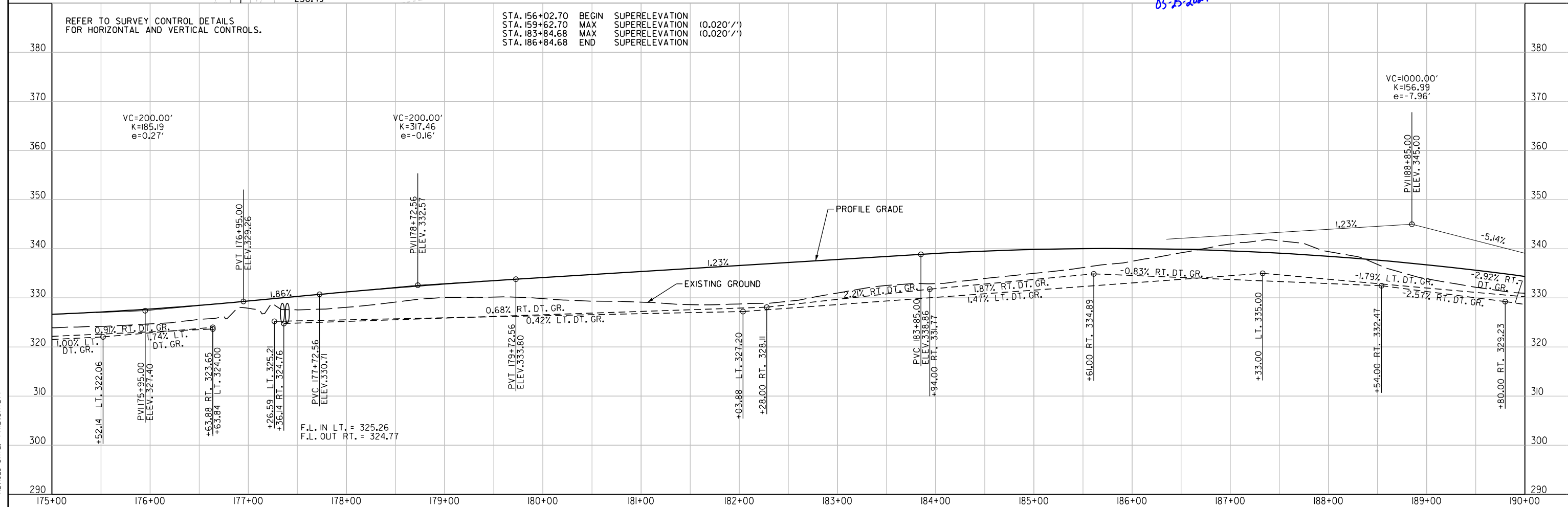
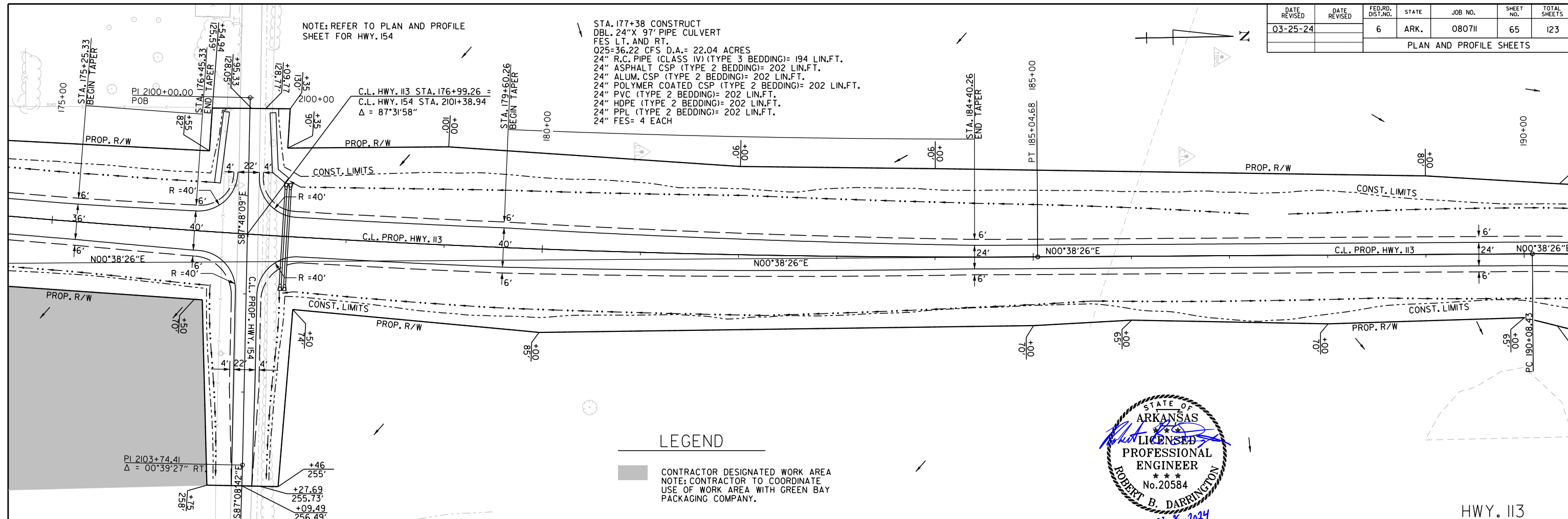
CONTRACTOR DESIGNATED WORK AREA
NOTE: CONTRACTOR TO COORDINATE
USE OF WORK AREA WITH GREEN BAY
PACKAGING COMPANY.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
3-25-24		6	ARK.	080711	64	123
PLAN AND PROFILE SHEETS						

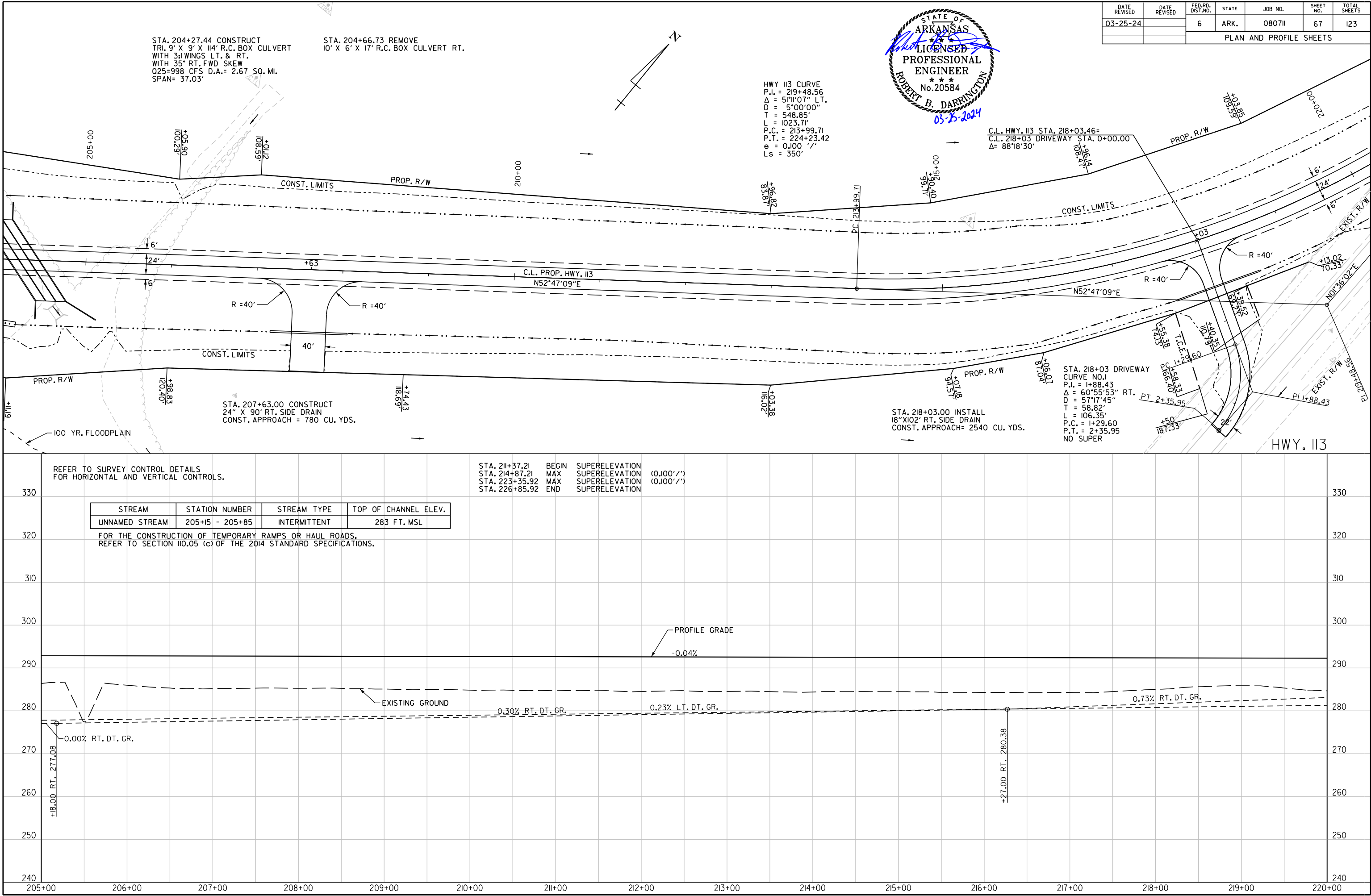


DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	65	123
		PLAN AND PROFILE SHEETS				

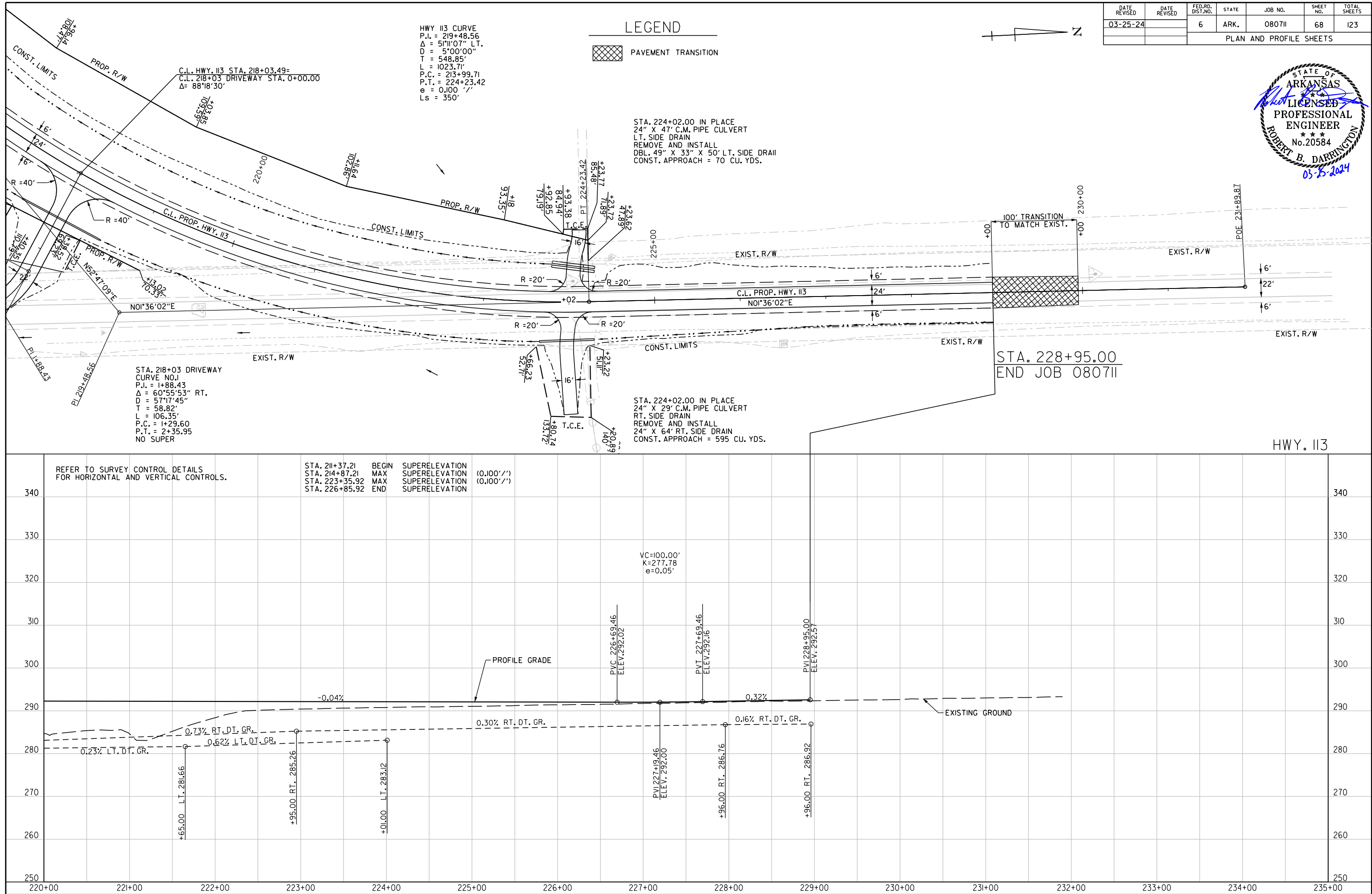


Rajivan,Chowdhury3/25/2024 3:08:51PM
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REVISED DATE: **REDATE**



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REVISION DATE: **REDATE**



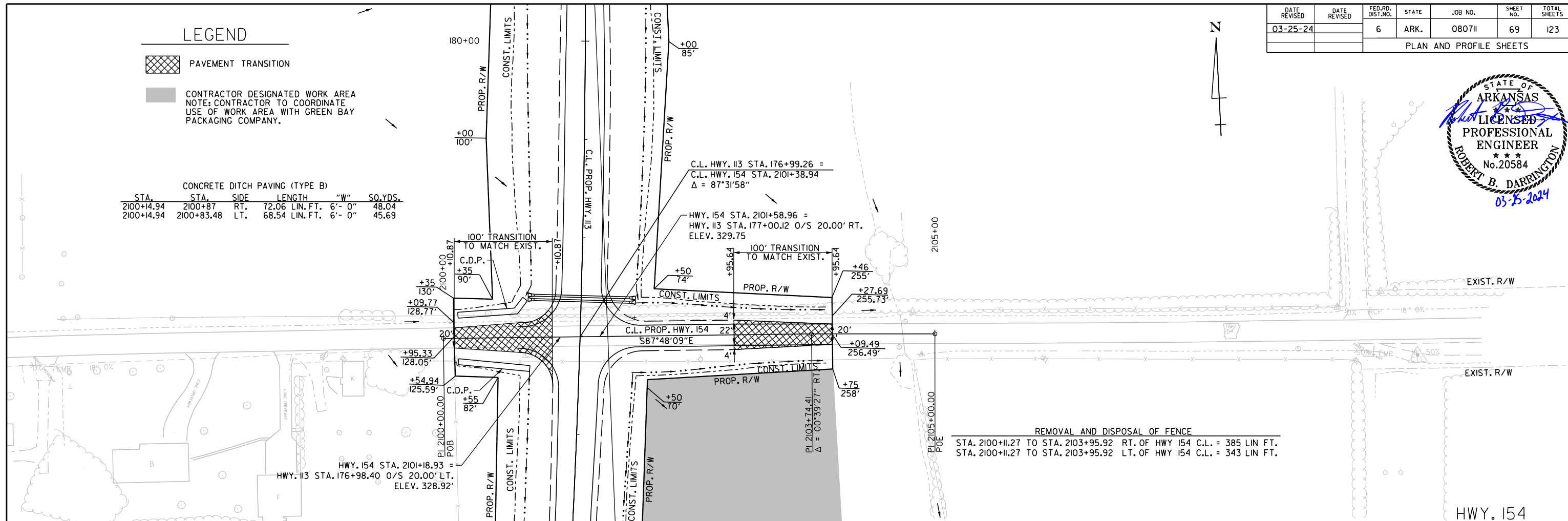
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03-25-24		6	ARK.	080711	69	123
		PLAN AND PROFILE SHEETS				

LEGEND

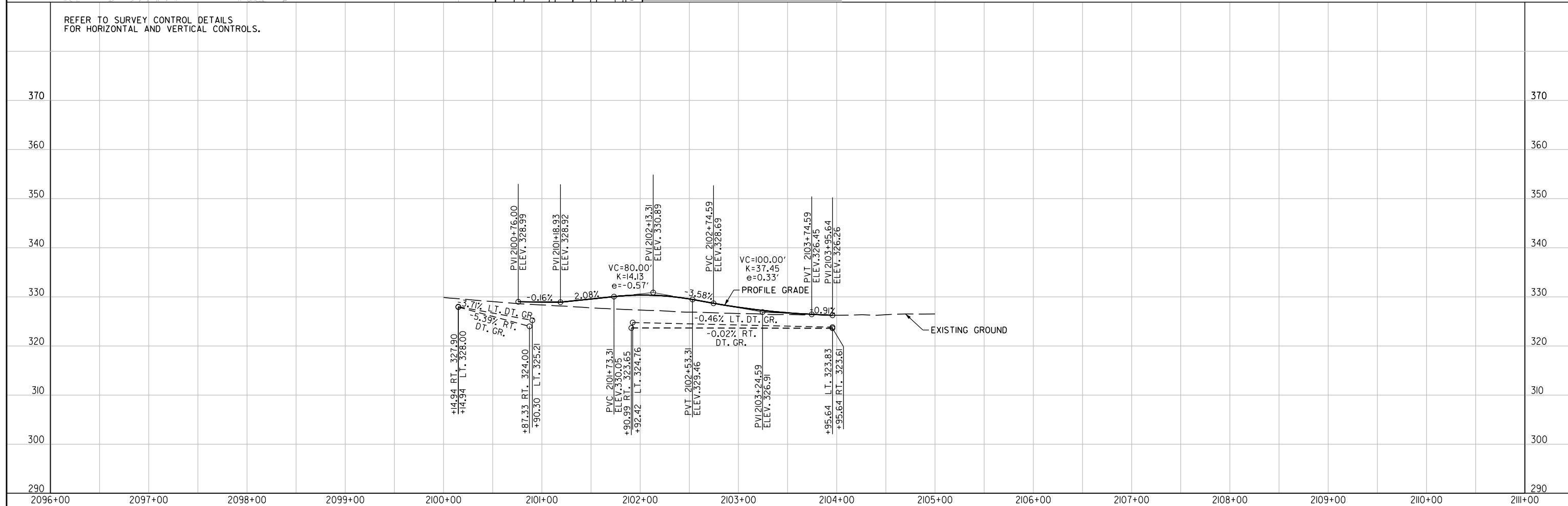
 PAVEMENT TRANSITION

CONTRACTOR DESIGNATED WORK AREA
NOTE: CONTRACTOR TO COORDINATE
USE OF WORK AREA WITH GREEN BAY
PACKAGING COMPANY.

CONCRETE DITCH PAVING (TYPE B)					
STA.	STA.	SIDE	LENGTH	"W"	SQ.YDS.
2100+14.94	2100+87	RT.	72.06 LIN. FT.	6'- 0"	48.04
2100+14.94	2100+83.48	LT.	68.54 LIN. FT.	6'- 0"	45.69

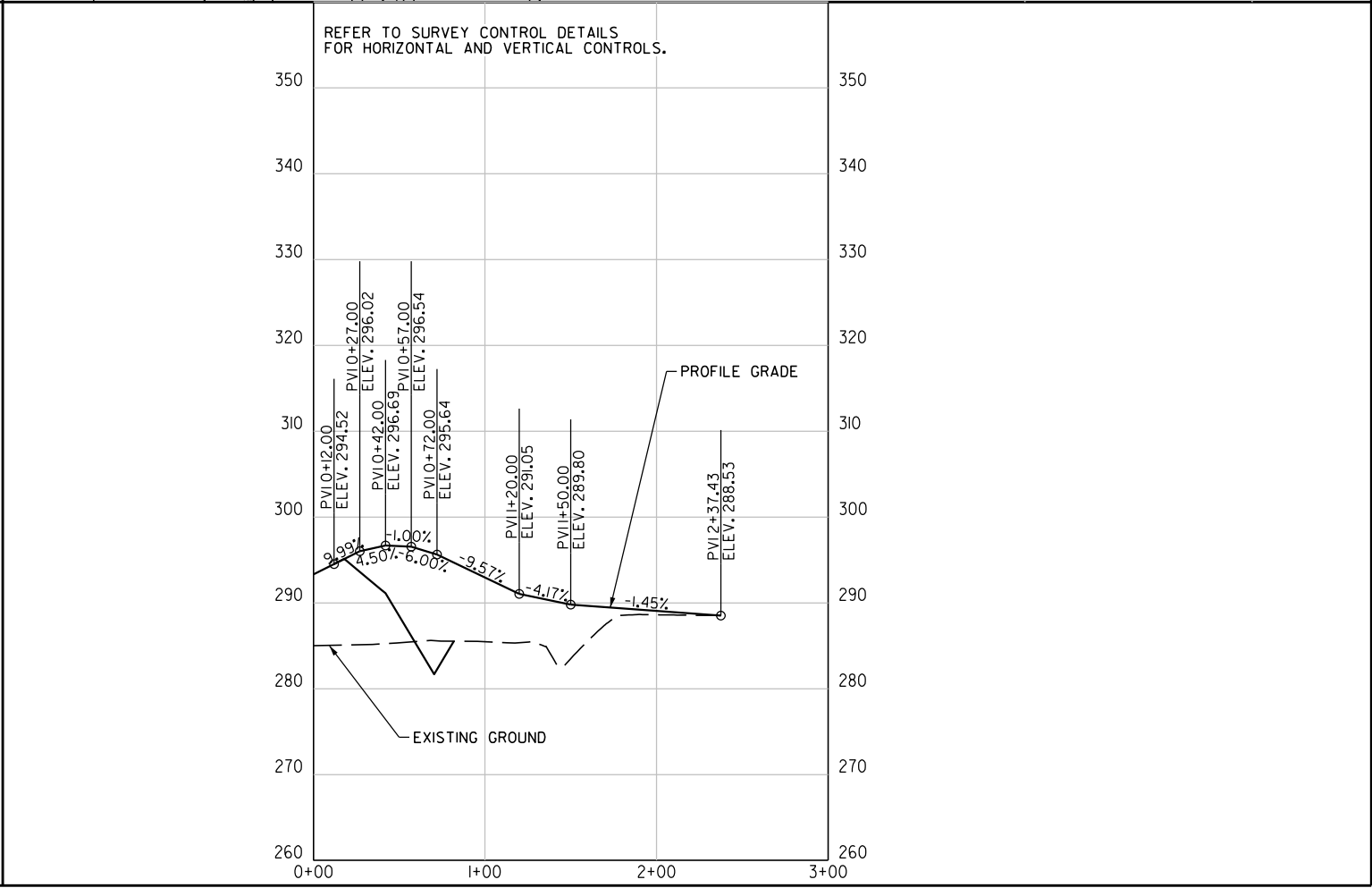
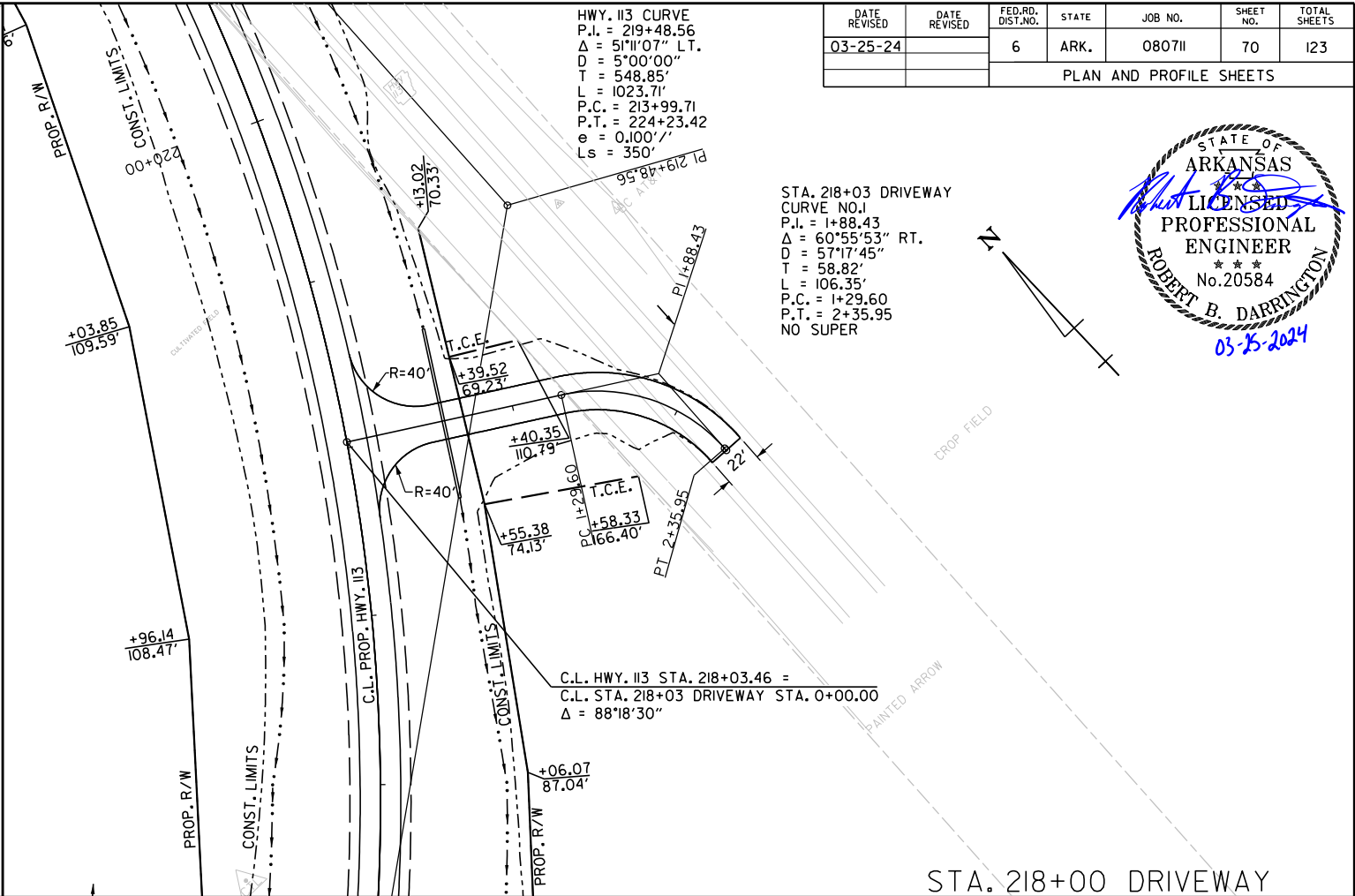
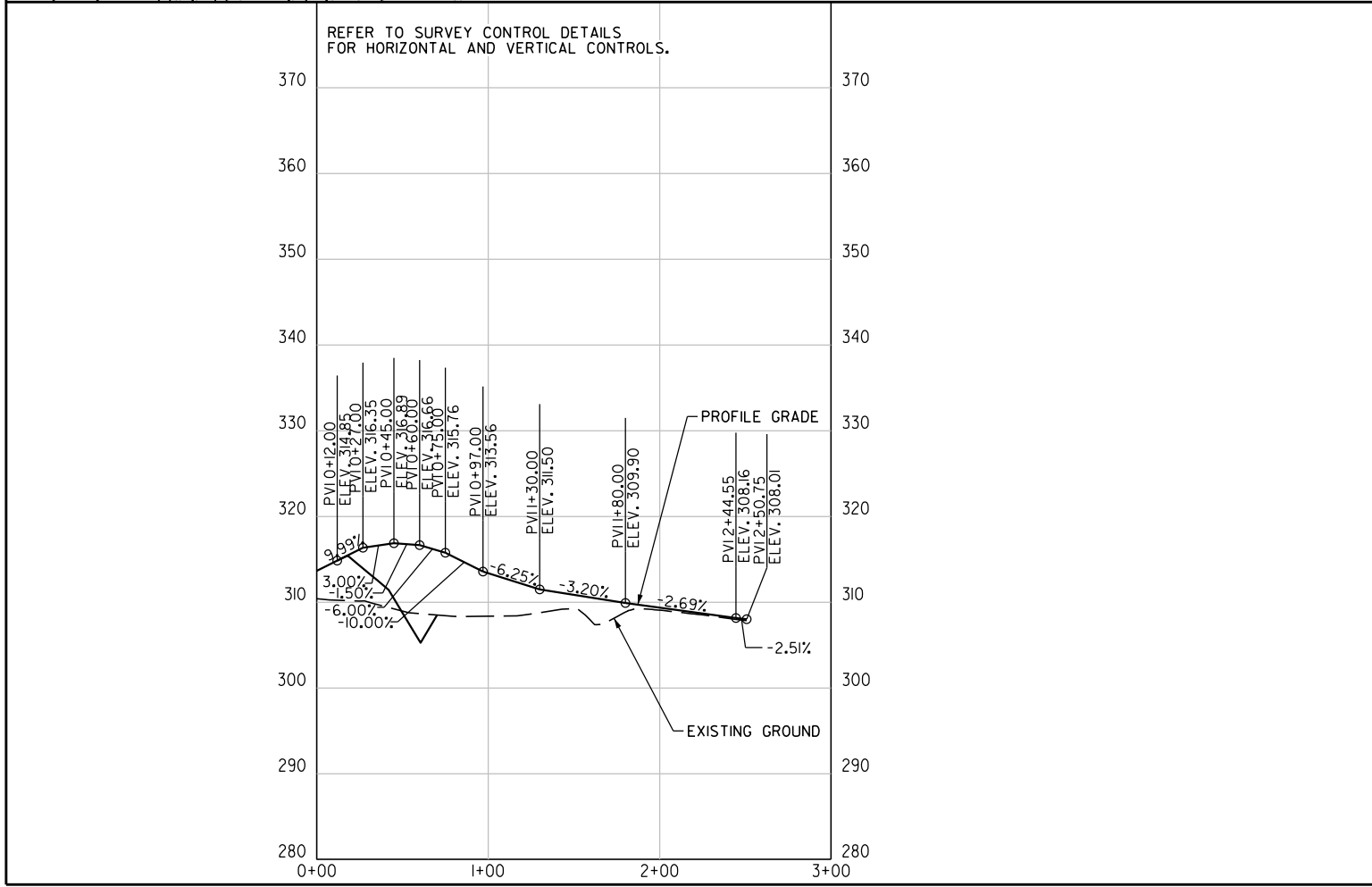
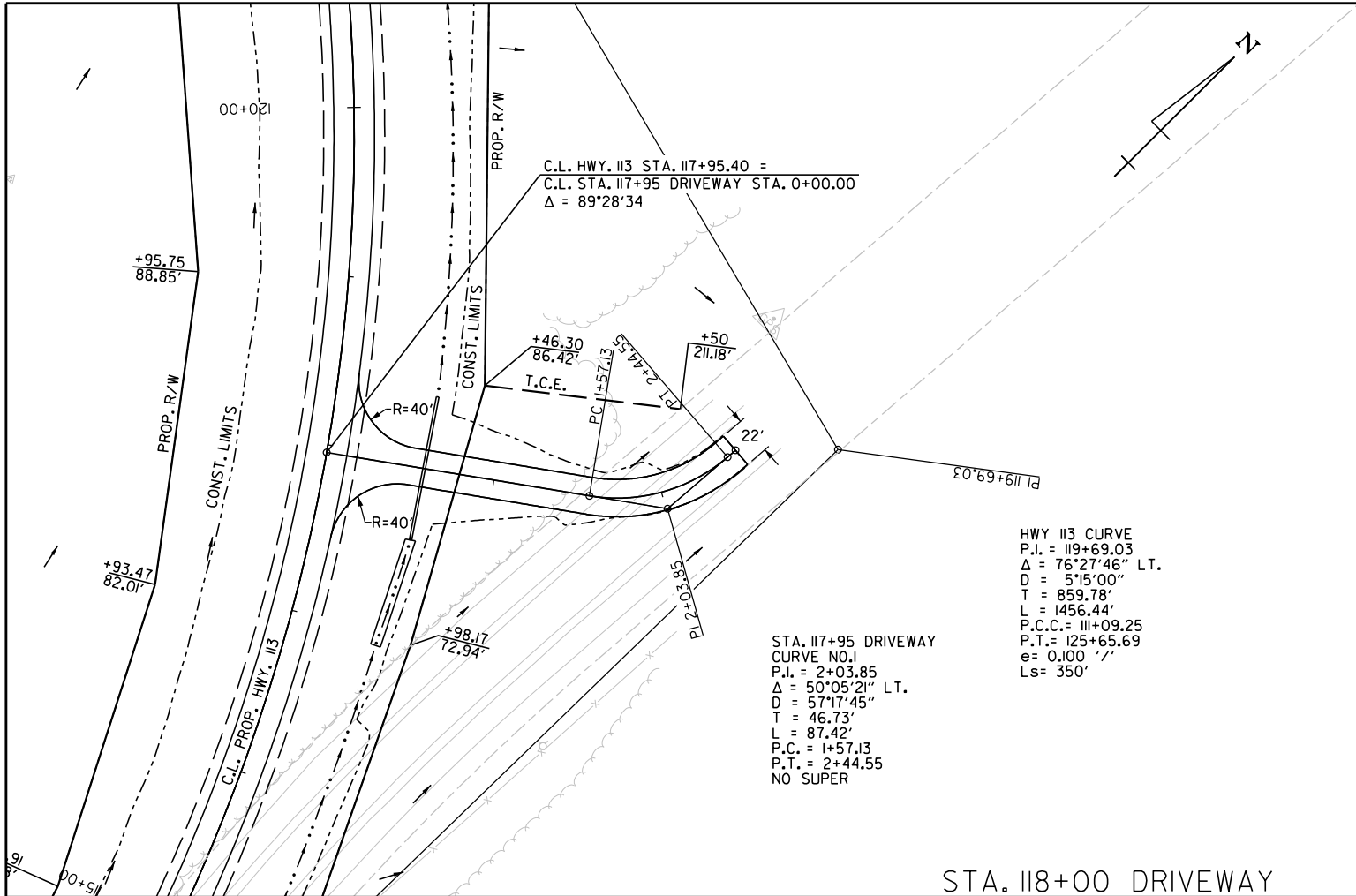


REFER TO SURVEY CONTROL DETAILS
FOR HORIZONTAL AND VERTICAL CONTROLS.



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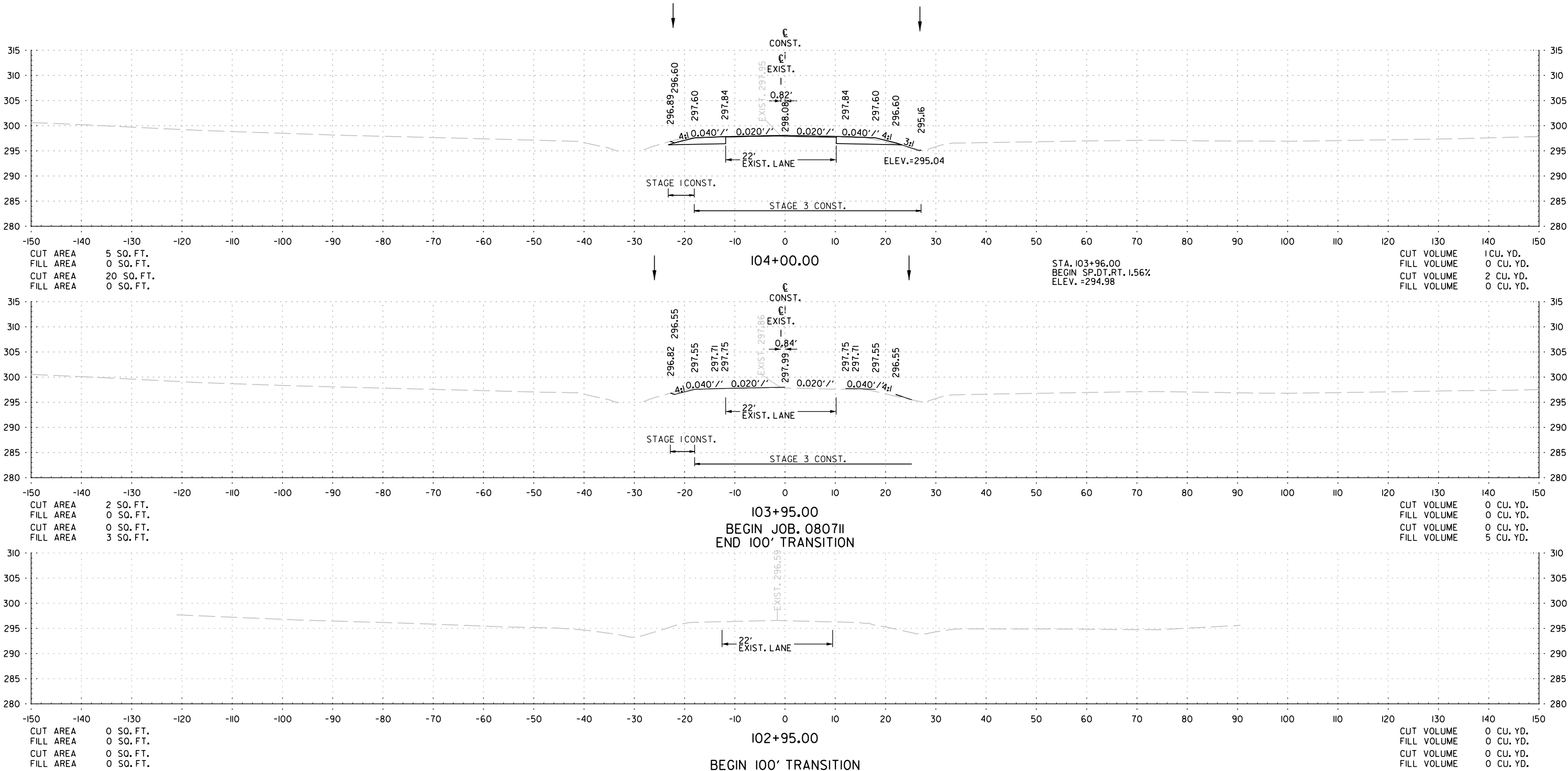
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03-25-24		6	ARK.	080711	70	123
PLAN AND PROFILE SHEETS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	71	123
CROSS SECTIONS						

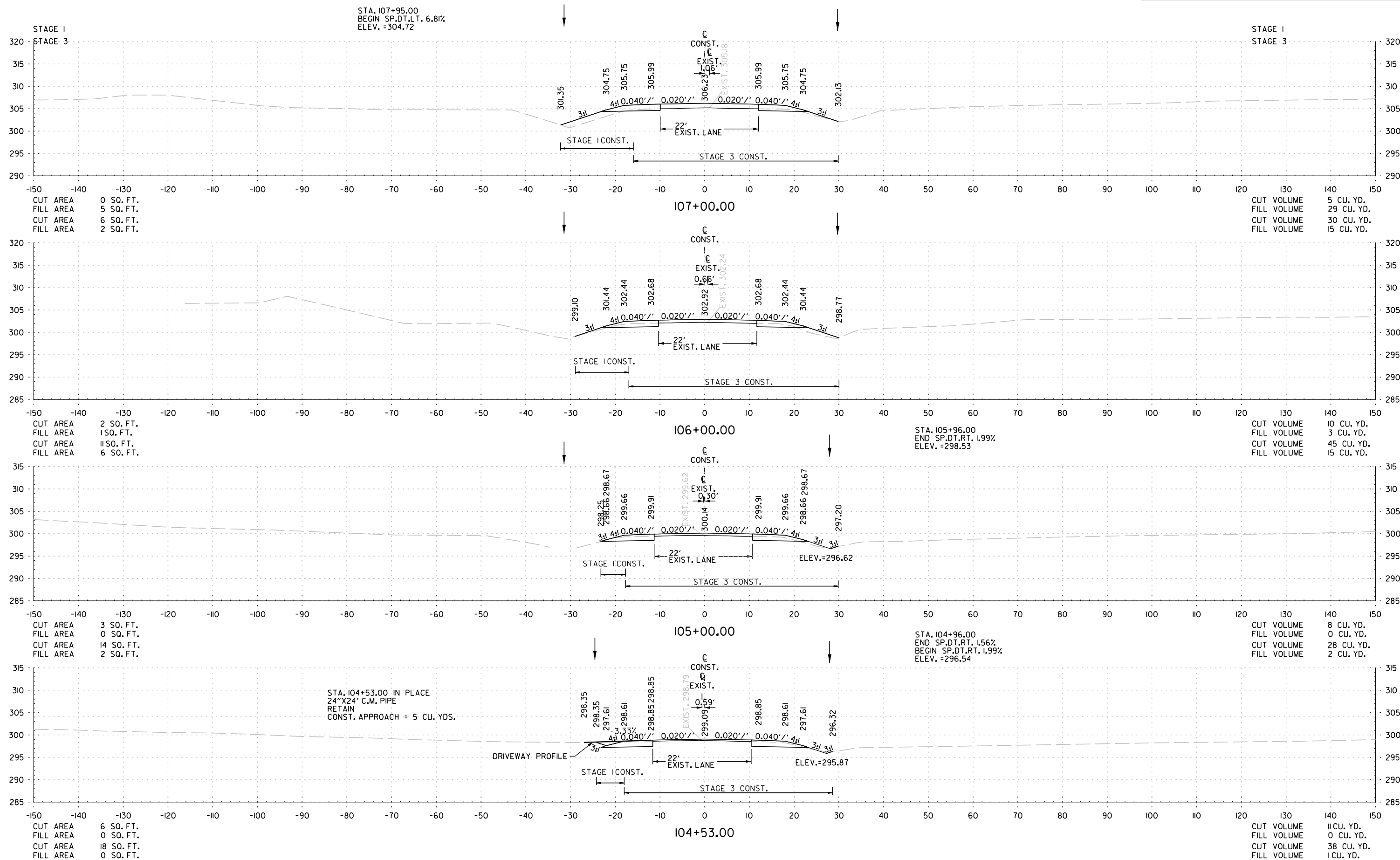
STAGE I
STAGE 3

STAGE I
STAGE 3



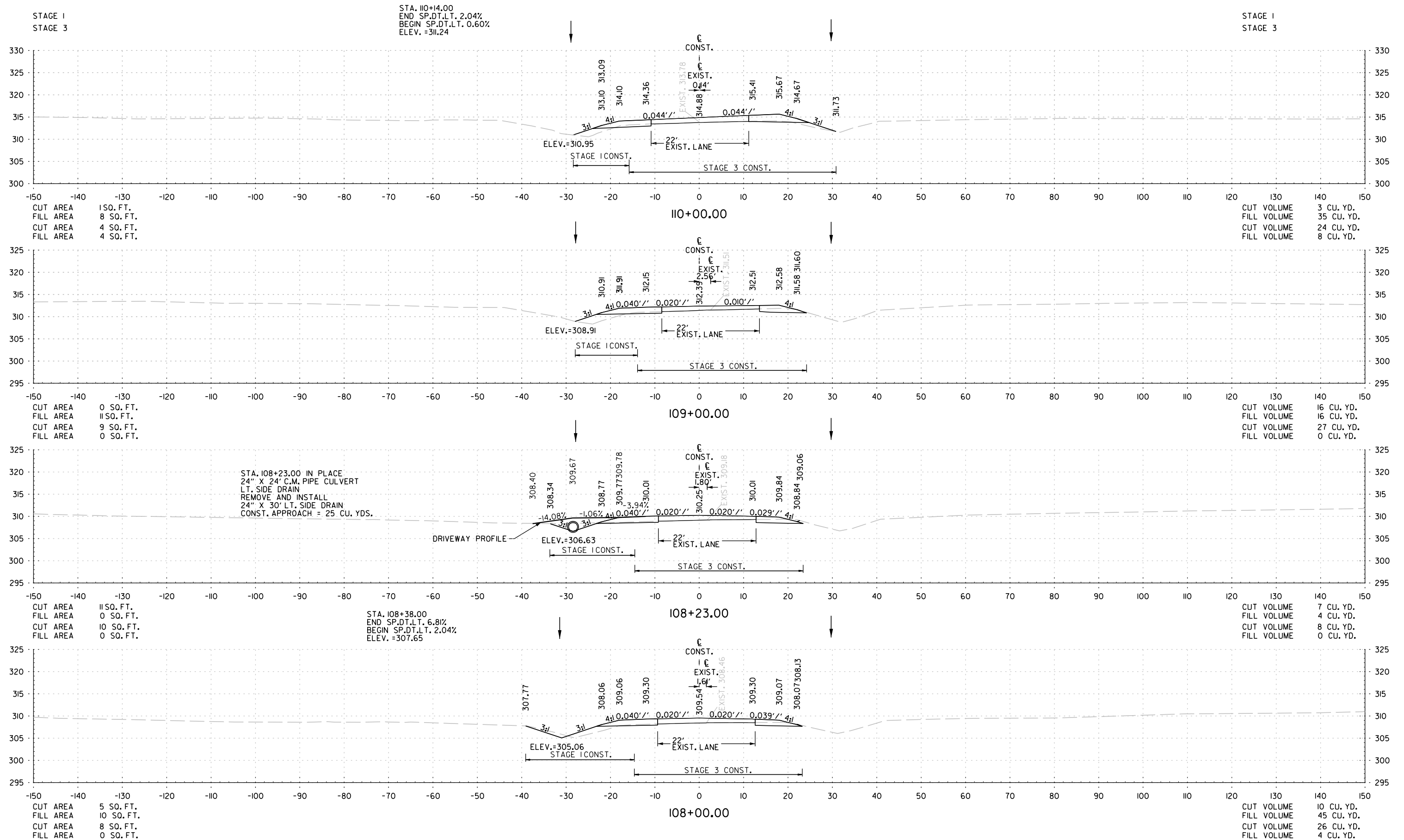
STA. 103+00 TO STA. 104+00

	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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			CROSS SECTIONS				



