DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	1	272
				(2)	I-430/HWY. 10 INTERCHANGE IMPVT. (L.R.) (S)			

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

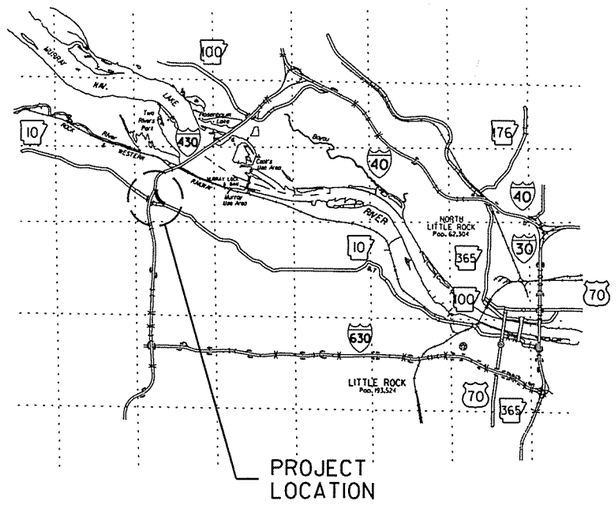
I-430 / HWY. 10
INTERCHANGE IMPVT. (L.R.) (S)

PULASKI COUNTY
ROUTE 430 SECTION 21
ROUTE 10 SECTION 8

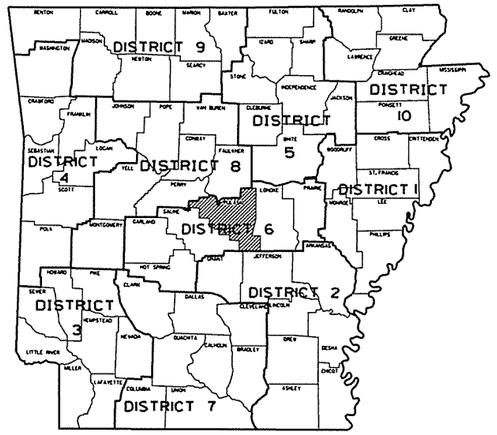
FEDERAL AID PROJ. NH-NHPP-430-2(265)9

JOB 061333

NOT TO SCALE

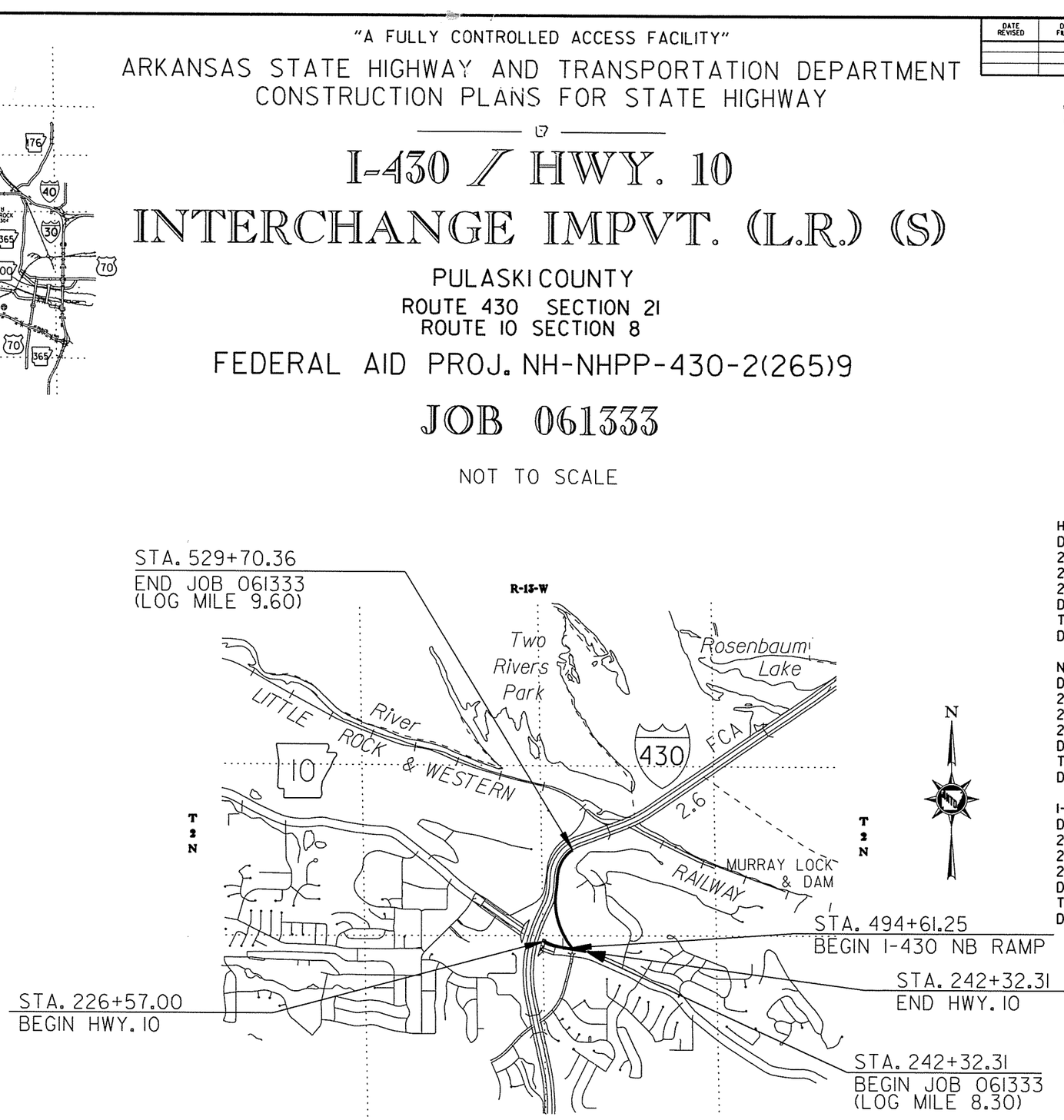


VICINITY MAP



ARK. HWY. DIST. NO. 6

STA. 529+70.36
END JOB 061333
(LOG MILE 9.60)



STA. 494+61.25
BEGIN I-430 NB RAMP

STA. 242+32.31
END HWY. 10

STA. 242+32.31
BEGIN JOB 061333
(LOG MILE 8.30)

STA. 226+57.00
BEGIN HWY. 10

R-13-W

• DESIGN TRAFFIC DATA •

HWY. 10
DESIGN YEAR — 2035
2015 ADT — 33,000
2035 ADT — 43,500
2035 DHV — 4,785
DIRECTIONAL DISTRIBUTION — 0.60
TRUCKS — 3%
DESIGN SPEED — 40 MPH

NORTHBOUND I-430 ENTRANCE RAMP
DESIGN YEAR — 2035
2015 ADT — 5,500
2035 ADT — 7,300
2035 DHV — 803
DIRECTIONAL DISTRIBUTION — 0.60
TRUCKS — 3%
DESIGN SPEED — 40 MPH

I-430
DESIGN YEAR — 2035
2015 ADT — 96,500
2035 ADT — 130,000
2035 DHV — 14,300
DIRECTIONAL DISTRIBUTION — 0.60
TRUCKS — 3%
DESIGN SPEED — 60 MPH

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 34°47'12" LONGITUDE = W 92°23'07"	LATITUDE = N 34°47'24" LONGITUDE = W 92°23'23"	LATITUDE = N 34°47'43" LONGITUDE = W 92°23'13"

NO LENGTH INVOLVED

GROSS LENGTH OF	PROJECT	0000.00	FEET OR	0.000	MILES
NET	" "	ROADWAY	0000.00	"	0.000	"
NET	" "	BRIDGES	00.00	"	0.000	"
NET	" "	PROJECT	0000.00	"	0.000	"

P.E. 060657

APPROVED

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

1-2-15

DEPUTY DIRECTOR
AND CHIEF ENGINEER

6/26/2015

R061333.DGN

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11405 CLINTON D. SMITH 10-25-16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-16			

(2) INDEX OF SHEETS

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6	ARK.		2	272

JOB NO. 061333

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
10-21-15				JOB NO.		061333	3	272
10-21-16				(2)	GOVERNING SPECS. AND GENERAL NOTES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

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 061333
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1_____	AGGREGATE BASE COURSE
400-1_____	TACK COATS
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
620-1_____	MULCH COVER
JOB 061333__	AIRPORT CLEARANCE REQUIREMENTS
JOB 061333__	ASSESSMENT OF CALENDAR DAYS – SUNDAYS
JOB 061333__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 061333__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061333__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061333__	CABINET DRAWER ASSEMBLY
JOB 061333__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 061333__	CONCRETE BARRIER WALL
JOB 061333__	COORDINATION OF WORK
JOB 061333__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 061333__	EDGE CARD VIDEO PROCESSOR
JOB 061333__	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 061333__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 061333__	EXTENSION FOR PIPE CULVERTS
JOB 061333__	FLEXIBLE BEGINNING OF WORK
JOB 061333__	FSK COMMUNICATION CABLE RELOCATION
JOB 061333__	FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER WALL
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JOB 061333__	HIGH PERFORMANCE PAVEMENT MARKING
JOB 061333__	LED LUMINAIRE ASSEMBLY (BUG U0 TYPE)
JOB 061333__	LED TRAFFIC SIGNAL HEAD
JOB 061333__	MAINTENANCE OF TRAFFIC
JOB 061333__	MANDATORY ELECTRONIC CONTRACT
JOB 061333__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 061333__	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT
JOB 061333__	PARTNERING REQUIREMENTS
JOB 061333__	PLASTIC PIPE
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JOB 061333__	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
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JOB 061333__	SELECT GRANULAR BACKFILL
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JOB 061333__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
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JOB 061333__	TEXTURED COATING FINISH
JOB 061333__	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 061333__	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES LEFT IN PLACE
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JOB 061333__	VALUE ENGINEERING
JOB 061333__	VIDEO DETECTOR (COLOR)
JOB 061333__	WARM MIX ASPHALT
JOB 061333__	WIRE ROPE SAFETY FENCE END TERMINAL

GENERAL NOTES

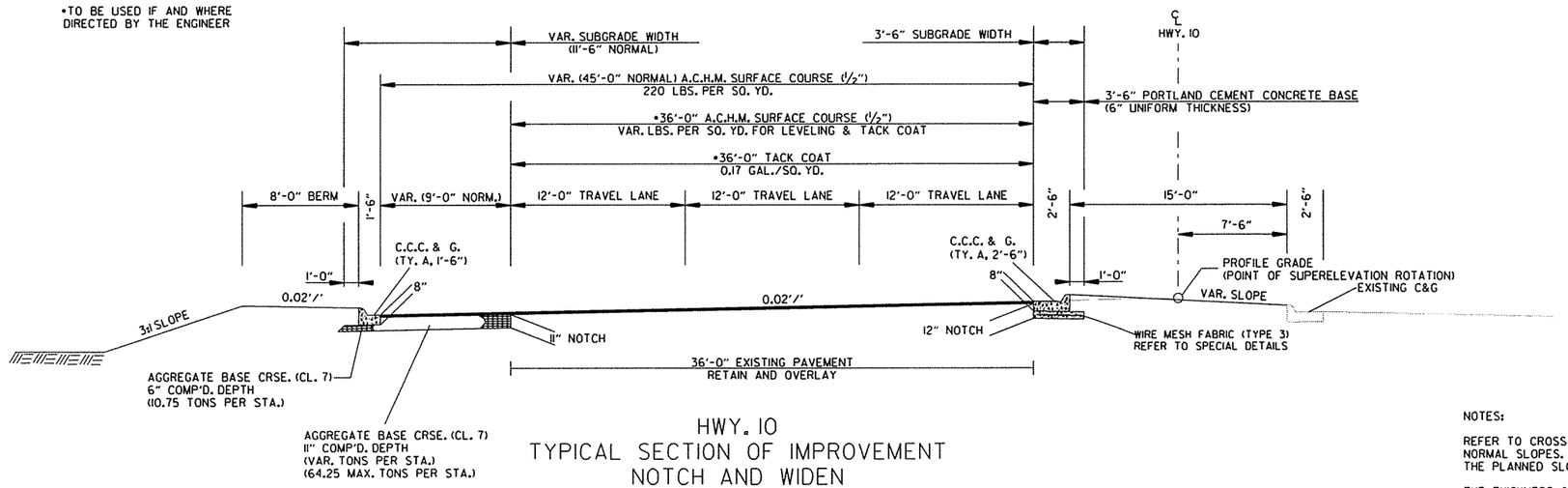
1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. 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.

10/25/2016

R061333.DGN

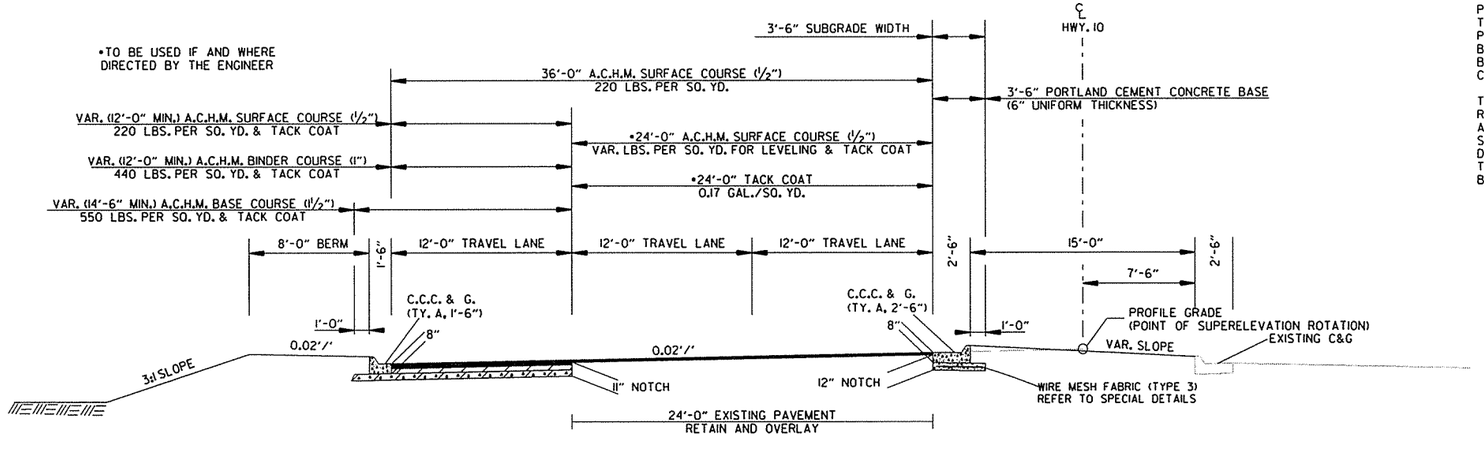
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	4	272

(2) TYPICAL SECTIONS OF IMPROVEMENT



HWY. 10
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN

STA. 226+57.00 TO STA. 228+95.00



HWY. 10
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN

STA. 228+95.00 TO STA. 229+68.95
STA. 230+66.51 TO STA. 235+30.00

NOTES:

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

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

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

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

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.

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.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

10/20/2016

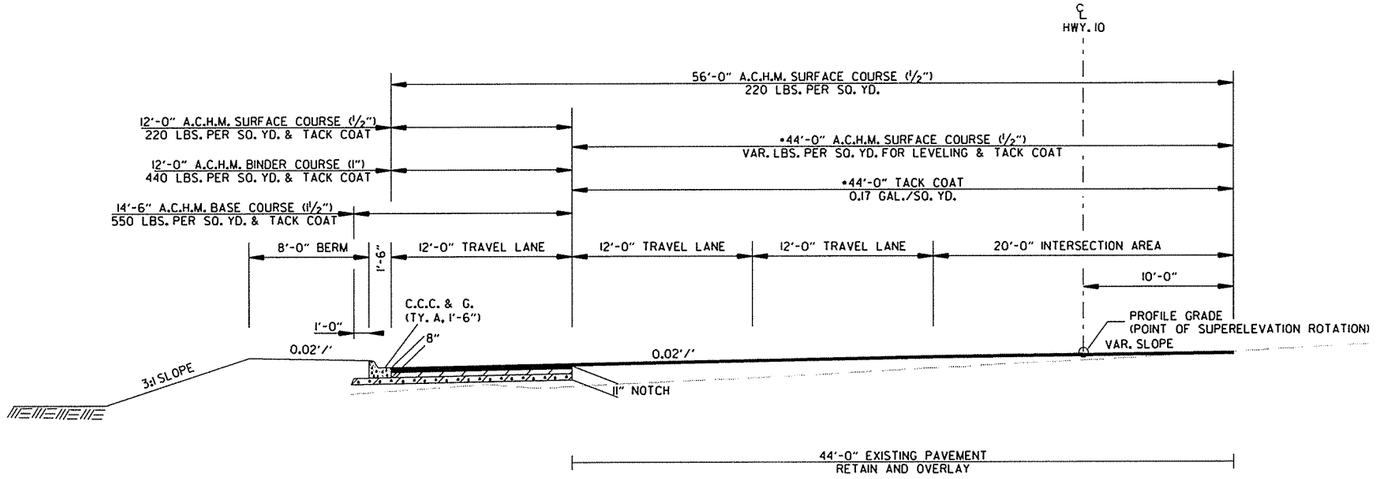
R061333.DGN

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
10-21-16				6	ARK.			
				JOB NO.		061333	5	272

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16



HWY. 10
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN - INTERSECTION

STA. 229+68.95 TO STA. 230+66.51
STA. 236+59.00 TO STA. 237+54.00

NOTES:

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

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

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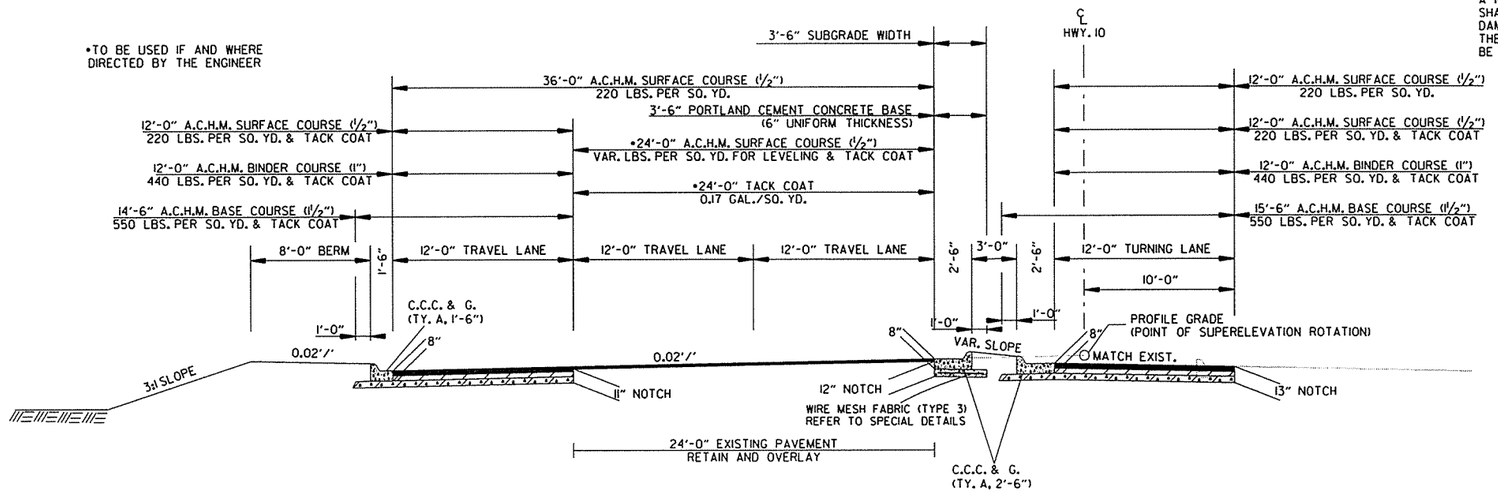


HWY. 10
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN - EASTBOUND TURNING LANE

STA. 235+30.00 TO STA. 236+59.00

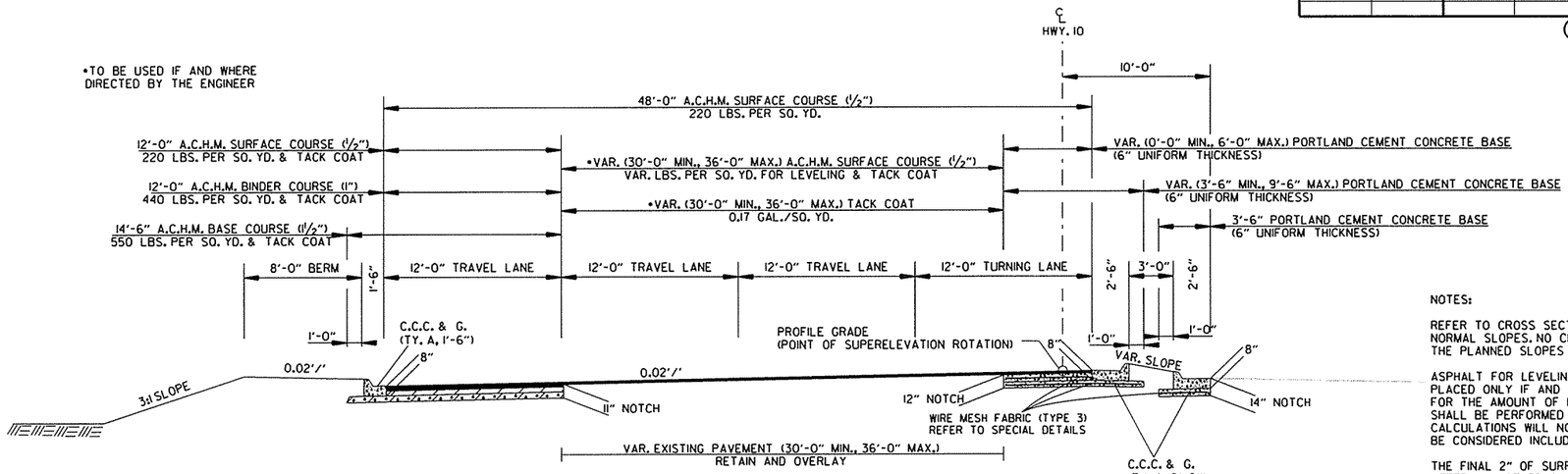
10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	6	272

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16



HWY. 10
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN - WESTBOUND TURNING LANE

STA. 237+54.00 TO STA. 240+17.16

NOTES:

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

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

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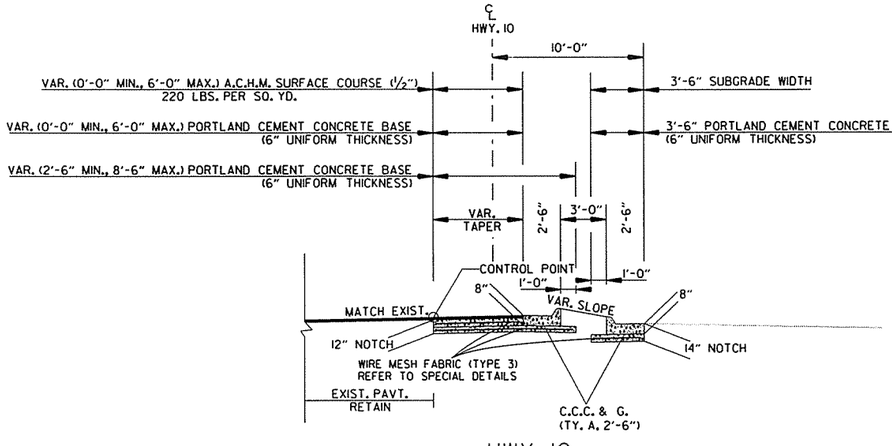
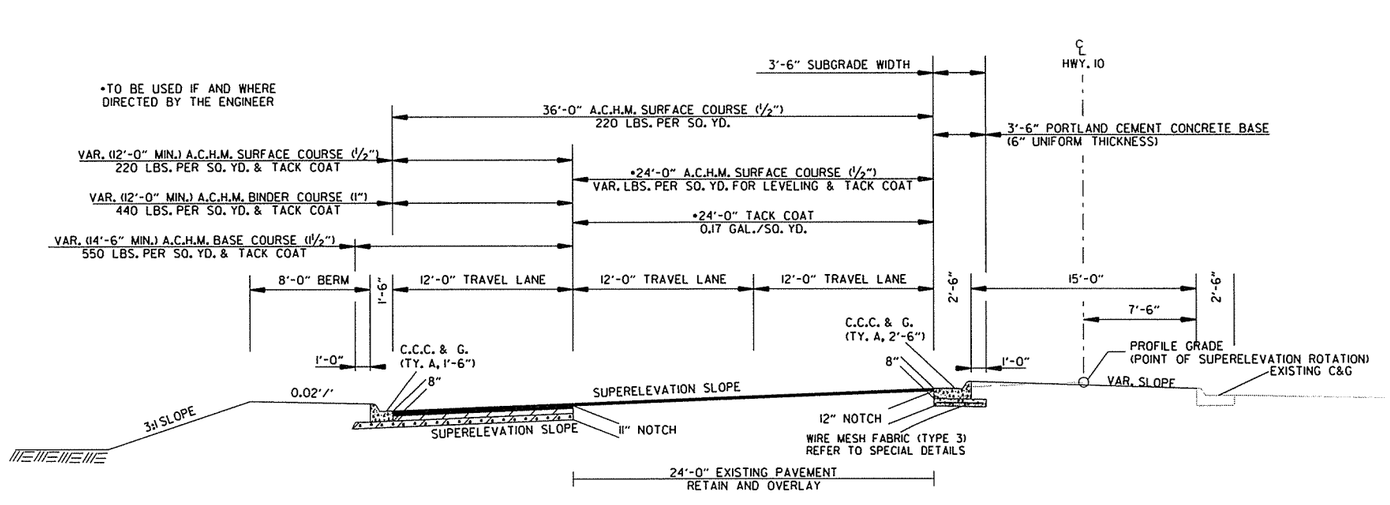


HWY. 10
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN - REBUILD C.C.C. & G.

STA. 240+17.16 TO STA. 242+32.31



HWY. 10
TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATION SECTION

10/20/2016

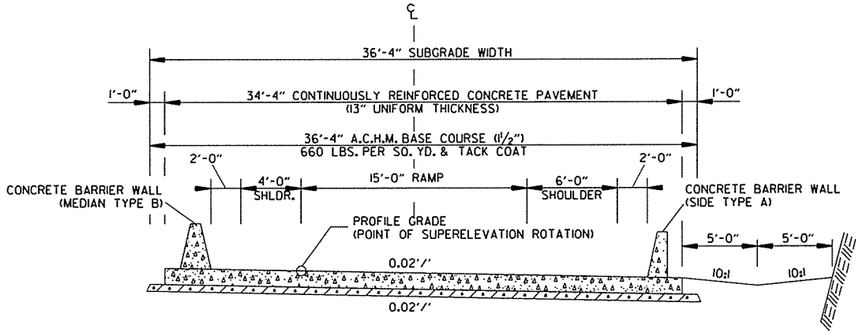
R061333.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE PLMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	7	272

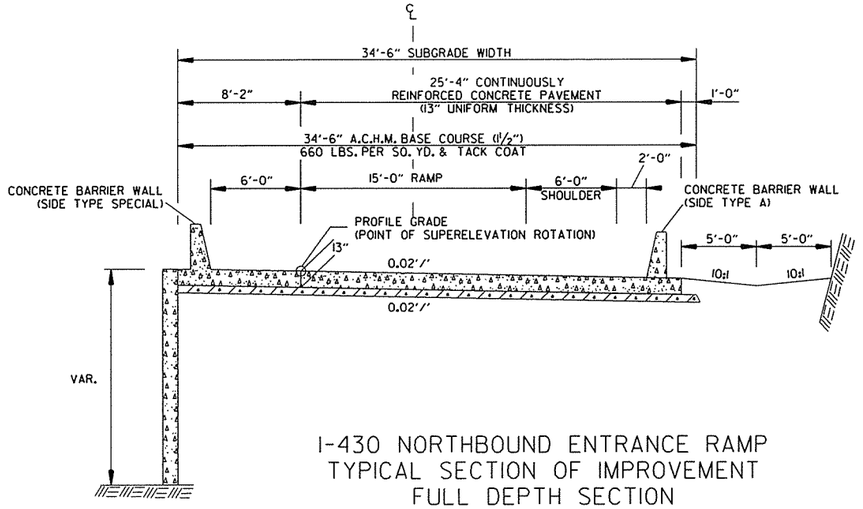
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16



I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH SECTION

STA. 494+97.25 TO STA. 498+68.00



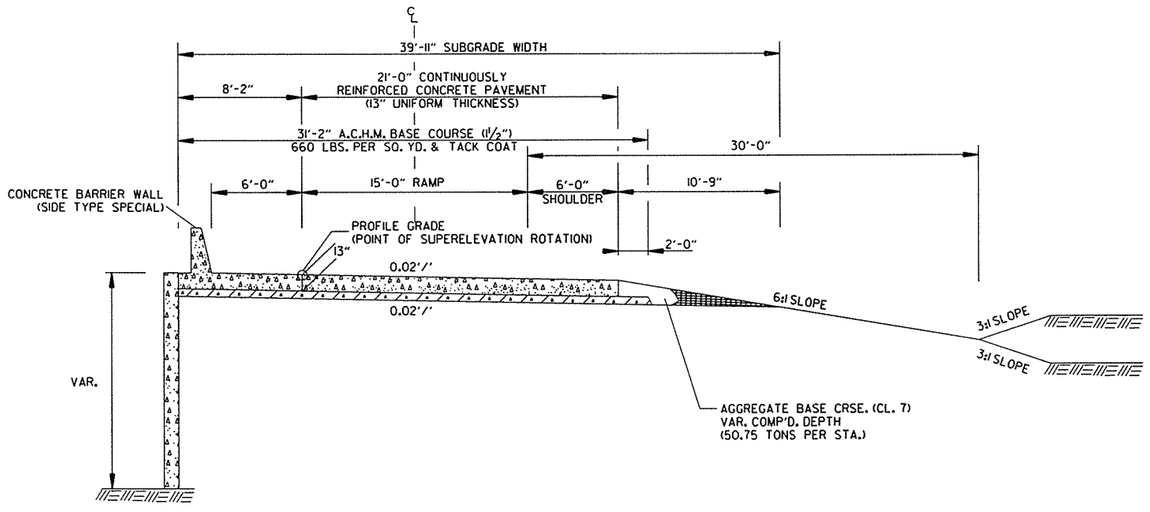
I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH SECTION

STA. 498+68.00 TO STA. 513+50.00

NOTES:

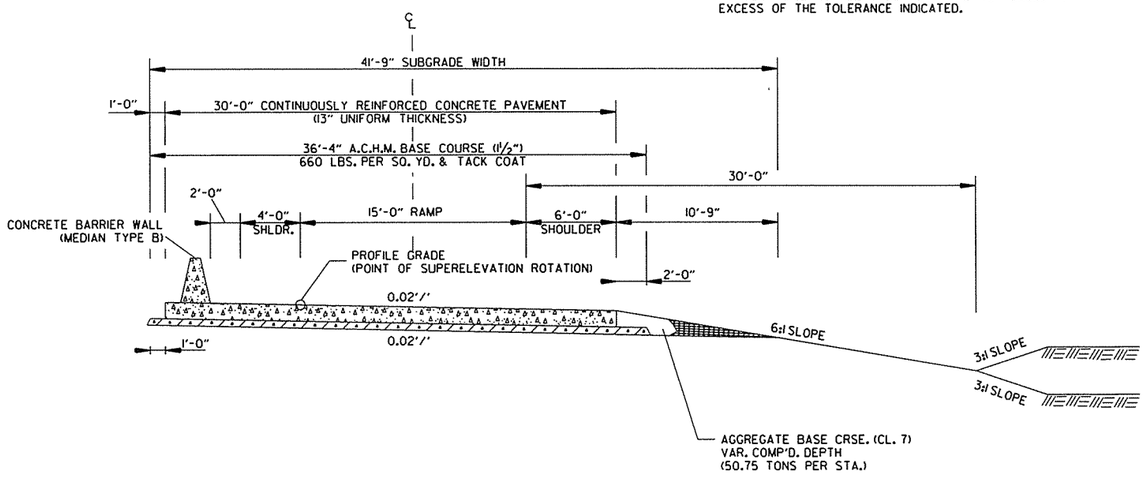
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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



I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH SECTION - OPEN SHOULDER ON RT.

STA. 513+50.00 TO STA. 514+00.00



I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH SECTION

STA. 514+00.00 TO STA. 517+16.86

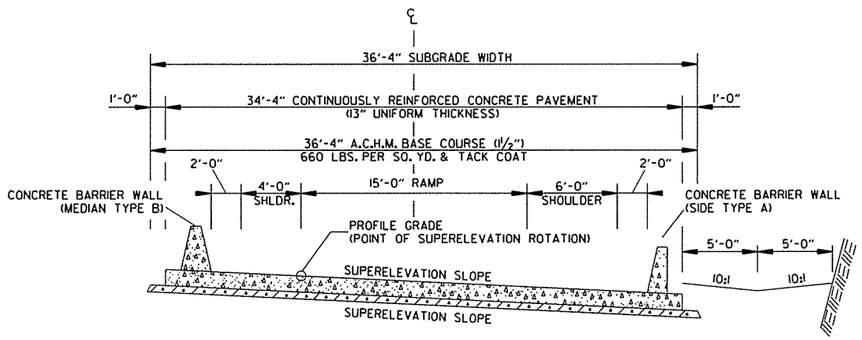
10/20/2016

R061333.DGN

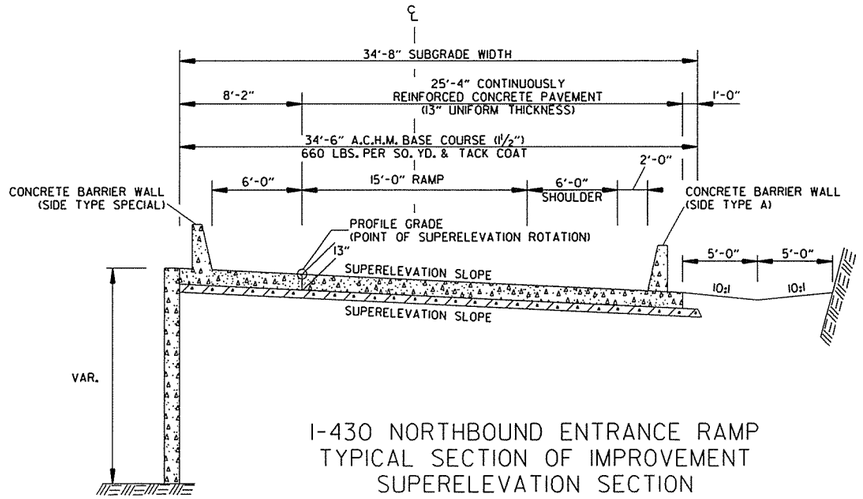
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	8	272

(2) TYPICAL SECTIONS OF IMPROVEMENT



I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATION SECTION



I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATION SECTION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

NOTES:

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

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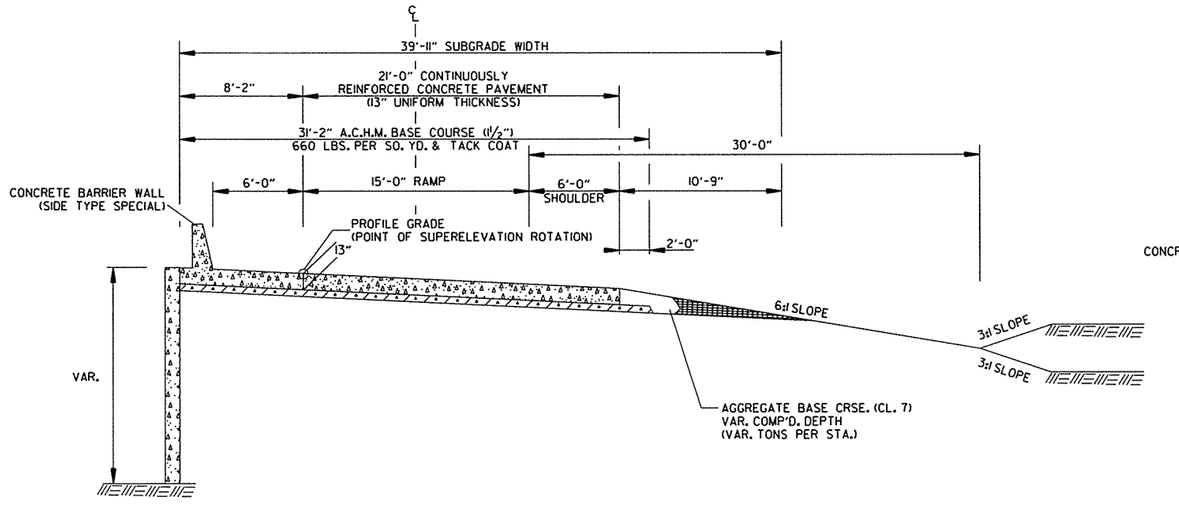
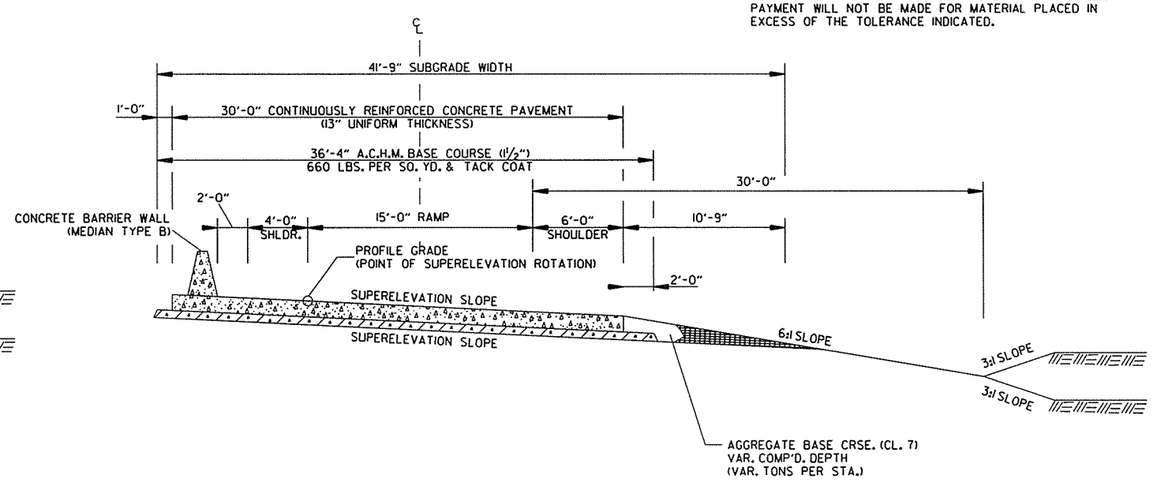


I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATION SECTION - OPEN SHOULDER ON RT.



I-430 NORTHBOUND ENTRANCE RAMP
TYPICAL SECTION OF IMPROVEMENT
SUPERELEVATION SECTION

10/20/2016

R061333.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
10-21-16				6	ARK.			
				JOB NO.		061333	9	272

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

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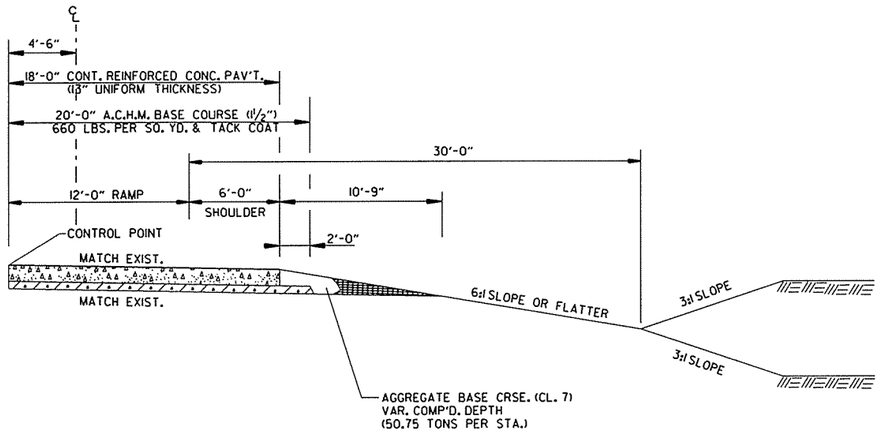
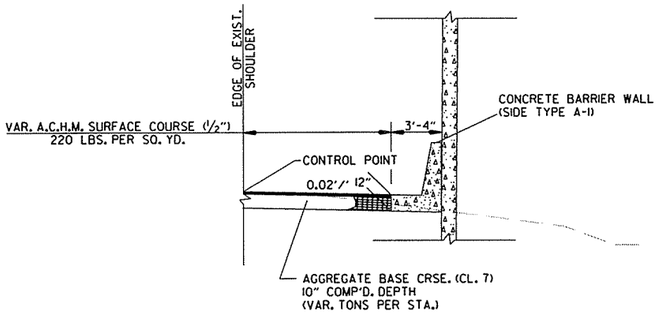
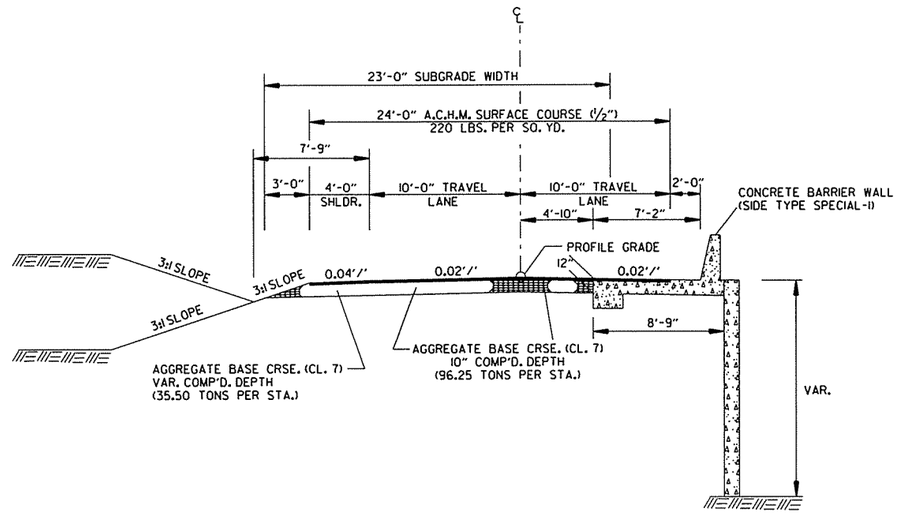


ACCELERATION LANE
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH SECTION
(SHOWN IN THE DIRECTION OF TRAFFIC)



I-430
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN
(SHOWN IN THE DIRECTION OF TRAFFIC)



PINE BURO ROAD
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDEN - FULL DEPTH SECTION

10/20/2016

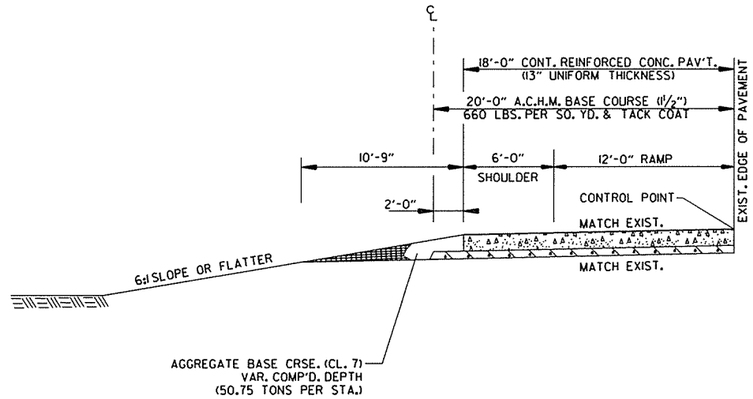
R061333.DGN

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
10-21-16				6	ARK.			
				JOB NO.		061333	10	272

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16



I-430 MEDIAN WIDENING
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH SECTION
(SHOWN IN THE DIRECTION OF TRAFFIC)

STA. 495+00.00 TO STA. 510+12.00

NOTES:

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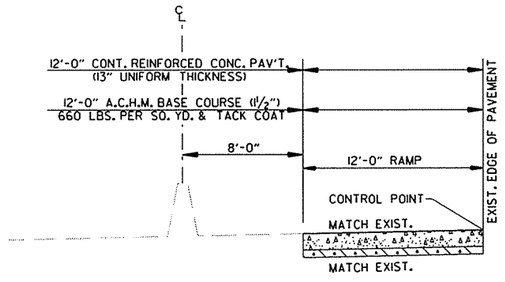

I-430 MEDIAN WIDENING
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH SECTION
(SHOWN IN THE DIRECTION OF TRAFFIC)

STA. 510+12.00 TO STA. 519+11.27

10/20/2016

R061333.DGN

TYPICAL SECTIONS OF IMPROVEMENT

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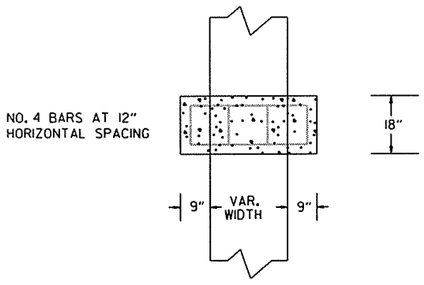
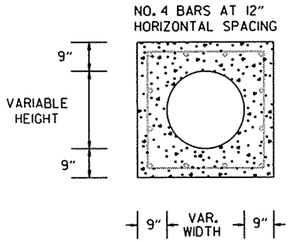
10-21-16				6	ARK.			
				JOB NO.		061333	11	272

(2) SPECIAL DETAILS



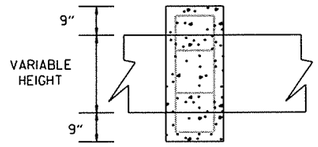
TOP VIEW

MIN 3" COVER



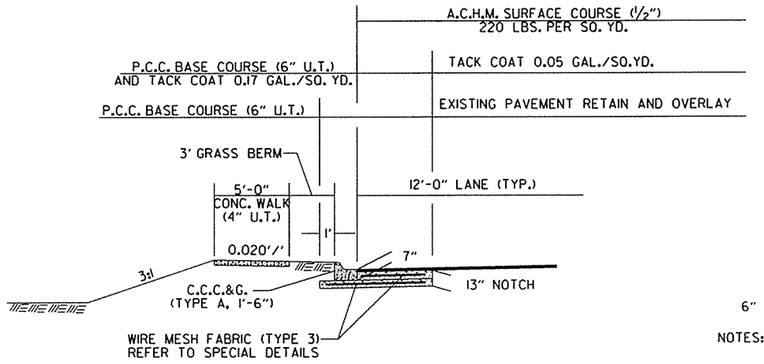
FRONT VIEW

NO. 4 BARS AT 12" VERTICAL SPACING



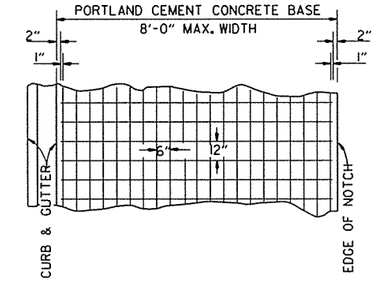
SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



P.C.C. BASE WIDENING DETAIL

P.C.C. BASE WIDENING TO BE USED AS SHOWN ON THE PLANS.

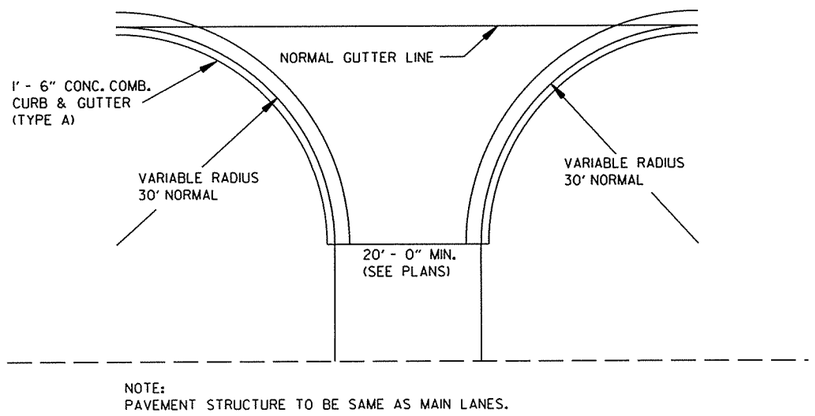


DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

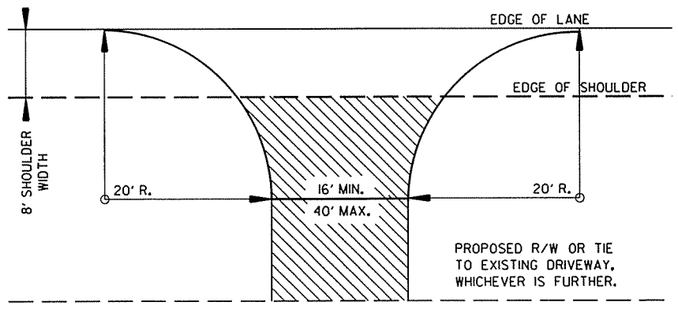
6" X 12" MESH FABRIC (TYPE 3) (W5.5 X W2.9) = 4.26 LBS./SQ. YD.

NOTES:

1. LAP MESH FABRIC MIN. 12" LONGITUDINALLY AND MIN. 6" TRANSVERSELY.
2. MESH FABRIC IS NOT REQUIRED WHEN WIDTH OF PORTLAND CEMENT CONCRETE BASE IS LESS THAN 12".
3. MESH FABRIC (TYPE 3) WILL NOT BE PAID FOR DIRECTLY, BUT FULL COMPENSATION THEREFORE WILL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE BID PER SQ. YD. FOR PORTLAND CEMENT CONCRETE BASE (6" U.T.) & PORTLAND CEMENT CONCRETE BASE (6½" U.T.).



DETAIL OF TURNOUTS ASPHALT STREETS CURB & GUTTER SECTION



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

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

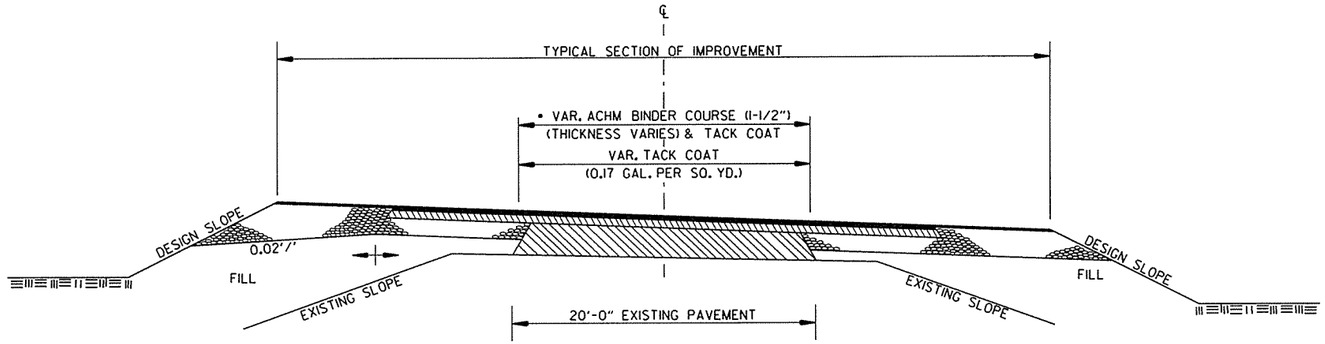
DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	12	272

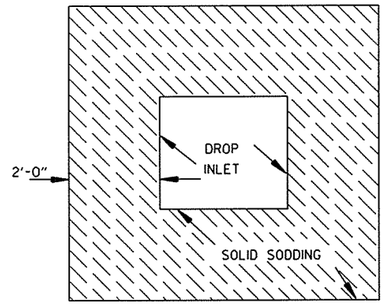
(2) SPECIAL DETAILS



• 6" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH A.C.H.M. BINDER COURSE (1")

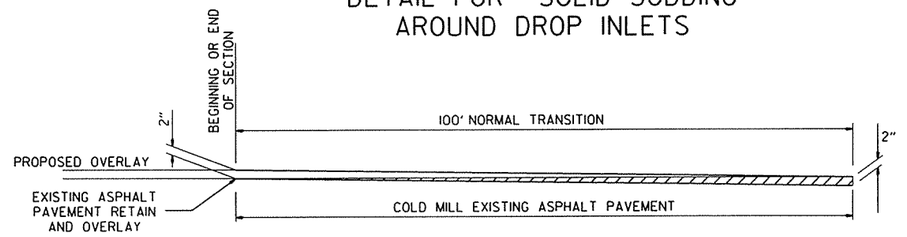
METHOD OF RAISING GRADE

NOTES:
(1) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS, EDITION OF 2014.

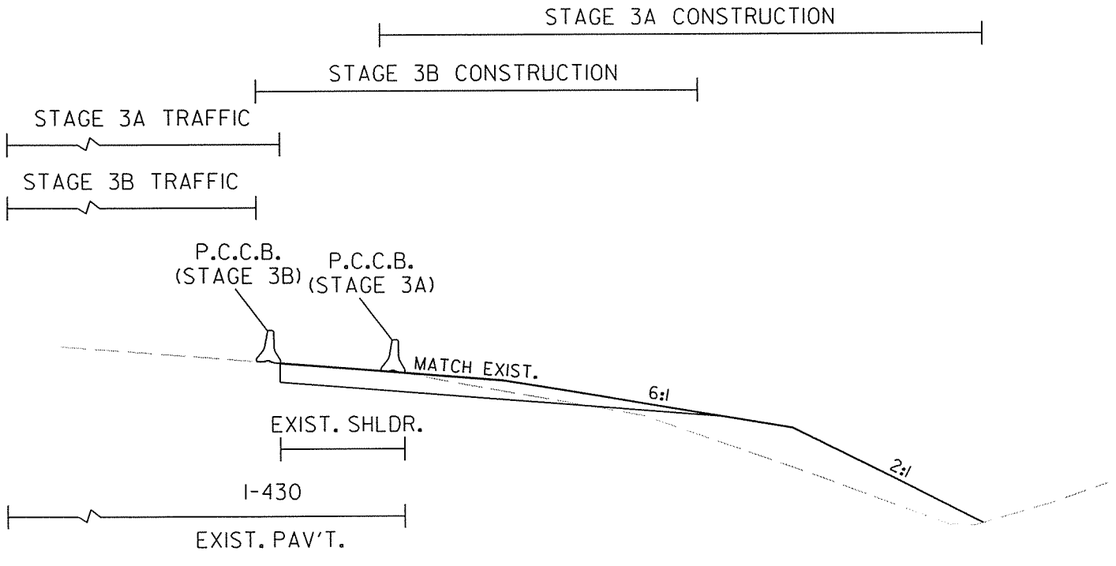


DETAIL FOR SOLID SODDING AROUND DROP INLETS

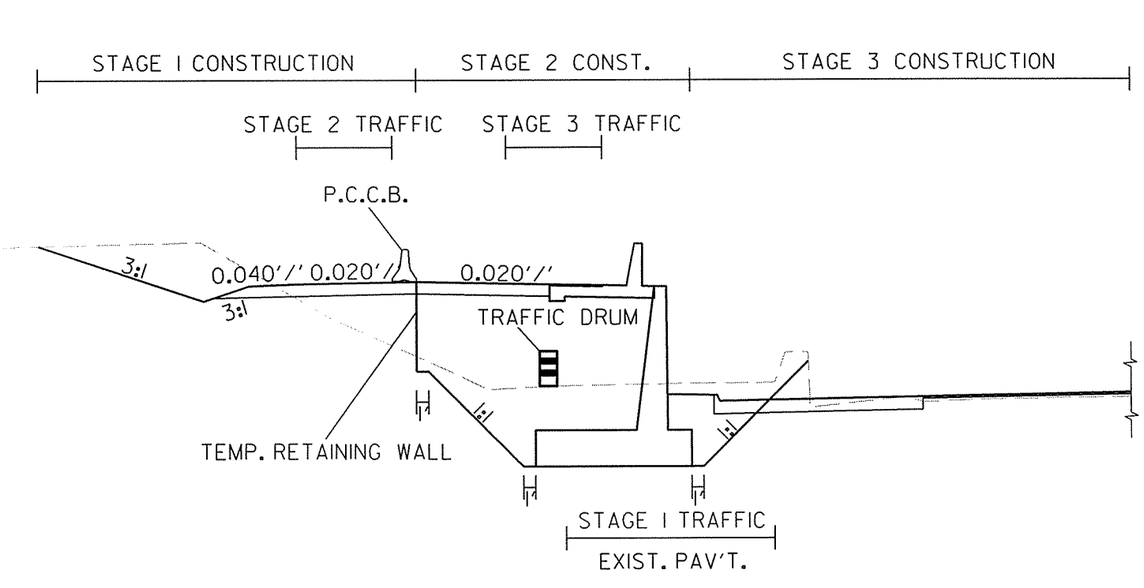
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16



DETAIL FOR TRANSITIONS



DETAIL FOR STAGE CONSTRUCTION
I-430 NB ENT. RAMP



DETAIL FOR STAGE CONSTRUCTION
PINE BURO RD.

10/20/2016

R061333.DGN

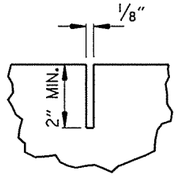
SPECIAL DETAILS

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.		061333	13	272

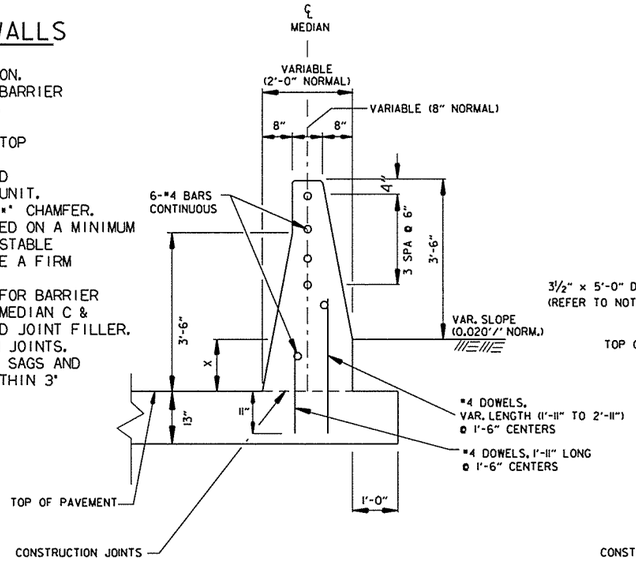
(2) SPECIAL DETAILS

GENERAL NOTES FOR CONCRETE BARRIER WALLS

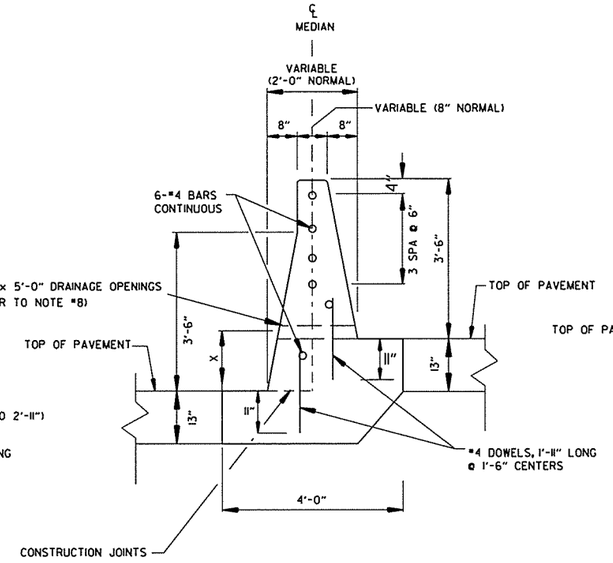
1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMUM SPACING FOR BARRIER TYPES MEDIAN B & SIDE A & A-1. A 30'-0" MAXIMUM SPACING IS REQUIRED FOR TYPE MEDIAN C & SIDE E.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. DOWEL BARS FOR BARRIER TYPES MEDIAN B WILL NOT BE REQUIRED IF BARRIER AND MINIMUM 4' WIDE BASE ARE CAST AS A COMPLETE UNIT.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A ¾" CHAMFER.
6. THE DESIGN OF BARRIER WALL TYPES MEDIAN C & SIDE 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.
7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT FOR BARRIER TYPES MEDIAN B & SIDE A & A-1 OR 120 FT FOR BARRIER TYPES MEDIAN C & SIDE E. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.
8. DRAINAGE OPENINGS TO BE CONSTRUCTED EVERY 100' O.C. AND AT SAGS AND ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3' OF DRAINAGE OPENINGS.



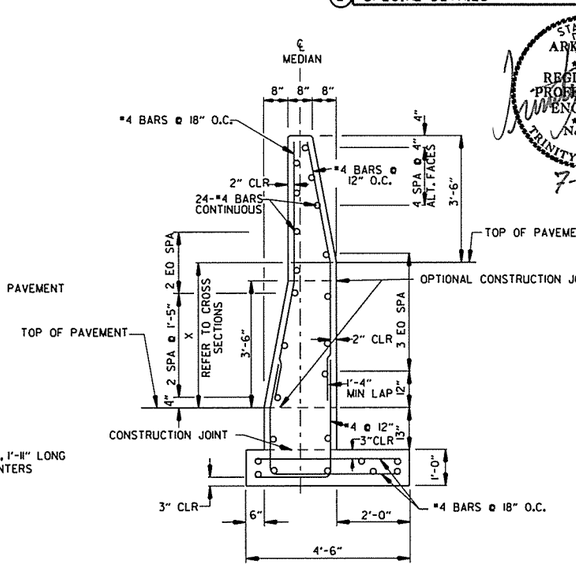
CONTRACTION JOINT DETAIL



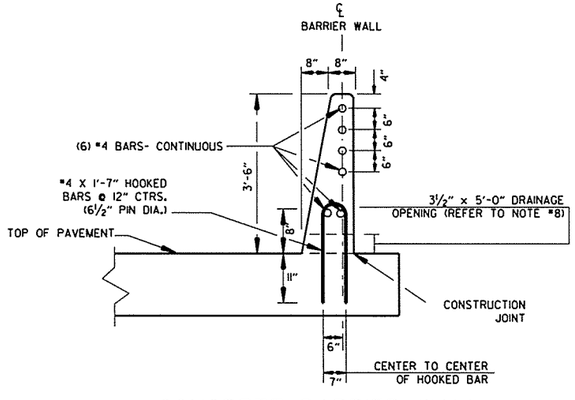
CONCRETE BARRIER WALL
(MEDIAN TYPE A)
X = 0'-0" TO 1'-0" MAX



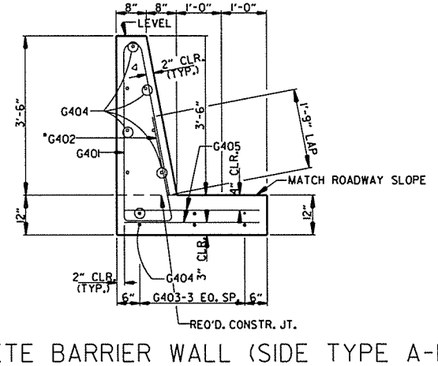
CONCRETE BARRIER WALL
(MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX



CONCRETE BARRIER WALL
(MEDIAN TYPE C)
X = 1'-0" TO 5'-0" MAX

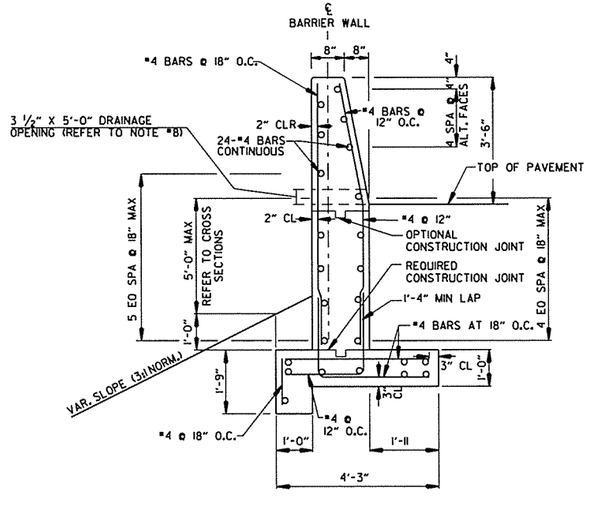


CONCRETE BARRIER WALL
(SIDE TYPE A)



CONCRETE BARRIER WALL (SIDE TYPE A-1)

#OMIT G402 BARS IN LOCATIONS OF DROP INLETS. OMIT G401, G402 & G403 BARS IN LOCATIONS OF DRAINAGE OPENINGS.



CONCRETE BARRIER WALL
(SIDE TYPE E)

STATE OF ARKANSAS
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TRINITY D. SMITH
7-1-15

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SPECIAL DETAILS

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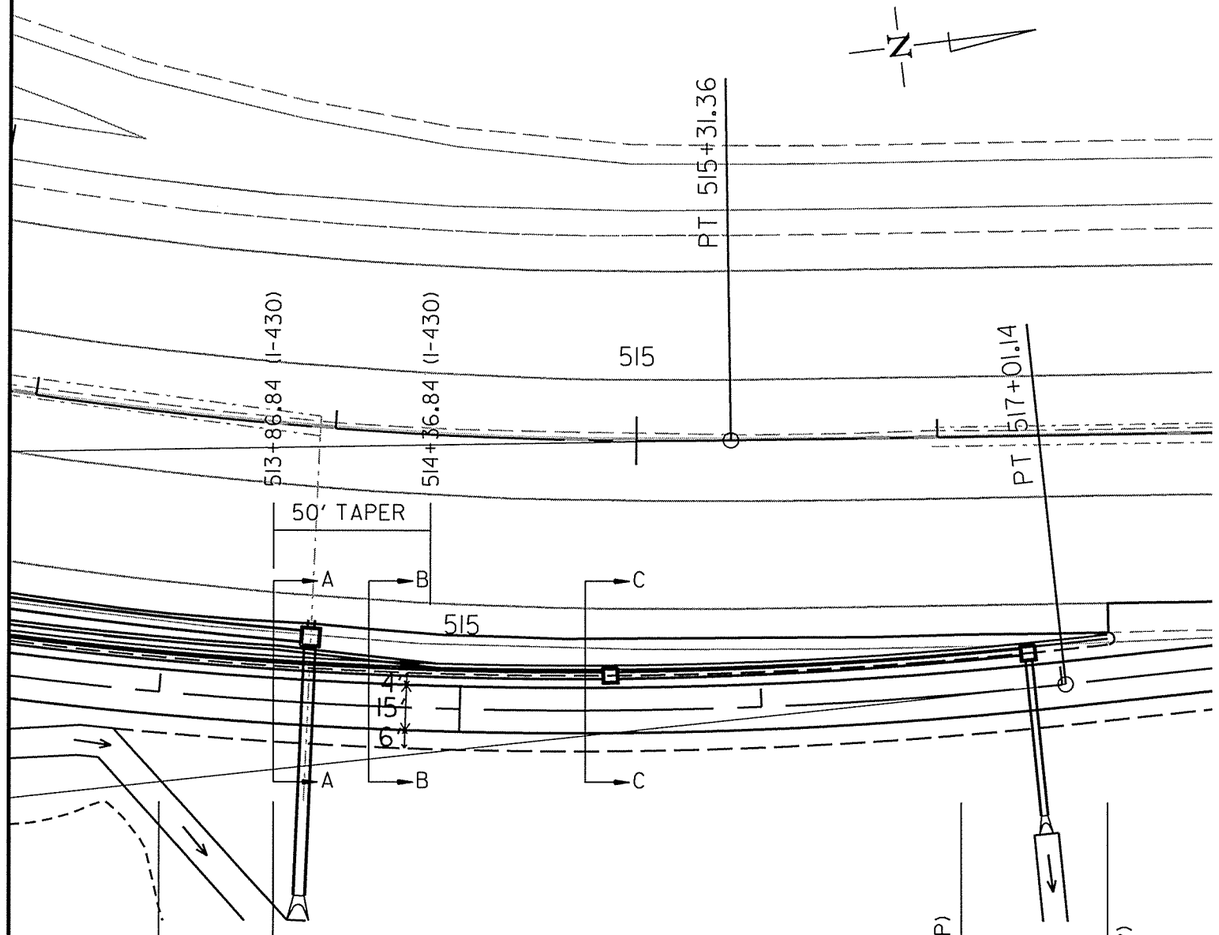
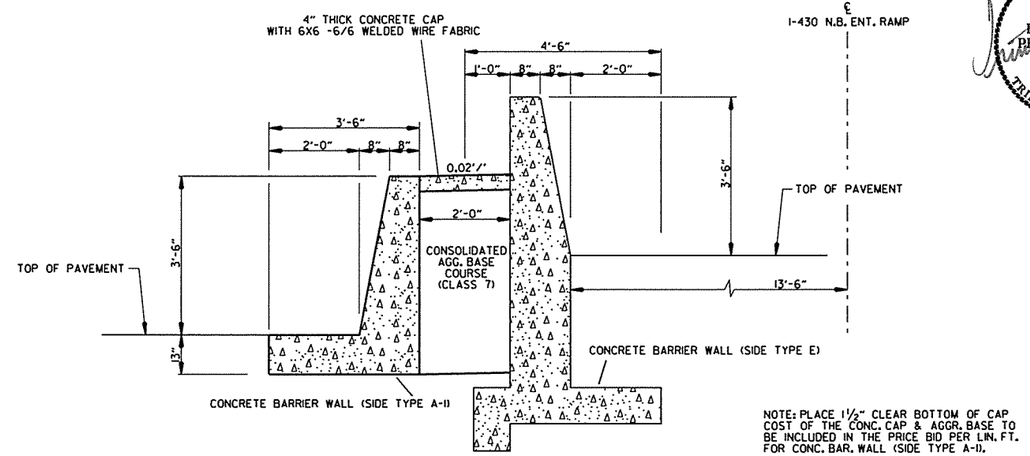
				6	ARK.			
				JOB NO.		061333	14	272

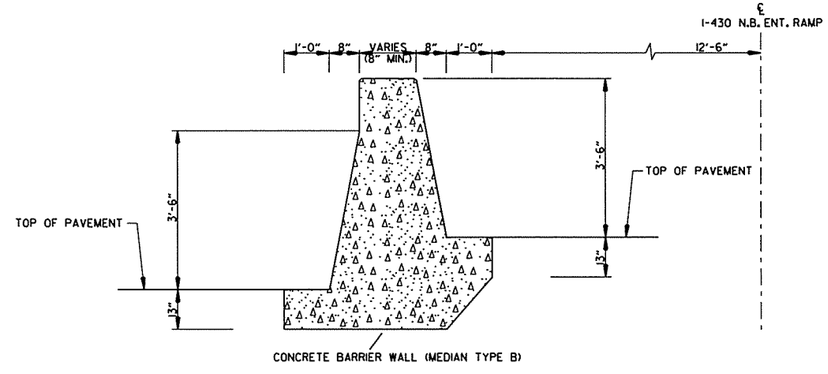
(2) SPECIAL DETAILS



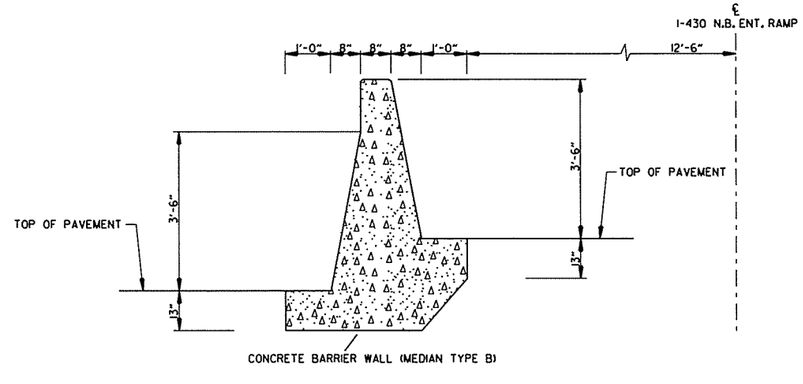
DETAILS OF CONCRETE BARRIER



SECTION A-A



SECTION B-B



SECTION C-C

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

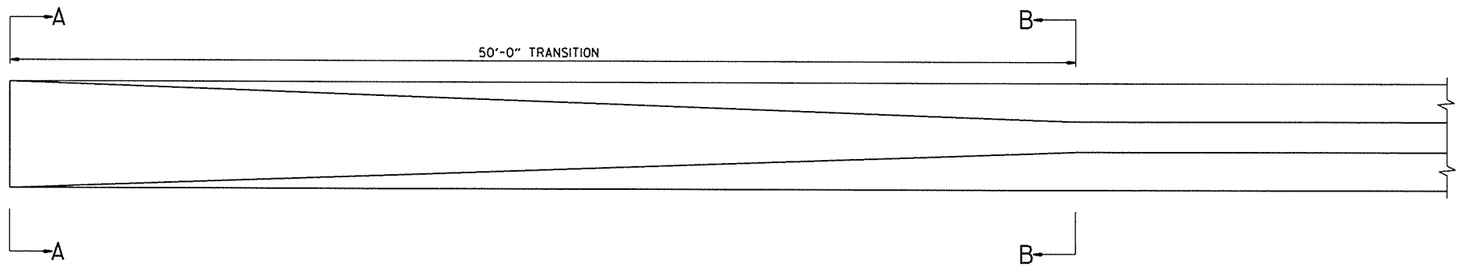
R061333.DGN 7/1/2015

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.		061333	15	272

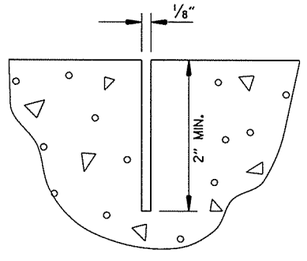
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15



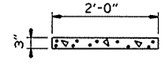
PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE B) TRANSITION

NOTE: TRANSITION TO BE CONSTRUCTED AT BEGINNING AND END OF BARRIER WALL.

