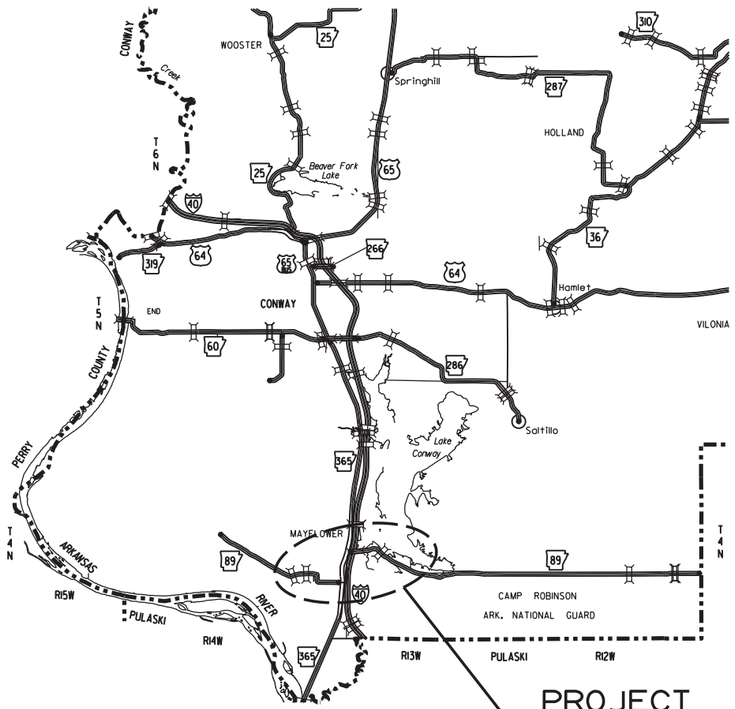
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	1	517

(2) UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)

VICINITY MAP



PROJECT LOCATION

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)

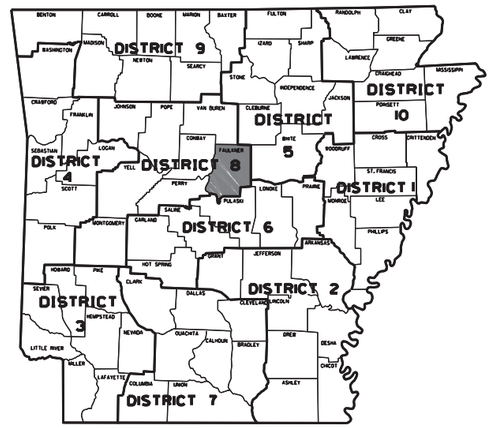
FAULKNER COUNTY

ROUTE 89 SECTIONS 4 & 5

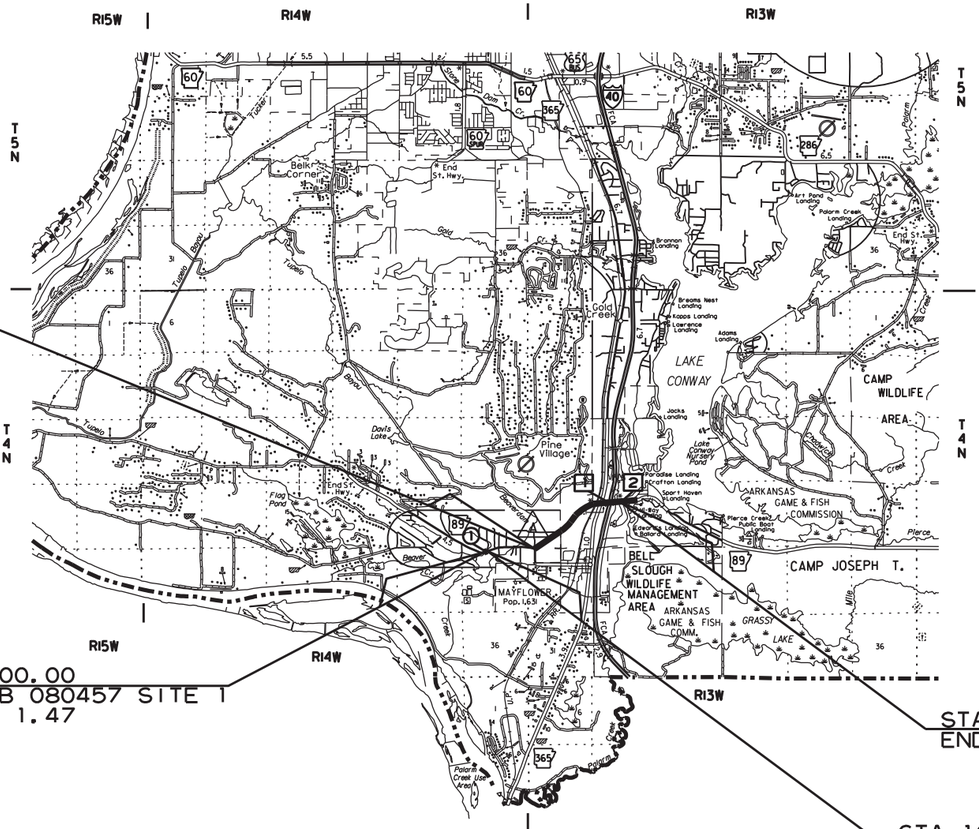
JOB 080457

FED. AID PROJ. CMF-STPU-0023(44)

NOT TO SCALE



ARK. HWY. DIST. NO. 8



DESIGN TRAFFIC DATA

DESIGN YEAR	2040
2020 ADT	5700
2040 ADT	7400
2040 DHV	814
TRUCKS	4%
DESIGN SPEED	45 MPH

STRUCTURES OVER 20'-0" SPAN

(1) STA. 105+00 CONSTRUCT
TRI. 10' x 5' x 86' R.C. BOX CULVERT
WITH 30°LT. FWD. SKEW
WITH 3:1 WINGS LT. AND RT.
Q50= 1100 CFS D.A. = 1.7 SQ. MI.
SPAN = 39'-0"

R.C. BOX CULVERTS

(2) STA. 7577+49.70 IN PLACE
8' x 8' x 218' R.C. BOX CULVERT
RETAIN AND EXTEND
ANIMAL PASSAGE SHELF & 4 RAMPS

(3) STA. 7621+10 IN PLACE
DBL. 8' x 6' x 264' R.C. BOX CULVERT
W/ 2 ANIMAL PASSAGE SHELVES & 4 RAMPS
Q50= 649 C.F.S., D.A. = 698 AC.
REMOVE RT. WINGS AND EXTEND 29' RT.
FOR A TOTAL COMPLETED LENGTH 293'

(4) STA. 121+08 IN PLACE
3' x 3' x 58' R.C. BOX CULV'T.
RETAIN AND EXTEND R.C. BOX 16' LT. AND 7' RT.
TO A COMPLETED LENGTH OF 81'
WITH 3:1 WINGS LT. & RT.
Q50 = 81 CFS D.A. = 37 ACRES

BRIDGE DATA

[1] BR. END STA. 177+26.88
BRIDGE NO. 07499
346'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
(98'-124'-124') UNIT
69'-0" CLEAR ROADWAY
348'-2¾" BRIDGE LENGTH
BR. END STA. 180+75.10

[2] BR. END STA. 184+11.26
BRIDGE NO. 07500
220'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
(110'-110') UNIT
58'-0" CLEAR ROADWAY
222'-1⅞" BRIDGE LENGTH
BR. END STA. 186+33.42

SITE 1

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 34°57'41" LONGITUDE = W 92°26'43"	LATITUDE = N 34°57'41" LONGITUDE = W 92°26'41"	LATITUDE = N 34°57'41" LONGITUDE = W 92°26'43"

SITE 2

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 35°58'18" LONGITUDE = W 92°25'21"	LATITUDE = N 34°58'01" LONGITUDE = W 92°24'57"	LATITUDE = N 34°58'15" LONGITUDE = W 92°24'57"

(A) EQUATION (SITE 2)
100+00.75 BACK =
100+00.00 AHEAD

LENGTH OF PROJECT CALCULATED ALONG CENTERLINE

GROSS LENGTH OF	PROJECT	10608.80	FEET	OR	2.009	MILES
NET " "	ROADWAY	9999.42	"	"	1.894	"
NET " "	BRIDGES	609.38	"	"	0.115	"
NET " "	PROJECT	10608.80	"	"	2.009	"

APPROVED

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7836
M.E. BANKS

Banks, Emanuel
Oct 5 2020 9:46 AM

DEPUTY DIRECTOR AND CHIEF ENGINEER

R080457.DGN 10/24/11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	2	517

(2) INDEX OF SHEETS AND STANDARD DRAWINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:15 AM

DocuSign

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236	DETAILS OF BENT 2 HIGHWAY 89 OVER UPRR & HIGHWAY 365 (SHEET 1 OF 3)	07499	61868
237	DETAILS OF BENT 2 HIGHWAY 89 OVER UPRR & HIGHWAY 365 (SHEET 2 OF 3)	07499	61869
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272	DETAILS OF BENT 3 HIGHWAY 89 OVER INTERSTATE 40 (SHEET 3 OF 4)	07500	61904
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275	DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT HIGHWAY 89 OVER INTERSTATE 40 (SHEET 2 OF 8)	07500	61907
276	DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT HIGHWAY 89 OVER INTERSTATE 40 (SHEET 3 OF 8)	07500	61908
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286	LAYOUT OF RETAINING WALL B HIGHWAY 89 OVER UPRR & HIGHWAY 365	07499	61918
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290	COMMON DETAILS OF RETAINING WALLS (SHEET 2 OF 2)	07499 & 07500	61922
291	SUPPLEMENTAL DETAILS OF CONCRETE RIPRAP	07499 & 07500	61923
292	TYPE 1 SPECIAL APPROACH SLABS HIGHWAY 89 OVER UPRR & HIGHWAY 365	07499	61924
293	TYPE 2 SPECIAL APPROACH SLABS HIGHWAY 89 OVER INTERSTATE 40	07500	61925
294	DETAILS FOR RELOCATION OF STEEL OVERHEAD SIGN STRUCTURE (SHEET 1 OF 2)	OH-040-23-20	61926
295	DETAILS FOR RELOCATION OF STEEL OVERHEAD SIGN STRUCTURE (SHEET 2 OF 2)	OH-040-23-20	61927
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NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

BRIDGE STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
55000	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS	02-27-14
55002	STANDARD DETAILS FOR CONCRETE RIPRAP	02-27-14
55005	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	03-24-16
55006	STANDARD GENERAL NOTES FOR STEEL BRIDGE STRUCTURES	09-02-15
55007	STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES	02-11-16
55008	STANDARD DETAILS FOR POURED SILICONE JOINTS	02-11-16
55010	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE	03-24-20
55015	STANDARD DETAILS FOR TYPE H2 RAILINGRAILING	06-25-20
55018	STANDARD DETAILS FOR CHAIN LINK FENCE	02-11-16
55020	STANDARD DETAILS FOR STEEL H-PILES AND PILE ENCASEMENTS	03-24-16

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
CG-1	CURBING DETAILS	11-29-07
CPTJ-6A	TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)	05-25-06
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	11-07-19
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
FPC-9	DETAILS OF DROP IN_ETS & JUNCTION BOXES	11-16-01
FPC-9D	DETAILS OF DROP IN_ETS	08-22-02
FPC-9E	DETAILS OF DROP IN_ETS (TYPE C)	08-22-02
FPC-9M	DETAILS OF DROP IN_ET (TYPE MO)	08-22-02
FPC-9N	DETAILS OF DROP IN_ETS AND SPILLWAY OUTLET	07-02-98
GR-6	GUARD RAIL DETAILS	11-07-19
GR-7	GUARD RAIL DETAILS	11-07-19
GR-9	GUARD RAIL DETAILS	11-07-19
GR-10	GUARD RAIL DETAILS	11-07-19
GR-11	GUARD RAIL DETAILS	11-07-19
GR-12	GUARD RAIL DETAILS	05-14-20
GRT-1	GUARD RAIL DETAILS	11-07-19
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
PM-2	PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS	05-14-20
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
RCB-3	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS	10-12-95
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SD-5	CONTROLLER CABINET UTILITY DRAWER	09-12-13
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SD-7	SPAN WIRE ASSEMB_Y WOOD POLE	11-16-17
SD-8	SIGNAL HEAD PLACEMENT	12-08-16
SD-9	SERVICE POINT	11-07-19
SD-11	STEEL POLE WITH MAST ARM	11-16-17
SE-1	TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC	11-07-19
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
SE-3	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC (4% MAXIMUM)	11-07-19
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SHS-5	DETAILS OF GUIDE SGN PANELS	09-12-13
SHS-6	MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS	09-12-13
SHS-7	DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS	09-12-13
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
SI-3	CONCRETE WALK (TYPE SPECIAL)	05-14-20
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-20
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
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TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
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WF-4	WIRE FENCE TYPE C AND D	08-22-02
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R-1004-A	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	07-01-58
R-100X-X2	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	01-14-63
R-200X-0	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	02-15-63

11/8/2011

ZBORDER.CEL

INDEX OF SHEETS AND STANDARD DRAWINGS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20		10-29-20		6	ARK.			
10-26-20				JOB NO.		080457	3	517
10-29-20								

(2) GOVERNING SPECIFICATIONS AND GEN. 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 - TRAINING PROGRAM - JOB 080457
FHWA-1273__ SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__ SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____ CONTRACTOR'S LICENSE
100-4_____ DEPARTMENT NAME CHANGE
102-2_____ ISSUANCE OF PROPOSALS
108-1_____ LIQUIDATED DAMAGES
108-2_____ WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
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
410-1_____ CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
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604-3_____ TRAFFIC CONTROL DEVICES N CONSTRUCTION ZONES (MASH)
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606-1_____ PIPE CULVERTS FOR SIDE DRAINS
617-1_____ GUARDRAIL TERMINAL (TYPE 2)
620-1_____ MULCH COVER
621-1_____ FILTER SOCKS
632-1_____ CONCRETE ISLAND
633-1_____ CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING
634-1_____ CURBING
700-2_____ TRAFFIC CONTROL FACILITIES
723-1_____ GENERAL REQUIREMENTS FOR SIGNS
800-1_____ STRUCTURES
802-3_____ CONCRETE FOR STRUCTURES
804-2_____ REINFORCING STEEL FOR STRUCTURES
807-2_____ STEEL STRUCTURES
808-1_____ INSTALLATION OF ELASTOMERIC BEARINGS
808-2_____ ELASTOMERIC BEARINGS
JOB 080457__ ACTUATED CONTROLLER
JOB 080457__ ANTENNA SUPPORT
JOB 080457__ AIRPORT CLEARANCE REQUIREMENTS
JOB 080457__ ARCHITECTURAL FINISH
JOB 080457__ ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS)
JOB 080457__ ASSESSMENT OF WORKING DAYS – MAINTENANCE OF TRAFFIC
JOB 080457__ BIDDING REQUIREMENTS AND CONDITIONS
JOB 080457__ BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080457__ BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 080457__ CABINET DRAWER ASSEMBLY
JOB 080457__ CARGO PREFERENCE ACT REQUIREMENTS
JOB 080457__ CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 080457__ CLEARING AND GRUBBING
JOB 080457__ CONCRETE WALKS (TYPE SPECIAL)
JOB 080457__ CONSTRUCTION PROJECT INFORMATION SIGN
JOB 080457__ CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 080457__ DELAY IN RIGHT OF WAY OCCUPANCY
JOB 080457__ DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB 080457__ DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 080457__ DRILLED SHAFT FOUNDATIONS
JOB 080457__ EDGE CARD VIDEO PROCESSOR
JOB 080457__ ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 080457__ ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 080457__ ENHANCED THERMOPLASTIC PAVEMENT MARKING
JOB 080457__ EXCAVATION
JOB 080457__ EXPLORATORY HOLES
JOB 080457__ EXTENSION FOR PIPE CULVERTS
JOB 080457__ EXTENSION OF ANIMAL PASSAGE SHELF SYSTEM
JOB 080457__ FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT
JOB 080457__ GENERAL REQUIREMENTS FOR SIGNS
JOB 080457__ GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 080457__ INSURANCE, CONSTRUCTION AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (UPRR)
JOB 080457__ LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 080457__ LED LUMINAIRE ASSEMBLY (EUG U0 TYPE)
JOB 080457__ LED TRAFFIC SIGNAL HEAD
JOB 080457__ LOCAL RADIO WITH ANTENNA RELOCATION
JOB 080457__ MAINTENANCE OF TRAFFIC
JOB 080457__ MANDATORY ELECTRONIC CONTRACT
JOB 080457__ MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 080457__ METAL PIPE
JOB 080457__ NESTING SITES OF MIGRATORY BIRDS
JOB 080457__ NONDESTRUCTIVE TESTING OF DRILLED SHAFTS
JOB 080457__ OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT
JOB 080457__ PARTNERING REQUIREMENTS
JOB 080457__ PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS (IRI)
JOB 080457__ PIPE CULVERTS
JOB 080457__ PLASTIC PIPE
JOB 080457__ PORTABLE TRAFFIC SIGNAL SYSTEM
JOB 080457__ PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 080457__ PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 080457__ PROSECUTION AND PROGRESS WITH BID SCHEDULE
JOB 080457__ RELOCATION OF EXISTING OVERHEAD SIGN STRUCTURES
JOB 080457__ RELOCATION OF TRAFFIC SIGNAL HEAD
JOB 080457__ REMOVAL AND DISPOSAL OF GUARDRAIL
JOB 080457__ REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 080457__ RESTRICTIONS ON THE USE OF RECYCLED ASPHALT PAVEMENT MATERIAL
JOB 080457__ RETAINING WALLS
JOB 080457__ RETROREFLECTIVE BACKPLATES
JOB 080457__ ROCK FILL
JOB 080457__ RUMBLE STRIP REMOVAL
JOB 080457__ SEQUENCE OF CONSTRUCTION
JOB 080457__ SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
JOB 080457__ SHORING FOR CULVERTS
JOB 080457__ SITE USE (A+C METHOD) – CALENDAR DAY CONTRACT
JOB 080457__ SOIL STABILIZATION
JOB 080457__ SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 080457__ SPECIAL SAFETY REQUIREMENTS FOR OVERHEAD SIGNS
JOB 080457__ STORM WATER POLLUTION PREVENTION PLAN
JOB 080457__ SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 080457__ SYSTEM LOCAL CONTROLLER
JOB 080457__ TEXTURED COATING FINISH
JOB 080457__ TEXTURED COATING FINISH (CAST-IN PLACE RETAINING WALLS)
JOB 080457__ THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)
JOB 080457__ TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 080457__ UTILITY ADJUSTMENTS
JOB 080457__ VALUE ENGINEERING
JOB 080457__ VIDEO DETECTOR (COLOR)
JOB 080457__ VIDEO DETECTOR ROTATION
JOB 080457__ WARM MIX ASPHALT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 30 2020 1:40 PM
DocuSigned by:

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. 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 N ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

11/8/2011
ZBORDER.CEL

GOVERNING SPECIFICATIONS AND GENERAL NOTES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	4	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 9:04 AM

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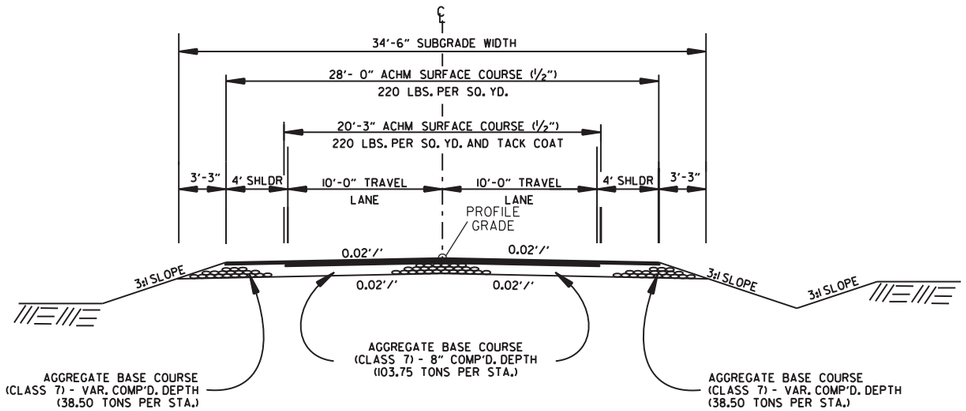
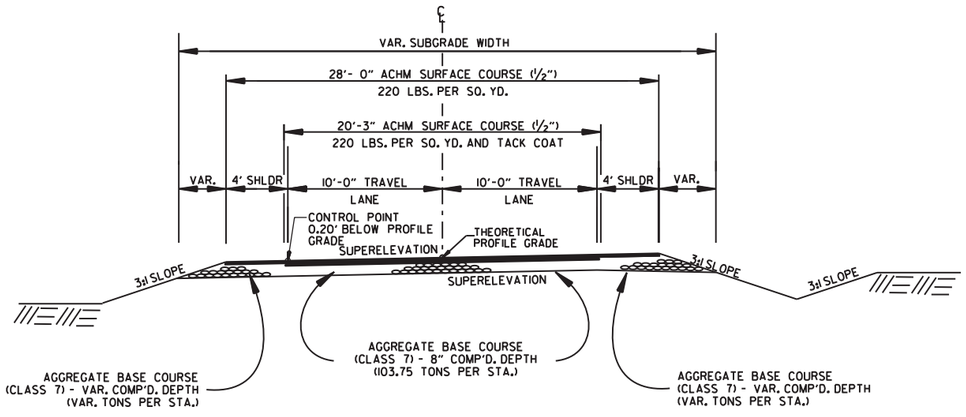


STA. 300+46.16 - STA. 302+41.16
STA. 306+63.85 - STA. 308+79.10
2 LANE FULL DEPTH DETOUR - HWY. 89 SITE 1



STA. 302+41.16 - STA. 306+63.85
DETOUR SUPERELEVATION - HWY. 89 SITE 1

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 WITH 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.

4. 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.

amme613 7/9/2020
R080457.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	5	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 9:04 AM

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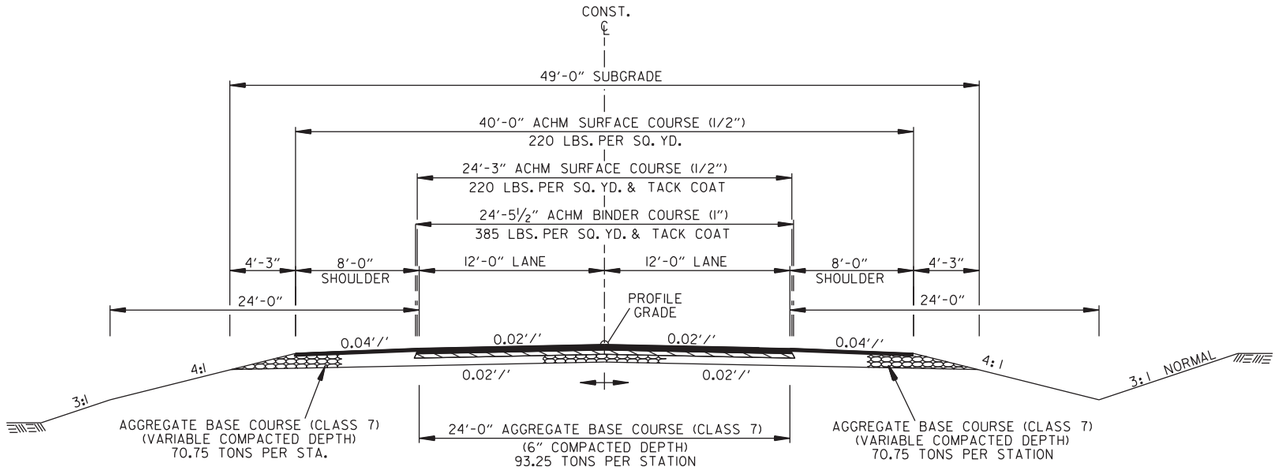
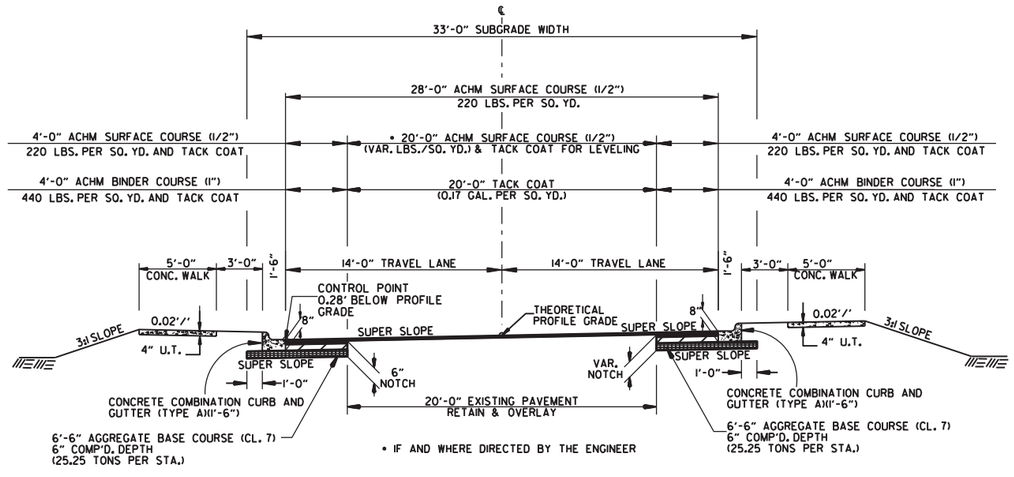


STA. 103+00.00 - STA. 107+00.00
TYPICAL SECTION OF IMPROVEMENT
HWY. 89 SITE 1 FULL DEPTH



STA. 99+46.01 - STA. 103+00.00 (TRANSITION)
2 LANE CURB AND GUTTER - HWY. 89 SITE 2

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.

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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 VARIES 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. 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.

6. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

TYPICAL SECTIONS OF IMPROVEMENT

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	6	517

(2) TYPICAL SECTIONS OF IMPROVEMENT



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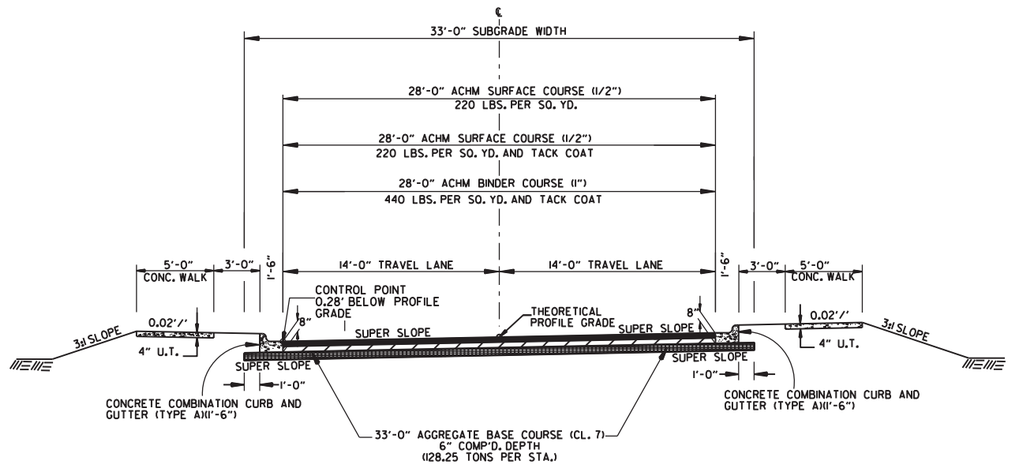

STA. 103+00.00 - STA. 104+88.62 (TRANSITION)
2 LANE CURB AND GUTTER - HWY. 89 SITE 2

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.

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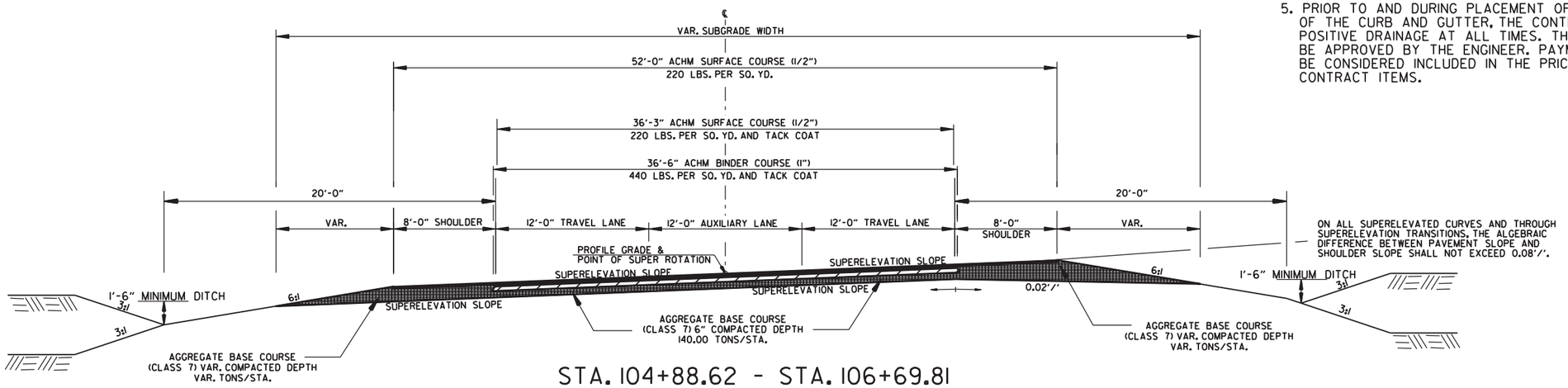

STA. 104+88.62 - STA. 106+69.81
STA. 109+33.14 - STA. 121+98.58
STA. 135+35.73 - STA. 152+10.67
STA. 157+85.58 - STA. 173+00.00
3 FULL DEPTH SUPERELEVATION - HWY. 89 SITE 2

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R080457.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	7	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:08 AM

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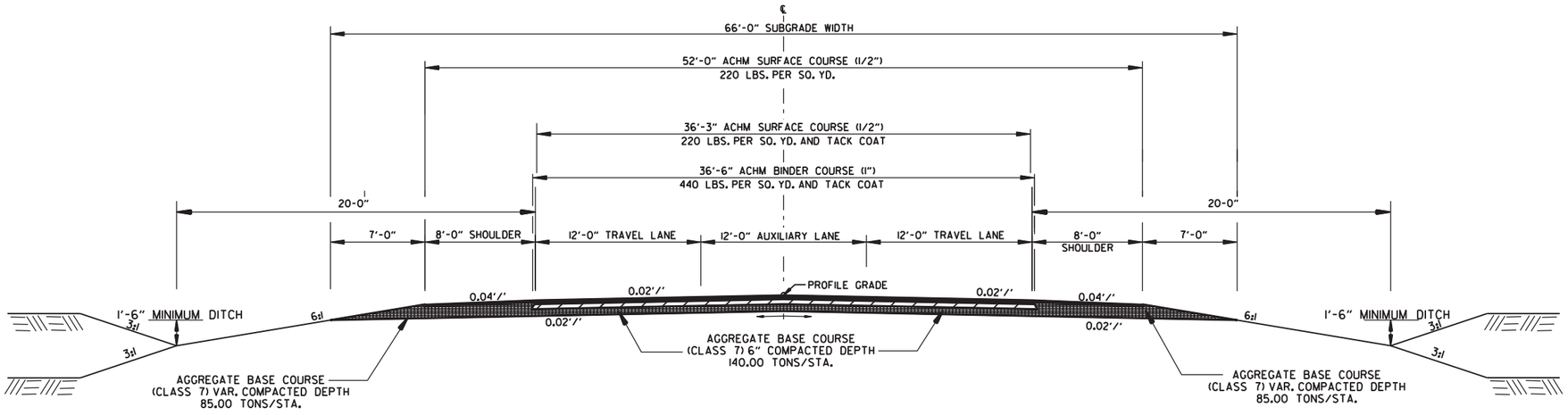
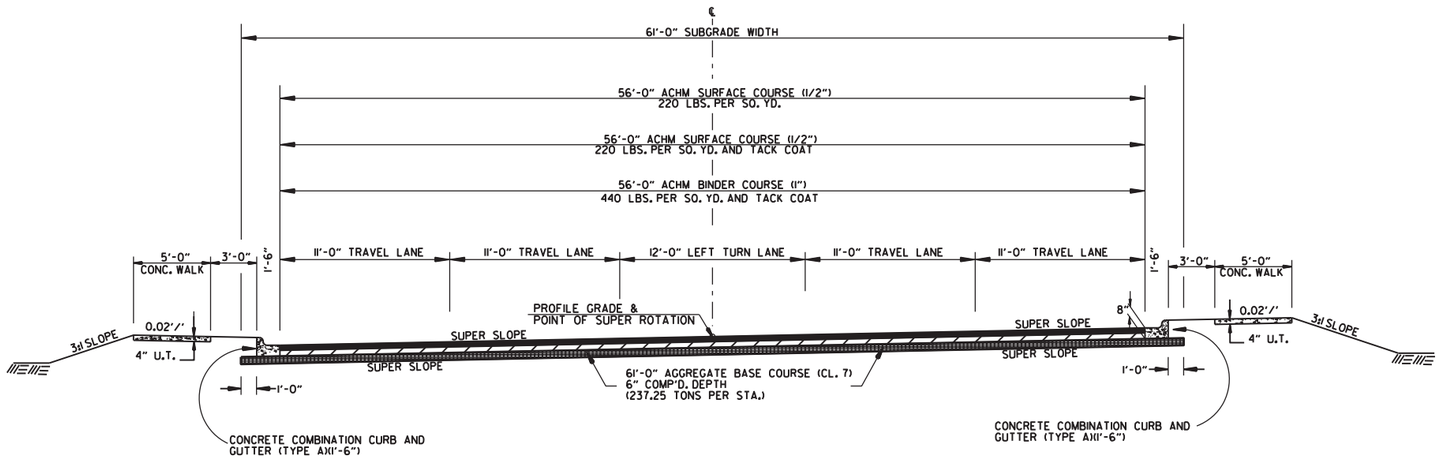


STA. 106+69.81 - STA. 109+33.14
STA. 121+98.58 - STA. 136+70.73
STA. 150+75.67 - STA. 157+85.58
3 FULL DEPTH NORMAL CROWN - HWY. 89 SITE 2



STA. 173+00.00 - STA. 175+50.00
STA. 175+50.00 - STA. 176+32.33 (TRANSITION)
STA. 186+47.80 - STA. 191+00.00
5 LANE FULL DEPTH - HWY. 89 SITE 2

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.

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TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	8	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 9:05 AM
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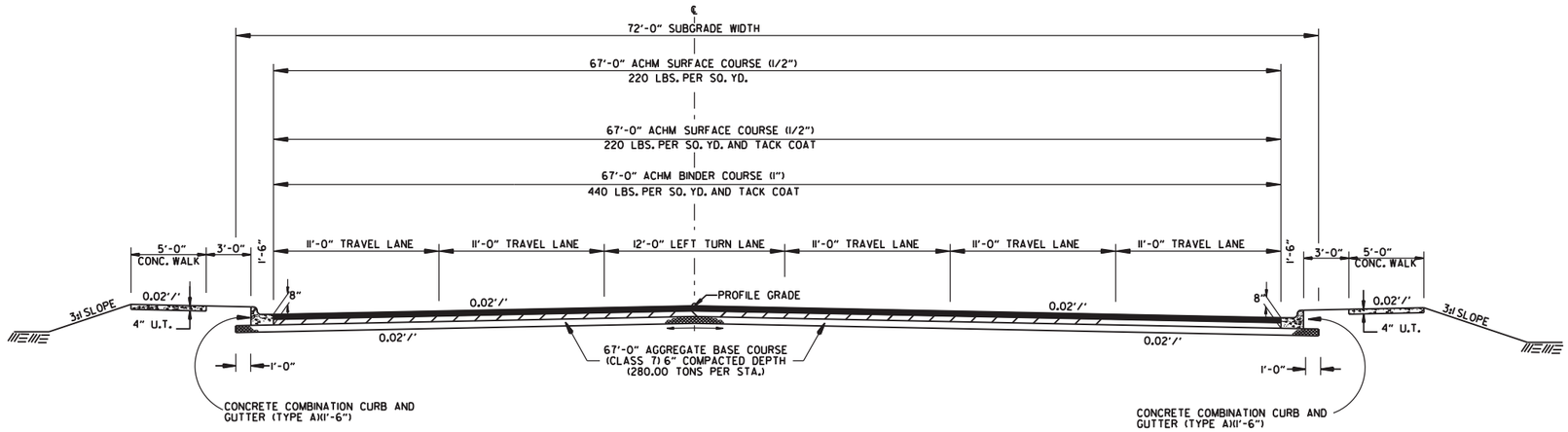

STA. 176+32.33 - STA. 177+25.76 (TRANSITION)
STA. 180+73.98 - STA. 180+92.86
STA. 180+92.86 - STA. 183+44.09 (TRANSITION)

6 LANE FULL DEPTH - HWY. 89 SITE 2

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.

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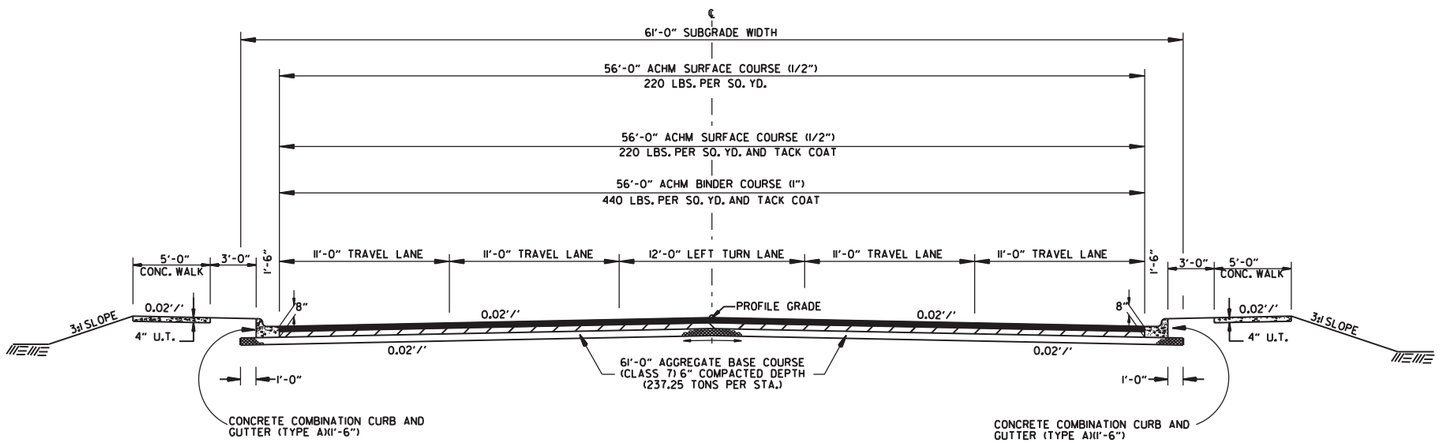

STA. 183+44.09 - STA. 184+11.26
STA. 186+33.42 - STA. 186+47.80

5 LANE FULL DEPTH - HWY. 89 SITE 2

amme613 7/9/2020
R080457.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	9	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 9:05 AM

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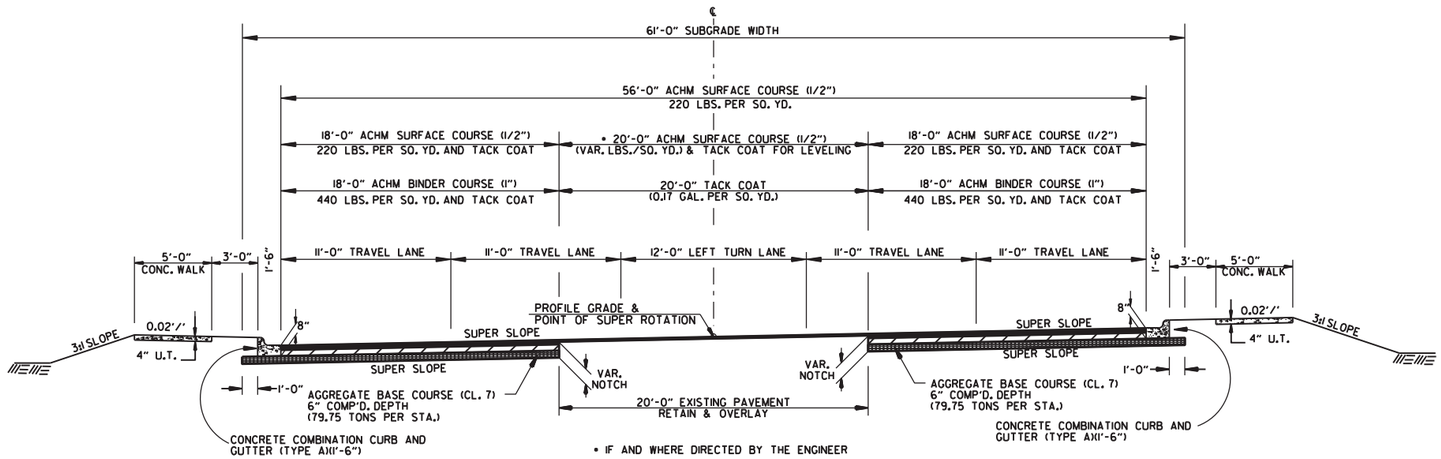
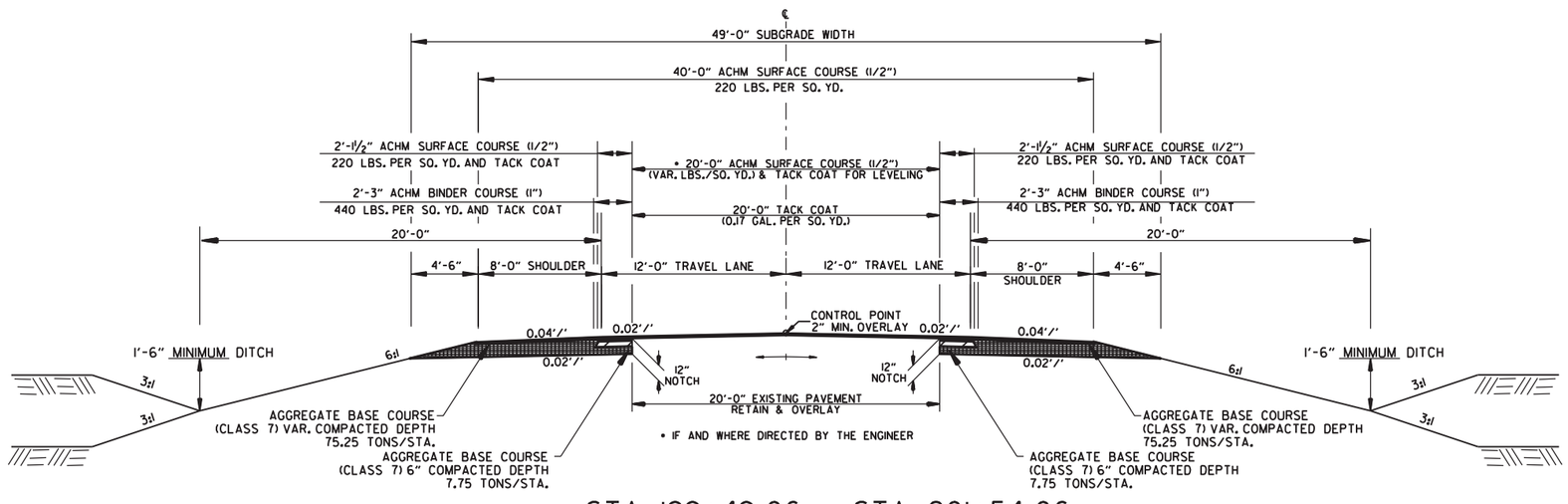


STA. 191+00.00 - STA. 192+48.50
STA. 192+48.50 - STA. 199+49.06 TRANSITION
5 LANE NOTCH AND WIDENING SUPERELEVATION - HWY. 89 SITE 2



STA. 199+49.06 - STA. 201+54.06
2 LANE NOTCH AND WIDENING - HWY. 89 SITE 2

NOTES:

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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 VARIES 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.

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6. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	10	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 9:06 AM

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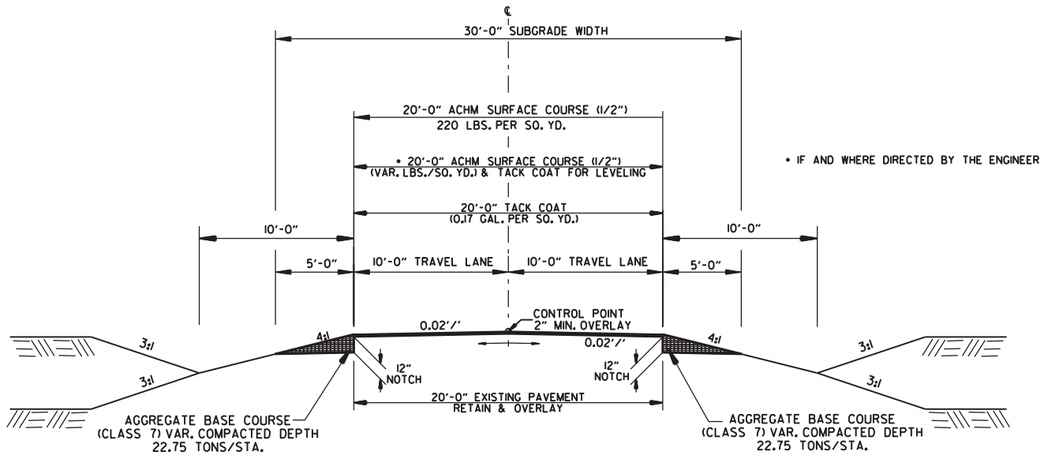
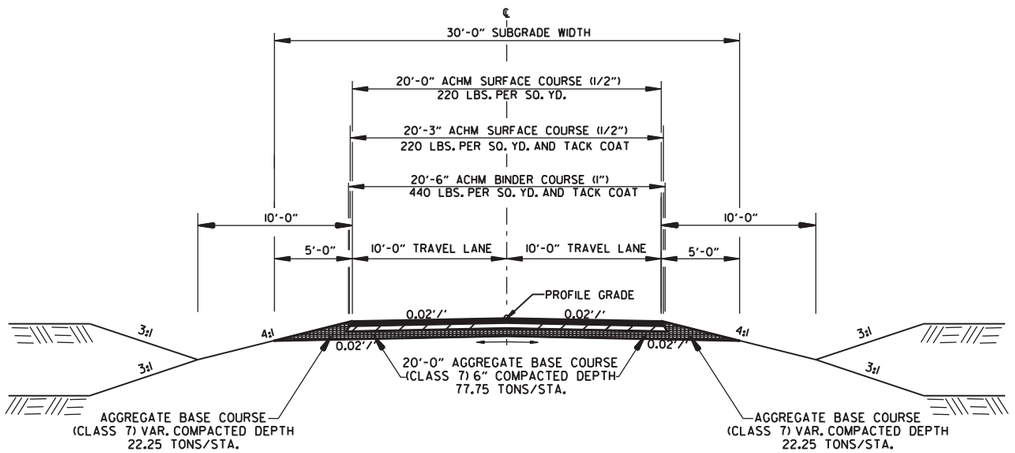


* IF AND WHERE DIRECTED BY THE ENGINEER

STA. 80+00.00 - STA. 81+00.00 (OLD HWY. 89)
2 LANES NOTCH AND WIDENING



STA. 81+00.00 - STA. 83+56.69 (OLD HWY. 89)
STA. 10+18.00 - STA. 14+29.28 (SNUGGS CIRCLE)
2 LANES FULL DEPTH

NOTES:

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TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		080457	11	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 9:06 AM
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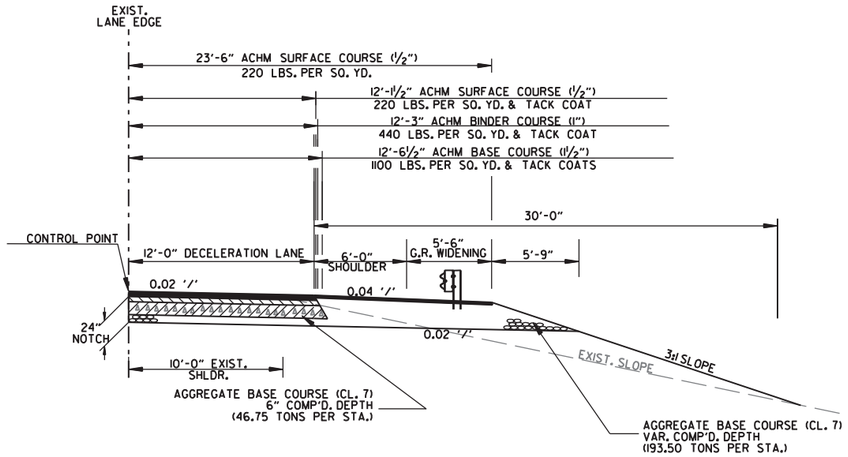

STA. 7563+76.50 - STA. 7581+54.33 (EB EXIT TO HWY. 89 CONNECTOR)
STA. 7581+54.33 - STA. 7584+36.36 (TRANSITION)
5'-6" GUARDRAIL WIDENING WITHOUT CLEARZONE SLOPE
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

NOTES:

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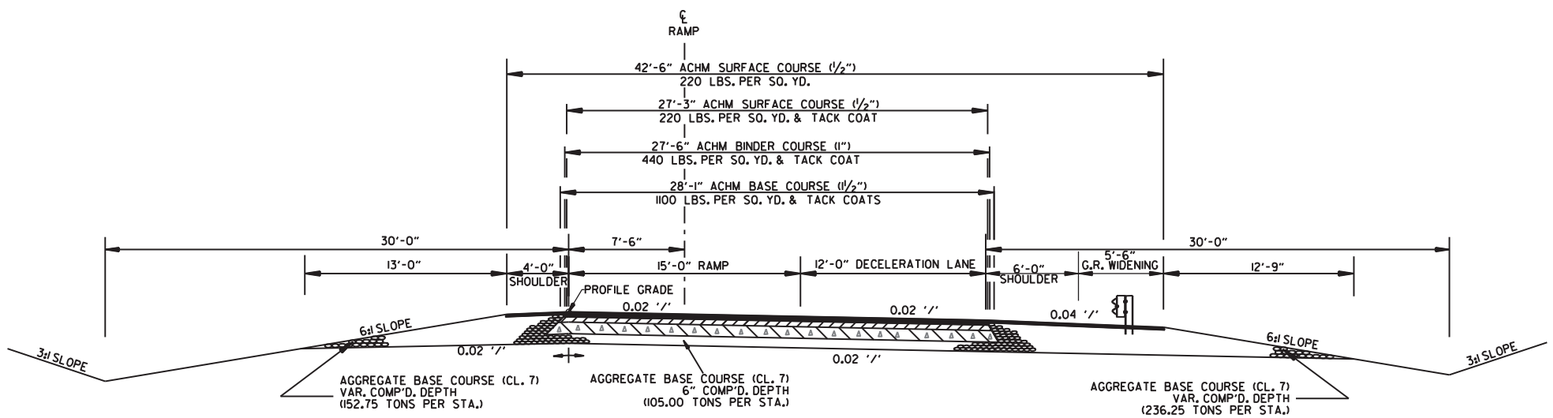

STA. 7584+36.36 - 7584+67.00 (EB EXIT TO HWY. 89 CONNECTOR)
STA. 7584+67.00 - STA. 7585+00.00 (TRANSITION)
5'-6" GUARDRAIL WIDENING WITH 6:1 CLEARZONE SLOPE
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

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TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		080457	12	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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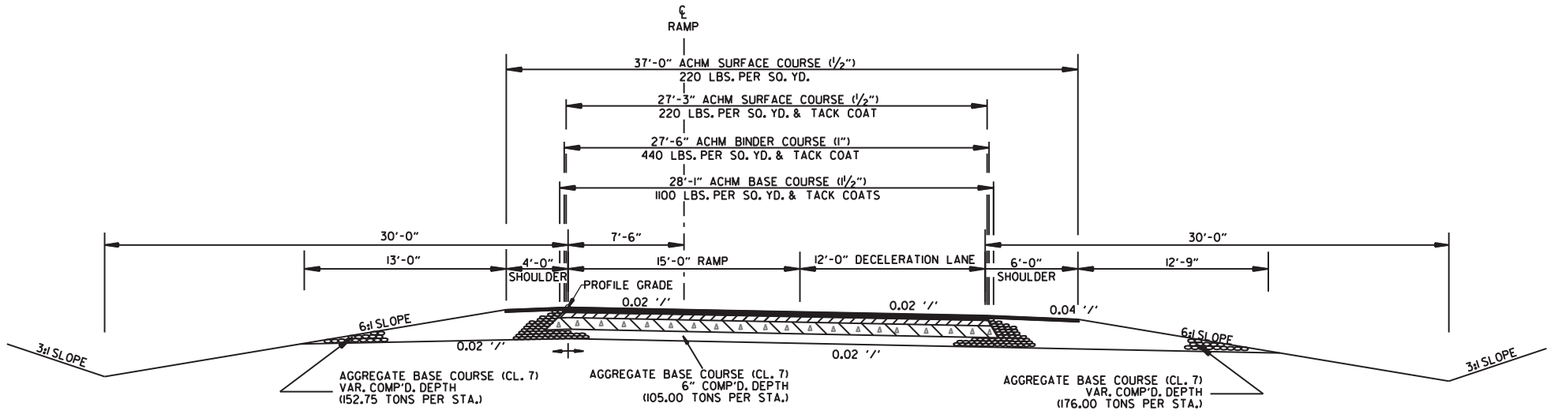

STA. 7585+00.00 - STA. 7585+15.20 (EB EXIT TO HWY. 89 CONNECTOR)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

NOTES:

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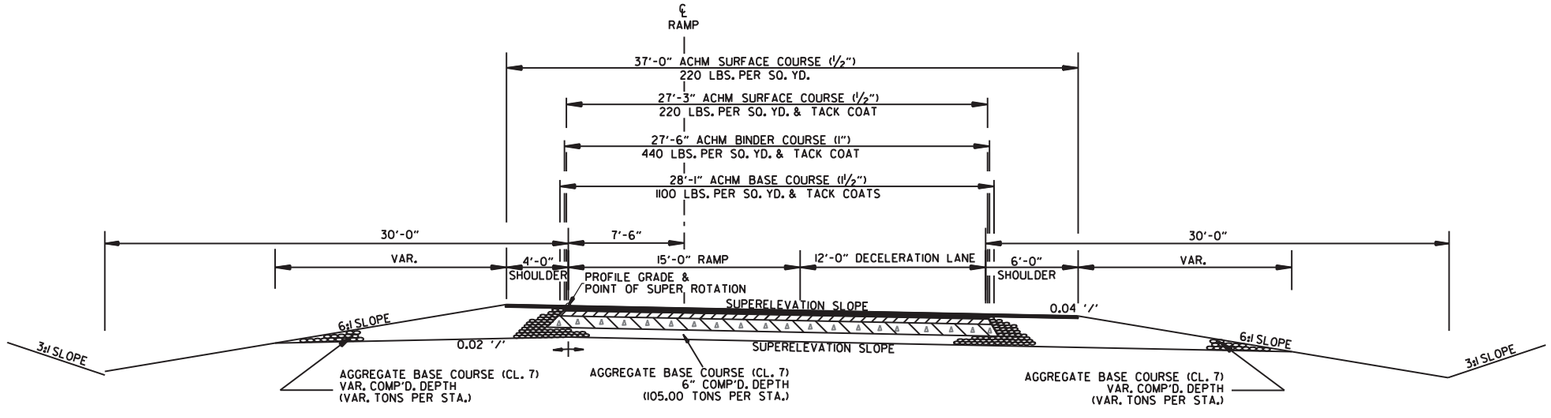

STA. 7585+15.20 - STA. 7588+28.86 (EB EXIT TO HWY. 89 CONNECTOR)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

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TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		080457	13	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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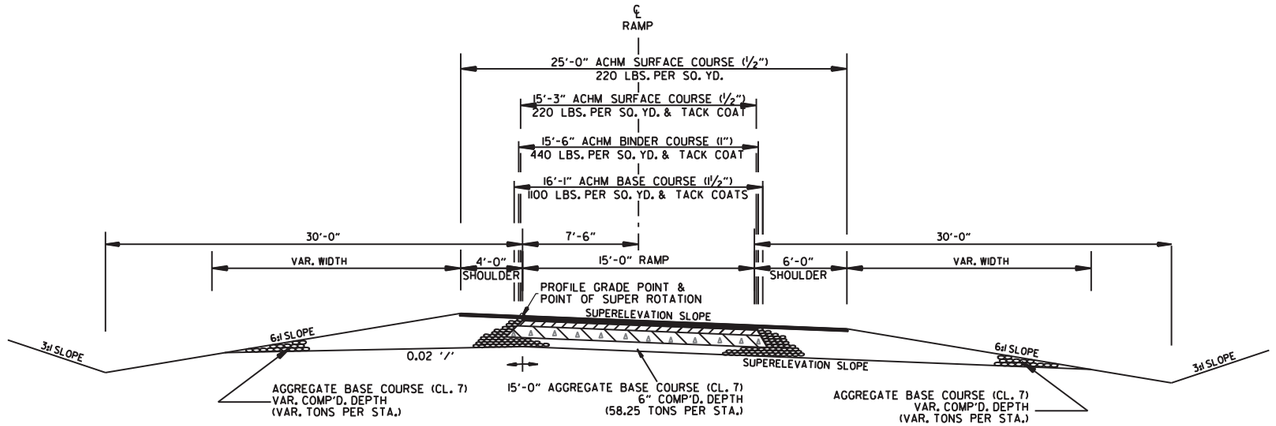

STA. 7588+28.86 - STA. 7592+92.56 (EB EXIT TO HWY. 89)
STA. 7592+92.56 - STA. 7592+06.29 (EB EXIT TO HWY. 89) (TRANSITION)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

NOTES:

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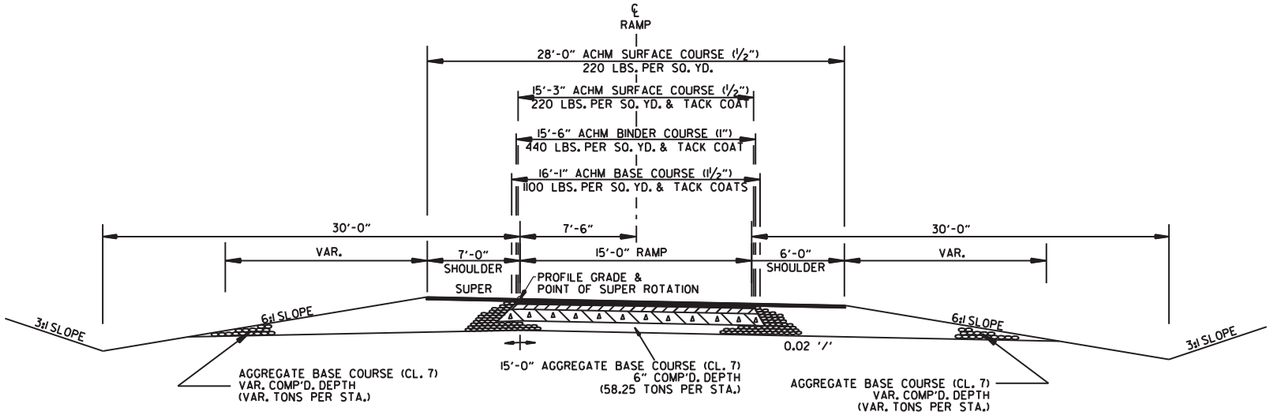

STA. 7588+29.84 - STA. 7590+44.96 (EB EXIT TO HWY. 365)
STA. 7590+00.00 - STA. 7590+79.72 (HWY. 365 TO HWY. 89)
STA. 76086+16.54 - STA. 7608+12.28 (HWY. 365 TO EB ENTRANCE CONNECTOR)
STA. 7604+65.25 - STA. 7607+13.77 (HWY. 89 TO HWY. 365 CONNECTOR)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

TYPICAL SECTIONS OF IMPROVEMENT

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	14	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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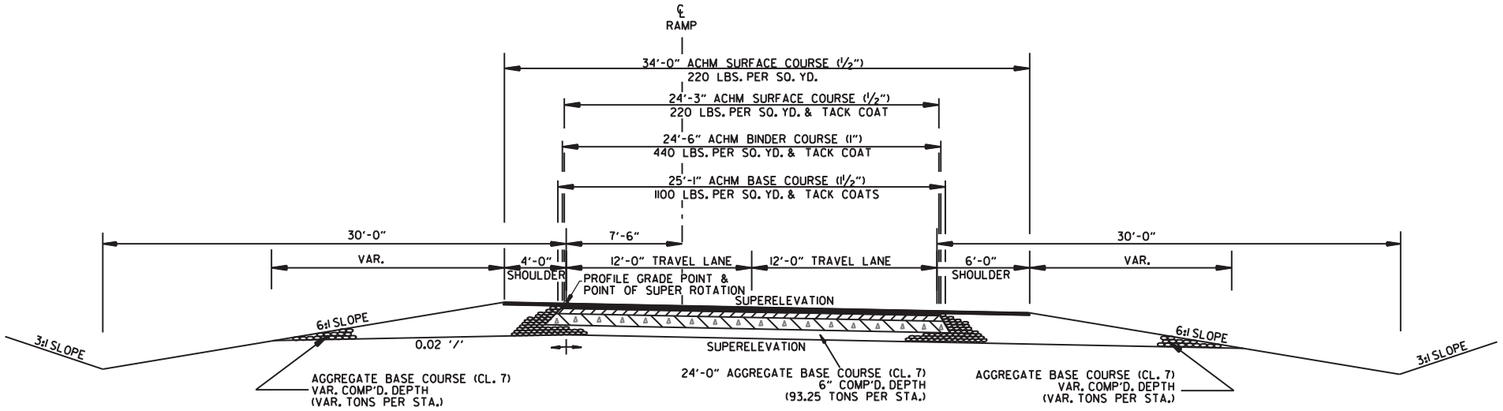
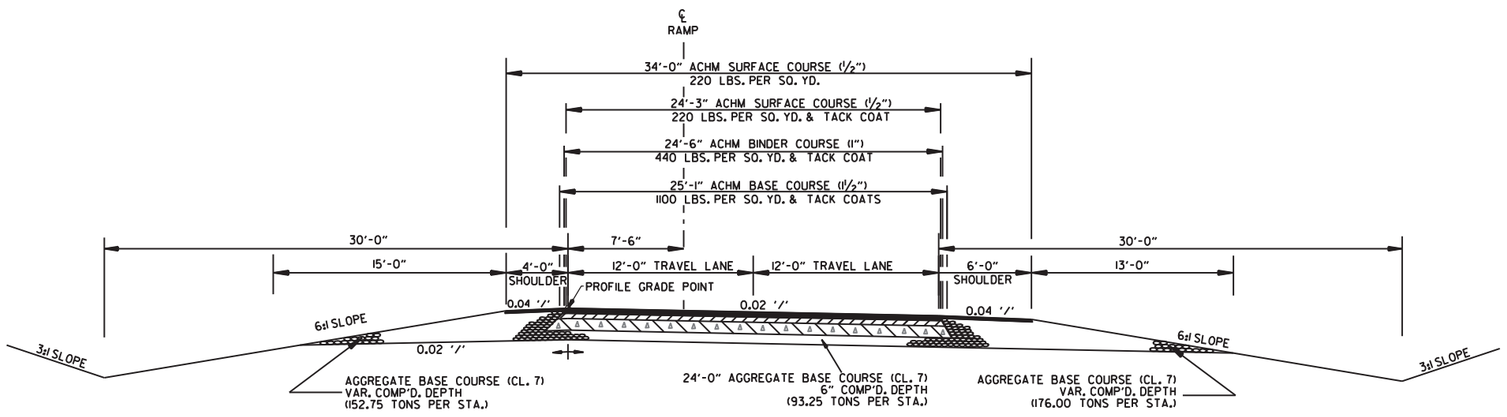


STA. 7592+06.29 - STA. 7595+12.37 (EB EXIT TO HWY. 89 CONNECTOR)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)



STA. 75935+12.37 - STA. 7598+29.30 (EB EXIT TO HWY. 89 CONNECTOR)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

NOTES:

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TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		080457	15	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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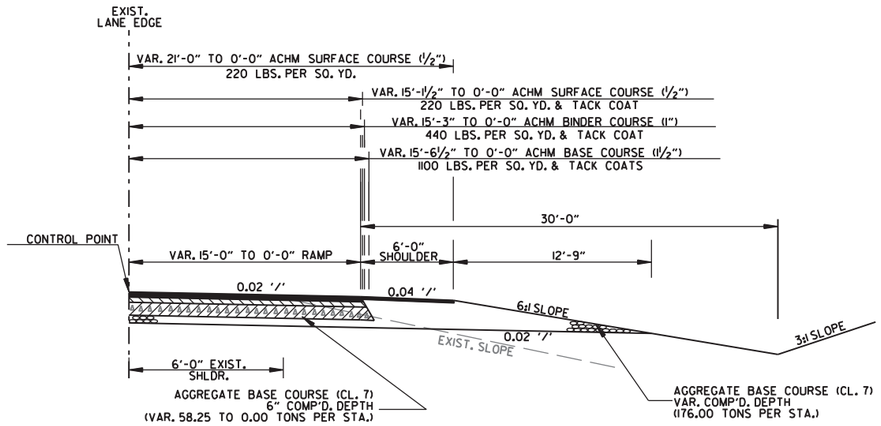
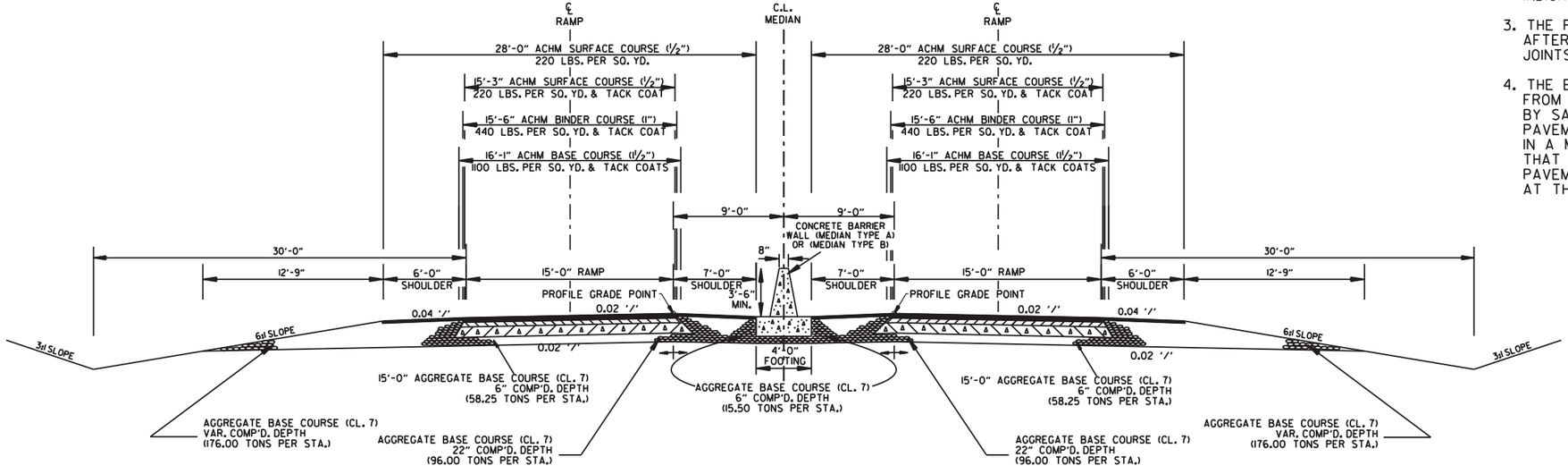


STA. 7608+12.28 - STA. 7608+81.39 (HWY. 365 TO EB ENTRANCE CONNECTOR)
STA. 7607+97.53 - STA. 7608+21.90 (HWY. 89 TO HWY. 365 CONNECTOR)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)



STA. 7587+35.66 - STA. 7588+95.74 (HWY. 365 TO HWY. 89)
STA. 7604+01.02 - STA. 7606+00.00 (HWY. 365 TO EB ENTRANCE CONNECTOR)
STA. 7607+83.37 - STA. 7608+21.90 (HWY. 89 TO HWY. 365 CONNECTOR)
STA. 7592+94.05 - STA. 7593+02.47 (EB EXIT TO HWY. 365)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

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				6	ARK.			
				JOB NO.		080457	16	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 9:07 AM

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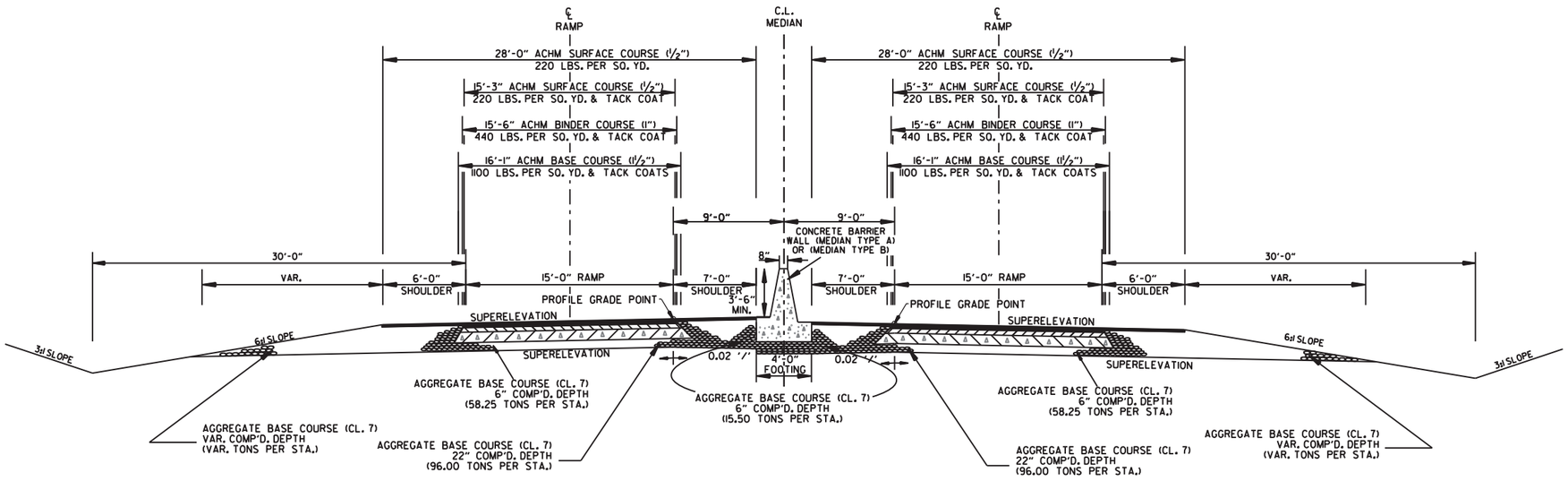

STA. 7588+95.74 - STA. 7590+00.00 (HWY. 365 TO HWY. 89)
STA. 7604+99.66 - STA. 7606+00.00 (HWY. 365 TO EB ENTRANCE CONNECTOR)
STA. 7607+76.32 - STA. 7607+97.53 (HWY. 89 TO HWY. 365 CONNECTOR)
STA. 7590+44.96 - STA. 7592+94.05 (EB EXIT TO HWY. 365)
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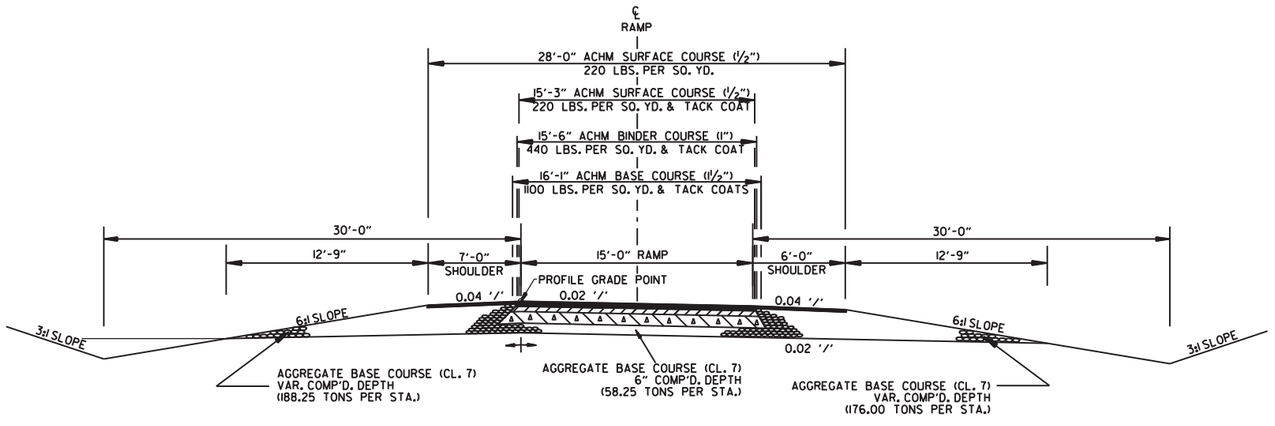

STA. 7590+00.00 - STA. 7590+79.72 (HWY. 365 TO HWY. 89)
STA. 7608+12.28 - STA. 7608+81.39 (HWY. 365 TO EB ENTRANCE CONNECTOR)
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STA. 7607+13.77 - STA. 7607+83.37 (HWY. 89 TO HWY. 365 CONNECTOR)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)

TYPICAL SECTIONS OF IMPROVEMENT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH

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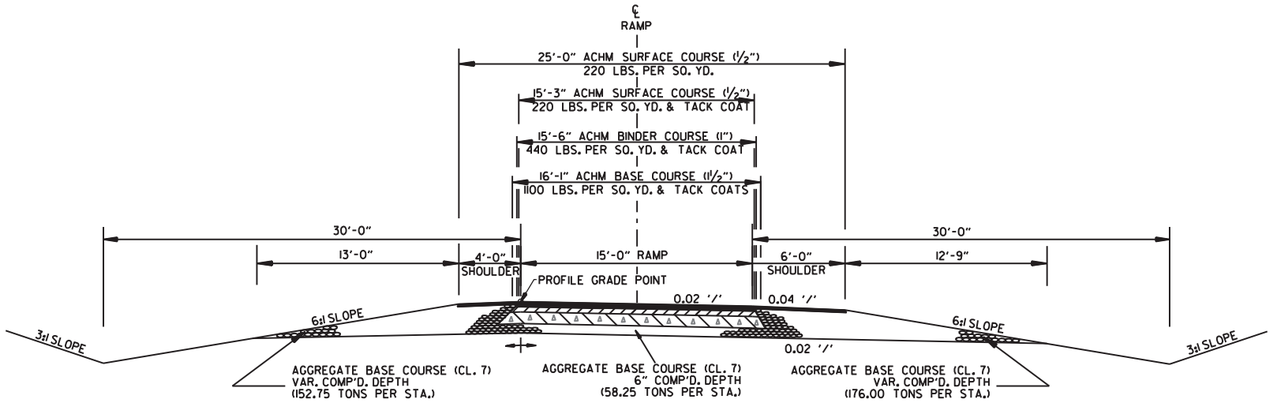

STA. 7598+21.12 - STA. 7608+54.40
STA. 7608+54.40 - STA. 7608+99.96 (TRANSITION)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)
I-40 EASTBOUND ENTRANCE

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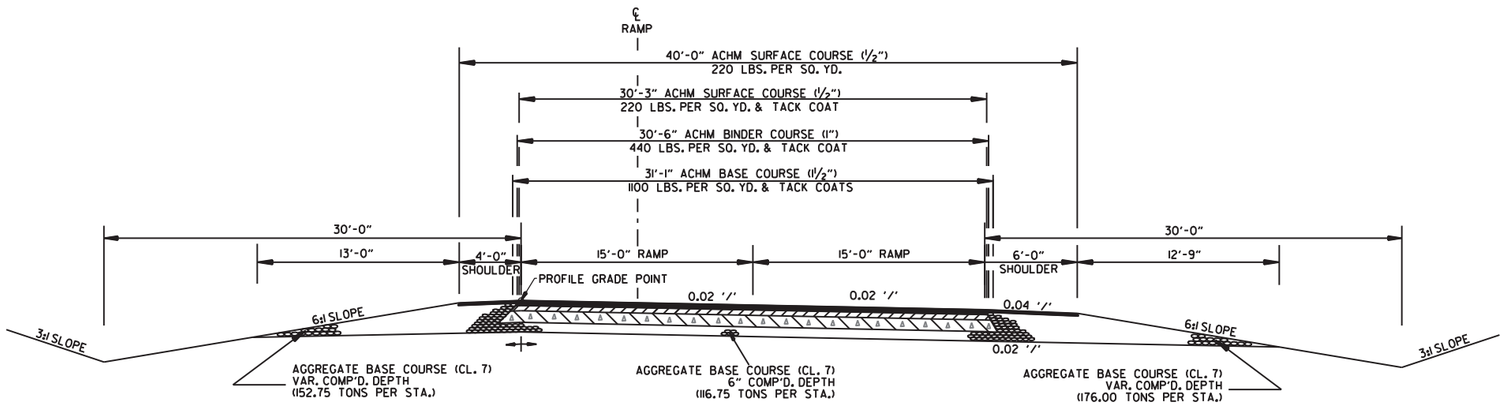

STA. 7608+99.96 - STA. 7609+16.71
STA. 7609+16.71 - STA. 7611+53.71 (TRANSITION)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)
I-40 EASTBOUND ENTRANCE

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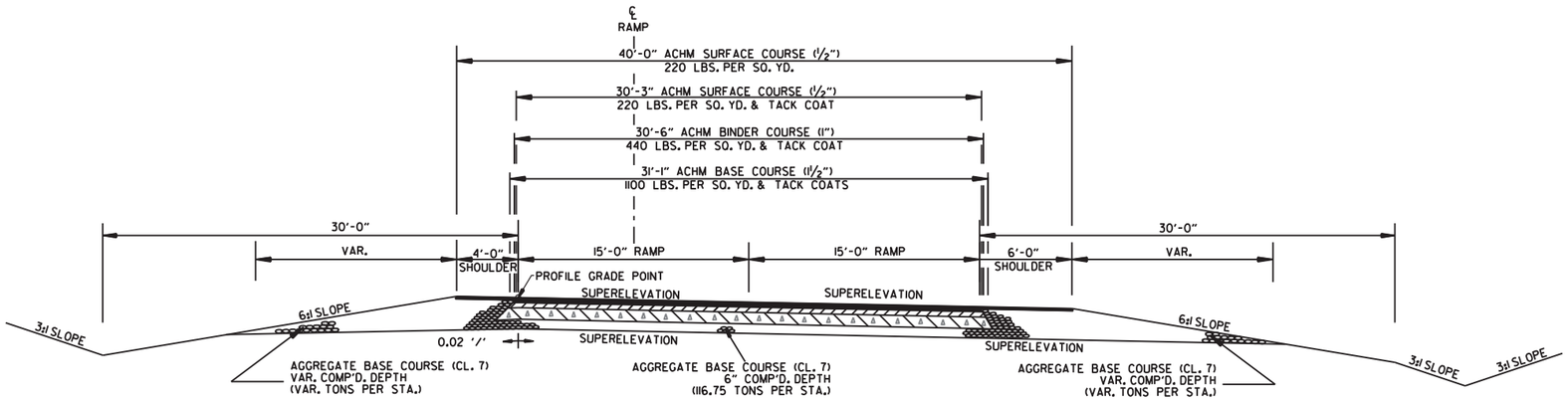
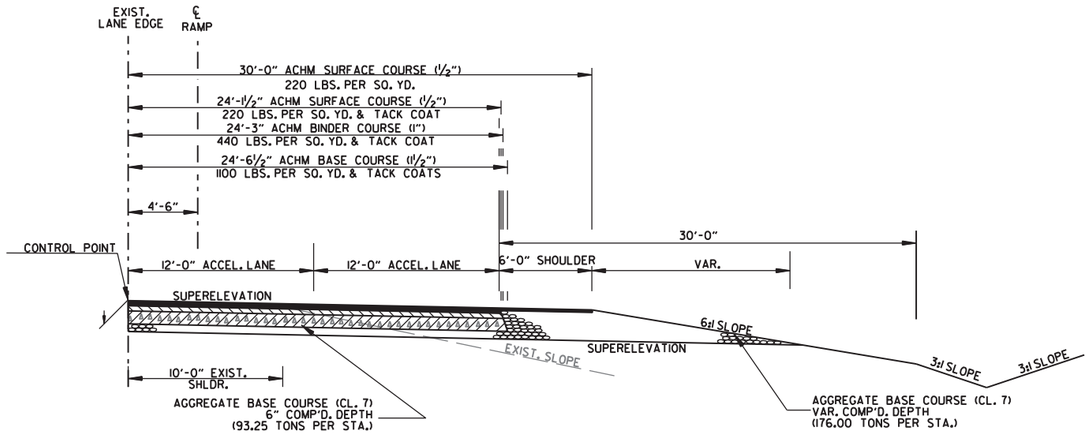


STA. 7611+53.71 - STA. 7613+36.72 (TRANSITION)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)
I-40 EASTBOUND ENTRANCE



STA. 7613+36.72 - STA. 7614+31.45
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)
I-40 EASTBOUND ENTRANCE

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 WITH EXCESS OF THE TOLERANCE INDICATED.

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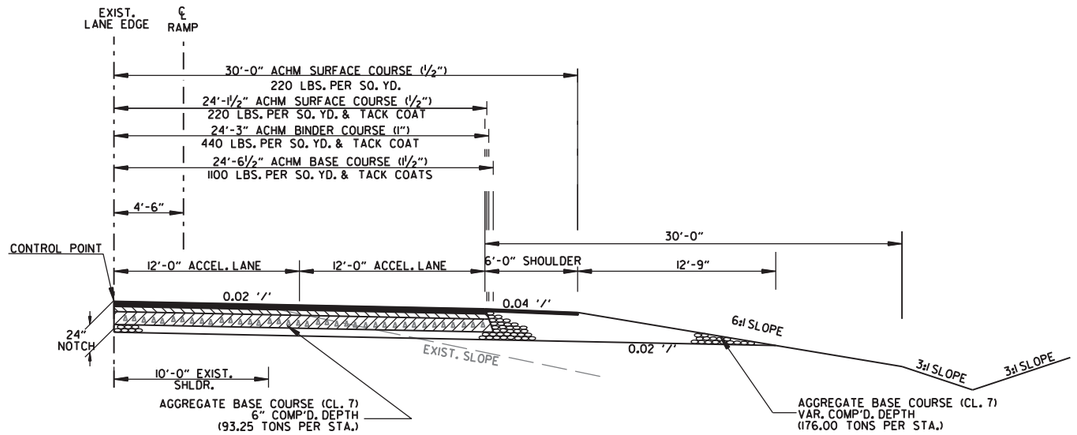
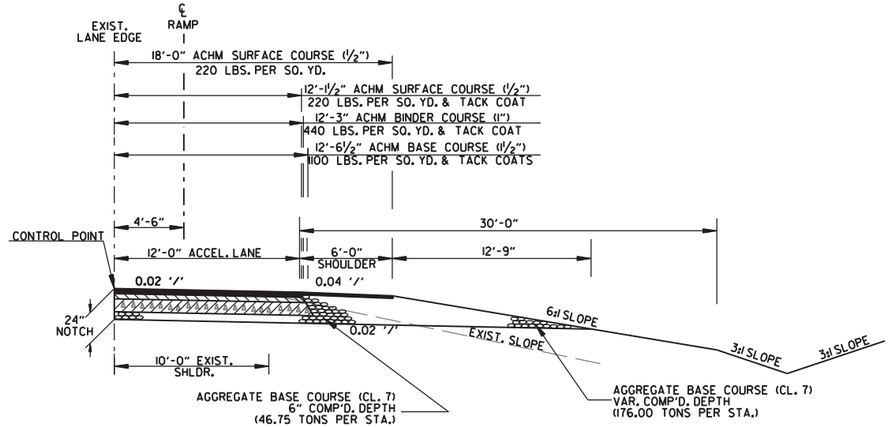
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	19	517

(2) TYPICAL SECTIONS OF IMPROVEMENT



STA. 7614+31.45 - STA. 7620+36.72
STA. 7620+36.72 - STA. 7623+39.72 (TRANSITION)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)
I-40 EASTBOUND ENTRANCE



STA. 7623+36.72 - STA. 7630+36.72
STA. 7630+36.72 - STA. 7633+36.72 (TRANSITION)
(RAMPS SHOWN IN DIRECTION OF TRAFFIC)
I-40 EASTBOUND ENTRANCE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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NOTES:

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				JOB NO.		080457	20	517

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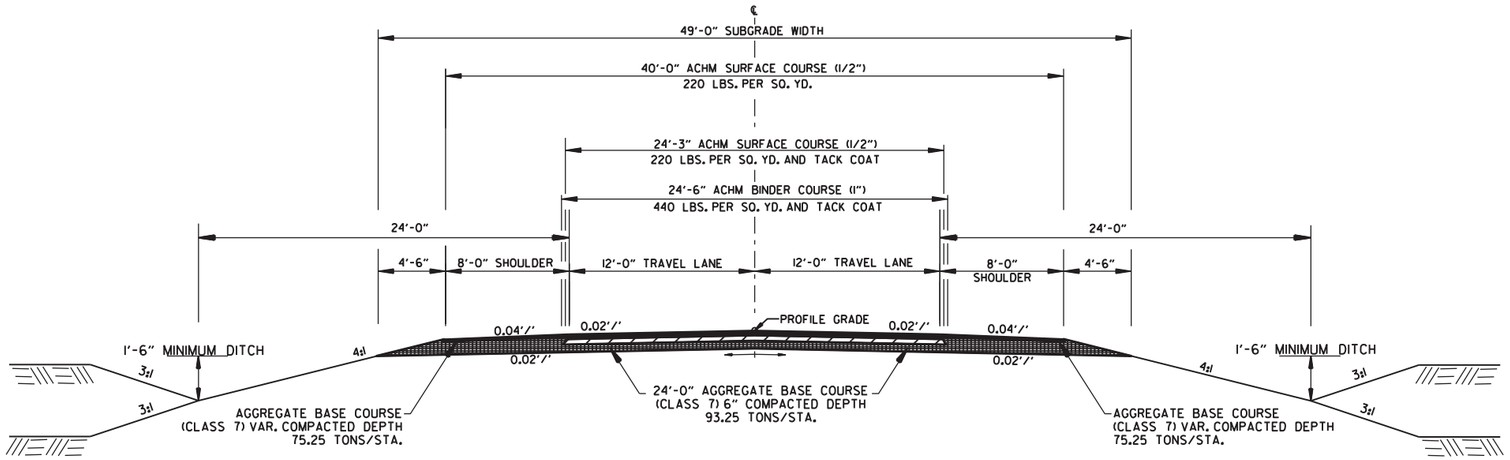
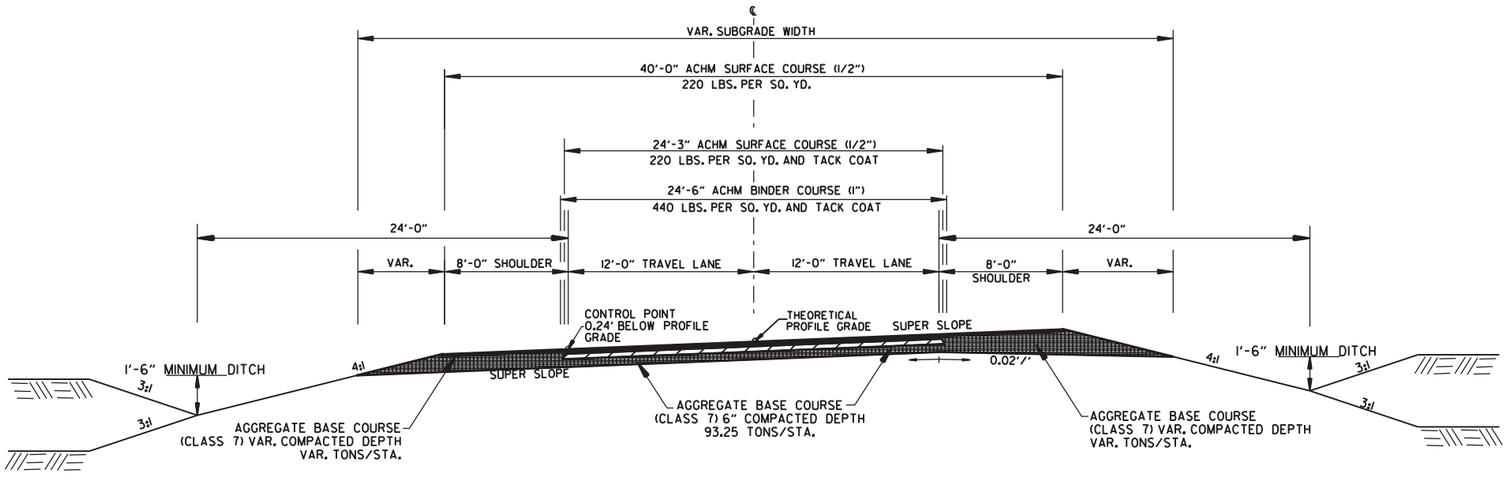


STA. 100+28.49 - STA. 102+55.95
STA. 106+60.03 - STA. 107+12.20
FULL DEPTH - MAIN STREET CONNECTOR



STA. 105+55.95 - STA. 106+60.03
FULL DEPTH - MAIN STREET CONNECTOR

NOTES:

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STATE OF ARKANSAS
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(2) TYPICAL SECTIONS OF IMPROVEMENT

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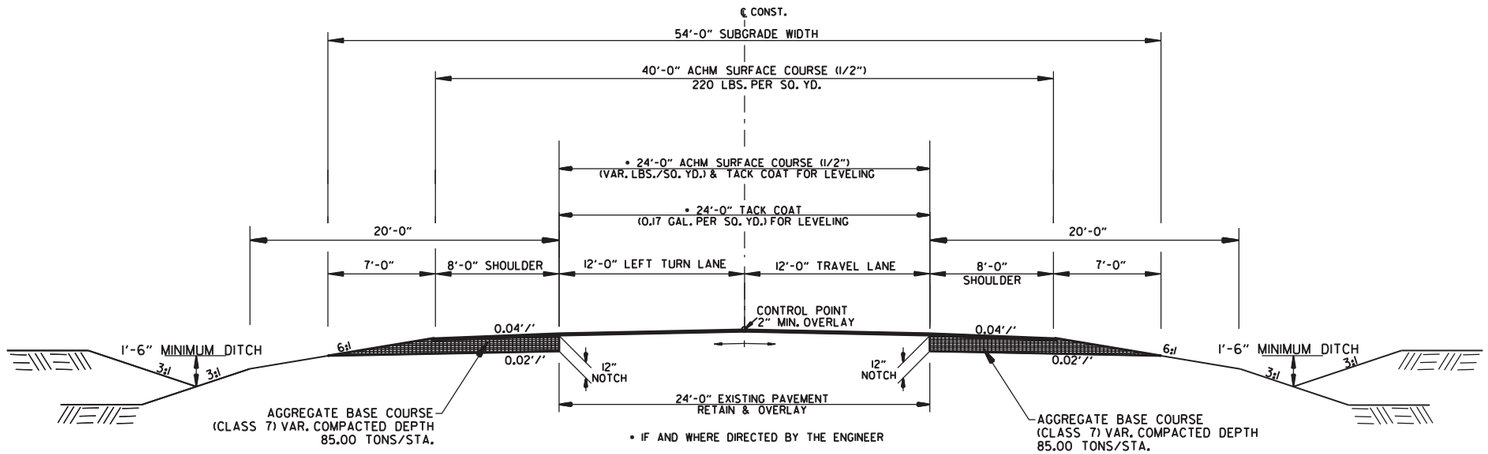
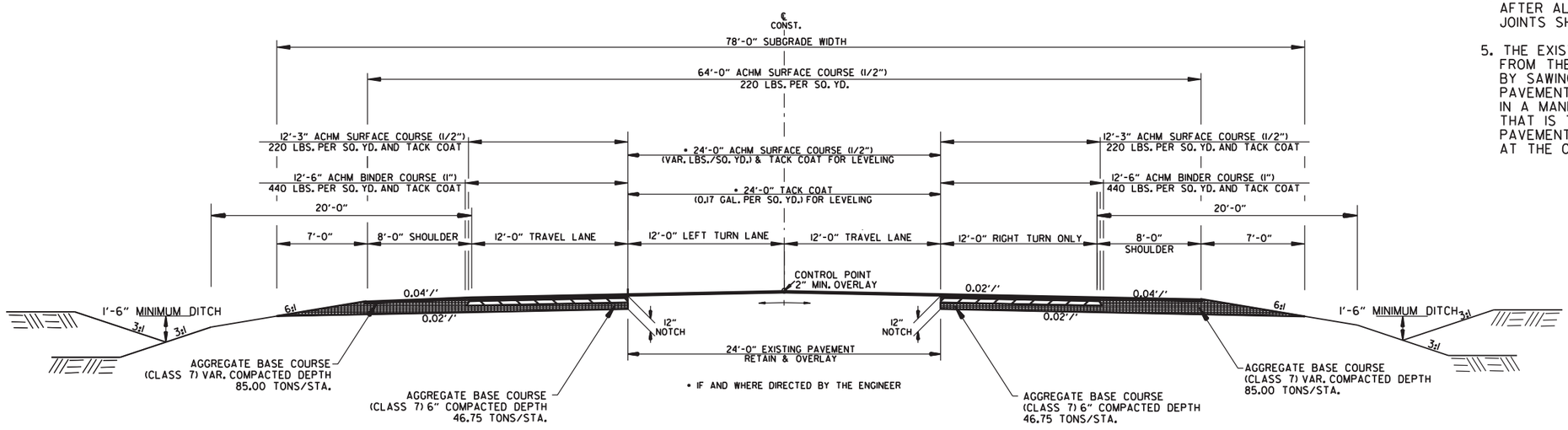


STA. 96+60.00 - STA. 98+42.00
STA. 111+50.00 - STA. 114+82.66
2 LANES NOTCH AND WIDENING - HWY. 365



STA. 98+42.00 - STA. 101+67.00 (TRANSITION)
STA. 101+67.00 - STA. 103+95.31 (TRANSITION)
4 LANES NOTCH AND WIDENING - HWY. 365

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				JOB NO.		080457	22	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

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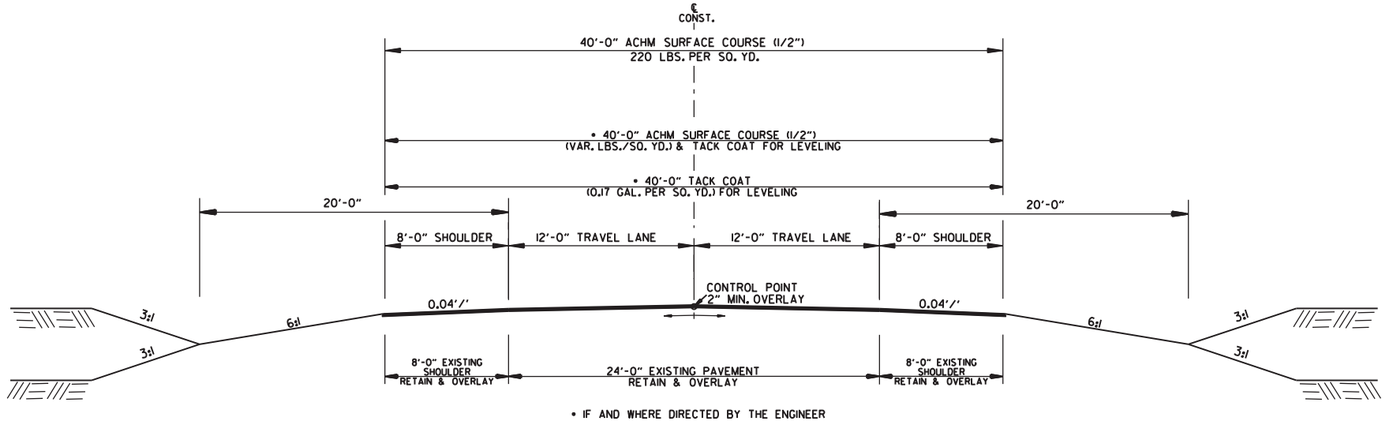
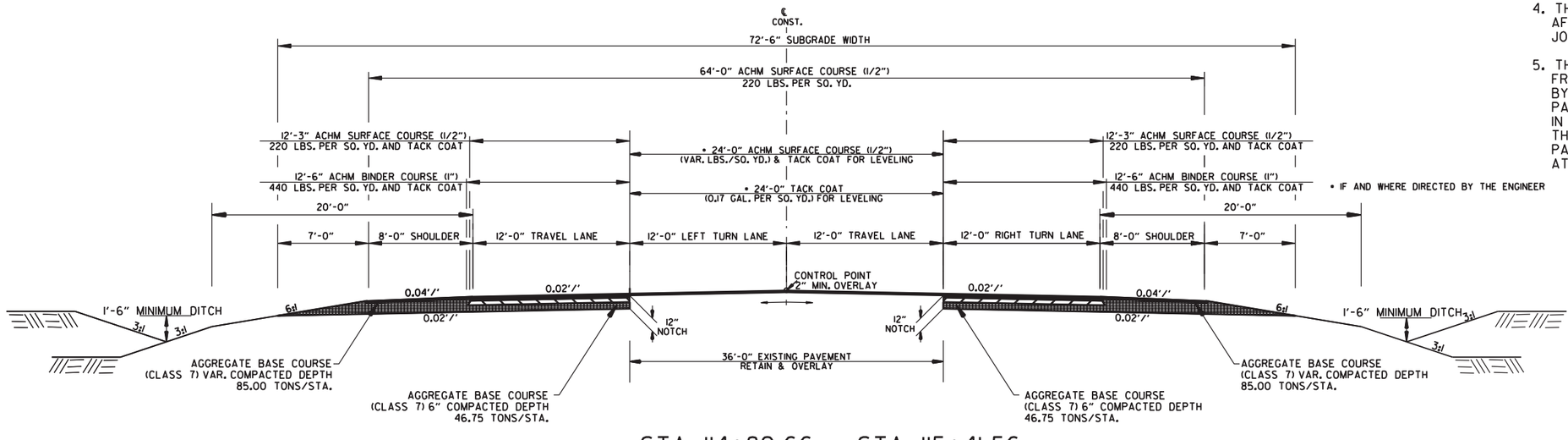


STA. 103+95.31 - STA. 111+50.00
2 LANE OVERLAY - HWY. 365



STA. 114+82.66 - STA. 115+41.56
4 LANE NOTCH AND WIDENING - HWY. 365

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				JOB NO.		080457	23	517

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
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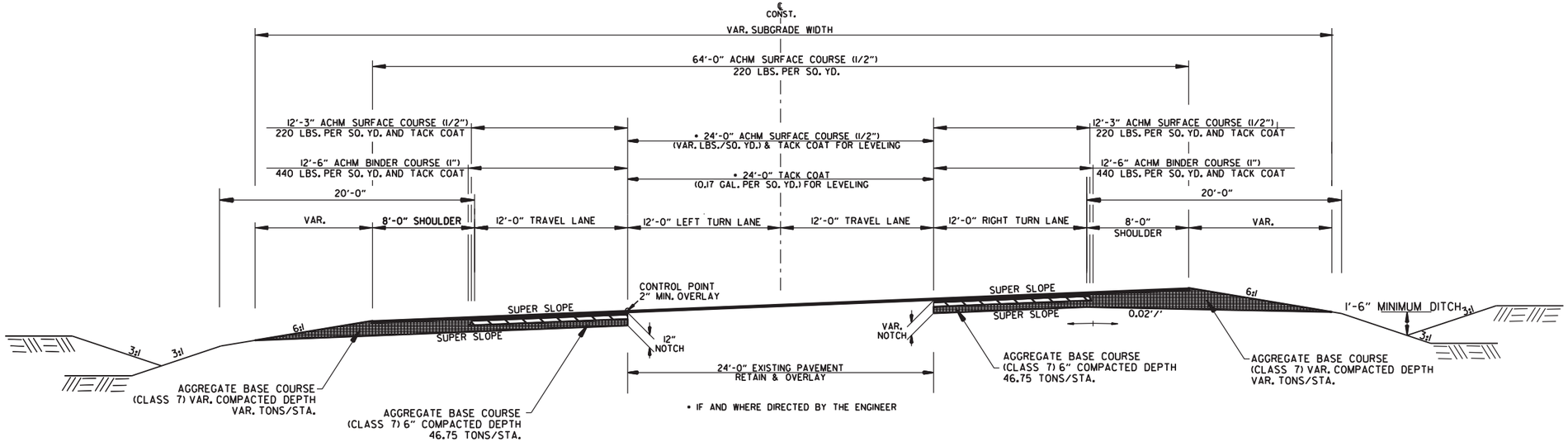
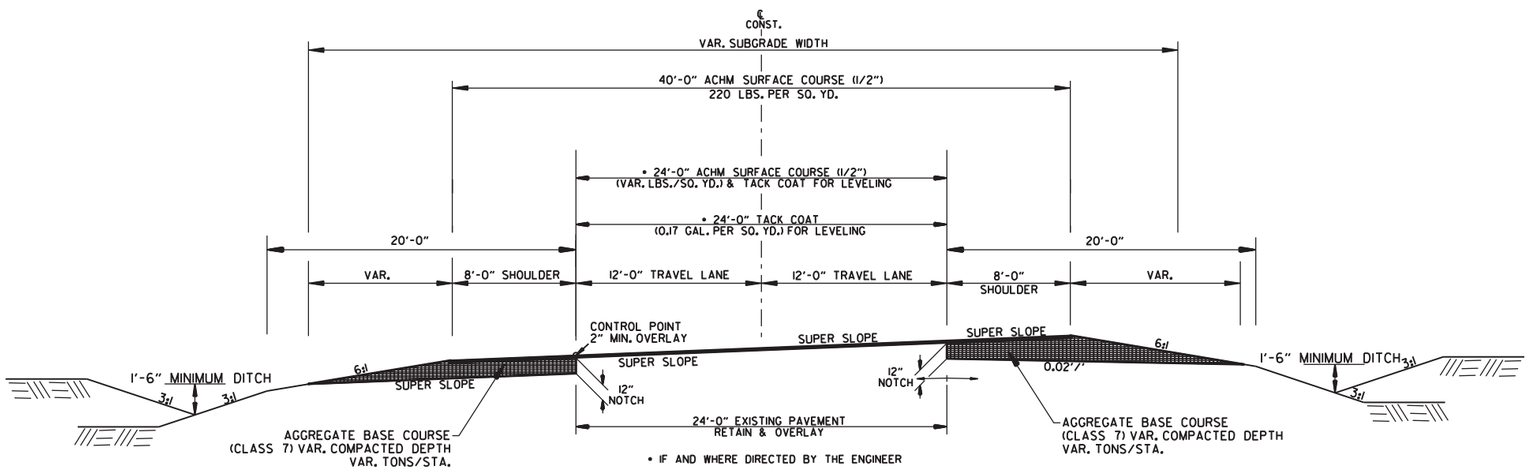


STA. 115+41.56 - STA. 123+32.66
4 LANES NOTCH AND WIDENING - HWY. 365



STA. 123+32.66 - STA. 124+55.18
2 LANES NOTCH AND WIDENING SUPERELEVATION - HWY. 365

NOTES:

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6. PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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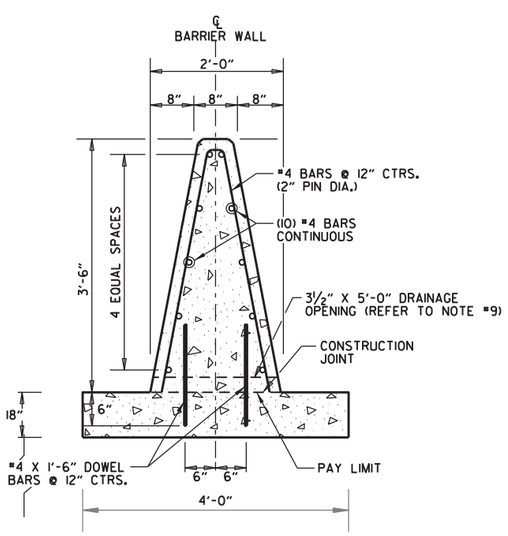
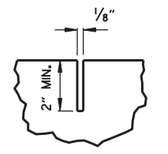
10-28-20				6	ARK.			
				JOB NO.		080457	24	517

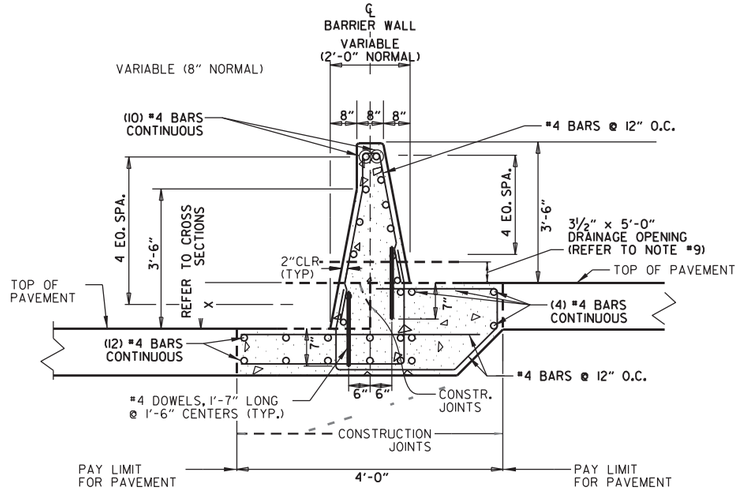
(2) SPECIAL DETAILS



CONCRETE BARRIER WALL
(MEDIAN TYPE A; MASH TL-4)
N.T.S.



CONTRACTION
JOINT DETAIL



CONCRETE BARRIER WALL
(MEDIAN TYPE B; MASH TL-4)
X = 0'-0" TO 1'-0" MAX
N.T.S.

GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMUM SPACING FOR BARRIER TYPES MEDIAN A, SIDE A. A 30'-0" MAXIMUM SPACING IS REQUIRED FOR TYPES MEDIAN C, SIDE C, D & E.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. DOWEL BARS FOR BARRIER TYPES MEDIAN A, SIDE A WILL NOT BE REQUIRED IF BARRIER AND MINIMUM 4' WIDE BASE ARE CAST AS A COMPLETE UNIT.
5. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
6. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A ¾" CHAMFER.
7. THE DESIGN OF BARRIER WALL TYPES SIDE C, D & E IS BASED ON A MINIMUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE FOUNDATION MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
8. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT FOR BARRIER TYPES MEDIAN A AND SIDE A OR 120 FT FOR BARRIER TYPES SIDE C, D & E. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
9. CONSTRUCT DRAINAGE OPENINGS AT EVERY 50' O.C. AND AT SAGS IF SHOWN ON THE PLANS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.
10. MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT.
11. REFER TO BARRIER MOUNTED LUMINARE SPECIAL DETAILS FOR INFORMATION REGARDING CONDUIT IN CONCRETE BARRIER WALLS. REFER TO ILLUMINATION LAYOUT FOR LOCATIONS OF CONDUIT RUNS.
12. BARRIER REINFORCING BARS ANCHORED INTO EXISTING CONCRETE PAVEMENT SHALL BE INSTALLED AND SECURED ACCORDING TO 804.06 USING AN APPROVED ANCHORING SYSTEM FROM OPL.

NOTE:
THE COST FOR THE MODIFICATION OF THE BARRIERS AND DROP INLETS ARE TO BE SUBSIDIARY TO CONCRETE BARRIER WALLS AND CURBS.

STATE OF ARKANSAS
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(2) SPECIAL DETAILS

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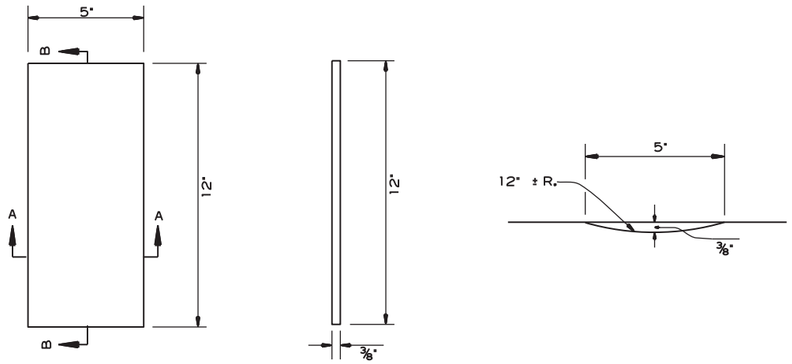
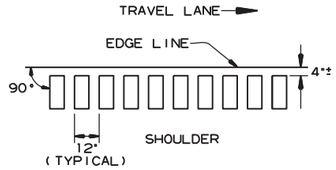
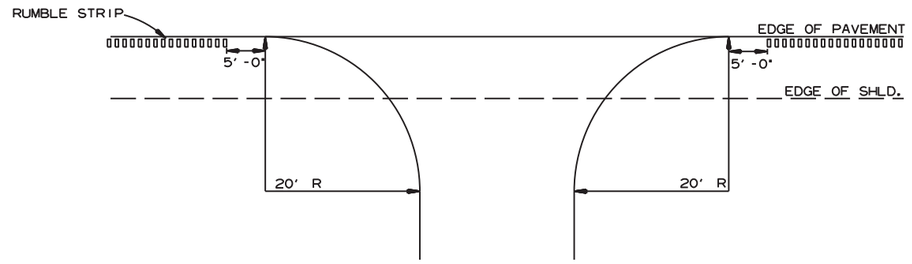


PLAN SECTION B-B SECTION A-A

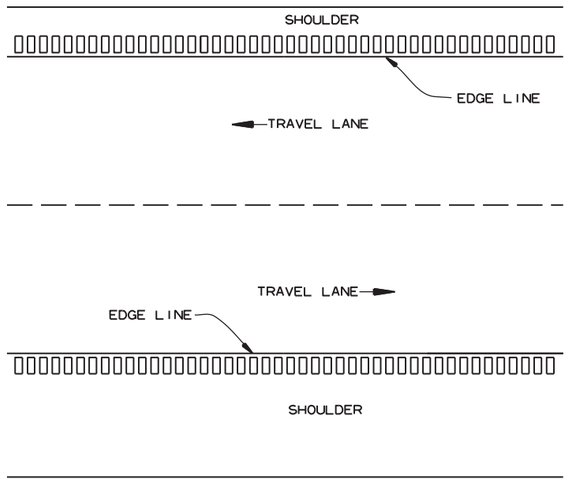
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



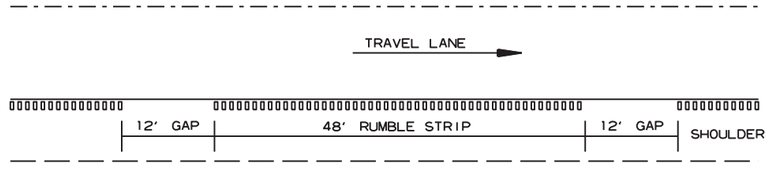
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



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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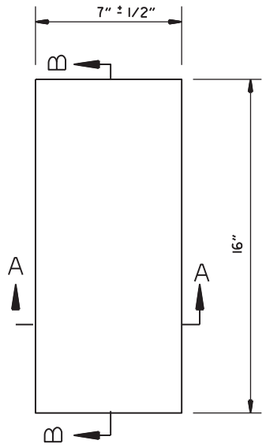
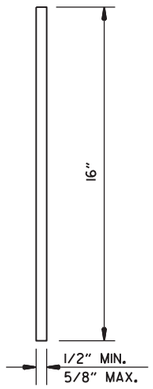
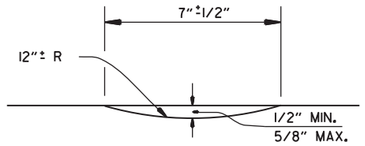


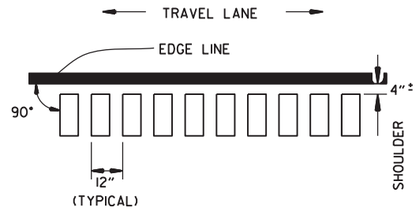
PLAN



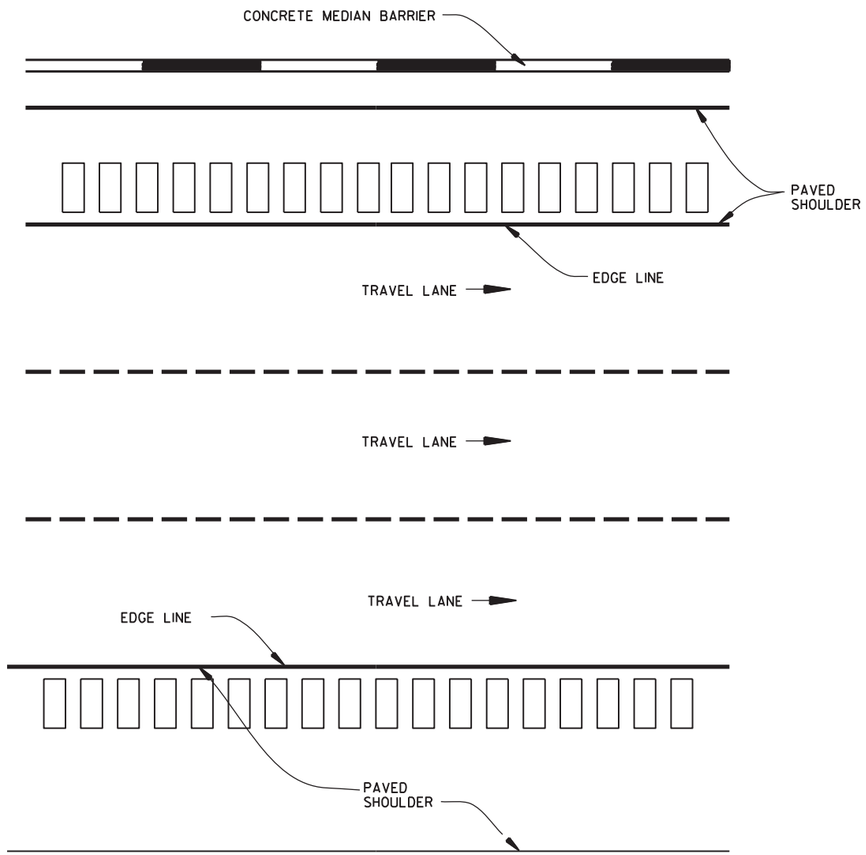
SECTION B-B



SECTION A-A



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



PLAN VIEW

NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AS WELL AS TO AVOID EXISTING LONGITUDINAL JOINTS.
2. THE 1/2" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

DETAILS OF RUMBLE STRIPS

7/9/2020
R080457.DGN

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	27	517

(2) SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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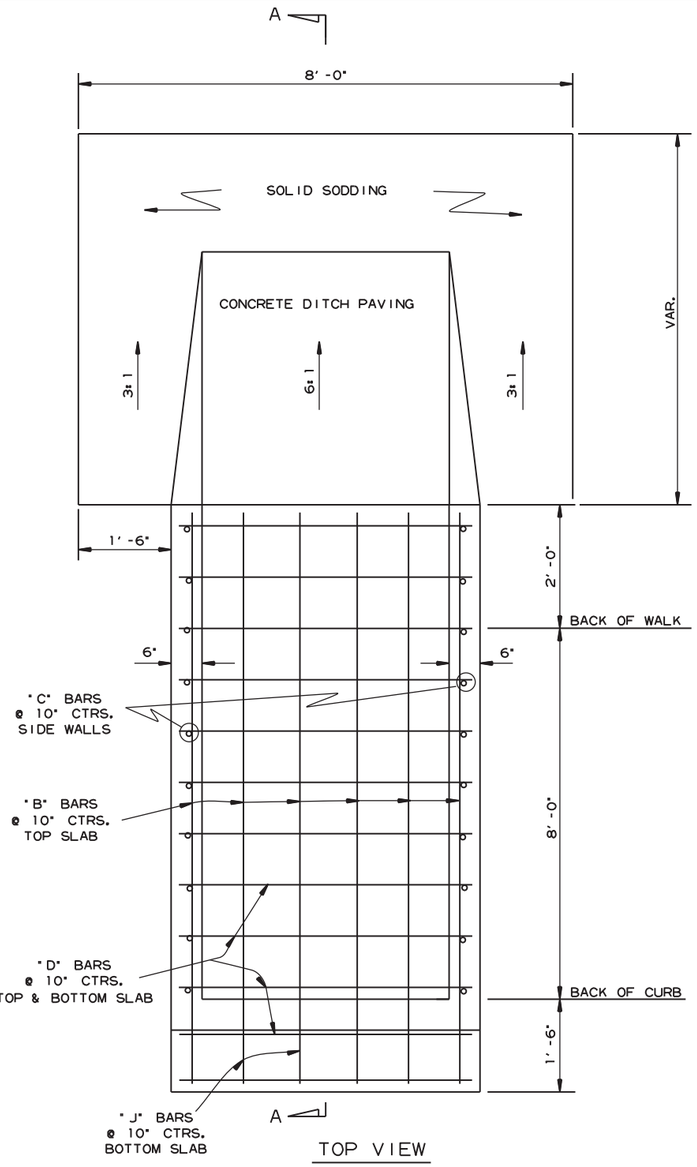
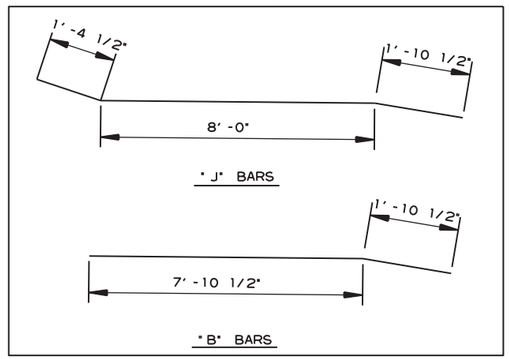
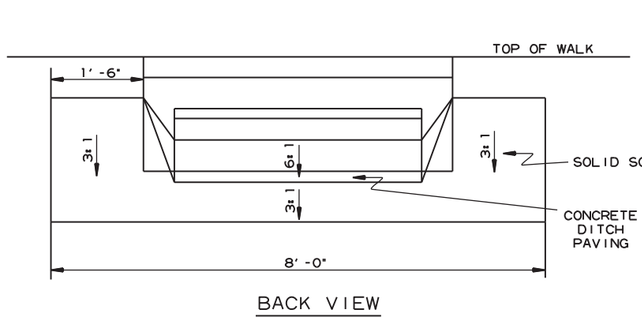


TOP VIEW



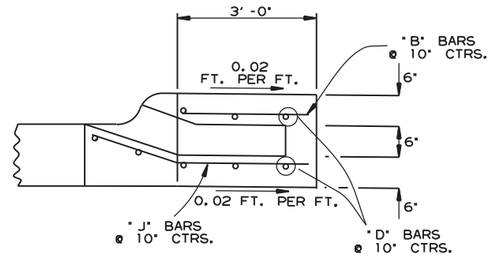
CLASS A CONC.	REINF. STEEL-RDWY. GRADE 60
CU. YDS.	POUND
2.53	207

QUANTITIES FOR INFORMATION ONLY
DROP INLET (TYPE SPECIAL)

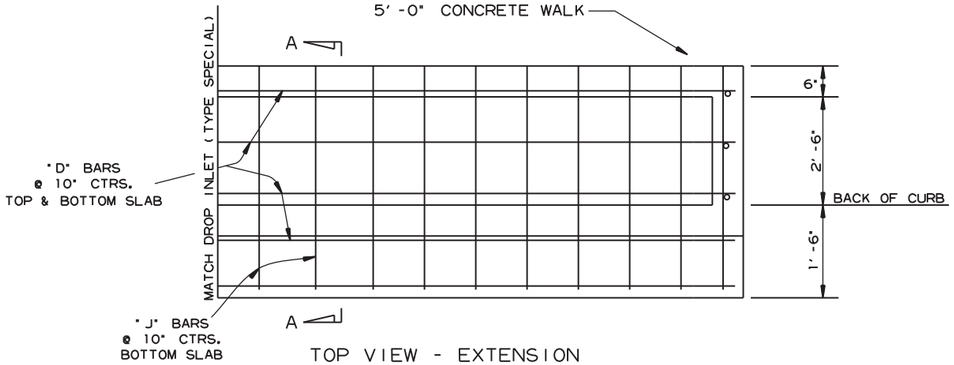


BACK VIEW

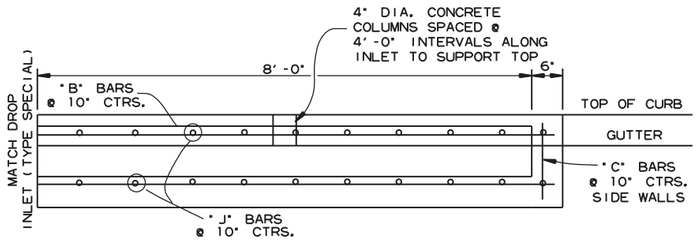
FRONT VIEW



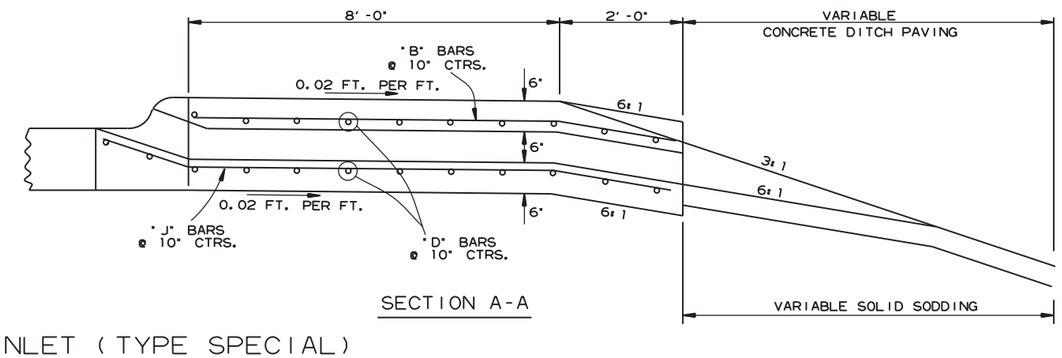
SECTION A-A - EXTENSION



TOP VIEW - EXTENSION



FRONT VIEW - EXTENSION



SECTION A-A

DROP INLET (TYPE SPECIAL)

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. ALL REINF. BARS SHALL BE #4 AND HAVE 1 1/2" COVER.
3. DROP INLETS AND EXTENSIONS ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
4. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
5. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
6. CONCRETE DITCH PAVING & SOLID SODDING SHALL BE PAID FOR SEPARATELY.
7. CONSTRUCT EXTENSIONS UPSTREAM OF DROP INLET UNLESS OTHERWISE SPECIFIED.

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SPECIAL DETAILS

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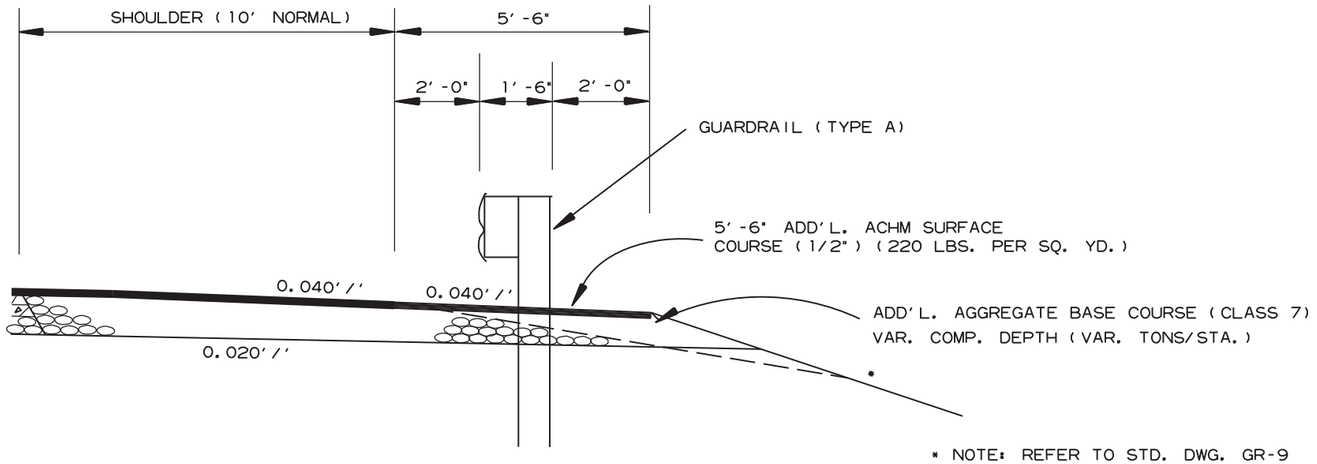
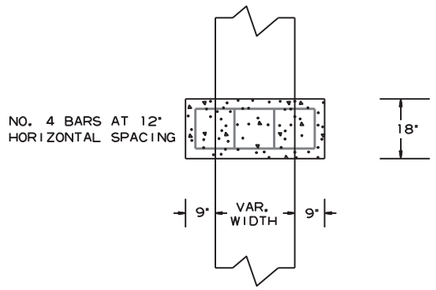
				6	ARK.			
				JOB NO.		080457	28	517

(2) SPECIAL DETAILS

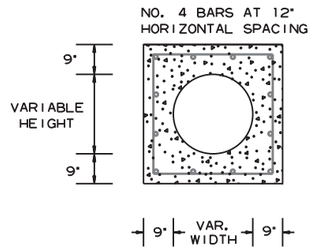


* NOTE: REFER TO STD. DWG. GR-9 AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.

WIDENING FOR GUARDRAIL

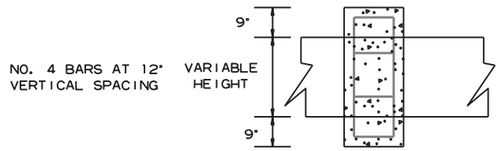


TOP VIEW



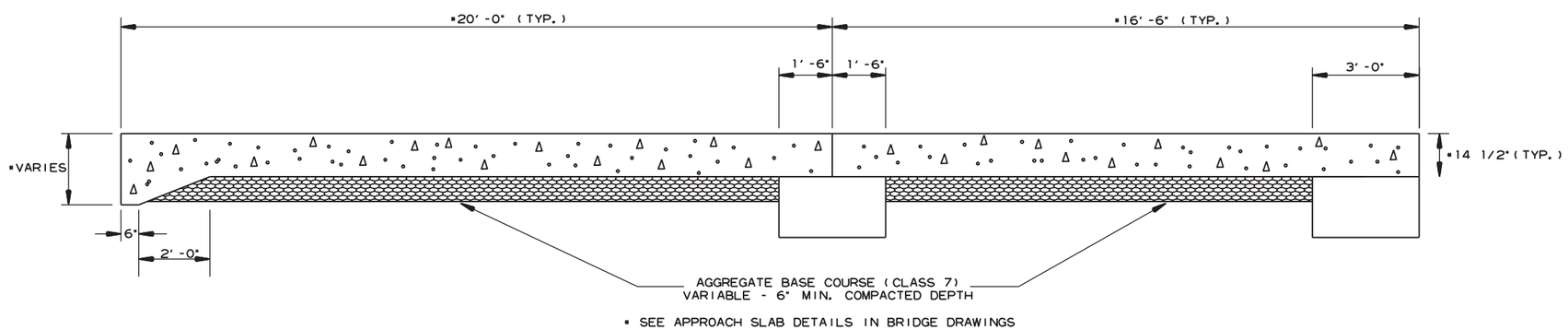
FRONT VIEW

MIN 3" COVER



SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



* SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

SECTION OF APPROACH SLAB

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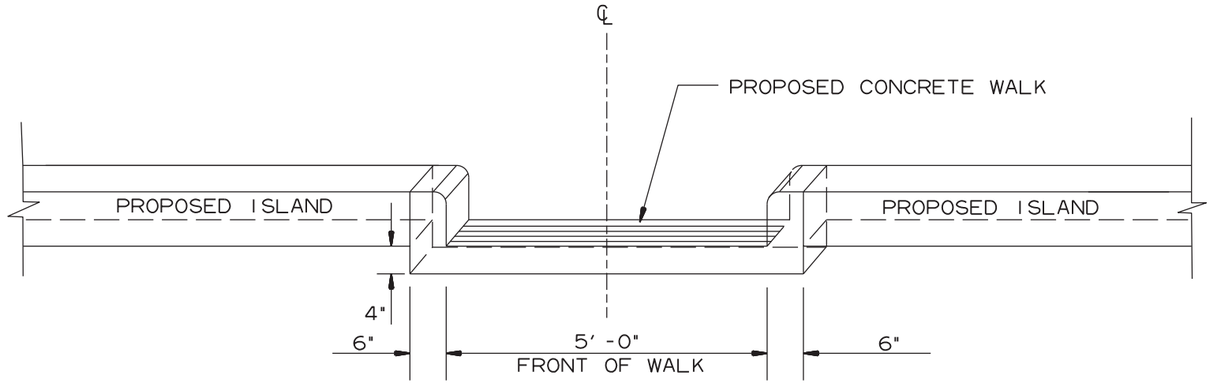
				6	ARK.			
				JOB NO.		080457	29	517

(2) SPECIAL DETAILS



6.0" Radius, 1.3" Border, Black on Orange;
"Job XXXXXX" C 2K; "Start Date Mo Year" C 2K;
"Est Completion Mo Year" C 2K; "IDRIVE " Arial;
" ARKANSAS.COM " Arial;

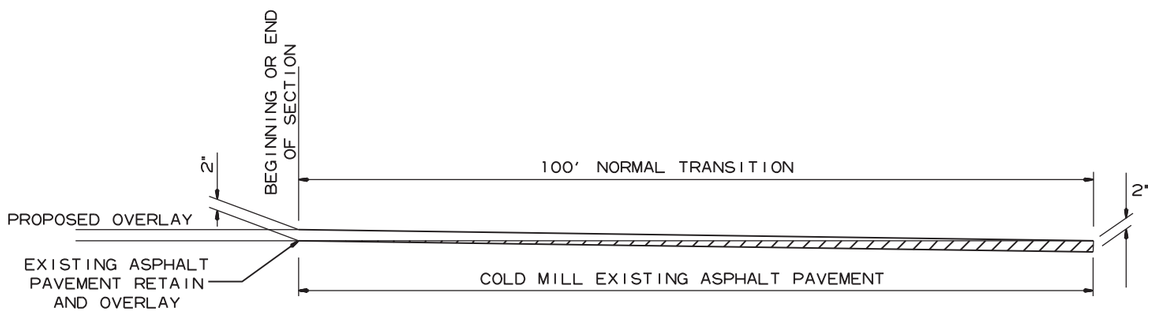
CONSTRUCTION PROJECT INFORMATION SIGN



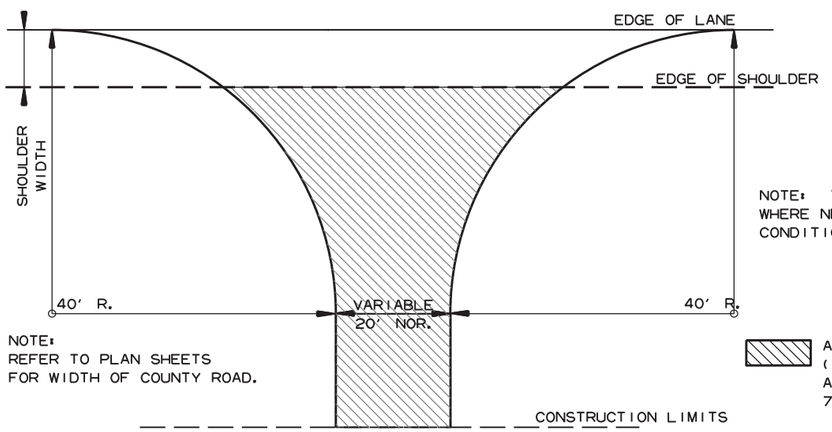
FACE SHALL MEET REQUIREMENTS
OF TYPE B CURB

NOTE: CONCRETE WALK THROUGH ISLAND SHALL BE POURED MONOLITHICALLY. ALL MATERIALS REQUIRED TO CONSTRUCT CONCRETE WALK THRU ISLAND SHALL BE INCLUDED IN THE PRICE BID FOR CONCRETE ISLAND.

CONCRETE WALK THROUGH ISLAND



DETAIL FOR TRANSITIONS



NOTE: REFER TO PLAN SHEETS FOR WIDTH OF COUNTY ROAD.

NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH

DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION

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SPECIAL DETAILS

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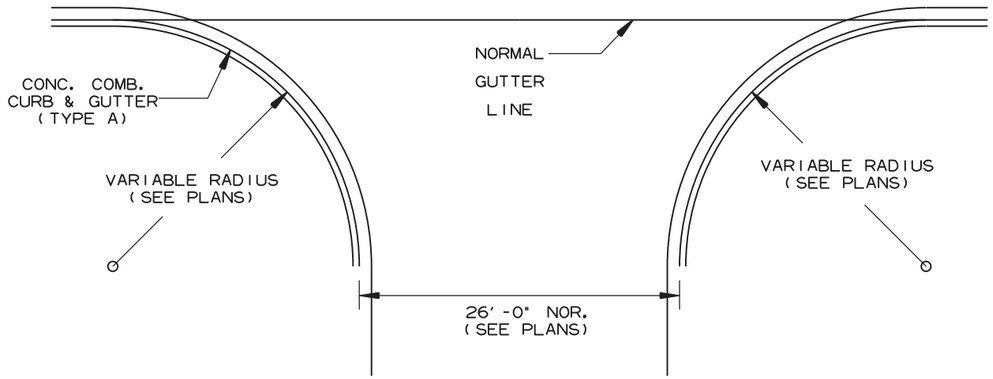
				6	ARK.			
				JOB NO.		080457	30	517

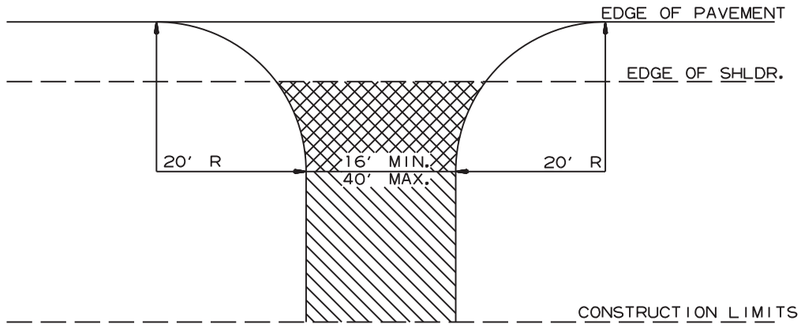
(2) SPECIAL DETAILS



NOTE:
PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS, & COUNTY ROADS TO BE SAME AS MAIN LANES.

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

DETAIL FOR SOLID SODDING AROUND DROP INLETS

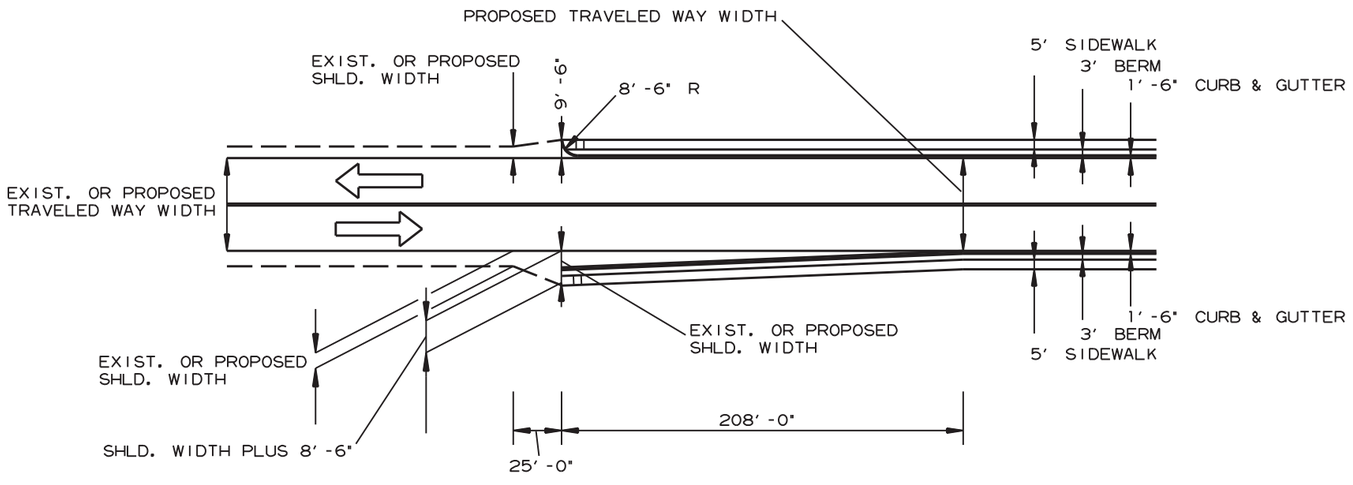


ASPHALT CONCRETE HOT MIX SURFACE COURSE (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR
6" CONCRETE IF CONCRETE DRIVE EXIST.

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

NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

DETAIL FOR DRIVEWAY TURNOUTS (COLLECTORS)



TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION

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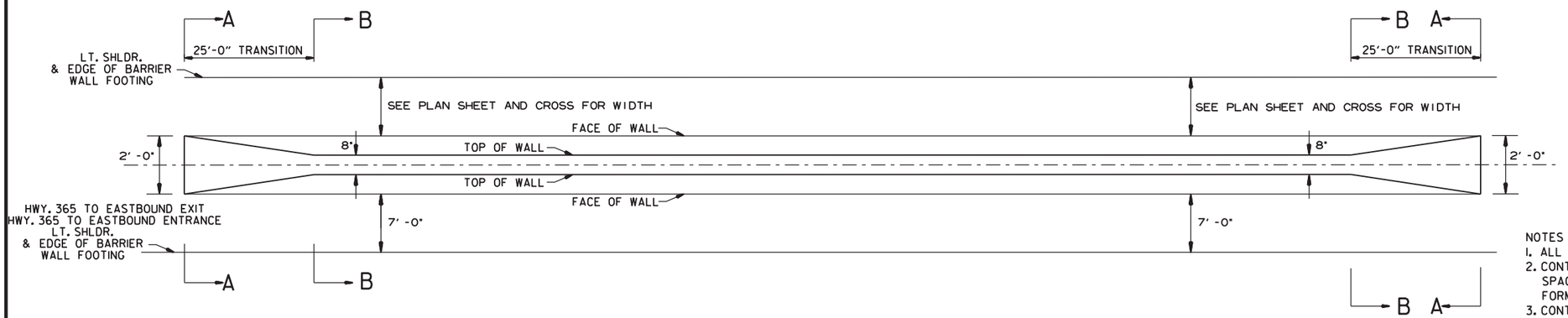
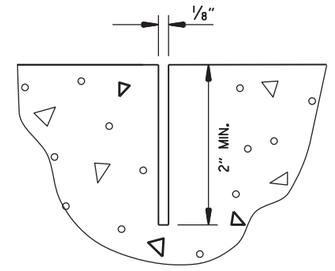
10-28-20				6	ARK.			
				JOB NO.		080457	31	517

(2) SPECIAL DETAILS

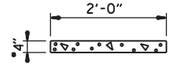


PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL) TRANSITION
NOTE: TRANSITION TO BE CONSTRUCTED AT BEGINNING AND END OF BARRIER WALL.



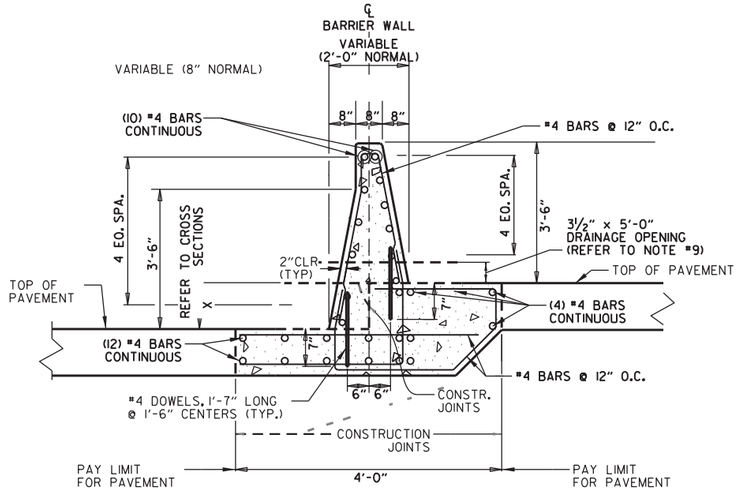
CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE 3/4" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO TYPE ST DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.



CONCRETE BARRIER WALL
(MEDIAN TYPE B)
(SECTION A-A)

•NOTE: 4" HEIGHT DIMENSION WILL COINCIDE WITH PROPOSED CONCRETE ISLAND HEIGHT DIMENSION.



CONCRETE BARRIER WALL
(MEDIAN TYPE B; MASH TL-4)
X = 0'-0" TO 1'-0" MAX
N.T.S.

(SECTION B-B)

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6	ARK.			
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(2) SPECIAL DETAILS

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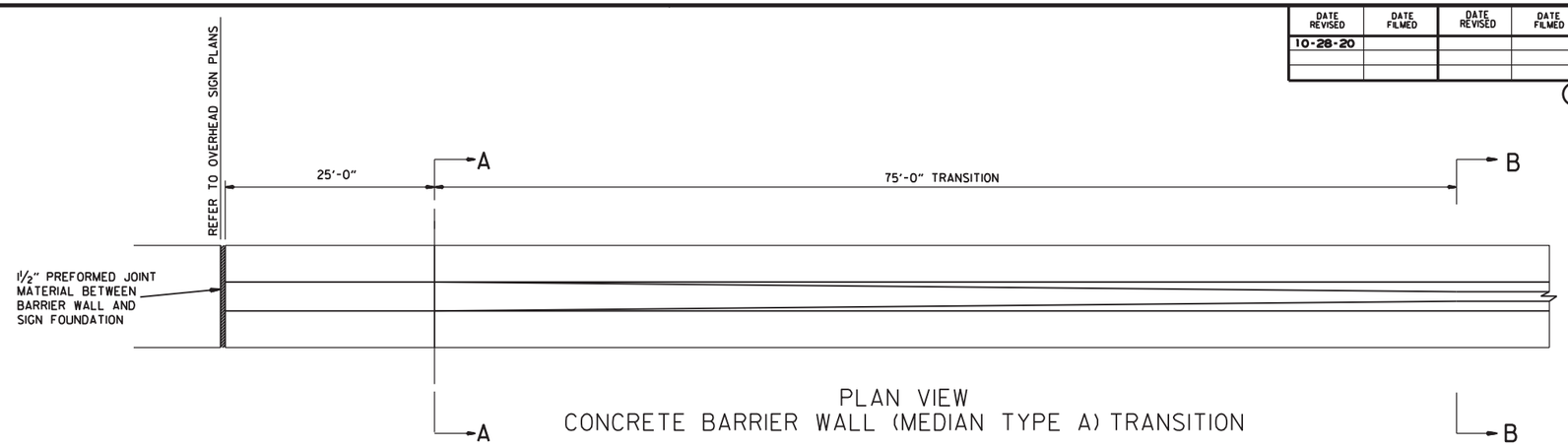
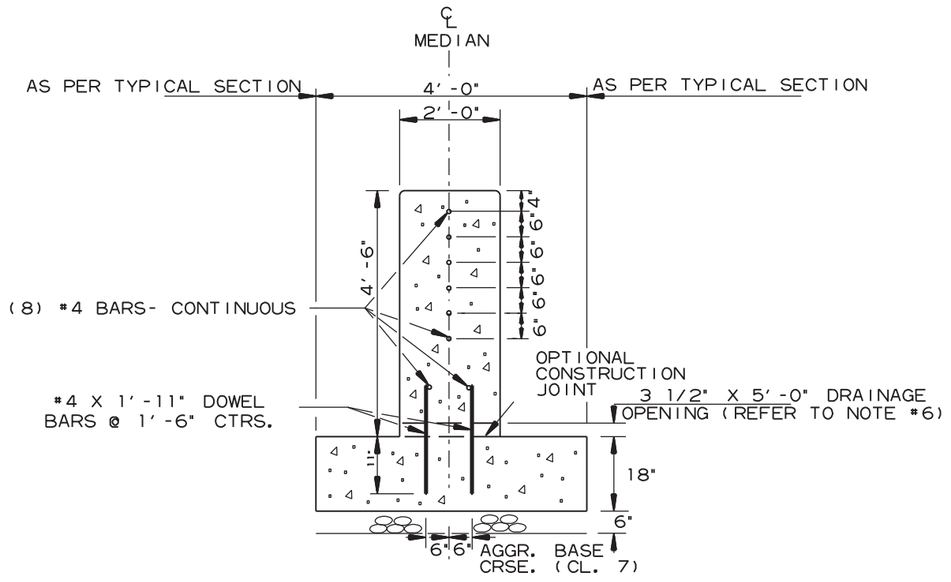
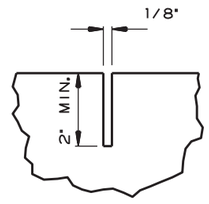


PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE A) TRANSITION



CONCRETE BARRIER WALL (MEDIAN TYPE A)
(SECTION A-A)



CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
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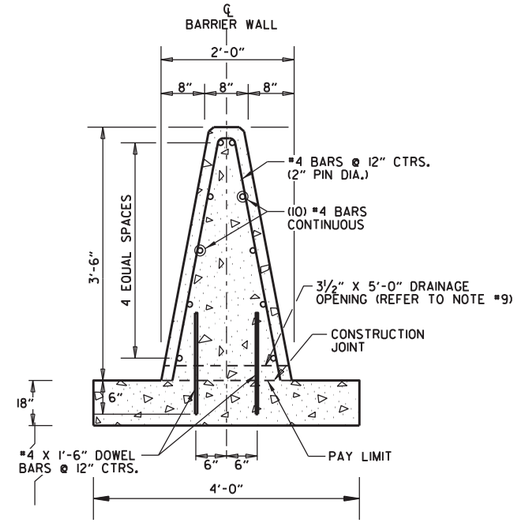
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.



CONCRETE BARRIER WALL
(MEDIAN TYPE A; MASH TL-4)
N.T.S.

CONCRETE BARRIER WALL (MEDIAN TYPE A) TRANSITION
FOR OVERHEAD SIGN STRUCTURE

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SPECIAL DETAILS

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				6	ARK.			
				JOB NO.		080457	33	517
				(1)		SPECIAL DETAILS		

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B	CLASS "S" CONCRETE (Includes apron) INLET	REINFORCING STEEL (Includes apron and laps if required) INLET
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
32'-4"	5'-0"	0'-9"	0'-8"	30	3:1	36'-2 1/8"	1'-0"	5'-10"	1'-8"	0	60	2'-2"	2'-8 1/2"	3'-3 3/8"	1'-0 1/2"	1'-6"	12'-6"	25'-0"	14'-4 5/8"	26'-10 5/8"	9.42	856

WING	F1 BAR SIZE	F1 MAX SPACING	F1 NO. REQ'D	F1 LENGTHS VARY		F1 LENGTHS	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY		F6 LENGTHS	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	13	L	Min	2'-8"	-	-	-	L -	-	-	-	L -	4	18	4	Min	4	18	2	12'-2"	4	18	9	Min	L	3'-3"	4	6	15'-3"	6	18	8	Min	-	-	-	Min	4	2	12'-8"	4	2	13'-4"	6	12	5	L	3'-4"	283
					Max	7'-3"												6'-4"								Max		7'-3"							1'-8"														
				X	Min	0'-9"				X -				X -				Min					X	18	4	Min	X	1'-4"							Max														
					Max	1'-4"												Max								10'-10"		Max							2'-2"														
				Y	Min	2'-0"				Y -				Y -				Min					Y			Min	Y	2'-0"							Max														
					Max	6'-0"												21'-10"								21'-10"		Max							2'-9"														
WING B	4	12	25	L	Min	2'-8"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	24'-8"	4	18	17	Min	L	3'-3"	4	6	27'-9"	6	18	18	Min	4	18	2	Min	4	2	24'-10"	4	2	28'-10"	6	12	5	L	3'-4"	573
					Max	7'-9"												3'-10"								37'-3"		Max							1'-8"														
				X	Min	0'-9"				X -				X -				Min					X	18	2	Min	X	1'-4"							Max														
					Max	1'-10"												Max								24'-8"		Max							2'-9"														
				Y	Min	2'-0"				Y -				Y -				Min					Y			Min	Y	2'-0"							Max														
					Max	6'-0"												21'-10"								37'-3"		Max							37'-3"														

MID-SECTION BAR LAP TABLE

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

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

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

Ellis, Rick Sep 18 2020 11:28 AM

STATE OF ARKANSAS
DocuSign LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

TABULAR DATA BY: DPT DATE: 09/04/2020
CHECKED BY: TMG DATE: 9/15/2020

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

For additional information and outlet sections, see Sheet 2 of 2.

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

INLET SKEWED END SECTION

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	34	517

ⓘ SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Charles R. Ellis Sep 18 2020 11:26 AM

TABULAR DATA BY: DPT DATE: 09/04/2020
CHECKED BY: TMG DATE: 9/15/2020

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B	CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	OUTLET	OUTLET
32'-4"	5'-0"	0'-9"	0'-8"	30	3:1	36'-2 1/8"	1'-0"	5'-10"	1'-8"	0	60	2'-2"	2'-8 1/2"	3'-3 3/8"	1'-0 1/2"	1'-6"	12'-6"	25'-0"	14'-4 5/8"	26'-10 5/8"	CU.YD	LBS.
																					10.71	856

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY			F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	13	L	Min	2'-8"				L -				L -	4	18	4	Min	4	18	2	12'-2"	4	18	9	L Min	3'-3"	4	6	15'-3"	6	18	8	Min				Min	4	2	12'-8"	4	2	13'-4"	6	12	5	L	3'-4"	283
					Max	7'-3"												6'-4"									Max	7'-3"						1'-8"			-										
				X	Min	0'-9"	-	-	-	X -	-	-	-	X -												X Min	1'-4"							Max													
					Max	1'-4"												Max									Max	1'-4"						2'-2"			-										
				Y	Min	2'-0"				Y -				Y -												Y Min	2'-0"							Min													
					Max	6'-0"												10'-10"									Max	6'-0"																			
WING B	4	12	25	L	Min	2'-8"				L -				L -	4	18	6	Min	4	18	2	24'-8"	4	18	17	L Min	3'-3"	4	6	27'-9"	6	18	18	Min				Min	4	2	24'-10"	4	2	28'-10"	6	12	5	L	3'-4"	573
					Max	7'-9"												3'-10"									Max	7'-3"						1'-8"			37'-3"										
				X	Min	0'-9"	-	-	-	X -	-	-	-	X -												X Min	1'-4"							Max													
					Max	1'-10"												Max									Max	1'-4"						2'-9"			37'-3"										
				Y	Min	2'-0"				Y -				Y -												Y Min	2'-0"							Min													
					Max	6'-0"												21'-10"									Max	6'-0"																			

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"

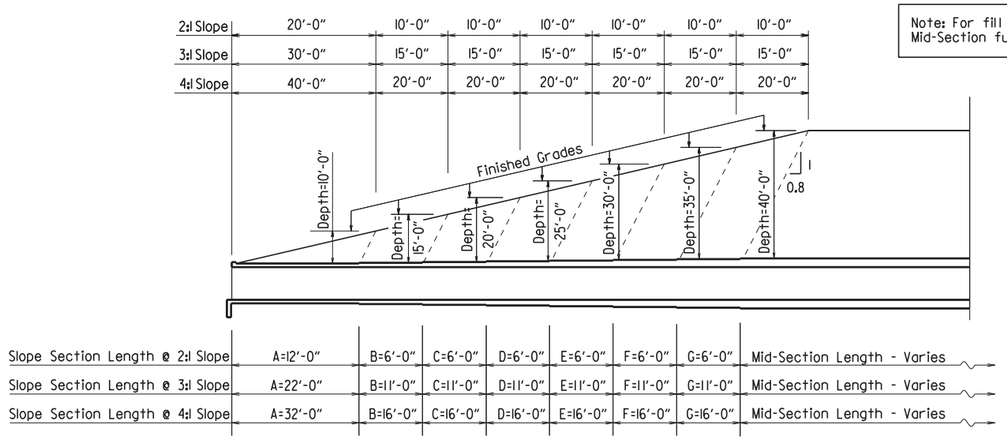
ⓘ Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Grade 60)."

OUTLET SKEWED END SECTION

| SKEW (DEGREE) | SLOPE | DESIGN FILL DEPTH (FT.) | CLEAR SPAN (FT.) | CLEAR HEIGHT (FT.) | SECTION LENGTH | TOP SLAB THK. | HDWL DEPTH | BOTTOM SLAB THK. | SIDE WALL THK. | INTERIOR WALL THK. | OVER ALL WIDTH | OVER ALL HEIGHT | TOP SLAB REINFORCING STEEL "a" SIZE | "a" SPACING | "a" LENGTHS VARY | "a" NO. REQ'D | TOP SLAB REINFORCING STEEL "c" SIZE | "c" SPACING | "c" LENGTHS VARY | "c" NO. REQ'D | BOTTOM SLAB REINFORCING STEEL "d" SIZE | "d" SPACING | "d" LENGTHS VARY | "d" NO. REQ'D | BOTTOM SLAB REINFORCING STEEL "f" SIZE | "f" SPACING | "f" LENGTHS VARY | "f" NO. REQ'D | SIDE WALL REINFORCING STEEL "f0" SIZE | "f0" SPACING | "f0" NO. REQ'D | "f0" LENGTH | INTERIOR WALL REINFORCING STEEL "f1" SIZE | "f1" SPACING | "f1" NO. REQ'D | "f1" LENGTH | TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE | "g" SPACING | "g" NO. REQ'D | "g" LENGTHS VARY | BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE | "e" SPACING | "e" NO. REQ'D | "e" LENGTHS VARY | SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE | "d1" SPACING | "d1" NO. REQ'D | "d1" LENGTH | INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE | "d2" SPACING | "d2" NO. REQ'D | "d2" LENGTH | CLASS "S" CONCRETE (Includes HDWL) CU. YDS. | REINFORCING STEEL (GR 60) (Includes HDWL) LBS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	35	517

(1) SPECIAL DETAILS

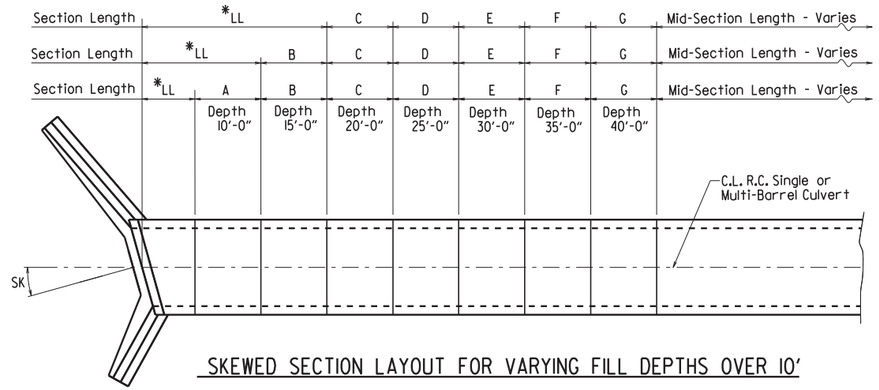


Note: For fill depths 10' and under, use Mid-Section full length of box culvert.

LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

* 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.



SKEWED SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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Charles R. Ellis
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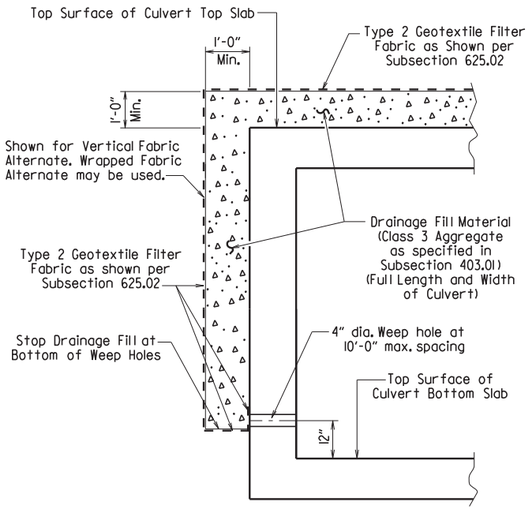
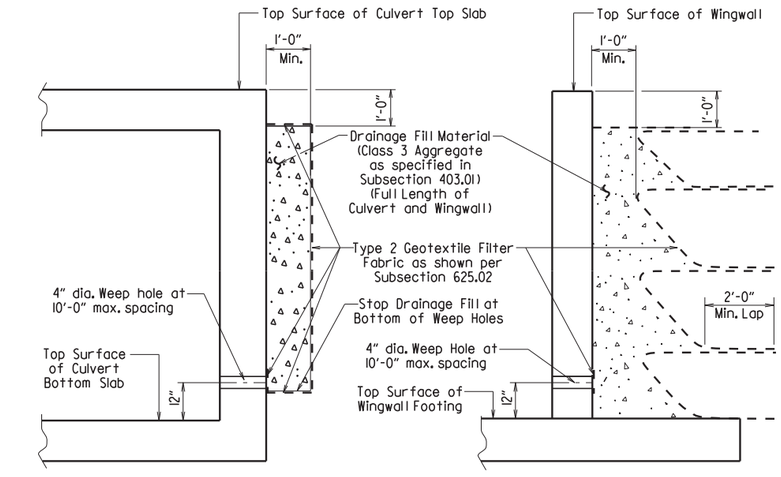


CULVERT DRAINAGE DETAIL FOR ROCK FILL

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

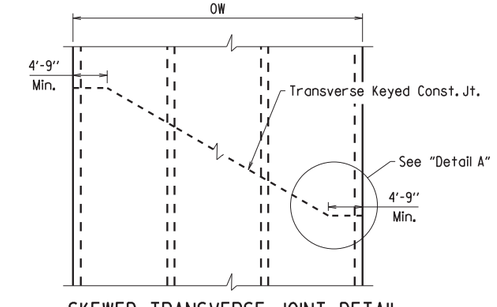


For Details of Excavation and Pay Limits, see Standard Drawing RCB-2.

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

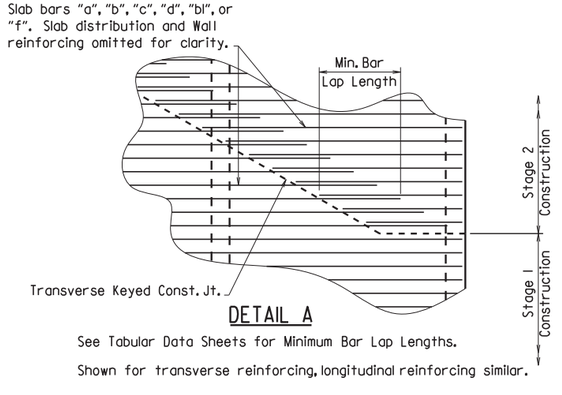
WRAPPED FABRIC ALTERNATE
(Shown for Wingwall, Similar for Culvert)

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.



DETAIL A

See Tabular Data Sheets for Minimum Bar Lap Lengths.

Shown for transverse reinforcing, longitudinal reinforcing similar.

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 ¾" 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 tine 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

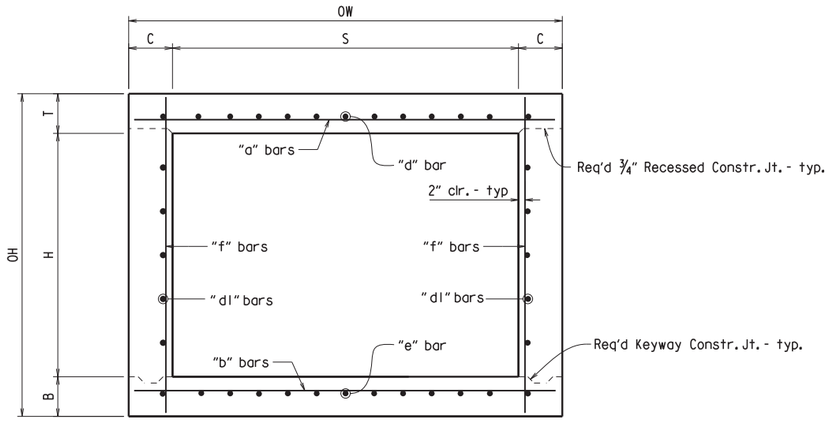
SPECIAL DETAILS

LRFD

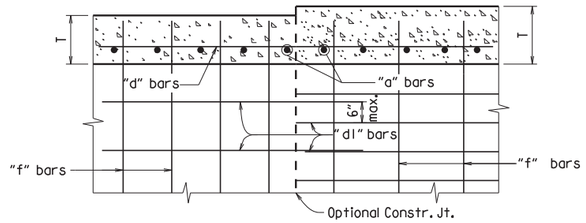
V 1.17 b080457x3_culvert.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	36	517
				(1)		SPECIAL DETAILS		

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



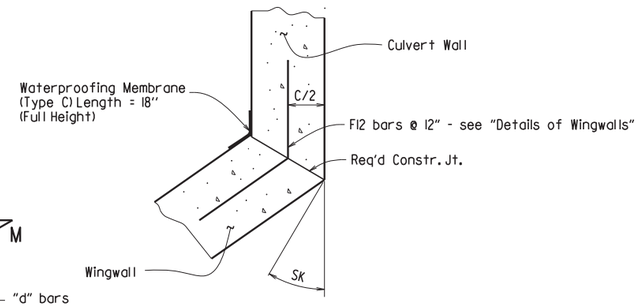
TYPICAL SECTION M-M



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

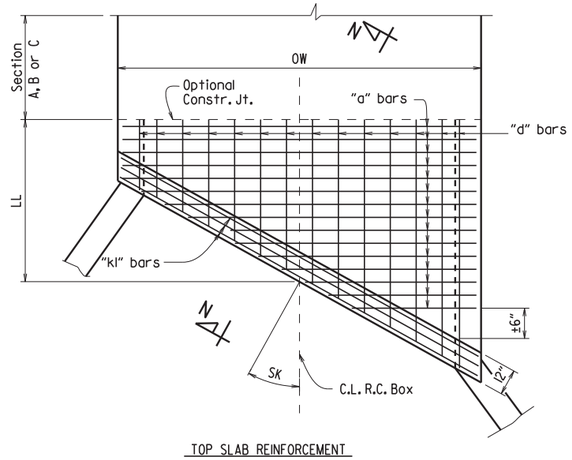
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

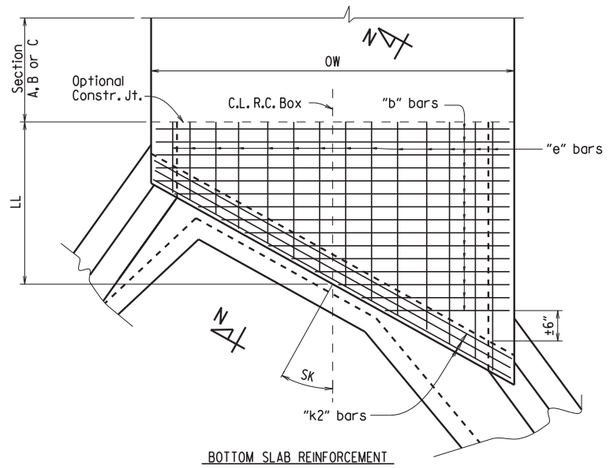


WINGWALL ATTACHMENT

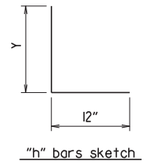
See "Details of Wingwalls" for additional information and wingwall details.



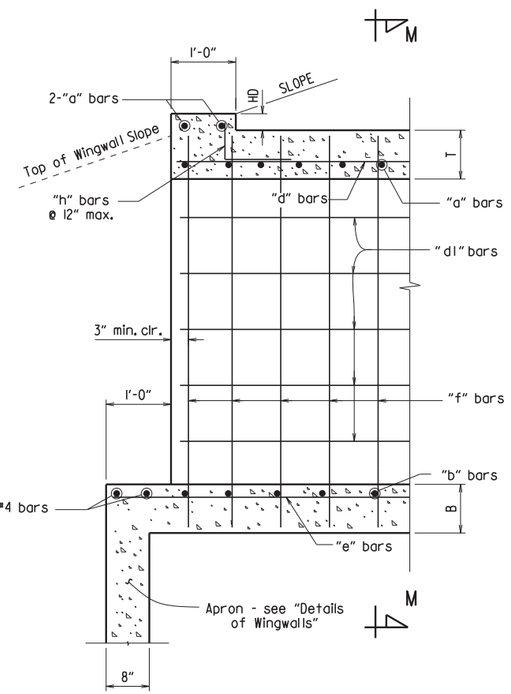
TOP SLAB REINFORCEMENT



BOTTOM SLAB REINFORCEMENT

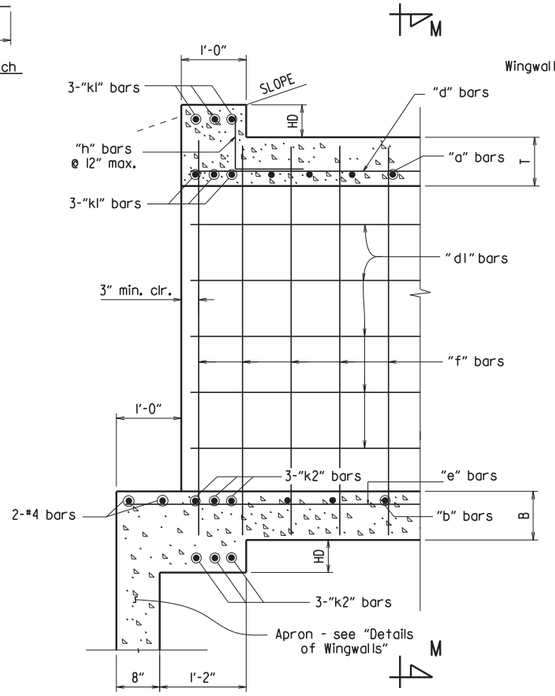


"h" bars sketch



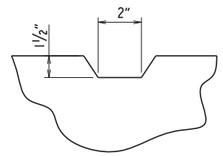
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL

(All Construction Joints)

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 18 2020 11:27 AM

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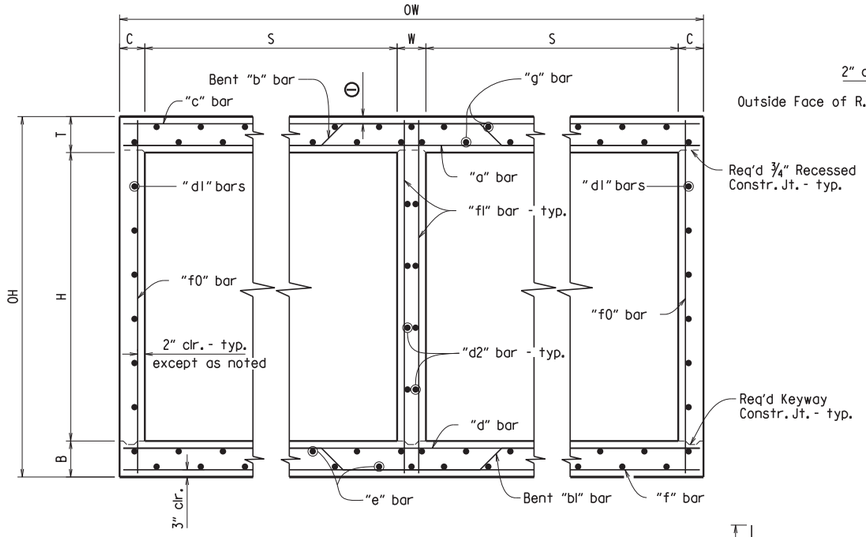
DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	37	517

① SPECIAL DETAILS

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

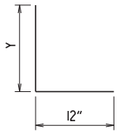
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



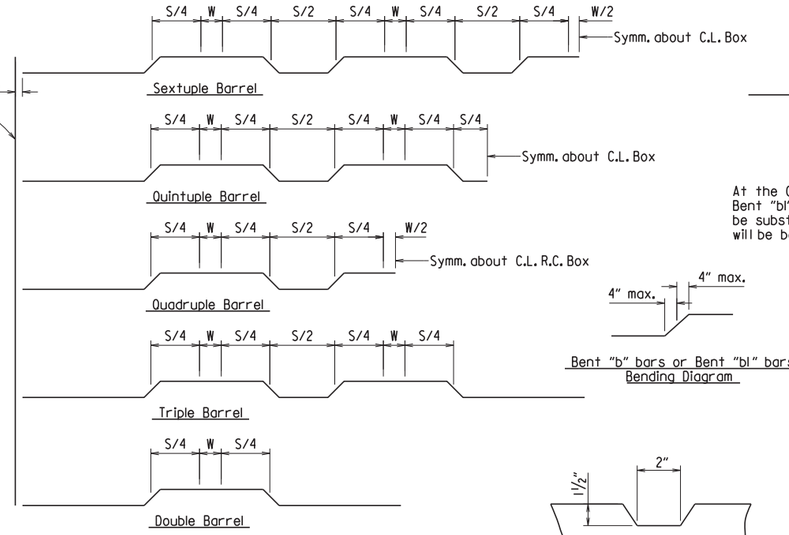
TYPICAL SECTION M-M

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

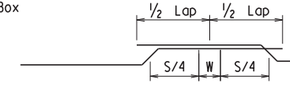
Bottom Slab
Straight "d" bars shall alternate with Bent "bl" bars in top.
Straight "f" bars shall alternate with Bent "bl" bars in bottom.



"h" bars sketch



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

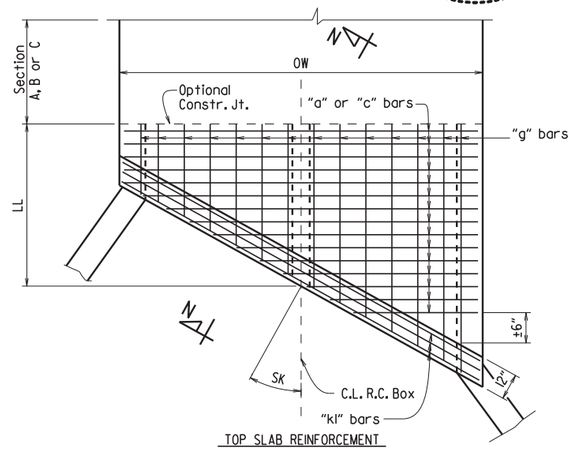


Lap Detail
For Bent "b" bars and Bent "bl" bars

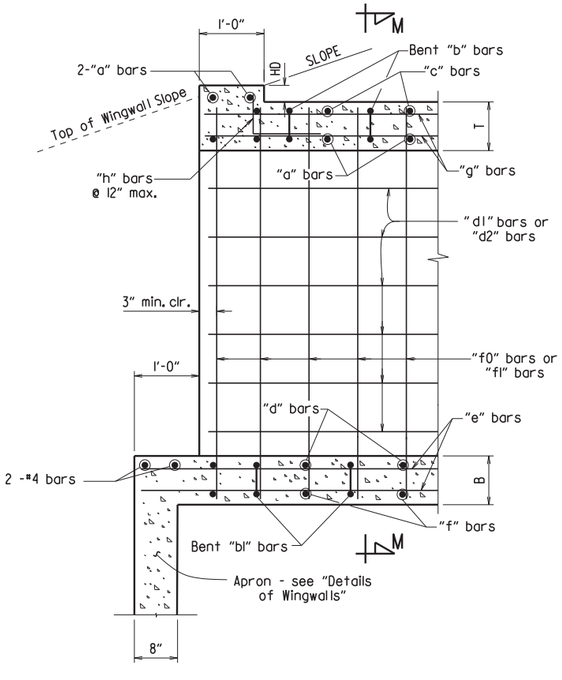
At the Contractor's option in lieu of providing Bent "b" or Bent "bl" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "bl" bar.

Bent "b" bars or Bent "bl" bars Bending Diagram

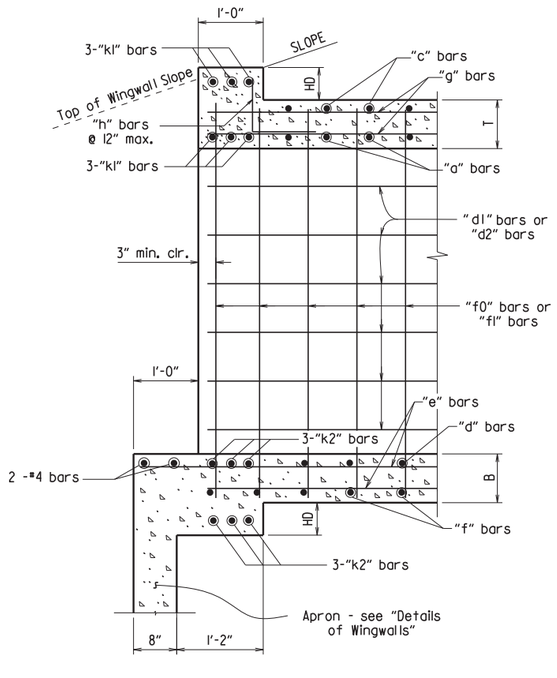
TYPICAL KEYWAY DETAIL
(All Construction Joints)



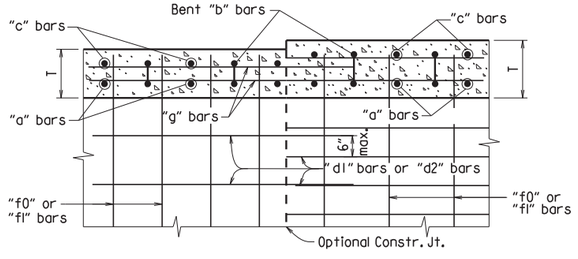
TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



PART LONGITUDINAL SECTION
(Non-Skewed Ends)

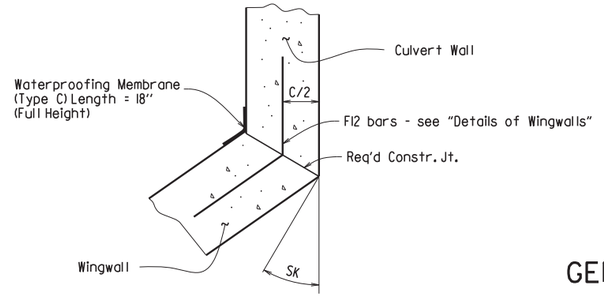


PART LONGITUDINAL SECTION N-N
(Skewed Ends)

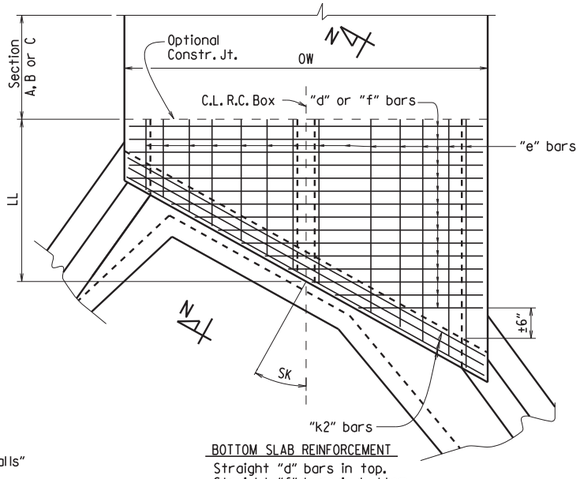


Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

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



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



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

SKEWED END SECTION DETAILS

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No. 9235
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SHEET 3 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF MULTI-BARREL R.C. BOX CULVERT
SPECIAL DETAILS

LRFD

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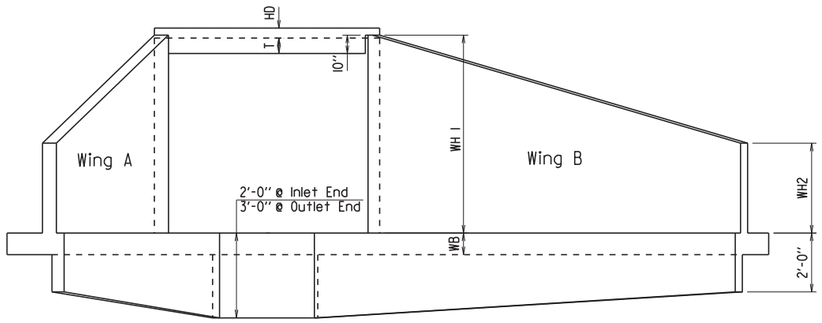
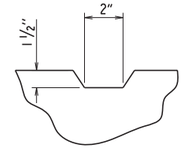
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	38	517

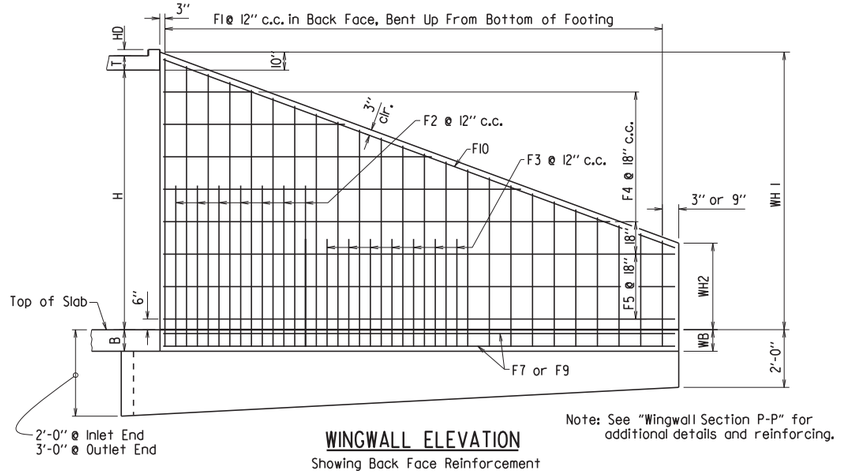
① SPECIAL DETAILS



END ELEVATION
Flared Wingwalls Shown



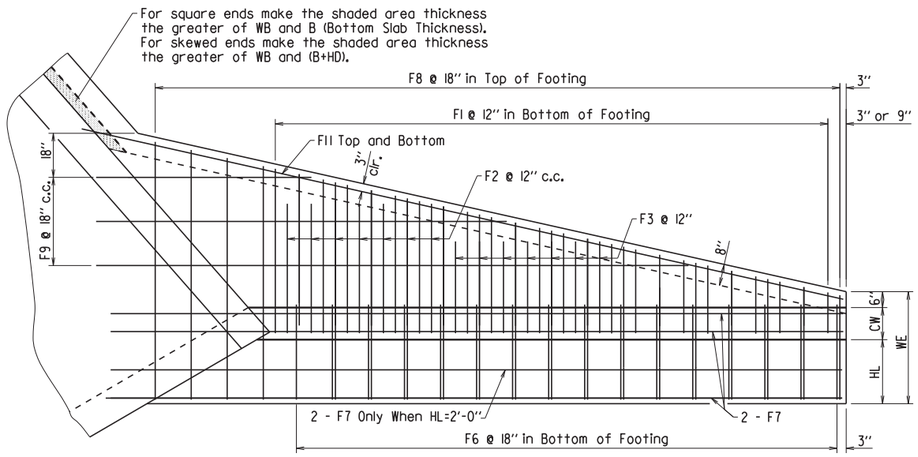
TYPICAL KEYWAY DETAIL
All Construction Joints



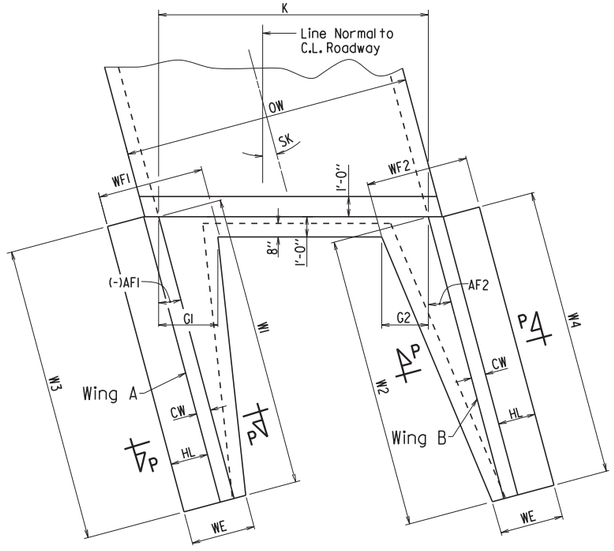
WINGWALL ELEVATION
Showing Back Face Reinforcement

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

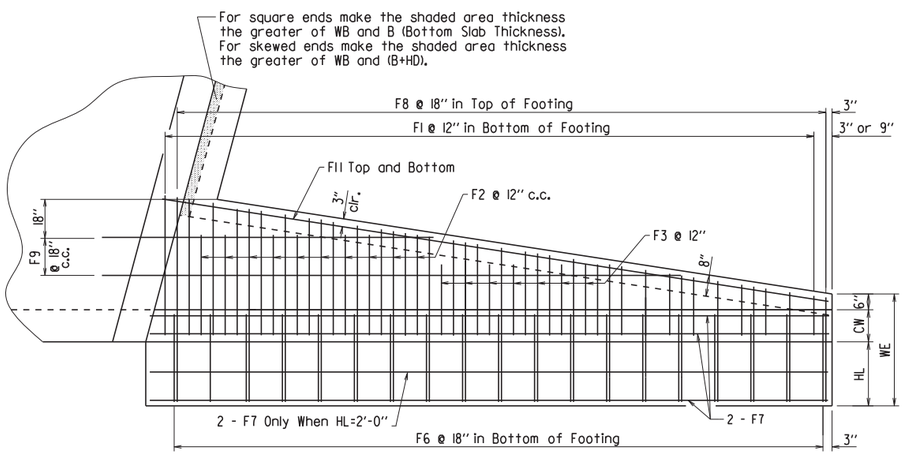
PART PLAN - FLARED WINGWALLS



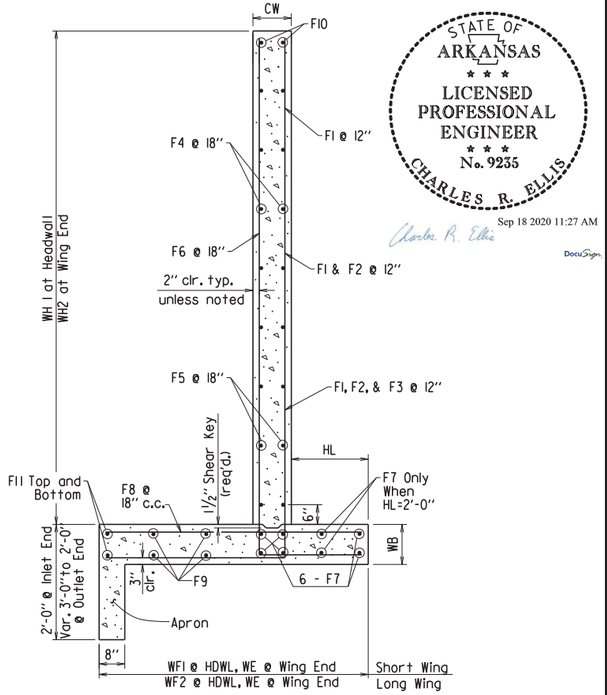
PLAN - FLARED WINGWALLS
Showing Footing Reinforcement



PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement



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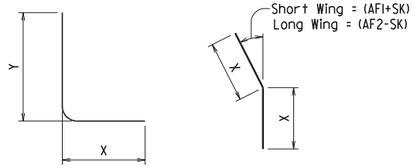
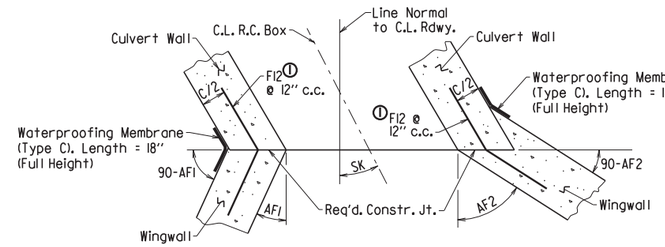
WINGWALL SECTION P-P



FI, F2, F3, & F6 BARS

①FI2 BAR

①FI2 is a straight bar for parallel wingwalls



CONSTRUCTION JOINTS
Flared Wingwalls Shown

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

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	39	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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No. 11425
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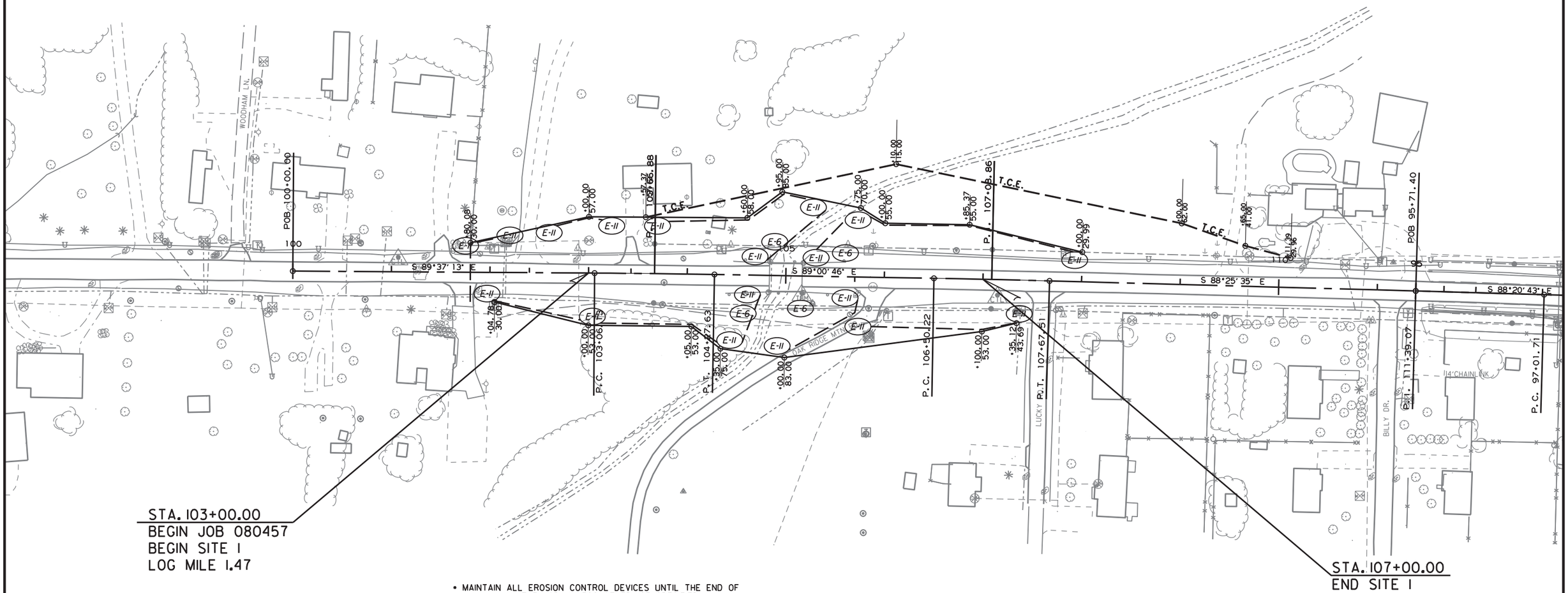

DATE OF REVISION	REVISION

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	40	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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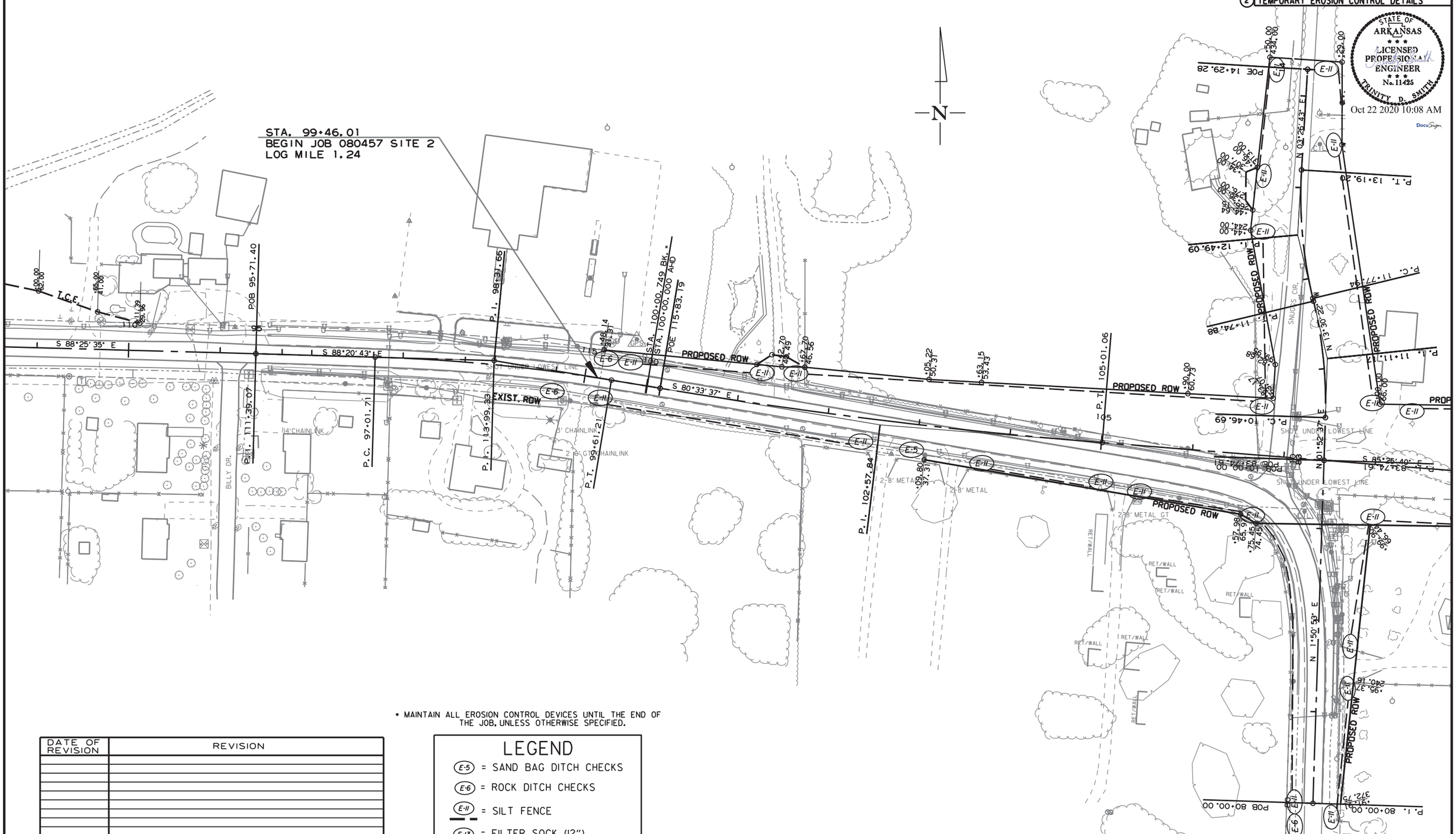

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CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

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10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	41	517

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DATE OF REVISION	REVISION

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CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	42	517

(2) TEMPORARY EROSION CONTROL DETAILS

DATE OF REVISION	REVISION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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PROPOSED ROW

10/14/2020

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CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	43	517

(2) TEMPORARY EROSION CONTROL DETAILS

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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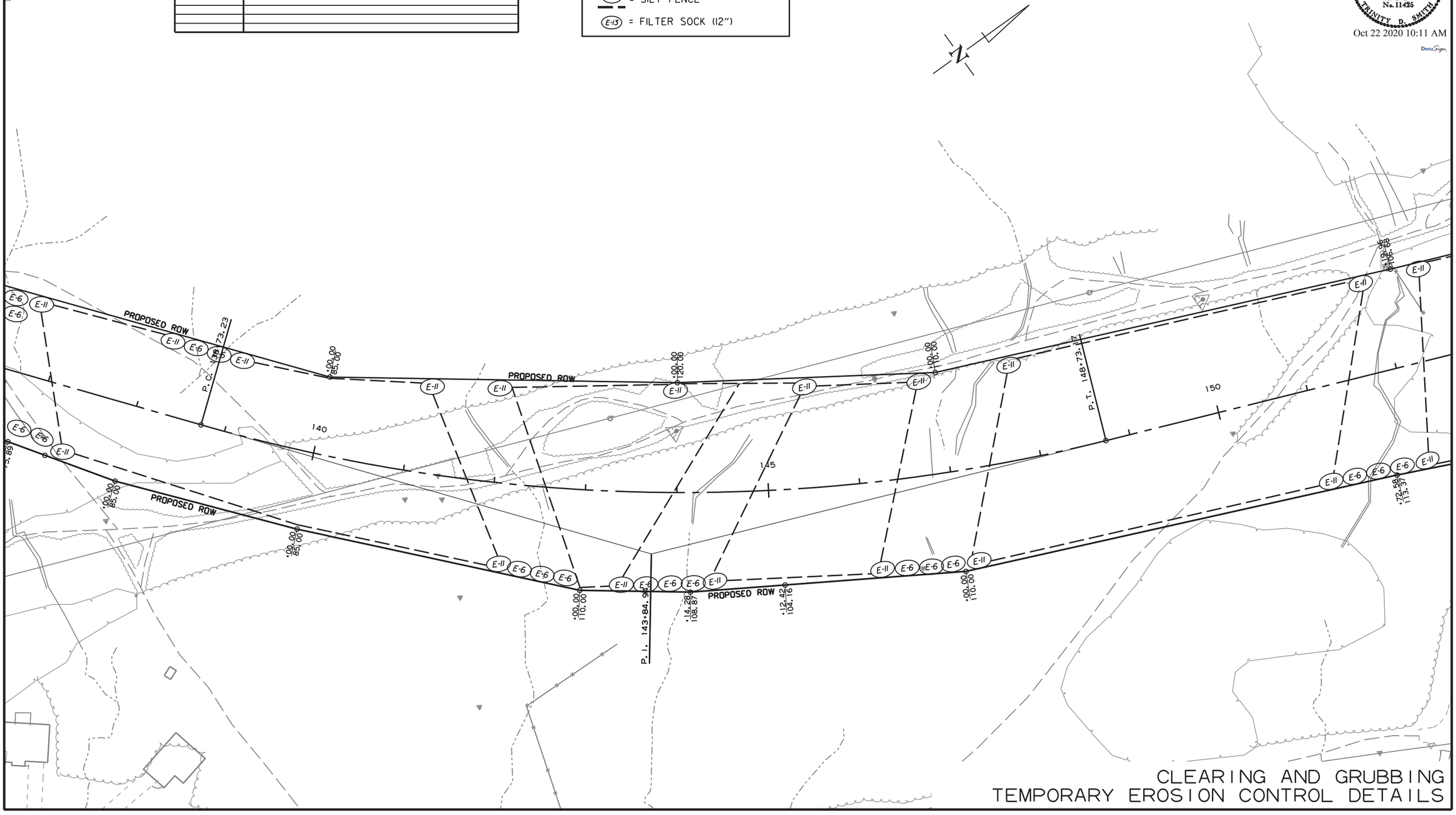

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TEMPORARY EROSION CONTROL DETAILS

10/14/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	44	517

(2) TEMPORARY EROSION CONTROL DETAILS

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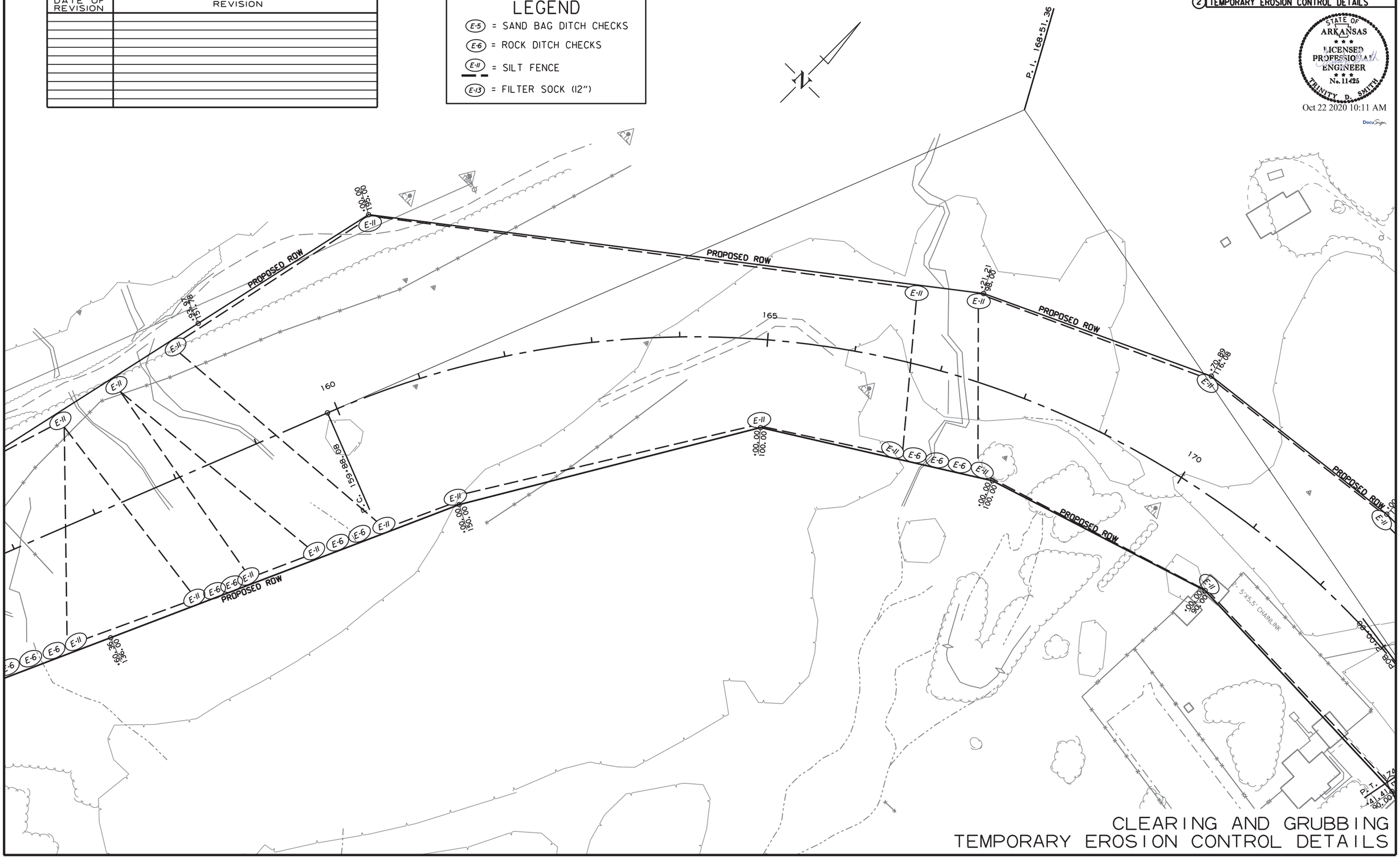

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

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10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	45	517

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
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TEMPORARY EROSION CONTROL DETAILS

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	46	517

(2) TEMPORARY EROSION CONTROL DETAILS

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END SITE 2

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

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(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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TRINITY D. SMITH

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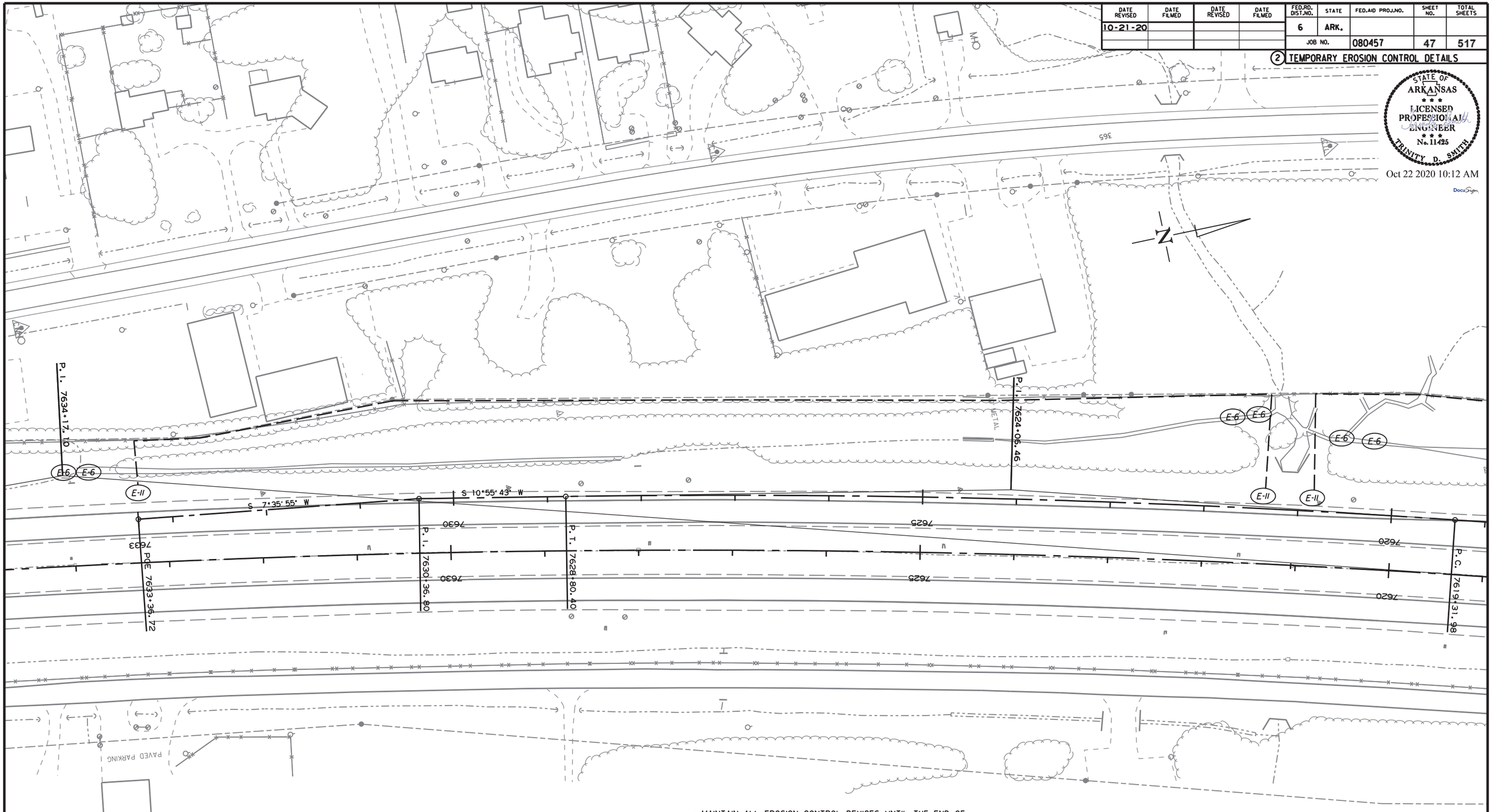

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CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

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JOB NO.		080457	48	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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CLEARING AND GRUBBING
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6	ARK.			
JOB NO.		080457	49	517

(2) TEMPORARY EROSION CONTROL DETAILS

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(2) TEMPORARY EROSION CONTROL DETAILS

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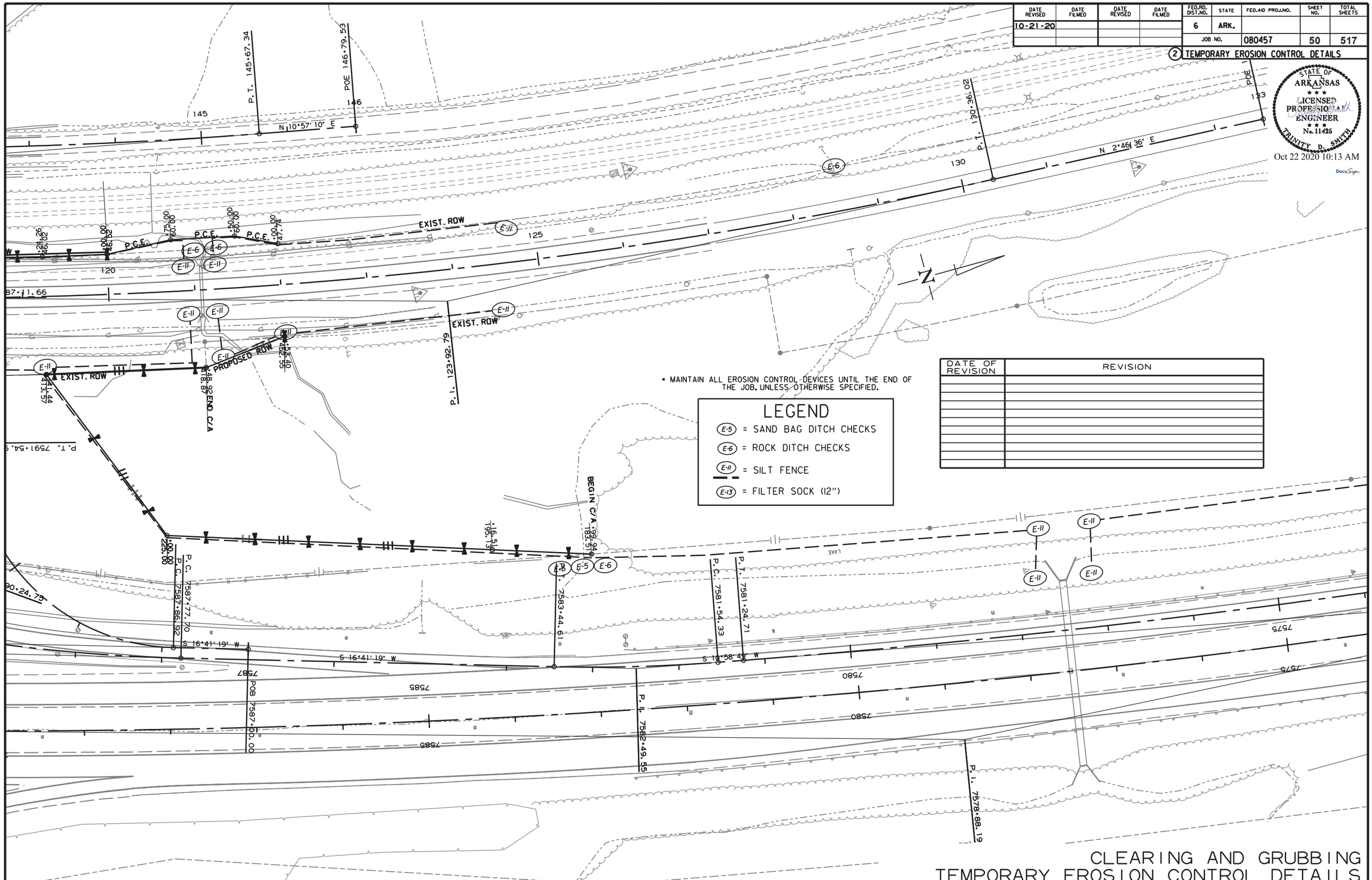
TRINITY D. SMITH

Oct 22 2020 10:13 AM



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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	51	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:13 AM
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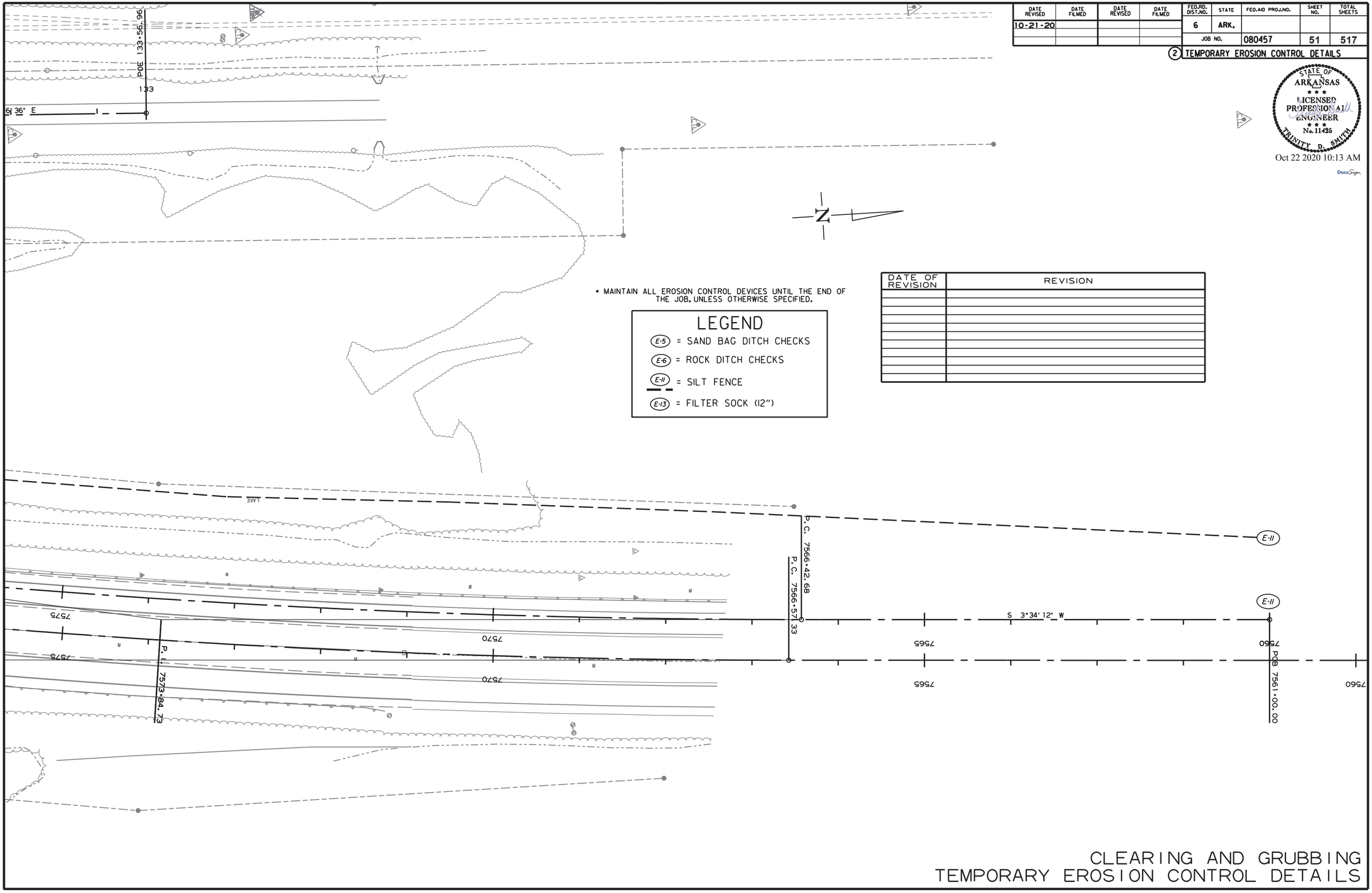

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

DATE OF REVISION	REVISION

10/14/2020

R080457.DGN

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	52	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:13 AM

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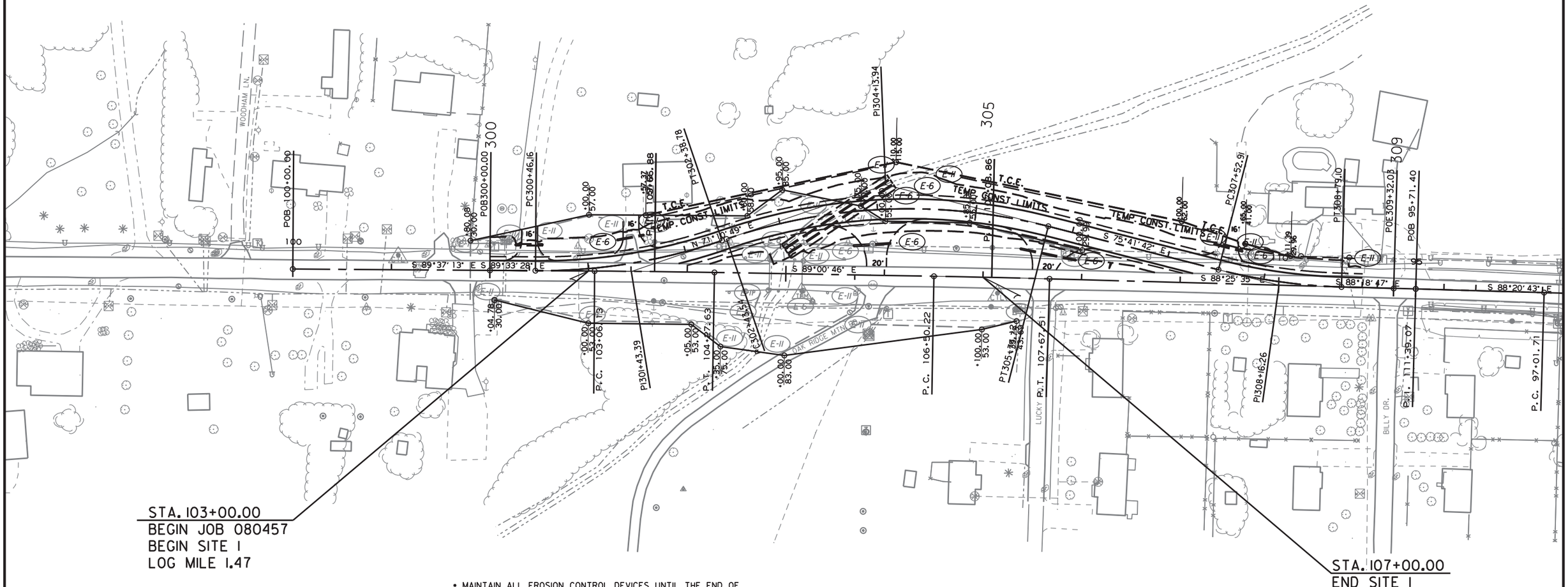

STA. 103+00.00
BEGIN JOB 080457
BEGIN SITE 1
LOG MILE 1.47

STA. 107+00.00
END SITE 1

DATE OF REVISION	REVISION

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

10/14/2020

R080457.DGN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	53	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:13 AM

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

DATE OF REVISION	REVISION

10/14/2020

R080457.DGN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	54	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 5:58 PM
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DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

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

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	55	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:14 AM

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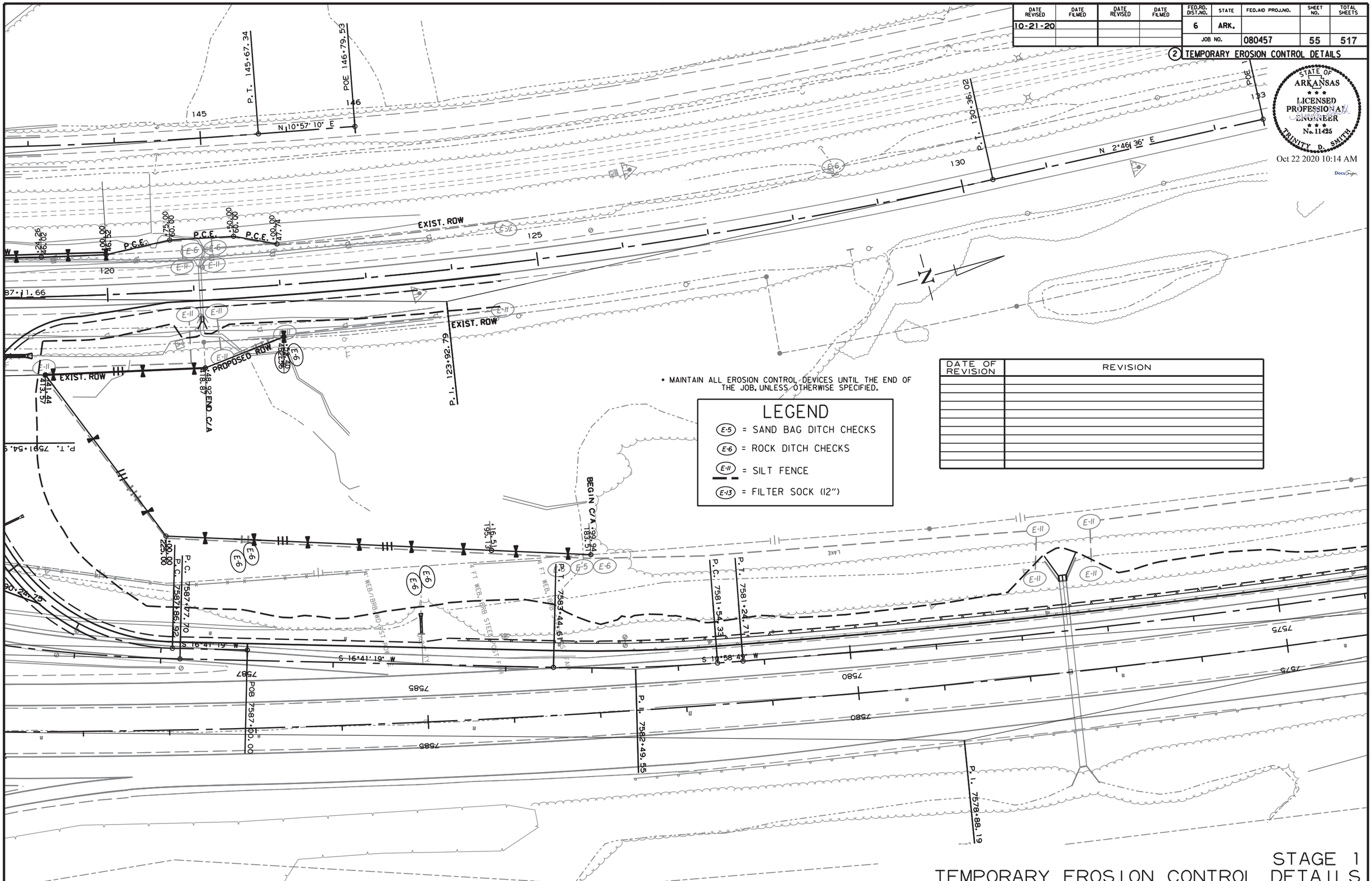

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

DATE OF REVISION	REVISION

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	56	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:14 AM
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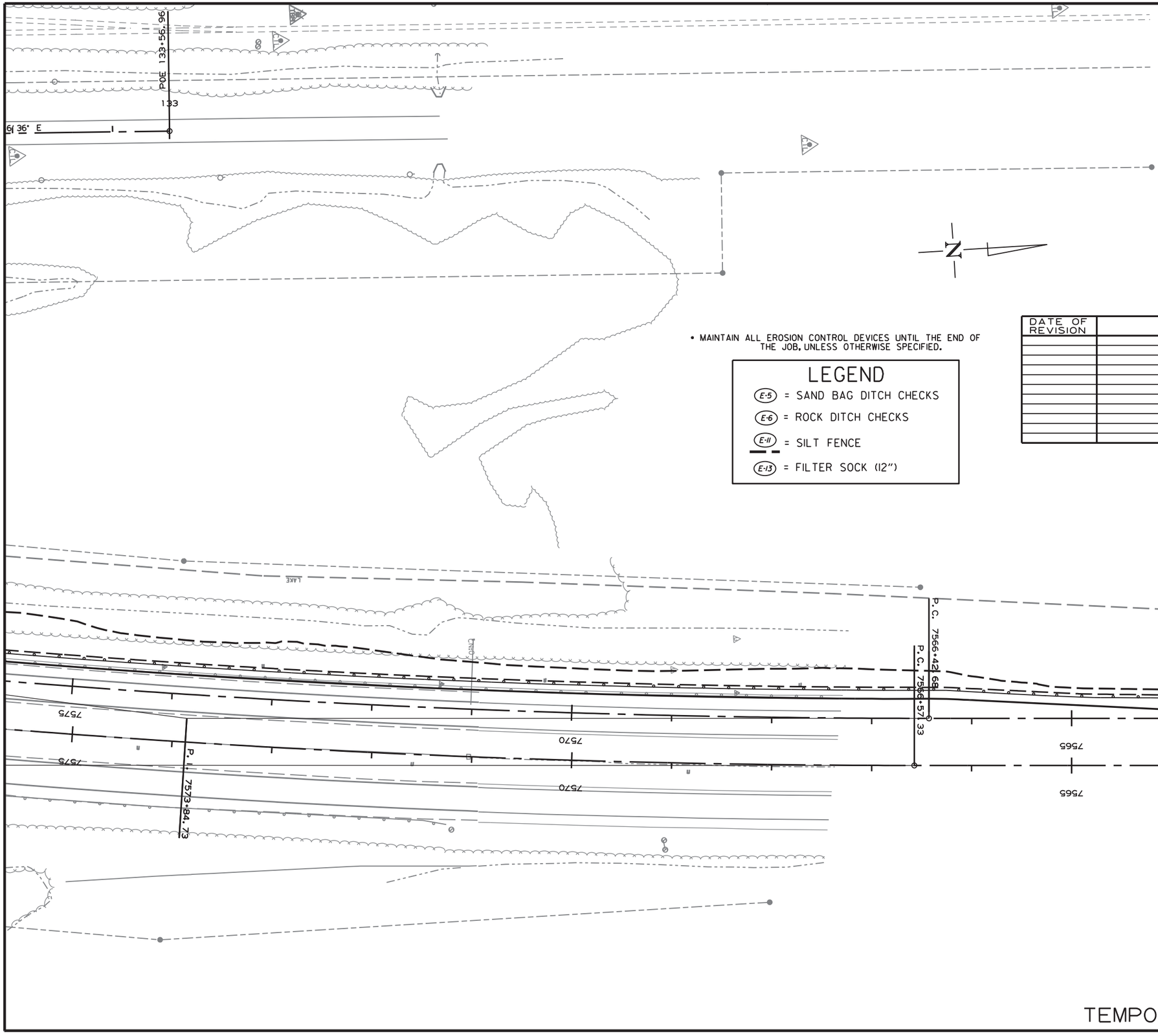

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

DATE OF REVISION	REVISION

10/14/2020

R080457.DGN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	57	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:15 AM

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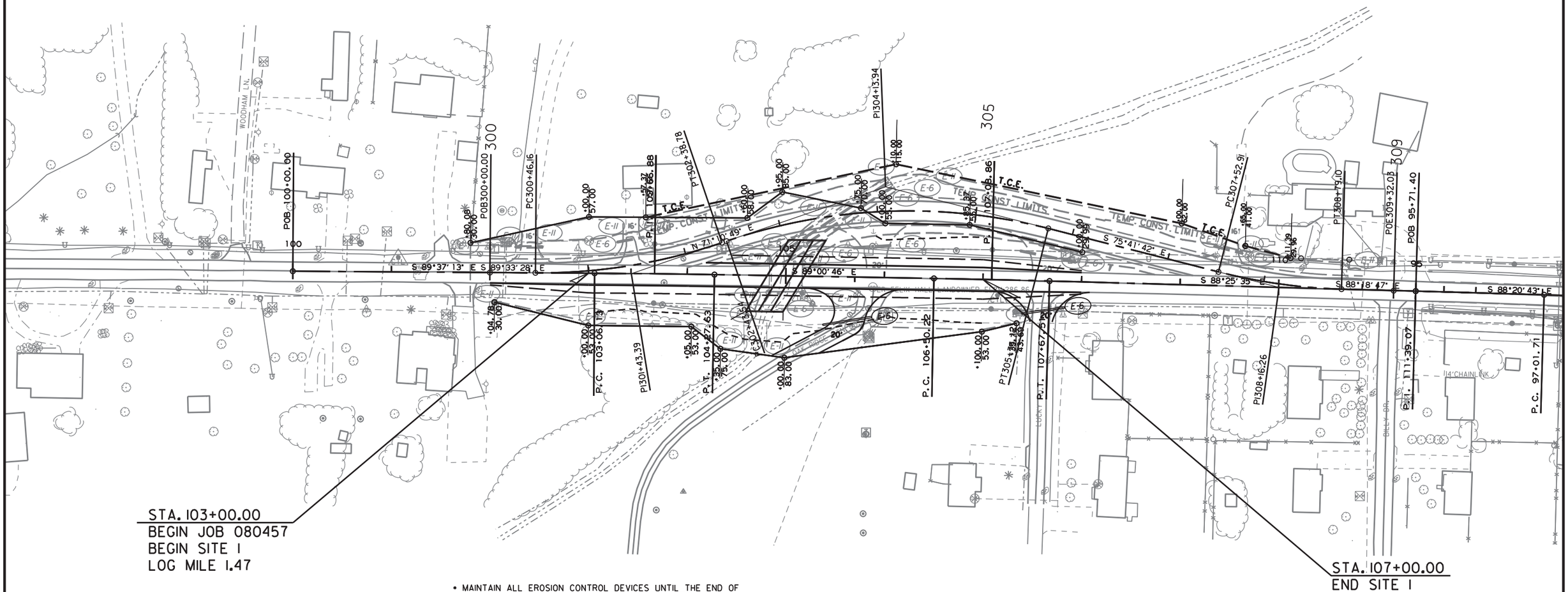

DATE OF REVISION	REVISION

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

10/14/2020

R080457.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	58	517

(2) TEMPORARY EROSION CONTROL DETAILS

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:15 AM
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DATE OF REVISION	REVISION

10/14/2020

R080457.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	59	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:15 AM

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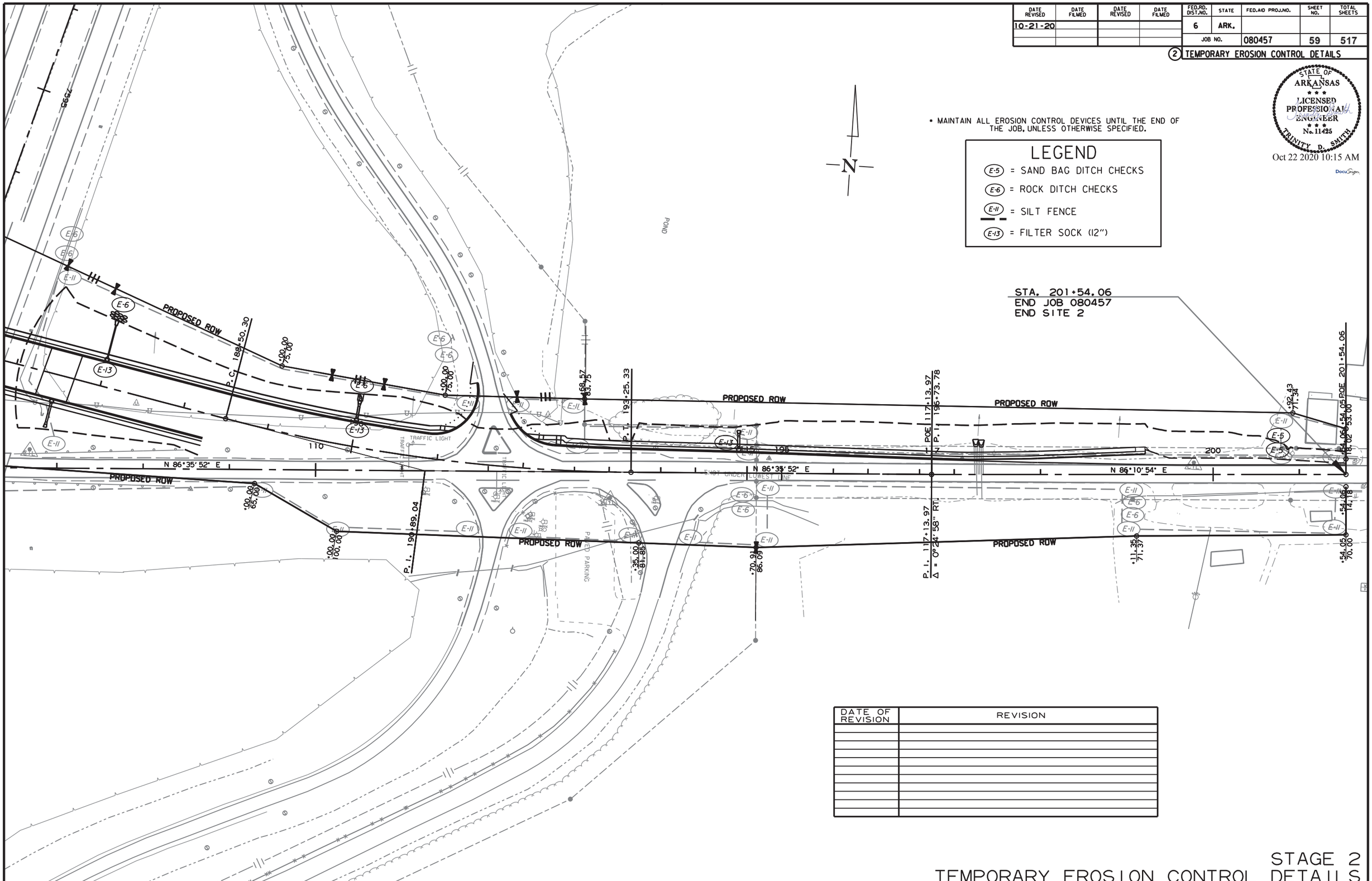
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")



DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

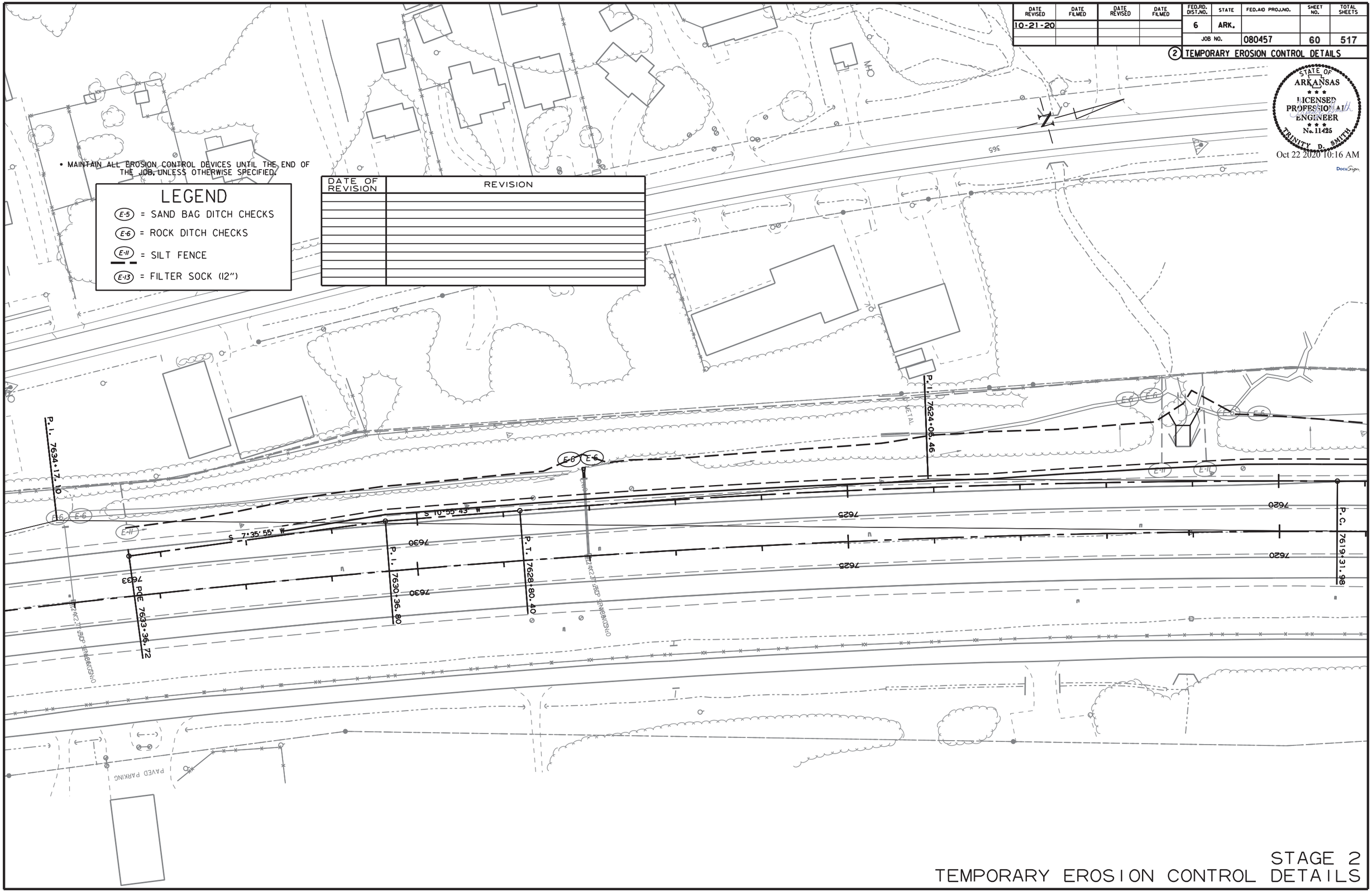
10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	60	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:16 AM



STAGE 2
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	61	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:16 AM

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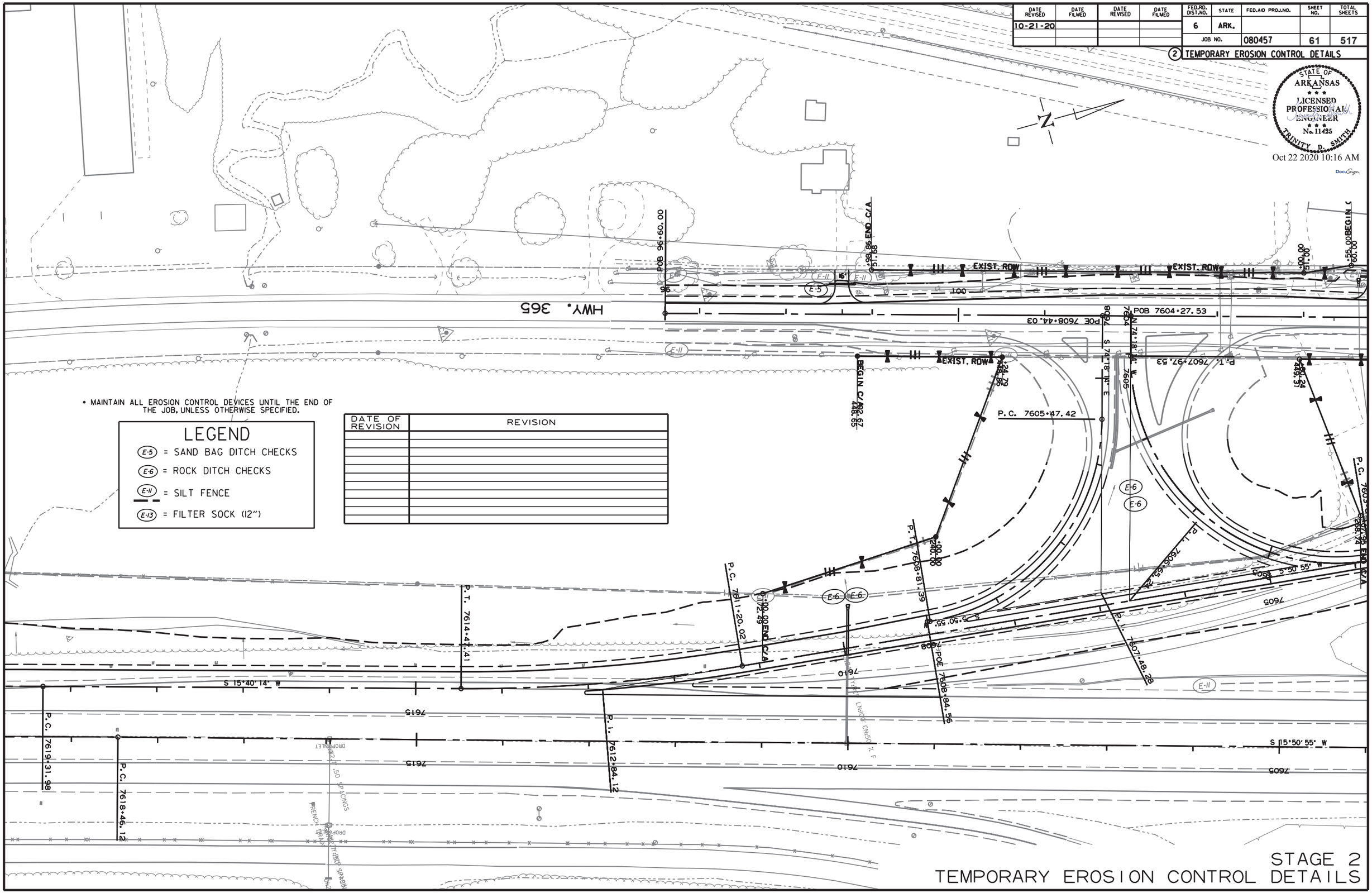

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	62	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:16 AM
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DATE OF REVISION	REVISION

10/14/2020

R080457.DGN

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

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

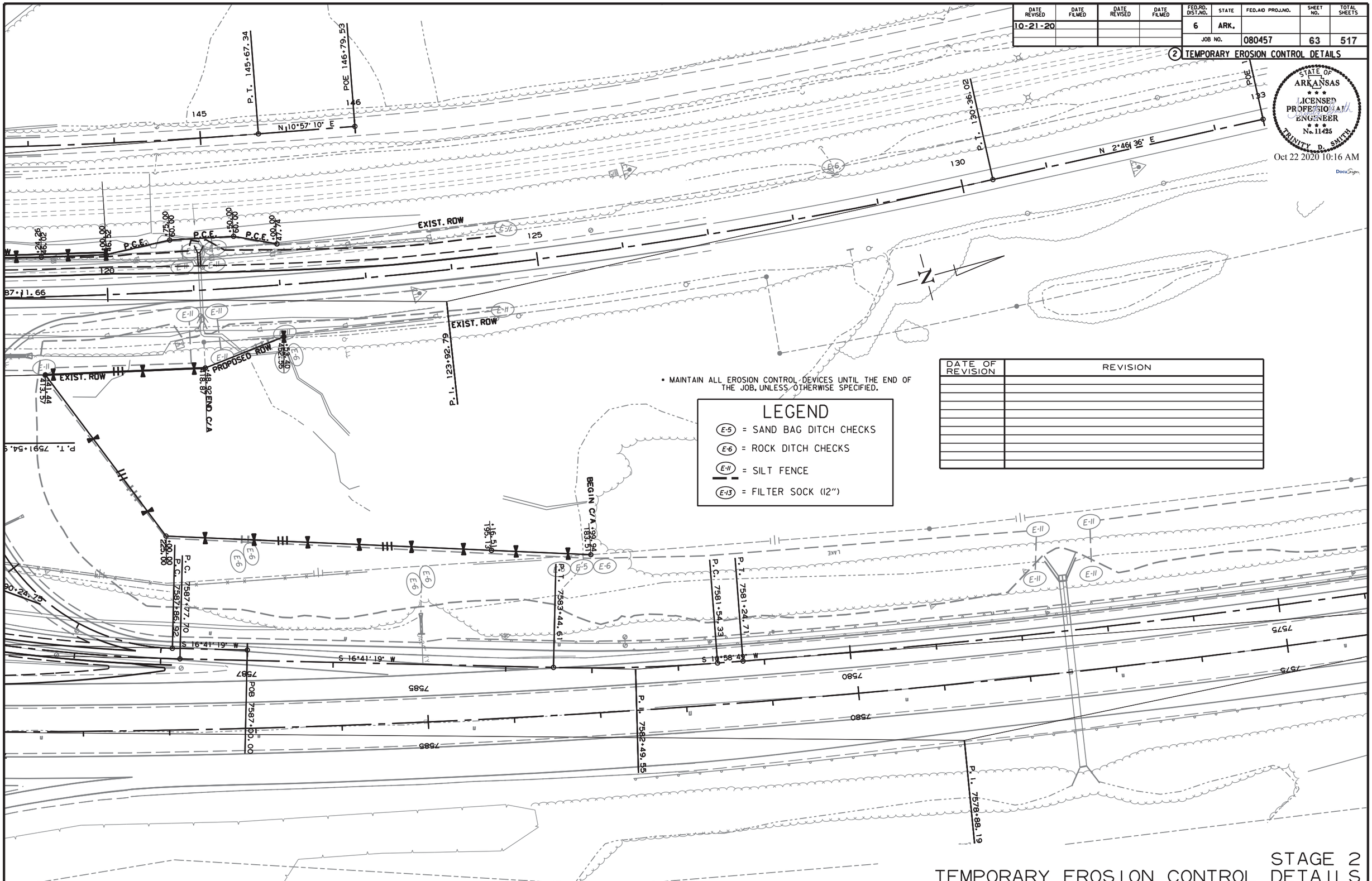
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	63	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:16 AM



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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
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- (E-13) = FILTER SOCK (12")

DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	64	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:17 AM
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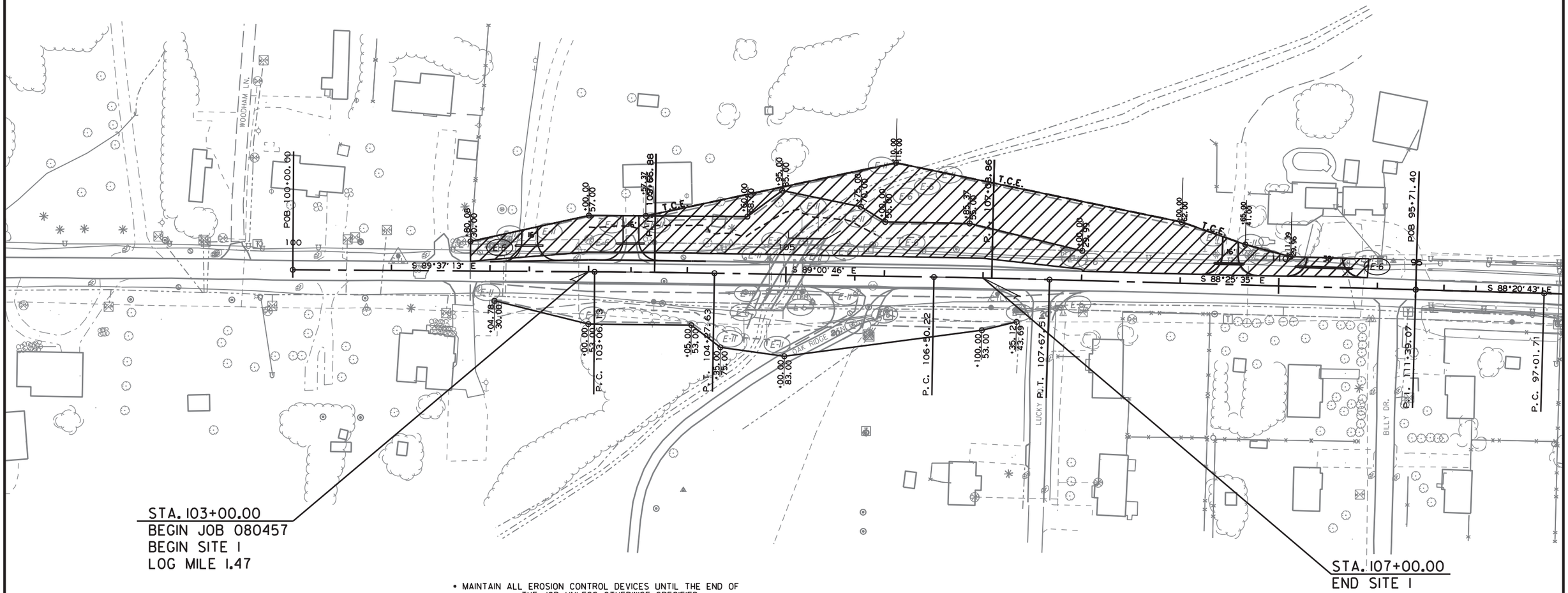

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BEGIN JOB 080457
BEGIN SITE 1
LOG MILE 1.47

STA. 107+00.00
END SITE 1

DATE OF REVISION	REVISION

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

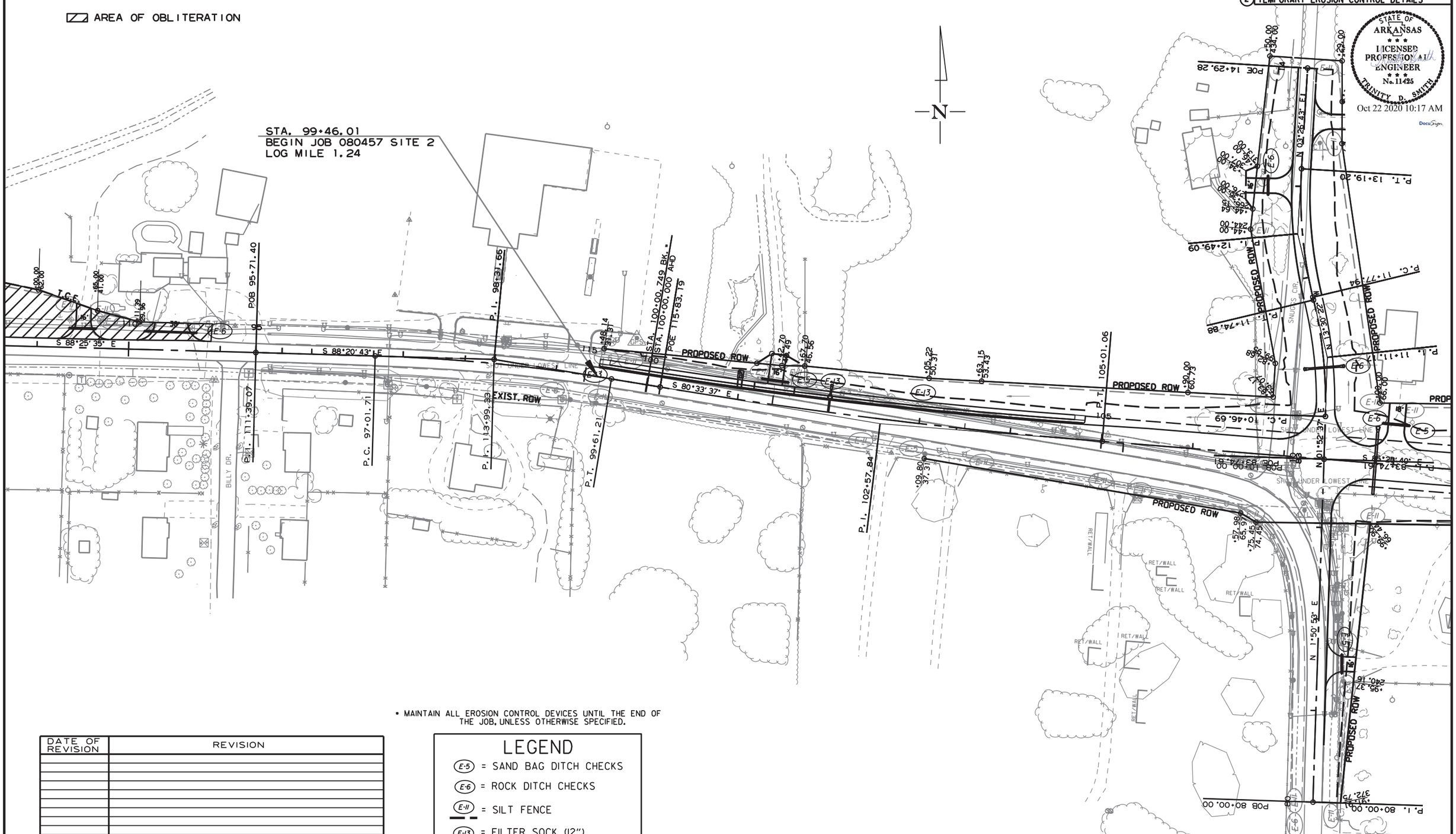
STAGE 3
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	65	517

(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:17 AM

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

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	66	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:18 AM
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DATE OF REVISION	REVISION

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

10/14/2020

R080457.DGN

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	67	517

(2) TEMPORARY EROSION CONTROL DETAILS

DATE OF REVISION	REVISION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:18 AM
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- MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

PROPOSED ROW

T.C.E.

10/14/2020

R080457.DGN

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	68	517

(2) TEMPORARY EROSION CONTROL DETAILS

DATE OF REVISION	REVISION

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:18 AM

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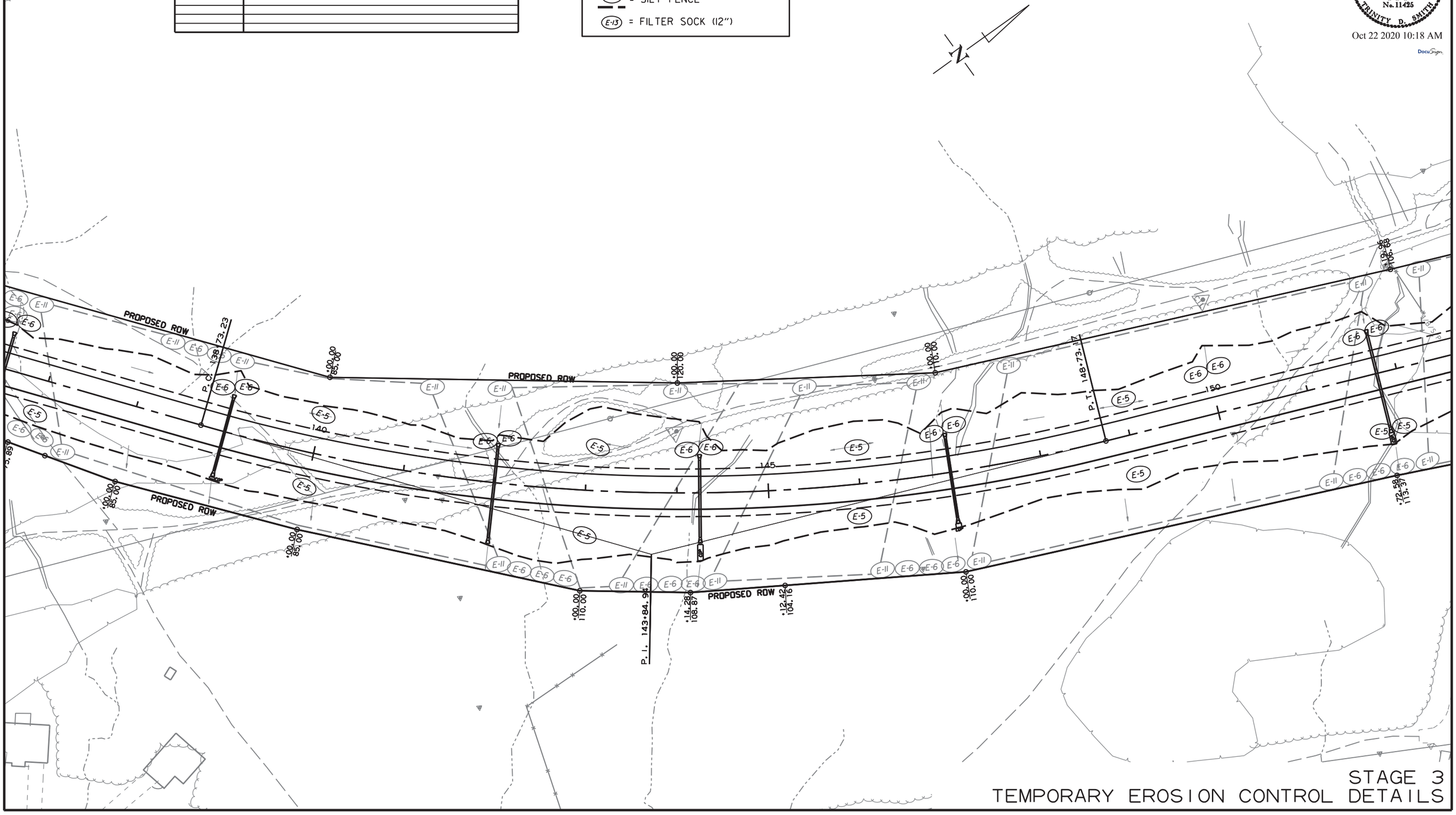

10/14/2020

R080457.DGN

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	69	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:19 AM

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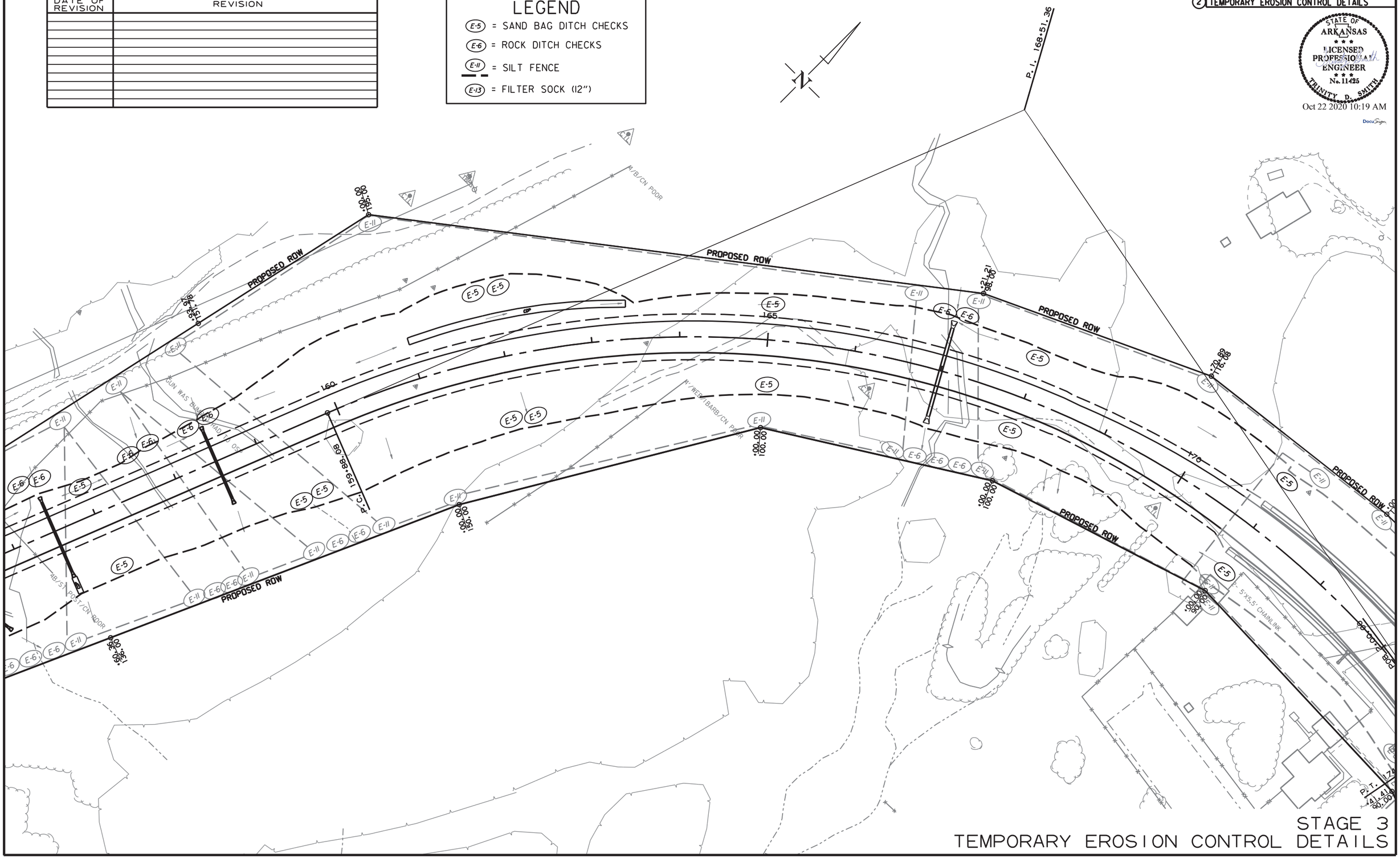
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")



STAGE 3
TEMPORARY EROSION CONTROL DETAILS

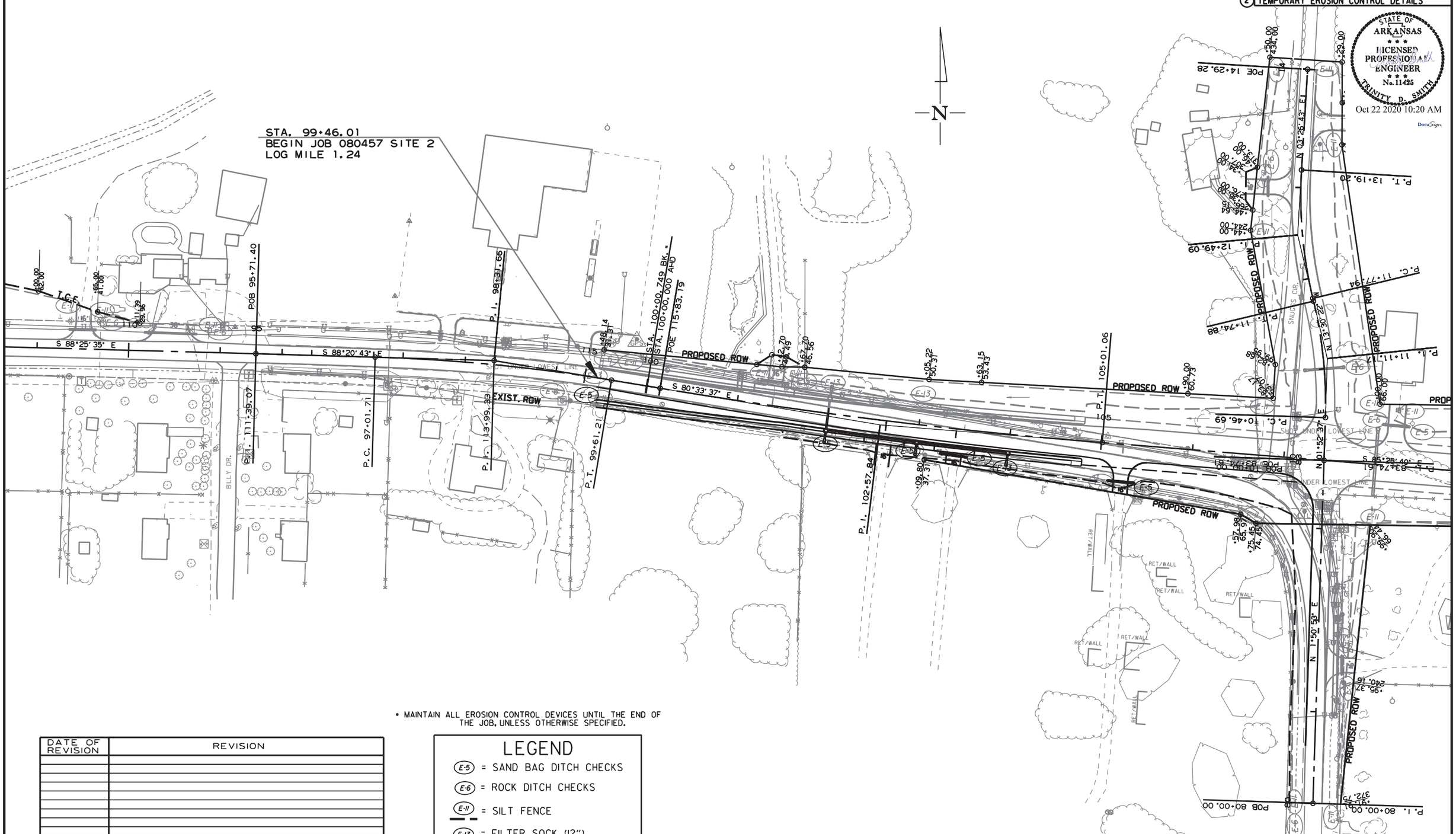
10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	70	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:20 AM



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

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

STAGE 4
TEMPORARY EROSION CONTROL DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	71	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:21 AM
DocuSign

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

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

N

STA. 201+54.06
END JOB 080457
END SITE 2

PROPOSED ROW
P. C. 188+50.30
P. I. 193+25.33
P. I. 196+73.78
POE 117+13.97
POE 201+54.06
P. I. 190+89.04
P. I. 117+13.97
Δ = 0°24'58" RT.
N 86°35'52" E
N 86°10'54" E
SLIGHT UNDER LOWEST LINE
TRAFFIC LIGHT
POND
PARKING

DATE OF REVISION	REVISION

10/14/2020

R080457.DGN

STAGE 4
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	72	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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AREA OF OBLITERATION

EXIST. ROW

PROPOSED ROW

P.O.B. 96+60.00

BEGIN C/A 98+86.68

END C/A 99+51.68

P.O.B. 7604+27.53

P.O.E. 7608+44.03

BEGIN C/A 7602+48.79

P.C. 7605+47.42

P.T. 7608+81.39

END C/A 7611+20.02

P.I. 7612+84.12

P.I. 7602+97.53

BEGIN C/A 7602+49.24

P.C. 7603+81.49

END C/A 7605+50.55

P.I. 7605+65.24

P.I. 7607+48.28

P.O.B. 7603+26.40

P.O.E. 7608+84.56

S 74°18' W

S 5°50' 55" W

S 15°50' 55" W

N 15°41' 46" E

P.I. 760+00.00

BEGIN C/A 7602+97.40

END C/A 7603+98.61

BEGIN C/A 7603+80.08

END C/A 7605+27.74

P.O.B. 100+00.00

END C/A 156+56.60

BEGIN C/A 159.86

END P.C.E. 98.60

P.C.E.

P.O.B. 7598+21.12

P.O.E. 7598+58.59

S 79°09'05" E

PAVED PARKING

CONCRETE

YARD INLET

RCP LN=34' CN=0

RCP LN=36' CN=0

RCP LN=100' CN=50 ½ F

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

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-13) = FILTER SOCK (12")

10/14/2020

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STAGE 4
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	73	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	74	517

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	75	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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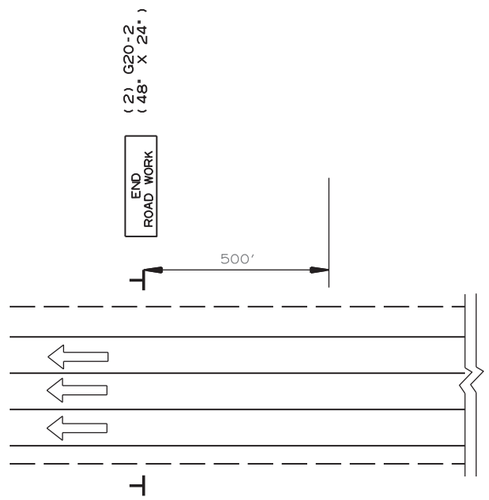
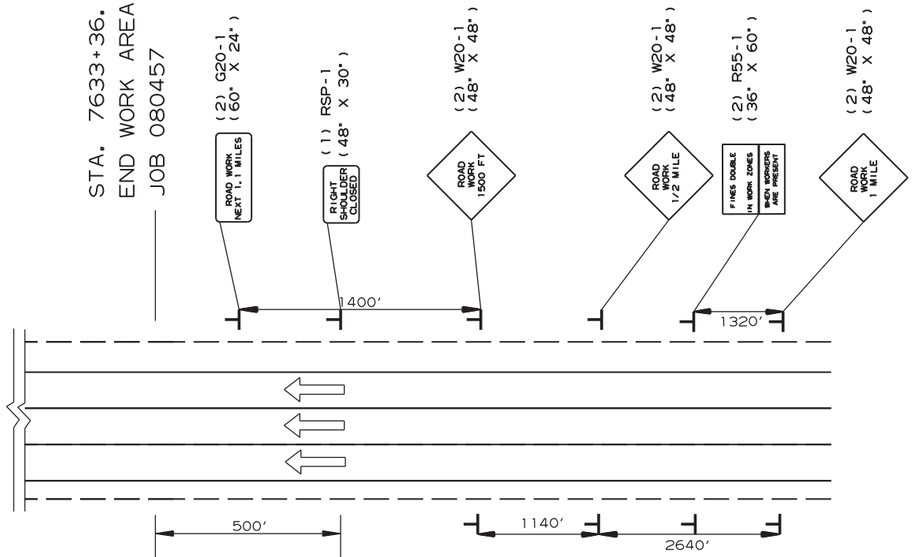
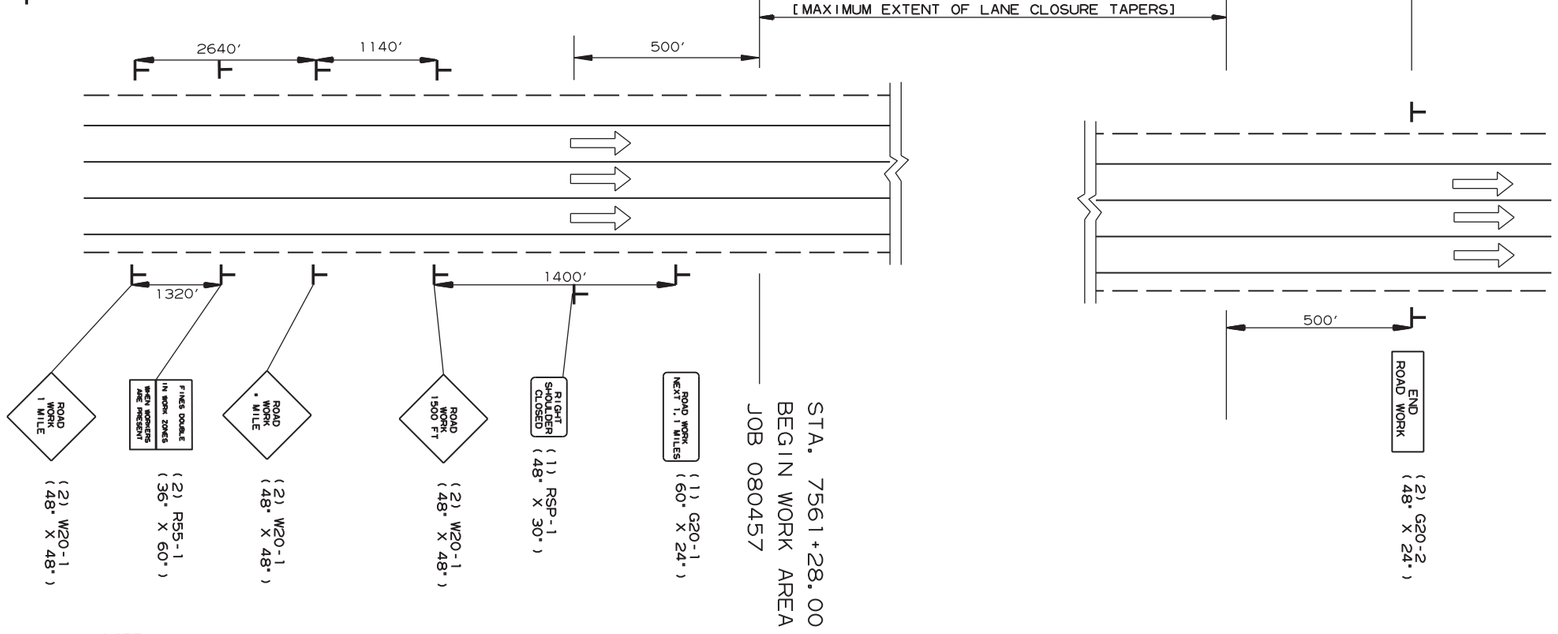




NOTE :
W20-1 (VARIOUS DISTANCE) ADVANCE SIGNS
TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS
AS WORKING AREA SHIFTS.

PORTABLE CHANGEABLE
MESSAGE SIGN TO BE USED
IF AND WHERE DIRECTED BY
THE ENGINEER



NOTE :
W20-1 (VARIOUS DISTANCE) ADVANCE SIGNS
TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS
AS WORKING AREA SHIFTS.

PORTABLE CHANGEABLE MESSAGE SIGN
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

CONSTRUCTION SIGNS FOR NORTH MAIN STREET	
ROAD WORK AHEAD (W20-1)	2
END ROAD WORK (GR20-2)	2

END ROAD WORK — (1) G20-2 (48" x 24")

ROAD WORK AHEAD — (1) W20-1 (48" x 48")

CONSTRUCTION SIGNS FOR ENTRANCE RAMPS	
ROAD WORK AHEAD (W20-1)	2

ROAD WORK AHEAD — (1) W20-1 (48" X 48")

EASTBOUND TRUCK RESTSTOP
MAYFLOWER EASTBOUND ON RAMP

ADVANCE SIGNS AT BEGINNING AND END OF JOB
ALL STAGES

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

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6	ARK.			
JOB NO.		080457	76	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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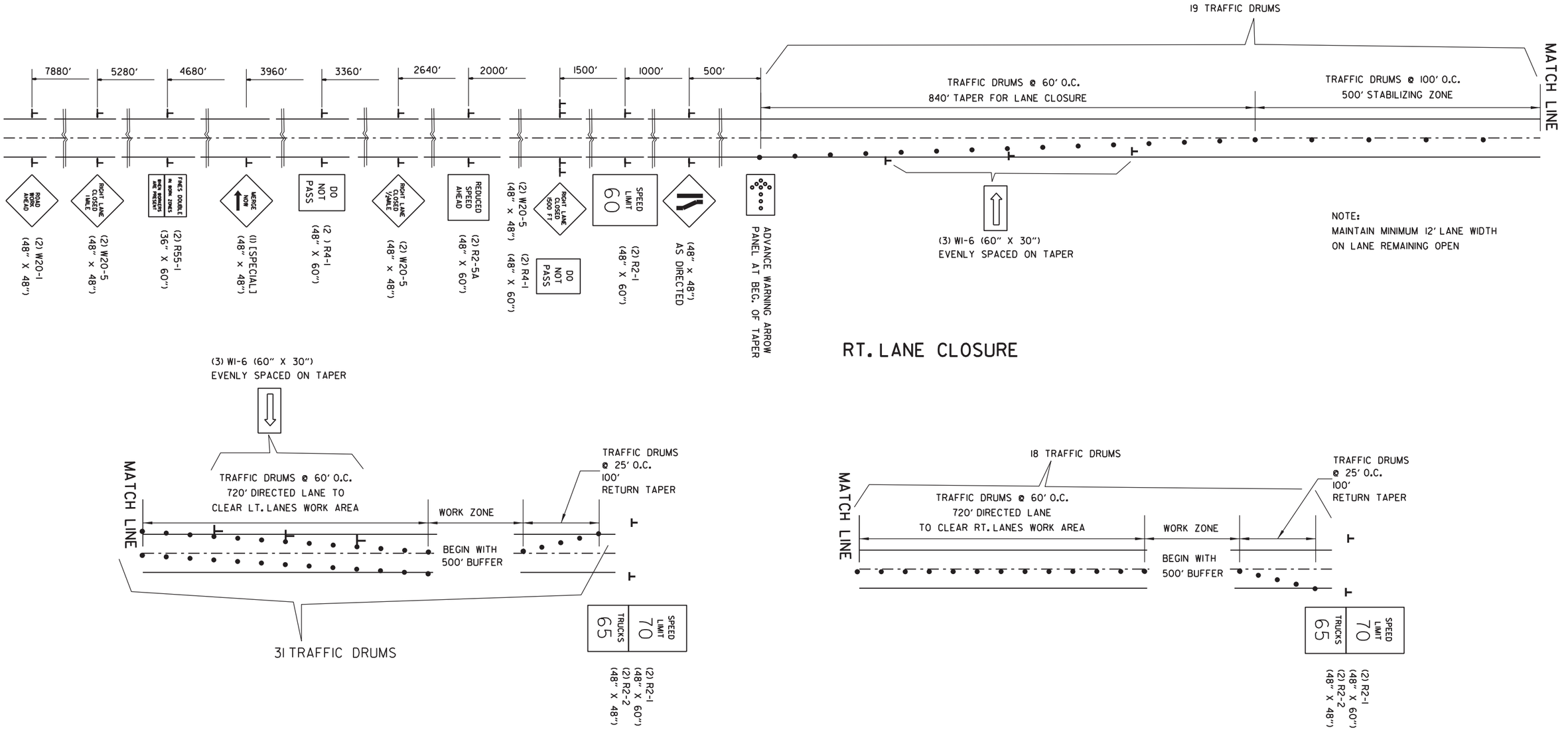
PORTABLE CHANGEABLE MESSAGE SIGN
PLACED AS DIRECTED BY THE ENGINEER



NOTE:
MAINTAIN MINIMUM 12′ LANE WIDTH ON LANE REMAINING OPEN

RT. LANE CLOSURE

DIVERSION FOR LT. LANE WORK ZONE

DIVERSION FOR RT. LANE WORK ZONE

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	77	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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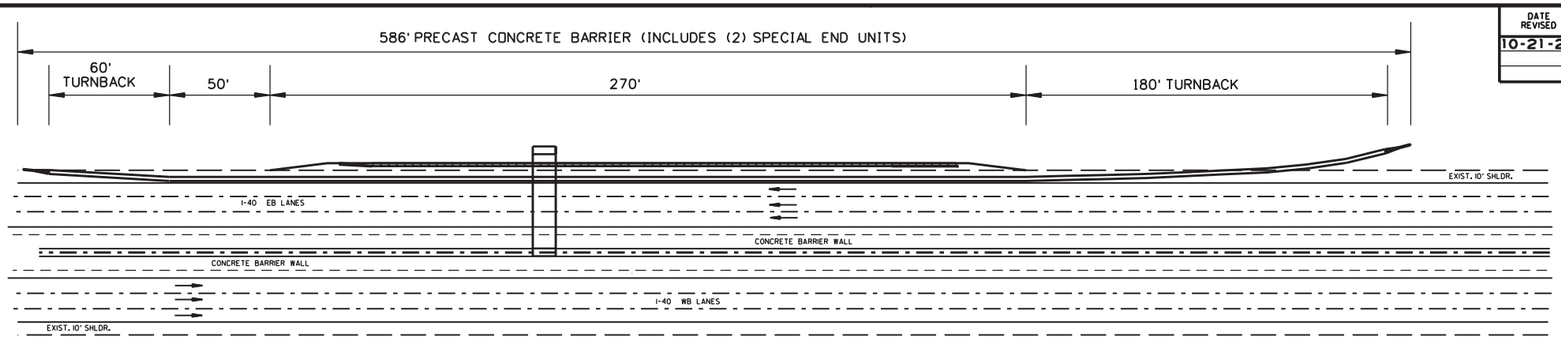
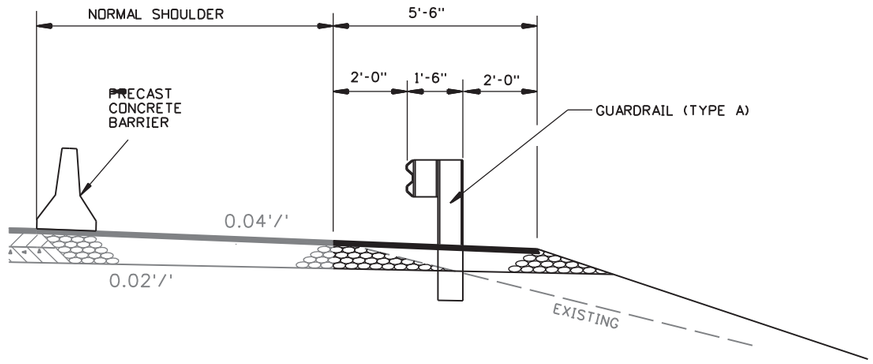




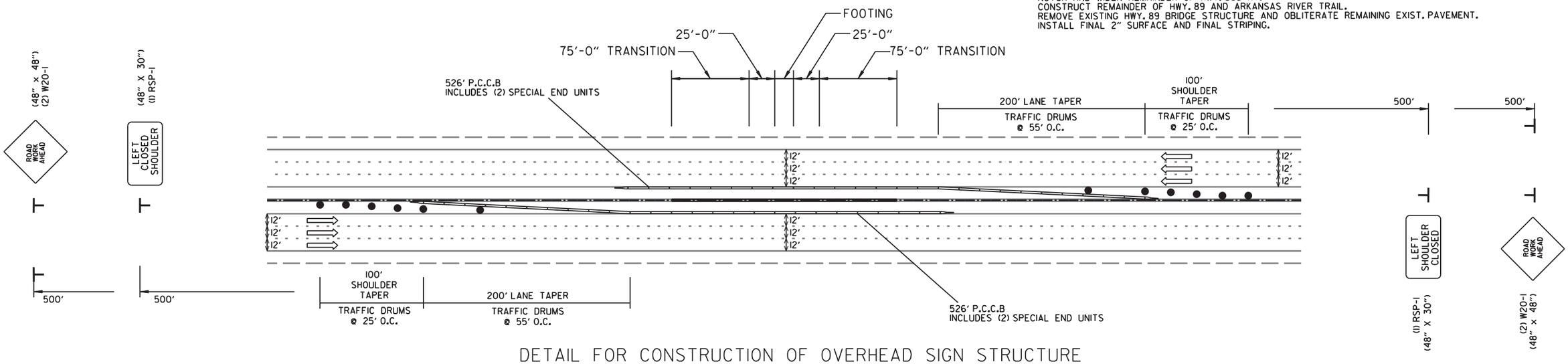
PRECAST CONCRETE BARRIER PLACEMENT AT WIDENING FOR GUARDRAIL

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.



DETAIL FOR CONSTRUCTION OF OVERHEAD SIGN STRUCTURE MEDIAN FOOTING IN CONCRETE MEDIAN BARRIER WALL

NOTE: REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION

ALL STAGES MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

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10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	78	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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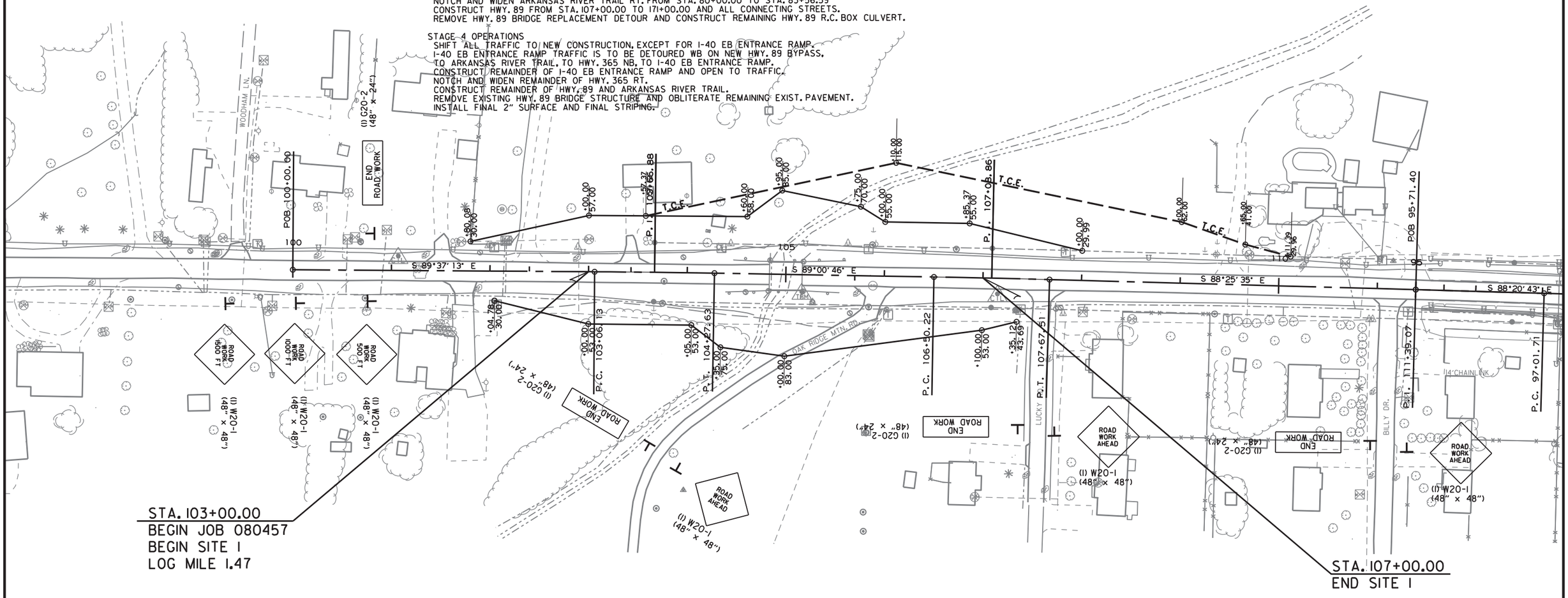

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	79	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:28 AM
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STA. 99+46.01
BEGIN JOB 080457 SITE 2
LOG MILE 1.24

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
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NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
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NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

(1) W20-1 (48" x 48")
ROAD WORK AHEAD
END ROAD WORK
(1) G20-2 (48" x 24")
ROAD WORK 500 FT
ROAD WORK 1000 FT
ROAD WORK 1500 FT

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
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STAGE 2 OPERATIONS
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CLOSE EXISTING I-40 EB ENTRANCE RAMP, TRAFFIC IS TO BE DETOURED
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STAGE 3 OPERATIONS
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CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

10/14/2020

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ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

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10-21-20			

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JOB NO.		080457	81	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:28 AM
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PROPOSED ROW
T.C.E.
(1) G20-2 (48" x 24")
END ROAD WORK
ROAD WORK AHEAD
12" PIPE
6' METAL

10/14/2020
R080457.DGN

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	82	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:29 AM
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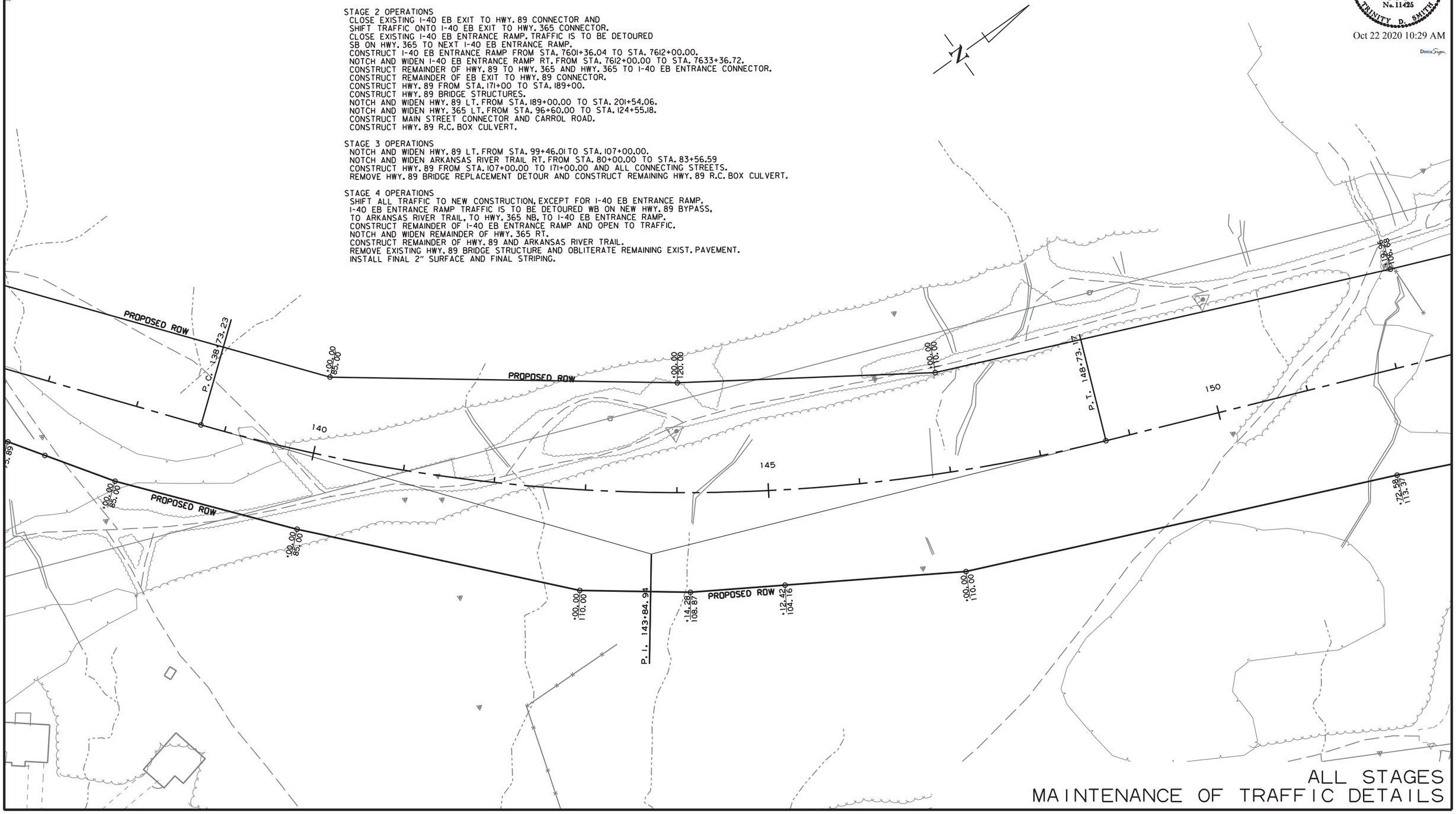

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	83	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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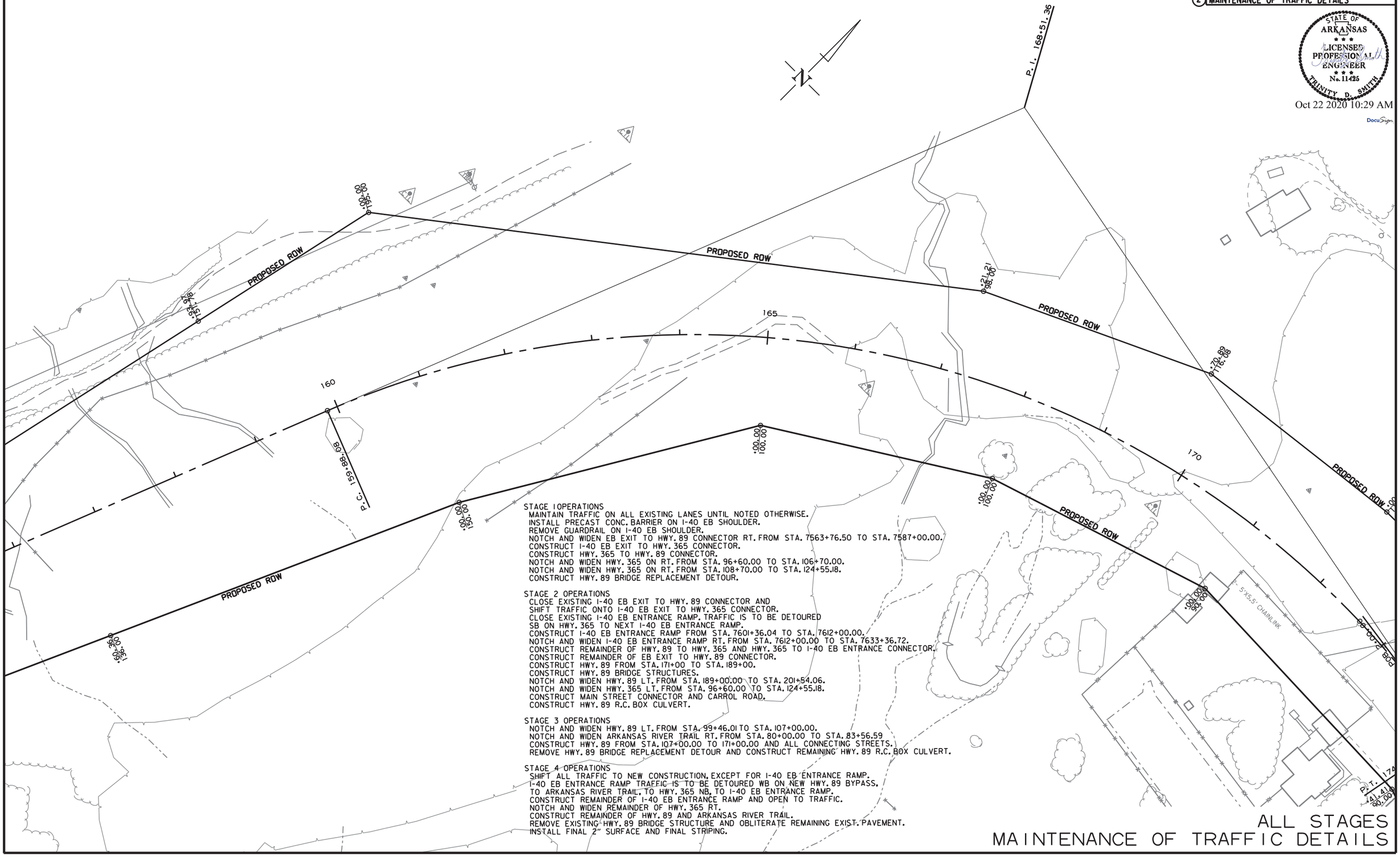

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS.
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

10/14/2020

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ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	84	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 171+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:29 AM
DocuSigned by:

10/14/2020
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ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	85	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:30 AM

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STA. 201+54.06
END JOB 080457
END SITE 2

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
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REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

10/14/2020

R080457.DGN

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	86	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:30 AM
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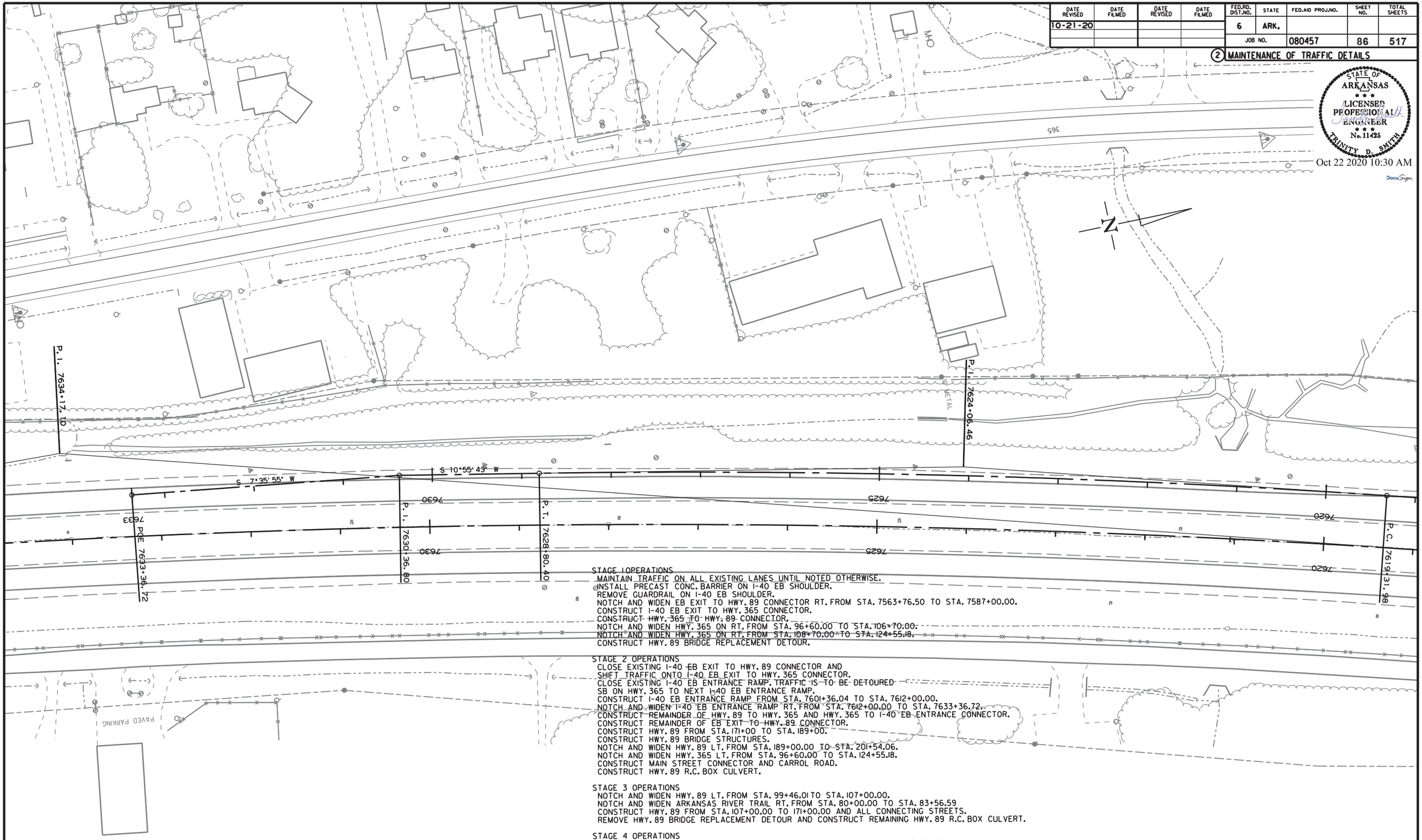

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
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STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
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CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
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NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
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CONSTRUCT HWY. 89 R.C. BOX CULVERT.

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NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
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STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
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CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	87	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
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CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
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CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
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CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
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CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
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NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
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STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59.
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
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STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
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CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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ROAD WORK 500 FT (I) W20-1 (48" × 48")
ROAD WORK 1000 FT (I) W20-1 (48" × 48")
ROAD WORK 500 FT (I) W20-1 (48" × 48")
(I) G20-2 (48" × 24")
END ROAD WORK
POB 96+60.00
96
100
EXIST. ROW
EXIST. ROW
EXIST. ROW
END C/A 98.86
751.68
BEGIN C/A 92.67
448.85
POB 7608+44.03
POE 7608+84.56
POB 7604+27.53
N 78°18'14" E
S 74°18'14" W
7604
7605
P.C. 7605+47.42
P.I. 7607+97.53
P.I. 7607+48.28
P.I. 7608+81.39
P.C. 7611+20.02
P.T. 7614+47.41
P.C. 7619+31.98
P.C. 7618+46.12
P.I. 7612+84.12
S 15°40'14" W
S 15°50'55" W
7605
7610
7615
240.00
172.49
END C/A
BEGIN C/A
END C/A
P.I. 7605+65.24
S 5°50'55" W
S 15°50'55" W
7605
7610
7615
7608

10/14/2020
R080457.DGN

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	88	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7577+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	89	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

10/14/2020

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ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	90	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE I OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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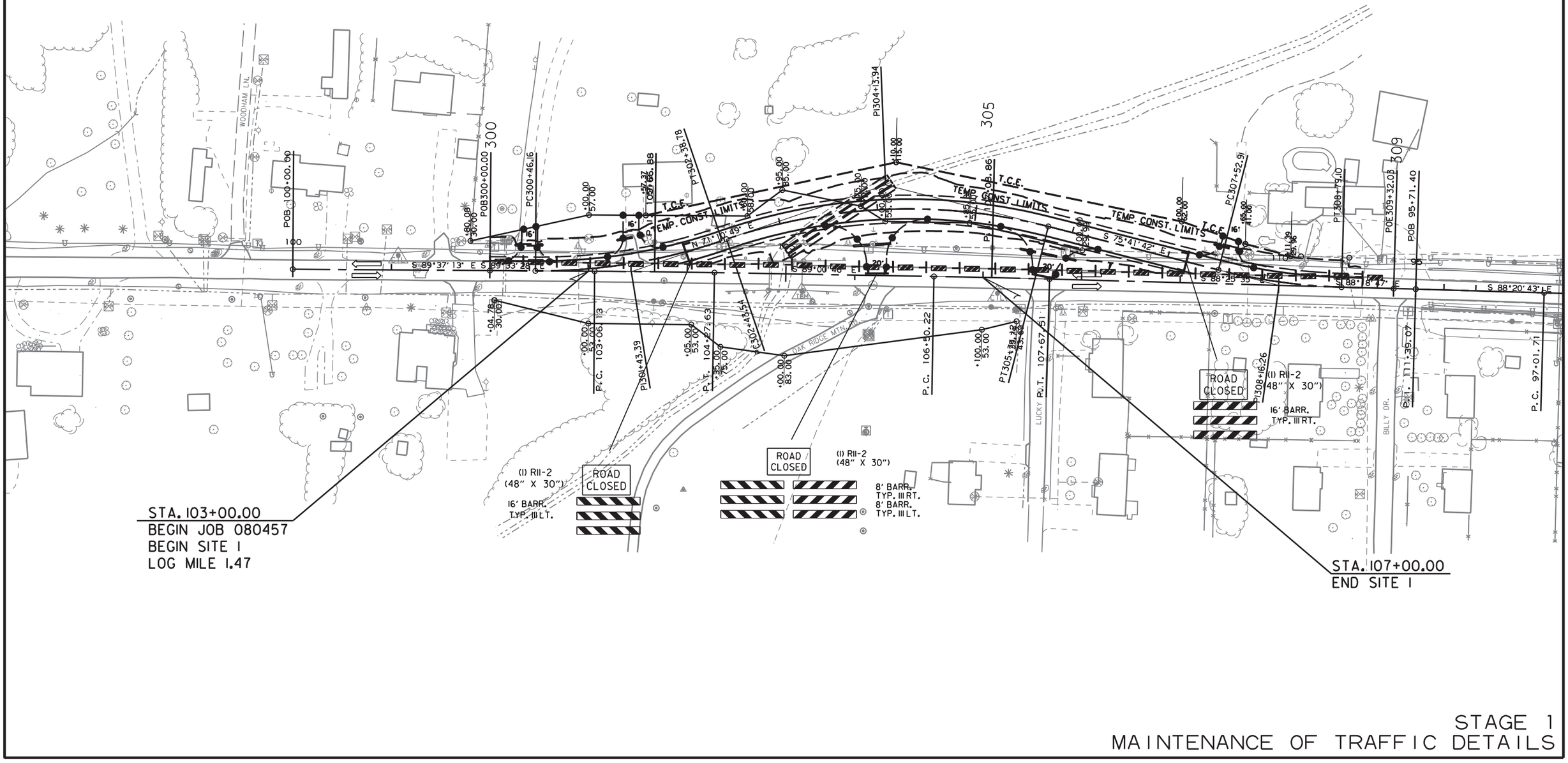

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STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	91	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

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

EXIST. ROW
EXIST. ROW
EXIST. ROW
100
POB 96+60.00
END C/A 98+98.86
BEGIN C/A 102+67.85
448.85
51.88
POB 7604+27.53
S 74°18'14" W
7695
P.C. 7605+47.42
P.T. 7607+97.53
BEGIN C/A
END C/A
P.C. 7608+81.39
P.T. 7606+65.24
240.00
S 5°50'55" E
7605
P.C. 7611+20.02
172.49
END C/A
POE 7608+84.56
7608
7610
P.T. 7607+48.28
S 15°40'14" W
7615
P.C. 7619+31.98
P.C. 7618+46.12
P.I. 7612+84.12
S 15°50'55" W
7610
7605
M WEB/WOOD POST/CNGOOD
P.T. 7614+47.41

10/14/2020
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STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	92	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 5:59 PM
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(I) RII-2 (48" X 30")
16' BARR. TYP. III LT.
ROAD CLOSED

STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

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STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	93	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STAGE I OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

STAGE I OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.

P.T. 145+67.34
POE 146+79.53
N 10°57' 10" E
EXIST. ROW
P.C.E.
EXIST. ROW
PROPOSED ROW
EXIST. ROW
P.I. 123+92.79
P.I. 130+36.02
N 2°46' 36" E
POE
BEGIN C/A 183+99.94
END C/A 198+87.87
P.C. 7587+77.70
P.C. 7587+86.92
POB 7587+00.00
P.I. 7583+44.61
P.C. 7581+54.33
P.I. 7581+24.71
P.I. 7582+49.55
P.I. 7578+88.19
S 16°41' 19" W
7587
7585
7580
7575
LAKE
14 FT WEB, 18RB STEEL POST F
W WEB/18RB WD POST FROM
DUAL 4

STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	94	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:33 AM

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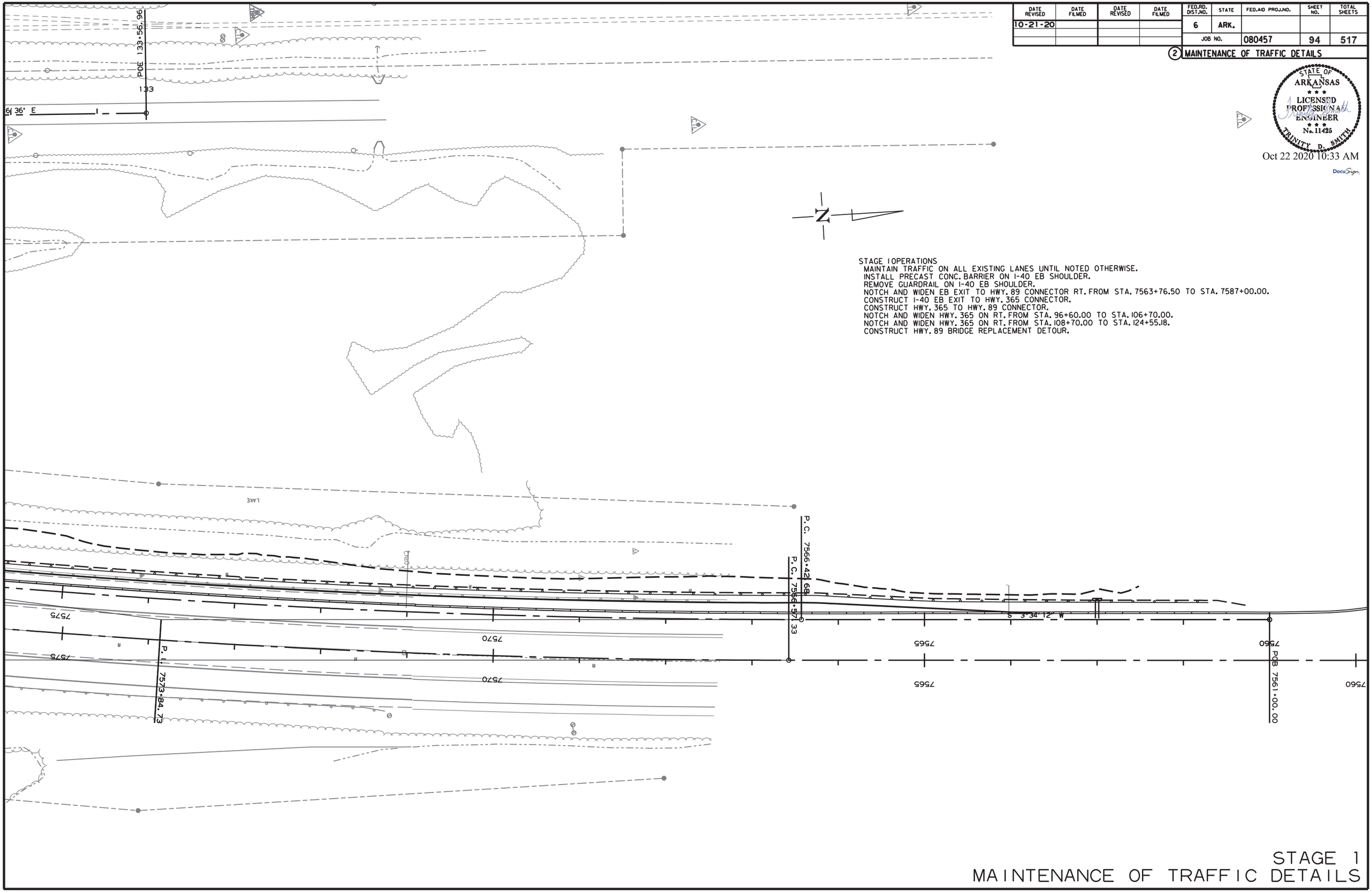
STAGE 1 OPERATIONS
MAINTAIN TRAFFIC ON ALL EXISTING LANES UNTIL NOTED OTHERWISE.
INSTALL PRECAST CONC. BARRIER ON I-40 EB SHOULDER.
REMOVE GUARDRAIL ON I-40 EB SHOULDER.
NOTCH AND WIDEN EB EXIT TO HWY. 89 CONNECTOR RT. FROM STA. 7563+76.50 TO STA. 7587+00.00.
CONSTRUCT I-40 EB EXIT TO HWY. 365 CONNECTOR.
CONSTRUCT HWY. 365 TO HWY. 89 CONNECTOR.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 96+60.00 TO STA. 106+70.00.
NOTCH AND WIDEN HWY. 365 ON RT. FROM STA. 108+70.00 TO STA. 124+55.18.
CONSTRUCT HWY. 89 BRIDGE REPLACEMENT DETOUR.



10/14/2020

R080457.DGN

STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	95	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:33 AM
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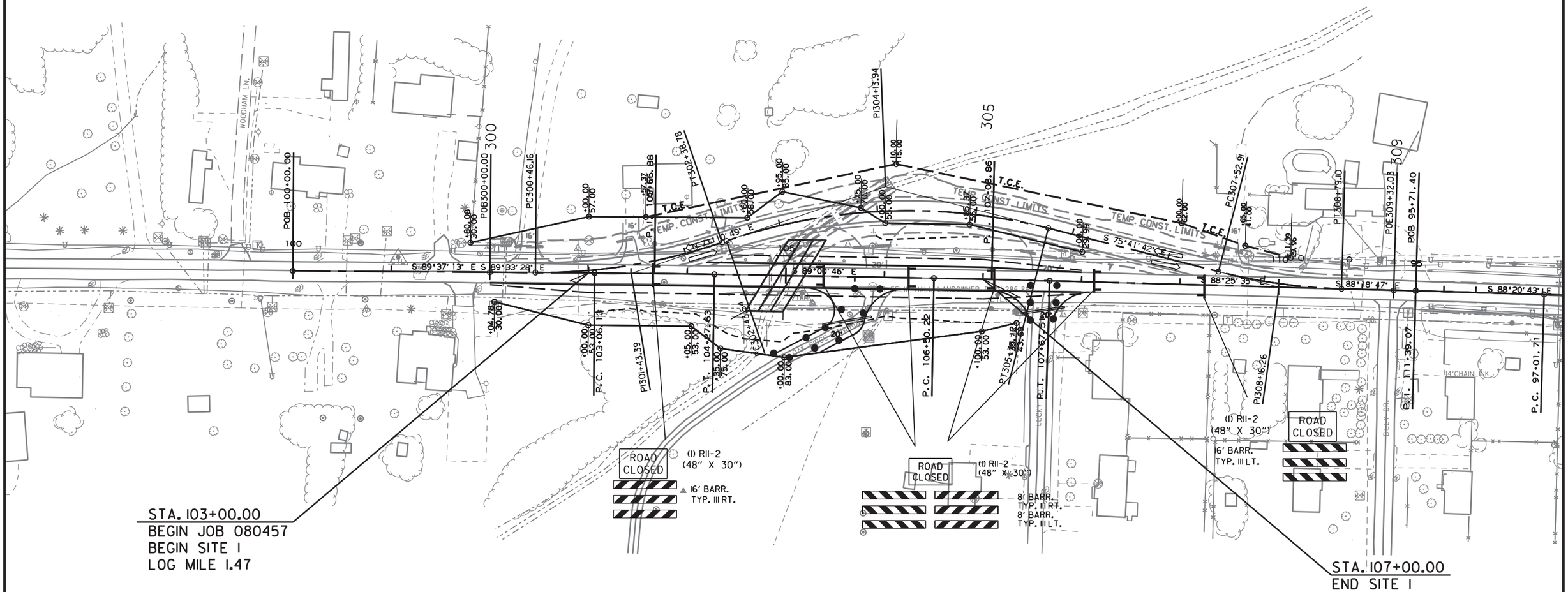

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	96	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:33 AM
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ROAD CLOSED
(I) RII-2 (48" X 30")
16' BARR. TYP. III RT.

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

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

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

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

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

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

10/14/2020
R080457.DGN

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	97	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:33 AM

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N

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

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

STA. 201+54.06
END JOB 080457
END SITE 2

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 760I+36.04 TO STA. 76I2+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 76I2+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	98	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:34 AM

DocuSign

P.I. 7634+17.10

S 7°35'55" W

P.I. 7630+36.80

P.T. 7628+80.40

P.C. 7624+08.46

S 10°55'43" W

P.C. 7619+31.98

P.O.E. 7633+36.72

REF. REC. 27" RCP SERVICE CONN.

REF. REC. 27" RCP SERVICE CONN.

REF. REC. 27" RCP SERVICE CONN.

METAL

PAVED PARKING

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	99	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:34 AM

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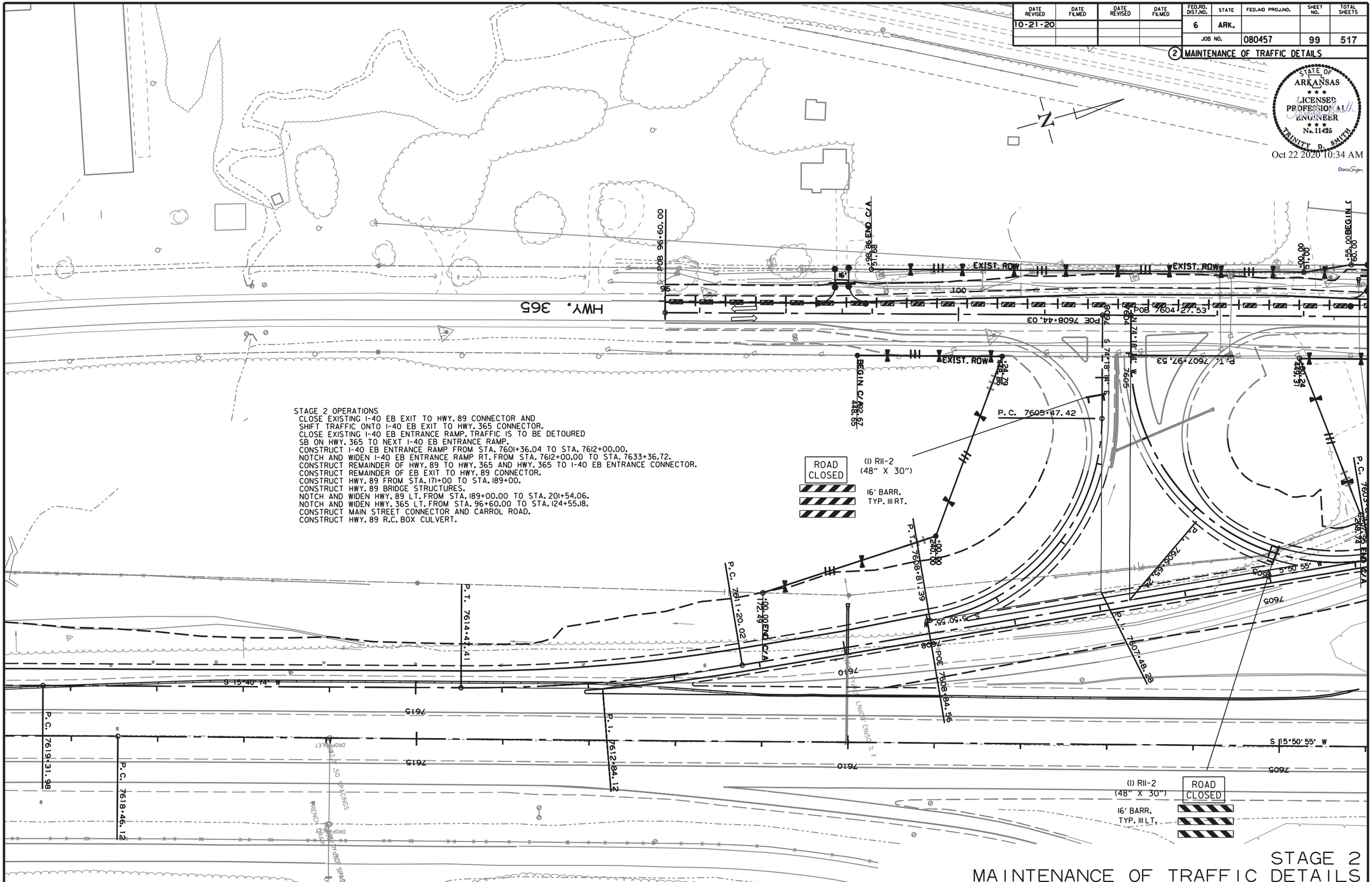

STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND
SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED
SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	100	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 5:59 PM
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STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 7601+36.04 TO STA. 7612+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 7612+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	101	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:35 AM
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STAGE 2 OPERATIONS
CLOSE EXISTING I-40 EB EXIT TO HWY. 89 CONNECTOR AND SHIFT TRAFFIC ONTO I-40 EB EXIT TO HWY. 365 CONNECTOR.
CLOSE EXISTING I-40 EB ENTRANCE RAMP. TRAFFIC IS TO BE DETOURED SB ON HWY. 365 TO NEXT I-40 EB ENTRANCE RAMP.
CONSTRUCT I-40 EB ENTRANCE RAMP FROM STA. 760I+36.04 TO STA. 76I2+00.00.
NOTCH AND WIDEN I-40 EB ENTRANCE RAMP RT. FROM STA. 76I2+00.00 TO STA. 7633+36.72.
CONSTRUCT REMAINDER OF HWY. 89 TO HWY. 365 AND HWY. 365 TO I-40 EB ENTRANCE CONNECTOR.
CONSTRUCT REMAINDER OF EB EXIT TO HWY. 89 CONNECTOR.
CONSTRUCT HWY. 89 FROM STA. 171+00 TO STA. 189+00.
CONSTRUCT HWY. 89 BRIDGE STRUCTURES.
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 189+00.00 TO STA. 201+54.06.
NOTCH AND WIDEN HWY. 365 LT. FROM STA. 96+60.00 TO STA. 124+55.18.
CONSTRUCT MAIN STREET CONNECTOR AND CARROL ROAD.
CONSTRUCT HWY. 89 R.C. BOX CULVERT.

10/14/2020

R080457.DGN

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	102	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:35 AM
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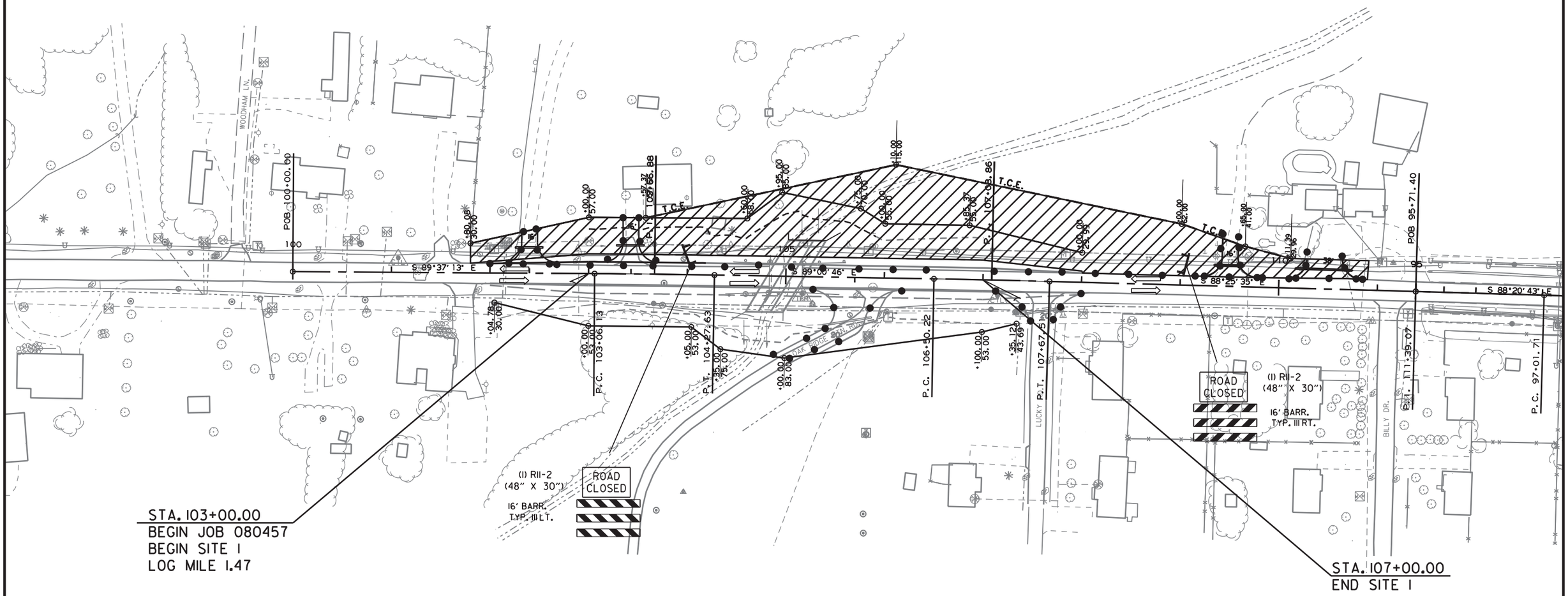

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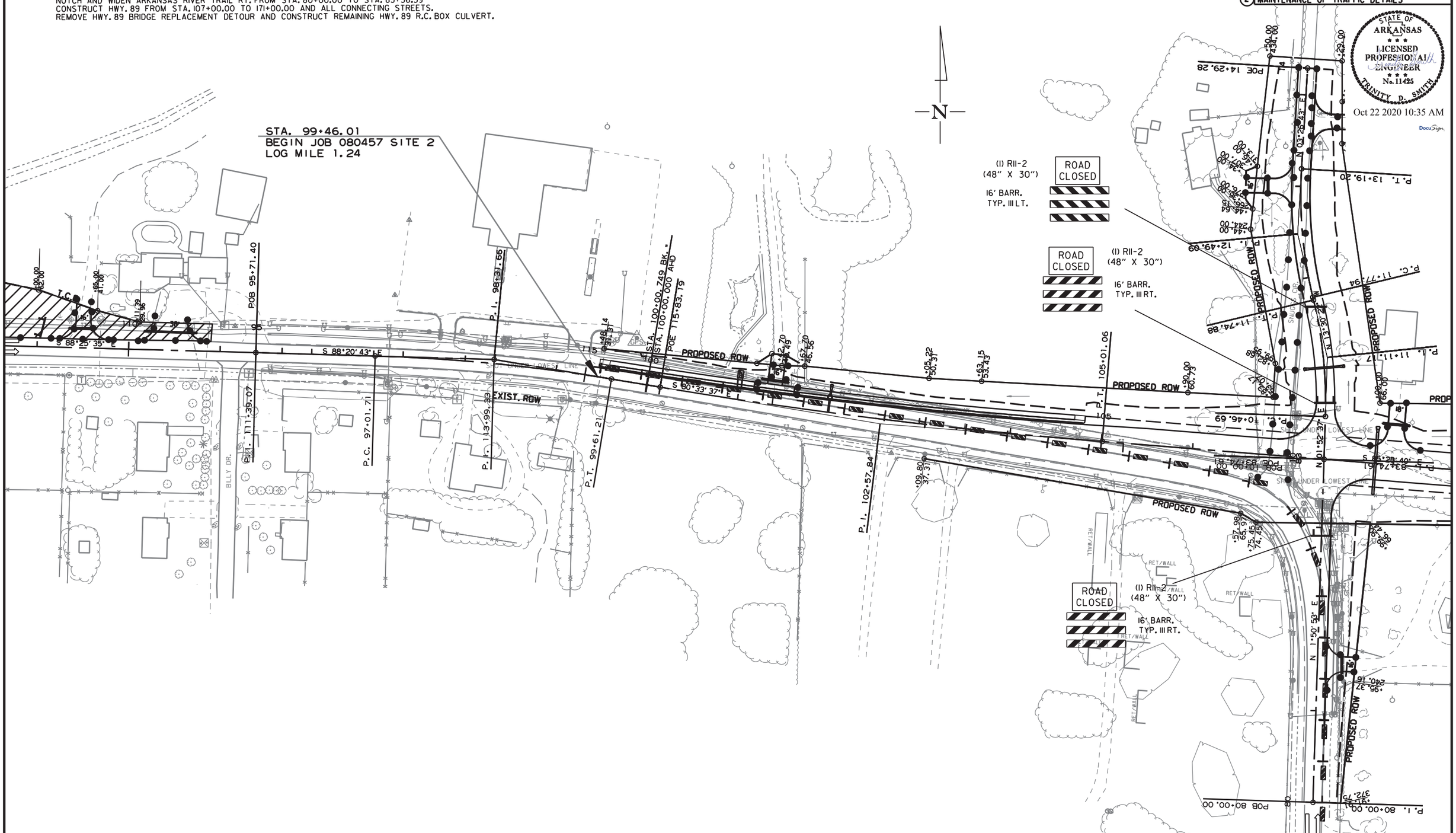
STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	103	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:35 AM



STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	104	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:36 AM
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(I) RII-2 (48" X 30")
16' BARR. TYP. III LT.
ROAD CLOSED

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

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

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

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

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

PROPOSED ROW

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	105	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:36 AM
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ROAD CLOSED
(1) RII-2 (48" X 30")
16' BARR. TYP. III RT.

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

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

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

PROPOSED ROW
T.C.E.
16' MCAT
4/B/W/P/ CN POOR
DOUBLE TRACK
N 51°33'02" E
N 38°26'58" W
P.C. 70+41.16
P.T. 71+61.31
P.C. 60+33.16
P.T. 61+00.31
P.I. 72+52.24
P.I. 71+56.58
P.I. 70+10.39
P.I. 60+00.00
P.I. 61+62.31
P.I. 72+83.37
P.I. 71+96.07
P.I. 74+48.93
P.I. 73+14.00
P.O.B. 62+06.77
P.O.B. 70+00.00
P.O.B. 74+48.93
P.O.E. 62+06.77
P.O.E. 74+48.93
P.O.E. 73+14.00
P.O.E. 74+48.93
P.O.E. 74+48.93
P.O.E. 74+48.93

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	106	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:36 AM
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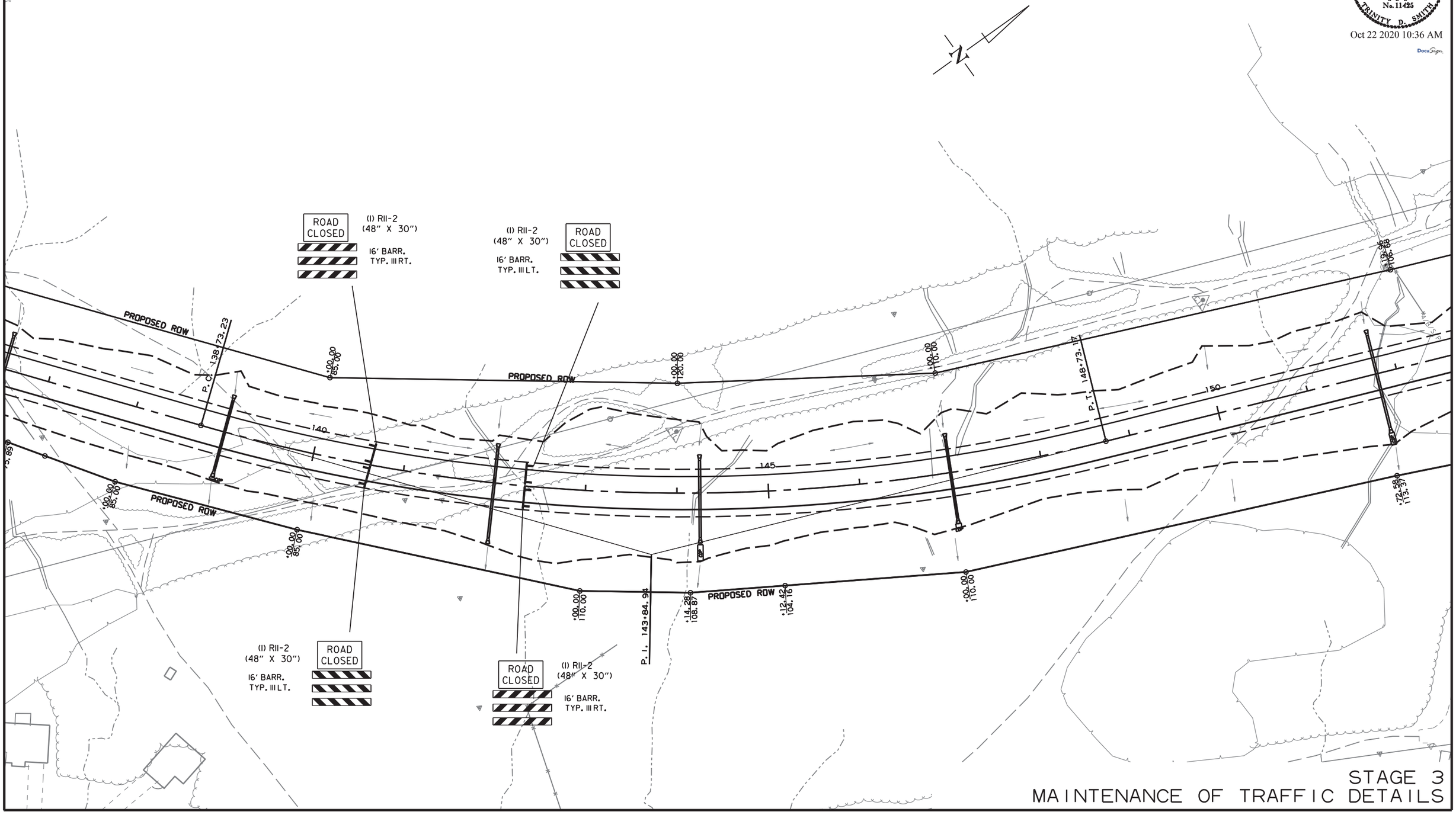

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	107	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3 OPERATIONS
NOTCH AND WIDEN HWY. 89 LT. FROM STA. 99+46.01 TO STA. 107+00.00.
NOTCH AND WIDEN ARKANSAS RIVER TRAIL RT. FROM STA. 80+00.00 TO STA. 83+56.59
CONSTRUCT HWY. 89 FROM STA. 107+00.00 TO 171+00.00 AND ALL CONNECTING STREETS.
REMOVE HWY. 89 BRIDGE REPLACEMENT DETOUR AND CONSTRUCT REMAINING HWY. 89 R.C. BOX CULVERT.