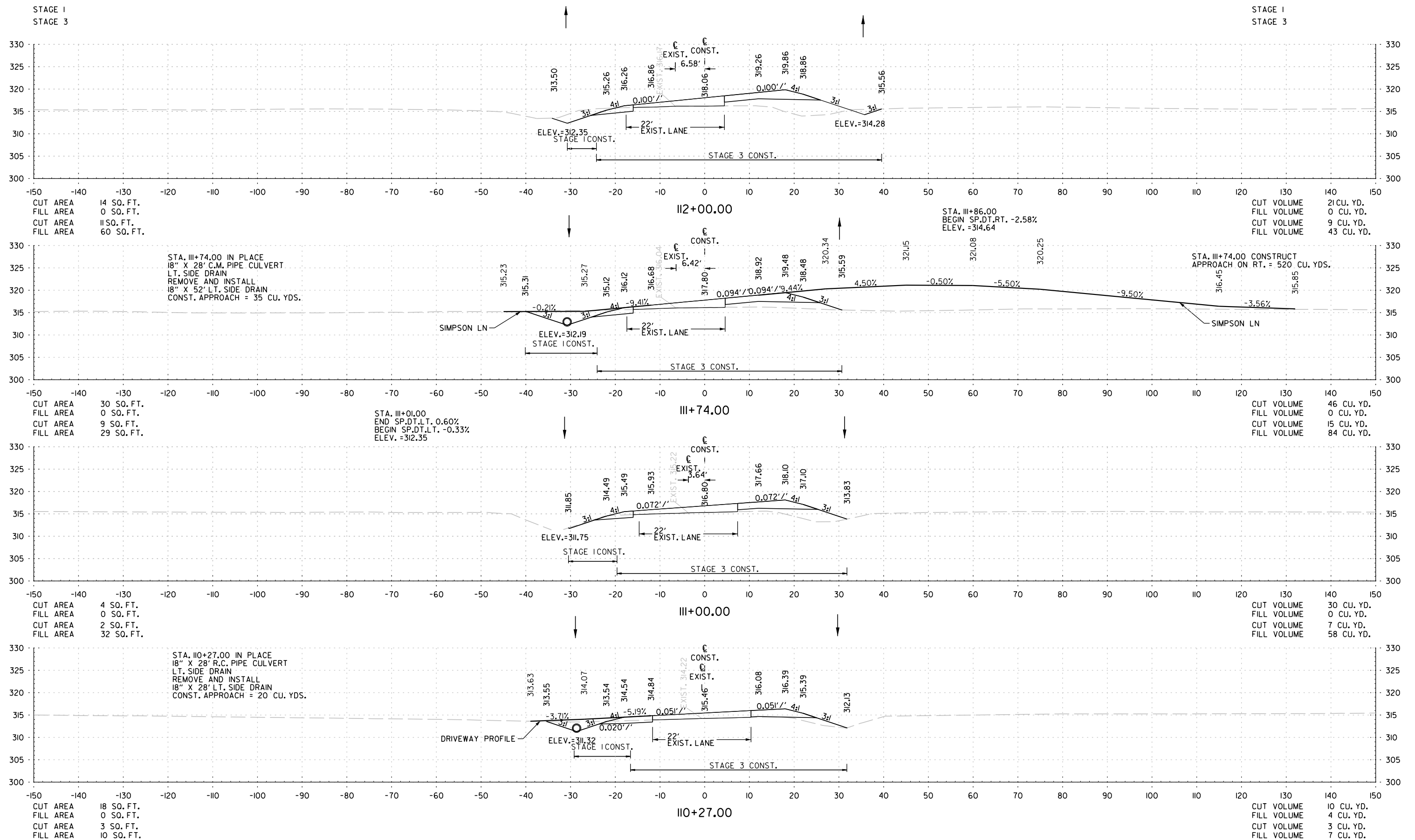
STA. 104+53 TO STA. 107+00

	DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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			CROSS SECTIONS				



STA. 108+00 TO STA. 110+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	74	123
		CROSS SECTIONS				

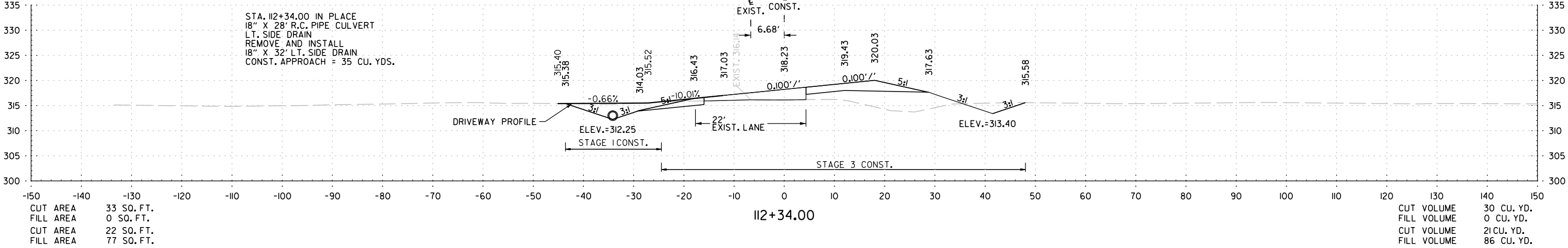
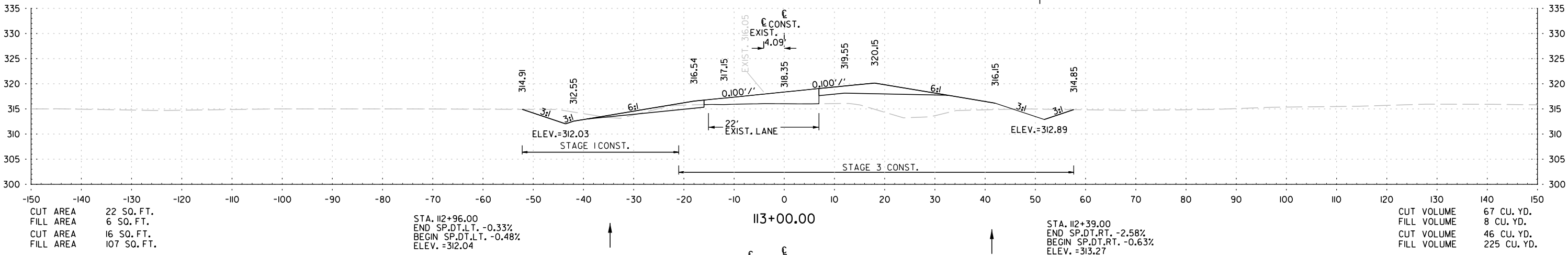
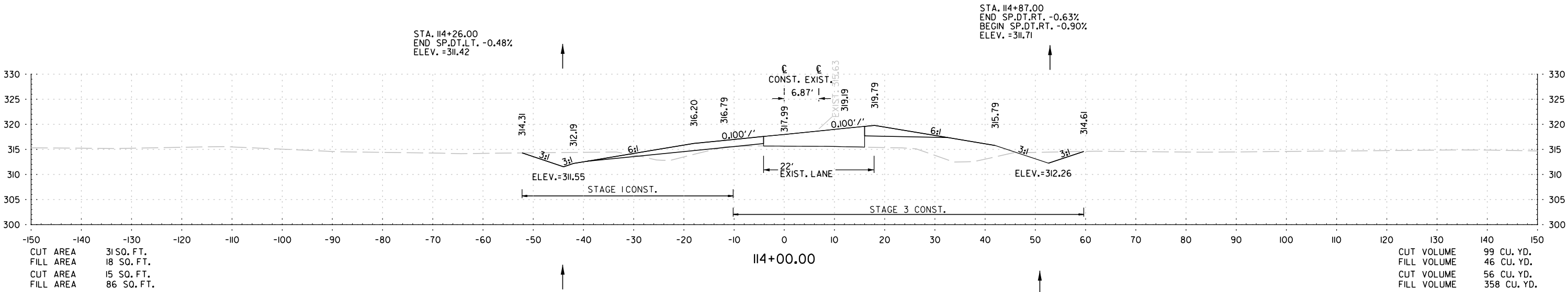


STA. 110+27 TO STA. 112+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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CROSS SECTIONS						

STAGE I
STAGE 3

STAGE I
STAGE 3

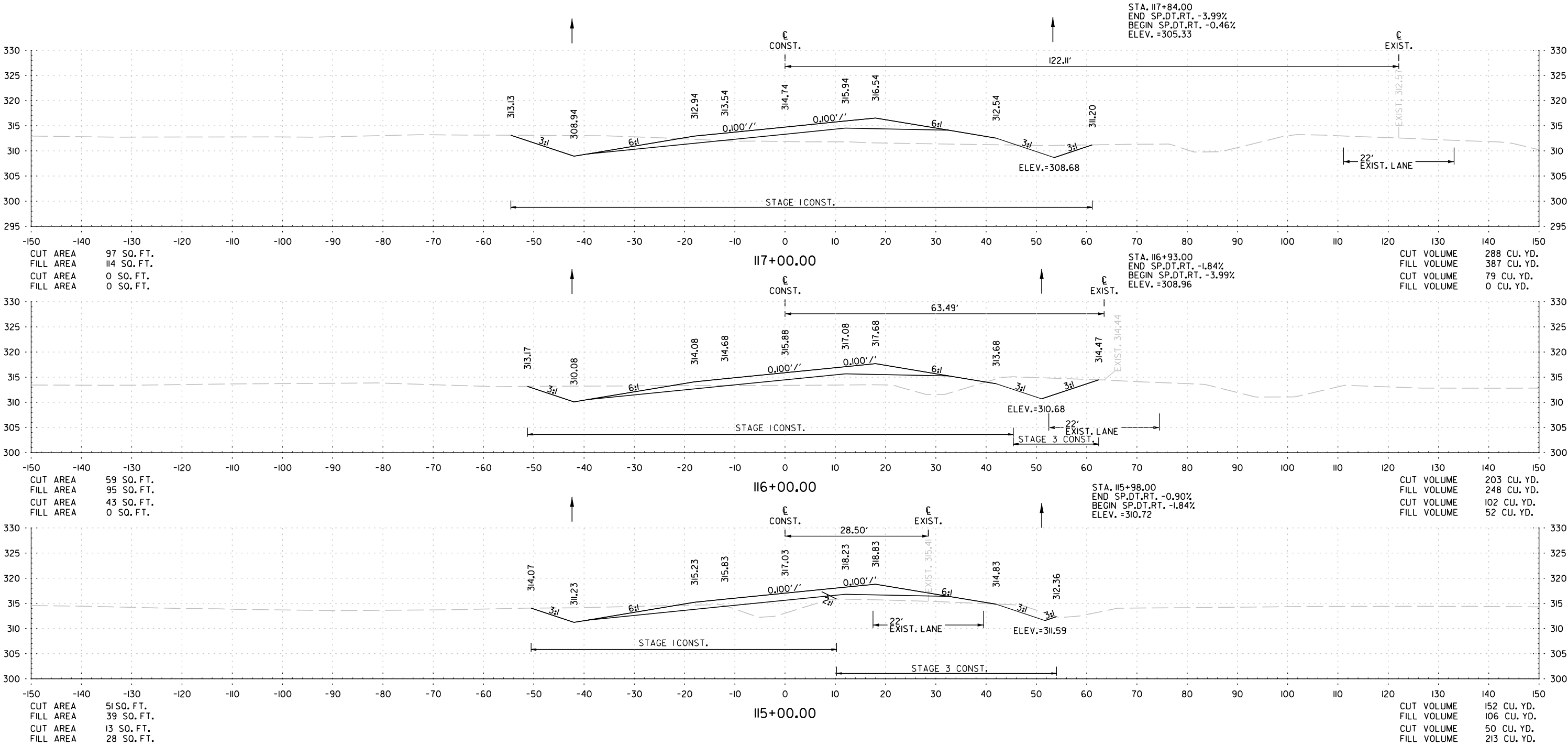


STA. 112+34 TO STA. 114+00

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CROSS SECTIONS						

STAGE 1
STAGE 3

STAGE 1
STAGE 3

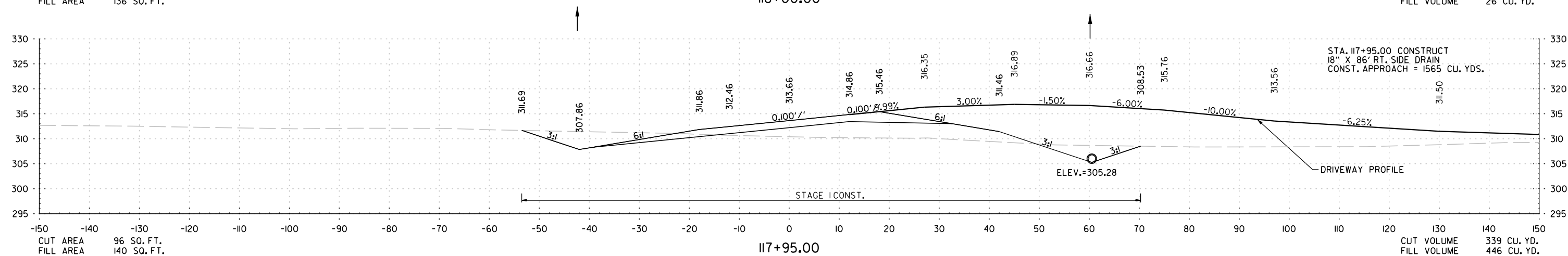
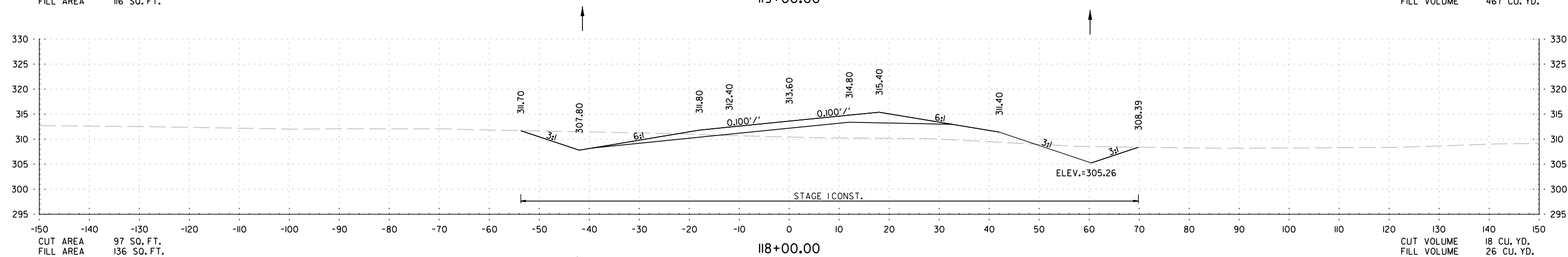
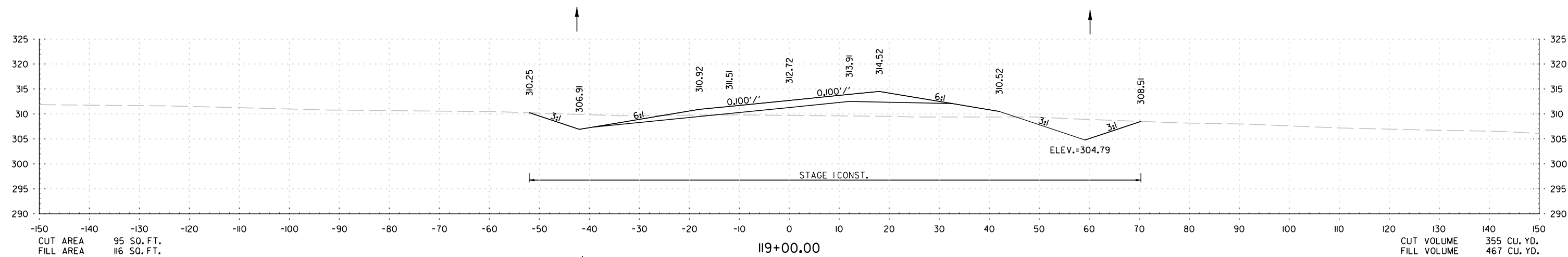


STA. 115+00 TO STA. 117+00

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	77	123
		CROSS SECTIONS				

STAGE I

STAGE I



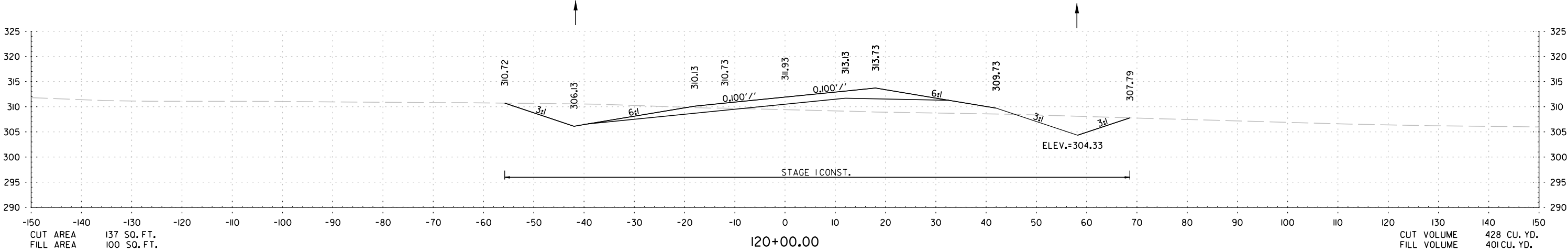
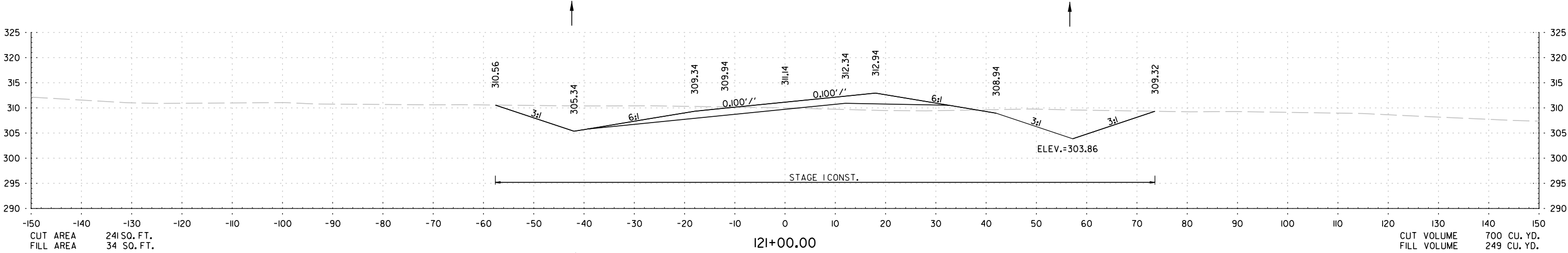
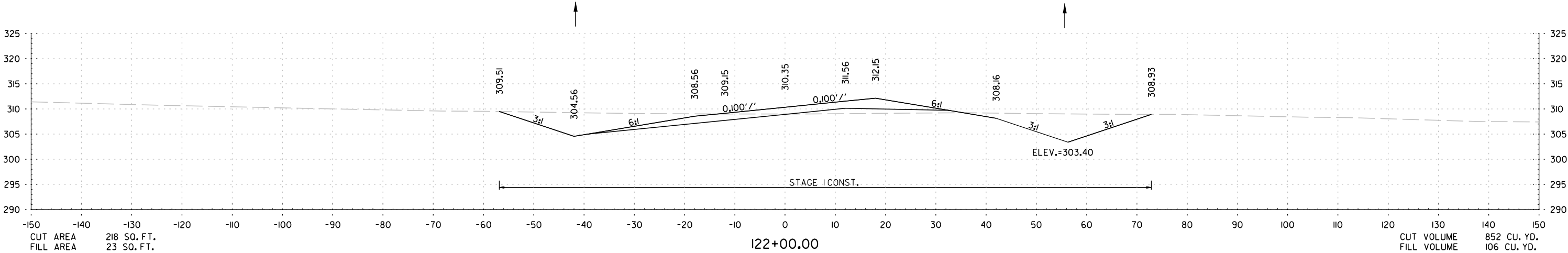
STA. 117+95 TO STA. 119+00

Rajan.Chowdhury3/1/2024 2:53:17 PM
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	78	123
CROSS SECTIONS						

STAGE I

STAGE I

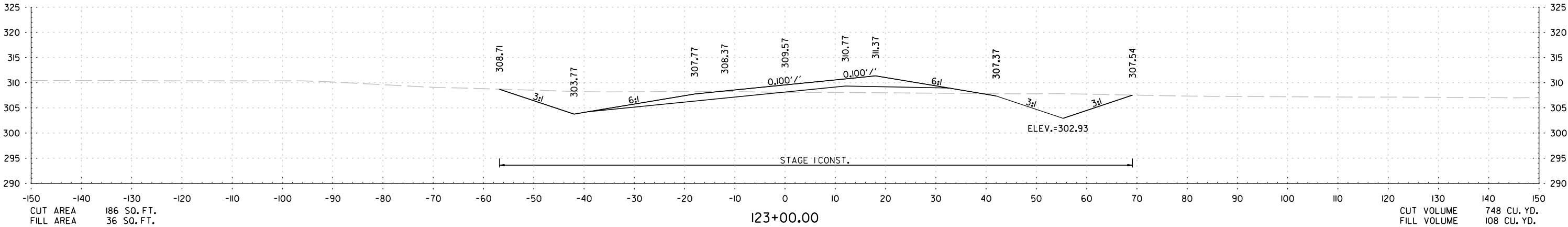
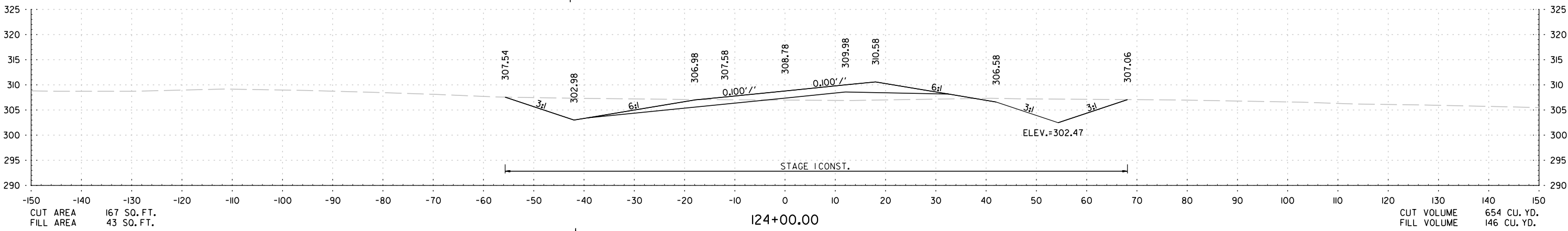
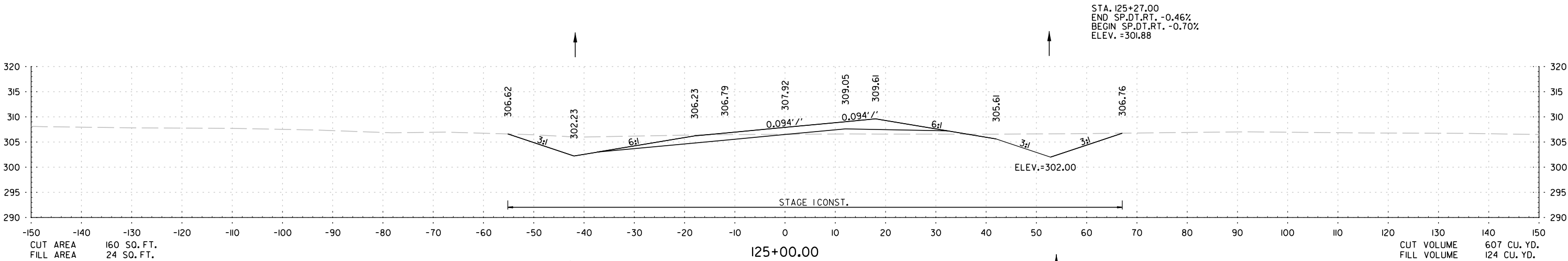


STA. 120+00 TO STA. 122+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	79	123
CROSS SECTIONS						

STAGE I

STAGE I

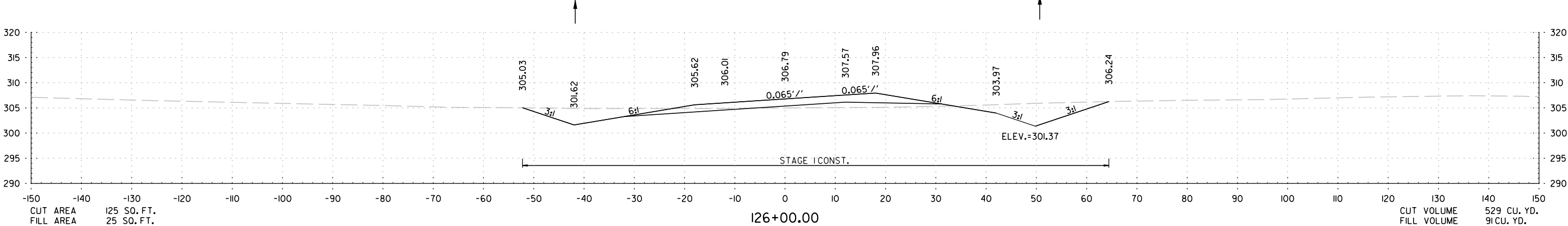
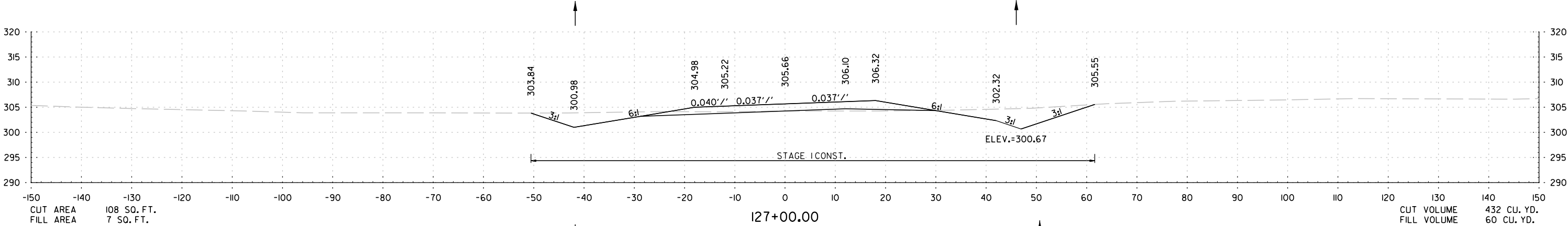
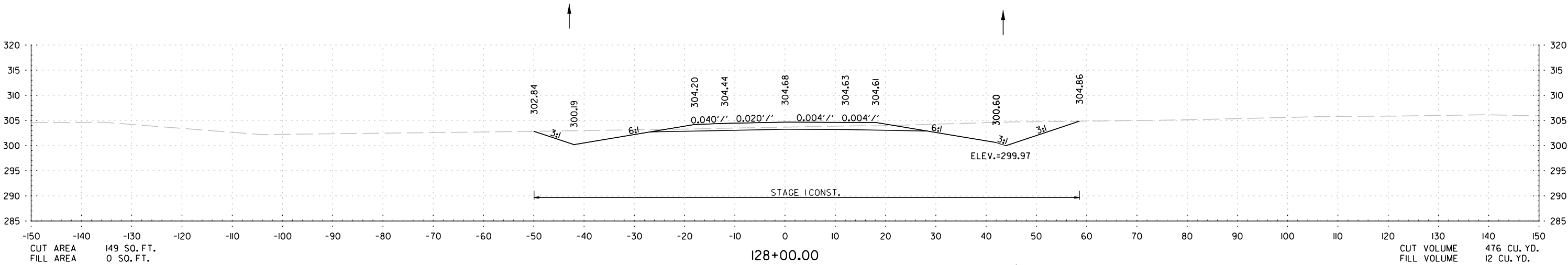


STA. 123+00 TO STA. 125+00

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CROSS SECTIONS						

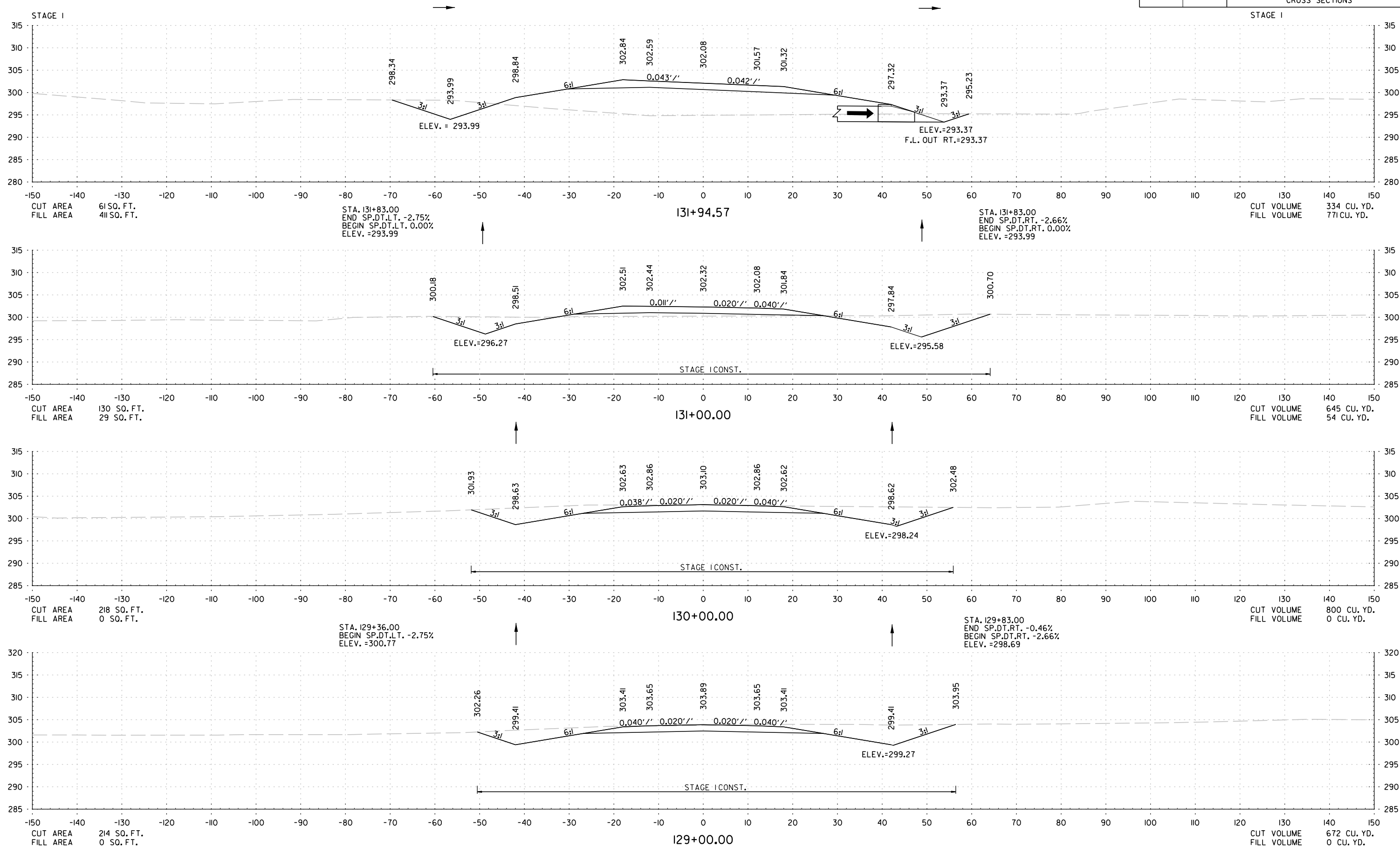
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STAGE I



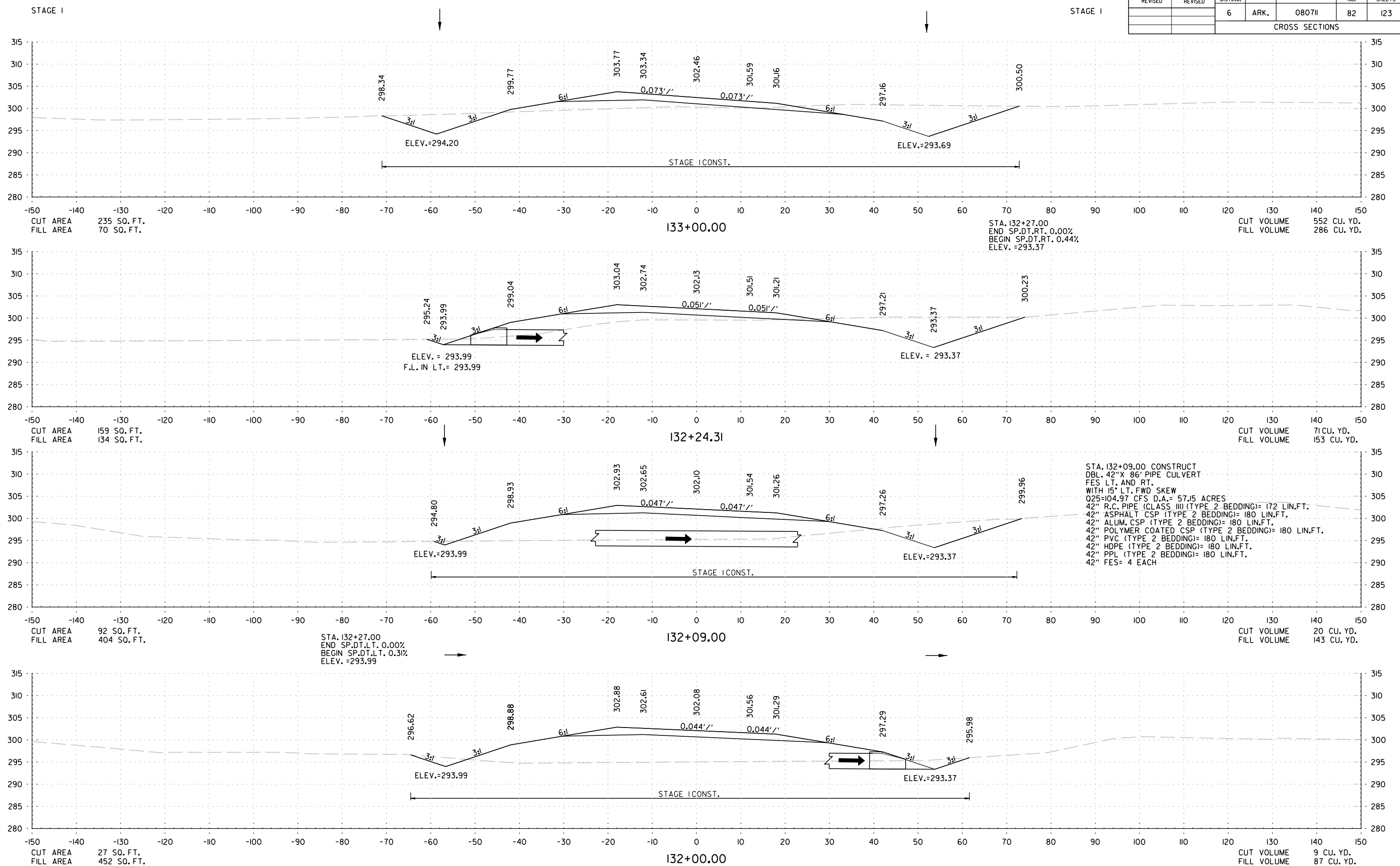
STA. 126+00 TO STA. 128+00

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	81	123
		CROSS SECTIONS				



STA. 129+00 TO STA. 131+00

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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		CROSS SECTIONS				



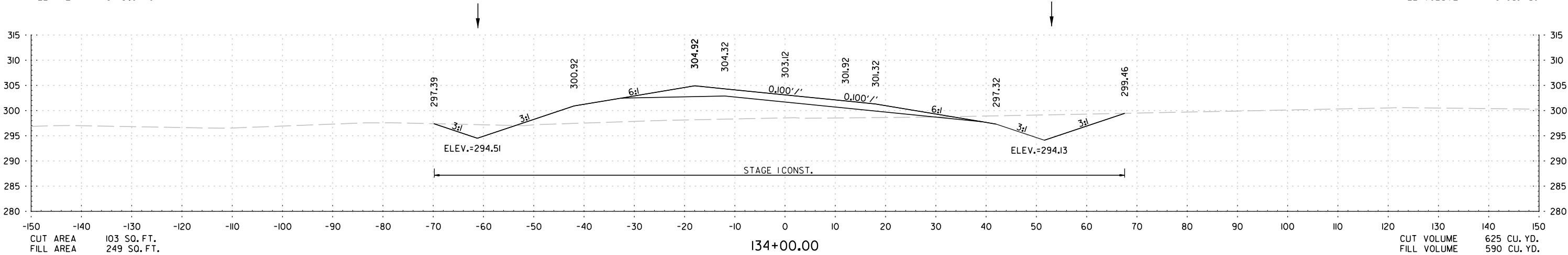
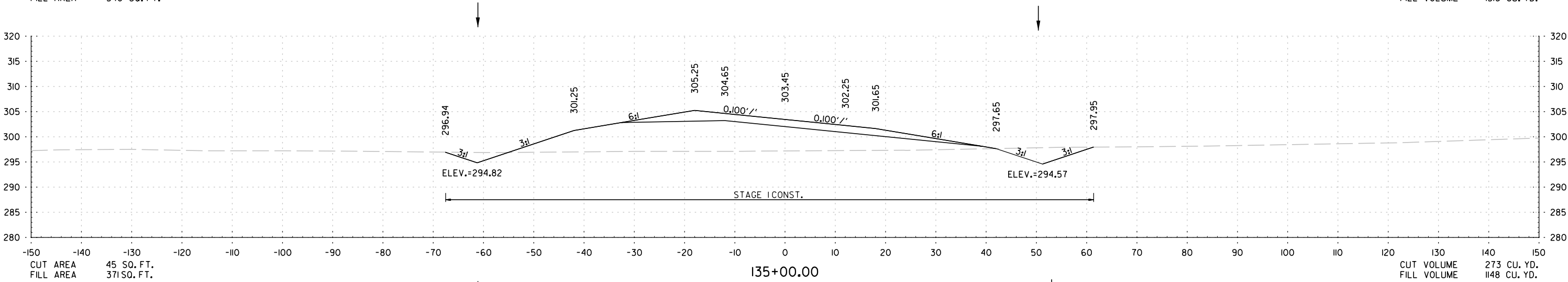
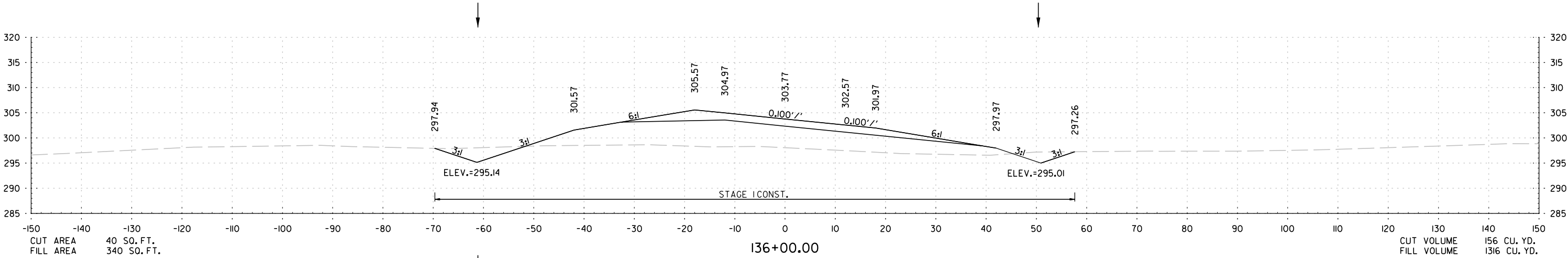
STA. 132+00 TO STA. 133+00

Rajyan,Chowdhury,3/1/2024 2:53:21 PM
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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CROSS SECTIONS						

STAGE I

STAGE I

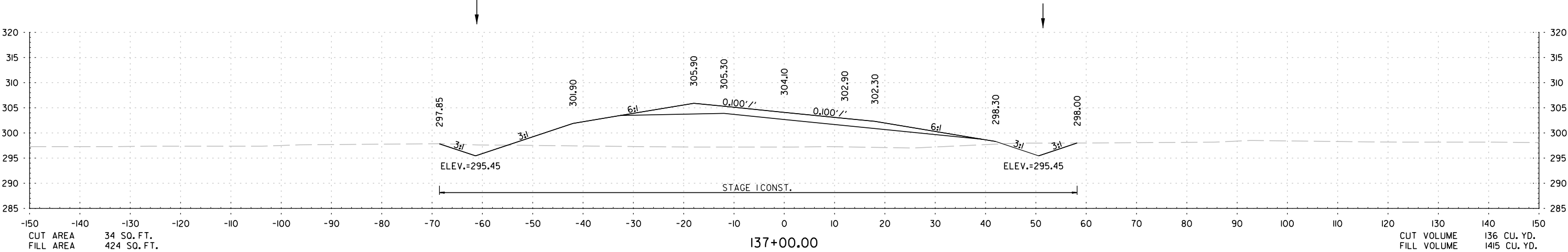
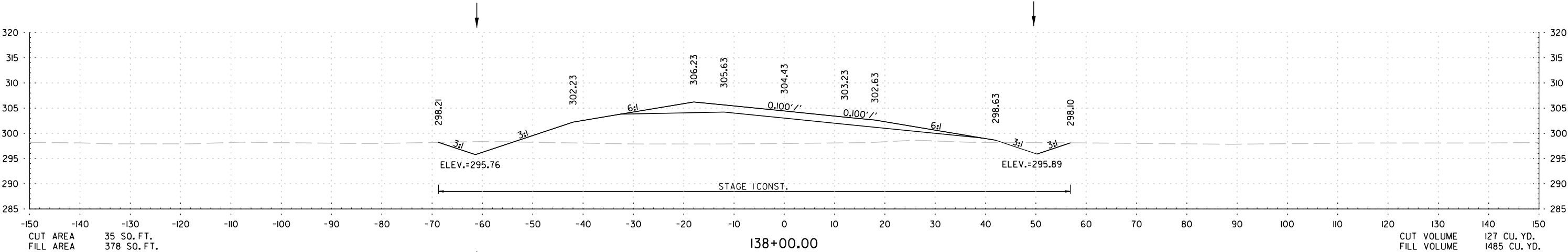
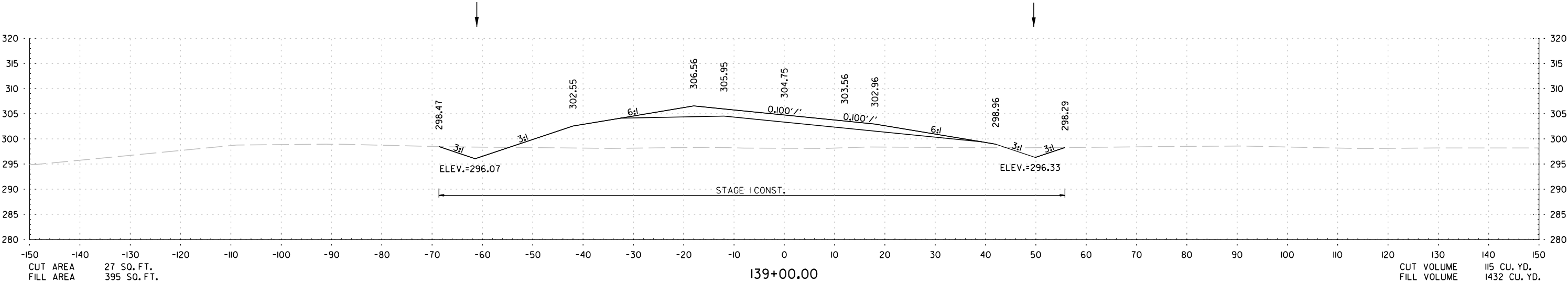


STA. 134+00 TO STA. 136+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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CROSS SECTIONS						