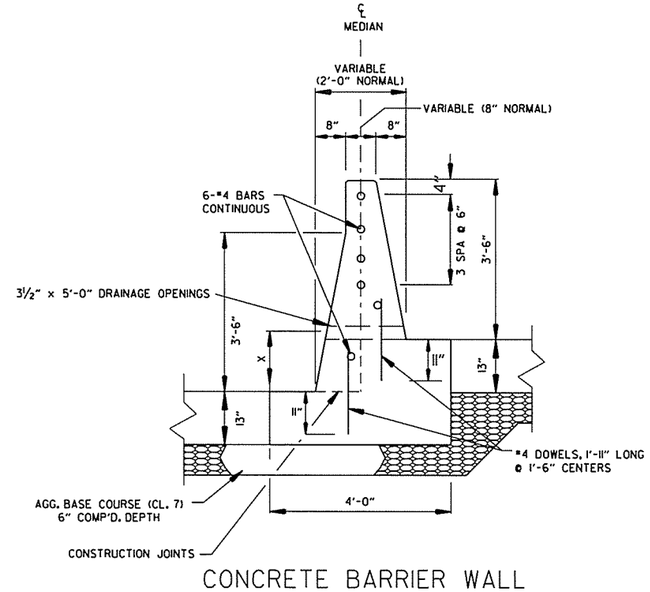


CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" 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. BARRIER TRANSITIONS WILL BE MEASURED AND PAID FOR AS "CONCRETE BARRIER WALL (MEDIAN TYPE B OR SIDE TYPE A)".
7. 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 B)
(SECTION A-A)



CONCRETE BARRIER WALL
(MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX
(SECTION B-B)

6/1/2015

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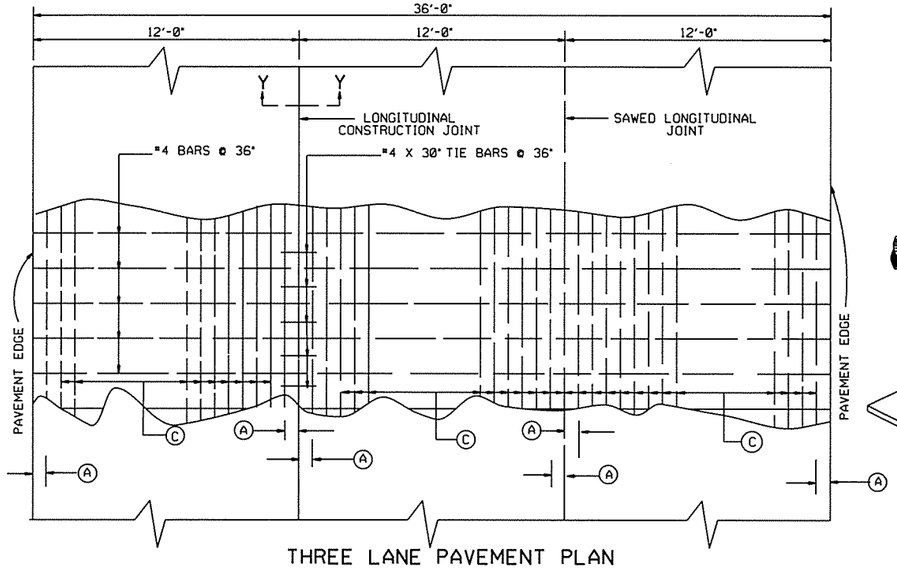
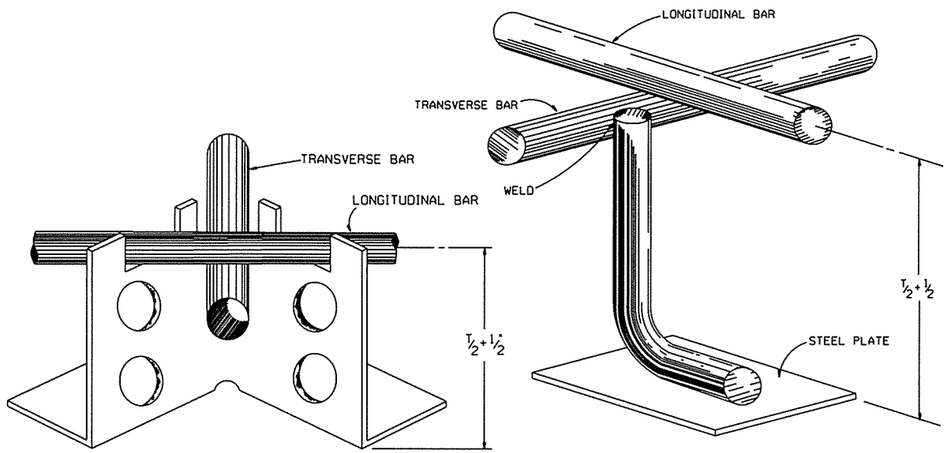
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	16	272

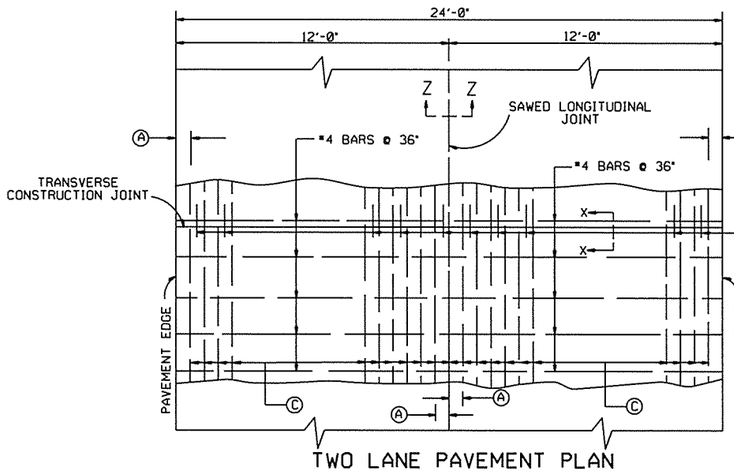
(2) SPECIAL DETAILS



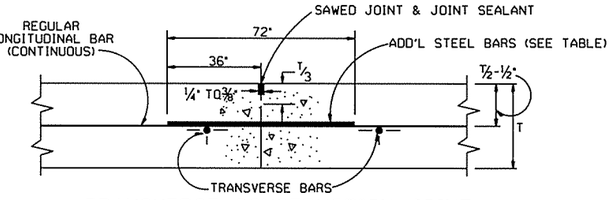
THREE LANE PAVEMENT PLAN
(12 FT. AND 24 FT. PLACEMENT) •



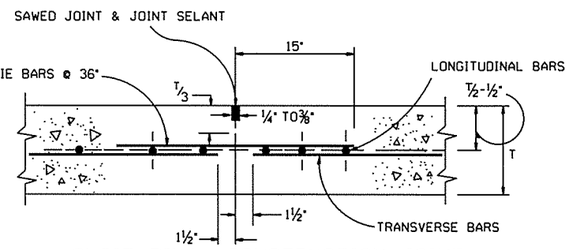
SUGGESTED CHAIR DETAILS



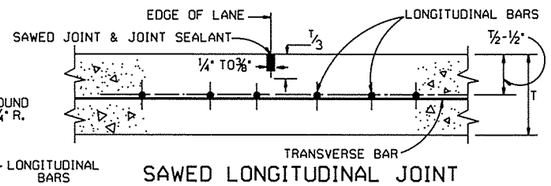
TWO LANE PAVEMENT PLAN
(24 FT. PLACEMENT) •



TRANSVERSE CONSTRUCTION JOINT
SECTION X-X

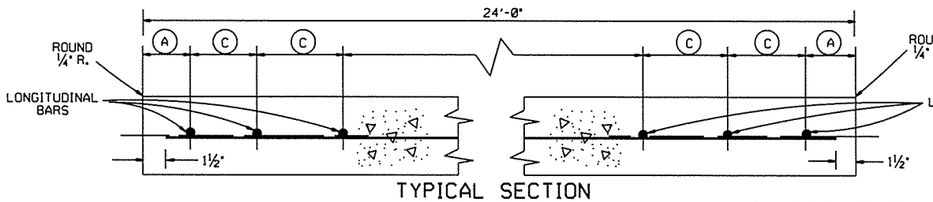


LONGITUDINAL CONSTRUCTION JOINT
SECTION Y-Y



SAWED LONGITUDINAL JOINT
SECTION Z-Z

JOINT DETAILS



TYPICAL SECTION
(24 FT. PLACEMENT) •

• LANE WIDTHS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND SHOULD NOT BE USED IF IN CONFLICT WITH TYPICAL CROSS SECTIONS SHOWN ELSEWHERE IN THE PLANS.

NOTE: FOR DIMENSIONS A & C SEE TABLE ON RT.

STATE OF ARKANSAS
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• GENERAL NOTES •

SAWED JOINT AND JOINT SEALANT FOR TRANSVERSE CONSTRUCTION JOINT, LONGITUDINAL CONSTRUCTION JOINT AND SAWED LONGITUDINAL JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

NO EXPANSION JOINTS WILL BE USED EXCEPT AT STRUCTURE ENDS OR FIXED OBJECTS AS SHOWN ELSEWHERE IN THE PLANS.

FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND REINFORCEMENT REFER TO THE GOVERNING SPECIFICATIONS FOR "CONTINUOUSLY REINFORCED CONCRETE PAVEMENT."

FOR DETAILS OF PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE REFER TO TYPICAL SECTIONS.

WITHIN ANY AREA BOUNDED BY TWO FEET PAVEMENT LENGTH, MEASURED PARALLEL TO THE CENTERLINE: AND TWELVE FEET OF PAVEMENT WIDTH, MEASURED PERPENDICULAR TO THE PAVEMENT CENTERLINE, NOT OVER 33⅓ OF THE REGULAR LONGITUDINAL STEEL SHALL BE SPLICED.

MNINMUM SPLICE REQUIREMENT: 25 TIMES THE NOMINAL DIAMETER OF THE BAR OR 16 INCHES WHICHEVER IS LONGER.

AT TRANSVERSE CONSTRUCTION JOINTS THE REGULAR LONGITUDINAL BARS SHALL EXTEND EITHER SIDE OF THE JOINT SUCH THAT THE BAR SPLICES FOR THE REGULAR LONGITUDINAL BARS SHALL BE A MINIMUM OF FOUR FEET FROM THE CONSTRUCTION JOINT. AT LONGITUDINAL CONSTRUCTION JOINT, IF THE CONTRACTOR ELECTS TO CONTINUE THE REGULAR TRANSVERSE STEEL THROUGH THE JOINTS, THE #4 TIE BARS SHOWN HEREON MAY BE DELETED.

CHAIR DETAILS SHOWN HEREON ARE EXAMPLES ONLY; OTHER APPROVED TYPES WHICH WILL SATISFY THE REQUIREMENTS NOTED HEREIN, WILL BE PERMITTED. CHAIR SPACINGS SHALL NOT BE GREATER THAN 36" C-C (LONGITUDINAL) AND 48" C-C (TRANSVERSE). ADDITIONAL CHAIRS SHALL BE USED IF NECESSARY TO MEET PLACEMENT REQUIREMENTS.

AT ALL LAP SPLICES OCCURRING WITHIN 8 FEET BEYOND THE CONSTRUCTION JOINTS, IN THE DIRECTION OF PAVING AND 4 FEET BACK OF THE CONSTRUCTION JOINTS, THE LENGTH OF LAP SHALL BE DOUBLE THAT NORMALLY SPECIFIED OR EACH SPLICE SHALL BE STRENGTHENED BY SPLICING IN, SYMMETRICALLY WITH THE LAP, A 6 FOOT LENGTH OF DEFORMED BAR OF THE SAME NOMINAL SIZE AS THE LONGITUDINAL REINFORCEMENT.

TABLE OF EQUIVALENT LONGITUDINAL REINFORCEMENT

PAVEMT. THICKNESS	BAR SIZE	24'-0" PLACEMENT WIDTH				12'-0" PLACEMENT WIDTH				ADD'L STEEL @ TRANS. CONSTR. JOINT			
		SPACING (C-C)		BARS PER PLACE-MENT	STEEL (1) LBS./ SQ. YD.	SPACING (C-C)		BARS PER PLACE-MENT	STEEL (1) LBS./ SQ. YD.	SIZE	AVG. SPACING	(2) NO. PER LANE	WEIGHT LBS. PER FOOT
		A	C			A	C						
INCHES		INCHES				INCHES					INCHES		
6	#5	5½	7	40	18.28	5½	7	20	18.26	⅝" X 72"	14	10	5.22
8	#6	4½	7½	38	24.55	4½	7½	19	24.41	¾" X 72"	15	10	7.51
9	#6	3¾	6½	44	27.98	3¾	6½	22	27.95	¾" X 72"	13	11	8.26
10	#7	4	8½	34	29.53	4	8½	17	29.51	⅞" X 72"	17	8	8.18
11	#7	4½	7½	38	32.78	4½	7½	19	32.75	⅞" X 72"	15	10	10.22
12	#7	5½	7	40	34.39	5½	7	20	34.37	⅞" X 72"	14	10	10.22
13	#7	3¾	6½	44	37.65	3¾	6½	22	37.62	⅞" X 72"	13	11	11.24

NOTE: WHERE THE PROPOSED PLACEMENT WIDTHS VARY FROM THE BASIC DESIGN WIDTH SHOWN, THE SPACING "A" AND THE ADJACENT SPACING "C" SHALL BE ADJUSTED TO ACCOMODATE A REINFORCEMENT ARRANGEMENT EQUAL TO OR SLIGHTLY HEAVIER THAN THAT SHOWN AS DIRECTED BY THE ENGINEER.

(1) INCLUDES BOTH REGULAR LONGITUDINAL AND TRANSVERSE BARS. BASED UPON 1 FOOT PAVEMENT FOR THE WIDTH INDICATED. ALL TRANSVERSE STEEL IS #4 BARS AT 36" CENTERS. FOR ESTIMATING PURPOSES IT IS ASSUMED THAT LONGITUDINAL BARS ARE SPLICED AT 32' INTERVALS.

(2) THIS SHALL BE THE MINIMUM NUMBER OF ADDITIONAL STEEL BARS TO BE PLACED PER LANE. THE SPACING OF THE ADDITIONAL STEEL BARS SHALL BE VARIED AS DIRECTED IN ORDER TO PROVIDE A MINIMUM CLEARANCE OF 2½" FROM EACH REGULAR LONGITUDINAL REINFORCING BAR.

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SPECIAL DETAILS

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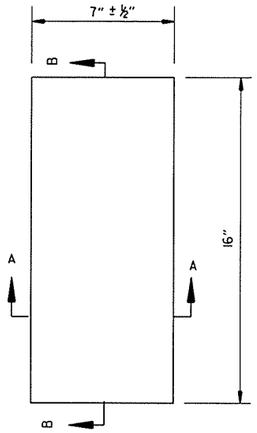
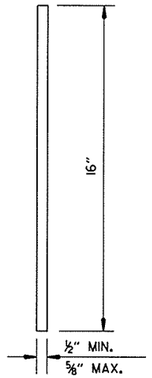
				JOB NO.		061333	17	272

(2) SPECIAL DETAILS

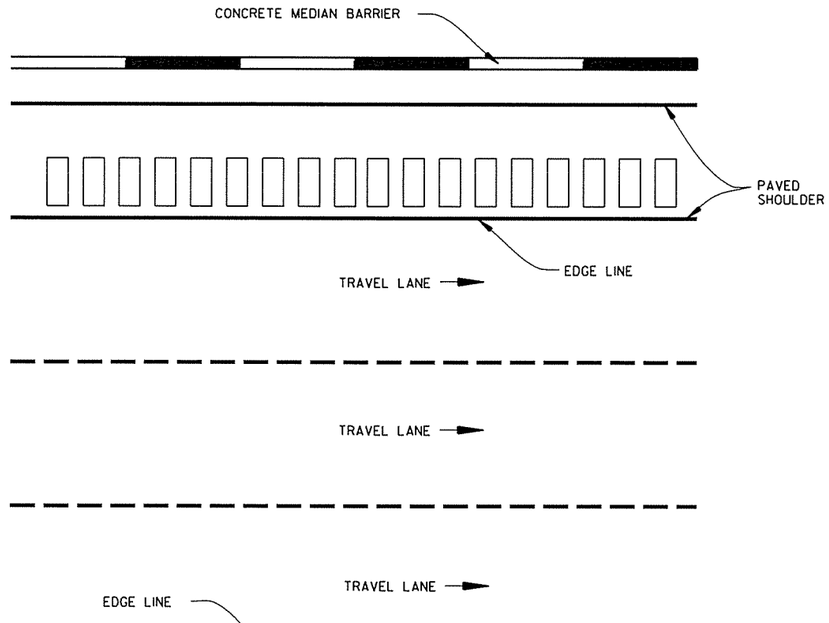
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

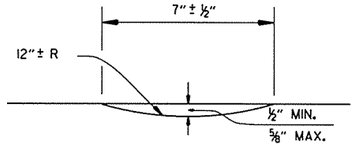


PLAN

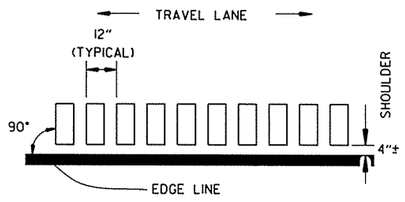


SECTION B-B

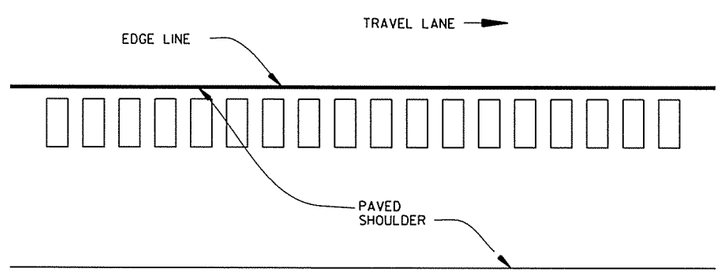




SECTION A-A



LOCATION PLAN OF RUMBLE STRIPS
LEFT 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 ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.

DETAILS OF RUMBLE STRIPS

6/1/2015

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SPECIAL DETAILS

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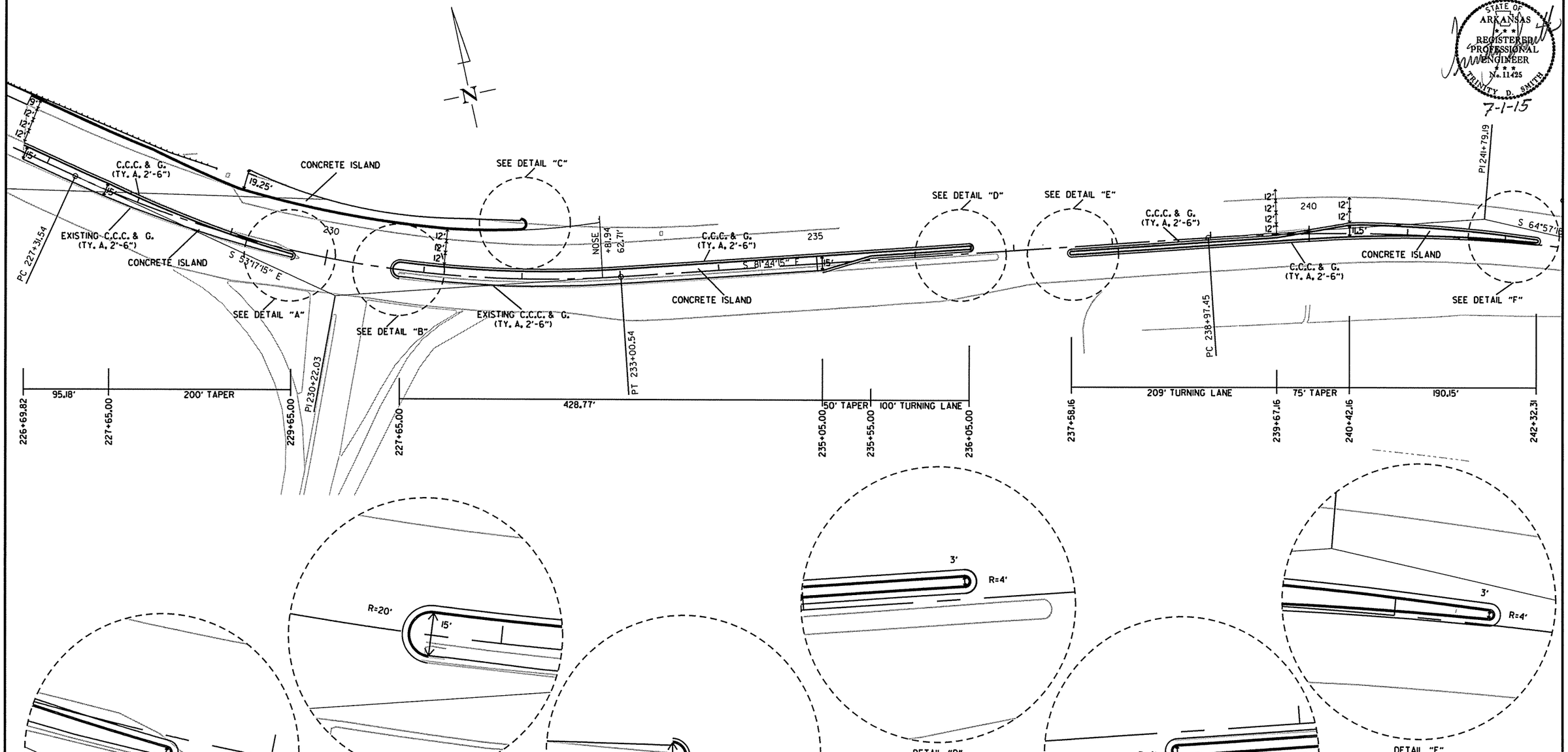
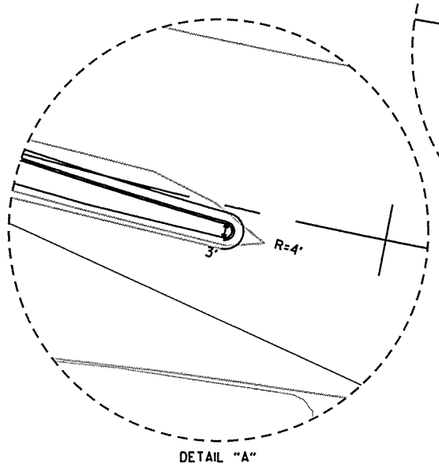
				6	ARK.			
				JOB NO.		061333	18	272

(2) SPECIAL DETAILS

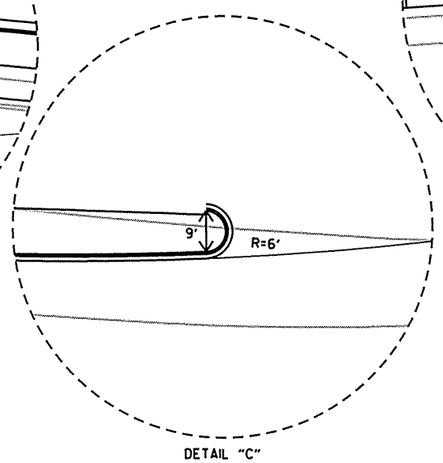
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15





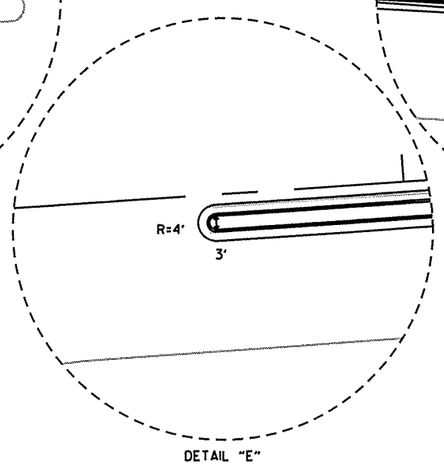
DETAIL "A"

DETAIL "B"



DETAIL "C"

DETAIL "D"



DETAIL "E"

DETAIL "F"

CONCRETE ISLAND DETAIL

SPECIAL DETAILS

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	19	272

(2) TEMPORARY EROSION CONTROL DETAILS

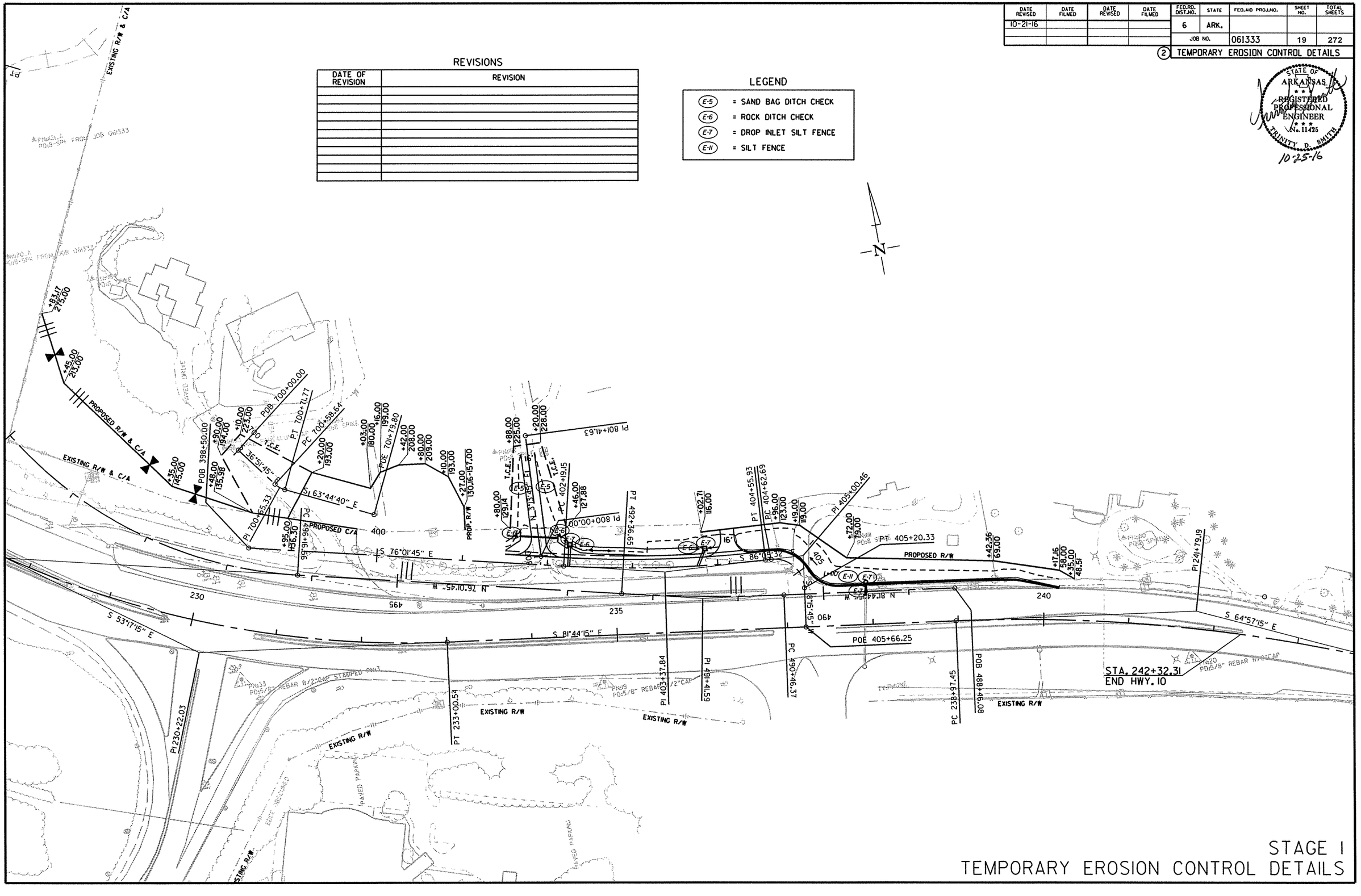
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE



10/20/2016

R061333.DGN

STAGE I
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
10-21-16				6	ARK.			
				JOB NO.		061333	19A	272

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 502+79.98
BEGIN I-430

PI 494+12.51
POB 495+00.00
PI 498+20.25
PT 506+21.74
PT 504+93.72
PC 497+12.29
PT 499+27.98
PI 502+30.32
PC 227+31.54
PI 230+22.03
S 53°17'15" E
N 10°12'40" E
16°46'54" E
N 27°0
522
230
500
505
495

+83.17
275.00
+45.00
213.00
PROPOSED R/W & C/A
+35.00
145.00
POB 398+50.00
+48.00
135.98
+90.00
194.00
+10.00
223.00
POB 700+00.00
PI 700+65.33
PT 700+71.77
+95.00
136.30
36°51'45"

PAVED DRIVE
PAVED PARKING
PROPOSED R/W & C/A FROM JOB 061333
EXISTING R/W FROM JOB 061333
EXISTING R/W FROM JOB 061333
EXISTING R/W FROM JOB 061333
EXISTING R/W FROM JOB 061333
EXISTING R/W FROM JOB 061333
PROPOSED R/W & C/A FROM JOB 061333
PROPOSED R/W & C/A FROM JOB 061333
PROPOSED R/W & C/A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-16			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061333	19B	272

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 518+04.56
END I-430

PC 510+13.00
PI 512+75.05
POBS 514+50.00
PT 515+31.36
PCS 515+40.06
PT 517+01.14
PTS 518+65.49
POES 519+13.02
PC 519+11.27
PC 518+84.46
PI 517+02.82
PC 510+89.04
PI 513+61.13
27°02'14" E
N 6°18'11" E
N 9°33'21" E
N 1°05'02" E
510
515
520
POND
PROPOSED R/W
+49.59
370.16
+15.00
384.00 C/L
+75.00
371.00-345.51

10/20/2016

R061333.DGN

STAGE I
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
10-21-16				6	ARK.			
				JOB NO.		061333	20	272

(2) TEMPORARY EROSION CONTROL DETAILS

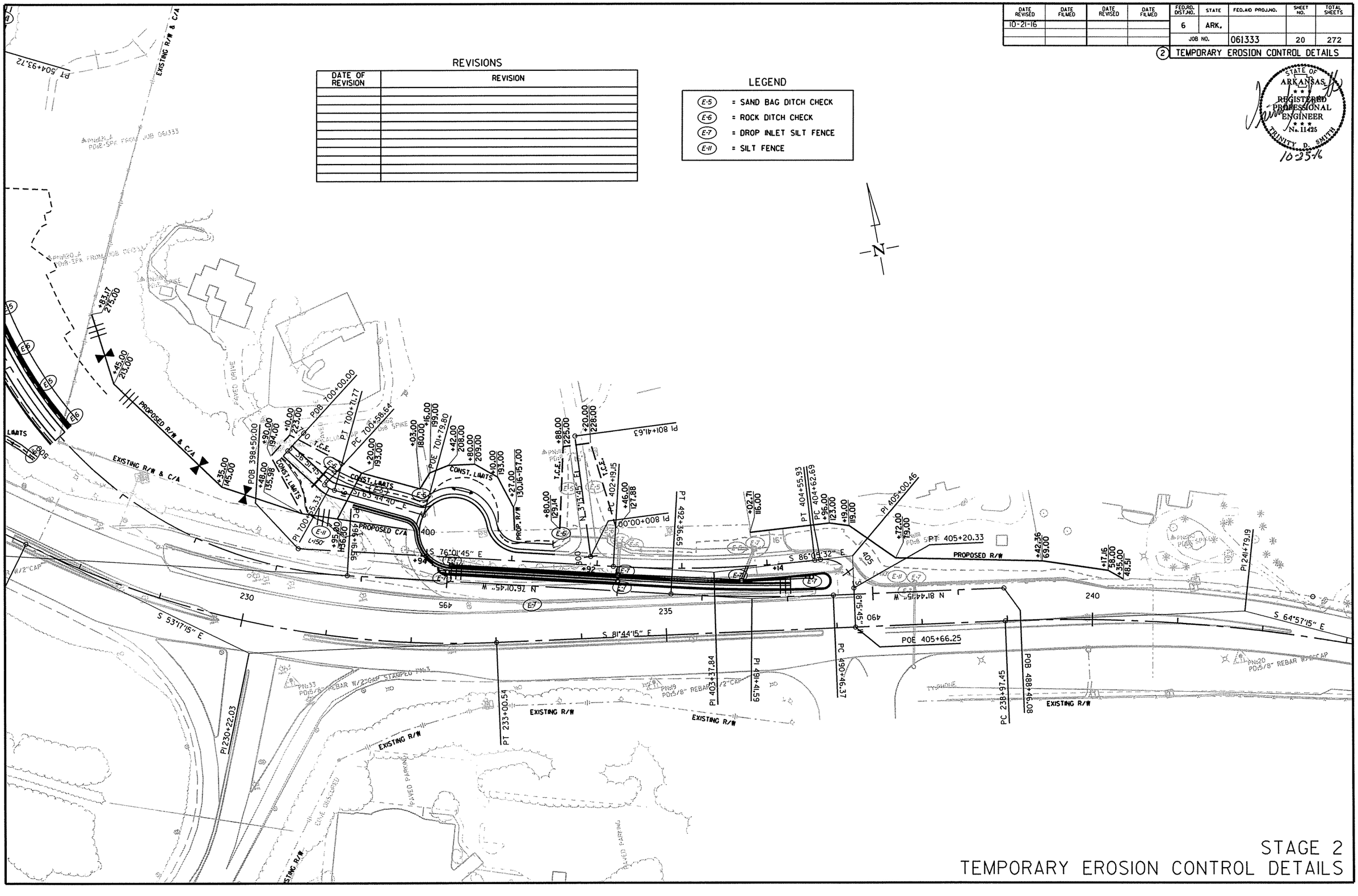
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE



10/20/2016

R061333.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
10-21-16				6	ARK.			
				JOB NO.		061333	20A	272

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 502+79.98
BEGIN I-430

PI 494+12.51
POB 495+00.00
PI 495+54.83
PI 498+20.25
PT 506+21.74
PT 504+93.72
PI 502+10.32
PT 495+27.98
PC 497+12.29
POE 497+12.50
PT 495+98.99
PC 495+16.16
POB 495+22.24
PC 227+31.54
PI 230+22.03
PI 700+35.33
POB 700+00.00
PT 700+71.77
POB 398+50.00

N 16°40'54" E
N 10°12'40" E
N 10°12'40" E
N 5°55'12" W
S 37°15' E
N 27°0

+83.17
275.00
+45.00
213.00
+35.00
145.00
+48.00
135.98
+90.00
194.00
+10.00
223.00
+95.00

PROPOSED R/W & C/A
EXISTING R/W & C/A
CONST. LIMITS
PAVED DRIVE
PAVED PARKING
CONCRETE
PAVED

10/20/2016
R061333.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
10-21-16				6	ARK.			
				JOB NO.		061333	21	272

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 518+04.56
END I-430

PC 510+13.00
PI 512+75.05
POBSH 514+50.00
PT 515+31.36
POES 515+40.06
PT 517+01.14
PTS 518+65.49
POES 519+13.02
PC 510+69.04
PC 516+84.49
PC 519+11.27
PI 517+02.82
PI 513+61.13

N 27°02'14" E
N 9°33'27" E
N 6°18'11" E
N 1°05'02" E

510
515
520

CONST. LIMITS
EXISTING R/W & C/A
PROPOSED R/W & C/A
+75.00 317.00-345.51
+15.00 384.00
+49.59 370.16

10/20/2016
R061333.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
10-21-16				6	ARK.			
				JOB NO.		061333	22	272

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 518+04.56
END I-430

PT 518+65.49
PC 518+33.02
PC 515+40.06
PT 516+01.14
PI 517+02.82
PC 518+84.40
PC 519+11.21
PI 526+46.44
PI 526+36.06
PT 532+03.80
PT 532+14.85

N 6°18'11" E
N 1°05'02" E
CONST. LIMITS
EXISTING R/W & C/A

STA. 529+70.36
END JOB 061333
LOG MILE 9.60

10/20/2016

R061333.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
10-21-16				6	ARK.			
				JOB NO.		061333	23	272

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-7) = DROP INLET SILT FENCE
- (E-11) = SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 226+57.00
BEGIN HWY. 10

STA. 494+97.25
BEGIN CONCRETE PAVING

STA. 494+61.25
BEGIN I-430 NB RAMP

10/20/2016

R061333.DGN

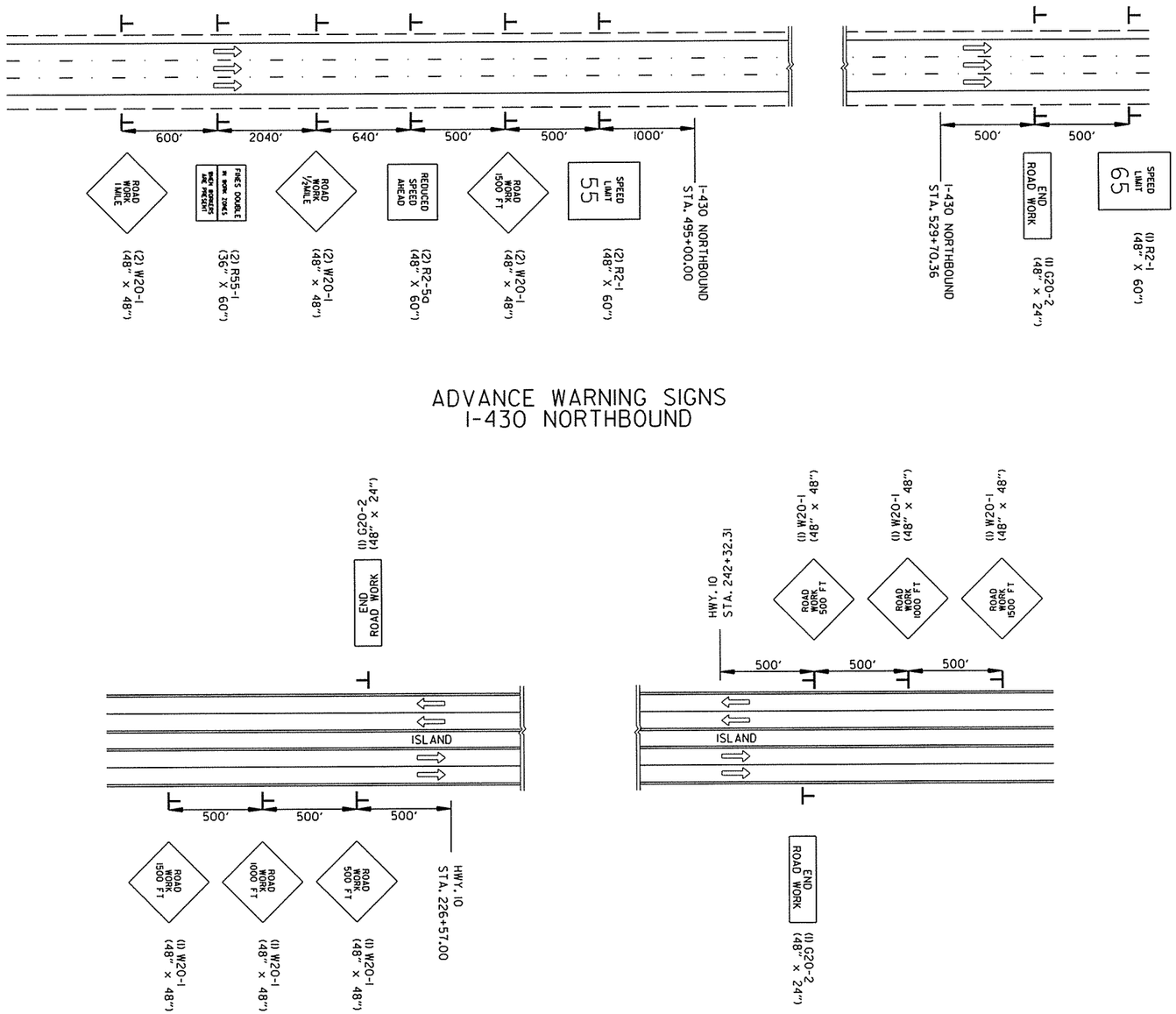
STAGE 3
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	24	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

T PORTABLE CHANGEABLE MESSAGE SIGN



ADVANCE WARNING SIGNS
I-430 NORTHBOUND

ADVANCE WARNING SIGNS
HWY. 10

10/20/2016

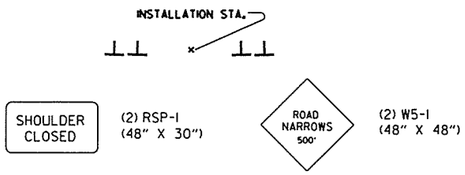
R061333.DGN

ADVANCE WARNING
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	25	272

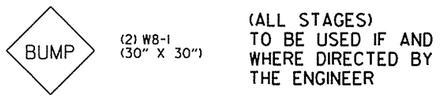
(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

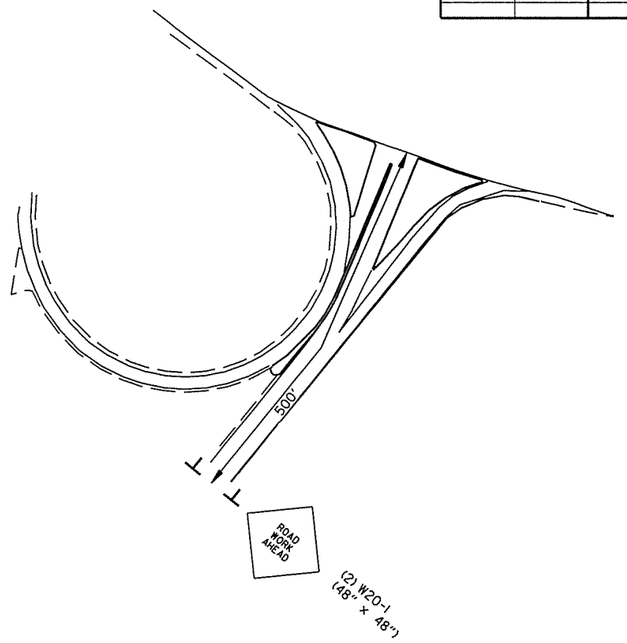


ADVANCE WARNING SIGNS

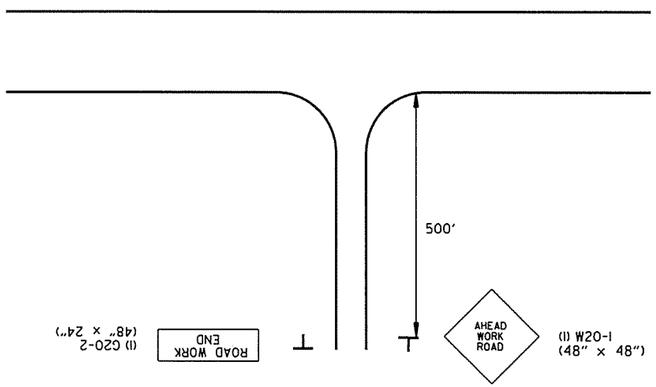
I-430 NORTHBOUND
STA. 500+39.00



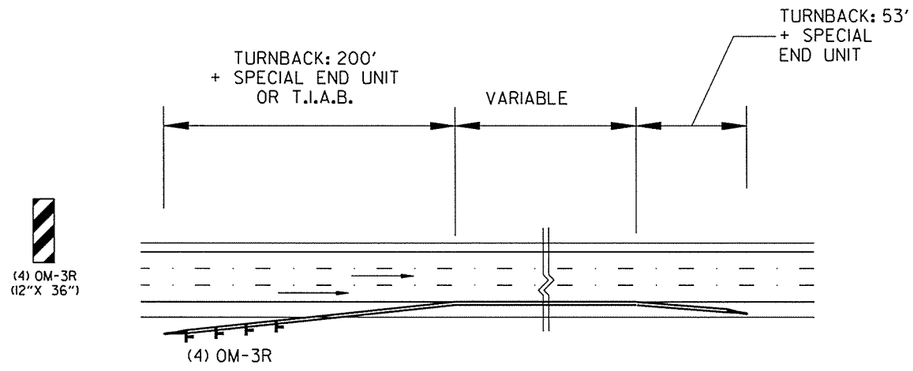
(ALL STAGES)
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



ADVANCE WARNING
EXIT RAMP



ADVANCE WARNING
SIDE ROADS



REFER ALSO TO STANDARD DRAWING TC-5 FOR DETAILS OF PLACEMENT OF PCCB TURNBACKS.

NOTE: OM-3R SIGNS SHALL BE EQUALLY SPACED ALONG P.C.C.B. TURNBACK.

DETAIL OF OBJECT MARKERS
AT PRECAST CONCRETE BARRIER TURNBACKS

6/1/2015

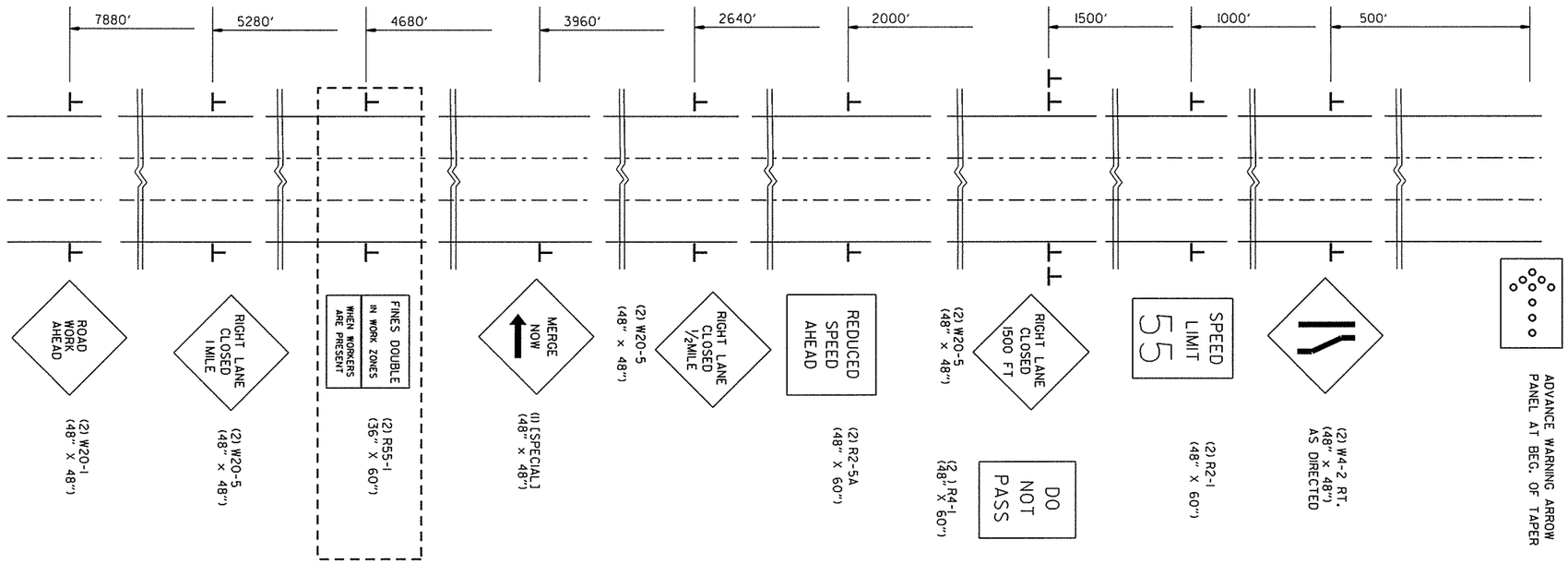
R061333.DGN

ADVANCE WARNING
MAINTENANCE OF TRAFFIC

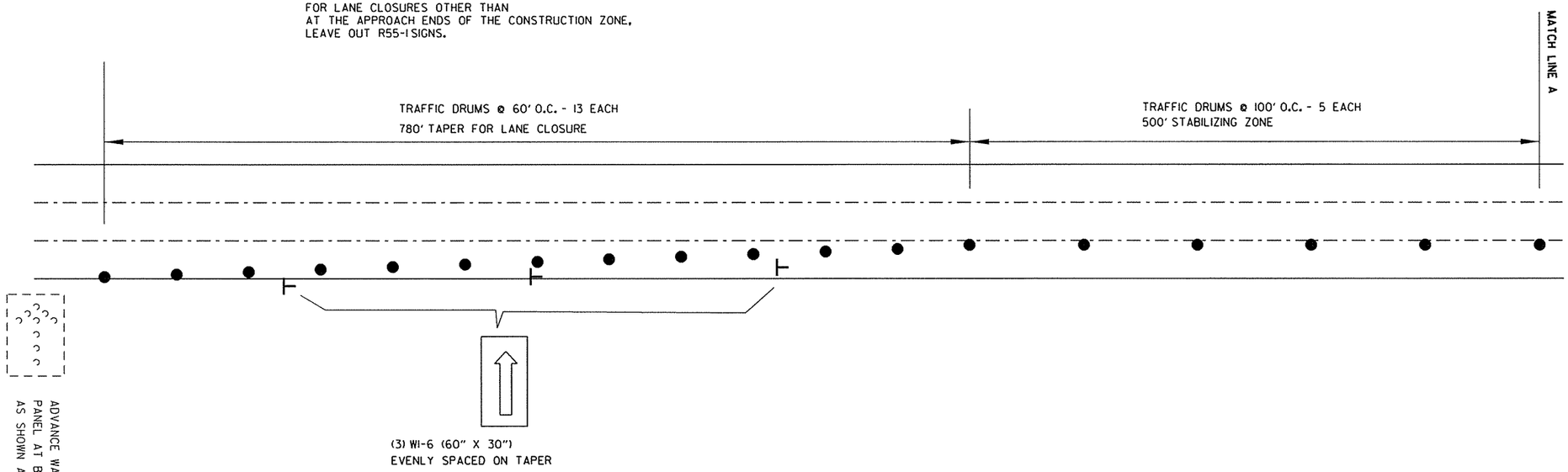
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	26	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16



NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.



ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM PLACEMENT FOR OUTSIDE LANE CLOSURE (I-430)

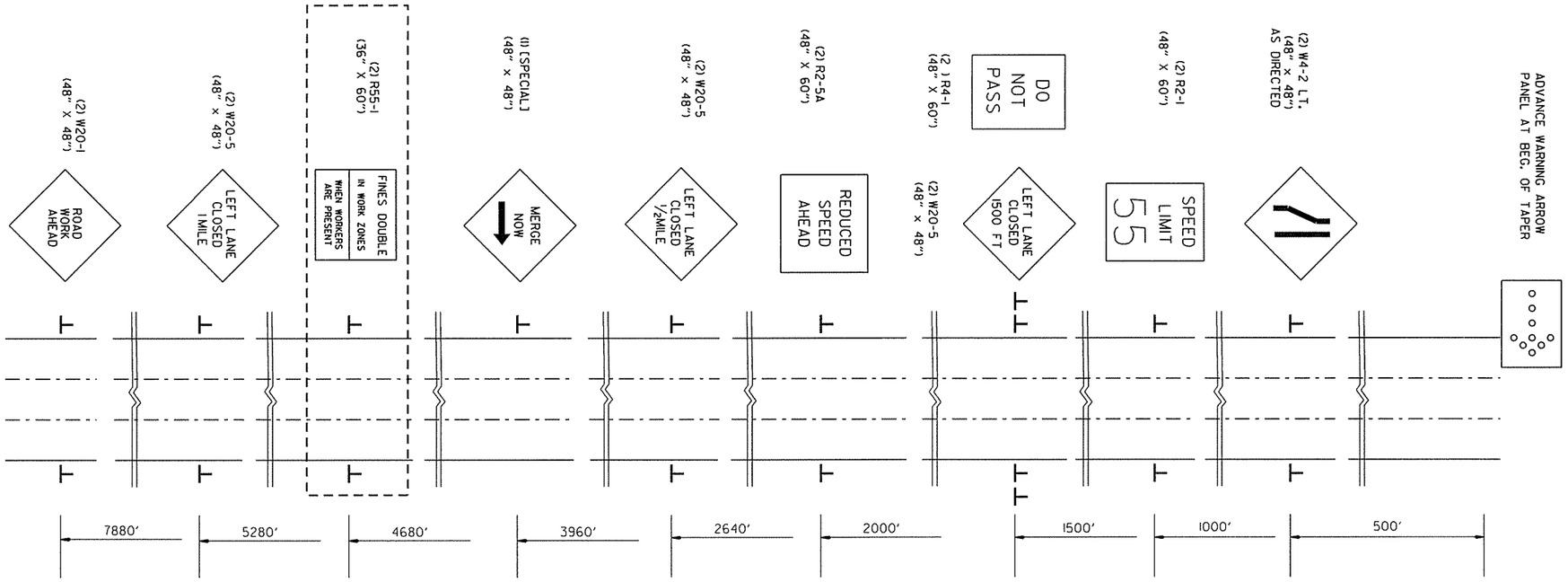
LANE CLOSURE MAINTENANCE OF TRAFFIC

10/20/2016

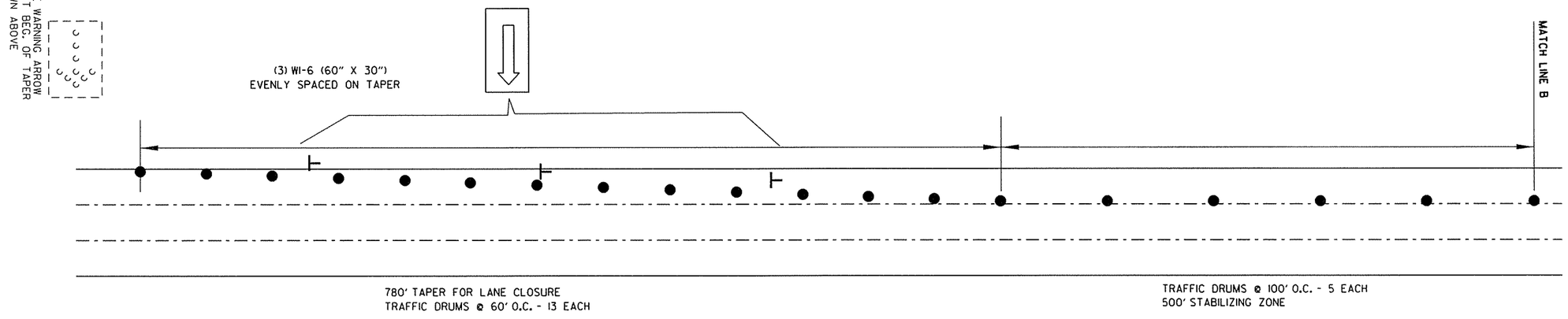
R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	27	272

(2) MAINTENANCE OF TRAFFIC



NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.



10/20/2016

R061333.DGN

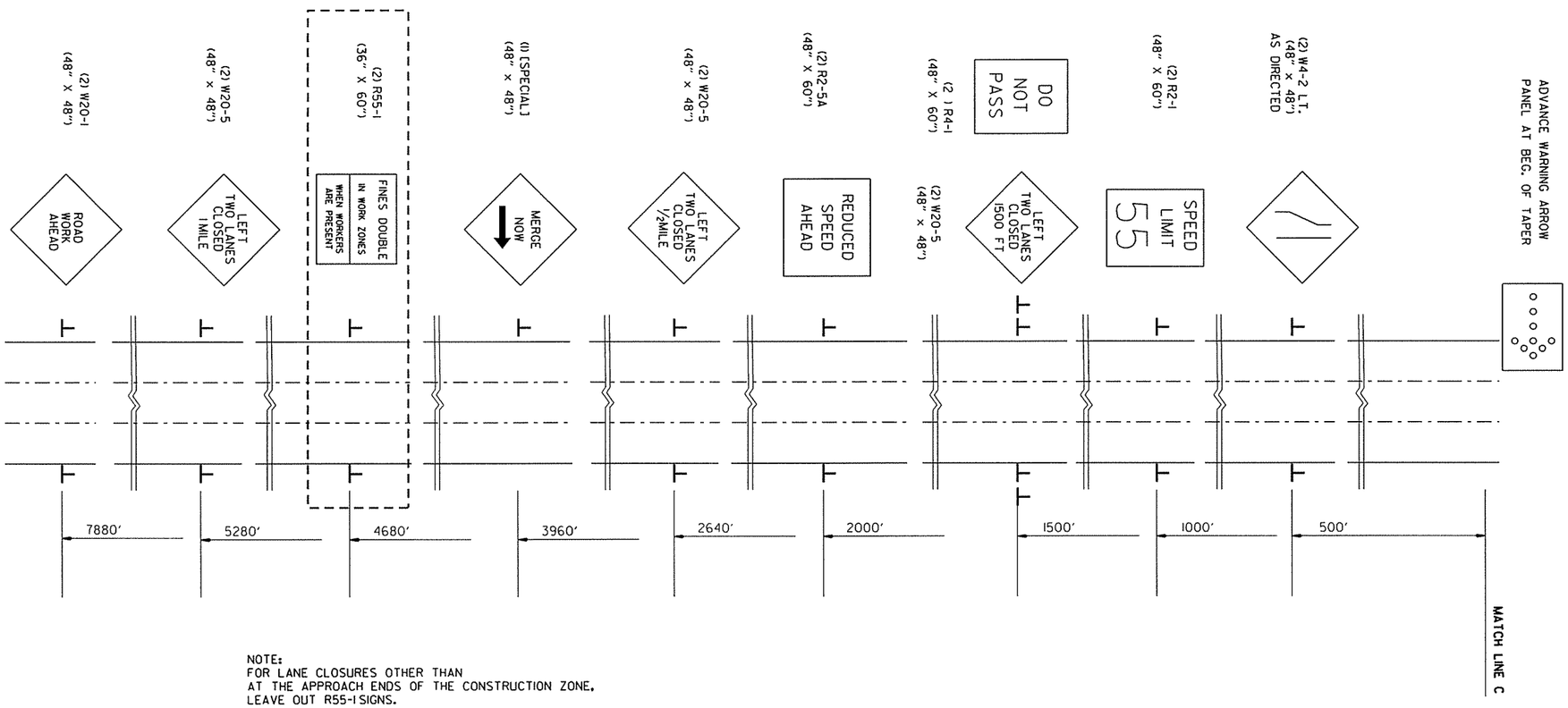
ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM LAYOUT FOR INSIDE LANE CLOSURES (I-430)

LANE CLOSURE
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	28	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16



NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.

ADVANCE WARNING SIGNS
FOR INSIDE & MIDDLE LANE CLOSURES
(I-430)

10/20/2016

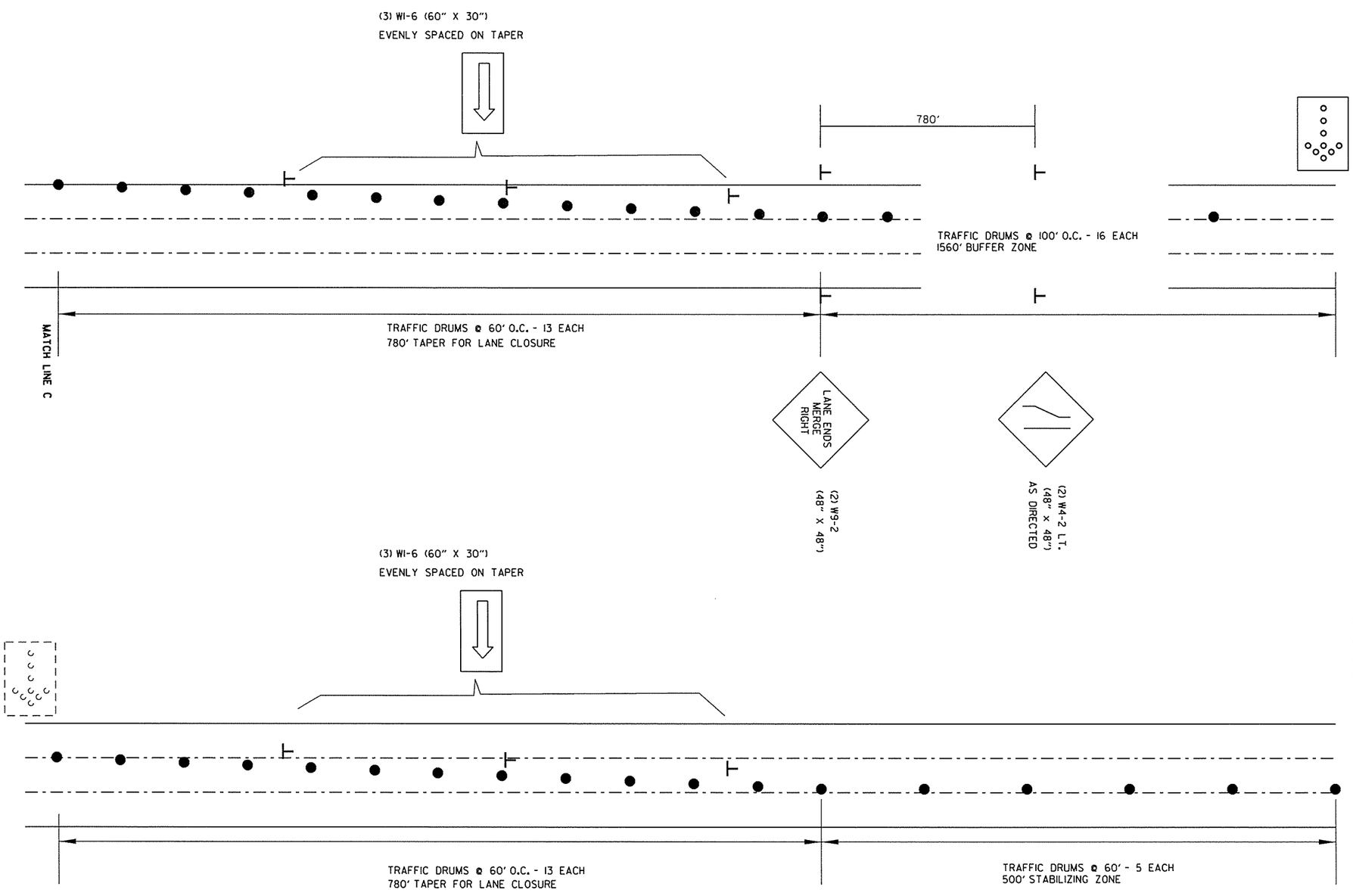
R061333.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	29	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15



ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM LAYOUT
FOR INSIDE & MIDDLE LANE CLOSURES
(I-430)

6/1/2015

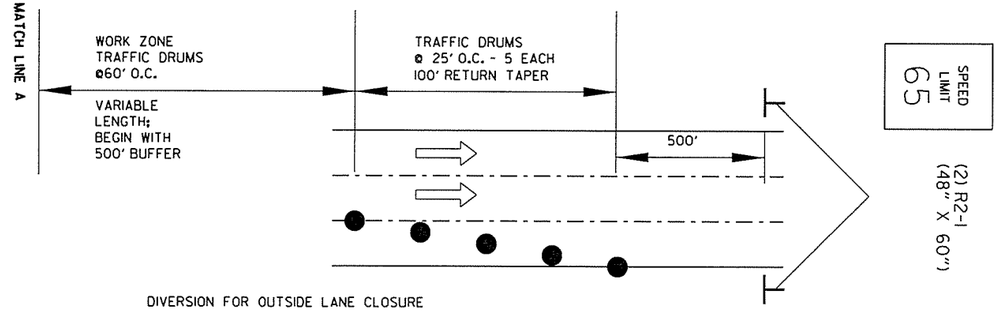
R061333.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC

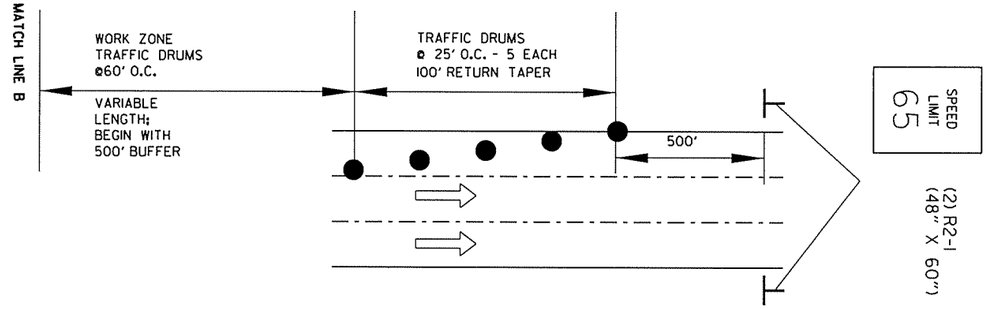
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	30	272

(2) MAINTENANCE OF TRAFFIC

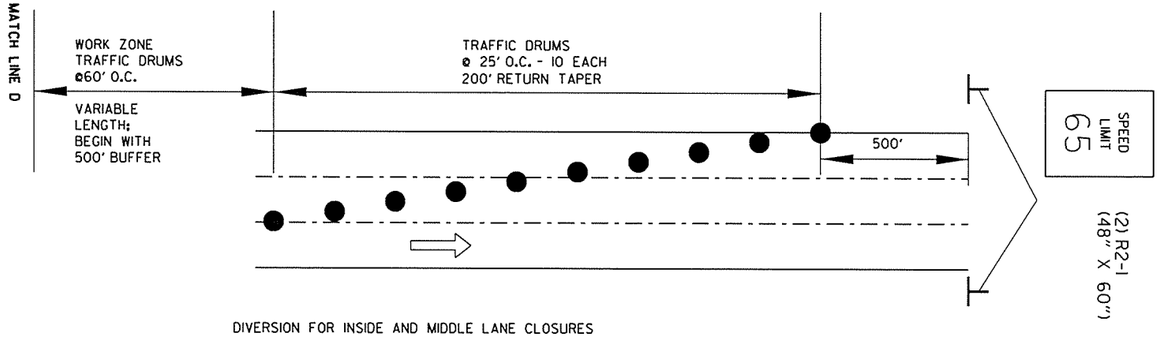
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15



DIVERSION FOR OUTSIDE LANE CLOSURE



DIVERSION FOR INSIDE LANE CLOSURE



DIVERSION FOR INSIDE AND MIDDLE LANE CLOSURES

TYPICAL TRAFFIC DRUM LAYOUT FOR DIVERSION OF LANE CLOSURES (I-430)

6/1/2015

R061333.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	31	272
				(2) MAINTENANCE OF TRAFFIC				

STAGE I- CONSTRUCTION SEQUENCE

INSTALL ADVANCE WARNING SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAIL. INSTALL END ROAD WORK SIGNS AT THE END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL. INSTALL ROAD WORK AHEAD (W20-1) SIGN ON RAMPS AS SHOWN ON THE ADVANCE WARNING DETAIL.