STATE OF ARKANSAS
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Oct 22 2020 10:36 AM
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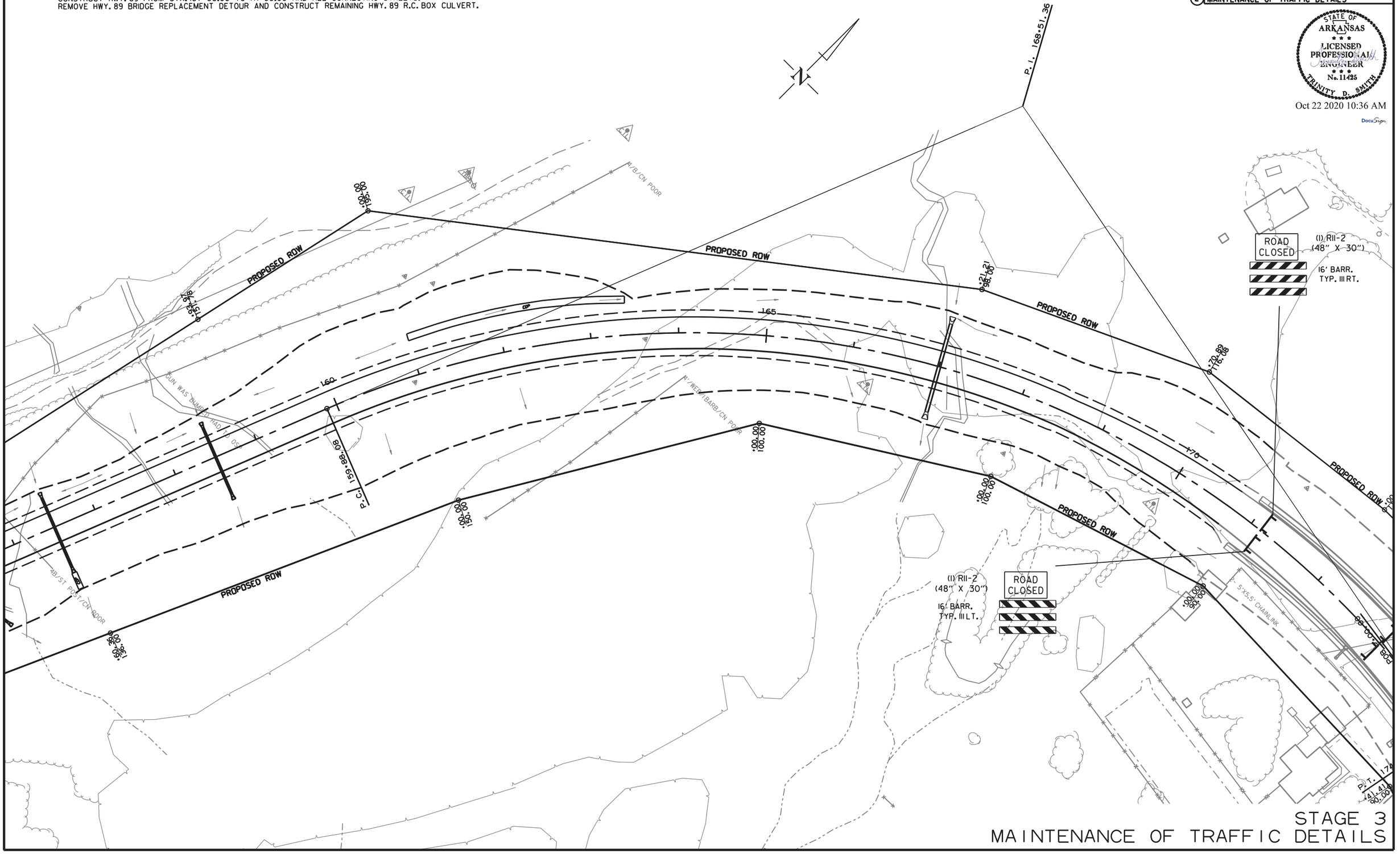


10/14/2020

R080457.DGN

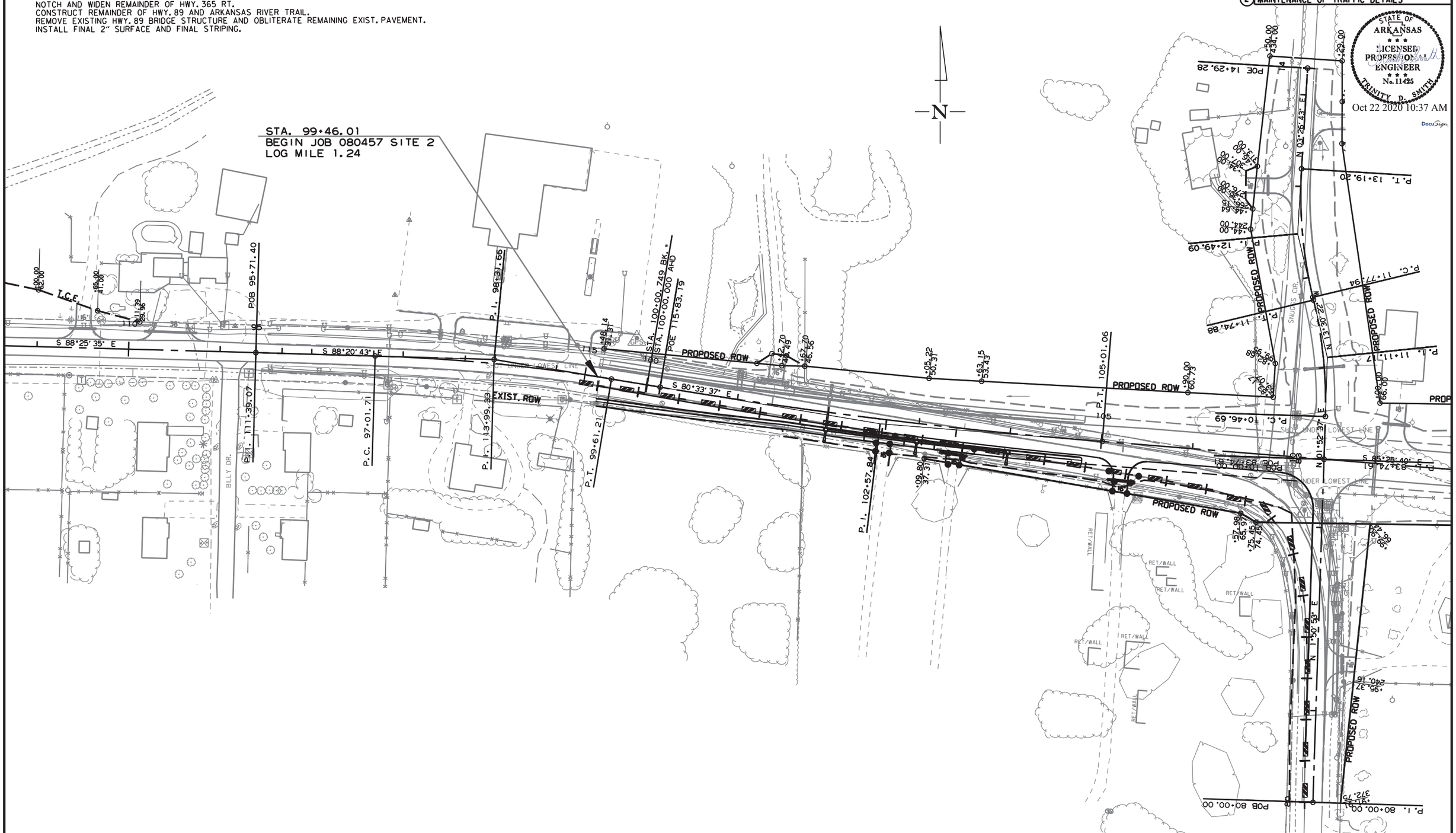
STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS, TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	108	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:37 AM



STAGE 4
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	109	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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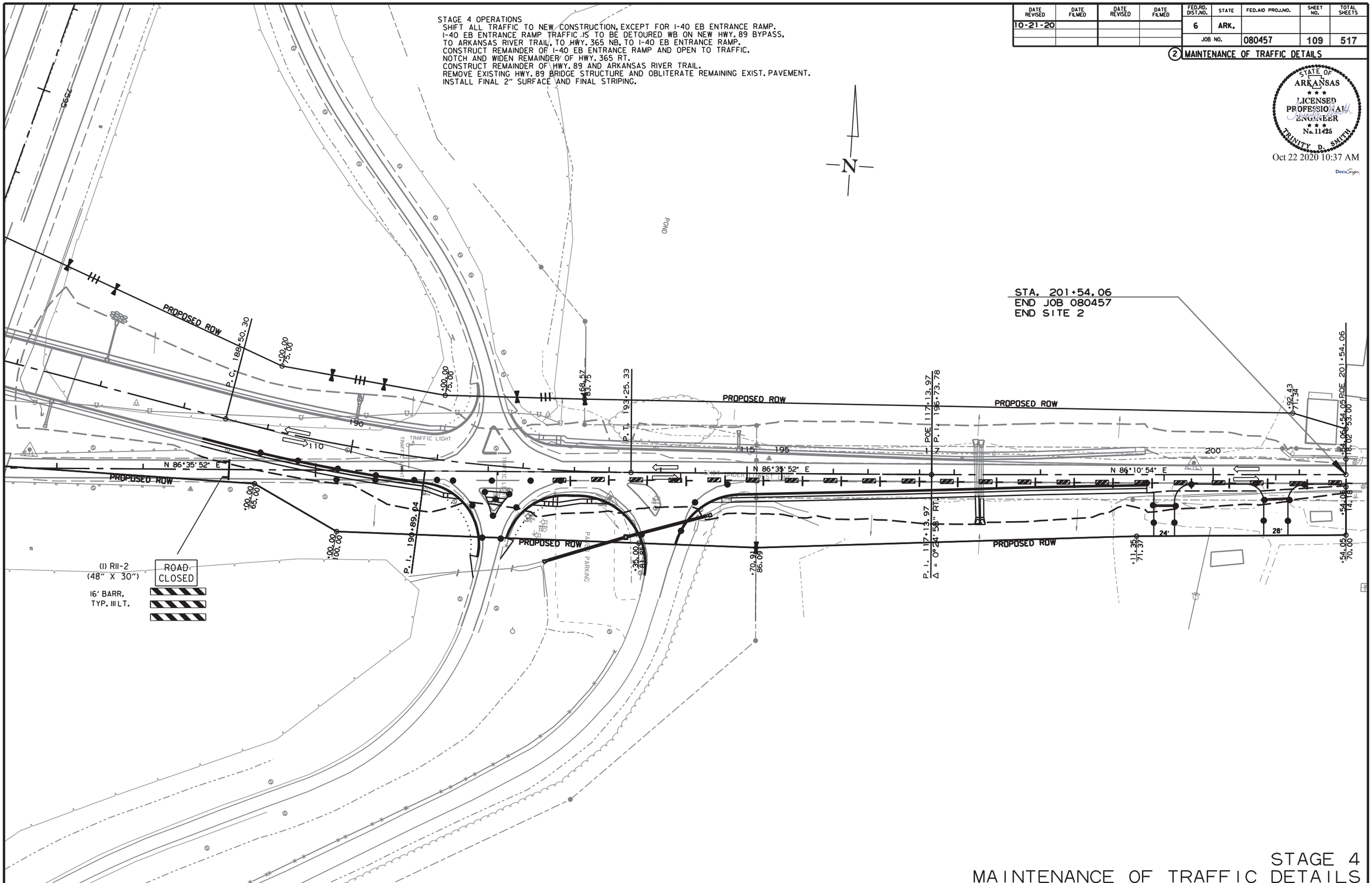
STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS, TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.



STAGE 4
MAINTENANCE OF TRAFFIC DETAILS

10/14/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	110	517

2 MAINTENANCE OF TRAFFIC DETAILS

STAGE 4 OPERATIONS
SHIFT ALL TRAFFIC TO NEW CONSTRUCTION, EXCEPT FOR I-40 EB ENTRANCE RAMP.
I-40 EB ENTRANCE RAMP TRAFFIC IS TO BE DETOURED WB ON NEW HWY. 89 BYPASS,
TO ARKANSAS RIVER TRAIL, TO HWY. 365 NB, TO I-40 EB ENTRANCE RAMP.
CONSTRUCT REMAINDER OF I-40 EB ENTRANCE RAMP AND OPEN TO TRAFFIC.
NOTCH AND WIDEN REMAINDER OF HWY. 365 RT.
CONSTRUCT REMAINDER OF HWY. 89 AND ARKANSAS RIVER TRAIL.
REMOVE EXISTING HWY. 89 BRIDGE STRUCTURE AND OBLITERATE REMAINING EXIST. PAVEMENT.
INSTALL FINAL 2" SURFACE AND FINAL STRIPING.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 5:59 PM
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(1) R11-2 (48" X 30")
ROAD CLOSED
16' BARR. TYP. III LT.

10/14/2020
R080457.DGN

STAGE 4
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	111	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	112	517

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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10/14/2020

R080457.DGN

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	113	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 9:46 AM

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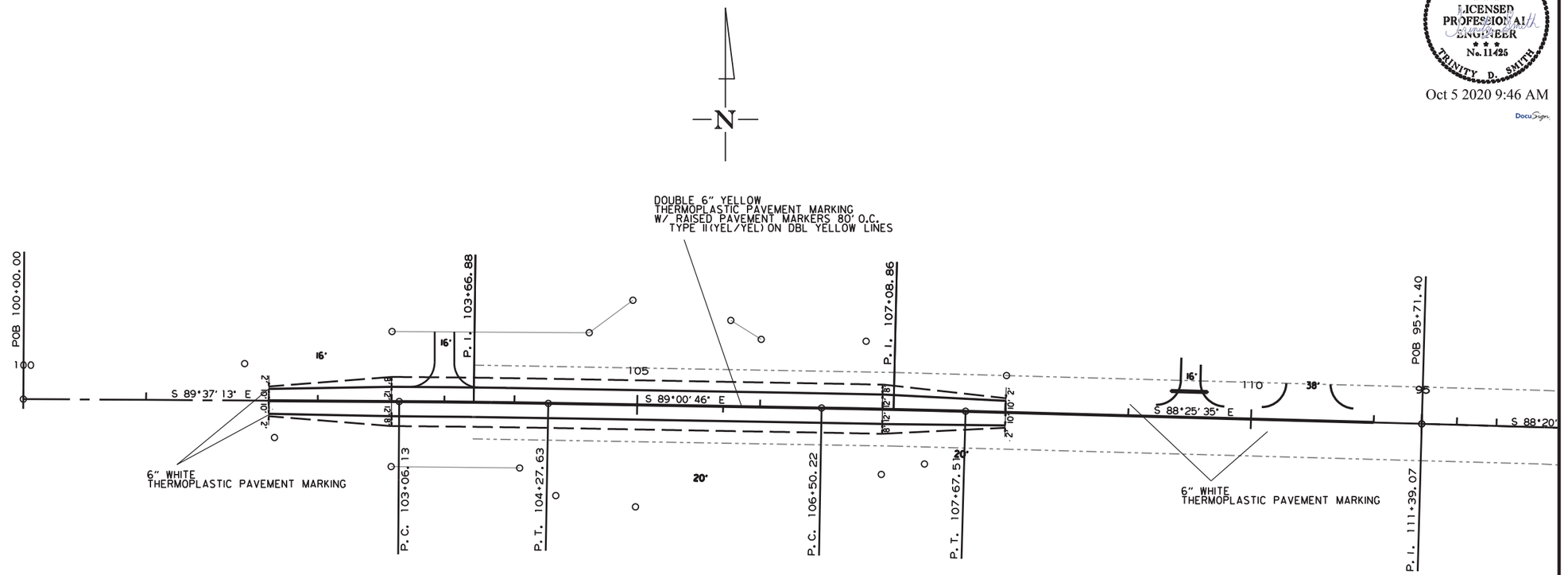

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	114	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 9:47 AM

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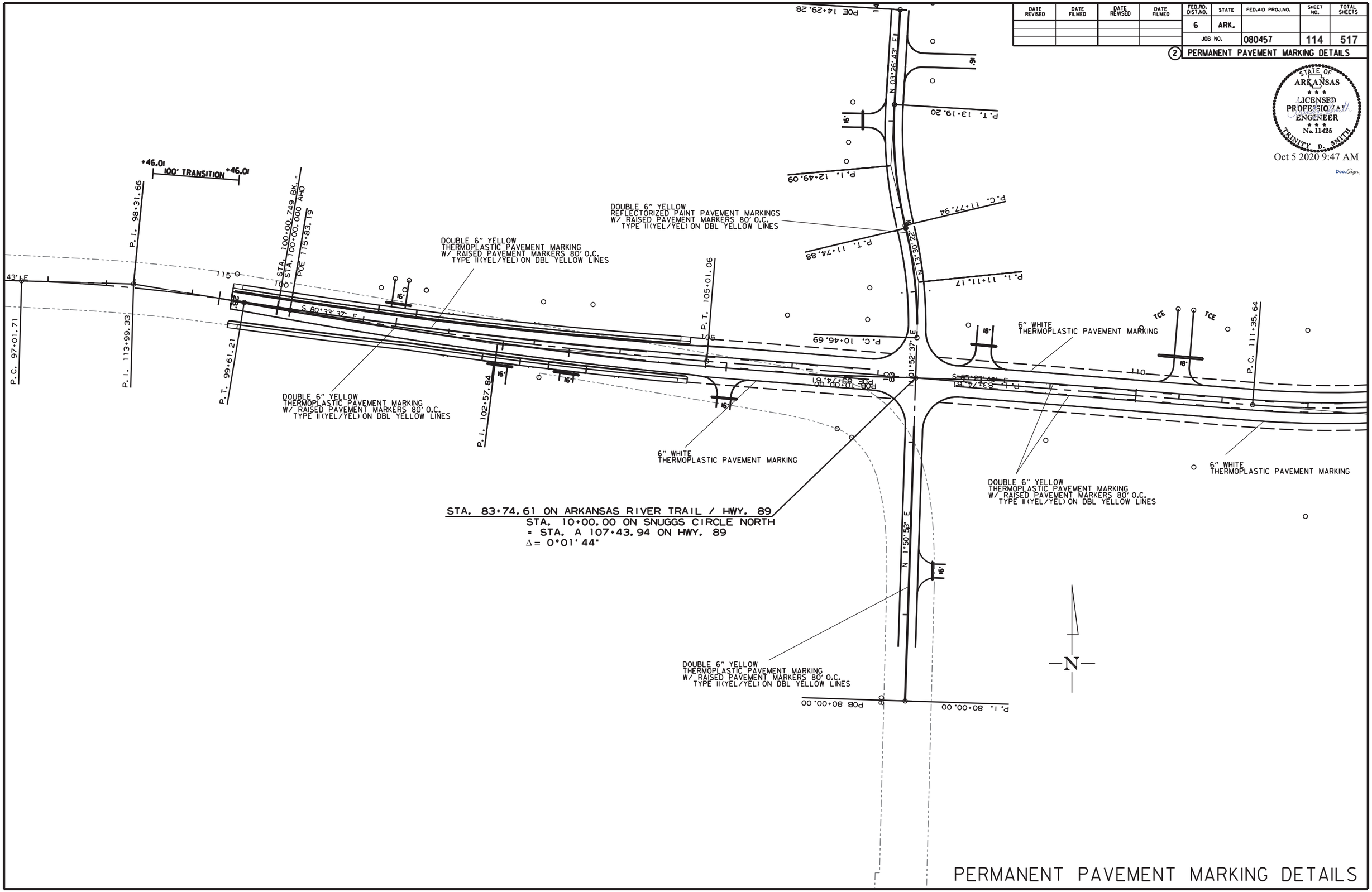

PERMANENT PAVEMENT MARKING DETAILS

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	115	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 9:47 AM
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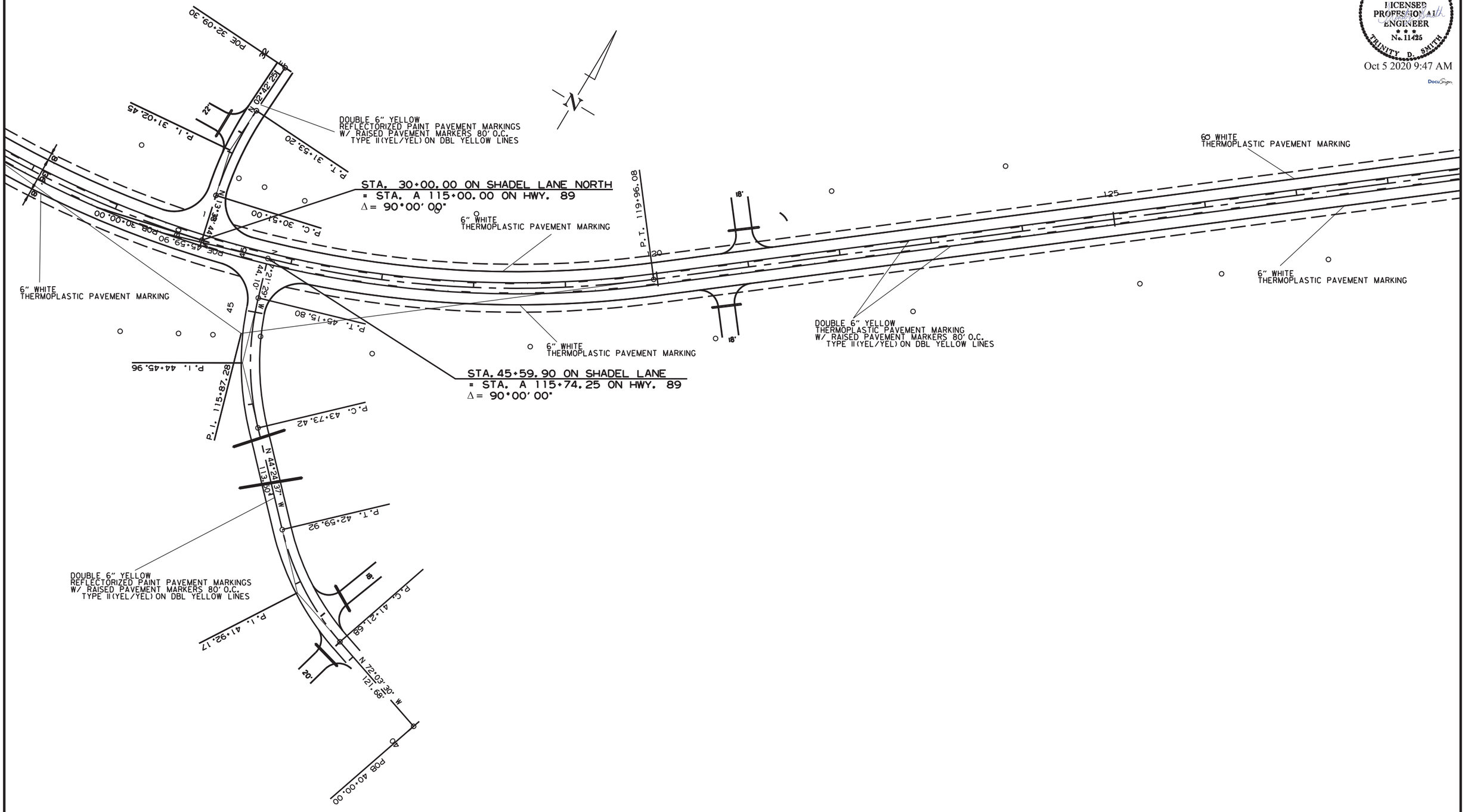

11/8/2011

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	116	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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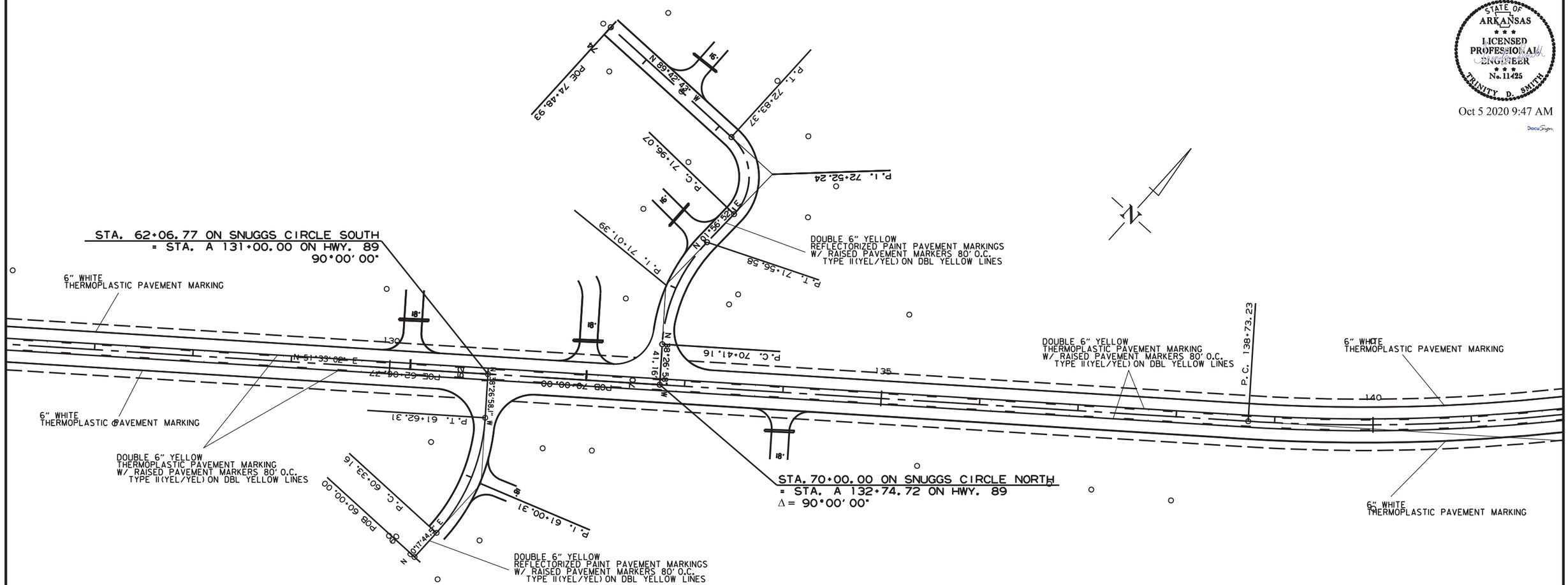

11/8/2011

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	117	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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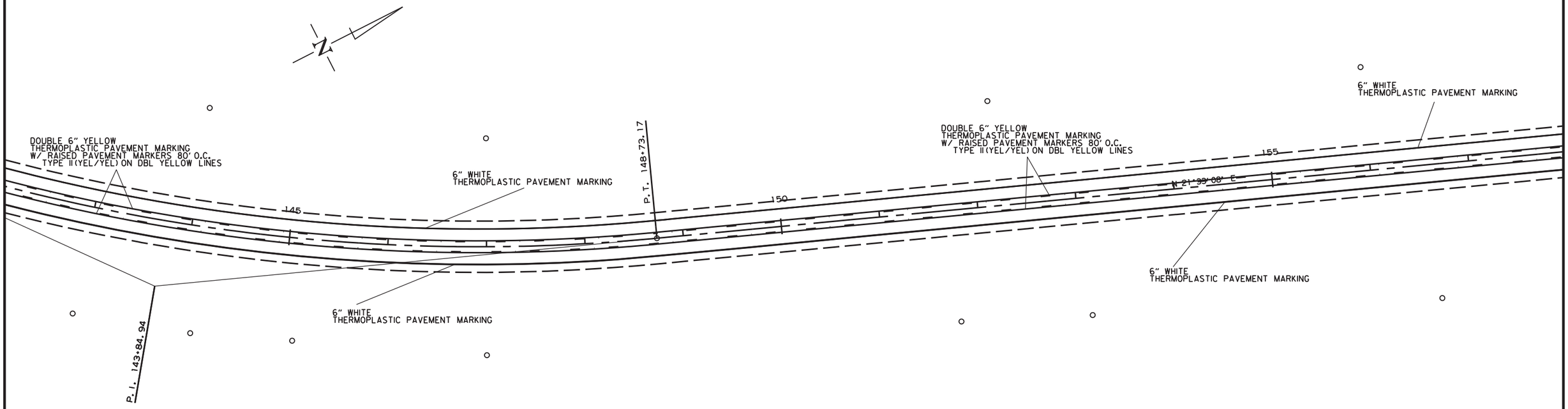

11/8/2011

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	118	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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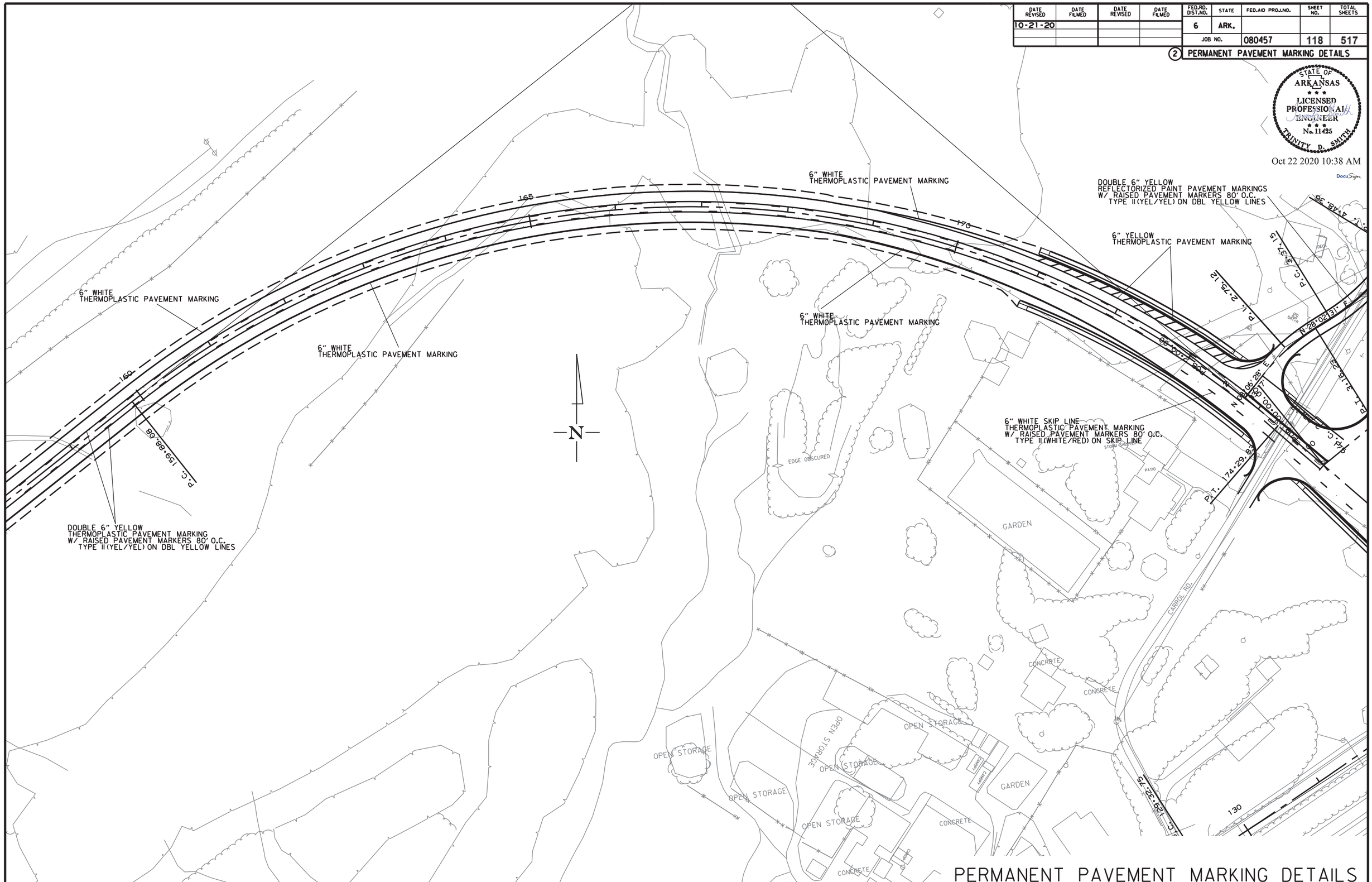

PERMANENT PAVEMENT MARKING DETAILS

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	119	517

2 PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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6" WHITE REFLECTORIZED PAINT PAVEMENT MARKINGS

6" WHITE THERMOPLASTIC PAVEMENT MARKING

6" WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" WHITE THERMOPLASTIC PAVEMENT MARKING

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

6" WHITE THERMOPLASTIC PAVEMENT MARKING

6" WHITE SKIP LINE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(WHITE/RED) ON SKIP LINE

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

6" YELLOW ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" WHITE SKIP ENHANCED THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(WHITE/RED) ON SKIP LINE

12" WHITE THERMOPLASTIC PAVEMENT MARKING

STA. 7598+58.93 ON EASTBOUND EXIT
= STA. A 185+22.34 ON HWY. 89
Δ = 70°00'00"

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

6" YELLOW SKIP LINE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON SKIP YELLOW LINE

6" WHITE SKIP LINE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(WHITE/RED) ON SKIP LINE

STA. 2+00.00 ON CARROL ROAD
= STA. A 173+80.00 ON HWY. 89
90°00'00"

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

6" WHITE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(WHITE/RED) ON LANE LINE

STA. 7598+21.12
ON EASTBOUND ENTRANCE
= STA. A 182+07.05 ON HWY. 89
85°00'00"

6" YELLOW ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" WHITE THERMOPLASTIC PAVEMENT MARKING

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

POB 7603+26.40

P.C. 7603+81.49

PERMANENT PAVEMENT MARKING DETAILS

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	120	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 201+54.06
END JOB 080457
SECTION 2

P.O.E. 201+54.06

6" WHITE THERMOPLASTIC PAVEMENT MARKING

6" WHITE THERMOPLASTIC PAVEMENT MARKING

200

N 86°10'54" E

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

P.O.E. 117+13.97
P.I. 196+73.78

P.I. 193+25.33

12" WHITE STOP LINE THERMOPLASTIC PAVEMENT MARKING

6" WHITE SKIP LINE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(WHITE/RED) ON SKIP LINE

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

12" WHITE CROSSWALK THERMOPLASTIC PAVEMENT MARKING

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

P.I. 117+13.97
Δ = 0°24'58" RT.

P.C. 188+50.30

6" YELLOW SKIP LINE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON SKIP YELLOW LINE

N 86°35'52" E

DOUBLE 6" YELLOW THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(YEL/YEL) ON DBL YELLOW LINES

12" YELLOW THERMOPLASTIC PAVEMENT MARKING

P.I. 190+89.04

6" WHITE SKIP LINE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(WHITE/RED) ON SKIP LINE

12" WHITE THERMOPLASTIC PAVEMENT MARKING

6" WHITE SKIP LINE THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS 80' O.C. TYPE II(WHITE/RED) ON SKIP LINE

12" WHITE CROSSWALK THERMOPLASTIC PAVEMENT MARKING

POND

TRAFFIC LIGHT

PAVED PARKING

11/8/2011

ZBORDER.CEL

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	121	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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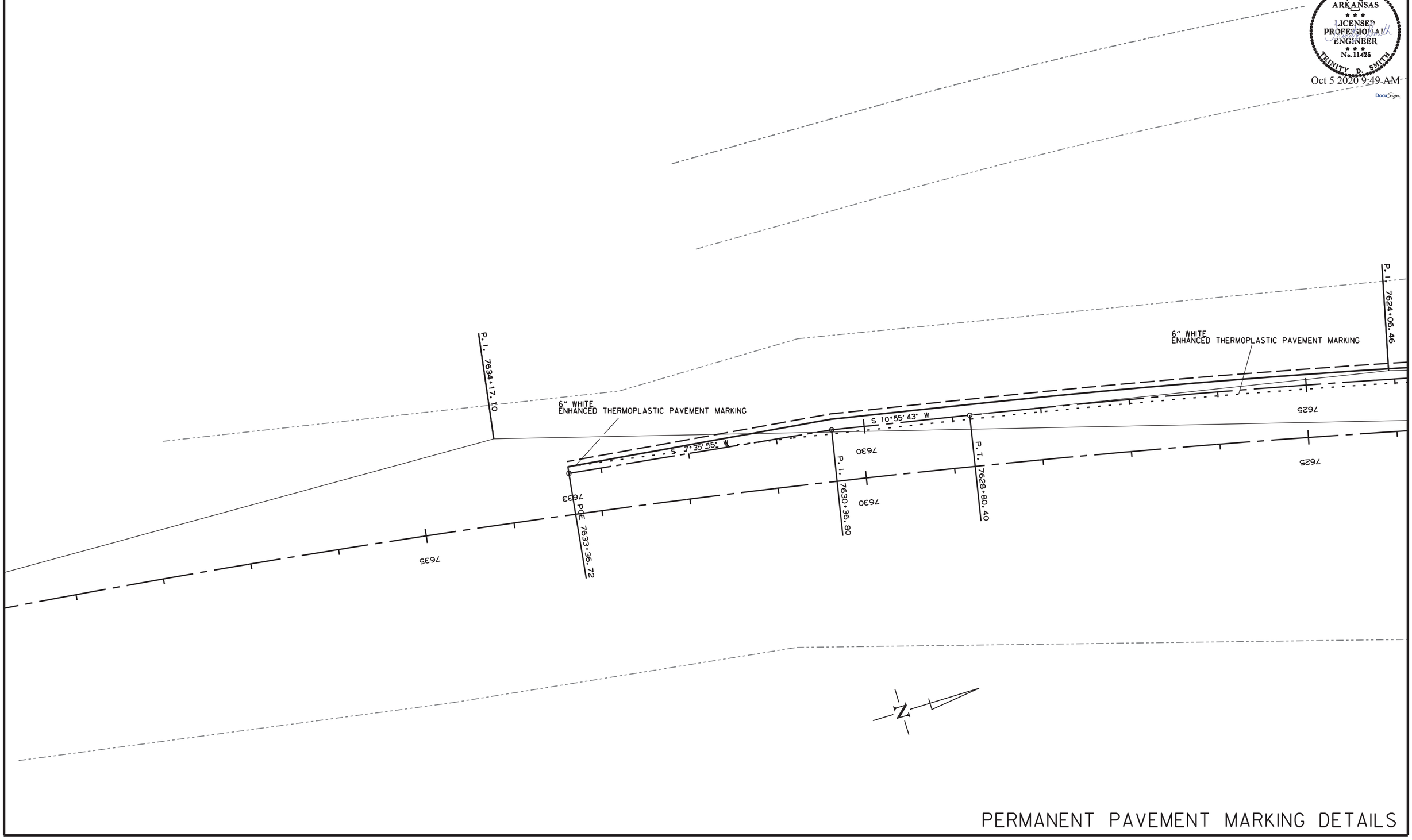

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	122	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
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PAVED PARKING

365

6" WHITE
THERMOPLASTIC PAVEMENT MARKING

POB 96+60.00

96

100

DOUBLE 6" YELLOW
THERMOPLASTIC PAVEMENT MARKING
W/ RAISED PAVEMENT MARKERS 80' O.C.
TYPE II(YEL/YEL) ON DBL YELLOW LINES

6" WHITE
THERMOPLASTIC PAVEMENT MARKING

P. C.

6" WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" YELLOW
ENHANCED THERMOPLASTIC PAVEMENT MARKING

P. T. 7608+81.39

P. C. 7611+20.02

6" WHITE SKIP LINE
ENHANCED THERMOPLASTIC PAVEMENT MARKING
W/ RAISED PAVEMENT MARKERS 80' O.C.
TYPE II(WHITE/RED) ON DBL SKIP LINE

P. T. 7614+47.41

S 15°40'14" W

7620

7615

7610

P. C. 7619+31.98

P. C. 7618+46.12

P. I. 7612+84.12

12" WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING

POE 7608+84.56

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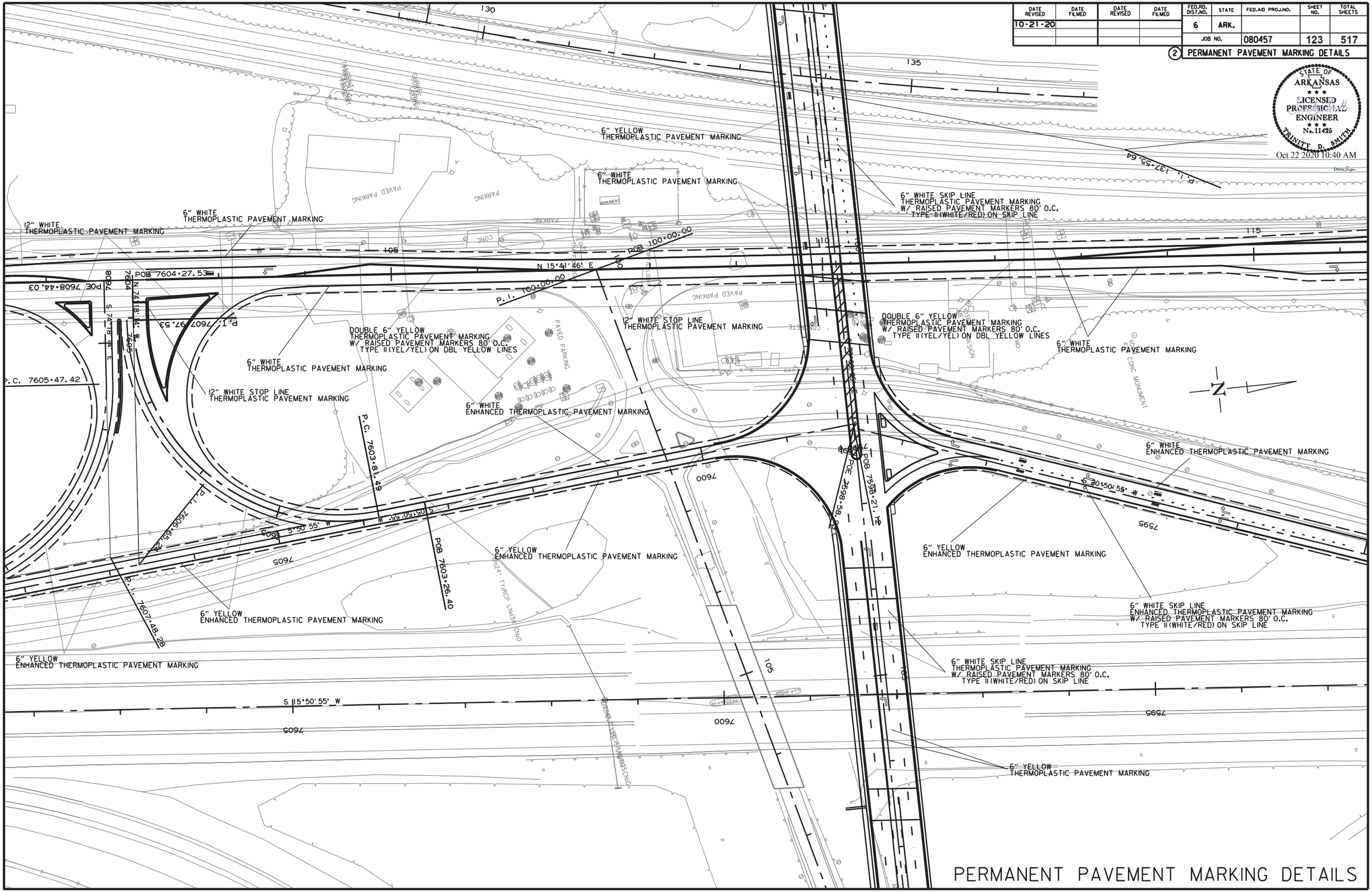
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	123	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:40 AM



PERMANENT PAVEMENT MARKING DETAILS

11/8/2011

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	124	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:40 AM
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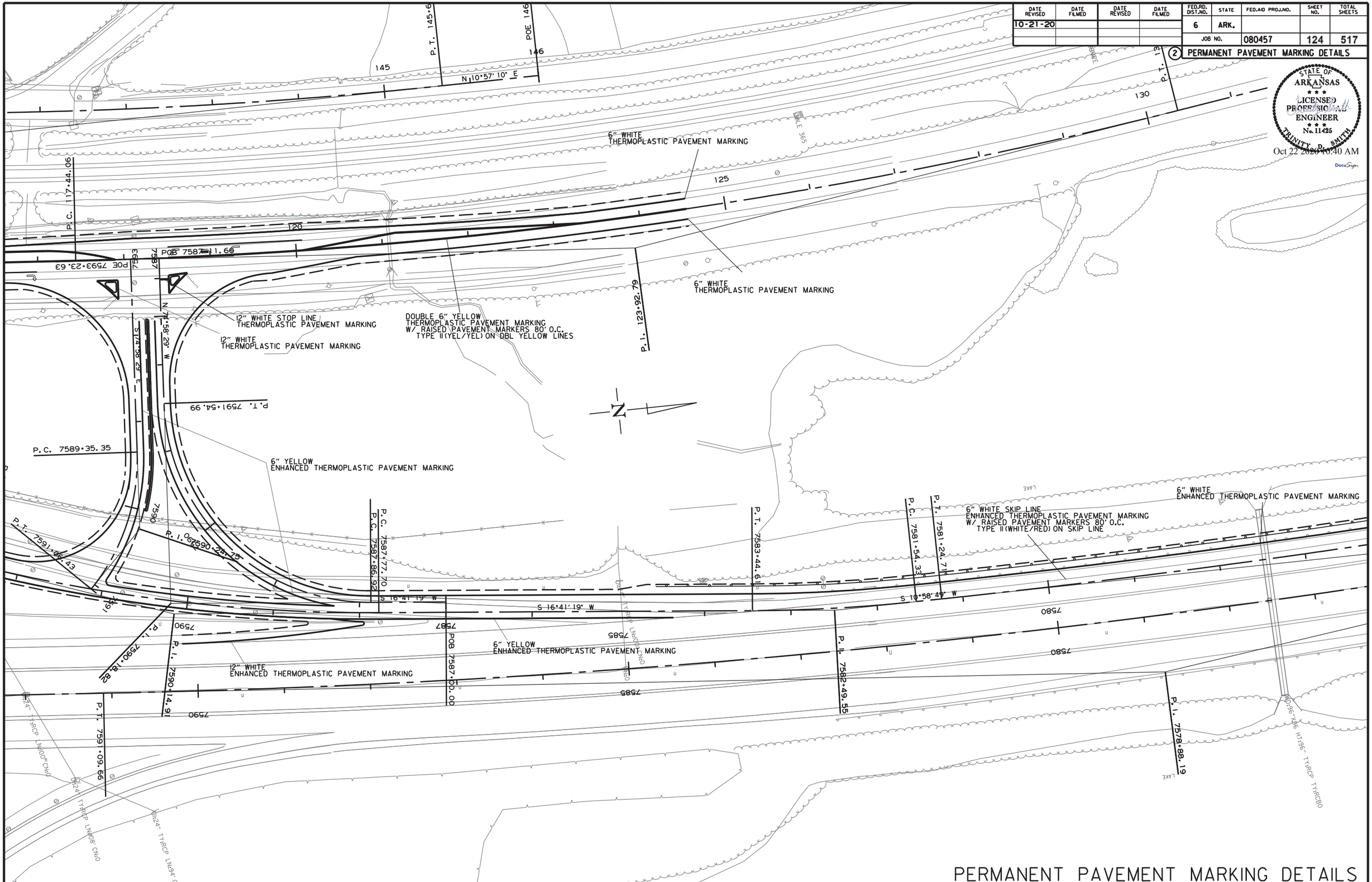

PERMANENT PAVEMENT MARKING DETAILS

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	125	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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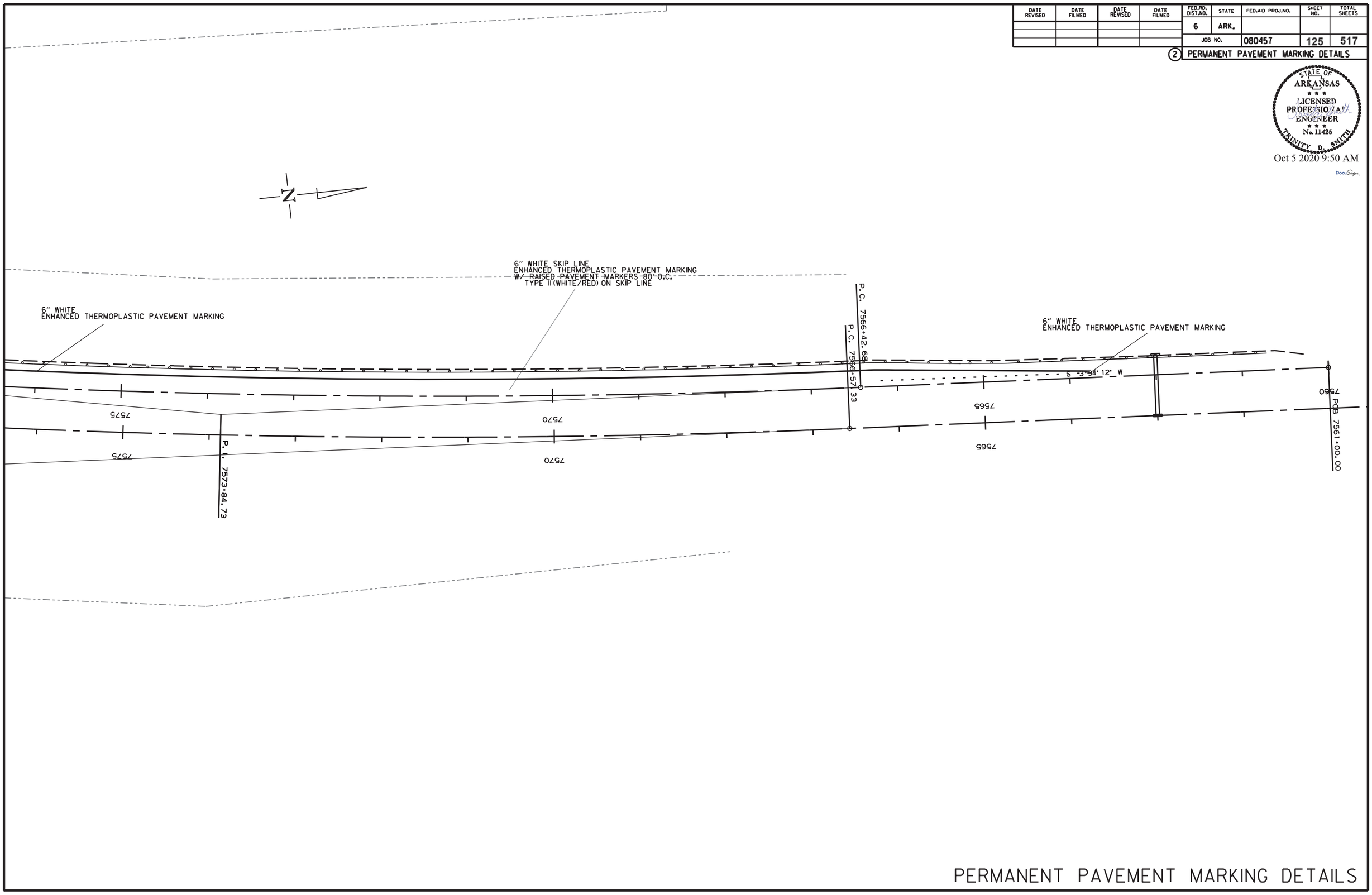

11/8/2011

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PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	126	517

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 9:50 AM
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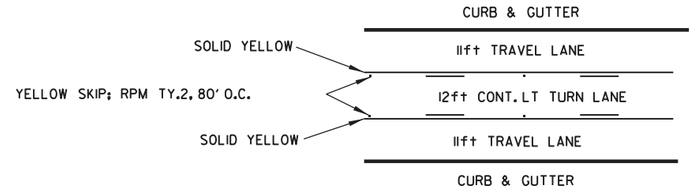
STPU-0023(44)

RAISED PAVEMENT MARKERS 80' O.C.
TYPE II (YEL/YEL) ON DBL YELLOW LINES = 91 EACH

THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 14190' LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (6") = 18564' LIN. FT.

REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (6") = 3560' LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (6") = 3343' LIN. FT.



3 LANE STRIPING
CURB AND GUTTER
CONTINUOUS LT. TURN LANE
LINE WIDTHS (6")

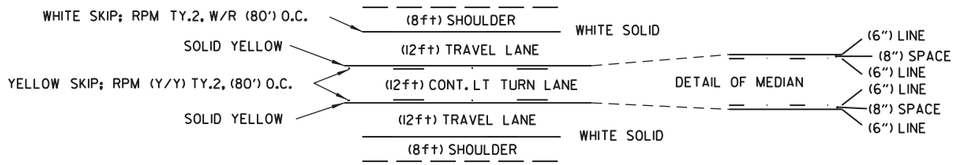
CMP-0023(44)

RAISED PAVEMENT MARKERS 80' O.C.
TYPE II (WHITE/RED) ON EXIT RAMP = 533 EACH
TYPE II (YEL/YEL) ON DBL YELLOW LINES = 156 EACH

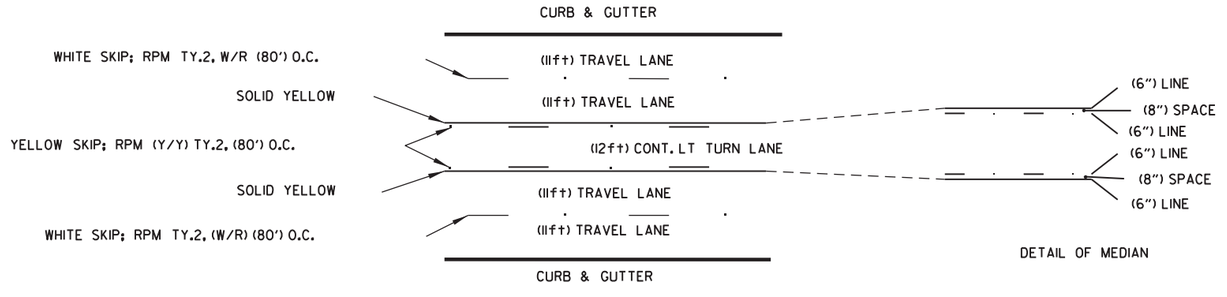
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 12184' LIN. FT.
ENHANCED THERMOPLASTIC PAVEMENT MARKING YELLOW (6") = 3109' LIN. FT.
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 3509' LIN. FT.

THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 10048' LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (6") = 16228' LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 1016' LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (12") = 1361' LIN. FT.
THERMOPLASTIC PAVEMENT MARKING (YIELD LINE) = 92 EACH
THERMOPLASTIC PAVEMENT MARKING (WORDS) = 12 EACH
THERMOPLASTIC PAVEMENT MARKING (ARROWS) = 26 EACH

REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (6") = 2246' LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (6") = 2396' LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (12") = 498' LIN. FT.



3 LANE STRIPING
OPEN SHOULDER
CONTINUOUS LT. TURN LANE
LINE WIDTHS (6")



5 LANE STRIPING
CURB AND GUTTER
CONTINUOUS LT. TURN LANE
LINE WIDTHS (6")

11/8/2011

ZBORDER.CEL

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	127	517

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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ADVANCE WARNING SIGNS AND DEVICES - CMF-0023(44)

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	* ADVANCE WARNING ARROW PANEL	* PORTABLE CHANGEABLE MESSAGE SIGN	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED
											RIGHT	LEFT								
			LIN. FT. - EACH				NO.	SQ. FT.	EACH				LIN. FT.		EACH		DAY	WEEK	EACH	LUMP SUM
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	4	4	64.0												
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	4	4	64.0												
W20-1	ROAD WORK 1500 FT.	48"x48"	8	8	8	8	8	128.0												
W20-1	ROAD WORK 1000 FT.	48"x48"	4	4	4	4	4	64.0												
W20-1	ROAD WORK 500 FT.	48"x48"	4	4	4	4	4	64.0												
W20-1	ROAD WORK AHEAD	48"x48"	18	18	20	20	20	320.0												
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"	2	2	2	2	2	32.0												
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	2	2	2	2	2	32.0												
W20-5	RIGHT LANE CLOSED 1500 FT.	48"x48"	2	2	2	2	2	32.0												
G20-2	END ROAD WORK	48"x24"	20	20	20	20	20	320.0												
G20-1	ROAD WORK NEXT xx MILES	60"x24"	4	4	4	4	4	40.0												
R11-2	ROAD CLOSED	48"x30"	15	25	7	25	25	250.0												
W1-6	LARGE ARROW	60"x30"	6	6	6	6	6	75.0												
R4-1	DO NOT PASS	24"x30"	8	8	8	8	8	40.0												
R4-2	PASS WITH CARE	24"x30"	8	8	8	8	8	40.0												
W21-5a	LEFT SHOULDER CLOSED	36"x36"	2	2	2	2	2	18.0												
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2	2	2	2	18.0												
R55-1	FINES DOUBLE IN WORK ZONE WHEN WORKERS ARE PRESENT	36"X60"	6	6	6	6	6	216.0												
SPECIAL	WORK WITH US SIGN (MOVE OVER, SLOW DOWN)	120"x60"	2	2	2	2	2	10.0												
SPECIAL	WORK WITH US SIGN (USE CAUTION, SLOW DOWN)	120"x60"	2	2	2	2	2	100.0												
SPECIAL	WORK WITH US SIGN (MOVE OVER, SLOW DOWN)	96"x48"																		
SPECIAL	WORK WITH US SIGN (USE CAUTION, SLOW DOWN)	96"x48"	8	8	8	8	8	256.0												
SPECIAL	CONSTRUCTION PROJECT INFORMATION SIGN	96"x 48"	10	10	10	10	10	320.0												
SPECIAL	MERGE NOW WITH ARROW	48"x48"	1	1	1	1	1	16.0												
R4-1	DO NOT PASS	48"x60"	4	4	4	4	4	80.0												
R2-5A	REDUCED SPEED AHEAD	48"x60"	2	2	2	2	2	40.0												
R2-1	SPEED LIMIT 70	48"x60"	2	2	2	2	2	40.0												
R2-1	SPEED LIMIT 60	48"x60"	2	2	2	2	2	40.0												
R2-1	TRUCKS 65	48"x60"	2	2	2	2	2	40.0												
W4-2R	RIGHT LANE REDUCTION TRAFFIC MUST MERGE	48"x60"	1	1	1	1	1	20.0												
	VERTICAL PANELS		62	148	29	148			148											
	TRAFFIC DRUMS		318	305	310	318				318										
	TYPE III BARRICADE-RT. (8')		2	4		4					32									
	TYPE III BARRICADE-LT. (8')		2	4		4						32								
	TYPE III BARRICADE-RT. (16')		5	10	1	10					160									
	TYPE III BARRICADE-LT. (16')		8	10	6	10						160								
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		4931			4931							4931							
	RELOCATING PRECAST CONCRETE BARRIER			3106		3106								3106						
	TEMPORARY IMPACT ATTENUATION BARRIER		1	1	1	3									3					
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR		1	1	1	3										3				
	ADVANCE WARNING ARROW PANEL		2	2	2	6											6			
	PORTABLE CHANGEABLE MESSAGE SIGN		2	2	2	6												6		
	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE																		50	
	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED																			1.00
TOTALS:								2779.0	148	318	192	192	4931	3106	3	3	6	6	50	1.00

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

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

ADVANCE WARNING SIGNS AND DEVICES - STPU-0023(44)

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)	
											RIGHT	LEFT
			LIN. FT. - EACH				NO.	SQ. FT.	EACH		LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	1	1	1	1	1	16.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	1	1	1	1	1	16.0				
W20-1	ROAD WORK 500 FT.	48"x48"	1	1	1	1	1	16.0				
W20-1	ROAD WORK AHEAD	48"x48"	2	2	2	2	2	32.0				
G20-2	END ROAD WORK	48"x24"	3	3	3	3	3	48.0				
R11-2	ROAD CLOSED	48"x30"	2	19		19	19	190.0				
	VERTICAL PANELS			48		48			48			
	TRAFFIC DRUMS			423		423				423		
	TYPE III BARRICADE-RT. (16')		1	10		10					160	
	TYPE III BARRICADE-LT. (16')		1	10		10						160
TOTALS:								318.0	48	423	160	160

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

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

7/27/2020

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
10-28-20				JOB NO.		080457	128	517
				(2) QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 5:59 PM
DocuSign

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS - STPU-0023(44)

DESCRIPTION	STAGE 3	STAGE 4	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING		REFLECTORIZED PAINT PAVEMENT MARKING	
					TYPE II	6"		6"	
					(YELLOW/YELLOW)	WHITE	YELLOW	WHITE	YELLOW
	LIN. FT. - EACH			LIN. FT.	EACH	LIN. FT.		LIN. FT.	
CONSTRUCTION PAVEMENT MARKINGS	4300	28600		32900					
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)			91		91				
THERMOPLASTIC PAVEMENT MARKING WHITE (6")			14190			14190			
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")			18564				18564		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")			3560					3560	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")			3343						3343
TOTALS:				32900	91	14190	18564	3560	3343

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

CLEARING AND GRUBBING - CMF-0023(44)

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
99+46	171+00	HIGHWAY 89 (SITE 2)	72	72
3+17	5+00	CARROL ROAD	2	2
7576+38	7597+12	HWY. 365 TO HWY. 89	21	21
7561+28	7598+59	EB EXIT TO HWY. 89	38	38
7600+00	7633+50	EASTBOUND ENTRANCE	34	34
96+00	124+55	HWY. 365	29	29
100+00	105+00	HIGHWAY 89 (SITE 1)	5	5
TOTALS:			201	201

CLEARING AND GRUBBING - STPU-0023(44)

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
171+00	201+54	HIGHWAY 89 (SITE 2)	31	31
80+00	83+00	ARKANSAS RIVER TRAIL	3	3
10+63	14+50	SNUGGS CIRCLE	4	4
30+51	32+00	SHADEL LANE (NORTH)	2	2
43+00	44+50	SHADEL LANE	2	2
60+00	61+35	SNUGGS CIRCLE (SOUTH)	2	2
70+35	75+00	SNUGGS CIRCLE (NORTH)	5	5
TOTALS:			49	49

REMOVAL AND DISPOSAL OF ITEMS - STPU-0023(44)

STATION	STATION	LOCATION	RETAINING WALLS	CONCRETE PAVEMENT	WALKS	BUILDINGS
			LIN. FT.	SQ. YD.	SQ. YD.	EACH
107+56	107+88	HIGHWAY 89 (SITE 2)		29		
109+81	110+05	HIGHWAY 89 (SITE 2)		72		
110+03	110+71	HIGHWAY 89 (SITE 2)				1
113+51	113+56	HIGHWAY 89 (SITE 2)			1	
114+46	114+83	HIGHWAY 89 (SITE 2)		57		
30+73	31+38	SHADEL LANE		179		
43+63	43+99	SHADEL LANE (NORTH)				1
44+46	44+64	SHADEL LANE (NORTH)				1
43+01	43+15	SHADEL LANE (NORTH)		20		
72+28	73+02	SNUGGS CIRCLE (NORTH)	120		12	2
130+94	131+19	HIGHWAY 89 (SITE 2)				1
133+42	134+01	HIGHWAY 89 (SITE 2)				2
TOTALS:			120	357	13	8

REMOVAL AND DISPOSAL OF ITEMS - CMF-0023(44)

STATION	STATION	LOCATION	CONCRETE ISLANDS	SIGN FOUNDATIONS	GUARDRAIL	BUILDINGS	SIGNS	PUMP ISLAND	CONCRETE MEDIAN BARRIER
			SQ. YD.	EACH	LIN. FT.	EACH	EACH	EACH	LIN. FT.
170+93	171+24	HIGHWAY 89 (SITE 2)				1			
173+16	173+52	HIGHWAY 89 (SITE 2)				1			
191+51	191+90	HIGHWAY 89 (SITE 2)	69						
191+51	191+84	HIGHWAY 89 (SITE 2)	68						
193+20	193+60	HIGHWAY 89 (SITE 2)	76						
194+11		HIGHWAY 89 (SITE 2)					1		
201+06	201+43	HIGHWAY 89 (SITE 2)				1			
201+13	201+38	HIGHWAY 89 (SITE 2)				1			
7561+91	7564+09	I-40 MEDIAN							218
7596+80	7600+89	I-40 MEDIAN							273
7567+34	7582+64	EASTBOUND ENTRANCE		2	1886		1		
7597+16		EASTBOUND ENTRANCE					1		
104+68		HWY. 365					1		
105+15		HWY. 365					1		
105+87		HWY. 365					1		
106+28		HWY. 365					1		
106+63		HWY. 365					2		
107+41		HWY. 365					2		
107+74	108+12	HWY. 365	95						
108+28	108+69	HWY. 365				1			
108+96	109+27	HWY. 365							
109+38	109+48	HWY. 365				1			
110+28	112+00	HWY. 365				2		4	
112+00		HWY. 365					1		
112+22		HWY. 365					1		
113+32		HWY. 365					2		
115+76		HWY. 365					2		
118+00		HWY. 365					2		
TOTALS:			308	2	1886	8	19	4	491

NOTE: THE QUANTITY SHOWN ABOVE FOR THE REMOVAL AND DISPOSAL OF GUARDRAIL SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL GUARDRAIL TERMINALS AND TERMINAL ANCHOR POSTS.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS - CMF-0023(44)

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	STAGE 4	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		ENHANCED THERMOPLASTIC PAVEMENT MARKING			THERMOPLASTIC PAVEMENT MARKING						REFLECTORIZED PAINT PAVEMENT MARKING		
									TYPE II	TYPE II	6"		12"	6"		12"				6"		12"
									(WHITE/RED)	(YELLOW/YELLOW)	WHITE	YELLOW	WHITE	WHITE	YELLOW	WHITE	YELLOW	YIELD LINE	WORDS	ARROWS	WHITE	YELLOW	WHITE
	LIN. FT. - EACH					LIN. FT.			EACH		LIN. FT.			LIN. FT.					EACH			LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS			4500	2337		6837																
CONSTRUCTION PAVEMENT MARKINGS		19681	1463	59600			30744															
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS				2500				2500														
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)					533				533													
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)					156					156												
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6")					12184						12184											
ENHANCED THERMOPLASTIC PAVEMENT MARKING YELLOW (6")					3109							3109										
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (12")					3509								3509									
THERMOPLASTIC PAVEMENT MARKING WHITE (6")					10298									10298								
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")					16878										16878							
THERMOPLASTIC PAVEMENT MARKING WHITE (12")					1016											1016						
THERMOPLASTIC PAVEMENT MARKING YELLOW (12")					1361												1361					
THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)					92													92				
THERMOPLASTIC PAVEMENT MARKING (WORDS)					14														14			
THERMOPLASTIC PAVEMENT MARKING (ARROWS)					28															28		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")					2246																2246	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")					2396																	2396
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12")					498																	498
TOTALS:						6837	30744	2500	533	156	12184	3109	3509	10298	16878	1016	1361	92	14	28	2246	2396	498

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 SITE 1.
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 LFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
10-28-20				JOB NO.		080457	129	517
10-29-20								

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 30 2020 1:39 PM
DocuSigned by:

REMOVAL AND DISPOSAL OF CULVERTS - CMF-0023(44)

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
98+65	18" x 20' PIPE CULV'T. - HWY. 365	1
100+72	18" x 20' PIPE CULV'T. - HWY. 365	1
104+00	18" x 40' PIPE CULV'T. - HWY. 365	1
104+91	18" x 44' PIPE CULV'T. - HWY. 365	1
106+07	18" x 40' PIPE CULV'T. - HWY. 365	1
106+95	18" x 40' PIPE CULV'T. - HWY. 365	1
116+88	18" x 40' PIPE CULV'T. - HWY. 365	1
174+38	10" x 16' PIPE CULV'T. - HWY. 89 (SITE 2)	1
193+00	24" x 92' PIPE CULV'T. - HWY. 89 (SITE 2)	1
193+50	24" x 68' PIPE CULV'T. - HWY. 89 (SITE 2)	1
199+43	18" x 40' PIPE CULV'T. - HWY. 89 (SITE 2)	1
200+75	18" x 40' PIPE CULV'T. - HWY. 89 (SITE 2)	1
103+43	18" x 24' PIPE CULV'T. - HWY. 89 (SITE 1)	1
105+70	18" x 30' PIPE CULV'T. - HWY. 89 (SITE 1)	1
107+60	18" x 24' PIPE CULV'T. - HWY. 89 (SITE 1)	1
110+45.00	18" x 24' PIPE CULV'T. - HWY. 89 (SITE 1)	1
300+40	18" x 54' PIPE CULV'T. - HWY. 89 DETOUR	1
301+43.62	18" x 22' PIPE CULV'T. - HWY. 89 DETOUR	1
305+56.63	18" x 24' PIPE CULV'T. - HWY. 89 DETOUR	1
TOTAL:		19

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

EARTHWORK - CMF-0023(44)

	STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMEN	ROCK FILL	* SOIL STABILIZATION
				CU. YD.		TONS	TON
	100+28.43	107+12.20	MAIN STREET CONNECTOR - STAGE 2	658	19810		
	96+60.00	124+55.18	HIGHWAY 365	2831	1951		
	7599+86.00	7601+00.00	EASTBOUND ENTRANCE	11199	34511		
	2+28.00	6+93.00	CARROL ROAD	175	1694		
	7587+35.66	7590+95.43	HWY. 365 TO EB EXIT	4501	552		
	7606+00.00	7608+81.39	HWY. 365 TO EB ENTRANCE CONNECTOR	6725			
	7588+28.35	7592+99.63	EB EXIT TO HWY. 365 CONNECTOR	7385	327		
	7587+86.81	7598+29.13	EB EXIT TO HWY. 89	3467	58981		
	7603+81.49	7606+75.00	HWY. 89 TO HWY. 365 CONNECTOR	4606	1392		
	300+46.16	308+79.10	HWY. 89 DETOUR (SITE 1)	311	1974		
	103+00.00	107+00.00	HWY. 89 (SITE 1)	390	1948		
	300+46.16	308+79.10	HWY. 89 DETOUR OBLITERATION (SITE 1)	2525	152		
	170+92.00	177+26.88	HWY. 89 (SITE 2)	4008	19254		
	180+75.10	184+11.26	HWY. 89 (SITE 2)		43938		
	188+00.00	201+54.06	HWY. 89 (SITE 2)	523	18407		
	195+00.00	199+00.00	HWY. 89 (SITE 2)			4964	
	104+80.00	105+20.00	CHANNEL CHANGE (SITE 1)	1547			
	ENTIRE	PROJECT	APPROACHES	60	1285		
*	ENTIRE	PROJECT	TO BE USED IF AND WHERE				500
			DIRECTED BY THE ENGINEER				
	TOTALS:			50911	206176	4964	500

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

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
SECTION 1												
103+00	34	57	40.50	92	26	42.90	6' RT.	0-5	24	9	A-4 (2)	RD/BR
103+75	34	57	40.30	92	26	33.10	18' RT.	0-5	ND	NP	A-4 (0)	BROWN
107+00	34	57	40.60	92	26	38.20	6' LT.	0-5	ND	NP	A-4 (0)	RD/BR
107+00	34	57	40.70	92	26	38.20	16' LT.	0-5	ND	NP	A-4 (0)	RD/BR
SECTION 2												
100+00	34	58	6.80	92	25	17.40	6' RT.	0-5	28	12	A-6 (9)	BROWN
100+00	34	58	6.80	92	25	17.20	24' RT.	0-5	21	8	A-4 (3)	BROWN
124+00	34	58	29.50	92	25	10.30	6' LT.	0-5	37	23	A-6 (16)	RD/BR
124+00	34	58	29.50	92	25	10.50	24' LT.	0-5	26	11	A-6 (5)	BROWN
138+00	34	58	20.90	92	25	15.00	5' RT.	0-5	27	12	A-6 (8)	BROWN
138+00	34	58	21.00	92	25	15.10	15' RT.	0-5	30	13	A-6 (9)	BROWN
194+57	34	58	14.90	92	24	57.30	6' LT.	0-5	38	25	A-6 (21)	RD/BR
304+00	34	58	10.30	92	25	12.50	CL. CONST.	0-5	44	31	A-7-6 (28)	BROWN
7590+71	34	58	20.50	92	25	9.50	CL. CONST.	0-5	35	17	A-6 (12)	RD/BR
7640+53	34	58	28.20	92	25	5.30	CL. CONST.	0-5	ND	NP	A-4 (0)	RD/BR
7604+53	34	58	28.20	92	25	5.30	CL. CONST.	0-5	28	15	A-6 (5)	RD/BR

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

REMOVAL AND DISPOSAL OF CULVERTS - STPU-0023(44)

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
81+52	24" x 54' PIPE CULV'T. - ARKANSAS RIVER TRAIL	1
61+00	12" x 20' PIPE CULV'T. - SNUGGS CIRCLE (SOUTH)	1
61+21	12" x 20' PIPE CULV'T. - SNUGGS CIRCLE (SOUTH)	1
43+12	12" x 26' PIPE CULV'T. - SHADEL LANE	1
43+63	12" x 24' PIPE CULV'T. - SHADEL LANE	1
101+38	18" x 24' PIPE CULV'T. - HWY. 89 (SITE 2)	1
102+64	18" x 24' PIPE CULV'T. - HWY. 89 (SITE 2)	1
103+41	18" x 24' PIPE CULV'T. - HWY. 89 (SITE 2)	1
105+24	18" x 34' PIPE CULV'T. - HWY. 89 (SITE 2)	1
106+93	18" x 38' PIPE CULV'T. - HWY. 89 (SITE 2)	1
114+00	24" x 18' PIPE CULV'T. - HWY. 89 (SITE 2)	1
131+68	24" x 24' PIPE CULV'T. - HWY. 89 (SITE 2)	1
TOTAL:		12

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

EARTHWORK - STPU-0023(44)

	STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMEN	* SOIL STABILIZATION
				CU. YD.		TON
	10+18.00	14+29.28	SNUGGS CIRCLE	4107		
	80+00.00	83+56.59	ARKANSAS RIVER TRAIL / HWY. 89	517	7	
	60+00.00	61+88.77	SNUGGS CIRCLE (SOUTH)	502	1	
	70+18.00	74+28.91	SNUGGS CIRCLE (NORTH)	4280		
	41+00.00	45+41.90	SHADEL LANE	503	1881	
	30+18.00	32+09.30	SHADEL LANE (NORTH)	470	42	
	98+46.01	170+92.00	HWY. 89 (SITE 2)	23574	83599	
	108+56.17	109+59.87	OLD HWY. 89 OBLITERATION (SITE 2)	93		
	ENTIRE	PROJECT	APPROACHES	560	115	
*	ENTIRE	PROJECT	TO BE USED IF AND WHERE			750
			DIRECTED BY THE ENGINEER			
	TOTALS:			34576	85645	750

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

CONCRETE DITCH PAVING - CMF-0023(44)

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
174+00.00	174+00.00	RT. SIDE OF HIGHWAY 89	10.00	5.00	6.67	4.44	0.06
177+14.30	177+55.33	TOP OF RETAINING WALL A	205.82	4.00	91.48	91.48	1.15
180+50.31	180+69.61	TOP OF RETAINING WALL B	221.48	4.00	98.44	98.44	1.24
184+12.95	184+32.25	TOP OF RETAINING WALL C	221.43	4.00	98.41	98.41	1.24
186+16.74	186+30.17	TOP OF RETAINING WALL D	154.12	4.00	68.50	68.50	0.86
194+50.00	194+50.00	LT. SIDE OF HIGHWAY 89	4.00	5.00	2.67	1.78	0.02
106+00.00	106+50.00	LT. SIDE OF MAIN STREET CONNECTOR	50.00	5.00	33.33	22.22	0.28
TOTALS:					399.50	385.27	4.85

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

REMOVAL OF EXISTING BRIDGE STRUCTURE - CMF-0023(44)

STATION	STATION	LOCATION	LUMP SUM
104+83.00	105+17.00	HWY. 89 BRIDGE NO. M3643 (SITE NO. 1)	1.00

DUMPED RIPRAP AND FILTER BLANKET - CMF-0023(44)

STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
		CU. YD.	SQ. YD.
176+50	OUTLET OF PIPE CULVERT	7	13
181+00	OUTLET OF PIPE CULVERT	7	13
181+00	OUTLET OF PIPE CULVERT	7	13
184+00	OUTLET OF PIPE CULVERT	7	13
184+00	OUTLET OF PIPE CULVERT	7	13
187+00	OUTLET OF PIPE CULVERT	7	13
	*TO BE USED IF AND WHERE	14	26
	DIRECTED BY THE ENGINEER		
TOTALS:		56	104

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

NOTE: FILTER BLANKET SHALL BE GEOTEXTILE FABRIC (TYPE 5).

EROSION CONTROL MATTING - CMF-0023(44)

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
191+99.25	194+49.25	RT. SIDE OF HIGHWAY 89	250.00	222.22
5+50.00	6+50.00	RT. SIDE OF HIGHWAY CARROL ROAD	100.00	88.89
116+00.00	117+00.00	LT. SIDE OF HIGHWAY 365	100.00	88.89
TOTAL:				400.00

NOTE: AVERAGE WIDTH = 8'-0"

EROSION CONTROL MATTING - STPU-0023(44)

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
12+00.00	13+00.00	LT. SIDE OF SNUGGS CIRCLE NORTH	100.00	88.89
TOTAL:				88.89

NOTE: AVERAGE WIDTH = 8'-0"

CONCRETE DITCH PAVING - STPU-0023(44)

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
101+00.00	101+00.00	RT. SIDE OF HIGHWAY 89	4.00	5.00	2.67	1.78	0.02
139+00.00	139+00.00	RT. SIDE OF HIGHWAY 89	4.00	5.00	2.67	1.78	0.02
144+25.00	144+25.00	RT. SIDE OF HIGHWAY 89	20.00	5.00	13.33	8.89	0.11
147+00.00	147+00.00	RT. SIDE OF HIGHWAY 89	6.00	5.00	4.00	2.67	0.03
150+00.00	150+00.00	RT. SIDE OF HIGHWAY 89	8.00	5.00	5.33	3.56	0.04
151+78.00	151+78.00	RT. SIDE OF HIGHWAY 89	14.00	5.00	9.33	6.22	0.08
153+00.00	153+00.00	RT. SIDE OF HIGHWAY 89	8.00	5.00	5.33	3.56	0.04
156+50.00	156+50.00	RT. SIDE OF HIGHWAY 89	36.00	5.00	24.00	16.00	0.20
161+00.00	163+50.00	LT. SIDE OF HIGHWAY 89	250.00	8.00	222.22	111.11	1.40
TOTALS:					288.88	155.57	1.94

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
105+00	R.C. BOX HEADWALL (HWY. 89 SITE 1)	1
177+25.76	BRIDGE END (HWY. 89 SITE 2)	1
184+11.26	BRIDGE END (HWY. 89 SITE 2)	1
7577+46.00	R.C. BOX HEADWALL (EB EXIT TO HWY. 89)	1
7621+10.00	R.C. BOX HEADWALL (EASTBOUND ENTRANCE	1
121+08.00	R.C. BOX HEADWALL (HWY. 365)	1
TOTAL:		6

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

GUARDRAIL - CMF-0023(44)

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH	
7561+71.00	7563+76.50	SHOULDER I-40 EASTBOUND	225	1	
7561+71.00	7584+57.00	RT. OF C.L. EB EXIT TO HWY. 89	2300		1
TOTALS:			2525	1	1

CONCRETE WALKS (TYPE SPECIAL) - STPU-0023(44)

STATION	STATION	LOCATION	CONCRETE WALKS (TYPE SPECIAL)	HAND RAILING	ARCHITECTURAL FINISH	TEXTURED COATING FINISH
			SQ. YD.	LIN. FT.	SQ. FT.	SQ. YD.
99+57.09	104+69.05	RT. SIDE OF HWY. 89	284	512	1280	104
TOTALS:			284	512	1280	104

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
10-28-20				JOB NO.		080457	130	517

(2) QUANTITIES

EROSION CONTROL - CMF-0023(44)

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	FILTER SOCK (12") (E-13)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING										704	135		60785	2328
ENTIRE	PROJECT	STAGE 1	18.00	36.00	18.00	1836.0	18.00		14.32	14.32	292.1	66	42		2725	118
ENTIRE	PROJECT	STAGE 2	44.00	88.00	44.00	4488.0	44.00		32.71	32.71	667.3	1342	186			123
ENTIRE	PROJECT	STAGE 3	6.00	12.00	6.00	626.1	6.00	111	1.27	1.27	25.9	66	33	230		23
ENTIRE	PROJECT	STAGE 4	12.35	24.70	12.35		12.35		2.55	2.55	52.0					
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			3.09	6.18	3.09	315.2	3.09		12.71	12.71	259.3	506	180	60	1000	122
TOTALS:			83.44	166.88	83.44	7265.30	83.44	111	63.56	63.56	1296.60	2684	576	290	64510	2714

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
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
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.

EROSION CONTROL - STPU-0023(44)

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	FILTER SOCK (12") (E-13)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING							35.44	35.44	723.0					
ENTIRE	PROJECT	STAGES 3							34.84							
ENTIRE	PROJECT	STAGES 4	17.70	35.40	17.70	1809.7	17.70	341	0.60	060	12.2	1166	237	50	27735	1029
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			4.43	8.86	4.43	451.9	4.43		17.72	20.00	361.5	550	60	10	500	19
TOTALS:			22.13	44.26	22.13	2261.6	22.13	341	18.32	20.60	373.7	1716	297	60	28235	1048

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
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

WHEELCHAIR RAMPS - CMF-0023(44)

STATION	LOCATION	TYPE 3
		SQ.YD.
171+00	LT. SIDE OF HWY. 89	6.1
171+00	RT. SIDE OF HWY. 89	6.1
173+43	LT. SIDE OF HWY. 89	8.7
174+10	RT. SIDE OF HWY. 89	8.7
174+21	LT. SIDE OF HWY. 89	8.7
174+62	LT. SIDE OF HWY. 89	8.9
174+94	RT. SIDE OF HWY. 89	8.0
175+65	LT. SIDE OF HWY. 89	9.1
181+06	RT. SIDE OF HWY. 89	10.8
181+38	LT. SIDE OF HWY. 89	10.9
181+69	LT. SIDE OF HWY. 89	6.5
182+09	LT. SIDE OF HWY. 89	7.4
183+10	LT. SIDE OF HWY. 89	7.4
183+25	RT. SIDE OF HWY. 89	10.9
191+65	RT. SIDE OF HWY. 89	4.3
191+77	RT. SIDE OF HWY. 89	4.3
192+16	LT. SIDE OF HWY. 89	8.3
192+27	RT. SIDE OF HWY. 89	8.0
192+40	LT. SIDE OF HWY. 89	5.8
192+40	RT. SIDE OF HWY. 89	6.2
192+81	RT. SIDE OF HWY. 89	10.0
194+34	RT. SIDE OF HWY. 89	9.9
199+16	LT. SIDE OF HWY. 89	6.1
TOTAL:		181.1

WHEELCHAIR RAMPS - STPU-0023(44)

STATION	LOCATION	TYPE 3
		SQ.YD.
99+52	LT. SIDE OF HWY. 89	6.1
99+52	RT. SIDE OF HWY. 89	6.1
104+75	LT. SIDE OF HWY. 89	6.1
104+75	RT. SIDE OF HWY. 89	6.1
TOTAL:		24.4

4" PIPE UNDERDRAIN - CMF-0023(44)

	STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
				LIN. FT.	EACH
*	ENTIRE PROJECT TO BE USED IF AND			6000	24
	WHERE DIRECTED BY THE ENGINEER				
	TOTALS:			6000	24

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

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

4" PIPE UNDERDRAIN - STPU-0023(44)

	STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
				LIN. FT.	EACH
*	ENTIRE PROJECT TO BE USED IF AND			3000	12
	WHERE DIRECTED BY THE ENGINEER				
	TOTALS:			3000	12

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

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

SELECTED PIPE BEDDING - CMF-0023(44)

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	170
ENGINEER	
TOTAL:	170

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

SELECTED PIPE BEDDING - STPU-0023(44)

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	170
ENGINEER	
TOTAL:	170

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

CONCRETE WALKS - CMF-0023(44)

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN. FT.	SQ.YD.
171+03.40	174+05.40	RT. SIDE OF HWY. 89	302	168
171+02.73	173+38.62	LT. SIDE OF HWY. 89	236	131
174+26.41	174+57.05	LT. SIDE OF HWY. 89	31	17
175+70.80	177+25.76	LT. SIDE OF HWY. 89	155	86
174+98.64	177+25.76	RT. SIDE OF HWY. 89	227	126
180+73.98	181+33.24	LT. SIDE OF HWY. 89	59	33
180+73.98	181+00.84	RT. SIDE OF HWY. 89	27	15
183+15.94	184+07.59	LT. SIDE OF HWY. 89	92	51
183+31.33	184+12.75	RT. SIDE OF HWY. 89	81	45
186+31.93	190+99.35	LT. SIDE OF HWY. 89	467	259
186+37.09	191+12.08	RT. SIDE OF HWY. 89	475	264
192+21.38	192+37.05	LT. SIDE OF HWY. 89	16	9
192+32.19	192+37.03	RT. SIDE OF HWY. 89	5	3
192+42.15	199+10.20	LT. SIDE OF HWY. 89	668	371
192+41.93	192+75.83	RT. SIDE OF HWY. 89	34	19
194+41.56	199+23.28	RT. SIDE OF HWY. 89	482	268
TOTAL:				1865

CONCRETE WALKS - STPU-0023(44)

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN. FT.	SQ.YD.
99+57.09	104+69.05	LT. SIDE OF HWY. 89	512	284
TOTAL:				284

CONCRETE COMBINATION CURB AND GUTTER - CMF-0023(44)

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
170+92	199+23.28	RT. SIDE OF HWY. 89	2533
170+92	199+23.28	LT. SIDE OF HWY. 89	2477
TOTAL:			5010

CONCRETE COMBINATION CURB AND GUTTER - STPU-0023(44)

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
99+46.01	104+80.25	RT. SIDE OF HWY. 89	534
99+46.01	104+80.25	LT. SIDE OF HWY. 89	534
TOTAL:			1068

CONCRETE ISLAND - CMF-0023(44)

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
			SQ.YD.
182+40.00	HWY. 89 LT.	D	250
191+72.73	HWY. 89 RT.	D	50
101+32.91	HWY. 365 TO EASTBOUND ENTRANCE	B	51
102+55.10	HWY. 89 TO HWY. 365 CONNECTOR	B	376
117+82.26	HWY. 365 TO HWY. 89	B	12
118+62.47	EASTBOUND EXIT TO HWY. 365	B	8
TOTAL:			747

MAILBOXES - CMF-0023(44)

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE) EACH	MAILBOX SUPPORTS (DOUBLE) EACH
ENTIRE PROJECT	19	15	2
TOTALS:	19	15	2

MAILBOXES - STPU-0023(44)

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE) EACH	MAILBOX SUPPORTS (DOUBLE) EACH
ENTIRE PROJECT	10	6	2
TOTALS:	10	6	2

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 6:00 PM
DocuSign

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
10-28-20				JOB NO.		080457	131	517
				(2) QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 6:00 PM
DocuSign

FENCING - CMF-0023(44)

STATION	STATION	LOCATION	WIRE FENCE (TYPE A)	* 5' CHAIN LINK FENCE	* 16'-0" GATES
			LIN. FT.		EACH
170+92.76	173+49.29	RT. OF HWY. 89		229	1
174+30.00	178+64.42	LT. OF HWY. 89	377		
179+67.43	180+13.16	LT. OF HWY. 89	19		
180+82.36	181+73.91	LT. OF HWY. 89	92		
98+98.86	104+55.00	LT. OF HWY. 365	632		
115+16.77	122+00.00	LT. OF HWY. 365	682		
109+08.52	112+87.30	RT. OF HWY. 365	136		
107+28.91	108+76.79	RT. OF HWY. 365	106		
		EB EXIT TO HWY. 365 CONNECTOR	1010		
		HWY. 365 TO HWY. 89 CONNECTOR	957		
		HWY. 89 TO HWY. 365 CONNECTOR	283		
		HWY. 365 TO EB ENTRANCE CONNECTOR	853		
TOTALS:			5147	229	1

* DENOTES ALTERNATE BID ITEM.

FENCING - STPU-0023(44)

STATION	STATION	LOCATION	WIRE FENCE (TYPE D)	WIRE FENCE (TYPE D-1)	* 4' CHAIN LINK FENCE	* 16'-0" GATES
			LIN FT.			EACH
101+67.70	106+64.22	LT. OF HWY. 89	497			
104+75.92	106+42.87	RT. OF HWY. 89			151	1
107+65.82	115+16.98	RT. OF HWY. 89		1476		
TOTALS:			497	1476	151	1

* DENOTES ALTERNATE BID ITEM.

APPROACH SLABS - CMF-0023(44)

STATION	STATION	LOCATION	APPROACH SLABS	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU.YD.	POUND	TON
176+90.38	177+26.88	APPROACH SIDE	180.00	21400	112.86
180+86.10	181+22.10	DEPARTURE SIDE	180.00	21400	112.86
183+74.76	184+11.26	APPROACH SIDE	139.90	16135	84.82
186+33.42	186+69.92	DEPARTURE SIDE	139.90	16135	84.82
TOTALS:			639.80	75070	395.36

COLD MILLING ASPHALT PAVEMENT - CMF-0023(44)

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
102+00.00	103+00.00	HWY. 89 (SITE 1)	20.00	222.22
107+00.00	108+00.00	HWY. 89 (SITE 1)	20.00	222.22
201+54.06	202+54.06	HWY. 89 (SITE 2)	20.00	222.22
6+93.00	7+93.00	CARROL STREET	20.00	222.22
95+60.00	96+60.00	HWY. 365	22.00	244.44
124+55.18	125+55.18	HWY. 365	22.00	244.44
TOTAL:				1377.76

NOTE: AVERAGE MILLING DEPTH 1".

COLD MILLING ASPHALT PAVEMENT - STPU-0023(44)

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
98+46.01	99+46.01	HWY. 89 (SITE 2)	20.00	222.22
79+00.00	80+00.00	ARKANSAS RIVER TRAIL / HWY. 89	20.00	222.22
14+29.28	15+29.28	SNUGGS CIRCLE	20.00	222.22
59+00.00	60+00.00	SNUGGS CIRCLE (SOUTH)	20.00	222.22
74+28.91	75+28.91	SNUGGS (NORTH)	20.00	222.22
40+00.00	41+00.00	SHADEL LANE	20.00	222.22
TOTAL:				1333.32

NOTE: AVERAGE MILLING DEPTH 1".

DRIVEWAYS & TURNOUTS - CMF-0023(44)

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS			STANDARD DRAWINGS
										18"	24"	21"X15"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.			
102+40	LT.	HWY. 89 (SITE 1)	16				67.77	7.45	27.67			28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
103+43	LT.	HWY. 89 (SITE 1)	16				69.35	7.63	28.32	28			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
105+70	LT.	HWY. 89 (SITE 1)	20				207.10	22.78	84.57	50			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
107+60	RT.	HWY. 89 (SITE 1)	20				105.37	11.59	43.03	44			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
109+50	LT.	HWY. 89 (SITE 1)	16				84.46	9.29	34.49	30			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
110+45	LT.	HWY. 89 (SITE 1)	38				97.33	10.71	39.74	58			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
98-65	LT.	HWY. 365	16				59.33	6.53	24.23	30			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
104+91	LT.	HWY. 365	34			146.76				50			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
105+50	RT.	HWY. 365	40			133.53						50	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
106+07	LT.	HWY. 365	36			136.84				50			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
106+95	LT.	HWY. 365	36			107.44				54			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
108+75	RT.	HWY. 365	24				222.60	24.49	90.90			34	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
2+50		CARROL ROAD									62		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
4+30	LT.	CARROL ROAD	16				89.19	9.81	36.42		32		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
174+46	RT.	HIGHWAY 89 (SITE 2)	20				217.84	23.96	88.95		82		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
191+64	LT.	HIGHWAY 89 (SITE 2)	16			394.81							
191+71	RT.	HIGHWAY 89 (SITE 2)	16			420.74							
193+50	RT.	HIGHWAY 89 (SITE 2)	24				619.67	68.16	253.03				
195+43	RT.	HIGHWAY 89 (SITE 2)	24				156.15	17.18	63.76				
200+75	RT.	HIGHWAY 89 (SITE 2)	28				163.49	17.98	66.76				
* ENTIRE PROJECT TEMPORARY DRIVES									180.00				
TOTALS:						1340.12	2159.65	237.56	1061.87	394	176	112	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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.

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

** FOR INFORMATION ONLY

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.

DRIVEWAYS & TURNOUTS - STPU-0023(44)

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS		STANDARD DRAWINGS
										18"	21"X15"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.		
13+00	LT.	SNUGGS CIRCLE	16				109.25	12.02	44.61		28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
13+71	RT.	SNUGGS CIRCLE	16				163.25	17.96	66.66			
61+00	RT.	SNUGGS CIRCLE	16				82.37	9.06	33.63	28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
73+52	RT.	SNUGGS CIRCLE	16				110.21	12.12	45.00		28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
70+50		SNUGGS CIRCLE (NORTH)								40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
30+32		SHADEL LANE (NORTH)								66		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
101+38	LT.	HIGHWAY 89 (SITE 2)	16	101+16	101+60	97.72				36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
102+64	RT.	HIGHWAY 89 (SITE 2)	16	102+42	102+86	59.48					28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
103+41	RT.	HIGHWAY 89 (SITE 2)	16	103+19	103+63	63.48					32	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
105+24	RT.	HIGHWAY 89 (SITE 2)	16				52.78	5.81	21.55		28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
108+20	LT.	HIGHWAY 89 (SITE 2)	18				85.96	9.46	35.10	36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
120+54	RT.	HIGHWAY 89 (SITE 2)	40				209.04	22.99	85.36	66		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
121+00	LT.	HIGHWAY 89 (SITE 2)	18				104.68	11.51	42.74	34		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
130+21	LT.	HIGHWAY 89 (SITE 2)	18				112.42	12.37	45.90		28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
134+00	RT.	HIGHWAY 89 (SITE 2)	18				88.08	9.69	35.97		28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
* ENTIRE PROJECT TEMPORARY DRIVES									150.00			
TOTALS:						220.68	1118.04	122.99	606.52	312	200	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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.

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

** FOR INFORMATION ONLY

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.

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	132	517

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 28 2020 6:00 PM

DocuSign

STRUCTURES - CMF-0023(44)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	(CLASS III) 24"	(CLASS III) 36"	(CLASS V) 48"	PIPE CULVERT ALTERNATES ALT. 1 (CLASS III) 24"	ALT. 2, 3, 4, 5, AND 6 24"	ALT. 1 (CLASS V) 24"	ALT.2, 3, 4, 5, AND 6 24"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	36"	48"	FLARED END SECTIONS ALTERNATES FOR PIPE CULVERT ALTERNATES 24"	TEMPORARY CULVERTS 18"	60"	21"X15"	DROP INLETS TYPE E	MO	ST	RM	EXT. 8'	12" ZINC COATED (GALVANIZED) CORR. STEEL PIPE CULVERTS (16 GAUGE)	CONCRETE SPILLWAY (TYPE A)	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.				LIN. FT.				EACH				EACH	LIN. FT.			EACH					LIN. FT.	EACH		LIN. FT.		CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL.	
104+64	IN PLACE 24" x 78' PIPE CULVERT. (HWY. 365)		8							1																					8	0.10	FES -1, FES-2, PCC-1
121+08	IN PLACE 3' x 3' x 58' R.C. BOX CULV'T. (HWY. 365)																														15	0.19	R-1004-A, RCB-1, RCB-2, RCB-3
5+50	CONSTRUCT 24" x 38' PIPE CULVERT (CARROL ROAD)							38	38	2				2																	16	0.20	FES -1, FES-2, FPC-9M, PCC-1, PCM-1
101+50	CONSTRUCT 24" x 120' PIPE CULVERT (MAIN STREET CONNECTOR)		120							2				2																	16	0.20	FES -1, FES-2, PCC-1
106+68	CONSTRUCT 24" x 68' PIPE CULVERT (MAIN STREET CONNECTOR)		68							2				2																	16	0.20	FES -1, FES-2, PCC-1
7587+79.00	CONSTRUCT TYPE ST DROP INLET (HWY. 365 TO EB EXIT)			184								2								1											34	0.43	FES -1, FES-2, FPC-9D, PCC-1
7590+50.00	CONSTRUCT TYPE RM DROP INLET IN MEDIAN		68							1																					8	0.10	FES -1, FES-2, FPC-9D, PCC-1
7577+48	IN PLACE 8' x 8' x 218' R.C. BOX CULVERT (EB EXIT TO HWY. 89)																							8	8	7	18.67	906	8	12	0.15	R-100X-X2, W-X003-1, RCB-1, RCB-2, RCB-3
7584+96	IN PLACE 24" x 100' R.C. PIPE (EB EXIT TO HWY. 89)		22							1																					8	0.10	FES -1, FES-2, PCC-1
7591+95	IN PLACE 24" x 216' R.C. PIPE CULVERT 30° RT. FWD. SKEW (EB EXIT TO HWY. 89)		6																														FPC-9M, PCC-1, PCM-1
7592+29.76	CONSTRUCT DROP INLET TYPE E (EB EXIT TO HWY. 89)																	1															FPC-9
7603+00	CONSTRUCT 24" x 112' R.C. PIPE CULVERT (EASTBOUND ENTRANCE)		112							2																					16	0.20	FES -1, FES-2, PCC-1
7603+50	IN PLACE 24" x 124' R.C. PIPE OUTLET (EASTBOUND ENTRANCE)		46							1																					8	0.10	FES -1, FES-2, PCC-1
7603+62	IN PLACE 24" x 184' R.C. PIPE OUTLET (EASTBOUND ENTRANCE)		2																														FPC-9, PCC-1
7609+97	IN PLACE 24" x 100' R.C. PIPE OUTLET (EASTBOUND ENTRANCE)		58							1																					8	0.10	FES -1, FES-2, PCC-1
7621+10	DBL. 8' x 6' x 264' R.C. BOX CULVERT (EASTBOUND ENTRANCE)																							8	6	24	41.25	5875	22	12	0.15	R-200X-0, W-X003-1, RCB-1, RCB-2, RCB-3
7628+04	IN PLACE 24" x 88' R.C. PIPE CULVERT (EASTBOUND ENTRANCE)		14							1																					8	0.10	FES -1, FES-2, PCC-1
7604+50	CONSTRUCT 24" x 168' PIPE CULVERT (HWY. 89 TO HWY. 365 CONNECTOR)		168							2																					16	0.20	FES -1, FES-2, PCC-1
7606+50	CONSTRUCT DROP INLET TYPE RM (HWY. 89 TO HWY. 365 CONNECTOR)	90								1										1											5	0.06	FES -1, FES-2, FPC-9D, PCC-1
7590+50	CONSTRUCT DROP INLET TYPE RM (EB EXIT TO HWY. 365)	72								1										1											8	0.10	FES -1, FES-2, FPC-9D, PCC-1
300+40	INSTALL TEMP. 21" x 15" x 28' PIPE CULVERT (HWY. 89 SITE 1 DETOUR)																28															PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
301+44	INSTALL TEMP. 18" x 28' PIPE CULVERT (HWY. 89 SITE 1 DETOUR)														28																	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
303+78	INSTALL TEMP. 18" x 44' PIPE CULVERT (HWY. 89 SITE 1 DETOUR)														44																	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
303+79	INSTALL TEMP. TRI 60" x 94' PIPE CULVERT 25° RT. FORWARD SKEW (HWY. 89 SITE 1 DETOUR)															282																PCC-1, PCM-1, PCP-3
305+57	INSTALL TEMP. 18" x 30' PIPE CULVERT (HWY. 89 SITE 1 DETOUR)														30																	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
305+69	INSTALL TEMP. 18" x 58' PIPE CULVERT (HWY. 89 SITE 1 DETOUR)														58																	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
172+65	CONSTRUCT D. I. ON RT (HWY. 89 SITE 2)	10																1			1										5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
174+00	CONSTRUCT D. I. ON RT (HWY. 89 SITE 2)	10								1								1													5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
176+50	CONSTRUCT D. I. ON RT. (HWY. 89 SITE 2)																	1					50	1							8	0.10	FPC-9E, FPC-9M, FPC-9N
176+50	CONSTRUCT D. I. ON LT. (HWY. 89 SITE 2)																	1					62	1							8	0.10	FPC-9E, FPC-9M, FPC-9N
181+00	CONSTRUCT D. I. ON LT. (HWY. 89 SITE 2)																	1					70	1									FPC-9E, FPC-9M, FPC-9N
181+00	CONSTRUCT D. I. ON RT. (HWY. 89 SITE 2)																	1					76	1									FPC-9E, FPC-9M, FPC-9N
184+00	CONSTRUCT D. I. ON LT. (HWY. 89 SITE 2)																	1					76	1									FPC-9E, FPC-9M, FPC-9N
184+00	CONSTRUCT D. I. ON RT. (HWY. 89 SITE 2)																	1					74	1									FPC-9E, FPC-9M, FPC-9N
186+50	CONSTRUCT D. I. ON LT. (HWY. 89 SITE 2)		24							1								1													8	0.10	FES -1, FES-2, FPC-9D, PCC-1
187+00	CONSTRUCT D. I. ON LT. (HWY. 89 SITE 2)																	1					40	1									FPC-9E, FPC-9M, FPC-9N
190+00	CONSTRUCT D. I. ON LT. (HWY. 89 SITE 2)		14							1								1															FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
193+00	CONSTRUCT 24" x 96' R.C. PIPE CULVERT (HWY. 89 SITE 2)		94							1																							FES -1, FES-2, PCC-1
193+20	CONSTRUCT TYPE E DROP INLET (HWY. 89 SITE 2)																	1															FPC-9
193+50	CONSTRUCT 24" x 96' R.C. PIPE CULVERT (HWY. 89 SITE 2)		96							1																					8	0.10	FES -1, FES-2, PCC-1
194+50	CONSTRUCT D. I. ON LT. (HWY. 89 SITE 2)		14							1								1													8	0.10	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
197+30	IN PLACE DBL. 48" x 60' R.C. PIPE CULVERT (HWY. 89 SITE 2)				28								4																		62	0.78	FES -1, FES-2, PCC-1
SUBTOTALS:		182	934	184	28			38	38	2	22	2	4	6	160	282	28	2	12	1	2	1	448	7				72.41	7676	41	326	4.08	
	STRUCTURES OVER 20' - 0" SPAN																																
105+00	CONSTRUCT TRI. 10' x 5' x 74' R.C. BOX CULVERT (HWY. 89 SITE 1)																							10	5	86	230.44	35728	110	30	0.38	SPECIAL DETAILS
SUBTOTALS:																											230.44	35728	110	30	0.38	
TOTALS:		182	934	184	28			38	38	2	22	2	4	6	160	282	28	2	12	1	2	1	448	7				302.85	43404	151	356	4.46	

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.

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
10-28-20				JOB NO.		080457	133	517

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 6:00 PM
DocuSign

RUMBLE STRIPS IN ASPHALT SHOULDERS - CMF-0023(44)

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
102+00.00	105+14.70	RT. SIDE OF HWY. 89 (SITE 1)	314.70
106+24.70	107+04.95	RT. SIDE OF HWY. 89 (SITE 1)	80.25
102+00.00	102+07.93	LT. SIDE OF HWY. 89 (SITE 1)	7.93
102+72.93	103+10.87	LT. SIDE OF HWY. 89 (SITE 1)	37.94
103+70.74	109+17.21	LT. SIDE OF HWY. 89 (SITE 1)	546.47
109+83.00	110+03.27	LT. SIDE OF HWY. 89 (SITE 1)	20.27
199+79.99	200+34.02	RT. SIDE OF HWY. 89 (SITE 2)	54.03
201+11.45	202+54.06	RT. SIDE OF HWY. 89 (SITE 2)	142.61
199+50.00	202+54.06	LT. SIDE OF HWY. 89 (SITE 2)	304.06
95+60.00	98+32.18	LT. SIDE OF MAIN STREET	272.18
98+96.85	104+49.00	LT. SIDE OF MAIN STREET	552.15
105+31.38	105+64.00	LT. SIDE OF MAIN STREET	32.62
106+48.28	106+52.00	LT. SIDE OF MAIN STREET	3.72
107+37.59	125+55.18	LT. SIDE OF MAIN STREET	1817.59
95+60.00	100+29.42	RT. SIDE OF MAIN STREET	469.42
103+79.63	105+61.00	RT. SIDE OF MAIN STREET	181.37
106+39.00	116+94.00	RT. SIDE OF MAIN STREET	1055.00
119+57.69	125+55.18	RT. SIDE OF MAIN STREET	597.49
7563+76.31	7584+36.53	RT. SIDE OF EB EXIT TO HWY. 89 CONNECTOR	2060.22
7613+00.00	7633+36.71	RT. SIDE OF EASTBOUND ENTRANCE	2036.71
TOTAL:			10586.73

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

RUMBLE STRIPS IN ASPHALT SHOULDERS - STPU-0023(44)

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
98+46.01	99+08.39	RT. SIDE OF HWY. 89 (SITE 2)	62.38
99+39.63	102+37.31	RT. SIDE OF HWY. 89 (SITE 2)	297.68
102+91.19	103+14.31	RT. SIDE OF HWY. 89 (SITE 2)	23.12
103+68.19	104+93.37	RT. SIDE OF HWY. 89 (SITE 2)	125.18
105+57.03	106+92.06	RT. SIDE OF HWY. 89 (SITE 2)	135.03
108+01.28	115+22.46	RT. SIDE OF HWY. 89 (SITE 2)	721.18
116+26.95	120+38.17	RT. SIDE OF HWY. 89 (SITE 2)	411.22
121+04.59	130+45.00	RT. SIDE OF HWY. 89 (SITE 2)	940.41
131+55.27	133+66.00	RT. SIDE OF HWY. 89 (SITE 2)	210.73
134+34.00	170+92.00	RT. SIDE OF HWY. 89 (SITE 2)	3658.00
98+46.01	99+05.63	LT. SIDE OF HWY. 89 (SITE 2)	59.62
108+53.70	110+16.29	LT. SIDE OF HWY. 89 (SITE 2)	162.59
110+83.71	114+42.77	LT. SIDE OF HWY. 89 (SITE 2)	359.06
115+57.44	120+66.12	LT. SIDE OF HWY. 89 (SITE 2)	508.68
121+33.88	129+87.41	LT. SIDE OF HWY. 89 (SITE 2)	853.53
133+30.52	170+92.00	LT. SIDE OF HWY. 89 (SITE 2)	3761.48
TOTAL:			12289.89

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

REMOVAL OF RUMBLE STRIP - CMF-0023(44)

STATION	STATION	LOCATION	* REMOVAL OF RUMBLE STRIP
			LIN.FT.
7563+76.31	7584+36.53	RT. SIDE OF EB EXIT TO HWY. 89 CONNECTOR	2060
7608+54.40	7633+36.71	RT. SIDE OF EASTBOUND ENTRANCE	2482
TOTAL:			4542

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

ACHM PATCHING OF EXISTING ROADWAY - CMF-0023(44)

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	112
DIRECTED BY THE ENGINEER	
TOTAL:	112

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

ACHM PATCHING OF EXISTING ROADWAY - STPU-0023(44)

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	15
DIRECTED BY THE ENGINEER	
TOTAL:	15

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

CONCRETE BARRIER WALL - CMF-0023(44)

STATION	STATION	LOCATION	CONCRETE BARRIER WALL MEDIAN TYPE A	CONCRETE BARRIER WALL MEDIAN TYPE B
			LIN. FT.	LIN. FT.
7587+83	7590+00	HWY. 365 TO EB ENTRANCE EXIT		217
7604+74	7606+00	HWY. 365 TO EB ENTRANCE RAMP		126
7561+91	7564+09	I-40 MEDIAN	218	
7596+80	7600+89	I-40 MEDIAN	200	
TOTAL:			418	343

ANIMAL PASSAGE SHELVES FOR WILDLIFE CROSSINGS - CMF-0023(44)

STATION	DESCRIPTION	ANIMAL PASSAGE SHELF FURNISH & INSTALL	ANIMAL PASSAGE SHELF REMOVE & REINSTALL	ANIMAL PASSAGE SHELF REMOVE & DISPOSE
		LIN. FT.		
7577+46	8' x 8' x 218' R.C. BOX W/ 1 SHELF & 4 RAMPS	50	20	20
7621+10	8' x 6' x 268' R.C. BOX W/ 1 SHELF & 4 RAMPS	90	40	40
TOTALS:		140	60	60

RETAINING WALLS - CMF-0023(44)

LOCATION	DESCRIPTION	UNCLASSIFIED EXCAVATION	AGGREGATE BASE COURSE (CLASS 7)	SELECT GRANULAR BACKFILL	RETAINING WALL	TEXTURED COATING FINISH
		CU. YD.	TON	CU. YD.	SQ. FT.	SQ. YD.
WALL AT BENT 1	WALL A	141		1359	3170	292
WALL AT BENT 4	WALL B	141		1660	3610	342
WALL AT BENT 1	WALL C	141		2000	4032	389
WALL AT BENT 3	WALL D	98	181	663	1804	160
TOTALS:		521	181	5682	12616	1183

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC - CMF-0023(44)

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	112	224
DIRECTED BY THE ENGINEER		
TOTALS:	112	224

BASIS OF ESTIMATE:
SEE SECTION 104.03 OF THE STD. SPECS.
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC....25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL/MILE

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC - STPU-0023(44)

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

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC....25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL/MILE

STRUCTURES - STPU-0023(44)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE	PIPE CULVERT ALTERNATES										PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2	FLARED END SECTIONS FOR R.C. PIPE CULVERTS		FLARED END SECTIONS ALTERNATES FOR PIPE CULVERT ALTERNATES		DROP INLETS TYPE					SOLID SODDING	WATER	STD. DWG. NOS.
		(CLASS III)	ALT. 1 (CLASS III)	ALT. 2, 3, 4, 5, AND 6	ALT. 1 (CLASS III)	ALT. 2, 3, 4, AND 5	ALT. 1 (CLASS IV)	ALT. 2, 3, AND 4	ALT. 1 (CLASS V)	ALT. 2, 3, 4, 5, AND 6	ALT. 1 (CLASS V)	ALT. 2, 3, 4, 5, AND 6		18"	29"X18"	18"	24"	E	MO	ST	RM	SPECIAL			
		18"	24"	24"	42"	42"	29"X18"	29"X18"	18"	18"	24"	24"	18"	EACH		EACH		EACH					SQ.YD.	M.GAL.	
11+00	CONSTRUCT 28" x 20" x 34' PIPE CULVERT (SNUGGS CIRCLE)						34	34							2								16	0.20	FES -1, FES-2, FPC-9M, PCC-1, PCM-1
43+12	CONSTRUCT 18" x 70' PIPE CULVERT (SHADEL LANE)	70												2									10	0.13	FES -1, FES-2, PCC-1
43+62	CONSTRUCT 18" x 58' PIPE CULVERT (SHADEL LANE)	58												2									10	0.13	FES -1, FES-2, PCC-1
101+00	CONSTRUCT DROP INLET TYPE SPECIAL ON LT. (HWY. 89 SITE 2)																					1			SPECIAL DETAILS
102+00	CONSTRUCT DROP INLET ON LT. (HWY. 89 SITE 2)	8												1					1				5	0.05	FES -1, FES-2, FPC-9M, PCC-1, PCM-1
102+00	CONSTRUCT DROP INLET ON RT. (HWY. 89 SITE 2)	42												1					1				5	0.05	FES -1, FES-2, FPC-9M, PCC-1, PCM-1
103+00	CONSTRUCT DROP INLET ON RT. (HWY. 89 SITE 2)	6											100	1					1				5	0.05	FES -1, FES-2, FPC-9M, PCC-1, PCM-1
104+00	CONSTRUCT DROP INLET ON RT. (HWY. 89 SITE 2)	6											100	1											
108+00	CONSTRUCT 24" x74' PIPE CULVERT (HWY. 89 SITE 2)		74	74													2						16	0.20	FES -1, FES-2, PCC-1
112+97	CONSTRUCT DBL. 24" x 170' PIPE CULVERT (HWY. 89 SITE 2)		340	340													4						16	0.20	FES -1, FES-2, PCC-1
122+72	CONSTRUCT DBL. 24" x 94' PIPE CULVERT (HWY. 89 SITE 2)		188	188												2	4						10	0.13	FES -1, FES-2, PCC-1
125+68	CONSTRUCT 24" x 76' PIPE CULVERT (HWY. 89 SITE 2)		76	76												2							10	0.13	FES -1, FES-2, PCC-1
130+50	CONSTRUCT 18" x 70' PIPE CULVERT (HWY. 89 SITE 2)								70	70						2							10	0.13	FES -1, FES-2, PCC-1
131+50	CONSTRUCT TRI. 24" x 72' PIPE CULVERT (HWY. 89 SITE 2)										216	216					6						10	0.13	FES -1, FES-2, PCC-1
136+50	CONSTRUCT 24" x 74' PIPE CULVERT (HWY. 89 SITE 2)										74	74				2							10	0.13	FES -1, FES-2, PCC-1
139+00	CONSTRUCT 24" x 80' PIPE CULVERT (HWY. 89 SITE 2)										80	80				2							10	0.13	FES -1, FES-2, PCC-1
142+00	CONSTRUCT 24" x 98' PIPE CULVERT (HWY. 89 SITE 2)		98	98													2						16	0.20	FES -1, FES-2, PCC-1
144+25	CONSTRUCT 24" x 86' PIPE CULVERT (HWY. 89 SITE 2)		86	86												2							10	0.13	FES -1, FES-2, PCC-1
147+00	CONSTRUCT 24" x 88' PIPE CULVERT (HWY. 89 SITE 2)		88	88												2							16	0.20	FES -1, FES-2, PCC-1
151+78	CONSTRUCT 24" x 100' PIPE CULVERT (HWY. 89 SITE 2)		100	100												2							16	0.20	FES -1, FES-2, PCC-1
153+00	CONSTRUCT 24" x 80' PIPE CULVERT (HWY. 89 SITE 2)										80	80				2							10	0.13	FES -1, FES-2, PCC-1
155+13	CONSTRUCT 24" x 134' PIPE CULVERT (HWY. 89 SITE 2)		134	134													2						16	0.20	FES -1, FES-2, PCC-1
156+50	CONSTRUCT 24" x 88' PIPE CULVERT (HWY. 89 SITE 2)		88	88													2						16	0.20	FES -1, FES-2, PCC-1
158+50	CONSTRUCT 24" x 120' PIPE CULVERT (HWY. 89 SITE 2)		120	120													2						16	0.20	FES -1, FES-2, PCC-1
167+00	CONSTRUCT 42" x 112' PIPE CULVERT (HWY. 89 SITE 2)				104	104											2						16	0.20	FES -1, FES-2, PCC-1
TOTALS:		190	1392	1392	104	104	34	34	70	70	450	450	200	8	2	18	26		3			1	275	3.48	

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.

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	134	517

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:49 AM

DocuSign

BASE AND SURFACING (BOX 1 OF 2) - CMF-0023(44)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BASE COURSE (1 1/2")					ACHM BINDER COURSE (1")					ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	TOTAL PG 64-22	TOTAL PG 76-22
			FEET			TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET			TON	TON	FEET			TON	TON	FEET			TON	TON	FEET			TON	TON	TON	TON
MAIN LANES																																	
102+00.00	103+00.00	TRANSITION	100.00	78.50	78.50	34.71	385.67	19.28				19.28						17.46	194.00	385.00	37.35		17.25	191.67	220.00	21.08		32.00	355.56	220.00	39.11		60.19	
103+00.00	107+00.00	2 LANES FULL DEPTH - HWY. 89 SECTION 1	400.00	234.75	939.00	48.71	2164.89	108.24				108.24						24.46	1087.11	385.00	209.27		24.25	1077.78	220.00	118.56		40.00	1777.78	220.00	195.56		314.12	
107+00.00	108+00.00	TRANSITION	100.00	78.50	78.50	34.71	385.67	19.28				19.28						17.46	194.00	385.00	37.35		17.25	191.67	220.00	21.08		32.00	355.56	220.00	39.11		60.19	
170+92.00	175+50.00	5 LANE FULL DEPTH SUPERELEVATION - HWY. 89	458.00	237.25	1086.61	112.00	5699.56	284.98				284.98						56.00	2849.78	440.00	626.95		56.00	2849.78	220.00	313.48		56.00	2849.78	220.00	313.48		626.96	
175+50.00	176+32.33	5 LANE FULL DEPTH TO 6 LANES TRANSITION SUPERELEVATION - HWY. 89	82.33	258.75	213.03	123.00	1125.18	56.26				56.26						61.50	562.59	440.00	123.77		61.50	562.59	220.00	61.88		61.50	562.59	220.00	61.88		123.76	
176+32.33	176+83.25	6 LANES FULL DEPTH - HWY. 89	50.92	280.00	142.58	134.00	758.14	37.91				37.91						67.00	379.07	440.00	83.40		67.00	379.07	220.00	41.70		67.00	379.07	220.00	41.70		83.40	
181+18.73	183+44.09	6 LANES FULL DEPTH TO 5 LANES TRANSITION - HWY. 89	225.36	258.75	583.12	123.00	3079.92	154.00				154.00						61.50	1539.96	440.00	338.79		61.50	1539.96	220.00	169.40		61.50	1539.96	220.00	169.40		338.80	
183+44.09	184+11.26	5 LANE FULL DEPTH - HWY. 89	67.17	237.25	159.36	112.00	835.89	41.79				41.79						56.00	417.95	440.00	91.95		56.00	417.95	220.00	45.97		56.00	417.95	220.00	45.97		91.94	
186+33.42	186+47.80	5 LANE FULL DEPTH - HWY. 89	14.38	237.25	34.12	112.00	178.95	8.95				8.95						56.00	89.48	440.00	19.69		56.00	89.48	220.00	9.84		56.00	89.48	220.00	9.84		19.68	
186+47.80	191+00.00	5 LANE FULL DEPTH SUPERELEVATION - HWY. 89	452.20	237.25	1072.84	112.00	5627.38	281.37				281.37						56.00	2813.69	440.00	619.01		56.00	2813.69	220.00	309.51		56.00	2813.69	220.00	309.51		619.02	
191+00.00	192+48.50	5 LANES NOTCH AND WIDENING SUPERELEVATION - HWY. 89	148.50	159.50	236.86	72.00	1188.00	59.40				59.40						36.00	594.00	440.00	130.68		36.00	594.00	220.00	65.34		56.00	924.00	220.00	101.64		166.98	
192+48.50	194+48.50	5 LANES CURB AND GUTTER TO 2 LANES NOTCH AND WIDENING SUPERELEVATION - HWY. 89	200.00	144.00	288.00	64.00	1422.22	71.11				71.11						32.00	711.11	440.00	156.44		32.00	711.11	220.00	78.22		52.00	1155.56	220.00	127.11		205.33	
194+48.50	195+27.83	5 LANES CURB AND GUTTER TO 2 LANES NOTCH AND WIDENING SUPERELEVATION - HWY. 89	79.33	89.50	71.00	36.00	317.32	15.87				15.87						18.00	158.66	440.00	34.91		18.00	158.66	220.00	17.45		38.00	334.95	220.00	36.84		54.29	
195+27.83	197+88.50	5 LANES CURB AND GUTTER TO 2 LANES NOTCH AND WIDENING NORMAL CROWN - HWY. 89	260.67	89.50	233.30	36.00	1042.68	52.13				52.13						18.00	521.34	440.00	114.69		18.00	521.34	220.00	57.35		38.00	1100.61	220.00	121.07		178.42	
197+88.50	199+49.06	5 LANES CURB AND GUTTER TO 2 LANES NOTCH AND WIDENING NORMAL CROWN - HWY. 89	160.56	109.25	175.41	12.75	227.46	11.37				11.37						6.50	115.96	440.00	25.51		6.25	111.50	220.00	12.27		34.00	606.56	220.00	66.72		78.99	
199+49.06	201+54.06	2 LANES NOTCH AND WIDENING NORMAL CROWN - HWY. 89	205.00	166.00	332.00	8.75	199.31	9.97				9.97						4.50	102.50	440.00	22.55		4.25	96.81	220.00	10.65		40.00	911.11	220.00	100.22		110.87	
201+54.06	202+54.06	TRANSITION	100.00	48.00	48.00	8.00	88.89	4.44				4.44						4.00	44.44	440.00	9.78		4.00	44.44	220.00	4.89		24.00	266.67	220.00	29.33		34.22	
100+28.43	107+12.20	MAIN STREET CONNECTOR	683.77	243.75	1666.69	48.75	3703.75	185.19				185.19						24.50	1861.37	440.00	409.50		24.25	1842.38	220.00	202.66		40.00	3038.98	220.00	334.29		536.95	
2+28.00	6+25.00	2 LANES FULL DEPTH - CARROL ROAD	397.00	122.20	485.13	40.75	1797.53	89.88				89.88						20.50	904.28	440.00	198.94		20.25	893.25	220.00	98.26		20.00	882.22	220.00	97.04		195.30	
6+25.00	6+93.00	2 LANES NOTCH AND WIDENING - CARROL ROAD	68.00	45.50	30.94																							20.00	151.11	220.00	16.62		16.62	
6+93.00	7+93.00	TRANSITION - CARROL ROAD	100.00																									20.00	222.22	220.00	24.44		24.44	
300+46.14	301+90.36	HWY. 89 (SITE 1) DETOUR NOTCH AND WIDENING	144.22	92.38	133.23	10.13	162.33	8.12				8.12											10.13	162.33	220.00	17.86		14.00	224.34	220.00	24.68		42.54	
301+90.36	307+28.92	HWY. 89 (SITE 1) DETOUR FULL DEPTH	538.56	184.75	994.99	20.25	1211.76	60.59				60.59											20.25	1211.76	220.00	133.29		28.00	1675.52	220.00	184.31		317.60	
307+28.92	308+79.10	HWY. 89 (SITE 1) DETOUR NOTCH AND WIDENING	150.18	92.38	138.74	10.13	169.04	8.45				8.45											10.13	169.04	220.00	18.59		14.00	233.61	220.00	25.70		44.29	
95+60.00	96+60.00	TRANSITION - HWY.365	100.00	22.50	22.50																							38.00	422.22	220.00	46.44		46.44	
96+60.00	98+34.42	2 LANES NOTCH AND WIDENING - HWY. 365	174.42	170.00	296.51																							40.00	775.20	220.00	85.27		85.27	
98+34.42	99+34.42	2 TO 4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (RIGHT SIDE)	100.00	108.35	108.35	12.50	138.89	6.94				6.94						6.25	69.44	440.00	15.28		6.13	68.11	220.00	7.49		26.00	288.89	220.00	31.78		39.27	
99+34.42	101+67.00	4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (RIGHT SIDE)	232.58	131.75	306.42	25.00	646.06	32.30				32.30						12.50	323.03	440.00	71.07		12.25	316.57	220.00	34.82		32.00	826.95	220.00	90.96		125.78	
101+67.00	104+04.13	4 TO 2 LANES NOTCH AND WIDENING WITH OPEN SHOULDER TO CURB AND GUTTER - HWY. 365 (RIGHT SIDE)	237.13	97.13	230.32	12.50	329.35	16.47				16.47						6.25	164.67	440.00	36.23		6.13	161.51	220.00	17.77		26.00	685.04	220.00	75.35		93.12	
104+04.13	111+50.00	2 LANES NOTCH AND WIDENING WITH CURB AND GUTTER - HWY. 365 (RIGHT SIDE)	745.87		20.00	1657.49	82.87					82.87								440.00					220.00			20.00	1657.49	220.00	182.32		182.32	
98+42.00	101+67.00	2 TO 4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (LEFT SIDE)	325.00	108.35	352.14	125.00	4513.89	225.69				225.69						6.25	225.69	440.00	49.65		6.13	221.36	220.00	24.35		26.00	938.89	220.00	103.28		127.63	
101+67.00	103+67.00	4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (LEFT SIDE)	200.00	131.75	263.50	25.00	555.56	27.78				27.78						12.50	277.78	440.00	61.11		12.25	272.22	220.00	29.94		32.00	711.11	220.00	78.22		108.16	
103+67.00	106+92.00	4 TO 2 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (LEFT SIDE)	325.00	108.38	352.24	12.50	451.39	22.57				22.57						6.25	225.69	440.00	49.65		6.13	221.36	220.00	24.35		26.00	938.89	220.00	103.28		127.63	
106+92.00	112+50.00	2 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (LEFT SIDE)	558.00	85.00	474.30																							20.00	1240.00	220.00	136.40		136.40	
112+50.00	114+80.00	2 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY.365 (LEFT SIDE)	230.00	62.50	143.75																							52.00	1328.89	220.00	146.18		146.18	
114+62.07	115+62.07	2 TO 4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (RIGHT SIDE)	100.00	108.35	108.35	12.50	138.89	6.94				6.94						6.25	69.44	440.00	15.28		6.13	68.11	220.00	7.49		26.00	288.89	220.00	31.78		39.27	
115+62.07	119+69.07	4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (RIGHT SIDE)	407.00	131.75	536.22	25.00	1130.56	56.53				56.53						12.50	565.28	440.00	124.36		12.25	553.97	220.00	60.94		32.00	1447.11	220.00	159.18		220.12	
119+69.07	120+69.07	4 TO 2 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (RIGHT SIDE)	100.00	108.38	108.38	12.50	138.89	6.94				6.94						6.25	69.44	440.00	15.28		6.13	68.11	220.00	7.49		26.00	288.89	220.00	31.78		39.27	
120+69.07	123+32.66	2 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (RIGHT SIDE)	263.59	85.00	224.05																							20.00	585.76	220.00	64.43		64.43	
114+62.66	118+07.66	2 TO 4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (LEFT SIDE)	325.00	108.35	352.14	12.50	451.39	22.57				22.57						6.25	225.69	440.00	49.65		6.13	221.36	220.00	24.35		26.00	938.89	220.00	103.28		127.63	
118+07.66	120+07.66	4 LANES NOTCH AND WIDENING WITH OPEN SHOULDER - HWY. 365 (LEFT SIDE)	200.00	131.75	263.50	25.00	555.56	27.78				27.78						12.50	277.78	440.00	61.11		12.25	272.22	220.00	29.94		32.00	711.11	220.00	78.22		108.16	
120+07.66	123+32.66	4 TO 2 LANES NOTCH AND WIDENING WITH CURB AND GUTTER - HWY. 365 (LEFT SIDE)	325.00	108.35	352.14	12.50	451.39	22.57				22.57						6.25	225.69	440.00	49.65		6.13	221.36	220.00	24.35		26.00	938.89	220.00	103.28		127.63	
123+32.66	124+55.18	2 LANES NOTCH AND WIDENING	122.52	170.00	208.28																							40.00	544.53	220.00	59.90		59.90	
124+55.18	125+55.18	TRANSITION - HWY.365	100.00	22.50	22.50																							38.00	422.22	220.00	46.44		46.44	
7563+76.50	7566+26.50	EB EXIT TO HWY. 89 CONNECTOR - NOTCH AND WIDENING TRAISITION	250.00	216.88	542.20	18.53	514.72	25.74				25.74	6.27	174.17	1100.00			95.79	6.13	170.28	440.00		37.46	6.06	168.33	220.00		18.52	17.50	486.11	220.00		53.47		71.99
7566+26.50	7583+32.00	EB EXIT TO HWY. 89 CONNECTOR - NOTCH AND WIDENING W/ GJARDRAIL WIDENING 3:1 SLOPE	1705.50	240.25	4097.46	37.06	7022.87	351.14				351.14	12.54	2376.33	1100.00			1306.98	12.25	2321.38	440.00		510.70	12.13	2298.64	220.00		252.85	23.50	4453.25	220.00		489.86		742.71
7583+32.00	7583+82.00	EB EXIT TO HWY. 89 CONNECTOR - NOTCH AND WIDENING W/ GJARDRAIL WIDENING TRANSITION	50.00	261.63	130.82	37.06	205.89	10.29				10.29	12.54	69.67	1100.00			38.32	12.25	68.06	440.00		14.97	12.13	67.39	220.00		7.41	23.50	130.56	220.00		14.36		21.77
7583+82.00	7584+36.53	EB EXIT TO HWY. 89 CONNECTOR - NOTCH AND WIDENING W/ GJARDRAIL WIDENING 6:1 SLOPE	54.53	263.00	154.32	37.06	224.54	11.23				11.23	12.54	75.98	1100.00			41.79	12.25	74.22	440.00		16.33	12.13	73.49	220.00		8.08	23.50	142.38	220.00		15.66		23.74
7584+36.53	7584+67.00	EB EXIT TO HWY. 89 CONNECTOR - FULL DEPTH W/ GUARDRAIL WIDENING 6:1 SLOPE	30.47	447.25	136.28	62.71	212.31	10.62				10.62	16.08	54.44	1100.00			29.94	15.50	52.48	440.00		11.55	15.25	51.63	220.00		5.68	27.75	93.95	220.00		10.33		16.01
7584+67.00	7585+00.00	EB EXIT TO HWY. 89 CONNECTOR - FULL DEPTH W/ GUARDRAIL WIDENING TRANSITION	33.00	417.13	137.65	62.71	229.94	11.50				11.50	16.08	58.96	1100.00			32.43	15.50	56.83	440.00		12.50	15.25	55.92	220.00		6.15	30.50	111.83	220.00		12.30		18.45
7585+00.00	7585+15.37	EB EXIT TO HWY. 89 CONNECTOR - FULL DEPTH	15.37	387.00	59.48	62.71	107.09	5.35				5.35	16.08	27.46	1100.00			15.10	15.50	26.47	440.00		5.82	15.25	26.04	220.00		2.86	25.00	42.69	220.00		4.70		7.56
7585+15.37	7590+92.56	EB EXIT TO HWY. 89 CONNECTOR - FULL DEPTH - SUPERELEVATION	577.19	387.00	2233.73	62.71	4021.73	201.09				201.09	16.08	1031.25	1100.00			567.19	15.50	994.05	440.00		218.69	15.25	978.02	220.00		107.58	25.00	1603.31	220.00		176.36		283.94
7590+92.56	7598+26.71	EB EXIT TO HWY. 89 CONNECTOR - 2 LANES FULL DEPTH	734.15	422.00	3098.11	98.50	8034.86	401.74				401.74	25.08	2045.83	1100.00			1125.21	24.50	1998.52	440.00		439.67	24.25	1978.13	220.00		217.59	34.00	2773.46	220.00		305.08		522.67
7604+46.66	7606+00.00	HWY. 365 TO EB ENTRANCE CONNECTOR - NORMAL CROWN WITH BARRIER WALL	153.34	338.00	518.29	62.50	1064.86	53.24				53.24	16.08	273.97	1100.00			150.68	15.50	264.09	440.00		58.10	15.25	259.83	220.00		28.58	27.00	460.02	220.00		50.60		79.18
7606+00.00	7606+16.54	HWY. 365 TO EB ENTRANCE CONNECTOR - NORMAL CROWN	16.54	422.50	69.88	62.50	114.86	5.74				5.74	16.08	29.55	1100.00			16.25	15.50	28.49	440.00		6.27	15.25	28.03	220.00		3.08	27.00	49.62	220.00		5.46		8.54
7606+16.54	7608+12.28	HWY. 365 TO EB ENTRANCE CONNECTOR - SUPERELEVATION	195.74	422.50	827.00	62.50	1359.31	67.97				67.97	16.08	349.72	1100.00			192.35	15.50	337.11	440.00		74.16	15.25	331.67	220.00		36.48	27.00	587.22	220.00		64.59		101.07
7608+12.28	7608+81.39	HWY. 365 TO EB ENTRANCE CONNECTOR - NORMAL CROWN	69.11	422.50	291.99	62.50	479.93	24.00				24.00	16.08	123.48	1100.00			67.91	15.50	119.02	440.00		26.18	15.25	117.10	220.00		12.88	27.00	207.33	220.00		22.81		35.69
7603+81.49	7604+65.25	HWY. 89 TO HWY. 365 - NORMAL CROWN	83.76	422.50	353.89	62.50	581.67	29.08				29.08	16.08	149.65	1100.00			82.31	15.50	144.25	440.00		31.74	15.25	141.93	220.00		15.61	27.00	251.28	220.00		27.64		43.25
7604+65.25	7606+66.81	HWY. 89 TO HWY. 365 - SUPERELEVATION	201.56	422.50	851.59	62.50	1399.72	69.99				69.99	16.08	360.12	1100.00			198.07	15.50	347.13	440.00		76.37	15.25	341.53	220.00		37.57	27.00	604.68	220.00		66.51		104.08
7606+66.81	7607+13.77	HWY. 89 TO HWY. 365 - SUPERELEVATION WITH BARRIER WALL	46.96	338.00	158.72	62.50	326.11	16.31				16.31	16.08	83.90	1100.00			46.15	15.50	80.88	440.00		17.79	15.25	79.57	220.00		8.75	27.00	140.88	220.00		15.50		24.25
7607+13.77	7608+21.90	HWY. 89 TO HWY. 365 - NORMAL CROWN WITH BARRIER WALL	108.13	338.00	365.48	62.50	750.90	37.55				37.55	16.08	193.19	1100.00			106.25	15.50	186.22	440.00		40.97	15.25	183.22	220.00		20.15	27.00	324.39	220.00		35.68		55.83
SUBTOTALS (BOX 1 OF 2):					27974.43		69582.16	3479.11				3479.11		7477.67			4112.72		25130.39		3888.85	1599.27		26476.99		2122.61	789.82		51311.70		4273.34	1370.91	6395.95	2160.73

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	135	517

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:49 AM
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BASE AND SURFACING (BOX 2 OF 2) - CMF-0023(44)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BASE COURSE (1 1/2")						ACHM BINDER COURSE (1")					ACHM SURFACE COURSE (1/2")											
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	PG 76-22	TOTAL PG 64-22	TOTAL PG 76-22
			FEET			TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET			TON	TON	FEET			TON	TON	FEET			TON	TON	FEET			TON	TON	TON	TON
7598+55.04	7608+54.40	I-40 EASTBOUND ENTRANCE - 1 LANE RAMP	999.36	387.00	3867.52	62.71	6963.32	348.17				348.17	16.08	1785.52	1100.00		982.04	15.50	1721.12	440.00		378.65	15.25	1693.36	220.00		186.27	25.00	2776.00	220.00		305.36		491.63
7608+54.40	7608+99.96	I-40 EASTBOUND ENTRANCE - TRANSITION FROM 1 LANE TO 2 LANES RAMP	45.56	416.25	189.64	62.71	469.32	23.47				23.47	23.58	119.37	1100.00		65.65	23.00	116.43	440.00		25.61	22.75	115.17	220.00		12.67	32.50	184.50	220.00		18.10		30.77
7608+99.96	7609+16.71	I-40 EASTBOUND ENTRANCE - 2 LANES RAMP	16.75	445.50	74.62	122.71	228.38	11.42				11.42	31.08	57.84	1100.00		31.81	30.50	56.76	440.00		12.49	30.25	56.30	220.00		6.19	40.00	74.44	220.00		8.19		14.38
7609+16.71	7613+36.72	I-40 EASTBOUND ENTRANCE - TRANSITION FROM 2 LANES RAMP TO 2 ACCELERATION LANES	420.01	338.00	1419.63	85.95	4011.10	200.56				200.56	21.81	1017.82	1100.00		559.80	21.38	997.76	440.00		219.51	21.19	988.89	220.00		108.78	35.00	1633.37	220.00		179.67		288.45
7613+36.72	7620+36.72	I-40 EASTBOUND ENTRANCE- 2 ACCELERATION LANES	700.00	269.25	1884.75	97.19	7559.22	377.96				377.96	24.57	1911.00	1100.00		1051.05	24.25	1886.11	440.00		414.94	24.13	1876.78	220.00		206.45	30.00	2333.33	220.00		256.67		463.12
7620+36.72	7623+36.72	I-40 EASTBOUND ENTRANCE - TRANSITION FROM 2 ACCELERATION LANES TO 1 ACCELERATION LANE	300.00	246.00	738.00	29.19	973.00	48.65				48.65	18.56	618.67	1100.00		340.27	18.25	608.33	440.00		133.83	18.13	604.33	220.00		66.48	24.00	800.00	220.00		88.00		154.48
7623+36.72	7630+36.72	I-40 EASTBOUND ENTRANCE -1 ACCELERATION LANE	700.00	222.75	1559.25	49.19	3825.89	191.29				191.29	12.54	975.33	1100.00		536.43	12.25	952.78	440.00		209.61	12.13	943.44	220.00		103.78	27.00	2100.00	220.00		231.00		334.78
7630+36.72	7633+36.72	I-40 EASTBOUND ENTRANCE - TRANSITION FROM 1 ACCELERATION LANES TO 0 ACCELERATION LANE	300.00	199.38	598.14	24.60	820.00	41.00				41.00	6.27	209.00	1100.00		114.95	6.10	204.33	440.00		44.95	6.06	202.00	220.00		22.22	12.00	400.00	220.00		44.00		66.22
7588+28.35	7590+44.96	EB EXIT TO HWY. 365 - FULL DEPTH SUPERELEVATION	216.61	422.50	915.18	62.71	1509.29	75.46				75.46	16.08	387.01	1100.00		212.86	15.50	373.05	440.00		82.07	15.25	367.03	220.00		40.37	27.00	649.83	220.00		71.48		111.85
7590+44.96	7592+94.05	EB EXIT TO HWY. 365 - SUPERELEVATION WITH BARRIER WALL	249.09	338.00	841.92	62.50	1729.79	86.49				86.49	16.08	445.04	1100.00		244.77	15.50	428.99	440.00		94.38	15.25	422.07	220.00		46.43	27.00	747.27	220.00		82.20		128.63
7590+44.96	7592+99.63	EB EXIT TO HWY. 365 - NORMAL CROWN WITH BARRIER WALL	254.67	338.00	860.78	62.50	1768.54	88.43				88.43	16.08	455.01	1100.00		250.26	15.50	438.60	440.00		96.49	15.25	431.52	220.00		47.47	27.00	764.01	220.00		84.04		131.51
7587+35.66	7588+95.74	HWY. 365 TO 89- NORMAL CROWN WITH BARRIER WALL	160.08	338.00	541.07	62.50	1111.67	55.58				55.58	16.08	286.01	1100.00		157.31	15.50	275.69	440.00		60.65	15.25	271.25	220.00		29.84	27.00	480.24	220.00		52.83		82.67
7588+95.74	7590+00.00	HWY. 365 TO 89 - SUPERELEVATION WITH BARRIER WALL	104.26	338.00	352.40	62.50	724.03	36.20				36.20	16.08	186.28	1100.00		102.45	15.50	179.56	440.00		39.50	15.25	176.66	220.00		19.43	27.00	312.78	220.00		34.41		53.84
7590+00.00	7590+40.79	HWY. 365 TO EB ENTRANCE CONNECTOR - SUPERELEVATION	40.79	422.50	172.34	62.50	283.26	14.16				14.16	16.08	72.88	1100.00		40.08	15.50	70.25	440.00		15.46	15.25	69.12	220.00		7.60	27.00	122.37	220.00		13.46		21.06
7590+40.79	7591+05.83	HWY. 365 TO EB ENTRANCE CONNECTOR - NORMAL CROWN	65.04	422.50	274.79	62.50	451.67	22.58				22.58	16.08	116.20	1100.00		63.91	15.50	112.01	440.00		24.64	15.25	110.21	220.00		12.12	27.00	195.12	220.00		21.46		33.58
ADDITIONAL FOR LEVELING																																		
103+00.00	107+00.00	HWY. 89 - SITE 1	400.00						20.00	888.89	151.11	151.11																20.00	888.89	220.00	97.78		97.78	
191+00.00	202+54.06	HWY. 89 - SITE 2	1154.06						20.00	2564.58	435.98	435.98																20.00	2564.58	220.00	282.10		282.10	
96+60.00	103+95.31	HWY. 365	735.31						24.00	1960.83	333.34	333.34																24.00	1960.83	220.00	215.69		215.69	
103+95.31	111+50.00	HWY. 365	754.69						30.00	2515.63	427.66	427.66																30.00	2515.63	220.00	276.72		276.72	
111+50.00	124+55.18	HWY. 365	1305.18						24.00	3480.48	591.68	591.68																24.00	3480.48	220.00	382.85		382.85	
ADDITIONAL FOR SUPERELEVATION																																		
104+88.62	106+69.81	TRANSITION - HWY. 89	181.19	17.38	31.49																													
115+41.56	118+11.56	TRANSITION - HWY. 365	270.00	23.38	63.13																													
118+11.56	124+55.18	MAX SUPERELEVATION - HWY. 365	643.62	46.75	300.89																													
3+26.79	3+92.77	TRANSITION - CARROL STREET	65.98	0.57	0.38																													
3+92.77	4+58.75	TRANSITION - CARROL STREET	65.98	0.57	0.38																													
4+82.03	5+86.15	TRANSITION - CARROL STREET	104.12	1.71	1.78																													
5+86.15	6+90.27	TRANSITION - CARROL STREET	104.12	1.71	1.78																													
102+55.95	104+57.99	TRANSITION - MAIN STREET CONNECTOR	202.04	46.90	94.76																													
104+57.99	106+60.03	TRANSITION - MAIN STREET CONNECTOR	202.04	46.90	94.76																													
7611+53.71	7612+92.58	I-40 EASTBOUND ENTRANCE- TRANSITION	138.87	14.09	19.57																													
7612+92.58	7614+31.45	I-40 EASTBOUND ENTRANCE- TRANSITION	138.87	14.09	19.57																													
7588+28.35	7589+47.86	TRANSITION - EB EXIT TO HWY. 365	119.51	80.32	95.99																													
7589+47.86	7589+94.05	MAX SUPERELEVATION - EB EXIT TO HWY. 365	46.19	160.64	74.20																													
7589+94.05	7592+94.05	TRANSITION - EB EXIT TO HWY. 365	300.00	34.50	103.50																													
7585+15.37	7588+65.37	EB EXIT TO HWY. 89 CONNECTOR - TRANSITION	350.00	51.00	178.50																													
7588+65.37	7591+62.37	EB EXIT TO HWY. 89 CONNECTOR - MAX SUPERELEVATION	297.00	102.00	302.94																													
7591+62.37	7595+12.37	EB EXIT TO HWY. 89 CONNECTOR - TRANSITION	350.00	51.00	178.50																													
7588+95.74	7589+87.73	HWY. 365 TO HWY. 89 - TRANSITION	91.99	14.13	13.00																													
7589+87.73	7590+79.72	HWY. 365 TO HWY. 89 - TRANSITION	91.99	90.50	83.25																													
7604+65.25	7605+89.51	HWY. 89 TO HWY. 365 CONNECTOR- TRANSITION	124.26	39.63	49.24																													
7605+89.51	7607+13.77	HWY. 89 TO HWY. 365 CONNECTOR - TRANSITION	124.26	39.63	49.24																													
302+43.49	304+09.17	TRANSITION - HWY. 89 (SITE 1)	165.68	8.13	13.47																													
304+09.17	305+08.22	MAX SUPERELEVATION - HWY. 89 (SITE 1)	99.05	16.26	16.11																													
305+08.22	306+73.90	TRANSITION - HWY. 89 (SITE 1)	165.68	8.13	13.47																													
7606+16.54	7607+14.41	HWY. 365 TO EB ENTRANCE CONNECTOR - TRANSITION	97.87	36.13	35.36																													
7607+14.41	7608+12.28	HWY. 365 TO EB ENTRANCE CONNECTOR - TRANSITION	97.87	36.13	35.36																													
ADDITIONAL FOR TURNOUT																																		
		EB EXIT TO HWY. 89		VAR.	182.04	VAR.	2080.40	104.02				104.02	VAR.	520.10	1100.00		286.06	VAR.	520.10	440.00		114.42	VAR.	520.10	220.00			VAR.	520.10	220.00		57.21		57.21
		EB EXIT TO HWY. 365		VAR.	85.62	VAR.	978.56	48.93				48.93	VAR.	244.64	1100.00		134.55	VAR.	244.64	440.00		53.82	VAR.	244.64	220.00			VAR.	244.64	220.00		26.91		26.91
		HWY. 365 TO HWY. 89		VAR.	178.19	VAR.	2036.44	101.82				101.82	VAR.	509.11	1100.00		280.01	VAR.	509.11	440.00		112.00	VAR.	509.11	220.00			VAR.	509.11	220.00		56.00		56.00
		EB ENTRANCE CONNECTOR		VAR.	260.62	VAR.	2978.56	148.93				148.93	VAR.	744.64	1100.00		409.55	VAR.	744.64	440.00		163.82	VAR.	744.64	220.00			VAR.	744.64	220.00		81.91		81.91
		EB ENTRANCE CONNECTOR TO HWY. 365		VAR.	402.47	VAR.	4599.68	229.98				229.98	VAR.	1149.92	1100.00		632.46	VAR.	1149.92	440.00		252.98	VAR.	1149.92	220.00			VAR.	1149.92	220.00		126.49		126.49
		HWY. 365 TO EB ENTRANCE CONNECTOR		VAR.	159.48	VAR.	1822.64	91.13				91.13	VAR.	455.66	1100.00		250.61	VAR.	455.66	440.00		100.25	VAR.	455.66	220.00			VAR.	455.66	220.00		50.12		50.12
		CARROL ROAD		VAR.	30.55	VAR.	261.87	13.09				13.09	VAR.	87.29	1100.00	48.01	48.01	VAR.	87.29	440.00	19.20		VAR.	87.29	220.00	9.60		VAR.	87.29	220.00	9.60		19.20	
		MAIN STREET CONNECTOR		VAR.	74.38	VAR.	637.53	31.88				31.88	VAR.	212.51	1100.00	116.88	116.88	VAR.	212.51	440.00	46.75		VAR.	212.51	220.00	23.38		VAR.	212.51	220.00	23.38		46.76	
ADDITIONAL FOR GUARDRAIL WIDENING																																		
7561+28.00	7561+61.00	I-40	33.00	85.75	28.30																		2.25	8.25	220.00		0.91			0.91	
7561+61.00	7564+01.84	I-40	240.84	171.50	413.04																		5.50	147.18	220.00		16.19			16.19	
SUBTOTALS (BOX 1 OF 2):					**27974.43**		**69582.16**	**3479.11**				**3479.11**		**7477.67**			**4112.72**		**25130.39**		**3888.85**	**1599.27**		**26476.99**		**2122.61**	**789.82**		**51311.70**		**4273.34**	**1370.91**	**6395.95**	**2160.73**
SUBTOTALS (BOX 2 OF 2):					**17976.34**		**47824.16**	**2391.20**		**11410.41**	**1139.77**	**4330.97**		**12566.85**		**164.89**	**6911.77**		**12345.64**		**65.96**	**2650.07**		**12252.00**		**32.98**	**916.10**		**28887.56**		**1288.12**	**1906.61**	**1321.10**	**2822.71**
TOTALS:					**45949.77**		**117406.32**	**5870.31**		**11410.41**	**1139.77**	**7810.08**		**20044.52**		**164.89**	**11024.49**		**37476.03**		**3954.80**	**4249.34**		**38728.99**		**2155.59**	**1705.92**		**80199.26**		**5561.46**	**3277.52**	**7717.05**	**4983.44**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	136	517

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 10:49 AM

DocuSign

BASE AND SURFACING - STPU-0023(44)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BASE COURSE (1 1/2")					ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
						(0.05 GAL. PER SQ. YD.)			(0.1" GAL. PER SQ. YD.)																				
			FEET	TON / STATION	TON	TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL GALLONS	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	PG 76-22 TON	AVG.WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	TOTAL PG 64-22 TON
MAIN LANES																													
98+46.01	99+46.01	TRANSITION	100.00	48.00	48.00	8.00	88.89	4.44				4.44						4.00	44.44	440.00	9.78	4.00	44.44	220.00	4.89	24.00	266.67	220.00	29.33	34.22
99+46.01	99+87.77	2 LANES CURB & GUTTER TO 3 LANES OPEN SHOULDER TRANSITION SUPERELEVATION - HWY. 89	41.76	89.38	37.33	32.00	148.43	7.42				7.42						16.00	74.24	440.00	16.33	16.00	74.24	220.00	8.17	16.00	74.24	220.00	8.17	16.34
99+87.77	103+00.00	2 LANES CURB & GUTTER TO 3 LANES OPEN SHOULDER TRANSITION NORMAL CROWN- HWY. 89	311.48	89.38	278.40	32.00	1107.48	55.37				55.37						16.00	553.74	440.00	121.82	16.00	553.74	220.00	60.91	16.00	553.74	220.00	60.91	121.82
103+00.00	104+88.62	2 LANES CURB & GUTTER TO 3 LANES OPEN SHOULDER TRANSITION FULL DEPTH- HWY. 89	188.62	199.69	376.66	64.38	1349.26	67.46				67.46						32.25	675.89	440.00	148.70	32.13	673.37	220.00	74.07	40.00	838.31	220.00	92.21	166.28
104+88.62	106+69.81	3 LANES OPEN SHOULDER FULL DEPTH SUPERELEVATION- HWY. 89	181.19	310.00	561.69	72.75	1464.62	73.23				73.23						36.50	734.83	440.00	161.66	36.25	729.79	220.00	80.28	52.00	1046.88	220.00	115.16	195.44
106+69.81	109+33.14	3 LANES OPEN SHOULDER FULL DEPTH- HWY. 89	263.33	310.00	816.32	72.75	2128.18	106.43				106.43						36.50	1067.95	440.00	234.95	36.25	1060.63	220.00	116.67	52.00	1521.46	220.00	167.36	284.03
109+33.14	121+98.58	3 LANES OPEN SHOULDER FULL DEPTH SUPERELEVATION- HWY. 89	1265.44	310.00	3922.86	72.75	10228.37	511.45				511.45						36.50	5132.06	440.00	1129.05	36.25	5096.91	220.00	560.66	52.00	7311.43	220.00	804.26	1364.92
121+98.58	136+70.73	3 LANES OPEN SHOULDER FULL DEPTH- HWY. 89	1472.15	310.00	4563.67	72.75	11899.38	594.99				594.99						36.50	5970.39	440.00	1313.49	36.25	5929.49	220.00	652.24	52.00	8505.76	220.00	935.63	1587.87
136+70.73	150+75.67	3 LANES OPEN SHOULDER FULL DEPTH SUPERELEVATION- HWY. 89	1404.94	310.00	4355.31	72.75	11356.90	567.83				567.83						36.50	5697.81	440.00	1253.52	36.25	5658.79	220.00	622.47	52.00	8117.43	220.00	892.92	1515.39
150+75.67	157+85.58	3 LANES OPEN SHOULDER FULL DEPTH- HWY. 89	709.91	310.00	2200.72	72.75	5738.44	286.92				286.92						36.50	2879.08	440.00	633.40	36.25	2859.36	220.00	314.53	52.00	4101.70	220.00	451.19	765.72
157+85.58	168+49.25	3 LANES OPEN SHOULDER FULL DEPTH SUPERELEVATION- HWY. 89	1063.67	310.00	3297.38	72.75	8598.00	429.90				429.90						36.50	4313.77	440.00	949.03	36.25	4284.23	220.00	471.27	52.00	6145.65	220.00	676.02	1147.29
168+49.25	170+92.00	3 LANES FULL DEPTH TO 5 LANES FULL DEPTH TRANSITION SUPERELEVATION - HW. 89	242.75	273.63	664.24	92.38	2491.69	124.58				124.58						46.25	1247.47	440.00	274.44	46.13	1244.23	220.00	136.87	54.00	1456.50	220.00	160.22	297.09
79+00.00	80+00.00	TRANSITION - ARKANSAS RIVER TRAIL / HWY. 89	100.00																						20.00	222.22	220.00	24.44	24.44
80+00.00	81+00.00	2 LANES NOTCH AND WIDENING - ARKANSAS RIVER TRAIL / HWY. 89	100.00	45.50	45.50																				20.00	222.22	220.00	24.44	24.44
81+00.00	83+56.59	2 LANES FULL DEPTH - ARKANSAS RIVER TRAIL / HWY. 89	256.59	122.20	313.55	40.75	1161.78	58.09				58.09						20.50	584.46	440.00	128.58	20.25	577.33	220.00	63.51	20.00	570.20	220.00	62.72	126.23
10+18.00	14+29.28	2 LANES FULL DEPTH - SNUGGS CIRCLE	411.28	122.20	502.58	40.75	1862.78	93.11				93.11						20.50	936.80	440.00	206.10	20.25	925.38	220.00	101.79	20.00	913.96	220.00	100.54	202.33
14+29.28	15+29.28	TRANSITION - SNUGGS CIRCLE	100.00																						20.00	222.22	220.00	24.44	24.44
30+18.00	32+09.30	2 LANES FULL DEPTH - SHADEL LANE (NORTH)	191.30	122.20	233.77	40.75	866.13	43.31				43.31						20.50	435.74	440.00	95.86	20.25	430.43	220.00	47.35	20.00	425.11	220.00	46.76	94.11
32+09.30	33+09.30	TRANSITION - SHADEL LANE (NORTH)	100.00																						20.00	222.22	220.00	24.44	24.44
40+00.00	41+00.00	TRANSITION - SHADEL LANE	100.00																						20.00	222.22	220.00	24.44	24.44
41+00.00	45+59.90	2 LANES FULL DEPTH - SHADEL LANE	459.90	122.20	562.00	40.75	2082.13	104.12				104.12						20.50	1047.55	440.00	230.46	20.25	1034.78	220.00	113.83	20.00	1022.00	220.00	112.42	226.25
45+59.90	46+59.90	TRANSITION - SHADEL LANE	100.00																						20.00	222.22	220.00	24.44	24.44
59+00.00	60+00.00	TRANSITION - SNUGGS CIRCLE (SOUTH)	100.00																						20.00	222.22	220.00	24.44	24.44
60+00.00	61+25.00	2 LANES NOTCH AND WIDENING - SNUGGS CIRCLE (SOUTH)	125.00	45.50	56.88																				20.00	277.78	220.00	30.56	30.56
61+25.00	61+88.77	2 LANES FULL DEPTH - SNUGGS CIRCLE (SOUTH)	63.77	122.20	77.93	40.75	288.71	14.44				14.44						20.50	145.25	440.00	31.96	20.25	143.48	220.00	15.78	20.00	141.71	220.00	15.59	31.37
70+18.00	74+28.91	2 LANES FULL DEPTH - SNUGGS CIRCLE (NORTH)	410.91	122.20	502.13	40.75	1860.11	93.03				93.03						20.50	935.96	440.00	205.91	20.25	924.55	220.00	101.70	20.00	913.13	220.00	100.44	202.14
74+28.91	75+28.91	TRANSITION - SNUGGS CIRCLE (NORTH)	100.00																						20.00	222.22	220.00	24.44	24.44
ADDITIONAL FOR LEVELING																													
98+46.01	103+00.00	HWY. 89 - SITE 2	453.24						20.00	1007.20	171.22	171.22													20.00	1007.20	220.00	110.79	110.79
ADDITIONAL FOR SUPERELEVATION																													
109+33.14	112+03.14	TRANSITION - HWY. 89	270.00	39.93	107.81																								
112+03.14	119+28.58	MAX SUPERELEVATION - HWY. 89	725.44	79.85	579.26																								
119+28.58	121+98.58	TRANSITION - HWY. 89	270.00	39.93	107.81																								
136+70.73	139+40.73	TRANSITION - HWY. 89	270.00	35.81	96.69																								
139+40.73	148+05.67	MAX SUPERELEVATION - HWY. 89	864.94	71.61	619.38																								
148+05.67	150+75.67	TRANSITION - HWY. 89	270.00	35.81	96.69																								
157+85.58	160+55.58	TRANSITION - HWY. 89	270.00	35.81	96.69																								
160+55.58	170+92.01	MAX SUPERELEVATION - HWY. 89	1036.43	71.61	742.19																								
ADDITIONAL FOR TURNOUT																													
		SNUGGS CIRCLE		VAR.	27.53	VAR.	235.95	11.80				11.80	VAR.	78.65	1100.00	43.26	43.26	VAR.	78.65	440.00	17.30	VAR.	78.65	220.00	8.65	VAR.	78.65	220.00	8.65	17.30
		ARKANSAS RIVER TRAIL / HWY. 89		VAR.	27.53	VAR.	235.95	11.80				11.80	VAR.	78.65	1100.00	43.26	43.26	VAR.	78.65	440.00	17.30	VAR.	78.65	220.00	8.65	VAR.	78.65	220.00	8.65	17.30
		SHADEL LANE		VAR.	27.53	VAR.	235.95	11.80				11.80	VAR.	78.65	1100.00	43.26	43.26	VAR.	78.65	440.00	17.30	VAR.	78.65	220.00	8.65	VAR.	78.65	220.00	8.65	17.30
		SHADEL LANE (NORTH)		VAR.	27.53	VAR.	235.95	11.80				11.80	VAR.	78.65	1100.00	43.26	43.26	VAR.	78.65	440.00	17.30	VAR.	78.65	220.00	8.65	VAR.	78.65	220.00	8.65	17.30
		SNUGGS CIRCLE (SOUTH)		VAR.	27.53	VAR.	235.95	11.80				11.80	VAR.	78.65	1100.00	43.26	43.26	VAR.	78.65	440.00	17.30	VAR.	78.65	220.00	8.65	VAR.	78.65	220.00	382.85	391.50
		SNUGGS CIRCLE (NORTH)		VAR.	27.53	VAR.	235.95	11.80				11.80	VAR.	78.65	1100.00	43.26	43.26	VAR.	78.65	440.00	17.30	VAR.	78.65	220.00	8.65	VAR.	78.65	220.00	382.85	391.50
TOTALS:					**26028.62**		**66138.89**	**3306.92**		**1007.20**	**171.22**	**3478.14**		**471.90**		**259.56**	**259.56**		**32949.33**		**7248.84**		**32717.07**		**3598.89**		**47460.52**		**5969.02**	**9567.91**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.5% MIN. AGGR.....5.5% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

7/27/2020

R080457.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/29/2020				6	ARK.			
				JOB NO.		080457	137	517
				1	07499 & 07500 - QUANTITIES - 61857			

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 080457

BRIDGE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	619	801	SS & 802	SP, SS, & 802	803	SS & 804	SS & 804	SS & 805	SS & 805	806	SP, SS, & 807	SS & 807	SS & 808	SS & 809	812	816	SP JOB 080457	SP JOB 080457	SP JOB 080457	SP JOB 080457
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	5' STEEL CHAIN LINK FENCE △1	UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE	CLASS S CONCRETE - BRIDGE	CLASS S(AE) CONCRETE - BRIDGE	CLASS 1 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL PILING (HP 12X53) (1)	PREBORING (3)	METAL BRIDGE RAILING (TYPE H2) △1	STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50)	PAINTING STRUCTURAL STEEL (2)	ELASTOMERIC BEARINGS	SILICONE JOINT SEALANT	BRIDGE NAME PLATE (TYPE D)	CONCRETE RIPRAP	ARCHITECTURAL FINISH	TEXTURED COATING FINISH	EXPLORATORY HOLES (3)	DRILLED SHAFT (72" DIA.)
			UNIT	LUMP SUM	LIN. FT.	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	TON	CU. IN.	LIN. FT.	EACH	CU. YD.	SQ. FT.	SQ. YD.	LIN. FT.	LIN. FT.
07499	HIGHWAY 89 OVER UPRR & HIGHWAY 365																							
		BENT 1					82.69		0.5	9,276		382			1,700	0.9	5,780.0	87		12	29	31		
		BENT 2				10	172.17			29,652							5,899.0				671	198		110
		BENT 3				10	171.19			29,382							4,985.0				625	192		110
		BENT 4					82.55		0.5	9,360		382			1,700	0.9	3,510.0	87		20	29	31		
		346'-0" PLATE GIRDER UNIT			210			933.10	69.0		191,650			470	953,090	476.5			1		1,383	489		
TOTALS FOR BRIDGE NO. 07499					210	20	508.60	933.10	70.0	77,670	191,650	764	-	470	956,490	478.3	20,174.0	174	1	32	2,737	941	-	220
07500	HIGHWAY 89 OVER INTERSTATE 40																							
		BENT 1					70.46		0.4	8,425		382			1,443	0.7	2,918.0	74		15	29	30		
		BENT 2				167	221.19			35,907		512	480				4,486.0				388	147	320	
		BENT 3					70.45		0.4	8,288		316			1,443	0.7	2,918.0	74		15	29	30		
		220'-0" PLATE GIRDER UNIT						533.10	38.5		107,390			428	619,464	309.7			1		879	322		
TOTALS FOR BRIDGE NO. 07500					-	167	362.10	533.10	39.3	52,620	107,390	1,210	480	428	622,350	311.1	10,322.0	148	1	30	1,325	529	320	-
SITE NO. 3 (BRIDGE NO. 03787)				1																				
TOTALS FOR JOB NO. 080457					210	187	870.70	1,466.20	109.3	130,290	299,040	1,974	480	898	1,578,840	789.4	30,496.0	322	2	62	4,062	1,470	320	220

BRIDGE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	SP JOB 080457	SP JOB 080457	SP JOB 080457
			ITEM	PERMANENT STEEL CASING (84" DIA.)	CROSSHOLE SONIC LOGGING (72" DIA.)	CORING DRILLED SHAFT (3)
			UNIT	LIN. FT.	EACH	LIN. FT.
07499	HIGHWAY 89 OVER UPRR & HIGHWAY 365					
		BENT 1				
		BENT 2		50	5	22
		BENT 3		50	5	22
		BENT 4				
		346'-0" PLATE GIRDER UNIT				
TOTALS FOR BRIDGE NO. 07499				100	10	44
07500	HIGHWAY 89 OVER INTERSTATE 40					
		BENT 1				
		BENT 2				
		BENT 3				
		220'-0" PLATE GIRDER UNIT				
TOTALS FOR BRIDGE NO. 07500				-	-	-
SITE NO. 3 (BRIDGE NO. 03787)						
TOTALS FOR JOB NO. 080457				100	10	44

(1) All steel piling shall be Grade 50 and are required to have approved driving points which will not be paid for directly, but will be considered subsidiary to the item "Steel Piling (HP 12X53)".

(2) The color of paint shall be Brown equal or close Federal Std. 595B, Color Chip No. 20219 and as approved by the Engineer.

(3) Quantity shown is for estimating and bidding purposes only. Actual quantity will be determined in the field.

△1 All metal bridge railing and fencing shall receive a powder coating finish. Color shall be Dark Bronze as approved by the Engineer.

BY: KJT DATE: 10/29/2020
CHK: DHP DATE: 10/29/2020

THOMAS GERARD
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Ellis, Rick
Oct 30 2020 8:32 AM
DocuSign
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 4 & 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 5/14/2020 FILENAME: b080457_q1.dgn
CHECKED BY: DHP DATE: 7/27/2020 SCALE: NO SCALE
DESIGNED BY: - DATE: -

BRIDGE NO. 07499 & 07500 DRAWING NO. 61857

PRINT DATE: 10/29/2020

SUMMARY OF QUANTITIES (BOX 1 OF 2)

	ITEM NUMBER	ITEM		QUANTITY			UNIT
				CMF-0023(44)	STPU-0023(44)	TOTAL	
	SP & 201	CLEARING		201	49	250	STATION
	SP & 201	GRUBBING		201	49	250	STATION
	202	REMOVAL AND DISPOSAL OF RETAINING WALLS			120	120	LIN. FT.
	202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT			357	357	SQ. YD.
	202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS		308		308	SQ. YD.
	202	REMOVAL AND DISPOSAL OF WALKS			13	13	SQ. YD.
	202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		2		2	EACH
	202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		19	12	31	EACH
	202	REMOVAL AND DISPOSAL OF PUMP ISLAND		4		4	EACH
	SP	REMOVAL OF RUMBLE STRIP		4542		4542	LIN. FT.
	202	REMOVAL AND DISPOSAL OF CONCRETE MEDIAN BARRIER		491		491	LIN. FT.
	202	REMOVAL AND DISPOSAL OF BUILDINGS		8	8	16	EACH
	202	REMOVAL AND DISPOSAL OF SIGNS		19		19	EACH
	SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL		1886		1886	LIN. FT.
	SP, SS, & 210	UNCLASSIFIED EXCAVATION		51432	34576	86008	CU. YD.
	SP	SELECT GRANULAR BACKFILL		5682		5682	CU. YD.
	210	COMPACTED EMBANKMENT		206176	85645	291821	CU. YD.
	SP & 210	ROCK FILL		4964		4964	TON
	SP & 210	SOIL STABILIZATION		500	750	1250	TON
	SS & 303	AGGREGATE BASE COURSE (CLASS 7)		47588	26635	74223	TON
	SS & 401	TACK COAT		8034	3508	11542	GAL.
	SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		10741	498	11239	TON
	SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")		7	10	17	TON
	SP, SS, & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")		441	10	451	TON
	SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		7843	6930	14773	TON
	SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		174	319	493	TON
	SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")		187		187	TON
	SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		12226	9158	21384	TON
	SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		438	533	971	TON
	SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		274		274	TON
	412	COLD MILLING ASPHALT PAVEMENT		1378	1333	2711	SQ. YD.
	SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		112	15	127	TON
	SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		112	15	127	TON
	504	APPROACH SLABS		639.80		639.80	CU. YD.
	SS & 505	PORTLAND CEMENT CONCRETE DRIVEWAY		1340.12	220.68	1560.80	SQ. YD.
	601	MOBILIZATION		1.00		1.00	LUMP SUM
	602	FURNISHING FIELD LABORATORY		1		1	EACH
	SP & 602	FURNISHING FIELD OFFICE		1		1	EACH
	SP, SS, & 603	MAINTENANCE OF TRAFFIC		0.75	0.25	1.00	LUMP SUM
	603	18" TEMPORARY CULVERT		160		160	LIN. FT.
	603	60" TEMPORARY CULVERT		282		282	LIN. FT.
	603	21" X 15" TEMPORARY CULVERT		28		28	LIN. FT.
	SS & 604	SIGNS		2779	318	3097	SQ. FT.
	SP, SS, & 604	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE		50		50	EACH
	SS & 604	BARRICADES		384	320	704	LIN. FT.
	SS & 604	TRAFFIC DRUMS		318	423	741	EACH
	SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		4931		4931	LIN. FT.
	SS & 604	RELOCATING PRECAST CONCRETE BARRIER		3106		3106	LIN. FT.
	604	CONSTRUCTION PAVEMENT MARKINGS		80744	32900	113644	LIN. FT.
	604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		2500		2500	LIN. FT.
	604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		6837		6837	LIN. FT.
	SS & 604	ADVANCE WARNING ARROW PANEL		6		6	DAY
	SP, SS, & 604	PORTABLE CHANGEABLE MESSAGE SIGN		6		6	WEEK
	SS & 604	VERTICAL PANELS		148	48	196	EACH
	SS & 605	CONCRETE DITCH PAVING (TYPE B)		400	289	689	SQ. YD.
	606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		182	190	372	LIN. FT.
*	606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	(ALTERNATE NO. 1)		70	70	LIN. FT.
*	606	18" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 2)		70	70	LIN. FT.
*	606	18" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 3)		70	70	LIN. FT.
*	606	18" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (16 GAUGE)	(ALTERNATE NO. 4)		70	70	LIN. FT.
*	SP & 606	18" HIGH DENSITY POLYETHYLENE PIPE	(ALTERNATE NO. 5)		70	70	LIN. FT.
*	SP & 606	18" PVC PIPE	(ALTERNATE NO. 6)		70	70	LIN. FT.
	606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		934		934	LIN. FT.
*	606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)		1392	1392	LIN. FT.
*	606	24" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 2)		1392	1392	LIN. FT.
*	606	24" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 3)		1392	1392	LIN. FT.
*	606	24" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 4)		1392	1392	LIN. FT.
*	SP & 606	24" HIGH DENSITY POLYETHYLENE PIPE	(ALTERNATE NO. 5)		1392	1392	LIN. FT.
*	SP & 606	24" PVC PIPE	(ALTERNATE NO. 6)		1392	1392	LIN. FT.
*	SP & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	(ALTERNATE NO. 1)	38	450	488	LIN. FT.
*	606	24" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 2)	38	450	488	LIN. FT.
*	606	24" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 3)	38	450	488	LIN. FT.
*	606	24" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 4)	38	450	488	LIN. FT.
*	SP & 606	24" HIGH DENSITY POLYETHYLENE PIPE	(ALTERNATE NO. 5)	38	450	488	LIN. FT.
*	SP & 606	24" PVC PIPE	(ALTERNATE NO. 6)	38	450	488	LIN. FT.
	606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		184		184	LIN. FT.
*	606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)		104	104	LIN. FT.
*	606	42" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	(ALTERNATE NO. 2)		104	104	LIN. FT.
*	606	42" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE)	(ALTERNATE NO. 3)		104	104	LIN. FT.
*	606	42" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE CULVERT (14 GAUGE)	(ALTERNATE NO. 4)		104	104	LIN. FT.
*	SP & 606	42" HIGH DENSITY POLYETHYLENE PIPE	(ALTERNATE NO. 5)		104	104	LIN. FT.
	SP & 606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		28		28	LIN. FT.
	606	12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)		448		448	LIN. FT.
*	606	29" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV)	(ALTERNATE NO. 1)		34	34	LIN. FT.
*	606	28" X 20" ASPHALT COATED CORRUGATED STEEL ARCH PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 2)		34	34	LIN. FT.
*	606	28" X 20" ALUMINUM COATED CORRUGATED STEEL ARCH PIPE CULVERTS (16 GAUGE)	(ALTERNATE NO. 3)		34	34	LIN. FT.
*	606	28" X 20" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL ARCH PIPE CULVERT (16 GAUGE)	(ALTERNATE NO. 4)		34	34	LIN. FT.
	SP, SS, & 606	18" SIDE DRAIN		394	312	706	LIN. FT.
	SP, SS, & 606	24" SIDE DRAIN		176		176	LIN. FT.
	SS & 606	21" X 15" SIDE DRAIN		112	200	312	LIN. FT.
	606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	8	10	EACH
*	606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	(ALTERNATE NO. 1)		18	18	EACH
*	606	18" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	(ALTERNATE NO. 2)		18	18	EACH
	606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		22		22	EACH
*	606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	(ALTERNATE NO. 1)	6	26	32	EACH
*	606	24" FLARED END SECTIONS FOR CORRUGATED STEEL PIPE CULVERTS	(ALTERNATE NO. 2)	6	26	32	EACH
	606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2		2	EACH
	606	48" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		4		4	EACH
	606	29" X 18" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS			2	2	EACH
	606	SELECTED PIPE BEDDING		170	170	340	CU. YD.
	SS & 609	DROP INLETS (TYPE E)		2		2	EACH
	SS & 609	DROP INLETS (TYPE MO)		12		12	EACH
	SS & 609	DROP INLETS (TYPE RM)		2		2	EACH
	SS & 609	DROP INLETS (TYPE ST)		1		1	EACH
	SS & 609	DROP INLETS (TYPE SPECIAL)			1	1	EACH
	609	DROP INLET EXTENSIONS (8')		1		1	EACH
	SS & 609	DROP INLET EXTENSIONS (8')		1		1	EACH
	SS & 611	4" PIPE UNDERDRAINS		6000	3000	9000	LIN. FT.
	SS & 611	UNDERDRAIN OUTLET PROTECTORS		24	12	36	EACH
	614	CONCRETE SPILLWAY (TYPE A)		7		7	EACH
	SS & 617	GUARDRAIL (TYPE A)		2525		2525	LIN. FT.
	SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)		1		1	EACH
	SS & 617	GUARDRAIL TERMINAL (TYPE 2)		1		1	EACH
	619	WIRE FENCE (TYPE A)		5147		5147	LIN. FT.
	619	WIRE FENCE (TYPE D)			497	497	LIN. FT.
	619	WIRE FENCE (TYPE D-1)			1476	1476	LIN. FT.
*	619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)		151	151	LIN. FT.
*	619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)		151	151	LIN. FT.
*	619	5' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	229		229	LIN. FT.
*	619	5' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	229		229	LIN. FT.
*	619	16' STEEL GATES	(ALTERNATE NO. 1)	1	1	2	EACH
*	619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	1	1	2	EACH
	620	LIME		167	44	211	TON
	620	SEEDING		83.44	22.13	105.57	ACRE
	SS & 620	MULCH COVER		147.00	42.73	189.73	ACRE
	620	WATER		8571.2	2640.6	11211.8	M. GAL.
	621	TEMPORARY SEEDING		63.56	18.32	81.88	ACRE
	621	SILT FENCE		64510	28235	92745	LIN. FT.
	621	SAND BAG DITCH CHECKS		2684	1716	4400	BAG
	621	SEDIMENT REMOVAL AND DISPOSAL		2714	1048	3762	CU. YD.
	621	ROCK DITCH CHECKS		576	297	873	CU. YD.
	SS & 621	FILTER SOCK (12")		290	60	350	LIN. FT.
	623	SECOND SEEDING APPLICATION		83.44	22.13	105.57	ACRE
	624	SOLID SODDING		1860	767	2627	SQ. YD.
	626	EROSION CONTROL MATTING (CLASS 3)		400	89	489	SQ. YD.
	631	CONCRETE BARRIER WALL (MEDIAN TYPE A)		418		418	LIN. FT.
	631	CONCRETE BARRIER WALL (MEDIAN TYPE B)		343		343	LIN. FT.
	SS & 632	CONCRETE ISLAND		747		747	SQ. YD.
	SS & 633	CONCRETE WALKS		1865	284	2149	SQ. YD.
	SP, SS, & 633	CONCRETE WALKS (TYPE SPECIAL)			284	284	SQ. YD.
	SS & 633	HAND RAILING			512	512	LIN. FT.
	SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1'6")		5010	1068	6078	LIN. FT.
	635	ROADWAY CONSTRUCTION CONTROL		0.75	0.25	1.00	LUMP SUM
	637	MAILBOXES		19	10	29	EACH
	637	MAILBOX SUPPORTS (SINGLE)		15	6	21	EACH
	637	MAILBOX SUPPORTS (DOUBLE)		2	2	4	EACH
	641	WHEELCHAIR RAMPS (TYPE 3)		181	24	205	SQ. YD.
	642	RUMBLE STRIPS IN ASPHALT SHOULDERS		10587	12290	22877	LIN. FT.
	SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8 PHASES)		2		2	EACH
	SP	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED		1.00		1.00	LUMP SUM
	SP	ANTENNA SUPPORT (SHOE BASE, 50' HT.)		1		1	EACH
	SP	LOCAL RADIO WITH ANTENNA		1		1	EACH
	SP	LOCAL RADIO WITH ANTENNA RELOCATION		1		1	EACH
	SP	ANTENNA CABLE (TYPE 6)		140		140	LIN. FT.

* DENOTES ALTERNATE BID ITEMS.

SUMMARY OF QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		138	517
10-28-20				JOB NO. 080457				
10-29-20								

(2) SUMMARY OF QUANTITIES

STATE OF ARKANSAS * * * LICENSED PROFESSIONAL ENGINEER * * * No. 11435 TIMOTHY D. SMITH

Oct 30 2020 1:39 PM

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITY			UNIT
		CMF-0023(44)	STPU-0023(44)	TOTAL	
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	14		14	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1		1	EACH
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	4		4	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	6		6	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	3089		3089	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	77		77	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	397		397	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	883		883	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	175		175	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	45		45	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	698		698	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	80		80	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")	70		70	LIN. FT.
710	NON-METALLIC CONDUIT (2")	120		120	LIN. FT.
710	NON-METALLIC CONDUIT (3")	566		566	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2)	1		1	EACH
711	CONCRETE PULL BOX (TYPE 1 HD)	1		1	EACH
711	CONCRETE PULL BOX (TYPE 2 HD)	6		6	EACH
SS & 713	SPAN WIRE ASSEMBLY	1		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (3')	1		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	1		1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32'-22')	1		1	EACH
SP	LED LUMINAIRE ASSEMBLY	3		3	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	4		4	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1		1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00		1.00	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 45')	4		4	EACH
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	2246	3560	5806	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12")	498		498	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	2396	3343	5739	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	10298	14190	24488	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	1016		1016	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	16878	18564	35442	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (12")	1361		1361	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	14		14	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	28		28	EACH
SP & 719	THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)	92		92	LIN. FT.
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6")	12184		12184	LIN. FT.
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (12")	3509		3509	LIN. FT.
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	3109		3109	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	689	91	780	EACH
SP	RELOCATION OF EXISTING OVERHEAD SIGN STRUCTURE (OH-040-23-20)	1.00		1	EACH
SS & 725	GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	106		106	SQ. FT.
SS & 725	GUIDE SIGN-OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	284		284	SQ. FT.
SP, SS, & 726	STANDARD SIGN	1155		1155	SQ. FT.
SS & 727	EXIT NUMBER PANEL (TYPE A)	24		24	SQ. FT.
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1)	44		44	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)	21		21	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-1)	8		8	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-3)	6		6	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-4)	4		4	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-5)	3		3	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	3		3	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	3		3	EACH
SP	VIDEO DETECTOR ROTATION	2		2	EACH
SP & 733	VIDEO DETECTOR (CLR)	10		10	EACH
733	VIDEO CABLE	2050		2050	LIN. FT.
733	VIDEO MONITOR (CLR)	2		2	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	7		7	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	2		2	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	41		41	CU. YD.
SS & 802	CLASS S CONCRETE-ROADWAY	72.41		72.41	CU. YD.
SP	RETAINING WALL	12616		12616	SQ. FT.
SP	ARCHITECTURAL FINISH		1280	1280	SQ. FT.
SP	TEXTURED COATING FINISH	1183	104	1287	SQ. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	82746		82746	POUND
816	FILTER BLANKET	104		104	SQ. YD.
816	DUMPED RIPRAP	56		56	CU. YD.
SP	ANIMAL PASSAGE SHELF FURNISH & INSTALL	140		140	LIN. FT.
SP	ANIMAL PASSAGE SHELF REMOVE & REINSTALL	60		60	LIN. FT.
SP	ANIMAL PASSAGE SHELF REMOVE & DISPOSE	60		60	LIN. FT.
	STRUCTURES OVER 20' SPAN				
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00		1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3)	1.00		1.00	LUMP SUM
619	5' STEEL CHAIN LINK FENCE	210		210	LIN. FT.
636	BRIDGE CONSTRUCTION CONTROL	1.00		1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	187		187	CU. YD.
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	110		110	CU. YD.
SS & 802	CLASS S CONCRETE-ROADWAY	230.44		230.44	CU. YD.
SS & 802	CLASS S CONCRETE-BRIDGE	870.70		870.70	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE	1466.20		1466.20	CU. YD.
SP	ARCHITECTURAL FINISH	4062		4062	SQ. FT.
SP	TEXTURED COATING FINISH	1470		1470	SQ. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	109.3		109.3	GAL.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	35728		35728	POUND
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	130290		130290	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	299040		299040	POUND
SS & 805	STEEL PILING (HP 12X53)	1974		1974	LIN. FT.
SP	CORING DRILLED SHAFT	44		44	LIN. FT.
SP	DRILLED SHAFT (72" DIAMETER)	220		220	LIN. FT.
SP	PERMANENT STEEL CASING (84" DIAMETER)	100		100	LIN. FT.
SS & 805	PREBORING	480		480	LIN. FT.
SP	EXPLORATORY HOLES	320		320	LIN. FT.
SP	CROSSHOLE SONIC LOGGING (72" DIAMETER)	10		10	EACH
806	METAL BRIDGE RAILING (TYPE H2)	898		898	LIN. FT.
SP, SS, & 807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (A709, GR. 50)	1578840		1578840	POUND
SS & 807	PAINTING STRUCTURAL STEEL	789.4		789.4	TON
SS & 808	ELASTOMERIC BEARINGS	30496.0		30496.0	CU. IN.
SS & 809	SILICONE JOINT SEALANT	322		322	LIN. FT.
812	BRIDGE NAME PLATE (TYPE D)	2		2	EACH
816	CONCRETE RIPRAP	62		62	CU. YD.

DATE	REVISION	SHEET NUMBER
10/21/2020	REMOVED THE ANIMAL PASSAGE SHELVES FOR WILDLIFE CROSSING SPECAL PROVISION, ADDED SS 400-7 TRACKLESS TACK, ADDED THE EXTENSION OF ANIMAL PASSAGE SHELF SYSTEM SPECIAL PROVISION, ADDED THE FOLLOWING QUANTITIES: ANIMAL PASSAGE SHELF FURNISH & INSTALL, ANIMAL PASSAGE SHELF REMOVE & REINSTALL, AND ANIMAL PASSAGE SHELF REMOVE & DISPOSE, REMOVED THE ANIMAL PASSAGE RAMPS AND ANIMAL PASSAGE SHELVES QUANTITIES, REMOVED DRIVEWAY AND T.C.E. AT STA. 110+50 RT. AND STA. 132+00 LT. REMOVED DRIVEWAY AT STA. 71+56.58 LT. ADDED DRIVEWAY AT STA. 120+54 RT. REVISED THE FOLLWING QUANTITIES: EARTHWORK QUANTITY, AGGREGATE BASE COURSE CLASS 7 QUANTITY, UNCLASSIFIED EXCAVATION, COMPACTED EMBANKMENT, MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2"), ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2"), PORTLAND CEMENT CONCRETE DRIVEWAY, CONCRETE DITCH PAVING (TYPE B), 18" REINFORCED CONCRETE CULVERTS (CLASS III), 18" REINFORCED CONCRETE CULVERTS (CLASS IV), 18" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE), 18" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE), 18" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL CULVERT (16 GAUGE), 24" REINFORCED CONCRETE CULVERTS (CLASS III), 24" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE), 24" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (16 GAUGE), 24" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL CULVERT (16 GAUGE), 24" HIGH DENSITY POLYETHYLENE PIPE, 24" PVC PIPE, 24" REINFORCED CONCRETE CULVERTS (CLASS V), 36" REINFORCED CONCRETE CULVERTS (CLASS III), 42" REINFORCED CONCRETE CULVERTS (CLASS III), 42" ASPHALT COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE), 42" ALUMINUM COATED CORRUGATED STEEL PIPE CULVERTS (14 GAUGE), 42" POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL CULVERT (14 GAUGE), 42" HIGH DENSITY POLYETHYLENE PIPE, 12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE), 18" SIDE DRAIN, 24" SIDE DRAIN, 18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS, 24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS, 24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS, 24" FLARED END SECTIONS FOR CONCRETE PIPE CULVERTS, SELECTED PIPE BEDDING, DROP INLETS (TYPE C), DROP INLETS (TYPE E), DROP INLETS (TYPE MO), DROP INLETS (TYPE RM), DROP INLETS (TYPE SPECIAL), DROP INLET EXTENSIONS (8'), CONCRETE SPILLWAY (TYPE A), WATER, SOLID SODDING, WHEELCHAIR RAMPS (TYPE 3), THERMOPLASTIC PAVEMENT MARKING WHITE (6"), THERMOPLASTIC PAVEMENT MARKING YELLOW (6"), THERMOPLASTIC PAVEMENT MARKING (WORD), THERMOPLASTIC PAVEMENT MARKING (ARROWS), GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND), STANDARD SIGN, OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1), OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2), OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-4), UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY, CLASS S CONCRETE-ROADWAY, AND REINFORCING STEEL-ROADWAY. ADJUSTED THE PROJECT'S SEQUENCE OF CONSTRUCTION, REVISED THE PERMANENT PAVEMENT MARKING DETAILS, REVISED THE CURVE DATA, SUPERELEVATION NOTES, AND SIGNING PLAN SHEETS. DIMENSIONED THE CONCRETE ISLANDS, REMOVED MODIFITY OVERHEAD SIGN STRUCTURE (OH-040-23-20) QUANTITY, ADDED RELOCATION OF EXISTING OVERHEAD STRUCTURE (OH-040-23-20) QUANTITY, AND CHANGED THE SPELLING OF PAY ITEM FROM OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G-1) TO OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS. REVISED SS 100-3.	3, 6, 7, 39-112, 118-120, 122-124, 172, 176, 177, 179, 182-185, 206, 207, 212-214, 216, 220-225, 300-305, 326, 368, 372, 379, 385, 398, 405, 418, 420, 424, 428, 430-451, 472, 473, 490-493, 489, 494
10/26/2020	ADDED THE DELAY IN RIGHT OF WAY OCCUPANCY SPECIAL PROVISION.	3, 139
10/28/2020	ADDED A DRIVEWAY AT STA. 108+75 RT. ON HIGHWAY 365. MOVED THE DRIVEWAY AT STA. 106+00 RT. ON HIGHWAY 365 TO STA. 105+50 RT. MOVED THE DRAINAGE STRUCTURE AT STA. 7606+00 ON HIGHWAY 89 TO HIGHWAY 365 ALIGNMENT TO STA. 7606+50. REVISED THE SPECIAL DETAIL DRAWINGS OF THE CONCRETE MEDIAN BARRIER WALL. REVISED THE STATIONING FOR THE REMOVAL OF CONCRETE MEDIAN. REVISED THE FOLLOWING QUANTITIES: REMOVAL AND DISPOSAL OF CONCRETE MEDIAN BARRIER, UNCLASSIFIED EXCAVATION, COMPACTED EMBANKMENT, AGGREGATE BASE COURSE (CLASS 7), MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2"), ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2"), 18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III), 18" SIDE DRAIN, 21" X 15" SIDE DRAIN, SELECTED PIPE BEDDING, DROP INLETS (TYPE C), LIME, SEEDING, MULCH COVER, WATER , TEMPORARY SEEDING, SECOND SEEDING APPLICATION, CONCRETE BARRIER WALL (MEDIAN TYPE A), AND CONCRETE BARRIER WALL (MEDIAN TYPE B)	24, 31, 32, 64, 72, 92, 100, 110, 128-134, 138, 139, 182, 184, 437, 440, 452-460, 490-498
10/29/2020	ADDED THE PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT SPECIAL PROVISION.	3, 139
10/29/2020	ADDED ROCK FILL SPECIAL PROVISION. ADDED ROCK FILL QUANTITY. REVISED BRIDGE DRAWINGS 61857, 61859, 61893, AND 61916.	3, 129, 137-139, 227, 261, 284

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20		10-29-20	
10-26-20			
10-28-20			

② SUMMARY OF QUANTITIES AND REVISIONS

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	080457	139	517

JOB NO.

STATE OF ARKANSAS
TIMOTHY D. SMITH
LICENSED PROFESSIONAL ENGINEER
No. 11435
Oct 30 2020 11:40 PM
DocuSigned by:

R080457.DGN 9/26/2019

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	140	517

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH
Oct 5 2020 9:54 AM
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Project Name: 080457
Date: 2/7/2019
Coordinate System: Arkansas State Plane Coordinates
Based on AHTD GPS PTS : *230019 - 230019A, 230035 - 230035A*
Projected to Ground Coordinates
Units: U.S. Survey Foot

COORDINATES LISTED BELOW ARE GROUND (Localized) COORDINATES !!!!

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description
1	228670.4898	0.0110	1180911.4284	0.0090	324.14	0.009	CTL	PD:AHTD STD. MONUMENT STAMPED PN:1
2	227996.9368	0.0120	1180927.0756	0.0100	319.11	0.009	CTL	PD:AHTD STD. MONUMENT STAMPED PN:2
3	227351.2913	0.0218	1181002.1473	0.0193	317.25	0.008	CTL	PD:AHTD STD. MONUMENT STAMPED PN:3
4	227324.7718	0.0192	1181849.7807	0.0176	309.24	0.008	CTL	PD:AHTD STD. MONUMENT STAMPED PN:4
5	227332.5377	0.0216	1182880.0365	0.0198	295.68	0.007	CTL	PD:AHTD STD. MONUMENT STAMPED PN:5
6	227322.5668	0.0175	1183767.6574	0.0173	285.01	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:6
7	227218.6326	0.0205	1184260.3867	0.0198	288.93	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:7
8	227225.9434	0.0177	1185102.2391	0.0171	287.86	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:8
9	227262.0327	0.0171	1185542.0023	0.0169	281.80	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:9
10	228148.3121	0.0169	1185600.0822	0.0168	287.70	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:10
11	228898.5095	0.0170	1185686.8658	0.0172	283.10	0.006	CTL	PD:AHTD STD. MONUMENT STAMPED PN:11
12	229662.6234	0.0185	1185654.5402	0.0188	279.21	0.007	CTL	PD:AHTD STD. MONUMENT STAMPED PN:12
13	230303.5548	0.0176	1185781.6861	0.0183	270.93	0.007	CTL	PD:AHTD STD. MONUMENT STAMPED PN:13
14	230911.9666	0.0175	1185928.1907	0.0183	277.94	0.006	CTL	PD:AHTD STD. MONUMENT STAMPED PN:14
15	231522.8199	0.0147	1186100.0439	0.0134	286.61	0.007	CTL	PD:AHTD STD. MONUMENT STAMPED PN:15
16	232239.8091	0.0195	1186246.5119	0.0191	288.88	0.007	CTL	PD:AHTD STD. MONUMENT STAMPED PN:16
17	232987.6045	0.0223	1186511.4181	0.0208	280.62	0.007	CTL	PD:AHTD STD. MONUMENT STAMPED PN:17
18	233765.5581	0.0179	1186695.5115	0.0161	271.23	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:18
19	234608.1972	0.0222	1186775.3550	0.0209	270.82	0.006	CTL	PD:AHTD STD. MONUMENT STAMPED PN:19
20	235399.7514	0.0208	1186813.3549	0.0193	270.97	0.006	CTL	PD:AHTD STD. MONUMENT STAMPED PN:20
21	236031.2368	0.0196	1186846.5680	0.0182	272.64	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:21
22	236795.2268	0.0222	1186890.5201	0.0228	273.74	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:22
23	232335.1600	0.0160	1188278.4518	0.0130	268.18	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:23
24	232249.2796	0.0140	1187606.0084	0.0120	267.64	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:24
25	232260.7572	0.0150	1186931.0829	0.0130	300.00	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:25
26	232506.4378	0.0150	1185758.8707	0.0140	298.99	0.002	CTL	PD:AHTD STD. MONUMENT STAMPED PN:26
27	232526.1712	0.0160	1185337.4212	0.0150	300.60	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:27
28	232392.6019	0.0150	1185011.3051	0.0140	297.07	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:28
29	232403.7980	0.0160	1184613.6059	0.0130	349.35	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:29
30	232178.9247	0.0140	1184487.3959	0.0110	376.12	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:30
31	231586.1591	0.0160	1184294.2609	0.0130	351.94	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:31
32	231077.1690	0.0150	1184121.8973	0.0120	341.77	0.005	CTL	PD:AHTD STD. MONUMENT STAMPED PN:32
33	230525.8593	0.0130	1183904.6009	0.0100	327.59	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:33
34	229789.1487	0.0160	1183615.5374	0.0120	306.63	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:34
35	229410.5885	0.0160	1183473.3172	0.0120	301.60	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:35
36	229422.6261	0.0110	1183073.1420	0.0110	308.79	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:36
37	229017.9158	0.0100	1182389.5594	0.0100	309.01	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:37
38	229096.4346	0.0100	1181676.8223	0.0090	316.24	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:38
39	229071.5329	0.0100	1180928.2037	0.0090	325.12	0.002	CTL	PD:AHTD STD. MONUMENT STAMPED PN:39
40	228838.4013	0.0120	1179341.9410	0.0090	286.74	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:40
41	227773.7848	0.0173	1184396.7528	0.0139	285.55	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:41
42	228324.3528	0.0166	1184572.1365	0.0132	284.94	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:42
43	229029.6473	0.0142	1184741.4475	0.0103	283.13	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:43
44	229743.8571	0.0162	1184872.1713	0.0128	280.06	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:44
45	230361.5928	0.0175	1185141.9273	0.0140	281.82	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:45
46	231086.8553	0.0186	1185474.7672	0.0155	281.55	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:46
47	231723.7628	0.0157	1185802.6449	0.0132	283.29	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:47
48	232430.0346	0.0166	1186190.4868	0.0157	283.26	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:48
49	233208.3034	0.0197	1186462.6202	0.0186	278.46	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:49
50	234038.2593	0.0166	1186621.8179	0.0163	275.22	0.004	CTL	PD:AHTD STD. MONUMENT STAMPED PN:50
51	234878.4740	0.0173	1186676.6847	0.0180	274.33	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:51
52	235657.7857	0.0188	1186692.6173	0.0198	276.16	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:52
53	236536.7222	0.0180	1186755.2543	0.0205	279.32	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:53
54	22876.8758	0.0100	117834.2546	0.0100	278.66	0.003	CTL	PD:AHTD STD. MONUMENT STAMPED PN:54
100	228308.3790	0.0001	1185983.7612	0.0001	287.36	0.001	GPS	PD:AHTD GPS #230019
101	225835.9634	0.0001	1185871.0530	0.0001	278.44	0.001	GPS	PD:AHTD GPS #230019A
102	228858.4373	0.0001	1180182.2408	0.0001	297.60	0.01	GPS	PD:AHTD GPS #230035
103	228829.3388	0.0001	1178324.7327	0.0001	283.29	0.011	GPS	PD:AHTD GPS #230035A
900	232242.5599	30.0000	1184520.0245	30.0000	374.58	0.005	TBM	PD:TOP OF 2"X3" BRACKET ON TRANSMISSION PP
901	229785.7675	0.0300	1183587.8950	0.0240	311.88	0.005	TBM	PD:TOP OF 2"X3" BRACKET ON TRANSMISSION PP
902	228840.5150	0.0160	1179143.4819	0.0110	285.09	0.003	TBM	PD:CHSLD SQ IN THE SE COR. OF BRIDGE
903	228829.9712	0.1000	1184588.5903	0.1000	282.19	0.003	TBM	PD:CPS IN CP
904	230486.6046	0.1000	1185073.0577	0.1000	283.34	0.003	TBM	PD:CPS IN CP
905	233032.8250	0.1000	1186276.6729	0.1000	286.19	0.003	TBM	PD:BOLT ON FH
906	234896.7469	0.1000	1186651.8896	0.1000	276.80	0.003	TBM	PD:SE BOLT ON RR LIGHT
998	227265.5984	30.0000	1184248.8922	30.0000	287.97	0	BM	PD:NGS 1ST ORDER BM F 70
999	236556.1047	30.0000	1186868.8569	30.0000	272.96	0	BM	PD:NGS 1ST ORDER BM X 290

*Standard Primary Control Monument - Rebar and Cap - Standard - 5/8"x 24" Rebar with 2"Aluminum Cap stamped: *"(include all common information here)"* plus

**Standard GPS Control Point Monument - 5/8" x 48" Rebar with 2.5"Aluminum Cap stamped: *"JOB:080426, T-#"* point description of the individual point. These

SX, SY, SZ – Represents the standard error estimate of the coordinate values of each point at the 67% confidence level (one sigma) based on the least squares

Reference Control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall

All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. New

Positional Accuracy:
- Horizontal - GPS (1.0 cm± 1PPM) — *PN: 100-103*
- Horizontal - Primary (2.0cm± 20PPM): — *PN:1-53*
- Horizontal - Secondary (3 cm ± 50PPM): — *N/A*
- Vertical - NGS 1st Order (±4mm x Vdist in km) — *N/A*
- Vertical - NGS 2nd Order (±6mm x Vdist in km) — *PN:998 & 999*
- Vertical - NGS 3rd Order (±8mm x Vdist in km) — *PN:900-906*

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0301 - North Zone
The adjustment year is based on metadata in the SDMS Control file
A project CAF of: 0.99998446590 has been used to compute the above coordinates.
The project CAF shall have a minimum precision of 9 digits right of the decimal.
This CAF is intended for use within the project limits only.
Grid Distance = Ground Distance X CAF
If Coordinates are listed as Ground:
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0
If Coordinates are listed as Grid:
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM:
A project Elevation Factor of: 0.9999857196 has been computed and incorporated in the above CAF.
This is based on the average elevation of the project: 298.55 Feet
3-Wire Leveling techniques have been used to establish elevations on
Points: 1-53, 900-906 From NGS BM: F 70, X 290

Basis of Bearing: Grid Bearings based on AHTD GPS points: *230019 - 230019A, 230035 - 230035A*
Convergence Angle is: 0°16'25.00" Left at PN: 14
LT: 34-58-01.136 N LG: 2-25-19.014 W
Grid Azimuth = Astronomical Azimuth - Convergence Angle

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	141	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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HWY. 89 - 3 LANES

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	95+71.40	228842.61	1179766.12
8001	PC	97+01.71	228838.84	1179896.37
8003	PT	99+61.21	228813.78	1180154.46
8141	STA. EQ.	101+99.92	228807.29	1180193.46
8004	PC	100+14.33	228804.94	1180207.60
8006	PT	105+01.06	228745.59	1180690.55
8007	PC	111+35.64	228695.01	1181323.11
8009	PT	119+96.08	228939.84	1182127.02
8010	PC	138+73.23	230107.10	1183597.12
8012	PT	148+73.17	230901.23	1184185.85
8013	PC	159+88.08	231938.19	1184595.41
8015	PT	174+29.83	232578.63	1185760.39
8016	PC	188+50.30	232311.28	1187155.47
8018	PT	193+25.33	232280.51	1187628.28
8019	PI	196+73.78	232301.19	1187976.12
8020	POE	201+54.06	232333.17	1188455.33

ARKANSAS RIVER TRAIL / HWY. 89

POINT NO.	TYPE	STATION	NORTHING	EASTING
8029	POB	80+00.00	228351.82	1180920.58
8030	POE	83+74.61	228726.23	1180932.66

SNUGGS CIRCLE

POINT NO.	TYPE	STATION	NORTHING	EASTING
8030	POB	10+00.00	228726.23	1180932.66
8031	PC	10+46.69	228772.90	1180934.19
8033	PT	11+74.88	228900.05	1180921.24
8034	PC	11+77.94	228903.02	1180920.52
8036	PT	13+19.20	229043.23	1180908.18
8037	POE	14+29.28	229153.10	1180914.80

SHADEL LANE

POINT NO.	TYPE	STATION	NORTHING	EASTING
8038	POB	40+00.00	228389.76	1182153.49
8039	PC	41+21.68	228427.24	1182037.73
8041	PT	42+59.92	228499.32	1181921.33
8042	PC	43+73.42	228580.39	1181841.90
8044	PT	45+15.80	228701.45	1181769.49
8045	POE	45+59.90	228743.55	1181756.34

SHADEL LANE NORTH

POINT NO.	TYPE	STATION	NORTHING	EASTING
8046	POB	30+00.00	228723.70	1181684.80
8047	PC	30+51.00	228773.26	1181672.77
8049	PT	31+53.20	228874.66	1181663.06
8050	POE	32+09.30	228930.69	1181665.71

CARROL ROAD

POINT NO.	TYPE	STATION	NORTHING	EASTING
8064	POB	2+00.00	232586.84	1185711.25
8065	PC	2+33.17	232619.67	1185715.92
8067	PT	3+16.23	232698.24	1185741.56
8068	PC	3+37.15	232716.70	1185751.40
8070	PT	4+48.36	232823.30	1185779.36
8071	PC	5+15.70	232890.62	1185780.95
8073	PT	6+56.59	232971.40	1185687.69
8074	POE	7+35.09	232958.37	1185610.28

MAIN STREET CONNECTOR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8075	POB	100+00.00	232565.42	1185829.31
8076	PC	102+55.94	232804.60	1185920.40
8078	PT	106+60.03	232996.17	1186242.23
8079	POE	107+21.45	232988.02	1186303.11

MAIN STREET EXISTING

POINT NO.	TYPE	STATION	NORTHING	EASTING
8080	POB	100+00.00	229427.13	1184746.91
8081	PC	104+57.53	229871.30	1184856.64
8083	PT	109+94.40	230372.74	1185045.00
8084	PC	129+32.75	232095.22	1185933.98
8086	PT	145+67.34	233634.35	1186467.73
8087	POE	146+79.53	233744.49	1186489.04

HWY. 365 TO EB ENTRANCE

POINT NO.	TYPE	STATION	NORTHING	EASTING
8088	POB	7604+27.53	231650.40	1186110.87
8089	PC	7605+47.42	231617.96	1186226.29
8091	PT	7608+81.39	231363.81	1186399.19
8092	POE	7608+84.56	231360.65	1186398.87

EASTBOUND ENTRANCE

POINT NO.	TYPE	STATION	NORTHING	EASTING
8098	POB	7598+21.12	232432.34	1186523.72
8115	PC	7611+20.02	231140.21	1186391.36
8135	PT	7614+47.41	230818.96	1186330.32
8136	PC	7619+31.98	230352.41	1186199.43
8138	PT	7628+80.40	229429.69	1185981.32
8139	PI	7630+36.80	229276.13	1185951.67
8140	POE	7633+36.72	228978.83	1185912.01

HWY. 365 EXISTING

POINT NO.	TYPE	STATION	NORTHING	EASTING
8130	POB	96+60.00	231162.30	1185973.71
8131	PC	117+44.06	233168.65	1186537.52
8133	PT	130+36.02	234441.16	1186744.46
8134	POE	133+56.96	234761.72	1186760.00

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				6	ARK.			
				JOB NO.		080457	142	517

(2) SURVEY CONTROL DETAILS

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EB EXIT TO HWY. 365

POINT NO.	TYPE	STATION	NORTHING	EASTING
8021	POB	7587+00.00	233463.41	1187041.27
8022	PC	7587+86.92	233380.16	1187016.31
8024	PT	7591+54.99	233218.14	1186725.75
8129	POE	7593+23.63	233261.86	1186562.87

HWY. 89 TO HWY. 365

POINT NO.	TYPE	STATION	NORTHING	EASTING
8093	POB	7603+26.40	231929.90	1186472.26
8094	PC	7603+81.49	231875.09	1186466.64
8096	PT	7607+97.53	231669.59	1186164.57
8097	POE	7608+44.03	231682.17	1186119.80

SNUGGS CIR. NORTH

POINT NO.	TYPE	STATION	NORTHING	EASTING
8056	POB	70+00.00	229734.93	1183128.40
8057	PC	70+41.16	229767.17	1183102.80
8059	PT	71+56.58	229874.52	1183067.40
8060	PC	71+96.07	229913.99	1183068.74
8062	PT	72+83.37	229970.41	1183014.48
8063	POE	74+48.93	229971.25	1182848.92

HWY. 365 TO HWY. 89

POINT NO.	TYPE	STATION	NORTHING	EASTING
8117	POB	7587+11.66	233229.97	1186554.39
8118	PC	7589+35.35	233171.98	1186770.44
8120	PT	7590+40.10	233123.85	1186862.52
8161	POE	7591+03.37	233083.04	1186910.88

I-40

POINT NO.	TYPE	STATION	NORTHING	EASTING
8167	POB	7543+04.03	237814.18	1187586.80
8168	PC	7566+57.33	235465.50	1187439.57
8170	PT	7591+09.66	233052.97	1187026.41
8171	PC	7618+46.12	230420.53	1186279.09
8173	PT	7649+72.14	227338.99	1185802.93
8174	POE	7691+14.94	223198.06	1185678.65

SNUGGS CIRCLE SOUTH

POINT NO.	TYPE	STATION	NORTHING	EASTING
8051	POB	60+00.00	229438.57	1183060.45
8052	PC	60+33.16	229471.72	1183060.62
8054	PT	61+62.31	229591.47	1183019.21
8055	POE	62+06.77	229626.29	1182991.56

HWY. 365 TO HWY. 89

POINT NO.	TYPE	STATION	NORTHING	EASTING
8117	POB	7587+11.66	233229.97	1186554.39
8118	PC	7589+35.35	233171.98	1186770.44
8120	PT	7591+06.43	233074.61	1186906.66

EB EXIT TO HWY. 89 CONNECTOR

POINT NO.	TYPE	STATION	NORTHING	EASTING
8162	POB	7561+00.00	236024.69	1187427.24
8163	PC	7566+42.68	235483.06	1187393.44
8165	PT	7581+24.71	234013.99	1187205.90
8175	PC	7581+54.33	233984.91	1187200.26
8177	PT	7583+44.61	233800.23	1187154.78
8113	PC	7587+77.70	233385.38	1187030.41
8121	PT	7592+49.71	232954.51	1186840.65
8102	POE	7598+58.93	232431.48	1186528.26

DETOUR-CURRENT

POINT NO.	TYPE	STATION	NORTHING	EASTING
8141	POB	300+00.00	228861.42	1178827.18
8142	PC	300+46.16	228861.06	1178873.34
8144	PT	302+38.78	228891.68	1179062.60
8145	PC	302+43.54	228893.21	1179067.10
8147	PT	305+74.79	228906.08	1179393.51
8148	PC	307+52.91	228862.07	1179566.10
8150	PT	308+79.10	228844.55	1179690.81
8151	POE	309+32.03	228842.99	1179743.72

HWY 89 - SITE 1

POINT NO.	TYPE	STATION	NORTHING	EASTING
8152	POB	100+00.00	228862.75	1178627.27
8153	PC	103+06.13	228860.72	1178933.39
8155	PT	104+27.63	228859.27	1179054.88
8156	PC	106+50.22	228855.43	1179277.44
8158	PT	107+67.51	228852.81	1179394.70
8000	PI	111+39.07	228842.61	1179766.12
8159	PI	113+99.33	228835.09	1180026.27
8160	POE	115+83.19	228804.94	1180207.64

9/26/2019

R080457.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	143	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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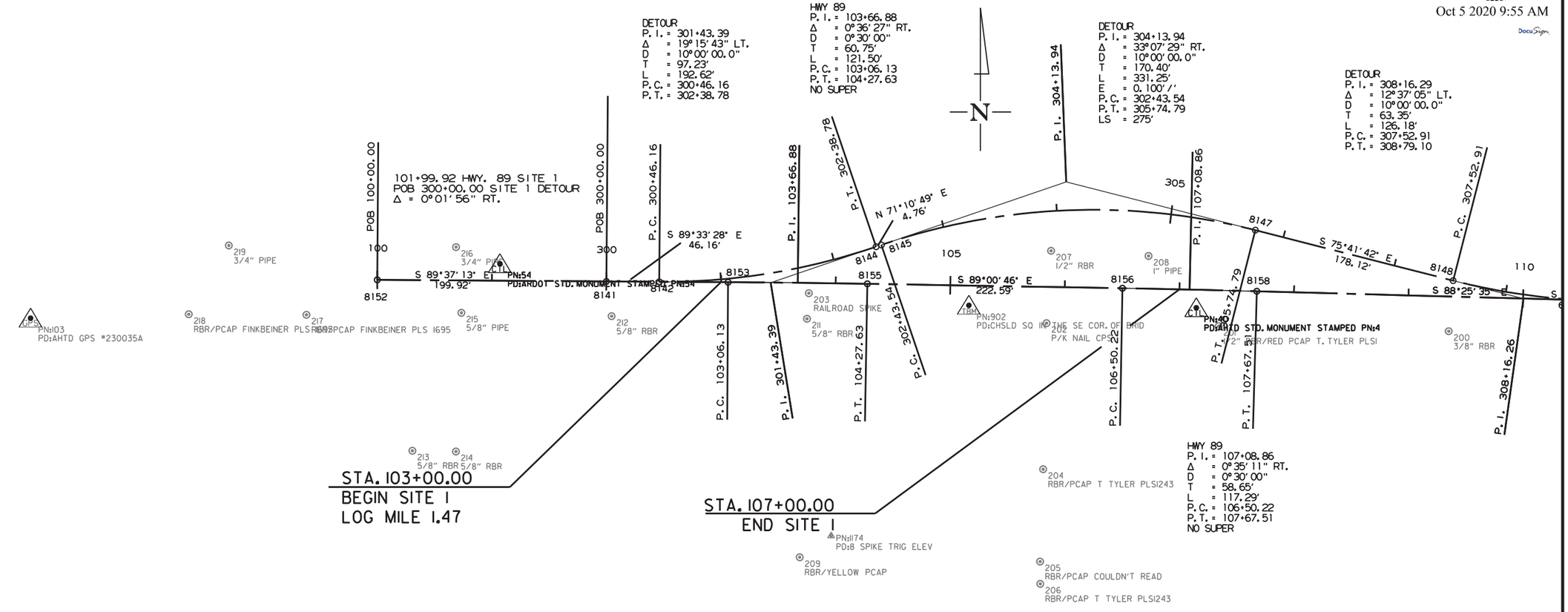

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SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		080457	144	517

(2) SURVEY CONTROL DETAILS

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LICENSED PROFESSIONAL ENGINEER
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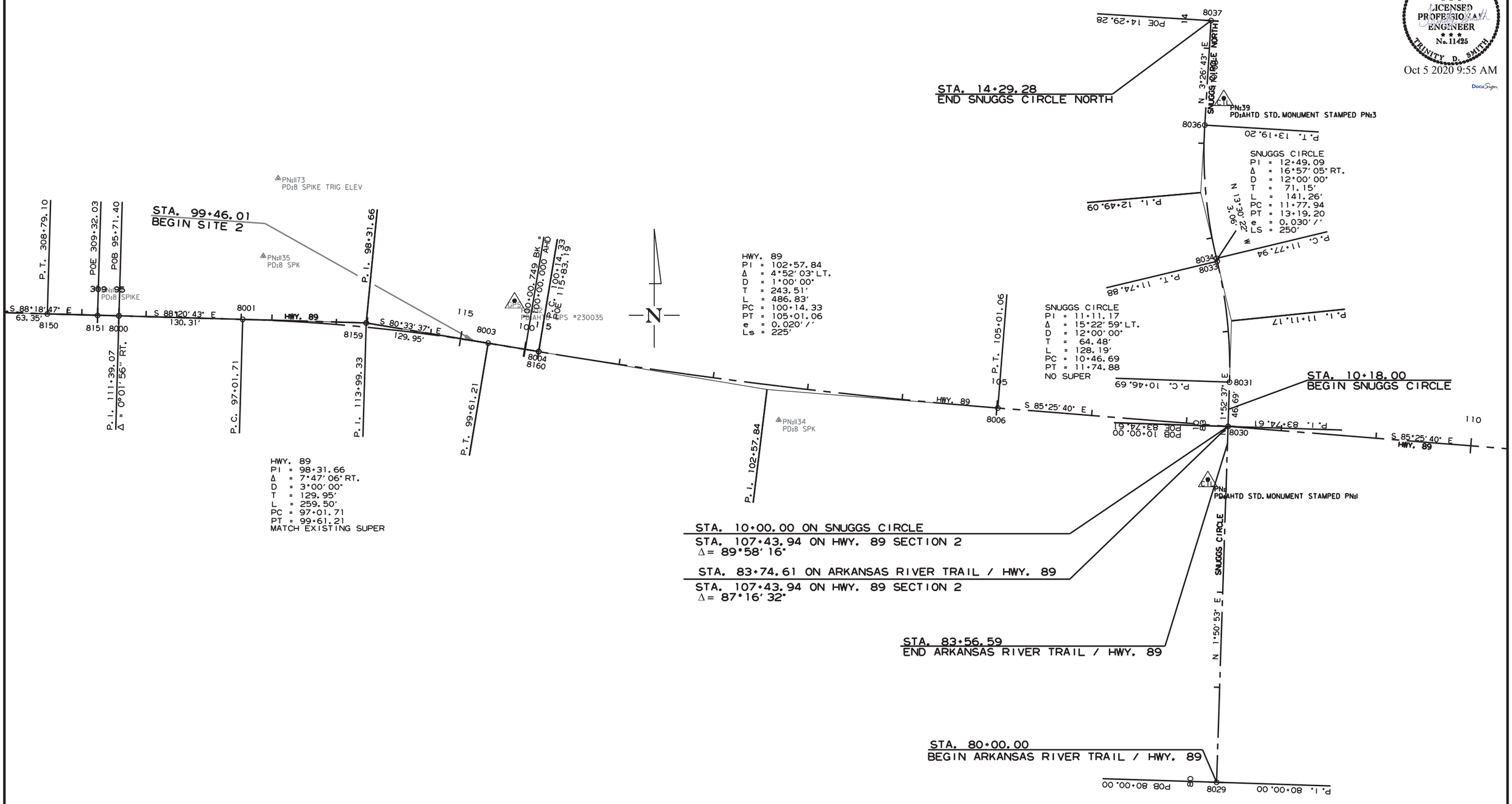

SURVEY CONTROL DETAILS

9/26/2019

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				6	ARK.			
				JOB NO.		080457	145	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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TRINITY D. SMITH
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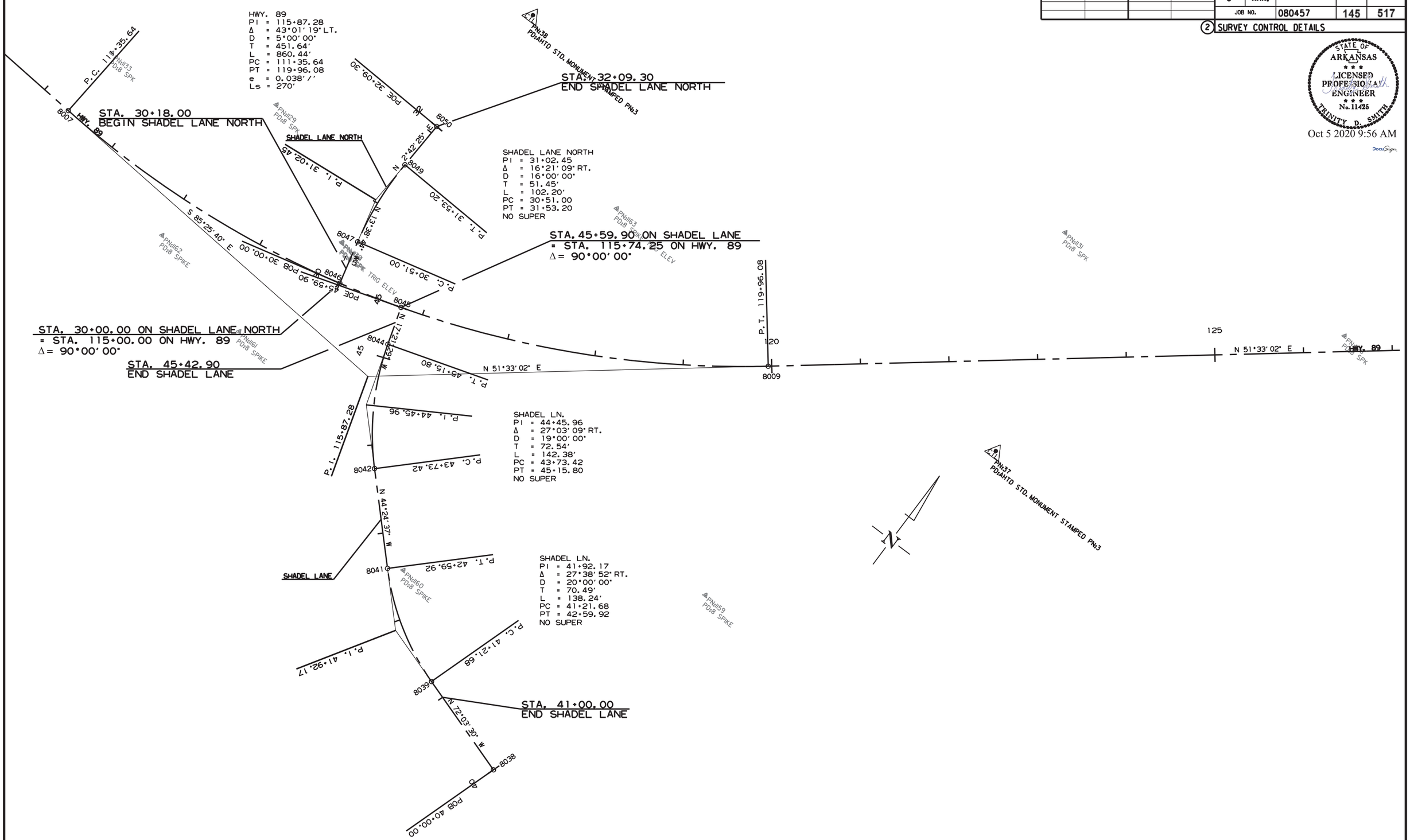

SURVEY CONTROL DETAILS

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R080457.DGN

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				6	ARK.			
				JOB NO.		080457	146	517

2 SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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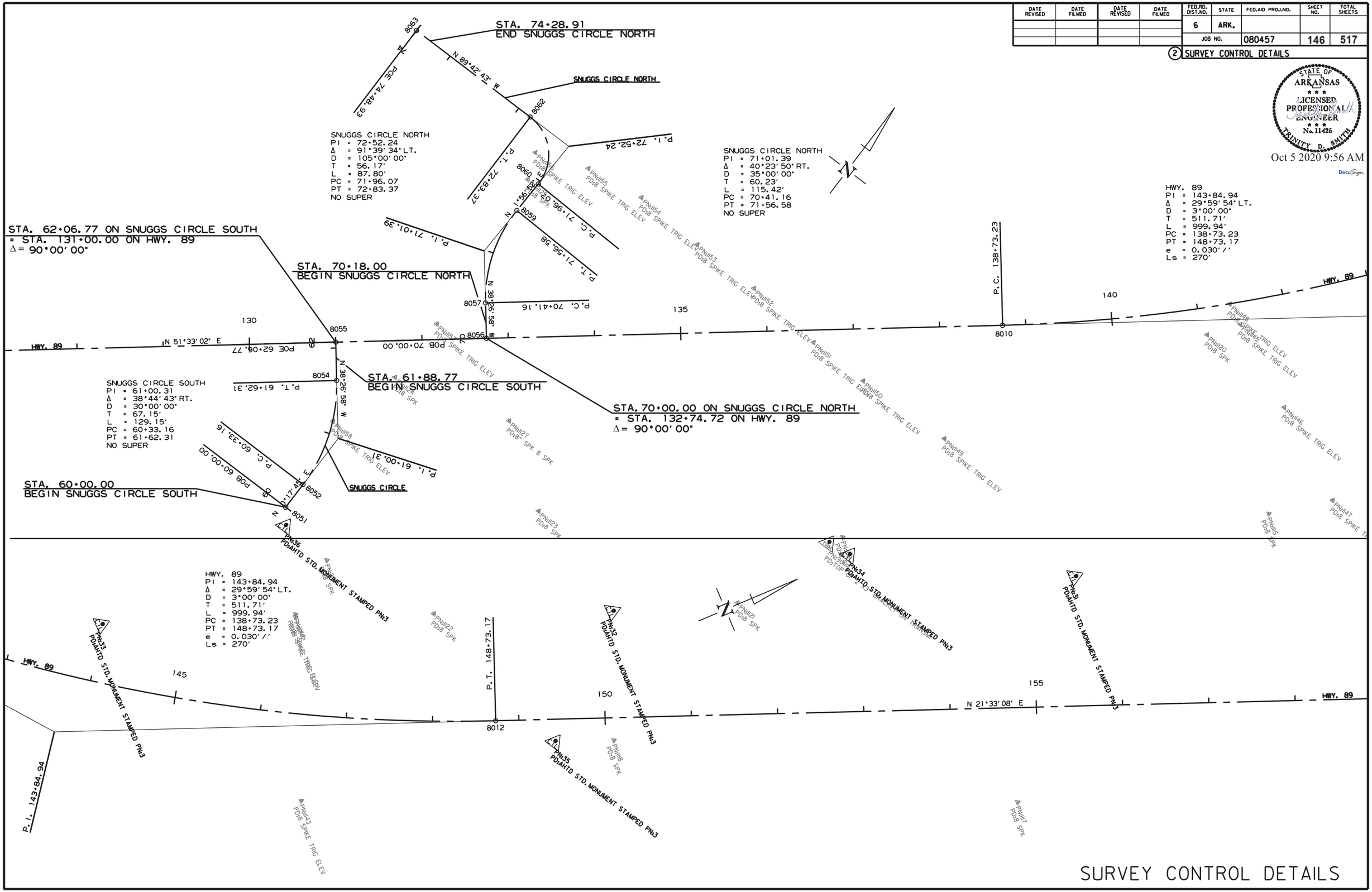

SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		080457	147	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
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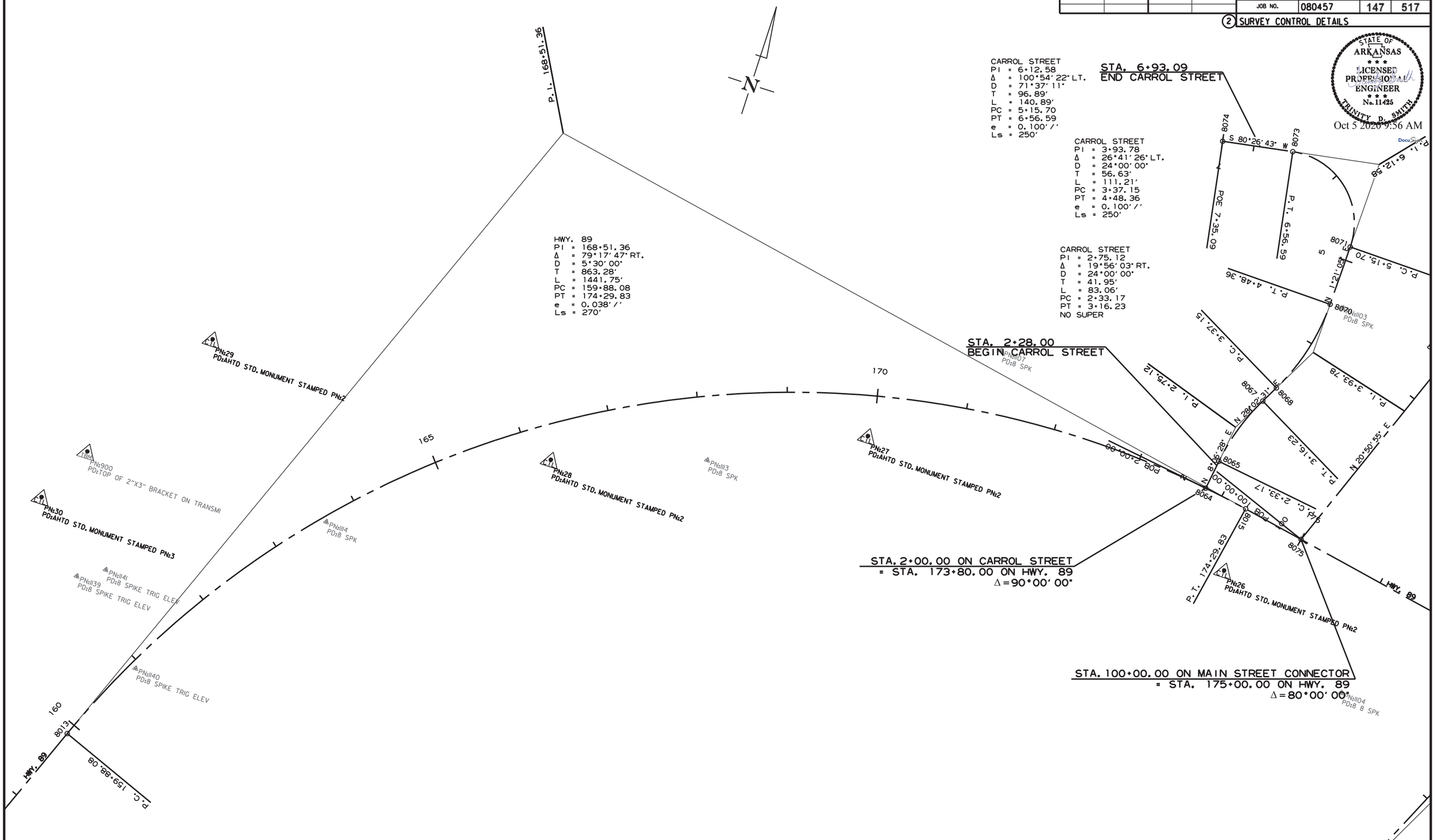

SURVEY CONTROL DETAILS

9/26/2019

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	148	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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STA. 107+21.45 - MAIN STREET CONNECTOR
= STA. 139+00.00 - MAIN STREET EXISTING
Δ = 85°00'00"

MAIN STREET CONNECTOR
PI = 104+94.85
Δ = 76°46'39" RT.
D = 19°00'00"
T = 238.91'
L = 404.09'
PC = 102+55.94
PT = 106+60.03
e = 0.095'/'
Ls = 250'

STA. 107+12.20
END MAIN STREET CONNECTOR

STA. 100+18.00
BEGIN MAIN STREET CONNECTOR

STA. 133+88.85 ON MAIN STREET
= STA. 178+2.92 ON HWY. 89
Δ = 78°24'04"

STA. 100+89.00 ON MAIN ST. CONNECTOR
= STA. 175+00.00 ON HWY. 89
Δ = 80°00'00"

MAIN STREET
PI = 137+55.64
Δ = 16°20'45" LT.
D = 1°00'00"
T = 822.88'
L = 1634.59'
PC = 129+32.75
PT = 145+67.34

STA. 110+15.71 ON HWY. 365
= STA. 180+20.48 ON HWY. 89
Δ = 85°09'09"

EASTBOUND EXIT
PI = 7590+14.01
Δ = 16°38'55" RT.
D = 3°00'00"
T = 279.45'
L = 554.95'
PC = 7587+34.57
PT = 7592+89.52
e = 0.067'/'
Ls = 350'

STA. 7598+29.13
END EASTBOUND EXIT

STA. 7598+58.93 ON EASTBOUND EXIT
= STA. A 185+22.34 ON HWY. 89
Δ = 70°00'00"

STA. 7598+16.49 ON I-40
= STA. 185+22.34 ON HWY. 89
Δ = 85°00'00"

STA. 7598+55.12
BEGIN EASTBOUND ENTRANCE

STA. 7598+21.12 EASTBOUND ENTRANCE
= STA. 182+07.05 ON HWY. 89
Δ = 85°00'00"

HWY. 89
PI = 190+89.04
Δ = 14°15'03" LT.
D = 3°00'00"
T = 238.75'
L = 475.03'
PC = 188+50.30
PT = 193+25.33
e = 0.030'/'
Ls = 270'

POB 7598+21.12
POE 7598+58.93

P.I. 104+94.85
P.C. 102+55.94
P.T. 106+60.03
P.I. 137+55.64
P.I. 7592+49.71
P.C. 188+50.30
P.T. 193+25.33

MAIN STREET CONNECTOR
S 82°22'26" E
N 20°50'55" E
S 30°50'55" W
S 79°09'05" E
N 15°41'46" E
MAIN STREET
HIGHWAY 365
EASTBOUND EXIT
EASTBOUND ENTRANCE
I-40
HWY. 89

8075 8076 8078 8079 8016

105 110 115 130 135 180 185 190 7595 7600

PN:48 PD:AHTD STD. MONUMENT STAMPED PN:4
PN:6 PD:AHTD STD. MONUMENT STAMPED PN:1
PN:7 PD:AHTD STD. MONUMENT STAMPED PN:1
PN:814 PD:REBAR CAP
PN:25 PD:AHTD STD. MONUMENT STAMPED PN:2
PN:87 PD:REBAR CAP 080411
PN:1103 PD:8 SPK
PN:1104 PD:8 8 SPK
PN:1106 PD:8 SPK
PN:1101 PD:8 SPK
PN:1100 PD:8 SPK
PN:1136 PD:8 SPK REBAR CAP TRIG ELEV
PN:1107 POINT FOR FH
PN:1108 4X4 CONC MONUMENT
PN:10366 METAL TRISIGN
SURVEY CONTROL POINT PN:1 PD:8 SPK REBAR CAP
SURVEY CONTROL POINT PN:2 PD:8 SPK REBAR CAP

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SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		080457	149	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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HWY. 89
PI = 190+89.04
Δ = 14°15'03" LT.
D = 3°00'00"
T = 238.75'
L = 475.03'
PC = 188+50.30
PT = 193+25.33
e = 0.030'/'
Ls = 270'

P.T. 193+25.33

P.I. 196+73.78
Δ = 0°24'58" RT.

STA. 201+54.06
END JOB 080457
SECTION 2

POE 201+54.06

190

195

200

201

HWY. 89

8018

8019

8020

N 86°35'52" E

N 86°10'54" E

PN:24
PD:AHTD STD. MONUMENT STAMPED PN:2

PN:23
PD:AHTD STD. MONUMENT STAMPED PN:2

PN:II37
PD:8 SPK

PN:II38
PD:8 SPK

PN:II65
PD:8 SPK TRIG ELEV

P.I. 190+89.04

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SURVEY CONTROL DETAILS

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				JOB NO.		080457	150	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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POB 100+00.00
100
8080
MAIN STREET N 13°52' 36" E
105
8081
P.I. 107+27.20
110
8083
115
MAIN STREET

STA. 100+00.00
BEGIN MAIN STREET CONNECTOR

PN#4 PDAHTD STD. MONUMENT STAMPED PN4

P.C. 104+57.53

MAIN STREET
PI = 107+27.20
Δ = 13°25' 19" RT.
D = 2°30' 00"
T = 269.67'
L = 536.87'
PC = 104+57.53
PT = 109+94.40

P.T. 109+94.40

PN#4 PDAHTD STD. MONUMENT STAMPED PN4

PN#4 PDAHTD PK NAIL IN CP 15.W OF W EP ON MAIN ST

120
MAIN STREET N 27°17'55" E
125
130
MAIN STREET
8084

P.C. 129+32.75

PN#10 PDAHTD SPK

PN#9 PDAHTD SPK REBAR CAP

PN#6 PDAHTD STD. MONUMENT STAMPED

HWY. 89

MAIN STREET CONNECTOR
PI = 104+94.85
Δ = 76°46' 39" RT.
D = 19°00' 00"
T = 238.91'
L = 404.09'
PC = 102+55.94
PT = 106+60.03
e = 0.095'/'
Ls = 250'

S 82°22' 26" E
8078

P.T. 106+60.03

MAIN STREET CONNECTOR

135

STA. 107+12.20
END MAIN STREET CONNECTOR

PN#3 PDAHTD PK NAIL IN CP 1.0W FEN FH

140
POE 107+21.45
8079

PN#7 PDAHTD STD. MONUMENT

MAIN STREET
PI = 137+55.64
Δ = 16°20' 45" LT.
D = 2°00' 00"
T = 822.88'
L = 1634.59'
PC = 129+32.75
PT = 145+67.34

145
P.T. 145+67.34
146
POE 146+79.53
MAIN STREET N 10°57' 10" E
8086
8087

PN#6 PDAHTD SPK

PN#8 PDAHTD STD. MONUMENT S

HWY. 89

110

P.I. 137+55.64

STA. 133+88.85 ON MAIN STREET
= STA. 178+2.92 ON HWY. 89
Δ = 78°24' 04"

STA. 100+00.00 ON MAIN STREET CONNECTOR
= STA. 175+00.00 ON MAIN STREET
Δ = 79°46' 04"

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SURVEY CONTROL DETAILS

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				JOB NO.		080457	151	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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TRINITY D. SMITH

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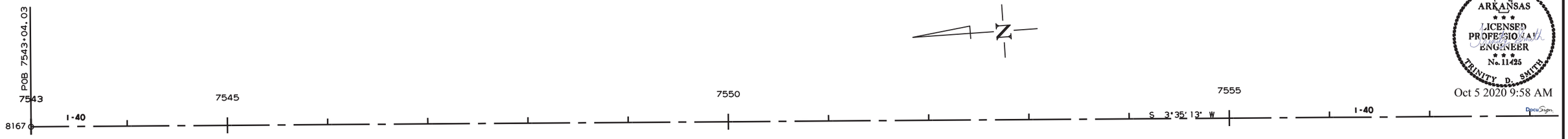

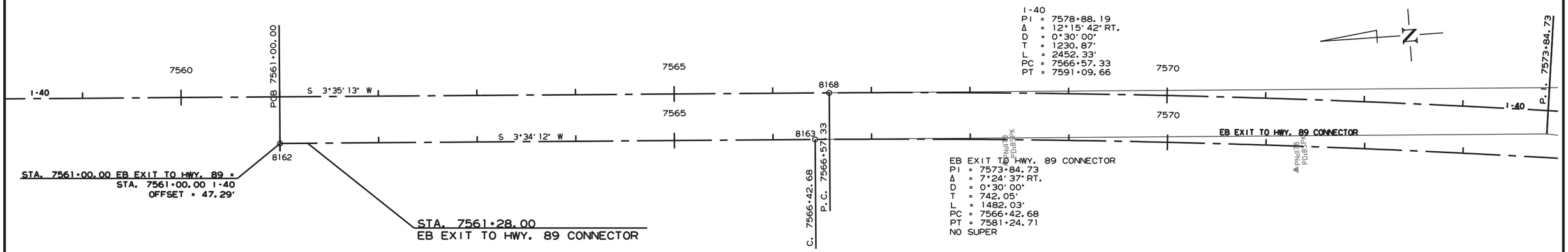

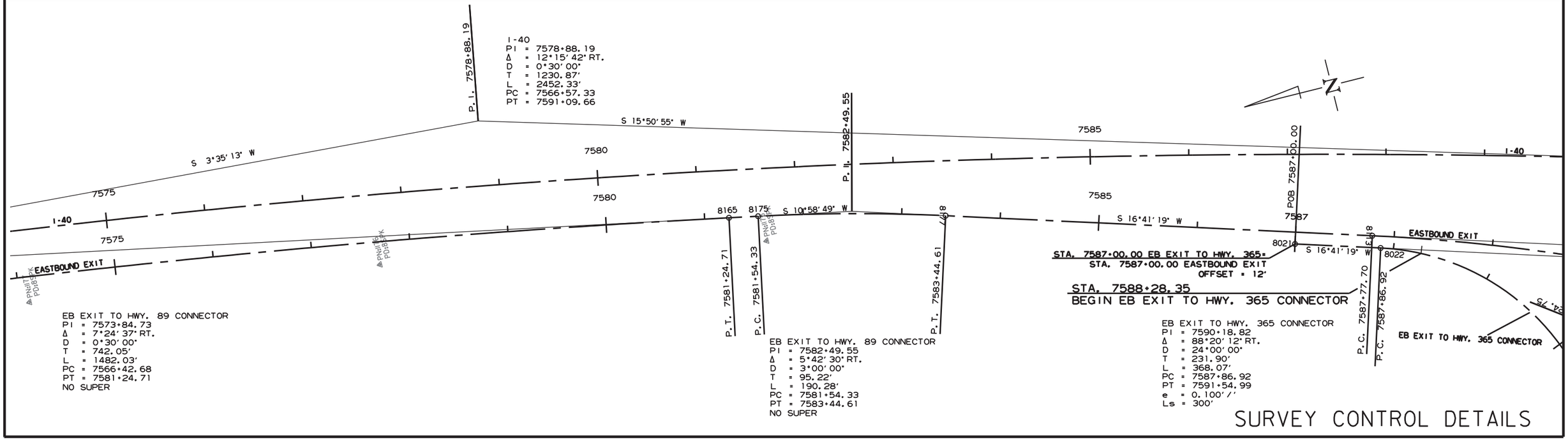

SURVEY CONTROL DETAILS

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				JOB NO.		080457	152	517

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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EB EXIT TO HWY. 89 CONNECTOR
PI = 7590+14.91
Δ = 14°09'37" RT.
D = 3°00'00"
T = 237.21'
L = 472.01'
PC = 7587+77.70
PT = 7592+49.71
e = 0.067'/'
Ls = 350'

STA. 7598+16.49 ON I-40
= STA. 185+22.34 ON HWY. 89
Δ = 85°00'00"

STA. 7591+03.37 ON EASTBOUND ENTRANCE
= STA. 182+07.05 ON HWY. 89
Δ = 85°00'00"

STA. 7598+58.93 ON EASTBOUND EXIT
= STA. 185+22.34 ON HWY. 89
Δ = 70°00'00"

STA. 7603+26.40 EASTBOUND ENTRANCE =
STA. 7603+26.20 ENTRANCE TO HWY. 365

EB EXIT TO HWY. 365 CONNECTOR
PI = 7590+18.82
Δ = 88°20'12" RT.
D = 24°00'00"
T = 231.90'
L = 368.07'
PC = 7587+86.92
PT = 7591+54.99
e = 0.100'/'
Ls = 300'

HWY. 365 TO HWY. 89
PI = 7589+88.58
Δ = 25°08'16" RT.
D = 24°00'00"
T = 53.23'
L = 104.74'
PC = 7589+35.35
PT = 7590+40.10
e = 0.100'/'
Ls = 300'

STA. 7598+21.12 ON EASTBOUND ENTRANCE
= STA. 182+07.05 ON HWY. 89
Δ = 85°00'00"

HWY. 89 TO HWY. 365 CONNECTOR
PI = 7606+65.24
Δ = 99°50'51" RT.
D = 24°00'00"
T = 283.74'
L = 416.03'
PC = 7603+81.49
PT = 7607+97.53
e = 0.100'/'
Ls = 300'

STA. 7587+11.66
HWY. 365 TO HWY. 89 CONNECTOR
=STA. 118+07.66 ON MAIN STREET
Δ = 90°00'00"

STA. 110+15.71 ON HWY. 365
= STA. 180+20.48 ON HWY. 89
Δ = 85°09'09"

STA. 7593+23.63 ON
EB EXIT TO HWY. 365 CONNECTOR
=STA. 118+40.66 ON MAIN STREET
Δ = 90°00'00"

MAIN STREET
PI = 137+55.64
Δ = 16°20'45" LT.
D = 1°00'00"
T = 822.88'
L = 1634.59'
PC = 129+32.75
PT = 145+67.34

STA. 133+88.85 ON MAIN STREET
= STA. 178+2.92 ON HWY. 89
Δ = 78°24'04"

STA. 107+21.45 - MAIN STREET CONNECTOR
= STA. 139+00.00 - MAIN STREET EXISTING
Δ = 85°00'00"

MAIN STREET CONNECTOR
PI = 104+94.85
Δ = 76°46'39" RT.
D = 19°00'00"
T = 238.91'
L = 404.09'
PC = 102+55.94
PT = 106+60.03
e = 0.095'/'
Ls = 250'

9/26/2019

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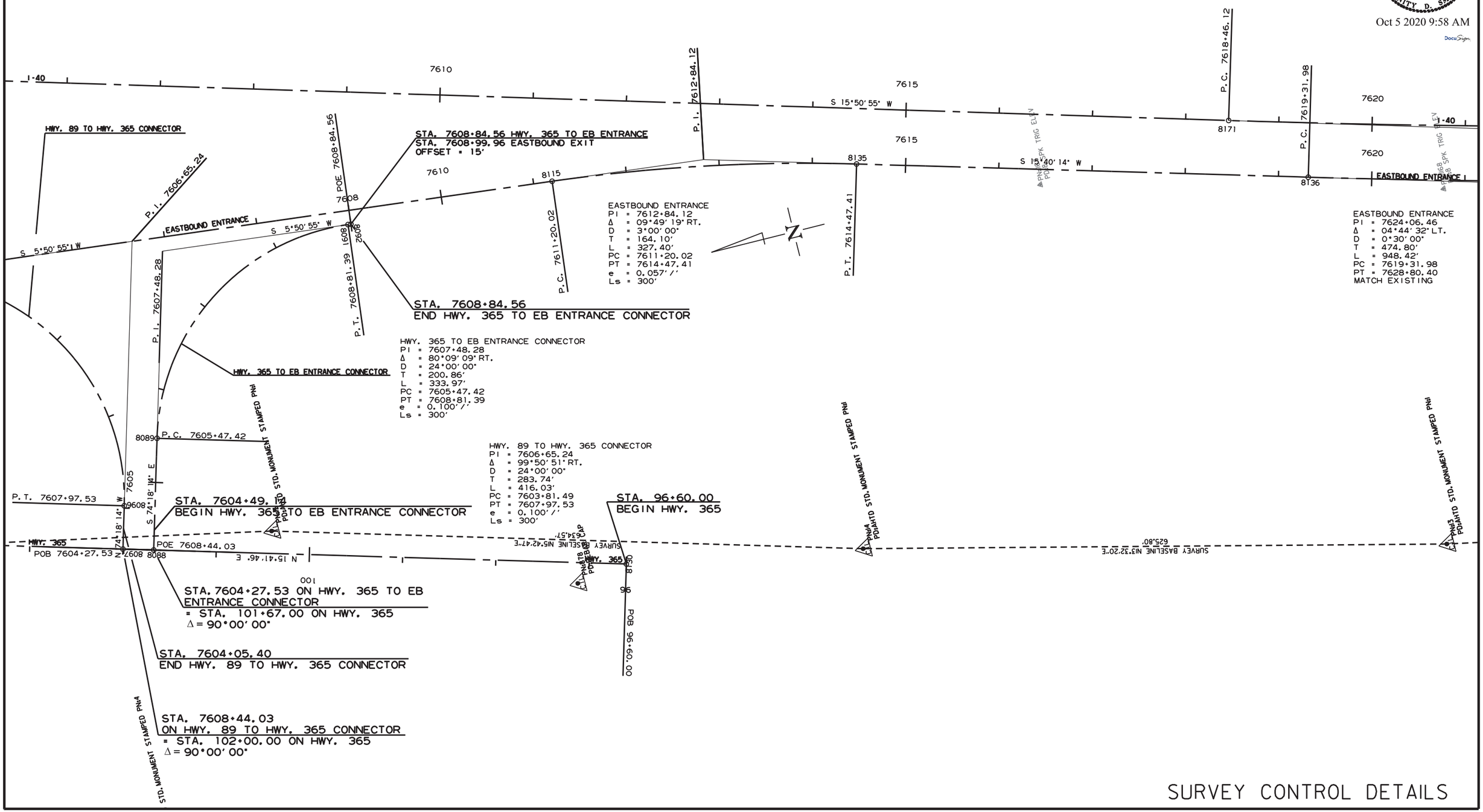

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				JOB NO.		080457	154	517

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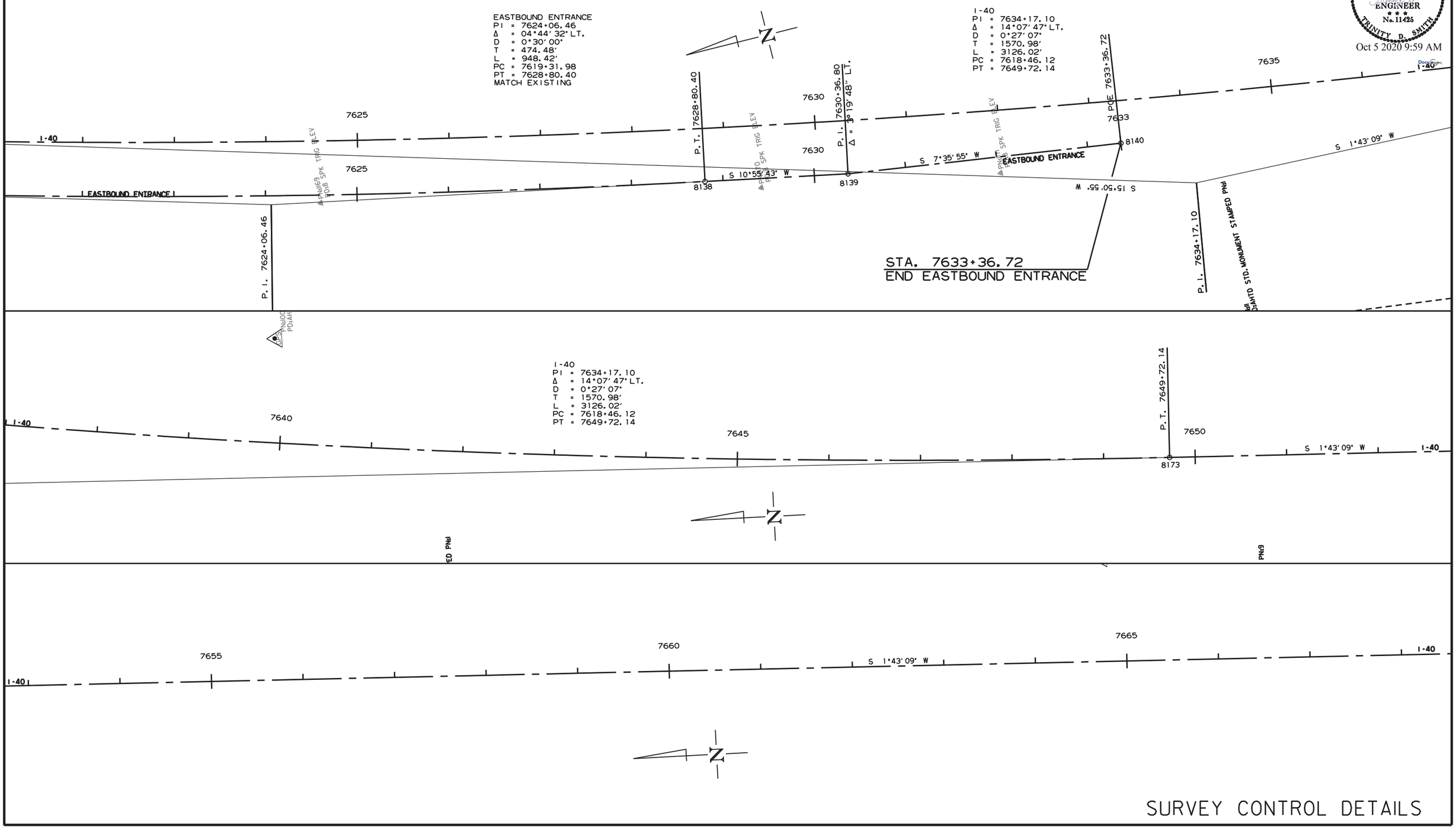

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JOB NO.		080457	155	517

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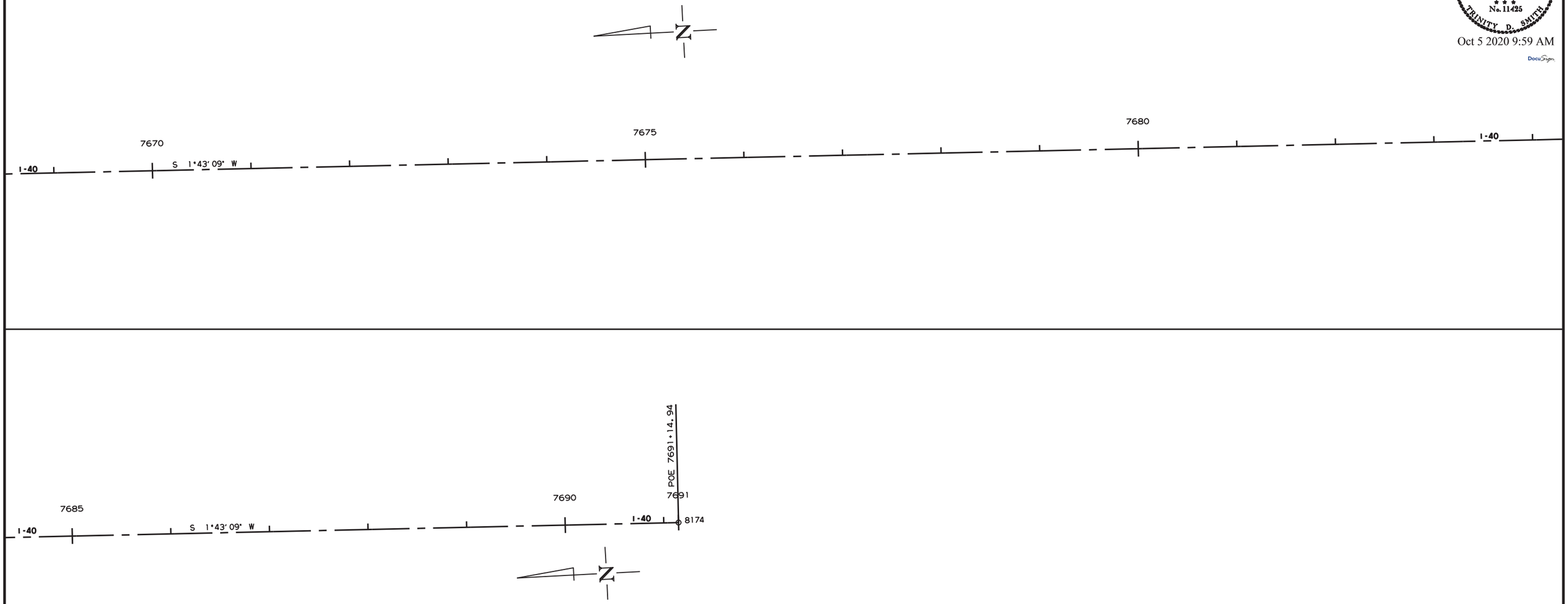

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				JOB NO.		080457	156	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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STA. 102+40.00 INSTALL
21" x 15" x 28' ARCH PIPE CULVERT
CONSTRUCT APPROACH = 5 CU.YD.

STA. 103+43 IN PLACE
18" X 28' LT. SIDE DRAIN
REMOVE AN INSTALL
18" X 38' PIPE CULVERT
CONSTRUCT APPROACH = 75 CU.YD.

STA. 104+83 - STA. 105+17 IN PLACE
22' x 34' BRIDGE NO. M3643
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 1) = 1.00 LUMP SUM

STA. 105+00 CONSTRUCT
TRI. 10' x 5' x 86' R.C. BOX CULVERT
WITH 30°LT. FWD. SKEW
WITH 3:1 WINGS LT. AND RT.
050= 1100 CFS D.A. = 1.7 SQ. MI.
SPAN = 39'-0"

STA. 109+50 INSTALL
18" x 30' PIPE CULVERT
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 110+45 IN PLACE
18" X 54' LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 107+60 IN PLACE
18" x 24' RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 44' PIPE CULVERT
CONSTRUCT TURNOUT = 75 CU. YDS.

STA. 105+70 IN PLACE
18" x 30' RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 50' PIPE CULVERT
CONSTRUCT TURNOUT =150 CU. YDS.

HWY. 89 - SITE 1
PI = 103+66.88
Δ = 0°36' 27" RT.
D = 0°30' 00"
T = 60.75'
L = 121.50'
PC = 103+06.13
PT = 104+27.63
NO SUPER

HWY. 89 - SITE 1
PI = 107+08.86
Δ = 0°35' 11" RT.
D = 0°30' 00"
T = 58.65'
L = 117.29'
PC = 106+50.22
PT = 107+67.51
NO SUPER

STA. 103+00.00
BEGIN SITE 1
LOG MILE 1.47

STA. 107+00.00
END SITE 1

310 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA. 310

P.V.I. 103+00.00 ELEV. 287.98
P.V.C. 103+25.00 ELEV. 287.90
K=116.88 VC=90' e=0.09'
-0.32%
P.V.T. 104+15.00 ELEV. 287.95
P.V.C. 104+20.00 ELEV. 287.97
P.V.I. 104+50.00 ELEV. 288.10
P.V.T. 104+80.00 ELEV. 288.10
0.44%
K=136.36 VC=60' e=-0.03'
0.00%
P.V.C. 105+40.00 ELEV. 288.10
P.V.I. 105+70.00 ELEV. 288.10
-0.44%
K=136.36 VC=60' e=-0.03'
P.V.C. 106+10.00 ELEV. 287.93
K=140.35 VC=80' e=0.06'
P.V.T. 106+90.00 ELEV. 287.80
P.V.I. 107+00.00 ELEV. 287.82
050 DESIGN H.W. ELEV. 285.04
P.V.I. 103+70.00 ELEV. 287.75
RT. D.G. -8.78%
RT. D.G. -10.00%
RT. D.G. 4.57%
LT. D.G. 5.98%
RT. D.G. 0.00%
LT. D.G. 0.00%
P.V.T. 106+00.00 ELEV. 287.97
106+08.00 283.80 (RT.)
284.39 (LT.)
P.V.I. 106+50.00 ELEV. 287.75
104+00.00 282.06 (RT.)
104+43.00 278.50 (RT.) 104+59.00 283.52 (LT.)
104+92.00 278.50 (RT.) 104+99.00 279.40 (LT.)
105+58.00 279.40 (LT.)

STA. 105+00
F.L. INLET (LT.) = 279.40
F.L. OUTLET (RT.) = 278.50

96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00

260 265 270 275 280 285 290 295 300 305 310

8/7/2017
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	157	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 10:00 AM
DocuSign

DETOUR
P. I. = 301+43.39
Δ = 19° 15' 43" LT.
D = 10° 00' 00.0"
T = 97.23'
L = 192.62'
P. C. = 300+46.16
P. T. = 302+38.78

STA. 300+40.00 IN PLACE
18" x 54' LT. SIDE DRAIN
REMOVE AND INSTALL
21" x 15" x 28' ARCH PIPE CULVERT
UNCLASSIFIED EXCAVATION = 20 CU.YD.
CONSTRUCT APPROACH = 10 CU.YD.

STA. 301+43.62 IN PLACE
18" x 22' LT. SIDE DRAIN
REMOVE AN INSTALL
18" x 28' PIPE CULVERT
UNCLASSIFIED EXCAVATION = 30 CU.YD.
CONSTRUCT APPROACH = 10 CU.YD.

DETOUR
P. I. = 308+16.29
Δ = 12° 37' 05" LT.
D = 10° 00' 00.0"
T = 63.35'
L = 126.18'
P. C. = 307+52.91
P. T. = 308+79.10

STA. 305+56.63 IN PLACE
18" x 24' LT. SIDE DRAIN
REMOVE AND INSTALL
TEMP. 18" x 30' PIPE CULVERT
CONSTRUCT APPROACH = 20 CU. YDS.

DETOUR
P. I. = 304+13.94
Δ = 33° 07' 29" RT.
D = 10° 00' 00.0"
T = 170.40'
L = 331.25'
E = 0.100'
P. C. = 302+43.54
P. T. = 305+74.79
LS = 275'

STA. 303+78.07 INSTALL
TEMP. 18" x 44' PIPE CULVERT
CONSTRUCT APPROACH = 60 CU.YDS.

STA. 303+79.10 INSTALL
TRI. 60" X 128' TEMPORARY PIPE CULVERT
63° LT. BACKWARD SKEW.

STA. 305+69.46 INSTALL
TEMP. 18" X 58' PIPE CULVERT
CONSTRUCT APPROACH = 75 CU. YDS.

STA. 300+46.16
BEGIN DETOUR

STA. 308+79.10
END DETOUR

320 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 302+41.16 BEGIN SUPERELEVATION
STA. 304+09.15 MAX SUPERELEVATION (0.061'/')
STA. 304+95.86 MAX SUPERELEVATION (0.061'/')
STA. 306+63.85 END SUPERELEVATION

P.V.I. 301+88.49
ELEV. 287.30
0.16%
P.V.C. 303+27.98
ELEV. 287.52
K 1312.51
VC=100'
e=0.01'
P.V.T. 304+27.98
ELEV. 287.72
0.23%
P.V.C. 305+55.00
ELEV. 288.02
K 72.19
VC=90'
e=0.14'
P.V.T. 306+45.00
ELEV. 288.79
1.48%
P.V.I. 307+28.90
ELEV. 290.03
P.V.I. 303+77.98
ELEV. 287.60
P.V.I. 306+00.00
ELEV. 288.12

STA. 303+79.10
F.L. INLET (LT.) = 282.26
F.L. OUTLET (RT.) = 279.79

294+00 295+00 296+00 297+00 298+00 299+00 300+00 301+00 302+00 303+00 304+00 305+00 306+00 307+00 308+00 309+00

320 315 310 305 300 295 290 285 280 275 270

8/7/2017
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	158	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 10:00 AM
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STA. 99+46.01 CONSTRUCT
DROP INLET TYPE SPECIAL ON LT.
DROP INLET H = 1'-0"
TYPE SPECIAL DROP INLET = 4' x 6'

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
102+00	102+00	RT.	6	2.67
102+00	102+00	LT.	6	2.67
103+00	103+00	RT.	6	1.33
103+00	103+00	LT.	6	6.00
104+00	104+00	RT.	6	5.33

STA. 101+38 - IN PLACE
18" x 24' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 102+00- CONSTRUCT
D.I. ON LT. W./
18" x 8' R.C. PIPE CULV'T
TY MO = 4'-0" I.D.
TY C = 4'-0" x 2'-11"
H = 3'-4"
18" R.C. PIPE (CL. III) = 8 LIN. FT.

HWY. 89
PI = 102+57.84
Δ = 4°52'03" LT.
D = 1°00'00"
T = 243.51'
L = 486.73'
PC = 100+14.33
PT = 105+01.06
e = 0.020'/'
Ls = 225'

STA. 106+93 - IN PLACE
18" x 38' PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 108+20 - INSTALL
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 99+46.01
BEGIN JOB 080457 SITE 2
LOG MILE 1.24

+46.01 100' TRANSITION +46.01

STA. 100+00.749 BK =
STA. 100+00.000 AHD
POE 115+83.79

P.I. 98+31.66

PROPOSED ROW — CONST. LIMITS — EXIST. ROW

S 88°20'43" E

S 80°33'37" E

P.I. 111+39.07
P.C. 97+01.71
P.I. 113+99.33
P.T. 99+61.21

STA. 102+00- CONSTRUCT
D.I. ON RT. W./
18" x 6' R.C. PIPE CULV'T &
18" x 36' R.C. PIPE CULV'T
CONNECT TO D.I. @ STA. 102+00 ON LT.
TY MO = 4'-0" I.D.
TY C = 4'-0" x 2'-11"
H = 3'-0"
18" R.C. PIPE (CL. III) = 42 LIN. FT.

HWY. 89
PI = 98+31.66
Δ = 7°47'06" RT.
D = 3°00'00"
T = 129.95'
L = 259.50'
PC = 97+01.71
PT = 99+61.21
MATCH EXISTING

STA. 103+00- CONSTRUCT
D.I. ON RT. W./
18" x 6' R.C. PIPE CULV'T &
18" x 100' PIPE CULV'T
CONNECT TO D.I. @ STA. 102+00 ON RT.
TY MO = 4'-0" I.D.
TY C = 4'-0" x 2'-11"
H = 2'-11"
18" R.C. PIPE (CL. III) = 106 LIN. FT.
18" SLPPMCCS PIPE = 100 LIN. FT.

STA. 102+64 - IN PLACE
18" x 22' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 5 CU. YDS.

P.I. 102+57.84

STA. 103+41 - IN PLACE
18" x 24' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH = 15 CU. YDS.

STA. 104+00- CONSTRUCT
D.I. ON RT. W./
18" x 6' R.C. PIPE CULV'T INLET &
18" x 100' PIPE CULV'T OUTLET
CONNECT TO D.I. @ STA. 30+50 ON RT.
TY MO = 4'-0" I.D.
TY C = 4'-0" x 2'-11"
H = 4'-0"
18" R.C. PIPE (CL. III) = 106 LIN. FT.
18" SLPPMCCS PIPE = 100 LIN. FT.

P.T. 105+01.06

STA. 10+00.00 ON SNUGGS CIRCLE NORTH
= STA. A 107+43.94 ON HWY. 89
Δ = 89°58'16"
STA. 83+74.61 ON ARKANSAS RIVER TRAIL / HWY. 89
= STA. A 107+43.94 ON HWY. 89
Δ = 87°16'32"

P.C. 104+46.69

R 40'

S 01°52'37" E

P.C. 110+76.88

S 88°28'40" E

STA. 10+18.00
BEGIN SNUGGS CIRCLE NORTH

STA. 83+56.59
END ARKANSAS RIVER TRAIL / HWY. 89
ON POWERED SIG. MONUMENT STAMPED PKD

CONST. LIMITS

STA. 105+24 - IN PLACE
18" x 34' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
21" x 15" x 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 108+00 CONSTRUCT
24" X 74' PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) W/FES
24" R.C. PIPE (CL. III) = 74 LIN. FT.
24" SLPPMCCS PIPE = 74 LIN. FT.
24" FES= 2 EA.
D.A. = 1.85 AC., 025 = 2.7 CFS

HWY. 89

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 99+88.45 BEGIN SUPERELEVATION
STA. 102+12.70 MAX SUPERELEVATION (0.020 '/')
STA. 104+44.81 MAX SUPERELEVATION (0.020 '/')
STA. 106+69.81 END SUPERELEVATION

STA. a 109+33.14 BEGIN SUPERELEVATION
STA. a 12+03.14 MAX SUPERELEVATION (0.038 '/')
STA. a 119+28.58 MAX SUPERELEVATION (0.038 '/')
STA. a 121+98.58 END SUPERELEVATION

(2) LANES CURB & GUTTER TO (3) LANES CURB & GUTTER

STA. 99+46.01
BEGIN JOB 080457

P.V.I. 99+46.01
ELEV. 297.66

1.04%
LT. D.G. 0.33%

P.V.C. 101+23.81
ELEV. 299.52
101+41.00
297.00

+00
TOP D.I.
301.41(RT.)
300.81(LT.)

18"x 100' @ 2.64%

+00
TOP D.I.
303.92 (RT.)

+00
TOP D.I.
307.51(RT.)

K 89.14
VC=375'
e=1.97'

18"x 100' @ 2.00%

F.L. INLET = 304.04
F.L. D.I. = 303.51

F.L. INLET = 301.08
F.L. D.I. = 301.00

102+00.00
297.25

P.V.I. 103+11.31
ELEV. 301.48

F.L. INLET = 298.41(RT.)
F.L. D.I. = 298.41(RT.)
F.L. D.I. = 297.75 (LT.)
F.L. OUTLET = 297.25 (LT.)

LT. D.G. 0.42%

P.V.T. 104+98.81
ELEV. 311.32
P.V.C. 104+98.84
ELEV. 311.33

RT. D.G. 0.00%

105+10.00
308.75
105+35.00
308.75

K 63.84
VC=450'
e=-3.97'

P.V.I. 107+23.84
ELEV. 323.14

LT. D.G. 3.16%

LT. D.G. -0.68%
RT. D.G. -1.04%

107+00.00
316.04 LT.
316.04 RT.

108+00.00
315.36 LT.
315.00 RT.

108+50.00
316.94

RT. D.G. -0.32%

-1.80%

F.L. INLET 315.50 (LT.)
F.L. OUTLET 315.00 (RT.)

P.V.T. 109+48.84
ELEV. 319.09

110+00.00
314.36

96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00

340 330 320 310 300 290 280 270 260 250

8/7/2017

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	159	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:51 AM
DocuSigned by:

HWY. 89
PI = 115+87.28
Δ = 43°01' 19" LT.
D = 5°00' 00"
T = 451.64'
L = 860.44'
PC = 111+35.64
PT = 119+96.08
e = 0.038 '/'
Ls = 270'
SUPER ROTATION IS AROUND CL

STA. 30+18.00
BEGIN SHADEL LANE NORTH

STA. 32+09.30
END SHADEL LANE NORTH

STA. 45+59.90 ON SHADEL LANE
= STA. A 115+74.25 ON HWY. 89
Δ = 90°00' 00"

STA. 30+00.00 ON SHADEL LANE NORTH
= STA. A 115+00.00 ON HWY. 89
Δ = 90°00' 00"

STA. 45+42.90
END SHADEL LANE

STA. 114+00 - IN PLACE
24" x 18' PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 121+00 - INSTALL
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 122+72 CONSTRUCT
DBL. 24" X 94' PIPE CULVERT
57° LT. BACK SKEW
24" R.C. PIPE (CL. III) = 188 LIN. FT.
24" SLPPMCCS PIPE = 188 LIN. FT.
24" FES= 4 EA.
D.A. = 14.8 AC. .025 = 38.0 CFS

STA. 125+68 CONSTRUCT
24" x 74' PIPE CULVERT
24" R.C. PIPE (CL. III) = 76 LIN. FT.
24" SLPPMCCS PIPE = 76 LIN. FT.
24" FES= 2 EA.
D.A.= 8.83 AC., .025= 14.0 CFS.

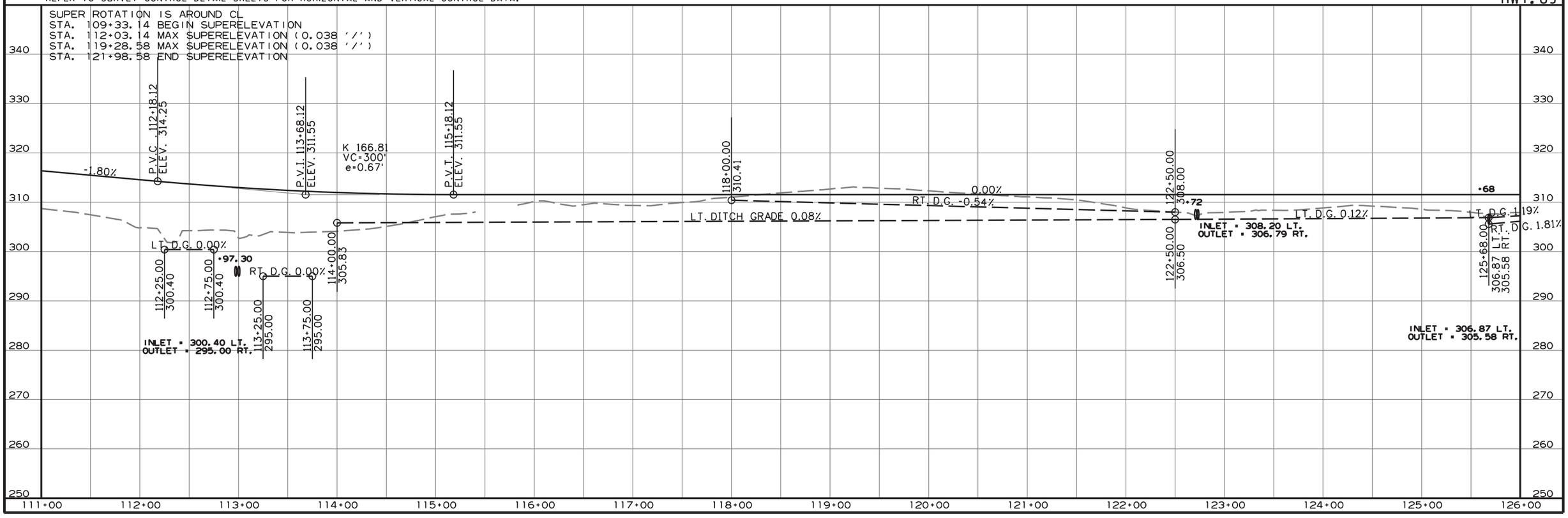
STA. 112+97.30 CONSTRUCT
35° RT. FWD. SKEW.
DBL. 24" X 170' PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) W/FES
24" R.C. PIPE (CL. III) = 340 LIN. FT.
24" SLPPMCCS PIPE = 340 LIN. FT.
24" FES= 4 EA.
D.A. = 21.0 AC., .025 = 42.8 CFS

STA. 120+54 - INSTALL
18" x 66' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 100 CU. YDS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 89

SUPER ROTATION IS AROUND CL
STA. 109+33.14 BEGIN SUPERELEVATION
STA. 112+03.14 MAX SUPERELEVATION (0.038 '/')
STA. 119+28.58 MAX SUPERELEVATION (0.038 '/')
STA. 121+98.58 END SUPERELEVATION



8/7/2017

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	160	517

(2) PLAN AND PROFILE SHEETS

HWY. 89
PI = 143+84.94
Δ = 29°59'54" LT.
D = 3°00'00"
T = 511.71'
L = 999.94'
PC = 138+73.23
PT = 148+73.17
e = 0.030'/'
Ls = 270'

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:52 AM
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STA. 130+21 - INSTALL
22" x 15" x 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
UNCLASSIFIED EXCAVATION = 35 CU. YDS.

STA. 130+50 CONSTRUCT
18" x 70' PIPE CULVERT
18" R.C. PIPE (CL. V) = 70 LIN. FT.
18" SLPPMCCS PIPE = 70 LIN. FT.
18" FES= 2 EA.
D.A.= 0.83 AC., Q25= 1.8 CFS.

STA. 131+50 CONSTRUCT
TRPL. 24" x 72' PIPE CULVERT
24" R.C. PIPE (CL. V) = 216 LIN. FT.
24" SLPPMCCS PIPE = 216 LIN. FT.
24" FES= 6 EA.
D.A.= 23.5 AC., Q25= 45.4 CFS.

STA. 62+06.77 ON SNUGGS CIRCLE SOUTH
= STA. A 131+00.00 ON HWY. 89
Δ=90°00'00"

STA. 70+18.00
BEGIN SNUGGS CIRCLE NORTH

STA. 60+00.00
BEGIN SNUGGS CIRCLE SOUTH

STA. 61+88.77
END SNUGGS CIRCLE SOUTH

STA. 70+00.00 ON SNUGGS CIRCLE NORTH
= STA. A 132+74.72 ON HWY. 89
Δ= 90°00'00"

GARDEN

PROPOSED ROW
CONST. LIMITS
T.C.E.
R 40'
N 51°33'02" E
POB 62+06.77
POB 70+00.00
POB 60+00.00
P.C. 70+41.16
P.T. 61+62.31
P.C. 71+96.07
P.T. 72+52.24
P.C. 138+73.23
P.T. 148+73.17
N 38°26'58" W
N 01°36'58" E
N 38°26'58" W
N 51°33'02" E
S 38°26'58" E
S 01°36'58" W
S 38°26'58" E
N 38°26'58" W
N 01°36'58" E
N 51°33'02" E

STA. 131+68 - IN PLACE
24" x 24' PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 134+00 - INSTALL
22" x 15" x 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 136+50 CONSTRUCT
24" x 74' PIPE CULVERT
24" R.C. PIPE (CL. IV) = 74 LIN. FT.
24" SLPPMCCS PIPE = 74 LIN. FT.
24" FES= 2 EA.
D.A.= 4.57 AC., Q25= 7.8 CFS.

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
139+00	139+00	RT.	6	2.67

STA. 139+00 CONSTRUCT
24" x 98' PIPE CULVERT
24" R.C. PIPE (CL. III) = 80 LIN. FT.
24" SLPPMCCS PIPE = 80 LIN. FT.
24" FES= 2 EA.
D.A.= 4.9 AC., Q25= 8.3 CFS.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 89

SUPER ROTATION IS AROUND CL
STA. 136+70.73 BEGIN SUPERELEVATION
STA. 139+40.73 MAX SUPERELEVATION (0.030 '/')
STA. 148+05.67 MAX SUPERELEVATION (0.030 '/')
STA. 150+75.67 END SUPERELEVATION

P.V.C. 126+28.75
ELEV. 311.55
K 461.57
VC=300'
e=0.24'
P.V.I. 127+78.75
ELEV. 311.55
P.V.T. 129+28.75
ELEV. 312.53
LT. D.G. 1.19%
RT. D.G. 1.81%
LT. D.G. -4.52%
RT. D.G. -2.48%
LT. D.G. 0.15%
RT. D.G. -0.07%
LT. D.G. 2.65%
RT. D.G. -1.00%
0.65%
LT. DITCH GRADE -0.76%
RT. D.G. -0.71%
LT. D.G. -0.75%
127+00.00 307.97
127+50.00 309.03
130+00.00 310.31
130+21.00 310.45
130+50.00 309.14 LT. 309.07 RT.
131+50.00 309.29 LT. 309.00 RT.
132+00.00 308.50
132+50.00 311.94
135+25.00 313.49
136+50.00 312.54 LT. 311.63 RT.
137+50.00 315.19 LT. 310.92 RT.
139+00.00 314.06
F.L. INLET = 309.14 LT.
F.L. OUTLET = 309.00 RT.
F.L. INLET = 309.29 LT.
F.L. OUTLET = 310.03 RT.
F.L. INLET = 312.54 LT.
F.L. OUTLET = 311.63 RT.
F.L. INLET = 314.19 LT.
F.L. OUTLET = 312.61 RT.

340 330 320 310 300 290 280 270 260 250
126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00

8/7/2017
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	161	517

(2) PLAN AND PROFILE SHEETS

HWY. 89
PI = 143+84.94
Δ = 29°59'54" LT.
D = 3°00'00"
T = 511.71'
L = 999.94'
PC = 138+73.23
PT = 148+73.17
e = 0.030'/'
Ls = 270'
SUPER ROTATION IS AROUND CL

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
144+25	144+25	RT.	6	13.33
147+00	147+00	RT.	6	4.00
150+00	150+00	RT.	6	5.33
151+78	151+78	RT.	6	5.33
153+00	153+00	RT.	6	5.33
156+00	156+00	RT.	6	24.00

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:53 AM
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PROPOSED ROW
CONST. LIMITS
P.T. 148+73.17
P.I. 143+84.94
N 21°33'08" E
145
150
155

STA. 142+00 CONSTRUCT
24" x 98' PIPE CULVERT
24" R.C. PIPE (CL. III) = 98 LIN. FT.
24" SLPPMCCS PIPE = 98 LIN. FT.
24" FES= 2 EA.
D.A.= 3.7 AC., 025= 6.4 CFS.

STA. 144+25 CONSTRUCT
24" x 86' PIPE CULVERT
24" R.C. PIPE (CL. III) = 86 LIN. FT.
24" SLPPMCCS PIPE = 86 LIN. FT.
24" FES= 2 EA.
D.A.= 2.9 AC., 025= 5.0 CFS.

STA. 147+00 CONSTRUCT
24" x 88' PIPE CULVERT
24" R.C. PIPE (CL. III) = 88 LIN. FT.
24" SLPPMCCS PIPE = 88 LIN. FT.
24" FES= 2 EA.
D.A.= 4.3 AC., 025= 7.4 CFS.

STA. 151+78 CONSTRUCT
24" x 100' PIPE CULVERT
24" R.C. PIPE (CL. III) = 100 LIN. FT.
24" SLPPMCCS PIPE = 100 LIN. FT.
24" FES= 2 EA.
D.A. = 4.9, 025 = 8.4 CFS.

STA. 153+00 CONSTRUCT
24" x 80' PIPE CULVERT
24" R.C. PIPE (CL. IV) = 80 LIN. FT.
24" SLPPMCCS PIPE = 80 LIN. FT.
24" FES= 2 EA.
D.A.= 2.4 AC., 025 = 4.1 CFS.

STA. 155+13 CONSTRUCT
24" x 134' PIPE CULVERT
60° RT. FWD. SKEW
24" R.C. PIPE (CL. III) = 134 LIN. FT.
24" SLPPMCCS PIPE = 134 LIN. FT.
24" FES= 2 EA.
D.A. = 2.8 AC., 025 = 4.5 CFS.

350 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 89

SUPER ROTATION IS AROUND CL
STA. 136+70.73 BEGIN SUPERELEVATION
STA. 139+40.73 MAX SUPERELEVATION (0.030 '/')
STA. 148+05.67 MAX SUPERELEVATION (0.030 '/')
STA. 150+75.67 END SUPERELEVATION

0.65%
LT. DG. 1.03%
LT. DG. -0.56%
LT. DG. 0.00%
RT. DG. 0.00%

142+00.00 315.05 — F.L. INLET = 315.05 LT. F.L. OUTLET = 309.51 RT.
144+50.00 317.62 — F.L. INLET = 317.36 LT. F.L. OUTLET = 314.61 RT.
146+75.00 317.96 / 147+25.00 317.96 — F.L. INLET = 317.96 LT. F.L. OUTLET = 316.42 RT.
150+00.00 321.00 — F.L. INLET = 321.00 LT. F.L. OUTLET = 319.92 RT.
151+78.00 320.00 — F.L. INLET = 320.00 LT. F.L. OUTLET = 314.42 RT.
152+75.00 323.26 / 153+25.00 323.26 — F.L. INLET = 323.65 LT. F.L. OUTLET = 320.98 RT.
154+75.00 323.94 / 155+25.00 323.94 — F.L. INLET = 323.94 LT. F.L. OUTLET = 310.85 RT.
155+74.49 310.85

340 330 320 310 300 290 280 270 260 250

141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00 156+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	162	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:53 AM
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STA. 156+50 CONSTRUCT
24" X 88' PIPE CULVERT
24" R.C. PIPE (CL. III) = 88 LIN. FT.
24" SLPPMCCS PIPE = 88 LIN. FT.
24" FES= 2 EA.
D.A. = 0.78 AC. 025 = 1.3 CFS.

STA. 158+50 CONSTRUCT
24" X 120' PIPE CULVERT
24" R.C. PIPE (CL. III) = 120 LIN. FT.
24" SLPPMCCS PIPE = 120 LIN. FT.
24" FES= 2 EA.
D.A. = 3.9 AC. 025 = 6.6 CFS

HWY. 89
PI = 168+51.36
Δ = 79°17'47" RT.
D = 5°30'00"
T = 863.28'
L = 1441.75'
PC = 159+88.08
PT = 174+29.83
e = 0.038'/'
Ls = 270'
SUPER ROTATION IS AROUND CL

STA. 167+00 CONSTRUCT
42" X 104' PIPE CULVERT
42" R.C. PIPE (CL. III) = 104 LIN. FT.
42" SLPPMCCS PIPE = 104 LIN. FT.
42" FES= 2 EA.
D.A. = 55.8 AC. 025 = 66.8 CFS

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
156+50	156+50	RT.	6	24.00
161+00	163+50	LT.	8	222.22

EDGE OBSCURED

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 89

SUPER ROTATION IS AROUND CL
STA. 157+85.58 BEGIN SUPERELEVATION
STA. 160+55.58 MAX SUPERELEVATION (0.038 '/')
STA. 173+62.33 MAX SUPERELEVATION (0.038 '/')
STA. 176+32.33 END SUPERELEVATION

P.V.C. 159+33.88 ELEV. 332.06
P.V.I. 161+58.88 ELEV. 333.52
P.V.C. 164+36.16 ELEV. 316.89
P.V.I. 163+83.88 ELEV. 320.02
P.V.I. 166+61.16 ELEV. 303.39
P.V.T. 168+86.16 ELEV. 302.48

0.65%
LT. DITCH GRADE 1.31%
LT. D.G. -3.33%
LT. D.G. -3.03%
-6.00%
-0.40%
RT. D.G. 0.50%
LT. D.G. -0.34%

K 67.67
VC=450'
e=3.74'

K 80.41
VC=450'
e=3.15'

158+50.00 324.72 +50
161+00.00 328.00
162+50.00 323.00
163+50.00 319.97
167+00.00 292.75
168+50.00 294.41

F.L. INLET = 324.63 LT.
F.L. OUTLET = 321.05 RT.

F.L. INLET = 324.72 LT.
F.L. OUTLET = 314.10 RT.

F.L. INLET = 295.76 LT.
F.L. OUTLET = 292.75 RT.

340 330 320 310 300 290 280 270 260 250

156+00 157+00 158+00 159+00 160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 171+00

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				JOB NO.		080457	163	517

2 PLAN AND PROFILE SHEETS

HWY. 89
PI = 168+51.36
Δ = 79°17'47" RT.
D = 5°30'00"
T = 863.28'
L = 1441.75'
PC = 159+88.08
PT = 174+29.83
e = 0.038'/'
Ls = 270'
SUPER ROTATION IS AROUND CL

STA. 2+28.00
BEGIN CARROL ROAD

STA. 174+38 - IN PLACE
10" x 16' PIPE CULVERT
REMOVE

STA. 181+00 CONSTRUCT
D. I. ON LT. W./
12" x 70' C.M. PIPE OUTLET
WITH CONCRETE SPILLWAY (TYPE A)
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 5'-1"

STA. 7598+29.13
END EASTBOUND EXIT

STA. 7598+58.93 ON EASTBOUND EXIT
= STA. A 185+22.34 ON HWY. 89
Δ = 70°00'00"

STA. 7598+55.12
BEGIN EASTBOUND
ENTRANCE

STA. 7598+21.12
ON EASTBOUND ENTRANCE
= STA. A 182+07.05 ON HWY. 89
Δ = 85°00'00"

STA. 2+00.00 ON CARROL ROAD
= STA. A 173+80.00 ON HWY. 89
Δ = 90°00'00"

STA. 174+00 CONSTRUCT
D. I. ON RT. W./
18" x 10' STUB OUTLET W./ F.E.S.
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 4'-0"
18" R.C. PIPE (CL. III) = 10 LIN. FT.
18" F.E.S. = 1 EACH

STA. 174+46 - INSTALL
24" x 82' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 295 CU. YDS.

STA. 176+50 CONSTRUCT
D. I. ON RT. W./
WITH 12" x 62' C.M. PIPE OUTLET
WITH CONCRETE SPILLWAY (TYPE A)
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 7'-11"

STA. 176+50 CONSTRUCT
D. I. ON RT. W./
WITH 12" x 50' C.M. PIPE OUTLET
WITH CONCRETE SPILLWAY (TYPE A)
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 7'-11"

STA. 183+99.82 TO STA. 186+18.65 IN PLACE
BRIDGE NO. 03787
226'-00" x 27.9' CLEAR ROADWAY
4 SIMPLE COMPOSITE I-BEAM SPANS
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 3) = 1.00 LUMP SUM

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

AREA OF OBLITERATION

HWY. 89

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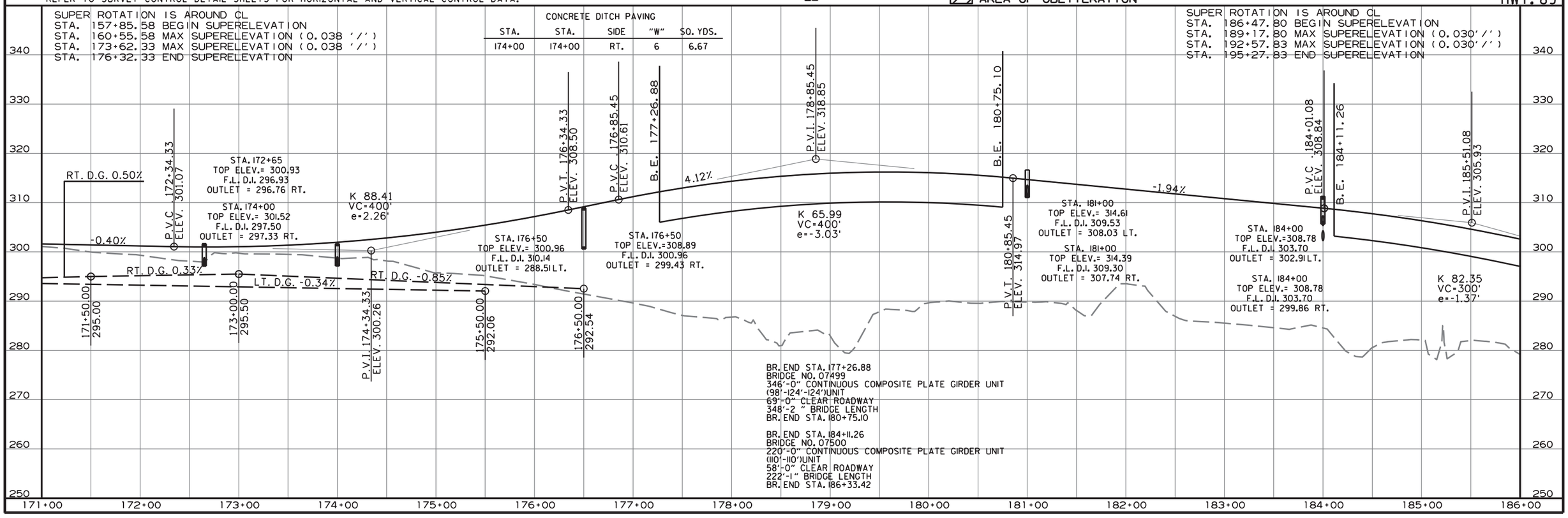
SUPER ROTATION IS AROUND CL
STA. 157+85.58 BEGIN SUPERELEVATION
STA. 160+55.58 MAX SUPERELEVATION (0.038 '/')
STA. 173+62.33 MAX SUPERELEVATION (0.038 '/')
STA. 176+32.33 END SUPERELEVATION

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
174+00	174+00	RT.	6	6.67

SUPER ROTATION IS AROUND CL
STA. 186+47.80 BEGIN SUPERELEVATION
STA. 189+17.80 MAX SUPERELEVATION (0.030'/')
STA. 192+57.83 MAX SUPERELEVATION (0.030'/')
STA. 195+27.83 END SUPERELEVATION



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(2) PLAN AND PROFILE SHEETS

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STA. 186+50 CONSTRUCT
D.I. ON RT. W./
24" x 24' R.C. STUB OUTLET
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 5'-1"
24" R.C. PIPE = 24 LIN. FT.
24" F.E.S. = 1EACH

STA. 190+00 CONSTRUCT
D.I. ON LT. W./
24" x 14' STUB OUTLET W./ F.E.S.
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 5'-0"
24" R.C. PIPE (CL. III) = 14 LIN. FT.
24" F.E.S. = 1EACH

HWY. 89
PI = 190+89.04
Δ = 14°15'03" LT.
D = 3°00'00"
T = 238.75'
L = 475.03'
PC = 188+50.30
PT = 193+25.33
e = 0.030'/'
Ls = 270'
SUPER ROTATION IS AROUND CL

STA. 191+64 -
CONSTRUCT APPROACH = 20 CU. YDS.

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
190+00	190+00	LT.	6	5.33
194+50	194+50	LT.	6	2.67

STA. 194+50 CONSTRUCT
D.I. ON LT. W./
24" x 14' STUB OUTLET W./ F.E.S.
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 5'-3"
24" R.C. PIPE (CL. III) = 14 LIN. FT.
24" F.E.S. = 1EACH

STA. 197+30 IN PLACE
DBL. 48" X 60' R.C. PIPE CULVERT
REMOVE HDWLS. & EXTEND R.C. PIPE
2' RT. AND 8' LT.
(CLASS V) (TYPE 3 BEDDING) W/FES RT. & LT.
48" R.C. PIPE= 28 LIN.FT.
48" FES= 4 EA.
D.A. = N/A, 025 = N/A

•46.06 •54.06
208' CURB AND GUTTER TRANSITION

STA. 201+54.06
END JOB 080457
SECTION 2

•92.43
771.43

PROPOSED ROW
CONST. LIMITS
R 50'
R 60'
R 70'
R 80'
P.C. 188+50.30
P.T. 193+25.33
P.O.E. 117+13.97
196+73.78
P.I. 117+13.97
Δ = 0°24'58" RT.
END C/A EXIST'G ROW 193+68.57 85.75 RT.
EXIST'G ROW 194+70.91 86.09
P.I. 190+89.04
TRAFFIC LIGHT
POND
DI:24" TY:RCP LN:50' CM
SIGN
N 86°35'52" E
N 86°10'54" E
110
190
195
200
22'
24'
28'
•00.00 65.00
•00.00 75.00
•00.00 00.00
•35.00 31.37
•54.05 14.18
•54.05 70.00
•11.35 71.37
EXISTING PARKING

STA. 191+71 -
CONSTRUCT APPROACH = 45 CU. YDS.

EROSION CONTROL MATTING

STA.	STA.	SIDE	LENGTH LIN. FT.	CLASS 3 SQ. YDS.
191+99.25	194+49.25	RT.	250	222.22

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 193+00 IN PLACE
24" x 92' PIPE CULVERT W/HEADWALLS
REMOVE AND CONSTRUCT
24" x 94' R.C. PIPE CULVERT
CONNECTED TO STA. 193+20 TYPE E DROP INLET
CLASS III TYPE III BEDDING W/FES
24" R.C. PIPE= 94 LIN.FT.
24" FES= 1EA.

STA. 193+20 CONSTRUCT
TYPE E DROP INLET
4' x 3" x H= 3'-0"

STA. 193+50 -
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 193+50 IN PLACE
24" x 68' PIPE CULVERT W/HEADWALLS
REMOVE AND CONSTRUCT
24" x 96' R.C. PIPE CULVERT
CONNECTED TO STA. 193+20 TYPE E DROP INLET
(CLASS III) (TYPE 3 BEDDING) W/FES
24" R.C. PIPE= 96 LIN.FT.
24" FES= 1EA.

STA. 199+43 - IN PLACE
18" x 40' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 200+75 - IN PLACE
18" x 40' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

HWY. 89

SUPER ROTATION IS AROUND CL
STA. 186+47.80 BEGIN SUPERELEVATION
STA. 189+17.80 MAX SUPERELEVATION (0.030'/')
STA. 192+57.83 MAX SUPERELEVATION (0.030'/')
STA. 195+27.83 END SUPERELEVATION

B.E. 186+33.42
STA. 186+50
TOP ELEV.=300.18
F.L. D.I. 295.10
OUTLET = 291.17 RT.
STA. 187+00
TOP ELEV.=297.53
F.L. D.I. 294.45
OUTLET = 291.99 LT.
K 82.35
VC=300'
e=-1.37'
-5.58%
P.V.T. 187+01.08
ELEV. 297.55
P.V.C. 189+75.83
ELEV. 282.21
STA. 190+00
TOP ELEV.=280.54
F.L. D.I. 275.52
OUTLET = 274.77 LT.
P.V.T. 191+88.33
ELEV. 270.35
K 87.76
VC=425'
e=2.57'
STA. 193+20
TOP ELEV.=264.66
F.L. ELEV.=261.44
-0.74%
24"x 92' @ 3.52%
P.V.T. 194+00.83
ELEV. 268.77
STA. 194+50
TOP ELEV.=268.51
F.L. D.I. 263.26
OUTLET = 262.60 LT.
•30
EXISTING INLET = 262.54 LT.
PROPOSED INLET = 262.54 LT.
EXISTING OUTLET = 261.98 RT.
PROPOSED OUTLET = 261.88 RT.
199+00.00
264.86
RT. D.G. 1.21%

340 330 320 310 300 290 280 270 260 250
186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00 199+00 200+00 201+00

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6	ARK.			
JOB NO.		080457	165	517

(2) PLAN AND PROFILE SHEETS

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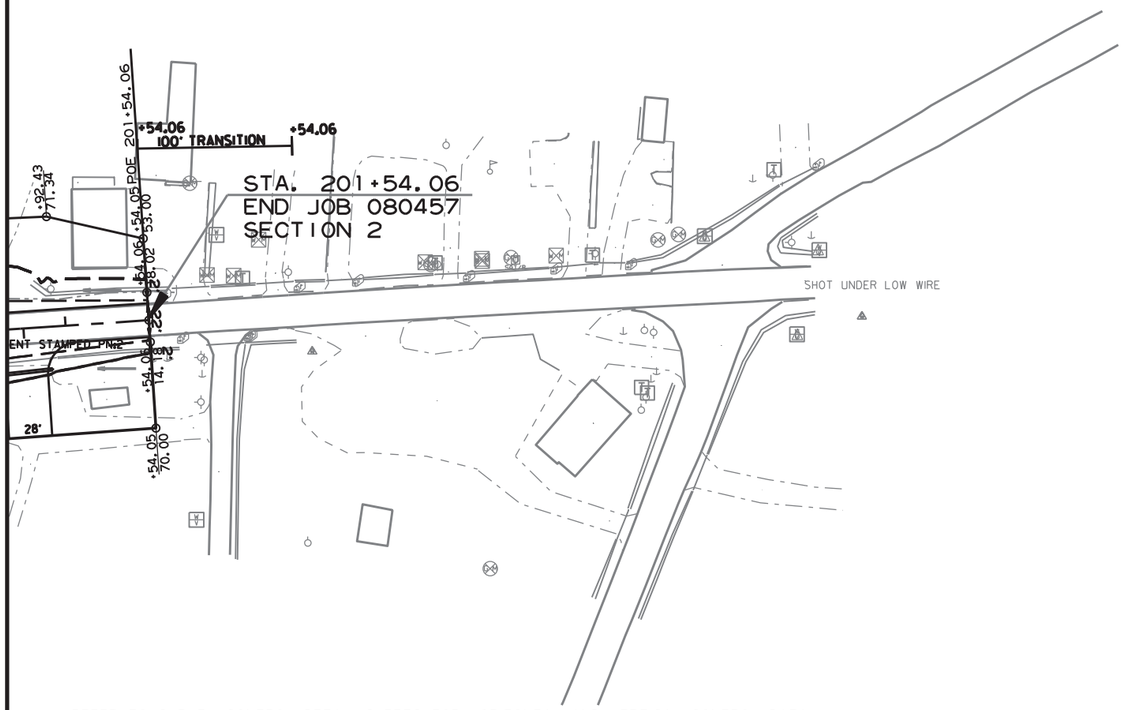
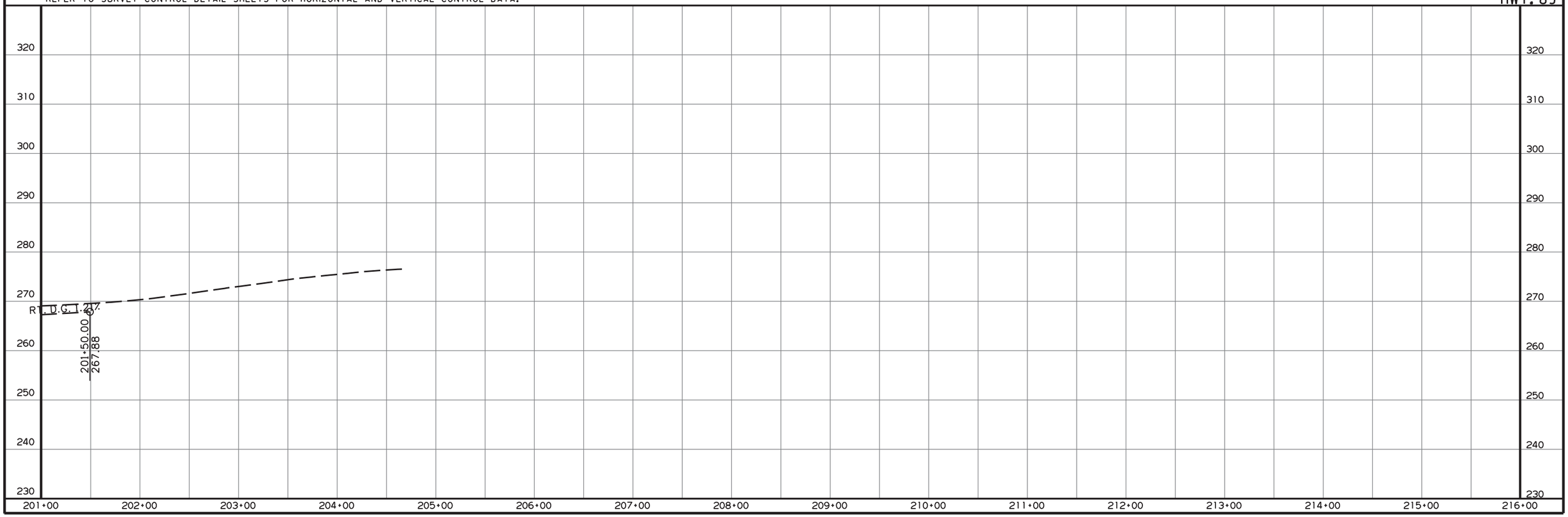


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 89



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(2) PLAN AND PROFILE SHEETS

STA. 11+00 CONSTRUCT
29" X 18" X 34' PIPE CULVERT W/FES
29" X 18" R.C. PIPE (CL. IV) II BEDDING = 34 LIN. FT.
28" X 20" SLPPMCCS PIPE = 34 LIN. FT.
29" X 18" FES= 2 EA.
D. A. = 0.36 AC, Q25 = 0.5 CFS

STA. 13+00 - INSTALL
22" x 15" x 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 13+71.40 - CONSTRUCT
APPROACH = 20 CU. YDS.

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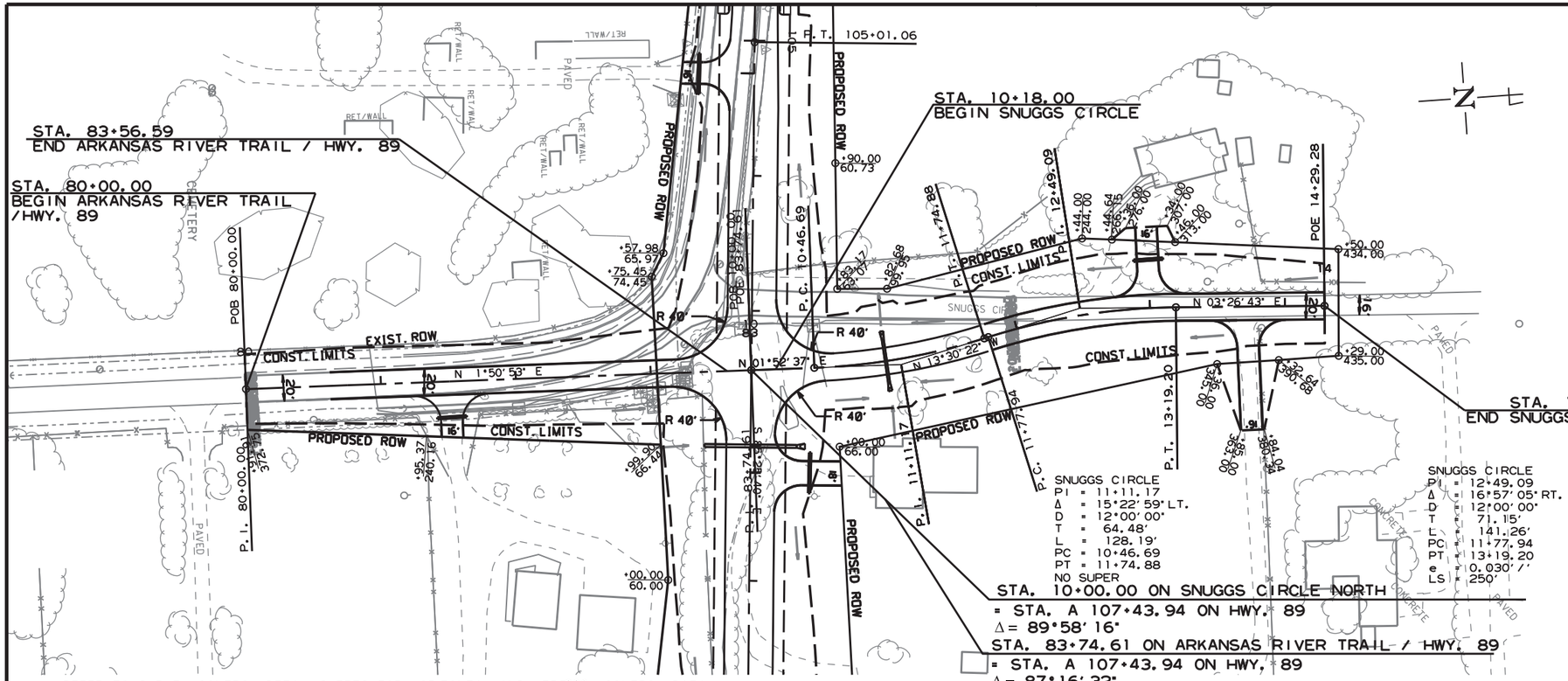
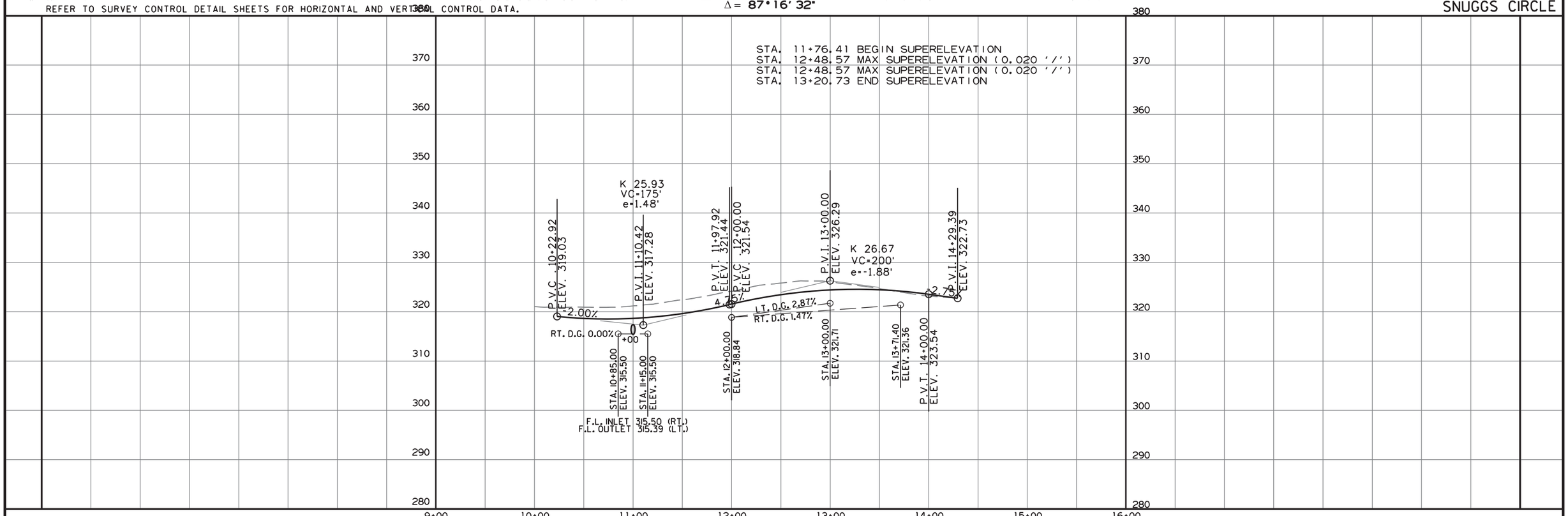


EROSION CONTROL MATTING

STA.	STA.	SIDE	LENGTH LIN. FT.	CLASS 3 SQ. YDS.
12+00.00	13+00.00	LT.	100	88.89

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SNUGGS CIRCLE



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(2) PLAN AND PROFILE SHEETS

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STA. 81+52 - INSTALL
22" x 15" x 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 83+56.59
END ARKANSAS RIVER TRAIL / HWY. 89

STA. 80+00.00
BEGIN ARKANSAS RIVER TRAIL / HWY. 89

POB 80+00.00

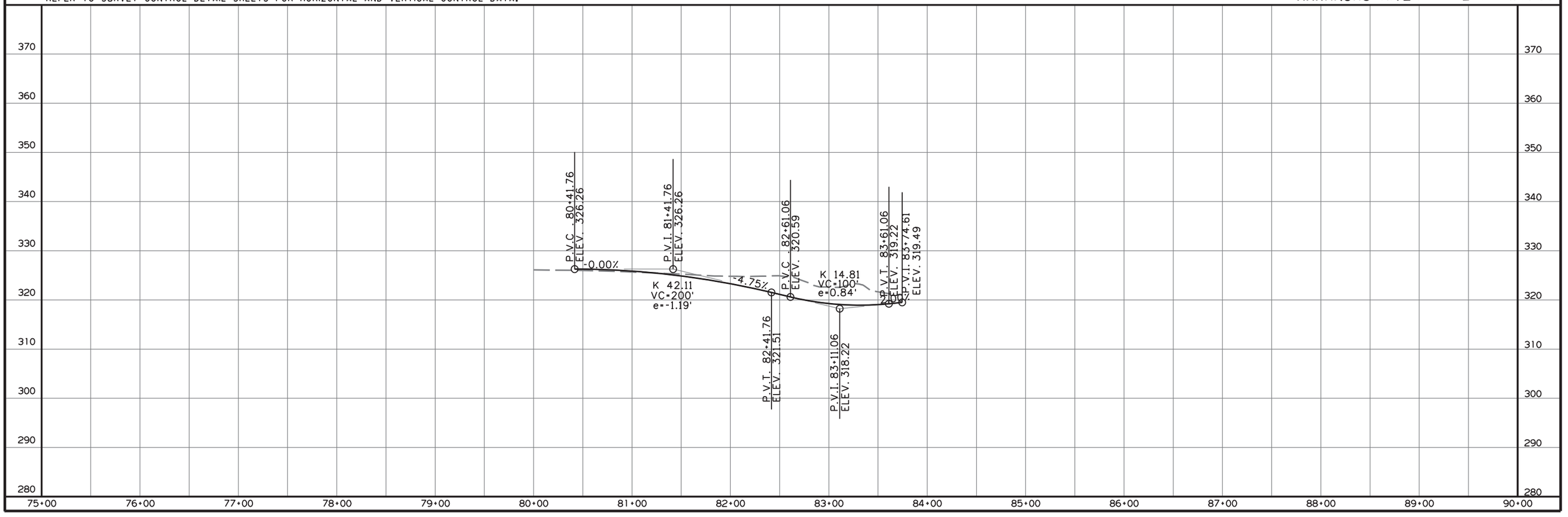
EXIST. ROW
CONST. LIMITS
PROPOSED ROW
N 1°50' 53" E
P.I. 80+00.00
372.16
95.37
240.16
N 01°52' 37" E
P.C. 10+46.69
P.I. 11+11.17
P.C. 11+77.64
P.T. 13+19.20
N 13°30' 22" W
N 03°26' 43" E
POE 14+29.28
STA. 14+29.28
END SNUGGS CIRCLE NORTH
SNUGGS CIR
PAVED
RET/WALL
CONCRETE
CHARMA COVE
PAVED PARKING
CONCRETE PARKING
ROCK

STA. 81+52 - IN PLACE
24" x 54" PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
28" x 20" x 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 10+00.00 ON SNUGGS CIRCLE NORTH
= STA. A 107+43.94 ON HWY. 89
Δ = 89°58' 16"
STA. 83+74.61 ON ARKANSAS RIVER TRAIL / HWY. 89
= STA. A 107+43.94 ON HWY. 89
Δ = 87°16' 32"

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

ARKANSAS RIVER TRAIL / HWY. 89



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STA. 45+59.90 ON SHADEL LANE
= STA. A 115+74.25 ON HWY. 89
Δ = 90°00' 00"

STA. 30+00.00 ON SHADEL LANE NORTH
= STA. A 115+00.00 ON HWY. 89
Δ = 90°00' 00"

STA. 30+32 INSTALL
18" x 66' SIDE DRAIN

STA. 31+24 - INSTALL
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

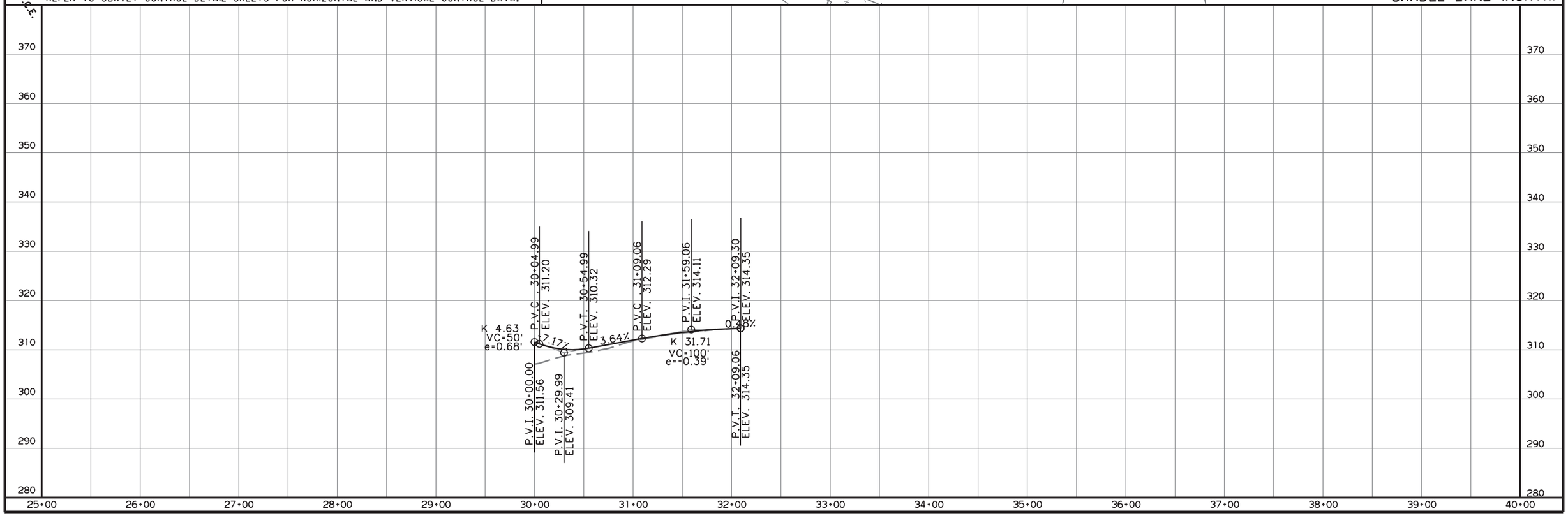
SHADEL LN.
PI = 31+02.45
Δ = 16°21' 09" RT.
D = 16°00' 00"
T = 51.45'
L = 102.20'
PC = 30+51.00
PT = 31+53.20
NO SUPER

STA. 32+09.30
END SHADEL LANE NORTH

STA. 45+41.86
END SHADEL LANE

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SHADEL LANE (NORTH)



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DocuSigned by:

STA. 45+59.90 ON SHADEL LANE
= STA. A 115+74.25 ON HWY. 89
Δ = 90°00' 00"

STA. 41+56 - INSTALL
18" x 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 43+62 - CONSTRUCT
18" x 58' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) W/FES
18" R.C. PIPE= 58 LIN.FT.
18" FES= 2 EA.
D.A. = 1.2 AC., Q25 = 2.8 CFS.

SHADEL LN.
PI = 41+92.17
Δ = 27°38' 52" RT.
D = 20°00' 00"
T = 70.49'
L = 138.24'
PC = 41+21.68
PT = 42+59.92
NO SUPER

SHADEL LN.
PI = 44+45.96
Δ = 27°03' 09" RT.
D = 19°00' 00"
T = 72.54'
L = 142.38'
PC = 43+73.42
PT = 45+15.80
NO SUPER

STA. 41+00.00
BEGIN SHADEL LANE

STA. 43+12 - CONSTRUCT
18" X 70' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) W/FES
18" R.C. PIPE= 70 LIN.FT.
18" FES= 2 EA.
D.A. = 1.2 AC., Q25 = 2.8 CFS.

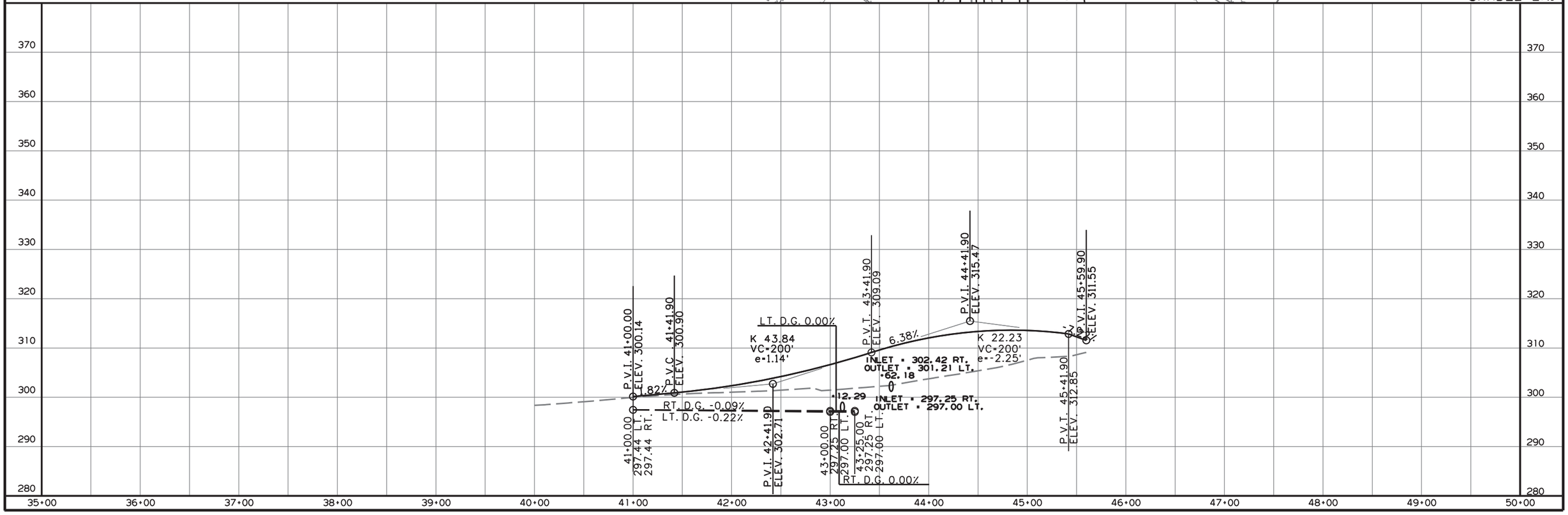
STA. 32+09.30
END SHADEL LANE NORTH

STA. 41+22 - INSTALL
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 30+00.00 ON SHADEL LANE NORTH
= STA. A 115+00.00 ON HWY. 89
Δ = 90°00' 00"

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SHADEL LN.



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	170	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:56 AM
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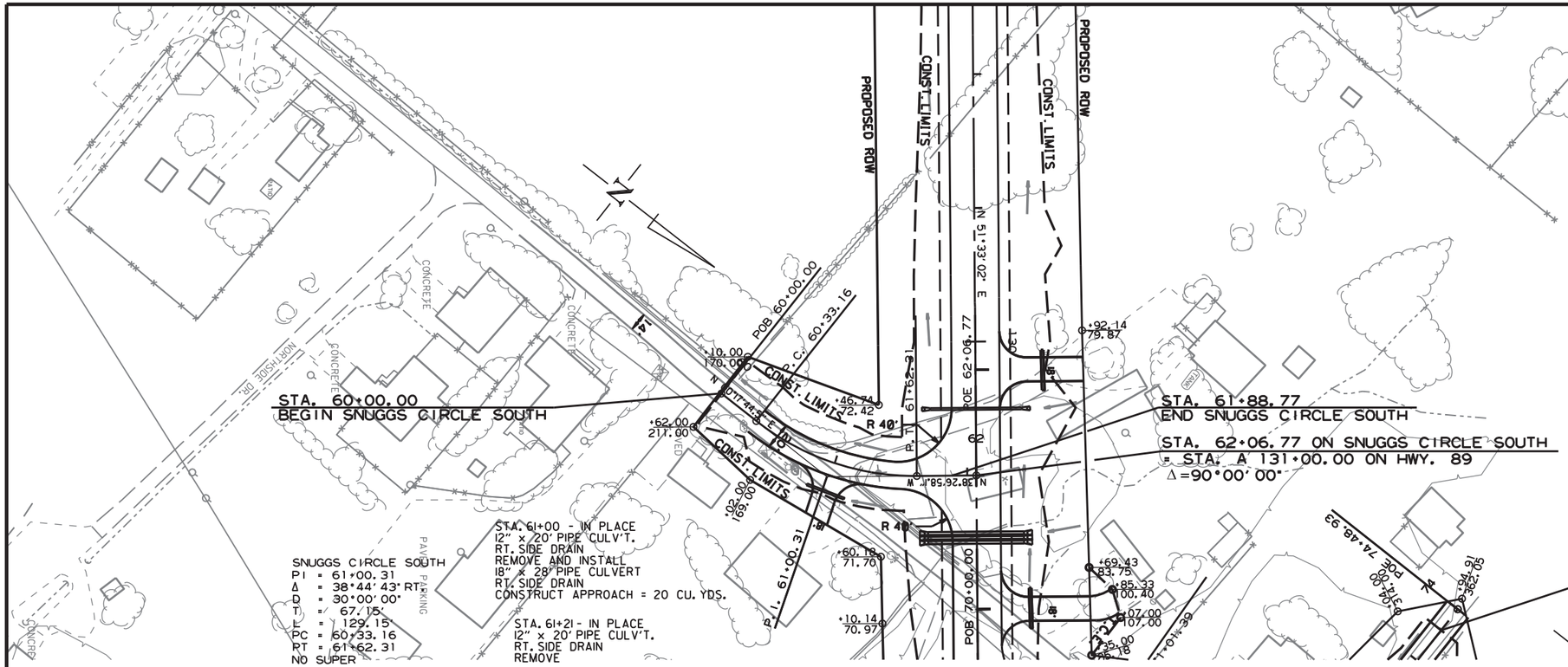
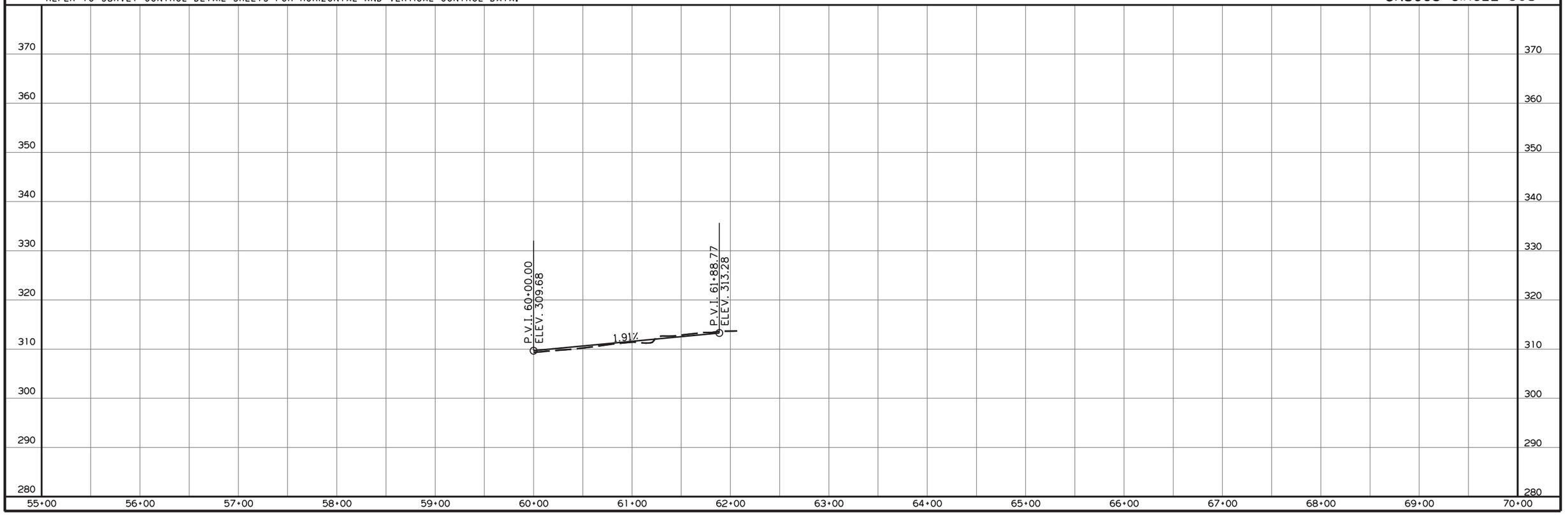


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SNUGGS CIRCLE SOUTH



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JOB NO.		080457	171	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:57 AM
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STA. 61+88.77
END SNUGGS CIRCLE SOUTH

STA. 62+06.77 ON SNUGGS CIRCLE SOUTH
= STA. A 131+00.00 ON HWY. 89
Δ=90°00'00"

STA. 70+50 INSTALL
18" x 46' PIPE CULVERT
SIDE DRAIN

STA. 73+52 - INSTALL
22" x 15" x 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 74+28.91
END SNUGGS CIRCLE NORTH

STA. 70+18.00
BEGIN SNUGGS CIRCLE NORTH

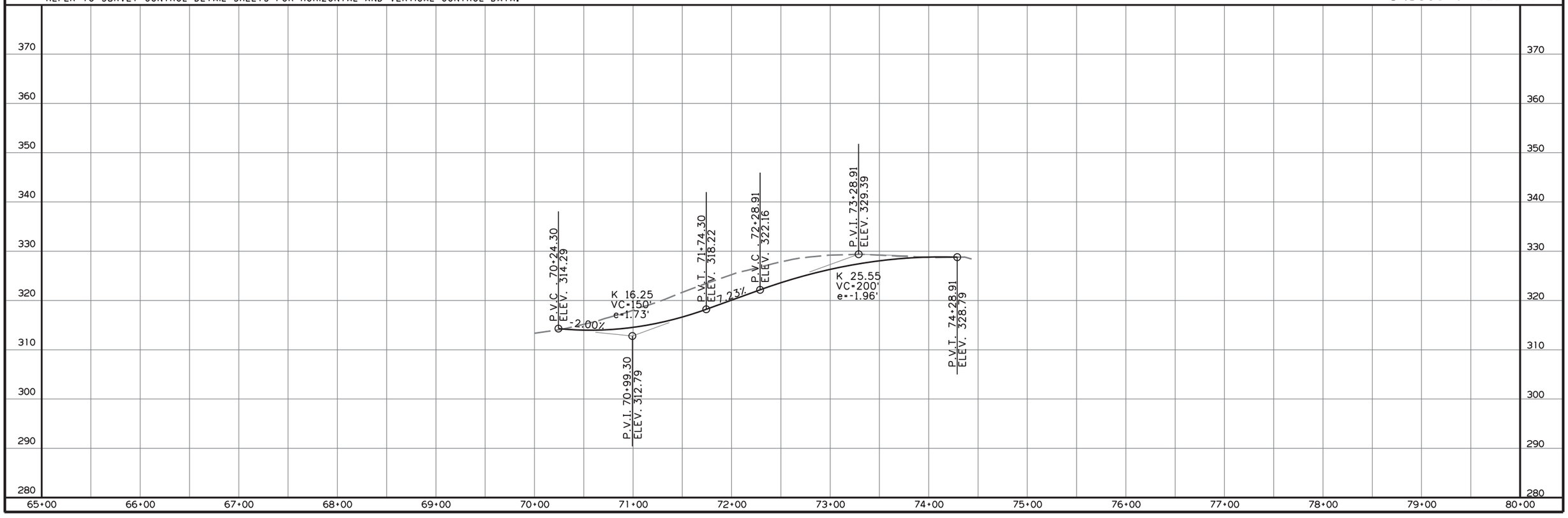
SNUGGS CIRCLE NORTH
PI = 71+01.39
Δ = 40°23'50" RT.
D = 35°00'00"
T = 60.23'
L = 115.42'
PC = 70+41.16
PT = 71+56.58
NO SUPER

SNUGGS CIRCLE NORTH
PI = 72+52.24
Δ = 91°39'34" LT.
D = 105°00'00"
T = 56.17'
L = 87.30'
PC = 71+96.07
PT = 72+83.37
NO SUPER

STA. 70+00.00 ON SNUGGS CIRCLE NORTH
= STA. A 132+74.72 ON HWY. 89
Δ = 90°00'00"

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SNUGGS CIRCLE NORTH



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(2) PLAN AND PROFILE SHEETS

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STA. 101+50 - CONSTRUCT
24" x 120' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) W/FES
24" R.C. PIPE= 120 LIN.FT.
24" FES= 2 EA.
D.A. = 2.0 AC., Q25 = 4.5 CFS.

STA. 107+21.45 - MAIN STREET CONNECTOR
= STA. 139+00.00 - MAIN STREET EXISTING
Δ = 85°00'00"

STA. 106+68.31 - CONSTRUCT
24" x 68' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) W/FES
24" R.C. PIPE= 68 LIN.FT.
24" FES= 2 EA.
D.A. = 8.2 AC., Q25 = 18 CFS.

CONCRETE DITCH PAVING

STA.	STA.	SIDE	"W"	SQ. YDS.
106+00	106+50	LT.	6	33.33

MAIN STREET CONNECTOR
PI = 104+94.85
Δ = 76°46'39" RT.
D = 19°00'00"
T = 238.91'
L = 404.09'
PC = 102+55.94
PT = 106+60.03
e = 0.095'/'
Ls = 250'

STA. 100+00.00 ON MAIN STREET CONNECTOR
= STA. A 175+00.00 ON HWY. 89
Δ = 85°00'00"

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

MAIN STREET CONNECTOR

STA. 102+55.95 BEGIN SUPERELEVATION
STA. 104+57.99 MAX SUPERELEVATION (0.077 '/')
STA. 106+60.03 END SUPERELEVATION

STA. 100+28.43
BEGIN MAIN STREET CONNECTOR

STA. 107+12.20
END MAIN STREET CONNECTOR

P.V.I. 100+28.43
ELEV. 304.56
2.00%
P.V.C. 100+73.98
ELEV. 305.47
P.V.I. 102+61.48
ELEV. 309.23
-7.02%
P.V.C. 105+12.20
ELEV. 291.63
P.V.T. 107+12.20
ELEV. 284.40
K 41.56
VC=375'
e=-4.23'
K 29.40
VC=200'
e=1.70'
LT. DITCH GRADE -1.79%
RT. DITCH GRADE -0.65%
100+28.43
297.04
101+50.00
287.71 RT.
294.86 LT.
F.L. INLET = 294.86 LT.
F.L. OUTLET = 287.71RT.
P.V.T. 104+48.98
ELEV. 296.07
105+00.00
285.44
P.V.I. 106+12.20
ELEV. 284.62
106+50.00
280.26 RT.
280.00 LT.
106+80.00
280.26 RT.
280.00 LT.
F.L. INLET = 280.26 RT.
F.L. OUTLET = 280.00 LT.
RT. D.G. 0.00%
LT. D.G. 0.00%

340 330 320 310 300 290 280 270 260 250

99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00

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(2) PLAN AND PROFILE SHEETS

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TRINITY D. SMITH
Oct 22 2020 10:57 AM
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STA. 6+93.00
END CARROL ROAD

STA. 2+28.00
BEGIN CARROL ROAD

CARROL ROAD
PI = 2+75.12
Δ = 19°56' 03" RT.
D = 24°00' 00"
T = 41.95'
L = 83.06'
PC = 2+33.17
PT = 3+16.23
NO SUPER

STA. 2+50 INSTALL
24" x 62' PIPE CULVERT
SIDE DRAIN

STA. 5+50 CONSTRUCT
24" x 38' PIPE CULVERT
(CLASS V) (TYPE 3 BEDDING) W/FES
24" R.C. PIPE (CL. V) = 38 LIN. FT.
24" SLPPMCCS PIPE = 38 LIN. FT.
24" FES= 2 EA.
D.A. = 0.35 AC., 025 = 0.8 CFS.

CARROL ROAD
PI = 3+93.78
Δ = 26°41' 26" LT.
D = 24°00' 00"
T = 56.63'
L = 111.21'
PC = 3+37.15
PT = 4+48.36
e = 0.100'/'
Ls = 250'

CARROL ROAD
PI = 6+12.58
Δ = 100°54' 22" LT.
D = 71°37' 11"
T = 96.89'
L = 140.89'
PC = 5+15.70
PT = 6+56.59
e = 0.100'/'
Ls = 250'

EROSION CONTROL MATTING

STA.	STA.	SIDE	LENGTH LIN. FT.	CLASS 3 SQ. YDS.
5+50.00	6+50.00	RT.	100	88.89

STA. 100+00.00 ON MAIN STREET CONNECTOR
= STA. A 175+00.00 ON HWY. 89
Δ = 85°00' 00"

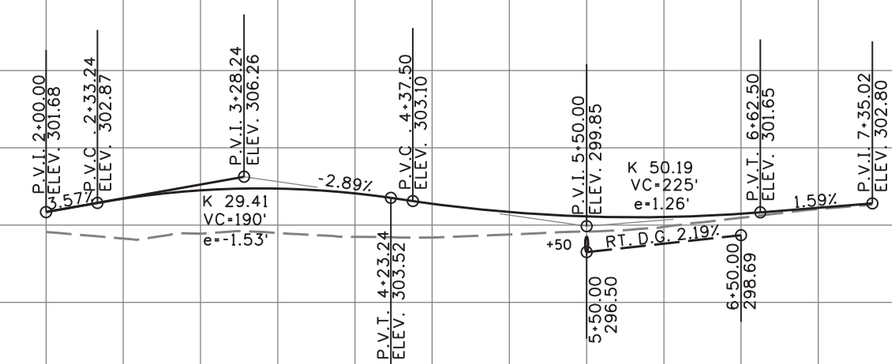
STA. 100+28.43
BEGIN MAIN STREET CONNECTOR

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

CARROL ROAD

STA. 3+26.79 BEGIN SUPERELEVATION
STA. 3+92.77 MAX SUPERELEVATION (0.026 '/')
STA. 4+58.75 END SUPERELEVATION

STA. 4+26.79 BEGIN SUPERELEVATION
STA. 3+92.77 MAX SUPERELEVATION (0.042 '/')
STA. 4+58.75 END SUPERELEVATION



F.L. INLET = 270.00 LT.
F.L. OUTLET = 296.50 RT.

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				JOB NO.		080457	174	517

2 PLAN AND PROFILE SHEETS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH

Oct 5 2020 10:05 AM

GUARDRAIL

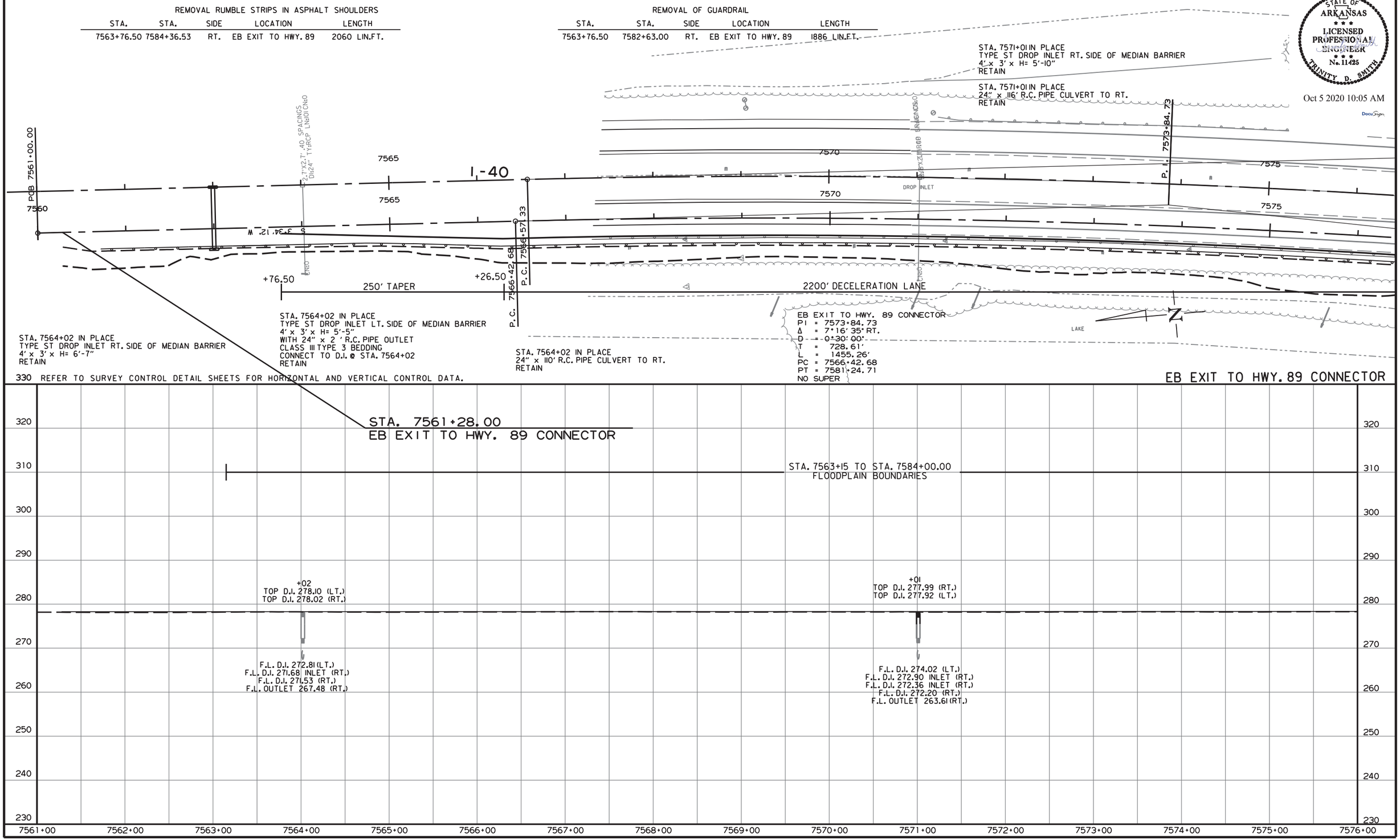
STA.	STA.	LOCATION	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)
7561+71.00	7584+57.00	RT. OF C.L. EB EXIT TO HWY. 89 CONNECTOR	2300 LIN. FT.	1

REMOVAL RUMBLE STRIPS IN ASPHALT SHOULDERS

STA.	STA.	SIDE	LOCATION	LENGTH
7563+76.50	7584+36.53	RT.	EB EXIT TO HWY. 89	2060 LIN.FT.

REMOVAL OF GUARDRAIL

STA.	STA.	SIDE	LOCATION	LENGTH
7563+76.50	7582+63.00	RT.	EB EXIT TO HWY. 89	1886 LIN.FT.



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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 10:06 AM
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STA.	STA.	LOCATION	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)
7561+71.00	7584+57.00	RT. OF C.L. EB EXIT TO HWY. 89 CONNECTOR	2300 LIN. FT.	1

STA. 7584+96 IN PLACE
TYPE ST DROP INLET LT. SIDE OF MEDIAN BARRIER
4′ x 3′ x H= 5′-2″
WITH 24″ x 2′ R.C. PIPE OUTLET
CLASS III TYPE 3 BEDDING
CONNECT TO D.I. @ STA. 7584+95 ON RT.
RETAIN

STA. 7584+96 IN PLACE
TYPE ST DROP INLET LT. SIDE OF MEDIAN BARRIER
4′ x 3′ x H= 6′-0″
RETAIN

EB EXIT TO HWY. 89 CONNECTOR
PI = 7573+84.73
Δ = 7°16′35″RT.
D = 0°30′00″
T = 728.61′
L = 1455.26′
PC = 7566+42.68
PT = 7581+24.71
NO SUPER

STA. 7577+48 IN PLACE
TYPE ST DROP INLET RT. SIDE OF MEDIAN BARRIER
4′ x 3′ x H= 10′-8″
RETAIN

STA. 7577+46 IN PLACE
8′ x 8′ x 218′ R.C. BOX CULVERT W/
ANIMAL PASSAGE SHELF & 4 RAMPS
RETAIN AND EXTEND 7′ RT.

EB EXIT TO HWY. 89 CONNECTOR
PI = 7582+49.55
Δ = 5°42′30″RT.
D = 3°00′00″
T = 95.22′
L = 190.28′
PC = 7581+54.33
PT = 7583+44.61
NO SUPER

STA. 7582+10 IN PLACE
OVERHEAD HIGHWAY SIGN
EASTBOUND LANES
REMOVE AND RELOCATE TO STA. 7563+00EB
SEE SIGNING PLANS

EB EXIT TO HWY. 89 CONNECTOR
PI = 7590+41.91
Δ = 14°09′37″RT.
D = 3°00′00″
T = 237.21′
L = 472.01′
PC = 7587+77.70
PT = 7592+49.71
e = 0.067′/′
Ls = 350′

STA. 7584+96 IN PLACE
24″ x 100′ R.C. PIPE CULVERT TO RT.
RETAIN AND EXTEND 17′ LT.
24″ R.C. PIPE= 22 LIN.FT.
(CLASS III) (TYPE 3 BEDDING)

330 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

EB EXIT TO HWY. 89 CONNECTOR

STA. 7585+15.20 BEGIN SUPERELEVATION
STA. 7588+65.20 MAX SUPERELEVATION (0.067 ′/′)
STA. 7591+62.21 MAX SUPERELEVATION (0.067 ′/′)
STA. 7595+12.21 END SUPERELEVATION

STA. 7563+15 TO STA. 7584+00.00
FLOODPLAIN BOUNDARIES

+48
TOP D.I. 277.87

EXIST. F.L. D.I. 271.76 INLET (RT.)
EXIST. F.L. D.I. 268.15 INLET (RT.)
EXIST. F.L. INLET 258.65 (LT.)
EXIST. F.L. OUTLET 258.45 (RT.)
F.L. OUTLET 258.45 (RT.)

P.V.I. 7584+36.36
ELEV. 278.43

P.V.I. 7584+86.57
ELEV. 278.43

0.01%

+96
TOP D.I. 278.45 (RT.)
TOP D.I. 278.18 (LT.)

EXIST. F.L. D.I. 273.00 (LT.)
EXIST. F.L. D.I. 272.76 INLET (RT.)
EXIST. F.L. D.I. 272.46 INLET (RT.)
EXIST. F.L. D.I. 272.45 (RT.)
EXIST. F.L. OUTLET 270.35 (RT.)
F.L. OUTLET 269.94 (RT.)

7586+00.00
273.33

0.30%

RT. D.G. 0.16%

P.V.C. 7587+61.04
ELEV. 279.26

7588+00.00
273.64

K 128.16
VC=600′
e=3.51′

P.V.I. 7590+61.04
ELEV. 280.16

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(2) PLAN AND PROFILE SHEETS

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TRINITY D. SMITH
Oct 22 2020 10:58 AM
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STA. 7591+95 IN PLACE
24" x 216" R.C. PIPE CULVERT
30° RT. FWD. SKEW
RETAIN, ADJUST, AND CONSTRUCT
TYPE E DROP INLET @ STA. 7592+29.76
3' x 3' x HT. 2'-5"
24" R.C. PIPE = 64'
(CLASS III) (TYPE 3 BEDDING)

STA. 7598+58.93 ON EASTBOUND EXIT
= STA. A 185+22.34 ON HWY. 89
Δ = 70°00'00"

EB EXIT TO HWY. 89 CONNECTOR
PI = 7590+41.91
Δ = 14°09'37" RT.
D = 3°00'00"
T = 237.21'
L = 472.01'
PC = 7587+77.70
PT = 7592+49.71
e = 0.067'/'
Ls = 350'

200' TRANSITION (2) 12' LANES

STA. 7598+29.13
END EB EXIT TO HWY. 89 CONNECTOR

AREA OF OBLITERATION

STA 310+22.70 ON EASTBOUND ENTRANCE
= STA. A 182+07.05 ON HWY. 89
Δ = 85°00'00"

EB EXIT TO HWY. 89 CONNECTOR

330 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 7585+15.20 BEGIN SUPERELEVATION
STA. 7588+65.20 MAX SUPERELEVATION (0.067 '/')
STA. 7591+62.21 MAX SUPERELEVATION (0.067 '/')
STA. 7595+12.21 END SUPERELEVATION

K 128.16
VC=600'
e=3.51'

K 143.94
VC=350'
e=-1.06'

P.V.T. 7593+61.04
ELEV. 295.10
P.V.C. 7593+80.11
ELEV. 296.05

P.V.I. 7595+55.11
ELEV. 304.77

P.V.T. 7597+30.1
ELEV. 309.23

2.55%

RT. D.G. 0.34%

P.V.I. 7598+29.13
ELEV. 311.76

7597+00.00
289.68

7598+29.30
290.12

+29.76
TOP D.I. 276.46 (LT.)