STAGE I

STAGE I

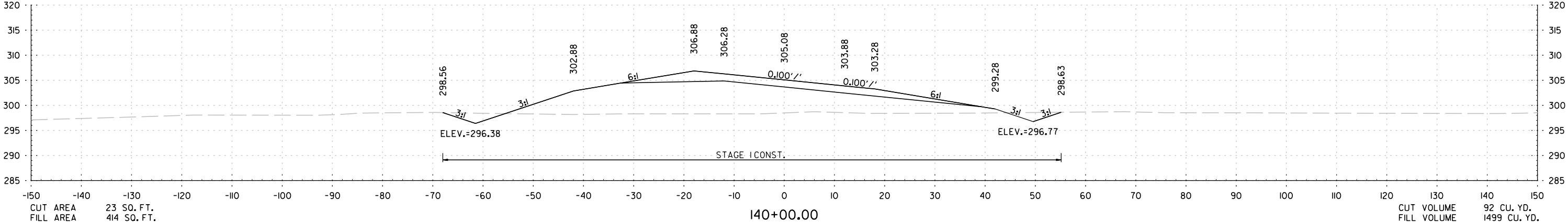
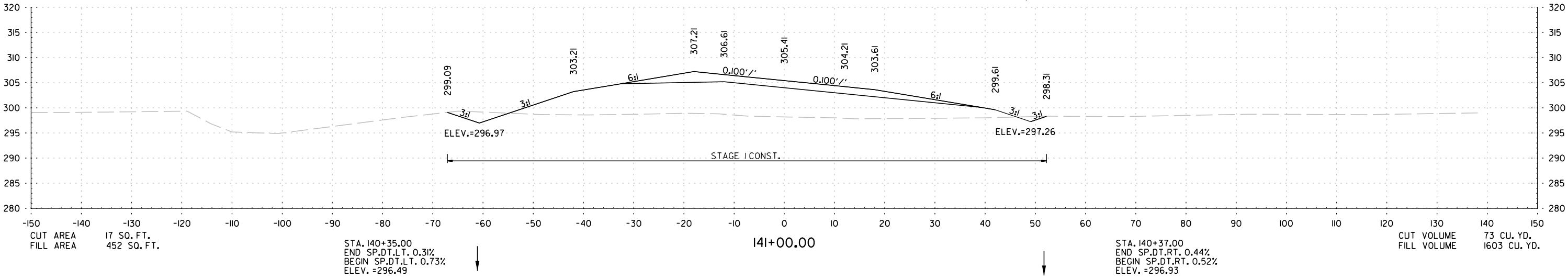
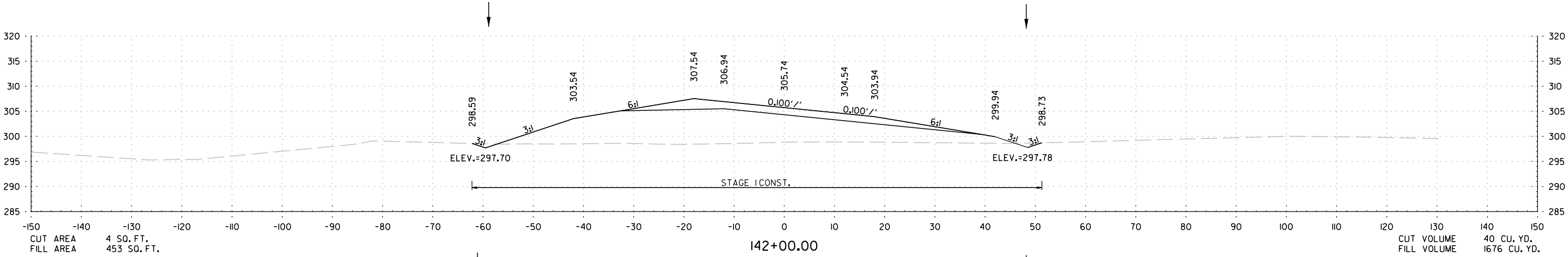


STA. 137+00 TO STA. 139+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	85	123
CROSS SECTIONS						

STAGE I

STAGE I

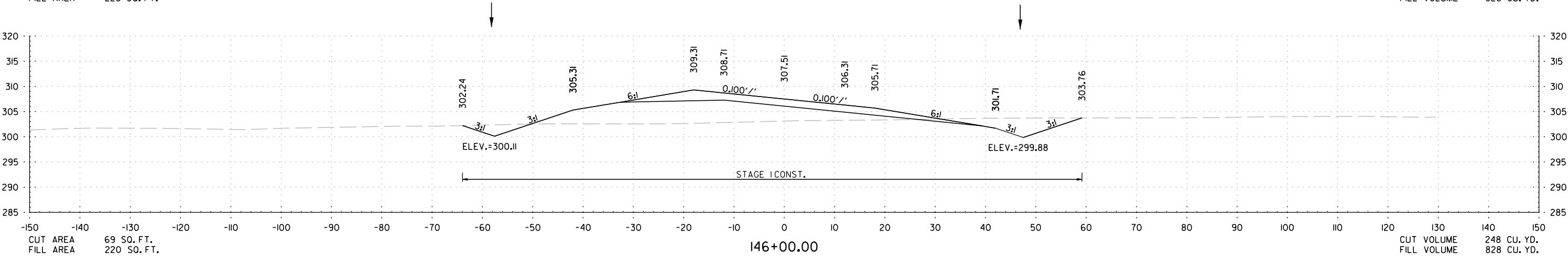
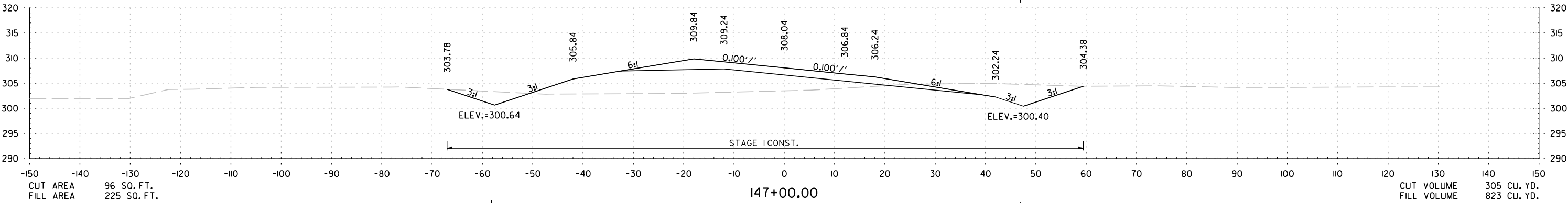
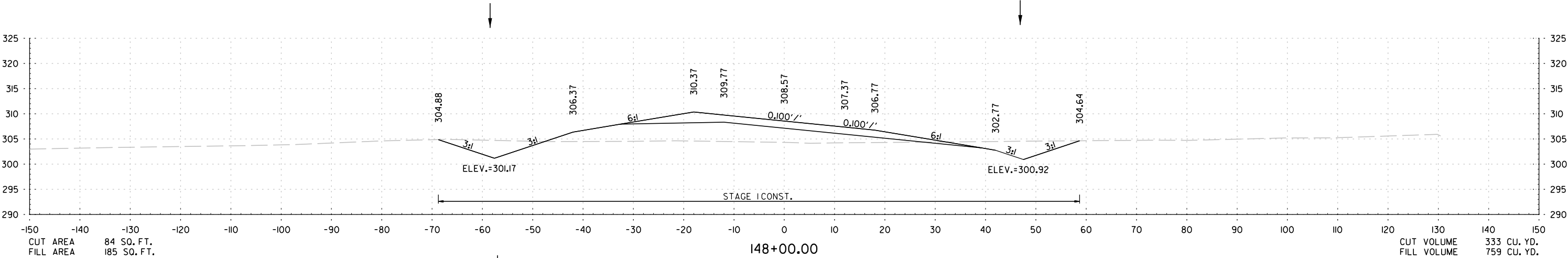


STA. 140+00 TO STA. 142+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	87	123
CROSS SECTIONS						

STAGE I

STAGE I

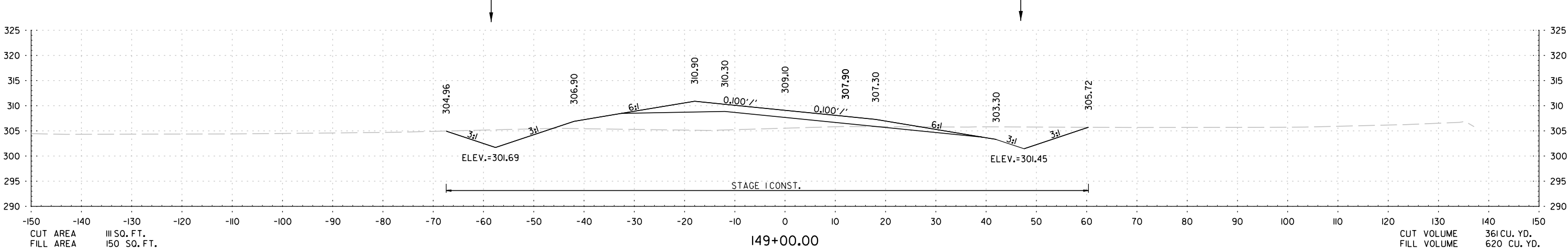
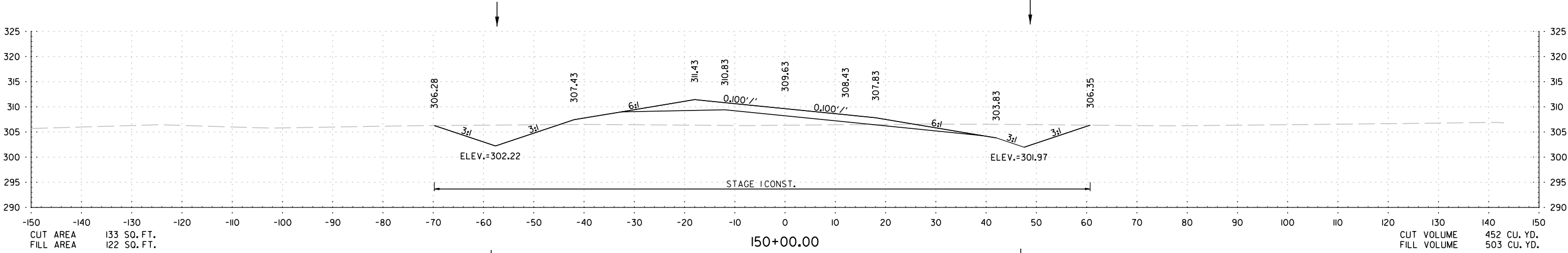
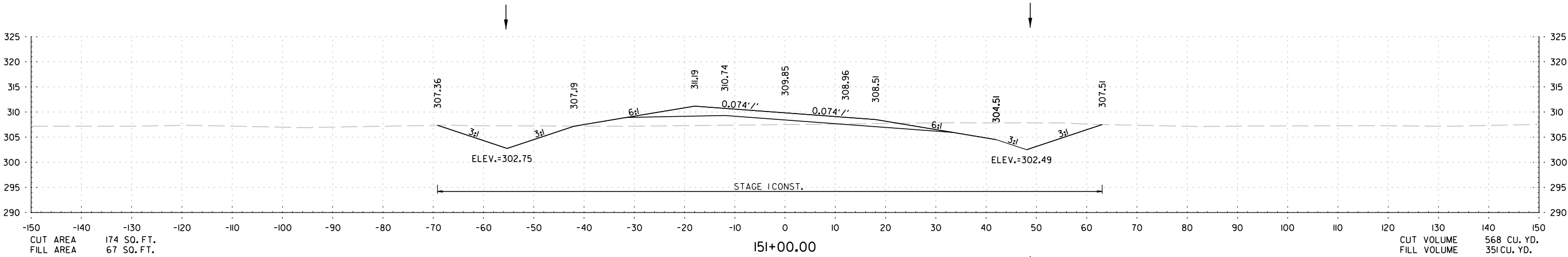


STA. 146+00 TO STA. 148+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	88	123
CROSS SECTIONS						

STAGE I

STAGE I

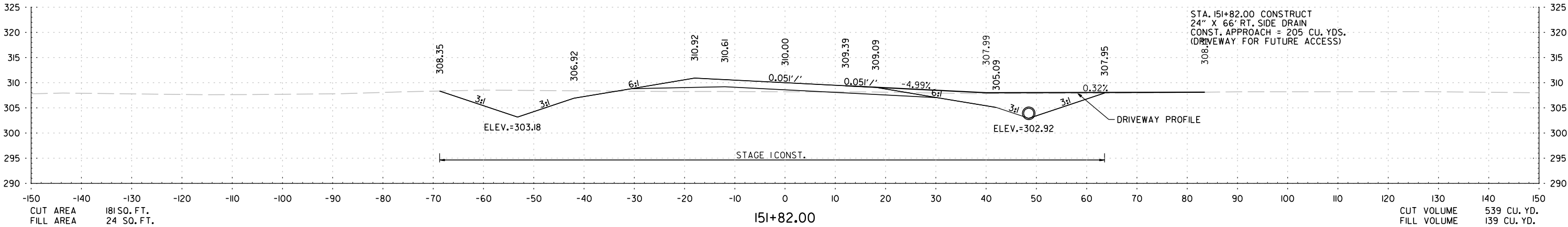
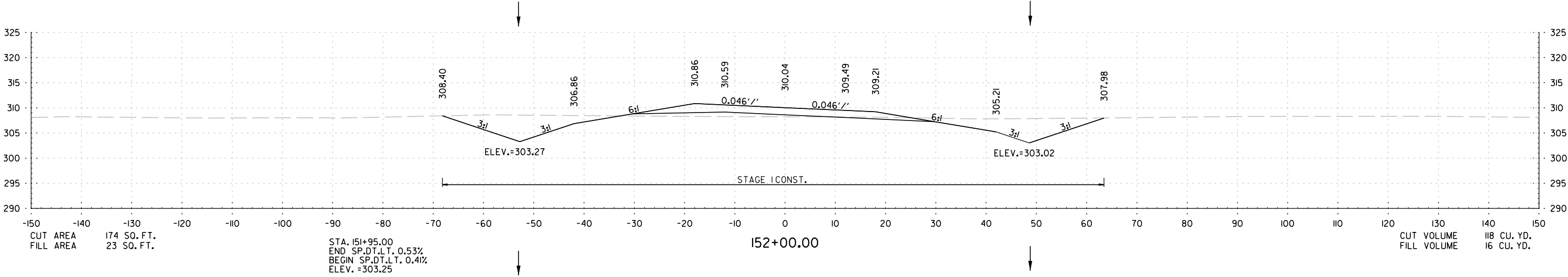
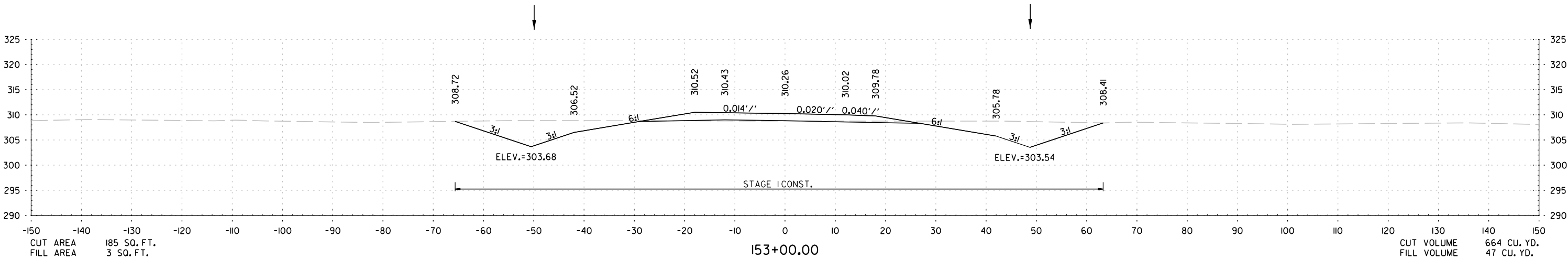


STA. 149+00 TO STA. 151+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	89	123
CROSS SECTIONS						

STAGE I

STAGE I



STA. 151+82.00 CONSTRUCT
24" X 66' RT. SIDE DRAIN
CONST. APPROACH = 205 CU. YDS.
(DRIVEWAY FOR FUTURE ACCESS)

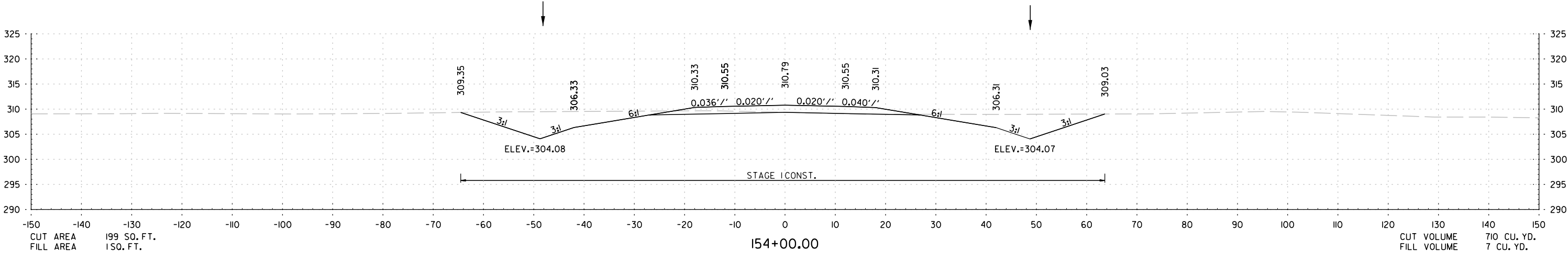
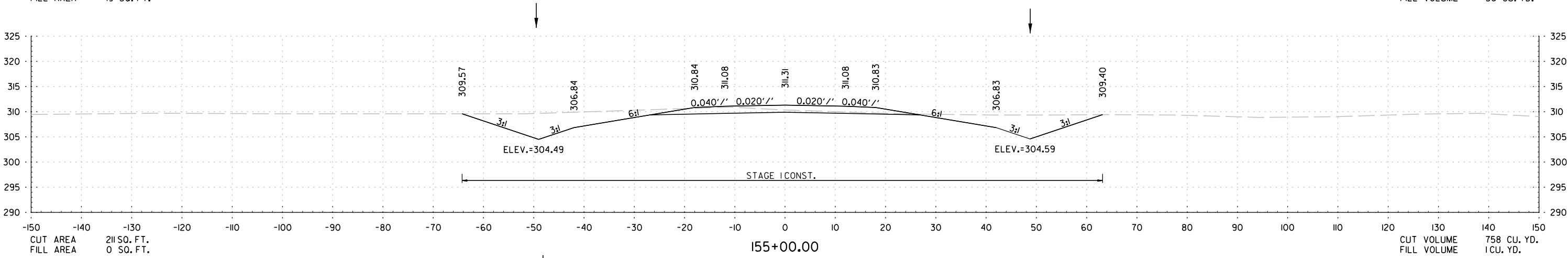
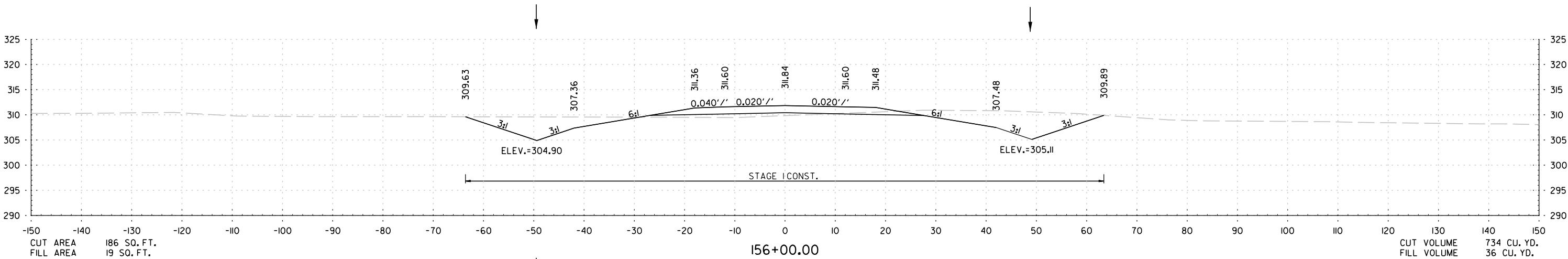
DRIVEWAY PROFILE

STA. 151+82 TO STA. 153+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	90	123
CROSS SECTIONS						

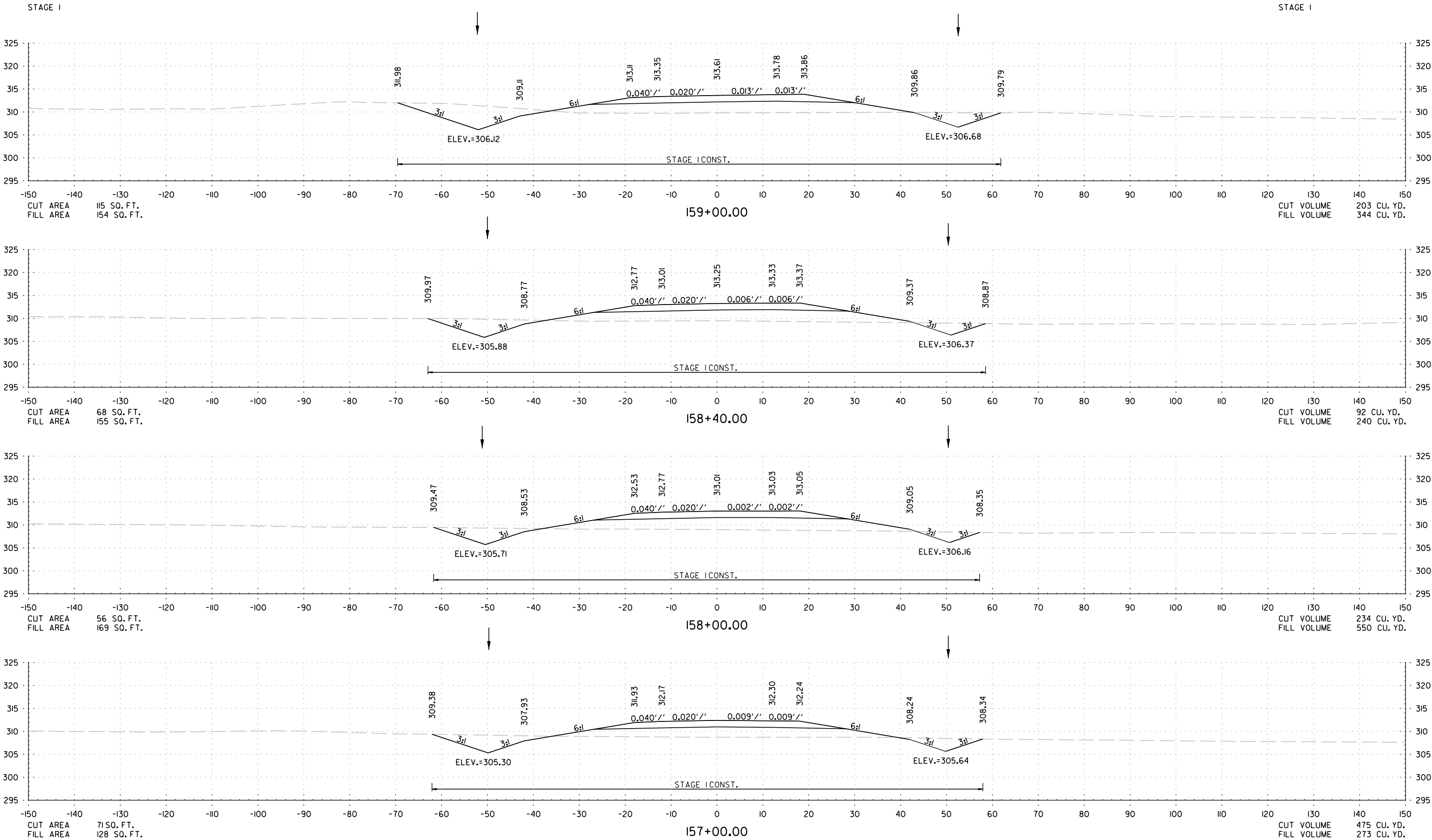
STAGE I

STAGE I



STA. 154+00 TO STA. 156+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	91	123
CROSS SECTIONS						

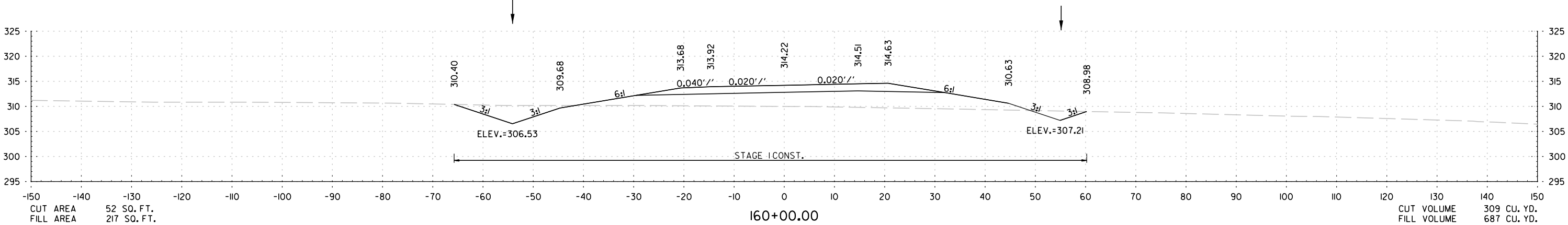
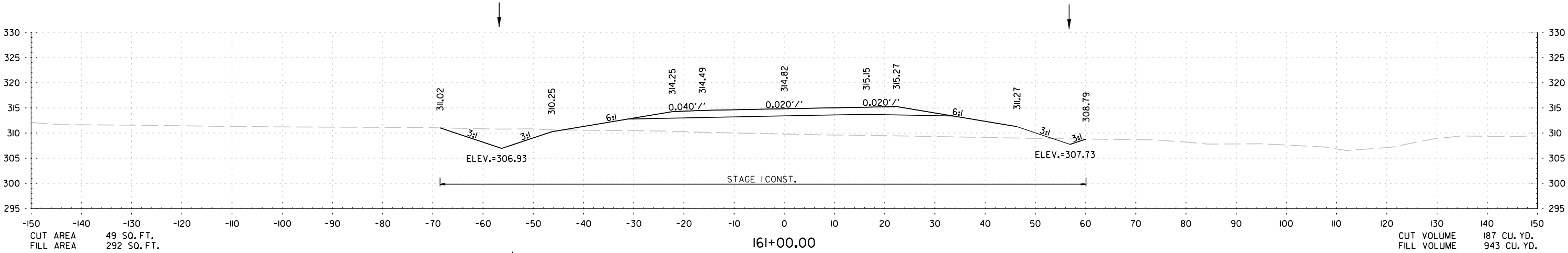
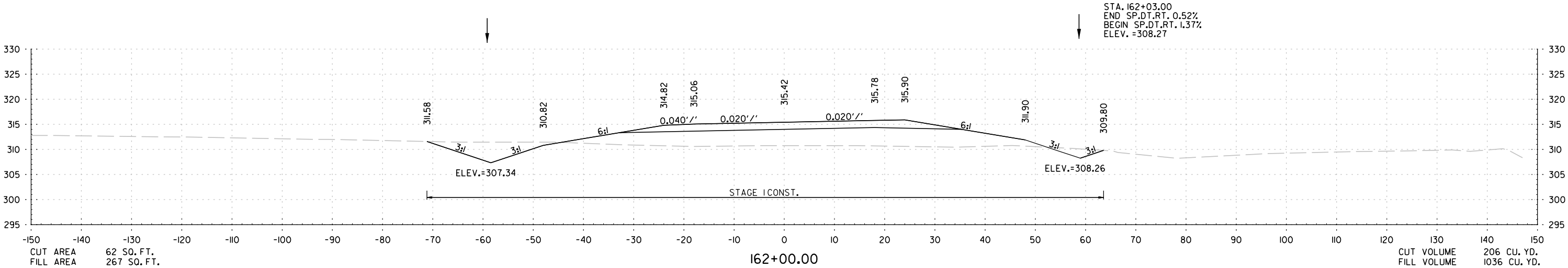


STA. 157+00 TO STA. 159+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	92	123
CROSS SECTIONS						

STAGE I

STAGE I

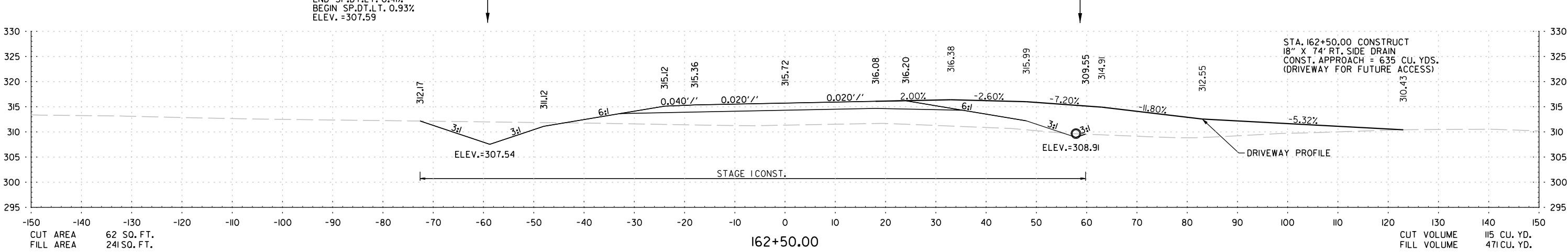
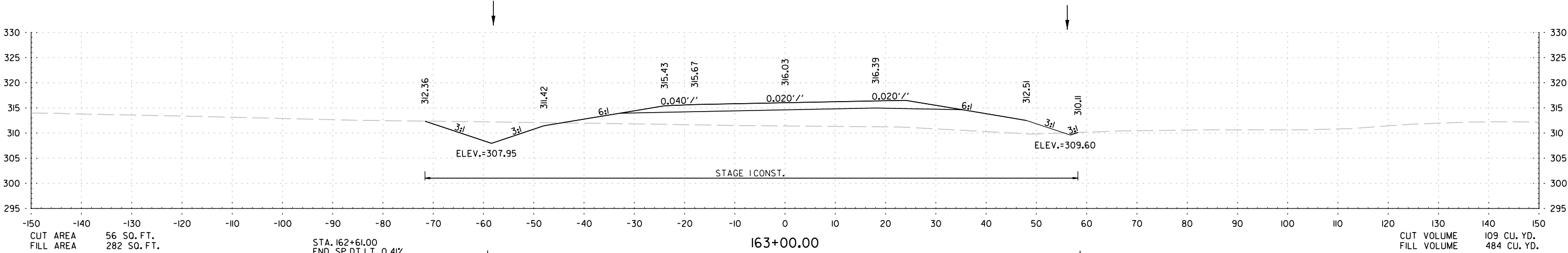
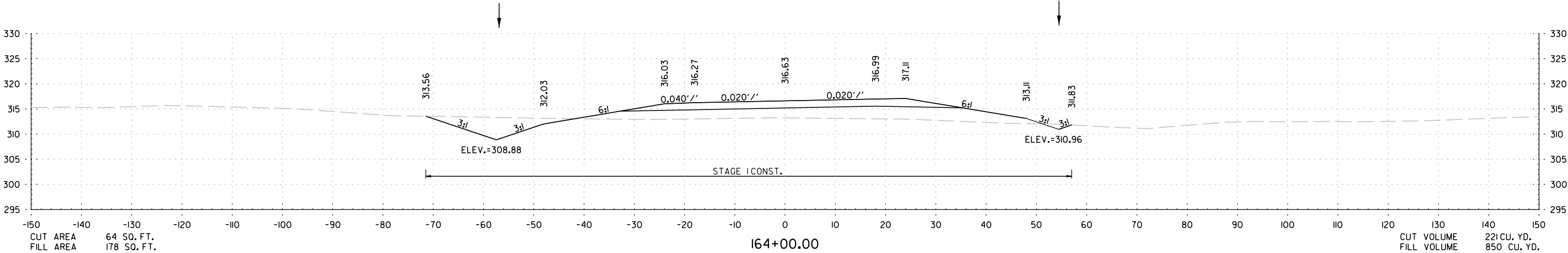


STA. 160+00 TO STA. 162+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	93	123
CROSS SECTIONS						

STAGE I

STAGE I



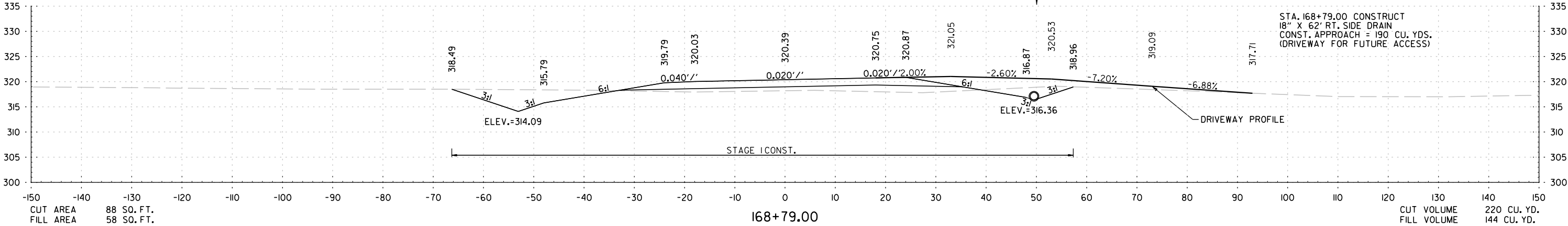
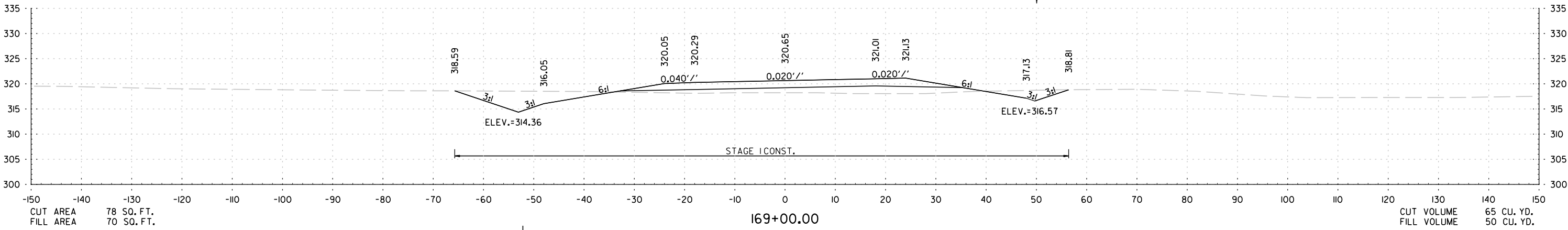
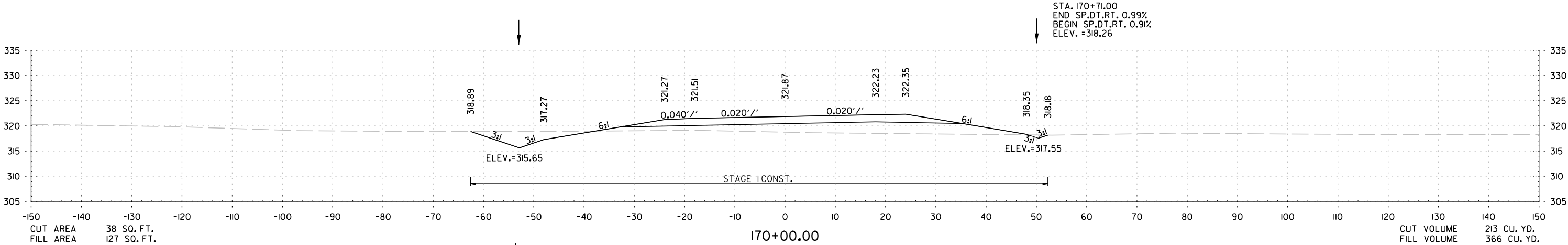
STA. 162+50 TO STA. 164+00

Reliving.Crowdthru-3/1/2024 2:53:47 PM
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WORKSPACE: AR001
REVISED DATE: **REVIDATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	95	123
CROSS SECTIONS						

STAGE I

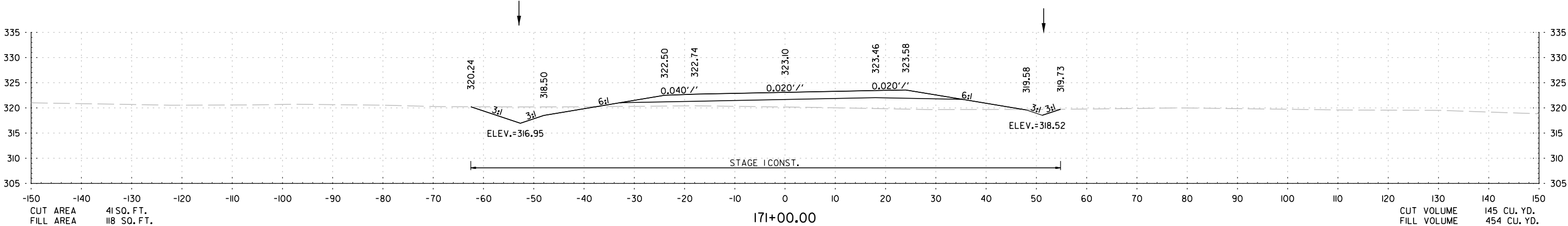
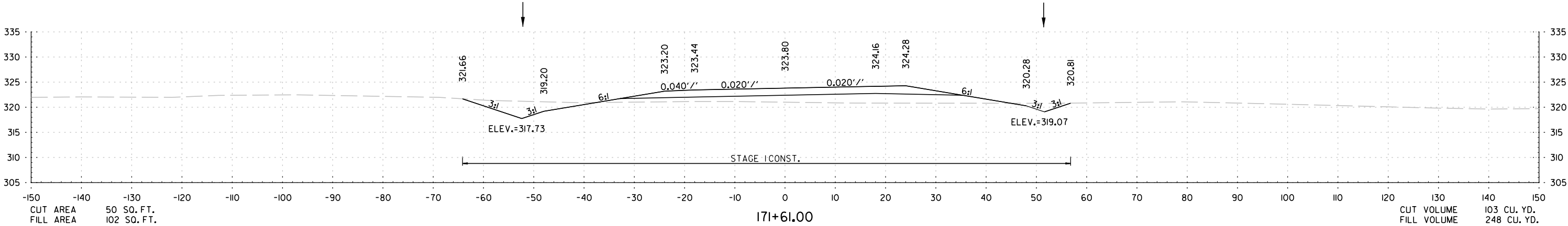
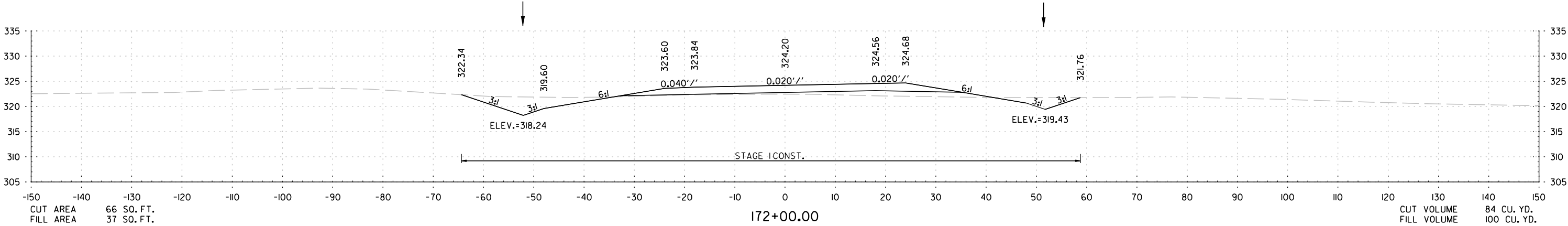
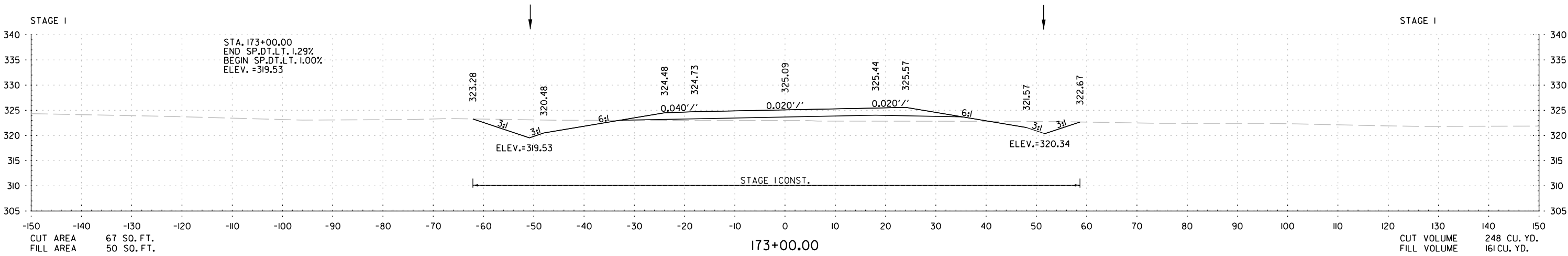
STAGE I



STA. 168+79 TO STA. 170+00

Pathan Choudhury 3/11/2024 2:53:48 PM
WORKSPACE: ARDOT
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REVISED DATE: **REDATE**

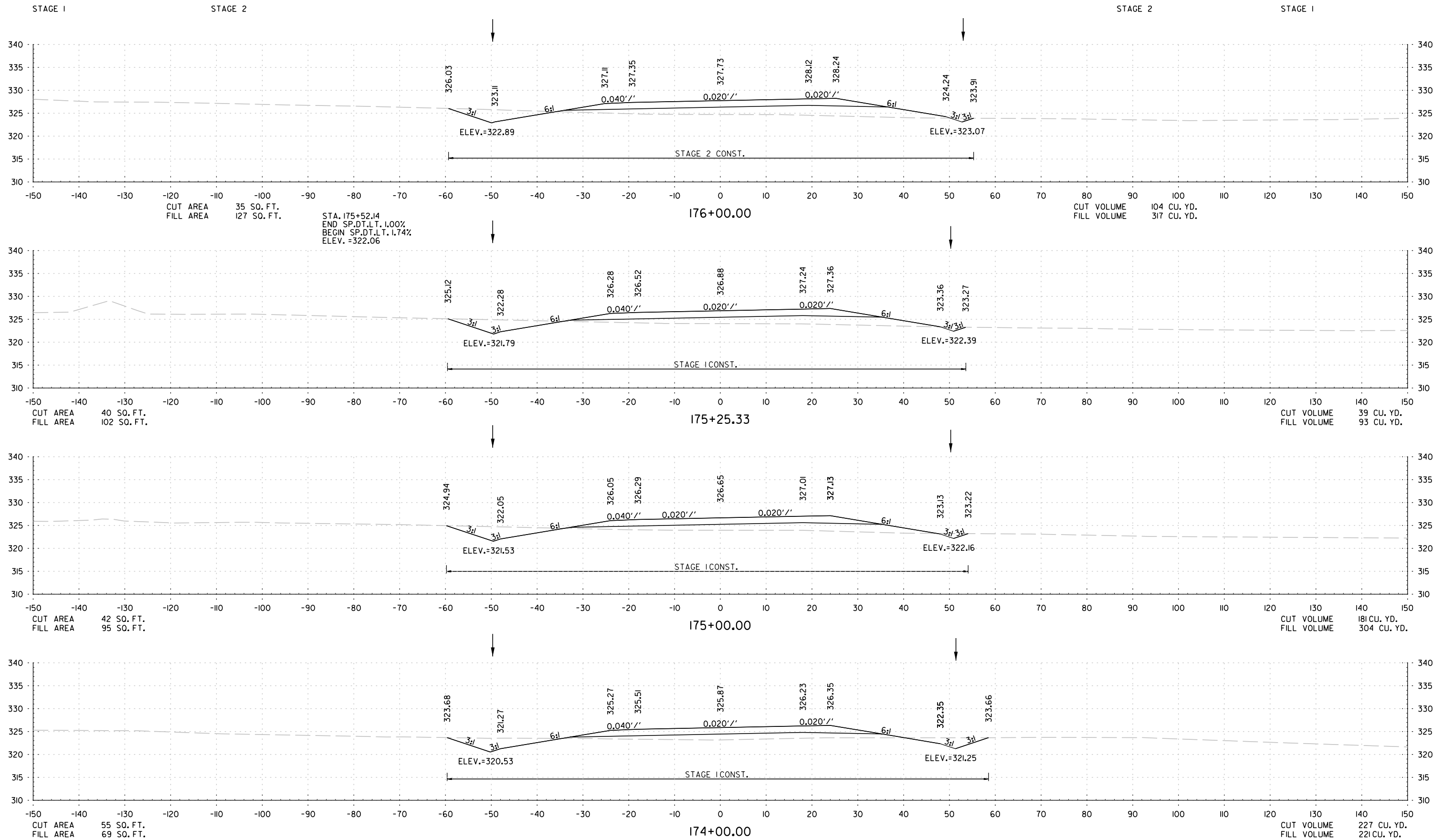
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	96	123
CROSS SECTIONS						