INSTALL TRAFFIC DRUMS, VERTICAL PANELS, AND P.C.C.B. AS SHOWN ON STAGE I MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT TEMPORARY RETAINING WALL AND PORTIONS OF PINE BURO ROAD FROM STA. 401+50.00 TO STA. 405+66.25 AS SHOWN ON THIS SHEET.

REMOVE PERMANENT PAVEMENT MARKINGS, INSTALL REMOVEABLE CONSTRUCTION PAVEMENT MARKINGS, AND SHIFT TRAFFIC AS SHOWN ON STAGE I MAINTENANCE OF TRAFFIC DETAILS.

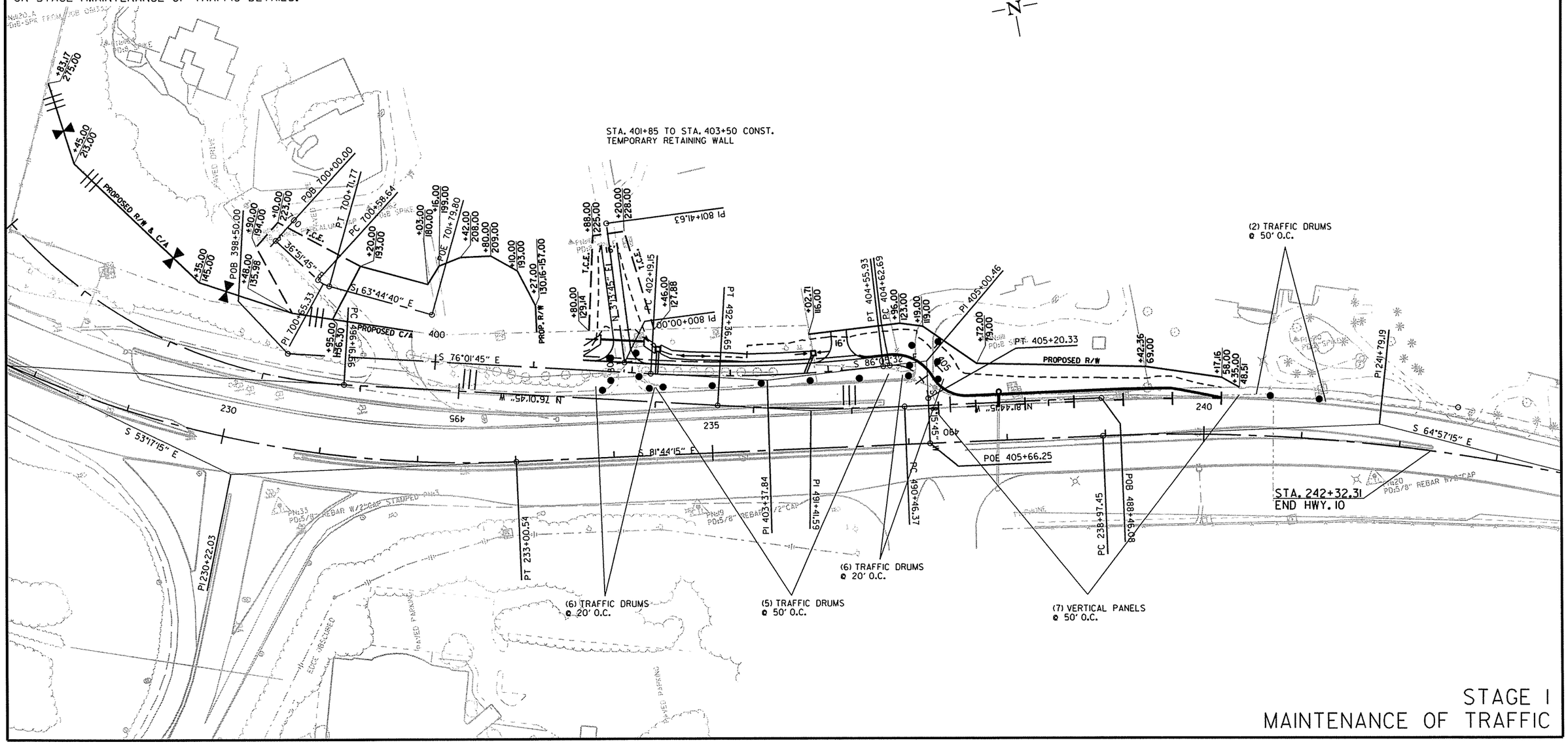
CONSTRUCT I-430 MEDIAN AND DRAINAGE STRUCTURES AS SHOWN ON STAGE I MAINTENANCE OF TRAFFIC DETAILS.

STAGE I- QUANTITIES

SIGNS = 505 SQ. FT.
VERTICAL PANELS = 7 EACH
TRAFFIC DRUMS = 25 EACH
FURNISHING AND INSTALL PRECAST CONCRETE BARRIER = 3560 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 2 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 2 EACH
REMOVAL OF PERMANENT PAVEMENT MARKINGS = 3425 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 3425 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 401+85 TO STA. 403+50 CONST.
TEMPORARY RETAINING WALL



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STAGE I
MAINTENANCE OF TRAFFIC

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) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

I-430 MOT
PI = 498+20.25
Δ = 6°28'14"RT.
D = 3°00'00"
T = 107.96'
L = 215.68'
PC = 497+12.29
PT = 499+27.98

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

STA. 502+79.98
BEGIN I-430

FURNISH AND INSTALL
680' P.C.C.B.
+ (1) T.I.A.B.

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

FURNISH AND INSTALL
380' P.C.C.B.

PI 494+12.51

POB 495+00.00

PI 498+20.25

PT 506+21.74

N 10°12'40" E

N 16°49'54" E

PT 502+30.20

PT 499+27.98

PC 497+12.29

FURNISH AND INSTALL
2500' P.C.C.B.
+ (1) T.I.A.B.

PT 504+93.72

N 27°0

PC 227+31.54

S 53°17'15" E

PI 230+22.03

100' SHOULDER TAPER
TRAFFIC DRUMS @ 25' O.C.

200' LANE TAPER
TRAFFIC DRUMS @ 55' O.C.

+80.00

+80.00

+80.00

12'

11'

EXISTING R/W & C/A

PROPOSED R/W & C/A

+83.17
275.00

+45.00
213.00

+35.00
145.00

POB 398+50.00

+90.00
194.00

+48.00
135.98

+10.00
223.00

POB 700+00.00

PI 700+65.33

PT 700+71.77

+95.00
136.30

PAVED DRIVE

PAVED PARKING

EXISTING R/W

CONCRETE

STAKE

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STAGE I
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	31B	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

I-430 MOT
PI = 517+02.82
Δ = 3°15'15" LT.
D = 1°00'00"
T = 162.76'
L = 325.43'
PC = 515+40.06
PT = 518+65.49

EXISTING R/W

STA. 518+04.56
END I-430

POB 514+50.00
PT 515+31.36
PC 515+40.06
PT 518+65.49
POB 519+13.02
PI 512+75.05
PC 510+13.00
PT 510+59.08
PI 513+61.13
PI 517+01.14
PI 517+02.82
PC 518+84.46
PC 519+11.27

515
510
520

N 27°02'14" E
N 6°18'11" E
N 1°05'02" E
N 9°33'27" E

FURNISH AND INSTALL
680' P.C.C.B.
+ (1) T.I.A.B.

FURNISH AND INSTALL
2500' P.C.C.B.
+ (1) T.I.A.B.

FURNISH AND INSTALL
2500' P.C.C.B.
+ (1) T.I.A.B.

4" YELLOW REMOVABLE
CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE REMOVABLE
CONSTRUCTION PAVEMENT MARKING

100' LANE TAPER
+18.65
+18.65

12'
11'

EXISTING R/W & C/A

PROPOSED R/W & C/A
+75.00
311.00-345.51
+15.00
384.00
+49.59
370.16

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STAGE I
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	32	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STAGE 2 - CONSTRUCTION SEQUENCE

INSTALL TRAFFIC DRUMS AND P.C.C.B. AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

SHIFT PINE BURO ROAD TRAFFIC ONTO PORTION OF PINE BURO ROAD CONSTRUCTED IN STAGE 1.

CONSTRUCT PINE BURO RETAINING WALL AND FINAL PORTIONS OF PINE BURO ROAD AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

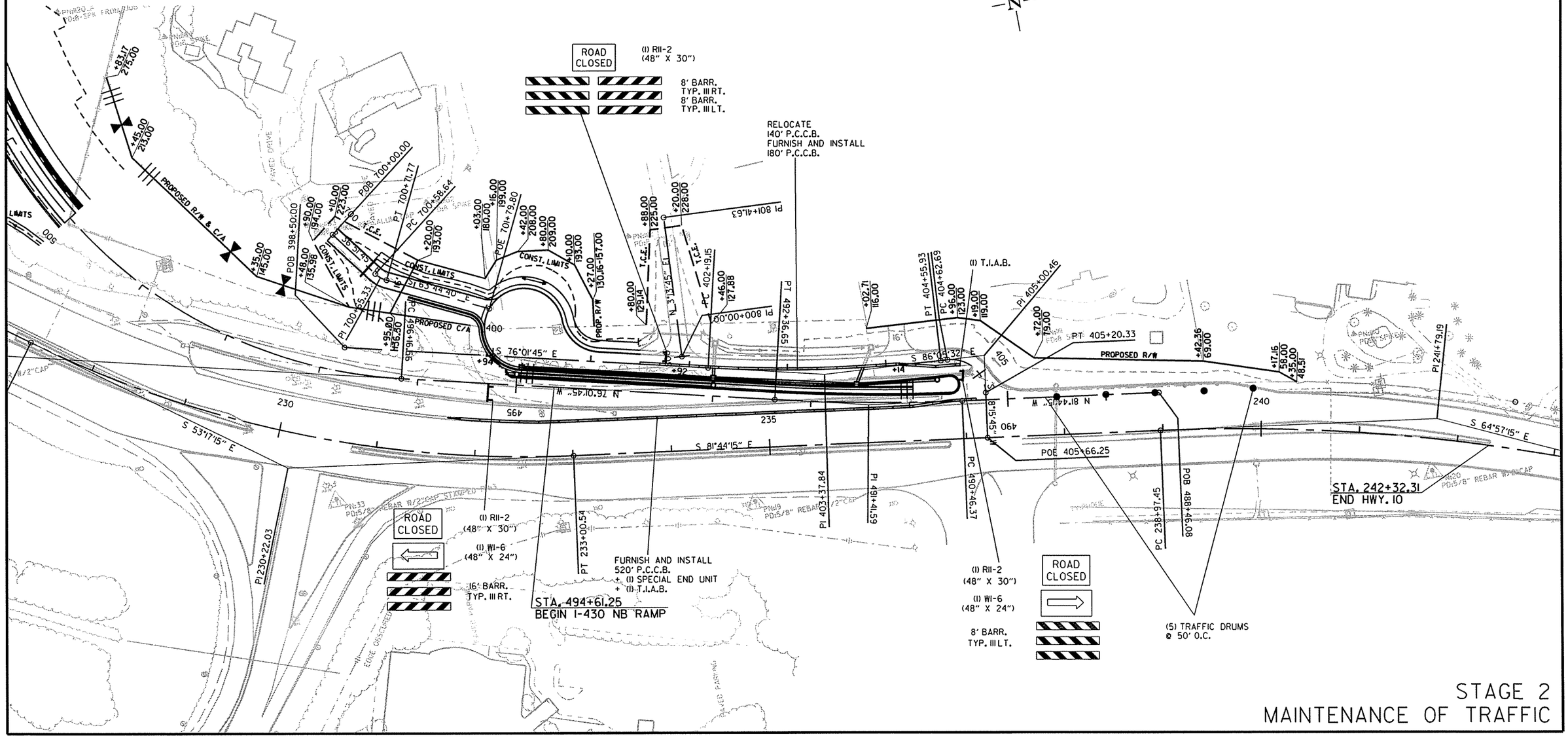
INSTALL REMOVEABLE CONSTRUCTION PAVEMENT MARKINGS AND SHIFT TRAFFIC ON I-430 NORTHBOUND AS SHOWN ON THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT I-430 NB. ENTRANCE RAMP FROM STA. 500+00.00 TO STA. 517+26.05. CONSTRUCT I-430 NB. ENTRANCE RAMP EMBANKMENT FROM STA. 517+26.05 TO STA. 529+70.36.

CONSTRUCT I-430 PAVING RT. AND DRAINAGE STRUCTURES.

STAGE 2 - QUANTITIES

SIGNS = 561 SQ. FT.
TRAFFIC DRUMS = 5 EACH
TYPE III BARRICADE = 56 LIN. FT.
FURNISHING AND INSTALL PRECAST CONCRETE BARRIER = 713 LIN. FT.
RELOCATE PRECAST CONCRETE BARRIER = 3560 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 1 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 2 EACH
REMOVAL OF PERMANENT PAVEMENT MARKINGS = 3304 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 1920 LIN. FT.
FURNISHING, INSTALLING, & LEAVING IN PLACE PRECAST CONCRETE BARRIER = 1493 LIN. FT.
CRASH CUSHION = 2 EACH



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STAGE 2 MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	32A	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

I-430 MOT
PI = 498+20.25
Δ = 6°28'14"RT.
D = 3°00'00"
T = 107.96'
L = 215.68'
PC = 497+12.29
PT = 499+27.98

700' ACCELERATION LANE

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

4" DOTTED WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

I-430 MOT

PI 498+20.25

+23.52

PI 494+12.51

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER = 1493 LIN. FT. INCLUDED (1) SPECIAL END UNIT

POB 495+00.00

PI 495+54.83

495

N 10°12'40" E

N 10°12'40" E

12'

12'

12'

N 5°28'12" W

PI 502+30.32

N 16°40'54" E

PC 497+12.29

PC 497+12.50

POE

RELOCATE 3420' P.C.C.B. + (1) T.I.A.B.

PT 499+27.98

495+86.99

PT

POB 495+15.16

PC 495+22.24

RAMP 2 MOT

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

PC 227+31.54

RAMP 2 MOT
PI = 495+54.83
Δ = 16°07'52"RT.
D = 24°54'40"
T = 32.59'
L = 64.75'
PC = 495+22.24
PT = 495+86.99

S 53°15'51" E

PI 230+22.03

490

485

+80.00

EXISTING R/W

PAVED PARKING

PAVED PARKING

PAVED PARKING

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STAGE 2
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	33	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

100' ACCELERATION LANE
300' TAPER
+23.52
+23.52
FURNISHING, INSTALLING, AND LEAVING IN PLACE
PRECAST CONCRETE BARRIER = 1493 LIN. FT.
INCLUDED (1) SPECIAL END UNIT
4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING
STA. 502+79.98
BEGIN I-430
STA. 509+16 INSTALL
CRASH CUSHION IN MEDIAN = 1EACH
STA. 510+00 INSTALL
CRASH CUSHION IN MEDIAN = 1EACH
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
I-430 MOT
PI = 517+02.82
Δ = 3°15'15"LT.
D = 1°00'00"
T = 162.76'
L = 325.43'
PC = 515+40.06
PT = 518+65.49
I-430 MOT
PT 506+21.74
PC 510+13.00
PC 510+09.04
PI 512+75.05
POB 514+50.00
PT 515+31.56
PC 515+40.06
500
505
510
515
N 16°40'54" E
N 27°02'14" E
N 9°33'27"
12'
RELOCATE 3420' P.C.C.B. + (1) T.I.A.B.
4" DOTTED WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
CONST. LIMITS
PT 504+93.72
PI 513+61.13
EXISTING R/W & C/A
PROPOSED R/W & C/A
+83.17
275.00
+45.00
213.00
+35.00
145.00
+75.00
317.00-345.51
+15.00
384.00 C/A
POB 398+50.00
+48.00
135.98
+90.00
194.00
+10.00
223.00
POB 700+00.00
PI 700+65.33
PT 700+71.77
+95.00
136.80
PAVED DRIVE
PHASE 2-A PDSI-SEN FROM JOB 061333

STAGE 2
MAINTENANCE OF TRAFFIC

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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
10-21-16				6	ARK.			
				JOB NO.		061333	34	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

I-430 MOT
PI = 517+02.82
Δ = 3°15'15"LT.
D = 1°00'00"
T = 162.76'
L = 325.43'
PC = 515+40.06
PT = 518+65.49

4" YELLOW REMOVABLE CONSTRUCTION PAVEMENT MARKING

STA. 518+04.56
END I-430

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

I-430 MOT

PI 515+40.06
PC 515+40.06
PT 518+65.49
PC 518+02.82
PI 517+02.82
PC 518+84.48
PC 519+11.27
PI 526+46.44
PI 526+36.06
PT 532+03.80
PT 532+14.85

N 6°18'11" E
N 6°18'11" E
N 1°05'02" E
N 1°27" E

520
525
530

12'
12'
12'
12'

+18.65
+49.53
370.16

RELOCATE
3420' P.C.C.B.
+ (1) T.I.A.B.

CONST. LIMITS

EXISTING R/W
EXISTING R/W & C/A

STA. 529+70.36
END JOB 061333
LOG MILE 9.60

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STAGE 2
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	35	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STAGE 3 - CONSTRUCTION SEQUENCE

INSTALL TRAFFIC DRUMS, VERTICAL PANELS, AND P.C.C.B. AS SHOWN ON THE STAGE 3 MAINTENANCE OF TRAFFIC SHEETS.

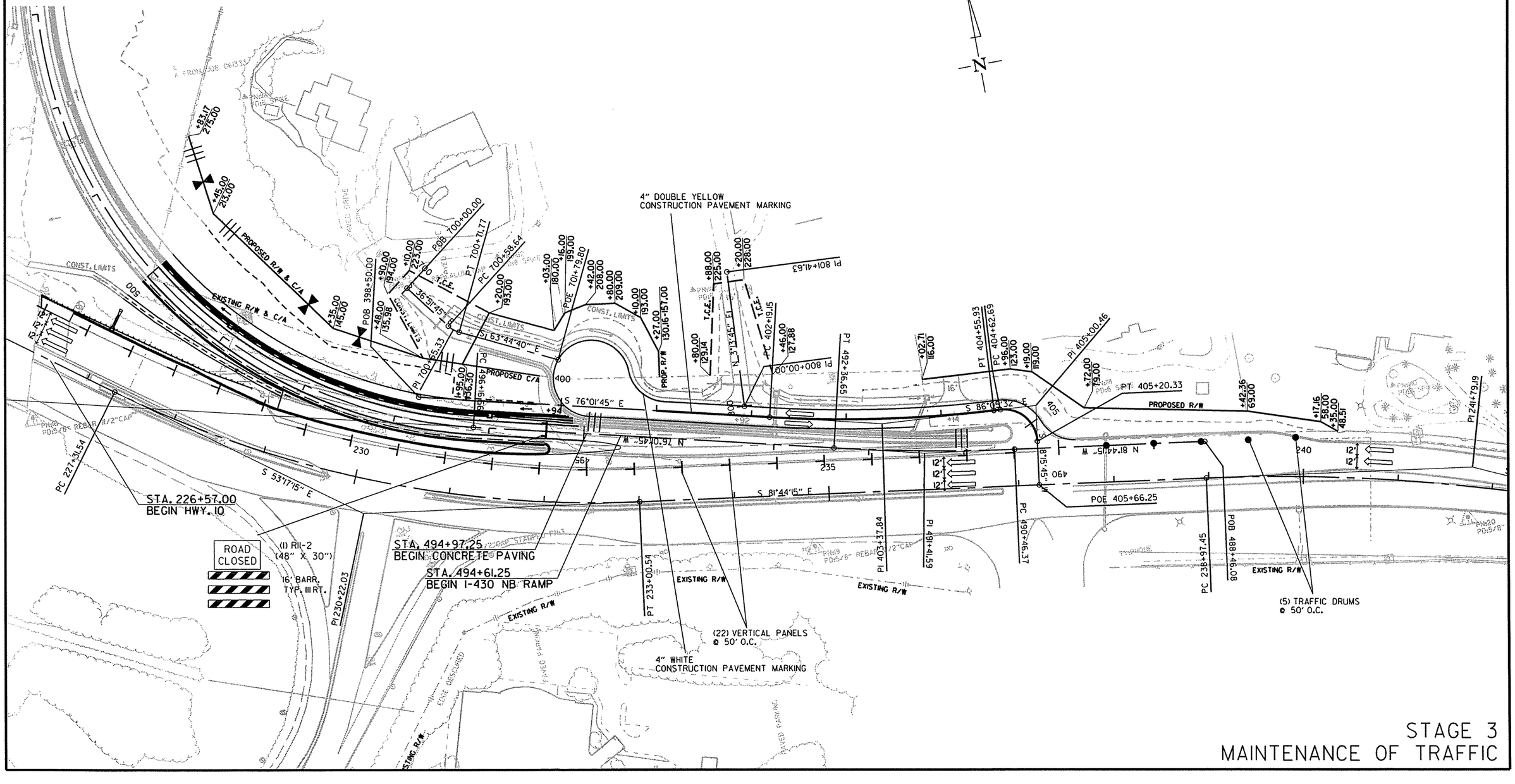
INSTALL CONSTRUCTION PAVEMENT MARKINGS AND REMOVABLE CONSTRUCTION PAVEMENT MARKINGS AS SHOWN ON THE STAGE 3 MAINTENANCE OF TRAFFIC SHEETS.

SHIFT PINE BURO ROAD TRAFFIC AND I-430 NB. ENTRANCE RAMP TRAFFIC AS SHOWN ON THE STAGE 3 MAINTENANCE OF TRAFFIC SHEETS.

CONSTRUCT PORTIONS OF HWY. 10 LEFT OF C.L. AND FINAL PORTIONS OF THE I-430 NORTHBOUND ENTRANCE RAMP AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC SHEETS.

STAGE 3 - QUANTITIES

SIGNS = 551 SQ. FT.
VERTICAL PANELS = 22 EACH
TRAFFIC DRUMS = 12 EACH
TYPE III BARRICADE = 16 LIN. FT.
RELOCATING PRECAST CONCRETE BARRIER = 1320 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 1 EACH
CONSTRUCTION PAVEMENT MARKINGS = 9519 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 1952 LIN. FT.



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STAGE 3
MAINTENANCE OF TRAFFIC

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) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

700' ACCELERATION LANE

4" YELLOW CONSTRUCTION PAVEMENT MARKING

4" DOTTED WHITE CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

4" WHITE CONSTRUCTION PAVEMENT MARKING

+23.52

PI 491+12.51

PI 502+30.32

PC 227+31.54

PI 230+22.03

+80.00

S 53°17'15" E

495

490

485

225

230

12'

EXISTING R/W

PAVED PARKING

STAGE 3
MAINTENANCE OF TRAFFIC

10/20/2016

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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
10-21-16				6	ARK.			
				JOB NO.		061333	37	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

700' ACCELERATION LANE
300' TAPER
+23.52
STA. 502+79.98
BEGIN I-430
4" YELLOW CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING
4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
4" WHITE CONSTRUCTION PAVEMENT MARKING
4" DOTTED WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING
PT 506+21.74
PC 510+13.00
PI 512+75.05
PT 515+31.56
PC 510+09.04
N 27°02'14" E
PT 504+93.72
PI 513+61.13
CONST. LIMITS
EXISTING R/W & C/A
PROPOSED R/W & C/A
+83.17 275.00
+45.00 213.00
+35.00 145.00
POB 398+50.00
+48.00 135.98
+90.00 194.00
+10.00 223.00
POB 700+00.00
PI 700+65.33
PT 700+71.77
+95.00 236.30
+15.00 345.51 371.00
+15.00 384.00
+55.00
100' SHOULDER TAPER
TRAFFIC DRUMS @ 25' O.C.
200' LANE TAPER
TRAFFIC DRUMS @ 55' O.C.
PAVED DRIVE
POND
PAVING
PHASE 4A POSITION FROM JOB 061333

STAGE 3
MAINTENANCE OF TRAFFIC

10/20/2016
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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
10-21-16				6	ARK.			
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(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

EXISTING R/W

4" WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE REMOVABLE CONSTRUCTION PAVEMENT MARKING

RELOCATE 1320' P.C.C.B. + (1) T.L.A.B.

4" YELLOW CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE CONSTRUCTION PAVEMENT MARKING

STA. 518+04.56
END I-430

PI 526+46.44

PI 526+36.06

520

525

530

N 6°18'11" E

N 105°02' E

PC 516+10.14

PC 518+84.46

PC 519+11.27

12'

11'

11'

CONST. LIMITS

EXISTING R/W & C/A

STA. 529+70.36
END JOB 061333
LOG MILE 9.60

100' LANE TAPER

+70.36

+70.36

PT 532+03.80

PT 532+14.85

+49.59

370.36

200' LANE TAPER

TRAFFIC DRUMS
@ 55' O.C.

+55.00

10/20/2016

R061333.DGN

STAGE 3
MAINTENANCE OF TRAFFIC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	39	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STAGE 4 - CONSTRUCTION SEQUENCE

INSTALL VERTICAL PANELS AS SHOWN ON THE STAGE 4 MAINTENANCE OF TRAFFIC SHEETS.

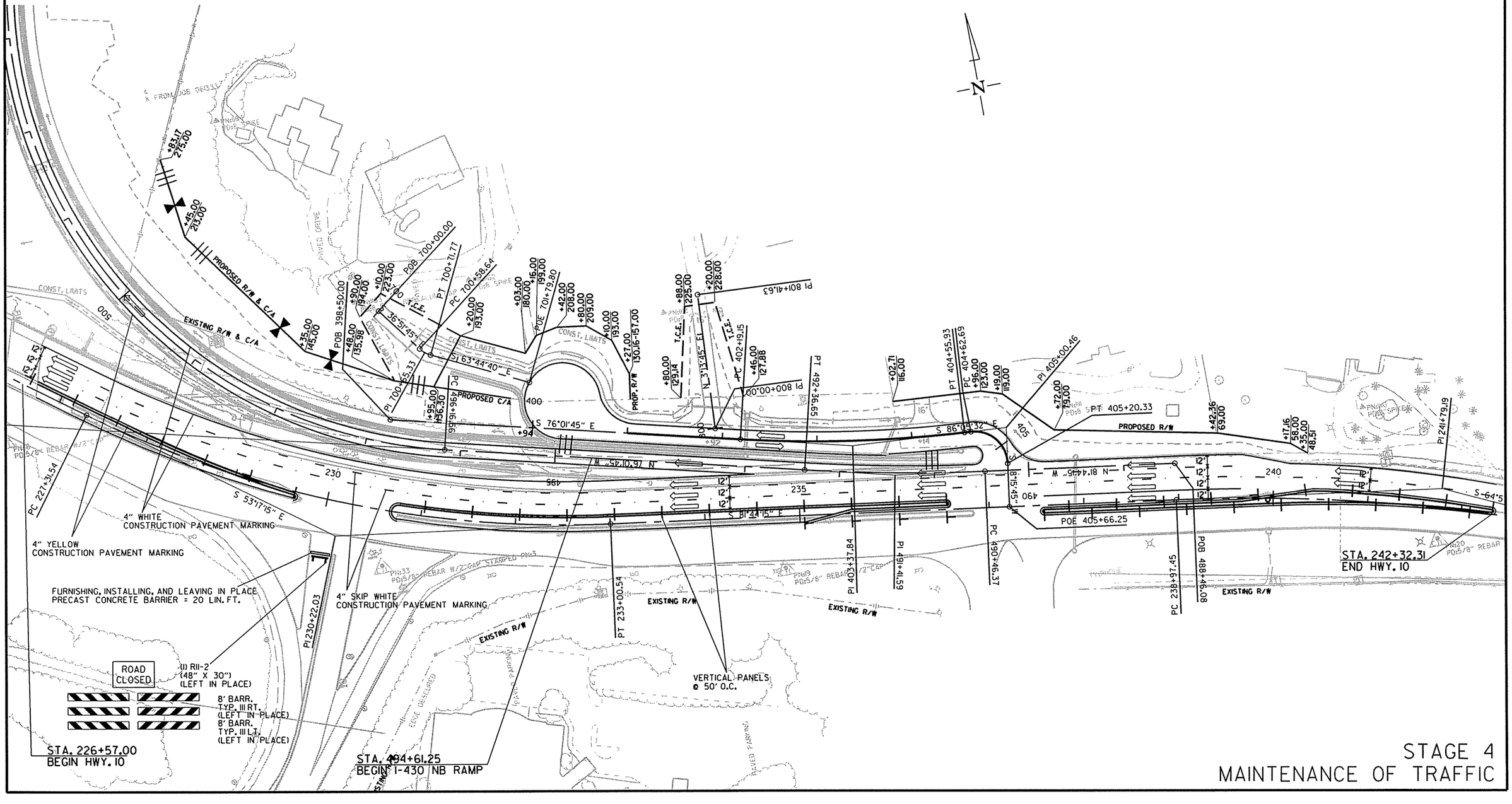
INSTALL CONSTRUCTION PAVEMENT MARKINGS AS SHOWN ON THE STAGE 4 MAINTENANCE OF TRAFFIC SHEETS.

SHIFT TRAFFIC ONTO THE I-430 NORTHBOUND ENTRANCE RAMP AS SHOWN IN THE STAGE 4 MAINTENANCE OF TRAFFIC SHEETS.

CONSTRUCT THE FINAL PORTIONS OF HWY. 10 MEDIAN AS SHOWN IN THE STAGE 4 MAINTENANCE OF TRAFFIC SHEETS.

STAGE 4 - QUANTITIES

SIGNS = 665 SQ. FT.
VERTICAL PANELS = 43 EACH
CONSTRUCTION PAVEMENT MARKINGS = 21951 LIN. FT.
SIGNS (LEFT IN PLACE) = 10 SQ. FT.
TYPE III BARRICADES (LEFT IN PLACE) = 16 LIN. FT.
FURNISHING, INSTALLING, & LEAVING IN PLACE PRECAST CONCRETE BARRIER = 20 LIN. FT.



STAGE 4
MAINTENANCE OF TRAFFIC

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	40	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 502+79.98
BEGIN I-430

4" SKIP WHITE
CONSTRUCTION PAVEMENT MARKING

4" WHITE
CONSTRUCTION PAVEMENT MARKING

4" YELLOW
CONSTRUCTION PAVEMENT MARKING

PT 506+21.74
PC 510+13.00
PI 512+75.05
PT 515+31.36
PC 510+09.04
PT 504+93.72
PI 513+61.13

N 27°02'14" E

EXISTING R/W & C/A
PROPOSED R/W & C/A

+83.17 275.00
+45.00 213.00
+35.00 145.00
POB 398+50.00
+48.00 135.98
+90.00 194.00
+10.00 223.00
POB 700+00.00
PI 700+55.33
PT 700+71.77
+95.00 436.30
+75.00 377.00
-345.51
+15.00 384.00

CONST. LIMITS
EXISTING R/W & C/A
PROPOSED R/W & C/A
PAVED DRIVE
POND
PARKING
REBAR W/ CAP
BM # 320
PHASE 3-A PDS#1 SEPX FROM JOB 061333

STAGE 4
MAINTENANCE OF TRAFFIC

10/20/2016
R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	41	272

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

EXISTING R/W

STA. 518+04.56
END I-430

8" WHITE
CONSTRUCTION PAVEMENT MARKING

8" DOTTED WHITE
CONSTRUCTION PAVEMENT MARKING

4" YELLOW
CONSTRUCTION PAVEMENT MARKING

4" WHITE
CONSTRUCTION PAVEMENT MARKING

4" SKIP WHITE
CONSTRUCTION PAVEMENT MARKING

PI 526+46.44

PI 526+36.06

PC 518+84.46

PI 519+11.27

PI 515+01.14

N 6°18'11" E

N 10°53'32" E

520

525

530

12'

CONST. LOATS

PINNACLE A
POINT SPK FROM JOB 061333

PINNACLE A
POINT SPK FROM JOB 061333 BM G 321

EXISTING R/W & C/A

STA. 529+70.36
END JOB 061333
LOG MILE 9.60

PT 532+03.80

PT 532+14.85

STAGE 4
MAINTENANCE OF TRAFFIC

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	42	272

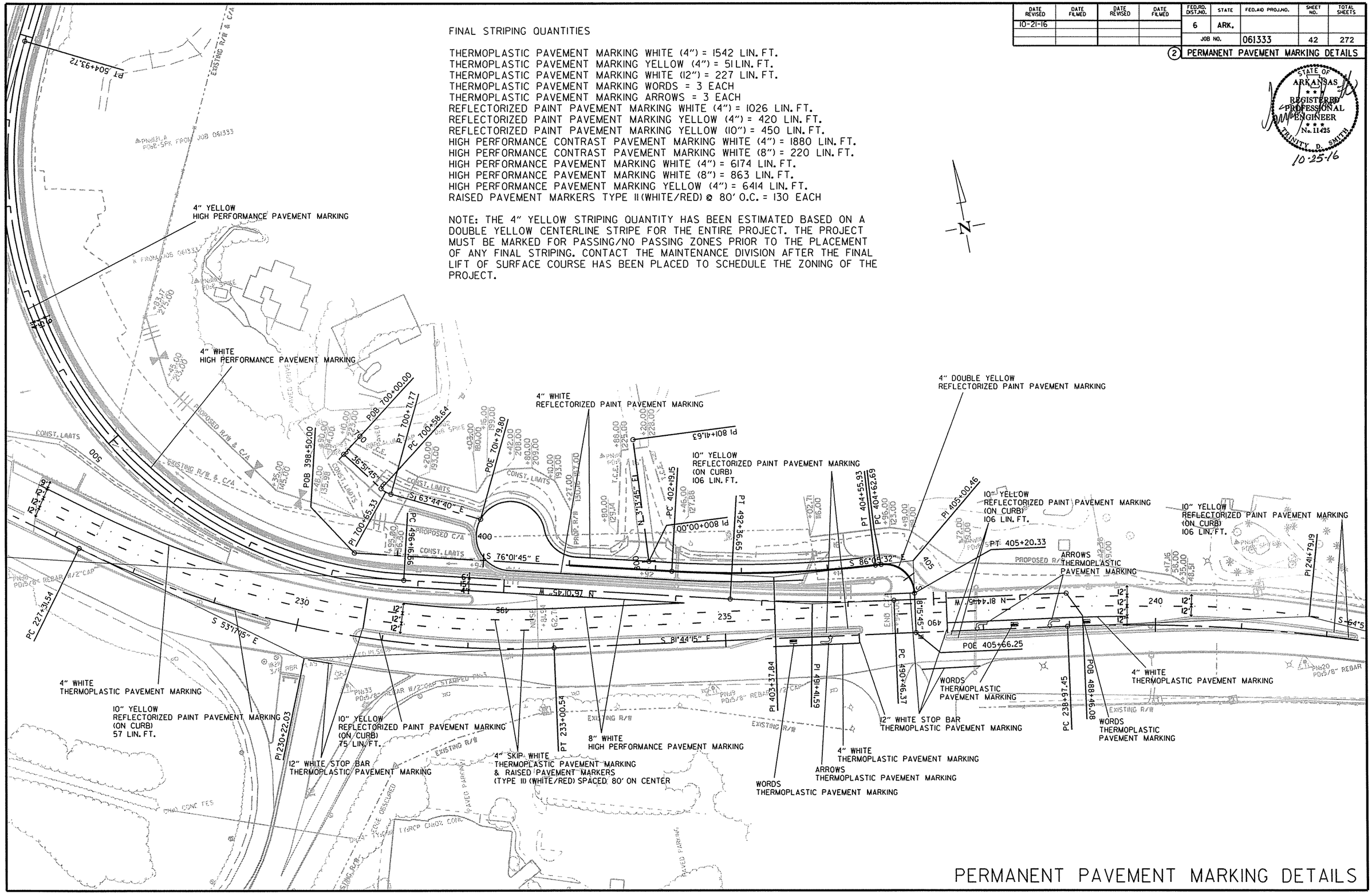
(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

FINAL STRIPING QUANTITIES

THERMOPLASTIC PAVEMENT MARKING WHITE (4") = 1542 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING YELLOW (4") = 51 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 227 LIN. FT.
THERMOPLASTIC PAVEMENT MARKING WORDS = 3 EACH
THERMOPLASTIC PAVEMENT MARKING ARROWS = 3 EACH
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4") = 1026 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4") = 420 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10") = 450 LIN. FT.
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4") = 1880 LIN. FT.
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (8") = 220 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4") = 6174 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8") = 863 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4") = 6414 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) @ 80' O.C. = 130 EACH

NOTE: THE 4" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.


4" YELLOW HIGH PERFORMANCE PAVEMENT MARKING
4" WHITE HIGH PERFORMANCE PAVEMENT MARKING
4" WHITE REFLECTORIZED PAINT PAVEMENT MARKING
4" DOUBLE YELLOW REFLECTORIZED PAINT PAVEMENT MARKING
10" YELLOW REFLECTORIZED PAINT PAVEMENT MARKING (ON CURB) 106 LIN. FT.
10" YELLOW REFLECTORIZED PAINT PAVEMENT MARKING (ON CURB) 57 LIN. FT.
10" YELLOW REFLECTORIZED PAINT PAVEMENT MARKING (ON CURB) 75 LIN. FT.
12" WHITE STOP BAR THERMOPLASTIC PAVEMENT MARKING
4" WHITE THERMOPLASTIC PAVEMENT MARKING
8" WHITE HIGH PERFORMANCE PAVEMENT MARKING
4" SKIP WHITE THERMOPLASTIC PAVEMENT MARKING & RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' ON CENTER
WORDS THERMOPLASTIC PAVEMENT MARKING
ARROWS THERMOPLASTIC PAVEMENT MARKING
POB 700+00.00
PT 700+11.77
PC 700+58.64
POE 701+79.80
POB 398+50.00
PI 700+465.33
PC 496+16.56
PT 504+93.72
PC 227+31.54
PI 230+22.03
PT 233+00.54
PI 403+37.84
PI 491+41.59
PC 490+46.37
PI 801+41.63
PC 402+19.15
PT 492+36.55
PT 404+55.93
PC 404+62.69
PI 405+00.46
PT 405+20.33
POE 405+66.25
POB 488+49.08
PC 238+97.45
PI 241+79.19
S 76°01'45" E
S 63°44'40" E
S 53°11'45" E
S 81°44'15" E
S 86°03'32" E
N 31°13'45" E
N 81°44'15" W
N 76°01'45" W
R = 275.00
R = 225.00
R = 175.00
R = 125.00
R = 75.00
R = 25.00
PROPOSED R/W & C/A
EXISTING R/W & C/A
CONST. LIMITS
PROPOSED C/A
EXISTING R/W
PAVED PARKING
PNI0 PDI5/8" REBAR W/2" CAP
PNI9 PDI5/8" REBAR W/2" CAP STAMPED PNI9
PN20 PDI5/8" REBAR
PN33 PDI5/8" REBAR W/2" CAP STAMPED PN33
PNI2 PDI5/8" REBAR W/2" CAP
PNI3 PDI5/8" REBAR W/2" CAP STAMPED PNI3
PNI4 PDI5/8" REBAR W/2" CAP STAMPED PNI4
PNI5 PDI5/8" REBAR W/2" CAP STAMPED PNI5
PNI6 PDI5/8" REBAR W/2" CAP STAMPED PNI6
PNI7 PDI5/8" REBAR W/2" CAP STAMPED PNI7
PNI8 PDI5/8" REBAR W/2" CAP STAMPED PNI8
PNI PDI5/8" REBAR W/2" CAP STAMPED PNI
PN2 PDI5/8" REBAR W/2" CAP STAMPED PN2
PN3 PDI5/8" REBAR W/2" CAP STAMPED PN3
PN4 PDI5/8" REBAR W/2" CAP STAMPED PN4
PN5 PDI5/8" REBAR W/2" CAP STAMPED PN5
PN6 PDI5/8" REBAR W/2" CAP STAMPED PN6
PN7 PDI5/8" REBAR W/2" CAP STAMPED PN7
PN8 PDI5/8" REBAR W/2" CAP STAMPED PN8
PN9 PDI5/8" REBAR W/2" CAP STAMPED PN9
PNIO PDI5/8" REBAR W/2" CAP STAMPED PNIO
PNII PDI5/8" REBAR W/2" CAP STAMPED PNII
PNI2 PDI5/8" REBAR W/2" CAP STAMPED PNI2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	42A	272

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
10-25-16
TRINITY D. SMITH

700' ACCELERATION LANE

4" WHITE SKIP
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING
& RAISED PAVEMENT MARKERS
(TYPE II) (WHITE/RED) SPACED 80' ON CENTER

4" YELLOW
HIGH PERFORMANCE PAVEMENT MARKING

8" DOTTED WHITE
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING

8" WHITE
HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE
HIGH PERFORMANCE PAVEMENT MARKING

PI 494+12.51
+23.52
+80.00
+00.00
PC 227+31.54
PI 502+30.33
PI 230+22.03
PI 700+65.33
POB 398+50.00
S 53°17'15" E
S 36°42'45" W
495
490
500
255
230
12'
CONCRETE
PAVED PARKING
EXISTING R/W
PROPOSED R/W & E/A
CONST. LIMITS
CHAIN LINK FENCE
OVERHEAD POWER LINE

10/20/2016

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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
10-21-16				6	ARK.			
				JOB NO.		061333	43	272

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

700' ACCELERATION LANE
300' TAPER
+23.52
+23.52
4" WHITE SKIP
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING
& RAISED PAVEMENT MARKERS
(TYPE II) (WHITE/RED) SPACED 80' ON CENTER
4" YELLOW
HIGH PERFORMANCE PAVEMENT MARKING
4" WHITE
HIGH PERFORMANCE PAVEMENT MARKING
PT 506+21.74
PC 510+13.00
PI 512+75.05
PT 515+31.36
PT 504+93.72
PC 510+09.04
N 27°02'14" E
505
510
515
12'
EXISTING R/W & C/A
PROPOSED R/W & C/A
PAVED DRIVE
CONST. LIMITS
POB 700+00.00
PT 700+71.77
PC 70
398+50.00
+83.17
275.00
+45.00
263.00
+0.00
223.00
PI 513+61.13
PI 517+01.14
371,000-345,150.00
PINNACLE A PDB-SPK FROM JOB 061333

10/20/2016
R061333.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	44	272

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

4" WHITE SKIP
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING
& RAISED PAVEMENT MARKERS
(TYPE II) (WHITE/RED) SPACED 80' ON CENTER

4" YELLOW
HIGH PERFORMANCE PAVEMENT MARKING

8" DOTTED WHITE
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING

8" WHITE
HIGH PERFORMANCE PAVEMENT MARKING

4" WHITE
HIGH PERFORMANCE PAVEMENT MARKING

PI 526+46.44
PI 526+36.06
PI 516+87.14
PC 519+11.27
PC 518+84.46
PT 532+03.80
PT 532+14.85
N 6°18'11" E
N 10°52'52" E
520
525
530
CONST. LIMITS
EXISTING R/W
EXISTING R/W & C/A
700' ACCELERATION LANE
300' TAPER
+70.36
+72.00
12'
10'

PERMANENT PAVEMENT MARKING DETAILS

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-29-15				6	ARK.			
10-21-16				JOB NO.		061333	45	272

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

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	THERMOPLASTIC PAVEMENT MARKING					REFLECTORIZED PAINT PAVEMENT MARKING			HIGH PERFORMANCE CONTRAST PAVEMENT MARKING		HIGH PERFORMANCE PAVEMENT MARKING		
									TYPE II	4"		12"	WORDS	ARROWS	4"		10"	4"	8"	4"	8"	4"
									(WHITE/RED)	WHITE	YELLOW	WHITE			WHITE	YELLOW	YELLOW	WHITE		WHITE	WHITE	YELLOW
	LIN. FT. - EACH					LIN. FT.		LIN. FT.	EACH	LIN. FT.			EACH		LIN. FT.			LIN. FT.		LIN. FT.		
REMOVAL OF PERMANENT PAVEMENT MARKINGS	3425	3304				6729																
CONSTRUCTION PAVEMENT MARKINGS		1920	9519	21951			33390															
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	3425	6729	1952					12106														
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)					130				130													
THERMOPLASTIC PAVEMENT MARKING WHITE (4")					1542					1542												
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")					51						51											
THERMOPLASTIC PAVEMENT MARKING WHITE (12")					227							227										
THERMOPLASTIC PAVEMENT MARKING (WORDS)					3								3									
THERMOPLASTIC PAVEMENT MARKING (ARROWS)					3									3								
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")					1026										1026							
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")					420											420						
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")					450												450					
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")					1880													1880				
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (8")					220														220			
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")					6174															6174		
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")					863																863	
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")					6414																	6414
TOTALS:						**6729**	**33390**	**12106**	**130**	**1542**	**51**	**227**	**3**	**3**	**1026**	**420**	**450**	**1880**	**220**	**6174**	**863**	**6414**

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

NOTE: NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED. IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	46	272

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	LANE CLOSURE	STAGE 1	STAGE 2	STAGE 3	STAGE 4	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)	TEMP. IMPACT ATTEN.BARR. (RELOCATION)	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN
													RIGHT	LEFT							
			LIN. FT. - EACH						NO.	SQ. FT.	EACH				LIN. FT.		EACH			DAY	WEEK
W20-1	ROAD WORK 1 MILE	48"x48"		2	2	2	2	2	2	32.0											
W20-1	ROAD WORK 1/2 MILE	48"x48"		2	2	2	2	2	2	32.0											
W20-1	ROAD WORK 1500 FT.	48"x48"		4	4	4	4	4	4	64.0											
W20-1	ROAD WORK 1000 FT.	48"x48"		2	2	2	2	2	2	32.0											
W20-1	ROAD WORK 500 FT.	48"x48"		2	2	2	2	2	2	32.0											
W20-1	ROAD WORK AHEAD	48"x48"	2	4	4	4	4	6	6	96.0											
G20-2	END ROAD WORK	48"x24"		6	6	6	6	6	6	48.0											
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"	2					2	2	32.0											
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	2					2	2	32.0											
W20-5	RIGHT LANE CLOSED 1500 FT.	48"x48"	2					2	2	32.0											
W20-5	LEFT LANE CLOSED 1 MILE	48"x48"	2					2	2	32.0											
W20-5	LEFT LANE CLOSED 1/2 MILE	48"x48"	2					2	2	32.0											
W20-5	LEFT LANE CLOSED 1500 FT.	48"x48"	2					2	2	32.0											
W20-5	LEFT TWO LANES CLOSED 1 MILE	48"x48"	2					2	2	32.0											
W20-5	LEFT TWO LANES CLOSED 1/2 MILE	48"x48"	2					2	2	32.0											
W20-5	LEFT TWO LANES CLOSED 1500 FT.	48"x48"	2					2	2	32.0											
W9-2	LANE ENDS MERGE RIGHT	48"x48"	2					2	2	32.0											
R2-5A	REDUCED SPEED AHEAD	48"x60"	2	2	2	2	2	4	4	80.0											
R2-1	SPEED LIMIT 55	48"x60"	2	2	2	2	2	4	4	80.0											
R2-1	SPEED LIMIT 65	48"x60"	2	2	2	2	2	4	4	80.0											
SPECIAL	MERGE NOW W/ARROW GRAPHIC (RIGHT)	48"x48"	1					1	1	16.0											
SPECIAL	MERGE NOW W/ARROW GRAPHIC (LEFT)	48"x48"	1					1	1	16.0											
W4-2 RT	RIGHT LANE ENDS GRAPHIC	48"x48"	2					2	2	32.0											
W4-2 LT	LEFT LANE ENDS GRAPHIC	48"x48"	4					4	4	64.0											
R55-1	FINES DOUBLE IN WORK ZONES	36"x60"	2	2	2	2	2	4	4	60.0											
R11-2	ROAD CLOSED	48"x30"			4	1		4	4	40.0											
OM-3L	OBJECT MARKER	12"x36"		8	4			8	8	24.0											
OM-3R	OBJECT MARKER	12"x36"		4	8	4		8	8	24.0											
W1-6	LARGE ARROW	48"x24"	6		2			8	8	64.0											
RSP-1	SHOULDER CLOSED	48"x30"	2	2	2	2		4	4	40.0											
W8-1	BUMP	30"x30"		4	4	4	4	4	4	25.0											
W5-1	ROAD NARROWS	48"x48"		2	2	2		2													
	VERTICAL PANELS			7		22	43	43			43										
	TRAFFIC DRUMS		107	26	5	12		107				107									
	TYPE III BARRICADE-RT. (8')				2			2					16								
	TYPE III BARRICADE-LT. (8')				3			3						24							
	TYPE III BARRICADE-RT. (16')				1	1		1					16								
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			3560	713			4273							4273						
	RELOCATING PRECAST CONCRETE BARRIER				3560	1320		4880								4880					
	TEMPORARY IMPACT ATTENUATION BARRIER			2	1			3									3				
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			2	1			3										3			
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)				2	1		3											3		
	ADVANCE WARNING ARROW PANEL		2					2												420	
	PORTABLE CHANGEABLE MESSAGE SIGN		1	1	1	1	1	1													40
TOTALS:										**1301.0**	**43**	**107**	**32**	**24**	**4273**	**4880**	**3**	**3**	**3**	**420**	**40**

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

NOTE: THE QUANTITY OF TRAFFIC DRUMS PROVIDED IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE JOB. HOWEVER, THE INSTALLATION OF TRAFFIC DRUMS SHALL NEVER EXCEED THE ACTUAL WORK AREA BY MORE THAN 1/4 MILE, UNLESS APPROVED BY THE ENGINEER.

10/20/2016

R061333.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
10-21-16				JOB NO.		061333	47	272

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	ROCK FILL	PRESPLITTING
			CU. YD.			SQ. YD.
ENTIRE	PROJECT	HWY. 10	3734.40	796.90		
ENTIRE	PROJECT	N.B. ENTRANCE RAMP	46145.50	8170.40		5103
ENTIRE	PROJECT	I-430	1601.25	403.70		
ENTIRE	PROJECT	PINE BURO RD.	1892.50			
ENTIRE	PROJECT	APPROACHES	445.90	871.00		
513+50.00	523+37.00	N.B. ENTRANCE RAMP			30932	
TOTALS:			53819.55	10242.00	30932	5103

REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER

STATION	STATION	LOCATION	PLOWABLE PAVEMENT MARKER
			EACH
ENTIRE	JOB	I-430 N.B.	75
TOTAL:			75

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
238+00.00	240+00.00	LT. OF HWY. 10	2	2
490+00.00	498+00.00	RT. OF N.B. ENT. RAMP	8	8
498+00.00	511+00.00	LT. AND RT. OF N.B. ENT. RAMP	13	13
511+00.00	530+00.00	RT. OF N.B. ENT. RAMP	19	19
TOTALS:			42	42

CRASH CUSHION

STATION	DESCRIPTION	EACH
509+16	C.L. I-430	1
510+00	C.L. I-430	1
TOTAL:		2

NOTE: THE CRASH CUSHION SHALL BE NON-GATING AND REDIRECTIVE AND COMPATIBLE WITH THE SITE GEOMETRY SHOWN ON THE PLANS.

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
		EACH	EACH
228+80	LT. OF HWY. 10-REMOVE TYPE R DROP INLET WITH 18" X 55' R.C. PIPE CULVERT	1	1
233+44	LT. OF HWY. 10-REMOVETYPE R DROP INLET WITH 18" X 442" R.C. PIPE CULVERT	1	1
237+93	LT. OF HWY. 10-REMOVE TYPE C DROP INLET		1
239+94	MEDIAN OF HWY. 10-REMOVE TYPE C DROP INLET		1
495+99	MEDIAN OF I-430-REMOVE TYPE R DROP INLET		1
500+98	MEDIAN OF I-430-REMOVE TYPE R DROP INLET		1
505+98	MEDIAN OF I-430-REMOVE TYPE R DROP INLET		1
505+98	RT. OF I-430-REMOVE 13' RT. OF 24' X 86' R.C. PIPE CULVERT	1	
510+99	RT. OF I-430-REMOVE 38' RT. OF 24' X174' R.C. PIPE CULVERT	1	
513+97	RT. OF I-430-REMOVE 60' RT. OF 24' X122' R.C. PIPE CULVERT	1	
399+55	LT. OF PINE BURO RD. 18" X 41' C.M. PIPE CULVERT	1	
401+92	LT. OF PINE BURO RD. 18" X 26' C.M. PIPE CULVERT	1	
TOTALS:		7	7

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB AND GUTTER	RETAINING WALLS	CONCRETE PAVEMENT	CONCRETE ISLANDS	CONCRETE DITCH PAVING	COLUMNS	SIGN FOUNDATIONS	W.R.S.F.	GUARDRAIL	LUMINAIRE POLE AND FOUNDATION	WATER SPIGOT	SIGNS	SPRINKLER SYSTEM	PLANTERS
			LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.	SQ. YD.	EACH	EACH	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	EACH
225+92	231+40	HWY. 10 - LT. OF LT. MAIN LANES					365									
226+20	227+99	HWY. 10 - LT. OF LT. MAIN LANES									175					
226+71	229+68	HWY. 10 - RT. OF LT. MAIN LANES	297													
227+15	228+49	HWY. 10 - MEDIAN														1
227+87	236+77	HWY. 10 - LT. OF LT. MAIN LANES		791												
228+88	236+74	HWY. 10 - LT. OF LT. MAIN LANES	786													
229+57	229+67	HWY. 10 - MEDIAN				3										
230+75	236+83	HWY. 10 - RT. OF LT. MAIN LANES	608													
230+75	230+82	HWY. 10 - MEDIAN				3										
234+26		HWY. 10 - LT. OF LT. MAIN LANES											1			
234+43	236+83	HWY. 10 - MEDIAN				90										
235+05	236+83	HWY. 10 - LT. OF RT. MAIN LANES	178													
235+83	237+10	HWY. 10 - LT. OF LT. MAIN LANES		127												
236+08		HWY. 10 - LT. OF LT. MAIN LANES													1	
237+06		HWY. 10 - LT. OF LT. MAIN LANES										1				
237+10	237+50	HWY. 10 - LT. OF LT. MAIN LANES		50												
237+10		HWY. 10 - LT. OF LT. MAIN LANES							1					1		
237+27	239+46	HWY. 10 - LT. OF LT. MAIN LANES		349												
237+30		HWY. 10 - LT. OF LT. MAIN LANES										2				
237+33	240+17	HWY. 10 - LT. OF LT. MAIN LANES	284													
237+56	242+33	HWY. 10 - RT. OF LT. MAIN LANES	477													
237+56	242+33	HWY. 10 - LT. OF RT. MAIN LANES	477													
237+57	237+62	HWY. 10 - MEDIAN				1										
239+46		HWY. 10 - LT. OF LT. MAIN LANES						1								
242+21	242+33	HWY. 10 - MEDIAN				3										
495+00	496+12	I-430 - LT. OF NB. I-430								112						
495+00	519+11	LT. SHOULDER OF NB. I-430			1072											
495+62	500+90	I-430 - LT. OF NB. I-430									525					
500+40	508+15	I-430 - LT. OF NB. I-430								775						
502+47	516+53	I-430 - RT. OF RT. SHOULDER					1276									
517+17	529+70	RT. SHOULDER OF NB. I-430			1392											
522+29	529+60	I-430 - RT. OF RT. SHOULDER					1300									
TOTALS:			3107	1317	2464	100	2941	1	1	887	700	3	1	1	1	1

NOTE: PAYMENT FOR REMOVAL AND DISPOSAL OF GUARDRAIL SHALL INCLUDE THE REMOVAL AND DISPOSAL OF GUARDRAIL TERMINAL ANCHOR POSTS IF APPLICABLE.
NOTE: PAYMENT FOR REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE SHALL INCLUDE THE REMOVAL AND DISPOSAL OF TERMINAL ANCHOR POSTS IF APPLICABLE.

10/20/2016

R061333.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	48	272

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
225+92	229+00	LT. OF HWY. 10	302.40	6	201.60	134.40	1.69
495+22	514+77	RT. OF N.B. ENTRANCE RAMP	2115.21	10	2350.23	940.09	11.85
514+77	516+93	RT. OF N.B. ENTRANCE RAMP	446.71	8	397.08	198.54	2.50
522+75	529+70	RT. OF N.B. ENTRANCE RAMP	675.08	8	600.07	300.04	3.78
398+79	401+67	LT. OF PINE BURO RD.	329.63	7.75	283.85	146.50	1.85
402+11	402+22	LT. OF PINE BURO RD.	13.74	7.75	11.83	6.11	0.08
402+28	403+83	LT. OF PINE BURO RD.	155.89	7.75	134.24	69.28	0.87
495+00	510+12	MEDIAN ON I-430	1512.00	6	1008.00	672.00	8.47
TOTALS:					4986.90	2466.96	31.09

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

EROSION CONTROL MATTING

STATION	STATION	LOCATION	CLASS 3
			SQ. YD.
ENTIRE	PROJECT	TO BE USED IF AND WHERE	600.0
		DIRECTED BY THE ENGINEER	
TOTAL:			600.0

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

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
226+83	230+48	LT. OF HWY. 10	452
232+03	232+18	LT. OF HWY. 10	15
513+75	514+50	RT. OF I-430	97
TOTAL:			564

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")	TYPE A (2' 6")
			LIN. FT.	LIN. FT.
226+57	232+03	HWY. 10-LT. OF LT. MAIN LANES	537	
232+30	236+94	HWY. 10-LT. OF LT. MAIN LANES	470	
237+41	240+17	HWY. 10-LT. OF LT. MAIN LANES	280	
226+71	229+67	HWY. 10-RT. OF LT. MAIN LANES		300
230+69	236+57	HWY. 10-RT. OF LT. MAIN LANES		605
237+56	242+34	HWY. 10-RT. OF LT. MAIN LANES		482
235+05	236+57	HWY. 10-LT. OF RT. MAIN LANES		154
237+56	242+34	HWY. 10-LT. OF RT. MAIN LANES		480
403+72	404+88	RT. OF PINE BURO RD.	106	
404+32	405+17	LT. OF PINE BURO RD.	105	
TOTALS:			1498	2021

SIGNS AND DEVICES LEFT IN PLACE

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 2	STAGE 4	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		BARRICADES (TYPE III)		FURNISHING, INSTALLING & LEAVING IN PLACE PRECAST CONC. BARRIER
								RIGHT	LEFT	
			LIN. FT. - EACH	LIN. FT. - EACH		NO.	SQ. FT.	LIN. FT.		
R11-2	ROAD CLOSED	48"x30"		1	1	1	10.0			
	TYPE III BARRICADE-RT. (8')			1	1			8		
	TYPE III BARRICADE-LT. (8')			1	1				8	
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		1493	20	1513					1513
TOTALS:							10.0	8	8	1513

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1	0.39	0.78	0.39	39.8	0.39	1.00	1.00	20.4	352	57	176	410			57
ENTIRE	PROJECT	STAGE 2	0.18	0.36	0.18	18.4	0.18	0.50	0.50	10.2	660	108	594	150			94
ENTIRE	PROJECT	STAGE 3	4.70	9.40	4.70	479.4	4.70	16.40	16.40	334.6	132	15	110	815			45
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								4.48	4.48	91.4	286	45	220	344	133	133	182
TOTALS:			5.27	10.54	5.27	537.6	5.27	22.38	22.38	456.6	1430	225	1100	1719	133	133	378

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

10/20/2016

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	49	272

(2) QUANTITIES

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			2000	8
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			2000	8

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE A)
			LIN. FT.
226+83	231+98	LT. OF HWY. 10	491
513+75	514+50	RT. OF I-430	124
TOTAL:			615

APPROACH GUTTERS

STATION	STATION	LOCATION	APPROACH GUTTERS (TYPE AT)	REINFORCING STEEL-RDWY. (GR. 60)
			CU.YD.	POUND
226+19.22	226+57.00	HWY. 10-LT. OF LT. MAIN LANES	18.78	1573
TOTALS:			18.78	1573

NOTE: USE T =13" FOR ' SHOULDER.

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	350
ENGINEER	
TOTAL:	350

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

RUMBLE STRIPS IN PORTLAND CEMENT CONCRETE SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN PORTLAND CEMENT CONCRETE SHOULDERS
			LIN.FT.
495+00	519+11	I-430-LT. SHOULDER	2411
516+55	529+60	I-430-RT. SHOULDER	1305
TOTAL:			3716

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

CONCRETE ISLAND

STATION	STATION	LOCATION	CONCRETE ISLAND
			SQ.YD.
226+71	229+66	HWY. 10-MEDIAN	311
229+00	232+02	HWY. 10-LT. OF LT. MAIN LANES	343
230+69	236+57	HWY. 10-MEDIAN	781
237+57	242+33	HWY. 10-MEDIAN	279
495+10	490+50	RT. OF N.B. ENTRANCE RAMP	281
TOTAL:			1995

WIRE ROPE SAFETY FENCE

STATION	LOCATION	END TERMINAL
		EACH
495+00	MEDIAN I-430	1
TOTAL:		1

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAIN 18"	STANDARD DRAWINGS
			FEET	SQ. YD.	TON	TON	LIN. FT.	
399+40	LT.	PINE BURO RD.	16	335.70	36.93	137.08	24	PCC-1, PCM-1, PCP-1, PCP-2
401+92	LT.	PINE BURO RD.	16	218.20	24.00	89.10	44	PCC-1, PCM-1, PCP-1, PCP-2
404+14	LT.	PINE BURO RD.	16	55.30	6.08	22.58		
* ENTIRE PROJECT TEMPORARY DRIVES						100.00		
TOTALS:				609.20	67.01	348.76	68	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% 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.

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.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
226+18.22	228+61.97	LT. OF HWY. 10	175	1	1
TOTALS:			175	1	1

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	50
DIRECTED BY THE ENGINEER	
TOTAL:	50

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
226+57	227+57	MAIN LANES	36	400.00
240+17	241+17	MAIN LANES	24	266.67
TOTAL:				666.67

NOTE: AVERAGE MILLING DEPTH 1".

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	50	272

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	24"	36"	42"	(CLASS IV) 72"	(CLASS V) 24"	PIPE CULVERT STORM DRAIN ALTERNATES 1, 2, 3, & 4 24"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	42"	72"	DROP INLETS TYPE MO	TYPE ST	EXT. 4'	JUNCT. BOXES (TYPE ST)	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.							EACH								SQ.YD.	M.GAL	
227+00	LT. OF HWY. 10-CONSTRUCT D.I. W/ 18" X 14' PIPE OUTLET	14							1				1		1		5.00	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
237+93	LT. OF HWY. 10-CONSTRUCT D.I. W/ 18" X 14' PIPE OUTLET	14											1		1				FPC-9E, FPC-9M, PCC-1
239+94	LT. OF HWY. 10-CONSTRUCT D.I. W/ 18" X 2' PIPE OUTLET	2											1		1				FPC-9E, FPC-9M, PCC-1
																			FPC-9E, FPC-9M, PCC-1
493+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 196' PIPE OUTLET		196										1						FPC-9E, FPC-9M, PCC-1
495+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 100' PIPE OUTLET		100										1						FPC-9E, FPC-9M, PCC-1
496+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 288' PIPE OUTLET		288											1					FPC-9S, PCC-1
499+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 288' PIPE OUTLET		288											1					FPC-9S, PCC-1
502+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 288' PIPE OUTLET		288											1					FPC-9S, PCC-1
505+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 196' PIPE OUTLET		196											1					FPC-9S, PCC-1
507+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 96' PIPE OUTLET		96											1					FPC-9S, PCC-1
508+00	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 56' PIPE OUTLET		56											1					FPC-9S, PCC-1
508+60	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 90' PIPE OUTLET		90											1					FPC-9S, PCC-1
509+50	LT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 176' PIPE OUTLET		176											1					FPC-9S, PCC-1
511+31	LT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 114' PIPE OUTLET		114											1					FPC-9S, PCC-1
512+50	LT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 294' PIPE OUTLET		294											1					FPC-9S, PCC-1
515+26	RT. OF N.B. ENT. RAMP-EXTEND PIPE CULVERT					60						1					64.00	0.81	FES-1, FES-2, PCC-1
515+50	LT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 135' PIPE OUTLET		135											1					FPC-9S, PCC-1
516+90	RT. OF N.B. ENT. RAMP-CONSTRUCT D.I. W/ 24" X 135' PIPE OUTLET		52							1				1					FPC-9S, PCC-1
523+37	RT. OF N.B. ENT. RAMP-EXTEND PIPE CULVERT		10							1							8.00	0.10	FES-1, FES-2, PCC-1
526+94	RT. OF N.B. ENT. RAMP-EXTEND PIPE CULVERT		12							1							8.00	0.10	FES-1, FES-2, PCC-1
508+25	LT. OF N.B. ENT. RAMP-FOOTING DRAINAGE, CONSTRUCT JUNCTION BOX W/ 24" X 8' PIPE INLET & 24" X 175' PIPE OUTLET						183									1			FPC-9S, PCC-1
511+00	RT. OF N.B. ENT. RAMP-FOOTING DRAINAGE, CONSTRUCT JUNCTION BOX W/ 24" X 21' PIPE INLET & 24" X 250' PIPE OUTLET						271									1			FPC-9S, PCC-1
513+50	RT. OF N.B. ENT. RAMP-FOOTING DRAINAGE, CONSTRUCT JUNCTION BOX W/ 24" X 21' PIPE INLET & 24" X 59' PIPE OUTLET						80			1						1			FES-1, FES-2, FPC-9S, PCC-1
495+99	MEDIAN OF I-430-CONSTRUCT D.I. W/ 24" X 4' PIPE OUTLET		4											1					FPC-9S, PCC-1
500+98	MEDIAN OF I-430-CONSTRUCT D.I. W/ 24" X 4' PIPE INLET & 24" X 8' PIPE OUTLET		12											1					FPC-9S, PCC-1
502+50	RT. OF I-430-CONSTRUCT D.I. W/ 36" X 98' PIPE OUTLET			98										1					FPC-9S, PCC-1
503+50	RT. OF I-430-CONSTRUCT JUNCTION BOX W/ 36" X 94' PIPE OUTLET			94												1			FPC-9S, PCC-1
504+50	RT. OF I-430-CONSTRUCT D.I. W/ 36" X 142' PIPE OUTLET			142										1					FPC-9S, PCC-1
505+98	MEDIAN OF I-430-CONSTRUCT D.I. W/ 24" X 4' PIPE INLET & 24" X 8' PIPE OUTLET		12											1					FPC-9S, PCC-1
505+98	RT. OF I-430-CONSTRUCT D.I. W/ 24" X 4' PIPE INLET & 36" X 98' PIPE OUTLET		4	98										1					FPC-9S, PCC-1
507+00	RT. OF I-430-CONSTRUCT D.I. W/ 36" X 96' PIPE OUTLET			96										1					FPC-9S, PCC-1
508+00	RT. OF I-430-CONSTRUCT D.I. W/ 36" X 46' PIPE OUTLET			46										1					FPC-9S, PCC-1
508+50	RT. OF I-430-CONSTRUCT D.I. W/ 36" X 46' PIPE OUTLET			46										1					FPC-9S, PCC-1
509+00	RT. OF I-430-CONSTRUCT D.I. W/ 36" X 200' PIPE OUTLET			200										1					FPC-9S, PCC-1
510+99	RT. OF I-430-CONSTRUCT JUNCTION BOX W/ 24" X 4' PIPE INLET & 42" X 310' PIPE OUTLET		4		310											1			FPC-9S, PCC-1
513+97	RT. OF I-430-CONSTRUCT JUNCTION BOX W/ 24" X 4' PIPE INLET & 42" X 84' PIPE OUTLET		4		84						1					1	23.00	0.29	FES-1, FES-2, FPC-9S, PCC-1
400+30	RT. OF PINE BURO RD.-CONSTRUCT D.I. W/ 24" X 192' PIPE OUTLET							192						1					FPC-9S, PCC-1, PCM-1, PCP-1, PCP-2
402+25	RT. OF PINE BURO RD.-CONSTRUCT D.I. W/ 24" X 6' PIPE OUTLET		6											1			2.22	0.03	FPC-9S,PCC-1
402+25	LT. OF PINE BURO RD.-CONSTRUCT D.I. W/ 24" X 34' PIPE OUTLET							34						1					FPC-9S, PCC-1, PCM-1, PCP-1, PCP-2
403+69	RT. OF PINE BURO RD.-CONSTRUCT D.I. W/ 24" X 142' PIPE OUTLET							142						1					FPC-9S, PCC-1, PCM-1, PCP-1, PCP-2
403+86	LT. OF PINE BURO RD.-CONSTRUCT D.I. W/ 24" X 36' PIPE OUTLET							36						1			2.22	0.03	FPC-9S, PCC-1, PCM-1, PCP-1, PCP-2
404+50	RT. OF PINE BURO RD.-CONSTRUCT D.I. W/ 24" X 78' PIPE OUTLET							78					1						FPC-9E, FPC-9M, PCC-1, PCM-1, PCP-1, PCP-2
2+07	RT. OF PINE BURO RD.-FOOTING DRAINAGE, CONSTRUCT JUNCTION BOX W/ (2) 24" X 8' PIPE INLET & 24" X 30' PIPE OUTLET						46			1						1			
TOTALS:		30	2437	820	394	60	580	482	1	5	1	1	6	27	3	7	112.44	1.42	

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.