EXIST. F.L. D.I. 273.46 (RT.)
EXIST. F.L. OUTLET 271.38 (LT.)
EXIST. F.L. INLET 274.89 (RT.)
F.L. INLET 274.04 (RT.)

320 310 300 290 280 270 260 250 240 230

7591+00 7592+00 7593+00 7594+00 7595+00 7596+00 7597+00 7598+00 7599+00 7600+00 7601+00 7602+00 7603+00 7604+00 7605+00 7606+00

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(2) PLAN AND PROFILE SHEETS

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LICENSED PROFESSIONAL ENGINEER
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TRINITY D. SMITH
Oct 5 2020 10:06 AM
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HWY. 365 TO HWY. 89
PI = 7590+24.75
Δ = 41°03'38" RT.
D = 24°00'00"
T = 89.40'
L = 171.08'
PC = 7589+35.35
PT = 7591+06.43
e = 0.100'/'
Ls = 300'

STA. 7587+79.00 - CONSTRUCT TYPE RM DROP INLET IN MEDIAN 3' x 4' x H= 6'-2" WITH 36" x 50' R.C. PIPE INLET AND 36" x 50' R.C. PIPE OUTLET (CLASS III) (TYPE 3 BEDDING) 36" R.C. PIPE= 68 LIN.FT. 36" FES= 2 EA.

330 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 7589+55.30 BEGIN SUPERELEVATION
STA. 7590+20.89 MAX SUPERELEVATION (0.022 '/')
STA. 7590+86.48 END SUPERELEVATION

STA. 7587+35.66
HWY. 365 TO HWY. 89
BEGIN

STA. 7590+96.11
HWY. 365 TO HWY. 89

P.V.I. 7587+35.66 ELEV. 277.00
P.V.C. 7587+80.91 ELEV. 277.87
P.V.I. 7588+30.01 ELEV. 278.85
P.V.C. 7589+70.70 ELEV. 278.85
P.V.I. 7590+20.70 ELEV. 278.85
P.V.T. 7590+70.70 ELEV. 282.20
P.V.I. 7590+96.11 ELEV. 283.90

1.96%
K 45.06
VC 900'
e=-0.24'
0.00%
K 14.93
VC=100'
e=0.84'
RT. D.G. 0.00%
RT. D.G. 2.70%
RT. D.G. 1.29%

7587+50.00 271.00
7587+79.00 271.00
7588+50.00 272.92
P.V.T. 7588+80.01 ELEV. 278.85
7589+50.00 274.21
P.V.I. 7590+20.70 ELEV. 278.85

7586+00 7587+00 7588+00 7589+00 7590+00 7591+00 7592+00 7593+00 7594+00 7595+00 7596+00 7597+00 7598+00 7599+00 7600+00 7601+00

320 310 300 290 280 270 260 250 240 230

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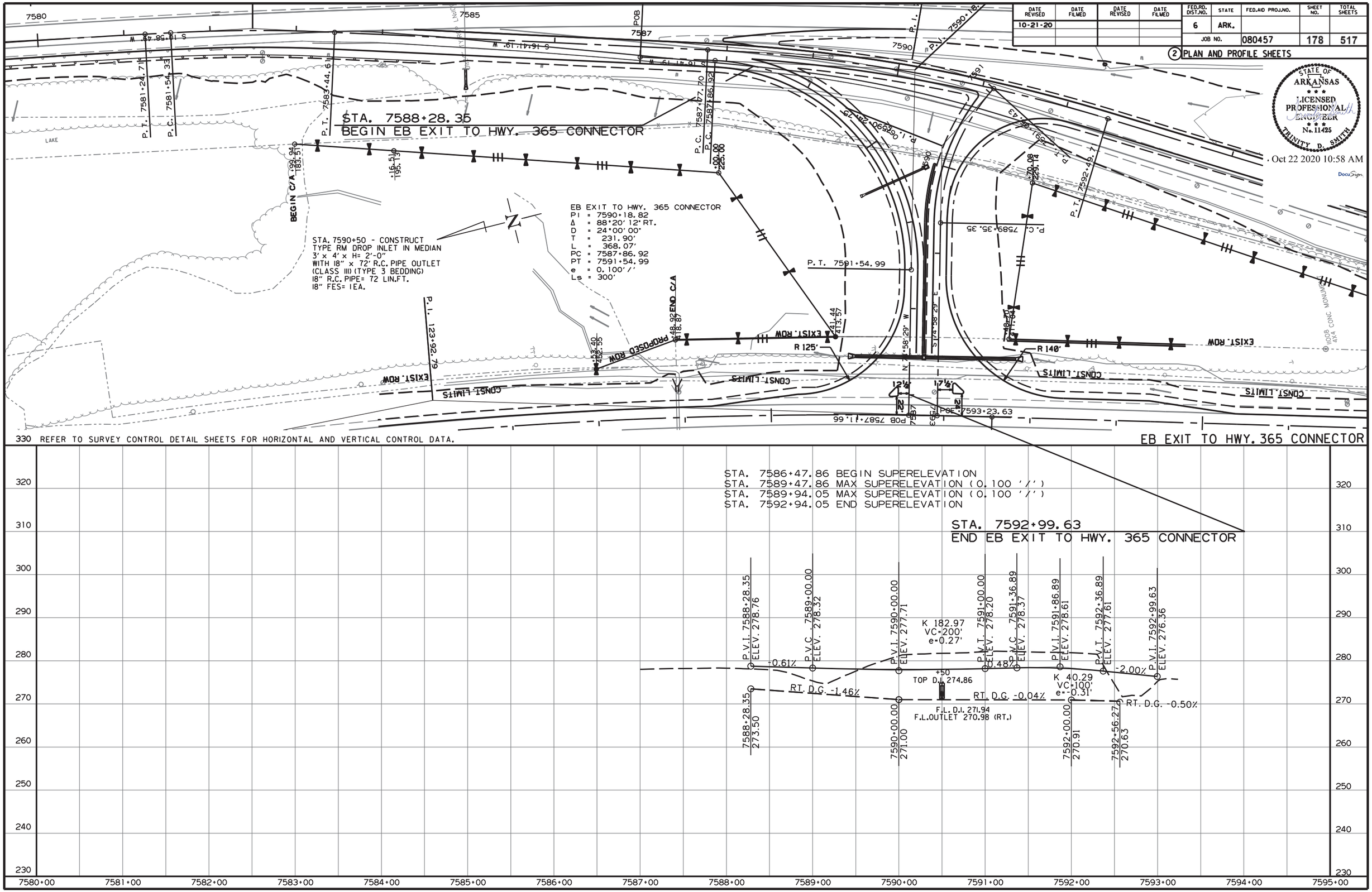

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:58 AM
DocuSign

STA. 7598+55.04
BEGIN EASTBOUND ENTRANCE

STA. 7603+50 - IN PLACE
24" x 124' R.C. PIPE OUTLET @ 50° BACKWARD SKEW
RETAIN AND CONNECT TO TYPE E JUNCTION BOX
EXTEND 28' RT. & 14' LT.
(CLASS III) (TYPE 3 BEDDING) W/FES RT.
24" R.C. PIPE= 46 LIN.FT.
24" FES= 1EA.

STA. 7603+62 - IN PLACE
24" x 184' R.C. PIPE OUTLET
RETAIN AND CONSTRUCT
TYPE E JUNCTION BOX
3' x 4' x H= 6'-5"
(CLASS III) (TYPE 3 BEDDING) W/FES RT.
24" R.C. PIPE= 2 LIN.FT.

AREA OF OBLITERATION

STA. 7603+00 - CONSTRUCT
24" x 112' R.C. PIPE CULVERT
(CLASS III) (TYPE 3) BEDDING W/2FES
24" R.C. PIPE= 112 LIN.FT.
24" FES= 2 EA.

STA. 7609+97 IN PLACE
24" x 100' R.C. PIPE CULVERT TO RT.
REMOVE HDWLS. RT. & EXTEND R.C. PIPE
56' RT.
(CLASS III) (TYPE 3 BEDDING) W/FES LT.
24" R.C. PIPE= 58 LIN.FT.
24" FES= 1EA.

350 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

EASTBOUND ENTRANCE

STA. 7611+53.71 BEGIN SUPERELEVATION
STA. 7612+92.58 MAX SUPERELEVATION (0.035 '/')
STA. 7614+31.45 END SUPERELEVATION

P.V.I. 7598+21.12 ELEV. 312.61
-2.43%
P.V.C. 7599+76.00 ELEV. 308.85
P.V.I. 7601+13.50 ELEV. 305.51
K 106.94
VC=275'
e=-0.88'
P.V.C. 7602+61.16 ELEV. 298.13
-5%
K 156.78
VC=800'
e=5.10'
P.V.T. 7610+61.16 ELEV. 278.54
0.10%
P.V.I. 7612+00.00 ELEV. 278.68
7599+00.00 289.36
RT. D.C. -1.40%
7600+00.00 287.96
RT. D.C. -1.19%
7602+00.00 285.57
P.V.T. 7602+51.00 ELEV. 298.63
+00
+62
+50
EXISTING F.L. INLET = 278.82 RT.
F.L. INLET 279.03 RT.
EXISTING F.L. OUTLET = 277.59 LT.
F.L. OUTLET = 277.40 LT.
EXISTING F.L. OUTLET = 281.98 LT.
F.L. D.I. 279.03
F.L. INLET = 283.99 RT.
F.L. OUTLET = 283.06 LT.
P.V.I. 7606+61.16 ELEV. 278.13
+97
RT. D.G. 0.00%
7609+75.00 272.61
7610+25.00 272.61
EXISTING F.L. OUTLET = 272.61RT.
F.L. OUTLET = 272.61RT.

340 330 320 310 300 290 280 270 260 250

7598+00 7599+00 7600+00 7601+00 7602+00 7603+00 7604+00 7605+00 7606+00 7607+00 7608+00 7609+00 7610+00 7611+00 7612+00 7613+00

8/7/2017

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	180	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 22 2020 11:00 AM

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EASTBOUND ENTRANCE
PI = 7612+84.12
Δ = 09°49'19" RT.
D = 3°00'00"
T = 164.10'
L = 327.40'
PC = 7611+20.02
PT = 7614+47.41
e = 0.057'/'
Ls = 300'

350 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 7621+10 IN PLACE
DBL. 8' x 6' x 264' R.C. BOX CULVERT
W/ 2 ANIMAL PASSAGE SHELVES & 4 RAMPS
Q50= 649 C.F.S., D.A.= 698 AC.
REMOVE RT. WINGS AND EXTEND 24' RT.
FOR A TOTAL COMPLETED LENGTH 288'

EASTBOUND ENTRANCE
PI = 7624+06.46
Δ = 04°44'32" LT.
D = 0°30'00"
T = 474.80'
L = 948.42'
PC = 7619+31.98
PT = 7628+80.40
MATCH EXISTING

EASTBOUND ENTRANCE

STA. 7611+53.71 BEGIN SUPERELEVATION
STA. 7612+92.58 MAX SUPERELEVATION (0.035 '/')
STA. 7614+31.45 END SUPERELEVATION

STA. 7616+60 TO STA. 7628+96.00
FLOODPLAIN BOUNDARIES

700' (2) ACCELERATION LANES
300' ACCELERATION LANE DROP TAPER
700' ACCELERATION LANE

7620•91.00
261.06
+10
7621•28.00
261.06
RT. D.G. 0.00%

F.L. INLET 261.06 (RT.)
EXISTING F.L. INLET 260.98 (RT.)
EXISTING F.L. OUTLET 259.77 (LT.)

7627+75.00
271.64
RT. D.G. 0.00%

8/7/2017
R080457.DGN

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10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	181	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 10:59 AM
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PAVED PARKING
PV
CONCRETE
7630
7635
7640
7633
P.T. 7628+80.40
P.I. 7630+36.80
POE 7633+36.72
P.I. 7634+17.10
S 10°55'43" W
S 7°35'55" W

STA. 7628+04 IN PLACE
TYPE ST DROP INLET RT. SIDE OF MEDIAN BARRIER
4' x 3' x H= 5'-8"
WITH 24" x 88' R.C. PIPE CULVERT TO RT.
REMOVE HDWLS. RT. & EXTEND R.C. PIPE
12' RT.
(CLASS III) (TYPE 3 BEDDING) W/FES LT.
24" R.C. PIPE= 14 LIN.FT.
24" FES= 1EA.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

EASTBOUND ENTRANCE
PI = 7624+06.46
Δ = 04°44'32" LT.
D = 0°30'00"
T = 474.80'
L = 948.42'
PC = 7619+31.98
PT = 7628+80.40
MATCH EXISTING

PAVED PARKING
PAVED PARKING
PAVED PARKING

EASTBOUND ENTRANCE

STA. 7633+36.72
END EASTBOUND ENTRANCE

700' ACCELERATION LANE
300' ACCELERATION LANE DROP TAPER

+04
EXISTING F.L. INLET = 273.52 LT.
EXISTING F.L. OUTLET = 271.69 RT.
F.L. OUTLET = 271.64 RT.
7628+25.00
271.64
RT. D.G. 0.00%

340 330 320 310 300 290 280 270 260 250

7628+00 7629+00 7630+00 7631+00 7632+00 7633+00 7634+00 7635+00 7636+00 7637+00 7638+00 7639+00 7640+00 7641+00 7642+00 7643+00

8/7/2017
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10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	182	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 6:01 PM
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STA. 98+65 - IN PLACE
18" x 20' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 100+72 - IN PLACE
18" x 20' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE

STA. 104+00 - IN PLACE
18" x 40' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 42' PIPE CULV'T.
LT. SIDE DRAIN
CONSTR. APPR. = 45 CU. YD.

STA. 104+64 - IN PLACE
D.I. ON RT. W./
24" x 184' PIPE CULV'T. OUTLET
RETAIN
24" x 78' PIPE CULV'T. INLET W./ F.E.S.
RETAIN AND EXTEND 6' LT.
24" R.C. PIPE (CL. III) = 8 LIN. FT.
24" FES= 1EA.

STA. 104+91 - IN PLACE
18" x 44' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 106+07 - IN PLACE
18" x 40' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 106+95 - IN PLACE
18" x 40' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 54' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.

STA. 104+28 - IN PLACE
24" x 68' PIPE CULV'T.
RT. SIDE DRAIN
RETAIN
STA. 105+50 - INSTALL
21" x 15" x 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS
STA. 108+75 - INSTALL
21" x 15" x 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS

POB 96+60.00
END C/A 98+86
P.C.E. 98+51.68
BEGIN C/A 104+55.00
END P.C.E. 98+60
BEGIN C/A 159.86
END C/A 56+60
159.39
POB 100+00.00
BEGIN C/A 57+40
152.00
END C/A 48+52
BEGIN C/A 443.93
P.C. 7605+47.42
R 125'
P.I. 7607+97.53
POB 7608+44.03
POB 7604+27.53
N 74°-18'-34" W
7605
S 74°-18'-34" E
0
P.C. 7603+81
BEGIN C/A 378.61
END C/A
BEGIN C/A 65.24
46.98
S 79°-09'-05" E
POB 7604
EXIST. ROW
CONST. LIMITS
PROPOSED ROW
PAVED PARKING
MONUMENT
CONCRETE
MH

STA. 96+60.00
BEGIN HWY. 365

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

AREA OF OBLITERATION

HWY. 365

STA. 98+34.42 — 12'
STA. 99+34.42 — 100' RT. — 24'
STA. 101+67.00 — 232.58' RT. — 24'
STA. 104+04.13 — 12'

STA. 98+42.00 — 12'
STA. 101+67.00 — 325' LT. — 24'
STA. 102+67.00 — 100' LT. — 24'
STA. 103+67.00 — 100' LT. — 24'
STA. 106+92.00 — 325' LT. — 12'

+64
TOP D.I. 287.91
LT. D.G. 0.00%
LT. D.G. 1.39%
RT. D.G. 0.13%
LT. D.G. -0.16%
104+50.00 284.11
104+75.00 284.11
F.L. INLET = 283.16 LT.
F.L. OUTLET 283.69
F.L. D.I. 282.83
F.L. OUTLET = 282.19 RT.
106+50.00 287.19
107+00.00 287.24
108+50.00 287.45 RT. 287.45 RT.
111+00.00 287.06

96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00

340 330 320 310 300 290 280 270 260 250

8/7/2017

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	183	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
TRINITY D. SMITH
No. 11425

Oct 22 2020 11:01 AM

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HWY. 365
PI = 123+92.79
Δ = 12°55'11" LT.
D = 1°00'00"
T = 648.73'
L = 1291.96'
PC = 117+44.06
PT = 130+36.02
e = 0.020'/'
Ls = 300'

STA. 116+88 - IN PLACE
18" x 40' PIPE CULV'T.
LT. SIDE DRAIN
REMOVE

EROSION CONTROL MATTING

STA.	STA.	SIDE	LENGTH LIN. FT.	CLASS 3 SQ. YDS.
116+00.00	117+00.00	LT.	100	88.90

STA. 121+08 IN PLACE
3' x 3' x 58' R.C. BOX CULV'T.
RETAIN AND EXTEND R.C. BOX 14' LT. AND 7' RT.
TO A COMPLETED LENGTH OF 79'
WITH 31 WINGS LT. & RT.
D.A. = 91.5 AC. .050 = 136 CFS.

STA. 124+55.18
END HWY. 365

HWY. 365

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 115+41.56 BEGIN SUPERELEVATION
STA. 118+11.56 MAX SUPERELEVATION (0.020'/')
STA. 129+68.52 MAX SUPERELEVATION (0.020 '/')
STA. 132+38.52 END SUPERELEVATION

STA. 114+62.07 — 100' RT. — STA. 115+62.07 — 407' RT. — STA. 119+69.07 — 100' RT. — STA.120+69.07
STA. 114+82.66 — 325' LT. — STA. 118+07.66 — 100' LT. — STA. 119+07.66 — 100' LT. — STA. 120+07.66 — 325' LT. — STA. 123+32.66

RT. DITCH GRADE 0.00% LT. D.G. 0.00%

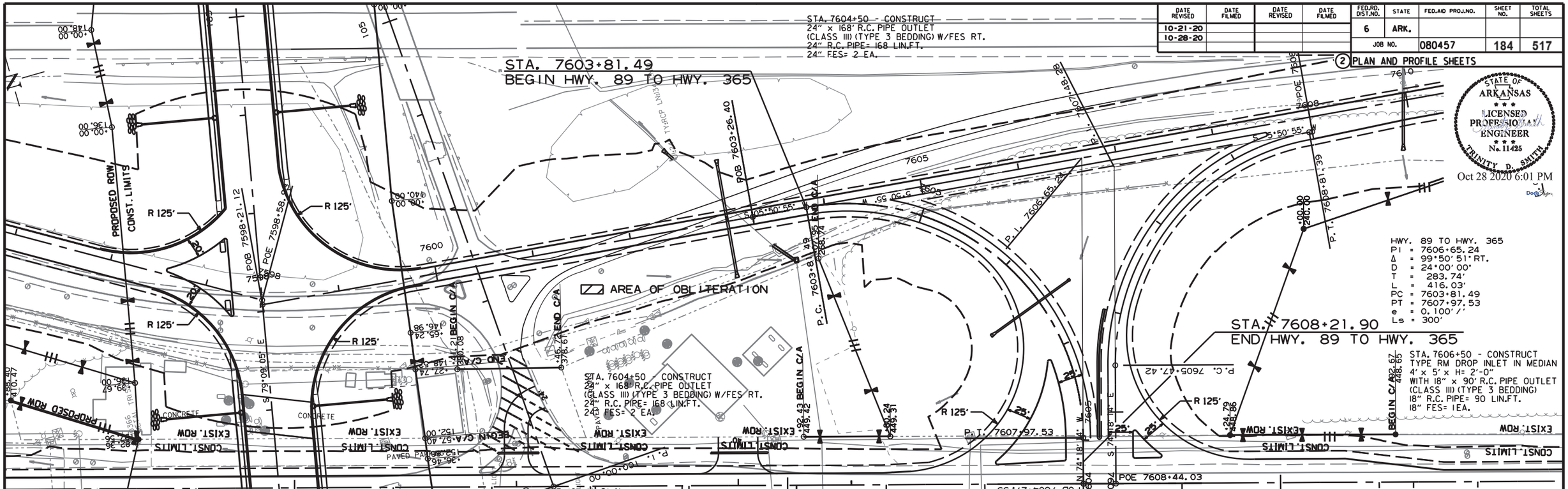
F.L. INLET = 266.22 LT.
INLET = 266.18 LT.
OUTLET = 266.02 RT.
F.L. OUTLET = 266.00 RT.

8/7/2017

R080457.DGN

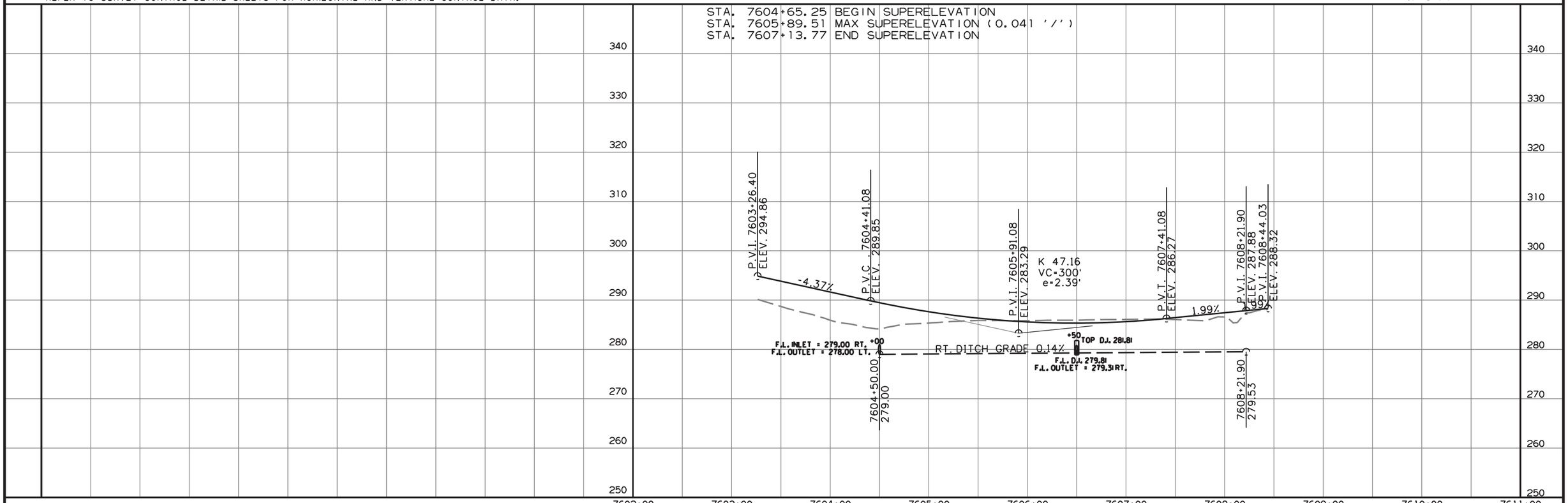
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
10-28-20				JOB NO.		080457	184	517

(2) PLAN AND PROFILE SHEETS



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 89 TO HWY. 365



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 28 2020 6:01 PM

8/7/2017

R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	185	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 11:02 AM
DocuSigned by:

HWY. 365 TO EB ENTRANCE CONNECTOR
PI = 7607+48.28
Δ = 80°09'09" RT.
D = 24°00'00"
T = 200.86'
L = 333.97'
PC = 7605+47.42
PT = 7608+81.39
e = 0.100'/'
Ls = 300'

STA. 7608+81.39
END HWY. 365 TO EB ENTRANCE CONNECTOR

STA. 7604+46.66
BEGIN HWY. 365 TO EB ENTRANCE CONNECTOR

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HWY. 365 TO EB ENTRANCE CONNECTOR

STA. 7606+16.54 BEGIN SUPERELEVATION
STA. 7607+14.41 MAX SUPERELEVATION (0.034 '/')
STA. 7608+12.28 END SUPERELEVATION

P.V.I. 7604+27.57
ELEV. 288.29
P.V.I. 7604+49.14
ELEV. 287.85
-2.04%
RT. DITCH GRADE -0.00%
7604+46.66
281.13
7606+50.00
281.12
P.V.C. 7607+11.40
ELEV. 282.50
P.V.I. 7607+86.40
ELEV. 280.97
K 563.91
VC=150'
e=-0.05'
P.V.I. 7608+61.40
ELEV. 279.24
P.V.I. 7608+81.39
ELEV. 278.78

340 330 320 310 300 290 280 270 260 250

7604+00 7605+00 7606+00 7607+00 7608+00 7609+00 7610+00 7611+00 7612+00 7613+00

8/7/2017

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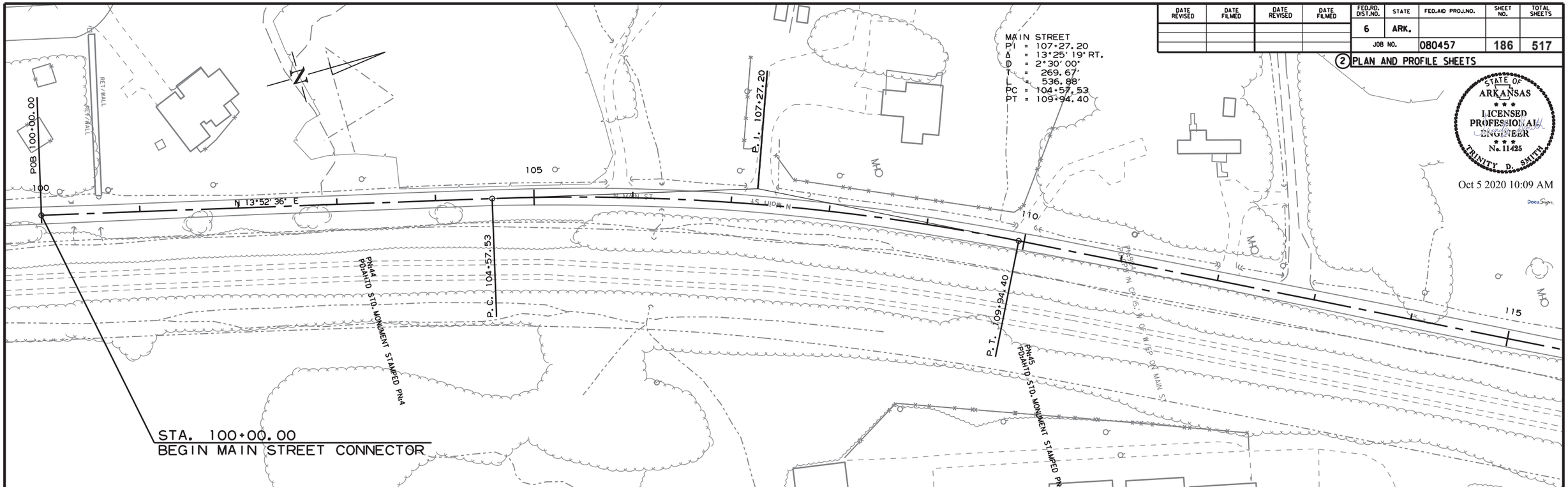
				6	ARK.			
				JOB NO.		080457	186	517

2 PLAN AND PROFILE SHEETS

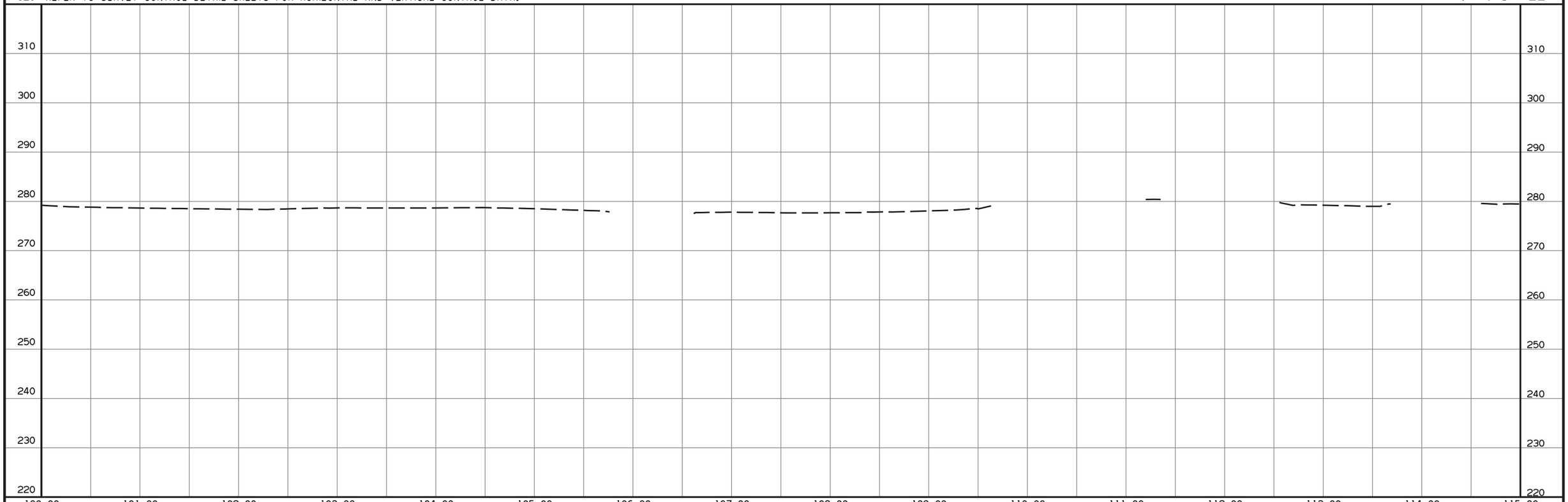


STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:09 AM

320 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

MAIN STREET



R080457.DGN 8/7/2017

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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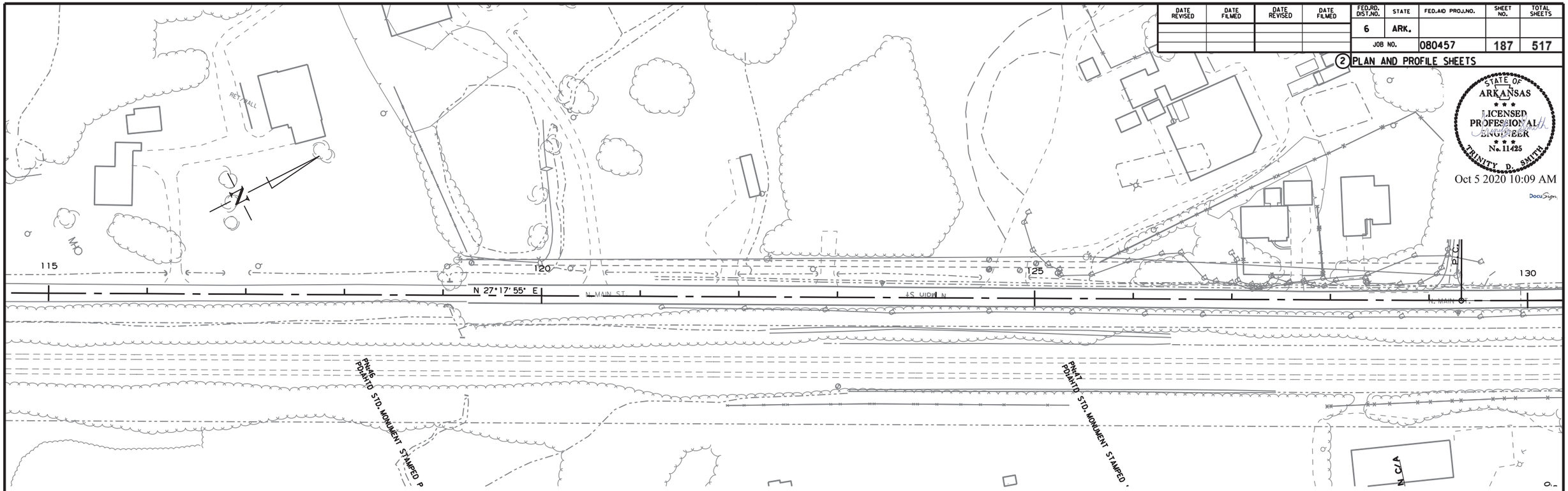
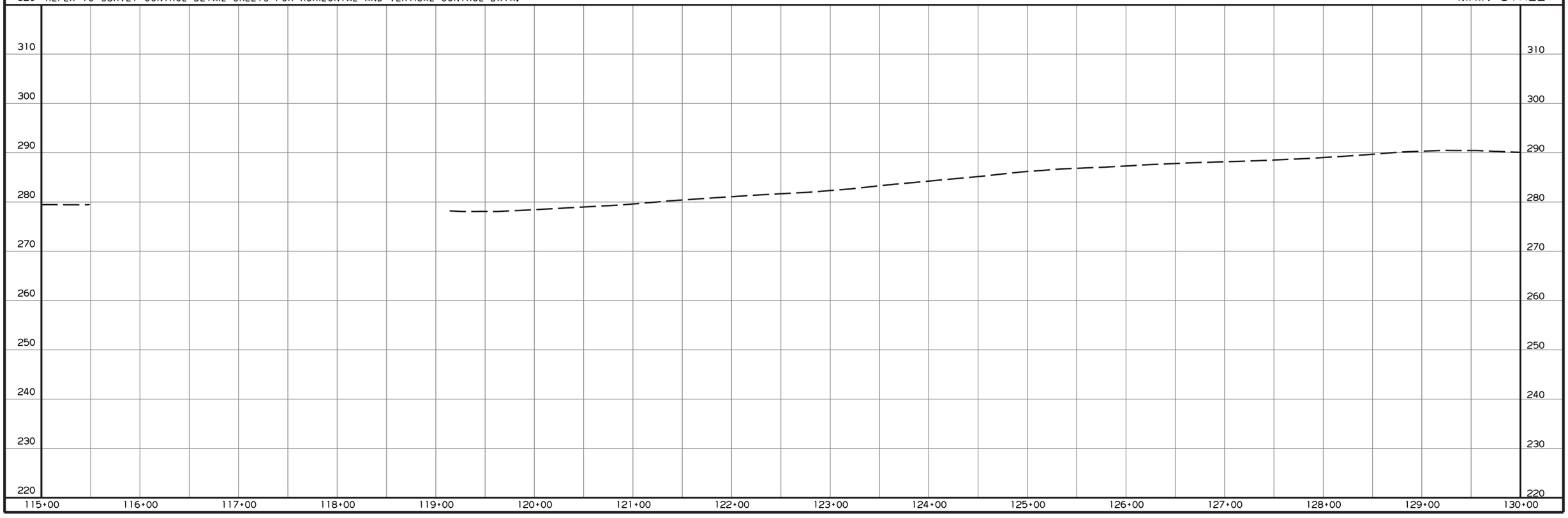


320 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

MAIN STREET



R080457.DGN 8/7/2017

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 22 2020 11:02 AM
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MAIN STREET
PI = 137+55.64
Δ = 16°20'45" LT.
D = 1°00'00"
T = 822.88'
L = 1634.59'
PC = 129+32.75
PT = 145+67.34

R 40' P.T. 174+29.8 41+41 90.00 POB 100.00 R 50' P.T. 3+16 3+93.78 P.C. 94+25 100 N 20°50'55" E P.C. 102+55.94 105 R 50' CONST. LIMITS PROPOSED ROW P. 00+00 550.00 CONST. LIMITS PROPOSED ROW BEGIN C/A 00+00 98.60 CARROL RD. CONST. LIMITS PROPOSED ROW CONST. LIMITS 00+00 150.00 CONST. LIMITS PROPOSED ROW P.T. 106+60.03 S 82°39'15" E 822.88 R 40' R 40' 57.00 BEGIN C/A 580.00 POE 107+27.45 END C/A 34.36 132.98 130 135 64.42 END C/A 166.31 BEGIN P.C.E. BEGIN P.C.E. 99.67 143.67 P.C.E. P.I. 137+55.64 END C/A 67.43 BEGIN C/A 174.41 END P.C.E. 84.69 EXIST. ROW CONST. LIMITS 115 EXIST. ROW 17+44.06 P.C. 79+93 45.00 POE 7593+23.63 POB 7587+11.66 EXIST. ROW 120 CONST. LIMITS R 125' R 140' EXIST. ROW BEGIN C/A P.C.E. 00+00 75.00 00+00 90.00 P.C.E. 00+00 90.00 320 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

310 300 290 280 270 260 250 240 230 220

130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00

8/7/2017

R080457.DGN

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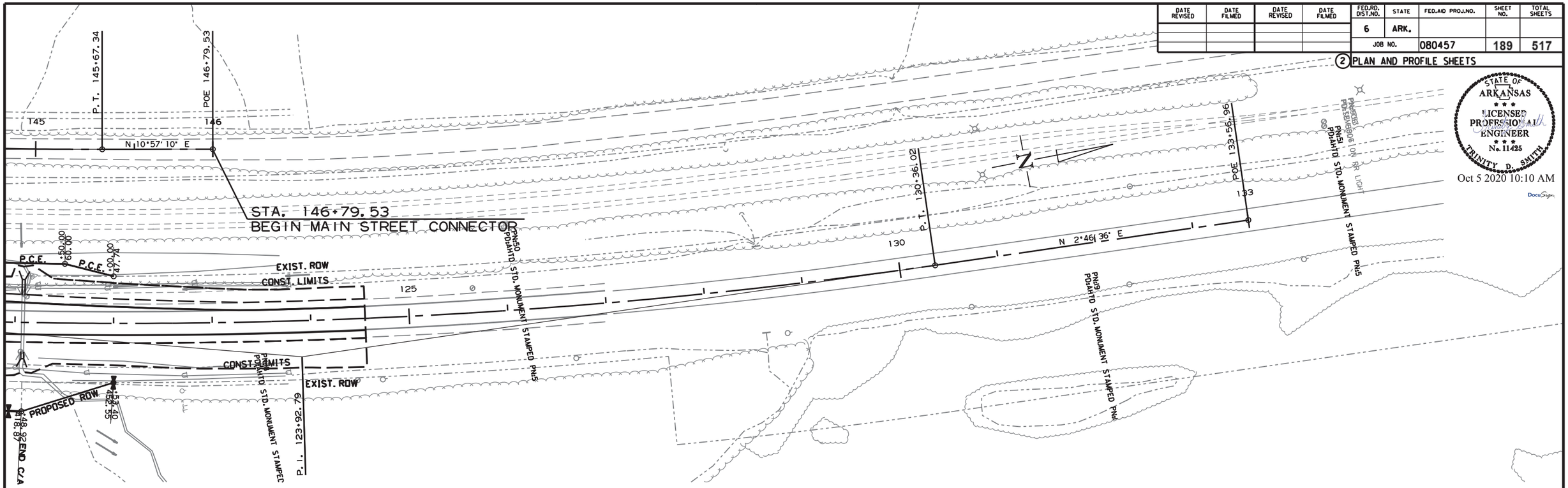
				JOB NO.		080457	189	517

2 PLAN AND PROFILE SHEETS

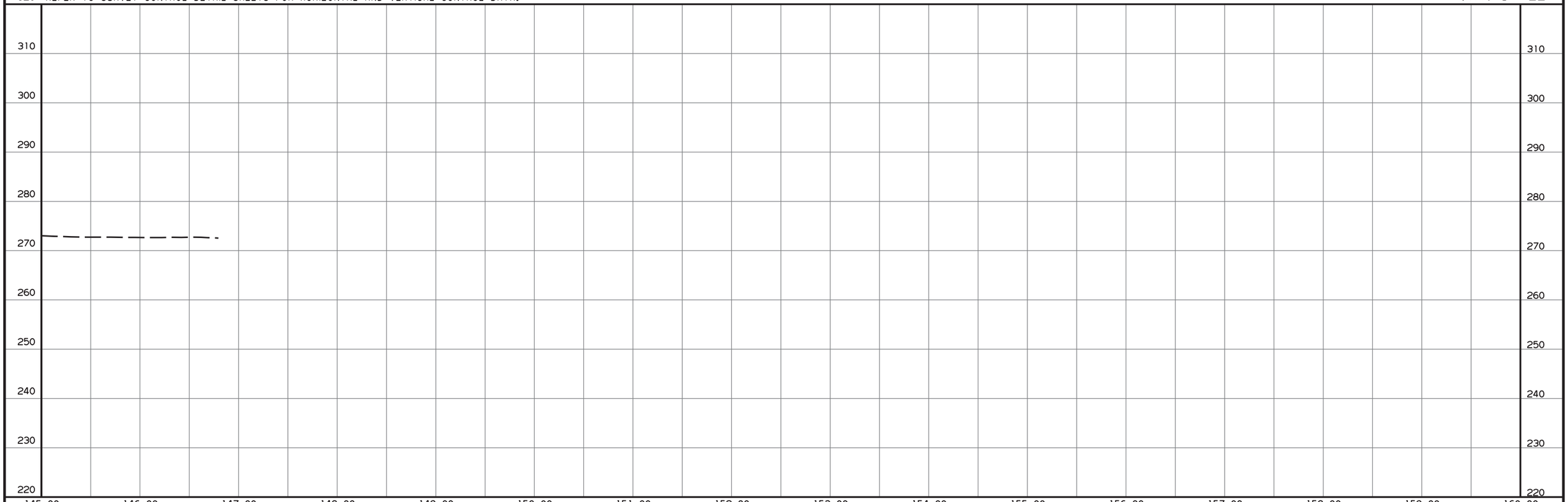
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:10 AM



320 REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

MAIN STREET



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JOB NO.		080457	190	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:10 AM

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sise641 2/25/2020
RCA0801.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	191	517

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:10 AM

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sise641 2/25/2020
RCA0801.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	192	517

(2) INTERCHANGE LAYOUT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:11 AM
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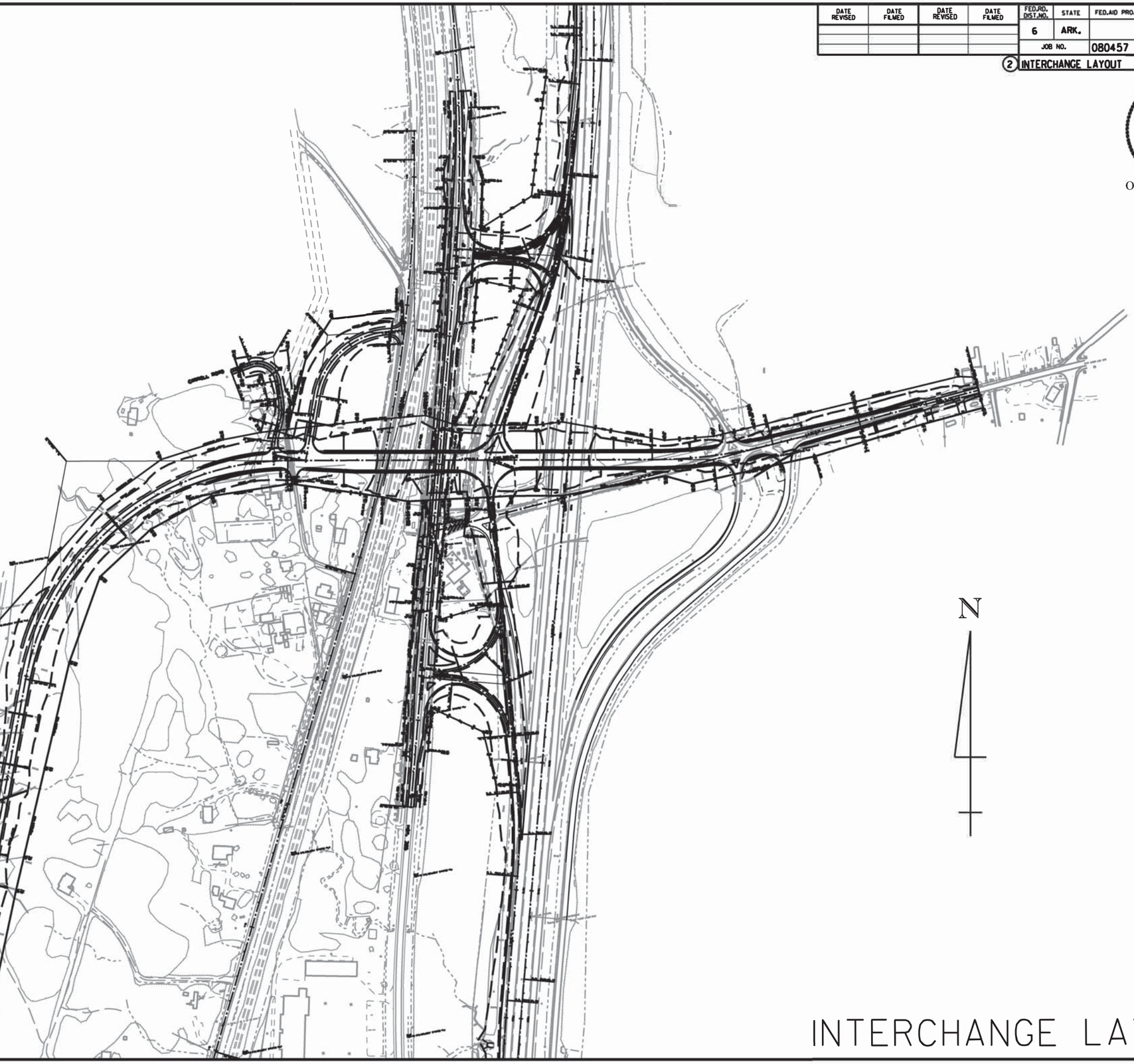

INTERCHANGE LAYOUT

11/8/2011

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	193	517

(2) SUMMARY OF TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:11 AM

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SUMMARY OF TRAFFIC SIGNAL QUANTITIES

	ITEM NUMBER	ITEM	HWY. 89 & I-40 WB RAMP	HWY. 365 & HWY. 89	QUANTITY	UNIT
	SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8 PHASES)	2		2	EACH
	SP	ANTENNA SUPPORT (SHOE BASE, 50' HT.)	1		1	EACH
	SP	LOCAL RADIO WITH ANTENNA	1		1	EACH
	SP	LOCAL RADIO WITH ANTENNA RELOCATION	1		1	EACH
	SP	ANTENNA CABLE (TYPE 6)	140		140	LIN. FT.
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	14		14	EACH
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1		1	EACH
	SP	RELOCATION OF TRAFFIC SIGNAL HEAD	4		4	EACH
	SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	6		6	EACH
	708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	3089		3089	LIN. FT.
	708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	77		77	LIN. FT.
	708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	397		397	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	883		883	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	175		175	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	45		45	LIN. FT.
	SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	698		698	LIN. FT.
	709	GALVANIZED STEEL CONDUIT (2")	80		80	LIN. FT.
	709	GALVANIZED STEEL CONDUIT (3")	70		70	LIN. FT.
	710	NON-METALLIC CONDUIT (2")	120		120	LIN. FT.
	710	NON-METALLIC CONDUIT (3")	566		566	LIN. FT.
	711	CONCRETE PULL BOX (TYPE 2)	1		1	EACH
	711	CONCRETE PULL BOX (TYPE 1 HD)	1		1	EACH
	711	CONCRETE PULL BOX (TYPE 2 HD)	6		6	EACH
	SS & 713	SPAN WIRE ASSEMBLY	1		1	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (0')	1		1	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (46')	1		1	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32'-22')	1		1	EACH
	SP	LED LUMINAIRE ASSEMBLY	3		3	EACH
	SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATON	4		4	EACH
	SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1		1	EACH
	SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.66	0.34	1.00	LUMP SUM
	716	TREATED WOOD POLE (CLASS 2, 45')	4		4	EACH
	SP	VIDEO DETECTOR ROTATION	2		2	EACH
*	SP & 733	VIDEO DETECTOR (CLR)	10		10	EACH
	733	VIDEO CABLE	2050		2050	LIN. FT.
	733	VIDEO MONITOR (CLR)	2		2	EACH
*	SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	7		7	EACH
	SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	2		2	EACH

* ONE SPARE VIDE0 DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED.

DATE: 10-02-2020 FILE NAME: t080457_job.dgn

LOCATION: UPRR OVERPASS & REALIGN. (MAYFLOWER)
CITY: MAYFLOWER
COUNTY: FAULKNER
DISTRICT: 08 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	194	517

(2) TRAFFIC SIGNAL NOTES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:11 AM

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TRAFFIC SIGNAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (CURRENT EDITION) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.

2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.

3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TC TAP INTO THE CITY'S/ COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.

4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.

5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.

6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.

7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED.

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.

10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.

13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

14. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.

15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVDE VEHICLE COUNT/OCCUPANCY DATA.

16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.

17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-CNE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.

18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.

19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.

20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.

22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.

23. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.

24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.

25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODFICATION.

26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

27. IN PULL BOXES, POLE BASES, JUNCTION BOXES AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO EACH CABLE.

28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.

29. ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS.

30. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

DATE: 10-02-2020 FILE NAME: t080457_job.dgn

LOCATION:	UPRR OVERPASS & REALIGN. (MAYFLOWER)			
CITY:	MAYFLOWER			
COUNTY:	FAULKNER			
DISTRICT:	08	SCALE: N/A	DRAWN BY:	GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	195	517

(2) TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:11 AM

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TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8PHASES)	1	EACH
SP	ANTENNA SUPPORT (SHOE BASE, 50' HT.)	1	EACH
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	ANTENNA CABLE (TYPE 6)	100	LIN. FT.
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	7	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	6	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1925	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	77	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	397	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C8 A.W.G., E.G.C.)	803	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C12 A.W.G., E.G.C.)	135	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C6 A.W.G.)	45	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	698	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	80	LIN. FT.
710	NON-METALLIC CONDUIT (3")	566	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2)	1	EACH
711	CONCRETE PULL BOX (TYPE 1 HD)	1	EACH
711	CONCRETE PULL BOX (TYPE 2 HD)	6	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITHFOUNDATION (0')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITHFOUNDATION (46')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITHFOUNDATION (32'-22')	1	EACH
SP	LED LUMINAIRE ASSEMBLY	3	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	4	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM
* SP & 733	VIDEO DETECTOR (CLR)	6	EACH
733	VIDEO CABLE	1243	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
* SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH

* ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED

PERMANENT TRAFFIC SIGNAL:
THE TEMPORARY TRAFFIC SIGNAL INSTALLATION FOR STAGES 2, 3, AND 4 SHALL REMAIN N OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND OPERATIONAL. INSTALL THE PERMANENT TRAFFIC SIGNAL, MAINTAIN THE SERVICE POINT ASSEMBLY (2 CIRCUITS) WITH ALL ASSOCIATED EQUIPMENT THAT WAS INSTALLED IN THE STAGE 2 TEMPORARY TRAFFIC SIGNAL PLANS, AND REMOVE THE TEMPORARY TRAFFIC SIGNAL COMPONENTS THAT WERE INSTALLED ON THE STAGE 2 TEMPORARY TRAFFIC SIGNAL PLANS.

STAGE 2 TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8PHASES)	1	EACH
SP	LOCAL RADIO WITH ANTENNA RELOCATION	1	EACH
SP	ANTENNA CABLE (TYPE 6)	40	LIN. FT.
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	7	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1164	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C8 A.W.G., E.G.C.)	80	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C12 A.W.G., E.G.C.)	40	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	60	LIN. FT.
709	GALVANIZED STEEL CONDUIT (3")	70	LIN. FT.
710	NON-METALLIC CONDUIT (2")	40	LIN. FT.
SS & 713	SPAN WIRE ASSEMBLY	1	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM
716	TREATED WOOD POLE (CLASS 2, 45')	4	EACH
SP & 733	VIDEO DETECTOR (CLR)	4	EACH
733	VIDEO CABLE	807	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	3	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH

STAGE 2:
INSTALL ALL TEMPORARY TRAFFIC SIGNAL EQUIPMENT, INCLUDING THE PERMANENT SERVICE POINT ASSEMBLY (2 CIRCUITS) WITH ALL ASSOCIATED ITEMS AS SHOWN ON THE STAGE 2 TEMPORARY TRAFFIC SIGNAL PLANS AND REMOVE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE TEMPORARY TRAFFIC SIGNAL PLANS FOR STAGE 2 AND 3.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

STAGE 4 TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP	RELOCATION OF TRAFFIC SIGNAL HEAD	4	EACH
SP	VIDEO DETECTOR ROTATION	2	EACH

STAGE 4:
RELOCATE TRAFFIC SIGNAL HEADS 1,2,3, AND 4. ROTATE VIDEO DETECTORS V2, V5 AND V6 AS SHOWN ON THE TEMPORARY PLANS FOR STAGE 4.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 4 TRAFFIC SIGNAL PLANS.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

HWY. 365 AND HWY. 89 INTERSECTION STAGE 4 TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.34	LUMP SUM

STAGE 4:
REMOVE THE EXISTING TRAFFIC SIGNAL EQUIPMENT AT THE INTERSECTION OF HIGHWAY 365 AND HIGHWAY 89, WHEN THE HIGHWAY 89 TRAFFIC IS SHIFTED TO THE NEW OVERPASS AND THE EXISTING OVERPASS IS REMOVED.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS.)

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

LOCATION: HWY. 89/I-40 WB RAMP
CITY: MAYFLOWER
COUNTY: FAULKNER
DISTRICT: 08 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	196	517

(2) SIGNALIZATION PLAN SHEET

HWY. 89/I-40 WB RAMP
STAGES 2, 3, AND 4 TEMPORARY POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 89 - STA. 192+15.30	60' RT.	1187518.42, 232216.91
B	HWY. 89 - STA. 191+09.76	63' RT.	1187409.45, 232216.91
C	HWY. 89 - STA. 191+03.67	48' LT.	1187409.45, 232327.98
D	HWY. 89 - STA. 192+15.50	51' LT.	1187518.42, 232327.98

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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P.C. 188+50.30

VIDEO DETECTOR (TYPICAL)

6' X50' VIRTUAL DETECTION ZONE (TYPICAL)

USE SIDEWALK GUY INSTALLATION IF NECESSARY SEE DETAIL (TYPICAL)

TREATED WOOD POLE (CLASS 2, 45')(TYPICAL)

Vz22 LOCATED 85' BEHIND STOP LINE

Vz21 LOCATED 200' BEHIND STOP LINE

Vz22 COMB. Ø2

Vz21

N 86°35'52" E

Vz23

Vz62 COMB. Ø6

Vz63

Vz61

Vz61 LOCATED 85' BEHIND STOP LINE

6' X50' VIRTUAL DETECTION ZONE (TYPICAL)

+89.04

Vz42

VIRTUAL 6' X40' PRESENCE DETECTOR

Ø4

SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10 FEET OF CONTROLLER.

RELOCATE EXISTING LOCAL RADIO WITH ANTENNA USING SEPARATE 2" DIA. GALVANIZED STEEL CONDUIT WHICH SHALL CONTAIN NO OTHER POWER CARRYING CONDUCTORS.

6' X6' VIRTUAL DETECTION ZONE (TYPICAL)
Vz41 LOCATED 85' BEHIND STOP LINE

Vz41 COMB.

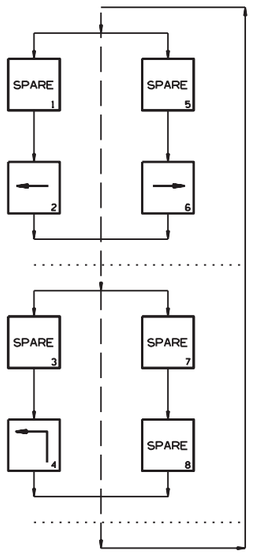
P.T.

TRAFFIC LIGHT

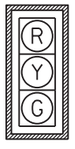
V1 V2 V3 V4 V5 V6

A B C D

STAGES 2, 3, & 4 PHASING DIAGRAM



STAGES 2, 3, & 4 SIGNAL FACES
12" LENSES



1 & 2
3, 4 & 7
5 & 6

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

STAGES 2, 3, AND 4 DETECTOR SPACING CHART

ARDOT HWY. 89 MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
35 MPH	200'	85'
I-40 WB RAMP VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
N/A MPH	N/A	85'

SCALE IN FEET
0 30 60 120

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

STAGES 2 AND 3 TRAFFIC SIGNAL

LOCATION: HWY. 89/I-40 WB RAMP
CITY: MAYFLOWER
COUNTY: FAULKNER
DISTRICT: 08 SCALE: 1"=60' DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	197	517

(2) SIGNALIZATION PLAN SHEET

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 10:12 AM
DocuSigned by:

P.C. 188+50.30

VIDEO DETECTOR (TYPICAL)

6'X50' VIRTUAL DETECTION ZONE (TYPICAL)

USE SIDEWALK GUY INSTALLATION IF NECESSARY SEE DETAIL (TYPICAL)

TREATED WOOD POLE (CLASS 2, 45')(TYPICAL)

Vz22 LOCATED 85' BEHIND STOP LINE

Vz21 LOCATED 200' BEHIND STOP LINE

Vz22 COMB. Ø2

Vz21

Vz23

Vz62 COMB. Ø6

Vz63

Vz61

Vz61 LOCATED 85' BEHIND STOP LINE

6'X50' VIRTUAL DETECTION ZONE (TYPICAL)

+89.04

Vz42

Ø4

VIRTUAL 6'X40' PRESENCE DETECTOR

SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10 FEET OF CONTROLLER.

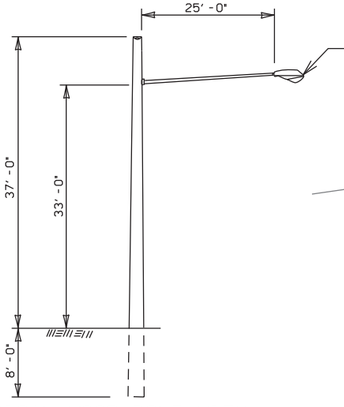
RELOCATE EXISTING LOCAL RADIO WITH ANTENNA USING SEPARATE 2" DIA. GALVANIZED STEEL CONDUIT WHICH SHALL CONTAIN NO OTHER POWER CARRYING CONDUCTORS.

6'X6' VIRTUAL DETECTION ZONE (TYPICAL)
Vz41 LOCATED 85' BEHIND STOP LINE

Vz41 COMB.

P.I.

TRAFFIC LIGHT



TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS. LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES. THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

SCALE IN FEET
0 20 40 80

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

STAGES 2 AND 3 TRAFFIC SIGNAL

LOCATION: HWY. 89/I-40 WB RAMP
CITY: MAYFLOWER
COUNTY: FAULKNER
DISTRICT: 08 SCALE: 1"=40' DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	198	517

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:12 AM

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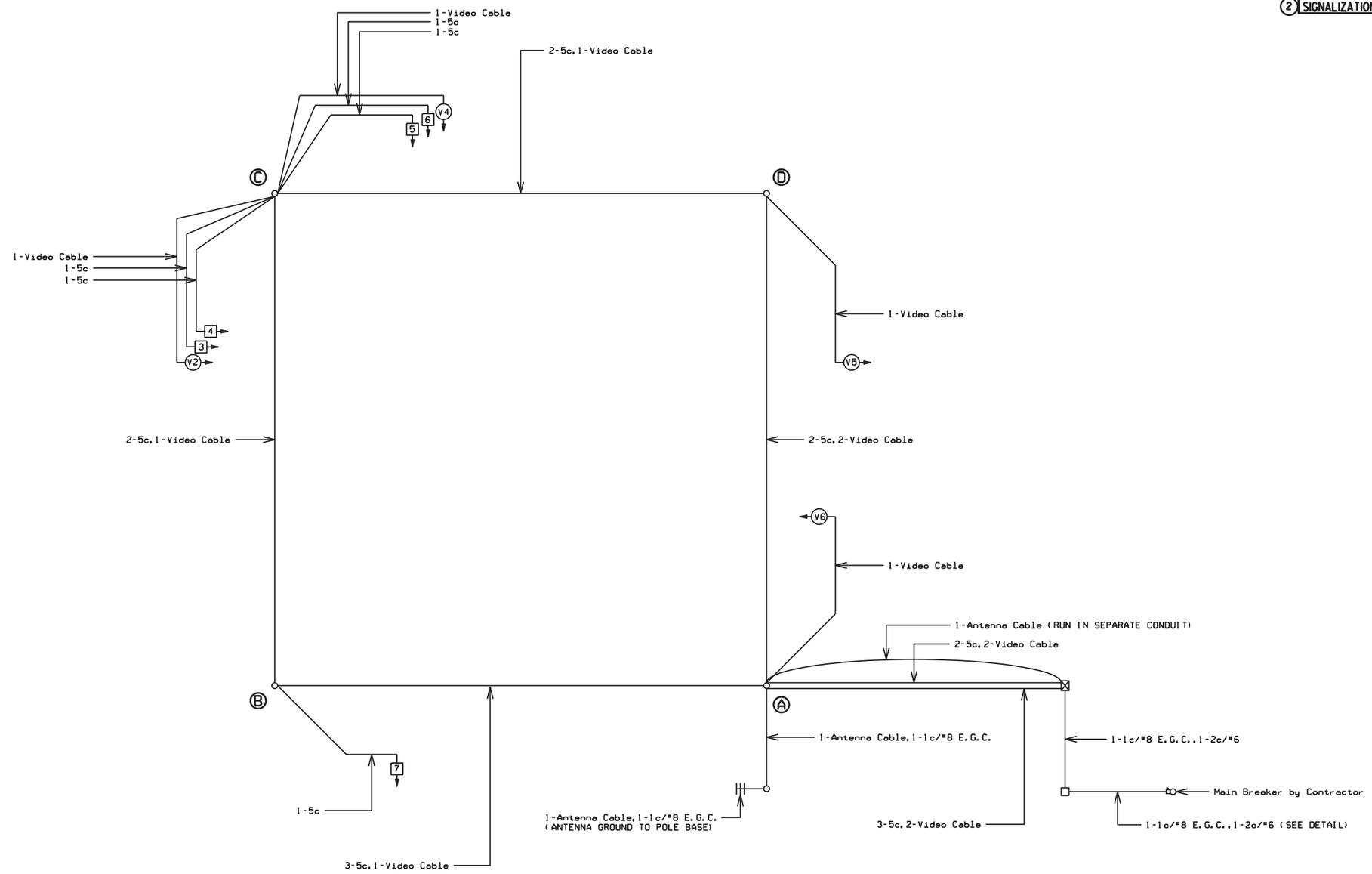

STAGES 2, 3, AND 4 TEMPORARY WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

LOCATION: HWY. 89/I-40 WB RAMP
CITY: MAYFLOWER
COUNTY: FAULKNER
DISTRICT: 08 SCALE: N/A DRAWN BY: GWE

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	199	517

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 10:13 AM
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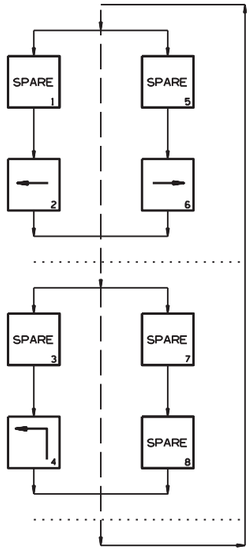
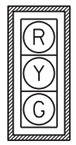
STAGES 2, 3, & 4 PHASING DIAGRAM



STAGES 2, 3, & 4 SIGNAL FACES

12" LENSES



1 & 2
3, 4 & 7
5 & 6

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

STAGES 2, 3, AND 4 DETECTOR CHART

TEMPORARY DETECTOR SYSTEM DESCRIPTION: JOB 080457											
HWY. 89/I-40 WB RAMP DETECTOR ASSIGNMENTS				HARDWARE INPUTS BYSUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
							LOCAL		MASTER SYSTEM		
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #	DETECTOR NUMBERS		
Vz21	WB ADVANCE	LOCAL			1	V2	2			CAMERA V5	23"
Vz22	WB INTERMEDIATE	COMB.			2	V10	2	2		CAMERA V2	23"
Vz23	WB NEAR	LOCAL			3	P1	2			CAMERA V2	23"
Vz41	NB ADVANCE	COMB.			9	V4	4	4		CAMERA V4	23"
Vz42	NB NEAR	LOCAL			10	V5	5			CAMERA V4	23"
Vz61	EB ADVANCE	LOCAL			5	V6	6			CAMERA V6	23"
Vz62	EB INTERMEDIATE	COMB.			6	V14	6	6		CAMERA V6	23"
Vz63	EB NEAR	LOCAL			7	P3	6			CAMERA V6	23"
					SPARE 4, 8, & 11-16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

STAGES 2, 3, AND 4 INTERVAL CHART

SIGNAL FACES	HWY. 89/I-40 WB RAMP 2+6	CLR.	4	CLR.		FLASH SEQUENCE
1 & 2	G	Y	R	R		R
3,4 & 7	G	Y	R	R		R
5 & 6	R	R	G	Y		R

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

LOCATION: HWY. 89/I-40 WB RAMP
CITY: MAYFLOWER
COUNTY: FAULKNER
DISTRICT: 08 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	200	517

(2) SIGNALIZATION PLAN SHEET

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:13 AM

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P.C. 188+50.30

P.T. 193+25.33

6' X50' VIRTUAL DETECTION ZONE (TYPICAL)

Vz22 LOCATED 85' BEHIND STOP LINE

Vz21 LOCATED 200' BEHIND STOP LINE

I95

Vz61

Vz62 COMB.

Ø6

Vz63

TRAFFIC LIGHT

Vz62 LOCATED 85' BEHIND STOP LINE

6' X50' VIRTUAL DETECTION ZONE (TYPICAL)

VIRTUAL 6' X50' PRESENCE DETECTOR

13+89.04

6' X6' VIRTUAL DETECTION ZONE (TYPICAL)
Vz41 LOCATED 85' BEHIND STOP LINE

P1

Vz41 COMB.

Vz42

Ø4

Vz23

Ø2

Vz22 COMB.

Ø2

Vz21 N 86°35'52" E

PARKING

SERVICE POINT AND MAIN BREAKER BY CONTRACTOR 2" DIA. NMC INTO CONTROLLER (INSTALLED PREVIOUSLY).

ANTENNA (INSTALLED PREVIOUSLY)

SCALE IN FEET
0 30 60 120

STAGE 4 TRAFFIC SIGNAL

LOCATION:	HWY. 89/I-40 WB RAMP		
CITY:	MAYFLOWER		
COUNTY:	FAULKNER		
DISTRICT:	08	SCALE: 1"=60'	DRAWN BY: GWE

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	201	517

(2) SIGNALIZATION PLAN SHEET

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:13 AM

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P.C. 188+50.30

P.T. 193+25.33

P.C. 189+89.04

Vz61

Vz62 COMB.

Ø6

Vz63

Vz62 LOCATED 85' BEHIND STOP LINE

6'X50' VIRTUAL DETECTION ZONE (TYPICAL)

VIRTUAL 6'X50' PRESENCE DETECTOR

6'X6' VIRTUAL DETECTION ZONE (TYPICAL)
Vz41 LOCATED 85' BEHIND STOP LINE

Vz41 COMB.

Vz42

TRAFFIC LIGHT

Vz23

Ø2

Vz22 COMB.

Ø2

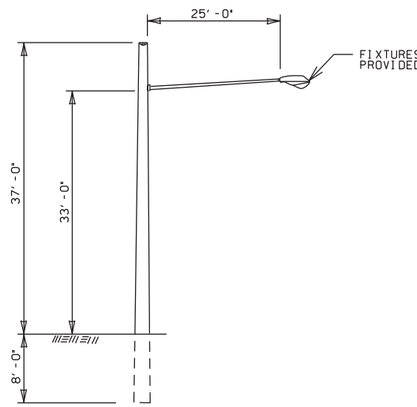
Vz21

Ø4

PAVED PARKING

SERVICE POINT AND MAIN BREAKER BY CONTRACTOR 2" DIA. NMC INTO CONTROLLER (INSTALLED PREVIOUSLY).

ANTENNA (INSTALLED PREVIOUSLY)



TYPICAL WOOD POLE WITH LUMINAIRE ARM

NOTE TO CONTRACTOR:
LUMINAIRE ARMS (OR APPROVED MOUNTING HARDWARE) SHALL BE USED TO MOUNT VIDEO DETECTORS. LUMINAIRE ARM SHALL NOT INCLUDE LUMINAIRE ASSEMBLIES. THE COST FOR LUMINAIRE ARMS, MOUNTING, AND ALL HARDWARE IS INCLUDED IN PRICE BID FOR ITEM 716 TREATED WOOD POLE.

STAGE 4 TRAFFIC SIGNAL

SCALE IN FEET
0 20 40 80

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

LOCATION:	HWY. 89/I-40 WB RAMP				
CITY:	MAYFLOWER				
COUNTY:	FAULKNER				
DISTRICT:	08	SCALE:	1"=40'	DRAWN BY:	GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	202	517

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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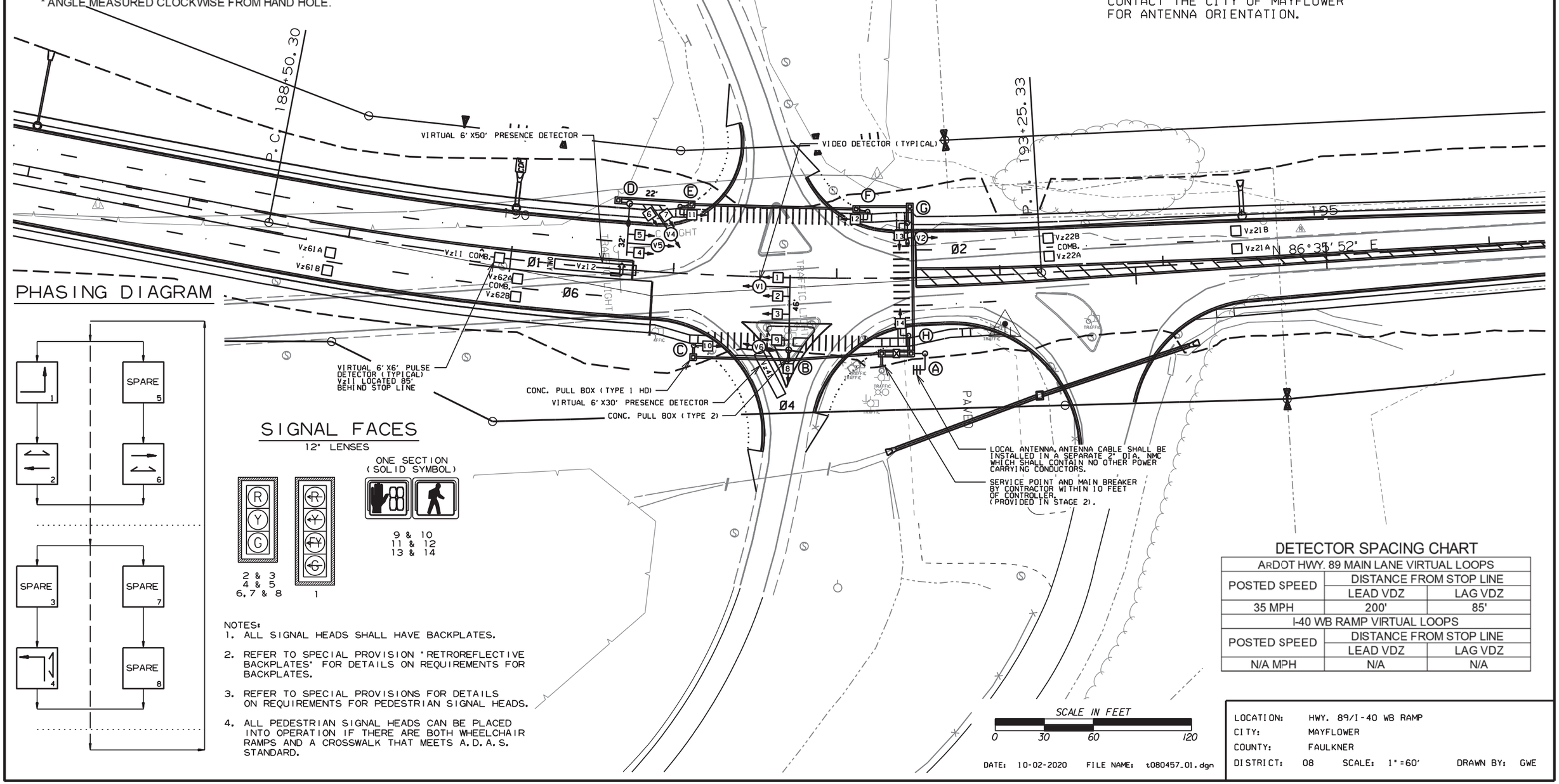
HWY. 89/I-40 WB RAMP
POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	N/A	N/A	50'	N/A	N/A
B	46'	90°	35'	10'	0°
C	N/A	N/A	10'	N/A	N/A
D	32'/22'	180°/90°	35'	10'	180°
E	N/A	N/A	10'	N/A	N/A
F	N/A	N/A	10'	N/A	N/A
G	N/A	N/A	35'	10'	180°
H	N/A	N/A	10'	N/A	N/A

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

NOTE TO CONTRACTOR:
CONTACT THE CITY OF MAYFLOWER
FOR ANTENNA ORIENTATION.



PHASING DIAGRAM

SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISIONS FOR DETAILS ON REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEETS A.D.A.S. STANDARD.

DETECTOR SPACING CHART

ARDOT HWY. 89 MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
35 MPH	200'	85'
I-40 WB RAMP VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
N/A MPH	N/A	N/A

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

LOCATION:	HWY. 89/I-40 WB RAMP				
CITY:	MAYFLOWER				
COUNTY:	FAULKNER				
DISTRICT:	08	SCALE:	1"=60'	DRAWN BY:	GWE

HWY. 89/I-40 WB RAMP
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 89 - STA. 192+53.04	47' RT.	1187557.05, 232231.11
B	HWY. 89 - STA. 191+71.48	44' RT.	1187473.56, 232233.20
C	HWY. 89 - STA. 191+14.61	44' RT.	1187415.44, 232235.81
D	HWY. 89 - STA. 190+70.09	41' LT.	1187376.25, 232322.87
E	HWY. 89 - STA. 191+01.69	41' LT.	1187407.12, 232321.10
F	HWY. 89 - STA. 192+19.04	41' LT.	1187521.91, 232318.01
G	HWY. 89 - STA. 192+43.72	33' LT.	1187546.18, 232310.81
H	HWY. 89 - STA. 192+43.45	35' RT.	1187547.05, 232242.11

NOTE TO CONTRACTOR:
TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	203	517

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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VIRTUAL 6' X50' PRESENCE DETECTOR
VIDEO DETECTOR (TYPICAL)
P.T. 193+25.33
Vz61A
Vz61B
Vz11 COMB.
Vz62A COMB. Vz62B
Vz12 ONLY
Vz22B COMB. Vz22A
Vz21B
Vz21A
Ø1
Ø2
Ø4
Ø6
22'
32'
46'
TRAFFIC SIGNAL LIGHT
TRAFFIC
PAVED
VIRTUAL 6' X6' PULSE DETECTOR (TYPICAL) Vz11 LOCATED 85' BEHIND STOP LINE
CONC. PULL BOX (TYPE 1 HD)
VIRTUAL 6' X30' PRESENCE DETECTOR
CONC. PULL BOX (TYPE 2)
LOCAL ANTENNA, ANTENNA CABLE SHALL BE INSTALLED IN A SEPARATE 2" DIA. NMC WHICH SHALL CONTAIN NO OTHER POWER CARRYING CONDUCTORS.
SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10 FEET OF CONTROLLER. (PROVIDED IN STAGE 2).

DESIGN PARAMETERS

POSTED SPEED LIMIT:
35 MPH EAST AND WEST APPROACH
N/A MPH NORTH AND SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND CURB

SCALE IN FEET
0 20 40 80

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

LOCATION:	HWY. 89/I-40 WB RAMP		
CITY:	MAYFLOWER		
COUNTY:	FAULKNER		
DISTRICT:	08	SCALE: 1"=40'	DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	204	517

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Oct 5 2020 10:14 AM

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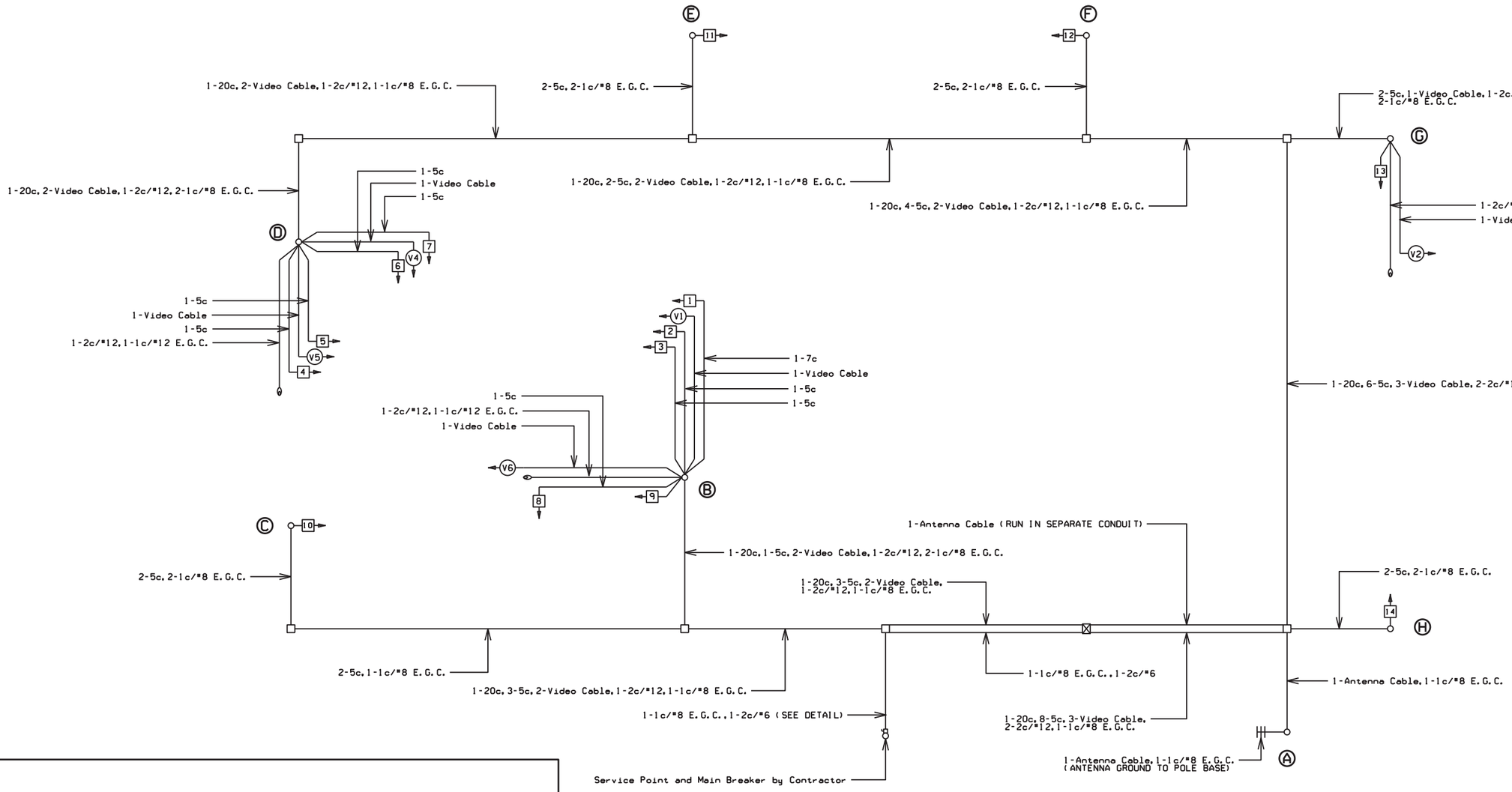

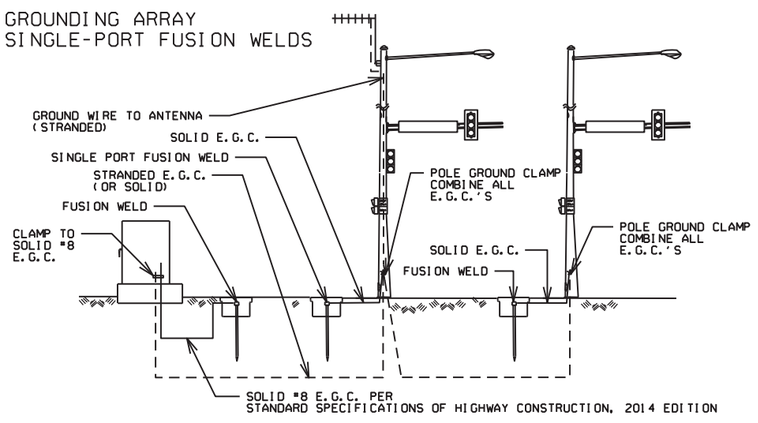

WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

LOCATION:	HWY. 89/I-40 WB RAMP		
CITY:	MAYFLOWER		
COUNTY:	FAULKNER		
DISTRICT:	08	SCALE: N/A	DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	205	517

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Oct 5 2020 10:14 AM
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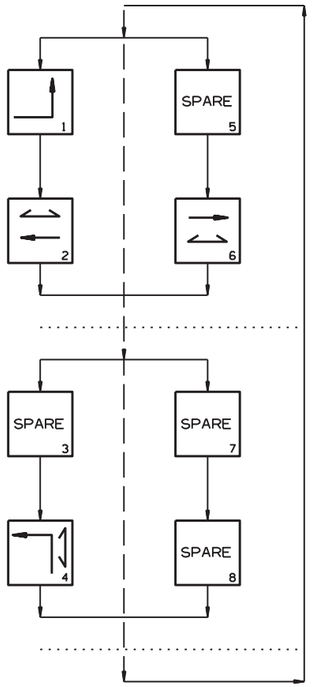
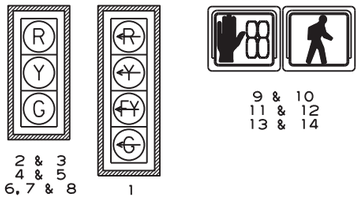
PHASING DIAGRAM



SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISIONS FOR DETAILS ON REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEETS A.D.A.S. STANDARD.

DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 080457											
HWY. 89/I-40 WB RAMP DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	EB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	37"
Vz12	EB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	37"
Vz21 A&B	WB ADVANCE	LOCAL			5	V2	2			CAMERA V2	23"
Vz22 A&B	WB NEAR	COMB.			6	V10	2	2		CAMERA V5	74"
Vz41	NB	LOCAL			9	V4	4			CAMERA V4	37"
Vz61 A&B	EB ADVANCE	LOCAL			3	V6	6			CAMERA V6	23"
Vz62 A&B	EB NEAR	COMB.			4	V14	6	6		CAMERA V1	37"
PB2 A&B	I-40 WB RAMP N. LEG	FED.				P2	2				
PB4 A&B	HWY. 89 E. LEG	FED.				P4	4				
PB6 A&B	I-40 WB RAMP S. LEG	FED.				P6	6				
					SPARE 7,8, & 10 - 16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

INTERVAL CHART

SIGNAL FACES	HWY. 89/I-40 WB RAMP 1+6	CLR.	2+6	CLR.	4	CLR.		FLASH SEQUENCE
1	~~←G~~	*	~~←FY~~	***	~~←R~~	~~←R~~		~~←R~~
2 & 3	G	**	G	**	R	R		R
4 & 5	R	R	G	**	R	R		R
6,7 & 8	R	R	R	R	G	Y		R
9 & 10	DW	DW	W	FDW	DW	DW		BLK
11 & 12	DW	DW	W	FDW	DW	DW		BLK
13 & 14	DW	DW	DW	DW	W	FDW		BLK

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

DATE: 10-02-2020 FILE NAME: t080457_01.dgn

LOCATION: HWY. 89/I-40 WB RAMP
CITY: MAYFLOWER
COUNTY: FAULKNER
DISTRICT: 08 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		206	517
				JOB NO.		080457		

② SIGNING SUMMARY OF QUANTITIES

SIGNING SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	TOTAL	UNIT
SP	RELOCATION OF EXISTING OVERHEAD SIGN STRUCTURE (OH-040-23-20)	1	EACH
SS & 725	GUIDE SIGN - ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	106	SQ. FT.
SS & 725	GUIDE SIGN - OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	284	SQ. FT.
SP, SS, & 726	STANDARD SIGN	1155	SQ. FT.
SS & 727	EXIT NUMBER PANEL (TYPE A)	24	SQ. FT.
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1)	44	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)	21	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-1)	8	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-3)	6	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-4)	4	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-5)	3	EACH

NOTES:

ALL EXISTING GUIDE SIGNS SHALL BE MAINTAINED IN SUCH A MANNER THAT THE SIGNS ARE FULLY VISIBLE, INTACT, AND ERECT FOR THE DURATION OF THE PROJECT, AND SHALL BE REMOVED WHEN THEIR USE IS NO LONGER REQUIRED. REMOVAL AND DISPOSAL OF SIGNS, SUPPORTS, AND FOUNDATIONS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

THE EXISTING SIGNS AND SUPPORTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE EXISTING FOOTINGS SHALL BE REMOVED AND THE HOLES FILLED WITH A SUITABLE MATERIAL AND COMPACTED.

EXISTING LOGOS WILL BE RELOCATED TO THE NEW LOGO SIGN BY THE CONTRACTOR. THE LOGO INSTALLATION SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

THE CONTRACTOR SHOULD MAKE EVERY EFFORT TO LOCATE BURIED UTILITIES PRIOR TO EXCAVATION INCLUDING, BUT NOT LIMITED TO, CALLING ARKANSAS ONE CALL CENTER (800) 482-8998 FOR LOCATES. SHOULD IT BE DETERMINED A POSSIBILITY OF A UTILITY CONFLICT, CONTRACTOR SHALL CONSULT WITH THE RESIDENT ENGINEER FOR FURTHER GUIDANCE.

BREAKAWAY SIGN SUPPORT TOTAL IS CALCULATED BY TAKING THE LENGTH OF H1, H2, H3, AND THE STUB POST AND MULTIPLYING BY THE BEAM WEIGHT (LBS).

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
Oct 13 2020 9:02 AM
DocuSign

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		207	517
				JOB NO.		080457		
				②		SIGNING QUANTITIES		

OVERHEAD SIGNING QUANTITIES

SIGN NO./ LOCATION	STRUCTURE TYPE: INSTALL SIGN STRUCTURE ST	OC	OH	BM	REMOVE EXISTING SIGN STRUCTURE ST	OC	OH	BM	RELOCATION OF EXISTING SIGN STRUCTURE ST	OC	OH	BM	GUIDE SIGN LENGTH LIN. FT.	HEIGHT LIN. FT.	SQ. FT.	EXIT NUMBER PANEL LEGEND	TYPE A SQ. FT.	TYPE B SQ. FT.	TYPE C SQ. FT.	OVERHEAD DMS ASSEMBLY EACH	STD. SIGN SQ. FT.	GUARDRAIL TYPE A LIN. FT.	TERM. ANCHOR POSTS TYPE 1 EACH	GUARDRAIL TERM. TYPE 2 EACH	AGG. BASE CR (CL. 7) TON	ACHM SURF. CR. 220 LBS/SY TON
OH-040-23-20											1																
OH 40-135-2EB													13.50	10.50	141.75	135.0	23.75										
OH 40-135-3EB													13.50	10.50	141.75												
TOTALS:											1				283.50		23.75										

ROADSIDE MOUNTED SIGNING QUANTITIES

SIGN NO./ LOCATION	OMNI-DIRECTIONAL SIGN SUPPORT G1	G2	G3	I-BEAM STRUCTURE TYPE G1	G2	G3	GUIDE SIGN DEMOUNTABLE LEGEND LENGTH LIN. FT.	HEIGHT LIN. FT.	SQ. FT.	I-BEAM BREAKAWAY SIGN SUPPORT: STEEL SECT. A-572 BEAM	LBS	SIGN POST LENGTH H-1 LIN FT	H-2 LIN FT	H-3 LIN FT	STUB POST H-1 LIN FT	H-2 LIN FT	H-3 LIN FT	FOOTINGS DIA. LIN FT	DEPTH LIN FT	EMBED. LIN FT	SIGN POST AND STUB POUND	EXIT NUMBER PANEL LEGEND	TYPE A SQ. FT.	TYPE B SQ. FT.	TYPE C SQ. FT.	SUPPLEMENTAL GUIDE SIGN DEMOUNTABLE LEGEND	SQ. FT.
EXIT 135-EB		1					7.50	5.00	37.50																		
GM 89-175+80SB		1					6.00	2.50	15.00																		
GM 89-191+00SB		1					5.00	1.50	7.50																		
GM 89-196+00NB		1					5.50	2.50	13.75																		
GM 365-109+10SB		1					6.00	1.50	9.00																		
GM 365-98+00NB		1					6.00	2.50	15.00																		
GM RAMP-7593+80EB		1					5.00	1.50	7.50																		
TOTALS :		7							105.25																		

STANDARD SIGNS (BOX 1 OF 1)

STANDARD SIGNS FLAT SHEET

OMNI-DIRECTIONAL SIGN SUPPORTS

SIGN NO./ LOCATION	TYPE G1 EA.	G2 EA.	G2-1 EA.	G2-2 EA.	G2-3 EA.	G2-4 EA.	G2-5 EA.	G2-6 EA.	G2-7 EA.	G2-8 EA.	G2-9 EA.	G2-10 EA.	STANDARD SIGN SQ. FT.
SS-89-107+25	1												9.00
SS-89-107+75	1												9.00
SS-89-114+75	1												9.00
SS-89-116+00	1												9.00
SS-89-132+50	1												9.00
SS-89-131+20	1												9.00
SS-89-173+50	1												9.00
SS-89-174+80	1												9.00
SS-89-174+90	1												9.00
SS-89-194+00	1												9.00
SS-89-181+10SB		1											16.00
SS-89-176+60NB	1												9.00
SS-89-181+00NB	1												9.00
SS-ART-60+00NB	1												9.00
SS-89-159+50SB	1												9.00
SS-89-112+40SB	1												5.00
SS-89-159+50NB	1												5.00
SS-365-94+00NB	1												5.00
SS-365-102+60NB	1												6.19
SS-RAMP-7590+60	1												9.00
SS-89-174+50NB	1												9.00
SS-RAMP-7603+00		1											12.00
SS-89-155+00SB	1												9.00
SS-RAMP-7605+00	1												12.00
SS-RAMP-7192+00	1												12.00
SS-89-179+60SB	1												9.00
SS-89-199+00NB	1												9.00
SS-89-201+00NB	1												9.00
SS-40-7609+00EB			1										16.00
SS-RAMP-7615+00			1										16.00
SS-RAMP-7610+25			1										16.00
SS-89-110+00SB	1												6.00
SS-89-199+00SB	1												6.00
SS-89-171+00NB	1												6.00
SS-365-106+80NB	1												6.19
SS-365-122+00NB	1												7.00
SS-365-98+00SB	1												7.00
SS-365-116+00SB	1												7.00
SS-89-192+25NB	1												8.19
SS-89-191+00SB	1												8.19
SS-89-181+10SB							1						42.95
SS-89-196+00NB						1							16.38
SS-365-98+00SB						1							16.38
SS-89-175+80SB		1											25.57
SS-365-109+10SB	1												8.19
SS-365-102+00SB	1												8.19
SS-RAMP-7604+75EB	1												8.19
SS-RAMP-7605+50	1												9.19
SS-RAMP-7605+00EB	1												7.19
SS-365-101+80NB	1												5.00
SS-RAMP-7192+40	1												5.00
SS-365-101+40NB	1												16.38
SS-RAMP-7600+80EB			1										17.38
SS-365-111+00NB			1										16.38
SS-365-103+10NB				1									21.00
SS-365-102+10NB				1									25.00
SS-RAMP-7192+50				1									25.00
SS-89-191+35					1								22.50
SS-89-192+20					1								34.50
SS-RAMP-7597+80EB					1								38.50
SS-RAMP-7597+75EB					1								38.50
SS-40-7588+40EB		1											16.00
SS-RAMP-7604+65EB		1											16.00
SS-RAMP-7591+00EB	1												16.00
SS-RAMP-7605+40	1												12.00
SS-365-128+00SB	1												12.38
SS-89-190+75NB							1						25.57
SS-RAMP-7593+80EB					1								28.38
SS-RAMP-7595+40EB				1									38.38
SS-40-7583+70EB				1									29.00
SS-40-7587+20EB				1									25.38
SS-40-7589+00EB				1									25.38
SS-40-7570+00EB	1												20.00
SS-365-118+20SB			1										19.19
SS-RAMP-7592+50EB			1										20.00
SS-365-123+50SB					1								25.57
SS-89-183+30NB						1							17.38
SS-89-181+40SB	1												12.00
SS-365-118+50SB					1								25.57
TOTALS:	44	14	8		6	4	3						1154.31

SIGNING QUANTITIES

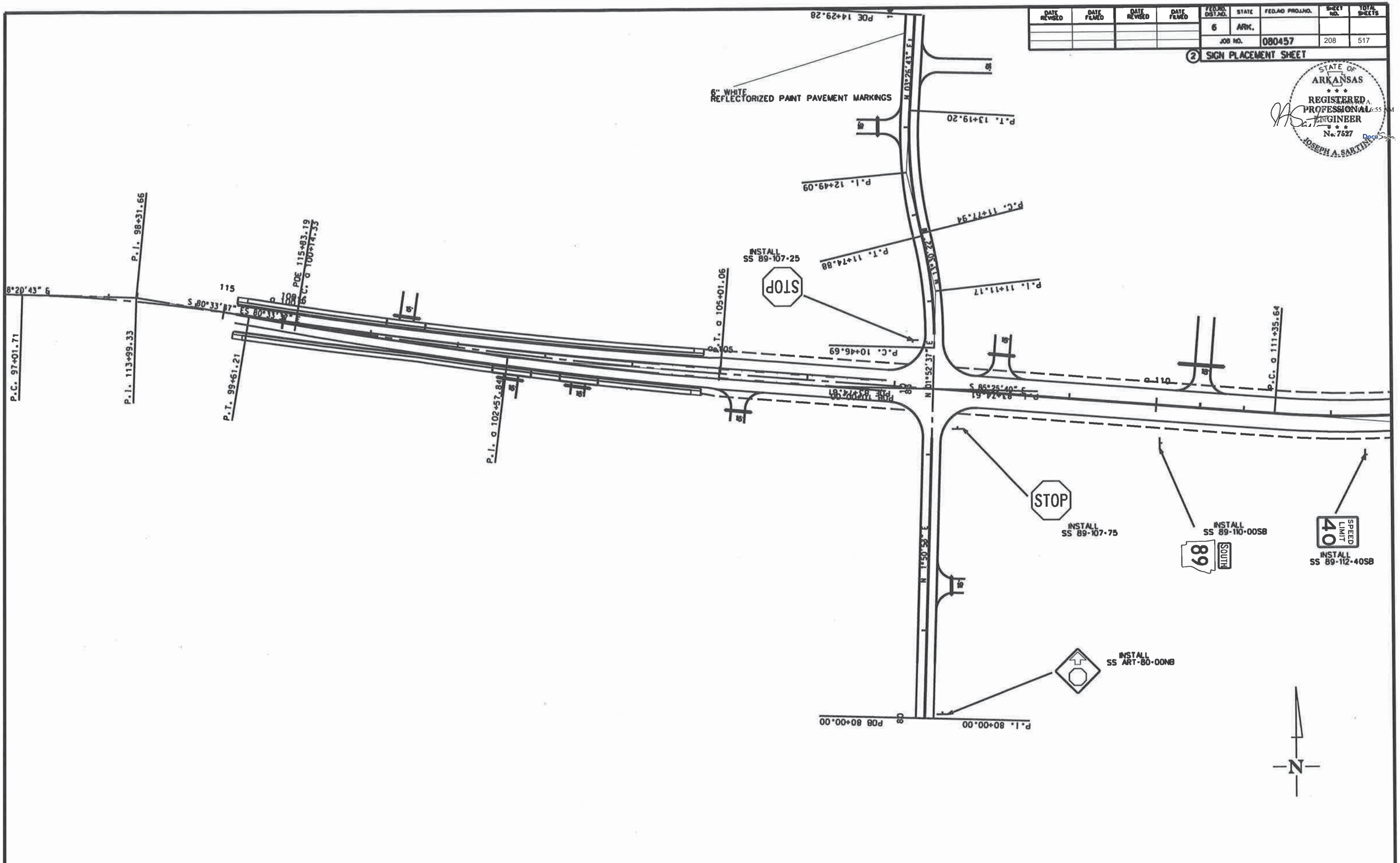
STATE OF ARKANSAS ★★★ REGISTERED PROFESSIONAL ENGINEER ★★★ No. 7527 JOSEPH A. SARTINI

Joseph A. Sartini 9:02 AM

DocuSign

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	208	517

(2) SIGN PLACEMENT SHEET



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI

SIGN PLACEMENT SHEET

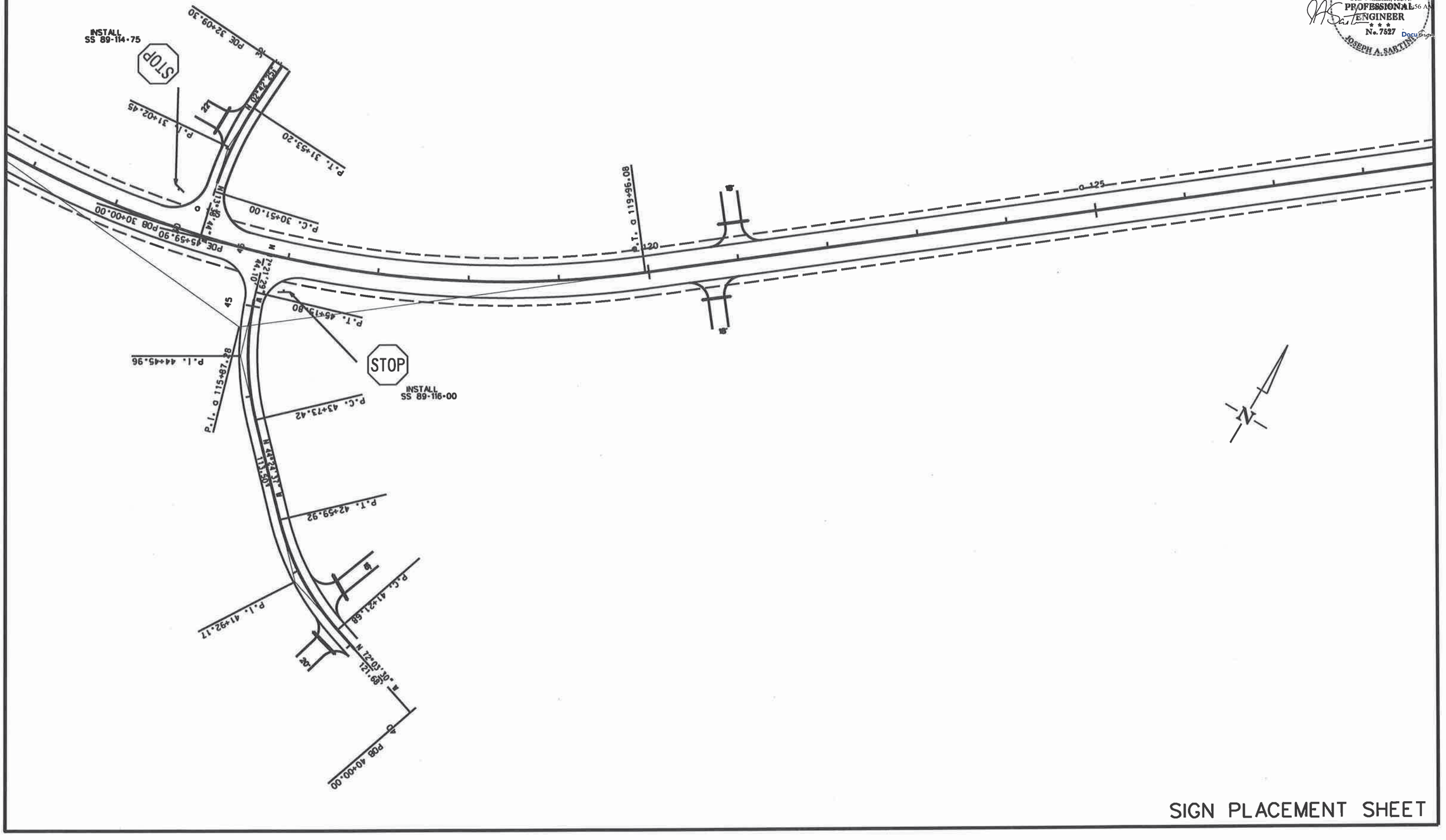
11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	209	517

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTIN



SIGN PLACEMENT SHEET

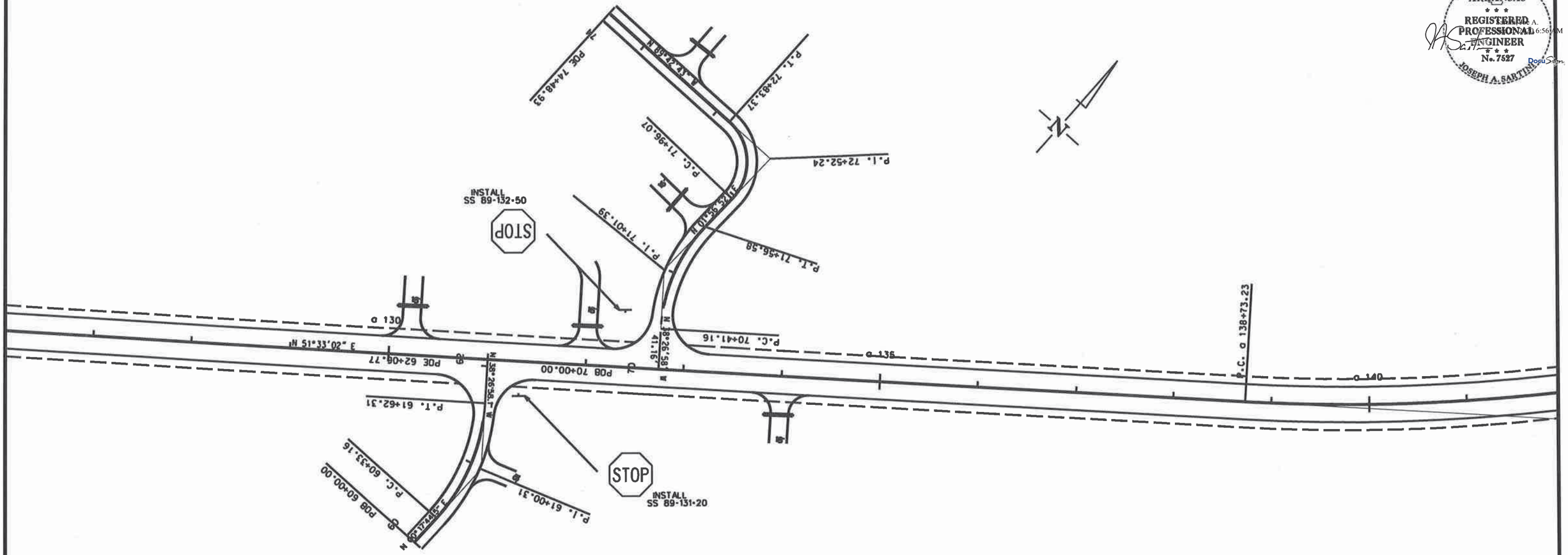
11/8/2011

Z80ORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.RD PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	210	517

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI



SIGN PLACEMENT SHEET

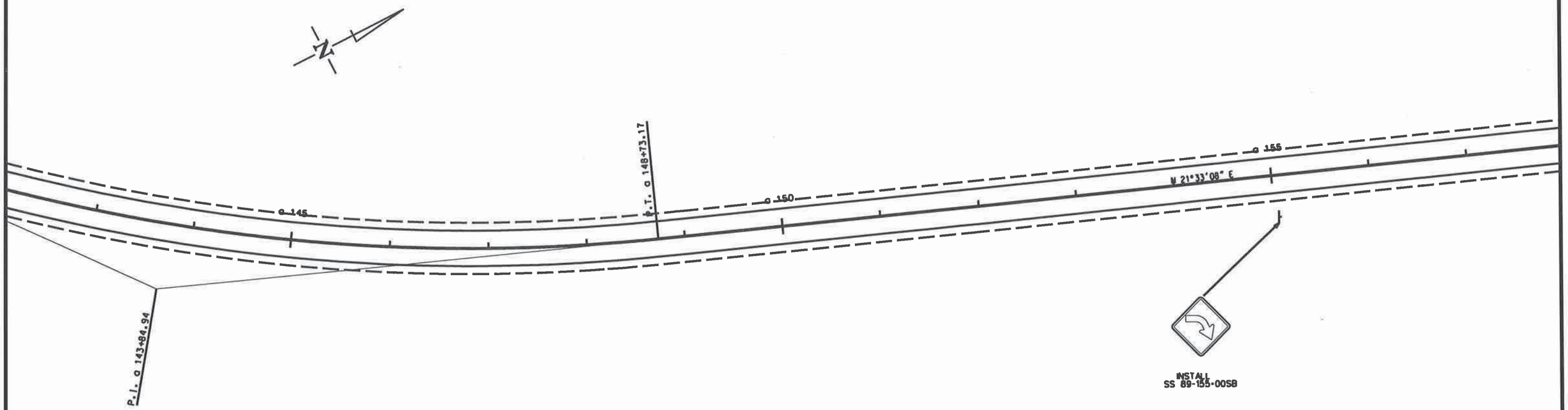
11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.RD PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	211	517

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI

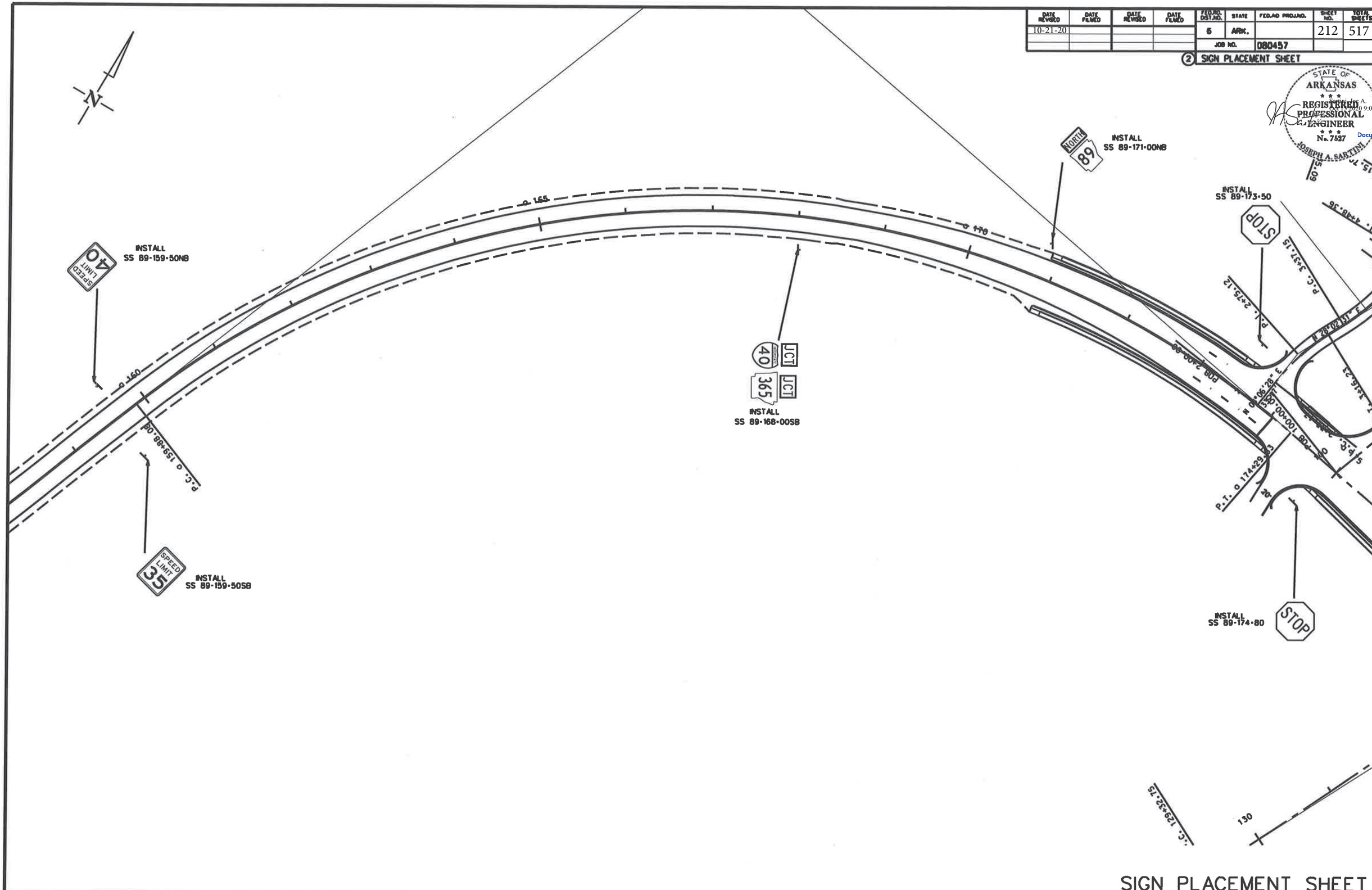


SIGN PLACEMENT SHEET

ZBORDER.CEL 11/8/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		212	517
				JOB NO.		080457		

(2) SIGN PLACEMENT SHEET



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI

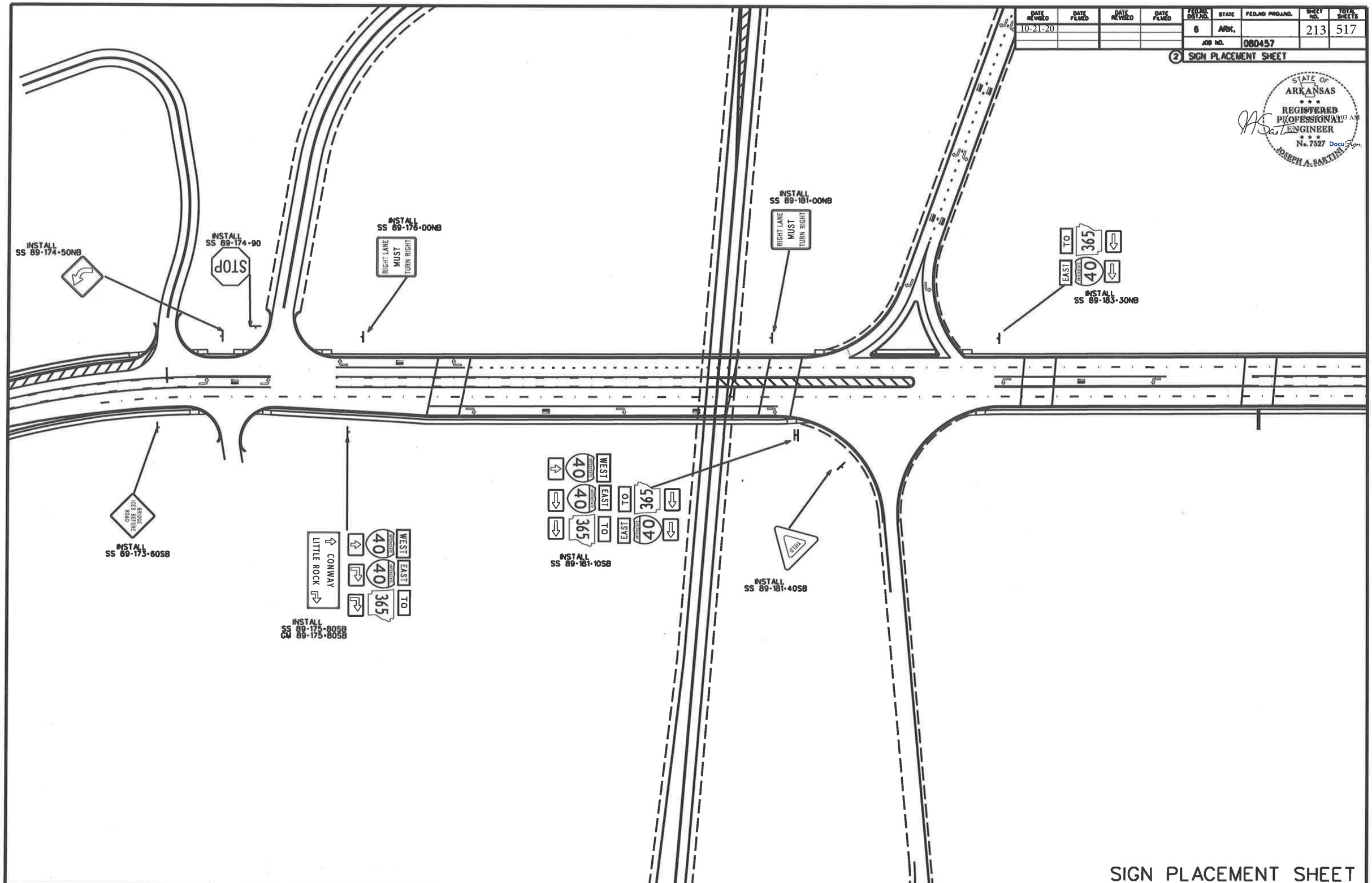
SIGN PLACEMENT SHEET

ZBORDER.CEL 11/8/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		213	517
				JOB NO.		080457		

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI



SIGN PLACEMENT SHEET

11/8/2011

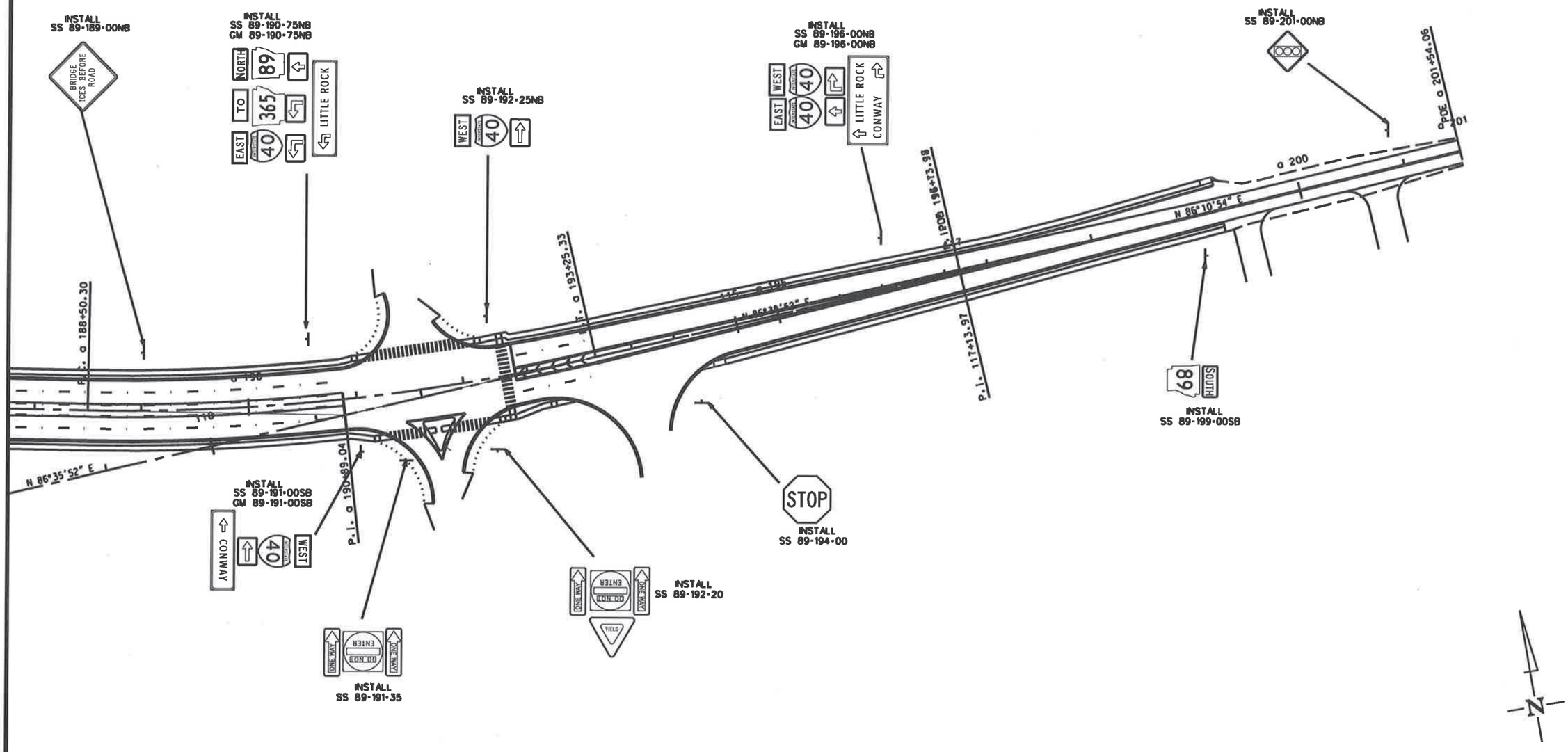
ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		214	517
				JOB NO.		080457		

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI

Sartini, Joe A.
Oct 15 2020 9:05 AM
Docu Sign



SIGN PLACEMENT SHEET

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080457		215	517

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI

Joseph A. Sartini
11/8/2011 6:58 AM
DocuSign

N

INSTALL
SS 365-98-00SB

SOUTH 365

POB 96+60.00

95

96

100

INSTALL
SS 365-94-00NB

JCT 40

CONWAY LITTLE ROCK

40 WEST 40 EAST

INSTALL
SS 365-98-00NB
GM 365-98-00NB

P.C.

INSTALL
SS RAMP-7610-25

LANE ENDS MERGE LEFT

INSTALL
SS 40-7609-00EB

INSTALL
SS RAMP-7615-00

P.I. 7608+81.39

P.C. 7611+20.02

P.T. 7614+47.41

POE 7608+84.56

7610

S 15°40'14" W

7615

7620

P.C. 7619+31.98

P.C. 7618+46.12

P.I. 7612+84.12

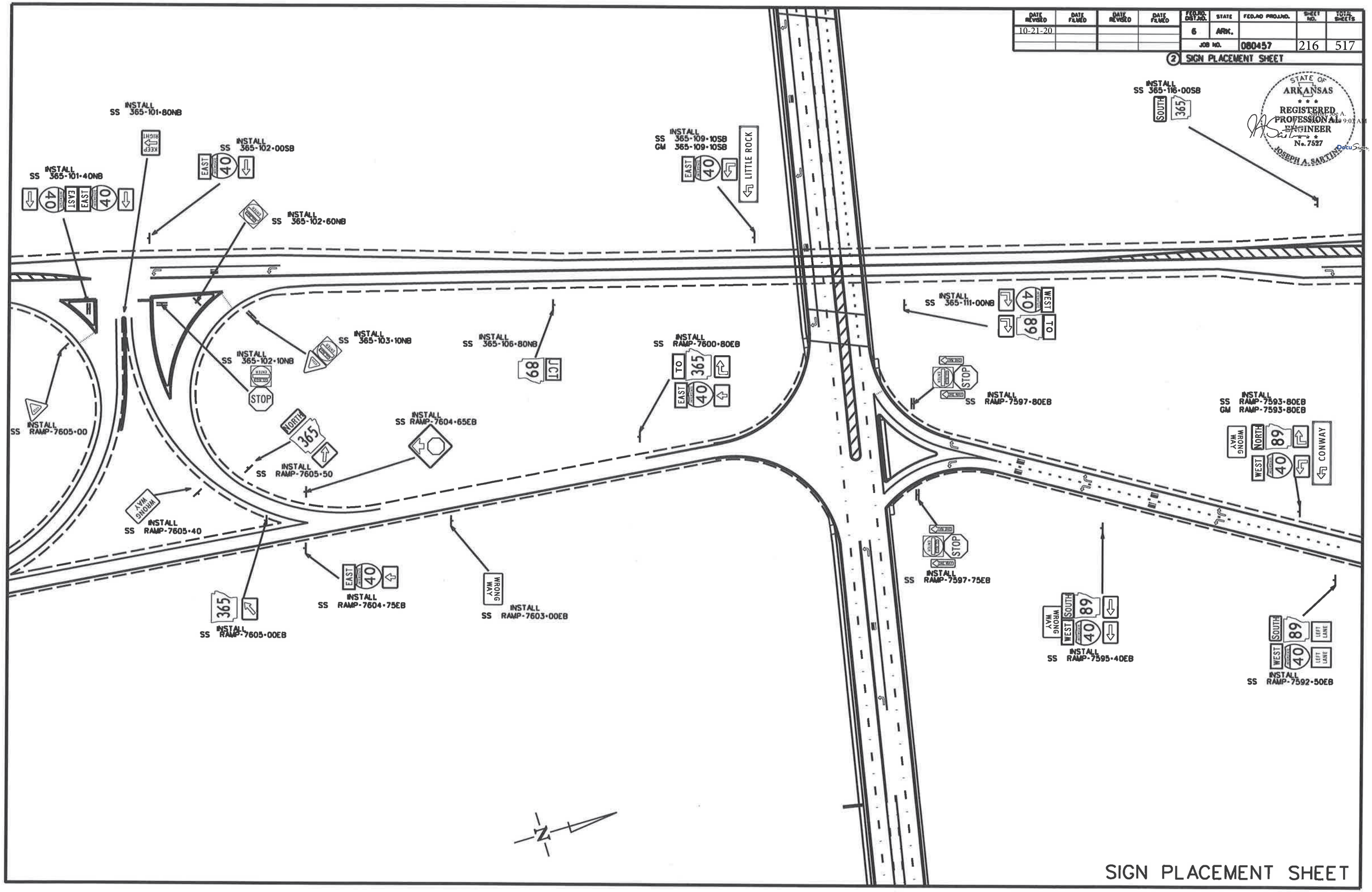
11/8/2011

ZBORDER.CEL

SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	216	517

(2) SIGN PLACEMENT SHEET



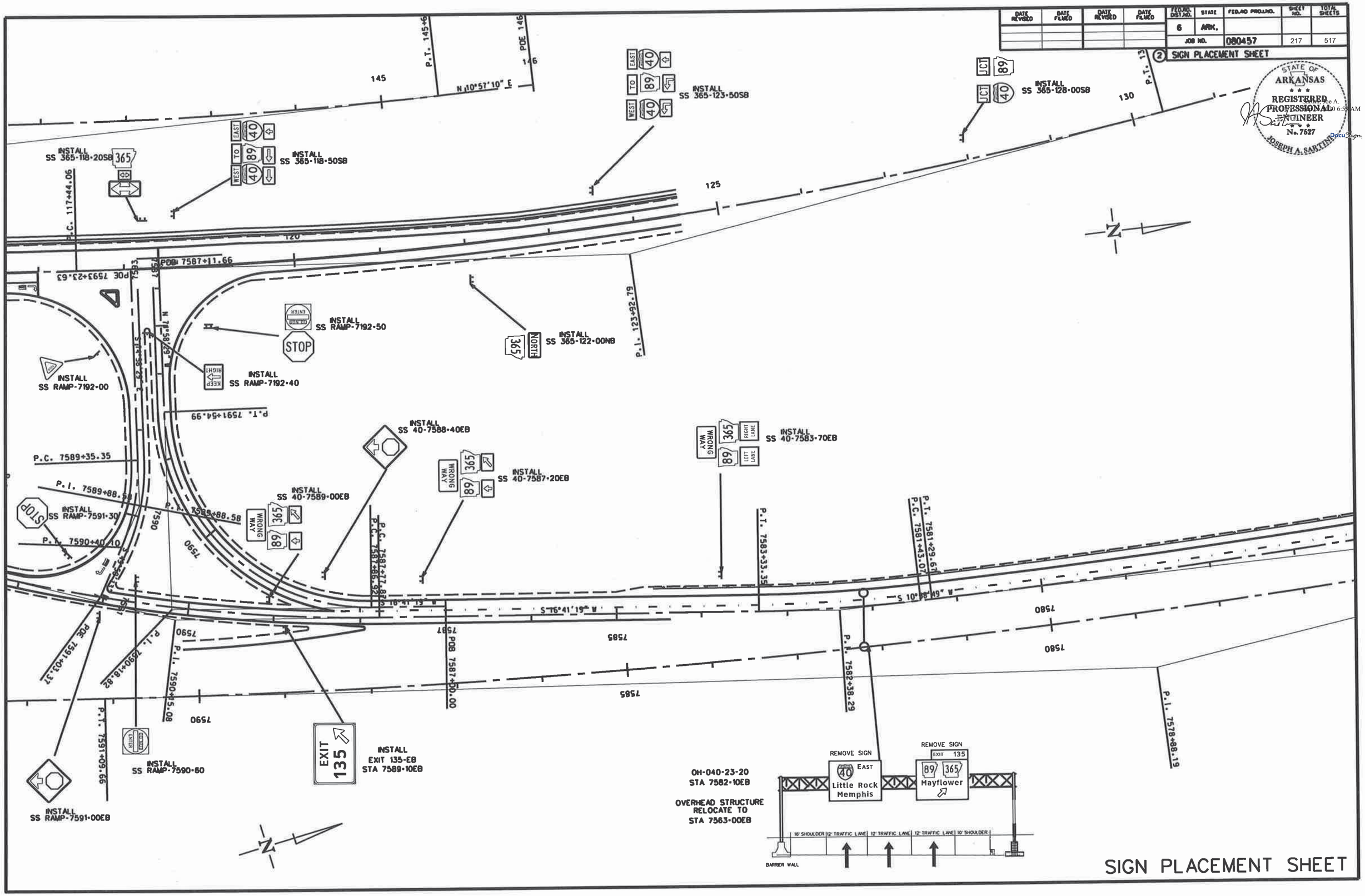
SIGN PLACEMENT SHEET

11/8/2011

ZBORDER.CEL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.RD PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	217	517

(2) SIGN PLACEMENT SHEET



SIGN PLACEMENT SHEET

11/8/2011

ZBORDER.CEL

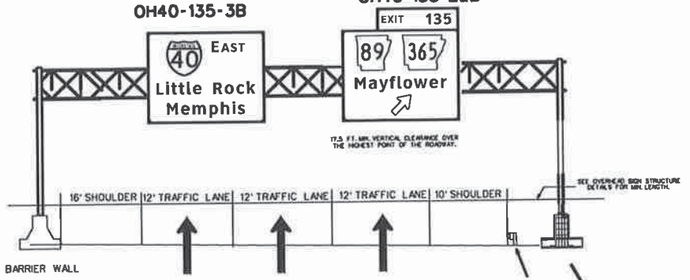
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FEDERAL DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080457		218	517

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI

REPLACE SIGN OH40-135-3B

REPLACE SIGN OH40-135-2EB



OH-040-23-20
RELOCATE TO
STA 7563+00EB

INSTALL
SS 40-7570-00EB



11/8/2011

Z80FDER.CEL

SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	219	517

② SIGN LAYOUT SHEET

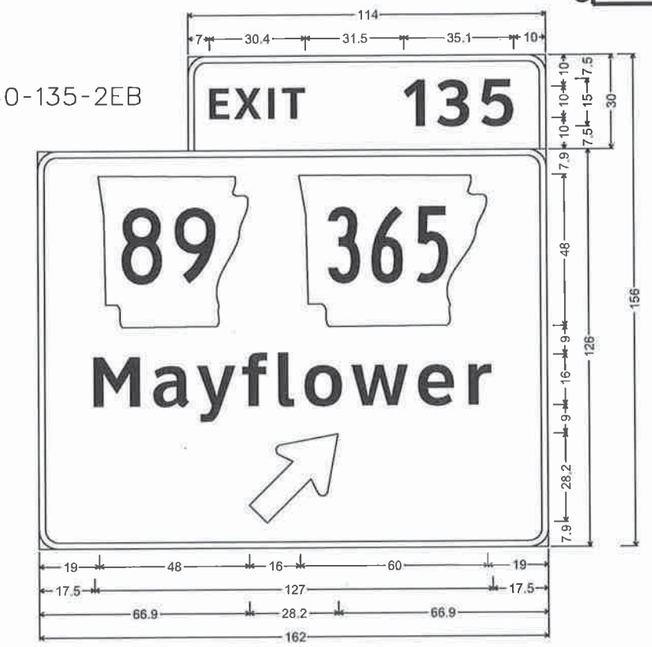
OH-040-23-20

REPLACE OH40-135-3EB



OH40-135-3EB;
6.0" Radius, 2.0" Border, White on, Green;
"E", ClearviewHwy-5-W-R; "AST", ClearviewHwy-5-W-R;
"Little Rock", ClearviewHwy-5-W-R; "Memphis", ClearviewHwy-5-W-R;

REPLACE OH40-135-2EB

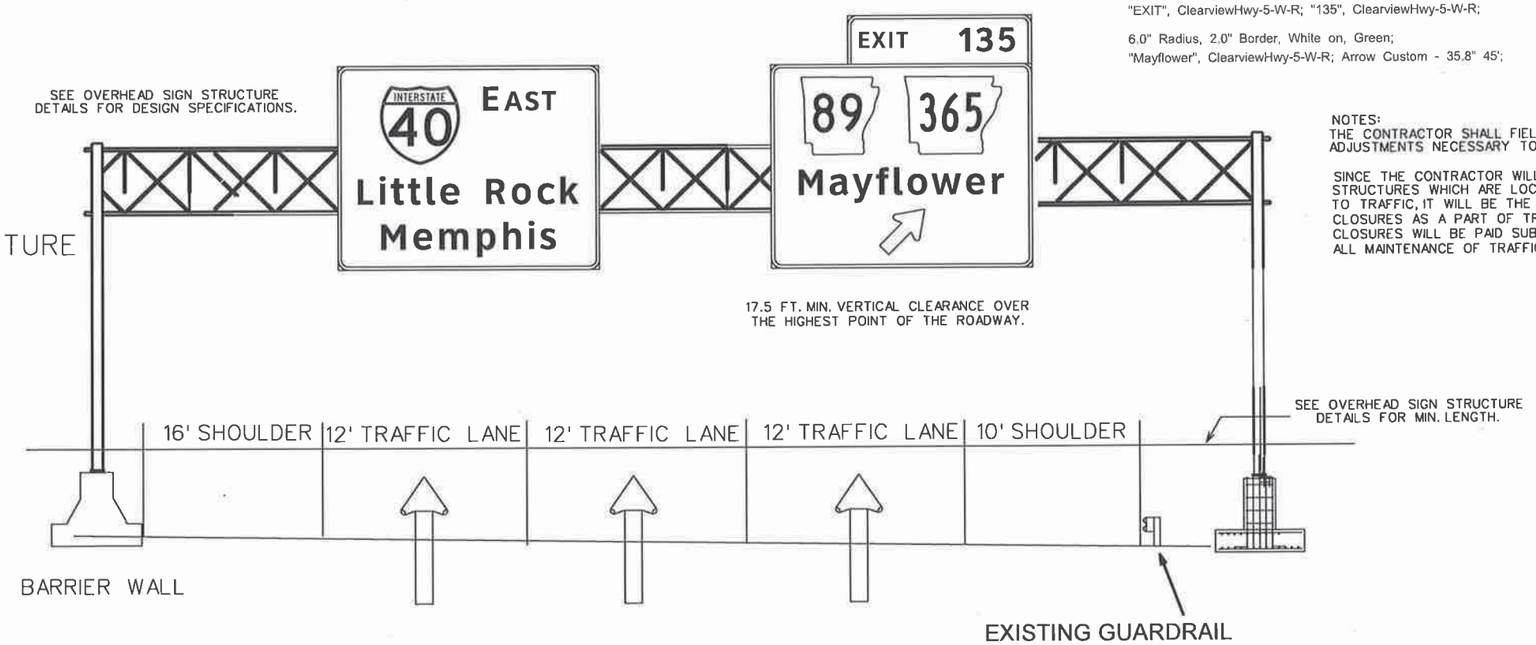


OH40-135-2EB;

6.0" Radius, 2.0" Border, White on, Green;
"EXIT", ClearviewHwy-5-W-R; "135", ClearviewHwy-5-W-R;

6.0" Radius, 2.0" Border, White on, Green;
"Mayflower", ClearviewHwy-5-W-R; Arrow Custom - 35.8" 45';

OH-040-23-20
STA 7582+10EB
REMOVE OVERHEAD STRUCTURE
RELOCATE TO
STA 7563+00EB



NOTES:
THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

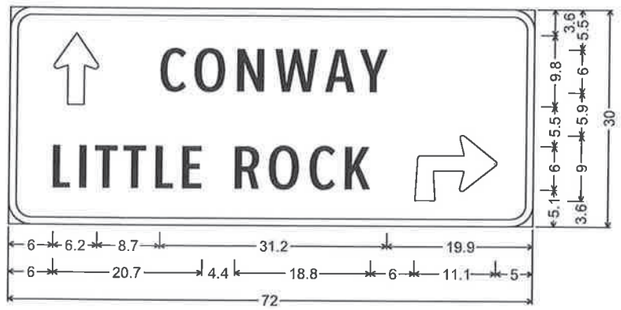
SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
Sep 25 2020 7:00 AM
DocuSign

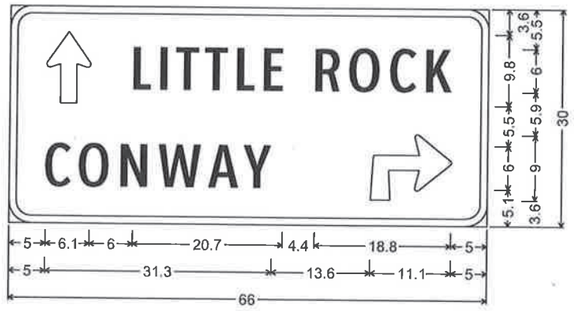
SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		220	517
				JOB NO.		080457		

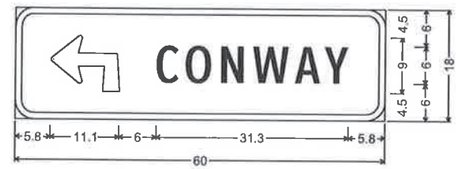
② SIGN LAYOUT SHEET



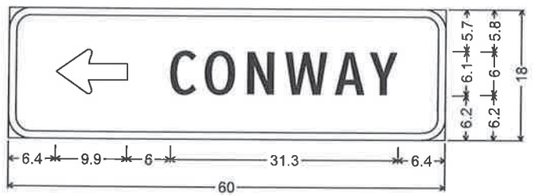
GM 89-175+80SB;
3.0" Radius, 1.0" Border, White on, Green;
Standard Arrow Custom 9.9" X 6.1" 90';
"CONWAY", ClearviewHwy-2-W; "LITTLE ROCK", ClearviewHwy-2-W;
90 Deg Advance Turn Arrow 16.0" X 13.0" White;



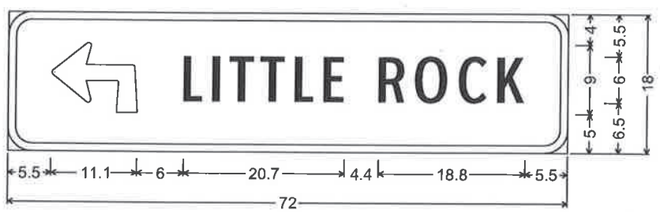
GM 89-196+00NB;
3.0" Radius, 1.0" Border, White on, Green;
Standard Arrow Custom 9.9" X 6.1" 90';
"LITTLE ROCK", ClearviewHwy-2-W;
"CONWAY", ClearviewHwy-2-W;
90 Deg Advance Turn Arrow 16.0" X 13.0" White;



GM RAMP-7593+80EB;
3.0" Radius, 1.0" Border, White on, Green;
90 Deg Advance Turn Arrow 16.0" X 13.0" While;
"CONWAY", ClearviewHwy-2-W;



GM 89-191+00SB;
3.0" Radius, 1.0" Border, White on, Green;
Standard Arrow Custom 9.9" X 6.1" 180';
"CONWAY", ClearviewHwy-2-W;



GM 365-109+10SB;
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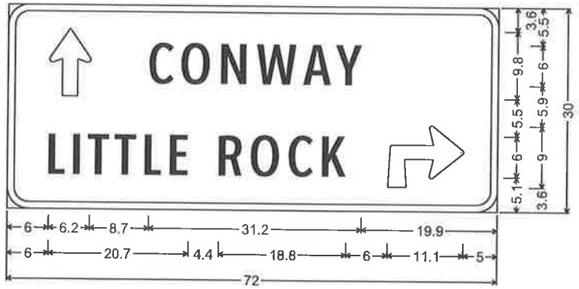
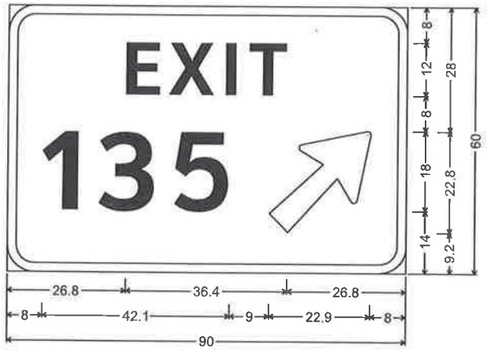
90 Deg Advance Turn Arrow 16.0" X 13.0" White;
"LITTLE ROCK", ClearviewHwy-2-W;



GM 365-98+00NB;
3.0" Radius, 1.0" Border, White on, Green;
Standard Arrow Custom 9.9" X 6.1" 90';
"CONWAY", ClearviewHwy-2-W; "LITTLE ROCK", ClearviewHwy-2-W;
90 Deg Advance Turn Arrow 16.0" X 13.0" White;



EXIT135-EB ;
6.0" Radius, 2.0" Border, White on, Green;
"EXIT", ClearviewHwy-5-W-R; "135", ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45';

STATE OF ARKANSAS
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No. 7527
JOSEPH A. SARTINI

Joseph A. Sartini (Oct 21, 2020 9:05 AM)
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		221	517
				JOB NO.		080457		
				SIGN LAYOUT SHEET				

R1-1
36"X36"



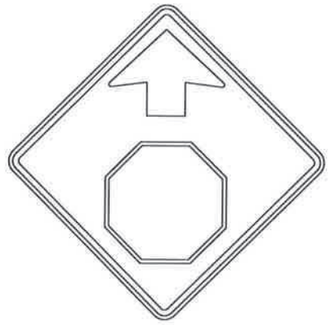
SS 89-107+25
SS 89-107+75
SS 89-114+75
SS 89-116+00
SS 89-132+50
SS 89-131+20
SS 89-173+50
SS 89-174+80
SS 89-174+90
SS 89-194+00

R1-1
48"X48"



SS RAMP-7591+30

W3-1
36"X36"



SS ART-80+00NB

R2-1
24"X30"



SS 89-159+50SB

R2-1
24"X30"



SS 89-112+40SB
SS 89-159+50NB

M2-1(1)
21"X15"

M1-1
24"X24"



SS 365-94+00NB

R5-1
36"X36"



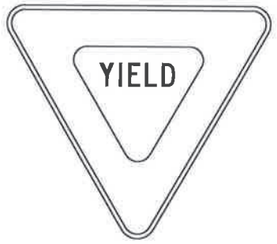
SS 365-102+60NB
SS RAMP-7590+60

R5-1A
48"X36"



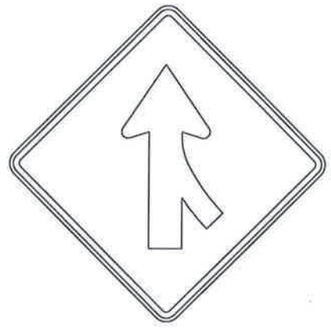
SS RAMP-7603+00
SS RAMP-7605+40

R1-2
48"X48"



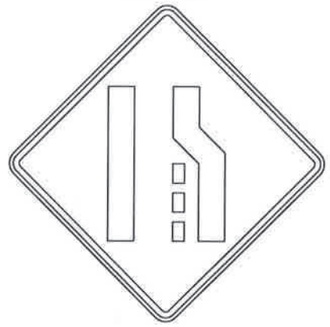
SS RAMP-7605+00
SS RAMP-7192+00
SS 89-181+40SB

W4-1
48"X48"



SS 40-7609+00EB

W4-2
48"X48"



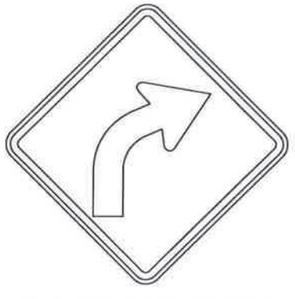
SS RAMP-7615+00

W1-2L
36"X36"



SS 89-174+50NB

W1-2R
36"X36"



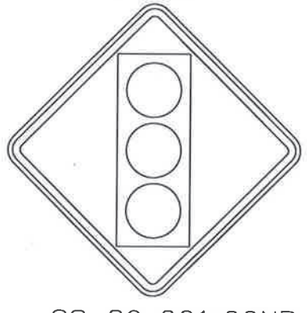
SS 89-155+00SB

W8-13
36"X36"



SS 89-173+60SB
SS 89-189+00NB

W3-3
36"X36"



SS 89-201+00NB

W9-2L
48"X48"



SS RAMP-7610+25

STATE OF ARKANSAS
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No. 7527
JOSEPH A. SARTINI
Joe A. Sartini 10/21/2020 9:04 AM
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		222	517
				JOB NO.		080457		

SIGN LAYOUT SHEET

M3-3 24"X12" SOUTH
M1-6 24"X24" 89
SS 89-110+00SB
SS 89-199+00SB

M3-1 24"X12" NORTH
M1-6 24"X24" 89
SS 89-171+00NB

M2-1(I) 21"X15" JCT
M1-1 24"X24" INTERSTATE 40
JCT M2-1 21"X15"
M1-6 24"X30" 365
SS 89-168+00SB

WEST M3-4(I) 24"X12"
INTERSTATE 40 M1-1 24"X24"
M6-1(I) 21"X15"
SS 89-192+25NB

WEST M3-4(I) 24"X12"
INTERSTATE 40 M1-1 24"X24"
M6-1(I) 21"X15"
SS 89-191+00SB

JCT M2-1 21"X15"
89 M1-6 24"X24"
SS 365-106+80NB

M3-2(I) 24"X12" EAST
WEST M3-4(I) 24"X12"
M1-1 24"X24" INTERSTATE 40
INTERSTATE 40 M1-1 24"X24"
M6-3(I) 21"X15"
M5-1R(I) 21"X15"
SS 89-196+00NB

M3-4(I) 24"X12" WEST
EAST M3-2(I) 24"X12"
M1-1 24"X24" INTERSTATE 40
INTERSTATE 40 M1-1 24"X24"
M6-3(I) 21"X15"
M5-1R(I) 21"X15"
SS 365-98+00SB

M3-1 24"X12" NORTH
M1-6 24"X30" 365
SS 365-122+00NB

M6-1 21"X15"
M6-1(I) 21"X15"
M1-6 24"X30" 365
M1-1 24"X24" INTERSTATE 40
M4-5 24"X12" TO
M3-2(I) 24"X12" EAST
M3-4(I) 24"X12" WEST
EAST TO M4-5 24"X12"
INTERSTATE 40 INTERSTATE 40 365 M1-6 24"X30"
M1-1 24"X24"
M6-3(I) 21"X15"
M6-1 21"X15"
SS 89-181+10SB

M3-2(I) 24"X12"
M3-4(I) 24"X12" WEST
EAST TO M4-5 24"X12"
INTERSTATE 40 INTERSTATE 40 365 M1-6 24"X30"
M1-1 24"X24"
M6-3(I) 21"X15"
M5-1R(I) 21"X15"
M5-1R 21"X15"
SS 89-175+80SB

M3-3 24"X12" SOUTH
M1-6 24"X30" 365
SS 365-98+00SB
SS 365-116+00SB

STATE OF ARKANSAS
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No. 7527
JOSEPH A. SARTINI
Joe A Sartini 2020 9:04 AM
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		223	517
				JOB NO.		080457		

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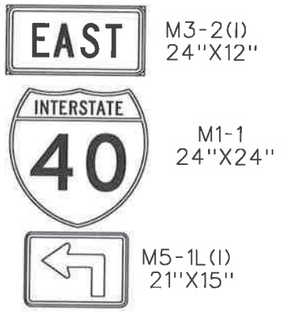

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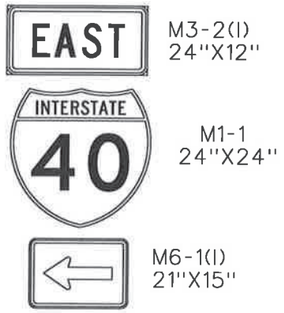

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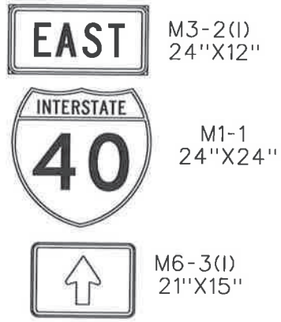

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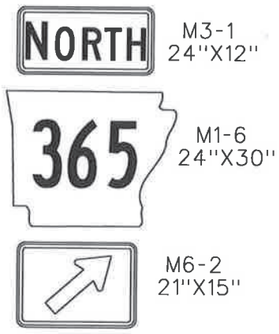
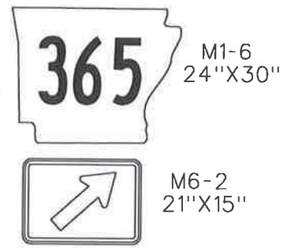


SS RAMP-7605+50



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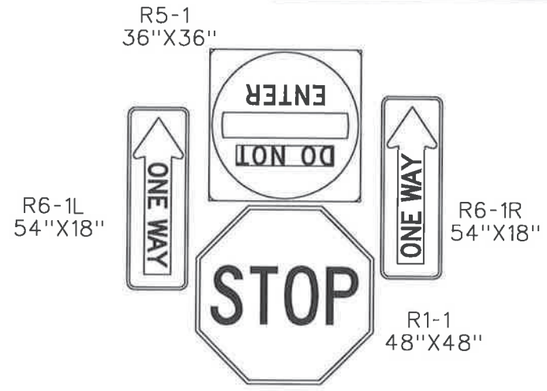

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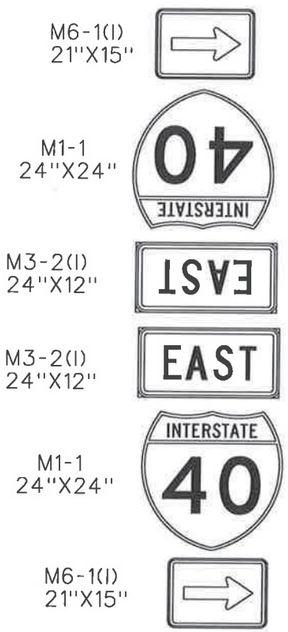
SS RAMP-7597+75EB



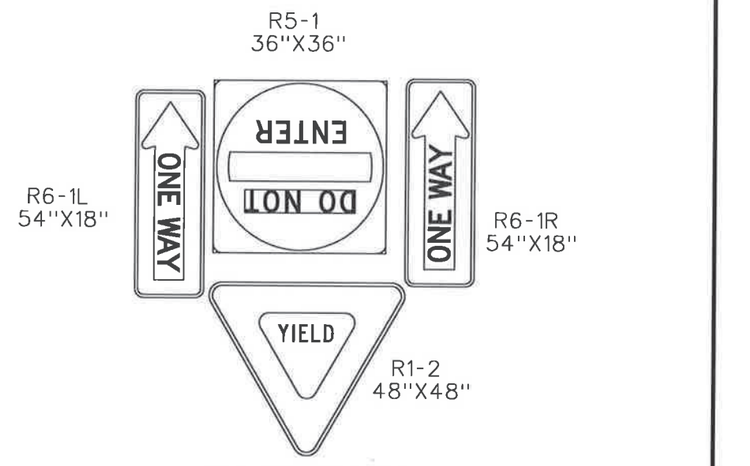
SS 365-101+40NB



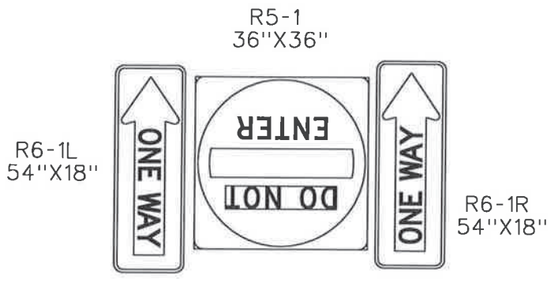
SS RAMP-7600+80EB



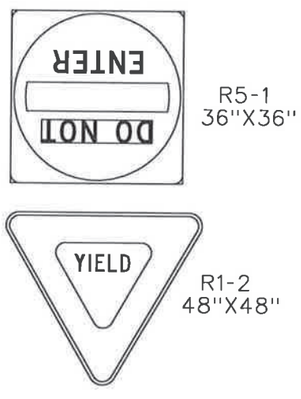
SS 365-111+00NB



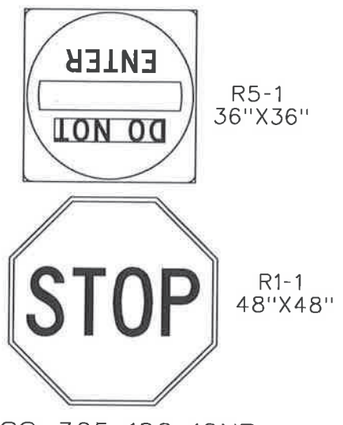
SS 89-192+20



SS 89-191+35



SS 365-103+10NB



SS 365-102+10NB
SS RAMP-7192+50



SS 365-101+80NB
SS RAMP-7192+40

STATE OF ARKANSAS
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No. 7627
JOSEPH A. SARTINI

Joseph Joe A. Sartini (Oct 29, 2020 9:04 AM CDT)
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		224	517
				JOB NO.		080457		

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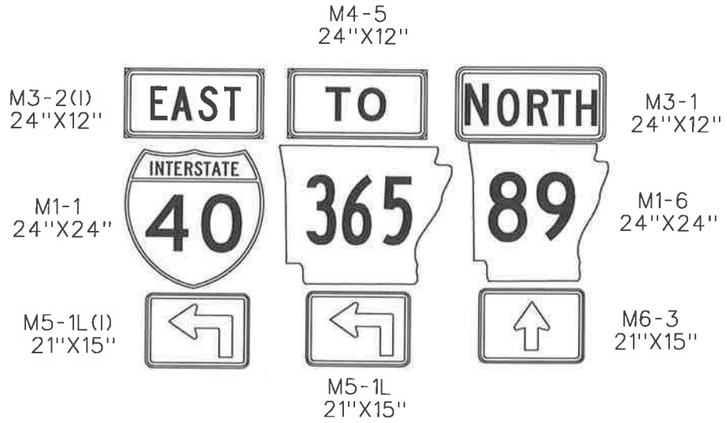
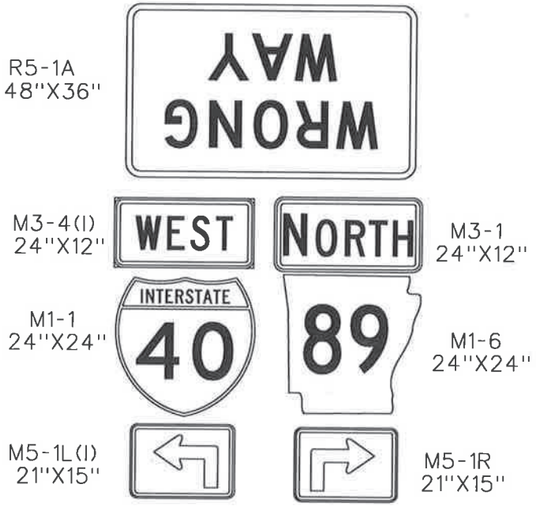


SS 89-190+75NB



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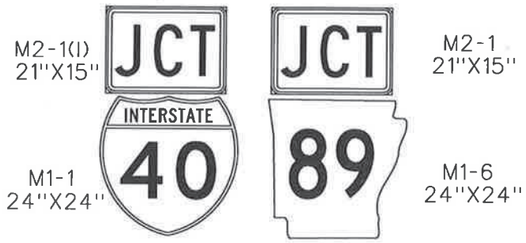
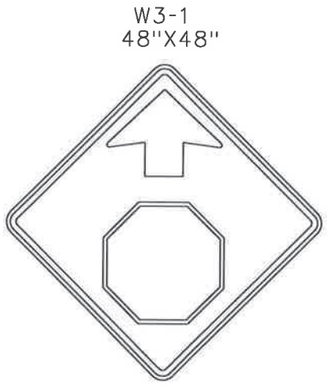
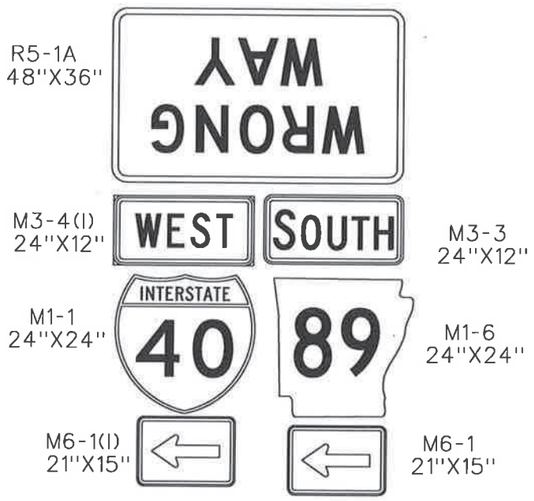


SS 365-128+00SB



SS 40-7588+40EB
SS RAMP-7604+65EB
SS RAMP-7591+00EB



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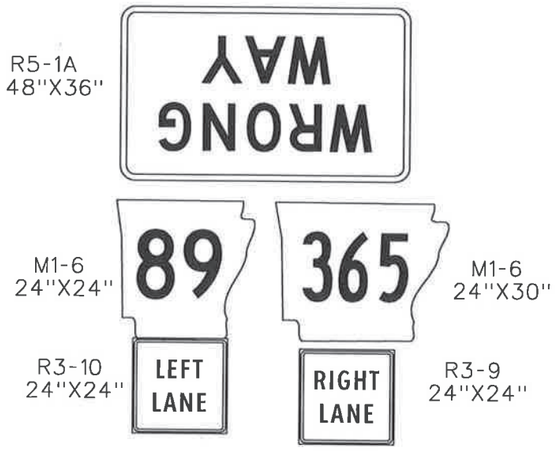
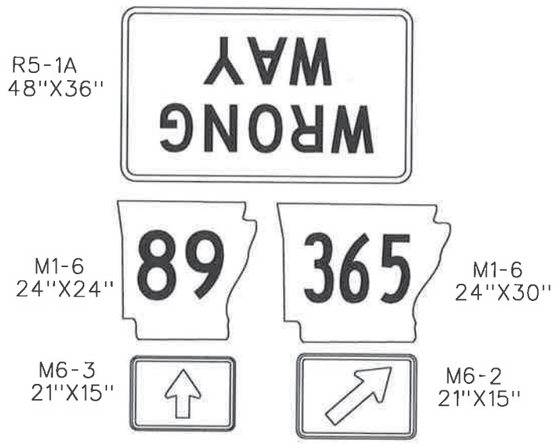


SS 40-7583+70EB



SS 40-7587+20EB
SS 40-7589+00EB

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTIN
Oct 15 2020 9:05 AM
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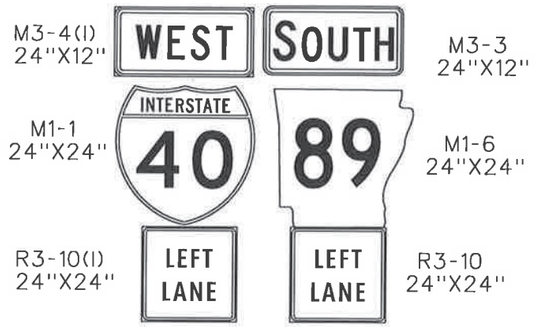
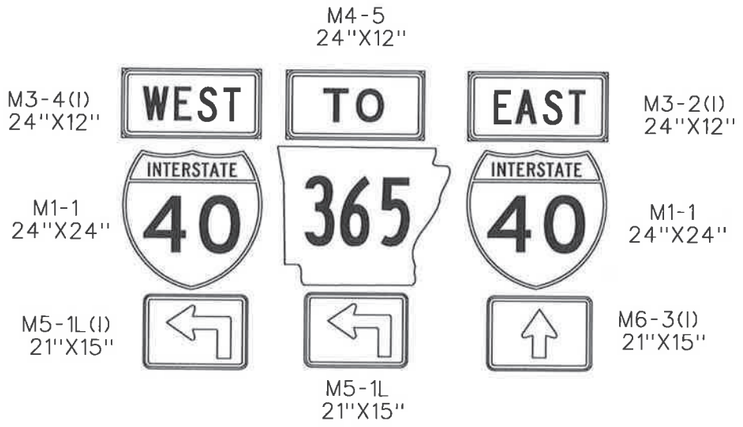
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.		225	517
				JOB NO.		080457		
				②		SIGN LAYOUT SHEET		



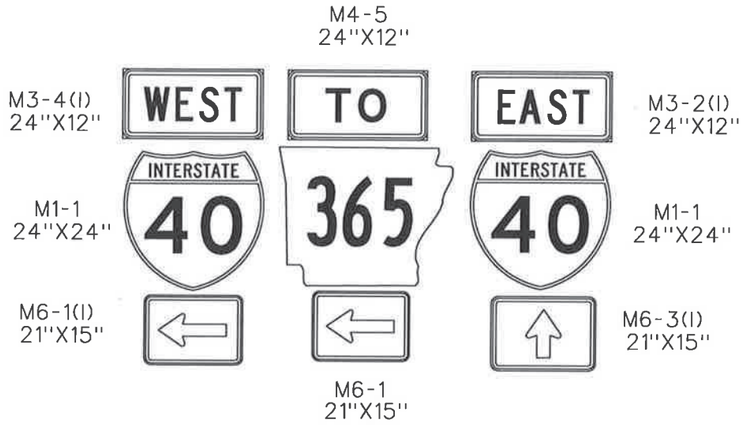
SS RAMP-7592+50EB



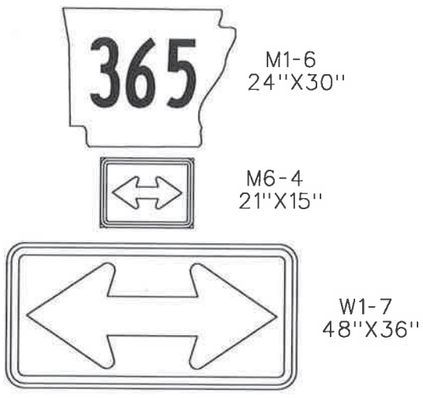
SS 365-123+50SB



SS 89-183+30NB



SS 365-118+50SB



SS 365-118+20SB



SS 40-7570+00EB



SS 89-176+00NB
SS 89-181+00NB

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
Joseph A. Sartini
10/21/2020 9:06 AM CDT
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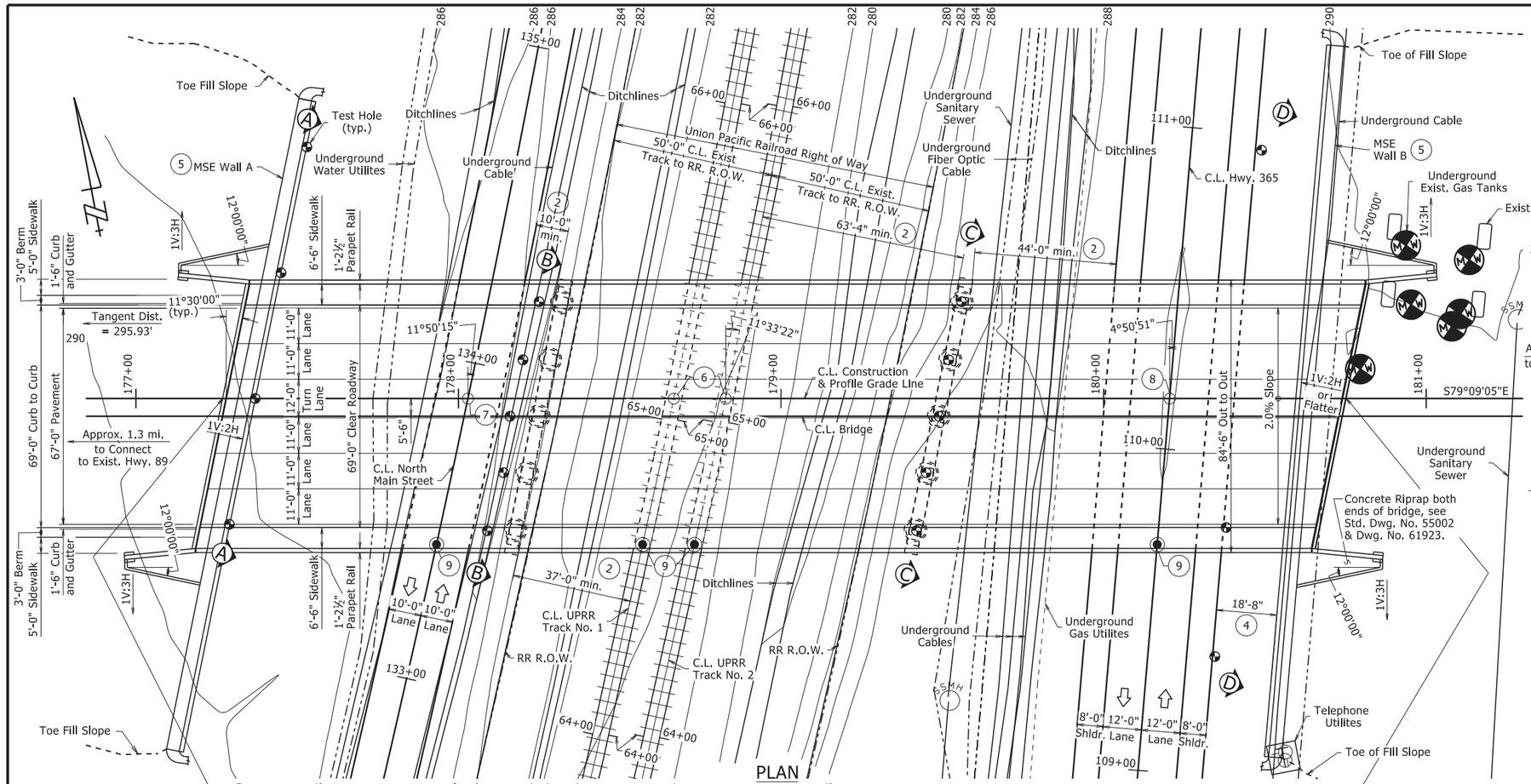
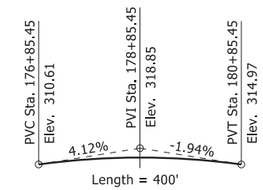
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	226	517
				1	07499 - LAYOUT - 61858			



Type 1 Special Approach Slabs shall be placed at both ends of the bridge, see Dwg. No. 61924.

Notes:
For R/W Data, see Roadway Plans.

Stations shown are along C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Construction. Any vertical dimension referenced to C.L. Deck is based on actual top of deck elevation at C.L. Construction. See "BRIDGE DECK PROFILE" on Dwg. No. 61859 for additional information.



VERTICAL CURVE DATA

Along C.L. Construction & C.L. Profile Grade Line
No Scale

1. Type "H2" Metal Bridge Railing on top of Concrete Parapet Rail, on both sides of Bridge, see Std. Dwg. No. 55015.
2. Minimum horizontal clearance at face of column.
3. Chain Link Fence to be placed on both sides of Bridge over railroad right-of-way. See Dwg.Nos. 61916. For fence locations, see "CHAIN LINK FENCE LOCATIONS", on Dwg. No. 61859.
4. Minimum horizontal clearance.
5. For details of MSE Walls A & B, see Dwg. Nos. 61917-61918.
6. Intersection of C.L. Construction and UPRR Track No. 1 at Sta. 178+66.74. Intersection of C.L. Construction and UPRR Track No. 2 at Sta. 178+82.83. Approx. Railroad Mile Post 364.66.
7. Intersection of C.L. Construction at Sta. 178+02.92. and C.L. North Main Street at Sta. 133+88.85.
8. Intersection of C.L. Construction at Sta. 180+20.47. and C.L. Hwy. 365 at Sta. 110+15.71
9. Points of minimum vertical clearance.
10. Ashlar Stone Pattern, See SP Job No. 080457 "ARCHITECTURAL FINISH". See Dwg. Nos. 61866, 61870, 61873, 61876, and 61915 for additional details.
11. Concrete Parapet Railing, see Dwg. No. 61915.

For Sections A-A & B-B, see Dwg. No. 61860.
For Sections C-C & D-D, see Dwg. No. 61861.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 30 2020 2:59 PM
BRIDGE ENGINEER

SHEET 1 OF 4
LAYOUT OF BRIDGE
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	KJT	DATE:	8/19/2019	FILENAME:	b080457_l1.dgn
CHECKED BY:	DHP	DATE:	9/30/2020	SCALE:	1"=20'
DESIGNED BY:	DHP	DATE:	8/19/2019		

BRIDGE NO. 07499 DRAWING NO. 61858

PRINT DATE: 9/30/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/29/2020				6	ARK.			
				JOB NO.		080457	227	517
				07499 - LAYOUT - 61859				

GENERAL NOTES:

BENCH MARK: Vertical Control Data are shown on the Survey Control Data Sheets.

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, Eighth Edition (2017).

LIVE LOADING: HL-93

SEISMIC ZONE: 1 S_{D1} = 0.091 Site Class = B

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322, Type A)	fy = 60,000 psi
Structural Steel (ASTM A709, Gr. 50)	Fy = 50,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL PILING: Piles in Bents 1 & 4 shall be HP 12x53 (Grade 50) and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 95 tons per pile and into the material designated as Shale on the boring legend. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with Section 805. Actual pile lengths are to be determined in the field. The Contractor shall use approved steel H-Pile driving points on all piles.

PILE CASINGS: Pile casings are required for all piling within MSE walls at end bents. Casings shall be installed prior to or during the embankment construction and shall extend from top of leveling pad to bottom of cap. Pile casing material shall be of sufficient strength to retain its original form free from harmful distortions after compaction of the fill material surrounding it. The minimum inside diameter of the casings shall be 20". Piles shall be driven through the open casings after embankment to bottom of cap is in place. After driving is complete, the pile casings shall be filled with Class S Concrete, an approved non-shrink grout, mixture used for Portland Cement Concrete Pavement, or other approved material in a single continuous operation to completely fill voids. This work and material will not be paid for directly but shall be considered subsidiary to the item "Steel Piling (HP 12x53)".

DRILLED SHAFTS: Drilled Shafts in Bents 2 & 3 shall be constructed in accordance with Special Provision Job No. 080457 "Drilled Shaft Foundations". Drilled shafts shall be socketed into material designated as competent rock on the boring legend and to the minimum rock penetrations and tip elevations shown in the plans. No adjustment to plan tip elevations shall be made without prior approval from the Engineer. Temporary casing may be required.

NONDESTRUCTIVE TESTING: Crosshole Sonic Logging (CSL) shall be performed on each shaft in accordance with Special Provision Job No. 080457 "Nondestructive Testing of Drilled Shafts".

PAINTING: All Grade 50 structural steel, except galvanized members and surfaces in contact with concrete, shall be painted as specified in Subsection 807.75. The color of paint shall be Brown and shall match Federal Standard 595B, Color Chip No. 20219.

TEXTURED COATING FINISH: Class 3 Textured Coating Finish shall be applied to bridge and retaining wall surfaces as specified in Special Provision Job No. 080457 "Textured Coating Finish" and in accordance with Subsection 802.19(b)(3). Textured Coating Finish shall not be applied on surfaces where Class 1 Protective Surface Treatment is applied.

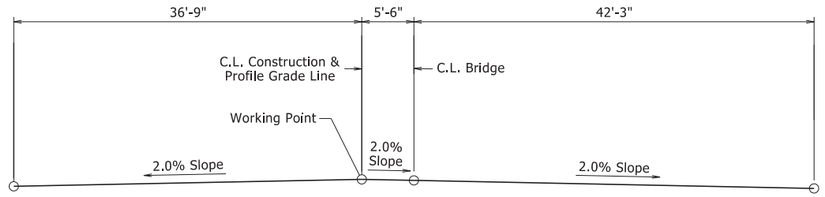
BRIDGE DECK: The concrete bridge deck, except sidewalks, shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall be given a Class 6 Broomed Finish.

PROTECTIVE SURFACE TREATMENT: Class 1 Protective Surface Treatment shall be applied to the roadway surface, sidewalk surface (including curbing), and to the roadway face and top of the concrete parapet rails in accordance with Section 803.

DETAIL DRAWINGS:

	DRAWING NOS.
End Bents	61864-61867 & 61874-61877
Intermediate Bents	61868-61870 & 61871-61873
Elastomeric Bearings	61878
346'-0" Cont. Plate Girder Unit	61879-61891
Deck Drains	61914
Concrete Parapet Railing	61915
Curved Chain Link Fence	61916
Retaining Walls	61917-61918
Type 1 Special Approach Slab	61924
General Notes For Steel Bridge Structures	55006
Details For Steel Bridge Structures	55007
Poured Silicone Joints	55008
Type H2 Railing	55015
Steel H-Piling	55020

MAINTENANCE OF TRAFFIC: See Roadway Plans.



BRIDGE DECK PROFILE
(Looking Ahead)
No Scale

⚠ POWDER COATING: All metal bridge railing and fencing shall receive a powder coating finish. Color shall be Dark Bronze as approved by the Engineer. See Std. Dwg. No. 55015 and Dwg. No. 61916 for additional information.

BY: KJT DATE: 10/29/2020
CHK: DHP DATE: 10/29/2020

Chain Link Fence Location Over R.R. R.O.W.		
Station Location	Right of C.L. Bridge	Left of C.L. Bridge
Start	178+20	178+38
End	179+25	179+43

CHAIN LINK FENCE LOCATION
No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Oct 30 2020 8:32 AM
Charles R. Ellis
DocuSign
BRIDGE ENGINEER

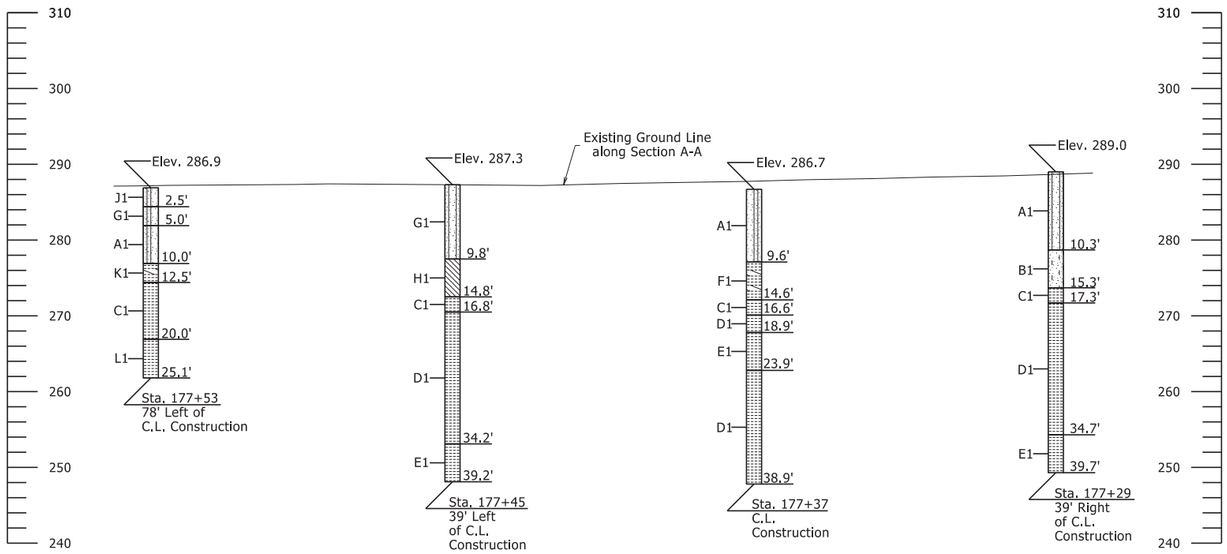
SHEET 2 OF 4
LAYOUT OF BRIDGE
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 8/19/2019 FILENAME: b080457_l1.dgn
CHECKED BY: DHP DATE: 10/29/2020 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 8/19/2019
BRIDGE NO. 07499 DRAWING NO. 61859

PRINT DATE: 10/29/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	228	517
				07499 - LAYOUT - 61860				



SECTION A-A

"N" VALUES - SECTION A-A

Sta. 177+29 - 39' Right of C.L. Construction
5.8 - 6.8, N=19
10.8 - 11.8, N=38
15.8 - 16.1, N=60 (4")

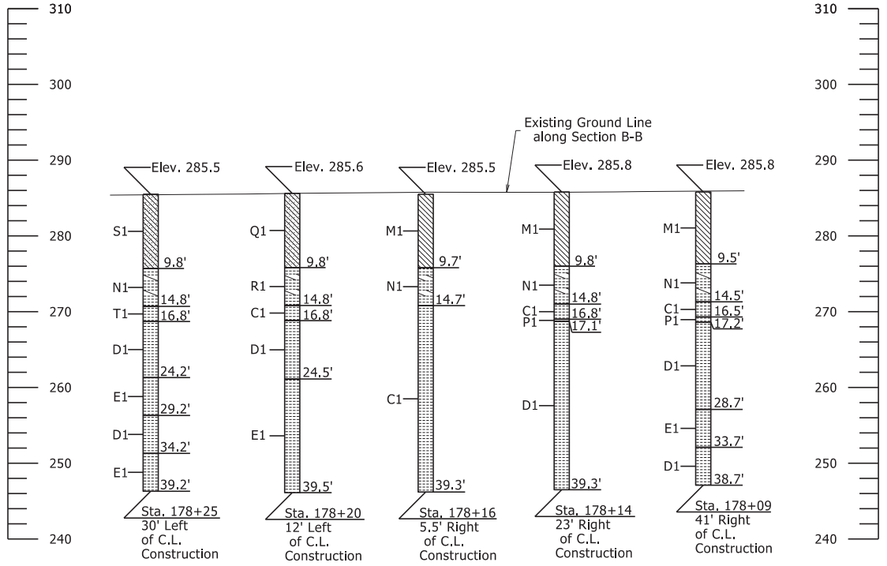
Sta. 177+37 - C.L. Construction
5.1 - 6.1, N=18
10.1 - 11.1, N=107
14.6 - 14.9, N=60 (4")

Sta. 177+45 - 39' Left of C.L. Construction
5.3 - 6.3, N=11
10.3 - 11.3, N=33
15.3 - 15.4, N=42 (1")

Sta. 177+53 - 78' Left of C.L. Construction
0.5 - 1.5, N=2
3.0 - 4.0, N=13
5.5 - 6.5, N=12
8.0 - 9.0, N=21
10.5 - 11.5, N=46
13.0 - 13.3, N=60 (4")
15.5 - 15.8, N=60 (4")
20 - 20.1, N=60 (1")
25 - 25.1, N=20 (1")

BORING LEGEND

A1-Dry, Medium Dense, Brown Sandy Silt
B1-Dy, Dense, Reddish Brown Silty Sand
C1-SHALE - Weathered, Medium Hard, Brown and Gray
D1-SHALE - Unweathered, Medium Hard, Dark Gray
E1-SHALE - Unweathered, Medium Hard, Occasional Fractures, Dark Gray
F1-SHALE - Highly Weathered, Medium Hard, Reddish Brown
G1-Moist, Medium Dense, Brown Sandy Silt
H1-Dry, Hard, Reddish Brown Clay
J1-Moist, Very Loose, Brown Sandy Silt
K1-SHALE - Highly Weathered, Soft, Reddish Brown
L1-SHALE - Unweathered, Hard, Dark Gray
M1-Moist, Very Stiff, Brown Clay
N1-SHALE - Highly Weathered, Medium Hard, Light Brown
P1-SHALE - Slightly Weathered, Medium Hard, Dark Gray
Q1-Dry, Very Stiff, Brown Clay with Sand
R1-SHALE - Highly Weathered, Soft, Light Brown
S1-Dry, Very Stiff, Brown and Gray Clay with Sand
T1-SHALE
U1-Asphalt
V1-Dry, Hard, Reddish Brown Sandy Clay with Some Gravel
W1-Dry, Very Hard, Reddish Brown and Light Gray Clay with Some Gravel
X1-Dry, Very Hard, Reddish Brown Sandy Clay with Gravel
Y1-Dry, Very Hard, Reddish Brown Clay with Some Gravel
Z1-SHALE - Highly Weathered, Medium Hard, Brown and Gray
A2-SHALE (No sample recovered)
B2-Moist, Very Hard, Reddish Brown Clay with Some Gravel
C2-Dry, Very Hard, Brown and Light Gray Clay
D2-SHALE - Weathered with Highly Weathered Layers, Medium Hard, Brown and Gray
E2-Moist, Hard, Brown and Light Gray Clay
F2-Dry, Hard, Brown and Light Gray Clay
G2-SHALE - Highly Weathered, Brown
H2-Moist, Dense, Reddish Brown Sand with Silt and Gravel
J2-SHALE - Highly Weathered, Medium Hard, Brown
K2-SHALE - Highly Weathered, Medium Hard, Brown and Dark Gray
L2-SHALE - Weathered, Medium Hard, Dark Gray
M2-Dry, Very Dense, Reddish Brown Sand with Silt and Some Gravel
N2-SHALE - Highly Weathered, Medium Hard with Soft Layers, Brown and Gray
P2-Dry, Hard, Reddish Brown and Light Gray Clay
Q2-SHALE - Weathered with Highly Weathered Layers, Medium Hard with Soft Layers, Brown and Gray
R2-Moist, Very Hard, Reddish Brown Clay
S2-SHALE - Weathered with Highly Weathered Layers, Medium Hard with Soft Layers, Occasional Fractures, Brown and Gray
T2-SHALE - Slightly Weathered, Medium Hard, Occasional Fractures, Dark Gray
U2-Dry, Very Hard, Reddish Brown Clay
V2-SHALE - Highly Weathered, Soft, Brown and Gray



SECTION B-B

"N" VALUES - SECTION B-B

Sta. 178+09 - 41' Right of C.L. Construction
5.0 - 6.0, N=20
10.0 - 11.0, N=70
15.0 - 15.6, N=94 (7")

Sta. 178+14 - 23' Right of C.L. Construction
5.3 - 6.3, N=20
10.3 - 10.6, N=105 (10")
14.8 - 15.2, N=60 (5")

Sta. 178+16 - 5.5' Right of C.L. Construction
5.2 - 6.2, N=28
10.2 - 10.2, N=92
15.2 - 15.3, N=35 (1")

Sta. 178+20 - 12' Left of C.L. Construction
5.3 - 6.3, N=28
10.3 - 11.3, N=60
15.3 - 15.5, N=36 (2")

Sta. 178+25 - 30' Left of C.L. Construction
5.3 - 6.3, N=30
10.3 - 11.3, N=64
14.8 - 14.9, N=30 (1")

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:45 AM
BRIDGE ENGINEER

SHEET 3 OF 4
LAYOUT OF BRIDGE
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

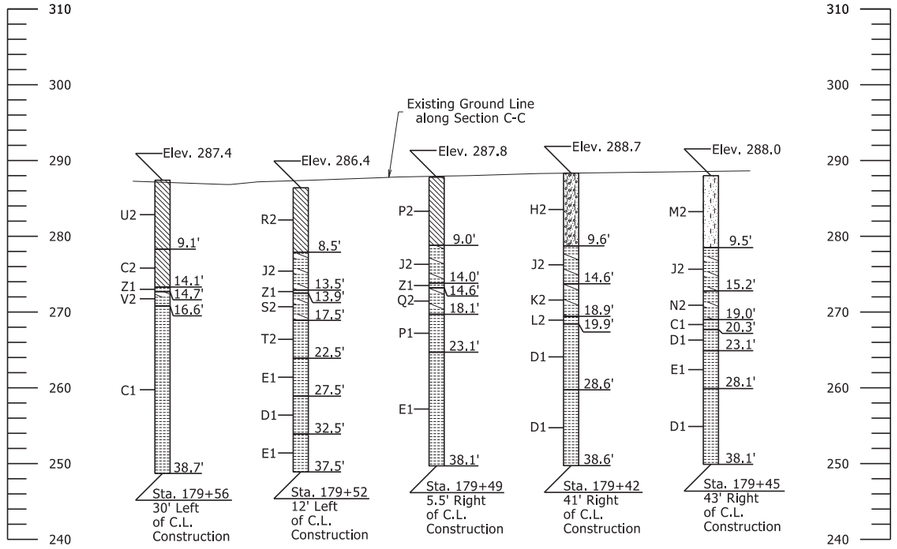
ROUTE 89 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 8/19/2019
CHECKED BY: DHP DATE: 8/31/2020
DESIGNED BY: DHP DATE: 8/19/2019
FILENAME: b080457_l1.dgn
SCALE: 1"=10'

BRIDGE NO. 07499
DRAWING NO. 61860

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	229	517
				07499 - LAYOUT - 61861				



SECTION C-C

"N" VALUES - SECTION C-C

Sta. 179+42 - 41' Right of C.L. Construction
5.1 - 6.1, N=44
10.1 - 10.9, N=100 (10")
14.6 - 15.0, N=60 (5")

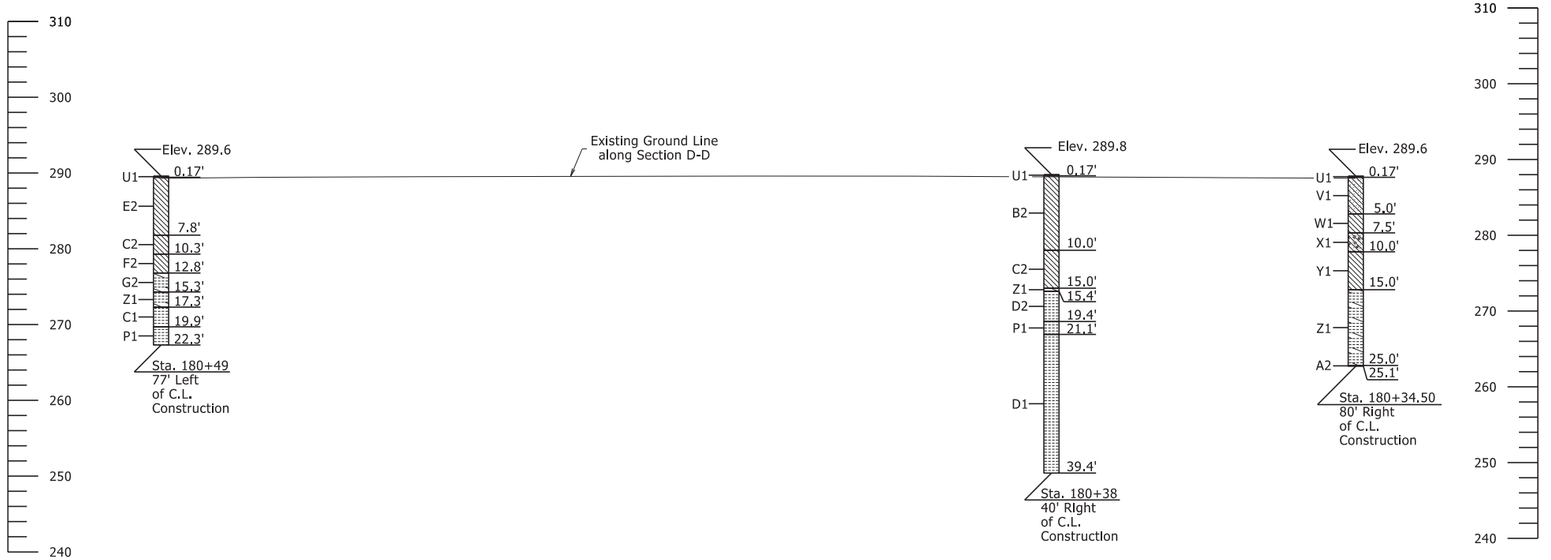
Sta. 179+45 - 23' Right of C.L. Construction
5.0 - 5.3, N=46 (4")
9.5 - 9.9, N=60 (5")
15.0 - 15.2, N=49 (2")

Sta. 179+49 - 5.5' Right of C.L. Construction
4.5 - 5.5, N=51
9.5 - 9.9, N=60 (5")
14.5 - 14.6, N=47 (1")

Sta. 179+52 - 12' Left of C.L. Construction
4.0 - 5.0, N=62
9.0 - 9.4, N=60 (5")
13.5 - 13.9, N=60 (5")

Sta. 179+56 - 30' Left of C.L. Construction
4.6 - 5.6, N=69
9.6 - 10.5, N=95 (11")
14.6 - 14.7, N=41 (1")

For Boring Legend, see Dwg. No. 61860.



SECTION D-D

"N" VALUES - SECTION D-D

Sta. 180+34.5 - 80' Right of C.L. Construction
3.0 - 4.0, N=59
5.5 - 6.5, N=78
8.0 - 8.9, N=100 (11")
10.5 - 11.5, N=68
13.0 - 14.0, N=97
15.5 - 15.8, N=60 (4")
20.0 - 20.3, N=60 (4")
25.0 - 25.1, N=25 (1")

Sta. 180+38 - 40' Right of C.L. Construction
5.5 - 6.5, N=95
10.5 - 10.9, N=60 (5")
15.0 - 15.4, N=60 (5")

Sta. 180+49 - 77' Left of C.L. Construction
5.8 - 6.8, N=56
8.3 - 9.1, N=93 (10")
10.8 - 11.8, N=45
15.8 - 16.1, N=60 (4")

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:45 AM
BRIDGE ENGINEER

SHEET 4 OF 4
LAYOUT OF BRIDGE
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

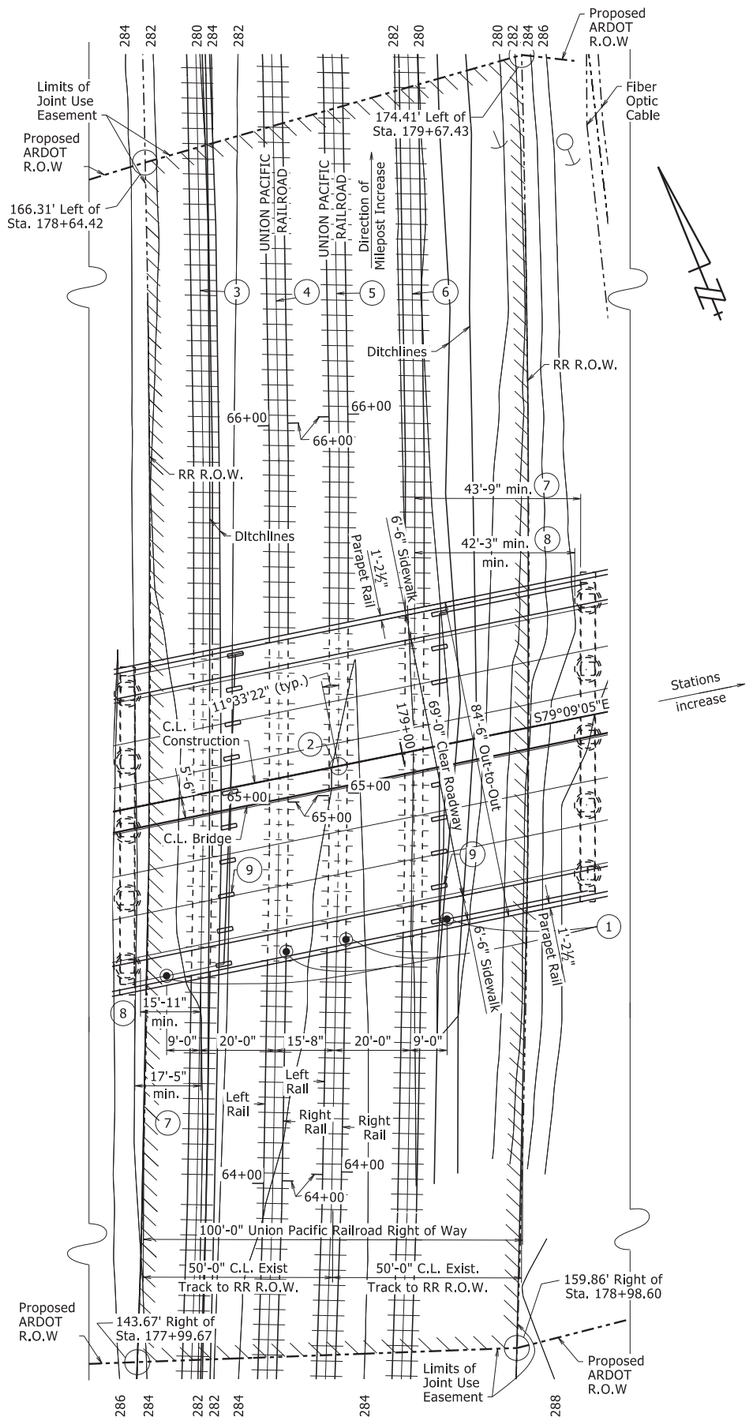
ROUTE 89 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 8/19/2019
CHECKED BY: DHP DATE: 8/31/2020
DESIGNED BY: DHP DATE: 8/19/2019
FILENAME: b080457_l1.dgn
SCALE: 1"=10'

BRIDGE NO. 07499
DRAWING NO. 61861

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	230	517
				1	07499 - EXHIBIT A - 61862			



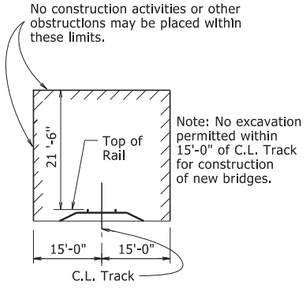
LOCATION PLAN
1"=20'

GENERAL NOTES:

1. Site(s) shall be accessed without crossing track(s) except at existing road crossing(s), unless explicit approvals have been obtained from UPRR.
2. The elevations of the existing top-of-rail profile shall be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.
3. Currently there are no known utilities on the Railroad right-of-way. UPRR "Call Before You Dig"1-800-336-9193 shall be contacted prior to construction.
4. Construction shall comply with requirements noted in Special Provision "Insurance, Construction, and Flagging Requirements on Railroad Property", including the use of permanent steel deck pans over the railroad right-of-way.
5. The proposed grade separation project shall not change the quantity and/or characteristics of the flow in the Railroad ditches and/or drainage structures. Existing drainage patterns will be maintained. Closed parapet railing (no deck drains) are typical on both sides of the bridge deck over the Railroad right-of-way.
6. The Contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad prior to beginning any grading on the project site.
7. Temporary construction clearances, including falsework clearances, shall comply with the details shown in "Minimum Construction Clearance Envelope". All unauthorized equipment, materials, and personnel shall remain outside this envelope.
8. All shoring systems that impact the Railroad's operations and/or supports the Railroad's embankment shall be designed and constructed per the Railroad temporary shoring requirements.
9. Erection over the Railroad right-of-way shall be designed to cause no interruption to all Railroad operations. Falsework will not be allowed in the Railroad right-of-way without Railroad approval.
10. All personnel must clear the area within 25 feet of track and secure all equipment during the approach and passage of a train. All work within 50 feet of track must cease during the approach and passage of a train.
11. All permanent clearances shall be verified before project closeout.
12. All demolition within the Railroad right-of-way and/or demolition that may impact the Railroad tracks or operations shall comply with the Railroad demolition requirements.
13. "The State shall not plow ice, snow, or sleet over the sides of the structure. In consideration of this practice, the Carrier waives its request for the State to attach splash boards to sides of the structure." This statement is in the State-Railroad Agreement.

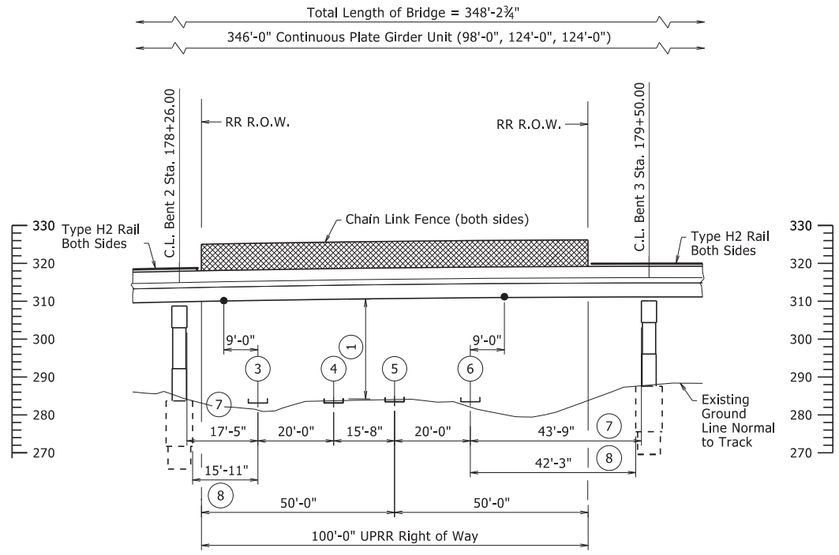
Track	Location	(1) Min. Vert. Clear.
UPRR Track No. 1	29'-0" Left of C.L. Track	23'-6"
	At Right Rail	24'-9"
UPRR Track No. 2	At Right Rail	24'-5"
	29'-0" Right of C.L. Track	24'-9"

Minimum Vertical Clearances shown are after all permanent dead loads are applied to the structure and are measured from the lowest steel girder element at the location indicated, including field splice elements where applicable.



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE
Normal to Track
No Scale

(2) Intersection of C.L. Construction and C.L. UPRR Track No. 2 at Station a 178+82.83, Approx. Railroad Mile Post 364.66.
(3) C.L. Future Track No. 1
(4) C.L. UPRR Track No. 1
(5) C.L. UPRR Track No. 2
(6) C.L. Future Track No. 2
(7) Min. horizontal clearance to face of cap.
(8) Min. horizontal clearance to face of 7'-0"Ø casing.
(9) Proposed field splice locations within UPRR Right of Way.



SECTION NORMAL TO TRACK
Looking in direction of Milepost Increase
No Scale

SHEET 1 OF 2
EXHIBIT A
LAYOUT OF BRIDGE
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

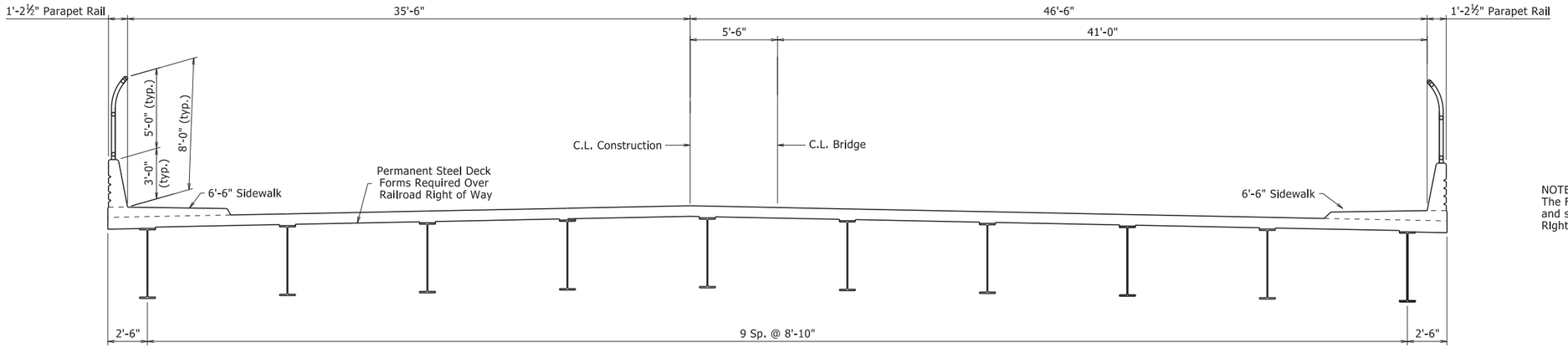
Sep 29 2020 10:53 AM
BRIDGE ENGINEER

DRAWN BY: KJT DATE: 08/19
CHECKED BY: DHP DATE: 9/28/2020
DESIGNED BY: DHP DATE: 8/19/19
FILENAME: b080457_exA.dgn
SCALE: AS NOTED

BRIDGE NO. 07499 DRAWING NO. 61862

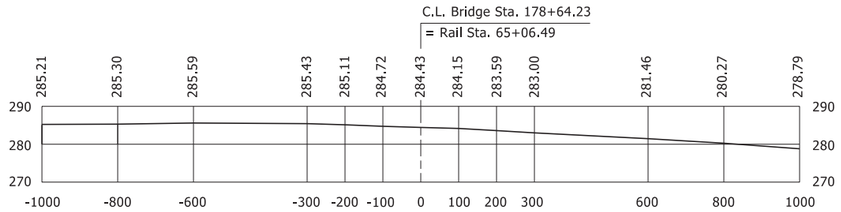
PRINT DATE: 9/28/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	231	517
				①		07499 - EXHIBIT A - 61863		

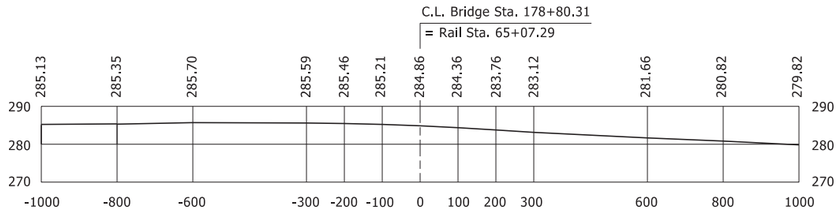


NOTE: A Chain Link Fence is required on both sides of bridge. The Fence shall be mounted on top of the concrete parapet rail and shall extend across the width of the Union Pacific Railroad Right of Way. For details of fence, see Dwg. No. 61916.

TYPICAL SECTION
No Scale

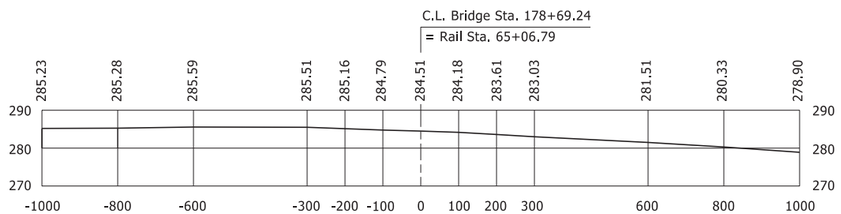


PROFILE ALONG TOP OF LEFT RAIL OF UPRR TRACK NO.1
No Scale

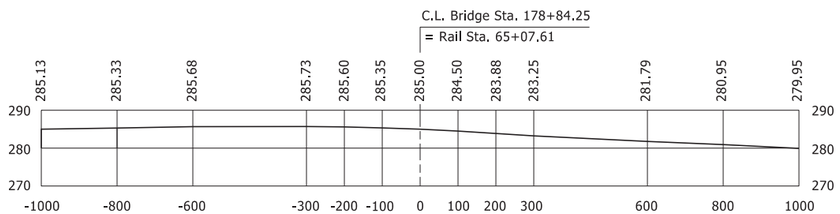


PROFILE ALONG TOP OF LEFT RAIL OF UPRR TRACK NO.2
No Scale

Direction of Milepost Increase



PROFILE ALONG TOP OF RIGHT RAIL OF UPRR TRACK NO.1
No Scale



PROFILE ALONG TOP OF RIGHT RAIL OF UPRR TRACK NO.2
No Scale

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Ellis, Rick
Sep 29 2020 10:54 AM
BRIDGE ENGINEER

SHEET 2 OF 2
EXHIBIT A
LAYOUT OF BRIDGE
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 5

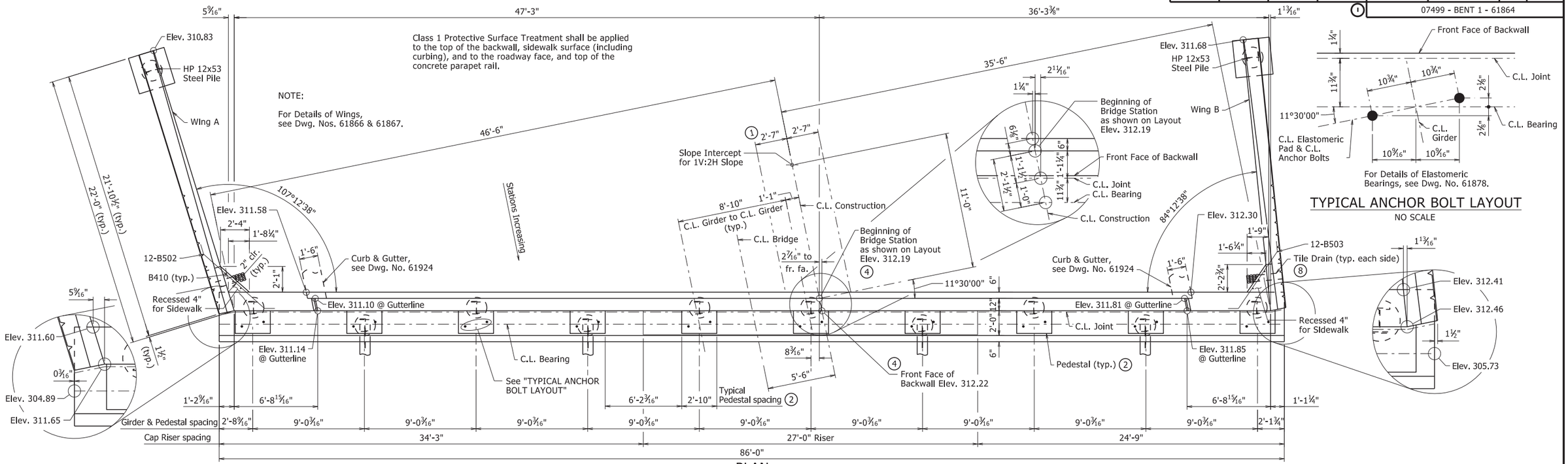
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	KJT	DATE:	08/19	FILENAME:	b080457_exA.dgn
CHECKED BY:	DHP	DATE:	9/22/2020	SCALE:	AS NOTED
DESIGNED BY:	DHP	DATE:	8/19/19		

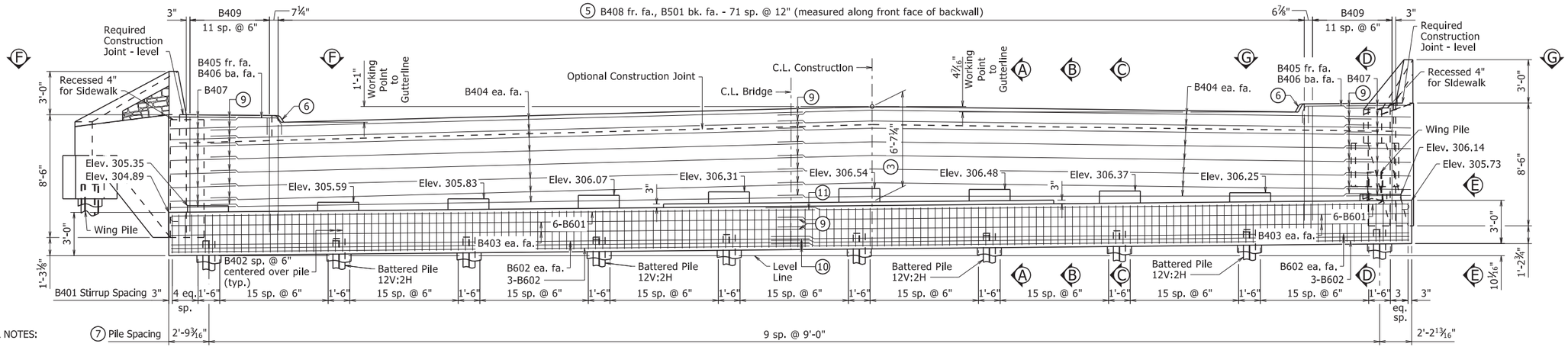
BRIDGE NO. 07499 DRAWING NO. 61863

PRINT DATE: 9/22/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	232	517
				(1)		07499 - BENT 1 - 61864		



PLAN
¼"=1'-0"



ELEVATION
Looking Back
¼"=1'-0"

GENERAL NOTES:

For General Notes, see Std. Dwg. No. 55006.

For Joint Details see Std. Dwg. No. 55008 & "SIDEWALK SECTION THRU JOINT AT END BENT" on Dwg No. 61881.

Structural steel in Bent 1 shall be ASTM A709, Gr. 50 and shall be paid for as "Structural Steel in Plate Girder Spans (A709, Gr. 50)".

All piling shall be Grade 50. For details of steel piling, see Std. Dwg. No. 55020.

No portion of the backwall shall be poured before the girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the adjacent deck pour has been made. Refer to the "EXPANSION DEVICE INSTALLATION AT END BENTS" note on Std. Dwg. No. 55008. No heavy construction equipment shall be allowed within 10' of the backwall before the deck concrete placement for the adjacent span has been completed unless MSE strap reinforcing has been designed to accommodate these loads, see "BENT STRAP DETAIL," Dwg. No. 61865.

For additional information, see Layout.

NOTES:

(1) See "ROUNDING DETAIL" on Std. Dwg. No. 55007.

(2) Pedestals shall be cast level at the elevations shown in "ELEVATION". See Dwg. No. 61865 for "PEDESTAL PLAN" & "TYPICAL PEDESTAL DETAILS".

(3) Measured at C.L. Construction at Front Face of Backwall to Working Point.

(4) Measured at Working Point.

(5) See Dwg. No. 61865 for "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D" "VIEW E-E", "VIEW F-F" & "VIEW G-G" for placement of reinforcing.

(6) See Dwg. No. 61865 for "SIDEWALK & CURB DETAIL".

(7) See Dwg. No. 61865 for "LAYOUT OF PILES".

(8) Place 6"ø tile drains approx. 6" above fill slope. Spread bars as required. Place 6 cu. ft. of sacked ¾" crushed rock or gravel at each drain. All work and materials to install drains shall be subsidiary to "Class S Concrete."

(9) 1'-9" minimum lapped splice length

(10) 2'-8" minimum lapped splice length

(11) 3'-5" minimum lapped splice length

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 2 2020 8:45 AM
Charles R. Ellis
DocuSigned
BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	03/05/2020
CHECKED BY:	DHP	DATE:	08/26/2020
DESIGNED BY:	KJT	DATE:	02/2020

FILENAME: b080457x1_b1.dgn
SCALE: AS NOTED

BRIDGE NO. 07499
DRAWING NO. 61864

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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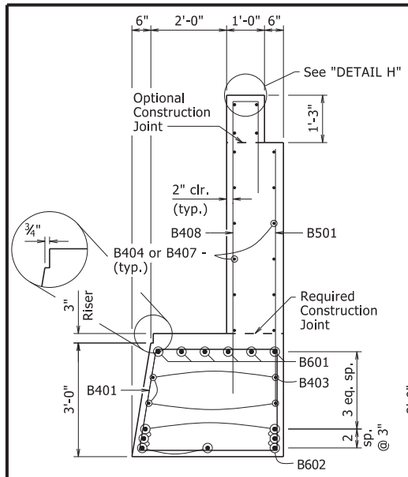
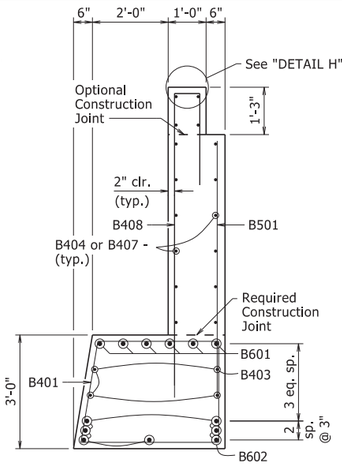
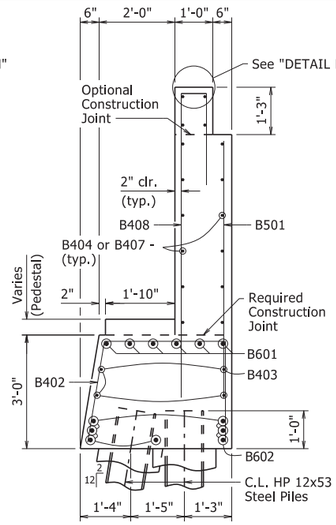
				JOB NO.		080457	233	517
				①	07499 - BENT 1 - 61865			



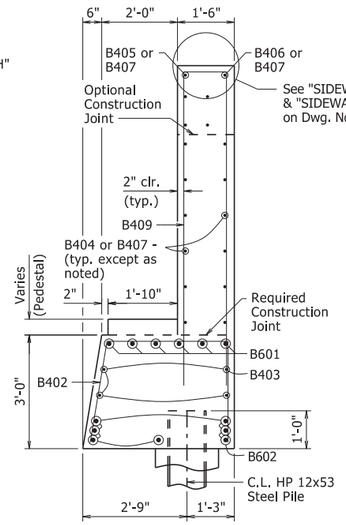
SECTION A-A
½"=1'-0"



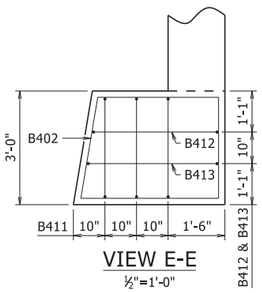
SECTION B-B
½"=1'-0"



SECTION C-C
½"=1'-0"

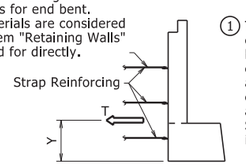


SECTION D-D
½"=1'-0"



VIEW E-E
½"=1'-0"

MSE wall supplier shall design & furnish attachments for end bent. This work and materials are considered incidental to the item "Retaining Walls" and will not be paid for directly.



① The provided loads do not include any additional loadings due to heavy construction equipment such as cranes. If the Contractor anticipates bringing heavy construction equipment within 10' of the backwall, they shall coordinate with the MSE wall supplier to design strap reinforcing for the anticipated loadings. Tolerable horizontal backwall movement for all loading combinations is 0.2" at the Service Limit State. Design computations shall accompany the wall design submittal for review by the Engineer. See Special Provision Job No. 080457 "Retaining Walls" for additional information.

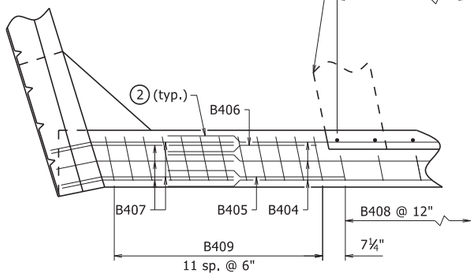
T = Resultant force required to be resisted by strap reinforcing

Y = Centroid of resultant force

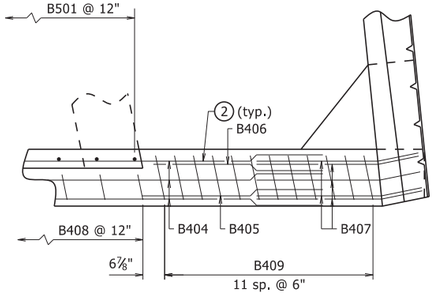
Limit State	①T Kips/Ft.	Y Ft.
Service	3.00	3
Strength	4.00	3

BENT STRAP DETAIL
NO SCALE

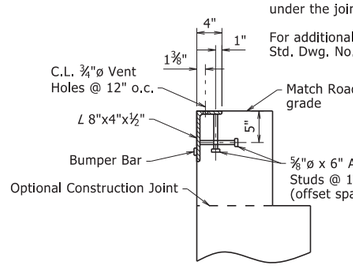
② 1'-9" minimum splice length



VIEW F-F
NO SCALE



VIEW G-G
NO SCALE

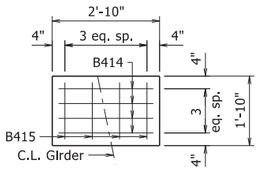


DETAIL H
NO SCALE

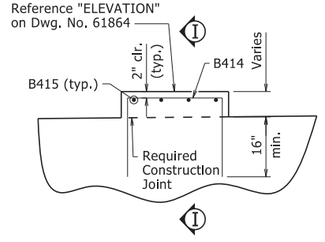
NOTES: Transverse spacing between vertical anchor studs and vent holes shall be 6".

Concrete shall be hand packed under the joint armor.

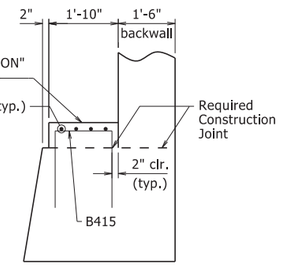
For additional joint details, see Std. Dwg. No. 55008.



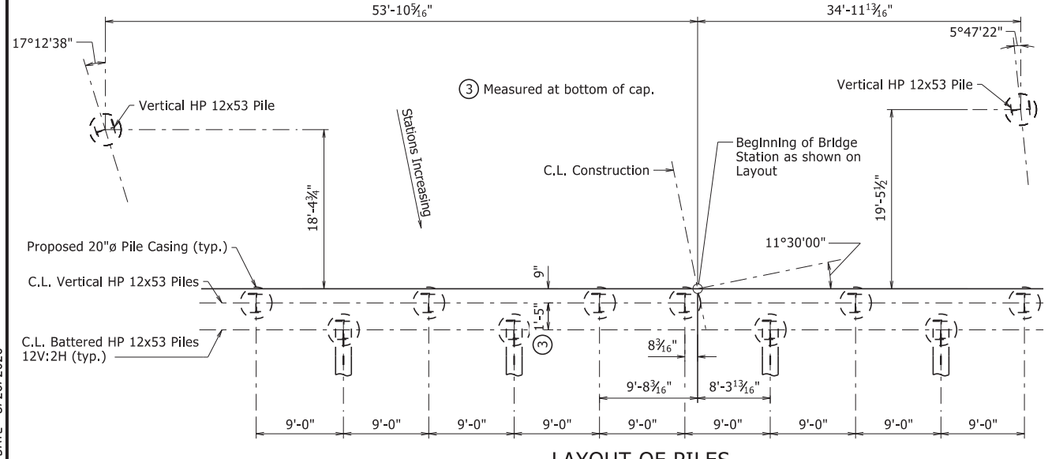
PEDESTAL PLAN
½"=1'-0"



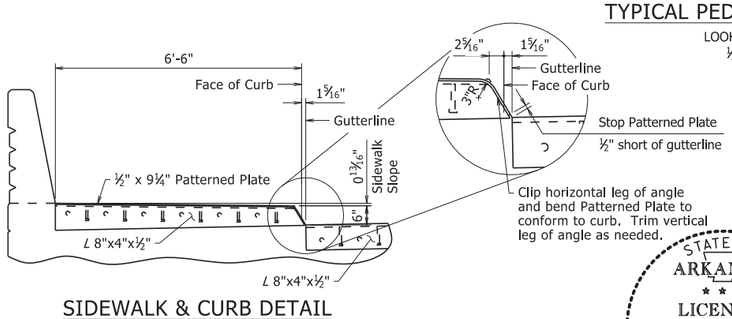
TYPICAL PEDESTAL DETAILS
LOOKING BACK
½"=1'-0"



SECTION I-I
½"=1'-0"



LAYOUT OF PILES
NO SCALE



SIDEWALK & CURB DETAIL
NO SCALE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:46 AM
BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER UPRR & HIGHWAY 365

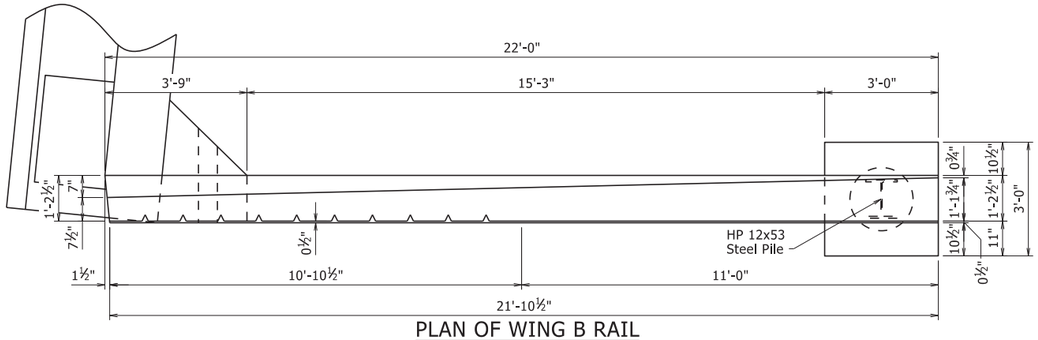
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 03/05/2020 FILENAME: b080457x1_b1.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: AS SHOWN
DESIGNED BY: KJT DATE: 02/2020

BRIDGE NO. 07499 DRAWING NO. 61865

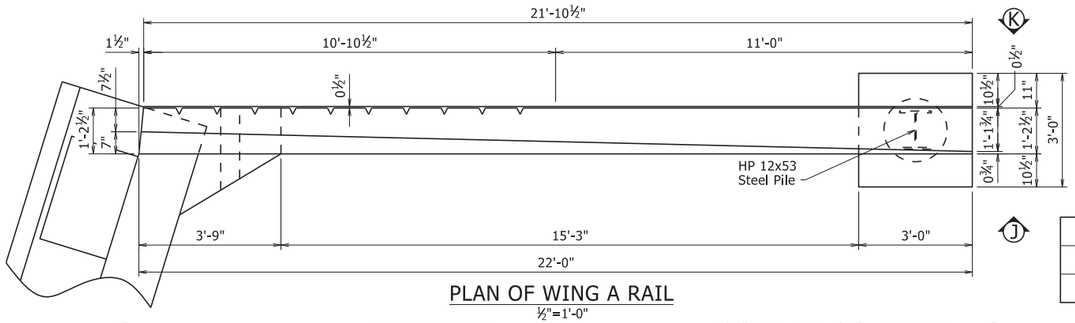
PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	234	517
				07499 - BENT 1 - 61866				



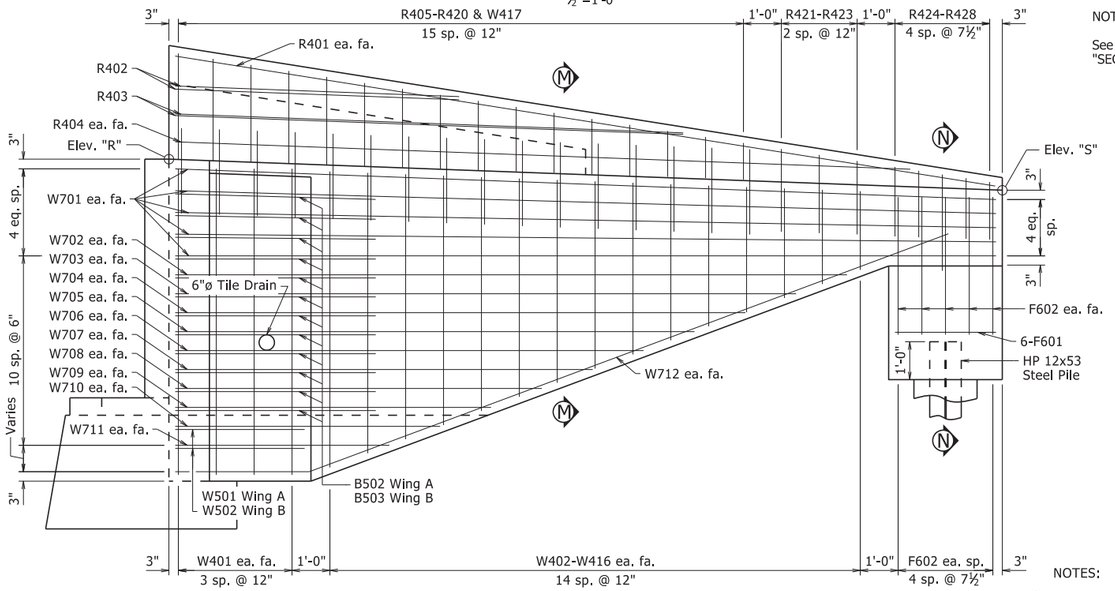
PLAN OF WING B RAIL

½"=1'-0"



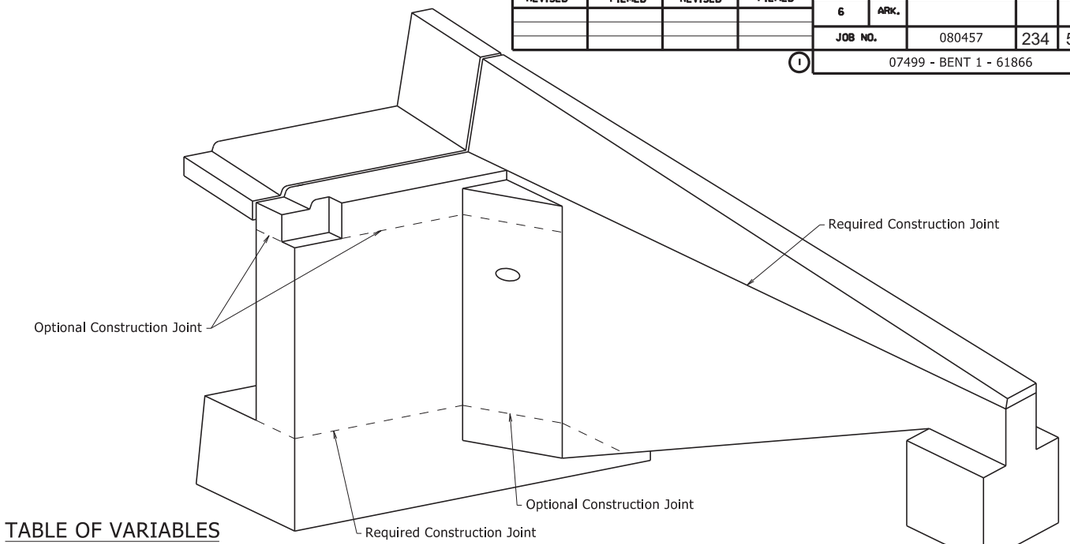
PLAN OF WING A RAIL

½"=1'-0"



VIEW J-J

½"=1'-0"



THREE DIMENSIONAL VIEW OF WING

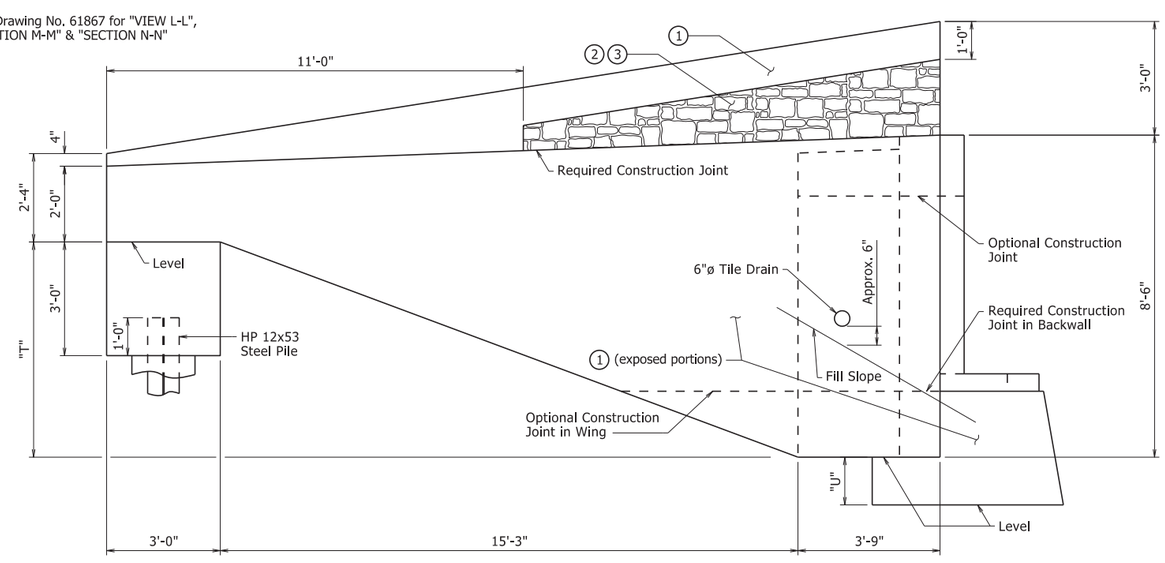
NO SCALE

TABLE OF VARIABLES

WING	ELEV. "R"	ELEV. "S"	"T"	"U"
A	311.65	310.83	5'-8 3/16"	1'-3⅛"
B	312.46	311.68	5'-8⅝"	1'-2¾"

NOTE:

See Drawing No. 61867 for "VIEW L-L", "SECTION M-M" & "SECTION N-N"



VIEW K-K

½"=1'-0"

NOTES:

1. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)
2. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)
3. "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:46 AM

BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 03/05/2020
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 02/2020
FILENAME: b080457x1_b1.dgn
SCALE: AS NOTED

BRIDGE NO. 07499 DRAWING NO. 61866

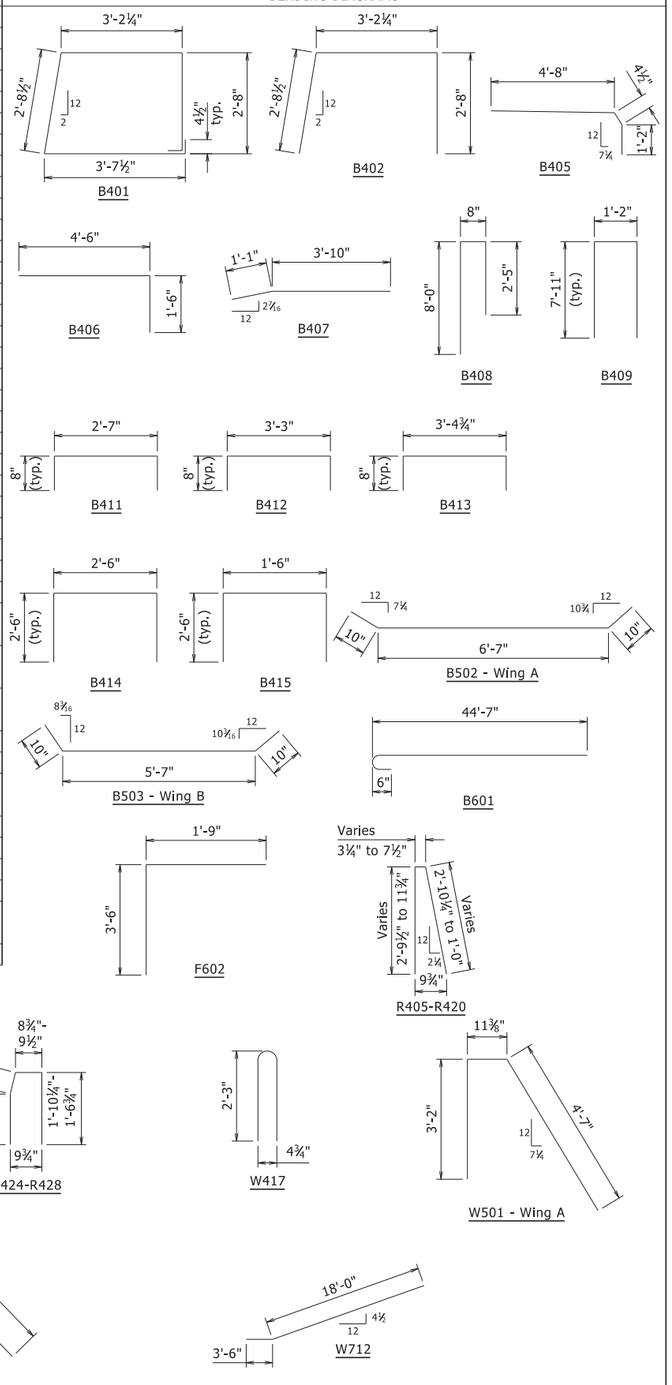
PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	235	517
				①		07499 - BENT 1 - 61867		

BAR LIST

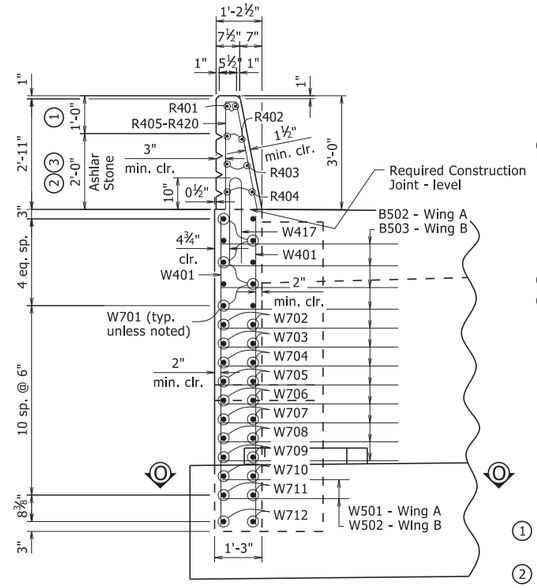
MARK	NO. REQ'D	LENGTH	P.D.
B401	153	12'-7"	2"
B402	20	8'-5"	2"
B403	8	43'-9"	Str.
B404	32	41'-0"	Str.
B405	2	6'-3"	2"
B406	2	5'-11"	2"
B407	36	4'-11"	2"
B408	72	10'-11"	2"
B409	24	16'-10"	2"
B410	6	7'-10"	Str.
B411	6	3'-9"	2"
B412	2	4'-5"	2"
B413	2	4'-7"	2"
B414	40	7'-4"	2"
B415	40	6'-4"	2"
B501	72	7'-1"	Str.
B502	12	8'-3"	3¾"
B503	12	7'-3"	3¾"
B601	12	45'-3"	4½"
B602	14	44'-2"	Str.
F601	12	2'-8"	Str.
F602	20	5'-1"	4½"
R401	4	21'-11"	Str.
R402	4	7'-6"	Str.
R403	4	13'-5"	Str.
R404	4	19'-5"	Str.
R405-R420	2 ea.	5'-10" to 2'-6"	2"
R421-R423	2 ea.	5'-0" to 4'-7"	2"
R424-R428	2 ea.	4'-4" to 3'-10"	2"
W401	16	8'-1"	Str.
W402-W416	4 ea.	7'-10" to 2'-1"	Str.
W417	32	4'-8"	3¾"
W501	2	8'-7"	3¾"
W502	2	8'-1"	3¾"
W701	20	21'-8"	Str.
W702-W711	4 ea.	17'-8" to 5'-8"	Str.
W712	4	21'-6"	5¼"

BENDING DIAGRAMS

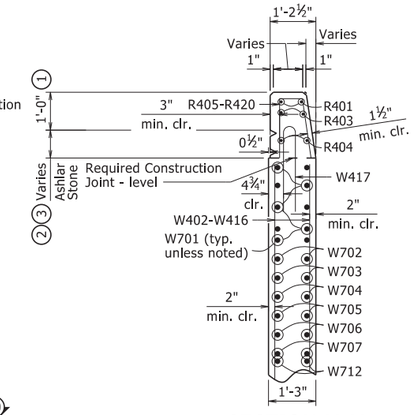


Dimensions are out to out of bars.

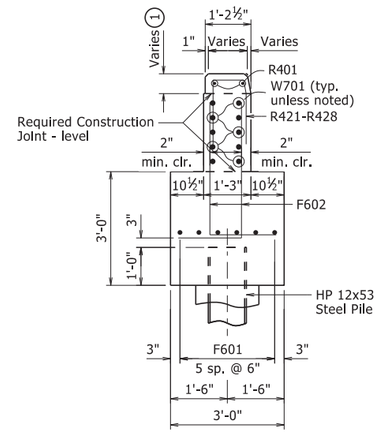
PRINT DATE: 8/26/2020



VIEW L-L



SECTION M-M



SECTION N-N

NOTES:

① Class 3 Textured Coating Finish
(Color = Brown, Color Chip No. 33522)

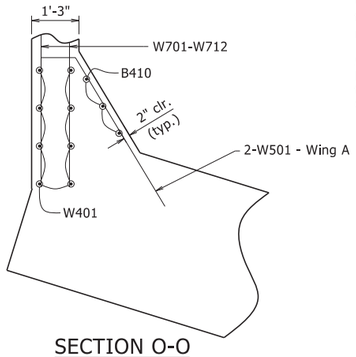
② Class 3 Textured Coating Finish
(Color = Brown, Color Chip No. 30219)

③ "Ashlar Stone" Pattern Form Liner
See SP Job 080457 "Architectural Finish".

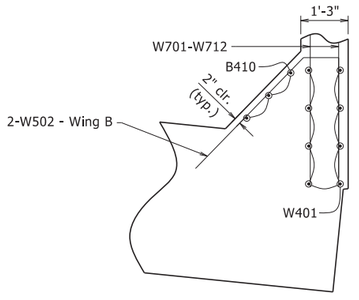
NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.



SECTION O-O
Wing A



SECTION O-O
Wing B

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:46 AM
Charles R. Ellis
DocuSign
BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER UPRR & HIGHWAY 365

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

DRAWN BY:	CGP	DATE:	03/05/2020	FILENAME:	b080457x1_b1.dgn
CHECKED BY:	DHP	DATE:	08/26/2020	SCALE:	1/2"=1'-0"
DESIGNED BY:	KJT	DATE:	02/2020		

BRIDGE NO. 07499 DRAWING NO. 61867

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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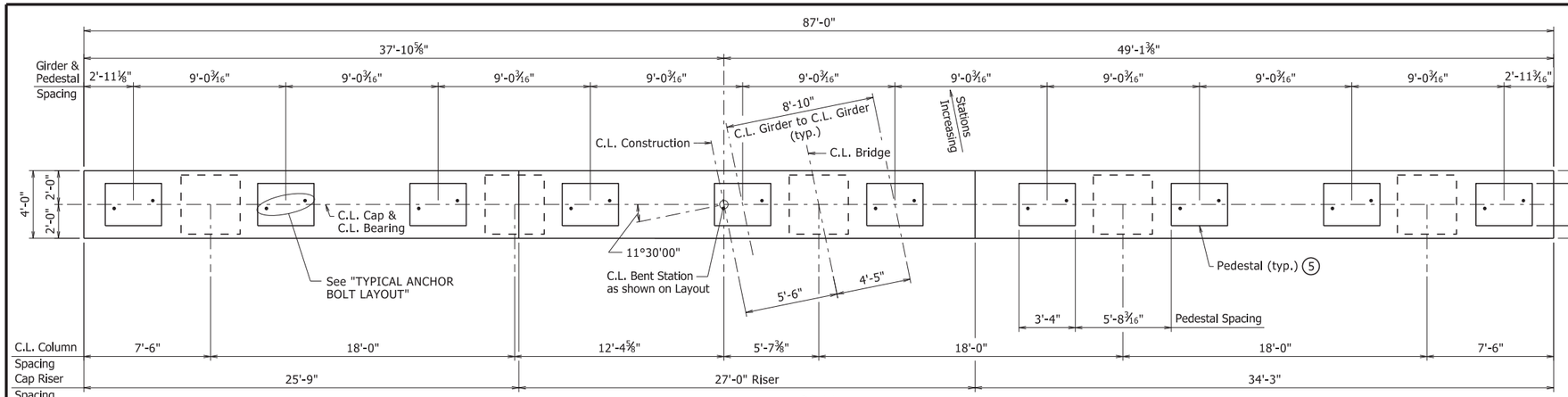
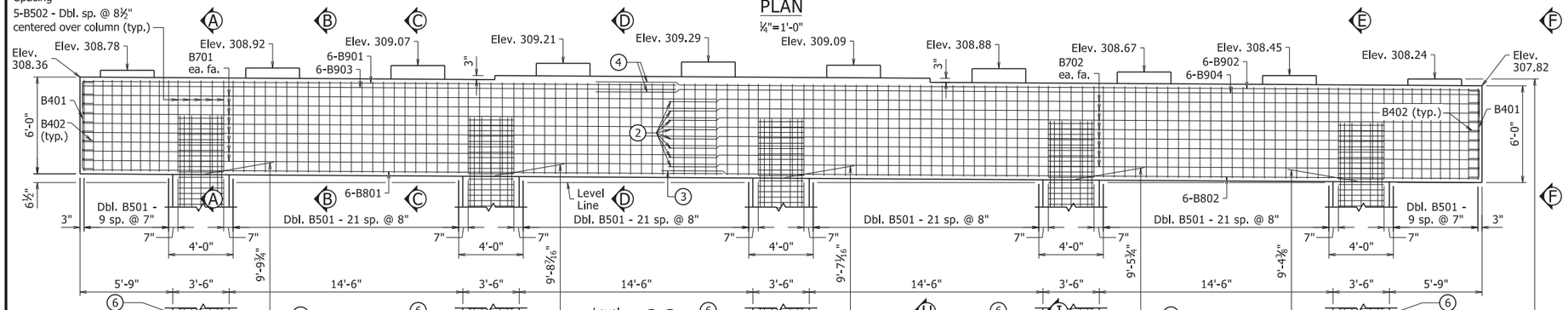
				JOB NO.		080457	236	517
				07499 - BENT 2 - 61868				

1



PLAN

¼"=1'-0"



ELEVATION

Looking Ahead

¼"=1'-0"

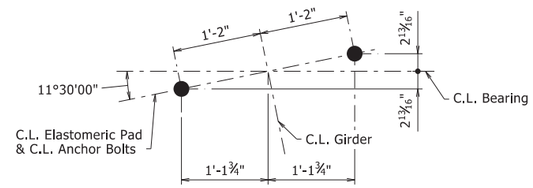
NOTES:

1. 2'-2" min. lapped splice length for #5 bar
2. 3'-0" min. lapped splice length for #7 bar
3. 3'-5" min. lapped splice length for #8 bar
4. 5'-0" min. lapped splice length for #9 bar
5. Pedestals shall be cast level at the elevations shown in "ELEVATION". See Dwg. No. 61869 for "PEDESTAL PLAN" & "TYPICAL PEDESTAL DETAILS".
6. See "FRONT VIEW - BENT AESTHETICS" & "END VIEW - BENT AESTHETICS" for placement of Ashlar Stone on Dwg. No. 61870.
7. Minimum penetration into Competent Rock below permanent casing.
8. Length of Permanent casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job No. 080457 "DRILLED SHAFT FOUNDATIONS", Permanent casing shall not extend below top of Competent Rock without approval from the Engineer.
9. Remove sediment, laitance and weak concrete to sound concrete prior to setting column reinforcement. For additional information, see Special Provision Job No. 080457 "DRILLED SHAFT FOUNDATIONS".
10. See "SECTION G-G" on Dwg. No. 61869 for location of reinforcing.

See Dwg. No. 61869 for "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D", "VIEW F-F", SECTION "G-G", "SECTION H-H", "SECTION I-I", "SECTION J-J", "SECTION K-K", "SECTION L-L" & "SECTION M-M"

For General Notes, see Std. Dwg. No. 55006.

For additional information, see Layout.

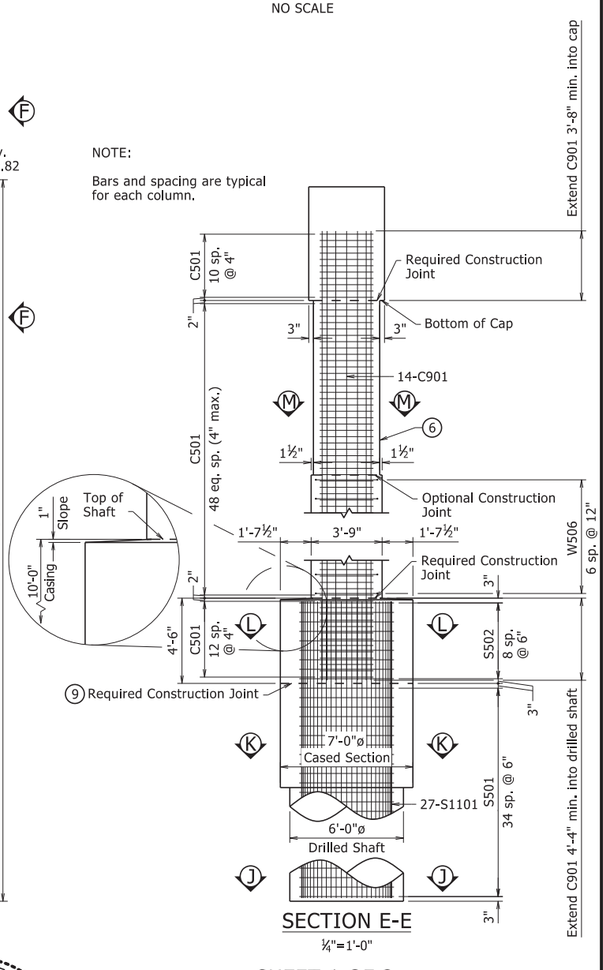


TYPICAL ANCHOR BOLT LAYOUT

NO SCALE

NOTE:

Bars and spacing are typical for each column.



SECTION E-E

¼"=1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:46 AM

BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 2
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

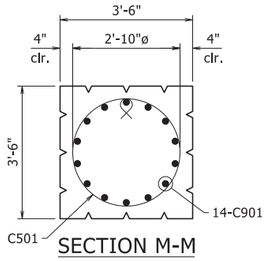
LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	06/17/2020	FILENAME:	b080457x1_b2.dgn
CHECKED BY:	DHP	DATE:	08/26/2020	SCALE:	AS NOTED
DESIGNED BY:	KJT	DATE:	02/2020		

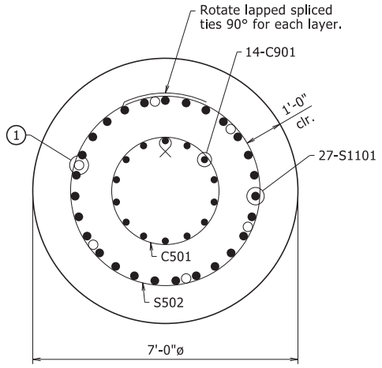
BRIDGE NO. 07499 DRAWING NO. 61868

PRINT DATE: 8/26/2020

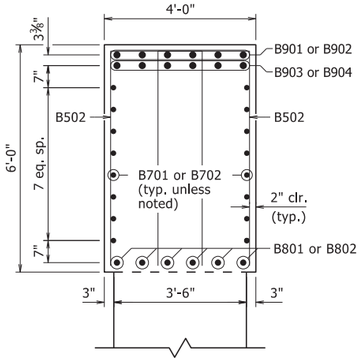
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	237	517
				①		07499 - BENT 2 - 61869		



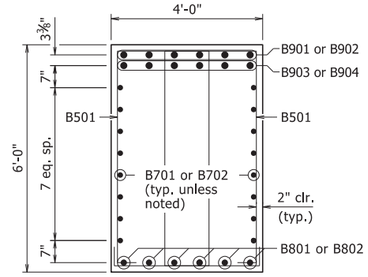
SECTION M-M
½"=1'-0"



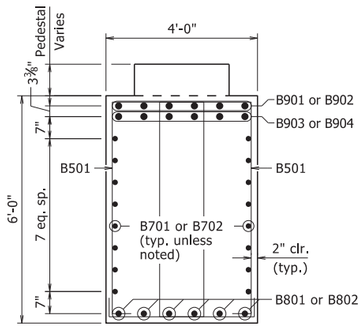
SECTION L-L
½"=1'-0"



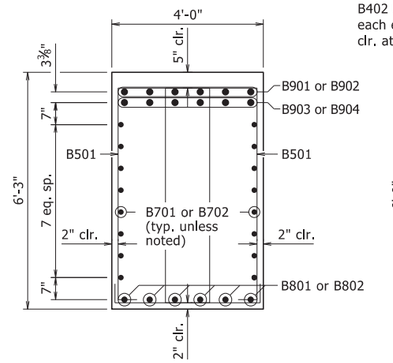
SECTION A-A
½"=1'-0"



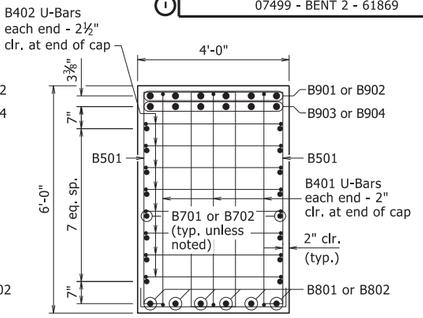
SECTION B-B
½"=1'-0"



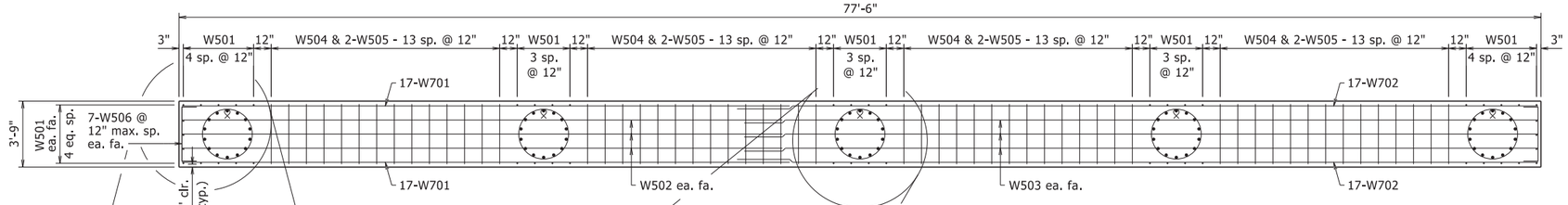
SECTION C-C
½"=1'-0"



SECTION D-D
½"=1'-0"

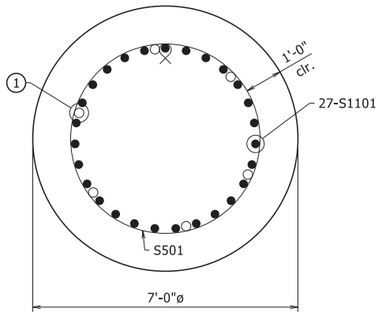


VIEW F-F
½"=1'-0"

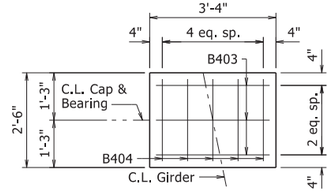


SECTION G-G
¼"=1'-0"

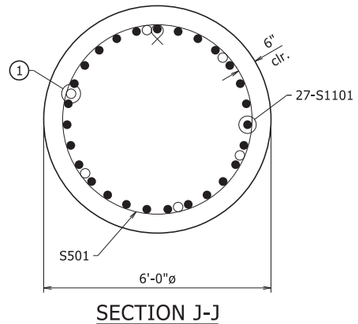
① 6-1½"ø min. Schedule 40 Steel Pipes equally spaced. See Job SP "NONDESTRUCTIVE TESTING OF DRILLED SHAFTS".



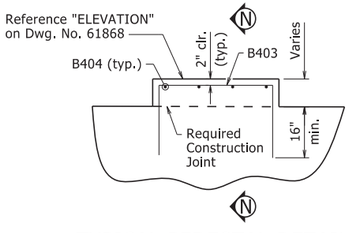
SECTION K-K
½"=1'-0"



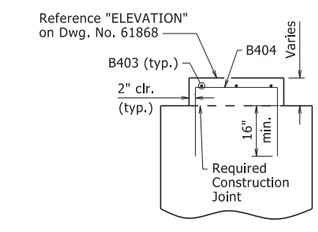
PEDESTAL PLAN
½"=1'-0"



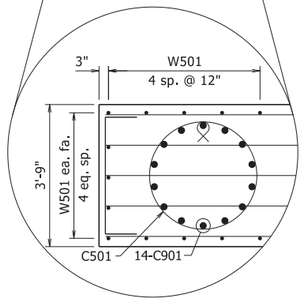
SECTION J-J
½"=1'-0"

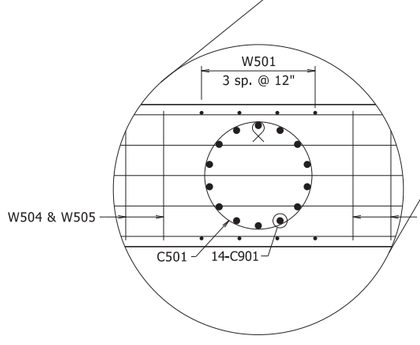


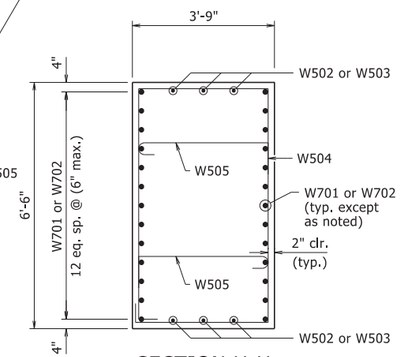
TYPICAL PEDESTAL DETAILS
LOOKING AHEAD
½"=1'-0"



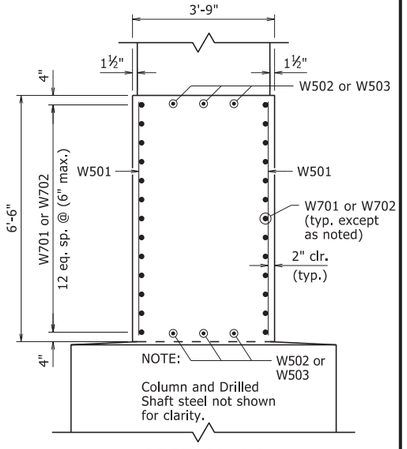
SECTION N-N
½"=1'-0"







SECTION H-H
½"=1'-0"



SECTION I-I
½"=1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:46 AM
DocuSigned by: Charles R. Ellis
BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 2
HIGHWAY 89 OVER UPRR & HIGHWAY 365

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

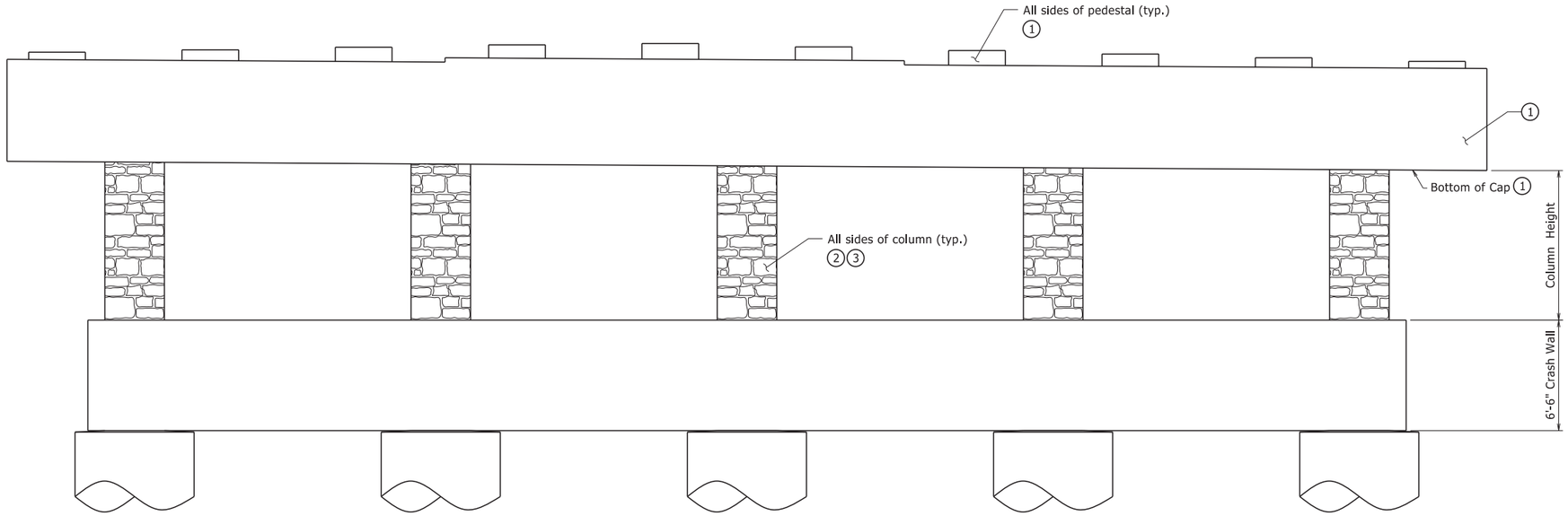
DRAWN BY: CGP DATE: 06/17/2020
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 02/2020
FILENAME: b080457x1_b2.dgn
SCALE: AS NOTED

BRIDGE NO. 07499
DRAWING NO. 61869

PRINT DATE: 8/31/2020

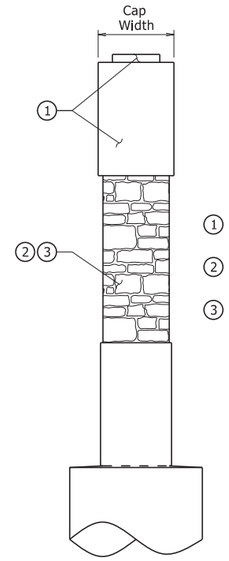
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	238	517
①	07499 - BENT 2 - 61870			



FRONT VIEW - BENT AESTHETICS

Looking Ahead



END VIEW - BENT AESTHETICS

NOTES:

1. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)
2. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)
3. "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

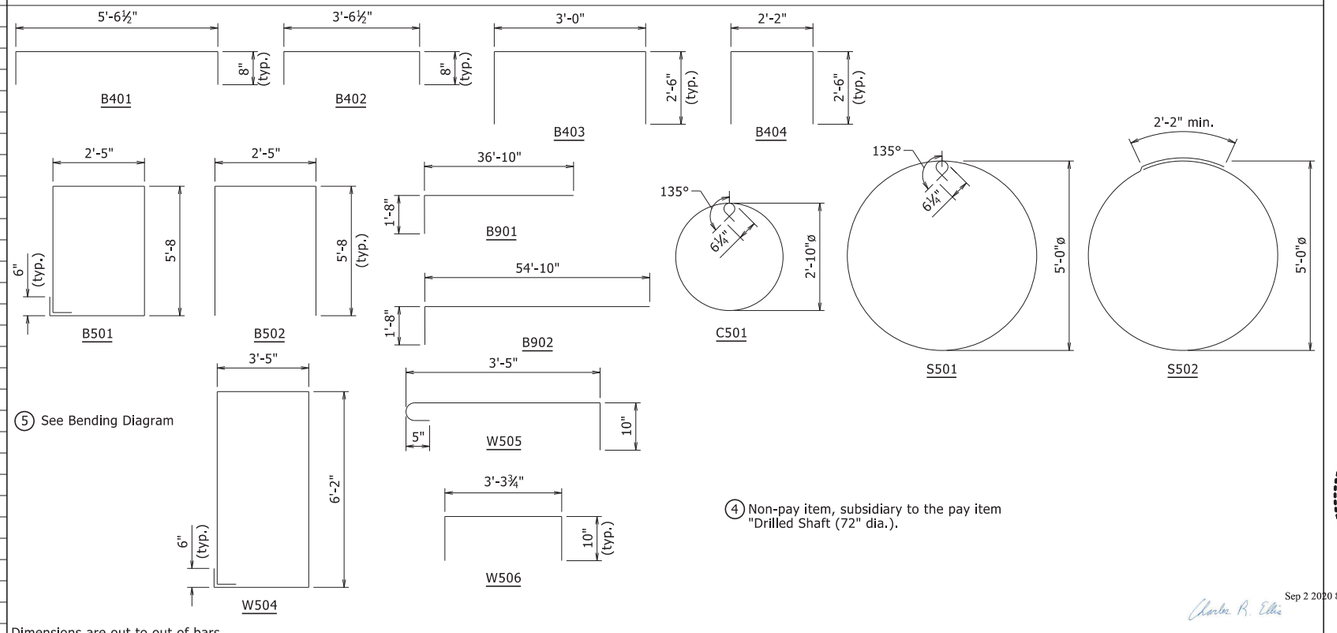
Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to column reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

BAR LIST

MARK	NO. REQ'D	LENGTH	P.D.
B401	6	6'-9"	2"
B402	16	4'-9"	2"
B403	30	7'-10"	2"
B404	50	7'-0"	2"
B501	216	16'-8"	2½"
B502	50	13'-7"	2½"
B701	16	39'-4"	Str.
B702	16	50'-4"	Str.
B801	6	39'-7	Str.
B802	6	50'-7	Str.
B901	6	38'-3"	9"
B902	6	56'-3"	9"
B903	6	36'-10"	Str.
B904	6	54'-10"	Str.
C501	365	10'-3"	3¾"
C901	70	24'-4"	Str.
④ S501	175	17'-1"	3¾"
④ S502	45	17'-9"	⑤
④ S1101	135	21'-8"	Str.
W501	50	6'-2"	Str.
W502	6	34'-2"	Str.
W503	6	45'-2"	Str.
W504	56	19'-8"	2½"
W505	112	4'-9"	3¾"
W506	14	4'-10"	3¾"
W701	26	34'-7"	Str.
W702	26	45'-7"	Str.

BENDING DIAGRAMS



⑤ See Bending Diagram

④ Non-pay item, subsidiary to the pay item "Drilled Shaft (72" dia.).

Dimensions are out to out of bars.

PRINT DATE: 8/27/2020

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:46 AM

Charles R. Ellis

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BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF BENT 2
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 06/17/2020 FILENAME: b080457x1_b2.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: 1/4" = 1'-0"
DESIGNED BY: KJT DATE: 02/2020

BRIDGE NO. 07499 DRAWING NO. 61870

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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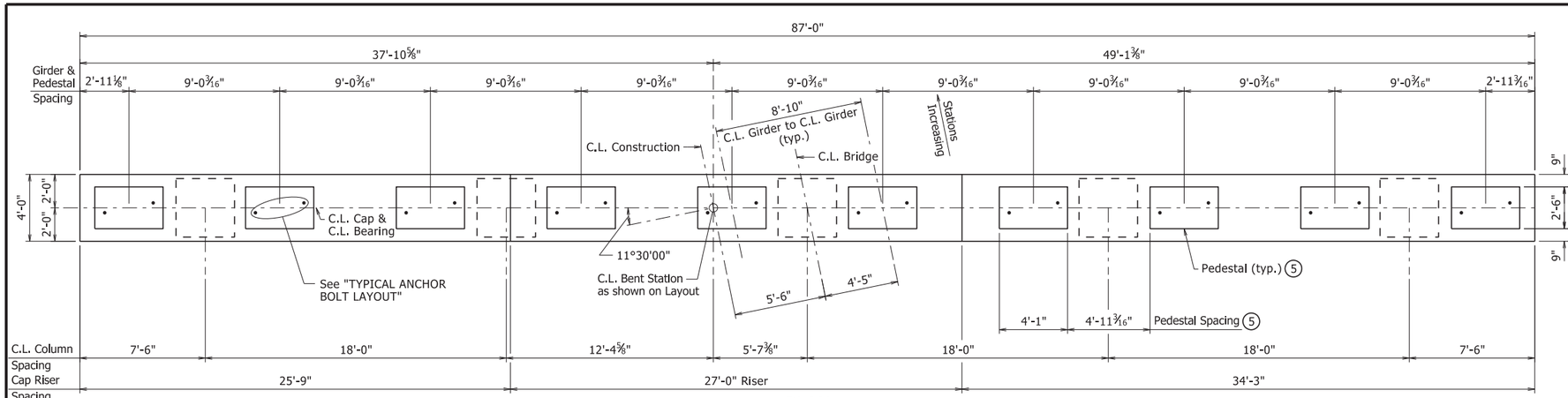
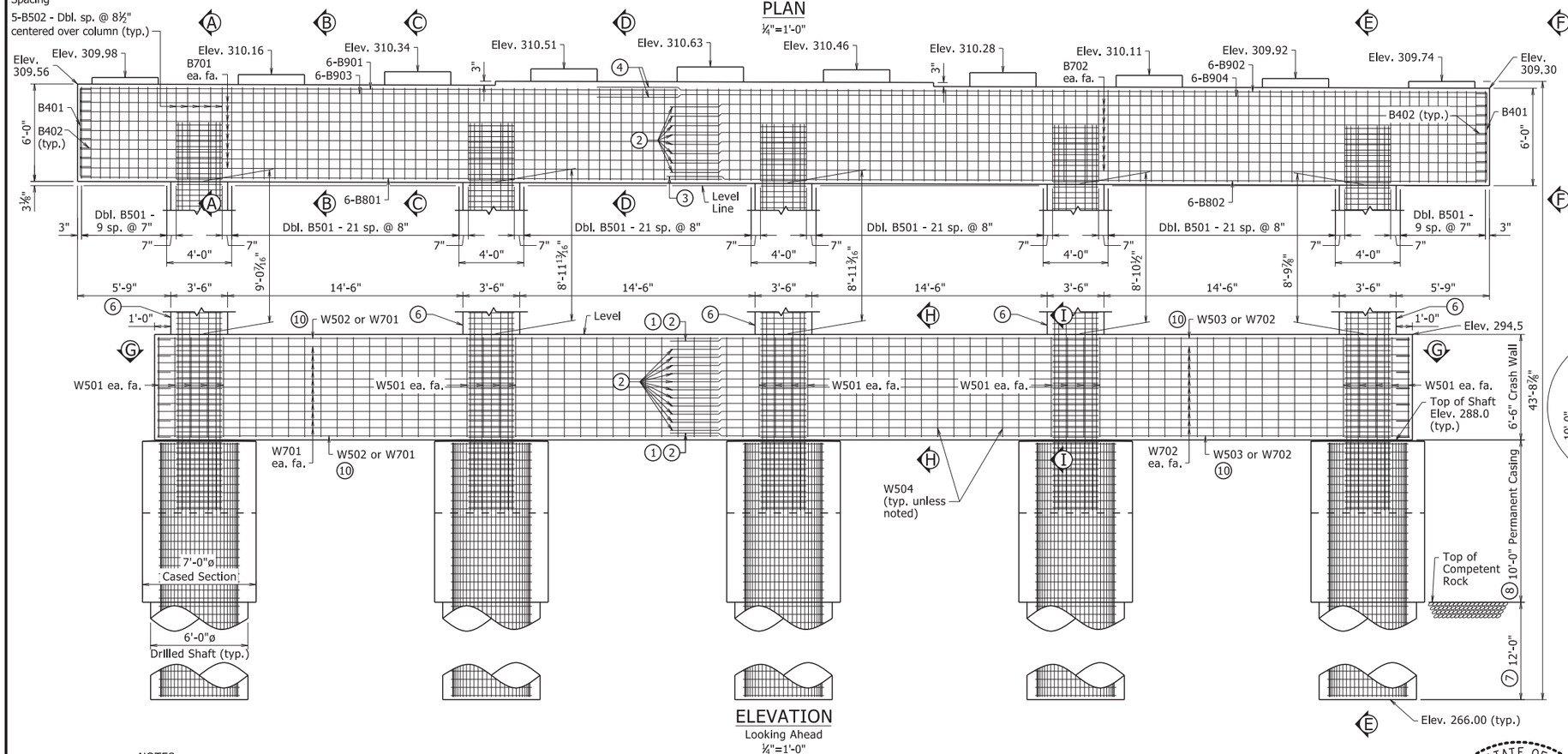
				JOB NO.		080457	239	517
				①		07499 - BENT 3 - 61871		



PLAN

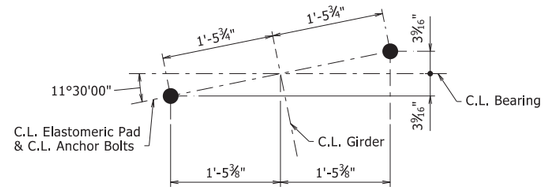
¼"=1'-0"



ELEVATION

Looking Ahead

¼"=1'-0"

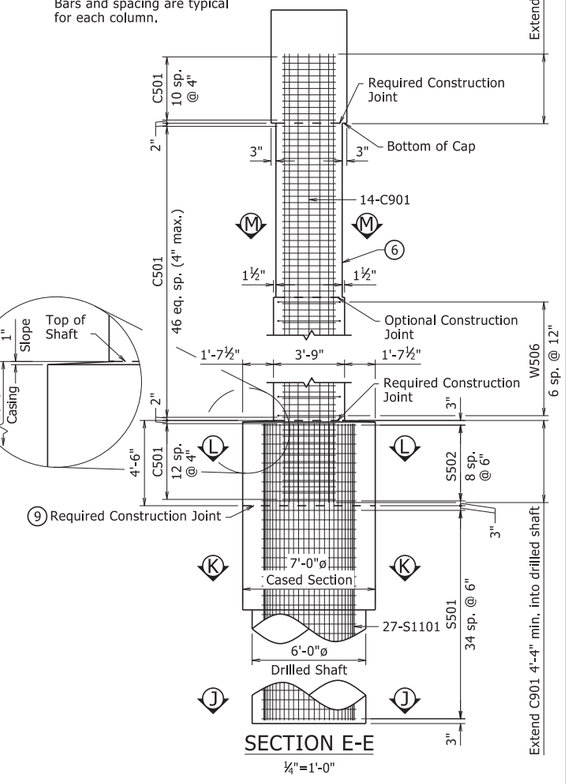


TYPICAL ANCHOR BOLT LAYOUT

NO SCALE

NOTE:

Bars and spacing are typical for each column.



SECTION E-E

¼"=1'-0"

NOTES:

① 2'-2" minimum lapped splice length for #5 bar

② 3'-0" minimum lapped splice length for #7 bar

③ 3'-5" minimum lapped splice length for #8 bar

④ 5'-0" minimum lapped splice length for #9 bar

⑤ Pedestals shall be cast level at the elevations shown in "ELEVATION". See Dwg. No. 61872 for "PEDESTAL PLAN" & "TYPICAL PEDESTAL DETAILS".

⑥ See "FRONT VIEW - BENT AESTHETICS" & "END VIEW - BENT AESTHETICS" for placement of Ashlar Stone on Dwg. No. 61873.

⑦ Minimum penetration into Competent Rock below permanent casing.

⑧ Length of Permanent casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job No. 080457 "DRILLED SHAFT FOUNDATIONS", Permanent casing shall not extend below top of Competent Rock without approval from the Engineer.

⑨ Remove sediment, laitance and weak concrete to sound concrete prior to setting column reinforcement. For additional information, see Special Provision Job No. 080457 "DRILLED SHAFT FOUNDATIONS".

⑩ See "SECTION G-G" on Dwg. No. 61872 for location of reinforcing.

See Dwg. No. 61872 for "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D", "VIEW F-F", SECTION "G-G", "SECTION H-H", "SECTION I-I", "SECTION J-J", "SECTION K-K", "SECTION L-L" & "SECTION M-M"

For General Notes, see Std. Dwg. No. 55006.

For additional information, see Layout.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:47 AM

Charles R. Ellis

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BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 3
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 03/20/2020 FILENAME: b080457x1_b3.dgn

CHECKED BY: DHP DATE: 08/26/2020 SCALE: AS NOTED

DESIGNED BY: KJT DATE: 02/2020

BRIDGE NO. 07499 DRAWING NO. 61871

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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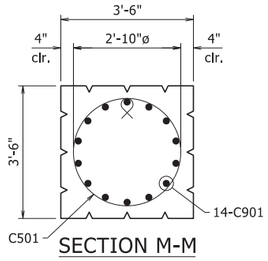
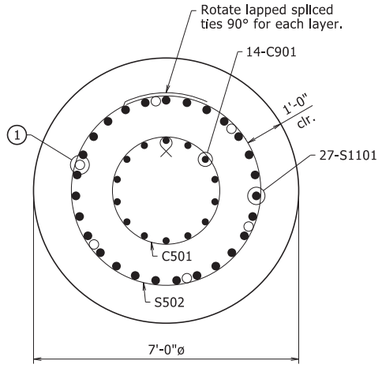
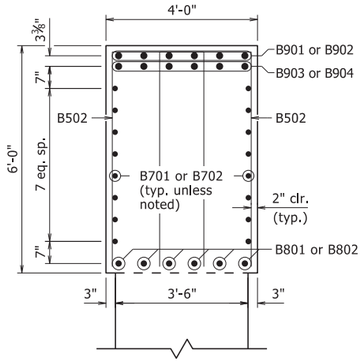
				JOB NO.		080457	240	517
				①		07499 - BENT 3 - 61872		



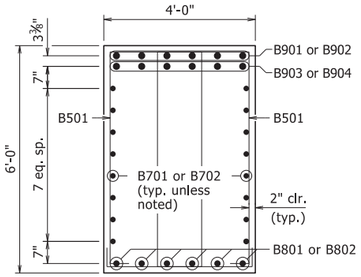
SECTION M-M
½"=1'-0"



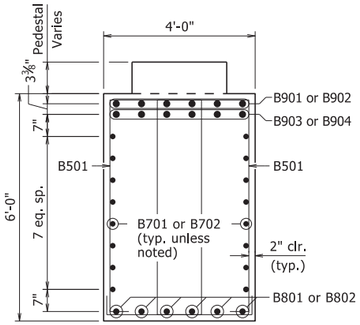
SECTION L-L
½"=1'-0"



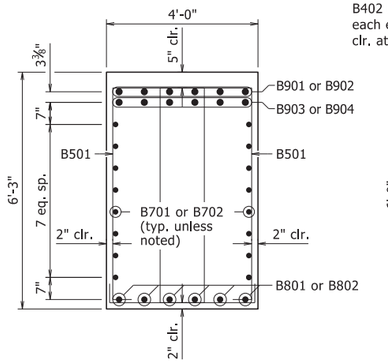
SECTION A-A
½"=1'-0"



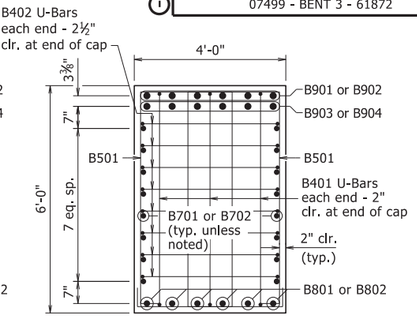
SECTION B-B
½"=1'-0"



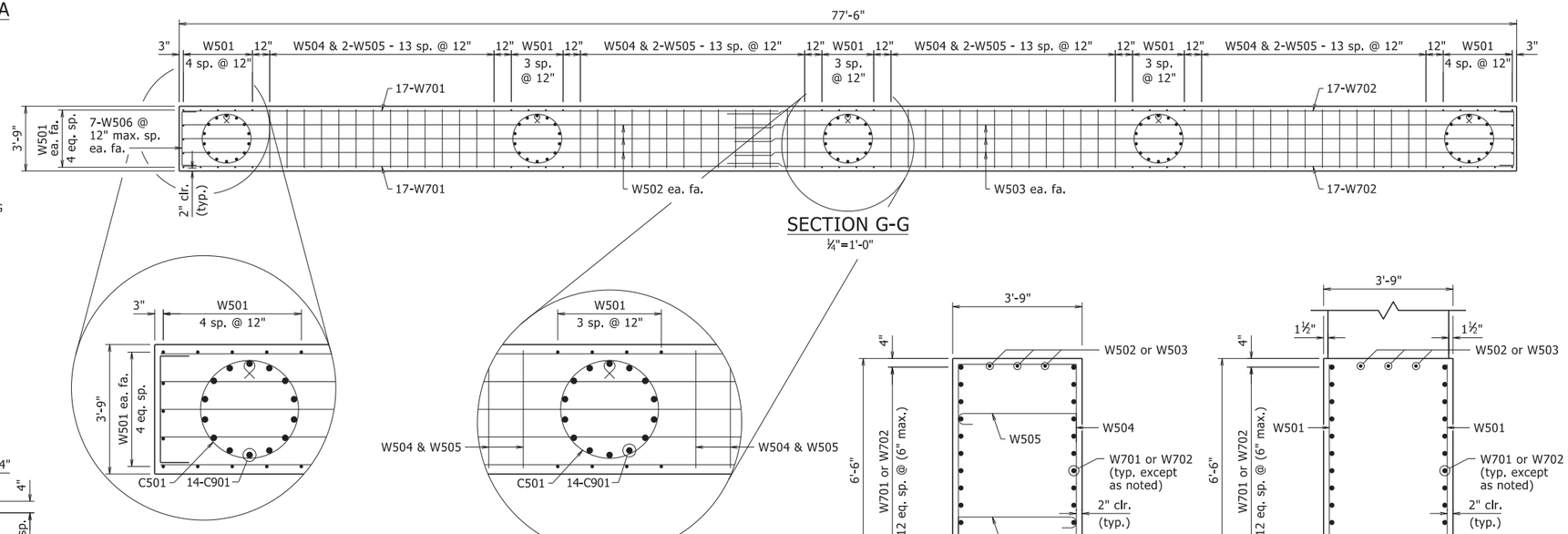
SECTION C-C
½"=1'-0"



SECTION D-D
½"=1'-0"

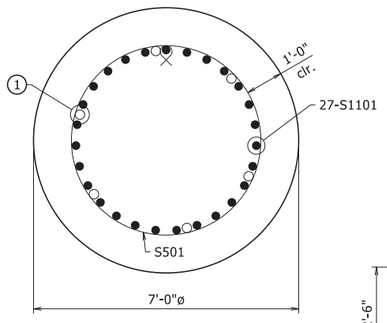


VIEW F-F
½"=1'-0"

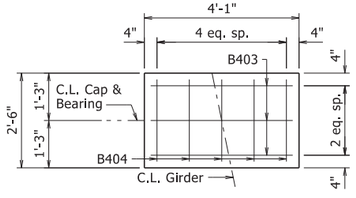


SECTION G-G
¼"=1'-0"

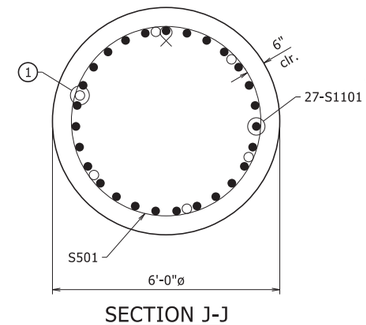
① 6-1½"ø min. Schedule 40 Steel Pipes equally spaced. See Job SP "NONDESTRUCTIVE TESTING OF DRILLED SHAFTS".



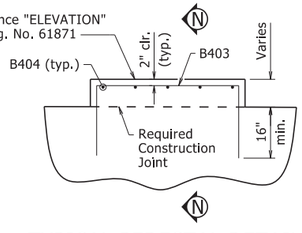
SECTION K-K
½"=1'-0"



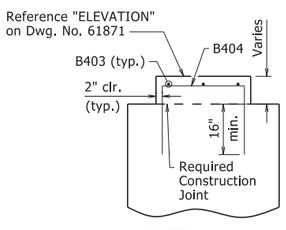
PEDESTAL PLAN
½"=1'-0"



SECTION J-J
½"=1'-0"



TYPICAL PEDESTAL DETAILS
LOOKING AHEAD
½"=1'-0"



SECTION N-N
½"=1'-0"

SECTION H-H
½"=1'-0"

SECTION I-I
½"=1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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SHEET 2 OF 3
DETAILS OF BENT 3
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

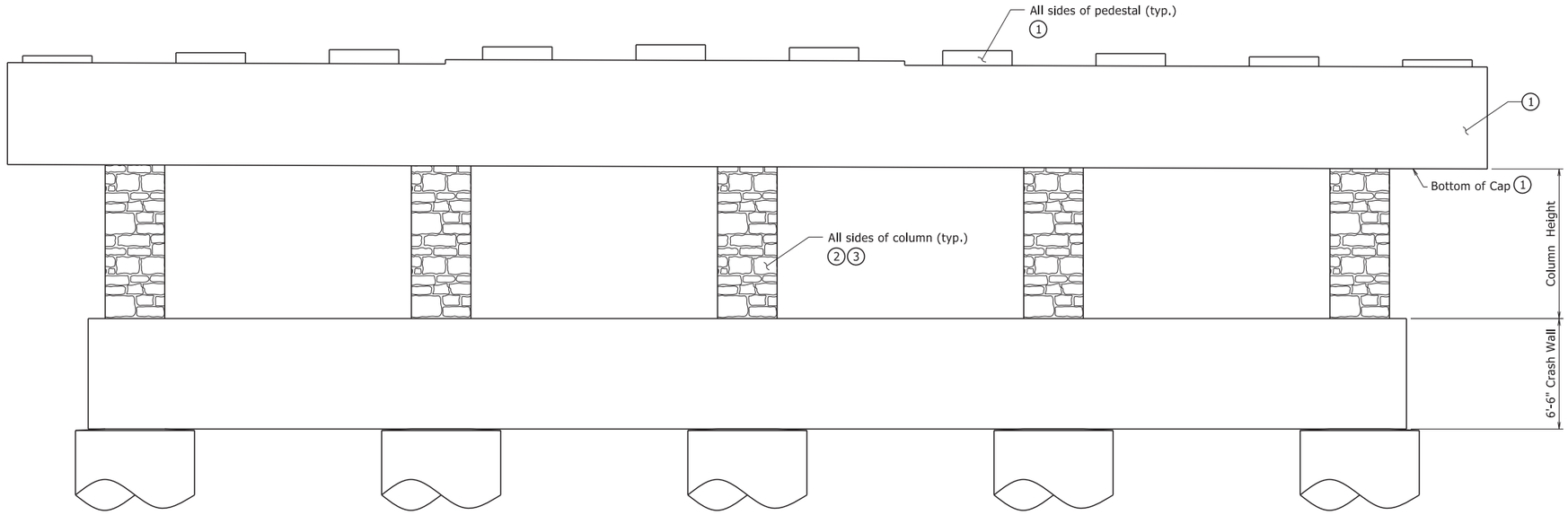
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 03/20/2020 FILENAME: b080457x1_b3.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: AS NOTED
DESIGNED BY: KJT DATE: 02/2020

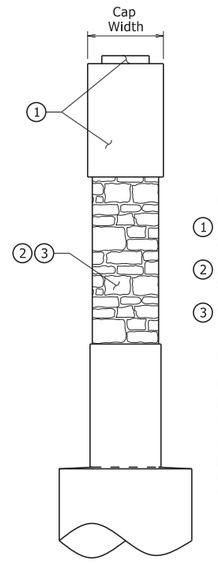
BRIDGE NO. 07499 DRAWING NO. 61872

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	241	517
				(1)		07499 - BENT 3 - 61873		



FRONT VIEW - BENT AESTHETICS
Looking Ahead



END VIEW - BENT AESTHETICS

NOTES:

(1) Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)

(2) Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)

(3) "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

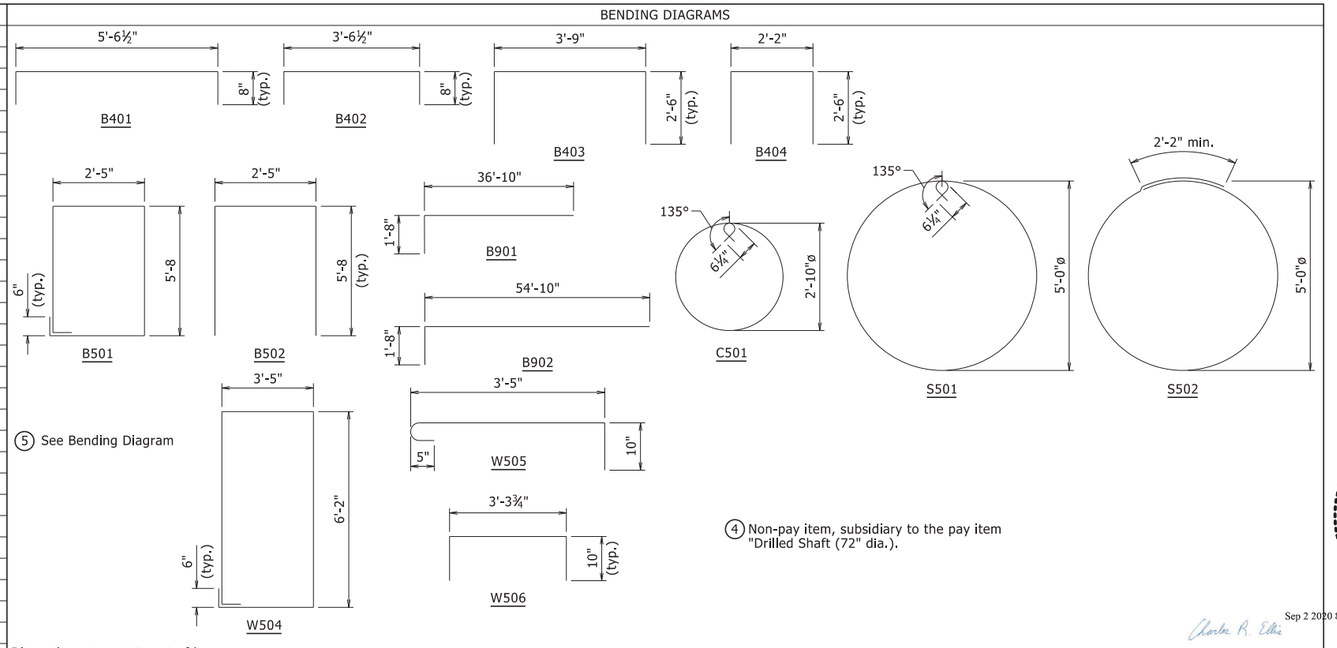
Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to column reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

BAR LIST

MARK	NO. REQ'D	LENGTH	P.D.
B401	6	6'-9"	2"
B402	16	4'-9"	2"
B403	30	8'-7"	2"
B404	50	7'-0"	2"
B501	216	16'-8"	2½"
B502	50	13'-7"	2½"
B701	16	39'-4"	Str.
B702	16	50'-4"	Str.
B801	6	39'-7	Str.
B802	6	50'-7	Str.
B901	6	38'-3"	9"
B902	6	56'-3"	9"
B903	6	36'-10"	Str.
B904	6	54'-10"	Str.
C501	355	10'-3"	3¾"
C901	70	23'-7"	Str.
(4) S501	175	17'-1"	3¾"
(4) S502	45	17'-9"	(5)
(4) S1101	135	21'-8"	Str.
W501	50	6'-2"	Str.
W502	6	34'-2"	Str.
W503	6	45'-2"	Str.
W504	56	19'-8"	2½"
W505	112	4'-9"	3¾"
W506	14	4'-10"	3¾"
W701	26	34'-7"	Str.
W702	26	45'-7"	Str.

BENDING DIAGRAMS



(5) See Bending Diagram

(4) Non-pay item, subsidiary to the pay item "Drilled Shaft (72" dia.).

Dimensions are out to out of bars.

PRINT DATE: 8/27/2020

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LICENSED PROFESSIONAL ENGINEER
No. 9235
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BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF BENT 3
HIGHWAY 89 OVER UPRR & HIGHWAY 365

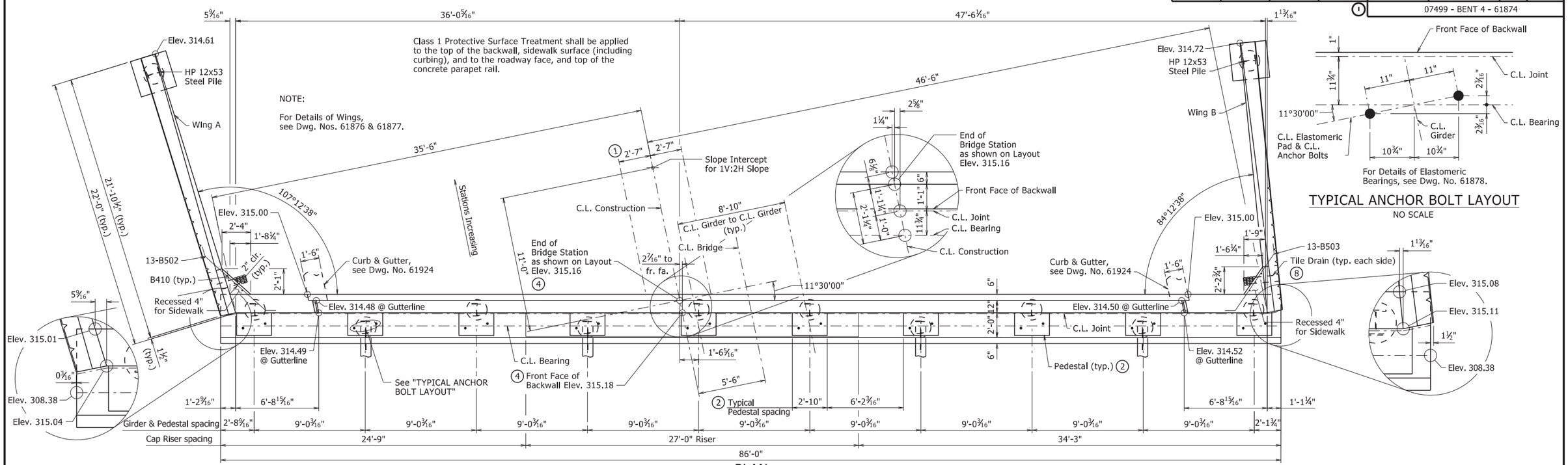
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 03/20/2020 FILENAME: b080457x1_b3.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: 1/4" = 1'-0"
DESIGNED BY: KJT DATE: 02/2020

BRIDGE NO. 07499 DRAWING NO. 61873

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	242	517

1 07499 - BENT 4 - 61874



GENERAL NOTES:

For General Notes, see Std. Dwg. No. 55006.

For Joint Details see Std. Dwg. No. 55008 & "SIDEWALK SECTION THRU JOINT AT END BENT" on Dwg No. 61881.

Structural steel in Bent 4 shall be ASTM A709, Gr. 50 and shall be paid for as "Structural Steel in Plate Girder Spans (A709, Gr. 50)".

All piling shall be Grade 50. For details of steel piling, see Std. Dwg. No. 55020.

No portion of the backwall shall be poured before the girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the adjacent deck pour has been made. Refer to the "EXPANSION DEVICE INSTALLATION AT END BENTS" note on Std. Dwg. No. 55008. No heavy construction equipment shall be allowed within 10' of the backwall until the deck concrete placement for the adjacent span has been completed unless MSE strap reinforcing has been designed to accommodate these loads, see "BENT STRAP DETAIL," Dwg. No. 61875.

For additional information, see Layout.

NOTES:

1. See "ROUNDING DETAIL" on Std. Dwg. No. 55007.
2. Pedestals shall be cast level at the elevations shown in "ELEVATION". See Dwg. No. 61875 for "PEDESTAL PLAN" & "TYPICAL PEDESTAL DETAILS".
3. Measured at C.L. Construction at Front Face of Backwall to Working Point.
4. Measured at Working Point.
5. See Dwg. No. 61875 for "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D" "VIEW E-E", "VIEW F-F" & "VIEW G-G" for placement of reinforcing.
6. See Dwg. No. 61875 for "SIDEWALK & CURB DETAIL".
7. See Dwg. No. 61875 for "LAYOUT OF PILES".
8. Place 6"ø tile drains approx. 6" above fill slope. Spread bars as required. Place 6 cu. ft. of sacked ¾" crushed rock or gravel at each drain. All work and materials to install drains shall be subsidiary to "Class S Concrete."
9. 1'-9" minimum lapped splice length
10. 2'-8" minimum lapped splice length
11. 3'-5" minimum lapped splice length

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
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BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF BENT 4
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 06/29/2020
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 02/2020
FILENAME: b080457x1_b4.dgn
SCALE: AS NOTED

BRIDGE NO. 07499 DRAWING NO. 61874

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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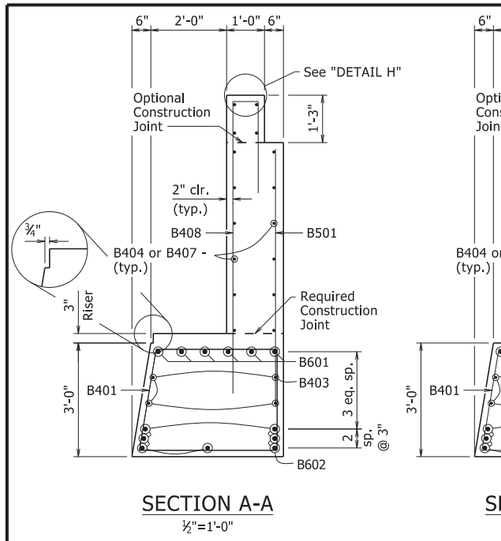
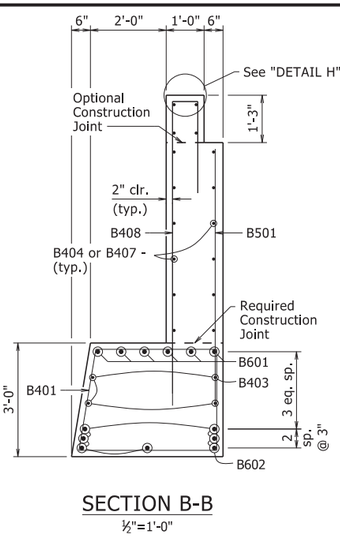
				JOB NO.		080457	243	517
				①	07499 - BENT 4 - 61875			



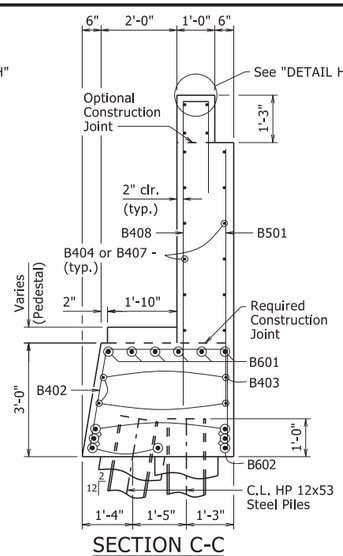
SECTION A-A

½"=1'-0"



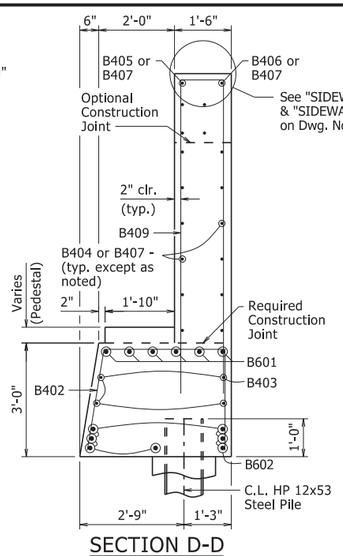
SECTION B-B

½"=1'-0"



SECTION C-C

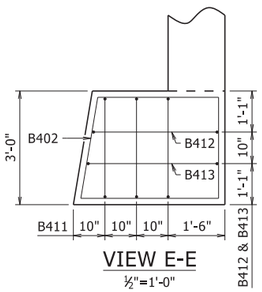
½"=1'-0"



SECTION D-D

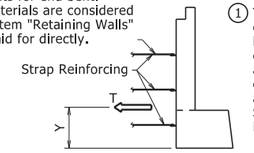
½"=1'-0"

MSE wall supplier shall design & furnish attachments for end bent. This work and materials are considered incidental to the item "Retaining Walls" and will not be paid for directly.



VIEW E-E

½"=1'-0"



① The provided loads do not include any additional loadings due to heavy construction equipment such as cranes. If the Contractor anticipates bringing heavy construction equipment within 10' of the backwall, they shall coordinate with the MSE wall supplier to design strap reinforcing for the anticipated loadings. Tolerable horizontal backwall movement for all loading combinations is 0.2" at the Service Limit State. Design computations shall accompany the wall design submittal for review by the Engineer. See Special Provision Job No. 080457 "Retaining Walls" for additional information.

T = Resultant force required to be resisted by strap reinforcing

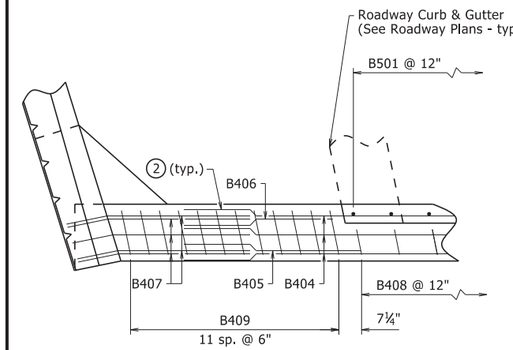
Y = Centroid of resultant force

Limit State	①T Kips/Ft.	Y Ft.
Service	3.00	3
Strength	4.00	3

BENT STRAP DETAIL

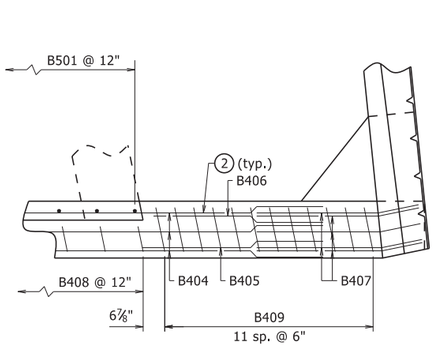
NO SCALE

② 1'-9" minimum splice length



VIEW F-F

NO SCALE



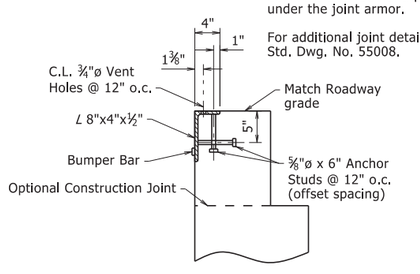
VIEW G-G

NO SCALE

NOTES: Transverse spacing between vertical anchor studs and vent holes shall be 6".

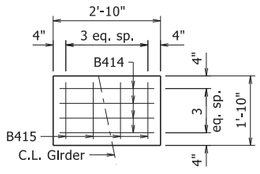
Concrete shall be hand packed under the joint armor.

For additional joint details, see Std. Dwg. No. 55008.



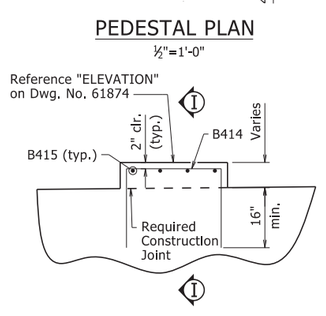
DETAIL H

NO SCALE



PEDESTAL PLAN

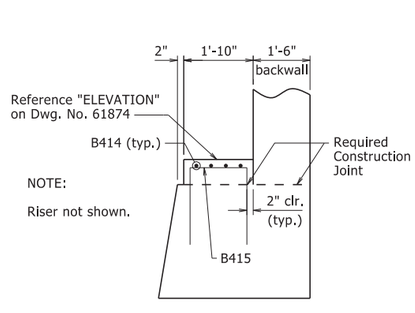
½"=1'-0"



TYPICAL PEDESTAL DETAILS

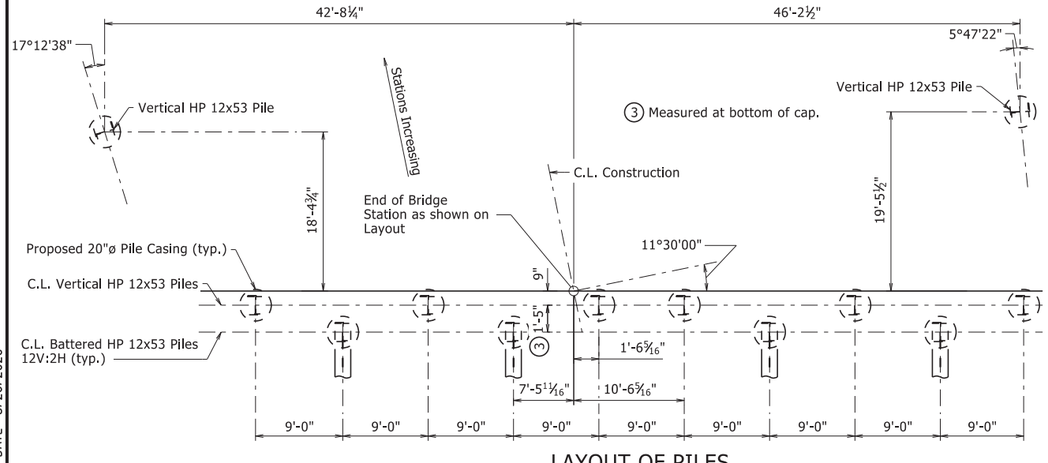
LOOKING BACK

½"=1'-0"



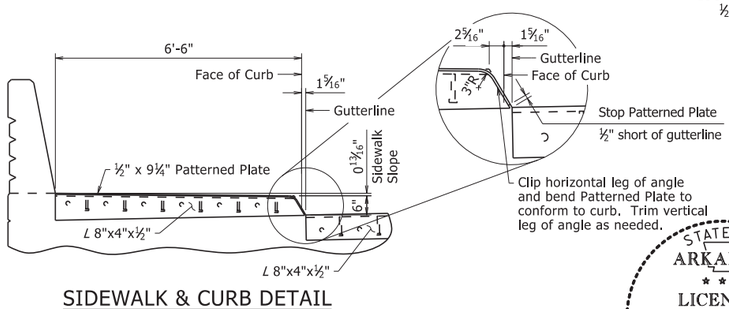
SECTION I-I

½"=1'-0"



LAYOUT OF PILES

NO SCALE



SIDEWALK & CURB DETAIL

NO SCALE

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LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:48 AM

BRIDGE ENGINEER

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SHEET 2 OF 4
DETAILS OF BENT 4
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

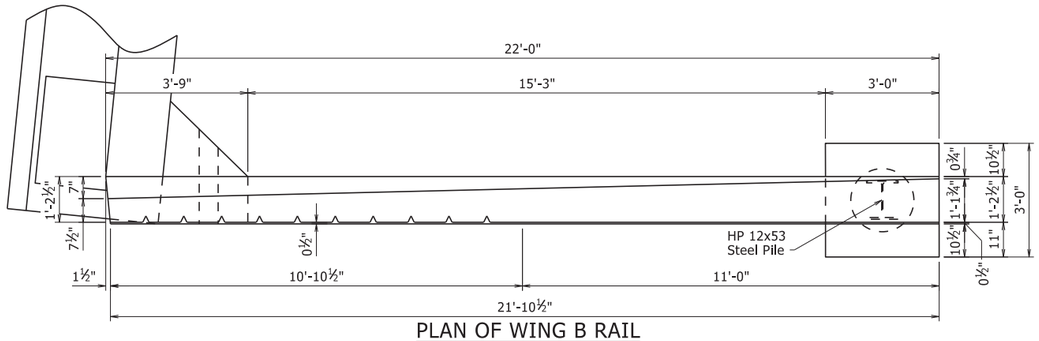
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 06/29/2020 FILENAME: b080457x1_b4.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: AS NOTED
DESIGNED BY: KJT DATE: 02/2020

BRIDGE NO. 07499 DRAWING NO. 61875

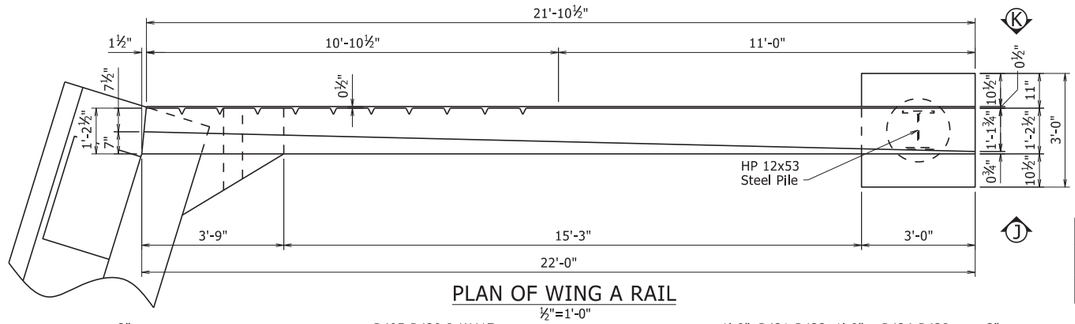
PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	244	517
				07499 - BENT 4 - 61876				



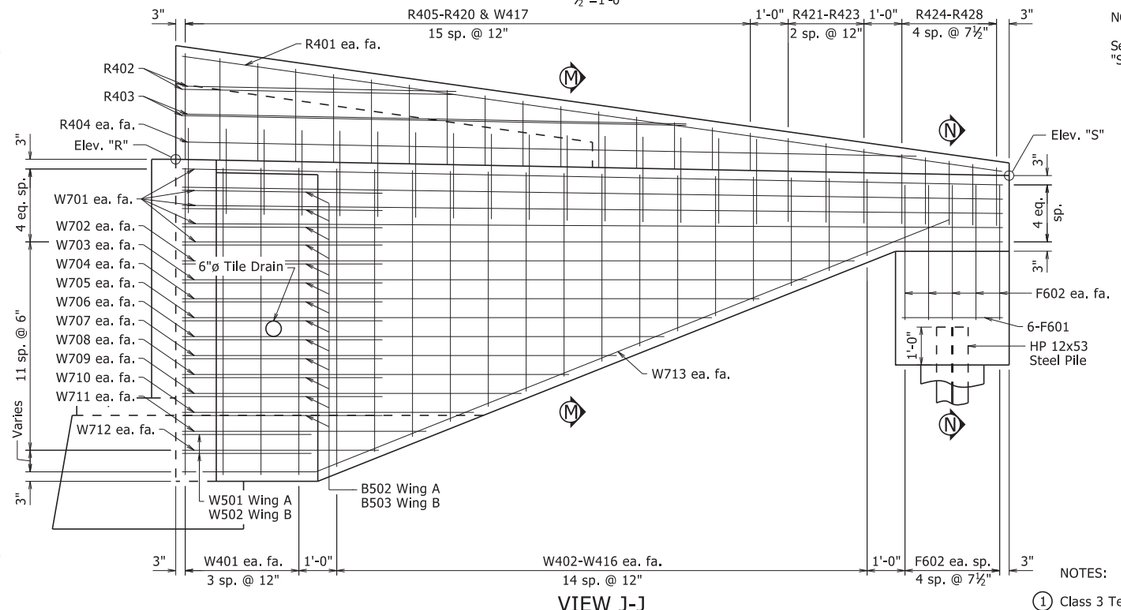
PLAN OF WING B RAIL

½"=1'-0"



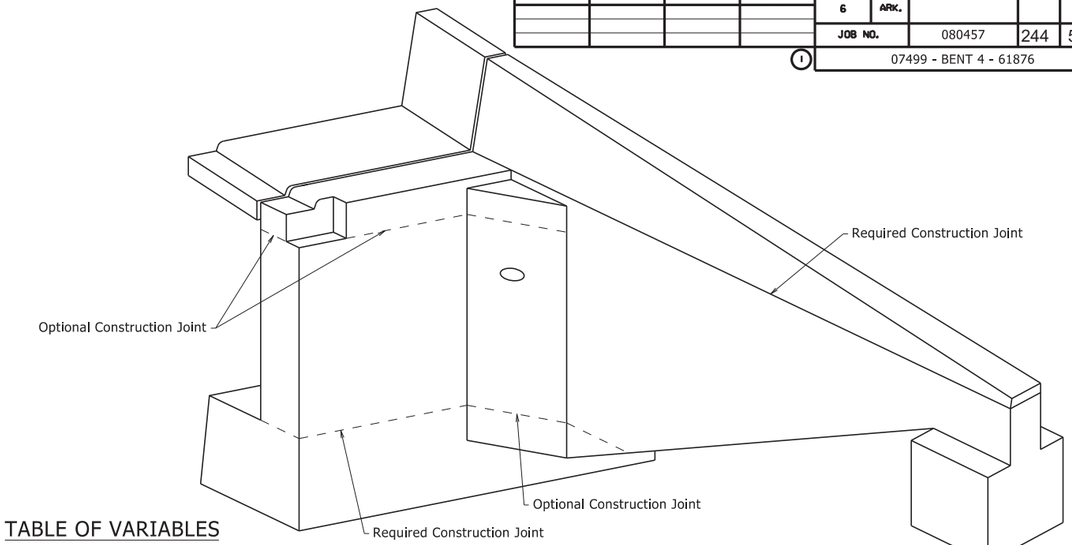
PLAN OF WING A RAIL

½"=1'-0"



VIEW J-J

½"=1'-0"



THREE DIMENSIONAL VIEW OF WING

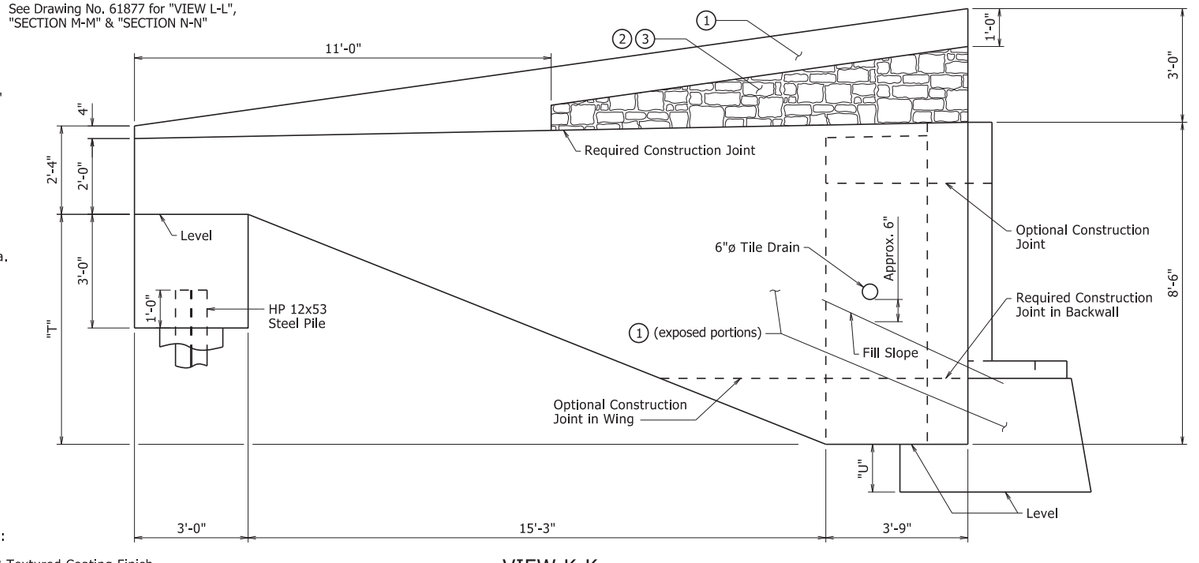
NO SCALE

TABLE OF VARIABLES

WING	ELEV. "R"	ELEV. "S"	"T"	"U"
A	315.04	314.61	6'-0 13/16"	1'-1 15/16"
B	315.11	314.72	6'-1 5/16"	1'-2 3/4"

NOTE:

See Drawing No. 61877 for "VIEW L-L", "SECTION M-M" & "SECTION N-N"



VIEW K-K

½"=1'-0"

NOTES:

1. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)
2. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)
3. "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:48 AM

BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF BENT 4
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	06/29/2020	FILENAME:	b080457x1_b4.dgn
CHECKED BY:	DHP	DATE:	08/26/2020	SCALE:	AS NOTED
DESIGNED BY:	KJT	DATE:	02/2020		

BRIDGE NO. 07499 DRAWING NO. 61876

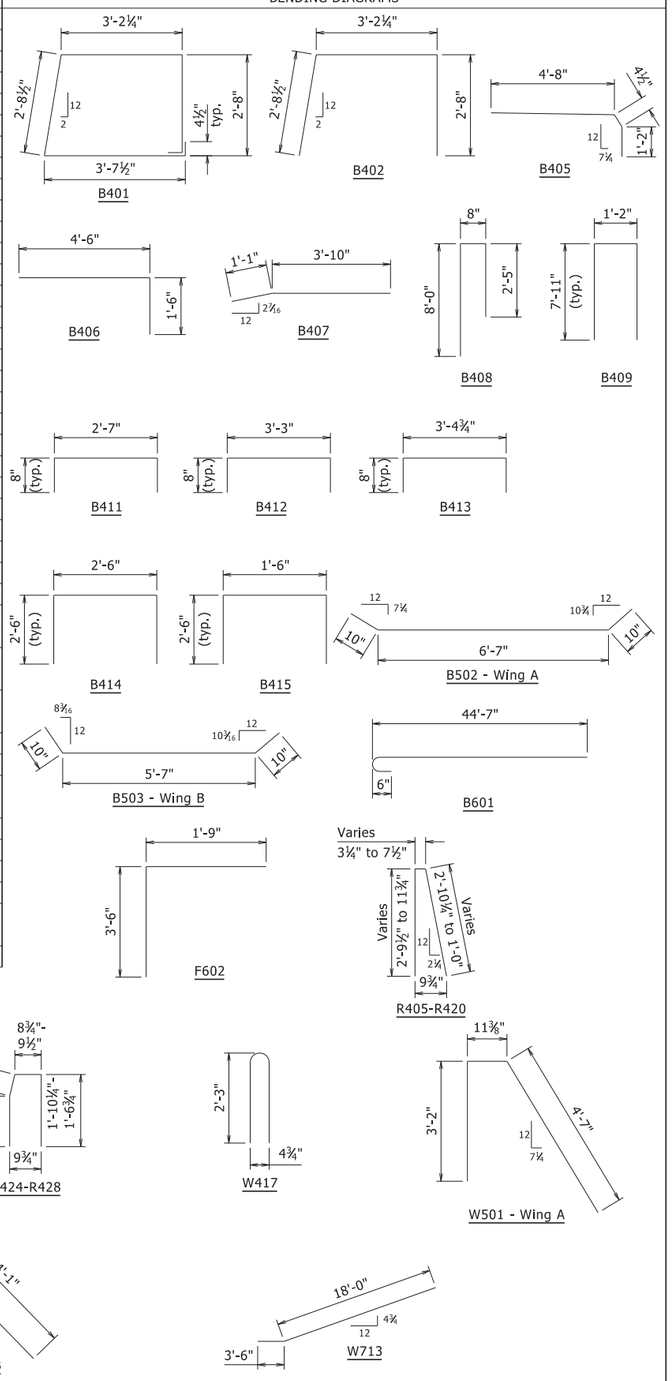
PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	245	517
				①		07499 - BENT 4 - 61877		

BAR LIST

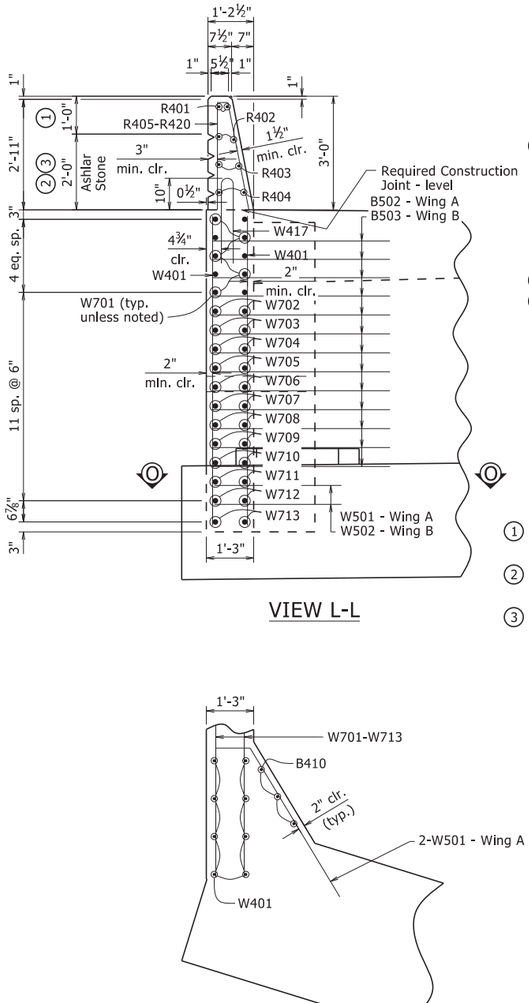
MARK	NO. REQ'D	LENGTH	P.D.
B401	153	12'-7"	2"
B402	20	8'-5"	2"
B403	8	43'-9"	Str.
B404	32	41'-0"	Str.
B405	2	6'-3"	2"
B406	2	5'-11"	2"
B407	36	4'-11"	2"
B408	72	10'-11"	2"
B409	24	16'-10"	2"
B410	6	7'-10"	Str.
B411	6	3'-9"	2"
B412	2	4'-5"	2"
B413	2	4'-7"	2"
B414	40	7'-4"	2"
B415	40	6'-4"	2"
B501	72	7'-1"	Str.
B502	13	8'-3"	3¾"
B503	13	7'-3"	3¾"
B601	12	45'-3"	4½"
B602	14	44'-2"	Str.
F601	12	2'-8"	Str.
F602	20	5'-1"	4½"
R401	4	21'-11"	Str.
R402	4	7'-3"	Str.
R403	4	13'-4"	Str.
R404	4	19'-5"	Str.
R405-R420	2 ea.	5'-10" to 2'-6"	2"
R421-R423	2 ea.	5'-0" to 4'-7"	2"
R424-R428	2 ea.	4'-4" to 3'-10"	2"
W401	16	8'-1"	Str.
W402-W416	4 ea.	7'-10" to 2'-0"	Str.
W417	32	4'-8"	3¾"
W501	2	8'-7"	3¾"
W502	2	8'-1"	3¾"
W701	20	21'-8"	Str.
W702-W712	4 ea.	17'-9" to 5'-2"	Str.
W713	4	21'-6"	5¼"

BENDING DIAGRAMS

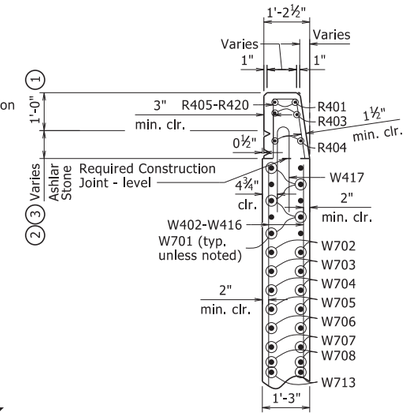


Dimensions are out to out of bars.

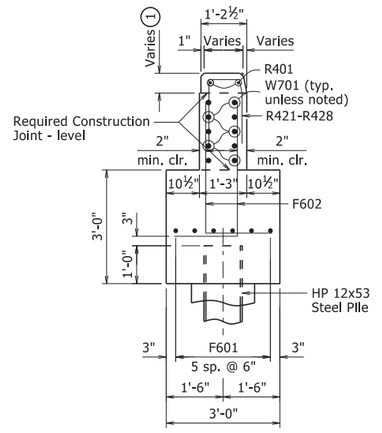
PRINT DATE: 8/26/2020



VIEW L-L



SECTION M-M



SECTION N-N

NOTES:

① Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)

② Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)

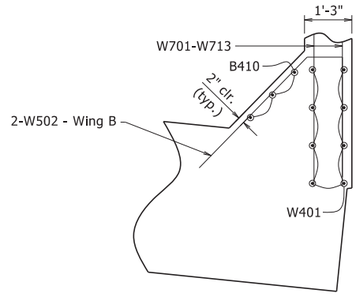
③ "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

SECTION O-O
Wing A



SECTION O-O
Wing B

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:48 AM
BRIDGE ENGINEER

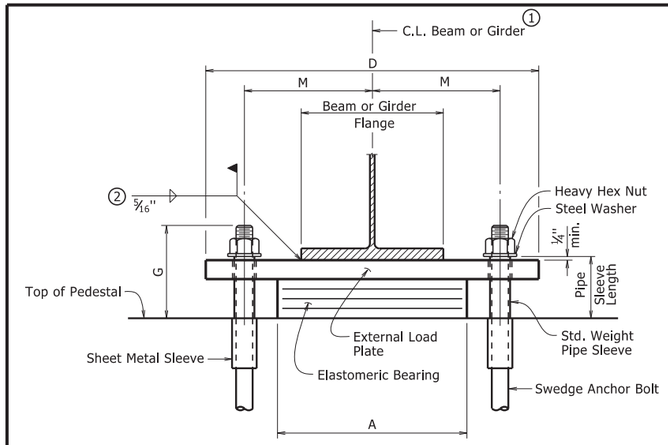
SHEET 4 OF 4
DETAILS OF BENT 4
HIGHWAY 89 OVER UPRR & HIGHWAY 365

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

DRAWN BY: CGP DATE: 06/29/2020 FILENAME: b080457x1_b4.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: 1/2"=1'-0"
DESIGNED BY: KJT DATE: 02/2020

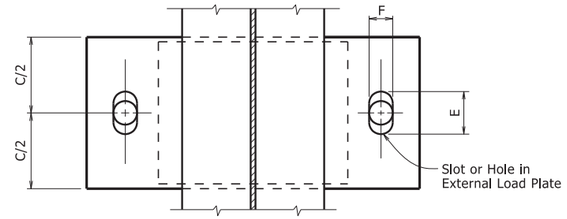
BRIDGE NO. 07499 DRAWING NO. 61877

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	246	517
				①	07499 & 07500 - ELASTO. BEARINGS - 61878			



FRONT VIEW

Typical Unless Noted Otherwise



PLAN VIEW

Typical Unless Noted Otherwise

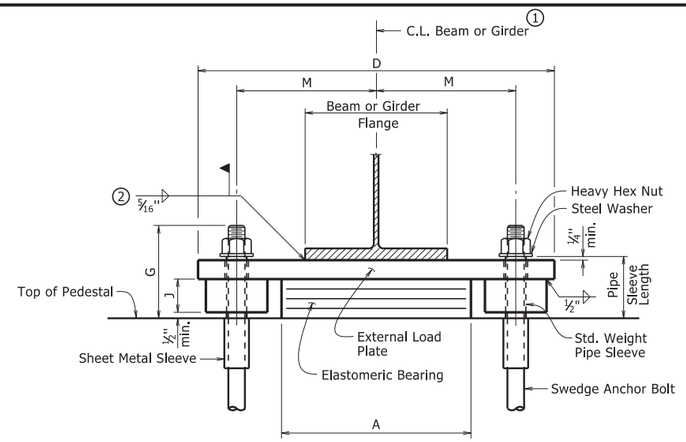
① C.L. Elastomeric Pad shall be aligned with C.L. Beam or Girder.

② Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the beam or girder will be allowed only when: 1) the approximate average air temperature during the 24 hour period immediately preceding welding is between 40°F and 80°F; and 2) the slots in the external load plate are positioned to center on the anchor bolts; and 3) no horizontal deformation of the elastomeric pad is evident. If welding at other temperatures is required, the Engineer will provide adjustment data.

Care shall be taken to ensure that the external load plate is in full and complete contact with the beam or girder flange before welding begins.

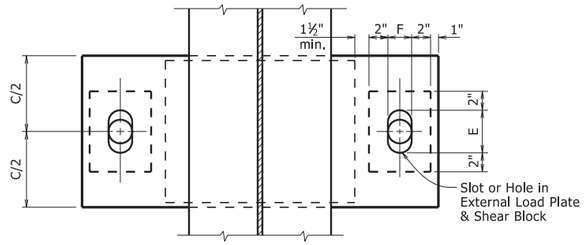
The direction of bevel of the external load plate may not be accurately depicted with respect to Ta and Tb values shown in the "Table of Fabricator Variables".

Prior to erection of the beams or girders, the Contractor shall verify the orientation of the bearing with respect to Ta and Tb.



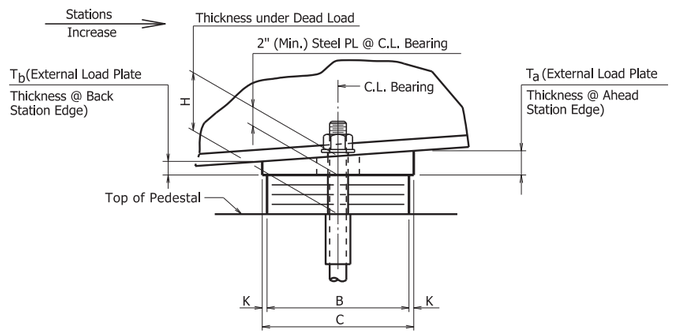
FRONT VIEW - BENTS WITH SHEAR BLOCKS

Br. No. 07499, Bent 3



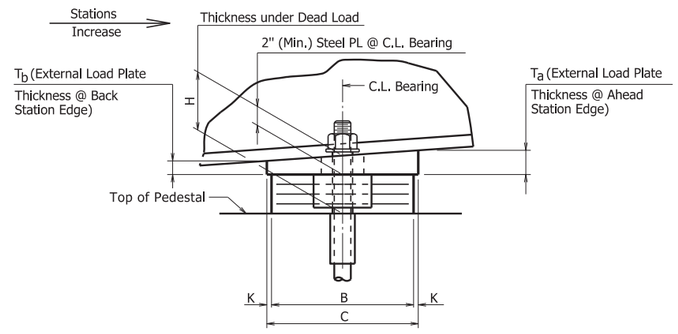
PLAN VIEW - BENTS WITH SHEAR BLOCKS

Br. No. 07499, Bent 3



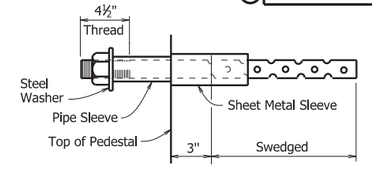
SIDE VIEW

Typical Unless Noted Otherwise



SIDE VIEW - BENTS WITH SHEAR BLOCKS

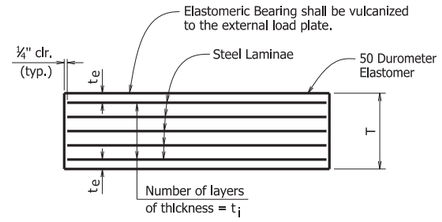
Br. 07499, Bent 3



ANCHOR BOLT DETAIL

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

If Anchor Bolts are to be drilled and grouted in place, the Galvanized Sheet Metal Sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of Structural Steel, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the concrete. Bolts placed in drilled holes shall be accurately set and fixed using a QPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves shall meet the requirements of ASTM 653, CS Type B or approved equivalent, be of minimum 16 gage thickness, and be galvanized according to ASTM B695, Class 50. Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the item "Structural Steel in Plate Girder Spans (A709, Gr. 50)".



t_e = Thickness of elastomer cover on top and bottom of pad

t_i = Thickness of elastomer between steel laminae

N = Number of elastomer layers of thickness t_i

ELASTOMERIC BEARING

GENERAL NOTES

Elastomeric Bearings shall conform to Section 808 and shall be paid for at the unit price bid for "Elastomeric Bearings".

External load plates and shear blocks shall conform to ASTM A709, Grade 50. Pipe sleeves shall be ASTM A500, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or ASTM B695, Class 50.

External load plates and shear blocks shall be completely fabricated (including bevel, bolt holes and all shop welding) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808.03. Other surfaces shall be blast cleaned in accordance with Subsection 807.84(b) for painted steel.

Anchor Bolts, Washers and Nuts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe Sleeves, Anchor Bolts, Washers and Nuts shall be paid for at the unit price bid for "Structural Steel in Steel Girder Spans (A709, Gr. 50)",External load plates and shear blocks will not be measured or paid for separately, but will be considered incidental to the unit price bid for "Elastomeric Bearings".

Bearings shall be seated in accordance with Subsection 808.08. This work and materials are considered subsidiary to the item "Elastomeric Bearings" and will not be paid for directly.

TABLE OF FABRICATOR VARIABLES

③ Maximum Design Load = Service 1 Limit State

BRIDGE NO.	LOCATION: BENT NO(S).	LOCATION: BEAM OR GIRDER NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	③ MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD: A	B	N	t_i	t_e	NO. & THICKESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE: C	D	E	F	J	K	M	T_a	T_b	ANCHOR BOLT: ANCHOR BOLT (Ø x L)	GRADE	PIPE SLEEVE SIZE (Ø x L)	SHEET METAL SLEEVE SIZE (Ø x L)	STEEL WASHER SIZE (O.D.)
07499	1	All	Exp.	10	122	9½"	6⅛"	16"	8½"	6	½"	¼"	7 @ 12 ga.	4¼"	10"	28"	6⅝"	3⅛"	NA	¾"	10¾"	2.17"	1.83"	2"Ø x 31"	55	2½"Ø x 6⅜"	4"Ø x 6"	3⅜"
	2	All	Exp.	10	349	8¼"	4⅜"	22"	11"	3	½"	¼"	4 @ 12 ga.	2 7/16"	12"	35"	5¾"	3¾"	NA	½"	14"	2.12"	1.88"	2½"Ø x 35"	55	3"Ø x 4⅝"	4"Ø x 6"	4½"
	3	All	Fix	10	410	7¼"	3¾"	25"	11"	2	½"	¼"	3 @ 12 ga.	1 13/16"	12"	44¾"	3⅛"	3⅛"	1¼"	½"	17¾"	2.01"	1.99"	2¼"Ø x 32"	55	2½"Ø x 4"	4"Ø x 6"	4"
	4	All	Exp.	10	159	7¾"	4⅜"	16"	9"	3	½"	¼"	4 @ 12 ga.	2 7/16"	10"	28½"	5⅛"	3⅛"	NA	½"	11"	1.91"	2.09"	2"Ø x 30"	55	2½"Ø x 4⅝"	4"Ø x 6"	3¾"
07500	1	All	Exp.	9	137	7½"	4⅜"	19"	7"	3	½"	¼"	4 @ 12 ga.	2 7/16"	8"	30½"	4½"	2⅝"	NA	½"	12¼"	1.92"	2.08"	1¾"Ø x 27"	55	2"Ø x 4⅝"	4"Ø x 6"	3⅜"
	2	All	Fix	9	406	8"	3¾"	25"	11"	2	½"	¼"	3 @ 12 ga.	1 13/16"	12"	38"	3¾"	3¾"	NA	½"	15½"	1.80"	2.20"	2¾"Ø x 38"	55	3"Ø x 4"	5"Ø x 6"	5"
	3	All	Exp.	9	137	7½"	4⅜"	19"	7"	3	½"	¼"	4 @ 12 ga.	2 7/16"	8"	30½"	4½"	2⅝"	NA	½"	12¼"	1.81"	2.19"	1¾"Ø x 27"	55	2"Ø x 4⅝"	4"Ø x 6"	3⅜"

PRINT DATE: 8/31/2020

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
BRIDGE ENGINEER

Sep 2 2020 8:48 AM

DocuSigned by: Charles R. Ellis

DETAILS OF ELASTOMERIC BEARINGS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	KJT	DATE:	1/2020	FILENAME:	b080457_e1.dgn
CHECKED BY:	DHP	DATE:	8/31/2020	SCALE:	NO SCALE
DESIGNED BY:	KJT	DATE:	1/2020		

BRIDGE NO. 07499 & 07500 DRAWING NO. 61878

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	247	517
				(1)	07499 - SPAN DETAILS - 61879			

Class 1 Protective Surface Treatment shall be applied to the sidewalk surface (including curbing), to the roadway face & top of the concrete parapet rail, and to the roadway surface.

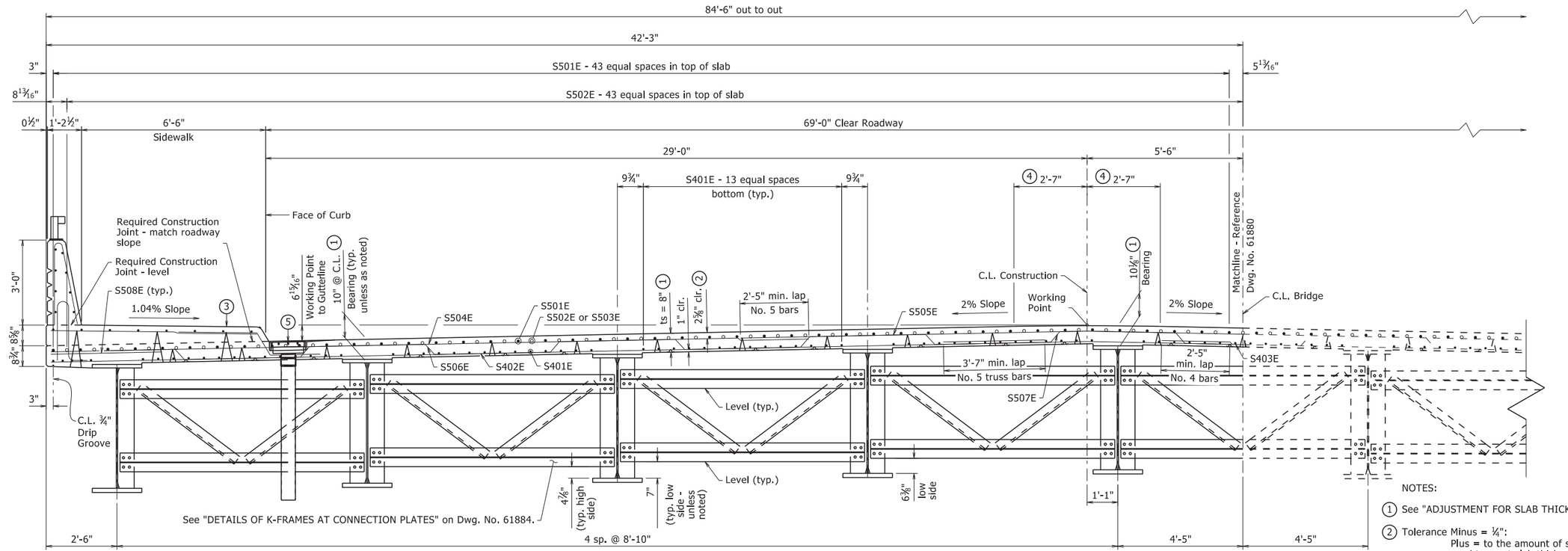
At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bar S506E & S507E. Payment for reinforcing will be based on the weight of bar S506E & S507E.

Bar positions and clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06. Placement of slab bolsters or hi-chairs with full-length lower runners directly on removable deck forms will not be allowed.

Slab Reinforcing

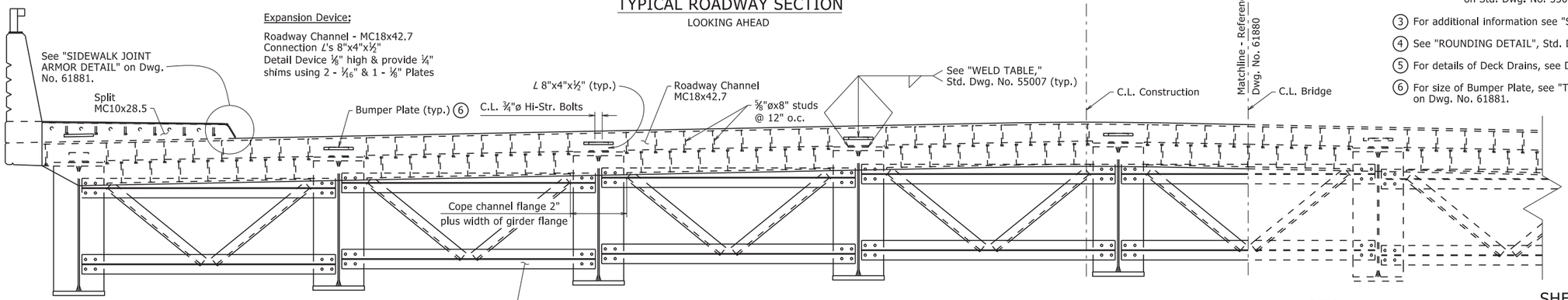
Longitudinal: S501E in top (place as shown), S401E in bottom (place as shown)
S502E & S503E placed as shown, see "REINFORCING PLAN & DECK POURING SEQUENCE", Dwg. Nos. 61889 & 61890.