STA. 171+00 TO STA. 173+00

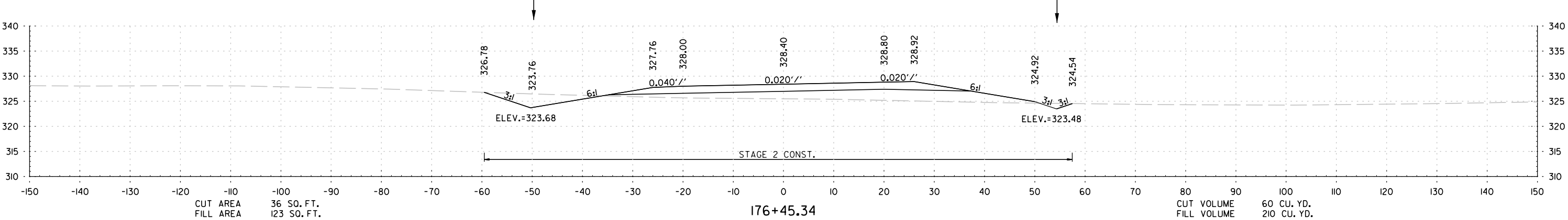
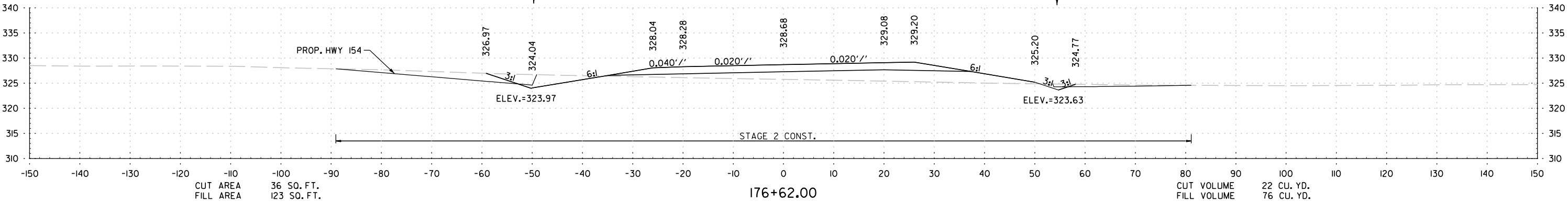
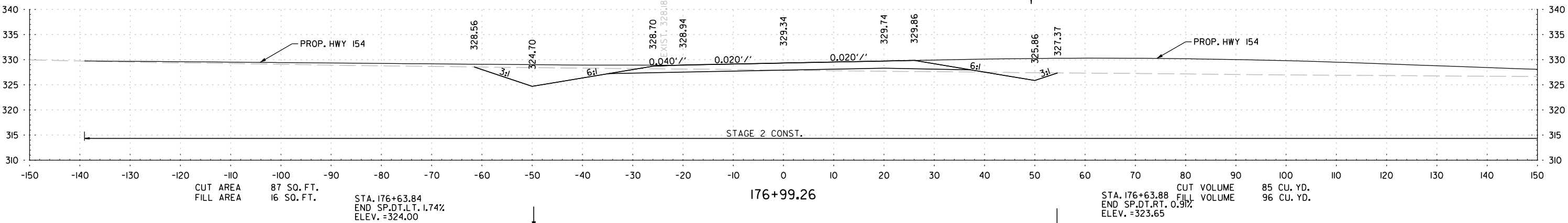
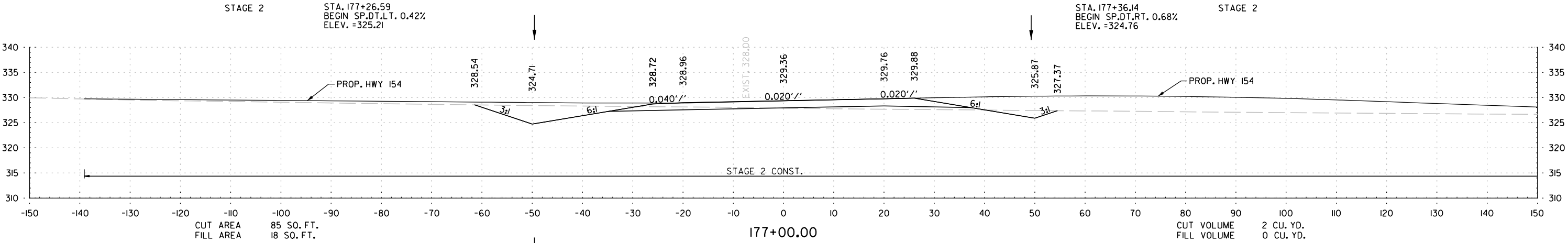
Revision: 3/11/2024 2:53:48 PM
WORKSPACE: ARDOT
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REVISED DATE: \$REVDATE\$

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	97	123
CROSS SECTIONS						



STA. 174+00 TO STA. 176+00

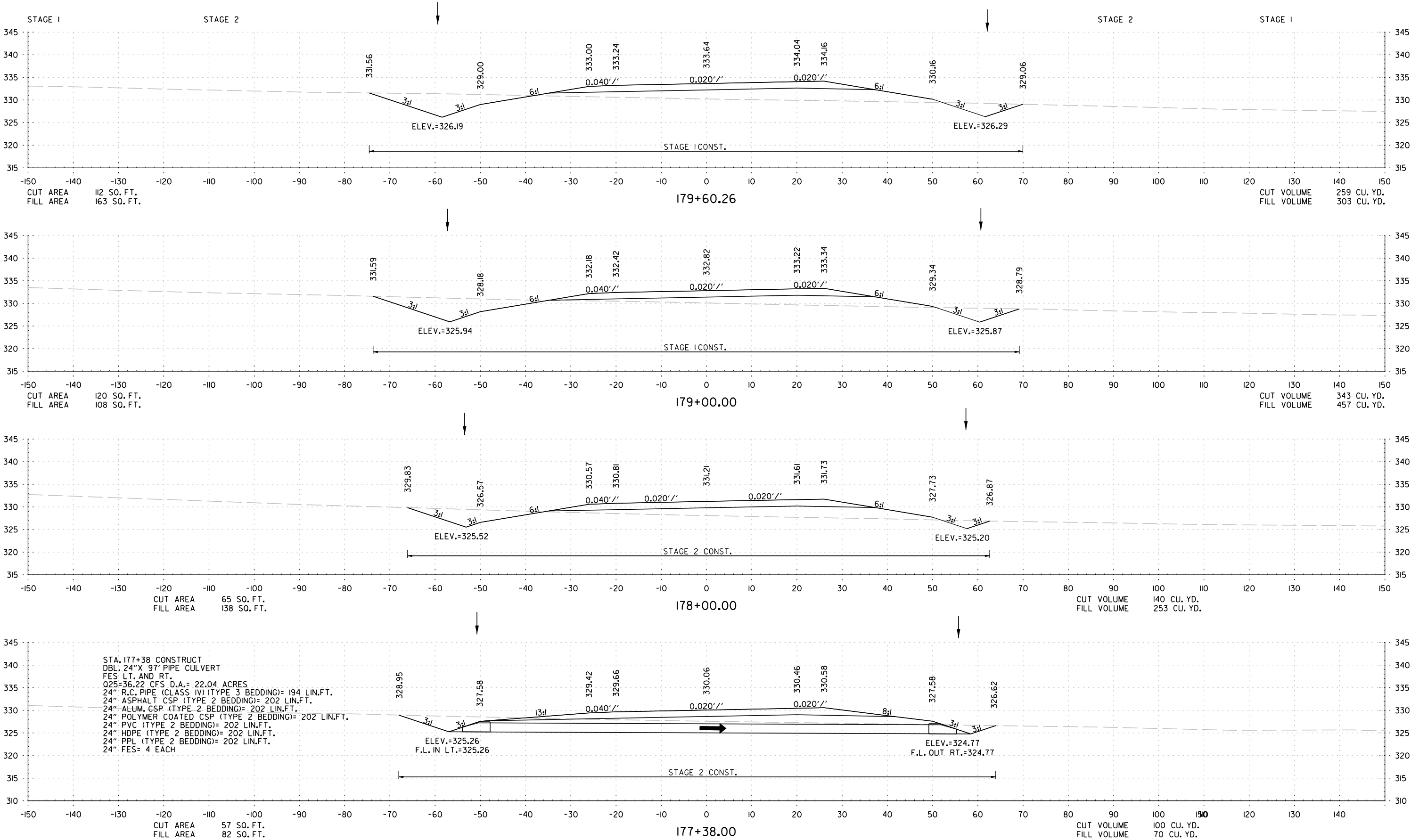
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	98	123
CROSS SECTIONS						



STA. 176+45 TO STA. 177+00

Reliving Choudhury 3/25/2024 3:09:46 PM
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WORKSPACE: AR001
REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	99	123
CROSS SECTIONS						

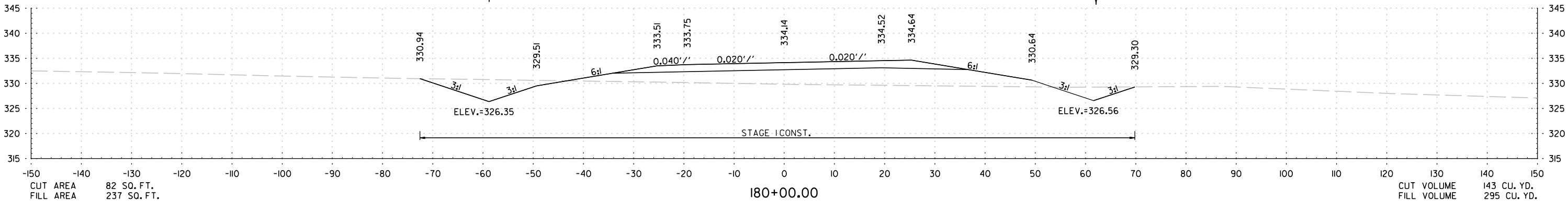
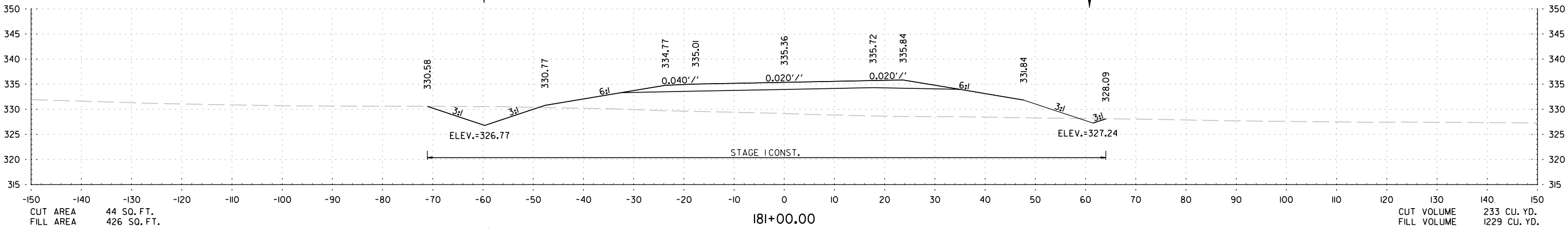
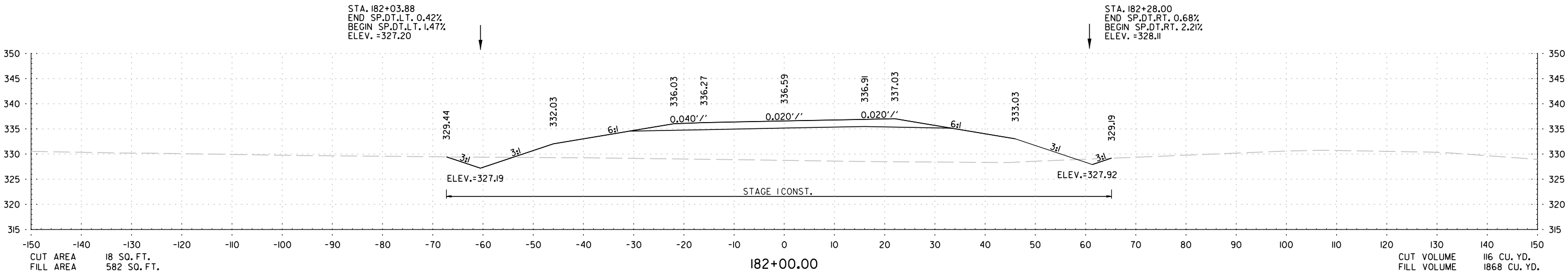


STA. 177+38 TO STA. 179+60

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	100	123
CROSS SECTIONS						

STAGE I

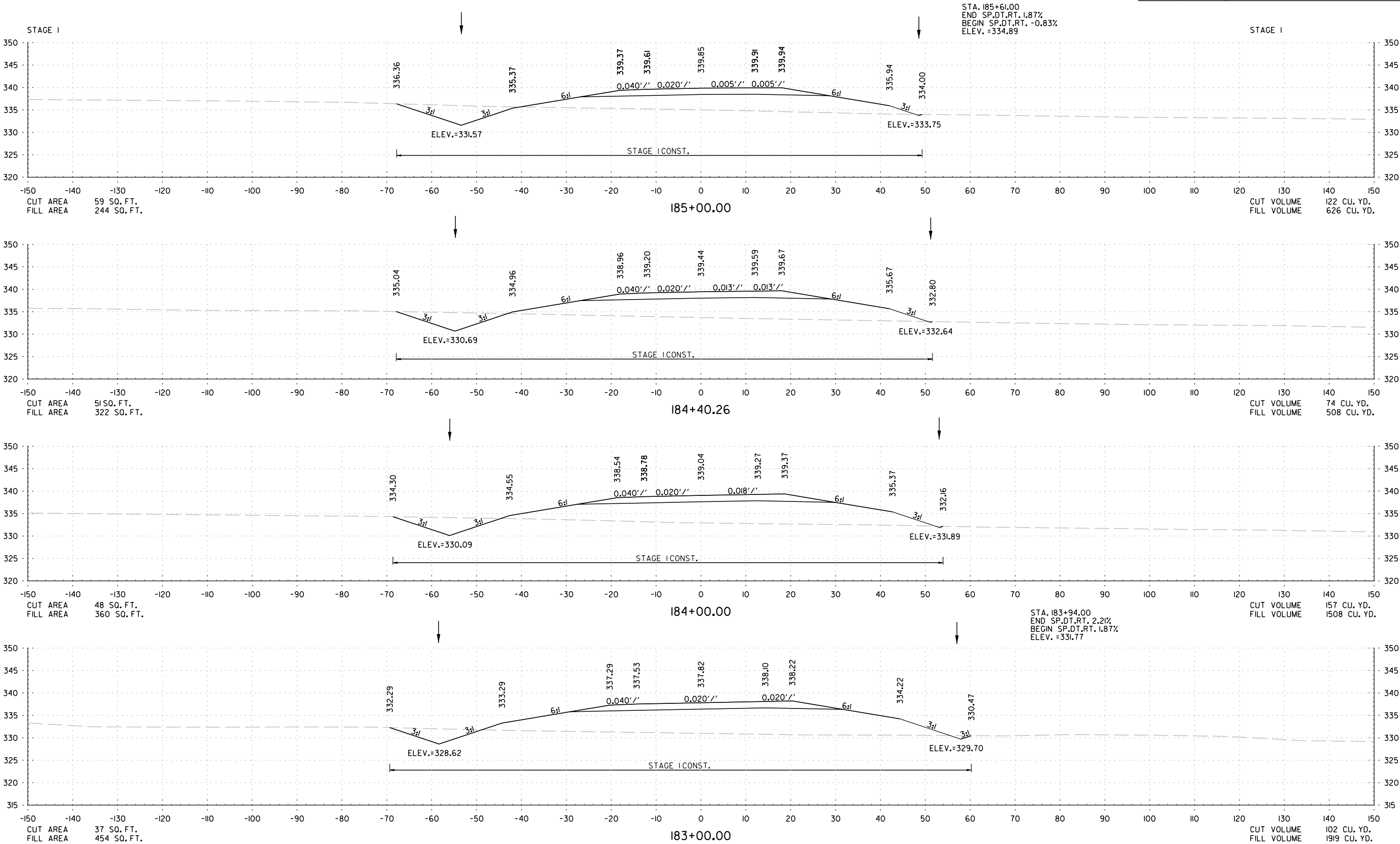
STAGE I



STA. 180+00 TO STA. 182+00

Revision: 3/11/2024 2:53:51 PM
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REVISED DATE: **REDATE**

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	101	123
CROSS SECTIONS						

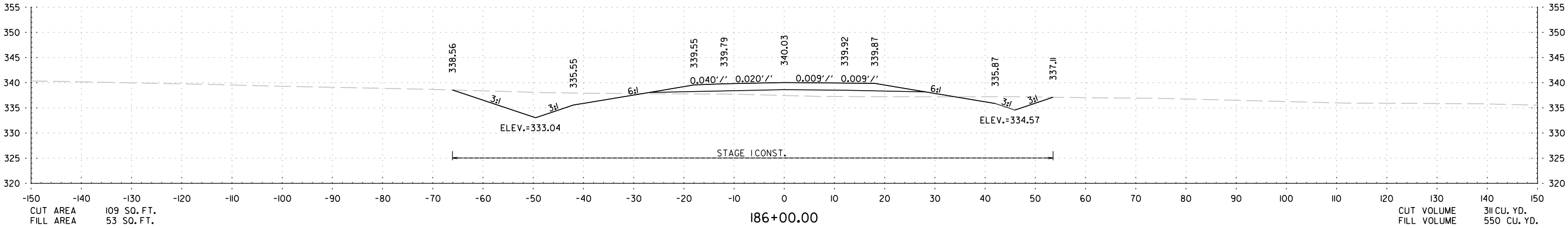
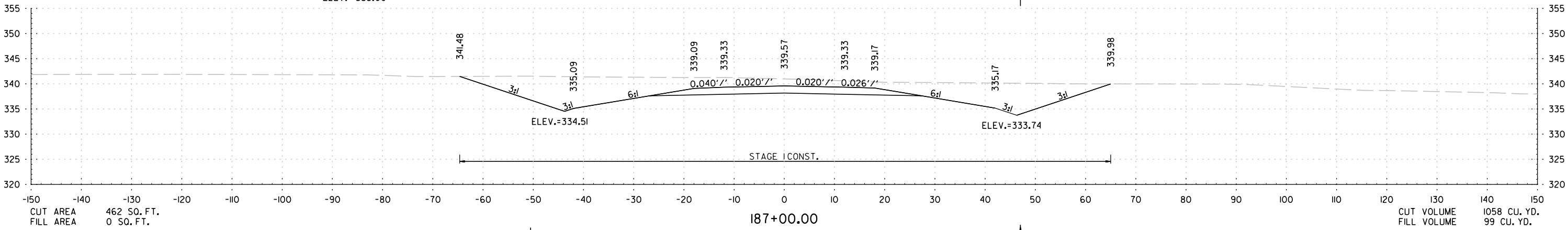
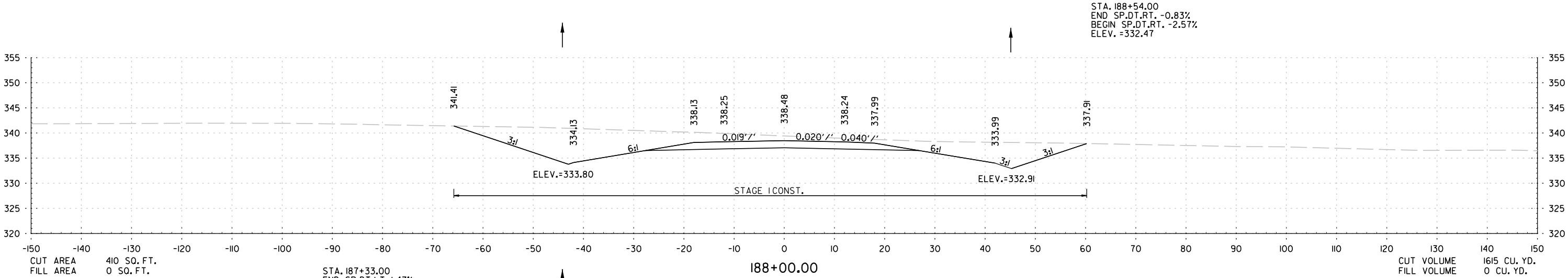


STA. 183+00 TO STA. 185+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	102	123
CROSS SECTIONS						

STAGE I

STAGE I

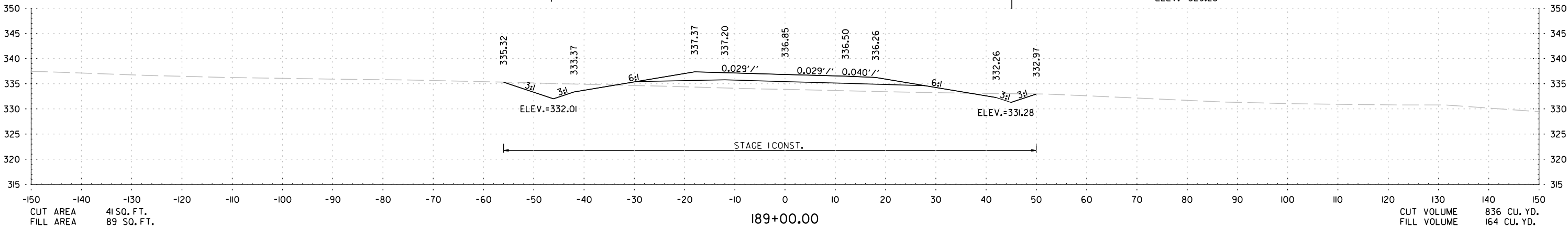
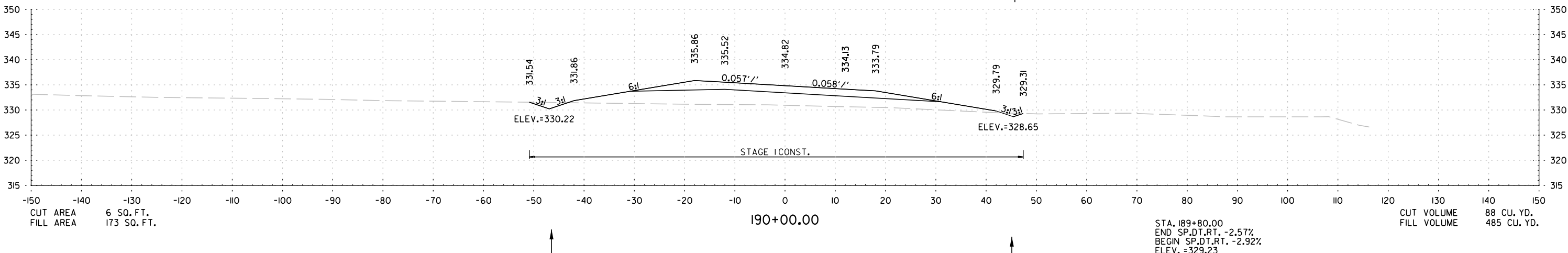
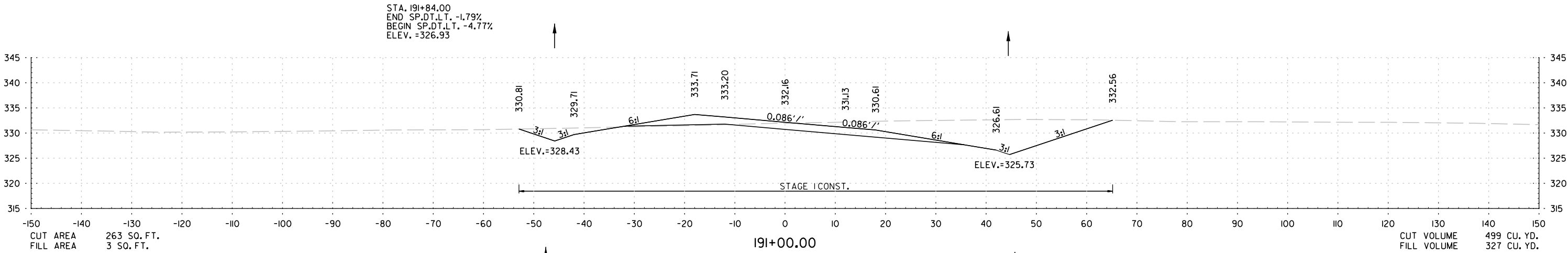


STA. 186+00 TO STA. 188+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	103	123
CROSS SECTIONS						

STAGE I

STAGE I

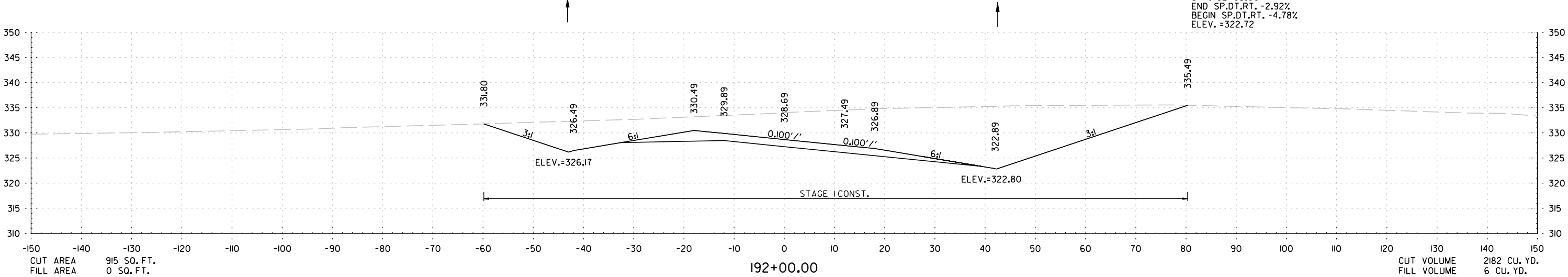
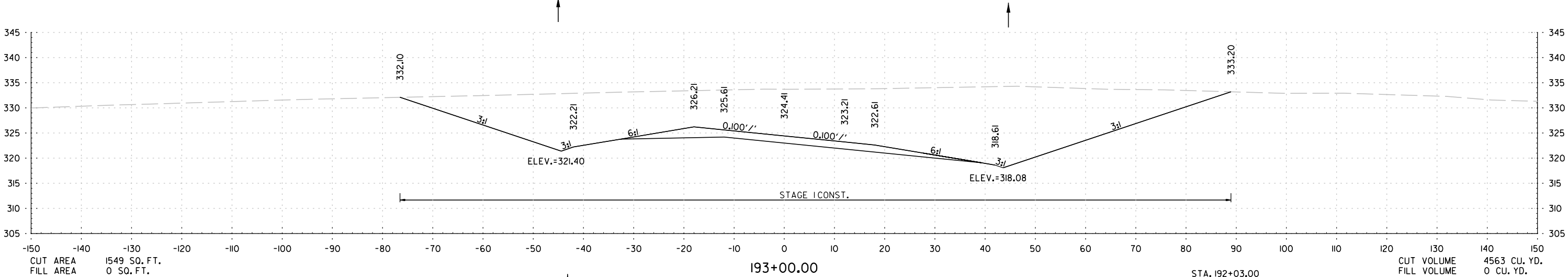
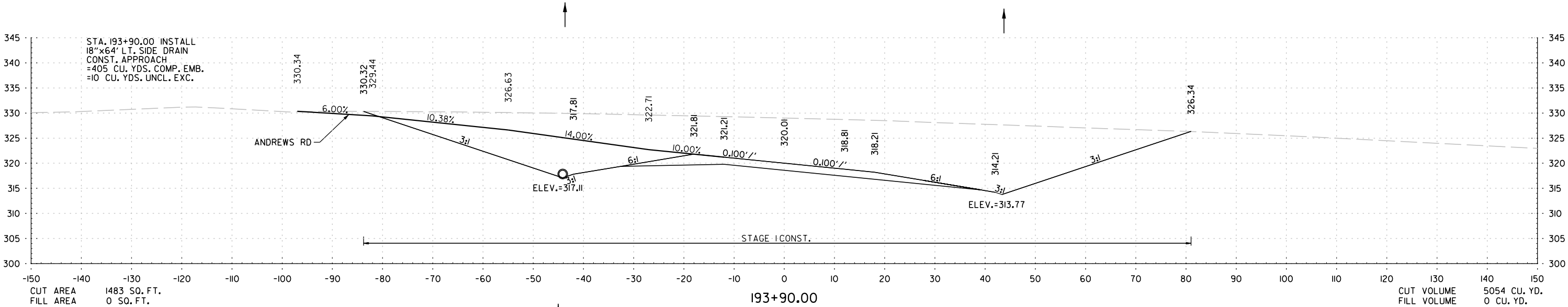


STA. 189+00 TO STA. 191+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	104	123
CROSS SECTIONS						

STAGE I

STAGE I

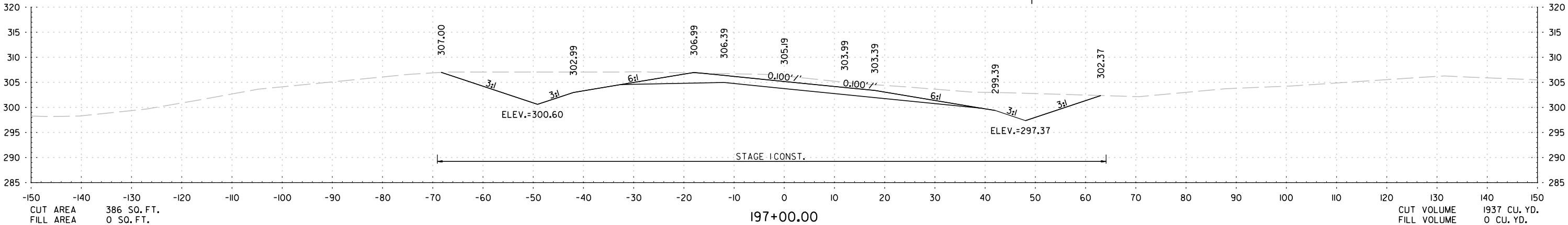
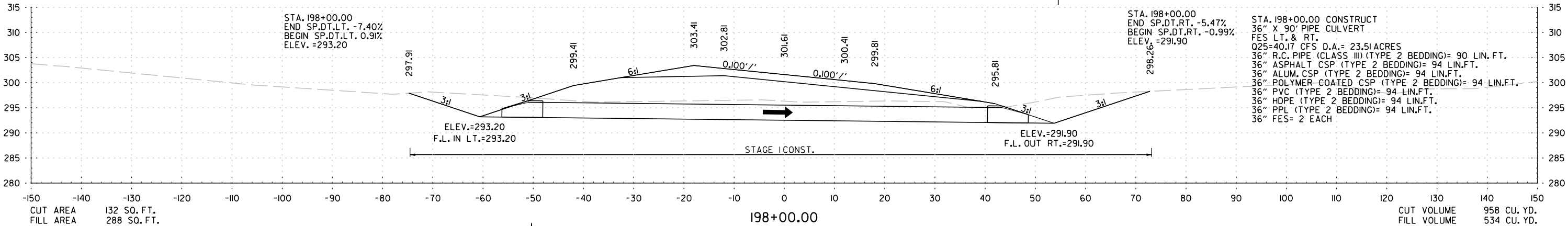
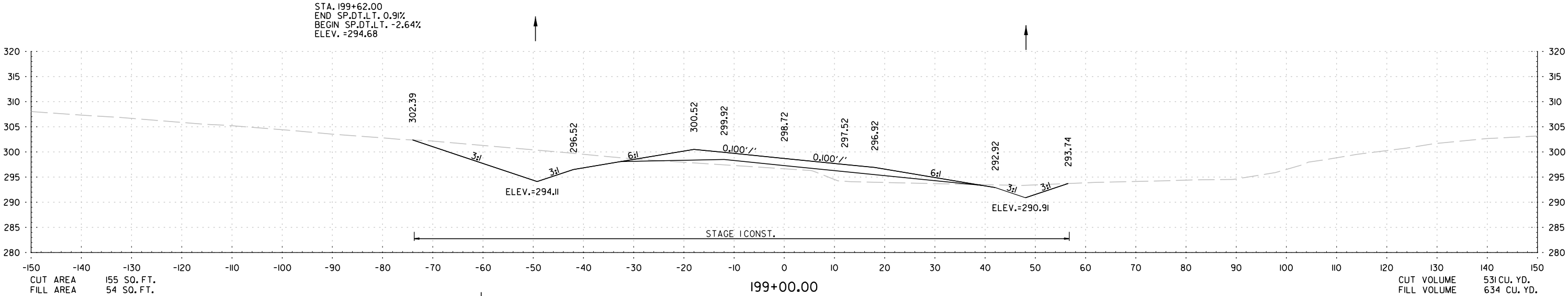


STA. 192+00 TO STA. 193+90

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	106	123
CROSS SECTIONS						

STAGE I

STAGE I

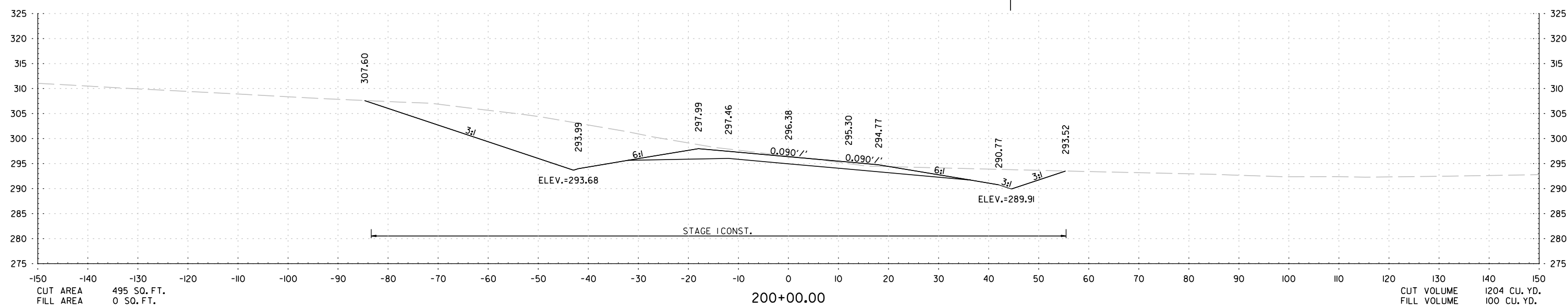
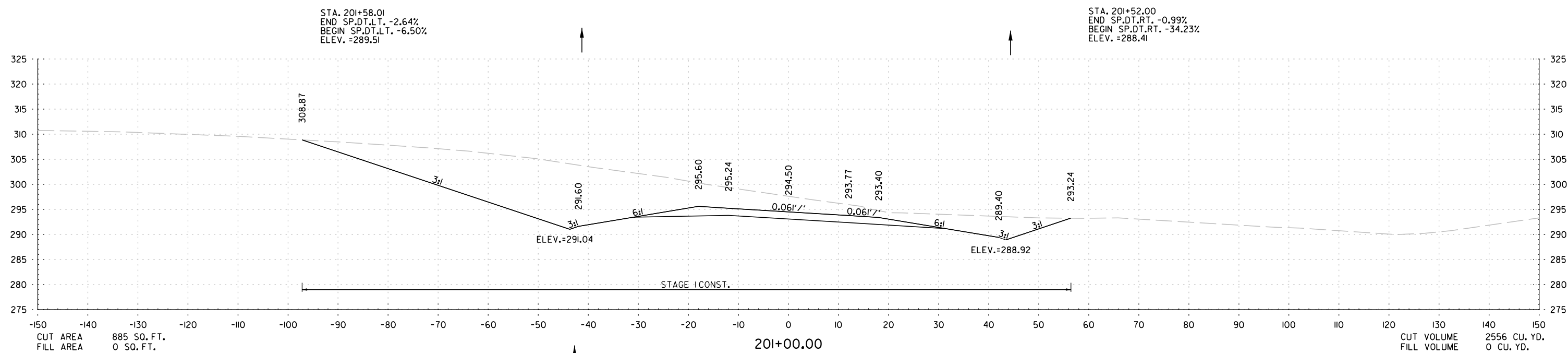


STA. 197+00 TO STA. 199+00

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	107	123
		CROSS SECTIONS				

STAGE I

STAGE I



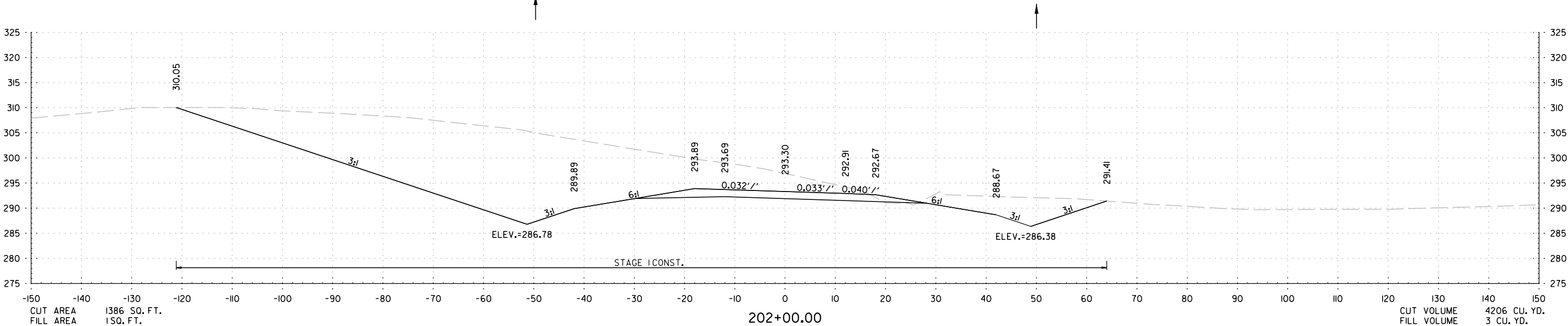
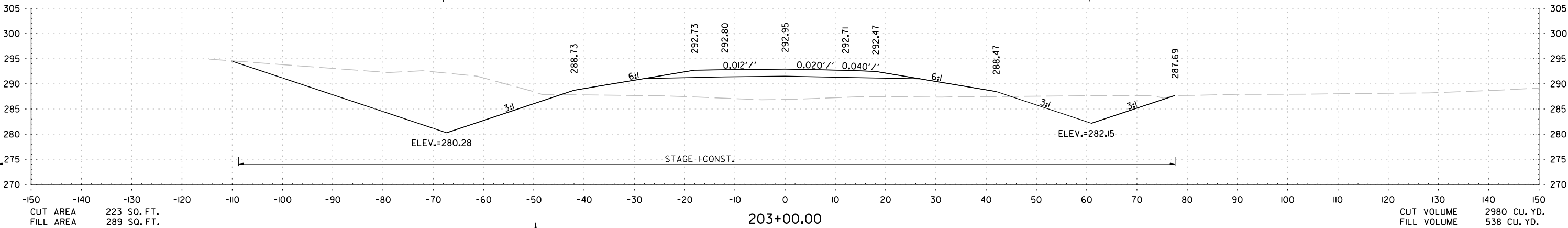
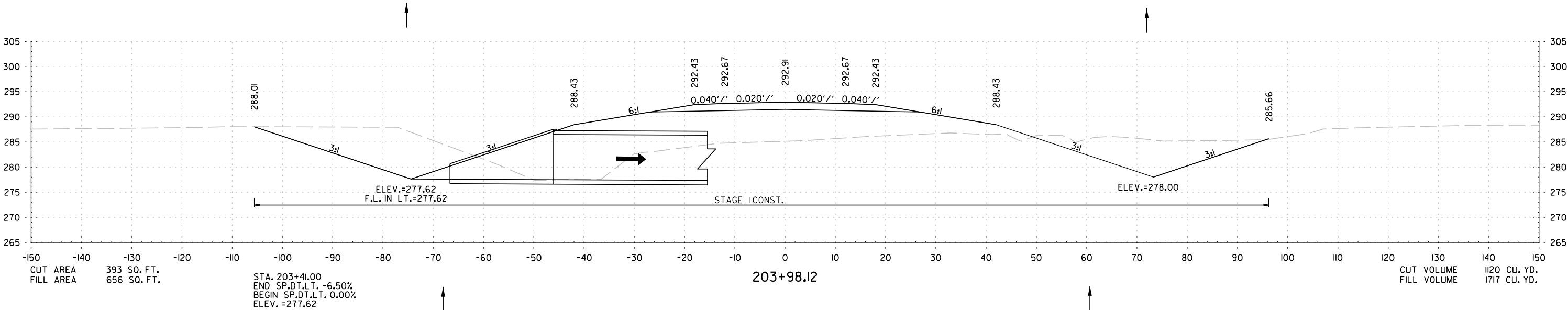
STA. 200+00 TO STA. 201+00

Rajyan_Chowdhury3/1/2024 2:53:56 PM
WORKSPACE: AR001
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REVISED DATE: \$\$\$REDATE\$\$\$

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	108	123
CROSS SECTIONS						

STAGE I

STAGE I

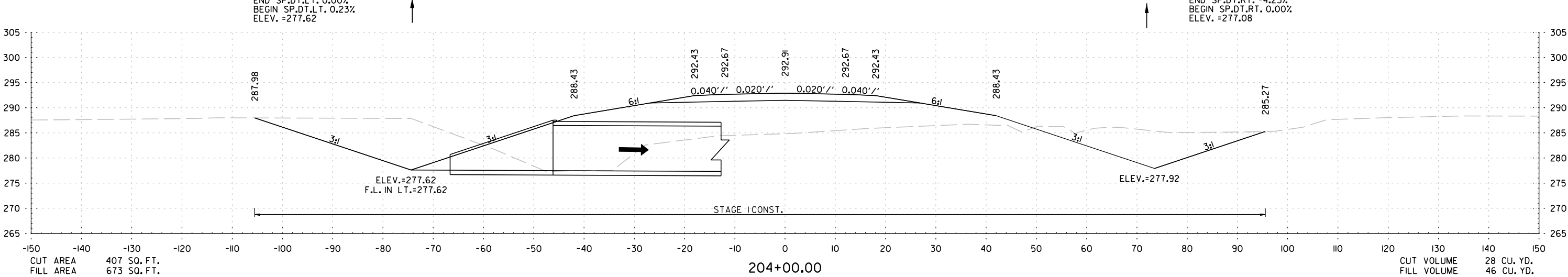
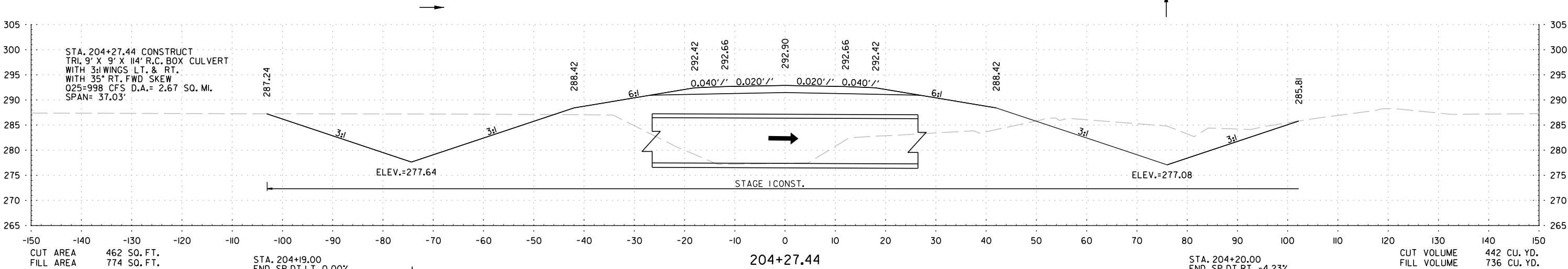
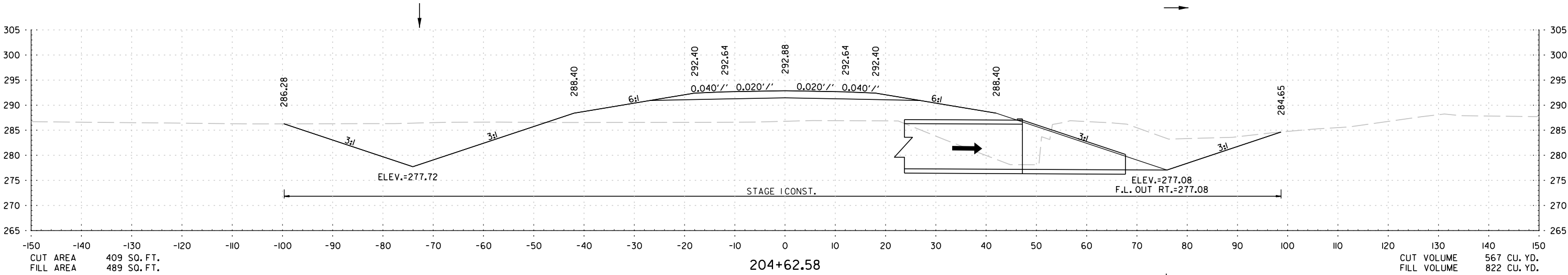