10/20/2016

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
9-25-15				6	ARK.			
				JOB NO.		061333	51	272

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-25-15

RETAINING WALLS

STATION	STATION	LOCATION	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	STONE BACKFILL	SELECT GRANULAR BACKFILL	TEXTURED COATING FINISH	STONE MASONRY FACING	TEMPORARY RETAINING WALL
			CU.YDS.	POUNDS	CU.YD.	TON	CU.YD.	SQ.YD.	SQ.YD.	SQ.FT.
502+50	514+00	I-430 NB ENTRANCE RAMP - LT. OF C.L.	5628.08	440048	7533	1489	17150	3273		
700+97	490+95	PINE BURO RD. - RT. OF C.L.	1778.23	148294	5515	648	13960		1536	
401+85	403+50	PINE BURO RD. - LT. OF C.L.								2787
TOTALS:			7406.31	588342	13048	2137	31110	3273	1536	2787

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	MEDIAN TYPE A	MEDIAN TYPE B	MEDIAN TYPE C	SIDE TYPE A	SIDE TYPE A-1	SIDE TYPE E	SIDE TYPE SPECIAL	SIDE TYPE SPECIAL-1
			LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.
495+13.71	513+50.00	RT. OF I-430 N.B. ENT. RAMP				1836.29				
495+40.75	495+90.75	LT. OF I-430 N.B. ENT. RAMP-TRANSITION	50.00							
495+90.75	496+10.73	LT. OF I-430 N.B. ENT. RAMP	19.98							
496+10.73	498+60.00	LT. OF I-430 N.B. ENT. RAMP			249.27					
498+60.00	498+68.00	LT. OF I-430 N.B. ENT. RAMP	8.00							
498+68.00	514+00.00	LT. OF I-430 N.B. ENT. RAMP							1532.00	
514+00.00	514+38.00	LT. OF I-430 N.B. ENT. RAMP-TRANSITION						38.00		
514+38.00	516+66.86	LT. OF I-430 N.B. ENT. RAMP		228.86						
516+66.86	517+16.86	LT. OF I-430 N.B. ENT. RAMP-TRANSITION		50.00						
502+80.00	515+05.35	RT. OF I-430					1225.35			
399+11.93	403+75.00	RT. OF PINE BURO RD.								542.04
403+75.00	404+25.00	RT. OF PINE BURO RD.-TRANSITION				50.00				
TOTALS:			77.98	278.86	249.27	1886.29	1225.35	38.00	1532.00	542.04

9/25/2015

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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
10-21-16				6	ARK.			
				JOB NO.		061333	52	272

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

PORTLAND CEMENT CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1 1/2") 660 LBS. PER SQ. YD.			CONTINUOUSLY REINFORCED CONCRETE PAVEMENT		REINFORCING STEEL FOR PAVEMENT (BARS)
				TON / STATION	TON	AVG. WID.	SQ. YD.	PG 64-22	AVG. WID.	13" U.T.	
			FEET			FEET		TON	FEET	SQ. YD.	POUND
494+97.25	495+13.71	N.B. ENTRANCE RAMP	16.46			34.67	63.41	3.49	25.00	45.72	1721.36
495+13.71	495+40.75	N.B. ENTRANCE RAMP	27.04			34.67	104.16	5.73	29.33	88.12	3317.72
495+40.75	496+10.73	N.B. ENTRANCE RAMP	69.98			36.33	282.49	15.54	34.33	266.93	10049.91
496+10.73	498+60.00	N.B. ENTRANCE RAMP	249.27			36.33	1006.22	55.34	32.33	895.43	33712.94
498+60.00	498+68.00	N.B. ENTRANCE RAMP	8.00			36.33	32.29	1.78	31.33	27.85	1048.55
498+68.00	513+50.00	N.B. ENTRANCE RAMP	1482.00			34.50	5681.00	312.46	25.33	4171.01	157038.53
513+50.00	514+00.00	N.B. ENTRANCE RAMP	50.00	50.75	25.38	31.17	173.17	9.52	21.00	116.67	4392.63
514+00.00	514+38.00	N.B. ENTRANCE RAMP	38.00	50.75	19.29	36.17	152.72	8.40	27.00	114.00	4292.10
514+38.00	517+16.86	N.B. ENTRANCE RAMP	278.86	50.75	141.52	36.17	1120.71	61.64	30.00	929.53	34996.80
517+16.86	519+14.70	N.B. ENTRANCE RAMP	197.84	50.75	100.40	VAR.	673.51	37.04	VAR.	651.58	24531.99
519+14.70	526+70.36	N.B. ENTRANCE RAMP	755.66	50.75	383.50	20.00	1679.24	92.36	18.00	1511.32	56901.20
526+70.36	529+70.36	N.B. ENTRANCE RAMP	300.00	50.75	152.25	16.00	533.33	29.33	14.00	466.67	17570.13
495+00.00	510+12.00	I-430 MEDIAN WIDENING	1512.0	50.75	767.34	20.0	3360.0	184.8	18.0	3024.0	113853.60
510+12.00	519+11.27	I-430 MEDIAN WIDENING	899.3			12.0	1199.1	66.0	12.0	1199.1	45146.12
TOTALS:					**1589.68**		**16061.35**	**883.43**		**13507.93**	**508573.58**

BASIS OF ESTIMATE:
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	10	20
DIRECTED BY THE ENGINEER		
TOTALS:	**10**	**20**

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

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT (0.17 GAL. PER SQ. YD.)			TACK COAT (0.05 GAL. PER SQ. YD.)			TOTAL GALLONS	PORTLAND CEMENT CONCRETE BASE 6" UNIFORM THICKNESS		ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")							TOTAL PG 76-22
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLON	TOTAL WID.	SQ.YD.	GALLON		AVG. WID.	SQ.YD.	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	TON
			FEET			FEET			FEET				FEET		FEET			TON	FEET			TON	FEET			TON	FEET				
MAIN LANES																														
226+57.00	228+35.28	HWY. 10-NOTCH & WIDEN	178.28	VAR.	130.35								3.50	69.33													VAR.	869.55	220.00	95.65	95.65
228+35.28	228+95.00	HWY. 10-NOTCH & WIDEN	59.72										VAR.	65.80													VAR.	297.76	220.00	32.75	32.75
228+95.00	229+68.95	HWY. 10-NOTCH & WIDEN	73.95						38.50	316.34	15.82	15.82	3.50	28.76	14.50	119.14	550.00	32.76	12.00	98.60	440.00	21.69	12.00	98.60	220.00	10.85	36.00	295.80	220.00	32.54	43.39
229+68.95	230+66.51	HWY. 10-INTERSECTION	97.56						38.50	417.34	20.87	20.87			14.50	157.18	550.00	43.22	12.00	130.08	440.00	28.62	12.00	130.08	220.00	14.31	56.00	607.04	220.00	66.77	81.08
230+66.51	231+20.40	HWY. 10-NOTCH & WIDEN	53.89						38.50	230.53	11.53	11.53	3.50	20.96	14.50	86.82	550.00	23.88	12.00	71.85	440.00	15.81	12.00	71.85	220.00	7.90	36.00	215.56	220.00	23.71	31.61
231+20.40	232+03.96	HWY. 10-GORE AREA	83.56						VAR.	350.78	17.54	17.54	3.50	32.50	VAR.	131.76	550.00	36.23	VAR.	109.51	440.00	24.09	VAR.	109.51	220.00	12.05	VAR.	340.69	220.00	37.48	49.53
232+03.96	232+43.90	HWY. 10-GORE AREA	39.94						VAR.	346.62	17.33	17.33	3.50	15.53	VAR.	115.54	550.00	31.77	VAR.	115.54	440.00	25.42	VAR.	115.54	220.00	12.71	VAR.	222.86	220.00	24.51	37.22
232+43.90	235+05.00	HWY. 10-RAMP WIDENING	261.10						VAR.	2989.99	149.50	149.50	3.50	101.54	VAR.	1043.83	550.00	287.05	VAR.	973.08	440.00	214.08	VAR.	973.08	220.00	107.04	VAR.	1684.02	220.00	185.24	292.28
235+05.00	235+40.00	HWY. 10-RAMP WIDENING	35.00						VAR.	239.06	11.95	11.95	VAR.	58.32	VAR.	86.20	550.00	23.71	VAR.	76.43	440.00	16.81	VAR.	76.43	220.00	8.41	VAR.	186.99	220.00	20.57	28.98
235+40.00	235+55.00	HWY. 10-RAMP WIDENING & E.B. TURN LANE WIDENING	15.00						VAR.	146.48	7.32	7.32	3.50	5.83	VAR.	55.58	550.00	15.28	VAR.	45.45	440.00	10.00	VAR.	45.45	220.00	5.00	VAR.	85.94	220.00	9.45	14.45
235+55.00	236+59.00	HWY. 10-RAMP WIDENING & E.B. TURN LANE WIDENING	104.00						VAR.	972.76	48.64	48.64	3.50	40.44	VAR.	370.50	550.00	101.89	VAR.	301.13	440.00	66.25	VAR.	301.13	220.00	33.12	VAR.	582.12	220.00	64.03	97.15
236+59.00	236+97.16	HWY. 10-INTERSECTION	38.16						VAR.	269.41	13.47	13.47			VAR.	96.89	550.00	26.64	VAR.	86.26	440.00	18.98	VAR.	86.26	220.00	9.49	VAR.	235.92	220.00	25.95	35.44
236+97.16	237+54.00	HWY. 10-INTERSECTION	56.84						38.50	243.15	12.16	12.16			14.50	91.58	550.00	25.18	12.00	75.79	440.00	16.67	12.00	75.79	220.00	8.34	56.00	353.67	220.00	38.90	47.24
237+54.00	239+67.16	HWY. 10-W.B. TURN LANE WIDENING	213.16						38.50	911.85	45.59	45.59	VAR.	196.73	14.50	343.42	550.00	94.44	12.00	284.21	440.00	62.53	12.00	284.21	220.00	31.26	VAR.	1143.91	220.00	125.83	157.09
239+67.16	239+83.47	HWY. 10-W.B. TURN LANE WIDENING	16.31						VAR.	50.17	2.51	2.51	VAR.	16.68	VAR.	19.83	550.00	5.45	VAR.	15.17	440.00	3.34	VAR.	15.17	220.00	1.67	VAR.	81.37	220.00	8.95	10.62
239+83.47	240+17.16	HWY. 10-LANE TAPER	33.69										VAR.	55.52													VAR.	136.11	220.00	14.97	14.97
240+17.16	241+17.16	HWY. 10-PAVING TRANSITION	100.00										7.00	77.78													VAR.	294.27	220.00	32.37	32.37
241+17.16	242+32.31	HWY. 10	115.15										7.00	89.56																	
502+79.98	516+55.44	I-430	1375.46	VAR.	931.96																						VAR.	1597.65	220.00	175.74	175.74
399+86.39	405+20.29	PINE BURO RD.	533.90	VAR.	1082.16																						VAR.	2093.71	220.00	230.31	230.31
ADDITIONAL FOR LEVELING																															
226+57.00	228+95.00	HWY. 10	238.00			36.00	952.00	161.84	108.00	2856.00	85.68	247.52							36.00	952.00	VAR.	195.27	36.00	952.00	VAR.	209.44					209.44
228+95.00	240+17.16	HWY. 10	1122.16			24.00	2992.43	508.71	72.00	8977.28	269.32	778.03							24.00	2992.43	VAR.	323.95	24.00	2992.43	VAR.	658.33					658.33
ADDITIONAL FOR SUPERELEVATION																															
513+50.00	515+50.86	MAXIMUM SUPERELEVATION	200.86	53.75	107.96																										
515+50.86	518+15.86	SUPERELEVATION TRANSITION	265.00	26.88	71.23																										
518+15.86	520+90.86	SUPERELEVATION TRANSITION	275.00	26.88	73.92																										
520+90.86	529+70.36	MAXIMUM SUPERELEVATION	879.50	53.75	472.73																										
TOTALS:					**2870.31**		**3944.43**	**670.55**		**19317.76**	**729.23**	**1399.78**		**875.28**		**2718.27**		**747.50**		**6327.53**		**1043.51**		**6327.53**		**1129.92**		**11324.94**		**1245.72**	**2375.64**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER
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.

10/20/2016

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QUANTITIES

SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		42	STATION
201	GRUBBING		42	STATION
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		3107	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		564	LIN. FT.
202	REMOVAL AND DISPOSAL OF RETAINING WALLS		1317	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT		2464	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS		100	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING		2941	SQ. YD.
202	REMOVAL AND DISPOSAL OF COLUMNS		1	EACH
202	REMOVAL AND DISPOSAL OF OVERHEAD SIGN STRUCTURE		1	EACH
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		1	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS		7	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		7	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL		700	LIN. FT.
SP	REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE		887	LIN. FT.
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION		3	EACH
202	REMOVAL AND DISPOSAL OF WATER SPIGOT		1	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		1	EACH
202	REMOVAL AND DISPOSAL OF SPRINKLER SYSTEM		1	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS		1	EACH
207	STONE BACKFILL		2137	TON
210	UNCLASSIFIED EXCAVATION		53820	CU. YD.
210	PRESPLITTING		5103	SQ. YD.
210	COMPACTED EMBANKMENT		10242	CU. YD.
SP & 210	ROCK FILL		30932	CU. YD.
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		4809	TON
309	PORTLAND CEMENT CONCRETE BASE (6" UNIFORM THICKNESS)		875	SQ. YD.
SS & 401	TACK COAT		1420	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		1566	TON
SP & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")		35	TON
SP & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")		30	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		999	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")		45	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		2319	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		3	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")		121	TON
412	COLD MILLING ASPHALT PAVEMENT		667	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		10	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY		50	TON
502	REINFORCING STEEL FOR PAVEMENT (BARS)		508574	POUND
503	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT (13" UNIFORM THICKNESS)		13508	SQ. YD.
504	APPROACH GUTTERS		18.78	CU. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SP & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
SS & 604	SIGNS		1301	SQ. FT.
SP, SS, & 604	SIGNS LEFT IN PLACE		10	SQ. FT.
SS & 604	BARRICADES		56	LIN. FT.
SP, SS, & 604	BARRICADES LEFT IN PLACE		16	LIN. FT.
SS & 604	TRAFFIC DRUMS		107	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		4273	LIN. FT.
SP & 604	FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER		1513	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER		4880	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS		33390	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		12106	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		6729	LIN. FT.
SS & 604	VERTICAL PANELS		43	EACH
604	ADVANCE WARNING ARROW PANEL		420	DAY
SP & 604	PORTABLE CHANGEABLE MESSAGE SIGN		40	WEEK
605	CONCRETE DITCH PAVING (TYPE B)		4987	SQ. YD.
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		30	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		2437	LIN. FT.
* 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	482	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	482	LIN. FT.
* SP & 606	24" HIGH DENSITY POLYETHYLENE PIPE	(ALTERNATE NO. 3)	482	LIN. FT.
* SP & 606	24" PVC PIPE	(ALTERNATE NO. 4)	482	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		580	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		820	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		394	LIN. FT.
606	72" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		60	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN		68	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		5	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	72" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	SELECTED PIPE BEDDING		350	CU. YD.
609	DROP INLETS (TYPE MO)		6	EACH
609	DROP INLETS (TYPE ST)		27	EACH
609	JUNCTION BOXES (TYPE ST)		7	EACH
609	DROP INLET EXTENSIONS (4')		3	EACH
611	UNDERDRAIN OUTLET PROTECTORS		8	EACH
611	4" PIPE UNDERDRAINS		2000	LIN. FT.
617	GUARDRAIL (TYPE A)		175	LIN. FT.
617	GUARDRAIL TERMINAL (TYPE 2)		1	EACH
617	THRIE BEAM GUARDRAIL TERMINAL		1	EACH
619	WIRE FENCE (TYPE A)		615	LIN. FT.
620	LIME		11	TON
620	SEEDING		5.27	ACRE
SS & 620	MULCH COVER		27.65	ACRE
620	WATER		1026.7	M.GAL.
621	TEMPORARY SEEDING		22.38	ACRE
621	SILT FENCE		1719	LIN. FT.
621	SAND BAG DITCH CHECKS		1430	BAG
621	DROP INLET SILT FENCE		1100	LIN. FT.
621	SEDIMENT BASIN		133	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		133	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		378	CU. YD.
621	ROCK DITCH CHECKS		225	CU. YD.
623	SECOND SEEDING APPLICATION		5.27	ACRE
624	SOLID SODDING		2579	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)		600	SQ. YD.
631	CONCRETE BARRIER WALL (MEDIAN TYPE A)		78	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE B)		279	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE C)		249	LIN. FT.
SP & 631	CONCRETE BARRIER WALL (SIDE TYPE A)		1886	LIN. FT.
SP & 631	CONCRETE BARRIER WALL (SIDE TYPE A-1)		1225	LIN. FT.
SP & 631	CONCRETE BARRIER WALL (SIDE TYPE E)		38	LIN. FT.
SP & 631	CONCRETE BARRIER WALL (SIDE TYPE SPECIAL-1)		542	LIN. FT.
SP & 631	CONCRETE BARRIER WALL (SIDE TYPE SPECIAL)		1532	LIN. FT.
632	CONCRETE ISLAND		1995	SQ. YD.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		1498	LIN. FT.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (2' 6")		2021	LIN. FT.

* DENOTES ALTERNATE BID ITEMS.

SUMMARY OF QUANTITIES

DATE REVISED	DATE FILMED
10-8-15	
10-21-15	
10-21-16	

DATE REVISED	DATE FILMED

FED.AID PROJ.NO.	STATE	SHEET NO.	TOTAL SHEETS
061333	ARK.	53	272

JOB NO. 6

(2) SUMMARY OF QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TIMOTHY D. SMITH
10-25-16

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM		QUANTITY	UNIT
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
642	RUMBLE STRIPS IN PORTLAND CEMENT CONCRETE SHOULDERS		3716	LIN. FT.
SP & 701	SYSTEM LOCAL CONTROLLER TS 2-TYPE 2, E-NET (8 PHASES)		2	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)		23	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)		3	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)		2460	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)		148	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)		411	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)		615	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")		100	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")		100	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")		40	LIN. FT.
710	NON-METALLIC CONDUIT (2")		418	LIN. FT.
710	NON-METALLIC CONDUIT (3")		712	LIN. FT.
711	CONCRETE PULL BOX (TYPE 1)		1	EACH
711	CONCRETE PULL BOX (TYPE 2 HD)		4	EACH
711	CONCRETE PULL BOX (TYPE 2)		5	EACH
713	SPAN WIRE ASSEMBLY		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (36')		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52')		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (54')		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (56')		1	EACH
716	TREATED WOOD POLE (CLASS 2, 40')		4	EACH
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4")		1026	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (4")		420	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (10")		450	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		1542	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")		227	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		51	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		3	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		3	EACH
SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	6174	LIN. FT.
SP	HIGH PERFORMANCE MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	6174	LIN. FT.
SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8")	(ALTERNATE NO. 1)	863	LIN. FT.
SP	HIGH PERFORMANCE MARKING TAPE WHITE (8")	(ALTERNATE NO. 2)	863	LIN. FT.
SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	(ALTERNATE NO. 1)	6414	LIN. FT.
SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4")	(ALTERNATE NO. 2)	6414	LIN. FT.
SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	1880	LIN. FT.
SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	1880	LIN. FT.
SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (8")	(ALTERNATE NO. 1)	220	LIN. FT.
SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (8")	(ALTERNATE NO. 2)	220	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		130	EACH
725	GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)		126	SQ. FT.
726	STANDARD SIGN		416	SQ. FT.
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)		612	POUND
731	TEMPORARY IMPACT ATTENUATION BARRIER		3	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		3	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)		3	EACH
732	CRASH CUSHION		2	EACH
733	VIDEO CABLE		3146	LIN. FT.
SP & 733	VIDEO DETECTOR (CLR)		14	EACH
733	VIDEO MONITOR (CLR)		2	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)		9	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)		3	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		13048	CU. YD.
802	CLASS S CONCRETE-ROADWAY		7406.31	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)		589915	POUND
SP	REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKER		75	EACH
SP	SELECT GRANULAR BACKFILL		31110	CU. YD.
SP	WIRE ROPE SAFETY FENCE END TERMINAL		1	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)		2	EACH
SP	E-NET CABLE (EXTERIOR CAT 5)		210	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)		787	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)		360	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)		40	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES		1386	LIN. FT.
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)		2	EACH
SP	FSK COMMUNICATION CABLE RELOCATION		70	LIN. FT.
SP	LED LUMINAIRE ASSEMBLY		8	EACH
SP	NET-ACCESS RADIO (5.8 GHZ, 32 MBPS)		2	EACH
SP	NET-SUBSCRIBER RADIO (5.8 GHZ, 32 MBPS)		2	EACH
SP	RELOCATION OF RADIO COMMUNICATIONS EQUIPMENT		1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT		1.00	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)		2	EACH
SP	18" STREET NAME SIGN		5	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1)		12	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)		14	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-1)		3	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-2)		2	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-4)		2	EACH
SP	STONE MASONRY FACING		1536	SQ. YD.
SP	TEXTURED COATING FINISH		3273	SQ. YD.
SP	TEMPORARY RETAINING WALL		2787	SQ. FT.

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
9/25/2015	REVISED "CLASS S CONCRETE-ROADWAY", "REINFORCING STEEL-ROADWAY (GRADE 60)", "STONE MASONRY FACING", AND "TEXTURED COATING FINISH".	51, 54
9/29/2015	ADDED NOTE TO CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS QUANTITY BOX.	45, 54
10/8/2015	REVISED "MAINTENANCE OF TRAFFIC" SPECIAL PROVISION, ADDED "ROCK FILL" SPECIAL PROVISION AND "ROCK FILL" QUANTITY, REVISED "COMPACTED EMBANKMENT" QUANTITY, "REVISED CROSS SECTIONS TO INCLUDE ROCK FILL.	3, 47, 53-54, 206-223
10/21/2015	ADDED SUPPLEMENTAL SPECIFICATION "400-1 TACK COATS".	3, 53, 54
10/21/2016	UPDATED STANDARD DRAWINGS, SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS. REVISED PLANS TO INCLUDE I-430 NB MEDIAN WIDENING. REVISED SIGNAL PLANS. REVISED QUANTITIES.	2-12, 19-24, 26-28, 31-43, 45-50, 52-58, 62, 64, 66, 66A, 69-82, 101, 125, 145, 238-258
11/30/2016	REVISED "TEMPORARY RETAINING WALLS" SPECIAL PROVISION.	54

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9-25-15		10-21-15	
9-29-15		10-21-16	
10-8-15		11-30-16	

(2) SUMMARY OF QUANTITIES AND REVISIONS

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		54	272
JOB NO.	061333			

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11435 TIMOTHY D. SMITH

12-1-16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	55	272

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

SURVEY CONTROL COORDINATES

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

Point Name	Northing	Easting	Elev	Feature	Description
16	2085310.7817	1194152.7299	513.261	CTL	5/8" REBAR W/2" CAP STAMPED PN:1
17	2084778.4178	1194828.6392	525.312	CTL	5/8" REBAR W/2" CAP STAMPED PN:1
18	2084421.6036	1195103.8035	540.765	CTL	5/8" REBAR W/2" CAP STAMPED PN:1
19	2084137.7615	1195885.8067	572.540	CTL	5/8" REBAR W/2" CAP STAMPED PN:1
20	2084040.6200	1196567.9578	584.354	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
21	2083980.5973	1194729.4787	525.154	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
22	2082770.8378	1194874.3236	540.820	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
23	2085313.8599	1195286.9161	469.268	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
24	2086171.3456	1195454.7961	425.807	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
25	2087543.5633	1196659.6709	335.462	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
26	2077725.1128	1195180.4875	438.668	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
27	2079059.7016	1195299.0984	451.501	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
28	2080358.8977	1195287.0621	490.646	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
29	2081831.6049	1195030.4440	535.274	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
31	2085299.4384	1194032.9123	511.127	CTL	5/8" REBAR W/2" CAP STAMPED PN:1
32	2084763.8718	1194745.9647	524.338	CTL	5/8" REBAR W/2" CAP STAMPED PN:2
33	2084219.3065	1195468.5877	558.865	CTL	5/8" REBAR W/2" CAP STAMPED PN:3
103	2087215.5205	1195931.0340	376.145	GPS	AHTD GPS 600055A
104	2087817.7268	1197443.2230	305.586	GPS	AHTD GPS 600055
105	2078544.9213	1204822.1849	584.927	GPS	AHTD GPS 600054A
990	2084655.4870	1194794.8210	527.210	BM	NGS BM F 321
991	2086764.8288	1195495.4198	392.300	BM	NGS BM G 321
999	2084577.0567	1194838.6771	514.847	TBM	PAINTED SQUARE

*Note - Rebar and Cap - Standard -"- Rebar with 2" Aluminum Cap stamped
"(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999761086 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME. s061333gi.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 600071 - 600071A 600055A - 600054A
CONVERGENCE ANGLE: 00 14 27 LEFT AT LT: 34-48-05.9 LG:092-25-32.9
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 10

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	200+00.00	2086065.7771	1193003.0498
8001	PC	227+31.54	2084432.8642	1195192.7719
8003	PT	233+00.54	2084217.4608	1195713.1224
8004	PC	238+97.45	2084131.6785	1196303.8435
8006	PT	244+56.90	2083971.9174	1196837.9062
8007	POE	252+59.54	2083632.1220	1197565.0798

I-430 NB ENT RAMP

POINT NO.	TYPE	STATION	NORTHING	EASTING
8008	POB	488+46.08	2084169.7789	1196309.3763
8009	PC	490+46.37	2084198.5623	1196111.1654
8011	PT	492+36.65	2084235.2342	1195924.5350
8012	PC	496+16.56	2084326.9558	1195555.8608
8014	PT	504+93.72	2085021.8139	1195239.2551
8015	PC	510+09.04	2085480.8172	1195473.5051
8017	PT	517+01.14	2086146.4489	1195640.2128
8018	PC	518+84.46	2086329.7379	1195643.6803
8020	PT	532+14.85	2087340.5464	1196378.2533
8021	POE	543+75.67	2087719.8240	1197475.3601

PINE BURO RD.

POINT NO.	TYPE	STATION	NORTHING	EASTING
8051	POB	398+50.00	2084368.6802	1195505.5345
8054	PC	402+19.15	2084279.5568	1195863.7652
8056	PT	404+55.93	2084242.8117	1196097.3647
8057	PC	404+62.69	2084242.3505	1196104.1154
8059	PT	405+20.33	2084202.4021	1196136.3668
8060	POE	405+66.25	2084156.9571	1196129.7675

PINE BURO RD. DRIVEWAY STA. 399+94

POINT NO.	TYPE	STATION	NORTHING	EASTING
8066	POB	700+00.00	2084482.9509	1195514.6376
8067	PC	700+58.64	2084436.0379	1195549.8129
8069	PT	700+71.77	2084427.7238	1195559.8286
8070	POE	701+79.80	2084379.9331	1195656.7152

PINE BURO RD. DRIVEWAY STA. 401+92

POINT NO.	TYPE	STATION	NORTHING	EASTING
8052	POB	800+00.00	2084295.8160	1195839.8320
8053	POE	801+41.63	2084437.2255	1195847.8099

I-430

POINT NO.	TYPE	STATION	NORTHING	EASTING
8022	POB	399+38.23	2074649.4219	1194896.1540
8023	PC	445+88.30	2079281.3995	1195305.9742
8025	PT	461+60.04	2080846.3405	1195229.3662
8026	PC	481+08.51	2082761.1717	1194868.8968
8028	PT	506+21.74	2085204.1548	1195220.4143
8029	PC	510+13.00	2085552.6599	1195398.2720
8031	PT	515+31.36	2086046.5223	1195546.1579
8032	PC	519+11.27	2086424.1394	1195587.8681
8034	PT	532+03.80	2087381.3545	1196352.4476
8035	POE	543+75.67	2087764.2444	1197460.0036

I-430 MOT

POINT NO.	TYPE	STATION	NORTHING	EASTING
8071	POB	495+00.00	2084138.2373	1194900.8601
8072	PC	497+12.29	2084347.1685	1194938.4949
8074	PT	499+27.98	2084556.8267	1194988.6220
8075	POE	499+85.16	2084611.6027	1195005.0364
8076	POB	514+50.00	2085961.6371	1195560.5738
8077	PC	515+40.06	2086050.4457	1195575.5268
8079	PT	518+65.49	2086372.7188	1195620.4195
8080	POE	519+13.02	2086419.9674	1195625.6384

RAMP 2 MOT

POINT NO.	TYPE	STATION	NORTHING	EASTING
8081	POB	495+16.16	2084149.1147	1194936.5983
8082	PC	495+22.24	2084155.1587	1194935.9716
8084	PT	495+86.99	2084219.6546	1194938.3879
8085	POE	497+12.50	2084343.1798	1194960.6385

10/20/2016

R061333.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-16			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061333	56	272

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 242+32.31
END HWY. 10

STA. 240+17.16
END HWY. 10 OVERLAY

STA. 237+21.55 ON HWY. 10 =
STA. 405+66.25 ON PINE BURO ROAD
Δ 90°00'00"

I-430 NB ON RAMP
PI = 491+41.59
Δ = 5°42'30"RT.
D = 3°00'00"
T = 95.22'
L = 190.28'
PC = 490+46.37
PT = 492+36.65

PINE BURO RD.
PI = 403+37.84
Δ = 10°03'47"LT.
D = 4°15'00"
T = 118.69'
L = 236.78'
PC = 402+19.15
PT = 404+55.93

STA. 494+61.25
BEGIN I-430 NB RAMP

STA. 494+97.25
BEGIN CONCRETE PAVING

HWY. 10
PI = 230+22.03
Δ = 28°27'00"LT.
D = 5°00'00"
T = 290.49'
L = 569.00'
PC = 227+31.54
PT = 233+00.54

C.L. HWY. 10

I-430 NB ON RAMP
PI = 502+30.32
Δ = 103°03'59"RT.
D = 11°45'00"
T = 613.76'
L = 877.16'
PC = 496+16.56
PT = 504+93.72

HWY. 10
PI = 241+79.19
Δ = 16°47'00"RT.
D = 3°00'00"
T = 281.74'
L = 559.44'
PC = 238+97.45
PT = 244+56.90

PINE BURO RD.
PI = 405+00.46
Δ = 94°21'17"RT.
D = 163°42'08"
T = 37.77'
L = 57.64'
PC = 404+62.69
PT = 405+20.33

POB 800+00.00

POE 801+41.63

DRIVEWAY STA. 399+94
PI = 700+65.33
Δ = 26°52'55"LT.
R = 28.00'
T = 6.69'
L = 13.14'
PC = 700+58.64
PT = 700+71.77

C.L. PINE BURO RD.
C.L. DRIVE 401+92
C.L. DRIVE 399+94
C.L. N.B. ENTRANCE RAMP

I-430 MOT
PI = 498+20.25
Δ = 6°28'14"RT.
D = 3°00'00"
T = 107.96'
L = 215.68'
PC = 497+12.29
PT = 499+27.98

C.L. I-430 MOT
C.L. HWY. 10
C.L. I-430
SURVEY BASELINE

I-430
PI = 494+12.51
Δ = 37°41'55"RT.
D = 1°30'00"
T = 1304.00'
L = 2513.23'
PC = 481+08.51
PT = 506+21.74

STA. 502+79.98
BEGIN I-430

STA. 226+57.00
BEGIN HWY. 10

C.L. RAMP 2 MOT
C.L. N.B. ENTRANCE RAMP

RAMP 2 MOT
PI = 495+54.83
Δ = 16°07'52"RT.
D = 24°54'40"
T = 32.59'
L = 64.75'
PC = 495+22.24
PT = 495+86.99

HWY. 10
PI = 230+22.03
Δ = 28°27'00"LT.
D = 5°00'00"
T = 290.49'
L = 569.00'
PC = 227+31.54
PT = 233+00.54

I-430 NB ON RAMP
PI = 502+30.32
Δ = 103°03'59"RT.
D = 11°45'00"
T = 613.76'
L = 877.16'
PC = 496+16.56
PT = 504+93.72

10/20/2016

R061333.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
10-21-16				6	ARK.			
				JOB NO.		061333	57	272

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 518+04.56
END I-430

I-430
PI = 526+36.06
Δ = 64°37'34"RT.
D = 5°00'00"
T = 724.78'
L = 1292.52'
PC = 519+11.27
PT = 532+03.80

I-430 NB ON RAMP
PI = 526+46.44
Δ = 69°50'44"RT.
D = 5°15'00"
T = 761.98'
L = 1330.39'
PC = 518+84.46
PT = 532+14.85

I-430
PI = 512+75.05
Δ = 20°44'03"LT.
D = 4°00'00"
T = 262.04'
L = 518.35'
PC = 510+13.00
PT = 515+31.36

I-430 NB ON RAMP
PI = 513+61.13
Δ = 25°57'12"LT.
D = 3°45'00"
T = 352.09'
L = 692.09'
PC = 510+09.04
PT = 517+01.14

I-430 MOT
PI = 517+02.82
Δ = 3°15'15"LT.
D = 1°00'00"
T = 162.76'
L = 325.43'
PC = 515+40.06
PT = 518+65.49

C.L. I-430 MOT
C.L. I-430
C.L. N.B. ENTRANCE RAMP
SURVEY BASELINE

PC 510+13.00
PC 510+09.04
PI 512+75.05
PT 515+31.36
POB 514+50.00
PC 515+40.06
PI 513+61.13
PT 517+01.14
PI 517+02.82
PT 518+65.49
PC 518+84.46
PT 518+65.49
PC 519+11.27
POE 519+13.02
PI 512+75.05

N 27°02'14" E 262.04'
N 27°02'14" E 352.09'
N 6°18'11" E 262.04'
N 9°33'27" E 90.06'
N 9°33'27" E 162.76'
N 6°18'11" E 379.91'
N 6°18'11" E 162.76'
N 6°18'11" E 47.54'
N 6°18'11" E 724.78'
N 1°05'02" E 352.09'
N 1°05'02" E 183.32'
N 1°05'02" E 761.98'

8029 8015 8031 8076 8077 8032 8079 8080 8017 8018

510 515 520 525

PIN24 PD5/8" REBAR W/2"CAP STAMPED PIN2

SURVEY CONTROL DETAILS

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	58	272

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

I-430 NB ON RAMP
PI = 526+46.44
Δ = 69°50'44"RT.
D = 5°15'00"
T = 761.98 '
L = 1330.39'
PC = 518+84.46
PT = 532+14.85

I-430
PI = 526+36.06
Δ = 64°37'34"RT.
D = 5°00'00"
T = 724.78'
L = 1292.52'
PC = 519+11.27
PT = 532+03.80

PI 526+46.44
PI 526+36.06
N 70°55'46" E 724.78'
N 70°55'46" E 761.98'
525
525
530
530
PT 532+03.80
8034
8020
STA. 529+70.36
END JOB 061333
LOG MILE 9.60
PT 532+14.85
535
535
PK25
PK NAIL
5/8" REBAR W/2" CAP STAMPED PN2
N 70°55'46" E 1171.87'
N 70°55'46" E 1160.82'
C.L. I-430
C.L. N.B. ENTRANCE RAMP
SURVEY BASELINE
540
540

10/20/2016
R061333.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.		061333	59	272

(2) SOIL LOG

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
489+00	34	47	13.20	92	23	12.70	6' LT.	0-5	29	9	A-4(3)	BR/GR
497+00	34	47	15.30	92	23	21.60	C.L.	0-2.5Z	33	11	A-6(2)	BR/GR
513+00	34	47	27.50	92	23	20.60	C.L.	0-2.0Z	32	11	A-6(2)	BR/GR
513+00	34	47	13.20	92	23	12.70	C.L.	0-2.0Z	30	10	A-4(2)	BR/GR
521+00	34	47	37.00	92	23	19.00	C.L.	0-5	25	9	A-4(0)	GR/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

6/1/2015
R061333.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.		061333	60	272

(2) PLAN AND PROFILE SHEETS HWY. 10

STA. 227+00 CONSTRUCT
DROP INLET ON RT. H=3'-6"
WITH 4' EXTENSION
18" X 14' R.C. PIPE OUTLET W/ F.E.S.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 3' X 3'
18" R.C. PIPE (CLASS III(TYPE 3) = 14 LIN. FT.
18" F.E.S. = 1 EACH

STA. 228+80 IN PLACE
DROP INLET ON LEFT
WITH 18" X 55' R.C. PIPE OUTLET WITH F.E.S.
REMOVE

STA. 233+44 IN PLACE
DROP INLET ON LEFT
WITH 18" X 442' R.C. PIPE OUTLET
REMOVE

STA. 237+93 IN PLACE
DROP INLET ON LT.
WITH 18" X 88' R.C. PIPE OUTLET
REMOVE AND CONSTRUCT
DROP INLET ON LT. H=6'-2"
WITH 4' EXTENSION
18" X 14' R.C. PIPE OUTLET
CONNECT TO EXISTING R.C. PIPE
WITH CONCRETE COLLAR
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 3' X 3'
18" R.C. PIPE (CLASS III(TYPE 3) = 14 LIN. FT.

STA. 239+94 IN PLACE
DROP INLET IN MEDIAN
CONNECTED TO DROP INLET ON RT.
WITH 18" X 34' R.C. PIPE OUTLET
REMOVE DROP INLET AND 4' R.C. PIPE
AND CONSTRUCT
DROP INLET IN MEDIAN H=4'-0"
WITH 4' EXTENSION
18" X 2' R.C. PIPE OUTLET
CONNECT TO EXISTING R.C. PIPE
WITH CONCRETE COLLAR
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 3' X 3'
18" R.C. PIPE (CLASS III(TYPE 3) = 2 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

HWY. 10
PI = 241+79.19
Δ = 16°47'00"RT.
D = 3°00'00"
T = 281.74'
L = 559.44'
PC = 238+97.45
PT = 244+56.90
e = 0.040'/'
Ls = 400'

STA. 226+57 - IN PLACE
APPROACH GUTTER ON LT. OF HWY. 10
REMOVE AND CONSTRUCT
TYPE "AT" APPROACH GUTTER

STA. 226+60 - IN PLACE
OVERHEAD SIGN AND STRUCTURE
RETAIN

HWY. 10
PI = 230+22.03
Δ = 28°27'00"LT.
D = 5°00'00"
T = 290.49'
L = 569.00'
PC = 227+31.54
PT = 233+00.54
e = 0.061'/'
Ls = 400'

FURNISHING, INSTALLING, AND LEAVING IN PLACE
PRECAST CONCRETE BARRIER = 20 LIN. FT.

ROAD CLOSED

(1) RII-2 (48" X 30") (LEFT IN PLACE)
8' BARR. TYP. III RT. (LEFT IN PLACE)
8' BARR. TYP. III LT. (LEFT IN PLACE)

STA. 494+97.25
BEGIN CONCRETE PAVING

STA. 494+61.25
BEGIN I-430 NB RAMP

STA. 240+17.16
END HWY. 10 OVERLAY
STA. 242+32.31
END HWY. 10

STA. 237+21.55 ON HWY. 10 =
STA. 405+66.25 ON PINE BURO ROAD
@ 90°00'00"

HWY. 10

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
226+18.22	228+61.97	LT.	175'		

WIRE FENCE (TYPE A)

STA.	STA.	SIDE	LIN.FT.
226+83.17	231+98.00	RT.	491

STA. 226+90.00 BEGIN SUPER
STA. 229+65.00 MAX SUPER (0.040'/')
STA. 232+31.79 MAX SUPER (0.040'/')
STA. 235+06.79 END SUPER

STA. 235+97.45 BEGIN SUPER
STA. 239+97.45 MAX SUPER (0.040'/')
STA. 240+17.16 MATCH EXISTING (0.04'/'

STA. 226+57.00
BEGIN HWY. 10

STA. 227+00
TOP ELEV.=542.50
F.L. ELEV.=539.04

P.V.I. 226+57.00 ELEV. 541.40
P.V.I. 226+73.54 ELEV. 542.00
P.V.I. 227+73.54 ELEV. 546.25
P.V.C. 228+72.34 ELEV. 549.95
P.V.I. 229+22.34 ELEV. 551.83
P.V.C. 229+72.42 ELEV. 553.49
P.V.I. 230+22.42 ELEV. 555.16
P.V.T. 230+72.42 ELEV. 557.22
P.V.C. 234+35.53 ELEV. 572.24
P.V.I. 236+93.03 ELEV. 582.89
P.V.T. 239+50.53 ELEV. 584.15
P.V.I. 240+17.16 ELEV. 584.48

3.64%
4.25%
3.75%
3%
4.14%
0.49%

K=238.37 VC=100' e=-0.05'
K=123.86 VC=100' e=0.10'
K=141.25 VC=515' e=-2.35'

L.T. DITCH GRADE 6.50%
L.T. DITCH GRADE 4.24%
L.T. DITCH GRADE 10.44%
L.T. DITCH GRADE 8.24%
L.T. DITCH GRADE 8.60%
L.T. DITCH GRADE 7.56%
L.T. DITCH GRADE 6.48%

226+57.00 528.77 (LT.)
226+75.00 529.94 (LT.)
227+00.00 532.75 (LT.)
227+25.00 535.36 (LT.)
227+50.00 537.67 (LT.)
227+75.00 539.82 (LT.)
228+00.00 541.71 (LT.)
228+25.00 543.33 (LT.)

STA. 237+93
TOP ELEV.=583.42
F.L. ELEV.=577.26

STA. 239+94
TOP ELEV.=584.94
F.L. ELEV.=580.96

STA. 240+17.16
END OVERLAY HWY. 10

600 590 580 570 560 550 540 530 520 510

226+00 227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00

7/24/2014

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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.		061333	61	272

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
TRINITY D. SMITH
No. 11425
4-1-15

WIRE FENCE (TYPE A)

STA.	STA.	SIDE	LIN.FT.
226+83.17	231+98.00	RT.	491

(STATIONING FROM HWY. 10)

I-430 NB ON RAMP
PI = 502+30.32
Δ = 103°03'59"RT.
D = 11°45'00"
T = 613.76'
L = 877.16'
PC = 496+16.56
PT = 504+93.72
e = 0.0985'/'
Ls = 300'

I-430 NB ON RAMP
PI = 491+41.59
Δ = 5°42'30"RT.
D = 3°00'00"
T = 95.22'
L = 190.28'
PC = 490+46.37
PT = 492+36.65
NO SUPER

STA. 493+00 CONSTRUCT
DROP INLET ON RT. H=3'-3"
24" X 196' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 495+00
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 3' X 3'
24" R.C. PIPE (CLASS III(TYPE 3) = 196 LIN. FT.

STA. 495+00 CONSTRUCT
DROP INLET ON RT. H=3'-3"
24" X 100' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 496+00
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 3' X 3'
24" R.C. PIPE (CLASS III(TYPE 3) = 100 LIN. FT.

STA. 496+50 INSTALL
DRAINAGE OPENING
STA. 496+00 CONSTRUCT
TYPE ST DROP INLET 11.5' RT. OF C.L.
WITH 24" X 288' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 499+00
DROP INLET 3'-0" X 3'-0" X H=7'-8"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 288 LIN. FT.

STA. 499+50 INSTALL
DRAINAGE OPENING
STA. 499+00 CONSTRUCT
TYPE ST DROP INLET 11.5' RT. OF C.L.
WITH 24" X 288' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 502+00
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 288 LIN. FT.

STA. 494+61.25
BEGIN I-430 NB RAMP

STA. 494+97.25
BEGIN CONCRETE PAVING

STA. 226+57.00
BEGIN HWY. 10

I-430 NB ENT. RAMP

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 494+62.81 BEGIN SUPER
STA. 496+67.81 MAX SUPER (0.060'/')
STA. 504+42.47 MAX SUPER (0.060'/')
STA. 506+47.47 END SUPER

STA.	STA.	SIDE	SIDE (TYPE A)	SIDE (TYPE SPECIAL)	MEDIAN (TYPE B)	MEDIAN (TYPE C)
495+13.71	513+50.00	RT.	1836.29'			
495+40.75	495+90.75	LT.			50'	
495+90.75	496+10.73	LT.			19.98'	
496+10.73	498+60.00	LT.				249.27'
498+60.00	498+68.00	LT.			8'	
498+68.00	514+00.00	LT.		1532'		

STA. 494+61.25 7.5' LT. C.L. I-430 NB RAMP =
STA. 232+81.94 62.71' LT. C.L. HWY. 10
ELEV. 564.07'

STA. 493+00
TOP ELEV.=571.87
F.L. ELEV.=568.62
24"× 196' @ 5.10%

P.V.C. 494+62.76
ELEV. 563.98
-5.95%

STA. 495+00
TOP ELEV.=561.88
F.L. ELEV.=558.63
24"× 100' @ 11.14%

K=142.86
VC=300'
e=0.79'

P.V.I. 496+12.76
ELEV. 555.05

STA. 496+00
TOP ELEV.=555.58
F.L. ELEV.=547.93
24"× 288' @ 3.54%

P.V.T. 497+62.76
ELEV. 549.28
-3.85%

P.V.C. 498+37.87
ELEV. 546.39

K=166.67
VC=500'
e=-1.87'

STA. 499+00
TOP ELEV.=542.74
F.L. ELEV.=537.74
24"× 288' @ 5.34%

498+85.59
543.33 (LT.)
LT. DITCH GRADE -6.72%

499+25.00
540.33 (LT.)
LT. DITCH GRADE -9.76%

499+75.00
535.28 (LT.)
LT. DITCH GRADE -11.24%

500+00.00
532.47 (LT.)

499+00.00
542.36 (LT.)
LT. DITCH GRADE -8.12%

499+50.00
537.89 (LT.)
LT. DITCH GRADE -10.44%

590 580 570 560 550 540 530 520 510 500

488+00 489+00 490+00 491+00 492+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00

6/1/2015

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-16			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061333	62	272

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 502+79.98
BEGIN I-430

PT 506+21.74

PC 510+13.00

PI 512+75.05

PT 515+31.36

PC 510+09.04

PT 504+93.72

N 27°02'14" E

CONST. LIMITS

EXISTING R/W & C/A

PROPOSED R/W & C/A

PARKING

POND

STA. 505+00 CONSTRUCT
TYPE ST DROP INLET 11.5' RT. OF C.L.
WITH 24" X 196' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 507+00
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 196 LIN. FT.

STA. 502+00 CONSTRUCT
TYPE ST. DROP INLET 11.5' RT. OF C.L.
WITH 24" X 288' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 505+00
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 288 LIN. FT.

STA. 507+00 CONSTRUCT
TYPE ST DROP INLET 11.5' RT. OF C.L.
WITH 24" X 96' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 508+00
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 96 LIN. FT.

STA. 509+50 CONSTRUCT
TYPE ST DROP INLET 11.5' LT. OF C.L.
WITH 24" X 176' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON LT. STA. 511+31
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 176 LIN. FT.

STA. 511+31 CONSTRUCT
TYPE ST DROP INLET 11.5' LT. OF C.L.
WITH 24" X 114' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON LT. STA. 512+50
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 114 LIN. FT.

STA. 512+50 CONSTRUCT
TYPE ST DROP INLET 11.5' LT. OF C.L.
WITH 24" X 294' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON LT. STA. 515+50
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS V)(TYPE 3) = 294 LIN. FT.

STA. 508+00 CONSTRUCT
TYPE ST DROP INLET 11.5' RT. OF C.L.
WITH 24" X 56' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 508+60
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 56 LIN. FT.

STA. 508+60 CONSTRUCT
TYPE ST DROP INLET 11.5' RT. OF C.L.
WITH 24" X 90' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON LT. STA. 509+50
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 90 LIN. FT.

STA. 505+50 INSTALL
DRAINAGE OPENING

STA. 507+50 INSTALL
DRAINAGE OPENING

STA. 502+50 INSTALL
DRAINAGE OPENING

STA. 508+50 INSTALL
DRAINAGE OPENING

WIRE FENCE (TYPE A)

STA.	STA.	SIDE	LIN.FT.
226+83.17	231+98.00	RT.	491
(STATIONING FROM HWY. 10)			
513+75.00	514+50.00	RT.	124
(STATIONING FROM I-430)			

I-430 NB ON RAMP
PI = 502+30.32
Δ = 103°03'59"RT.
D = 11°45'00"
T = 613.76'
L = 877.16'
PC = 496+16.56
PT = 504+93.72
e = 0.0985'/'
Ls = 300'

I-430 NB ON RAMP
PI = 513+61.13
Δ = 25°57'12"LT.
D = 3°45'00"
T = 352.09'
L = 692.09'
PC = 510+09.04
PT = 517+01.14
e = 0.080'/'
Ls = 350'

STA.	STA.	SIDE	SIDE (TYPE A)	SIDE (TYPE SPECIAL)	SIDE (TYPE E)	MEDIAN (TYPE B)
495+13.71	513+50.00	RT.	1836.29'			
498+68.00	514+00.00	LT.		1532'		
514+00.00	514+38.00	LT.			38'	
514+38.00	516+66.86	LT.				228.86'

STA. 515+26 IN PLACE
72" X 1152' S.P.P.1 3 GA. PIPE CULVERT, 3% ELONGATED
WITH 1/4 PAVED INVERT & FULLY BIT. COATED
AND HEADWALL LT. & RT.
ON 61° LT. FWD SKEW
REMOVE HEADWALL ON RT.
AND EXTEND 60' RT. USING 72" R.C. PIPE CULVERT
WITH CONCRETE COLLAR
(CLASS IV PIPE)(TYPE 3 BEDDING)
WITH F.E.S. RT.
050 = 480 C.F.S. D.A. = 126 ACRES
72" R.C. PIPE = 60 LIN. FT.
72" F.E.S. = 1EACH

POB 398+50.00
POB 700+00.00
PT 700+71.77
PC 700+58.64
POE 701+79.80

+83.17 275.00
+45.00 213.00
+90.00 194.00
+10.00 223.00
+20.00 193.00
+03.00 180.00
+16.00 199.00
+42.00 208.00
+80.00 209.00
+10.00 193.00
+27.00
+35.00 45.00
48.00 5.98
+49.59 370.16
+75.00 371.00-345.51
+15.00 384.00

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

10/20/2016

R061333.DGN

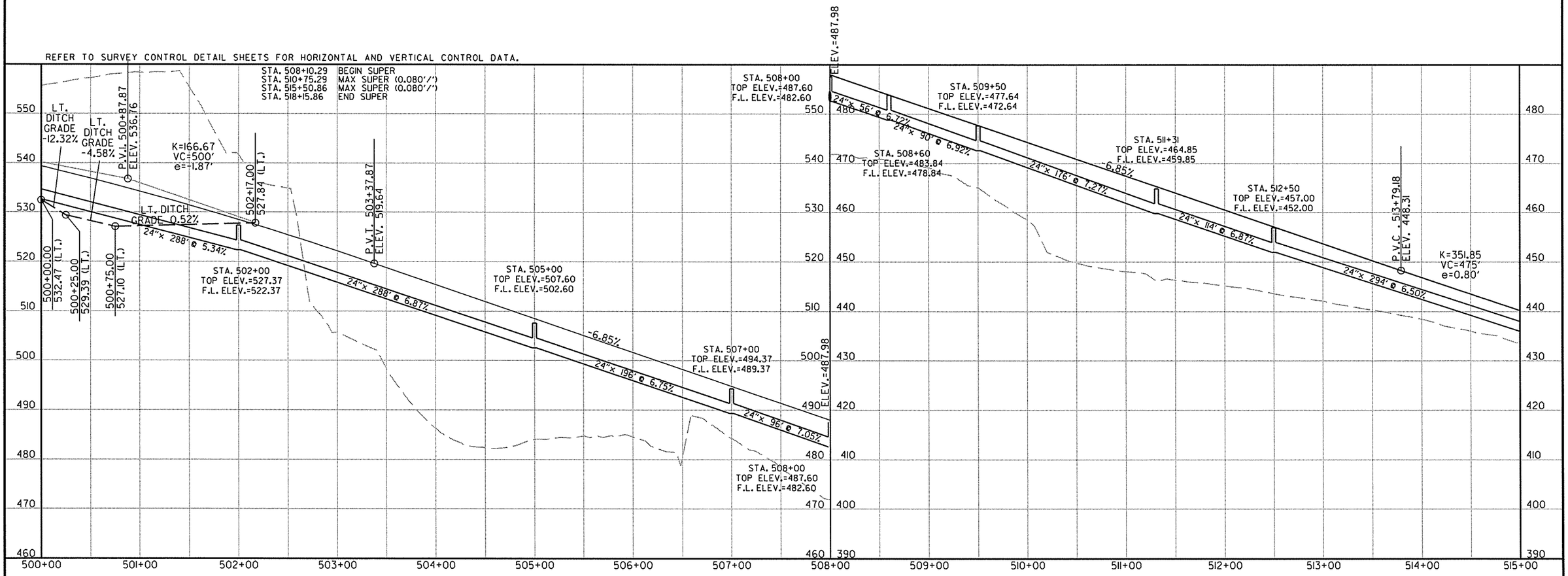
I-430 NB ENT. RAMP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	63	272

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



6/1/2015

R061333.DGN

I-430 NB ENT. RAMP

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10-21-16			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061333	64	272

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STA. 518+04.56
END I-430

700' ACCELERATION LANE

300' TAPER

PT 515+31.36

PT 517+01.14

N 6°18'11" E

N 10°50'02" E

+04.56
56.03'
NOSE

PC 518+84.46

PC 519+11.27

PI 526+46.44

PI 526+36.06

+70.36

CONST. LIMITS

EXISTING R/W & C/A

+49.59
370.16

STA. 515+50 CONSTRUCT
TYPE ST DROP INLET 11.5' LT. OF C.L.
WITH 24" X 135' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON LT. STA. 516+90
DROP INLET 3'-0" X 3'-0" X H=3'-11"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS V)(TYPE 3) = 135 LIN. FT.

STA. 516+90 CONSTRUCT
TYPE ST DROP INLET 11.5' LT. OF C.L.
WITH 24" X 52' R.C. PIPE OUTLET W/ F.E.S.
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" F.E.S. = 1EACH
24" R.C. PIPE (CLASS III)(TYPE 3) = 52 LIN. FT.

I-430 NB ON RAMP
PI = 513+61.13
Δ = 25°57'12"LT.
D = 3°45'00"
T = 352.09'
L = 692.09'
PC = 510+09.04
PT = 517+01.14
e = 0.080'/'
Ls = 350'

I-430 NB ON RAMP
PI = 526+46.44
Δ = 69°50'44"RT.
D = 5°15'00"
T = 761.98'
L = 1330.39'
PC = 518+84.46
PT = 532+14.85
e = 0.100'/'
Ls = 480'

I-430
PI = 526+36.06
Δ = 64°37'34"RT.
D = 5°00'00"
T = 724.78'
L = 1292.52'
PC = 519+11.27
PT = 532+03.80

STA. 523+37 IN PLACE
TYPE RM DROP INLET
WITH 24" X 85' R.C. PIPE OUTLET W/ F.E.S.
REMOVE F.E.S. RT. AND
EXTEND R.C. PIPE 10' RT. W/ F.E.S.
WITH CONCRETE COLLAR
24" R.C. PIPE CULVERT (CLASS III)(TYPE 3) = 10 LIN. FT.
24" F.E.S. = 1EACH

STA. 526+94 IN PLACE
TYPE RM DROP INLET
WITH 24" X 82' R.C. PIPE OUTLET W/ F.E.S.
REMOVE F.E.S. RT. AND
EXTEND R.C. PIPE 12' RT. W/ F.E.S.
WITH CONCRETE COLLAR
24" R.C. PIPE CULVERT (CLASS III)(TYPE 3) = 12 LIN. FT.
24" F.E.S. = 1EACH

STA.	STA.	SIDE	SIDE (TYPE E)	MEDIAN (TYPE B)
514+00.00	514+38.00	LT.	38'	
514+38.00	516+66.86	LT.		228.86'
516+66.86	517+16.86	LT.		50'

STA. 529+70.36
END JOB 061333
LOG MILE 9.60

PT 532+03.80
PT 532+14.85

I-430 NB ENT. RAMP

10/20/2016

R061333.DGN

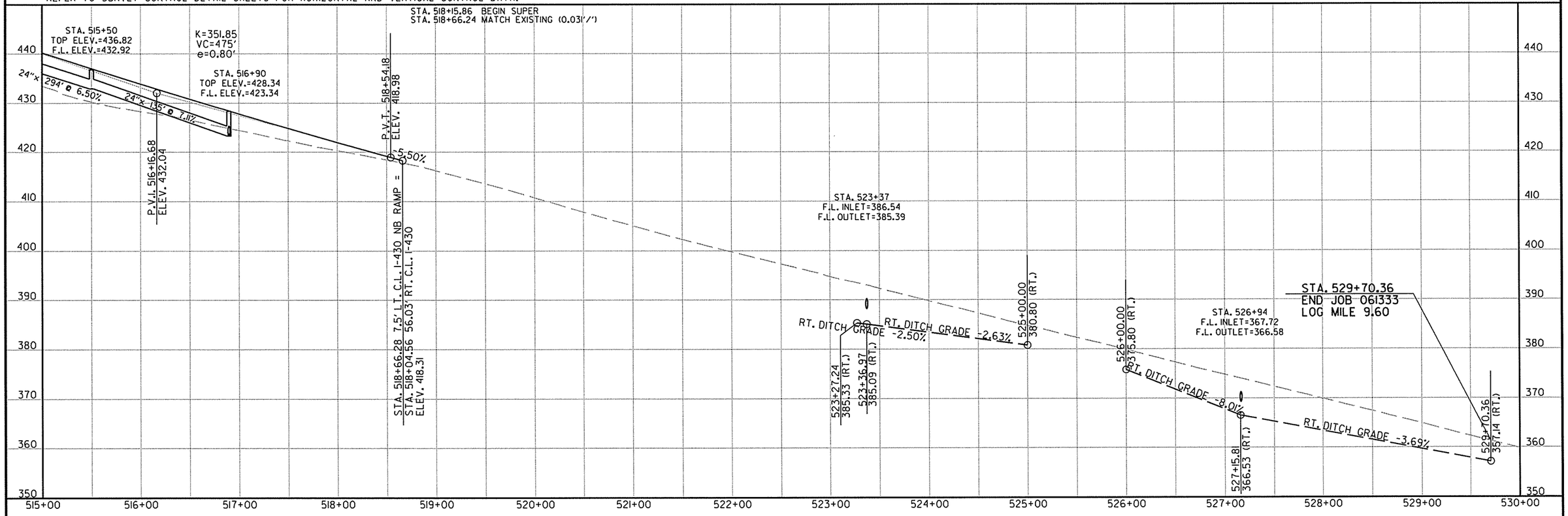
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	65	272

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



I-430 NB ENT. RAMP

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	66	272

(2) PLAN AND PROFILE SHEETS

STA. 495+99 IN PLACE
TYPE R DROP INLET
WITH 24" X 66' R.C. PIPE OUTLET
REMOVE D.I. AND CONSTRUCT
TYPE ST DROP INLET 4.0' LT. OF C.L.
WITH 24" X 4' R.C. PIPE OUTLET
CONNECT TO EXISTING R.C. PIPE OUTLET
WITH CONCRETE COLLAR
DROP INLET 3'-0" X 3'-0" X H=2'-11"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 4 LIN. FT.

STA. 495+00 - INSTALL
WIRE ROPE SAFETY FENCE END TERMINAL

STA. 500+98 IN PLACE
TYPE R DROP INLET
WITH 24" X 66' R.C. PIPE INLET
AND 24" X 94' R.C. PIPE OUTLET
REMOVE D.I. AND CONSTRUCT
TYPE ST DROP INLET 4.5' LT. OF C.L.
WITH 24" X 4' R.C. PIPE INLET
CONNECT TO EXISTING R.C. PIPE INLET
AND 24" X 8' R.C. PIPE OUTLET
CONNECT TO EXISTING R.C. PIPE OUTLET
WITH CONCRETE COLLARS
DROP INLET 3'-0" X 3'-0" X H=4'-3"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III(TYPE 3) = 12 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

I-430
PI = 494+12.51
Δ = 37°41'55" RT.
D = 1°30'00"
T = 1304.00'
L = 2513.23'
PC = 481+08.51
PT = 506+21.74
e = MATCH EXISTING
Ls = MATCH EXISTING

PI 494+12.51

PI 502+30.25

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 495+99 (MEDIAN)
TOP ELEV.=517.04
F.L. ELEV.=514.14

STA. 500+98 (MEDIAN)
TOP ELEV.=498.67
F.L. ELEV.=494.42

560 550 540 530 520 510 500 490 480 470

487+00 488+00 489+00 490+00 491+00 492+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	66A	272

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

I-430
PI = 494+12.51
Δ = 37°41'55"RT.
D = 1°30'00"
T = 1304.00'
L = 2513.23'
PC = 481+08.51
PT = 506+21.74
e = MATCH EXISTING
Ls = MATCH EXISTING

I-430
PI = 512+75.05
Δ = 20°44'03"LT.
D = 4°00'00"
T = 262.04'
L = 518.35'
PC = 510+13.00
PT = 515+31.36
e = MATCH EXISTING
Ls = MATCH EXISTING

STA. 502+79.98
BEGIN I-430

STA. 518+04.56
END I-430
N 6°18'11" E

STA. 502+50 CONSTRUCT
TYPE ST DROP INLET 98.75' RT. OF C.L.
WITH 36" X 98' R.C. PIPE OUTLET
CONNECT TO JUNCTION BOX ON RT. STA. 503+50
DROP INLET 3'-8" X 3'-0" X H=4'-4"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
36" R.C. PIPE (CLASS III)(TYPE 3) = 98 LIN. FT.

STA. 503+50 CONSTRUCT
TYPE ST JUNCTION BOX 72.73' RT. OF C.L.
WITH 36" X 94' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 504+50
JUNCTION BOX 3'-8" X 3'-0" X H=6'-4"
TYPE ST JUNCTION BOX = 1 EACH
36" R.C. PIPE (CLASS III)(TYPE 3) = 94 LIN. FT.

STA. 504+50 CONSTRUCT
TYPE ST DROP INLET 73.91' RT. OF C.L.
WITH 36" X 142' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 505+98
DROP INLET 3'-8" X 3'-0" X H=4'-7"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
36" R.C. PIPE (CLASS III)(TYPE 3) = 142 LIN. FT.

STA. 505+98 IN PLACE
24" X 86' R.C. PIPE OUTLET
REMOVE 13' RT. AND CONSTRUCT
TYPE ST DROP INLET 77.42' RT. OF C.L.
24" X 4' R.C. PIPE INLET
WITH CONCRETE COLLAR
AND 36" X 98' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 507+00
DROP INLET 3'-8" X 3'-0" X H=5'-9"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III)(TYPE 3) = 4 LIN. FT.
36" R.C. PIPE (CLASS III)(TYPE 3) = 98 LIN. FT.

STA. 507+00 CONSTRUCT
TYPE ST DROP INLET 77.49' RT. OF C.L.
WITH 36" X 96' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 508+00
DROP INLET 3'-8" X 3'-0" X H=7'-4"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
36" R.C. PIPE (CLASS III)(TYPE 3) = 96 LIN. FT.

STA. 508+00 CONSTRUCT
TYPE ST DROP INLET 77.49' RT. OF C.L.
WITH 36" X 46' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 508+50
DROP INLET 3'-8" X 3'-0" X H=6'-8"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
36" R.C. PIPE (CLASS III)(TYPE 3) = 46 LIN. FT.

STA. 508+50 CONSTRUCT
TYPE ST DROP INLET 77.49' RT. OF C.L.
WITH 36" X 46' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 509+00
DROP INLET 3'-8" X 3'-0" X H=6'-8"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
36" R.C. PIPE (CLASS III)(TYPE 3) = 46 LIN. FT.

STA. 509+00 CONSTRUCT
TYPE ST DROP INLET 77.50' RT. OF C.L.
WITH 36" X 200' R.C. PIPE OUTLET
CONNECT TO JUNCTION BOX ON RT. STA. 510+99
DROP INLET 3'-8" X 3'-0" X H=6'-10"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
36" R.C. PIPE (CLASS III)(TYPE 3) = 200 LIN. FT.

STA. 510+99 IN PLACE
24" X 174' R.C. PIPE OUTLET
REMOVE 38' RT. AND CONSTRUCT
TYPE ST JUNCTION BOX 72.17' RT. OF C.L.
24" X 4' R.C. PIPE INLET
WITH CONCRETE COLLAR
AND 42" X 310' R.C. PIPE OUTLET
CONNECT TO TYPE ST JUNCTION BOX ON RT. STA. 513+97
JUNCTION BOX 4'-4" X 3'-0" X H=12'-2"
TYPE ST JUNCTION BOX = 1 EACH
24" R.C. PIPE (CLASS III)(TYPE 3) = 4 LIN. FT.
42" R.C. PIPE (CLASS III)(TYPE 3) = 310 LIN. FT.

STA. 513+97 IN PLACE
24" X 122' R.C. PIPE OUTLET
REMOVE 60' RT. AND CONSTRUCT
TYPE ST JUNCTION BOX 66.91' RT. OF C.L.
24" X 4' R.C. PIPE INLET
WITH CONCRETE COLLAR
AND 42" X 84' R.C. PIPE OUTLET
WITH F.E.S.
JUNCTION BOX 4'-4" X 4'-4" X H=13'-11"
TYPE ST JUNCTION BOX = 1 EACH
24" R.C. PIPE (CLASS III)(TYPE 3) = 4 LIN. FT.
42" R.C. PIPE (CLASS III)(TYPE 3) = 84 LIN. FT.
42" F.E.S. = 1 EACH

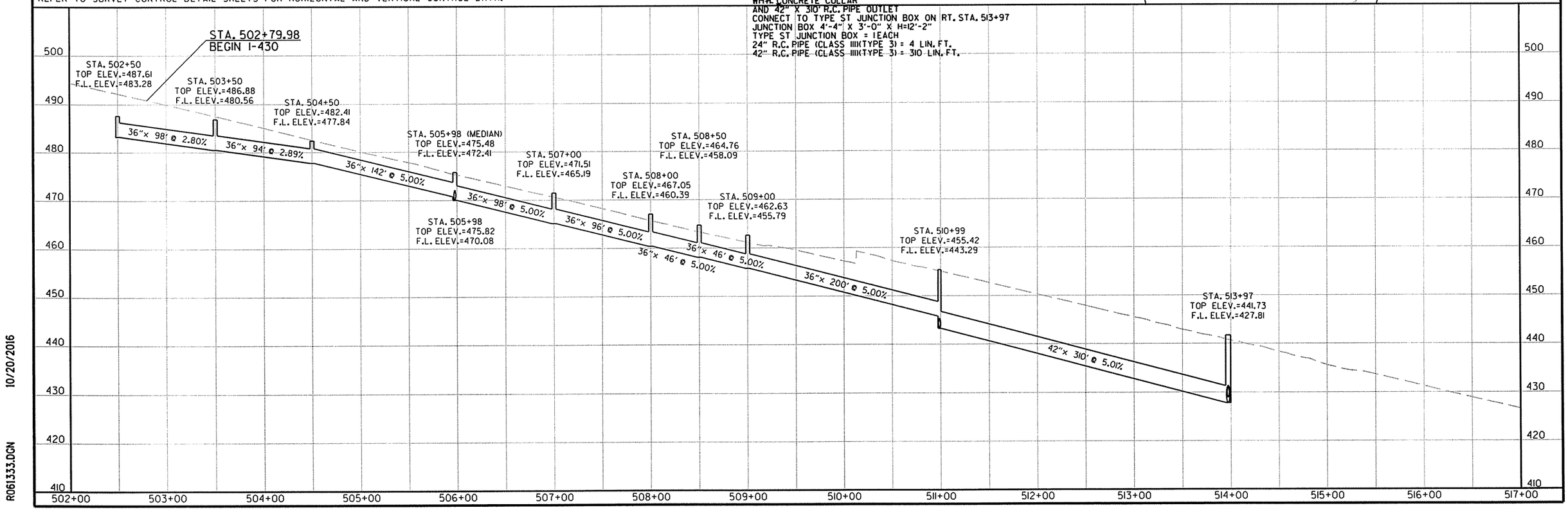
STA.	STA.	SIDE	(TYPE A-1)
502+80.00	515+05.35	RT.	1225.35'

STA. 509+16 INSTALL
CRASH CUSHION IN MEDIAN = 1 EACH

STA. 510+00 INSTALL
CRASH CUSHION IN MEDIAN = 1 EACH

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

I-430



10/20/2016

R0613333.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.		061333	67	272

(2) PLAN AND PROFLE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

STA. 399+94 INSTALL
18" X 24' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 7 CU. YDS. UNCL. EXC.
= 887 CU. YDS. COMP. EMB.

STA. 399+55 INSTALL
18" X 41' PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 401+92 IN PLACE
18" X 26" C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.
= 871 CU. YDS. COMP. EMB.

STA. 402+25 CONSTRUCT
TYPE ST DROP INLET 8' RT. OF C.L.
WITH 24" X 6' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 493+00
DROP INLET 3'-0" X 3'-0" X H=26'-9"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III (TYPE 3) = 6 LIN. FT.

STA. 402+25 CONSTRUCT
TYPE ST DROP INLET 23.28' LT. OF C.L.
WITH 24" X 34' PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 402+25
DROP INLET 3'-0" X 3'-0" X H=2'-4"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III (TYPE 3) = 34 LIN. FT.
24" SLPCCS PIPE (TYPE 2) = 34 LIN. FT.
24" HDPE PIPE (TYPE 2) = 34 LIN. FT.
24" PVC PIPE (TYPE 2) = 34 LIN. FT.