Transverse: S504E & S505E @ 12" o.c. in top, S402E & S403E @ 12" o.c. in bottom — Alternate
S506E & S507E @ 12" o.c. bent up over beams
S508E @ 6" in top of overhangs (bundled with #5 bars) both sides



TYPICAL ROADWAY SECTION

LOOKING AHEAD



TYPICAL ROADWAY SECTION THRU JOINT

LOOKING AHEAD

NOTES:

1. See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.
2. Tolerance Minus = 1/4":
   Plus = to the amount of slab thickness used to meet slab thickness tolerance
   See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.
3. For additional information see "SIDEWALK DETAIL" on Dwg. No. 61881.
4. See "ROUNDING DETAIL", Std. Dwg. No. 55007.
5. For details of Deck Drains, see Dwg. No. 61914.
6. For size of Bumper Plate, see "TABLE OF SILICONE JOINT DATA", on Dwg. No. 61881.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:49 AM
BRIDGE ENGINEER

SHEET 1 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019
FILENAME: b080457x1_s1.dgn
SCALE: 1/2" = 1'-0"

BRIDGE NO. 07499 DRAWING NO. 61879

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	248	517
				①	07499 - SPAN DETAILS - 61880			

Class 1 Protective Surface Treatment shall be applied to the sidewalk surface (including curbing), to the roadway face & top of the concrete parapet rail, and to the roadway surface.

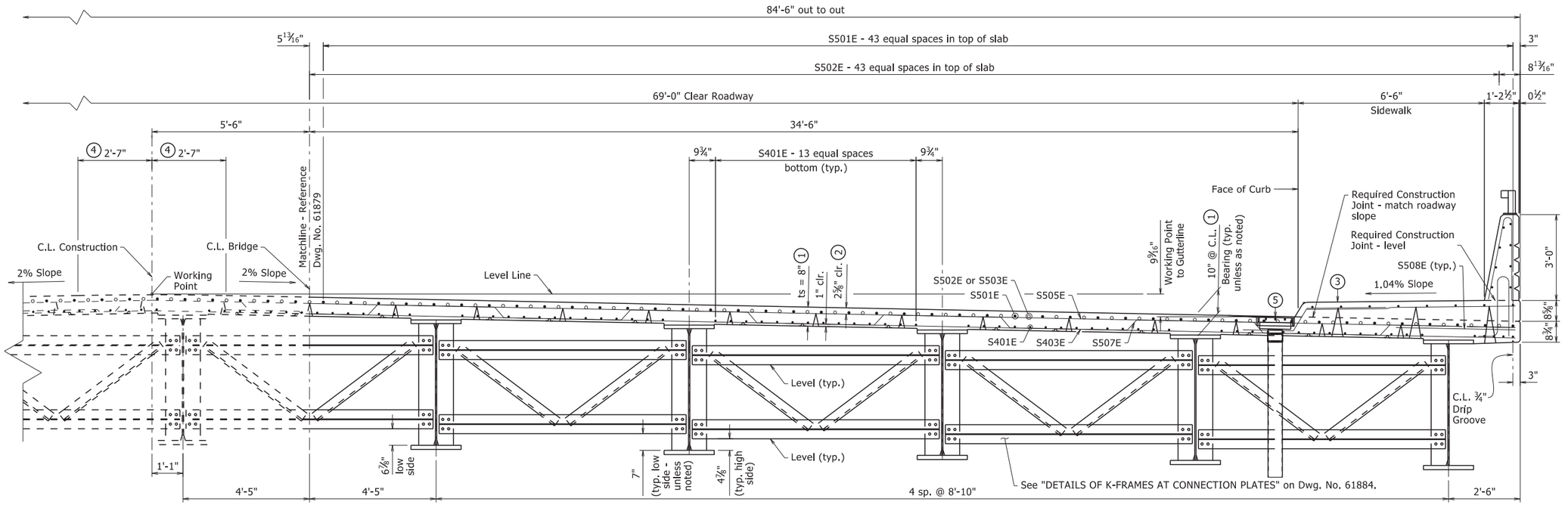
At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bar S506E & S507E. Payment for reinforcing will be based on the weight of bar S506E & S507E.

Bar positions and clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06. Placement of slab bolsters or hi-chairs with full-length lower runners directly on removable deck forms will not be allowed.

Slab Reinforcing

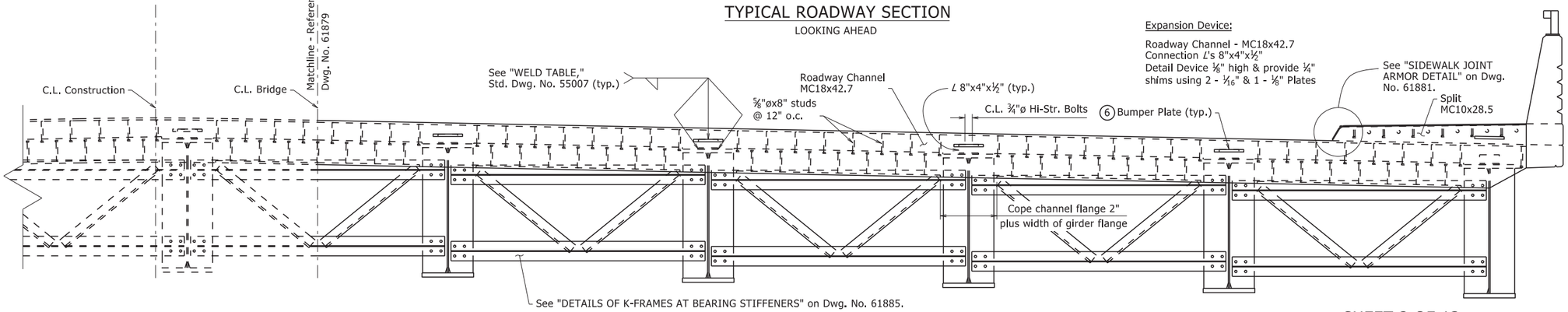
Longitudinal: S501E in top (place as shown), S401E in bottom (place as shown)
S502E & S503E placed as shown, see "REINFORCING PLAN & DECK POURING SEQUENCE", Dwg. Nos. 61889 & 61890.

Transverse: S504E & S505E @ 12" o.c. in top, S402E & S403E @ 12" o.c. in bottom — Alternate
S506E & S507E @ 12" o.c. bent up over beams
S508E @ 6" in top of overhangs (bundled with #5 bars) both sides



TYPICAL ROADWAY SECTION

LOOKING AHEAD



TYPICAL ROADWAY SECTION THRU JOINT

LOOKING AHEAD

NOTES:

1. See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.
2. Tolerance Minus = ¼":
   Plus = to the amount of slab thickness used to meet slab thickness tolerance
   See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.
3. For additional information see "SIDEWALK DETAIL" on Dwg. No. 61881.
4. See "ROUNDING DETAIL", Std. Dwg. No. 55007.
5. For details of Deck Drains, see Dwg. No. 61914.
6. For size of Bumper Plate, see "TABLE OF SILICONE JOINT DATA", on Dwg. No. 61881.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Charles R. Ellis
Sep 2 2020 8:49 AM
DocuSign
BRIDGE ENGINEER

SHEET 2 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

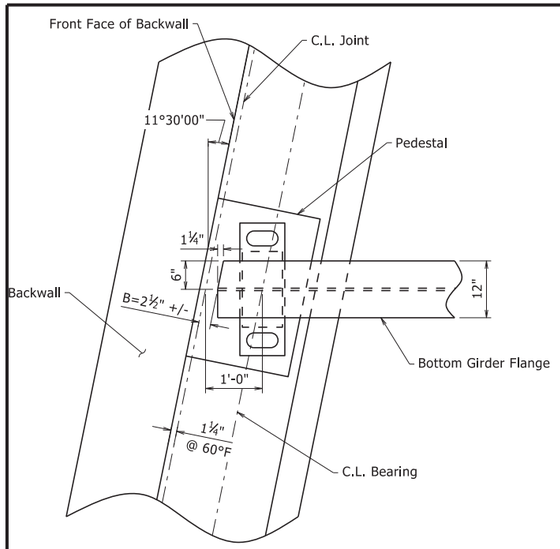
DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019
FILENAME: b080457x1_s1.dgn
SCALE: ½" = 1'-0"

BRIDGE NO. 07499 DRAWING NO. 61880

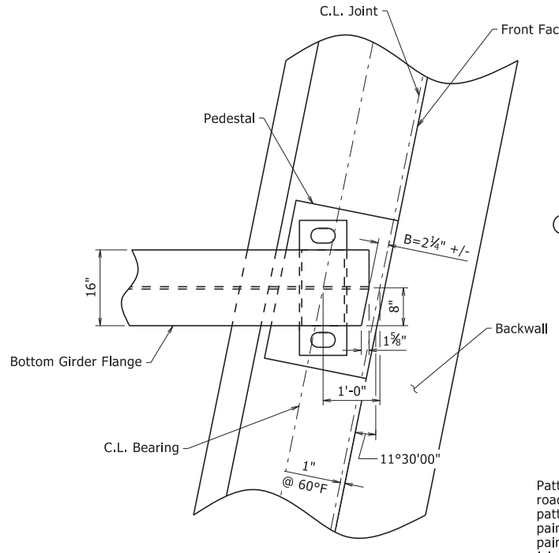
PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	249	517

(1) 07499 - SPAN DETAILS - 61881



PLAN OF BENT 1 BEARING



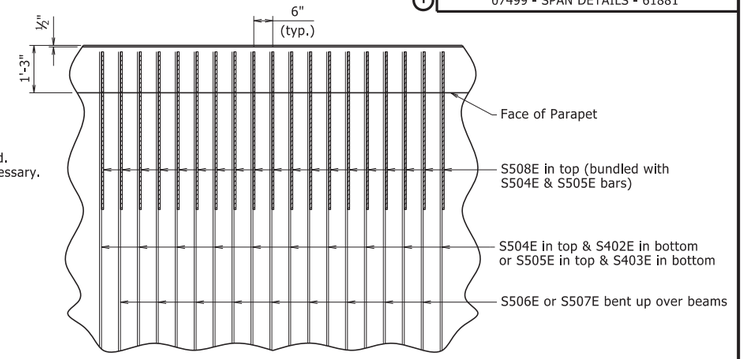
PLAN OF BENT 4 BEARING

TABLE OF SILICONE JOINT DATA

For details of poured silicone joint, see Std. Dwg. No. 55008.

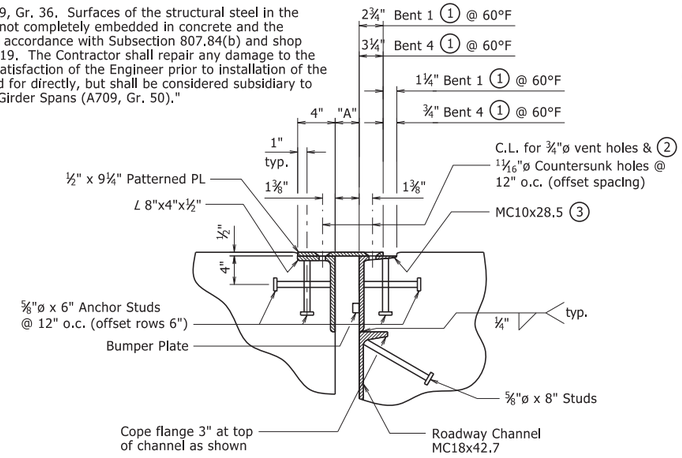
Bent Number	"A" Width Perpendicular to Joint at 24 Hour Average Temperature (1) of:			"B" Perpendicular to Joint at 60°F	Bumper Plate Size
	40°F	60°F	80°F		
1	2⅞"	2½"	2⅛"	2½" ±	1" x 1¼" x 12"
4	2¼"	2"	1¾"	2¼" ±	1" x 1" x 12"

(1) The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The engineer shall establish the temperature. Interpolation of the table may be necessary.



DETAIL A

Patterned Plate shall be ASTM A709, Gr. 36. Surfaces of the structural steel in the roadway and sidewalk joint armor not completely embedded in concrete and the patterned plate shall be cleaned in accordance with Subsection 807.84(b) and shop painted Brown, Color Chip No. 30219. The Contractor shall repair any damage to the paint at their expense and to the satisfaction of the Engineer prior to installation of the joint seal. Painting will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (A709, Gr. 50)."

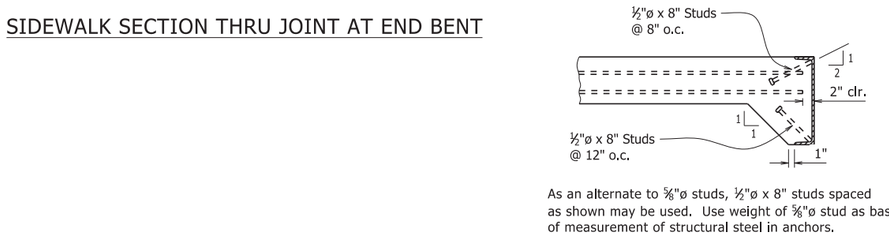


SIDEWALK SECTION THRU JOINT AT END BENT

(2) Countersunk 1 1/16"ø holes in ½" Patterned Plate. Tap 4" leg of channel & angle for ASTM A449 ⅝"ø screws @ 12" o.c. Install screws in the shop and ship as a unit. Screws on the span to be removed. Screws on the Backwall to remain in place after erection. See "Expansion Device Installation" on Std. Dwg. No. 55008.

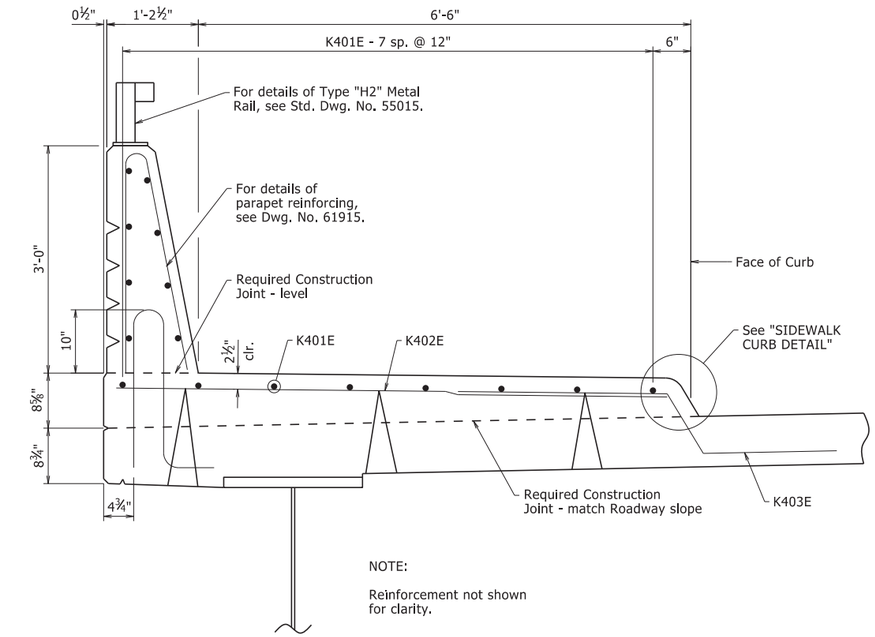
(3) Trim vertical leg of MC10x28.5 as needed.

Note: Concrete shall be hand packed under the joint armor in the sidewalk.

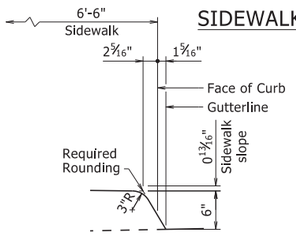


As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced as shown may be used. Use weight of ⅝"ø stud as basis of measurement of structural steel in anchors.

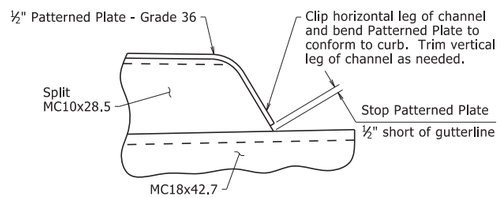
DETAILS OF ALTERNATE ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT



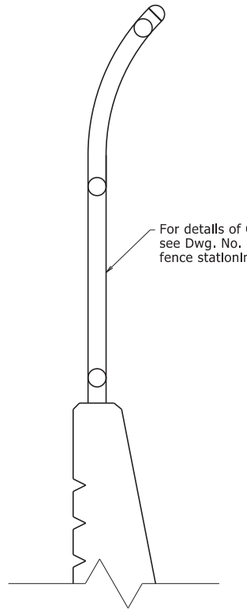
SIDEWALK DETAIL



SIDEWALK CURB DETAIL



SIDEWALK JOINT ARMOR DETAIL



FENCE DETAIL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:49 AM
BRIDGE ENGINEER

SHEET 3 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

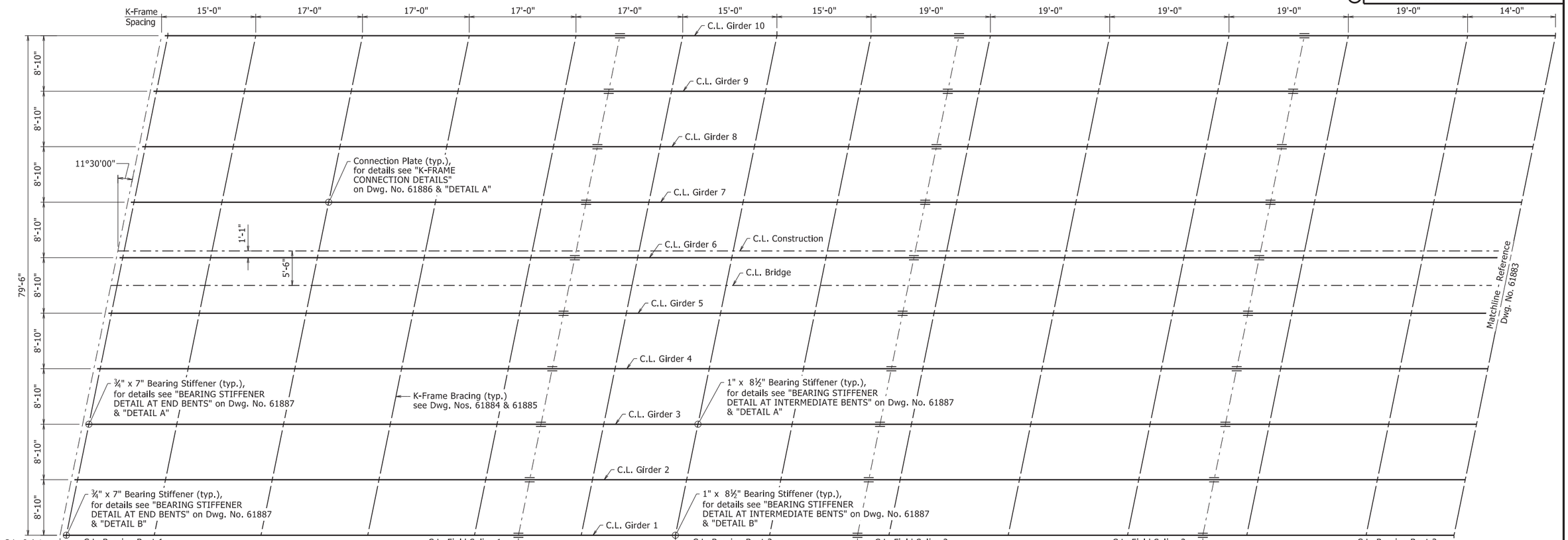
DRAWN BY:	CGP	DATE:	12/02/2019	FILENAME:	b080457x1_s1.dgn
CHECKED BY:	DHP	DATE:	08/26/2020	SCALE:	NO SCALE
DESIGNED BY:	KJT	DATE:	11/2019		

BRIDGE NO. 07499 DRAWING NO. 61881

PRINT DATE: 8/26/2020

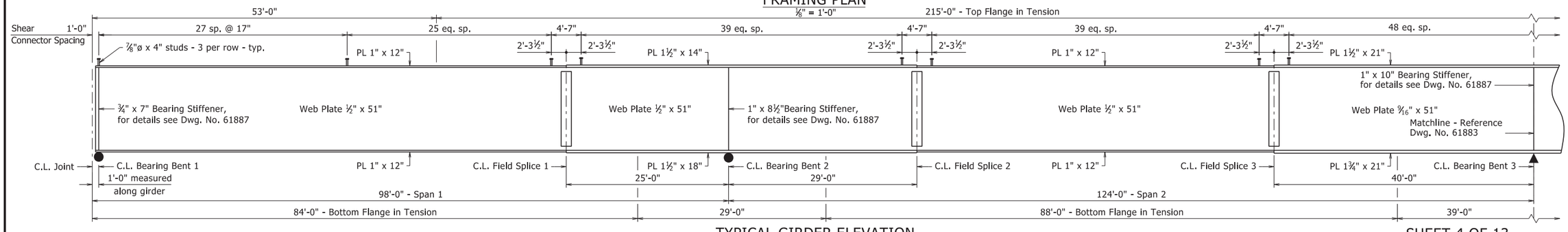
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	250	517

(1) 07499 - SPAN DETAILS - 61882



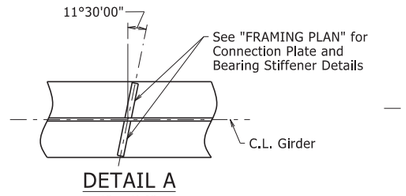
FRAMING PLAN

⅛" = 1'-0"



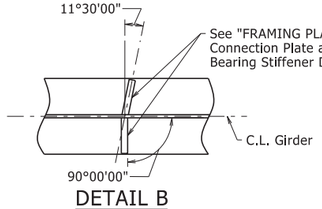
TYPICAL GIRDER ELEVATION

⅛" = 1'-0"



DETAIL A

1" = 1'-0"



DETAIL B

1" = 1'-0"

NOTES:

All Structural Steel shall be ASTM A709, Gr. 50 unless otherwise noted, and shall be paid for as "Structural Steel in Plate Girder Spans (A709, Gr. 50)."

For additional information, see Layout.

For General Notes, see Std. Dwg. No. 55006.

For additional details, see Std. Dwg. No. 55007.

For Details of Field Splices 1-4, see Dwg. No. 61888.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
Sep 2 2020 8:49 AM
BRIDGE ENGINEER

SHEET 4 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	12/02/2019	FILENAME:	b080457x1_s1.dgn
CHECKED BY:	DHP	DATE:	08/26/2020	SCALE:	AS NOTED
DESIGNED BY:	KJT	DATE:	11/2019		

BRIDGE NO. 07499 DRAWING NO. 61882

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	251	517
				07499 - SPAN DETAILS - 61883				

NOTES:

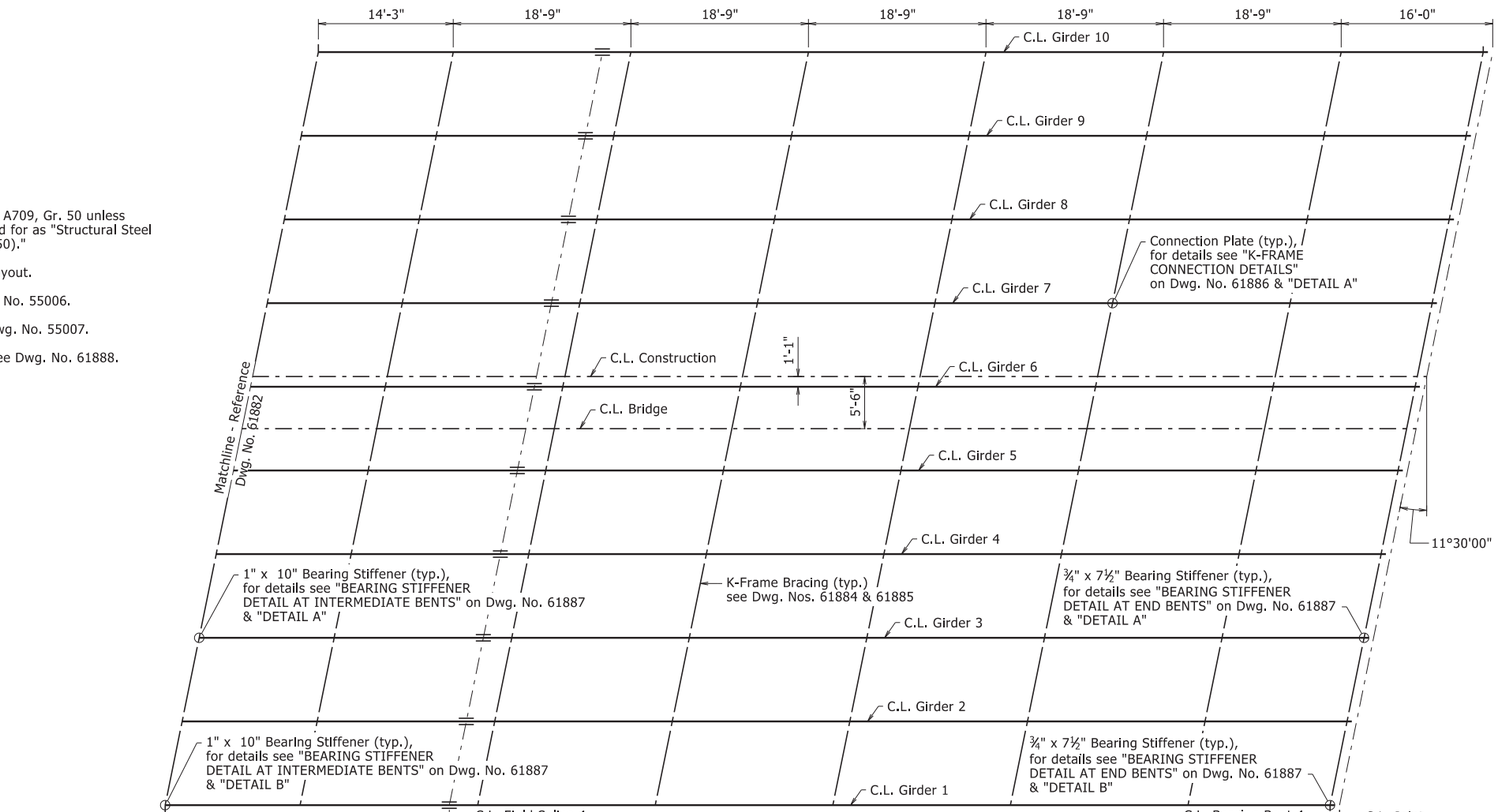
All Structural Steel shall be ASTM A709, Gr. 50 unless otherwise noted, and shall be paid for as "Structural Steel In Plate Girder Spans (A709, Gr. 50)."

For additional information, see Layout.

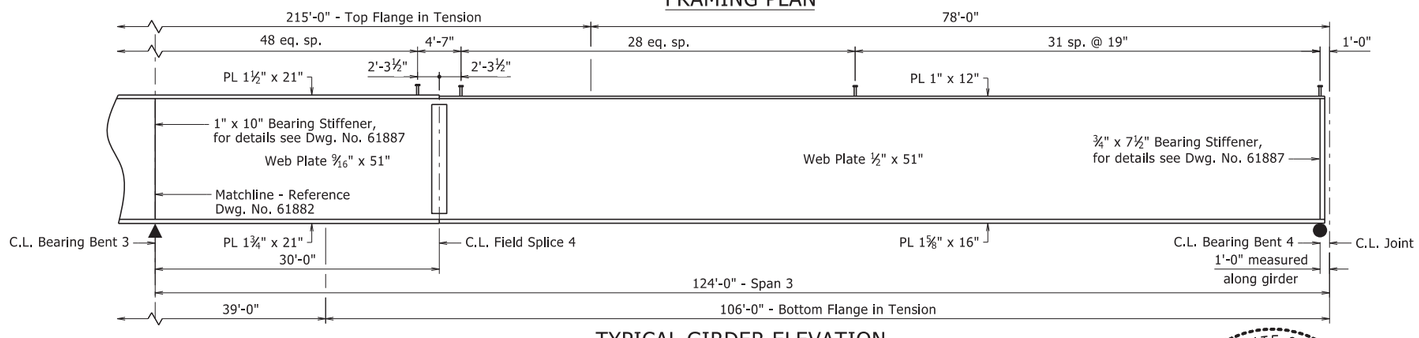
For General Notes, see Std. Dwg. No. 55006.

For additional details, see Std. Dwg. No. 55007.

For Details of Field Splices 1-4, see Dwg. No. 61888.



FRAMING PLAN



TYPICAL GIRDER ELEVATION

STATE OF ARKANSAS
* * *
LICENSED PROFESSIONAL ENGINEER
* * *
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:49 AM

BRIDGE ENGINEER

SHEET 5 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

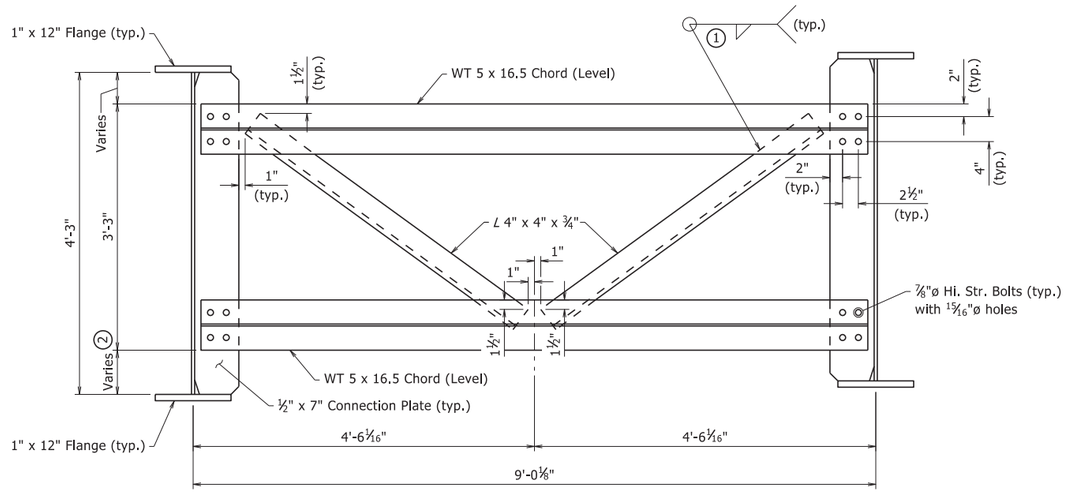
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

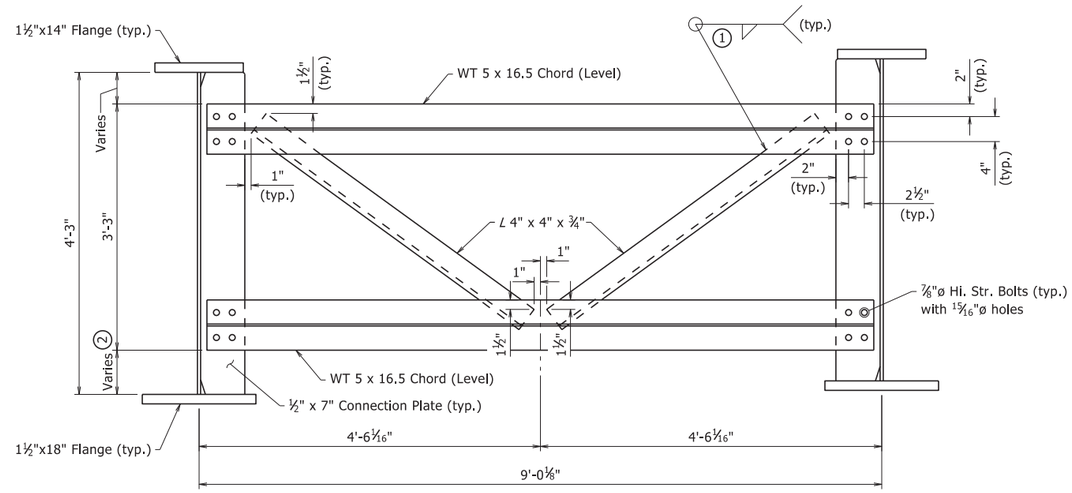
DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019
FILENAME: b080457x1_s1.dgn
SCALE: 1/8" = 1'-0"

BRIDGE NO. 07499 DRAWING NO. 61883

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	252	517
				①	07499 - SPAN DETAILS - 61884			



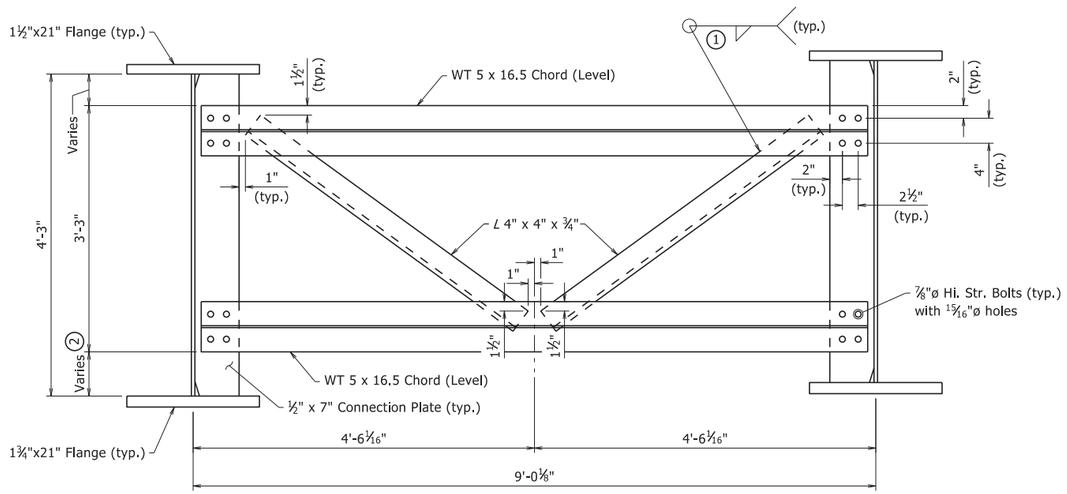


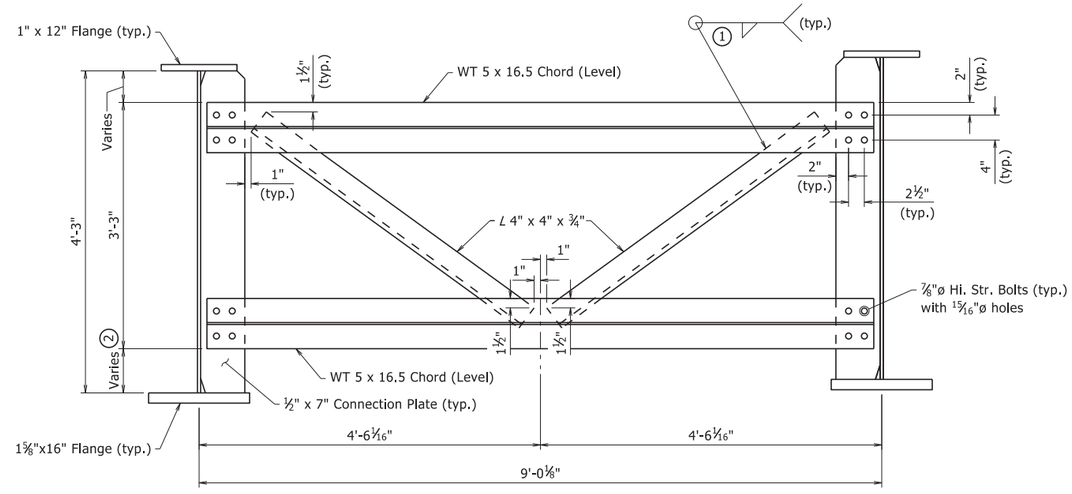
NOTES:

① See "WELD TABLE", Std. Dwg. No. 55007.

② See "TYPICAL ROADWAY SECTION", Dwg. Nos. 61879 & 61880.

See "K-FRAME CONNECTION DETAILS" on Dwg. No. 61886.





DETAILS OF K-FRAMES AT CONNECTION PLATES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:49 AM

BRIDGE ENGINEER

SHEET 6 OF 13
DETAILS OF 346'-0" CONTINUOUS
PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019
FILENAME: b080457x1_s1.dgn
SCALE: 1" = 1'-0"

BRIDGE NO. 07499
DRAWING NO. 61884

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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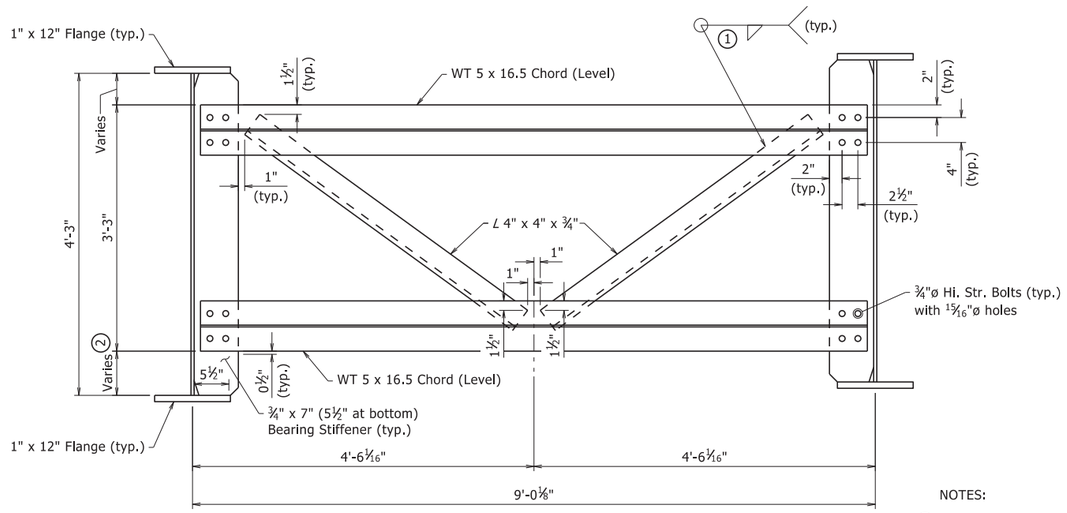
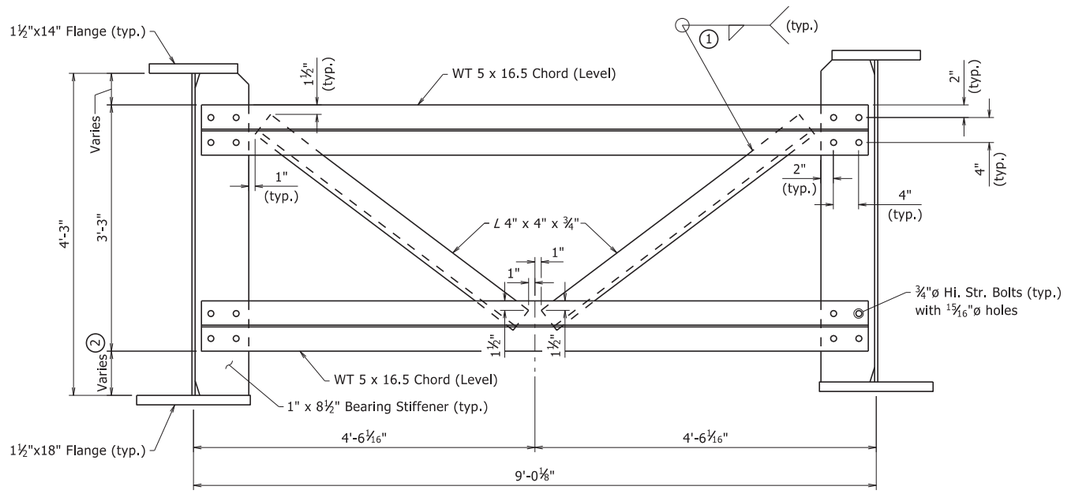
				JOB NO.		080457	253	517
				①	07499 - SPAN DETAILS - 61885			



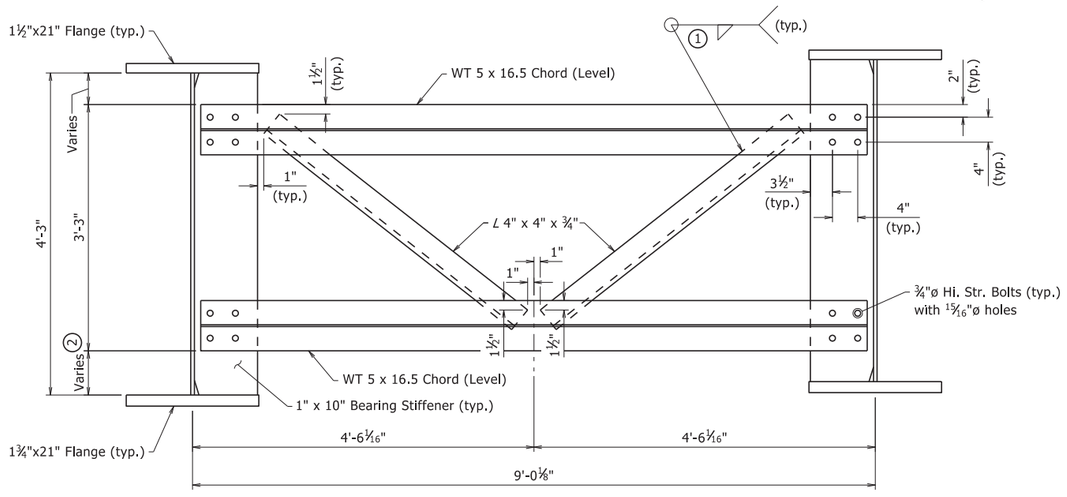


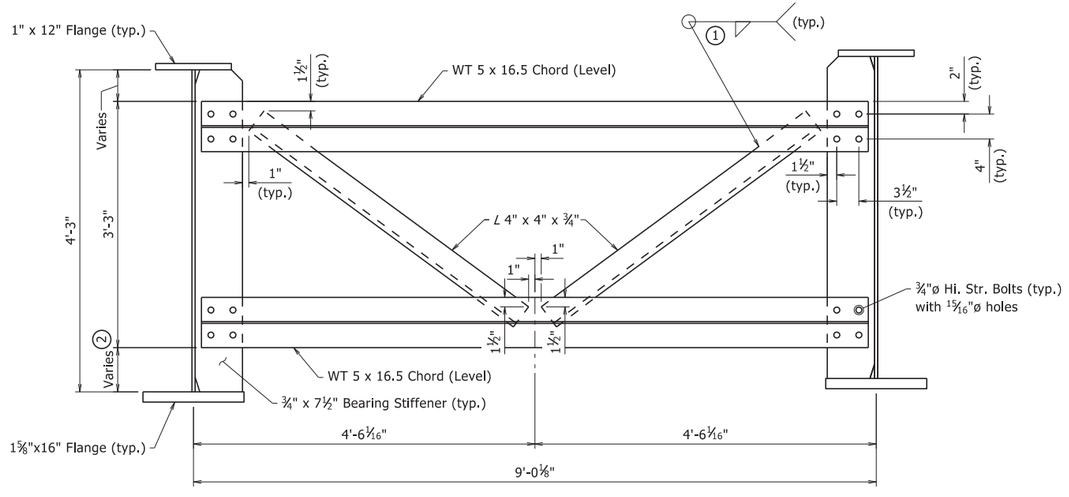
NOTES:

① See "WELD TABLE", Std. Dwg. No. 55007.

② See "TYPICAL ROADWAY SECTION", Dwg. Nos. 61878 & 61879.

See "BEARING STIFFENER DETAIL AT END BENTS" & "BEARING STIFFENER DETAIL AT INTERMEDIATE BENTS" on Dwg. No. 61886.





DETAILS OF K-FRAMES AT BEARING STIFFENERS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:50 AM

Charles R. Ellis

BRIDGE ENGINEER

DocuSign

SHEET 7 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	12/02/2019	FILENAME:	b080457x1_s1.dgn
CHECKED BY:	DHP	DATE:	08/26/2020	SCALE:	1" = 1'-0"
DESIGNED BY:	KJT	DATE:	11/2019		

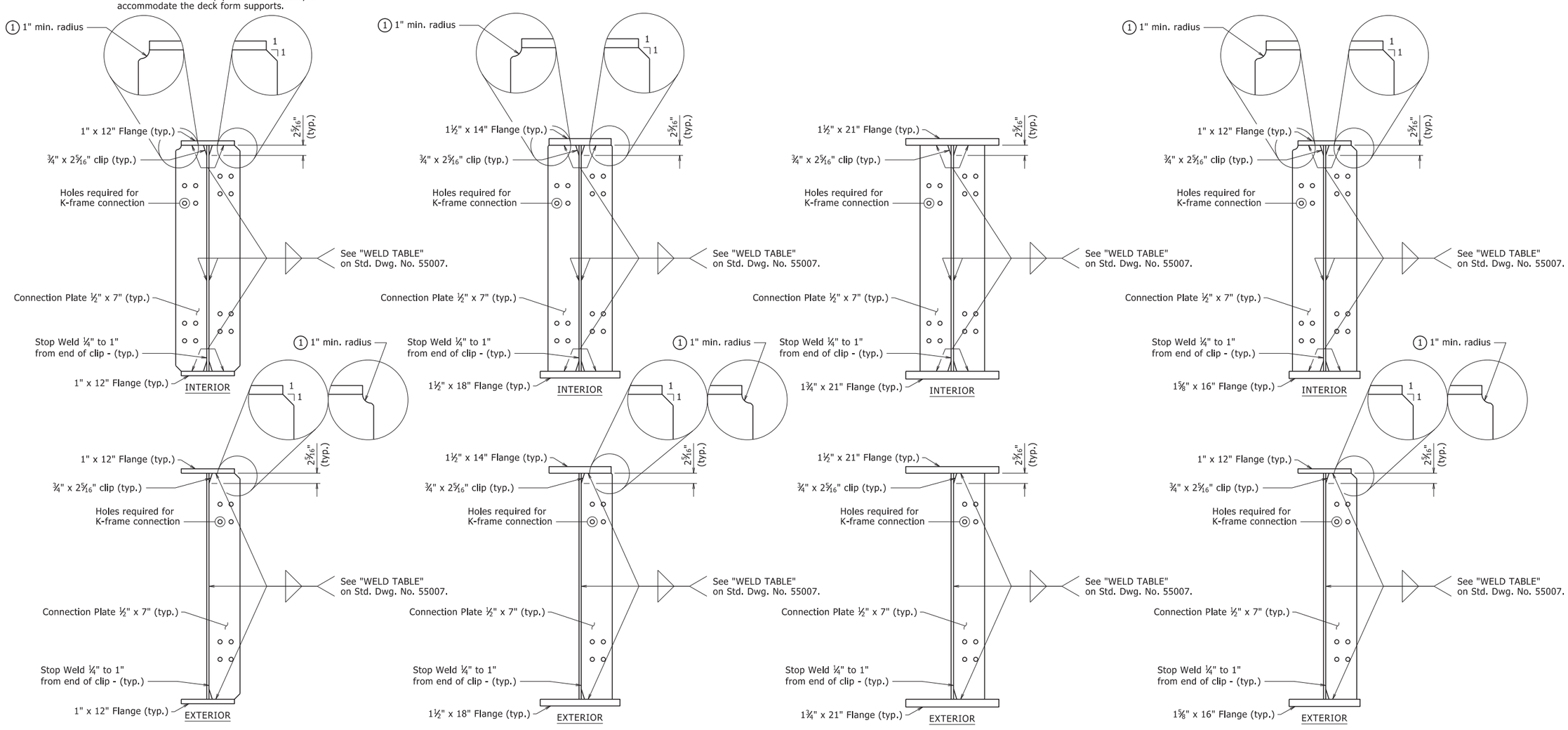
BRIDGE NO. 07499 DRAWING NO. 61885

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	254	517
				(1)		07499 - SPAN DETAILS - 61886		

NOTE:

(1) If permanent steel bridge deck forms are used, the Fabricator shall clip plates as necessary to accommodate the deck form supports.



K-FRAME CONNECTION DETAILS

PRINT DATE: 8/26/2020

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:50 AM

BRIDGE ENGINEER

SHEET 8 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

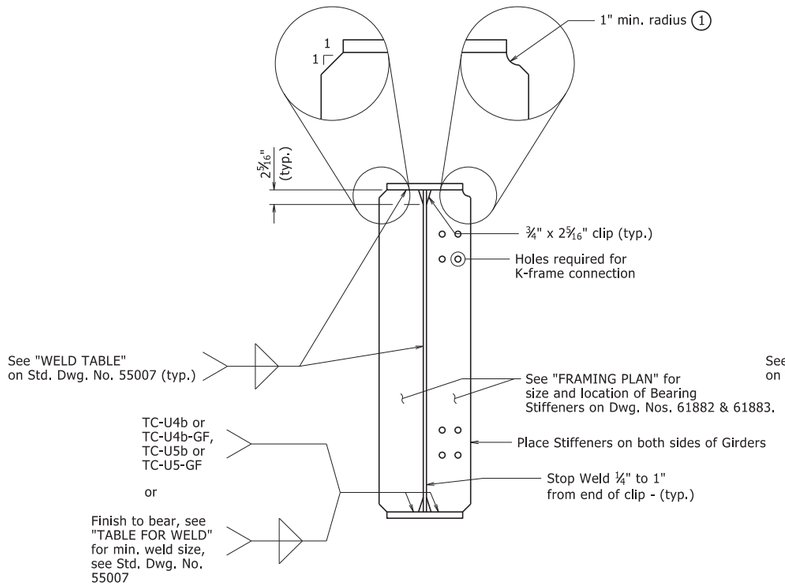
DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019
FILENAME: b080457x1_s1.dgn
SCALE: 1" = 1'-0"

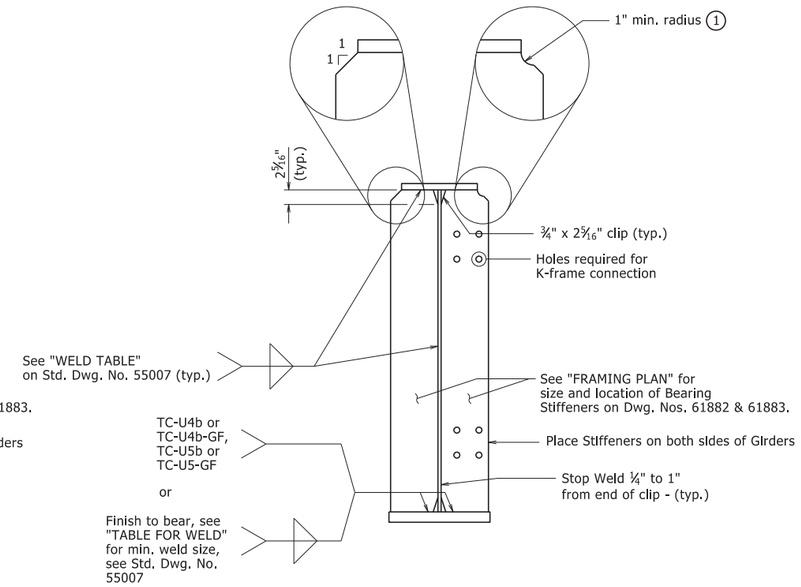
BRIDGE NO. 07499 DRAWING NO. 61886

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	255	517
				(1)		07499 - SPAN DETAILS - 61887		

NOTE:

(1) If permanent steel bridge deck forms are used, the Fabricator shall clip plates as necessary to accommodate the deck form supports.

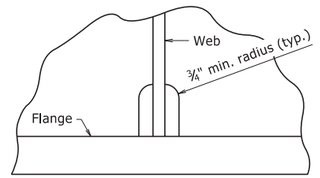




NOTE: All bearing stiffeners shall be vertical in their final position.

BEARING STIFFENER DETAIL AT END BENTS

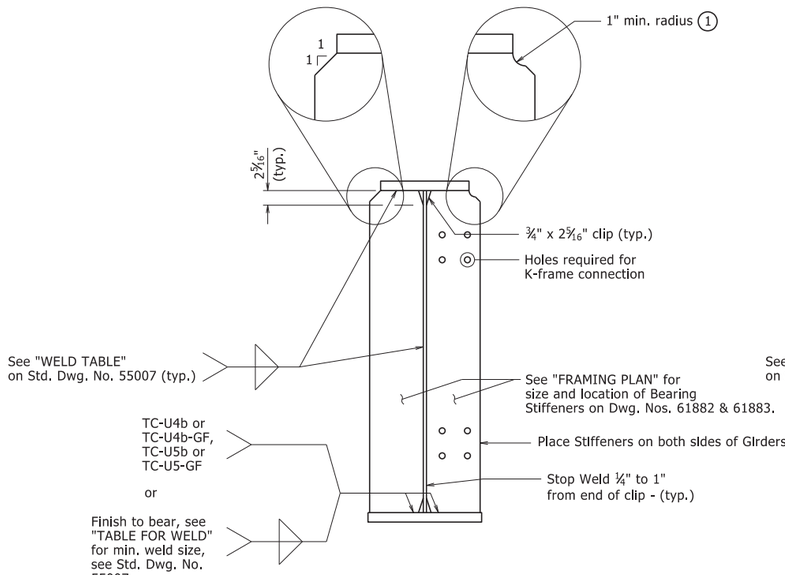
(Shown at Exterior Girders)
1" = 1'-0"

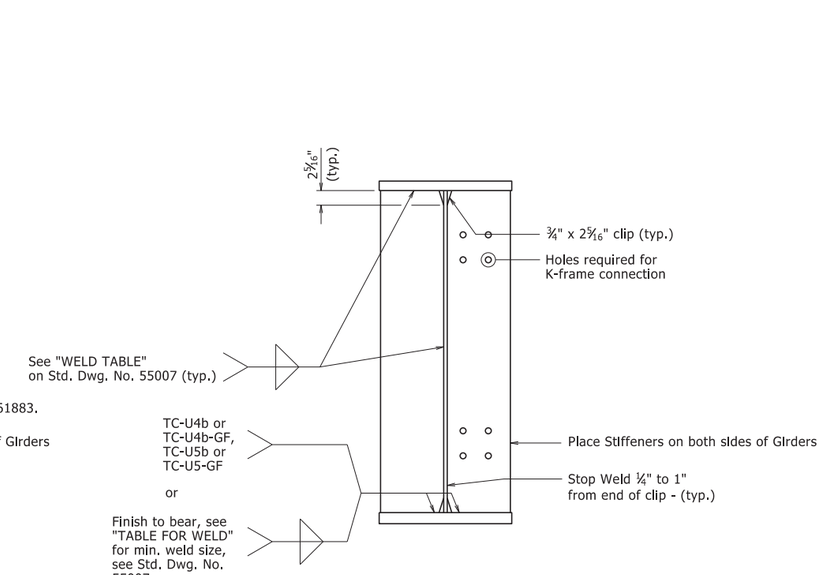


For Bearing Stiffeners and K-Frame Connection Plates.
Height and width of clip shall be as noted in the plans.

ALTERNATE CLIP DETAIL

No Scale





NOTE: All bearing stiffeners shall be vertical in their final position.

BEARING STIFFENER DETAIL AT INTERMEDIATE BENTS

(Shown at Exterior Girders)
1" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:50 AM

BRIDGE ENGINEER

SHEET 9 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

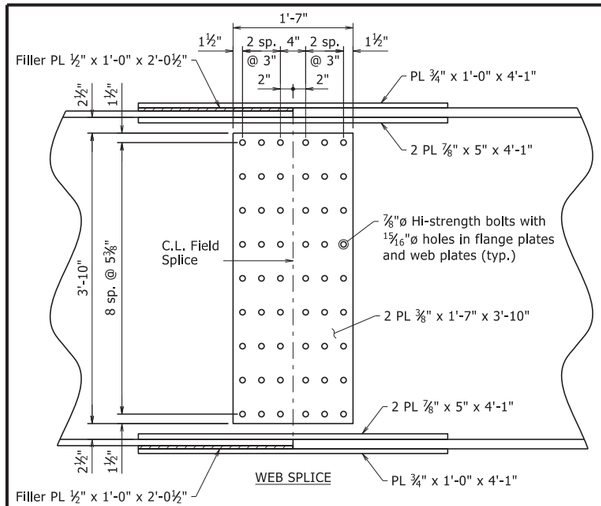
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

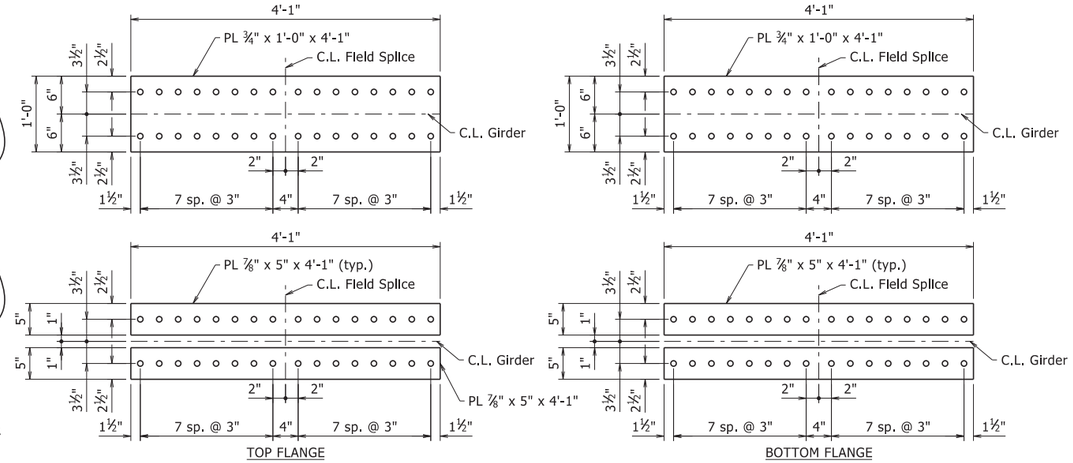
DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019
FILENAME: b080457x1_s1.dgn
SCALE: AS NOTED

BRIDGE NO. 07499 DRAWING NO. 61887

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	256	517
				①	07499 - SPAN DETAILS - 61888			





DETAILS OF FIELD SPLICE 1 & 2

NOTES:

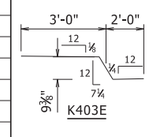
All Field Splice plates shall be ASTM A709, Gr. 50. For location of field splices, see Dwg. Nos. 61882 & 61883.

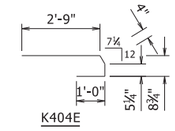
Bolted field splices may either be eliminated or shop welded splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

BAR LIST

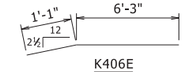
MARK	NO. REQ'D	LENGTH	P.D.
K401E	128	45'-0"	Str.
K402E	672	7'-3"	Str.
K403E	674	5'-5"	2"
K404E	16	4'-6"	2"
K405E	2	5'-0"	Str.
K406E	2	7'-4"	2"
P401E	1384	5'-11"	2½"
P402E	1384	4'-11"	①
P403E	32	12'-8"	Str.
P404E	32	14'-8"	Str.
P405E	32	16'-8"	Str.
P406E	192	17'-8"	Str.
P407E	32	19'-8"	Str.
S401E	1088	45'-0"	Str.
S402E	329	41'-1"	Str.
S403E	329	45'-6"	Str.
S501E	528	59'-8"	Str.
S502E	87	53'-0"	Str.
S503E	87	55'-0"	Str.
S504E	329	27'-10"	Str.
S505E	329	58'-9"	Str.
S506E	328	35'-10"	3"
S507E	328	53'-11"	3"
S508E	1378	3'-11"	Str.
S509E	8	44'-9"	3¾"
S510E	8	4'-10"	3¾"
S511E - S532E	4 ea.	6'-3" - 57'-11"	Str.
S533E	40	43'-11"	Str.
S534E - S543E	4 ea.	20'-1" - 42'-3"	Str.

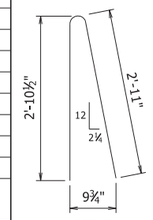
BENDING DIAGRAMS

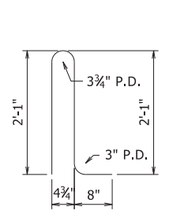


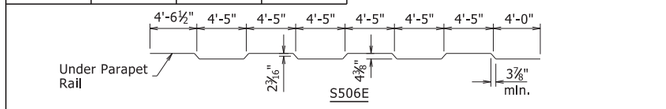


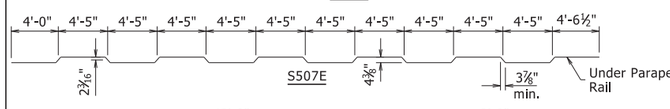
① See Bending Diagram

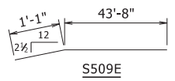


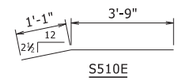






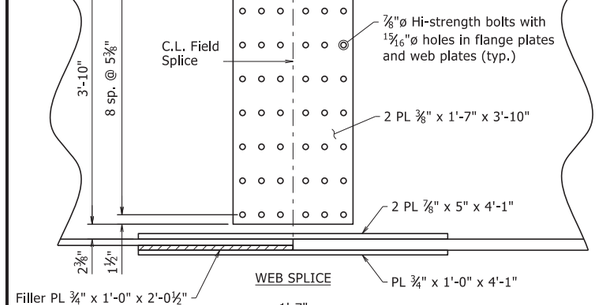


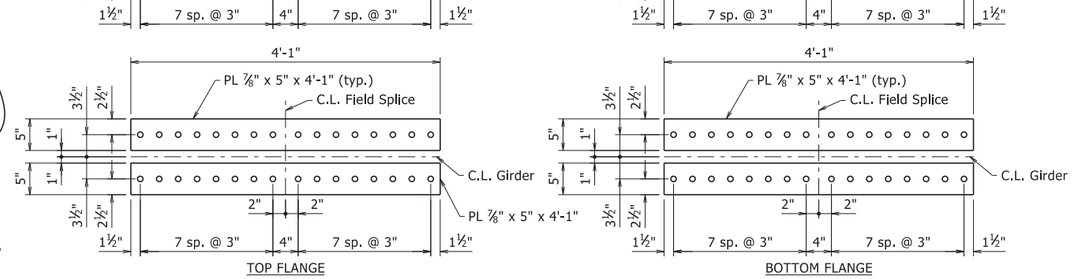




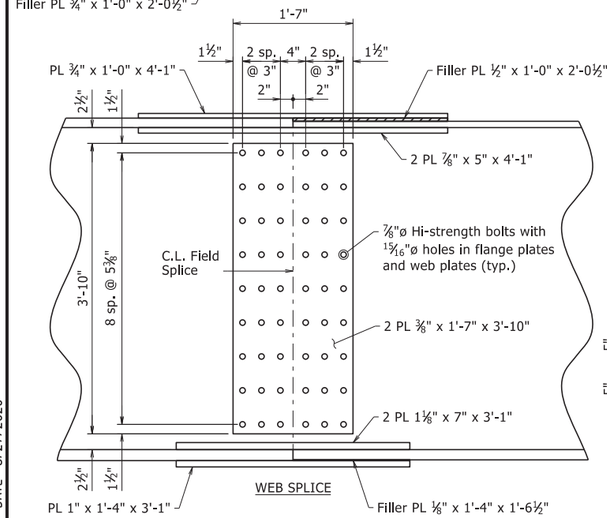
Dimensions are out to out of bars.

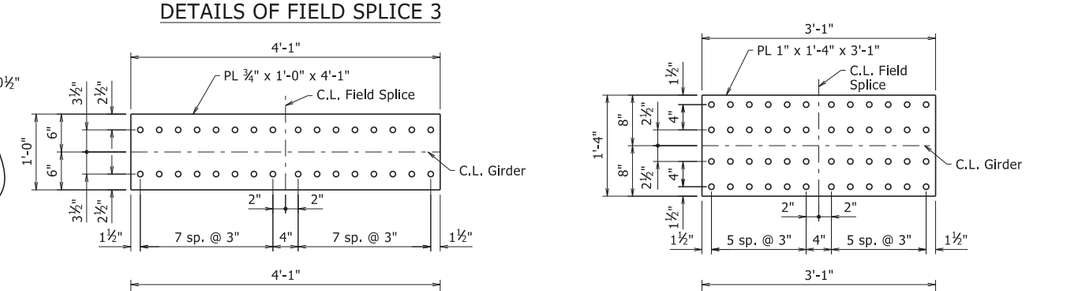
Bars with an "E" suffix are to be epoxy coated.





DETAILS OF FIELD SPLICE 3





DETAILS OF FIELD SPLICE 4

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:50 AM
BRIDGE ENGINEER

SHEET 10 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019
FILENAME: b080457x1_s1.dgn
SCALE: 1" = 1'-0"

BRIDGE NO. 07499 DRAWING NO. 61888

PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	257	517
				(1)	07499 - SPAN DETAILS - 61889			

NOTES:

Pours must be placed in sequence shown. Deflections provided are based on the pouring sequence shown. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown. Any deviations, if approved, may require adjustment to the deflections provided. Pour 1 must be placed before Pour 2 can be placed. Pour 3 must be placed before Pour 4 can be placed. Pour 4 must be placed before Pour 5 can be placed. A minimum of 48 hours shall elapse between the end of a pour and the start of the next pour. A minimum of 72 hours shall elapse between the end of a pour and the start of an adjacent pour. A minimum of 72 hours shall elapse between the completion of the bridge deck pour and the start of the sidewalk pour. A minimum of 72 hours shall elapse between the end of the sidewalk pour and the start of the parapet railing pour. Any sidewalk or railing pours made before the entire slab unit has been placed must be approved by the Engineer.

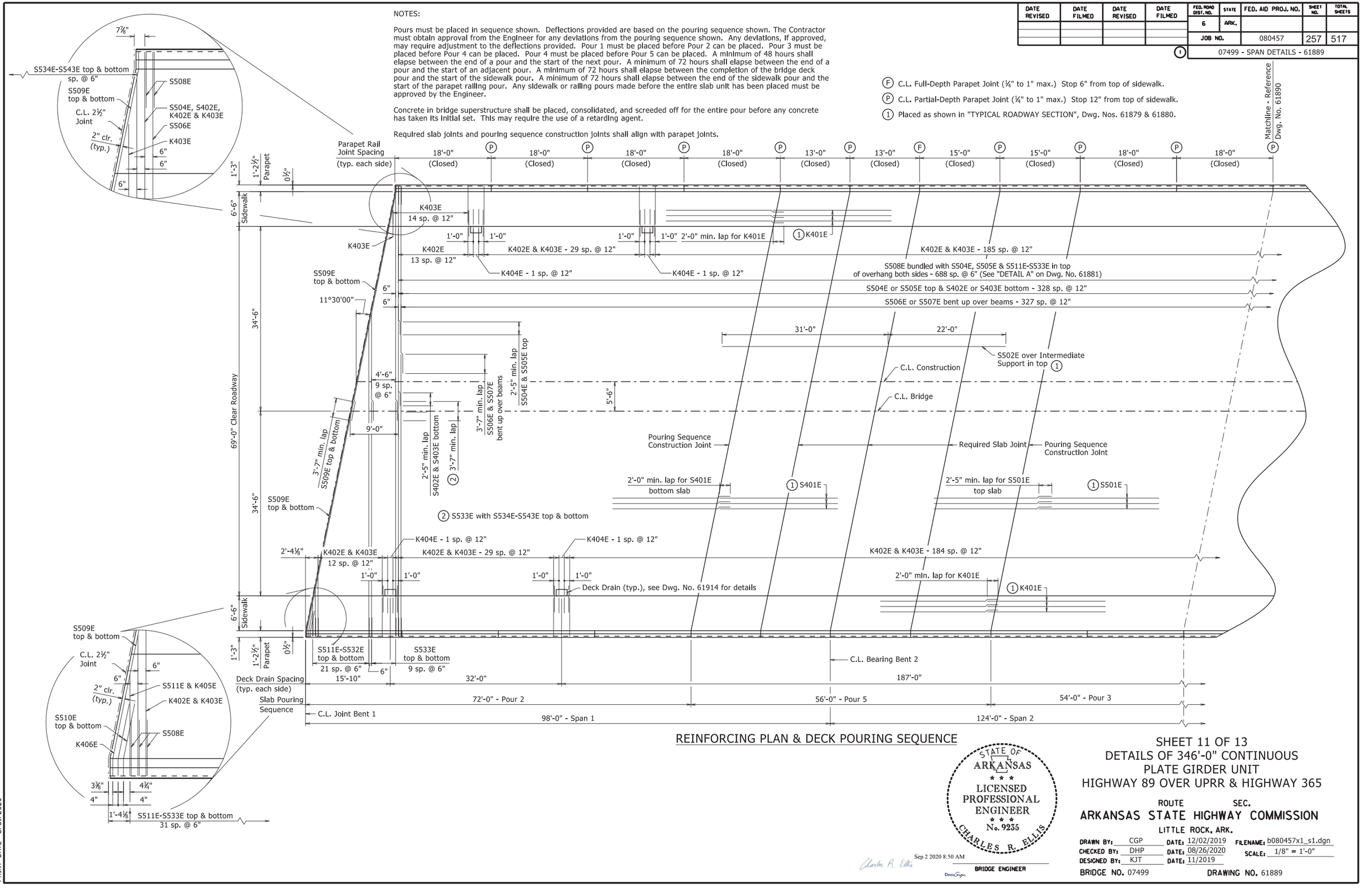
Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

Required slab joints and pouring sequence construction joints shall align with parapet joints.

(F) C.L. Full-Depth Parapet Joint (¼" to 1" max.) Stop 6" from top of sidewalk.

(P) C.L. Partial-Depth Parapet Joint (¼" to 1" max.) Stop 12" from top of sidewalk.

(1) Placed as shown in "TYPICAL ROADWAY SECTION", Dwg. Nos. 61879 & 61880.



REINFORCING PLAN & DECK POURING SEQUENCE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:50 AM

BRIDGE ENGINEER

SHEET 11 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019

FILENAME: b080457x1_s1.dgn
SCALE: 1/8" = 1'-0"

BRIDGE NO. 07499

DRAWING NO. 61889

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	258	517
				(1)	07499 - SPAN DETAILS - 61890			

NOTES:

Pours must be placed in sequence shown. Deflections provided are based on the pouring sequence shown. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown. Any deviations, if approved, may require adjustment to the deflections provided. Pour 1 must be placed before Pour 2 can be placed. Pour 3 must be placed before Pour 4 can be placed. Pour 4 must be placed before Pour 5 can be placed. A minimum of 48 hours shall elapse between the end of a pour and the start of the next pour. A minimum of 72 hours shall elapse between the end of a pour and the start of an adjacent pour. A minimum of 72 hours shall elapse between the completion of the bridge deck pour and the start of the sidewalk pour. A minimum of 72 hours shall elapse between the end of the sidewalk pour and the start of the parapet railing pour. Any sidewalk or railing pours made before the entire slab unit has been placed must be approved by the Engineer.

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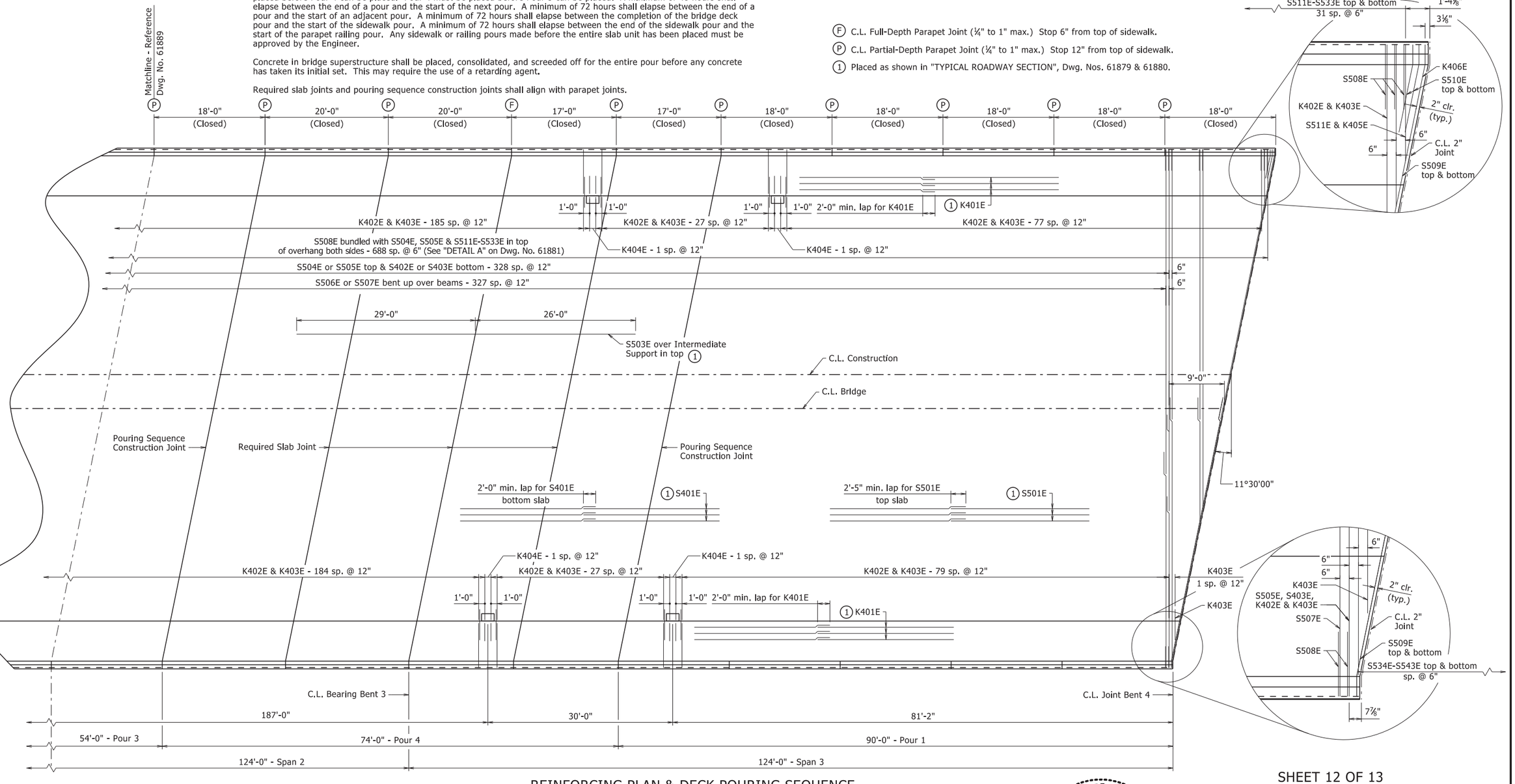


REINFORCING PLAN & DECK POURING SEQUENCE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:50 AM

BRIDGE ENGINEER

SHEET 12 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 12/02/2019
CHECKED BY: DHP DATE: 08/26/2020
DESIGNED BY: KJT DATE: 11/2019

FILENAME: b080457x1_s1.dgn
SCALE: 1/8" = 1'-0"

BRIDGE NO. 07499 DRAWING NO. 61890

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	259	517

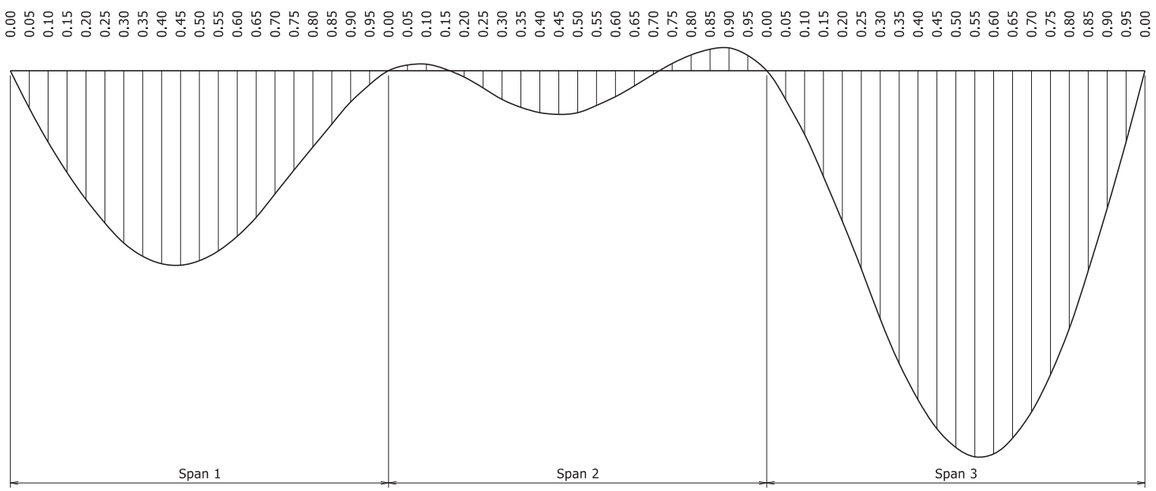
(1) 07499 - SPAN DETAILS - 61891

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel				Structural Steel + Slab				Structural Steel + Slab + Parapet + Sidewalk			
		Girder 1 &10	Girder 2 & 9	Girder 3 & 8	Girder 4, 5, 6, & 7	Girder 1 &10	Girder 2 & 9	Girder 3 & 8	Girder 4, 5, 6, & 7	Girder 1 &10	Girder 2 & 9	Girder 3 & 8	Girder 4, 5, 6, & 7
Span 1	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.05	0.047	0.049	0.050	0.051	0.340	0.370	0.388	0.397	0.412	0.419	0.416	0.406
	0.10	0.090	0.093	0.095	0.096	0.649	0.705	0.740	0.757	0.785	0.799	0.794	0.775
	0.15	0.127	0.132	0.135	0.136	0.926	1.005	1.056	1.080	1.120	1.139	1.132	1.105
	0.20	0.160	0.166	0.170	0.171	1.172	1.271	1.336	1.366	1.417	1.441	1.433	1.398
	0.25	0.188	0.195	0.199	0.201	1.386	1.503	1.579	1.615	1.675	1.704	1.694	1.653
	0.30	0.211	0.219	0.224	0.226	1.568	1.700	1.786	1.827	1.895	1.928	1.916	1.870
	0.35	0.225	0.234	0.239	0.241	1.692	1.834	1.927	1.971	2.041	2.078	2.066	2.017
	0.40	0.232	0.241	0.246	0.249	1.765	1.912	2.008	2.056	2.123	2.163	2.151	2.103
	0.45	0.232	0.240	0.246	0.248	1.786	1.933	2.031	2.078	2.140	2.181	2.172	2.124
	0.50	0.223	0.232	0.237	0.239	1.753	1.898	1.994	2.041	2.090	2.134	2.128	2.084
	0.55	0.210	0.217	0.222	0.225	1.671	1.807	1.898	1.944	1.983	2.025	2.022	1.984
	0.60	0.190	0.197	0.201	0.203	1.547	1.672	1.756	1.799	1.822	1.864	1.865	1.833
	0.65	0.165	0.172	0.175	0.177	1.381	1.494	1.568	1.606	1.613	1.655	1.659	1.634
	0.70	0.136	0.141	0.144	0.146	1.175	1.269	1.333	1.366	1.355	1.394	1.404	1.387
	0.75	0.107	0.111	0.114	0.115	0.962	1.038	1.090	1.117	1.094	1.129	1.141	1.132
	0.80	0.080	0.083	0.085	0.086	0.749	0.807	0.847	0.869	0.839	0.868	0.881	0.878
	0.85	0.054	0.056	0.057	0.058	0.536	0.577	0.605	0.621	0.588	0.612	0.624	0.626
	0.90	0.030	0.031	0.032	0.032	0.324	0.348	0.365	0.375	0.344	0.360	0.372	0.376
	0.95	0.012	0.013	0.013	0.013	0.149	0.160	0.168	0.172	0.153	0.162	0.169	0.172
Span 2	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.05	0.002	0.002	0.002	0.002	-0.095	-0.097	-0.102	-0.106	-0.062	-0.073	-0.088	-0.101
	0.10	0.010	0.011	0.011	0.011	-0.151	-0.152	-0.158	-0.166	-0.071	-0.095	-0.124	-0.154
	0.15	0.026	0.027	0.027	0.027	-0.159	-0.153	-0.159	-0.169	-0.018	-0.053	-0.100	-0.147
	0.20	0.048	0.050	0.051	0.051	-0.145	-0.131	-0.134	-0.147	0.070	0.022	-0.044	-0.114
	0.25	0.075	0.078	0.079	0.079	-0.110	-0.086	-0.086	-0.101	0.189	0.127	0.039	-0.056
	0.30	0.097	0.101	0.103	0.103	-0.053	-0.018	-0.013	-0.028	0.316	0.245	0.141	0.028
	0.35	0.114	0.119	0.121	0.121	-0.023	0.020	0.028	0.011	0.403	0.323	0.206	0.076
	0.40	0.126	0.131	0.134	0.134	-0.009	0.038	0.048	0.030	0.461	0.372	0.244	0.101
	0.45	0.131	0.136	0.139	0.139	-0.013	0.035	0.046	0.027	0.481	0.386	0.251	0.102
	0.50	0.128	0.133	0.136	0.136	-0.034	0.014	0.023	0.004	0.462	0.366	0.229	0.079
	0.55	0.114	0.119	0.121	0.121	-0.088	-0.046	-0.040	-0.060	0.382	0.287	0.155	0.010
	0.60	0.097	0.101	0.103	0.103	-0.145	-0.110	-0.108	-0.129	0.286	0.195	0.070	-0.065
	0.65	0.073	0.077	0.079	0.078	-0.207	-0.179	-0.181	-0.203	0.167	0.085	-0.027	-0.148
	0.70	0.050	0.053	0.054	0.054	-0.272	-0.254	-0.262	-0.282	0.040	-0.034	-0.133	-0.236
	0.75	0.027	0.029	0.030	0.030	-0.324	-0.317	-0.328	-0.347	-0.079	-0.144	-0.227	-0.311
	0.80	0.004	0.006	0.006	0.006	-0.347	-0.347	-0.361	-0.379	-0.173	-0.225	-0.289	-0.354
	0.85	-0.016	-0.015	-0.015	-0.016	-0.339	-0.346	-0.360	-0.376	-0.236	-0.273	-0.317	-0.361
	0.90	-0.023	-0.023	-0.024	-0.024	-0.302	-0.313	-0.327	-0.339	-0.251	-0.277	-0.305	-0.332
	0.95	-0.018	-0.018	-0.018	-0.019	-0.183	-0.191	-0.200	-0.207	-0.167	-0.179	-0.193	-0.205
Span 3	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.05	0.042	0.043	0.043	0.044	0.294	0.314	0.328	0.337	0.318	0.329	0.336	0.340
	0.10	0.094	0.096	0.097	0.098	0.634	0.678	0.708	0.727	0.701	0.722	0.733	0.736
	0.15	0.158	0.162	0.164	0.165	1.033	1.106	1.156	1.185	1.165	1.194	1.206	1.202
	0.20	0.228	0.233	0.236	0.238	1.449	1.552	1.623	1.664	1.658	1.693	1.703	1.692
	0.25	0.303	0.309	0.314	0.316	1.883	2.017	2.110	2.163	2.180	2.219	2.225	2.204
	0.30	0.382	0.390	0.396	0.399	2.334	2.500	2.616	2.681	2.730	2.772	2.771	2.736
	0.35	0.454	0.464	0.471	0.475	2.732	2.926	3.062	3.139	3.220	3.262	3.253	3.208
	0.40	0.514	0.526	0.533	0.538	3.055	3.271	3.423	3.509	3.619	3.660	3.645	3.590
	0.45	0.564	0.576	0.585	0.590	3.311	3.543	3.710	3.803	3.938	3.978	3.958	3.894
	0.50	0.597	0.611	0.620	0.625	3.473	3.717	3.891	3.988	4.144	4.182	4.157	4.085
	0.55	0.617	0.631	0.640	0.645	3.550	3.798	3.976	4.075	4.246	4.282	4.253	4.176
	0.60	0.617	0.630	0.640	0.645	3.518	3.763	3.941	4.038	4.215	4.247	4.218	4.140
	0.65	0.595	0.608	0.618	0.622	3.371	3.606	3.777	3.870	4.041	4.071	4.043	3.967
	0.70	0.556	0.568	0.577	0.582	3.131	3.350	3.508	3.595	3.753	3.781	3.754	3.685
	0.75	0.498	0.510	0.517	0.521	2.792	2.989	3.128	3.205	3.344	3.370	3.345	3.284
	0.80	0.425	0.435	0.441	0.445	2.370	2.537	2.656	2.721	2.836	2.856	2.838	2.787
	0.85	0.332	0.339	0.345	0.347	1.845	1.975	2.069	2.118	2.200	2.216	2.206	2.168
	0.90	0.230	0.235	0.239	0.241	1.275	1.366	1.430	1.465	1.516	1.528	1.522	1.498
	0.95	0.119	0.122	0.124	0.125	0.660	0.707	0.740	0.758	0.782	0.788	0.786	0.775
	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note:
Camber for dead load deflection plus vertical curve ± ¼" tolerance. Deflections shown are along C.L. Girder from a chord from C.L. Bearing to C.L. Bearing. Negative sign (-) indicates point above chord. Vertical curve corrections not included.

Dead load deflections shown include an assumed loading of 18 psf to account for stay-in-place metal deck forms. Revisions to the deflection table may be necessary upon review of the Contractor's submitted forming details or approved changes to the pouring sequence shown in "REINFORCING PLAN & DECK POURING SEQUENCE" on Dwg. Nos. 61889 & 61890.



DEAD LOAD DEFLECTION DIAGRAM

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Charles R. Ellis
Sep 2 2020 8:50 AM
DocuSign
BRIDGE ENGINEER

SHEET 13 OF 13
DETAILS OF 346'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER UPRR & HIGHWAY 365

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

DRAWN BY: CGP DATE: 12/02/2019 FILENAME: b080457x1_s1.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: NO SCALE
DESIGNED BY: KJT DATE: 11/2019

BRIDGE NO. 07499 DRAWING NO. 61891

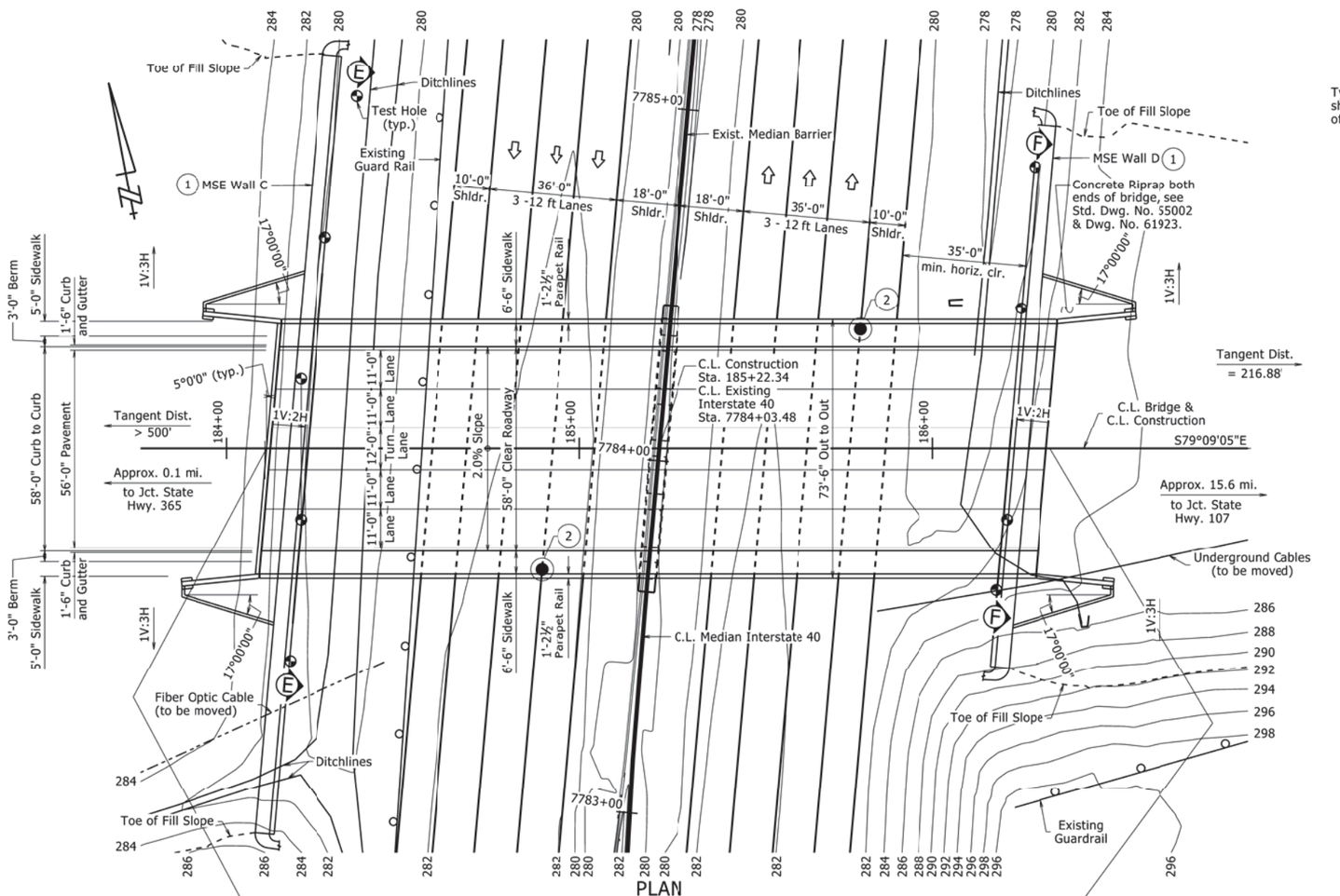
PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	260	517
				07500 - LAYOUT - 61892				

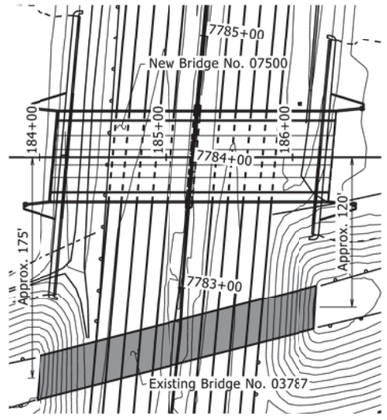
Type 2 Special Approach Slabs shall be placed at both ends of the bridge, see Dwg. No. 61925.

Notes:
For R/W Data, see Roadway Plans.

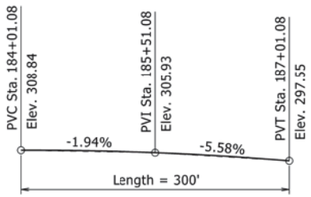
Stations shown are along C.L. Construction & C.L. Bridge. Elevations shown are theoretical working point elevations at C.L. Construction & C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Construction & C.L. Bridge. See "ROUNDING DETAIL" on Std. Dwg. No. 55007 for additional information.



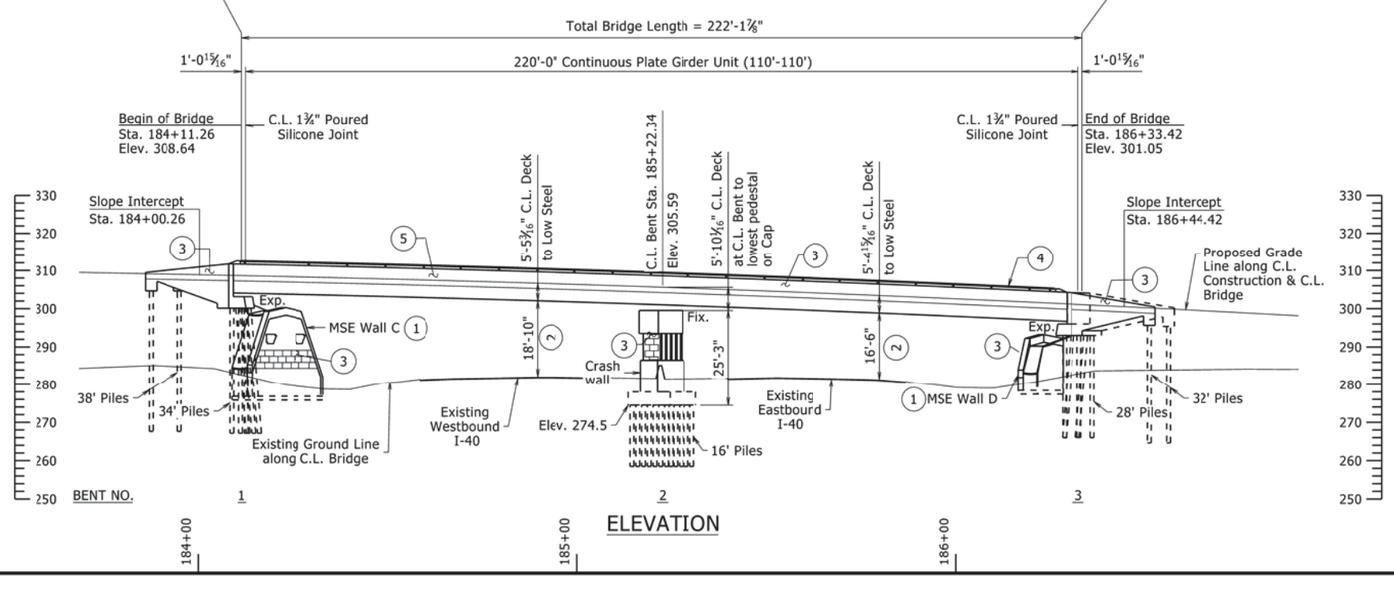
PLAN



LOCATION PLAN
1"= 60'



VERTICAL CURVE DATA
Along C.L. Construction & C.L. Profile Grade Line
No Scale



ELEVATION

(1) For details of MSE Walls C & D, see Dwg. Nos. 61919 & 61920.

(2) Point of Minimum Vertical Clearance

(3) Ashlar Stone Pattern, See SP Job No. 080457 "ARCHITECTURAL FINISH". See Dwg. Nos. 61897, 61901, and 61904.

(4) Type 'H2" Metal Bridge Railing on top of Concrete Parapet, on both sides of bridge, see Std. Dwg. No. 55015.

(5) Concrete Parapet Railing, see Dwg. No. 61915.

For Sections E-E and F-F, see Dwg. No. 61894.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:51 AM
Charles R. Ellis
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BRIDGE ENGINEER

SHEET 1 OF 3
LAYOUT OF BRIDGE
HIGHWAY 89 OVER INTERSTATE 40
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 4

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	KJT	DATE:	8/19/2019	FILENAME:	b080457_l2.dgn
CHECKED BY:	DHP	DATE:	8/25/2020	SCALE:	1"=20'
DESIGNED BY:	DHP	DATE:	8/19/2019		

BRIDGE NO. 07500 DRAWING NO. 61892

PRINT DATE: 8/25/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/29/2020				6	ARK.			
				JOB NO.		080457	261	517
				07500 - LAYOUT - 61893				

GENERAL NOTES:

BENCH MARK: Vertical Control Data are shown on the Survey Control Data Sheets.

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, Eighth Edition (2017).

LIVE LOADING: HL-93

SEISMIC ZONE: 1 S_{D1}= 0.091 Site Class = B

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322, Type A)	fy = 60,000 psi
Structural Steel (ASTM A709, Gr. 50)	Fy = 50,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL PILING: Piling in Bents 1, 2, and 3 shall be HP 12x53 (Grade 50) and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 95 tons per pile and into the material designated as Shale on the boring legend. Piling in end bents shall be driven after embankment to bottom of cap is in place. Bent 2 minimum penetration shall be 15' below the bottom of the footing for all piling. Lengths of piling shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with Section 805. Actual pile lengths are to be determined in the field. The Contractor shall use approved steel H-Pile driving points on all piles.

PILE CASINGS: Pile casings are required for all piling within MSE walls at end bents. Casings shall be installed prior to or during the embankment construction and shall extend from top of leveling pad to bottom of cap. Pile casing material shall be of sufficient strength to retain its original form free from harmful distortions after compaction of the fill material surrounding it. The minimum inside diameter of the casings shall be 20". Piles shall be driven through the open casings after embankment to bottom of cap is in place. After driving is complete, the pile casings shall be filled with Class S Concrete, an approved non-shrink grout, mixture used for Portland Cement Concrete Pavement, or other approved material in a single continuous operation to completely fill voids. This work and material will not be paid for directly but shall be considered subsidiary to the item "Steel Piling (12x53)".

EXPLORATORY HOLES: The Contractor shall drill exploratory holes at Bent 2 in accordance with Special Provision Job No. 080457 "Exploratory Holes". The actual locations, number, and depths of exploratory holes are to be determined in the field by the Engineer.

PREBORING: Preboring is required for all piles in Bent 2. The depth of preboring shall be to a depth sufficient to provide the specified minimum penetration and to a minimum 5' depth into material designated as competent rock on the boring legend, whichever is lower. The actual size and depth of preboring shall be determined in the field by the Engineer. The Contractor shall be responsible for keeping the prebored holes free of debris prior to driving piles and backfilling which may require the use of temporary casings or other methods. After driving is completed, the prebored hole shall be backfilled with Class S Concrete to the top of the rock and the remaining length backfilled in accordance with Subsection 805.08(a). Any related cost for backfilling and temporary casing will not be paid for directly, but shall be considered subsidiary to the item "Preboring."

PILE FOOTINGS: The top of the footings at Bent 2 shall be set a minimum of 2' below finished ground or at the elevations shown on the plans, whichever is lower. Foundations for footings shall be prepared in accordance with Subsection 801.04.

PAINTING: All Grade 50 structural steel, except galvanized members and surfaces in contact with concrete, shall be painted as specified in Subsection 807.75. The color of paint shall be Brown and shall match Federal Standard 595B, Color Chip No. 20219.

TEXTURED COATING FINISH: Class 3 Textured Coating Finish shall be applied to bridge and retaining wall surfaces as specified in Special Provision Job No. 080457 "Textured Coating Finish" and in accordance with Subsection 802.19(b)(3). Textured Coating Finish shall not be applied on surfaces where Class 1 Protective Surface Treatment is applied.

BRIDGE DECK: The concrete bridge deck, except sidewalks, shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall be given a Class 6 Broomed Finish.

PROTECTIVE SURFACE TREATMENT: Class 1 Protective Surface Treatment shall be applied to the,roadway surface, sidewalk surface (including curbing), and to the roadway face and top of the concrete parapet rails in accordance with Section 803.

DETAIL DRAWINGS:	DRAWING NOS.
End Bents	61895-61898 & 61902-61905
Intermediate Bent	61899-61901
Elastomeric Bearings	61878
220'-0" Cont. Plate Girder Unit	61906-61913
Deck Drains	61914
Concrete Parapet Railing	61915
Retaining Walls	61919-61920
Type 2 Special Approach Slab	61925
General Notes For Steel Bridge Structures	55006
Details For Steel Bridge Structures	55007
Poured Silicone Joints	55008
Type H2 Railing	55015
Steel H-Piling	55020

EXISTING BRIDGE: Ex. Br. No. 03787 (log mile 11.14) is 33.4' wide (27.9' clear roadway) and 228.0' long consisting of four Simple Composite I-Beam Spans with pile End Bents and multiple column Intermediate Bents on Spread Footings. The existing bridge is located approximately 150' south of the proposed C.L. Construction.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, the Contractor shall remove existing Bridge No. 03787 in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

BORING LEGEND

D1-SHALE - Unweathered, Medium Hard, Dark Gray
E1-SHALE - Unweathered, Medium Hard, Occasional Fractures, Dark Gray
F1-SHALE - Highly Weathered, Medium Hard, Reddish Brown
G1-Moist, Medium Dense, Brown Sandy Silt
P1-SHALE - Slightly Weathered, Medium Hard, Dark Gray
X1-Dry, Very Hard, Reddish Brown Sandy Clay with Gravel
Z1-SHALE - Highly Weathered, Medium Hard, Brown and Gray
D2-SHALE - Weathered with Highly Weathered Layers, Medium Hard, Brown and Gray
J2-SHALE - Highly Weathered, Medium Hard, Brown
K2-SHALE - Highly Weathered, Medium Hard, Brown and Dark Gray
L2-SHALE - Weathered, Medium Hard, Dark Gray
M2-Dry, Very Dense, Reddish Brown Sand with Silt and Some Gravel
T2-SHALE - Slightly Weathered, Medium Hard, Occasional Fractures, Dark Gray
W2-Moist, Medium Dense, Brown Sand with Silt and Some Gravel
X2-Moist, Dense, Reddish Brown Sand with Silt and Gravel and Cobbles
Y2-Moist, Very Dense, Reddish Brown Sand with Silt and Gravel
Z2-Moist, Dense, Reddish Brown Sand with Clay and Some Gravel
A3-Moist, Very Dense, Reddish Brown Sand with Silt and Some Gravel
B3-SHALE (No sample was recovered)
C3-Moist, Very Stiff, Reddish Brown Clay
D3-Dry, Very Dense, Reddish Brown Sand with Clay and Gravel
E3-Moist, Medium Dense, Reddish Brown Sand with Silt with Some Gravel
F3-Dry, Very Dense, Reddish Brown Sand with Silt with Some Gravel
G3-Dry, Very Dense, Reddish Brown Sand with Silt
H3-Dry, Very Hard, Reddish Brown and Gray Clay with Gravel
J3-Dry, Very Hard, Brown Clay
K3-SHALE WITH FREQUENT CLAY LAYERS - Highly Weathered, Soft, Brown and Dark Gray
L3-Moist, Medium Dense, Reddish Brown Sand with Silt and Some Gravel
M3-Dry, Very Hard, Reddish Brown Clay with Shale Fragments
N3-Dry, Very Hard, Reddish Brown Sandy Clay with Some Organic Matter
P3-Dry, Very Hard, Reddish Brown Sandy Clay
Q3-Moist, Very Hard, Reddish Brown and Gray Sandy Clay
R3-Moist, Very Hard, Light Gray Clay
S3-SHALE (no sample recovered)
T3-Moist, Very Soft, Brown Clay with Sand
U3-Moist, Stiff, Brown Clay with Sand
V3-Moist, Stiff, Reddish Brown and Gray Sandy Clay
W3-Moist, Hard, Reddish Brown Clay with Trace Gravel
X3-Moist, Very Stiff, Reddish Brown Clay with Some Shale Fragments
Y3-Moist, Very Stiff, Reddish Brown Clay with Sand and Some Shale Fragments
Z3-Moist, Soft, Brown Clay with Some Organic Matter
A4-Dry, Medium Dense, Reddish Brown Sandy Silt
B4-Dry, Very Stiff, Reddish Brown Clay
C4-Dry, Medium Dense, Reddish Brown Sand
D4-Dry, Medium Dense, Reddish Brown Clayey Sand
E4-Dry, Very Stiff, Reddish Brown Clay with Shale Fragments
F4-SANDSTONE - Highly Weathered, Poorly Cemented, Reddish Brown
G4-Dry, Hard, Reddish Brown Clay with Shale Fragments
H4-SHALE - Weathered with Frequent Highly Weathered Layers, Medium Hard with Occasional Soft Layers, Brown and Dark Gray
J4-Moist, Very Stiff, Brown Clay with Sand and Some Organic Matter
K4-Dry, Hard, Reddish Brown Clay with Sand
L4-Dry, Very Dense, Reddish Brown Sandy Silt
M4-Moist, Very Stiff, Reddish Brown Clay with Some Organic Matter
N4-Dry, Very Dense, Reddish Brown Sand
P4-Dry, Very Hard, Sandy Clay with Gravel

1 POWDER COATING: All metal bridge railing shall receive a powder coating finish. Color shall be Dark Bronze as approved by the Engineer. See Std. Dwg. No. 55015 for additional information.

BY: KJT DATE: 10/29/2020
CHK: DHP DATE: 10/29/2020

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Oct 30 2020 8:32 AM
Charles R. Ellis
DocuSign
BRIDGE ENGINEER

SHEET 2 OF 3
LAYOUT OF BRIDGE
HIGHWAY 89 OVER INTERSTATE 40
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

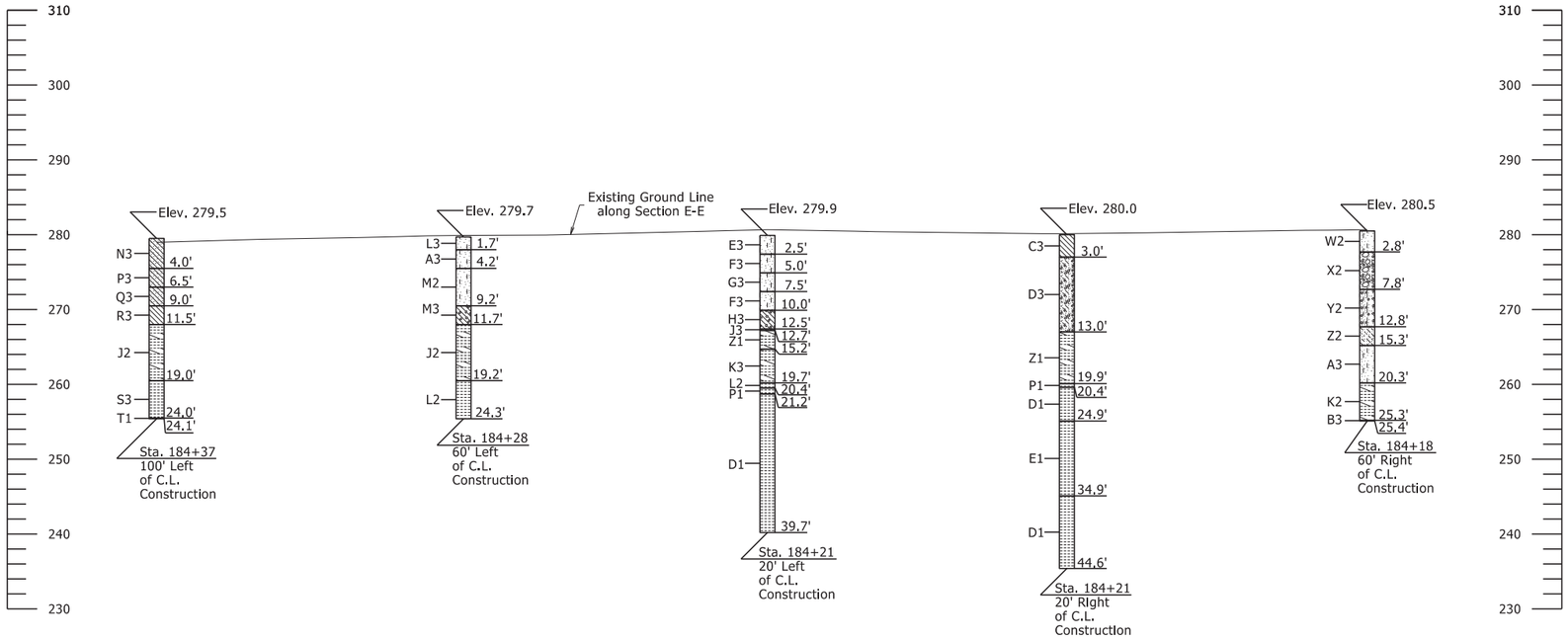
ROUTE 89 SEC. 4
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 8/19/2019 FILENAME: b080457_l2.dgn
CHECKED BY: DHP DATE: 10/29/2020 SCALE: NO SCALE
DESIGNED BY: DHP DATE: 8/19/2019

BRIDGE NO. 07500 DRAWING NO. 61893

PRINT DATE: 10/29/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	262	517
				07500 - LAYOUT - 61894				



SECTION E-E

"N" VALUES - SECTION E-E

Sta. 184+18 - 60' Right of C.L. Construction
0.5 - 1.5, N=16
3.3 - 4.3, N=42
5.8 - 6.8, N=44
8.3 - 9.3, N=56
10.8 - 11.0, N=60 (2")
13.3 - 14.3, N=40
15.8 - 16.8, N=58
20.8 - 21.0, N=47 (2")
25.3 - 25.4, N=60 (1")

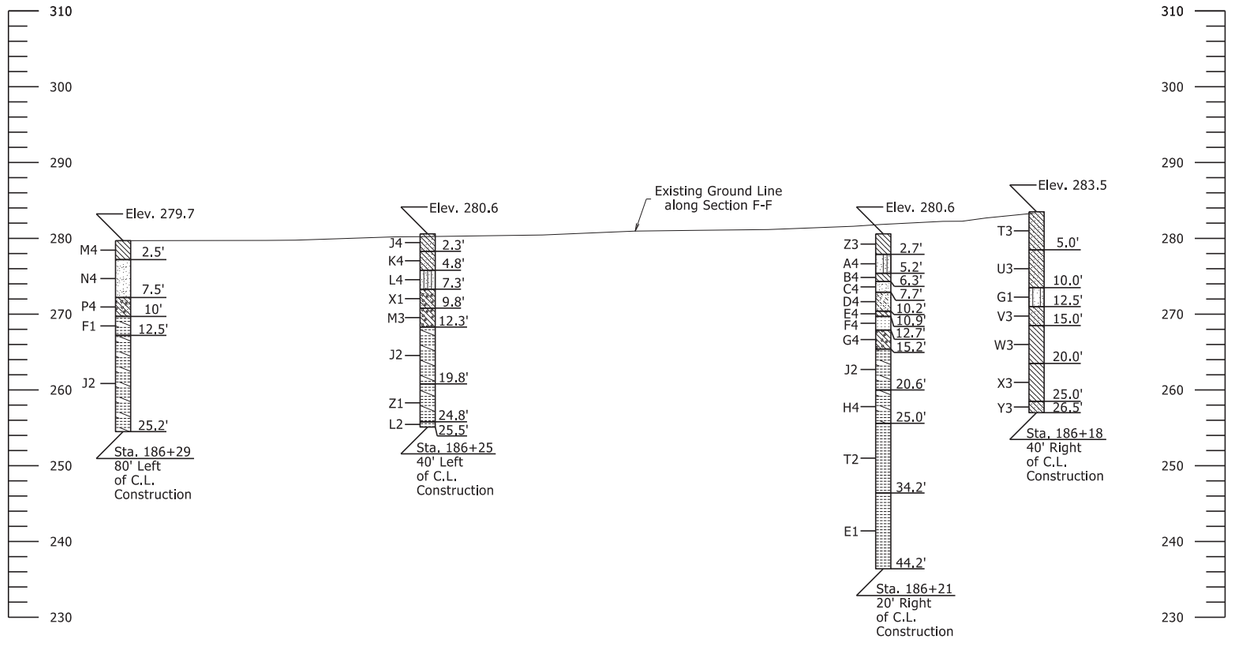
Sta. 184+21 - 20' Right of C.L. Construction
0.5 - 1.5, N=21
3.5 - 4.5, N=68
6.0 - 7.0, N=54
8.5 - 9.5, N=61
11.0 - 11.4, N=60 (5")
13.5 - 14.4, N=99 (11")
15.5 - 15.9, N=60 (5")

Sta. 184+21 - 20' Left of C.L. Construction
0.5 - 1.5, N=24
3.0 - 4.0, N=100
5.5 - 6.5, N=59
8.0 - 9.0, N=118
10.5 - 11.3, N=116 (10")
12.5 - 12.9, N=70 (5")
15.0 - 15.2, N=60 (2")

Sta. 184+28 - 60' Left of C.L. Construction
0.5 - 1.5, N=30
2.2 - 3.2, N=57
4.7 - 5.7, N=81
7.2 - 7.6, N=60 (5")
9.7 - 10.0, N=60 (4")
12.2 - 12.6, N=60 (5")
14.7 - 15.0, N=60 (4")
19.2 - 19.6, N=60 (5")
24.2 - 24.3, N=36 (1")

Sta. 184+37 - 100' Left of C.L. Construction
0.5 - 1.3, N=100 (10")
4.5 - 5.5, N=98
7.0 - 7.9, N=116 (11")
9.5 - 10.3, N=100 (10")
12.0 - 12.4, N=60 (5")
14.5 - 14.9, N=60 (5")
19.0 - 19.1, N=60 (1")
24.0 - 24.1, N=60 (1")

For Boring Legend, see Dwg. No. 61893.



SECTION F-F

"N" VALUES - SECTION F-F

Sta. 186+18 - 40' Right of C.L. Construction
3.0 - 4.0, N=0
5.5 - 6.5, N=11
8.0 - 9.0, N=9
10.5 - 11.5, N=30
13.0 - 14.0, N=14
15.5 - 16.5, N=35
20.5 - 21.5, N=22
25.5 - 26.5, N=17

Sta. 186+21 - 20' Right of C.L. Construction
0.5 - 1.5, N=4
3.2 - 4.2, N=19
5.7 - 6.7, N=24
8.2 - 9.2, N=24
10.7 - 11.7, N=28
13.2 - 14.2, N=42
15.7 - 16.3, N=100 (1")
20.2 - 20.6, N=60 (5")

Sta. 186+25 - 40' Left of C.L. Construction
0.5 - 1.5, N =17
2.8 - 3.8, N=49
5.3 - 6.3, N=96
7.8 - 8.8, N=112
10.3 - 11.1, N=100 (10")
12.3 - 12.7, N=100 (5")
15.3 - 15.5, N=100 (8")
20.3 - 20.9, N=110 (7")
25.3 - 25.5, N=60 (2")

Sta. 186+29 - 80' Left of C.L. Construction
0.5 - 1.5, N=25
3.0 - 4.0, N=72
5.5 - 5.7, N=60 (2")
8.0 - 8.4, N=60 (5")
10.5 - 10.8, N=60 (4")
12.5 - 12.9, N=60 (5")
15.5 - 15.6, N=60 (1")
20.0 - 20.4, N=60 (5")
25.0 - 25.2, N=60 (2")

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:51 AM
BRIDGE ENGINEER

SHEET 3 OF 3
LAYOUT OF BRIDGE
HIGHWAY 89 OVER INTERSTATE 40
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 4
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 8/19/2019
CHECKED BY: DHP DATE: 8/31/2020
DESIGNED BY: DHP DATE: 8/19/2019
FILENAME: b080457_l2.dgn
SCALE: 1"=10'

BRIDGE NO. 07500
DRAWING NO. 61894

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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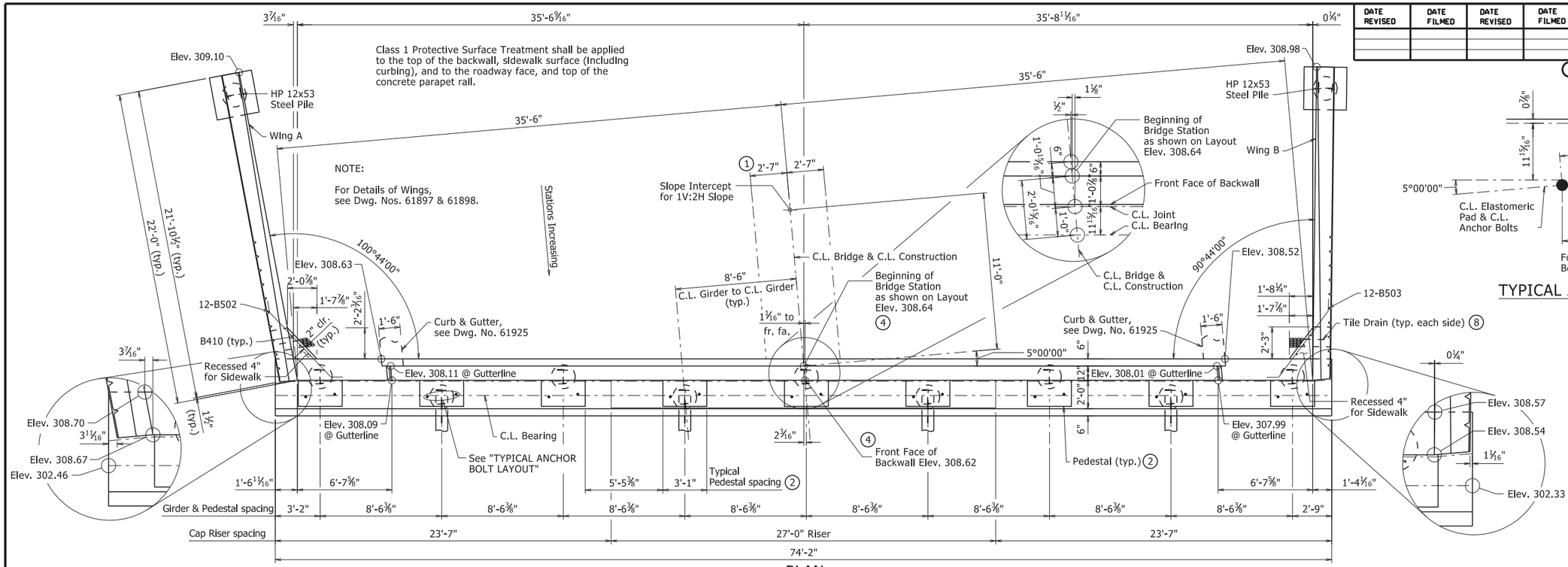
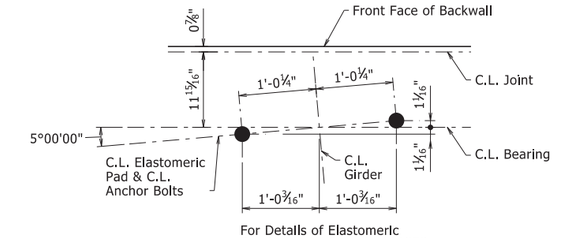
				JOB NO.		080457	263	517
				①		07500 - BENT 1 - 61895		



PLAN

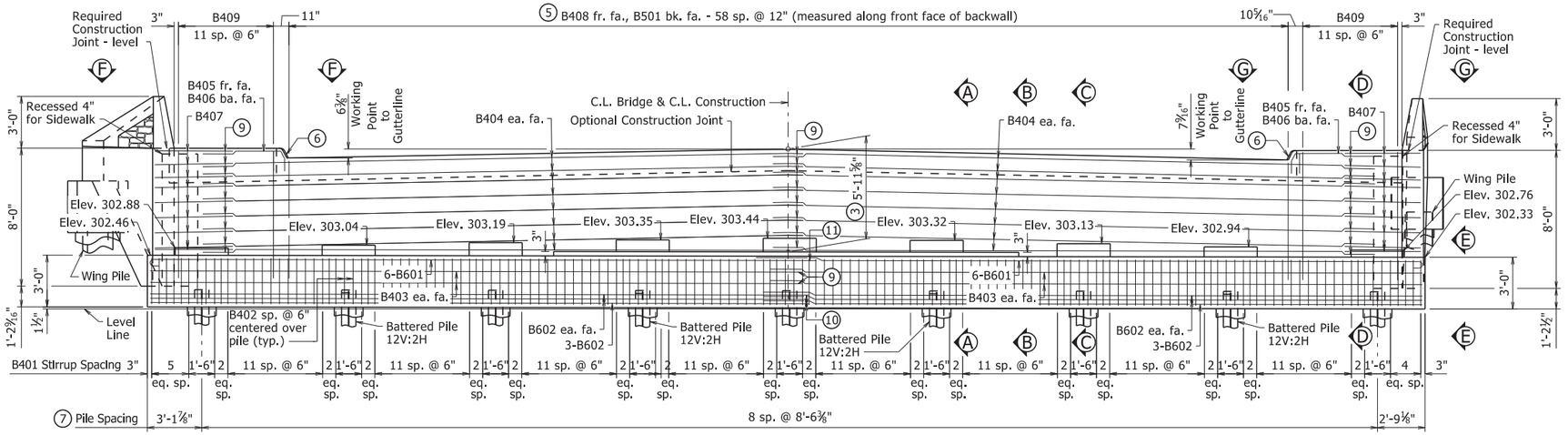
1/4"=1'-0"



For Details of Elastomeric Bearings, see Dwg. No. 61878.

TYPICAL ANCHOR BOLT LAYOUT

NO SCALE



ELEVATION

Looking Back

1/4"=1'-0"

GENERAL NOTES:

For General Notes, see Std. Dwg. No. 55006.

For Joint Details see Std. Dwg. No. 55008 & "SIDEWALK SECTION THRU JOINT AT END BENT" on Dwg No. 61908.

Structural steel in Bent 1 shall be ASTM A709, Gr. 50 and shall be paid for as "Structural Steel in Plate Girder Spans (A709, Gr. 50)".

All piling shall be Grade 50. For details of steel piling, see Std. Dwg. No. 55020.

No portion of the backwall shall be poured before the girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the adjacent deck pour has been made. Refer to the "EXPANSION DEVICE INSTALLATION AT END BENTS" note on Std. Dwg. No. 55008. No heavy construction equipment shall be allowed within 10' of the backwall before the deck concrete placement for the adjacent span has been completed unless MSE strap reinforcing has been designed to accommodate these loads, see "BENT STRAP DETAIL," Dwg. No. 61896.

For additional information, see Layout.

NOTES:

1. See "ROUNDING DETAIL" on Std. Dwg. No. 55007.
2. Pedestals shall be cast level at the elevations shown in "ELEVATION". See Dwg. No. 61896 for "PEDESTAL PLAN" & "TYPICAL PEDESTAL DETAILS".
3. Measured at C.L. Construction at Front Face of Backwall to Working Point.
4. Measured at Working Point.
5. See Dwg. No. 61896 for "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D" "VIEW E-E", "VIEW F-F" & "VIEW G-G" for placement of reinforcing.
6. See Dwg. No. 61896 for "SIDEWALK & CURB DETAIL".
7. See Dwg. No. 61896 for "LAYOUT OF PILES".
8. Place 6"ø tile drains approx. 6" above fill slope. Spread bars as required. Place 6 cu. ft. of sacked 3#4" crushed rock or gravel at each drain. All work and materials to install drains shall be subsidiary to "Class S Concrete."
9. 1'-9" minimum lapped splice length
10. 2'-8" minimum lapped splice length
11. 3'-5" minimum lapped splice length

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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BRIDGE ENGINEER

PRINT DATE: 8/26/2020

SHEET 1 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

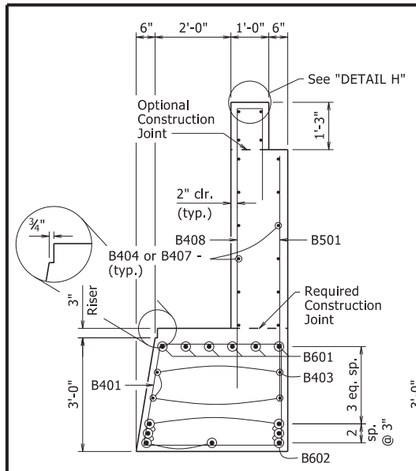
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 02/06/2020
CHECKED BY: KJT DATE: 08/26/2020
DESIGNED BY: DHP DATE: 12/2019
FILENAME: b080457x2_b1.dgn
SCALE: AS NOTED

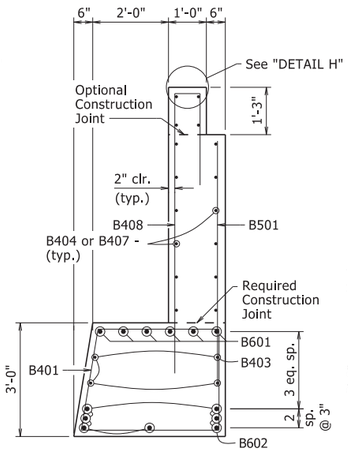
BRIDGE NO. 07500 DRAWING NO. 61895

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	264	517
				①		07500 - BENT 1 - 61896		



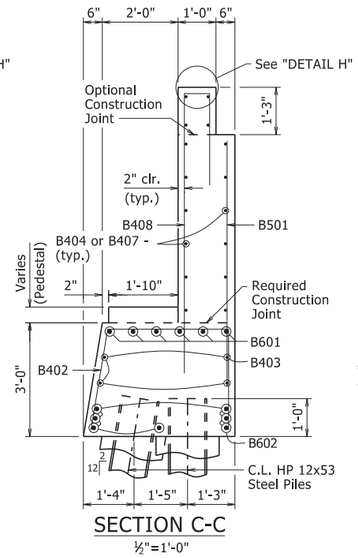
SECTION A-A

½"=1'-0"



SECTION B-B

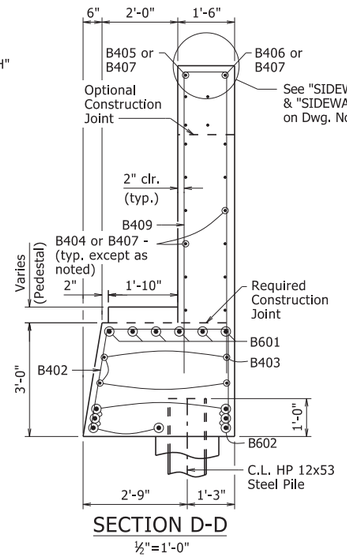
½"=1'-0"



SECTION C-C

½"=1'-0"

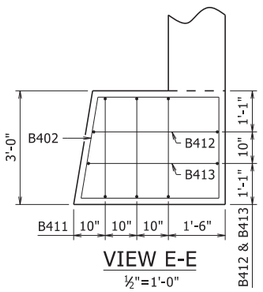
② 1'-9" minimum splice length



SECTION D-D

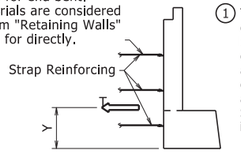
½"=1'-0"

MSE wall supplier shall design & furnish attachments for end bent. This work and materials are considered incidental to the item "Retaining Walls" and will not be paid for directly.



VIEW E-E

½"=1'-0"



① The provided loads do not include any additional loadings due to heavy construction equipment such as cranes. If the Contractor anticipates bringing heavy construction equipment within 10' of the backwall, they shall coordinate with the MSE wall supplier to design strap reinforcing for the anticipated loadings. Tolerable horizontal backwall movement for all loading combinations is 0.2" at the Service Limit State. Design computations shall accompany the wall design submittal for review by the Engineer. See Special Provision Job No. 080457 "Retaining Walls" for additional information.

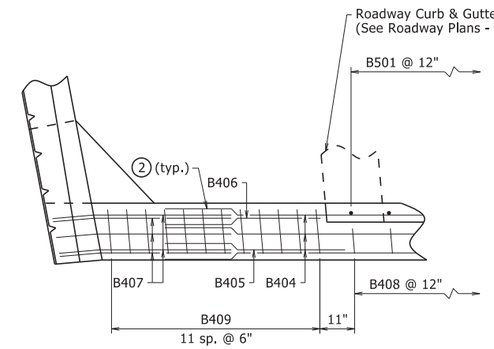
T = Resultant force required to be resisted by strap reinforcing

Y = Centroid of resultant force

Limit State	① T Kips/Ft.	Y Ft.
Service	3.00	3
Strength	4.00	3

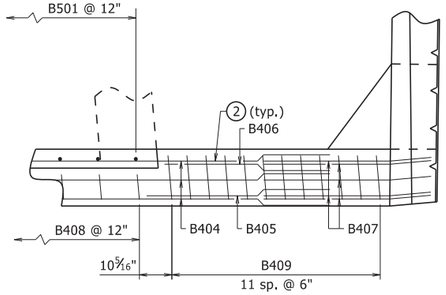
BENT STRAP DETAIL

NO SCALE



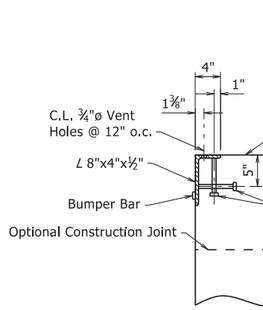
VIEW F-F

NO SCALE



VIEW G-G

NO SCALE



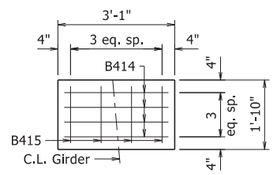
DETAIL H

NO SCALE

NOTES: Transverse spacing between vertical anchor studs and vent holes shall be 6".

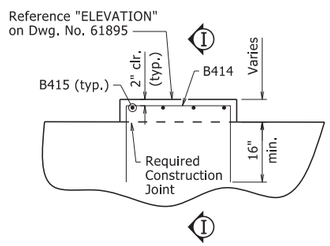
Concrete shall be hand packed under the joint armor.

For additional joint details, see Std. Dwg. No. 55008.



PEDESTAL PLAN

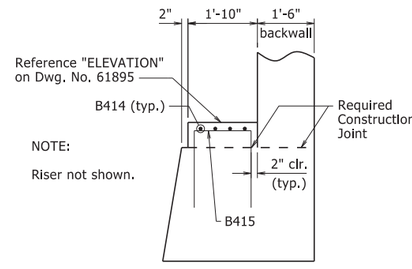
½"=1'-0"



TYPICAL PEDESTAL DETAILS

LOOKING BACK

½"=1'-0"

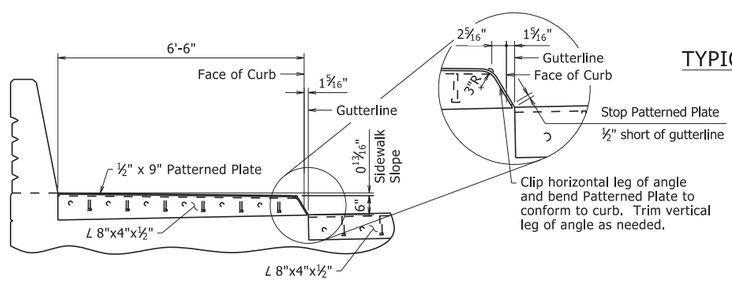


NOTE:

Riser not shown.

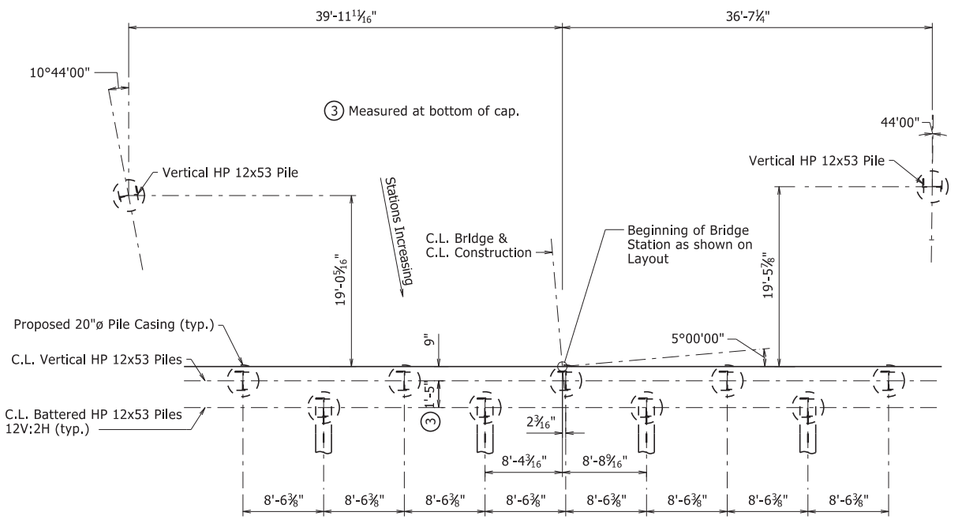
SECTION I-I

½"=1'-0"



SIDEWALK & CURB DETAIL

NO SCALE



LAYOUT OF PILES

NO SCALE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:51 AM

BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 02/06/2020
CHECKED BY: KJT DATE: 08/26/2020
DESIGNED BY: DHP DATE: 12/2019

FILENAME: b080457x2_b1.dgn
SCALE: AS NOTED

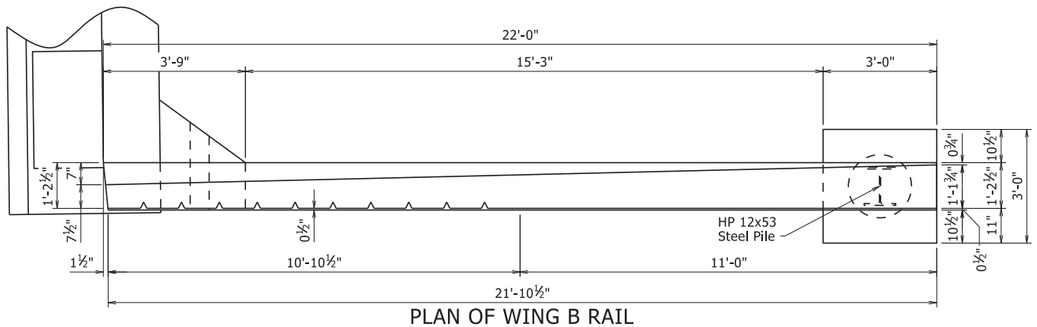
BRIDGE NO. 07500

DRAWING NO. 61896

PRINT DATE: 8/26/2020

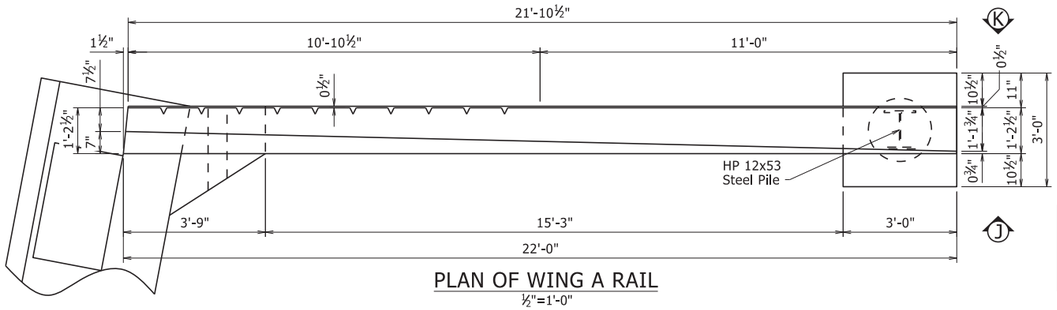
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	265	517

(1) 07500 - BENT 1 - 61897



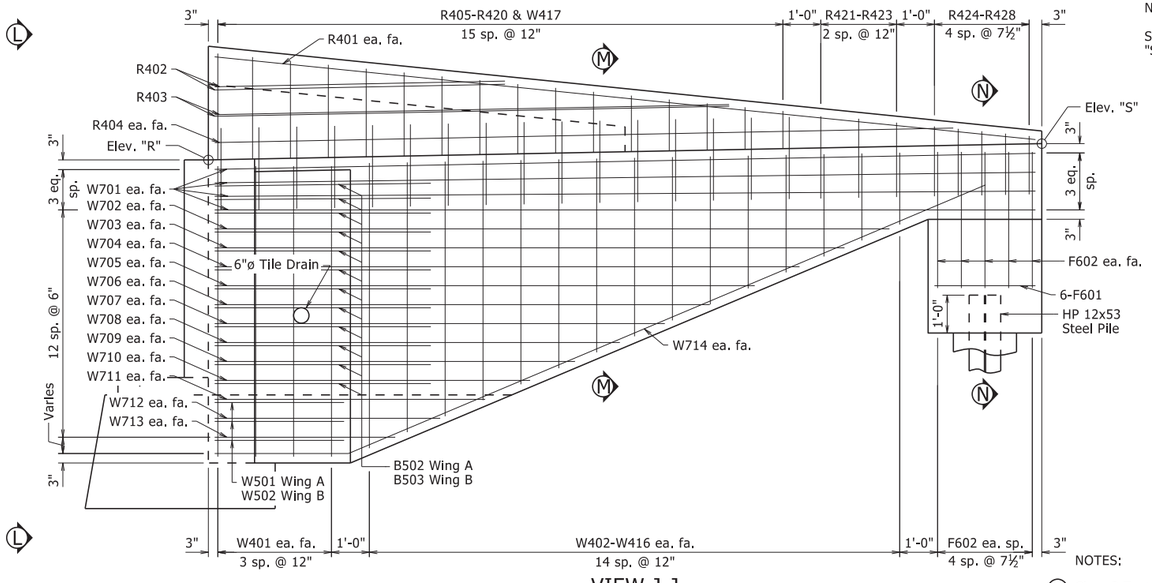
PLAN OF WING B RAIL

½"=1'-0"



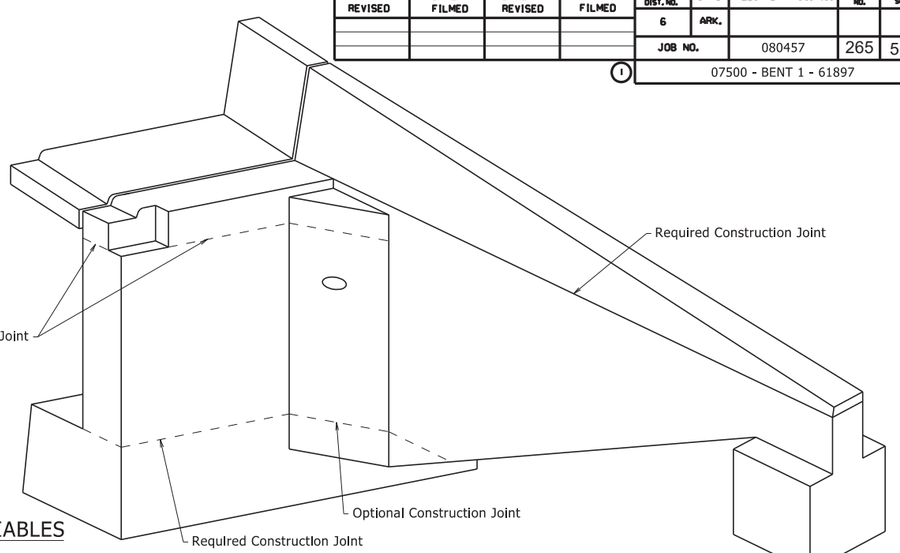
PLAN OF WING A RAIL

½"=1'-0"



VIEW J-J

½"=1'-0"



THREE DIMENSIONAL VIEW OF WING

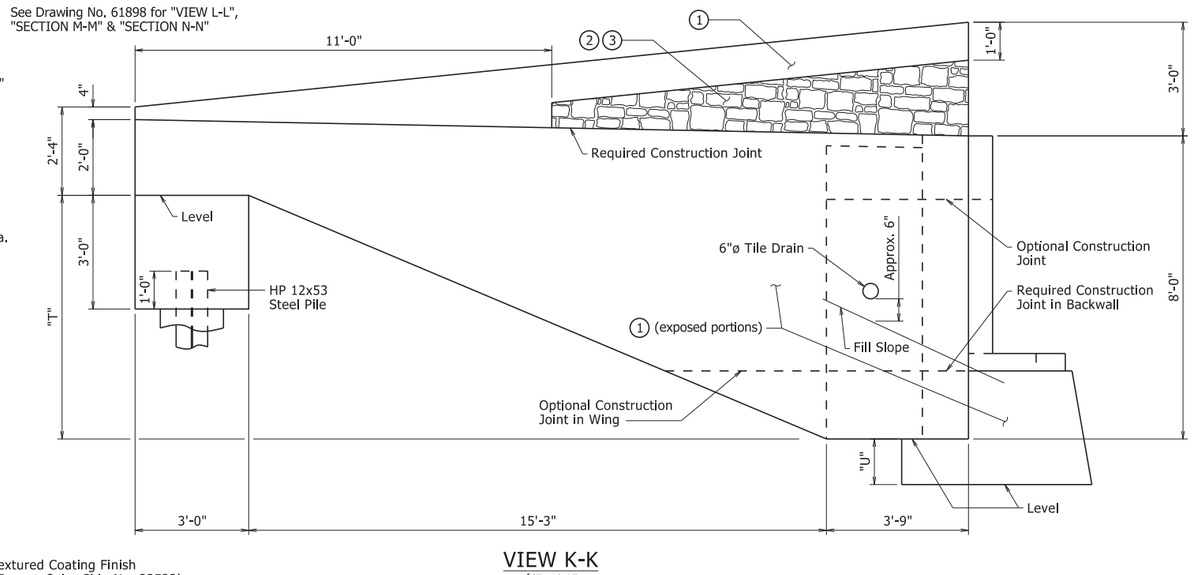
NO SCALE

TABLE OF VARIABLES

WING	ELEV. "R"	ELEV. "S"	"T"	"U"
A	308.67	309.10	5'-2⅛"	1'-2 9/16"
B	308.54	308.98	5'-2¼"	1'-2½"

NOTE:

See Drawing No. 61898 for "VIEW L-L", "SECTION M-M" & "SECTION N-N"



VIEW K-K

½"=1'-0"

NOTES:

(1) Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)

(2) Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)

(3) "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:51 AM

BRIDGE ENGINEER

DocuSign

SHEET 3 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 02/06/2020 FILENAME: b080457x2_b1.dgn
CHECKED BY: KJT DATE: 08/26/2020 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 12/2019

BRIDGE NO. 07500 DRAWING NO. 61897

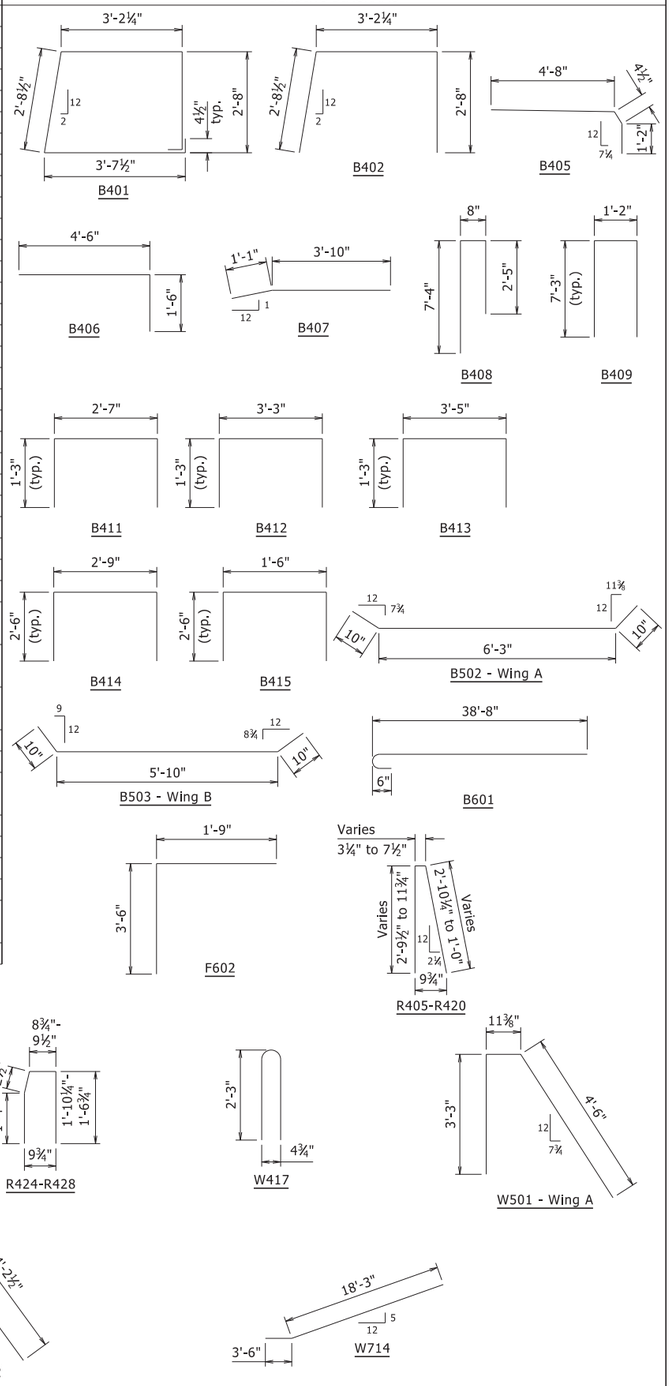
PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	266	517
				①		07500 - BENT 1 - 61898		

BAR LIST

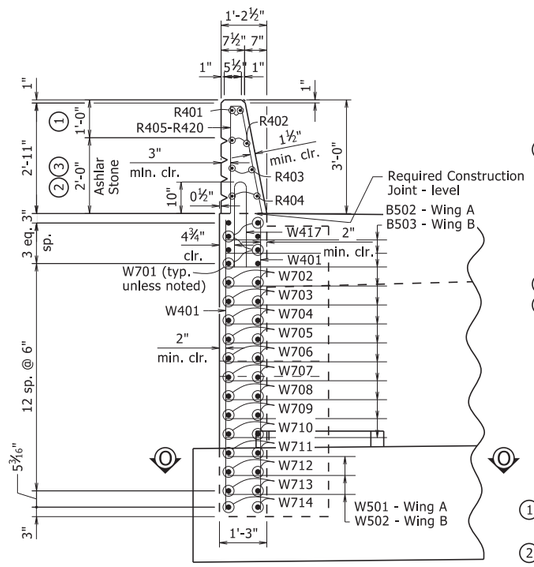
MARK	NO. REQ'D	LENGTH	P.D.
B401	139	12'-7"	2"
B402	18	8'-5"	2"
B403	8	37'-10"	Str.
B404	32	34'-8"	Str.
B405	2	6'-3"	2"
B406	2	5'-11"	2"
B407	36	4'-11"	2"
B408	59	10'-3"	2"
B409	24	15'-6"	2"
B410	6	7'-4"	Str.
B411	6	4'-11"	2"
B412	2	5'-7"	2"
B413	2	5'-9"	2"
B414	36	7'-7"	2"
B415	36	6'-4"	2"
B501	59	6'-6"	Str.
B502	12	7'-11"	3¾"
B503	12	7'-6"	3¾"
B601	12	39'-4"	4½"
B602	14	38'-3"	Str.
F601	12	2'-8"	Str.
F602	20	5'-1"	4½"
R401	4	21'-9"	Str.
R402	4	7'-6"	Str.
R403	4	13'-5"	Str.
R404	4	19'-5"	Str.
R405-R420	2 ea.	5'-10" to 2'-6"	2"
R421-R423	2 ea.	5'-0" to 4'-7"	2"
R424-R428	2 ea.	4'-4" to 3'-10"	2"
W401	16	7'-8"	Str.
W402-W416	4 ea.	7'-6" to 1'-11"	Str.
W417	32	4'-8"	3¾"
W501	3	8'-7"	3¾"
W502	3	8'-4"	3¾"
W701	16	21'-8"	Str.
W702-W713	4 ea.	17'-10" to 4'-9"	Str.
W714	4	21'-9"	5¼"

BENDING DIAGRAMS

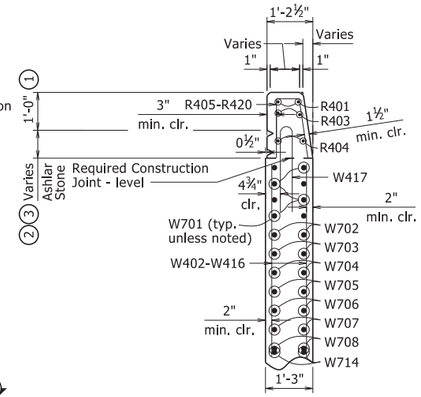


Dimensions are out to out of bars.

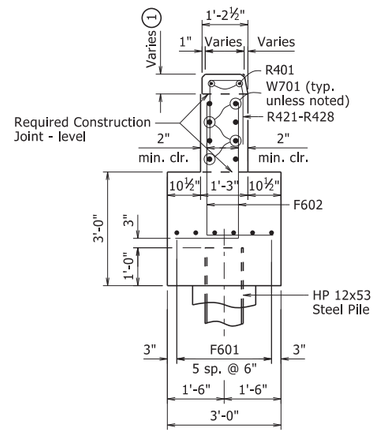
PRINT DATE: 8/26/2020



VIEW L-L



SECTION M-M



SECTION N-N

NOTES:

① Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)

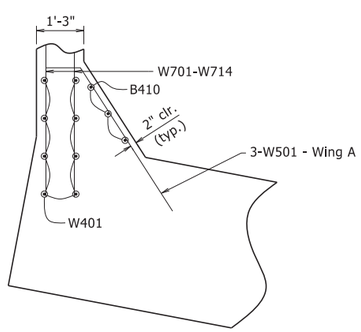
② Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)

③ "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

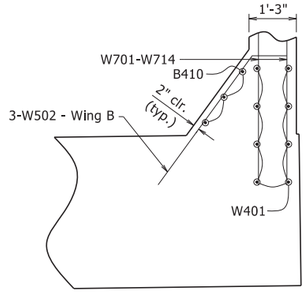
NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.



SECTION O-O
Wing A



SECTION O-O
Wing B

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF BENT 1
HIGHWAY 89 OVER INTERSTATE 40

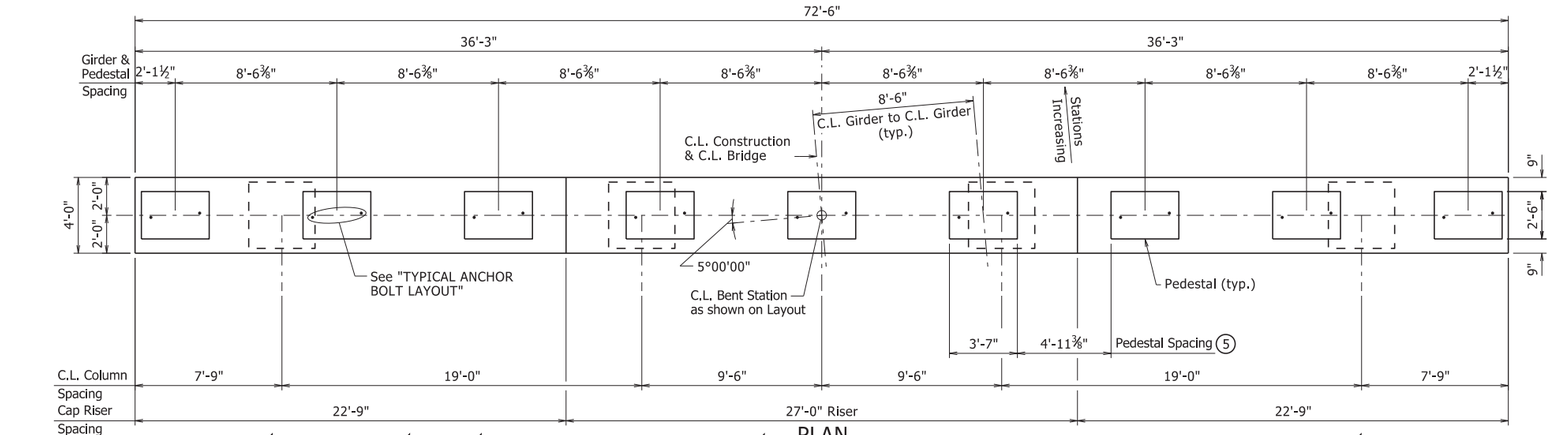
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

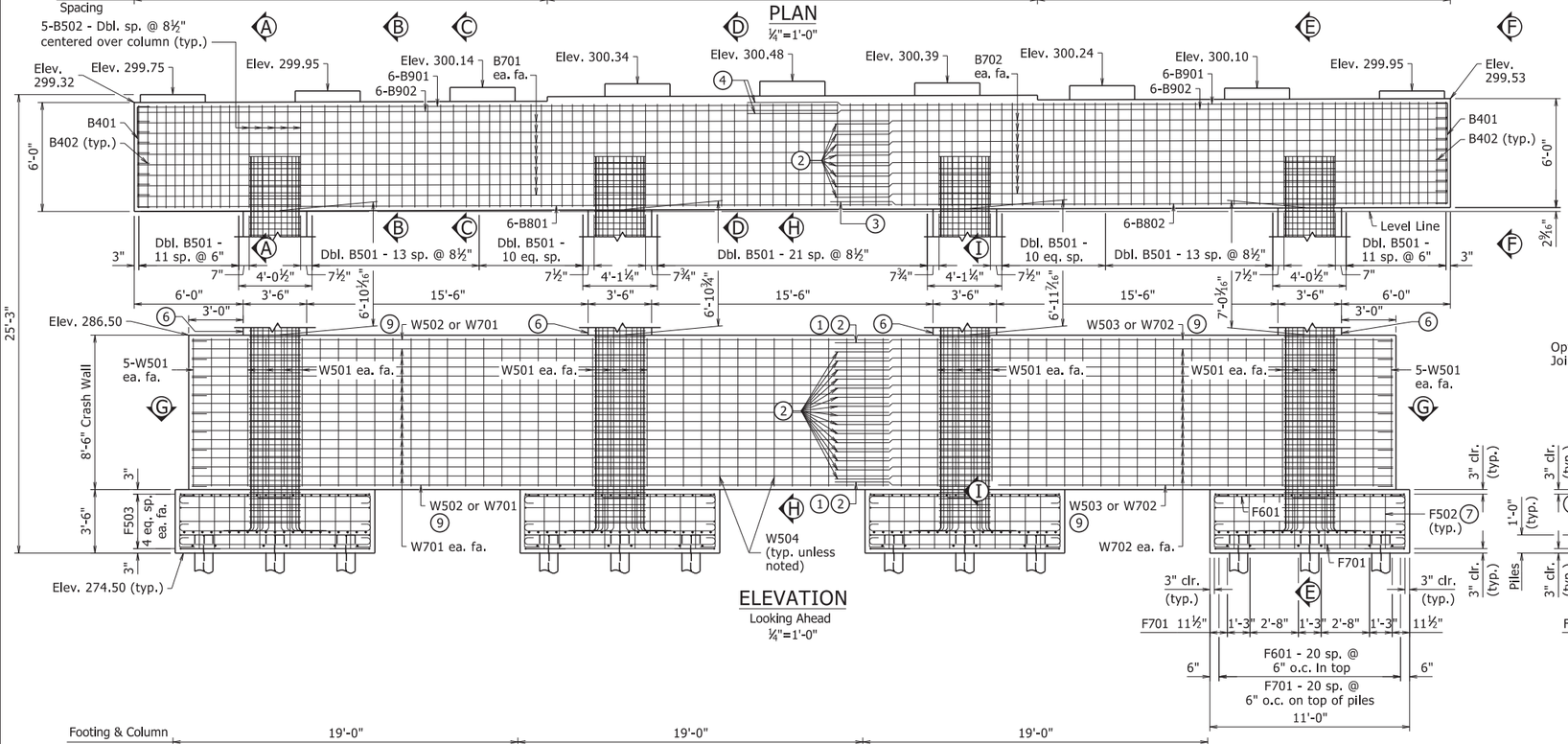
DRAWN BY: CGP DATE: 02/06/2020
CHECKED BY: KJT DATE: 08/26/2020
DESIGNED BY: DHP DATE: 12/2019
FILENAME: b080457x2_b1.dgn
SCALE: 1/2" = 1'-0"

BRIDGE NO. 07500 DRAWING NO. 61898

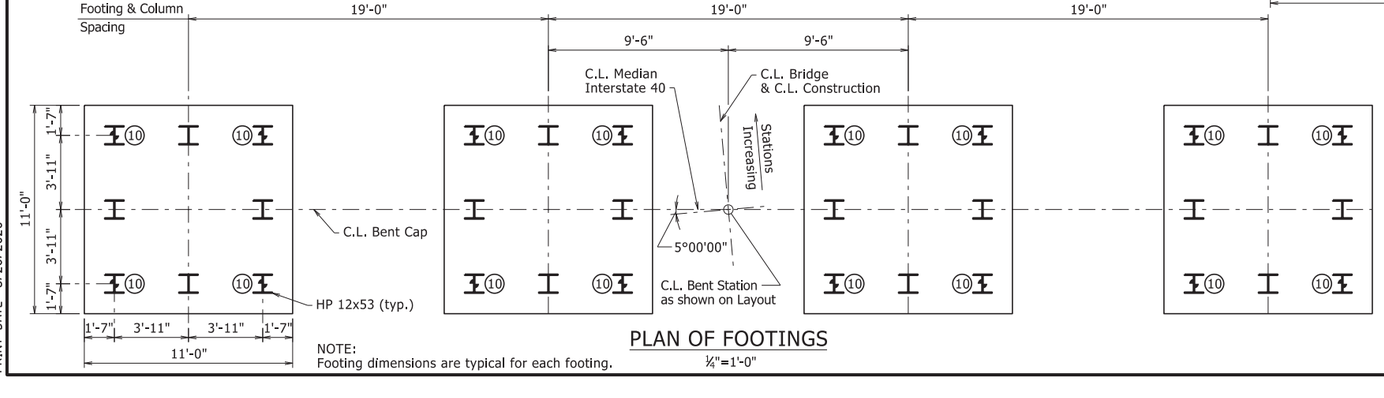
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	267	517
				07500 - BENT 2 - 61899				



PLAN
¼"=1'-0"

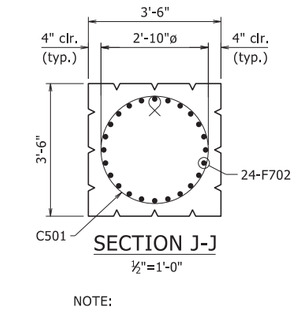


ELEVATION
Looking Ahead
¼"=1'-0"



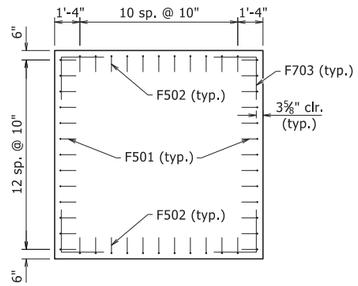
NOTE:
Footing dimensions are typical for each footing.

PLAN OF FOOTINGS
¼"=1'-0"



SECTION J-J
½"=1'-0"

NOTE:
Bars and spacing are typical for each column.



NOTE:
F503, F601, & F701 Bars not shown for clarity.

PLAN OF FOOTING REINFORCING
¼"=1'-0"

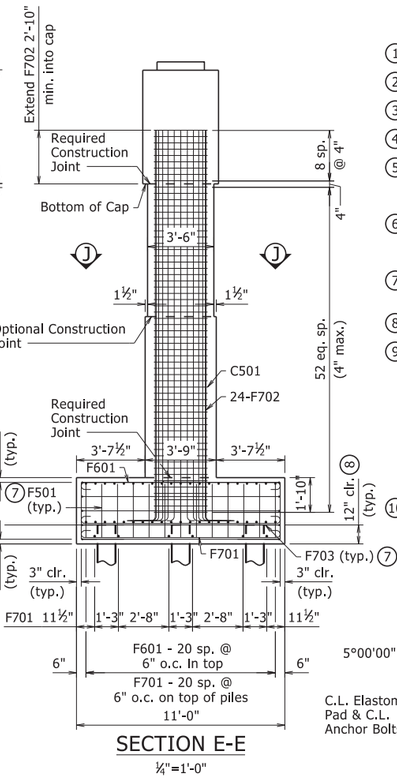
NOTES:

1. 2'-2" minimum lapped splice length for #5 bar
2. 3'-0" minimum lapped splice length for #7 bar
3. 3'-5" minimum lapped splice length for #8 bar
4. 5'-0" minimum lapped splice length for #9 bar
5. Pedestals shall be cast level at the elevations shown in "ELEVATION." See Dwg. No. 61900 for "PEDESTAL PLAN" & "TYPICAL PEDESTAL DETAILS."
6. See "FRONT VIEW - BENT AESTHETICS" & "END VIEW - BENT AESTHETICS" for placement of Ashlar Stone on Dwg. No. 61901.
7. See "PLAN OF FOOTING REINFORCING" for layout of rebars.
8. Bottom reinforcing mat resting on top of piles.
9. See "SECTION G-G" on Dwg. No. 61900 for location of reinforcing.

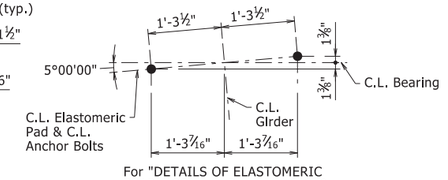
   See Dwg. No. 61900 for "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D", "VIEW F-F", "SECTION "G-G", "SECTION H-H", "SECTION I-I".

   For General Notes, see Std. Dwg. No. 55006.

   For additional information, see Layout.
10. Location of Required Exploratory Hole. See SP Job No. 080457 "Exploratory Holes".



SECTION E-E
¼"=1'-0"



For "DETAILS OF ELASTOMERIC BEARINGS", see Dwg. No. 61878

TYPICAL ANCHOR BOLT LAYOUT
NO SCALE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:52 AM
BRIDGE ENGINEER

SHEET 1 OF 3
DETAILS OF BENT 2
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

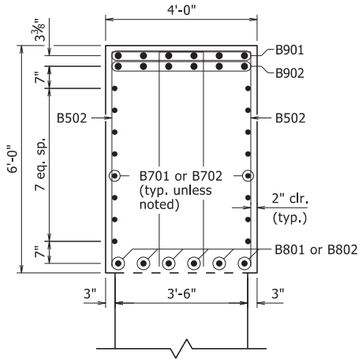
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 02/06/2020
CHECKED BY: KJT DATE: 08/26/2020
DESIGNED BY: DHP DATE: 12/2019
FILENAME: b080457x2_b2.dgn
SCALE: AS NOTED

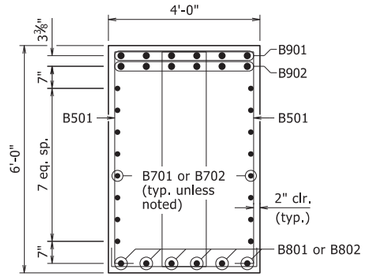
BRIDGE NO. 07500 DRAWING NO. 61899

PRINT DATE: 8/26/2020

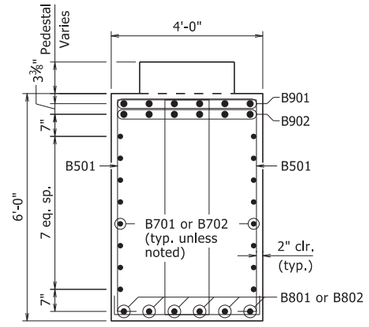
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	268	517
				07500 - BENT 2 - 61900				



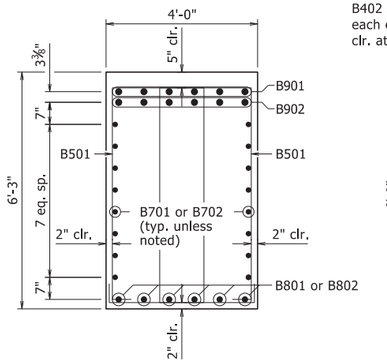
SECTION A-A
½"=1'-0"



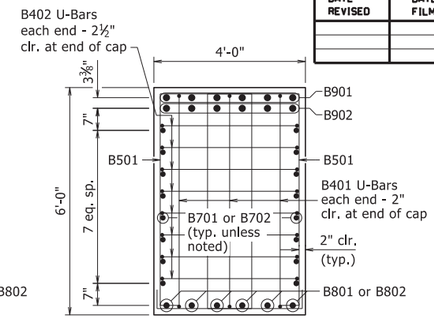
SECTION B-B
½"=1'-0"



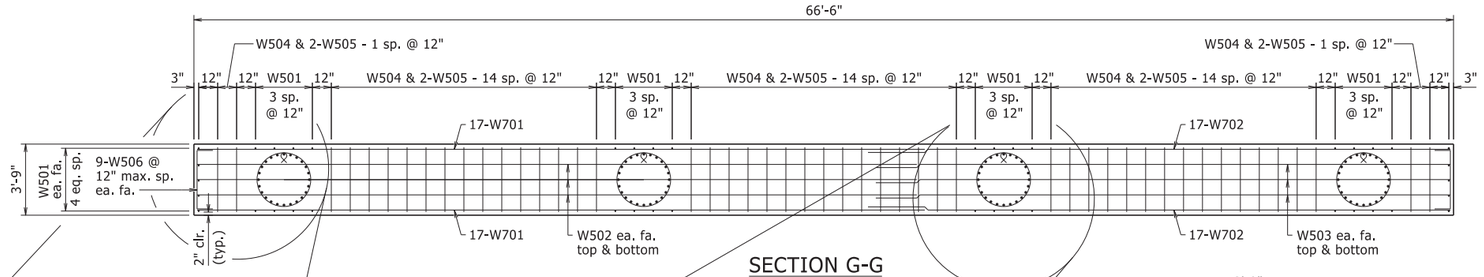
SECTION C-C
½"=1'-0"



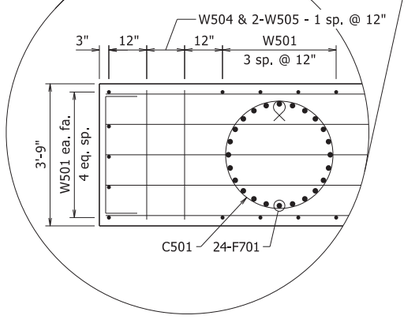
SECTION D-D
½"=1'-0"

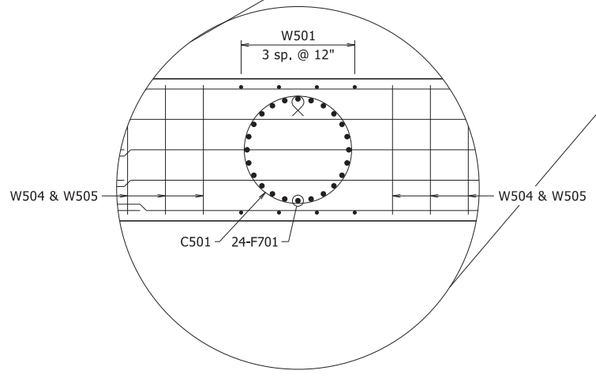


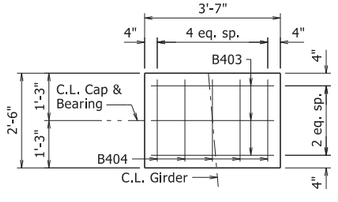
VIEW F-F
½"=1'-0"



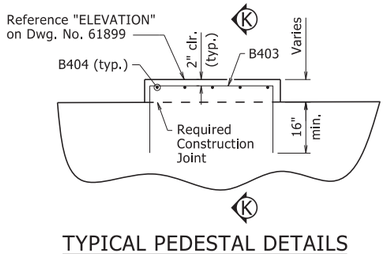
SECTION G-G
¼"=1'-0"



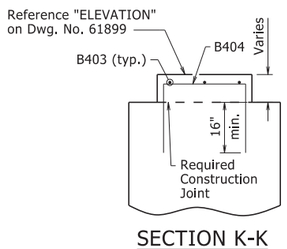




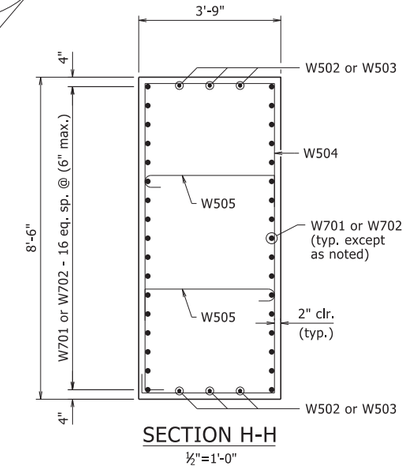
PEDESTAL PLAN
½"=1'-0"



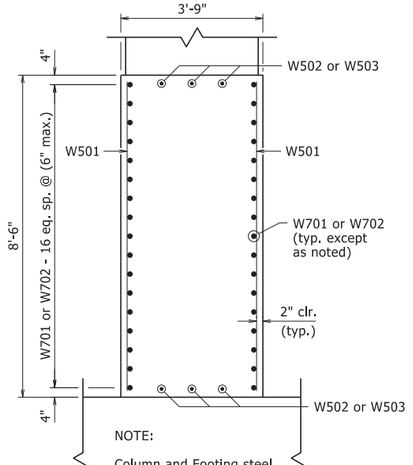
TYPICAL PEDESTAL DETAILS
LOOKING AHEAD
½"=1'-0"



SECTION K-K
½"=1'-0"



SECTION H-H
½"=1'-0"



SECTION I-I
½"=1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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BRIDGE ENGINEER

SHEET 2 OF 3
DETAILS OF BENT 2
HIGHWAY 89 OVER INTERSTATE 40

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

DRAWN BY: CGP DATE: 02/06/2020 FILENAME: b080457x2_b2.dgn
CHECKED BY: KJT DATE: 08/26/2020 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 12/2019

BRIDGE NO. 07500 DRAWING NO. 61900

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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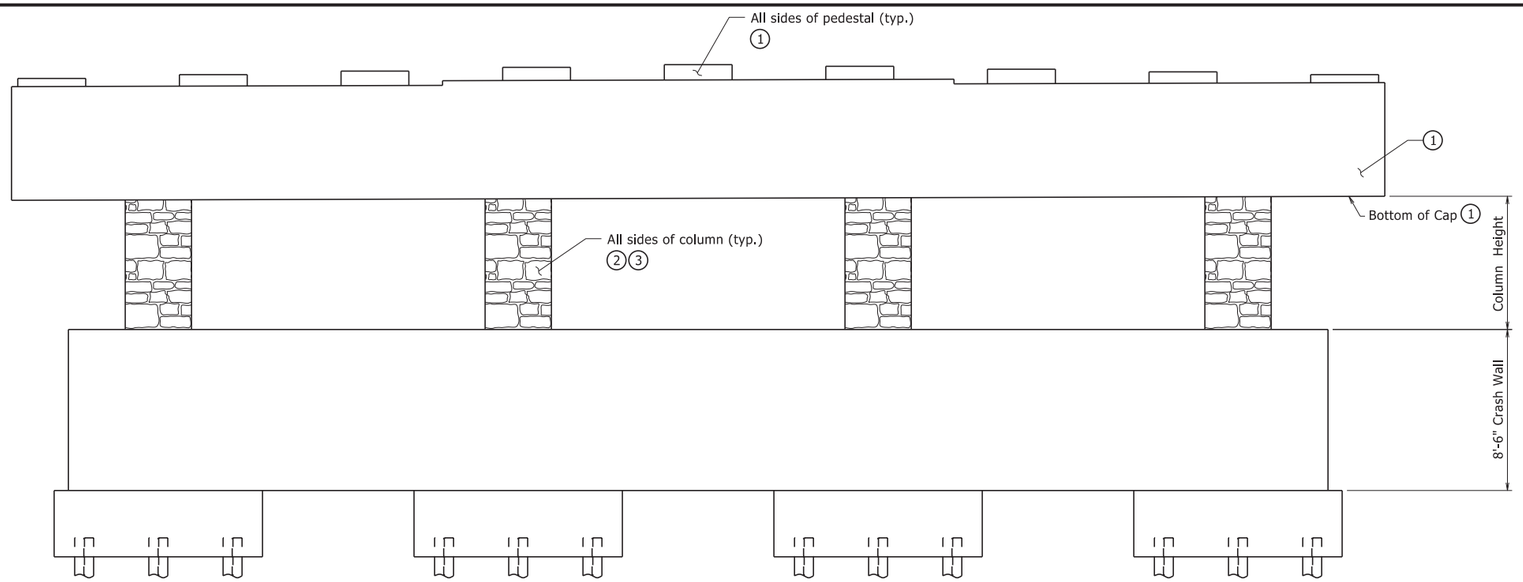
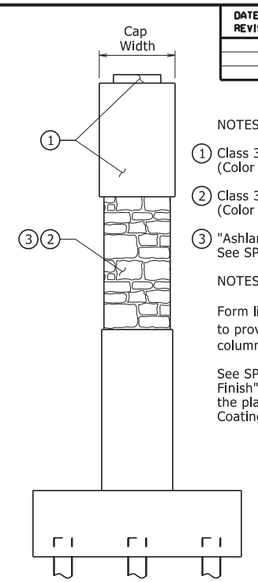
				JOB NO.		080457	269	517
				07500 - BENT 2 - 61901				



FRONT VIEW - BENT AESTHETICS

Looking Ahead



END VIEW - BENT AESTHETICS

NOTES:

1. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)
2. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)
3. "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

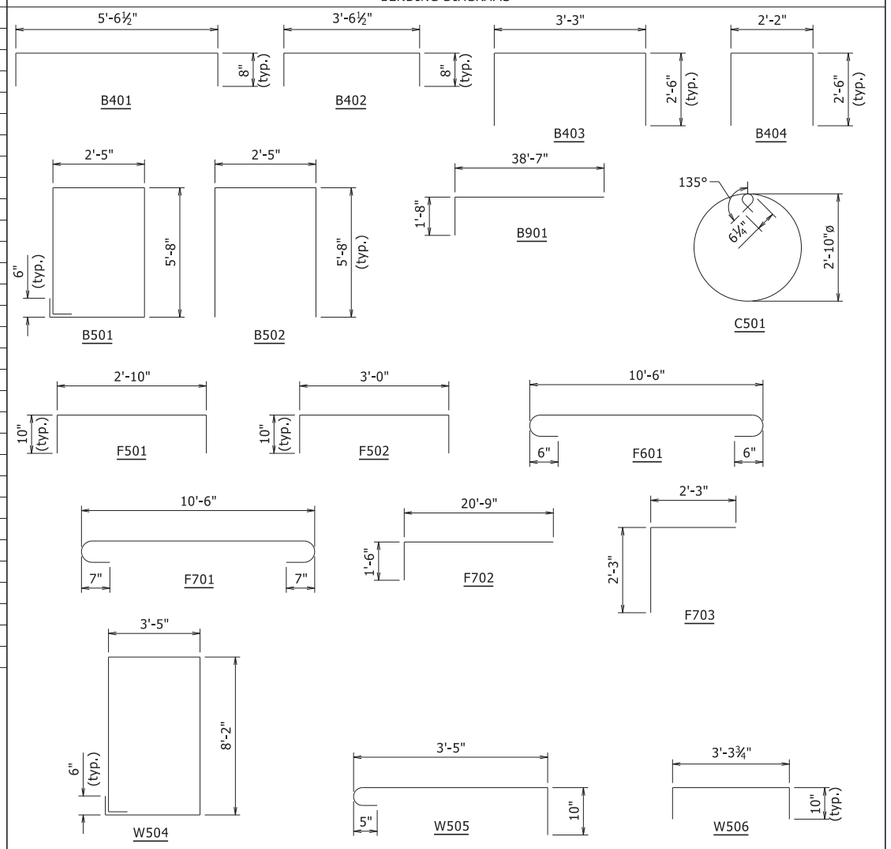
Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to column reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

BAR LIST

MARK	NO. REQ'D	LENGTH	P.D.
B401	6	6'-9"	2"
B402	16	4'-9"	2"
B403	27	8'-1"	2"
B404	45	7'-0"	2"
B501	188	16'-8"	2½"
B502	40	13'-7"	2½"
B701	16	41'-5"	Str.
B702	16	33'-9"	Str.
B801	6	41'-7"	Str.
B802	6	34'-0"	Str.
B901	12	40'-0"	9"
B902	12	38'-7"	Str.
C501	248	10'-3"	3¾"
F501	104	4'-4"	2½"
F502	88	4'-6"	2½"
F503	80	10'-6"	Str.
F601	168	11'-10"	4½"
F701	216	12'-2"	5¼"
F702	96	22'-1"	5¼"
F703	32	4'-4"	5¼"
W501	42	8'-2"	Str.
W502	6	38'-0"	Str.
W503	6	30'-4"	Str.
W504	49	23'-8"	2½"
W505	98	4'-9"	3¾"
W506	18	4'-10"	3¾"
W701	34	38'-5"	Str.
W702	34	30'-9"	Str.

BENDING DIAGRAMS



Dimensions are out to out of bars.

PRINT DATE: 8/26/2020

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LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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BRIDGE ENGINEER

SHEET 3 OF 3
DETAILS OF BENT 2
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	02/06/2020	FILENAME:	b080457x2_b2.dgn
CHECKED BY:	KJT	DATE:	08/26/2020	SCALE:	1/4" = 1'-0"
DESIGNED BY:	DHP	DATE:	12/2019		

BRIDGE NO. 07500 DRAWING NO. 61901

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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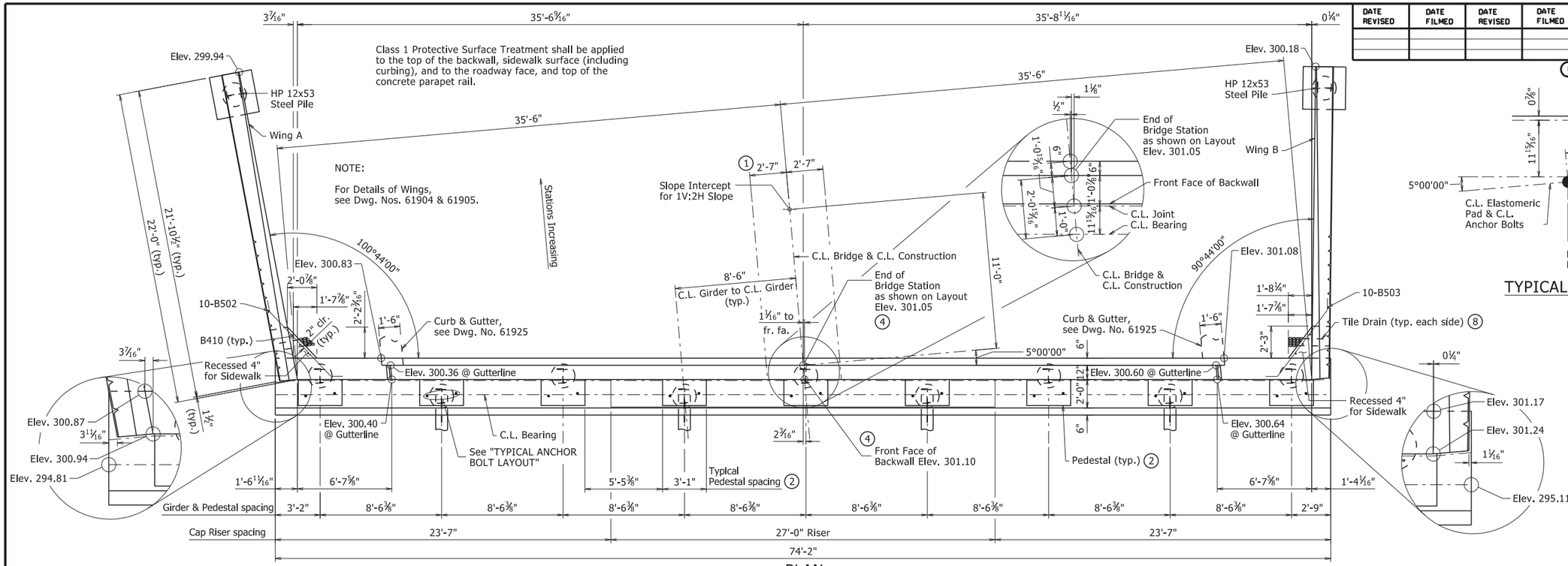
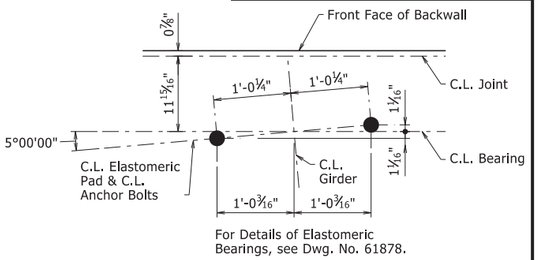
				JOB NO.		080457	270	517
				(1)		07500 - BENT 3 - 61902		



PLAN

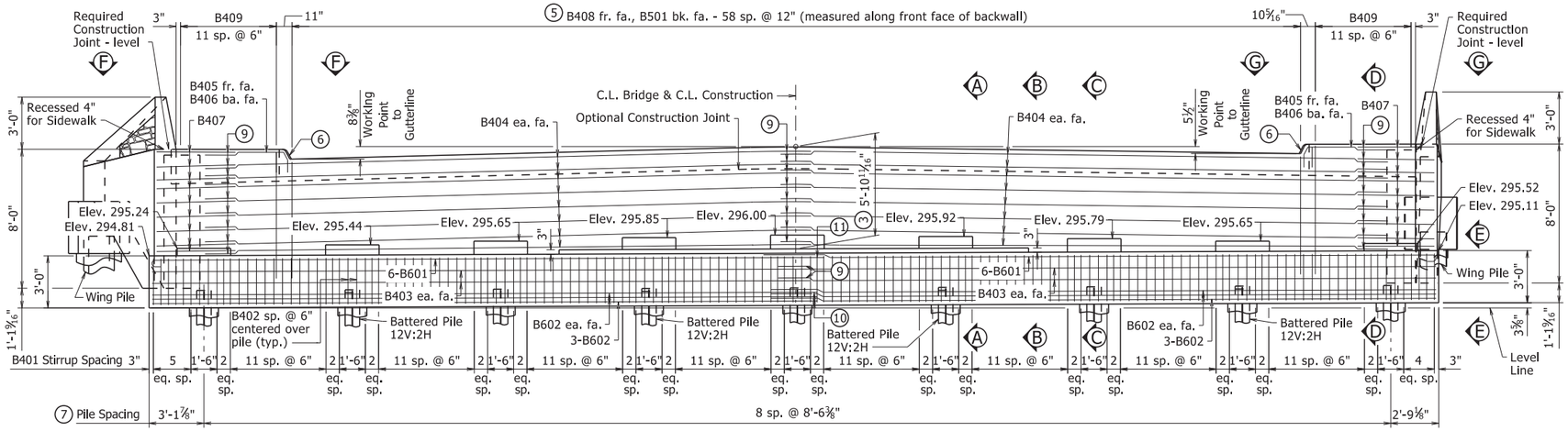
¼"=1'-0"



For Details of Elastomeric Bearings, see Dwg. No. 61878.

TYPICAL ANCHOR BOLT LAYOUT

NO SCALE



ELEVATION

Looking Ahead

¼"=1'-0"

GENERAL NOTES:

For General Notes, see Std. Dwg. No. 55006.

For Joint Details see Std. Dwg. No. 55008 & "SIDEWALK SECTION THRU JOINT AT END BENT" on Dwg No. 61908.

Structural steel in Bent 3 shall be ASTM A709, Gr. 50 and shall be paid for as "Structural Steel in Plate Girder Spans (A709, Gr. 50)".

All piling shall be Grade 50. For details of steel piling, see Std. Dwg. No. 55020.

No portion of the backwall shall be poured before the girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the adjacent deck pour has been made. Refer to the "EXPANSION DEVICE INSTALLATION AT END BENTS" note on Std. Dwg. No. 55008. No heavy construction equipment shall be allowed within 10' of the backwall before the deck concrete placement for the adjacent span has been completed unless MSE strap reinforcing has been designed to accommodate these loads, see "BENT STRAP DETAIL," Dwg. No. 61903.

For additional information, see Layout.

NOTES:

(1) See "ROUNDING DETAIL" on Std. Dwg. No. 55007.

(2) Pedestals shall be cast level at the elevations shown in "ELEVATION". See Dwg. No. 61903 for "PEDESTAL PLAN" & "TYPICAL PEDESTAL DETAILS".

(3) Measured at C.L. Construction at Front Face of Backwall to Working Point.

(4) Measured at Working Point.

(5) See Dwg. No. 61903 for "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D" "VIEW E-E", "VIEW F-F" & "VIEW G-G" for placement of reinforcing.

(6) See Dwg. No. 61903 for "SIDEWALK & CURB DETAIL".

(7) See Dwg. No. 61903 for "LAYOUT OF PILES".

(8) Place 6"ø tile drains approx. 6" above fill slope. Spread bars as required. Place 6 cu. ft. of sacked 3#4" crushed rock or gravel at each drain. All work and materials to install drains shall be subsidiary to "Class S Concrete."

(9) 1'-9" minimum lapped splice length

(10) 2'-8" minimum lapped splice length

(11) 3'-5" minimum lapped splice length

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PRINT DATE: 8/26/2020

SHEET 1 OF 4
DETAILS OF BENT 3
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 07/06/2020
CHECKED BY: KJT DATE: 08/26/2020
DESIGNED BY: DHP DATE: 12/2019

FILENAME: b080457x2_b3.dgn
SCALE: AS NOTED

BRIDGE NO. 07500 DRAWING NO. 61902

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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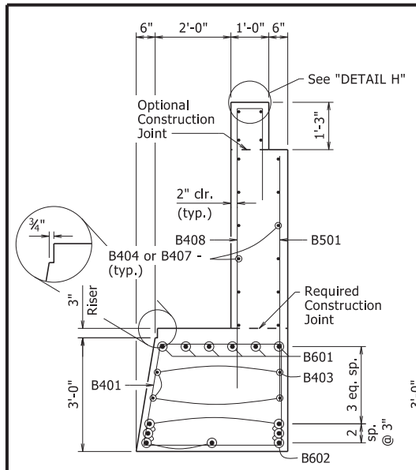
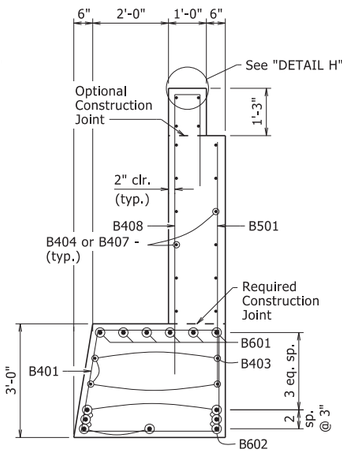
				JOB NO.		080457	271	517
				①	07500 - BENT 3 - 61903			



SECTION A-A

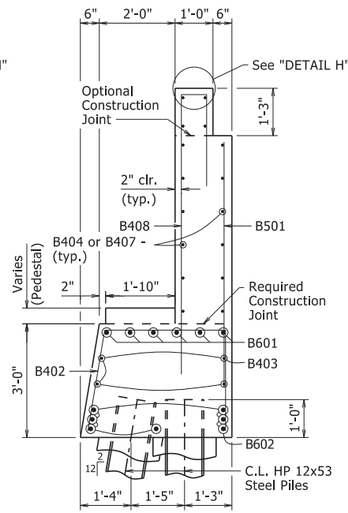
½"=1'-0"



SECTION B-B

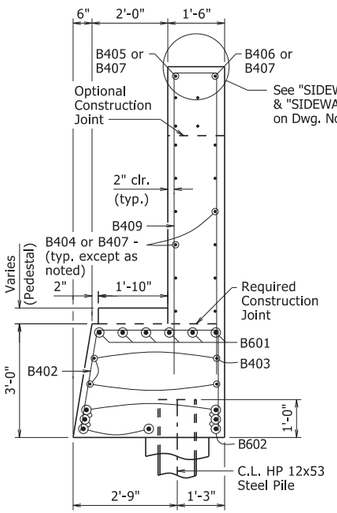
½"=1'-0"

② 1'-9" minimum splice length



SECTION C-C

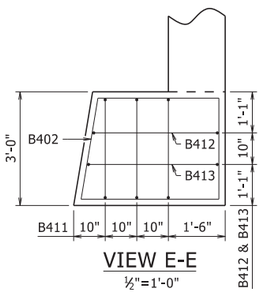
½"=1'-0"



SECTION D-D

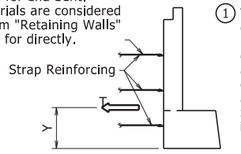
½"=1'-0"

MSE wall supplier shall design & furnish attachments for end bent. This work and materials are considered incidental to the item "Retaining Walls" and will not be paid for directly.



VIEW E-E

½"=1'-0"



① The provided loads do not include any additional loadings due to heavy construction equipment such as cranes. If the Contractor anticipates bringing heavy construction equipment within 10' of the backwall, they shall coordinate with the MSE wall supplier to design strap reinforcing for the anticipated loadings. Tolerable horizontal backwall movement for all loading combinations is 0.2" at the Service Limit State. Design computations shall accompany the wall design submittal for review by the Engineer. See Special Provision Job No. 080457 "Retaining Walls" for additional information.

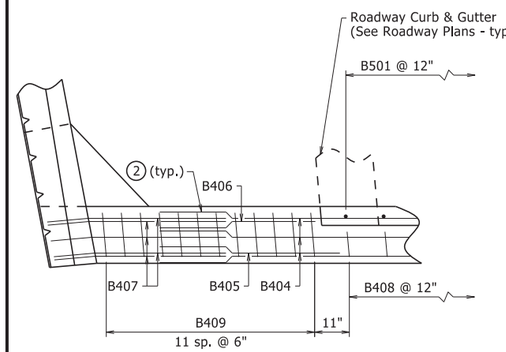
T = Resultant force required to be resisted by strap reinforcing

Y = Centroid of resultant force

Limit State	① T Kips/Ft.	Y Ft.
Service	3.00	3
Strength	4.00	3

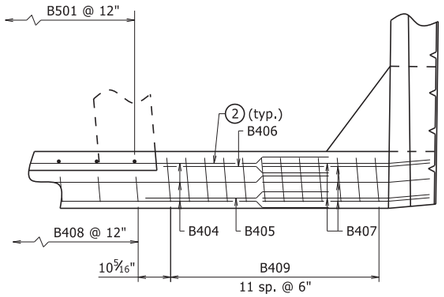
BENT STRAP DETAIL

NO SCALE



VIEW F-F

NO SCALE



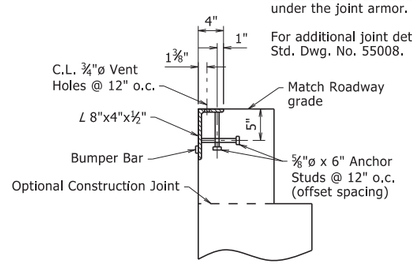
VIEW G-G

NO SCALE

NOTES: Transverse spacing between vertical anchor studs and vent holes shall be 6".

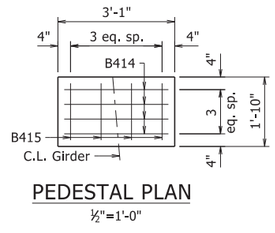
Concrete shall be hand packed under the joint armor.

For additional joint details, see Std. Dwg. No. 55008.



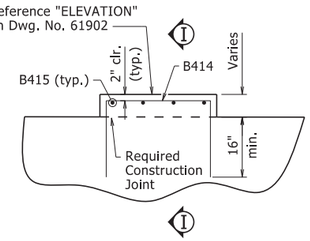
DETAIL H

NO SCALE



PEDESTAL PLAN

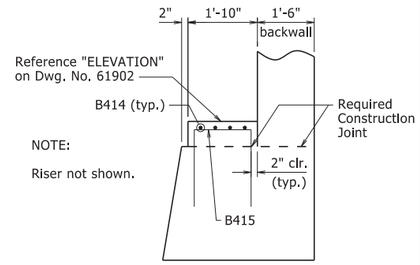
½"=1'-0"



TYPICAL PEDESTAL DETAILS

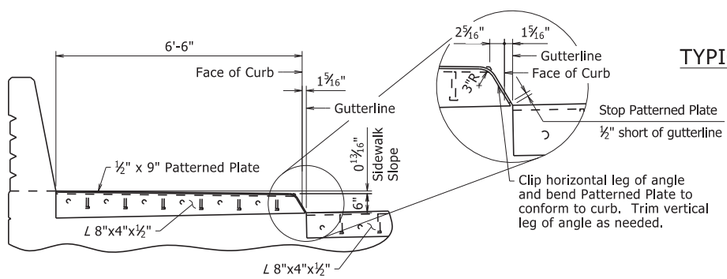
LOOKING BACK

½"=1'-0"



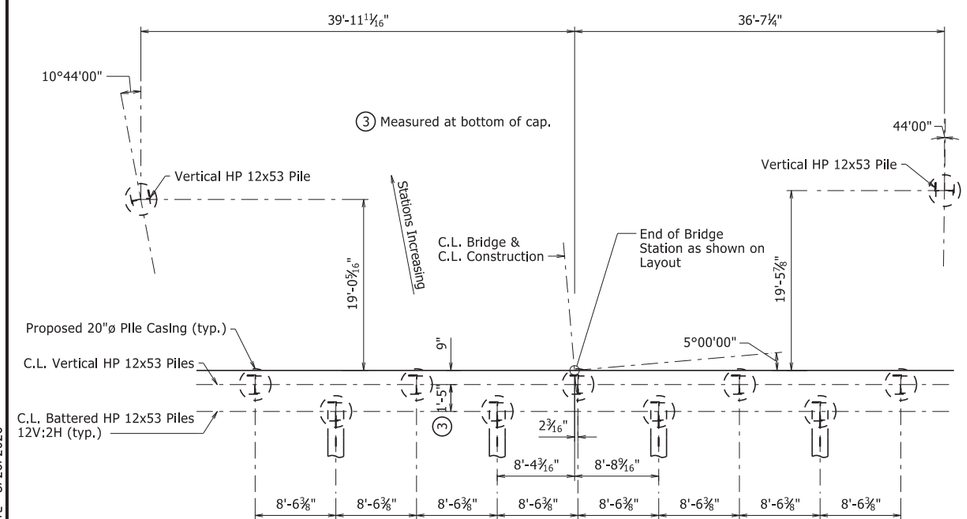
SECTION I-I

½"=1'-0"



SIDEWALK & CURB DETAIL

NO SCALE



LAYOUT OF PILES

NO SCALE

PRINT DATE: 8/26/2020

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LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:52 AM

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SHEET 2 OF 4
DETAILS OF BENT 3
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

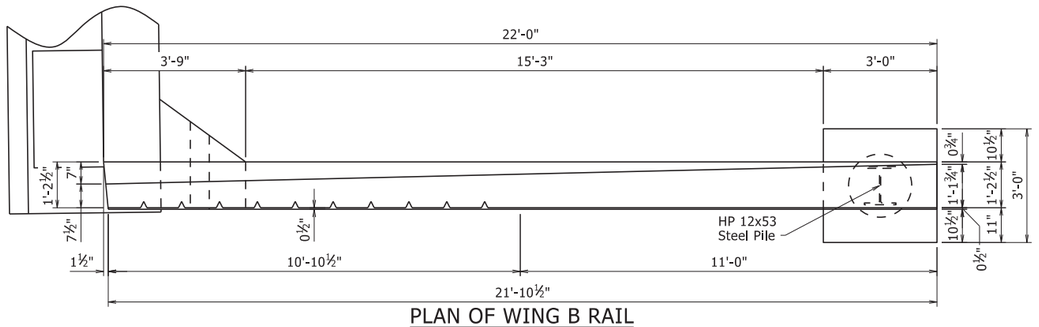
LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	07/06/2020	FILENAME:	b080457x2_b3.dgn
CHECKED BY:	KJT	DATE:	08/26/2020	SCALE:	AS NOTED
DESIGNED BY:	DHP	DATE:	12/2019		

BRIDGE NO. 07500

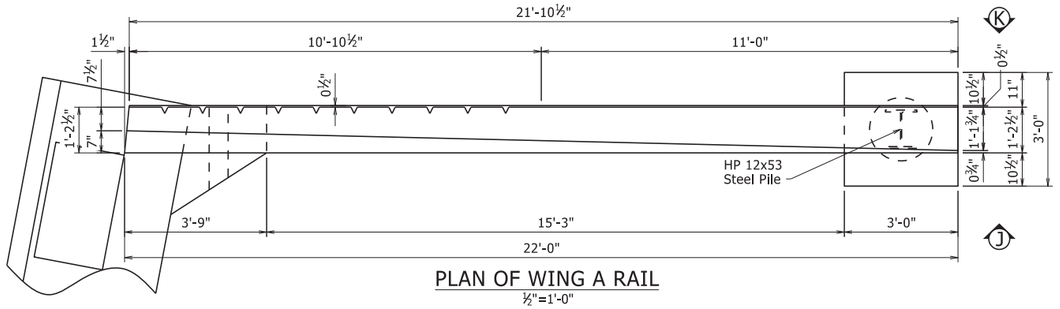
DRAWING NO. 61903

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	272	517
				①	07500 - BENT 3 - 61904			



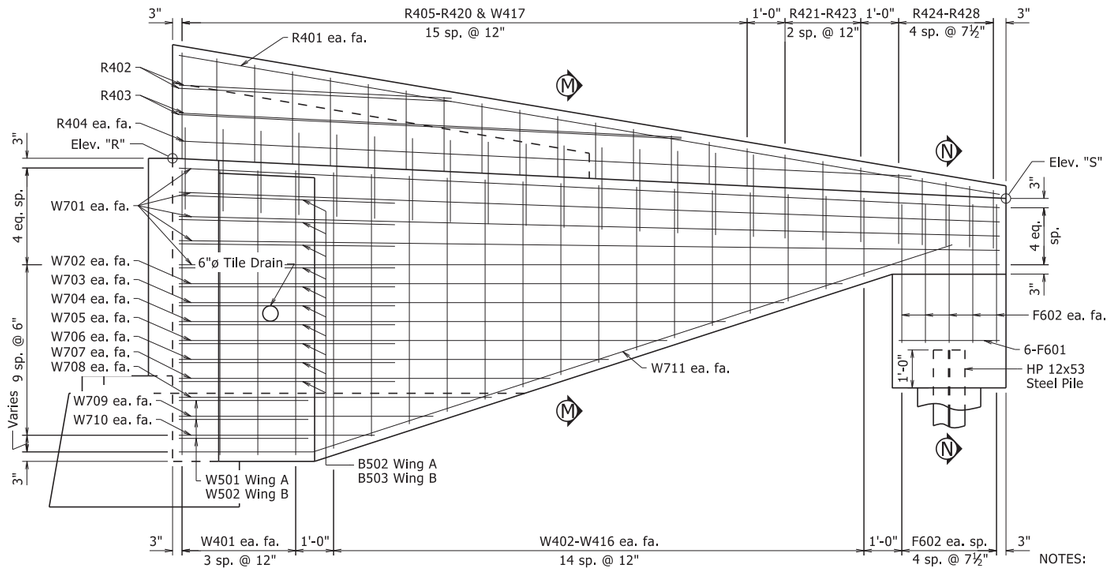
PLAN OF WING B RAIL

½"=1'-0"



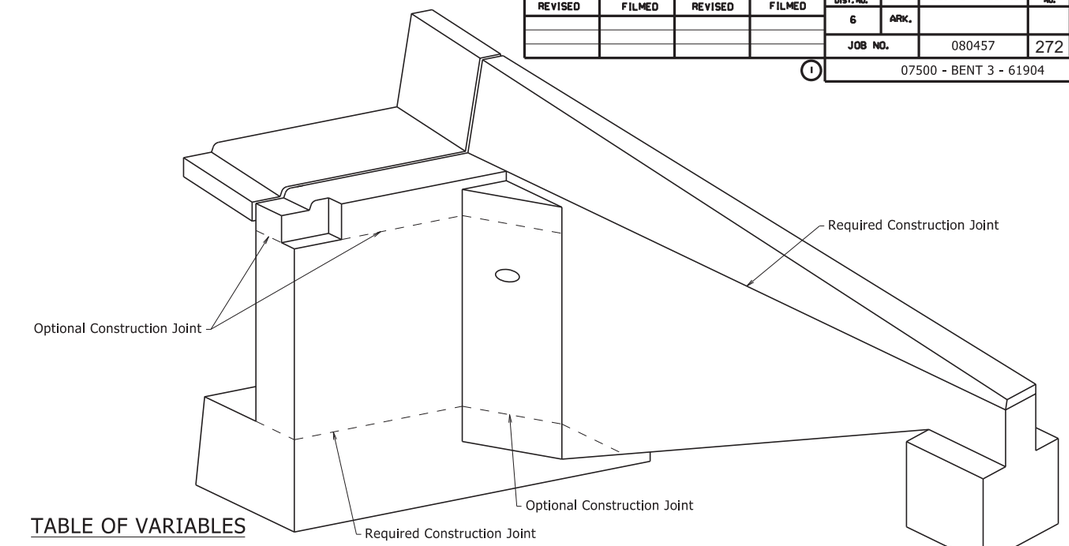
PLAN OF WING A RAIL

½"=1'-0"



VIEW J-J

½"=1'-0"



THREE DIMENSIONAL VIEW OF WING

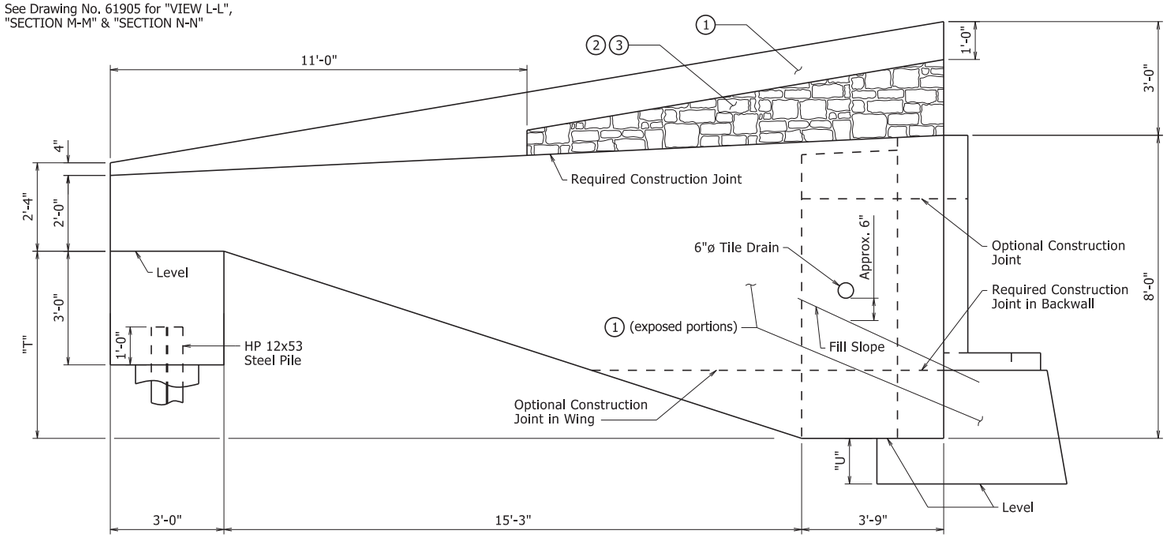
NO SCALE

TABLE OF VARIABLES

WING	ELEV. "R"	ELEV. "S"	"T"	"U"
A	300.94	299.94	5'-0"	1'-1⁹⁄₁₆"
B	301.24	300.18	4'-11¼"	1'-1⁹⁄₁₆"

NOTE:

See Drawing No. 61905 for "VIEW L-L", "SECTION M-M" & "SECTION N-N"



VIEW K-K

½"=1'-0"

NOTES:

① Class 3 Textured Coating Finish
(Color = Brown, Color Chip No. 33522)

② Class 3 Textured Coating Finish
(Color = Brown, Color Chip No. 30219)

③ "Ashlar Stone" Pattern Form Liner
See SP Job 080457 "Architectural Finish".

NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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BRIDGE ENGINEER

SHEET 3 OF 4
DETAILS OF BENT 3
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 07/06/2020
CHECKED BY: KJT DATE: 08/26/2020
DESIGNED BY: DHP DATE: 12/2019

FILENAME: b080457x2_b3.dgn
SCALE: AS NOTED

BRIDGE NO. 07500

DRAWING NO. 61904

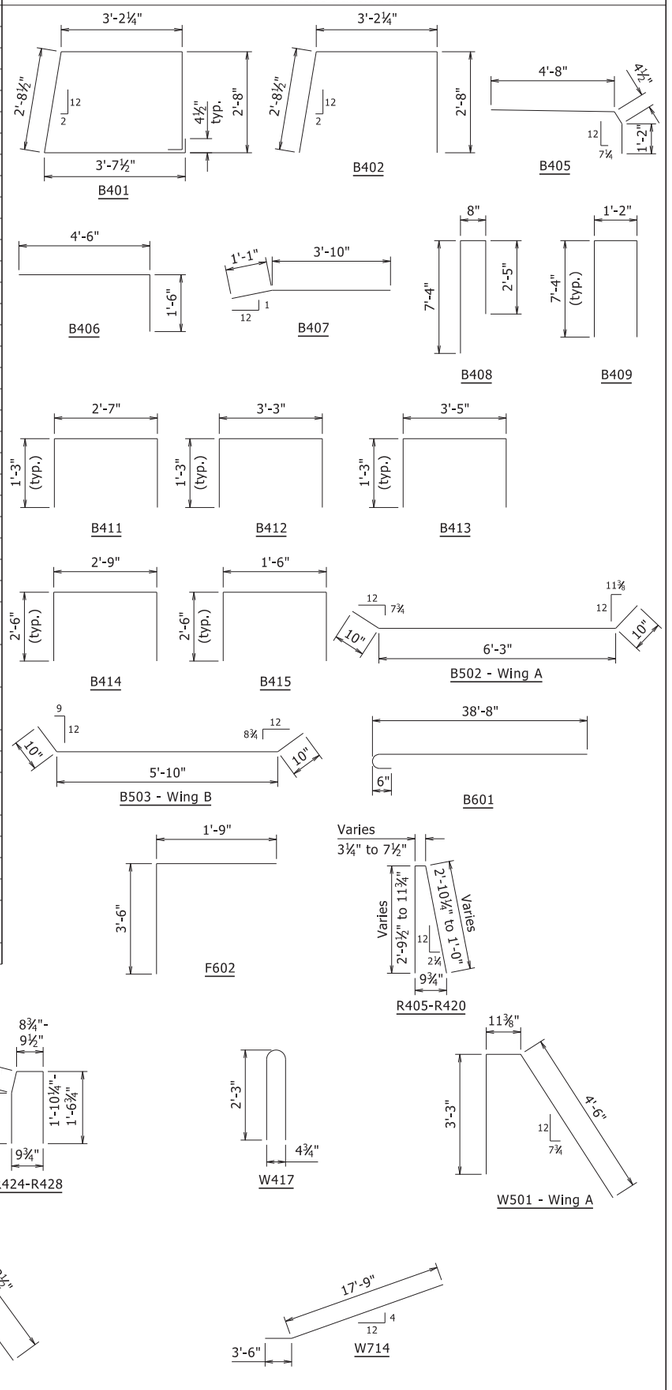
PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	273	517
				①		07500 - BENT 3 - 61905		

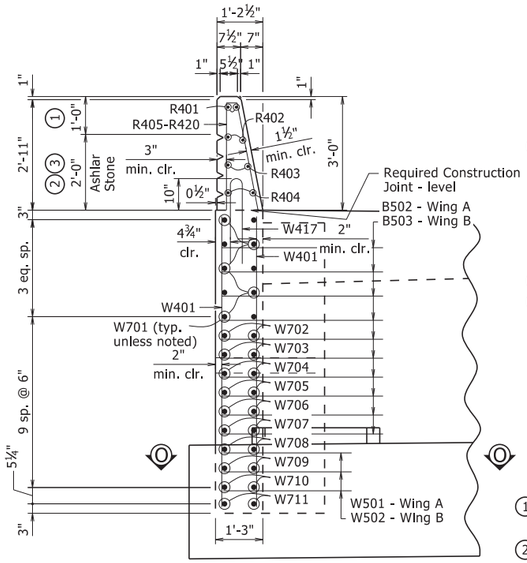
BAR LIST

MARK	NO. REQ'D	LENGTH	P.D.
B401	139	12'-7"	2"
B402	18	8'-5"	2"
B403	8	37'-10"	Str.
B404	32	34'-8"	Str.
B405	2	6'-3"	2"
B406	2	5'-11"	2"
B407	36	4'-11"	2"
B408	59	10'-3"	2"
B409	24	15'-8"	2"
B410	6	7'-4"	Str.
B411	6	4'-11"	2"
B412	2	5'-7"	2"
B413	2	5'-9"	2"
B414	36	7'-7"	2"
B415	36	6'-4"	2"
B501	59	6'-5"	Str.
B502	10	7'-11"	3¾"
B503	10	7'-6"	3¾"
B601	12	39'-4"	4½"
B602	14	38'-3"	Str.
F601	12	2'-8"	Str.
F602	20	5'-1"	4½"
R401	4	22'-0"	Str.
R402	4	7'-3"	Str.
R403	4	13'-4"	Str.
R404	4	19'-4"	Str.
R405-R420	2 ea.	5'-10" to 2'-6"	2"
R421-R423	2 ea.	5'-0" to 4'-7"	2"
R424-R428	2 ea.	4'-4" to 3'-10"	2"
W401	16	7'-6"	Str.
W402-W416	4 ea.	7'-3" to 2'-1"	Str.
W417	32	4'-8"	3¾"
W501	3	8'-7"	3¾"
W502	3	8'-4"	3¾"
W701	20	21'-8"	Str.
W702-W710	4 ea.	17'-6" to 5'-2"	Str.
W711	4	21'-3"	5¼"

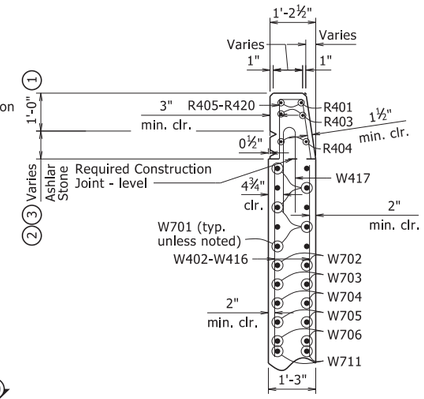
BENDING DIAGRAMS



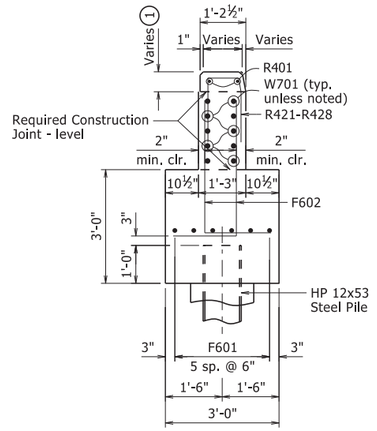
DImensions are out to out of bars.



VIEW L-L



SECTION M-M



SECTION N-N

NOTES:

① Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)

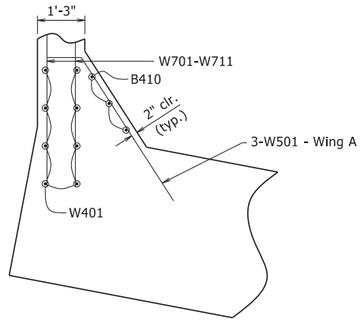
② Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)

③ "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

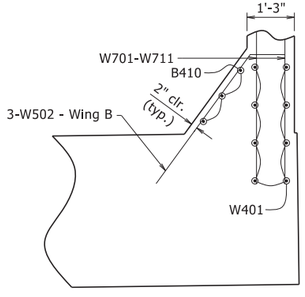
NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.



SECTION O-O
Wing A



SECTION O-O
Wing B

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:52 AM
BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF BENT 3
HIGHWAY 89 OVER INTERSTATE 40

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

DRAWN BY: CGP DATE: 07/06/2020 FILENAME: b080457x2_b3.dgn
CHECKED BY: KJT DATE: 08/26/2020 SCALE: 1/2" = 1'-0"
DESIGNED BY: DHP DATE: 12/2019

BRIDGE NO. 07500 DRAWING NO. 61905

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	274	517
				(1)	07500 - SPAN DETAILS - 61906			

Class 1 Protective Surface Treatment shall be applied to the sidewalk surface (including curbing), to the roadway face & top of the concrete parapet rail, and to the roadway surface.

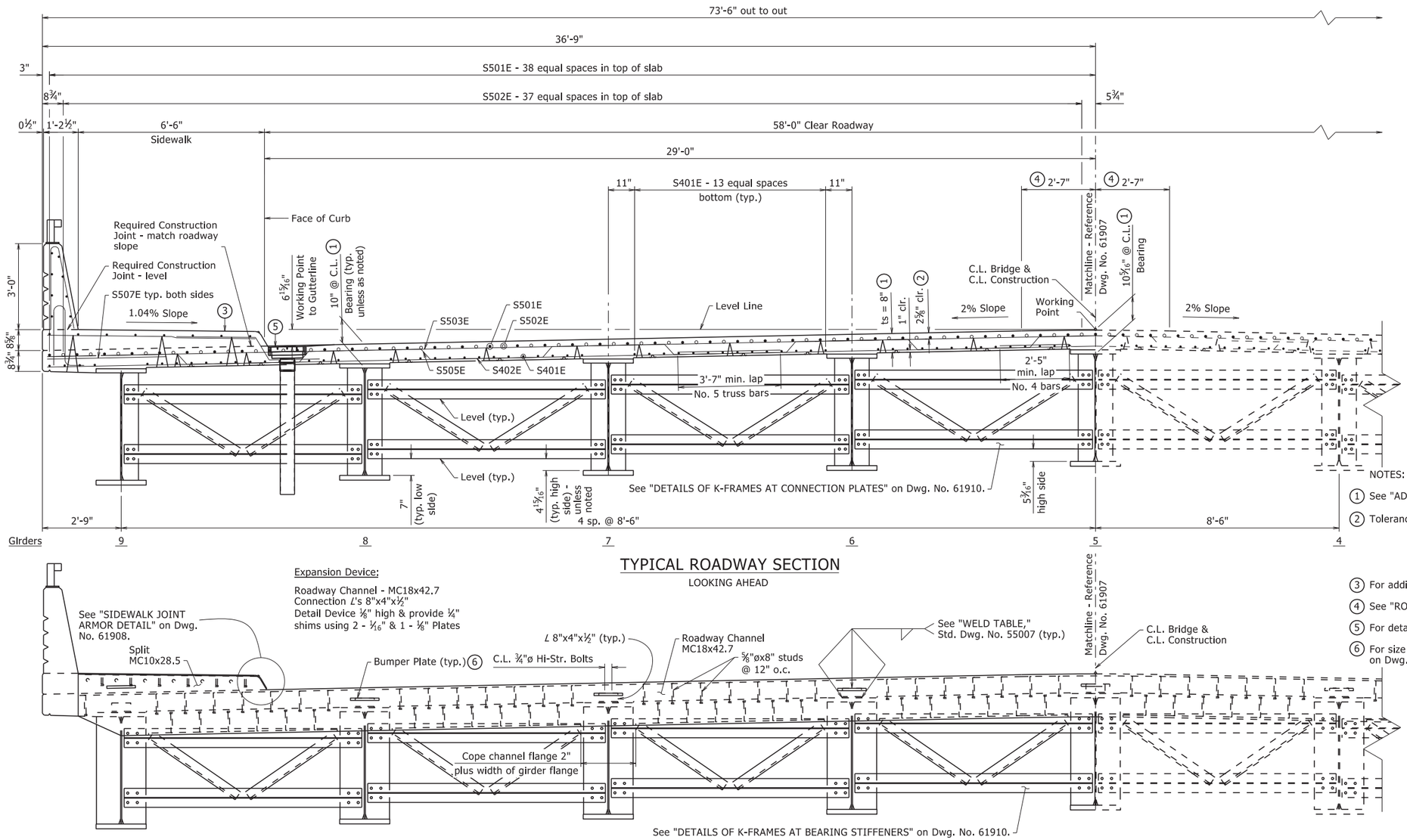
At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bars S505E & S506E. Payment for reinforcing will be based on the weight of bars S505E & S506E.

Bar positions and clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06. Placement of slab bolsters or hi-chairs with full-length lower runners directly on removable deck forms will not be allowed.

Slab Reinforcing

Longitudinal: S501E in top (place as shown), S401E in bottom (place as shown)
S502E placed as shown, see "REINFORCING PLAN & DECK POURING SEQUENCE", Dwg. No. 61912.

Transverse: S503E & S504E @ 12" o.c. in top, S402E & S403E @ 12" o.c. in bottom — Alternate
S505E & S506E @ 12" o.c. bent up over beams
S507E @ 6" in top of overhangs (bundled with #5 bars) both sides



TYPICAL ROADWAY SECTION

LOOKING AHEAD

TYPICAL ROADWAY SECTION THRU JOINT

LOOKING AHEAD

NOTES:

(1) See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.

(2) Tolerance Minus = ¼":
Plus = to the amount of slab thickness used to meet slab thickness tolerance
See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.

(3) For additional information see "SIDEWALK DETAIL" on Dwg. No. 61908.

(4) See "ROUNDING DETAIL", Std. Dwg. No. 55007.

(5) For details of Deck Drains, see Dwg. No. 61914.

(6) For size of Bumper Plate, see "TABLE OF SILICONE JOINT DATA", on Dwg. No. 61908.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:52 AM
BRIDGE ENGINEER

SHEET 1 OF 8
DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	CGP	DATE:	02/03/2020	FILENAME:	b080457x2_s1.dgn
CHECKED BY:	KJT	DATE:	08/26/2020	SCALE:	1/2" = 1'-0"
DESIGNED BY:	DHP	DATE:	01/2020		

BRIDGE NO. 07500 DRAWING NO. 61906

PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	275	517
				(1)		07500 - SPAN DETAILS - 61907		

Class 1 Protective Surface Treatment shall be applied to the sidewalk surface (including curbing), to the roadway face & top of the concrete parapet rail, and to the roadway surface.

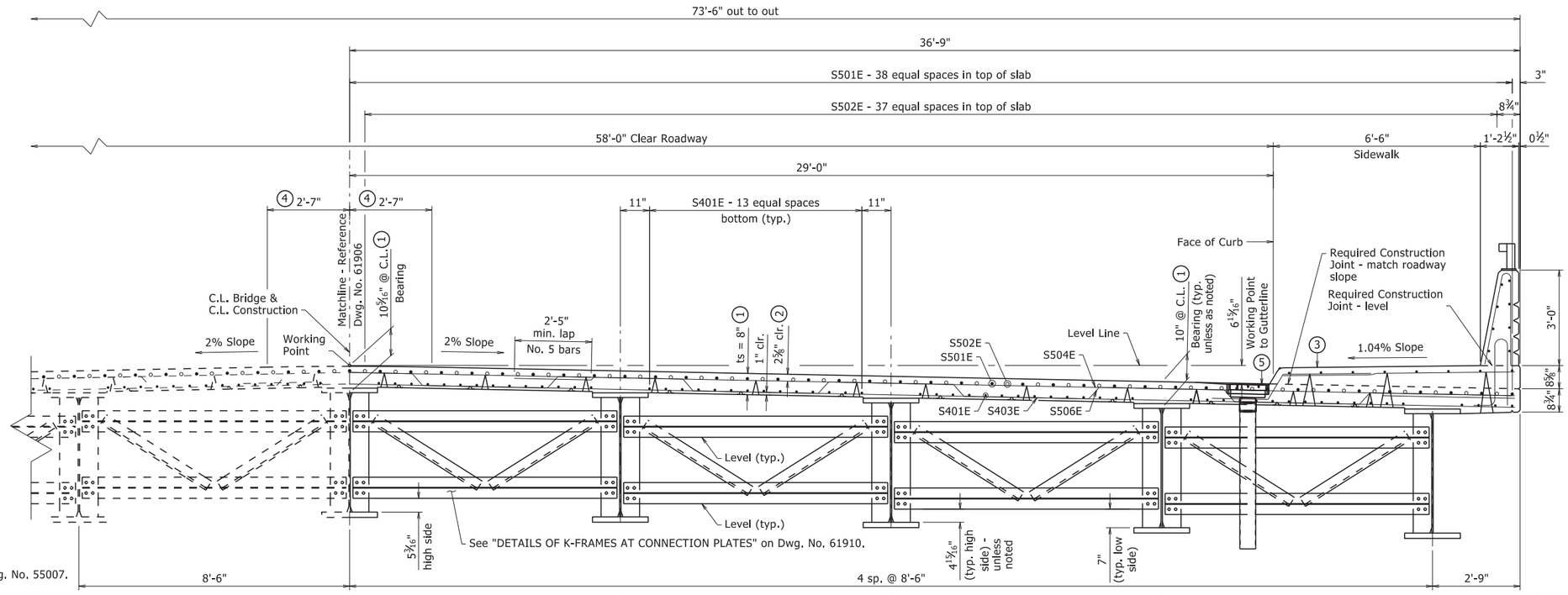
At the Contractor's option, two straight epoxy coated #5 bars may be substituted for bars S505E & S506E. Payment for reinforcing will be based on the weight of bars S505E & S506E.

Bar positions and clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06. Placement of slab bolsters or hi-chairs with full-length lower runners directly on removable deck forms will not be allowed.

Slab Reinforcing

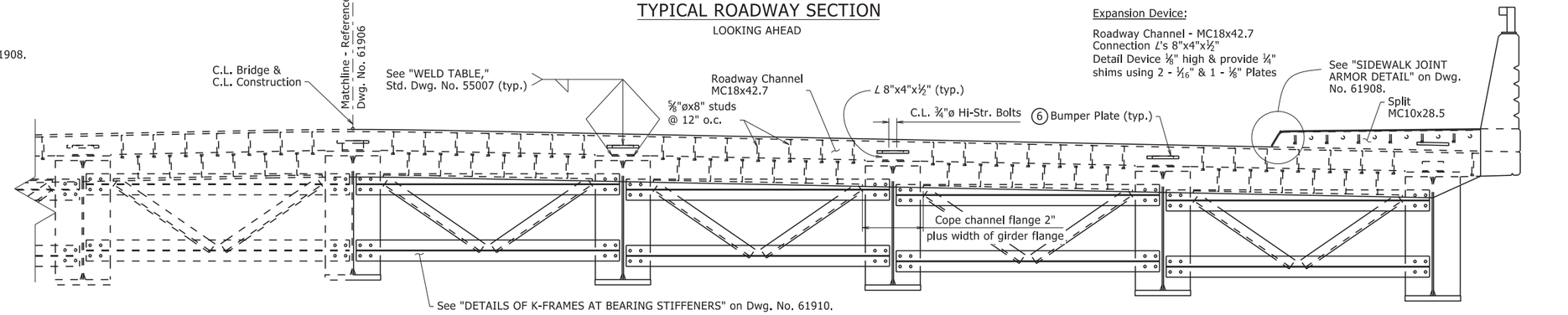
Longitudinal: S501E in top (place as shown), S401E in bottom (place as shown)
S502E placed as shown, see "REINFORCING PLAN & DECK POURING SEQUENCE", Dwg. No. 61912.

Transverse: S503E & S504E @ 12" o.c. in top, S402E & S403E @ 12" o.c. in bottom
S505E & S506E @ 12" o.c. bent up over beams — Alternate
S507E @ 6" in top of overhangs (bundled with #5 bars) both sides



TYPICAL ROADWAY SECTION

LOOKING AHEAD



TYPICAL ROADWAY SECTION THRU JOINT

LOOKING AHEAD

NOTES:

(1) See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.

(2) Tolerance Minus = ¼":
Plus = to the amount of slab thickness used to meet slab thickness tolerance
See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Std. Dwg. No. 55007.

(3) For additional information see "SIDEWALK DETAIL" on Dwg. No. 61908.

(4) See "ROUNDING DETAIL", Std. Dwg. No. 55007.

(5) For details of Deck Drains, see Dwg. No. 61914.

(6) For size of Bumper Plate, see "TABLE OF SILICONE JOINT DATA", on Dwg. No. 61908.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:53 AM
Charles R. Ellis
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BRIDGE ENGINEER

SHEET 2 OF 8
DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

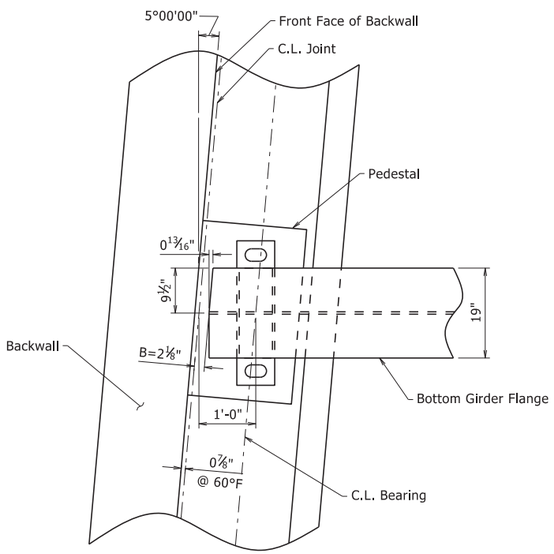
DRAWN BY: CGP DATE: 02/03/2020 FILENAME: b080457x2_s1.dgn
CHECKED BY: KJT DATE: 08/26/2020 SCALE: 1/2" = 1'-0"
DESIGNED BY: DHP DATE: 01/2020

BRIDGE NO. 07500 DRAWING NO. 61907

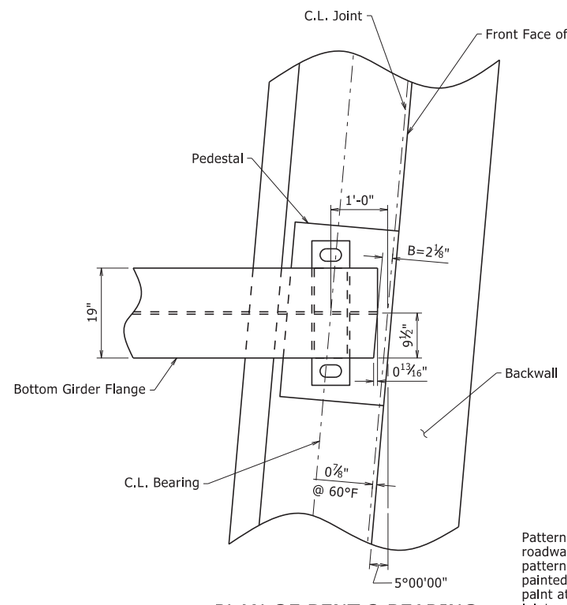
PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	276	517

(1) 07500 - SPAN DETAILS - 61908



PLAN OF BENT 1 BEARING



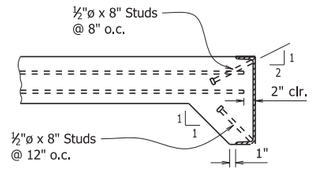
PLAN OF BENT 3 BEARING

TABLE OF SILICONE JOINT DATA

For details of poured silicone joint, see Std. Dwg. No. 55008.

Bent Number	"A" Width Perpendicular to Joint at 24 Hour Average Temperature (1) of:			"B" Perpendicular to Joint at 60°F	Bumper Plate Size
	40°F	60°F	80°F		
1 & 3	2"	1¾"	1½"	2" ±	1" x 1" x 12"

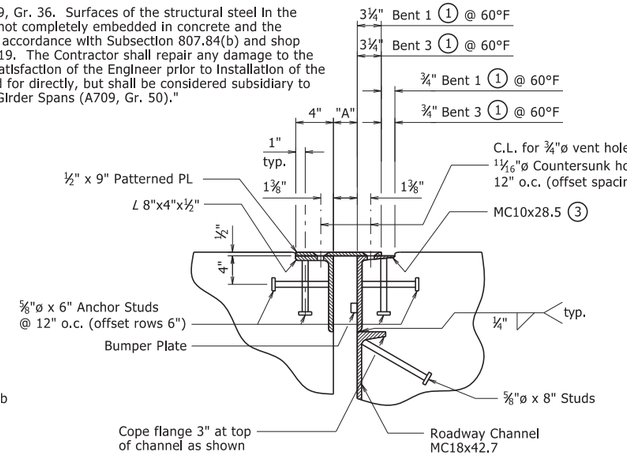
(1) The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The engineer shall establish the temperature. Interpolation of the table may be necessary.



As an alternate to ⅝"ø studs, ½"ø x 8" studs spaced as shown may be used. Use weight of ⅝"ø stud as basis of measurement of structural steel in anchors.

DETAILS OF ALTERNATE ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT

Patterned Plate shall be ASTM A709, Gr. 36. Surfaces of the structural steel in the roadway and sidewalk joint armor not completely embedded in concrete and the patterned plate shall be cleaned in accordance with Subsection 807.84(b) and shop painted Brown, Color Chip No. 30219. The Contractor shall repair any damage to the paint at their expense and to the satisfaction of the Engineer prior to installation of the joint seal. Painting will not be paid for directly, but shall be considered subsidiary to the Item "Structural Steel In Plate Girder Spans (A709, Gr. 50)."

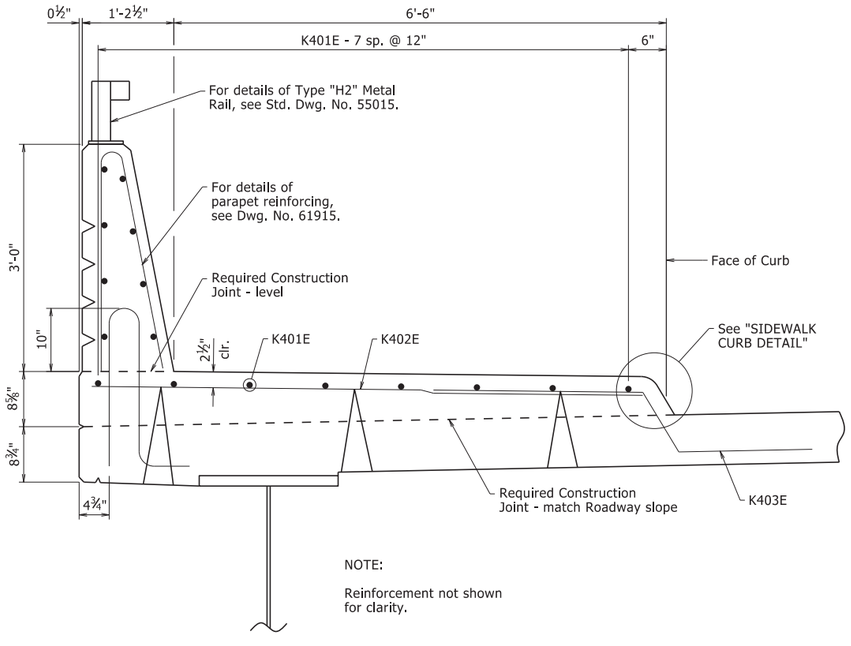


SIDEWALK SECTION THRU JOINT AT END BENT

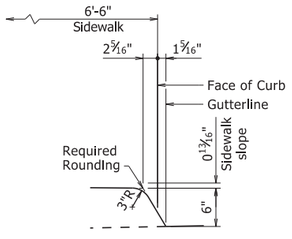
(2) Countersunk 1 1/16"ø holes in ½" Patterned Plate. Tap 4" leg of channel & angle for ASTM A449 ⅝"ø screws @ 12" o.c. Install screws in the shop and ship as a unit. Screws on the span to be removed. Screws on the Backwall to remain in place after erection. See "Expansion Device Installation" on Std. Dwg. No. 55008.

(3) Trim vertical leg of MC10x28.5 as needed.

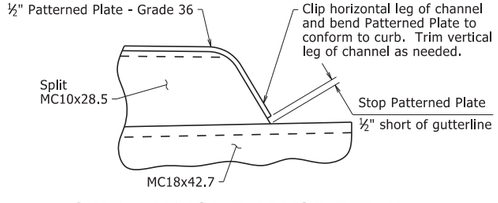
Note: Concrete shall be hand packed under the joint armor in the sidewalk.



SIDEWALK DETAIL



SIDEWALK CURB DETAIL



SIDEWALK JOINT ARMOR DETAIL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:53 AM

BRIDGE ENGINEER

SHEET 3 OF 8
DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

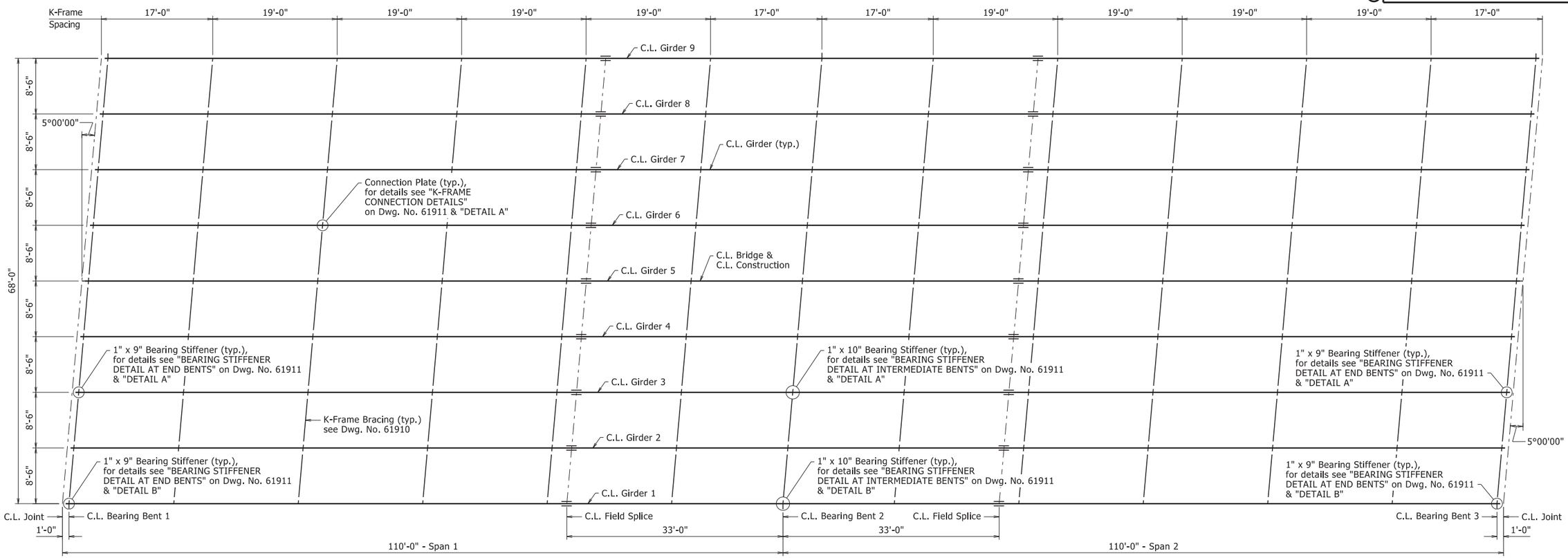
DRAWN BY:	CGP	DATE:	02/03/2020	FILENAME:	b080457x2_s1.dgn
CHECKED BY:	KJT	DATE:	08/26/2020	SCALE:	NO SCALE
DESIGNED BY:	DHP	DATE:	01/2020		

BRIDGE NO. 07500 DRAWING NO. 61908

PRINT DATE: 8/26/2020

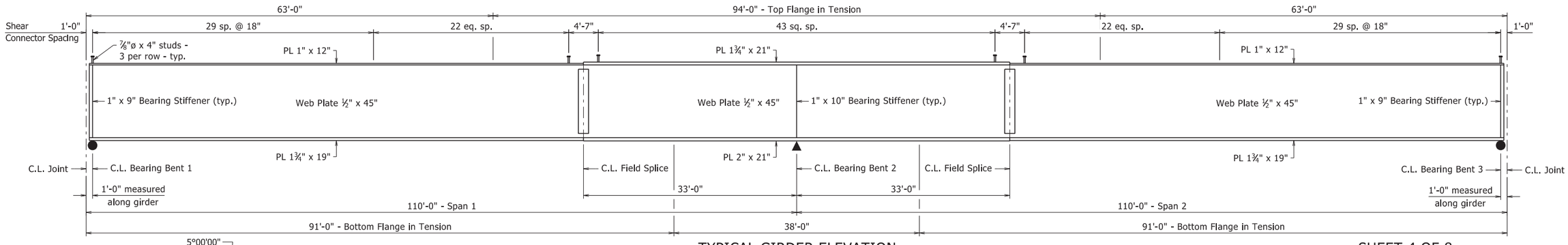
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	277	517

1 07500 - SPAN DETAILS - 61909



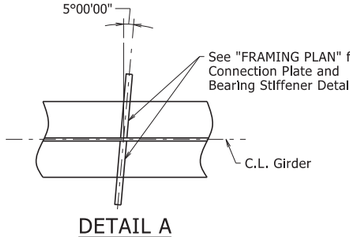
FRAMING PLAN

1/8" = 1'-0"



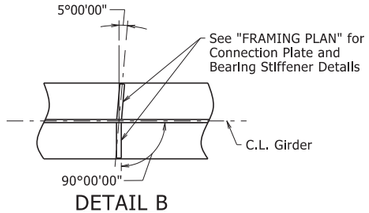
TYPICAL GIRDER ELEVATION

1/8" = 1'-0"



DETAIL A

1" = 1'-0"



DETAIL B

1" = 1'-0"

NOTES:

All Structural Steel shall be ASTM A709, Gr. 50 unless otherwise noted, and shall be paid for as "Structural Steel in Plate Girder Spans (A709, Gr. 50)."

For additional information, see Layout.

For General Notes, see Std. Dwg. No. 55006.

For additional details, see Std. Dwg. No. 55007.

For "DETAILS OF FIELD SPLICE", see Dwg. No. 61911.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:53 AM

BRIDGE ENGINEER

SHEET 4 OF 8
DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY:	KJT	DATE:	08/26/2020	SCALE:	AS NOTED
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BRIDGE NO. 07500 DRAWING NO. 61909

PRINT DATE: 8/26/2020

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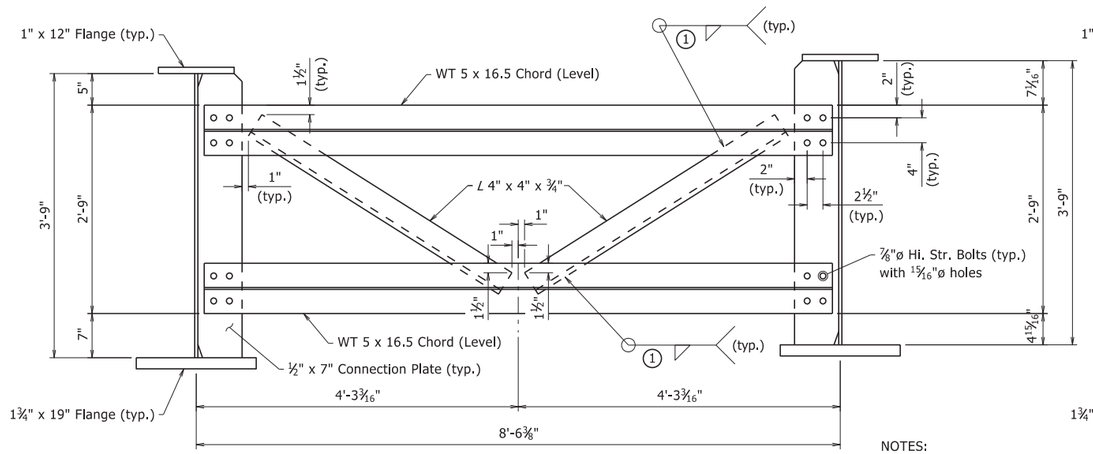
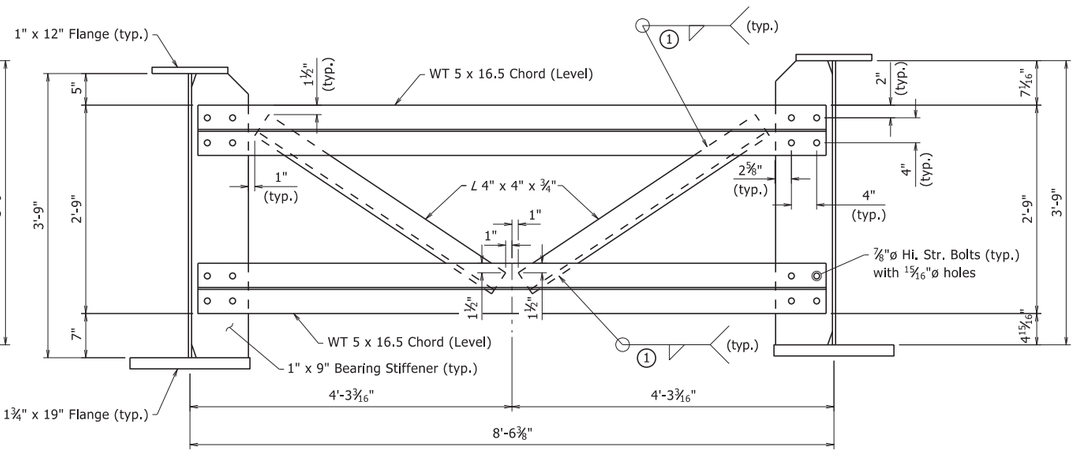
				6	ARK.			
				JOB NO.		080457	278	517
				(1)		07500 - SPAN DETAILS - 61910		

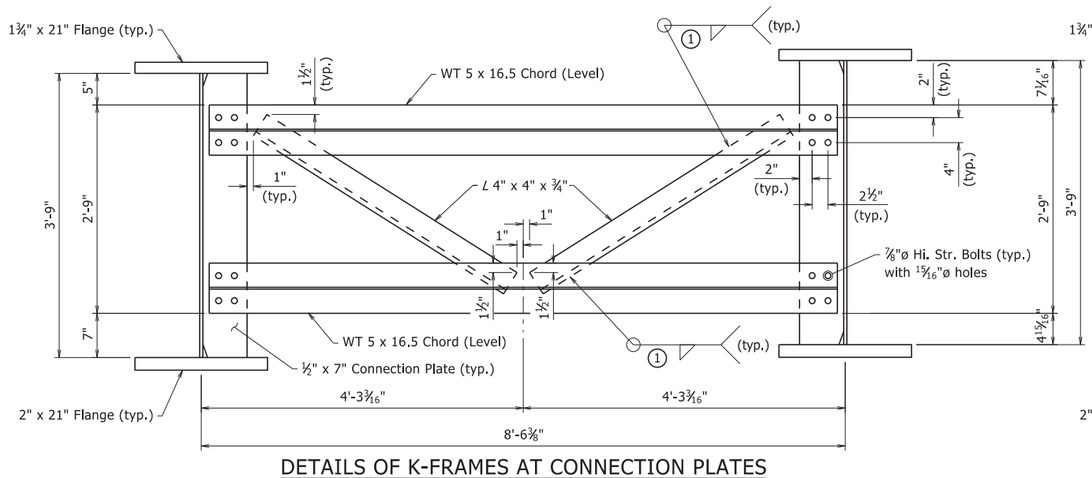




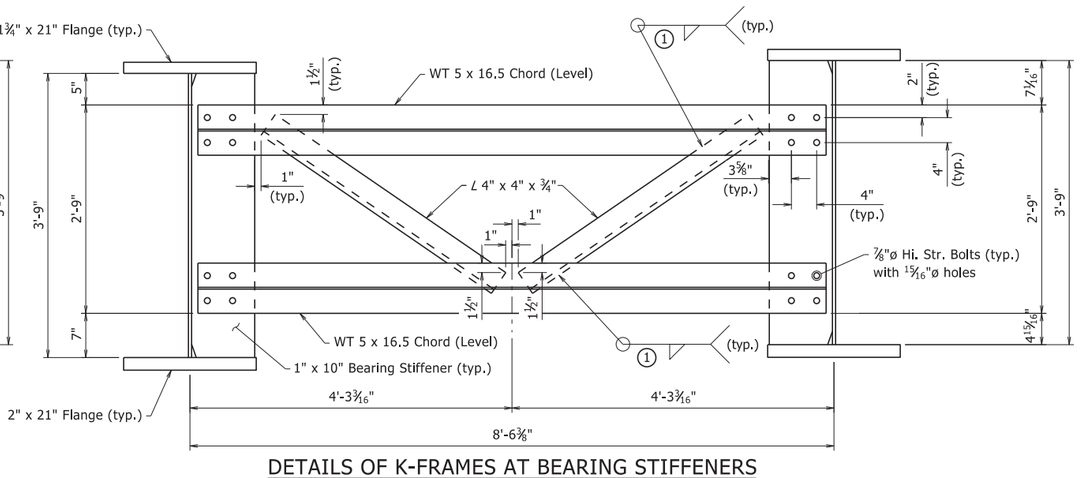
NOTES:

(1) See "WELD TABLE", Std. Dwg. No. 55007.

See "K-FRAME CONNECTION DETAILS,
"BEARING STIFFENER DETAIL AT END BENTS"
& "BEARING STIFFENER DETAIL AT INTERMEDIATE BENTS"
on Dwg. No. 61911.



DETAILS OF K-FRAMES AT CONNECTION PLATES



DETAILS OF K-FRAMES AT BEARING STIFFENERS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:53 AM
Charles R. Ellis
BRIDGE ENGINEER
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SHEET 5 OF 8
DETAILS OF 220'-0" CONTINUOUS
PLATE GIRDER UNIT
HIGHWAY 89 OVER INTERSTATE 40

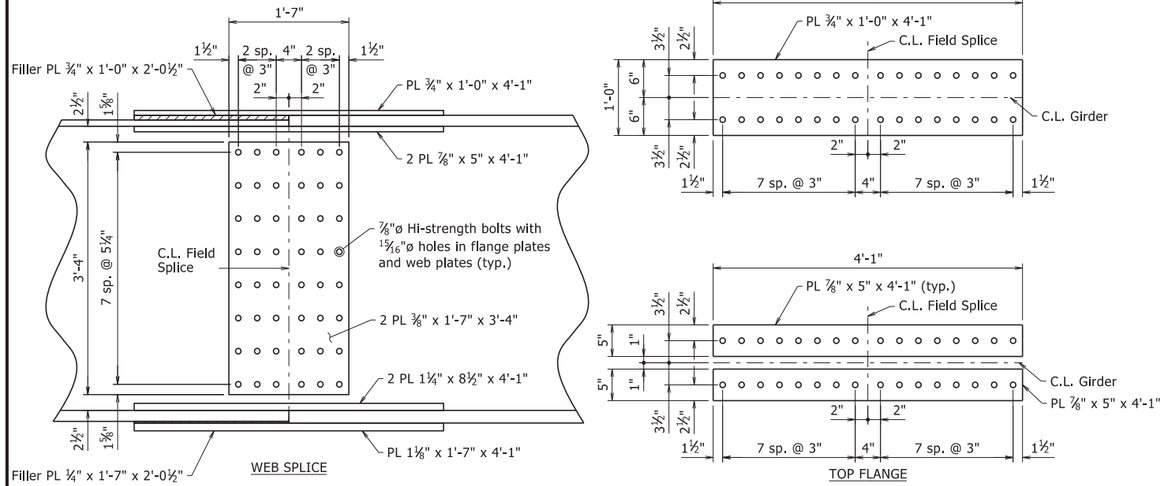
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 02/03/2020 FILENAME: b080457x2_s1.dgn
CHECKED BY: KJT DATE: 08/26/2020 SCALE: 1" = 1'-0"
DESIGNED BY: DHP DATE: 01/2020

BRIDGE NO. 07500 DRAWING NO. 61910

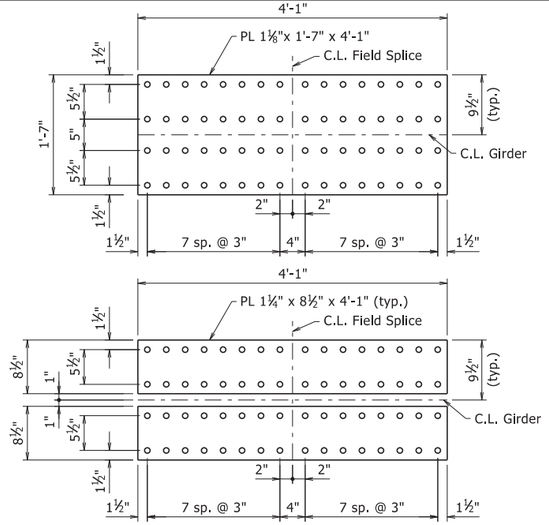
PRINT DATE: 8/26/2020

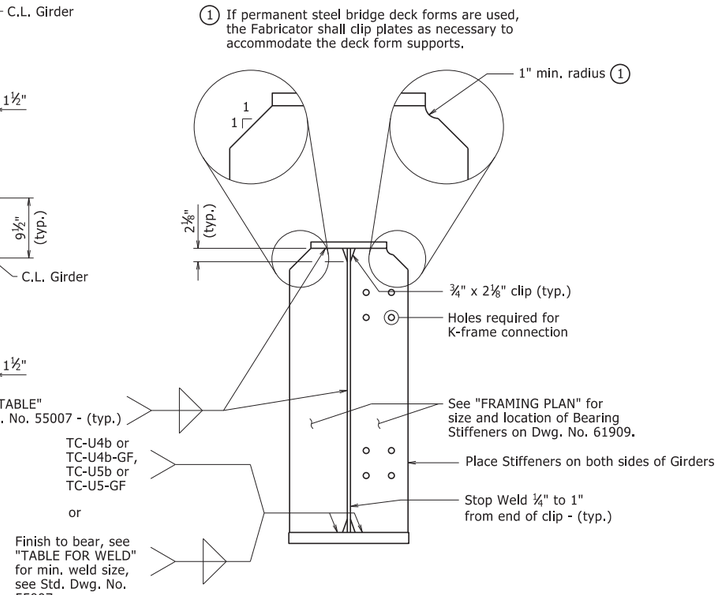
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	279	517
				①	07500 - SPAN DETAILS - 61911			



DETAILS OF FIELD SPLICE

1" = 1'-0"

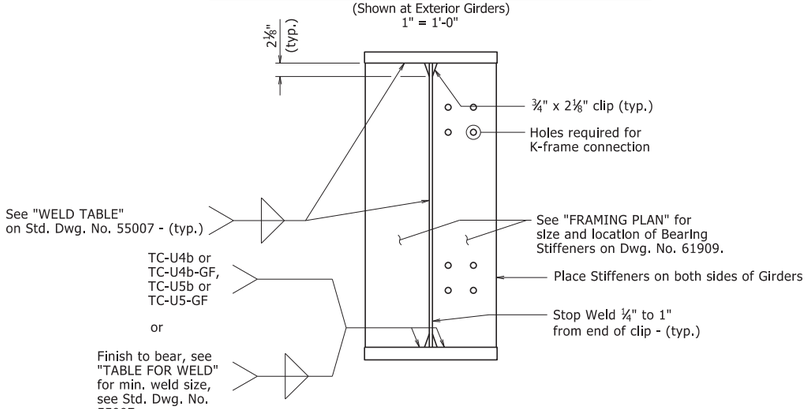




NOTE: All bearing stiffeners shall be vertical in their final position.

BEARING STIFFENER DETAIL AT END BENTS

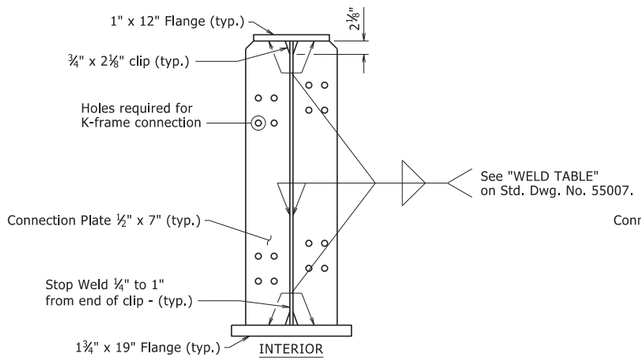
(Shown at Exterior Girders)
1" = 1'-0"

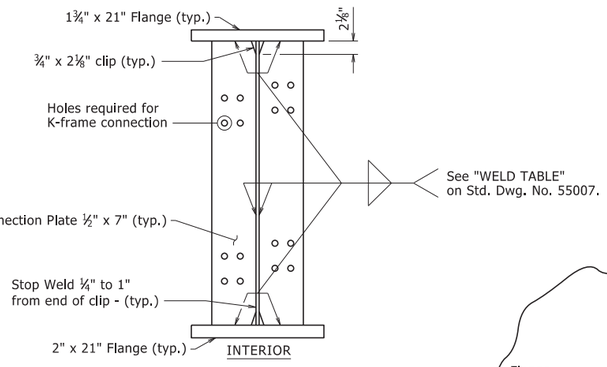


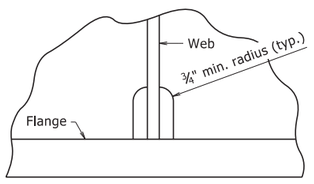
NOTE: All bearing stiffeners shall be vertical in their final position.

BEARING STIFFENER DETAIL AT INTERMEDIATE BENTS

(Shown at Exterior Girders)
1" = 1'-0"



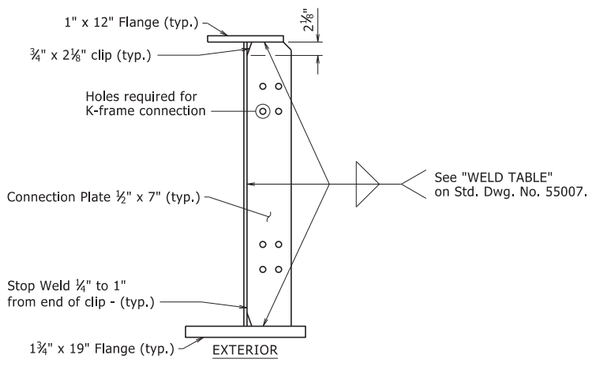


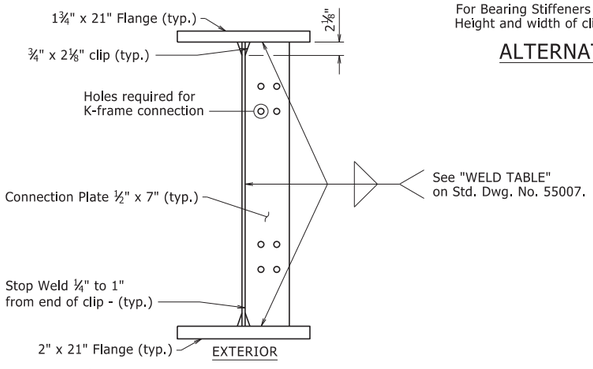


For Bearing Stiffeners and K-Frame Connection Plates. Height and width of clip shall be as noted in the plans.

ALTERNATE CLIP DETAIL

No Scale





K-FRAME CONNECTION DETAILS

1" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:53 AM
BRIDGE ENGINEER

SHEET 6 OF 8
DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 02/03/2020 FILENAME: b080457x2_s1.dgn
CHECKED BY: KJT DATE: 08/26/2020 SCALE: AS NOTED
DESIGNED BY: DHP DATE: 01/2020

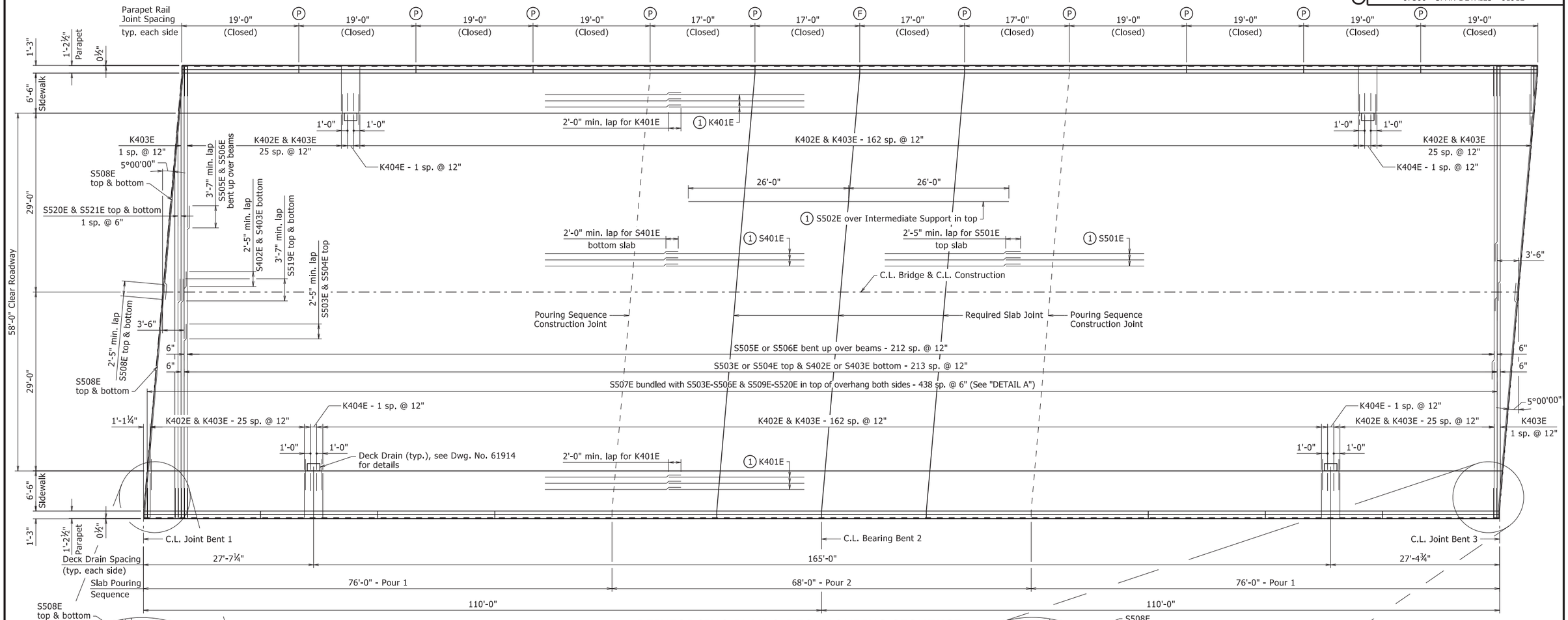
BRIDGE NO. 07500 DRAWING NO. 61911

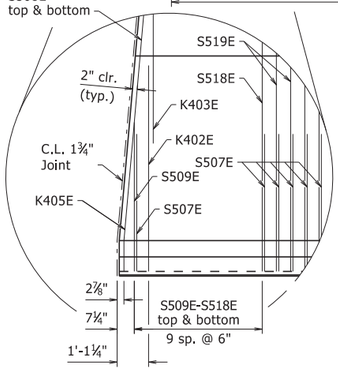
PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	280	517

(1) 07500 - SPAN DETAILS - 61912

(F) C.L. Full-Depth Parapet Joint (¼" to 1" max.) Stop 6" from top of sidewalk.
(P) C.L. Partial-Depth Parapet Joint (¼" to 1" max.) Stop 12" from top of sidewalk.
(1) Placed as shown in "TYPICAL ROADWAY SECTION", Dwg. Nos. 61906 & 61907.





NOTES:

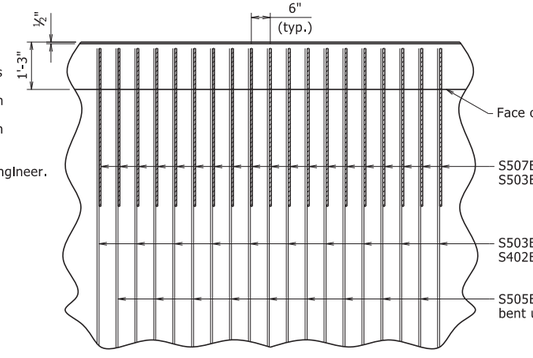
Pours with same number may be placed simultaneously or separately. Deflections provided are based on the pouring sequence shown. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown. Any deviations, if approved, may require adjustment to the deflections provided.
All Pour(s) 1 must be placed before Pour 2 can be placed.
A minimum of 48 hours shall elapse between the end of a pour and the start of the next pour. A minimum of 72 hours shall elapse between the end of a pour and the start of an adjacent pour. A minimum of 72 hours shall elapse between the completion of the bridge deck pour and the start of the sidewalk pour. A minimum of 72 hours shall elapse between the end of the sidewalk pour and the start of the parapet railing pour. Any sidewalk or railing pours made before the entire slab unit has been placed must be approved by the Engineer.

Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

Required slab joints and pouring sequence construction joints shall align with parapet joints.

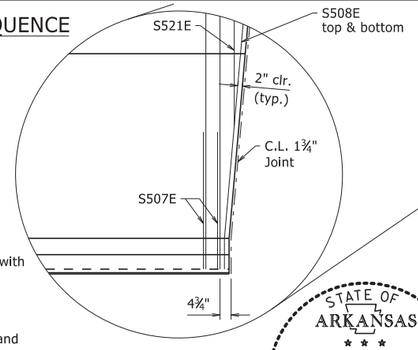
REINFORCING PLAN & DECK POURING SEQUENCE

⅛" = 1'-0"



DETAIL A

NO SCALE



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:53 AM
BRIDGE ENGINEER

SHEET 7 OF 8
DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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FILENAME: b080457x2_s1.dgn
SCALE: AS NOTED

BRIDGE NO. 07500 DRAWING NO. 61912

PRINT DATE: 8/26/2020

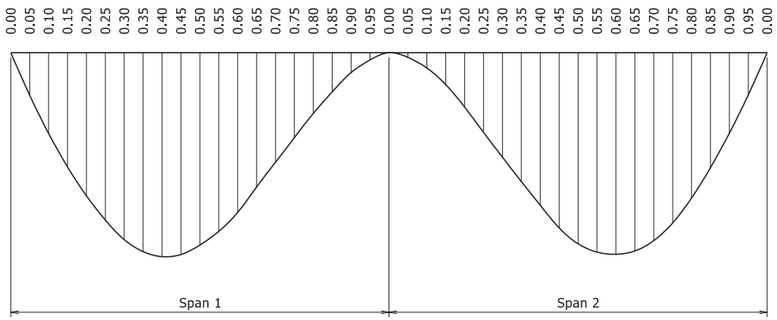
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	281	517
				①		07500 - SPAN DETAILS - 61913		

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel			Structural Steel + Slab			Structural Steel + Slab + Parapet + Sidewalk		
		Girder 1 & 10	Girder 2, 3, 7, & 8	Girder 4, 5, & 6	Girder 1 & 10	Girder 2, 3, 7, & 8	Girder 4, 5, & 6	Girder 1 & 10	Girder 2, 3, 7, & 8	Girder 4, 5, & 6
Span 1	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.05	0.081	0.083	0.085	0.356	0.381	0.404	0.468	0.445	0.415
	0.10	0.154	0.158	0.161	0.674	0.722	0.764	0.887	0.846	0.785
	0.15	0.218	0.223	0.227	0.953	1.02	1.078	1.256	1.2	1.108
	0.20	0.273	0.279	0.285	1.193	1.275	1.35	1.574	1.507	1.389
	0.25	0.319	0.326	0.333	1.393	1.489	1.576	1.841	1.768	1.623
	0.30	0.356	0.365	0.372	1.553	1.662	1.758	2.056	1.985	1.813
	0.35	0.379	0.388	0.396	1.65	1.765	1.868	2.188	2.116	1.928
	0.40	0.389	0.398	0.406	1.689	1.805	1.91	2.243	2.17	1.973
	0.45	0.385	0.394	0.402	1.667	1.782	1.886	2.219	2.149	1.95
	0.50	0.368	0.376	0.384	1.586	1.696	1.794	2.116	2.051	1.856
	0.55	0.342	0.35	0.357	1.47	1.573	1.663	1.965	1.905	1.721
	0.60	0.306	0.313	0.32	1.311	1.403	1.484	1.756	1.702	1.536
	0.65	0.258	0.265	0.27	1.1	1.179	1.246	1.477	1.432	1.29
	0.70	0.211	0.216	0.22	0.894	0.958	1.012	1.204	1.165	1.048
	0.75	0.164	0.168	0.171	0.692	0.742	0.783	0.934	0.904	0.811
	0.80	0.117	0.12	0.122	0.493	0.529	0.558	0.667	0.645	0.578
	0.85	0.076	0.078	0.079	0.318	0.341	0.359	0.431	0.416	0.372
	0.90	0.039	0.04	0.04	0.16	0.172	0.18	0.218	0.21	0.186
	0.95	0.014	0.015	0.015	0.058	0.063	0.066	0.08	0.077	0.068
Span 2	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.05	0.009	0.009	0.009	0.037	0.04	0.042	0.051	0.049	0.044
	0.10	0.03	0.03	0.031	0.124	0.133	0.14	0.168	0.162	0.145
	0.15	0.062	0.063	0.064	0.259	0.278	0.293	0.35	0.339	0.304
	0.20	0.105	0.108	0.11	0.442	0.475	0.502	0.598	0.579	0.52
	0.25	0.154	0.158	0.161	0.65	0.697	0.737	0.877	0.849	0.763
	0.30	0.201	0.206	0.21	0.854	0.915	0.967	1.149	1.113	1.002
	0.35	0.248	0.254	0.259	1.055	1.13	1.195	1.417	1.373	1.238
	0.40	0.293	0.3	0.306	1.252	1.34	1.417	1.678	1.626	1.467
	0.45	0.335	0.343	0.35	1.441	1.542	1.632	1.927	1.868	1.689
	0.50	0.365	0.374	0.381	1.575	1.685	1.782	2.102	2.037	1.844
	0.55	0.38	0.39	0.398	1.646	1.761	1.864	2.193	2.125	1.928
	0.60	0.384	0.394	0.402	1.667	1.784	1.888	2.217	2.148	1.951
	0.65	0.378	0.387	0.395	1.644	1.759	1.862	2.181	2.11	1.923
	0.70	0.358	0.366	0.374	1.561	1.669	1.767	2.067	1.996	1.823
	0.75	0.324	0.332	0.339	1.416	1.515	1.604	1.872	1.805	1.653
	0.80	0.277	0.284	0.29	1.211	1.297	1.372	1.599	1.539	1.413
	0.85	0.219	0.224	0.229	0.959	1.026	1.086	1.264	1.21	1.117
	0.90	0.153	0.157	0.16	0.672	0.72	0.761	0.885	0.844	0.782
	0.95	0.08	0.082	0.084	0.352	0.378	0.4	0.463	0.441	0.41
	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note:
Camber for dead load deflection plus vertical curve ± ¼" tolerance. Deflections shown are along C.L. Girder from a chord from C.L. Bearing to C.L. Bearing. Negative sign (-) indicates point above chord. Vertical curve corrections not included.

Dead load deflections shown include an assumed loading of 18 psf to account for stay-in-place metal deck forms. Revisions to the deflection table may be necessary upon review of the Contractor's submitted forming details or approved changes to the pouring sequence shown in "REINFORCING PLAN & DECK POURING SEQUENCE" on Dwg. No. 61912.

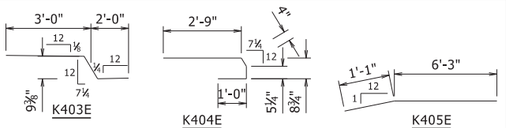


DEAD LOAD DEFLECTION DIAGRAM

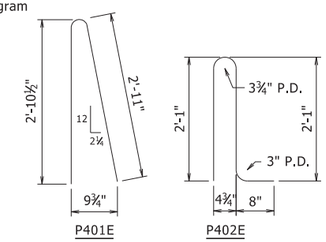
BAR LIST

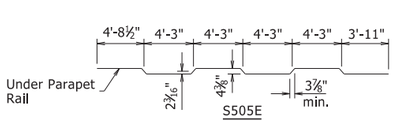
MARK	NO. REQ'D	LENGTH	P.D.
K401E	96	38'-2"	Str.
K402E	430	7'-3"	Str.
K403E	432	5'-5"	2"
K404E	8	4'-6"	2"
K405E	2	7'-4"	2"
P401E	880	5'-11"	2½"
P402E	880	4'-11"	①
P403E	64	16'-8"	Str.
P404E	128	18'-8"	Str.
S401E	720	38'-2"	Str.
S402E	214	35'-8"	Str.
S403E	214	39'-11"	Str.
S501E	308	56'-9"	Str.
S502E	76	52'-0"	Str.
S503E	214	44'-2"	Str.
S504E	214	31'-5"	Str.
S505E	213	26'-2"	3"
S506E	213	52'-4"	3"
S507E	878	4'-2"	Str.
S508E	8	37'-11"	3¾"
S509E - S518E	4 ea.	5'-3"- 56'-8"	Str.
S519E	8	38'-9"	Str.
S520E & S521E	4 ea.	27'-3" & 33'-0"	Str.

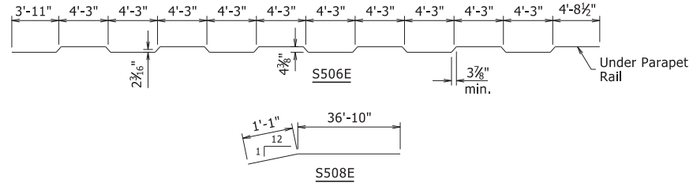
BENDING DIAGRAMS



① See Bending Diagram







Dimensions are out to out of bars. Bars with an "E" suffix are to be epoxy coated.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:53 AM
BRIDGE ENGINEER

SHEET 8 OF 8
DETAILS OF 220'-0" CONTINUOUS PLATE GIRDER UNIT
HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

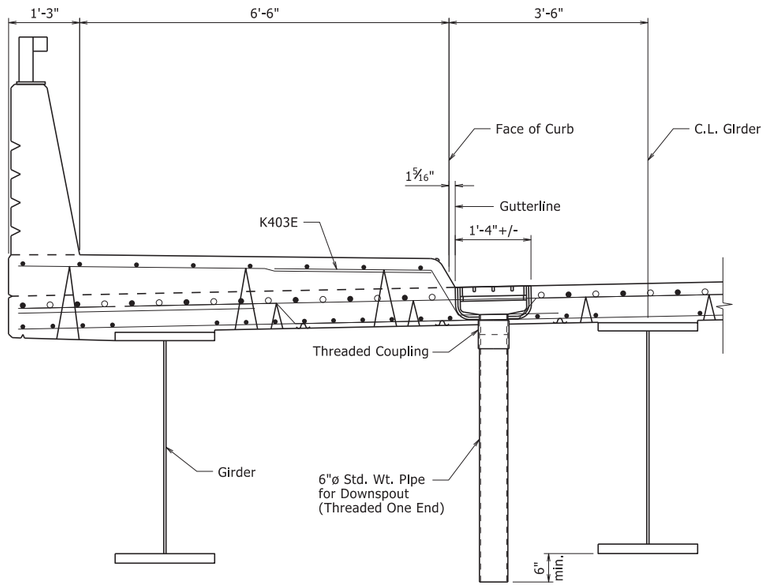
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 02/03/2020
CHECKED BY: KJT DATE: 08/26/2020
DESIGNED BY: DHP DATE: 01/2020
FILENAME: b080457x2_s1.dgn
SCALE: NO SCALE

BRIDGE NO. 07500 DRAWING NO. 61913

PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	282	517
				1	07499 & 07500 - DECK DRAINS - 61914			



SECTION AT DECK DRAIN

GENERAL NOTES:

For Location of Deck Drains, see Dwg. Nos. 61889, 61890 & 61912.

Drain location may be adjusted to clear diaphragm connections.

Standard Weight Pipe for Deck Drains shall conform to ASTM A500 or A501. All other structural steel shall be ASTM A709, Gr. 36. After fabrication, all structural steel in drains shall be Galvanized in accordance with AASHTO M 111. Steel Fasteners shall be Galvanized in accordance with AASHTO M 232, Class C or ASTM B695, Class 50.

Structural Steel in Deck Drains shall not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (A709, Gr. 50)".

Top longitudinal reinforcing steel in the slab shall be cut as shown to install the deck drains. Two additional No. 4 x 5'-6" straight bars shall be placed longitudinally on each side of the drain.

Top and bottom transverse reinforcing steel in the slab shall be cut as required (up to a maximum of three bars per mat) to install the deck drain. Two additional No. 6 x 9'-6" straight bars shall be placed transversely per mat on each side of the drain.

One additional No. 4 x 4'-0" straight bar shall be placed at a 45° angle to each corner in both top and bottom mats.

Repair all cut or damaged epoxy bars in accordance with the Standard Specifications.

All additional Reinforcing Steel placed around deck drains shall be epoxy-coated and shall be paid for at the unit price bid for "Epoxy Coated Reinforcing Steel (Grade 60)".

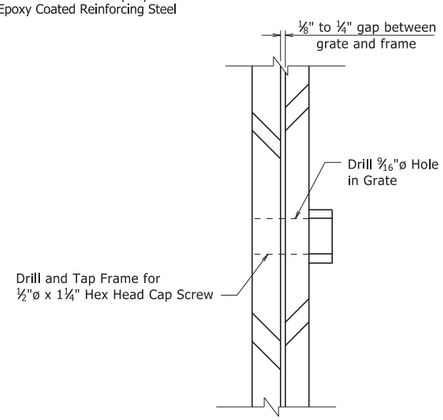
NOTE:
A Pre-Manufactured Grate or Grate and Frame may be submitted for approval of the Engineer in place of the steel fabrication shown in the Plans. Grate shall have an AASHTO-AGC-ARTBA Type 5 or 6 Configuration and shall be designed for a 16,000 lb. wheel load.

BAR LIST FOR ONE DRAIN

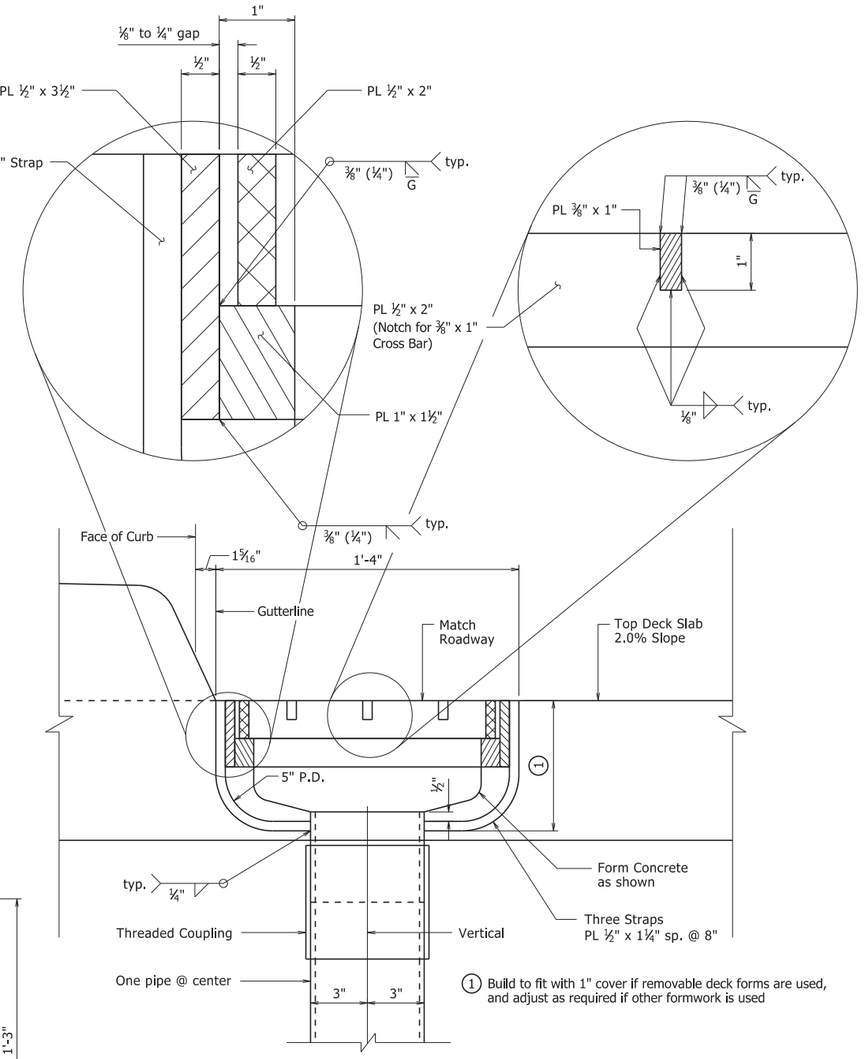
(FOR INFORMATION ONLY)

Mark	No. Req'd	Length
X401E	8	4'-0"
X402E	8	5'-6"
X601E	8	9'-6"

Bars designated with an "E" suffix are to be epoxy coated.

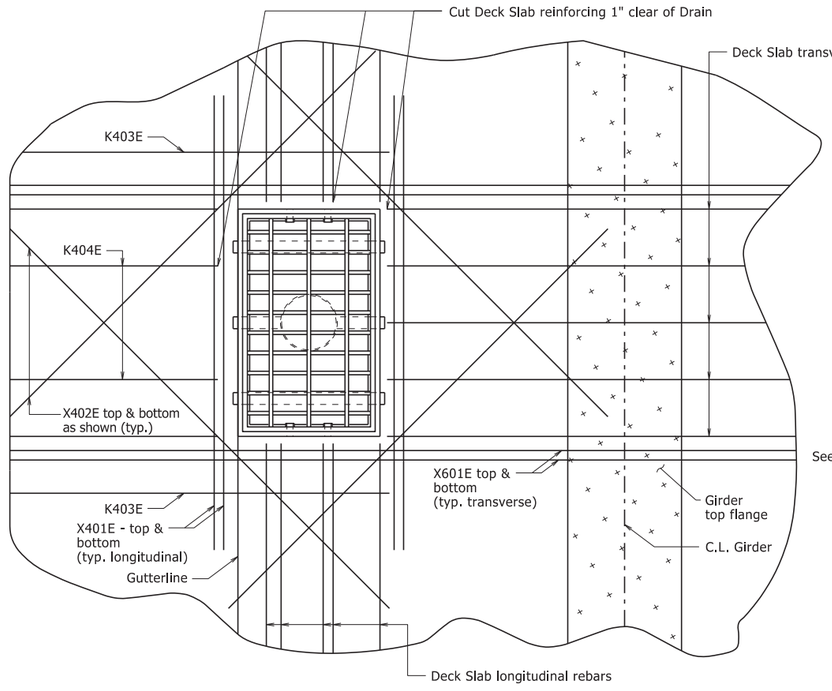


DETAIL A

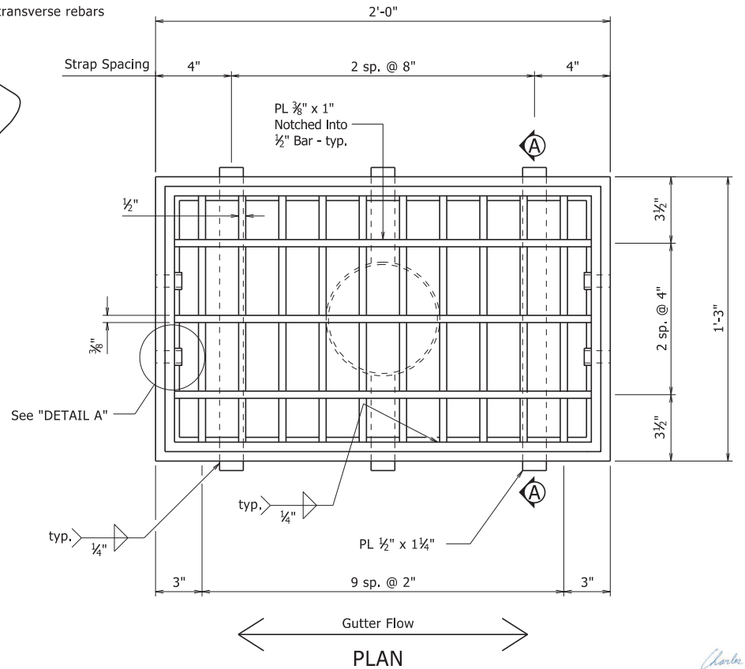


1 Build to fit with 1" cover if removable deck forms are used, and adjust as required if other formwork is used

SECTION A-A



PLAN OF REINFORCING AT DECK DRAINS



PLAN

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:54 AM
BRIDGE ENGINEER

DETAILS OF DECK DRAINS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

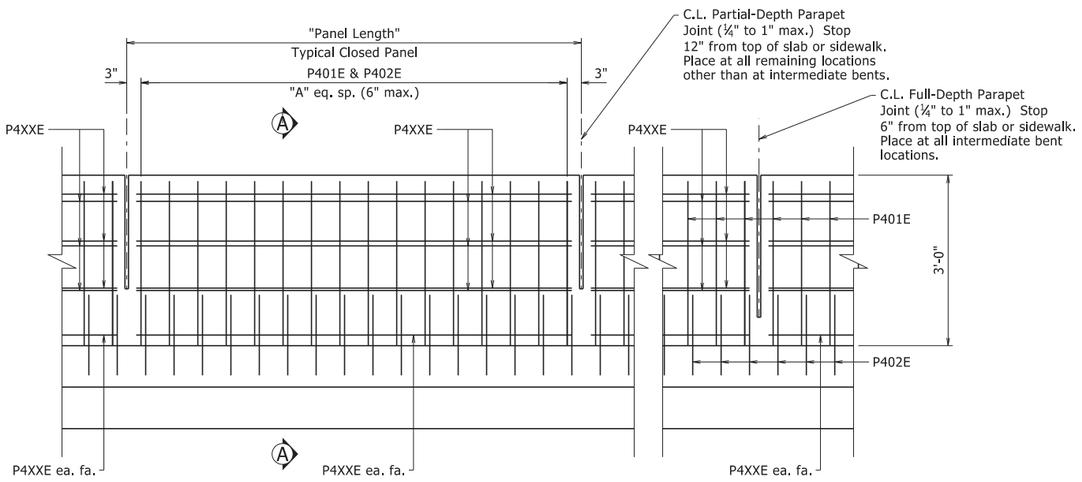
LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 04/24/2020 FILENAME: b080457_dd.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: NO SCALE
DESIGNED BY: KJT DATE: 04/2020

BRIDGE NO. 07499 & 07500 DRAWING NO. 61914

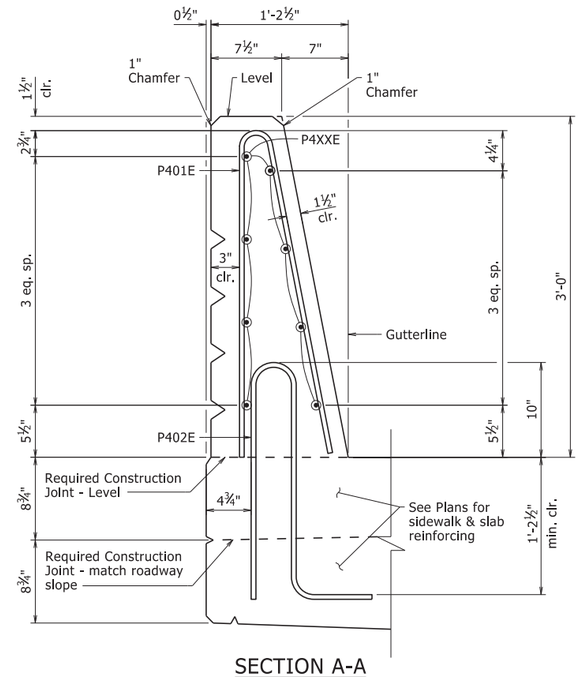
PRINT DATE: 8/26/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	283	517
				1	07499 & 07500 - PARAPET RAILING - 61915			



ELEVATION - CONCRETE PARAPET RAIL

¾" = 1'-0"



SECTION A-A

1½" = 1'-0"

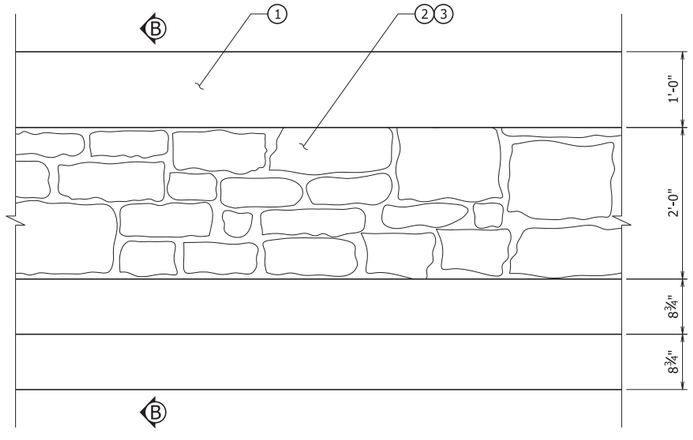
TABLE OF VARIABLES

Bridge No. 07499		
"Panel Length"	"A"	P4XXE Bar
13'-0"	25	P403E
15'-0"	29	P404E
17'-0"	33	P405E
18'-0"	35	P406E
20'-0"	39	P407E
Bridge No. 07500		
"Panel Length"	"A"	P4XXE Bar
17'-0"	33	P403E
19'-0"	37	P404E

GENERAL NOTES

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria.

See "REINFORCING PLAN & DECK POURING SEQUENCE" on Dwg. Nos. 61889, 61890, & 61912 for Parapet Rail panel lengths. See "BAR LIST" on Dwg. Nos. 61888 & 61913 for rebar quantities. See "TABLE OF VARIABLES" for Parapet Rail rebar information.



DETAILS OF PARAPET ENHANCEMENT

1" = 1'-0"

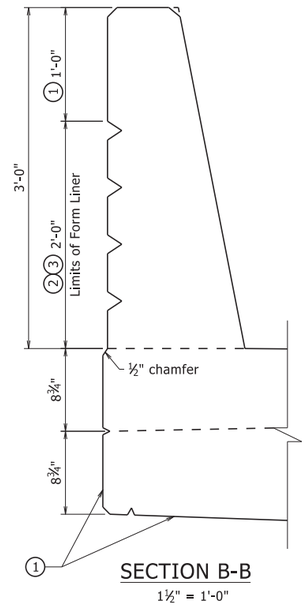
NOTES:

1. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 33522)
2. Class 3 Textured Coating Finish (Color = Brown, Color Chip No. 30219)
3. "Ashlar Stone" Pattern Form Liner See SP Job 080457 "Architectural Finish".

NOTES:

Form liner shall be max. depth of 1½" to provide a min. clearance of 1½" to rail reinforcing.

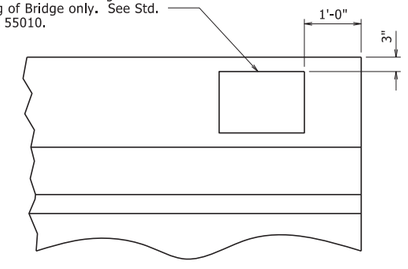
See SP Job 080457 "Textured Coating Finish" for additional information regarding the placement of the Class 3 Textured Coating Finish.



SECTION B-B

1½" = 1'-0"

Place Type D Bridge Name Plate on front face of span rail approximately 1'-0" from end of rail on right side Beginning of Bridge only. See Std. Dwg. No. 55010.



NAME PLATE DETAIL

NO SCALE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:54 AM

BRIDGE ENGINEER

COMMON DETAILS FOR MASH 3'-0" TALL SINGLE SLOPE CONCRETE PARAPET RAILING

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

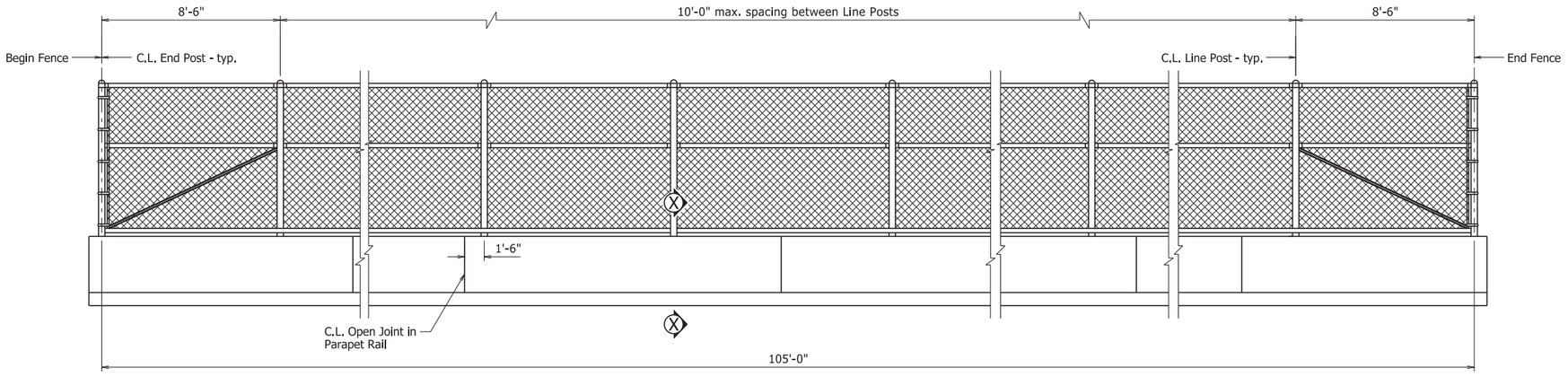
DRAWN BY: CGP DATE: 07/14/2020 FILENAME: b080457_p1.dgn
CHECKED BY: DHP DATE: 08/26/2020 SCALE: AS NOTED
DESIGNED BY: TMG DATE: 10/2019

DRAWING NO. 07499 & 07500 DRAWING NO. 61915

PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/29/2020				6	ARK.			
				JOB NO.		080457	284	517

(1) 07499 - CHAIN LINK FENCE - 61916

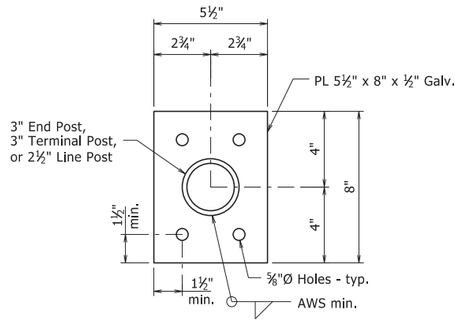


NOTES:
The fence location, total length and parapet panel spacing shall be as specified in the plans.

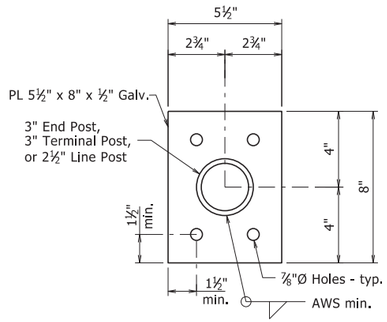
LONGITUDINAL VIEW OF CHAIN LINK FENCE

⚠ All metal bridge fencing shall receive a powder coating finish, Color shall be Dark Bronze as approved by the Engineer. This work will be considered subsidiary to the to item "5' Steel Chain Link Fence".

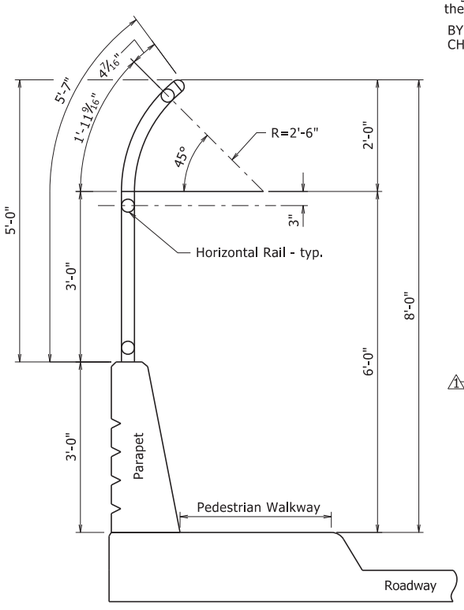
BY:KJT DATE: 10/29/2020
CHK:DHP DATE: 10/29/2020



VIEW Y-Y

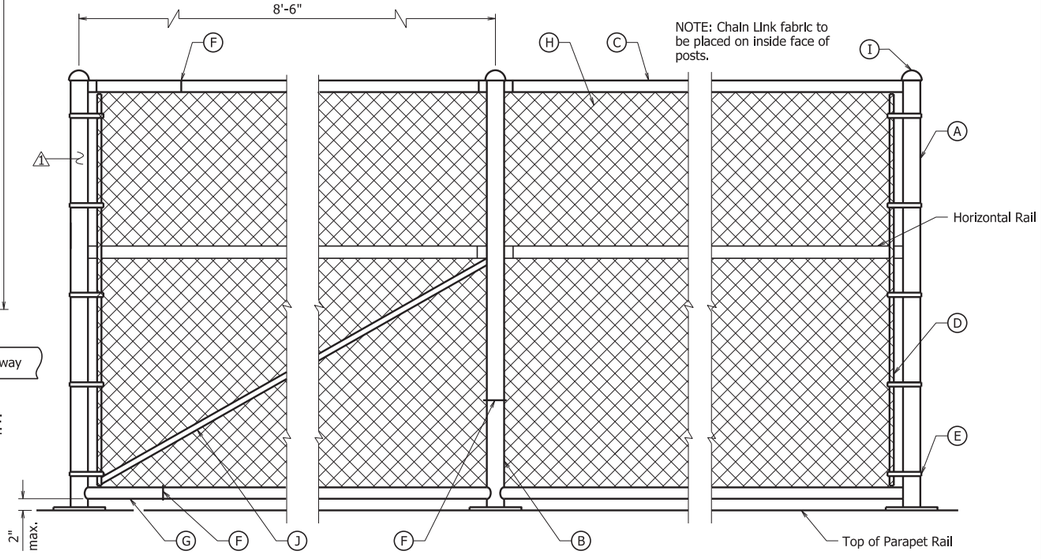


VIEW Z-Z

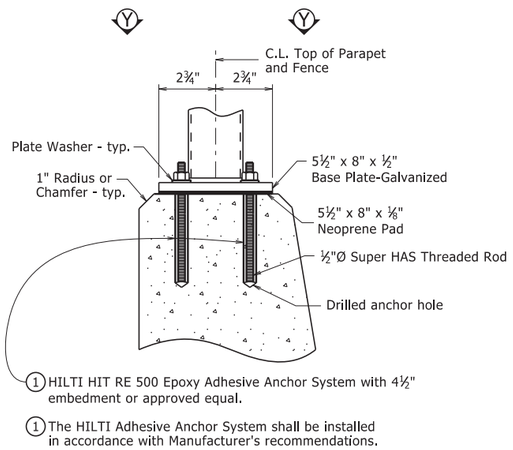


CURVED CHAIN LINK FENCE

Ⓐ END POST: 3" O.D.
Ⓑ LINE POST: 2½" O.D.
Ⓒ HORIZONTAL TOP RAIL: 1⅝" O.D.
Ⓓ TENSION BAR: 3/16" x ¾" Bar
Ⓔ TENSION BAR BAND: ¾" x 0.074 w/⅝"Ø x 1¼" Bolt (1 Band Top and Bottom w/15" max. spaces)
Ⓕ TIE WIRE: 9 Ga. Aluminum
Ⓖ HORIZONTAL BOTTOM RAIL: 1⅝" O.D.
Ⓗ FABRIC: 9 Ga. 2" Mesh w/Knucklug or Twisting Selvage
Ⓘ CAPS: All post shall be capped and shall conform to ASTM F 626
Ⓙ TRUSS ROD: Min. of 5/16" round with Tighteners and Fittings



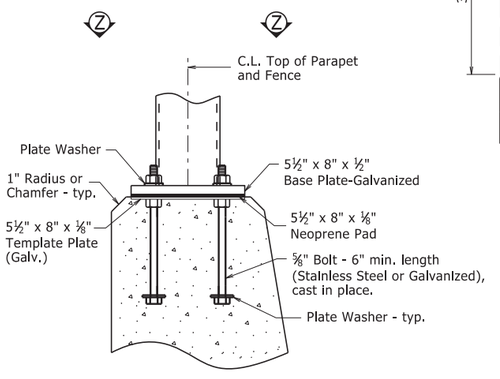
DETAILS OF CHAIN LINK FENCE



SECTION X-X

DETAILS OF ALTERNATE POST ANCHOR SYSTEM

(EPOXY ADHESIVE ANCHORS)



SECTION X-X

DETAILS OF POST ANCHOR SYSTEM

GENERAL NOTES

Fence layout shall conform to the vertical and horizontal bridge alignments. Fence posts shall be set plumb (true vertical position). Parapet rail concrete shall be at least 7 days old before stretching and securing fabric to posts.

Cast-in-place anchor bolts, nuts, and washers shall be galvanized high-strength steel or stainless steel. Mixing of galvanized and stainless steel fasteners will not be permitted.

High-Strength Steel:
Cast-in-place anchor bolts shall conform to ASTM F3125, Grade A325, Type 1.
Nuts shall conform to ASTM A563, Grade DH or AASHTO M 292, Grade 2H.
Washers shall conform to ASTM F436.
Plate Washers shall conform to ASTM A709, Grade 36.
Template Plates shall conform to ASTM A709, Grade 36.
Anchor bolts, nuts, washers, and plate washers shall be galvanized in accordance with AASHTO M 232, Class C or ASTM B695, Class 50.

Stainless Steel:
Cast-in-place anchor bolts shall conform to ASTM A193, Grade B8, Class 2 or A320, Grade B8, Class 2 with a minimum yield strength of 80,000 psi.
Nuts shall conform to ASTM A194, Grade 8.
Washers shall conform to ASTM A240, Type 302.
Plate Washers shall conform to ASTM A240, Type 302.
Template Plates shall conform to ASTM A240, Type 302.

Threads on bolts and nuts shall conform to American Standard Coarse Series, Class 2 FIT, ASA Specification B1.1. Plate washers shall have dimensions meeting the requirements of ANSI/ASME B18.22.1, Type A plain washer (Wide Series) unless otherwise noted.

Base plates shall conform to ASTM A709, Grade 36 and shall be galvanized after fabrication in accordance with Subsection 806.02(c). Galvanized surfaces shall be prepared in accordance with Subsection 807.87. Base plates shall not be placed upon areas that are improperly finished, deformed or irregular. Neoprene pads shall conform to the requirements of Subsection 807.15(b).

Chain Link Fence attached to bridge shall be paid for as "5' Steel Chain Link Fence". Material for chain link fence shall comply with AASHTO M181 Type I, Class D; Type II; or Type III. Steel members for posts, rails, expansion sleeves, and gate frames may be either Grade 1 or Grade 2. Hardware and fittings shall comply with ASTM F 626. Any miscellaneous hardware or fittings not mentioned shall be galvanized according to AASHTO M 111 or M 232. For additional details of Chain Link Fence, see Standard Drawing WF-3 and Section 619. Neoprene pad, template plates, and anchor systems shall not be paid for directly, but shall be considered incidental to the unit price bid for item "5' Steel Chain Link Fence".

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Oct 30 2020 8:32 AM
BRIDGE ENGINEER

DETAILS OF CURVED CHAIN LINK FENCE

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

DRAWN BY: KJT DATE: 1/22/2020
CHECKED BY: DHP DATE: 10/29/2020
DESIGNED BY: DHP DATE: 1/2020
FILENAME: b080457x1_cf.dgn
SCALE: No Scale

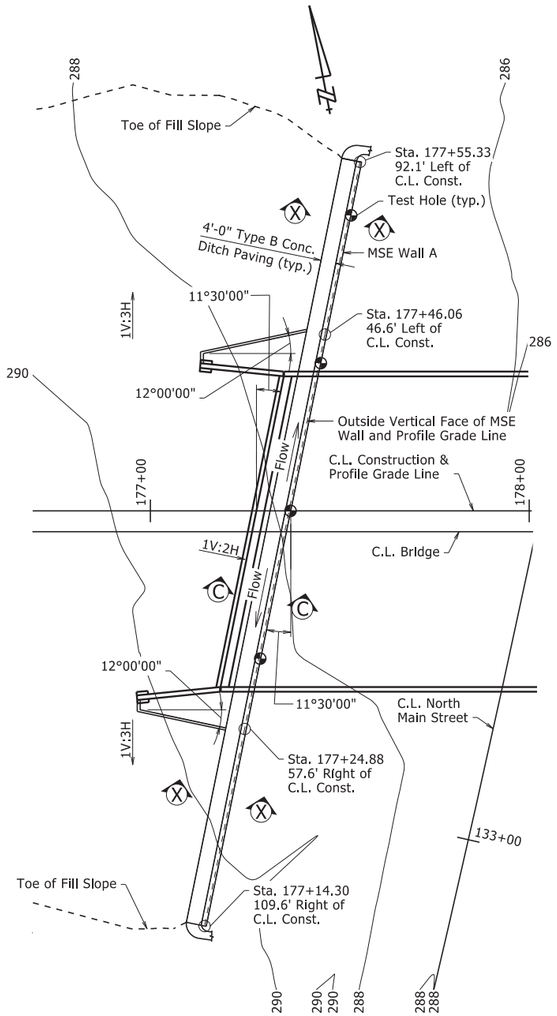
BRIDGE NO. 07499 DRAWING NO. 61916

PRINT DATE: 10/29/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	285	517
				①	07499 - RETAINING WALL - 61917			

BEARING RESISTANCE

Factored Bearing Resistance (KSF)
9



PLAN

Note:
Stations and offsets shown are measured along C.L. Construction. Offsets are shown to the outside vertical face of MSE retaining wall. Elevations shown are profile grade at top of coping.

For additional details, see Dwg. Nos. 61921 & 61922.

For "SECTION C-C" and "SECTION X-X", see Dwg. No. 61921.

For "FORM INSERT DETAILS," SEE Dwg. No. 61922.

① Ashlar Stone Finish SP Job No. 080457
"ARCHITECTURAL FINISH."

TABLE OF QUANTITIES

(FOR INFORMATION ONLY)

ITEM NO.	210	605	SP JOB 080457	SP JOB 080457	SP JOB 080457
ITEM	UNCLASSIFIED EXCAVATION	CONCRETE DITCH PAVING (TYPE B)	SELECT GRANULAR BACKFILL	RETAINING WALL	TEXTURED COATING FINISH
UNIT	CU. YD.	SQ. YD.	CU. YD.	SQ. FT.	SQ. YD.
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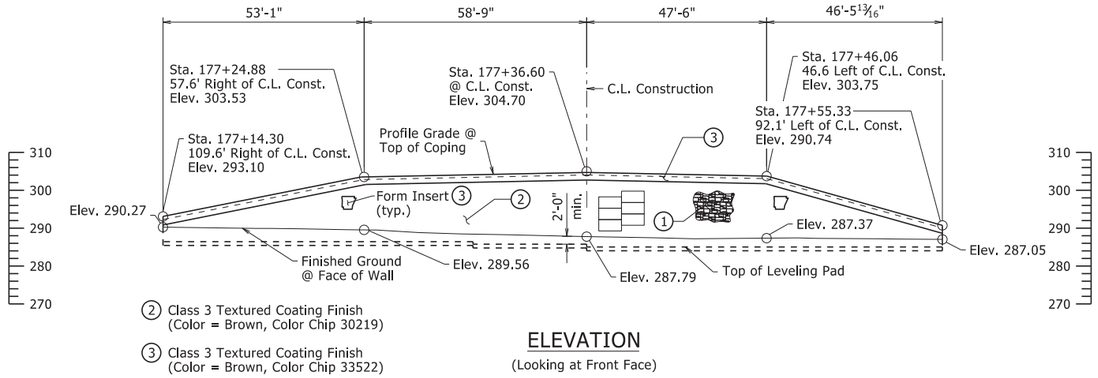

② Class 3 Textured Coating Finish
(Color = Brown, Color Chip 30219)

③ Class 3 Textured Coating Finish
(Color = Brown, Color Chip 33522)

ELEVATION

(Looking at Front Face)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:54 AM
Charles R. Ellis
DocuSign
BRIDGE ENGINEER

LAYOUT OF RETAINING WALL A
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DPT DATE: 02/28/2020 FILENAME: b080457_rw.dgn
CHECKED BY: KJT DATE: 8/31/2020 SCALE: 1" = 20'-0"
DESIGNED BY: DPT DATE: 02/2020

BRIDGE NO. 07499 DRAWING NO. 61917

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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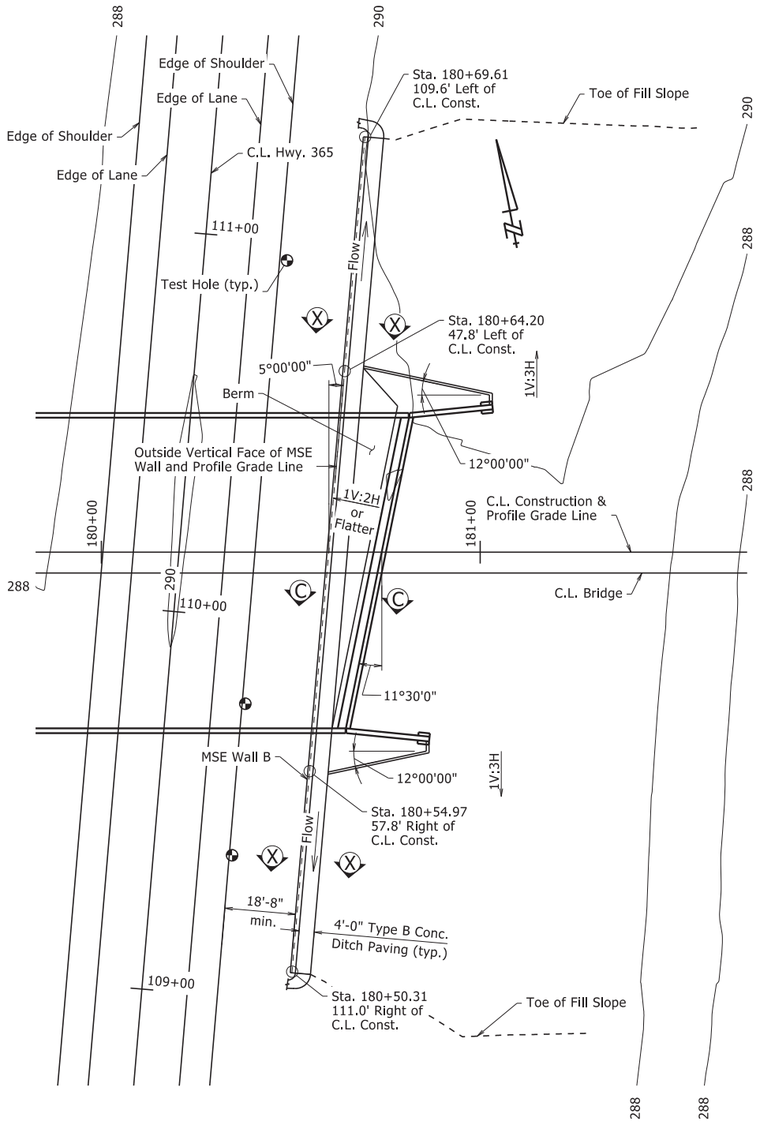
				JOB NO.		080457	286	517
				①	07499 - RETAINING WALL - 61918			



PLAN

BEARING RESISTANCE

Factored Bearing Resistance (KSF)
10

Note:
Stations and offsets shown are measured along C.L. Construction. Offsets are shown to the outside vertical face of MSE retaining wall. Elevations shown are profile grade at top of coping.

For additional details, see Dwg. Nos. 61921 & 61922.

For "SECTION C-C" and "SECTION X-X", see Dwg. No. 61921.

For "FORM INSERT DETAILS," SEE Dwg. No. 61922.

① Ashlar Stone Finish SP Job No. 080457
"ARCHITECTURAL FINISH."

TABLE OF QUANTITIES

(FOR INFORMATION ONLY)

ITEM NO.	210	605	SP JOB 080457	SP JOB 080457	SP JOB 080457
ITEM	UNCLASSIFIED EXCAVATION	CONCRETE DITCH PAVING (TYPE B)	SELECT GRANULAR BACKFILL	RETAINING WALL	TEXTURED COATING FINISH
UNIT	CU. YD.	SQ. YD.	CU. YD.	SQ. FT.	SQ. YD.
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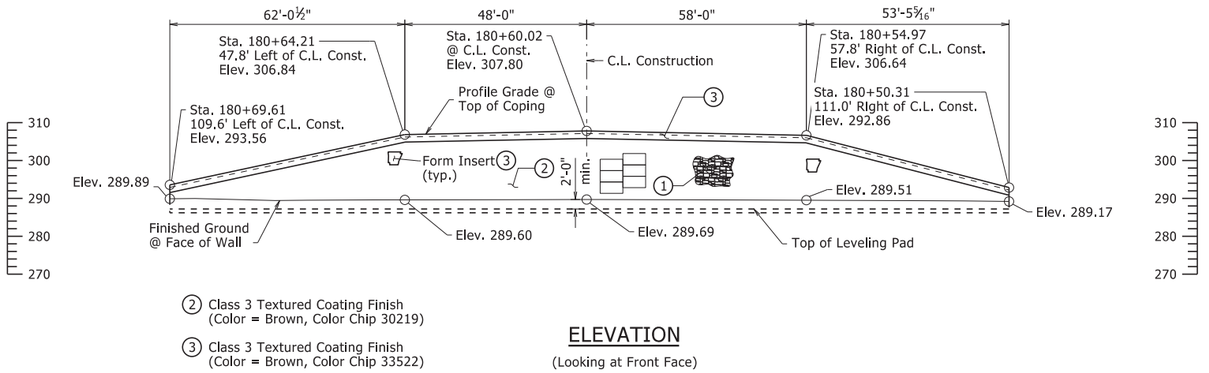

② Class 3 Textured Coating Finish
(Color = Brown, Color Chip 30219)

③ Class 3 Textured Coating Finish
(Color = Brown, Color Chip 33522)

ELEVATION

(Looking at Front Face)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Ellis, Rick
Sep 30 2020 2:59 PM

DocuSign BRIDGE ENGINEER

LAYOUT OF RETAINING WALL B
HIGHWAY 89 OVER UPRR & HIGHWAY 365
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 5

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DPT DATE: 02/28/2020 FILENAME: b080457_rw.dgn
CHECKED BY: KJT DATE: 9/30/2020 SCALE: 1" = 20'-0"
DESIGNED BY: DPT DATE: 02/2020

BRIDGE NO. 07499 DRAWING NO. 61918

PRINT DATE: 9/30/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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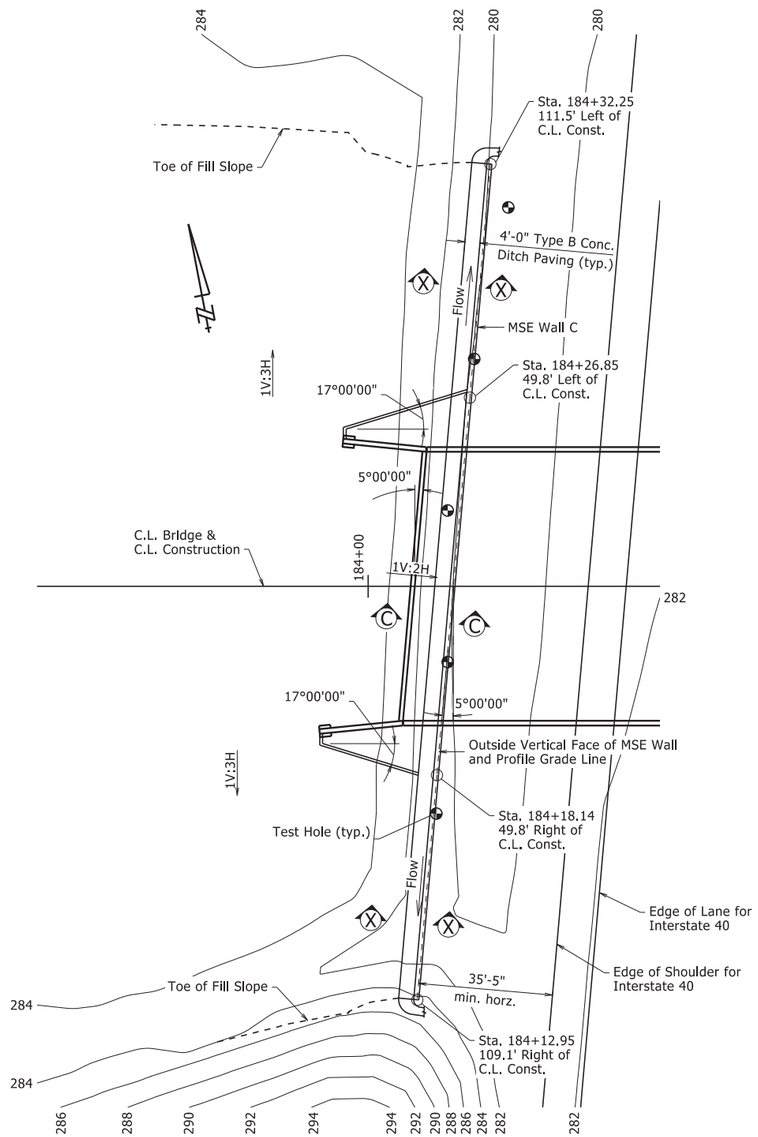
				JOB NO.		080457	287	517
				①	07500 - RETAINING WALL - 61919			



PLAN

BEARING RESISTANCE

Factored Bearing Resistance (KSF)
10

Note:
Stations and offsets shown are measured along C.L. Construction. Offsets are shown to the outside vertical face of MSE retaining wall. Elevations shown are profile grade at top of coping.

For additional details, see Dwg. Nos. 61921 & 61922.

For "SECTION C-C" and "SECTION X-X", see Dwg. No. 61921.

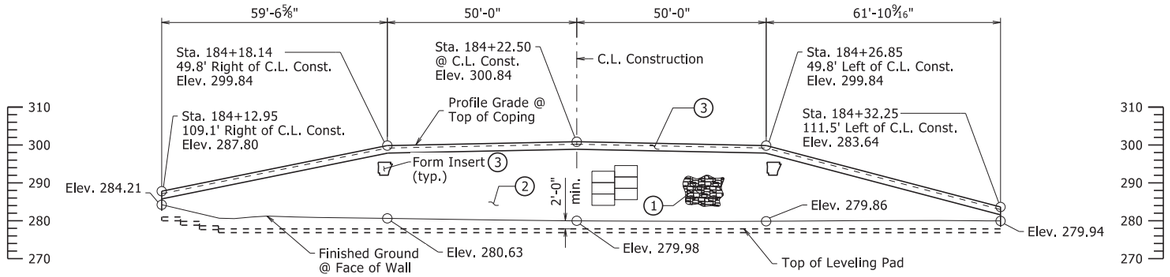
For "FORM INSERT DETAILS," SEE Dwg. No. 61922.

① Ashlar Stone Finish SP Job No. 080457
"ARCHITECTURAL FINISH."

TABLE OF QUANTITIES

(FOR INFORMATION ONLY)

ITEM NO.	210	605	SP JOB 080457	SP JOB 080457	SP JOB 080457
ITEM	UNCLASSIFIED EXCAVATION	CONCRETE DITCH PAVING (TYPE B)	SELECT GRANULAR BACKFILL	RETAINING WALL	TEXTURED COATING FINISH
UNIT	CU. YD.	SQ. YD.	CU. YD.	SQ. FT.	SQ. YD.
	141	98	2,000	4,032	389



② Class 3 Textured Coating Finish
(Color = Brown, Color Chip 30219)

③ Class 3 Textured Coating Finish
(Color = Brown, Color Chip 33522)

ELEVATION

(Looking at Front Face)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:54 AM

BRIDGE ENGINEER

LAYOUT OF RETAINING WALL C
HIGHWAY 89 OVER INTERSTATE 40
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	DPT	DATE:	02/28/2020	FILENAME:	b080457_rw.dgn
CHECKED BY:	KJT	DATE:	8/31/2020	SCALE:	1" = 20'-0"
DESIGNED BY:	DPT	DATE:	02/2020		

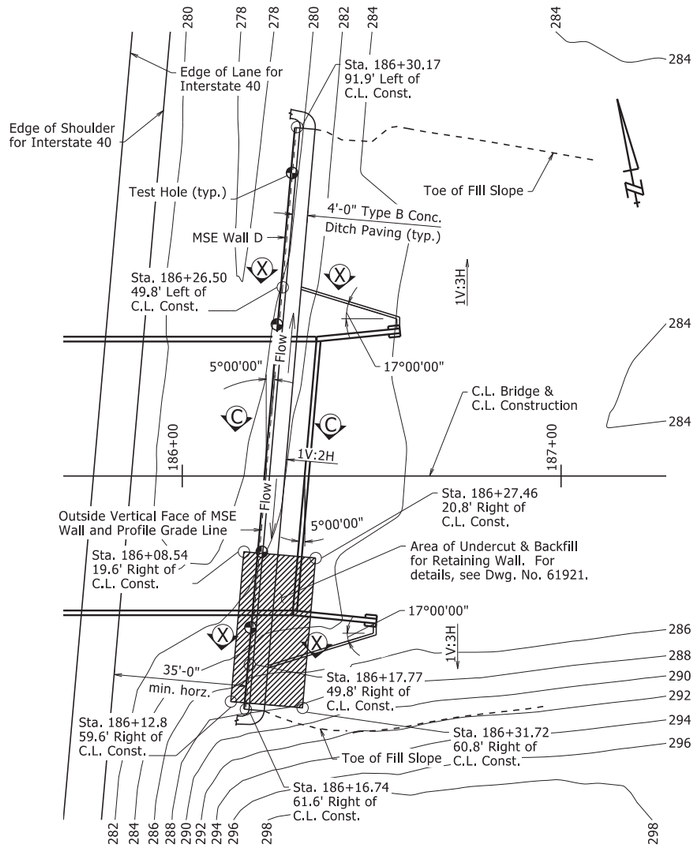
BRIDGE NO. 07500 DRAWING NO. 61919

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	288	517
				①	07500 - RETAINING WALL - 61920			

BEARING RESISTANCE

Factored Bearing Resistance (KSF)
8



PLAN
1" = 20'-0"

Note:
Stations and offsets shown are measured along C.L. Construction. Offsets are shown to the outside vertical face of MSE retaining wall. Elevations shown are profile grade at top of coping.

For additional details, see Dwg. Nos. 61921 & 61922.

For "SECTION C-C" and "SECTION X-X", see Dwg. No. 61921.

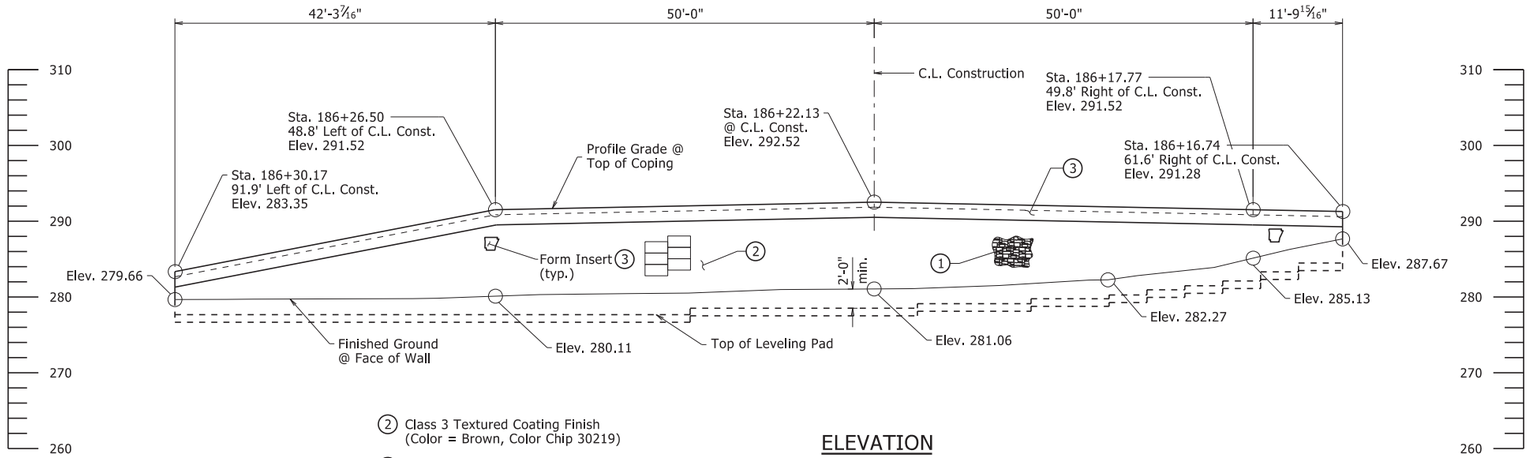
For "FORM INSERT DETAILS," SEE Dwg. No. 61922.

① Ashlar Stone Finish SP Job No. 080457
"ARCHITECTURAL FINISH."

TABLE OF QUANTITIES

(FOR INFORMATION ONLY)

ITEM NO.	210	303	605	SP JOB 080457	SP JOB 080457	SP JOB 080457
ITEM	UNCLASSIFIED EXCAVATION	AGGREGATE BASE COURSE (CLASS 7)	CONCRETE DITCH PAVING (TYPE B)	SELECT GRANULAR BACKFILL	RETAINING WALL	TEXTURED COATING FINISH
UNIT	CU. YD.	CU. YD.	SQ. YD.	CU. YD.	SQ. FT.	SQ. YD.
	98	181	69	663	1,804	160



② Class 3 Textured Coating Finish
(Color = Brown, Color Chip 30219)

③ Class 3 Textured Coating Finish
(Color = Brown, Color Chip 33522)

ELEVATION
(Looking at Front Face)
1" = 10'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:54 AM
BRIDGE ENGINEER

LAYOUT OF RETAINING WALL D
HIGHWAY 89 OVER INTERSTATE 40
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE 89 SEC. 4

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

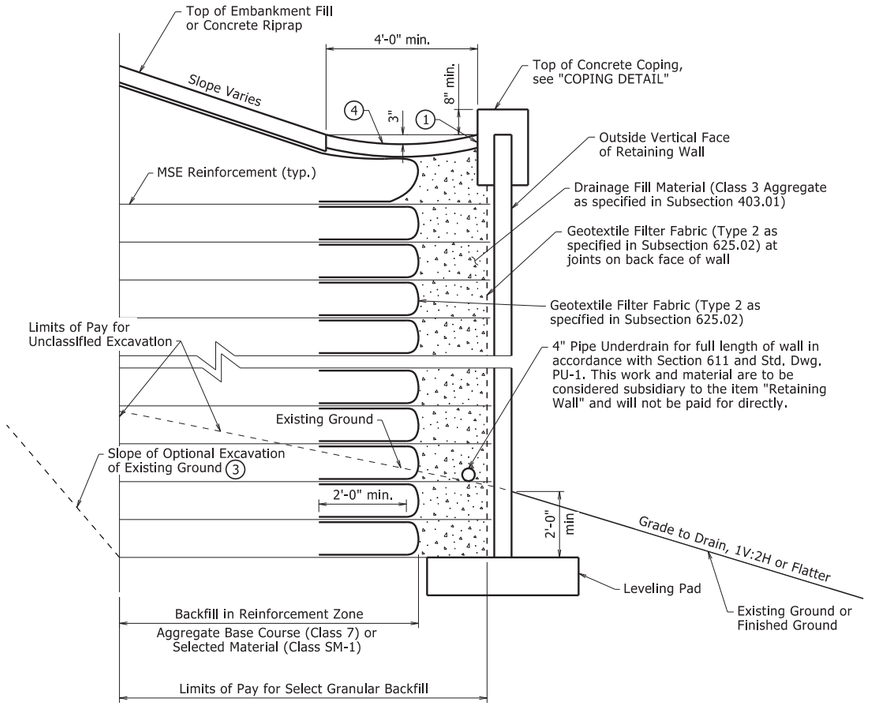
DRAWN BY: DPT DATE: 02/28/2020 FILENAME: b080457_rw.dgn
CHECKED BY: KJT DATE: 8/31/2020 SCALE: AS NOTED
DESIGNED BY: DPT DATE: 02/2020

BRIDGE NO. 07500 DRAWING NO. 61920

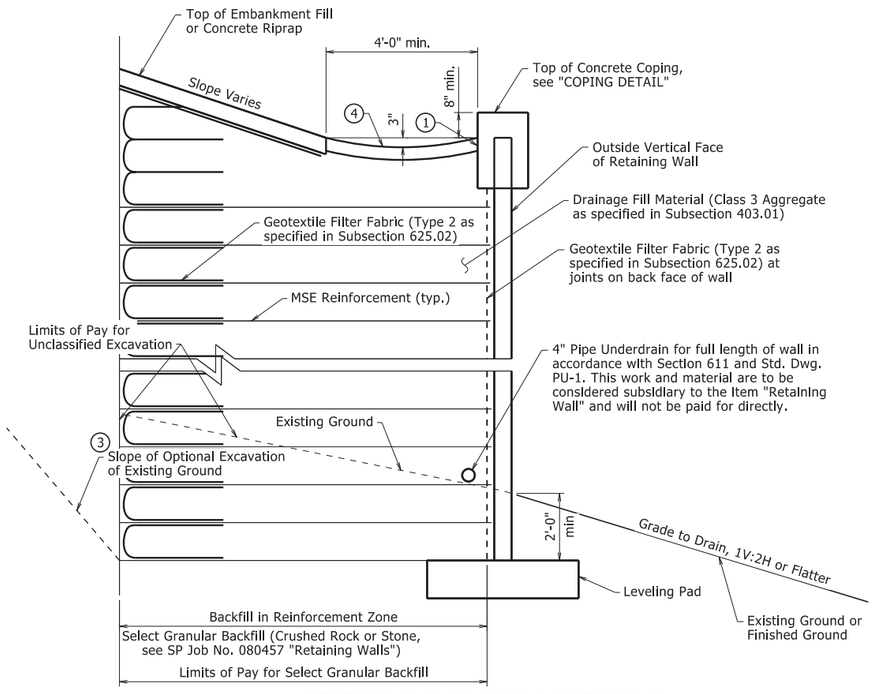
PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	289	517

1 07499 & 07500 - RETAINING WALL - 61921



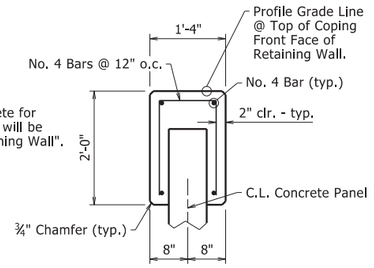
SECTION X-X (BACKFILL METHOD A)



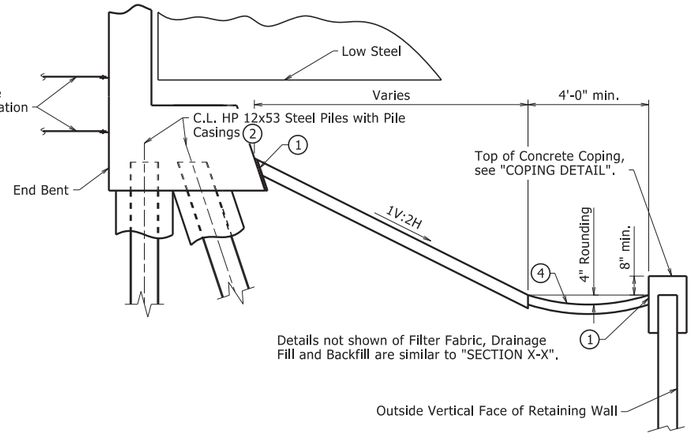
SECTION X-X (BACKFILL METHOD B)

Reinforcing steel and Class S(AE) Concrete for coping shall not be paid for directly, but will be considered subsidiary to the item "Retaining Wall".

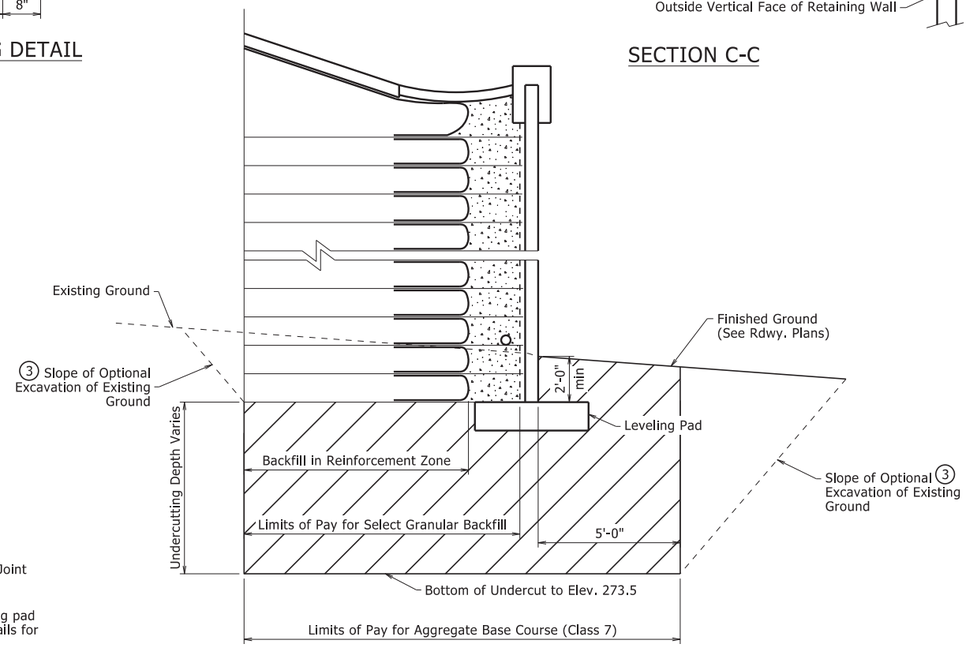
Precast coping may be substituted for cast-in-place coping shown.



COPING DETAIL



SECTION C-C



DETAIL OF UNDERCUT & BACKFILL

MSE Wall D only
Backfill Method A Shown
Backfill Method B Similar

1. ½" Preformed Joint Filler (AASHTO M 153, Type 1) per Subsection 501.02(h)(1). Seal with ½" x 1" Type 3 or 4 Joint Sealer per Subsection 501.02(h)(2).
2. Casings shall be placed after excavation to top of leveling pad is completed. For locations of casings, see end bent details for the respective site.
3. The Contractor has the option of using a cut slope or shoring to maintain stability of the cut. Any excavation beyond the limits of the reinforcement zone or any shoring used will not be paid for directly, but shall be considered incidental to the item "Retaining Wall". See SP Job No. 080457 "Retaining Wall" for additional information.
4. See Std. Dwg. CDP-1 for Ditch Paving Details.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:55 AM
BRIDGE ENGINEER

SHEET 1 OF 2
COMMON DETAILS OF RETAINING WALLS
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

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

DRAWN BY: DPT DATE: 02/19/2020 FILENAME: b080457_rw.dgn
CHECKED BY: KJT DATE: 8/24/2020 SCALE: NO SCALE
DESIGNED BY: DPT DATE: 02/2020

BRIDGE NO. 07499 & 07500 DRAWING NO. 61921

PRINT DATE: 8/24/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	290	517

① 07499 & 07500 - RETAINING WALL - 61922

GENERAL NOTES:

Design Specifications: AASHTO LRFD Bridge Design Specifications, Eighth Edition (2017).

Boring logs for respective bridge sites may be obtained from the Construction Contract Procurement Section of the Program Management Division.

Elevations are approximate. Wall dimensions may vary depending on wall design selected.

Pipe Underdrains shall be used in the area of backfill as determined by the Engineer.

Reinforcement placement and details for retaining walls may be affected by end bent construction and proposed roadway drainage structures. See End Bent drawings for pile locations and cap details. See Roadway Plans for locations and details of drainage structures.

Preformed joint filler, joint sealer, and pipe underdrains will not be paid for directly, but will be considered subsidiary to the item "Retaining Wall".

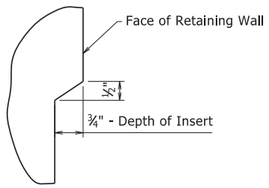
An architectural finish (Ashlar Stone or approved equivalent) shall be applied to the face of the retaining walls. See Special Provision Job No. 080457 "Architectural Finish".

A Class 3 Textured Coating Finish shall be applied to the exposed face of the concrete wall panels and coping as specified in Special Provision Job No. 080457 "Textured Coating Finish" and in accordance with Subsection 802.19(b)(3).

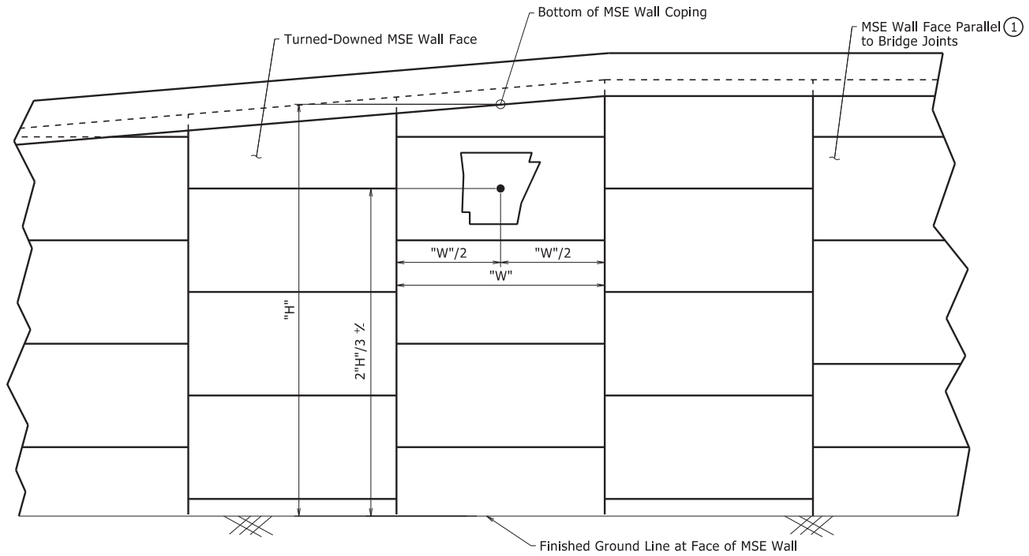
See Special Provision Job No. 080457 "Retaining Walls" for additional information.