STA. 202+00 TO STA. 203+98

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	109	123
CROSS SECTIONS						

STAGE I

STAGE I

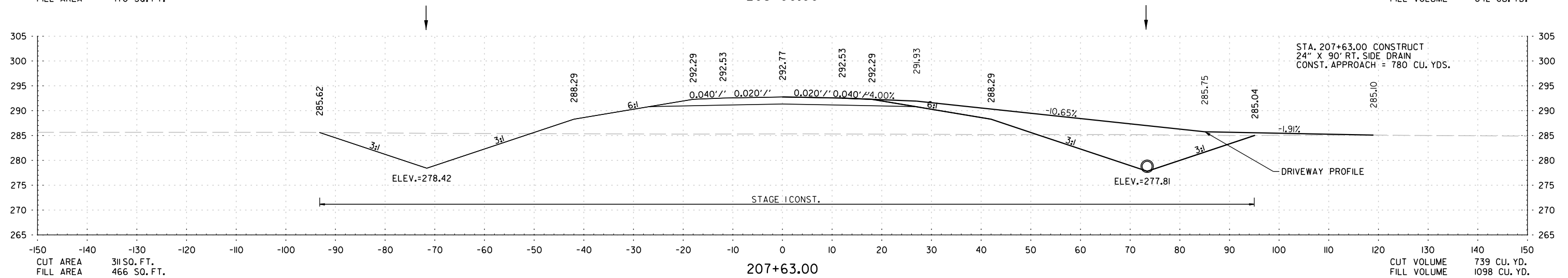
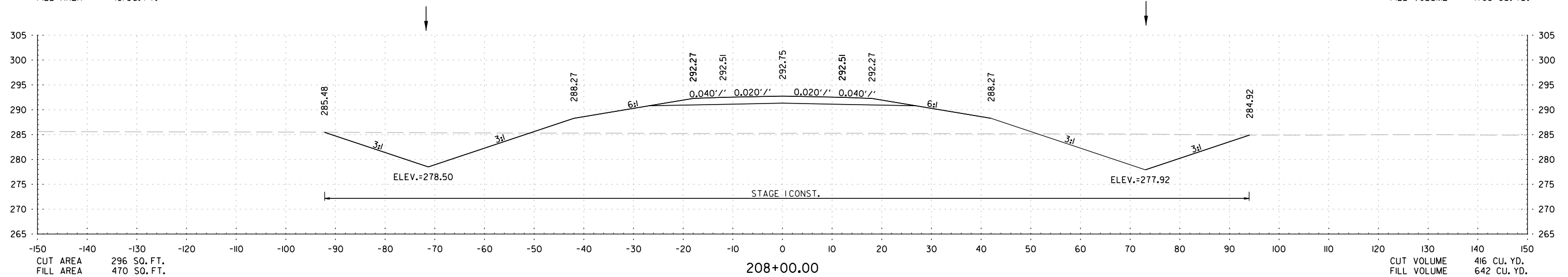
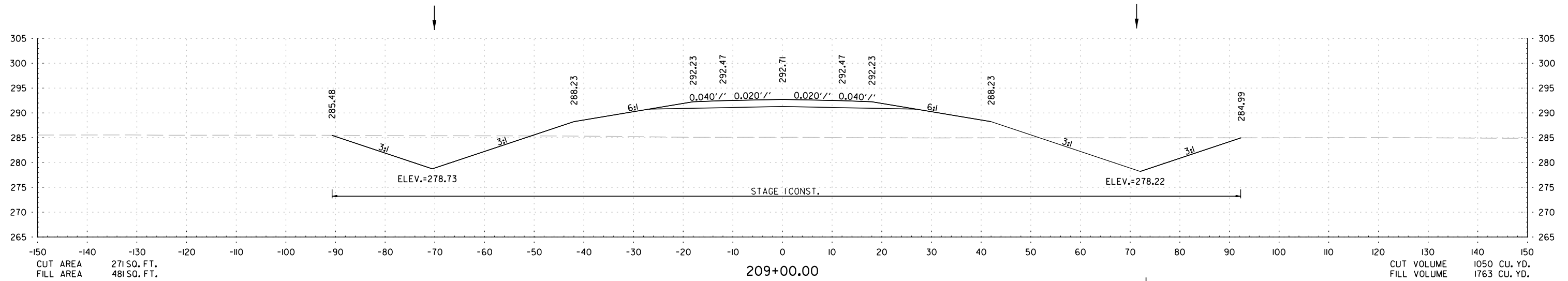


STA. 204+00 TO STA. 204+63

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	III	123
		CROSS SECTIONS				

STAGE I

STAGE I



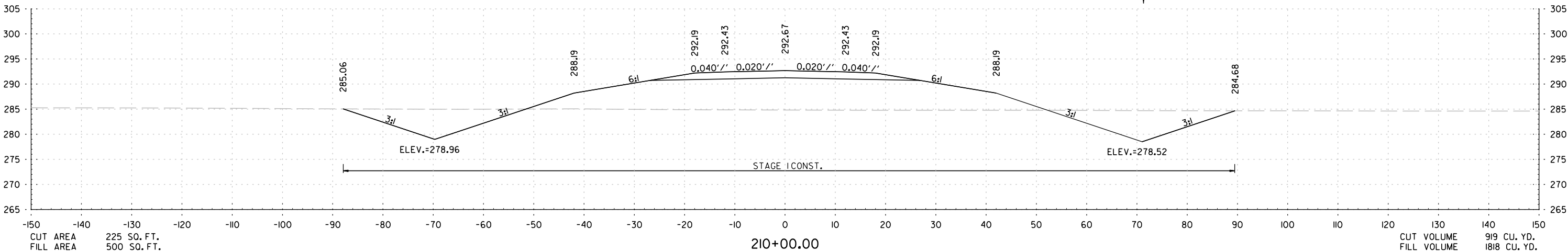
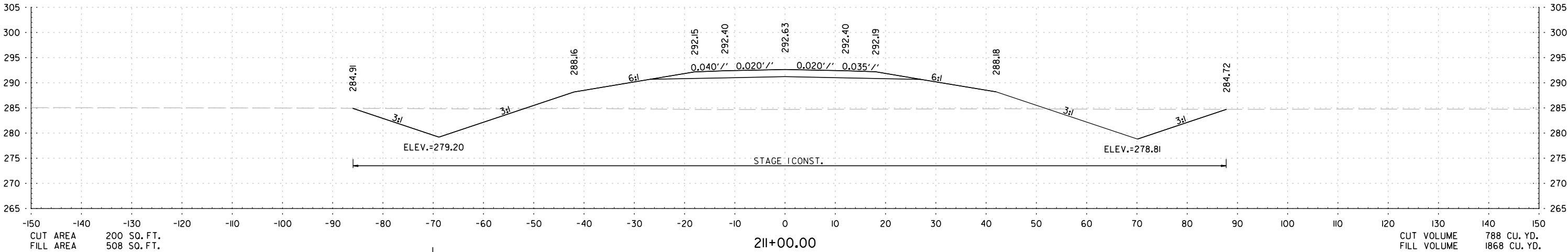
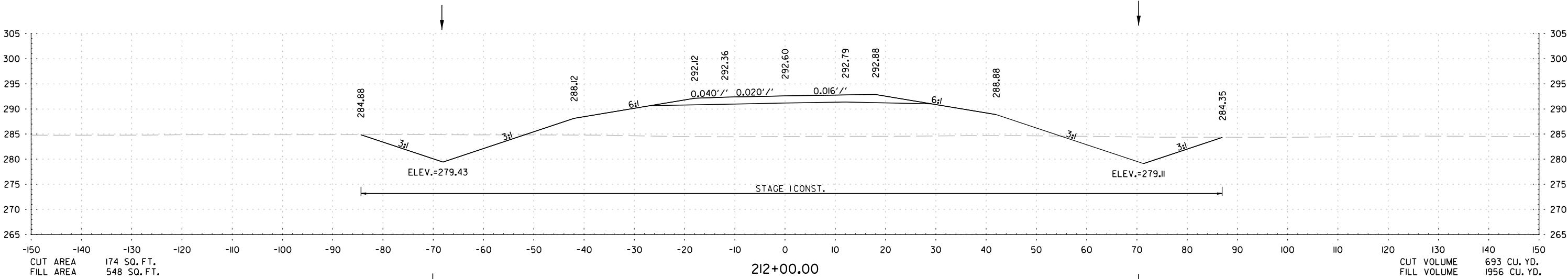
STA. 207+63 TO STA. 209+00

Revlon Chowdhury 3/1/2024 2:53:58 PM
WORKSPACE: ARD01
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REVISED DATE: \$\$\$REVDATE\$\$\$

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	080711	112	123
CROSS SECTIONS						

STAGE I

STAGE I

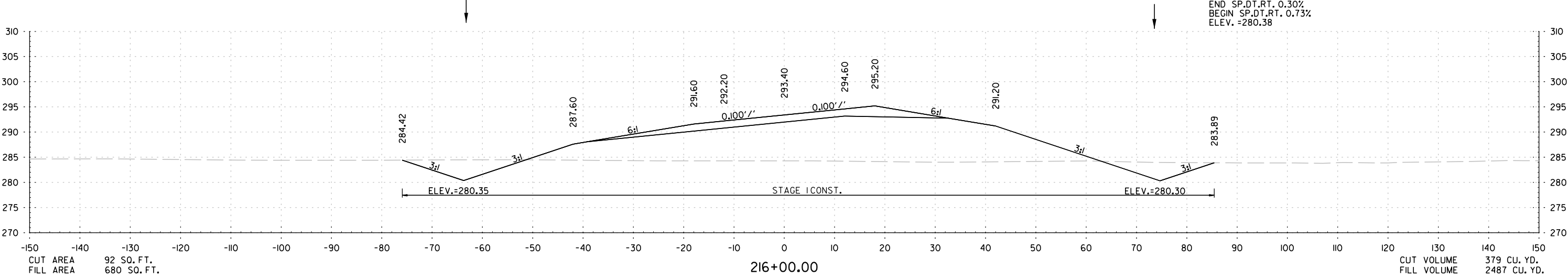
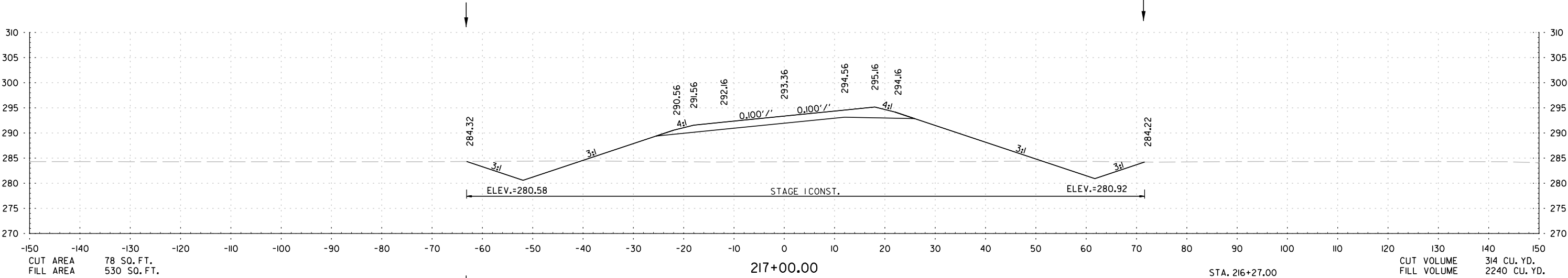
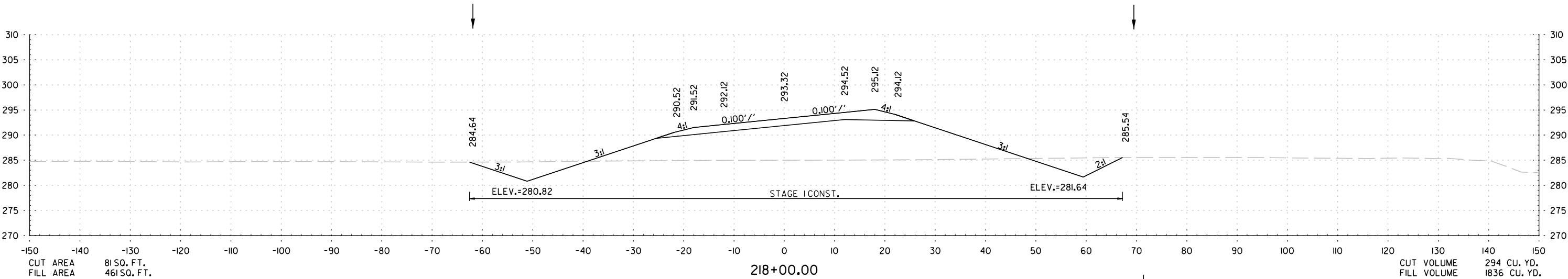


STA. 210+00 TO STA. 212+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	II4	I23
CROSS SECTIONS						

STAGE I

STAGE I



STA. 216+27.00
END SP.DT.RT. 0.30%
BEGIN SP.DT.RT. 0.73%
ELEV. =280.38

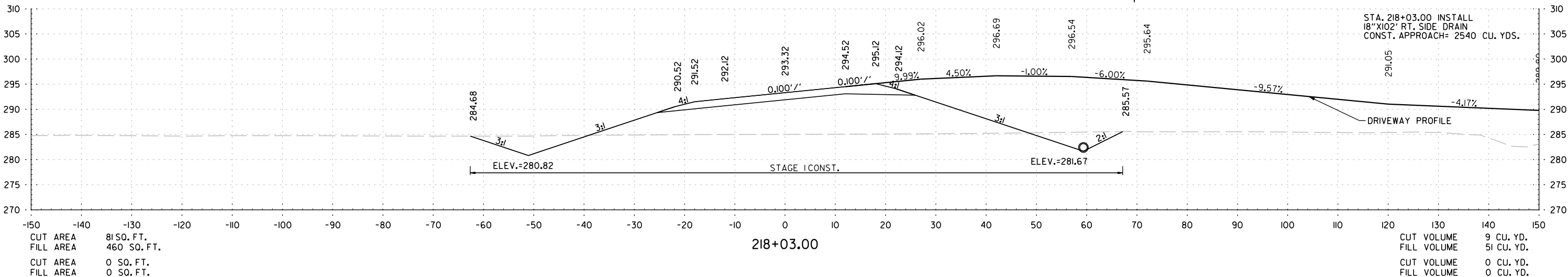
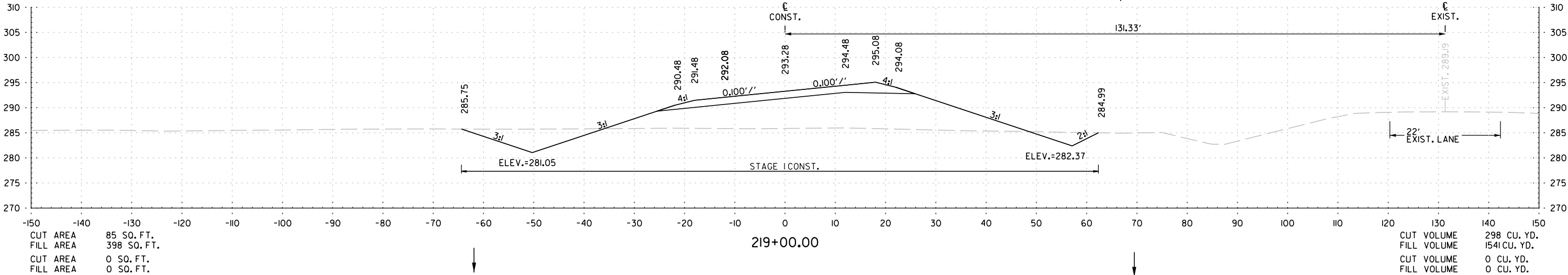
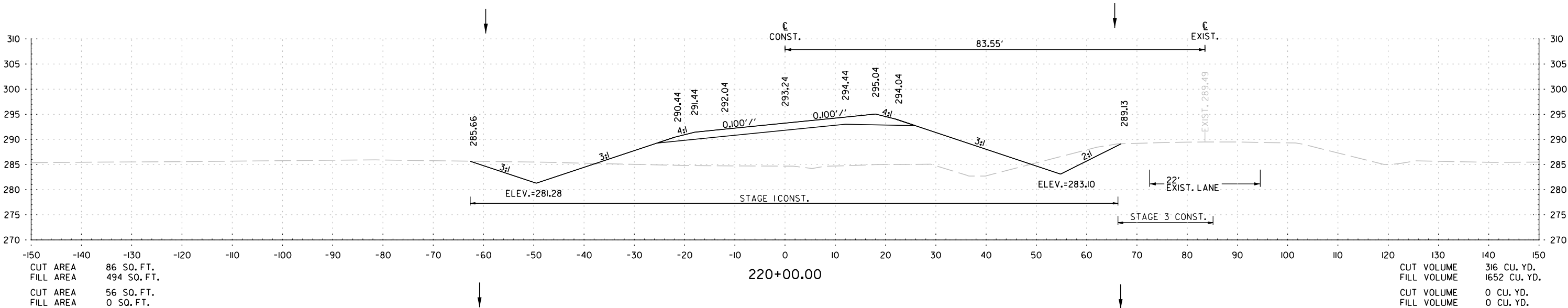
STA. 216+00 TO STA. 218+00

Reliving Choudhury 3/25/2024 3:09:38 PM
WORKSPACE: ARDOT
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REVISED DATE: **REVIDATE**

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	115	123
CROSS SECTIONS						

STAGE 1
STAGE 3

STAGE 1
STAGE 3

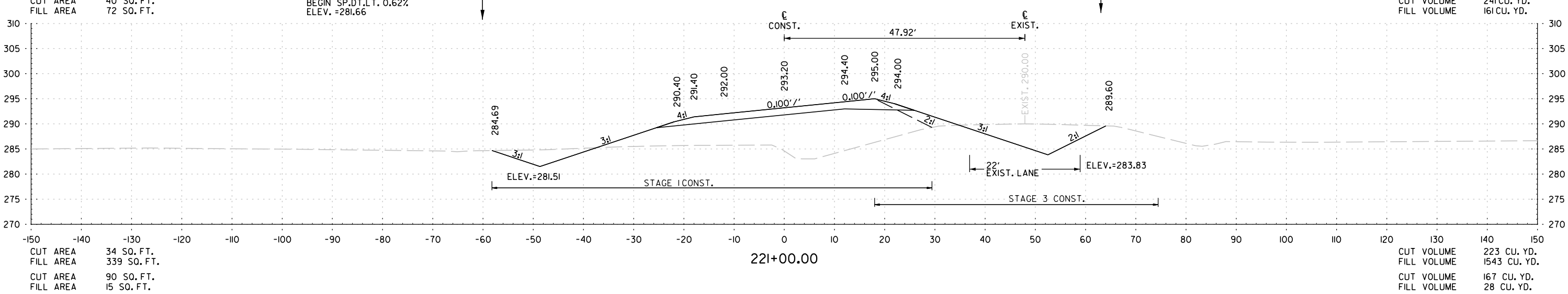
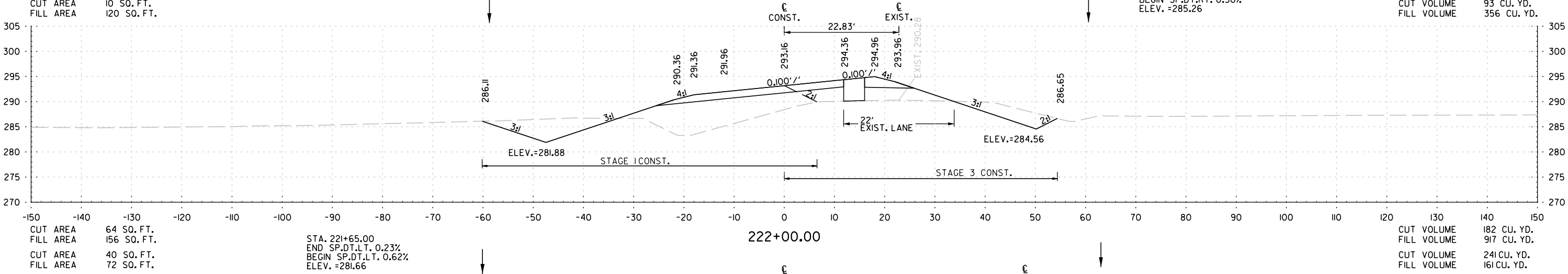
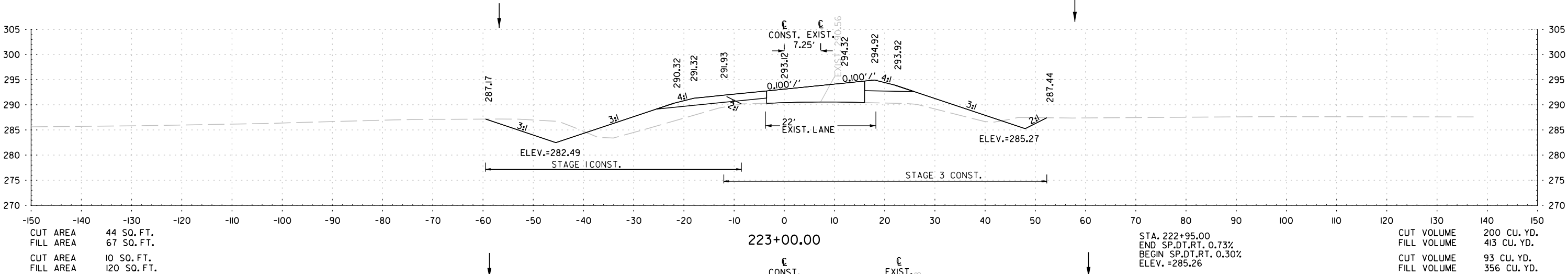


STA. 218+03 TO STA. 220+00

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	116	123
CROSS SECTIONS						

STAGE I
STAGE 3

STAGE I
STAGE 3

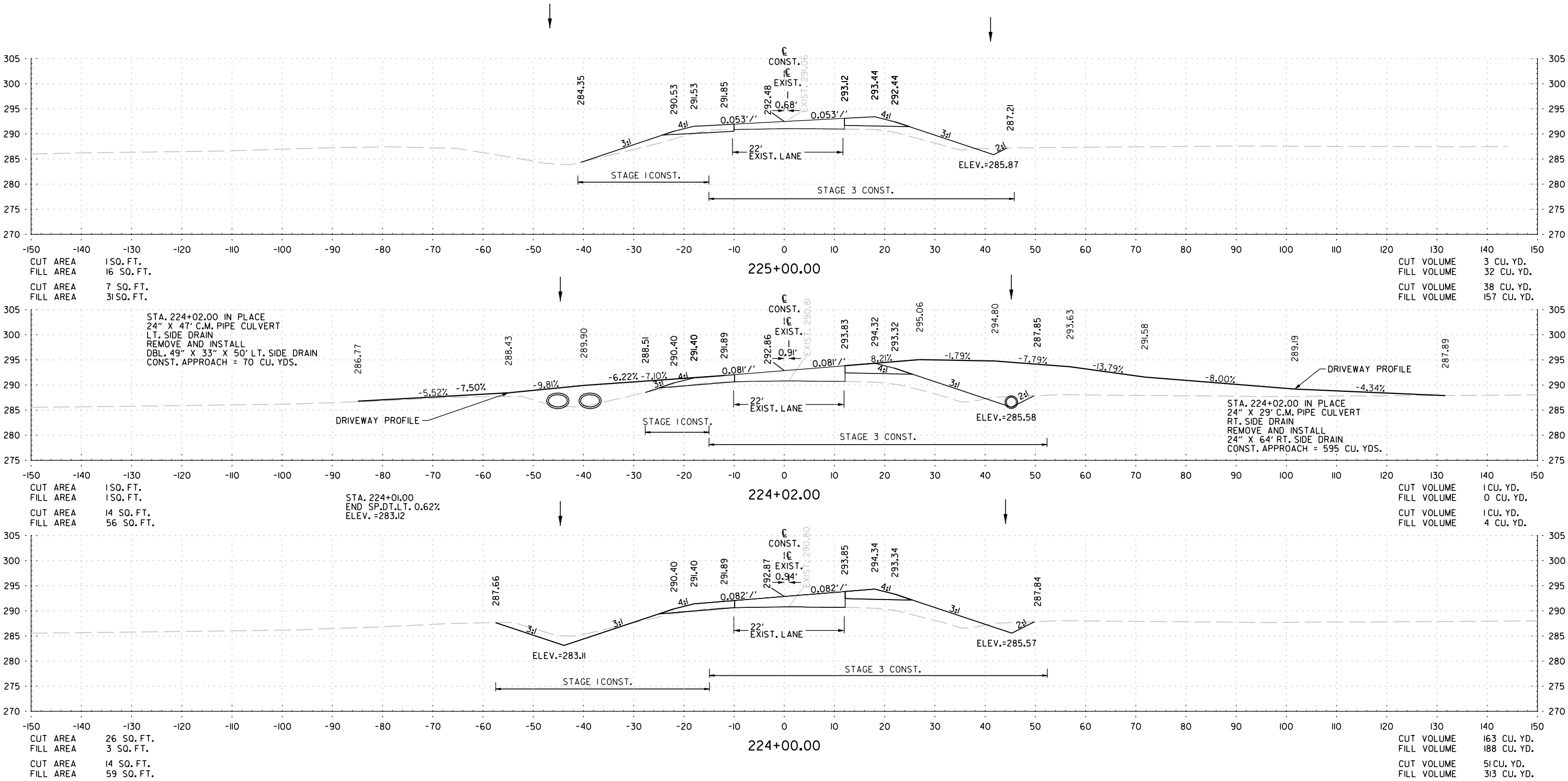


STA. 221+00 TO STA. 223+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	117	123
CROSS SECTIONS						

STAGE I
STAGE 3

STAGE I
STAGE 3

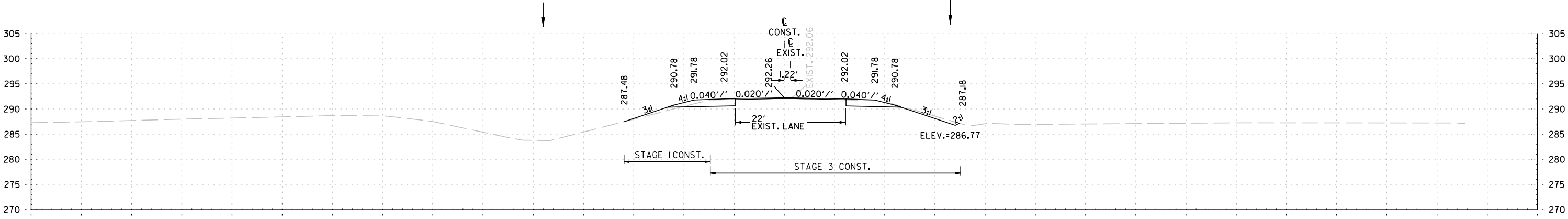


STA. 224+00 TO STA. 225+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	080711	118	123
CROSS SECTIONS						

STAGE 1
STAGE 3

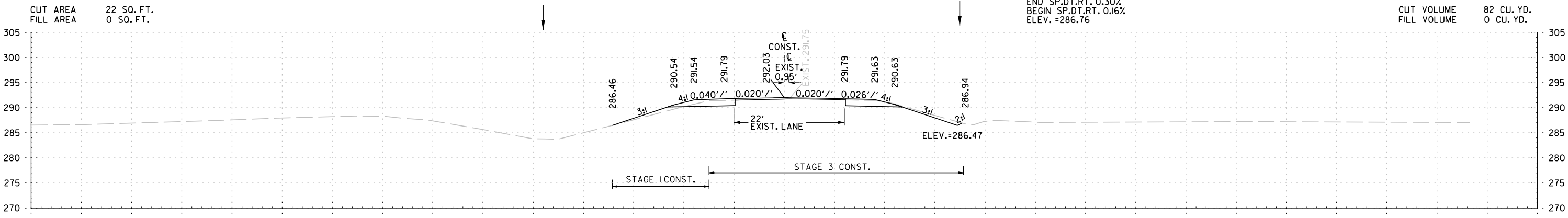
STAGE 1
STAGE 3



228+00.00

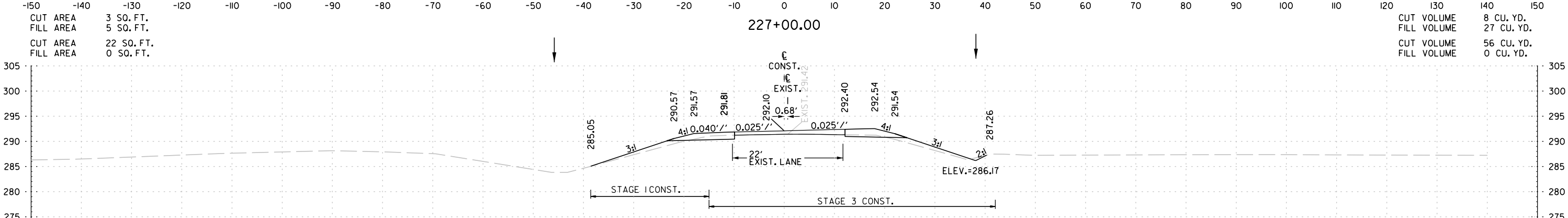
STA. 227+96.00
END SP.DT.RT. 0.30%
BEGIN SP.DT.RT. 0.16%
ELEV. = 286.76

CUT VOLUME 12 CU. YD.
FILL VOLUME 17 CU. YD.
CUT VOLUME 82 CU. YD.
FILL VOLUME 0 CU. YD.



227+00.00

CUT VOLUME 8 CU. YD.
FILL VOLUME 27 CU. YD.
CUT VOLUME 56 CU. YD.
FILL VOLUME 0 CU. YD.



226+00.00

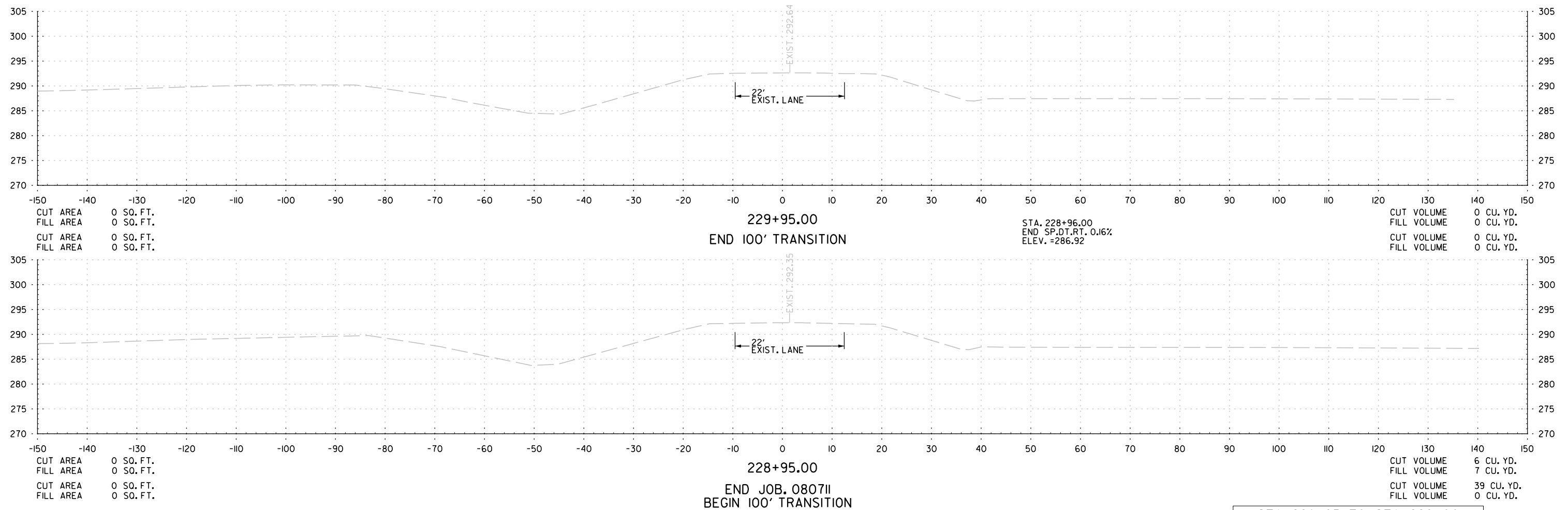
CUT VOLUME 4 CU. YD.
FILL VOLUME 48 CU. YD.
CUT VOLUME 28 CU. YD.
FILL VOLUME 75 CU. YD.

STA. 226+00 TO STA. 228+00

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	119	123
		CROSS SECTIONS				

STAGE 1
STAGE 3

STAGE 1
STAGE 3

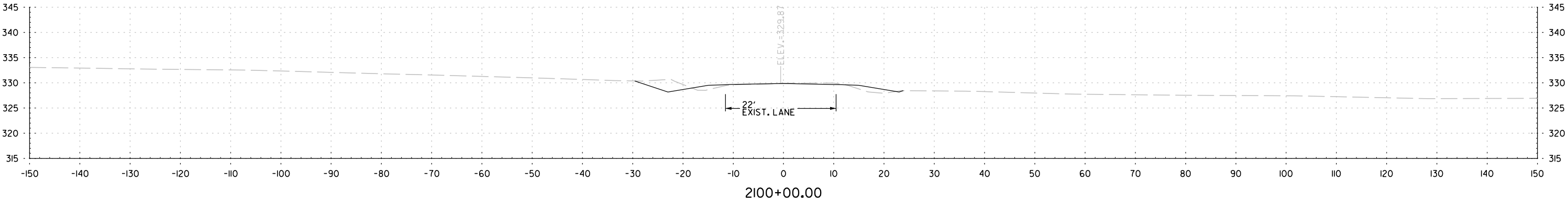
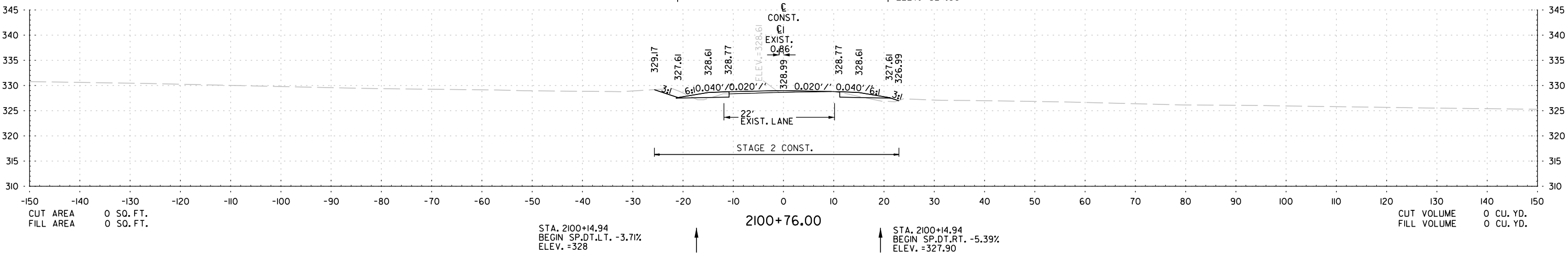
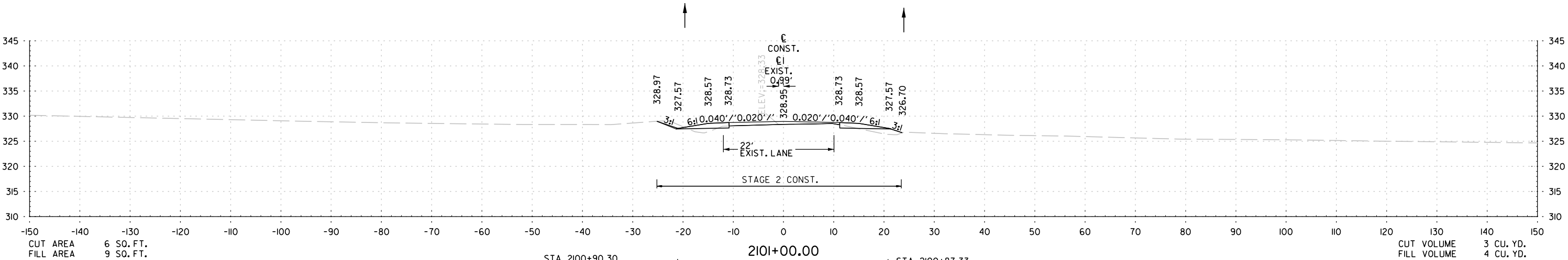


STA. 228+95 TO STA. 229+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	I20	I23
CROSS SECTIONS						

STAGE 2

STAGE 2



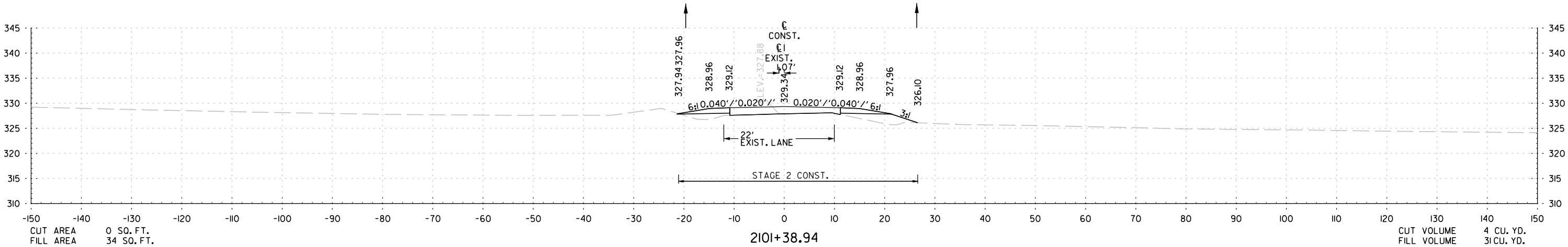
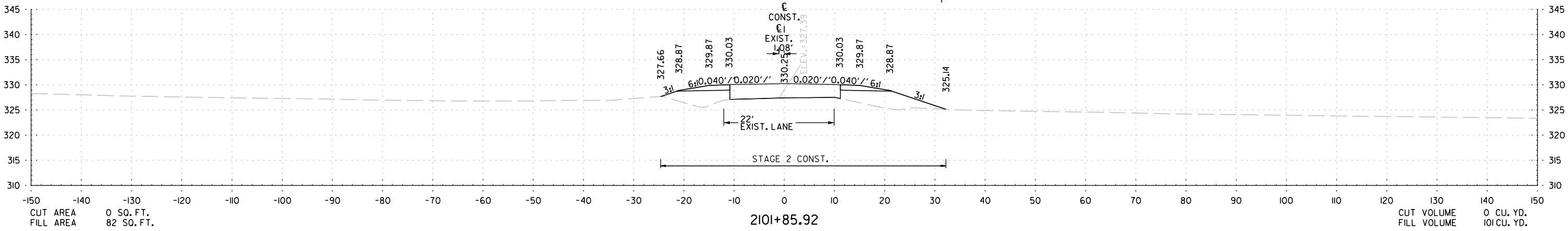
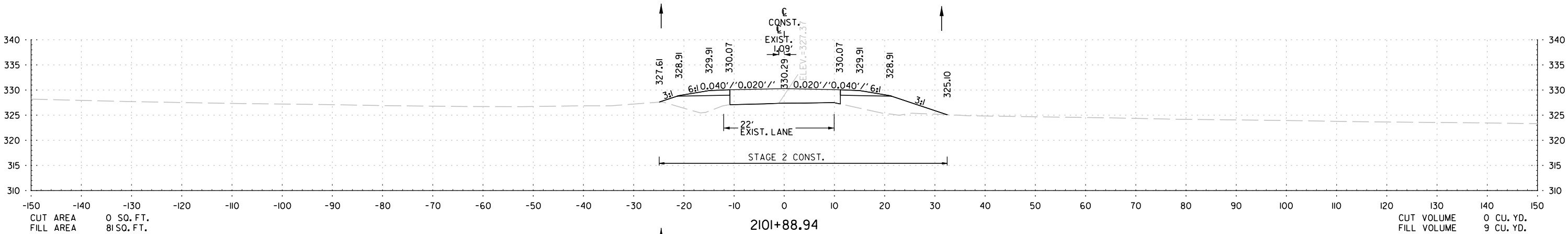
HWY. 154

STA. 2100+00 TO STA. 2101+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	I2I	I23
CROSS SECTIONS						

STAGE 2

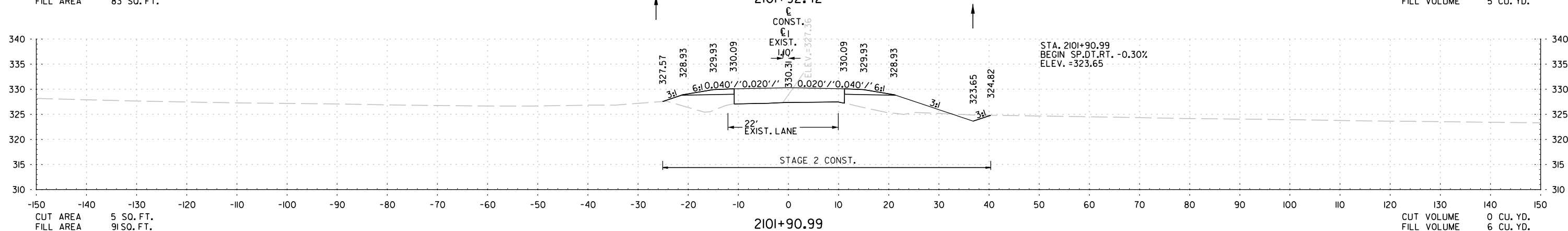
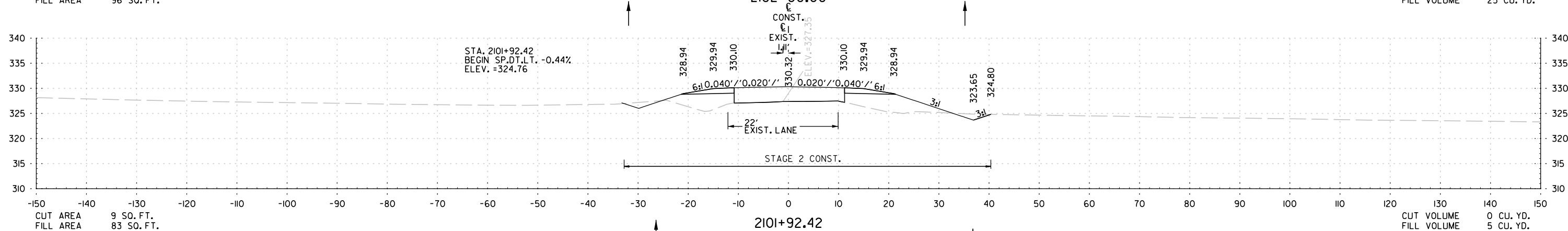
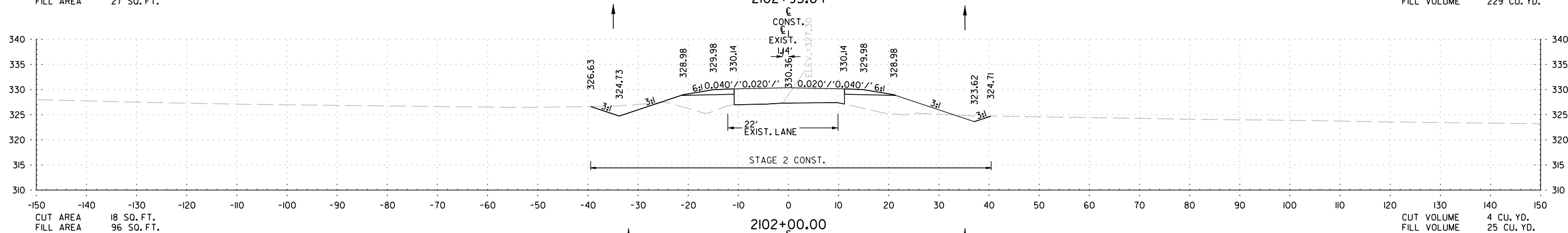
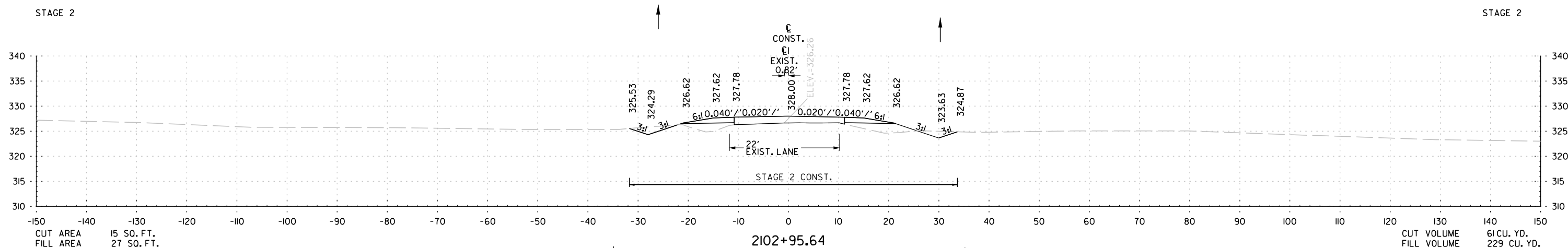
STAGE 2



HWY. 154

STA. 210I+39 TO STA. 210I+89

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	0807II	122	123
		CROSS SECTIONS				



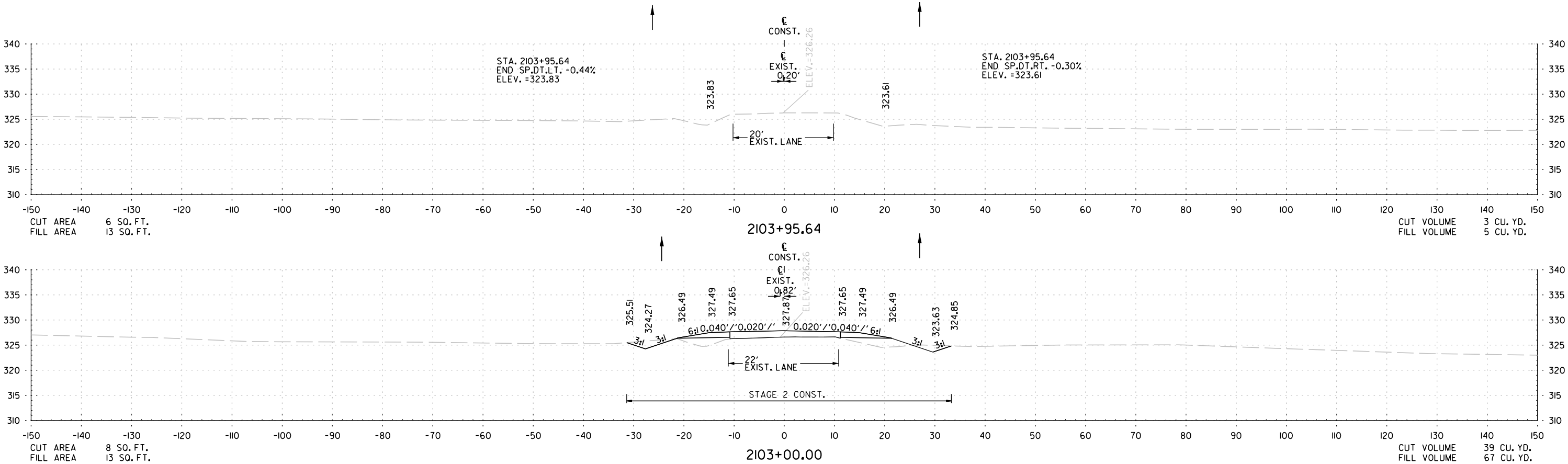
HWY. 154
STA. 2101+91 TO STA. 2103+00

Rajyan.Chowdhury/3/25/2024 3:09:43 PM
WORKSPACE: ARDOT
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REVISED DATE: \$\$\$REDATE\$\$\$

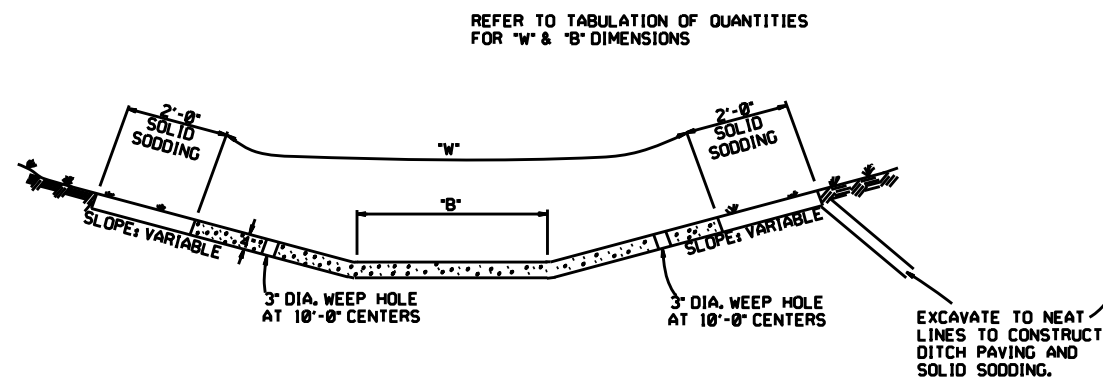
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
03-25-24		6	ARK.	0807II	123	123
CROSS SECTIONS						

STAGE 2

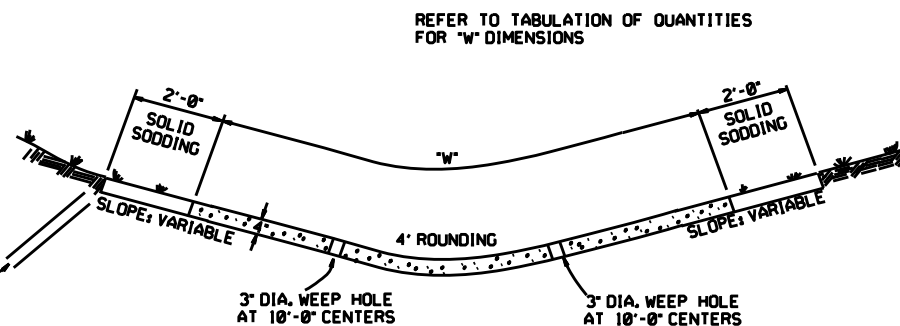
STAGE 2



HWY. 154
STA. 2103+90 TO STA. 2104+90

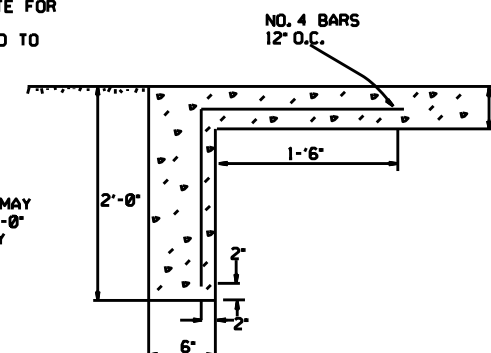


TYPE A

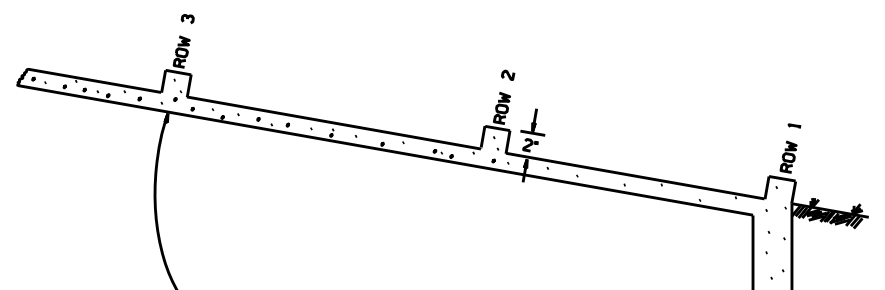


TYPE B

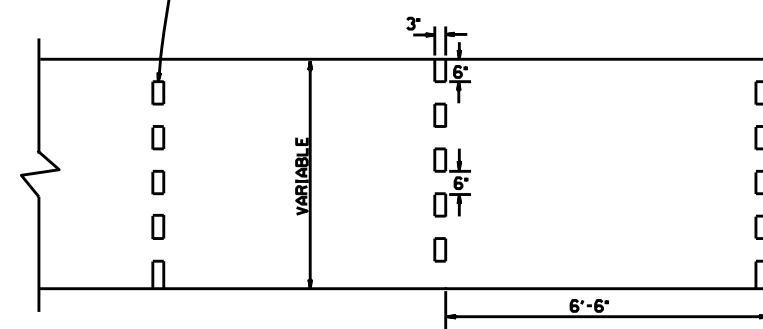
THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR "CONCRETE DITCH PAVING."