STA. 403+86 CONSTRUCT
TYPE ST DROP INLET 17.75' LT. OF C.L.
WITH 24" X 36' PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 403+69
DROP INLET 3'-0" X 3'-0" X H=4'-3"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III (TYPE 3) = 36 LIN. FT.
24" SLPCCS PIPE (TYPE 2) = 36 LIN. FT.
24" HDPE PIPE (TYPE 2) = 36 LIN. FT.
24" PVC PIPE (TYPE 2) = 36 LIN. FT.

STA. 404+14 CONSTRUCT
APPROACH ON LT. = 40 CU. YDS. UNCL. EXC.
= 5 CU. YDS. COMP. EMB.

NOTE: DRIVEWAY CONSTRUCTION OUTSIDE OF R.O.W. SHALL BE CONSTRUCTED BY PROPERTY OWNER.

STA. 403+69 CONSTRUCT
TYPE ST DROP INLET 14.71' RT. OF C.L.
WITH 24" X 142' PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 402+25
DROP INLET 3'-0" X 3'-0" X H=7'-3"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III (TYPE 3) = 142 LIN. FT.
24" SLPCCS PIPE (TYPE 2) = 142 LIN. FT.
24" HDPE PIPE (TYPE 2) = 142 LIN. FT.
24" PVC PIPE (TYPE 2) = 142 LIN. FT.

STA. 404+50 CONSTRUCT
DROP INLET 17' RT. OF C.L.
& 24" X 78' PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 403+69
DROP INLET H=4'-1"
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 3' X 3'
24" R.C. PIPE (CLASS III (TYPE 3) = 78 LIN. FT.
24" SLPCCS PIPE (TYPE 2) = 78 LIN. FT.
24" HDPE PIPE (TYPE 2) = 78 LIN. FT.
24" PVC PIPE (TYPE 2) = 78 LIN. FT.

STA. 400+30 CONSTRUCT
TYPE ST DROP INLET 8' RT. OF C.L.
WITH 24" X 192' PIPE OUTLET
CONNECT TO DROP INLET ON RT. STA. 402+25
DROP INLET 3'-0" X 3'-0" X H=5'-3"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1 EACH
24" R.C. PIPE (CLASS III (TYPE 3) = 192 LIN. FT.
24" SLPCCS PIPE (TYPE 2) = 192 LIN. FT.
24" HDPE PIPE (TYPE 2) = 192 LIN. FT.
24" PVC PIPE (TYPE 2) = 192 LIN. FT.

PINE BURO RD.
PI = 403+37.84
Δ = 10°03'47" LT.
D = 4°15'00"
T = 118.69'
L = 236.78'
PC = 402+19.15
PT = 404+55.93
NO SUPER

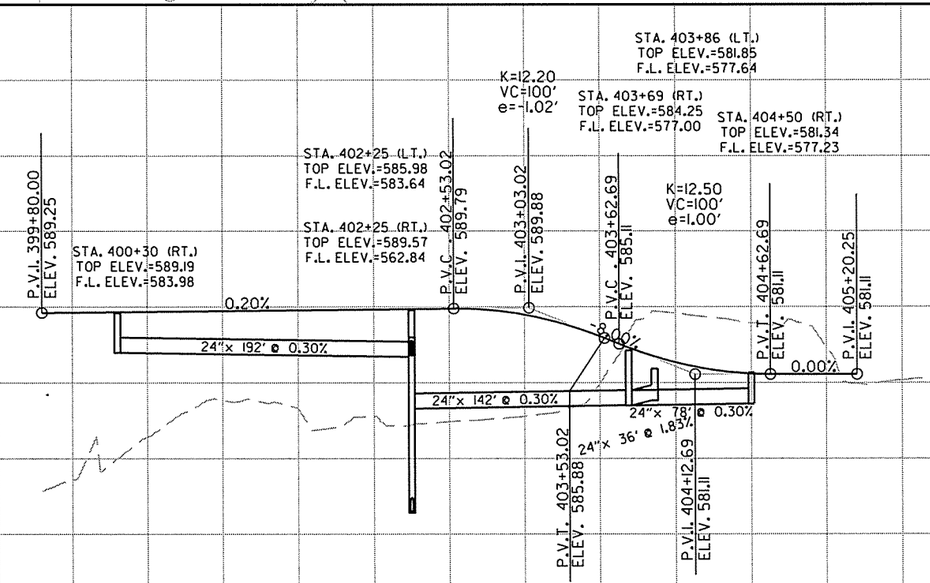
PINE BURO RD.
PI = 405+00.46
Δ = 94°21'17" RT.
D = 163°42'08"
T = 37.77'
L = 57.64'
PC = 404+62.69
PT = 405+20.33
NO SUPER

STA. 237+21.55 ON HWY. 10 =
STA. 405+66.25 ON PINE BURO ROAD
& 90°00'00"

PINE BURO RD.

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA.	STA.	SIDE	SIDE (TYPE SPECIAL-1)	MEDIAN (TYPE B)
399+11.93	403+75.00	RT.	542.04'	
403+75.00	404+25.00	RT.		50'



2/11/2015

R061333.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.		061333	68	272

(2) PLAN AND PROFILE DRIVEWAYS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
7-1-15

STA. 399+94 INSTALL
18" X 24' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 7 CU. YDS. UNCL. EXC.
= 887 CU. YDS. COMP. EMB.

STA. 399+55 INSTALL
18" X 41' PIPE CULVERT
LT. SIDE DRAIN
REMOVE

DRIVEWAY STA. 399+94
PI = 700+65.33
Δ = 26°52'55" LT.
R = 28.00'
T = 6.69'
L = 13.14'
PC = 700+58.64
PT = 700+71.77

STA. 401+92 IN PLACE
18" X 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 5 CU. YDS. UNCL. EXC.
= 871 CU. YDS. COMP. EMB.

STA. 404+14 CONSTRUCT
APPROACH ON LT. = 40 CU. YDS. UNCL. EXC.
= 5 CU. YDS. COMP. EMB.
NOTE: DRIVEWAY CONSTRUCTION OUTSIDE OF R.O.W. SHALL BE CONSTRUCTED BY PROPERTY OWNER.

PROPOSED R/W & C/A
EXISTING R/W & C/A
PROPOSED C/A
CONST. LIMITS
T.C.E.
PROP. R/W
PROPOSED R/W
EXISTING R/W
POB 700+00.00
POB 398+50.00
PT 700+71.77
PC 700+58.64
POE 701+79.80
PI 700+65.33
PI 63°44'40" E
PI 801+41.63
PI 800+00.00
PC 402+19.15
PT 404+55.93
PC 404+62.69
PI 405+00.46
PT 405+20.33
PI 241+79.19
POE 405+66.25
PC 490+46.37
PT 233+00.54
PI 230+22.03
PI 403+37.84
PI 496+14.59
PC 238+97.45
POB 488+46.08
S 76°01'45" E
S 53°17'15" E
S 81°44'15" E
S 86°03'32" E
S 64°57'15" E
N 76°01'45" W
N 81°44'15" W
N 13°15'45" E
PN:33 PD:5/8" REBAR W/2" CAP STAMPED PN:3
PN:9 PD:5/8" REBAR W/2" CAP STAMPED PN:9
PN:20 PD:5/8" REBAR W/2" CAP STAMPED PN:20
TY-TREE HOUSE
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

DRIVEWAYS

P.V.I. 700+00.00 ELEV. 582.50
P.V.C. 700+05.58 ELEV. 582.08
P.V.T. 700+35.58 ELEV. 581.51
P.V.C. 700+42.17 ELEV. 581.76
P.V.T. 700+72.17 ELEV. 583.60
P.V.I. 700+20.58 ELEV. 580.95
P.V.T. 700+57.17 ELEV. 582.32
P.V.I. 701+34.80 ELEV. 588.95
P.V.I. 701+49.80 ELEV. 590.23
P.V.T. 701+64.80 ELEV. 590.23
P.V.I. 701+79.80 ELEV. 590.23
P.V.I. 800+00.00 ELEV. 589.74
P.V.C. 800+90.92 ELEV. 589.74
P.V.I. 801+05.92 ELEV. 589.74
P.V.I. 801+22.34 ELEV. 591.77
P.V.T. 801+20.92 ELEV. 591.96
K=2.66 VC=30' e=0.42'
K=6.26 VC=30' e=0.18'
K=3.51 VC=30' e=-0.32'
K=2.22 VC=30' e=0.51'
-1.5%
3.0%
8.54%
0.00%
13.54%

2/11/2015
R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	69	272

(2) TRAFFIC SIGNAL NOTES

TRAFFIC SIGNAL NOTES:

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2014) NATIONAL ELECTRICAL CODE, NFPA 101 (2012) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC 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 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 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'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 AWG 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 ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
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 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 PAVEMENT MARKING PLAN SHEETS.
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 SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
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 PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. 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, 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 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
17. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 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.
18. 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.
19. 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.
20. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO ISMA STANDARDS.
21. ONE VIDEO PROGRAMMING 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.
22. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY 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.
23. 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.
24. TRAFFIC SIGNAL CABINET AND SYSTEM LOCAL CONTROLLER SHALL BE DELIVERED TO THE CITY OF LITTLE TRAFFIC SIGNAL SHOP FOR A 10 DAY PERIOD PRIOR TO INSTALLATION IN THE FIELD FOR INSPECTION BY THE CITY.
25. PE (POLYETHYLENE) CONDUIT SHALL BE USED IN CONTINUOUS RUNS WITH NO JOINTS AND RATED FOR BORING.
26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

DATE: 10-20-16 FILE NAME: t061333_job.dgn

LOCATION:	I-430/HWY. 10 INTERCHANGE IMPVT.
CITY:	LITTLE ROCK
COUNTY:	PULASKI
DISTRICT: 6	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
10-21-16				6	ARK.			
				JOB NO.		061333	70	272

(2) SUMMARY OF TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

SUMMARY OF TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	HWY. 10 AT I-430 NB EXIT RAMP	HWY. 10 AT PLEASANT VALLEY RD.	TOTAL QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	1	2	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	14	9	23	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	2	3	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2009	451	2460	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)		148	148	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	132	279	411	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	271	344	615	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	80	20	100	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	60	40	100	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	20	40	LIN. FT.
710	NON-METALLIC CONDUIT (2")	43	375	418	LIN. FT.
710	NON-METALLIC CONDUIT (3")	295	417	712	LIN. FT.
711	CONCRETE PULL BOX (TYPE 1)	1		1	EACH
711	CONCRETE PULL BOX (TYPE 2 HD)		4	4	EACH
711	CONCRETE PULL BOX (TYPE 2)	4	1	5	EACH
713	SPAN WIRE ASSEMBLY	1		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')		1	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (36')	1		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1		1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')		1	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52')		1	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (54')		1	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (56')	1		1	EACH
716	TREATED WOOD POLE (CLASS 2, 40')	4		4	EACH
733	VIDEO CABLE	1862	1284	3146	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	8	6	14	EACH
733	VIDEO MONITOR (CLR)	1	1	2	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	6	3	9	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	2	1	3	EACH
SP	E-NET CABLE (EXTERIOR CAT 5)	140	70	210	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	292	495	787	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	155	205	360	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	20	40	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	558	828	1386	LIN. FT.
SP	ETHERNET SWITCH, TIOO HARDENED (8 PORT)	1	1	2	EACH
SP	FSK COMMUNICATION CABLE RELOCATION		70	70	LIN. FT.
SP	LED LUMINAIRE ASSEMBLY	4	4	8	EACH
SP	NET-ACCESS RADIO (5.8 GHZ, 32 MBPS)	1	1	2	EACH
SP	NET-SUBSCRIBER RADIO (5.8 GHZ, 32 MBPS)	1	1	2	EACH
SP	RELOCATION OF RADIO COMMUNICATION EQUIPMENT	1	0	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00		1.00	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	1	2	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	2		2	EACH
SP	18" STREET NAME SIGN	1	4	5	EACH

DATE: 10-20-16 FILE NAME: t061333_job.dgn

LOCATION: I-430/HWY. 10 INTERCHANGE IMPVT.
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 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
10-21-16				6	ARK.			
				JOB NO.		061333	71	272

(2) TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

STAGE 3 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	6	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1WAY)	1	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1650	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	80	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	60	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	43	LIN. FT.
710	NON-METALLIC CONDUIT (3")	50	LIN. FT.
711	CONCRETE PULL BOX (TYPE 1)	1	EACH
711	CONCRETE PULL BOX (TYPE 2)	2	EACH
713	SPAN WIRE ASSEMBLY	1	EACH
716	TREATED WOOD POLE (CLASS 2, 40')	4	EACH
733	VIDEO CABLE	1010	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	4	EACH
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
SP	E-NET CABLE (EXTERIOR CAT 5)	70	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	31	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	ETHERNET SWITCH, TIOO HARDENED (8 PORT)	1	EACH
SP	NET-ACCESS RADIO (5.8 GHZ, 32 MBPS)	1	EACH
SP	NET-SUBSCRIBER RADIO (5.8 GHZ, 32 MBPS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH

STAGE 3
THE EXISTING TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE ENTIRE STAGE 3 TRAFFIC SIGNAL INSTALLATION CAN BE PLACED INTO OPERATION PRIOR TO THE START OF STAGE 3 AS DIRECTED BY THE ENGINEER. MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 3 TRAFFIC SIGNAL PLAN. (REFER TO MAINTENANCE OF TRAFFIC DETAILS).

STAGE 4 TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.33	LUMP SUM
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	1	EACH

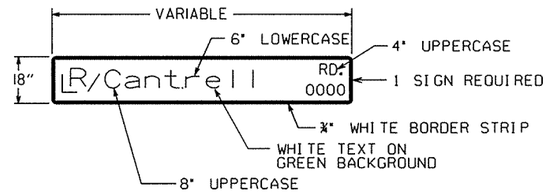
STAGE 4
REMOVE SIGANL HEAD 1 AND REPLACE WITH TRAFFIC SIGNAL HEAD, LED. (3 SECTION 1 WAY).
CONFIGURE TRAFFIC SIGNAL HEADS 1-3 AS SHOWN ON THE STAGE 4 TRAFFIC SIGNAL PLAN AS DIRECTED BY THE ENGINEER.
MAINTAIN THIS TRAFFIC SIGNAL CONFIGURATION AS SHOWN ON THE STAGE 4 TRAFFIC SIGANL PLAN.
(REFER TO MAINTENANCE OF TRAFFIC DETAILS).

PERMANENT TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1WAY)	7	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	359	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	132	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	271	LIN. FT.
710	NON-METALLIC CONDUIT (3")	245	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2)	2	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (36')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (56')	1	EACH
733	VIDEO CABLE	852	LIN. FT.
SP&733	VIDEO DETECTOR (CLR)	4	EACH
SP&733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP&733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	3	EACH
SP	E-NET CABLE (EXTERIOR CAT 5)	70	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	261	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	155	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	558	LIN. FT.
SP	LED LUMINAIRE ASSEMBLY	4	EACH
SP	RELOCATION OF RADIO COMMUNICATION EQUIPMENT	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	0.34	LUMP SUM
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	1	EACH
SP	18" STREET NAME SIGN	1	EACH

PERMANENT TRAFFIC SIGNAL
THE TEMPORARY STAGE 4 TRAFFIC SIGNAL INSTALLATION SHALL REMAIN IN OPERATION UNTIL THE PERMANENT TRAFFIC SIGNAL IS COMPLETED AND CAN BE PLACED INTO OPERATION AS DIRECTED BY THE ENGINNER.
INSTALL PERMANENT TRAFFIC SIGNAL AND REMOVE ALL STAGE 4 TEMPORARY TRAFFIC SIGNAL COMPONENTS.
(REFER TO PERMANENT TRAFFIC SIGNAL PLANS.)

TYPICAL OVERHEAD STREET NAME MARKER MAST ARM MOUNTED



NOTES:
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ANODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSS ROAD HAS TWO NAMES, THE SIGN FOR THE CROSS ROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM OF THE NEARSIDE LEFT POLE.
SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE CLEARVIEW 5-W-R FONT SHALL BE USED FOR ALL LETTERS.

DATE: 10-20-16 FILE NAME: t061333_01.dgn

LOCATION: HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: GWE

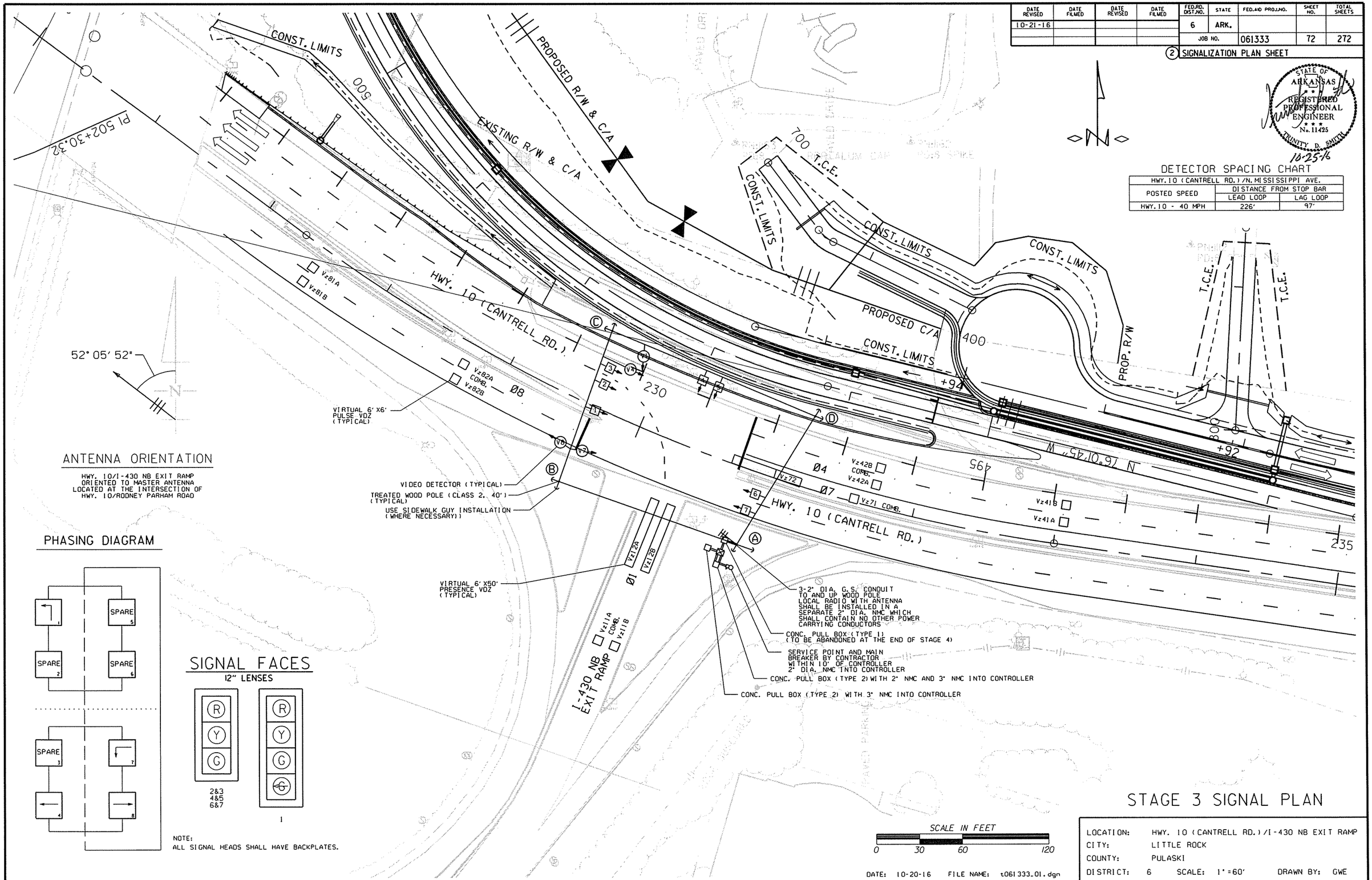
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	72	272

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

DETECTOR SPACING CHART

HWY. 10 (CANTRELL RD.) /N. MISSISSIPPI AVE.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 10 - 40 MPH	226'	97'



ANTENNA ORIENTATION

HWY. 10/I-430 NB EXIT RAMP
ORIENTED TO MASTER ANTENNA
LOCATED AT THE INTERSECTION OF
HWY. 10/RODNEY PARHAM ROAD

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

2&3
4&5
6&7

1

NOTE:
ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

SCALE IN FEET
0 30 60 120

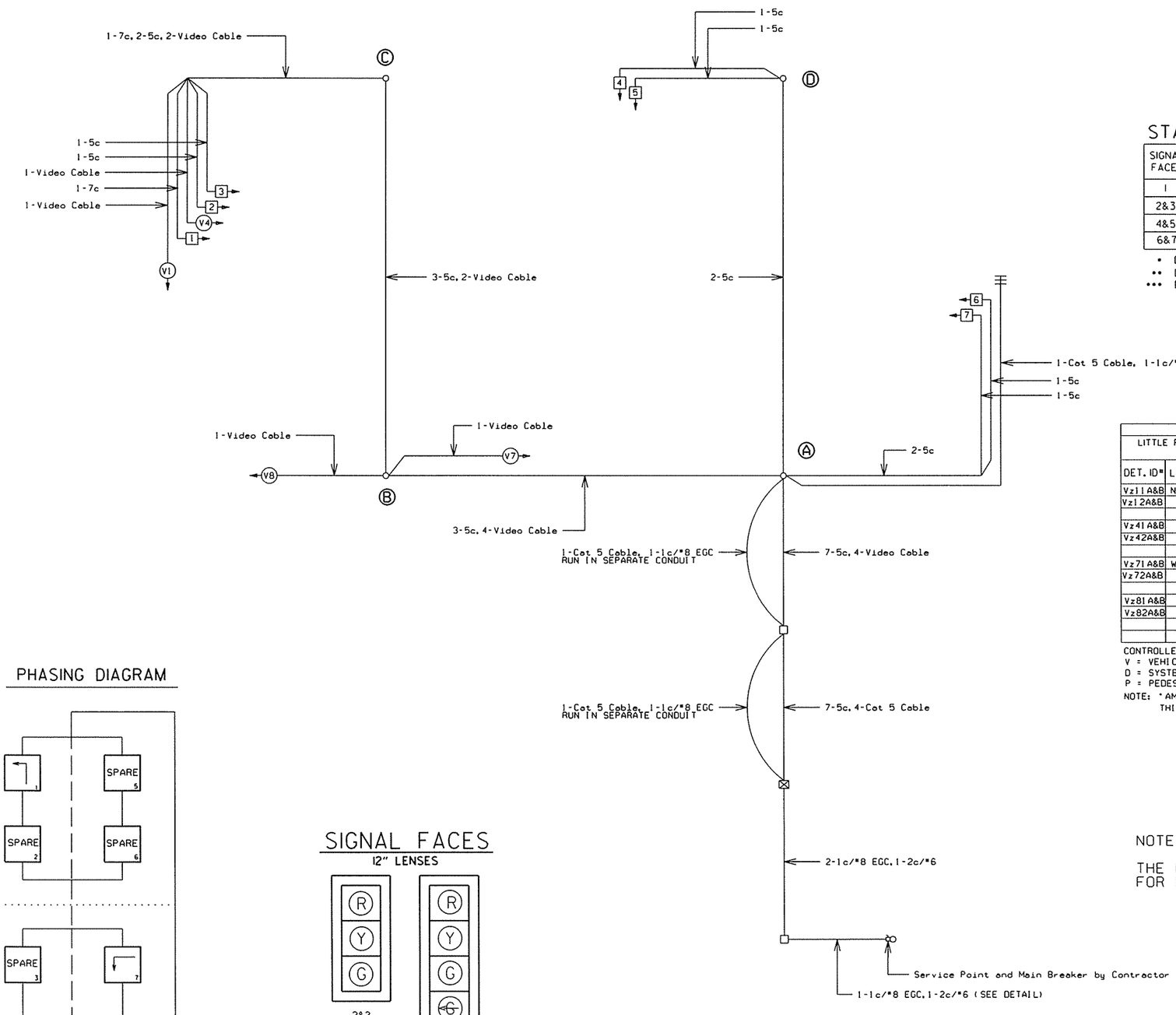
DATE: 10-20-16 FILE NAME: t061333_01.dgn

STAGE 3 SIGNAL PLAN

LOCATION:	HWY. 10 (CANTRELL RD.) /I-430 NB EXIT RAMP		
CITY:	LITTLE ROCK		
COUNTY:	PULASKI		
DISTRICT:	6	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
10-21-16				6	ARK.			
				JOB NO.		061333	73	272

(2) SIGNALIZATION PLAN SHEET



STAGE 3 INTERVAL CHART

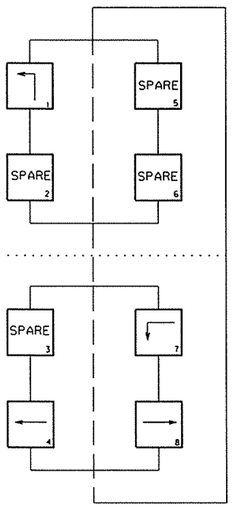
SIGNAL FACES	HWY. 10/I-430 NB EXIT RAMP							FLASH SEQ.
	1	CLR.	4+7	CLR.	4+8	CLR.		
1	~~G~~	•	~~G~~	•••	R	R		R
2&3	R	R	G	••	G	••		R
4&5	R	R	R	R	G	••		R
6&7	R	R	R	R	G	••		R

• 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

SYSTEM DESCRIPTION: JOB 061333 STAGE 3											
LITTLE ROCK - HWY. 10/I-430 NB EXIT RAMP DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTH
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz11A&B	NB LT. TURN ADVANCE	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12A&B	NB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz41A&B	WB ADVANCE	LOCAL			5	V4	4			CAMERA V4	23'
Vz42A&B	WB NEAR	COMB.			6	V12	4	4		CAMERA V4	23'
Vz71A&B	WB LT. TURN ADVANCE	COMB.			7	V15	7	7		CAMERA V7	23'
Vz72A&B	WB LEFT TURN	LOCAL			8	V7	7			CAMERA V7	23'
Vz81A&B	EB ADVANCE	LOCAL			9	V8	8			CAMERA V8	23'
Vz82A&B	EB NEAR	COMB.			10	V16	8	8		CAMERA V8	23'
				SPARE 3, 4, 7, 8, 11, 12, 13, 14, 15 & 16							

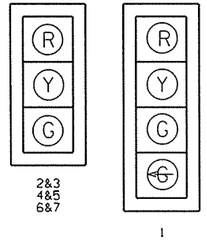
CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT
NOTE: *AMP CHN** REFERS TO TOE DETECTOR RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.

PHASING DIAGRAM



SIGNAL FACES

12" LENSES



NOTE:
ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

STAGE 3 WIRING DIAGRAM

NOTE TO CONTRACTOR:

THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

STAGE 3 TRAFFIC SIGNAL

DATE: 10-20-16 FILE NAME: t061333.01.dgn

LOCATION:	HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP
CITY:	LITTLE ROCK
COUNTY:	PULASKI
DISTRICT: 6	SCALE: N/A DRAWN BY: GWE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

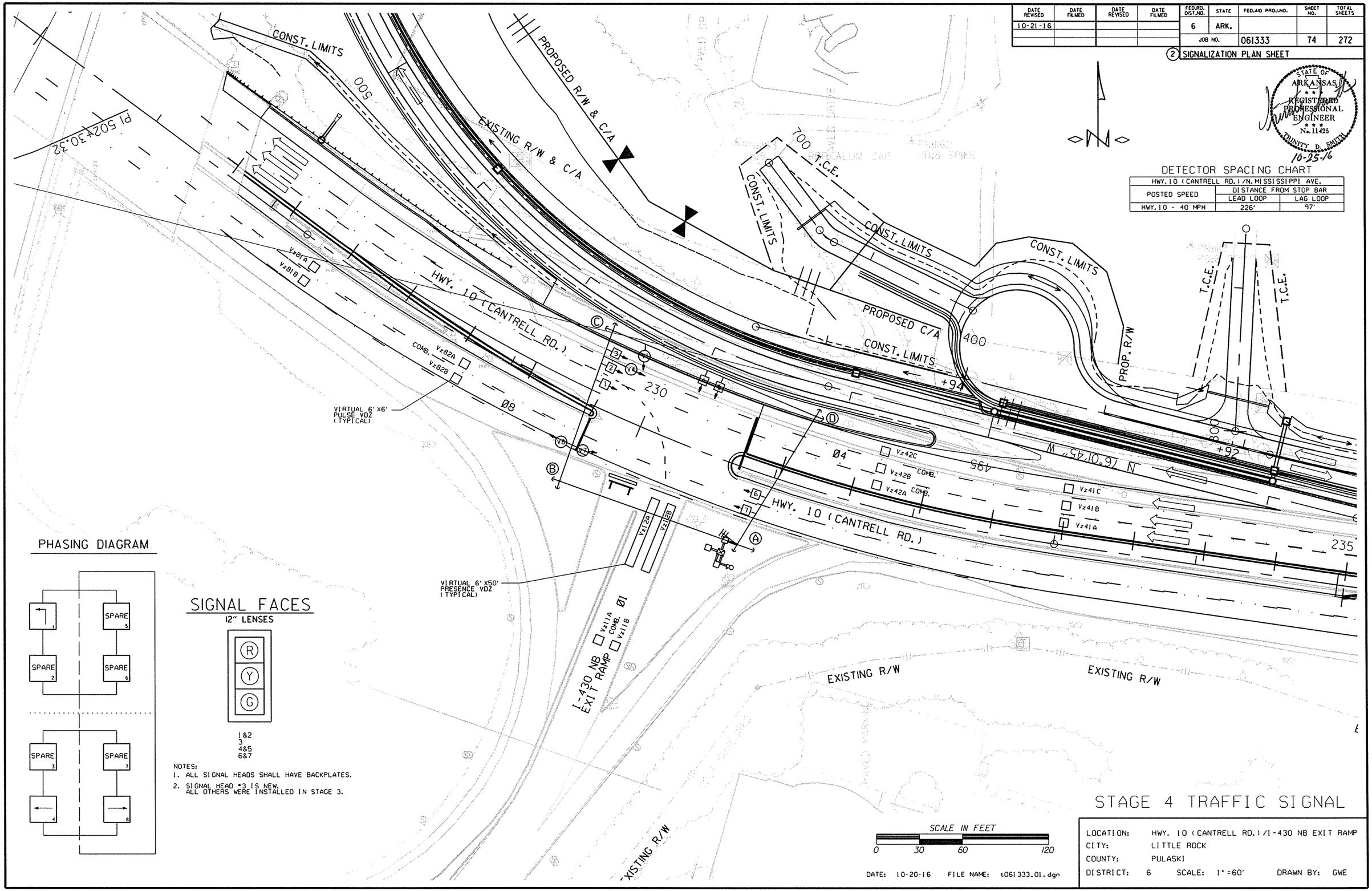
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	74	272

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

DETECTOR SPACING CHART

HWY. 10 (CANTRELL RD.)/N. MISSISSIPPI AVE.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 10 - 40 MPH	226'	97'



PHASING DIAGRAM

SIGNAL FACES

12" LENSES

1&2
3
4&5
6&7

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. SIGNAL HEAD #3 IS NEW. ALL OTHERS WERE INSTALLED IN STAGE 3.

SCALE IN FEET
0 30 60 120

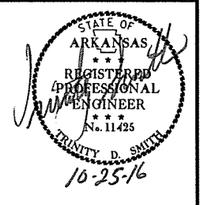
DATE: 10-20-16 FILE NAME: t061333_01.dgn

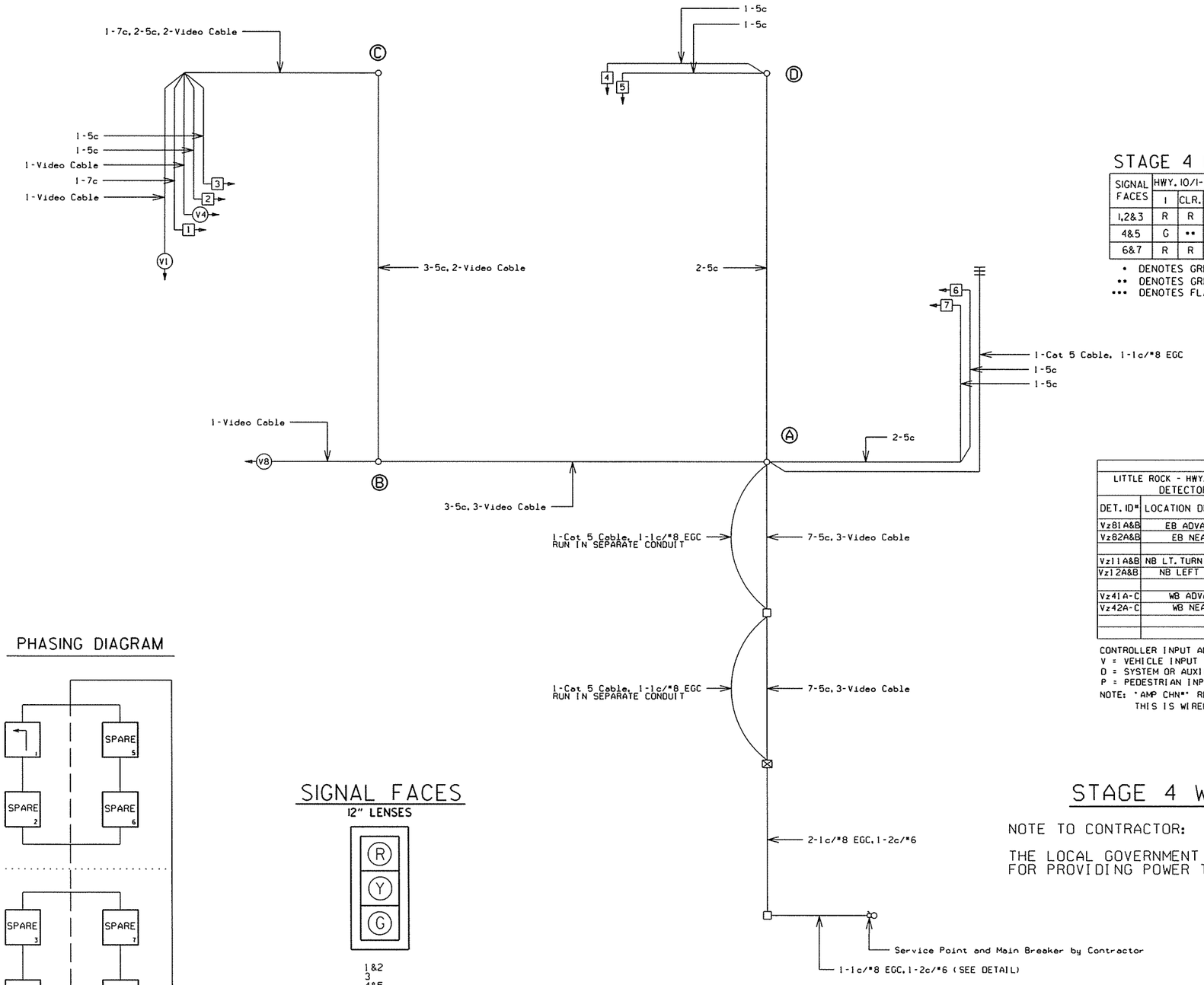
STAGE 4 TRAFFIC SIGNAL

LOCATION: HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 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
10-21-16				6	ARK.			
				JOB NO.		061333	75	272

(2) SIGNALIZATION PLAN SHEET





STAGE 4 INTERVAL CHART

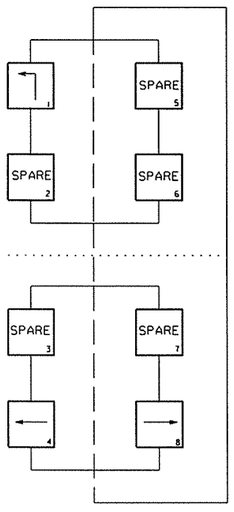
SIGNAL FACES	HWY. 10/I-430 NB EXIT RAMP							FLASH SEQ.
	1	CLR.	4+8	CLR.				
1,2&3	R	R	G	••				R
4&5	G	••	R	R				R
6&7	R	R	G	••				R

• 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

SYSTEM DESCRIPTION: JOB 061333 STAGE 4											
LITTLE ROCK - HWY. 10/I-430 NB EXIT RAMP DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER		PROGRAM ASSIGNMENTS LOCAL			COMMENTS	TUBE LENGTH
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *	MASTER SYSTEM DETECTOR NUMBERS		
Vz81A&B	EB ADVANCE	LOCAL			9	V8	8			CAMERA V8	23'
Vz82A&B	EB NEAR	COMB.			10	V16	8	8		CAMERA V8	23'
Vz11A&B	NB LT. TURN ADVANCE	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12A&B	NB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz41A-C	WB ADVANCE	LOCAL			5	V4	4			CAMERA V4	23'
Vz42A-C	WB NEAR	COMB.			6	V12	4	4		CAMERA V4	23'
					SPARE 3, 4, 7, 8, 11, 12, 13, 14, 15 & 16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
O = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT
NOTE: *AMP CHN** REFERS TO TOE DETECTOR RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.

PHASING DIAGRAM



SIGNAL FACES

12" LENSES

1&2
3
4&5
6&7

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. SIGNAL HEAD *3 IS NEW. ALL OTHERS WERE INSTALLED IN STAGE 3.

STAGE 4 WIRING DIAGRAM

NOTE TO CONTRACTOR:

THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

STAGE 4 TRAFFIC SIGNAL

LOCATION: HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: GWE

DATE: 10-20-16 FILE NAME: t061333_01.dgn

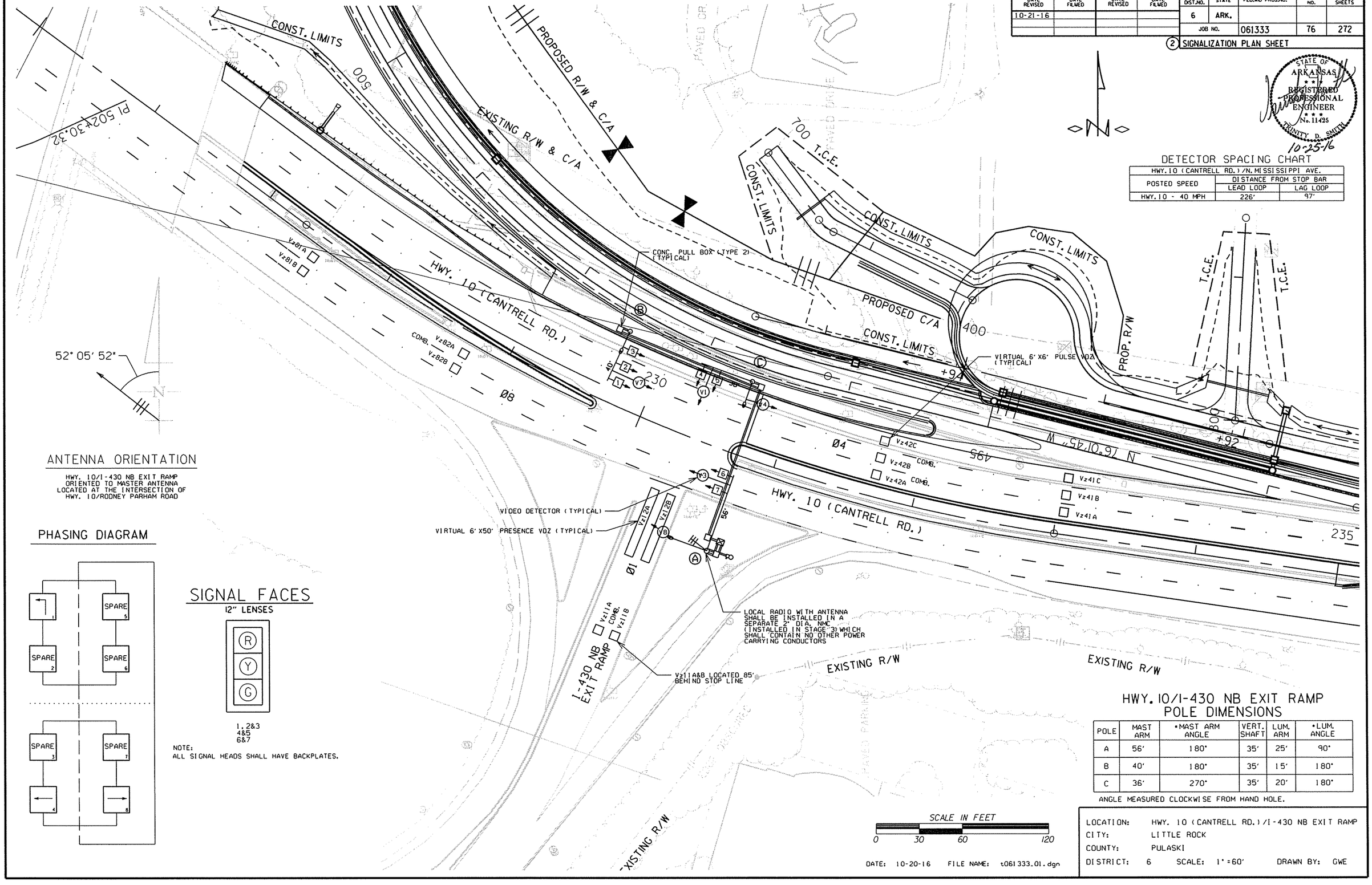
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	76	272

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

DETECTOR SPACING CHART

HWY. 10 (CANTRELL RD.)/N. MISSISSIPPI AVE.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 10 - 40 MPH	226'	97'



ANTENNA ORIENTATION

HWY. 10/I-430 NB EXIT RAMP
ORIENTED TO MASTER ANTENNA
LOCATED AT THE INTERSECTION OF
HWY. 10/RODNEY PARHAM ROAD

PHASING DIAGRAM

SIGNAL FACES

12" LENSES

1, 2&3
4&5
6&7

NOTE:
ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

HWY. 10/I-430 NB EXIT RAMP POLE DIMENSIONS

POLE	MAST ARM	*MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	*LUM. ANGLE
A	56'	180°	35'	25'	90°
B	40'	180°	35'	15'	180°
C	36'	270°	35'	20'	180°

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

SCALE IN FEET
0 30 60 120

DATE: 10-20-16 FILE NAME: t061333_01.dgn

LOCATION: HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 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
10-21-16				6	ARK.			
				JOB NO.		061333	77	272

(2) SIGNALIZATION PLAN SHEET

HWY. 10/I-430 NB EXIT RAMP
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 10 - STA. 230+75.06	70' RT.	1195471.18, 2084205.53
B	HWY. 10 - STA. 229+68.98	54' LT.	1195418.88, 2084360.12
C	HWY. 10 - STA. 230+65.64	52' LT.	1195503.35, 2084323.10

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-23-16

DESIGN PARAMETERS

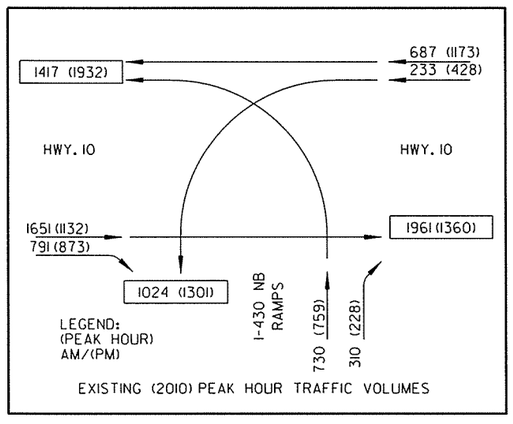
POSTED SPEED LIMIT:
40 MPH EAST AND WEST APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

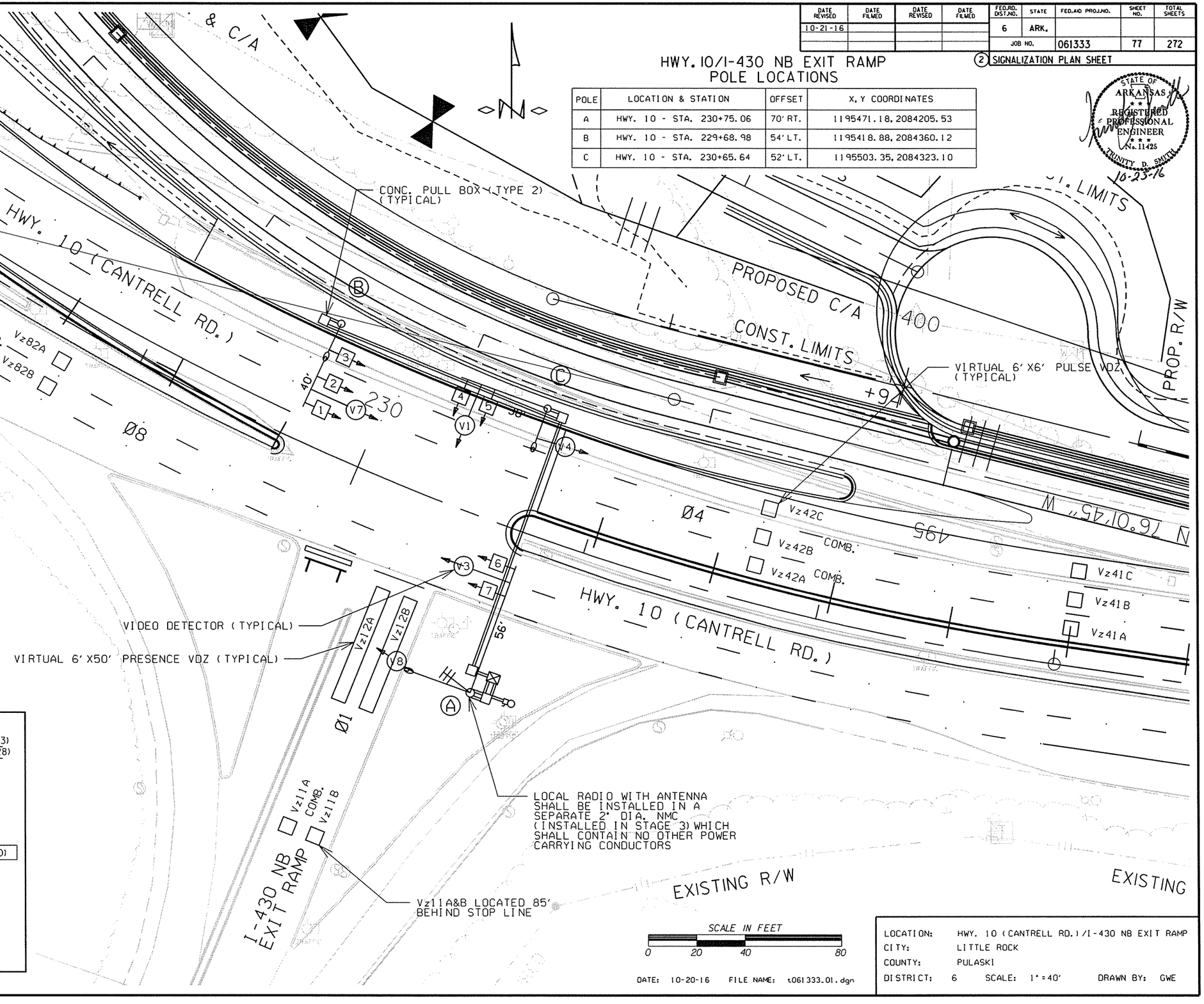
LOCATION OF STOP BARS
SHOWN ON PAVEMENT MARKING PLAN.
SEE SEPARATE SHEET.

MINIMUM CLEAR ZONE DISTANCE
1.5 FEET BEHIND CURB

TRAFFIC FLOW DIAGRAM



EXISTING (2010) PEAK HOUR TRAFFIC VOLUMES



SCALE IN FEET
0 20 40 80

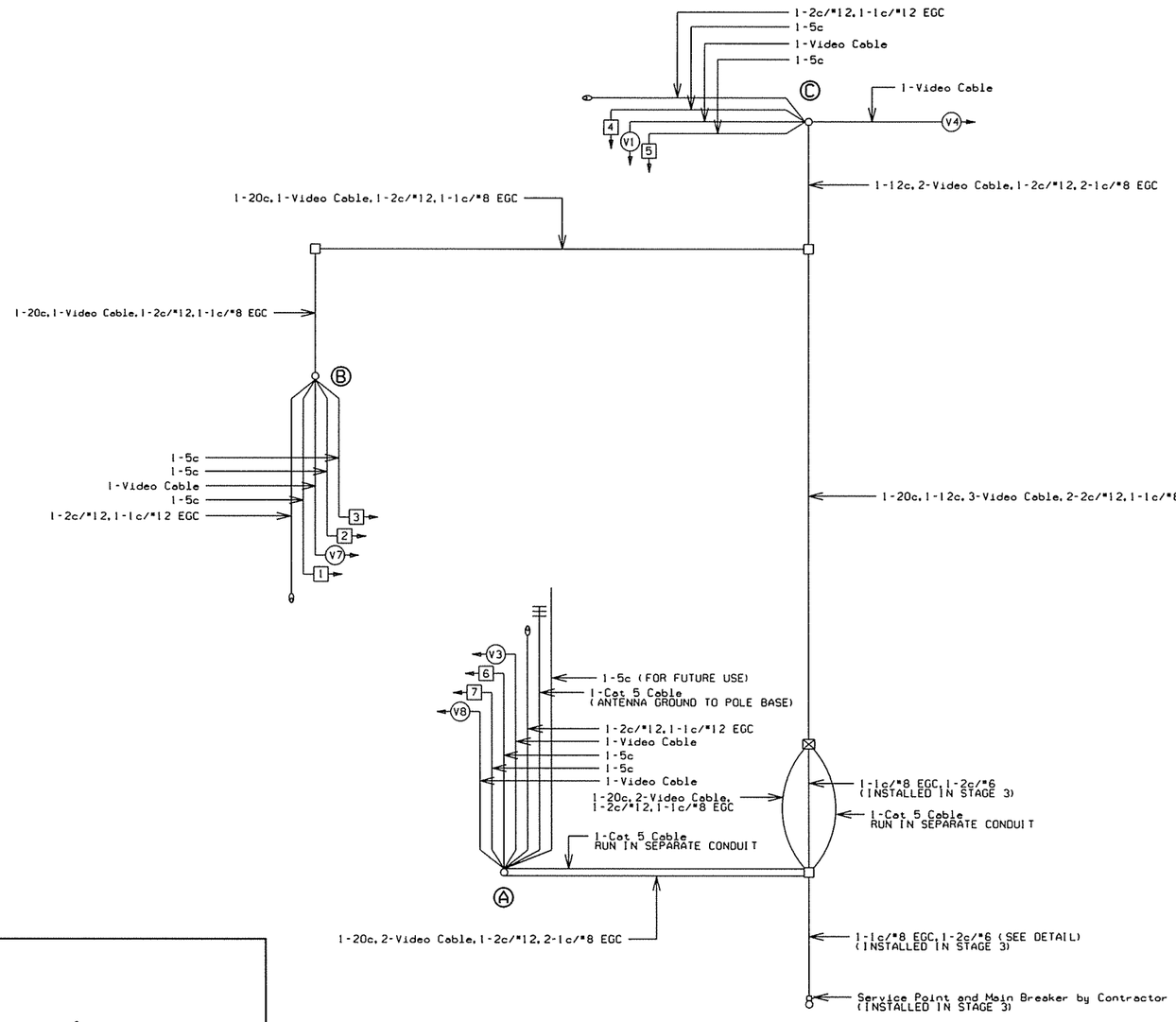
DATE: 10-20-16 FILE NAME: t061333_01.dgn

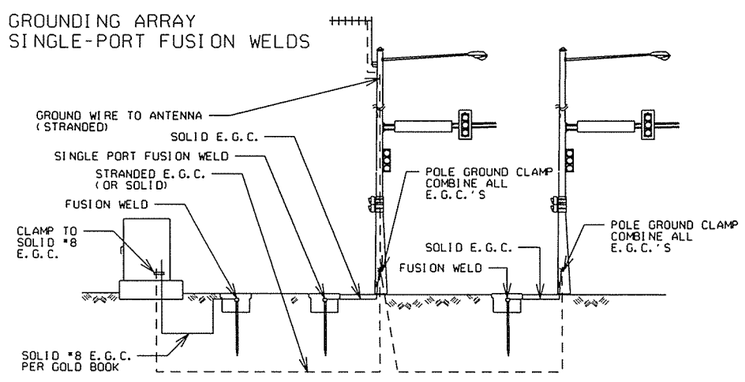
LOCATION:	HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP				
CITY:	LITTLE ROCK				
COUNTY:	PULASKI				
DISTRICT:	6	SCALE:	1" = 40'	DRAWN BY:	GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	78	272

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16





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: 10-20-16 FILE NAME: t061333_01.dgn

LOCATION:	HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP
CITY:	LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	6 SCALE: N/A DRAWN BY: GWE

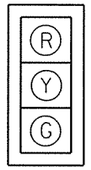
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	79	272

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

SIGNAL FACES

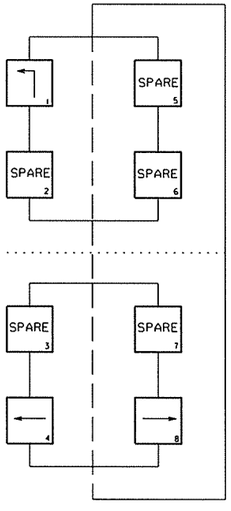
12" LENSES



1, 2&3
4&5
6&7

NOTE:
ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

PHASING DIAGRAM



INTERVAL CHART

SIGNAL FACES	HWY. 10/I-430 NB EXIT RAMP							FLASH SEQ.
	1	CLR.	4+8	CLR.				
1,2&3	R	R	G	••				R
4&5	G	•	R	R				R
6&7	R	R	G	••				R

• 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

SYSTEM DESCRIPTION: JOB 061333										
LITTLE ROCK - HWY. 10/I-430 NB EXIT RAMP DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTH
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz81A&B	EB ADVANCE	LOCAL			9	V8	8			CAMERA V8	23'
Vz82A&B	EB NEAR	COMB.			10	V16	8	8		CAMERA V3	23'
Vz11A&B	NB LT. TURN ADVANCE	COMB.			1	V9	1	1		CAMERA V1	23'
Vz12A&B	NB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	23'
Vz41A-C	WB ADVANCE	LOCAL			5	V4	4			CAMERA V4	23'
Vz42A-C	WB NEAR	COMB.			6	V12	4	4		CAMERA V7	23'
					SPARE 3, 4, 7, 8, 11, 12, 13, 14, 15 & 16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILLIARY INPUT
P = PEDESTRIAN INPUT

NOTE: 'AMP CHN#' REFERS TO TOE DETECTOR RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.

DATE: 10-20-16 FILE NAME: t061333_01.dgn

LOCATION: HWY. 10 (CANTRELL RD.)/I-430 NB EXIT RAMP
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 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
10-21-16				6	ARK.			
				JOB NO.		061333	80	272

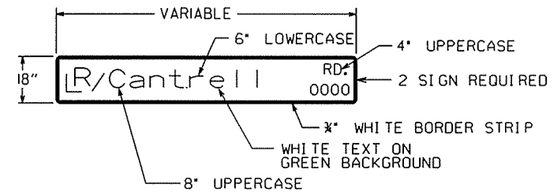
(2) TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	QUANTITY	UNIT
SP&701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	9	EACH
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	2	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	451	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	148	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	279	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	344	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	20	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	40	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	20	LIN. FT.
710	NON-METALLIC CONDUIT (2")	375	LIN. FT.
710	NON-METALLIC CONDUIT (3")	417	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2 HD)	4	EACH
711	CONCRETE PULL BOX (TYPE 2)	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (32')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (50')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (54')	1	EACH
733	VIDEO CABLE	1284	LIN. FT.
733	VIDEO DETECTOR (CLR)	6	EACH
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
SP	E-NET CABLE (EXTERIOR CAT 5)	70	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	495	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	205	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	20	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	828	LIN. FT.
SP	ETHERNET SWITCH, TI00 HARDENED (8 PORT)	1	EACH
SP	FSK COMMUNICATION CABLE RELOCATION	70	LIN. FT.
SP	LED LUMINAIRE ASSEMBLY	4	EACH
SP	NET-ACCESS RADIO (5.8 GHZ, 32 MBPS)	1	EACH
SP	NET-SUBSCRIBER RADIO (5.8 GHZ, 32 MBPS)	1	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	18" STREET NAME SIGN	4	EACH

TYPICAL OVERHEAD STREET NAME MARKER MAST ARM MOUNTED



NOTES:

1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRINKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.

2. ALUMINUM SIGN BLANK SHALL BE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL ALSO BE ANODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY.

3. WHEN CROSS ROAD HAS TWO NAMES, THE SIGN FOR THE CROSS ROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM OF THE NEARSIDE LEFT POLE.
SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE CLEARVIEW 5-W-R FONT SHALL BE USED FOR ALL LETTERS.

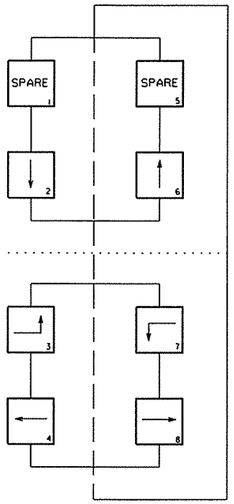
DATE: 10-20-16 FILE NAME: t061333_02.dgn

LOCATION: HWY. 10 (CANTRELL RD.)/PLEASANT VALLEY RD.
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 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
10-21-16				6	ARK.			
				JOB NO.		061333	81	272

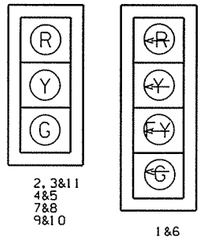
(2) SIGNALIZATION PLAN SHEET

PHASING DIAGRAM



SIGNAL FACES

12" LENSES



2, 3&11
4&5
7&8
9&10

1&6

NOTES:
ALL SIGNAL HEADS SHALL HAVE BACKPLATES.

DETECTOR SPACING CHART

HWY. 10 (CANTRELL RD.)/PLEASANT VALLEY RD.		
POSTED SPEED	DISTANCE FROM STOP BAR	
	LEAD LOOP	LAG LOOP
HWY. 10 - 40 MPH	226'	97'
PLEASANT VALLEY RD.	N/A	N/A

HWY. 10/PLEASANT VALLEY RD. POLE DIMENSIONS

POLE	MAST ARM	•MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	•LUM. ANGLE
A	50'	270°	35'	20'	180°
B	52'	180°	35'	10'	90°
C	32'	270°	35'	20'	180°
D	54'	180°	35'	15'	90°

ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

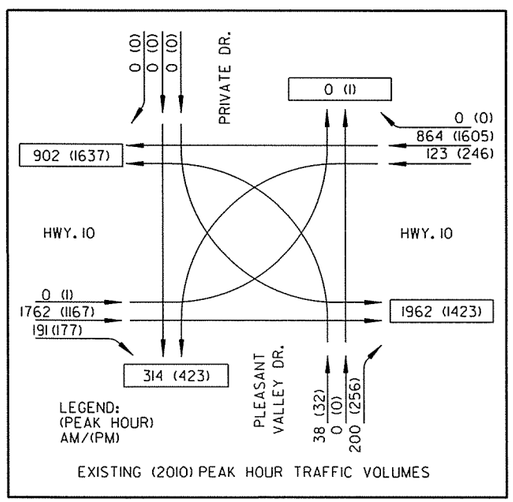
HWY. 10 (CANTRELL RD.)/PLEASANT VALLEY RD. POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 10 - STA. 236+50.70	69' RT.	1196049.70, 2084098.62
B	HWY. 10 - STA. 236+82.39	56' LT.	1196099.00, 2084217.64
C	HWY. 10 - STA. 237+49.19	60' LT.	1196165.75, 2084212.44
D	HWY. 10 - STA. 237+91.27	59' RT.	1196190.36, 2084089.07

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

T.C.E.
CONC. PULL BOX (TYPE 2)
Vz51 LOCATED 85' BEHIND STOP LINE
VIDEO DETECTOR (TYPICAL)
VIRTUAL 6'X50' PULSE VDZ (TYPICAL)
PROPOSED R/W
HWY. 10 (CANTRELL RD.)
EXISTING R/W
OVERHEAD UTILITIES
PLEASANT VALLEY DR.
Vz81B
Vz81A
Vz31 COMB.
Vz32
Vz82B COMB.
Vz82A COMB.
Vz42C COMB.
Vz42A COMB.
Vz42B COMB.
Vz72
Vz71 COMB.
Vz41A
Vz41B
Vz62
Vz63
Vz61 COMB.
Ø2
Ø3
Ø4
Ø6
Ø7
Ø8
235
240
490
405
+92
+14
52'
54'
50'
32'
PI 241+70
SERVICE POINT AND MAIN BREAKER BY CONTRACTOR WITHIN 10' OF CONTROLLER 2" DIA. NMC INTO CONTROLLER
LOCAL RADIO WITH ANTENNA SHALL BE INSTALLED IN A SEPARATE 2" DIA. NMC WHICH SHALL CONTAIN NO OTHER POWER CARRYING CONDUCTORS
VIRTUAL 6'X50' PRESENCE DVZ (TYPICAL) Vz11 LOCATED 85' BEHIND STOP LINE
Vz71 LOCATED 85' BEHIND STOP LINE

TRAFFIC FLOW DIAGRAM



EXISTING (2010) PEAK HOUR TRAFFIC VOLUMES

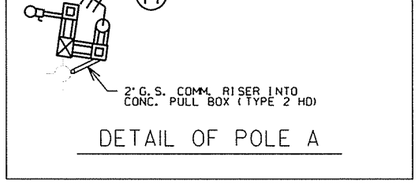
DESIGN PARAMETERS

POSTED SPEED LIMIT:
40 MPH EAST AND WEST APPROACH
30 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 BARS SHOWN ON PAVEMENT MARKING PLAN. SEE SEPARATE SHEET.
MINIMUM CLEAR ZONE DISTANCE 1.5 FEET BEHIND CURB

59° 49' 12"

ANTENNA ORIENTATION

HWY. 10/I-430 NB EXIT RAMP ORIENTED TO MASTER ANTENNA LOCATED AT THE INTERSECTION OF HWY. 10/RODNEY PARHAM ROAD



DETAIL OF POLE A

SCALE IN FEET
0 30 60 120

DATE: 10-20-16 FILE NAME: t061333_02.dgn

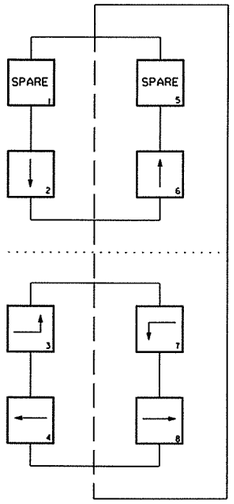
LOCATION: HWY. 10 (CANTRELL RD.)/PLEASANT VALLEY RD.
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: 1"=60' DRAWN BY: GWE

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	82	272

(2) SIGNALIZATION PLAN SHEET

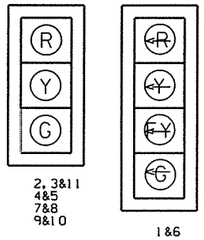
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-25-16

PHASING DIAGRAM

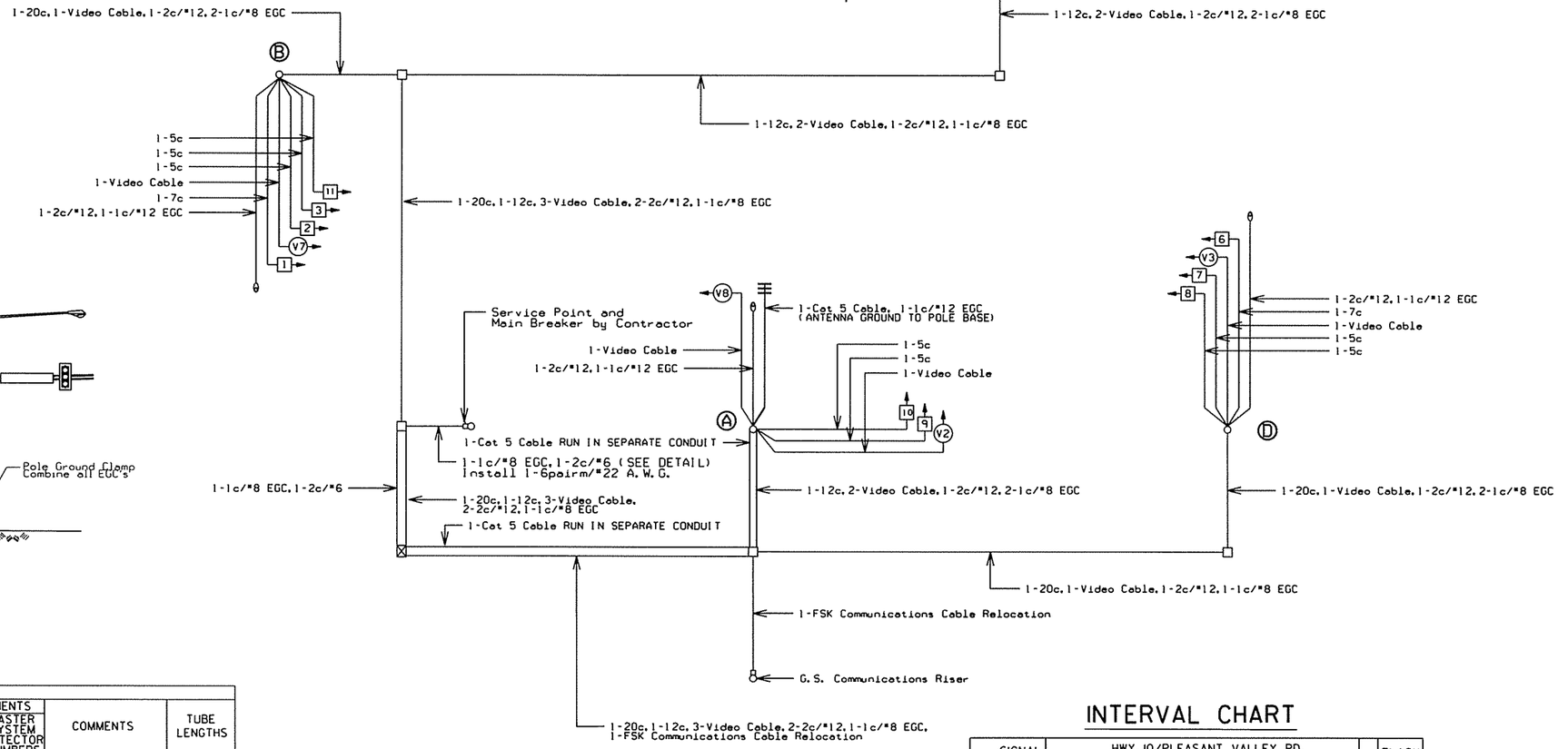


SIGNAL FACES

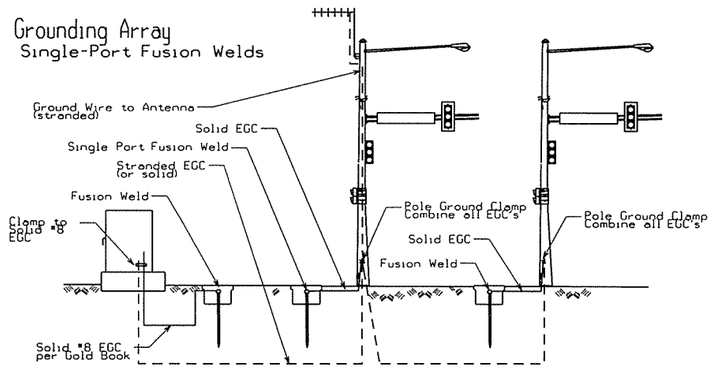
12" LENSES



NOTES:
ALL SIGNAL HEADS SHALL HAVE BACKPLATES.



Grounding Array
Single-Port Fusion Welds



DETECTOR SYSTEM DESCRIPTION: JOB 061333											
HWY. 10 (CANTRELL RD.)/PLEASANT VALLEY RD. DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS LOCAL		MASTER SYSTEM DETECTOR NUMBERS	COMMENTS	TUBE LENGTHS
DET. ID*	LOCATION DIRECTION	TYPE	DET. *	CAB. TRM *	AMP CHN. *	CON. INP.*	PHS	SYSTEM DET. *			
Vz21	SB ADVANCE	LOCAL			4	V2	2			CAMERA V2	23'
Vz31	EB LEFT TURN FAR	COMB.			5	V11	3	3		CAMERA V3	23'
Vz32	EB LEFT TURN	LOCAL			6	V3	3			CAMERA V3	23'
Vz41A&B	WB ADVANCE	COMB.			9	V12	4	4		CAMERA V4	23'
Vz42ABC	WB NEAR	LOCAL			10	V4	4			CAMERA V7	23'
Vz61	NB LEFT TURN FAR	COMB.			1	V14	6	6		CAMERA V6	23'
Vz62	NB LEFT TURN	LOCAL			2	V6	6			CAMERA V6	23'
Vz63	NB RIGHT TURN	LOCAL			3	V1	6			CAMERA V6	23'
Vz71	WB LEFT TURN FAR	COMB.			11	V15	7	7		CAMERA V7	23'
Vz72	WB LEFT TURN	LOCAL			12	V7	7			CAMERA V7	23'
Vz81A&B	EB ADVANCE	LOCAL			7	V16	8			CAMERA V8	23'
Vz82A&B	EB NEAR	COMB.			8	V8	8	8		CAMERA V3	23'
					SPARE 13, 14, 15 & 16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN=" REFERS TO TOE DETECTOR RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.