Undercutting of the existing materials and placement of Aggregate Base Course (Class 7) beneath the retaining wall's reinforcement zone within the pay limits shown will be measured and paid for as "Aggregate Base Course (Class 7)".

The excavated material may be utilized at other locations within the project area if approved by the Engineer. Excavated material that cannot be utilized shall disposed of by the Contractor in accordance with Subsection 210.08

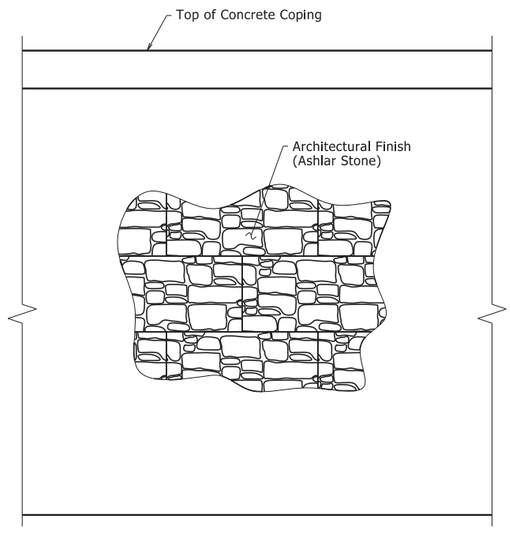


CHAMFER DETAIL

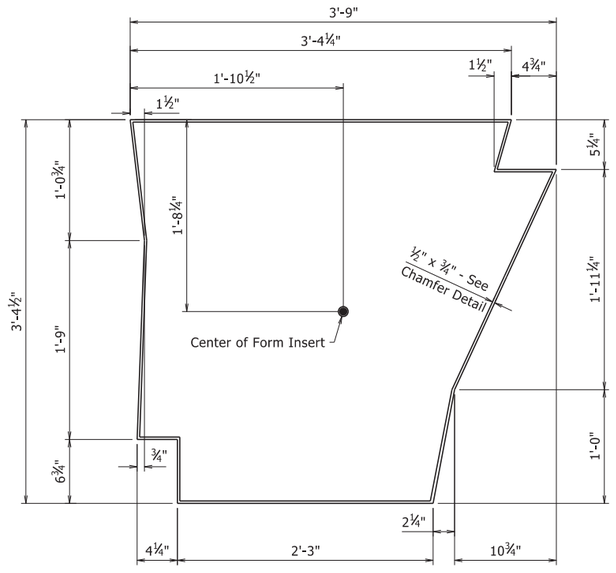


① All Except MSE Wall B

PLACEMENT AT MSE WALLS



ARCHITECTURAL FINISH DETAIL



See Bridge Layouts and MSE Wall details for locations of form inserts.

FORM INSERT DETAILS ON MSE WALLS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:55 AM

Charles R. Ellis

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BRIDGE ENGINEER

SHEET 2 OF 2
COMMON DETAILS OF RETAINING WALLS
UPRR OVERPASS & REALIGN. (MAYFLOWER) (S)
FAULKNER COUNTY

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DPT DATE: 02/19/2020 FILENAME: b080457_rw.dgn
CHECKED BY: KJT DATE: 8/27/2020 SCALE: NO SCALE
DESIGNED BY: DPT DATE: 02/2020

BRIDGE NO. 07499 & 07500 DRAWING NO. 61922

PRINT DATE: 8/27/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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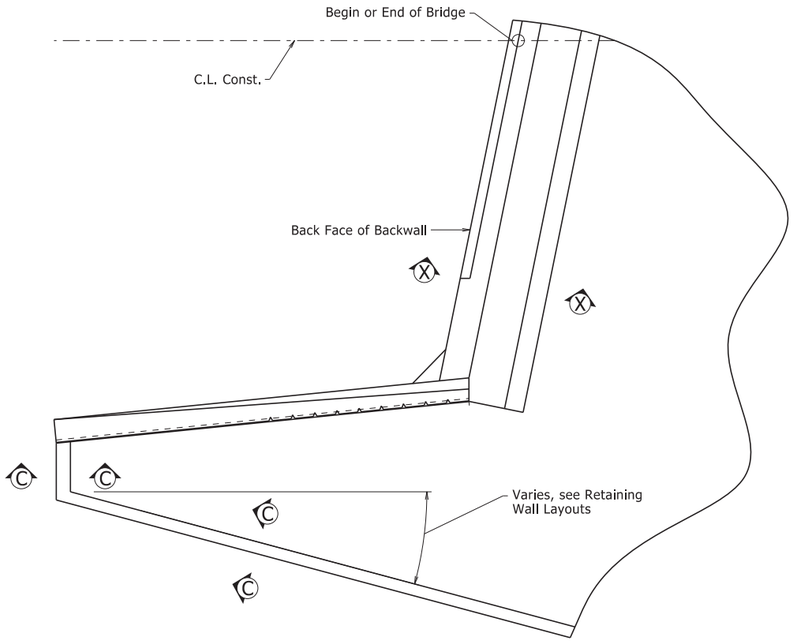
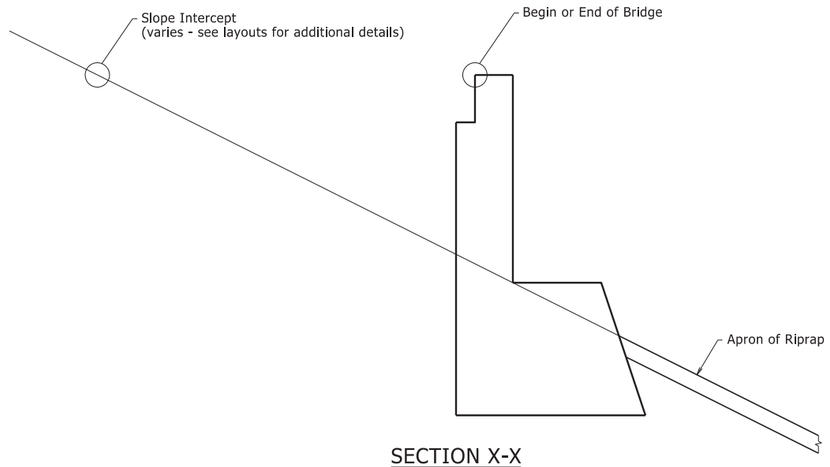
				JOB NO.		080457	291	517
				①	07499 & 07500 - CONCRETE RIPRAP - 61923			



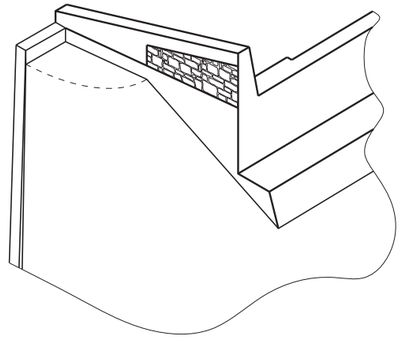
PLAN

For Section C-C, see Std. Dwg. No. 55002.

See Std. Dwg. No. 55002, layouts, and end bent details for additional information.



SECTION X-X



THREE DIMENSIONAL VIEW OF CONCRETE RIPRAP

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:55 AM

Charles R. Ellis

BRIDGE ENGINEER

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SUPPLEMENTAL DETAILS OF CONCRETE RIPRAP

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DPT DATE: 04/17/2020 FILENAME: b080457_cr1.dgn

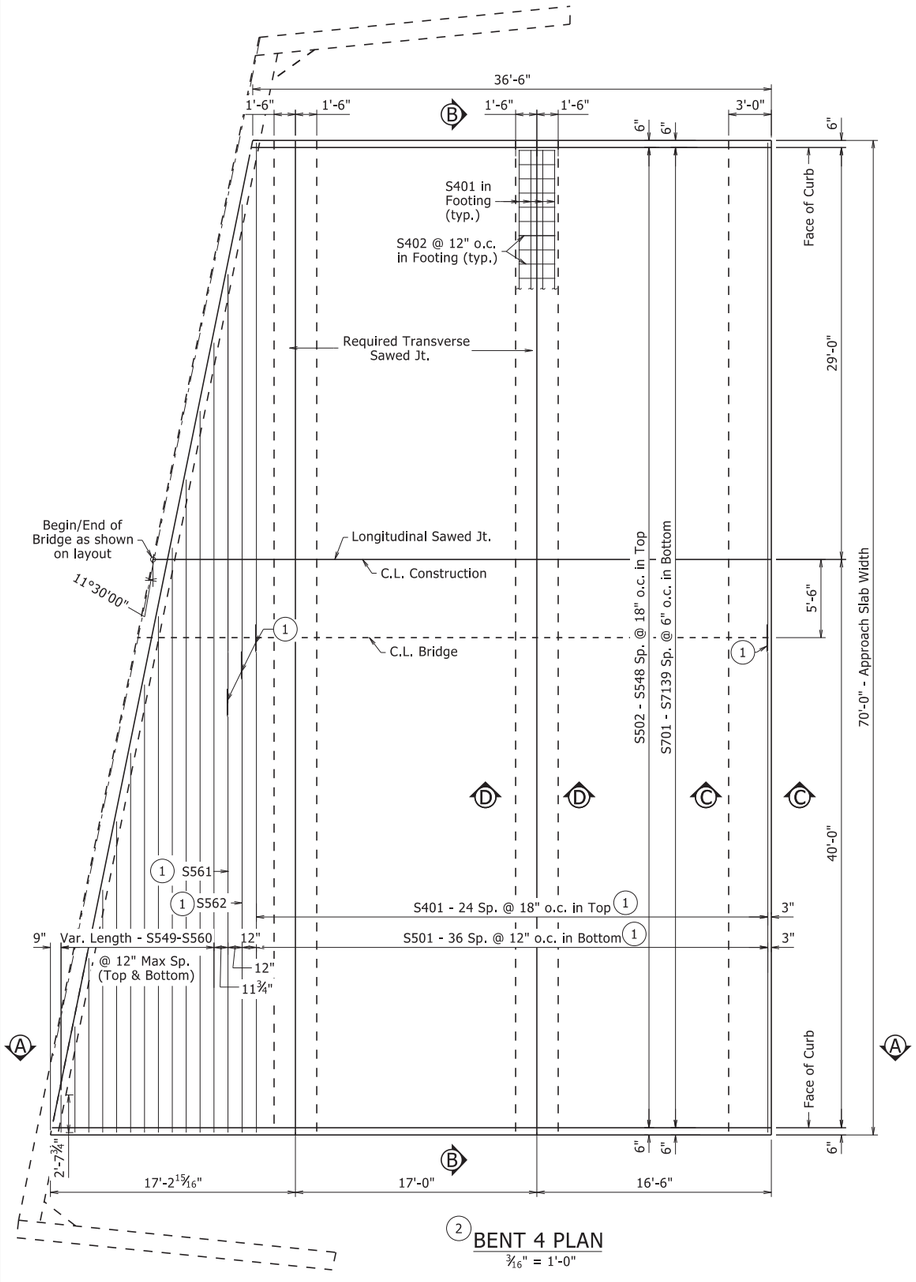
CHECKED BY: KJT DATE: 8/24/2020 SCALE: NO SCALE

DESIGNED BY: STD DATE: –

BRIDGE NO. 07499 & 07500 DRAWING NO. 61923

PRINT DATE: 8/24/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	292	517
				①	07499 - APPROACH SLAB - 61924			



② BENT 4 PLAN
3/16" = 1'-0"

GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

The concrete approach slabs shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

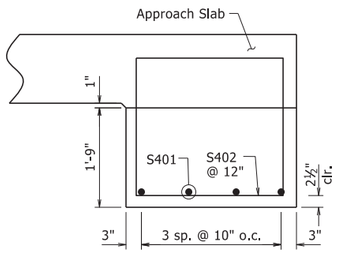
Approach Slabs will be measured and paid for in accordance with Section 504.

Notes:
The surface finish for Approach Slabs shall match that used on the bridge deck.

(1) Lap Splice (based on a Class B lap splice length):

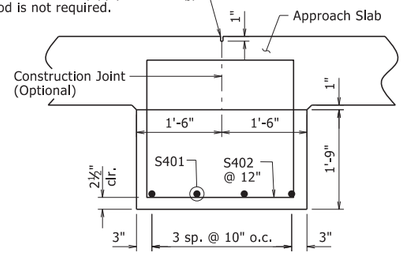
1'-8" for #4 bars
2'-0" for #5 bars

(2) Reinforcement and dimensions shown are the same for both approach slabs for Bents 1 & 4.

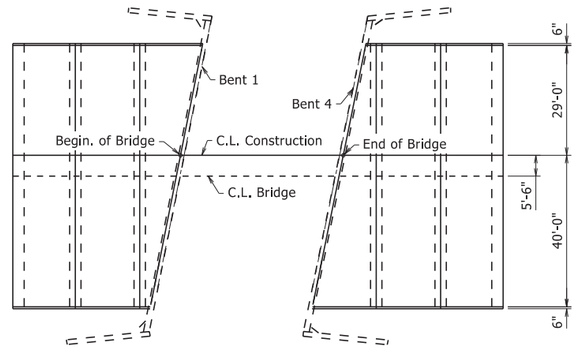


SECTION C-C
¾" = 1'-0"

½" x 1" Poured Jt. Sealer (Type 3 or 4) per Subsection 501.02(h)(2) & 501.05(j) Backer rod is not required.



SECTION D-D
¾" = 1'-0"



② APPROACH SLAB PLAN
No Scale

BAR LIST (ONE SLAB)

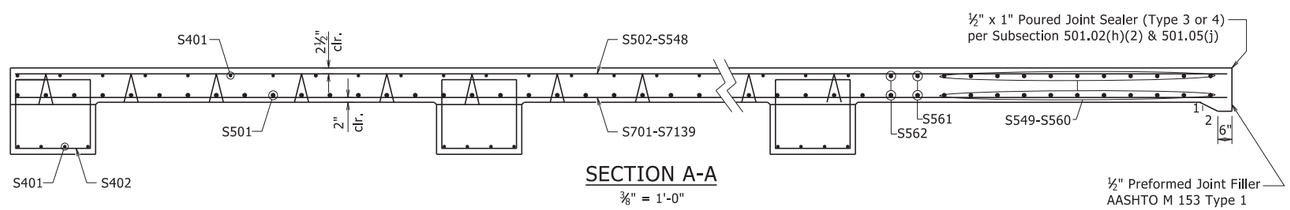
MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
S401	74	35'-8"	Str.	2'-7", 4½" typ., 2'-5", S402
S402	210	10'-4"	2"	
S501	74	35'-10"	Str.	
S502-S548	1 ea.	36'-3" to 50'-4"	Str.	
S549-S560	2 ea.	2'-8" to 55'-7"	Str.	
S561	4	31'-3"	Str.	
S562	4	33'-8"	Str.	
S701-S7139	1 ea.	36'-3" to 50'-4"	Str.	Dimensions are out to out of bars.

TABLE OF QUANTITIES FOR ONE APPROACH SLAB

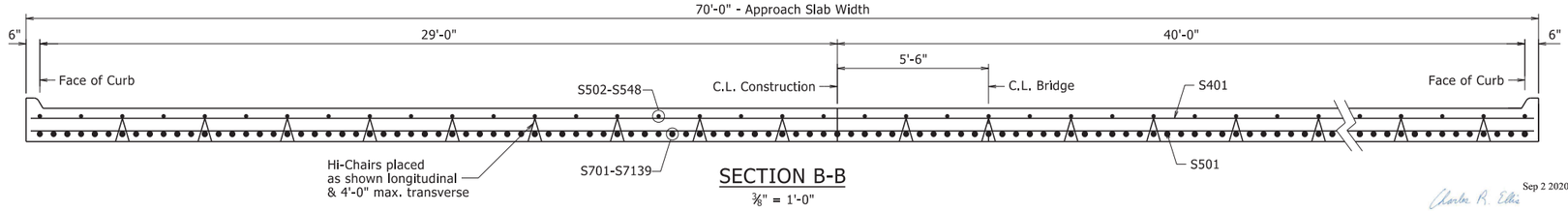
FOR INFORMATION ONLY

Slab Width	Reinforcing Steel (lbs.)	Concrete (cu. yds.)
70'-0"	21,400	180.10

TYPICAL CURB DETAIL
No Scale



SECTION A-A
⅜" = 1'-0"



SECTION B-B
⅜" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:55 AM
BRIDGE ENGINEER

TYPE 1 SPECIAL APPROACH SLABS HIGHWAY 89 OVER UPRR & HIGHWAY 365

ROUTE SEC.

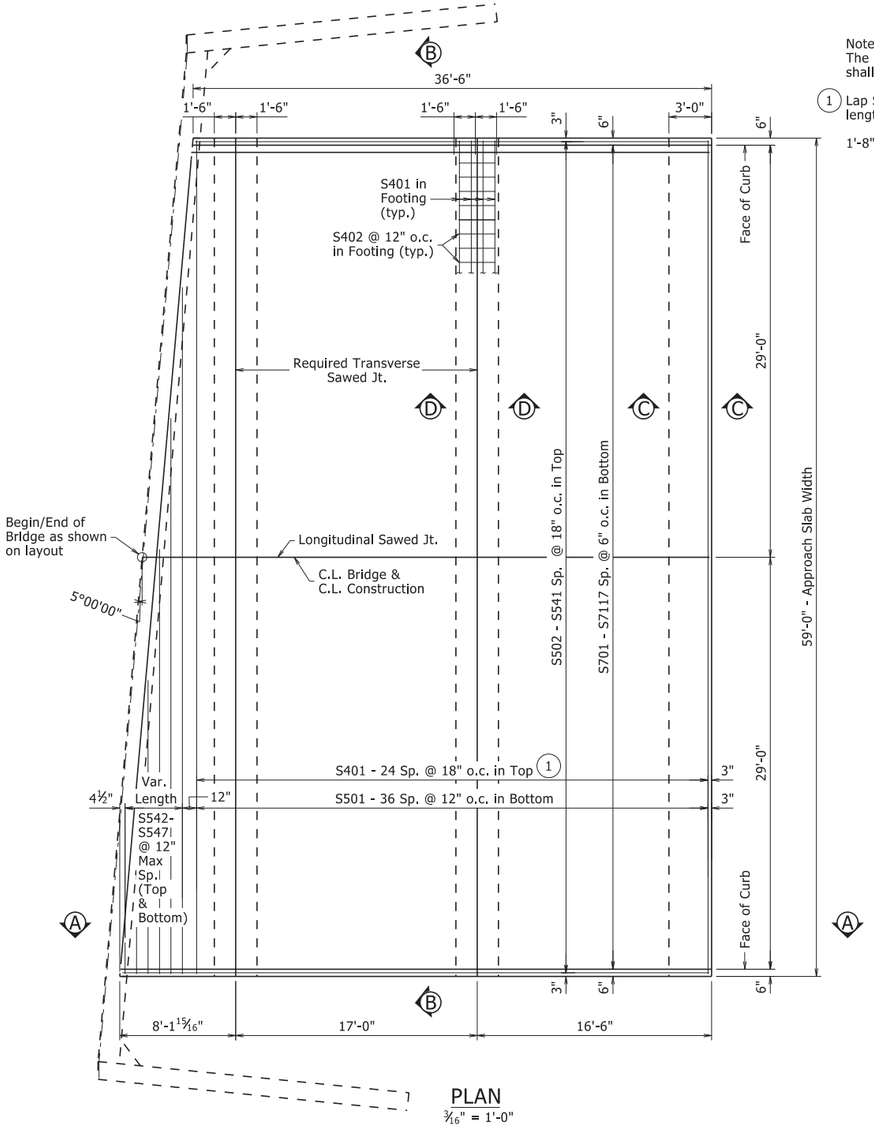
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 04/28/2020 FILENAME: b080457_as.dgn
CHECKED BY: DHP DATE: 8/31/2020 SCALE: AS NOTED
DESIGNED BY: STD DATE: -

BRIDGE NO. 07499 DRAWING NO. 61924

PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	293	517
				(1)		07500 - APPROACH SLAB - 61925		



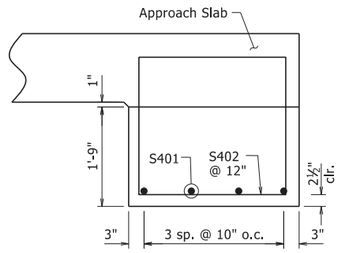
PLAN

3/16" = 1'-0"

Notes:
The surface finish for Approach Slabs shall match that used on the bridge deck.

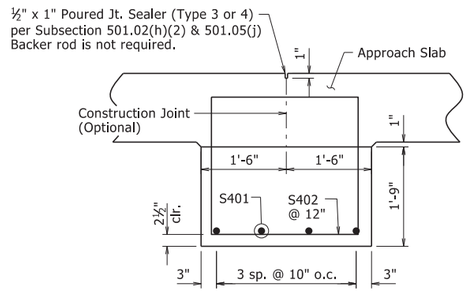
(1) Lap Splice (based on a Class B lap splice length):

1'-8" for #4 bars



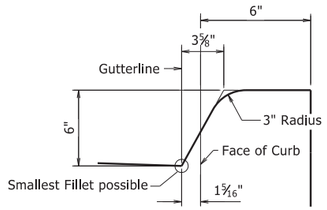
SECTION C-C

¾" = 1'-0"



SECTION D-D

¾" = 1'-0"



TYPICAL CURB DETAIL

No Scale

GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

The concrete approach slabs shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Slabs will be measured and paid for in accordance with Section 504.

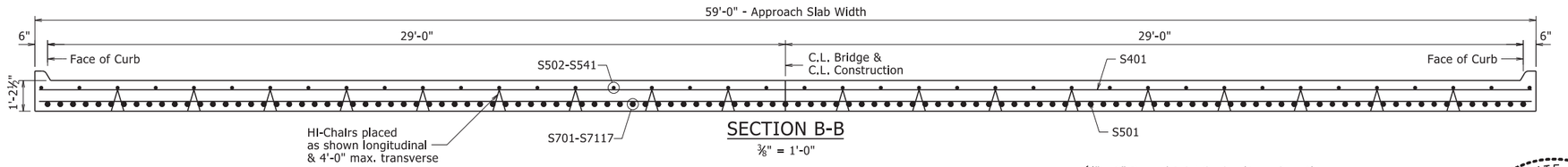
BAR LIST (ONE SLAB)

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
S401	37	58'-8"	Str.	2'-7" / 4½" typ. / 2'-5" / S402
S402	177	10'-4"	2"	
S501	37	58'-8"	Str.	
S502-S541	1 ea.	36'-2" to 41'-4"	Str.	
S542-S547	2 ea.	2'-2" to 48'-4"	Str.	
S701-S7117	1 ea.	36'-2" to 41'-4"	Str.	Dimensions are out to out of bars.

TABLE OF QUANTITIES FOR ONE APPROACH SLAB

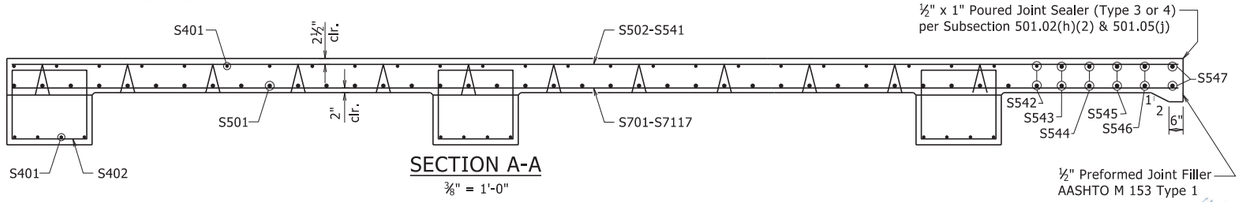
FOR INFORMATION ONLY

Slab Width	Reinforcing Steel (lbs.)	Concrete (cu. yds.)
59'-0"	16,135	139.90



SECTION B-B

⅜" = 1'-0"



SECTION A-A

⅜" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:55 AM

Charles R. Ellis

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BRIDGE ENGINEER

TYPE 2 SPECIAL APPROACH SLABS HIGHWAY 89 OVER INTERSTATE 40

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KJT DATE: 04/28/2020 FILENAME: b080457_as.dgn

CHECKED BY: DHP DATE: 8/31/2020 SCALE: AS NOTED

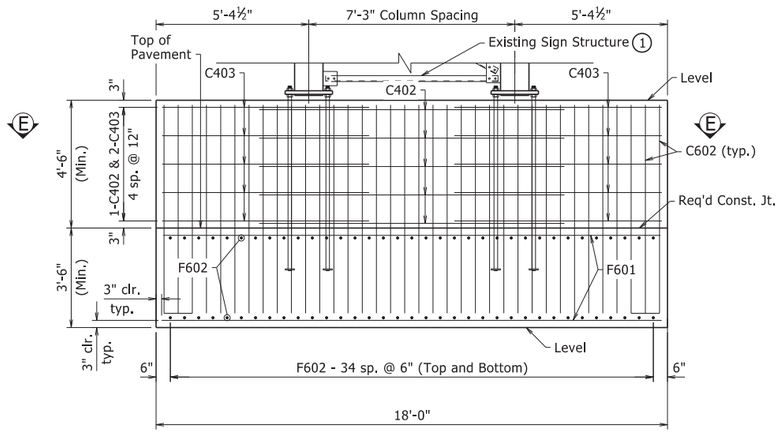
DESIGNED BY: STD DATE: -

BRIDGE NO. 07500 DRAWING NO. 61925

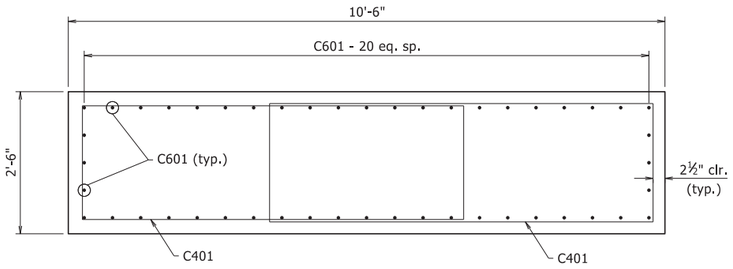
PRINT DATE: 8/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	294	517

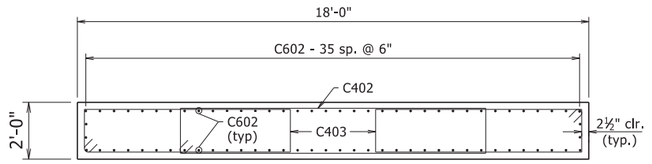
(1) OH-040-23-20 - OVERHEAD SIGN. STR. - 61926



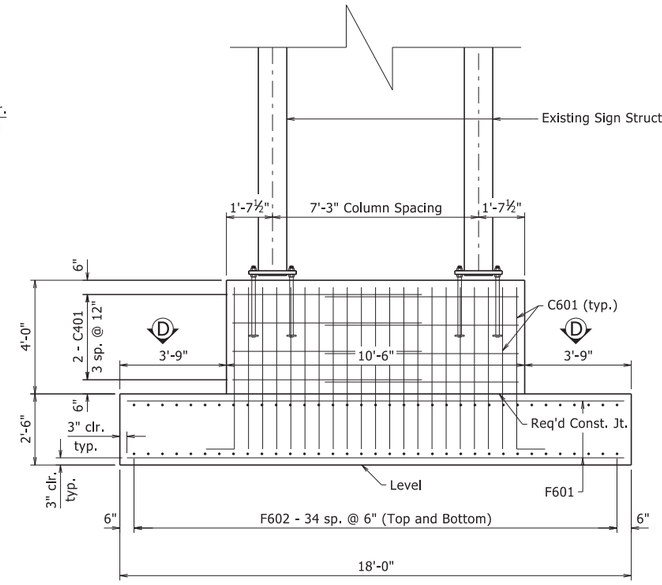
VIEW A-A - FOUNDATION B



SECTION D-D



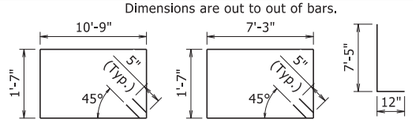
SECTION E-E



VIEW A-A - FOUNDATION A

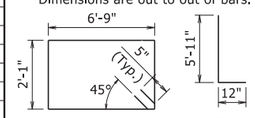
BAR LIST - FOUNDATION B

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
C402	10	25'-2"	3"	Dimensions are out to out of bars.
C403	5	18'-2"	3"	
C602	76	8'-3"	4½"	
F601	30	17'-6"	Str.	
F602	70	7'-6"	Str.	



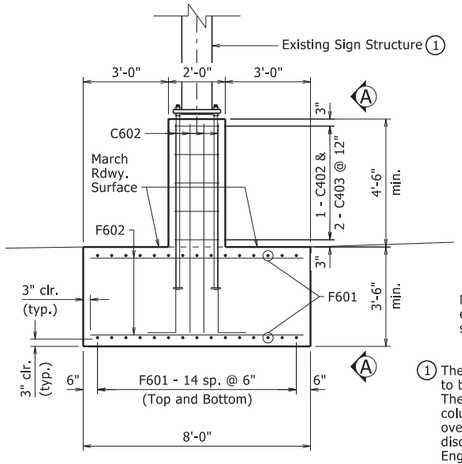
BAR LIST - FOUNDATION A

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
C401	8	18'-2"	3"	Dimensions are out to out of bars.
C601	48	6'-9"	4½"	
F601	30	17'-6"	Str.	
F602	70	7'-6"	Str.	



APPROXIMATE QUANTITIES FOR FOUNDATION (FOR INFORMATION ONLY)

STRUCTURE	CLASS S CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EXCAVATION (CU. YDS.)
FOUNDATION A	17.22	2,161	51
FOUNDATION B	24.67	2,748	30

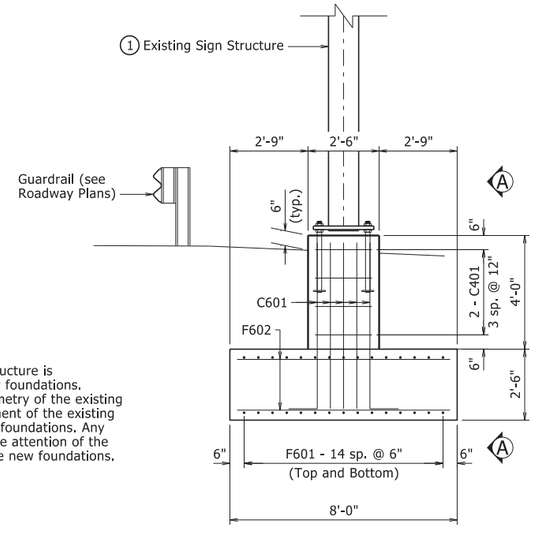


FOUNDATION B
(Median foundation)

Note: For median barrer on either side of Foundation B, see Roadway Plans.

(1) The existing steel overhead sign structure is to be retained and relocated to new foundations. The Contractor shall verify the geometry of the existing column layout to ensure proper fitment of the existing overhead sign structure to the new foundations. Any discrepancies shall be brought to the attention of the Engineer prior to construction of the new foundations.

ELEVATION



FOUNDATION A
(Open shoulder foundation)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:55 AM
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS FOR RELOCATION OF STEEL OVERHEAD SIGN STRUCTURE

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

DRAWN BY: DPT DATE: 8/19/2020 FILENAME: b080457_t1.dgn
CHECKED BY: TMG DATE: 9/1/2020 SCALE: NO SCALE
DESIGNED BY: RBR DATE: 8/11

STR. NO. OH-040-23-20 DRAWING NO. 61926

PRINT DATE: 9/1/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	295	517

(1) OH-040-23-20 - OVERHEAD SIGN. STR. - 61927

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 Specifications unless otherwise noted in the plans.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, Sixth Edition, 2013 with current interim revisions.

Basic Wind Speed = 90 mph.
Fatigue Category: 1

FOUNDATION MATERIALS AND STRENGTHS:

Class S Concrete	f'c = 3,500 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy = 60,000 psi

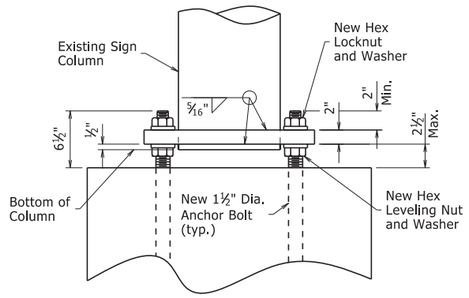
The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the existing structure to the new foundations. All geometry verification and adjustments necessary to fit the existing overhead sign structure to the new foundations will not be paid for directly but shall be considered subsidiary to the item "Relocation of Existing Overhead Sign Structure ( )".

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

Anchor bolts shall comply with AASHTO M 314, Grade 55 including Supplementary Requirement S1, and galvanized according to Subsection 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with Subsection 807.07.

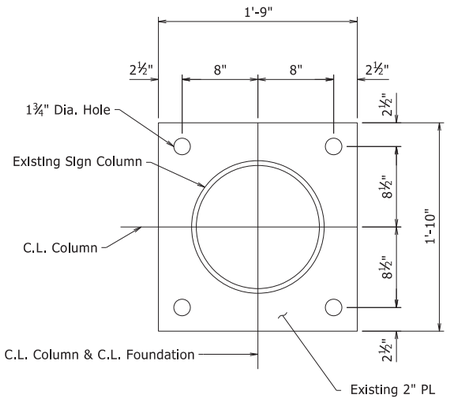
Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to the item "Relocation of Existing Overhead Sign Structure ( )". The excavations for the footings shall be backfilled before the structure is attached to the foundations.

(1) The Contractor shall verify the geometry shown of the existing base plate and anchor bolt layout to ensure proper fitment of the existing overhead sign structure to the new foundations. Any discrepancies shall be brought to the attention of the Engineer prior to construction of the new foundations. Adjustment to the foundations shown may be required if field measured values differ from those shown in the details.

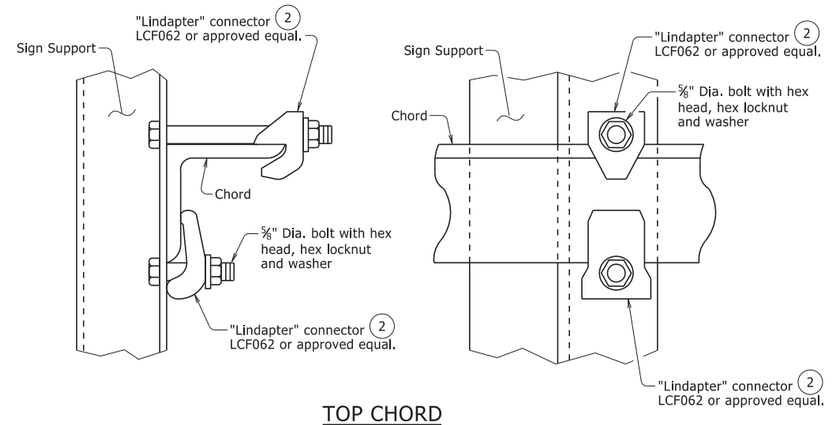


Note: Diameter of hole in base plate to be ⅛" larger than column diameter.

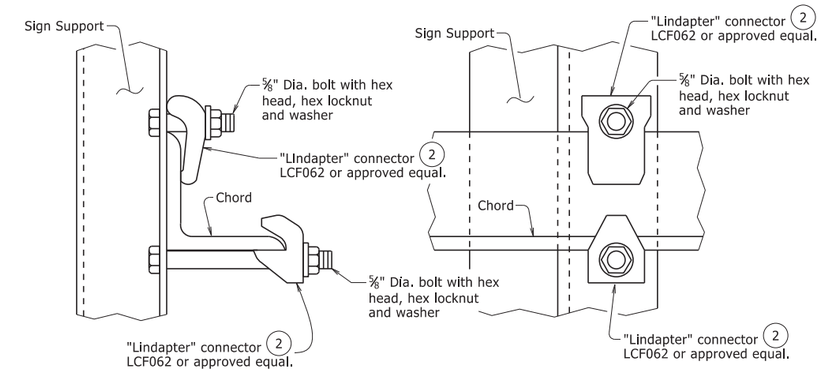
ELEVATION - COLUMN BASE



(1) PLAN - COLUMN BASE



TOP CHORD

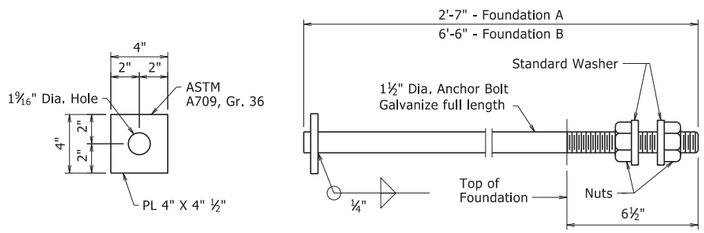


BOTTOM CHORD

(2) All "Lindapter" connectors or approved equal shall be Installed according to manufacturer's recommendations. All connectors, bolts, nuts and washers shall be galvanized.

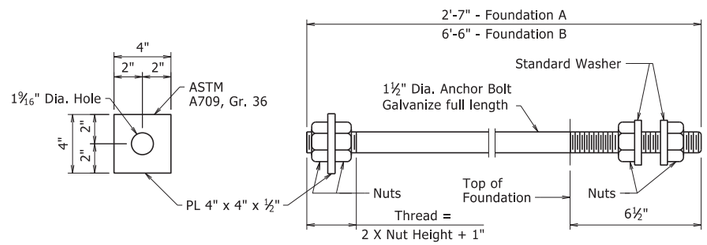
Note: Install all support connectors clear of the gusset plates and splice locations.

DETAILS OF SIGN SUPPORT CONNECTION TO TRUSS



Anchor bolts shall comply with AASHTO M 314, Grade 55 with Supplementary Requirements S1, and galvanized according to Subsection 807.07. Nuts for bolts shall be as specified in Subsection 807.07.

ANCHOR BOLT DETAIL



Anchor bolts shall comply with AASHTO M 314, Grade 55 with Supplementary Requirements S1, and galvanized according to Subsection 807.07. Nuts for bolts shall be as specified in Subsection 807.07.

ALTERNATE ANCHOR BOLT DETAIL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Sep 2 2020 8:55 AM
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS FOR RELOCATION OF STEEL OVERHEAD SIGN STRUCTURE

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

DRAWN BY: DPT DATE: 08/19/2020
CHECKED BY: TMG DATE: 9/1/2020
DESIGNED BY: RBR DATE: 8/11
FILENAME: b080457_t1.dgn
SCALE: NO SCALE

STR. NO. OH-040-23-20 DRAWING NO. 61927

PRINT DATE: 9/1/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		080457	296	517

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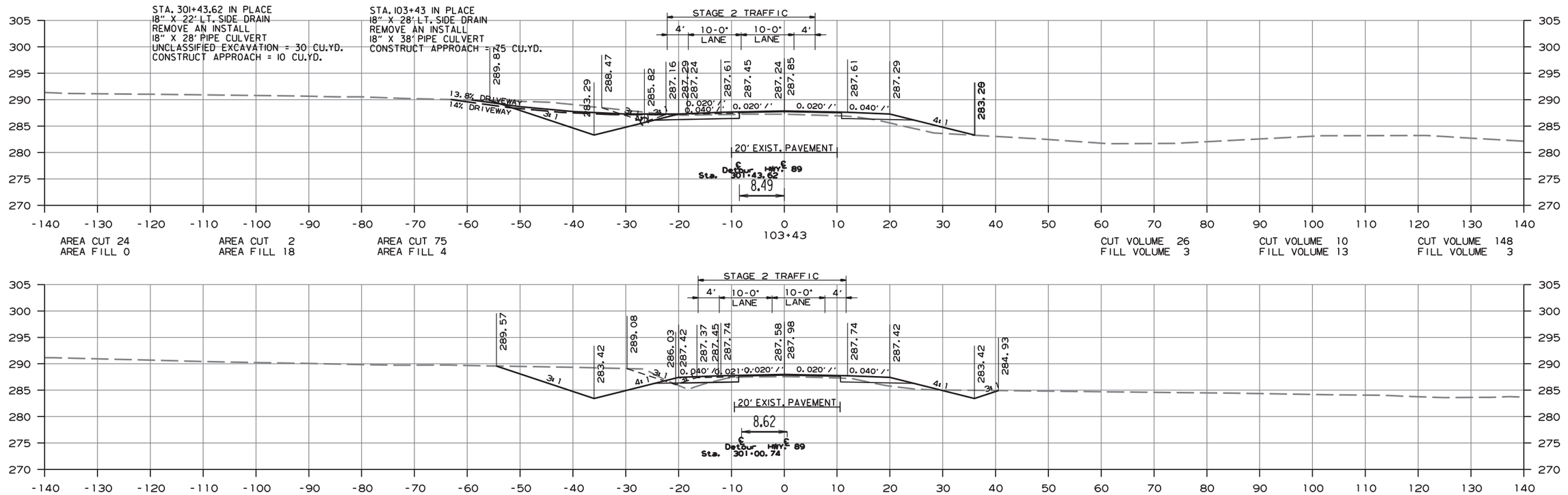

CROSS SECTION STA. 102+00 TO STA. 103+43

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS - HWY. 89 SECTION 1

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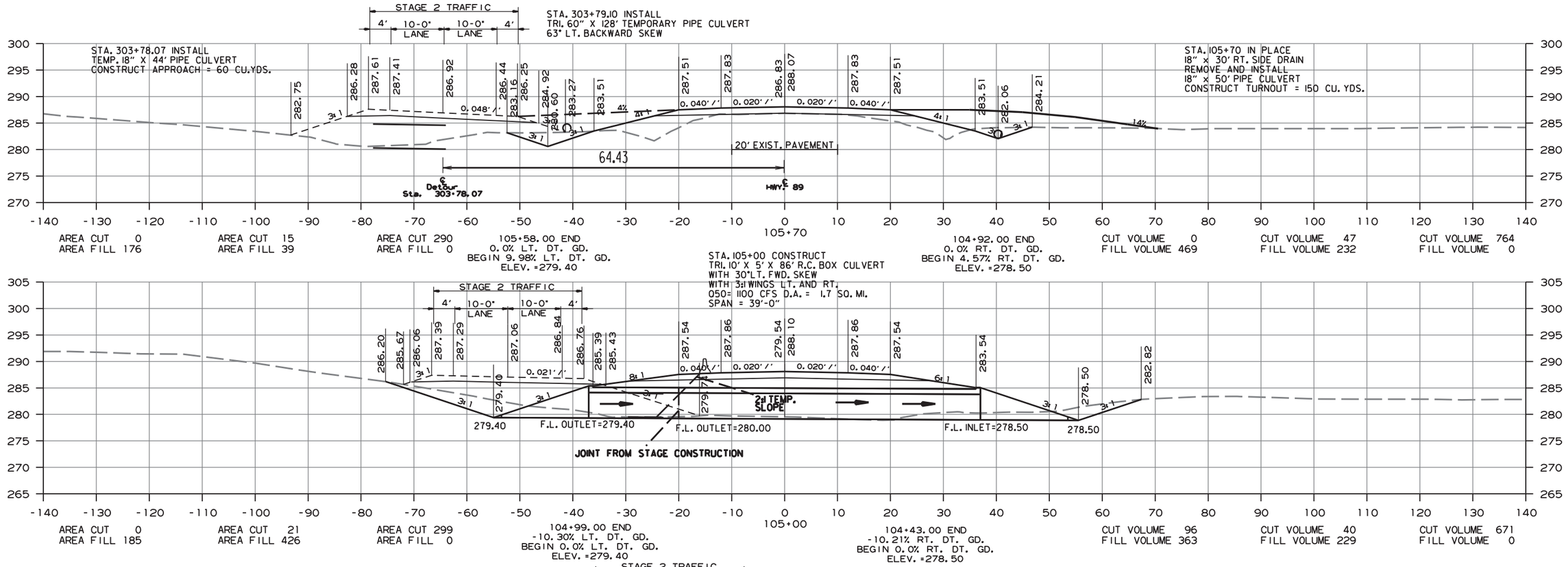

CROSS SECTION STA. 104+00 TO STA. 105+70

amme613 10/1/2020
RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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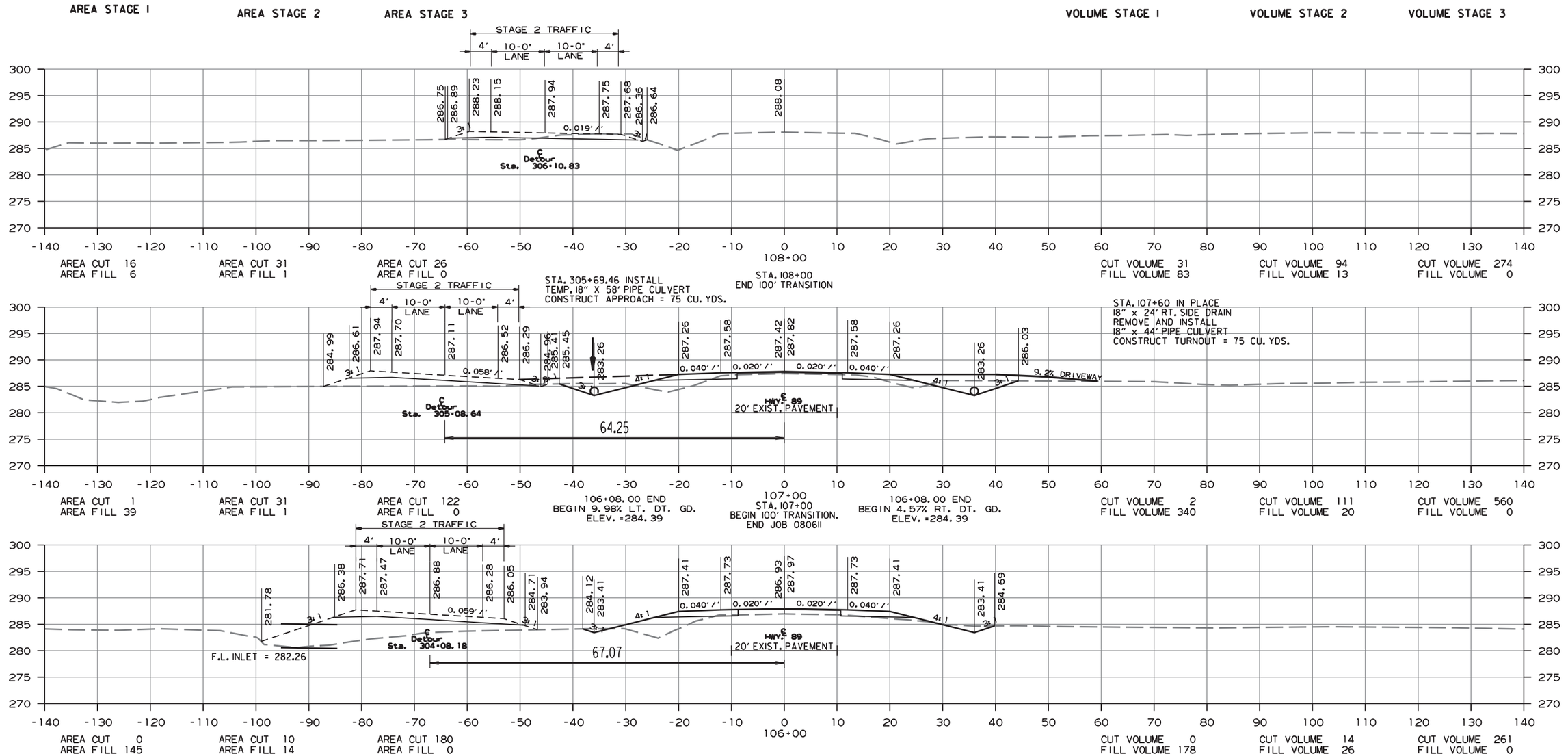

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amme613 10/1/2020
R080457.DGN

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(2) CROSS SECTIONS - HWY. 89 SECTION 1

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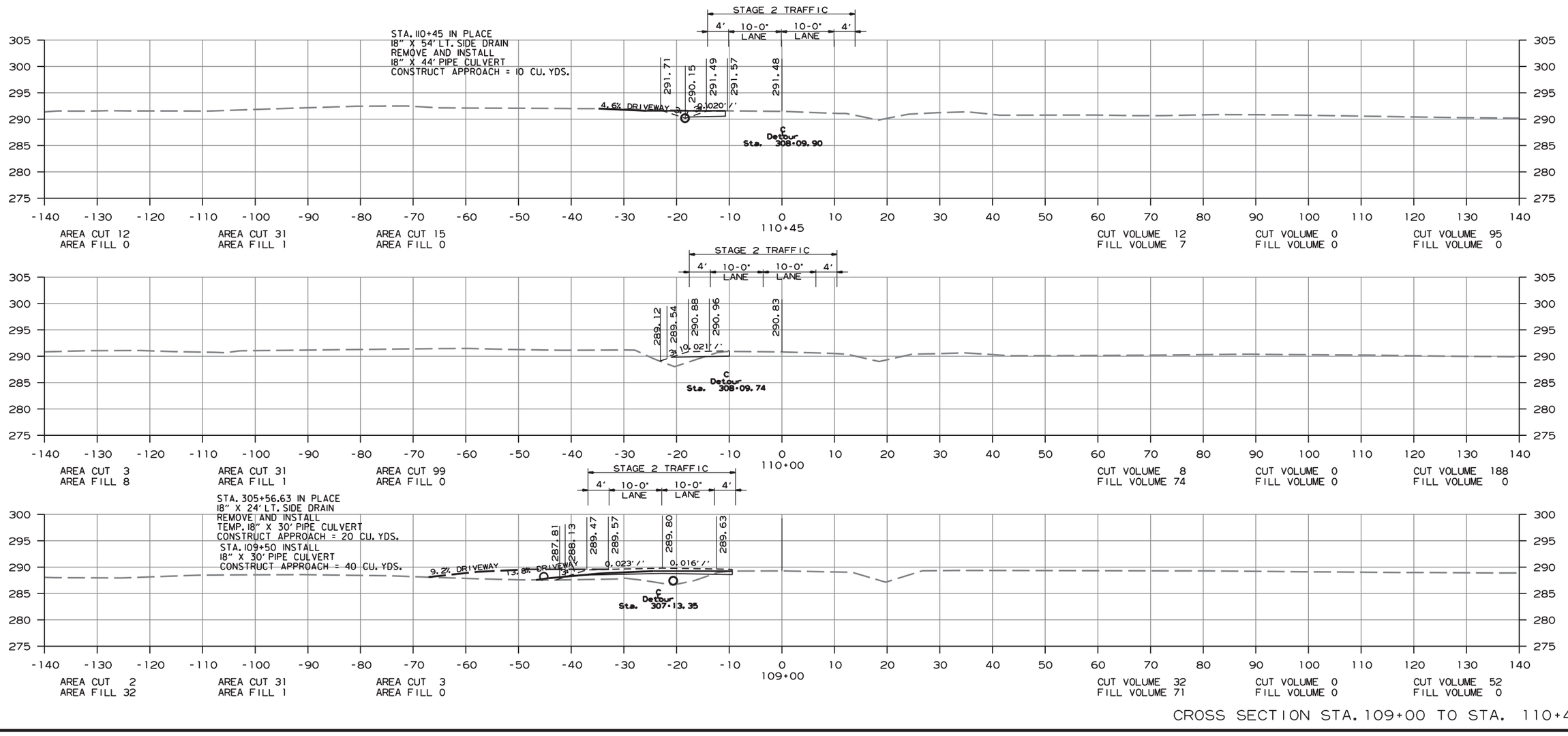

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amme613 10/1/2020
R080457.DGN

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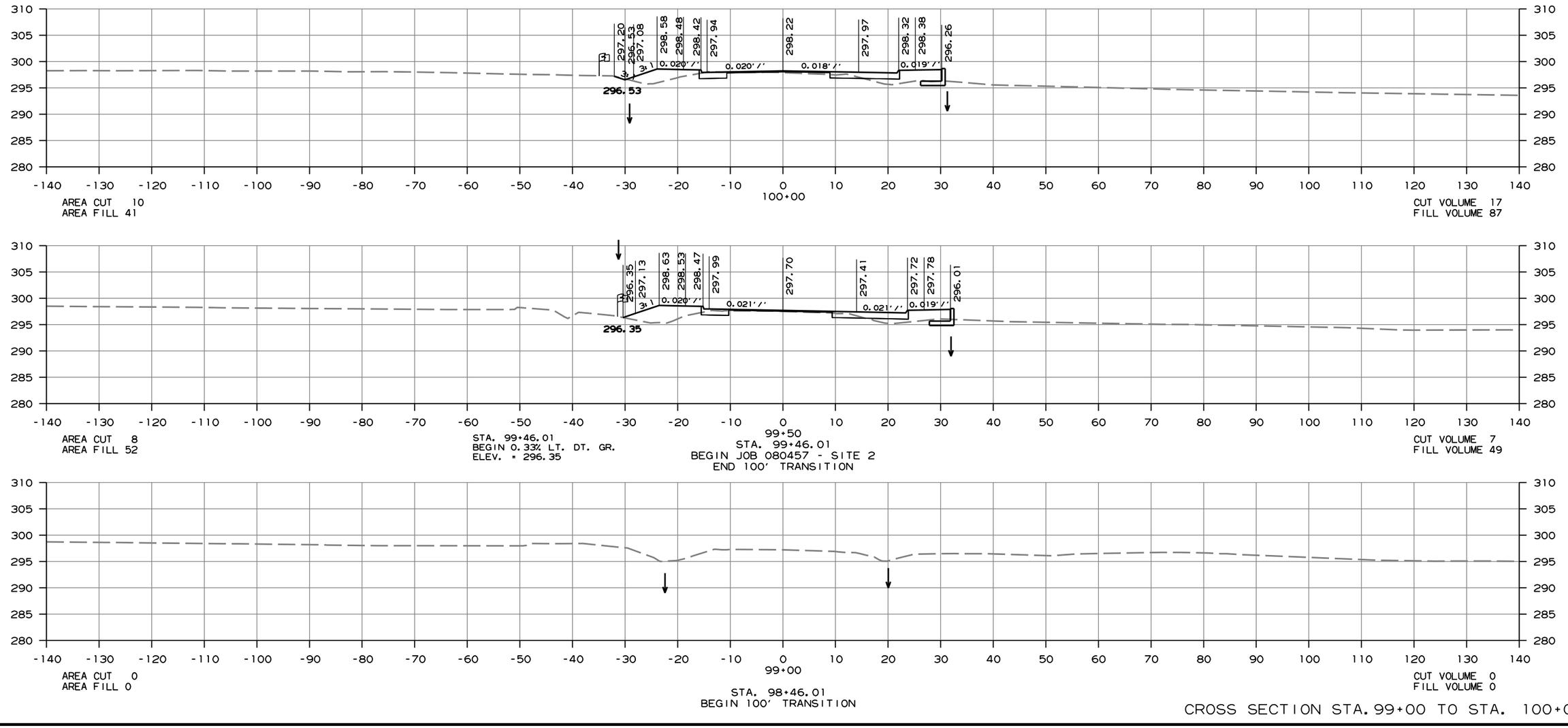

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R080457.DGN

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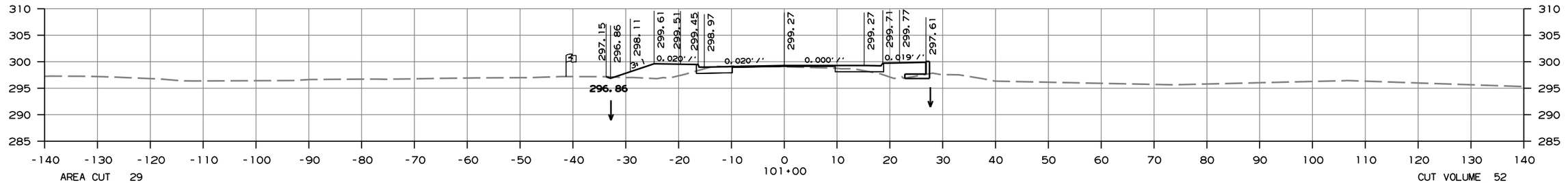

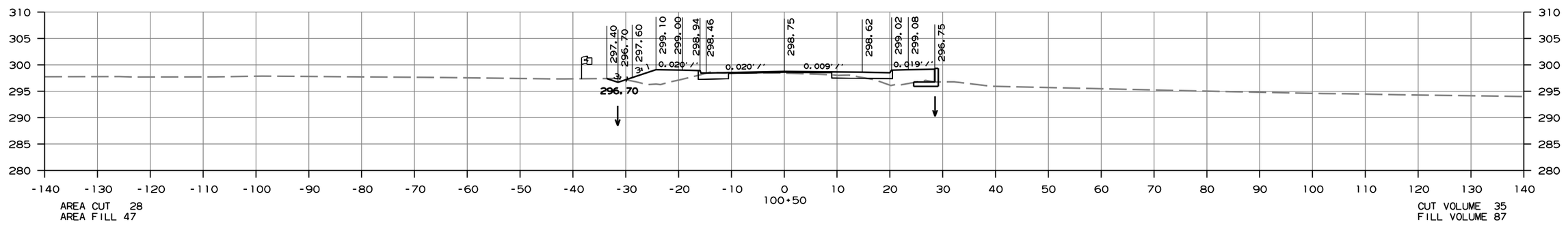

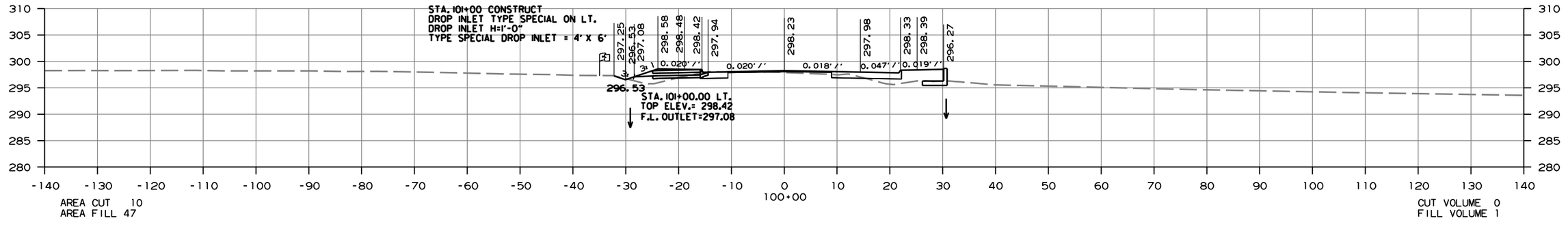

CROSS SECTION STA. 100+00 TO 101+00

amme613 10/1/2020
R080457.DGN

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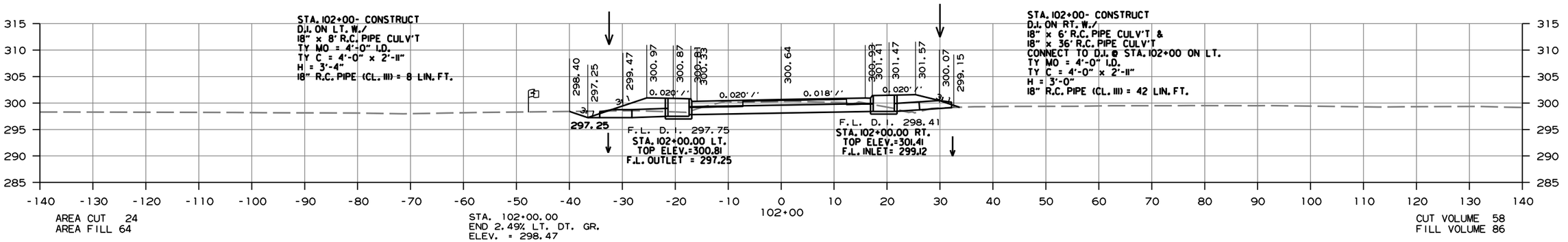

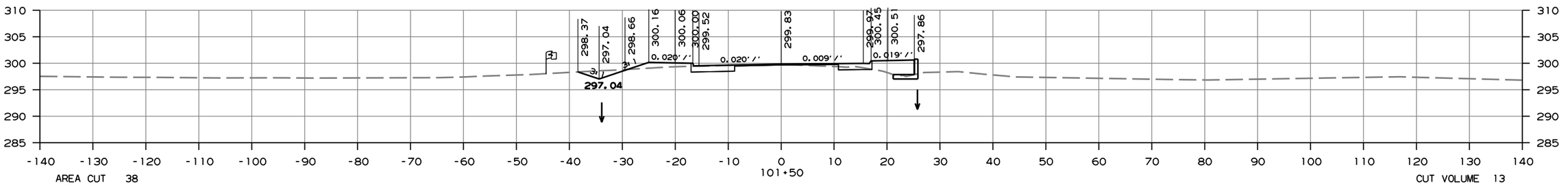

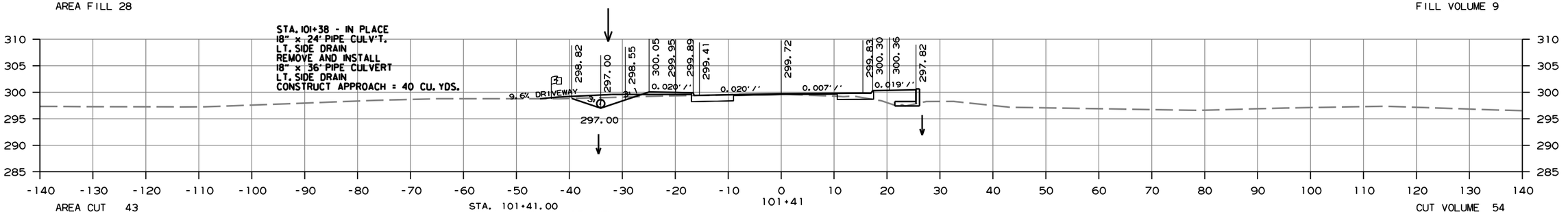

CROSS SECTION STA. 101+41 TO 102+00

amme613 10/1/2020
R080457.DGN

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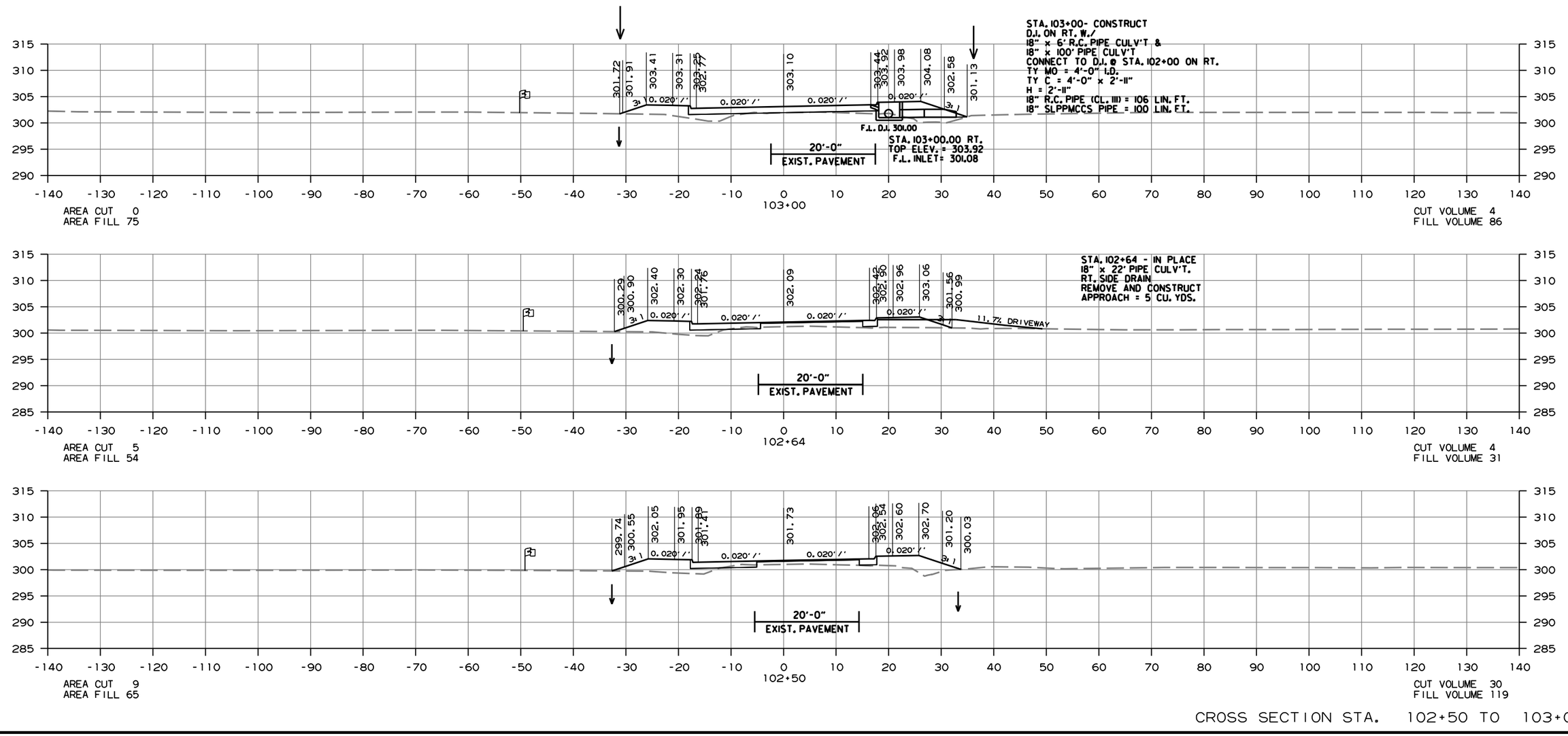
(2) CROSS SECTIONS - HWY. 89 SECTION 2



CROSS SECTION STA. 102+50 TO 103+00

amme613 10/1/2020
R080457.DGN

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10-21-20				6	ARK.			
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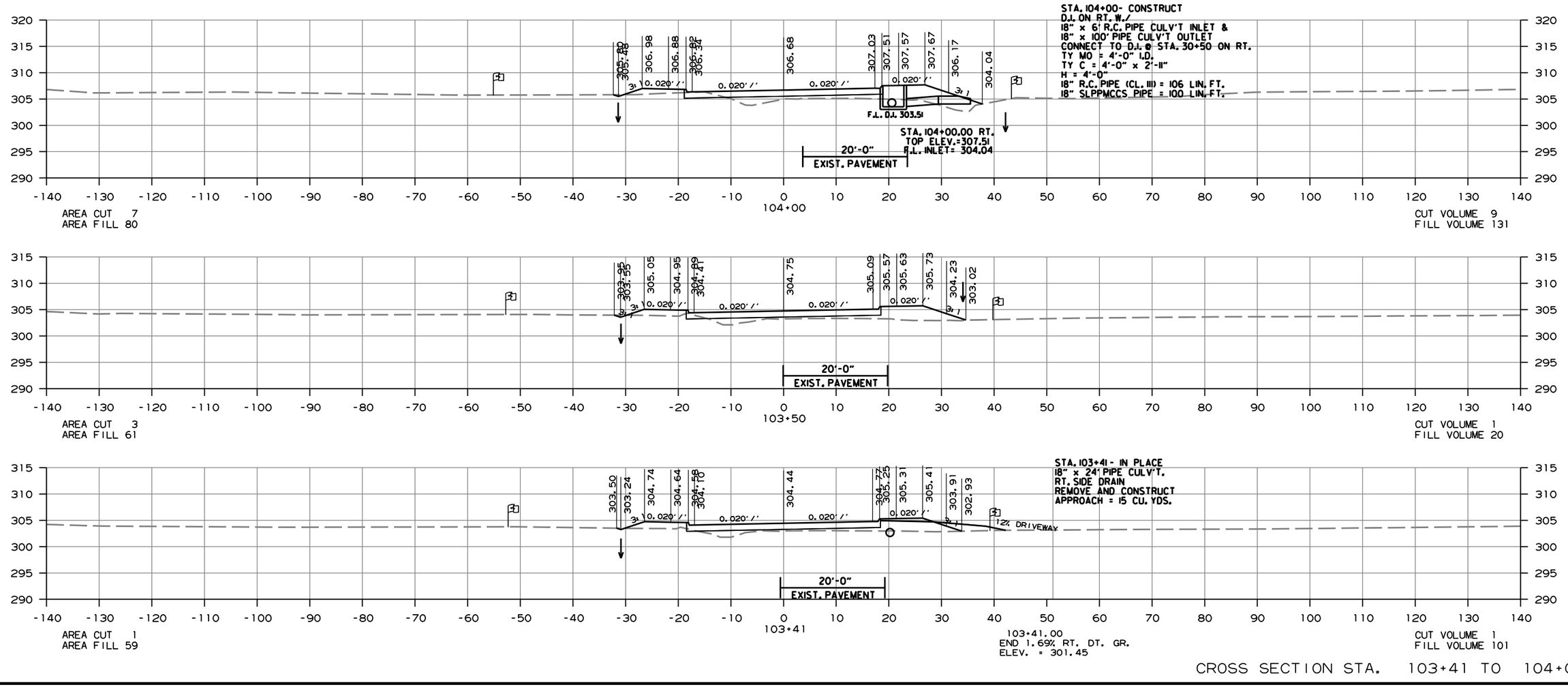


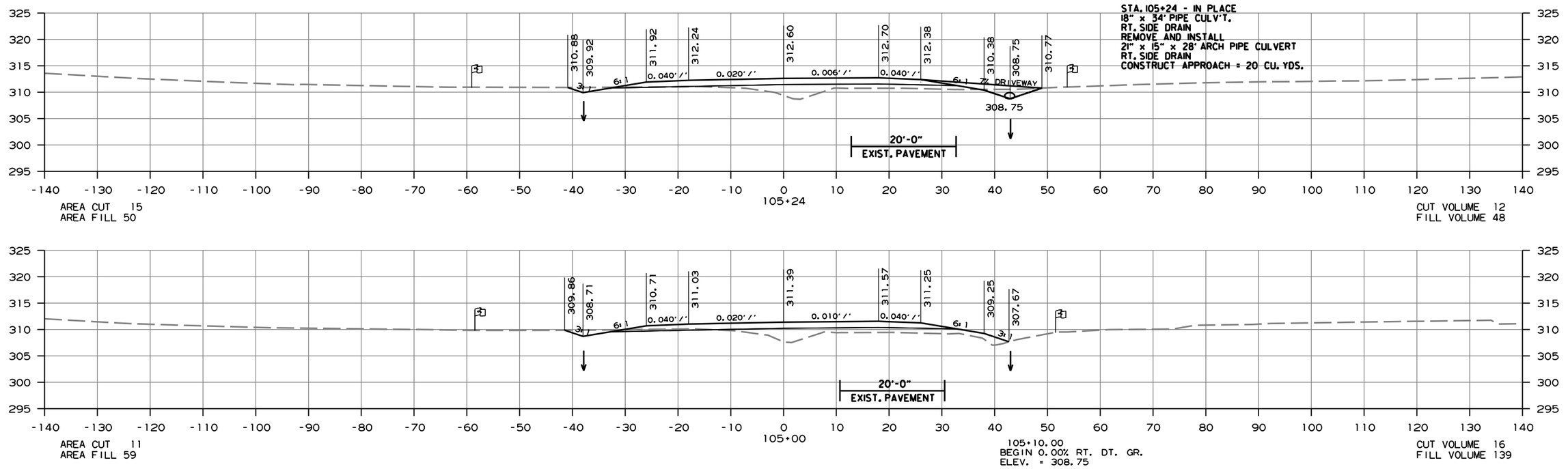
CROSS SECTION STA. 103+41 TO 104+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	305	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



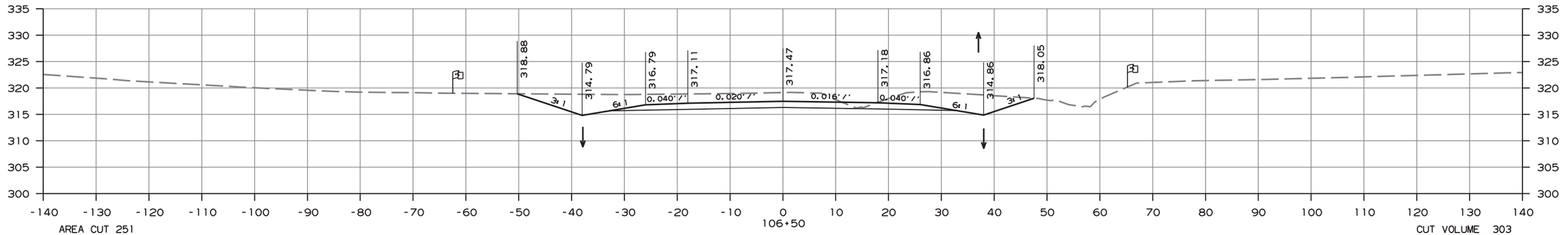
CROSS SECTION STA. 104+50 TO 105+24

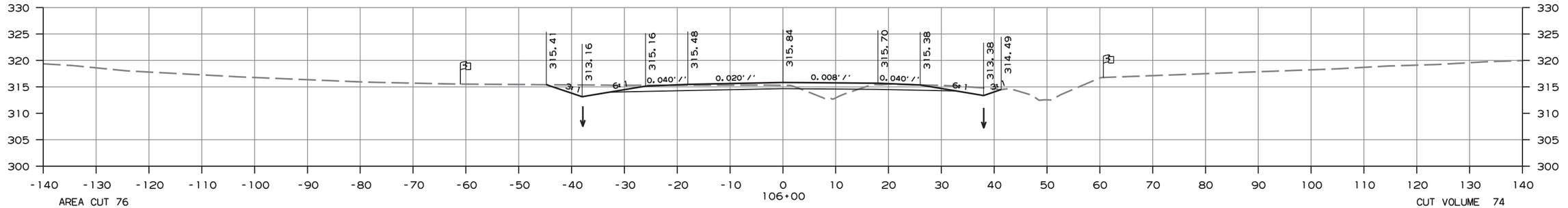
amme613 10/1/2020
R080457.DGN

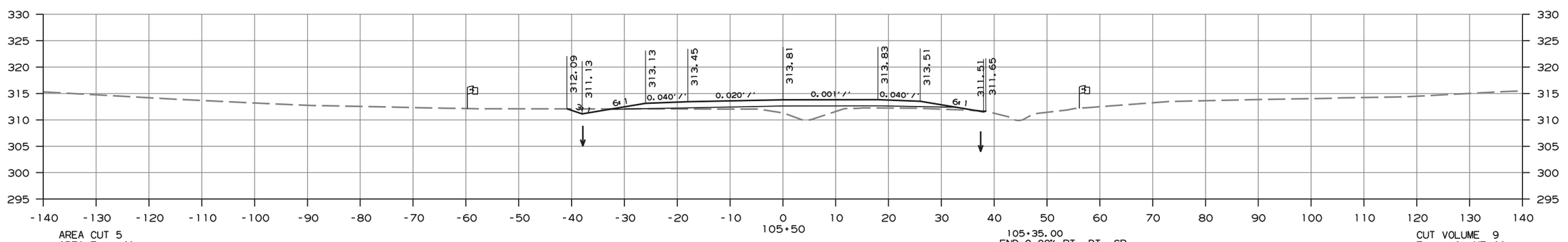
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	306	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







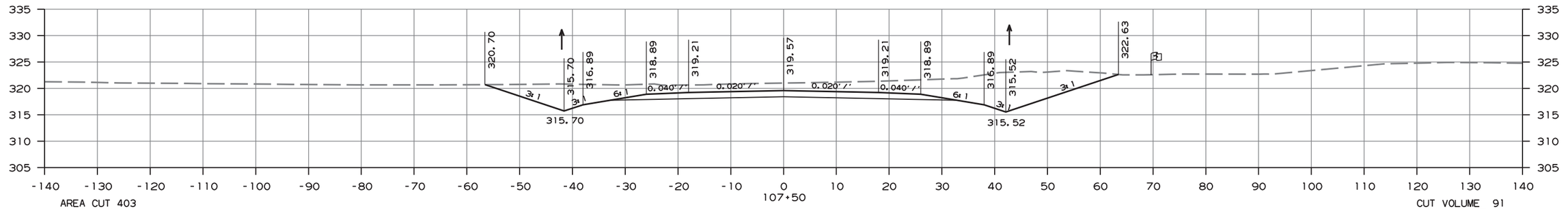
CROSS SECTION STA. 105+50 TO 106+50

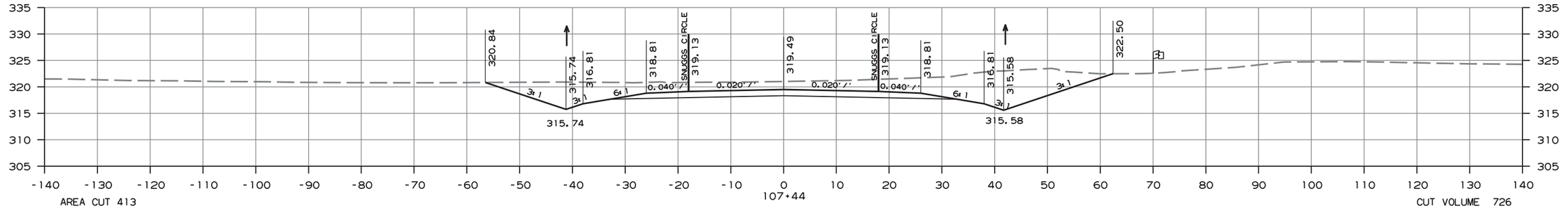
amme613 10/1/2020
R080457.DGN

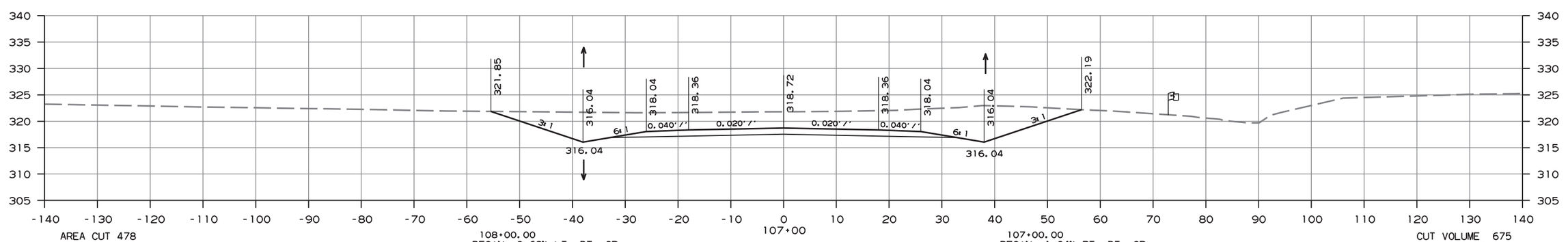
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	307	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







CROSS SECTION STA. 107+00 TO 107+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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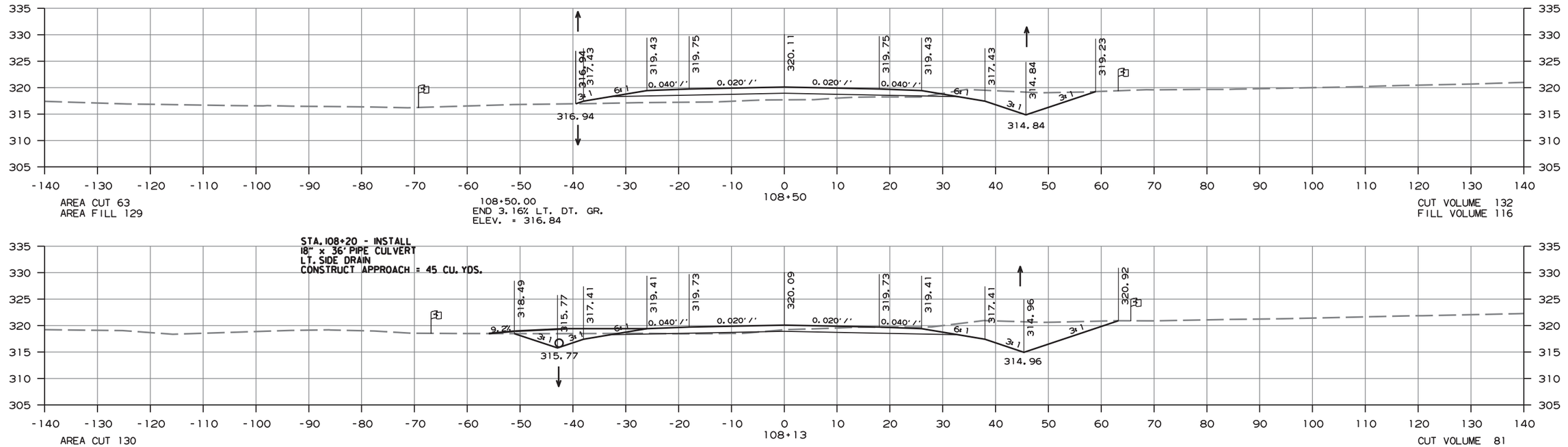
(2) CROSS SECTIONS - HWY. 89 SECTION 2



CROSS SECTION STA. 108+00 TO 108+50

amme613 10/1/2020
R080457.DGN

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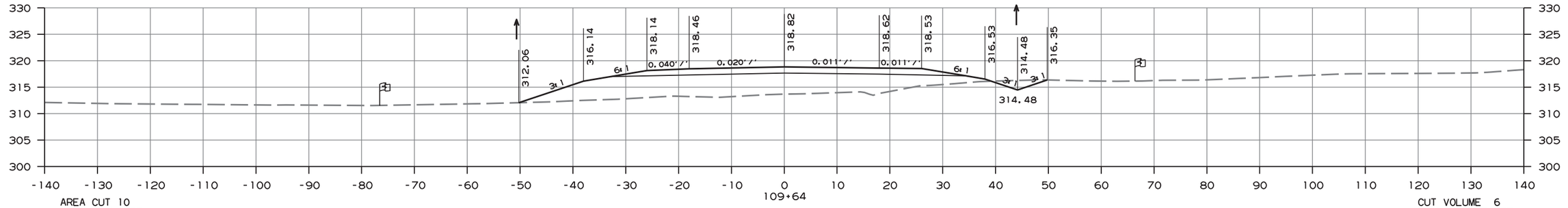
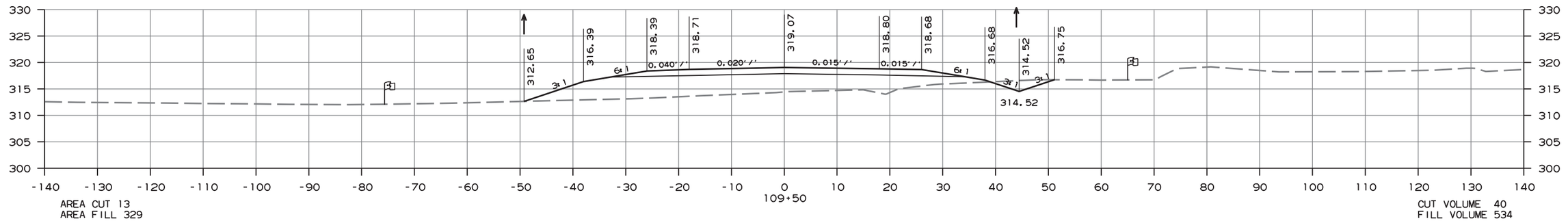
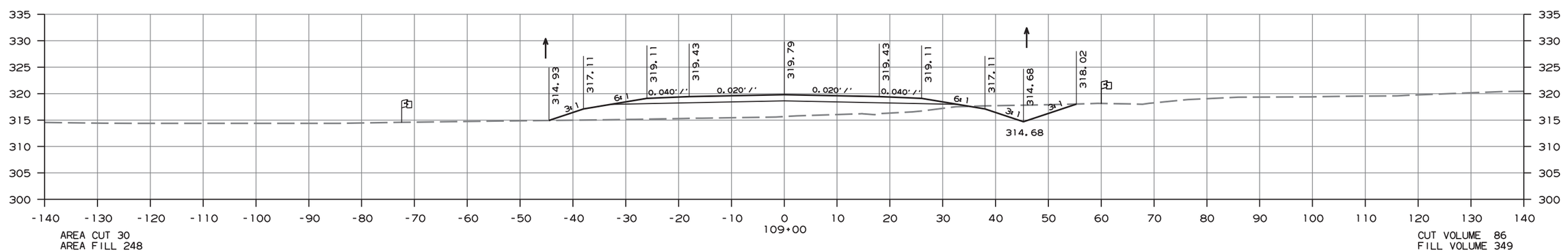
				JOB NO.		080457	309	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







CROSS SECTION STA. 109+00 TO 109+64

amme613 10/1/2020
R080457.DGN

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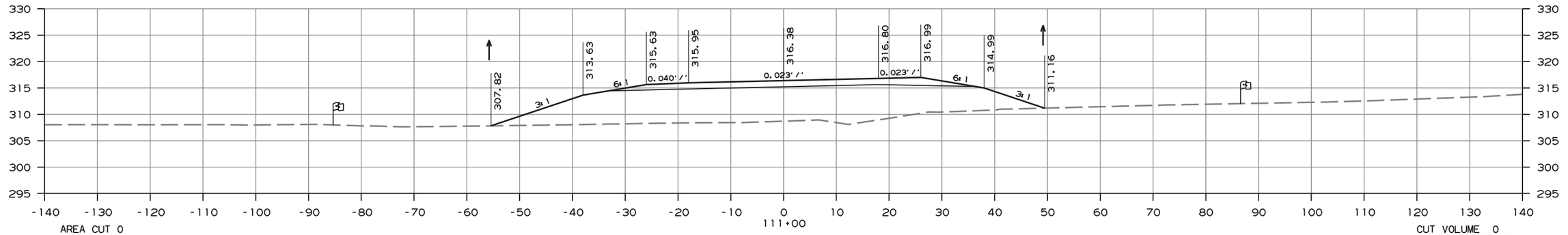
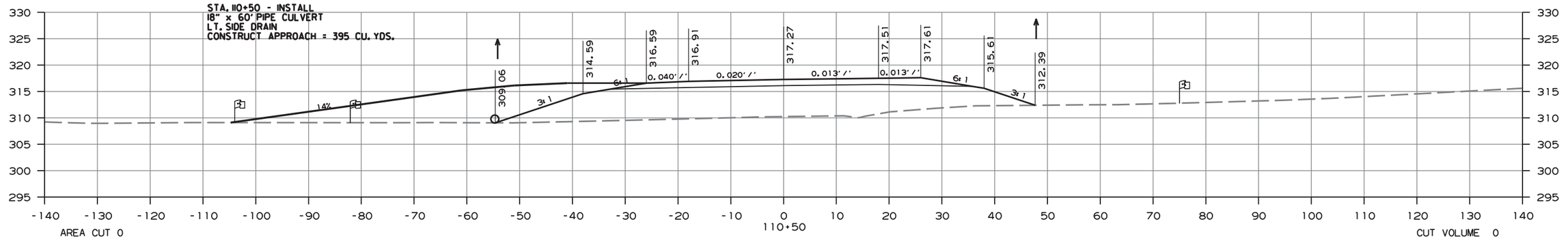
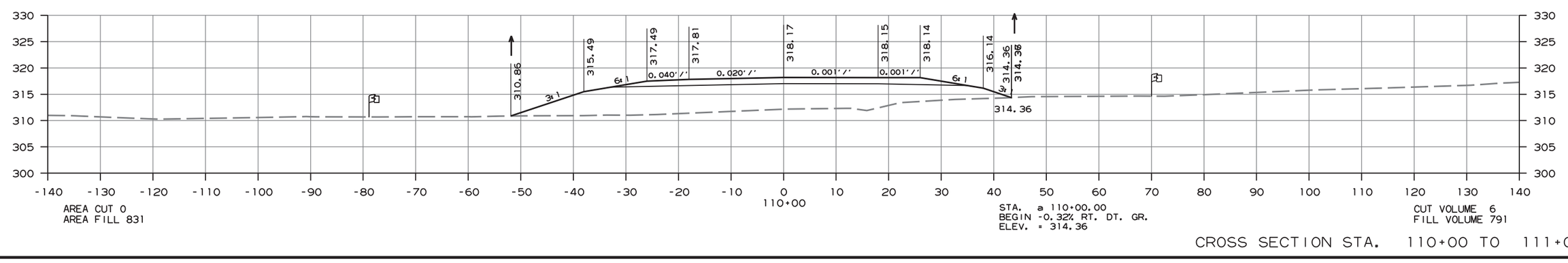






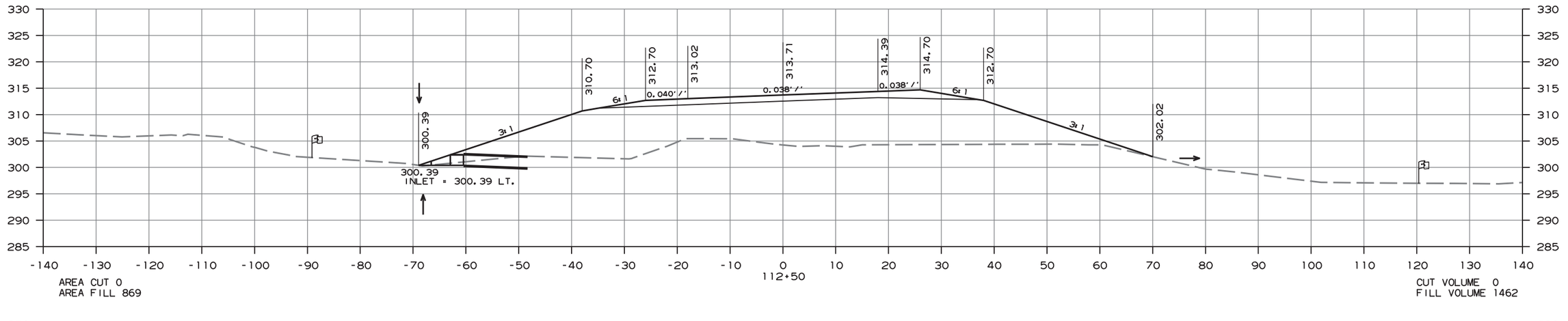
CROSS SECTION STA. 110+00 TO 111+00

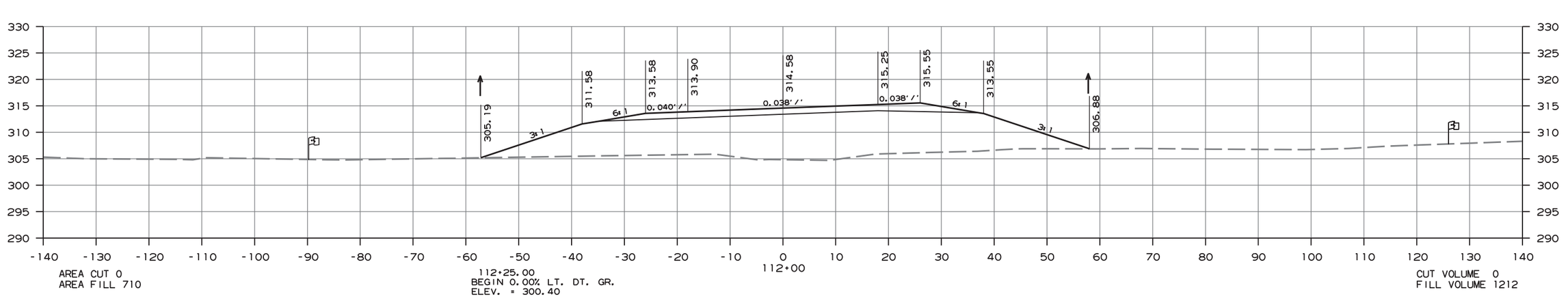
amme613 10/1/2020
R080457.DGN

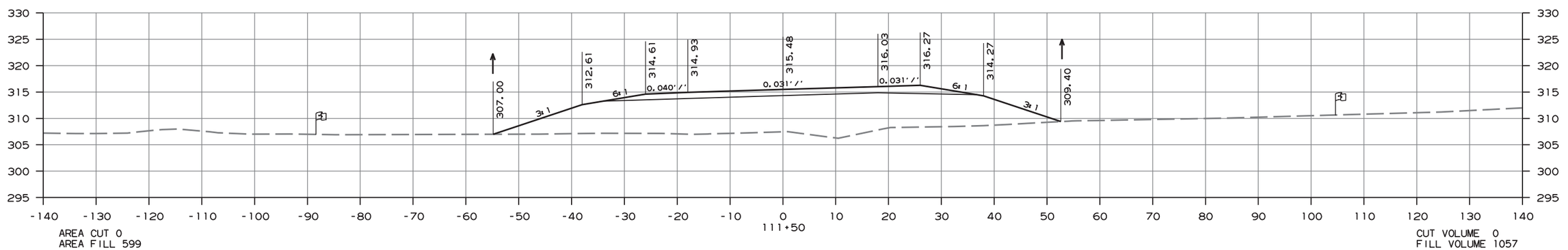
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	311	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







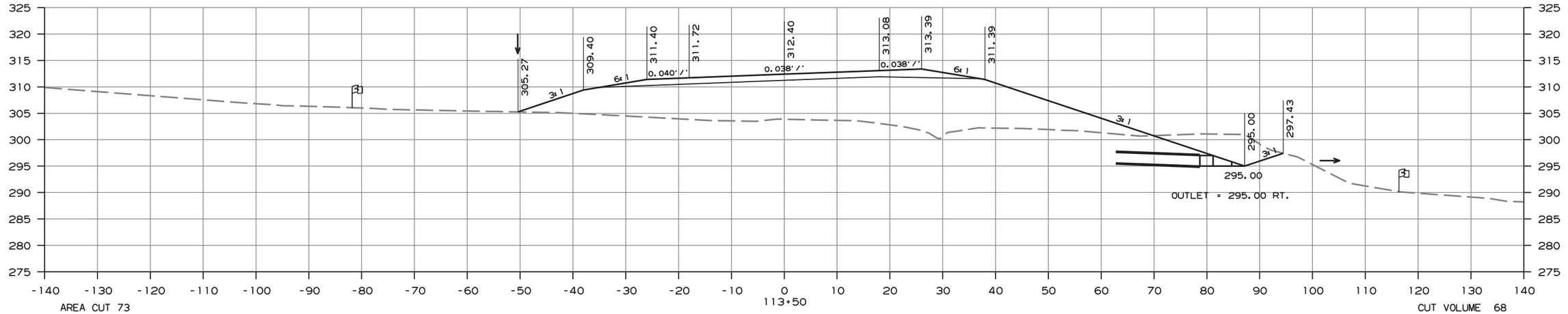
CROSS SECTION STA. 111+50 TO 112+50

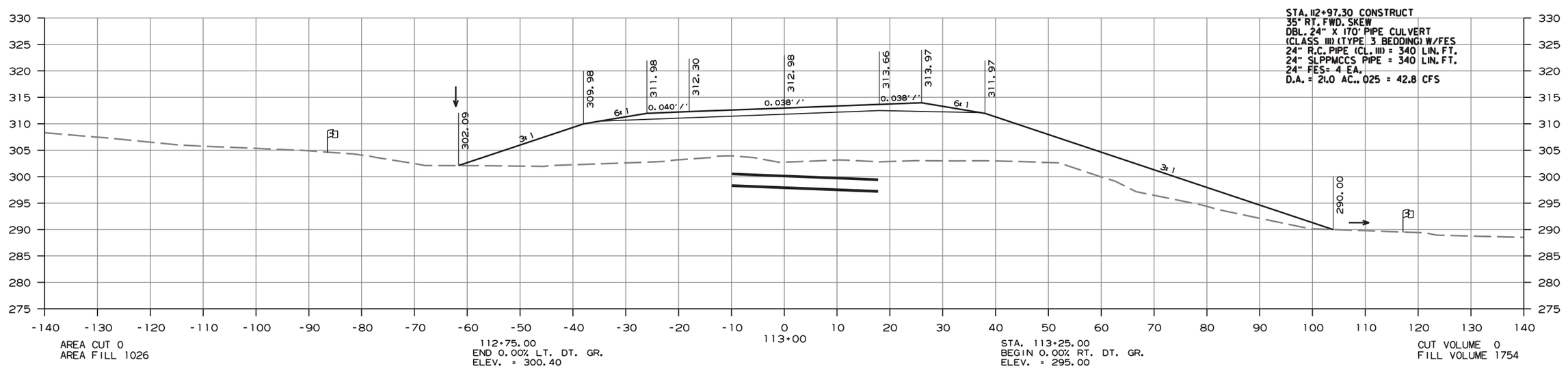
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	312	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



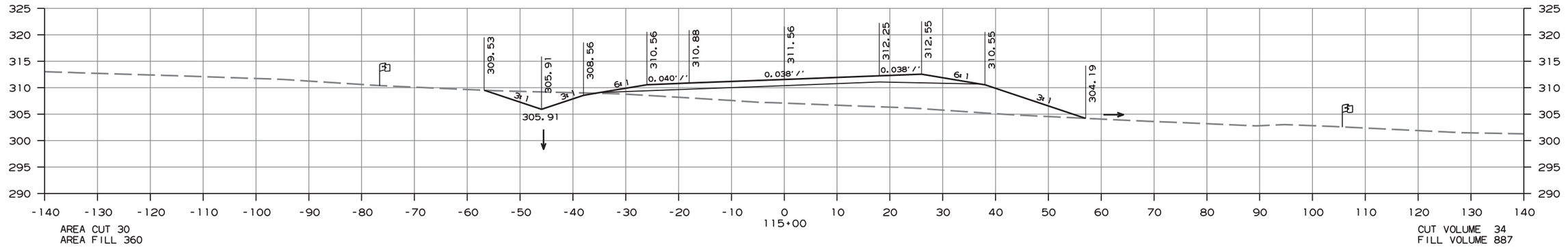


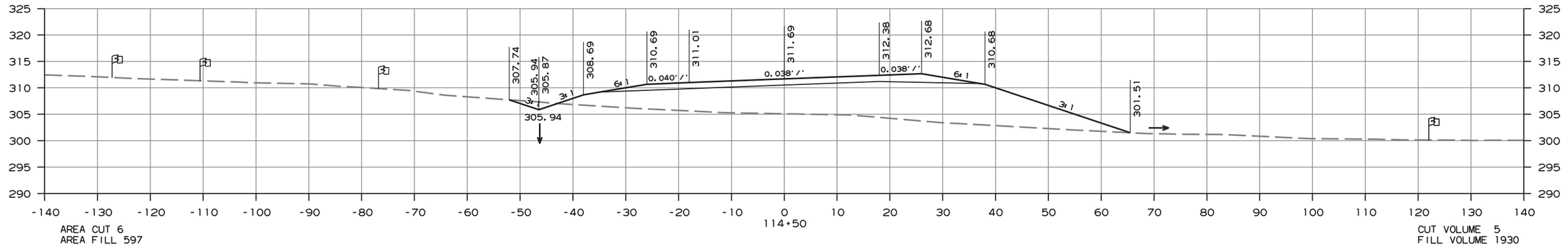
CROSS SECTION STA. 113+00 TO 113+50

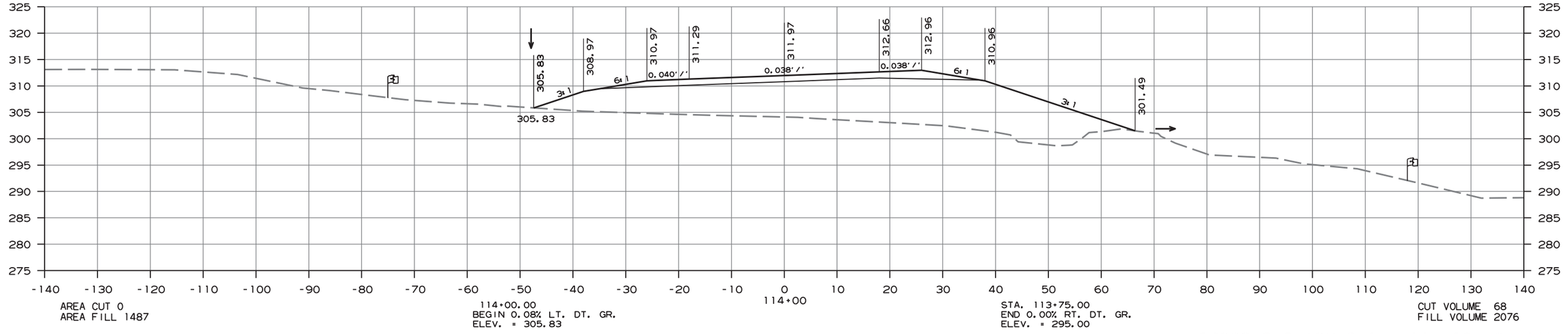
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	313	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





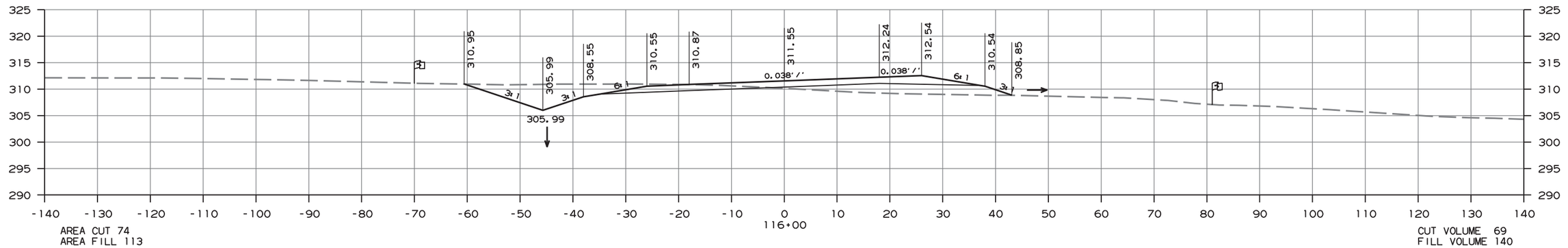


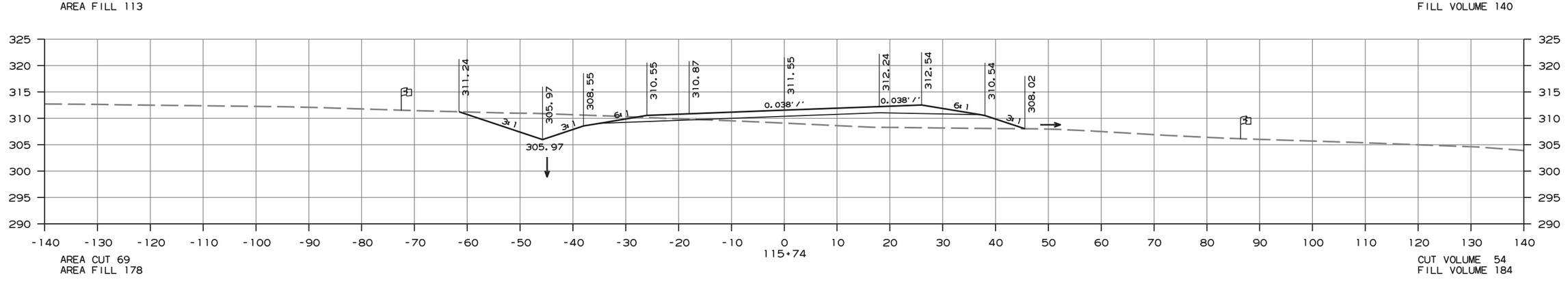
CROSS SECTION STA. 114+00 TO 115+00

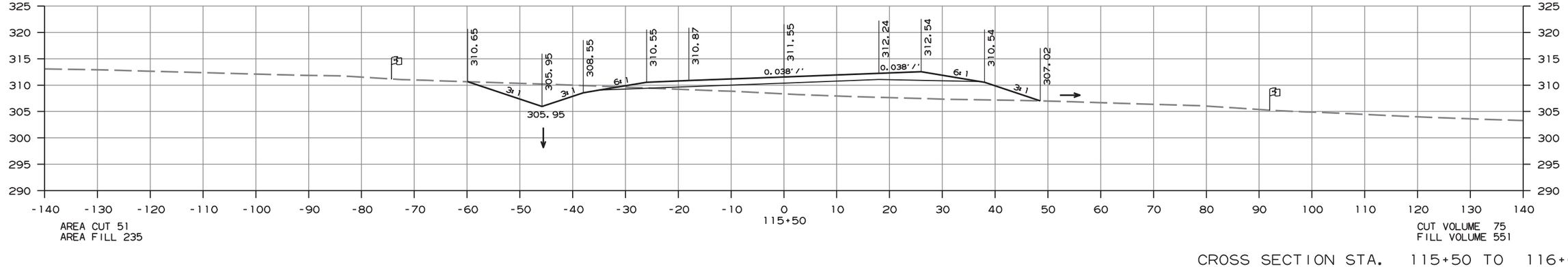
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	314	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







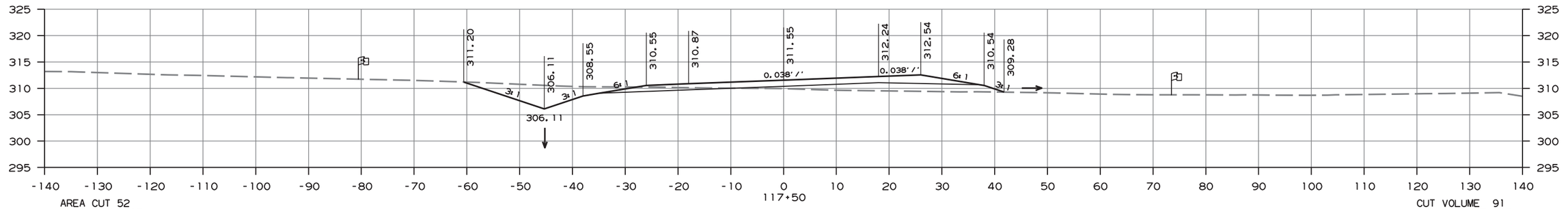
CROSS SECTION STA. 115+50 TO 116+00

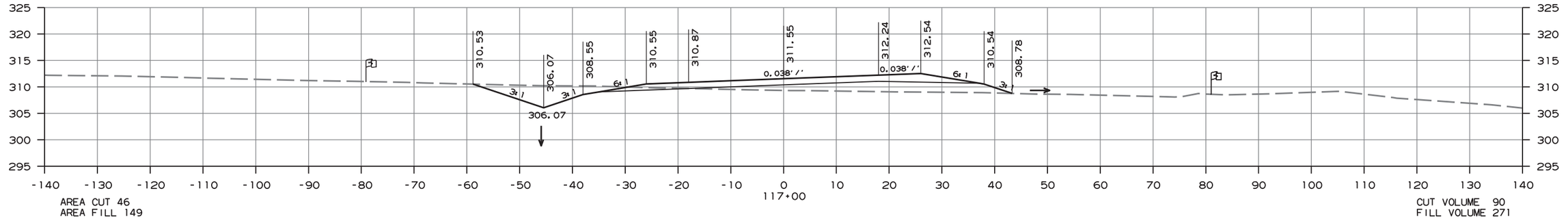
amme613 10/1/2020
R080457.DGN

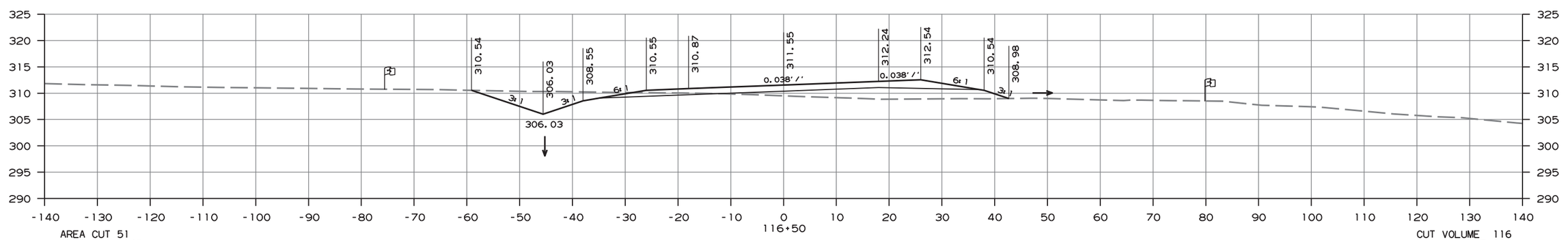
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	315	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





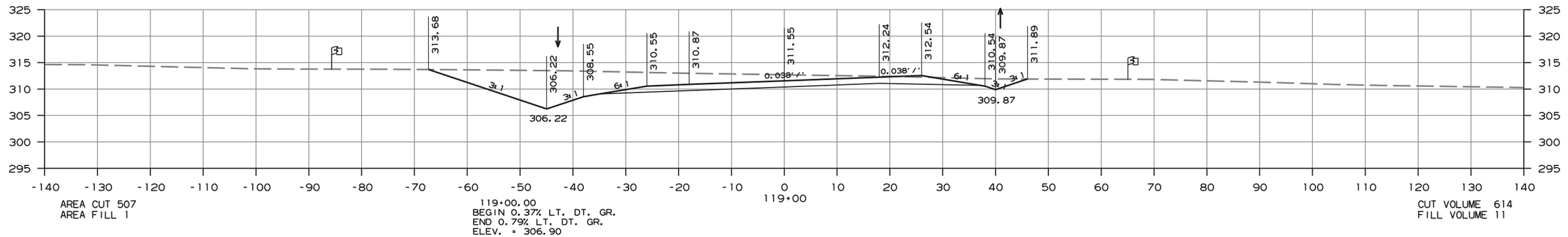


CROSS SECTION STA. 116+50 TO 117+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	316	517

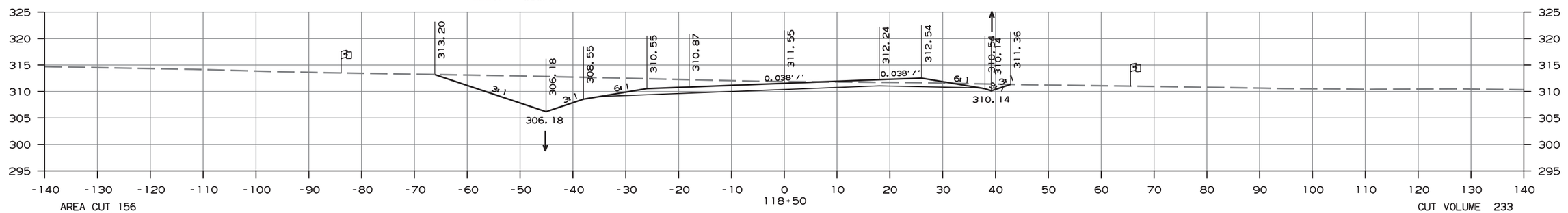
(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 507
AREA FILL 1

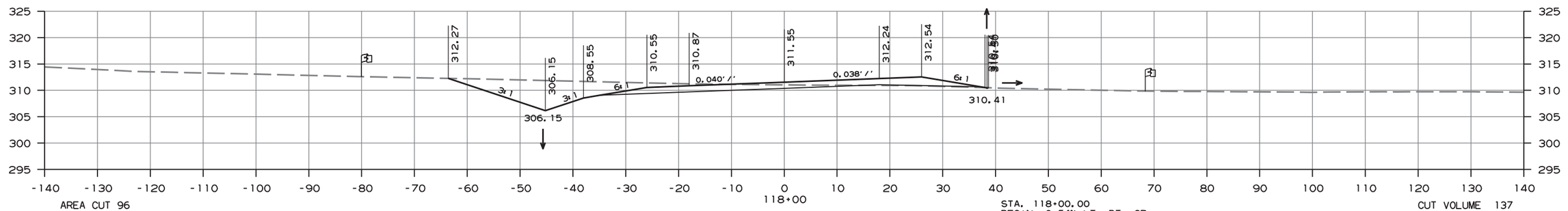
119+00.00
BEGIN 0.37% LT. DT. GR.
END 0.79% LT. DT. GR.
ELEV. = 306.90

CUT VOLUME 614
FILL VOLUME 11



AREA CUT 156
AREA FILL 10

CUT VOLUME 233
FILL VOLUME 48



AREA CUT 96
AREA FILL 42

STA. 118+00.00
BEGIN -0.54% LT. DT. GR.
ELEV. = 310.41

CUT VOLUME 137
FILL VOLUME 147

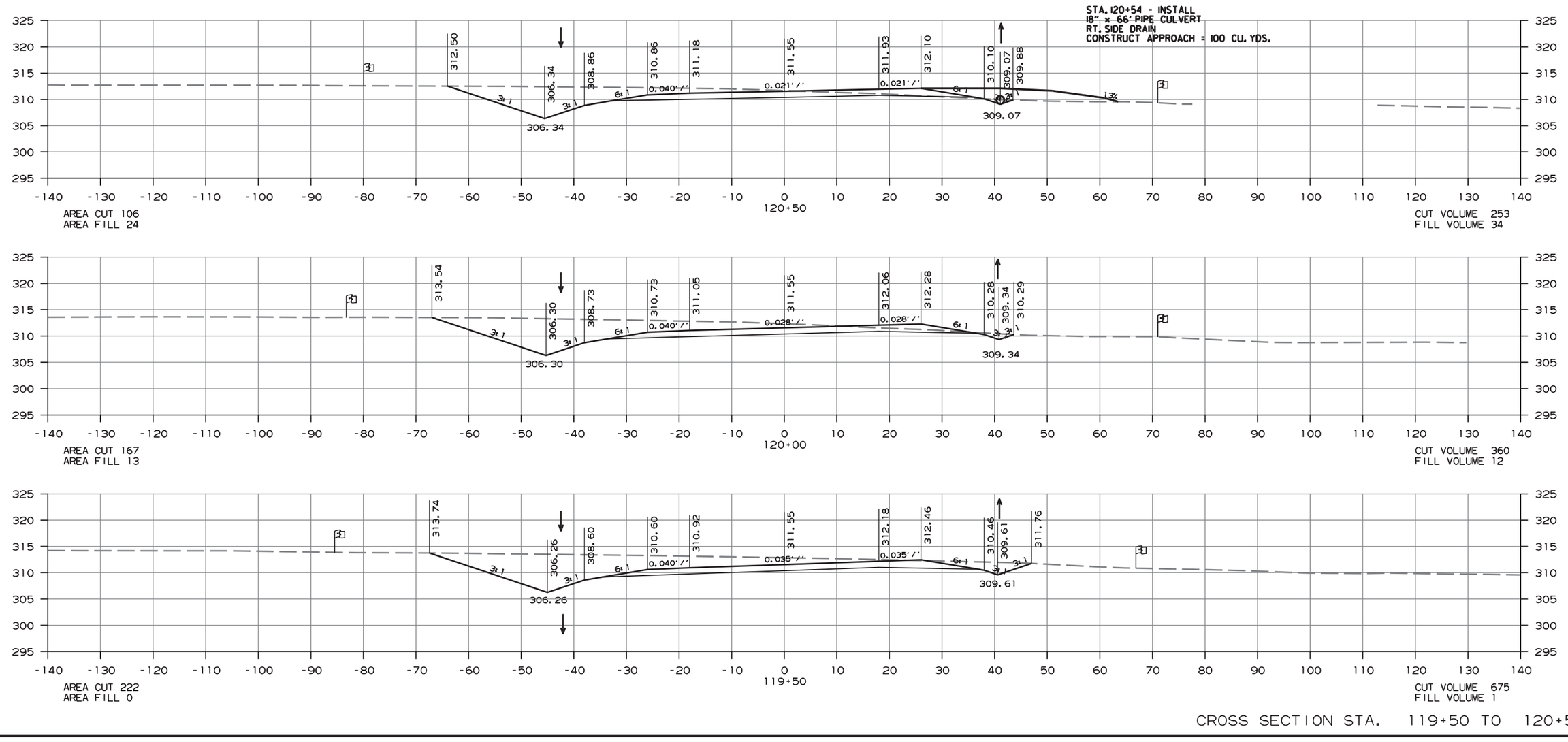
CROSS SECTION STA. 118+00 TO 119+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	317	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



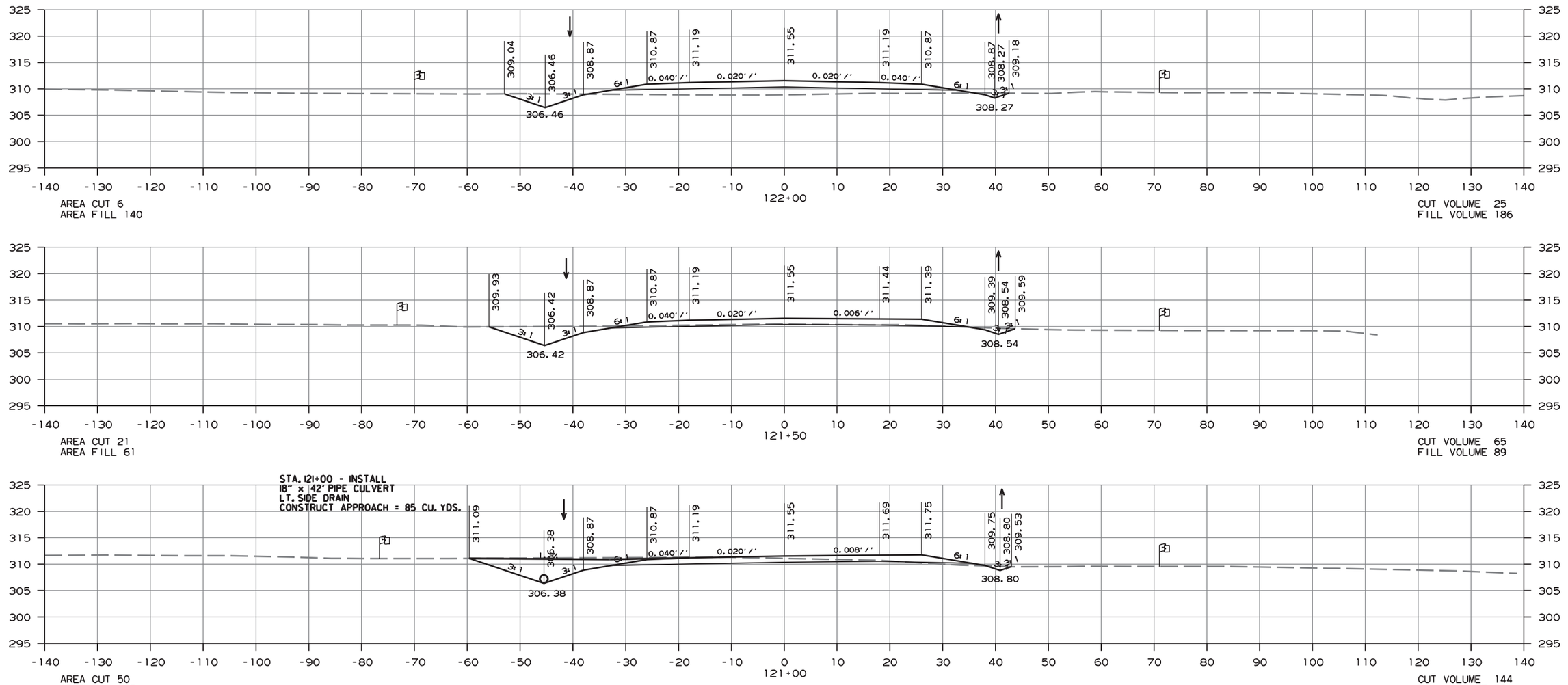
CROSS SECTION STA. 119+50 TO 120+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	318	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



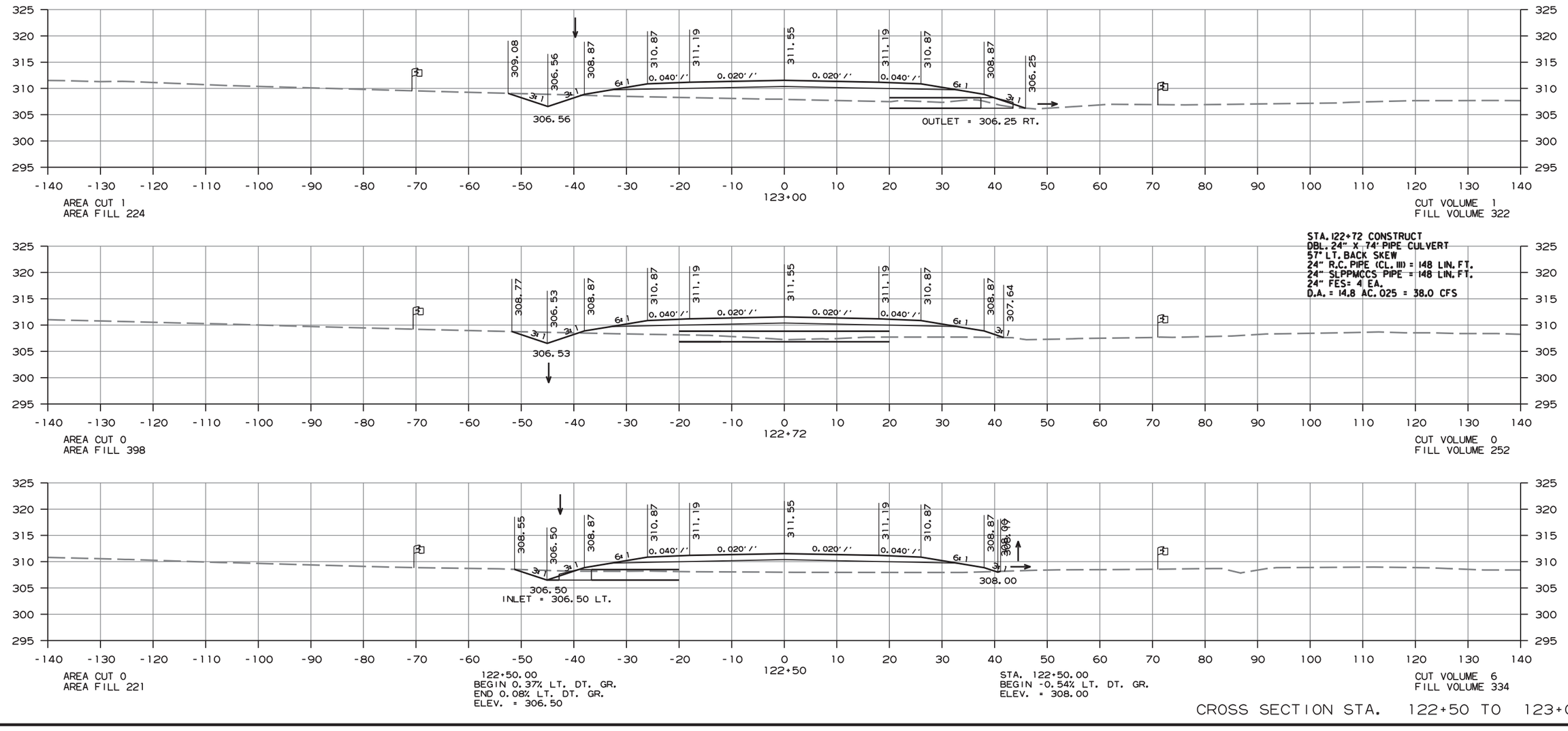
CROSS SECTION STA. 121+00 TO 122+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	319	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



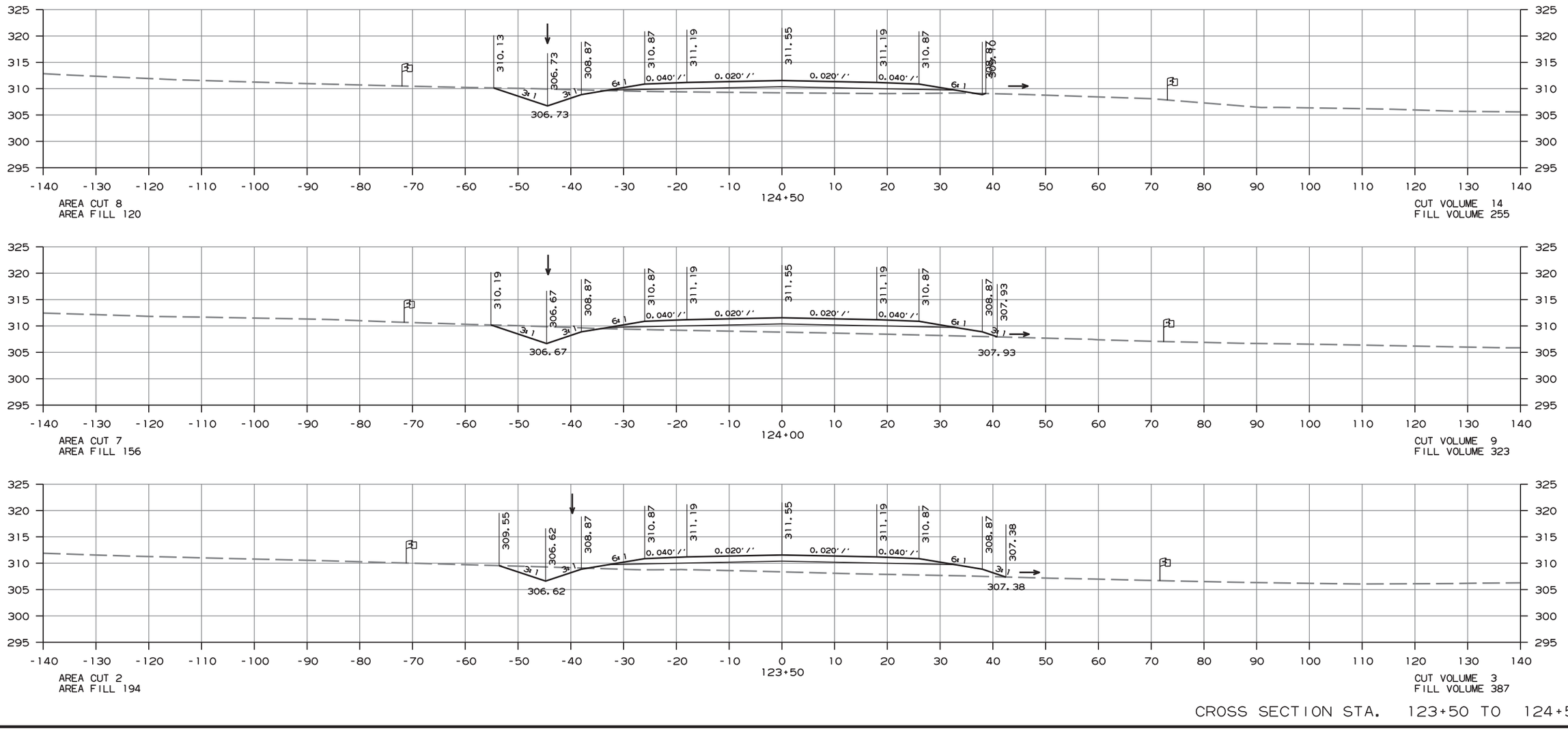
CROSS SECTION STA. 122+50 TO 123+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	320	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

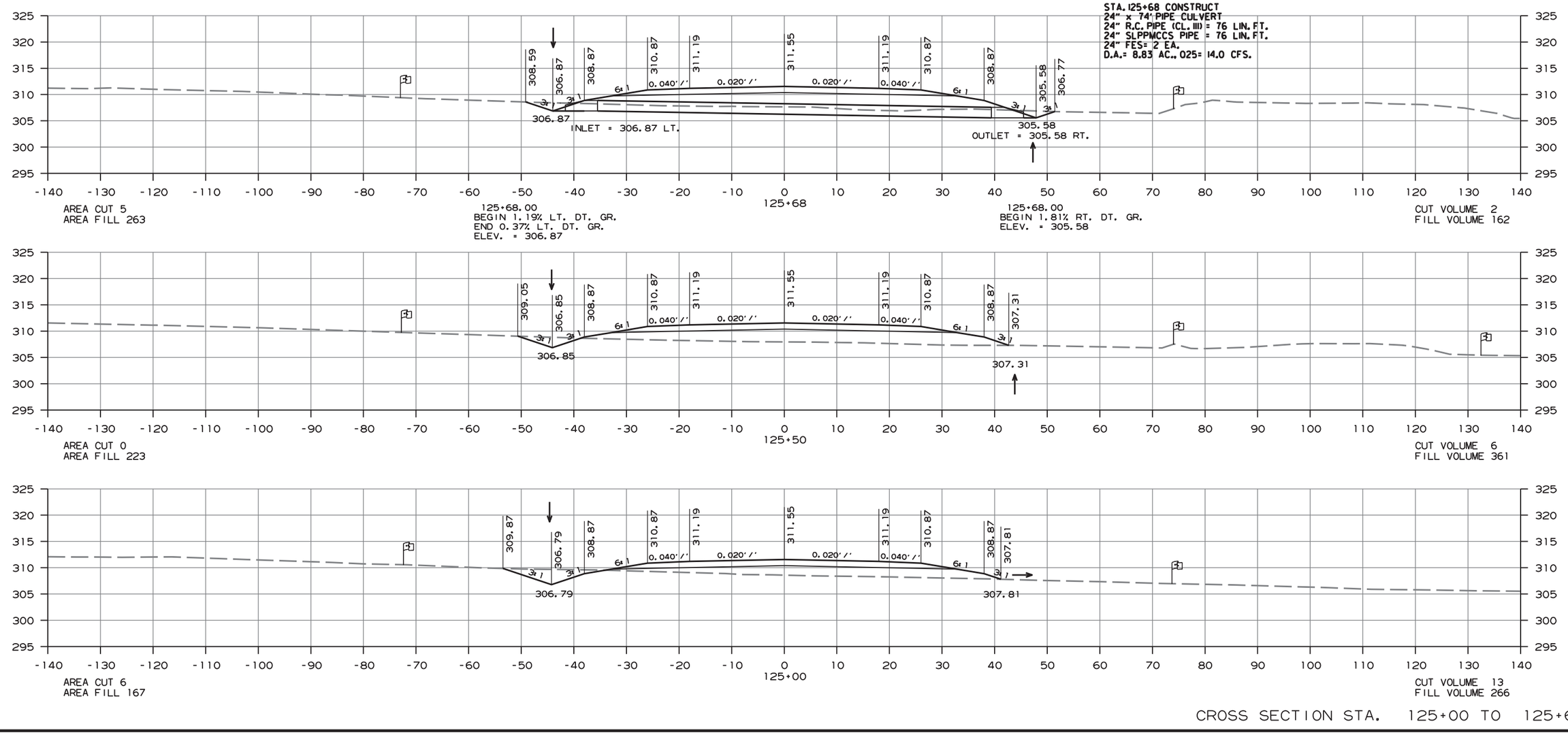


CROSS SECTION STA. 123+50 TO 124+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	321	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

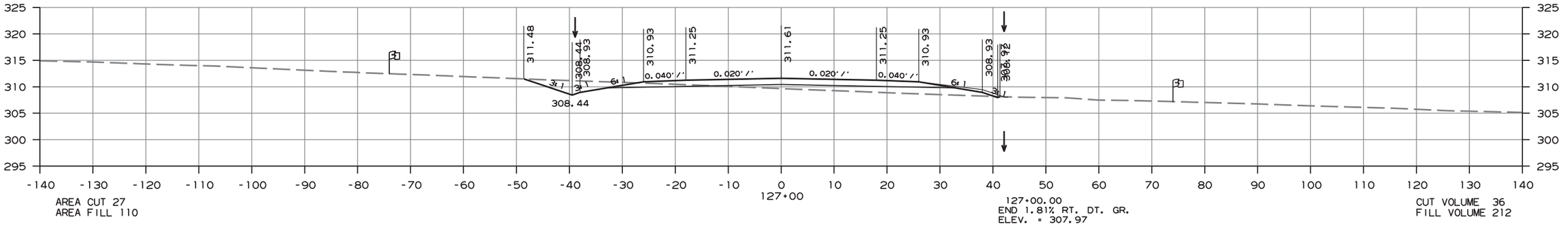


CROSS SECTION STA. 125+00 TO 125+68

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	322	517

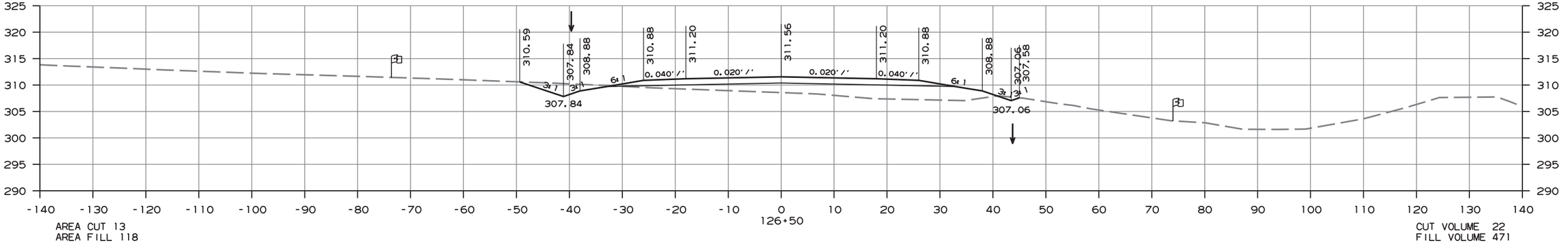
(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 27
AREA FILL 110

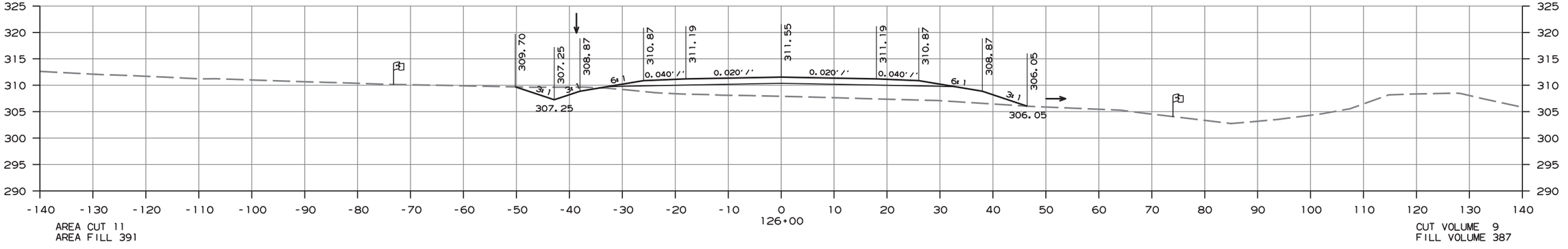
127+00.00
END 1.81% RT. DT. GR.
ELEV. = 307.97

CUT VOLUME 36
FILL VOLUME 212



AREA CUT 13
AREA FILL 118

CUT VOLUME 22
FILL VOLUME 471



AREA CUT 11
AREA FILL 391

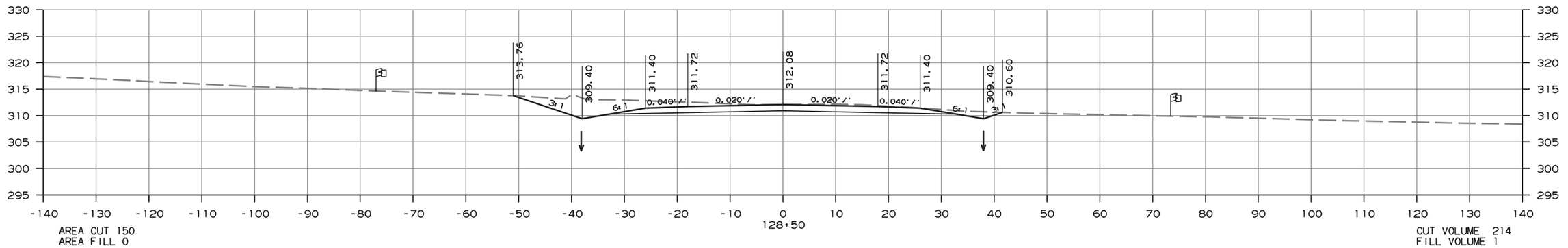
CUT VOLUME 9
FILL VOLUME 387

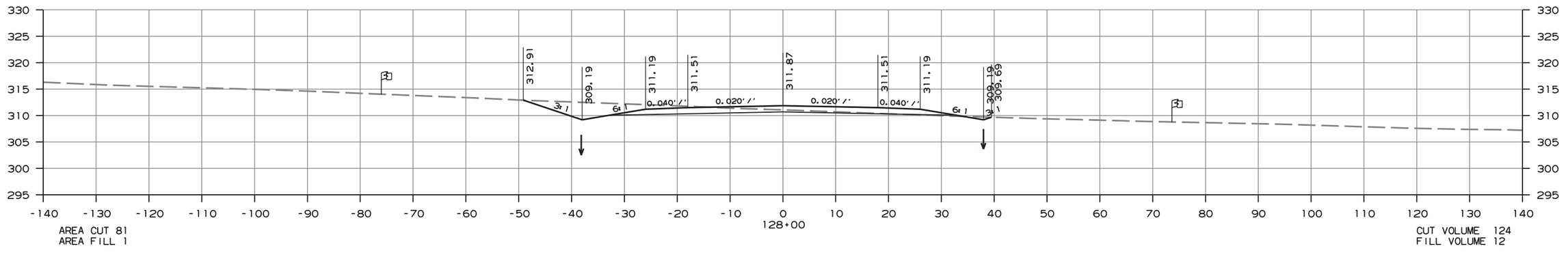
CROSS SECTION STA. 126+00 TO 127+00

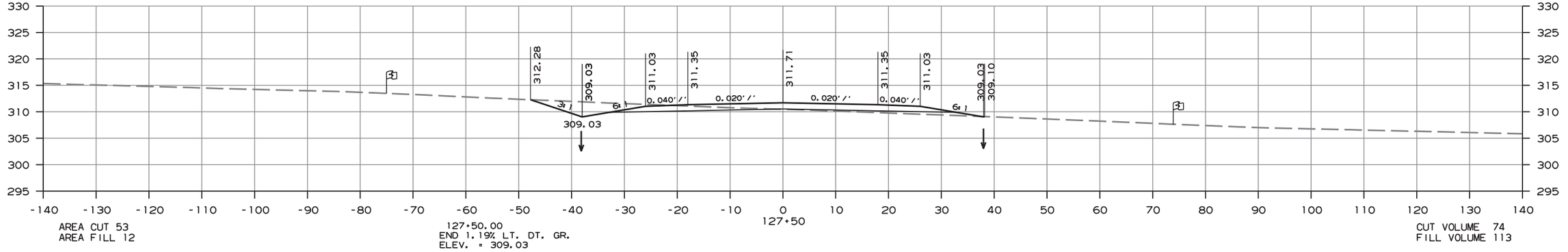
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	323	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





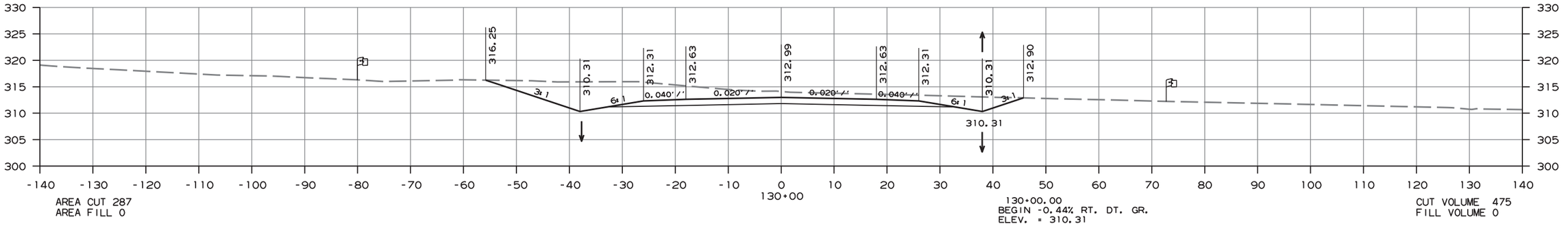


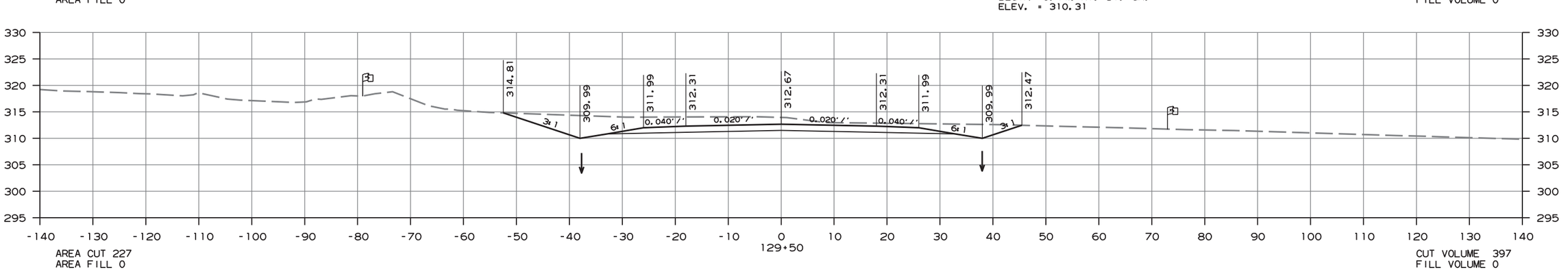
CROSS SECTION STA. 127+50 TO 128+50

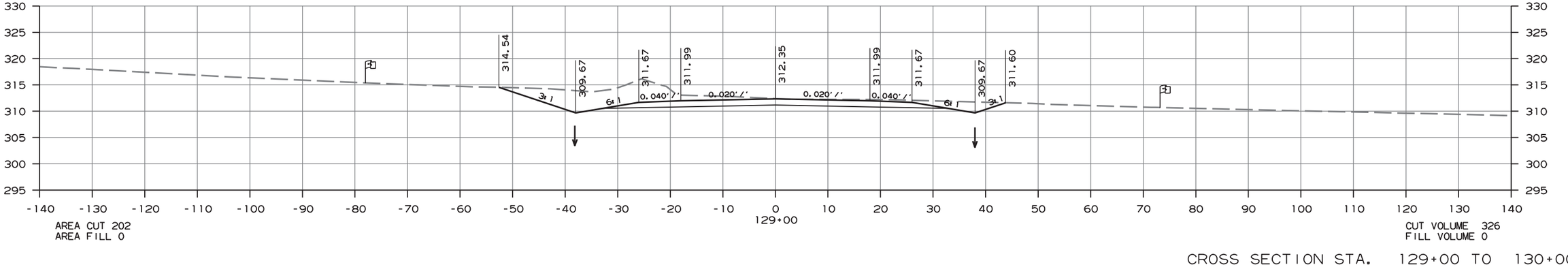
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	324	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





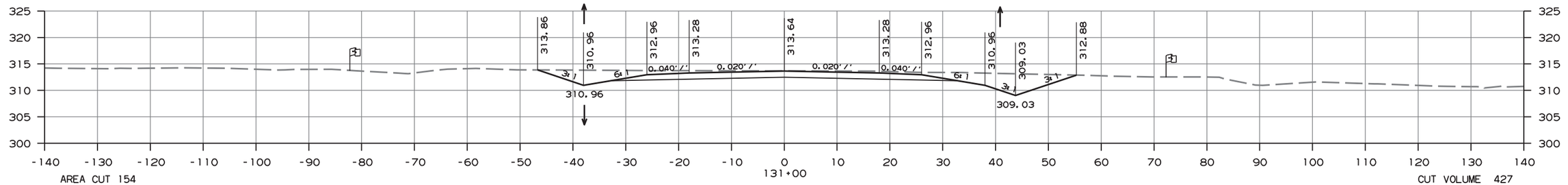


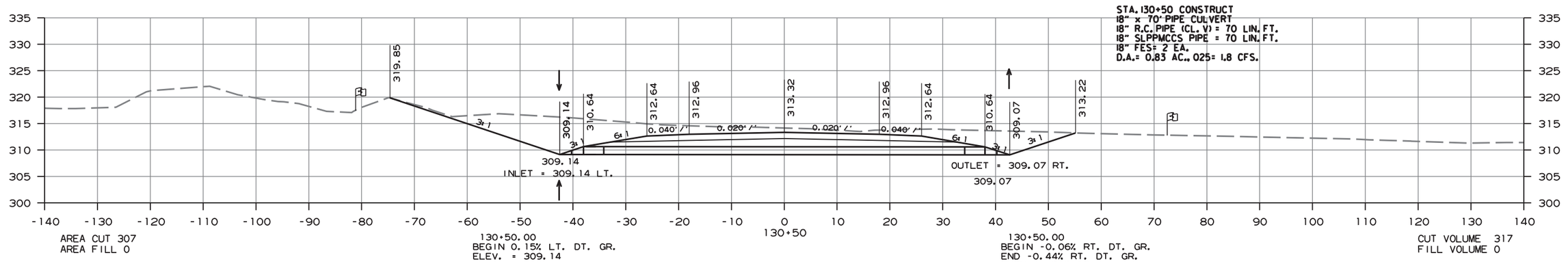
CROSS SECTION STA. 129+00 TO 130+00

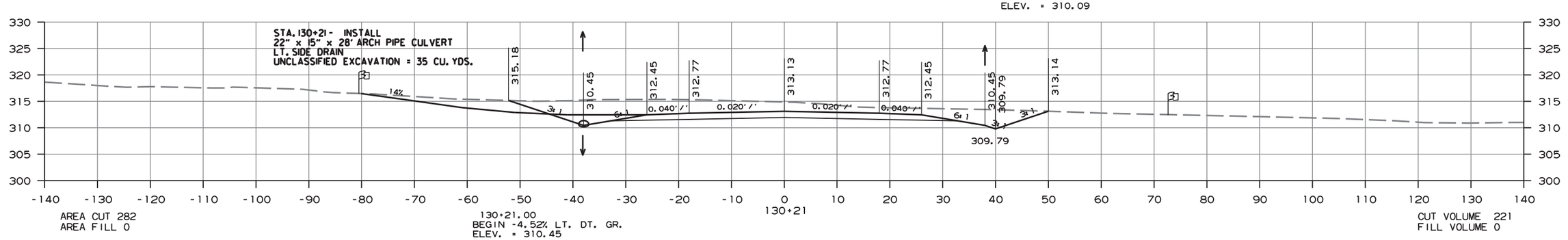
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	325	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





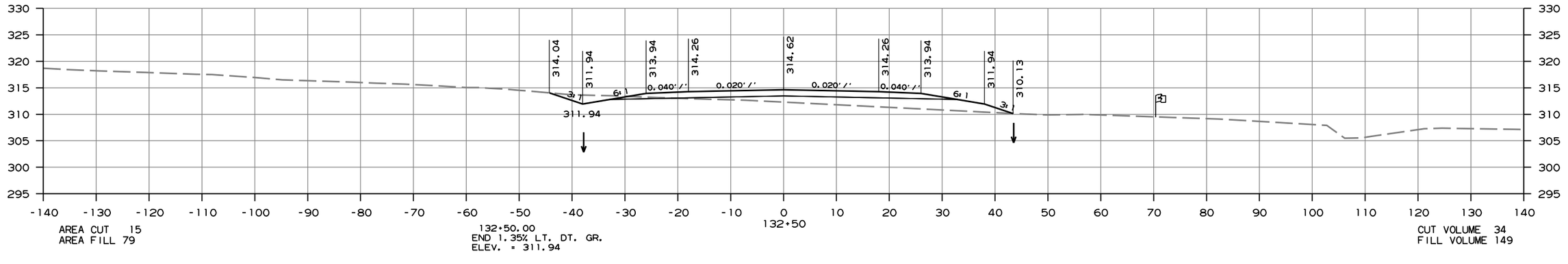


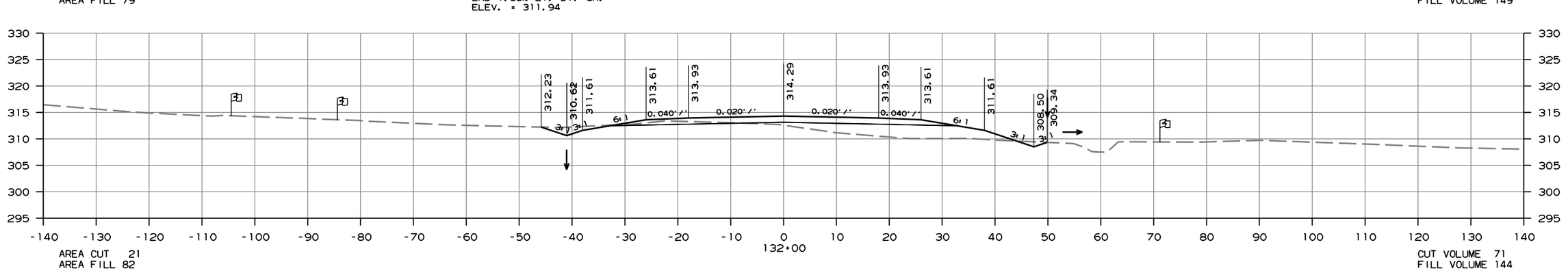
CROSS SECTION STA. 130+21 TO 131+00

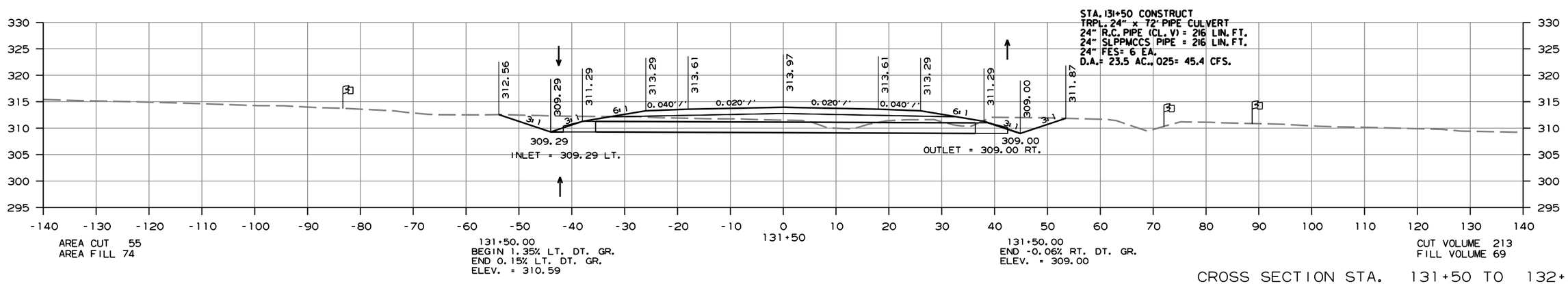
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	326	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







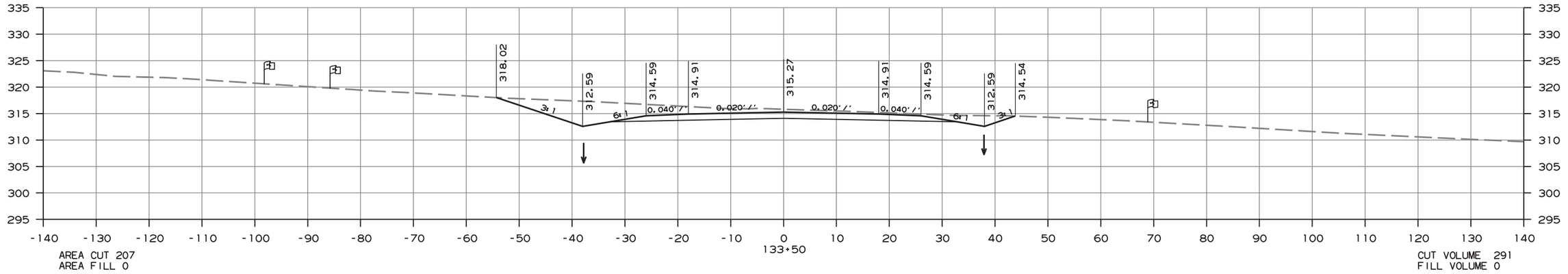
CROSS SECTION STA. 131+50 TO 132+50

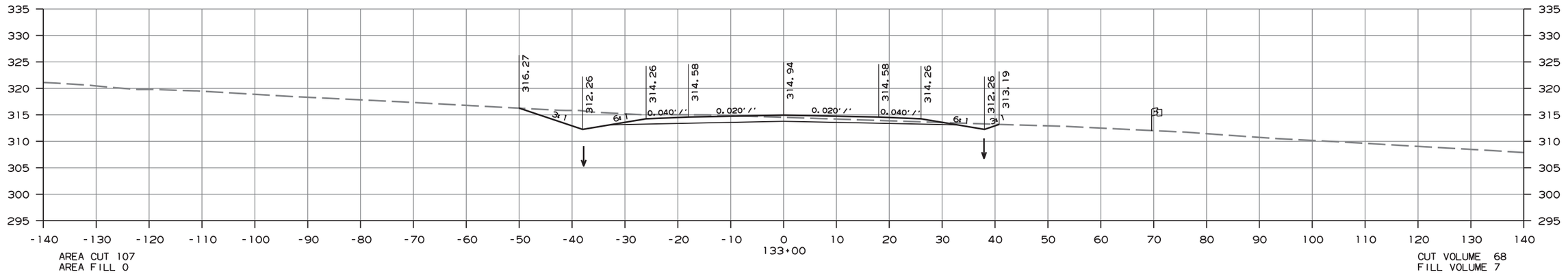
amme613 10/1/2020
R080457.DGN

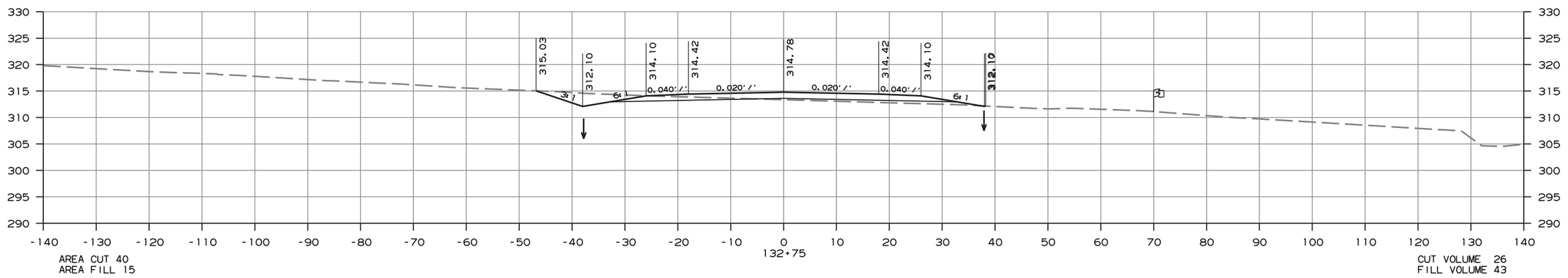
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	327	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





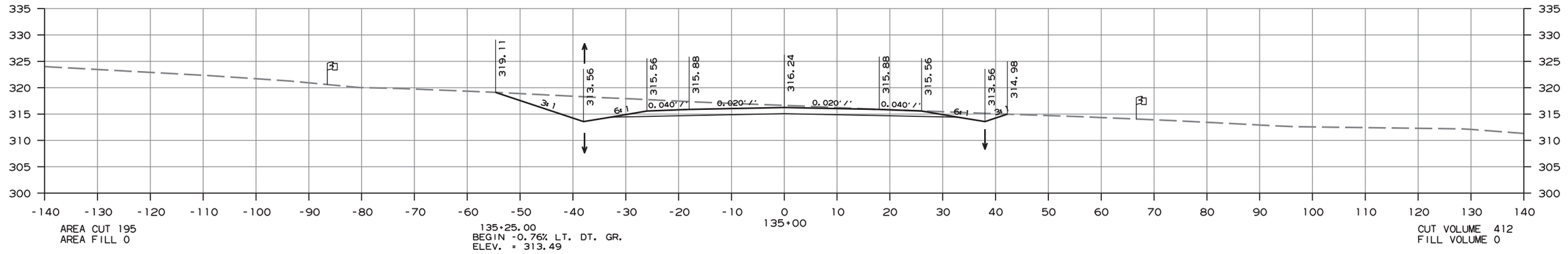


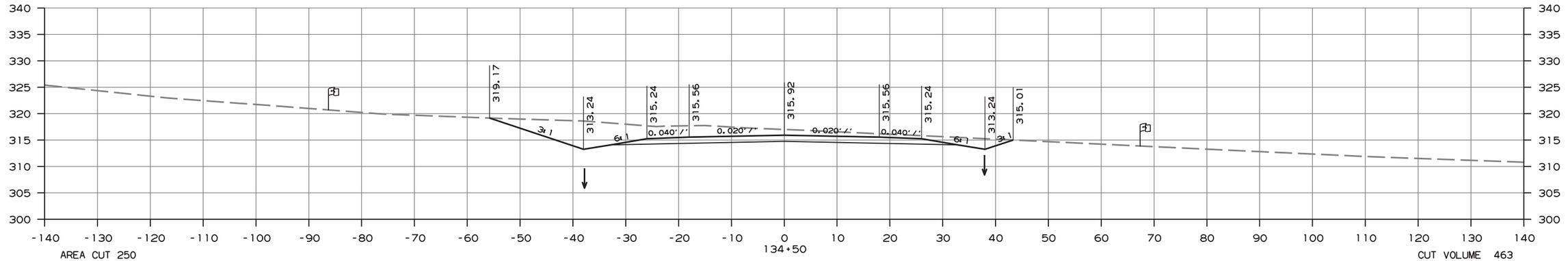
CROSS SECTION STA. 132+75 TO 133+50

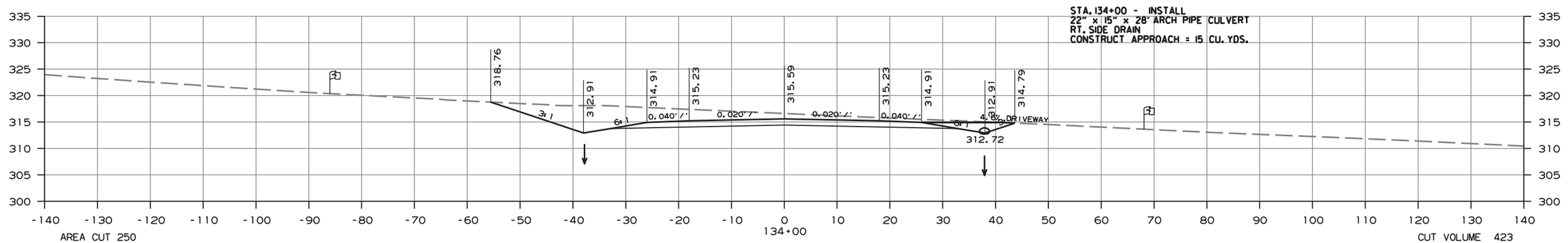
ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	328	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







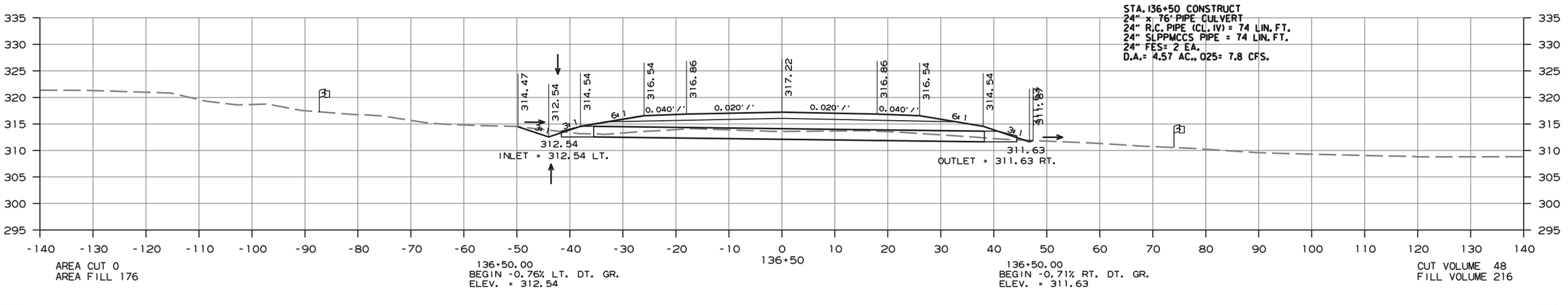
CROSS SECTION STA. 134+00 TO 135+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	329	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



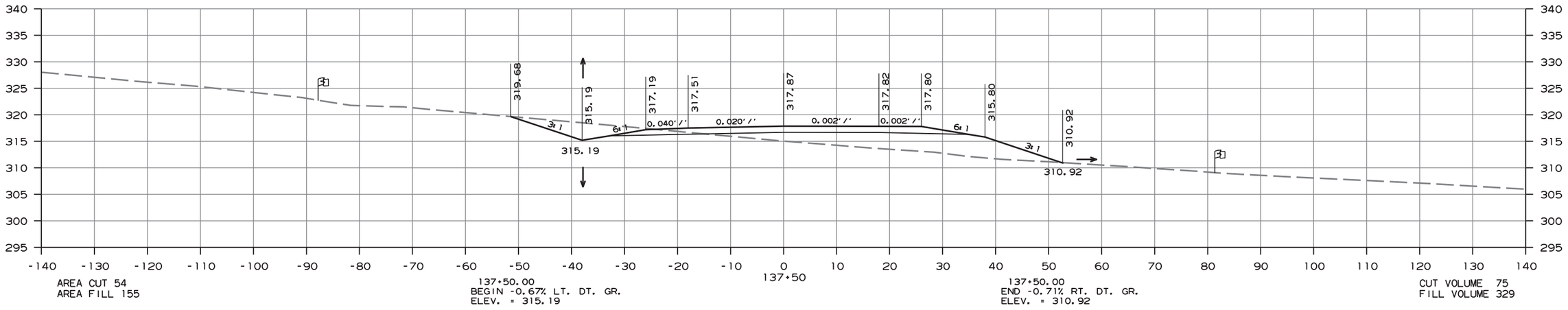
CROSS SECTION STA. 135+50 TO 136+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	330	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

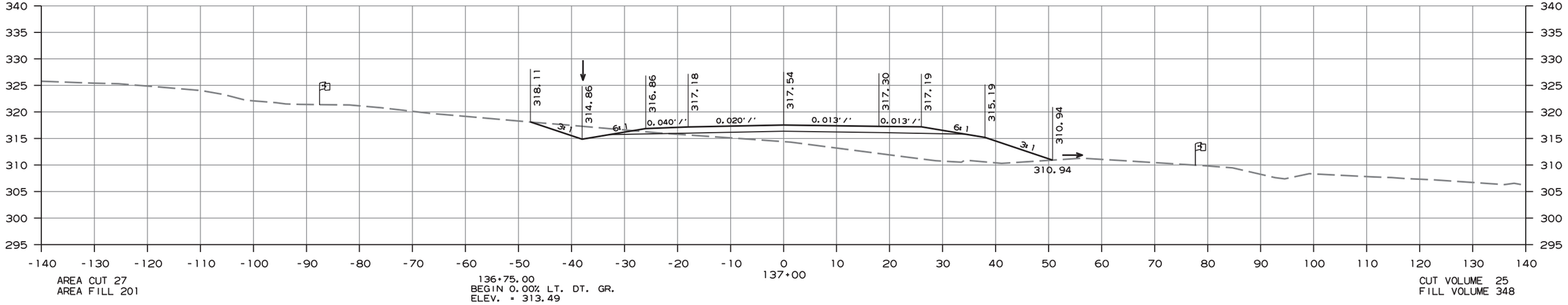


AREA CUT 54
AREA FILL 155

137+50.00
BEGIN -0.67% LT. DT. GR.
ELEV. = 315.19

137+50.00
END -0.71% RT. DT. GR.
ELEV. = 310.92

CUT VOLUME 75
FILL VOLUME 329



AREA CUT 27
AREA FILL 201

136+75.00
BEGIN 0.00% LT. DT. GR.
ELEV. = 313.49

CUT VOLUME 25
FILL VOLUME 348

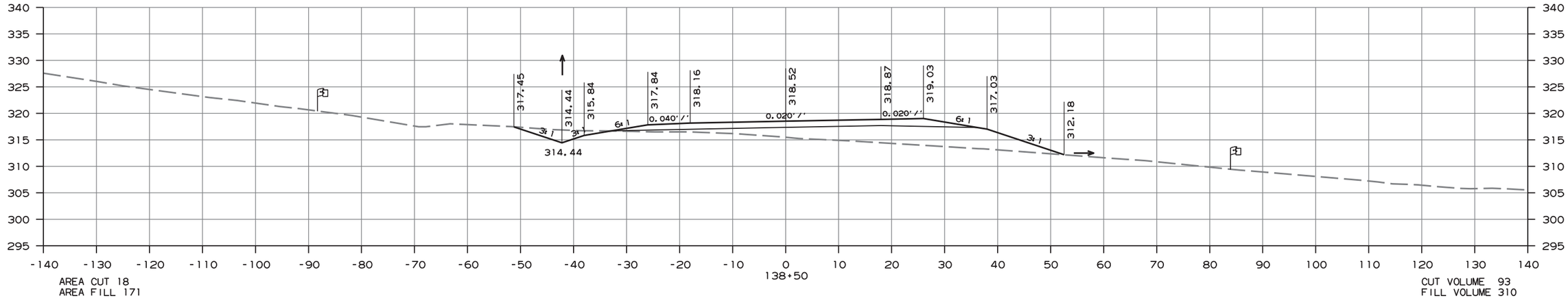
CROSS SECTION STA. 137+00 TO 137+50

ammel13 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

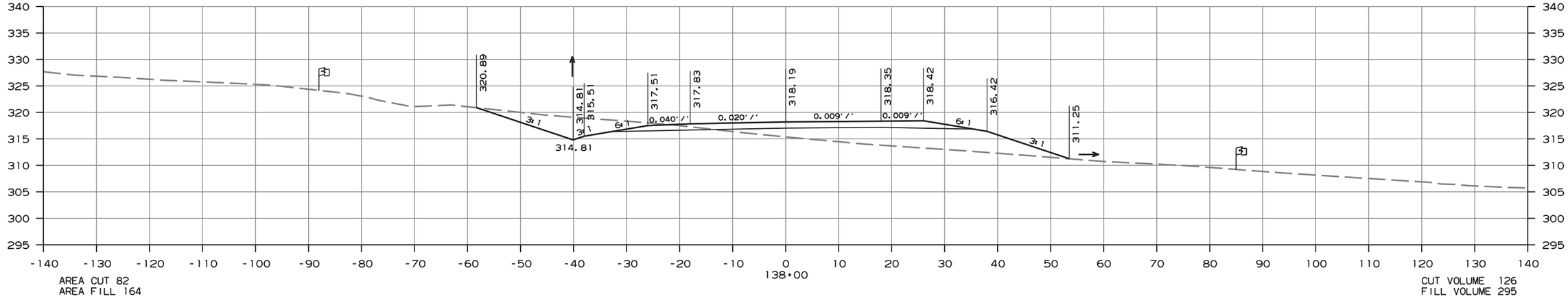
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	331	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 18
AREA FILL 171

CUT VOLUME 93
FILL VOLUME 310



AREA CUT 82
AREA FILL 164

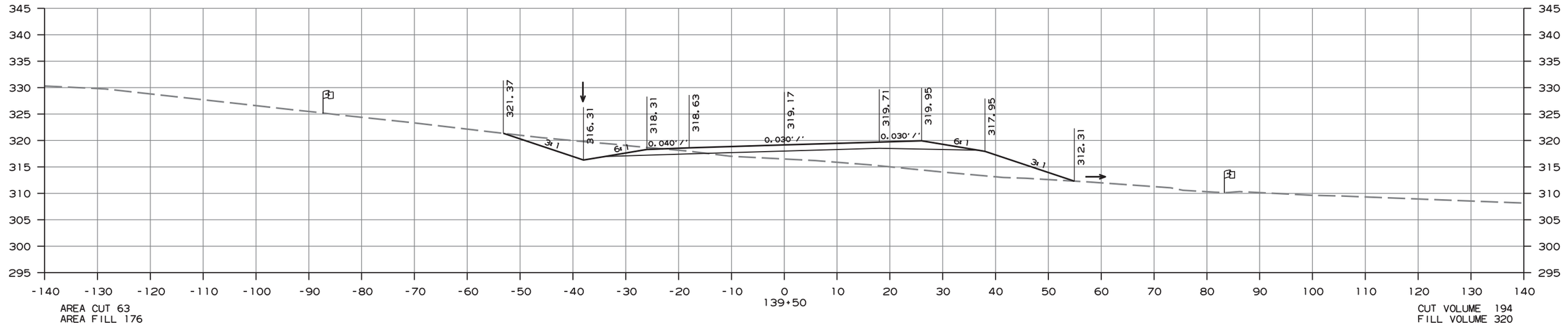
CUT VOLUME 126
FILL VOLUME 295

CROSS SECTION STA. 138+00 TO 138+50

amme613 10/1/2020
R080457.DGN

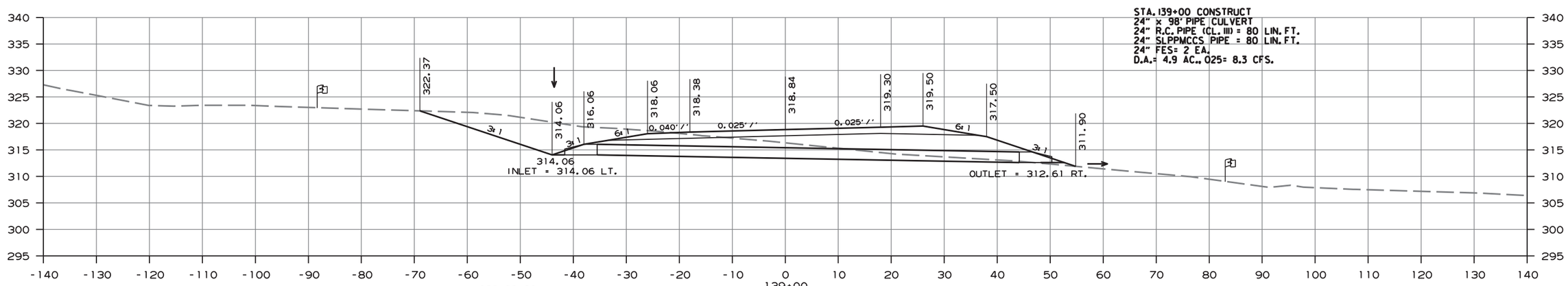
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	332	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 63
AREA FILL 176

CUT VOLUME 194
FILL VOLUME 320



AREA CUT 147
AREA FILL 169

139+00.00
END -0.75% LT. DT. GR.
ELEV. = 314.06

CUT VOLUME 153
FILL VOLUME 315

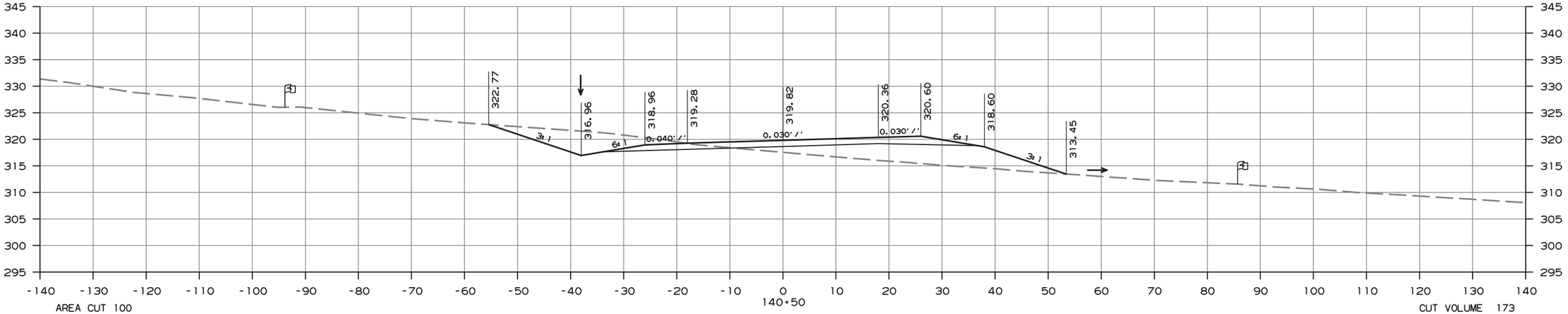
CROSS SECTION STA. 139+00 TO 139+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

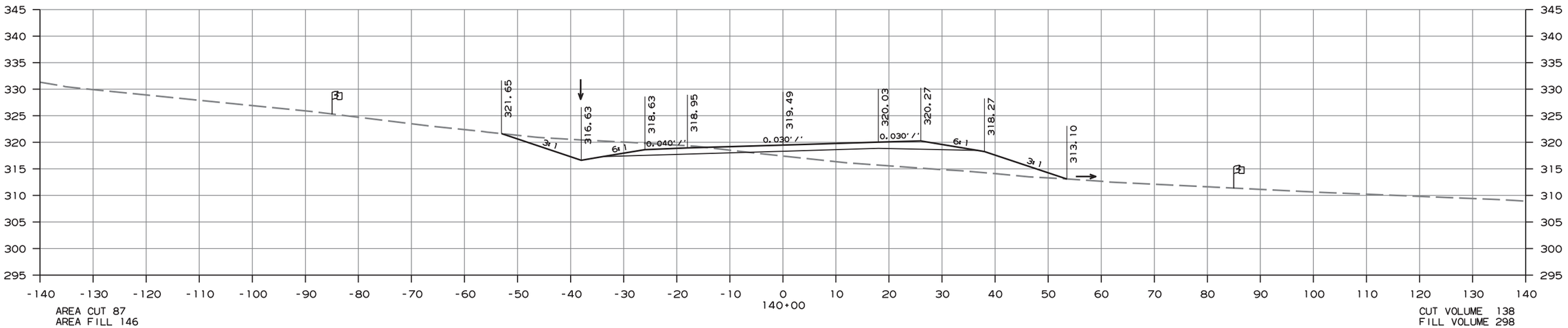
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	333	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 100
AREA FILL 149

CUT VOLUME 173
FILL VOLUME 272



AREA CUT 87
AREA FILL 146

CUT VOLUME 138
FILL VOLUME 298

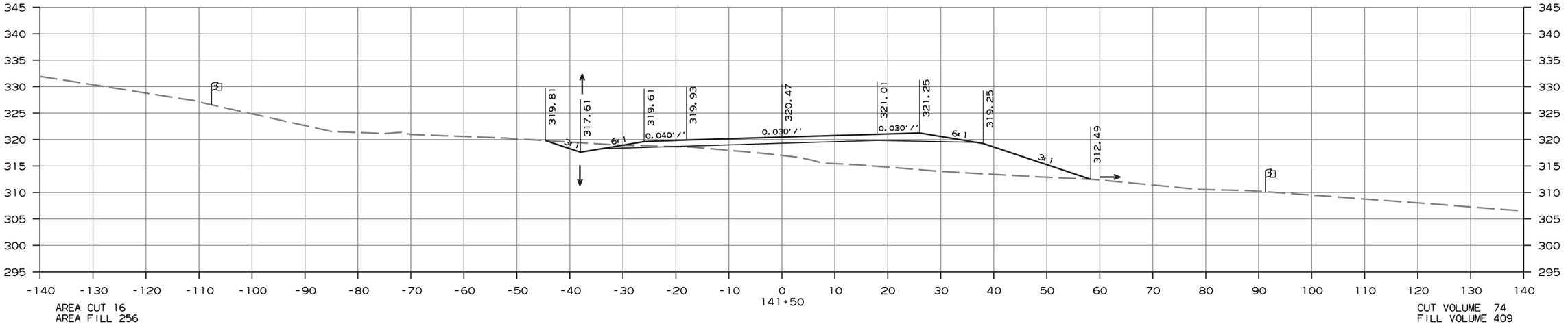
CROSS SECTION STA. 140+00 TO 140+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	334	517

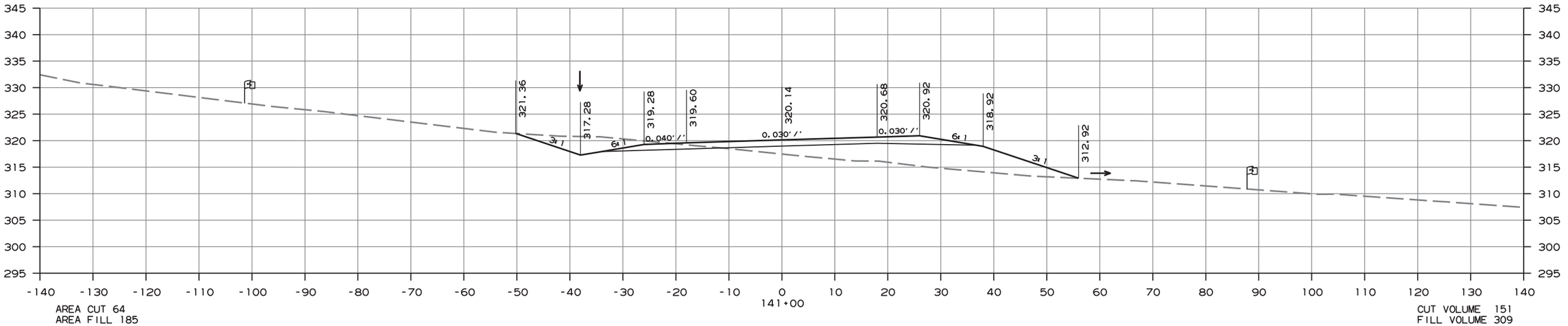
(2) CROSS SECTIONS - HWY. 89 SECTION 2



141+50

AREA CUT 16
AREA FILL 256

CUT VOLUME 74
FILL VOLUME 409



141+00

AREA CUT 64
AREA FILL 185

CUT VOLUME 151
FILL VOLUME 309

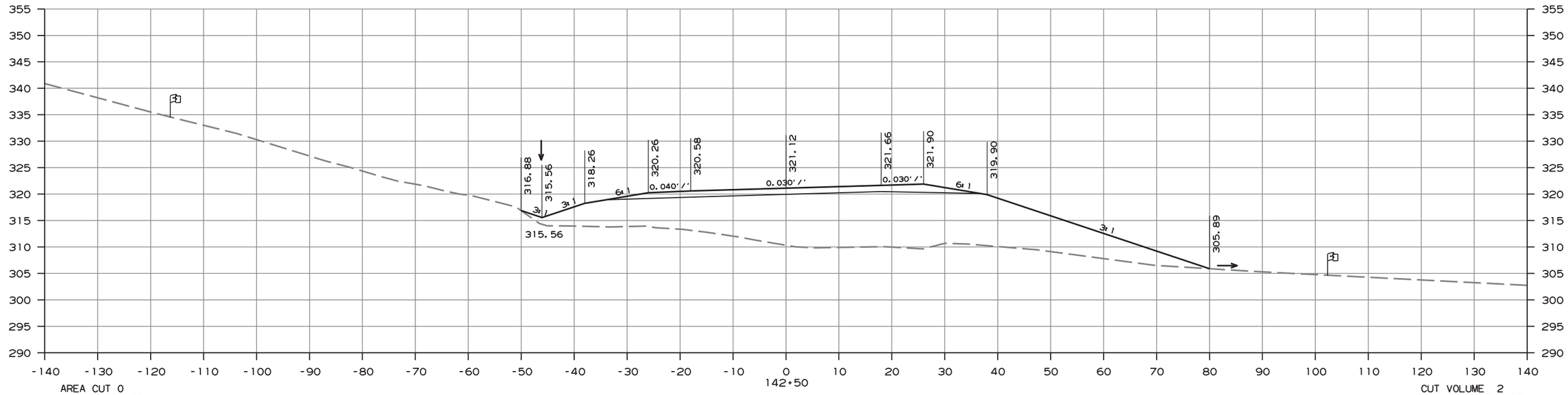
CROSS SECTION STA. 141+00 TO 141+50

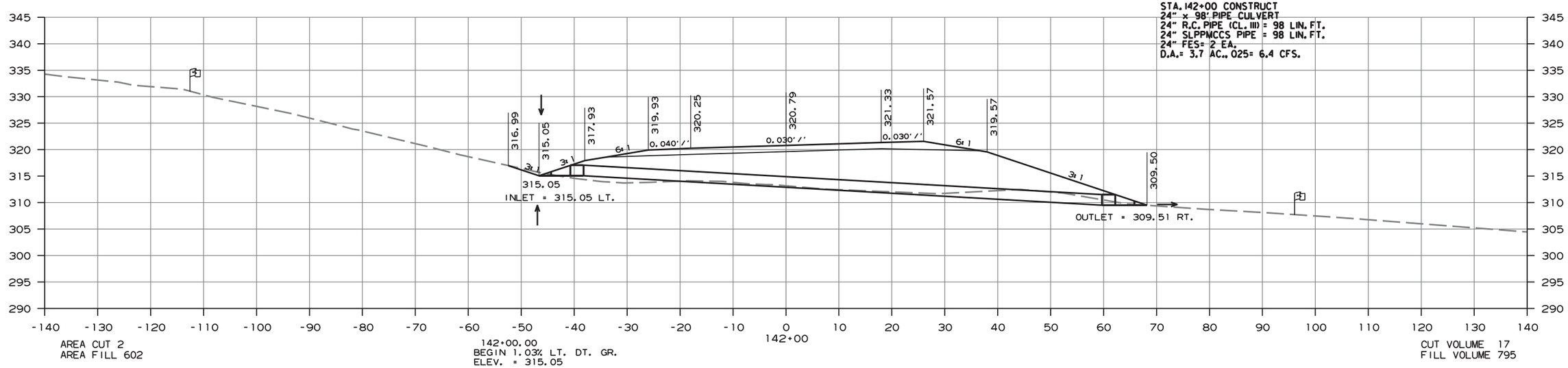
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	335	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





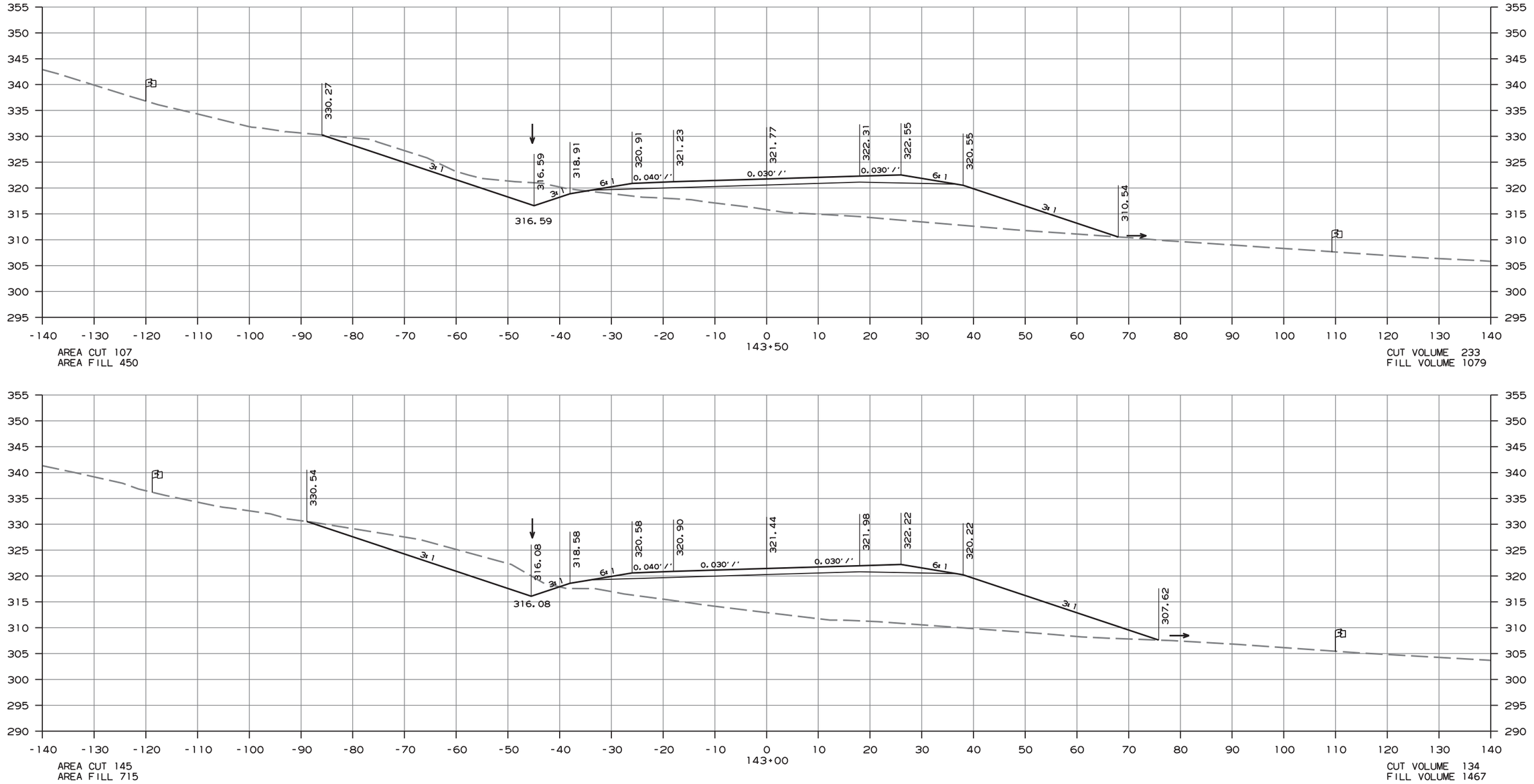
CROSS SECTION STA. 142+00 TO 142+50

ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	336	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

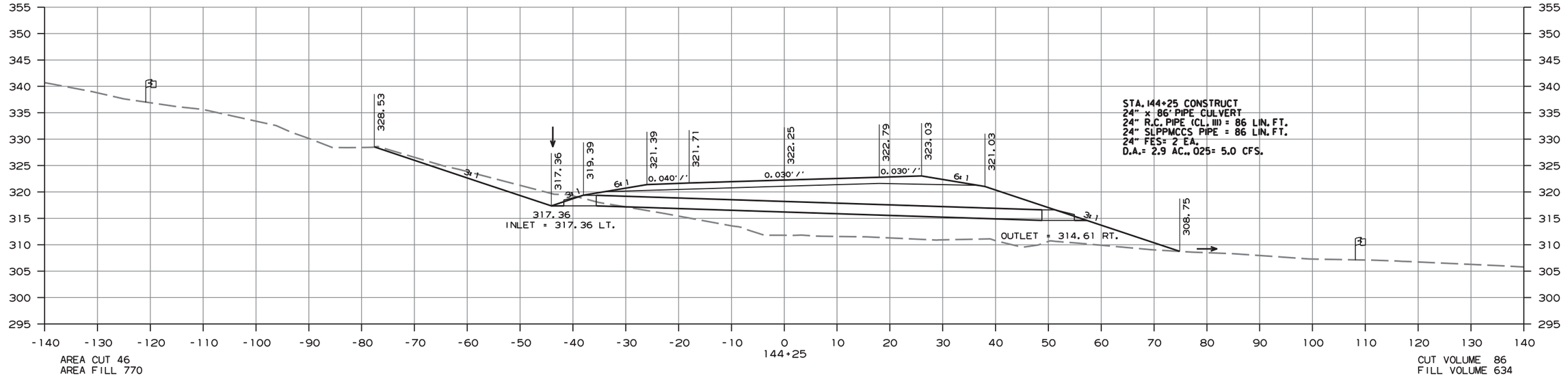


CROSS SECTION STA. 143+00 TO 143+50

amme613 10/1/2020
R080457.DGN

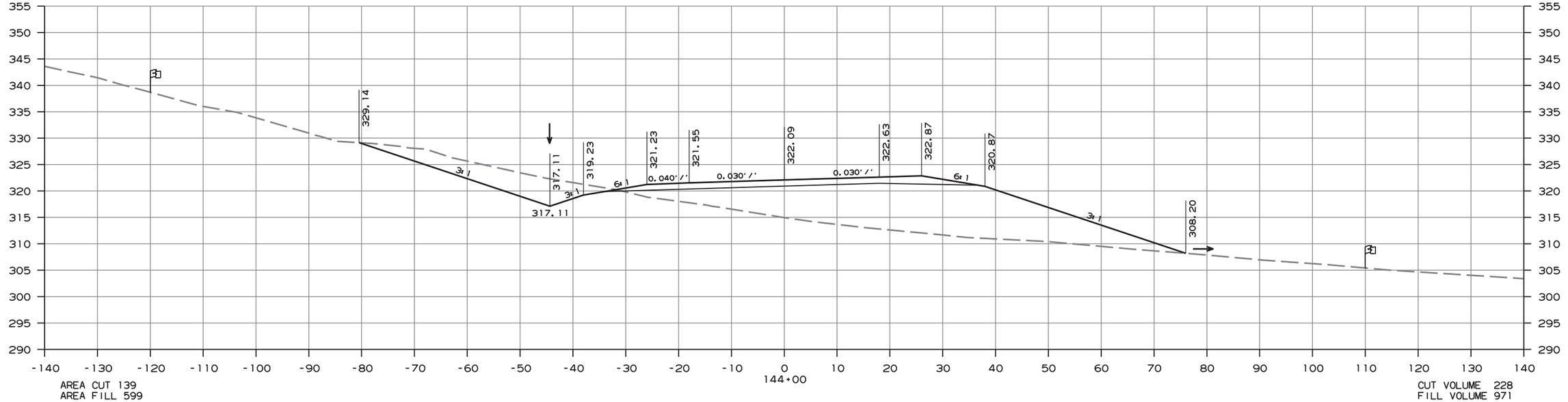
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	337	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 46
AREA FILL 770

CUT VOLUME 86
FILL VOLUME 634



AREA CUT 139
AREA FILL 599

CUT VOLUME 228
FILL VOLUME 971

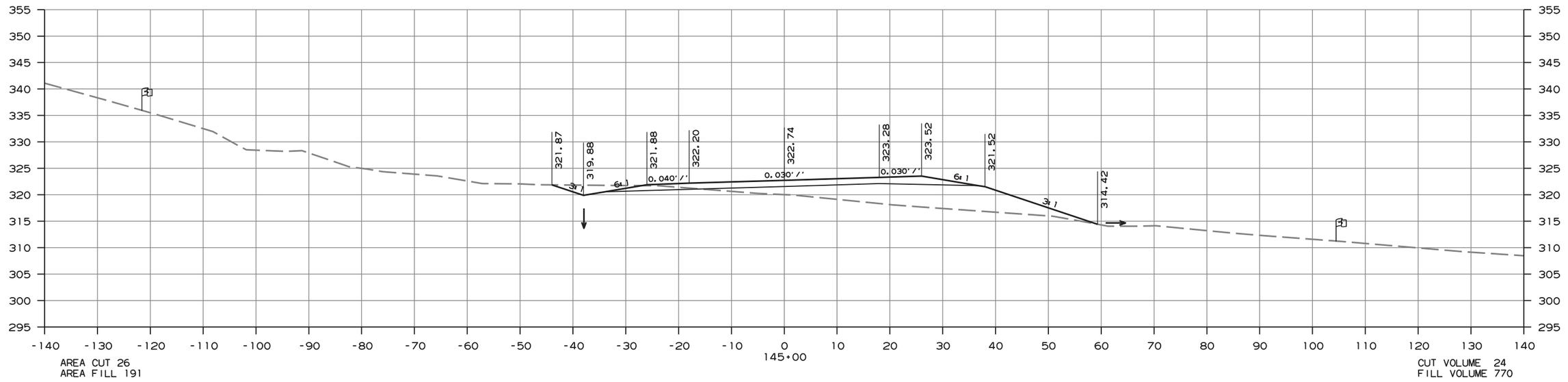
CROSS SECTION STA. 144+00 TO 144+25

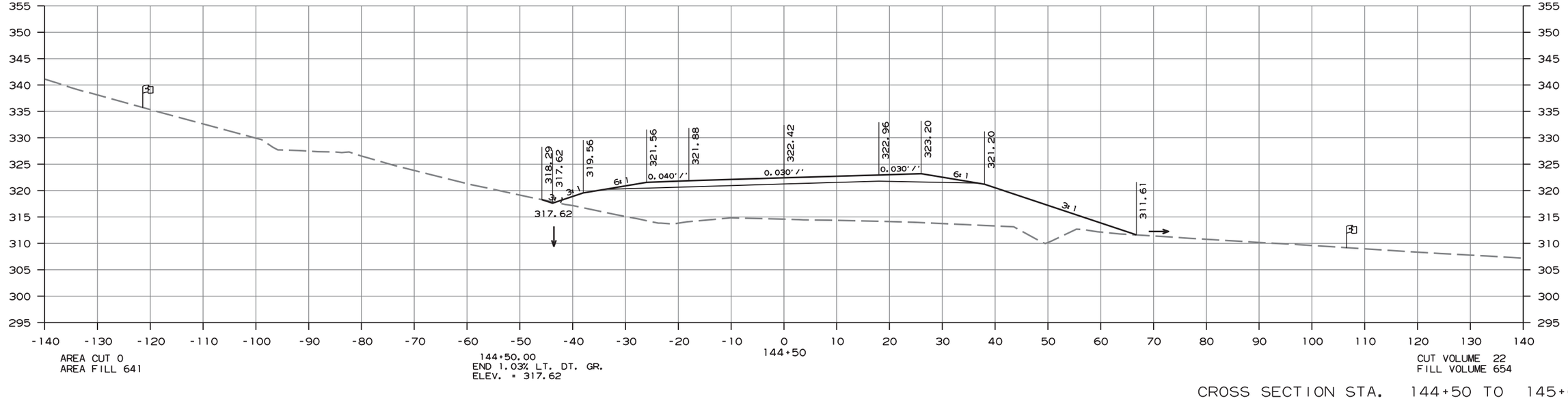
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	338	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



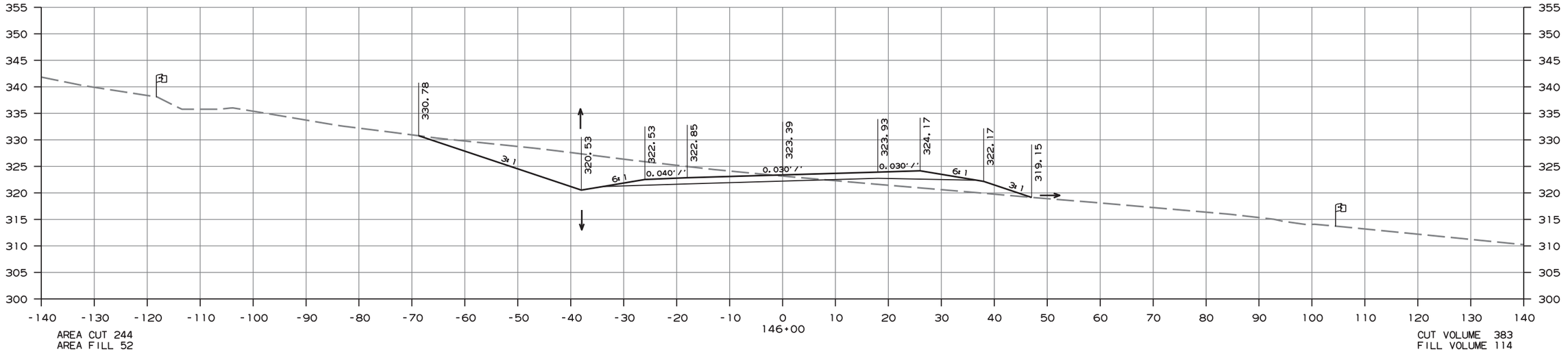


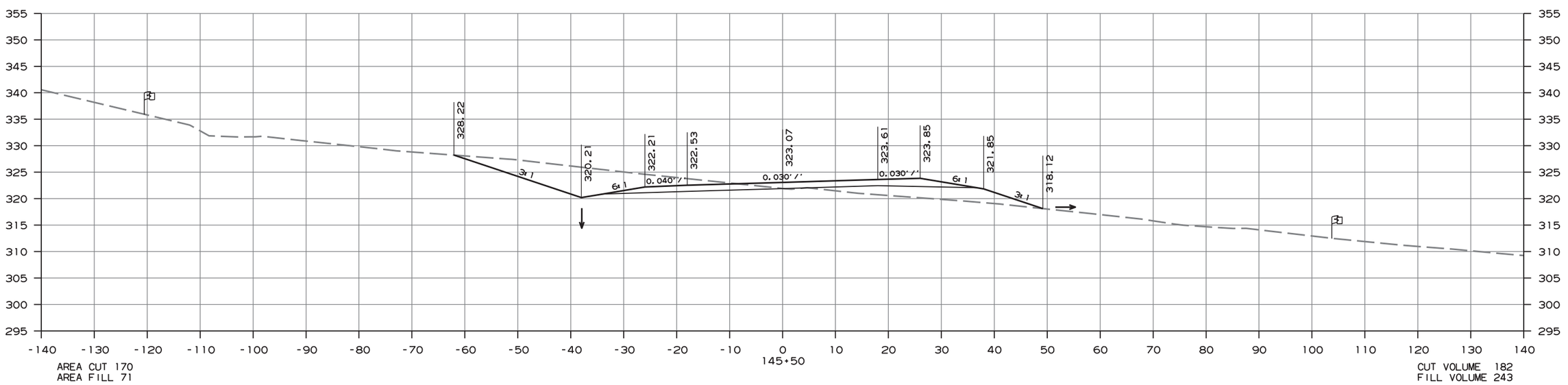
CROSS SECTION STA. 144+50 TO 145+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	339	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





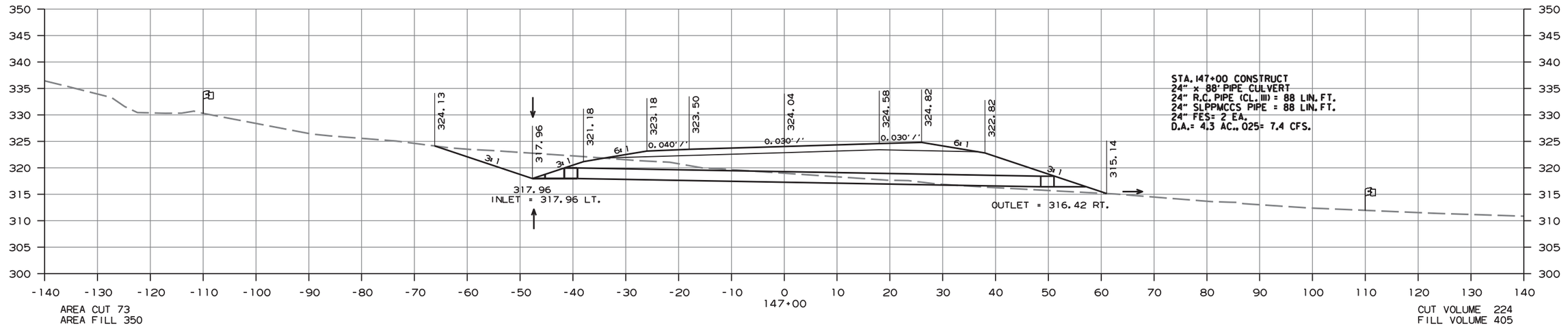
CROSS SECTION STA. 145+50 TO 146+00

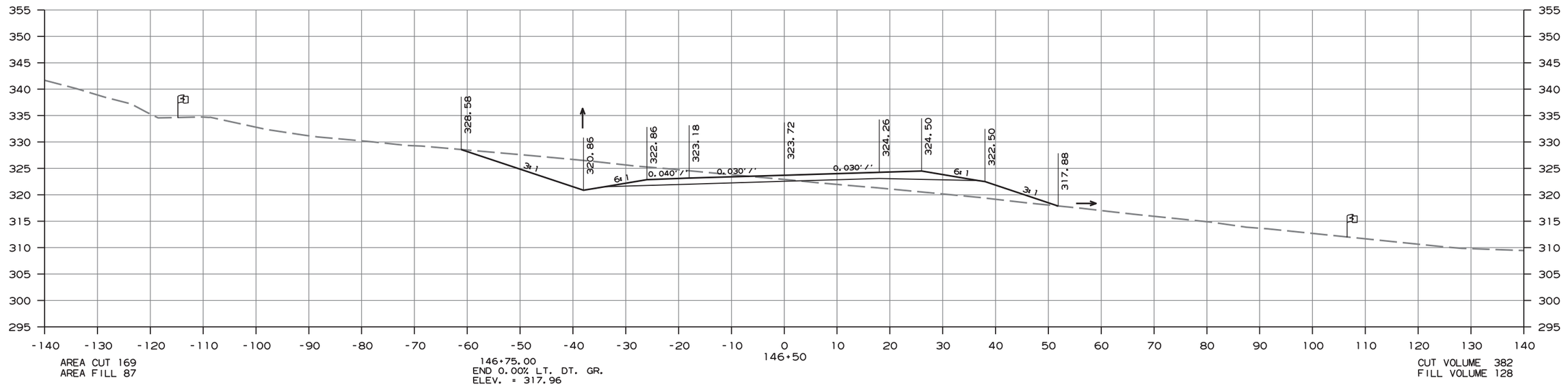
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	340	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



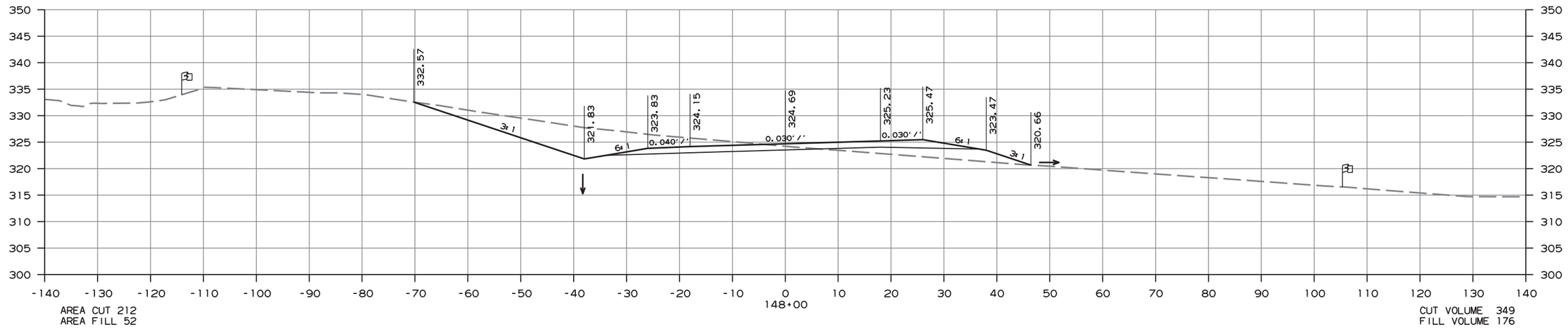


CROSS SECTION STA. 146+50 TO 147+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	341	517

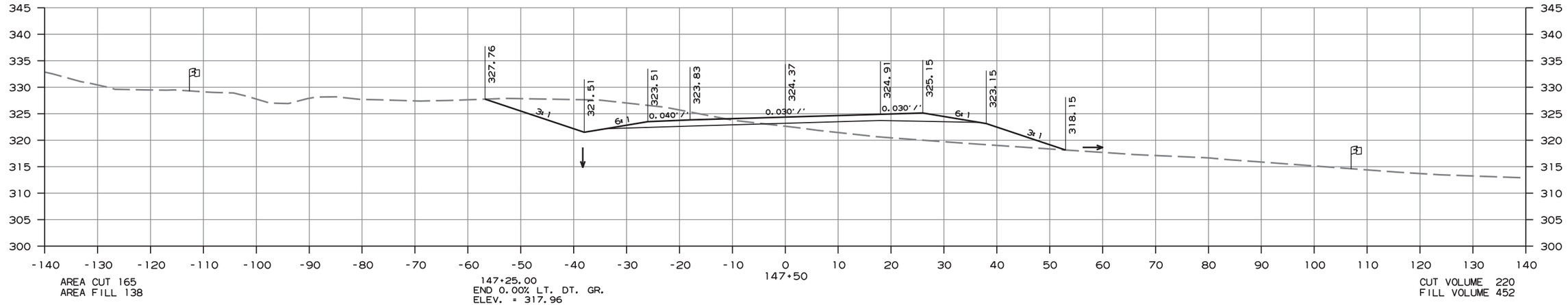
(2) CROSS SECTIONS - HWY. 89 SECTION 2



148+00

AREA CUT 212
AREA FILL 52

CUT VOLUME 349
FILL VOLUME 176



147+50

AREA CUT 165
AREA FILL 138

147+25.00
END 0.00% LT. DT. GR.
ELEV. = 317.96

CUT VOLUME 220
FILL VOLUME 452

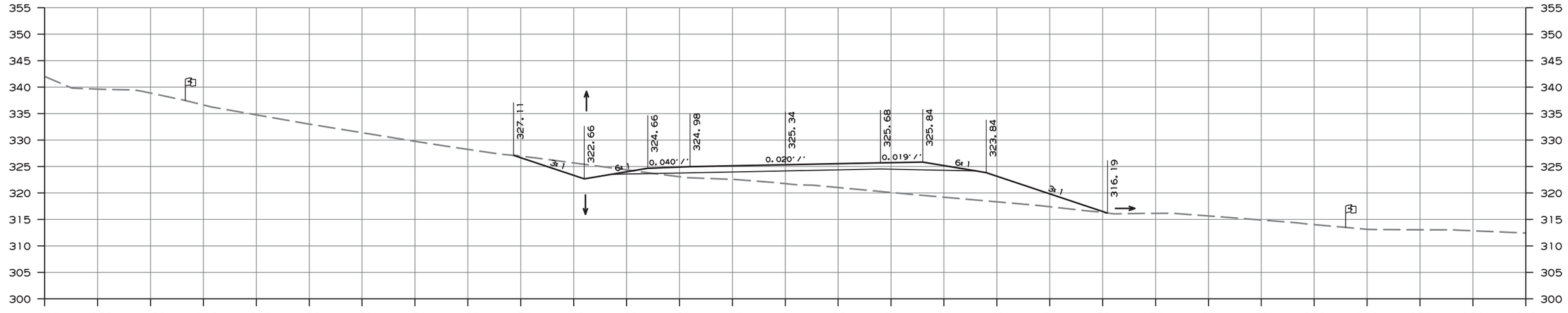
CROSS SECTION STA. 147+50 TO 148+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

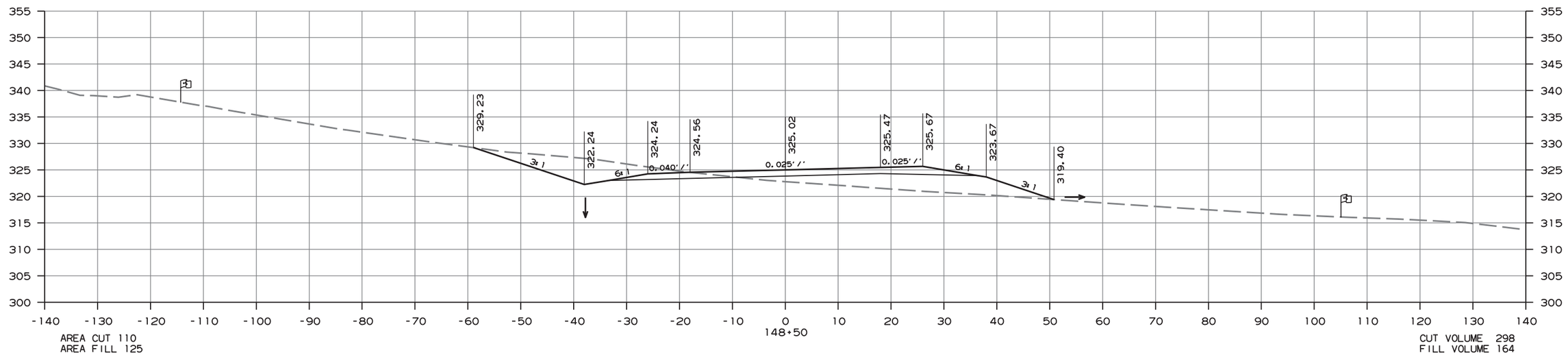
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	342	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 34
AREA FILL 249

CUT VOLUME 134
FILL VOLUME 346



AREA CUT 110
AREA FILL 125

CUT VOLUME 298
FILL VOLUME 164

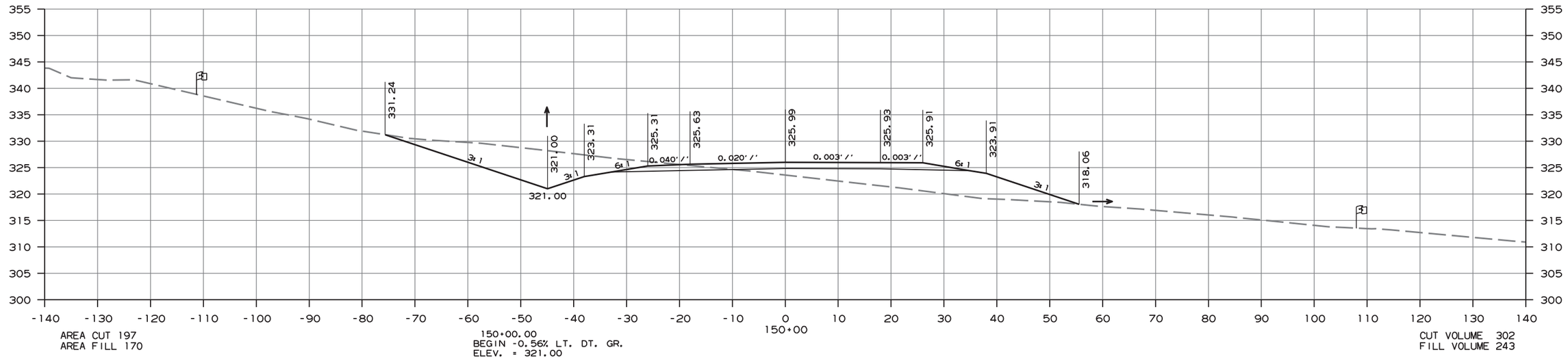
CROSS SECTION STA. 148+50 TO 149+00

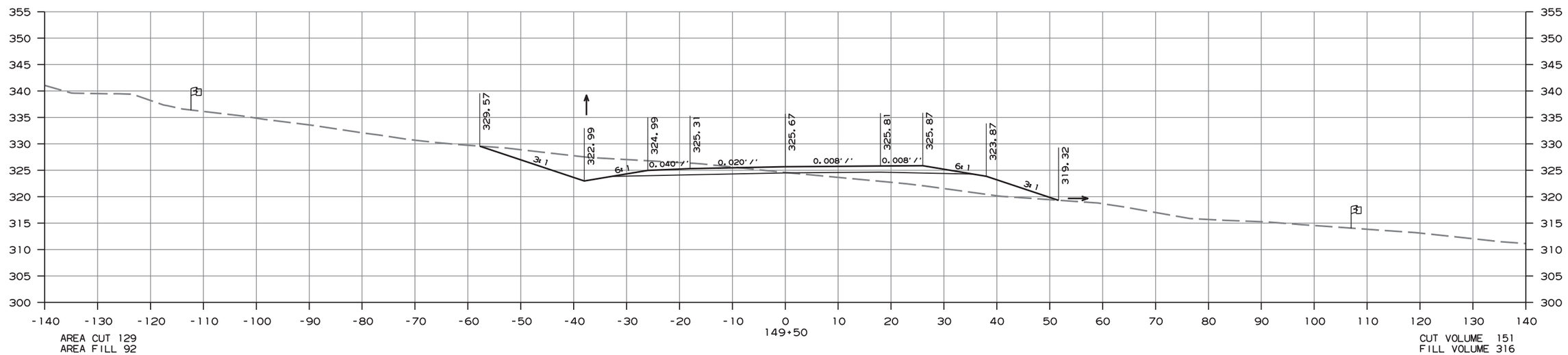
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	343	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





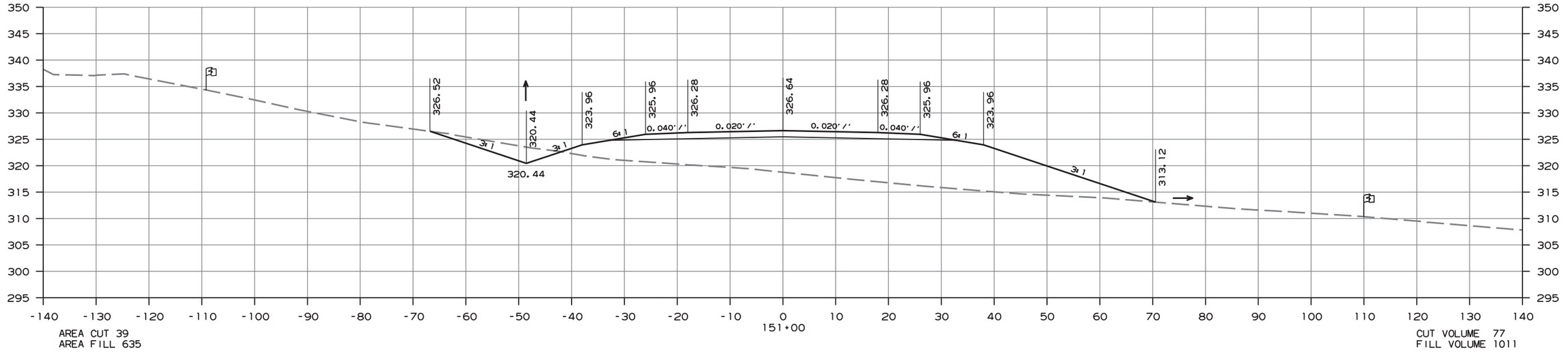
CROSS SECTION STA. 149+50 TO 150+00

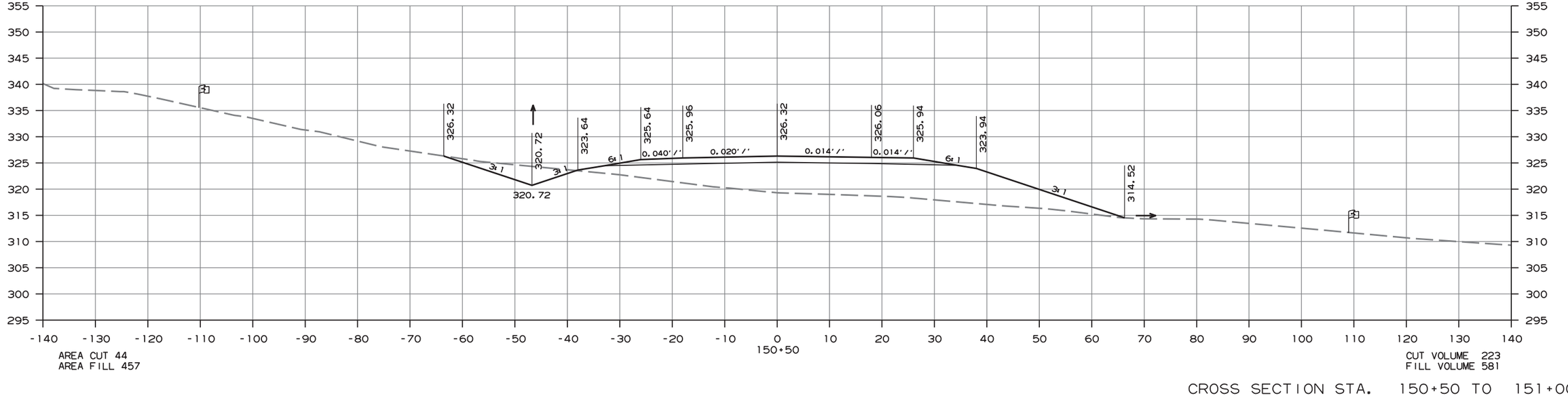
ommel613 10/1/2020
RD80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	344	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



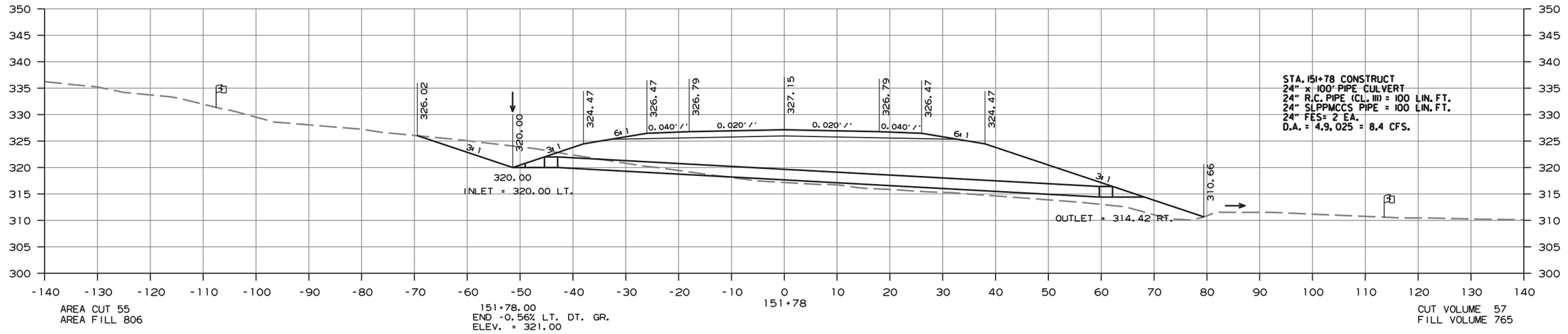


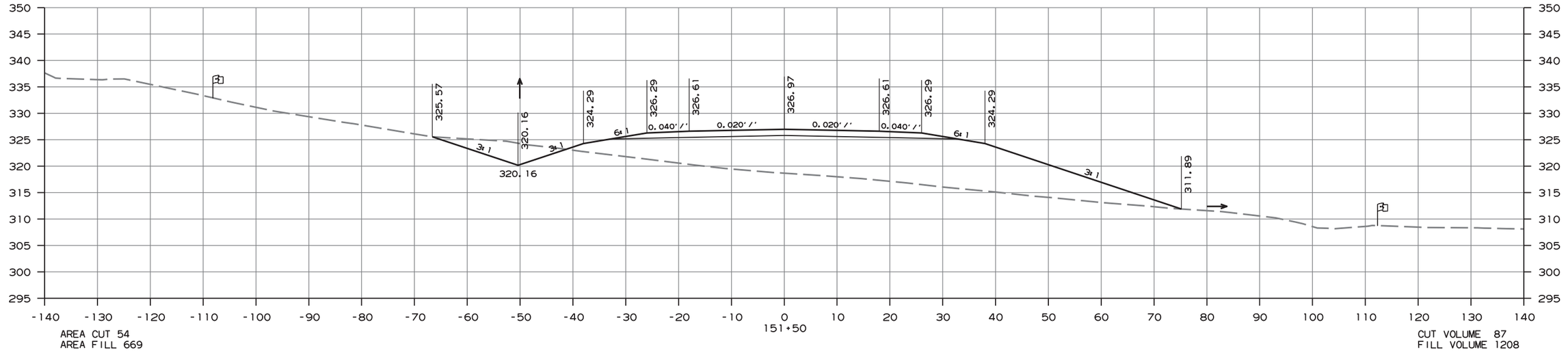
CROSS SECTION STA. 150+50 TO 151+00

omme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	345	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





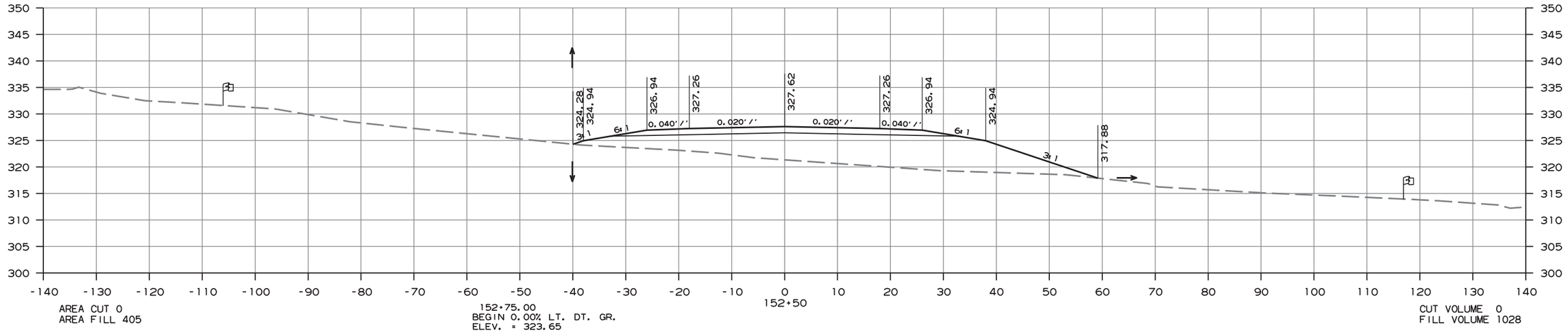
CROSS SECTION STA. 151+50 TO 151+78

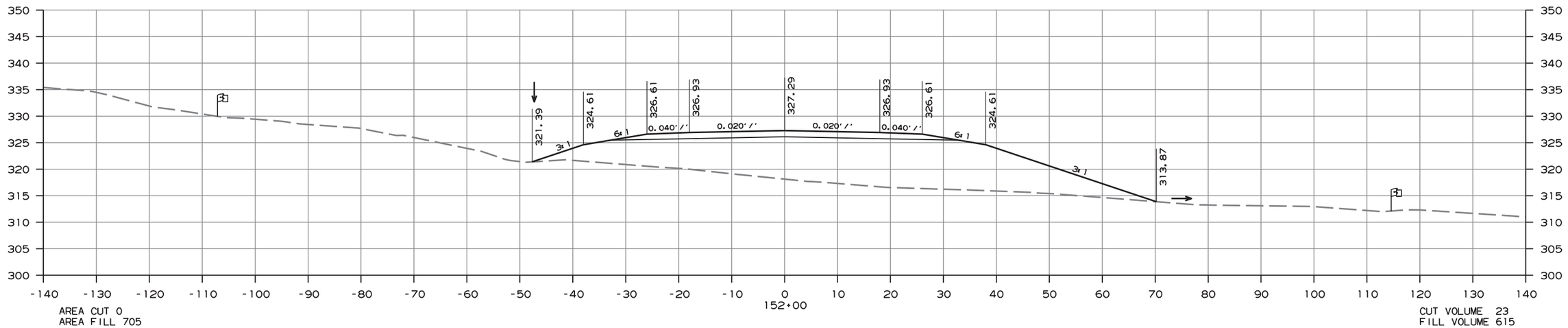
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	346	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





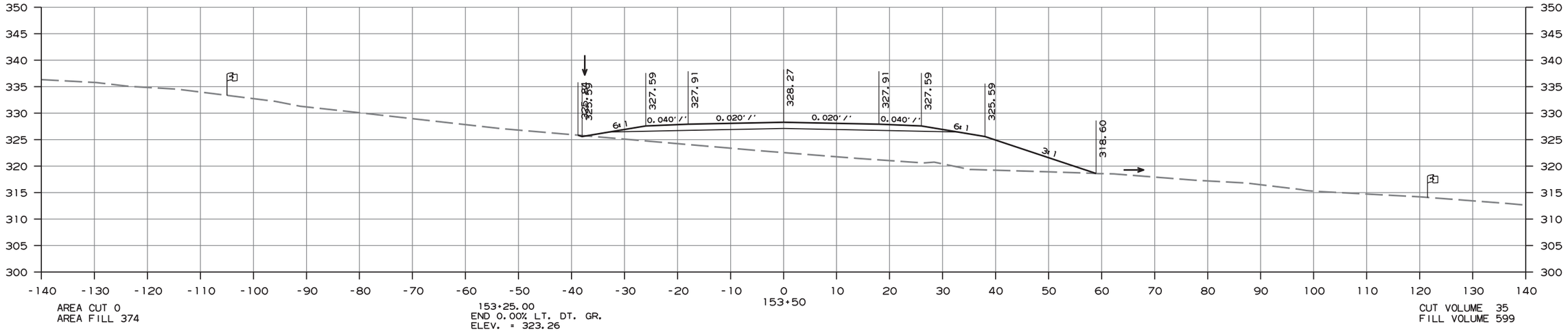
CROSS SECTION STA. 152+00 TO 152+50

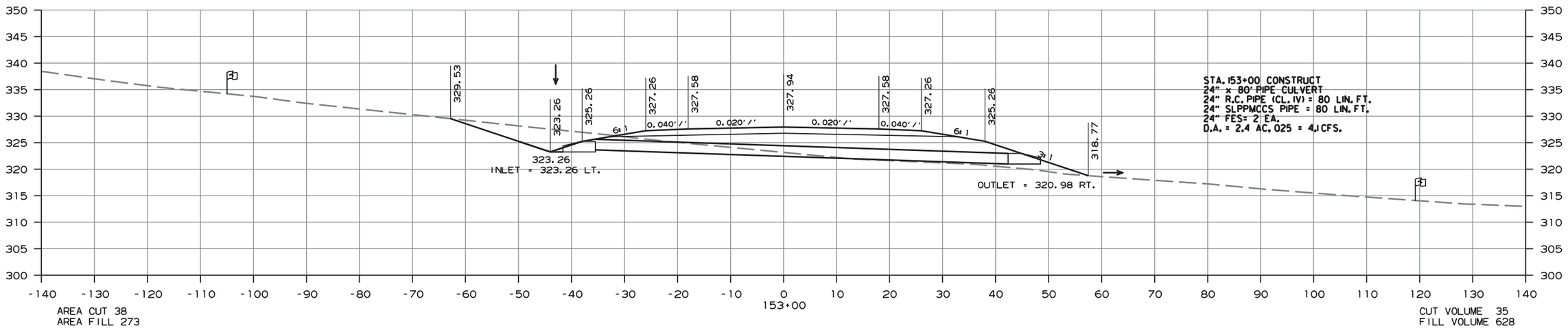
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	347	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





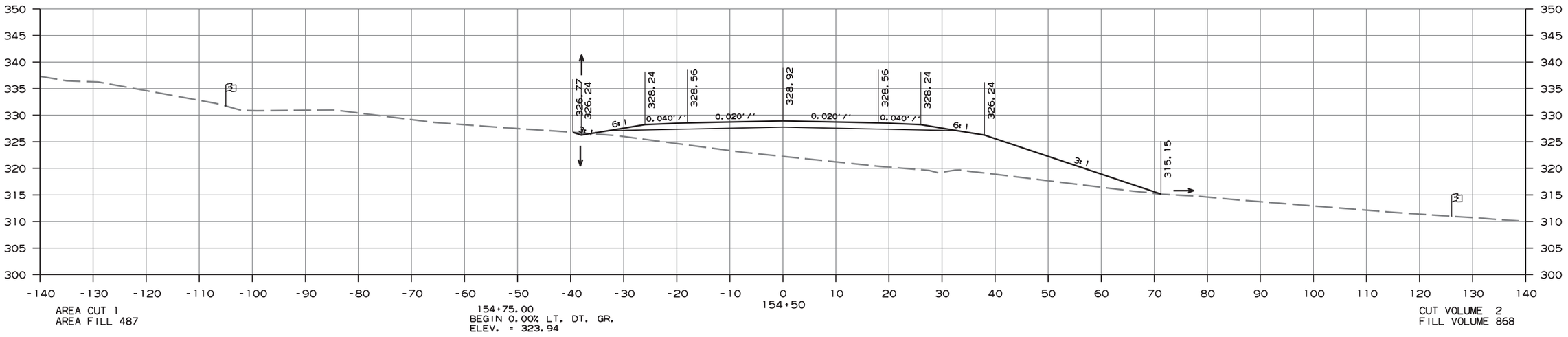
CROSS SECTION STA. 153+00 TO 153+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	348	517

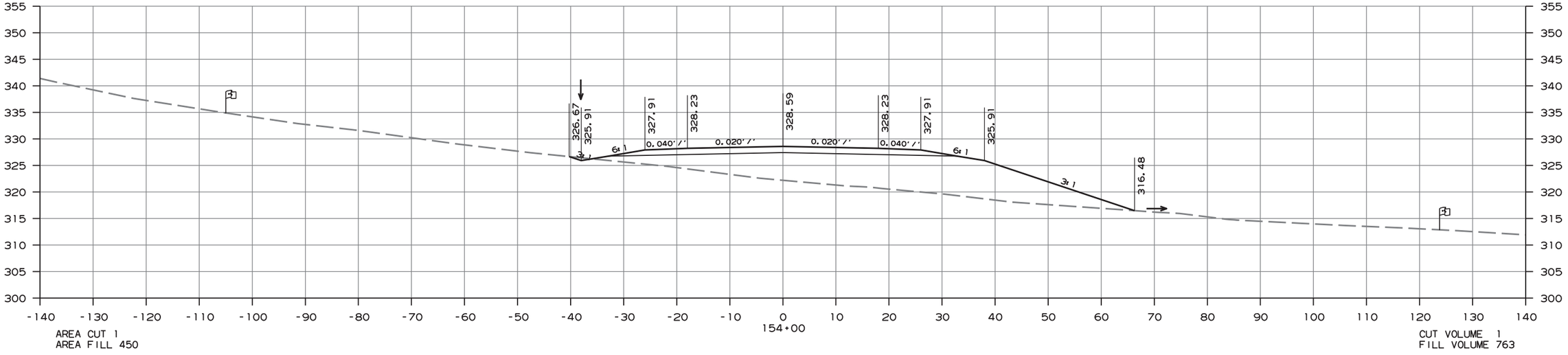
(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 1
AREA FILL 487

154+75.00
BEGIN 0.00% LT. DT. GR.
ELEV. = 323.94

CUT VOLUME 2
FILL VOLUME 868



AREA CUT 1
AREA FILL 450

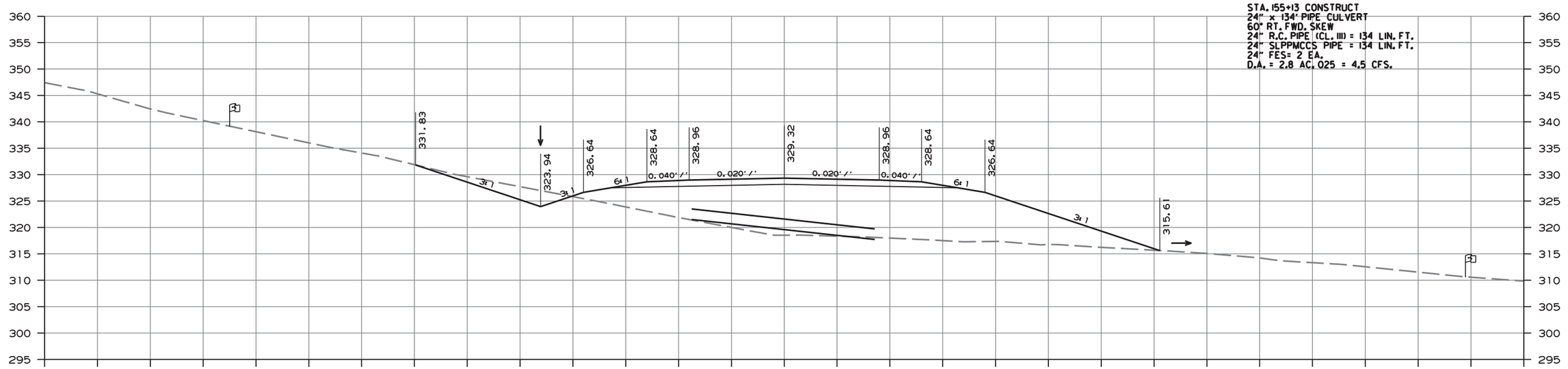
CUT VOLUME 1
FILL VOLUME 763

CROSS SECTION STA. 154+00 TO 154+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	349	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

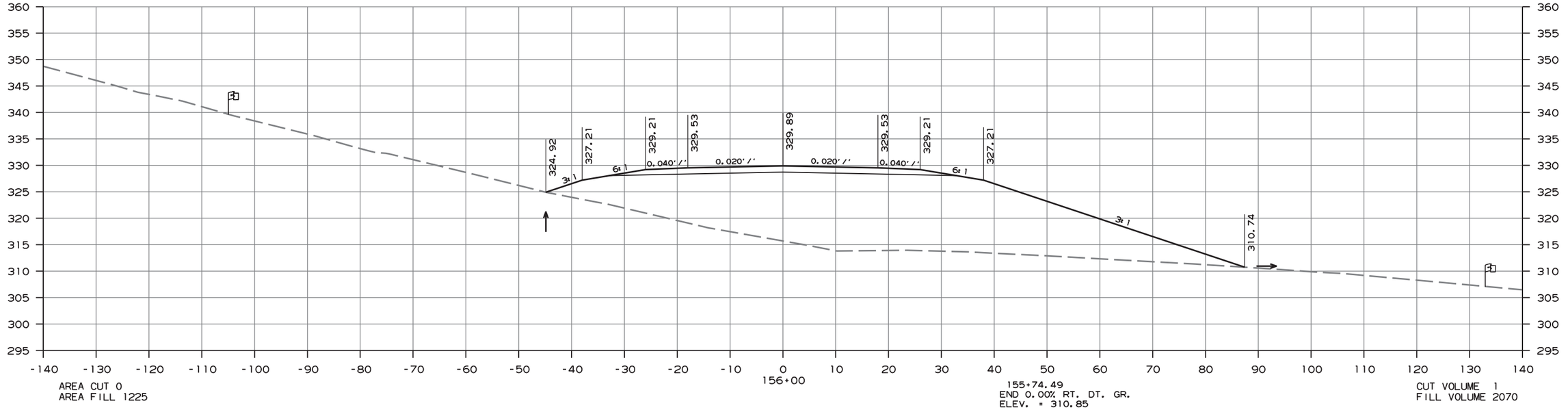


CROSS SECTION STA. 155+00 TO 155+13

amme613 10/1/2020
R080457.DGN

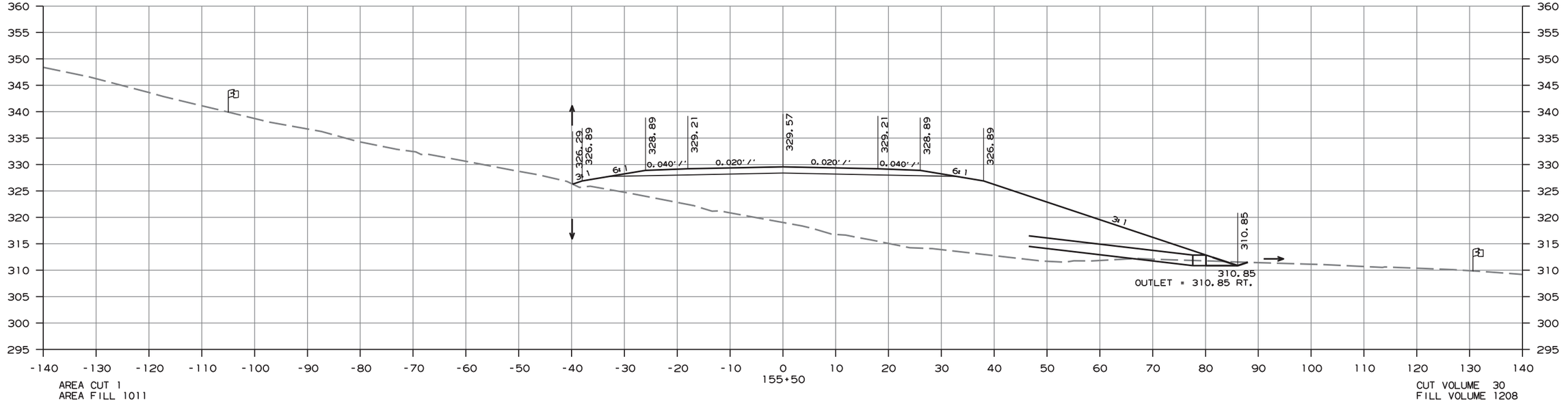
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	350	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 0
AREA FILL 1225

CUT VOLUME 1
FILL VOLUME 2070



AREA CUT 1
AREA FILL 1011

CUT VOLUME 30
FILL VOLUME 1208

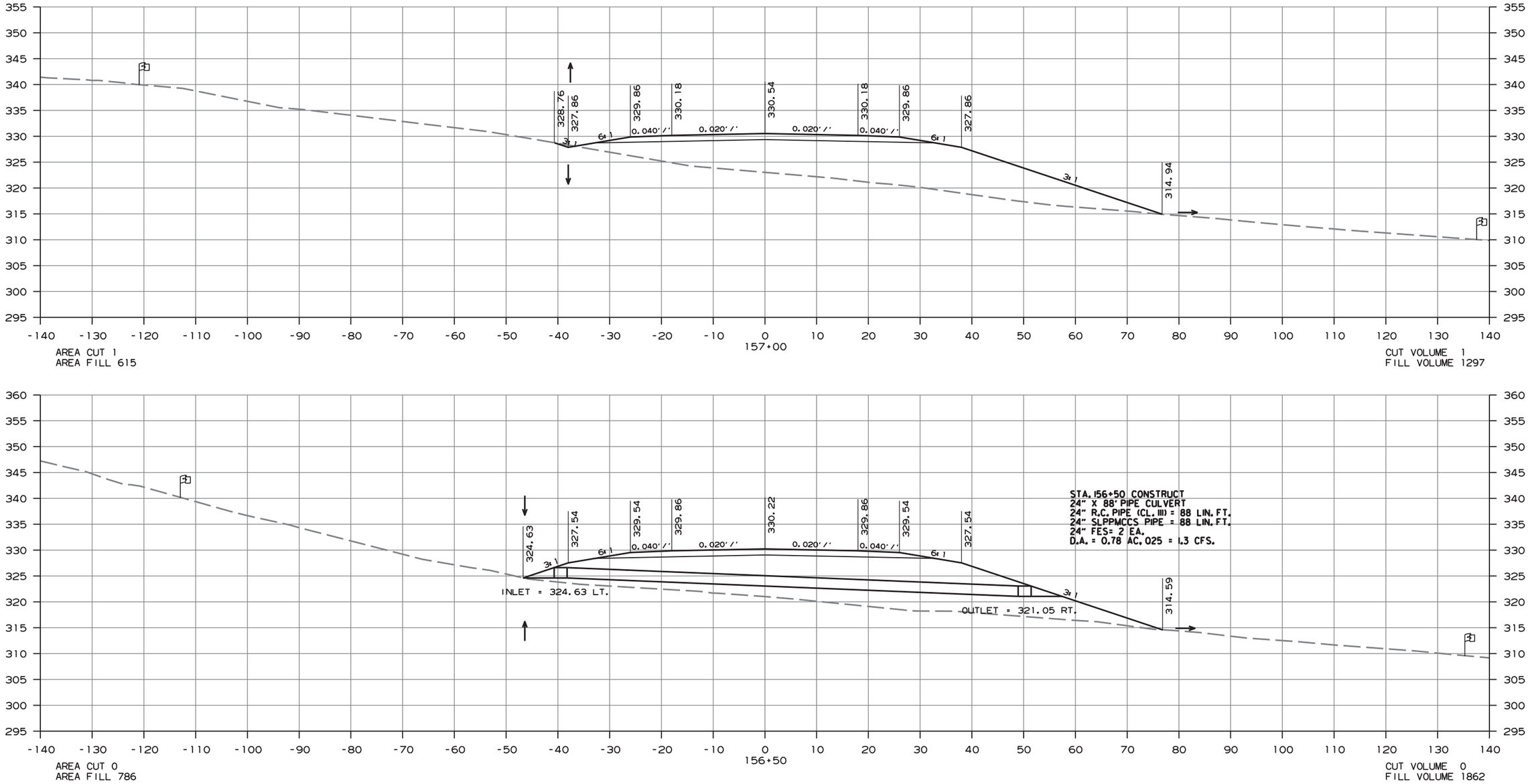
CROSS SECTION STA. 155+50 TO 156+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	351	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



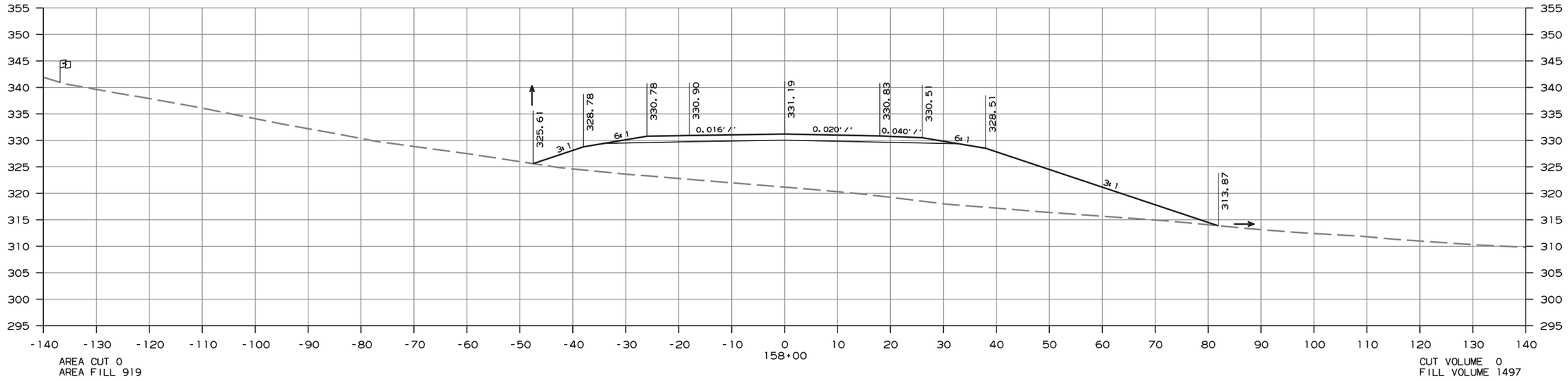
CROSS SECTION STA. 156+50 TO 157+00

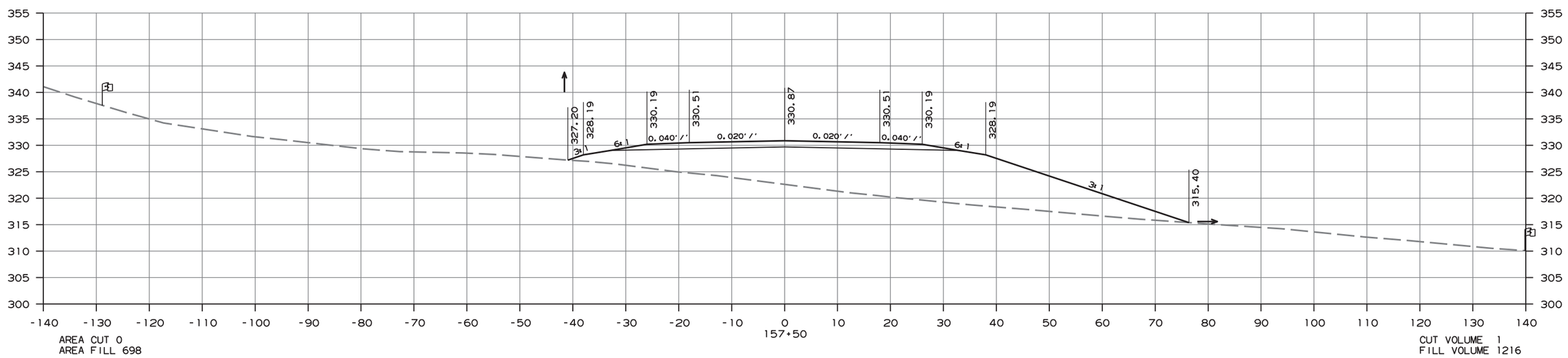
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	352	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



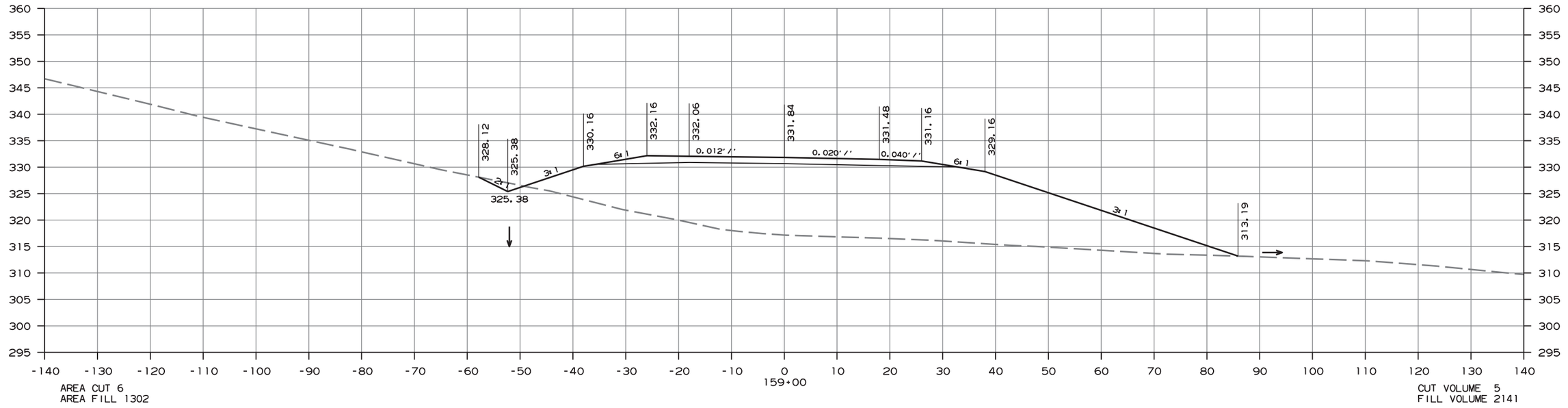


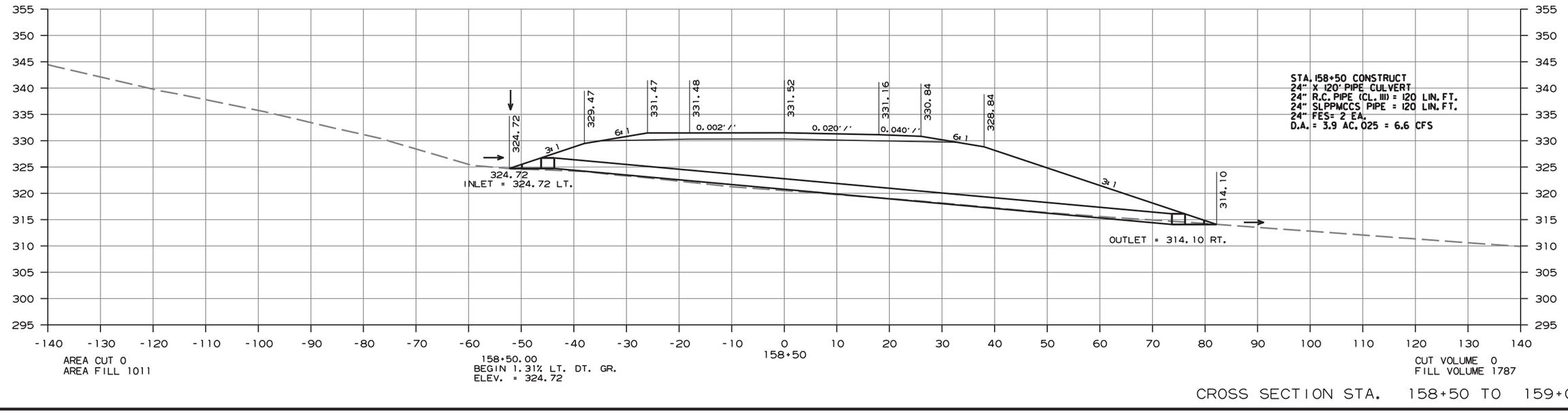
CROSS SECTION STA. 157+50 TO 158+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	353	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





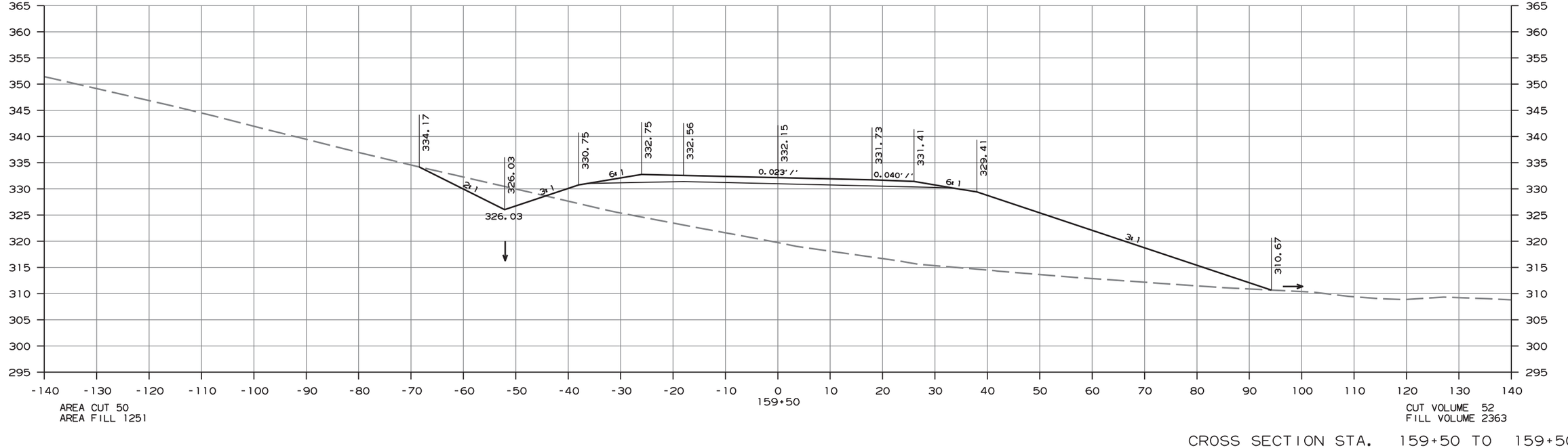
CROSS SECTION STA. 158+50 TO 159+00

omme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	354	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



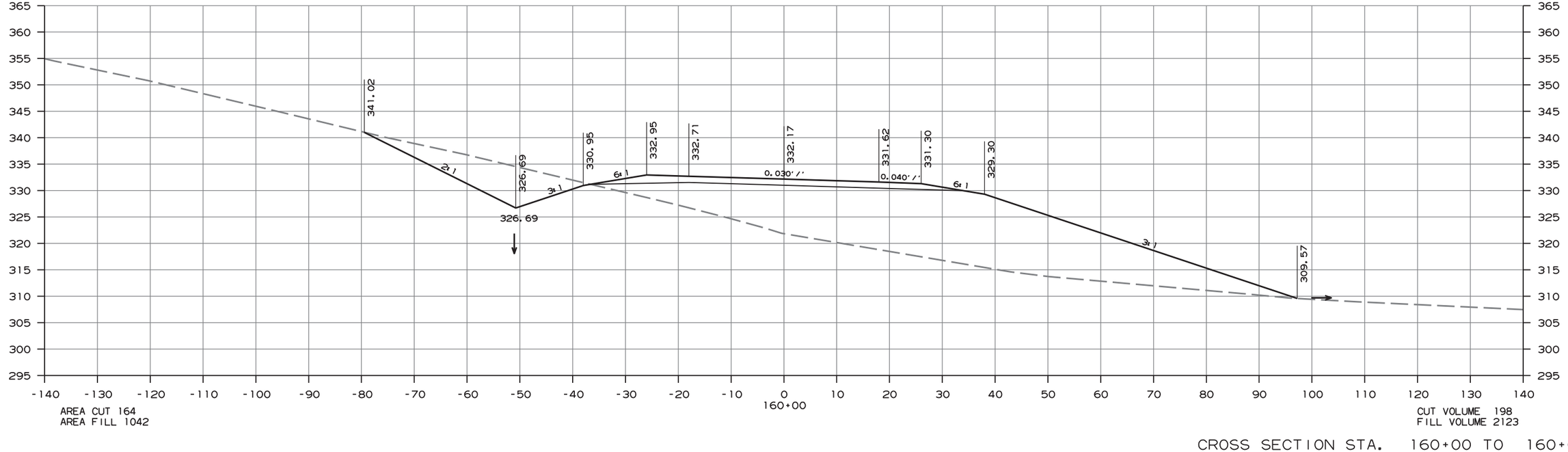
CROSS SECTION STA. 159+50 TO 159+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	355	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



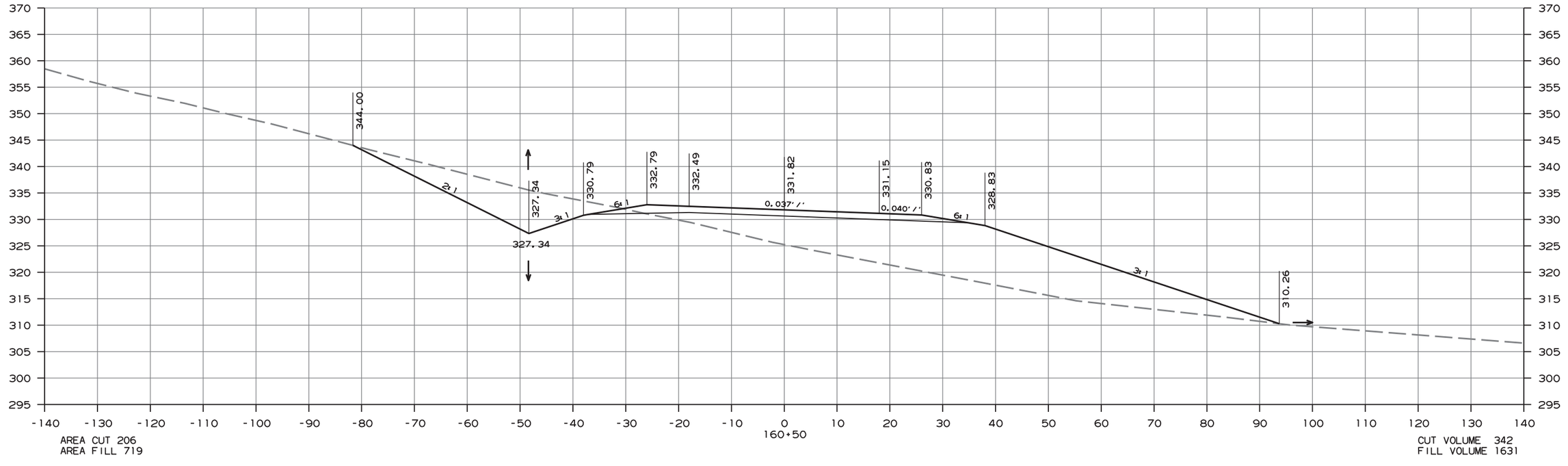
CROSS SECTION STA. 160+00 TO 160+00

10/1/2020
ommé613
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	356	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



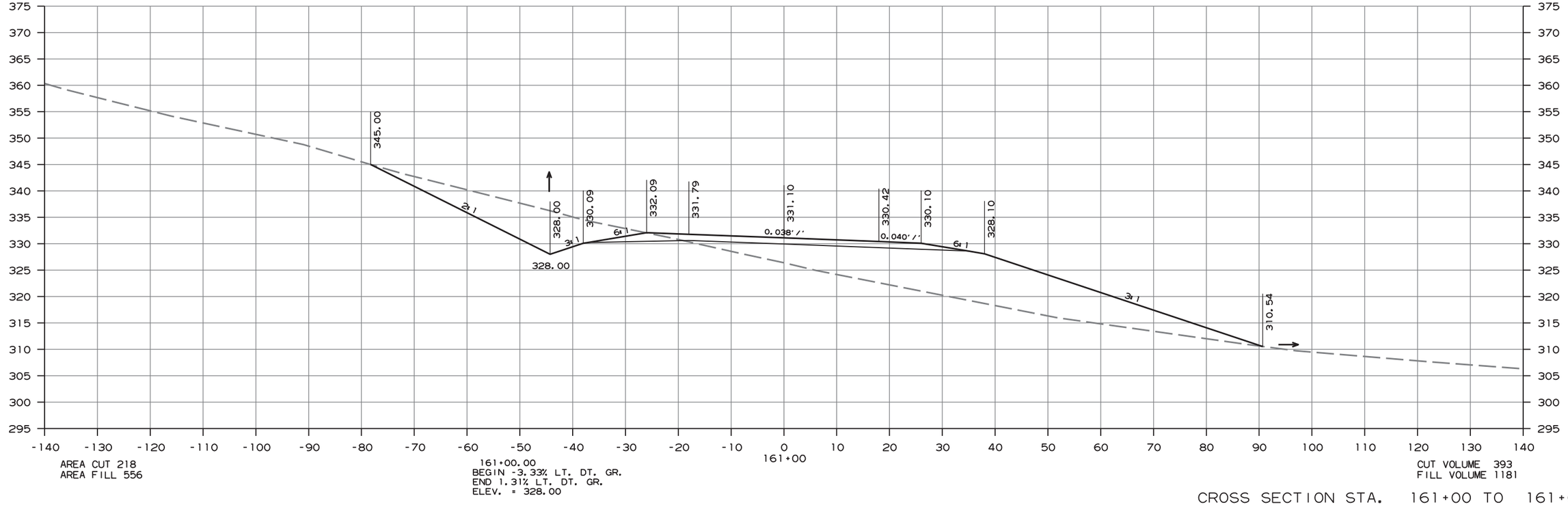
CROSS SECTION STA. 160+50 TO 160+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	357	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 218
AREA FILL 556

161+00.00
BEGIN -3.33% LT. DT. GR.
END 1.31% LT. DT. GR.
ELEV. = 328.00

CUT VOLUME 393
FILL VOLUME 1181

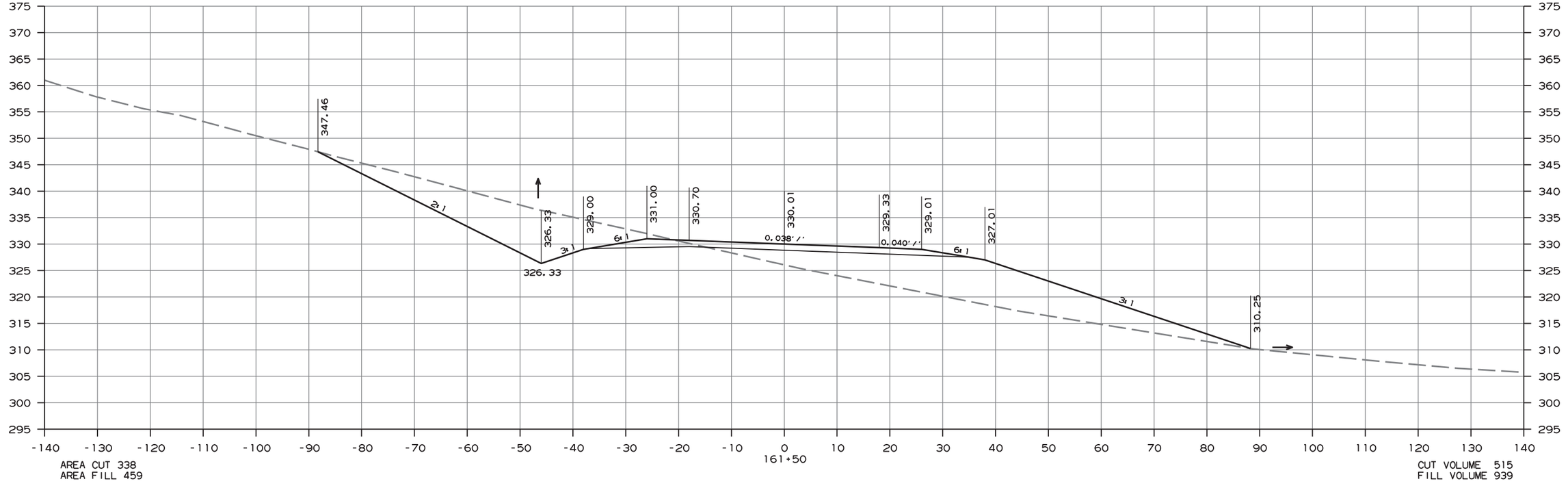
CROSS SECTION STA. 161+00 TO 161+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	358	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



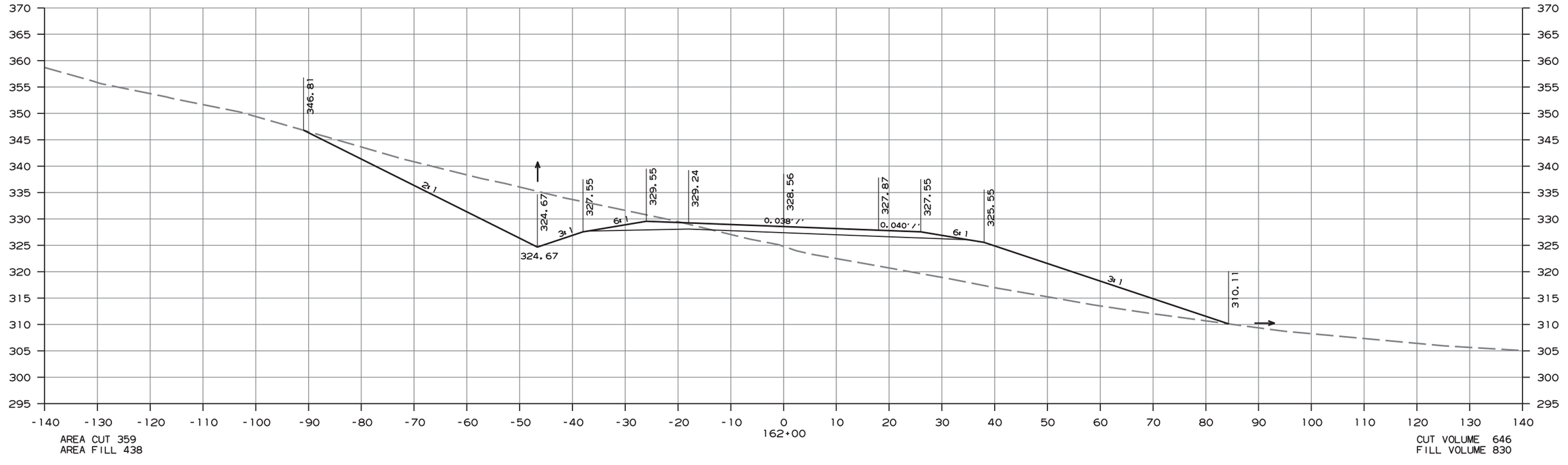
CROSS SECTION STA. 161+50 TO 161+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	359	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



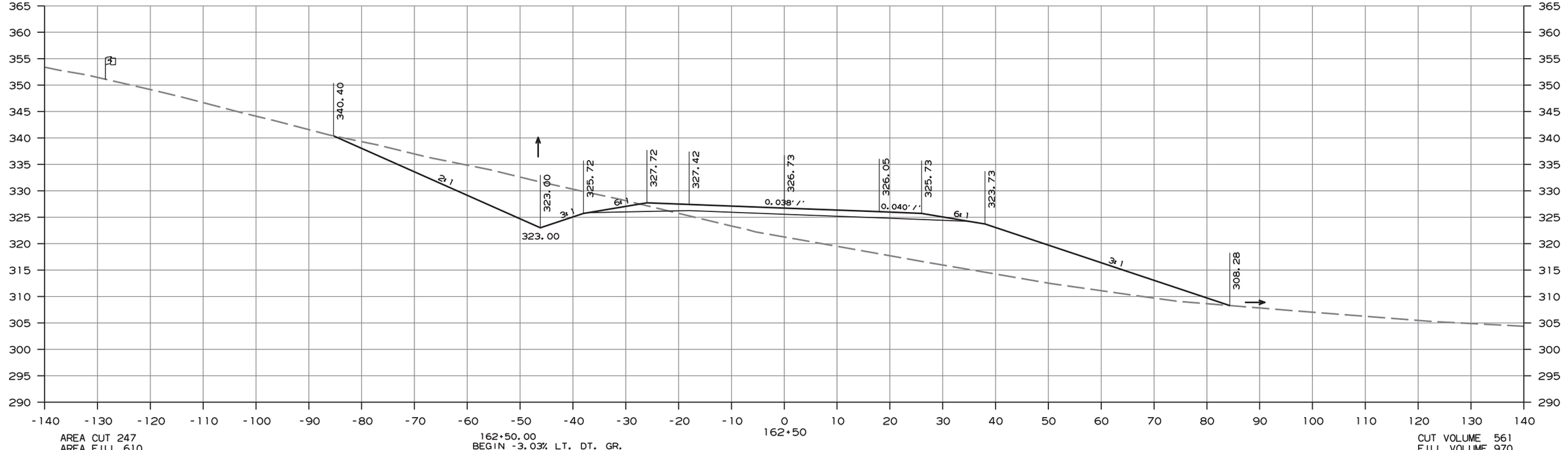
CROSS SECTION STA. 162+00 TO 162+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	360	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 247
AREA FILL 610

162+50.00
BEGIN -3.03% LT. DT. GR.
END -3.33% LT. DT. GR.
ELEV. = 323.00

CUT VOLUME 561
FILL VOLUME 970

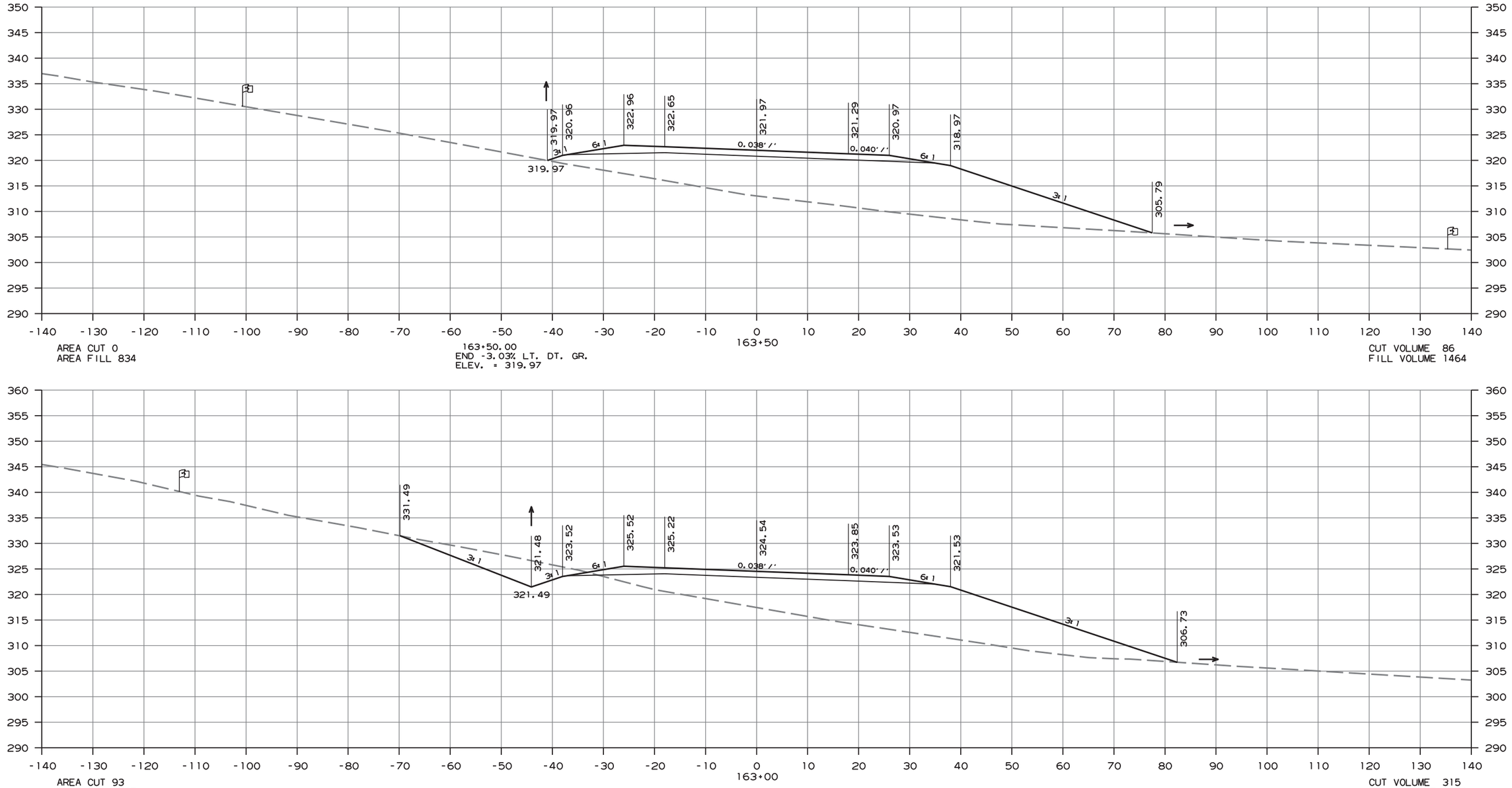
CROSS SECTION STA. 162+50 TO 162+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	361	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 0
AREA FILL 834

163+50.00
END -3.03% LT. DT. GR.
ELEV. = 319.97

163+50

CUT VOLUME 86
FILL VOLUME 1464

AREA CUT 93
AREA FILL 747

163+00

CUT VOLUME 315
FILL VOLUME 1256

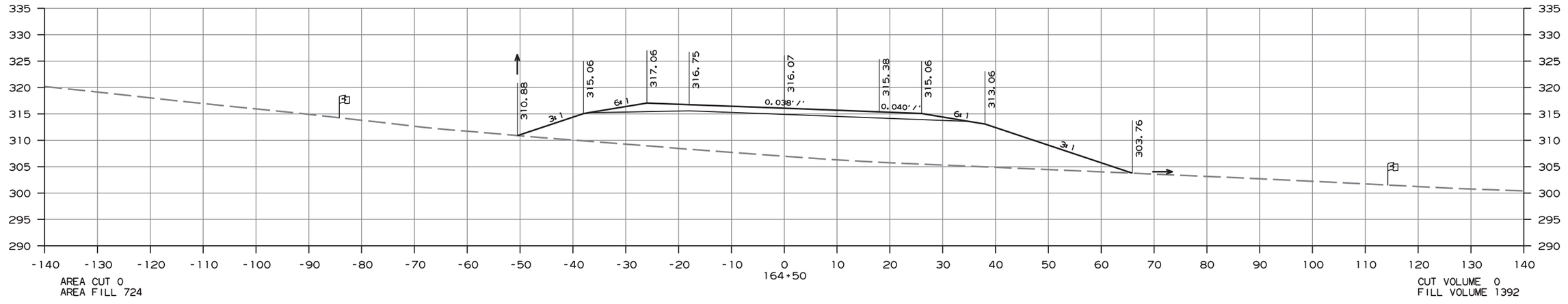
CROSS SECTION STA. 163+00 TO 163+50

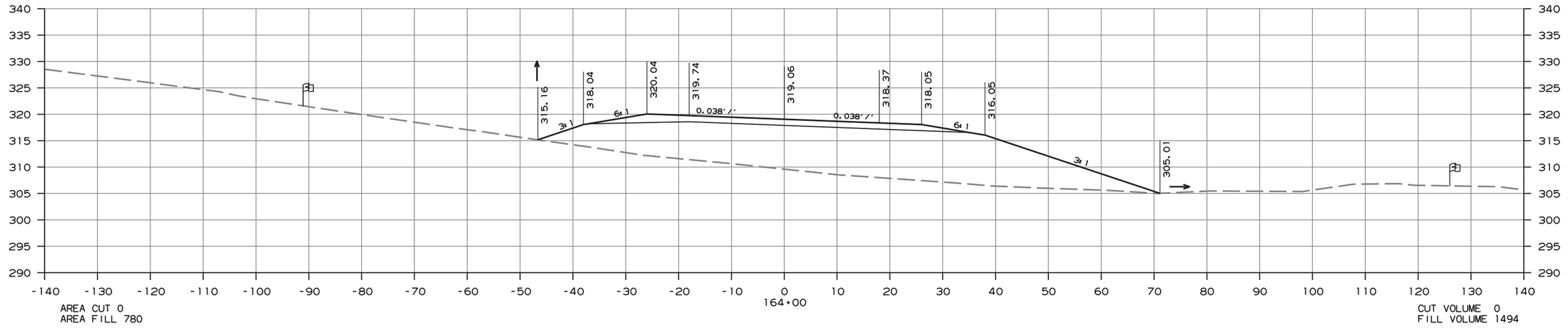
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	362	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



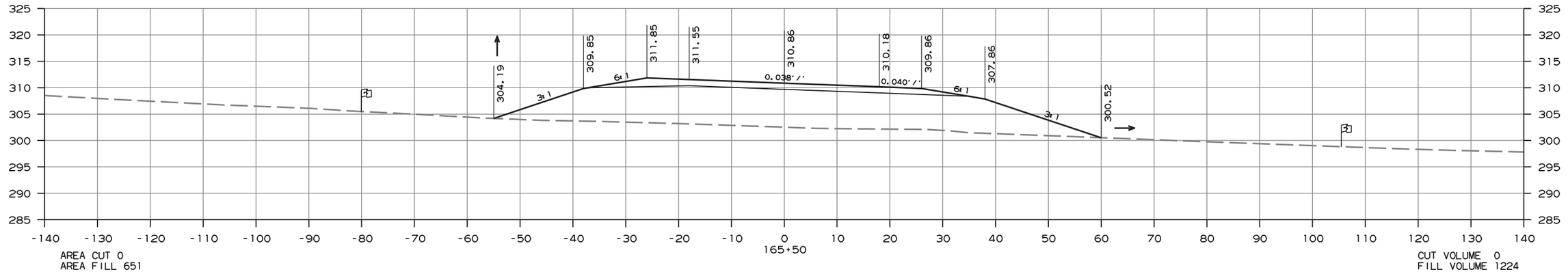


CROSS SECTION STA. 164+00 TO 164+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	363	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



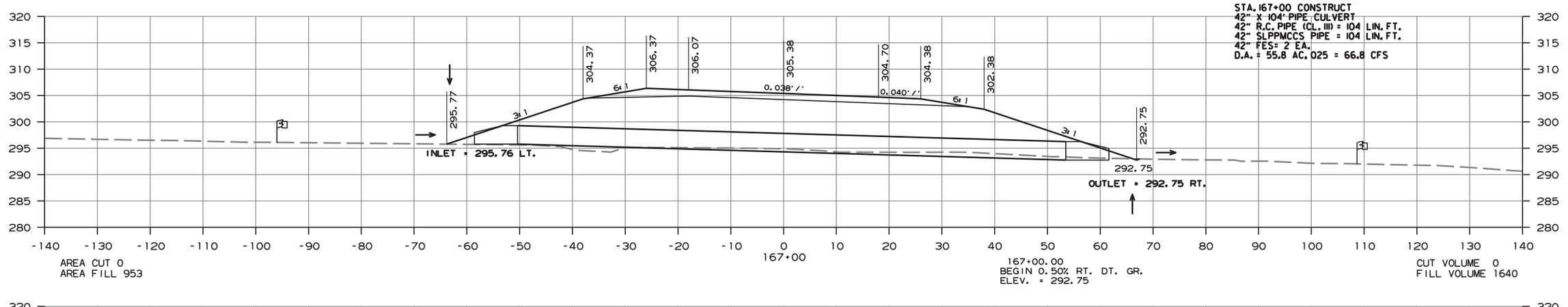
CROSS SECTION STA. 165+00 TO 165+50

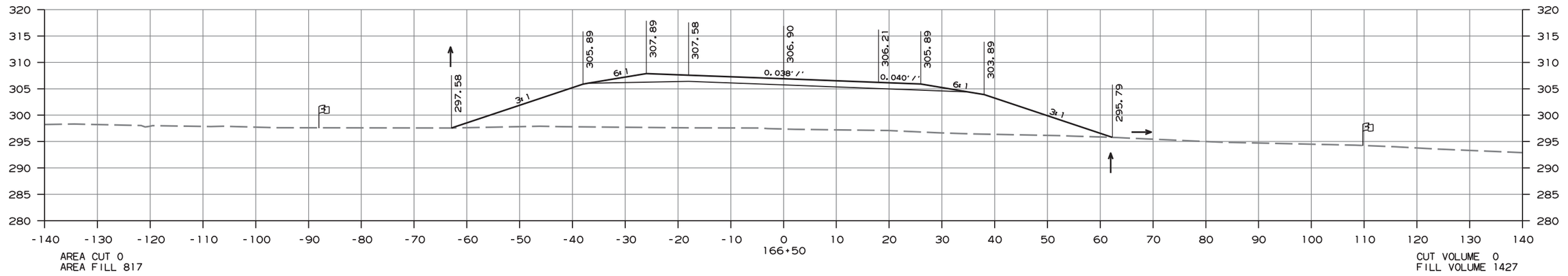
amme613 10/1/2020
R080457.DGN

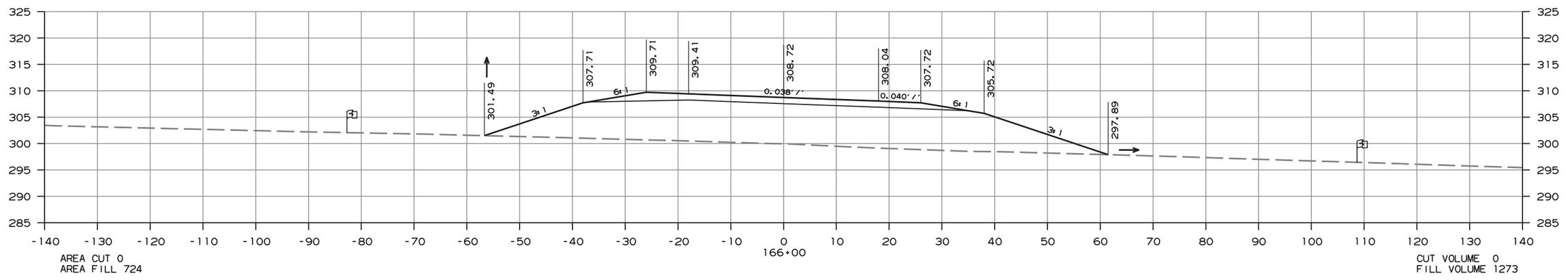
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	364	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







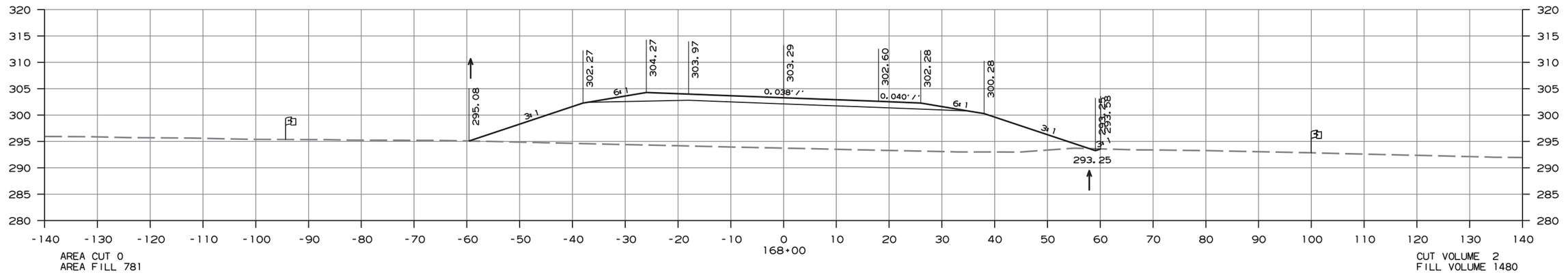
CROSS SECTION STA. 166+00 TO 167+00

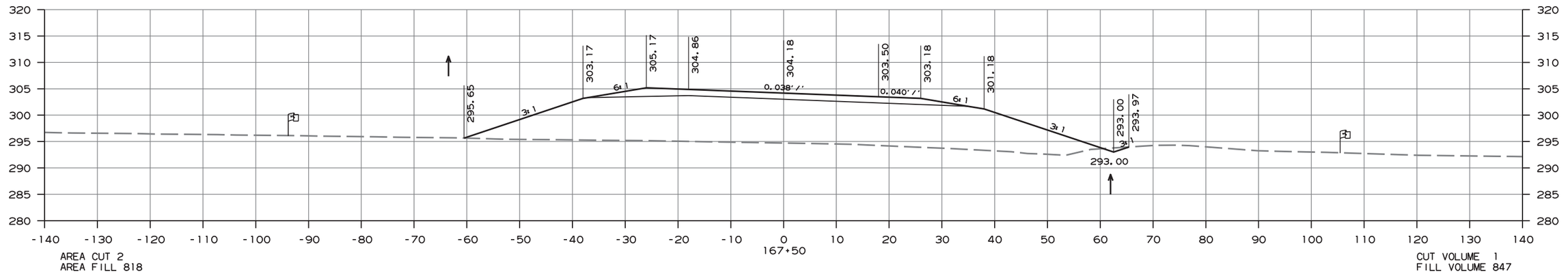
ommel613 10/1/2020
R080457.DGN

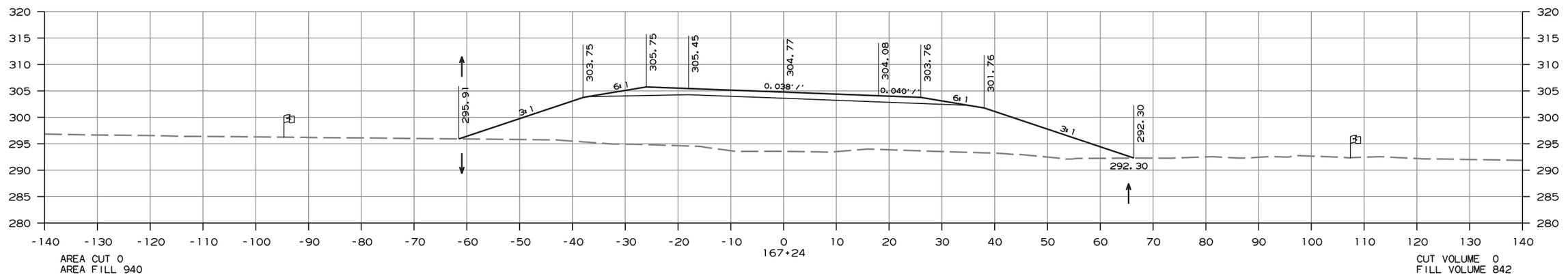
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	365	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







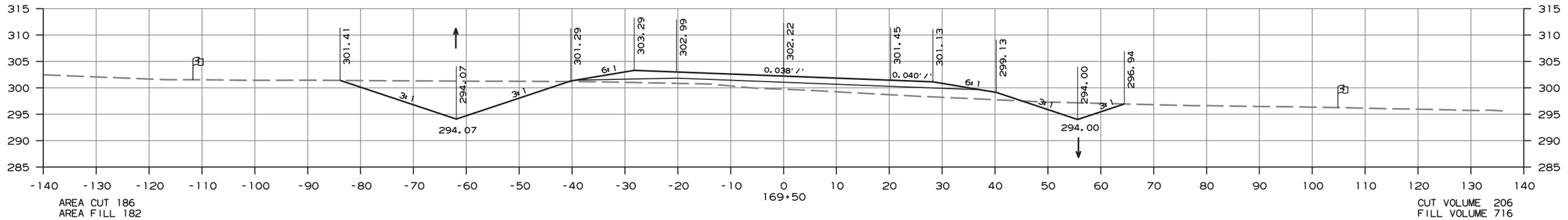
CROSS SECTION STA. 167+24 TO 168+00

ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

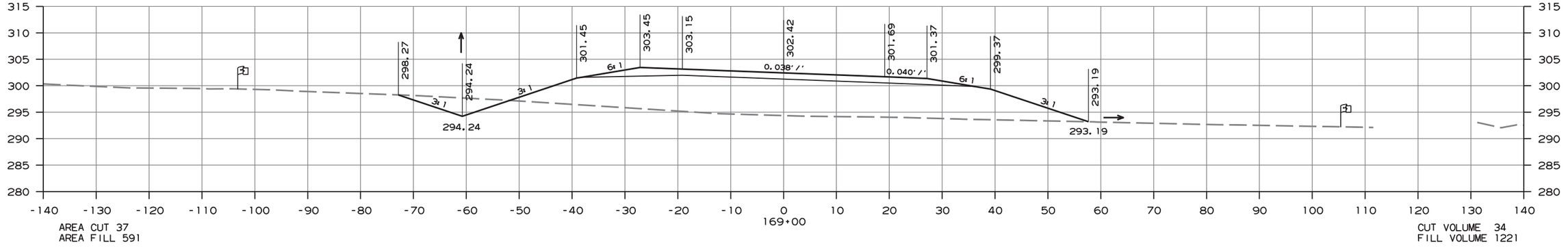
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	366	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



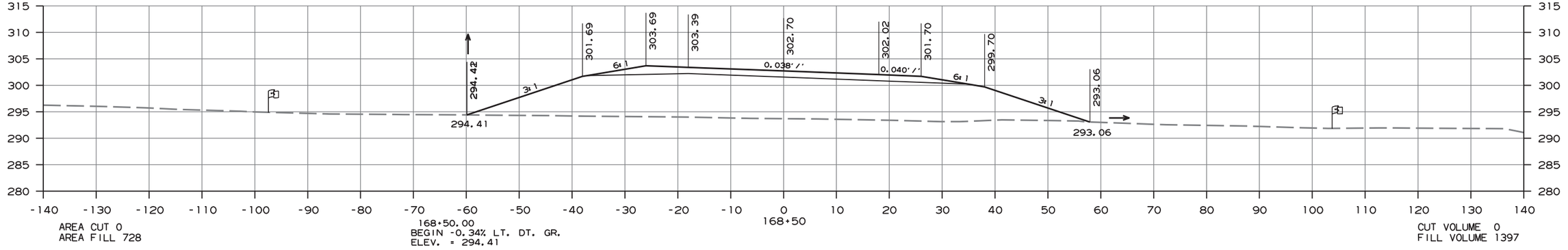
AREA CUT 186
AREA FILL 182

CUT VOLUME 206
FILL VOLUME 716



AREA CUT 37
AREA FILL 591

CUT VOLUME 34
FILL VOLUME 1221



AREA CUT 0
AREA FILL 728

168+50.00
BEGIN -0.34% LT. DT. GR.
ELEV. = 294.41

CUT VOLUME 0
FILL VOLUME 1397

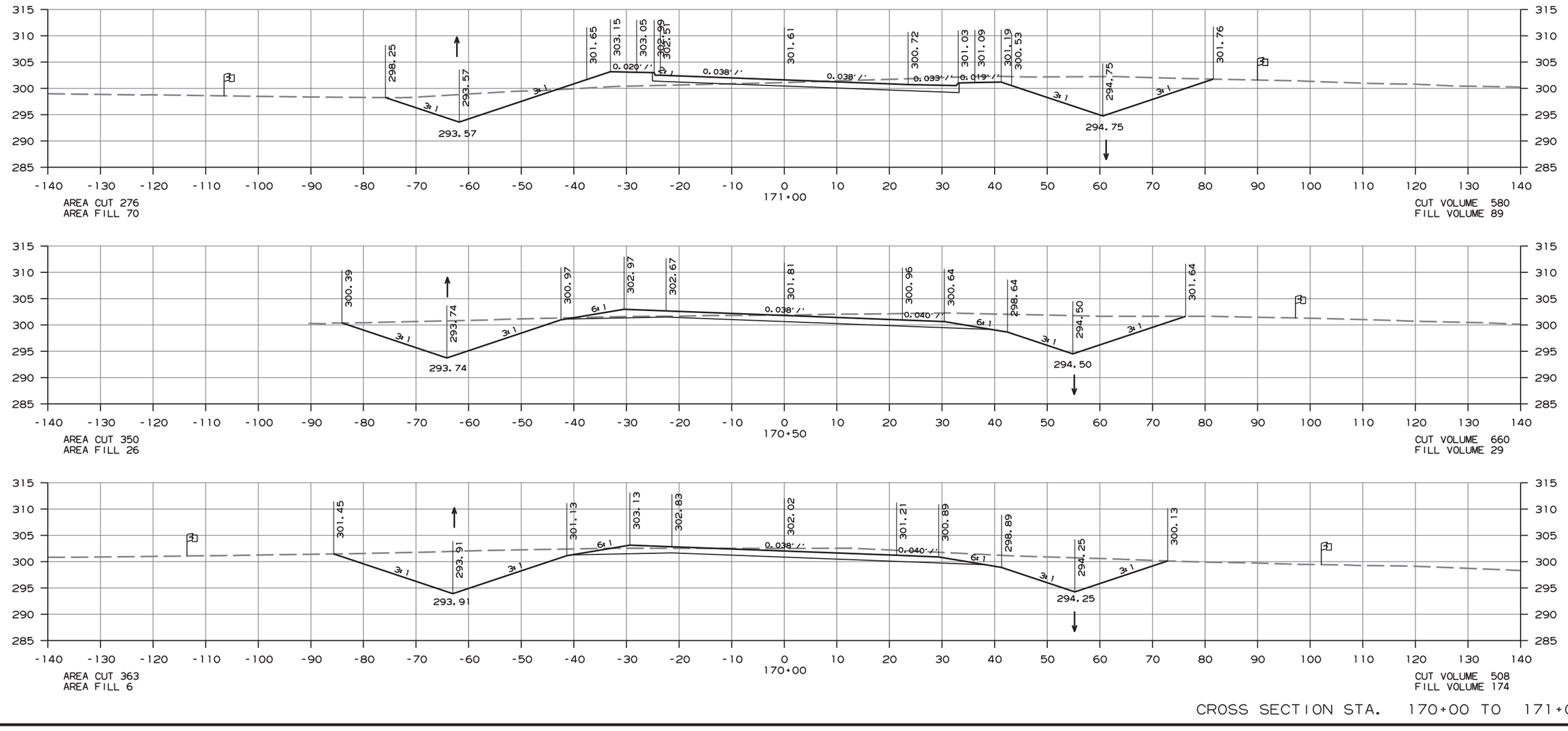
CROSS SECTION STA. 168+50 TO 169+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	367	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

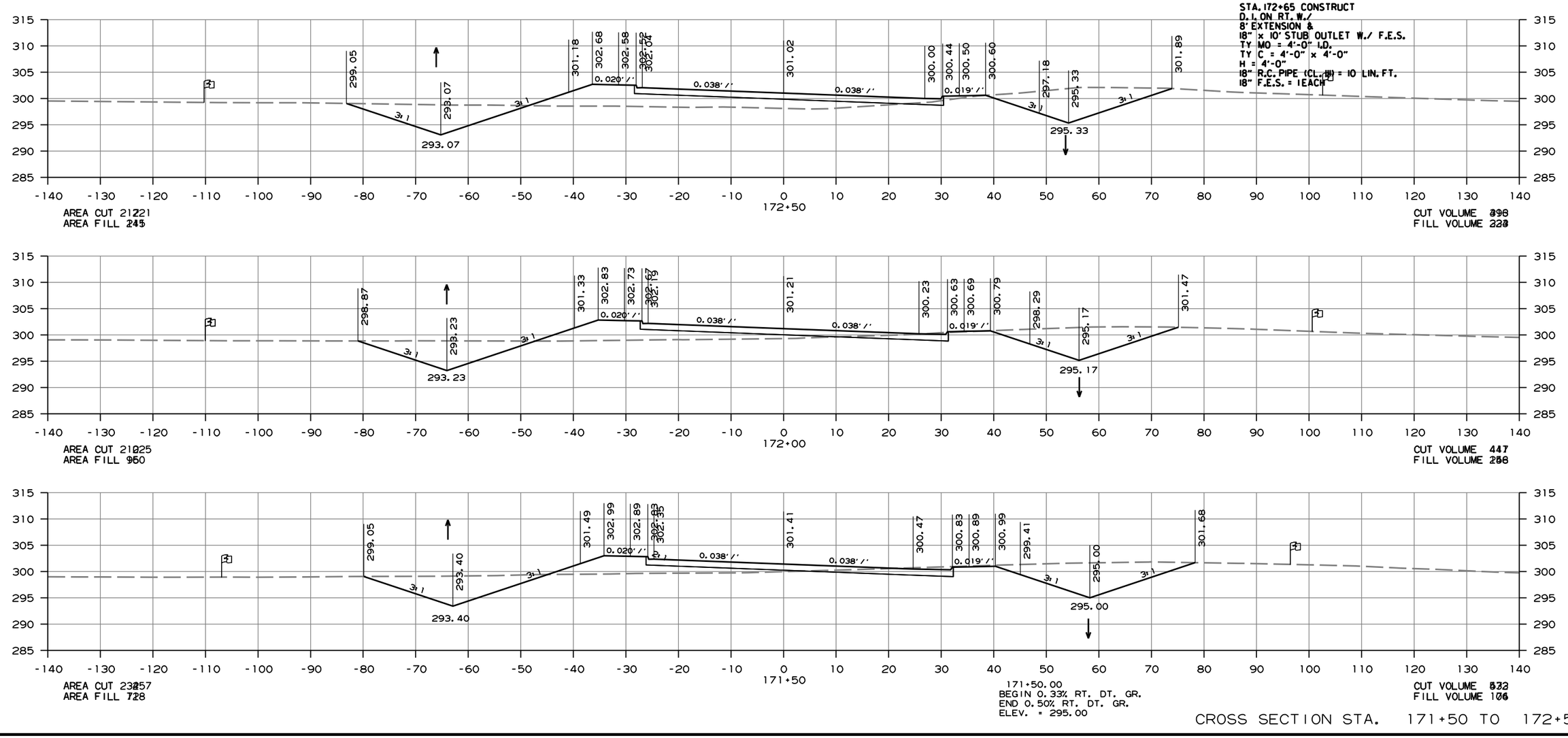


CROSS SECTION STA. 170+00 TO 171+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	368	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



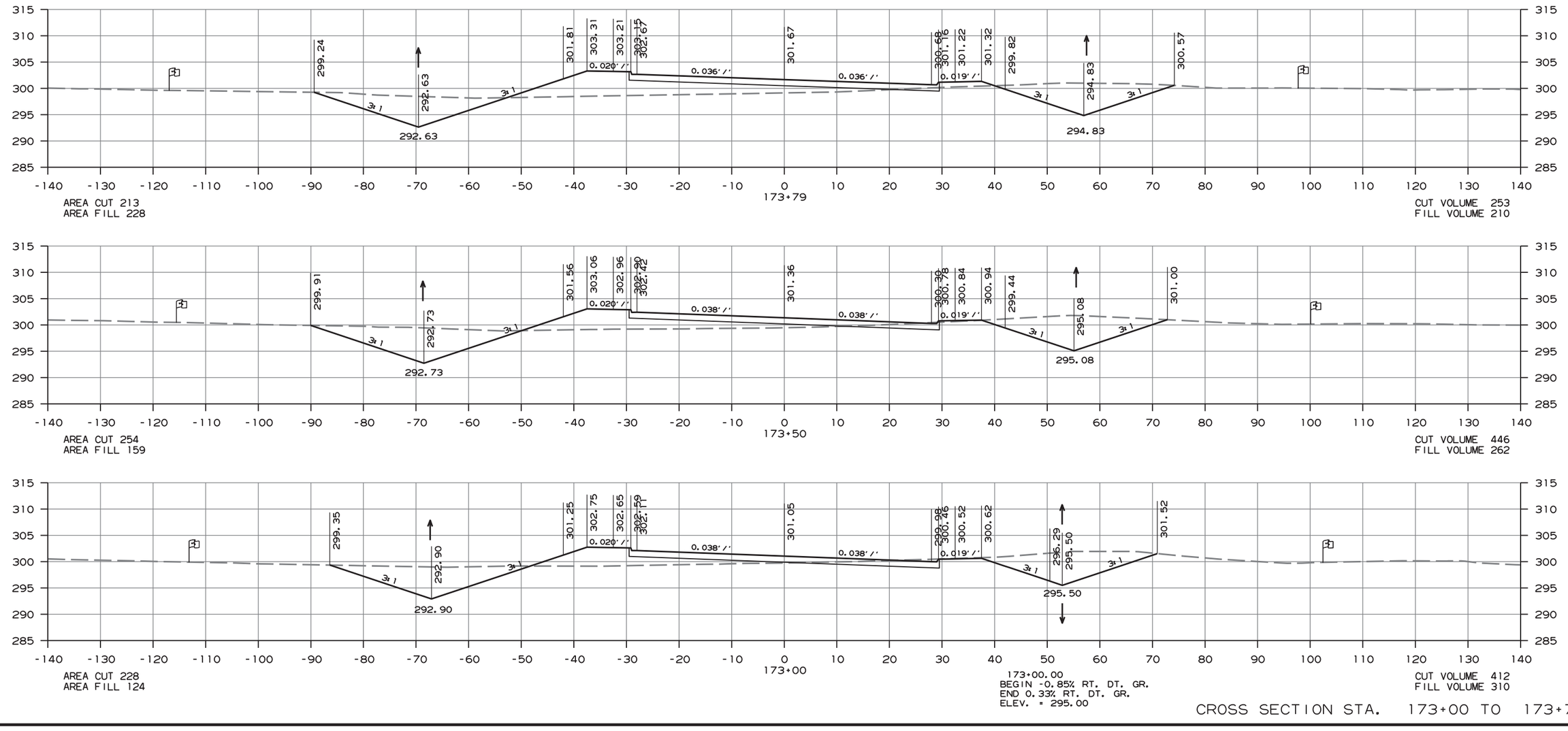
CROSS SECTION STA. 171+50 TO 172+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	369	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



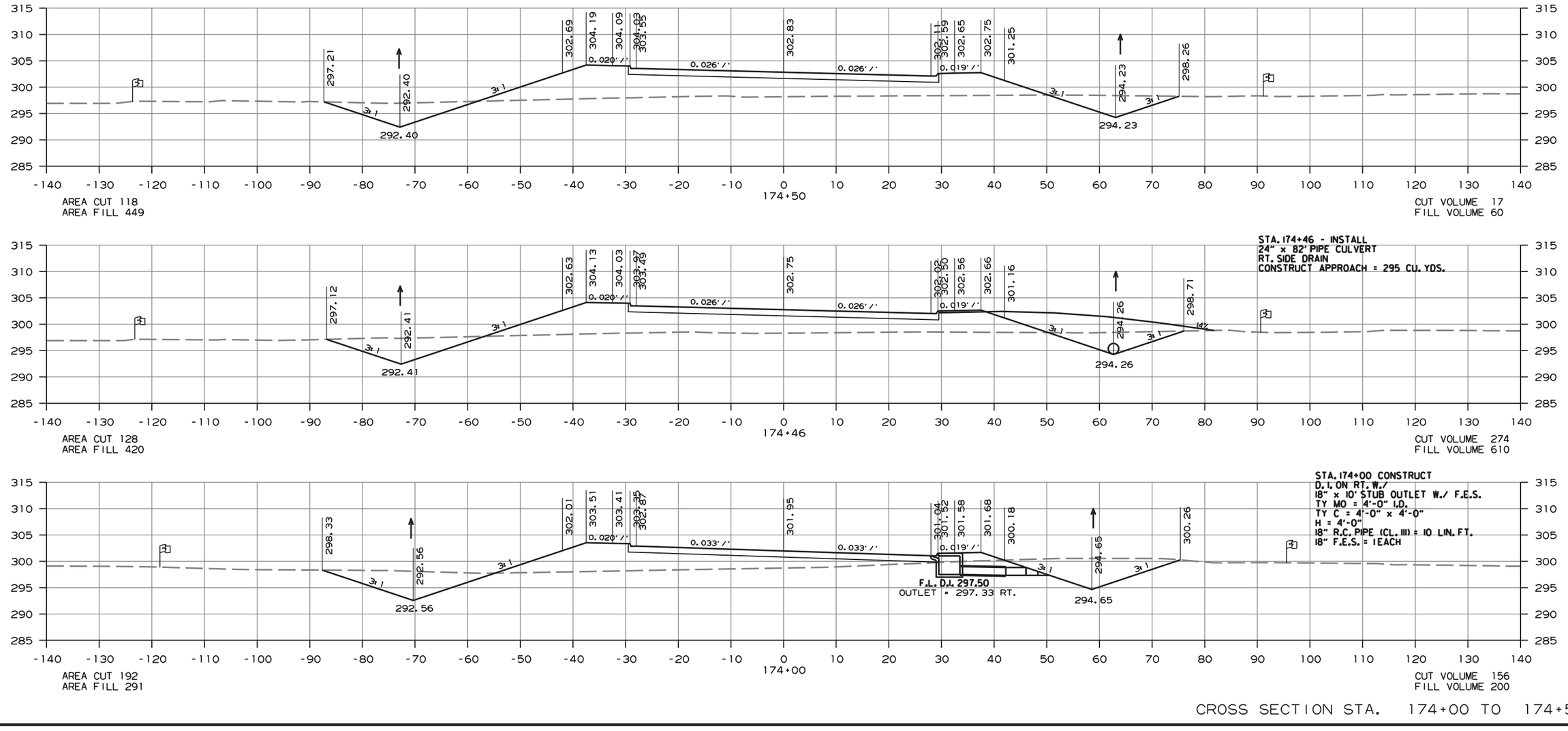
CROSS SECTION STA. 173+00 TO 173+79

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	370	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



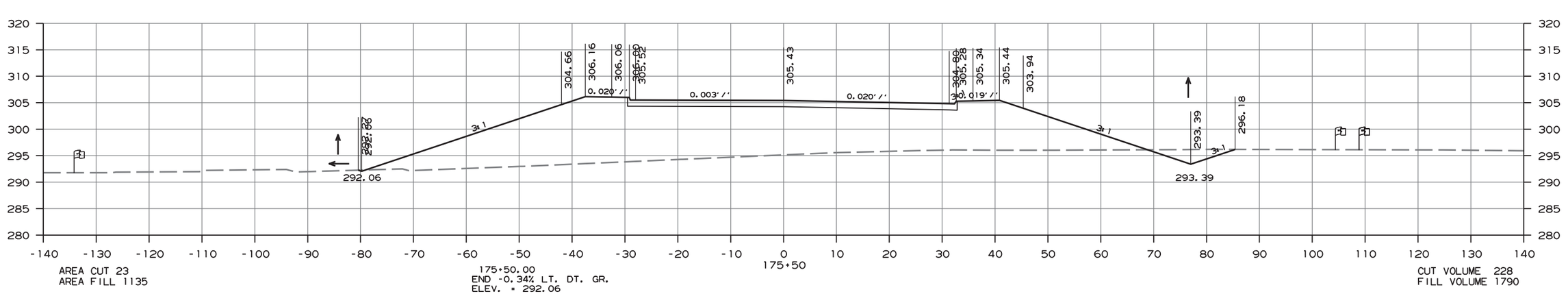
CROSS SECTION STA. 174+00 TO 174+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	371	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

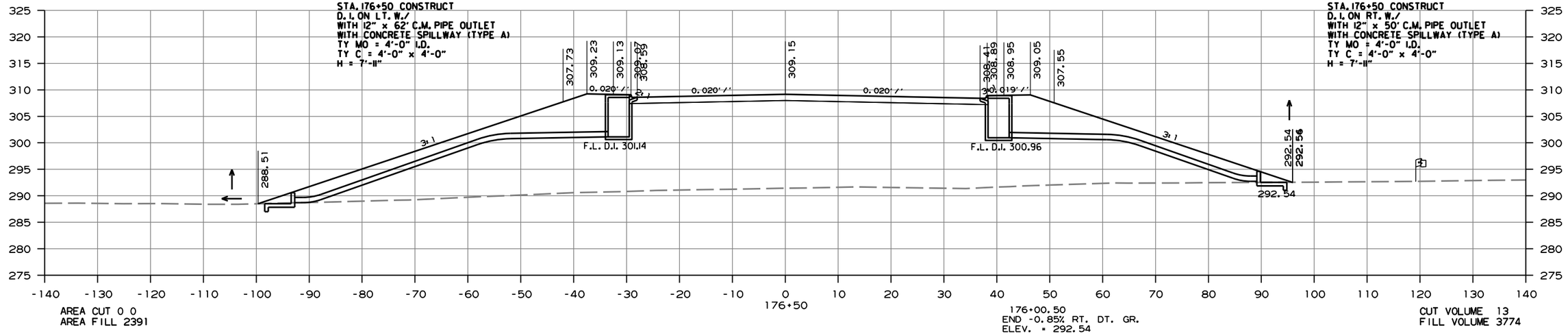


CROSS SECTION STA. 175+00 TO 175+50

ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	372	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



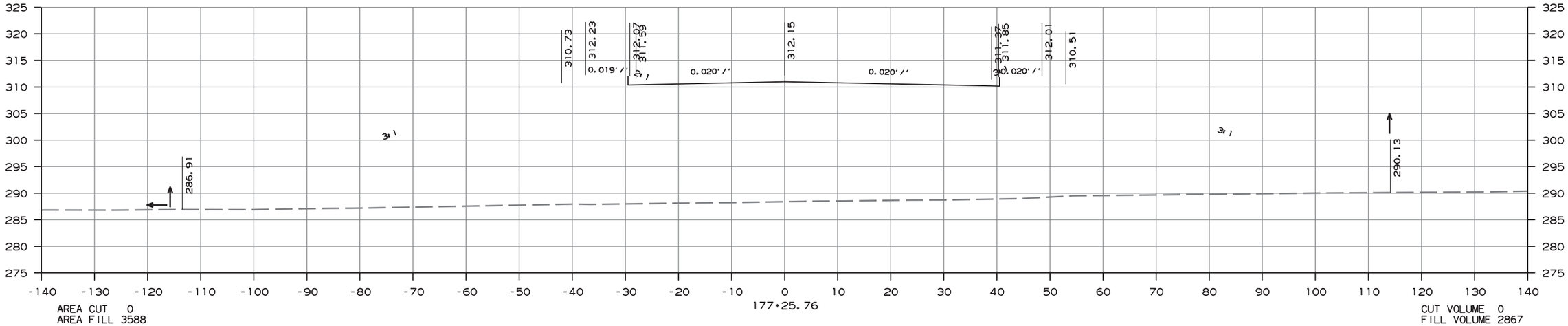
CROSS SECTION STA. 176+00 TO 176+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	373	517

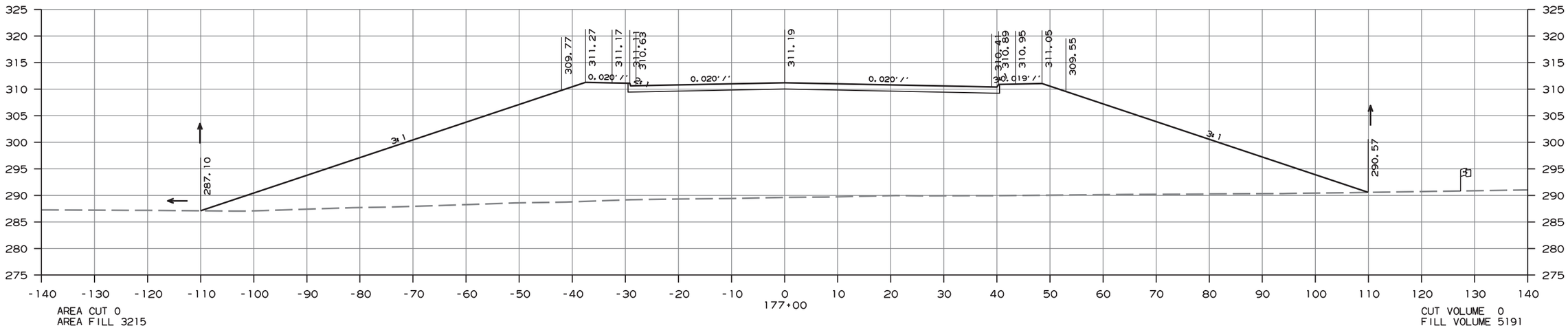
(2) CROSS SECTIONS - HWY. 89 SECTION 2

177+26.88
BRIDGE END



AREA CUT 0
AREA FILL 3588

CUT VOLUME 0
FILL VOLUME 2867



AREA CUT 0
AREA FILL 3215

CUT VOLUME 0
FILL VOLUME 5191

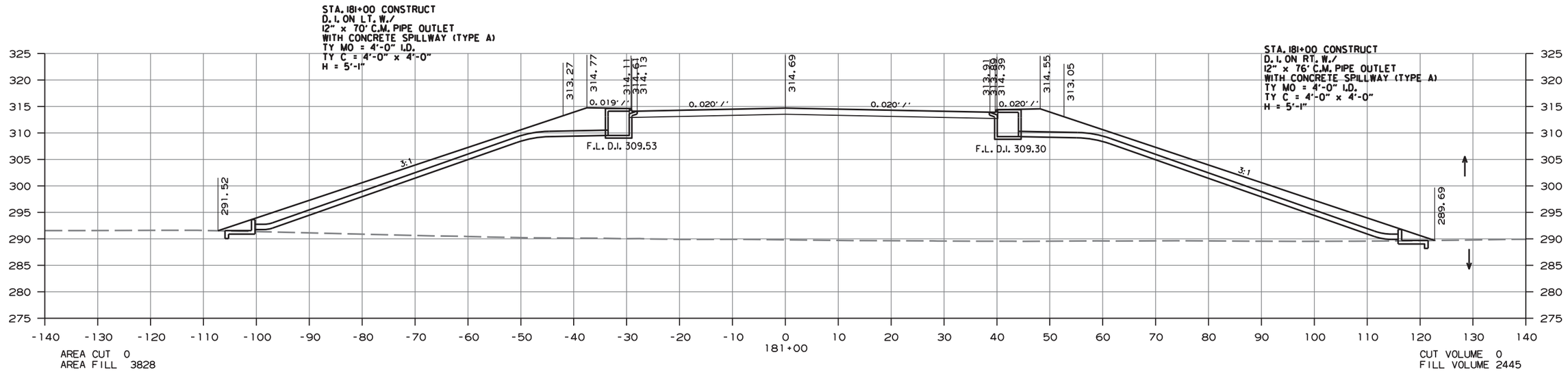
CROSS SECTION STA. 177+00 TO 177+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	374	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



a 180+75.10
BRIDGE END

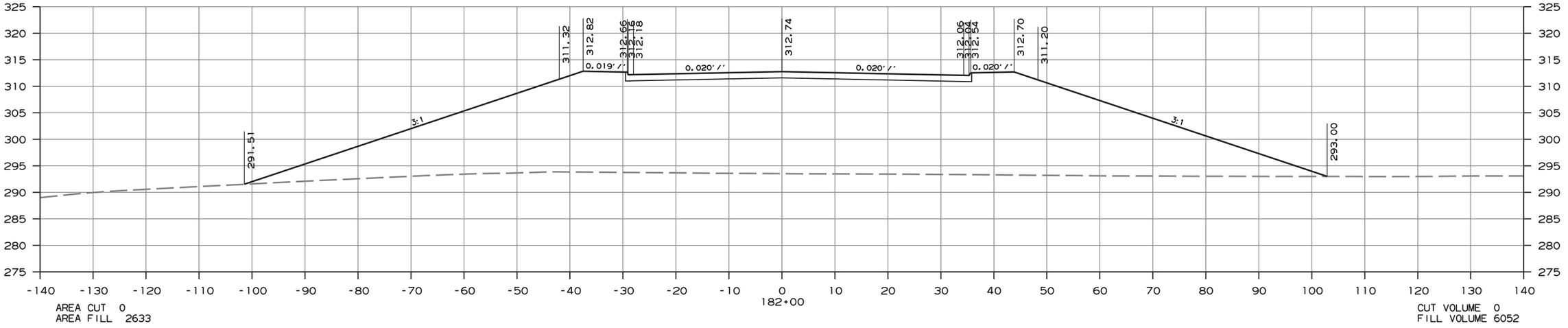
CROSS SECTION STA. 180+83 TO 181+00

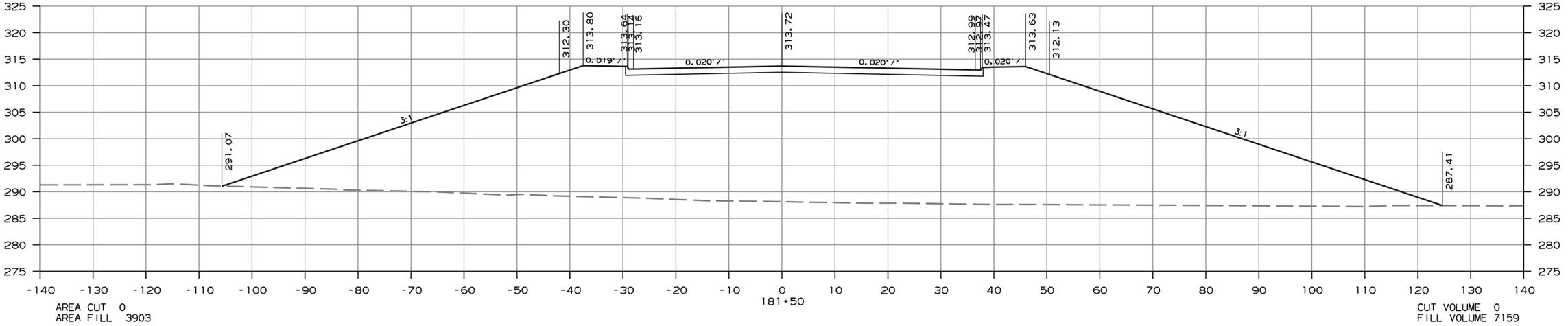
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	375	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





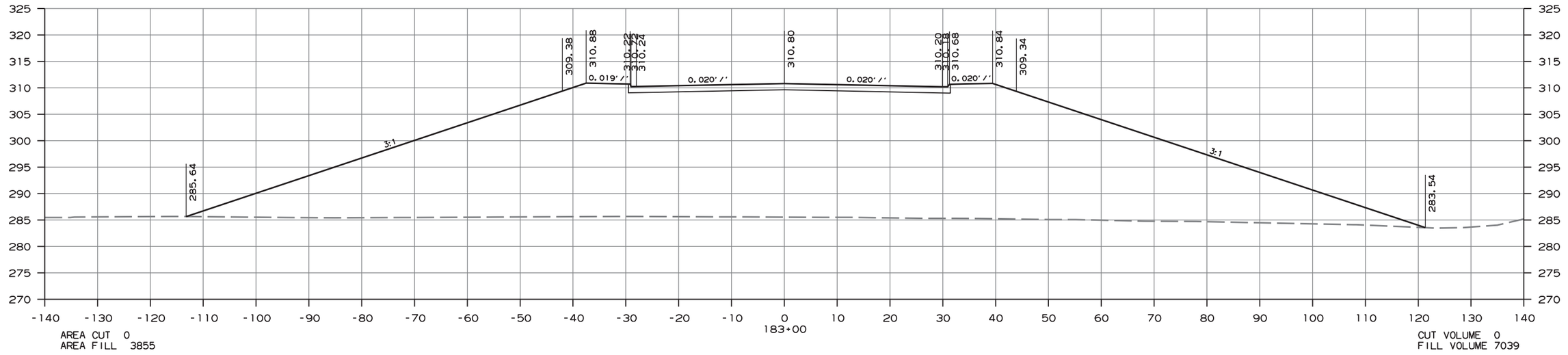
CROSS SECTION STA. 181+50 TO 182+00

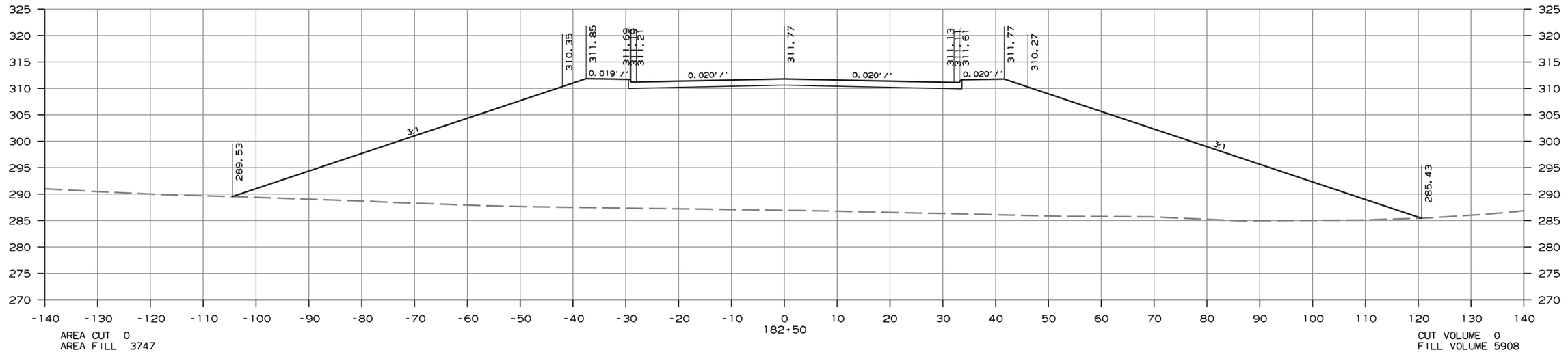
ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	376	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





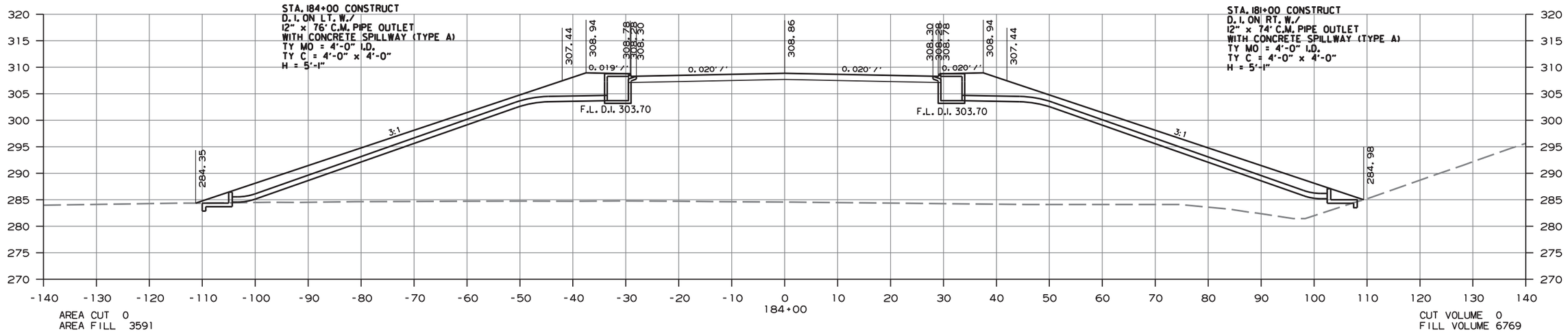
CROSS SECTION STA. 182+50 TO 183+00

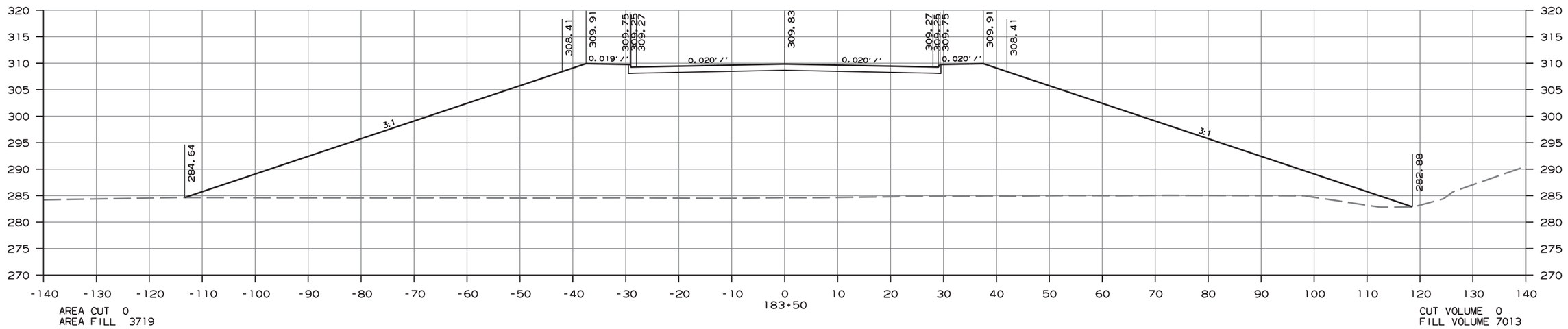
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	377	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





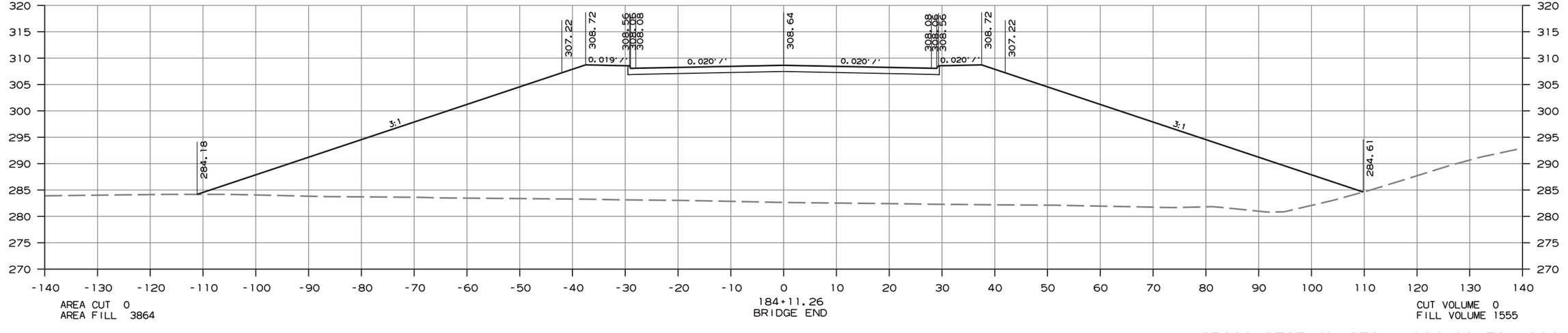
CROSS SECTION STA. 183+50 TO 184+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	378	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2

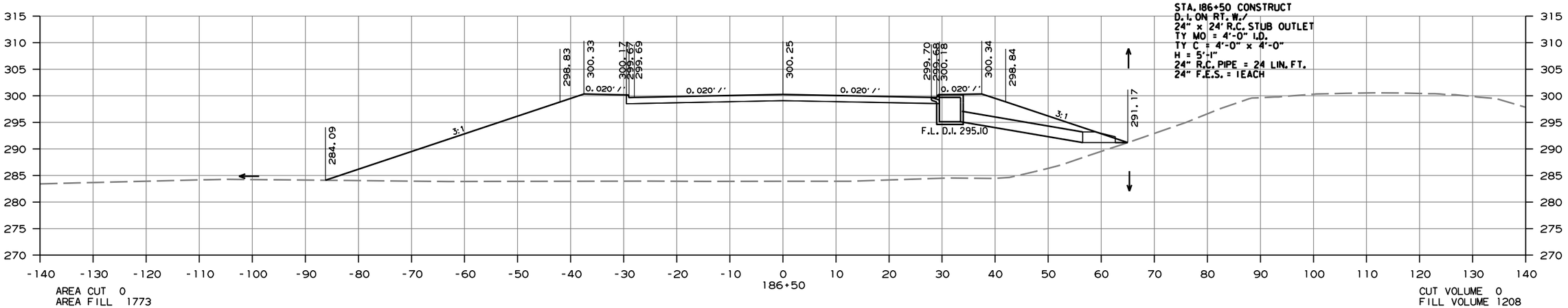


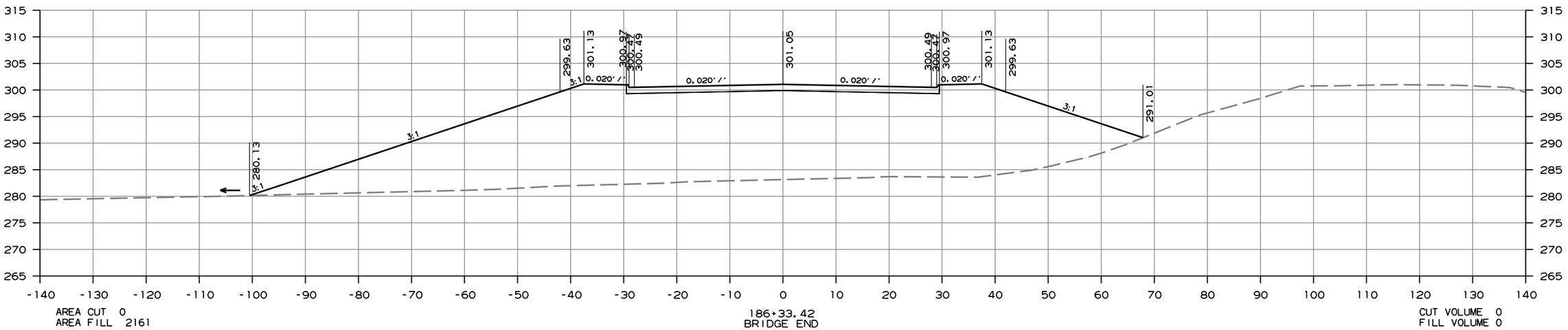
CROSS SECTION STA. 184+11 TO 184+11

omme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	379	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





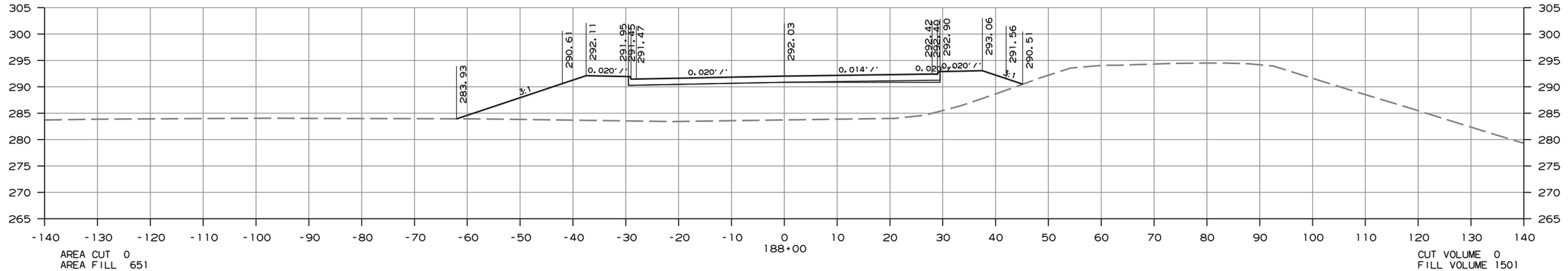
CROSS SECTION STA. 186+33 TO 186+50

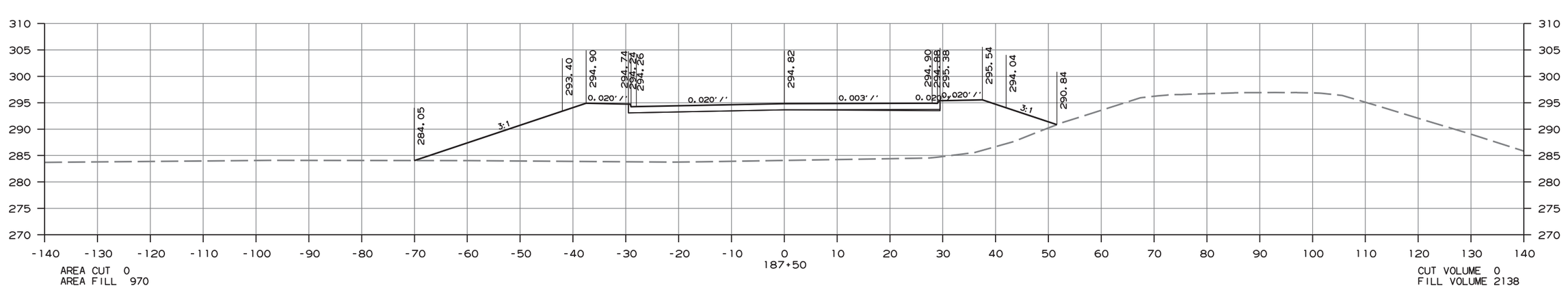
amme613 10/1/2020
R080457.DGN

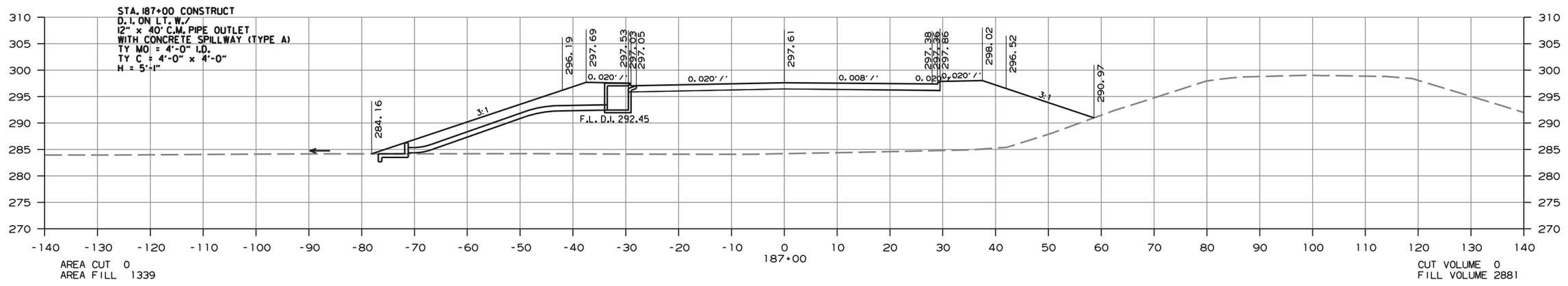
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	380	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







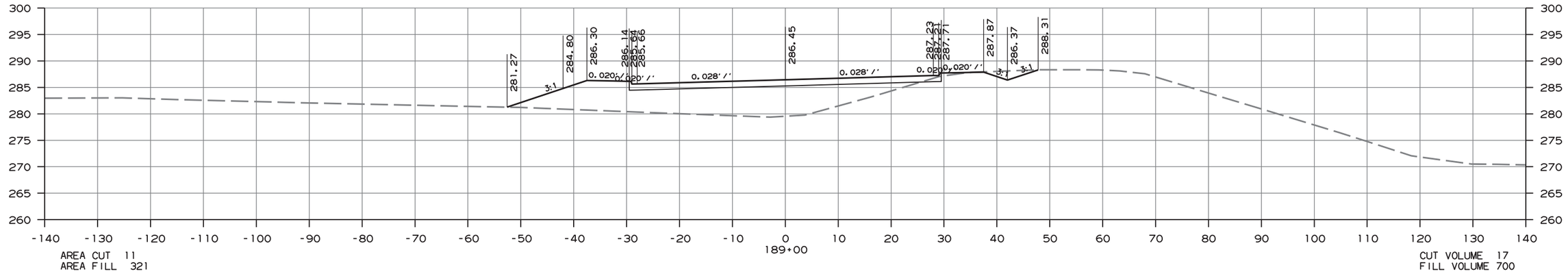
CROSS SECTION STA. 187+00 TO 188+00

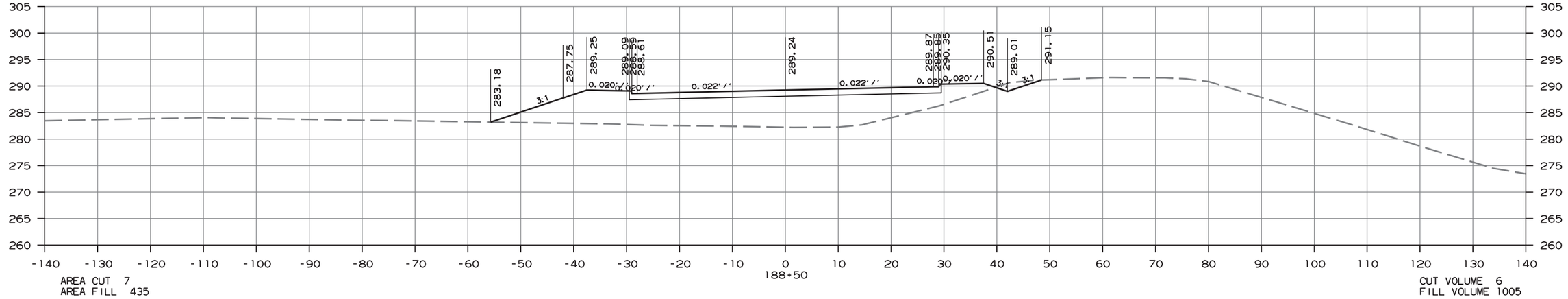
ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	381	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