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



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 INCLUDED 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.

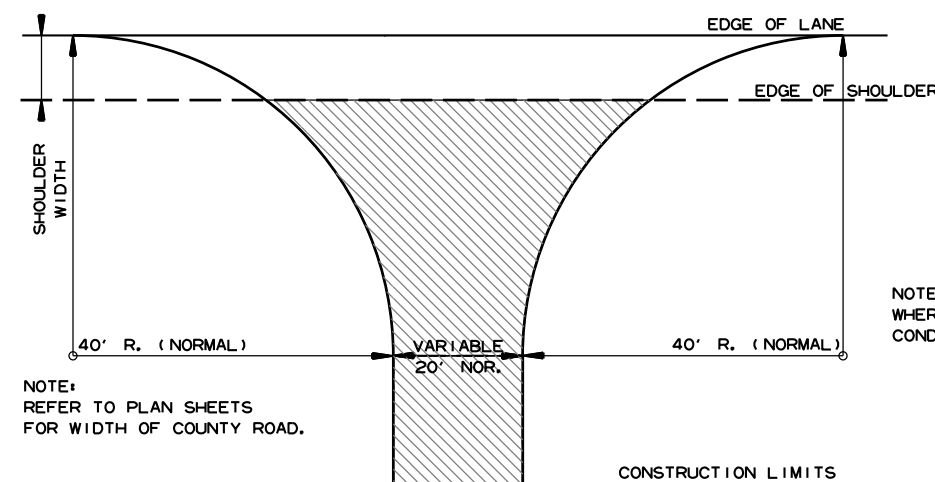
1' WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
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.	632-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	639-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED	
10-2-72	TYPED A & B	
	REVISED AND REDRAWN	508-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

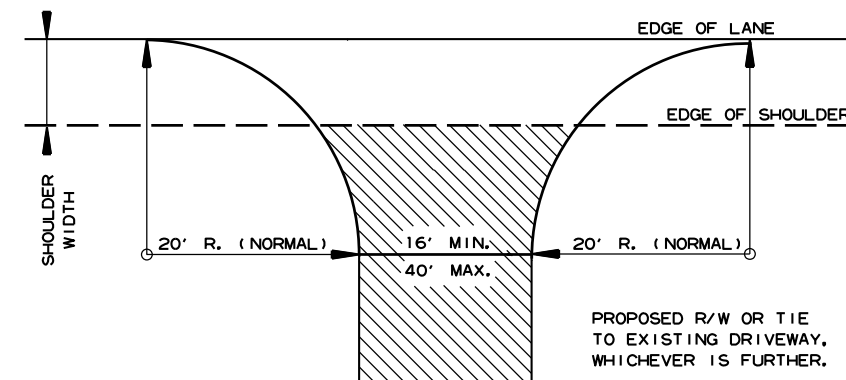
CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1



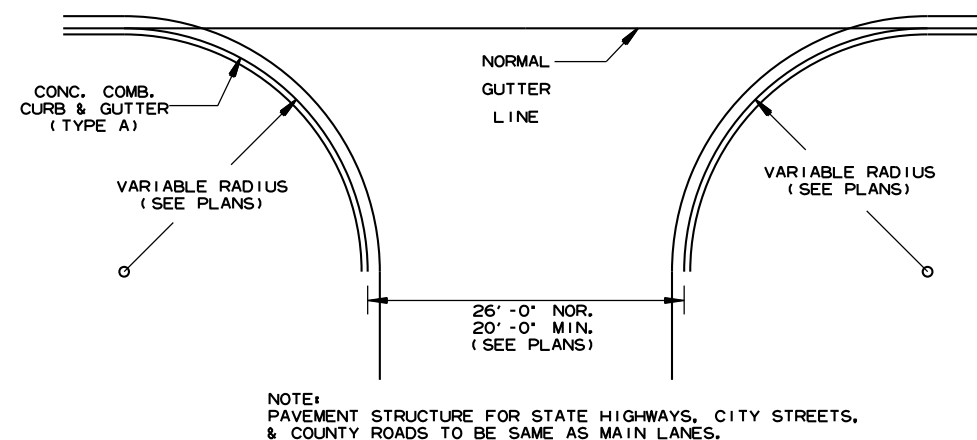
DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION

ACHM SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH, UNLESS OTHERWISE
SPECIFIED IN PLANS.

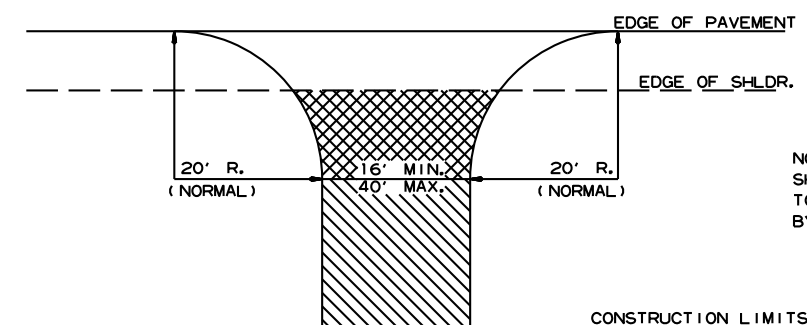


DETAIL FOR DRIVEWAY TURNOUTS
OPEN SHOULDER SECTION
(ARTERIALS)

ACHM SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT OR
GRAVEL DRIVE EXISTING; OR 6"
CONCRETE IF CONCRETE DRIVE
EXISTING.



DETAIL OF TURNOUTS, ASPHALT STREETS,
COUNTY ROADS & STATE HIGHWAYS
CURB & GUTTER SECTION



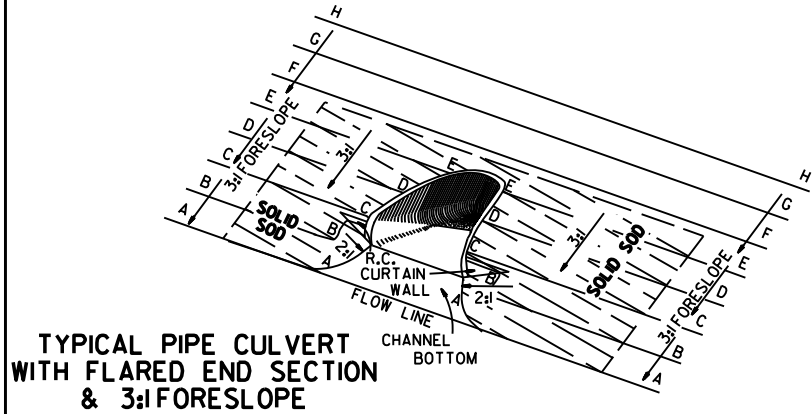
ASPHALT CONCRETE HOT MIX SURFACE
COURSE (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR
6" CONCRETE IF CONCRETE DRIVE EXIST.

AGGREGATE BASE COURSE (CLASS 7)
9" COMP. DEPTH OR CONFORM
TO EXISTING DRIVEWAY

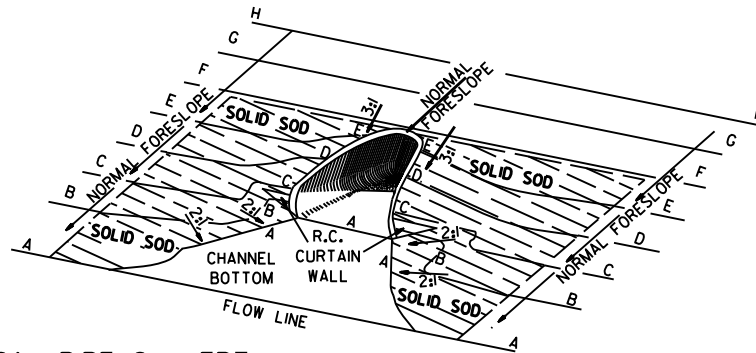
DETAIL FOR DRIVEWAY TURNOUTS
(COLLECTORS)

5-19-22		ISSUED
DATE REV	DATE FILMED	DESCRIPTION

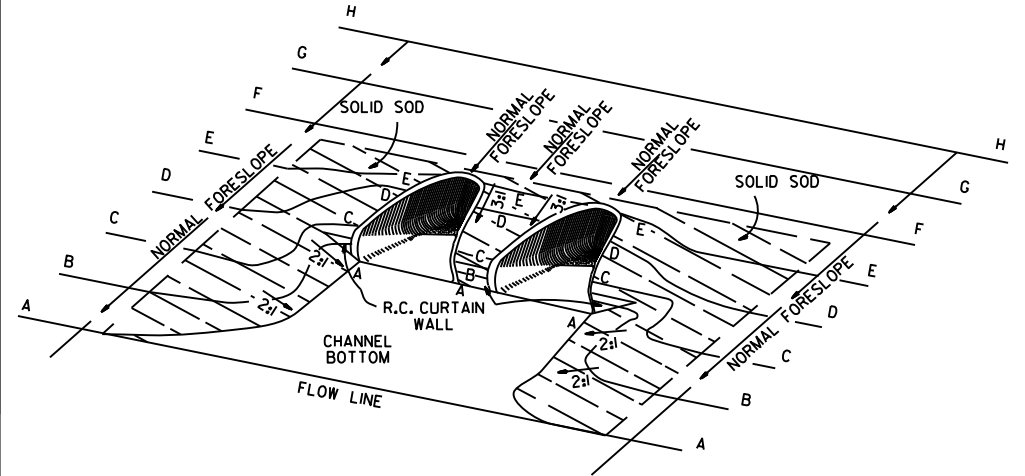
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & STREET
TURNOUTS
STANDARD DRAWING DR-2



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



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

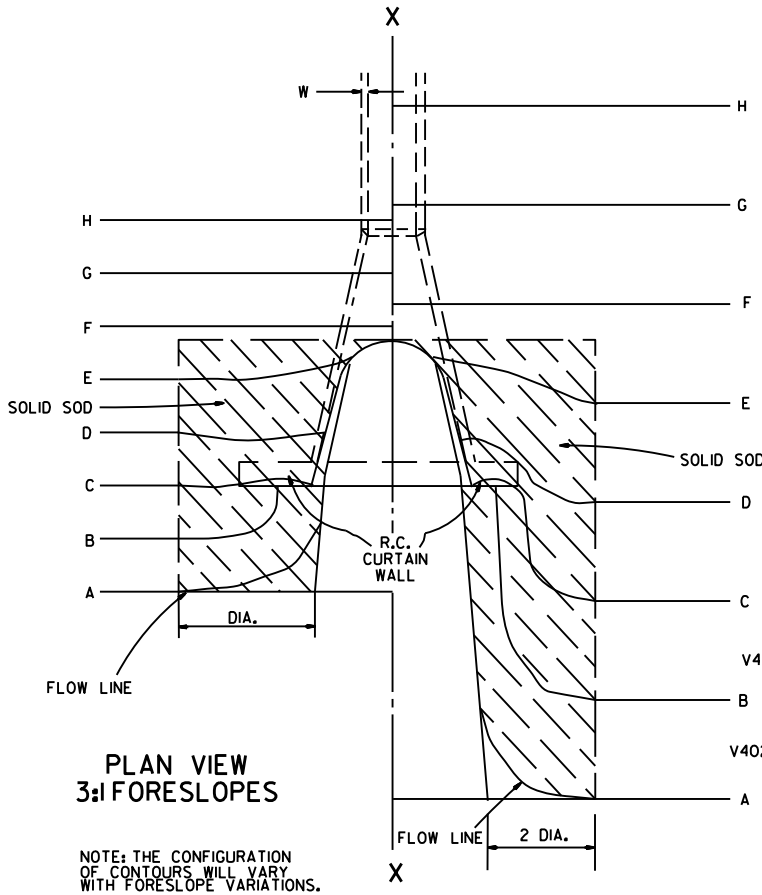
PIPE DIA.	H ₁	L ₁	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	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.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

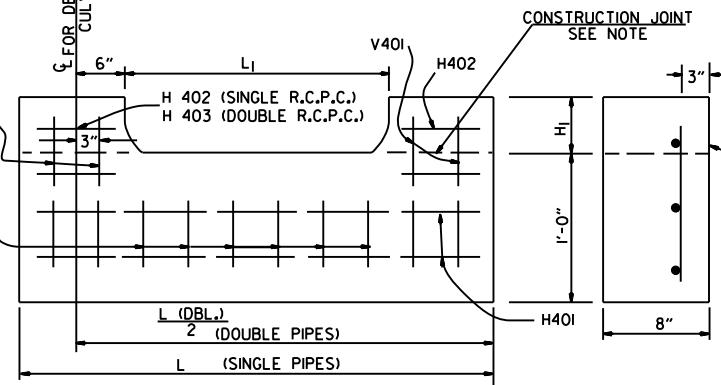
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

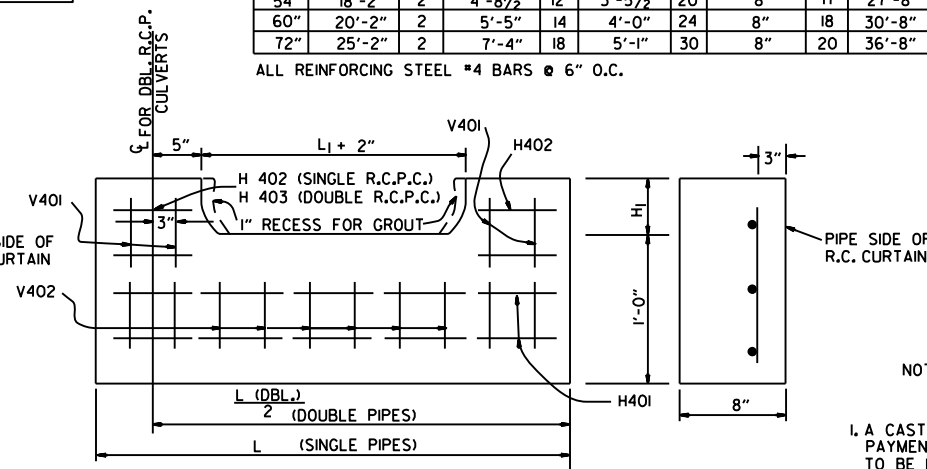
NOTE: THE CONFIGURATION
OF CONTOURS WILL VARY
WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



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.

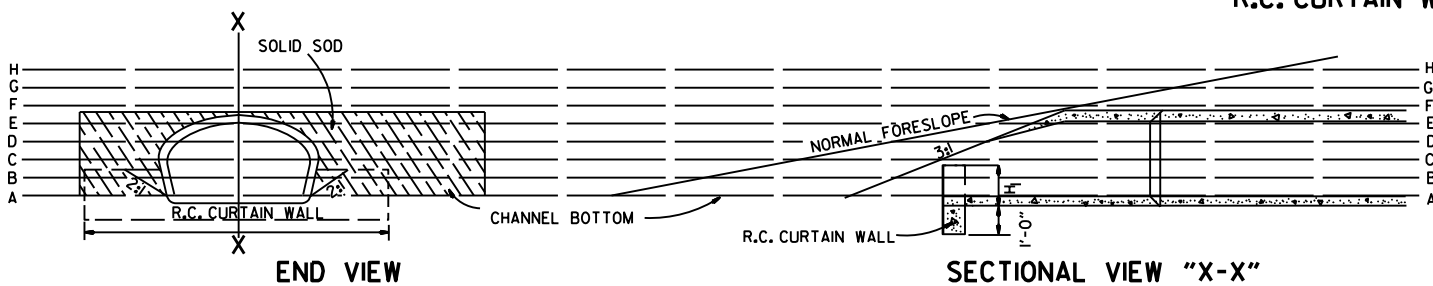
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.						DOUBLE R.C.P.C.					
	3:1	4:1	6:1	3:1	4:1	6:1	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.						SQ. YDS.					
18"	5	7	12	6	8	13	10	14	24	12	16	27
24"	8	12	19	9	13	20	16	22	36	18	24	40
30"	13	18	29	14	19	30	24	32	54	24	32	54
36"	17	26	41	18	28	43	32	44	72	32	44	72
42"	23	35	55	25	37	57	40	56	96	40	56	96
48"	29	46	68	31	48	70	50	70	120	50	70	120
54"	35	57	85	37	59	87	60	84	150	60	84	150
60"	45	62	104	48	65	107	80	112	192	80	112	192
72"	64	92	156	67	95	159	112	156	288	112	156	288

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 W/10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

10-18-96	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING		
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	STANDARD DRAWING FES-1

FLARED END SECTION

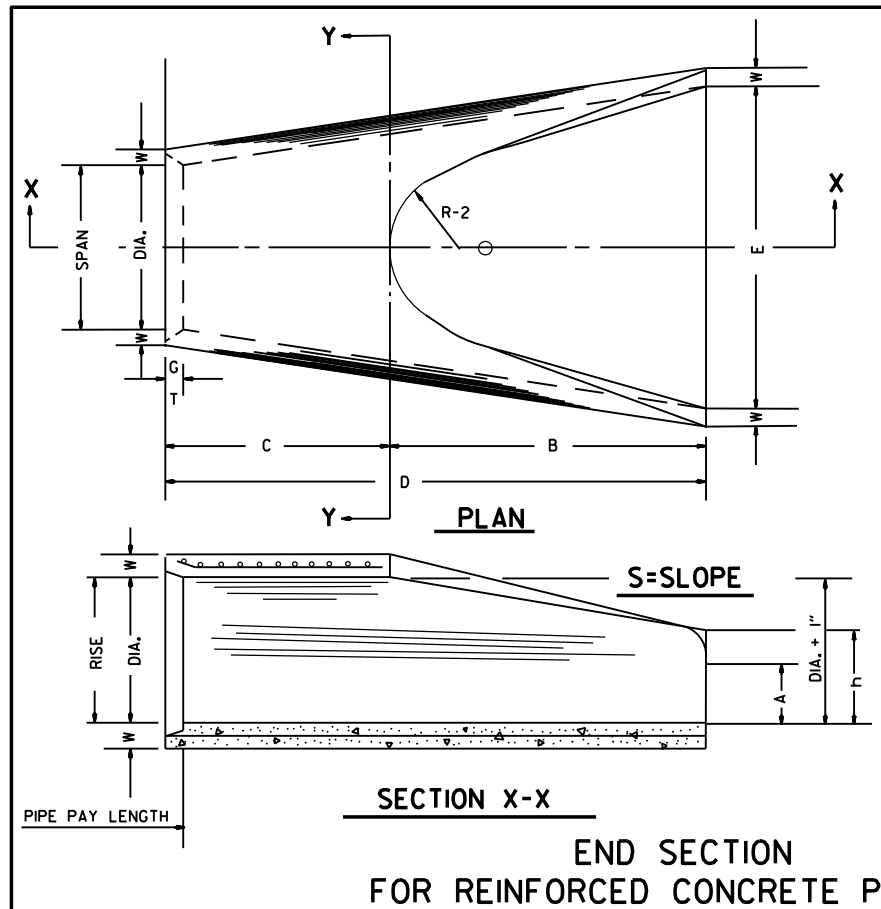
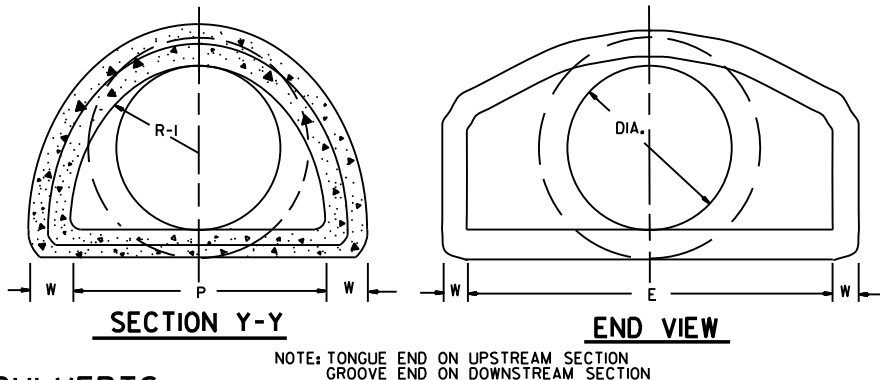
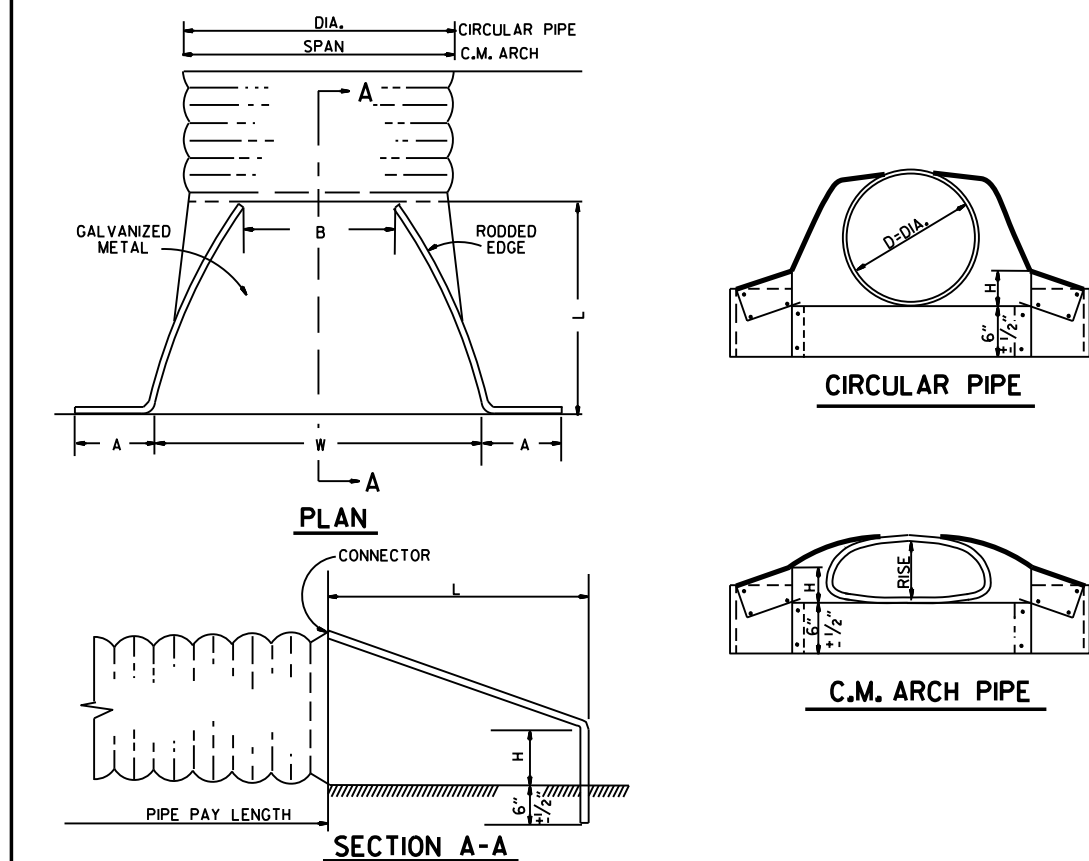
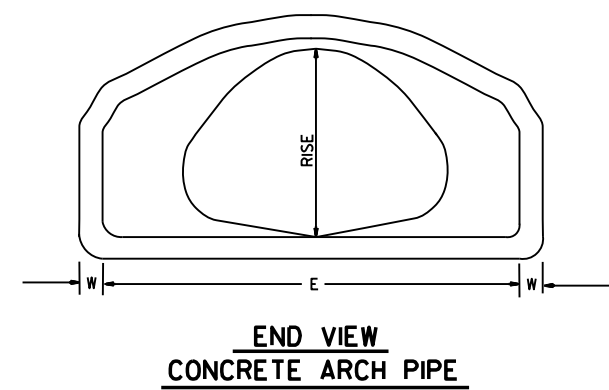


TABLE OF DIMENSIONS														
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 1/8"	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 1/8"	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 1/8"	38 1/8"	24"	5"	13250	4'-6"

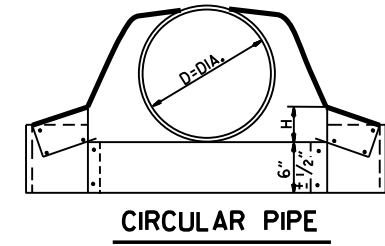


ARCH PIPE														
EQUIV. DIA.	• SPAN		• RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 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 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 1/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 5/8	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 7/8"	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 1/4:1
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

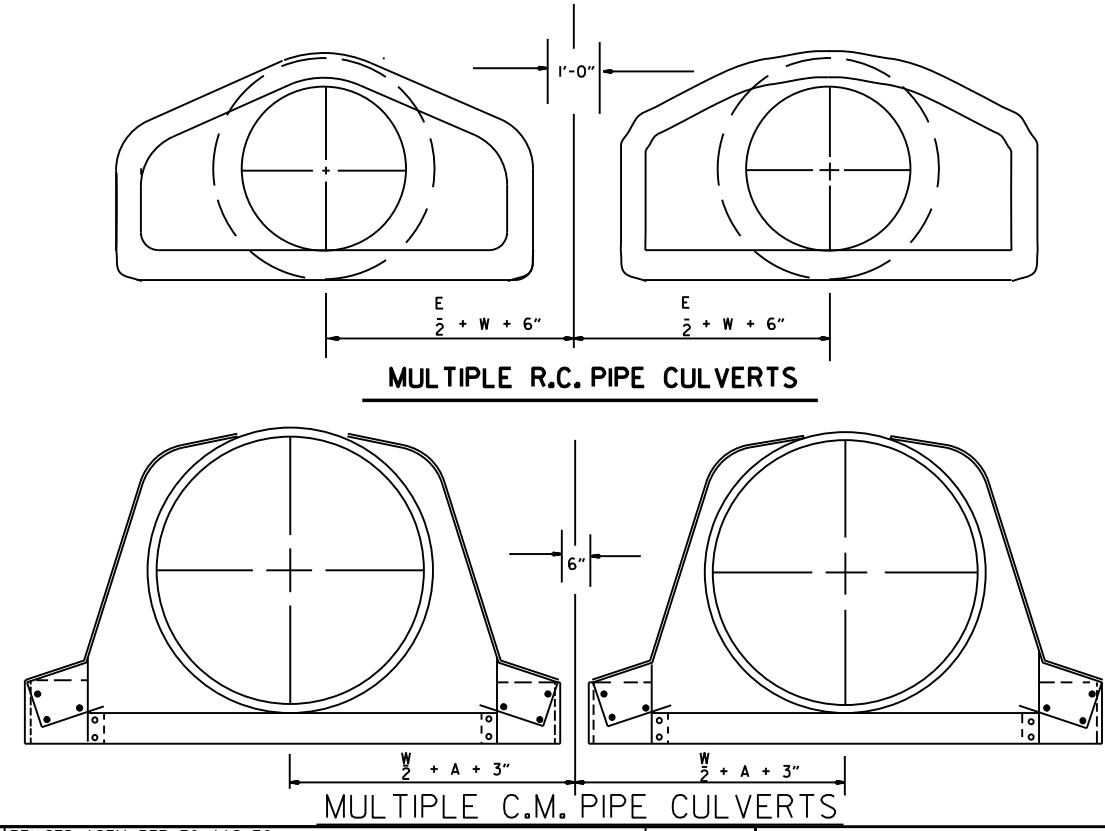
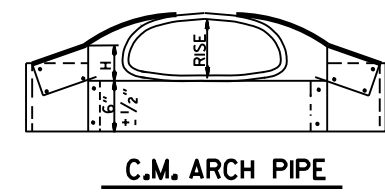
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



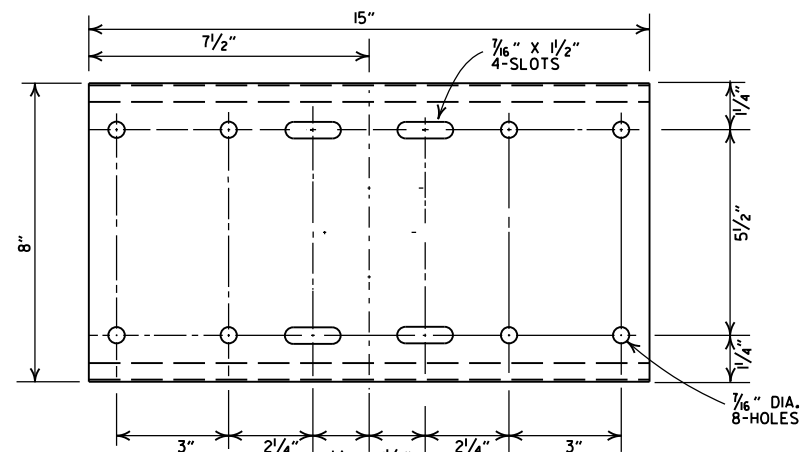
CIRCULAR PIPE									
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S		
INCHES									
12	16	6	6	6	21	24	2 1/2:1		
15	16	7	8	6	26	30	2 1/2:1		
18	16	8	10	6	31	36	2 1/2:1		
21	16	9	12	6	36	42	2 1/2:1		
24	16	10	13	6	41	48	2 1/2:1		
30	14	12	16	8	51	60	2 1/2:1		
36	14	14	19	9	60	72	2 1/2:1		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



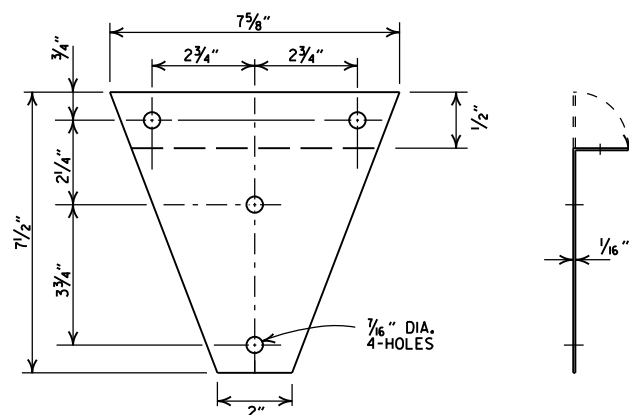
C.M. ARCH PIPE									
EQUIV. DIA.	SPAN	RISE	A 1" $\pm$	B MAX.	H 1" $\pm$	L 1/2" $\pm$	W 2" $\pm$	S	GAUGE
INCHES									
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29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



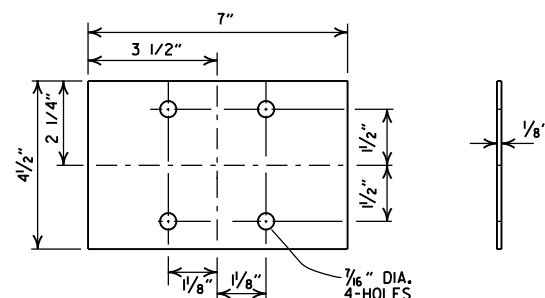
10-18-96	REVISED ASTM REF. TO AASHTO		ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.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



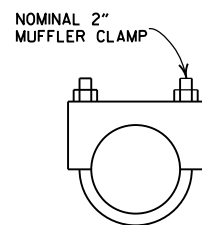
SHELF



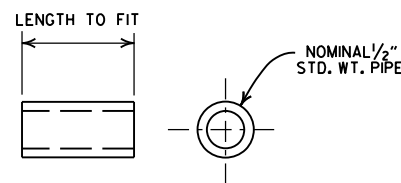
BRACKET



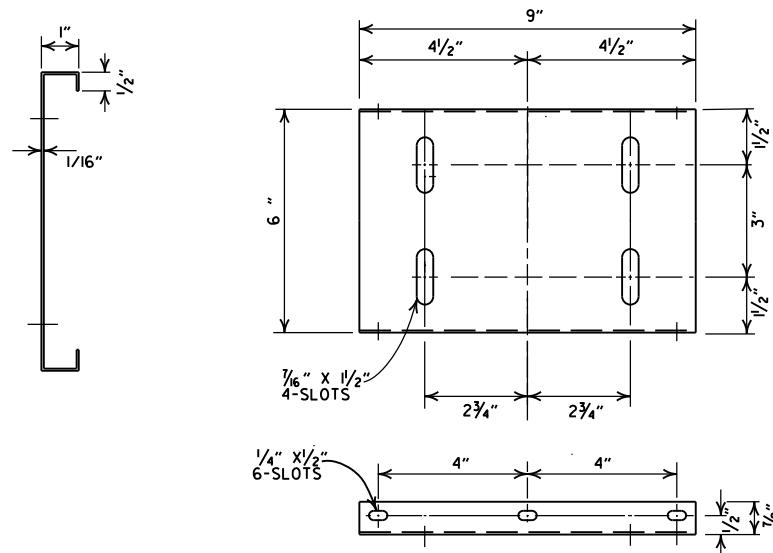
ANTI-TWIST PLATE



CLAMP



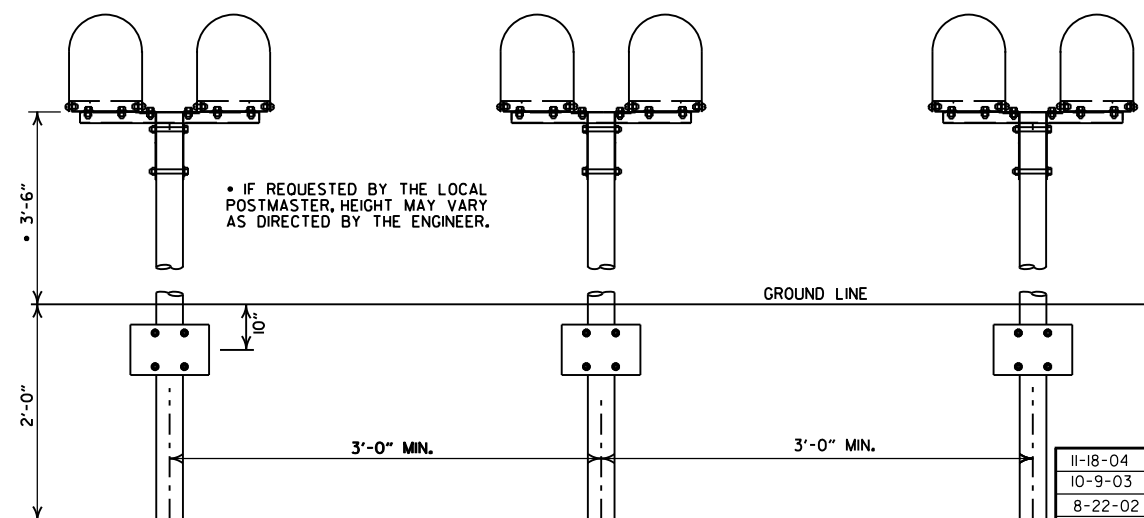
SPACER



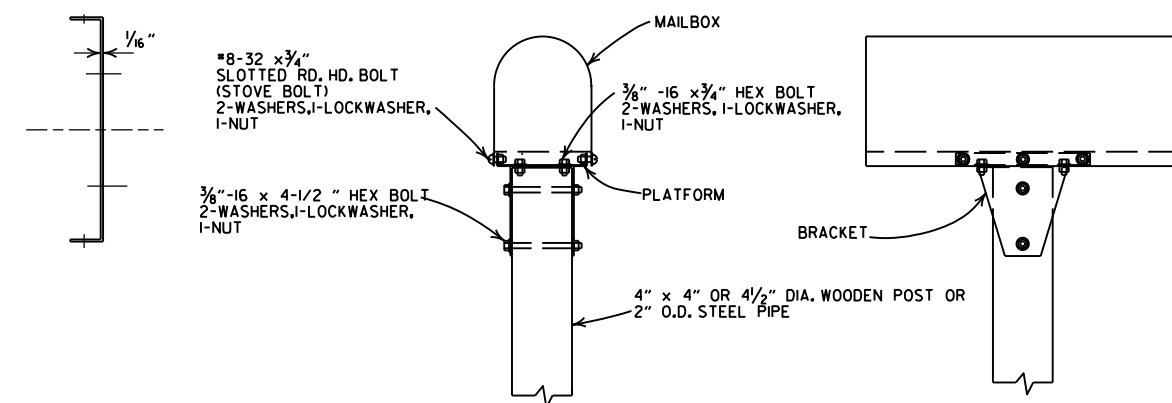
PLATFORM

GENERAL NOTES

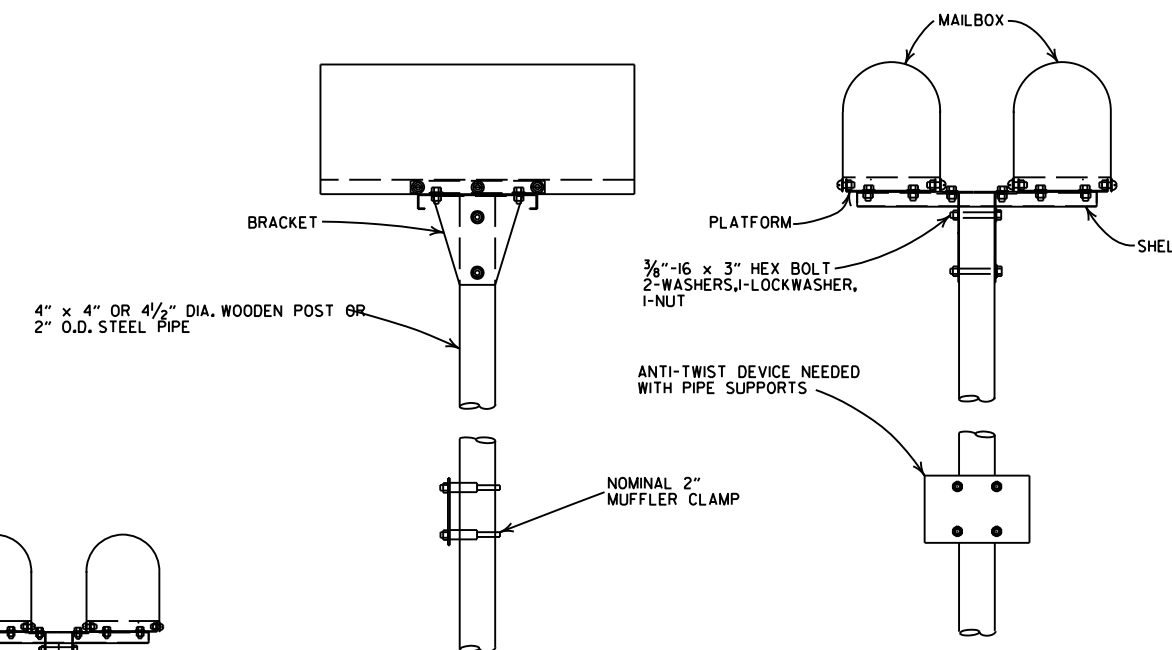
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED 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 ARDOT QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



SPACING FOR MULTIPLE POST INSTALLATION



SINGLE INSTALLATION



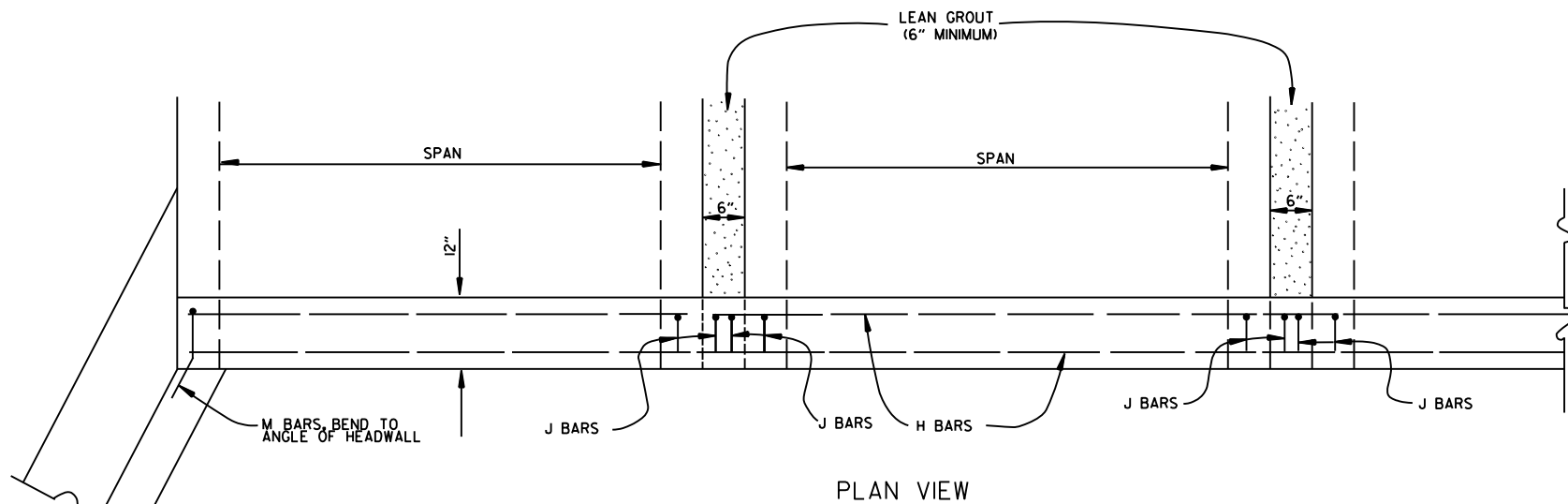
DOUBLE INSTALLATION

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

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 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 $\frac{3}{4}$ " CHAMFERS.