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.

INTERVAL CHART

SIGNAL FACES	HWY. 10/PLEASANT VALLEY RD. 2+6	CLR.	3+7	CLR.	3+8	CLR.	4+7	CLR.	4+8	CLR.		FLASH SEQ.
1	~~R~~	~~R~~	~~G~~	•	~~G~~	•	~~R~~	~~R~~	~~FY~~	•••		~~R~~
2,3&11	R	R	R	R	G	••	R	R	G	••		R
4	G	••	R	R	R	R	R	R	R	R		R
5	G	••	R	R	R	R	R	R	R	R		R
6	~~R~~	~~R~~	~~G~~	•	R	R	~~G~~	•	~~FY~~	•••		~~R~~
7&8	R	R	R	R	R	R	G	••	G	••		R
9	G	••	R	R	R	R	R	R	R	R		R
10	G	••	R	R	R	R	R	R	R	R		R

• 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: 10-20-16 FILE NAME: t061333_02.dgn

LOCATION: HWY. 10 (CANTRELL RD.)/PLEASANT VALLEY RD.
CITY: LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 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.		061333	83	272

(2) SIGNING SUMMARY OF QUANTITIES

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.

NOTE:
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).

SIGNING SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	TOTAL	UNIT
202	REMOVAL AND DISPOSAL OF OVERHEAD SIGN STRUCTURE	1	EACH
725	GUIDE SIGN - ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	126	SQ. FT.
726	STANDARD SIGN	416	SQ. FT.
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1)	12	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)	14	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-1)	3	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-2)	2	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-4)	2	EACH
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	612	POUND

STANDARD SIGNS FLAT SHEET

SIGN NO./ LOCATION	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS TYPE G-1 EA.	G-2 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-10-236+50WB	1												5.00
SS-10-237+50WB	1												5.00
SS-10-236+10EB	1												5.00
SS-10-229+60WB	1												5.00
SS-10-230+60EB	1												9.00
SS-10-236+80EB	1												9.00
SS-10-229+60WB			1										16.00
SS-10-232+00WB						1							26.56
SS-10-235+90WB						1							26.56
SS-430-530+00NB		1											16.00
SS-430-515+00NB-A				1									20.00
SS-430-515+00NB-B				1									20.00
SS-430-512+50WB		1											16.00
SS-10-230+50EB			1										19.18
SS-10-231+50EB			1										27.00
SS-10-230+15EB		1											15.00
SS-10-241+00WB	1												7.18
SS-ST-405+10WB	1												6.25
SS-430-510+00NB		1											12.00
SS-430-514+00NB		1											12.00
SS-430-512+00NB		1											12.00
SS-430-519+00NB		1											12.00
SS-430-521+00NB		1											12.00
SS-430-523+00NB		1											12.00
SS-430-525+00NB		1											12.00
SS-430-527+00NB		1											12.00
SS-430-529+00NB		1											12.00
SS-430-531+00NB		1											12.00
SS-430-533+00NB		1											12.00
SS-430R-498+00NB	1												7.50
SS-430R-500+00NB	1												7.50
SS-430R-502+00NB	1												7.50
SS-430R-504+00NB	1												7.50
TOTALS:	**12**	**14**	**3**	**2**		**2**							**415.73**

MAIN LANES ROADSIDE MOUNTED SIGNING QUANTITIES

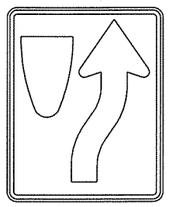
SIGN NO./ LOCATION	I-BEAM STRUCTURE TYPE G1	G2	G3	GUIDE SIGN DEMOUNTABLE LEGEND LENGTH LIN. FT.	HEIGHT LIN. FT.	SQ. FT.	I-BEAM BREAKAWAY SIGN SUPPORT STEEL SECT. A-572 BEAM	LBS	SIGN POST LENGTH H - 1 LIN FT	H - 2 LIN FT	H - 3 LIN FT	STUB POST H - 1 LIN FT	H - 2 LIN FT	H - 3 LIN FT	FOOTINGS DIA. LIN FT	DEPTH LIN FT	EMBED. LIN FT	SIGN POST AND STUB POUND
ML-430-60-534+00NB		1		18.00	7.00	126.00	W8	18.00	14.00	15.00		2.50	2.50		2.00	3.50	2.00	612.00
TOTALS:		**1**				**126.00**												**612.00**

REMOVAL AND DISPOSAL	
LOCATION	OVERHEAD SIGN STRUCTURE EACH
HWY 10 STA 235+35	1.00
TOTAL:	1.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	84	272

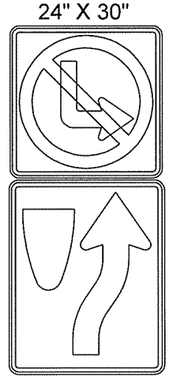
(2) SIGN LAYOUT SHEET

G1
R4-8
24" X 30"



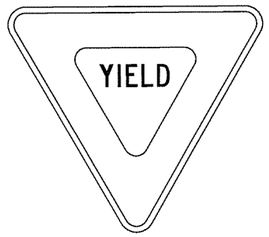
SS-10-236+50WB (HWY - 10)
SS-10-237+50WB (HWY - 10)
SS-10-236+10EB (HWY - 10)
SS-10-229+60WB (HWY - 10)

G1
R3-2
24" X 24"
R4-8
24" X 30"



SS-10-230+60EB (HWY - 10)

G1
R1-2 36"

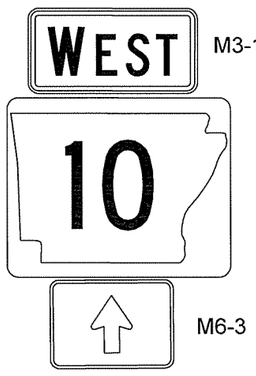


SS-10-236+80EB (HWY - 10)

G2-1
R3-7RT
48" X 48"

SS-10-229+60WB (HWY - 10)

G2-4

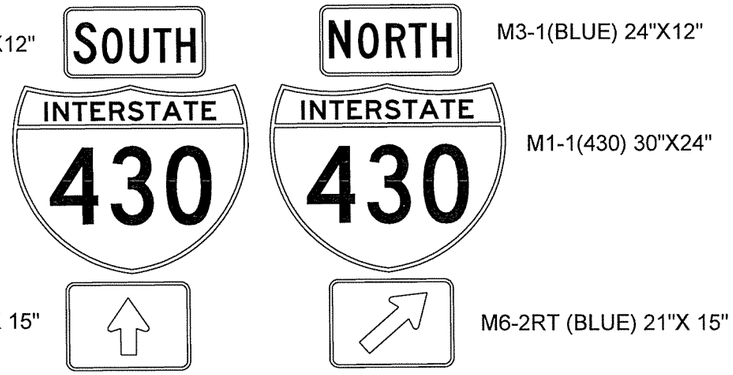


M3-1 24"X12"

M1-5(AR 10) 24"X24"

M6-3 21"X 15"

M3-3(BLUE) 24"X12"



M3-1(BLUE) 24"X12"

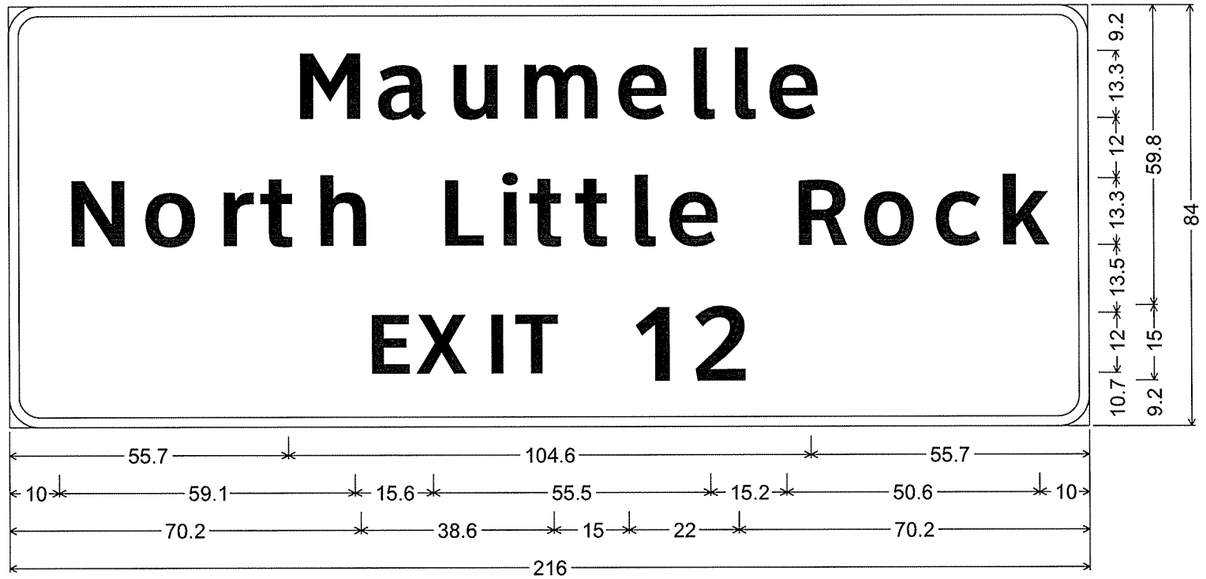
M1-1(430) 30"X24"

M1-1(430) 30"X24"

M6-3 (BLUE) 21"X 15"

M6-2RT (BLUE) 21"X 15"

SS-10-232+00WB (HWY - 10)
SS-10-235+90WB (HWY - 10)



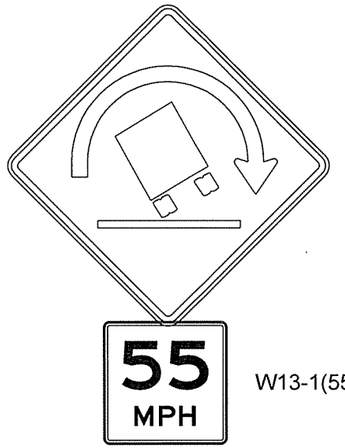
ML-430-60-534+00NB; 6.0" Radius, 2.0" Border, White on Green;
[Maumelle] ClearviewHwy-5-W; [North Little Rock] ClearviewHwy-5-W; [EXIT] ClearviewHwy-5-W;
[12] ClearviewHwy-5-W;

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	85	272
				(2)	SIGN LAYOUT SHEET			

G-2
SS-430-530+00NB (MAIN LANES)

W8-13 48" X 48"

G2-2
SS-430-515+00NB-A (MAIN LANES)
SS-430-515+00NB-B (MAIN LANES)



W1-13 48" X 48"

W13-1(55) 24"X24"

G-2
SS-430-512+50WB (MAIN LANES)

W4-1RT 48" X 48"

G2-1
SS-10-230+50EB (HWY - 10)

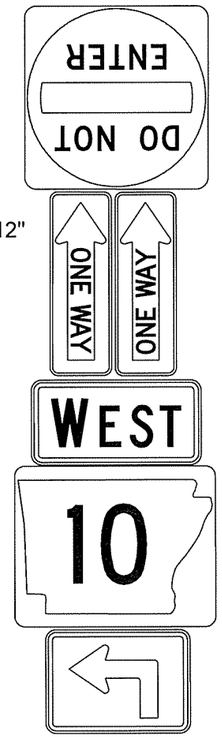
R5-1 36" X 36"

(2) R6-1 36" X 12"

M3-4 24"X12"

M1-5 24"X24"

M5-1 21"X15"

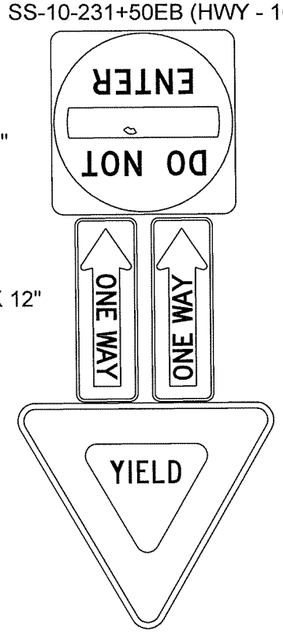


G2-1
SS-10-231+50EB (HWY - 10)

R5-1 36" X 36"

(2) R6-1 36" X 12"

R1-2 48"

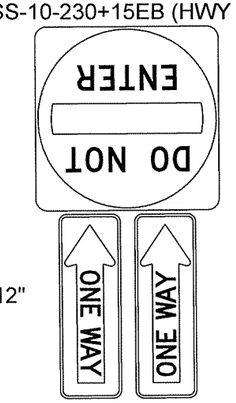


G-1
W14-1
30" X 30"
SS-ST-405+10WB

G-2
SS-10-230+15EB (HWY - 10)

R5-1 36" X 36"

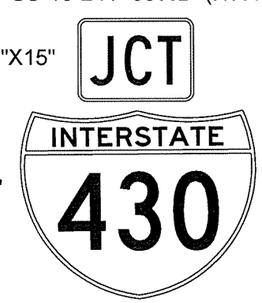
(2) R6-1 36" X 12"



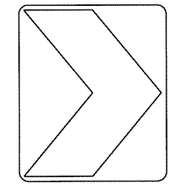
G-1
SS-10-241+00WB (HWY - 10)

M2-1(BLUE) 21"X15"

M1-1(430) 30"X24"

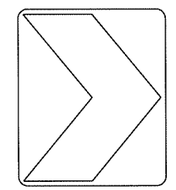


G-2
W1-8
36" X 48"



SS-430-510+00NB (MAIN LANES)
SS-430-514+00NB (MAIN LANES)
SS-430-512+00NB (MAIN LANES)
SS-430-519+00NB (MAIN LANES)
SS-430-521+00NB (MAIN LANES)
SS-430-523+00NB (MAIN LANES)
SS-430-525+00NB (MAIN LANES)
SS-430-527+00NB (MAIN LANES)
SS-430-529+00NB (MAIN LANES)
SS-430-531+00NB (MAIN LANES)
SS-430-533+00NB (MAIN LANES)

G-1
W1-8
30" X 36"

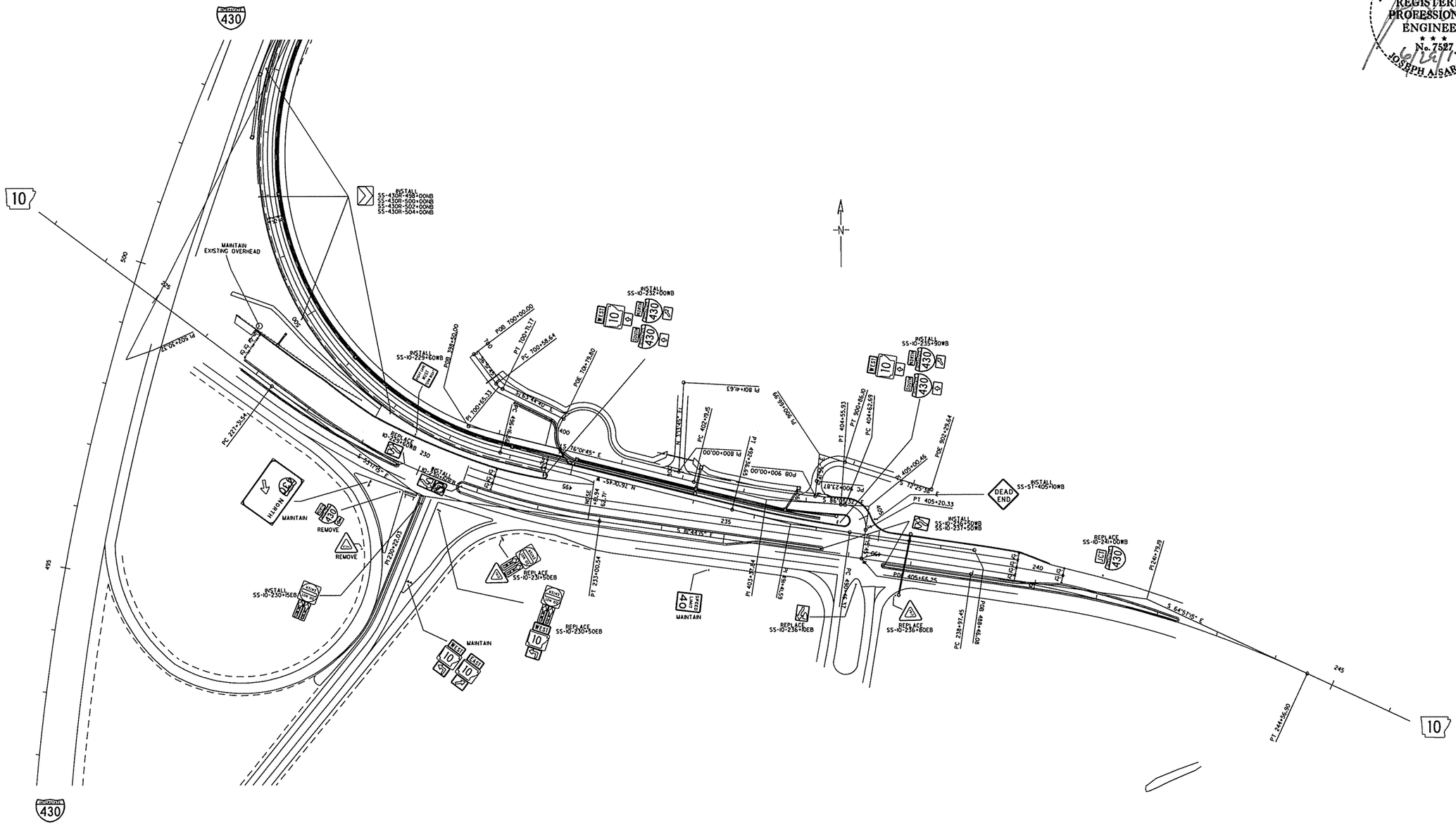


SS-430R-498+00NB (ON RAMP)
SS-430R-500+00NB (ON RAMP)
SS-430R-502+00NB (ON RAMP)
SS-430R-504+00NB (ON RAMP)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	86	272

(2) SIGN PLACEMENT SHEET

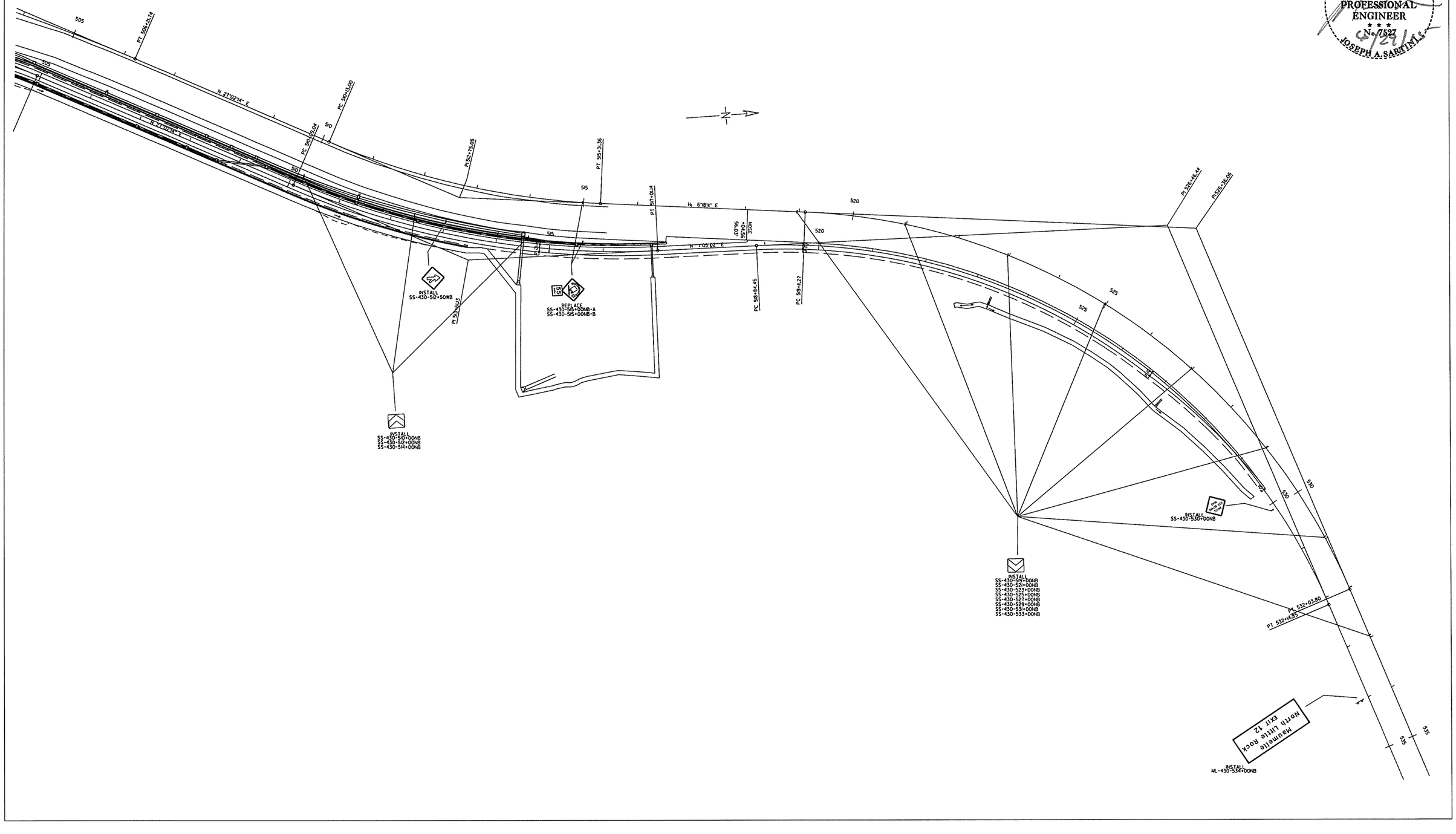
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	87	272

(2) SIGN PLACEMENT SHEET

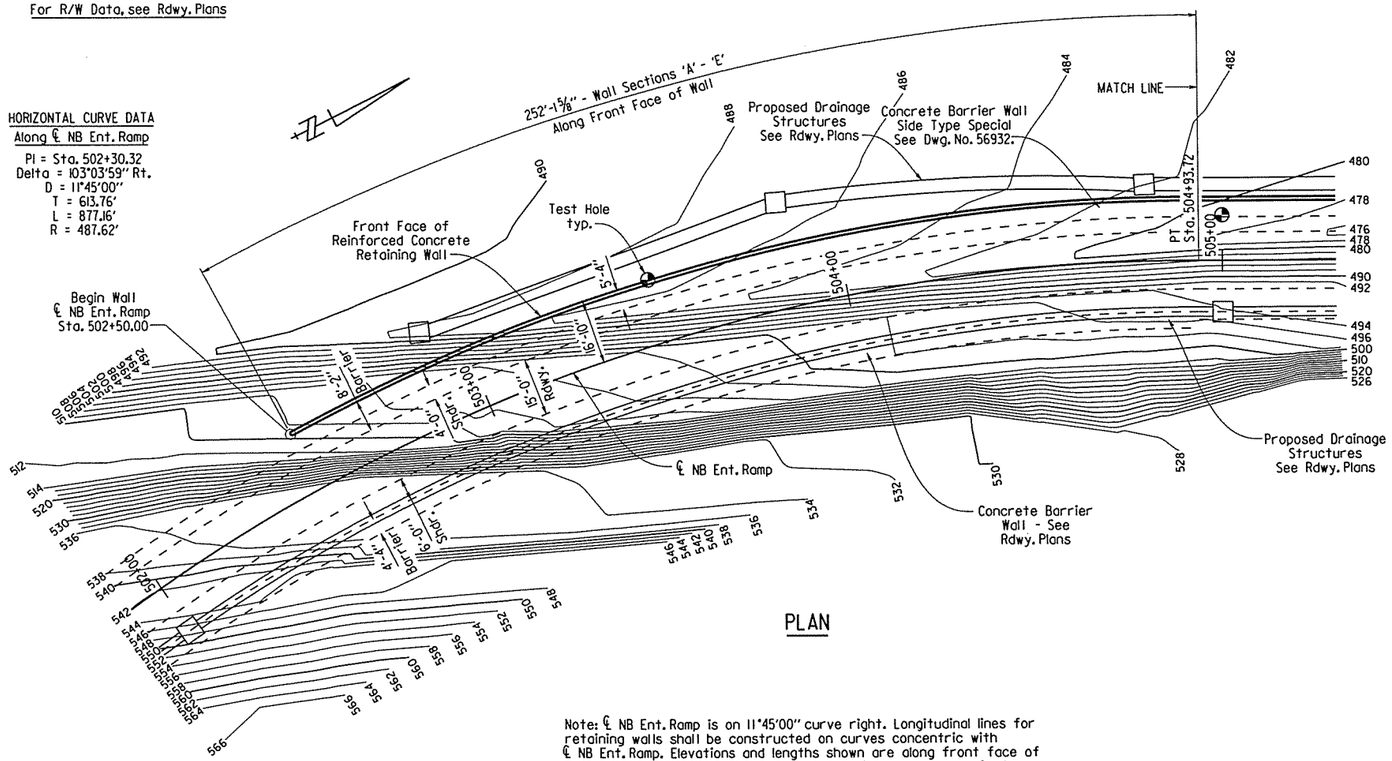
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
6/24/14



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.		061333	85	27L

(1) LAYOUT NB ENT. RAMP WALL - 56922

For R/W Data, see Rdwy. Plans



PLAN

Note: ℄ NB Ent. Ramp is on 11°45'00" curve right. Longitudinal lines for retaining walls shall be constructed on curves concentric with ℄ NB Ent. Ramp. Elevations and lengths shown are along front face of retaining wall. Stations along front face of wall are determined by projecting a radial line from ℄ NB Ent. Ramp to front face of wall.

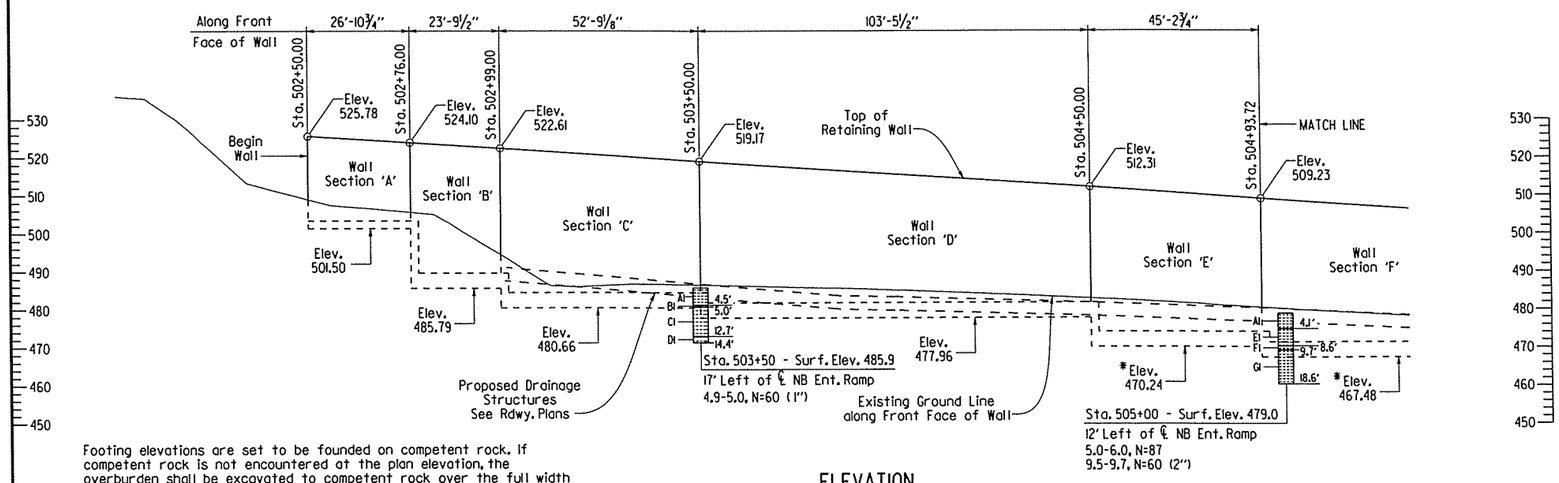
For additional details and General Notes, see Dwg. Nos. 56925 & 56926.

HORIZONTAL CURVE DATA
Along ℄ NB Ent. Ramp

PI = Sta. 502+30.32
Delta = 103°03'59" Rt.
D = 11°45'00"
T = 613.76'
L = 877.16'
R = 487.62'

BORING LEGEND

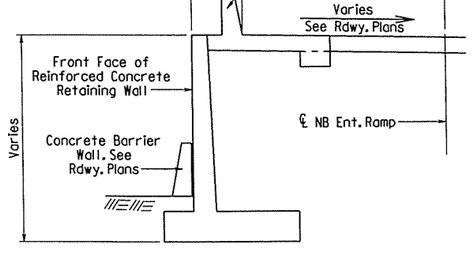
AI-SHALE - Brown and Gray, Highly Wthrd., Med. Hard
BI-SHALE - Brown and Gray, Wthrd., Med. Hard to Hard
CI-SHALE WITH FREQUENT GRAY SANDSTONE LAYERS - Dark Gray, Laminated, Slightly Wthrd., Med. Hard, with Mod. to Steep Dip, with frequent Fractured Layers and some Slickensides
DI-SHALE WITH FREQUENT GRAY SANDSTONE LAYERS - Dark Gray, Laminated, Slightly Wthrd., Med. Hard, with Mod. to Steep Dip, with frequent Fract. Layers, occasional Quartz Seams and some Slickensides
EI-SHALE - Dark Gray, Wthrd., Med. Hard
FI-SHALE WITH WTHRD. SHALE LAYERS - Dark Gray, Med. Hard
GI-SHALE WITH WTHRD. SHALE AND OCCASIONAL GRAY SANDSTONE LAYERS - Dark Gray, Laminated, Med. Hard, with Mod. Dip, with frequent Fract. Layers
HI-SHALE WITH WTHRD. SHALE AND FREQUENT GRAY SANDSTONE LAYERS - Dark Gray, Laminated, Med. Hard, with Mod. to Steep Dip, with frequent Fractured Layers
JI-Moist, Stiff, Brown and Gray Clay with Gravel (Sandstone and Shale Fragments)
KI-SHALE - Dark Gray, Highly Wthrd., Med. Hard
LI-SHALE - Dark Gray, Laminated, Slightly Wthrd., Hard, with Mod. to Steep Dip and Vertically Fract. Layers
MI-SHALE WITH WTHRD. SHALE LAYERS - Dark Gray, Laminated, Hard, with Mod. to Steep Dip and Vertically Fract. Layers
NI-Wet, Stiff, Brown and Gray Clay with Gravel (Sandstone and Shale Fragments)
PI-SHALE - Dark Gray, Highly Wthrd., Soft
QI-SHALE WITH WTHRD. SHALE SEAMS - Dark Gray, Laminated, Med. Hard, with Steep Dip, Vertically Fract. Layers and Slickensides
RI-SHALE - Dark Gray, Laminated, Slightly Wthrd., Hard, with Steep Dip, Vertically Fract. Layers and Slickensides
SI-SHALE WITH GRAY SANDSTONE SEAMS - Dark Gray, Highly Wthrd., Soft
TI-SHALE - Dark Gray, Laminated, Slightly Wthrd., Hard, with Mod. Dip and Vertically Fract. Layers
UI-SHALE - Dark Gray, Laminated, Wthrd., Hard, with Steep Dip, Vertically Fract. Layers and Slickensides
VI-SANDSTONE - Gray and Brown, Thin Bedded, Slightly Wthrd., Cemented, with Slight Dip
WI-SANDSTONE - Gray, Med. Bedded, Slightly Wthrd., Well-Cemented, with Mod. Dip and Fract. Layers
XI-SANDSTONE - Gray and Reddish Brown, Med. Bedded, Slightly Wthrd., Well-Cemented, with Steep Dip and Vertically Fract. Layers
YI-SHALE WITH GRAY SANDSTONE SEAMS - Dark Gray, Highly Wthrd., Med. Hard
ZI-SANDSTONE - Gray and Reddish Brown, Thin Bedded, Slightly Wthrd., Well-Cemented, with Slight Dip and Fract. Layers
A2-SHALE WITH GRAY AND BROWN SANDSTONE LAYERS - Dark Gray, Laminated Highly Wthrd., Med. Hard, with Steep Dip
B2-SANDSTONE - Gray and Reddish Brown, Thin Bedded, Wthrd., Poorly-Cemented, with Steep Dip and Fract. Layers
C2-SANDSTONE - Gray and Brown, Med. Bedded, Wthrd., Cemented, with Steep Dip
D2-Very Dense, Gravel (Sandstone and Shale Fragments) with Brown Clay
E2-SANDSTONE - Gray, Med. Bedded, Slightly Wthrd., Well-Cemented, with Mod. Dip and occasional Fract. Layers
F2-Moist, Very Dense, Brown Sand with Gravel (Sandstone Fragments)
G2-GRAY SANDSTONE BOULDERS WITH REDDISH BROWN CLAY SEAMS
H2-SANDSTONE WITH REDDISH BROWN CLAY SEAMS AND OCCASIONAL QUARTZ LAYERS - Gray, Med. Bedded, Slightly Wthrd., Cemented to Well- Cemented, with Mod. Dip and Fract. Layers



ELEVATION

Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with Stone Backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer. For additional information, see "Details of Excavation", Dwg. No. 56925.

* These footing elevations are set to provide 1' minimum clearance to proposed drainage structures. Footing elevations shall not be raised.



TYP. CROSS-SECTION
Looking Ahead

SHEET 1 OF 3
LAYOUT OF REINFORCED CONCRETE RETAINING WALL ALONG NB ENTRANCE RAMP
I-430 / HWY. 10
INTERCHANGE IMPVT. (L.R.) (S)
PULASKI COUNTY

ROUTE 430 SEC. 21
ROUTE 10 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
2-27-15
BRIDGE ENGINEER

DRAWN BY: KDH DATE: 12-9-14 FILENAME: b061333nbramp_11.dgn
CHECKED BY: CSR DATE: 2/27/15
DESIGNED BY: CSR DATE: 12/9/14 SCALE: 1" - 20'

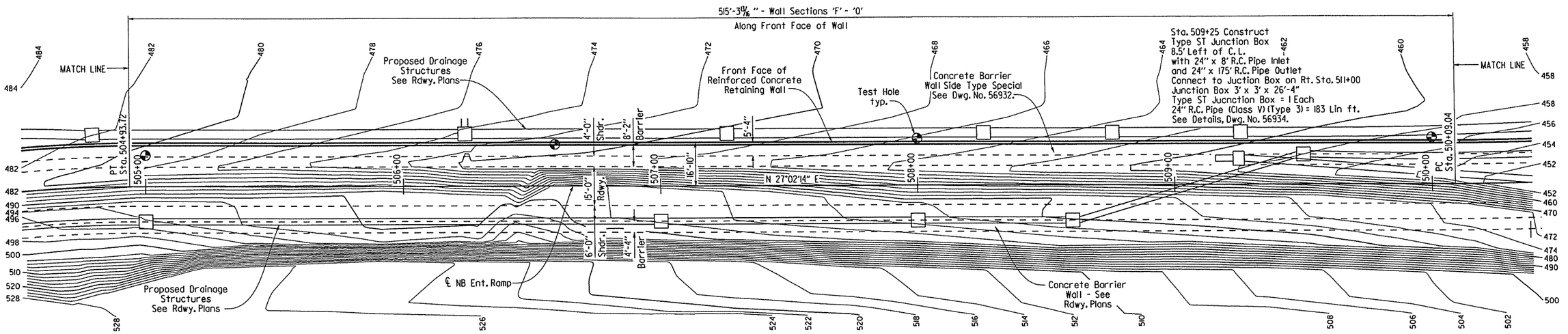
DRAWING NO. 56922

PRINT DATE: 2/27/2015

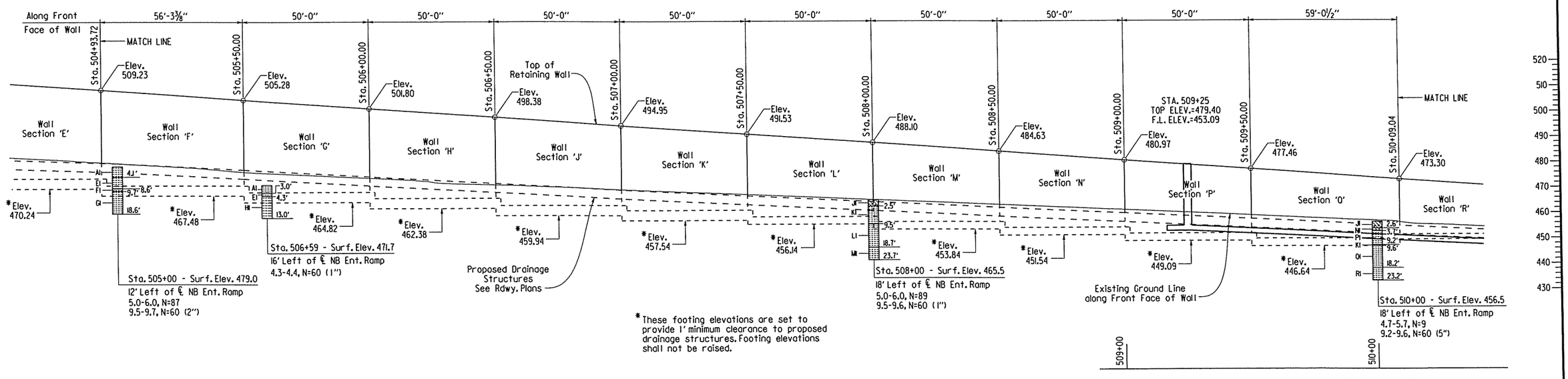
For R/W Data, see Rdwy. Plans

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.		061333	69	232

(1) LAYOUT NB ENT. RAMP WALL - 56923



PLAN



*These footing elevations are set to provide 1' minimum clearance to proposed drainage structures. Footing elevations shall not be raised.

ELEVATION

Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with Stone Backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer. For additional information, see "Details of Excavation", Dwg. No. 56925.

For additional details and General Notes, see Dwg. Nos. 56925 & 56926.

STATE OF ARKANSAS
CHARLES R. ELLIS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
2-27-15
BRIDGE ENGINEER

SHEET 2 OF 3
LAYOUT OF REINFORCED CONCRETE RETAINING WALL ALONG NB ENTRANCE RAMP I-430 / HWY. 10 INTERCHANGE IMPVT. (L.R.) (S) PULASKI COUNTY

ROUTE 430 SEC. 21
ROUTE 10 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 12-9-14
CHECKED BY: CSR DATE: 2/27/15
DESIGNED BY: CSR DATE: 12/9/14
FILENAME: b061333nbramp_11.dgn
SCALE: 1" - 20'

DRAWING NO. 56923

PRINT DATE: 2/27/2015

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.		061333	90	272

1 LAYOUT NB ENT. RAMP WALL - 56924

For R/W Data, see Rdwy. Plans

HORIZONTAL CURVE DATA
Along ℄ NB Ent. Ramp

PI = Sta. 513+61.13
Delta = 25°57'12"
D = 3°45'00" Lt.
T = 352.09'
L = 692.09'
R = 1527.89'

Sta. 511+00 Construct
Type ST Junction Box 15.00' Right of C.L.
with 24' x 21' RC Pipe Inlet
and 24" x 250' R.C. Pipe Outlet
Connect to Juction Box on Rt. Sta. 513+50
Junction Box 3' x 3' x 19'-9"
Type ST Jucnction Box = 1 Each
24" R.C. Pipe (Class V) (Type 3) = 271 Lin ft.
See Details, Dwg. No. 56934.

386'-7½" - Wall Sections 'R' - 'U'
Along Front Face of Wall

MATCH LINE

Front Face of Reinforced Concrete Retaining Wall

Concrete Barrier Wall Side Type Special See Dwg. No. 56932.

Proposed Drainage Structures See Rdwy. Plans

Test Hole typ.

End Wall
℄ NB Ent. Ramp
Sta. 514+00.00

PC Sta. 510+09.04

Proposed Drainage Structures See Rdwy. Plans

℄ NB Ent. Ramp

Concrete Barrier Wall - See Rdwy. Plans

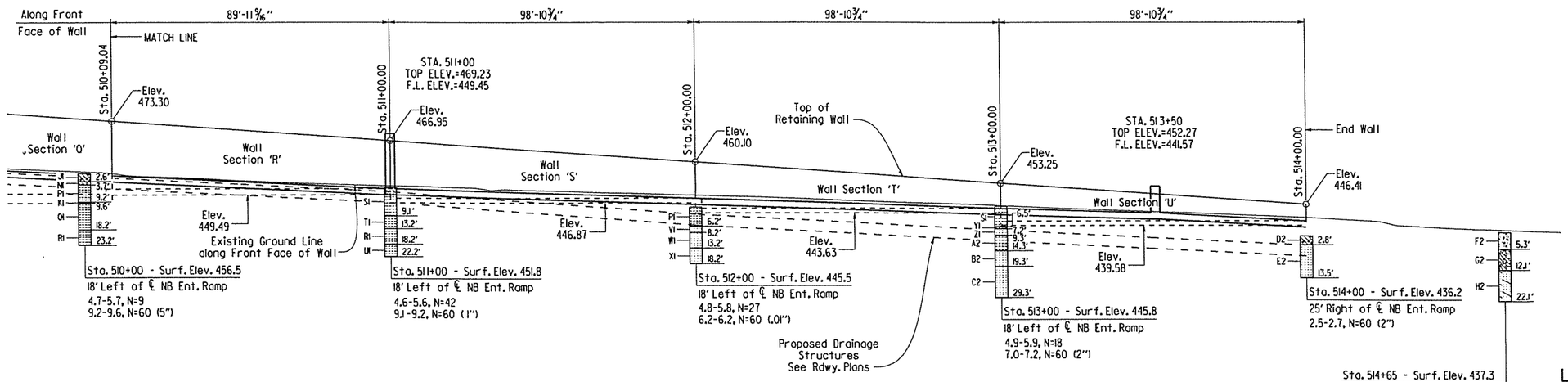
Flared End Section to outlet onto Concrete Ditch Paving, for details, see Roadway Drawings

Sta. 513+50 Construct
Type ST Junction Box 17.00' Right of C.L.
with 24' x 21' RC Pipe Inlet
and 24" x 59' R.C. Pipe Outlet with F.E.S.
Junction Box 3' x 3' x 10'-9"
Type ST Drop Inlet = 1 each
24" F.E.S. = 1 each
24" R.C. Pipe (Class V)(Type 3) = 80 Lin ft.
See Details, Dwg. No. 56934.

Note: ℄ NB Ent. Ramp is on 3°45'00" curve left. Longitudinal lines for retaining walls shall be constructed on curves concentric with ℄ NB Ent. Ramp. Elevations and lengths shown are along front face of retaining wall. Stations along front face of wall are determined by projecting a radial line from ℄ NB Ent. Ramp to front face of wall.

For additional details and General Notes, see Dwg. Nos. 56925 & 56926.

PLAN



ELEVATION

Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with Stone Backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer. For additional information, see "Details of Excavation", Dwg. No. 56925.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
2-27-15
BRIDGE ENGINEER

SHEET 3 OF 3
LAYOUT OF REINFORCED CONCRETE RETAINING WALL ALONG NB ENTRANCE RAMP I-430 / HWY. 10 INTERCHANGE IMPVT. (L.R.) (S) PULASKI COUNTY

ROUTE 430 SEC. 21
ROUTE 10 SEC. 8

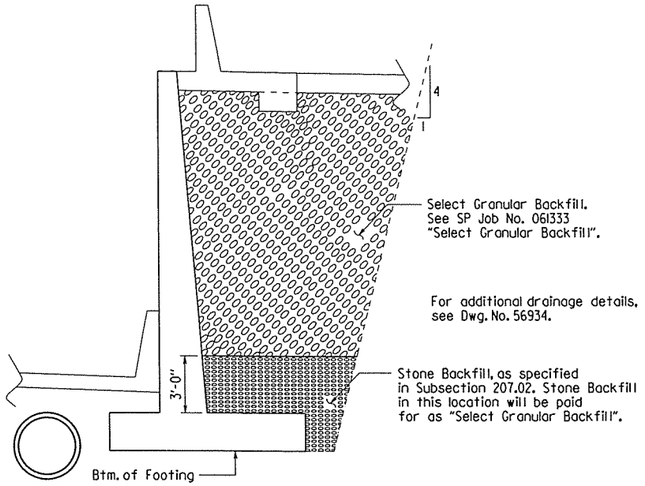
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 12-9-14
CHECKED BY: CSE DATE: 1/12/15
DESIGNED BY: CSE DATE: 9/14
FILENAME: b061333nbramp_11.dgn
SCALE: 1" - 20'

DRAWING NO. 56924

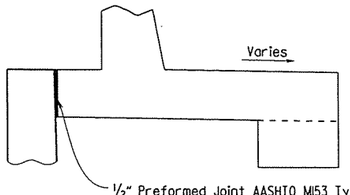
PRINT DATE: 2/27/2015

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.		061333	91	272
				①	NB ENT. RAMP WALL - 56925			



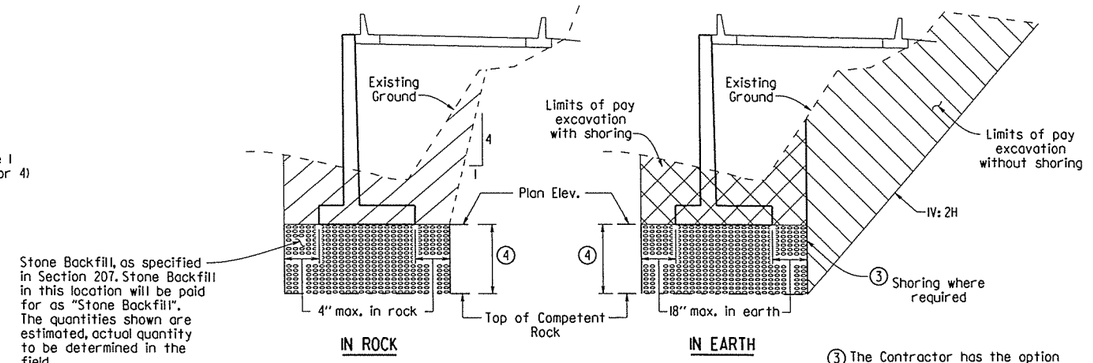
TYPICAL WALL SECTION

No Scale



DETAIL OF CURB JOINT

No Scale



DETAILS OF EXCAVATION

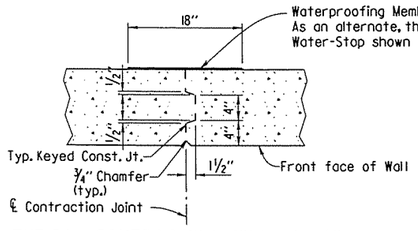
No Scale

NOTE:
Hatched area denotes maximum limits of pay excavation.

Excavation required for area of Stone Backfill will be subsidiary to the pay item "Stone Backfill".

③ The Contractor has the option of using a cut slope and/or shoring to maintain stability of the cut. Any excavation beyond the detailed pay limits or any shoring used will not be paid for directly, but shall be considered incidental to the item "Unclassified Excavation for Structures - Roadway".

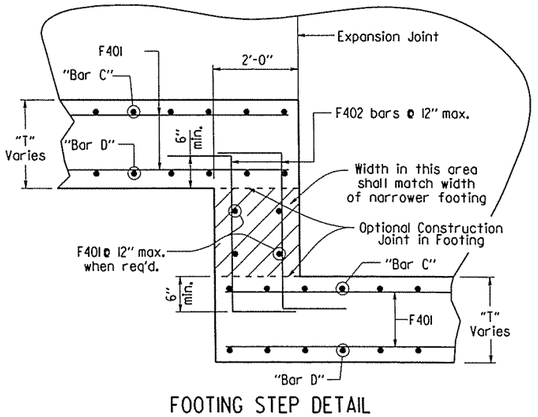
④ Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with Stone Backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer.



TYPICAL CONTRACTION JOINT DETAIL

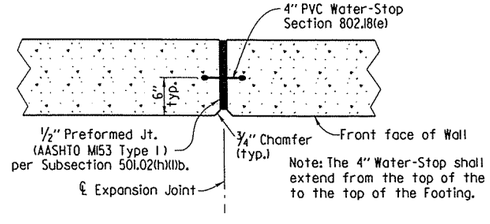
No Scale

Note: 30'-0" Max spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction Joints.



FOOTING STEP DETAIL

No Scale



TYPICAL EXPANSION JOINT DETAIL

No Scale

Note: 90'-0" Max spacing between Expansion Joints. Terminate horizontal reinforcement 2" from Expansion Joint.

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
5-11-15
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF REINFORCED CONCRETE RETAINING WALL
NB ENTRANCE RAMP

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

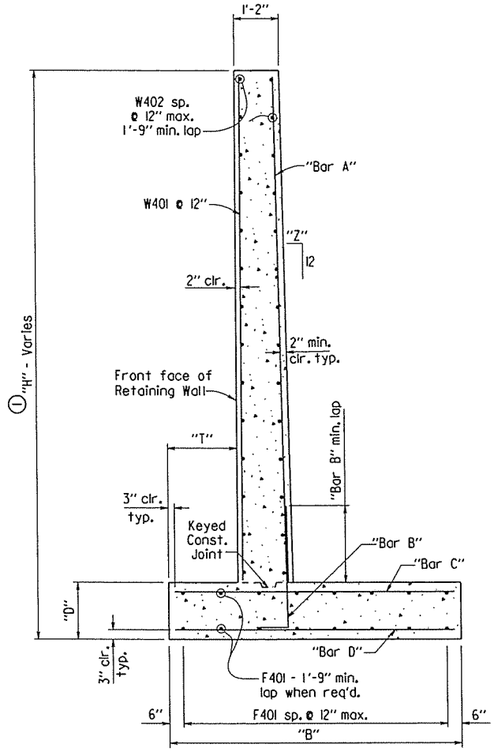
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-6-15 FILENAME: b061333rw.dgn
CHECKED BY: SWP DATE: 5-8-15 SCALE: AS NOTED
DESIGNED BY: CSR DATE: 9/14

DRAWING NO. 56925

PRINT DATE: 5/5/2015

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.		061333	92	272
				①	NB ENT. RAMP WALL - 56926			



DETAILS OF RETAINING WALL

No Scale

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2014 Edition, with applicable Supplemental Specifications and Special Provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012), with 2013 Interim Specifications.

CONCRETE: All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Exposed corners to be chamfered ¾" unless otherwise noted.

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

FOOTINGS: Top of footings for retaining walls shall be set 2'-0" below finished ground surface or lower. Footings shall be founded on material designated as Medium Hard Shale or Sandstone on the boring legend, except as noted below. Foundations for footings shall be prepared in accordance with Subsection 801.04. Care shall be exercised to avoid shattering of rock faces by excessive blasting.

Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with stone backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer.

BACKFILL: Backfill material for the retaining wall shall consist of a 3 foot minimum thickness drainage layer on top of the footing composed of aggregate meeting the requirements for Stone Backfill in Subsection 207.02 overlain by material meeting the Coarse Aggregate requirements of Subsection 802.02(c) in accordance with SP Job No. 061333 "Select Granular Backfill". All materials shall be measured and paid for as "Select Granular Backfill".

MISC. ITEMS: Waterstops, preformed joint material and the waterproofing membrane shall not be paid for directly, but shall be considered subsidiary to other items of the contract.

BORING LOGS: Boring logs, including laboratory results, may be obtained from the Construction Contract Procurement Section of the Program Management Division.

See Dwg. Nos. 56922 - 56925 for retaining wall details, elevation views and additional information.

APPROXIMATE QUANTITIES FOR RETAINING WALL

For Information Only

WALL SECTION	Length of Wall along Front Face	804 Reinforcing Steel - Roadway (Gr. 60)	802 Class S Concrete - Roadway	SP Job 061333 Textured Coating Finish
		LB.	CU. YD.	SQ. YD.
'A'	26'-10¾"	6,719	69.83	64
'B'	23'-9½"	11,743	176.63	86
'C'	52'-9⅛"	33,754	439.63	211
'D'	103'-5½"	63,863	803.69	388
'E'	45'-2¾"	29,038	380.10	182
'F'	56'-3⅝"	35,739	462.93	223
'G'	50'-0"	25,608	391.64	192
'H'	50'-0"	25,234	380.22	187
'J'	50'-0"	24,358	361.94	183
'K'	50'-0"	22,504	343.50	176
'L'	50'-0"	22,958	274.34	171
'M'	50'-0"	22,544	263.90	164
'N'	50'-0"	20,055	247.22	156
'P'	50'-0"	17,391	237.55	150
'Q'	59'-0½"	19,180	260.48	167
'R'	89'-11⅝"	20,909	207.09	186
'S'	98'-10¾"	16,898	151.44	166
'T'	98'-10¾"	10,203	108.95	126
'U'	98'-10¾"	11,350	67.00	95

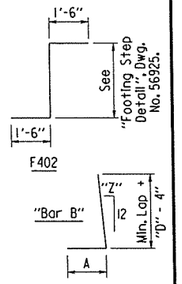
TABLE OF RETAINING WALL VARIABLES - NB RAMP ALONG I-430

Wall Section	① "H"	"B"	"T"	"D"	"Bar A"&"B" Bk. Fa. Size @ Sp.	"Bar B" min. lap	"Bar C" Top Footing Size @ Sp.	"Bar D" Bott. Footing Size @ Sp.	Batter "Z"
'A'	24'-6"	13'-0"	2'-0"	2'-0"	#7 @ 6"	3'-6"	#8 @ 6"	#4 @ 12"	1"
'B'	38'-6"	20'-0"	4'-0"	4'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 6"	1¾"
'C'	42'-0"	22'-0"	4'-0"	4'-0"	#9 @ 6"	5'-9"	#10 @ 6"	#5 @ 6"	1¾"
'D'	41'-3"	22'-0"	4'-0"	4'-0"	#9 @ 6"	5'-9"	#10 @ 6"	#5 @ 6"	1¾"
'E'	42'-3"	22'-0"	4'-0"	4'-0"	#9 @ 6"	5'-9"	#10 @ 6"	#5 @ 6"	1¾"
'F'	41'-9"	22'-0"	4'-0"	4'-0"	#9 @ 6"	5'-9"	#10 @ 6"	#5 @ 6"	1¾"
'G'	40'-6"	21'-0"	4'-0"	4'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 6"	1¾"
'H'	39'-6"	21'-0"	4'-0"	4'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 6"	1¾"
'J'	38'-6"	20'-0"	4'-0"	4'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 6"	1¾"
'K'	37'-6"	19'-0"	3'-0"	4'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 12"	1¾"
'L'	35'-6"	18'-0"	3'-0"	3'-0"	#8 @ 6"	4'-8"	#10 @ 6"	#5 @ 12"	1½"
'M'	34'-6"	18'-0"	3'-0"	3'-0"	#8 @ 6"	4'-8"	#10 @ 6"	#5 @ 12"	1½"
'N'	33'-3"	17'-0"	3'-0"	3'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 12"	1½"
'P'	32'-0"	17'-0"	3'-0"	3'-0"	#7 @ 6"	3'-6"	#9 @ 6"	#5 @ 12"	1½"
'Q'	31'-0"	16'-0"	2'-0"	3'-0"	#7 @ 6"	3'-6"	#9 @ 6"	#4 @ 12"	1½"
'R'	24'-0"	13'-0"	2'-0"	2'-0"	#7 @ 6"	3'-6"	#8 @ 6"	#4 @ 12"	1"
'S'	20'-3"	11'-0"	2'-0"	1'-6"	#6 @ 6"	2'-7"	#8 @ 6"	#4 @ 12"	¾"
'T'	16'-6"	9'-0"	1'-0"	1'-6"	#5 @ 6"	2'-2"	#6 @ 6"	#4 @ 12"	½"
'U'	13'-9"	8'-0"	1'-0"	1'-6"	#6 @ 6"	2'-7"	#8 @ 6"	#4 @ 12"	-

① Design height of the Section. Actual heights will vary in the field but shall not exceed the design height. The Engineer shall be notified if changes in footing elevations result in a total wall height in a section exceeding the design height.

BAR LIST

MARK	LENGTH	A	P.D.	BENDING DIAGRAMS
W401	("H" - "D" - 3")		Str.	Dimensions are out to out of bars.
W402	AS REQUIRED		Str.	
F401	AS REQUIRED		Str.	
F402	AS REQUIRED		3"	
D401	2'-6"		Str.	
"Bar A"	("H" - "D" - 3")		Str.	
"Bar B"				
#5	Min. Lap + "D" + 4½"	10"	3¾"	
#6	Min. Lap + "D" + 6¼"	12"	4½"	
#7	Min. Lap + "D" + 7¾"	14"	5¼"	
#8	Min. Lap + "D" + 9½"	16"	6"	
#9	Min. Lap + "D" + 12"	19¼"	9"	
"Bar C"	("B" - 6")		Str.	
"Bar D"	("B" - 6")		Str.	

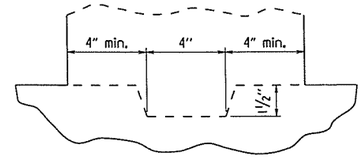


APPROXIMATE QUANTITIES FOR RETAINING WALL

For Information Only

	207 Stone Backfill	SP Job 061333 Select Granular Backfill
	TON	CU. YD.
NB RAMP ALONG I-430	1,489	17,150

Note: The quantities shown are estimated, actual quantity to be determined in the field.



KEYED CONSTRUCTION JOINT DETAIL

No Scale

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
5-11-15
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF REINFORCED CONCRETE RETAINING WALL
NB ENTRANCE RAMP

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 1-6-15 FILENAME: b061333rw.dgn
CHECKED BY: [illegible] DATE: 5-8-15 SCALE: AS NOTED
DESIGNED BY: CRE DATE: 4/14

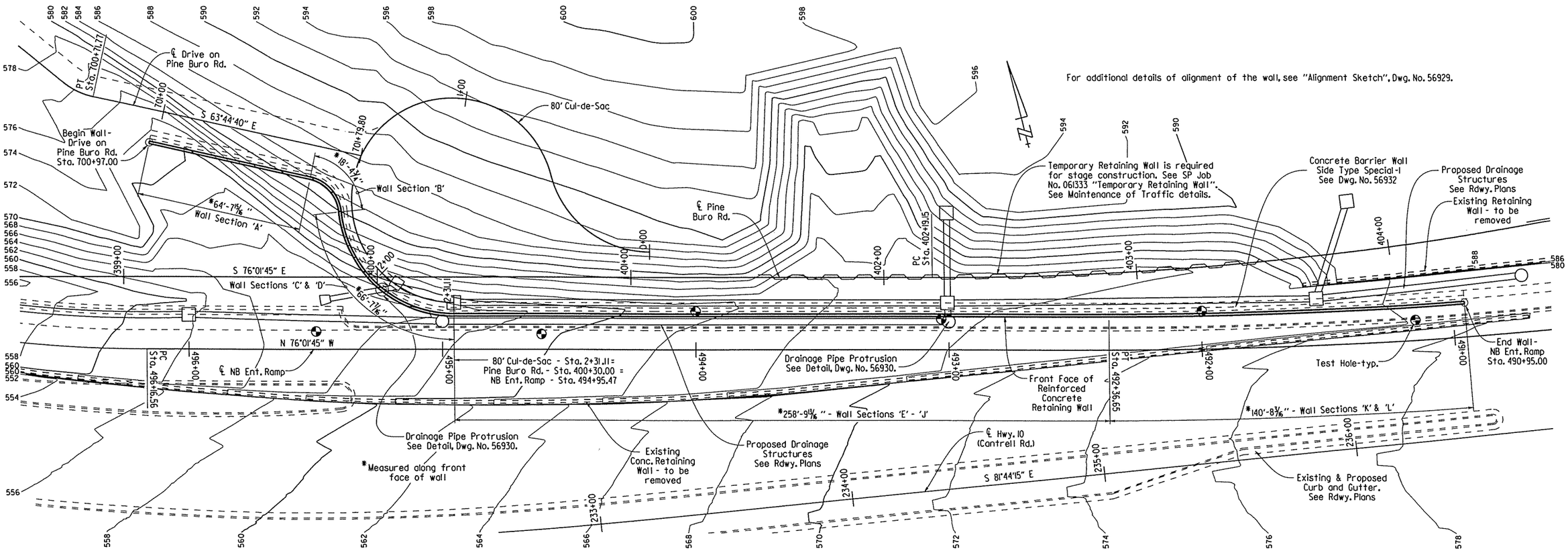
DRAWING NO. 56926

PRINT DATE: 5/5/2015

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.		061333	93	272
				(1)	LAYOUT PINE BURO RD. WALL - 56927			

For R/W Data, see Rdwy. Plans

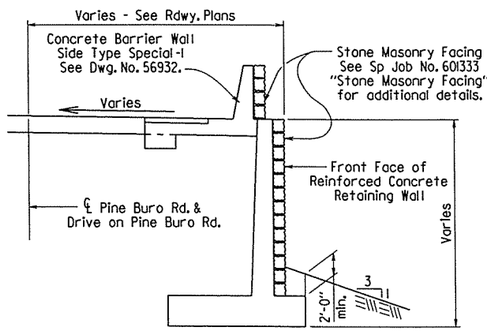
Sta. 2+07 Construct Type ST Junction Box 8" Lt. of C.L. Cul-de-Sac
with (2)-24" x 8' Stub Inlets
with 24" x 30' Pipe Outlet with F.E.S. Drop Inlet 3'-0" x 3'-0" x 33'-8"
Type ST Drop Inlet = 1 each
24" F.E.S. = 1 each
24" RC Pipe (Class V) (Type 3) = 46 Lin. ft.
See Detail, Dwg. No. 56934.



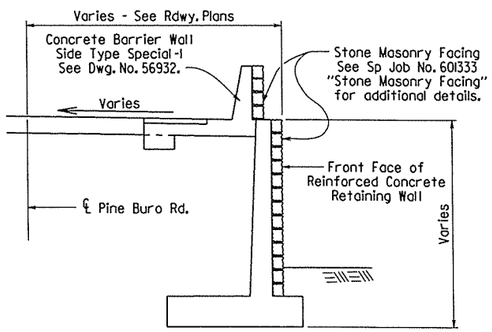
PLAN

Note: Longitudinal lines for retaining wall shall be constructed on curves or lines concentric with curves or lines parallel to tangent shown on the "Alignment Sketch", Dwg. No. 56929. Elevations and lengths shown are along front face of retaining wall. Stations shown at Begin and End of wall are along front face of wall, determined by projecting a radial line from alignment shown to front face of wall.

For additional details and General Notes, see Dwg. Nos. 56930 & 56931.



TYP. CROSS-SECTION
Along Wall Sections A-D



TYP. CROSS-SECTION
Along Wall Sections E - L

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
2-27-15
BRIDGE ENGINEER

SHEET 1 OF 3
LAYOUT OF REINFORCED CONCRETE RETAINING WALL
ALONG PINE BURO RD.
I-430 / HWY. 10
INTERCHANGE IMPVT. (L.R.) (S)
PULASKI COUNTY

ROUTE 430 SEC. 21
ROUTE 10 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 12-18-14
CHECKED BY: CSE DATE: 2/27/15
DESIGNED BY: CSE DATE: 9/14
FILENAME: b061333pbrd_11.dgn
SCALE: 1" = 20'

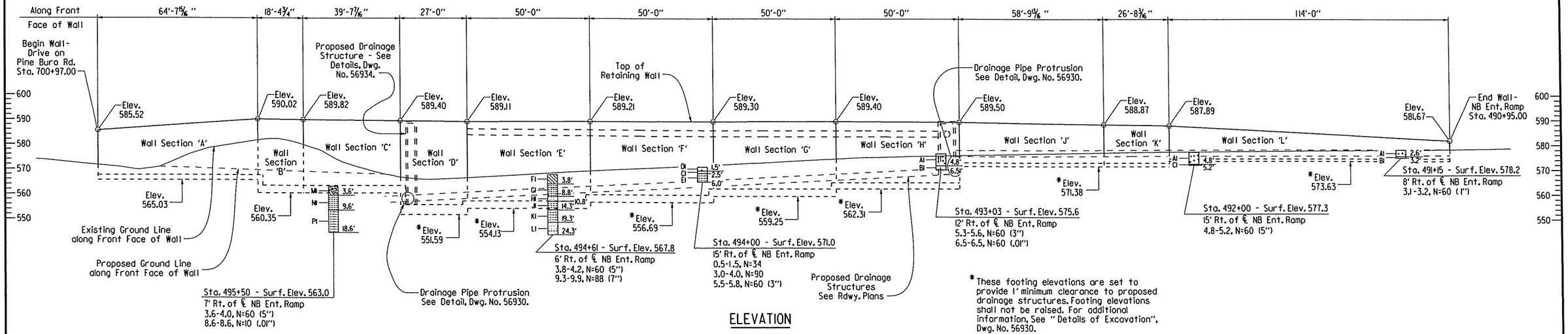
DRAWING NO. 56927

PRINT DATE: 2/27/2015

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.		061333	94	272

(1) LAYOUT PINE BURO RD. WALL - 56928

For additional details and General Notes, see Dwg. Nos. 56930 & 56931.



ELEVATION

*These footing elevations are set to provide 1' minimum clearance to proposed drainage structures. Footing elevations shall not be raised. For additional information, See "Details of Excavation", Dwg. No. 56930.

BORING LEGEND

AI-Asphalt Pavement and Gravel (Sandstone Fragments)
BI-SANDSTONE - Brown, Poorly-Cemented
CI-SANDSTONE WITH GRAY WEATHERED SHALE - Brown, Poorly-Cemented
DI-Gravel (Sandstone and Shale Fragments) with some Organic Matter
EI-WEATHERED SHALE WITH SANDSTONE LAYERS - Gray and Brown, Medium Hard
FI-Moist, Soft, Reddish Brown Clay with some Organic Matter
GI-SHALE WITH SANDSTONE COBBLES - Reddish Brown and Dark Gray, Highly Weathered, Medium Hard
HI-SANDSTONE WITH DARK GRAY SHALE PARTINGS - Reddish Brown, Weathered, Poorly-Cemented
JI-SHALE WITH SANDSTONE PARTINGS - Reddish Brown and Dark Gray, Laminated, Highly Weathered, Medium Hard, with Steep Dip and Fractured Layers
KI-SHALE WITH SANDSTONE LAYERS - Reddish Brown and Dark Gray, Laminated, Highly Weathered, Soft, with Steep to Vertical Dip and Fractured Layers
LI-SANDSTONE WITH DARK GRAY SHALE LAYERS - Reddish Brown, Very Thick Bedded, Slightly Weathered, Well-Cemented, with Steep Dip and Fractured Layers
MI-Moist, Very Stiff, Reddish Brown and Dark Gray Clay with Gravel (Sandstone Fragments), Cobbles and some Organic Matter
NI-SHALE - Reddish Brown and Dark Gray, Highly Weathered, Medium Hard
PI-SHALE WITH SANDSTONE LAYERS - Reddish Brown and Dark Gray, Laminated, Weathered, Medium Hard, with Steep Dip and Fractured Layers

Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with Stone Backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer. For additional information, see "Details of Excavation", Dwg. No. 56930.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
2-27-15
BRIDGE ENGINEER

SHEET 2 OF 3
LAYOUT OF REINFORCED CONCRETE RETAINING WALL ALONG PINE BURO RD.
I-430 / HWY. 10
INTERCHANGE IMPVT. (L.R.) (S)
PULASKI COUNTY

ROUTE 430 SEC. 21
ROUTE 10 SEC. 8

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 12-18-14
CHECKED BY: CSR DATE: 2/27/15
DESIGNED BY: CSR DATE: 9/14
FILENAME: b061333pbrd_11.dgn
SCALE: 1" = 20'

DRAWING NO. 56928

PRINT DATE: 2/27/2015

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.		061333	93	272

(1) LAYOUT PINE BURO RD. WALL - 56929

HORIZONTAL CURVE DATA
80' Cul-de-Sac

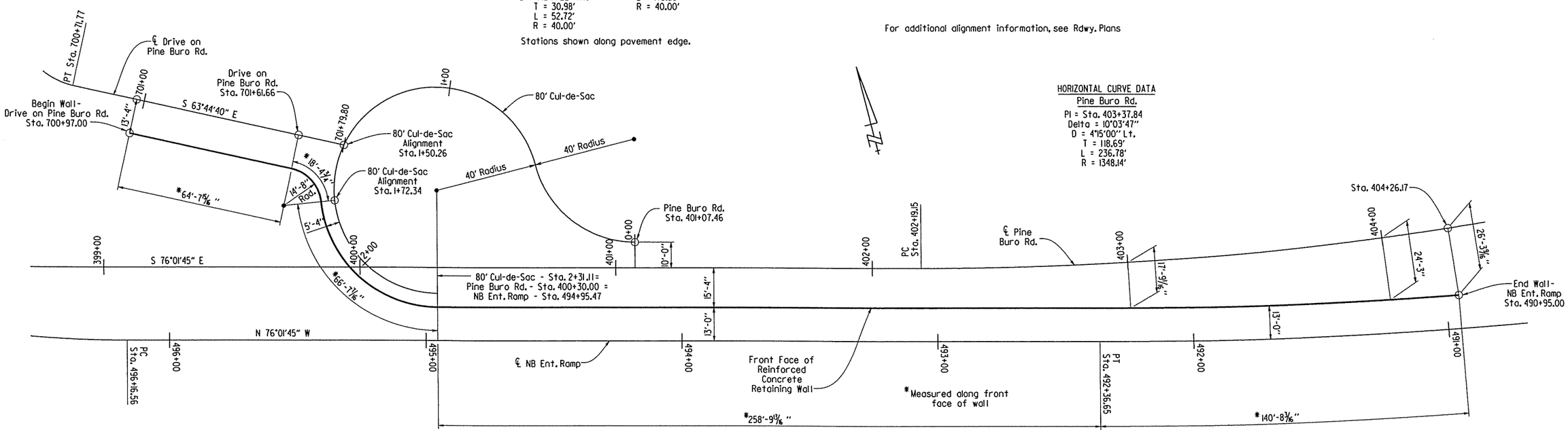
Curve No.1
PI = Sta. 0+30.98
Delta = 75°31'21"
D = 143°14'22" Rt.
T = 30.98'
L = 52.72'
R = 40.00'

Curve No. 2
Delta = 255°31'21"
D = 143°14'22" Lt.
L = 178.39'
R = 40.00'

Stations shown along pavement edge.