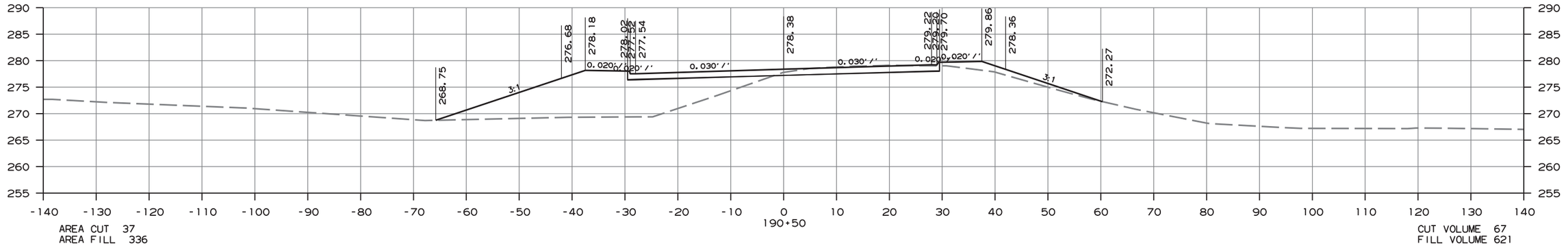
CROSS SECTION STA. 188+50 TO 189+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	382	517

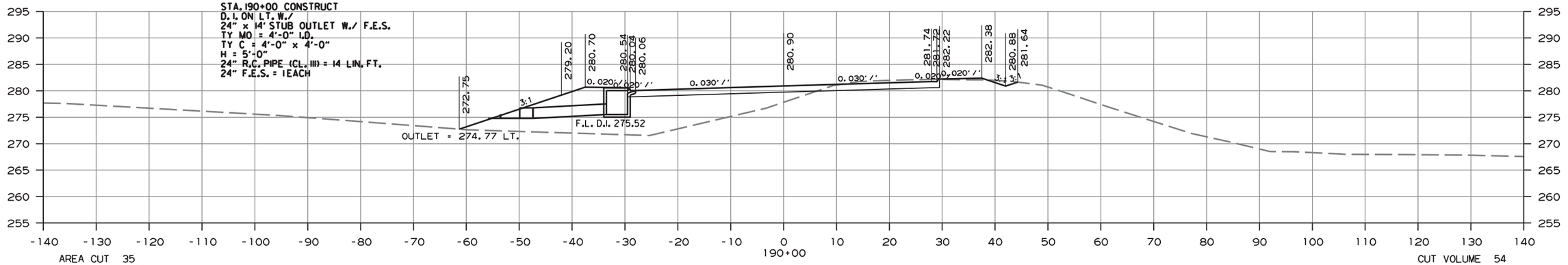
(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 37
AREA FILL 336

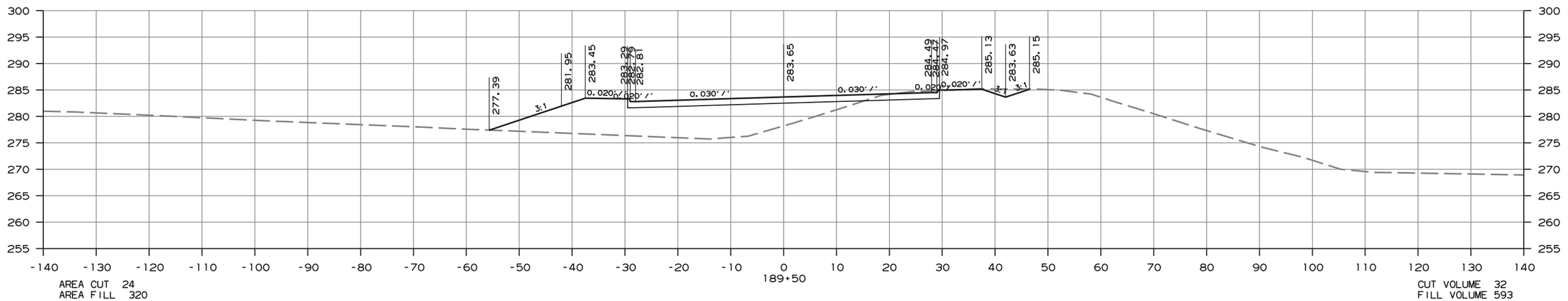
CUT VOLUME 67
FILL VOLUME 621

STA. 190+00 CONSTRUCT
D.I. ON LT. W./
24" x 14' STUB OUTLET W./ F.E.S.
TY MO = 4'-0" I.D.
TY C = 4'-0" x 4'-0"
H = 5'-0"
24" R.C. PIPE (CL. III) = 14 LIN. FT.
24" F.E.S. = 1EACH



AREA CUT 35
AREA FILL 336

CUT VOLUME 54
FILL VOLUME 607



AREA CUT 24
AREA FILL 320

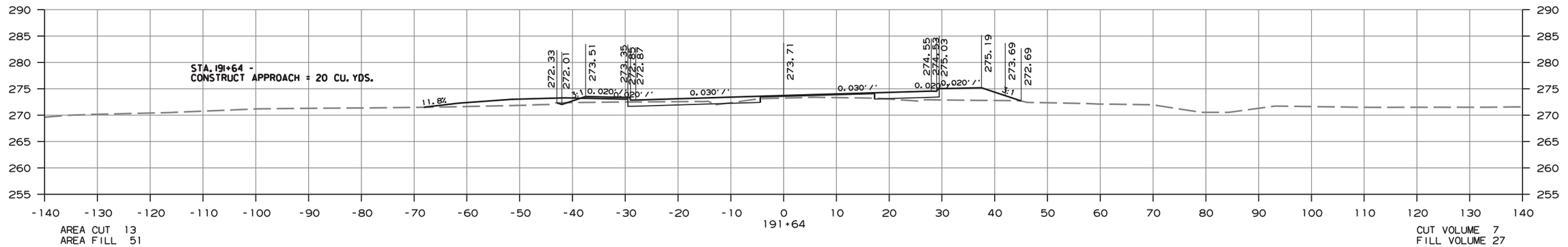
CUT VOLUME 32
FILL VOLUME 593

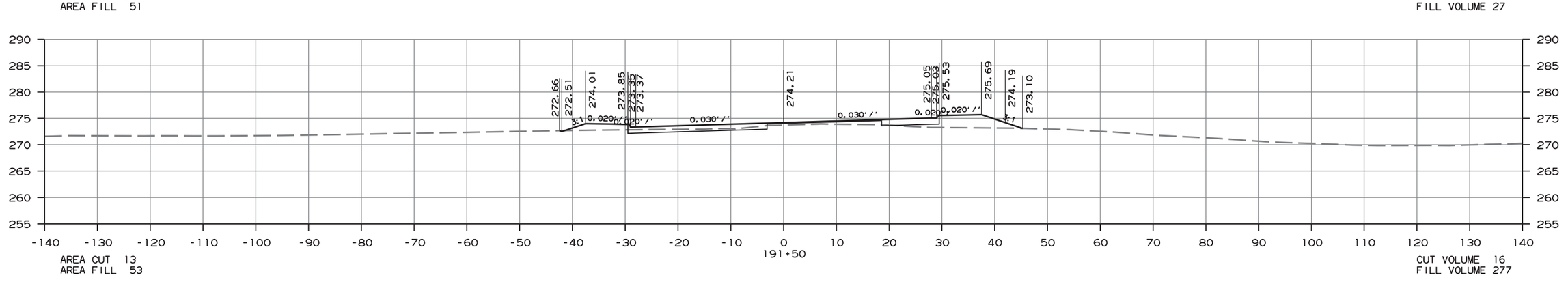
CROSS SECTION STA. 189+50 TO 190+50

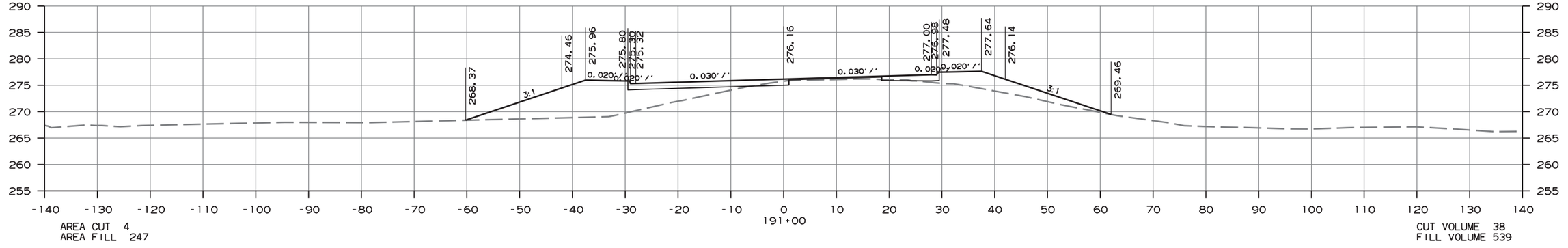
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	383	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







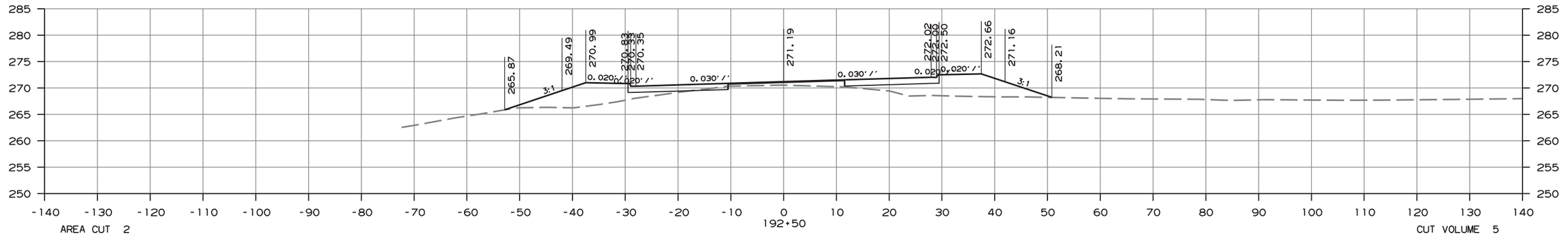
CROSS SECTION STA. 191+00 TO 191+64

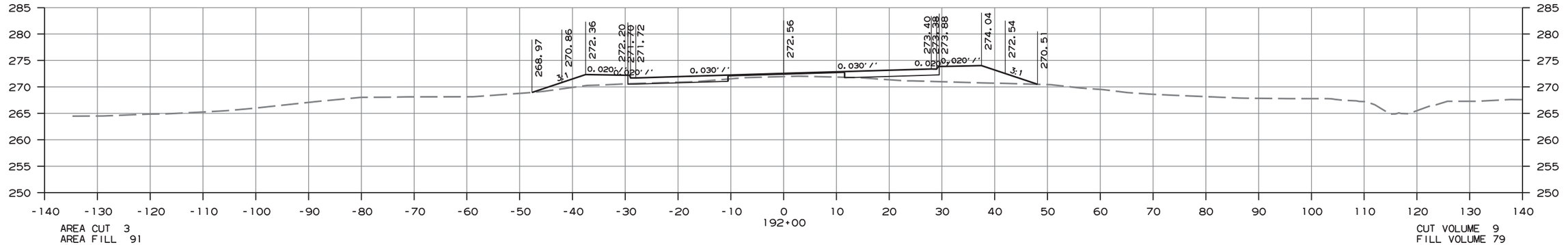
amme613 10/1/2020
R080457.DGN

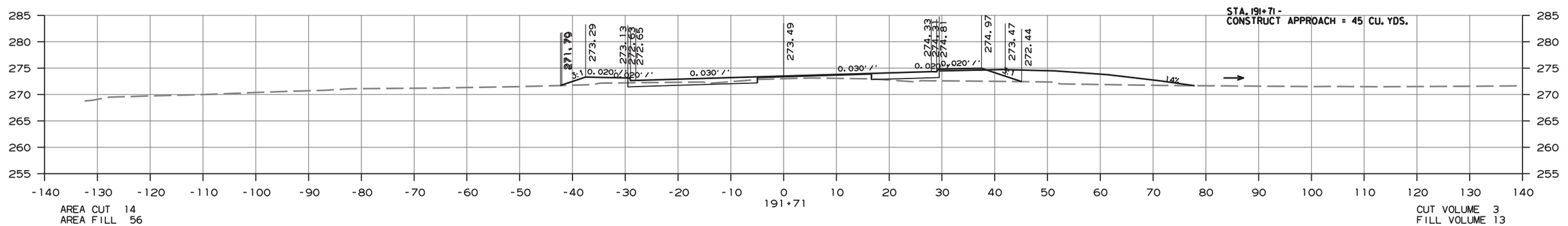
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	384	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





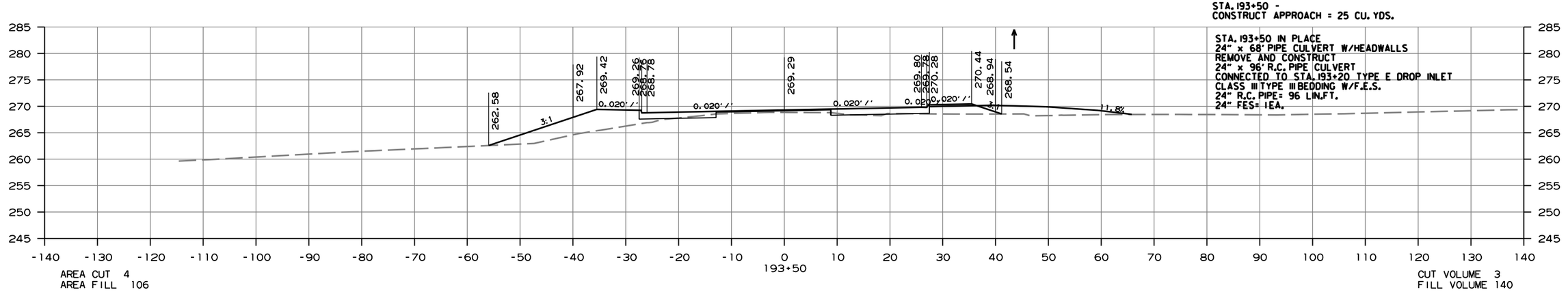


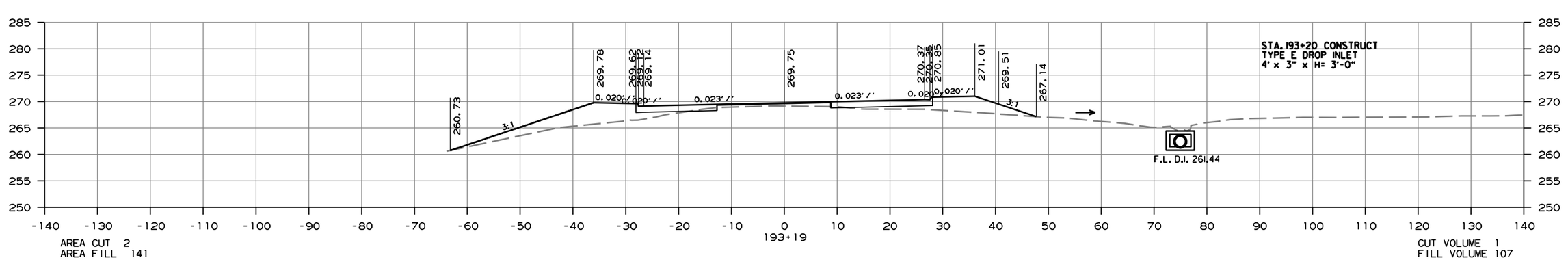
CROSS SECTION STA. 191+71 TO 192+50

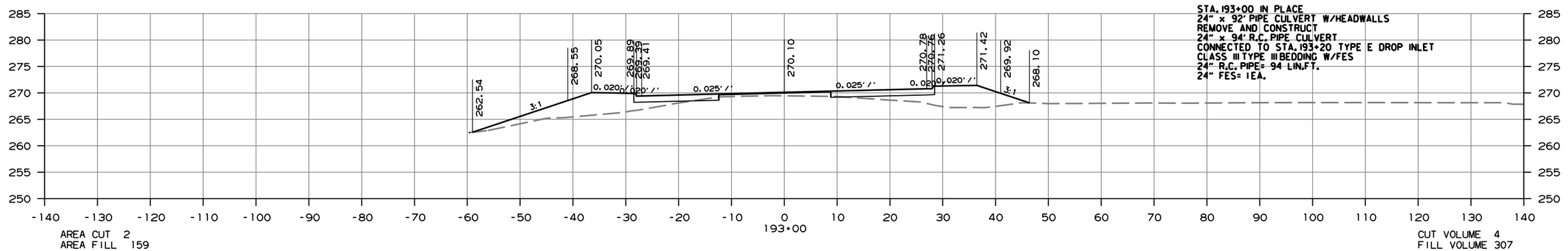
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	385	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







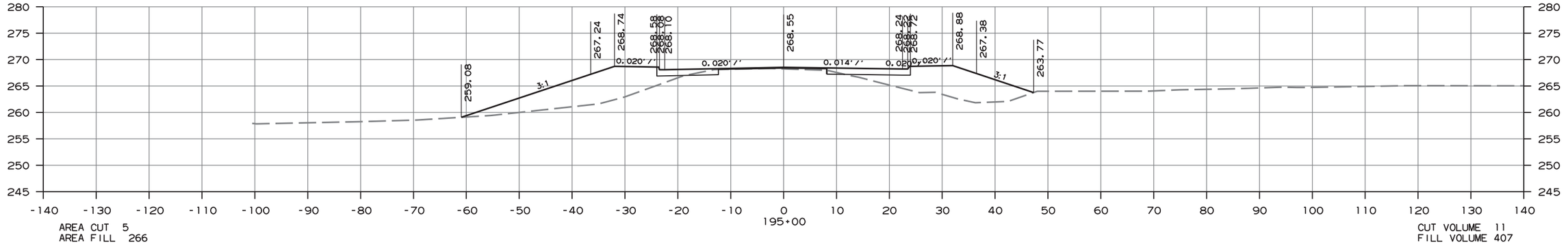
CROSS SECTION STA. 193+00 TO 193+50

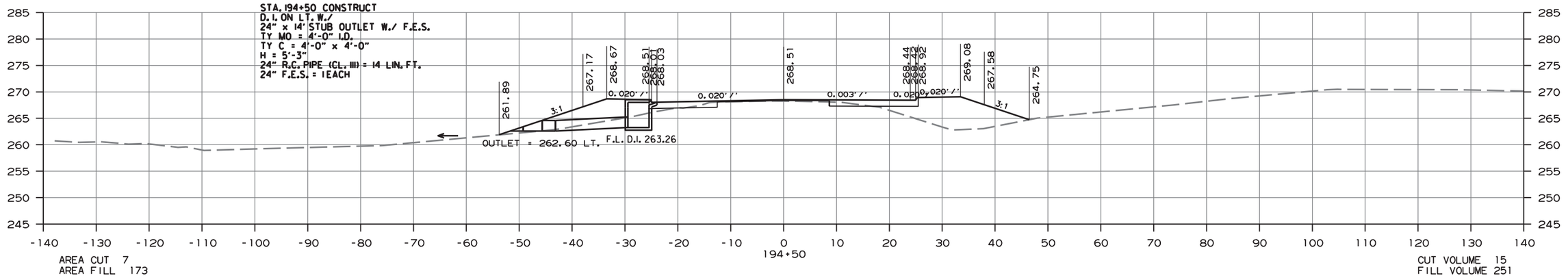
amme613 10/1/2020
R080457.DGN

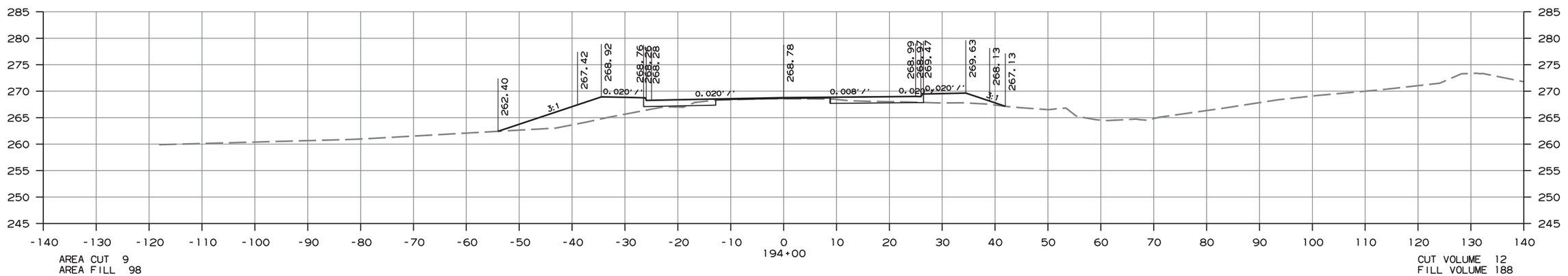
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	386	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2





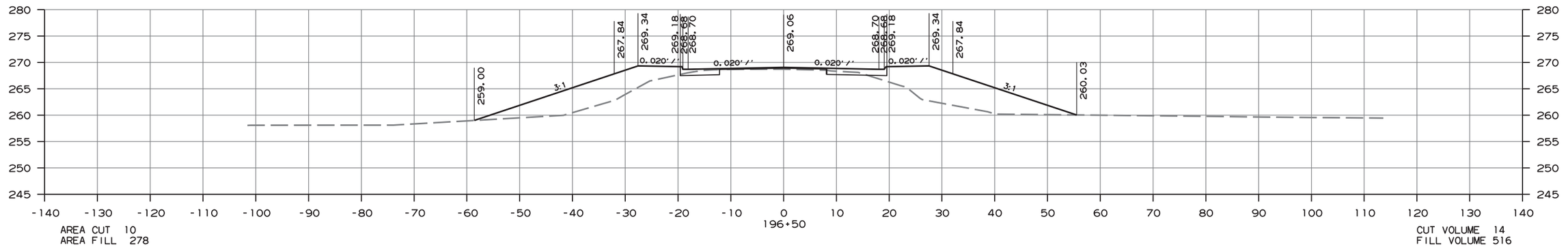


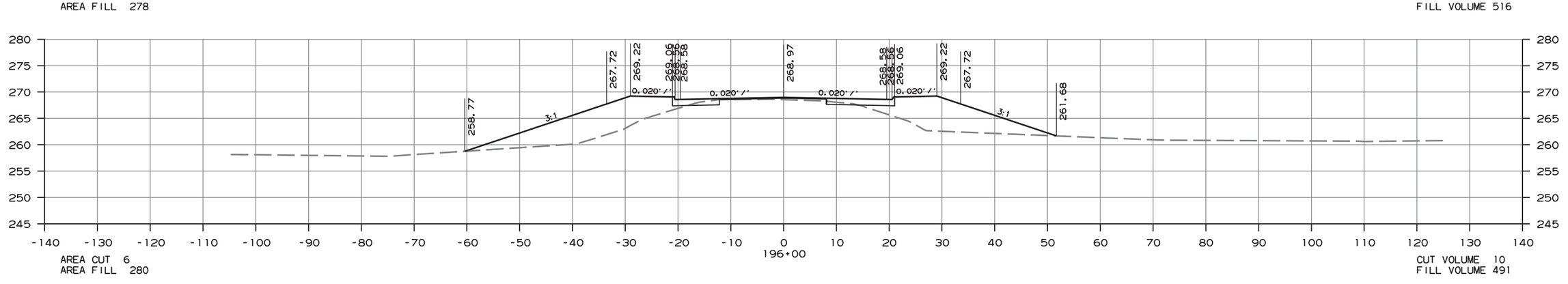
CROSS SECTION STA. 194+00 TO 195+00

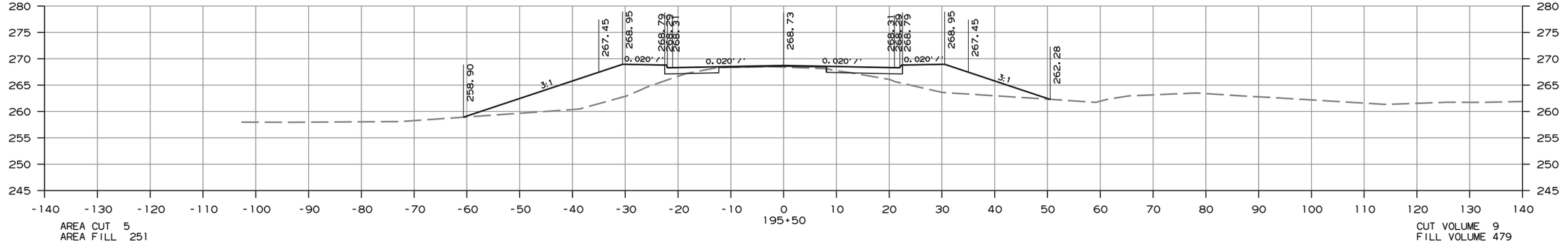
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	387	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







CROSS SECTION STA. 195+50 TO 196+50

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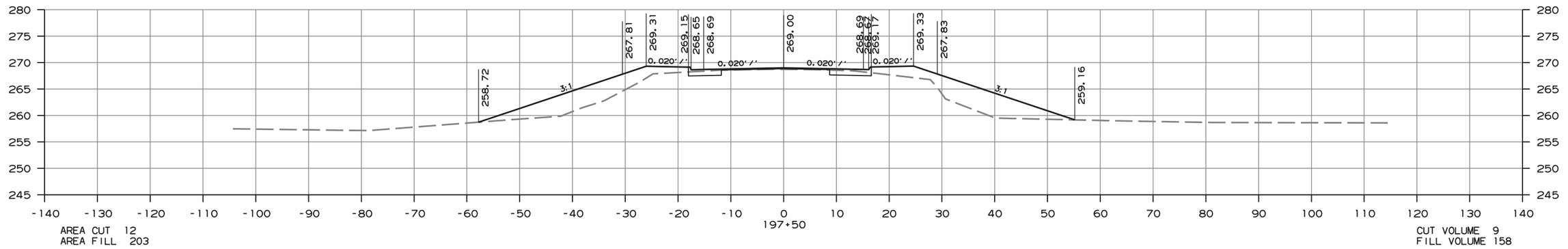
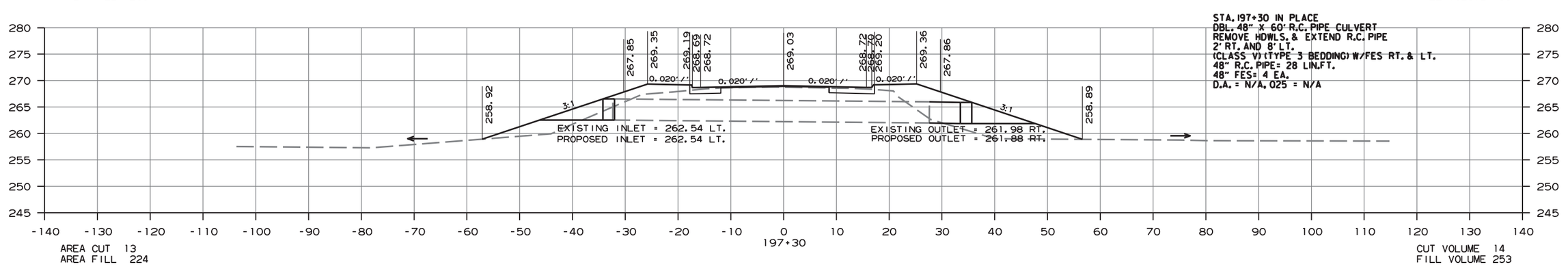
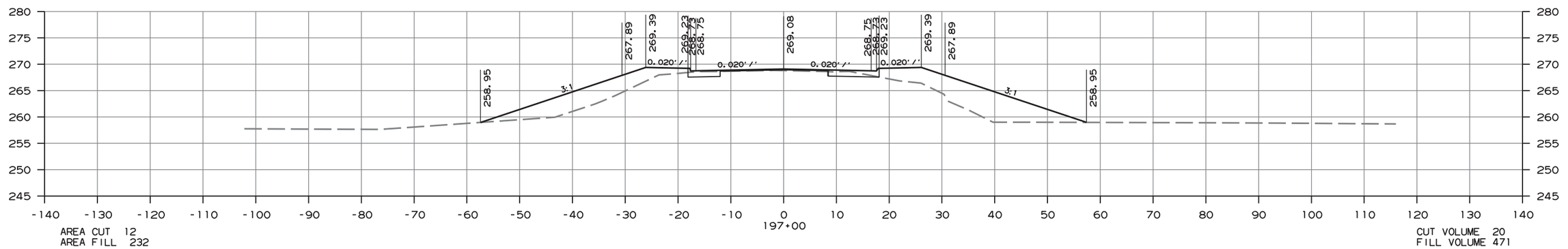
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	388	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







CROSS SECTION STA. 197+00 TO 197+50

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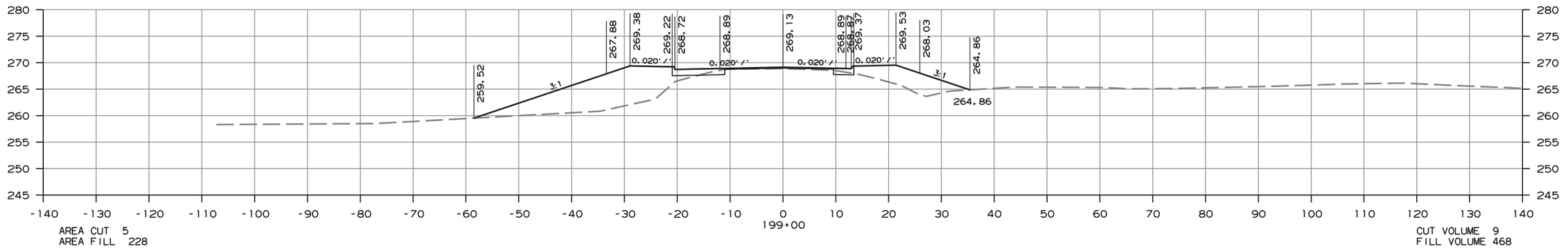
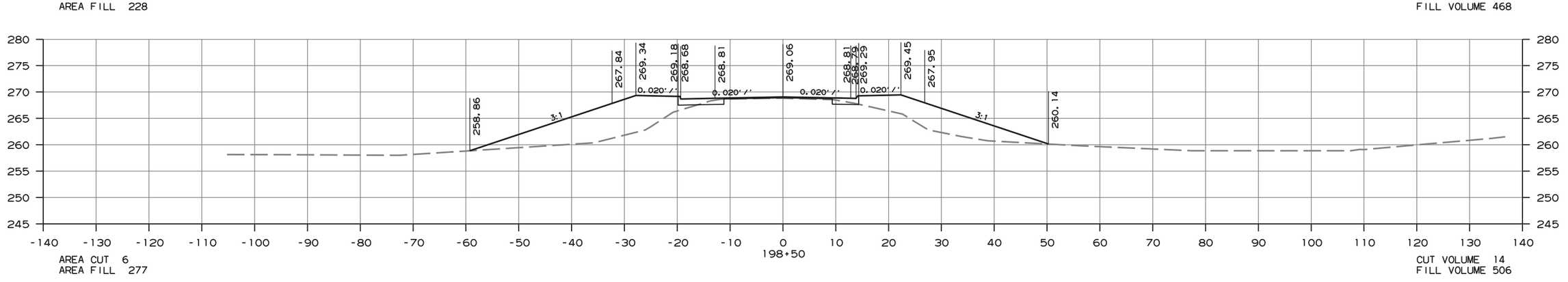
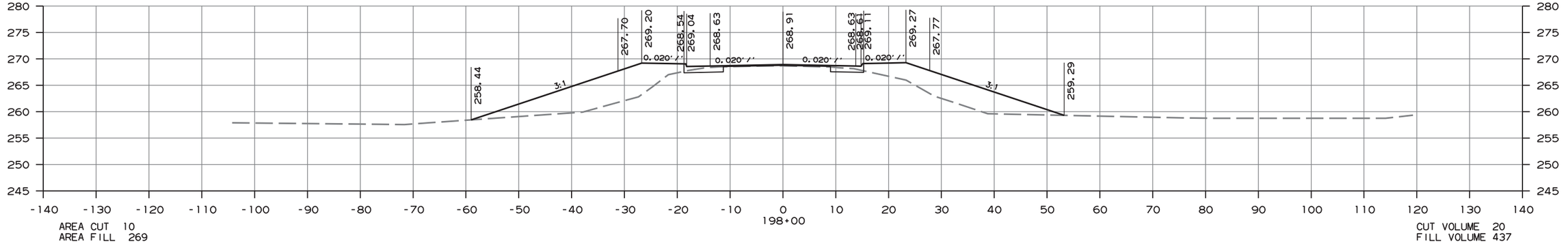
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	389	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







CROSS SECTION STA. 198+00 TO 199+00

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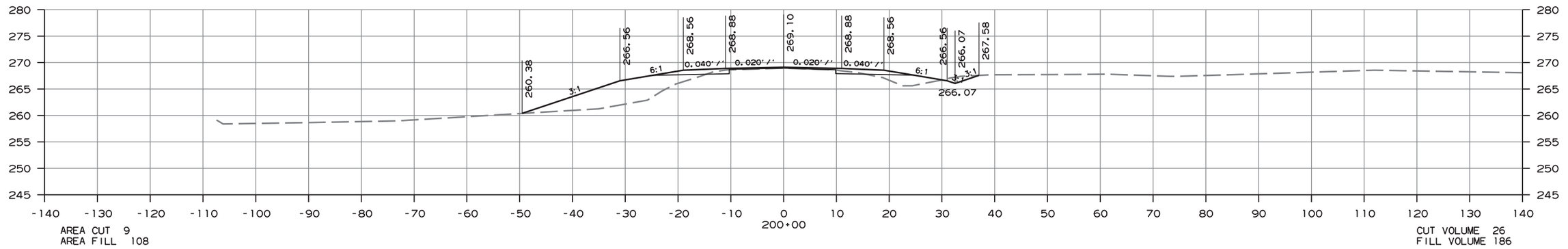
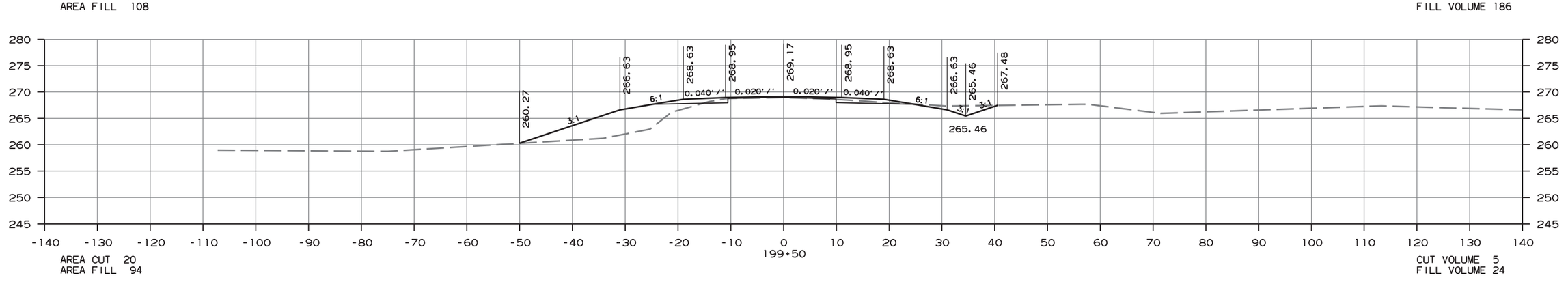
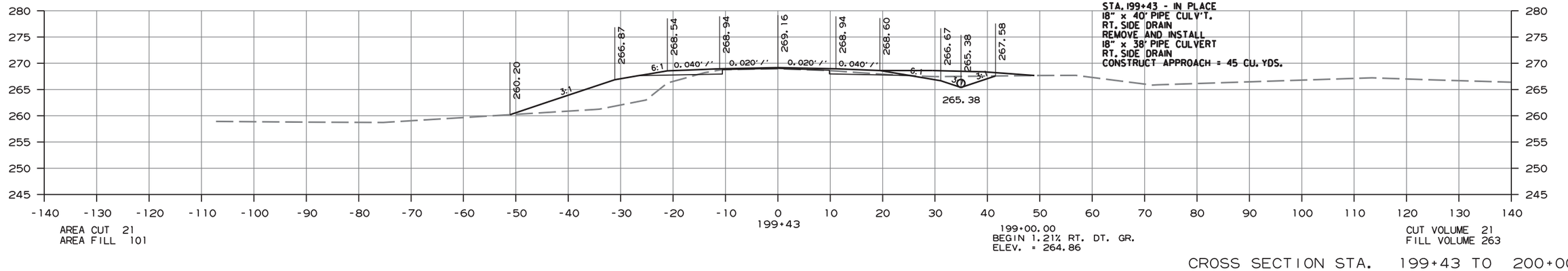
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	390	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







STA. 199+43 - IN PLACE
18" x 40' PIPE CULV'T.
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

CROSS SECTION STA. 199+43 TO 200+00

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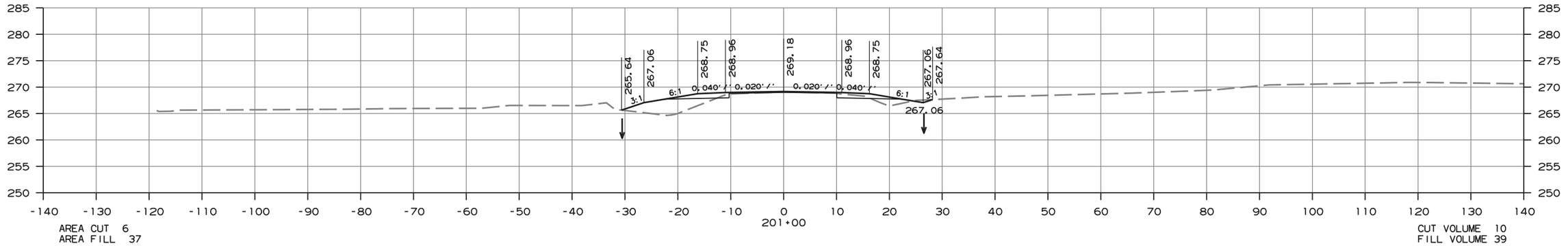
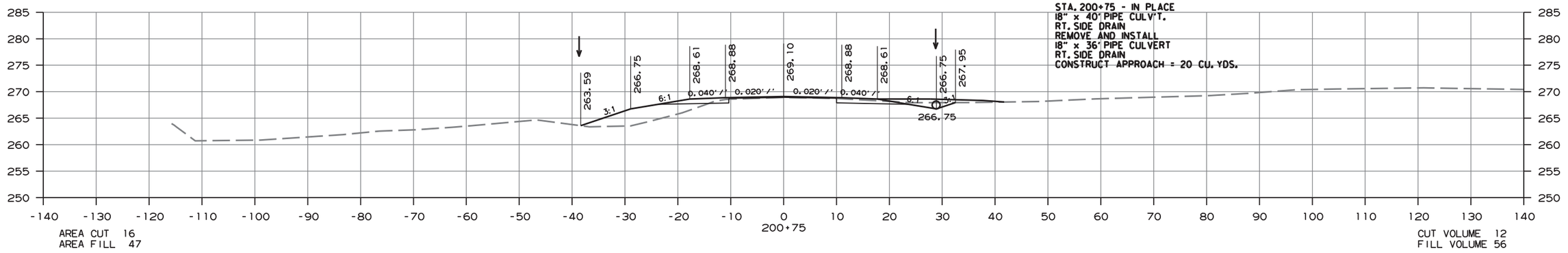
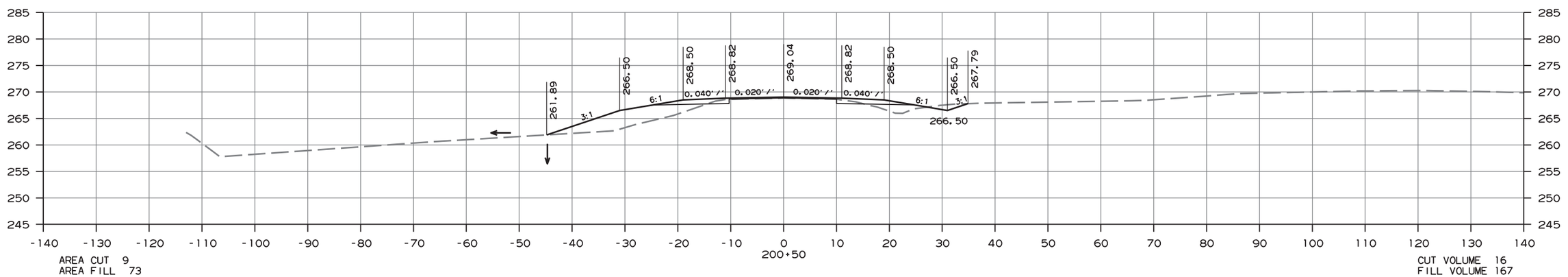
				6	ARK.			
				JOB NO.		080457	391	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2







CROSS SECTION STA. 200+50 TO 201+00

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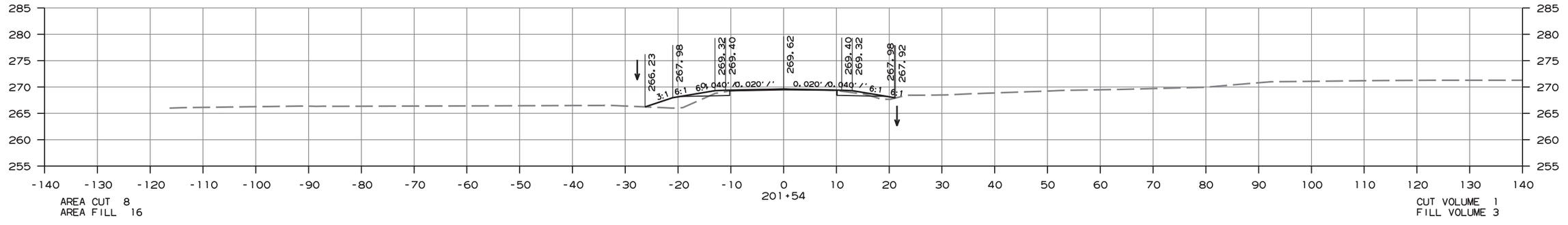
RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

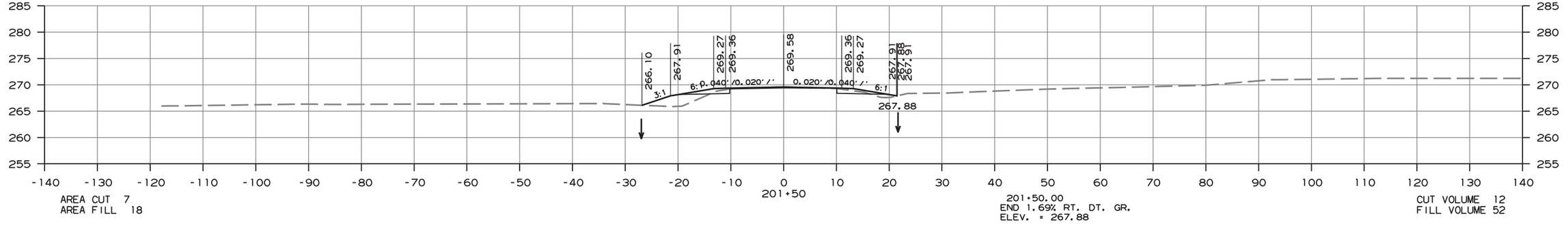
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	392	517

(2) CROSS SECTIONS - HWY. 89 SECTION 2



AREA CUT 8
AREA FILL 16

CUT VOLUME 1
FILL VOLUME 3



AREA CUT 7
AREA FILL 18

201+50.00
END 1.69% RT. DT. GR.
ELEV. = 267.88

CUT VOLUME 12
FILL VOLUME 52

CROSS SECTION STA. 201+50 TO 201+54

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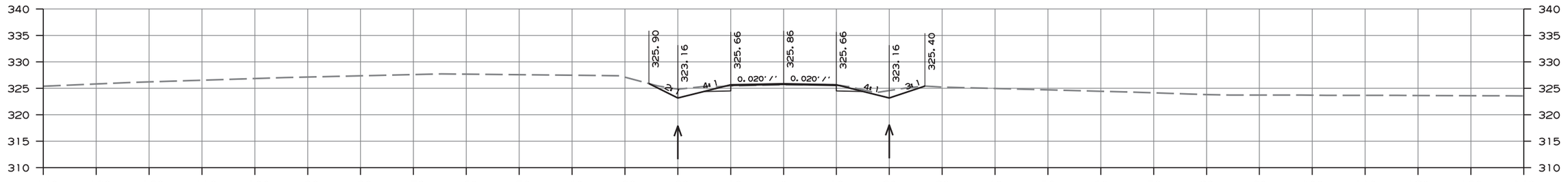
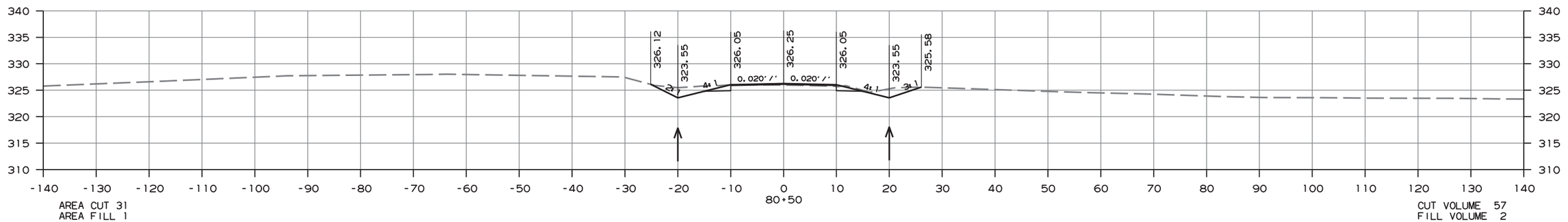
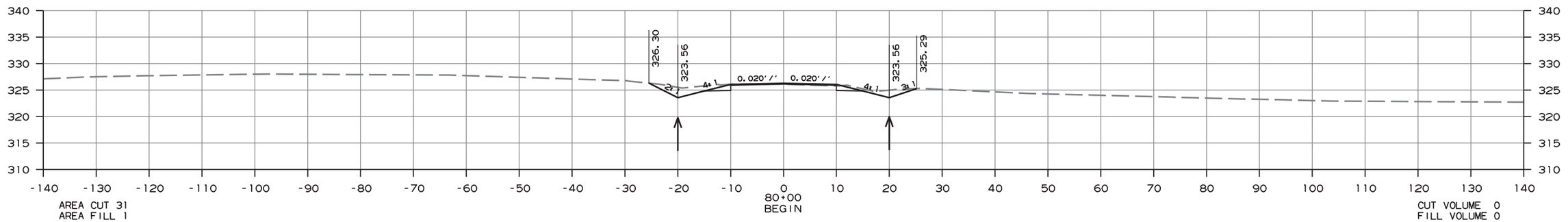
				6	ARK.			
				JOB NO.		080457	393	517

(2) CROSS SECTIONS - ARKANSAS RIVER TRAIL







CROSS SECTION STA. 80+00 TO STA. 81+00

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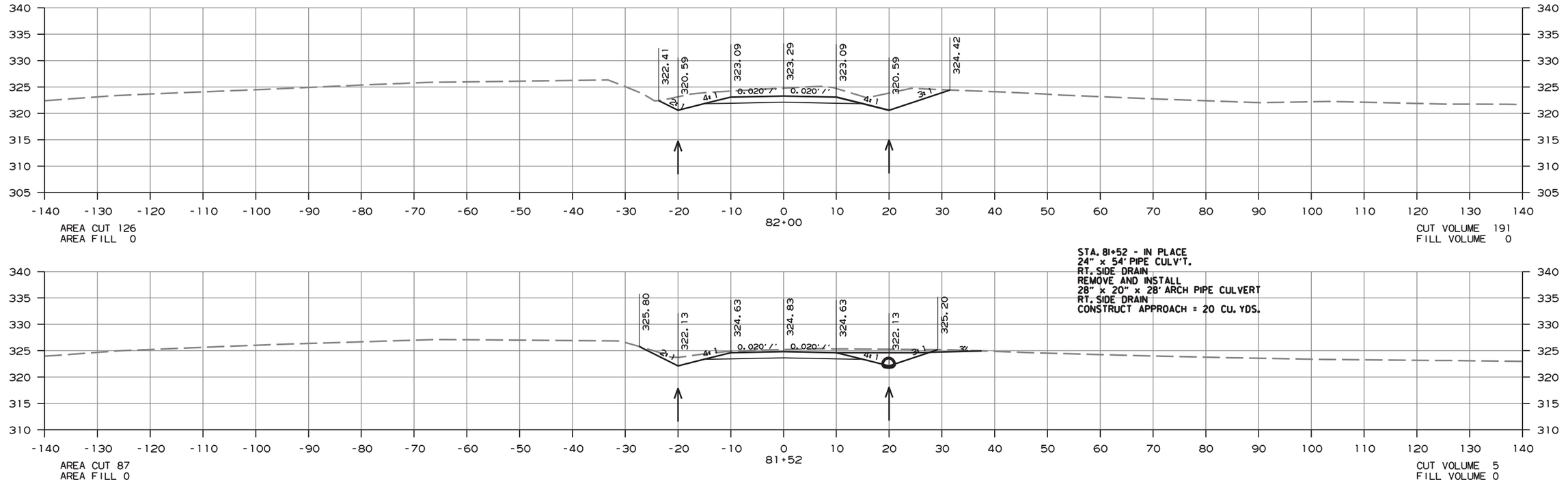
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	394	517

(2) CROSS SECTIONS - ARKANSAS RIVER TRAIL



CROSS SECTION STA. 81+50 TO STA. 82+00

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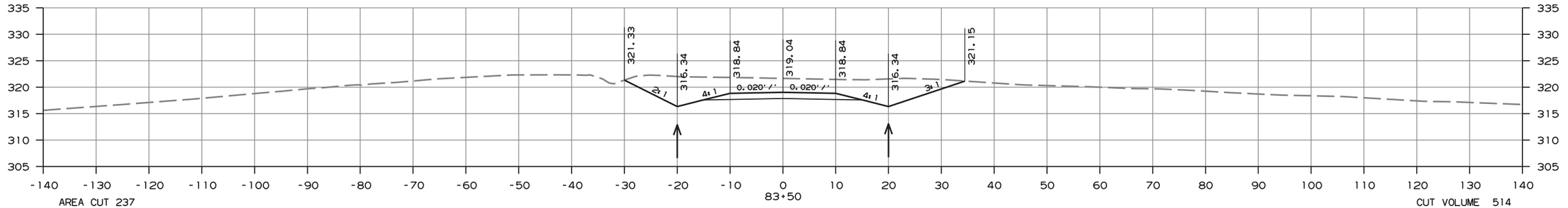
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	395	517

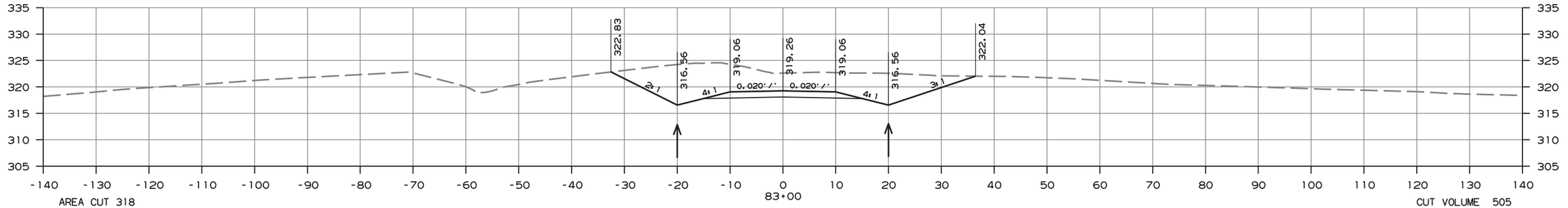
(2) CROSS SECTIONS - ARKANSAS RIVER TRAIL



83+50

AREA CUT 237
AREA FILL 0

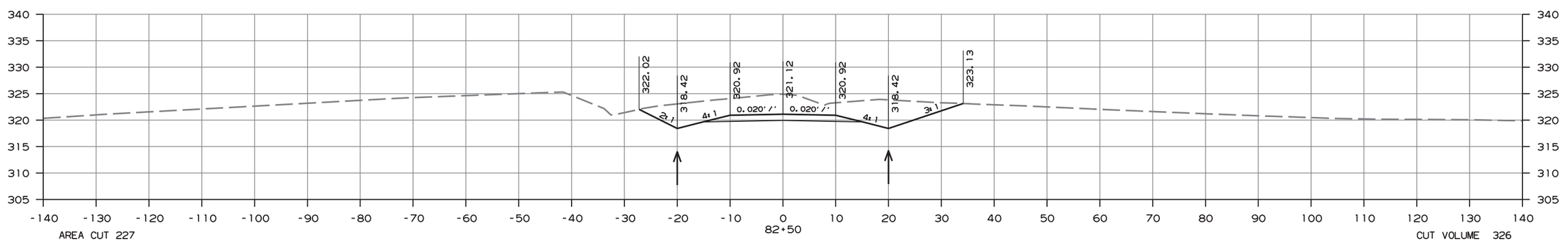
CUT VOLUME 514
FILL VOLUME 0



83+00

AREA CUT 318
AREA FILL 0

CUT VOLUME 505
FILL VOLUME 0



82+50

AREA CUT 227
AREA FILL 0

CUT VOLUME 326
FILL VOLUME 0

CROSS SECTION STA. 82+50 TO STA. 83+50

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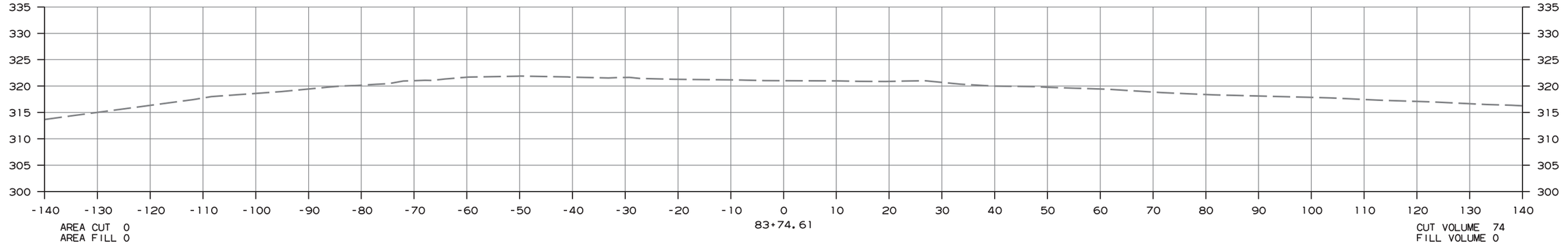
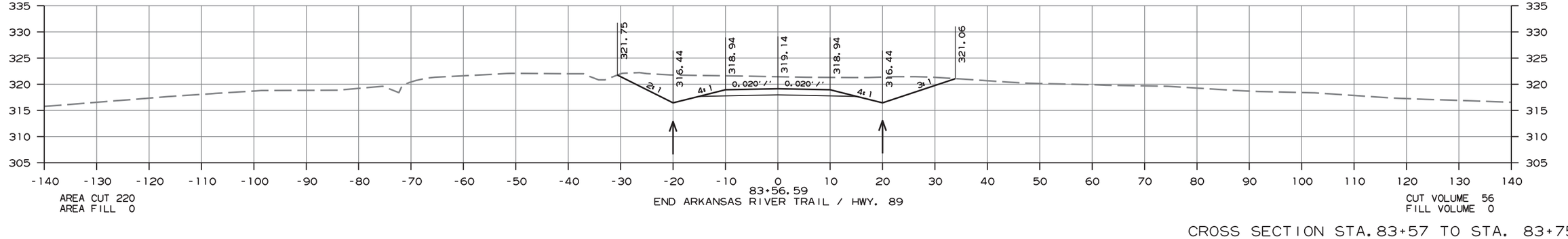
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	396	517

(2) CROSS SECTIONS - ARKANSAS RIVER TRAIL





CROSS SECTION STA. 83+57 TO STA. 83+75

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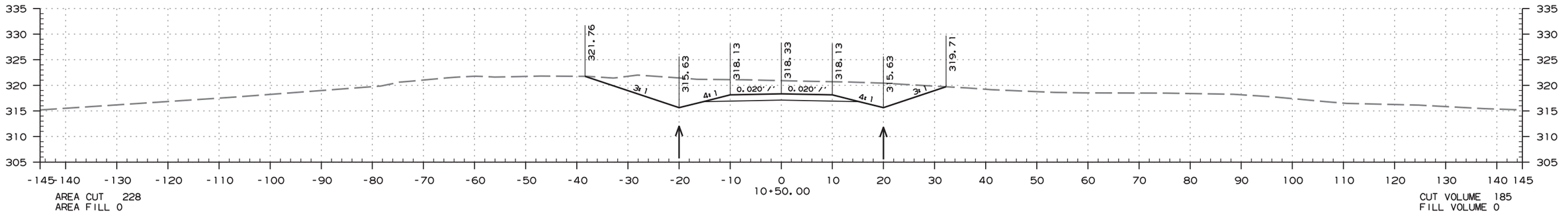
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	397	517

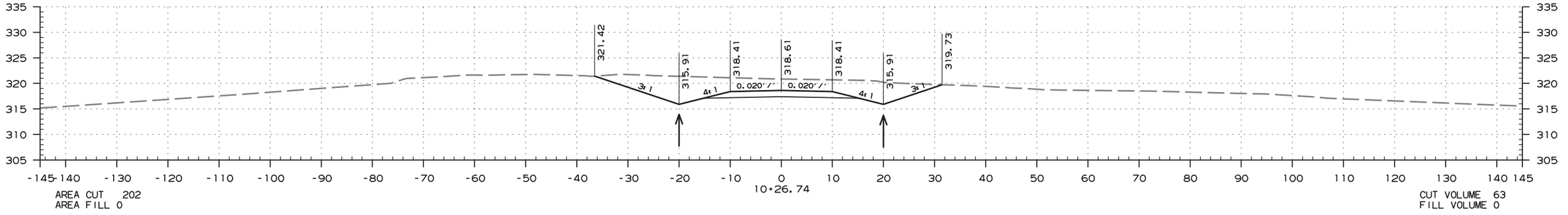
(2) CROSS SECTIONS - SNUGGS CIRCLE



AREA CUT 228
AREA FILL 0

10+50.00

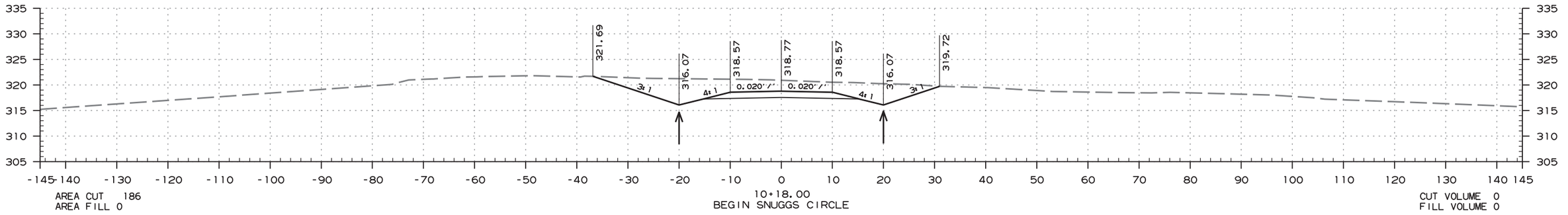
CUT VOLUME 185
FILL VOLUME 0



AREA CUT 202
AREA FILL 0

10+26.74

CUT VOLUME 63
FILL VOLUME 0



AREA CUT 186
AREA FILL 0

10+18.00
BEGIN SNUGGS CIRCLE

CUT VOLUME 0
FILL VOLUME 0

STA. 10+18.00 TO STA. 10+50.00

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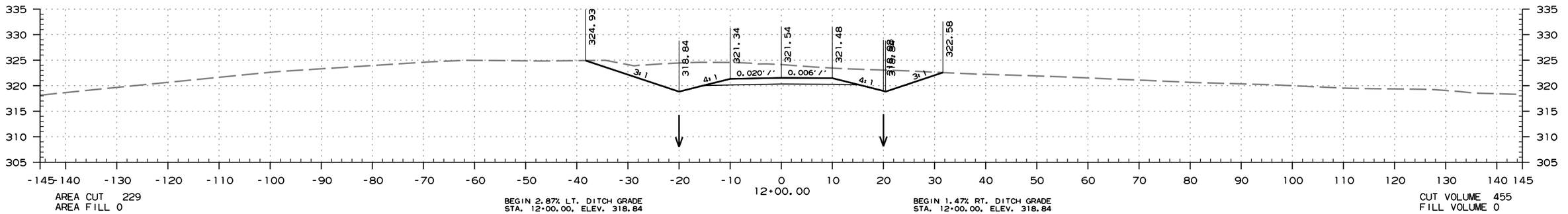
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	398	517

(2) CROSS SECTIONS - SNUGGS CIRCLE

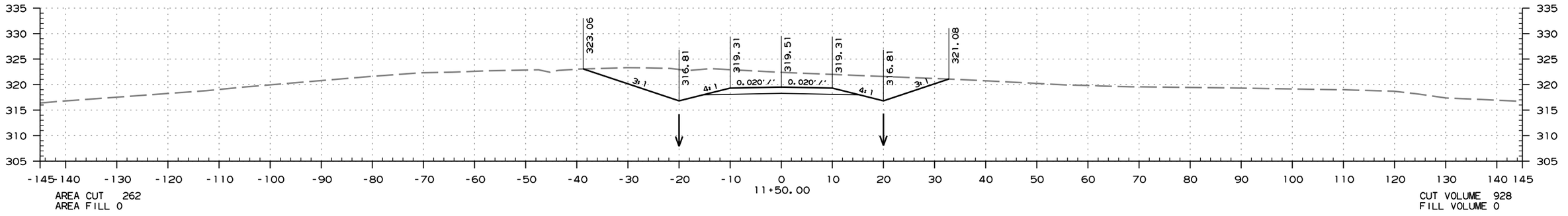


AREA CUT 229
AREA FILL 0

BEGIN 2.87% LT. DITCH GRADE
STA. 12+00.00, ELEV. 318.84

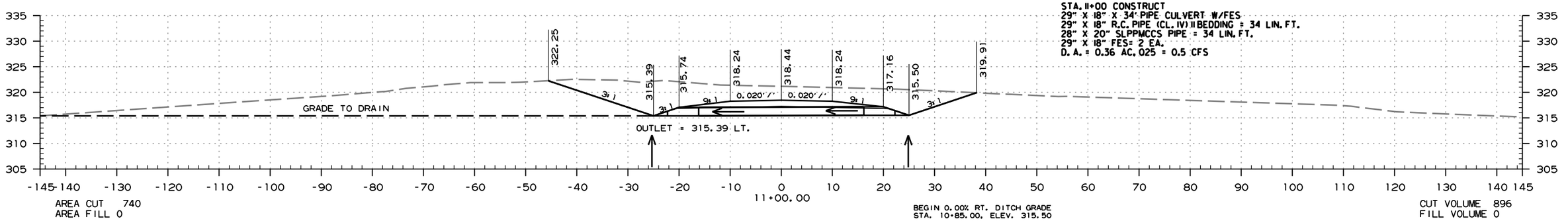
BEGIN 1.47% RT. DITCH GRADE
STA. 12+00.00, ELEV. 318.84

CUT VOLUME 455
FILL VOLUME 0



AREA CUT 262
AREA FILL 0

CUT VOLUME 928
FILL VOLUME 0



STA. 11+00 CONSTRUCT
29" X 18" X 34' PIPE CULVERT W/FES
29" X 18" R.C. PIPE (CL. IV) II BEDDING = 34 LIN. FT.
28" X 20" SLPPMCCS PIPE = 34 LIN. FT.
29" X 18" FES= 2 EA.
D. A. = 0.36 AC. 025 = 0.5 CFS

AREA CUT 740
AREA FILL 0

BEGIN 0.00% RT. DITCH GRADE
STA. 10+85.00, ELEV. 315.50

END 0.00% RT. DITCH GRADE
STA. 11+15.00, ELEV. 315.50

CUT VOLUME 896
FILL VOLUME 0

STA. 11+00.00 TO STA. 12+00.00

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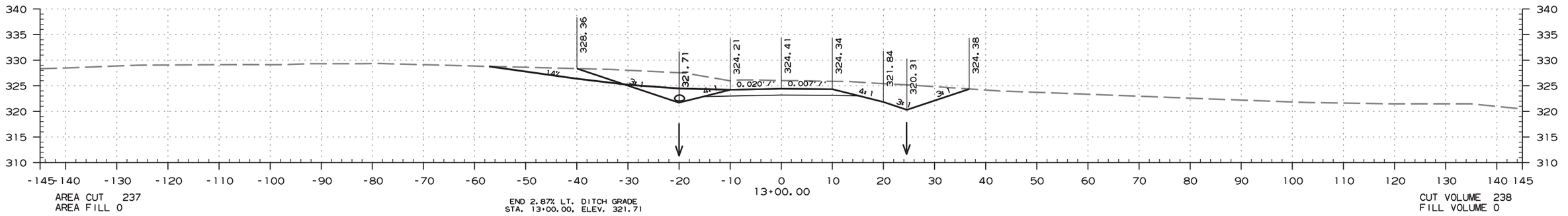
				6	ARK.			
				JOB NO.		080457	399	517

(2) CROSS SECTIONS - SNUGGS CIRCLE

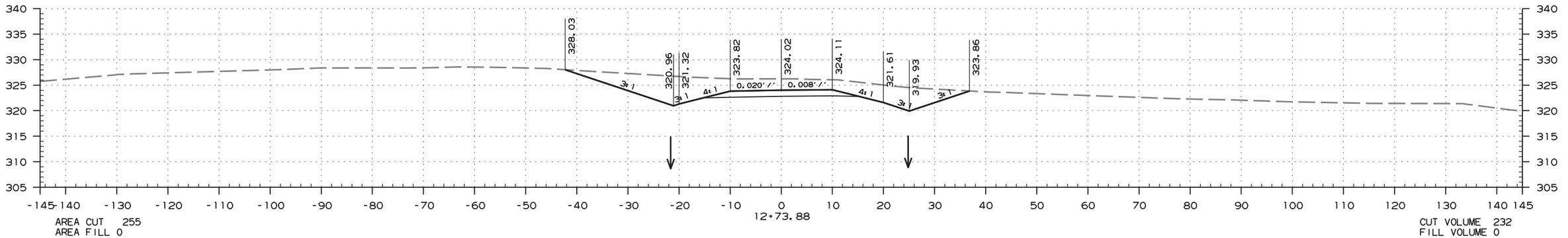
STA. 13+00 - INSTALL
22" x 15" x 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.



AREA CUT 237
AREA FILL 0

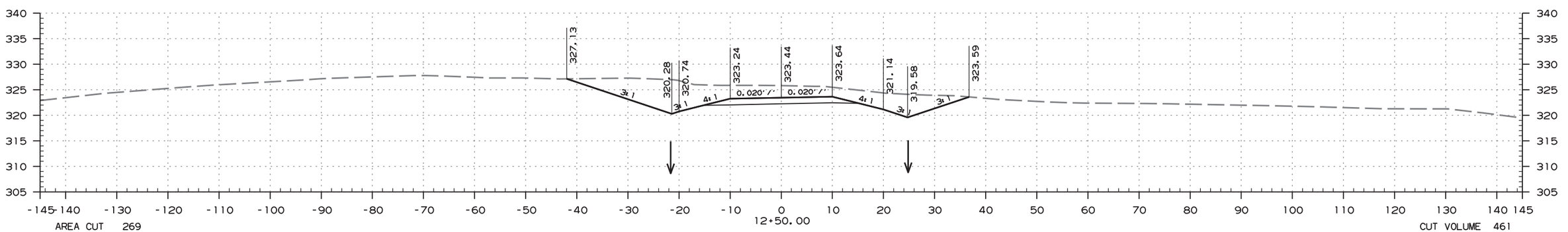
END 2.87% LT. DITCH GRADE
STA. 13+00.00, ELEV. 321.71

CUT VOLUME 238
FILL VOLUME 0



AREA CUT 255
AREA FILL 0

CUT VOLUME 232
FILL VOLUME 0



AREA CUT 269
AREA FILL 0

CUT VOLUME 461
FILL VOLUME 0

STA. 12+50.00 TO STA. 13+00.00

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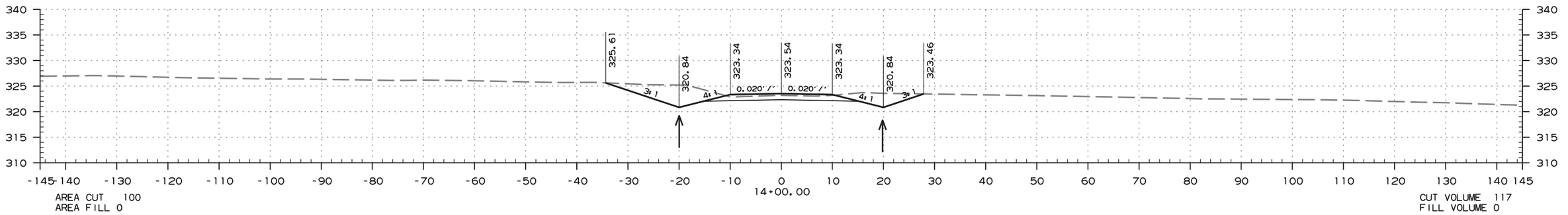
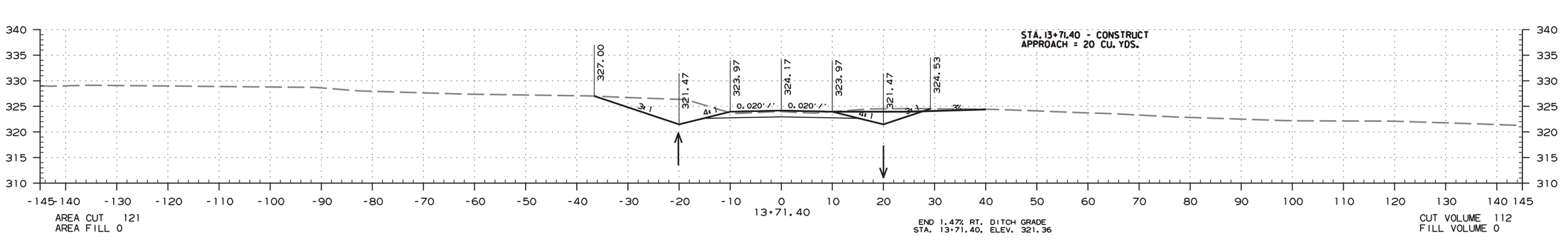
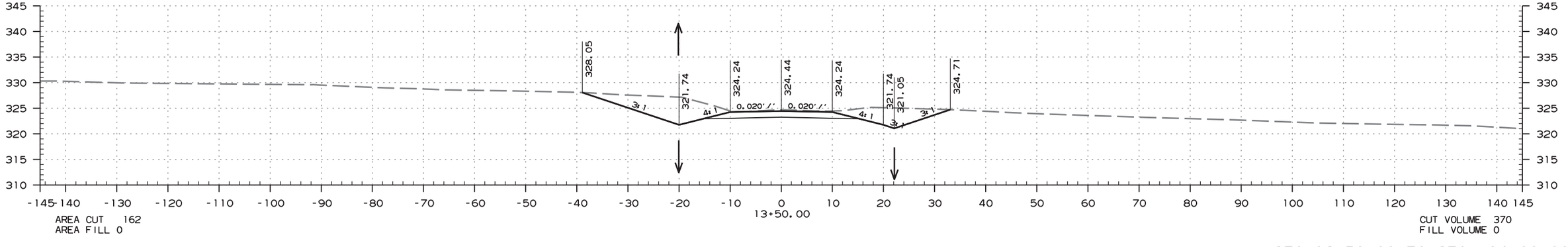
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	400	517

(2) CROSS SECTIONS - SNUGGS CIRCLE







STA. 13+50.00 TO STA. 14+00.00

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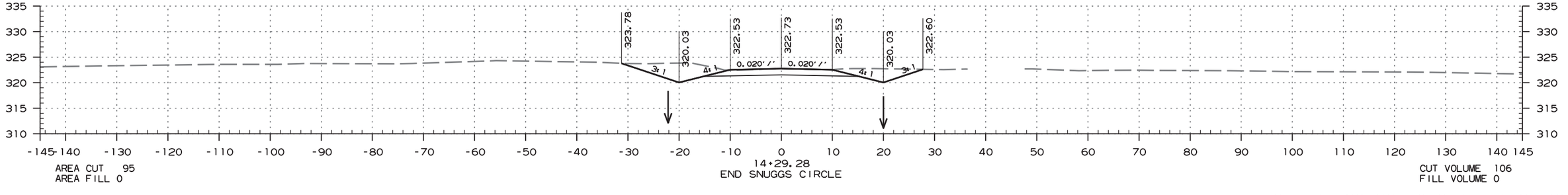
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	401	517

(2) CROSS SECTIONS - SNUGGS CIRCLE



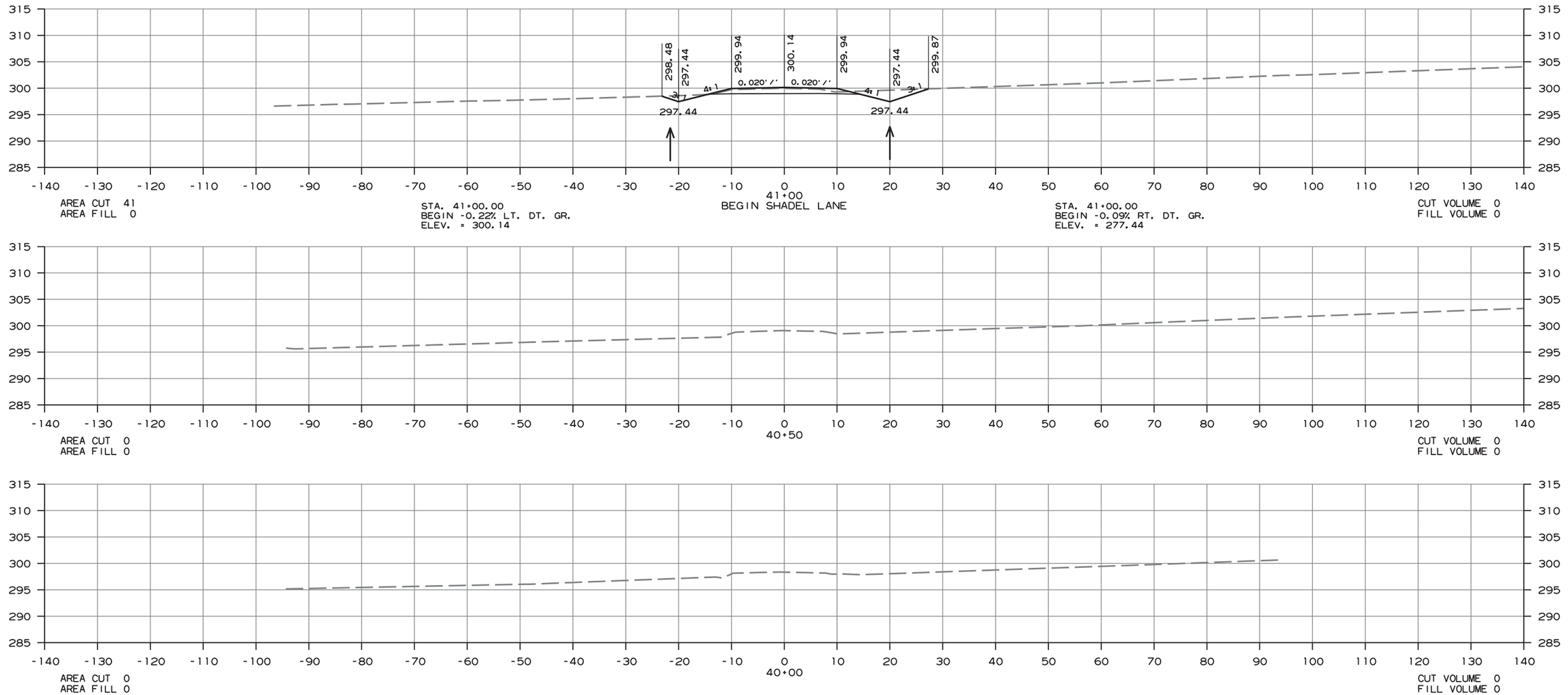
STA. 14+29.28 TO STA. 14+29.28

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	402	517

(2) CROSS SECTIONS - SHADEL LANE

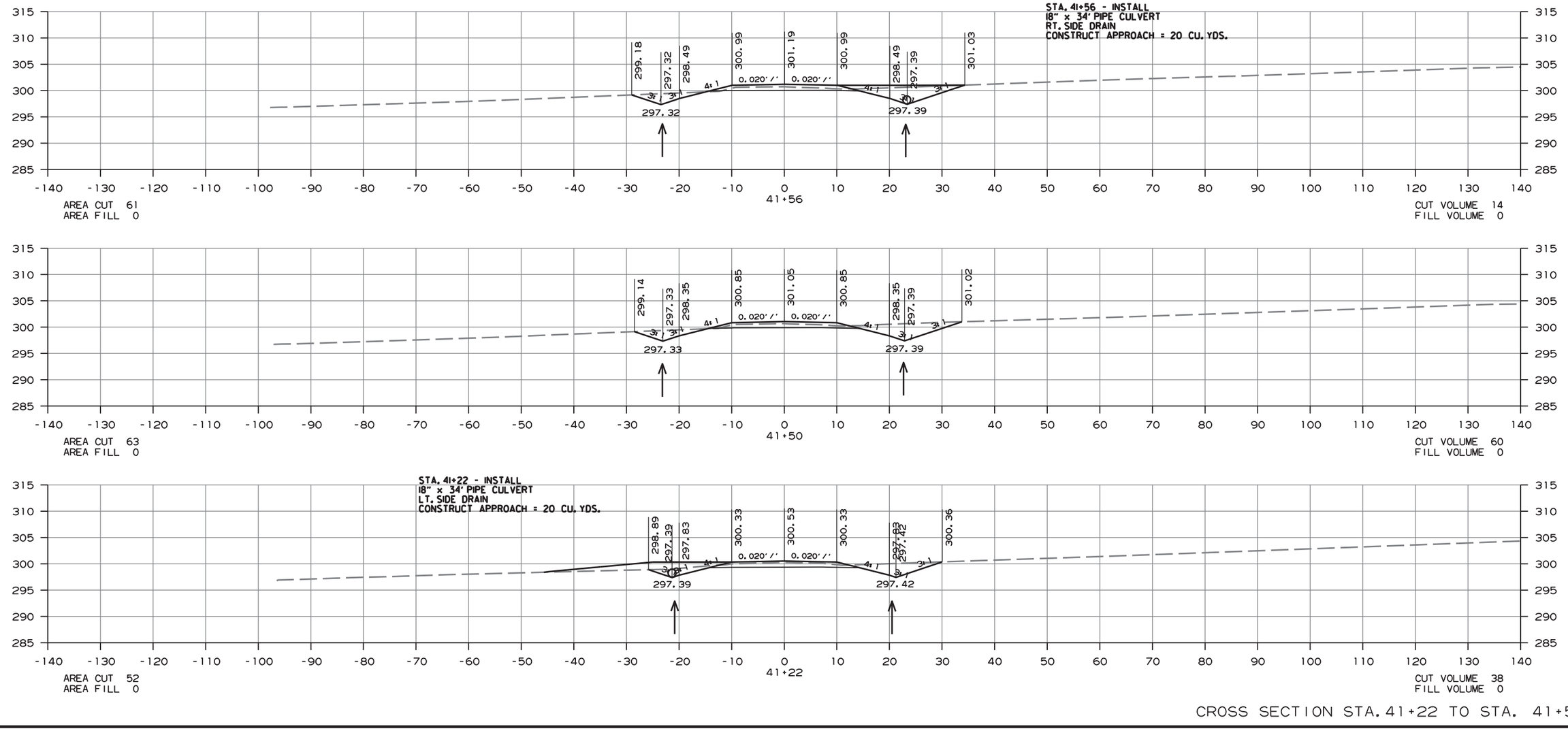


CROSS SECTION STA. 40+00 TO STA. 41+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	403	517

(2) CROSS SECTIONS - SHADEL LANE

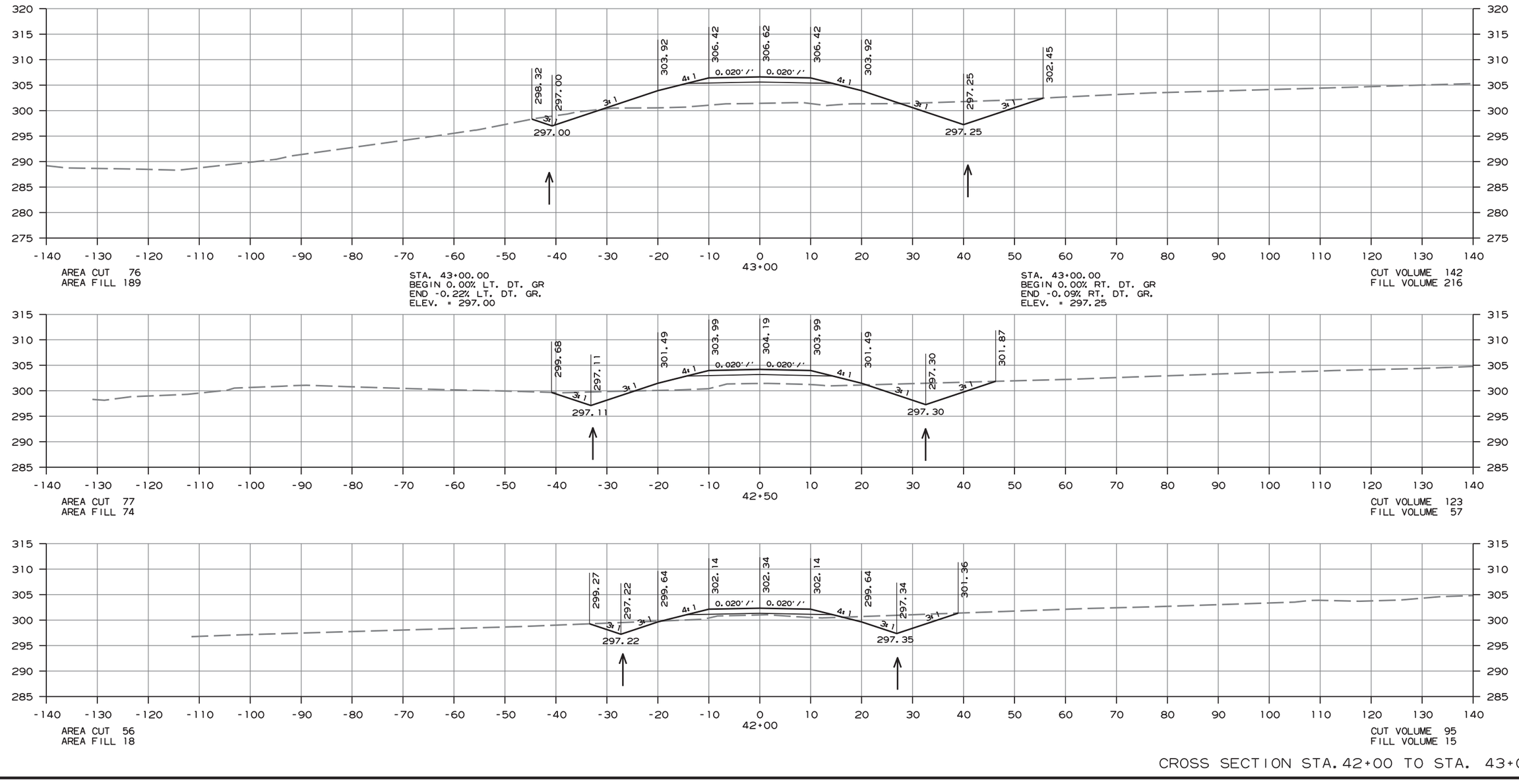


CROSS SECTION STA. 41+22 TO STA. 41+56

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	404	517

(2) CROSS SECTIONS - SHADEL LANE

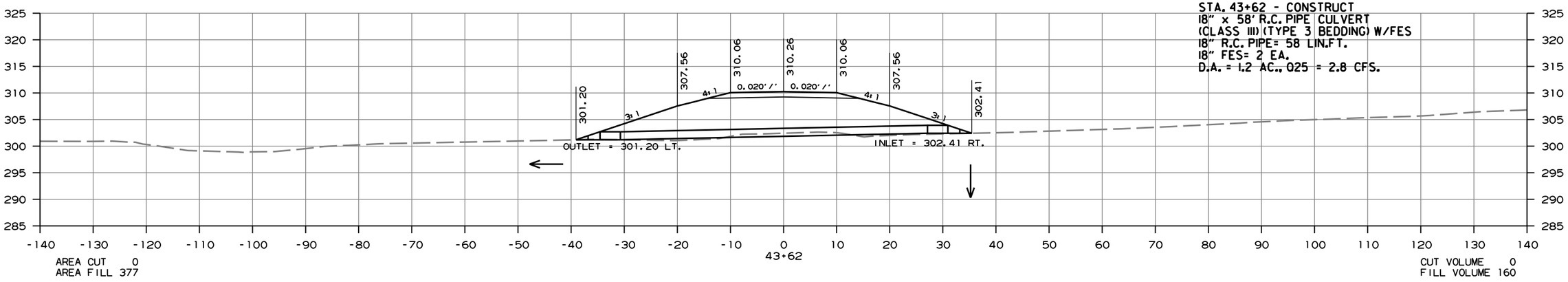


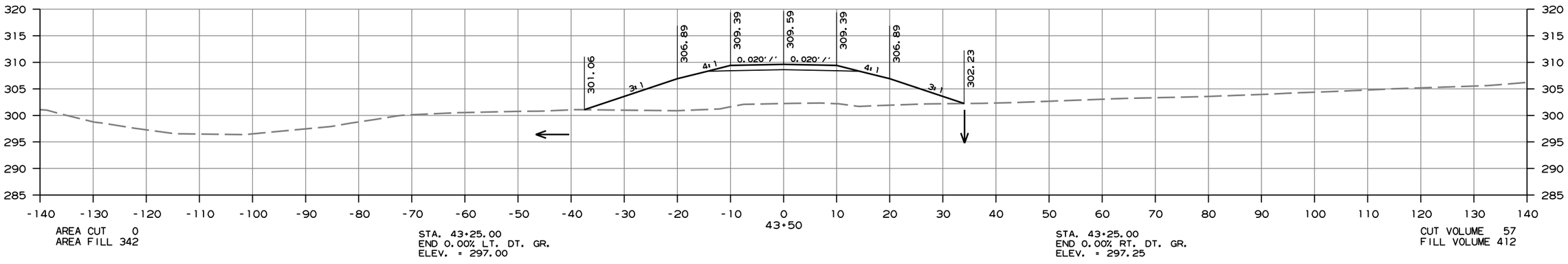
CROSS SECTION STA. 42+00 TO STA. 43+00

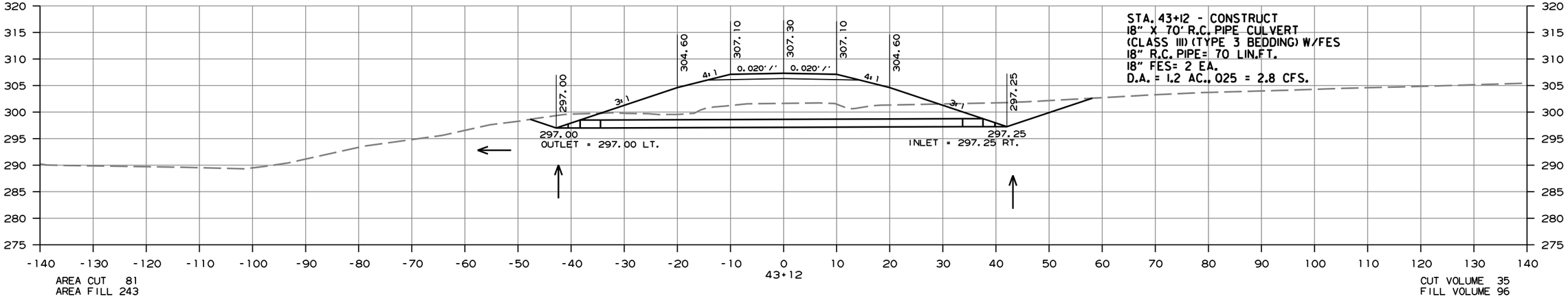
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	405	517

(2) CROSS SECTIONS - SHADEL LANE





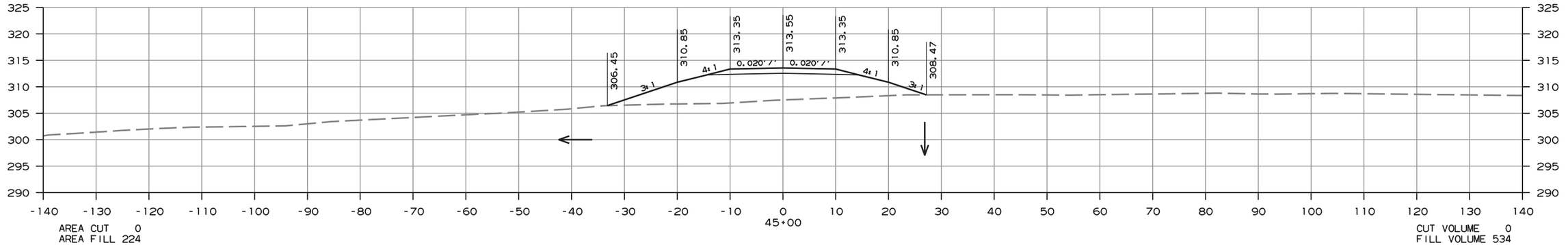


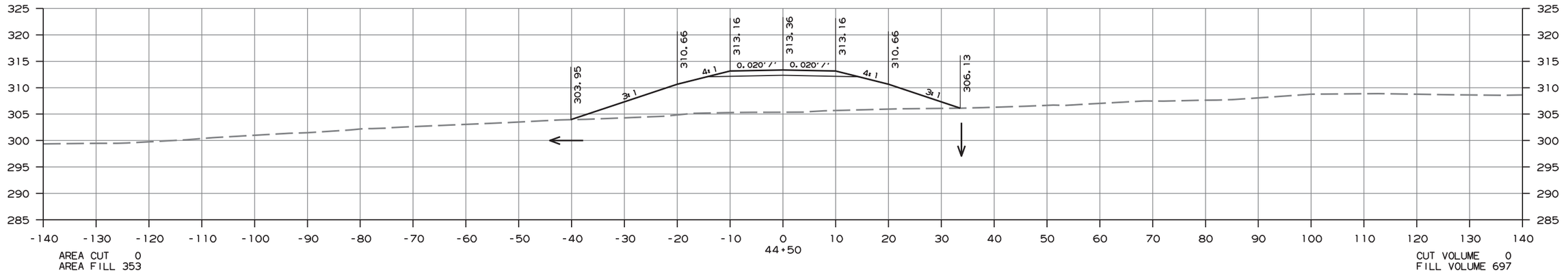
CROSS SECTION STA. 43+12 TO STA. 43+62

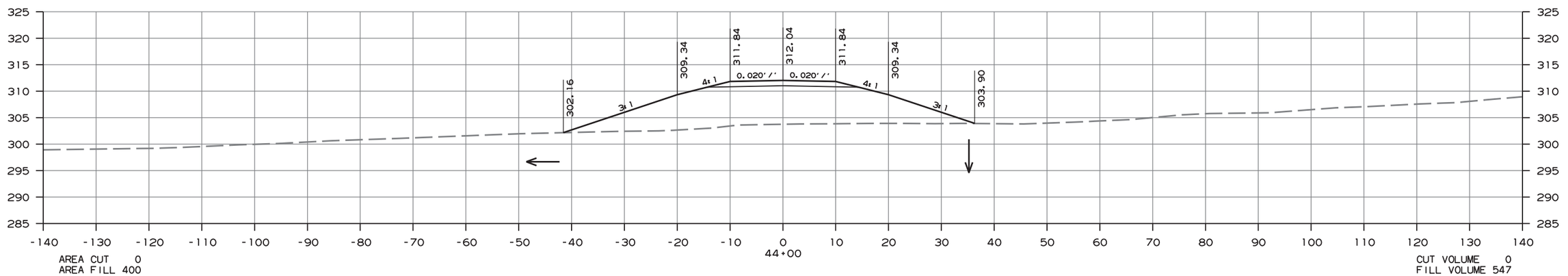
ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	406	517

(2) CROSS SECTIONS - SHADEL LANE





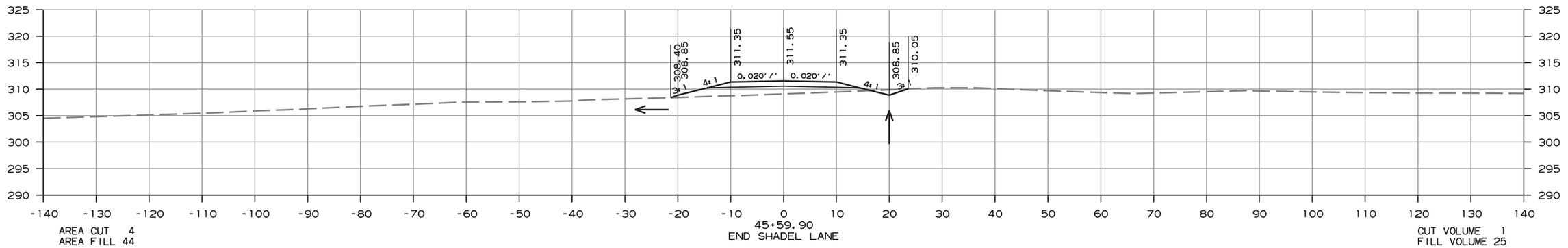


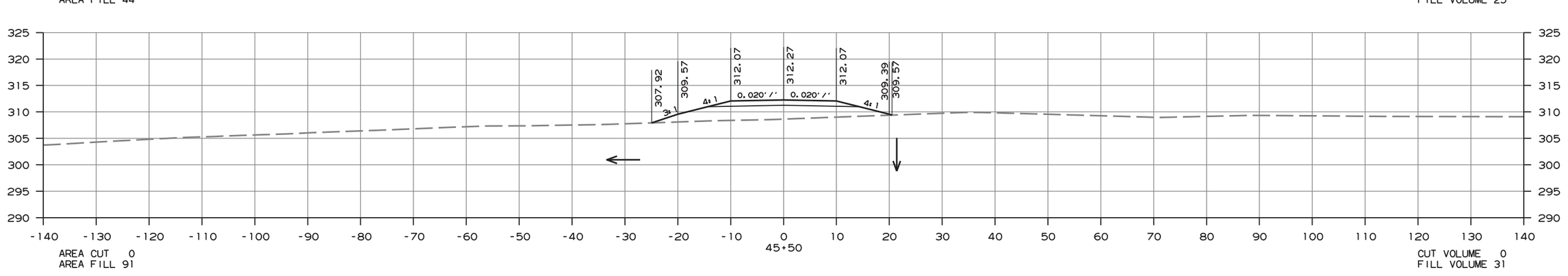
CROSS SECTION STA. 44+00 TO STA. 45+00

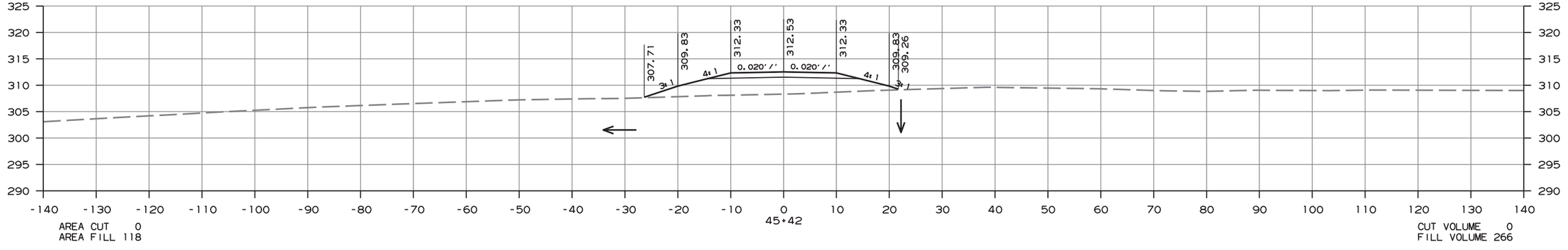
ammet613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	407	517

(2) CROSS SECTIONS - SHADEL LANE





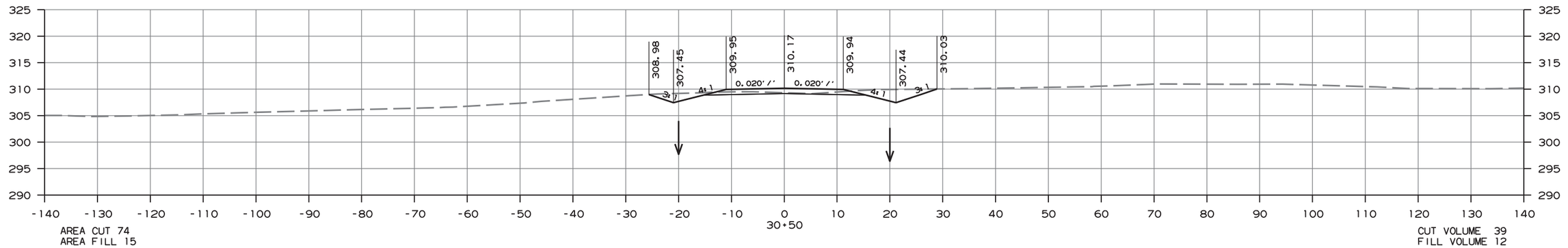


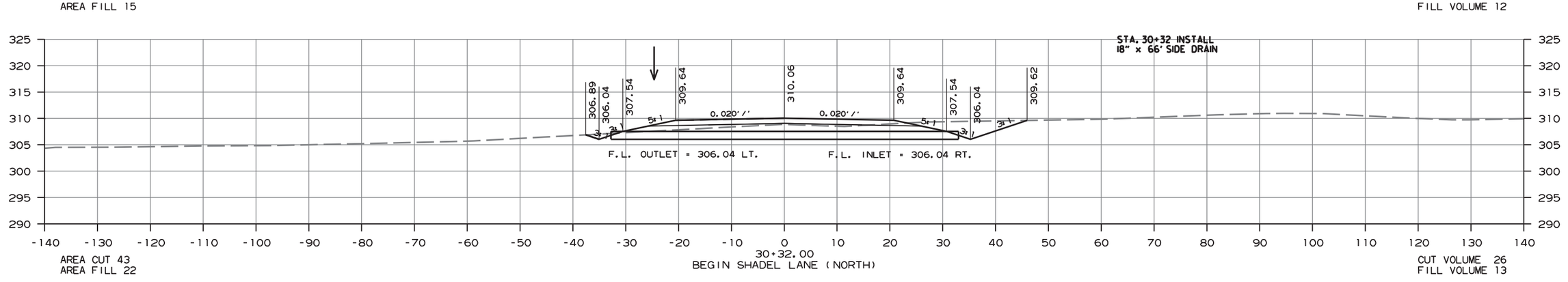
CROSS SECTION STA. 45+42 TO STA. 45+60

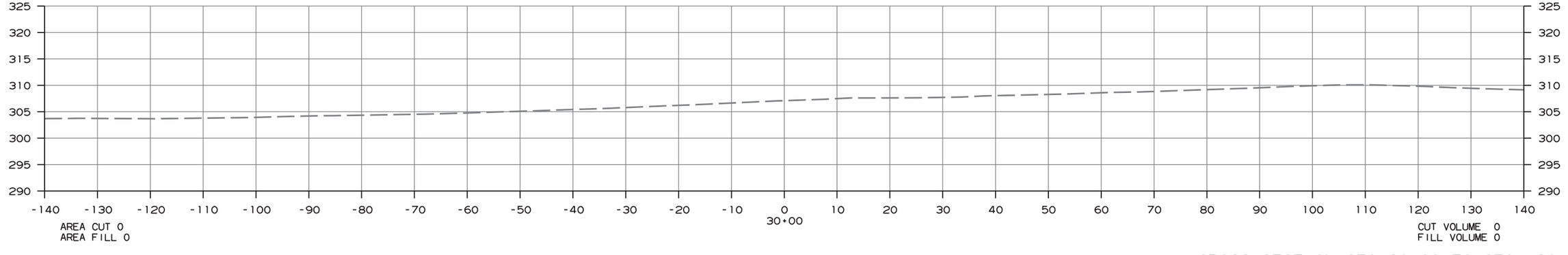
amm613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	408	517

(2) CROSS SECTIONS - SHADEL LANE (NORTH)







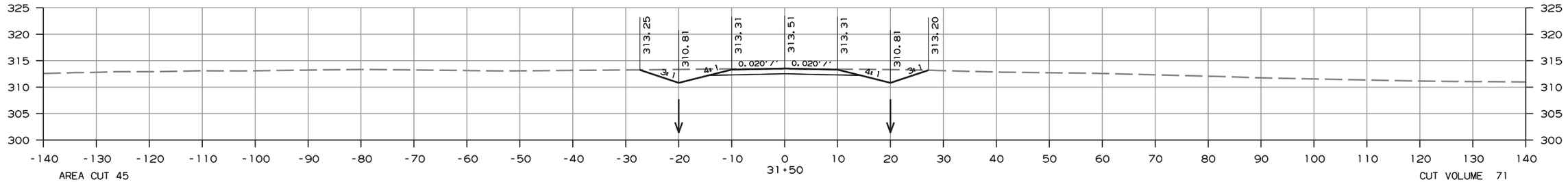
CROSS SECTION STA. 30+00 TO STA. 30+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	409	517

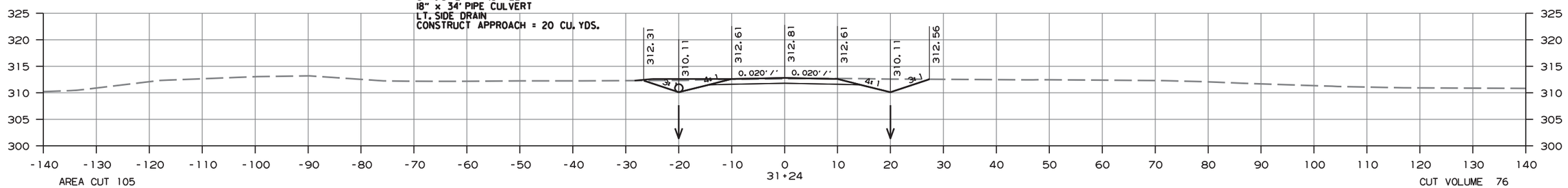
(2) CROSS SECTIONS - SHADEL LANE (NORTH)



AREA CUT 45
AREA FILL 1

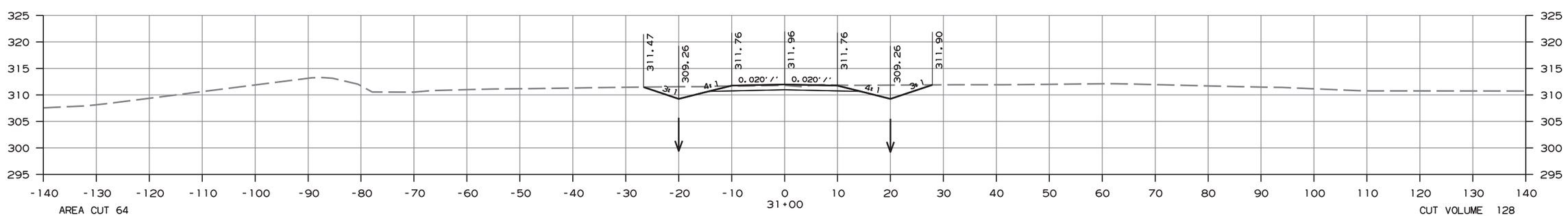
CUT VOLUME 71
FILL VOLUME 1

STA. 31+24 - INSTALL
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.



AREA CUT 105
AREA FILL 1

CUT VOLUME 76
FILL VOLUME 1



AREA CUT 64
AREA FILL 0

CUT VOLUME 128
FILL VOLUME 14

CROSS SECTION STA. 31+00 TO STA. 31+50

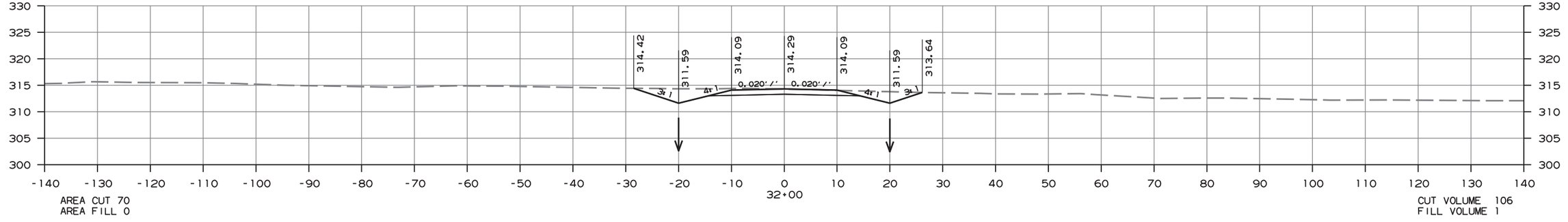
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	410	517

(2) CROSS SECTIONS - SHADEL LANE (NORTH)



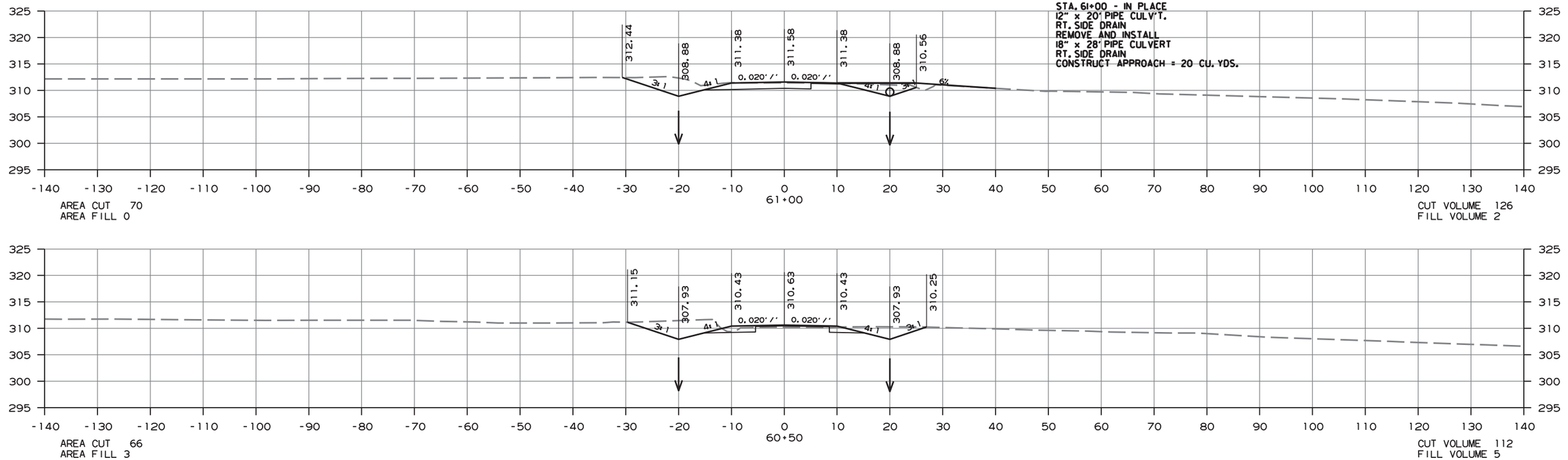


CROSS SECTION STA. 32+00 TO STA. 32+09

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	411	517

(2) CROSS SECTIONS - SNUGGS CIRCLE (SOUTH)



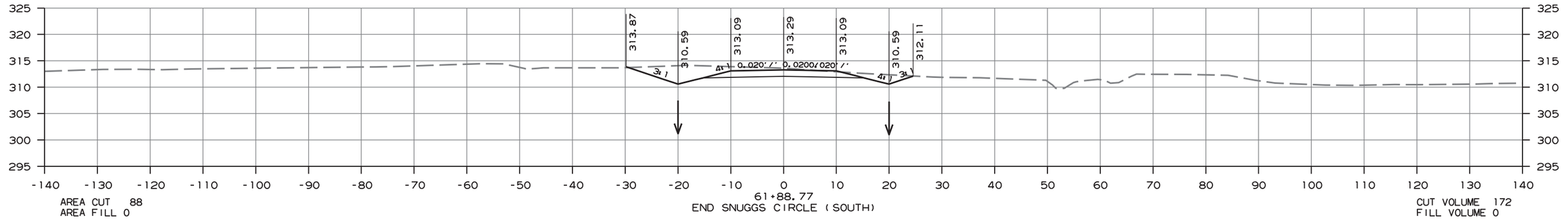
CROSS SECTION STA. 60+00 TO STA. 61+00

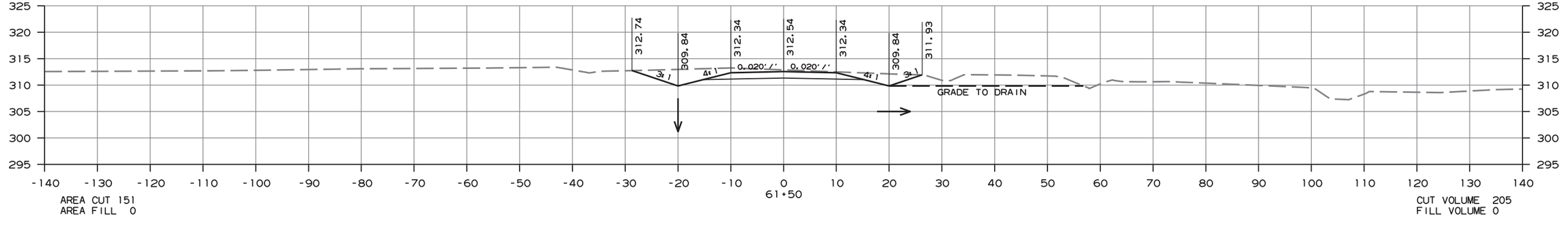
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	412	517

(2) CROSS SECTIONS - SNUGGS CIRCLE (SOUTH)





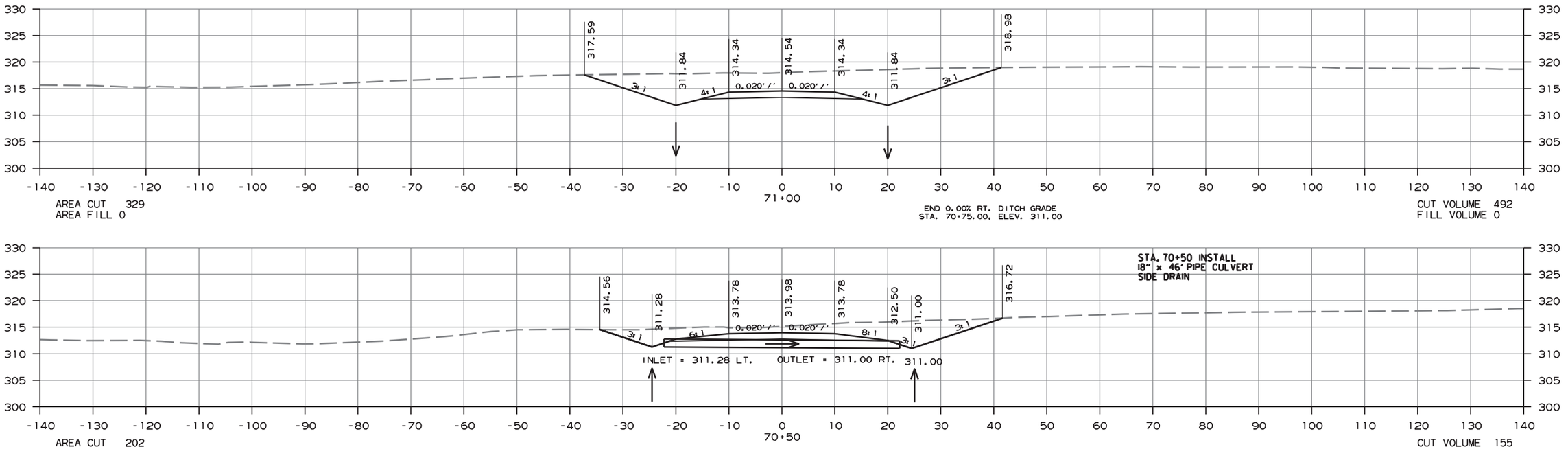
CROSS SECTION STA. 61+50 TO STA. 61+89

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	413	517

(2) CROSS SECTIONS - SNUGGS CIRCLE (NORTH)

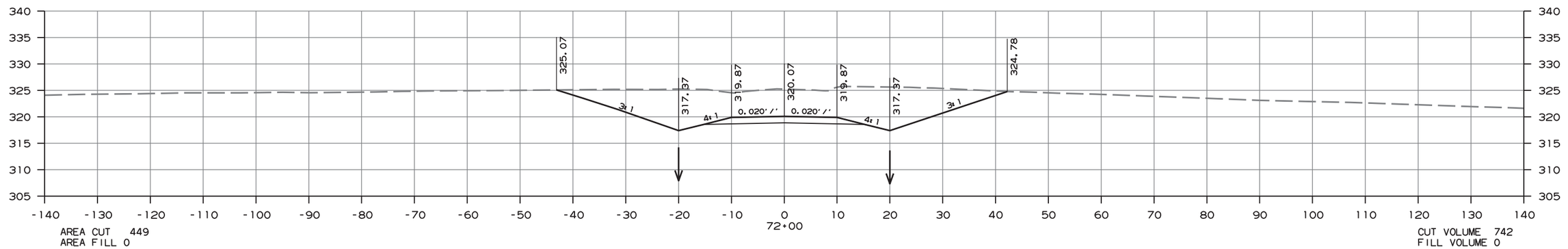


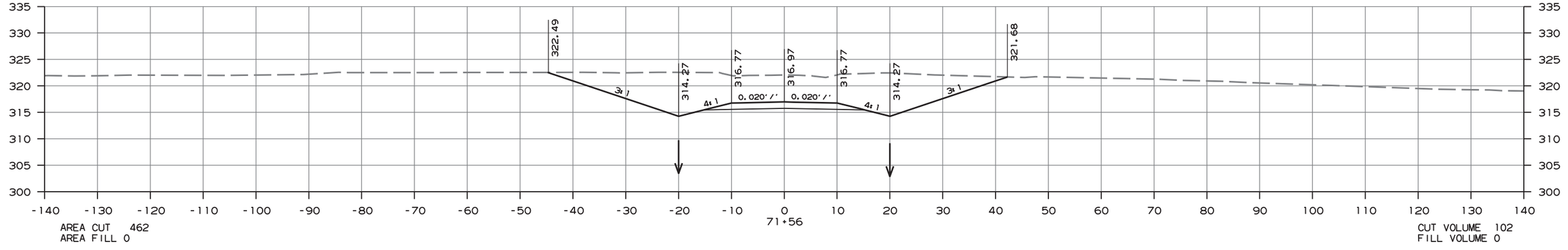
CROSS SECTION STA. 70+18 TO STA. 71+00

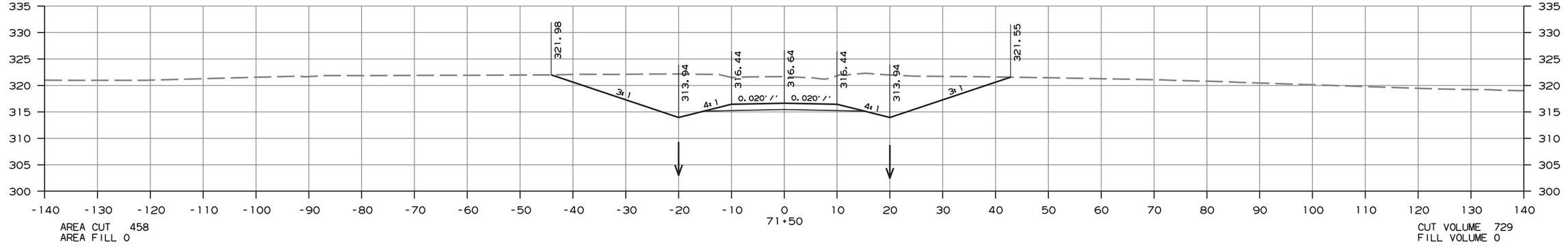
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	414	517

(2) CROSS SECTIONS - SNUGGS CIRCLE (NORTH)







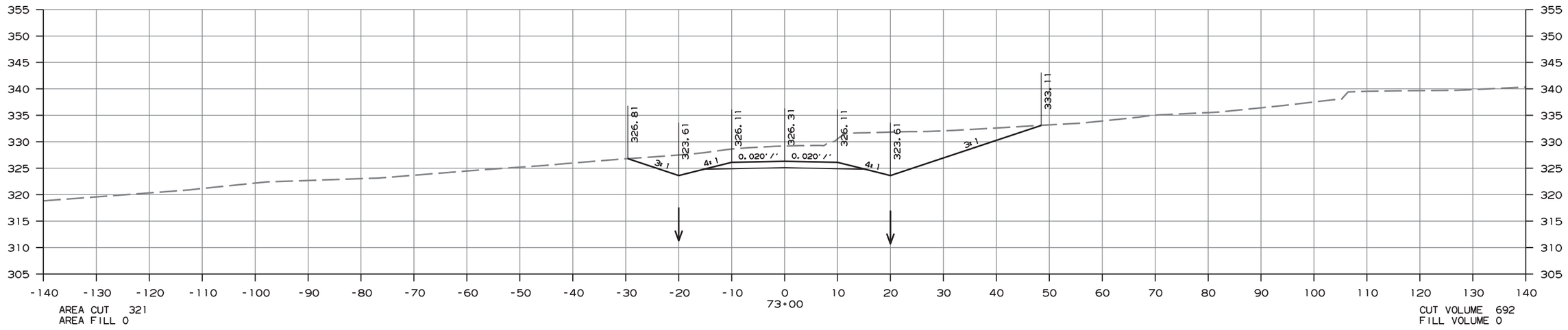
CROSS SECTION STA. 71+50 TO STA. 72+00

amm613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	415	517

(2) CROSS SECTIONS - SNUGGS CIRCLE (NORTH)



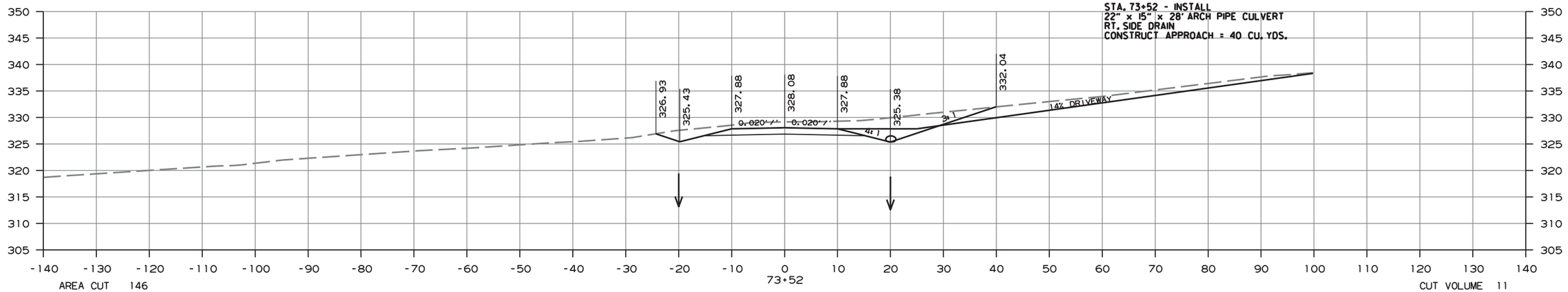
CROSS SECTION STA. 72+50 TO STA. 73+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	416	517

(2) CROSS SECTIONS - SNUGGS CIRCLE (NORTH)



CROSS SECTION STA. 73+50 TO STA. 73+52

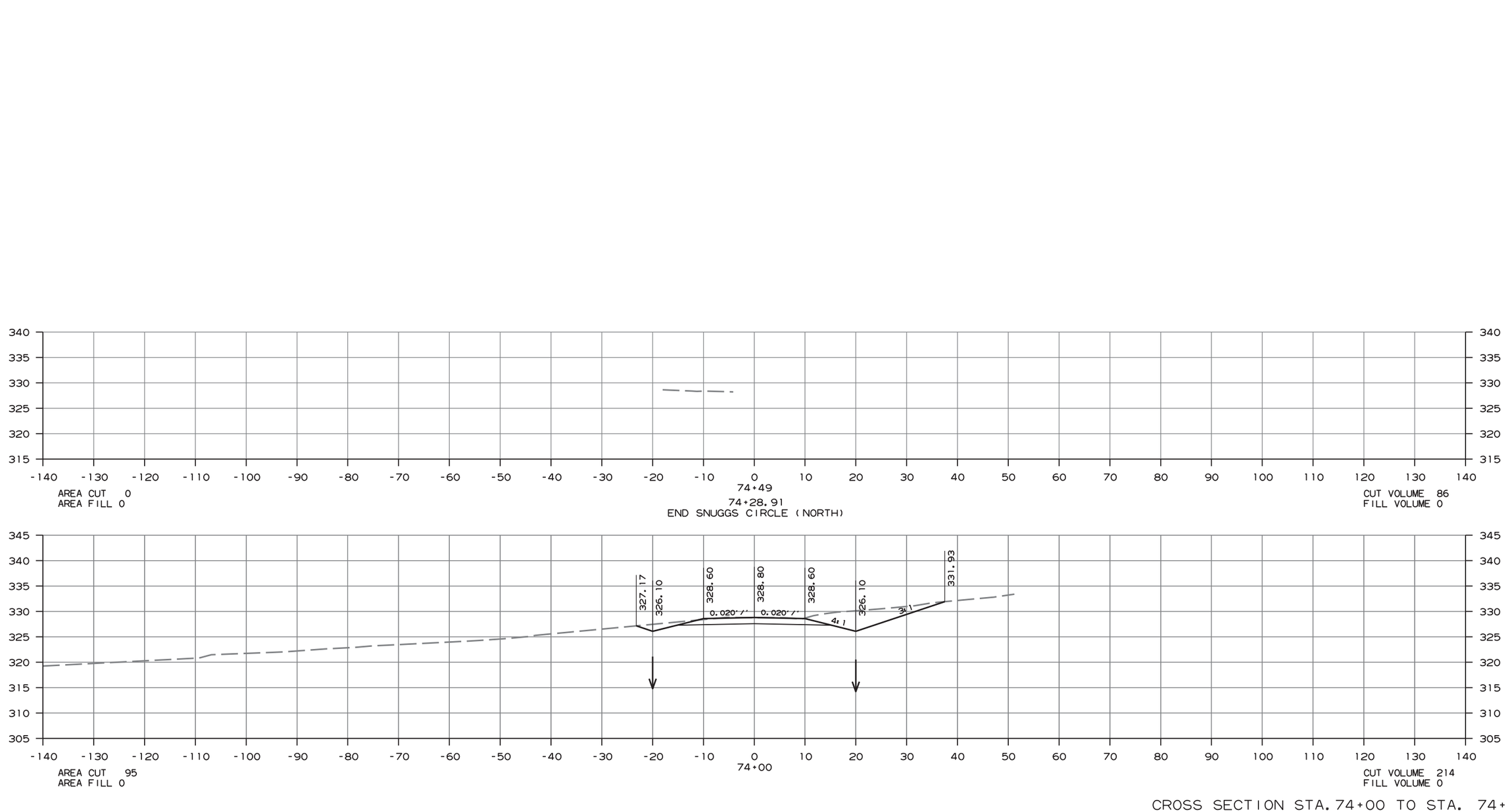
ammel13 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	417	517

(2) CROSS SECTIONS - SNUGGS CIRCLE (NORTH)



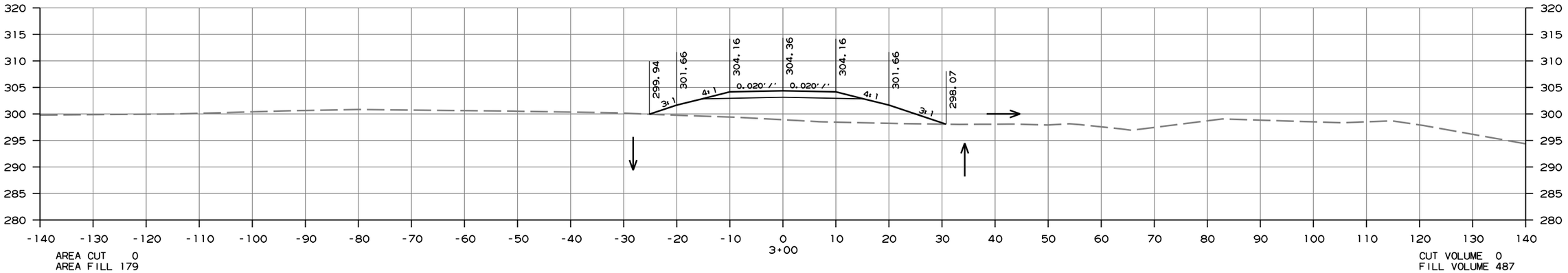


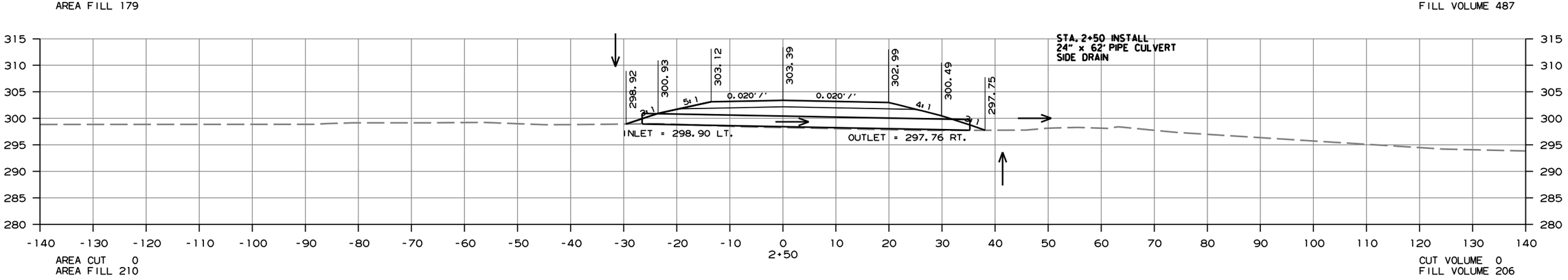
CROSS SECTION STA. 74+00 TO STA. 74+49

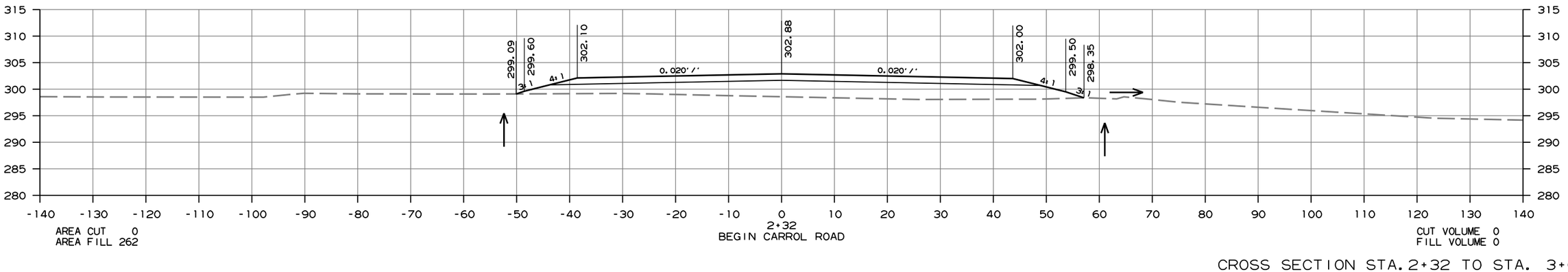
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	418	517

(2) CROSS SECTIONS - CARROL ROAD





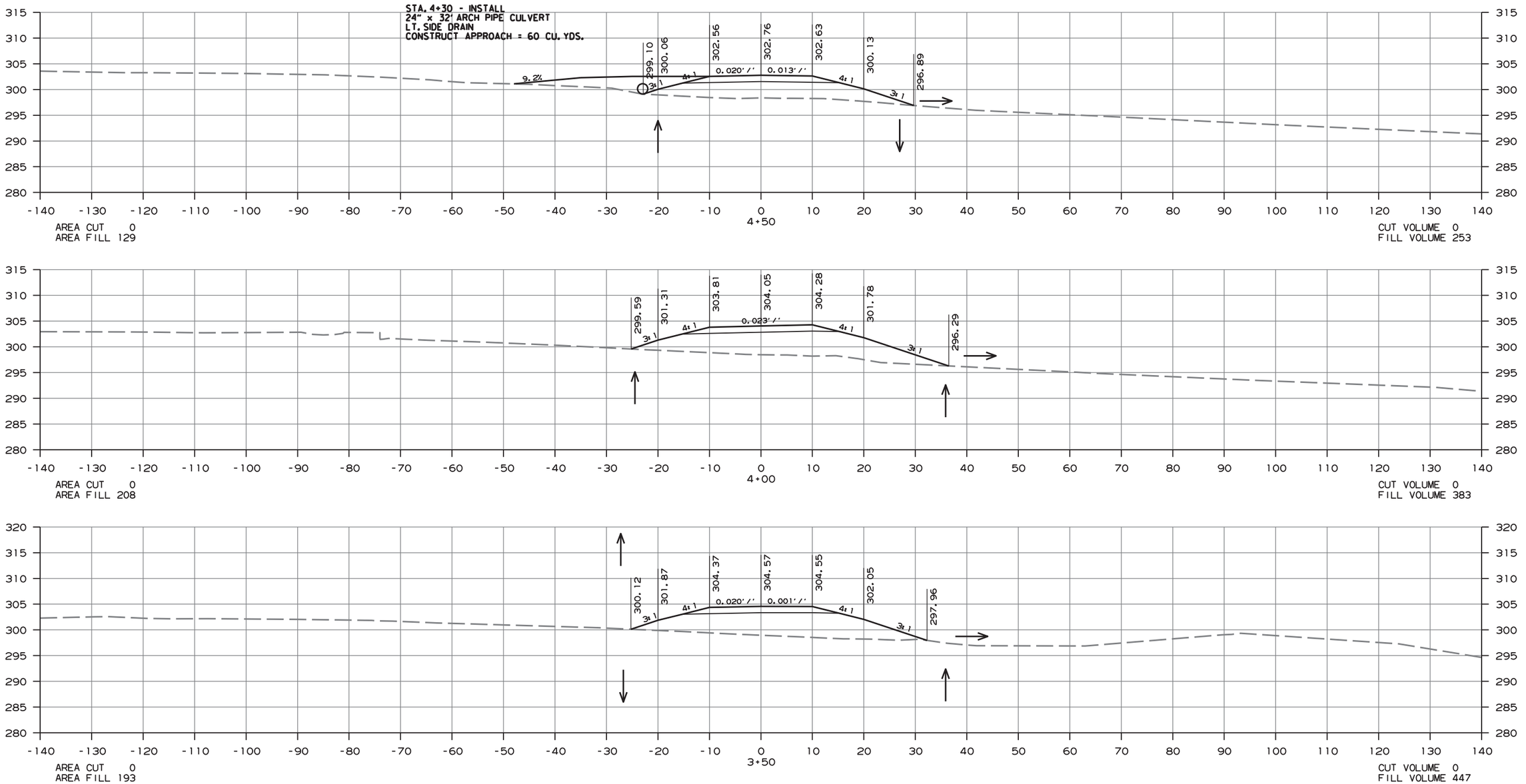


CROSS SECTION STA. 2+32 TO STA. 3+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	419	517

(2) CROSS SECTIONS - CARROL ROAD

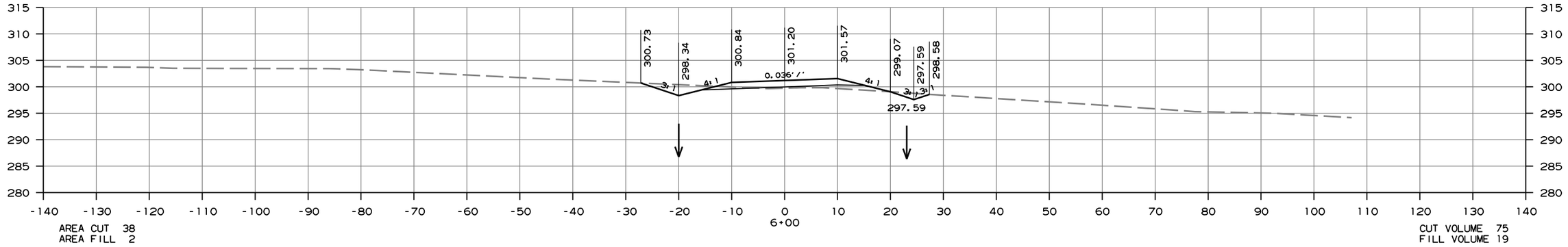


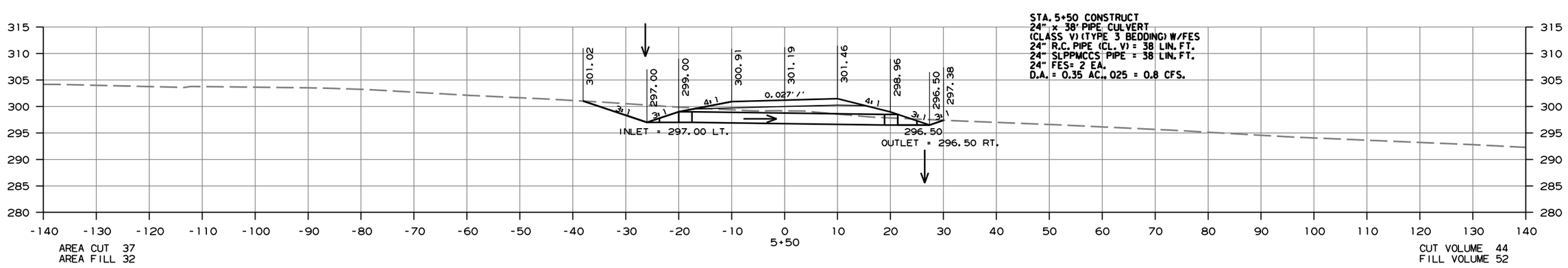
CROSS SECTION STA. 3+50 TO STA. 4+50

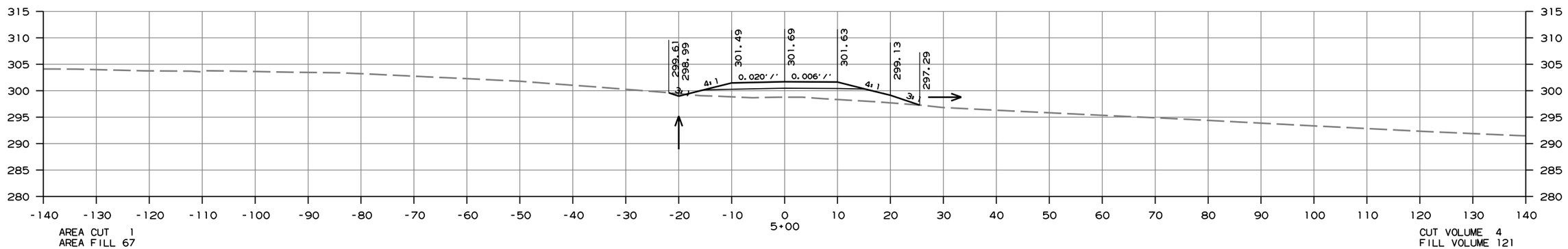
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	420	517

(2) CROSS SECTIONS - CARROL ROAD







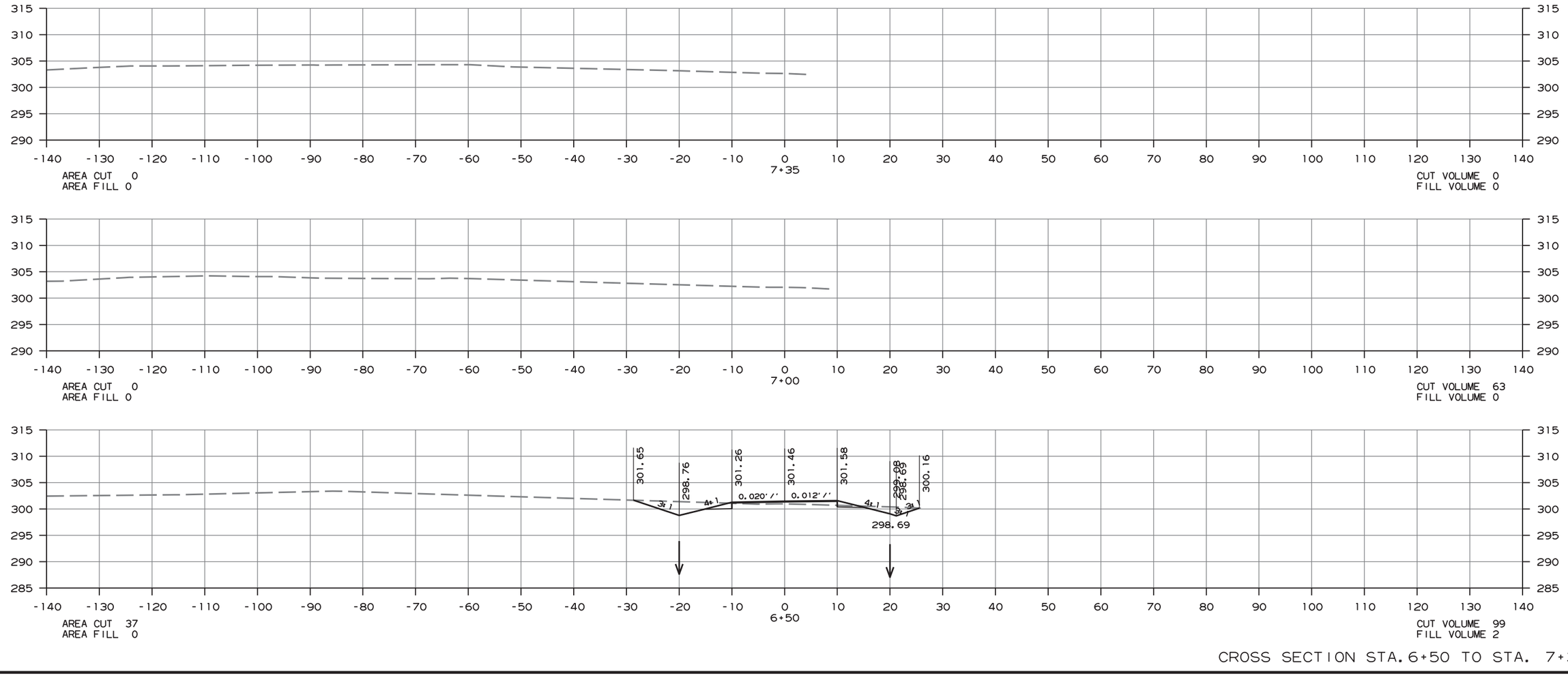
CROSS SECTION STA. 5+00 TO STA. 6+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	421	517

(2) CROSS SECTIONS - CARROL ROAD



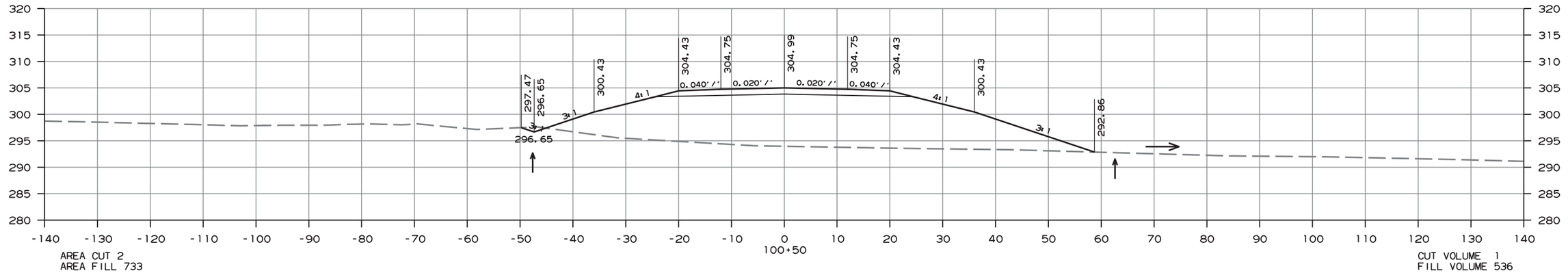
CROSS SECTION STA. 6+50 TO STA. 7+35

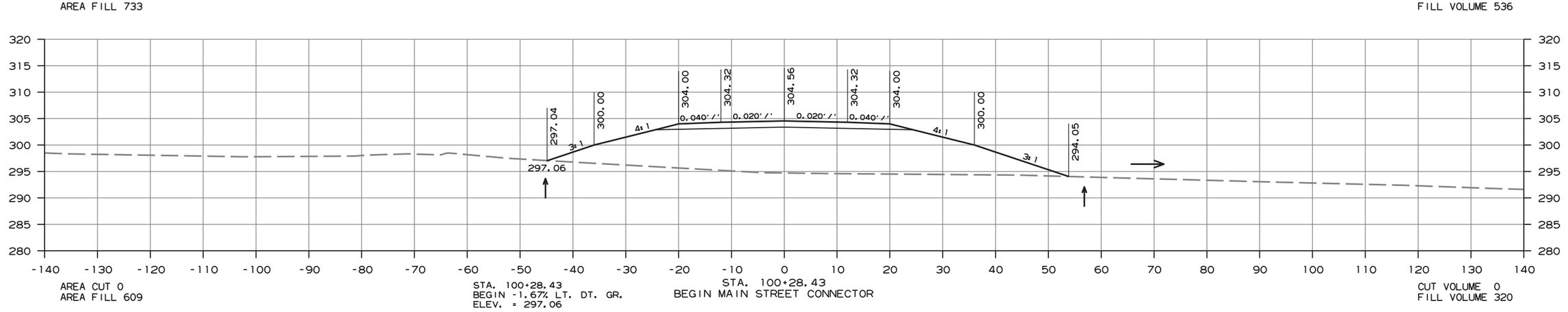
amme613 10/1/2020
R080457.DGN

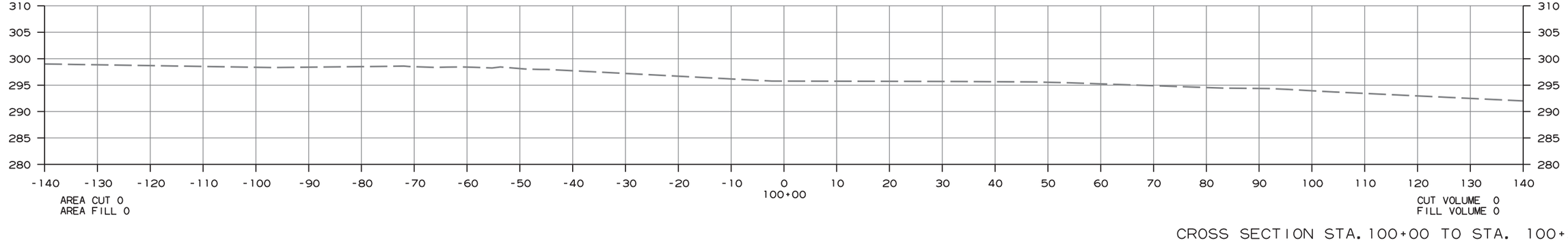
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	422	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR







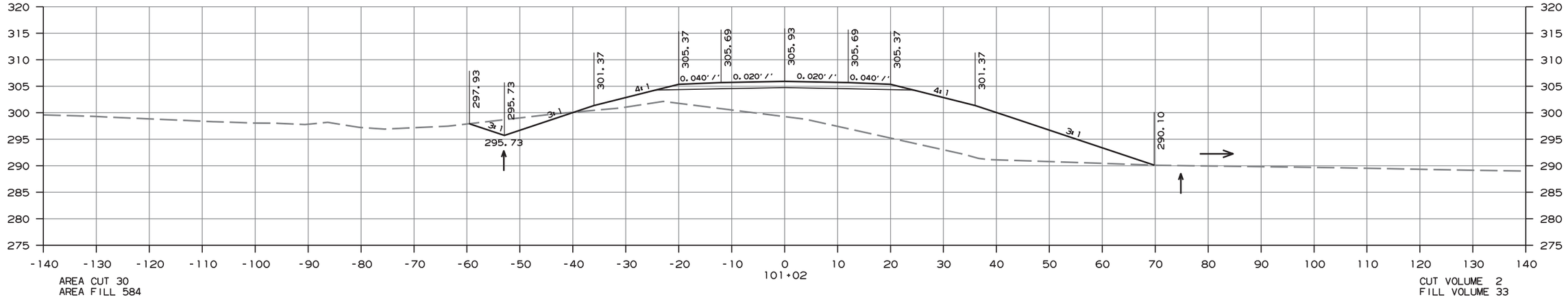
CROSS SECTION STA. 100+00 TO STA. 100+50

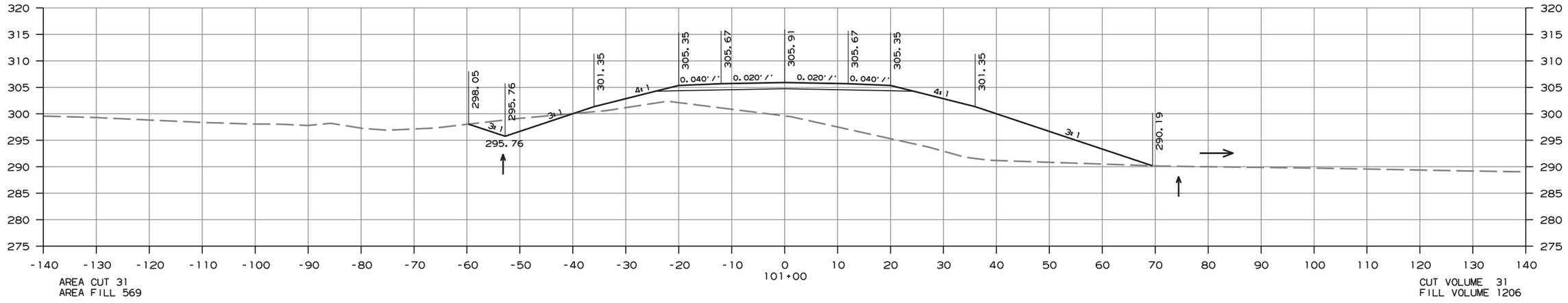
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	423	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR





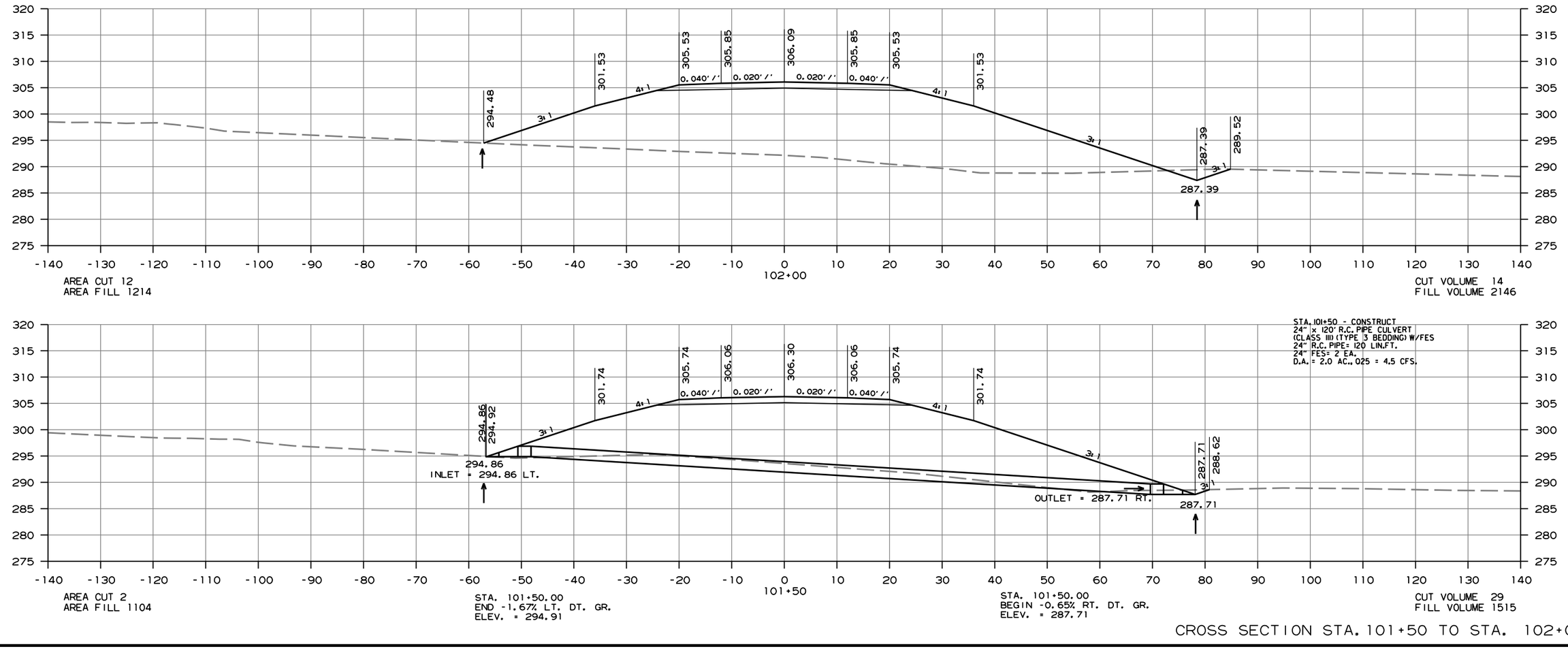
CROSS SECTION STA. 101+00 TO STA. 101+02

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	424	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR



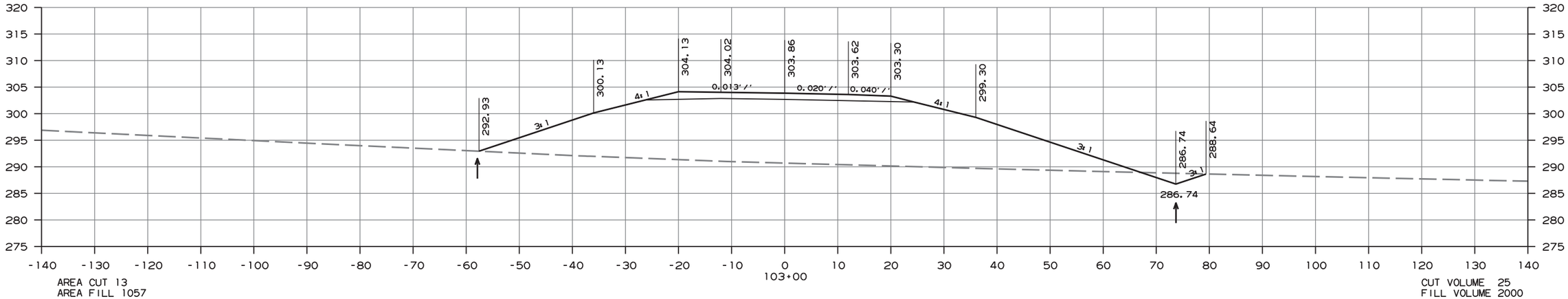
CROSS SECTION STA. 101+50 TO STA. 102+00

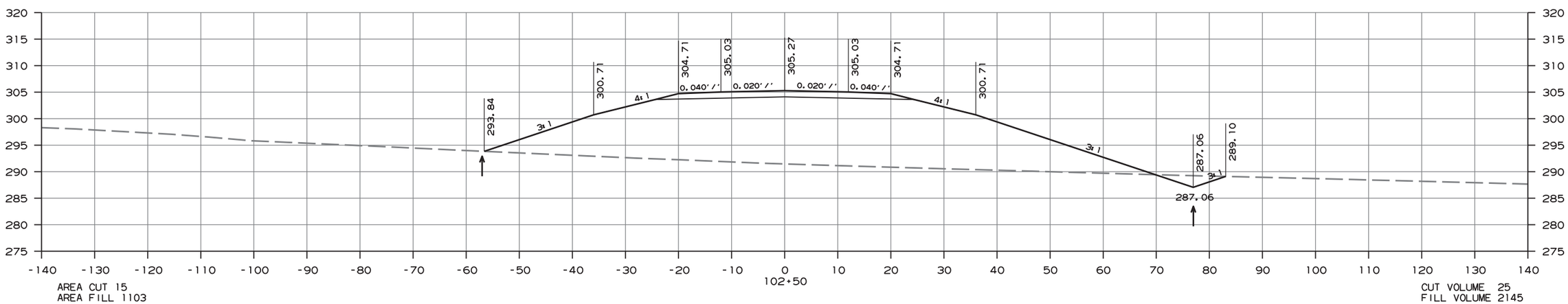
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	425	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR



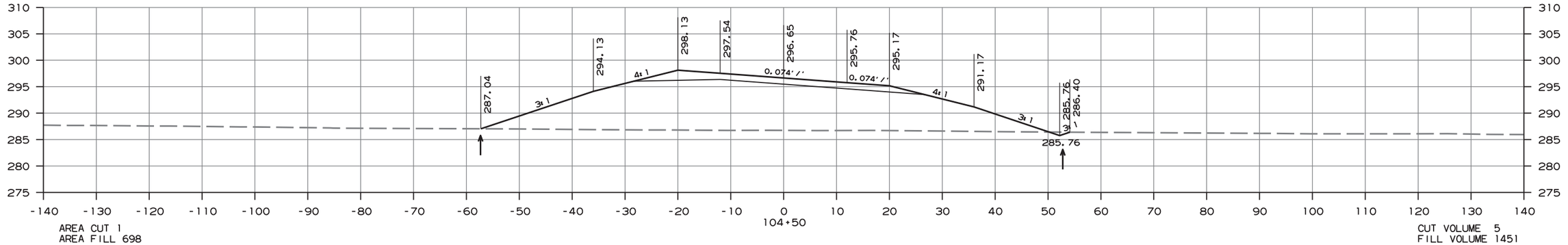


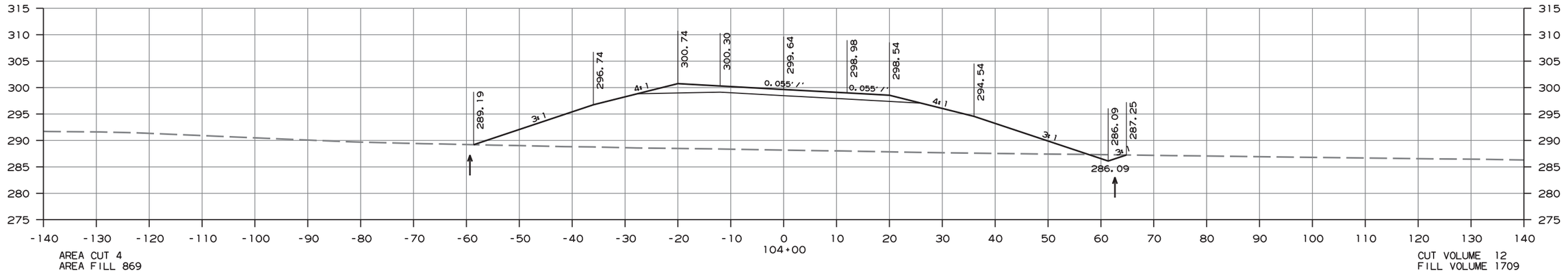
CROSS SECTION STA. 102+50 TO STA. 103+00

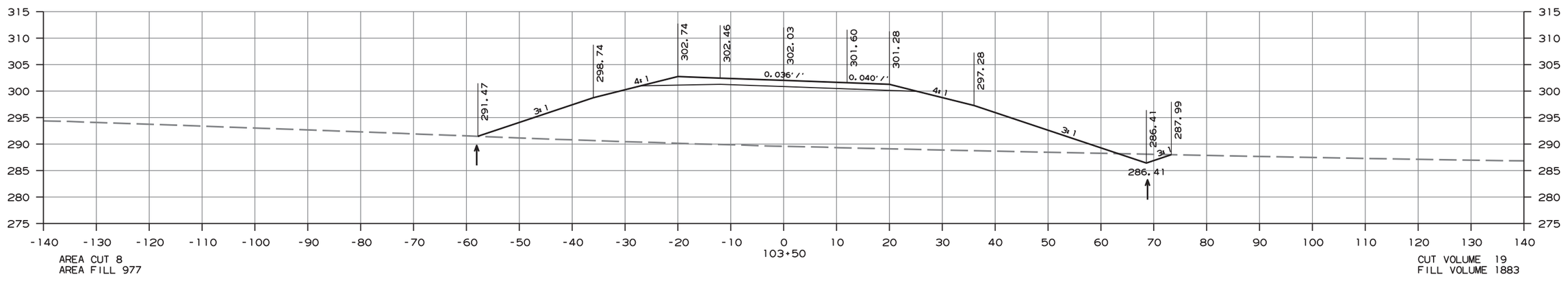
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	426	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR







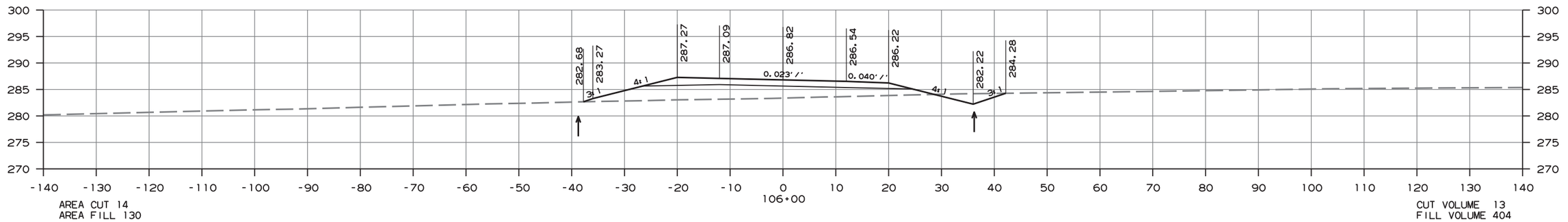
CROSS SECTION STA. 103+50 TO STA. 104+50

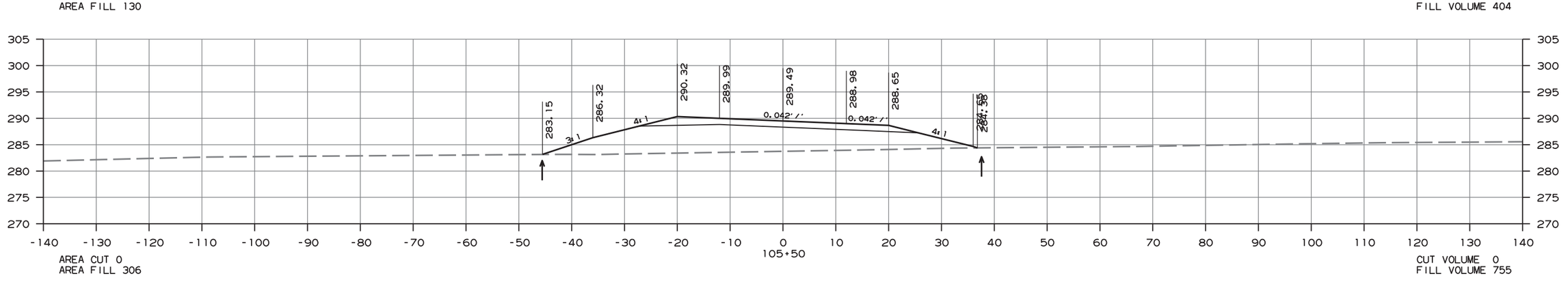
ammel613 10/1/2020
R080457.DGN

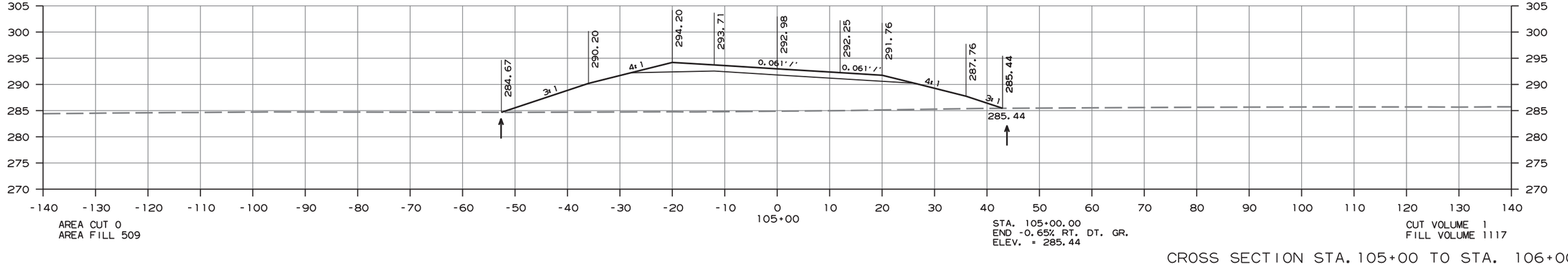
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	427	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR





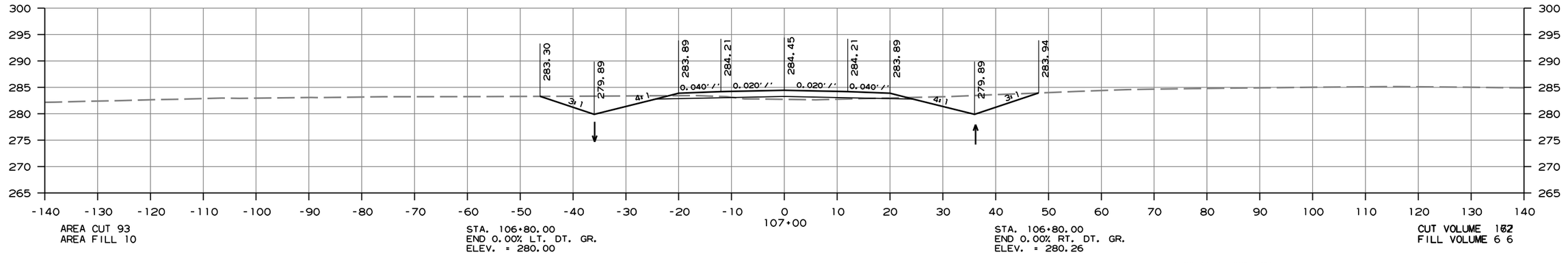


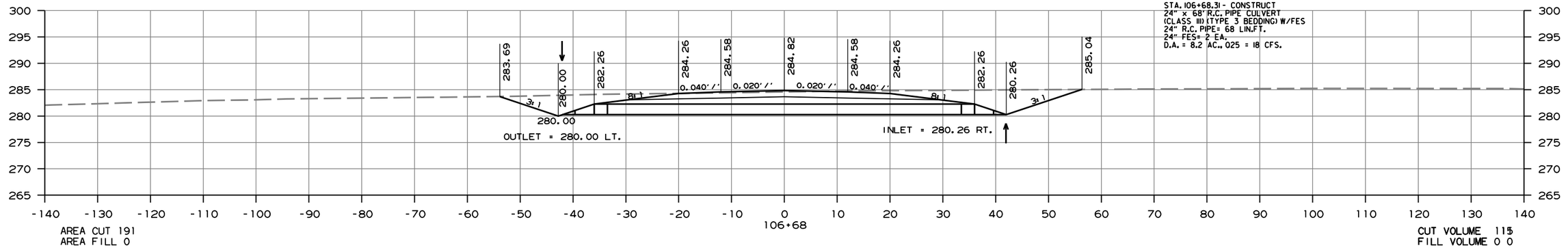
CROSS SECTION STA. 105+00 TO STA. 106+00

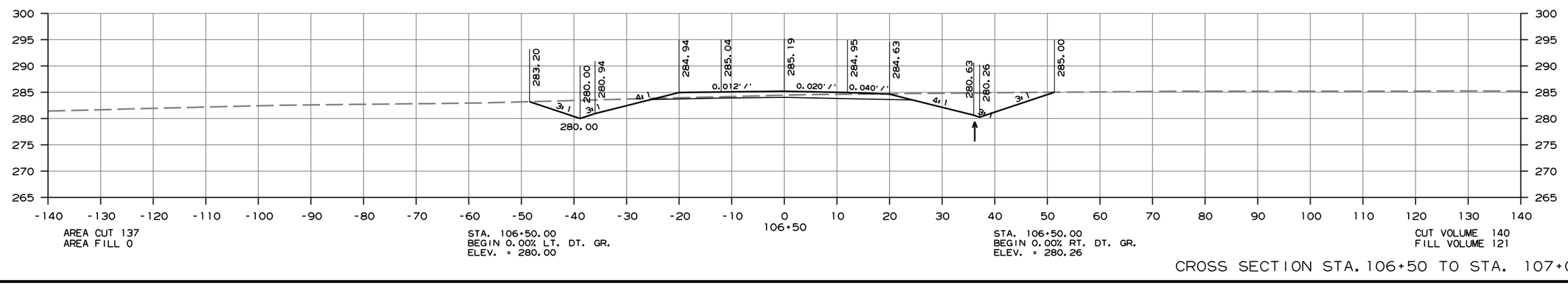
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	428	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR







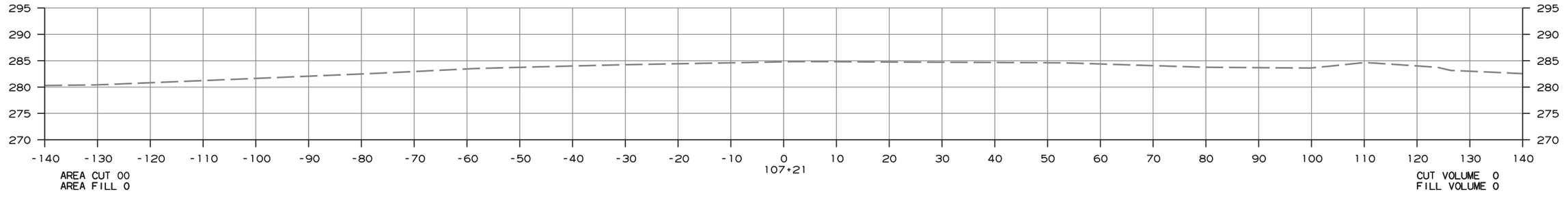
CROSS SECTION STA. 106+50 TO STA. 107+00

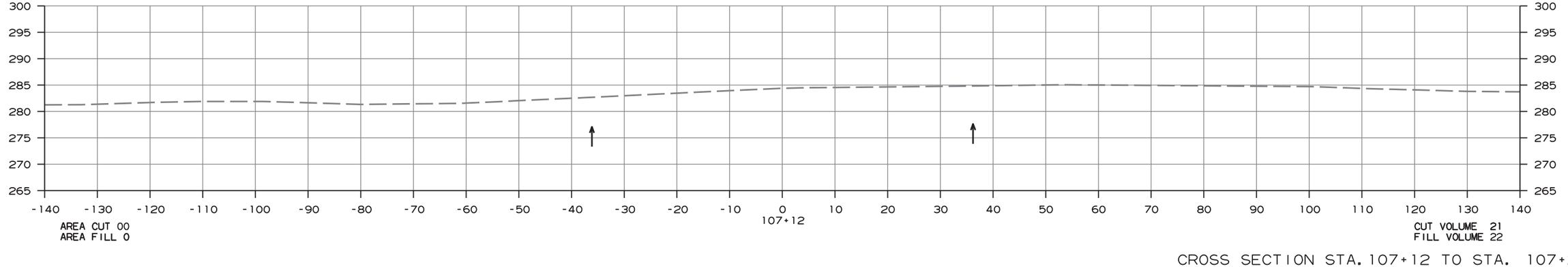
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	429	517

(2) CROSS SECTIONS - MAIN STREET CONNECTOR



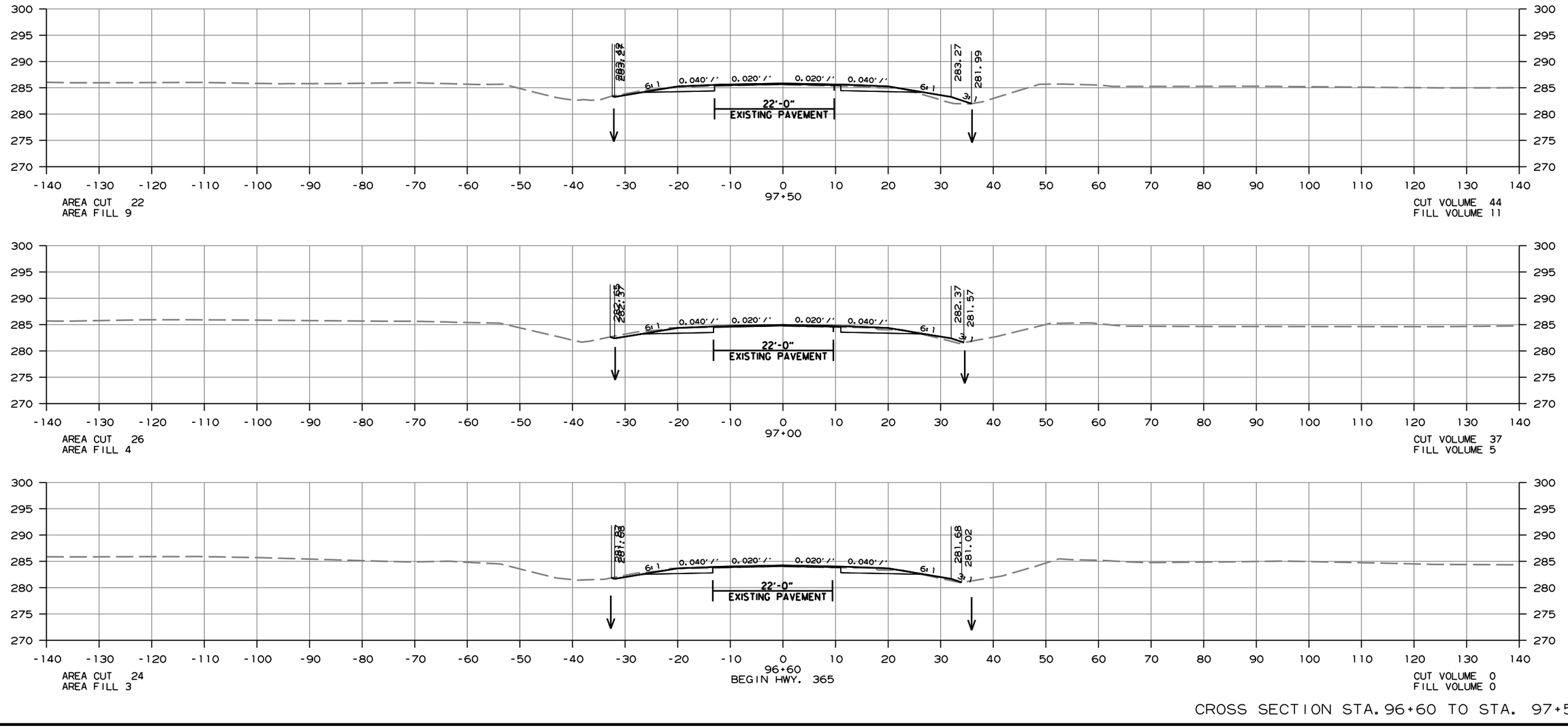


CROSS SECTION STA. 107+12 TO STA. 107+21

amme613 10/1/2020
RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	430	517

(2) CROSS SECTIONS - HWY. 365



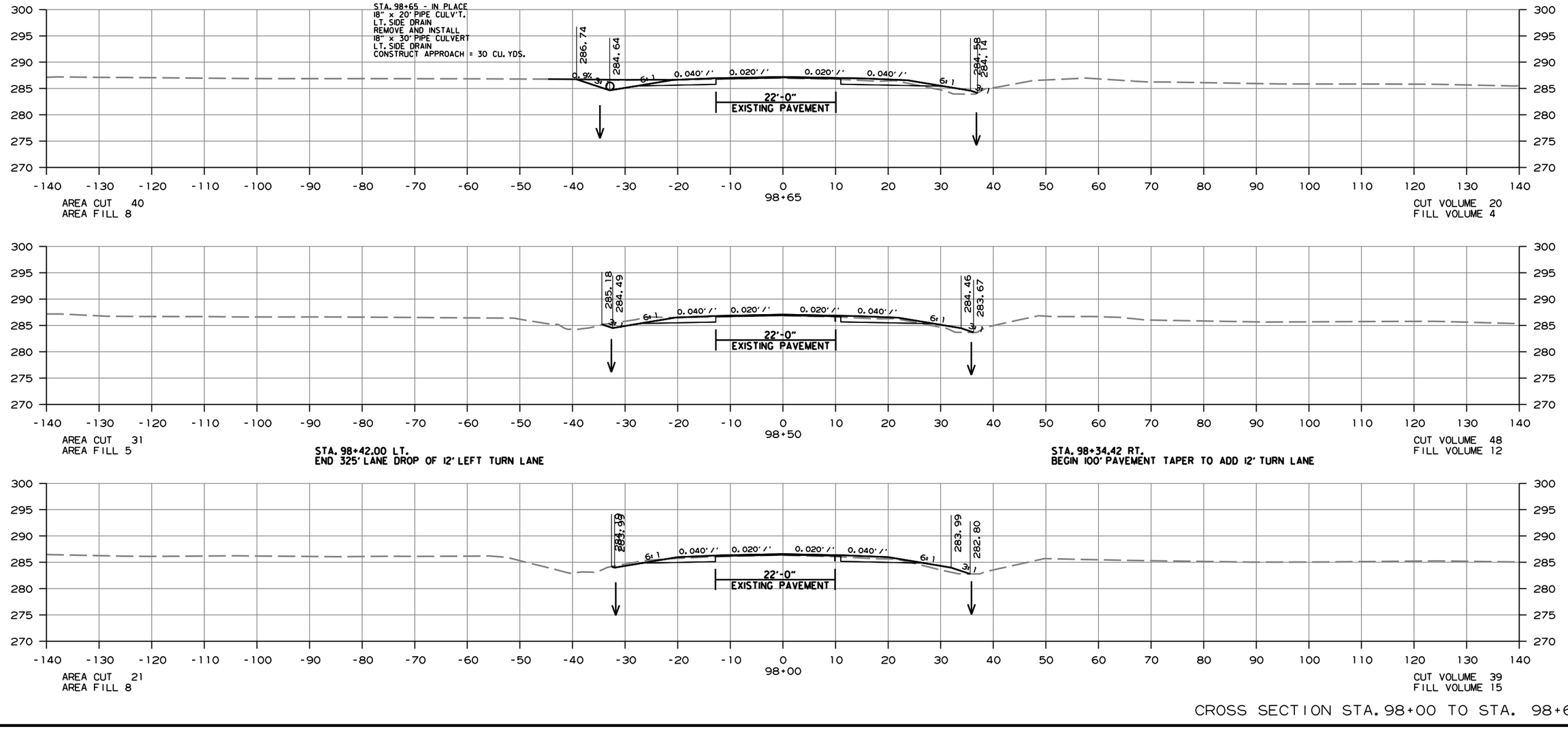
CROSS SECTION STA. 96+60 TO STA. 97+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	431	517

(2) CROSS SECTIONS - HWY. 365

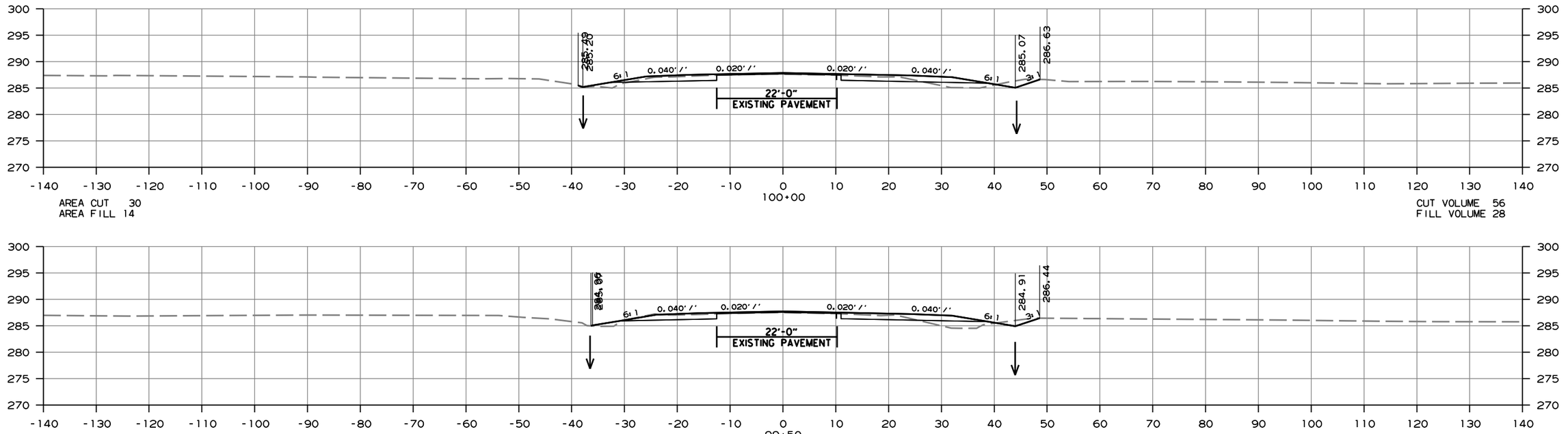


CROSS SECTION STA. 98+00 TO STA. 98+65

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	432	517

(2) CROSS SECTIONS - HWY. 365



CROSS SECTION STA. 99+00 TO STA. 100+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	433	517

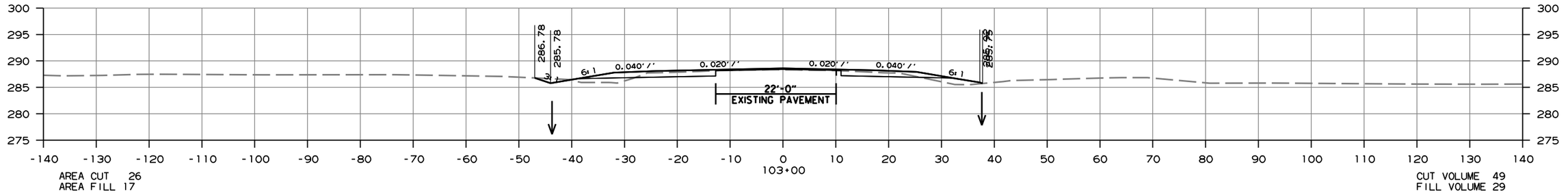
(2) CROSS SECTIONS - HWY. 365

CROSS SECTION STA. 100+50 TO STA. 101+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	434	517

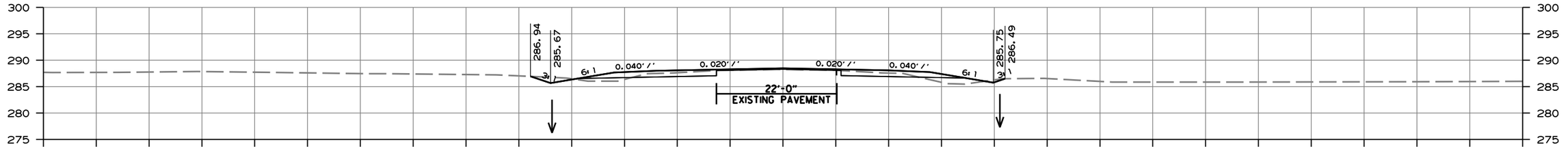
(2) CROSS SECTIONS - HWY. 365



103+00

AREA CUT 26
AREA FILL 17

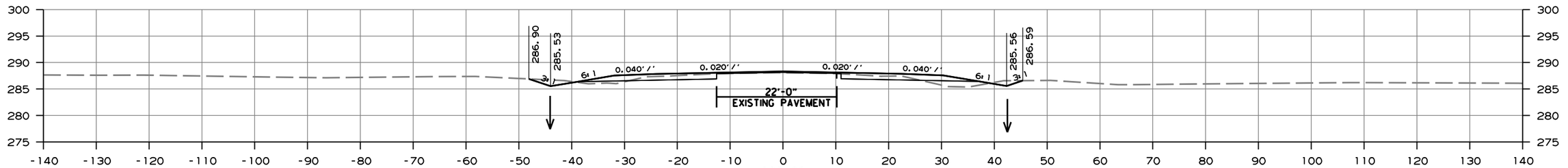
CUT VOLUME 49
FILL VOLUME 29



102+50

AREA CUT 27
AREA FILL 15

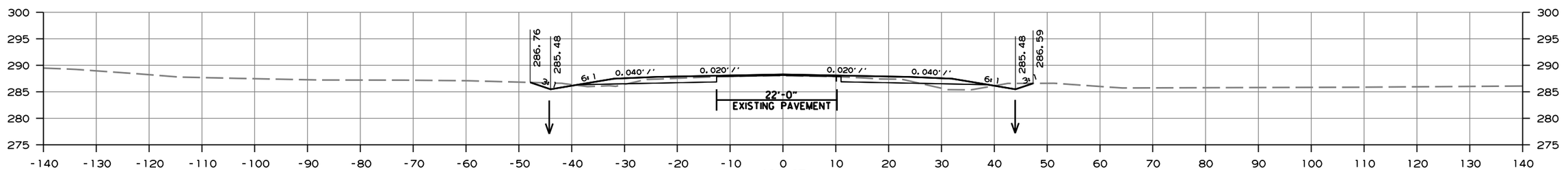
CUT VOLUME 53
FILL VOLUME 27



102+00

AREA CUT 30
AREA FILL 14

CUT VOLUME 38
FILL VOLUME 17



101+67

AREA CUT 32
AREA FILL 14

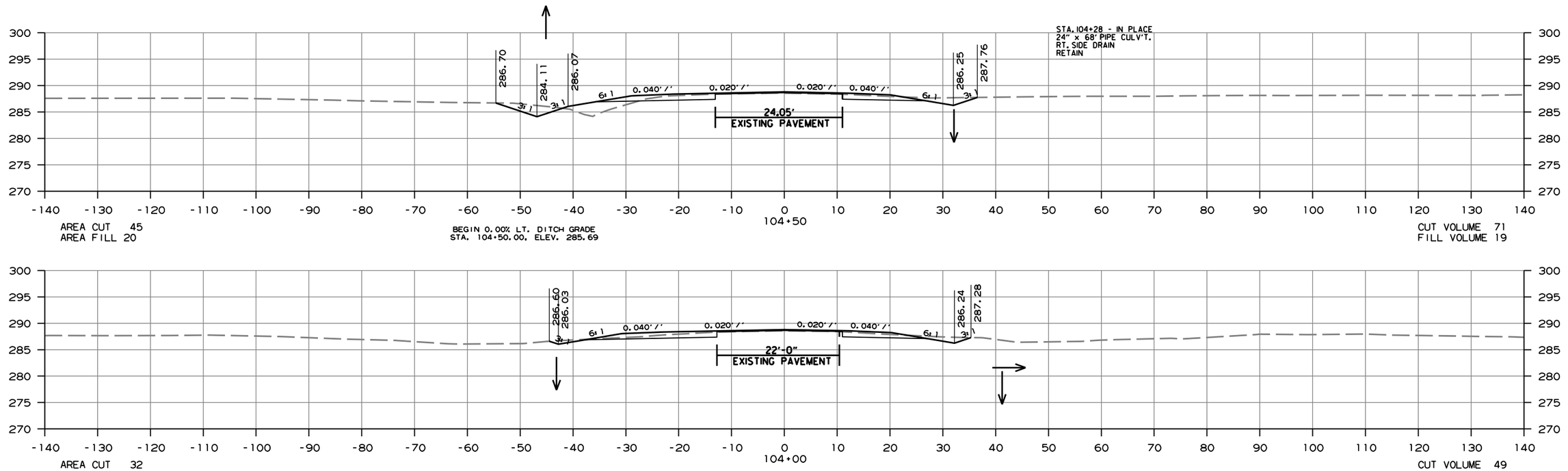
CUT VOLUME 20
FILL VOLUME 9

CROSS SECTION STA. 101+67 TO STA. 103+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	435	517

(2) CROSS SECTIONS - HWY. 365



AREA CUT 45
AREA FILL 20

BEGIN 0.00% LT. DITCH GRADE
STA. 104+50.00. ELEV. 285.69

CUT VOLUME 71
FILL VOLUME 19

AREA CUT 32
AREA FILL 1

STA. 104+04.13 RT.
END 237.13' LANE DROP OF 12' RIGHT TURN LANE

CUT VOLUME 49
FILL VOLUME 20

AREA CUT 21
AREA FILL 21

STA. 106+92.00 LT.
END 325' TAPER FOR 12' LEFT TURN LANE

CUT VOLUME 44
FILL VOLUME 35

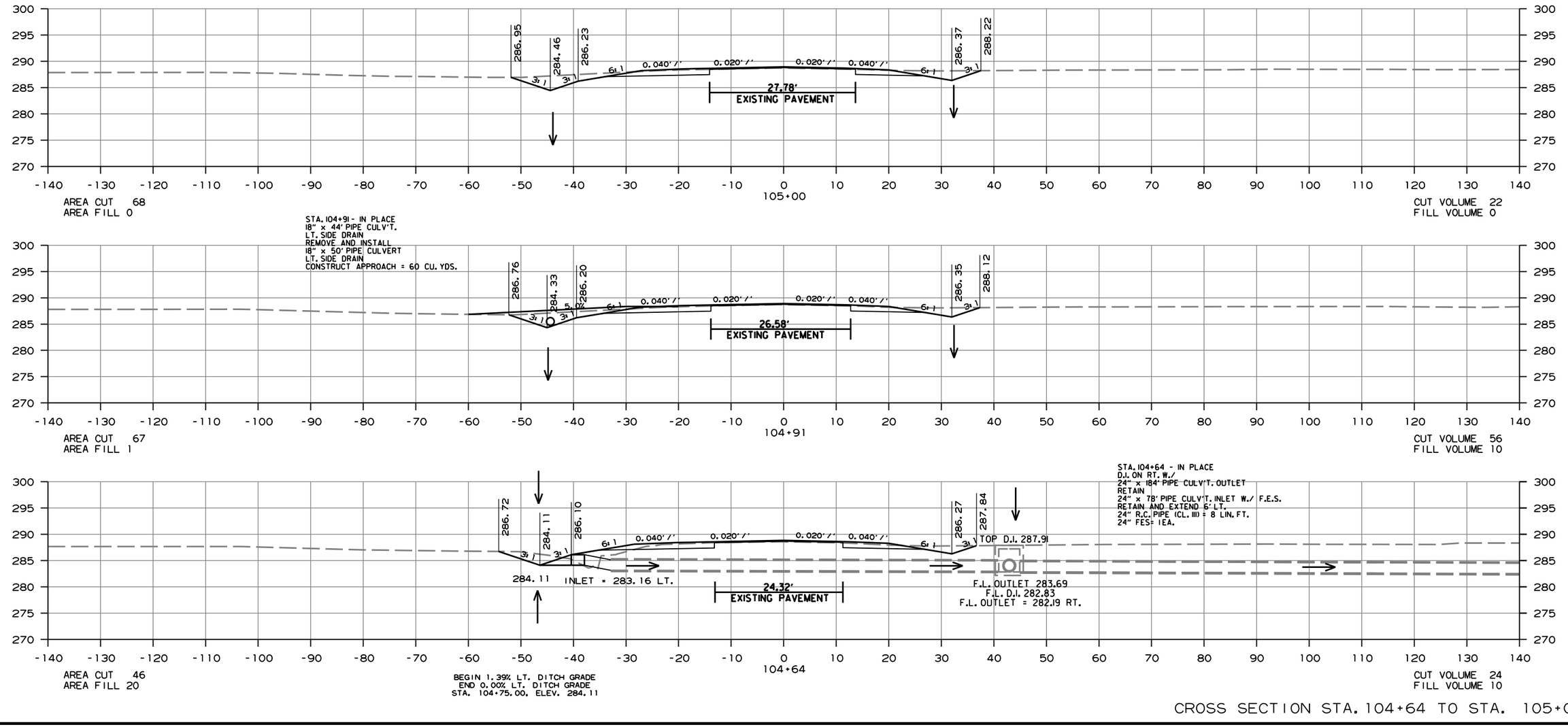
CROSS SECTION STA. 103+50 TO STA. 104+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	436	517

(2) CROSS SECTIONS - HWY. 365



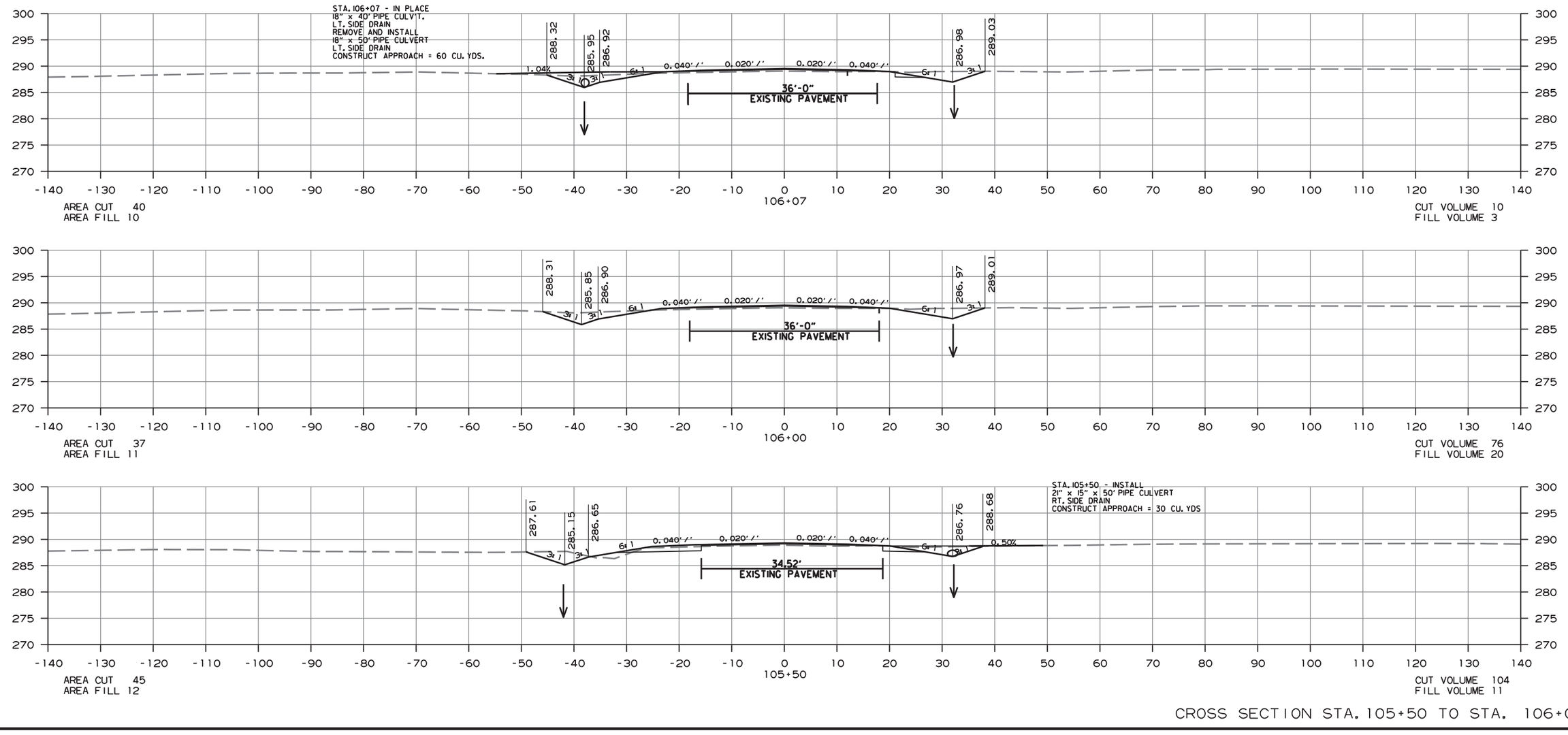
CROSS SECTION STA. 104+64 TO STA. 105+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	437	517

(2) CROSS SECTIONS - HWY. 365

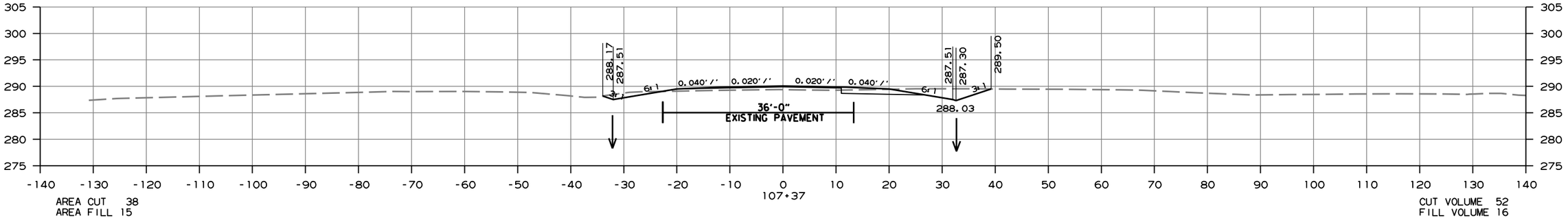


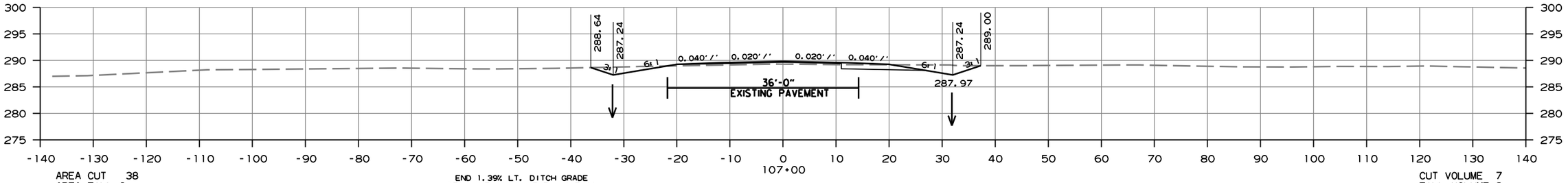
CROSS SECTION STA. 105+50 TO STA. 106+07

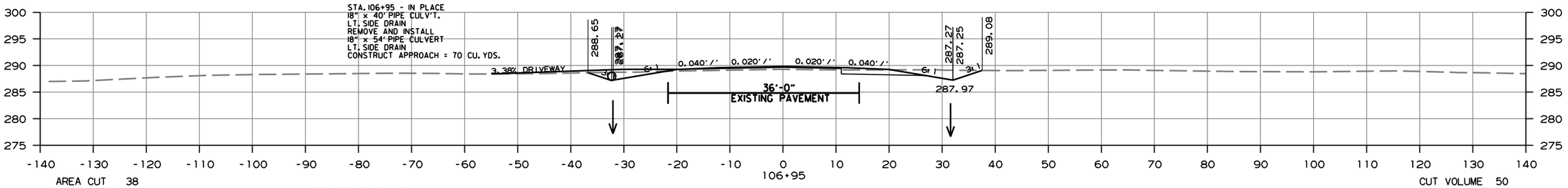
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	438	517

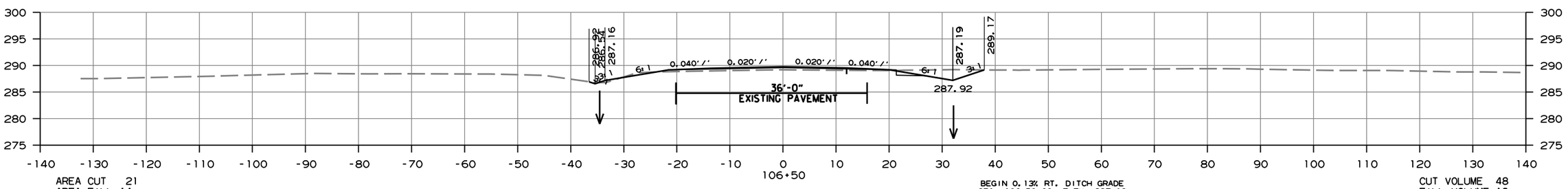
(2) CROSS SECTIONS - HWY. 365







STA. 106+92.00 LT.
BEGIN 325' TAPER FOR 12' LEFT TURN LANE

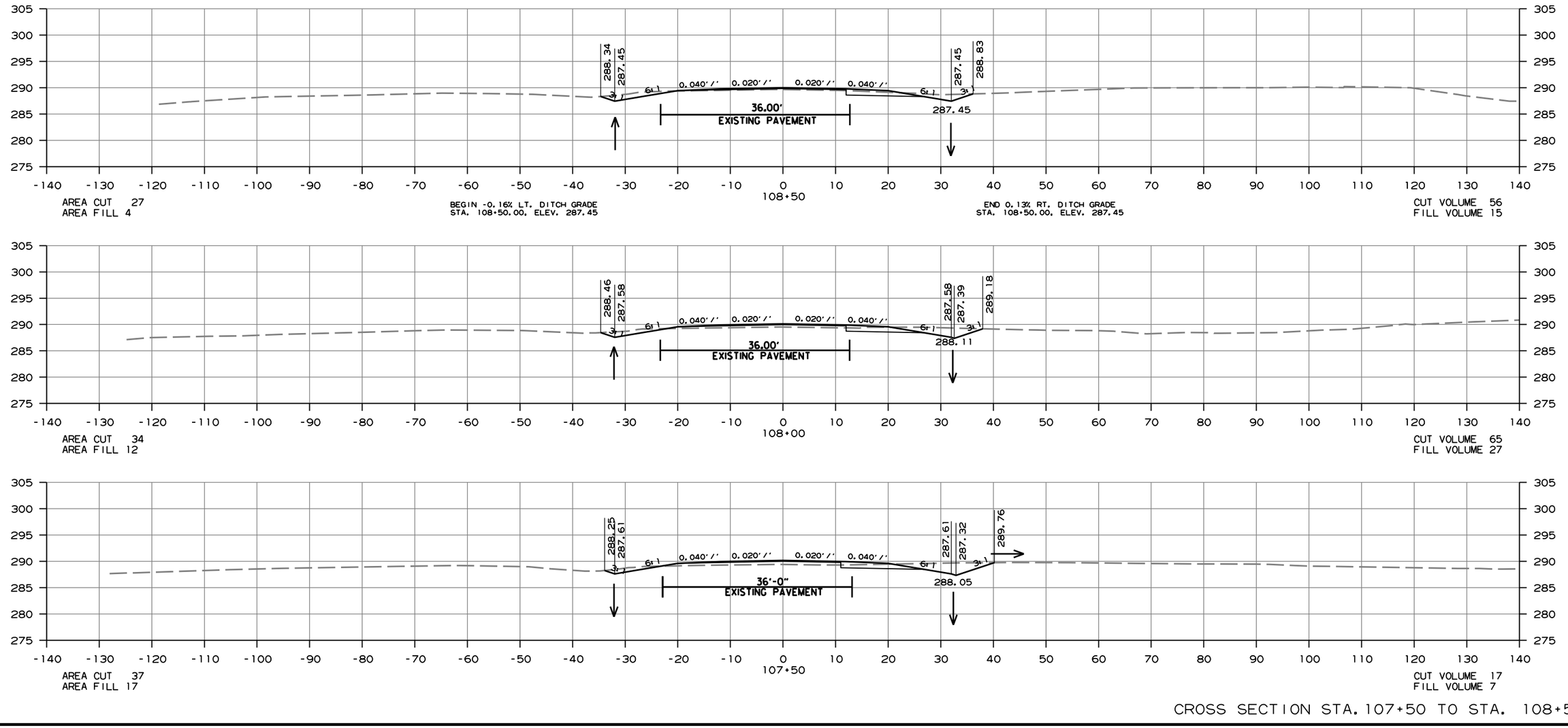


CROSS SECTION STA. 106+50 TO STA. 107+37

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	439	517

(2) CROSS SECTIONS - HWY. 365



AREA CUT 27
AREA FILL 4

BEGIN -0.16% LT. DITCH GRADE
STA. 108+50.00, ELEV. 287.45

END 0.13% RT. DITCH GRADE
STA. 108+50.00, ELEV. 287.45

CUT VOLUME 56
FILL VOLUME 15

AREA CUT 34
AREA FILL 12

CUT VOLUME 65
FILL VOLUME 27

AREA CUT 37
AREA FILL 17

CUT VOLUME 17
FILL VOLUME 7

CROSS SECTION STA. 107+50 TO STA. 108+50

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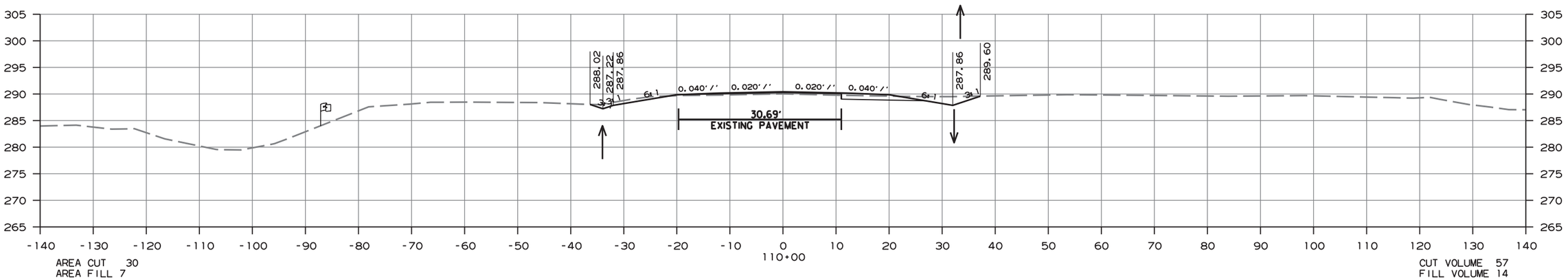
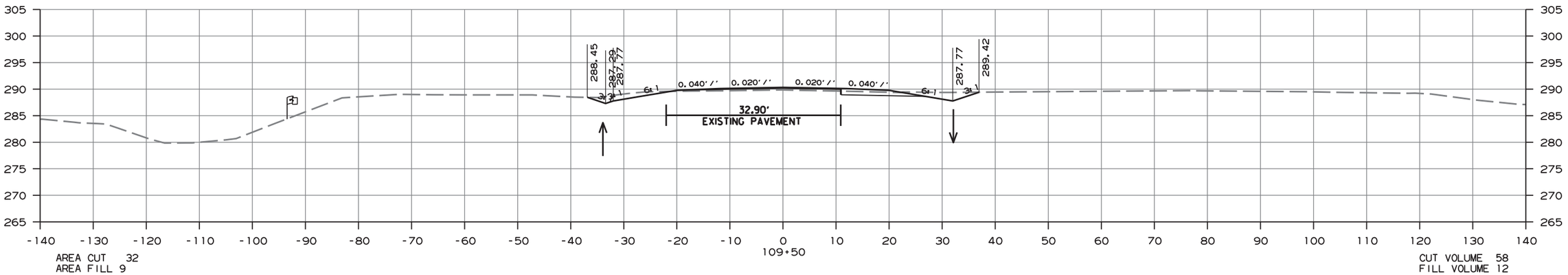
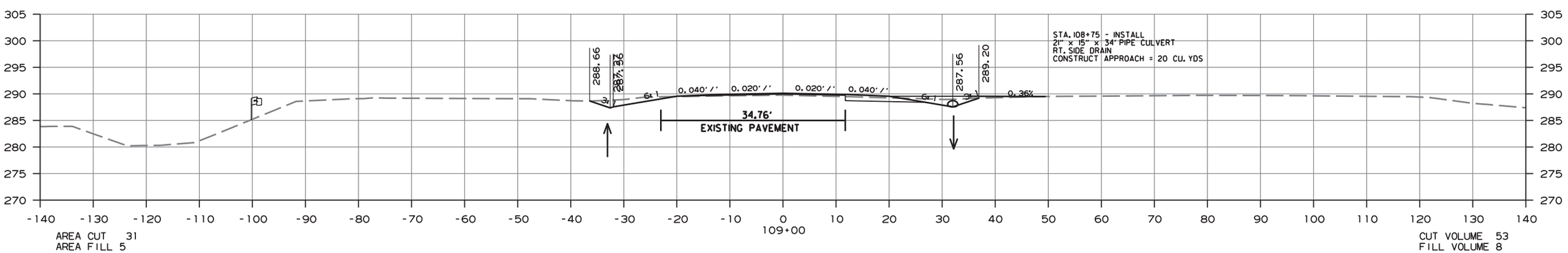
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
10-28-20				JOB NO.		080457	440	517
				(2) CROSS SECTIONS - HWY. 365				





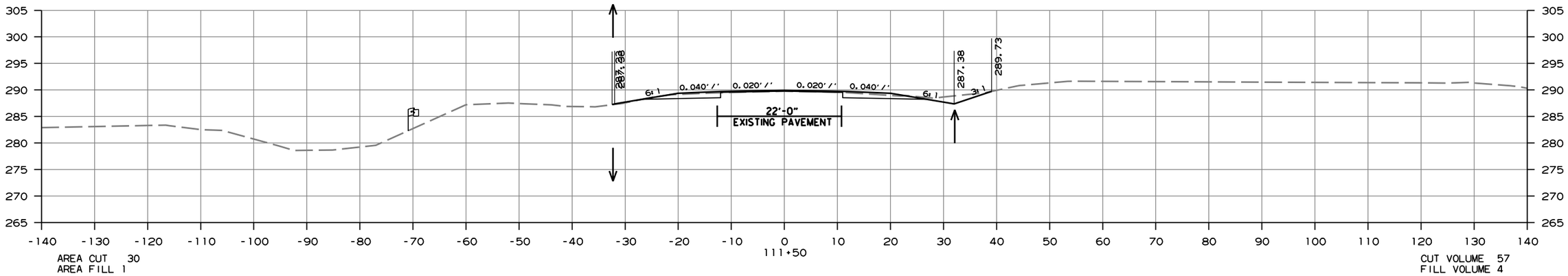


CROSS SECTION STA. 109+00 TO STA. 110+00

amme613 10/1/2020
R080457.DGN

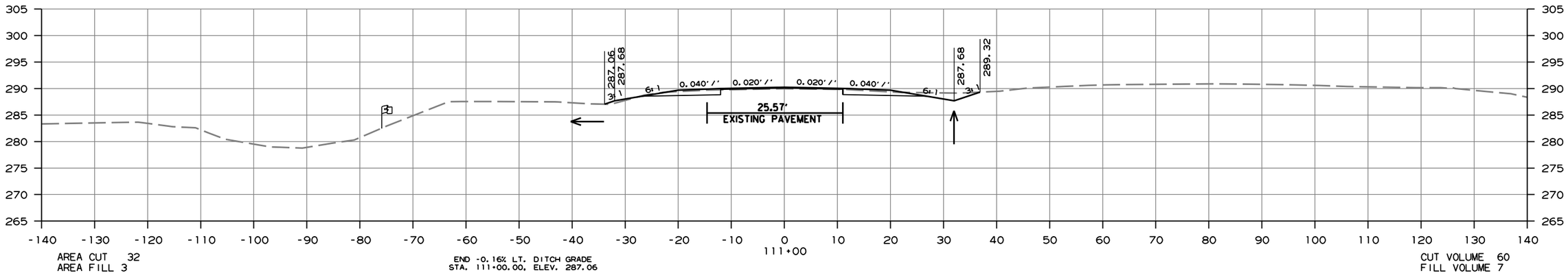
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	441	517

(2) CROSS SECTIONS - HWY. 365



AREA CUT 30
AREA FILL 1

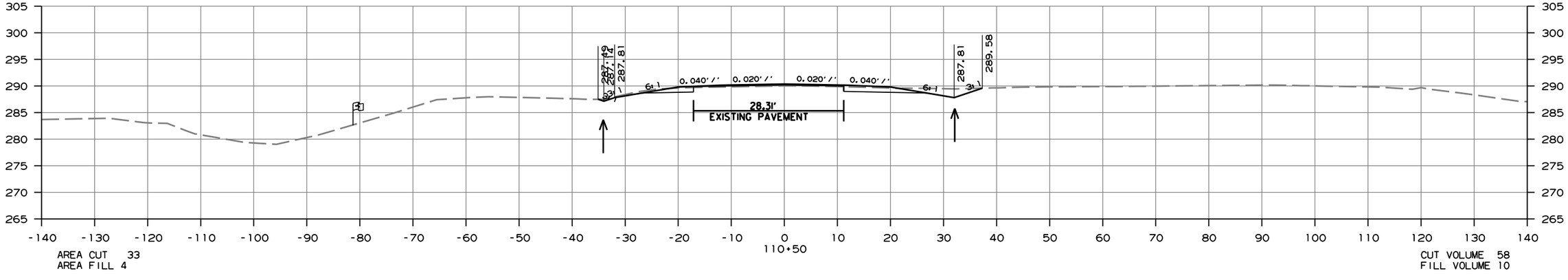
CUT VOLUME 57
FILL VOLUME 4



AREA CUT 32
AREA FILL 3

END -0.16% LT. DITCH GRADE
STA. 111+00.00, ELEV. 287.06

CUT VOLUME 60
FILL VOLUME 7



AREA CUT 33
AREA FILL 4

CUT VOLUME 58
FILL VOLUME 10

CROSS SECTION STA. 110+50 TO STA. 111+50

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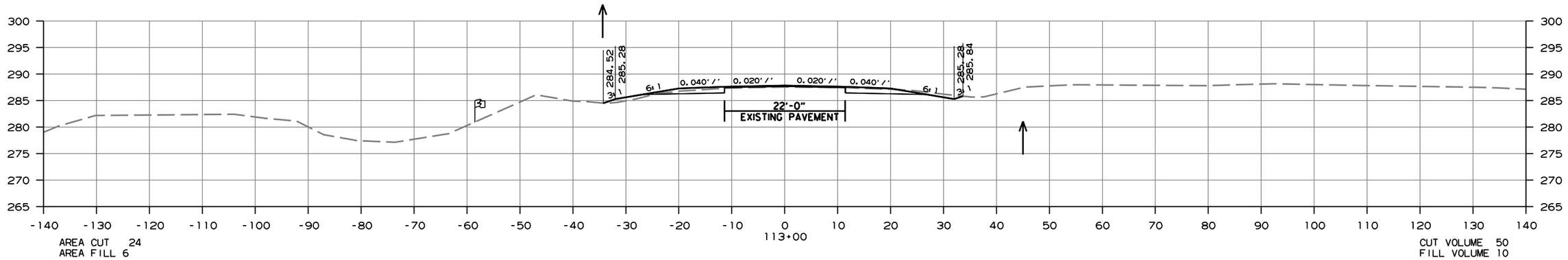
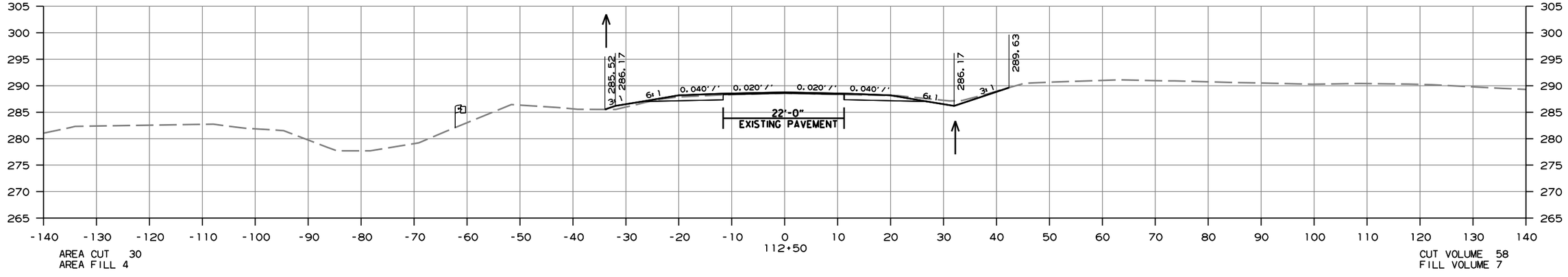
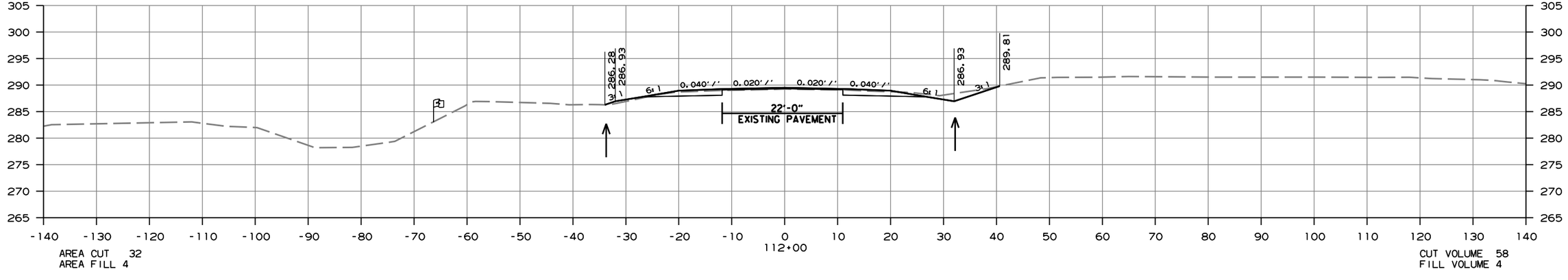
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	442	517

(2) CROSS SECTIONS - HWY. 365







CROSS SECTION STA. 112+00 TO STA. 113+00

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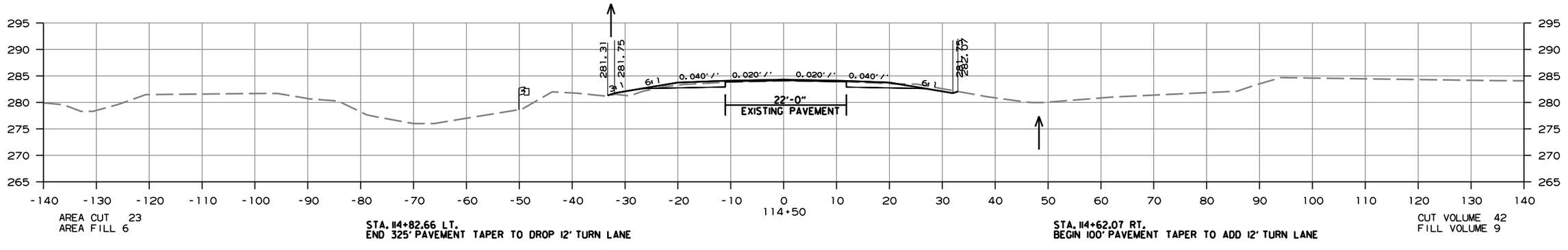
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	443	517

(2) CROSS SECTIONS - HWY. 365

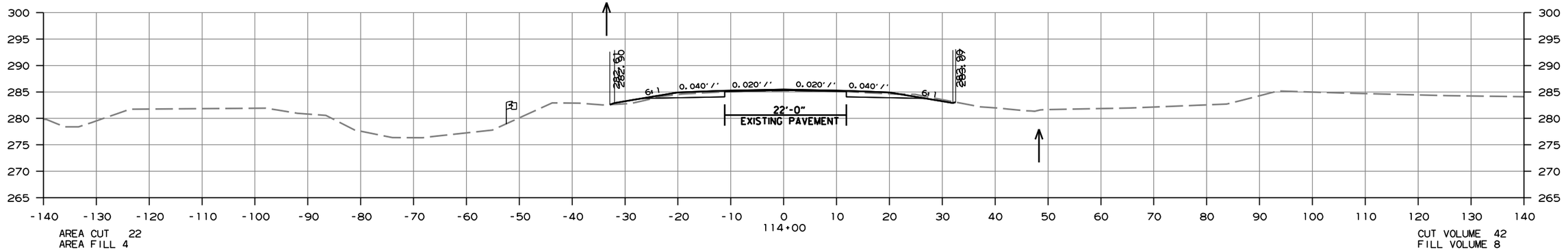


AREA CUT 23
AREA FILL 6

STA. 114+82.66 LT.
END 325' PAVEMENT TAPER TO DROP 12' TURN LANE

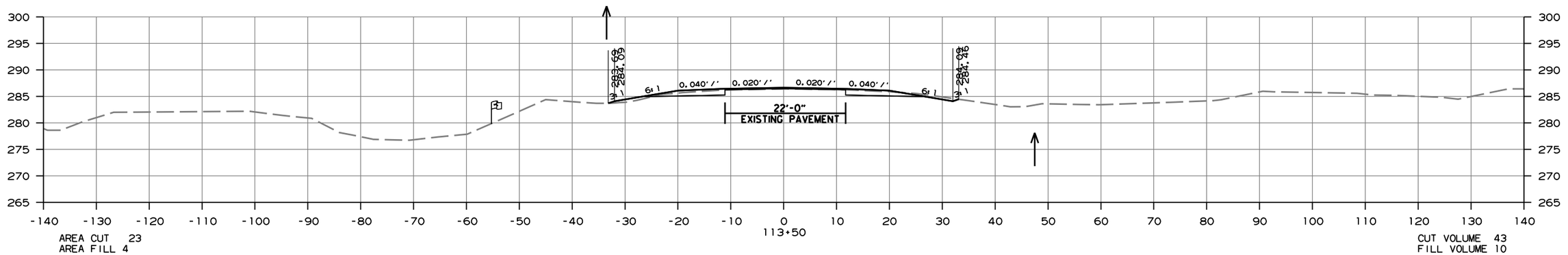
STA. 114+62.07 RT.
BEGIN 100' PAVEMENT TAPER TO ADD 12' TURN LANE

CUT VOLUME 42
FILL VOLUME 9



AREA CUT 22
AREA FILL 4

CUT VOLUME 42
FILL VOLUME 8



AREA CUT 23
AREA FILL 4

CUT VOLUME 43
FILL VOLUME 10

CROSS SECTION STA. 113+50 TO STA. 114+50

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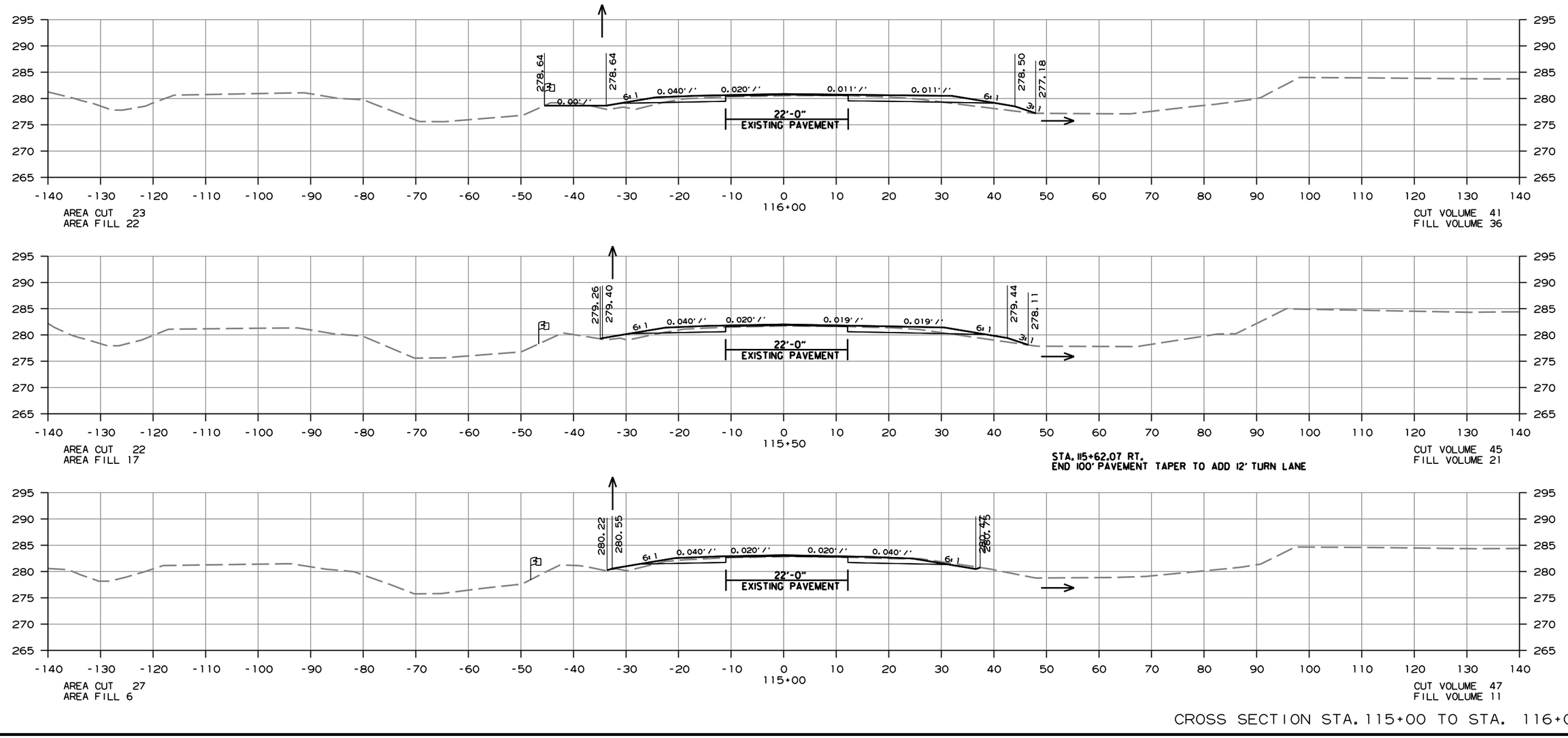
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	444	517

(2) CROSS SECTIONS - HWY. 365



CROSS SECTION STA. 115+00 TO STA. 116+00

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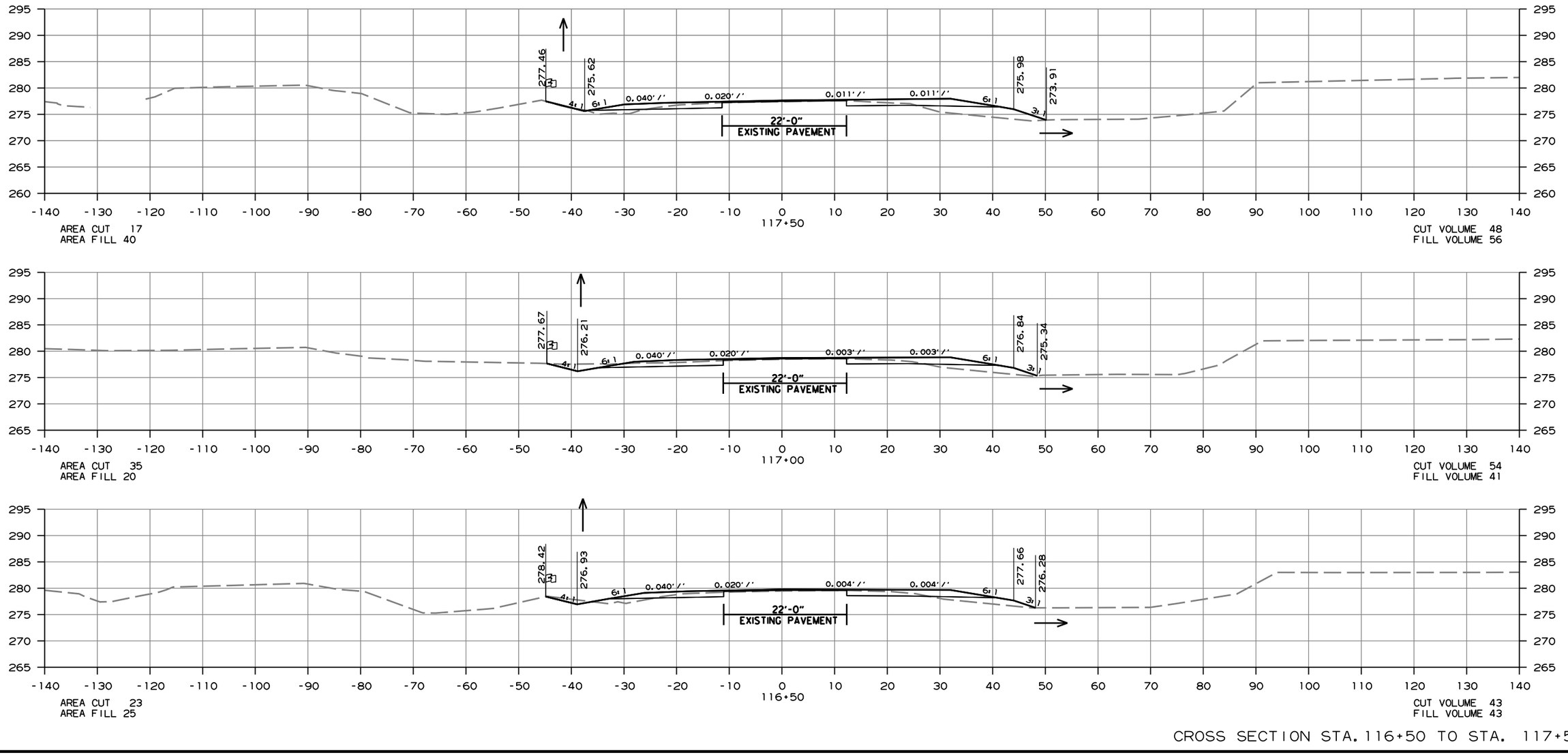
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	445	517

(2) CROSS SECTIONS - HWY. 365



CROSS SECTION STA. 116+50 TO STA. 117+50

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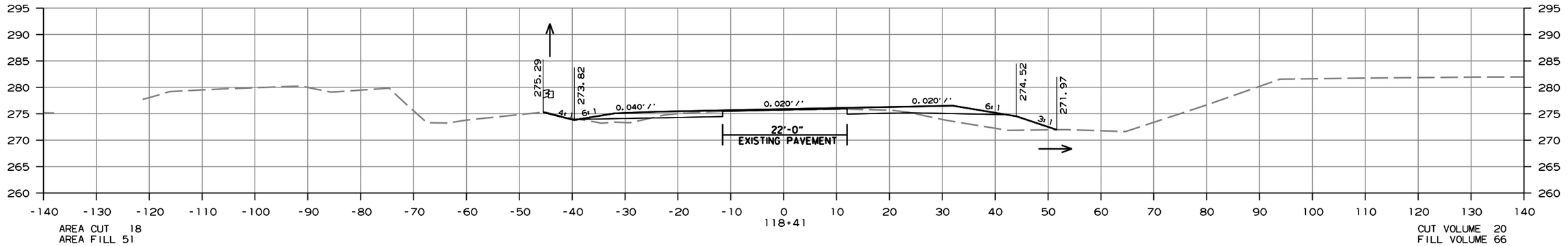
R080457.DGN

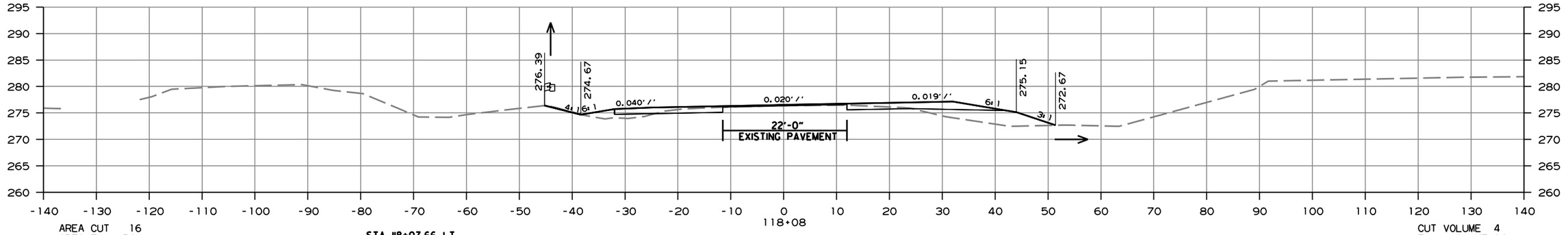
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	446	517

(2) CROSS SECTIONS - HWY. 365



AREA CUT 18
AREA FILL 51

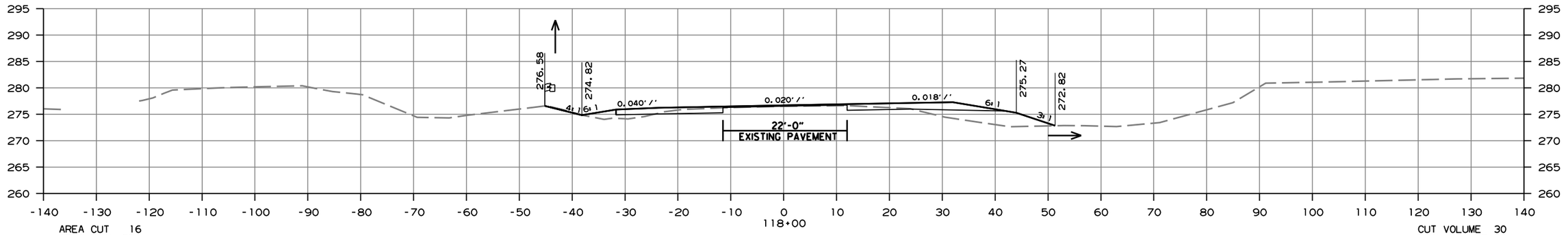
CUT VOLUME 20
FILL VOLUME 66



AREA CUT 16
AREA FILL 56

CUT VOLUME 4
FILL VOLUME 16

STA. 118+07.66 LT.
BEGIN 325' PAVEMENT TAPER TO DROP 12' TURN LANE



AREA CUT 16
AREA FILL 55

CUT VOLUME 30
FILL VOLUME 89

CROSS SECTION STA. 118+00 TO STA. 118+41

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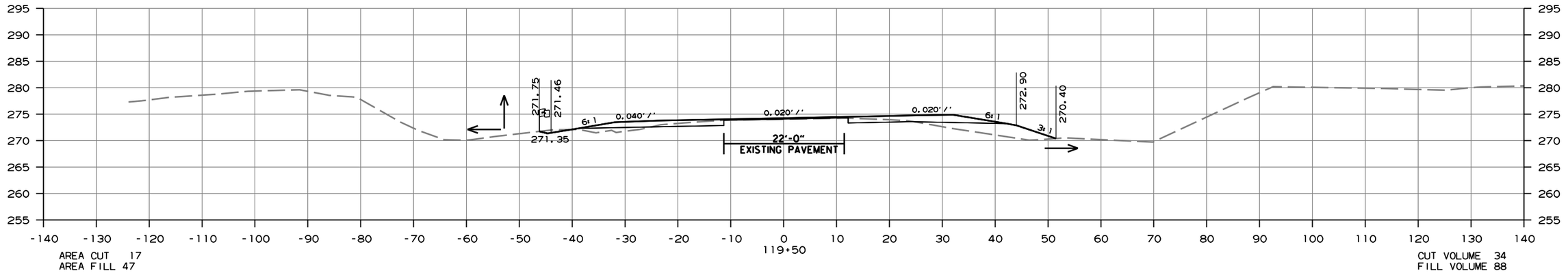
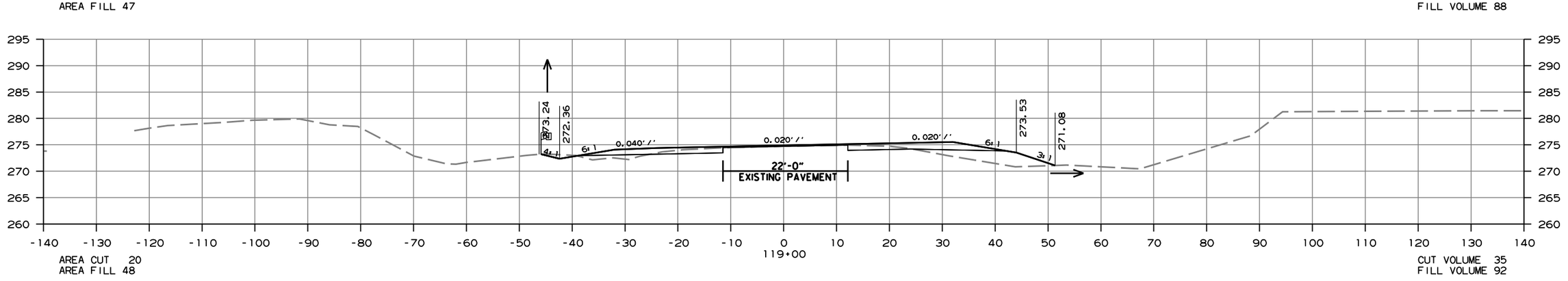
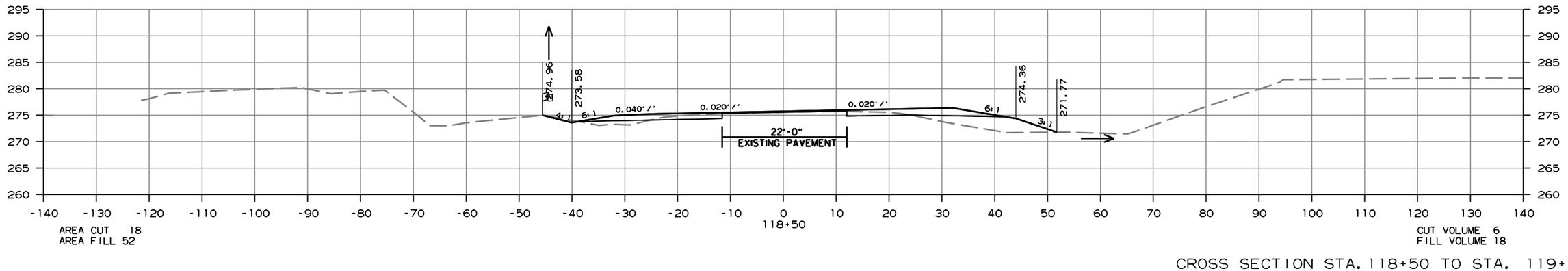
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	447	517

(2) CROSS SECTIONS - HWY. 365





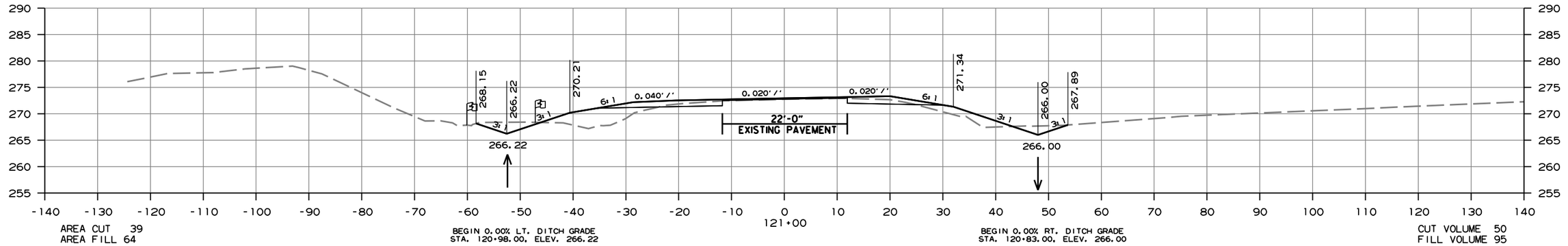


CROSS SECTION STA. 118+50 TO STA. 119+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	448	517

(2) CROSS SECTIONS - HWY. 365

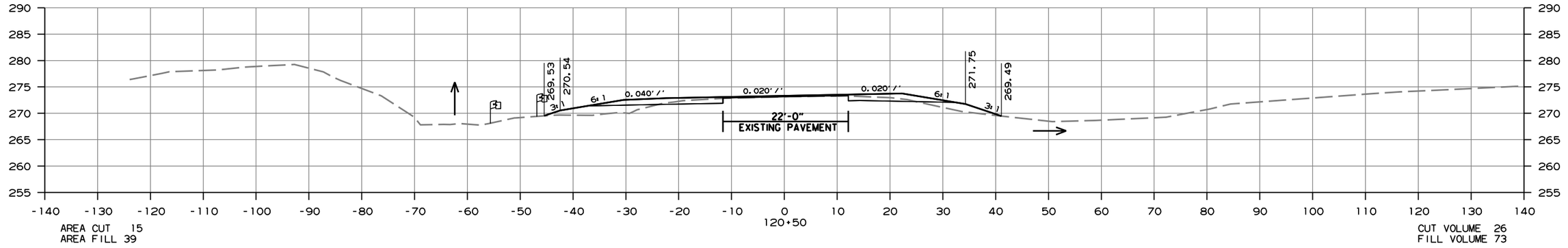


AREA CUT 39
AREA FILL 64

BEGIN 0.00% LT. DITCH GRADE
STA. 120+98.00, ELEV. 266.22

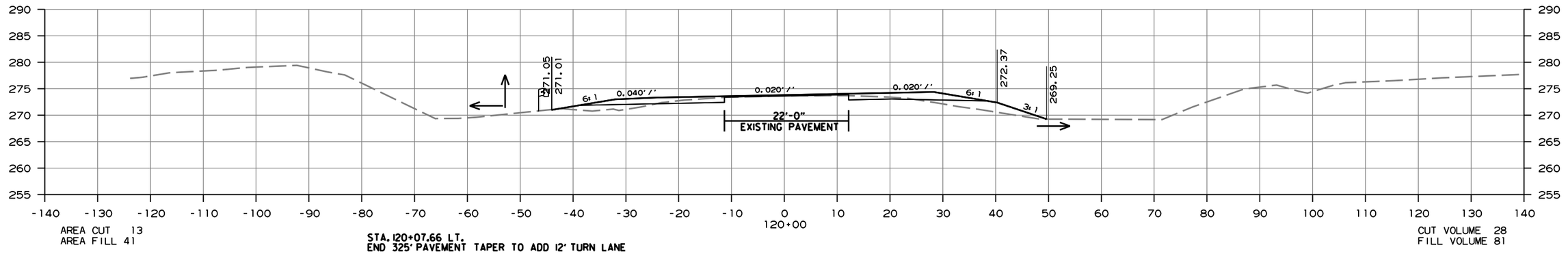
BEGIN 0.00% RT. DITCH GRADE
STA. 120+83.00, ELEV. 266.00

CUT VOLUME 50
FILL VOLUME 95



AREA CUT 15
AREA FILL 39

CUT VOLUME 26
FILL VOLUME 73



AREA CUT 13
AREA FILL 41

STA. 120+07.66 LT.
END 325' PAVEMENT TAPER TO ADD 12' TURN LANE

CUT VOLUME 28
FILL VOLUME 81

CROSS SECTION STA. 120+00 TO STA. 121+00

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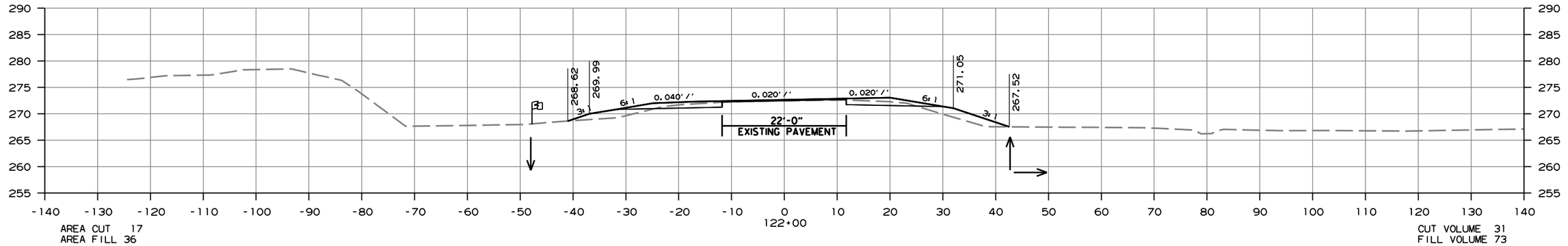
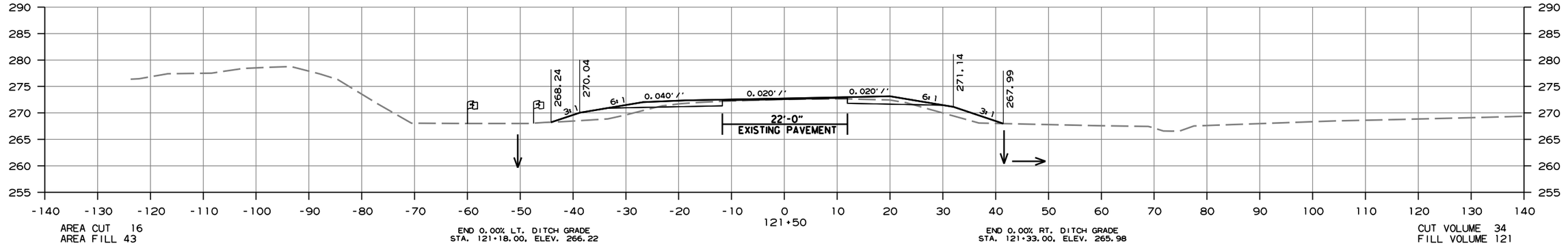
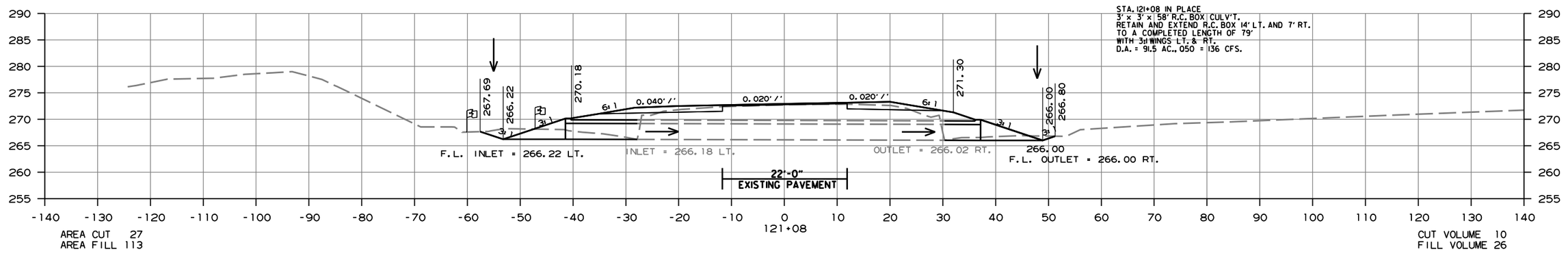
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	449	517

(2) CROSS SECTIONS - HWY. 365





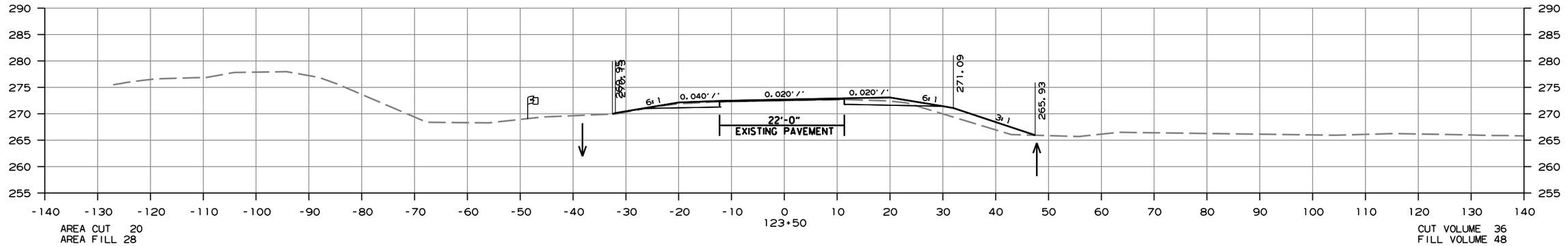


CROSS SECTION STA. 121+08 TO STA. 122+00

amme613 10/1/2020
R080457.DGN

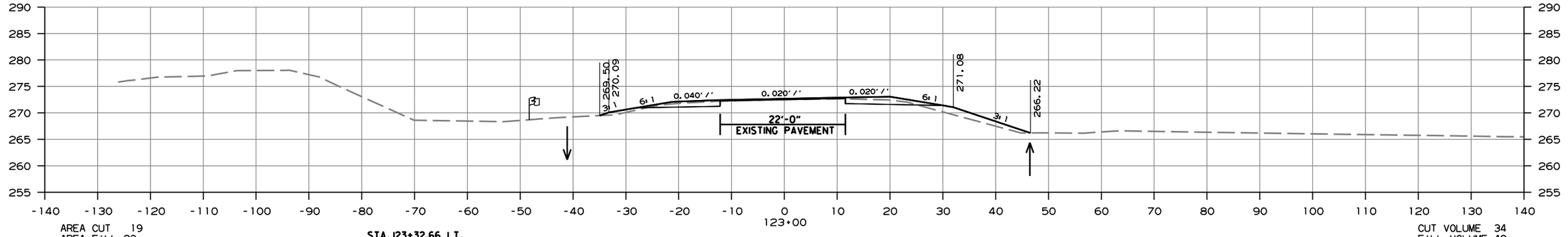
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	450	517

(2) CROSS SECTIONS - HWY. 365



AREA CUT 20
AREA FILL 28

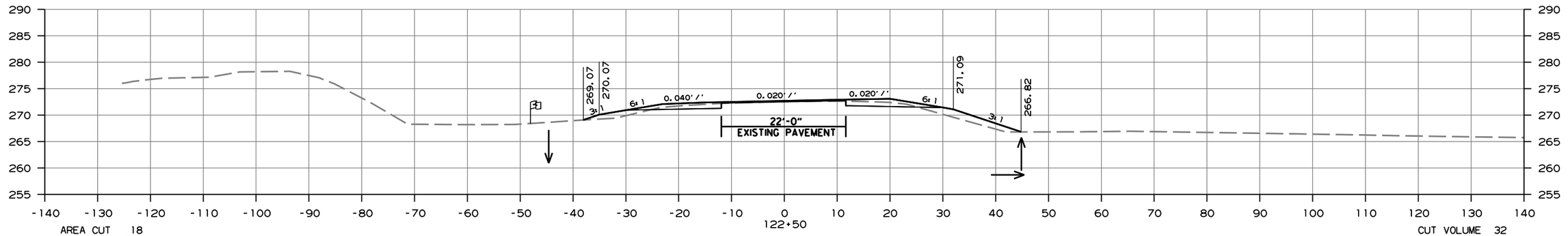
CUT VOLUME 36
FILL VOLUME 48



AREA CUT 19
AREA FILL 23

STA. 123+32.66 LT.
BEGIN 325' PAVEMENT TAPER TO ADD 12' TURN LANE

CUT VOLUME 34
FILL VOLUME 49



AREA CUT 18
AREA FILL 30

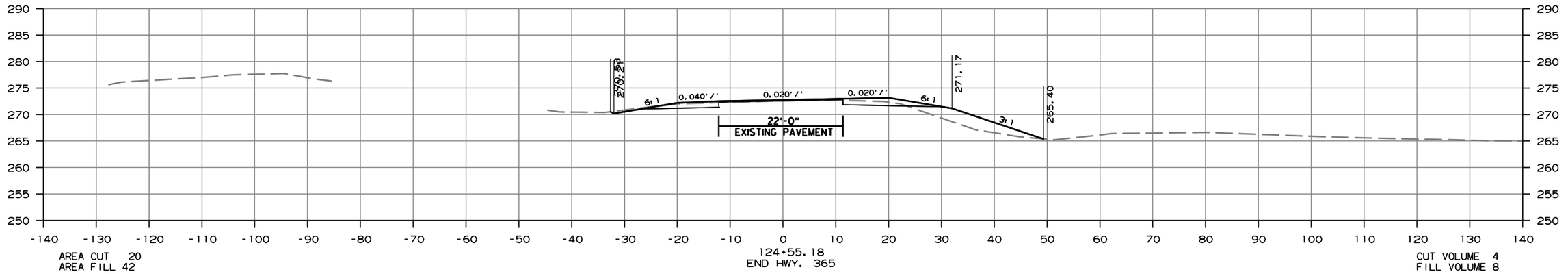
CUT VOLUME 32
FILL VOLUME 60

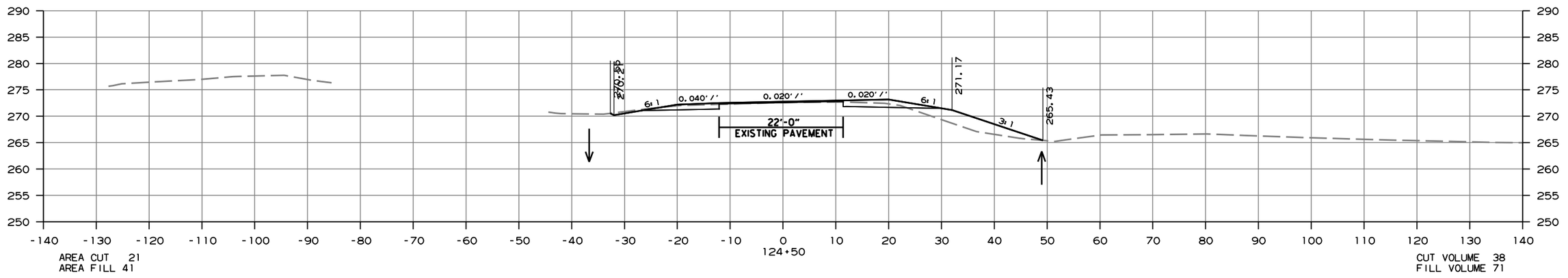
CROSS SECTION STA. 122+50 TO STA. 123+50

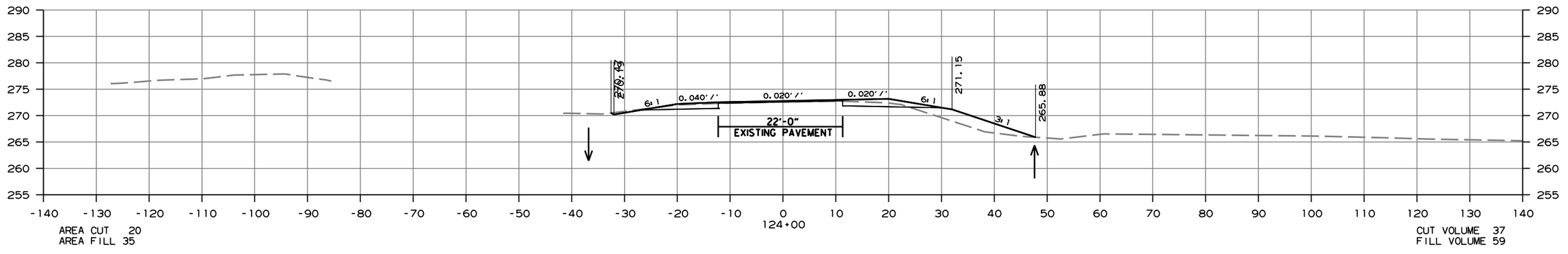
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	451	517

(2) CROSS SECTIONS - HWY. 365







CROSS SECTION STA. 124+00 TO STA. 124+55

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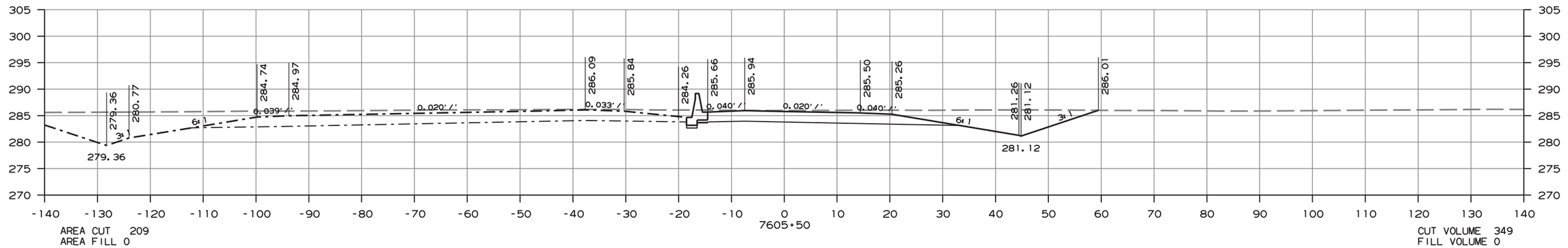
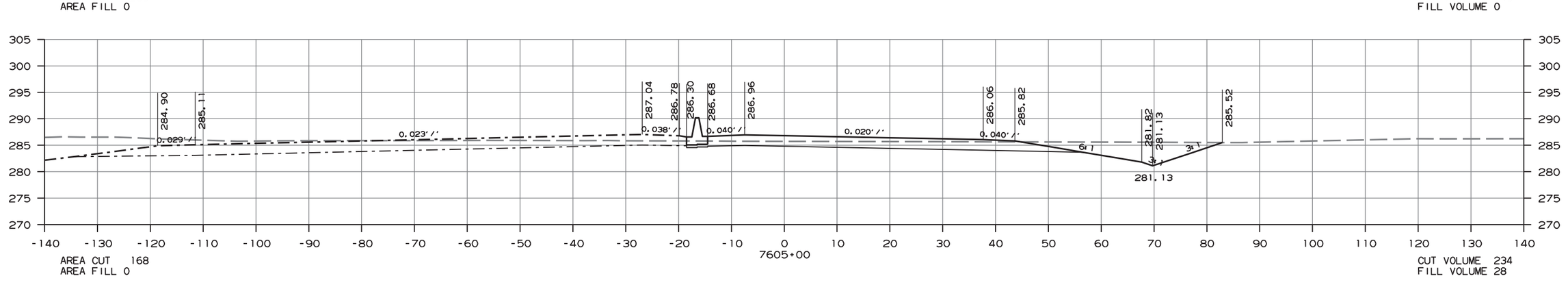
R080457.DGN

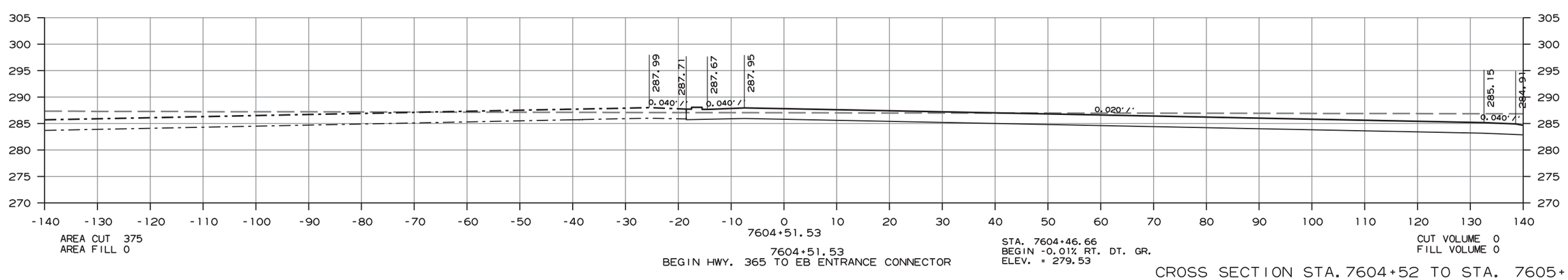
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	452	517

(2) CROSS SECTIONS - HWY. 365 TO EB ENT







7604+51.53
BEGIN HWY. 365 TO EB ENTRANCE CONNECTOR

STA. 7604+46.66
BEGIN -0.01% RT. DT. GR.
ELEV. = 279.53

CROSS SECTION STA. 7604+52 TO STA. 7605+50

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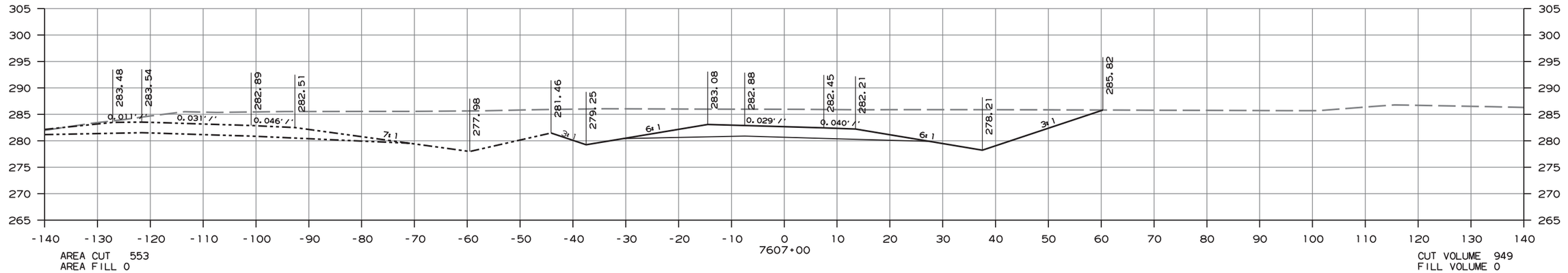
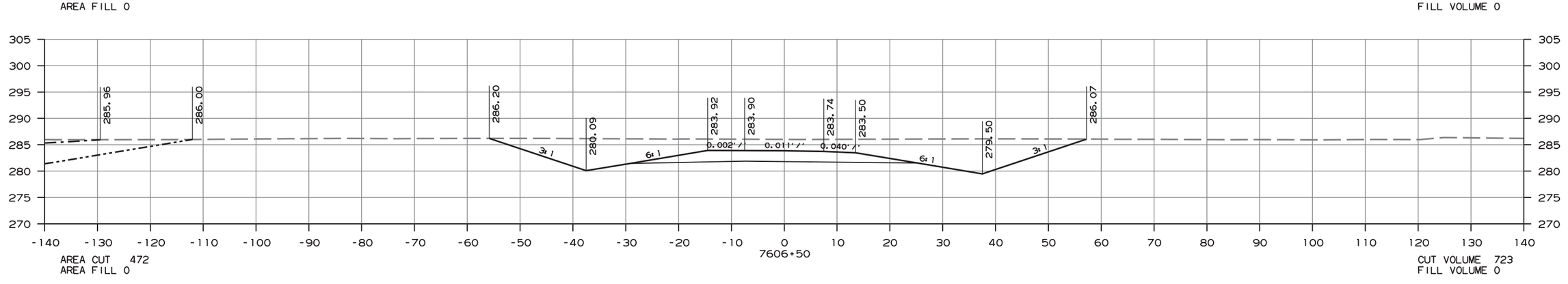
R080457.DGN

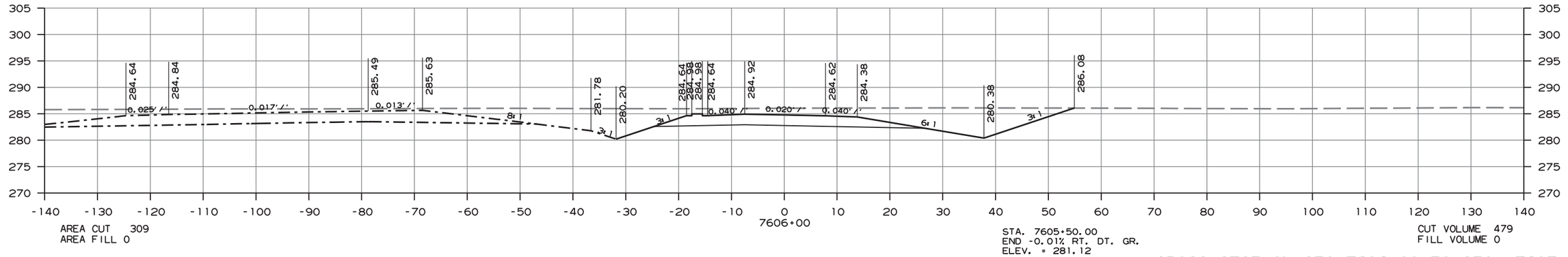
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	453	517

(2) CROSS SECTIONS - HWY. 365 TO EB ENT







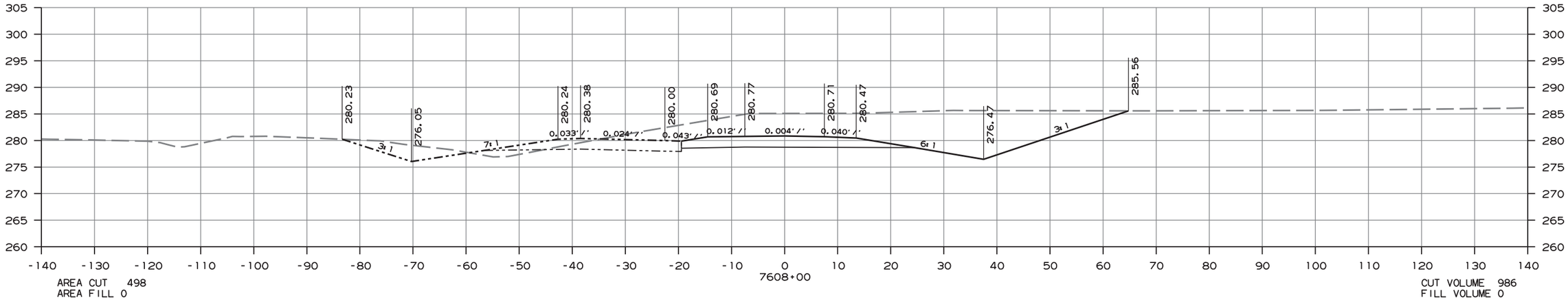
CROSS SECTION STA. 7606+00 TO STA. 7607+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	454	517

(2) CROSS SECTIONS - HWY. 365 TO EB ENT



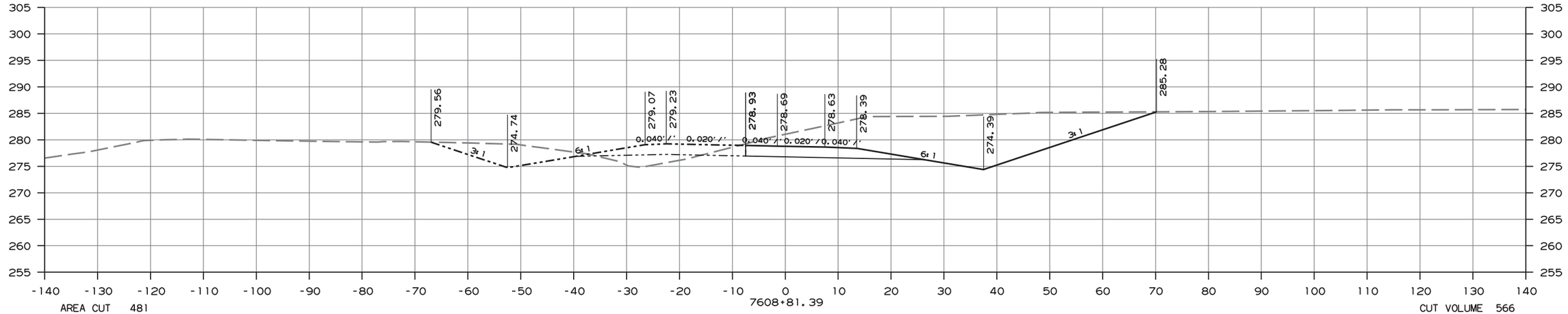
CROSS SECTION STA. 7607+50 TO STA. 7608+00

amme613 10/1/2020
R080457.DGN

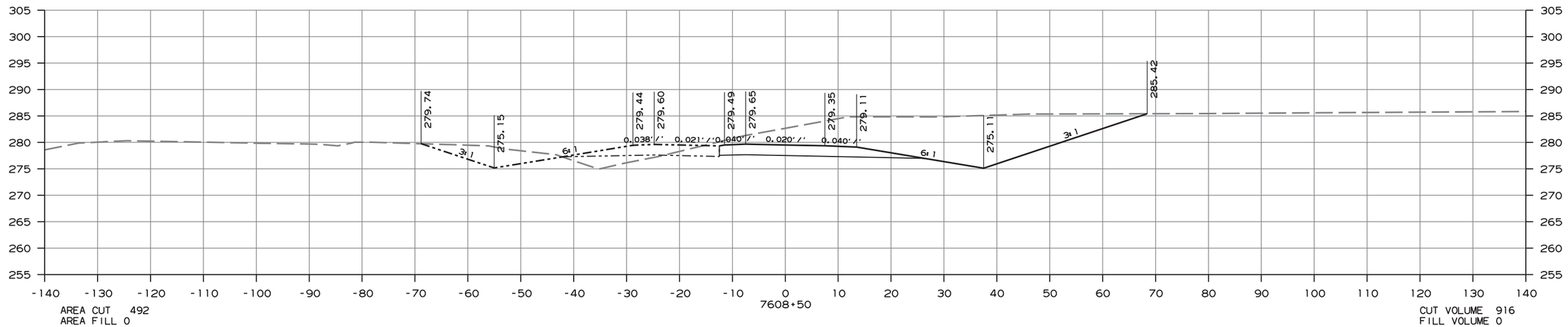
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	455	517

(2) CROSS SECTIONS - HWY. 365 TO EB ENT



7608+81.39
END HWY. 365 TO EB ENTRANCE CONNECTOR



CROSS SECTION STA. 7608+50 TO STA. 7608+81

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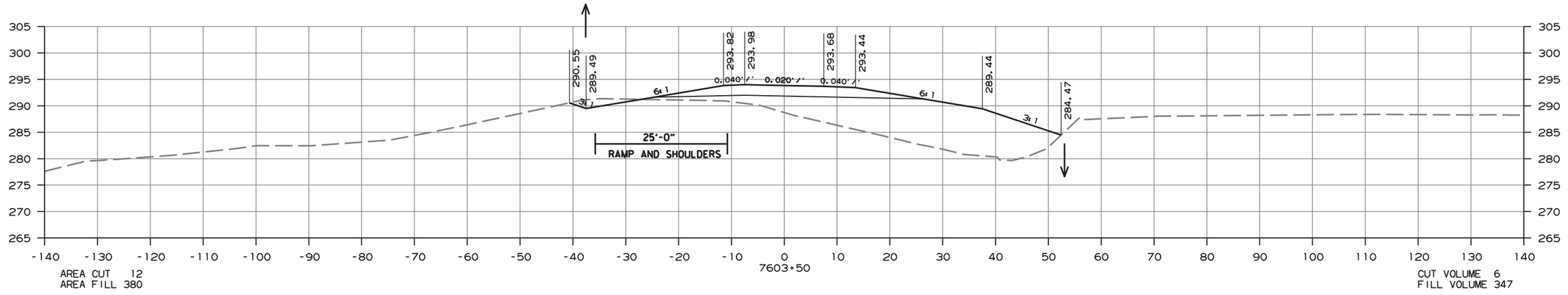
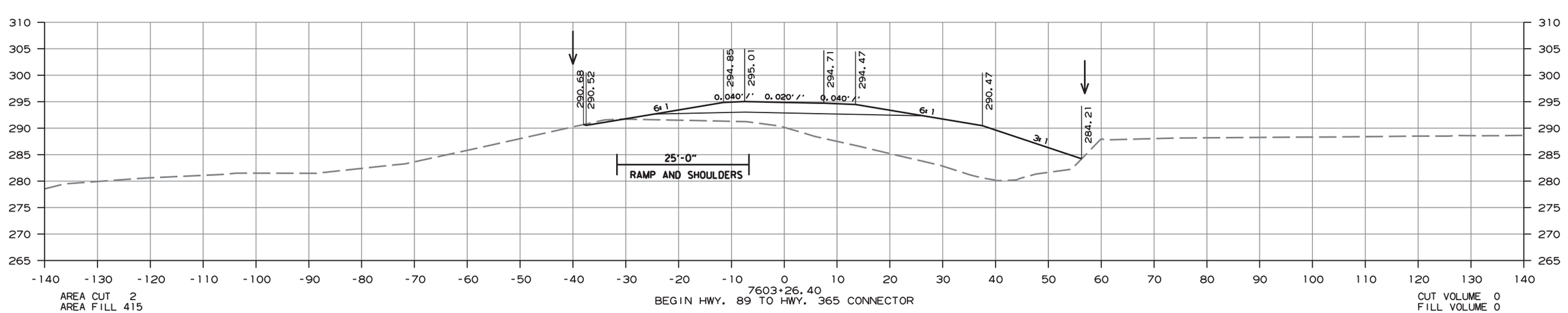
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	456	517

(2) CROSS SECTIONS - HWY. 89 TO HWY. 365





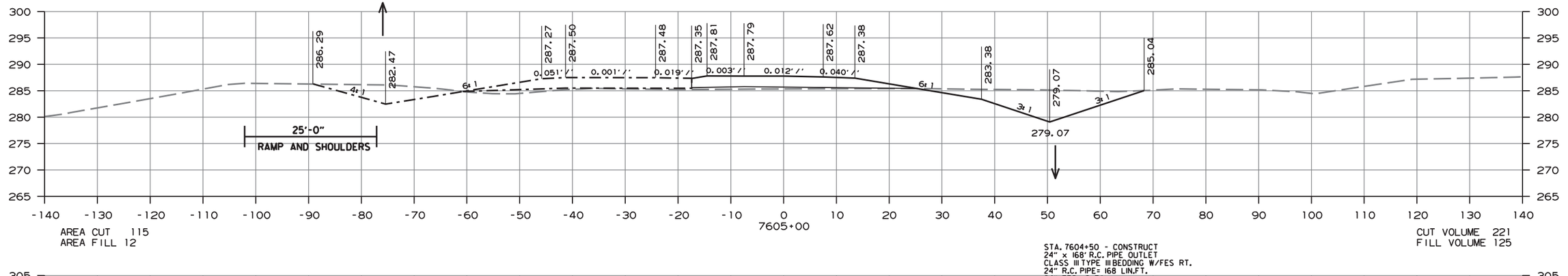
CROSS SECTION STA. 7603+26 TO STA. 7603+50

amme613 10/1/2020
R080457.DGN

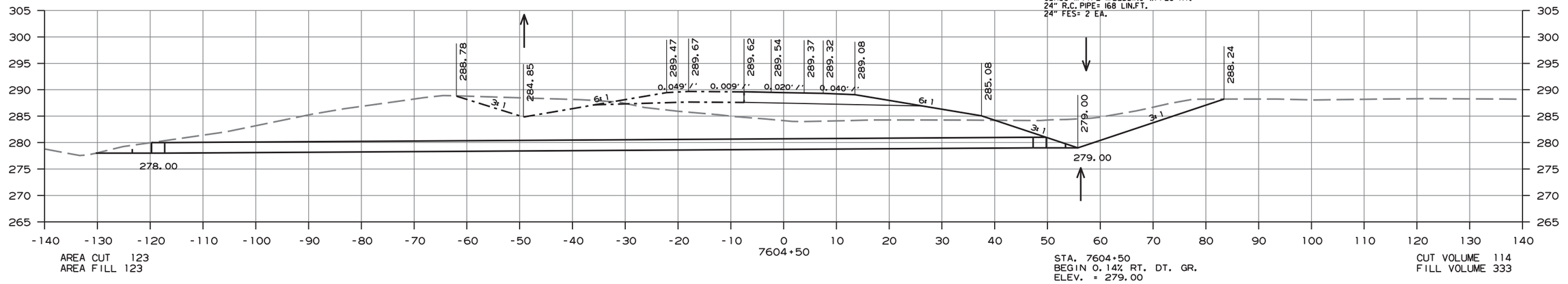
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

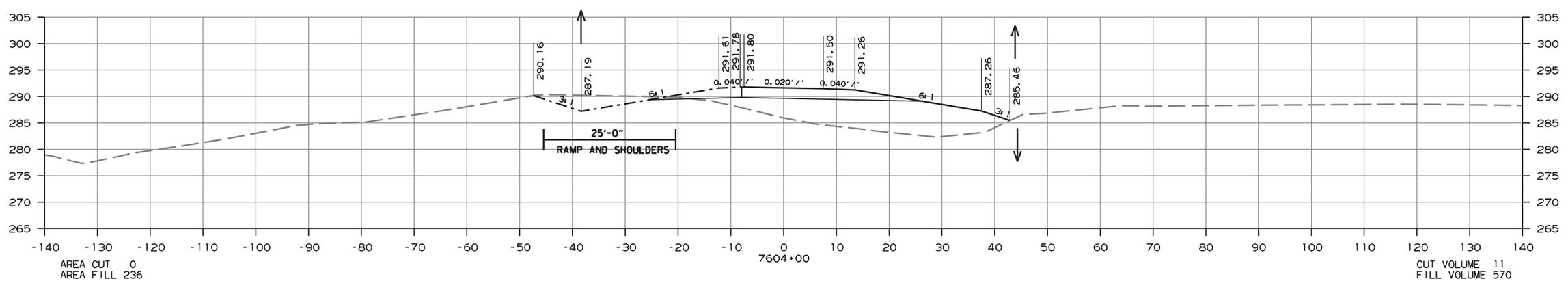
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	457	517

(2) CROSS SECTIONS - HWY. 89 TO HWY. 365



STA. 7604+50 - CONSTRUCT
24" x 168' R.C. PIPE OUTLET
CLASS III TYPE III BEDDING W/FES RT.
24" R.C. PIPE= 168 LIN.FT.
24" FES= 2 EA.





CROSS SECTION STA. 7604+00 TO STA. 7605+00

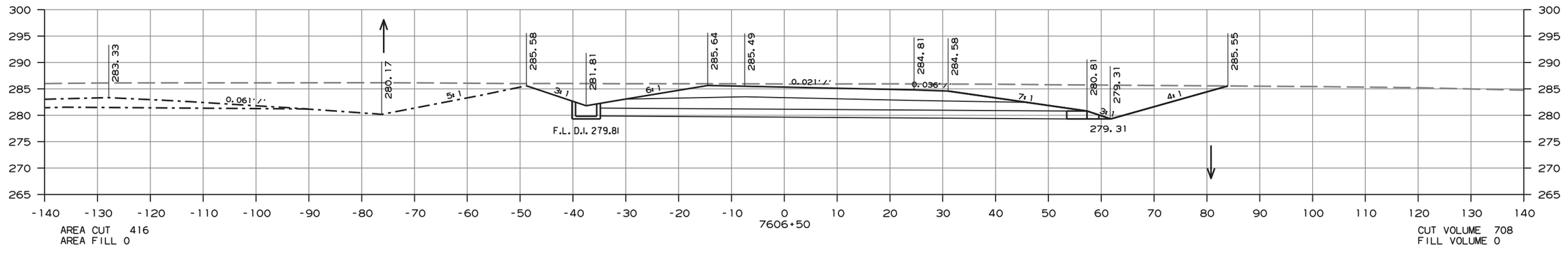
ammel613 10/1/2020
R080457.DGN

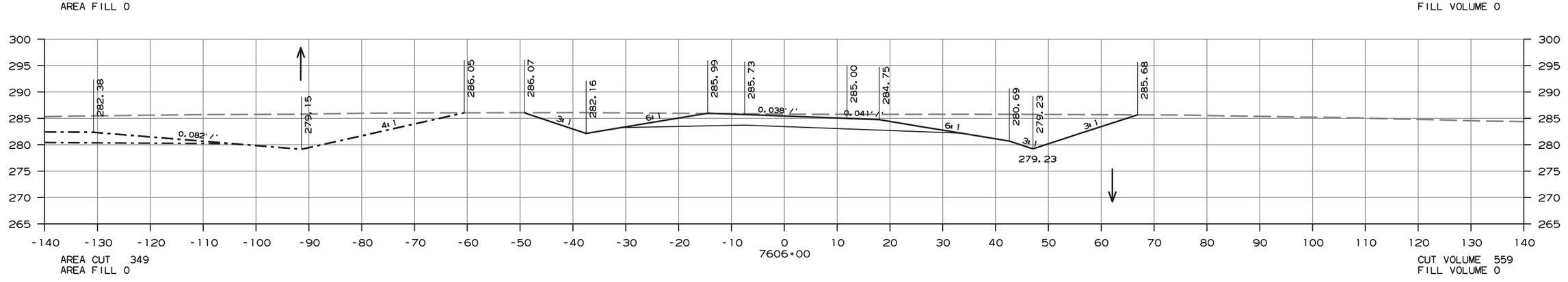
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

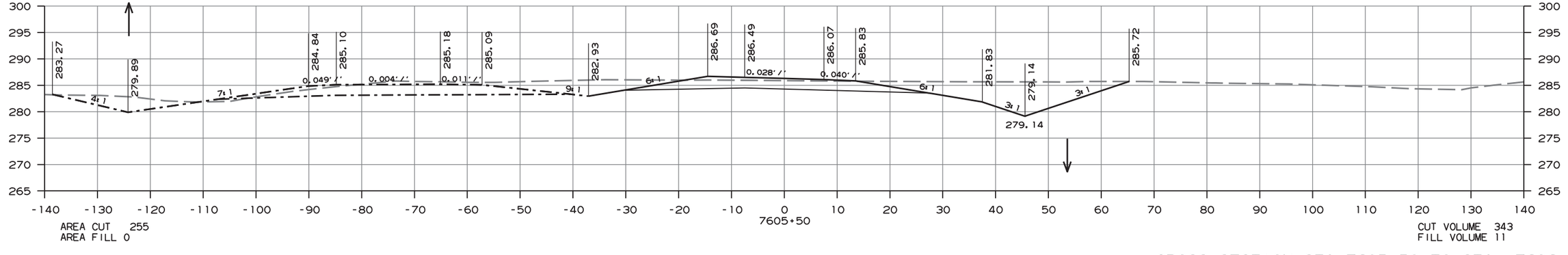
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	458	517

(2) CROSS SECTIONS - HWY. 89 TO HWY. 365

STA. 7606+50 - CONSTRUCT
TYPE RM DROP INLET IN MEDIAN
4' x 5' x H= 2'-0"
WITH 18" x 90' R.C. PIPE OUTLET
(CLASS III) (TYPE 3 BEDDING)
18" R.C. PIPE= 90 LIN.FT.
18" FES= 1EA.







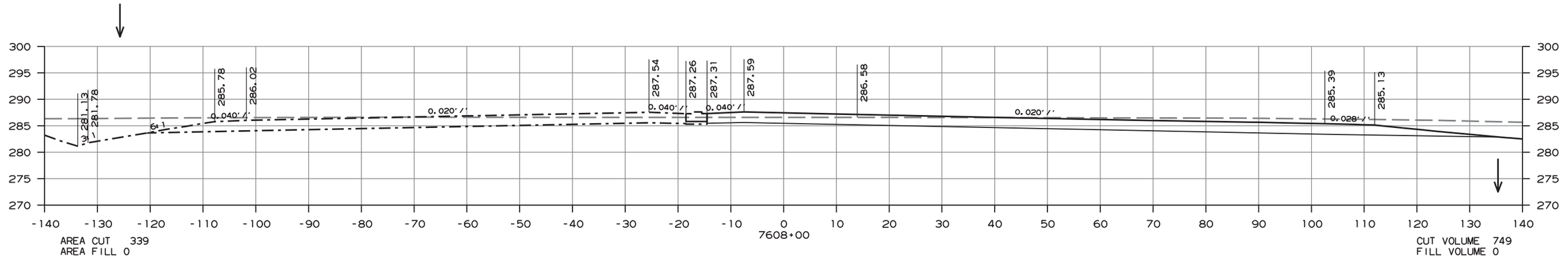
CROSS SECTION STA. 7605+50 TO STA. 7606+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

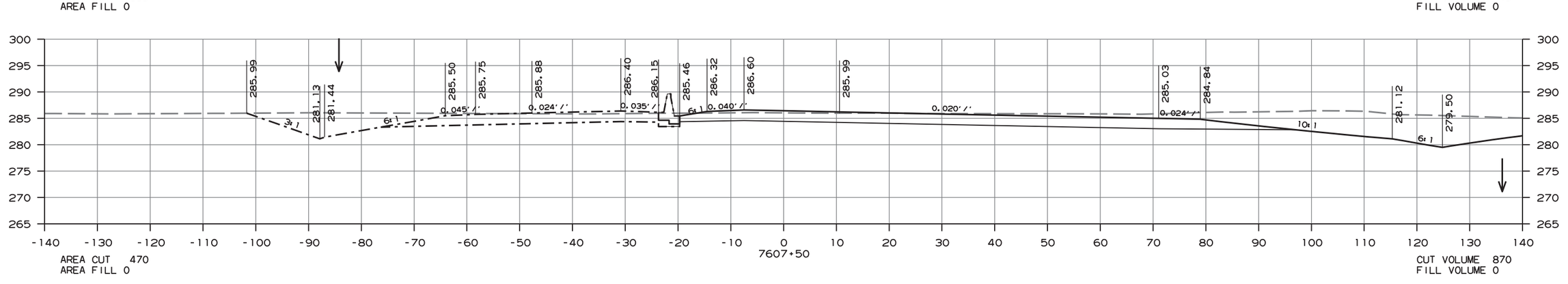
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	459	517

(2) CROSS SECTIONS - HWY. 89 TO HWY. 365



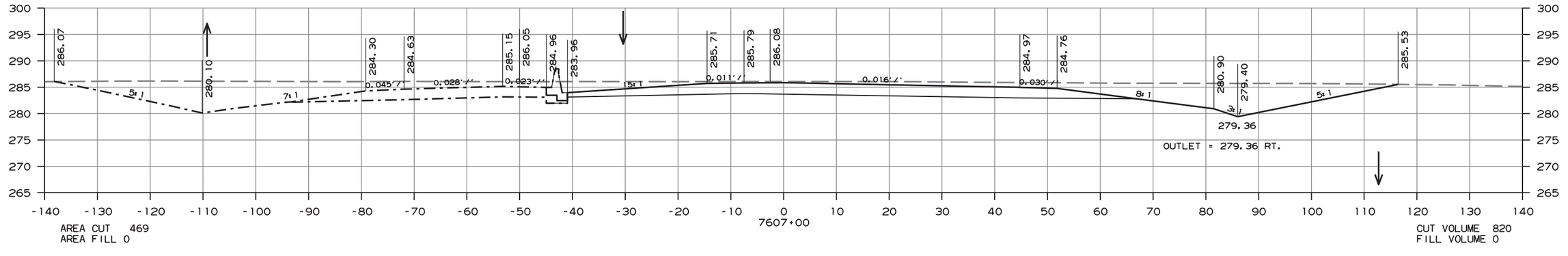
AREA CUT 339
AREA FILL 0

CUT VOLUME 749
FILL VOLUME 0



AREA CUT 470
AREA FILL 0

CUT VOLUME 870
FILL VOLUME 0



AREA CUT 469
AREA FILL 0

CUT VOLUME 820
FILL VOLUME 0

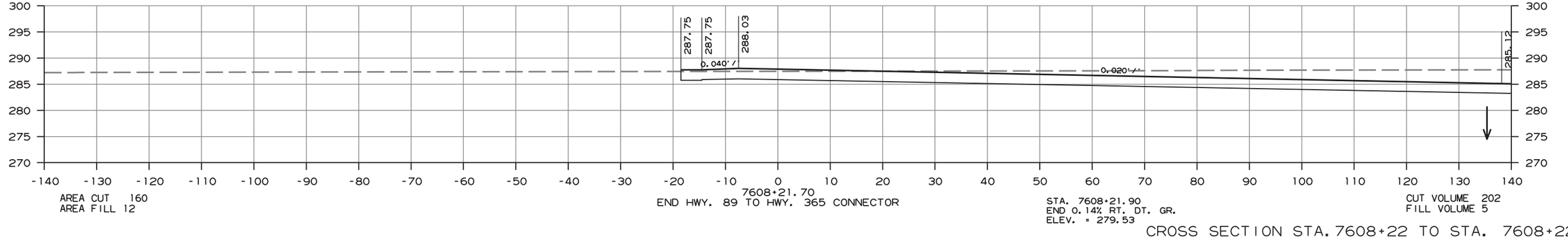
CROSS SECTION STA. 7607+00 TO STA. 7608+00

amme613 10/1/2020
RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	460	517

(2) CROSS SECTIONS - HWY. 89 TO HWY. 365



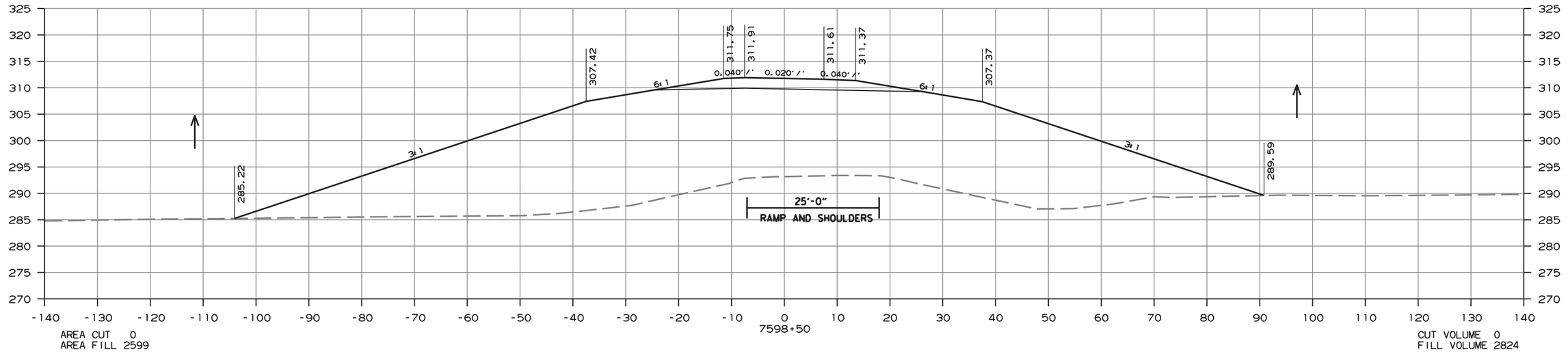
CROSS SECTION STA. 7608+22 TO STA. 7608+22

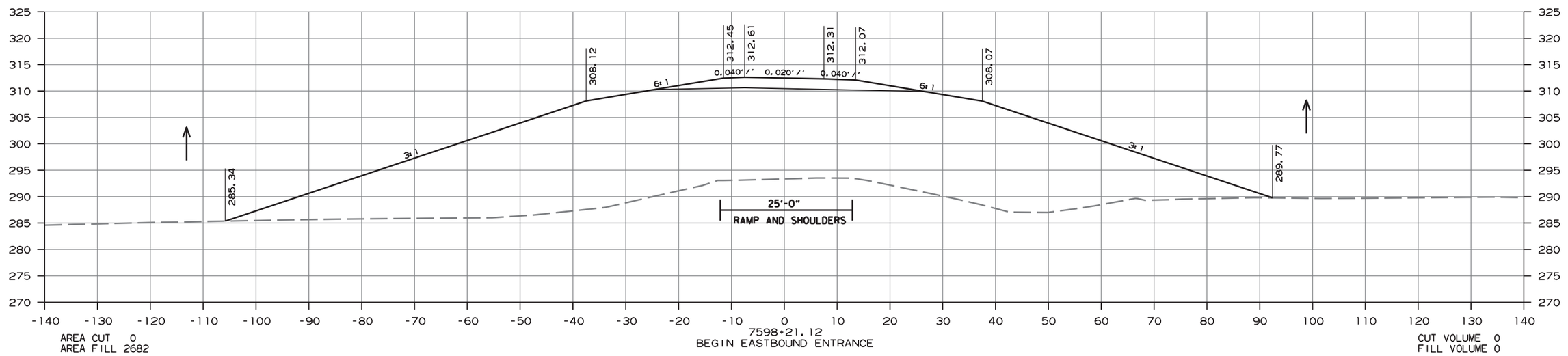
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	461	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





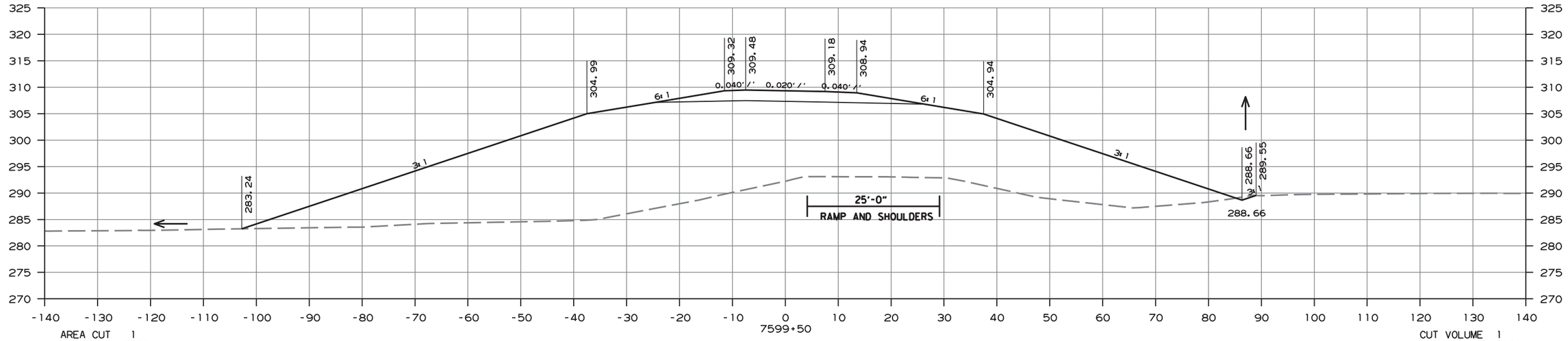
CROSS SECTION STA. 7598+21 TO STA. 7598+50

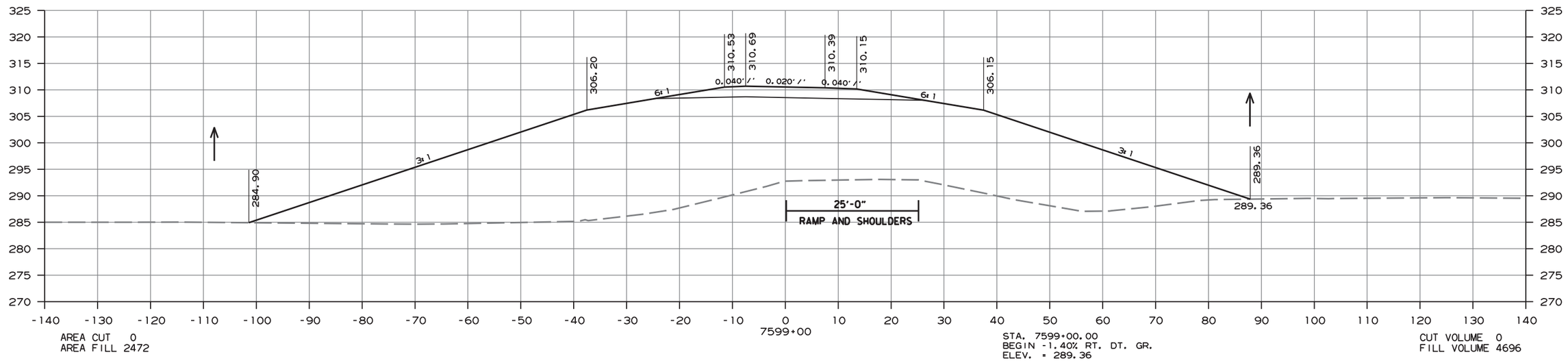
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	462	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





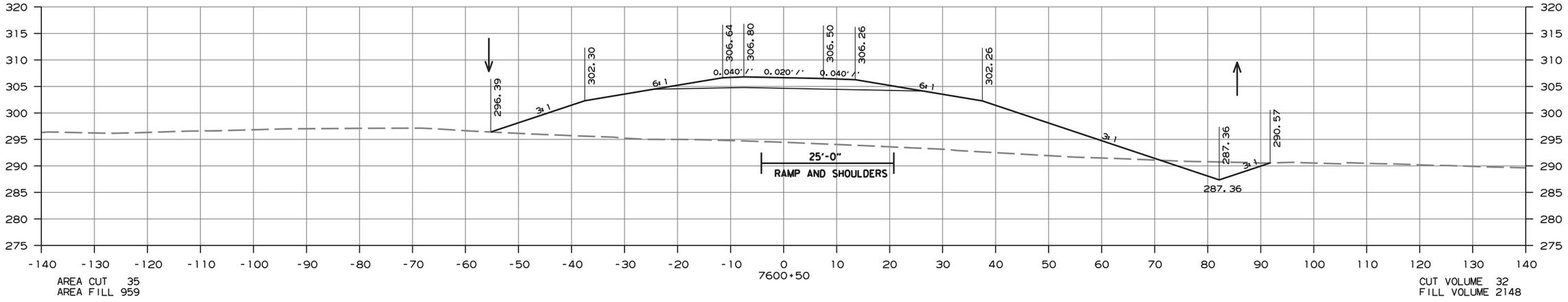
CROSS SECTION STA. 7599+00 TO STA. 7599+50

ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

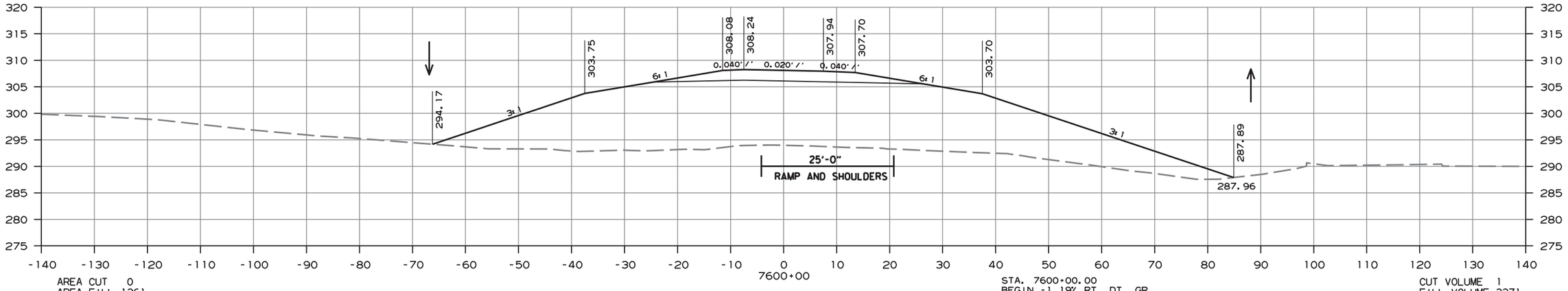
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	463	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



AREA CUT 35
AREA FILL 959

CUT VOLUME 32
FILL VOLUME 2148



AREA CUT 0
AREA FILL 1361

STA. 7600+00.00
BEGIN -1.19% RT. DT. GR.
END -1.40% RT. DT. GR.
ELEV. = 287.96

CUT VOLUME 1
FILL VOLUME 3371

CROSS SECTION STA. 7600+00 TO STA. 7600+50

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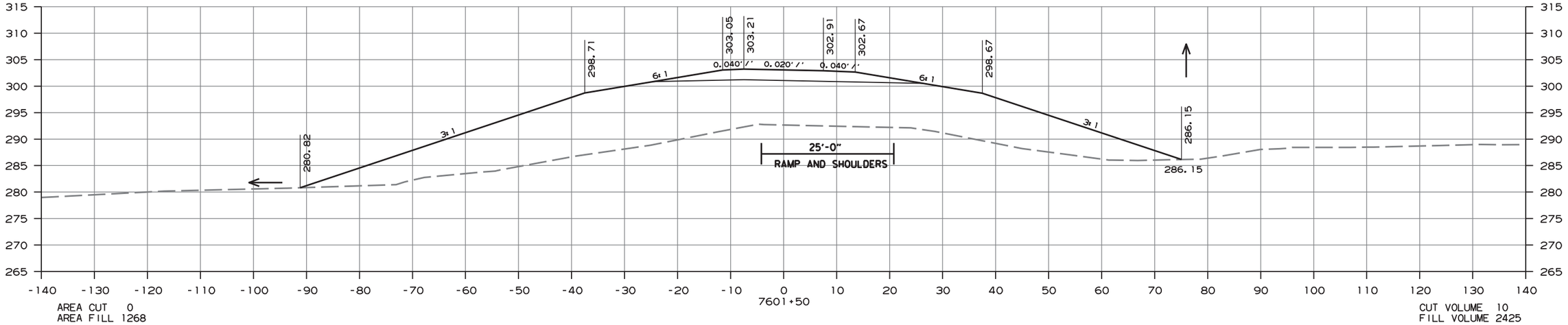
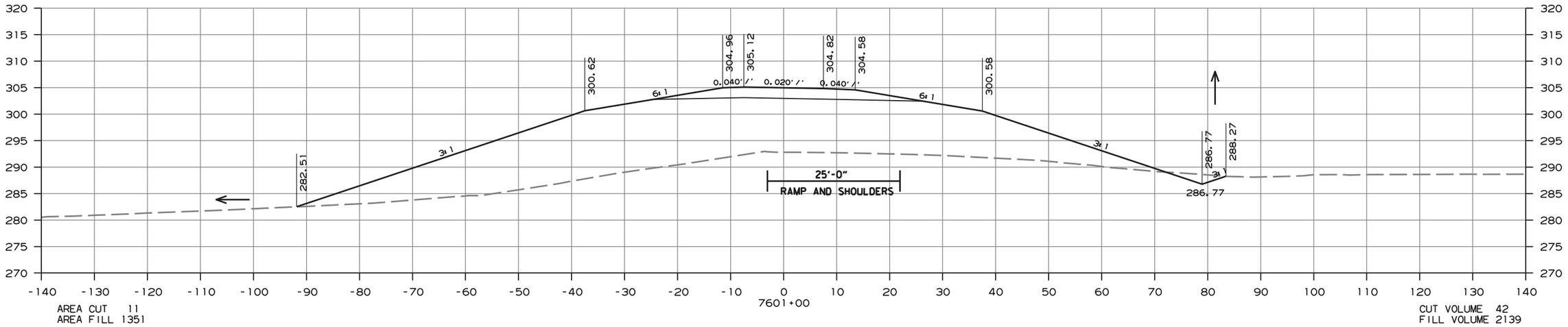
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	464	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



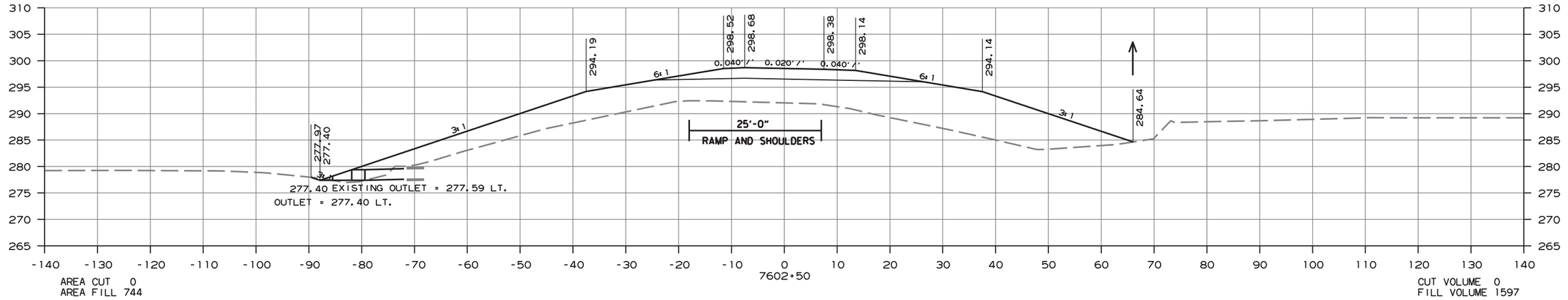


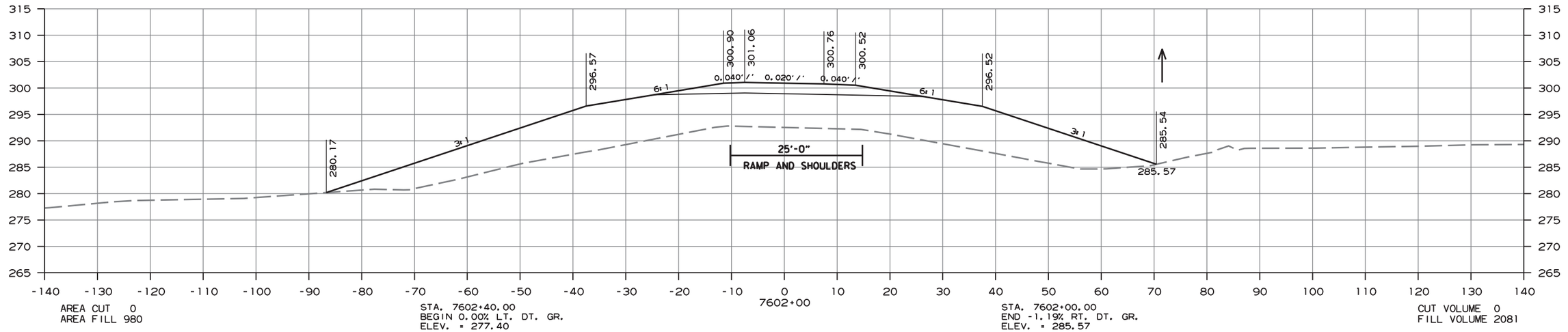
CROSS SECTION STA. 7601+00 TO STA. 7601+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	465	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



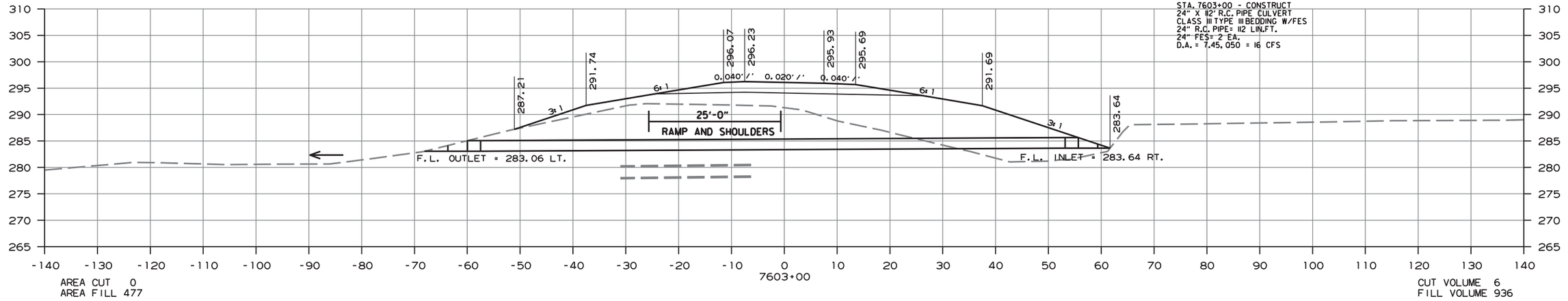


CROSS SECTION STA. 7602+00 TO STA. 7602+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	466	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



CROSS SECTION STA. 7602+57 TO STA. 7603+00

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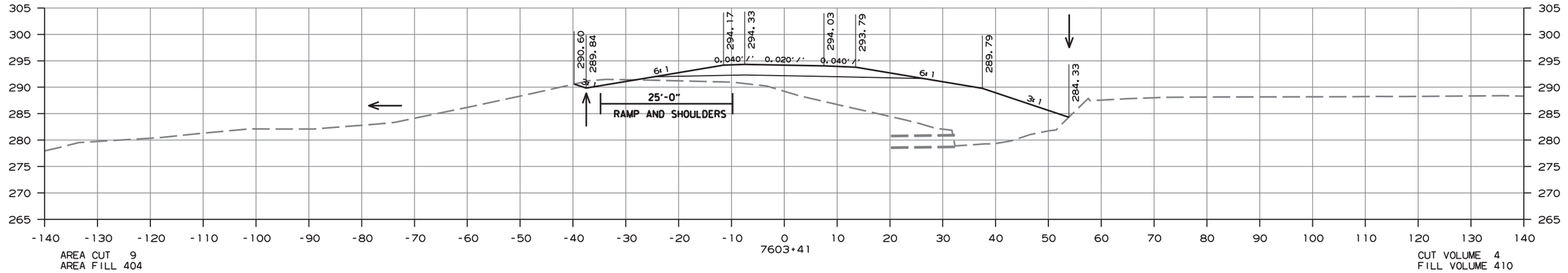
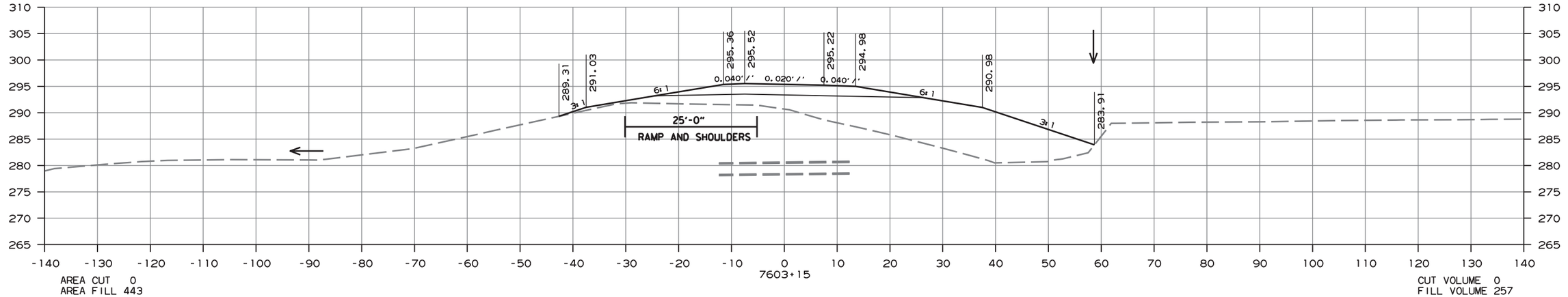
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	467	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





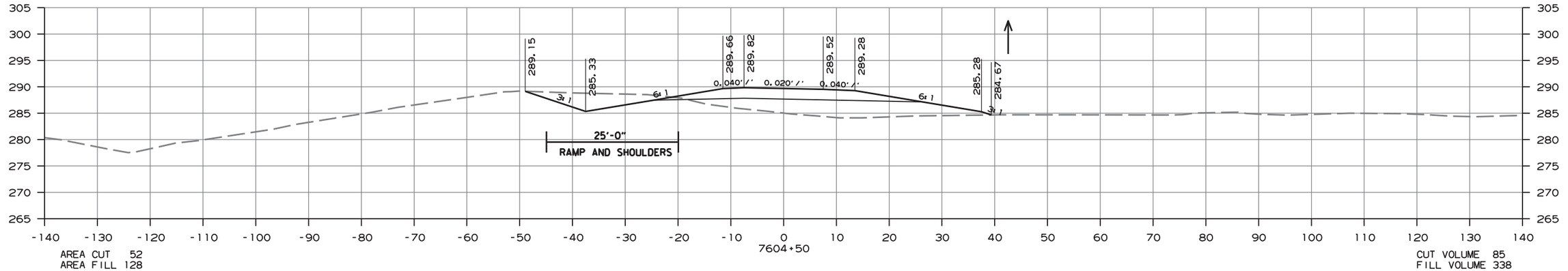
CROSS SECTION STA. 7603+15 TO STA. 7603+41

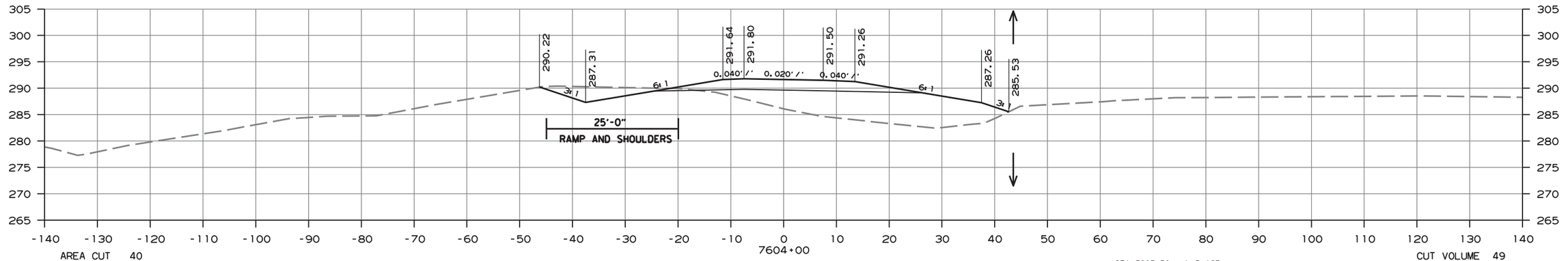
amme613 10/1/2020
R080457.DGN

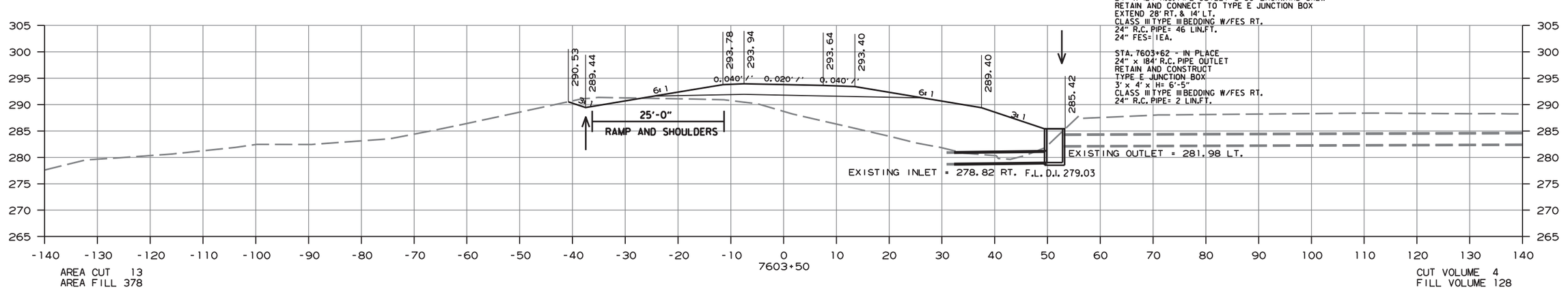
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	468	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE







STA. 7603+50 - IN PLACE
24" x 124' R.C. PIPE OUTLET @ 50° BACKWARD SKEW
RETAIN AND CONNECT TO TYPE E JUNCTION BOX
EXTEND 28' RT. & 14' LT.
CLASS III TYPE III BEDDING W/FES RT.
24" R.C. PIPE= 46 LIN.FT.
24" FES= 1EA.

STA. 7603+62 - IN PLACE
24" x 184' R.C. PIPE OUTLET
RETAIN AND CONSTRUCT
TYPE E JUNCTION BOX
3' x 4' x H= 6'-5"
CLASS III TYPE III BEDDING W/FES RT.
24" R.C. PIPE= 2 LIN.FT.

CROSS SECTION STA. 7603+50 TO STA. 7604+50

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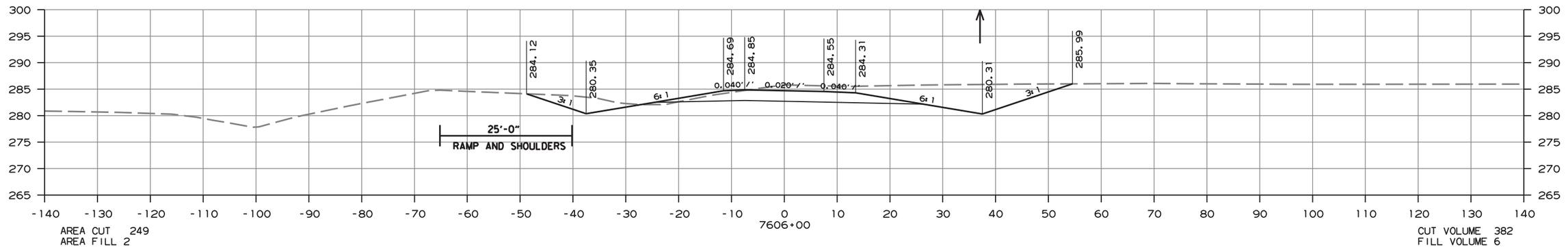
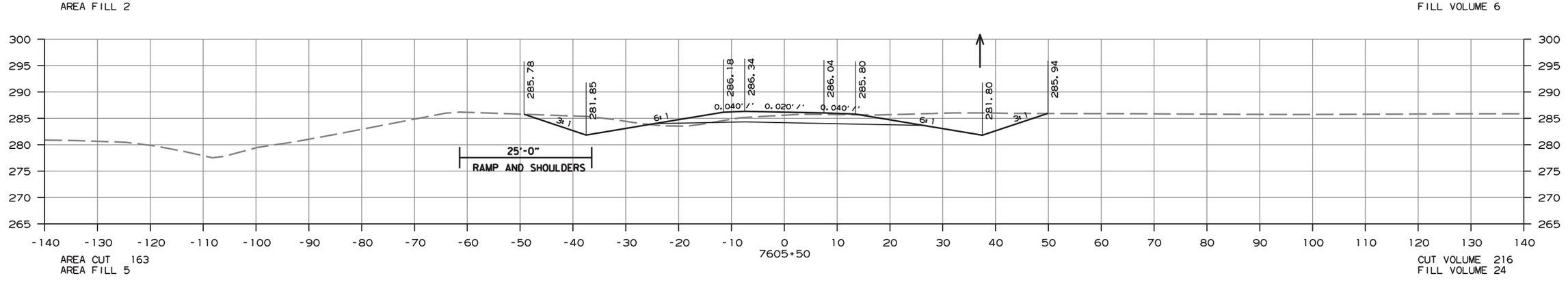
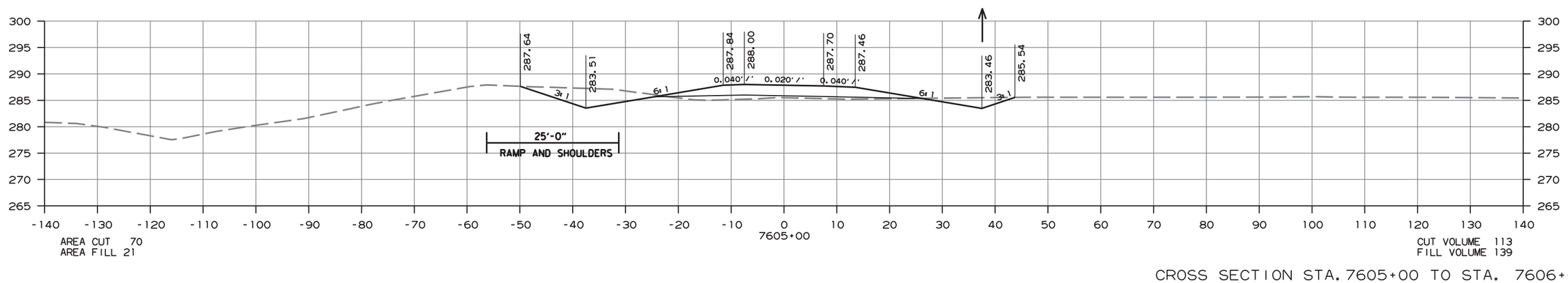
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	469	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





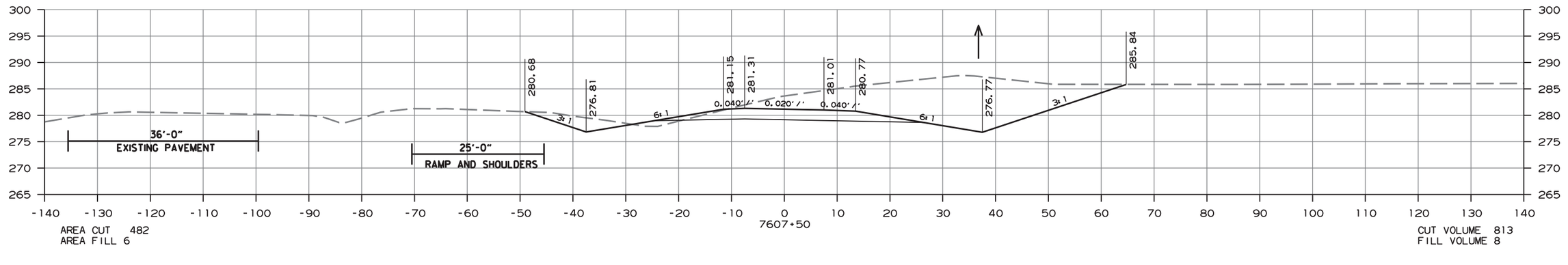


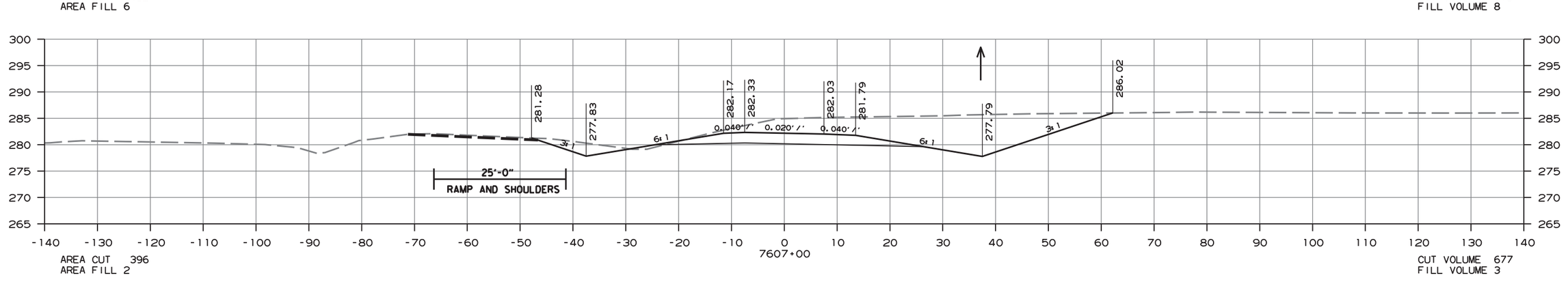
CROSS SECTION STA. 7605+00 TO STA. 7606+00

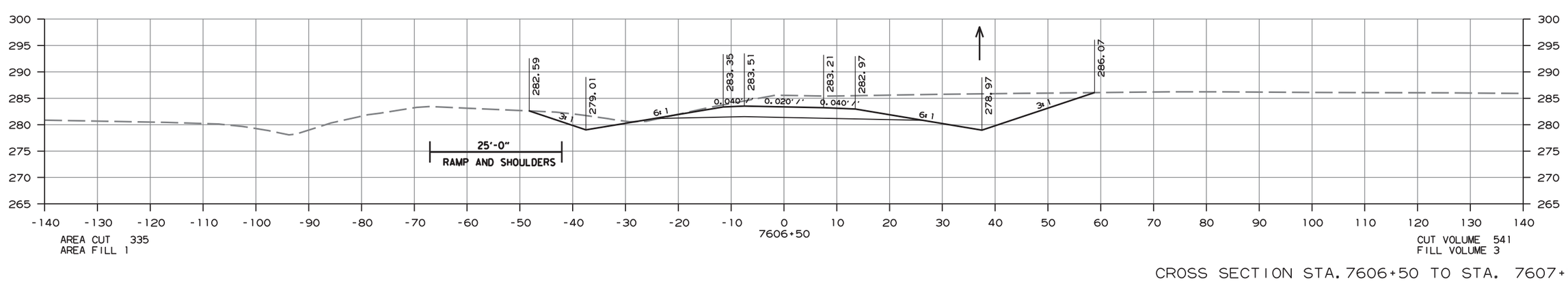
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	470	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





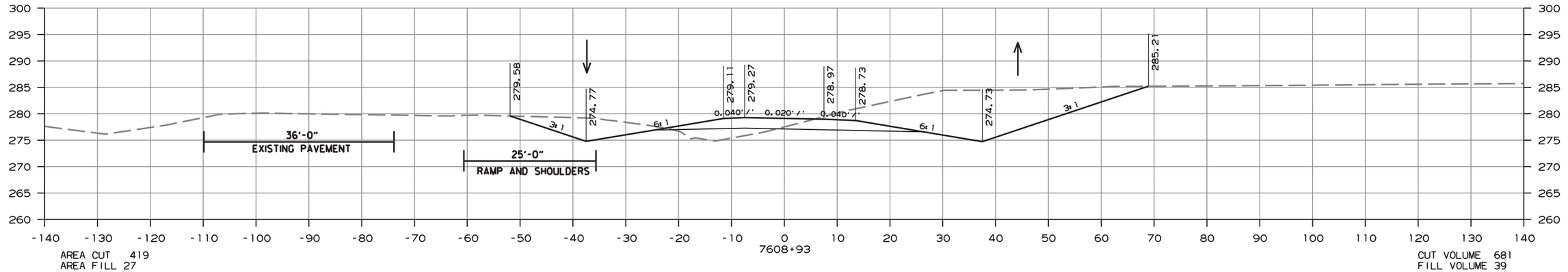


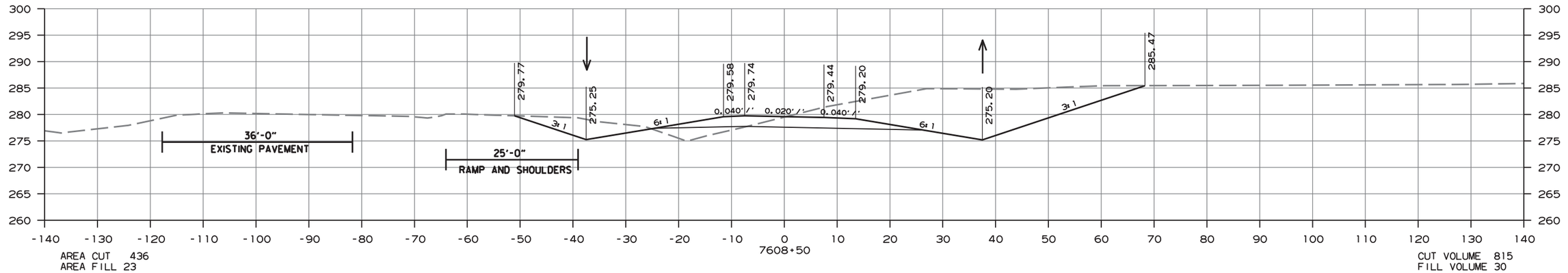
CROSS SECTION STA. 7606+50 TO STA. 7607+50

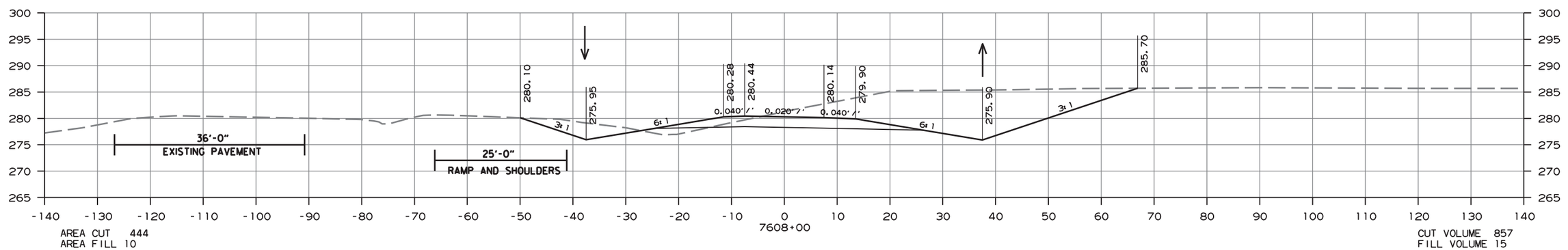
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	471	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE







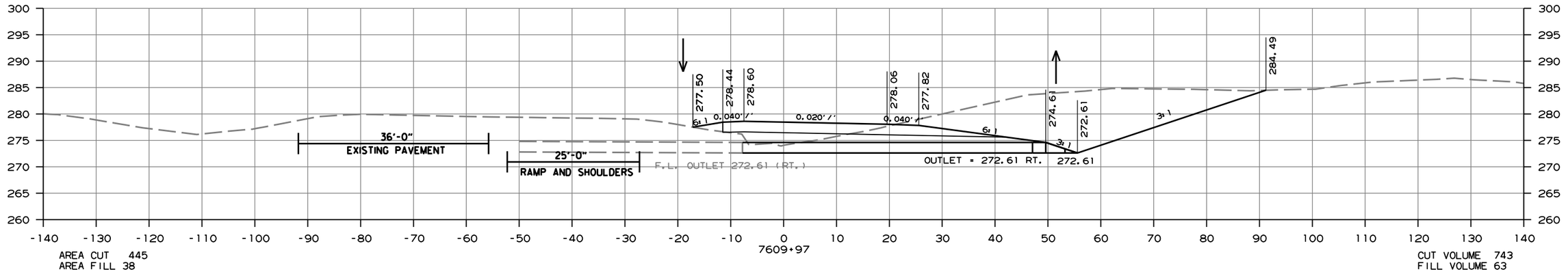
CROSS SECTION STA. 7608+00 TO STA. 7608+93

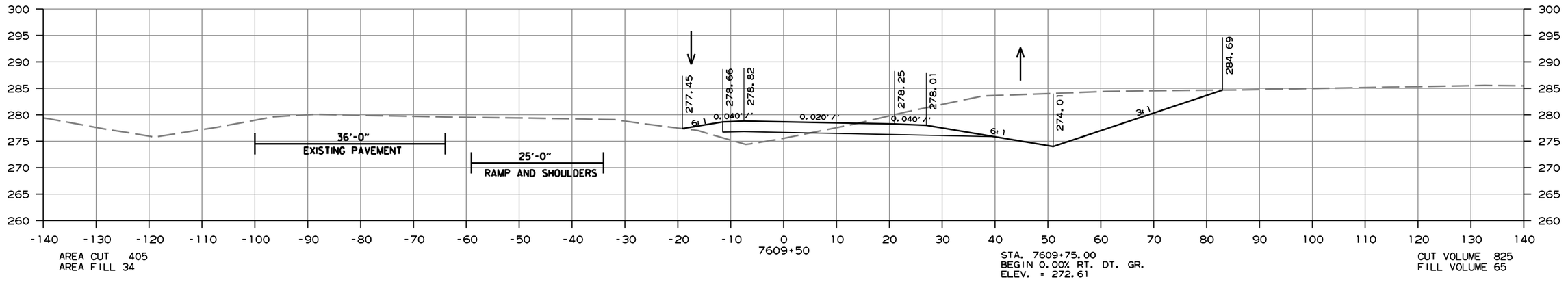
amme613 10/1/2020
R080457.DGN

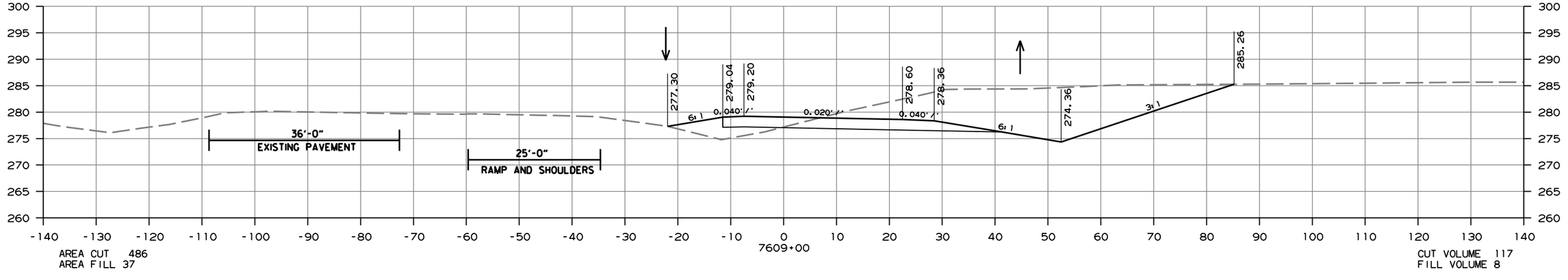
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	472	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE

STA. 7609+97 IN PLACE
24" x 100' R.C. PIPE CULVERT TO RT.
REMOVE HDWLS. RT. & EXTEND R.C. PIPE
56' RT.
(CLASS III) (TYPE 3 BEDDING) W/FES LT.
24" R.C. PIPE- 58 LIN.FT.
24" FES- 1 EA.