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

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

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

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

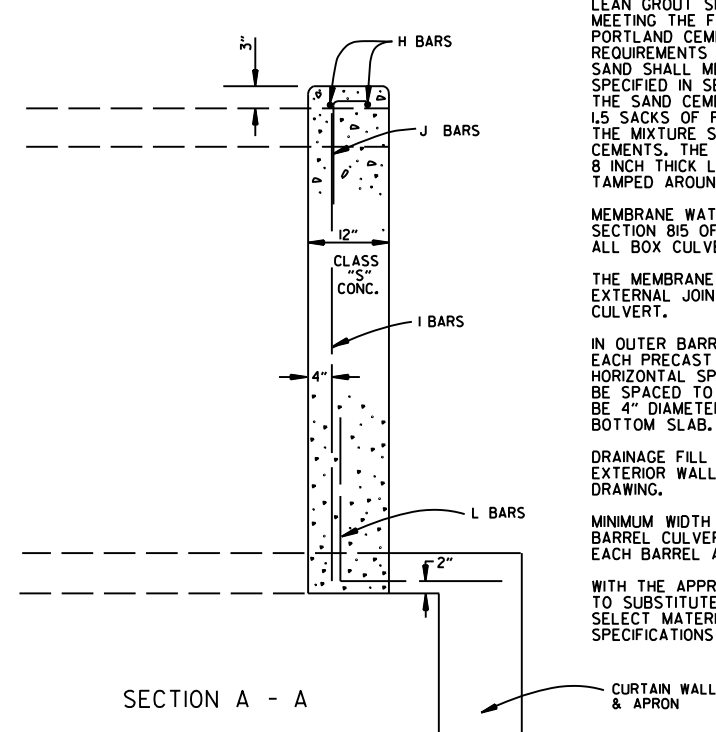
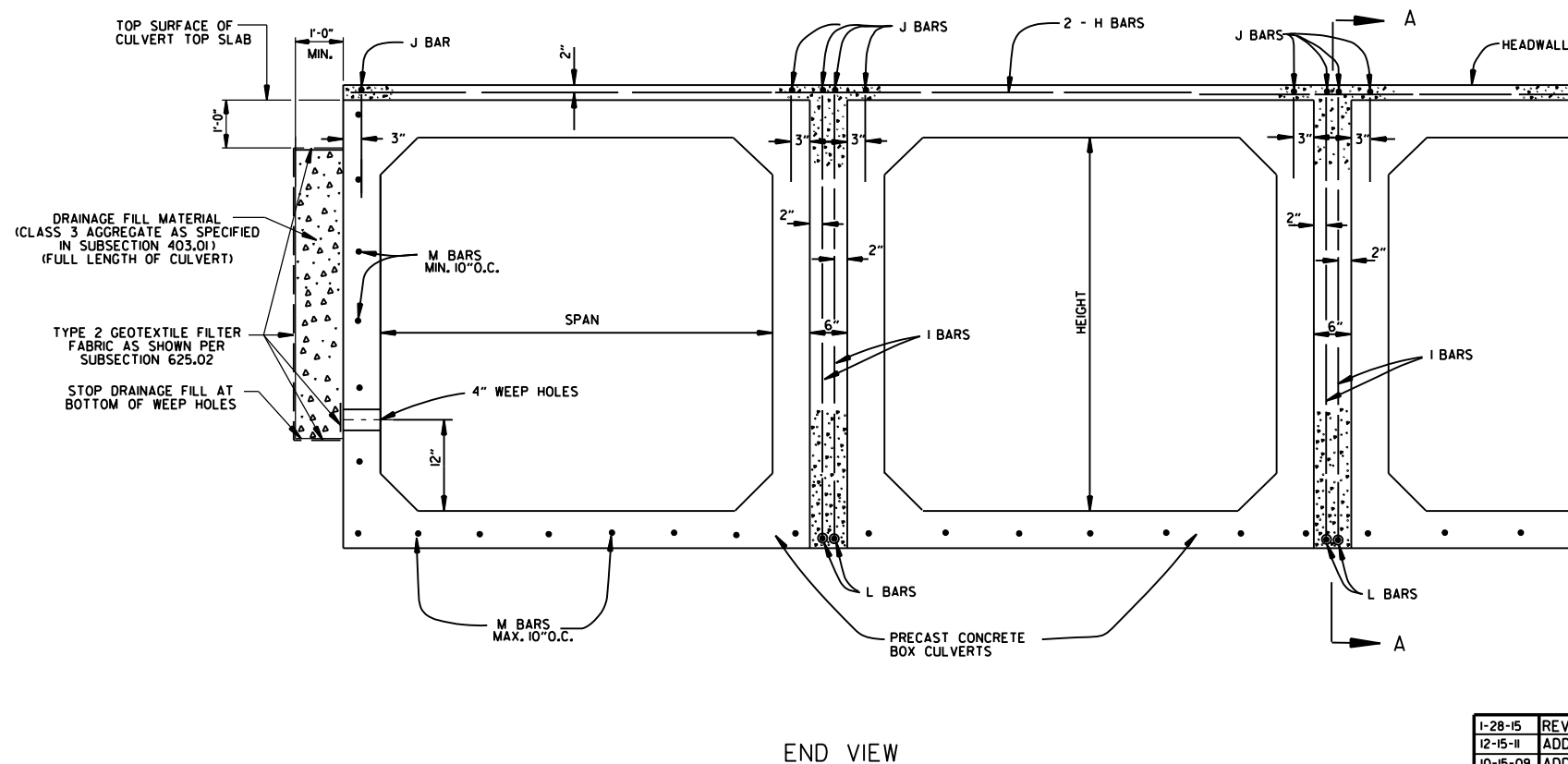
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

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

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

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



DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED: JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE
ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51½	51	31¾	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL
PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(F)(1).

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

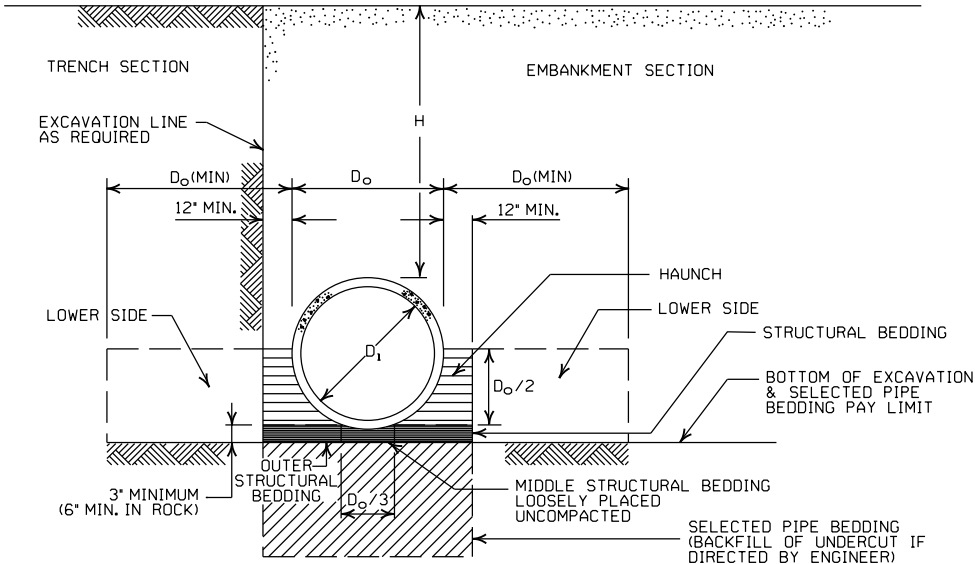
- LEGEND -

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

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170. R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

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

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

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

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

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

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

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

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

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

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

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

2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1



CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)		
				INSTALLATION	INSTALLATION		INSTALLATION	INSTALLATION		
				TYPE 1	TYPE 1		TYPE 1	TYPE 1		
				2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 3/4 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2	15	0.060	2	15		
18	21x15	3	0.064	2	15	0.060	2	15		
21	24x18	3	0.064	2,25	15	0.060	2,25	15		
24	28x20	3	0.064	2,5	15	0.075	2,5	15		
30	35x24	3	0.079	3	12	0.075	3	12		
36	42x29	3 1/2	0.079	3	12	0.105	3	12		
42	49x33	4	0.079	3	12	0.105	3	12		
48	57x38	5	0.109	3	13	0.135	3	13		
54	64x43	6	0.109	3	14	0.135	3	14		
60	71x47	7	0.138	3	15	0.135	3	15		
66	77x52	8	0.168	3	15	① FOR MINIMUM COVER VALUES, "H" SHALL ② WHERE THE STANDARD 2 2/3" x 1/2" COR WITH A 3' x 1' OR 5' x 1' CORRUGATION OR GREATER THAN THE MAXIMUM FILL				
72	83x57	9	0.168	3	15					
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
			INSTALLATION		INSTALLATION					
			TYPE 2	TYPE 1	TYPE 2				TYPE 1	
36	40x31	5	0.079	3	2				12	15
42	46x36	6	0.079	3	2				13	15
48	53x41	7	0.079	3	2				13	15
54	60x46	8	0.079	3	2				13	15
60	66x51	9	0.079	3	2				13	15
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

CONSTRUCTION SEQUENCE

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

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

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

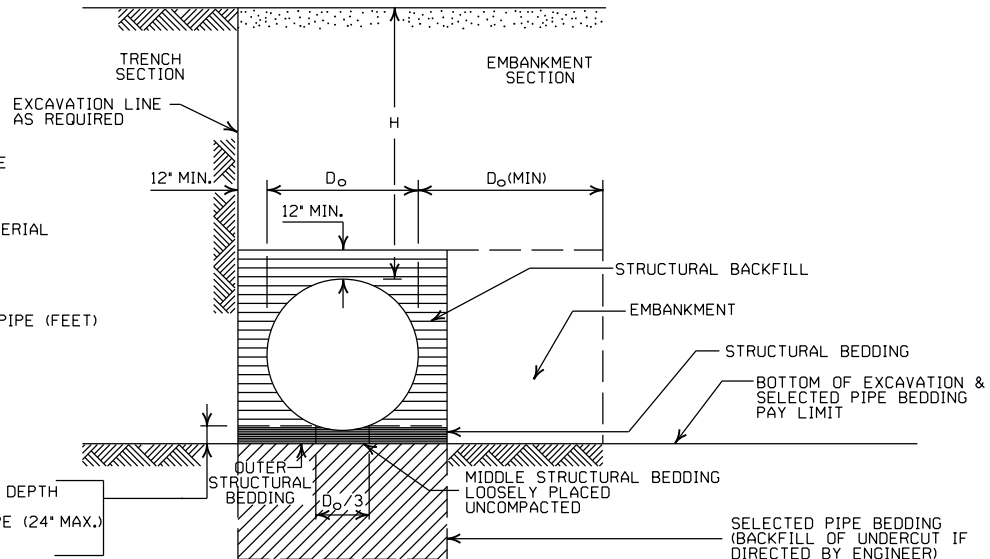
EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL		ALUMINUM	
ZINC COATED	UNCOATED		
0.064 0.079 0.109 0.138 0.168	0.0598 0.0747 0.1046 0.1345 0.1644		
		0.060 0.075 0.105 0.135 0.164	16 14 12 10 8

- LEGEND -

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

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



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/4" X 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

2-27-14	REVISED GENERAL NOTE 1	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1



INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

- AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.
 - SM3 WILL NOT BE ALLOWED.
 - STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1/2 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.
- 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 HDPE PIPE.

MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" ≥ 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

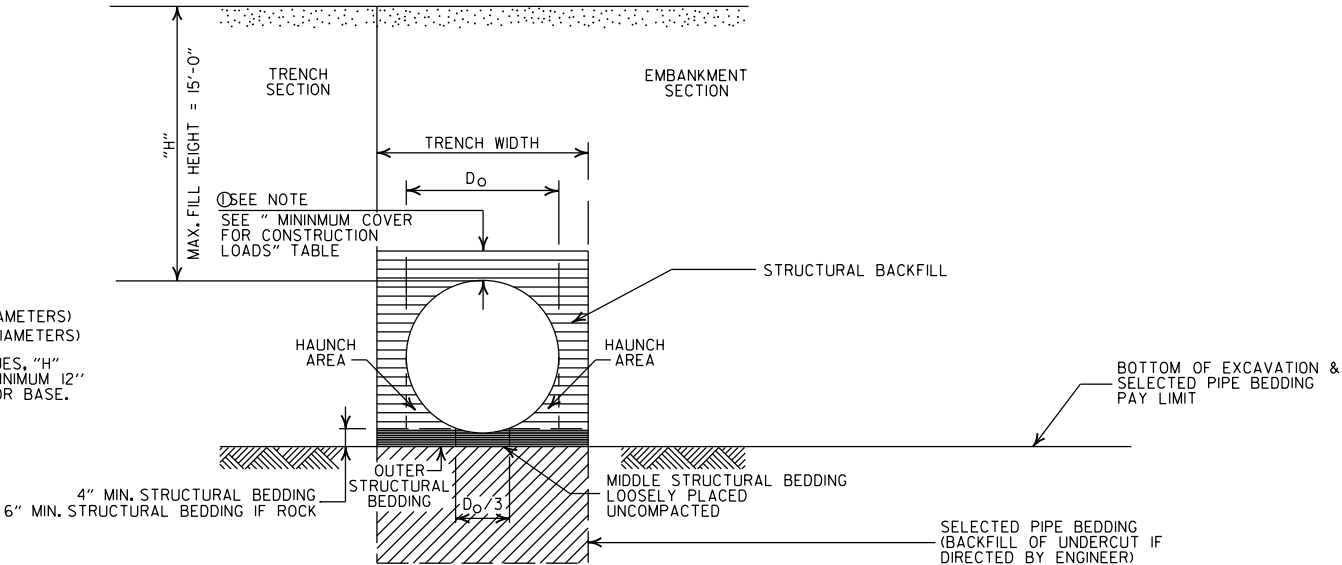
NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H"
SHALL INCLUDE A MINIMUM 12"
OF PAVEMENT AND/OR BASE.

MULTIPLE INSTALLATION OF
HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

PIPE DIAMETER	MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

- 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

- PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
- INSTALL PIPE TO GRADE.
- COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
- THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
- PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

- LEGEND -

- H = FILL HEIGHT (FT.)
Do = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
- ===== = STRUCTURAL BACKFILL MATERIAL
===== = UNDISTURBED SOIL

GENERAL NOTES

- PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
- PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- 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.
- 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."
- 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."
- FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
- HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

			ARKANSAS STATE HIGHWAY COMMISSION
			PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)
			STANDARD DRAWING PCP-1
2-27-14	REVISED GENERAL NOTE 1.		
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE		
11-17-10	ISSUED		
DATE	REVISION	DATE FILMED	

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

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

SM3 WILL NOT BE ALLOWED.
- STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1/4 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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 PVC PIPE.

MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" ≥ 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

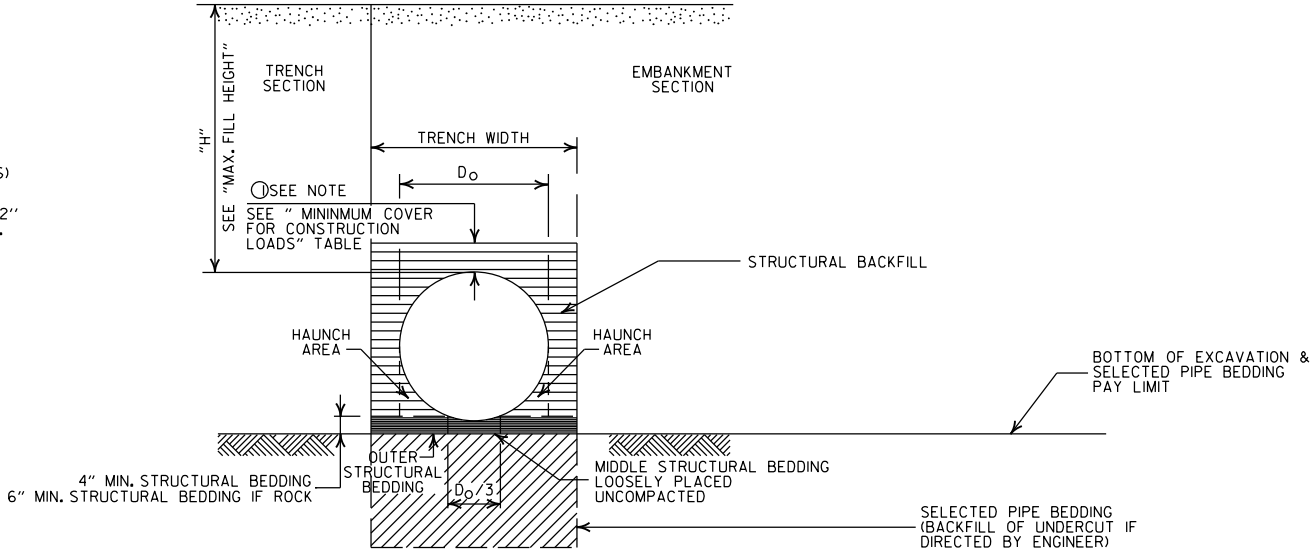
MULTIPLE INSTALLATION OF
PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT
BASED ON STRUCTURAL BACKFILL

PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

- ① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H"
SHALL INCLUDE A MINIMUM 12"
OF PAVEMENT AND/OR BASE.



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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

- LEGEND -

H = FILL HEIGHT (FT.)
D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

===== = STRUCTURAL BACKFILL MATERIAL
||||||| = UNDISTURBED SOIL

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT
(PVC F949)

STANDARD DRAWING PCP-2



INSTALLATION TYPE	**MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) OR TYPE 1 INSTALLATION MATERIAL

* SM3 WILL NOT BE ALLOWED.

** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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 POLYPROPYLENE PIPE.

MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"
60"	5'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

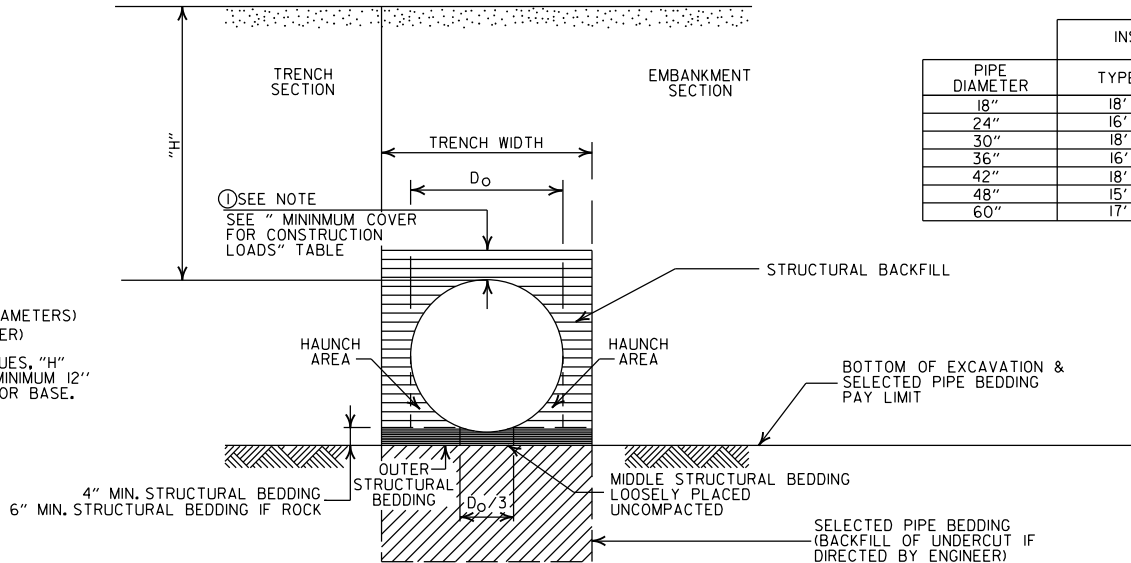
PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"
60"	10'-0"	15'-0"

① NOTE:
12" MIN. (18" - 42" DIAMETERS)
24" MIN. (60" DIAMETER)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-150.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

② MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M330, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

===== = STRUCTURAL BACKFILL MATERIAL
XXXXXXXXXX = UNDISTURBED SOIL

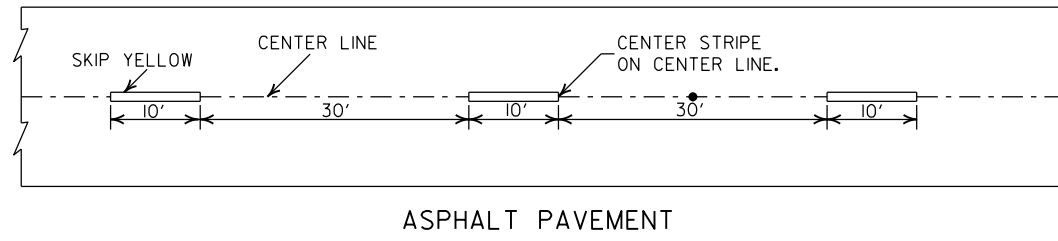
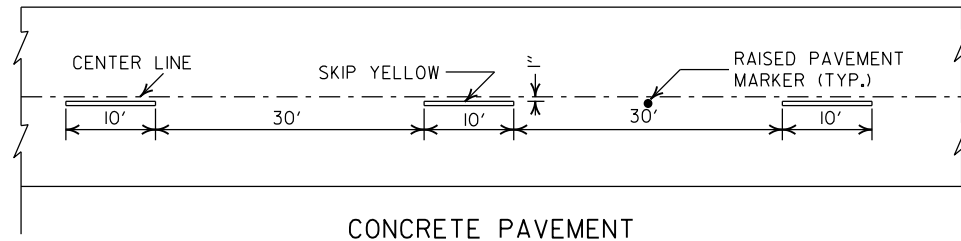
02-27-20	REVISED	
11-07-19	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

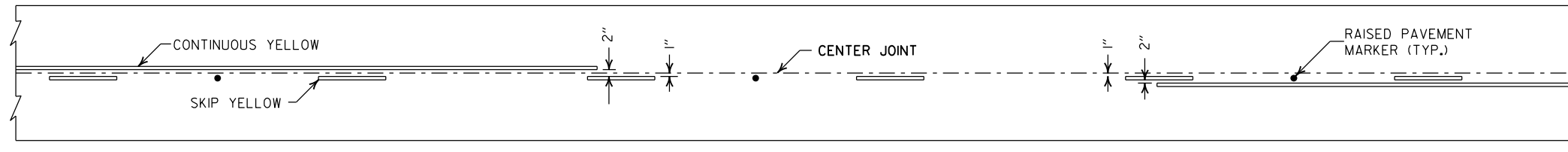
PLASTIC PIPE CULVERT
(POLYPROPYLENE)

STANDARD DRAWING PCP-3

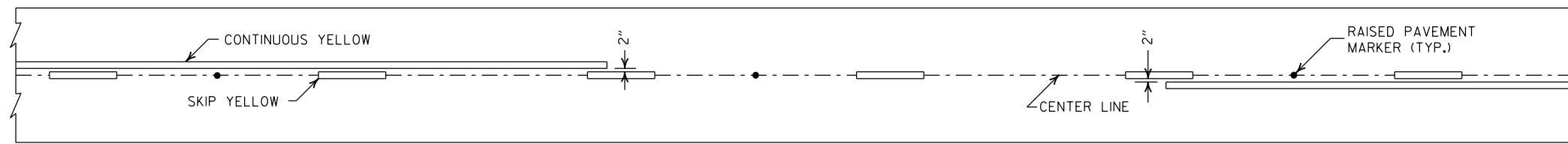




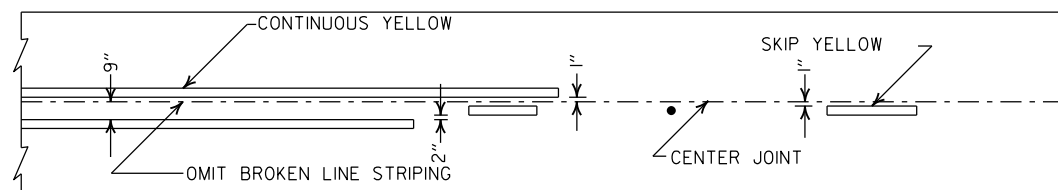
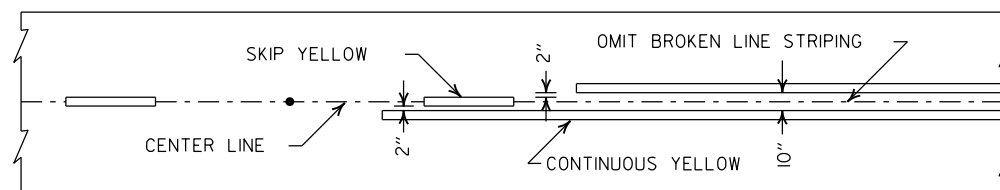
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



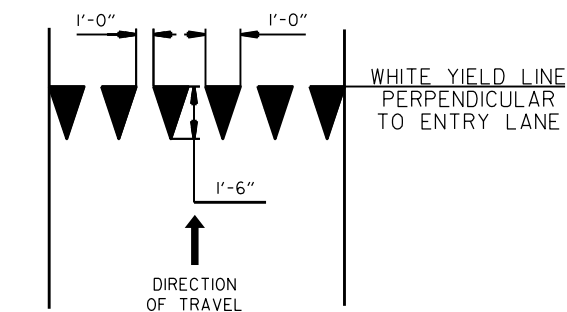
SOLID LINE STRIPING ON ASPHALT PAVEMENT



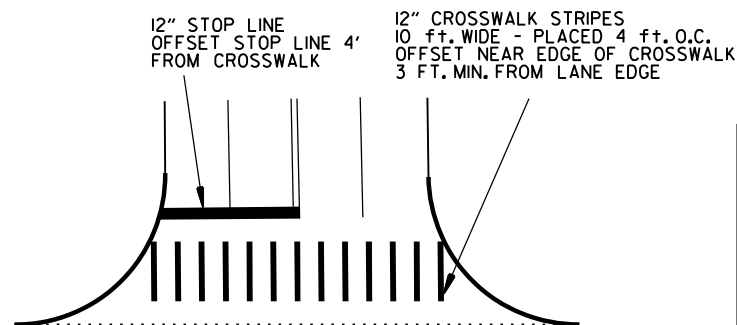
ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL

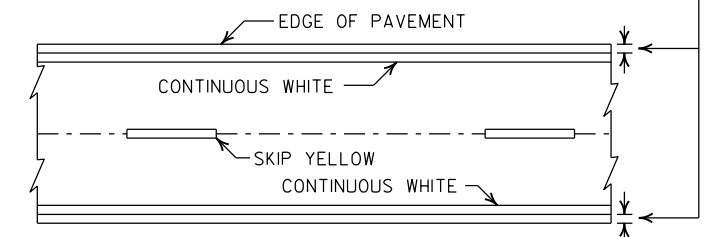


CROSSWALK AND STOP LINE DETAILS

NOTES:

1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT

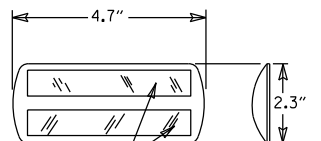


PAVEMENT EDGE LINE MARKING

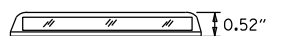
NOTE:
THE RED LENS OF THE
TYPE II R.P.M. SHALL
FACE THE INCORRECT
TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW

PRISMATIC REFLECTOR



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 ARDOT QUALIFIED
PRODUCTS LIST.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

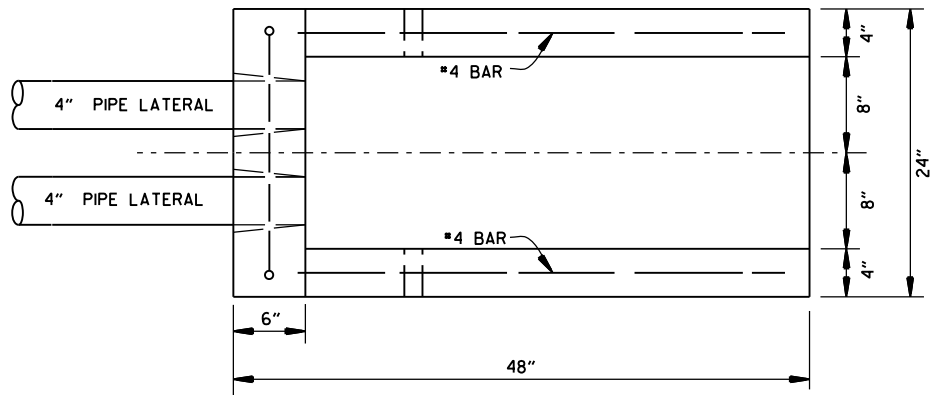
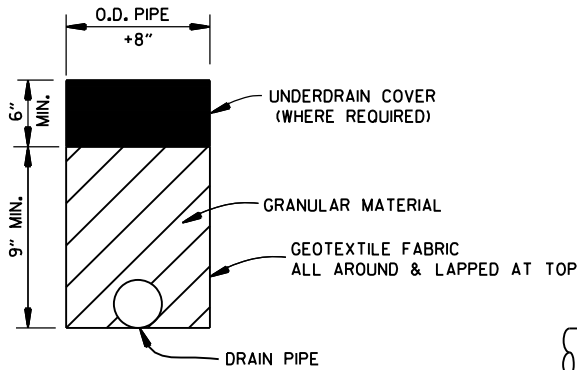
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

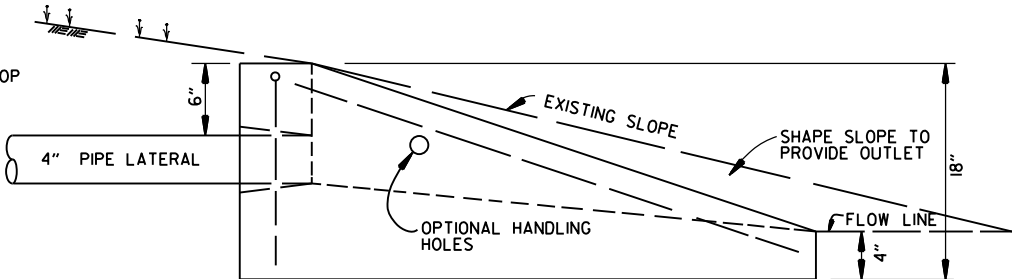
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

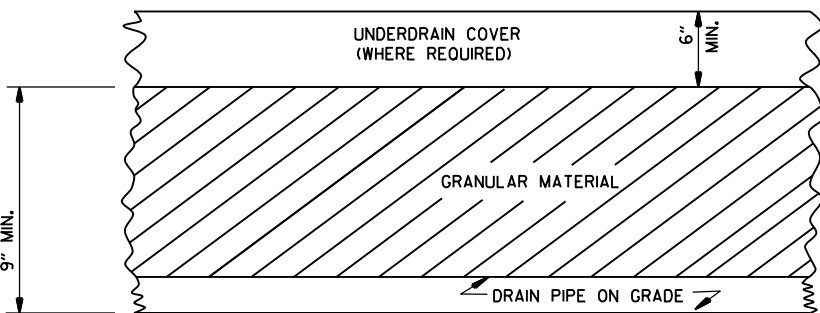
NOTE:
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



PLAN VIEW



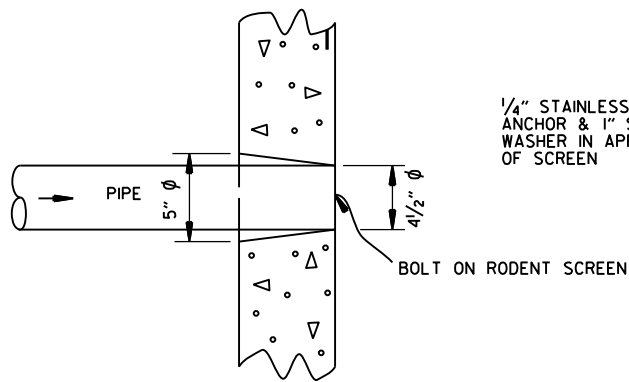
SIDE VIEW



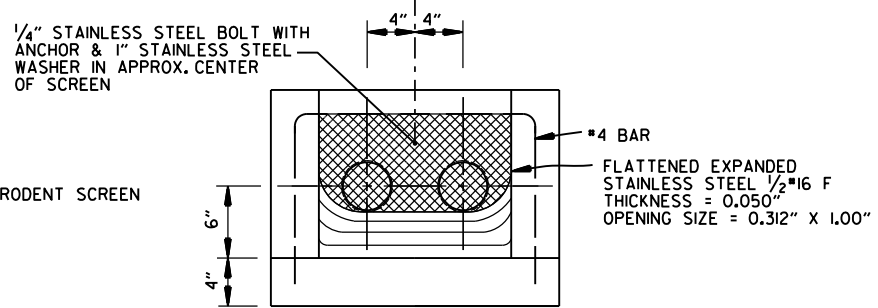
DETAILS OF PIPE UNDERDRAIN

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE I. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.
3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."
4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."
6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."
7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.



DETAIL OF HOLE FOR 4" PIPE

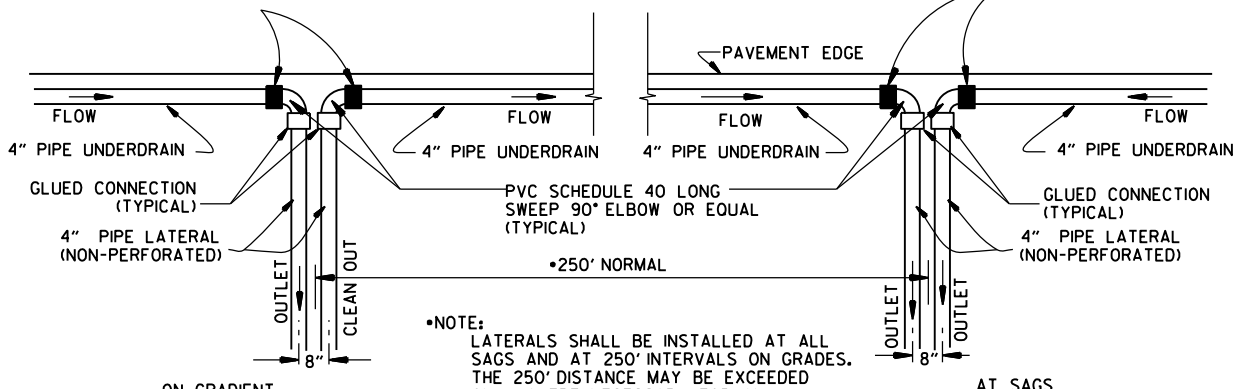


FRONT VIEW
(DETAIL OF RODENT SCREEN)

FERNCO 1056-44 (4" CI/PLASTIC) OR
FERNCO 1051-44 (4" AC/DI OR 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/DI OR 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.

12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE: 5 1/2" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYETHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

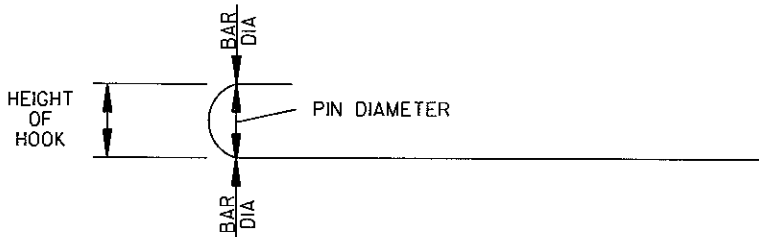
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

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

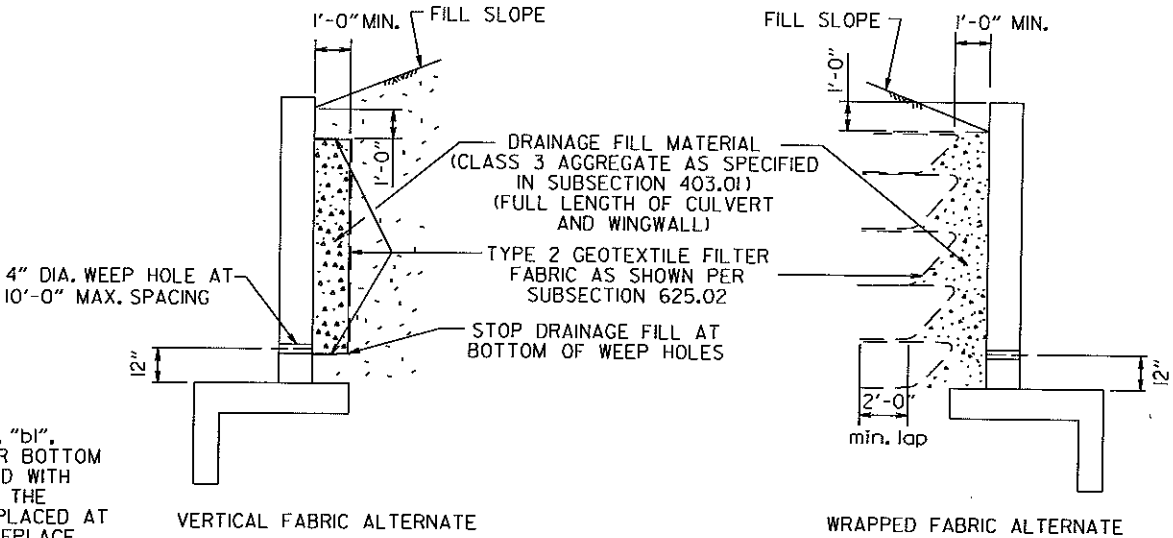
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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 & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

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

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

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

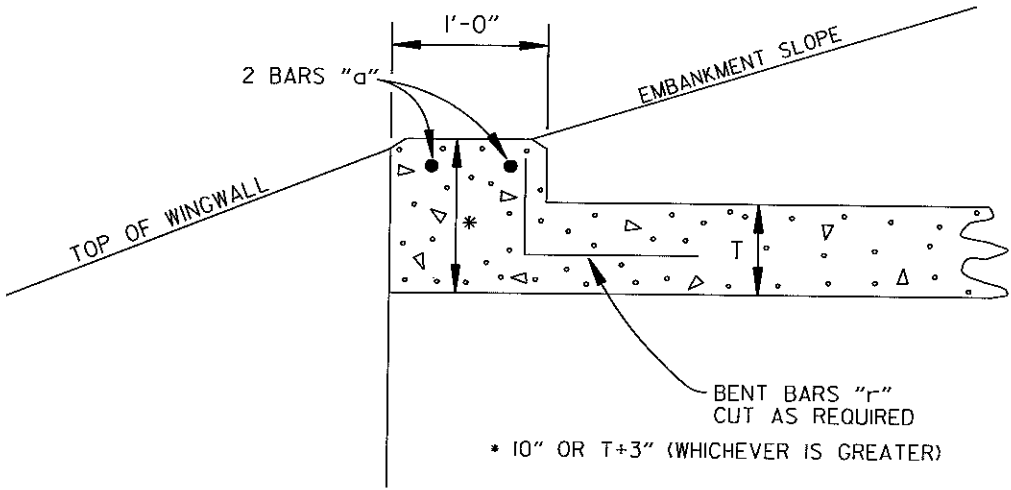
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

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



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

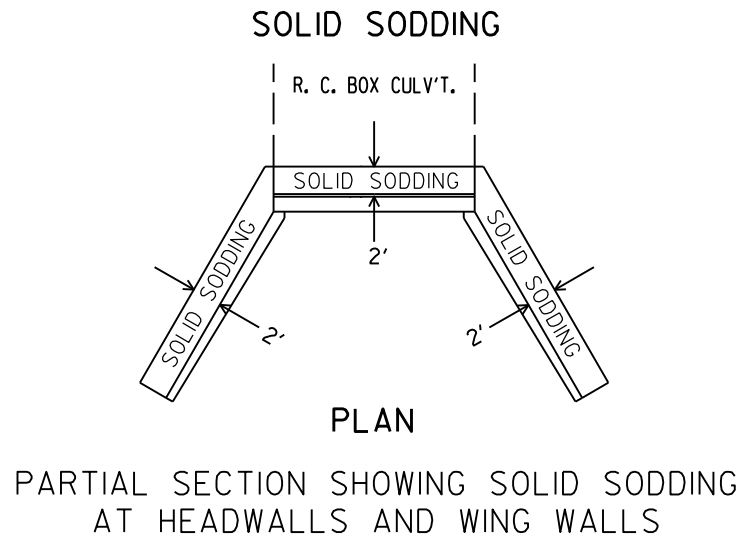
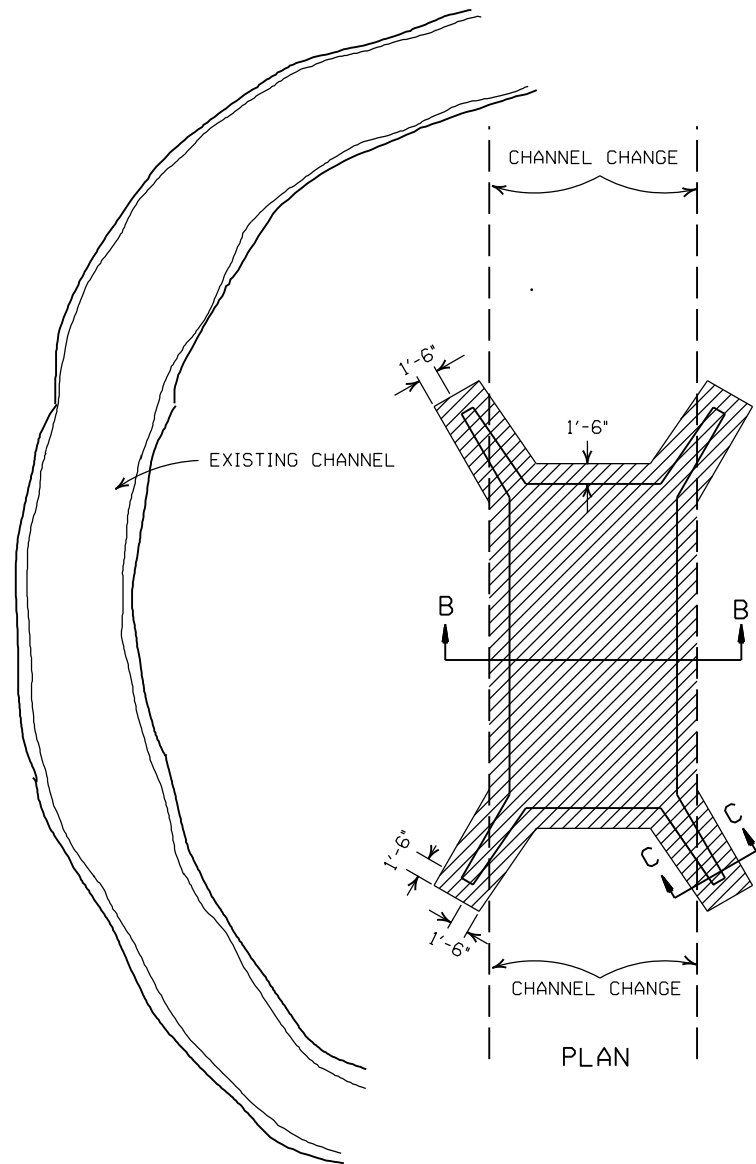
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

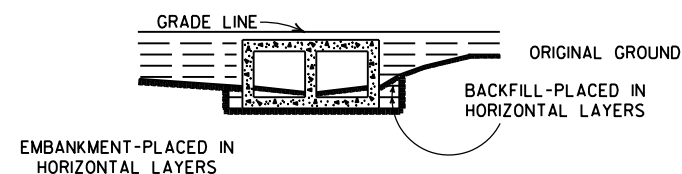
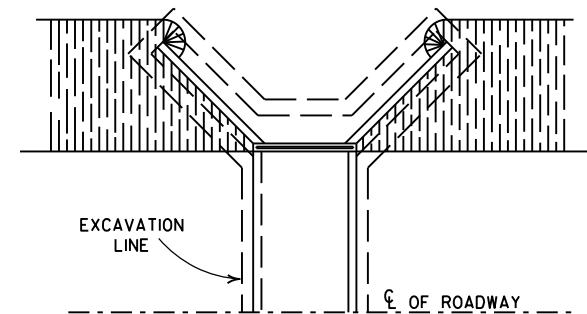
ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX
CULVERT DETAILS

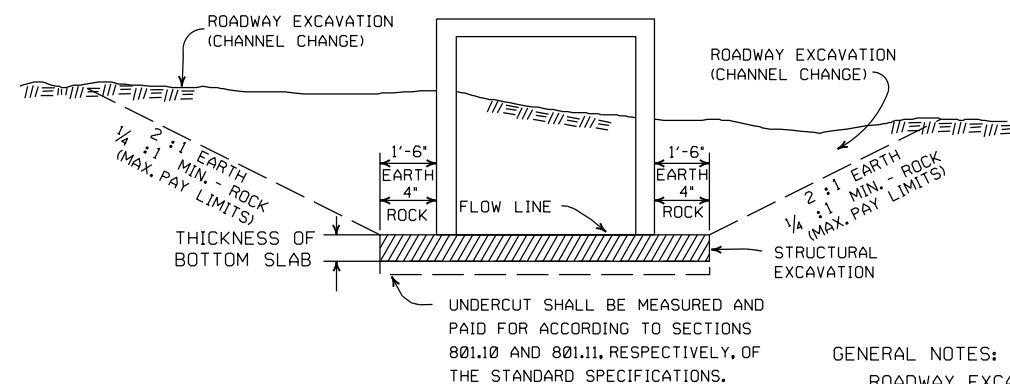
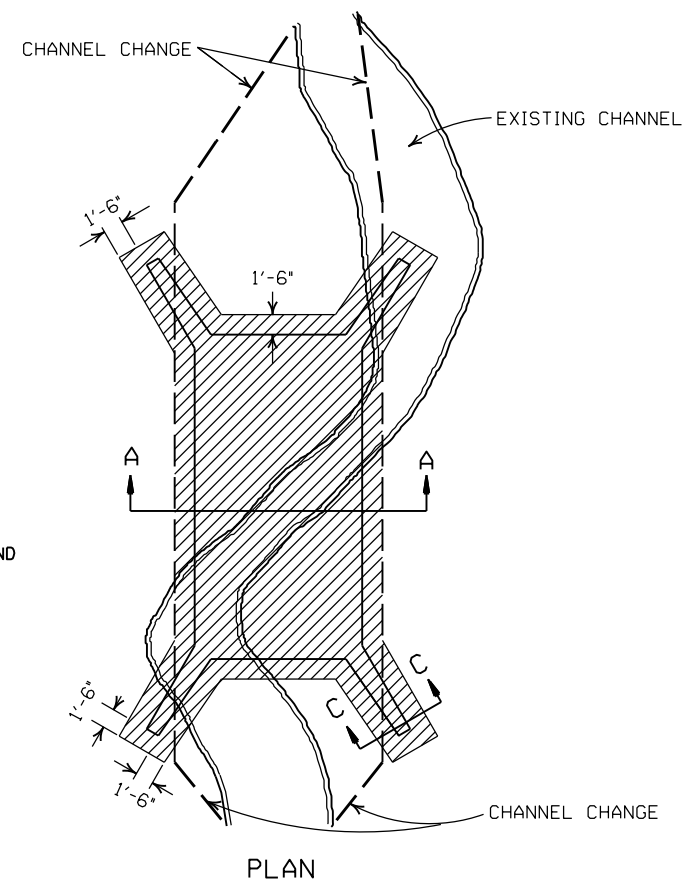
STANDARD DRAWING RCB-1



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



BACKFILL DETAILS FOR BOX CULVERT



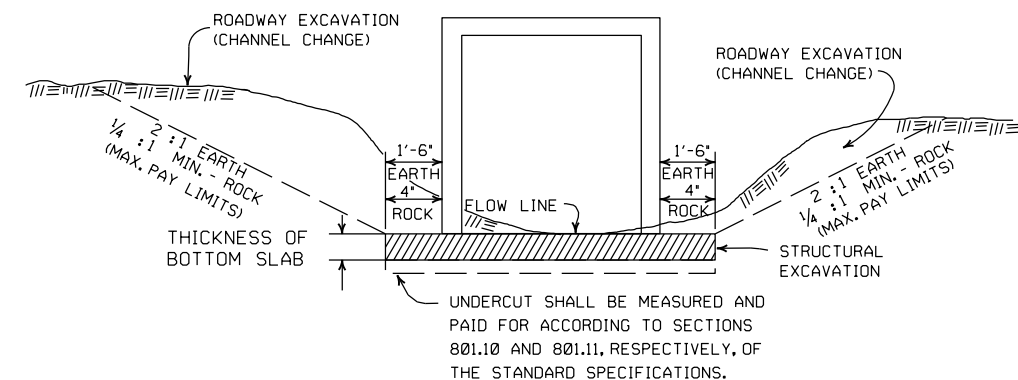
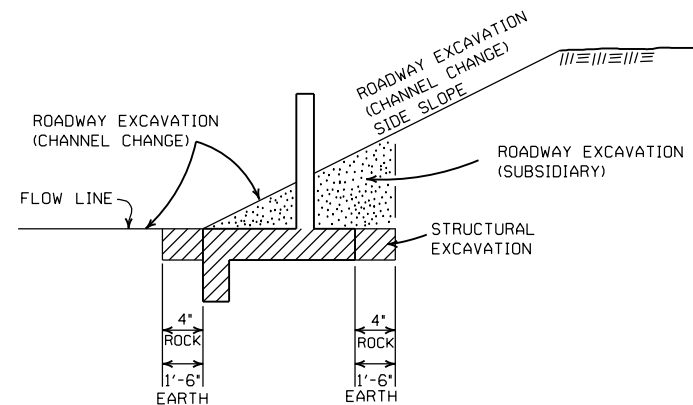
DETAILS FOR NEW CHANNELS

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.