For additional alignment information, see Rdwy. Plans

HORIZONTAL CURVE DATA
Pine Buro Rd.
PI = Sta. 403+37.84
Delta = 10°03'47"
D = 4°15'00" Lt.
T = 118.69'
L = 236.78'
R = 1348.14'



ALIGNMENT SKETCH

HORIZONTAL CURVE DATA
NB Ent. Ramp
PI = Sta. 491+41.59
Delta = 5°42'30"
D = 3°00'00" Rt.
T = 95.22'
L = 190.28'
R = 1909.86'

Note: Longitudinal lines for retaining wall shall be constructed on curves or lines concentric with curves or lines parallel to tangent shown on the "Alignment Sketch". Elevations and lengths shown are along front face of retaining wall. Stations shown at Begin and End of wall are along front face of wall, determined by projecting a radial line from alignment shown to front face of wall.

For additional details and General Notes, see Dwg. Nos. 56930 & 56931.

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
2-27-15
BRIDGE ENGINEER

SHEET 3 OF 3
LAYOUT OF REINFORCED CONCRETE RETAINING WALL
ALONG PINE BURO RD.
I-430 / HWY. 10
INTERCHANGE IMPVT. (L.R.) (S)
PULASKI COUNTY

ROUTE 430 SEC. 21
ROUTE 10 SEC. 8

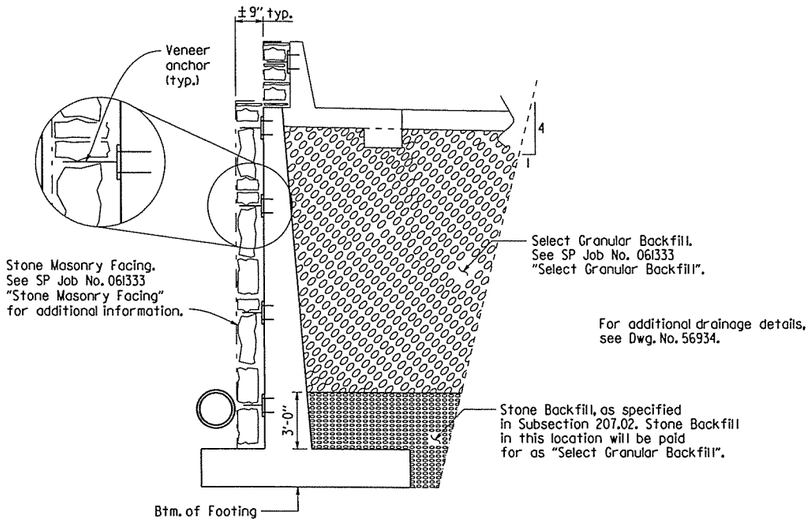
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 12-18-14 FILENAME: b061333pbrd_ll.dgn
CHECKED BY: CSE DATE: 2/27/15 SCALE: 1" = 20'
DESIGNED BY: CSE DATE: 9/14

DRAWING NO. 56929

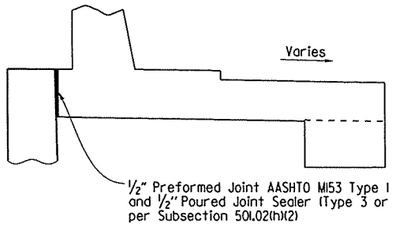
PRINT DATE: 2/27/2015

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.		061333	96	272
				①	PINE BURO RD. WALL - 56930			



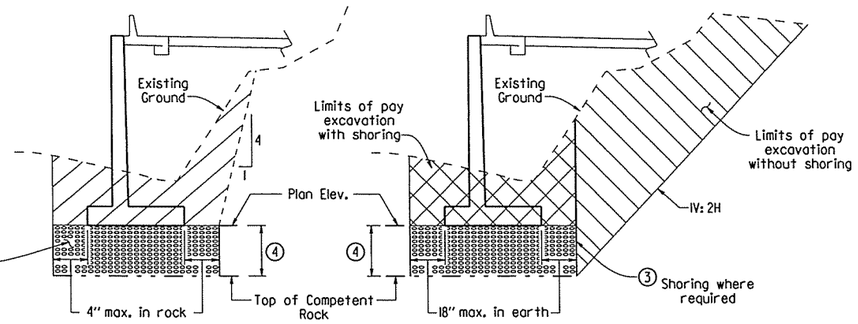
TYPICAL WALL SECTION

No Scale



DETAIL OF CURB JOINT

No Scale



DETAILS OF EXCAVATION

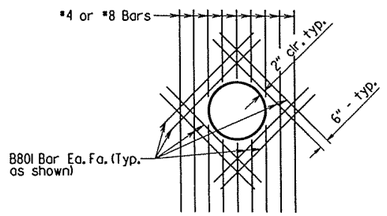
No Scale

NOTE:
Hatched area denotes maximum limits of pay excavation.

Excavation required for area of Stone Backfill will be subsidiary to the pay item "Stone Backfill".

③ The Contractor has the option of using a cut slope and/or shoring to maintain stability of the cut except where a temporary retaining wall is shown in the plans. Any excavation beyond the detailed pay limits or any shoring used will not be paid for directly, but shall be considered incidental to the item "Unclassified Excavation for Structures - Roadway".

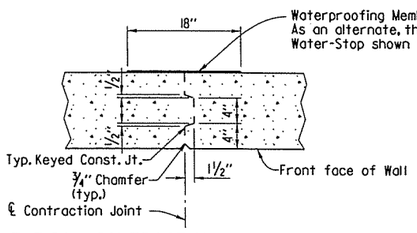
④ Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with Stone Backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer.



An approved grout, listed on the QPL, shall be used to fill any voids between the retaining wall and R.C. pipe. Payment for material and labor will not be paid for directly but shall be considered subsidiary to Class S Concrete.

REINFORCING DETAIL FOR 24" R.C. PIPE PROTRUSION

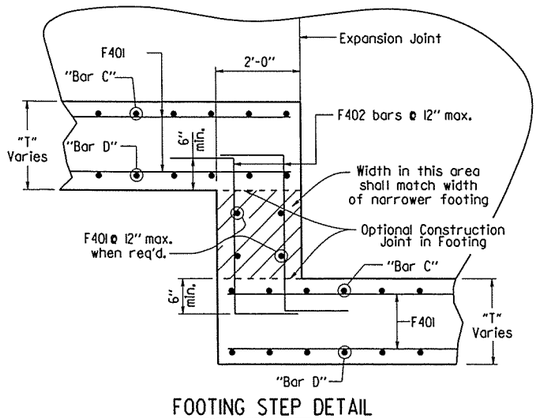
No Scale



TYPICAL CONTRACTION JOINT DETAIL

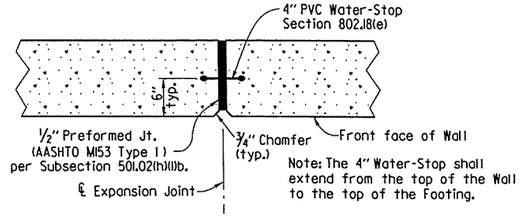
No Scale

Note: 30'-0" Max spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction Joints.



FOOTING STEP DETAIL

No Scale



TYPICAL EXPANSION JOINT DETAIL

No Scale

Note: 90'-0" Max spacing between Expansion Joints. Terminate horizontal reinforcement 2" from Expansion Joint.

STATE OF ARKANSAS
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No. 9235
CHARLES R. ELLIS
2-27-15
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF REINFORCED CONCRETE RETAINING WALL
PINE BURO RD.

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

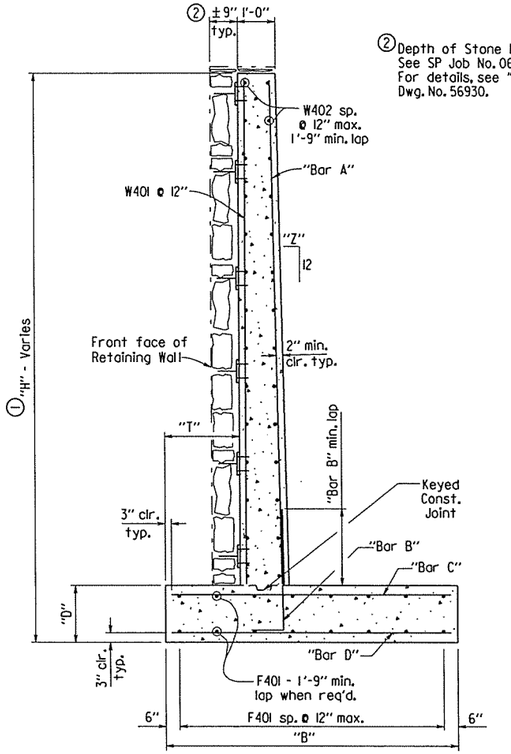
DRAWN BY: CJR DATE: 2-18-15 FILENAME: b061333rw.dgn
CHECKED BY: [illegible] DATE: 2/27/15 SCALE: AS NOTED
DESIGNED BY: [illegible] DATE: 9/14

DRAWING NO. 56930

PRINT DATE: 2/27/2015

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.		061333	97	272

① PINE BURO RD. WALL - 56931



DETAILS OF RETAINING WALL

No Scale

② Depth of Stone Masonry Facing: ±9" See SP Job No. 061333 "Stone Masonry Facing". For details, see "Typical Wall Section", Dwg. No. 56930.

APPROXIMATE QUANTITIES FOR RETAINING WALL

For Information Only

WALL SECTION	Length of Wall along Front Face	804 Reinforcing Steel - Roadway (Gr. 60)	802 Class S Concrete - Roadway	SP Job 061333 Stone Masonry Facing
		LB.	CU. YD.	SQ. YD.
'A'	64'-7 5/16"	15,850	162.99	172
'B'	18'-4 3/4"	5,518	76.70	60
'C'	39'-7 5/16"	11,772	163.41	131
'D'	27'-0"	12,838	199.05	110
'E'	50'-0"	23,746	287.02	197
'F'	50'-0"	20,828	258.71	184
'G'	50'-0"	16,635	231.78	170
'H'	50'-0"	14,032	188.61	156
'J'	58'-9 5/16"	9,338	87.80	127
'K'	26'-8 3/16"	4,122	38.38	55
'L'	114'-0"	13,615	83.78	174

	207 Stone Backfill	SP Job 061333 Select Granular Backfill
	TON	CU. YD.
PINE BURO RD. & DRIVE	648	13,960

Note: The quantities shown are estimated, actual quantity to be determined in the field.

BAR LIST

MARK	LENGTH	A	P.D.
W401	("H" - "D" - 3")		Str.
W402	AS REQUIRED		Str.
F401	AS REQUIRED		Str.
F402	AS REQUIRED		3"
D401	2'-6"		Str.
"Bar A"	("H" - "D" - 3")		Str.
"Bar B"			
#5	Min. Lap + "D" + 4 1/2"	10"	3 3/4"
#6	Min. Lap + "D" + 6 1/4"	12"	4 1/2"
#7	Min. Lap + "D" + 7 3/4"	14"	5 1/4"
#8	Min. Lap + "D" + 9 1/2"	16"	6"
#9	Min. Lap + "D" + 12"	19 1/4"	9"
"Bar C"	("B" - 6")		Str.
"Bar D"	("B" - 6")		Str.
B801	7'-6"		Str.

BENDING DIAGRAMS

Dimensions are out to out of bars.

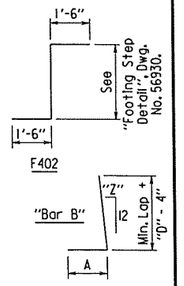
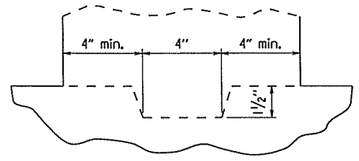


TABLE OF RETAINING WALL VARIABLES - PINE BURO RD.

Wall Section	① "H"	"B"	"T"	"D"	"Bar A"&"B" Bk. Fa. Size @ Sp.	"Bar B" min. lap	"Bar C" Top Footing Size @ Sp.	"Bar D" Bott. Footing Size @ Sp.	Batter "Z"
'A'	25'-0"	13'-0"	2'-0"	2'-0"	#7 @ 6"	3'-6"	#8 @ 6"	#4 @ 12"	1"
'B'	29'-9"	15'-0"	2'-0"	3'-0"	#7 @ 6"	3'-6"	#8 @ 6"	#4 @ 12"	1 1/4"
'C'	29'-6"	15'-0"	2'-0"	3'-0"	#7 @ 6"	3'-6"	#8 @ 6"	#4 @ 12"	1 1/4"
'D'	38'-0"	19'-6"	3'-0"	4'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 12"	1 3/4"
'E'	35'-3"	18'-0"	3'-0"	3'-0"	#8 @ 6"	4'-8"	#10 @ 6"	#5 @ 12"	1 1/2"
'F'	32'-9"	17'-0"	3'-0"	3'-0"	#8 @ 6"	4'-8"	#9 @ 6"	#5 @ 12"	1 1/2"
'G'	30'-3"	16'-0"	2'-0"	3'-0"	#7 @ 6"	3'-6"	#9 @ 6"	#4 @ 12"	1 1/2"
'H'	27'-3"	14'-6"	2'-0"	3'-0"	#7 @ 6"	3'-6"	#8 @ 6"	#4 @ 12"	1 1/4"
'J'	18'-3"	10'-6"	2'-0"	1'-6"	#6 @ 6"	2'-7"	#7 @ 6"	#4 @ 12"	1/2"
'K'	17'-6"	10'-6"	2'-0"	1'-6"	#6 @ 6"	2'-7"	#7 @ 6"	#4 @ 12"	1/2"
'L'	14'-6"	8'-0"	1'-0"	1'-6"	#6 @ 6"	2'-7"	#8 @ 6"	#4 @ 12"	-

① Design height of the Section. Actual heights will vary in the field but shall not exceed the design height. The Engineer shall be notified if changes in footing elevations result in a total wall height in a section exceeding the design height. Does not include stone masonry at top of wall.



KEYED CONSTRUCTION JOINT DETAIL

No Scale

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2014 Edition, with applicable Supplemental Specifications and Special Provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition (2012), with 2013 Interim Specifications.

CONCRETE: All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Exposed corners to be chamfered 3/4" unless otherwise noted.

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

FOOTINGS: Top of footings for retaining walls shall be set 2'-0" below finished ground surface or lower. Footings shall be founded on material designated as Medium Hard Shale or Sandstone on the boring legend except as noted below. Foundations for footings shall be prepared in accordance with Subsection 801.04. Care shall be exercised to avoid shattering of rock faces by excessive blasting.

Footing elevations are set to be founded on competent rock. If competent rock is not encountered at the plan elevation, the overburden shall be excavated to competent rock over the full width of the footing. For overburden depths less than 3 feet, the footing shall be lowered and wall height shall be increased. For overburden depths between 3 feet to 8 feet, excavation shall be backfilled to the plan footing elevation with Stone Backfill in accordance with Section 207. If overburden depth to competent rock is deeper than 8 feet, contact the Engineer.

BACKFILL: Backfill material for the retaining wall shall consist of a 3 foot minimum thickness drainage layer on top of the footing composed of aggregate meeting the requirements for Stone Backfill in Subsection 207.02 overlain by material meeting the Coarse Aggregate requirements of Subsection 802.02(c) in accordance with SP Job No. 061333 "Select Granular Backfill". All materials shall be measured and paid for as "Select Granular Backfill".

MISC. ITEMS: Waterstops, preformed joint material and the waterproofing membrane shall not be paid for directly, but shall be considered subsidiary to other items of the contract.

BORING LOGS: Boring logs, including laboratory results, may be obtained from the Construction Contract Procurement Section of the Program Management Division.

See Dwg. Nos. 56927 - 56930 for retaining wall details, elevation views and additional information.

STATE OF ARKANSAS
CHARLES R. ELLIS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
2-27-15
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF REINFORCED CONCRETE RETAINING WALL
PINE BURO RD.

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 2-18-15 FILENAME: b061333rw.dgn

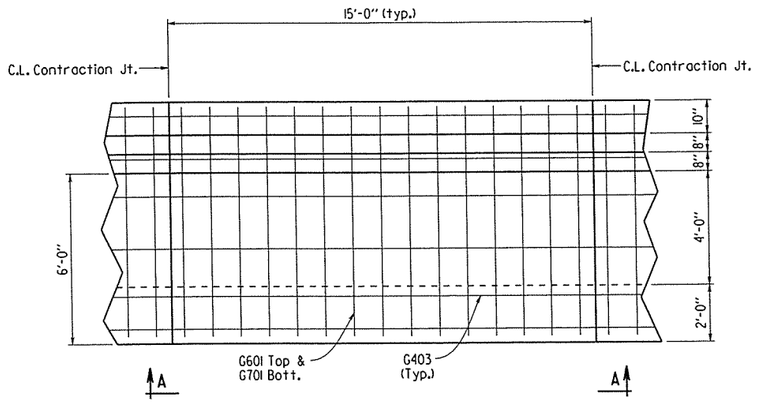
CHECKED BY: DATE: 2/27/15 SCALE: AS NOTED

DESIGNED BY: DATE: 9/14

DRAWING NO. 56931

PRINT DATE: 2/27/2015

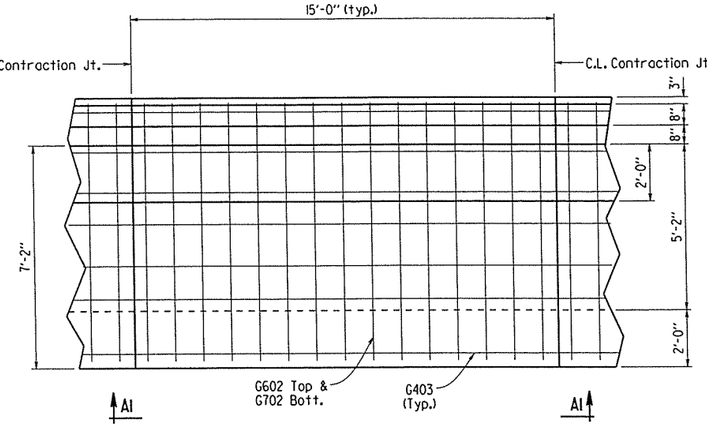
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	98	272
				①	BARRIER WALL - 56932			



NOTE: Conc. Barrier reinforcing and Shear Key reinforcing not shown for clarity.

PLAN-PROPOSED CONCRETE BARRIER WALL (SIDE TYPE SPECIAL)

(Left side of NB Ent. Ramp looking ahead)
3/8" = 1'-0"

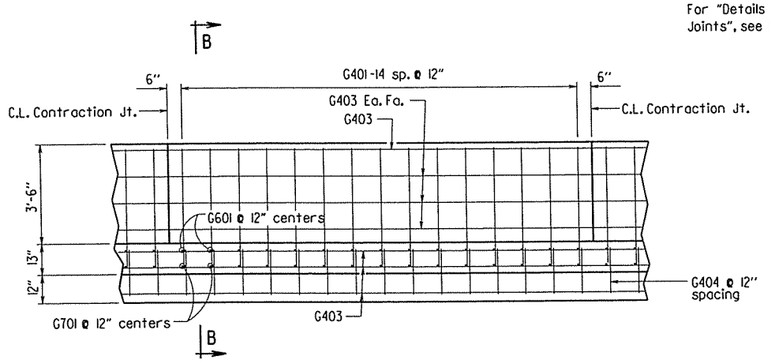


NOTE: Conc. Barrier reinforcing and Shear Key reinforcing not shown for clarity.

PLAN-PROPOSED CONCRETE BARRIER WALL (SIDE TYPE SPECIAL-1)

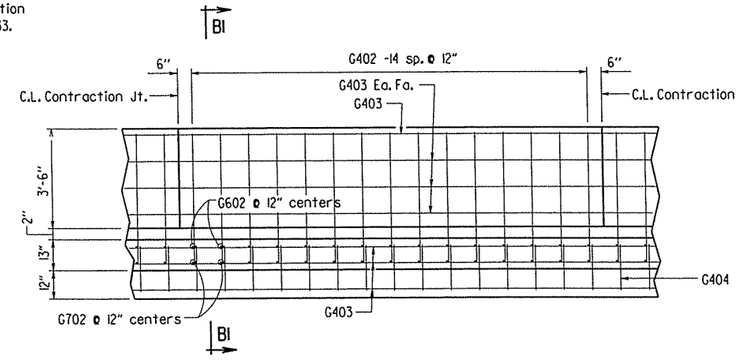
(Right side of Pine Buro Rd. & Drive looking ahead.)
3/8" = 1'-0"

For "Details of Contraction Joints", see Dwg. No. 56933.



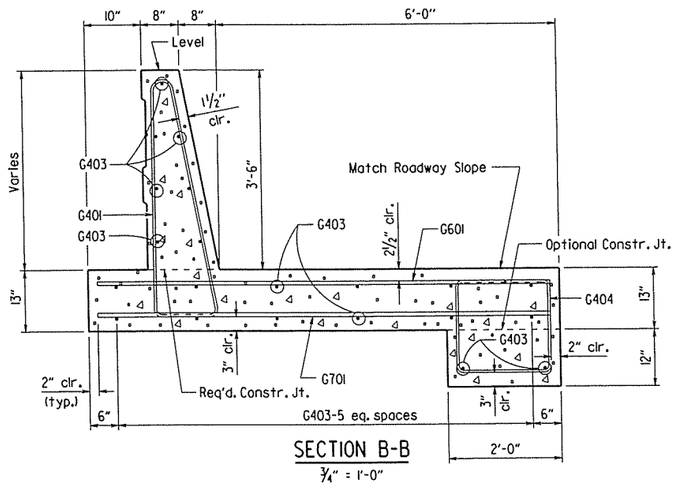
VIEW A-A

3/8" = 1'-0"



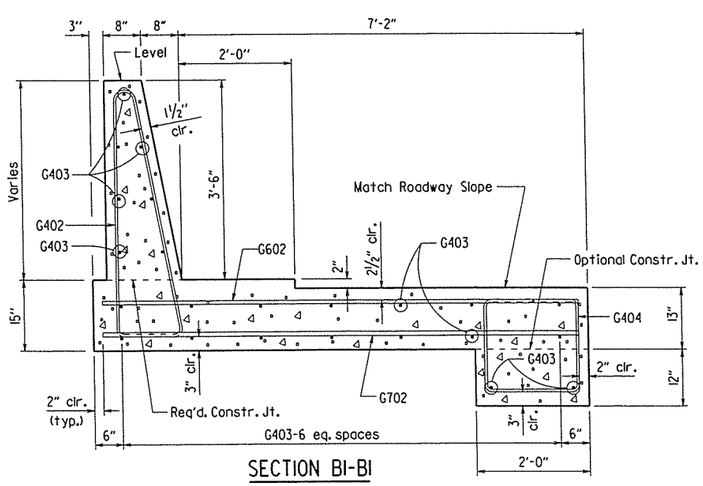
VIEW A1-A1

3/8" = 1'-0"



SECTION B-B

¾" = 1'-0"



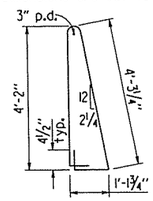
SECTION B1-B1

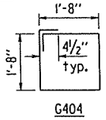
¾" = 1'-0"

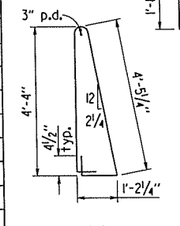
FOR INFORMATION ONLY
BAR LIST FOR CONC. BARRIER WALL

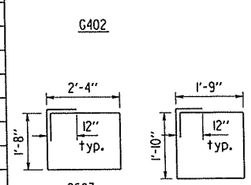
Mark	Length	Pin Dia.
G401	9'-11"	3"
G402	10'-4"	3"
G403	*As Required	Str.
G404	7'-2"	2"
G601	7'-10"	Str.
G602	8'-5"	Str.
G603	9'-2"	4½"
G604	8'-3"	4½"
G701	7'-10"	Str.
G702	8'-5"	Str.

Bending Diagram (Dimensions are out to out of bars.)

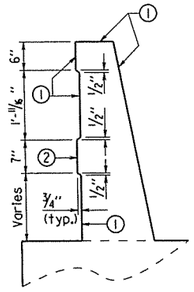








*Note: Min. Lap Length For Longitudinal Bar G403: 1'-9"



DETAIL OF BARRIER ENHANCEMENT

¾" = 1'-0"

① Class 3 Textured Coating Finish (Color: Brown, Chip No. 33522)

② Class 3 Textured Coating Finish (Color: Brown, Chip No. 30219)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
5-11-15
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF
CONCRETE BARRIER WALL

ROUTE SEC.

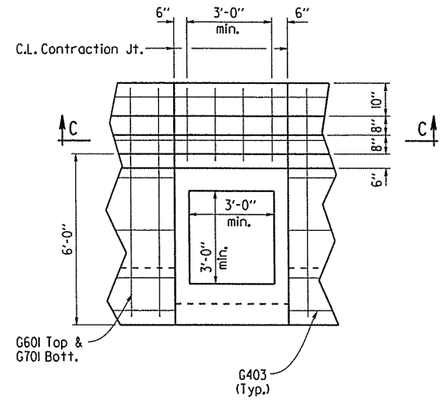
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 2-2-15 FILENAME: 061333_retwallbarrier.dgn
CHECKED BY: DATE: 5-8-15 SCALE: AS NOTED
DESIGNED BY: STD. DATE: —

DRAWING NO. 56932

PRINT DATE: 5/8/2015

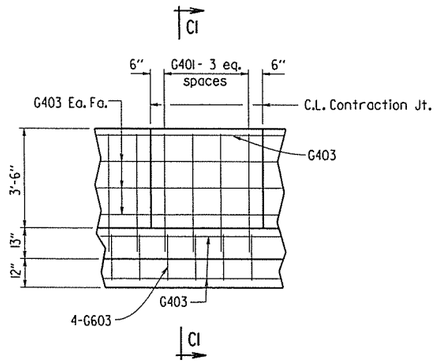
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	99	292
				①		BARRIER WALL - 56933		



NOTE: Conc. Barrier reinforcing and Shear Key reinforcing not shown for clarity.

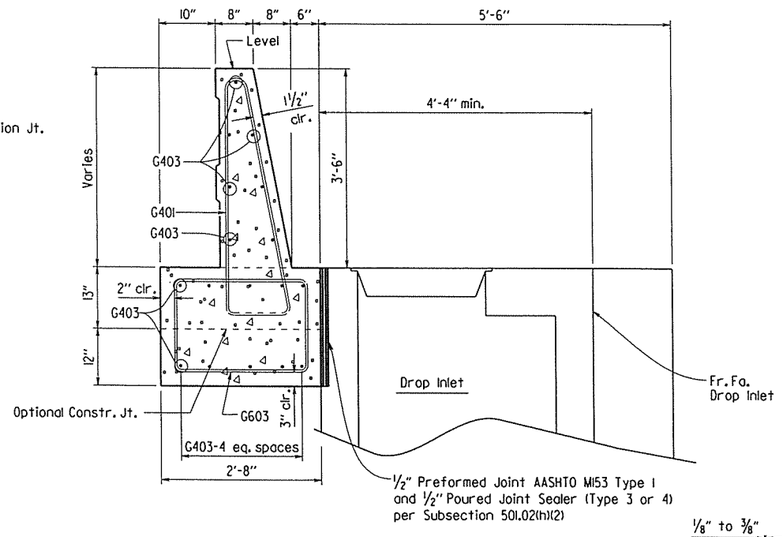
PLAN-PROPOSED CONCRETE BARRIER WALL (SIDE TYPE SPECIAL)

(Left side of NB Ent. Ramp looking ahead)
3/8" = 1'-0"



SECTION C-C

3/8" = 1'-0"



SECTION C1-C1

3/4" = 1'-0"

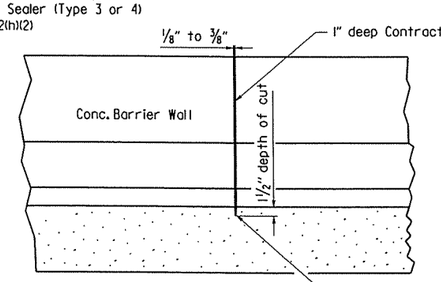
GENERAL NOTES

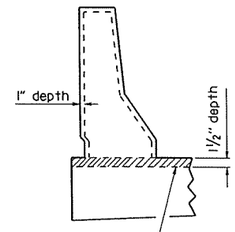
Concrete shall be Class S(AE) (f'c = 4,000 psi)

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

Preformed Joints and Sealer shall not be paid for directly. Payment for these items shall be considered incidental to the pay items "Concrete Barrier Wall Side Type Special" and "Concrete Barrier Wall Side Type Special-I".

Concrete Barrier Wall will be paid for as "Concrete Barrier Wall Side Type Special" and "Concrete Barrier Wall Side Type Special-I".





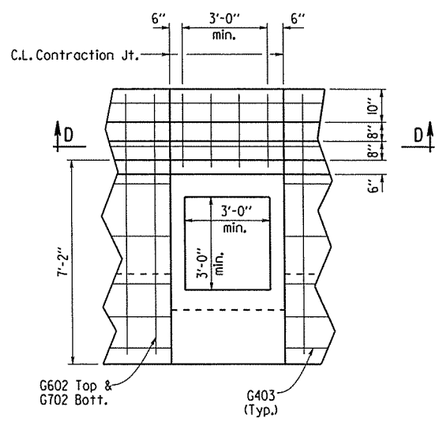
DETAILS OF CONTRACTION JOINTS

N.T.S.

Note: Contraction Joints shall be constructed at 15'-0" Max. Sp. and coincide with Contraction Joints in Curb & Gutter.

Widths of Contraction Joints in the Concrete Barrier Walls shall match the widths of Contraction Joints used in the Curb & Gutter.

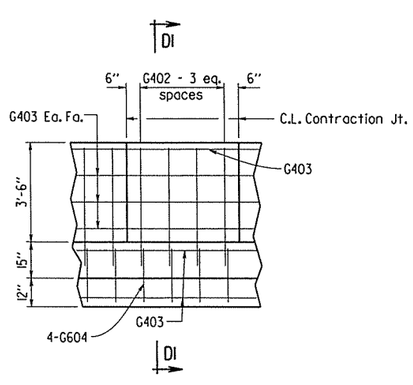
1" depth joints in rail section are not required to be sealed.



NOTE: Conc. Barrier reinforcing and Shear Key reinforcing not shown for clarity.

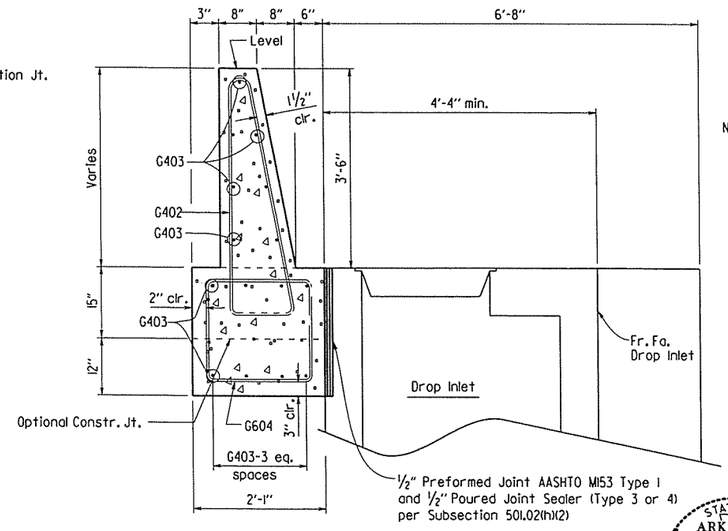
PLAN-PROPOSED CONCRETE BARRIER WALL (SIDE TYPE SPECIAL-I)

(Right side of Pine Buro Rd. & Drive looking ahead.)
3/8" = 1'-0"



SECTION D-D

3/8" = 1'-0"



SECTION D1-D1

3/4" = 1'-0"

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
5-11-15
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF CONCRETE BARRIER WALL

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

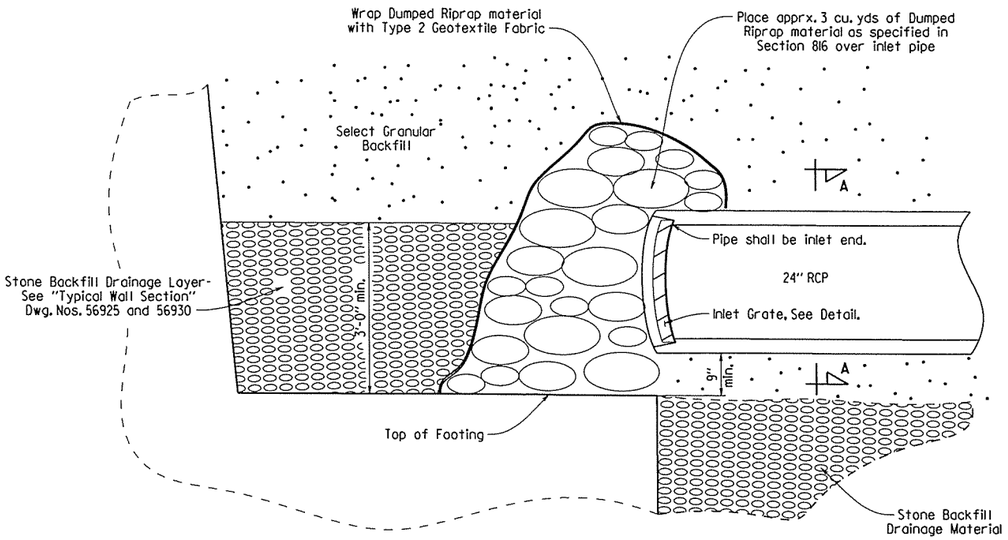
LITTLE ROCK, ARK.

DRAWN BY: CJR DATE: 2-2-15 FILENAME: 061333.retwallbarrier.dgn
CHECKED BY: GWP DATE: 5-8-15 SCALE: AS NOTED
DESIGNED BY: STD. DATE: —

DRAWING NO. 56933

PRINT DATE: 5/8/2015

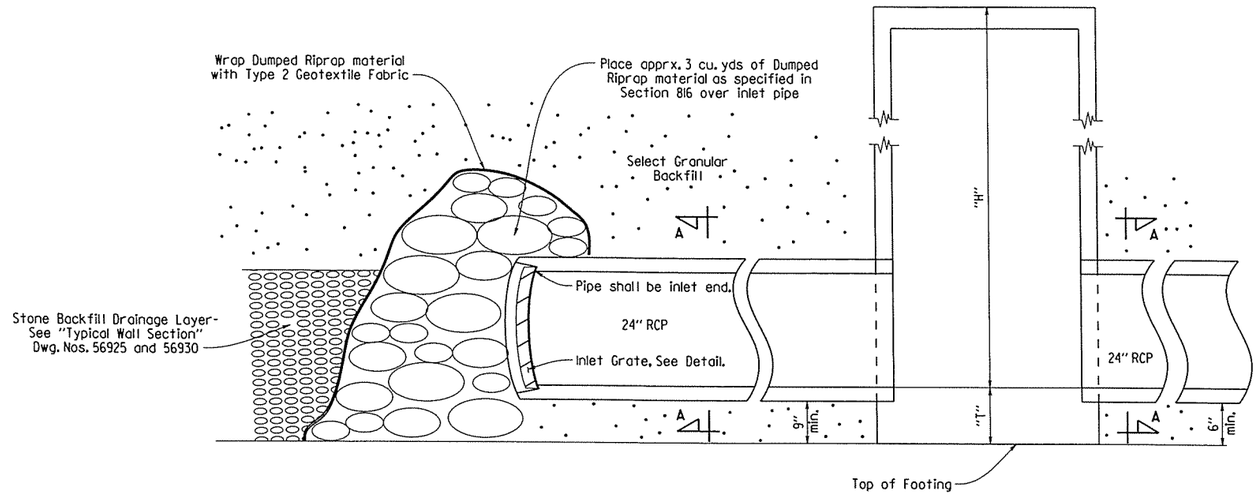
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	100	272
				(1)		DRAINAGE STRUCTURES - 56934		



DRAINAGE PIPE INLET DETAIL

No Scale

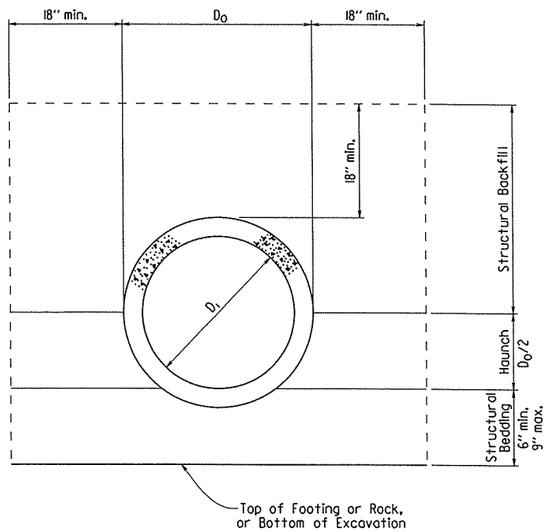
Note: Dumped Riprap and Type 2 Geotextile Fabric shall not be measured separately, but shall be subsidiary to SP Job No. 061333 "Select Granular Backfill".



DETAILS AT JUNCTION BOX (TYPE ST)

No Scale

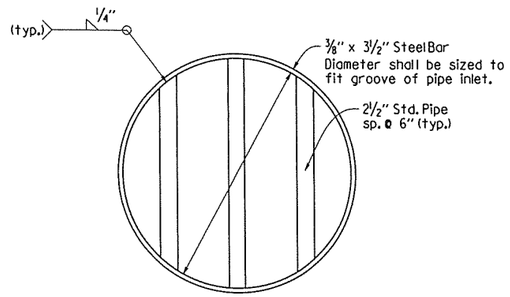
Note: For dimensions, reinforcing, and other details not shown, see Std. Dwg. FPC-9S



Note: Material in Structural Bedding , Haunch, and Structural Backfill shall conform to SP Job No. 061333 "Select Granular Backfill" except shall not contain stones larger than 3". Structural Bedding and Haunch shall be installed according to Std. Dwg. PCC-1.

SECTION A-A

No Scale



DETAILS OF INLET GRATE

No Scale

Inlet Grate shall be constructed as shown of Steel conforming to AASHTO M270 Gr 36 and Standard Pipe conforming to ASTM A53 or ASTM A500. Fabricated Grate shall be painted in accordance with Section 638.

STATE OF ARKANSAS
Charles R. Ellis
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
5-11-15
BRIDGE ENGINEER

DETAILS OF RETAINING WALL DRAINAGE STRUCTURES

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

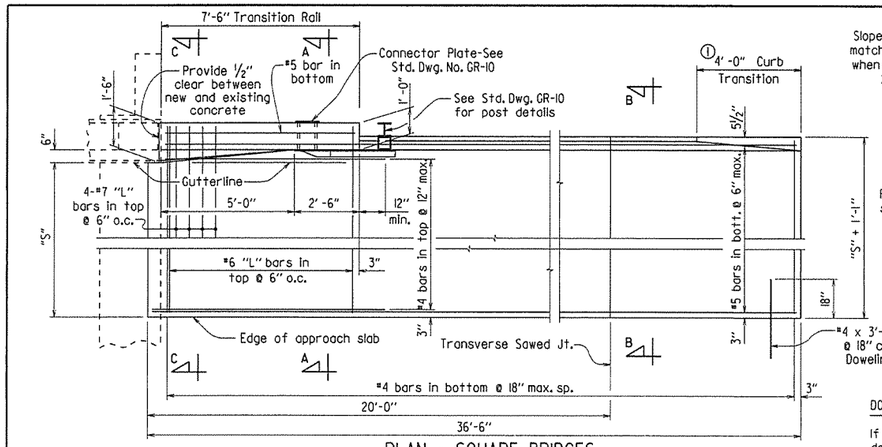
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-15 FILENAME: b061333dd.dgn
CHECKED BY: SWP DATE: 5-8-15 SCALE: AS NOTED
DESIGNED BY: SWP DATE: 3/15

DRAWING NO. 56934

PRINT DATE: 5/8/2015

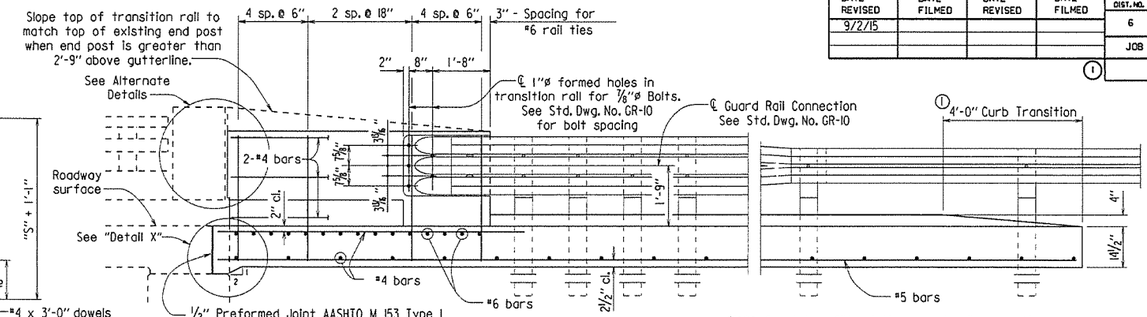
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9/2/15				6	ARK.		101	
				JOB NO.				
				①	TYPE AT GUTTERS		55036	



PLAN - SQUARE BRIDGES

⅜" = 1'-0"

"S" = Distance from gutterline to edge of approach slab.



Note: Completely fill existing guard rail connection recess with approved non-shrink grout. Work and material will not be paid for separately but will be considered subsidiary to "Approach Gutters".

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

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

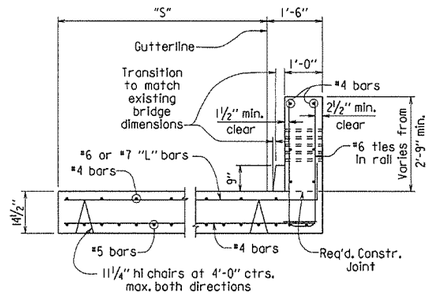
DOWELING NOTE

If new approach slab is used, place dowels into approach slab using 18" embedment.

If existing approach slab is retained, dowels shall be drilled and grouted 18" into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to "Approach Gutters".

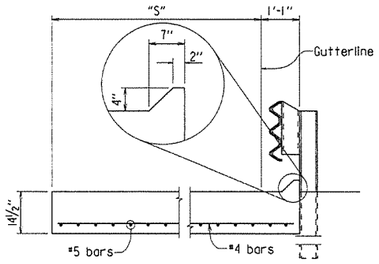
LONGITUDINAL SECTION THRU GUTTER

½" = 1'-0"



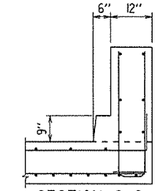
SECTION A-A

½" = 1'-0"



SECTION B-B

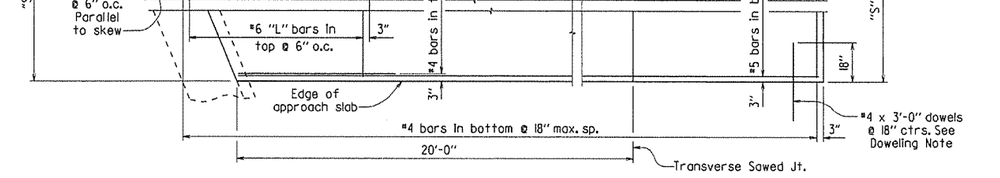
½" = 1'-0"

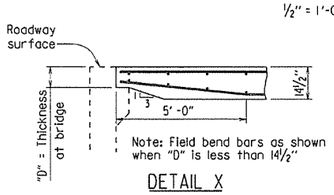


SECTION C-C

At end of Transition Rail

½" = 1'-0"



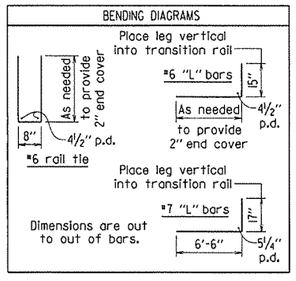


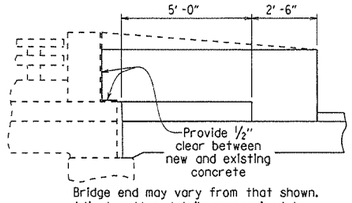
Note: Field bend bars as shown when "D" is less than 14½"

DETAIL X

⅜" = 1'-0"

BENDING DIAGRAMS





Bridge end may vary from that shown. Adjust gutter details as required to provide similar railing transition.

ALTERNATE DETAILS

N.T.S.

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

(FOR INFORMATION ONLY)

"S"	Concrete	Reinforcing Steel
5'-6"	12.06 cu.yd.	1091 lb.
9'-6"	18.78 cu.yd.	1573 lb.

GENERAL NOTES

All concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

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. Fabricate bar lengths to provide 2" minimum cover at each end.

Approach gutters will be measured and paid for in accordance with Section 504.

⚠ Added note for gutters within the limits of horizontal curves. By: AMS
Checked By: KWY 9/2/15

⚠ Note:
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

PLAN - SKEWED BRIDGES

⅜" = 1'-0"

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on September 2, 2015. This copy is not a signed and sealed document.

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

BRIDGE ENGINEER

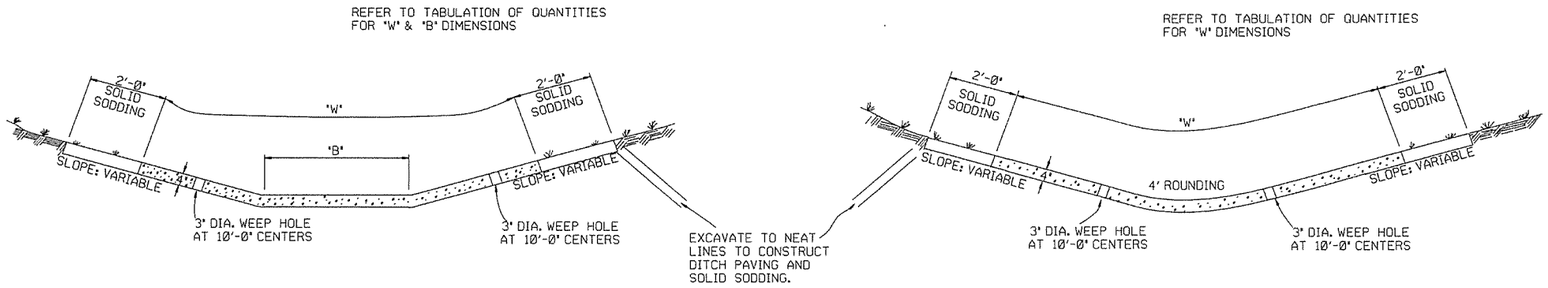
STANDARD DETAILS FOR TYPE 'AT' APPROACH GUTTERS (BRIDGES WITH 6" CURB WIDTH & TYPE A RAILING)

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2/27/2014 FILENAME: b55036.dgn
CHECKED BY: KWY DATE: 2/27/2014 SCALE: AS SHOWN
DESIGNED BY: STD. DATE:

DRAWING NO. 55036

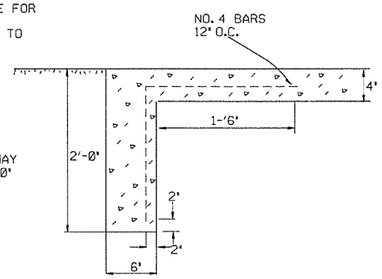


TYPE A

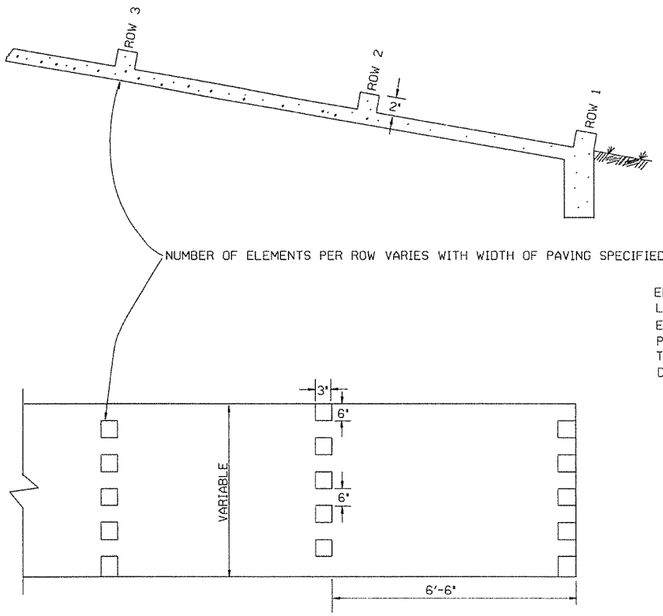
TYPE B

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

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



TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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 UNCLUDED 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.

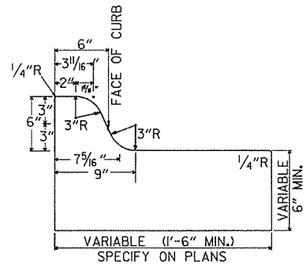
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
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

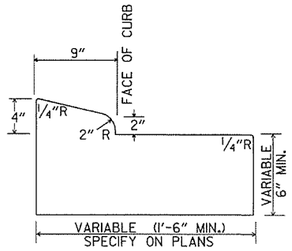
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

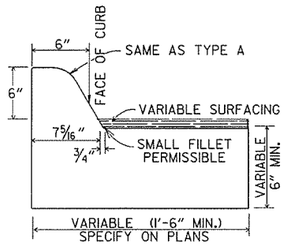
STANDARD DRAWING CDP-1



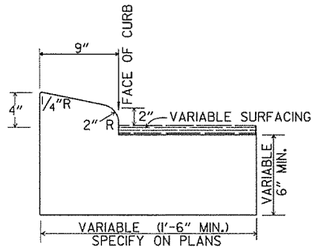
TYPE A



TYPE B-1



TYPE C



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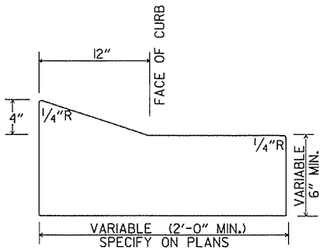
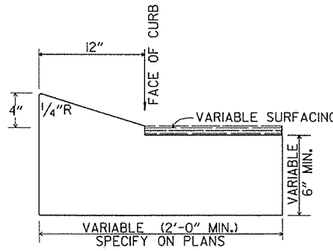
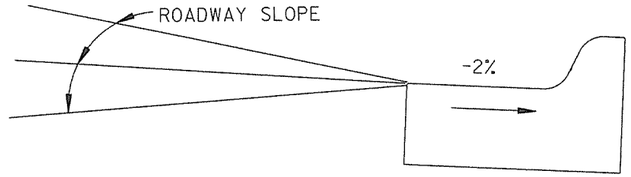


TYPE E-1



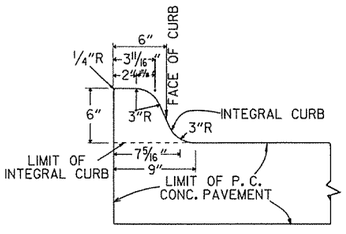
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

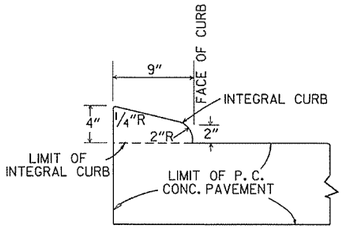


DETAIL OF GUTTER SLOPE

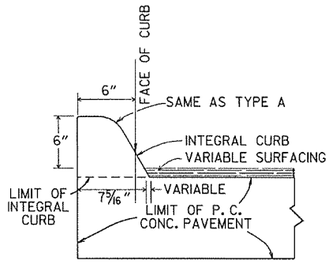
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

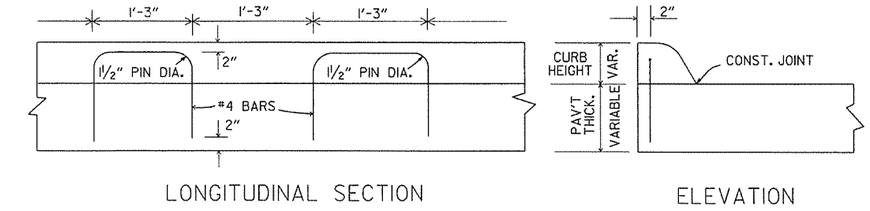


TYPE B

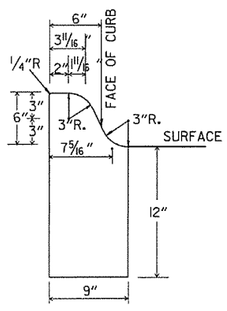


TYPE C

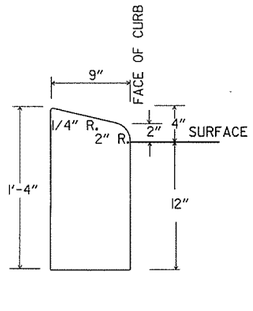
INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



TYPE A



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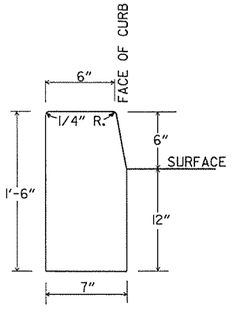
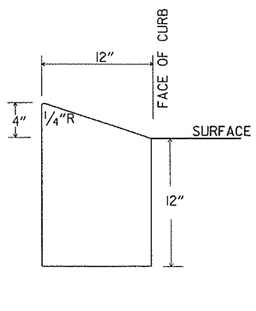
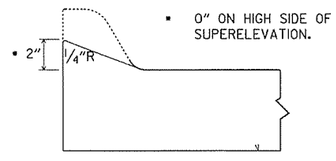


TYPE D



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.

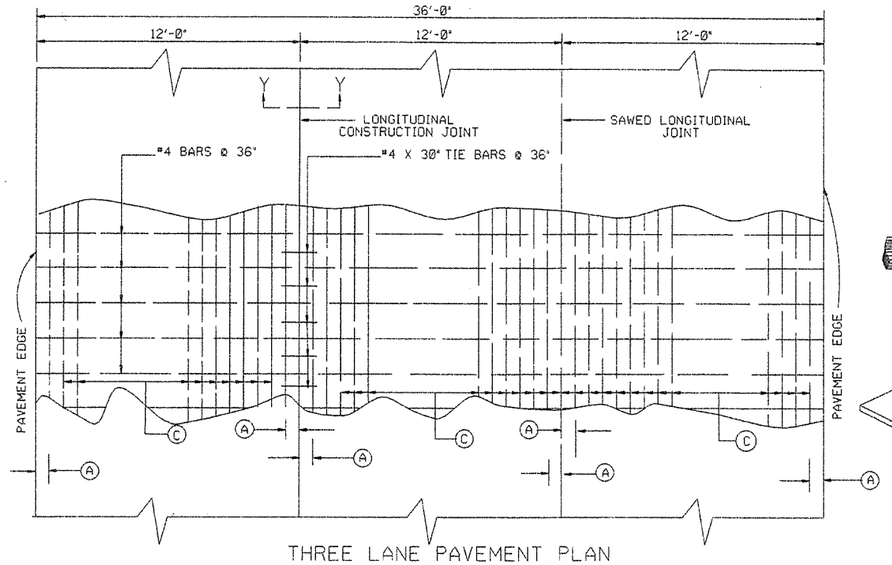
DETAILS OF MODIFIED CURB

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

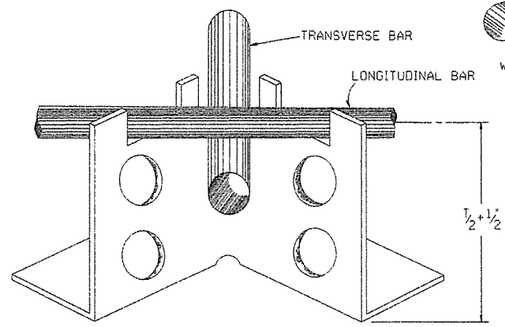
CURBING DETAILS

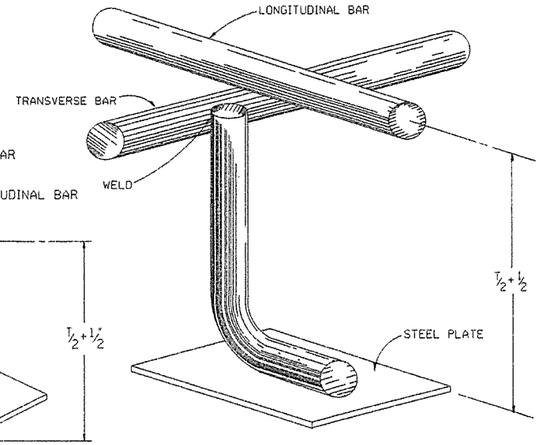
STANDARD DRAWING CG-1



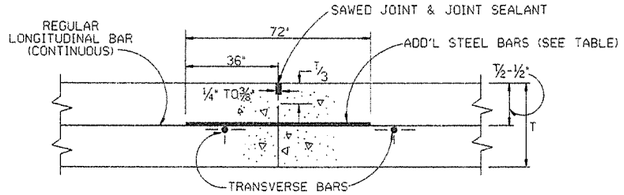
THREE LANE PAVEMENT PLAN

(12 FT. AND 24 FT. PLACEMENT) *



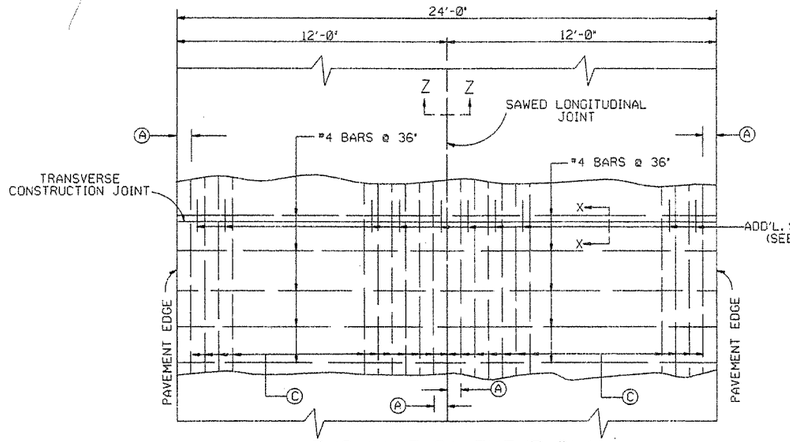


SUGGESTED CHAIR DETAILS



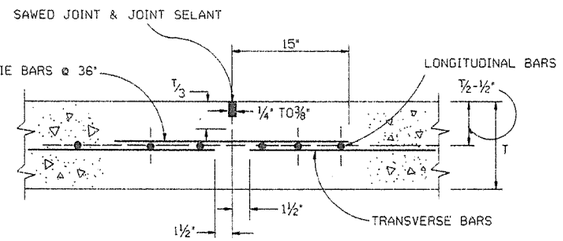
TRANSVERSE CONSTRUCTION JOINT

SECTION X-X



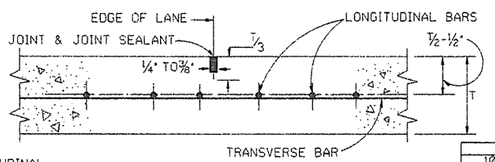
TWO LANE PAVEMENT PLAN

(24 FT. PLACEMENT) *



LONGITUDINAL CONSTRUCTION JOINT

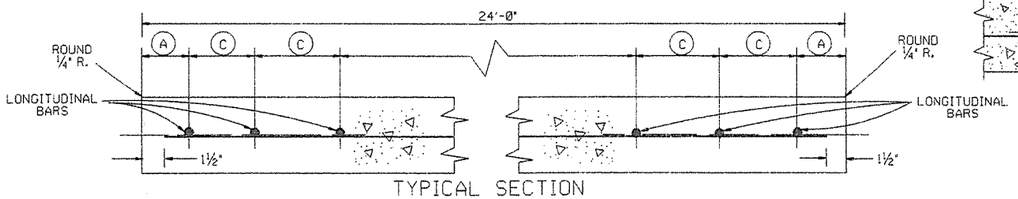
SECTION Y-Y



SAWED LONGITUDINAL JOINT

SECTION Z-Z

JOINT DETAILS



TYPICAL SECTION

(24 FT. PLACEMENT) *

* LANE WIDTHS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND SHOULD NOT BE USED IF IN CONFLICT WITH TYPICAL CROSS SECTIONS SHOWN ELSEWHERE IN THE PLANS.

NOTE: FOR DIMENSIONS A & C SEE TABLE ON RT.

* GENERAL NOTES *

SAWED JOINT AND JOINT SEALANT FOR TRANSVERSE CONSTRUCTION JOINT, LONGITUDINAL CONSTRUCTION JOINT AND SAWED LONGITUDINAL JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

NO EXPANSION JOINTS WILL BE USED EXCEPT AT STRUCTURE ENDS OR FIXED OBJECTS AS SHOWN ELSEWHERE IN THE PLANS.

FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND REINFORCEMENT REFER TO THE GOVERNING SPECIFICATIONS FOR "CONTINUOUSLY REINFORCED CONCRETE PAVEMENT."

FOR DETAILS OF PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE REFER TO TYPICAL SECTIONS.

WITHIN ANY AREA BOUNDED BY TWO FEET PAVEMENT LENGTH, MEASURED PARALLEL TO THE CENTERLINE; AND TWELVE FEET OF PAVEMENT WIDTH, MEASURED PERPENDICULAR TO THE PAVEMENT CENTERLINE, NOT OVER 33⅓ OF THE REGULAR LONGITUDINAL STEEL SHALL BE SPLICED.

MNINMUM SPLICE REQUIREMENT: 25 TIMES THE NOMINAL DIAMETER OF THE BAR OR 16 INCHES WHICHEVER IS LONGER.

AT TRANSVERSE CONSTRUCTION JOINTS THE REGULAR LONGITUDINAL BARS SHALL EXTEND EITHER SIDE OF THE JOINT SUCH THAT THE BAR SPLICES FOR THE REGULAR LONGITUDINAL BARS SHALL BE A MINIMUM OF FOUR FEET FROM THE CONSTRUCTION JOINT. AT LONGITUDINAL CONSTRUCTION JOINT, IF THE CONTRACTOR ELECTS TO CONTINUE THE REGULAR TRANSVERSE STEEL THROUGH THE JOINTS, THE #4 TIE BARS SHOWN HEREON MAY BE DELETED.

CHAIR DETAILS SHOWN HEREON ARE EXAMPLES ONLY; OTHER APPROVED TYPES WHICH WILL SATISFY THE REQUIREMENTS NOTED HEREIN, WILL BE PERMITTED. CHAIR SPACINGS SHALL NOT BE GREATER THAN 36" C-C (LONGITUDINAL) AND 48" C-C (TRANSVERSE). ADDITIONAL CHAIRS SHALL BE USED IF NECESSARY TO MEET PLACEMENT REQUIREMENTS.

AT ALL LAP SPLICES OCCURRING WITHIN 8 FEET BEYOND THE CONSTRUCTION JOINTS, IN THE DIRECTION OF PAVING AND 4 FEET BACK OF THE CONSTRUCTION JOINTS, THE LENGTH OF LAP SHALL BE DOUBLE THAT NORMALLY SPECIFIED OR EACH SPLICE SHALL BE STRENGTHENED BY SPLICING IN, SYMMETRICALLY WITH THE LAP, A 6 FOOT LENGTH OF DEFORMED BAR OF THE SAME NOMINAL SIZE AS THE LONGITUDINAL REINFORCEMENT.

TABLE OF EQUIVALENT LONGITUDINAL REINFORCEMENT

PAVEM'T. THICKNESS	BAR SIZE	24'-0" PLACEMENT WIDTH				12'-0" PLACEMENT WIDTH				ADD'L STEEL@ TRANS. CONSTR. JOINT			
		SPACING (C-C)		BARS PER PLACE--MENT	STEEL ① LBS./ SQ. YD.	SPACING (C-C)		BARS PER PLACE--MENT	STEEL ① LBS./ SQ. YD.	SIZE	AVG. SPACING	② NO. PER LANE	WEIGHT LBS. PER FOOT
		A	C			A	C						
INCHES		INCHES				INCHES					INCHES		
6	#5	5½	7	40	18.28	5½	7	20	18.26	⅝" X 72"	14	10	5.22
8	#6	4½	7½	38	24.55	4½	7½	19	24.41	¾" X 72"	15	10	7.51
9	#6	3¾	6½	44	27.98	3¾	6½	22	27.95	¾" X 72"	13	11	8.26
10	#7	4	8½	34	29.53	4	8½	17	29.51	⅞" X 72"	17	8	8.18
11	#7	4½	7½	38	32.78	4½	7½	19	32.75	⅞" X 72"	15	10	10.22
12	#7	5½	7	40	34.39	5½	7	20	34.37	⅞" X 72"	14	10	10.22

NOTE: WHERE THE PROPOSED PLACEMENT WIDTHS VARY FROM THE BASIC DESIGN WIDTH SHOWN, THE SPACING "A" AND THE ADJACENT SPACING "C" SHALL BE ADJUSTED TO ACCOMODATE A REINFORCEMENT ARRANGEMENT EQUAL TO OR SLIGHTLY HEAVIER THAN THAT SHOWN AS DIRECTED BY THE ENGINEER.

① INCLUDES BOTH REGULAR LONGITUDINAL AND TRANSVERSE BARS. BASED UPON 1 FOOT PAVEMENT FOR THE WIDTH INDICATED. ALL TRANSVERSE STEEL IS #4 BARS AT 36" CENTERS. FOR ESTIMATING PURPOSES IT IS ASSUMED THAT LONGITUDINAL BARS ARE SPLICED AT 32' INTERVALS.

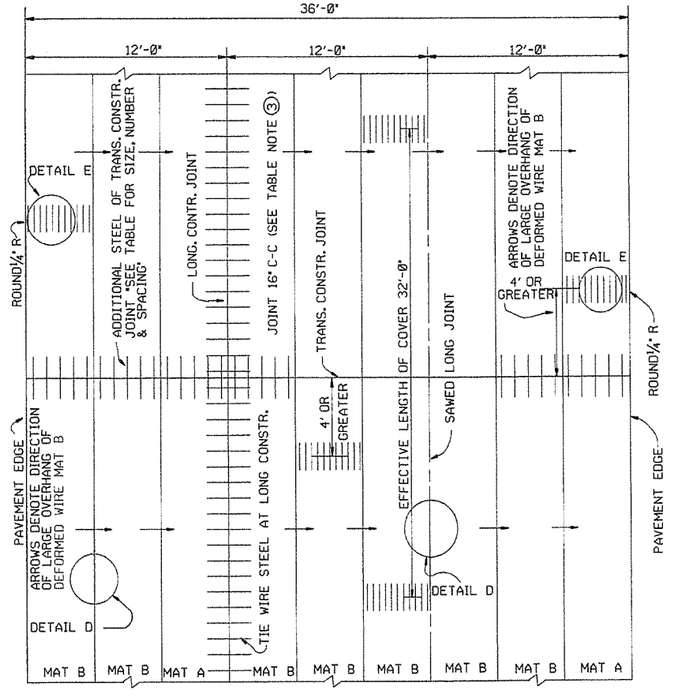
② THIS SHALL BE THE MINIMUM NUMBER OF ADDITIONAL STEEL BARS TO BE PLACED PER LANE. THE SPACING OF THE ADDITIONAL STEEL BARS SHALL BE VARIED AS DIRECTED IN ORDER TO PROVIDE A MINIMUM CLEARANCE OF 2½" FROM EACH REGULAR LONGITUDINAL REINFORCING BAR.

DATE	REVISION	DATE FILMED
10-18-96	CORRECTED SPELLING	10-18-96
10-1-92	REVISED REINFORCING	
8-15-91	REV. A SPACING FOR 24' PAV'T.	
3-23-89	ALTERED SAWED JOINT & ADDED GEN. NOTES	
11-3-86	DIMEN'S. OF LONG. JTS.	
1-4-83	DEPTH OF SAWED TRANSVERSE CONST. JOINT	
9-15-78	53 TO 52 #4 BARS (24' PL.)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISION

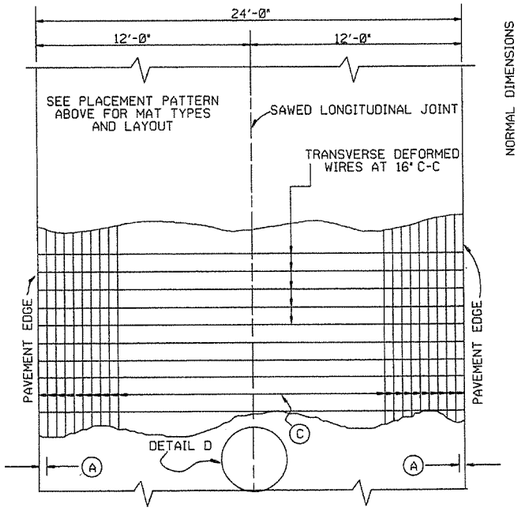
CONCRETE PAVEMENT DETAILS CONTINUOUSLY REINFORCED

STANDARD DRAWING CPCR-1



THREE LANE PAVEMENT PLAN

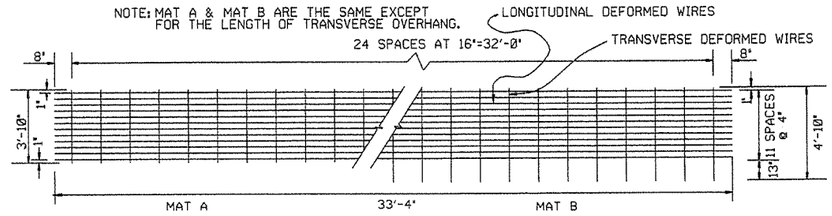
(12' AND 24' PLACEMENT)



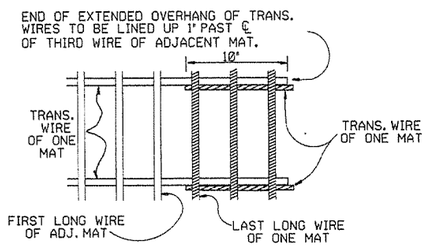
TWO LANE PAVEMENT PLAN

(24' PLACEMENT)

NOTE: MAT A & MAT B ARE THE SAME EXCEPT FOR THE LENGTH OF TRANSVERSE OVERHANG.