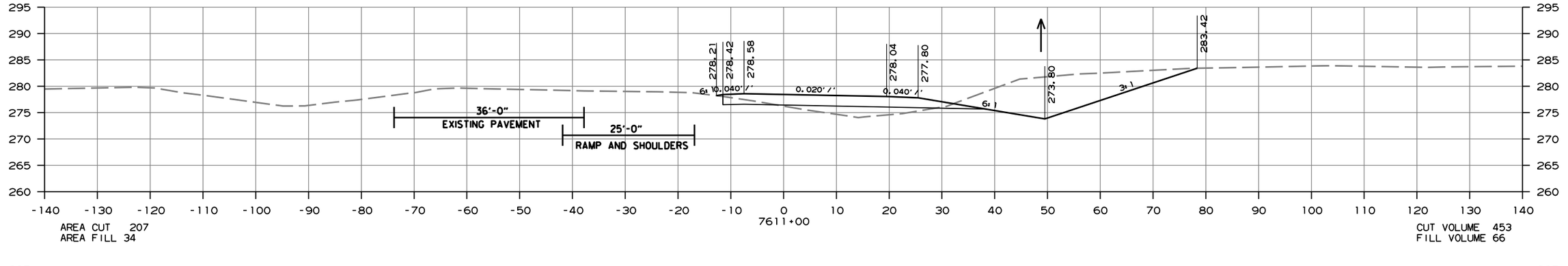


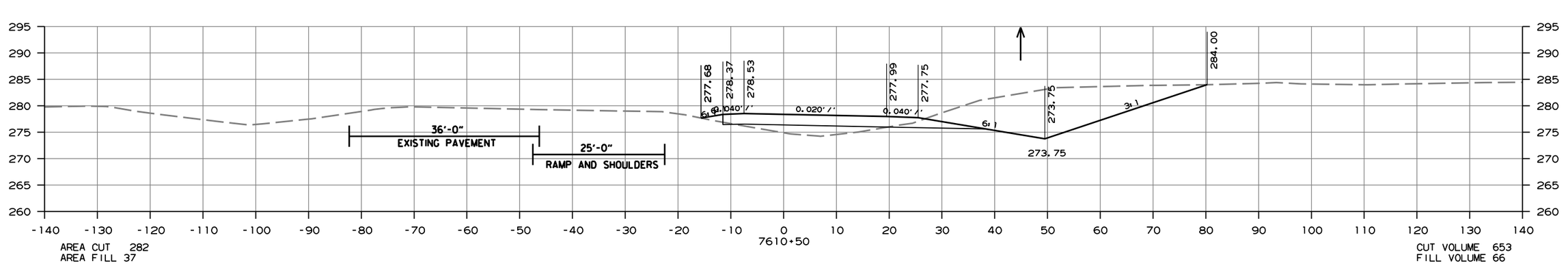
CROSS SECTION STA. 7609+00 TO STA. 7609+97

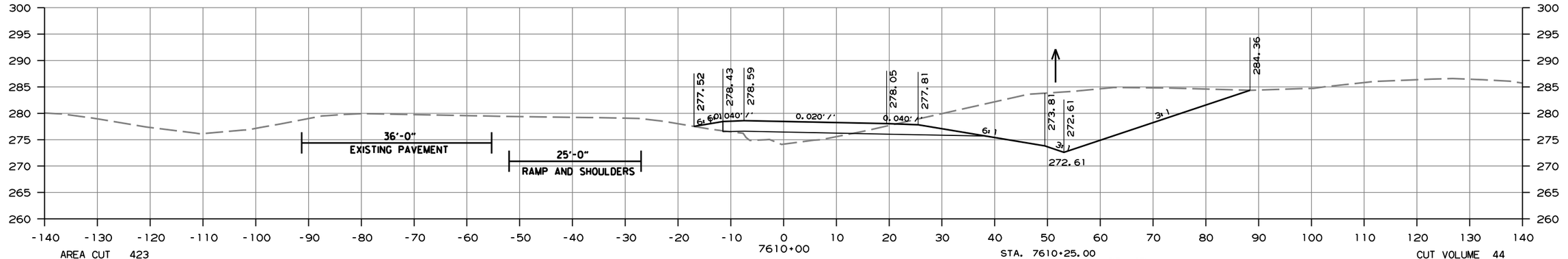
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-20				6	ARK.			
				JOB NO.		080457	473	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE







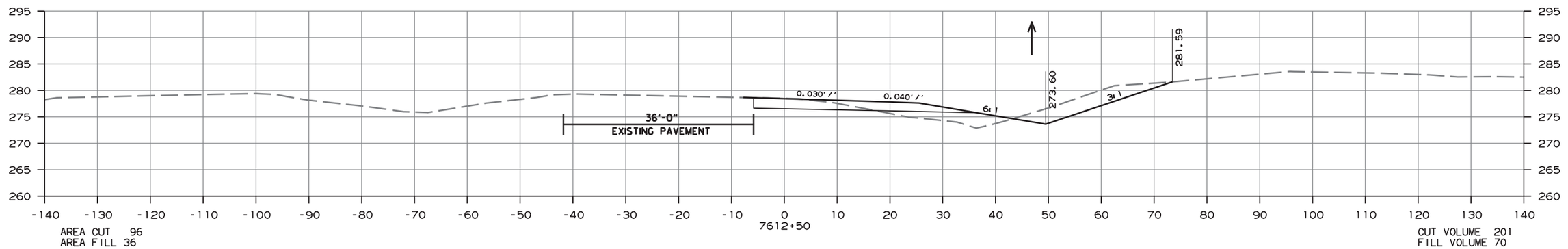
CROSS SECTION STA. 7610+00 TO STA. 7611+00

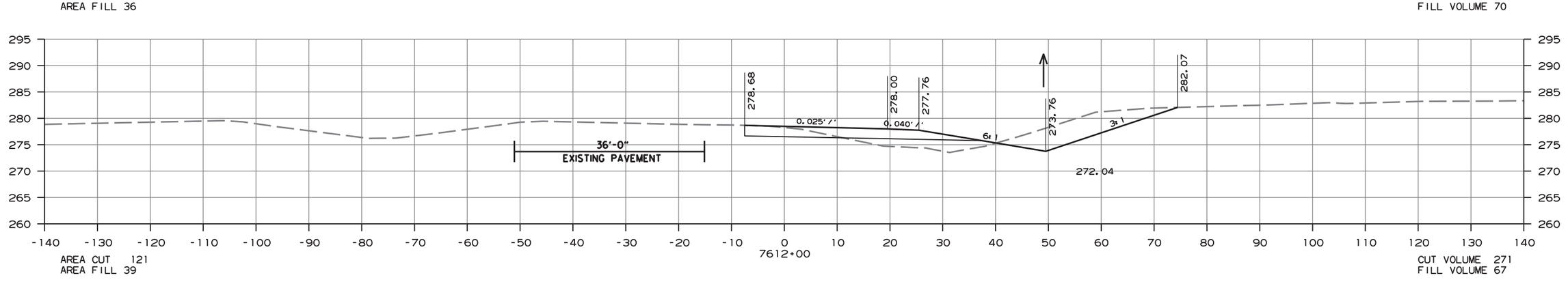
amme613 10/1/2020
R080457.DGN

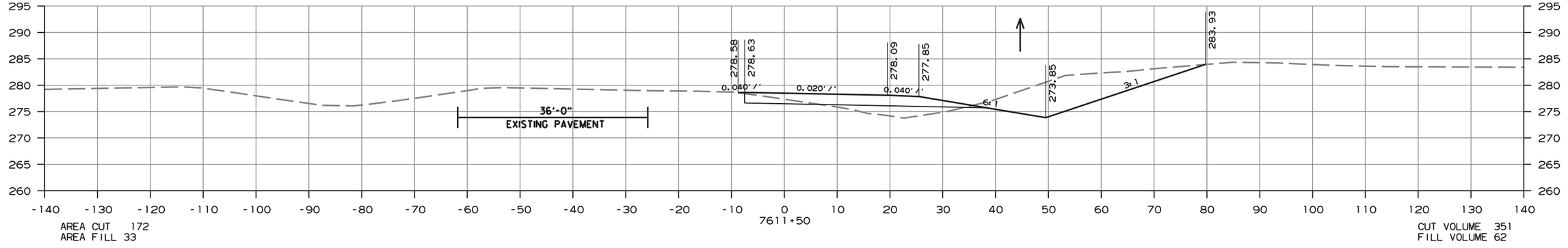
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	474	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





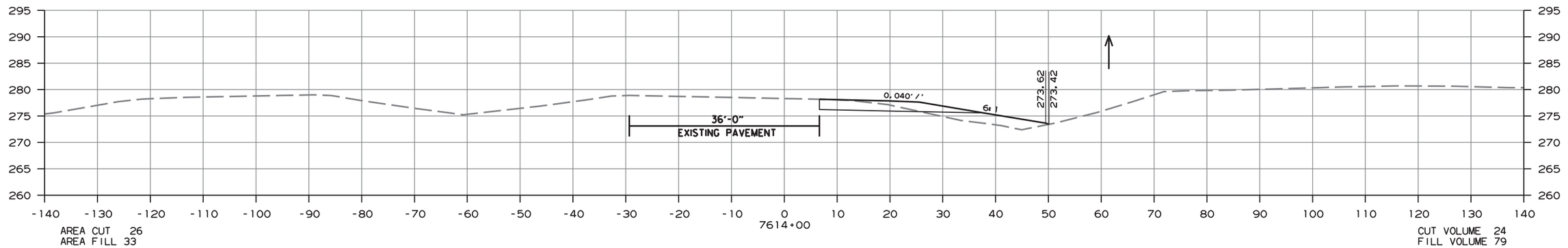


CROSS SECTION STA. 7611+50 TO STA. 7612+50

amme613 10/1/2020
R080457.DGN

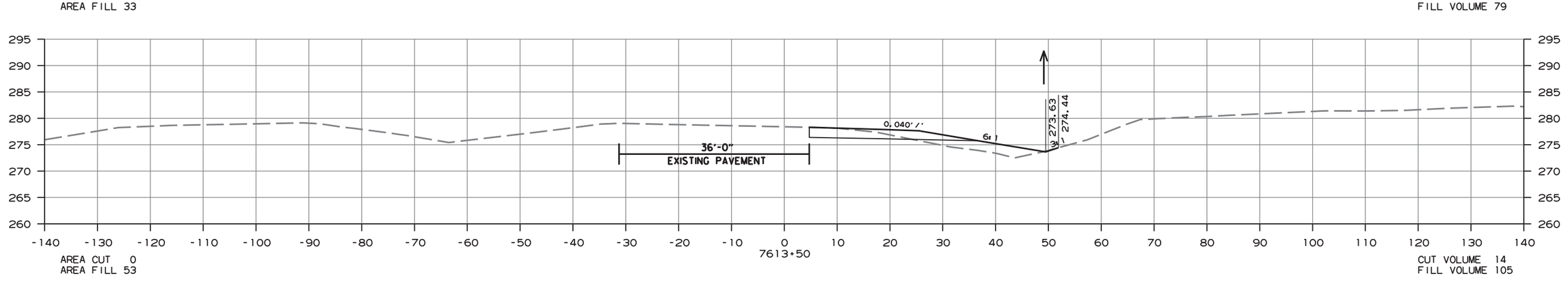
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	475	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



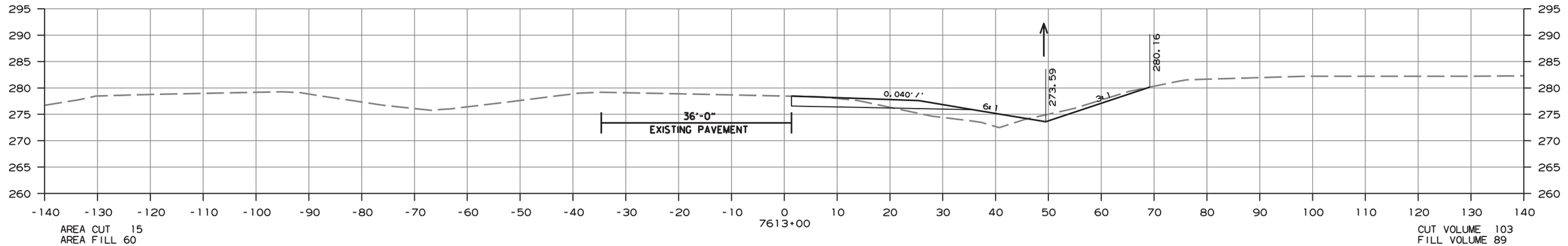
AREA CUT 26
AREA FILL 33

CUT VOLUME 24
FILL VOLUME 79



AREA CUT 0
AREA FILL 53

CUT VOLUME 14
FILL VOLUME 105



AREA CUT 15
AREA FILL 60

CUT VOLUME 103
FILL VOLUME 89

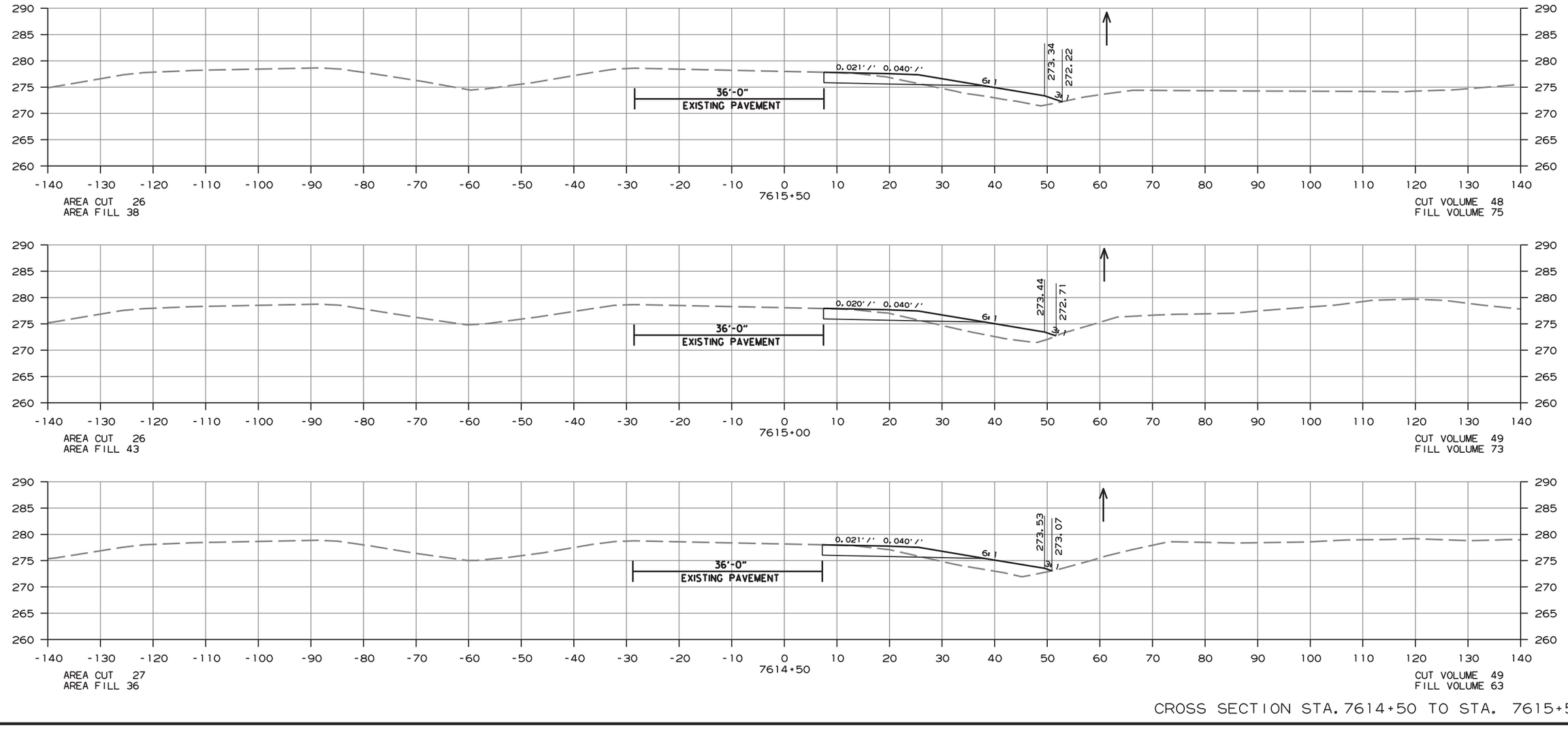
CROSS SECTION STA. 7613+00 TO STA. 7614+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	476	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



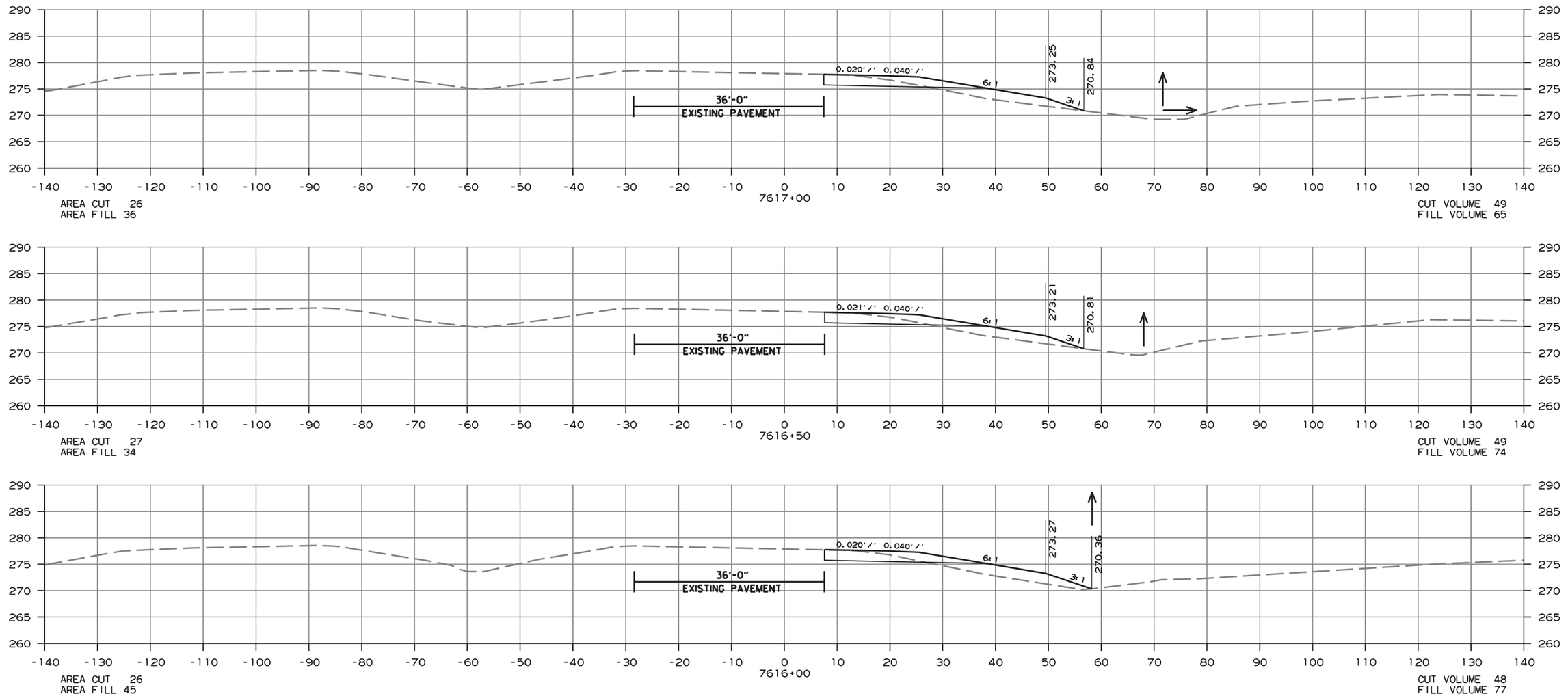
CROSS SECTION STA. 7614+50 TO STA. 7615+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	477	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE

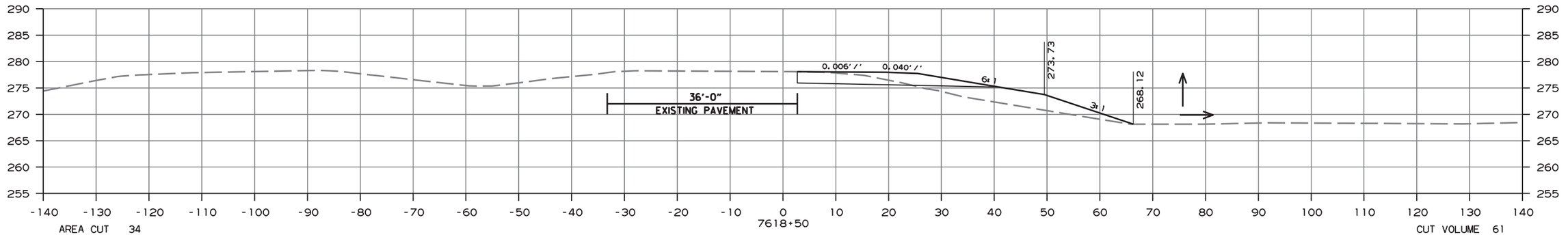


CROSS SECTION STA. 7616+00 TO STA. 7617+00

amme613 10/1/2020
R080457.DGN

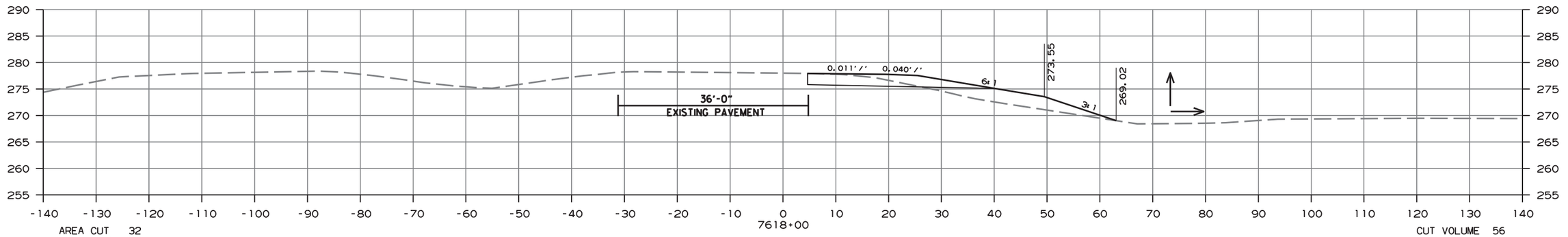
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	478	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



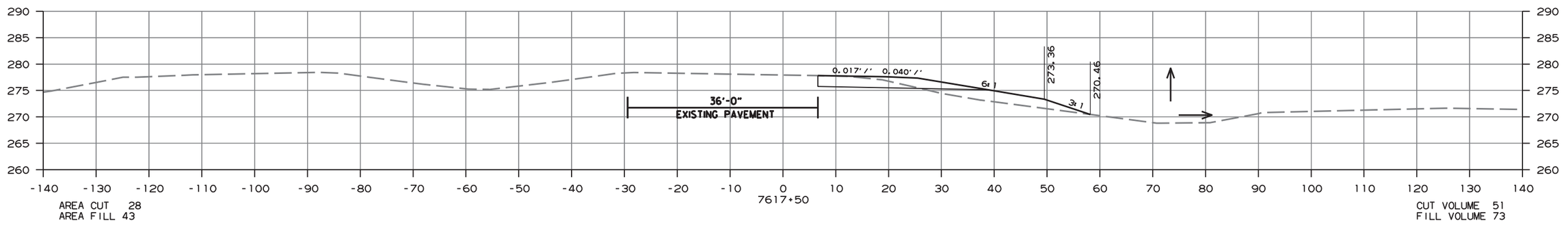
AREA CUT 34
AREA FILL 77

CUT VOLUME 61
FILL VOLUME 126



AREA CUT 32
AREA FILL 59

CUT VOLUME 56
FILL VOLUME 95



AREA CUT 28
AREA FILL 43

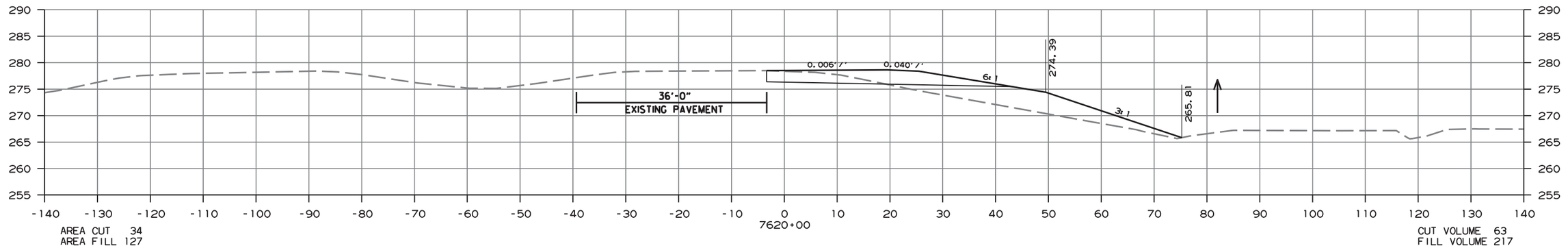
CUT VOLUME 51
FILL VOLUME 73

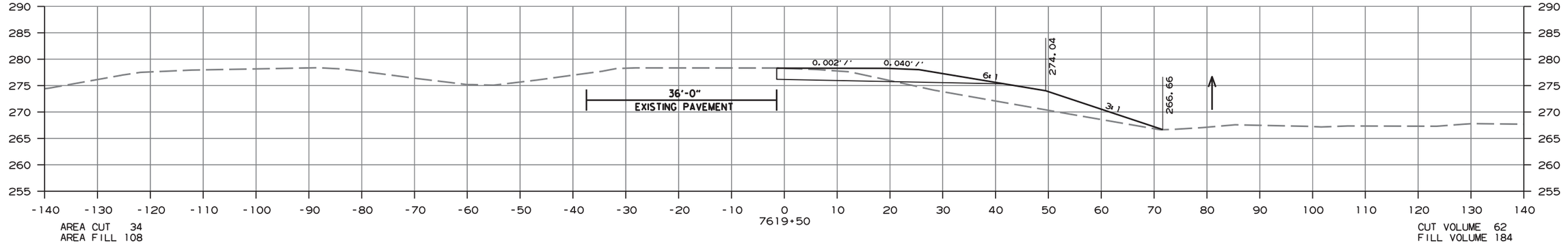
CROSS SECTION STA. 7617+50 TO STA. 7618+50

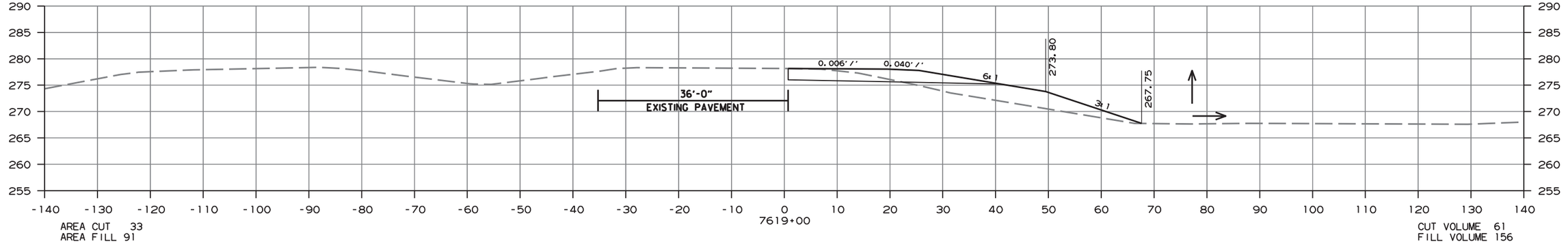
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	479	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





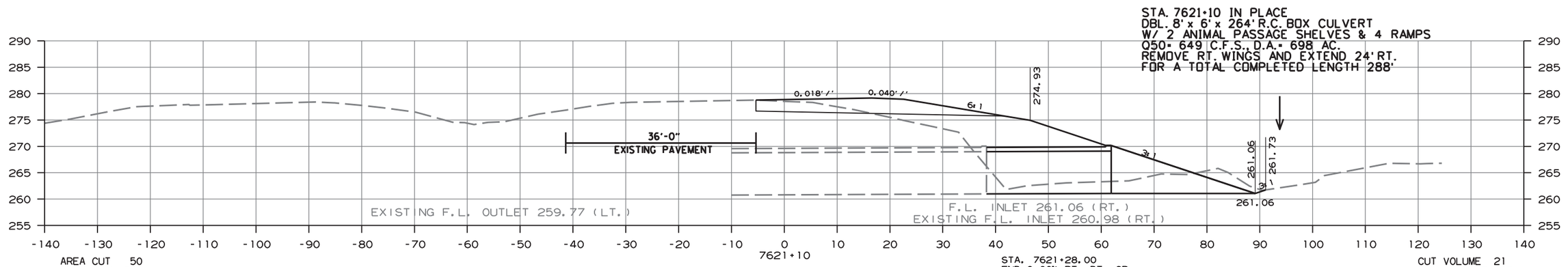


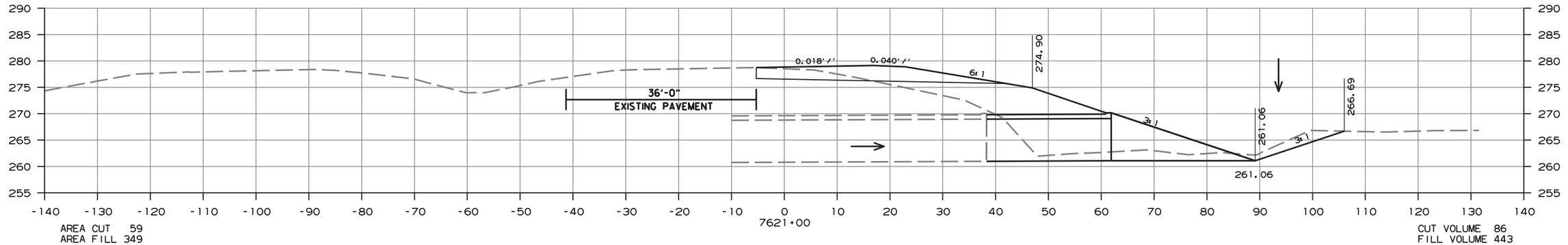
CROSS SECTION STA. 7619+00 TO STA. 7620+00

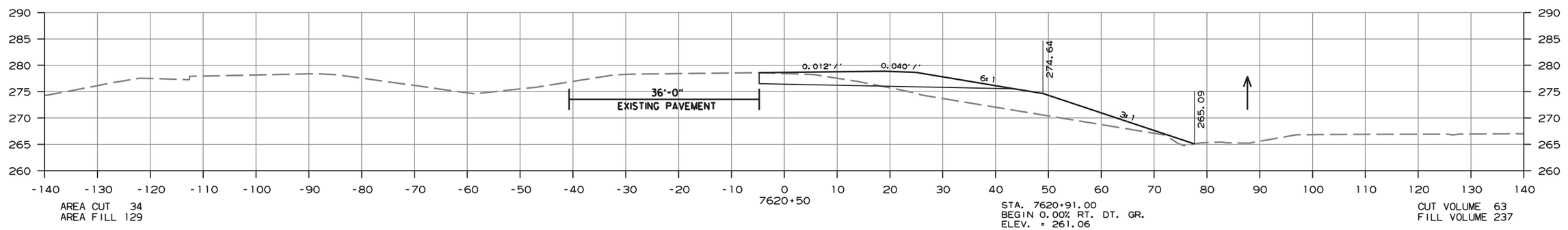
amme613 10/1/2020
RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	480	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE







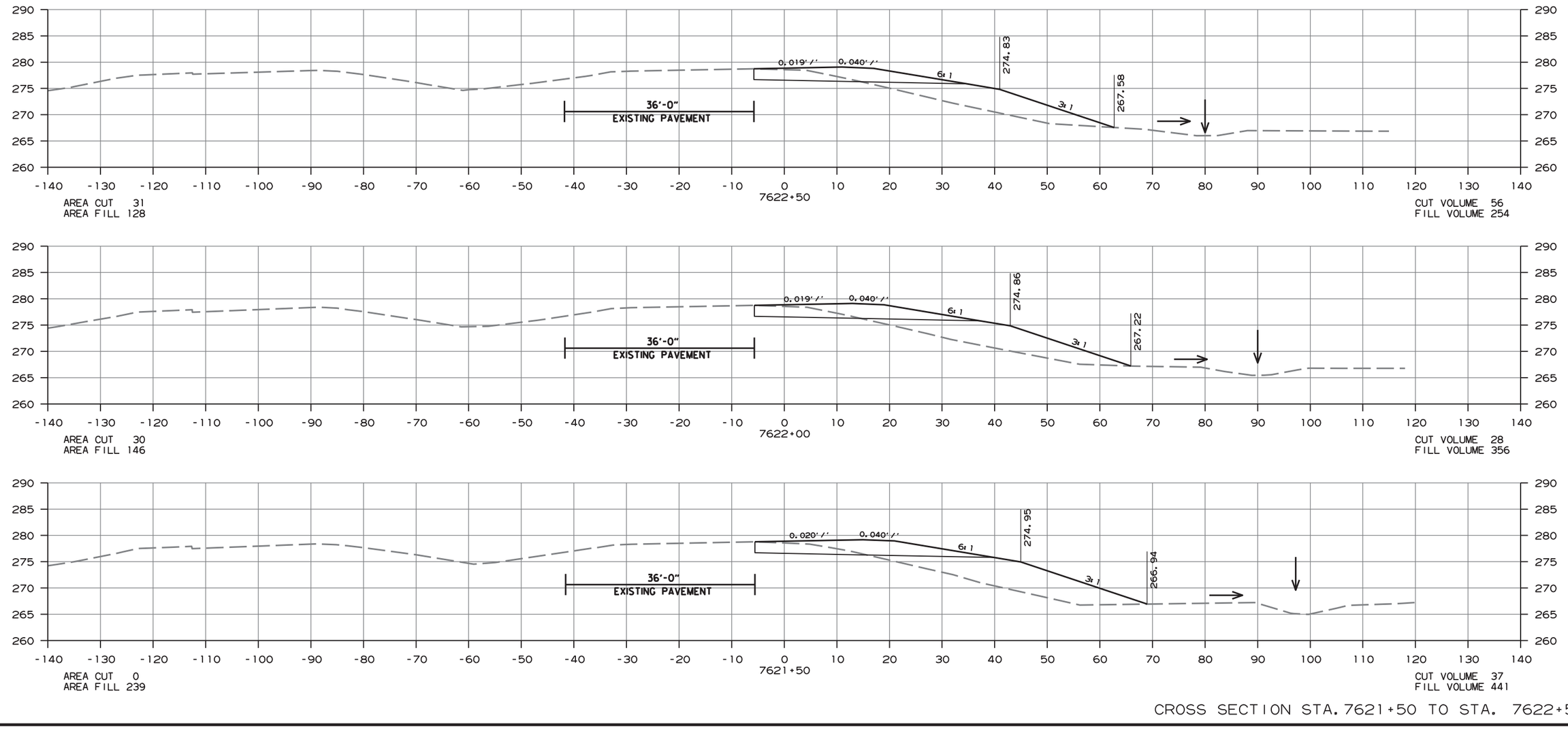
CROSS SECTION STA. 7620+50 TO STA. 7621+10

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	481	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE

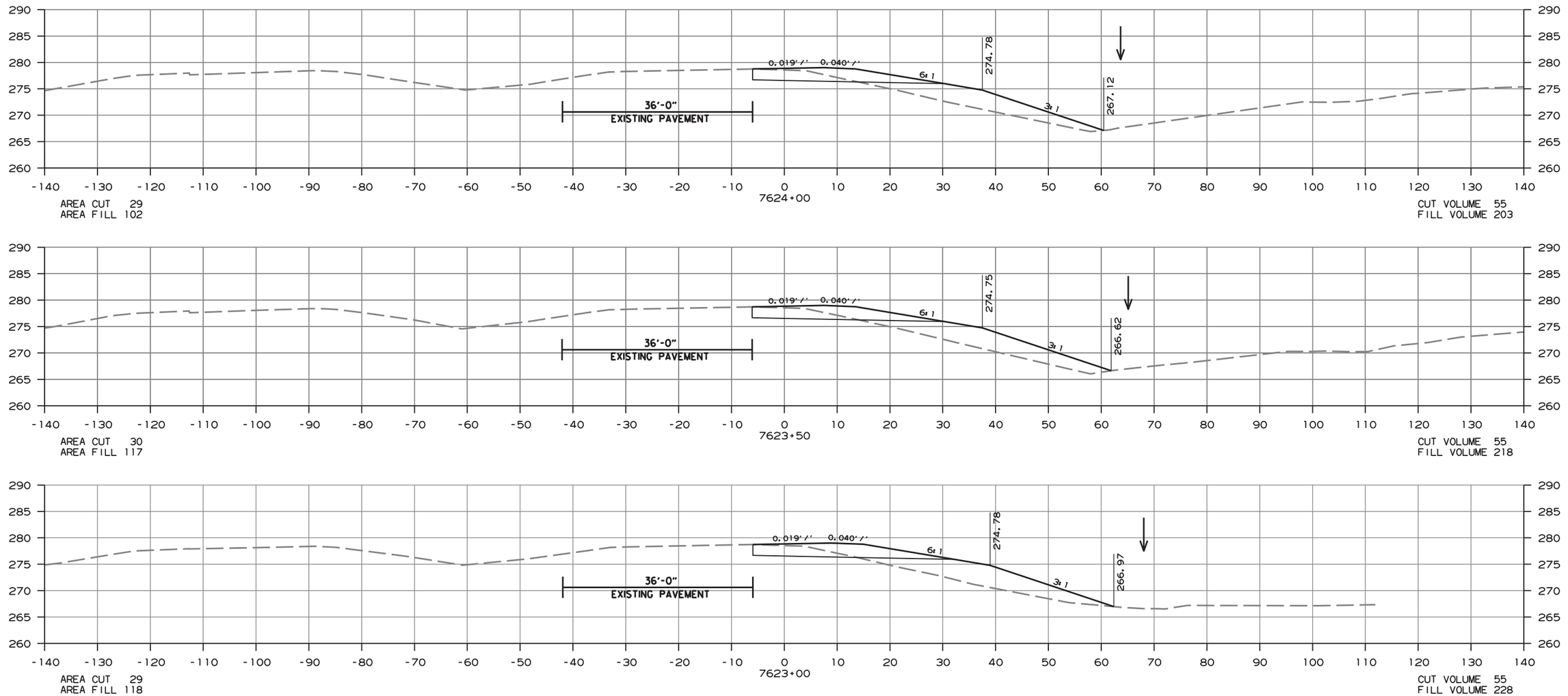


CROSS SECTION STA. 7621+50 TO STA. 7622+50

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	482	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE

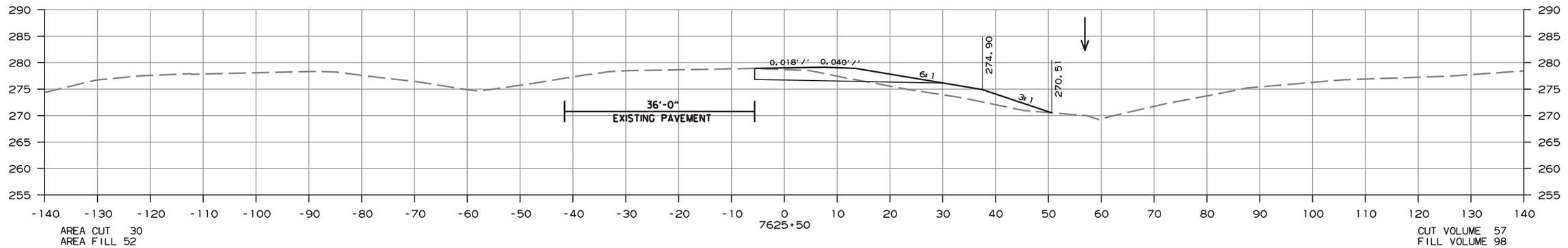


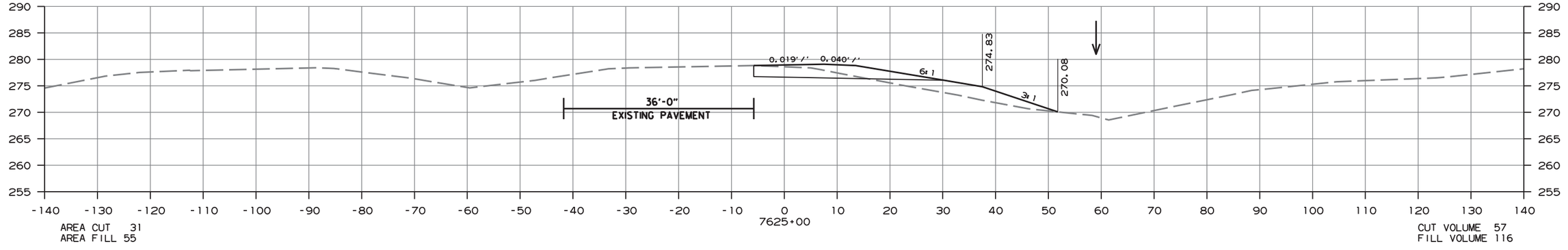
CROSS SECTION STA. 7623+00 TO STA. 7624+00

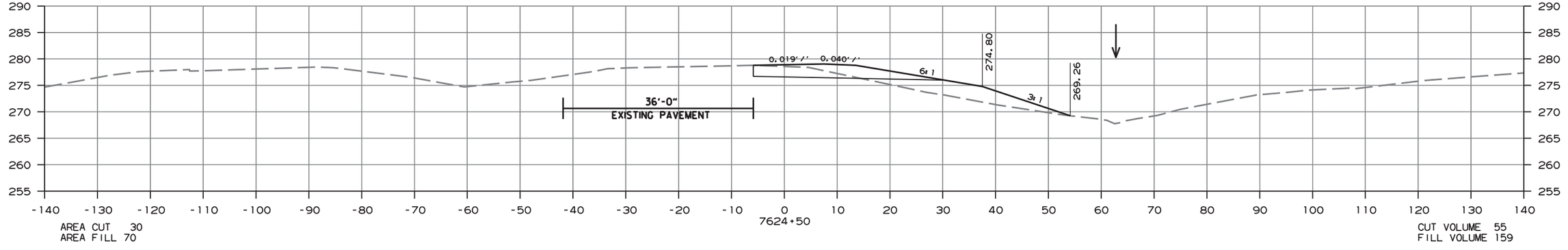
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	483	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





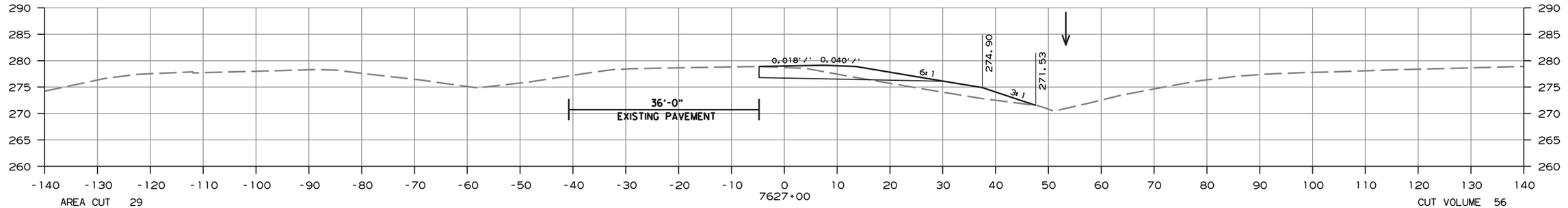


CROSS SECTION STA. 7624+50 TO STA. 7625+50

amme613 10/1/2020
R080457.DGN

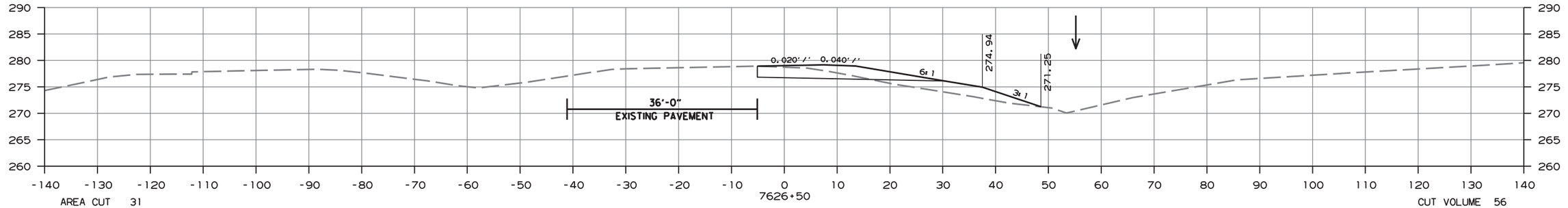
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	484	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



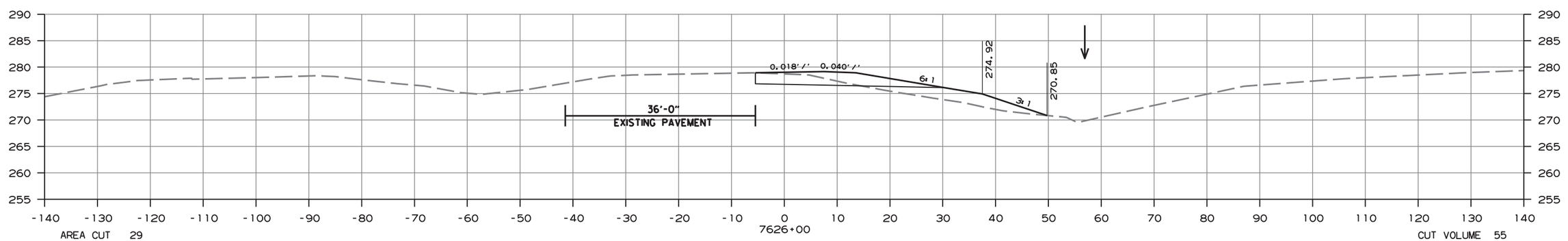
AREA CUT 29
AREA FILL 41

CUT VOLUME 56
FILL VOLUME 78



AREA CUT 31
AREA FILL 43

CUT VOLUME 56
FILL VOLUME 88



AREA CUT 29
AREA FILL 52

CUT VOLUME 55
FILL VOLUME 96

CROSS SECTION STA. 7626+00 TO STA. 7627+00

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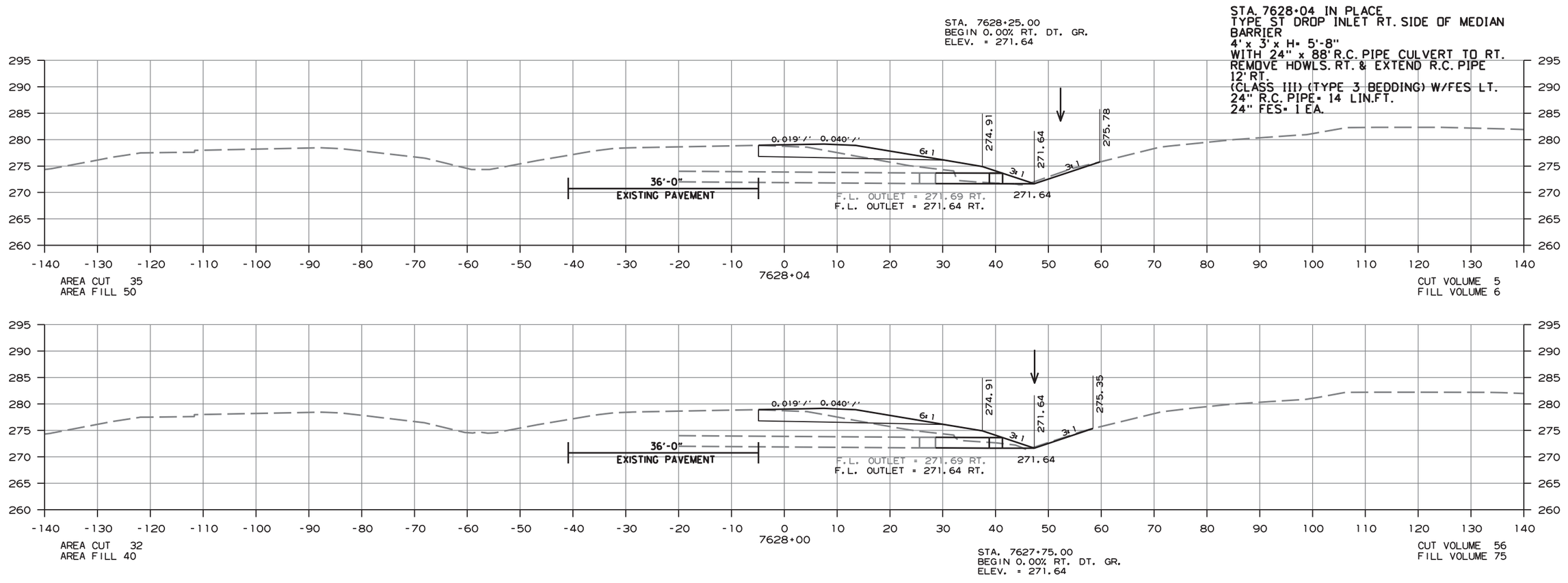
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	485	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE

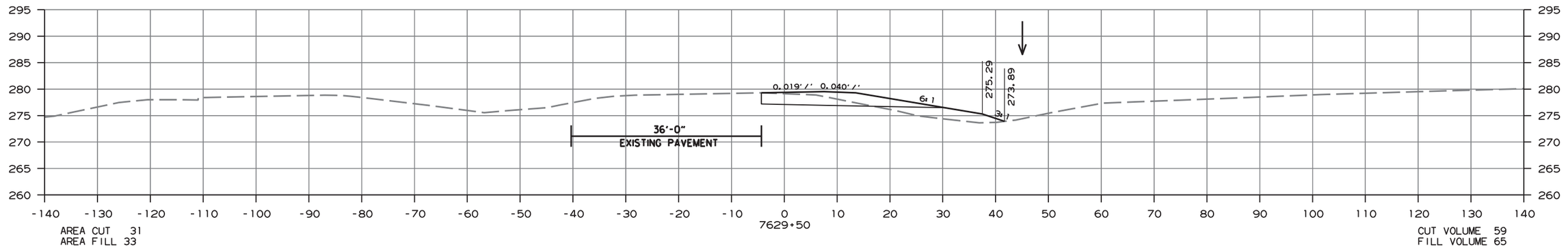


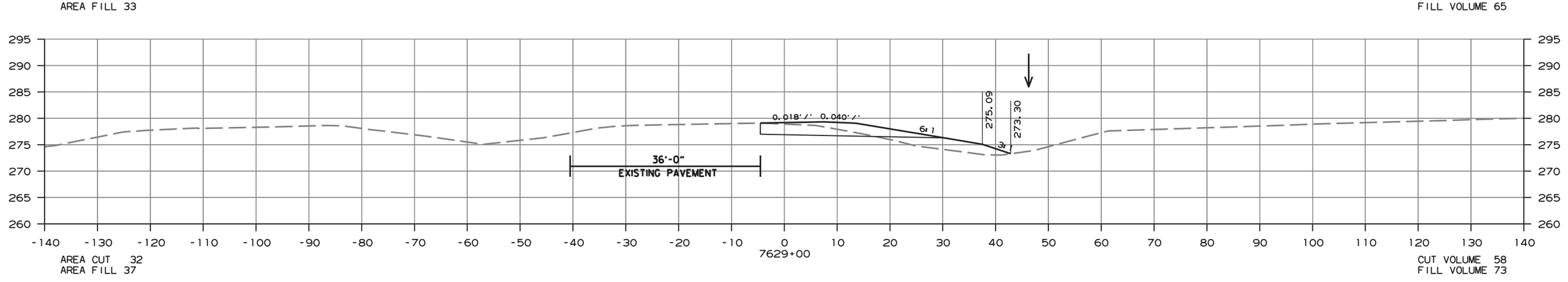
CROSS SECTION STA. 7627+50 TO STA. 7628+04

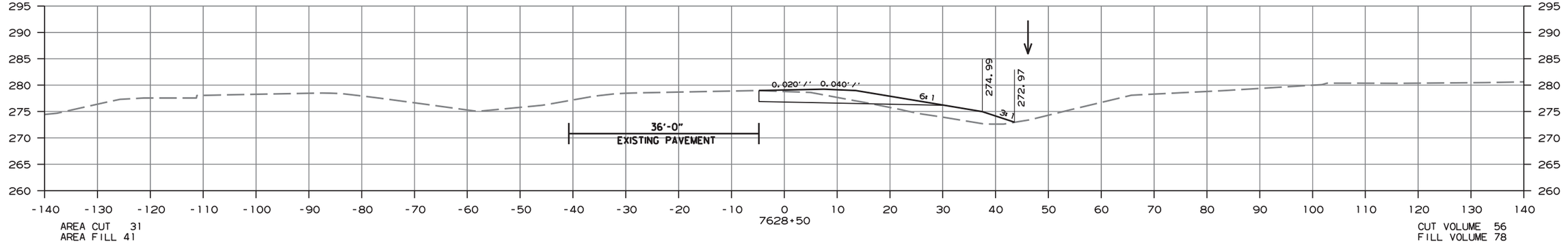
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	486	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





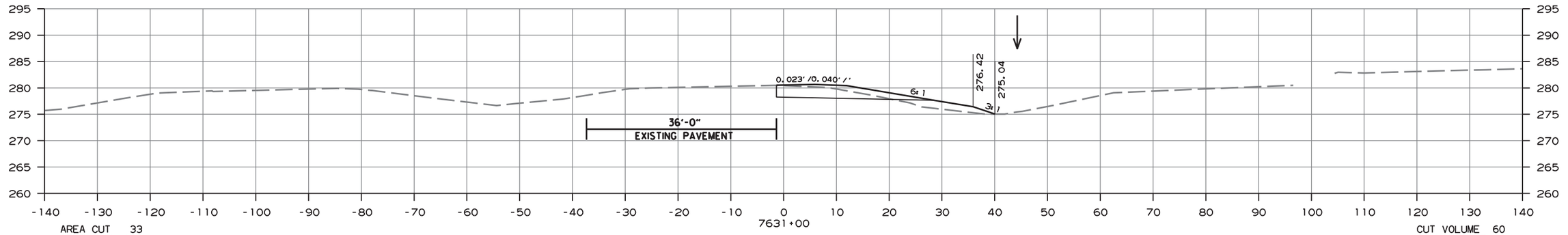


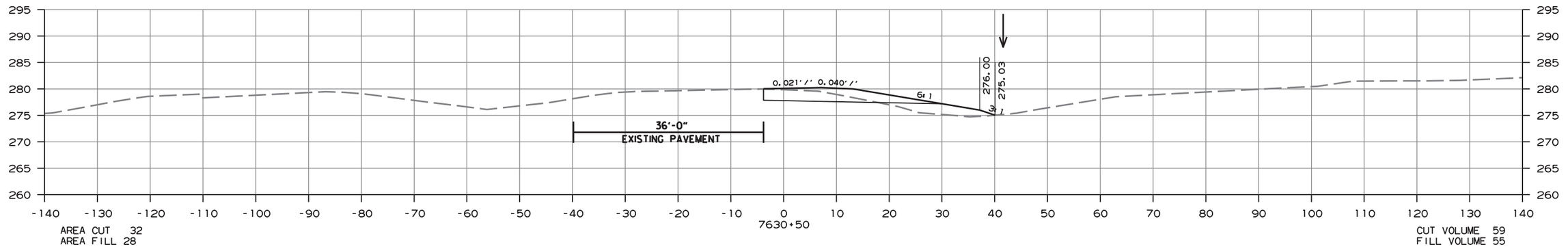
CROSS SECTION STA. 7628+50 TO STA. 7629+50

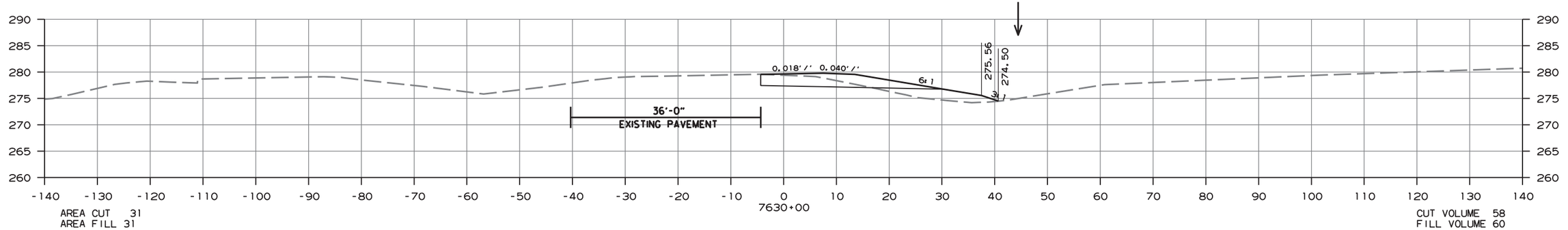
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	487	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE







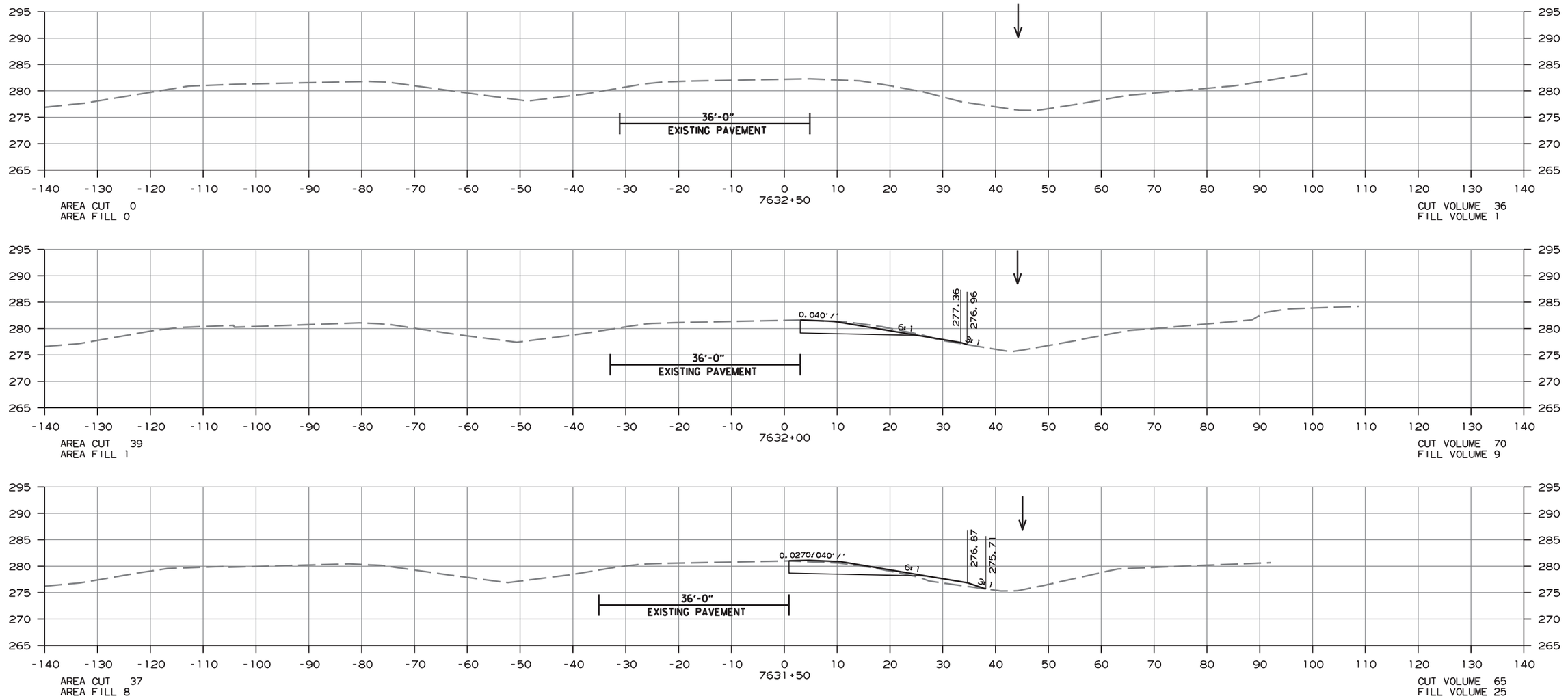
CROSS SECTION STA. 7630+00 TO STA. 7631+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	488	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE



CROSS SECTION STA. 7631+50 TO STA. 7632+50

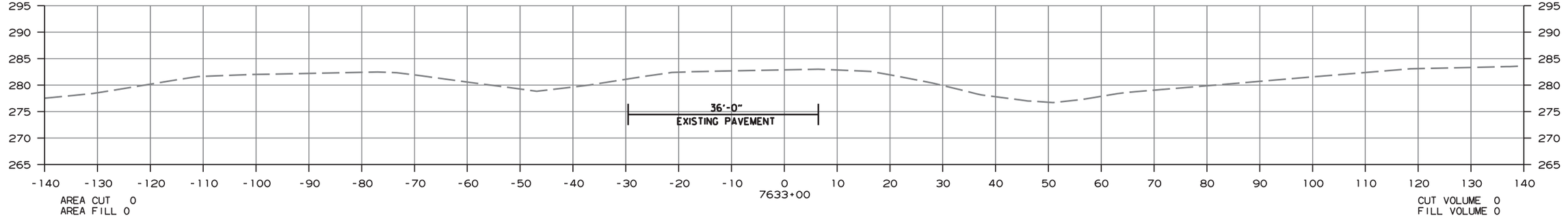
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	489	517

(2) CROSS SECTIONS - EASTBOUND ENTRANCE





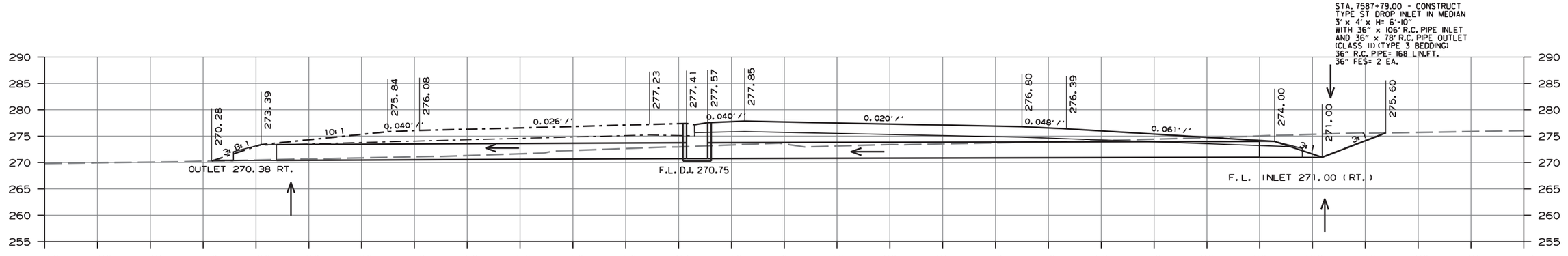
CROSS SECTION STA. 7633+00 TO STA. 7633+37

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	490	517

(2) CROSS SECTIONS - HWY. 365 TO EB EXIT



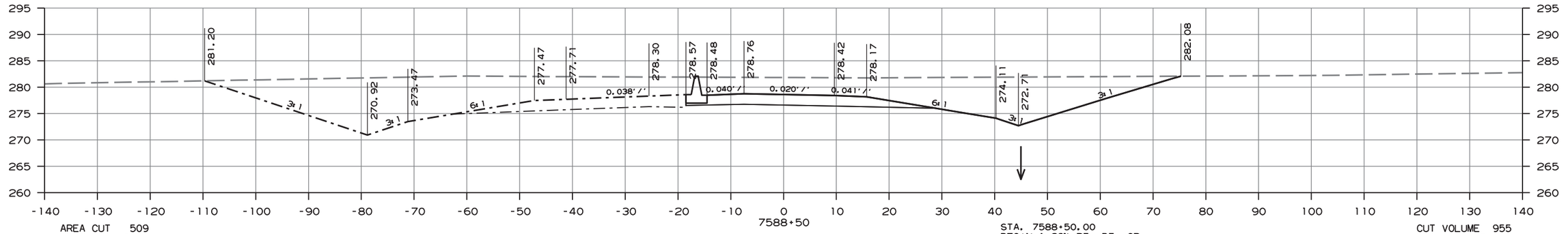
CROSS SECTION STA. 7587+36 TO STA. 7587+79

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	491	517

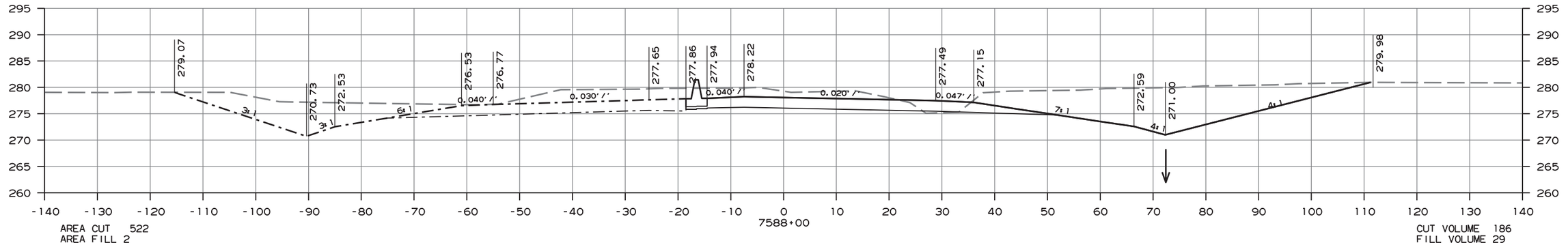
(2) CROSS SECTIONS - HWY. 365 TO EB EXIT



AREA CUT 509
AREA FILL 0

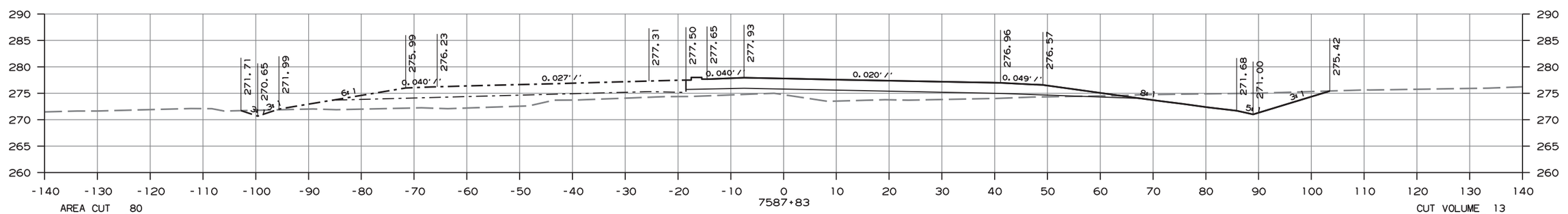
STA. 7588+50.00
BEGIN 1.29% RT. DT. GR.
END 2.70% RT. DT. GR.
ELEV. = 271.00

CUT VOLUME 955
FILL VOLUME 2



AREA CUT 522
AREA FILL 2

CUT VOLUME 186
FILL VOLUME 29



AREA CUT 80
AREA FILL 91

CUT VOLUME 13
FILL VOLUME 18

CROSS SECTION STA. 7587+83 TO STA. 7588+50

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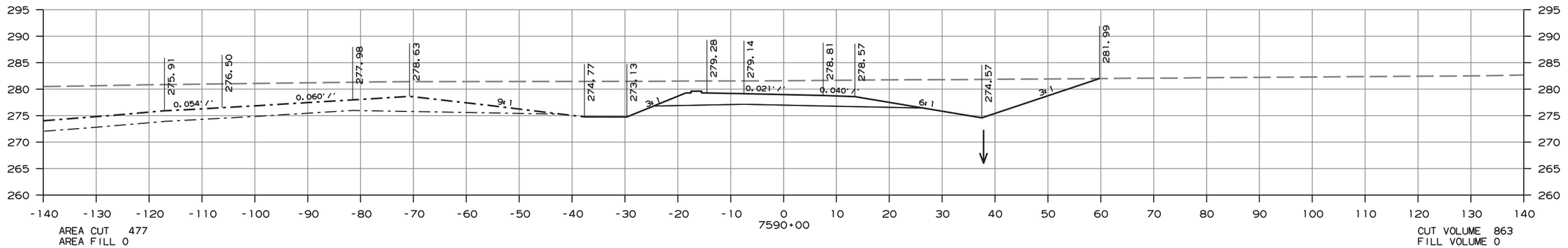
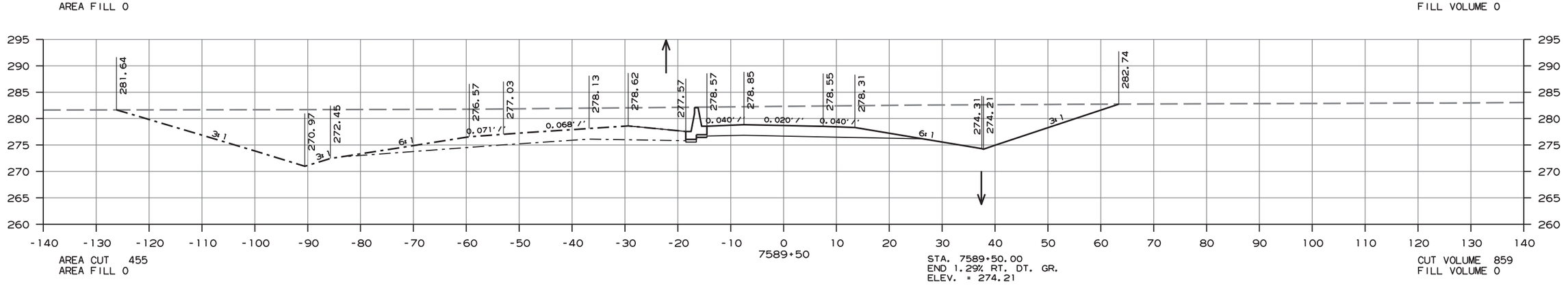
R080457.DGN

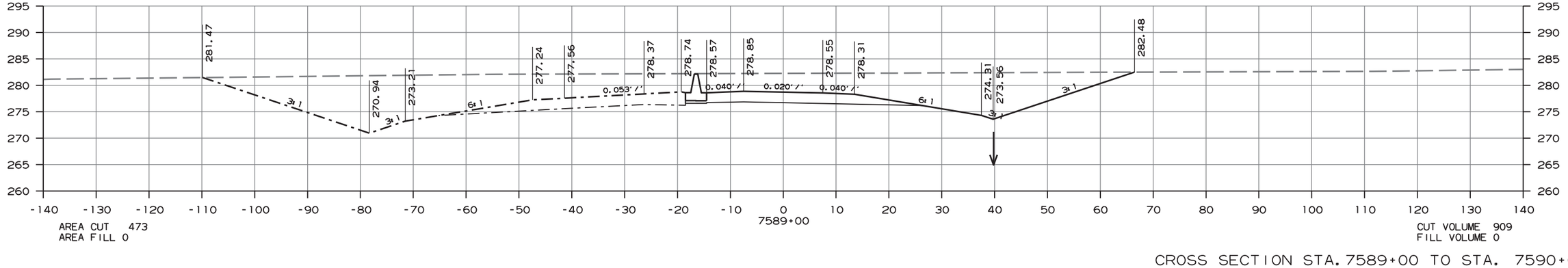
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	492	517

(2) CROSS SECTIONS - HWY. 365 TO EB EXIT







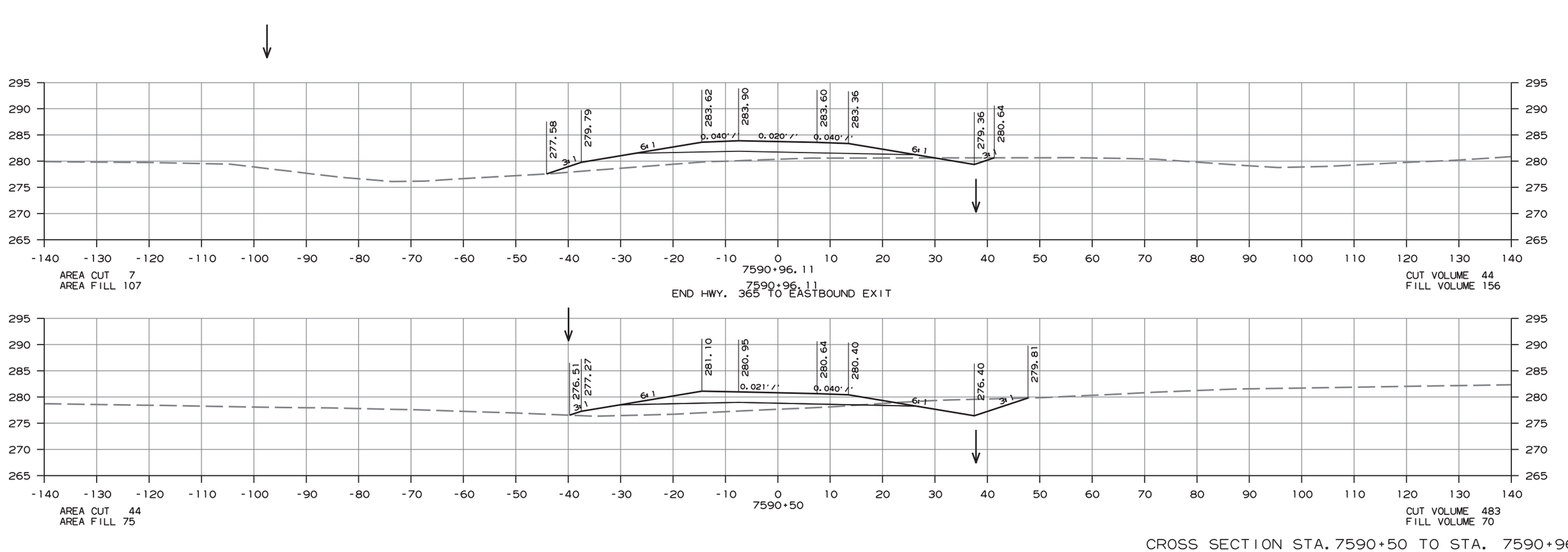
CROSS SECTION STA. 7589+00 TO STA. 7590+00

amme613 10/1/2020
RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	493	517

(2) CROSS SECTIONS - HWY. 365 TO EB EXIT



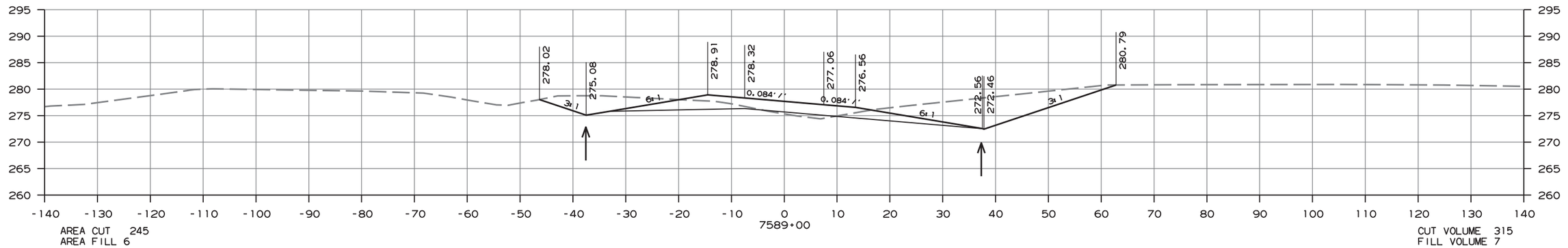
CROSS SECTION STA. 7590+50 TO STA. 7590+96

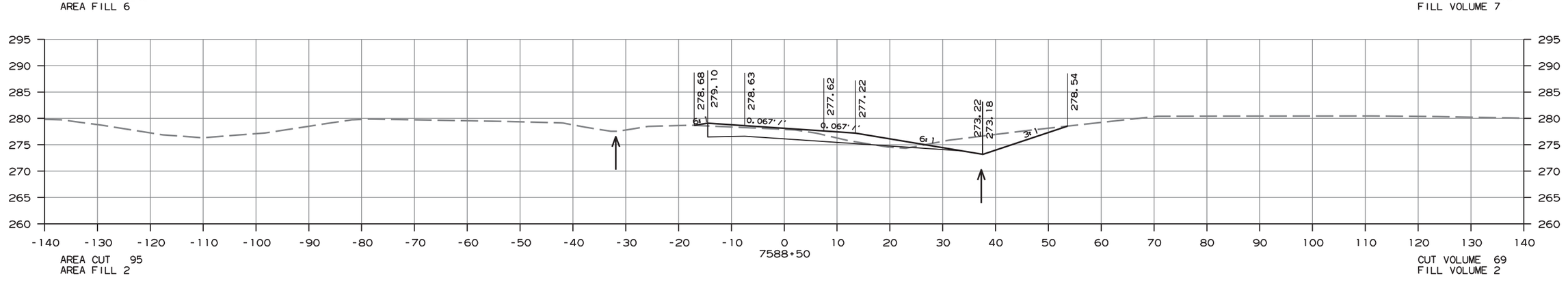
amme613 10/1/2020
RO80457.DGN

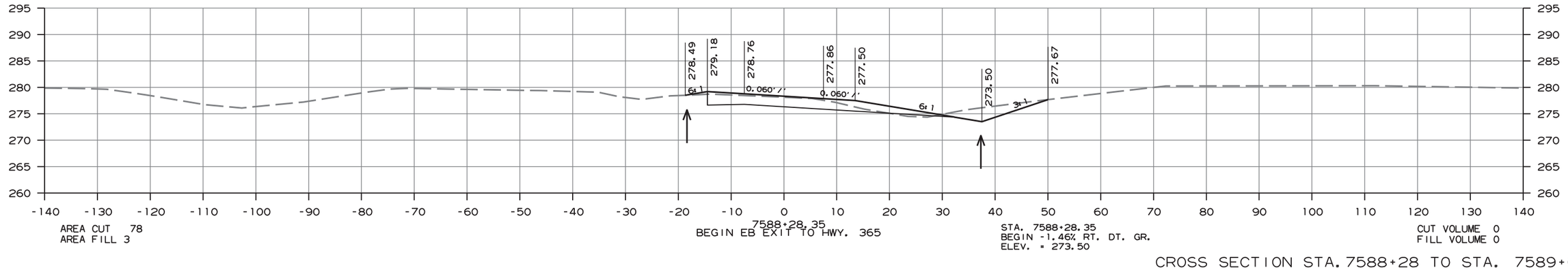
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-20			
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	494	517

(2) CROSS SECTIONS - EB EXIT TO HWY. 365







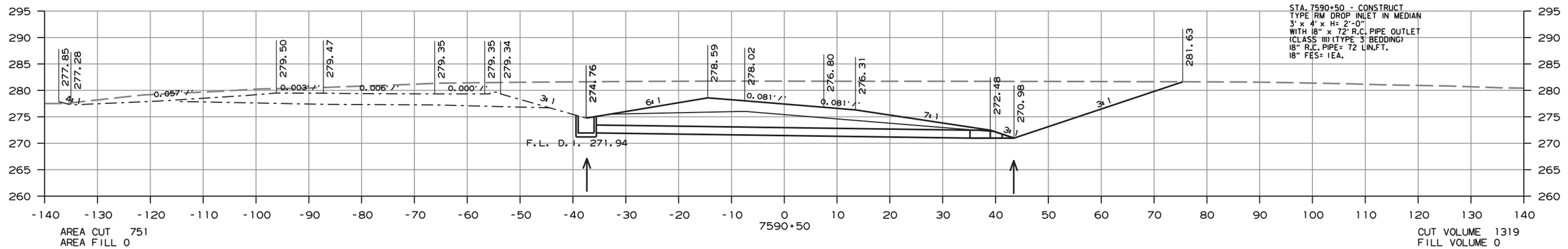
CROSS SECTION STA. 7588+28 TO STA. 7589+00

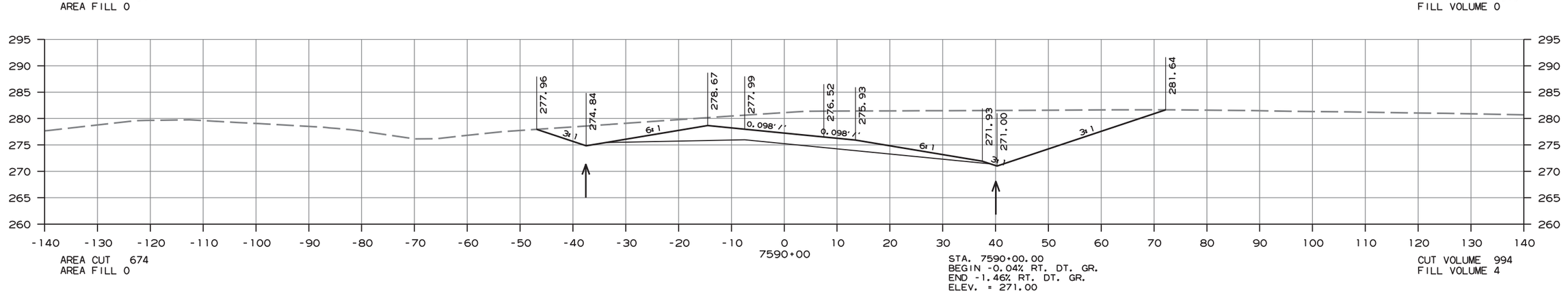
amme613 10/1/2020
R080457.DGN

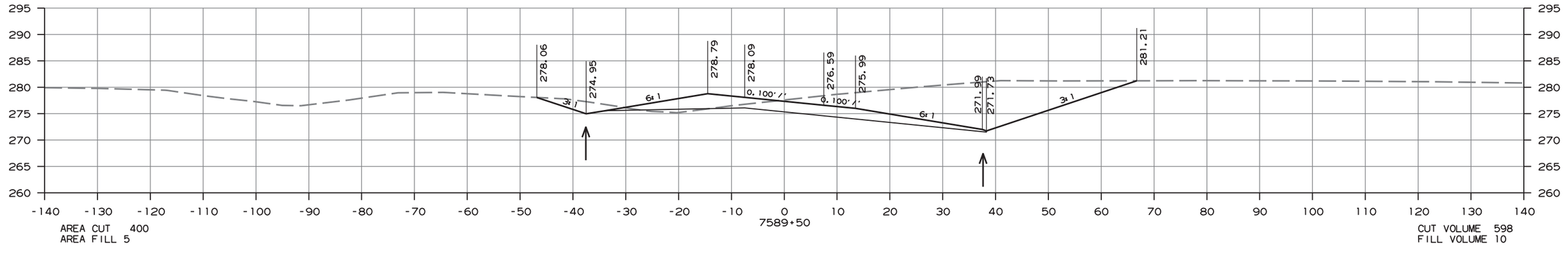
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	495	517

(2) CROSS SECTIONS - EB EXIT TO HWY. 365







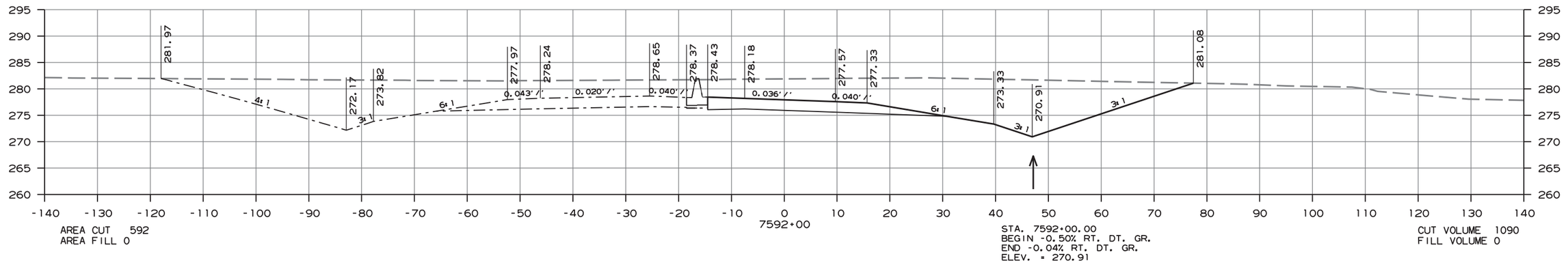
CROSS SECTION STA. 7589+50 TO STA. 7590+50

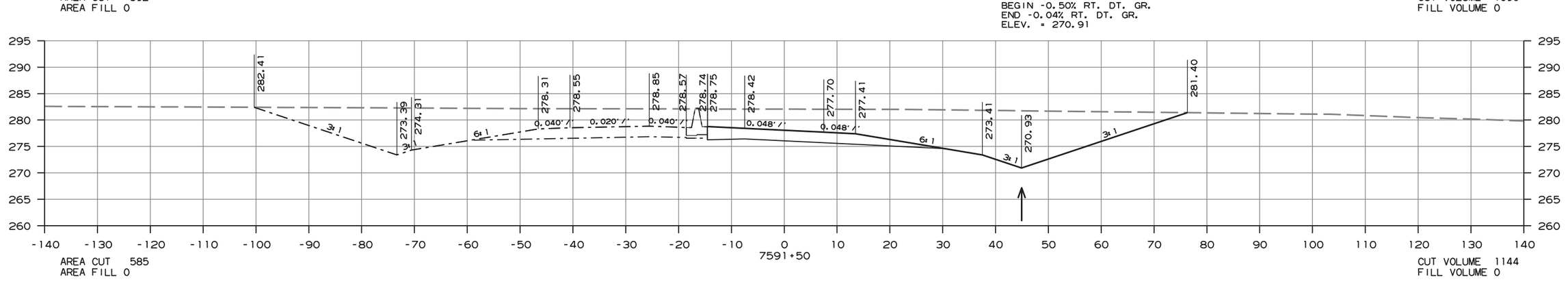
amme613 10/1/2020
RO80457.DGN

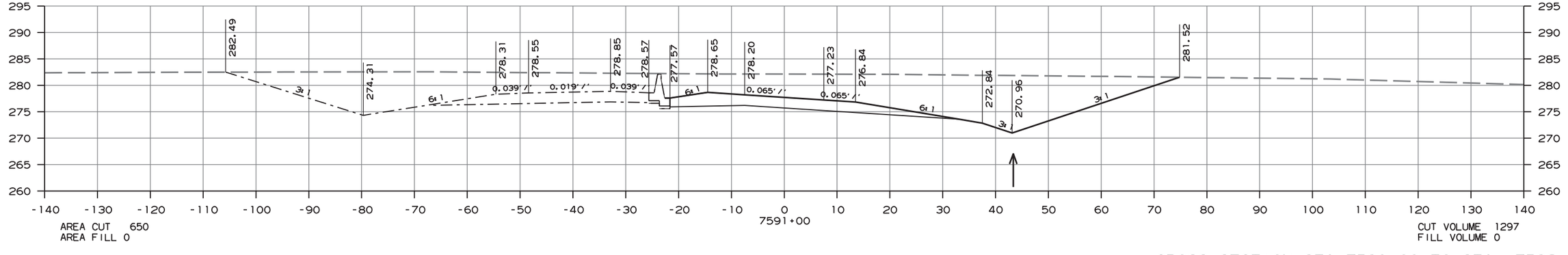
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	496	517

(2) CROSS SECTIONS - EB EXIT TO HWY. 365







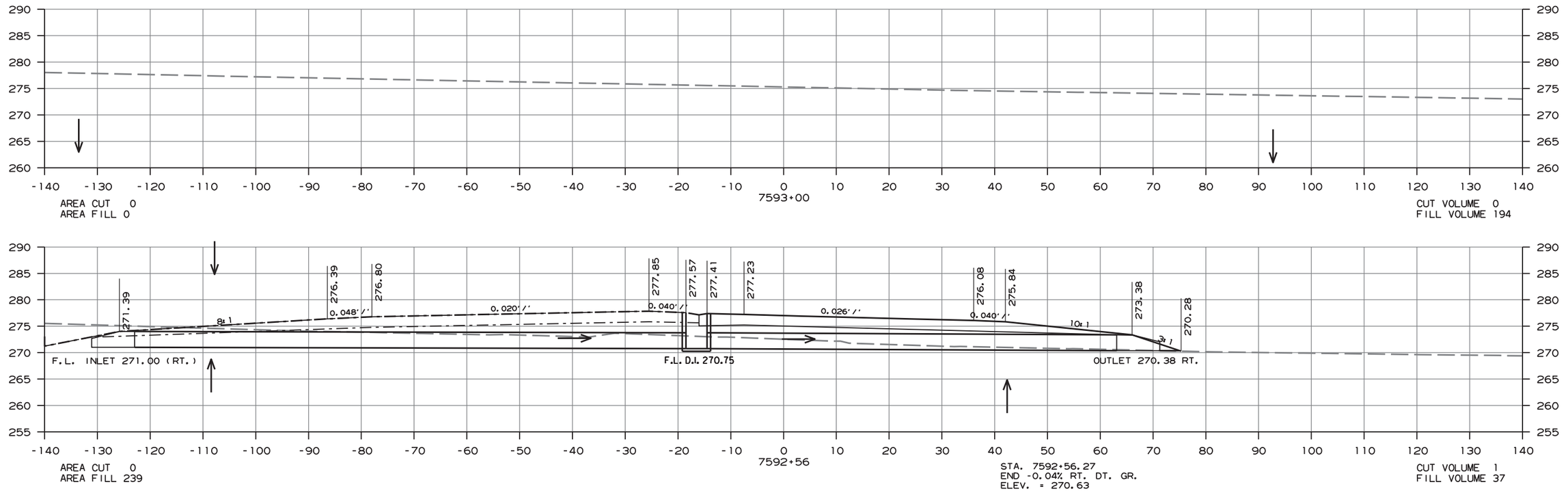
CROSS SECTION STA. 7591+00 TO STA. 7592+00

amme613 10/1/2020
RO80457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	497	517

(2) CROSS SECTIONS - EB EXIT TO HWY. 365



CROSS SECTION STA. 7592+50 TO STA. 7593+00

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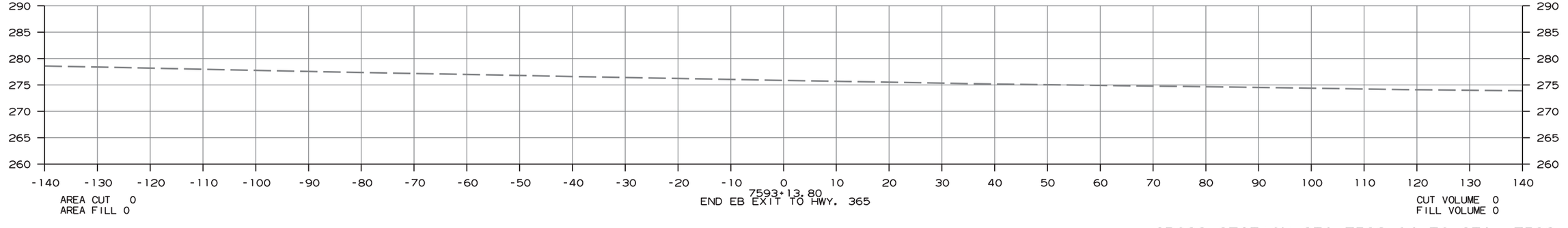
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-28-20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	498	517

(2) CROSS SECTIONS - EB EXIT TO HWY. 365



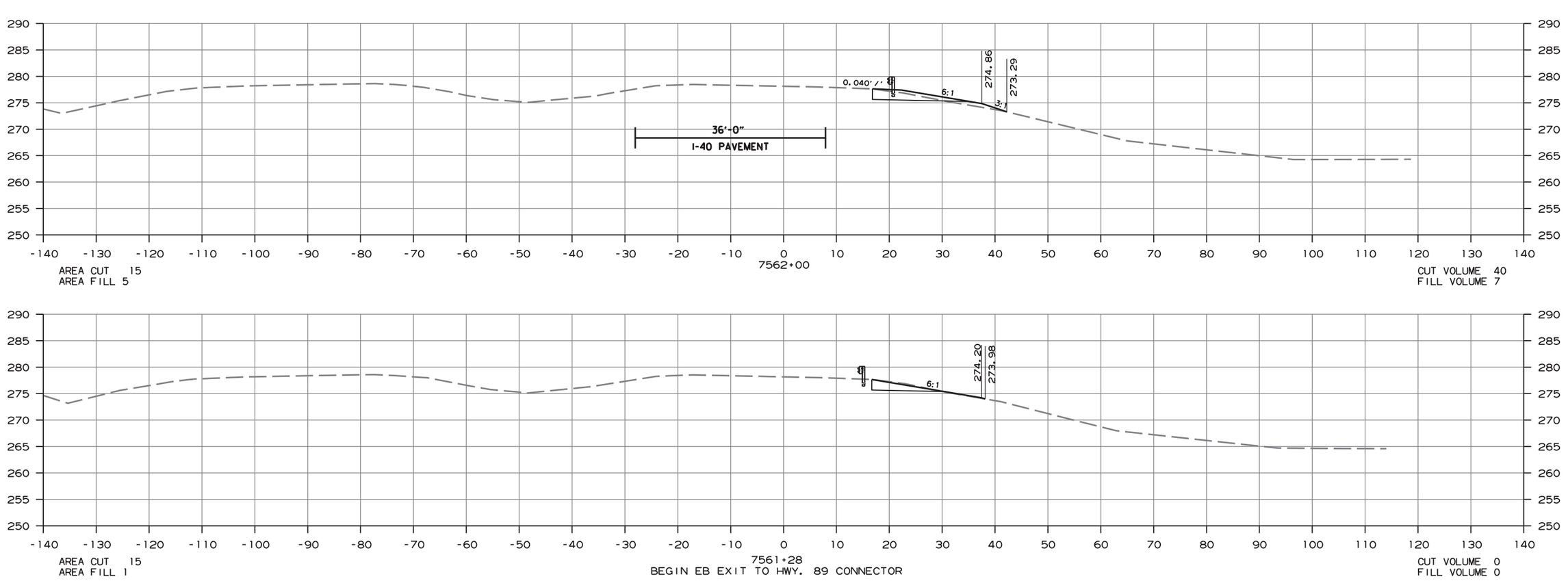
CROSS SECTION STA. 7593+14 TO STA. 7593+14

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	499	517

(2) EB EXIT TO HWY. 89 CONNECTOR



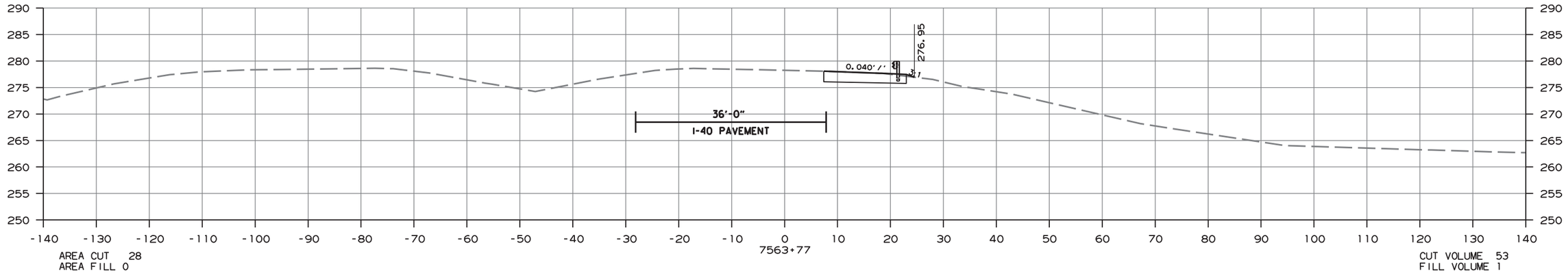
CROSS SECTION STA. 7561+28 TO STA. 7562+00

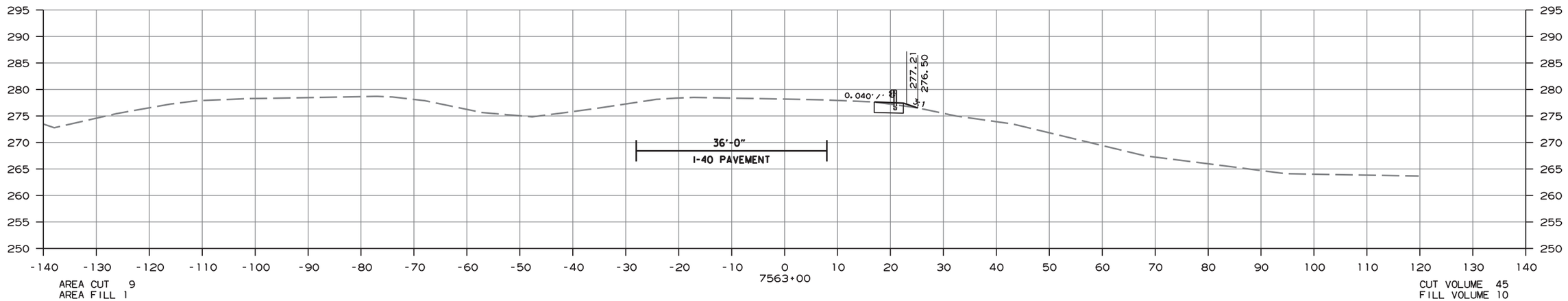
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	500	517

(2) EB EXIT TO HWY. 89 CONNECTOR



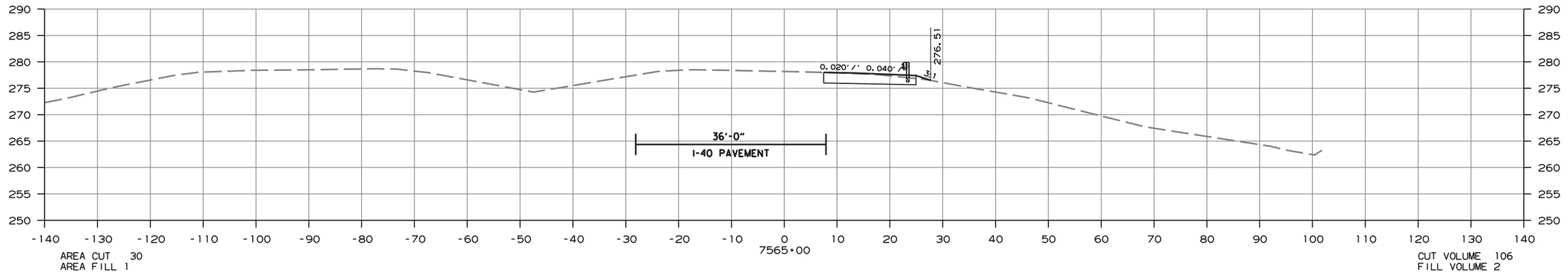


CROSS SECTION STA. 7563+00 TO STA. 7563+77

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	501	517

(2) EB EXIT TO HWY. 89 CONNECTOR

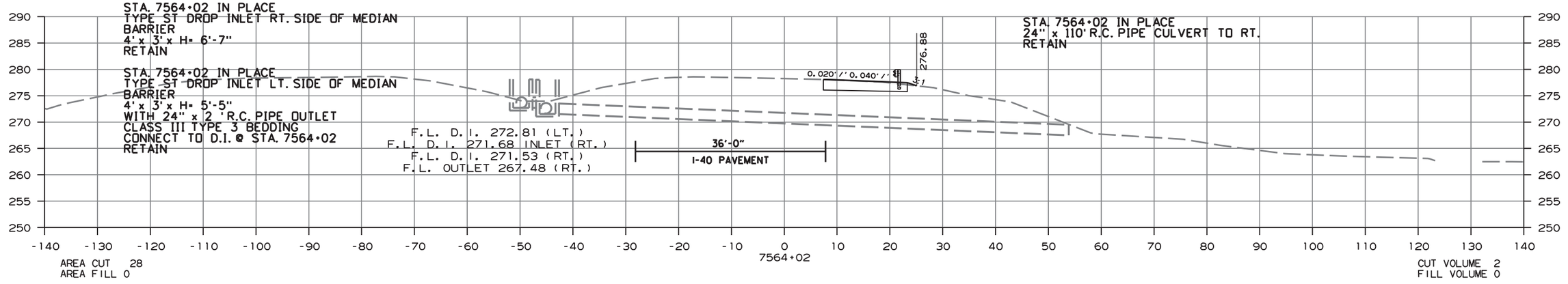


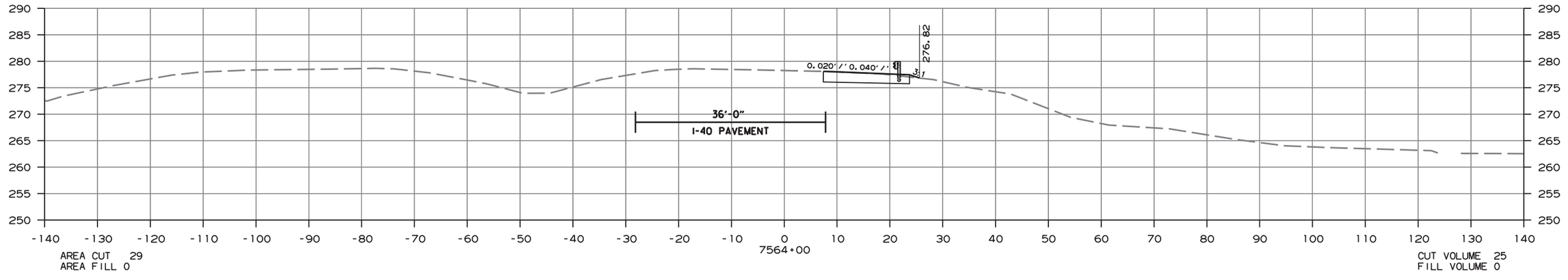
STA. 7564+02 IN PLACE
TYPE ST DROP INLET RT. SIDE OF MEDIAN BARRIER
4' x 3' x H= 6'-7"
RETAIN

STA. 7564+02 IN PLACE
TYPE ST DROP INLET LT. SIDE OF MEDIAN BARRIER
4' x 3' x H= 5'-5"
WITH 24" x 2 'R.C. PIPE OUTLET
CLASS III TYPE 3 BEDDING
CONNECT TO D.I. @ STA. 7564+02
RETAIN

F.L. D.I. 272.81 (LT.)
F.L. D.I. 271.68 INLET (RT.)
F.L. D.I. 271.53 (RT.)
F.L. OUTLET 267.48 (RT.)

STA. 7564+02 IN PLACE
24" x 110' R.C. PIPE CULVERT TO RT.
RETAIN



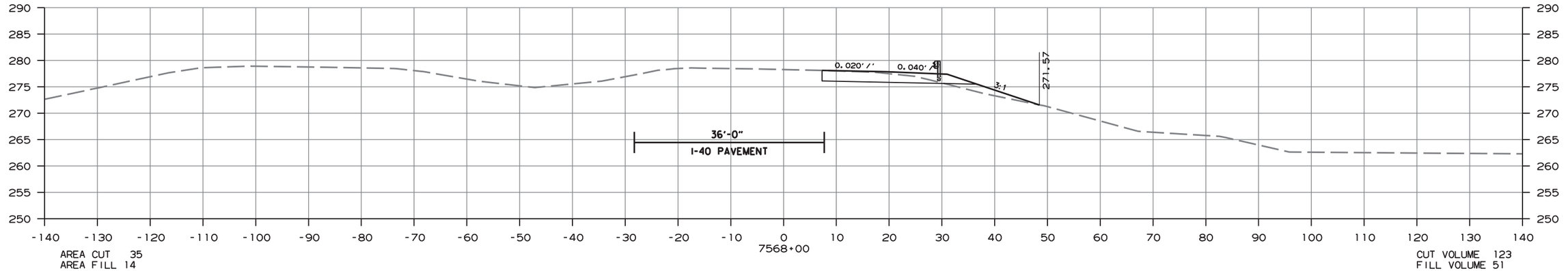


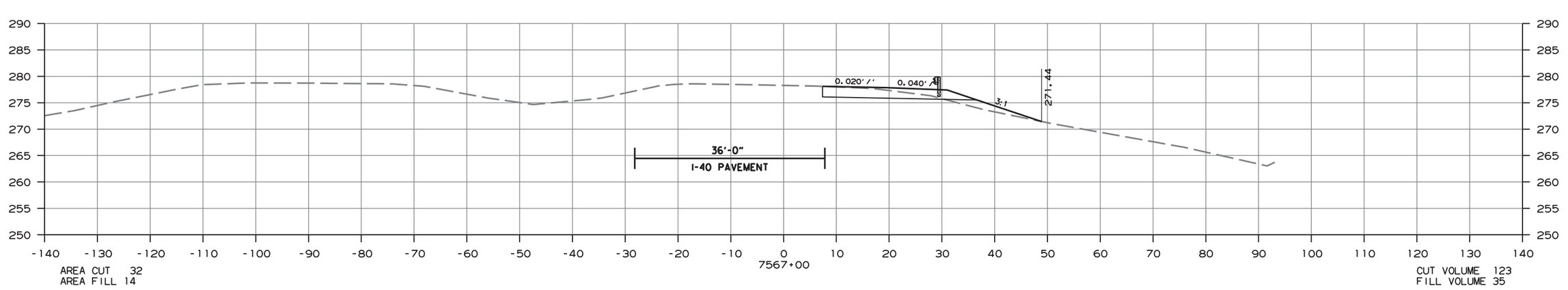
CROSS SECTION STA. 7564+00 TO STA. 7565+00

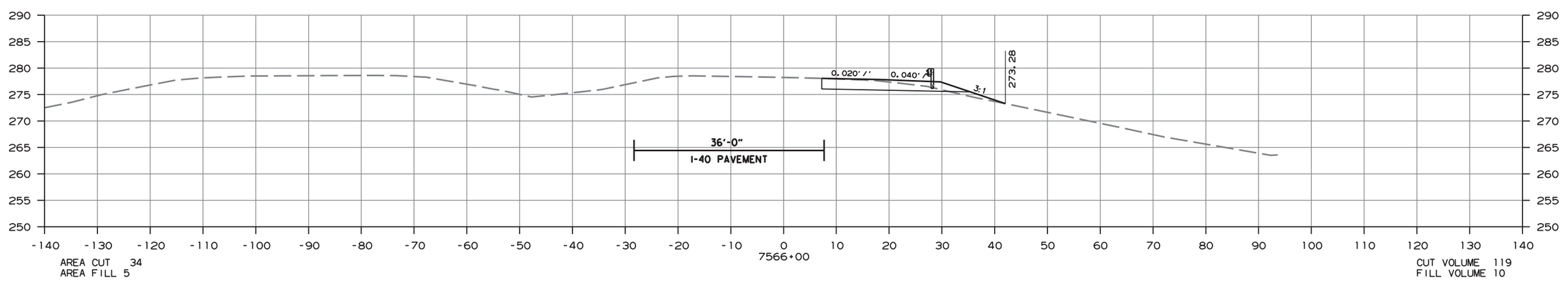
ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	502	517

(2) EB EXIT TO HWY. 89 CONNECTOR







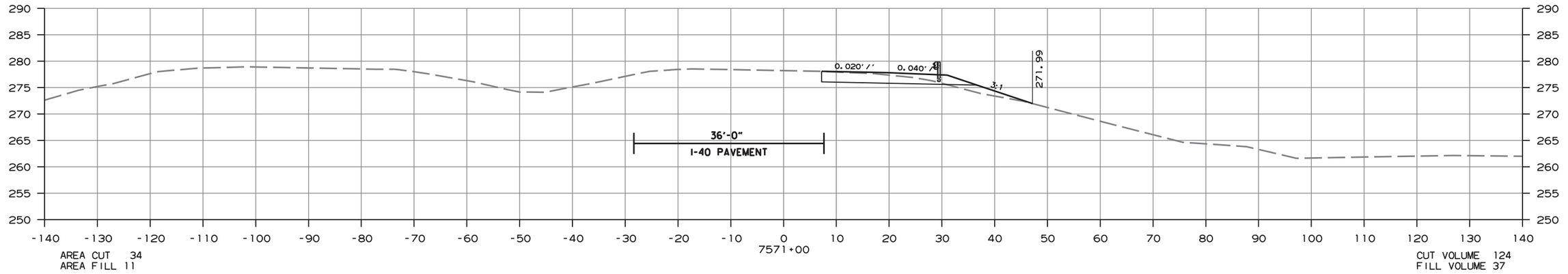
CROSS SECTION STA. 7566+00 TO STA. 7568+00

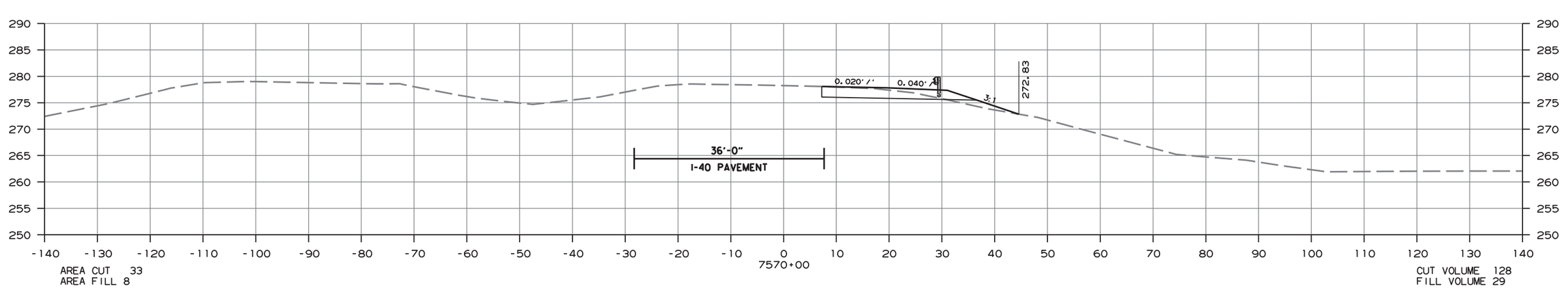
ammel613 10/1/2020
R080457.DGN

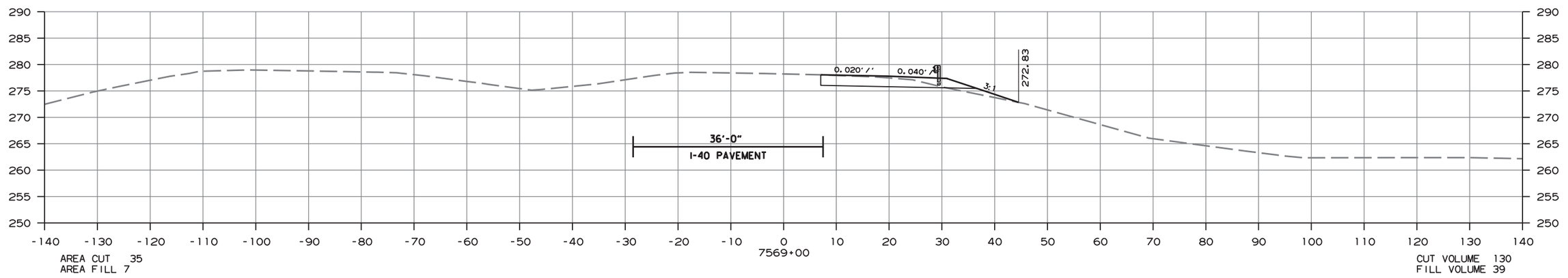
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	503	517

(2) EB EXIT TO HWY. 89 CONNECTOR







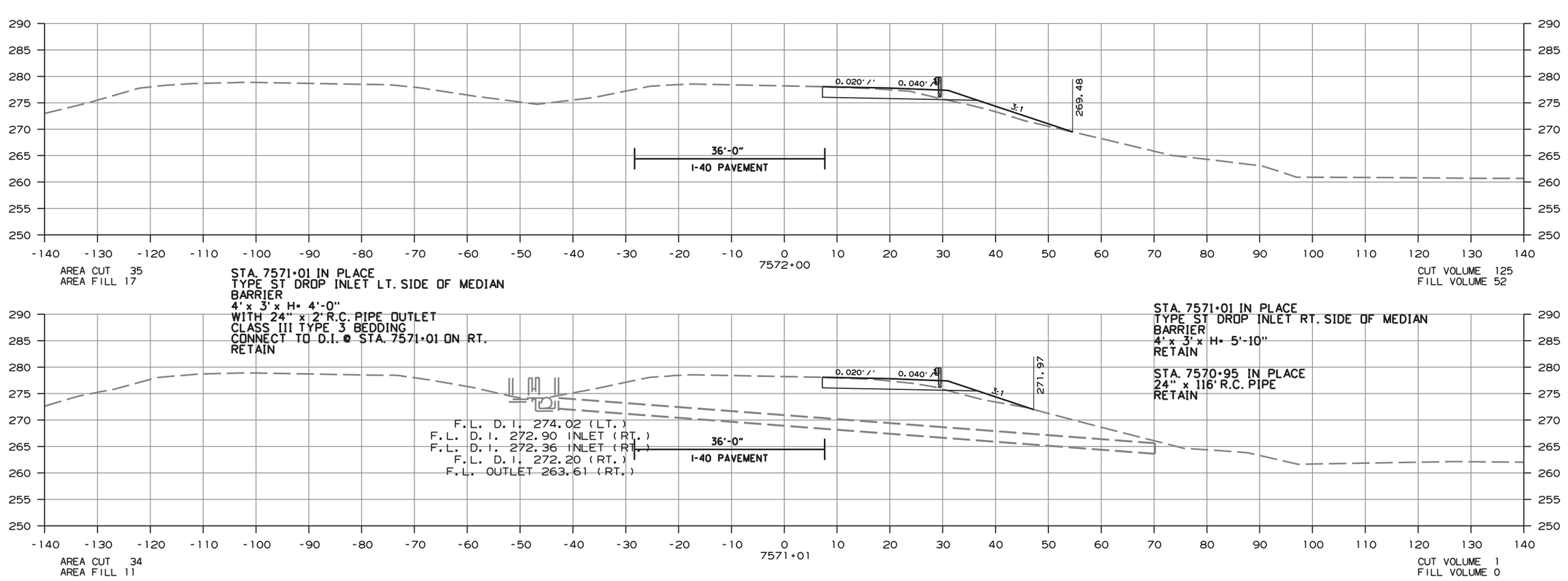
CROSS SECTION STA. 7569+00 TO STA. 7571+00

ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	504	517

(2) EB EXIT TO HWY. 89 CONNECTOR



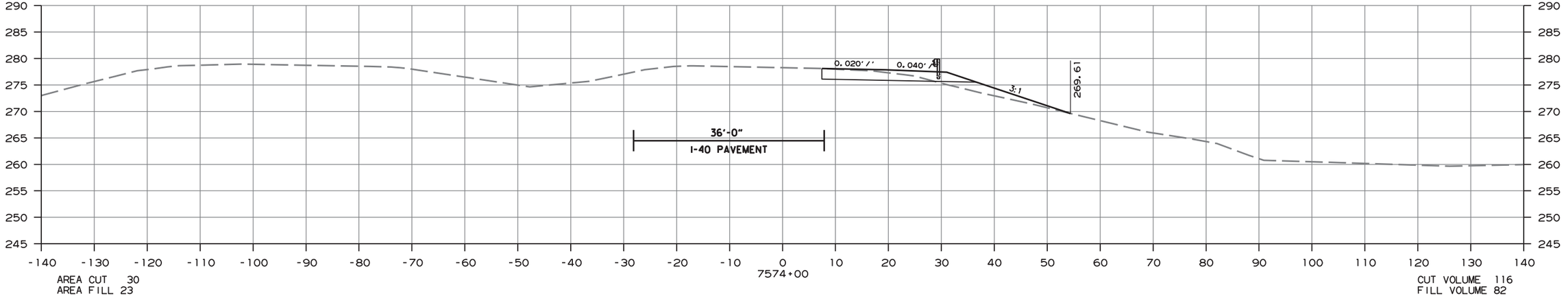
CROSS SECTION STA. 7571+01 TO STA. 7572+00

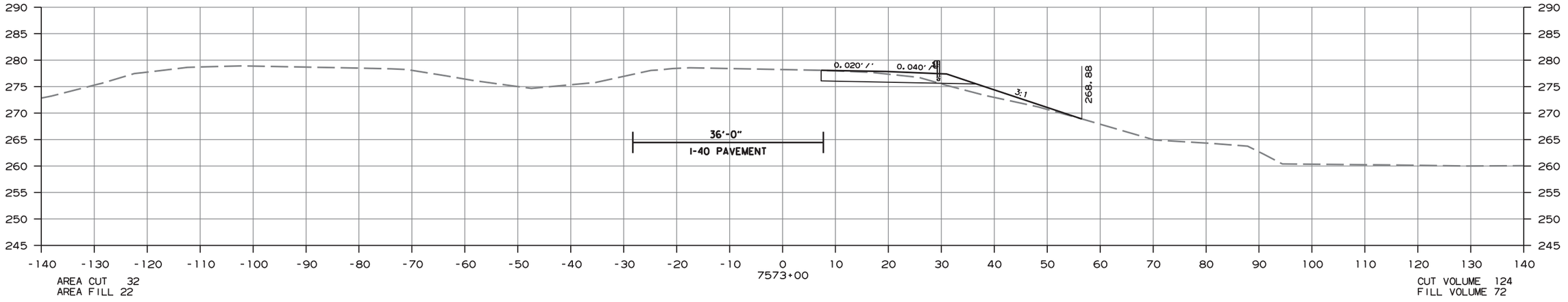
ammel613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	505	517

(2) EB EXIT TO HWY. 89 CONNECTOR





CROSS SECTION STA. 7573+00 TO STA. 7574+00

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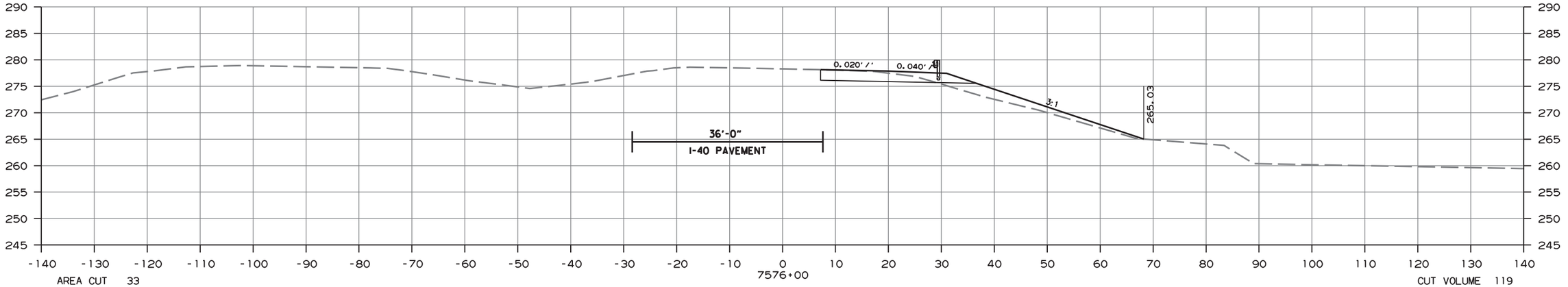
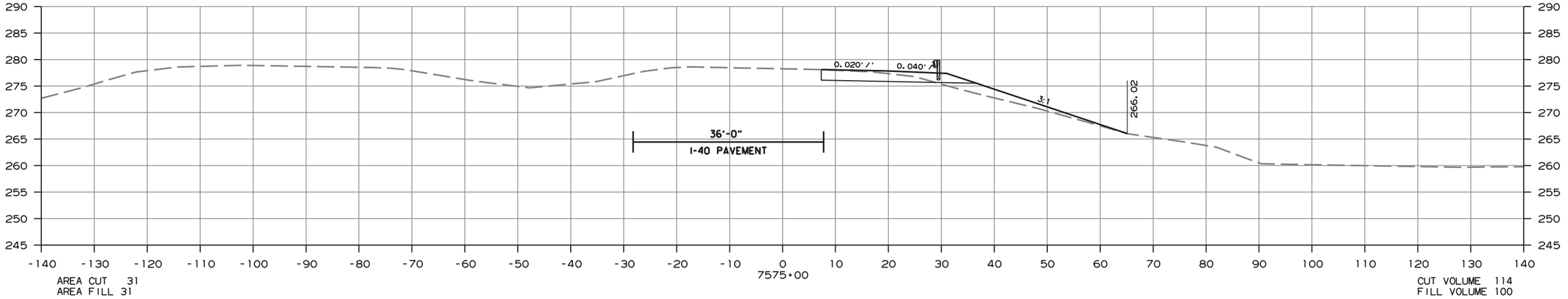
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	506	517

(2) EB EXIT TO HWY. 89 CONNECTOR





CROSS SECTION STA. 7575+00 TO STA. 7576+00

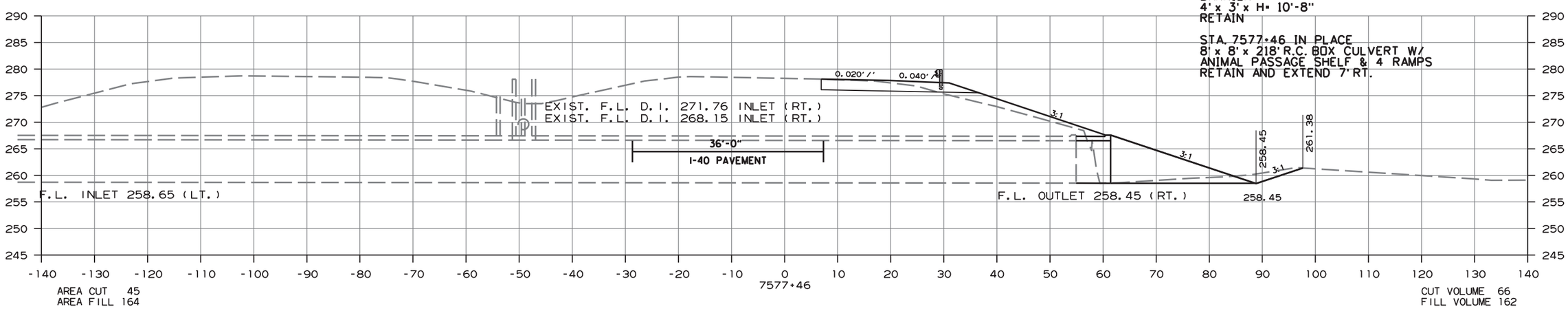
amme613 10/1/2020
R080457.DGN

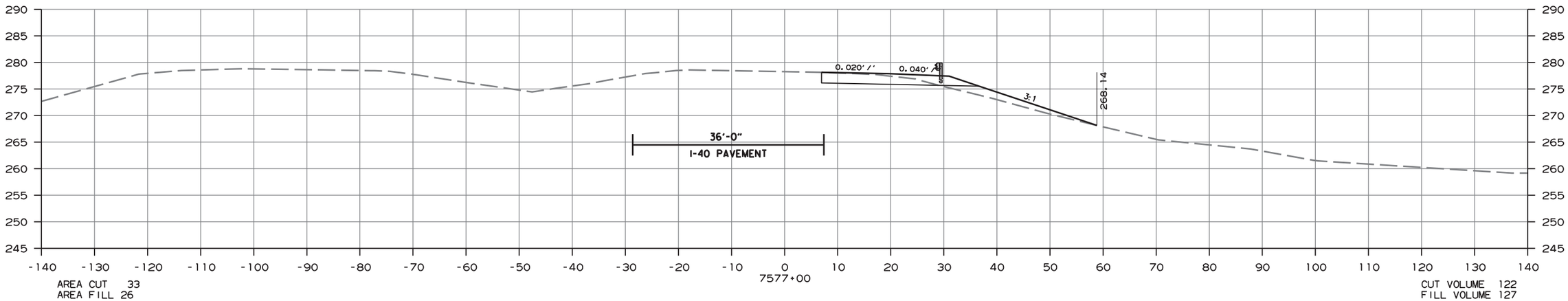
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	507	517

(2) EB EXIT TO HWY. 89 CONNECTOR

STA. 7577+48 IN PLACE
TYPE ST DROP INLET RT. SIDE OF MEDIAN BARRIER
4' x 3' x H= 10'-8"
RETAIN

STA. 7577+46 IN PLACE
8' x 8' x 218' R.C. BOX CULVERT W/ ANIMAL PASSAGE SHELF & 4 RAMPS
RETAIN AND EXTEND 7' RT.





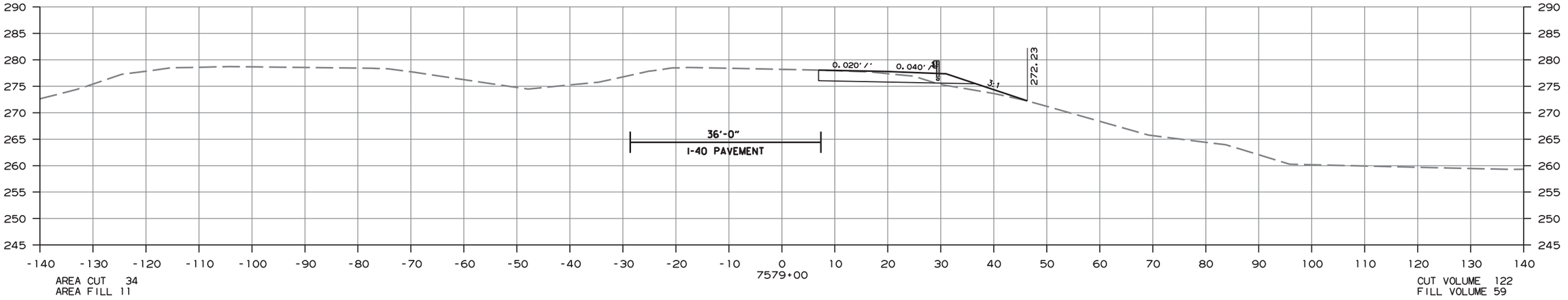
CROSS SECTION STA. 7577+00 TO STA. 7577+46

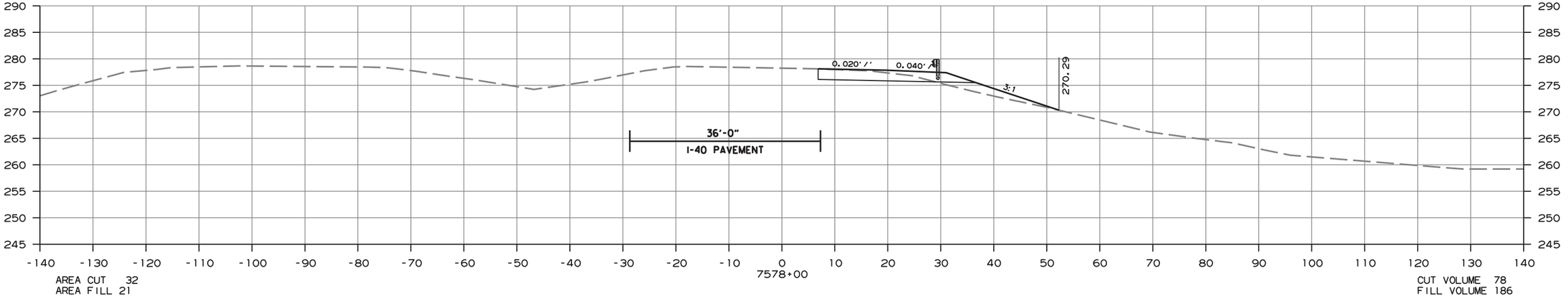
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	508	517

(2) EB EXIT TO HWY. 89 CONNECTOR





CROSS SECTION STA. 7578+00 TO STA. 7579+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	509	517

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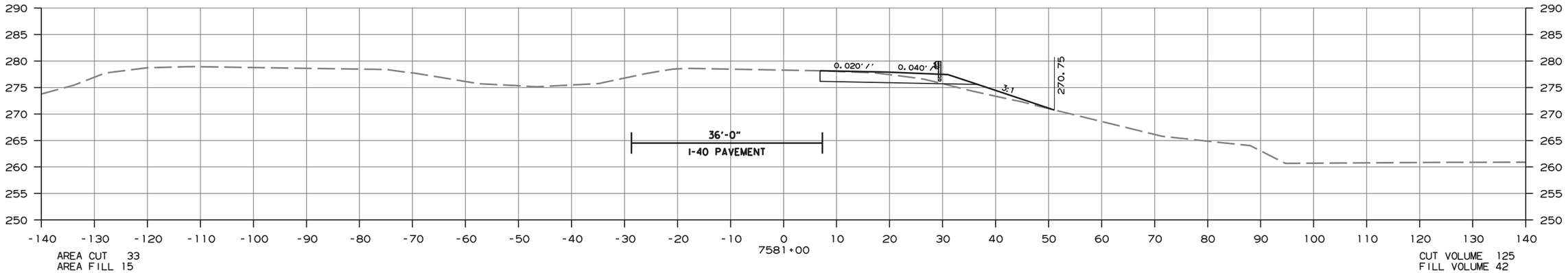
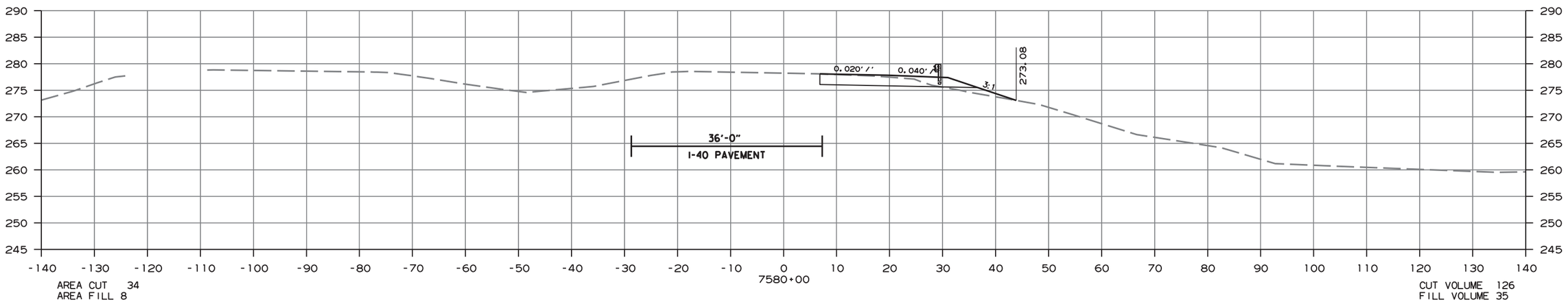


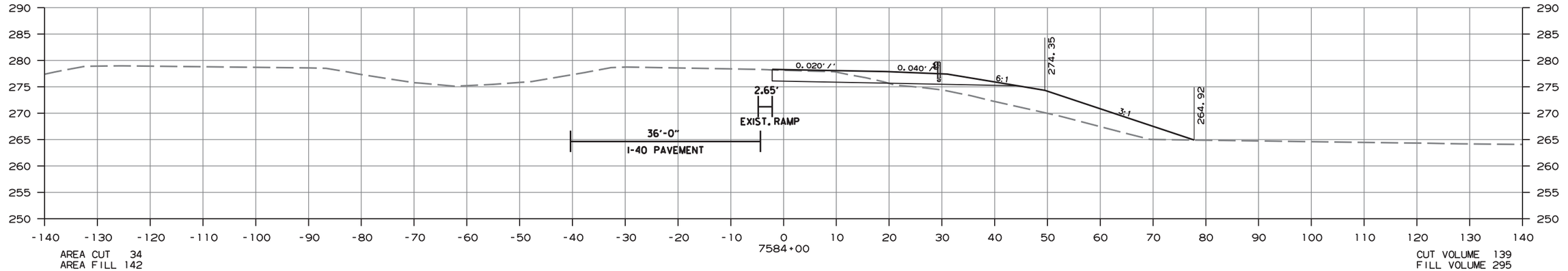


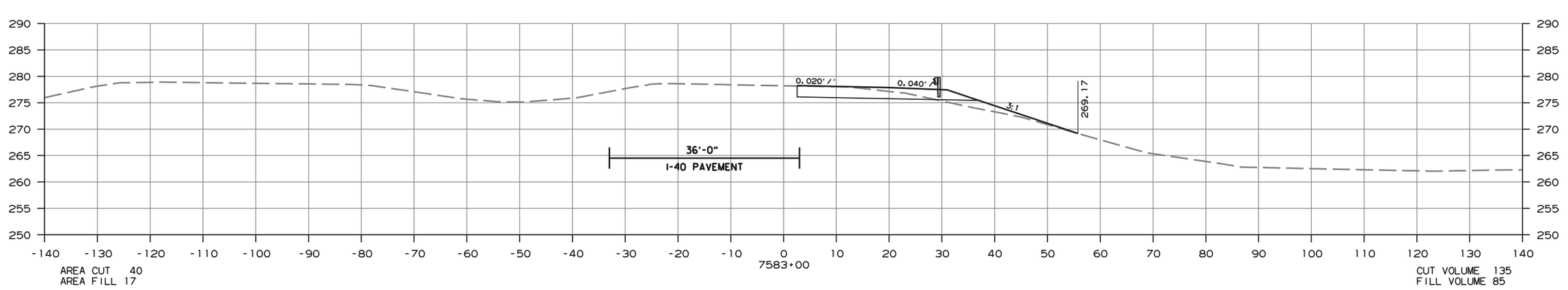
CROSS SECTION STA. 7580+00 TO STA. 7581+00

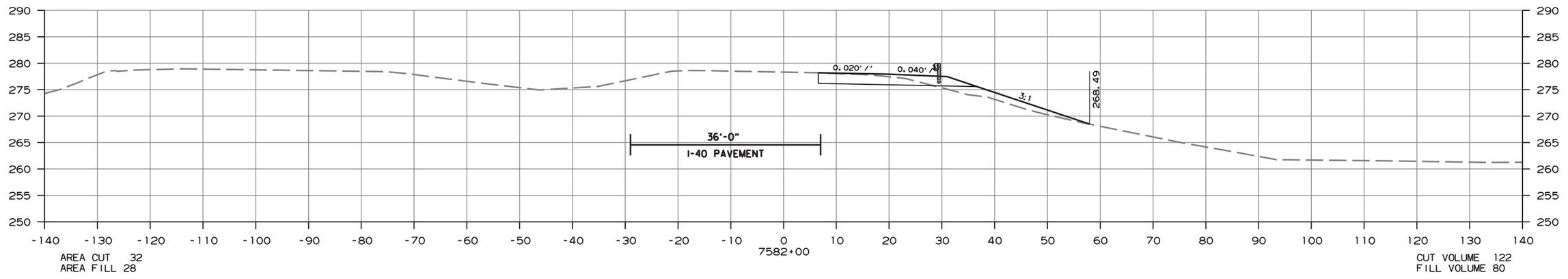
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	510	517

(2) EB EXIT TO HWY. 89 CONNECTOR





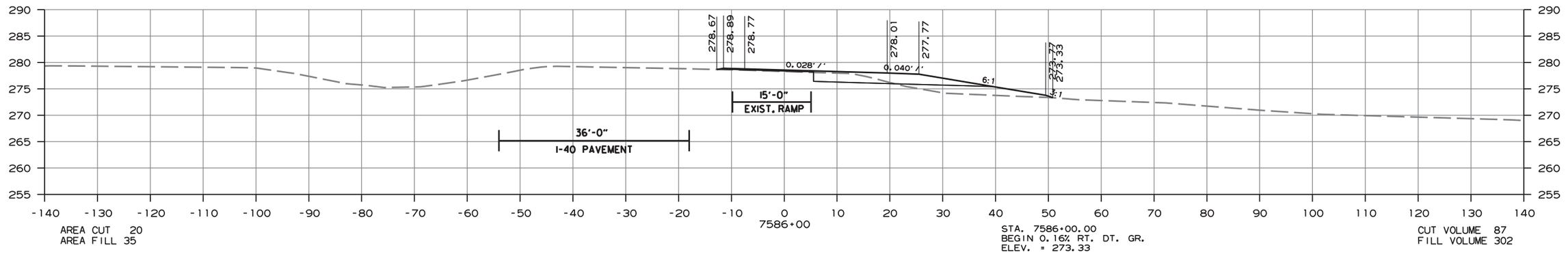


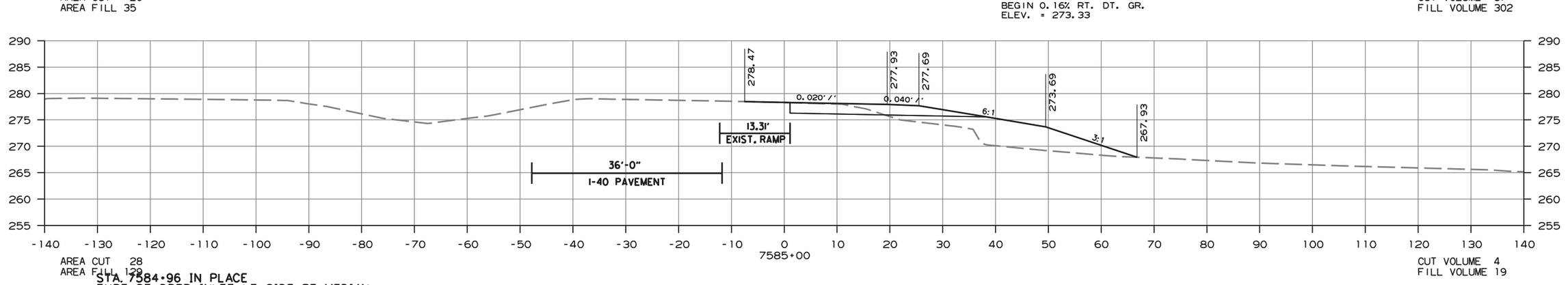
CROSS SECTION STA. 7582+00 TO STA. 7584+00

amme613 10/1/2020
R080457.DGN

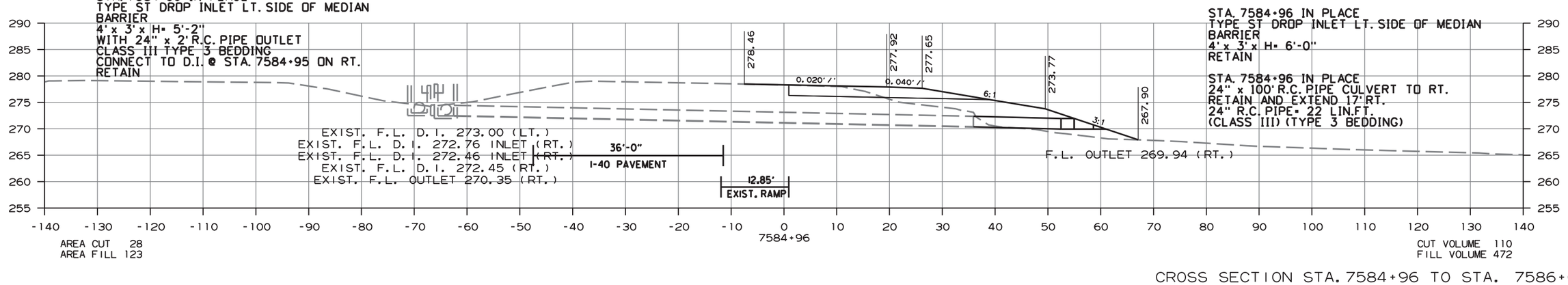
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	511	517

(2) EB EXIT TO HWY. 89 CONNECTOR





STA. 7584+96 IN PLACE
TYPE ST DROP INLET LT. SIDE OF MEDIAN
BARRIER
4' x 3' x H= 5'-2"
WITH 24" x 2' R.C. PIPE OUTLET
CLASS III TYPE 3 BEDDING
CONNECT TO D.I. @ STA. 7584+95 ON RT.
RETAIN



STA. 7584+96 IN PLACE
TYPE ST DROP INLET LT. SIDE OF MEDIAN
BARRIER
4' x 3' x H= 6'-0"
RETAIN

STA. 7584+96 IN PLACE
24" x 100' R.C. PIPE CULVERT TO RT.
RETAIN AND EXTEND 17' RT.
24" R.C. PIPE= 22 LIN.FT.
(CLASS III) (TYPE 3 BEDDING)

F.L. OUTLET 269.94 (RT.)

CROSS SECTION STA. 7584+96 TO STA. 7586+00

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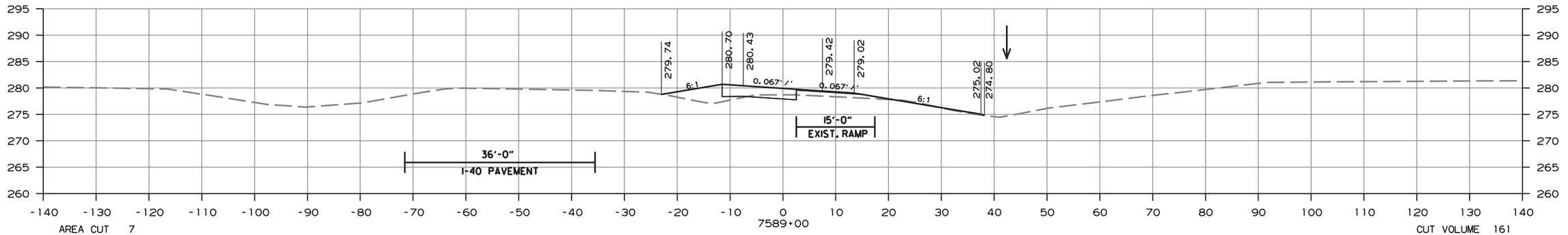
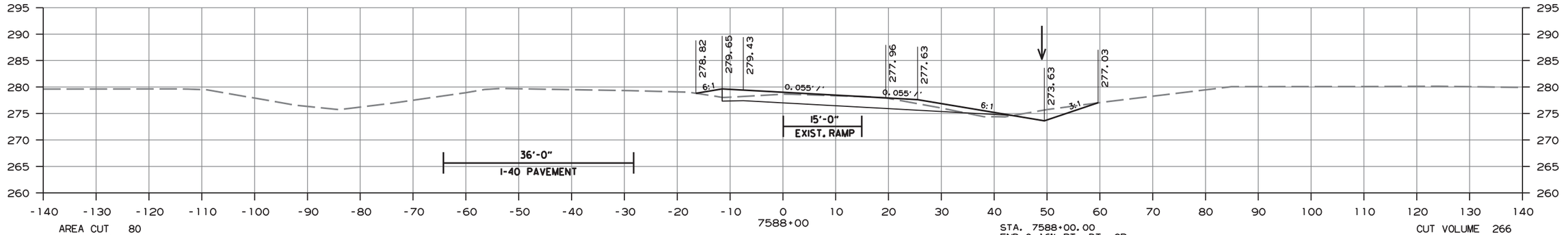
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	512	517

(2) EB EXIT TO HWY. 89 CONNECTOR



AREA CUT 7
AREA FILL 39

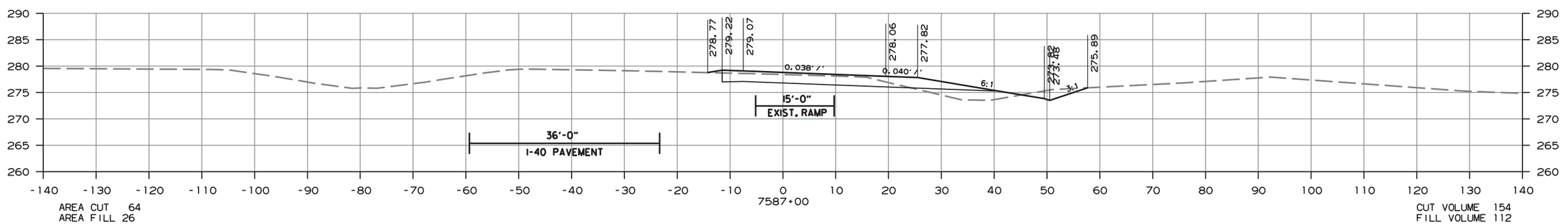
CUT VOLUME 161
FILL VOLUME 85



AREA CUT 80
AREA FILL 7

STA. 7588+00.00
END 0.16% RT. DT. GR.
ELEV. = 273.64

CUT VOLUME 266
FILL VOLUME 61



AREA CUT 64
AREA FILL 26

CUT VOLUME 154
FILL VOLUME 112

CROSS SECTION STA. 7587+00 TO STA. 7589+00

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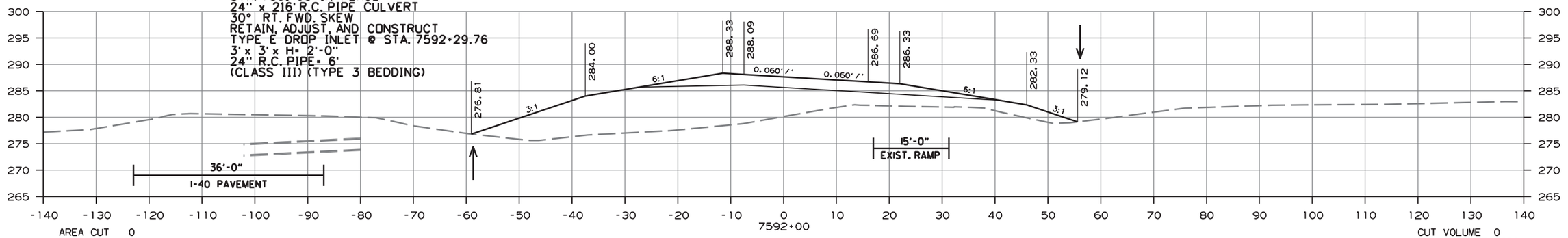
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	513	517

(2) EB EXIT TO HWY. 89 CONNECTOR

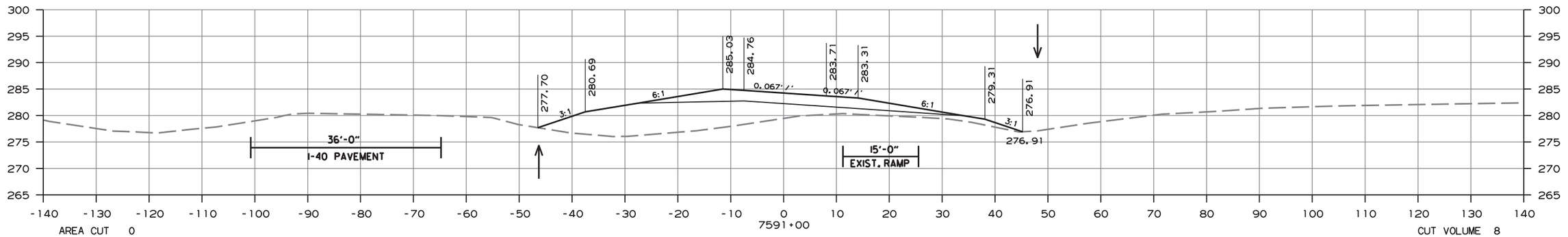
STA. 7591+95 IN PLACE
TYPE ST DROP INLET RT. SIDE OF MEDIAN BARRIER
4' x 3' x H= 6'-7"
RETAIN

STA. 7591+95 IN PLACE
24" x 216' R.C. PIPE CULVERT
30° RT. FWD. SKEW
RETAIN, ADJUST, AND CONSTRUCT
TYPE E DROP INLET @ STA. 7592+29.76
3' x 3' x H= 2'-0"
24" R.C. PIPE= 6'
(CLASS III) (TYPE 3 BEDDING)



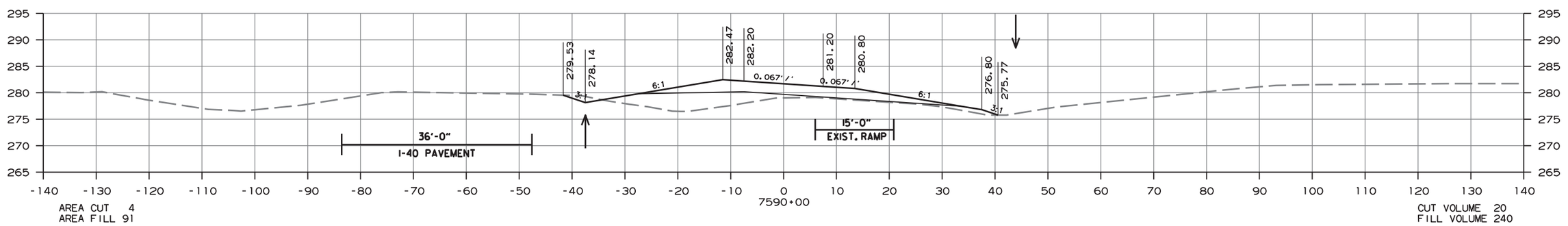
AREA CUT 0
AREA FILL 622

CUT VOLUME 0
FILL VOLUME 1801



AREA CUT 0
AREA FILL 350

CUT VOLUME 8
FILL VOLUME 816



AREA CUT 4
AREA FILL 91

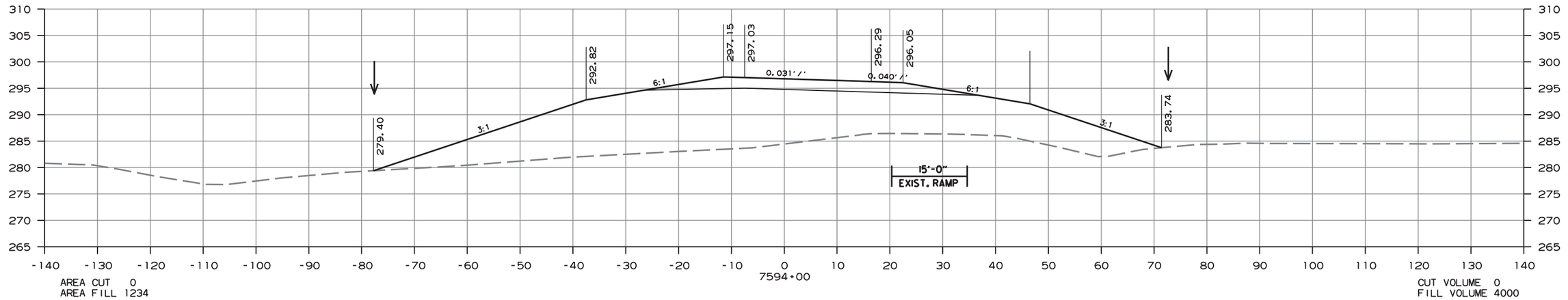
CUT VOLUME 20
FILL VOLUME 240

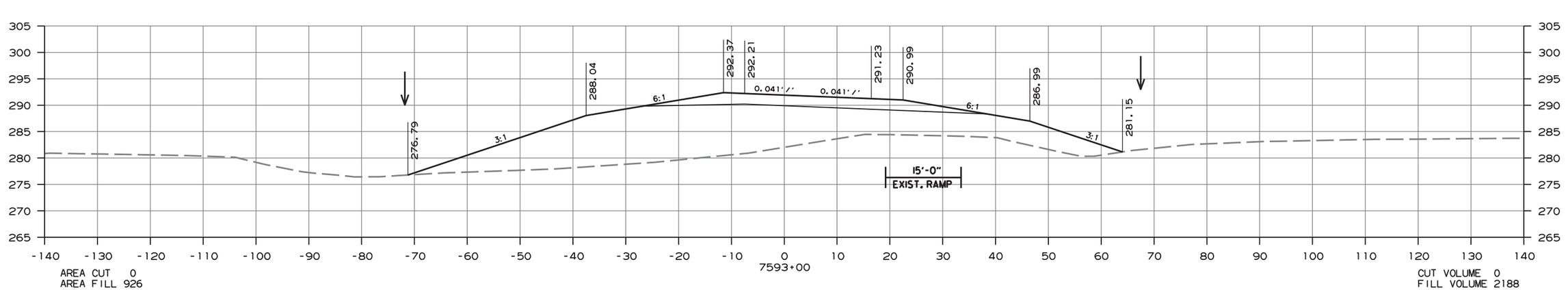
CROSS SECTION STA. 7590+00 TO STA. 7592+00

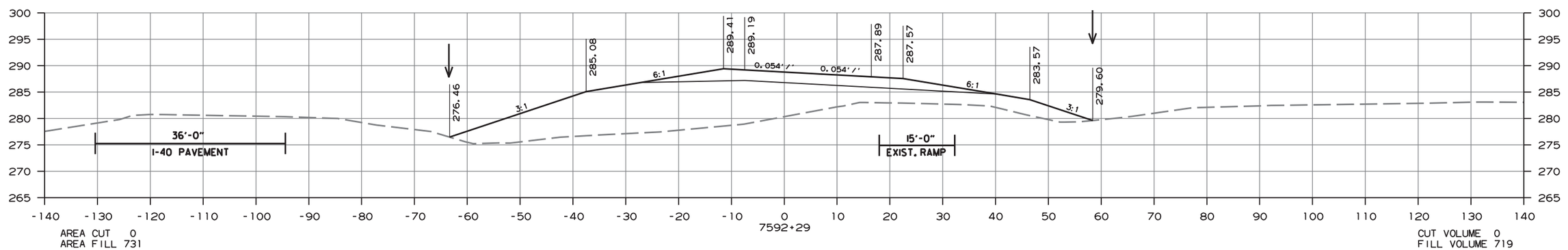
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	514	517

(2) EB EXIT TO HWY. 89 CONNECTOR







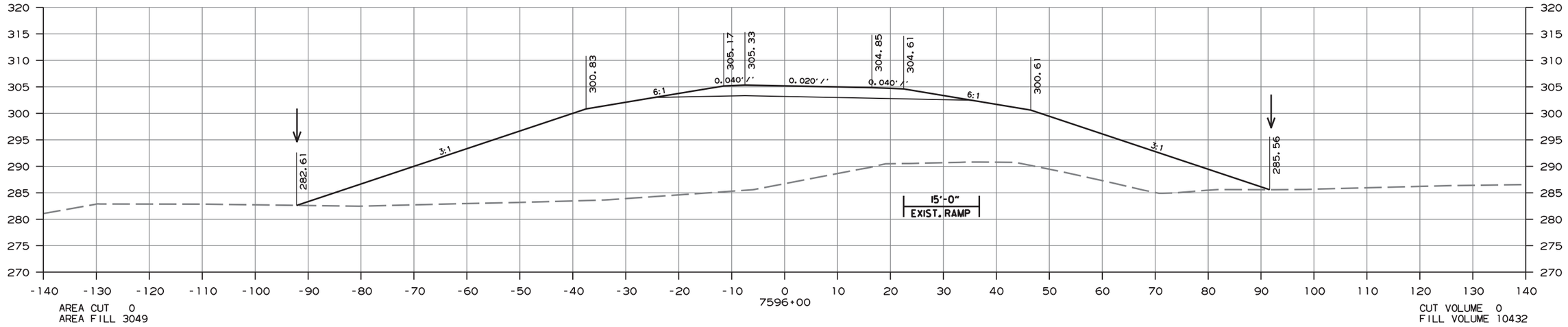
CROSS SECTION STA. 7592+29 TO STA. 7594+00

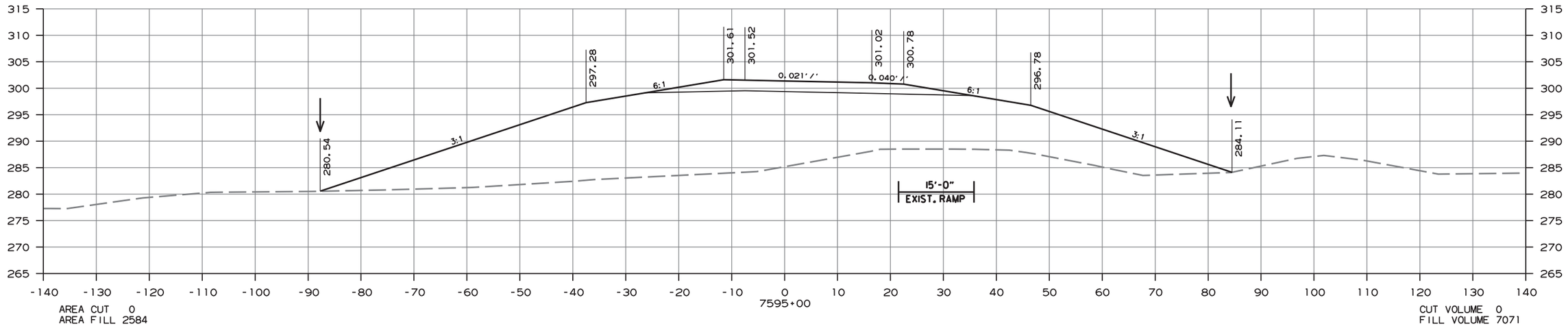
amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	515	517

(2) EB EXIT TO HWY. 89 CONNECTOR



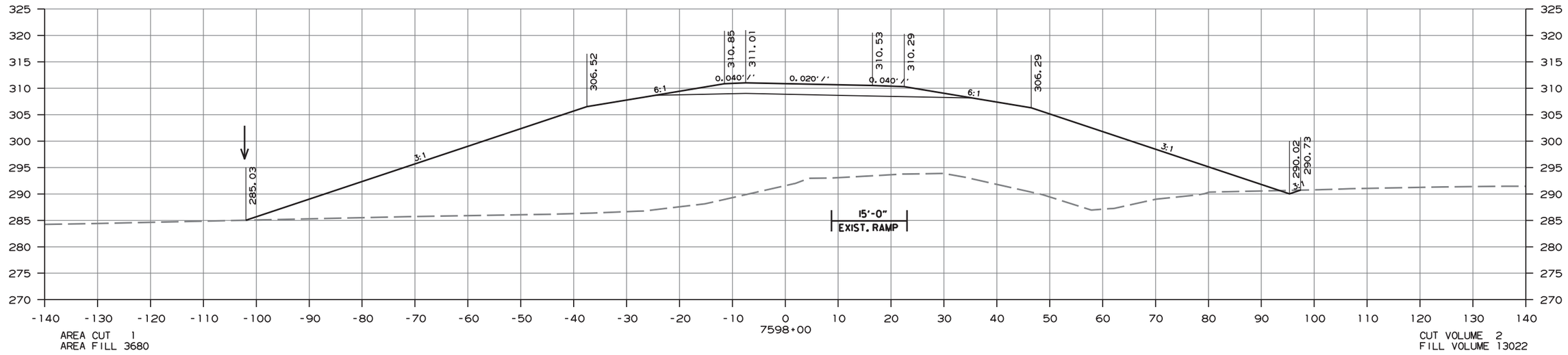


CROSS SECTION STA. 7595+00 TO STA. 7596+00

amme613 10/1/2020
R080457.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080457	516	517

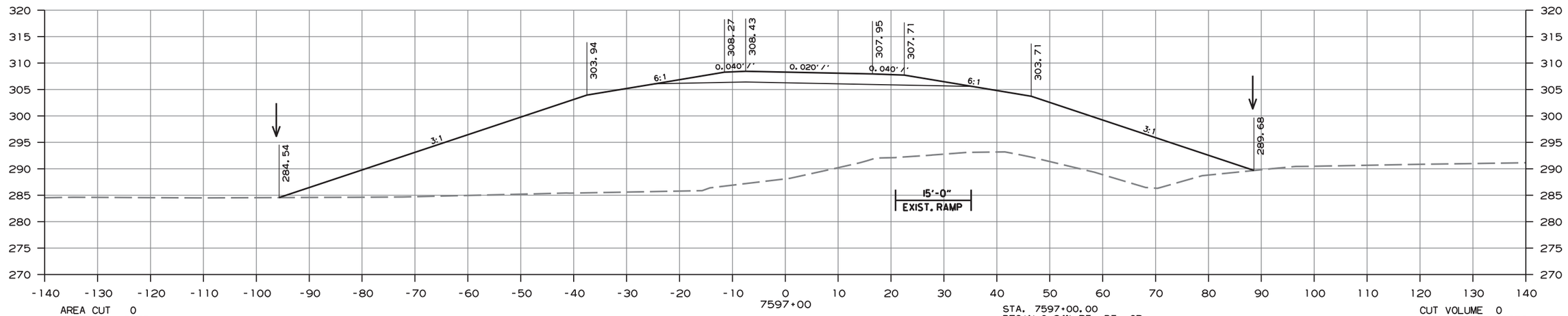
(2) EB EXIT TO HWY. 89 CONNECTOR



AREA CUT 1
AREA FILL 3680

7598+00

CUT VOLUME 2
FILL VOLUME 13022



AREA CUT 0
AREA FILL 3352

7597+00

STA. 7597+00.00
BEGIN 0.34% RT. DT. GR.
ELEV. = 289.68

CUT VOLUME 0
FILL VOLUME 11853

CROSS SECTION STA. 7597+00 TO STA. 7598+00

amme613 10/1/2020
R080457.DGN

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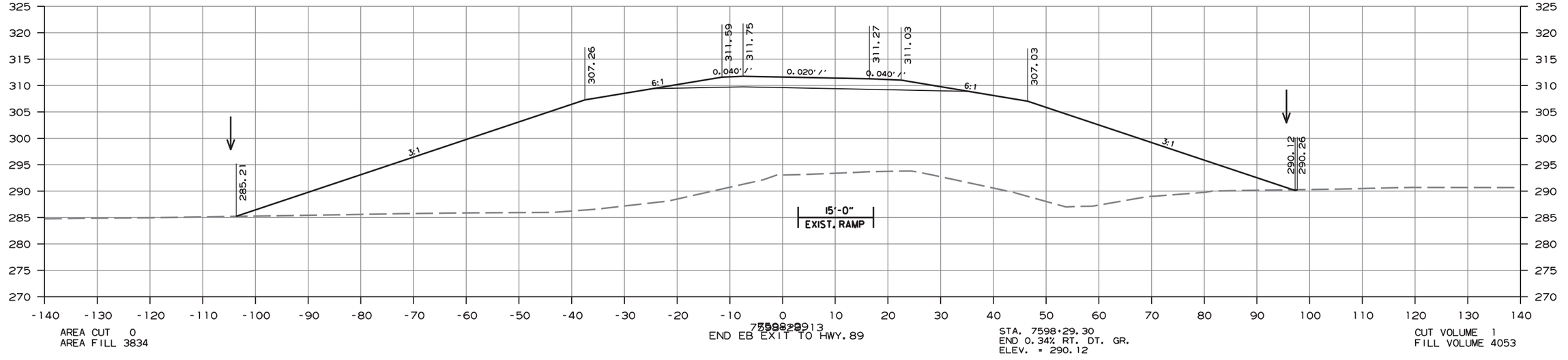
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		080457	517	517

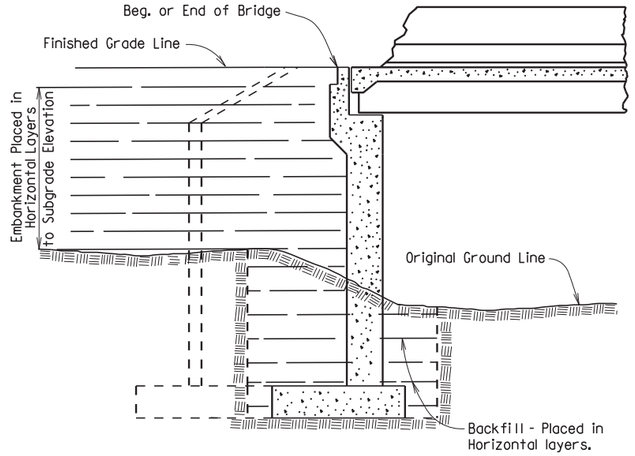
(2) EB EXIT TO HWY. 89 CONNECTOR



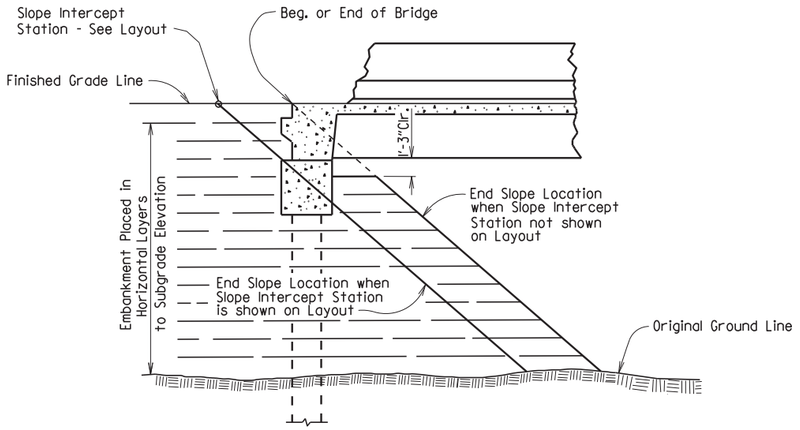
CROSS SECTION STA. 7598+29.13 TO STA. STA. 7598+29.13

amme613 10/1/2020
R080457.DGN

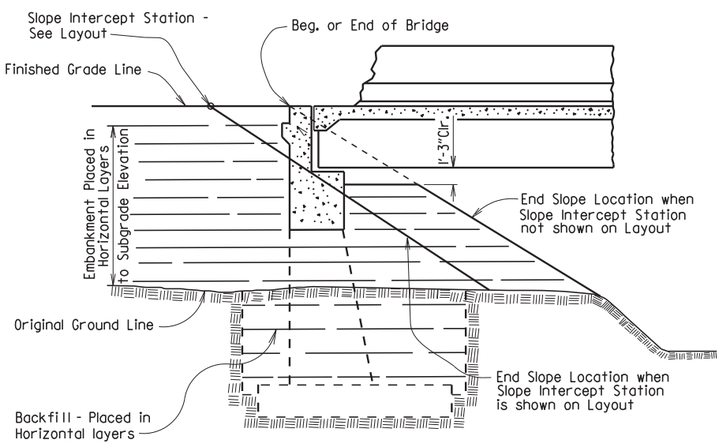
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				(1) EMBANKMENT & BACKFILL 55000				



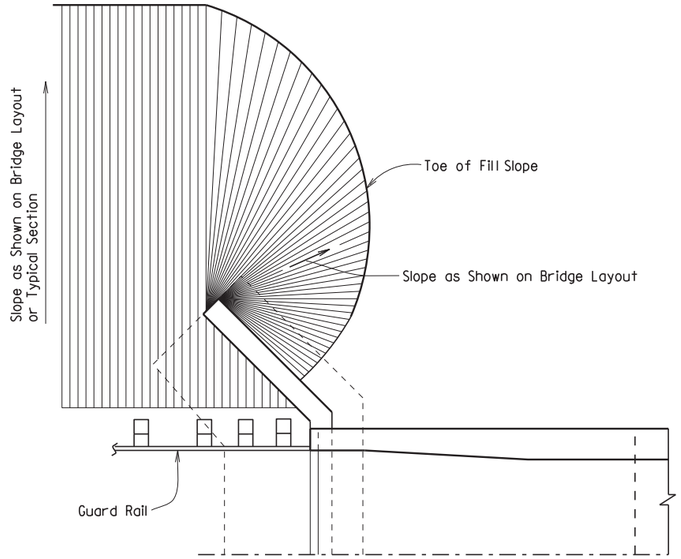
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



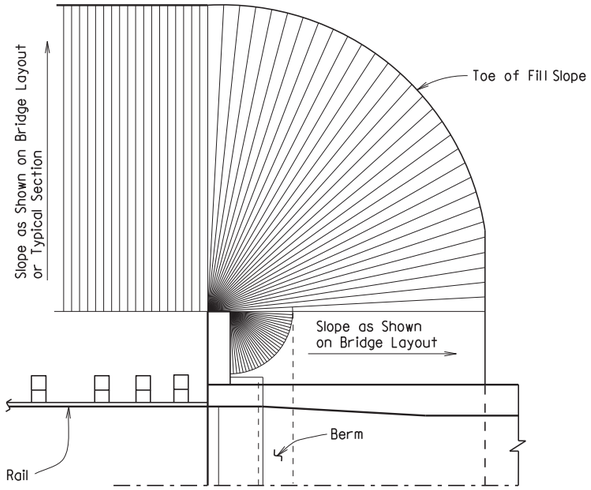
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



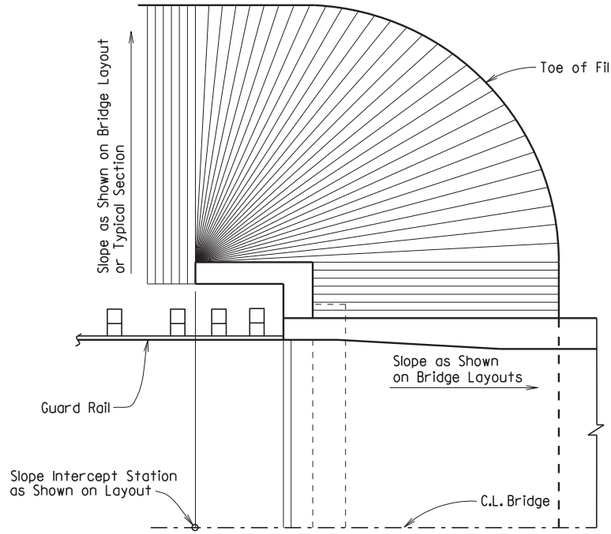
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



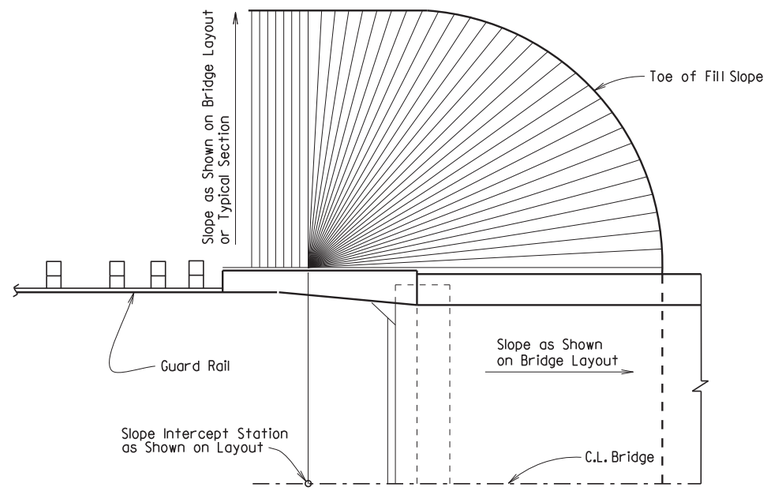
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

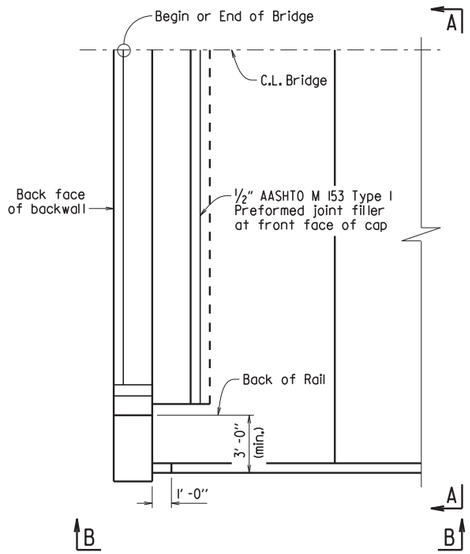
DESIGNED BY: STD. DATE: -

DRAWING NO. 55000

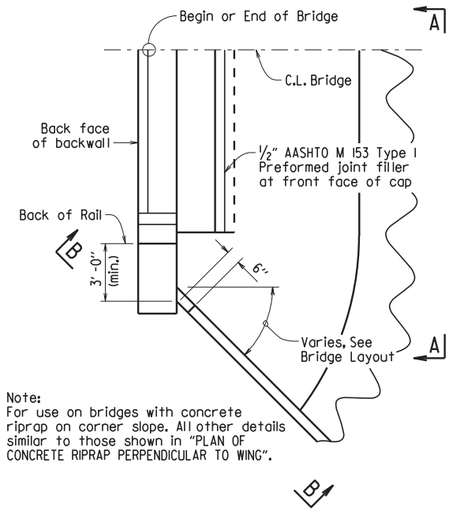
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

① CONCRETE RIPRAP 55002

Note:
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



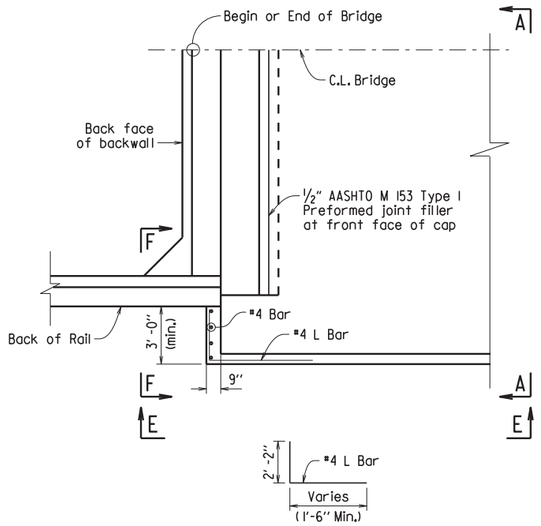
PLAN OF CONCRETE RIPRAP
PERPENDICULAR TO WING
¼" = 1'-0"



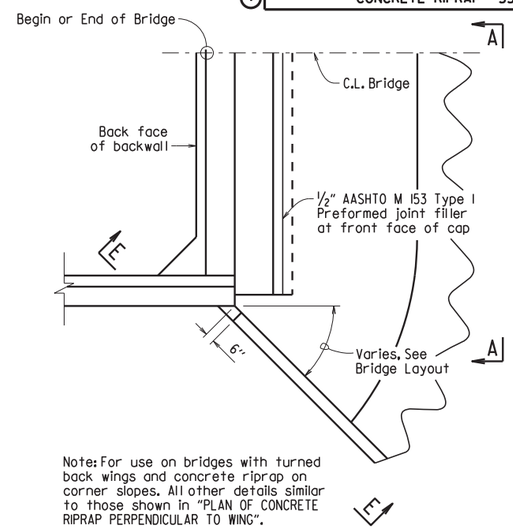
Note:
For use on bridges with concrete riprap on corner slope. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".

PLAN OF CONCRETE RIPRAP
AT ANGLE TO WING
¼" = 1'-0"

Note:
For use on bridges with turned back wings. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".



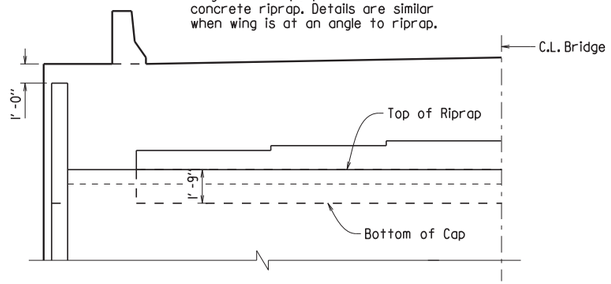
PLAN OF CONCRETE RIPRAP
PERPENDICULAR TO TURNED BACK WING
¼" = 1'-0"



Note: For use on bridges with turned back wings and concrete riprap on corner slopes. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".

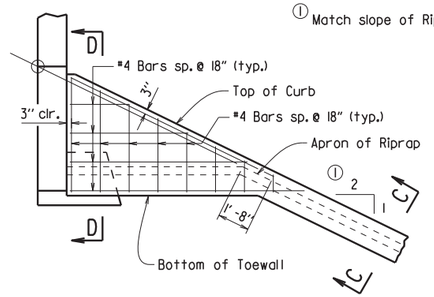
PLAN OF CONCRETE RIPRAP
AT ANGLE FROM TURNED BACK WING
¼" = 1'-0"

Note:
Wing is shown perpendicular to concrete riprap. Details are similar when wing is at an angle to riprap.

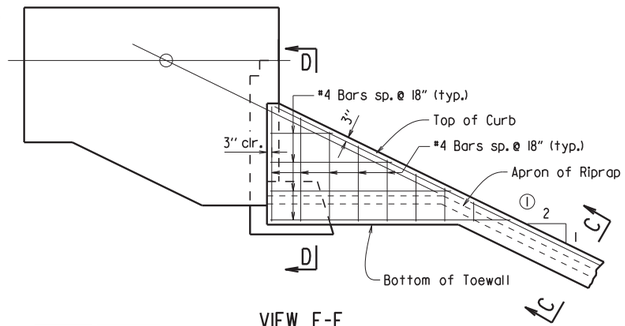


VIEW A-A
¼" = 1'-0"

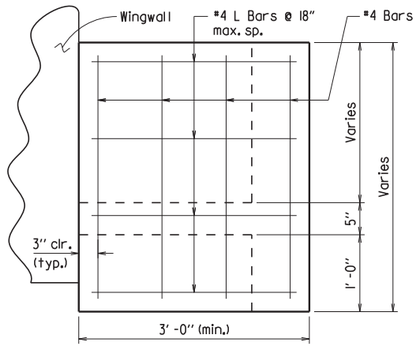
① Match slope of Riprap Apron.



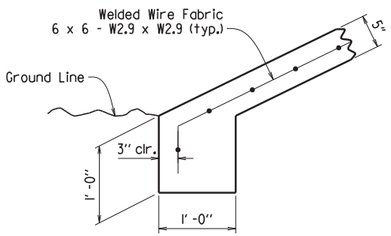
VIEW B-B
¼" = 1'-0"



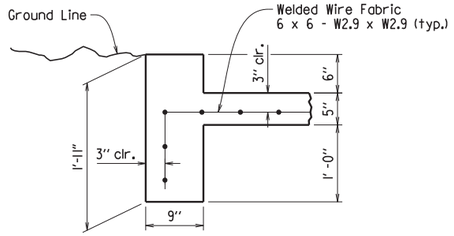
VIEW E-E
¼" = 1'-0"



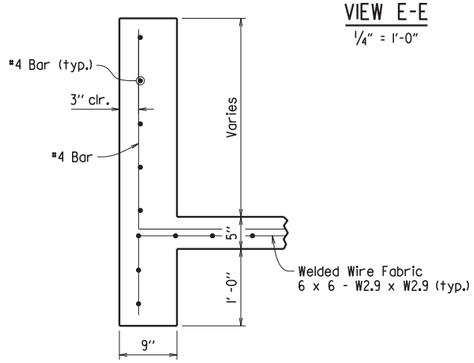
VIEW F-F
1" = 1'-0"



TOE OF CONCRETE RIPRAP
1" = 1'-0"



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



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

GENERAL NOTES

All concrete shall be Class A with a minimum compressive strength, f'c = 2,100 psi.

Welded wire fabric shall conform to AASHTO M55 or M221.

STANDARD DETAILS FOR CONCRETE RIPRAP

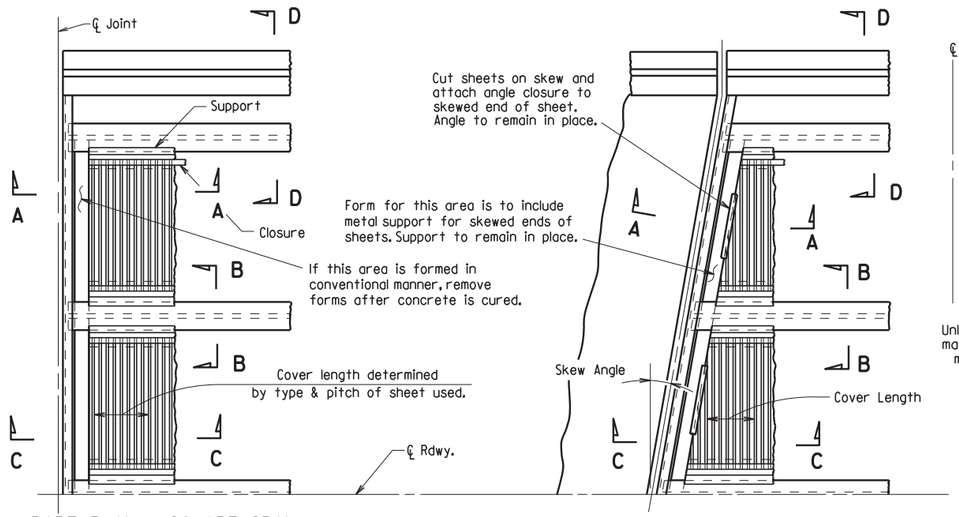
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 2/27/2014 FILENAME: b55002.dgn
CHECKED BY: BEF DATE: 2/27/2014 SCALE: AS SHOWN
DESIGNED BY: Std. DATE: ---

DRAWING NO. 55002

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				
				①	BRIDGE DECK FORMS		55005	

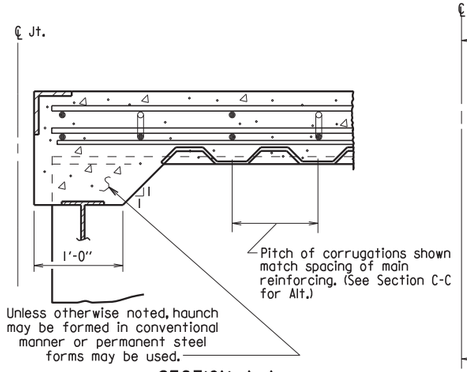


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

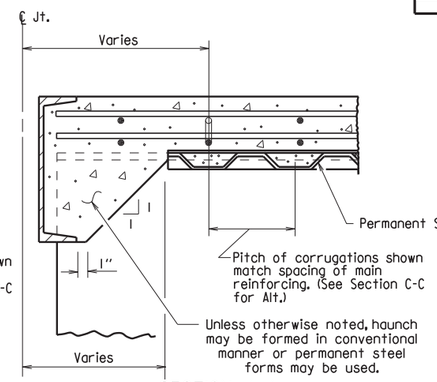
PART PLAN - SKEWED SPAN

3/8" = 1'-0"



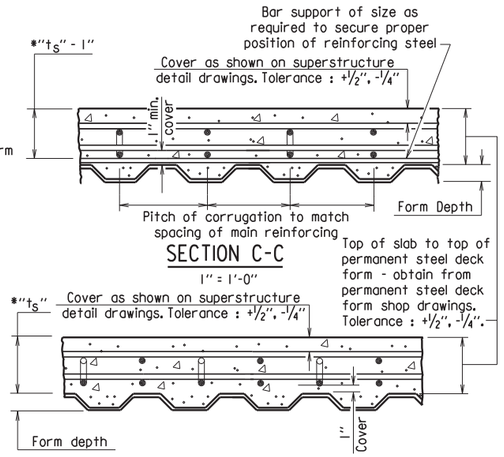
SECTION A-A

N.T.S.
(Angle at end of span)



SECTION A-A

N.T.S.
(Channel at end of span)

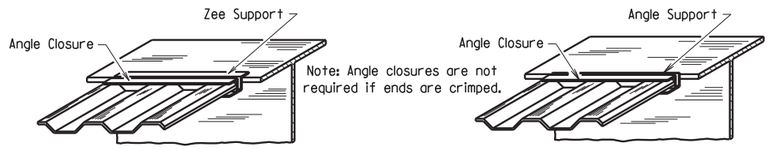


SECTION C-C

1" = 1'-0"

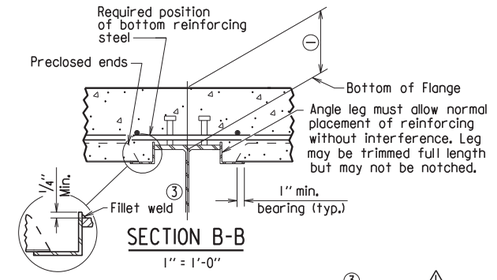
SECTION C-C - ALTERNATE

1" = 1'-0"
(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

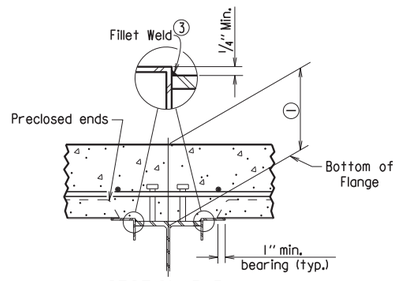
N.T.S.



SECTION B-B

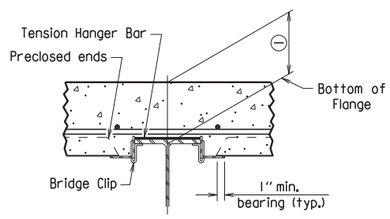
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

③ ⚠ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



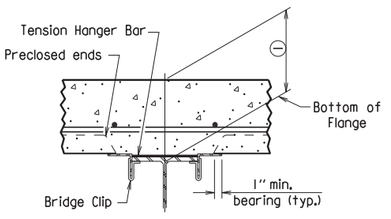
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



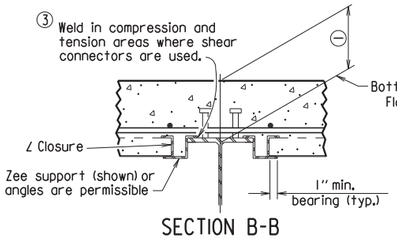
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



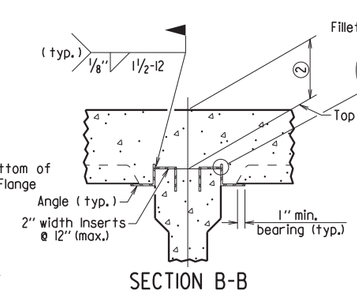
SECTION B-B

1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



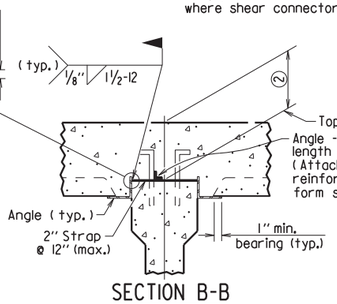
SECTION B-B

1" = 1'-0"
(Showing ∠ Closure)



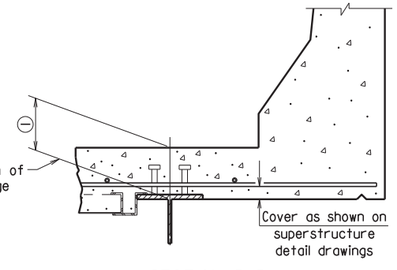
SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Insert cast in girder)



SECTION B-B (FOR CONCRETE GIRDERS)

1" = 1'-0"
(Showing support by Strap)



SECTION D-D

1" = 1'-0"
Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
						GENERAL NOTES		55006

(1)

GENERAL NOTES

These GENERAL NOTES are applicable unless otherwise shown in the Plan Details, Special Provisions, or Supplemental Specifications.

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 Specifications.

DESIGN SPECIFICATIONS: See Bridge Layout(s).

SUPERSTRUCTURE NOTES:

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy =	60,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy =	36,000 psi
Structural Steel (AASHTO M 270, Gr. 50)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy =	50,000 psi
Structural Steel (AASHTO M 270, Gr. HPS70W)	Fy =	70,000 psi

See Plan Details for Grade(s) of Structural Steel required.

CONCRETE:

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Use of a longitudinal screed is not permitted on any span of a bridge deck with horizontal curvature.

The concrete deck (roadway surface) shall be given a tine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Sidewalks shall receive a broomed finish as specified for final finishing in Subsection 802.19 for Class 6 Broomed Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam or girder. When permitted, the use of a longitudinal strike-off will require that a vertical camber adjustment be made in the strike-off to account for the future dead load deflection due to any railings, median barrier, and sidewalks.

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports and shall be epoxy coated. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)".

STRUCTURAL STEEL (COMMON TO W-BEAMS AND PLATE GIRDERS):

Structural steel shall be AASHTO M 270 with grade and payment as specified in the plans. Grade 50W steel shall not be painted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e). Grade 36 and Grade 50 steel shall be painted unless otherwise noted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84. Structural steel completely embedded in concrete may be AASHTO M 270, Gr. 36, Gr. 50 or Gr. 50W unless otherwise noted.

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

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Unless otherwise noted, field connections shall be bolted with ¾" ø high-strength bolts using 13/16 " ø open holes. Holes for ¾" ø high-strength bolts may be 15/16 " ø if a washer is supplied for use under both the nut and head of the bolt. The use of oversized holes will not be allowed on main members unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam or girder webs and on the bottom of the beam or girder flanges.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the Manufacturer.

When painting is required, all structural steel except galvanized steel and steel completely encased in concrete shall be painted in accordance with Subsection 807.75. The color of paint shall be as specified in the plans.

STRUCTURAL STEEL (W-BEAMS):

All beams and field splice plates, and all diaphragms and connection plates attached to horizontally curved beams are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M 270, Gr. ___)".

All beams in continuous units and simple spans with field splices shall be blocked in their true position in the shop in groups as specified in Subsection 807.54(b)(2) with the webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All beams in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Bent plate diaphragms for horizontally curved beams shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight beams may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved beams.

Unless otherwise noted, diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

STRUCTURAL STEEL (PLATE GIRDERS):

All references to cross-frames shall include "X" or "K" types.

All girder web and flange plates, all field splice plates, and all diaphragms, cross-frames and connection plates attached to horizontally curved girders are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

All girders in continuous units and simple spans with field splices shall be assembled in the shop as specified in Subsection 807.54(b)(2) and blocked in their true position with webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram.

All girders in simple spans without field splices shall be blocked in their true position with webs horizontal. The camber, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records.

Web and flange plates for main members and flange splice plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Girder webs may be made by shop splicing with minimum lengths of 25 feet for sections. Flange plates longer than 50 feet may be made by shop splicing with minimum lengths of 25 feet for sections. No additional payment will be made for shop welded splices.

All girder dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

Groove welds in web and flange plates shall be Quality Control (Q.C.) tested by nondestructive testing, as required in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Q.C. testing shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M 270, Gr. ___)".

Bent plate diaphragms for horizontally curved girders shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses. Bent plate diaphragms for straight girders may be cut and fabricated in accordance with Subsection 807.35 or as required for horizontally curved girders.

Unless otherwise noted, cross-frames and diaphragms shall be installed as girders are erected. All bolts in cross-frames, diaphragms, and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck.

SUBSTRUCTURE NOTES:

CONCRETE:

Unless otherwise noted, concrete in caps, columns and footings (except seal footings) shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. Seal Concrete for footings shall have a minimum 28 day compressive strength f'c = 2,100 psi.

Concrete in drilled shafts shall be Class "S" as modified by Job SP "Drilled Shaft Foundations".

All exposed corners shall be chamfered ¾" unless otherwise noted.

REINFORCING STEEL:

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

STRUCTURAL STEEL:

Structural steel in end bents shall be AASHTO M 270 with grade and payment as specified in the plans.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

FOR ADDITIONAL INFORMATION AND NOTES, SEE LAYOUT(S) AND PLAN DETAILS.

STANDARD GENERAL NOTES
FOR STEEL BRIDGE STRUCTURES

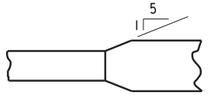
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 9-2-2015 FILENAME: b55006.dgn
CHECKED BY: B.E.F. DATE: 9-2-2015 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55006

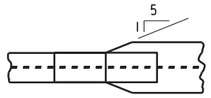
PRINT DATE: 11/7/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	STEEL BRIDGE STRUCTURES 55007			

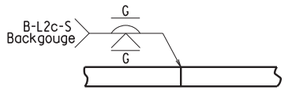


Plan-Unequal Width (Flg.)

FLANGE SPLICE

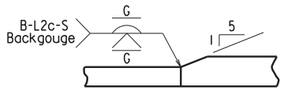


FLANGE SPLICE AT UNEQUAL BOTTOM FLANGE WIDTHS



Equal Thickness

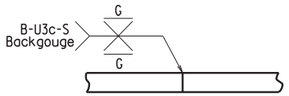
WEB & FLANGE SPLICE



Unequal Thickness

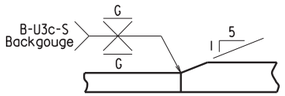
FLANGE SPLICE

(Use when Base Metal Thickness is Equal to or Less than 2")



Equal Thickness

WEB & FLANGE SPLICE

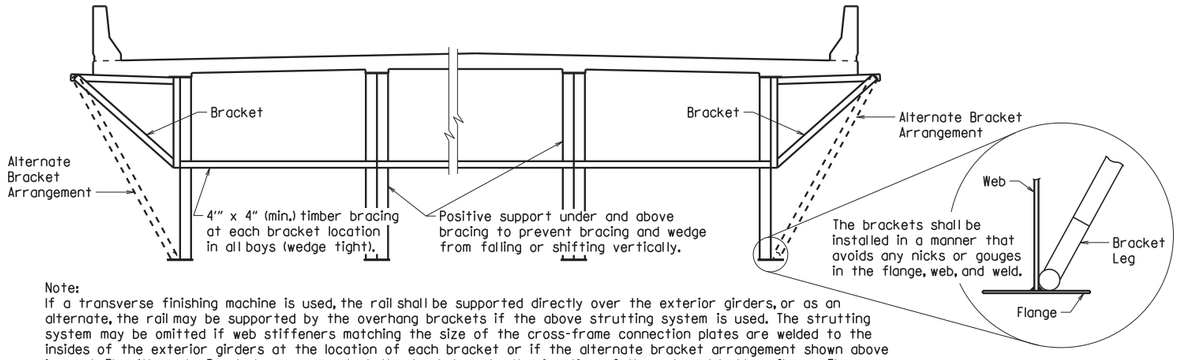


Unequal Thickness

FLANGE SPLICE

(Use when Base Metal Thickness is Greater than 2")

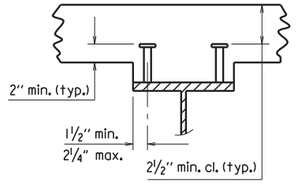
DETAILS OF WELDED SPLICES FOR PLATE GIRDERS



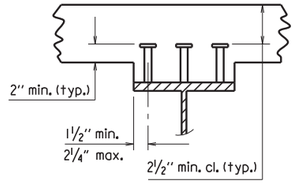
Note:
If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if the above strutting system is used. The strutting system may be omitted if web stiffeners matching the size of the cross-frame connection plates are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown above is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for cross frame connection plates shown on the plans. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (___)".

SCREED RAIL SUPPORT FOR PLATE GIRDERS

(USE WHEN WEB DEPTHS ARE 48" OR GREATER)



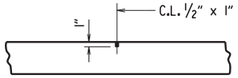
2 STUDS PER ROW



3 STUDS PER ROW

Stud Shear Connectors shall be automatically end welded to the beam or girder flange in accordance with the recommendations of the Manufacturer. See plan details for number and size.

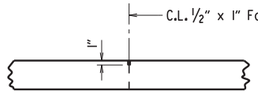
SHEAR CONNECTOR DETAIL



Use Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab Joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline.

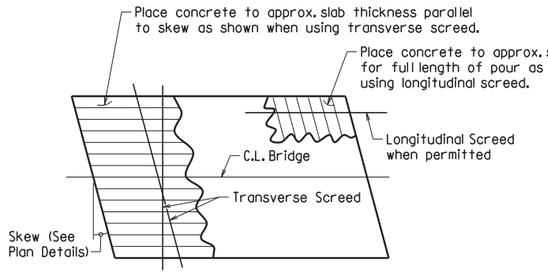
ADDITIONAL NOTES IF SIDEWALKS OR RAISED MEDIANS ARE REQUIRED:
Slab Joints shall be installed before the sidewalk or raised median is poured. After installation of the joint in the sidewalk or raised median and prior to pouring the parapet rail, the joint sealer shall be placed extending across the deck slab from gutterline to gutterline and acrosss the top of the sidwalk or raised median to the edge of the slab. No joint sealer shall be placed on the deck slab under the sidewalk or raised median.

TRANSVERSE SLAB JOINT DETAIL



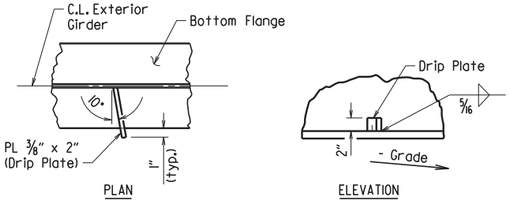
Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal color shall be gray or other color similar to concrete.

LONGITUDINAL CONSTRUCTION JOINT



Note: At the Contractor's option, the transverse screed may be placed parallel to the skew or perpendicular to C. L. Bridge.

CONCRETE PLACEMENT PROCEDURE FOR BRIDGES WITH SKEW



PLAN

ELEVATION

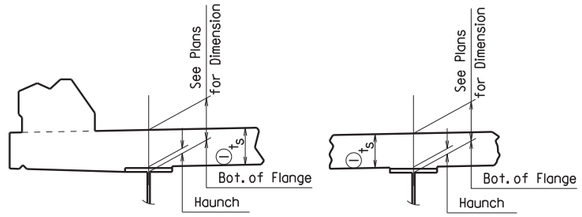
Drip Plate to be welded to the outer side of the bottom flange of the exterior girders.

Locate drip plate 5'-0" from C.L. Bearing on high side of each Bent, unless otherwise noted in the plans.

BOTTOM FLANGE DRIP PLATE

(USE WHEN WEB DEPTHS ARE 54" OR GREATER AND UNIT OR SPAN IS NOT IN LEVEL GRADE)

t_s = slab thickness. See "Typical Roadway Section" in the plans.



EXTERIOR BEAM OR GIRDER

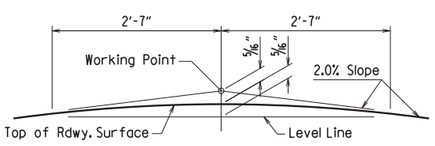
INTERIOR BEAM OR GIRDER

① Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

NOTES:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1¾" unless otherwise noted in the plans. No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

BRIDGES IN NORMAL CROWN

WELD TABLE

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼"	
Over ¾"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

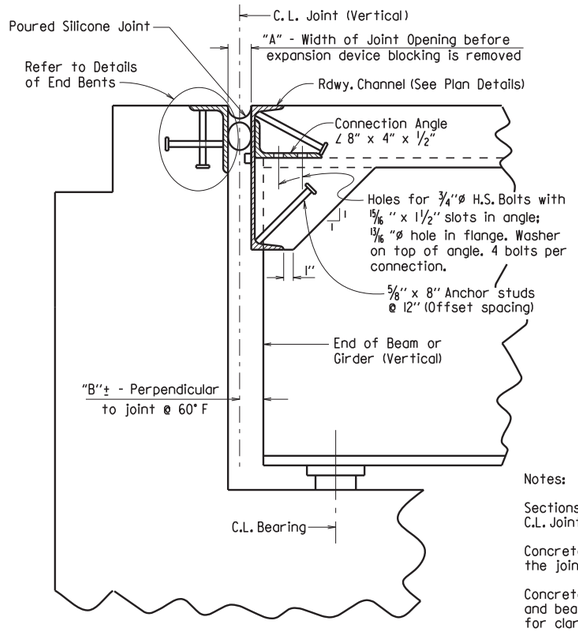
DRAWN BY: JYP DATE: 2/11/2016 FILENAME: b55007.dgn

CHECKED BY: AMS DATE: 2/11/2016 SCALE: No Scale

DESIGNED BY: STD. DATE: —

DRAWING NO. 55007

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				①	POURED SILICONE JOINT			55008



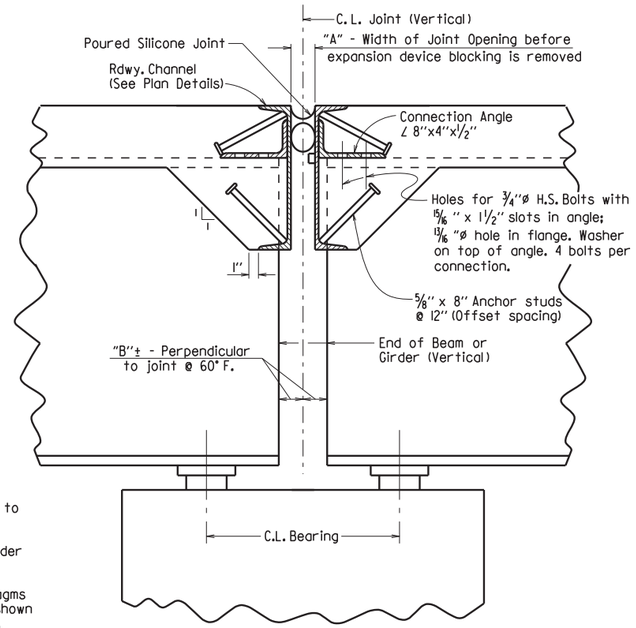
SECTION THRU JOINT AT END BENT

Notes:

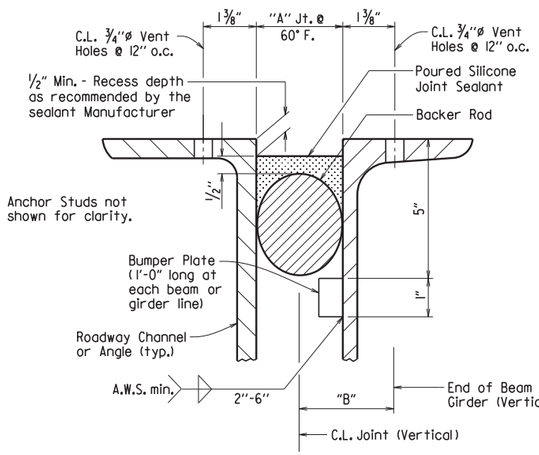
Sections are taken perpendicular to C.L. Joint.

Concrete shall be hand packed under the joint armor.

Concrete diaphragms, steel diaphragms and bearing stiffeners are not shown for clarity. See plans for details.



SECTION THRU JOINT AT INTERMEDIATE BENT



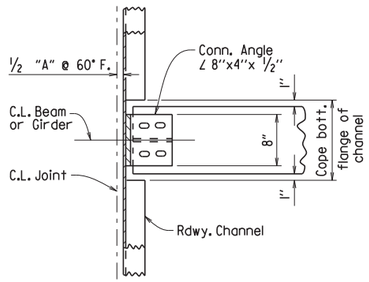
DETAIL OF POURED SILICONE JOINT

Silicone joint material and installation shall conform to Section 809. The temperature limitations recommended by the sealant Manufacturer shall be observed. The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80° F.

Use an appropriately sized backer rod at the depth shown in the Manufacturer's literature based on the joint width at the time of sealing. Unless otherwise noted, do not install more backer rod than can be sealed in the same day.

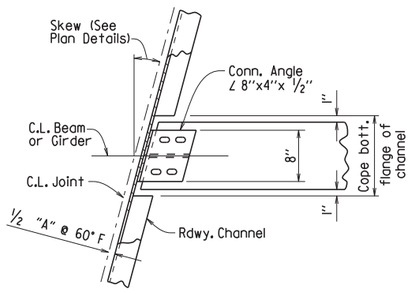
The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.

When bridge deck is constructed in stages, backer rods shall be extended beyond length of poured joint in initial construction stage so that the two pieces can be properly spliced together prior to installing sealant in subsequent stages. Manufacturer's recommendations shall be followed to prevent sealant from "running out of joint" during stage construction.



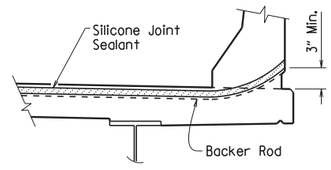
CHANNEL CONNECTION DETAIL

BENTS WITHOUT SKEW

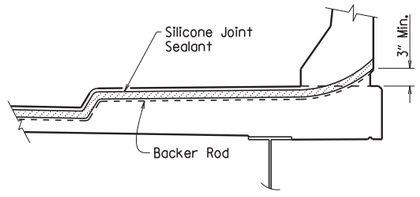


CHANNEL CONNECTION DETAIL

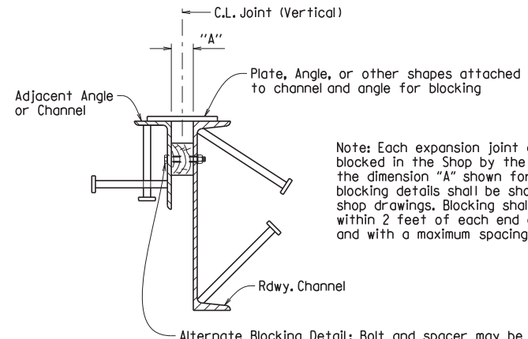
BENTS WITH SKEW



JOINT SEAL PLACEMENT AT RAIL



JOINT SEAL PLACEMENT AT SIDEWALK



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

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

EXPANSION DEVICE INSTALLATION AT END BENTS:

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

1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams or girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, and the opening adjusted for temperature and grade.

2) The backwall shall be poured to the optional construction joint after beams or girders are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature and grade.

EXPANSION DEVICE INSTALLATION AT INTERMEDIATE BENTS:

After all beams or girders on each side of the joint are erected the blocked expansion device shall be installed and adjusted for grade. Deck concrete shall be placed for the entire unit or span on one side of the joint before deck concrete on the other side is placed. Connection bolts for the first side to have deck concrete placed shall be completely bolted. Bolts on the other side shall be loosely installed so that thermal and rotational movements will not be restricted during concrete placement on the first side.

Connection bolts on the second side shall remain loose until the concrete pour adjacent to the joint is to be placed. Immediately prior to pouring the span concrete on the second side, the blocking shall be removed, the joint adjusted for temperature and grade, and the connection bolts tightened.

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS. SEE "TABLE OF SILICONE JOINT DATA" IN PLAN DETAILS FOR VARIABLES "A" AND "B", AND BUMPER PLATE SIZE.

STANDARD DETAILS FOR POURED SILICONE JOINTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.C.P. DATE: 2/11/2016 FILENAME: b55008.dgn

CHECKED BY: A.M.S. DATE: 2/11/2016 SCALE: No Scale

DESIGNED BY: STD. DATE: —

DRAWING NO. 55008

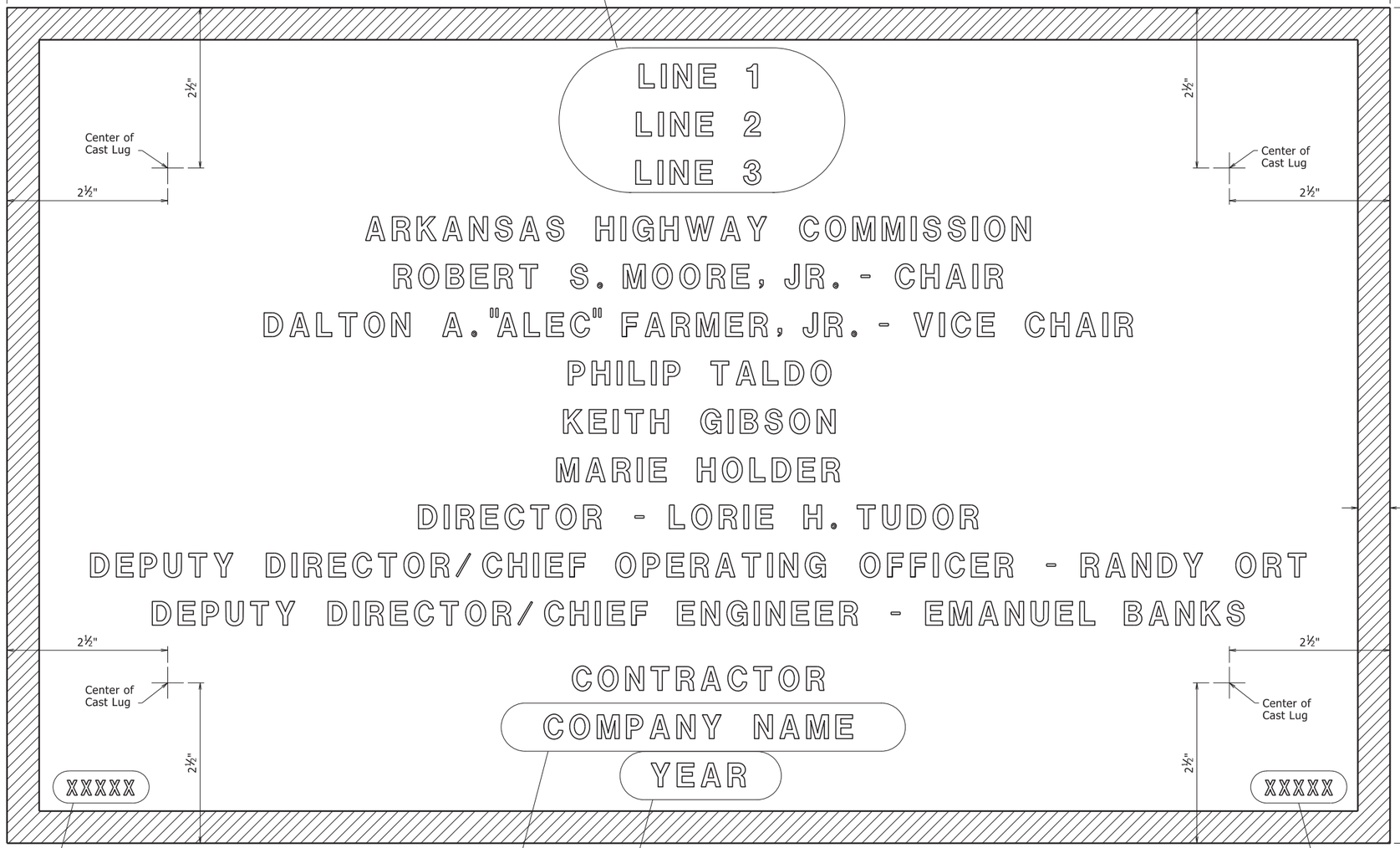
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
12-1-14		1-15-19	
1-14-15		3-24-2020	
1-17-17			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.				

(1) TYPE D NAME PLATE - 55010

The name of the bridge as shown on the plans shall be placed on Lines 1-3 using ⅛" raised letters and numerals ⅜" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



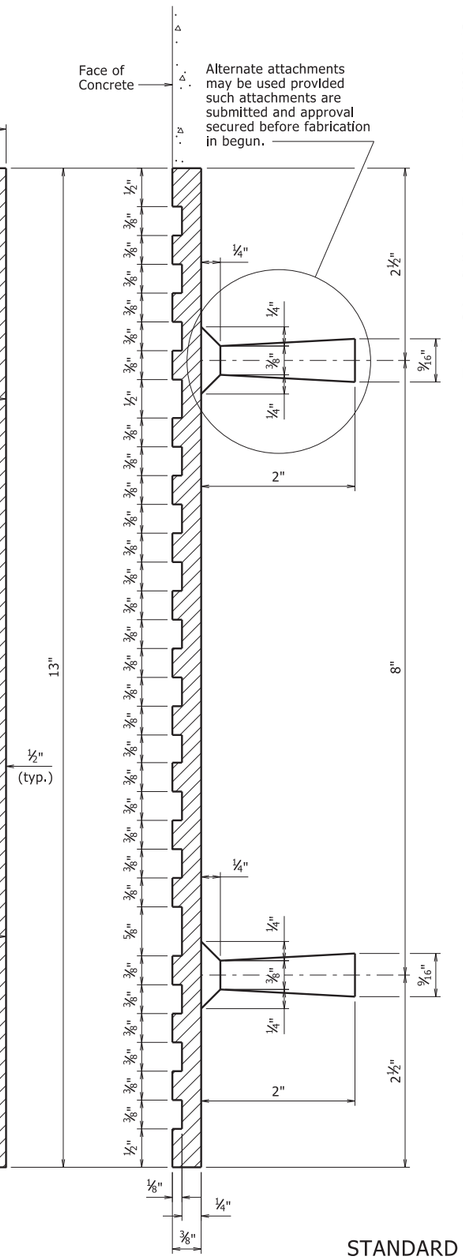
Place the design live loading here using ⅛" raised letters and numerals ¼" high. Examples: HS20, HL-93

Place the name of the company awarded the construction contract here using ⅛" raised letters and numerals ⅜" high. Example: ABCD CONSTRUCTION, INC.

Place the Year in which Contract was awarded here using ⅛" raised numerals ⅜" high. Example: 2001

Place the Bridge number here using ⅛" raised letters and numerals ¼" high. Examples: A1234, 05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be ¼" thick and shall include four tapering cone lugs ⅜" to 9/16" x 2" long. The border and all lettering shall be raised ⅛" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

(5) Revised Director, Deputy Director/Chief Operating Officer, Chair, Vice Chair and added New Commissioner
3-24-2020 CGP Checked By: CRE

(4) Revised Chair and Vice Chair Added New Commissioner
1-15-19 CGP Checked By: CRE

(3) Added New Commissioner
1-17-17 KDH Checked By: CRE

(2) Revised Chair and Vice Chair Added New Commissioner
1-14-15 KDH Checked By: CRE

(1) Revised Deputy Director/ Chief Engineer Added Deputy Director/ Chief Operating Officer
12-1-14 KDH Checked By: CRE

STANDARD DETAILS FOR
TYPE D BRIDGE NAME PLATE

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

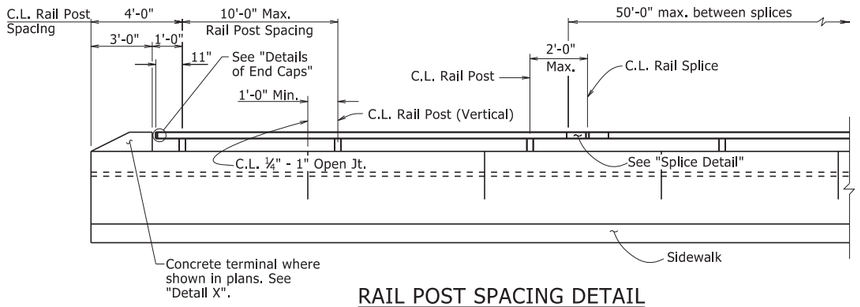
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55010

PRINT DATE: 4/6/2020

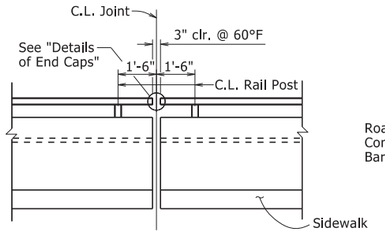
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

1 TYPE H2 RAILING - 55015

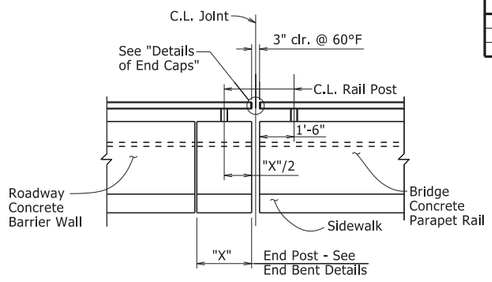


RAIL POST SPACING DETAIL

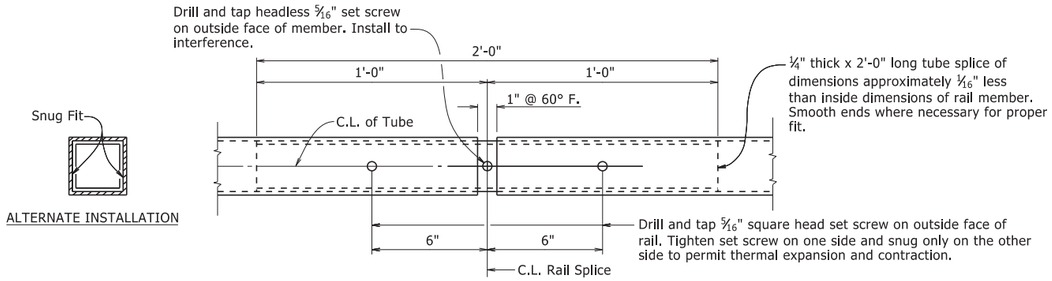
(Horizontal dimensions are along face of rail)



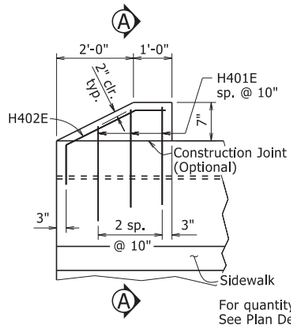
RAIL POST SPACING AT EXPANSION JOINTS



RAIL POST SPACING AT BRIDGE ENDS WITH CONCRETE BARRIER WALL

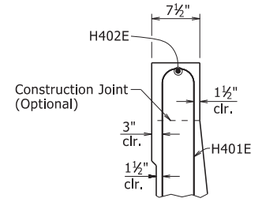


SPLICE DETAIL

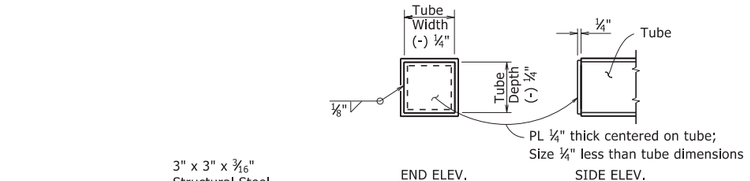


DETAIL X

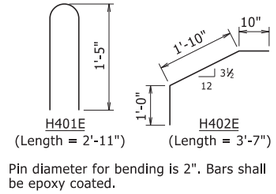
For quantity of reinforcing steel, See Plan Details.



SECTION A-A



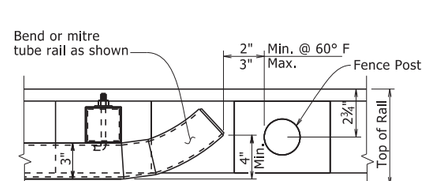
DETAILS OF END CAPS



Pin diameter for bending is 2". Bars shall be epoxy coated.

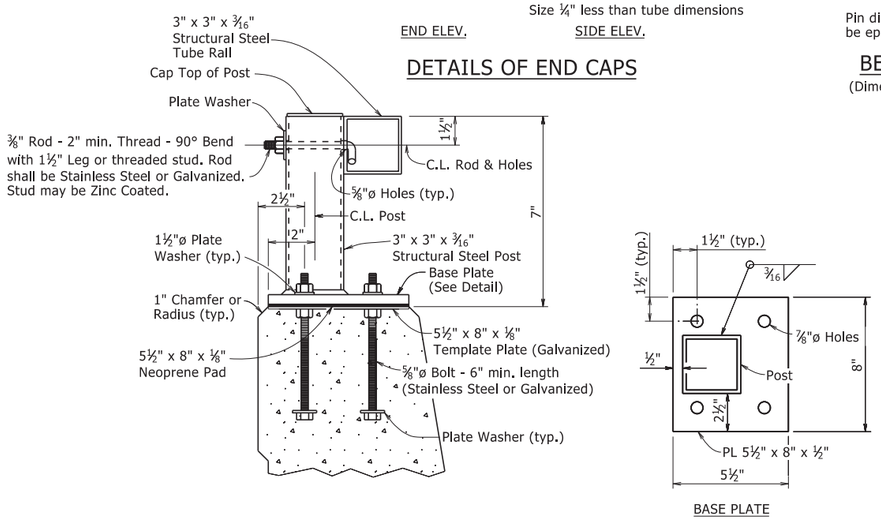
BENDING DIAGRAMS

(Dimensions are Out-to-Out of Bars)



DETAILS OF RAIL TERMINUS AT FENCE POST

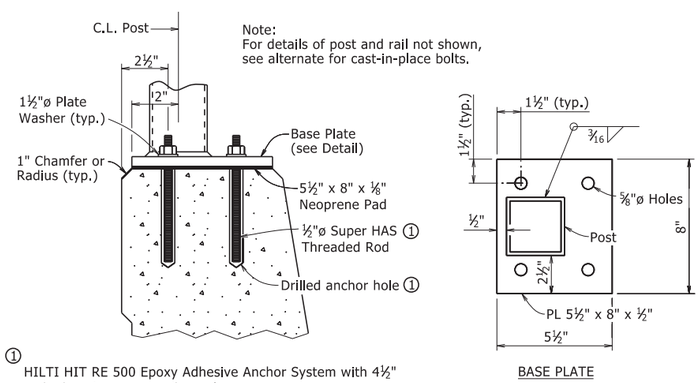
(When Chain Link Fence is Required)



BASE PLATE

DETAILS OF POST ANCHOR SYSTEM

(Cast-in-Place Bolts)



BASE PLATE

① HILTI HIT RE 500 Epoxy Adhesive Anchor System with 4½" embedment or approved equal.

The Hilti Epoxy Adhesive Anchor System (or approved equal) shall be installed in accordance with Manufacturer's recommendations.

DETAILS OF ALTERNATE POST ANCHOR SYSTEM

(Epoxy Adhesive Anchors)

MATERIALS:

Rail tubing, posts, end caps, and base plates shall conform to ASTM A709, Grade 36 or ASTM A500-Grade B, and shall be galvanized after fabrication in accordance with Subsection 806.02(c). When required elsewhere in the plans, steel rail members shall receive a powder coating process after galvanizing. Galvanized surfaces shall be prepared in accordance with Subsection 807.87 and the manufacturer's recommendations prior to application of the powder coating process.

The powder coating process shall be a two coat system applied using electrostatic spray. The base coat shall be a thermosetting epoxy powder with a minimum thickness of 2 to 4 mils. The top coat shall be tough polyester powder with a minimum thickness of 2 to 4 mils. The color shall be as shown in the plans. Coated galvanized framework shall have a salt spray resistance of 3,000 hours using ASTM B117 without loss of adhesion. The powder coating process shall be in accordance with manufacturer's recommendations. Any damage to the powder coated finish shall be repaired with a compatible touch-up system in accordance with the manufacturer's recommendations and to the satisfaction of the Engineer at the Contractor's expense.

Cast-in-place anchor bolts, nuts, washers, and set screws shall be galvanized high-strength steel or stainless steel. Mixing of galvanized and stainless steel fasteners will not be permitted.

High-Strength Steel:
Cast-in-place anchor bolts shall conform to ASTM F3125, Grade A325, Type 1.
Nuts shall conform to ASTM A563, Grade DH or AASHTO M 292, Grade 2H.
Washers shall conform to ASTM F436.
Plate Washers shall conform to ASTM A709, Grade 36.
Template Plates shall conform to ASTM A709, Grade 36.
Splice Set Screws shall conform to ASTM A307, Grade A.
Anchor bolts, nuts, washers, plate washers, and set screws shall be galvanized in accordance with AASHTO M 232, Class C or ASTM B695, Class 50.

Stainless Steel:
Cast-in-place anchor bolts shall conform to ASTM A193, Grade B8, Class 2 or A320, Grade B8, Class 2 with a minimum yield strength of 80,000 psi.
Nuts shall conform to ASTM A194, Grade 8.
Washers shall conform to ASTM A240, Type 302.
Plate Washers shall conform to ASTM A240, Type 302.
Template Plates shall conform to ASTM A240, Type 302.
Splice Set Screws shall conform to ASTM A193, Grade B8, Class 1 or A320, Grade B8, Class 1.

Threads on bolts, screws, and nuts shall conform to American Standard Coarse Series, Class 2 FIT, ASA Specification B1.1. Plate washers shall have dimensions meeting the requirements of ANSI/ASME B18.22.1, Type A plain washer (Wide Series) unless otherwise noted. Neoprene pads shall conform to the requirements of Subsection 807.15(b).

GENERAL NOTES FOR BRIDGE RAILING:

Rail layout shall conform to vertical and horizontal alignment of bridge. All posts shall be vertical. Rail sections shall be fabricated to attach to at least three posts.

Base plates shall not be placed upon areas that are improperly finished, deformed or irregular.

Bridge railing, including posts, templates, and base plates, fasteners, and neoprene pads shall be paid for at the contract unit price bid per linear foot for "Metal Bridge Railing (Type H2)". When required elsewhere in the plans, powdered coating finish and repair of powdered coating finish shall be considered subsidiary to the item "Metal Bridge Railing (Type H2)".

Shop drawings showing details of railing shall be submitted and approval secured prior to fabrication.

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR TYPE H2 RAILING

ARKANSAS STATE HIGHWAY COMMISSION

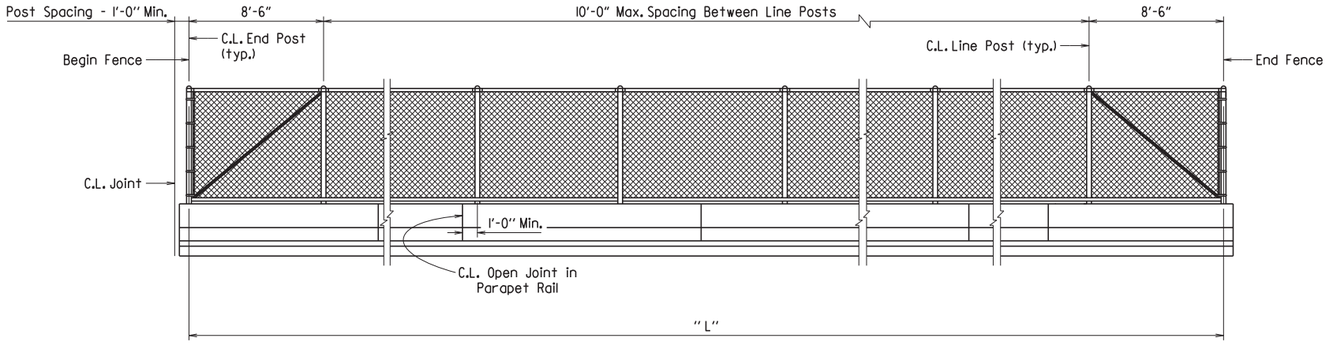
LITTLE ROCK, ARK.

DRAWN BY:	KJT	DATE:	6/25/2020	FILENAME:	b55015.dgn
CHECKED BY:	KWY	DATE:	6/25/2020	SCALE:	No Scale
DESIGNED BY:	STD.	DATE:	-		

BRIDGE NO. DRAWING NO. 55015

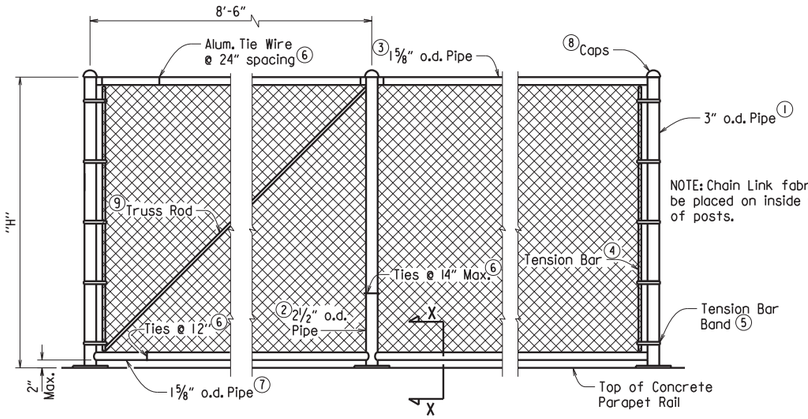
PRINT DATE: 7/22/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				(1)		CHAIN LINK FENCE	55018	



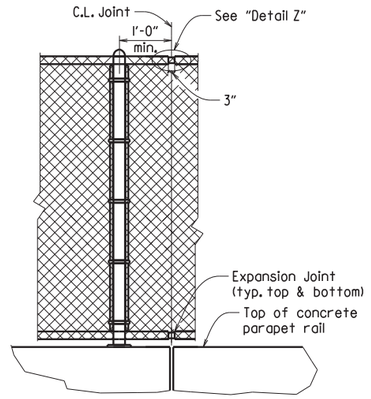
NOTE: The fence location, height "H", total length "L" and parapet panel spacing shall be as specified in plans.

LONGITUDINAL VIEW OF CHAIN LINK FENCE



NOTE: Chain Link fabric to be placed on inside face of posts.

DETAILS OF CHAIN LINK FENCE



DETAIL AT EXPANSION JOINTS

(1) END POST: 3" O.D.
(2) LINE POST: 2½" O.D.
(3) TOP RAIL: 1⅝" O.D.
(4) TENSION BAR: 3/16" x ¾" Bar
(5) TENSION BAR BAND: ¾"x .074 w/⅝"ø x 1¼" Bolt (1 Band Top and Bottom w/15" Max. spaces)
(6) TIE WIRE: 9 Ga. Aluminum
(7) BOTTOM RAIL: 1⅝" O.D.
(8) CAPS: All Posts shall be Capped and Shall Conform to ASTM F626-84
(9) TRUSS ROD: Min. of ⅝" Round with Tighteners and Fittings

FABRIC: 9 Ga. 2" Mesh w/Knocklug or Twisting Selvage

GENERAL NOTES FOR CHAIN LINK FENCE:

Fence layout shall conform to the vertical and horizontal bridge alignments. Fence posts shall be set plumb (true vertical position). Parapet rail concrete shall be at least 7 days old before stretching and securing fabric to posts.

Base plates shall not be placed upon areas that are improperly finished, deformed, or irregular.

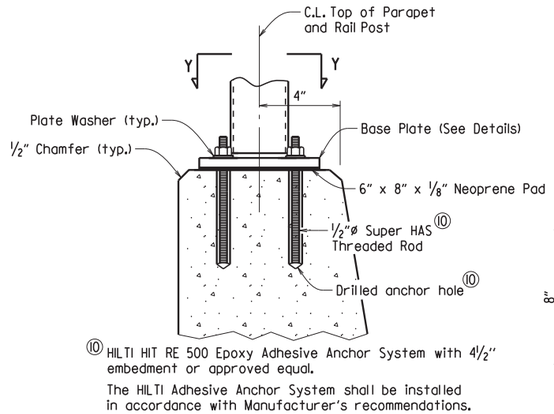
Chain Link Fence attached to Bridge, including neoprene pad and template plates, shall be paid for as "__' Steel Chain Link Fence". For additional details of Chain Link Fence, See Standard Drawing WF-3.

Cast-in-place anchor bolts, nuts, washers, and set screws shall be galvanized high-strength steel or stainless steel. Mixing of galvanized fasteners and stainless steel will not be permitted.

High-Strength Steel:
Cast-in-place anchor bolts shall conform to ASTM A325, Type 1.
Nuts shall conform to ASTM A563, Grade DH or AASHTO M 292, Grade 2H.
Washers shall conform to ASTM F436.
Plate Washers shall conform to AASHTO M 270, Grade 36.
Splice Set Screws shall conform to AASHTO M 270, Grade 36.
Anchor bolts, nuts, washers, plate washers, and set screws shall be galvanized in accordance with AASHTO M 232, Class C or ASTM B695, Class 50.

Stainless Steel:
Cast-in-place anchor bolts shall conform to ASTM A193 or A320-Grade B8 with a minimum yield strength of 80,000 psi.
Nuts shall conform to AASHTO M 292, Grade 8 or ASTM A563.
Washers shall conform to ASTM A240, Type 302.
Plate Washers shall conform to ASTM A240, Type 302.
Splice Set Screws shall conform to ASTM A193 or A320-Grade B8.

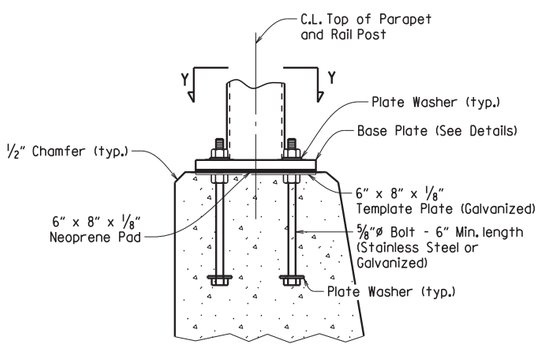
Threads on bolts, screws, and nuts shall conform to American Standard Course Series, Class 2 Fit, ASA Specification B1.1. Plate washers shall have dimensions meeting the requirements of ANSI/ASME B18.22.1, Type A plain washer (Wide Series). Neoprene pads shall conform to the requirements of Subsection 807.15(b).



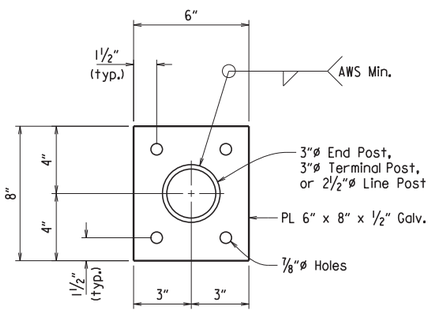
(10) HILTI HIT RE 500 Epoxy Adhesive Anchor System with 4½" embedment or approved equal.
The HILTI Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.

VIEW X-X VIEW Y-Y

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

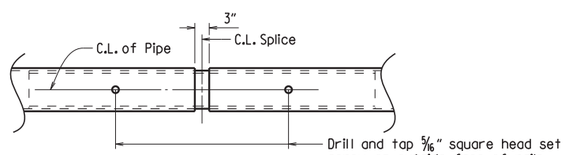


VIEW X-X



VIEW Y-Y

DETAILS OF POST ANCHOR SYSTEM (CAST-IN-PLACE BOLTS)



DETAIL Z

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR CHAIN LINK FENCE

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: E.O.R. DATE: 2-11-2016 FILENAME: b55018.dgn
CHECKED BY: A.M.S. DATE: 2-11-2016 SCALE: No Scale
DESIGNED BY: STD. DATE: ——

DRAWING NO. 55018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				
				①		STEEL H-PILES		55020

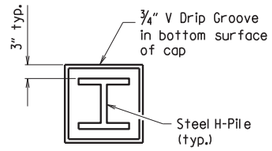
GENERAL NOTES FOR STEEL H-PILES:

Steel H-Piles shall conform to AASHTO M 270, Grade 36 or greater.

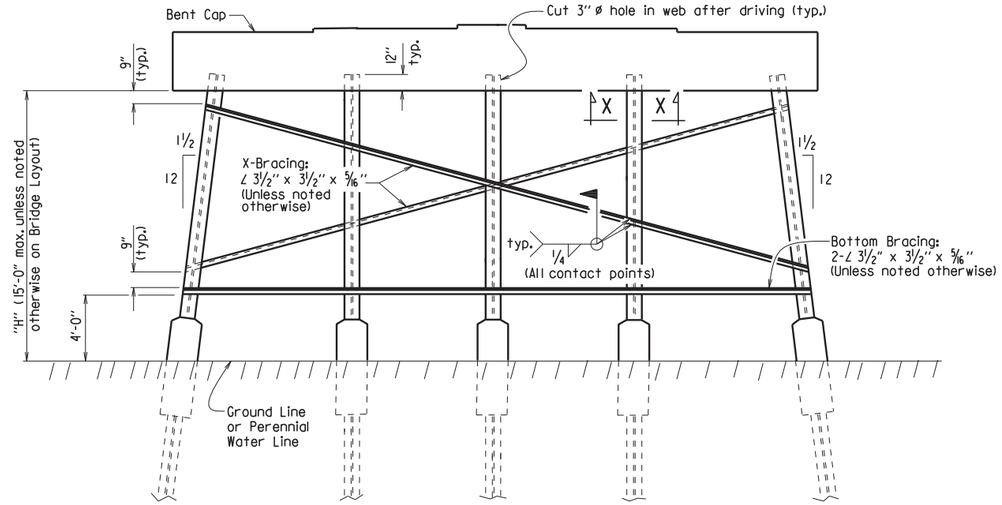
See Bridge Layout and Bent Details for pile size, estimated length, spacing, pile anchorage (if required) and for driving information.

Steel H-Piles that extend above the ground and are not protected by pile encasement shall be painted in accordance with Subsection 805.02.

Brackets, lugs, cap plates, pile tips, driving points, pile painting, splicing and welding shall not be paid for directly, but shall be considered subsidiary to the item "Steel Piling".



VIEW X-X



Notes:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under Item 807.

Unless noted otherwise, omit X-Bracing when "H" is less than 8 feet.

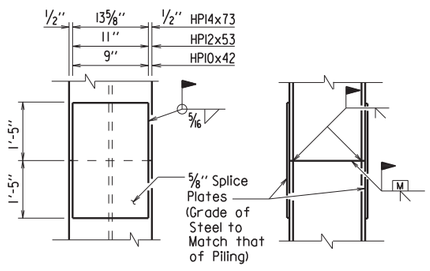
Omit X-Bracing and Bottom Bracing when "H" is 5 feet or less.

When required on the Bridge Layout sheet, pile encasements shall be constructed. See Notes and Details for H-Pile Encasements.

Omit all bracing (and V-groove in cap) when pile encasement is extended to bottom of bent cap.

TYPICAL DETAILS OF H-PILE TRESTLE INTERMEDIATE BENT

(Shown with Partial Height Encasement)



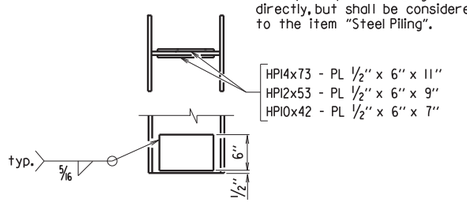
The Contractor may for his own convenience and at his own expense provide as many as three splices per pile. Minimum spacing between splices shall be 5 feet.

TYPICAL SPLICE DETAILS

⚠ H-pile splicers manufactured by Associated Pile and Fitting Corporation, LB Foster Piling, Skyline Steel or equivalent may be used in lieu of the "Typical Splice Details" shown. H-pile splicers shall match the same grade of steel specified for the piling and shall be welded to the pile with a 5/16" fillet weld around the entire perimeter of the splice. Flanges shall be welded with a complete penetration groove weld complying with AASHTO/AWS Joint Designation B-U4a or B-U4b. All welding shall conform to Subsection 807.26 of the AHTD Standard Specifcations for Highway Construction (2014 Edition).

Notes:
Steel pile tip reinforcing not required when approved H-Pile driving points are used.

Steel pile tip reinforcing shall not be paid for directly, but shall be considered subsidiary to the item "Steel Piling".



REINFORCING DETAIL FOR STEEL H-PILE TIP

GENERAL NOTES FOR H-PILE ENCASEMENTS:

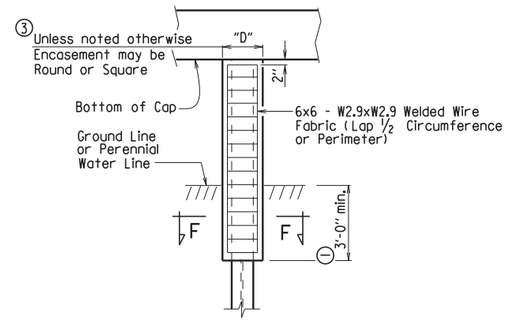
⚠ See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

All concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

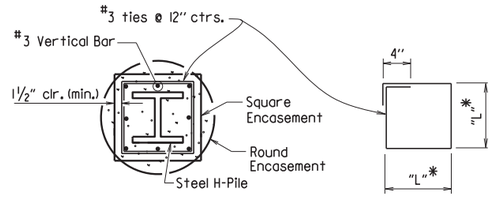
Welded Wire Fabric shall conform to AASHTO M 55 or M 221. Galvanized Corrugated Steel Pipe shall conform to AASHTO M 36 and M 218.

Concrete, welded wire fabric or reinforcing steel and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".



PILE ENCASEMENT DETAIL FOR STEEL H-PILES

④ (Shown with Encasement to Bottom of Cap)

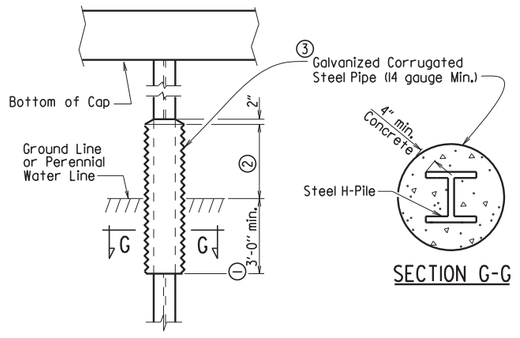


SECTION F-F

*Measured out-to-out of bar.

TABLE OF VARIABLES FOR PILE ENCASEMENT

Pile Size	"D" Square Encsmt.	"D" Round Encsmt.	"L"*
HP10x42	1'-7"	2'-0"	1'-4"
HP12x53	1'-8"	2'-2"	1'-5"
HP14x73	1'-11"	2'-6"	1'-8"



SECTION G-G

ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL H-PILES

(Shown with Partial Height Encasement)

① Unless otherwise noted on Bridge Layout.

② 3'-0" minimum or as shown on Bridge Layout.

③ Encasement dimensions shall be sized to maintain a minimum concrete cover of 4" from the H-Pile. Reinforcement shall be sized to provide a minimum concrete cover of 1½" and a minimum clearance of 1¼" from the pile.

④ Alternate pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the Partial Height Encasement detail.

⚠ Added alternate method of splicing H-piles and revised pile encasement note.
3/24/2016 AMS

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on March 24, 2016. This copy is not a signed and sealed document.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

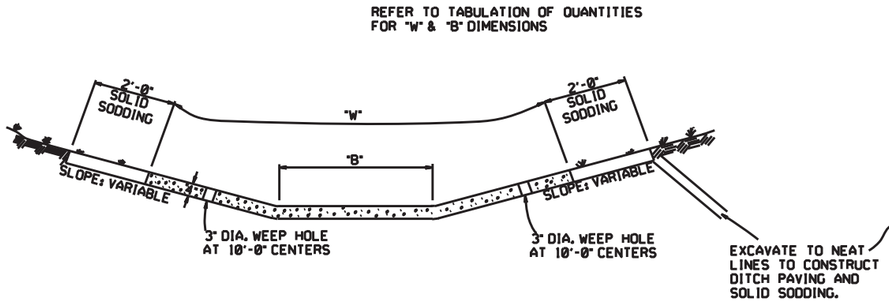
STANDARD DETAILS FOR STEEL H-PILES AND PILE ENCASEMENTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55020.dgn
CHECKED BY: B.E.F. DATE: 2/27/2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55020



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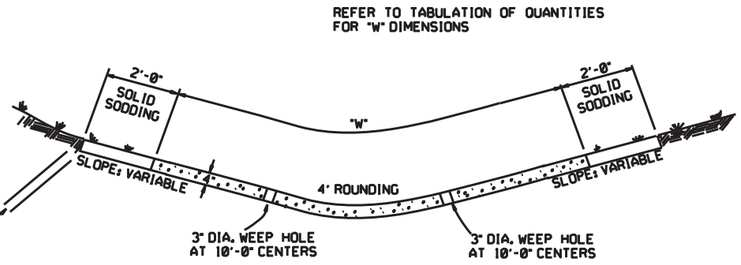
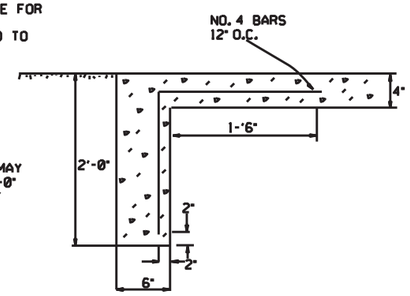


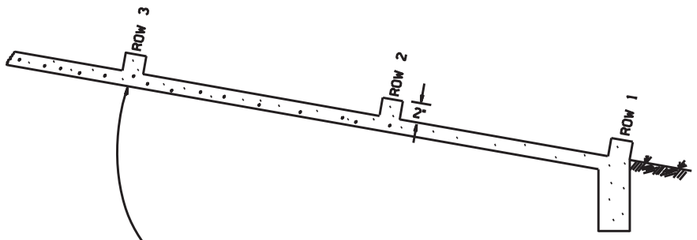
TYPE B

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 DETAIL FOR CONCRETE DITCH PAVING

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



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

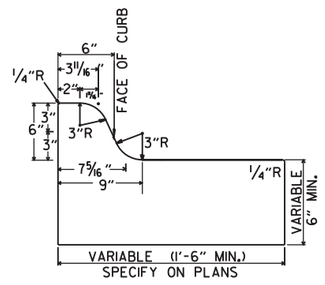
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45° INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1



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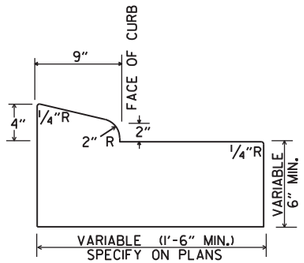

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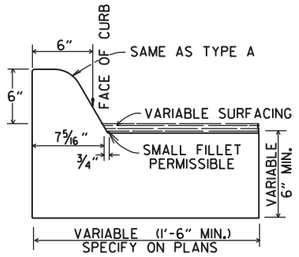

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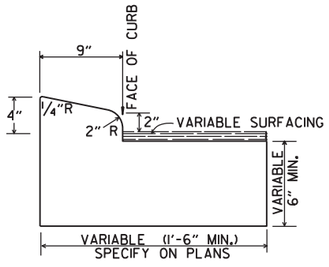

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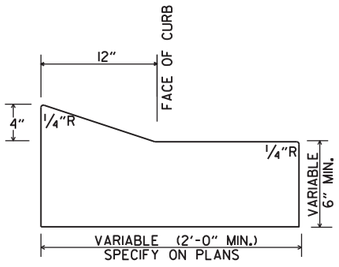
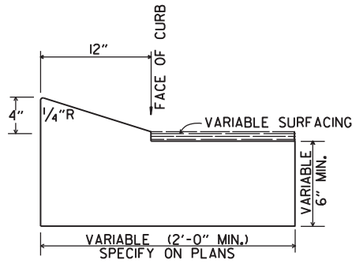
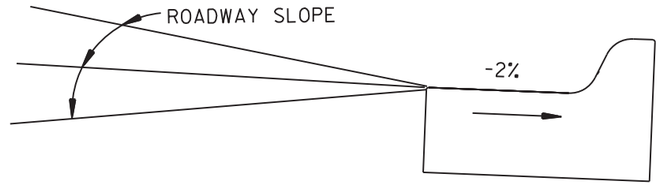


TYPE E-1



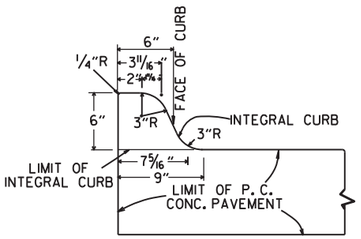
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER



DETAIL OF GUTTER SLOPE

GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



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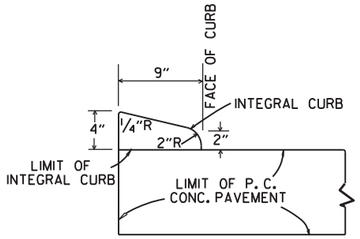

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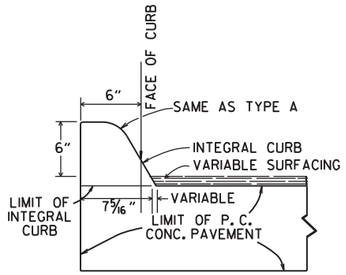
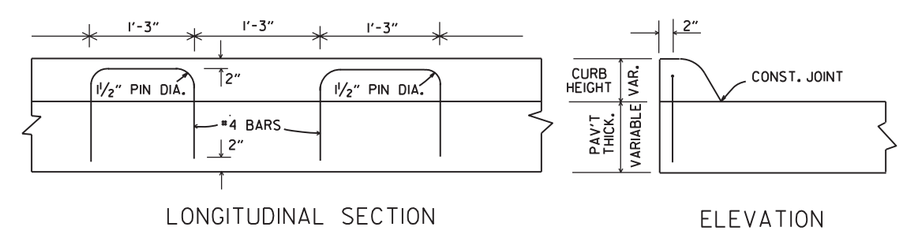


TYPE C

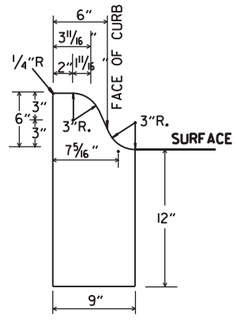
INTEGRAL CURB



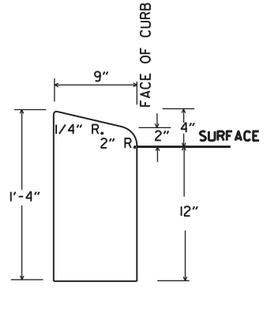
LONGITUDINAL SECTION

ELEVATION

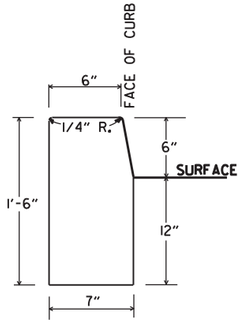
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



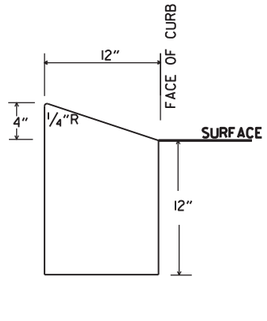
TYPE A



TYPE B

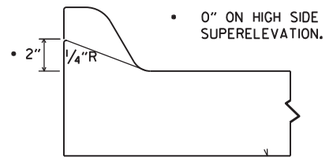


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

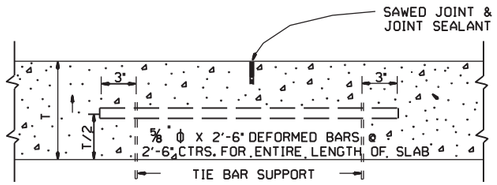
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

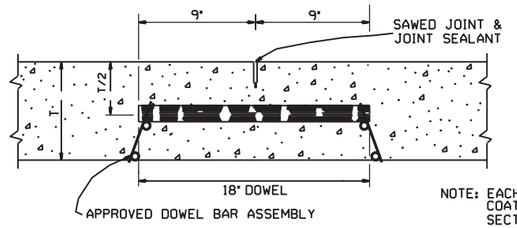
CURBING DETAILS

STANDARD DRAWING CG-1



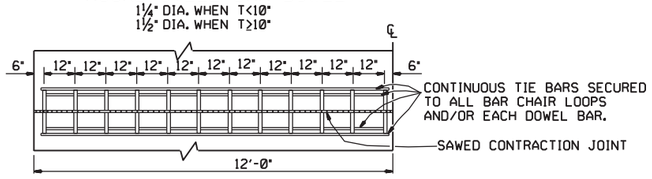
LONGITUDINAL JOINT

NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.
TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.



NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.

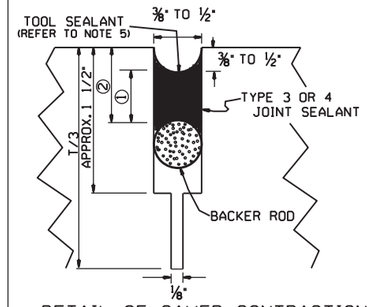
ROUND STEEL BAR DOWEL
1¼" DIA. WHEN T<10"
1½" DIA. WHEN T≥10"



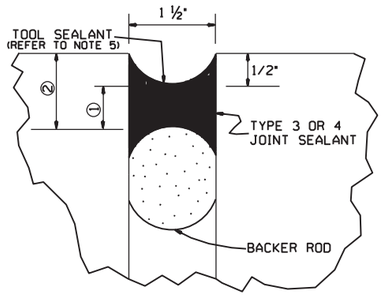
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR 26' PAVEMENT USE 26 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12" CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS



DETAIL OF SAWED CONTRACTION JOINT



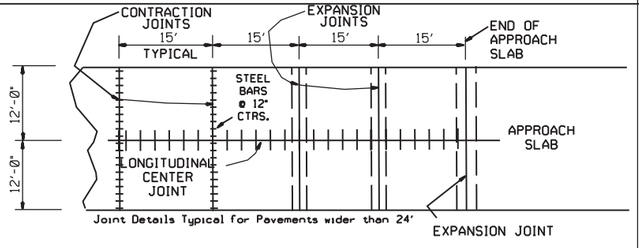
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

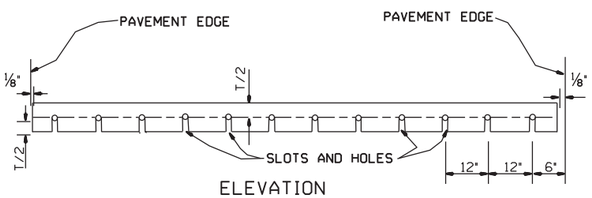
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	⅝	½
½	⅜	⅝	½
⅝	⅜	¾	⅝
¾	⅜	⅞	⅞
1 ½	¾	2	1 ¼

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	½	⅜	¾
⅜	¾	½	1

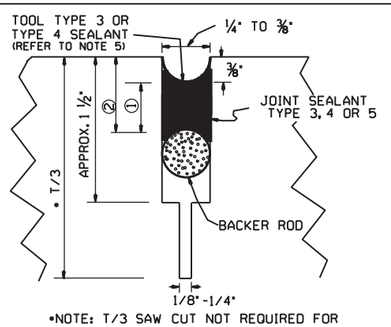


PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



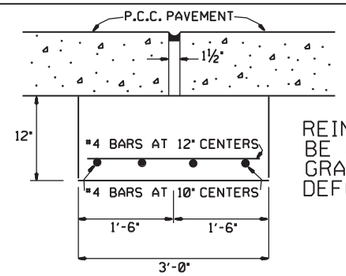
ELEVATION

NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



•NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

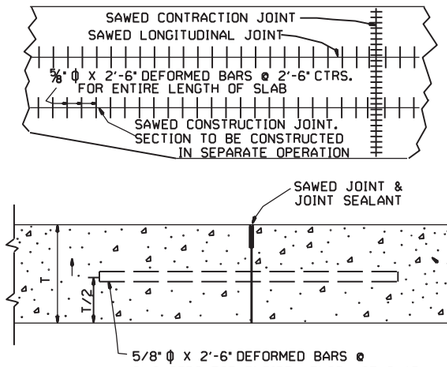
DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT



DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS

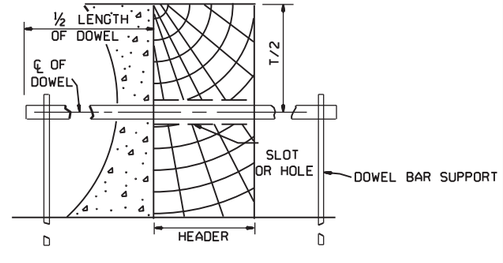
REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

GENERAL NOTES
1. "T" DENOTES THICKNESS OF SLAB.
2. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS ¼" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED FOR A MINIMUM DISTANCE OF 2" GREATER THAN HALF THE LENGTH OF THE BAR WITH AN APPROVED GREASE AS A BOND BREAKER JUST PRIOR TO PLACEMENT OF CONCRETE.
3. THE EXPANSION JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S" OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE SPECIFIED IN THE PLANS. PAYMENT FOR ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.
4. CONTRACTION JOINTS SHALL BE CONSTRUCTED ON 15' CENTERS.
5. TOOLING NOT REQUIRED FOR SELF-LEVELING SILICONE.
6. UNLESS OTHERWISE SPECIFIED IN THE PLANS, CONCRETE SHOULDERS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN HEREON. CONTRACTION JOINTS SHALL MATCH CONTRACTION JOINTS IN THE LANES.
7. TIE WIRES IN DOWEL BAR ASSEMBLIES SHALL NOT BE CUT PRIOR TO PLACEMENT OF PAVING CONCRETE.



NOTE: TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.

LONGITUDINAL CONSTRUCTION JOINT



SECTION

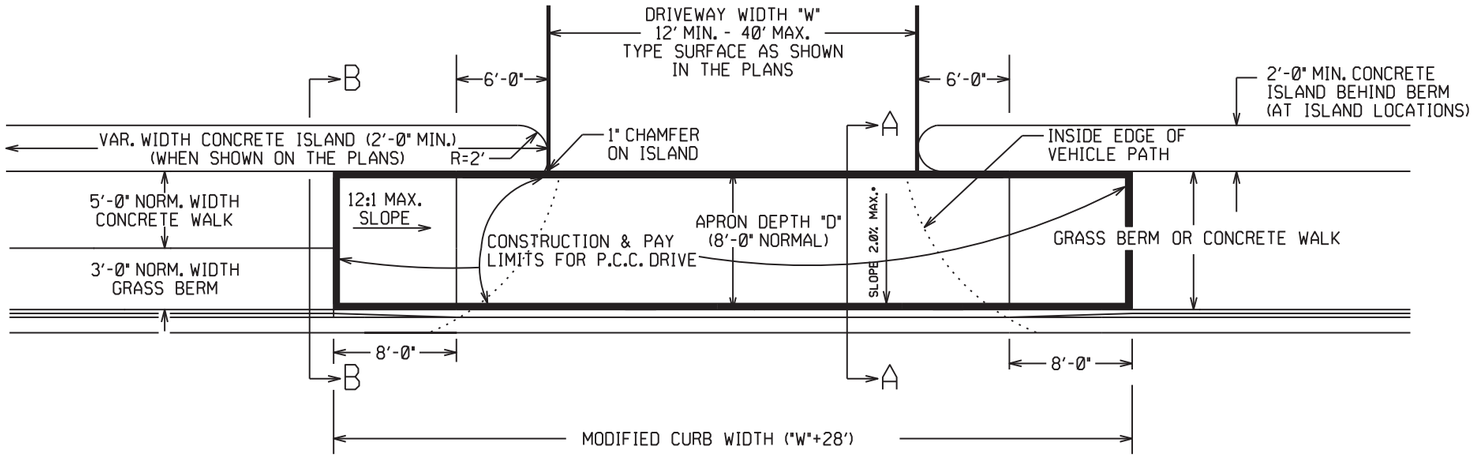
TRANSVERSE CONSTRUCTION JOINT

DATE	REVISION	DATE FILMED
11-07-19	REV. EXP. JOINT REF ON APP. SLAB	
5-25-06	ADDED GENERAL NOTE 7	
10-9-03	REMOVED TIE BAR COATING & REVISED GENERAL NOTES	
11-16-01	ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3	
4-26-96	REVISED CONTRACTION JOINT NOTE	
11- 3-94	ADDED NOTE RE: REINF. BARS	
4- 1-93	REVISED DOWEL BARS & GEN. NOTES	4- 1-93
10- 1-92	REVISED DOWEL SPACING	10- 1-92
8- 15-91	ADDED SPAC FOR CONTR JTS & DEL KEYWAY	
05-24-90	REVISED TIE BAR, DOWEL & JOINT SIZE	
01-25-90	ADDED EXPANSION JOINT	01-25-90
11-30-89	CHANGED T/4+1 TO T/3+1	11-30-89
03-23-89	ALTERED SAWED JOINT & ADDED NOTE	512-03-23-89
07-15-88	REVISED AND REDRAWN	632-07-15-88

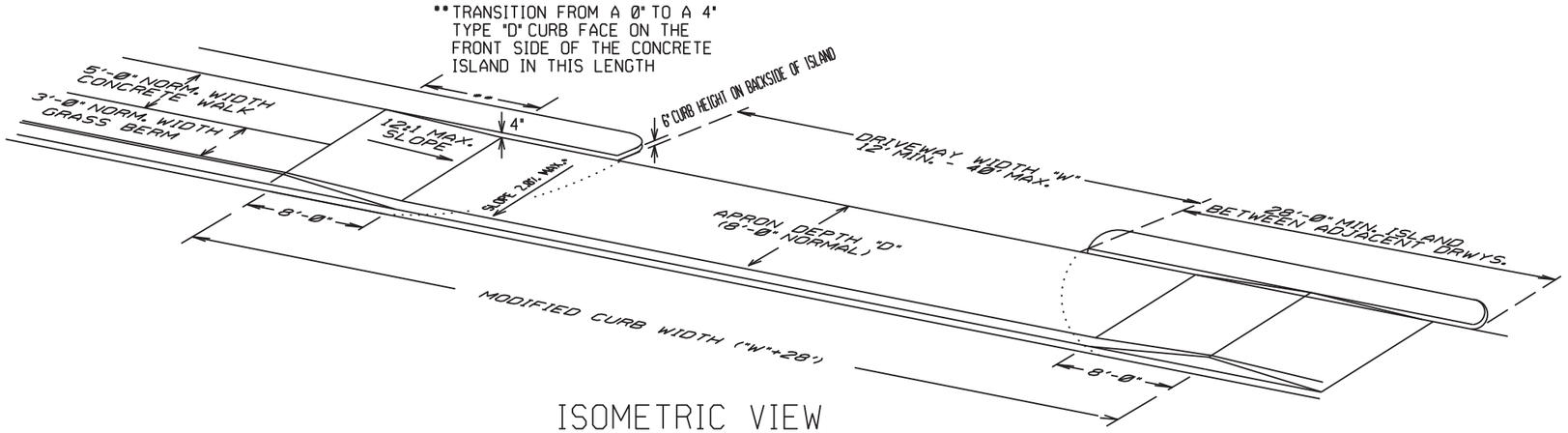
ARKANSAS STATE HIGHWAY COMMISSION

TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)

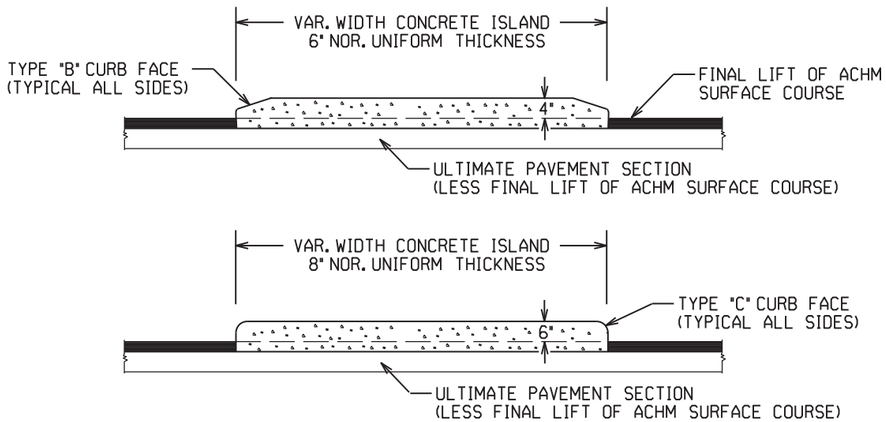
STANDARD DRAWING CPTJ - 6A



PLAN VIEW

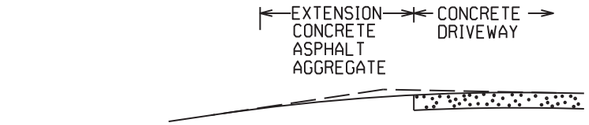


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

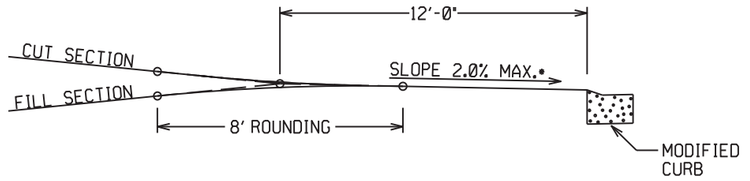
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

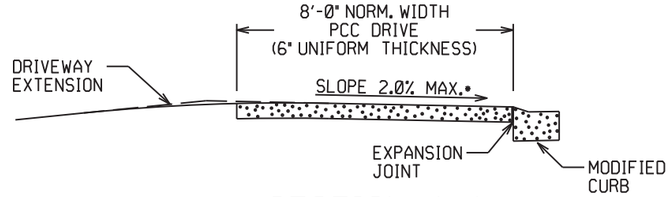
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

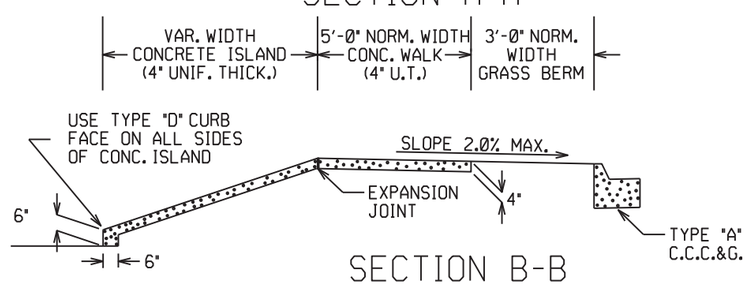


DRIVEWAY VERTICAL ALIGNMENT DETAILS

- NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



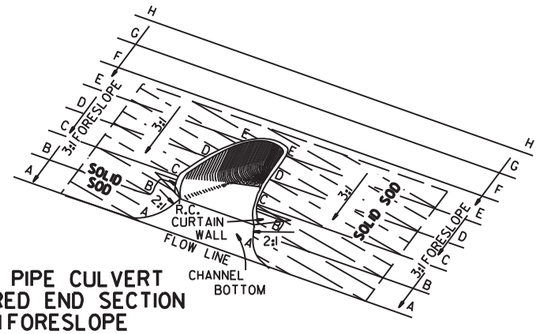
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
11-07-19		REVISED WALK DETAILS
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

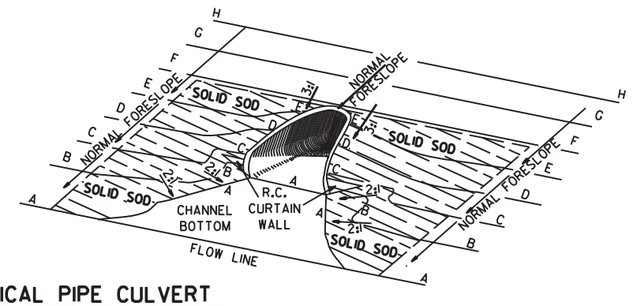
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

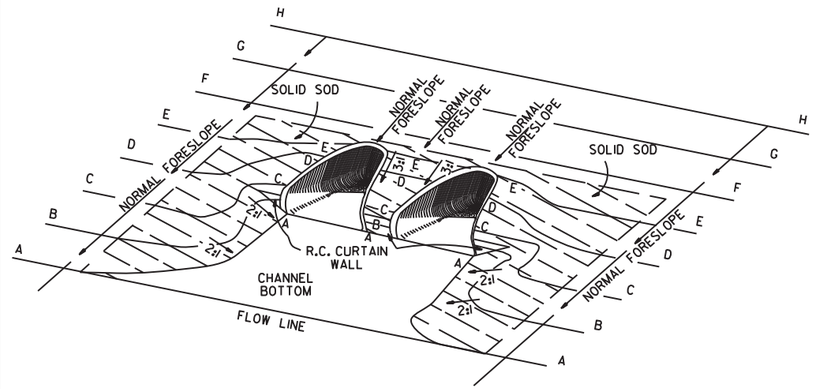
STANDARD DRAWING DR-1



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



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

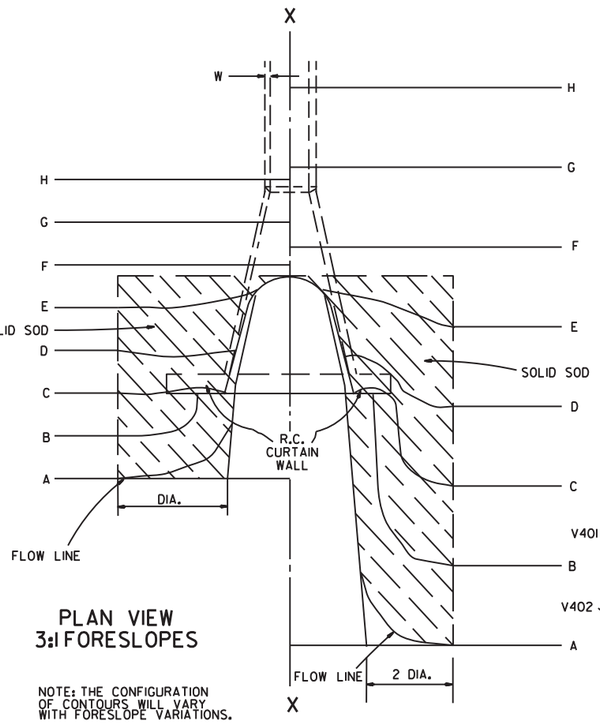
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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

REINFORCING STEEL SCHEDULE

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

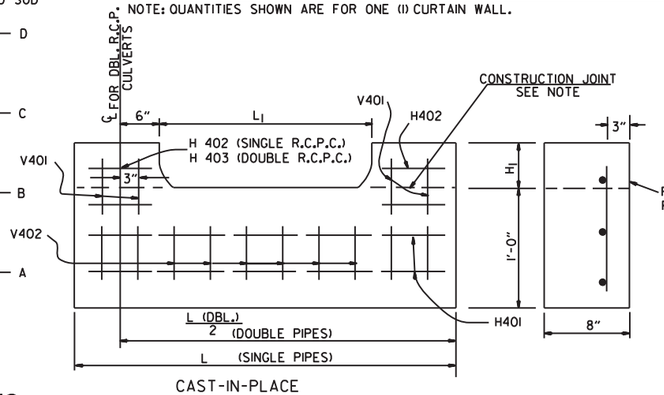
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

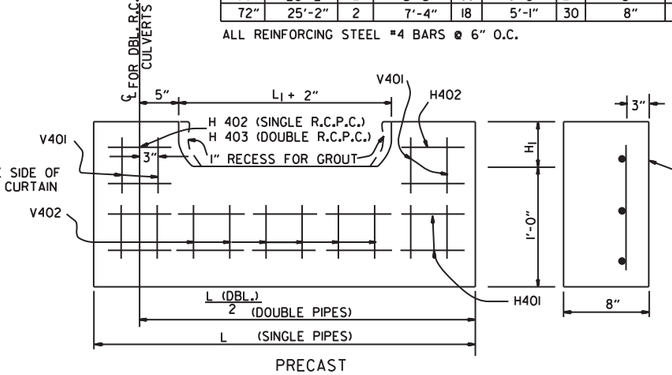
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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



PRECAST

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

R.C. CURTAIN WALL DETAILS

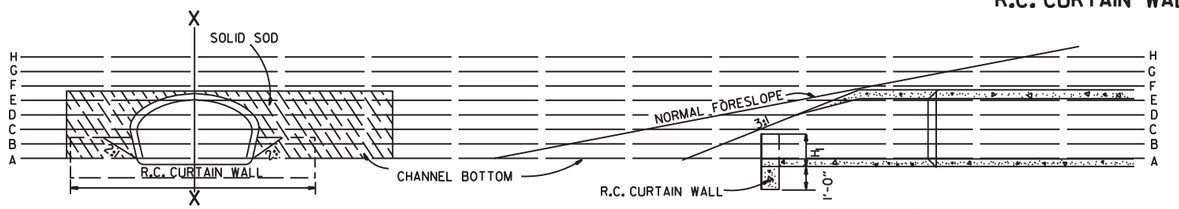
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

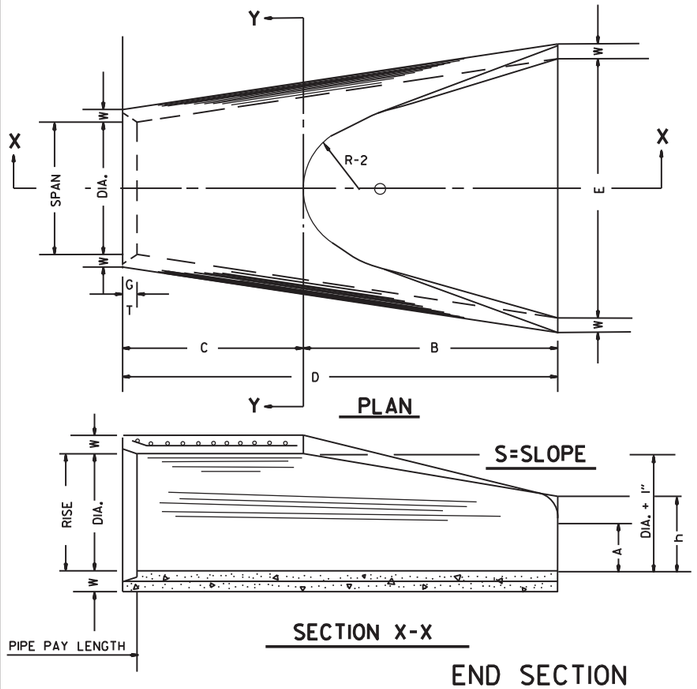
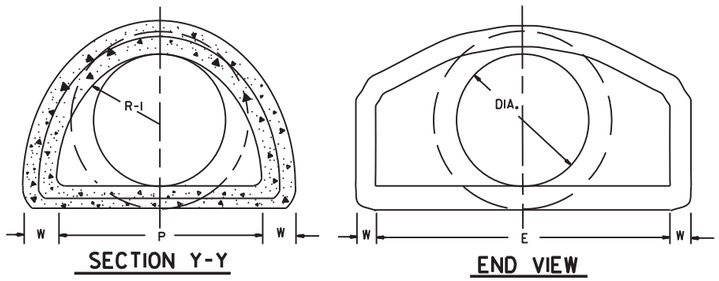


TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + I"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33⅜"	16⅛"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77⅛"	38⅝"	24"	5"	13250	4'-6"



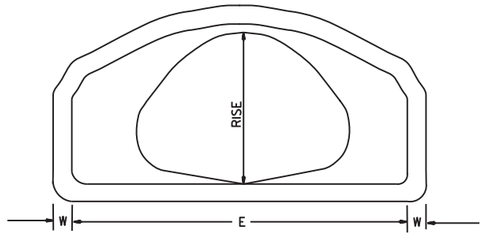
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

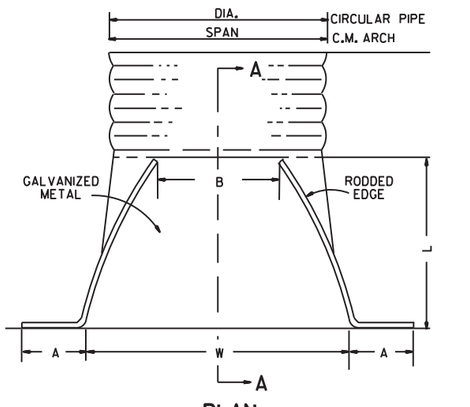
ARCH PIPE

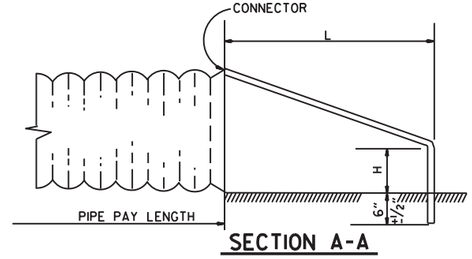
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅛"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅛"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅜"	22"	3½"	2½:1
42	51⅛	51	31⅜	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅛"	24"	5"	2¼:1

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

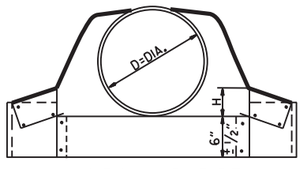


END VIEW
CONCRETE ARCH PIPE

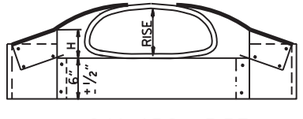




NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.



CIRCULAR PIPE



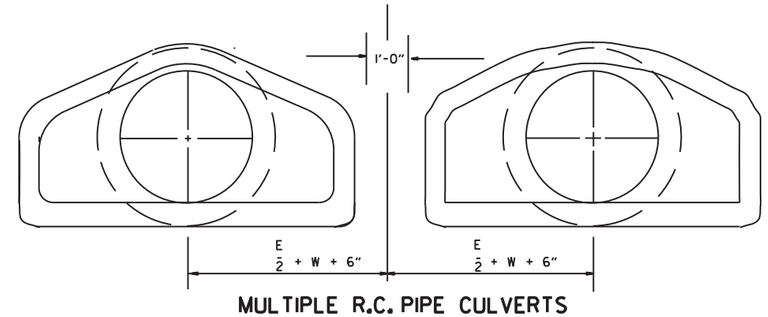
C.M. ARCH PIPE

CIRCULAR PIPE

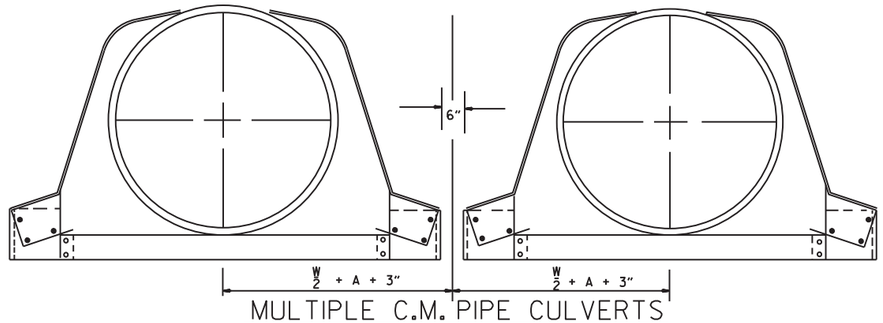
D. DIA.	GAUGE	A I" ±	B. MAX.	H I" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A I" ±	B MAX.	H I" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

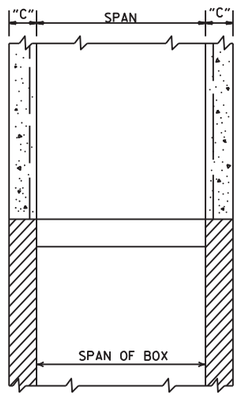
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

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

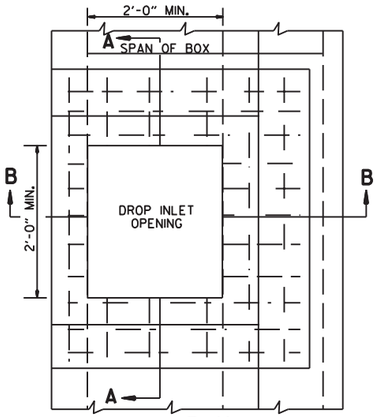
ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

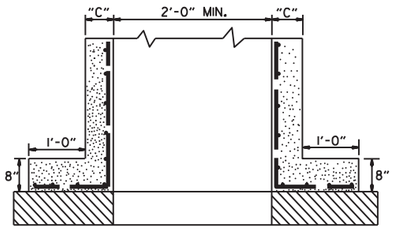
STANDARD DRAWING FES-2



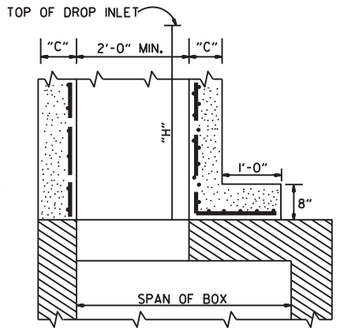
SECTION B-B



PLAN

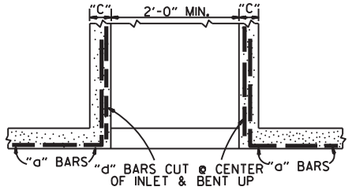


SECTION A-A

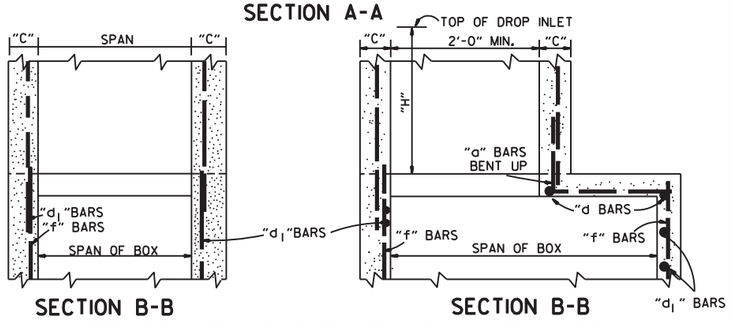


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



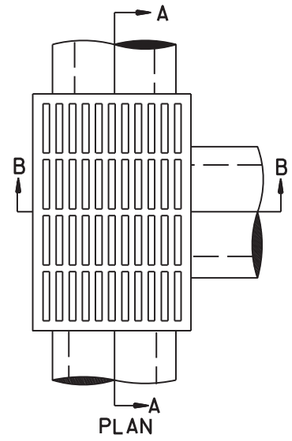
SECTION A-A



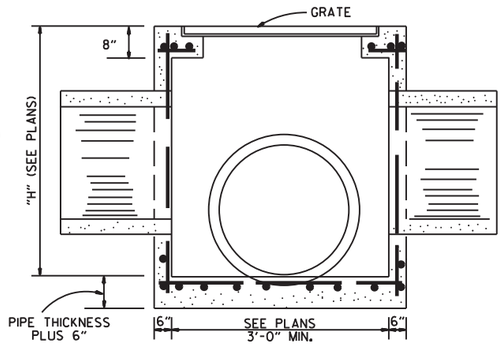
SECTION B-B SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

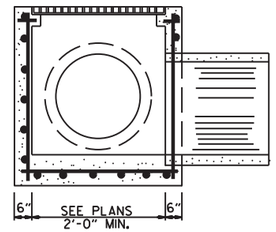


PLAN



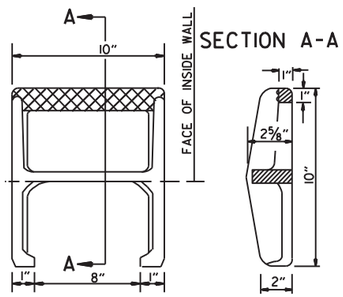
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

DROP INLET (TYPE E)

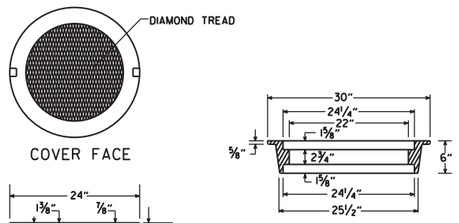


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

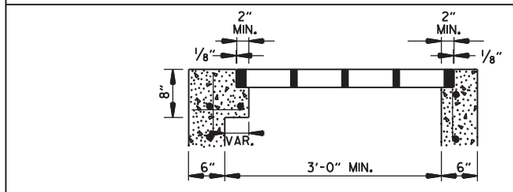
DETAIL OF STEP FOR DROP INLET



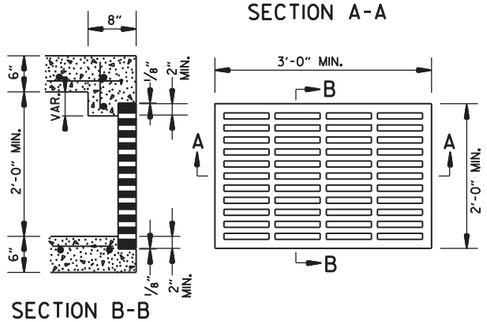
COVER SECTION RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



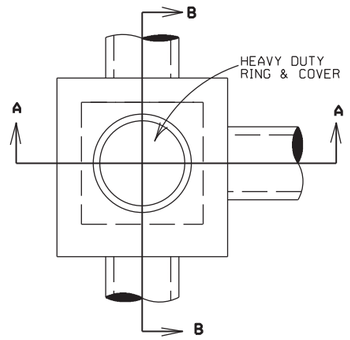
SECTION A-A



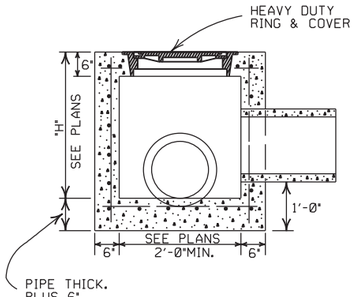
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

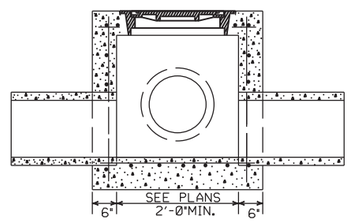


PLAN



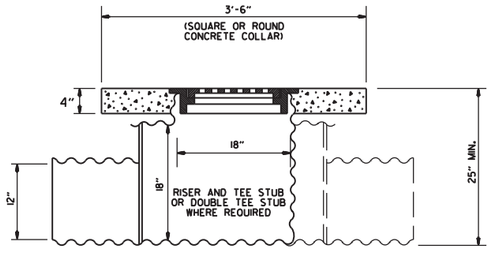
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

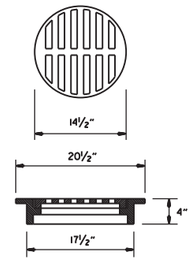


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

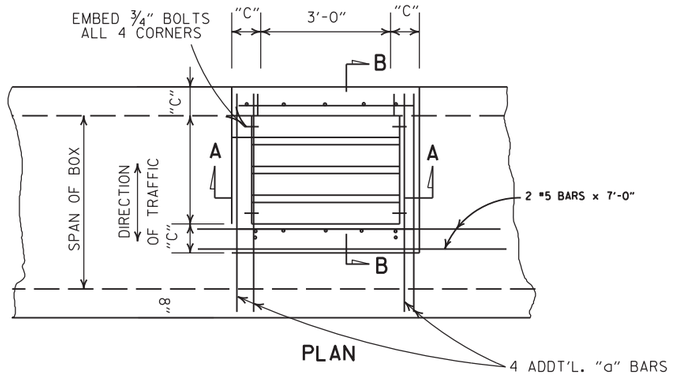
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL. DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

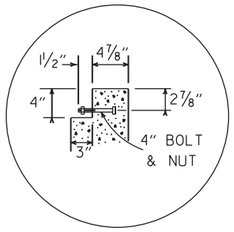
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

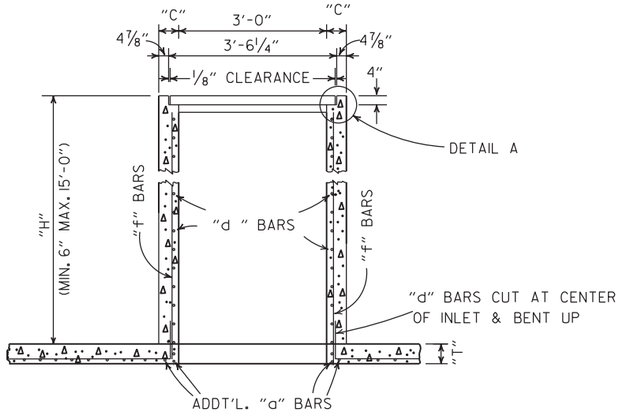
STANDARD DRAWING FPC-9



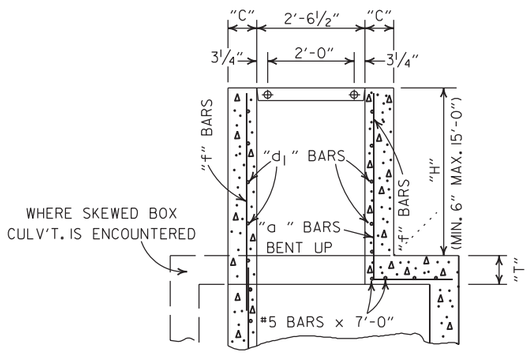
PLAN



DETAIL A



SECTION A-A

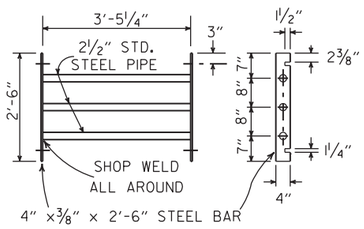


SECTION B-B

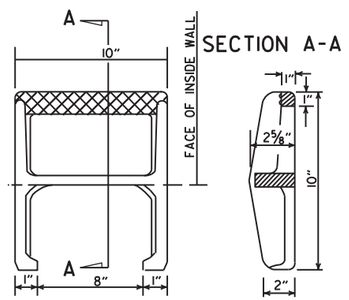
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM"
FOR REINFORCED CONC. BOX CULVERTS



GRATE DETAIL



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

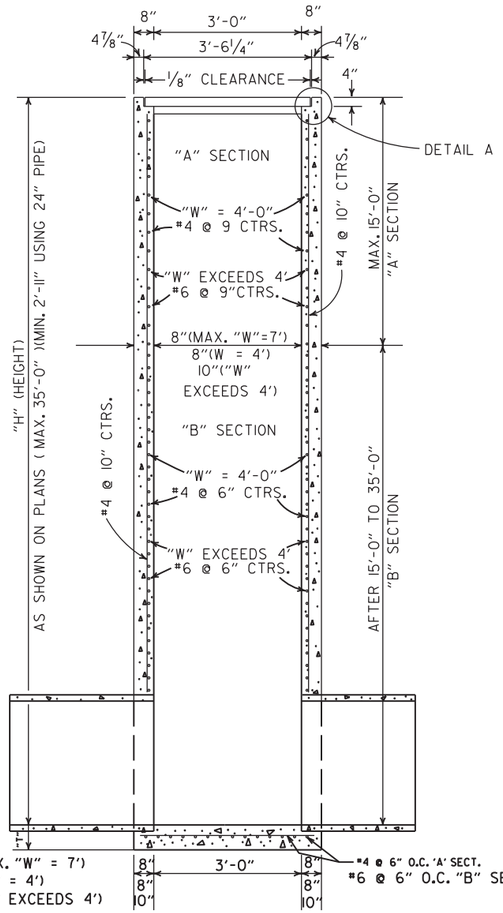
GENERAL NOTES:

1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

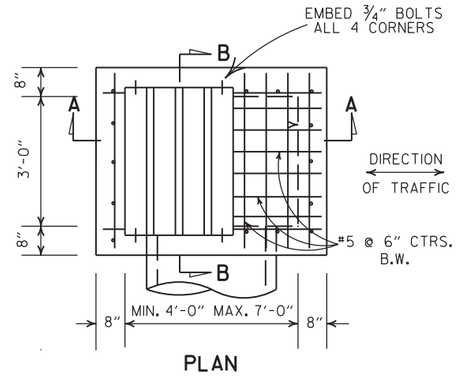
TABLE OF "W" DIMENSIONS

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

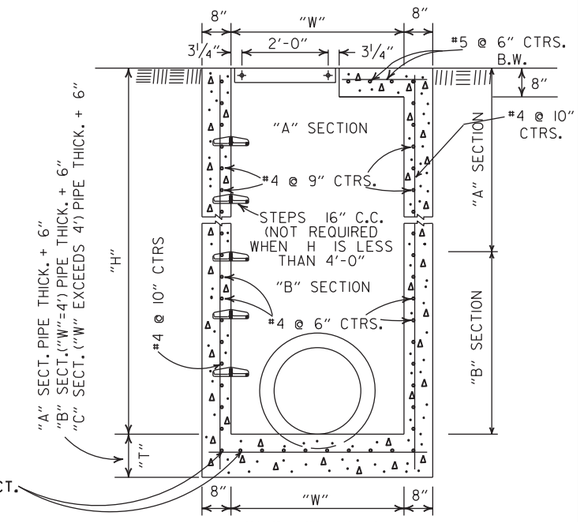
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



SECTION B-B



PLAN



SECTION A-A

DROP INLET(TYPE RM)

REVISED		DATE FILMED
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL, TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

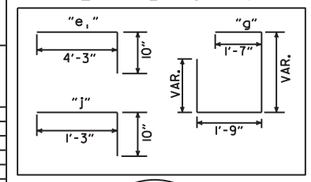
DROP INLET EXTENSION

4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

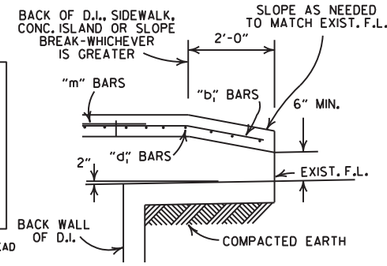
DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

BAR DIAGRAM

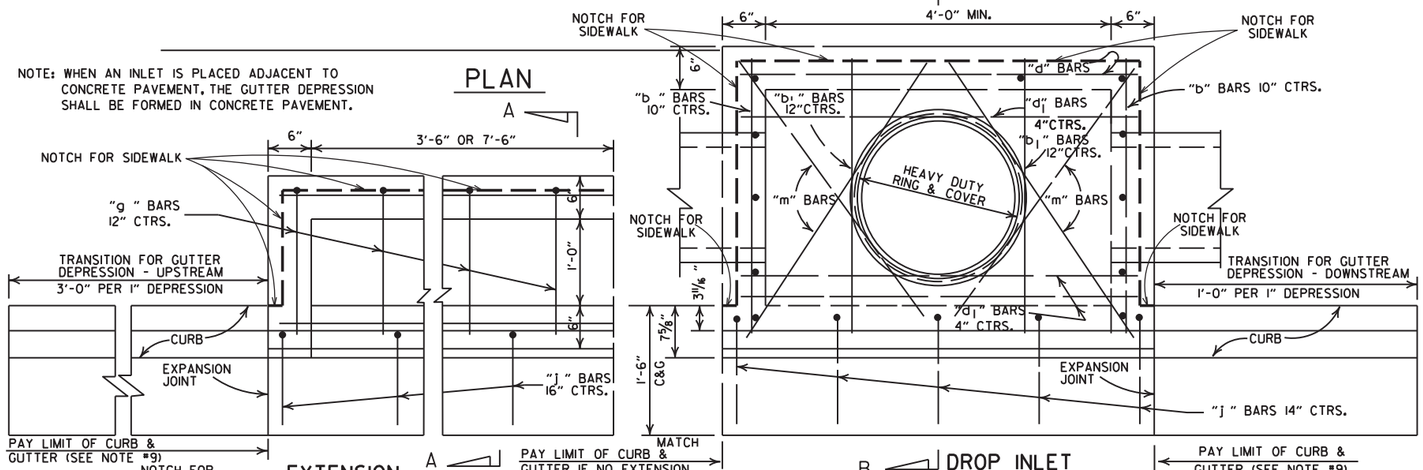


BACK OPENING

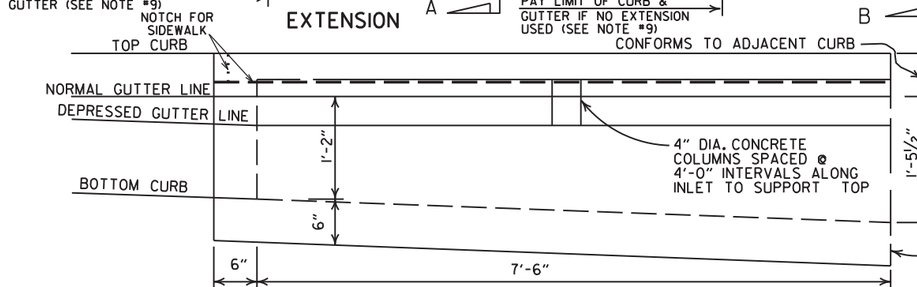


WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

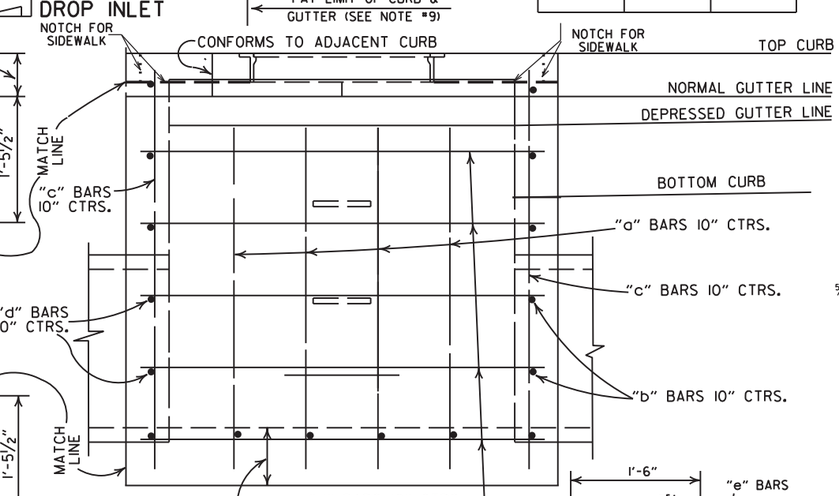
PLAN



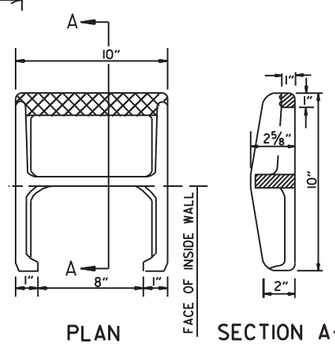
EXTENSION



DROP INLET



ELEVATION

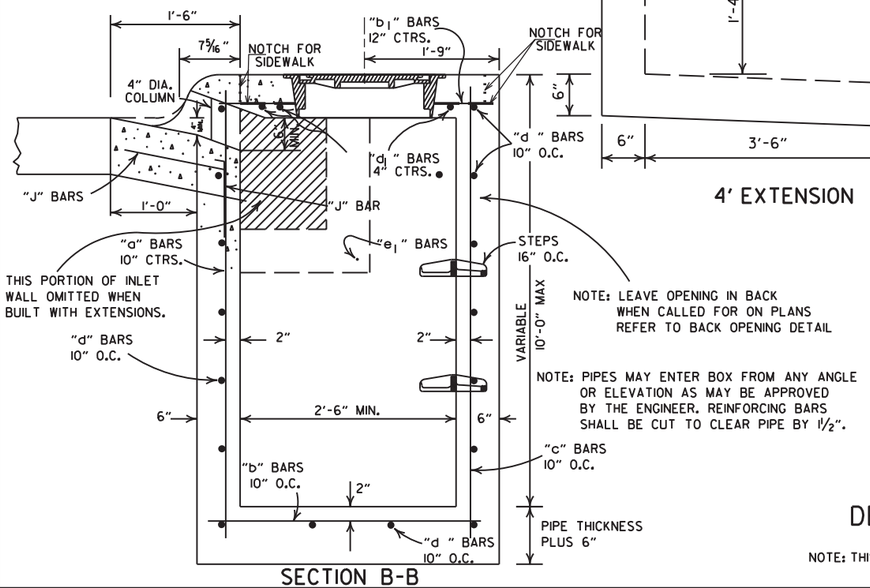


PLAN SECTION A-A

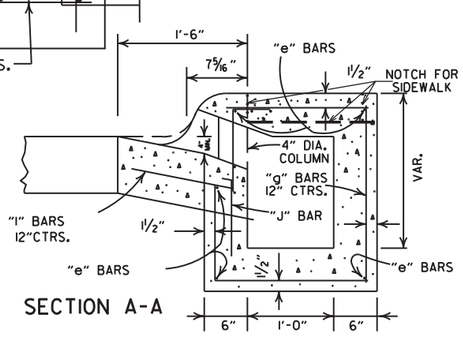
DETAIL OF STEP FOR DROP INLET

APPROX. WEIGHT = 11 LBS. (CAST IRON)

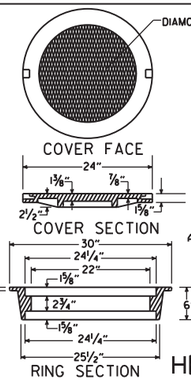
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.



SECTION B-B



SECTION A-A



APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

GENERAL NOTES:

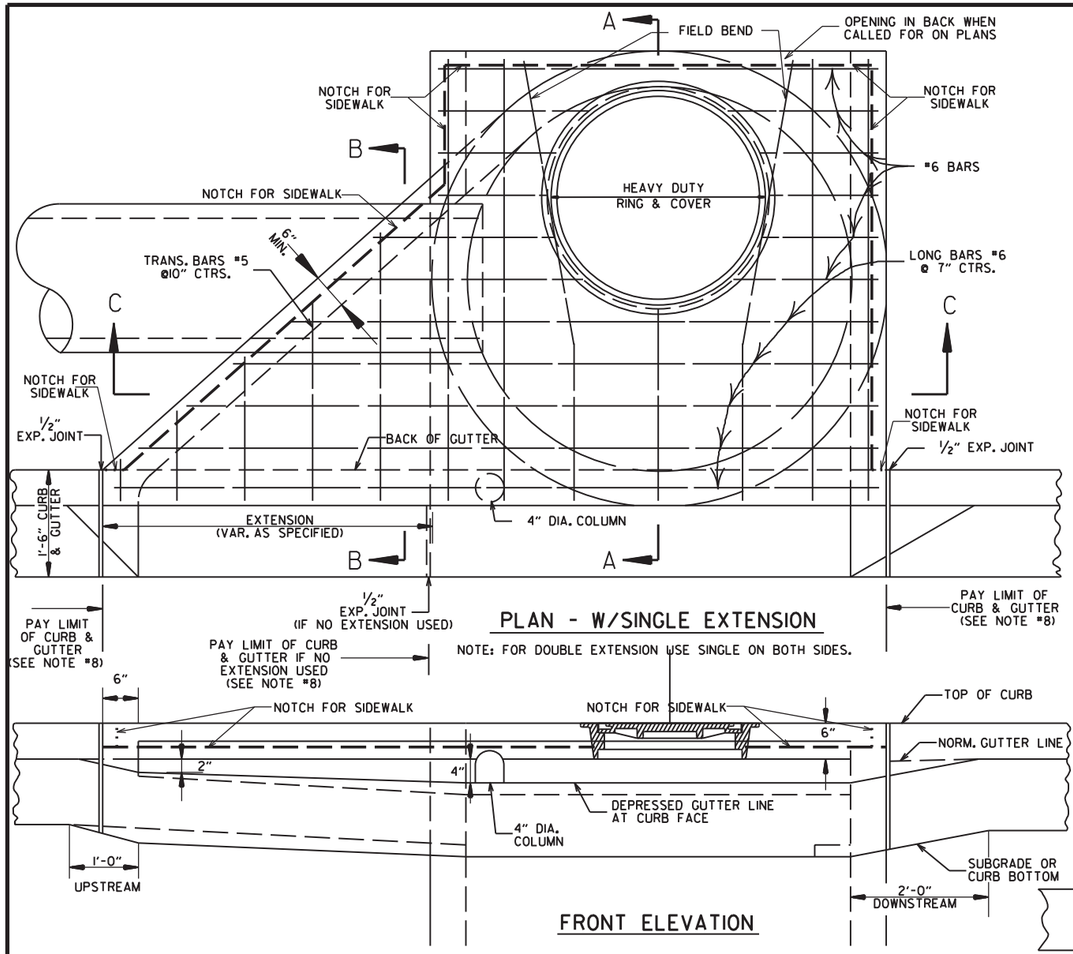
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (FPC-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"×2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

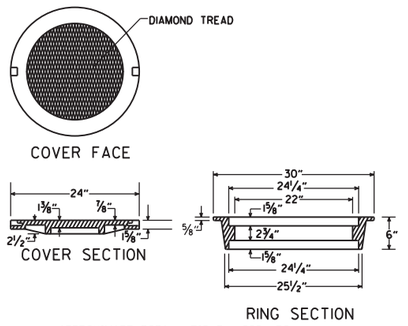
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

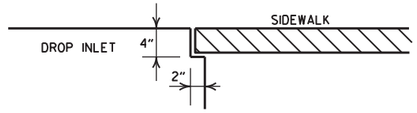
STANDARD DRAWING FPC-9E



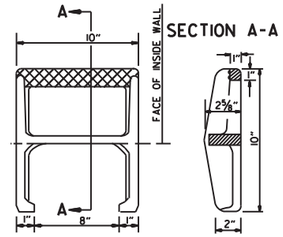


HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS



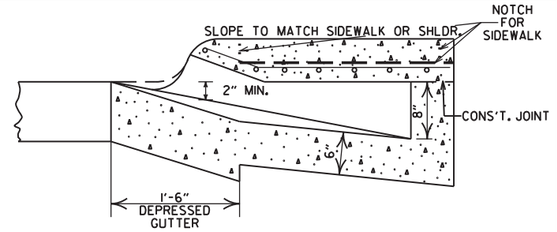
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

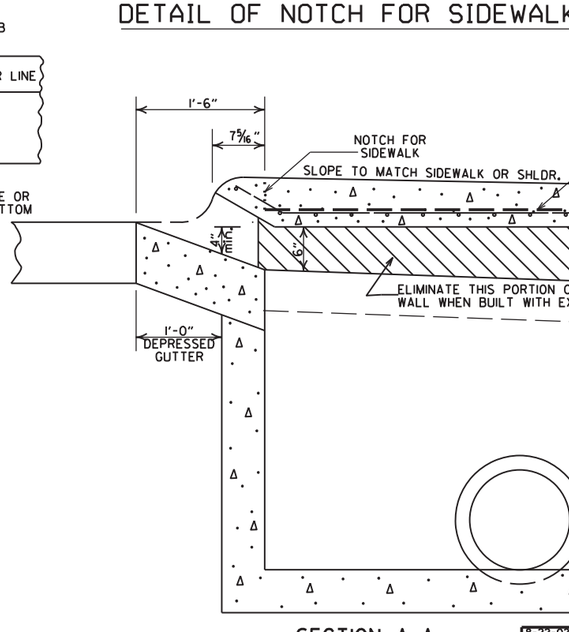
PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

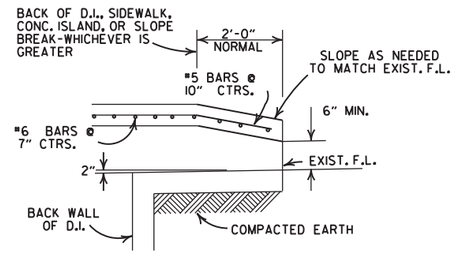
DETAIL OF STEP FOR DROP INLET



SECTION B-B



SECTION A-A



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1 1/2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

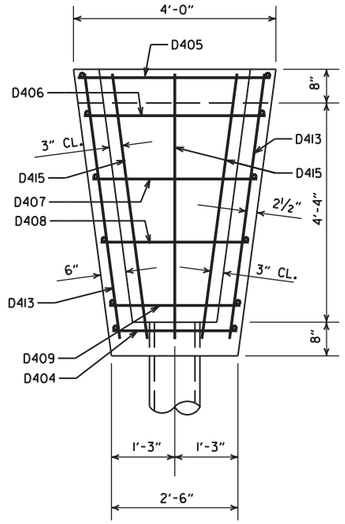
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 1/2 ADJ. OPENING DIMENSION	
10-12-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
4-27-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN. DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 12	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	513-5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	629-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

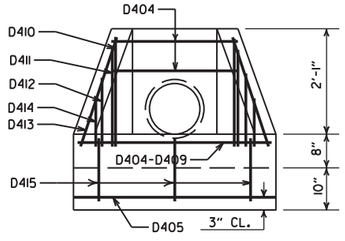
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

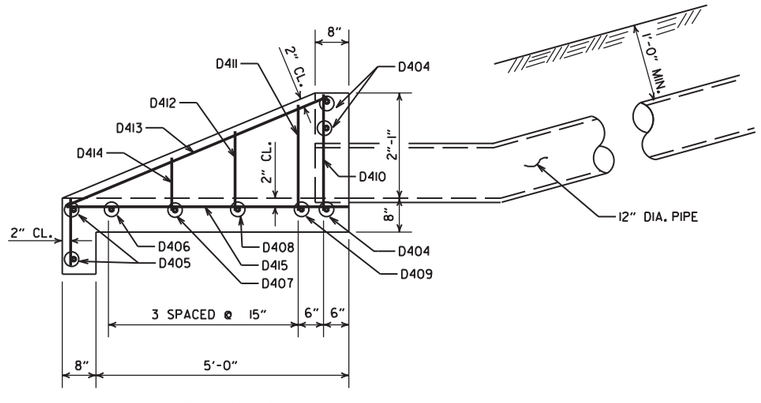
STANDARD DRAWING FPC-9M



PLAN



FRONT ELEVATION

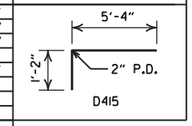


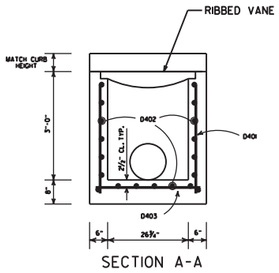
SIDE ELEVATION
CONCRETE SPILLWAY

DETAILS OF CONCRETE SPILLWAY (TYPE A)

BAR LIST (CONCRETE SPILLWAY)

MARK	NO. REQ'D.	LENGTH	BENDING DIAGRAM
D404	3	2'-2"	
D405	2	3'-8"	
D406	1	3'-5"	
D407	1	3'-1"	
D408	1	2'-9"	
D409	1	2'-5"	
D410	2	2'-5"	
D411	2	2'-2"	
D412	2	1'-9"	
D413	2	5'-6"	
D414	2	1'-2"	
D415	3	6'-5"	



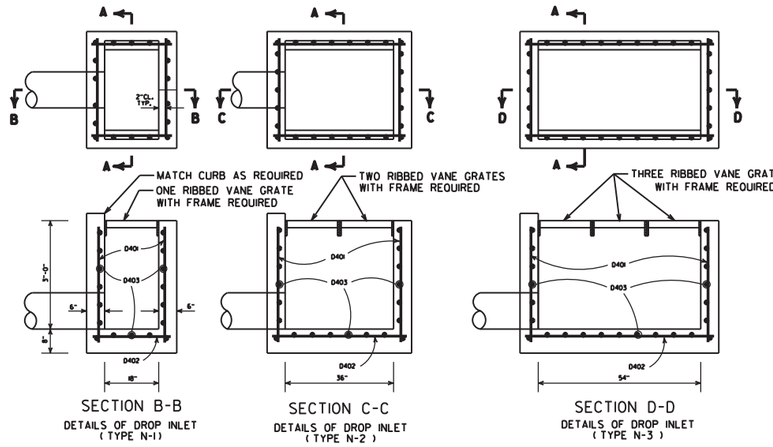


SECTION A-A

BAR LIST (DROP INLET)

MARK	TYPE N-1		TYPE N-2		TYPE N-3	
	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
D401	20	3'-0"	26	3'-0"	32	3'-0"
D402	19	2'-2"	19	3'-8"	19	5'-2"
D403	17	2'-11"	20	2'-11"	23	2'-11"

ALL BARS #4 @ 6" SPACING



SECTION B-B
DETAILS OF DROP INLET
(TYPE N-1)

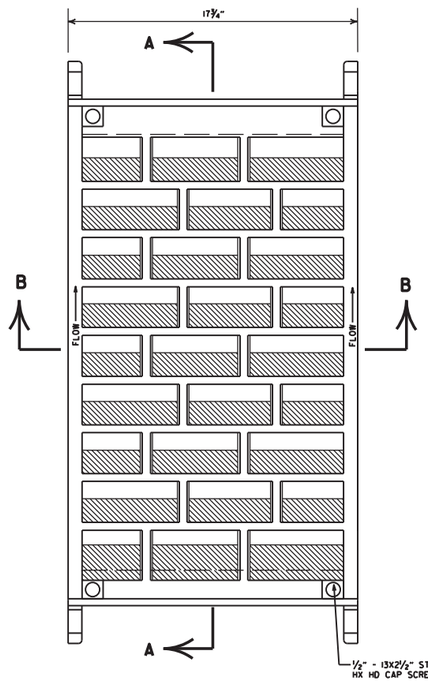
SECTION C-C
DETAILS OF DROP INLET
(TYPE N-2)

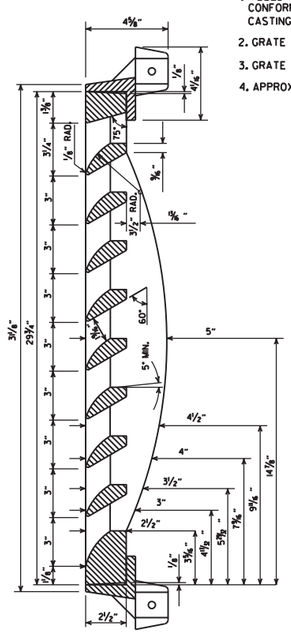
SECTION D-D
DETAILS OF DROP INLET
(TYPE N-3)

DETAILS OF DROP INLET

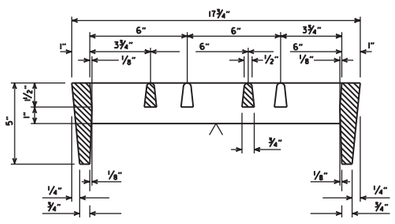
GENERAL NOTES (GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.

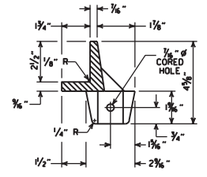




SECTION A-A



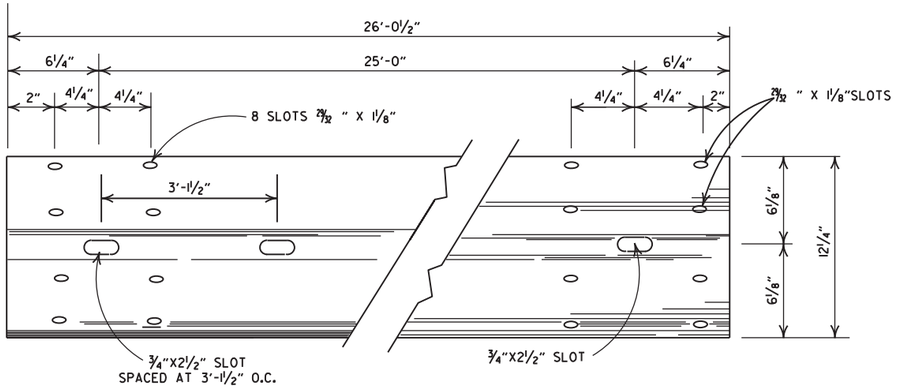
SECTION B-B

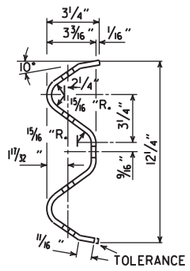


SECTION THRU FRAME

DETAILS OF RIBBED VANE GRATE AND FRAME

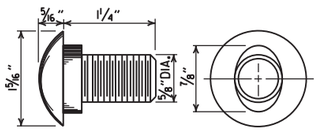
			ARKANSAS STATE HIGHWAY COMMISSION
			DETAILS OF DROP INLETS AND SPILLWAY OUTLET
7-02-98		REVISED SECT. A-A DETAIL OF DROP INLET & ADDED AASHTO REF. TO NOTE 1, REVISED GRATE	
10-18-96		REVISED ASTM REF. TO AASHTO	
8-15-91		ISSUED	
DATE REVISED	DATE FILMED	DESCRIPTION	STANDARD DRAWING FPC-9N



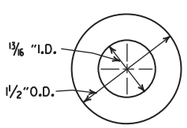


DETAILS OF W-BEAM GUARDRAIL

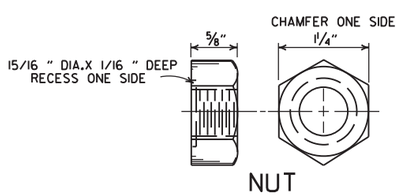
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



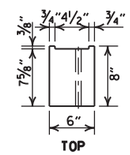
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

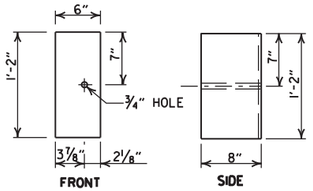


NUT

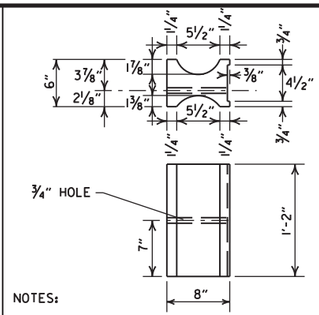


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



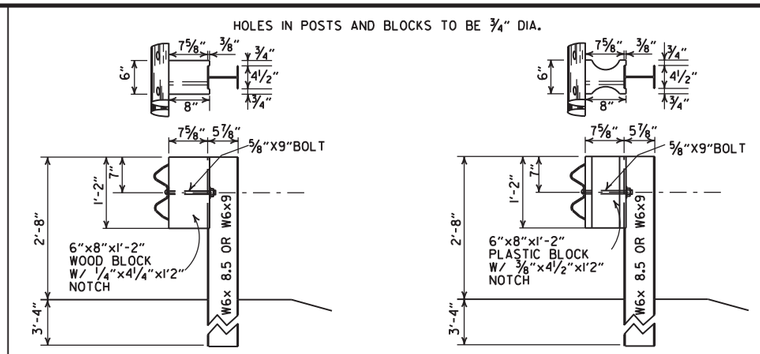
WOOD BLOCKOUT (W-BEAM)



NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

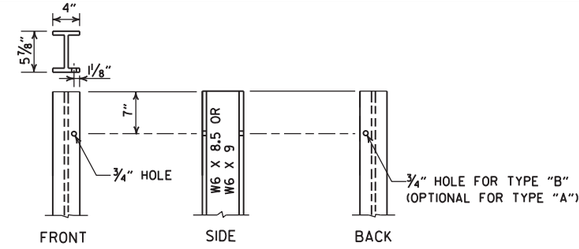
PLASTIC BLOCKOUT (W-BEAM)



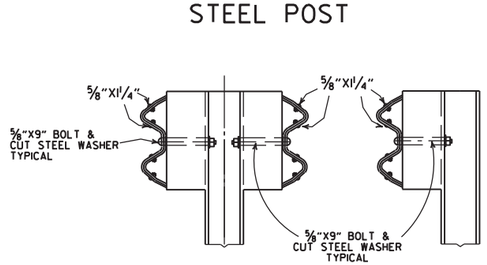
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARDRAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

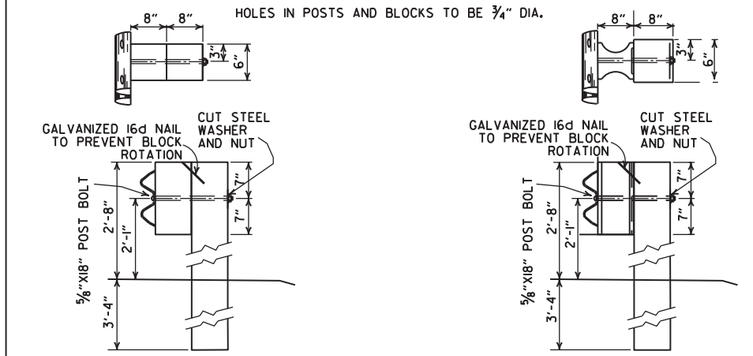
W-BEAM GUARDRAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARDRAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARDRAIL.



WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

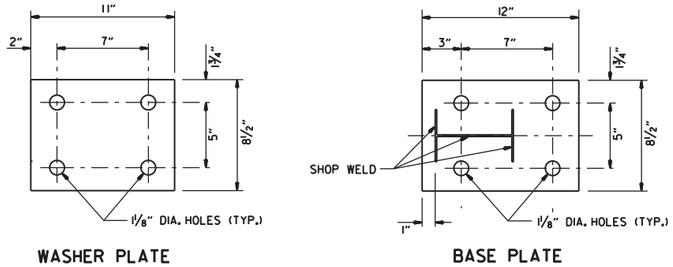
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	FILMED
11-07-19	RENUMBERED AND RENAMED	
11-16-17	REVISED GENERAL NOTES AND RAISED GUARDRAIL HEIGHT 3"	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
03-30-00	REMOVED GUARDRAIL AT BRIDGE ENDS	
01-12-00	ADDED PLASTIC BLOCKOUT	
08-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARDRAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
04-03-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
06-02-94	ADDED ALT. STEEL POST SIZE	
08-05-93	REVISED STEEL POST SIZE	8-5-93
10-01-92	REDRAWN & REVISED	10-1-92
08-15-91	REVISED WASHER NOTE	8-15-91
08-02-90	REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK	8-2-90
07-15-88	REVISED SECTION 3 & GENERAL NOTES	
03-04-88	REV. ANCHOR POST ,ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-09-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

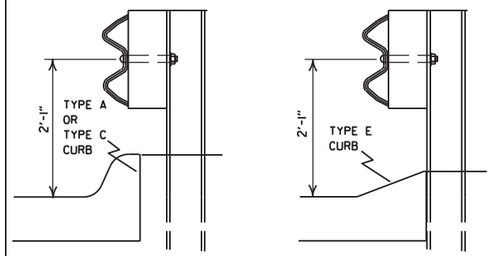
STANDARD DRAWING GR-6



WASHER PLATE

BASE PLATE

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



FOR DESIGN SPEEDS OF 50 MPH OR LESS

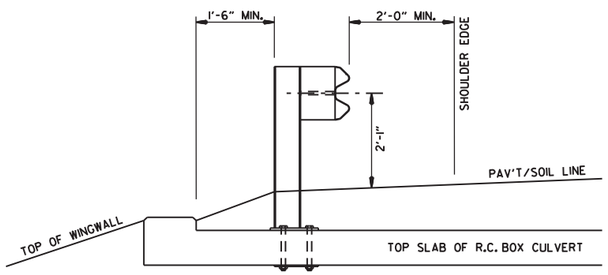
ALIGN FACE OF GUARDRAIL WITH FACE OF CURB.

FOR DESIGN SPEEDS OF 55 MPH OR MORE

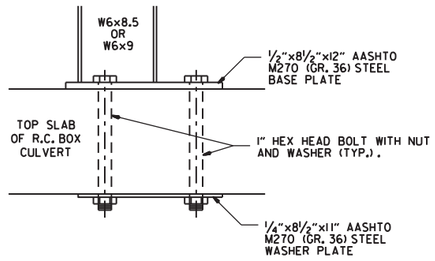
PLACE GUARDRAIL POSTS AGAINST BACK OF CURB.

DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

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

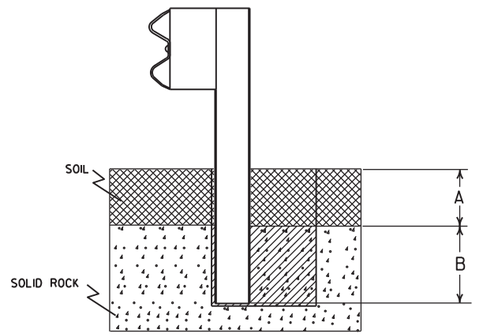


SECTION A-A

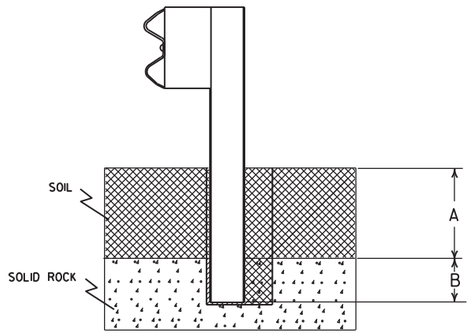


DETAIL OF CONNECTION

Case 1

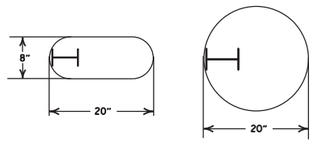


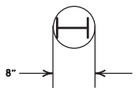
Case 2



Plan View Steel Posts

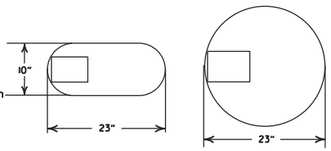
Either hole configuration acceptable

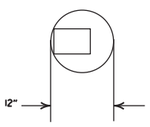




Plan View Wood Posts

Either hole configuration acceptable





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

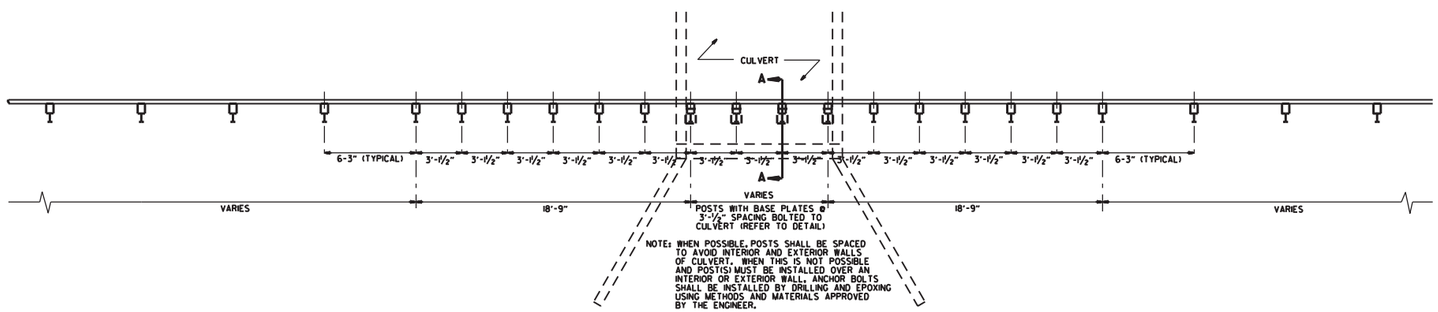
Zone A:
Backfill according to Section 617.03(a).

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

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

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

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



PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

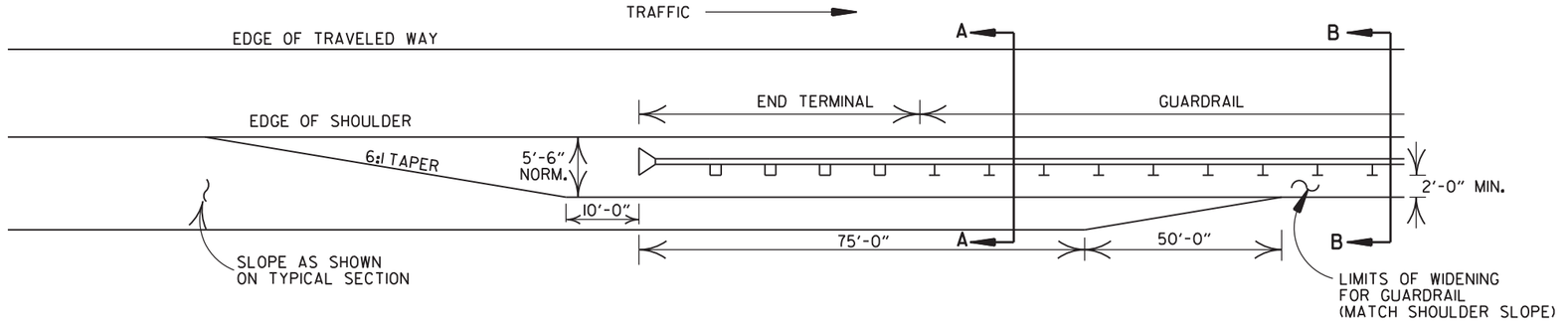
NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARDRAIL POSTS AS SHOWN ON STD. DWG. GR-6.

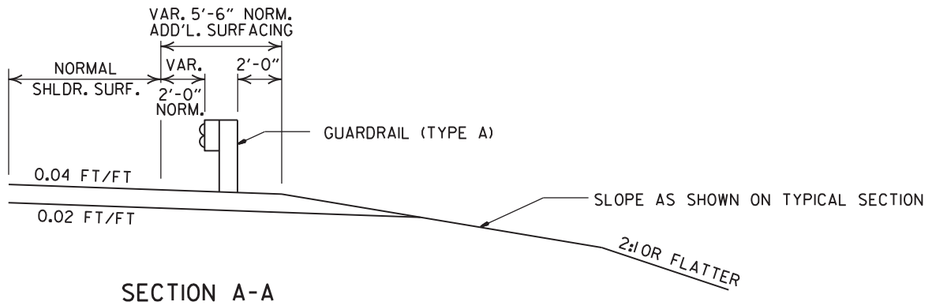
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARDRAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADDED DET. OF GUARDRAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARDRAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-15-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

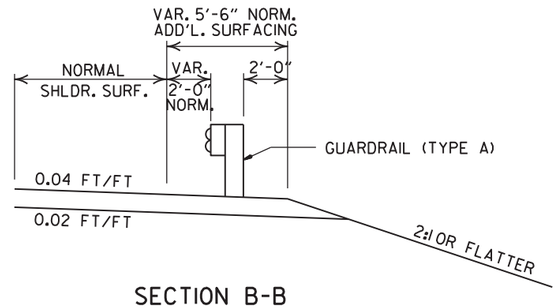
GUARDRAIL DETAILS

STANDARD DRAWING GR-7





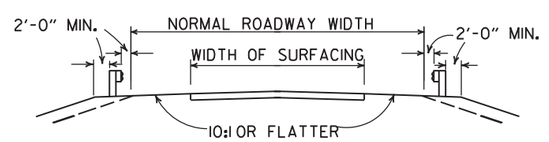
SECTION A-A



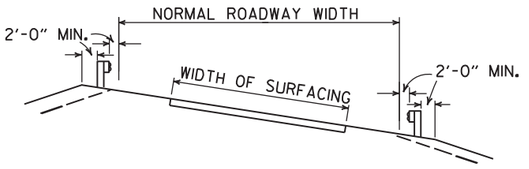
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARDRAIL.

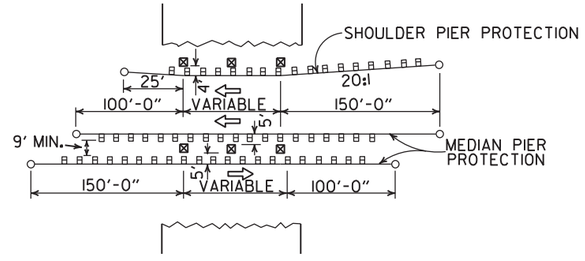


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY



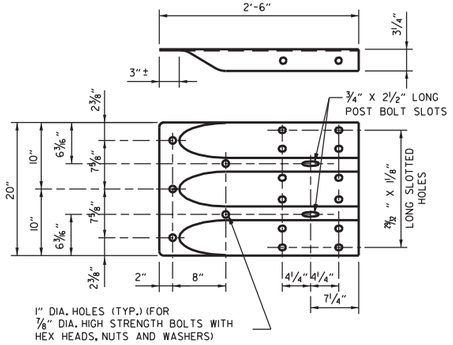
METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

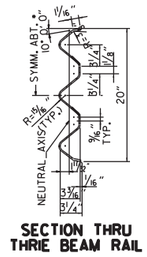
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

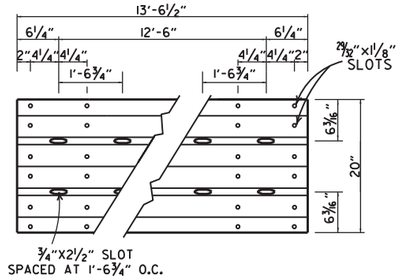
STANDARD DRAWING GR-9



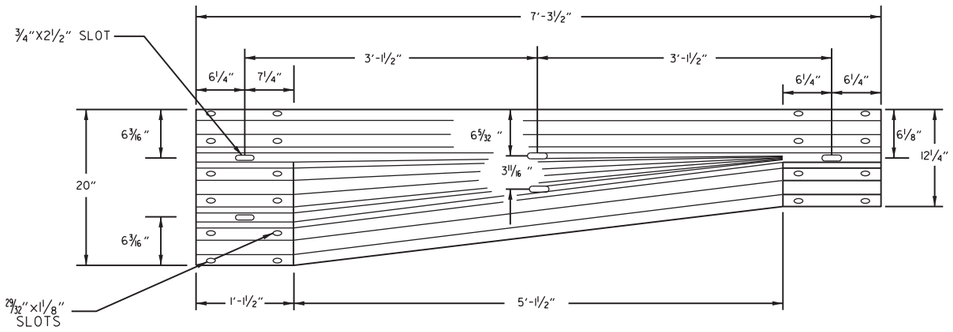
SPECIAL END SHOE



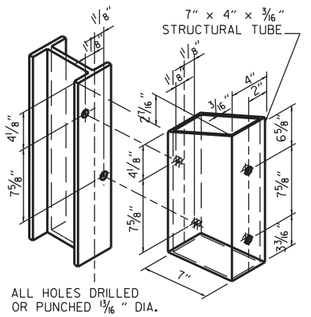
SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL



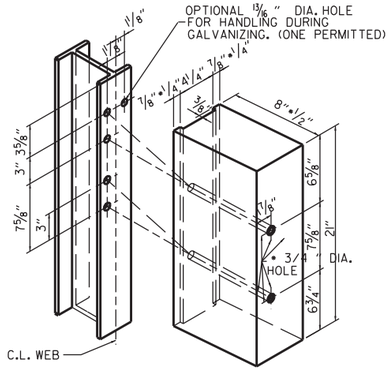
TRANSITION SECTION



ATTACH BLOCKOUT TO POST USING 5/8" DIA. HEX HEAD BOLTS WITH 1 1/2" O.D. CUT STEEL WASHERS AND NUT.

ALL HOLES DRILLED OR PUNCHED 13/16" DIA.