DETAILS THROUGH EXISTING CHANNELS

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

ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING RCB-2

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			NC			RC	96		RC	96		RC	96		RC	96	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.030	120	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.038	139	
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158		0.046	158	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168		0.056	182		0.056	182	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168		0.056	182		0.064	202		0.064	202	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.070	216	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178		0.062	197		0.070	216		0.078	235		0.078	235	
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187		0.068	211		0.076	230		0.086	254		0.086	254	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149		0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.092	269	
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187		0.068	211		0.078	235		0.088	259		0.098	283		0.098	283	
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288		0.100	288	
3° 30'	0.030	90		0.038	113		0.046	139		0.056	171		0.066	206		0.076	230		0.086	254		0.096	278		0.100	288		0.100	288	
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.098	283		0.100	288		0.100	288	
4° 00'	0.034	97		0.042	121		0.052	151		0.062	185		0.072	221		0.084	250		0.094	274		0.100	288		0.100	288		0.100	288	
4° 15'	0.036	100		0.044	125		0.054	155		0.064	189		0.076	230		0.086	254		0.096	278		0.100	288		0.100	288		0.100	288	
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283		0.100	288		0.100	288		0.100	288	
4° 45'	0.038	104		0.048	133		0.060	168		0.070	203		0.082	245		0.092	269		0.098	283		0.100	288		0.100	288		0.100	288	
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		0.098	283		0.100	288		0.100	288		0.100	288	
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221		0.088	259		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.100	288		0.100	288		0.100	288		0.100	288		0.100	288		0.100	288	
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
8° 30'	0.060	144		0.072	179		0.086	223		0.096	261		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270		0.100	288		0.100	288		0.100	288		0.100	288		0.100	288		0.100	288	
10° 00'	0.066	155		0.080	195		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240	
11° 00'	0.070	162		0.084	203		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244	
12° 00'	0.074	169		0.088	211		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248	
13° 00'	0.076	173		0.090	215		0.090	215		0.090	215		0.090	215		0.090	215		0.090	215		0.090	215		0.090	215		0.090	215	
14° 00'	0.080	180		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222	
15° 00'	0.082	184		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226	
16° 00'	0.086	191		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230	
17° 00'	0.088	194		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
18° 00'	0.090	198		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
19° 00'	0.092	202		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
20° 00'	0.094	205		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
21° 00'	0.096	209		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
22° 00'	0.096	209		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
23° 00'	0.098	212		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
24° 00'	0.098	212		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
25° 00'	0.100	216		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	

ABBREVIATIONS

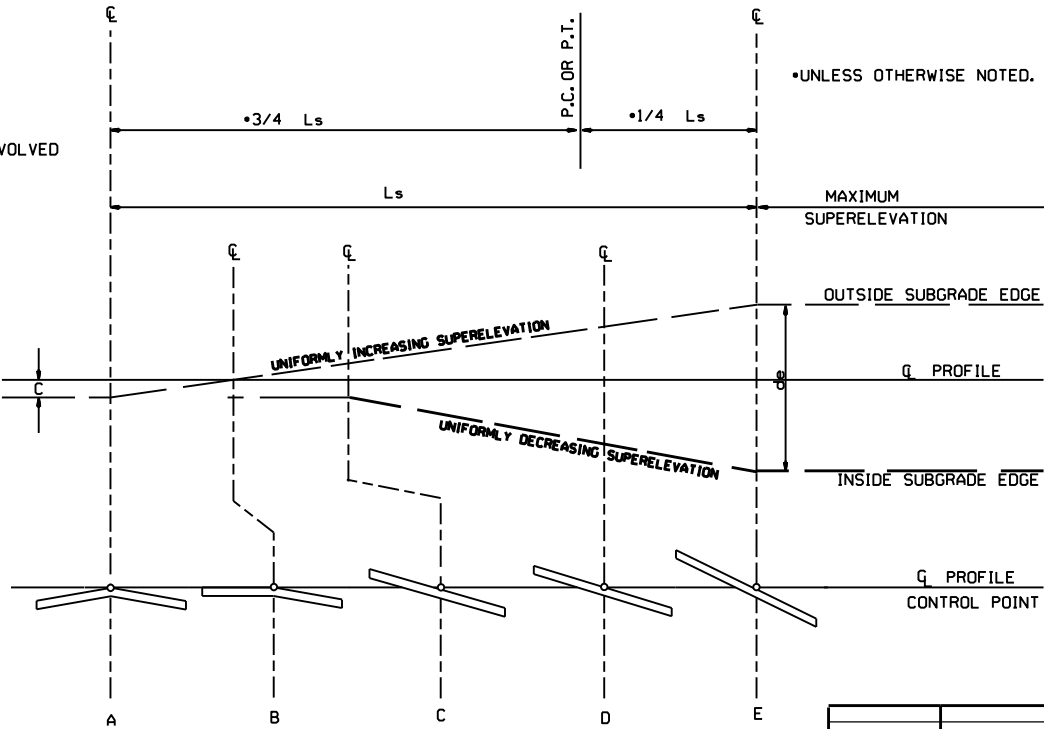
NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL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

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

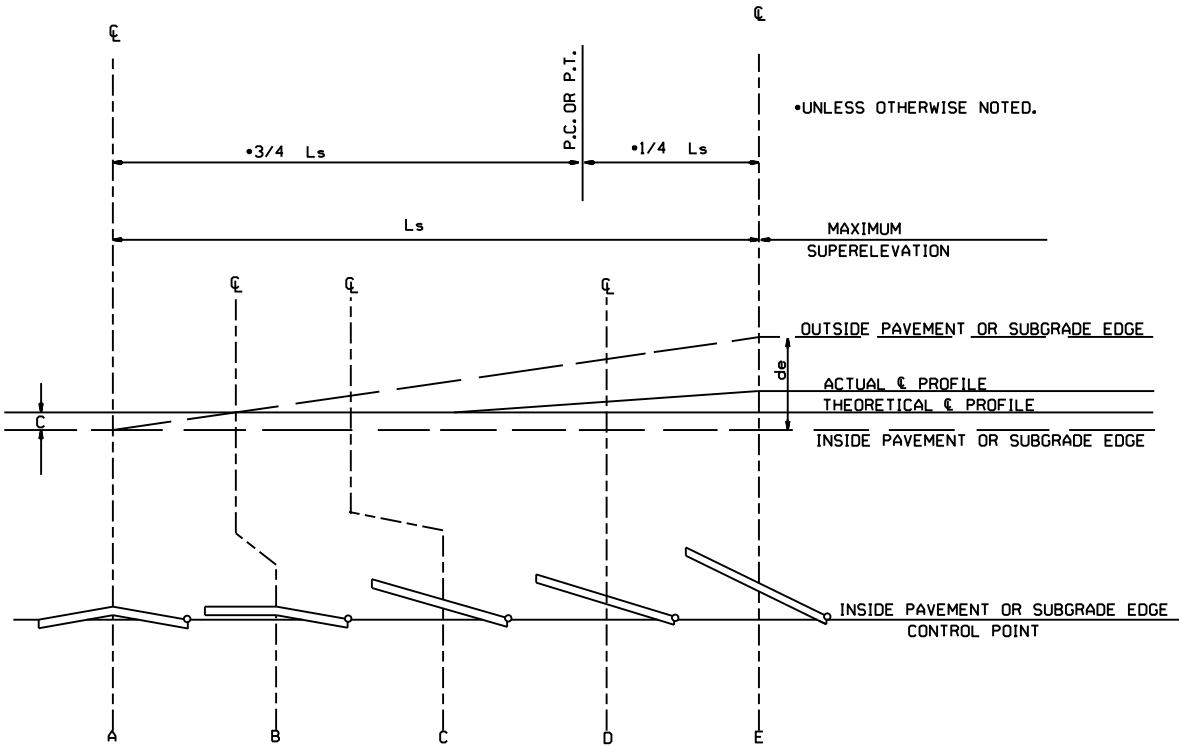
3 LANE UNDIVIDED - - - - +20%
4 LANE UNDIVIDED - - - - +50%
5 LANE UNDIVIDED - - - - +80%
6 LANE UNDIVIDED - - - - +100%

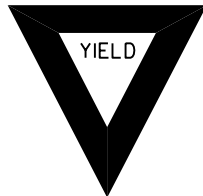
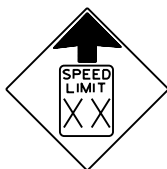
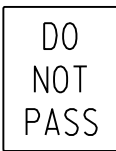
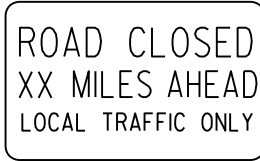
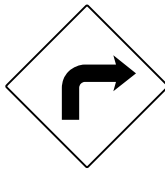
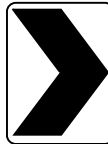
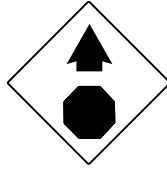
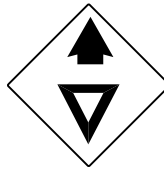
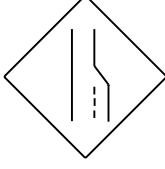
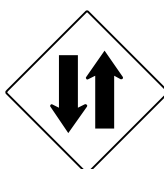
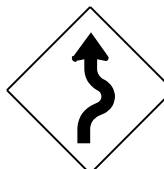
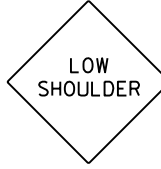
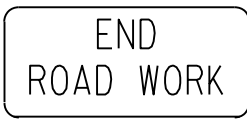
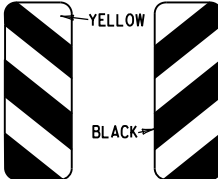
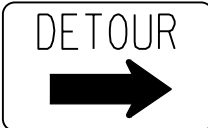
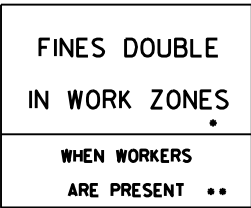
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.
RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

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



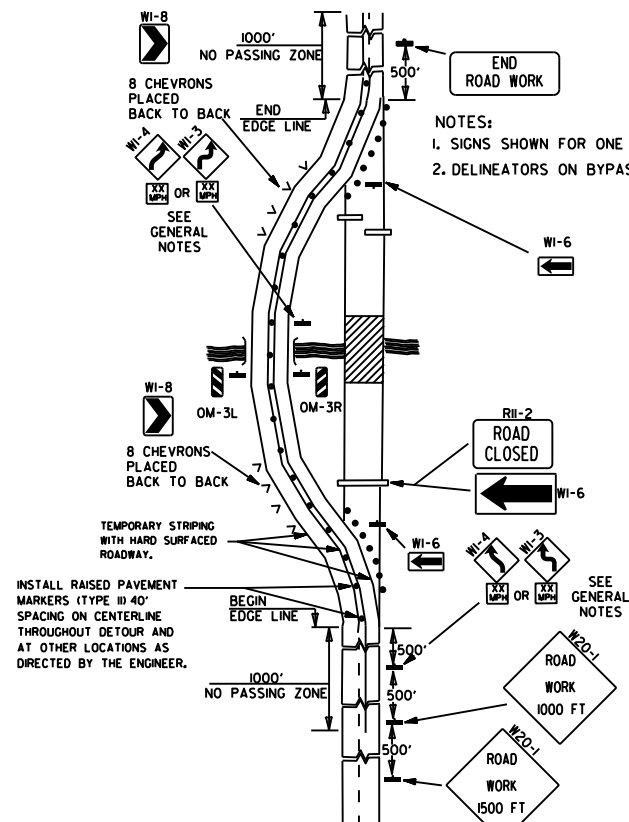
STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



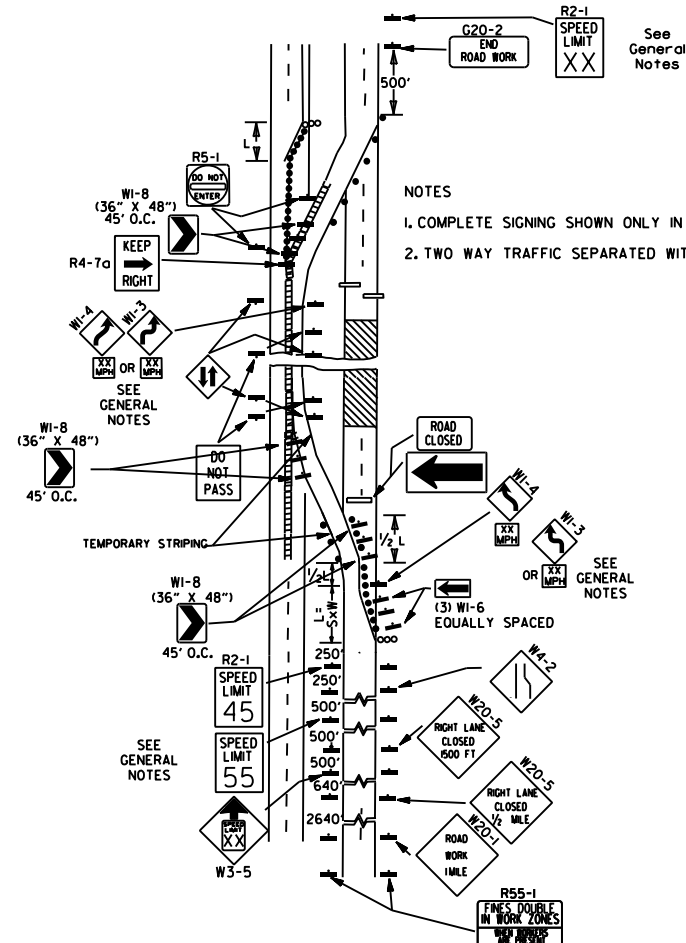
RI-I  STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"	RI-2  STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"	R2-I  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	W3-5  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	W3-5a  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	R4-I  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R4-2  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	ADVANCE DISTANCES (XXXX) 500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD GENERAL NOTES: 1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. 3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.
R5-I  STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"	R1I-2  48"x30"	R1I-3A  60"x30"	R1I-4  60"x30"	W2I-5a  STD. 36"x36" FWY. 48"x48"	W1-I  STD. 36"x36" FWY. 48"x48"	W1-2  STD. 36"x36" FWY. 48"x48"	
W1-3  STD. 48"x48"	W1-4  STD. 48"x48"	W1-6  STD. 48"x24" SPECIAL 60"x30"	W1-8  STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"	W3-I  STD. 36"x36" SPECIAL 48"x48"	W3-2  STD. 36"x36" SPECIAL 48"x48"	W4-2  STD. 36"x36" FWY. 48"x48"	
W5-I  STD. 36"x36" SPECIAL 48"x48"	W6-3  EXPWY. 36"x36" SPECIAL 48"x48"	W8-7  EXPWY. 36"x36" FWY. 48"x48"	W9-2  STD. 36"x36" FWY. 48"x48"	W13-I  STD. 24"x24"	W20-I  STD. 48"x48"	W20-2  STD. 48"x48"	W20-3  STD. 48"x48"
W20-4  STD. 48"x48"	W20-5  STD. 48"x48"	W20-7a  18" 500 FEET 24" W16-2 STD. 36"x36" FWY. 48"x48"	W2I-2  STD. 30"x30" SPECIAL 36"x36"	W2I-5  STD. 30"x30" SPECIAL 36"x36"	W24-I  STD. 36"x36"	W1-4b  STD. 48"x48"	R56-I  STD. 18"x18"
W8-II  STD. 36"x36" FWY. 48"x48"	W8-9  STD. 36"x36" FWY. 48"x48"	G20-I  60"x24"	G20-2  48"x24"	OM-3L OM-3R  12"x36"	M4-9  STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"	M4-10  48"x18"	R55-I  36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS

II-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W2I-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

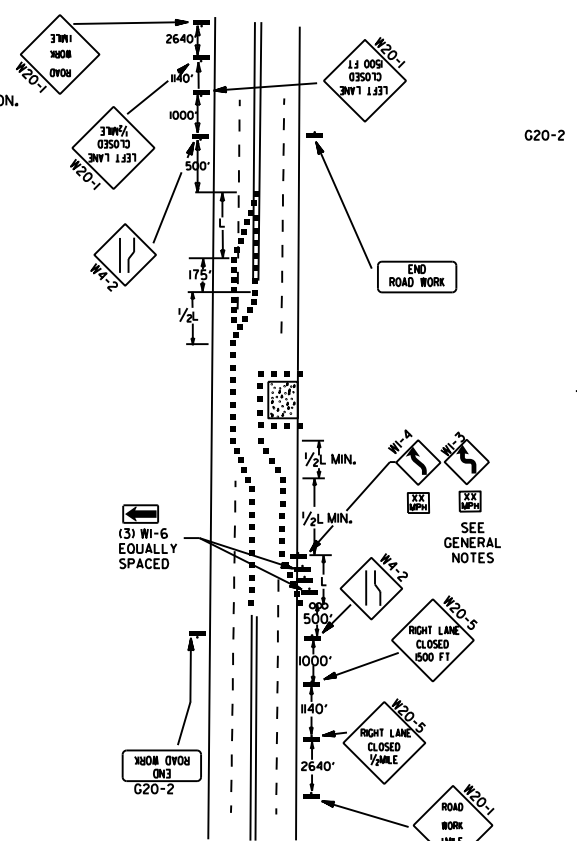
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



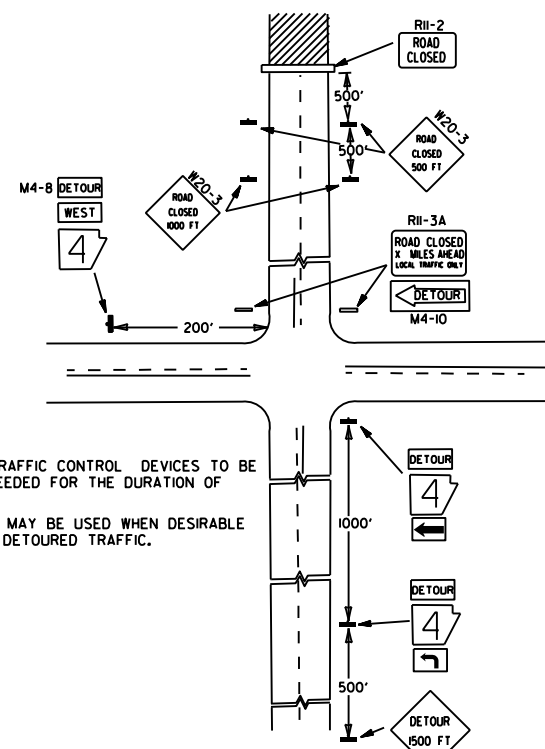
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



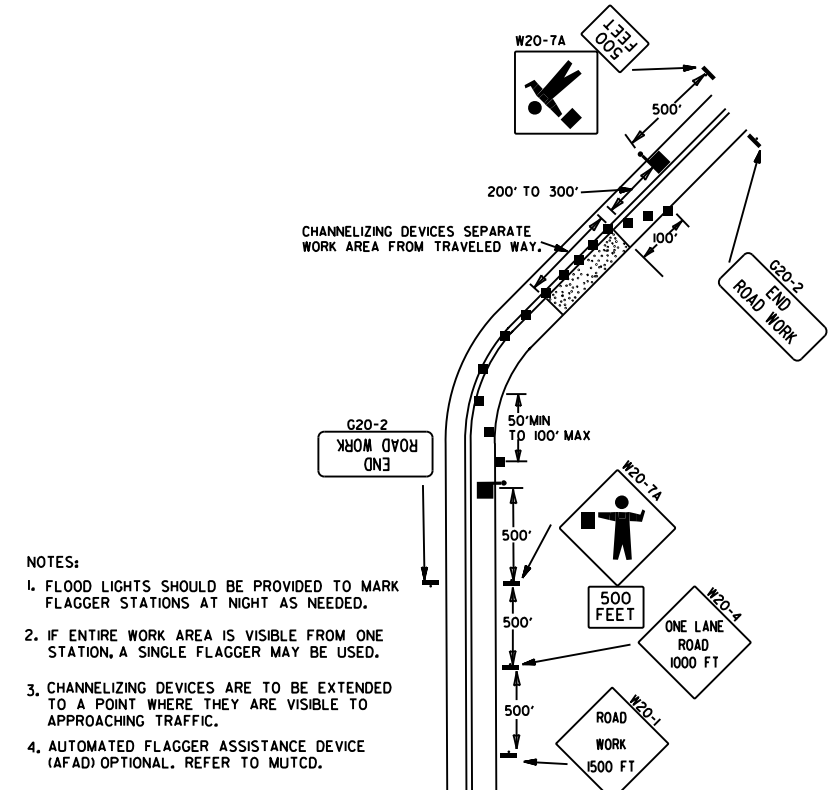
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



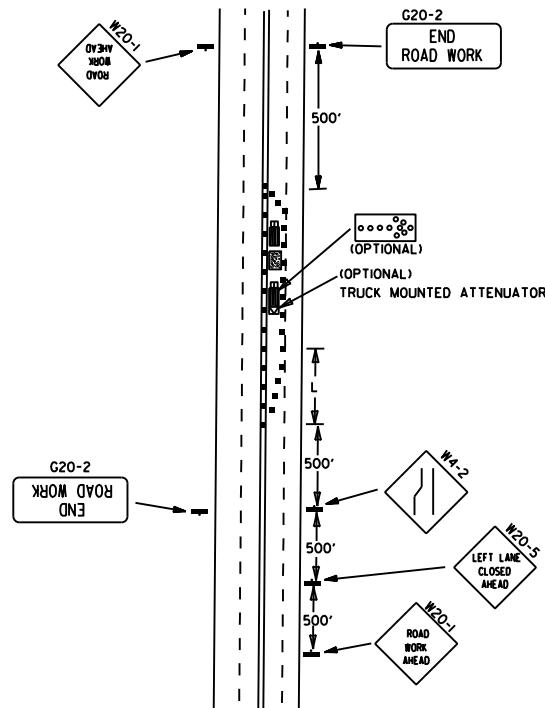
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



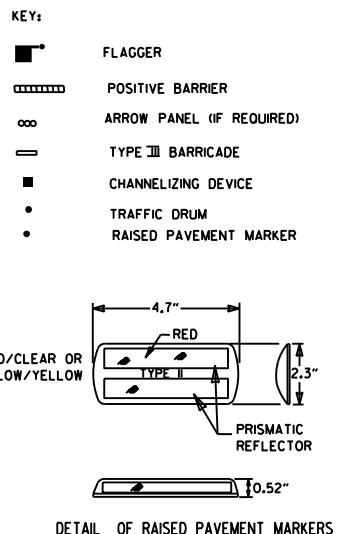
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.

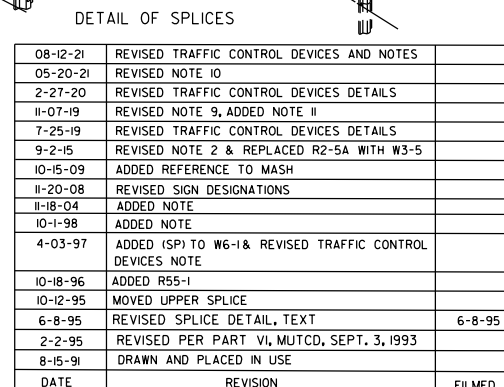
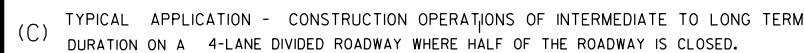
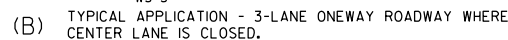
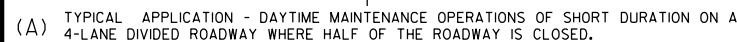


(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.



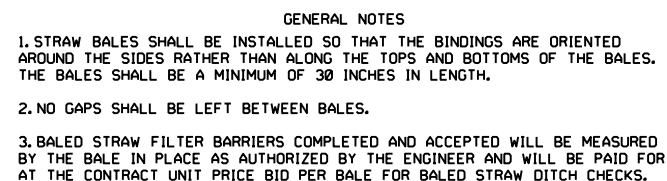
- GENERAL NOTES:
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(65) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
 8. 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 ARDOT QUALIFIED PRODUCTS LIST.
 9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (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	
DATE	REVISION	FILMED



ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-3

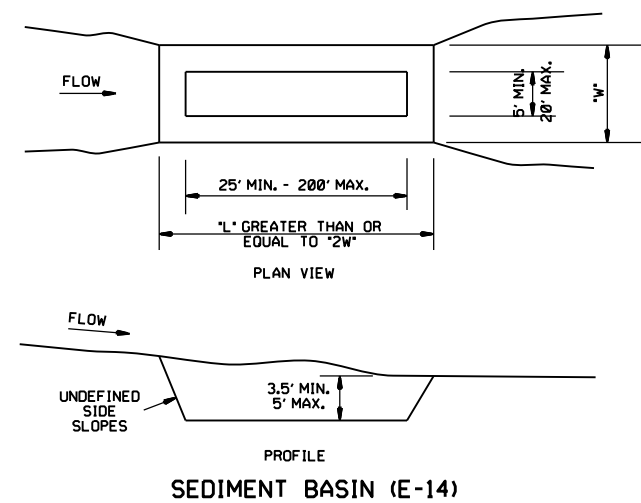
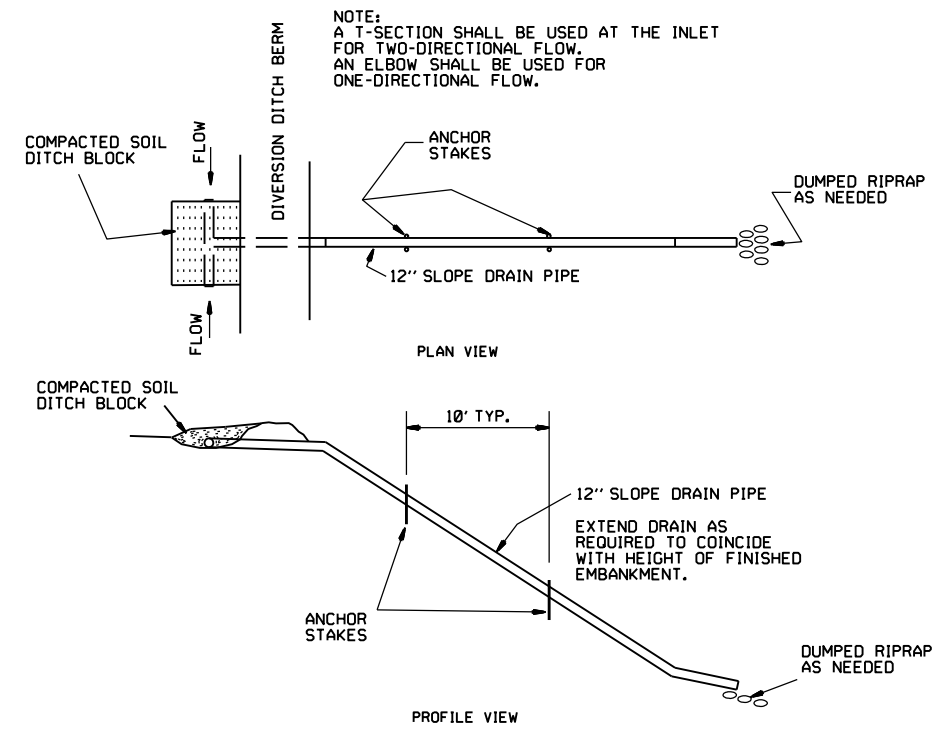
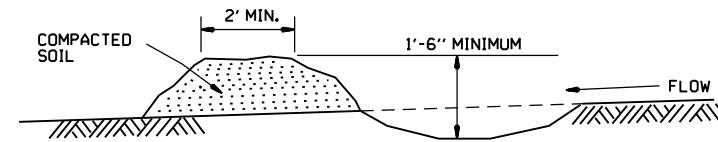
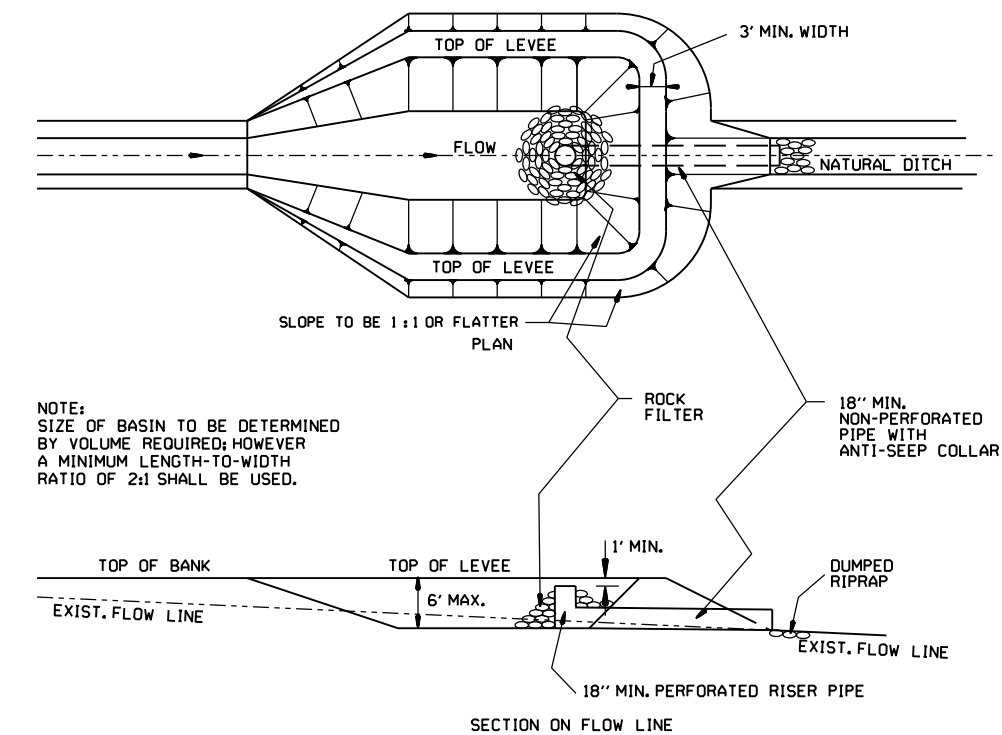
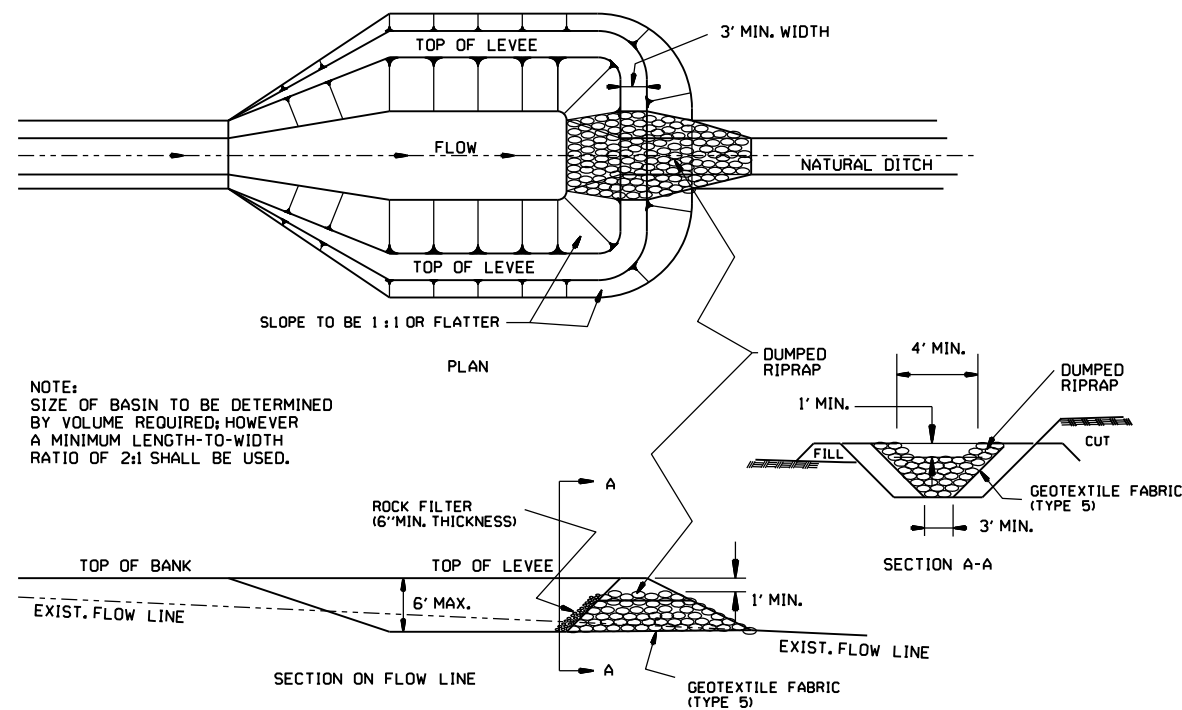
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES
AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.
3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 125 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDERED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (08)".
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.
5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.



11-16-17	ADDED FILTER SOCK E-3 AND E-13		ARKANSAS STATE HIGHWAY COMMISSION TEMPORARY EROSION CONTROL DEVICES STANDARD DRAWING TEC-1
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		
11-18-98	ADDED NOTES		
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC		
06-02-94	REVISED E-1,4,7 & 11 DELETED E-2 & 3	6-2-94	
04-03-93	REDRAWN		
10-01-92	ISSUED R.O.M.	298-7-28-76	
DATE	REVISION	FILMED	

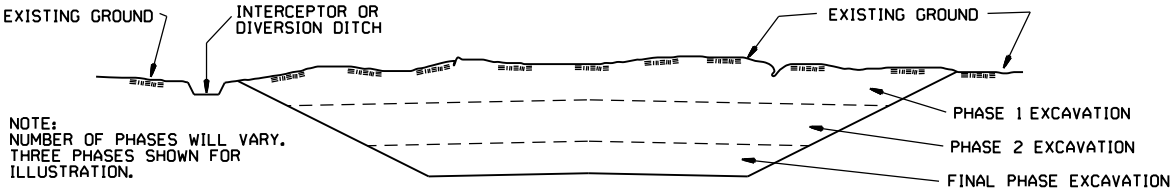


			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		STANDARD DRAWING TEC-2
4-1-93	ISSUED		
DATE	REVISION	FILMED	

CLEARING AND GRUBBING

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

EXCAVATION

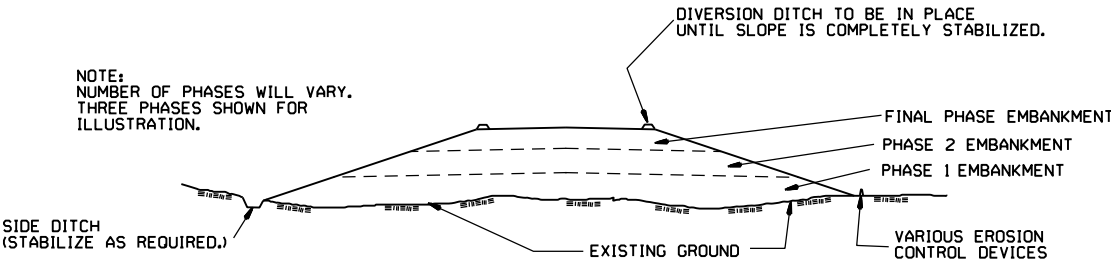


GENERAL NOTE

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

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

EMBANKMENT

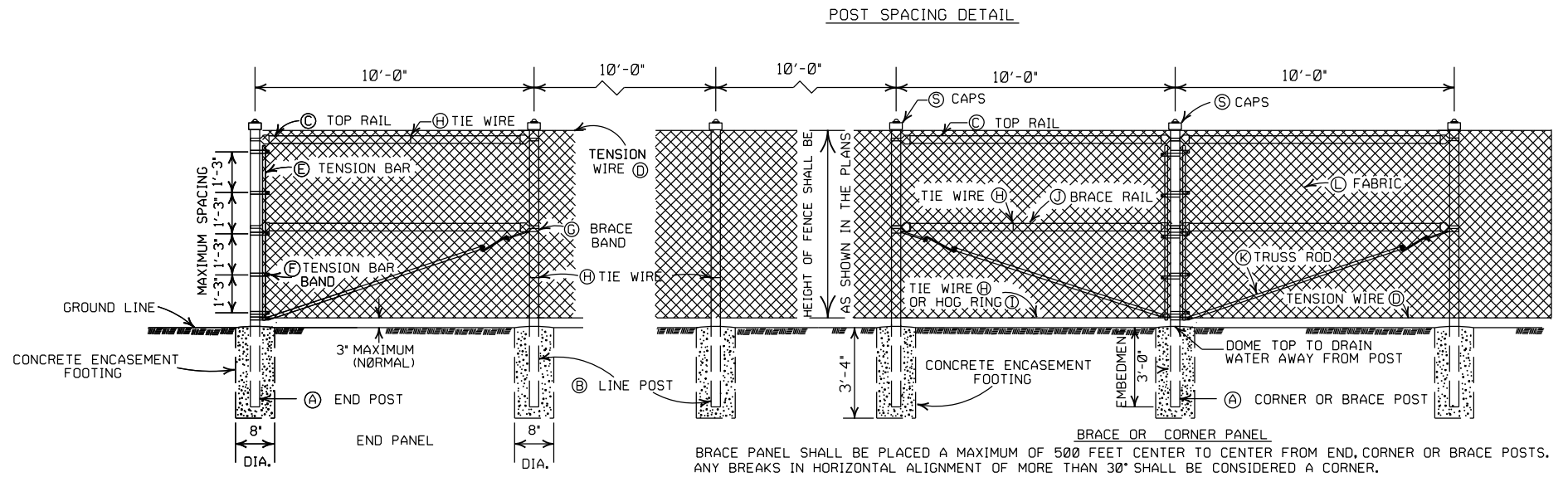


GENERAL NOTE

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

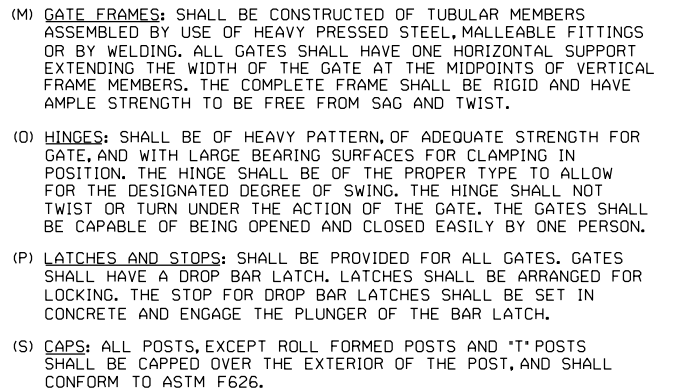
- CONSTRUCTION SEQUENCE
- 1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
 - 2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY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

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
11-03-94	CORRECTED SPELLING		STANDARD DRAWING TEC-3
6-2-94	Drawn & Issued	6-2-94	
DATE	REVISION	FILMED	



GENERAL NOTES:

- (C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.
- (D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.
- (J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.



CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

[illegible]

NOTE: POST SIZES SHOWN ARE FOR STEEL WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF $2\frac{1}{2}$ " FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12', END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF $3\frac{1}{2}$ " FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF $3\frac{1}{2}$ " FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER, MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.

POSTS AND RAILS						
SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY				GRADE 2	
	O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.		O.D. INCHES	WALL THICKNESS
			STEEL	ALUMINUM		
1 $\frac{5}{8}$	1.660	0.140	2.27	0.786	1.660	0.111
2	1.900	0.145	2.72	0.940	1.900	0.120
2 $\frac{1}{2}$	2.375	0.154	3.65	1.264	2.375	0.130
3	2.875	0.203	5.79	2.004	2.875	0.160
3 $\frac{1}{2}$	3.500	0.216	7.58	2.621	3.500	0.160
4	4.000	0.226	9.11	3.151	4.000	0.160

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91 8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

STANDARD DRAWING WF-3