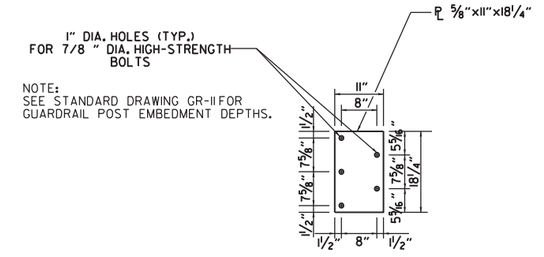
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

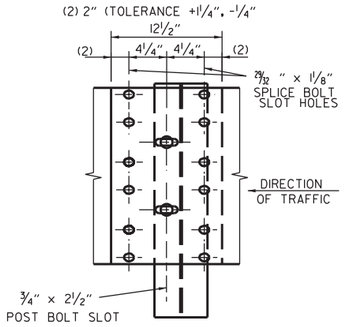
HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

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



CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING 7/8" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



THRIE BEAM RAIL SPLICE AT POST

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3*4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

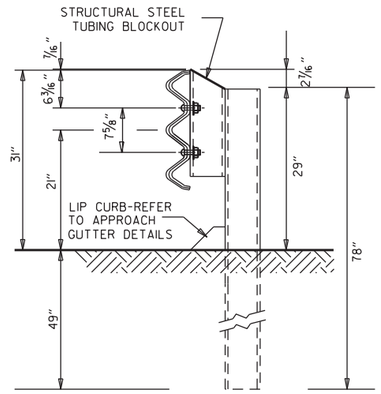
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED AND REVISED REFERENCES	
11-16-17	REVISED TRANSITION SECTION, GUARD RAIL HEIGHT, AND GENERAL NOTES; MOVED THRIE BEAM GUARD RAIL CONNECTIONS AT BRIDGES ENDS TO STD. DRWG. GR-12	
07-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED NOTE (2)	
06-29-00	MOVED DIMENSION LINES	
05-18-00	ADDED NOTE	
03-30-00	DRAWN & ISSUED	

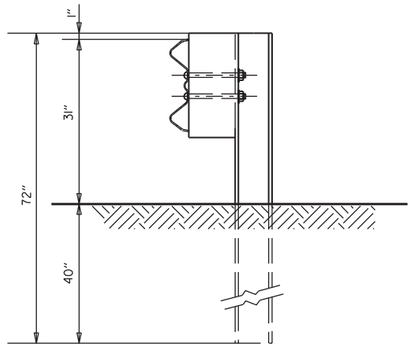
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

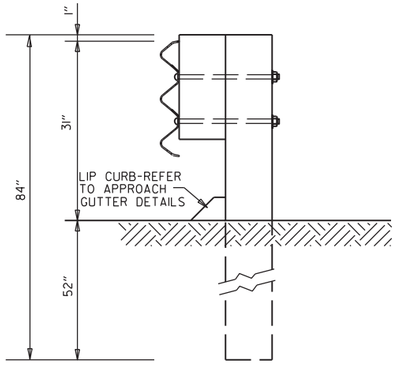
STANDARD DRAWING GR-10



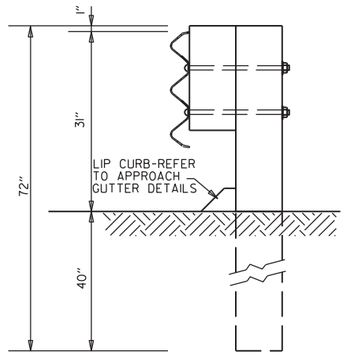
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



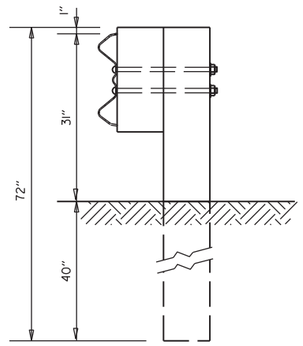
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



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

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

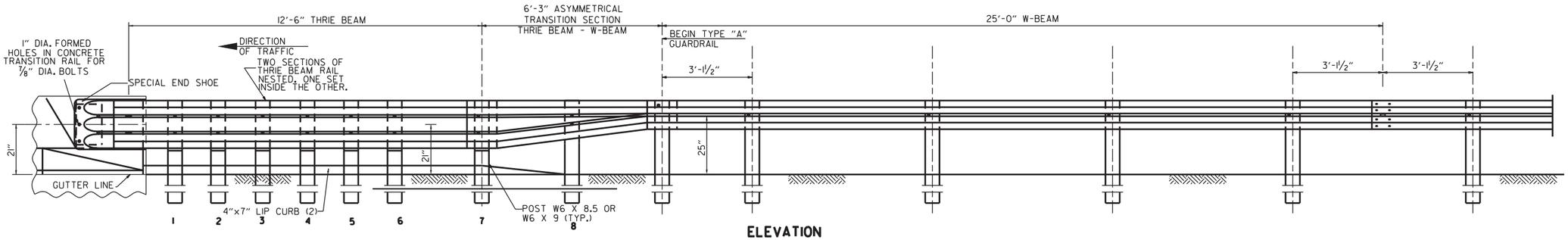
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED	
11-16-17	REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-11	
07-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
08-22-02	REVISED LIP CURB NOTE	
03-30-00	DRAWN & ISSUED	

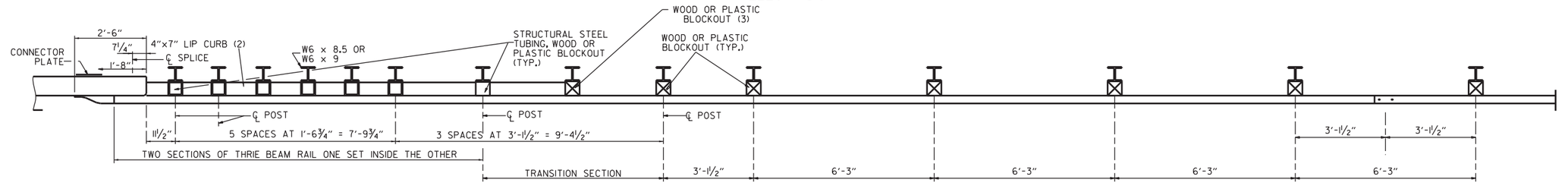
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

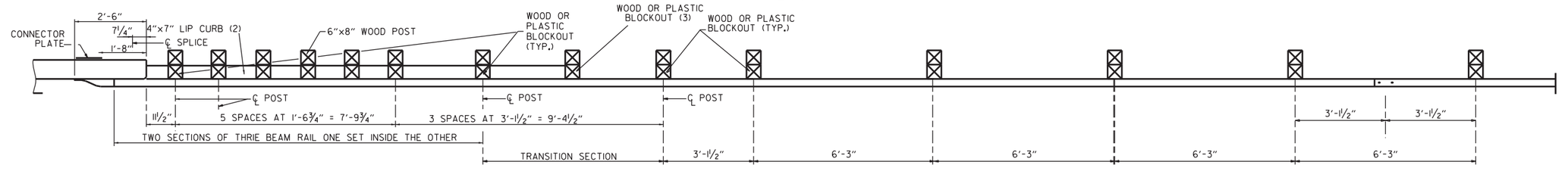
STANDARD DRAWING GR-11



ELEVATION



PLAN



PLAN

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

THRIE BEAM GUARDRAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

POSTS SHALL NOT BE PLACED AT SPLICE LOCATIONS ALONG W-BEAM RAILS.

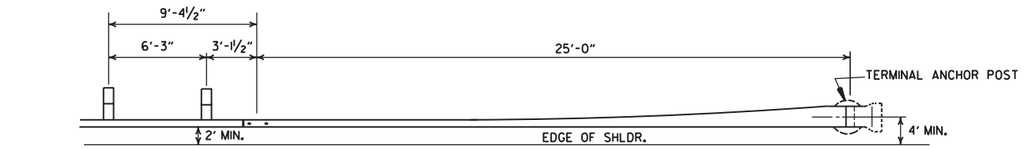
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
05-14-20	REVISED NOTES	
11-07-19	RENAMED & REVISED REFERENCES	
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

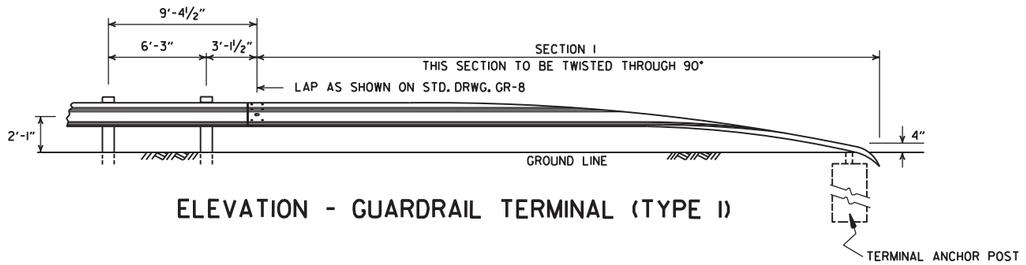
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

STANDARD DRAWING GR-12

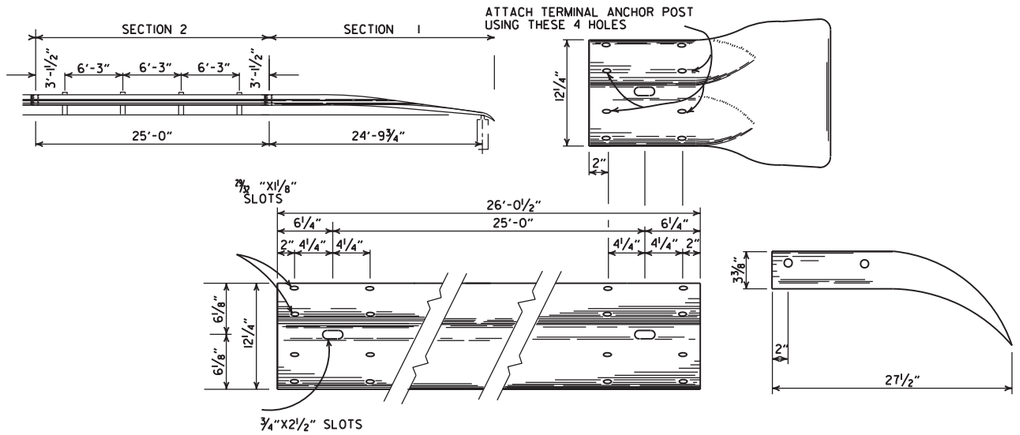


PLAN - GUARDRAIL TERMINAL (TYPE I)



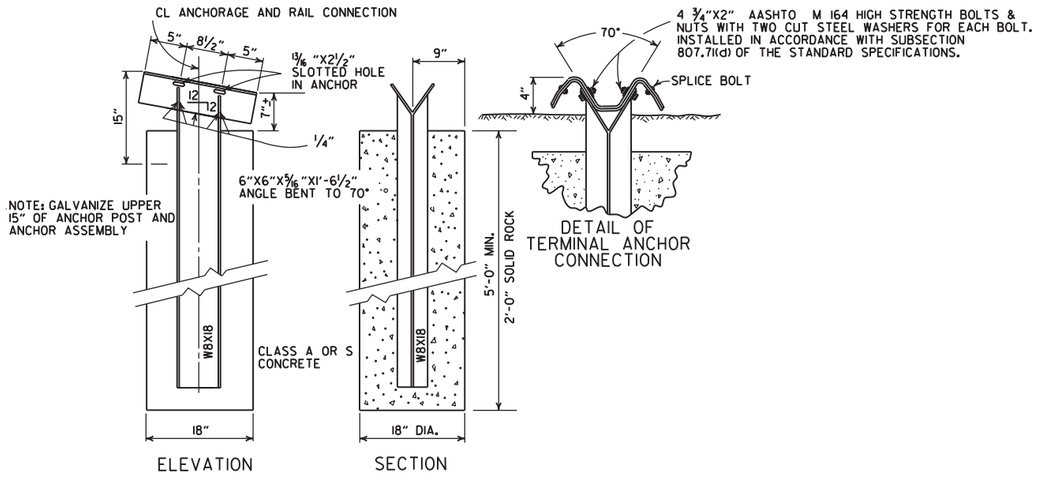
ELEVATION - GUARDRAIL TERMINAL (TYPE I)

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



SECTION I

TERMINAL SECTION



ELEVATION SECTION

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

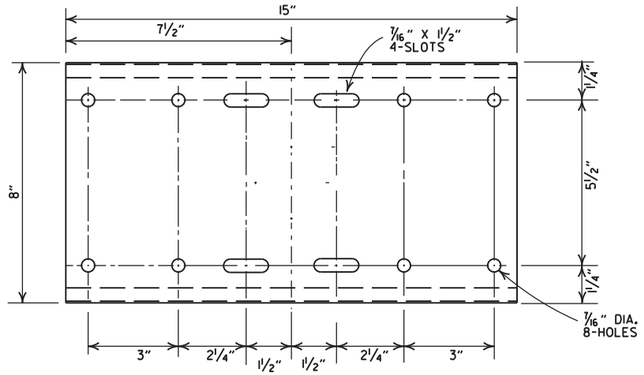
DETAIL OF TERMINAL ANCHOR POST (TYPE I)

DATE	REVISION	FILMED
11-07-19	RENAMED & REVISED REFERENCE.	
11-16-17	REVISED GUARDRAIL HEIGHT AND LOCATION OF POSTS	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
06-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-03-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-01-92	DRAWN & ISSUED	10-1-92

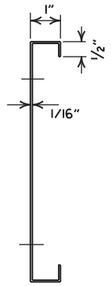
ARKANSAS STATE HIGHWAY COMMISSION

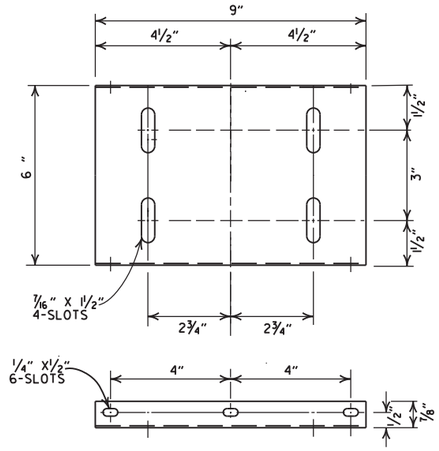
GUARDRAIL DETAILS

STANDARD DRAWING GRT-1

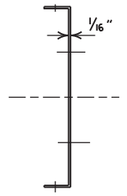


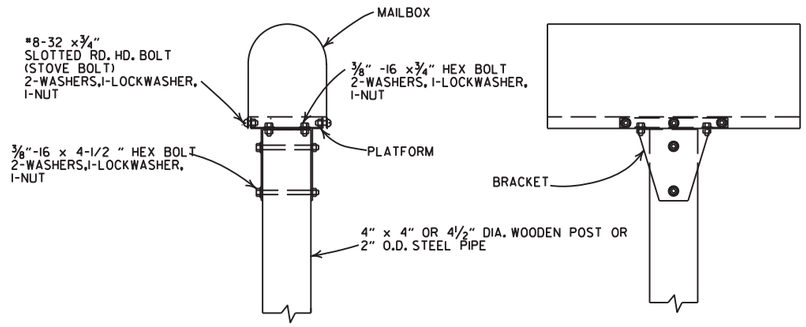
SHELF



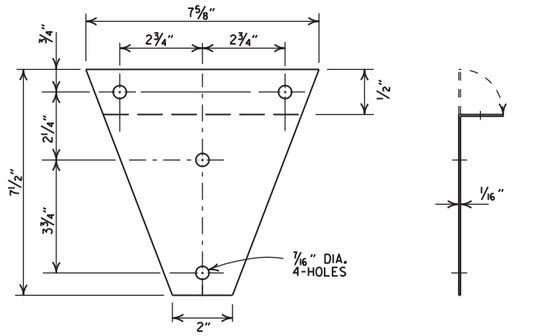


PLATFORM

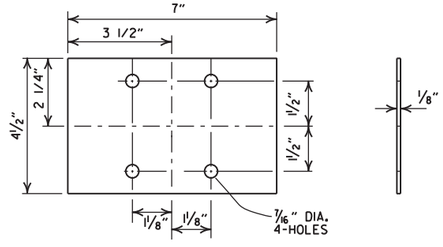




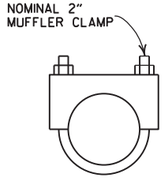
SINGLE INSTALLATION



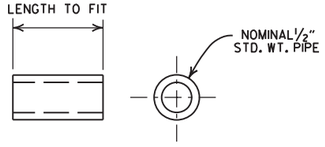
BRACKET



ANTI-TWIST PLATE



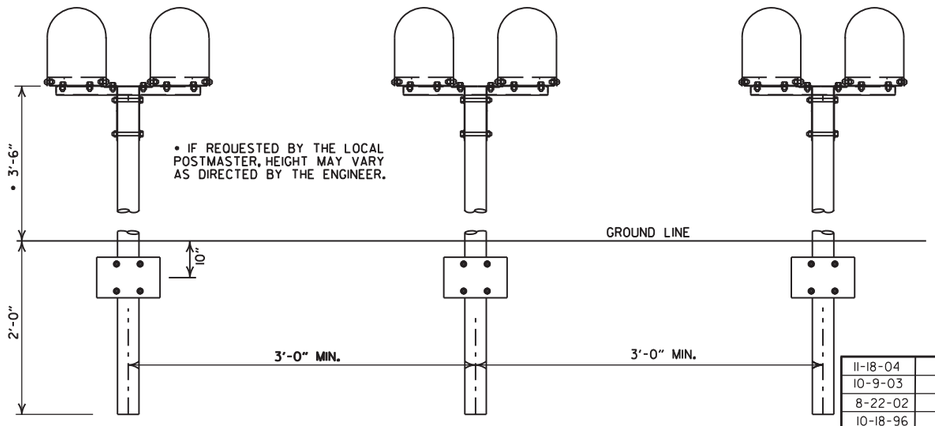
CLAMP



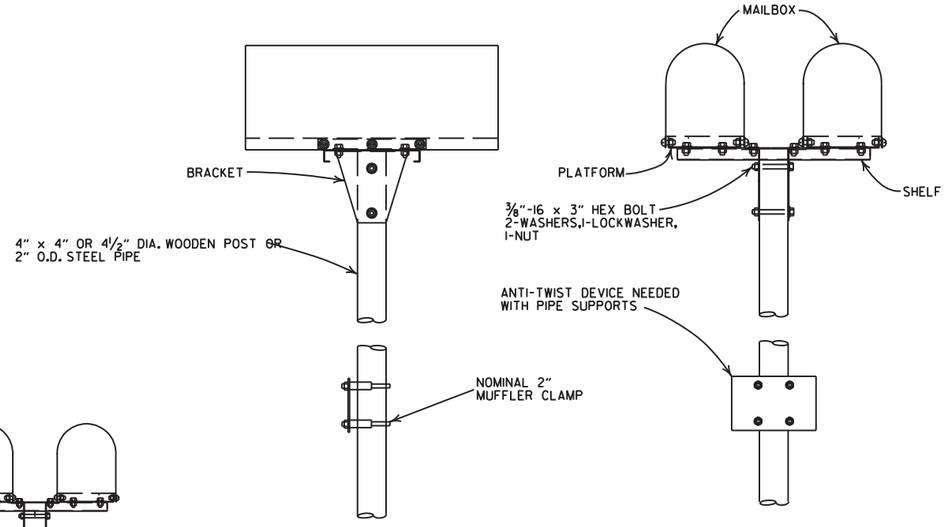
SPACER

GENERAL NOTES

1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X ¾" 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



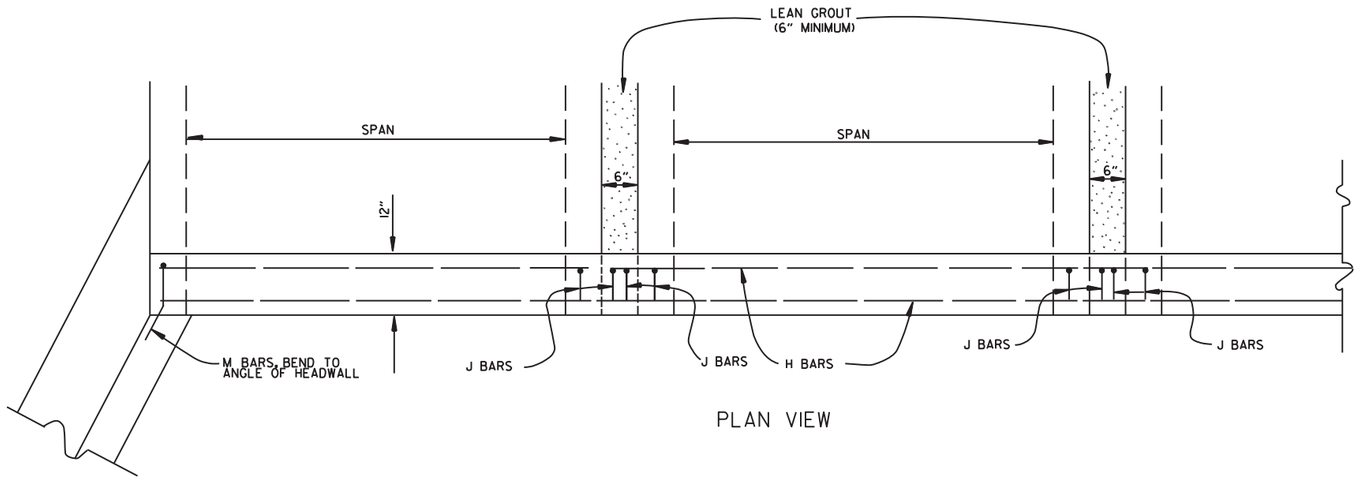
DOUBLE INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	20-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

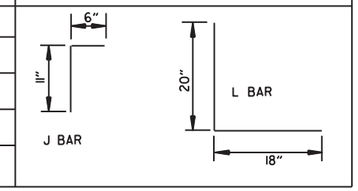
STANDARD DRAWING MB-1



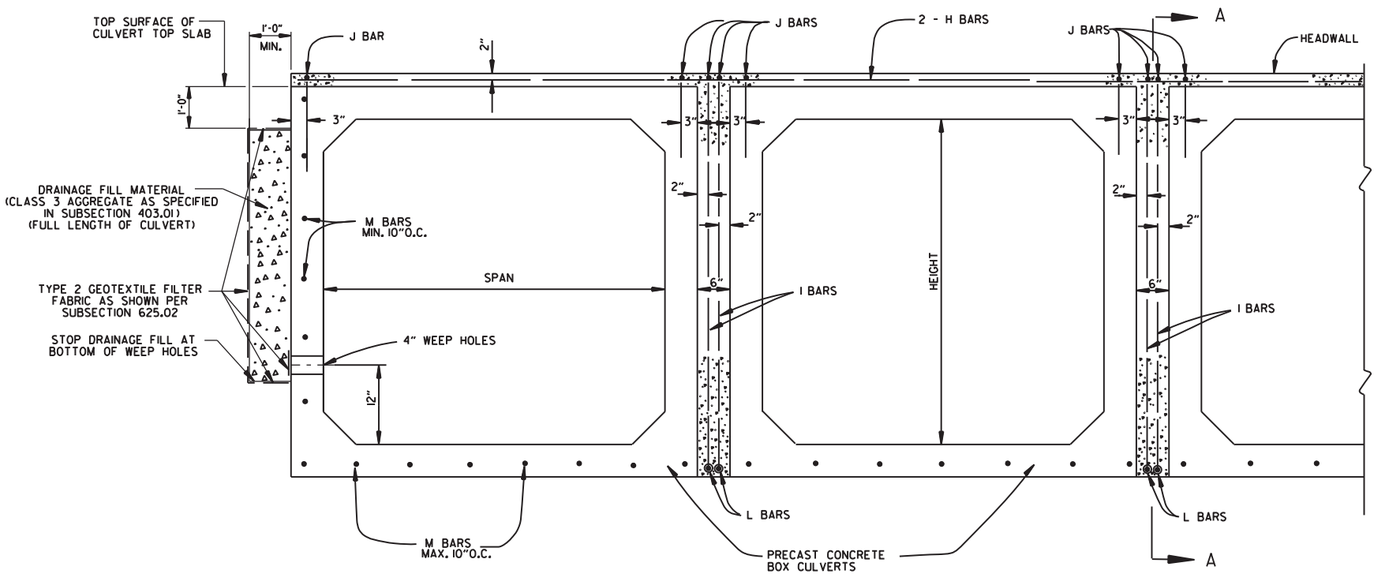
PLAN VIEW

BAR LIST

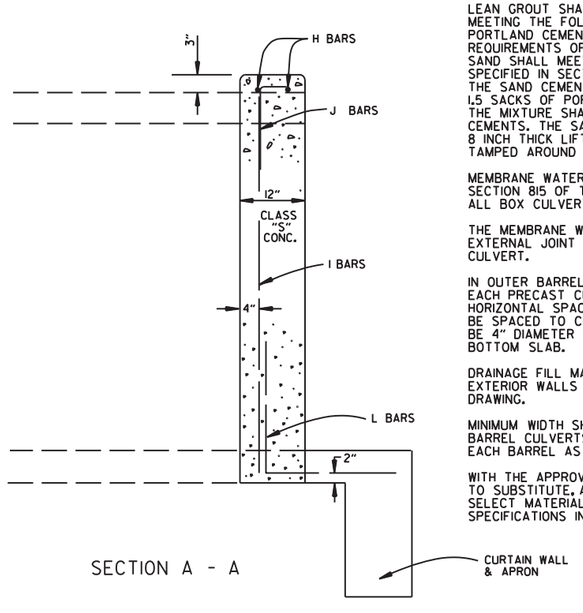
BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



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



END VIEW



SECTION A - A

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

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

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

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

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

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

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

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

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

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

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	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

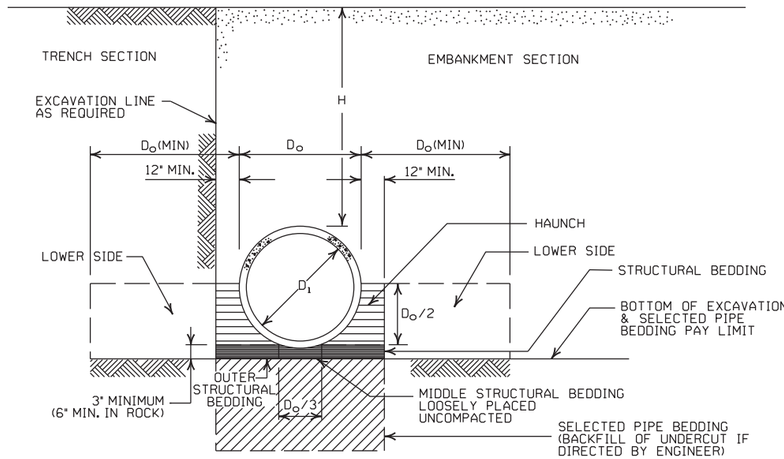
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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.

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

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

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

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

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

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

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

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

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

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

DATE	REVISION	DATE FILMED
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	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION	INSTALLATION		INSTALLATION	INSTALLATION
				TYPE 1	TYPE 1		TYPE 1	TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM					
				INSTALLATION	INSTALLATION			
				TYPE 2	TYPE 1	TYPE 2	TYPE 1	
36	40x31	5	0.079	3	2	12	15	
42	46x36	6	0.079	3	2	13	15	
48	53x41	7	0.079	3	2	13	15	
54	60x46	8	0.079	3	2	13	15	
60	66x51	9	0.079	3	2	13	15	
66	73x55	12	0.079	3	2	15	15	
72	81x59	14	0.079	3	2	15	15	
78	87x63	14	0.079	3	2	15	15	
84	95x67	16	0.109	3	2	15	15	
90	103x71	16	0.109	3	2	15	15	
96	112x75	18	0.109	3	2	15	15	
102	117x79	18	0.109	3	2	15	15	
108	128x83	18	0.138	3	2	15	15	

CONSTRUCTION SEQUENCE

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

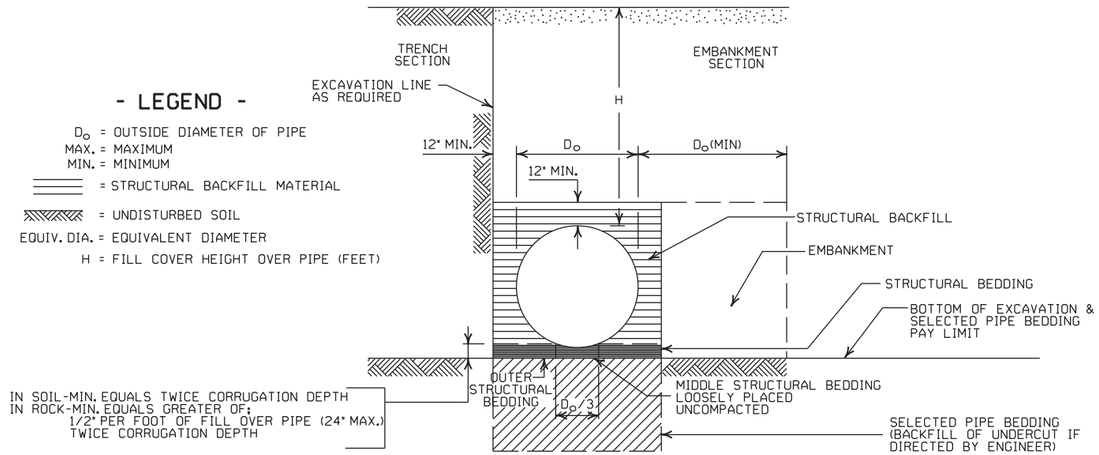
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

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

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS 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 ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

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

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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 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.

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"

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"

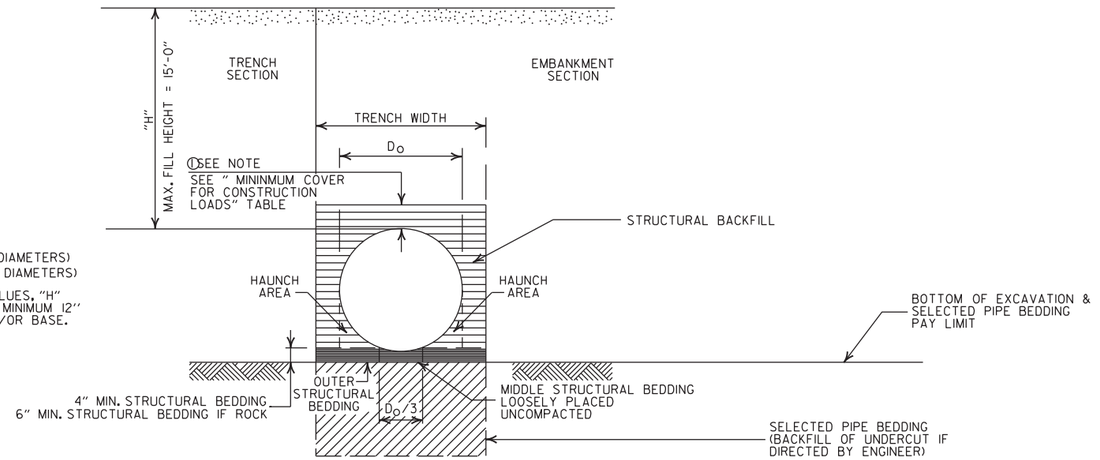
①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

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)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM 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

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 M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS 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 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. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. 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.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-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 1INCH. 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" >OR= 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

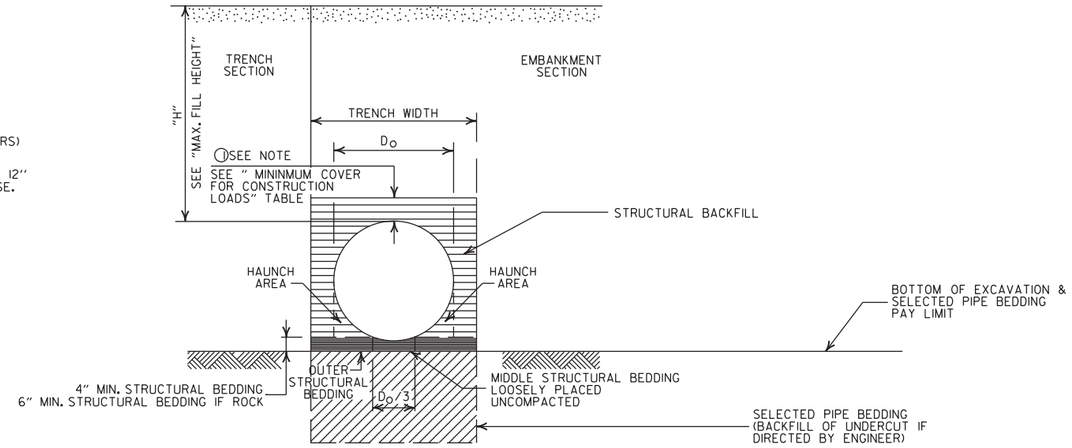
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

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)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM 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

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 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 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. 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.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

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 1INCH. 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"

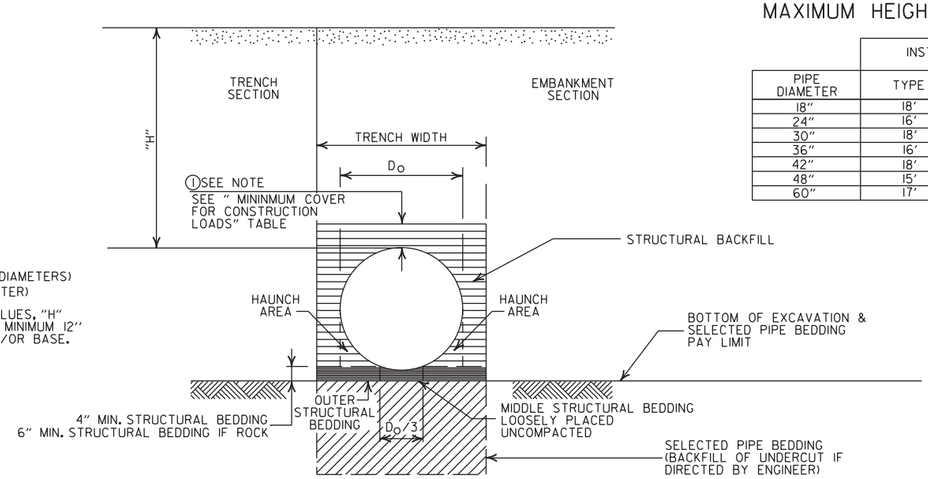
MINIMUM COVER FOR CONSTRUCTION LOADS

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"

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

①NOTE:
12" MIN. (18" - 42" DIAMETERS)
24" MIN. (60" DIAMETER)

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



MAXIMUM HEIGHT OF FILL "H"

PIPE DIAMETER	INSTALLATION TYPE	
	TYPE 1	TYPE 2
18"	18'	14'
24"	16'	12'
30"	18'	14'
36"	16'	12'
42"	18'	13'
48"	15'	11'
60"	17'	12'

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 SPECIFICIATIONS 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

= UNDISTURBED SOIL

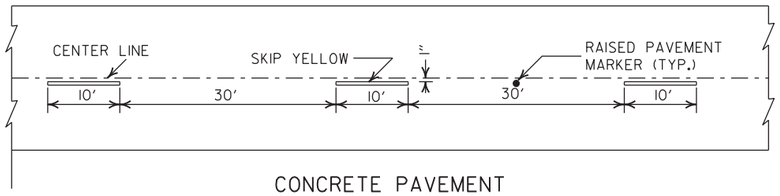
DATE	REVISION	DATE FILMED
02-27-20	REVISED	
11-07-19	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

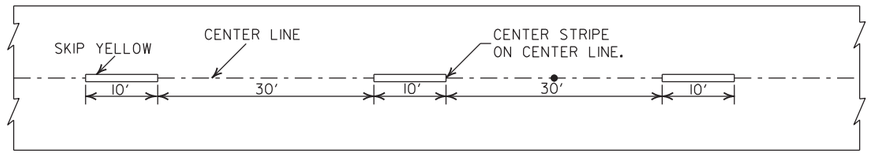
PLASTIC PIPE CULVERT (POLYPROPYLENE)

STANDARD DRAWING PCP-3

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.

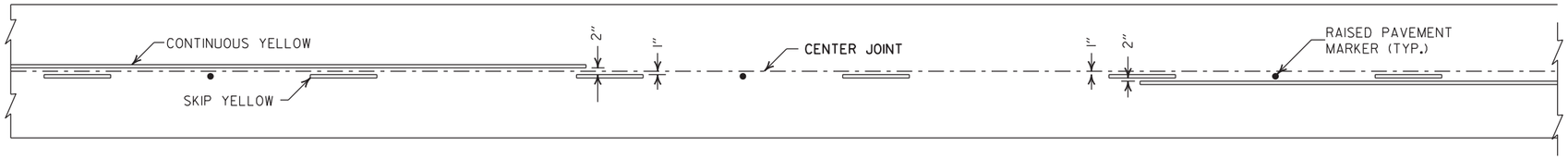


CONCRETE PAVEMENT

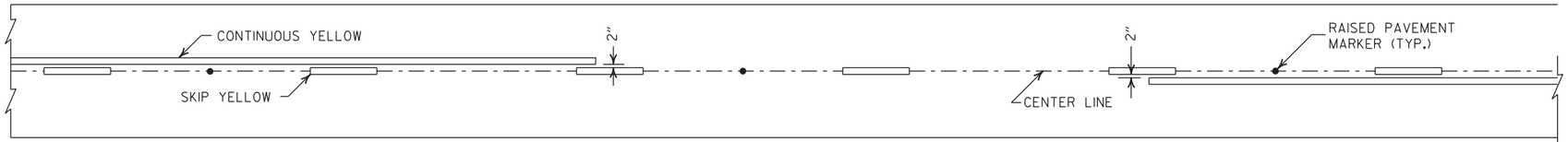


ASPHALT PAVEMENT

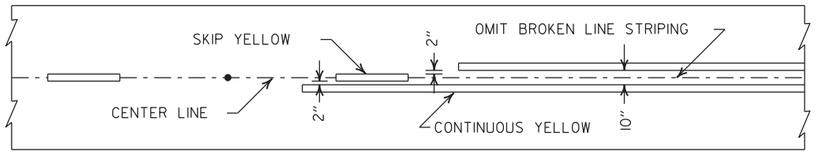
BROKEN LINE STRIPING



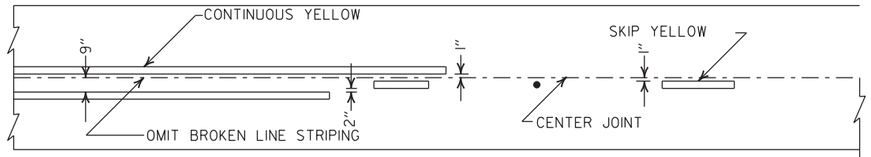
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

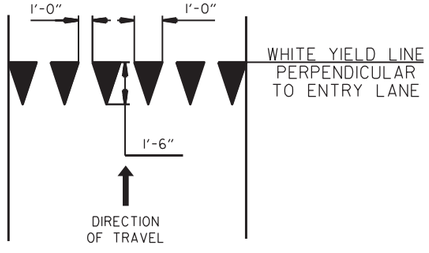


ASPHALT PAVEMENT

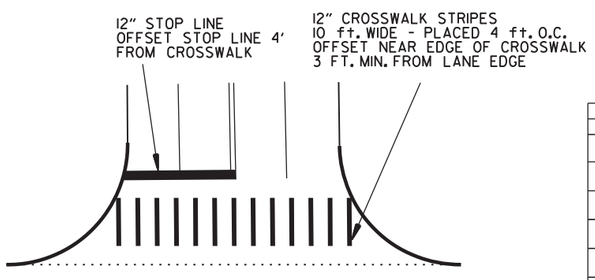


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

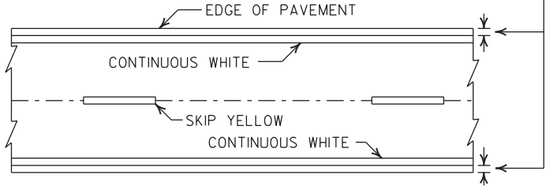


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

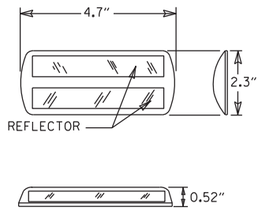
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



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



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

DATE	REVISION	FILMED
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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

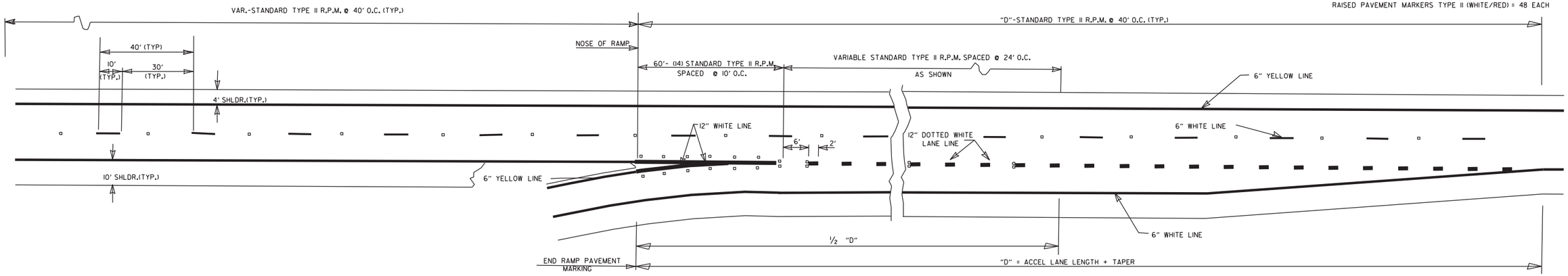
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

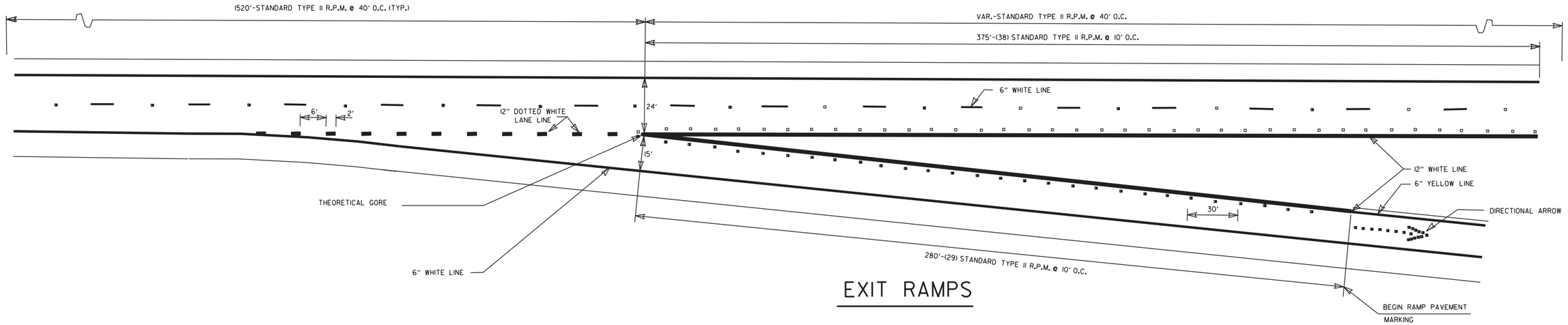
12" WHITE = 370 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

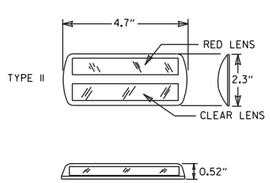
6" WHITE = 280 LIN. FT.
12" WHITE = 815 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH



ENTRANCE RAMPS

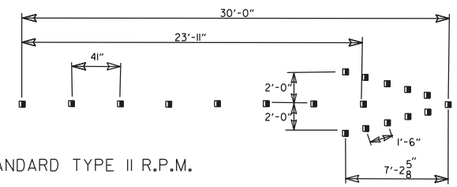


EXIT RAMPS



DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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



(19) STANDARD TYPE II R.P.M.

DIRECTIONAL ARROWS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

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

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

DATE	REVISION	FILMED
05-14-20	REMOVED CROSSHATCH MARKINGS ON EXIT RAMPS	
11-07-19	REVISED DOTTED PAV'T MARKINGS; ADDED CROSSHATCH MARKINGS ON EXIT RAMPS	
12-8-16	REVISED RAISED PAV'T MARKERS FOR 80' SPACING; REVISED WIDTH OF STRIPING	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
7-26-12	REVISED RPM NOTATION	
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

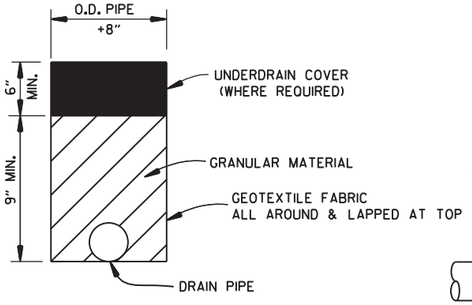
PAVEMENT MARKING DETAILS ON ACCESS CONTROLLED ROADWAYS

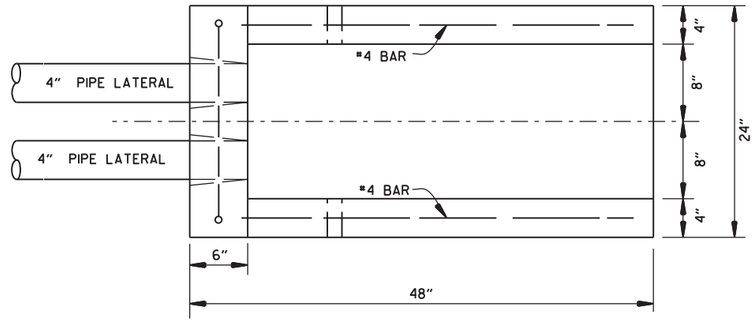
STANDARD DRAWING PM-2

NOTE:

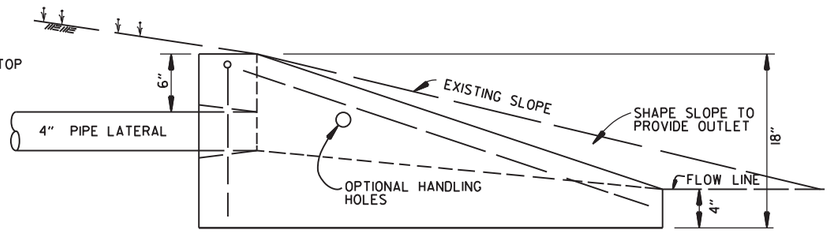
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

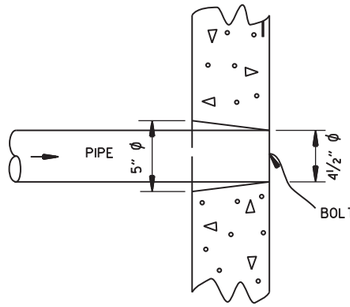




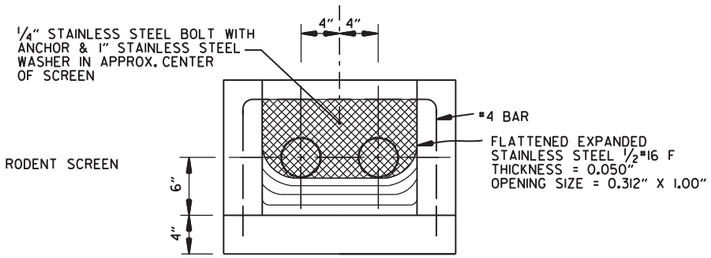
PLAN VIEW



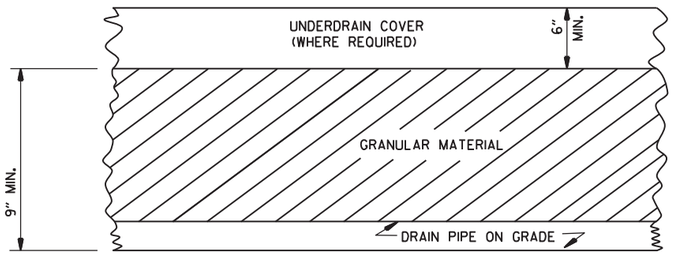
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE

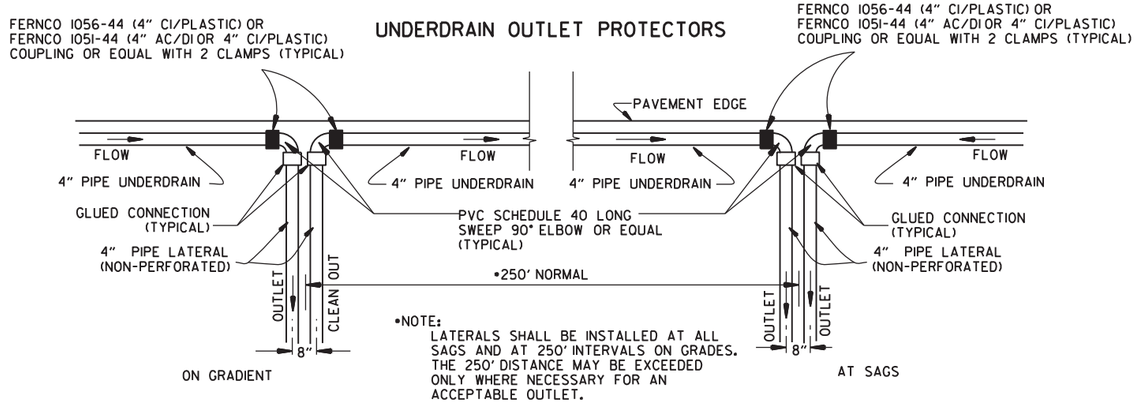


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE 1. 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.

DATE	REVISION	DATE FILMED
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; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

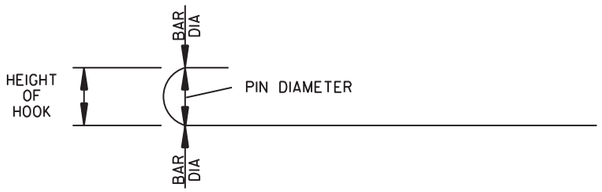
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

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

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

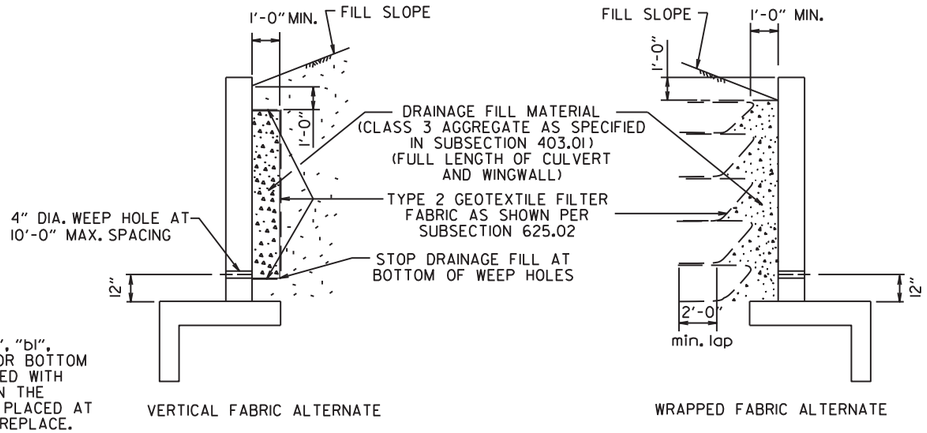
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

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

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

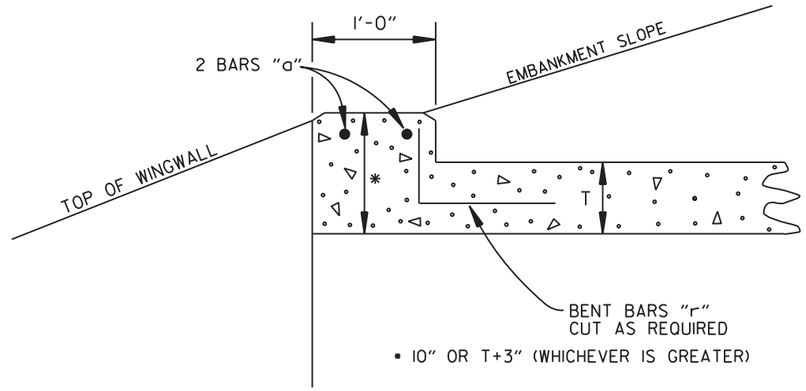
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

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

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

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



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

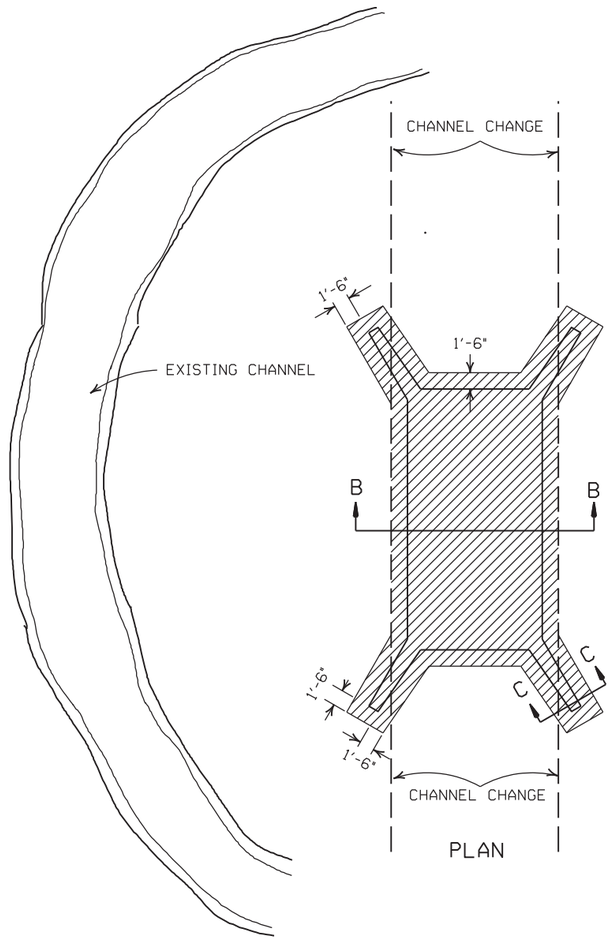
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

ARKANSAS STATE HIGHWAY COMMISSION

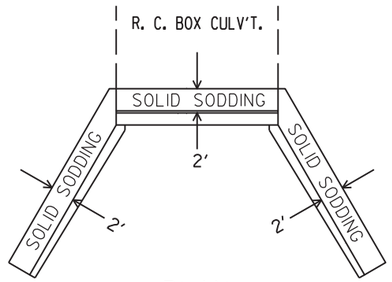
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

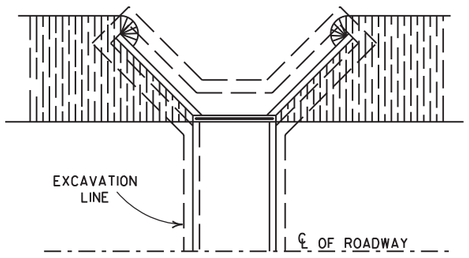
SOLID SODDING



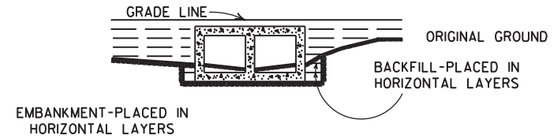
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

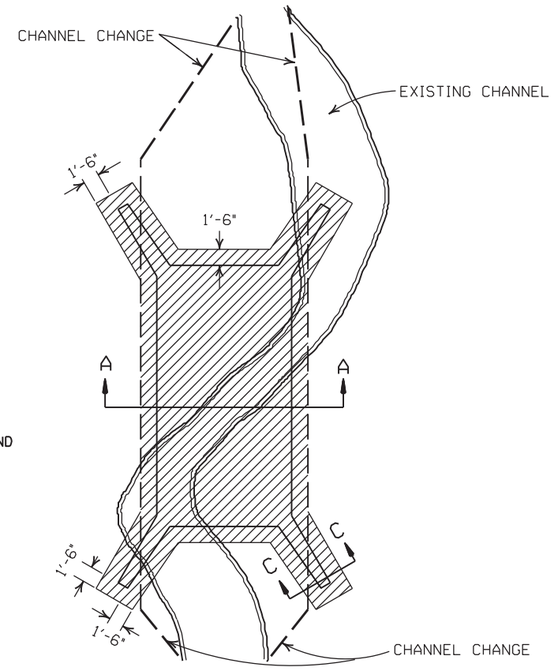


PLAN

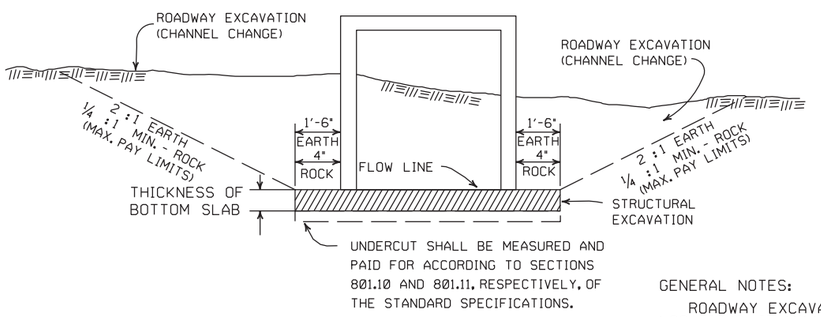


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

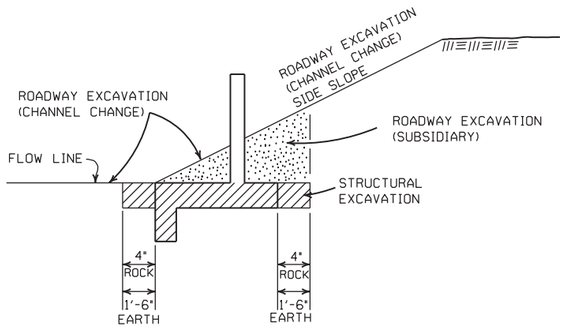


PLAN

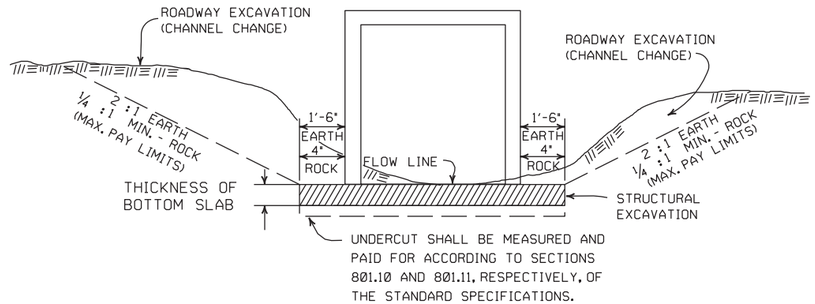


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

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

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

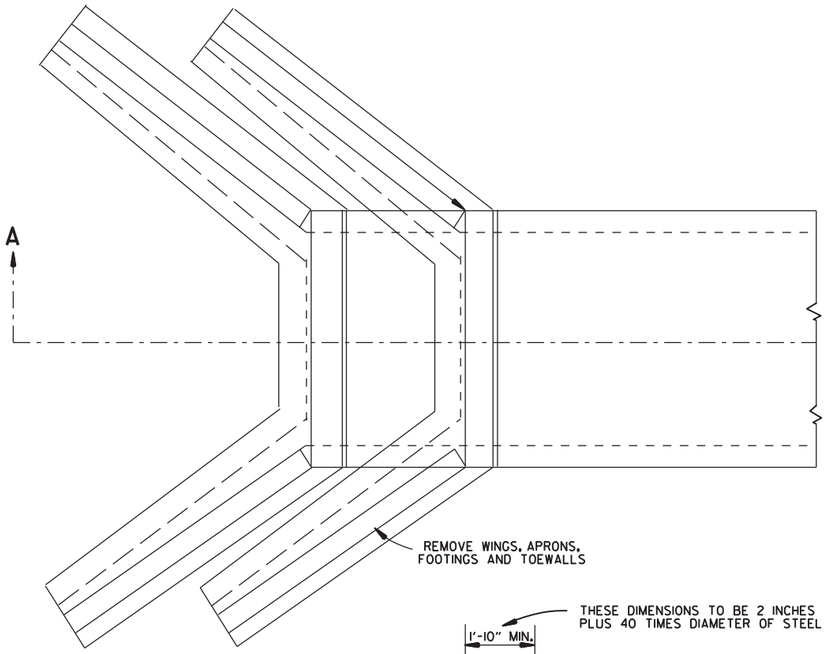
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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

ARKANSAS STATE HIGHWAY COMMISSION

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

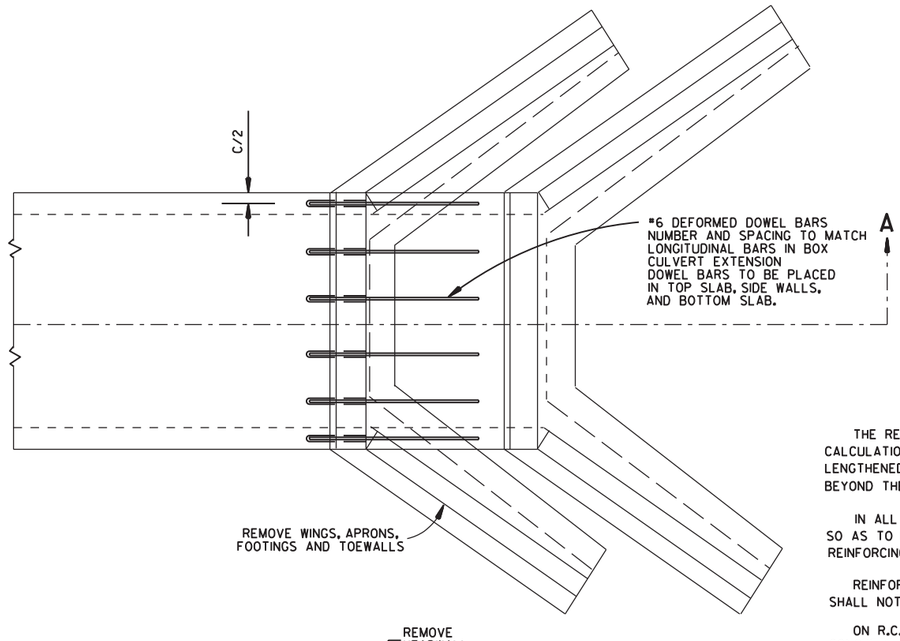
STANDARD DRAWING RCB-2



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

MINIMUM STRUCTURAL REQUIREMENTS:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

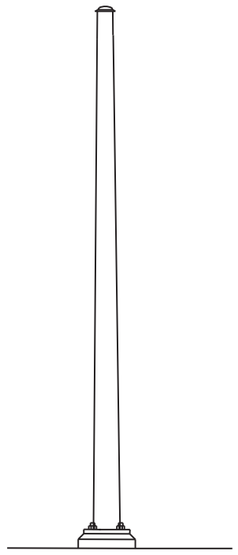
USE FATIGUE CATEGORY II.

CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

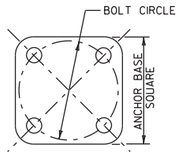
THE GROUND ROD SHALL BE FUSION WELDED TO A IC/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX PAID FOR SEPARATELY AS SHOWN ON THE PLANS.



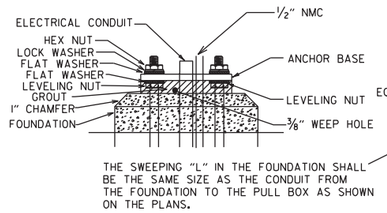
ANTENNA POLE

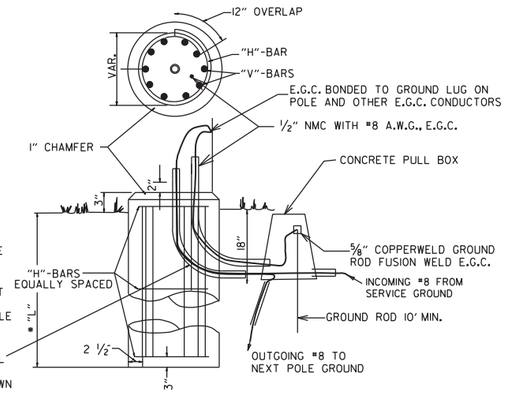
NOTE:

COMMUNICATION CABLE SHIELD SHALL BE TIED TO THE GROUND AT ONE ONE POINT (MASTER CABINET). THE SHIELD SHALL BE MAINTAINED CONTINUOUS (THROUGH ALL SPLICES). PLEASE REFER TO TESTING PROCEDURES IN SPECIAL PROVISIONS.



ANCHOR BASE





TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING.

POLE HEIGHT	FOUNDATION DIAMETER	DEPTH "L"	VERTICAL	HORIZONTAL	TIE SPACING
20.0'	30"	5'-6"	12-#7	#4	5 SP @ 12"
25.0'	30"	6'-0"	12-#7	#4	6 SP @ 11"
30.0'	30"	6'-6"	12-#7	#4	6 SP @ 12"
35.0'	30"	7'-0"	12-#7	#4	7 SP @ 11"
40.0'	30"	7'-6"	12-#7	#4	7 SP @ 12"
45.0'	36"	8'-6"	13-#8	#4	8 SP @ 12"
50.0'	36"	9'-6"	13-#8	#4	9 SP @ 12"
55.0'	36"	10'-0"	13-#8	#4	10 SP @ 11"
60.0'	36"	10'-6"	13-#8	#4	10 SP @ 12"
65.0'	36"	11'-0"	13-#8	#4	12 SP @ 10 ½"
70.0'	36"	11'-6"	13-#8	#4	11 SP @ 12"
75.0'	42"	13'-0"	18-#8	#4	14 SP @ 10 ½"
80.0'	42"	13'-6"	18-#8	#4	13 SP @ 12"
85.0'	42"	14'-6"	18-#8	#4	14 SP @ 12"
90.0'	42"	15'-0"	18-#8	#4	18 SP @ 9 ½"

ALL CONCRETE SHALL BE CLASS "S" WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH F'C=3500 PSI. CONCRETE SHALL BE POURED IN THE DRY AND ALL EXPOSED CORNERS CHAMFERED ¾" UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 OR M53, GRADE 40 (YIELD STRENGTH=40,000 PSI).

PROVIDE 3" CLEAR TIES. DETAIL 3" TO FIRST TIE AT TOP OF SHAFT.

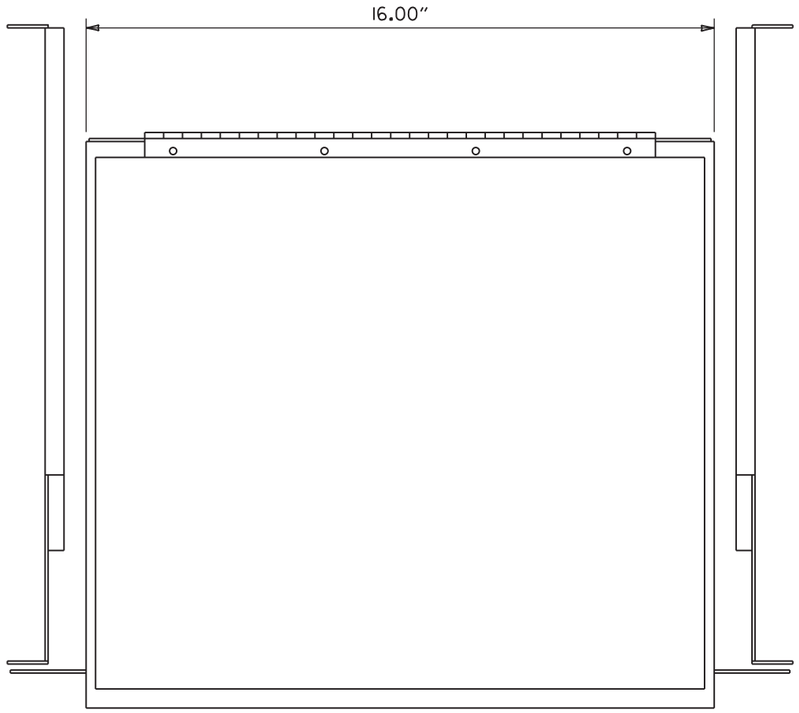
DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
09-06-00	ISSUED	

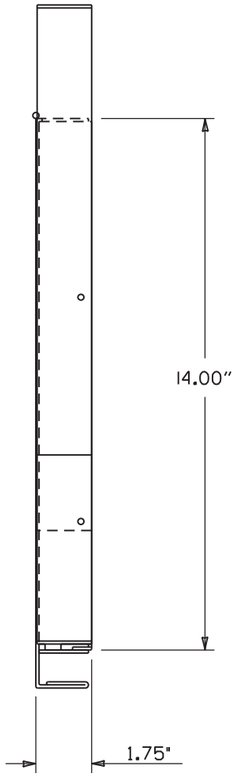
ARKANSAS STATE HIGHWAY COMMISSION

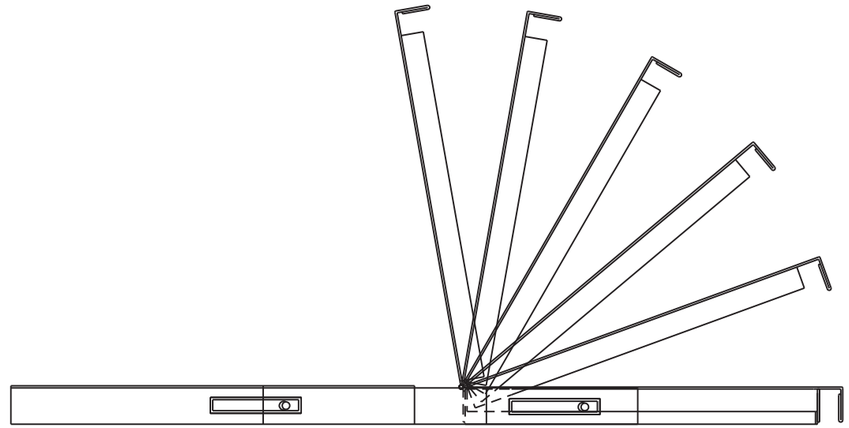
ANTENNA POLE

STANDARD DRAWING SD-1

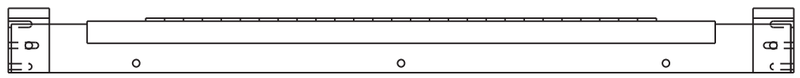
DRAWER PLAN VIEW



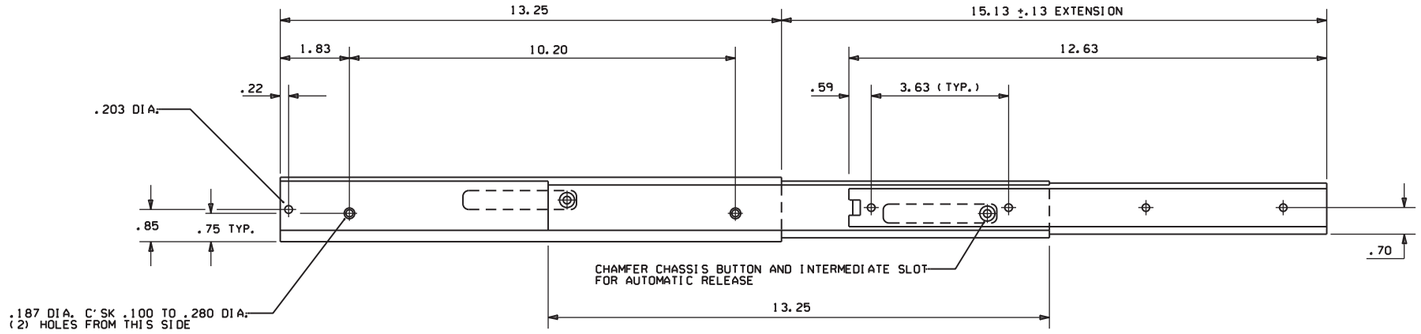




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

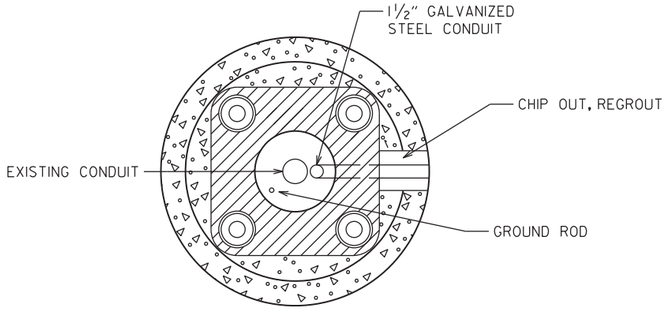
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

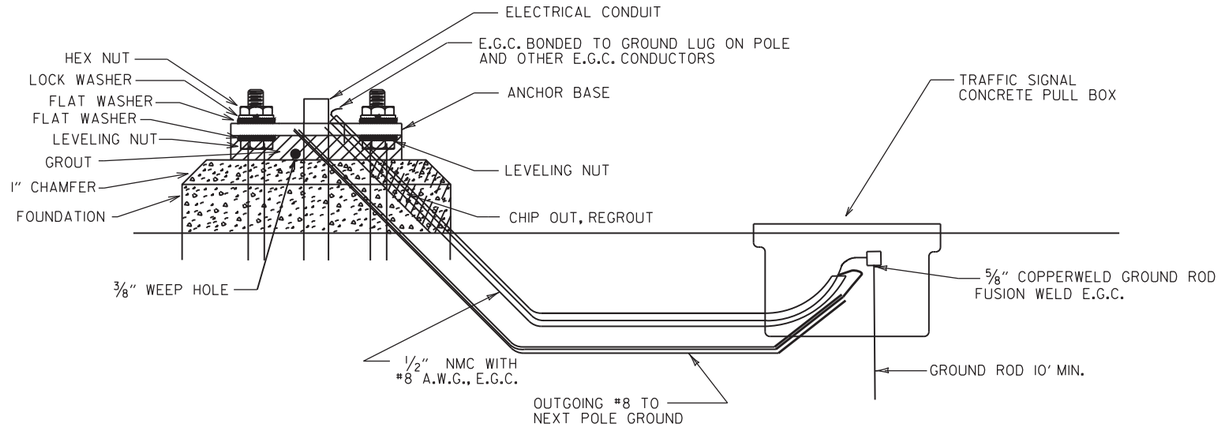
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

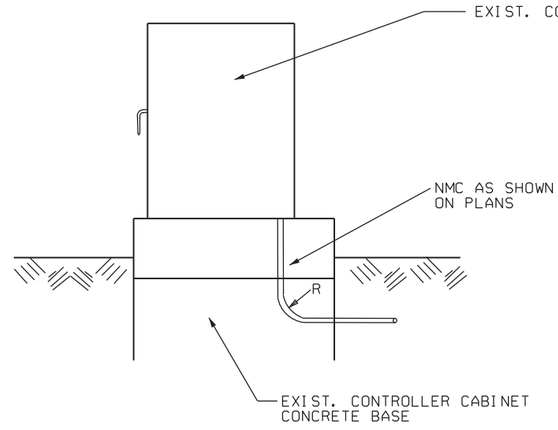
CONDUIT ENTRY TO EXISTING POLE BASE



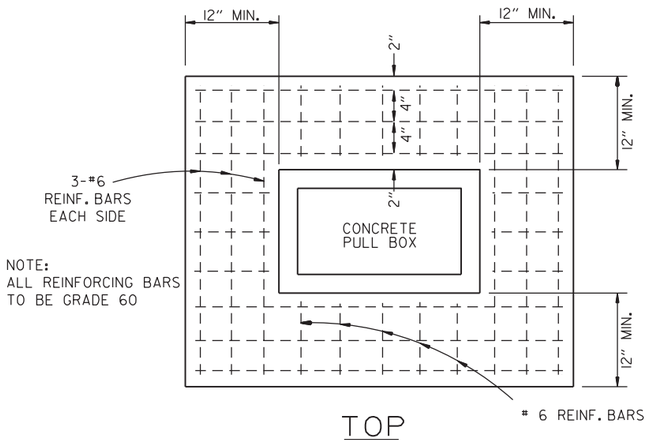
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

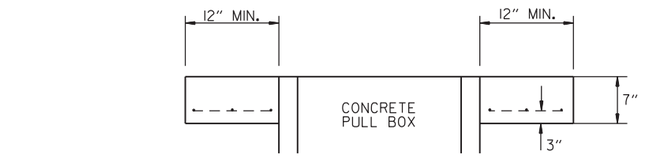


NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



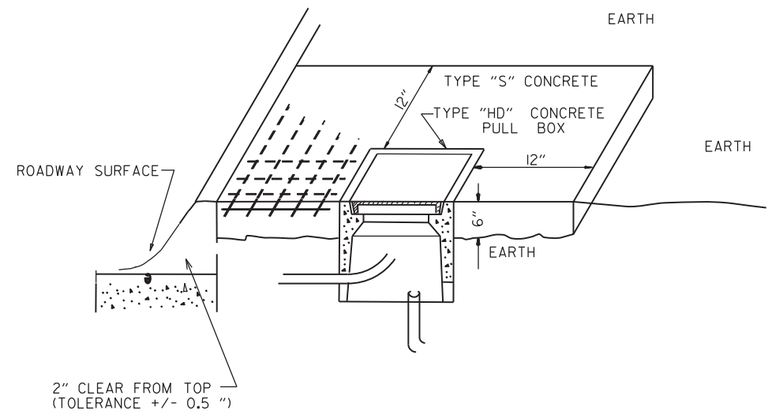
TOP

NOTE:
ALL REINFORCING BARS TO BE GRADE 60



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



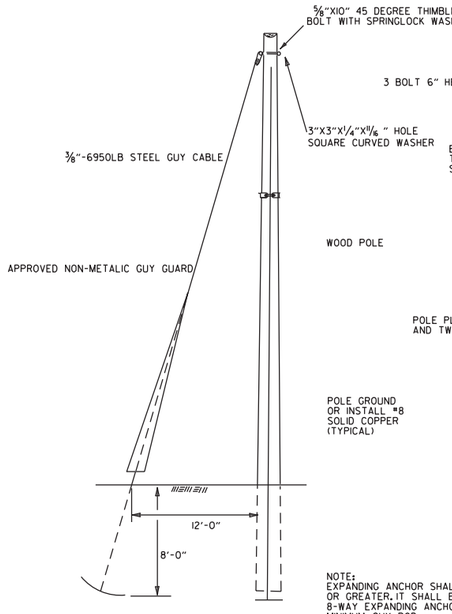
NOTE:
ALL TYPE 1AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

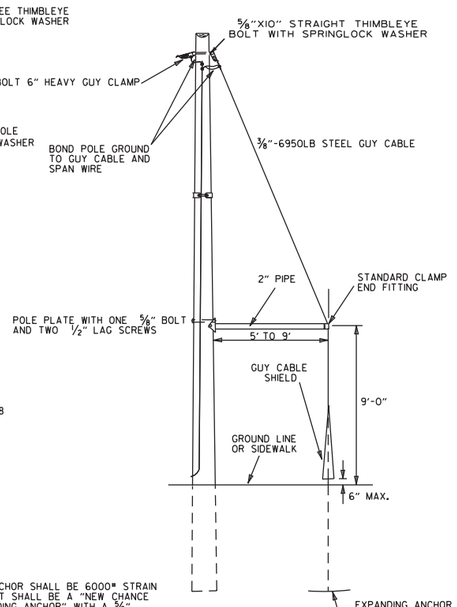
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



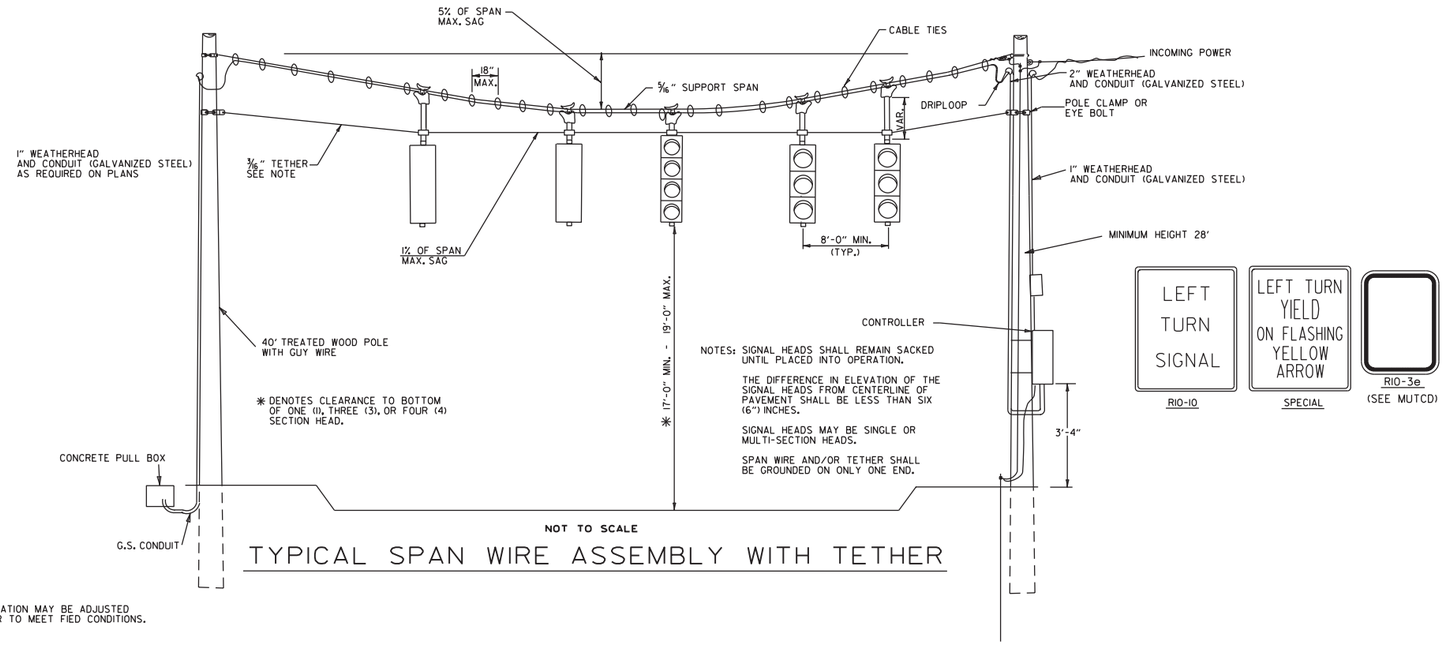
STANDARD GUY INSTALLATION



NOTE:
EXPANDING ANCHOR SHALL BE 6000# STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE 8-WAY EXPANDING ANCHOR", WITH A ⅝" MINIMUM GUY ROD.

SIDEWALK GUY INSTALLATION

NOTE:
CONDUIT INSTALLATION MAY BE ADJUSTED BY THE ENGINEER TO MEET FIED CONDITIONS.



* DENOTES CLEARANCE TO BOTTOM OF ONE (1), THREE (3), OR FOUR (4) SECTION HEAD.

NOTES: SIGNAL HEADS SHALL REMAIN SACKED UNTIL PLACED INTO OPERATION.

THE DIFFERENCE IN ELEVATION OF THE SIGNAL HEADS FROM CENTERLINE OF PAVEMENT SHALL BE LESS THAN SIX (6") INCHES.

SIGNAL HEADS MAY BE SINGLE OR MULTI-SECTION HEADS.

SPAN WIRE AND/OR TETHER SHALL BE GROUNDED ON ONLY ONE END.

NOT TO SCALE

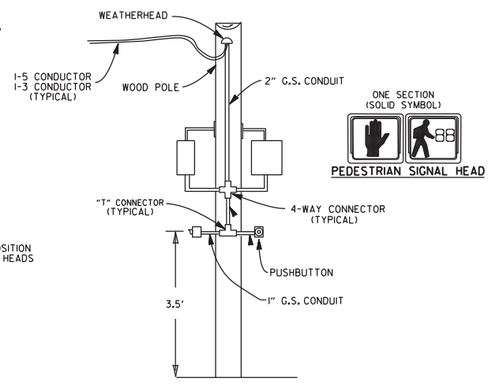
TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

NOTES:
SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

SPAN WIRE ASSEMBLIES WILL REQUIRE TETHER UNLESS OTHERWISE NOTED ON PLAN SHEETS.

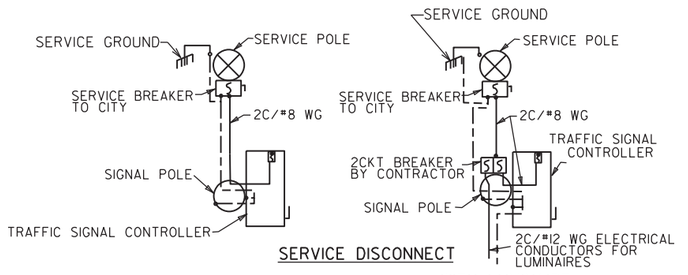
CABLE TIES SHALL BE SUITABLE FOR OUTSIDE USE (BLACK).

THE CONTROLLER POWER SUPPLY GROUND BUSS SHALL BE BONDED TO THE FOUNDATION GROUND ROD WITH A #8 A.W.G. SOLID COPPER WIRE. ON EXISTING FOUNDATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X ⅝" COPPERWELD GROUND ROD.



PEDESTRIAN SIGNAL HEAD

WOODEN POLE INSTALLATION OF PED HEADS



SERVICE DISCONNECT

NO LUMINAIRE WITH LUMINAIRE

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., I-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., I-WAY)", TO BE USED AS A LEFT TURN INDICATION ONLY, SHALL INCLUDE A SIGN (RIO-IO) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

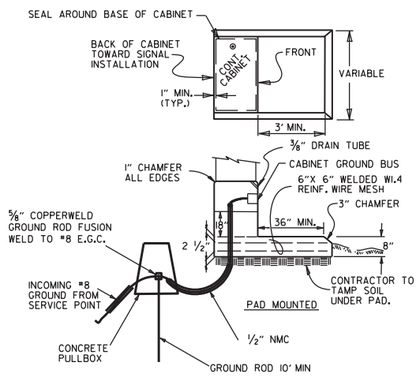
ALL SIGN BLANK SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.

ALL SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

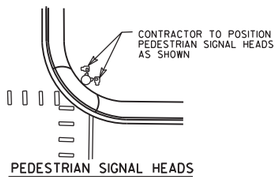
SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

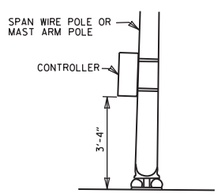
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.



CONCRETE BASE MOUNTED CABINET DETAILS



PEDESTRIAN SIGNAL HEADS



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED

CABINET NOTE:

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

MINIMUM STRUCTURAL REQUIREMENTS:

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

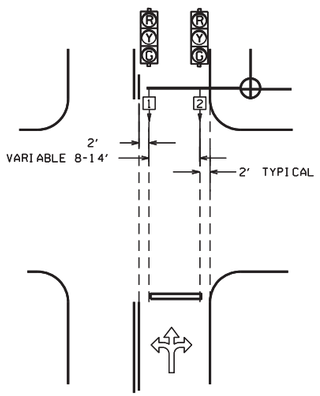
DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED SPAN WIRE SUPPORT POLE DETAIL, ADDED PEDESTRIAN SIGNAL HEAD DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED PEDESTRIAN SIGN & GROUNDING	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENTATION & SIGNAL OPERATION	
05-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISION TO NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SPAN WIRE ASSEMBLY WOOD POLE

STANDARD DRAWING SD-7

(A)



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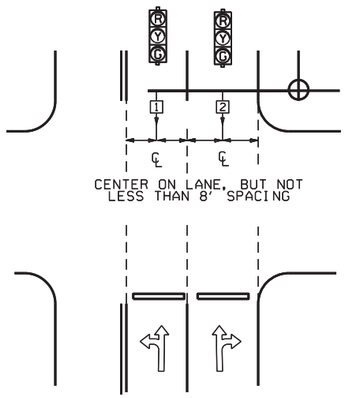

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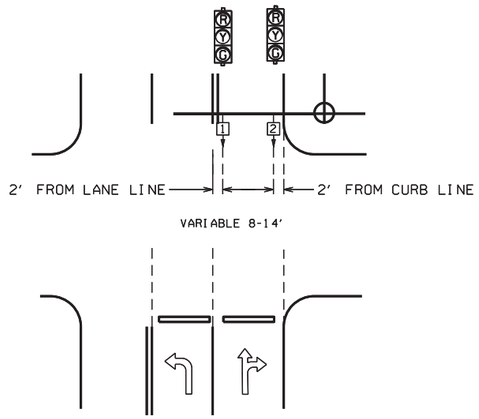

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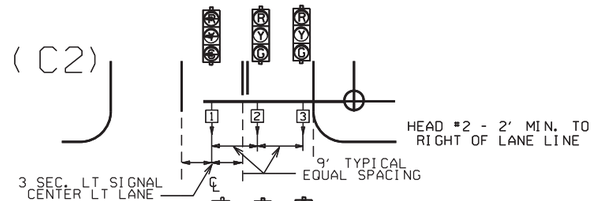

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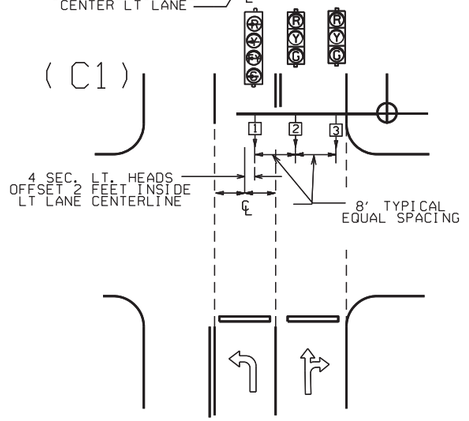

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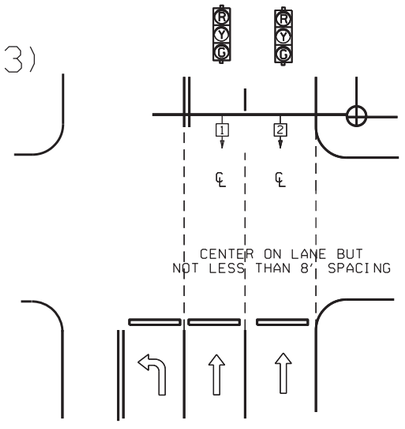
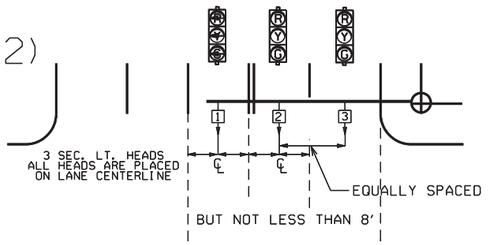


(D2)



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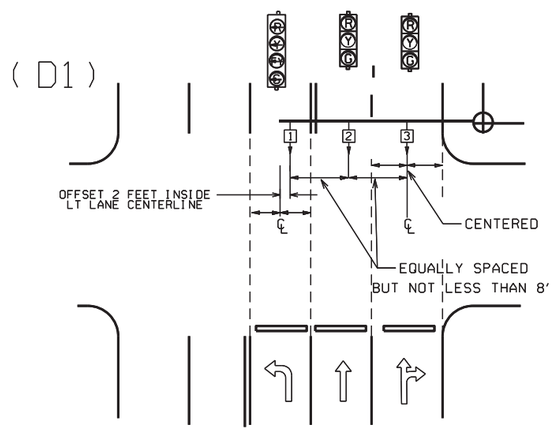
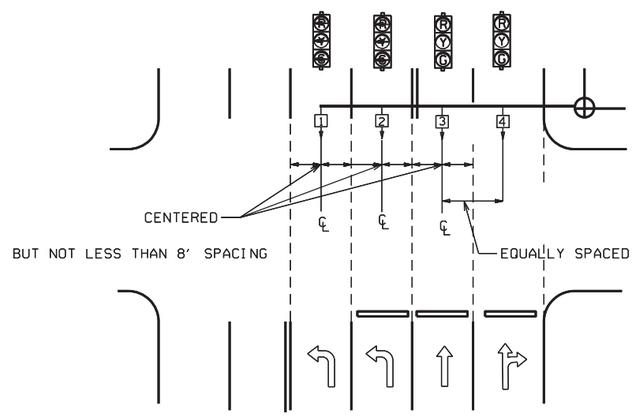


NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-5 OF 2009 MUTCD.

DATE	REVISION	DATE FILM
12-8-16	REVISED NOTE 6	
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	

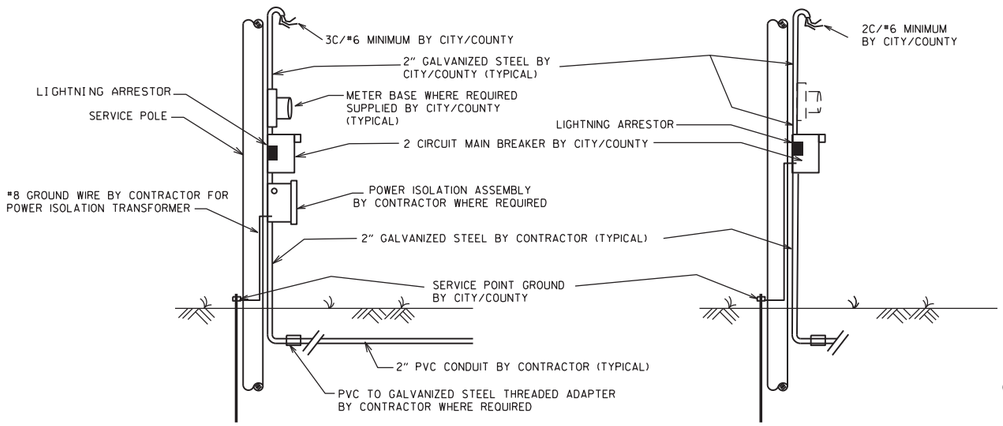
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY

NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

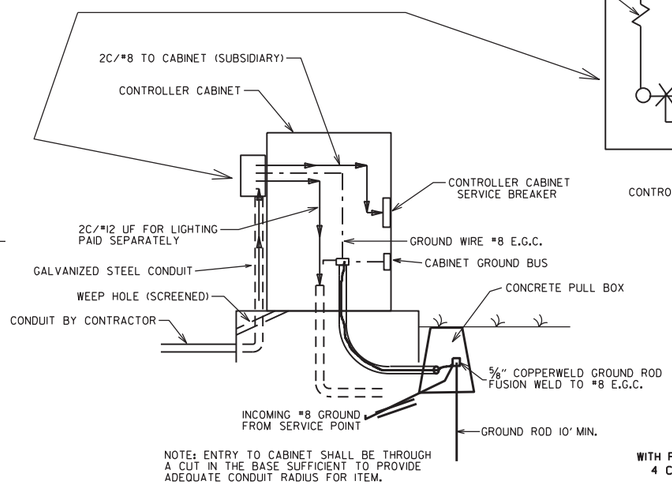
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

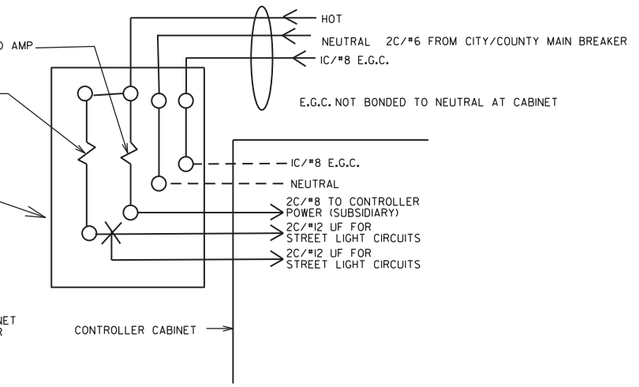
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



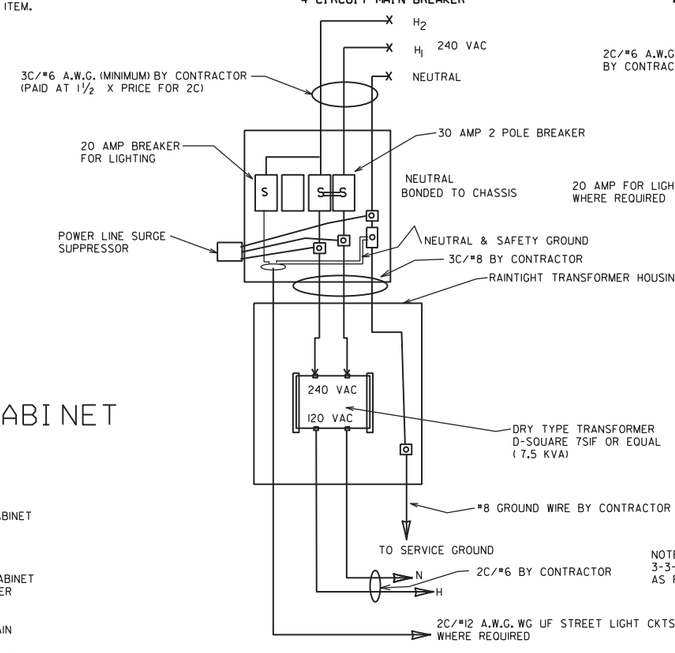
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



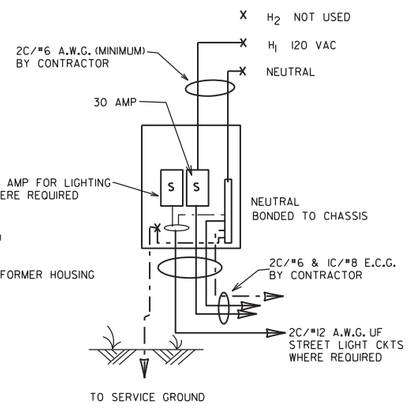
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

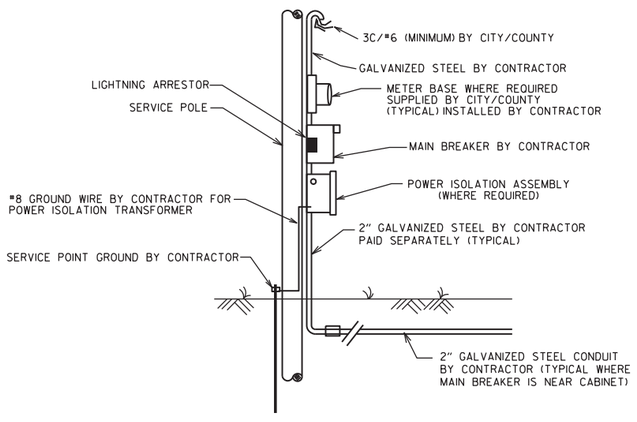
WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER



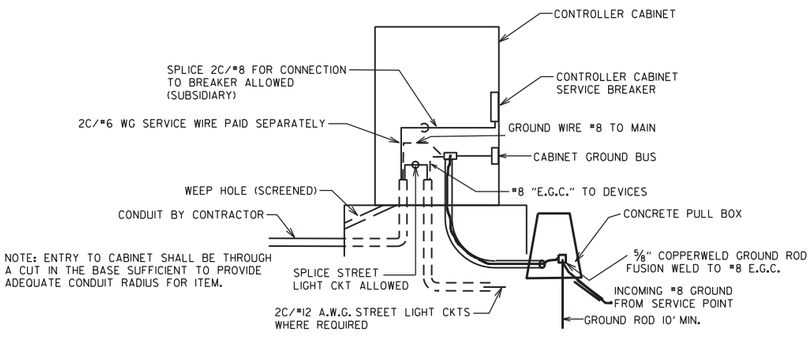
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.C.G.) ADDED 3-3-2003, CONSISTING OF A IC/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.



MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.):
DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE. POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

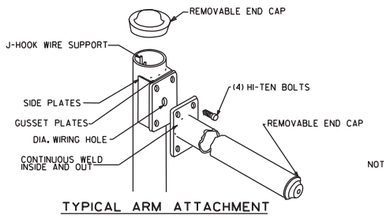
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

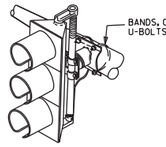
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

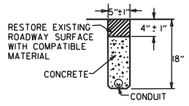
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



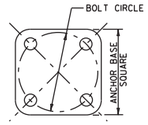
TYPICAL ARM ATTACHMENT



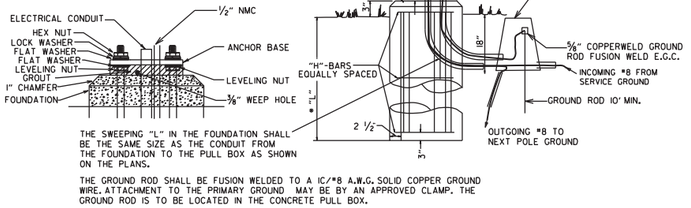
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



ANCHOR BASE



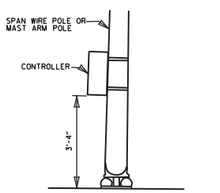
THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

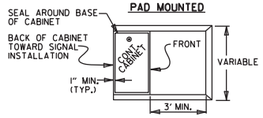
TYPICAL FOUNDATION DETAILS

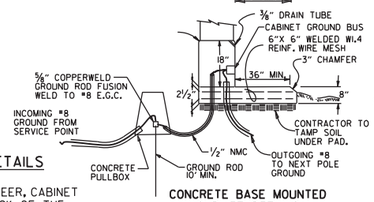
POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL		
			VERTICAL	HORIZONTAL	O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED





CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

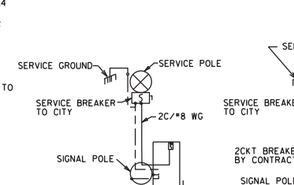
NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

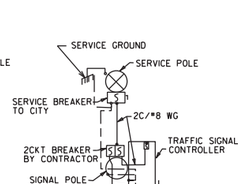
9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.



NO LUMINAIRE



WITH LUMINAIRE

SERVICE DISCONNECT
NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANIFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

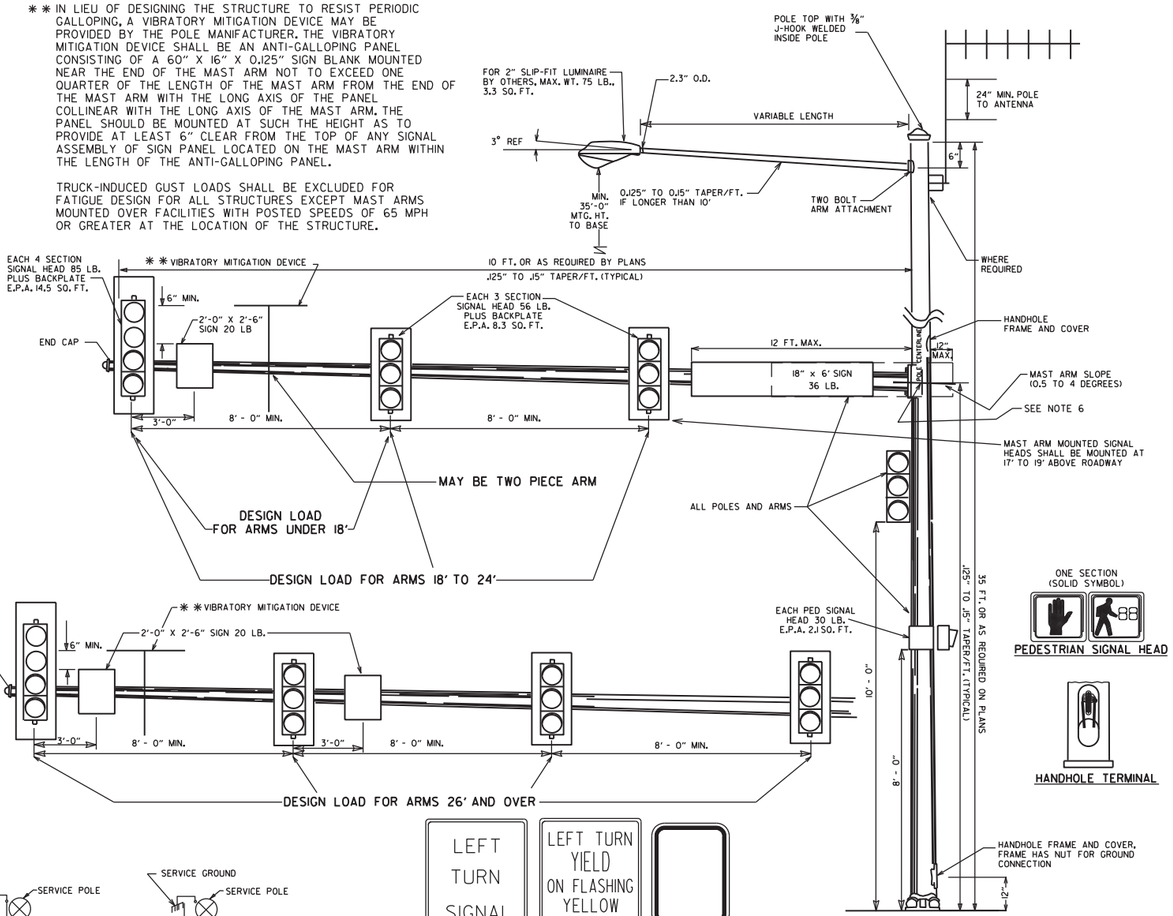
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

SIGNAL OPERATION NOTES:

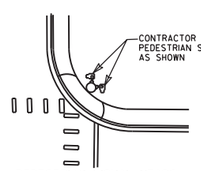
FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.



R10-10 SPECIAL



PEDESTRIAN SIGNAL HEADS

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

SUPERELEVATION TABLE FOR ONE - 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	115		RC	115		RC	115		0.022	121	
0° 45'	NC			NC			NC			NC			RC	115		RC	115		0.024	127		0.026	132		0.030	144		0.032	150	
1° 00'	NC			NC			NC			RC	108		0.022	121		0.026	132		0.030	144		0.034	156		0.038	167		0.042	179	350
1° 15'	NC			NC			RC	101		0.022	114		0.028	138		0.032	150		0.038	167		0.042	179		0.046	190	350	0.052	208	
1° 30'	NC			RC	94		0.022	106		0.028	130		0.032	150		0.038	167		0.044	185		0.050	202	350	0.056	218		0.062	236	
1° 45'	RC	86		RC	94		0.026	116		0.030	136		0.036	161		0.044	185		0.050	202	350	0.056	218		0.064	242		0.070	259	
2° 00'	RC	86		0.024	103		0.028	121		0.034	146		0.042	179		0.048	196		0.056	218		0.064	242		0.070	259		0.080	288	400
2° 15'	RC	86		0.026	108		0.032	131		0.038	157		0.046	190		0.054	214		0.062	236		0.070	259		0.078	282	400	0.088	311	
2° 30'	0.022	90		0.028	113		0.034	136		0.042	168		0.050	202		0.058	224	350	0.068	253		0.076	276		0.086	305		0.096	334	450
2° 45'	0.024	95		0.030	118		0.038	146		0.046	179		0.054	214	300	0.064	242		0.072	265		0.082	294	400	0.092	323		0.100	346	
3° 00'	0.026	100		0.034	126		0.040	151		0.050	190	300	0.058	224		0.068	253		0.078	282		0.088	311		0.098	340	450	D MAX = 2° 45'		
3° 15'	0.028	103		0.036	131		0.044	161	250	0.052	194		0.062	236		0.072	265		0.082	294		0.092	323		0.100	346				
3° 30'	0.030	108		0.038	136		0.046	167		0.056	205		0.066	247		0.076	276		0.086	305	400	0.096	334		D MAX = 3° 30'					
3° 45'	0.032	112		0.040	140		0.050	176		0.058	211		0.070	259		0.080	288		0.090	317		0.098	340							
4° 00'	0.034	116		0.042	145	250	0.052	181		0.062	222		0.072	265		0.084	300		0.094	329	400	0.100	346							
4° 15'	0.036	120		0.044	150		0.054	186		0.064	227		0.076	276		0.086	305		0.096	334		D MAX = 4° 15'								
4° 30'	0.036	120		0.046	155		0.056	192		0.068	238		0.078	282		0.090	317		0.098	340										
4° 45'	0.038	125		0.048	160		0.060	202		0.070	244		0.082	294		0.092	323		0.100	346										
5° 00'	0.040	130		0.050	164		0.062	206		0.072	248		0.084	300		0.094	329	400	D MAX = 5° 15'										
5° 30'	0.044	138		0.054	173		0.068	217		0.078	265		0.088	311		0.098	340												
6° 00'	0.046	143	250	0.058	182		0.070	227		0.082	276		0.092	323		0.100	346												
6° 30'	0.050	151		0.062	192		0.074	238		0.086	287		0.096	334	350	D MAX = 6° 30'													
7° 00'	0.052	156		0.064	197		0.078	247		0.090	298		0.098	340															
7° 30'	0.054	160		0.068	206		0.080	252		0.092	302	350	0.100	346															
8° 00'	0.058	168		0.070	211		0.084	263		0.094	308		D MAX = 8° 25'																
8° 30'	0.060	173		0.072	215		0.086	268	300	0.096	313																		
9° 00'	0.062	178		0.076	224		0.088	272		0.098	319																		
9° 30'	0.064	181		0.078	229		0.092	282		0.100	324																		
10° 00'	0.066	186		0.080	234		0.094	288		D MAX = 10° 30'																			
11° 00'	0.070	194		0.084	244		0.096	293																					
12° 00'	0.074	203		0.088	253	300	0.098	298																					
13° 00'	0.076	208		0.090	258		0.100	302	350																				
14° 00'	0.080	216		0.094	266		D MAX = 13° 45'																						
15° 00'	0.082	221		0.096	271																								
16° 00'	0.086	229		0.098	276																								
17° 00'	0.088	233		0.100	281																								
18° 00'	0.090	238		D MAX = 19° 30'																									
19° 00'	0.092	242																											
20° 00'	0.094	246																											
21° 00'	0.096	251	300																										
22° 00'	0.096	251																											
23° 00'	0.098	254																											
24° 00'	0.098	254																											
25° 00'	0.100	259																											
D MAX = 28° 30'																													

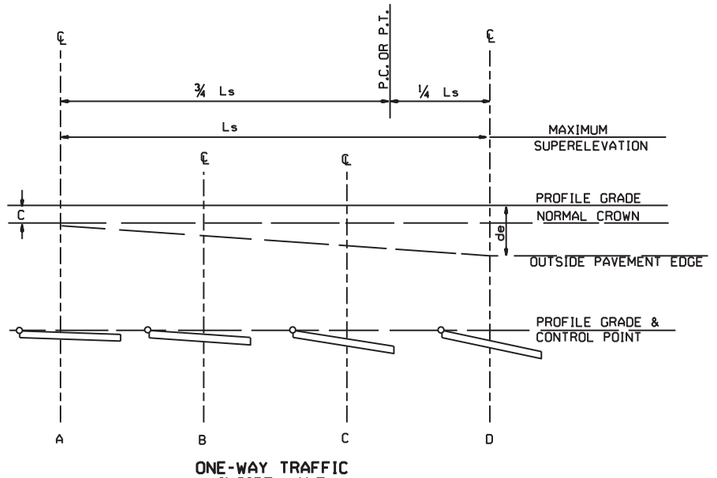
ABBREVIATIONS

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

GENERAL NOTES

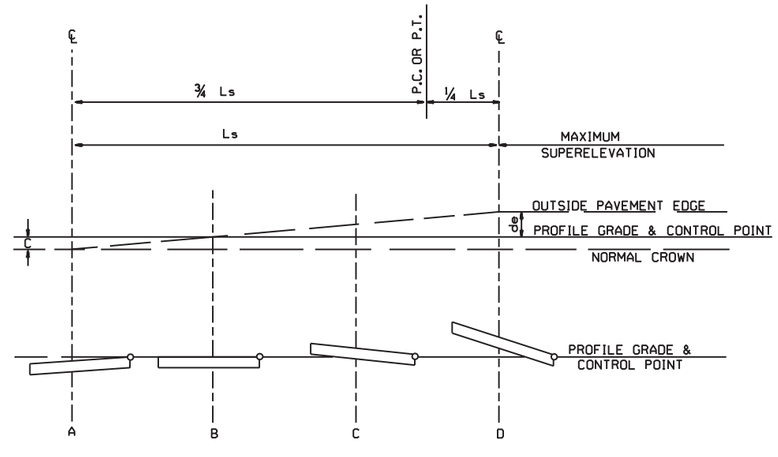
1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
11-07-19	REVISED SUPERELEVATION TABLE	
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			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		0.022	101	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.042	149	300
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158	300	0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168	300	0.056	182		0.062	197	
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		0.070	216	
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		0.080	240	
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		0.088	259	350
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187	300	0.068	211		0.076	230		0.086	254	350	0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149	200	0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	400
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		D MAX = 2° 45'		
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				
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		D MAX = 3° 30'					
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							
4° 00'	0.034	97		0.042	121	200	0.052	151		0.062	185		0.072	221		0.084	250		0.094	274		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		D MAX = 4° 15'								
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283										
4° 45'	0.038	104	200	0.048	133		0.060	168		0.070	203		0.082	245		0.092	269		0.100	288										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		D MAX = 5° 15'										
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221	250	0.088	259		0.098	283												
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.100	288												
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278	300	D MAX = 6° 30'													
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283															
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.100	288															
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257	300	D MAX = 8° 25'																
8° 30'	0.060	144		0.072	179		0.086	223	250	0.096	261																		
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266																		
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270																		
10° 00'	0.066	155		0.080	195		0.094	240		D MAX = 10° 30'																			
11° 00'	0.070	162		0.084	203		0.096	244																					
12° 00'	0.074	169		0.088	211	250	0.098	248																					
13° 00'	0.076	173		0.090	215		0.100	252	300																				
14° 00'	0.080	180		0.094	222		D MAX = 13° 45'																						
15° 00'	0.082	184		0.096	226																								
16° 00'	0.086	191		0.098	230																								
17° 00'	0.088	194		0.100	234																								
18° 00'	0.090	198	250	D MAX = 19° 30'																									
19° 00'	0.092	202																											
20° 00'	0.094	205																											
21° 00'	0.096	209																											
22° 00'	0.096	209																											
23° 00'	0.098	212																											
24° 00'	0.098	212																											
25° 00'	0.100	216																											
D MAX = 28° 30'																													

GENERAL NOTES

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

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

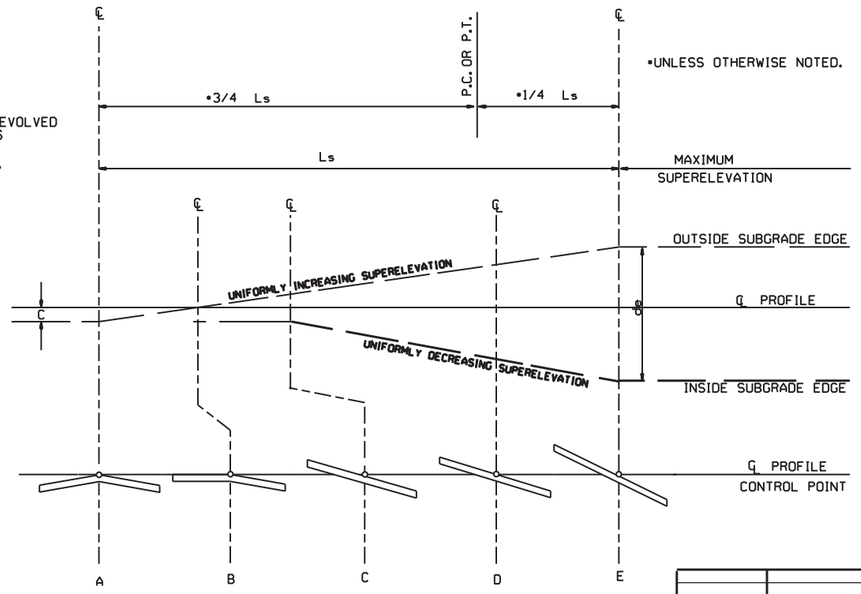
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

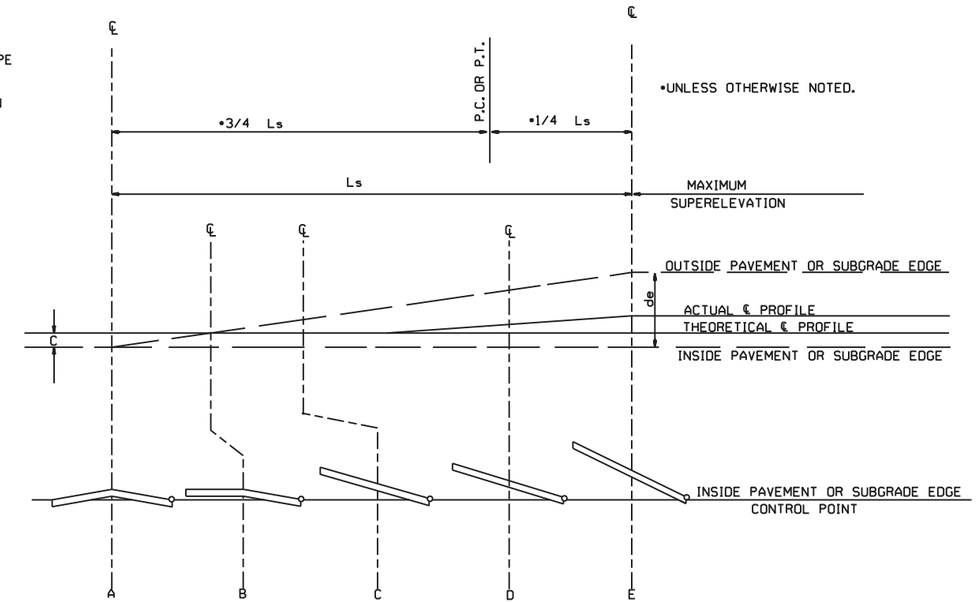
SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

ABBREVIATIONS

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



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

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

DATE	REVISION	DATE FILMED
11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC (4% MAXIMUM)

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE
0° 15'	NC		
0° 30'			
0° 45'			
1° 00'			
1° 15'			
1° 30'			
1° 45'			
2° 00'			
2° 15'	RC	72	100
2° 30'			
2° 45'			
3° 00'			
3° 15'	0.022	75	
3° 30'			
3° 45'	0.024	79	
4° 00'			
4° 15'			
4° 30'			
4° 45'	0.026	83	
5° 00'			
5° 30'			
6° 00'	0.028	86	125
6° 30'			
7° 00'	0.030	90	
7° 30'			
8° 00'			
8° 30'	0.032	93	
9° 00'			
9° 30'			
10° 00'	0.034	97	
10° 30'			
11° 00'			
11° 30'			
12° 00'	0.036	100	
12° 30'			
13° 00'			
13° 30'			
14° 00'	0.038	104	
14° 30'			
15° 00'			
15° 30'			
16° 00'			
16° 30'	0.040	108	150

D MAX = 22° 45'

DEGREE OF CURVE	35 MPH e	35 MPH Ls (FT) MINIMUM	35 MPH Ls (FT) DESIRABLE
0° 15'	NC		
0° 30'			
0° 45'			
1° 00'			
1° 15'			
1° 30'			
1° 45'	RC	78	100
2° 00'			
2° 15'			
2° 30'	0.022	82	
2° 45'	0.024	86	
3° 00'			
3° 15'			
3° 30'	0.026	90	
3° 45'			
4° 00'			
4° 15'	0.028	94	125
4° 30'			
4° 45'			
5° 00'	0.030	98	
5° 30'			
6° 00'	0.032	101	
6° 30'			
7° 00'	0.034	105	
7° 30'			
8° 00'			
8° 30'	0.036	109	
9° 00'			150
9° 30'	0.038	113	
10° 00'			
10° 30'			
11° 00'			
11° 30'	0.040	117	

D MAX = 15° 15'

DEGREE OF CURVE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE
0° 15'	NC		
0° 30'			
0° 45'			
1° 00'			
1° 15'	RC	84	100
1° 30'			
1° 45'			
2° 00'	0.022	88	
2° 15'	0.024	92	
2° 30'	0.026	97	
2° 45'			
3° 00'	0.028	101	125
3° 15'			
3° 30'	0.030	105	
3° 45'			
4° 00'	0.032	109	
4° 15'			
4° 30'	0.034	113	
4° 45'			
5° 00'	0.036	118	150
5° 30'			
6° 00'	0.038	122	
6° 30'			
7° 00'	0.040	126	
7° 30'			
8° 00'			

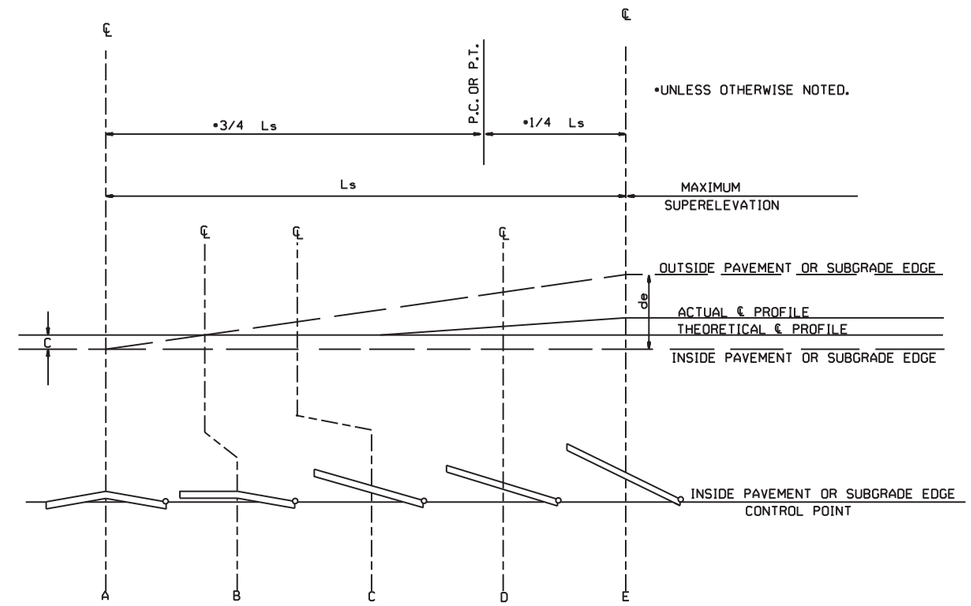
D MAX = 10° 30'

DEGREE OF CURVE	45 MPH e	45 MPH Ls (FT) MINIMUM	45 MPH Ls (FT) DESIRABLE
0° 15'	NC		
0° 30'			
0° 45'			
1° 00'	RC	90	125
1° 15'			
1° 30'	0.022	95	
1° 45'	0.024	99	
2° 00'	0.026	104	
2° 15'			
2° 30'	0.028	108	
2° 45'	0.030	113	
3° 00'			
3° 15'	0.032	117	
3° 30'			
3° 45'	0.034	122	150
4° 00'			
4° 15'	0.036	126	
4° 30'			
4° 45'	0.038	131	
5° 00'			
5° 30'	0.040	135	
6° 00'			

D MAX = 8° 00'

ABBREVIATIONS

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



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

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

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

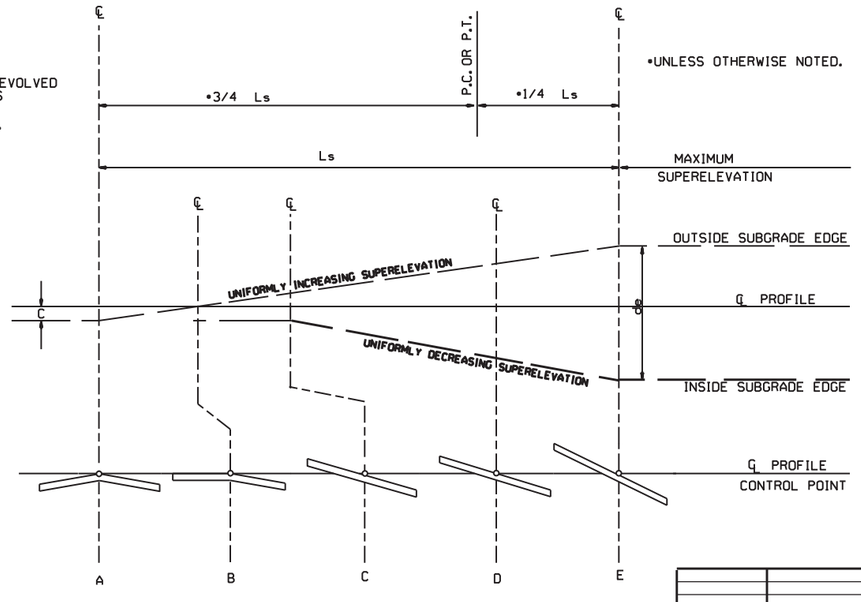
GENERAL NOTES

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

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

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

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



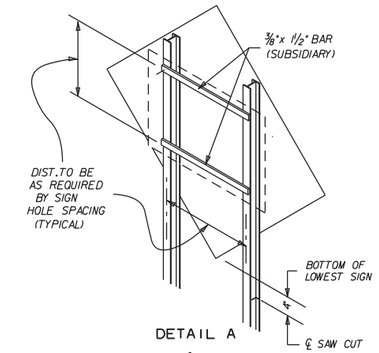
STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

11-07-19	ISSUED	
DATE	REVISION	DATE FILMED

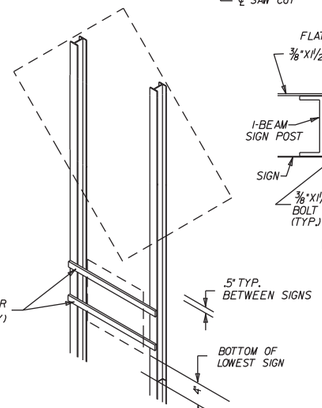
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC (4% MAXIMUM)

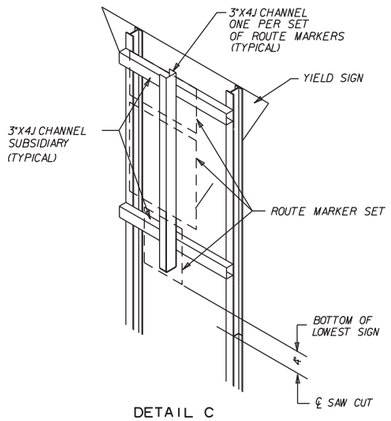
STANDARD DRAWING SE-3



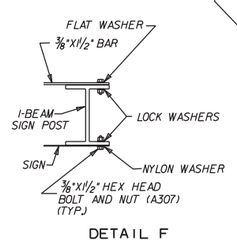
DETAIL A



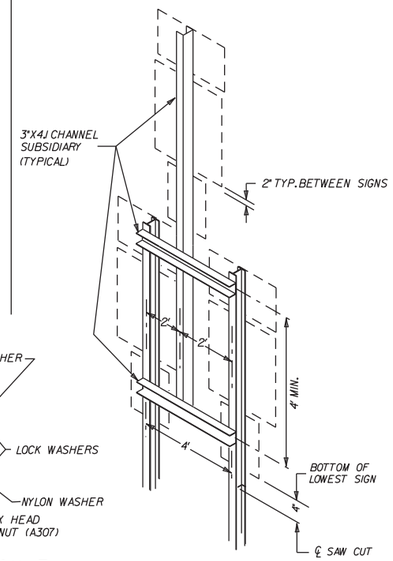
DETAIL B



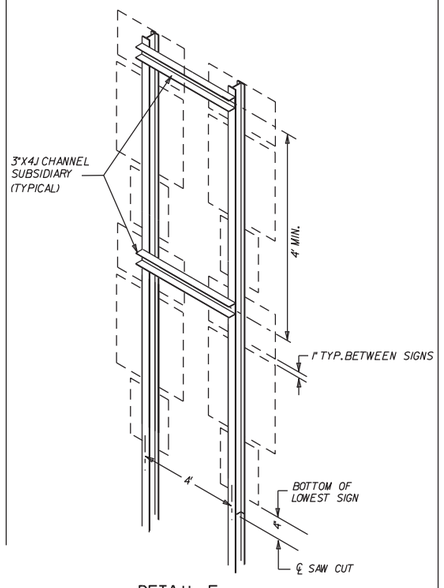
DETAIL C



DETAIL F



DETAIL D



DETAIL E

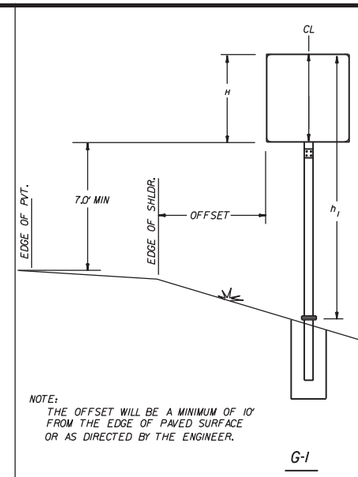
NOTE

ALL ADDITIONAL MOUNTING HARDWARE, BOLTS, NUTS, CHANNELS AND BAR STRAPS REQUIRED TO MOUNT SECONDARY SIGNS WILL BE CONSIDERED TO BE SUPPLEMENTAL TO THE MAIN SIGN SUPPORT SPECIFIED. PAYMENT WILL BE CONSIDERED SUBSIDIARY TO THE MAIN SUPPORT.

THE GALVANIZED STEEL CHANNEL AND BAR SUPPORTS MAY BE ASTM A-36.

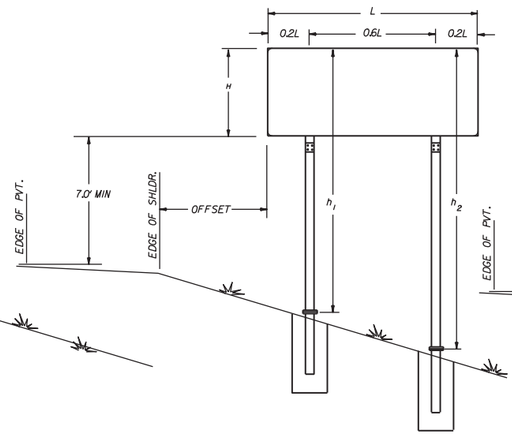
REFER TO THE P.C. RUTLEDGE FORMULA ON PAGE 58 OF THE AASHTO PUBLICATION "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

ALL BOLT HOLES SHALL BE ⅛" DIA. UNLESS OTHERWISE SHOWN.

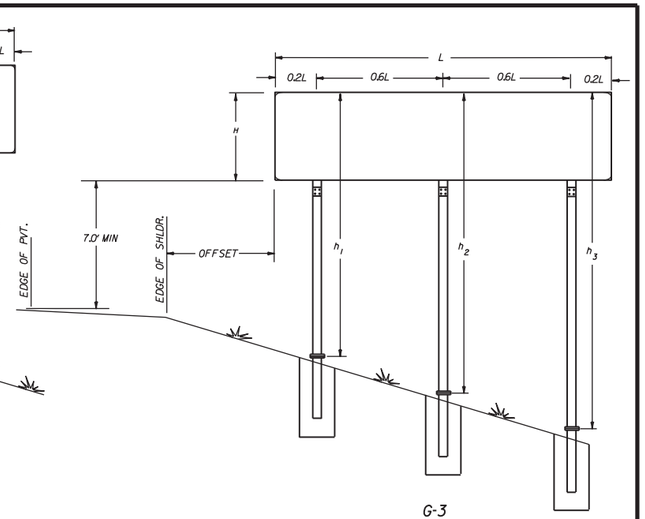


G-1

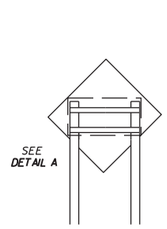
NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER.



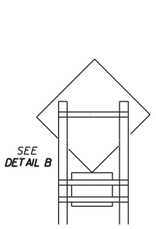
G-2



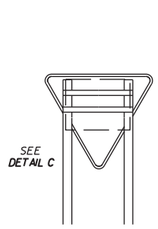
G-3



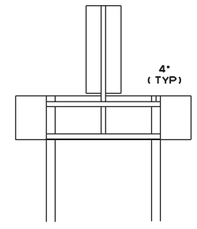
G2-1



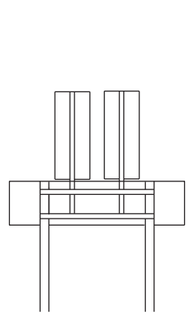
G2-2



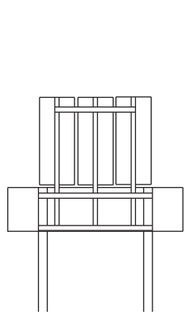
G2-3



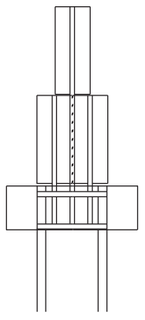
G2-4



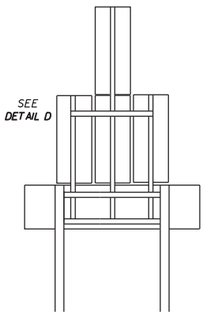
G2-5



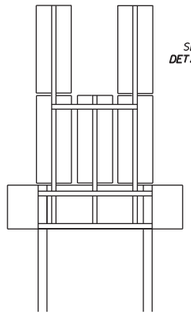
G2-6



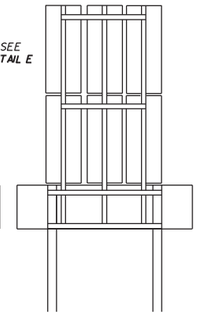
G2-7



G2-8



G2-9



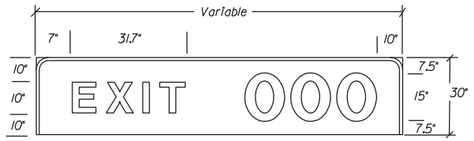
G2-10

			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS
9-12-13	ISSUED		STANDARD DRAWING SHS-4
DATE	REVISION	FILMED	



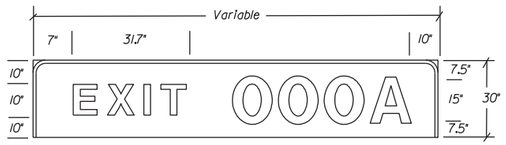
TYPICAL DETAIL

TYPE A



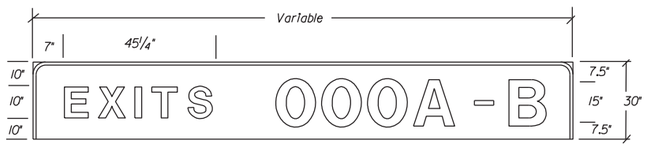
EXIT WITH 1 DIGIT 84"X30"=17.50 SF
EXIT WITH 2 DIGITS 96"X30"=20.0 SF
EXIT WITH 3 DIGITS 114"X30"=23.57 SF

TYPE B



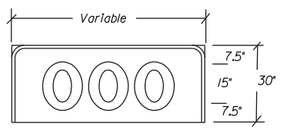
EXIT WITH 1 DIGIT PLUS "A"OR"B" 96"X30"=20.0 SF
EXIT WITH 2 DIGITS PLUS "A"OR"B" 114"X30"=23.57 SF
EXIT WITH 3 DIGITS PLUS "A"OR"B" 126"X30"=26.25 SF

TYPE C



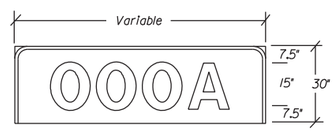
EXITS WITH 1 DIGIT PLUS "A"&"B" 132"X30"=27.50 SF
EXITS WITH 2 DIGITS PLUS "A"&"B" 150"X30"=31.25 SF
EXITS WITH 3 DIGITS PLUS "A"&"B" 168"X30"=35.00 SF

TYPE D



1 DIGIT 24"X30" =5.0 SF
2 DIGITS 42"X30" =8.75 SF
3 DIGITS 60"X30" =12.50 SF

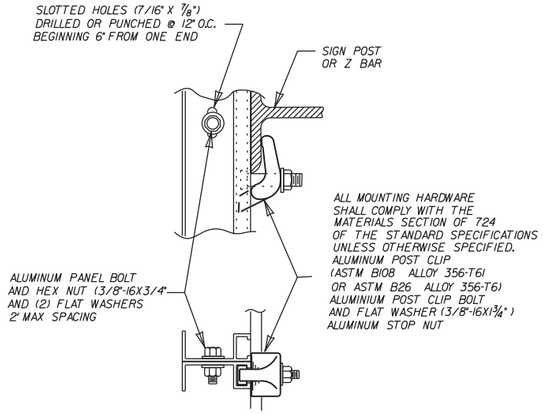
TYPE E

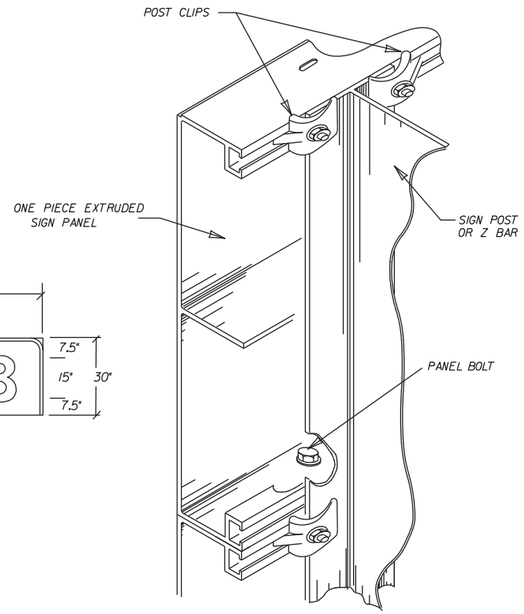


1 DIGIT PLUS "A"OR"B" 42"X30"=8.75 SF
2 DIGITS PLUS "A"OR"B" 60"X30"=12.50 SF
3 DIGITS PLUS "A"OR"B" 78"X30"=16.25 SF

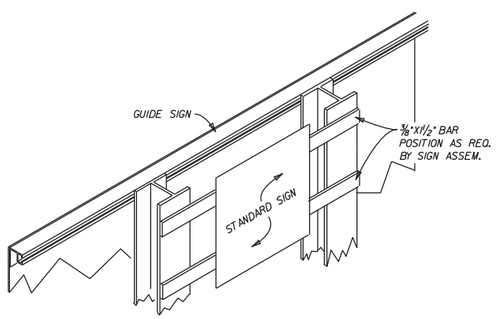
EXIT PANEL DETAILS

NOTE: EXIT NUMBER PANELS SHALL HAVE WHITE LEGENDS AND BORDERS. THE BACK GROUND COLOR WILL BE AS USE SPECIFIES. SHEETING TYPE WILL BE THE SAME AS THE GUIDE SIGN WHICH THE EXIT PANEL IS ATTACHED OR AS SPECIFIED IN THE PLANS. PAYMENT FOR ALL POST CLIPS, BOLTS, AND ANGLES SHALL BE SUBSIDIARY TO THE ITEM "EXIT NUMBER PANEL".

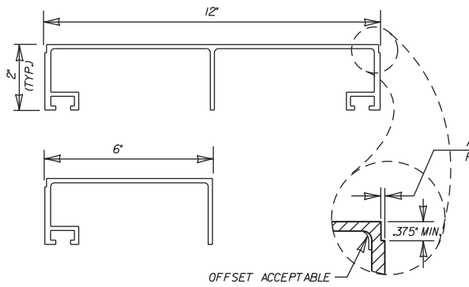




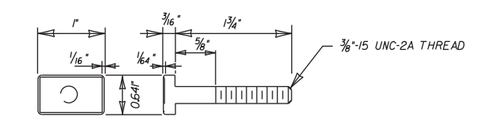
MOUNTING HARDWARE



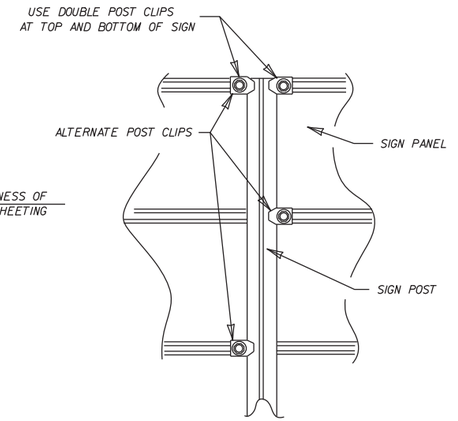
SECONDARY SIGN INSTALLATION ON BACKSIDE OF GUIDE SIGN



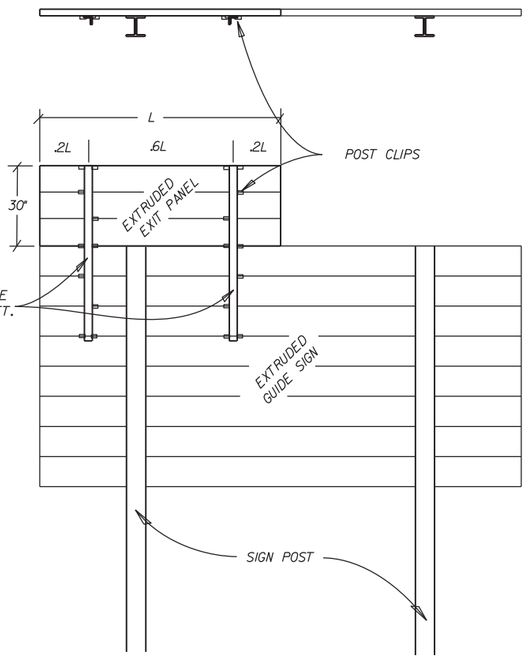
ONE PIECE EXTRUDED SIGN PANELS



POST CLIP BOLT



POST CLIP PLACEMENT

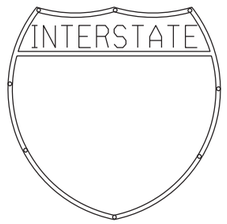


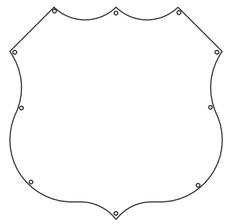
			ARKANSAS STATE HIGHWAY COMMISSION
			DETAILS OF GUIDE SIGN PANELS
9-12-13	ISSUED		STANDARD DRAWING SHS-5
DATE	REVISION	FILMED	

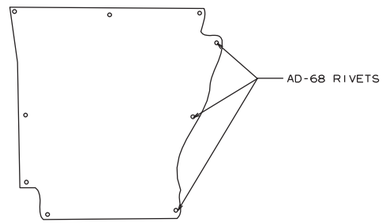
THE CONTRACTOR SHALL DRILL AND POP-RIVET LEGEND, SHIELDS, ARROWS, OR OTHER COPY AS SHOWN.

MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS

DIRECT APPLIED BORDER







DIRECT APPLIED BORDER

AD-68 RIVETS

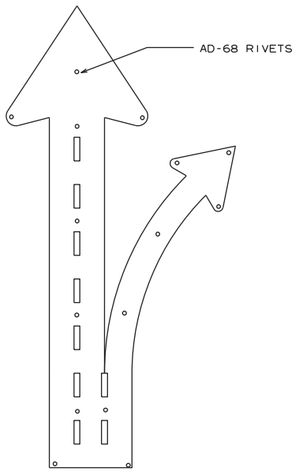
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

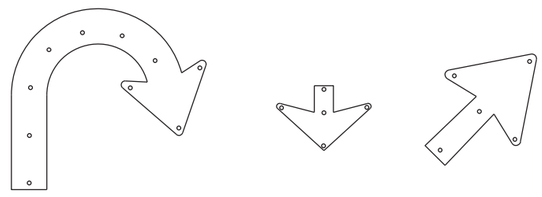
AD-68 RIVETS

a b c d e f g h i j k l m n o p q r s t u v w x y z

AD-68 RIVETS

0 1 2 3 4 5 6 7 8 9 1/4 1/2 3/4





NOTES:

LEGEND ON GUIDE SIGNS ON THE MAIN LANES SHALL BE DEMOUNTABLE LEGEND.
LEGEND ON GUIDE SIGNS ON CROSS ROADS AND RAMPS SHALL BE DIRECT APPLIED.
THE DEMOUNTABLE AND DIRECT APPLIED LEGENDS SHALL BE TYPE IX SHEETING.

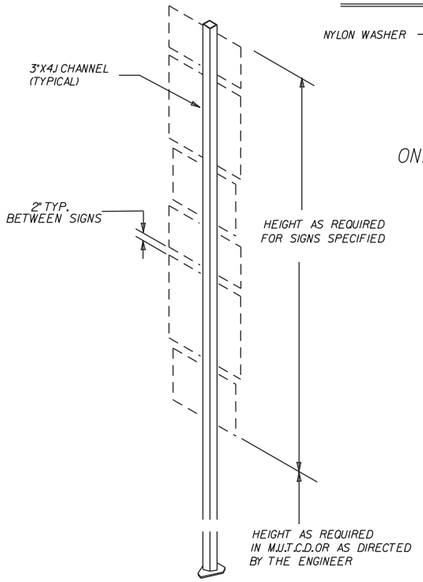
THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

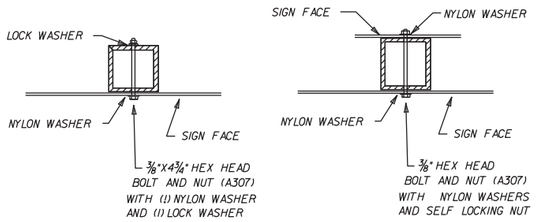
TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.

NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

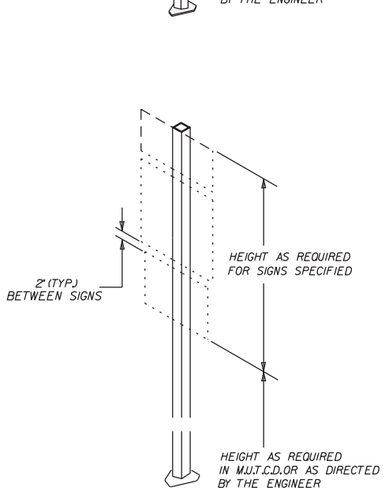
			ARKANSAS STATE HIGHWAY COMMISSION
			MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS
9-12-13	ISSUED		STANDARD DRAWING SHS-6
DATE	REVISION	FILMED	





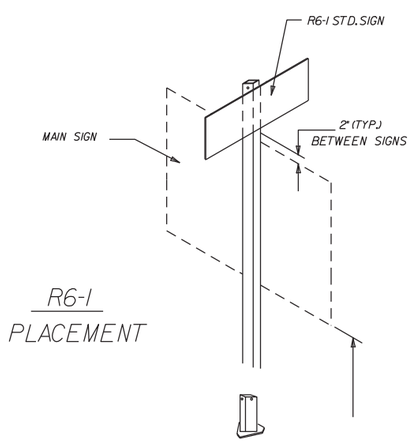
CHANNEL SHALL BE FULL LENGTH OF RECTANGULAR AND SQUARE SIGNS AND SHALL EXTEND 1½" BEYOND BOLT HOLES ON DIAMOND OR IRREGULAR SHAPED SIGNS.

MOUNTING HARDWARE

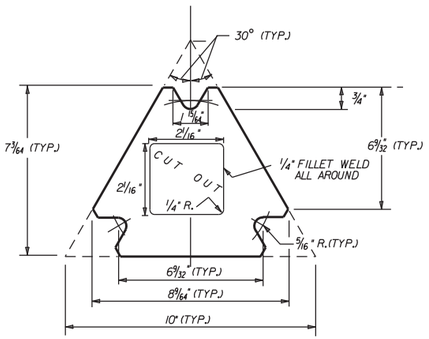


TYPE-I

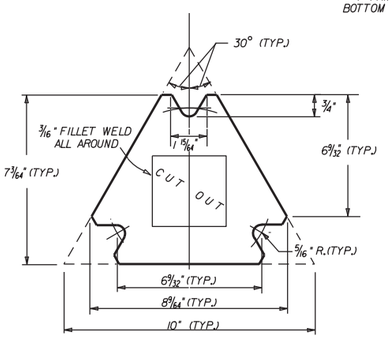
BASIS OF ESTIMATE
APPROX. 100 lbs STEEL



R6-1 PLACEMENT



TOP PLATE



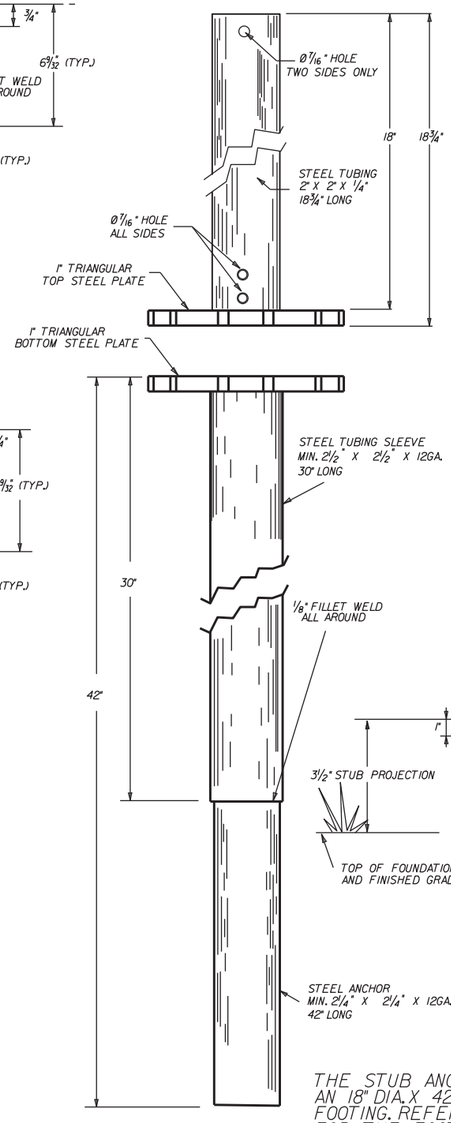
BOTTOM PLATE

GENERAL NOTES:

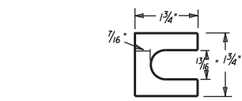
THE TOP PLATE OF TRIANGULAR SUP BASES SHALL HAVE THE SAME EXTERIOR DIMENSIONS AS THE BOTTOM PLATE.

INSIDE DIAMETER OF THE SIGN POST SHALL BE CUT THROUGH THE CENTER OF THE TOP PLATE WITH THE HOLE EDGE BEVELED AS SHOWN. THE BEVEL END SHALL BE TANGENT TO THE BOLT HOLE . ANY MISALIGNMENT SHALL BE REMOVED BY GRINDING . FACE OF BEVEL SHALL BE FINISHED TO A MINIMUM SMOOTHNESS OF 1•500 .

OTHER MASH COMPLIANT BREAKAWAY SIGN SUPPORTS THAT HAVE THE SAME TOP PLATE DIMENSIONS AND SUPPORT 2¼" X 2¼" SQUARE TUBE SIGN POSTS MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.

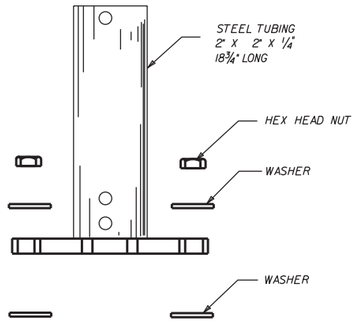


THE STUB ANCHOR SHALL BE SET IN AN 18" DIA. X 42" DEEP CONCRETE FOOTING. REFER TO STD.DRWG.SHS-3 FOR THE FOOTING DETAILS.

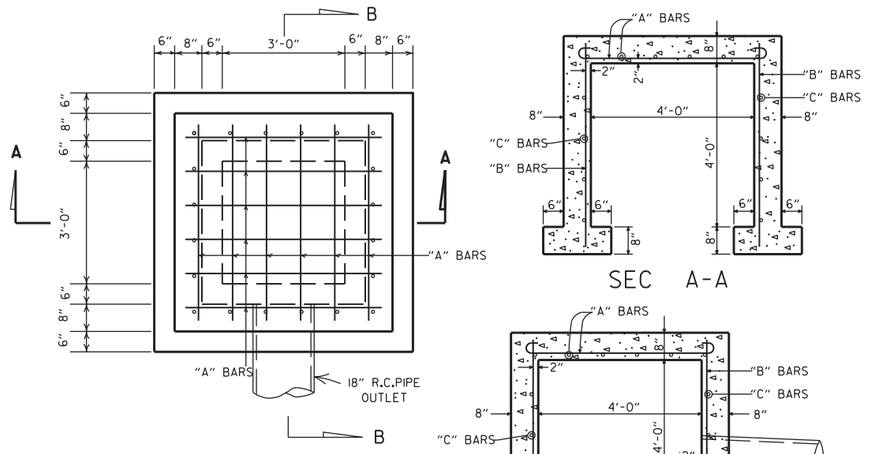


FURNISH (2) .012" THICK AND (2) .032" THICK SHIMS PER POST

SHIM DETAIL



			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS
9-12-13	ISSUED		STANDARD DRAWING SHS-7
DATE	REVISION	FILMED	

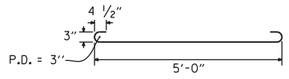


NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



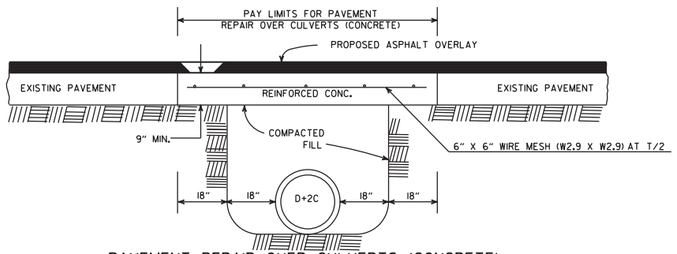
QUANTITIES

CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

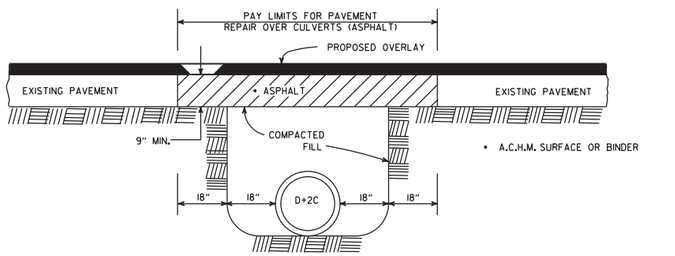
GENERAL NOTE:

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

REINFORCED CONCRETE SPRING BOX



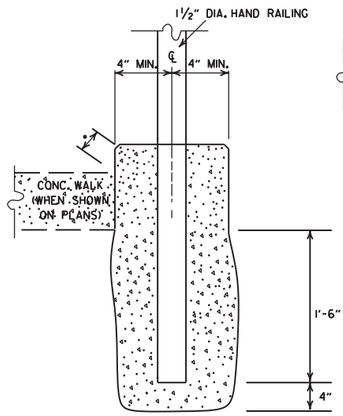
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



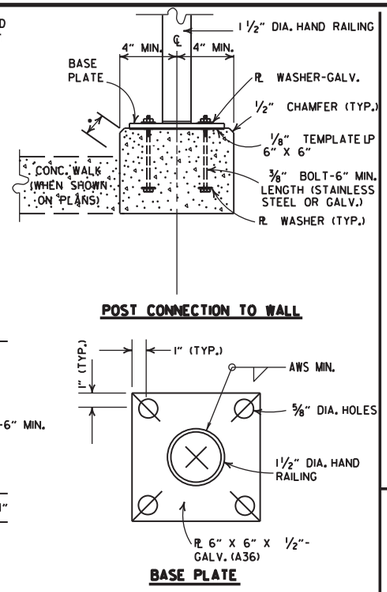
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

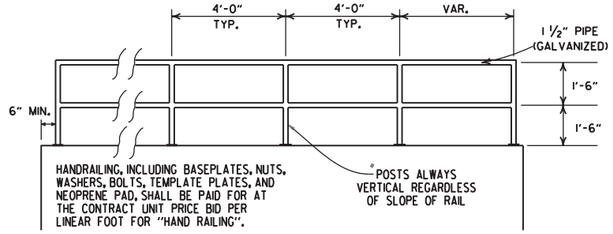
• A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



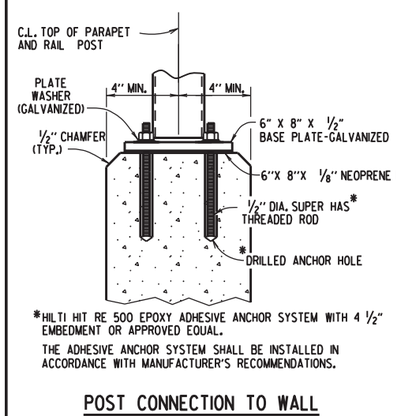
DETAIL OF HAND RAILING SET IN CONCRETE



POST CONNECTION DETAILS



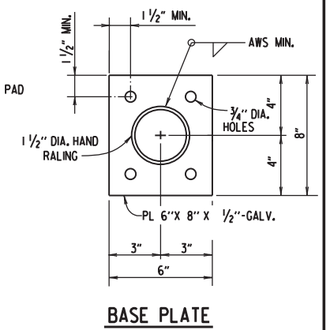
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

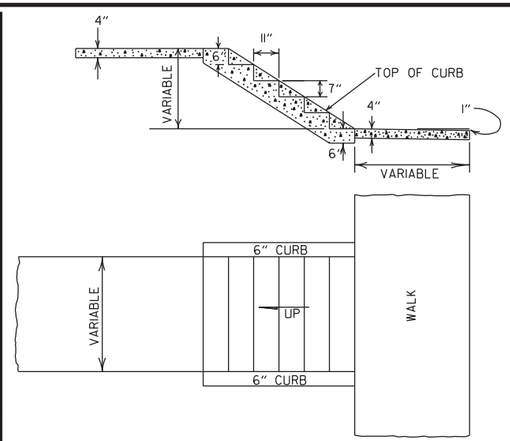
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

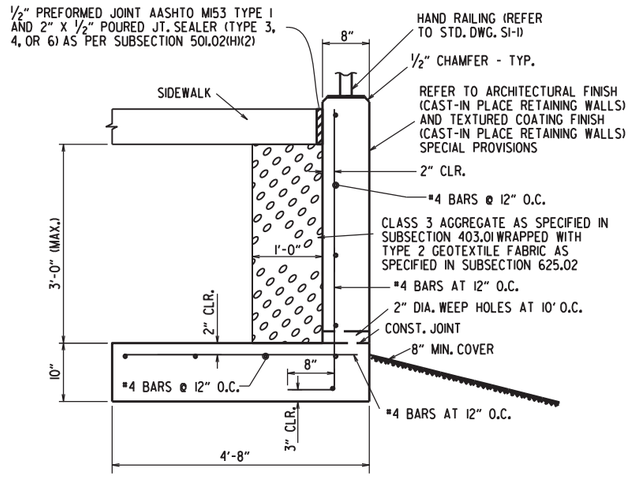
DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
10-25-18	REVISED DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS	
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE;REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

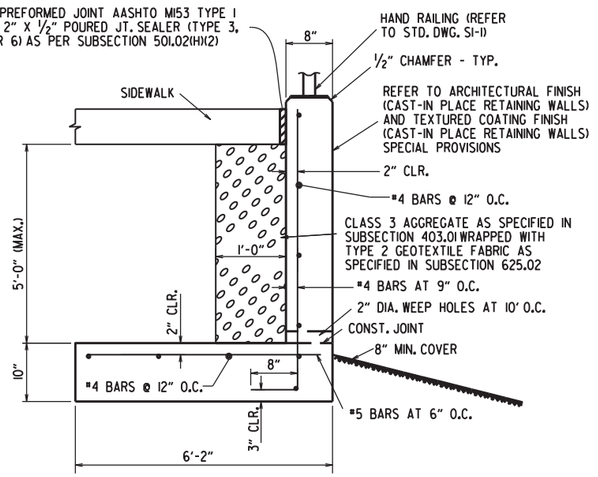
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1



CONCRETE WALK (TYPE SPECIAL) DETAIL MAX HEIGHT 3'-0"

N.T.S.



CONCRETE WALK (TYPE SPECIAL) DETAIL MAX HEIGHT 5'-0"

N.T.S.

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: 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.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012).

LIVE LOAD: LIVE LOAD SURCHARGE IS NOT INCLUDED IN THE DESIGN OF THESE WALLS. VEHICULAR LIVE LOAD SHALL NOT BE ALLOWED WITHIN A DISTANCE EQUAL TO ONE-HALF THE HEIGHT OF THE WALL.

CONCRETE: CONCRETE SHALL BE POURED IN THE DRY AND ALL EXPOSED CORNERS TO BE CHAMFERED ½". ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH F'C = 3,500 PSI. A CLASS 2 SURFACE FINISH SHALL BE USED ON ALL SURFACES OF THE CONCRETE UNLESS OTHERWISE NOTED. REFER TO ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS) AND TEXTURED COATING FINISH (CAST-IN PLACE RETAINING WALLS) SPECIAL PROVISIONS.

REINFORCING STEEL: ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 OR M53, GRADE 60.

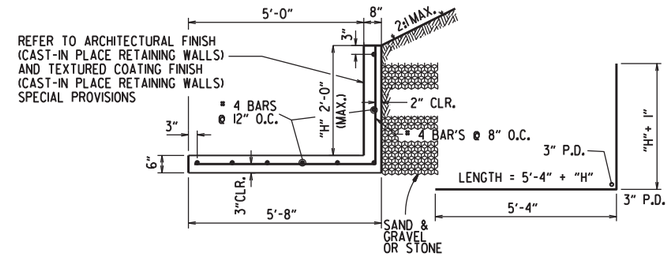
FOUNDATIONS FOR FOOTINGS SHALL BE PREPARED IN ACCORDANCE WITH SUBSECTION 801.04. BACKFILL FOR RETAINING WALLS SHALL BE IN ACCORDANCE WITH SUBSECTION 801.08.

WATERPROOF MEMBRANE (TYPE C), WATERSTOPS, PREFORMED JOINTS, WEEP HOLES & GEOTEXTILE FABRIC SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO CLASS S CONCRETE.

JOINTS IN THE WALL SHALL MATCH TYPE AND SPACING OF THE JOINTS IN THE WALK.

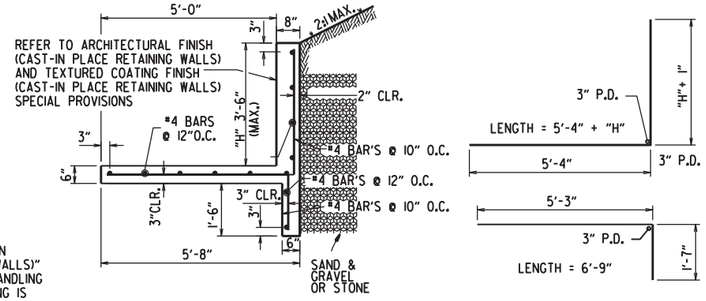
DRAINAGE FILL MATERIAL (CLASS 3) AND SELECT BACKFILL SHALL BE MEASURED AND PAID FOR AS COMPACTED EMBANKMENT.

THESE DETAILS ARE NOT INTENDED FOR USE ALONG STREAMS OR DITCHES WITHOUT CONSIDERATION FOR SCOUR.



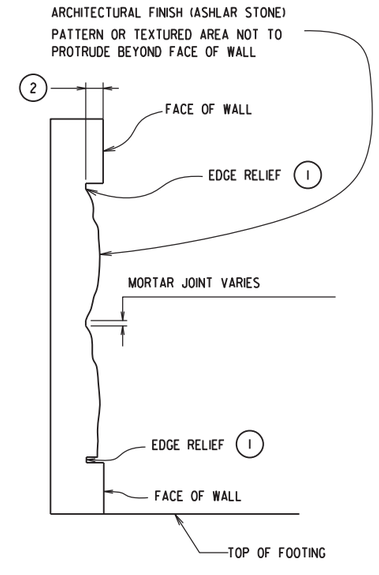
CONCRETE WALK (TYPE SPECIAL) DETAILS MAX HEIGHT 2'-0"

N.T.S.



CONCRETE WALK (TYPE SPECIAL) DETAILS MAX HEIGHT 3'-6"

N.T.S.

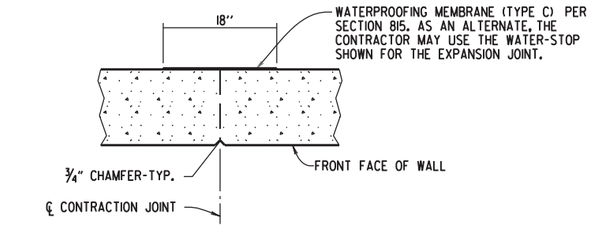


ARCHITECTURAL FINISH DETAILS

N.T.S.

(1) PROVIDE EDGE RELIEF AROUND PERIMETER OF TEXTURE. EDGE RELIEF DIMENSIONS SHALL MATCH MANUFACTURERS EDGE DISTANCE.

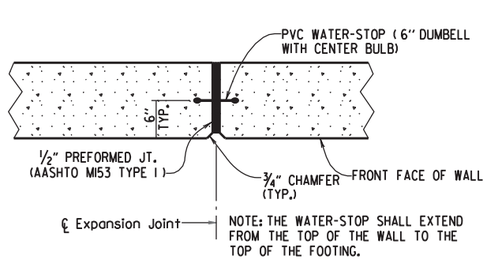
(2) DEPTH OF ASHLAR STONE PATTERN APPROX. 1⅝". SEE SP "ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS)".



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

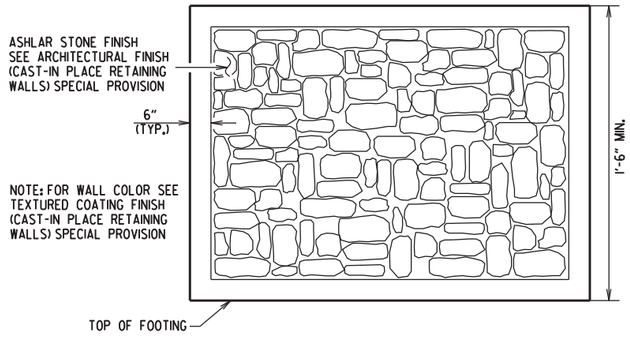
NOTE: 20'-0" MAX. SPACING BETWEEN CONTRACTION JOINTS. HORIZONTAL REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONTRACTION JOINTS.



TYPICAL EXPANSION JOINT DETAIL

N.T.S.

NOTE: 60'-0" MAX. SPACING BETWEEN EXPANSION JOINTS. HORIZONTAL REINFORCING SHALL STOP 2" FROM ℄ EXPANSION JOINT.



ASHLAR STONE FINISH DETAIL

NOTES:

WALL PATTERN SHALL BE APPLIED TO THE EXPOSED SURFACES OF WALL IN ACCORDANCE WITH SP "ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS)" AND AS SHOWN IN THE PLANS. CARE SHALL BE TAKEN WITH FORM LINER HANDLING AND INSTALLATION TO ENSURE AESTHETIC QUALITY OF THE WALL TEXTURING IS MAINTAINED. WHERE FORM LINER PANELS REQUIRE MODIFICATION TO CONFORM TO THE LOCATION, DIMENSIONS AND LINES SHOWN IN THE PLANS, THE CONTRACTOR SHALL PROVIDE EDGE RELIEF MATCHING THAT OF THE UNALTERED FORM LINER. PAYMENT FOR WALL TEXTURING SHALL BE IN ACCORDANCE WITH SP "ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS)".

NO ADJUSTMENTS WILL BE MADE IN CONCRETE VOLUME DUE TO THE USE OF "ARCHITECTURAL FINISH". CLASS "S" CONCRETE SHALL BE MEASURED IN ACCORDANCE WITH SUBSECTION 802.24(A). CARE SHALL BE TAKEN IN PLACING CONCRETE TO AVOID SEGREGATION AND TO ELIMINATE FLOW LINES.

CLASS 3 TEXTURED COATING FINISH SHALL BE APPLIED TO WALL SURFACES AS SPECIFIED IN SP "TEXTURED COATING FINISH (CAST-IN PLACE RETAINING WALLS)" AND IN ACCORDANCE WITH SUBSECTION 802.19(B)(3).

DATE	REVISION	DATE FILMED
5-14-20	DRAWING ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE WALK (TYPE SPECIAL)

STANDARD DRAWING SI - 3

R1-1



STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1



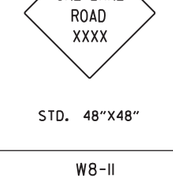
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



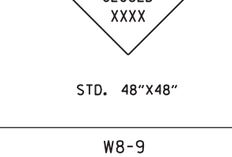
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



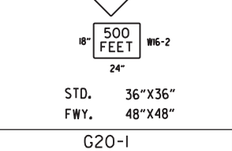
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



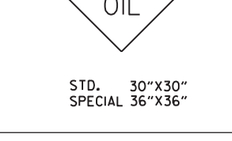
48"X30"

RII-3A



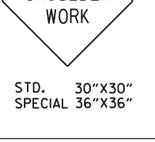
60"X30"

RII-4



60"X30"

W21-5a



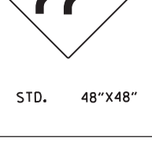
STD. 36"X36"
FWY. 48"X48"

WI-1



STD. 36"X36"
FWY. 48"X48"

WI-2



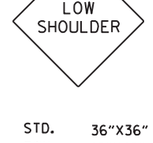
STD. 36"X36"
FWY. 48"X48"

WI-3



STD. 48"X48"

WI-4



STD. 48"X48"

WI-6



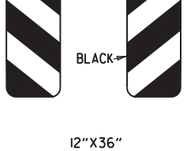
STD. 48"X24"
SPECIAL 60"X30"

WI-8



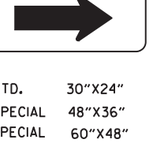
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



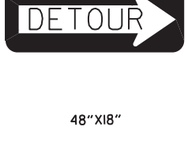
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



EXPWY. 36"X36"
FWY. 48"X48"

W9-2



STD. 36"X36"
FWY. 48"X48"

WI3-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4

STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b



STD. 48"X48"

R56-1



STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ 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.

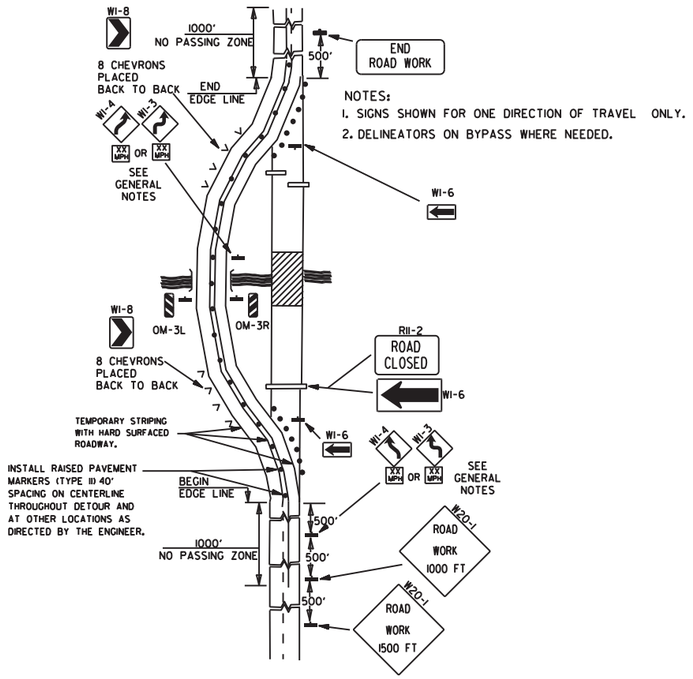
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
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	

ARKANSAS STATE HIGHWAY COMMISSION

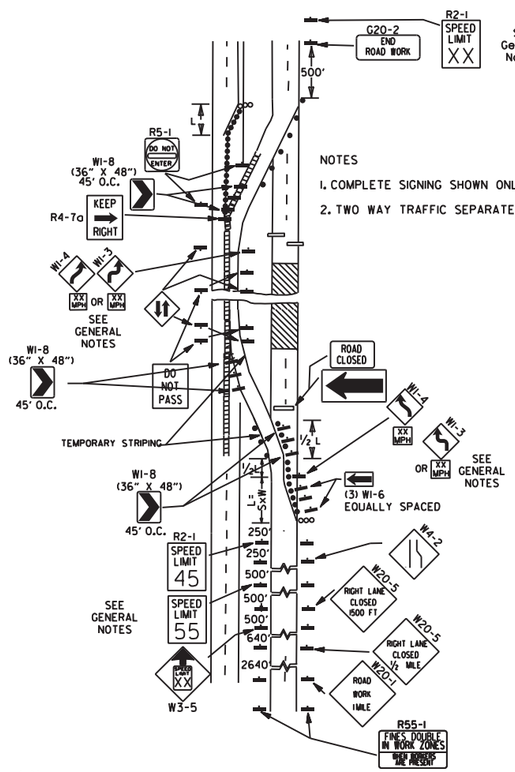
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



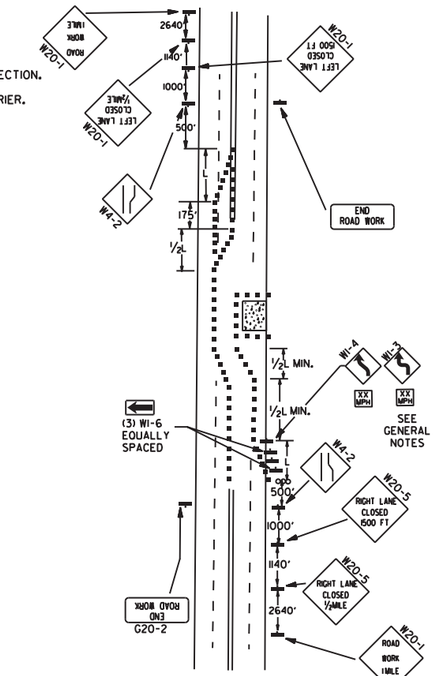
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

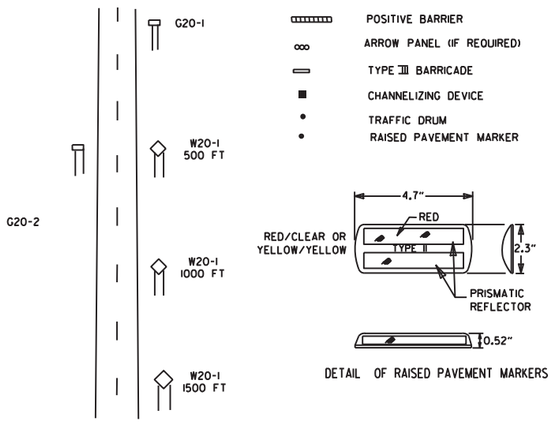


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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



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



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

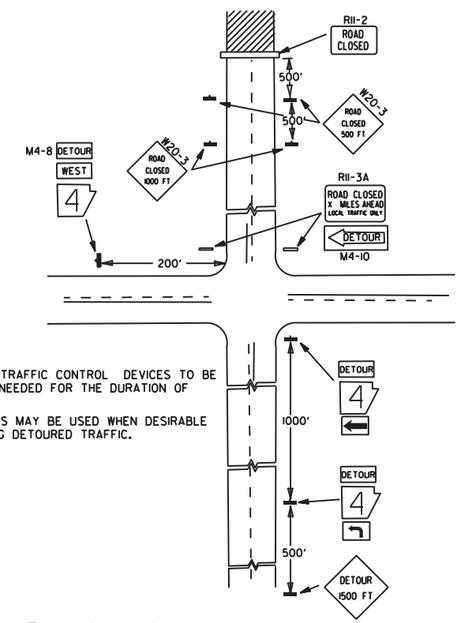
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

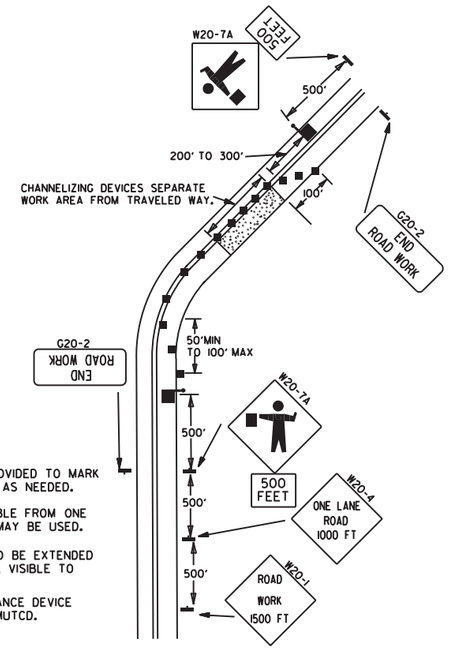
GENERAL NOTES:

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 R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
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).



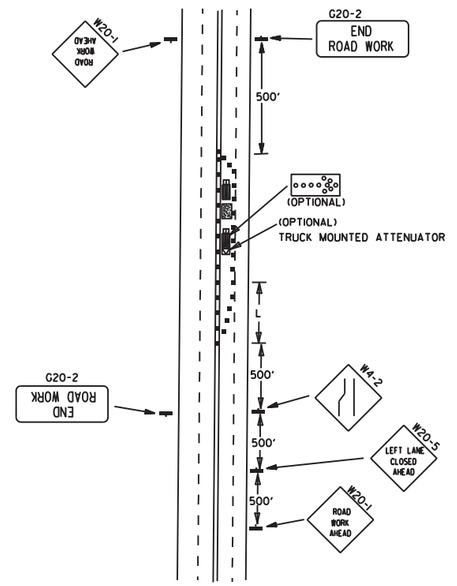
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

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



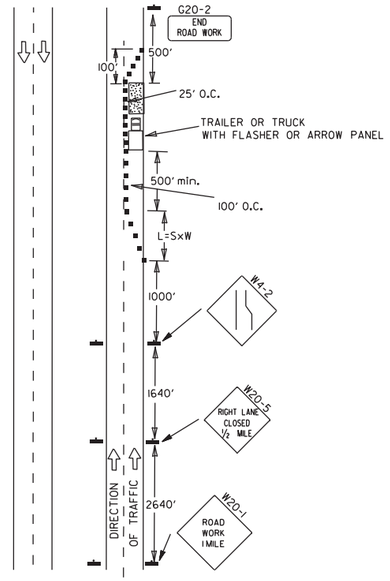
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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 (o) 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

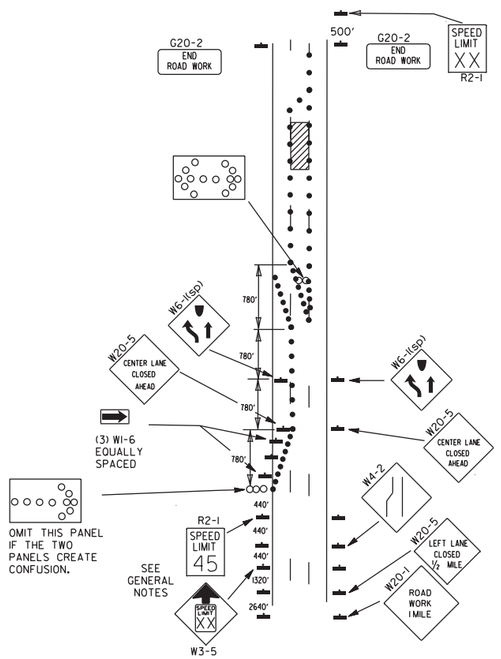
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

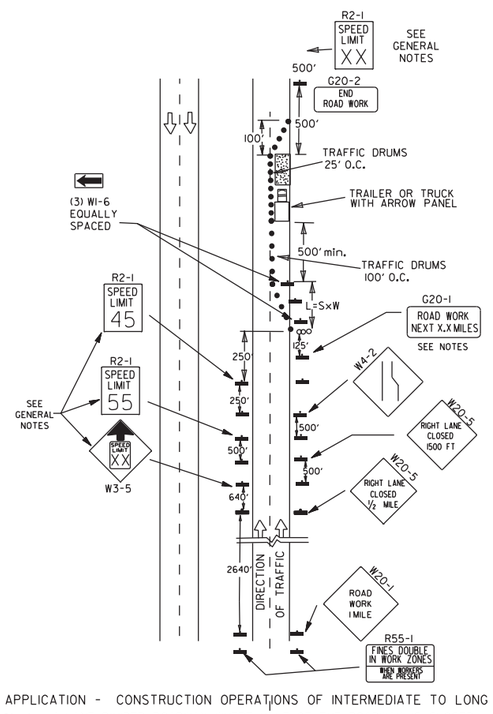
ooo ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

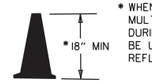
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
11. 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).



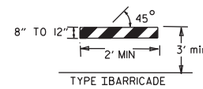
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES



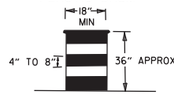
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS. 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

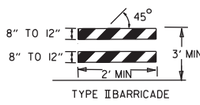
CONES



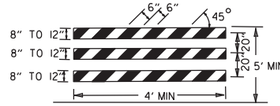
TYPE I BARRICADE

PLASTIC DRUM



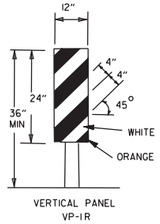


TYPE II BARRICADE



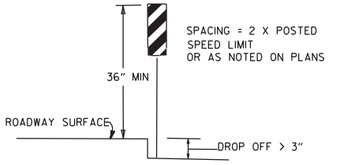
TYPE III BARRICADE

NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

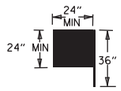


VERTICAL PANEL
VP-1R

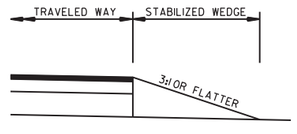
VERTICAL PANEL PLACEMENT



FLAG

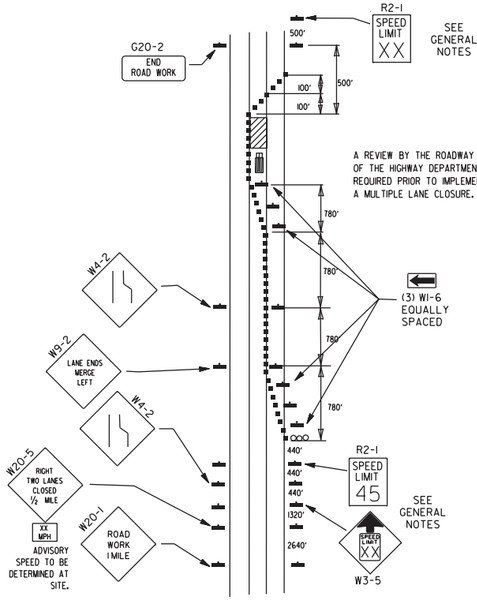


FLAG SHALL BE OF GOOD GRADE RED MATERIAL



STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.



A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

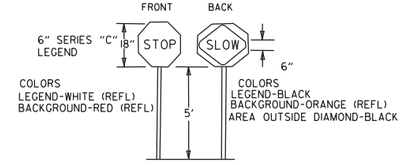
NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS(3)
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER(4) & EDGE LINES	PRECAST CONCRETE BARRIER(4) & EDGE LINES

INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 2" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

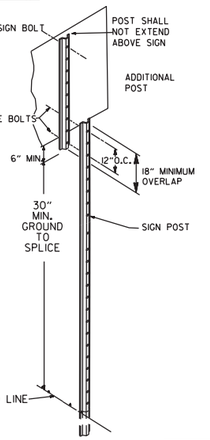
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.

STOP SLOW PADDLE



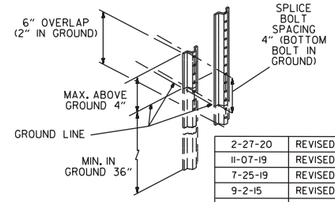
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DATE	REVISION	FILMED
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

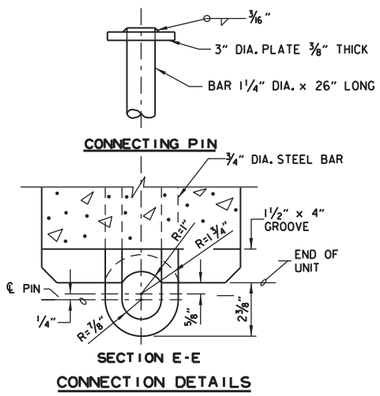
ARKANSAS STATE HIGHWAY COMMISSION

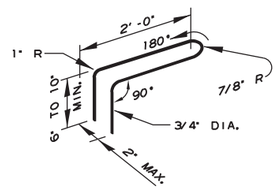
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

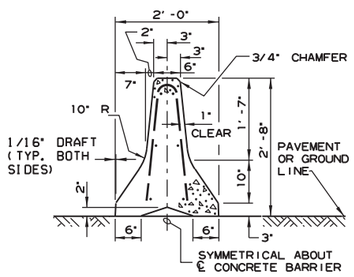
STANDARD DRAWING TC-3

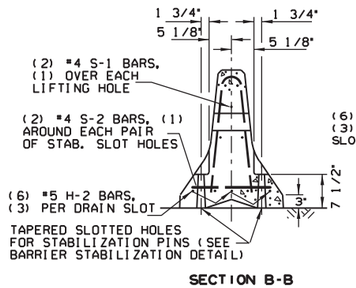
REINFORCING BAR TABLE PER BARRIER UNIT

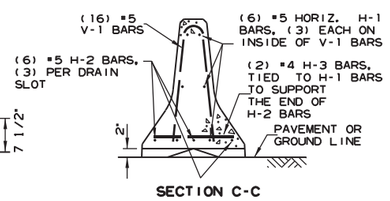
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"

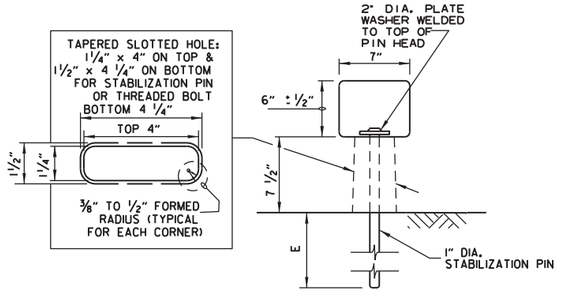


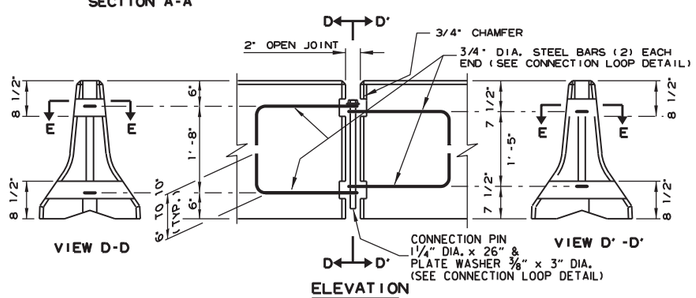


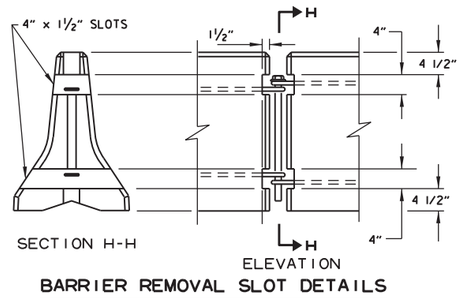


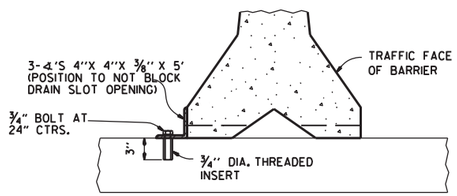




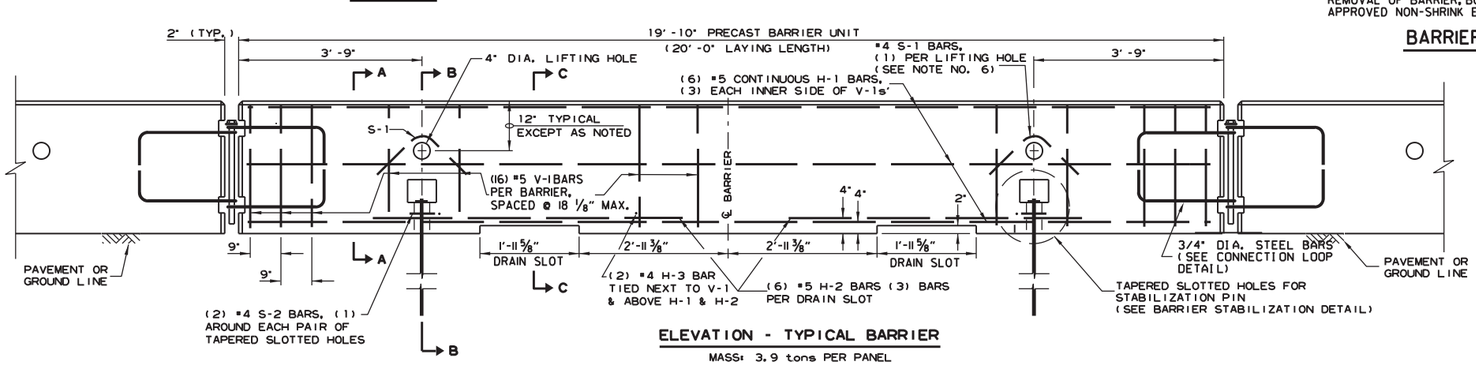








NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.



MASS: 3.9 tons PER PANEL

GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

2. MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
   CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
   REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
   STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
   DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

   IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
   DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
   PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

3. OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

4. DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

5. ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

6. A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

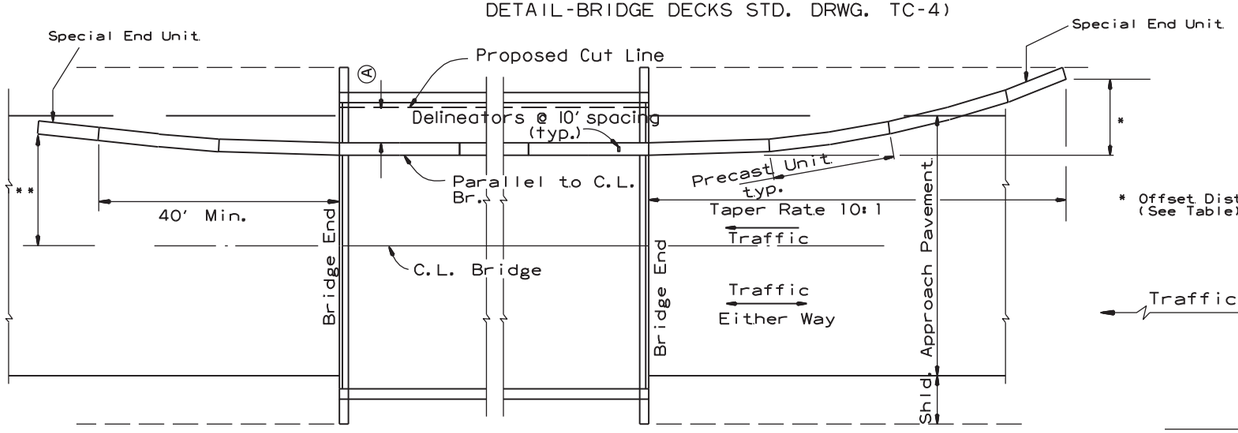
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

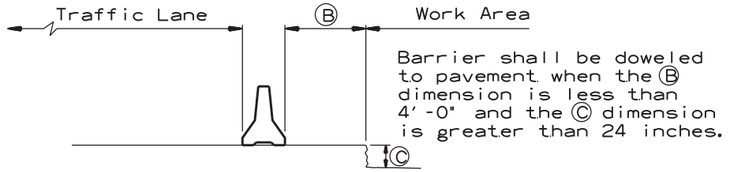


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only

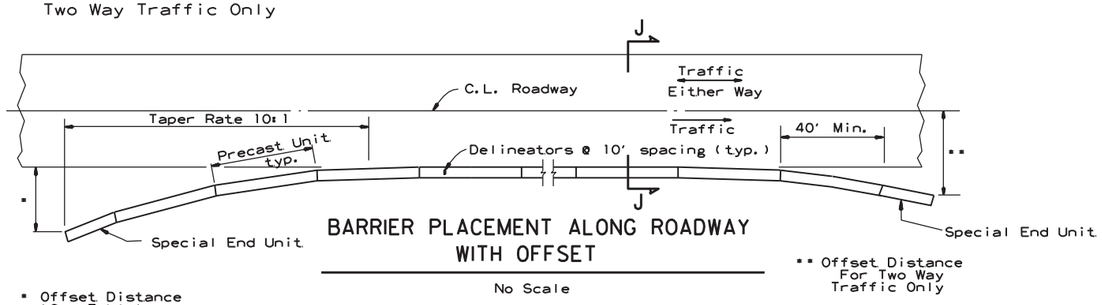
* Offset Distance (See Table)



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

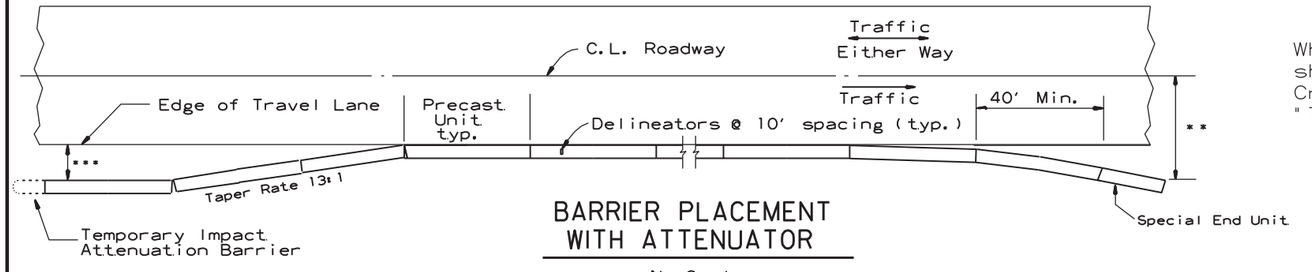
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

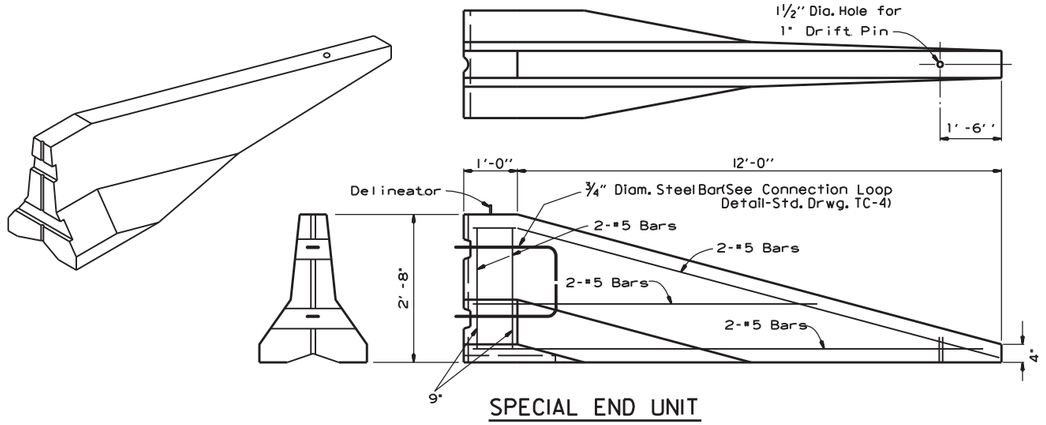


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

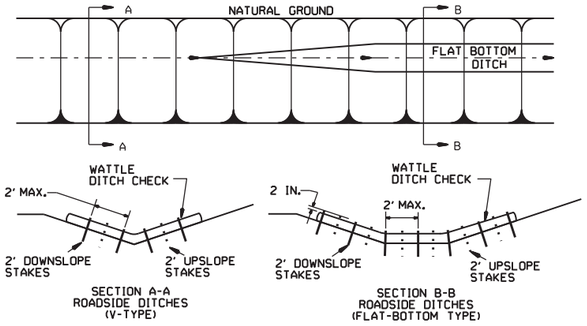
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

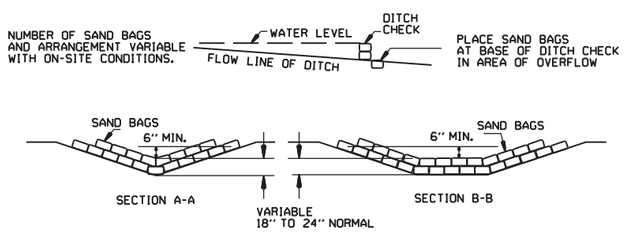
STANDARD DRAWING TC-5

GENERAL NOTES

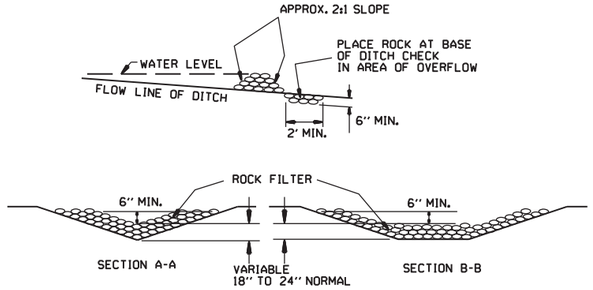
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

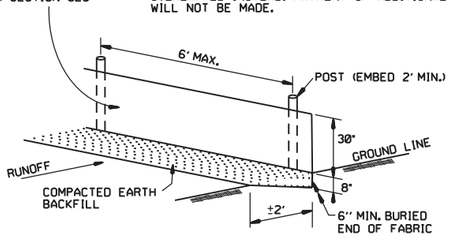


ROCK DITCH CHECK (E-6)

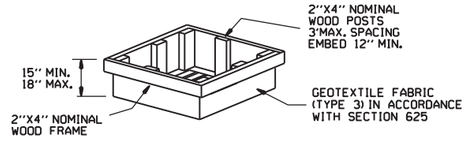
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

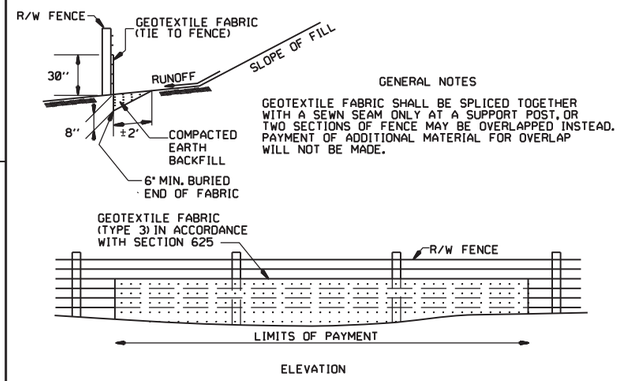
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



GENERAL NOTES

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

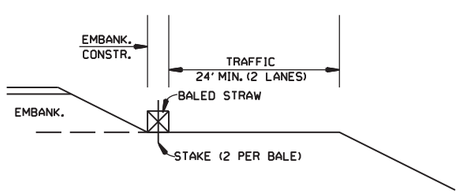
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

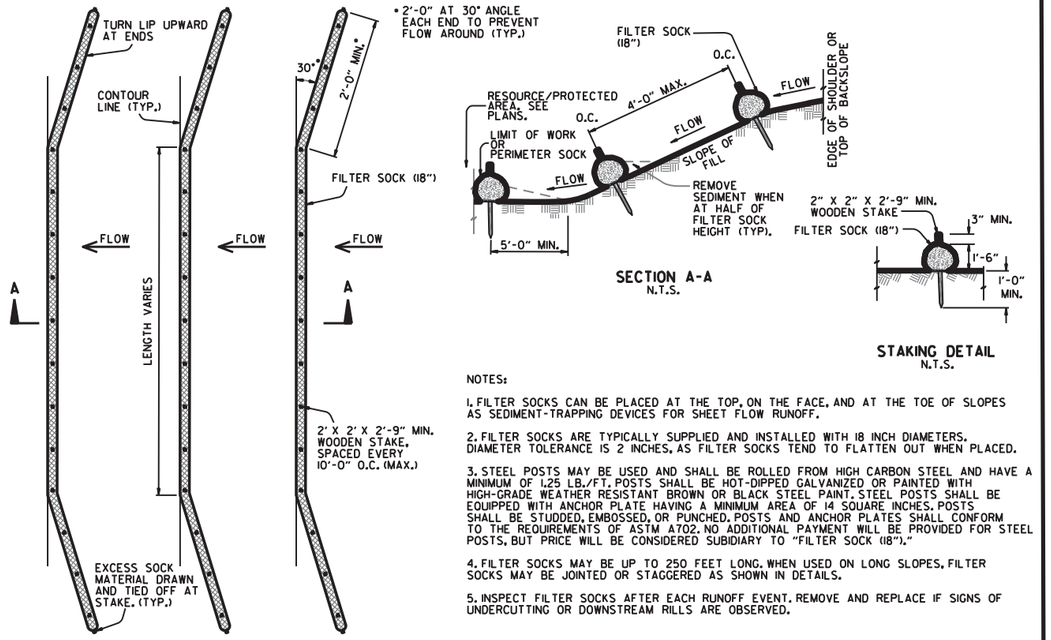
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



NOTES:

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.

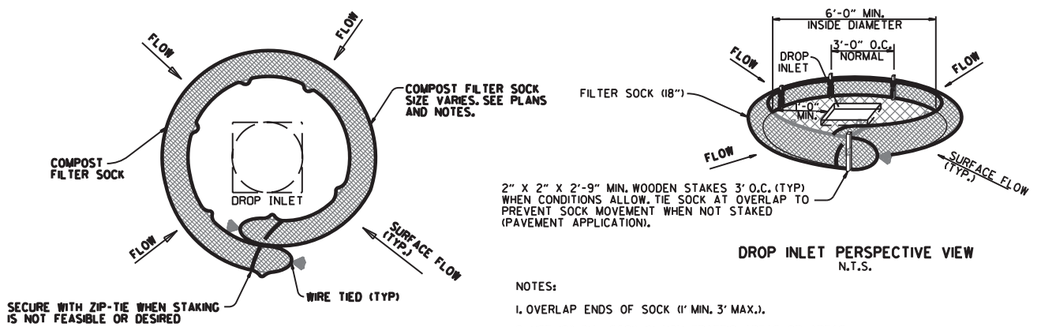
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 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 STUDDED, 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 SUBIDIARY TO "FILTER SOCK (18")."

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.

FILTER SOCK ALONG SLOPE (E-3)



NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

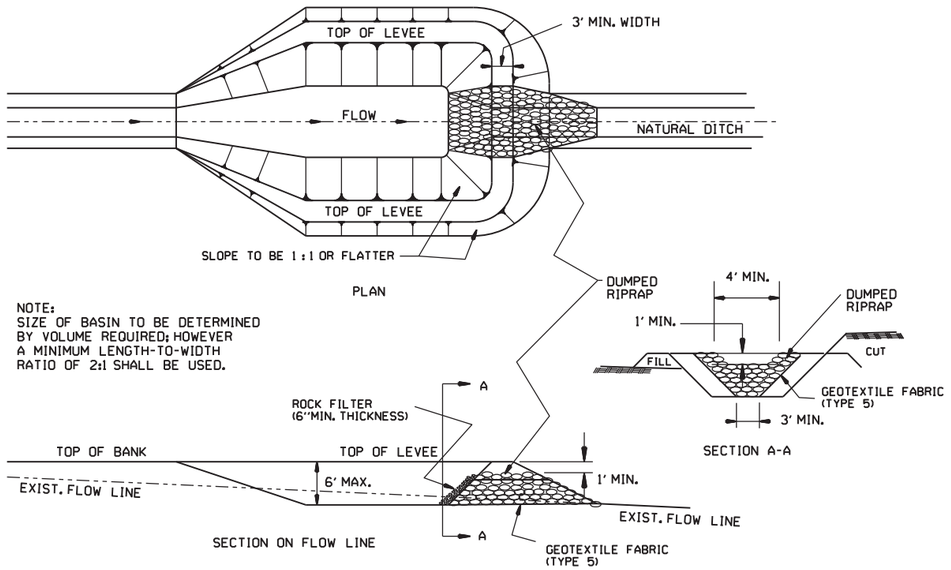
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
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
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

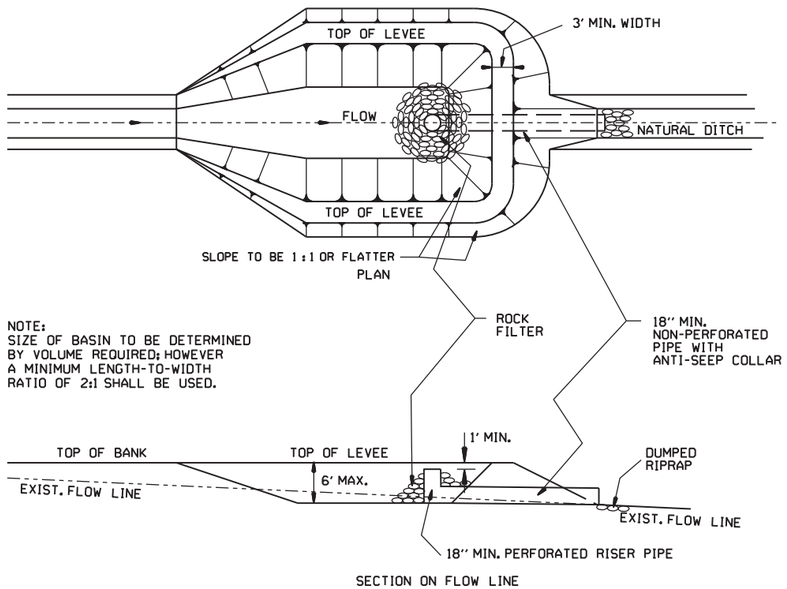
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

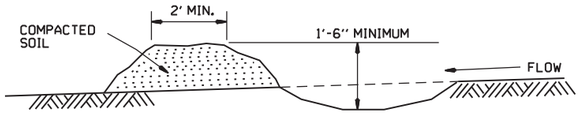
STANDARD DRAWING TEC-1



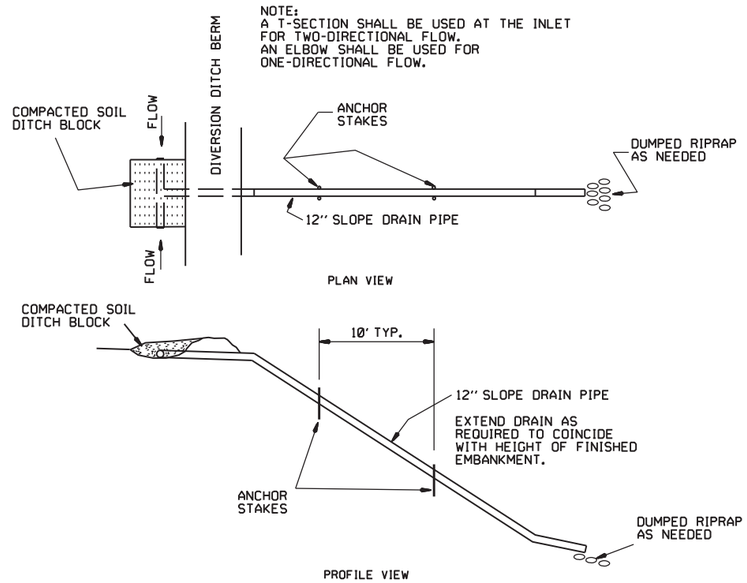
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



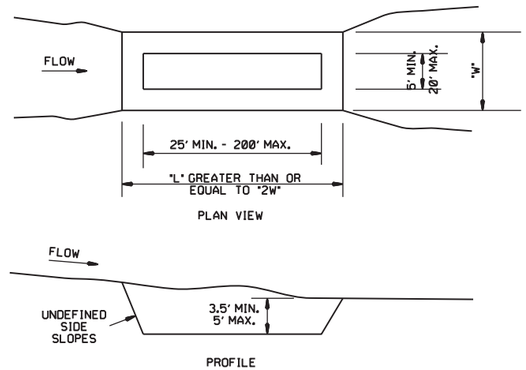
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-2

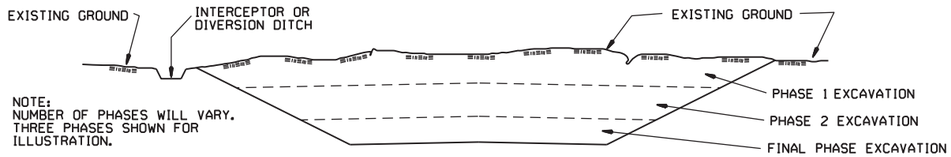
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)

2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

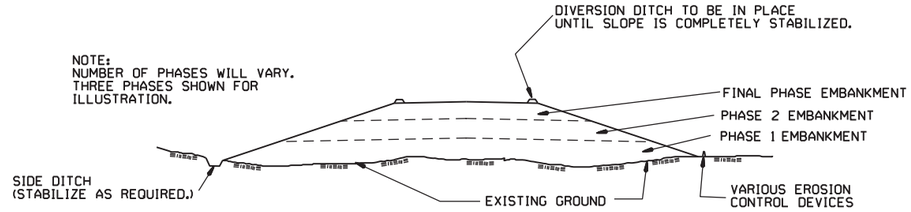
1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.

2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.

3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.

4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.

2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.

3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.

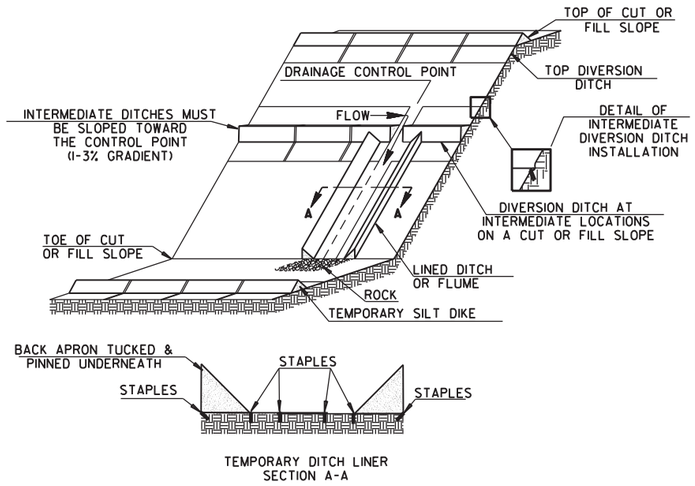
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

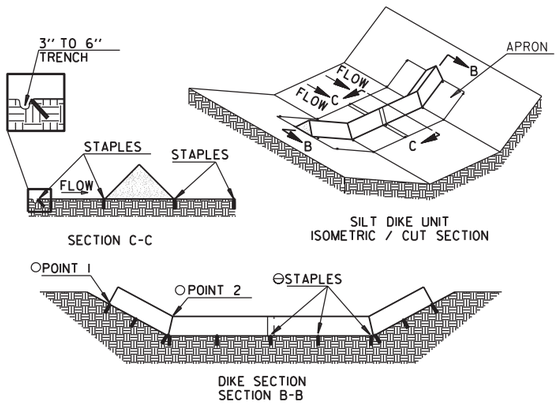
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



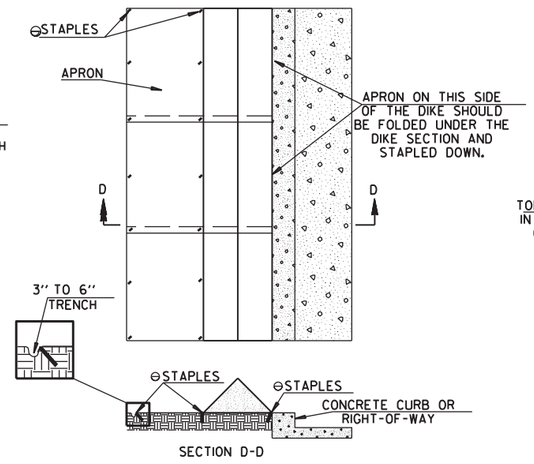
TRIANGULAR SILT DIKE INSTALLATION FOR DIVERSION DITCH AND/OR DITCH LINER



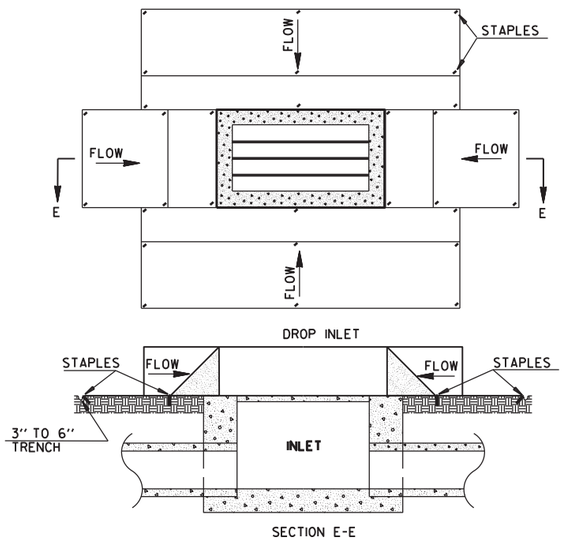
TRIANGULAR SILT DIKE INSTALLATION FOR ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

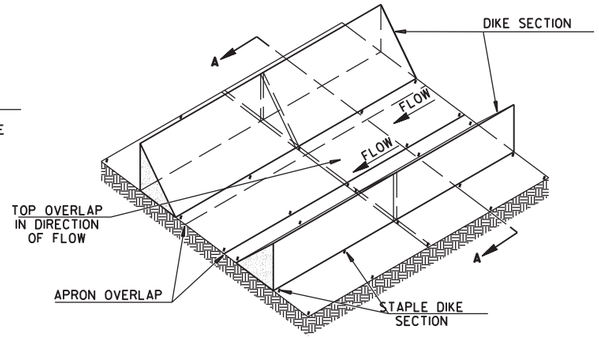
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION FOR DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION FOR TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

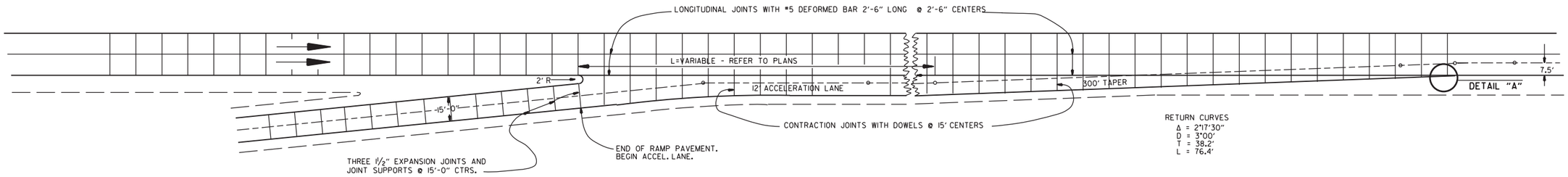
NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

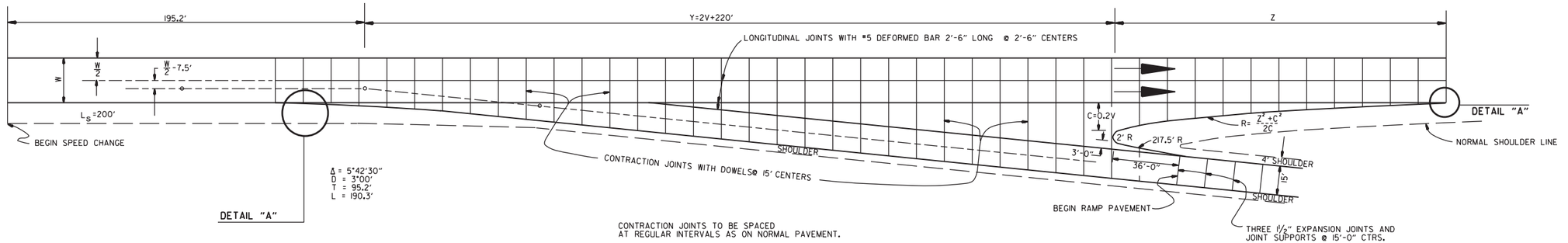
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4



ENTRANCE RAMP

NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.

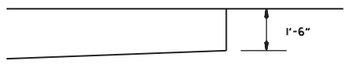


CONTRACTION JOINTS TO BE SPACED AT REGULAR INTERVALS AS ON NORMAL PAVEMENT.

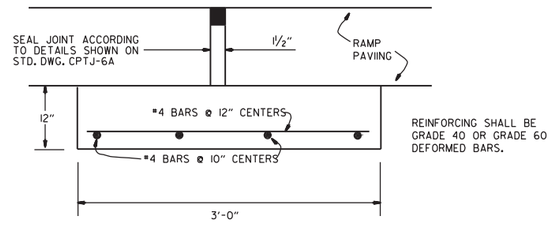
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	X Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

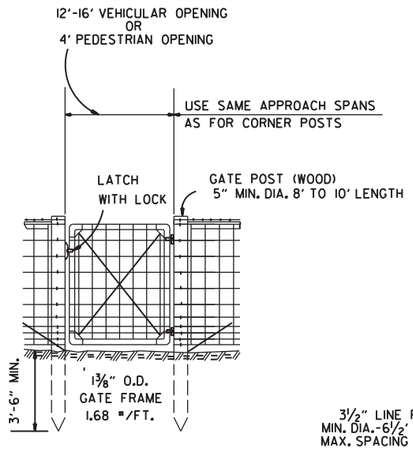
NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED.
THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

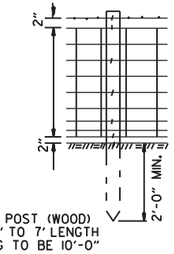
DATE	REVISION	DATE FILM'D
8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL A & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM'D TO 1988 SPECIFICATIONS	65C-7-15-88
3-2-81	ISSUED	511-10-2-72

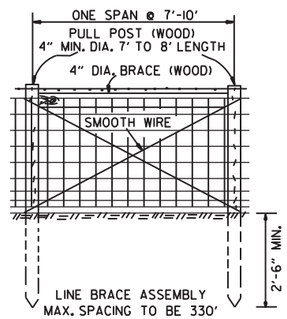
ARKANSAS STATE HIGHWAY COMMISSION

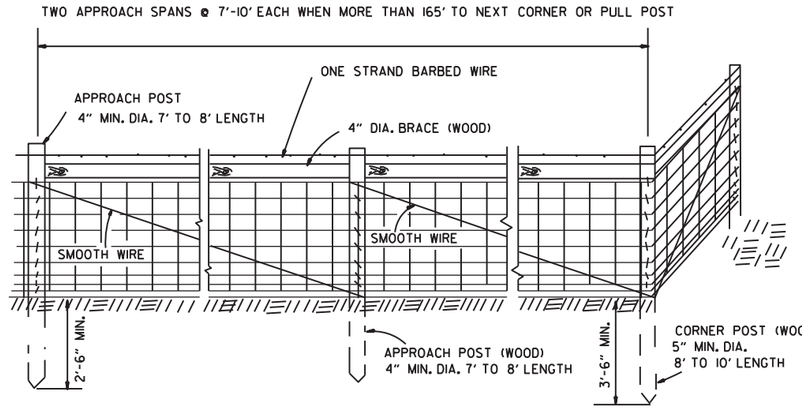
DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

STANDARD DRAWING TR-1A



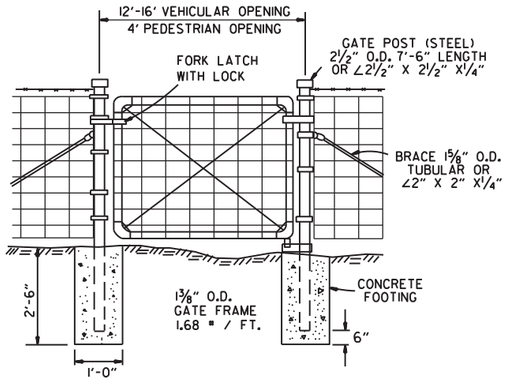


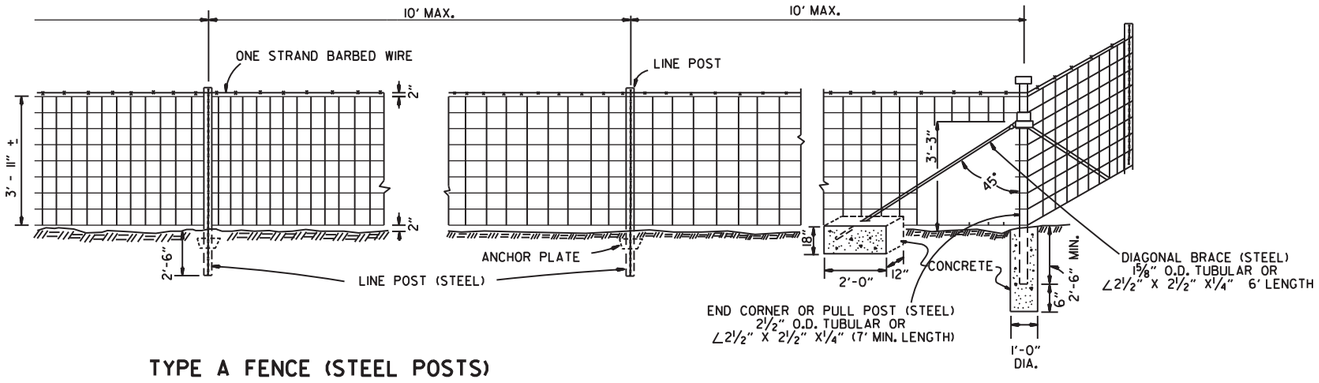




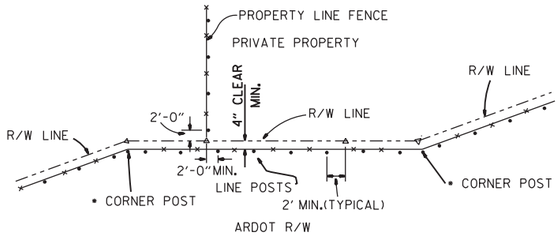
NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)





TYPE A FENCE (STEEL POSTS)

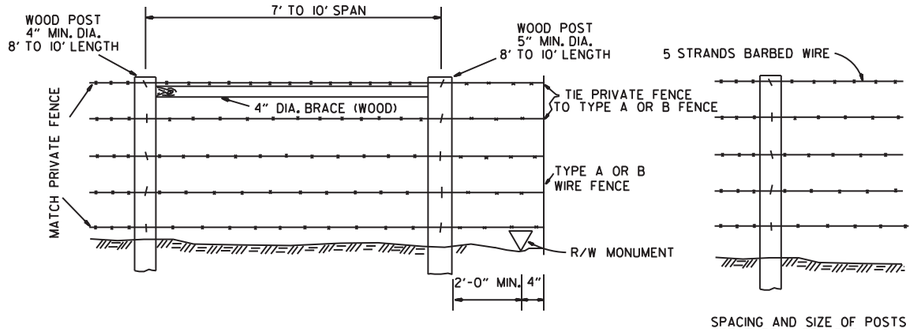


•NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

△ - R/W MONUMENTS

• - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



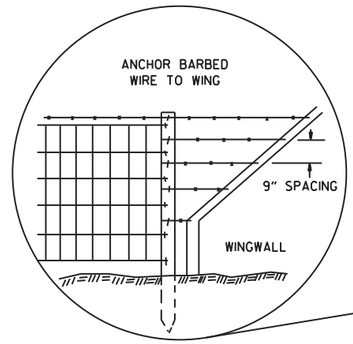
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

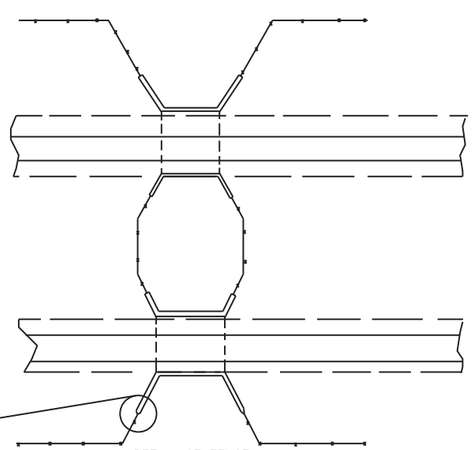
PRIVATE FENCE TERMINAL INSTALLATION



SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

TYPE B FENCE





DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.

TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

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

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

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

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

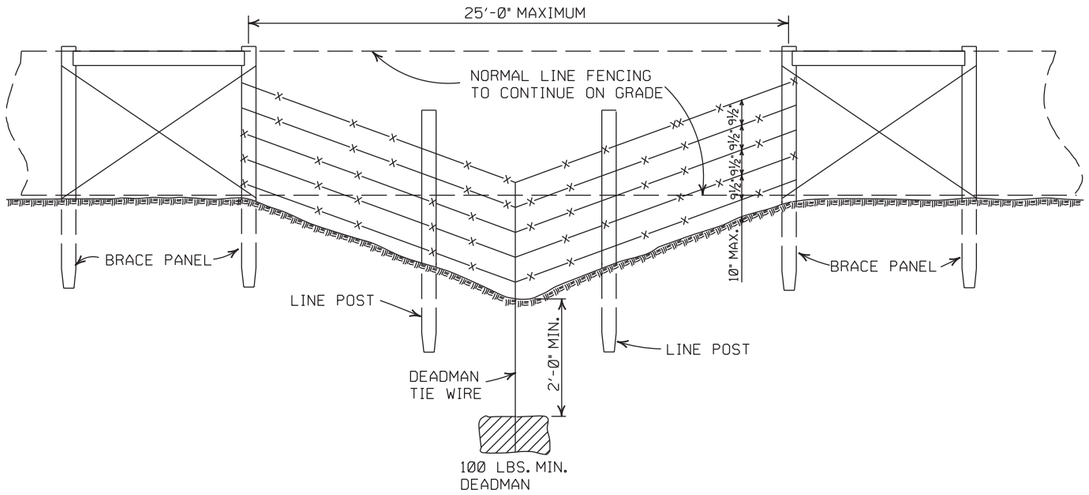
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD": AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF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

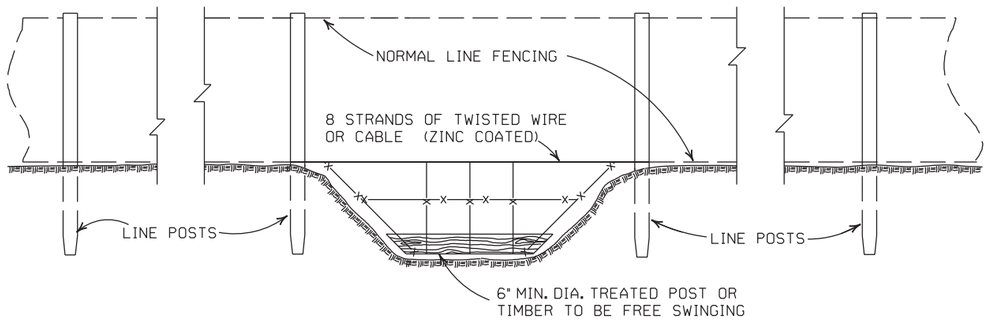
DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES	
	AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

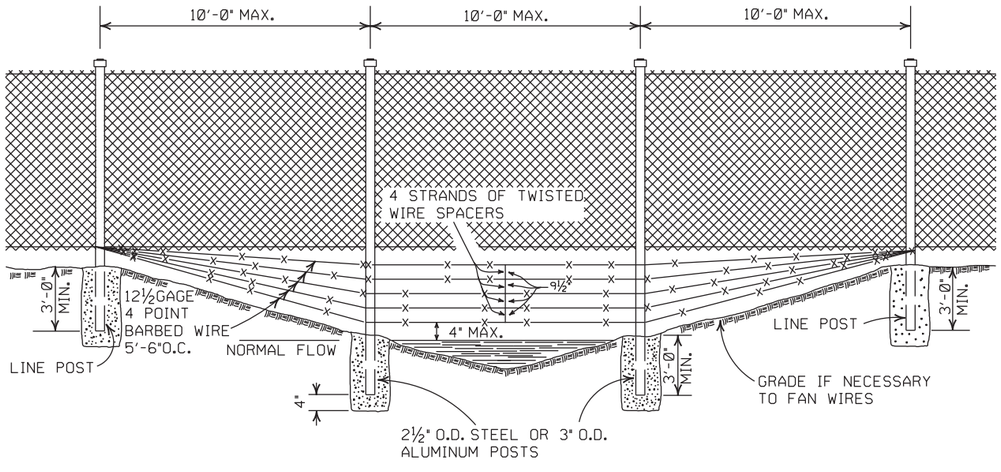
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

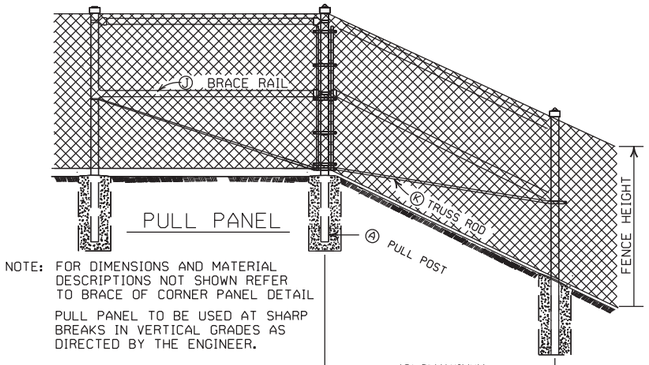
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

DATE	REVISION	FILMED
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED AND REDRAWN	529-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

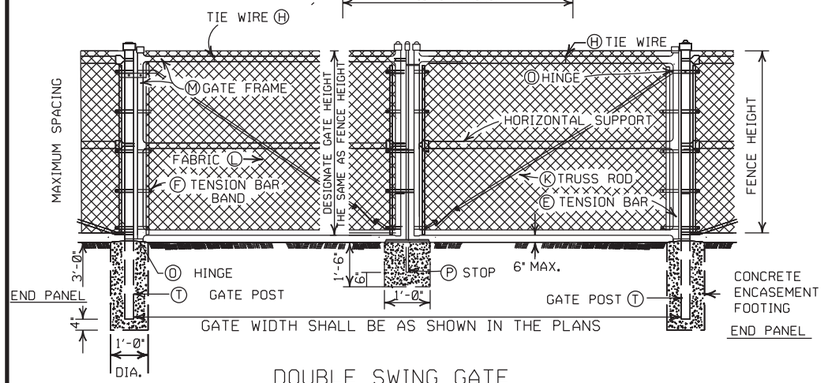
STANDARD DRAWING WF-2



PULL PANEL

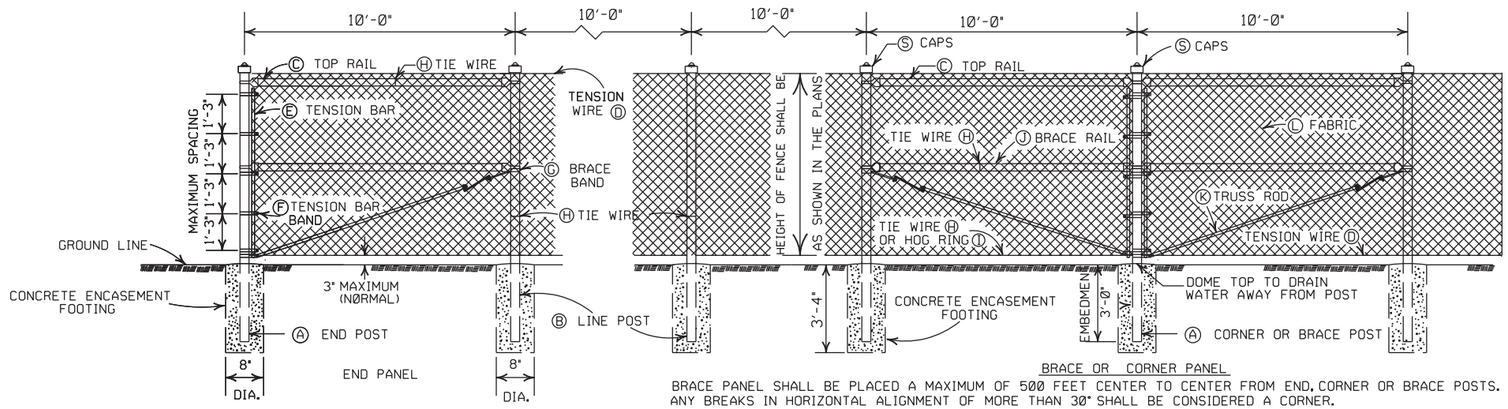
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



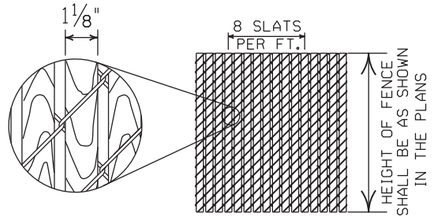
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

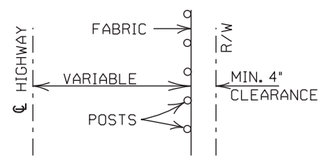
HEIGHT OF FENCE FABRIC	(A)	(B)		(C)			(D)		(E)		(F)			(G)	
	END, PULL, CORNER OR BRACE POST	LINE POSTS		TOP RAIL			TENSION WIRE		TENSION BAR		TENSION BAR BAND			BRACE BAND	
		SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. LENGTH	SIZE	TIE SPACING	SIZE	LENGTH	SIZE	BOLT SIZE	SPACING	SIZE	BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ⅜" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3 " O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H)	(I)	(J)		(K)	(L)			(M)		(N)		(O)	(T)	
	TIE WIRE	HOG RING	BRACE RAIL		TRUSS ROD	FABRIC			GATE FRAME		HORIZONTAL SUPPORT		HINGE TYPE	GATE POST	
			SIZE	TIE SPACING		SIZE	MESH	SELVAGE	SIZE	TIE SPACING	SIZE	TIE SPACING	180° SWING	GATE WIDTH 12' AND LESS	GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅝" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" 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 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" 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.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY				GRADE 2		
	O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

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.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

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.

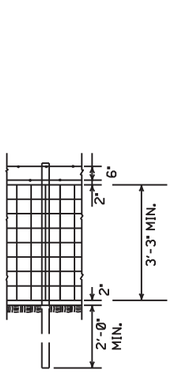
EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

DATE	REVISION	FILMED
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

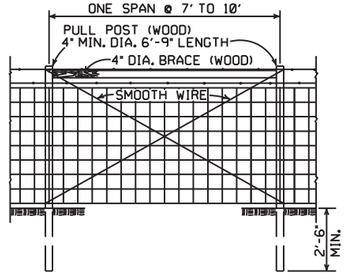
ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

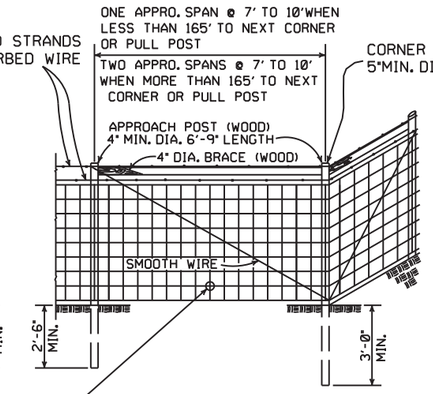
STANDARD DRAWING WF-3

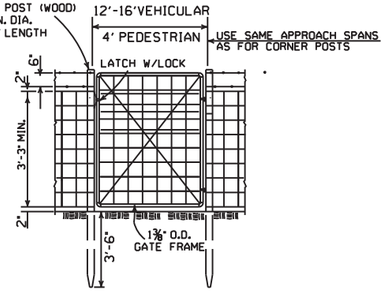


LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"



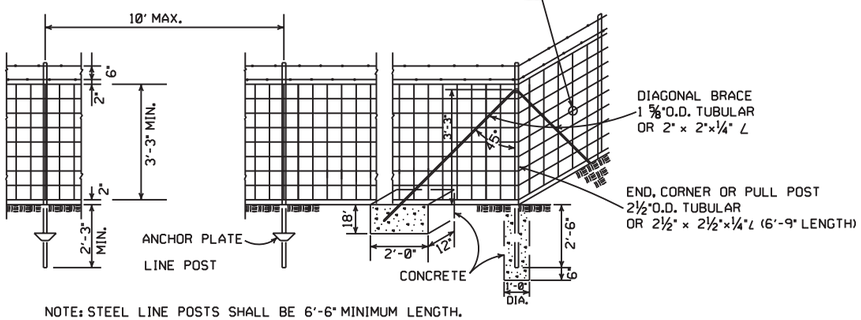
LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'

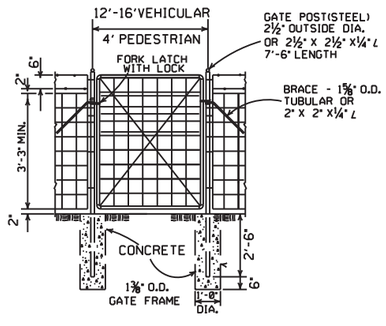


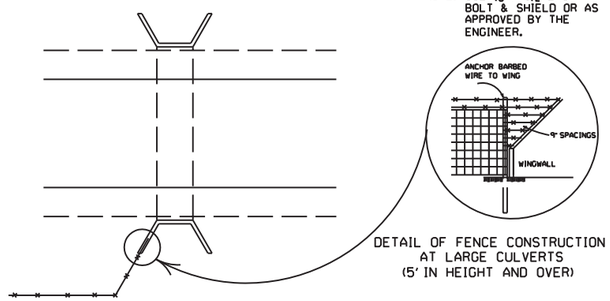


TYPE C FENCE (WOOD POSTS)

OTHER APPROVED TIES
WILL BE PERMITTED





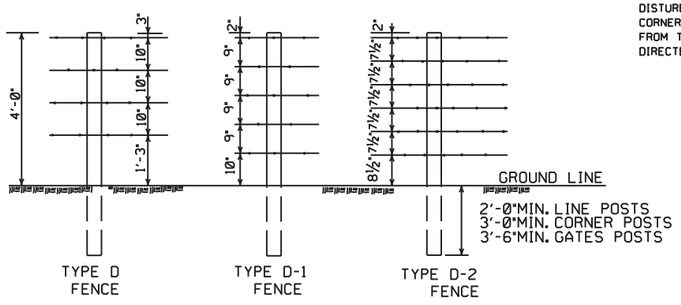


DETAIL OF FENCE CONSTRUCTION
AT LARGE CULVERTS
(5' IN HEIGHT AND OVER)

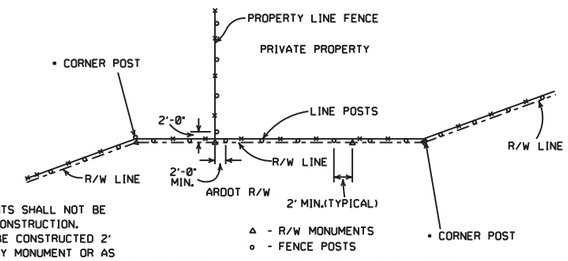
NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

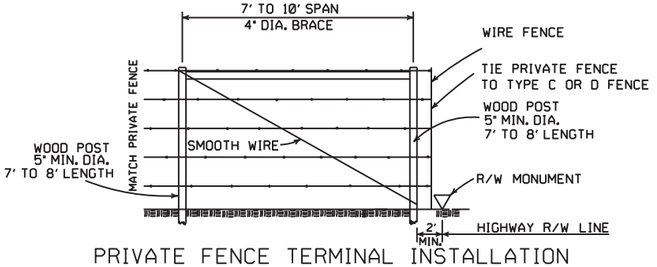


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

GENERAL NOTES:

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

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

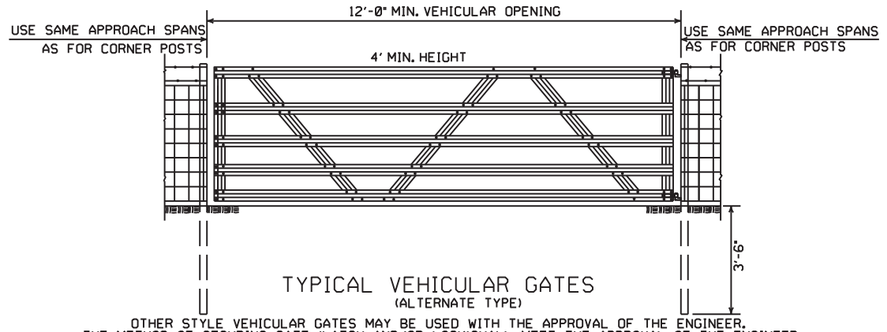
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED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

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

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

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

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



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

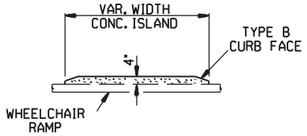
OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

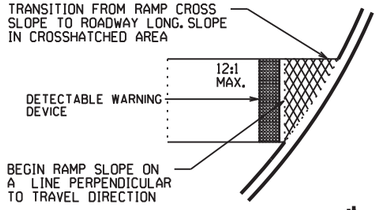
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

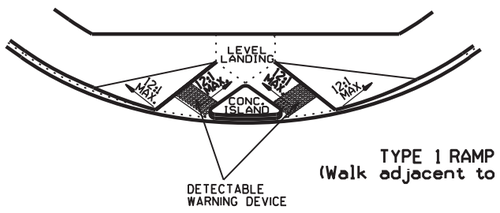
STANDARD DRAWING WF-4



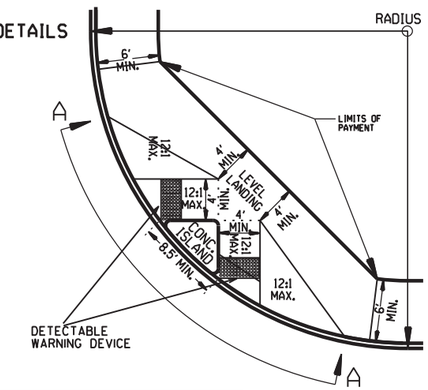
CONCRETE ISLAND DETAIL



SLOPE TRANSITION DETAILS



TYPE 1 RAMP
(Walk adjacent to curb)

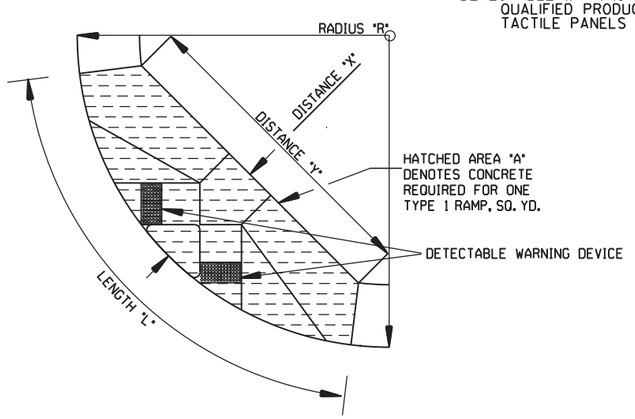




SECTION A-A

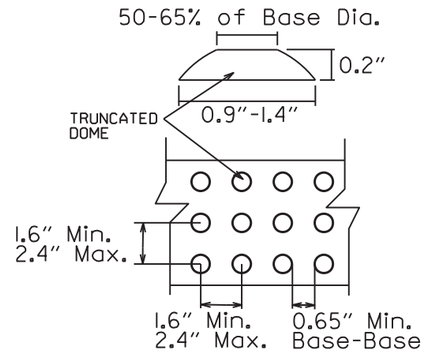
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80



GENERAL NOTES FOR DETECTABLE WARNING DEVICES

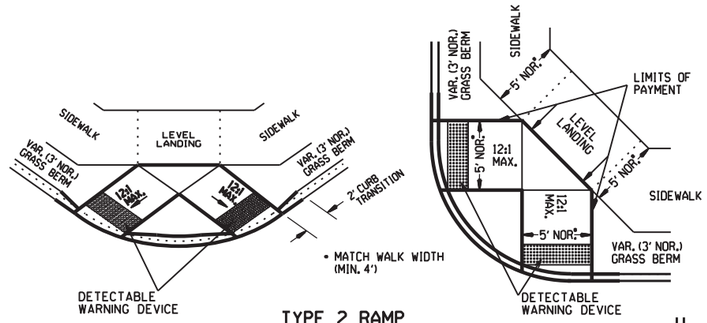
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL

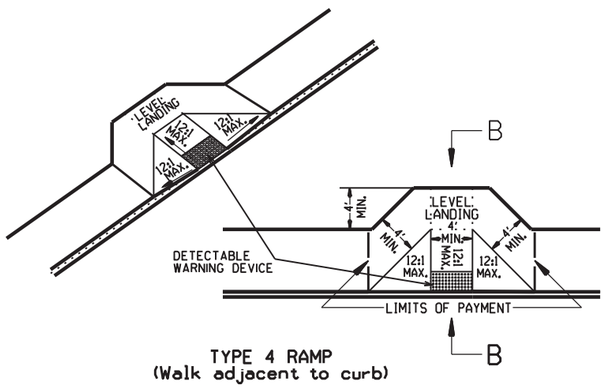
GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

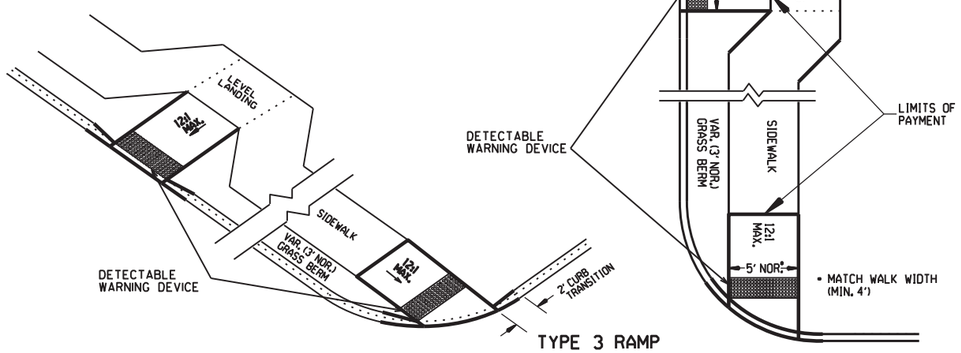


TYPE 2 RAMP

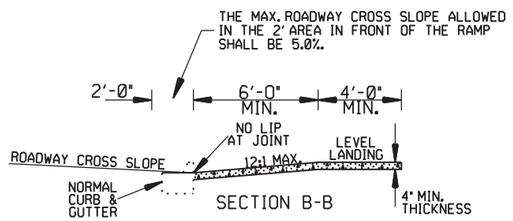
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.



TYPE 4 RAMP
(Walk adjacent to curb)



TYPE 3 RAMP



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

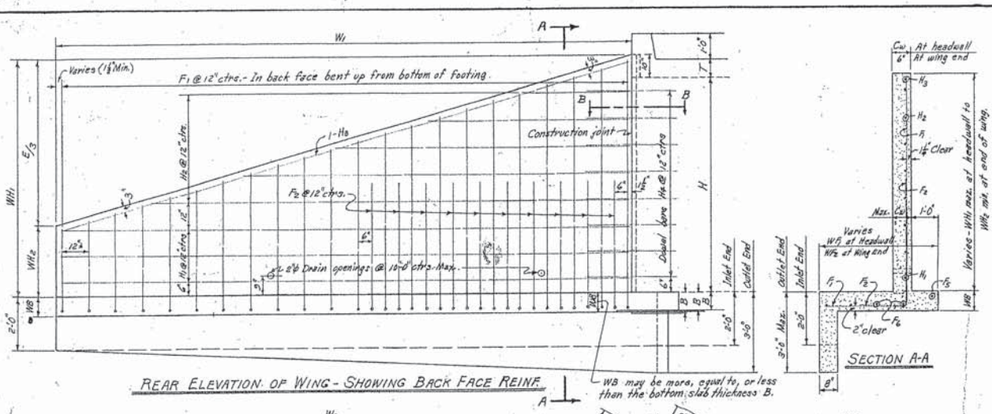
DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8#TO12#MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.M.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

STANDARD DRAWING WR-1

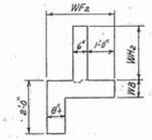
FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.				
JOB No.					



REAR ELEVATION OF WING - SHOWING BACK FACE REINF.

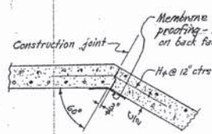
PLAN OF WING - SHOWING FOOTING REINF.

SECTION A-A

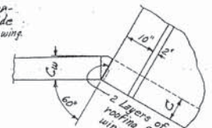


END VIEW OF WING

When B is more than WB, the shaded portion of the apron shall be the same thickness as the barrel base B.



SECTION B-B THRU CONSTRUCTION JOINT



DETAIL AT TOP OF WING

NOTE:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL = C	WINGWALL HEIGHTS		WIDTHS OF WING FOOTINGS		PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR DIST. FROM HDWL. TO END OF WING	LENGTH OF WING WALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE	
			AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING					INLET END	OUTLET END
H	WB	C_W	WH_1	WH_2	W_{F1}	W_{F2}	F	E	W_1	W_2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	0'-11⅝"	6'-6"	7'-6"	7'-1½"	0.889	0.986
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1⅝"	1'-4⅜"	8'-6"	9'-3⅝"	9'-2⅝"	1.338	1.466
4'	7"	6"	4'-10"	1'-3"	3'-0"	2'-3"	1'-9"	10'-6"	12'-1⅝"	12'-1⅝"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅞"	12'-6"	14'-5⅝"	14'-5⅝"	2.478	2.668
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅝"	12'-6"	14'-5⅝"	14'-7½"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6½"	14'-6"	16'-9"	17'-1⅝"	3.490	3.661
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅝"	14'-6"	16'-9"	17'-1½"	3.511	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅝"	14'-6"	16'-9"	17'-1½"	3.588	3.803
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅜"	16'-6"	19'-0½"	19'-8⅝"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅝"	16'-6"	19'-0⅝"	19'-8⅝"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	18'-6"	21'-4⅝"	22'-0⅝"	5.761	6.097

* Quantity per wing does not include headwall or that portion of apron or toewall for the length W_3.

APRON DIMENSION W_3

$W_3 = (OW - 2F)$

CLEAR SPAN	CLEAR HEIGHT	2 × FOOTING DIMENSION	SINGLE BARREL CULVERT		DOUBLE BARREL CULVERT		TRIPLE BARREL CULVERT		QUADRUPLE BARREL CULVERT		QUINTUPLE BARREL CULVERT	
S	H	2F	OW	W_3	OW	W_3	OW	W_3	OW	W_3	OW	W_3
4'	2'	1'-11⅛"	5'-0"	3'-0⅞"	9'-8"	7'-8⅝"	14'-4"	12'-4⅜"	19'-0"	17'-0⅛"	23'-8"	21'-8⅛"
	3'	2'-8⅜"	5'-0"	2'-3⅛"	9'-8"	6'-11⅛"	14'-4"	11'-7⅝"	19'-0"	16'-3⅝"	23'-8"	20'-11⅝"
	4'	3'-6"	5'-0"	1'-6"	9'-8"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-2"
	5'	4'-3⅜"	5'-0"	0'-8⅝"	9'-8"	5'-4⅛"	14'-4"	10'-0⅜"	19'-0"	14'-8⅝"	23'-8"	19'-9⅞"
	6'	5'-0⅞"	5'-2"	0'-1⅛"	9'-11"	4'-10⅛"	14'-8"	9'-7⅜"	19'-5"	14'-2⅛"	24'-2"	19'-1⅜"
5'	3'	2'-8⅜"	6'-0"	3'-3⅝"	11'-8"	8'-11⅛"	17'-4"	14'-7⅜"	23'-0"	20'-3⅛"	28'-8"	25'-11⅛"
	4'	3'-6"	6'-0"	2'-6"	11'-8"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3⅜"	6'-0"	1'-8⅝"	11'-8"	7'-4⅛"	17'-4"	13'-0⅜"	23'-0"	18'-8⅝"	28'-8"	24'-9⅞"
	6'	5'-0⅞"	6'-2"	1'-1⅛"	11'-11"	6'-10⅛"	17'-8"	12'-7⅜"	23'-5"	18'-2⅛"	29'-2"	24'-1⅜"
	7'	6'-2⅛"	6'-5"	0'-0⅝"	12'-1"	5'-10⅝"	17'-11"	11'-8⅝"	23'-9"	17'-1⅝"	29'-7"	23'-0⅝"
6'	3'	2'-8⅜"	7'-0"	4'-3⅝"	13'-8"	10'-11⅛"	20'-4"	17'-7⅜"	27'-0"	24'-3⅛"	33'-8"	30'-11⅛"
	4'	3'-6"	7'-0"	3'-6"	13'-8"	10'-2"	20'-4"	16'-10"	27'-0"	23'-6"	33'-8"	30'-2"
	5'	4'-3⅜"	7'-0"	2'-8⅝"	13'-8"	9'-4⅛"	20'-4"	16'-0⅜"	27'-0"	22'-8⅝"	33'-8"	29'-4⅞"
	6'	5'-0⅞"	7'-2"	2'-1⅛"	13'-11"	8'-10⅛"	20'-8"	15'-7⅜"	27'-5"	22'-2⅛"	34'-2"	29'-1⅜"
	7'	6'-2⅛"	7'-5"	1'-0⅝"	14'-1"	7'-10⅝"	20'-11"	14'-8⅝"	27'-9"	21'-1⅝"	34'-7"	28'-0⅝"
	8'	7'-1⅝"	7'-8"	0'-0"	14'-2"	6'-10"	21'-0"	13'-8"	27'-10"	20'-0"	34'-8"	27'-0"
8'	4'	3'-6"	9'-0"	5'-6"	16'-6"	14'-2"	24'-9"	22'-10"	35'-0"	31'-6"	43'-8"	40'-2"
	5'	4'-3⅜"	9'-2"	4'-10⅝"	17'-1"	13'-7⅛"	24'-8"	22'-0⅜"	35'-5"	31'-1⅝"	44'-2"	39'-10⅝"
	6'	5'-0⅞"	9'-2"	4'-1⅛"	17'-1"	12'-10⅛"	24'-8"	21'-1⅜"	35'-5"	30'-1⅛"	44'-2"	39'-1⅜"
	7'	6'-2⅛"	9'-5"	3'-0⅝"	18'-1"	11'-10⅝"	24'-11"	20'-0⅝"	35'-9"	29'-0⅝"	44'-7"	38'-0⅝"
	8'	7'-1⅝"	9'-9"	2'-0"	18'-2"	10'-10"	25'-0"	19'-0"	35'-10"	28'-0"	44'-8"	37'-0"
9'	5'	4'-3⅜"	10'-2"	5'-10⅝"	19'-11"	15'-7⅛"	29'-8"	25'-4⅜"	39'-5"	35'-1⅝"	49'-2"	44'-10⅝"
	6'	5'-0⅞"	10'-3"	5'-1⅛"	20'-1"	15'-0⅛"	29'-11"	24'-5⅜"	39'-9"	34'-2⅛"	49'-7"	43'-11⅜"
	7'	6'-2⅛"	10'-3"	4'-0⅝"	20'-1"	13'-10⅝"	29'-11"	23'-2⅝"	39'-9"	33'-0⅝"	49'-7"	42'-10⅝"
	8'	7'-1⅝"	10'-10"	3'-0"	20'-2"	12'-10"	30'-0"	22'-2"	39'-10"	32'-0"	49'-8"	41'-10"
10'	6'	5'-0⅞"	11'-2"	6'-0⅛"	21'-11"	17'-7⅛"	32'-8"	28'-4⅜"	43'-5"	39'-1⅝"	54'-2"	49'-10⅝"
	7'	6'-2⅛"	11'-3"	5'-0⅝"	22'-1"	17'-0⅝"	32'-11"	27'-1⅝"	43'-9"	38'-0⅝"	54'-7"	48'-11⅜"
	8'	7'-1⅝"	11'-9"	4'-0"	22'-2"	15'-10"	32'-11"	26'-0⅜"	43'-10"	37'-0"	54'-8"	47'-10"
11'	6'	5'-0⅞"	12'-0"	7'-3⅛"	23'-8"	19'-1⅛"	34'-0"	30'-1⅜"	47'-1"	42'-3⅛"		
	7'	6'-2⅛"	12'-0"	6'-1⅝"	23'-8"	17'-11⅝"	34'-0"	28'-10⅝"	47'-0"	41'-0⅝"		
	8'	7'-1⅝"	12'-8"	5'-0"	23'-8"	16'-10"	34'-0"	28'-8"	47'-0"	40'-6"		
12'	6'	5'-0⅞"	13'-0"	8'-3⅛"	26'-2"	21'-1⅛"	39'-0"	33'-1⅜"	51'-10"	46'-3⅛"		
	7'	6'-2⅛"	13'-0"	7'-1⅝"	26'-2"	19'-11⅝"	39'-0"	32'-0⅝"	51'-10"	45'-1⅝"		
	8'	7'-1⅝"	13'-6"	6'-0"	26'-2"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING STEEL - LBS. FOR 4 WINGS	CLASS S CONCRETE - 4 WINGS HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS				
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	C_W	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	108.0	4.50	5.96	6.42	7.38	8.34
	3'	6"	7"	169.0	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	259.6	8.33	9.28	10.24	11.20	12.16
	5'	6"	7"	357.8	10.72	11.68	12.64	13.60	14.56
	6'	7"	8"	583.1	14.55	15.53	16.52	17.51	18.49
5'	3'	6"	7"	164.9	6.97	7.63	8.29	9.96	11.12
	4'	6"	7"	259.6	8.56	9.70	10.87	10.03	12.20
	5'	6"	7"	357.8	10.394	12.10	13.26	14.93	15.59
	6'	7"	8"	583.1	14.77	15.96	17.15	18.34	19.54
	7'	7⅛"	8⅝"	1139.6	18.94	20.15	21.37	22.59	23.80
6'	3'	6"	7"	164.9	6.68	8.06	9.42	10.80	12.18
	4'	6"	7"	259.6	8.75	10.14	11.49	12.87	14.25
	5'	6"	7"	357.8	11.15	12.53	13.88	15.27	16.65
	6'	7"	8"	583.1	14.98	16.39	17.78	19.18	20.59
	7'	7⅛"	8⅝"	1139.6	19.15	20.58	22.00	23.43	24.86
	8'	8"	9"	1925.6	24.09	25.53	26.96	28.39	29.83
7'	4'	6"	7"	259.6	8.97	10.58	12.15	13.76	15.35
	5'	6"	7"	357.8	11.86	12.37	14.58	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7⅛"	8⅝"	1139.6	19.28	21.02	22.68	24.28	25.92
	8'	8"	9"	1925.6	24.32	25.97	27.60	29.25	30.89
8'	4'	6"	7"	259.6	9.19	11.03	12.82	14.65	16.45
	5'	7"	7"	357.8	12.03	13.89	15.70	17.55	19.34
	6'	7"	8"	583.1	15.92	17.27	19.09	20.93	22.75
	7'	7⅛"	8⅝"	1139.6	19.99	21.96	23.90	25.76	26.99
	8'	8"	9"	1925.6	24.94	26.91	28.84	30.11	31.96
9'	5'	7"	7"	357.8	12.26	14.39	16.87	18.95	20.97
	6'	7⅛"	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7⅛"	8⅝"	1139.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	1925.6	24.76	26.86	28.91	31.00	33.05
10'	5'	7"	7"	357.8	12.49	14.80	17.05	19.24	21.52
	6'	7⅛"	8"	583.1	16.17	18.50	20.77	22.99	25.28
	7'	7⅛"	8⅝"	1139.6	20.04	22.37	24.64	26.87	29.15
	8'	8"	9"	1925.6	24.98	27.31	29.58	31.81	34.10
11'	6'	8"	8"	583.1	16.69	19.27	21.76	24.33	
	7'	8"	8⅝"	1139.6	20.64	23.22	25.71	28.18	
	8'	8"	9"	1925.6	25.19	27.77	30.27	32.74	
12'	6'	8"	8"	583.1	16.92	19.75	22.95	25.18	
	7'	8"	8⅝"	1139.6	20.87	23.69	26.90	29.18	
	8'	8"	9"	1925.6	25.42	28.25	30.96	33.69	

* For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾ chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"

Reinforcing Steel 20,000#/□"

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

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

CLASS S CONCRETE

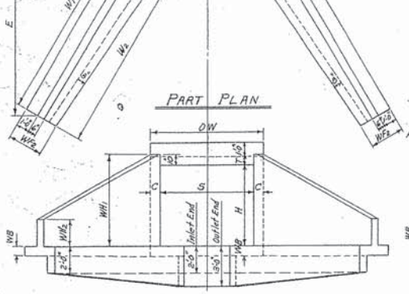
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H= 8'-0" OR LESS

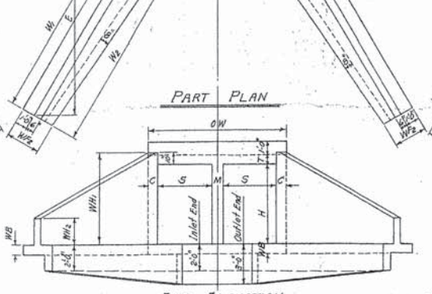
STANDARD DRAWING NO. W-X003-1



PART PLAN

END ELEVATION

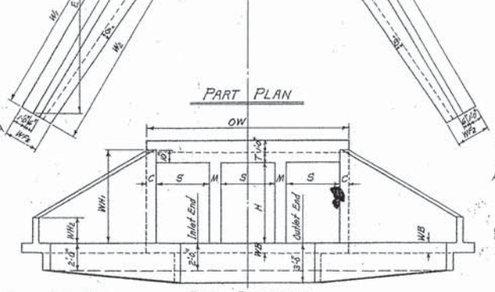
SINGLE BARREL CULVERT



PART PLAN

END ELEVATION

DOUBLE BARREL CULVERT

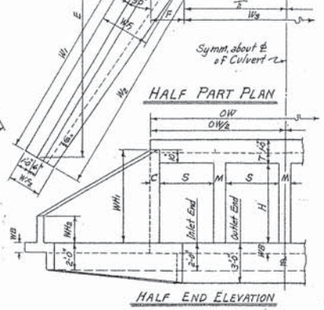


PART PLAN

END ELEVATION

TRIPLE BARREL CULVERT

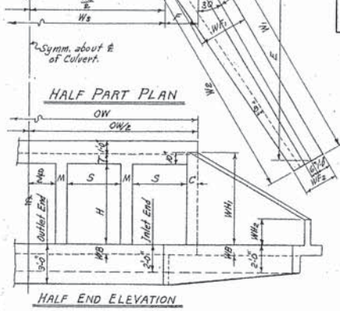
NOTE:- Plans and Elevations are not to scale.



HALF PART PLAN

HALF END ELEVATION

QUADRUPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

QUINTUPLE BARREL CULVERT

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

BAR LIST FOR ONE WING - 4 REQUIRED

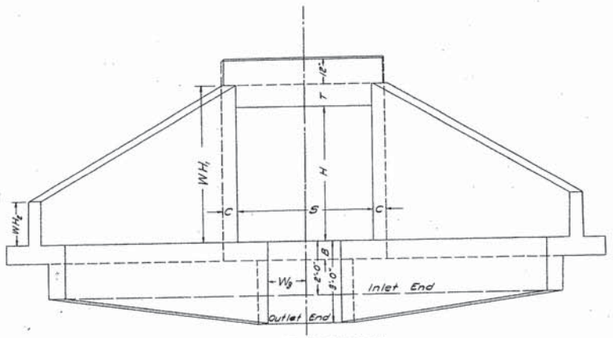
CLEAR HEIGHT	F_1 BENT: In bottom of footing, bent up into back face of wing. One bar of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MIN.	LENGTHS VARY MAX.	X MIN.	X MAX.	Y MIN.	Y MAX.	F_2 BENT: In bottom of footing, bent up into back face of wing. Alt. with F_1 bars. SIZE	SPACING	NO. REQD	LENGTH	X	Y	F_5 STRAIGHT: Longitudinal in top of wing footing heel. SIZE	NO. REQD	LENGTH	F_4 STRAIGHT: Longitudinal in bottom of wing footing toe. SIZE	NO. REQD	LENGTH	H_1 STRAIGHT: Horizontal in back face of wing. SIZE	SPACING	NO. REQD	LENGTH	H_2 STRAIGHT: Horizontal in back face of wing. One bar of each length. SIZE	SPACING	NO. REQD	LENGTHS VARY MAX.	LENGTHS VARY MIN.	H_3 STRAIGHT: In back face of wing at top - on slope. SIZE	NO. REQD	LENGTH	H_4 BENT: Dowels thru construction joint at headwall. SIZE	SPACING	NO. REQD	LENGTH	X	QUANTITY REINFORCING STEEL PER WING LB.	BAR BENDING DIAGRAMS
H																																										
2'	#3	18"	8	1'-6"	3'-10"	0'-8"	1'-0"	0'-11"	2'-11"	—	—	—	—	—	—	#3	1	9'-8"	#3	2	8'-6"	#3	18"	1	7'-2"	#3	12"	1	—	9'-6"	#8	1	7'-8"	#3	12"	2	2'-8"	1'-9"	27.0	
3'	#3	12"	10	2'-2"	5'-2"	0'-10"	1'-3"	1'-3"	4'-0"	—	—	—	—	—	—	#3	1	12'-0"	#3	2	11'-0"	#3	18"	1	9'-6"	#3	12"	2	7'-6"	9'-0"	#3	1	9'-9"	#3	12"	3	2'-8"	1'-9"	41.1	
4'	#3	12"	13	2'-8"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—	#3	1	14'-9"	#3	3	13'-6"	#3	18"	1	11'-10"	#3	12"	3	10'-11"	9'-0"	#3	1	10'-8"	#3	12"	4	2'-8"	1'-9"	63.7	
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	1'-11"	6'-0"	#3	12"	4	3'-6"	1'-1"	2'-6"	#3	1	16'-8"	#3	3	16'-0"	#3	18"	2	14'-2"	#3	12"	3	10'-11"	9'-0"	#3	1	11'-7"	#3	12"	5	2'-8"	1'-9"	89.5	
6'	#4	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	2'-5"	7'-1"	#3	12"	4	4'-6"	1'-4"	3'-3"	#3	1	18'-0"	#3	3	18'-6"	#3	18"	2	16'-6"	#3	12"	4	14'-4"	9'-0"	#3	1	12'-5"	#3	12"	6	2'-8"	1'-9"	145.8	
7'	#4	12"	20	3'-9"	10'-9"	1'-3"	2'-9"	2'-7"	8'-1"	#4	12"	7	5'-6"	1'-7"	4'-0"	#4	1	21'-4"	#4	4	21'-0"	#4	18"	2	18'-9"	#4	12"	5	17'-9"	9'-0"	#4	1	13'-5"	#4	12"	7	3'-6"	1'-9"	283.7	
8'	#4	12"	22	4'-6"	12'-3"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	23'-8"	#4	4	23'-6"	#4	18"	3	21'-4"	#4	12"	5	17'-9"	9'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"	356.4	

NOTE:- Dimensions are to bar centers.

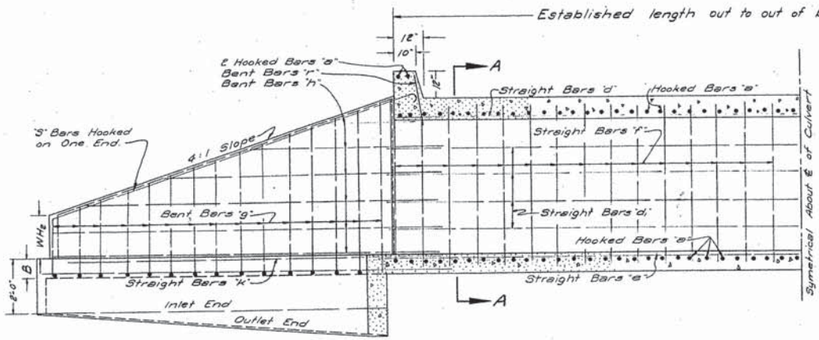
REVISIONS:- Membrane added. 5-10-66 W.C.H.

Designed By:- W.C.H. 8-20-62. Checked By:- RMS:- 1-9-63
Drawn By:- W.C.H. 12-4-62. Checked By:- RMS:- 1-31-63
Quantities By:- W.C.H. 12-14-62. Checked By:- RMS:- 3-29-63
Rechecked By:-

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	NO. SHEET	TOTAL SHEETS
6	ARK.				
JOB NO.					

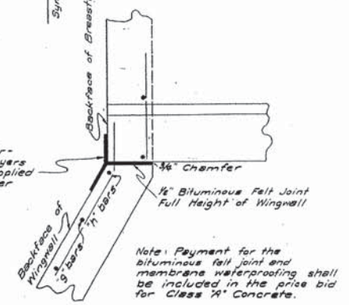


END ELEVATION



LONGITUDINAL SECTION

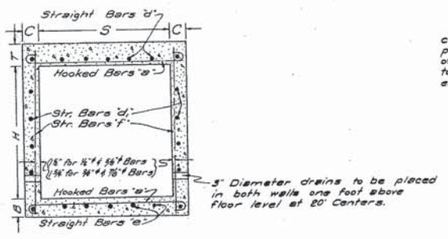




Note: Payment for the bituminous felt joint and membrane waterproofing shall be included in the price bid for Class "A" Concrete.

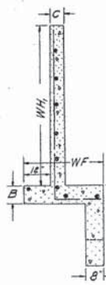
DETAIL OF EXPANSION JOINT
FOR CULVERT WHEN HEIGHT "H"=8' OR MORE
Scale ¾" = 1'-0"

A membrane waterproofing 12" wide consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the backface of abutment to cover expansion joint.

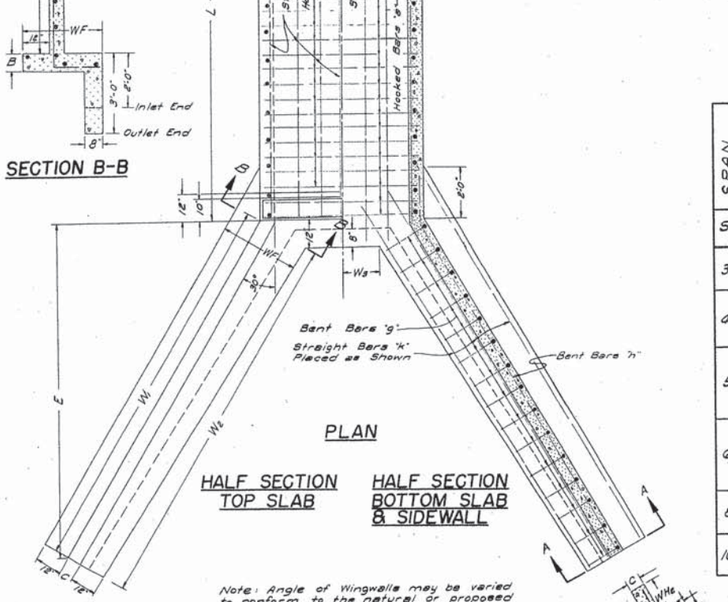


3" Diameter drains to be placed in both walls one foot above floor level at 20' Centers.

SECTION A-A



SECTION B-B



PLAN

HALF SECTION TOP SLAB

HALF SECTION BOTTOM SLAB & SIDEWALL

Note: Angle of Wingwalls may be varied to conform to the natural or proposed Inlet or Outlet Channel.



SECTION A-A

DIMENSIONS AND QUANTITIES

SPAN	HEIGHT	AREA OF OPENING SQ. FT.	MAXIMUM DEPTH OF COVER	THICKNESS OF TOP SLAB	THICKNESS OF SIDE WALLS & WINGWALLS AT BOTTOM SLAB	WINGWALL HEIGHTS AT HEADWALLS	WINGWALL HEIGHTS AT WINGEND	MAXIMUM WIDTH OF WING FOOTING PERPENDICULAR TO FACE OF WING	LENGTH OF WINGWALLS FROM END OF HDWL. TO END OF WING	INSIDE LENGTH OF WING FOOTINGS	FOOTING DIMENSION FROM ℄ of Box	CONCRETE CU.YD. HEADWALLS WINGWALLS & FOOTINGS	CONCRETE CU.YD. PER LINEAR FT. OF BARREL	STEEL LB. HEADWALLS WINGWALLS & FOOTINGS	STEEL LB. PER LINEAR FT OF BARREL	STEEL LB. ADD'L STEEL FOR LAPS
S	H	A	D	T	C	B	WH.	WH₂	WF	E	W.	W₂	W₃							
3	2	6	16"	6½"	6"	6½"	2'-9"	1'-0"	2'-6"	7'-0"	8'-1"	7'-9¼"	0'-10½"	4.76	0.235	286	22.56	111
	3	9			6"		3'-9"	1'-0"	2'-6"	11'-0"	12'-8½"	12'-5"	0'-10½"	7.59	0.272	440	25.27	134
	4	12			6"		4'-9"	1'-0"	2'-6"	13'-8"	15'-9½"	15'-6"	0'-10½"	10.06	0.309	587	27.97	156
4	2	8	13"	7½"	6"	7½"	2'-9"	1'-0"	2'-6"	7'-0"	8'-1"	7'-9¼"	1'-4½"	5.10	0.306	298	31.05	156
	3	12			6"		3'-9"	1'-0"	2'-6"	11'-0"	12'-8½"	12'-5"	1'-4½"	8.03	0.343	453	33.76	178
	4	16			6"		4'-9"	1'-4"	2'-6"	13'-8"	15'-9½"	15'-6"	1'-4½"	10.64	0.380	600	36.46	200
	6	24	11"		7"		6'-9"	2'-0"	3'-6½"	19'-0"	21'-11½"	22'-2"	0'-5"	18.73	0.496	993	42.01	245
5	2	10	11"	8"	6"	8"	2'-10"	1'-0"	2'-6"	7'-4"	8'-5½"	8'-2¼"	1'-10⅛"	6.96	0.370	325	38.31	178
	3	15	11"		6"		3'-10"	1'-0"	2'-6"	11'-4"	13'-1"	12'-9⅛"	1'-10⅛"	8.73	0.407	482	41.06	200
	4	20	11"		6"		4'-10"	1'-4"	2'-6"	16'-0"	16'-2"	15'-10⅛"	1'-10⅛"	11.33	0.444	645	43.77	223
	5	25	11"		6"		5'-10"	1'-8"	2'-11"	16'-8"	19'-3"	19'-0⅛"	1'-4½"	14.53	0.481	830	46.47	245
	7	35	9"		7½"		7'-10"	2'-4"	3'-11"	22'-0"	25'-4⅜"	25'-1½"	0'-4"	25.20	0.633	1551	58.60	289
6	3	18	9"	9"	6"	9"	3'-10"	1'-0"	2'-6"	11'-4"	13'-1"	12'-9⅛"	2'-4⅜"	9.26	0.500	495	50.41	223
	4	24	9"		6"		4'-10"	1'-4"	2'-6"	16'-0"	16'-2"	15'-10⅛"	2'-4⅜"	11.93	0.537	645	53.11	245
	5	30	9"		6"		5'-10"	1'-8"	2'-11"	16'-8"	19'-3"	19'-0⅛"	1'-10⅛"	15.30	0.574	845	55.82	267
	6	36	9"		7"		6'-10"	2'-0"	3'-5"	19'-4"	22'-4"	22'-1"	1'-4½"	20.57	0.657	1063	58.55	289
	8	48	7"		8"		8'-10"	2'-8"	4'-5"	24'-8"	28'-5⅝"	28'-2¼"	0'-3⅝"	32.89	0.802	1648	72.49	334
8	7	56	7"	11"	7½"	11"	8'-0"	2'-4"	4'-0"	22'-8"	26'-2"	25'-9⅛"	1'-8⅛"	29.52	0.952	1735	84.20	401
	8	64	7"		8"		9'-0"	2'-8"	4'-6"	25'-4"	29'-3"	30'-2¼"	1'-2⅛"	36.71	1.029	2088	88.05	423
	10	80	7"		10"		11'-0"	3'-4"	5'-6"	30'-8"	35'-5"	36'-1½"	0'-2⅛"	57.83	1.274	3217	101.16	468
10	8	80	6"	13"	8"	13"	9'-0"	2'-8"	4'-6"	25'-4"	29'-3"	30'-2¼"	2'-2⅛"	39.32	1.305	2159	136.74	445
	10	100	6"		10"		11'-0"	3'-4"	5'-6"	30'-8"	35'-5"	36'-1½"	1'-2⅛"	61.51	1.553	3299	151.04	490
	12	120	6"		12"		13'-0"	4'-0"	6'-6"	36'-0"	41'-6⅜"	43'-0⅝"	0'-2⅜"	91.44	1.852	5333	169.90	534

LAP NOTE: In computing quantities of steel from the above table, add one lap for culverts up to 50'-0" in length and one lap for each additional 25'-0" in length.
SPECIFICATIONS: Arkansas Standard Road and Bridge Specifications.
*REINFORCING STEEL: To be deformed bars of Structural or Intermediate grade.
CHAMFER: All exposed corners to have ¾" Chamfer.
CONCRETE: All Concrete to be Class "A".
*Reinforcing Steel to be deformed bars of intermediate or rail grade on all Interstate Highways.
CONSTRUCTION JOINTS: Construction joints in wing walls and apron slabs shall be made only where shown on the plans. Maximum length of culvert between headwalls for which continuous pours will be permitted is 75'. For longer culverts construction joints shall be provided in slabs and walls at intervals not greater than 50'. Joints shall be normal to ℄ of barrel and shall have 2" continuous keys.
Longitudinal reinforcing shall be continuous through joints.

REVISIONS	
March, '58	Drawn
July, 1958	Construction Joints

STEEL SCHEDULE

For Culverts 30'-0" in Length - Out to Out of Barrel

SPAN	HEIGHT	"a" bars (3'-0" for ½"ϕ & ⅝"ϕ bars; 6'-0" for ¾"ϕ & ⅞"ϕ bars; X; L in each headwall balance in top and bottom slab of barrel) SIZE	"a" bars SPACING	"a" bars NUMBER	"a" bars LENGTH	"a" bars X	"d" bars STRAIGHT In Bottom of Top Slab SIZE	"d" bars SPACING	"d" bars NUMBER	"d" bars LENGTH	"d₁" bars STRAIGHT In Sidewalls SIZE	"d₁" bars SPACING	"d₁" bars NUMBER	"d₁" bars LENGTH	"e" bars STRAIGHT In Top of Bottom Slab SIZE	"e" bars SPACING	"e" bars NUMBER	"e" bars LENGTH	"f" bars STRAIGHT Vertical Bars In Sidewalls SIZE	"f" bars SPACING	"f" bars NUMBER	"f" bars LENGTH	"g" bars Vertical Bars in back face of Wingwall bent into bottom of footing SIZE	"g" bars SPACING	"g" bars NUMBER	"g" bars AVERAGE LENGTH	"g" bars X Min.	"g" bars X Max.	"g" bars Y Min.	"g" bars Y Max.	"h" bars ½" ϕ bars @ 18" Ctrs. NUMBER	"h" bars LENGTH	"k" bars ½" ϕ bars STRAIGHT In Wing Footing NUMBER	"k" bars LENGTH	"r" bars ½" ϕ bars @ 18" Ctrs. Curves in Headwalls NUMBER	"r" bars LENGTH	"s" bars ½" ϕ bars In Top of Each Wingwall NUMBER	"s" bars LENGTH	"s" bars Z
S	H																																					
3	2	½"	6"	124	4'-6"	3'-9"	½"	12"	4		½"	12"	4		½"	12"	4		½"	12"	G2	2'-10"								12	7'-11⅞"	3'-2½"	7'-10"	12	9'-7⅝"	10	2'-11⅞"	4	9'-7⅝"	9'-1⅝"
	3			124	4'-6"	3'-9"			4				4				4				G2	3'-10"	½"	12"	G2	3'-10"	16	10'-7⅛"	3'-2½"	12'-5⅝"	12	10'-3⅛"	10	2'-11⅞"	4	10'-4⅛"	13'-10"
	4			124	4'-6"	3'-9"			4				4				4				G2	4'-10"								20	12'-6⅛"	3'-2½"	15'-6⅝"	12	13'-4⅛"	10	2'-11⅞"	4	17'-5⅝"	16'-1⅛"
4	2	¾"	5"	108	5'-6"	4'-9"	½"	10"	6		½"	12"	6		½"	10"	6		½"	12"	G2	3'-0"								12	7'-11⅞"	3'-2½"	7'-10"	12	9'-7⅝"	12	3'-0⅛"	4	9'-7⅝"	9'-1⅝"
	3			108	5'-6"	4'-9"			6				6				6				G2	4'-0"	½"	12"	G2	5'-0"	16	10'-7⅞"	3'-2½"	12'-5⅝"	12	10'-3⅛"	12	3'-0⅛"	4	14'-6"	13'-0"
	4			108	5'-6"	4'-9"			6				6				6				G2	5'-0"								20	18'-6⅝"	3'-2½"	15'-6⅝"	12	17'-4⅛"	12	3'-0⅛"	4	17'-5⅝"	16'-1⅛"
	6			108	5'-8"	4'-11"			10				10				10				G2	7'-0"								28	16'-9⅝"	3'-2½"	21'-8⅛"	12	23'-6"	12	3'-0⅛"	4	23'-9⅛"	23'-3½"
5	2	⅝"	7"	108	6'-6"	5'-9"	½"	10"	7	29'-9" for 30'-0" Length	½"	12"	7	29'-9" for 30'-0" Length	½"	10"	7	31'-9" for 30'-0" Length	½"	12"	G2	3'-1"								36	3'-6"	1'-3"	1'-3"	1'-4½"	4'-1½"	12	8'-4"	3'-2½"	7'-10"	12	9'-7⅝"	12	3'-1"	4	10'-0"	9'-6"
	3			108	6'-6"	5'-9"			7				7				7				G2	4'-1"	½"	12"	G2	5'-1"	16	11'-0⅛"	3'-2½"	15'-10⅜"	12	10'-7⅜"	14	3'-1"	4	14'-8⅜"	14'-2⅜"
	4			108	6'-6"	5'-9"			7				7				7				G2	5'-1"								52	4'-9"	1'-3"	1'-3"	1'-9"	5'-3"	20	12'-11⅝"	3'-2½"	15'-11"	12	17'-8⅝"	14	3'-1"	4	17'-10⅝"	17'-4⅝"
	5			108	6'-6"	5'-9"			7				7				8				G2	6'-1"								68	5'-7⅞"	1'-3"	1'-8"	2'-2"	6'-2"	24	15'-0⅜"	3'-2½"	18'-11⅞"	12	20'-9⅜"	14	3'-1"	4	21'-0⅜"	20'-6⅜"
	7			108	6'-9"	6'-0"			12				12				12				G2	8'-1"	⅝"ϕ							100	7'-6⅛"	1'-4½"	2'-8"	2'-8"	8'-3"	32	18'-7⅜"	3'-2½"	23'-6"	12	26'-4⅜"	14	3'-1"	4	27'-4"	26'-10"
6	3	⅝"	7"	124	7'-6"	6'-9"	½"	10"	8		½"	12"	8		½"	10"	8		½"	12"	G2	2'-3"								52	4'-2"	1'-3"	1'-3"	1'-7½"	4'-2½"	16	11'-0⅛"	3'-2½"	12'-10⅜"	12	14'-7⅜"	16	3'-2"	4	16'-8⅜"	16'-2⅜"
	4			124	7'-6"	6'-9"			8				8				8				G2	3'-3"								64	4'-10"	1'-3"	1'-3"	1'-10"	5'-0"	20	12'-11⅝"	3'-2½"	15'-11"	12	17'-8⅝"	16	3'-2"	4	17'-10⅝"	17'-4⅝"
	5			124	7'-6"	6'-9"			8				8				8				G2	4'-3"	½"	12"	G2	5'-3"	20	14'-0⅛"	3'-2½"	18'-0⅜"	12	20'-9⅜"	16	3'-2"	4	21'-0⅜"	20'-6⅜"
	6			124	7'-8"	6'-11"			8				10				8				G2	7'-3"								92	6'-8"	1'-4"	2'-2"	2'-7½"	7'-2½"	28	17'-1⅜"	3'-2½"	22'-0⅝"	12	23'-10⅝"	16	3'-2"	4	24'-2⅛"	23'-8⅛"
	8			124	7'-10"	7'-1"			8				14				8				G2	9'-3"	⅝"ϕ	12"	G2	9'-3"	36	21'-8⅛"	3'-2½"	28'-0⅝"	12	30'-0⅛"	16	3'-2"	4	30'-5⅝"	29'-11⅞"
8	7	¾"	9"	84	10'-5½"	8'-11½"	½"	10"	12		½"	12"	14		½"	9"	12		½"	12"	G2	8'-7"	⅝"ϕ	12"	G2	8'-7"	32	18'-10⅝"	3'-2½"	23'-11⅝"	12	27'-8⅛"	20	3'-4"	4	28'-1⅛"	27'-7⅛"
	8			84	10'-6⅛"	9'-0⅛"			12				14				12				G2	9'-7"	⅝"ϕ	12"	G2	9'-7"	36	21'-11⅛"	3'-2½"	28'-0⅝"	12	30'-9⅜"	20	3'-4"	4	31'-3⅜"	30'-9⅜"
	10			84	10'-10⅛"	9'-4⅛"			12				18				12				7d	11'-7"		10"	7d	11'-7"	44	26'-0⅝"	3'-4⅜"	35'-1⅜"	12	36'-11⅛"	20	3'-4"	4	37'-6⅜"	37'-0⅜"
10	8	⅝"	7"	108	12'-6⅛"	11'-0⅛"	½"	10"	13		½"	12"	14		½"	10"	13		½"	12"	G2	9'-11"	⅝"ϕ	12"	G2	9'-11"	36	21'-11⅛"	3'-4⅜"	28'-0"	12	30'-9⅜"	24	3'-6"	4	31'-3⅜"	30'-9⅜"
	10			108	12'-10⅛"	11'-4½"			13				18				13				7d	11'-11"	⅝"ϕ	10"	7d	11'-11"	44	26'-0⅝"	3'-4⅜"	35'-1⅜"	12	36'-11⅛"	24	3'-6"	4	37'-6⅜"	37'-0⅜"
	12			108	13'-2⅛"	11'-8⅝"			13				22				13				G2	13'-11"	⅝"ϕ	8"	G2	13'-11"	52	30'-2⅝"	3'-6⅜"	41'-3⅜"	12	43'-1⅛"	26	3'-6"	4	43'-10⅛"	43'-4⅛"

NOTE: Lengths given above do not include lap.

AASHO DESIGN LIVE LOADING H-20 S-16
UNIT STRESSES

Concrete (n-15) 840 Lbs Per Sq. In.
Reinforcing Steel (Str. Gr.) 18000 Lbs. Per Sq. In.

SPECIAL MILITARY LOADING

Add'l Loading For Interstate Highways
2 - 24,000 Lb. Axles @ 4'-0" Ctrs.
Concrete (n-15) - 840 Lbs. Per Sq. In.
Reinf. Steel (Int. or Rail) - 20000 Lbs. Per Sq. In.

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERTS

3' TO 10' SPAN **4:1 SLOPES**
SINGLE **OVER 3'-6" COVER**

STD. DWG. NO. R-1004-A

11-A

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

BAR LIST FOR VARIOUS SECTIONS OF BARREL

SECTION & BAR GROUP	LENGTH OF SECTIONS	DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"b" bars STRAIGHT In Top and Bottom Slabs of Barrel. 2 Add'l in Apron and Headwall - Each. SIZE	"b" bars STRAIGHT SPACING	"b" bars STRAIGHT NUMBER REQ'D 3:1	"b" bars STRAIGHT NUMBER REQ'D 4:1	"b" bars STRAIGHT LENGTH	"b" bars BENT - See Diagram at Right. In Top and Bottom Slabs of Barrel. Alternate with "a" bars. SIZE	"b" bars BENT SPACING	"b" bars BENT NUMBER REQ'D 3:1	"b" bars BENT NUMBER REQ'D 4:1	"b" bars BENT LENGTH	X	"d" bars STRAIGHT Longitudinal in Top Slab of Barrel SIZE	"d" bars STRAIGHT Longitudinal in Top Slab of Barrel SPACING	"d" bars STRAIGHT Longitudinal in Top Slab of Barrel NO. REQ'D	"d" bars STRAIGHT Longitudinal in Top Slab of Barrel LENGTH	"d" bars STRAIGHT Longitudinal in Sidewalls SIZE	"d" bars STRAIGHT Longitudinal in Sidewalls SPACING	"d" bars STRAIGHT Longitudinal in Sidewalls NO. REQ'D	"d" bars STRAIGHT Longitudinal in Sidewalls LENGTH	"d" bars STRAIGHT Longitudinal in Bottom Slab of Barrel SIZE	"d" bars STRAIGHT Longitudinal in Bottom Slab of Barrel SPACING	"d" bars STRAIGHT Longitudinal in Bottom Slab of Barrel NO. REQ'D	"d" bars STRAIGHT Longitudinal in Bottom Slab of Barrel LENGTH	"f" bars STRAIGHT Verticals in Sidewalls SIZE	"f" bars STRAIGHT Verticals in Sidewalls SPACING	"f" bars STRAIGHT Verticals in Sidewalls NUMBER REQ'D 3:1	"f" bars STRAIGHT Verticals in Sidewalls NUMBER REQ'D 4:1	"f" bars STRAIGHT Verticals in Sidewalls LENGTH
SECTION "A" & BAR GROUP "A"	3:1 = 22'-0" 4:1 = 32'-0"	0' TO 10'-0"	7'	5'	#5	12"	98	68	7'-9"	#6	12"	44	64	8'-10"	7'-8"	#4	12"	44	64	6'-1"	#4	12"	44	64	6'-1"	#4	12"	44	64	6'-1"	#4	12"	44	64	7'-3"
				6'			98	68	7'-11"			44	64	9'-0"	7'-10"			44	64	7'-7"			44	64	7'-7"			44	64	7'-7"			44	64	8'-3"
				7'			98	68	8'-1"			44	64	9'-7"	7'-11"			44	64	8'-1"			44	64	8'-1"			44	64	8'-1"			44	64	8'-8"
				8'			98	68	8'-3"			44	64	9'-11"	8'-1"			44	64	8'-6"			44	64	8'-6"			44	64	8'-6"			44	64	9'-2"
				9'			98	68	8'-5"			44	64	10'-3"	8'-2"			44	64	8'-10"			44	64	8'-10"			44	64	8'-10"			44	64	9'-7"
			7'				98	70	10'-0"			98	70	11'-3"	9'-11"			98	70	10'-5"			98	70	10'-5"			98	70	10'-5"	#4	12"	44	64	8'-5"
			8'				98	70	10'-1"			98	70	11'-9"	10'-0"			98	70	10'-8"			98	70	10'-8"			98	70	10'-8"	#5	11"	98	70	10'-5"
			9'				98	70	10'-3"			98	70	11'-6"	10'-2"			98	70	10'-11"			98	70	10'-11"			98	70	10'-11"	#6	12"	98	70	12'-5"
			10'				98	70	10'-5"			98	70	11'-10"	10'-5"			98	70	11'-2"			98	70	11'-2"			98	70	11'-2"	#7	12"	98	70	13'-5"
			11'				98	70	10'-7"			98	70	11'-10"	10'-6"			98	70	11'-5"			98	70	11'-5"			98	70	11'-5"					
			7'	6'	#6	11"	98	68	7'-9"	#6	12"	44	64	8'-10"	7'-8"	#4	12"	44	64	6'-1"	#4	12"	44	64	6'-1"	#4	12"	44	64	6'-1"	#4	12"	44	64	7'-3"
				7'			98	68	8'-0"			44	64	9'-0"	7'-10"			44	64	7'-7"			44	64	7'-7"			44	64	7'-7"			44	64	8'-3"
				8'			98	68	8'-2"			44	64	9'-6"	7'-11"			44	64	8'-1"			44	64	8'-1"			44	64	8'-1"			44	64	8'-8"
				9'			98	68	8'-4"			44	64	9'-10"	8'-1"			44	64	8'-6"			44	64	8'-6"			44	64	8'-6"			44	64	9'-2"
				10'			98	68	8'-6"			44	64	10'-2"	8'-3"			44	64	8'-11"			44	64	8'-11"			44	64	8'-11"			44	64	9'-7"
			8'				98	70	10'-3"			98	70	11'-7"	9'-11"			98	70	10'-11"			98	70	10'-11"			98	70	10'-11"	#4	12"	44	64	8'-5"
			9'				98	70	10'-5"			98	70	11'-8"	10'-2"			98	70	11'-2"			98	70	11'-2"			98	70	11'-2"	#5	11"	98	70	10'-5"
			10'				98	70	10'-7"			98	70	11'-10"	10'-5"			98	70	11'-5"			98	70	11'-5"			98	70	11'-5"	#6	12"	98	70	12'-5"
			11'				98	70	10'-9"			98	70	12'-0"	10'-8"			98	70	11'-8"			98	70	11'-8"			98	70	11'-8"	#7	12"	98	70	13'-5"
			12'				98	70	11'-0"			98	70	12'-3"	10'-11"			98	70	12'-0"			98	70	12'-0"			98	70	12'-0"					
			8'	7'	#7	12"	98	68	8'-1"	#6	12"	44	64	9'-0"	8'-0"	#4	12"	44	64	6'-7"	#4	12"	44	64	6'-7"	#4	12"	44	64	6'-7"	#4	12"	44	64	7'-9"
				8'			98	68	8'-3"			44	64	9'-2"	8'-1"			44	64	8'-3"			44	64	8'-3"			44	64	8'-3"			44	64	8'-10"
				9'			98	68	8'-5"			44	64	9'-4"	8'-3"			44	64	8'-5"			44	64	8'-5"			44	64	8'-5"			44	64	9'-4"
				10'			98	68	8'-7"			44	64	9'-6"	8'-4"			44	64	8'-7"			44	64	8'-7"			44	64	8'-7"			44	64	9'-10"
			9'				98	70	10'-4"			98	70	11'-5"	10'-1"			98	70	10'-8"			98	70	10'-8"			98	70	10'-8"	#4	12"	44	64	8'-7"
			10'				98	70	10'-6"			98	70	11'-7"	10'-3"			98	70	10'-10"			98	70	10'-10"			98	70	10'-10"	#5	11"	98	70	10'-7"
			11'				98	70	10'-8"			98	70	11'-9"	10'-5"			98	70	11'-0"			98	70	11'-0"			98	70	11'-0"	#6	12"	98	70	12'-5"
			12'				98	70	10'-10"			98	70	11'-11"	10'-7"			98	70	11'-2"			98	70	11'-2"			98	70	11'-2"	#7	12"	98	70	13'-5"
			8'	8'	#8	12"	98	68	8'-3"	#7	12"	44	64	9'-2"	8'-2"	#4	12"	44	64	6'-8"	#4	12"	44	64	6'-8"	#4	12"	44	64	6'-8"	#4	12"	44	64	7'-10"
				9'			98	68	8'-5"			44	64	9'-4"	8'-3"			44	64	8'-4"			44	64	8'-4"			44	64	8'-4"			44	64	8'-11"
				10'			98	68	8'-7"			44	64	9'-6"	8'-5"			44	64	8'-6"			44	64	8'-6"			44	64	8'-6"			44	64	9'-11"
			9'				98	70	10'-4"			98	70	11'-5"	10'-1"			98	70	10'-9"			98	70	10'-9"			98	70	10'-9"	#4	12"	44	64	8'-8"
			10'				98	70	10'-6"			98	70	11'-7"	10'-3"			98	70	10'-11"			98	70	10'-11"			98	70	10'-11"	#5	11"	98	70	10'-7"
			11'				98	70	10'-8"			98	70	11'-9"	10'-5"			98	70	11'-1"			98	70	11'-1"			98	70	11'-1"	#6	12"	98	70	12'-5"
			12'				98	70	10'-10"			98	70	12'-0"	10'-7"			98	70	11'-4"			98	70	11'-4"			98	70	11'-4"	#7	12"	98	70	13'-5"
			8'	9'	#8	12"	98	68	8'-5"	#7	12"	44	64	9'-4"	8'-4"	#4	12"	44	64	6'-9"	#4	12"	44	64	6'-9"	#4	12"	44	64	6'-9"	#4	12"	44	64	8'-0"
				9'			98	68	8'-7"			44	64	9'-6"	8'-5"			44	64	8'-6"			44	64	8'-6"			44	64	8'-6"			44	64	9'-0"
				10'			98	68	8'-9"			44	64	9'-8"	8'-6"			44	64	8'-8"			44	64	8'-8"			44	64	8'-8"			44	64	10'-0"
			9'				98	70	10'-6"			98	70	11'-7"	10'-4"			98	70	11'-0"			98	70	11'-0"			98	70	11'-0"	#4	12"	44	64	8'-9"
			10'				98	70	10'-8"			98	70	11'-9"	10'-6"			98	70	11'-2"			98	70	11'-2"			98	70	11'-2"	#5	11"	98	70	10'-9"
			11'				98	70	10'-10"			98	70	12'-0"	10'-8"			98	70	11'-4"			98	70	11'-4"			98	70	11'-4"	#6	12"	98	70	12'-5"
			12'				98	70	11'-0"			98	70	12'-1"	10'-9"			98	70	11'-6"			98	70	11'-6"			98	70	11'-6"	#7	12"	98	70	13'-5"
			8'	10'	#8	12"	98	68	8'-7"	#8	12"	44	64	9'-6"	8'-6"	#4	12"	44	64	7'-0"	#4	12"	44	64	7'-0"	#4	12"	44	64	7'-0"	#4	12"	44	64	8'-2"
				9'			98	68	8'-9"			44	64	9'-8"	8'-7"			44	64	8'-8"			44	64	8'-8"			44	64	8'-8"			44	64	9'-2"
				10'			98	68	8'-11"			44	64	9'-10"	8'-8"			44	64	8'-10"			44	64	8'-10"			44	64	8'-10"			44	64	10'-4"
			9'				98	70	10'-8"			98	70	11'-9"	10'-6"			98	70	11'-2"			98	70	11'-2"			98	70	11'-2"	#4	12"	44	64	8'-11"
			10'				98	70	10'-10"			98	70	12'-0"	10'-8"			98	70	11'-4"			98	70	11'-4"			98	70	11'-4"	#5	11"	98	70	10'-11"
			11'				98	70	11'-0"			98	70	12'-3"	10'-11"			98	70	11'-6"			98	70	11'-6"			98	70	11'-6"	#6	12"	98	70	12'-5"
			12'				98	70	11'-2"			98	70	12'-5"	11'-1"			98	70	11'-8"			98	70	11'-8"			98	70	11'-8"	#7	12"	98	70	13'-5"
			8'	11'	#8	12"	98	68	8'-9"	#8	12"	44	64	9'-8"	8'-8"	#4	12"	44	64	7'-1"	#4	12"	44	64	7'-1"	#4	12"	44	64	7'-1"	#4	12"	44	64	8'-4"
				9'			98	68	8'-11"			44	64	9'-10"	8'-9"			44	64	8'-10"			44	64	8'-10"			44	64	8'-10"			44	64	9'-2"
				10'			98	68	9'-1"			44	64	10'-0"	8'-10"			44	64	9'-0"			44	64	9'-0"			44	64	9'-0"			44	64	10'-6"
			9'				98	70	10'-10"			98	70	11'-11"	10'-7"			98	70	11'-4"			98	70	11'-4"			98	70	11'-4"	#4	12"	44	64	9'-1"
			10'				98	70	11'-0"			98	70	12'-1"	10'-9"			98	70	11'-6"			98	70	11'-6"			98	70	11'-6"	#5	11"	98	70	11'-1"
			11'				98	70	11'-2"			98	70	12'-3"	11'-0"			98	70	11'-8"			98	70	11'-8"			98	70	11'-8"	#6	12"	98	70	12'-5"
			12'				98	70	11'-4"			98	70	12'-5"	11'-2"			98	70	11'-10"			98	70	11'-10"			98	70	11'-10"	#7	12"	98	70	13'-5"
			8'	12'	#8	12"	98	68	9'-0"	#8	12"	44	64	9'-10"	8'-10"	#4	12"	44	64	7'-2"	#4	12"	44	64	7'-2"	#4	12"	44	64	7'-2"	#4	12"	44	64	8'-6"
				9'			98	68	9'-2"			44	64	10'-0"	8'-11"			44	64	9'-1"			44	64	9'-1"			44	64	9'-1"			44	64	9'-4"
				10'			98	68	9'-4"			44	64	10'-2"	9'-0"			44	64	9'-3"			44	64	9'-3"			44	64	9'-3"			44	64	10'-8"
			9'				98	70	11'-0"			98	70	12'-1"	10'-10"			98	70	11'-6"			98	70	11'-6"			98	70	11'-6"	#4	12"	44	64	9'-3"
			10'				98	70	11'-2"			98	70	12'-3"	11'-0"			98	70	11'-8"			98	70	11'-8"			98	70	11'-8"	#5	11"	98	70	11'-3"
			11'				98	70	11'-4"			98	70	12'-5"	11'-2"			98	70	11'-10"			98	70	11'-10"			98	70	11'-10"	#6	12"	98	70	12'-5"
			12'				98	70	11'-6"			98	70	12'-7"	11'-4"			98	70	12'-0"			98	70	12'-0"			98	70	12'-0"	#7	12"	98	70	13'-5"
			8'	13'	#8	12"	98	68	9'-2"	#8	12"	44	64	10'-0"	9'-0"	#4	12"	44	64	7'-3"	#4	12"	44	64	7'-3"	#4	12"	44	64	7'-3"	#4	12"	44	64	8'-8"
				9'			98	68	9'-4"			44	64	10'-2"	9'-1"			44	64	9'-4"			44	64	9'-4"			44	64	9'-4"			44	64	9'-6"
				10'			98	68	9'-6"			44	64	10'-4"	9'-2"			44	64	9'-5"			44	64	9'-5"			44	64	9'-5"			44	64	10'-10"
			9'				98	70	11'-2"			98	70	12'-3"	11'-0"			98	70	11'-8"			98	70	11'-8"			98	70	11'-8"	#4	12"	44	64	9'-5"
			10'				98	70	11'-4"			98	70	12'-5"	11'-2"			98	70	11'-10"			98	70	11'-10"			98	70	11'-10"	#5	11"	98	70	11'-5"
			11'				98	70	11'-6"			98	70	12'-7"	11'-4"			98	70	12'-0"			98	70	12'-0"			98	70	12'-0"	#6	12"	98	70	12'-5"
			12'				98	70	11'-8"			98	70	12'-9"	11'-6"			98	70	12'-2"			98	70	12'-2"			98	70	12'-2"	#7	12"	98	70	13'-5"
			8'	14'	#8	12"	98	68	9'-4"	#8	12"	44	64	10'-2"	9'-2"	#4	12"	44	64	7'-4"	#4	12"	44	64	7'-4"	#4	12"	44	64	7'-4"	#4	12"	44	64	8'-10"
				9'			98	68	9'-6"			44	64	10'-4"	9'-3"			44	64	9'-6"			44	64	9'-6"			44	64	9'-6"			44	64	9'-8"
				10'			98	68	9'-8"			44	64	10'-6"	9'-4"			44	64	9'-7"			44	64	9'-7"			44	64	9'-7"			44	64	11'-0"
			9'				98	70	11'-4"			98	70	12'-5"	11'-2"			98	70	11'-10"			98	70	11'-10"			98	70	11'-10"	#4	12"	44	64	9'-7"
			10'				98	70	11'-6"			98	70	12'-7"	11'-4"			98	70	12'-0"			98	70	12'-0"			98	70	12'-0"	#5	11"	98	70	11'-7"
			11'				98	70	11'-8"			98	70	12'-9"	11'-6"			98	70	12'-2"			98	70	12'-2"			98	70	12'-2"	#6	12"	98	70	12'-5"
			12'				98	70	11'-10"			98	70	12'-11"	11'-8"			98	70	12'-4"			98	70	12'-4"			98	70	12'-4"	#7	12"	98	70	13'-5"
			8'	15'	#8	12"	98	68	9'-6"	#8	12"	44	64	10'-4"	9'-4"	#4	12"	44	64	7'-5"	#4	12"	44	64	7'-5"	#4	12"	44	64	7'-5"	#4	12"	44	64	9'-0"
				9'			98	68	9'-8"			44	64	10'-6"	9'-5"			44	64	9'-8"			44	64	9'-8"			44	64	9'-8"			44	64	9'-10"
				10'			98	68	9'-10"			44	64	10'-8"	9'-6"			44	64	9'-9"			44	64	9'-9"			44	64	9'-9"			44	64	11'-2"
			9'				98	70	11'-6"			98	70	12'-7"	11'-4"			98	70	12'-0"			98	70	12'-0"			98	70	12'-0"	#4	12"	44	64	9'-9"
			10'				98	70	11'-8"			98	70	12'-9"	11'-6"			98	70	12'-2"			98	70	12'-2"			98	70	12'-2"	#5	11"	98	70	11'-9"
			11'				98	70	11'-10"			98	70	13'-0"	11'-8"			98	70	12'-4"			98	70	12'-4"			98	70	12'-4"	#6	12"	98	70	12'-5"
			12'				98	70	12'-0"			98	70	13'-2"	11'-10"			98	70	12'-6"			98	70	12'-6"			98	70	12'-6"	#7	12"	98	70	13'-5"
			8'	16'	#8	12"	98	68	9'-8"	#8	12"	44	64	10'-6"	9'-6"	#4	12"	44	64	7'-6"	#4	12"	44	64	7'-6"	#4	12"	44	64	7'-6"	#4	12"	44	64	9'-2"
				9'			98	68	9'-10"			44	64	10'-8"	9'-7"			44	64	9'-10"			44	64	9'-10"			44	64	9'-10"			44	64	10'-0"
				10'			98	68	10'-0"			44	64	10'-10"	9'-8"			44	64	9'-11"			44	64	9'-11"			44	64	9'-11"			44	64	11'-4"
			9'				98	70	11'-8"			98	70	12'-9"	11'-6"			98	70	12'-2"			98	70	12'-2"			98	70	12'-2"	#4	12"	44	64	9'-11"
			10'				98	70	11'-10"			98	70	12'-11"	11'-8"			98	70	12'-4"			98	70	12'-4"			98	70	12'-4"	#5	11"	98	70	11'-11"
			11'				98	70	12'-0"			98	70	13'-2"	11'-10"			98	70	12'-6"			98	70	12'-6"			98	70	12'-6"	#6	12"	98	70	12'-5"
			12'				98	70	12'-2"			98	70	13'-4"	12'-0"			98	70	12'-8"			98	70	12'-8"			98	70	12'-8"	#7	12"	98	70	13'-5"

NOTE:- Bars for each Section to be marked with the Section letter thus for Section B, the bars should be marked Ba, Bb, Bd, Bb, Be and Bf.

Designed By: W.C.H. 7-18-62. Checked By:- RMS 7-25-62
Drawn By: W.C.H. 8-3-62. Checked By:- RMS 8-10-62
Quantities By: W.C.H. 8-1-62. Checked By:- RMS 8-10-62

DIMENSIONS AND QUANTITIES

MAX. DESIGN DEPTH OF COVER	BARREL DIMENSIONS CLEAR SPAN	CLEAR HEIGHT	SQ.FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES CLASS S CONC. PER LIN.FT OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL	REINFORCING STEEL ADDITIONAL PER LAP	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & APRONS
D	S	H	A	OW	T	C	B	OH	CU.YD.	LB.	LB.	LB
SECTION "A" - 10'-0"	5'	5'	35	8'-0"	6"	6"	6"	6'-6"	0.593	68.20	2171	107.42
	6'	6'	42	8'-8"	7"	7"	7"	7'-6"	0.676	71.72	23.38	108.81
	7'	7'	49	9'-3"	7½"	7½"	8"	8'-6"	0.794	75.80	25.05	109.50
	8'	8'	56	9'-11"	8"	8"	8½"	9'-6"	0.819	86.72	26.72	110.20
	9'	9'	63	10'-6"	8½"	9"	9"	10'-6"	0.933	90.91	28.39	111.59
	6'	6'	48	9'-2"	7"	7"	7"	7'-6"	0.769	86.55	25.05	157.02
	7'	7'	56	9'-8"	7½"	7½"	8"	8'-6"	0.838	89.72	26.72	158.08
	8'	8'	64	9'-4"	8"	8"	8½"	9'-6"	0.914	99.84	28.39	159.02
	9'	9'	72	9'-6"	8½"	9"	9"	10'-6"	1.028	106.20	30.06	161.03
	10'	10'	80	9'-8"	9"	10"	10"	11'-6"	1.156	113.38	31.73	163.03
	7'	7'	63	10'-3"	7½"	7½"	8"	8'-6"	0.957	116.90	28.39	177.61
	8'	8'	72	10'-4"	8"	8"	8½"	9'-6"	1.033	127.28	30.06	178.61
	9'	9'	81	10'-6"	8½"	9"	9½"	10'-6"	1.148	138.97	31.73	180.61
	10'	10'	90	10'-8"	9"	10"	10"	11'-6"	1.276	141.46	33.40	182.62
	11'	11'	99	10'-10"	9½"	11"	10½"	12'-6"	1.416	152.81	35.07	184.62
	8'	8'	80	11'-2"	8½"	9"	8½"	9'-10"	1.165	141.10	31.73	249.37
	9'	9'	90	11'-4"	9"	9"	9"	10'-10"	1.281	145.89	33.40	252.10
	10'	10'	100	11'-8"	9½"	10"	9½"	11'-10"	1.909	155.50	35.07	254.82
	11'	11'	110	11'-10"	10"	11"	10"	12'-10"	1.550	167.01	36.74	257.55
	12'	12'	120	12'-0"	10½"	12"	10½"	13'-10"	1.704	176.92	38.41	260.27
SECTION "B" - 15'-0"	5'	5'	35	8'-0"	6"	6"	6"	6'-6"	0.680	80.06	2171	
	6'	6'	42	8'-8"	7"	7"	7"	7'-6"	0.713	89.83	23.38	
	7'	7'	49	9'-3"	7½"	7½"	8"	8'-6"	0.782	93.23	25.05	
	8'	8'	56	9'-9"	8"	8"	8½"	9'-6"	0.858	105.69	26.72	
	9'	9'	63	10'-6"	8½"	9"	9"	10'-6"	0.972	111.13	28.39	
	6'	6'	48	9'-2"	7"	7"	7"	7'-6"	0.839	96.94	25.05	
	7'	7'	56	9'-8"	7½"	7½"	8"	8'-6"	0.909	106.02	26.72	
	8'	8'	64	9'-4"	8"	8"	8½"	9'-6"	0.986	113.96	28.39	
	9'	9'	72	9'-6"	8½"	9"	9"	10'-6"	1.101	129.80	30.06	
	10'	10'	80	9'-8"	9"	10"	10"	11'-6"	1.229	136.58	31.73	
	7'	7'	63	10'-3"	7½"	7½"	8"	8'-6"	1.036	127.49	28.39	
	8'	8'	72	10'-4"	8"	8"	8½"	9'-6"	1.113	135.59	30.06	
	9'	9'	81	10'-6"	8½"	9"	9"	10'-6"	1.229	146.09	31.73	
	10'	10'	90	10'-8"	9"	10"	10"	11'-6"	1.358	158.75	33.40	
	11'	11'	99	10'-10"	9½"	11"	10½"	12'-6"	1.499	171.16	35.07	
	8'	8'	80	11'-2"	8½"	9"	8½"	9'-10"	1.252	160.73	33.40	
	9'	9'	90	11'-4"	9"	9"	9"	10'-10"	1.370	171.52	35.07	
	10'	10'	100	11'-8"	9½"	10"	9½"	11'-10"	1.499	180.64	36.74	
	11'	11'	110	11'-10"	10"	11"	10"	12'-10"	1.642	197.17	38.41	
	12'	12'	120	12'-0"	10½"	12"	10½"	13'-10"	1.796	203.27	40.08	
SECTION "C" - 20'-0"	5'	5'	35	8'-0"	6"	6"	6"	6'-6"	0.679	89.15	21.71	
	6'	6'	42	8'-8"	7"	7"	7"	7'-6"	0.768	98.64	23.38	
	7'	7'	49	9'-3"	7½"	7½"	8"	8'-6"	0.833	106.20	25.05	

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

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

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slab of Barrel. & Add'l in Apron and Headwall.- Each.					"b" bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with "a" and "c" bars.							"b2" bars BENT - See Diagram below. In Top of Bottom Slab bent down under Division Wall - hooked. Alternate with "a" and "c" bars.							"c" bars STRAIGHT In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars.				"d" bars STRAIGHT Longitudinal in Top Slab of Barrel.			"d1" bars STRAIGHT Longitudinal in Sidewalls and Division Walls.			"e" bars STRAIGHT Longitudinal in Bottom Slab of Barrel.			"f" bars STRAIGHT Vertical in Sidewalls and Division Walls.			
			SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH
D	S	H																																							
0'-0" TO 5'-0" MAXIMUM.	2 @ 2'	2'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			120	120	4'-8"	#5	12"	8	14'										
		3'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			120	120	4'-8"			12	14'										
	4' @ 2'	4'	#5	12"	128	128	9'-5"	#5	12"	59	59	10'-6"	0'-3"	2'-2½"	3'-0"	#5	12"	59	59	10'-6"	0'-3"	2'-2½"	3'-0"	#5	12"	120	120	4'-8"	#4	12"	16	14'										
		5'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			120	120	4'-8"			20	14'										
		6'			128	128	9'-5"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			59	59	10'-6"	0'-3"	2'-2½"	3'-0"			120	120	4'-8"			24	14'										
		3'			128	128	11'-5"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			120	120	5'-8"			12	16'										
	5 @ 2'	4'			128	128	11'-5"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			59	59	12'-7"	0'-3½"	2'-7½"	4'-1"			120	120	5'-8"			16	16'										
		5'	#6	12"	128	128	11'-8"	#5	12"	59	59	12'-10"	0'-3½"	2'-10½"	4'-2"	#5	12"	59	59	12'-10"	0'-3½"	2'-10½"	4'-2"	#6	12"	120	120	5'-9"	#4	12"	20	16'										
		6'			128	128	11'-8"			59	59	13'-0"	0'-3½"	2'-10½"	4'-2"			59	59	13'-0"	0'-3½"	2'-10½"	4'-2"			120	120	5'-9"			24	16'										
		7'			128	128	11'-10"			59	59	13'-0"	0'-3½"	2'-10½"	4'-2½"			59	59	13'-0"	0'-3½"	2'-10½"	4'-2½"			120	120	5'-10"			28	16'										
		3'			140	140	13'-5"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			132	132	6'-8"			12	18'										
	6 @ 2'	4'			140	140	13'-5"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			65	65	14'-7"	0'-4"	3'-2½"	4'-10"			132	132	6'-8"			16	18'										
		5'	#6	11"	140	140	13'-5"	#5	11"	65	65	14'-7"	0'-4"	3'-2½"	4'-10"	#5	11"	65	65	14'-7"	0'-4"	3'-2½"	4'-10"	#6	11"	132	132	6'-8"	#4	12"	20	18'										
		6'			140	140	13'-8"			65	65	14'-10"	0'-4"	3'-2½"	4'-11½"			65	65	14'-10"	0'-4"	3'-2½"	4'-11½"			132	132	6'-8"			24	18'										
		7'			140	140	13'-10"			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"			65	65	15'-0"	0'-4"	3'-2½"	4'-11½"			132	132	6'-10"			28	18'										
		8'			140	140	13'-11"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			65	65	15'-1"	0'-4"	3'-2½"	5'-0"			132	132	6'-10"			32	18'										
		3'			128	128	15'-5"			59	59	16'-3"	0'-4⅛"	3'-5"	5'-7"			59	59	16'-3"	0'-4⅛"	3'-5"	5'-7"			120	120	7'-8"			16	20'										
	7 @ 2'	4'			128	128	15'-5"			59	59	16'-3"	0'-4⅛"	3'-5"	5'-7"			59	59	16'-3"	0'-4⅛"	3'-5"	5'-7"			120	120	7'-8"			20	20'										
		5'	#6	12"	128	128	15'-8"	#6	12"	59	59	16'-9"	0'-4⅛"	3'-5"	5'-7"	#6	12"	59	59	16'-9"	0'-4⅛"	3'-5"	5'-7"	#5	11⅝"	120	120	7'-9"	#4	12"	24	20'										
		6'			128	128	15'-8"			59	59	17'-0"	0'-4⅛"	3'-5"	5'-8"			59	59	17'-0"	0'-4⅛"	3'-5"	5'-8"			120	120	7'-9"			28	20'										
		7'			128	128	15'-10"			59	59	17'-2"	0'-4⅛"	3'-5"	5'-8½"			59	59	17'-2"	0'-4⅛"	3'-5"	5'-8½"			120	120	7'-10"			32	20'										
		8'			128	128	15'-11"			59	59	17'-3"	0'-4⅛"	3'-5"	5'-9"			59	59	17'-3"	0'-4⅛"	3'-5"	5'-9"			120	120	7'-10"			36	20'										
		9'			128	128	16'-2"			59	59	17'-6"	0'-4⅛"	3'-8"	5'-10"			59	59	17'-6"	0'-4⅛"	3'-8"	5'-10"			120	120	7'-11"			40	20'										
		3'			140	140	17'-5"			65	65	18'-10"	0'-5"	3'-11"	6'-4"			65	65	18'-10"	0'-5"	3'-11"	6'-4"			132	132	8'-8"			16	22'										
	8 @ 2'	4'			140	140	17'-8"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			65	65	19'-1"	0'-5"	3'-11"	6'-5"			132	132	8'-8½"			20	22'										
		5'	#6	11"	140	140	17'-8"	#6	11"	65	65	19'-3"	0'-5"	4'-0"	6'-5½"	#6	11"	65	65	19'-3"	0'-5"	4'-0"	6'-5½"	#5	11⅝"	132	132	8'-8½"	#4	12"	24	22'										
		6'			140	140	17'-11"			65	65	19'-4"	0'-5"	4'-0"	6'-6"			65	65	19'-4"	0'-5"	4'-0"	6'-6"			132	132	8'-9"			28	22'										
		7'			140	140	18'-2"			65	65	19'-7"	0'-5"	4'-0½"	6'-6½"			65	65	19'-7"	0'-5"	4'-0½"	6'-6½"			132	132	8'-9½"			32	22'										
		8'			140	140	18'-4"			65	65	19'-9"	0'-5"	4'-1"	6'-7"			65	65	19'-9"	0'-5"	4'-1"	6'-7"			132	132	8'-10"			36	22'										
		9'			140	140	18'-5"			65	65	19'-10"	0'-5"	4'-1½"	6'-8"			65	65	19'-10"	0'-5"	4'-1½"	6'-8"			132	132	8'-10½"			40	22'										
		5'			140	140	19'-8"			65	65	21'-1"	0'-5½"	4'-4"	7'-2"			65	65	21'-1"	0'-5½"	4'-4"	7'-2"			132	132	9'-3"			20	25'										
	9 @ 2'	6'			140	140	19'-10"			65	65	21'-3"	0'-5½"	4'-4½"	7'-2½"			65	65	21'-3"	0'-5½"	4'-4½"	7'-2½"			132	132	9'-4"			24	25'										
		7'	#6	11"	140	140	19'-11"	#6	11"	65	65	21'-3"	0'-5½"	4'-5"	7'-3"	#6	11"	65	65	21'-3"	0'-5½"	4'-5"	7'-3"	#5	11⅝"	132	132	9'-4½"	#4	12"	28	25'										
		8'			140	140	20'-1"			65	65	21'-5"	0'-5½"	4'-5½"	7'-3½"			65	65	21'-5"	0'-5½"	4'-5½"	7'-3½"			132	132	9'-5"			32	25'										
		9'			140	140	20'-2"			65	65	21'-7"	0'-5½"	4'-6"	7'-4"			65	65	21'-7"	0'-5½"	4'-6"	7'-4"			132	132	9'-5½"			36	25'										
		10'			140	140	20'-5"			65	65	21'-10"	0'-5½"	4'-6½"	7'-5"			65	65	21'-10"	0'-5½"	4'-6½"	7'-5"			132	132	9'-6"			40	25'										
		11'			140	140	20'-7"			65	65	22'-0"	0'-5½"	4'-7"	7'-6"			65	65	22'-0"	0'-5½"	4'-7"	7'-6"			132	132	10'-0"			44	25'										
		5'			128	128	21'-8"			59	59	23'-2"	0'-6"	4'-9"	7'-11"			59	59	23'-2"	0'-6"	4'-9"	7'-11"			120	120	10'-9"			20	27'										
	10 @ 2'	6'			128	128	21'-10"			59	59	23'-4"	0'-6"	4'-10"	7'-11½"			59	59	23'-4"	0'-6"	4'-9"	7'-11½"			120	120	10'-10"			24	27'										
		7'	#6	12"	128	128	21'-11"	#6	12"	59	59	23'-6"	0'-6"	4'-10"	7'-11½"	#6	12"	59	59	23'-6"	0'-6"	4'-9"	7'-11½"	#5	11⅝"	120	120	10'-10"	#4	12"	28	27'										
		8'			128	128	22'-2"			59	59	23'-8"	0'-6"	4'-10"	8'-0"			59	59	23'-8"	0'-6"	4'-10"	8'-0"			120	120	10'-11"			32	27'										
		9'			128	128	22'-5"			59	59	23'-10"	0'-6"	4'-10"	8'-0½"			59	59	23'-10"	0'-6"	4'-10"	8'-0½"			120	120	10'-11"			36	27'										
		10'			128	128	22'-8"			59	59	24'-0"	0'-6"	4'-10"	8'-1"			59	59	24'-0"	0'-6"	4'-10"	8'-1"			120	120	11'-0"			40	27'										
		11'			128	128	22'-11"			59	59	24'-3"	0'-6"	5'-0"	8'-1½"			59	59	24'-3"	0'-6"	5'-0"	8'-1½"			120	120	11'-0"			44	27'										
		12'			128	128	23'-1"			59	59	24'-5"	0'-6"	5'-0"	8'-2"			59	59	24'-5"	0'-6"	5'-0"	8'-2"			120	120	11'-0"			48	27'										
		6'			128	128	23'-4"			59	59	25'-5"	0'-6½"	5'-1"	8'-5"			59	59	25'-5"	0'-7½"	5'-1"	8'-5"			120	120	11'-10"			24	30'										
	2 @ 11'	7'			128	128	23'-11"			59	59	25'-5"	0'-6½"	5'-1"	8'-5"			59	59	25'-6"	0'-7½"	5'-1"	8'-5"			120	120	11'-10"			28	30'										
		8'	#7	12"	128	128	23'-11"	#6	12"	59	59	25'-5"	0'-6½"	5'-1"	8'-5"	#7	12"	59	59	25'-6"	0'-7½"	5'-1"	8'-5"	#5	11⅝"	120	120	11'-10"	#4	12"	32	30'										
		9'			128	128	24'-2"			59	59	25'-6"	0'-6½"	5'-2"	8'-6"			59	59	25'-9"	0'-7½"	5'-2"	8'-6"			120	120	11'-11"			36	30'										
		10'			128	128	24'-5"			59	59	25'-11"	0'-6½"	5'-3"	8'-6½"			59	59	26'-0"	0'-7½"	5'-3"	8'-6½"			120	120	12'-0"			40	30'										
		11'			128	128	24'-7"			59	59	26'-1"	0'-6½"	5'-3"	9'-0"			59	59	26'-3"	0'-7½"	5'-3"	9'-0"			120	120	12'-0"			44	30'										
		12'			128	128	24'-10"			59	59	26'-3"	0'-6½"	5'-5"	9'-1"			59	59	26'-6"	0'-7½"	5'-3"	9'-1"			120	120	12'-0"			48	30'										
		6'			140	140	25'-11"			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"			132	132	12'-10"			24	32'										
	2 @ 12'	7'			140	140	25'-11"			65	65	27'-5"	0'-7"	5'-8"	9'-6"			65	65	27'-7"	0'-8½"	5'-5"	9'-6"			132	132	12'-10"			28	32'										
		8'	#7	11"	140	140	25'-11"	#6	11"	65	65	27'-5"	0'-7"	5'-8"	9'-6"	#7	11"	65	65	27'-7"	0'-8½"	5'-5"	9'-6"	#5	11⅝"	132	132	12'-10"	#4	12"	32	32'										
		9'			140	140	26'-2"			65	65	27'-8"	0'-7"	5'-9"	9'-7"			65	65	27'-10"	0'-8½"	5'-6"	9'-7"			132	132	12'-11"			36	32'										
		10'			140	140	26'-5"			65	65	27'-10"	0'-7"	5'-10"	9'-8"			65	65	28'-1"	0'-8½"	5'-7"	9'-8"			132	132	13'-0"			40	32'										
		11'			140	140	26'-7"			65	65	28'-1"	0'-7"	5'-10"	9'-9"			65	65	28'-3"	0'-8½"	5'-7"	9'-9"			132	132	13'-0"			44	32'										
		12'			140	140	26'-9"			65	65	28'-3"	0'-7"	5'-10"	9'-10"			65	65	28'-5"	0'-8½"	5'-7"	9'-10"			132	132	13'-0"			48	32'										

Designed by:- W.C.H. 1-17-63.
Drawn by:- W.C.H. 2-15-63.
Quantities by:- W.C.H. 2-19-63.

Checked by:- RMS - 5-14-63
Checked by:- RMS - 5-24-63
Checked by:- RMS - 5-28-63

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM FOR Bars "b" and "b2".
#5	2⅝"	4½"	0'-11⅝"	
#6	3"	5"	1'-2"	

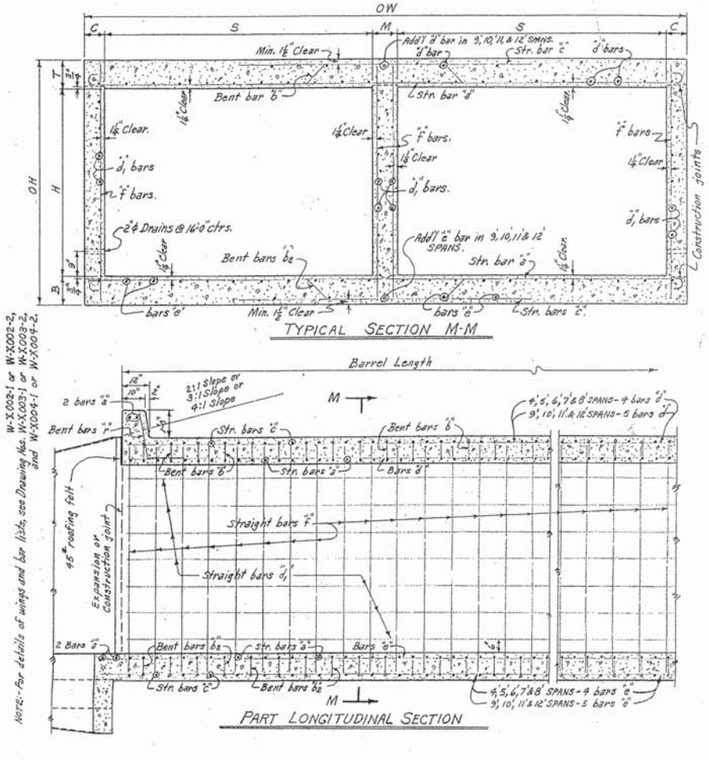
NOTE:- Dimensions are to centers of bars. (Bars "b" and "b2")

DOWEL BARS FOR TWO HEADWALLS

2 SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH	X	Bars "x" Dowel bars in Headwalls.
4'	#4	12"c	20	2'-5"	1'-2⅝"	
5'	#4	12"c	24	2'-6"	1'-3"	
6'	#4	12"c	28	2'-7"	1'-3⅝"	
7'	#4	12"c	32	2'-8"	1'-4"	
8'	#4	12"c	36	2'-9"	1'-4⅝"	
9'	#4	12"c	40	2'-10"	1'-5"	
10'	#4	12"c	46	2'-11"	1'-5⅝"	
11'	#4	12"c	50	3'-0"	1'-6"	
12'	#4	12"c	54	3'-1"	1'-6⅝"	

DIMENSIONS — QUANTITIES

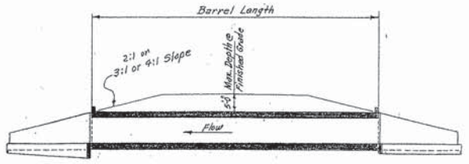
MAX. DESIGN DEPTH OF COVER	BARREL DIMENSIONS: CLEAR SPANS	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS & DIVISION WALL	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES: CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL	REINFORCING STEEL ADDITIONAL PER LAP	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & APRONS
D	S	H	A	OW	T	C	M	B	OH	CU.YD.	LB.	LB.	LB.
5'-0"	2 @ 5'	2'	16	9'-8"	6½"	6"	8"	6"	3'-0½"	0.496	88.15	42.71	189.56
		3'	24	9'-8"					4'-0½"	0.558	93.49	44.05	189.56
		4'	32	9'-8"					5'-0½"	0.620	98.84	49.39	189.56
		5'	40	9'-8"					6'-0½"	0.682	104.18	52.73	189.56
		6'	48	9'-11"		7"	9"		7'-0½"	0.809	110.74	56.07	181.65
	2 @ 6'	3'	30	11'-8"	7"	6"	8"	6½"	4'-1⅞"	0.671	123.34	51.19	198.64
		4'	40	11'-8"		6"	8"		5'-1⅞"	0.733	128.48	54.53	198.64
		5'	50	11'-8"		6"	8"		6'-1⅞"	0.795	134.03	57.87	198.64
		6'	60	11'-11"		7"	9"		7'-1⅞"	0.922	140.89	61.21	201.69
		7'	70	12'-1"		7½"	10"		8'-1⅞"	1.046	147.34	64.55	203.65
	2 @ 7'	3'	34	13'-8"	7½"	6"	8"	7½"	4'-5"	0.818	148.50	56.34	233.58
		4'	48	13'-8"		6"	8"		5'-5"	0.880	153.85	59.68	233.58
		5'	60	13'-8"		6"	8"		6'-5"	0.941	159.19	63.02	233.58
		6'	72	13'-11"		7"	9"		7'-5"	1.070	166.20	66.36	236.59
		7'	84	14'-1"		7½"	10"		8'-5"	1.192	172.74	69.70	238.53
		8'	96	14'-2"		8"	10"		9'-5"	1.298	183.36	73.04	239.53
	2 @ 8'	4'	56	15'-8"	8"	6"	8"	8"	5'-6"	1.021	178.15	64.83	268.97
		5'	70	15'-8"		6"	8"		6'-6"	1.082	183.49	68.17	268.97
		6'	84	15'-11"		7"	9"		7'-6"	1.212	190.53	71.51	271.97
		7'	98	16'-1"		7½"	10"		8'-6"	1.339	197.19	74.85	273.98
		8'	112	16'-2"		8"	10"		9'-6"	1.440	207.89	78.19	274.98
		9'	126	16'-5"		9"	11"		10'-6"	1.616	225.25	81.53	277.98
	2 @ 9'	4'	64	17'-8"	9"	6"	8"	9"	5'-6"	1.174	210.37	71.71	304.80
		5'	80	17'-11"		7"	9"		6'-6"	1.295	217.63	75.05	307.81
		6'	96	17'-11"		7"	9"		7'-6"	1.366	222.97	78.39	307.81
		7'	112	18'-1"	8½"	7½"	10"	8½"	8'-6"	1.989	223.48	81.73	309.81
		8'	128	18'-2"		8"	10"		9'-6"	1.595	249.87	85.07	310.81
		9'	144	18'-5"		9"	11"		10'-6"	1.772	258.08	88.91	313.82
		10'	160	18'-8"		10"	12"		11'-6"	1.967	271.07	91.75	316.82
	2 @ 10'	5'	90	19'-11"	9"	7"	9"	9½"	6'-6½"	1.977	239.37	82.77	345.92
		6'	108	20'-1"		7½"	10"		7'-6½"	1.594	246.08	86.11	347.93
		7'	126	20'-1"		7½"	10"		8'-6½"	1.671	251.93	89.45	347.93
		8'	144	20'-2"		8"	10"		9'-6½"	1.778	262.26	92.79	348.93
		9'	162	20'-5"		9"	11"		10'-6½"	1.956	279.35	96.13	351.93
		10'	180	20'-8"		10"	12"		11'-6½"	2.152	292.97	99.47	356.93
		11'	198	20'-10"		11"	12"		12'-6½"	2.328	306.86	102.81	356.94
	2 @ 11'	5'	100	21'-11"	9½"	7"	9"	10"	6'-7½"	1.674	279.64	87.32	470.99
		6'	120	22'-1"		7½"	10"		7'-7½"	1.792	286.50	91.26	492.71
		7'	140	22'-1"		7½"	10"		8'-7½"	1.869	291.85	94.60	492.71
		8'	160	22'-2"		8"	10"		9'-7½"	1.976	302.77	97.94	494.08
		9'	180	22'-5"		9"	11"		10'-7½"	2.155	320.74	101.28	498.16
		10'	200	22'-8"		10"	12"		11'-7½"	2.352	393.99	104.62	492.25
		11'	220	22'-10"		11"	12"		12'-7½"	2.529	398.01	107.96	494.98
		12'	240	23'-0"		12"	12"		13'-7½"	2.718	370.23	111.30	497.70
	2 @ 12'	6'	132	24'-2"	10"	8"	10"	10½"	7'-9"	2.048	309.36	96.41	530.03
		7'	154	24'-2"		8"	10"		8'-9"	2.128	314.70	99.75	530.03
		8'	176	24'-2"		8"	10"		9'-9"	2.208	325.12	103.09	530.03
		9'	198	24'-5"		9"	11"		10'-9"	2.388	343.25	106.43	534.12
		10'	220	24'-8"		10"	12"		11'-9"	2.586	356.57	109.77	538.21
		11'	242	24'-10"		11"	12"		12'-9"	2.764	370.67	113.11	542.93
		12'	264	25'-0"		12"	12"		13'-9"	2.954	393.05	116.95	542.66
	2 @ 13'	6'	144	26'-2"	10½"	8"	10"	11"	7'-10½"	2.293	353.31	101.55	576.93
		7'	168	26'-2"		8"	10"		8'-10½"	2.379	358.65	104.89	576.93
		8'	192	26'-2"		8"	10"		9'-10½"	2.459	369.12	108.23	576.93
		9'	216	26'-5"		9"	11"		10'-10½"	2.690	387.52	111.57	580.52
		10'	240	26'-8"		10"	12"		11'-10½"	2.840	401.07	114.91	584.60
		11'	264	26'-10"		11"	12"		12'-10½"	3.018	415.31	118.25	587.33
		12'	288	27'-0"		12"	12"		13'-10½"	3.208	937.88	121.59	590.05



TYPICAL SECTION M-M

PART LONGITUDINAL SECTION

NOTE:- For details of wings and bar lists, see Drawing Nos. W-X003-1 or W-X003-2, and W-X004-1 or W-X004-2.



LONGITUDINAL SECTION

NOTE:- This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing Nos. W-X002-1 or W-X002-2.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.

BAR LAP:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls, division walls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961
AND
SPECIAL MILITARY LOADING
Two 24,000 lb. Axles @ 4'-0" ctrs.

UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS — 3:1 OR 4:1 SLOPES
DOUBLES — UNDER 5'-0" COVER

STANDARD DRAWING NO. R-200X-0.