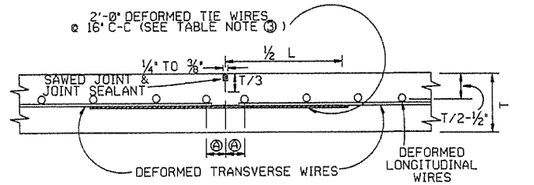


PREFABRICATED DEFORMED WIRE MATS

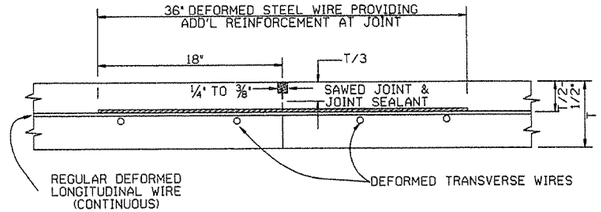


DETAIL D

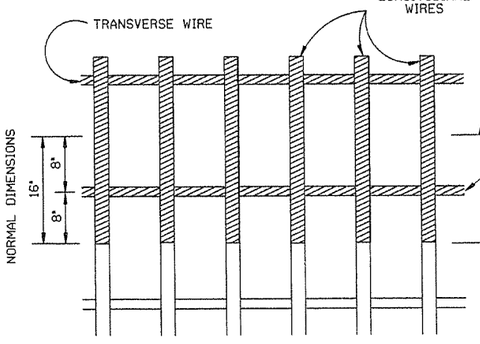
TYPICAL LAP OF TRANSVERSE WIRES



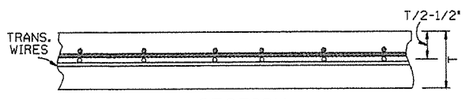
LONGITUDINAL CONSTRUCTION JOINT



TRANSVERSE CONSTRUCTION JOINT



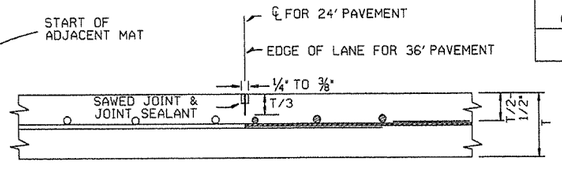
PLAN



SECTION

DETAIL E

TYPICAL LAP OF LONGITUDINAL WIRES



SAWED LONGITUDINAL JOINT

GENERAL NOTES

NO EXPANSION JOINTS WILL BE USED EXCEPT AT STRUCTURAL ENDS OR FIXED OBJECTS AS SHOWN ELSEWHERE IN THE PLANS.

JOINT AND JOINT SEAL DETAILS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.

CONSTRUCTION JOINTS MAY BE FORMED BY THE USE OF METAL OR WOOD FORMS EQUAL IN DEPTH TO THE NOMINAL DEPTH OF THE PAVEMENT, OR BY THE OTHER MEANS WHICH HAVE BEEN APPROVED BY THE ENGINEER PRIOR TO THIER USE.

REFER TO TYPICAL SECTION FOR PAVEMENT WIDTH, THICKNESS AND CROWN.

IT IS THE INTENT OF THIS DESIGN THAT THE LONGITUDINAL STEEL BE AT THE CENTER OF THE SLAB. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS TO INSURE THAT THE FINAL POSITION OF THE STEEL IS NOT BELOW THE CENTER OF THE SLAB.

WITHIN ANY AREA BOUNDED BY TWO FEET OF PAVEMENT LENGTH MEASURED PARALLEL TO THE CENTERLINE, AND TWELVE FEET OF PAVEMENT WIDTH MEASURED PERPENDICULAR TO THE PAVEMENT CENTERLINE, NOT OVER 33% OF THE REGULAR LONGITUDINAL STEEL SHALL BE SPLICED.

ALL SPLICES SHALL BE A MINIMUM OF 16" FOR LONGITUDINAL STEEL AND 10" FOR TRANSVERSE STEEL.

AT TRANSVERSE CONSTRUCTION JOINTS THE REGULAR LONGITUDINAL STEEL SHALL EXTEND A MINIMUM OF FOUR FEET ON EITHER SIDE OF THE JOINT.

IF WIDTHS GREATER THAN TYPICAL WIDTHS OCCUR, INDIVIDUAL WIRES MAY BE ADDED TO OBTAIN ADDITIONAL WIDTH, PROVIDED THE C-C SPACING IS NOT EXCEEDED AND LAP REQUIREMENTS ARE MET.

AT ALL LAP SPLICES OCCURRING WITHIN EIGHT FEET BEYOND THE CONSTRUCTION JOINT, IN THE DIRECTION OF PAVING AND FOUR FEET BACK OF THE CONSTRUCTION JOINT, THE LENGTH OF LAP SHALL BE DOUBLE THAT NORMALLY SPECIFIED OR EACH SPLICE SHALL BE STRENGTHENED BY SPLICING IN, SYMMETRICALLY WITH THE LAP, A SIX-FOOT LENGTH OF DEFORMED BAR OF THE SAME NOMINAL SIZE AS THE LONGITUDINAL REINFORCEMENT.

SAWED JOINT AND JOINT SEALANT FOR TRANSVERSE CONSRTUCTION JOINT, LONGITUDINAL CONSTRUCTION JOINT AND SAWED LONGITUDINAL JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

PAVEMENT THICKNESS (T) IN.	LONGITUDINAL REINFORCEMENT							ADDITIONAL STEEL TRANS. CONSTR. JOINT				TRANS. REINF. FOR LONG. CONSTR. JOINT	
	WIRE SIZE	24' PLACEMENT SPACING C-C		(1) STEEL LB/SY	12' PLACEMENT SPACING C-C		(1) STEEL LB/SY	WIRE SIZE	LENGTH IN.	(2) NO. PER LANE	WEIGHT LB./FT OF WIDTH	WIRE SIZE	TIE WIRES (3) WEIGHT LB./FT. OF LENGTH
		Ⓐ IN.	Ⓒ IN.		Ⓐ IN.	Ⓒ IN.							
8	D-19.2	2	4	20.59	2	4	20.51	D-19.2	36	16	2.61	D-8	.408
6	D-14.4	2	4	14.90	2	4	14.86	D-14.4	36	16	1.96	D-4	.204

TABLE NOTE

(1) INCLUDES BOTH LONGITUDINAL AND TRANSVERSE WIRES BASED ON THE WIDTH INDICATED AND AN EFFECTIVE COVER LENGTH OF 32 FEET. (ESTIMATING QUANTITIES INCLUDE SPLICES)

(2) THIS SHALL BE THE MINIMUM NUMBER OF ADDITIONAL STEEL WIRES TO BE PLACED PER LANE. THE ADDITIONAL STEEL WIRES SHALL BE PLACED EQUIDISTANT BETWEEN TWO REGULAR LONGITUDINAL REINFORCING WIRES AT AS NEAR A UNIFORM SPACING ACROSS THE LANE AS POSSIBLE.

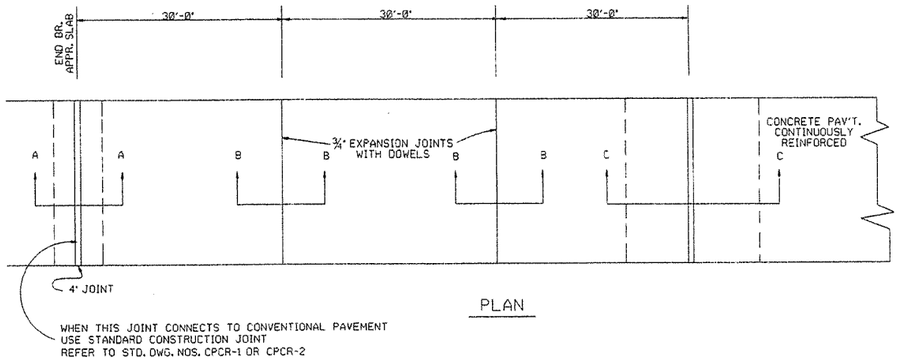
(3) AT THE OPTION OF THE CONTRACTOR, #4 BARS X 30 IN. AT 30 IN. C-C MAY BE USED IN LIEU OF THE DEFORMED TIE WIRES AT 16 IN. C-C SHOWN, PROVIDED WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE ENGINEER.

DATE	REVISION	DATE FILMED
3-23-89	ALTERED SAWED JOINT & ADDED NOTE	509-3-23-89
11-3-86	DIMEN'S. OF LONG. JTS.	651-11-3-86
1-4-83	DEPTH OF SAWED TRANSVERSE CONST. JOINT	676-1-4-83
10-2-72	REVISED AND REDRAWN	505-10-2-72

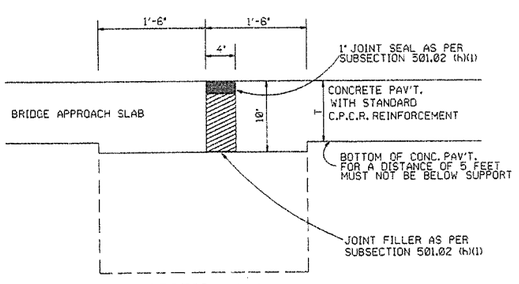
ARKANSAS HIGHWAY COMMISION

CONCRETE PAVEMENT DETAILS
CONTINUOUSLY REINFORCED
DEFORMED WIRE MAT

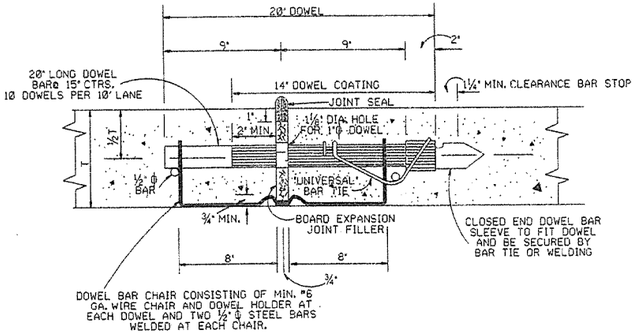
STANDARD DRAWING CPCR-2



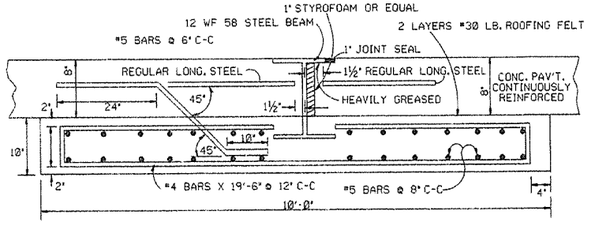
PLAN



SECTION A-A



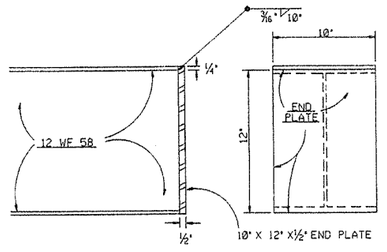
SECTION B-B
DETAIL OF EXPANSION JOINT



SECTION C-C

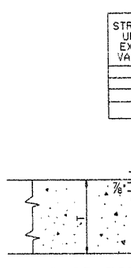
DETAIL OF WIDE FLANGE BEAM & JOINT SUPPORT

NOTE: WELD 12" X 10" X½" STEEL PLATE TO ENDS OF BEAM AFTER PLACEMENT OF CONCRETE PAVEMENT.



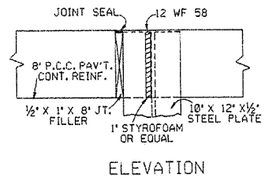
DETAIL OF END PLATE ATTACHMENT TO WIDE FLANGE BEAM

STRUCTURAL EXCAVATION	CLASS A CONCRETE	REINFORCING STEEL	STRUCTURAL STEEL
CU. YD.		LB.	
Ø.31	Ø.31	46.2	58.Ø

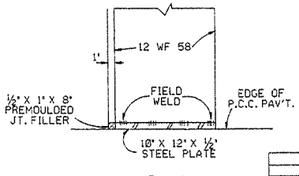


SEAL SPACE FOR EXPANSION JOINT

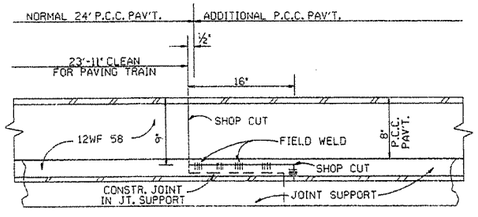
NOTE: BOARD JOINT FILLER OF SPECIFIED TYPE SHALL BE SECURED ON SUBGRADE IN EXACT POSITION AND LINE AS ILLUSTRATED OR BY OTHER APPROVED DEVICE.
JOINT ASSEMBLY SHALL BE SECURELY FASTENED INTO PLACE PRIOR TO PLACING CONCRETE.
AFTER SECOND PASSAGE OF FINISHING MACHINE REMOVE CONCRETE TO 1" BELOW TOP OF BOARD AND NAIL ¾" X ⅞" WOOD STRIP TO TOP OF BOARD FILLER TO FORM JOINT SEAL SPACE.
REPLACE CONCRETE AND FINISH WITH LONGITUDINAL FLOAT.
THE WOOD STRIP SHALL NOT BE REMOVED UNTIL IMMEDIATELY PRIOR TO POURING JOINT SEAL.



ELEVATION



PLAN



TRANSVERSE SECTION THROUGH WF BEAM AND JOINT SUPPORT

DATE	REVISION	DATE FILM'D
10-18-96	CORRECTED SUBSECTION AND SPELLING	10-18-96
4-26-96	DELETE DOWEL BAR NOTE	
7-15-88	SUB-SECT. 501.03 (f)(1)TO 501.03 (h)(1)	
8-22-75	REVISED 4" EXP. JOINT MAT'L	
11-1-73	REVISED JOINT SEAL A-A	
10-2-72	REVISED AND REDRAWN	

GENERAL NOTES

OTHER TYPES OF EXPANSION JOINTS MAY BE CONSTRUCTED AT THE OPTION OF THE CONTRACTOR AFTER APPROVAL BY THE ENGINEER.

LOAD TRANSMISSION UNITS AND DOWELS SHALL BE SECURED PARALLEL TO THE PAVEMENT SURFACE AND CENTERLINE.

ALL EXPANSION JOINTS, INCLUDING ALL MATERIALS, DEVICES, AND WORK REQUIRED SHALL BE CONSIDERED AS SUBSIDIARY WORK AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PORTLAND CEMENT CONCRETE PAVEMENT. NO DIRECT PAYMENT WILL BE MADE FOR ANY MATERIAL, BAR CHAIR, STEEL OR ANY OTHER DEVICE SHOWN NOR FOR ITS INSTALLATION.

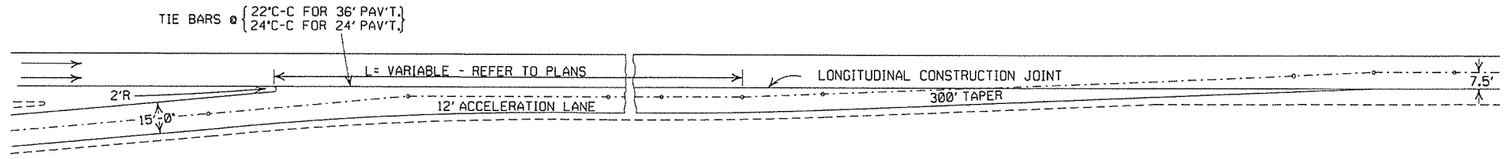
'T' DENOTES THICKNESS OF SLAB.

ARKANSAS STATE HIGHWAY COMMISION

DETAILS OF TERMINAL JOINTS FOR CONCRETE PAVEMENT

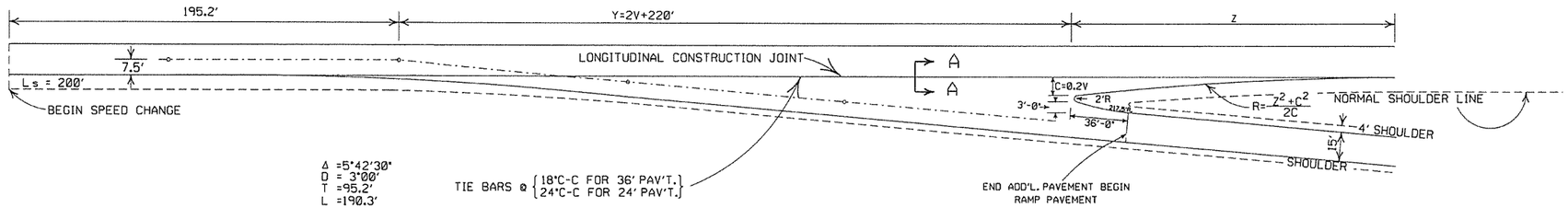
CONTINUOUSLY REINFORCED

STANDARD DRAWING CPCR-3



ENTRANCE RAMP

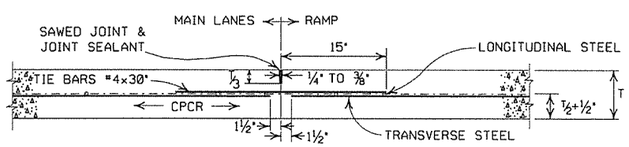
RETURN CURVES
Δ =2°17'30"
D = 3°00'
T =38.2'
L =76.4'



EXIT RAMP

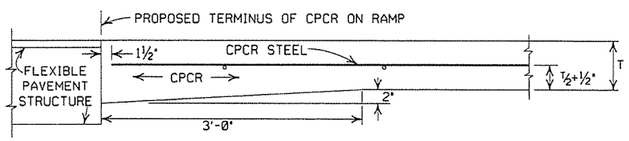
DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADD'L. SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27

NOTE: ON GRADES IN EXCESS OF 4%, THE LENGTHS 'Y' & 'L' MAY BE VARIED TO FIT THE CASE IN THE RATION OF $\frac{L \pm \%GRADE}{2}$ (LENGTH AS SHOWN).



LONGITUDINAL CONSTRUCTION JOINT

SECTION A - A



DETAIL FOR JUNCTION WITH FLEXIBLE TYPE PAVEMENT STRUCTURE

GENERAL NOTES

THE SEQUENCE OF OPERATION ON PLACING THE RAMP SHALL BE AS DIRECTED BY THE ENGINEER. THE LONGITUDINAL STEEL SHALL BE PLACED IN A DIRECTION APPROXIMATELY PARALLEL TO THE DIRECTION OF THE RAMP.

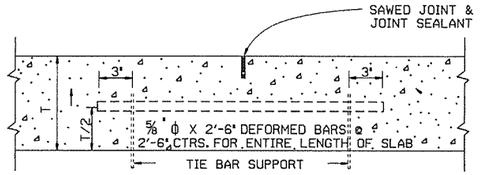
SAWED JOINT AND JOINT SEALANT FOR LONGITUDINAL CONSTRUCTION JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

DATE	REVISION	DATE FILMED
2-27-14	CORRECTED SPELLING	
3-23-89	ALTERED SAWED JOINT & ADDED NOTE	510-3-23-89
11-3-86	DIMEN'S. OF LONG. JTS.	652-11-1-86
10-2-72	REVISED AND REDRAWN	507-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

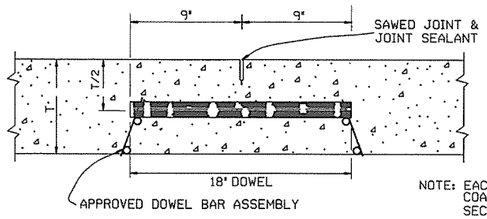
DETAILS OF ENTRANCE & EXIT RAMPS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED

STANDARD DRAWING CPCR-4



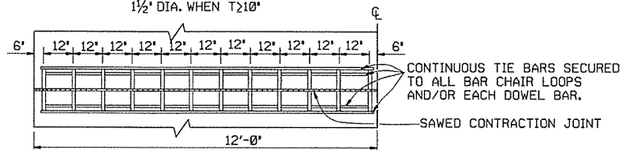
LONGITUDINAL JOINT

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.

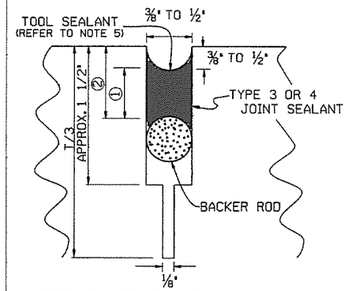
ROUND STEEL BAR DOWEL
1¼" DIA. WHEN T<10"
1½" DIA. WHEN T≥10"



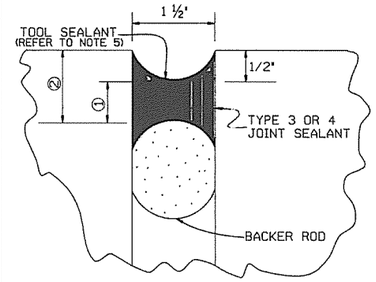
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

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



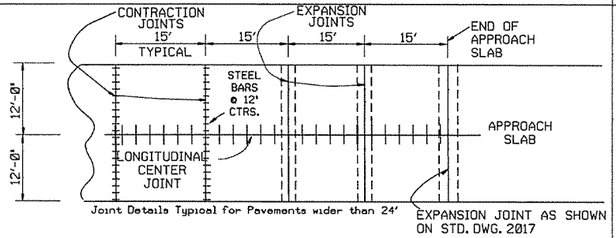
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

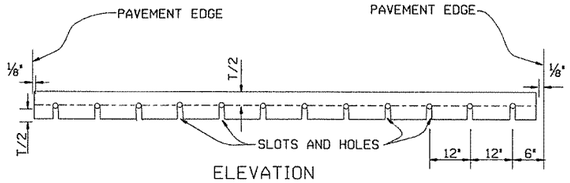
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	⅝	½
⅝	⅜	¾	⅝
¾	⅜	⅞	⅞
1 ½	¾	2	1 ¼

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

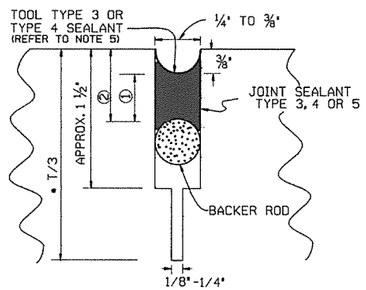


PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



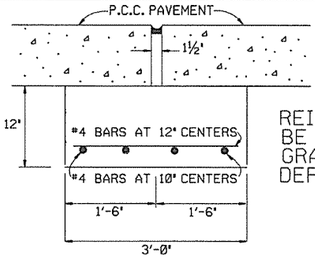
ELEVATION

NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



•NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

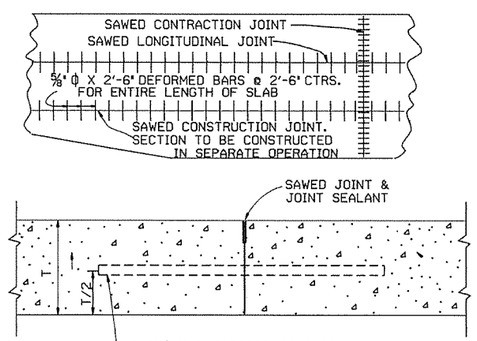
DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT



REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

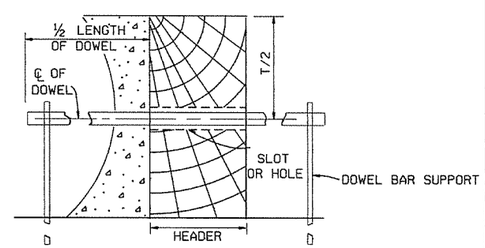
DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS

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

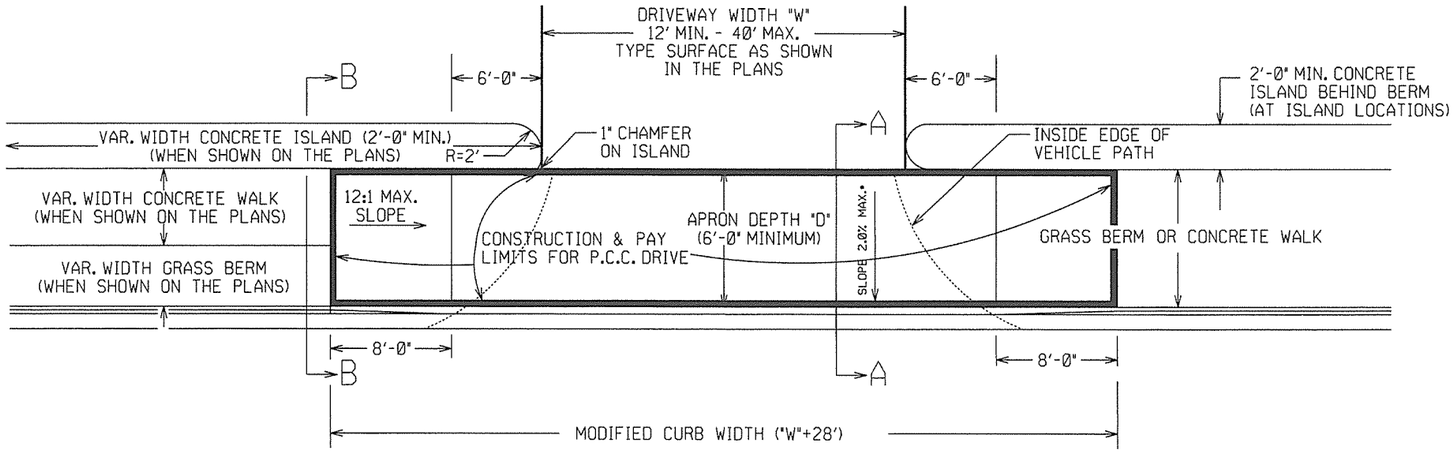
TRANSVERSE CONSTRUCTION JOINT

DATE	REVISION	DATE FILMED
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

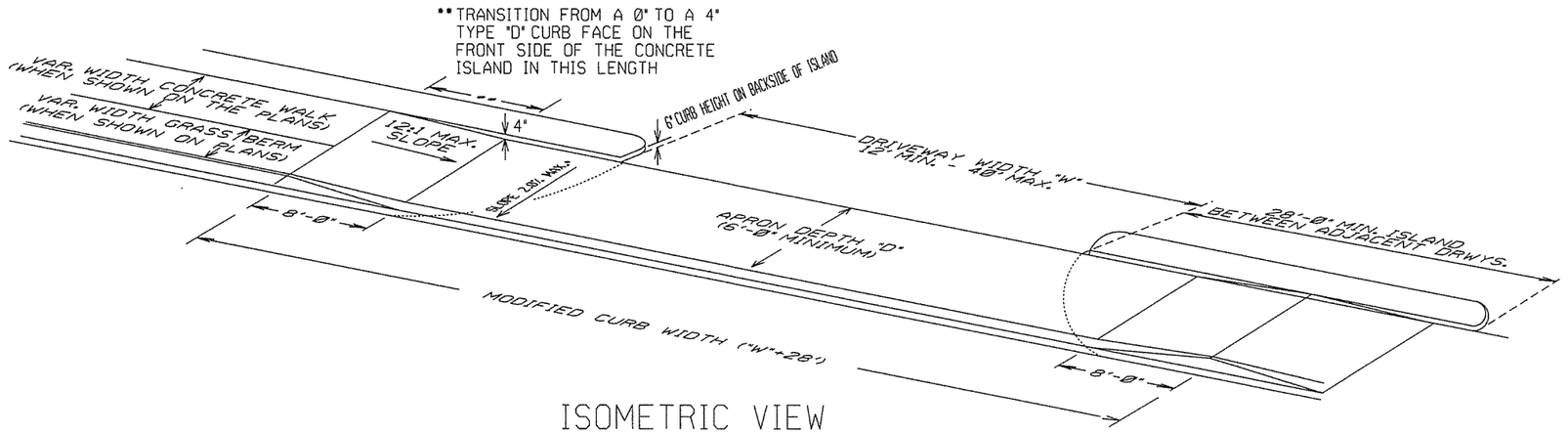
ARKANSAS STATE HIGHWAY COMMISSION

TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)

STANDARD DRAWING CPTJ - 6A

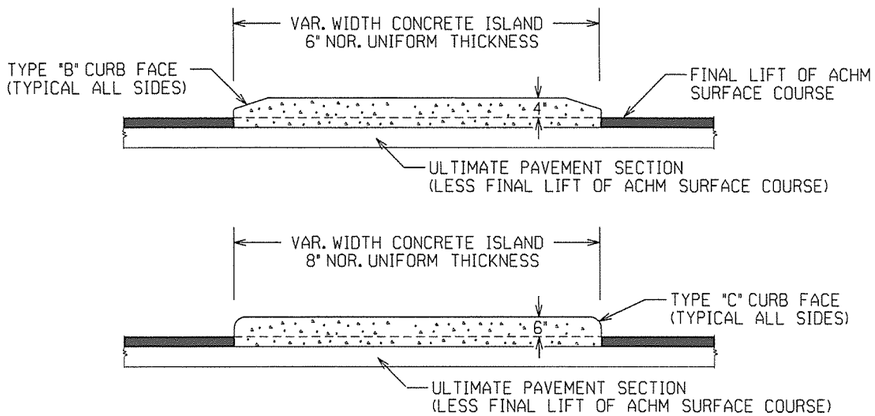


PLAN VIEW

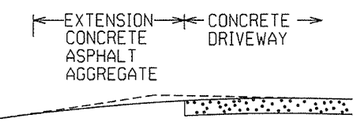


ISOMETRIC VIEW

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".



CURBED ISLANDS FOR CHANNELIZATION



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

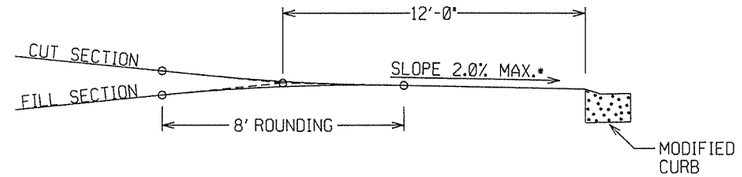
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

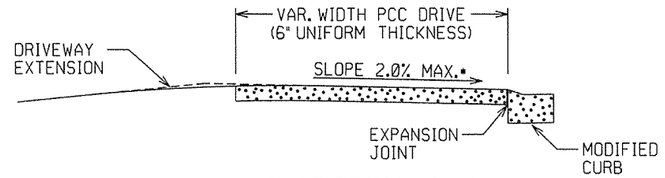
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

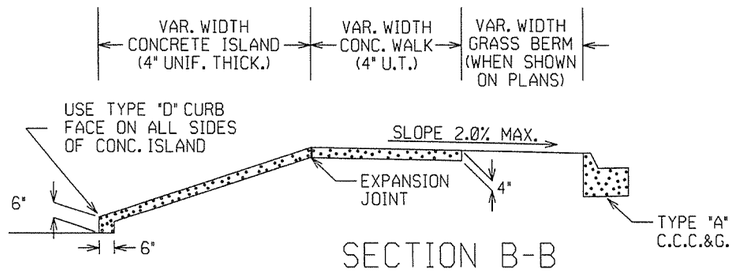


DRIVEWAY VERTICAL ALIGNMENT DETAILS

* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



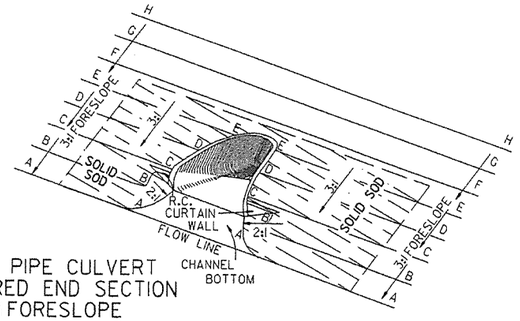
SECTION A-A



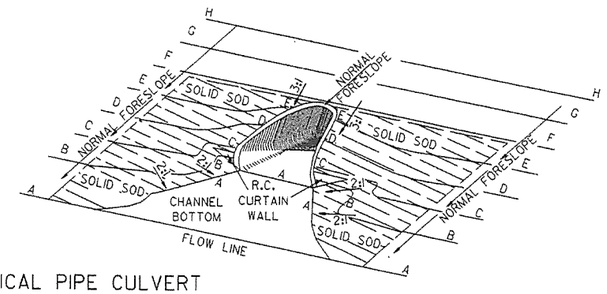
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
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

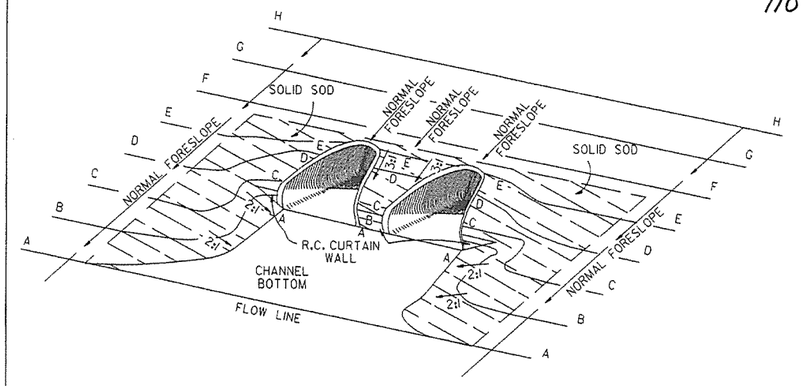
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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

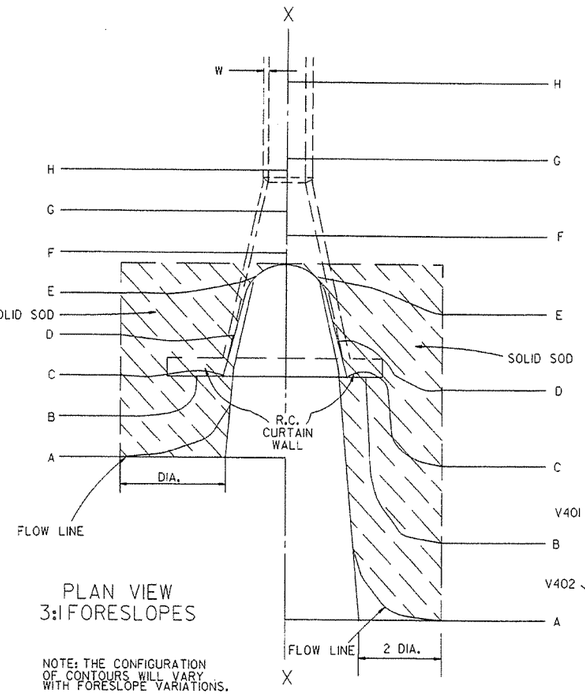
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	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 H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 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'-6"	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

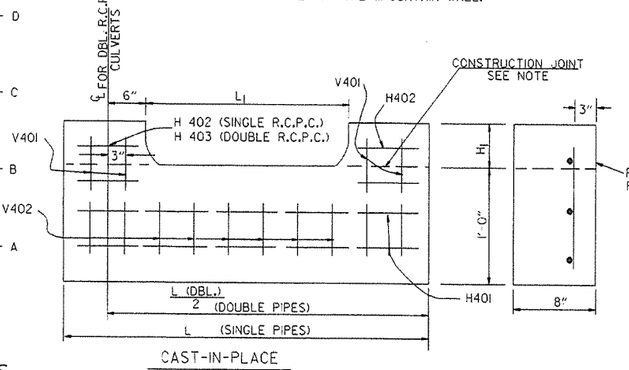
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

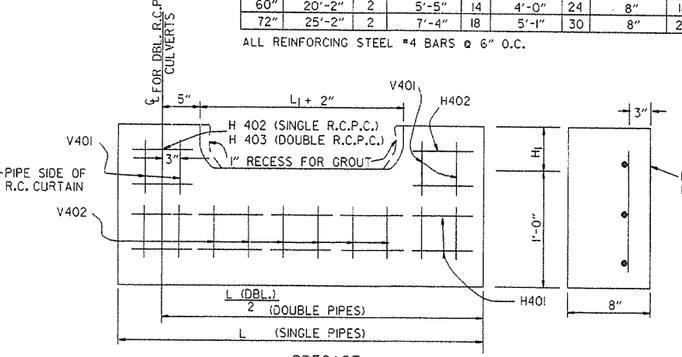
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

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

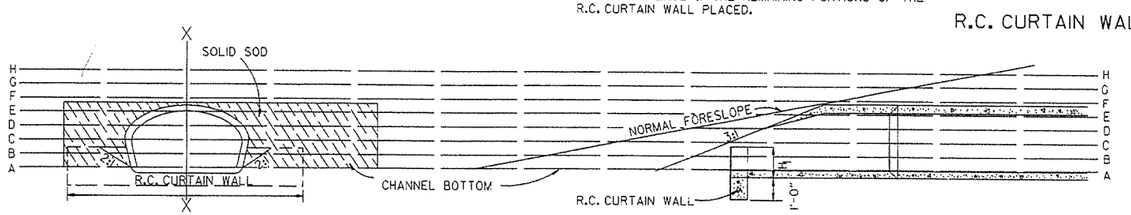
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	SINGLE R.C.P.C. 4:1	SINGLE R.C.P.C. 6:1	DOUBLE R.C.P.C. 3:1	DOUBLE R.C.P.C. 4:1	DOUBLE R.C.P.C. 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 × 3 W10 × W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

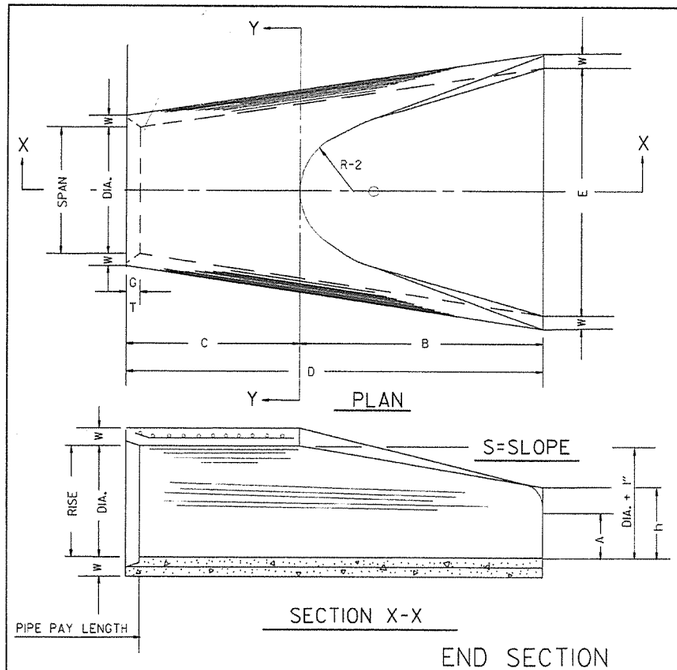
SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

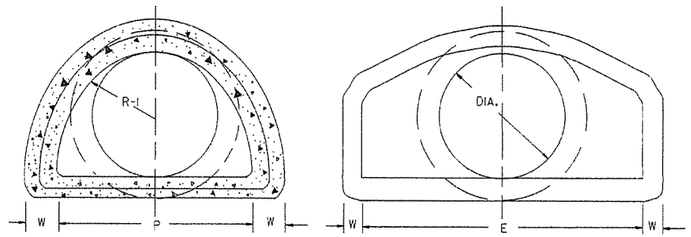
STANDARD DRAWING FES-1



END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-11½"	4'-0"	3:1	25"	33⅜"	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'-1¼"	6'-0"	3:1	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-5"	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"

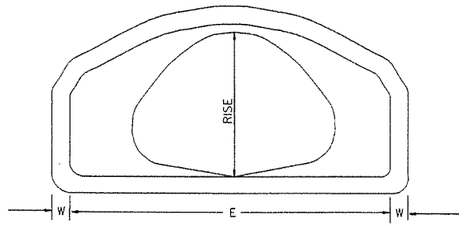


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

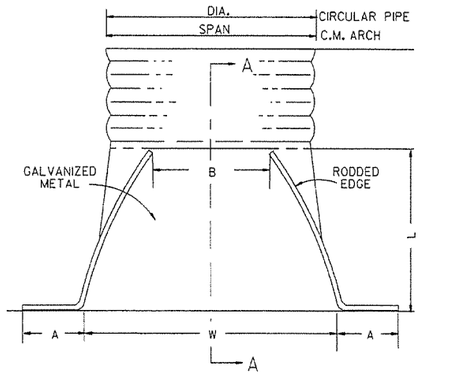
ARCH PIPE

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"	32⅜"	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"	47⅞"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½:1
42	51⅛	51	31⅝	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"	77⅜"	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.

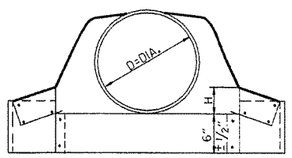


END VIEW
CONCRETE ARCH PIPE



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

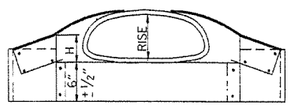
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



CIRCULAR PIPE

CIRCULAR PIPE

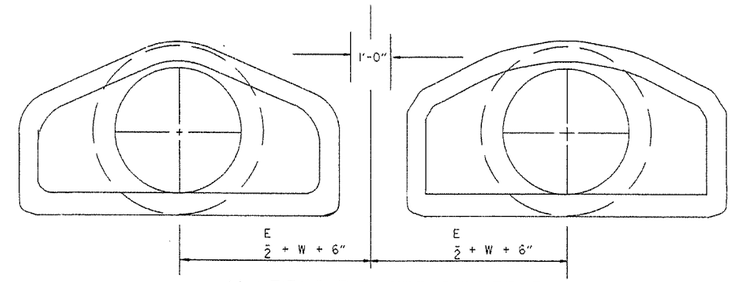
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	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



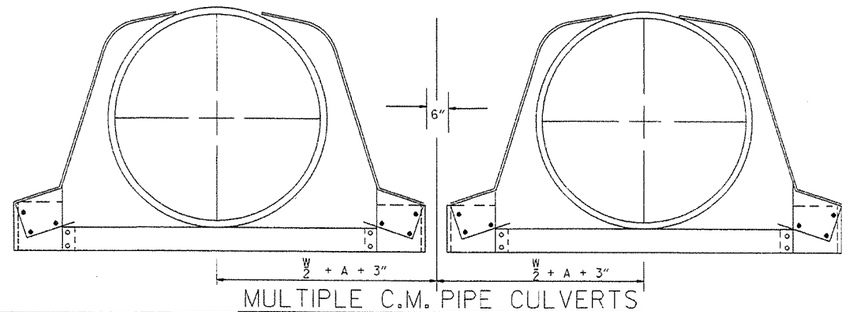
C.M. ARCH PIPE

C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	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

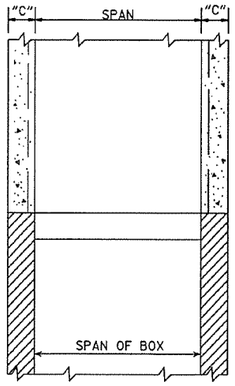
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74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

ARKANSAS STATE HIGHWAY COMMISION

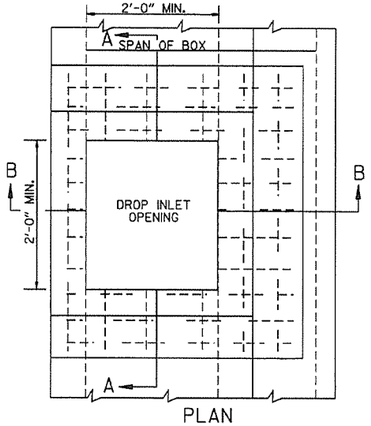
FLARED END SECTION

STANDARD DRAWING FES-2

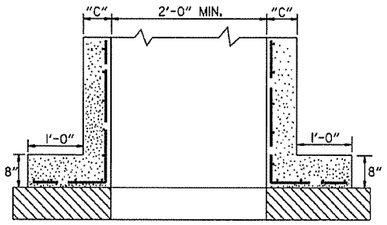
stdfes2.dgn



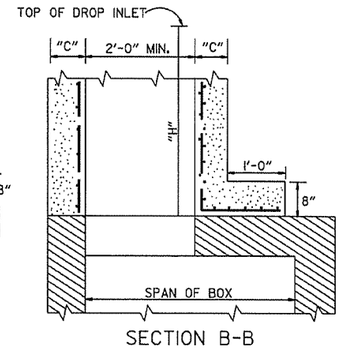
SECTION B-B



PLAN

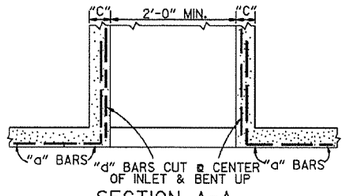


SECTION A-A

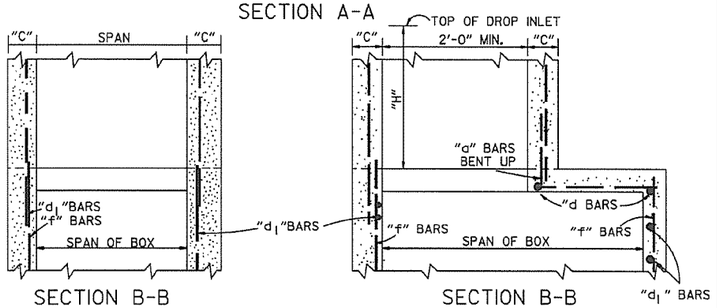


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



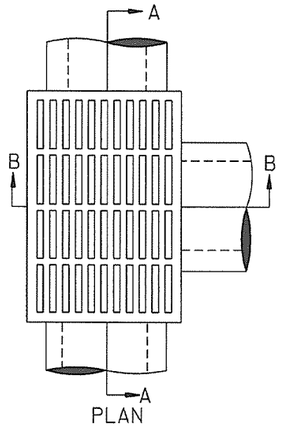
SECTION A-A



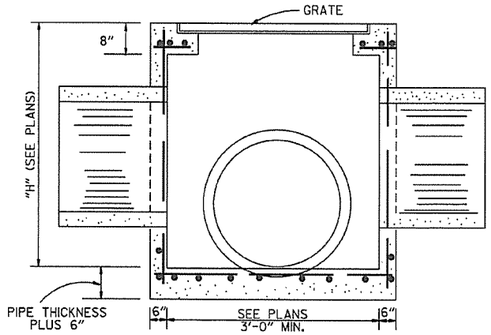
SECTION B-B SECTION B-B

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.

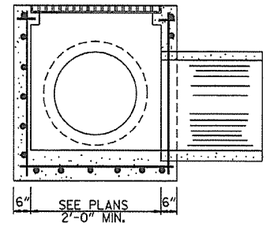


PLAN



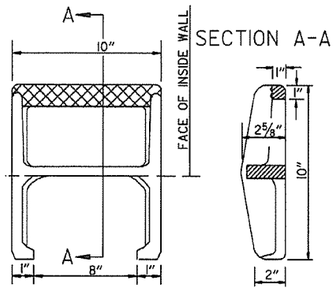
SECTION A-A

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)

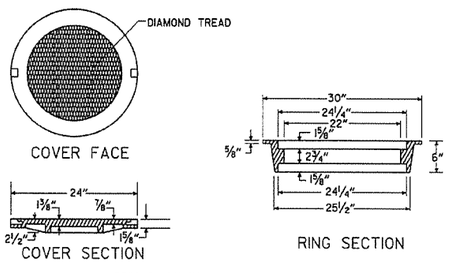


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

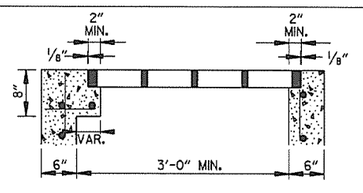
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

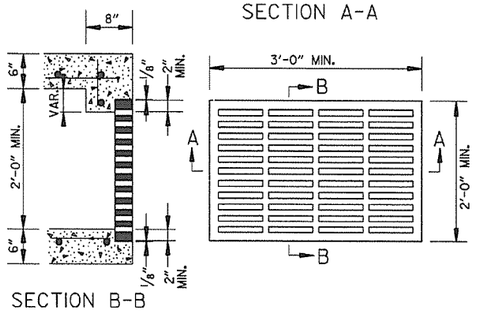


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



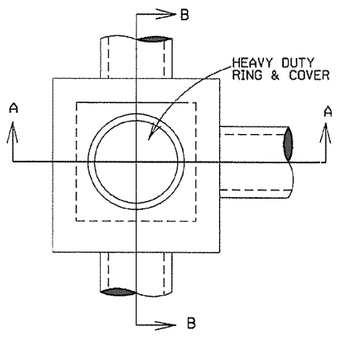
SECTION A-A



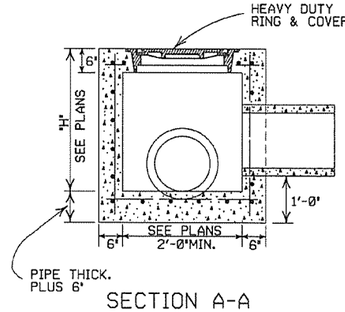
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

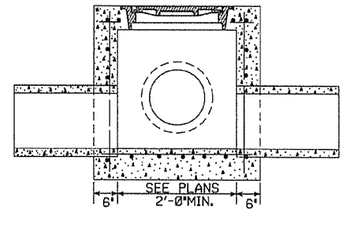


PLAN



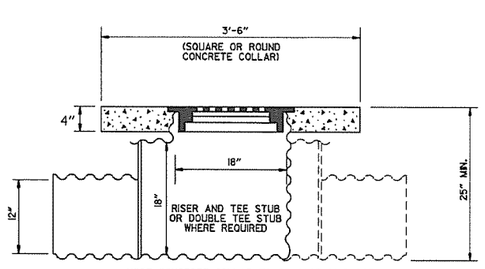
SECTION A-A

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.

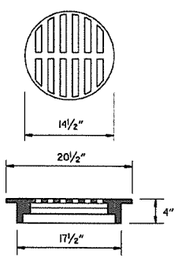


SECTION B-B

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

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC. CU. YDS.	HEIGHT 5'-0" REINF. STEEL POUNDS	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. CU. YDS.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL 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.

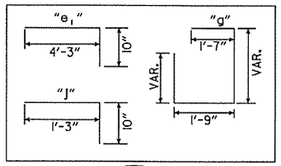
DROP INLET EXTENSION

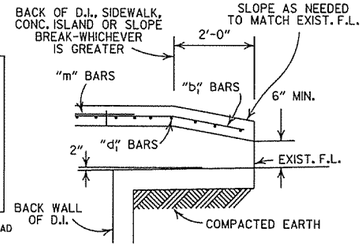
4'-0" CLASS A CONC. CU. YDS.	4'-0" REINF. STEEL POUNDS	8'-0" CLASS A CONC. CU. YDS.	8'-0" REINF. STEEL POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

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

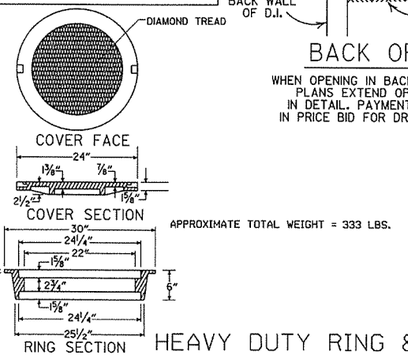
BAR DIAGRAM





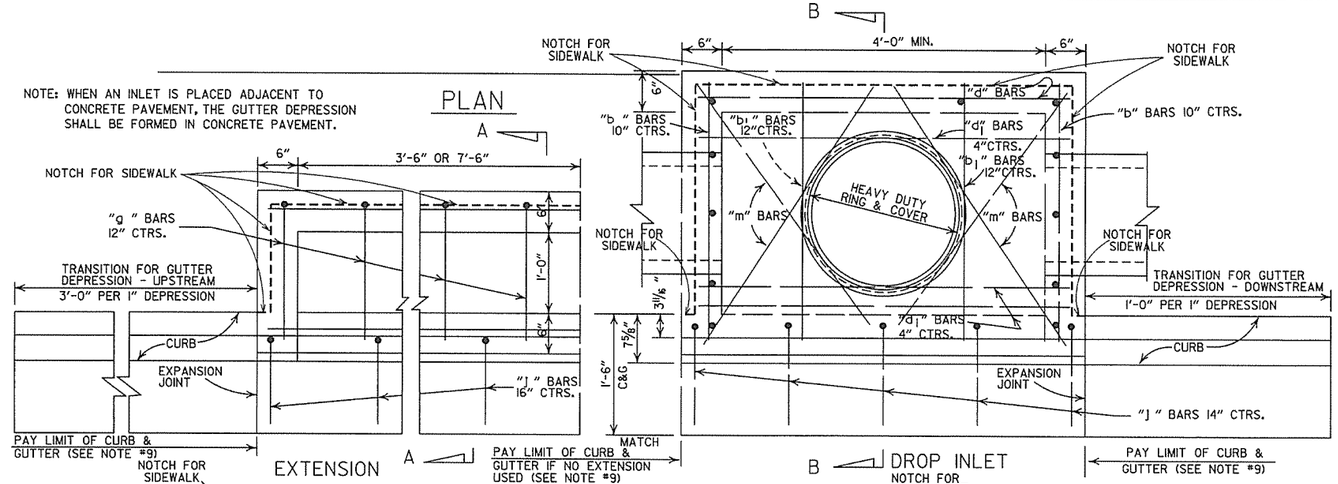
BACK OPENING

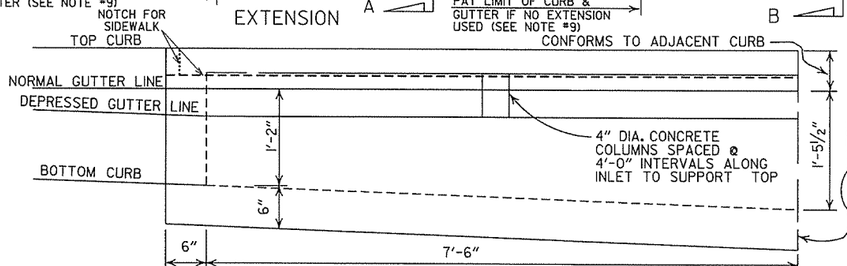
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

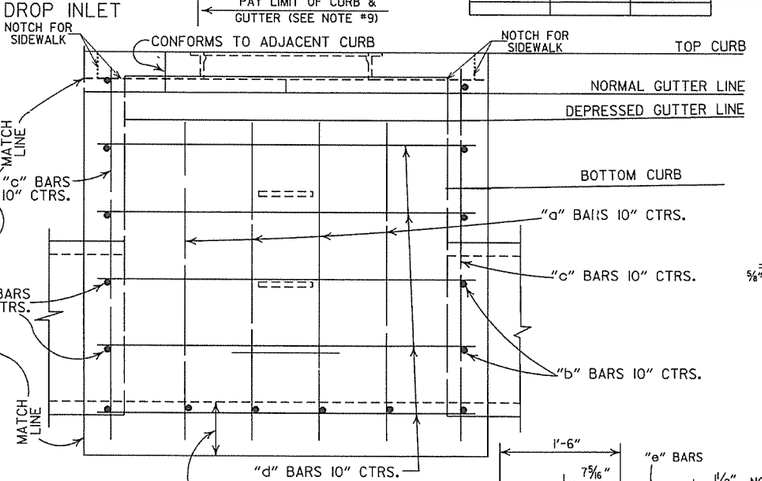


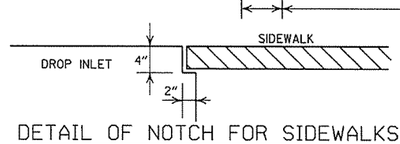
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

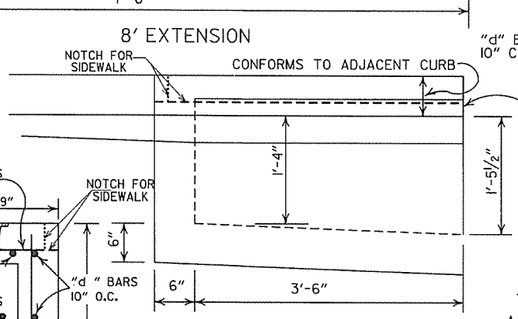


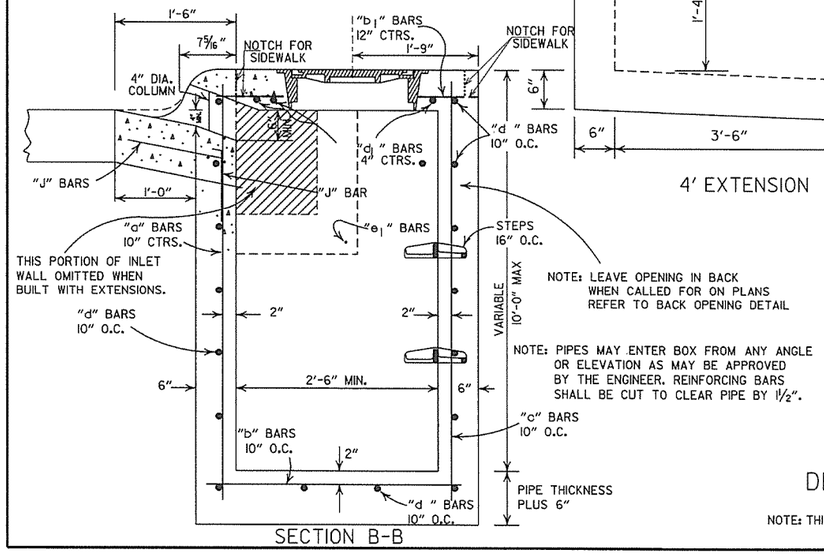


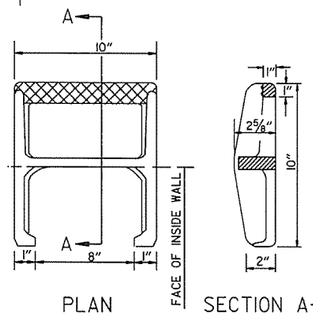




DETAIL OF NOTCH FOR SIDEWALKS



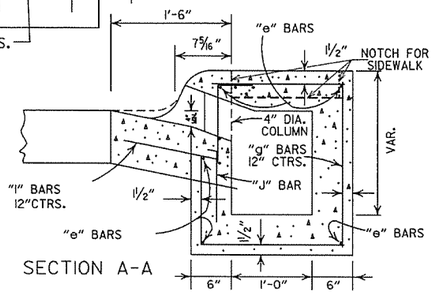




DETAIL OF STEP FOR DROP INLET

APPROX. WEIGHT = 11 LBS. (CAST IRON)

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.



GENERAL NOTES:

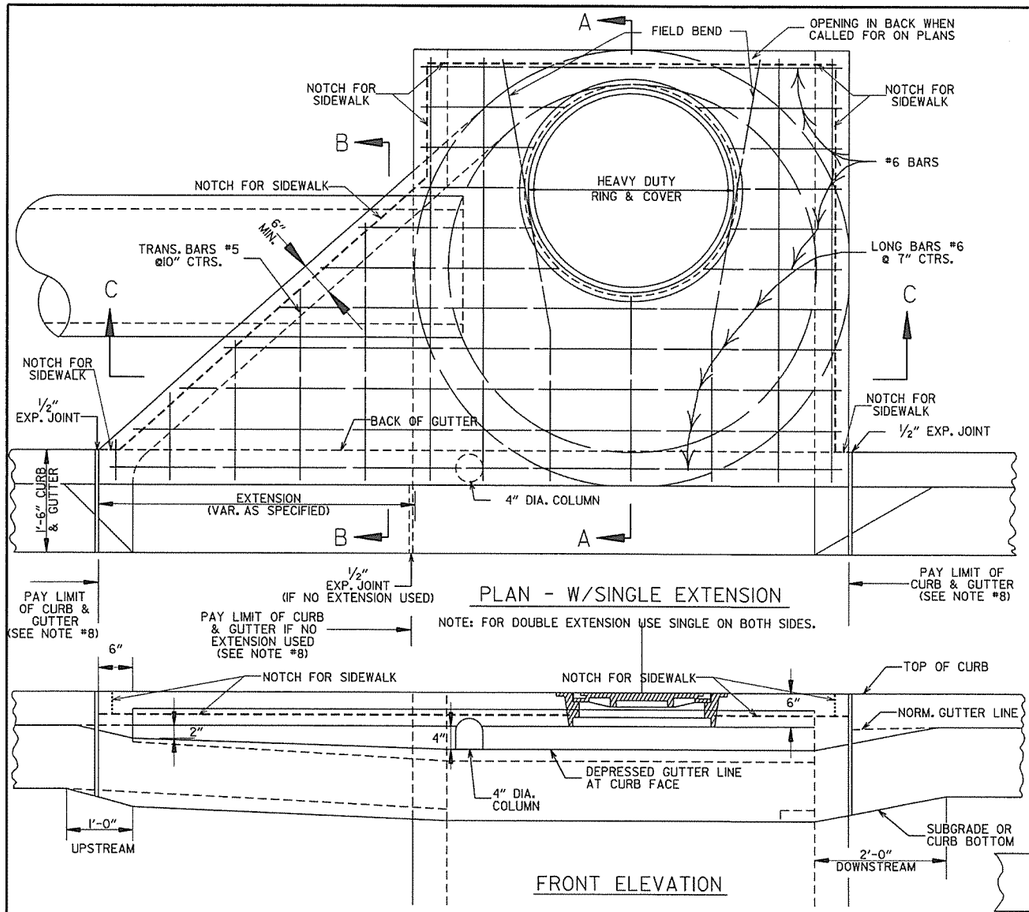
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY 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 (F.P.C.-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"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.

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)

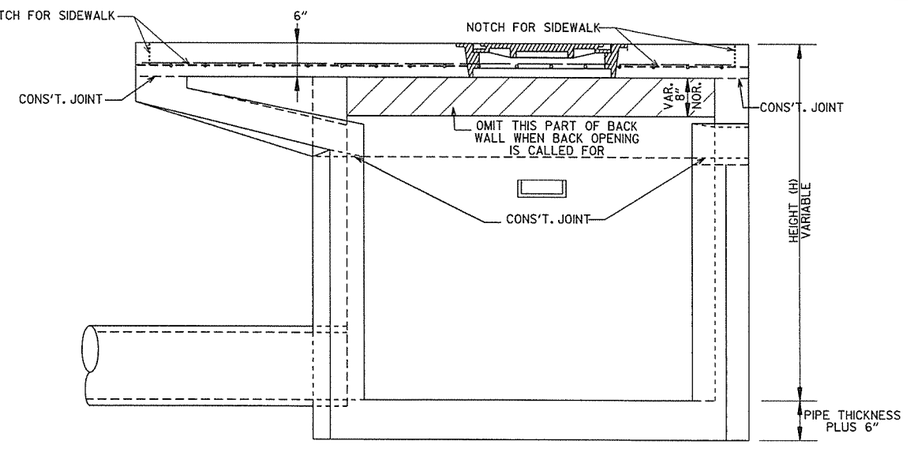
STANDARD DRAWING FPC-9E



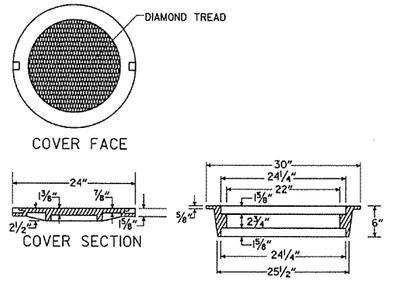
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



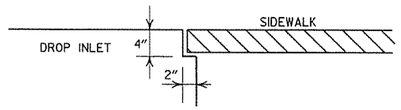
SECTION C-C



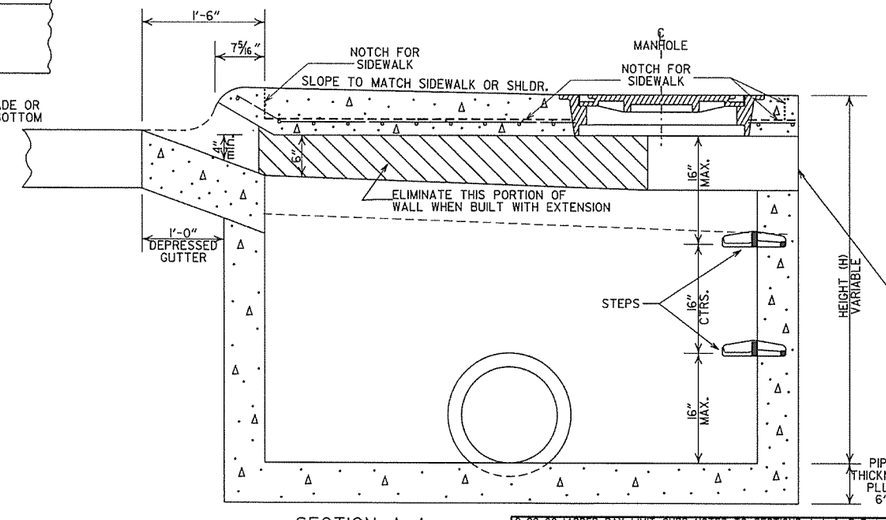
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

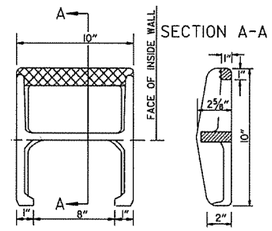
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS



SECTION A-A

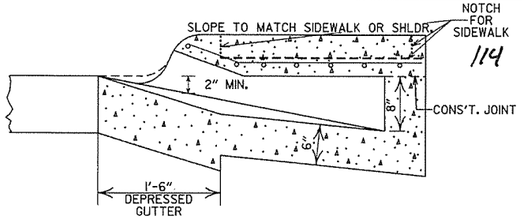


APPROX. WEIGHT = 11 LBS. (CAST IRON)

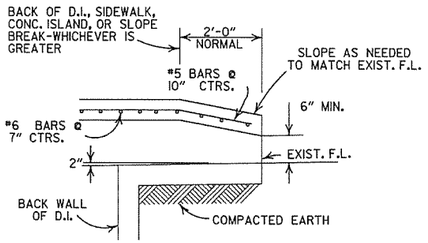
PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B



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"

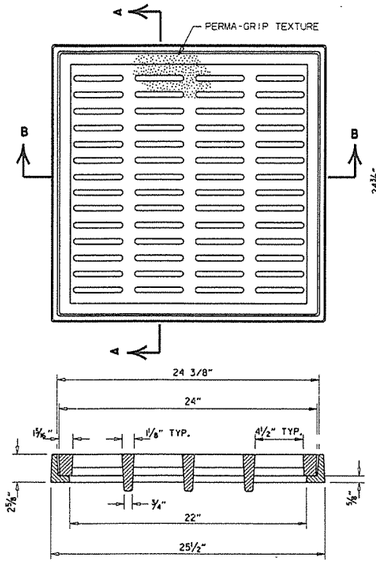
DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11, ADJ. OPENING DIMENSION	
10-12-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	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
3-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	513-1-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	638-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

ARKANSAS STATE HIGHWAY COMMISSION

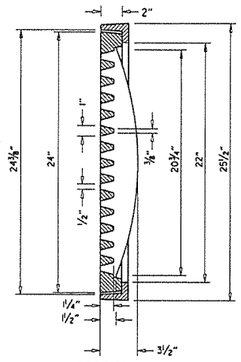
DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M

114



SECTION B-B

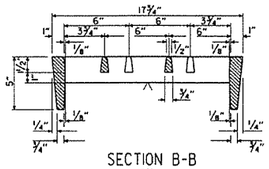


SECTION A-A

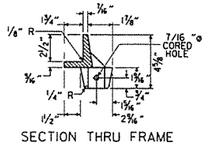
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE 1/2" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN 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.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 211 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

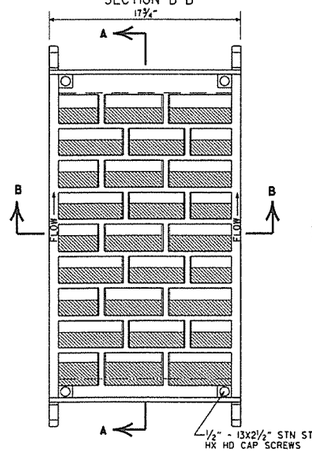
DETAILS OF PEDESTRIAN GRATE AND FRAME

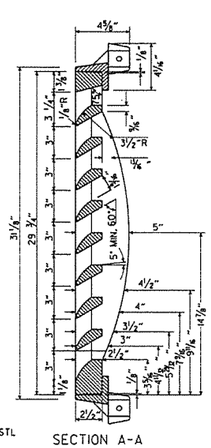


SECTION B-B



SECTION THRU FRAME



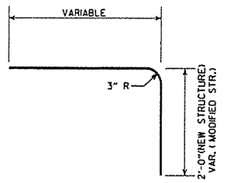


SECTION A-A

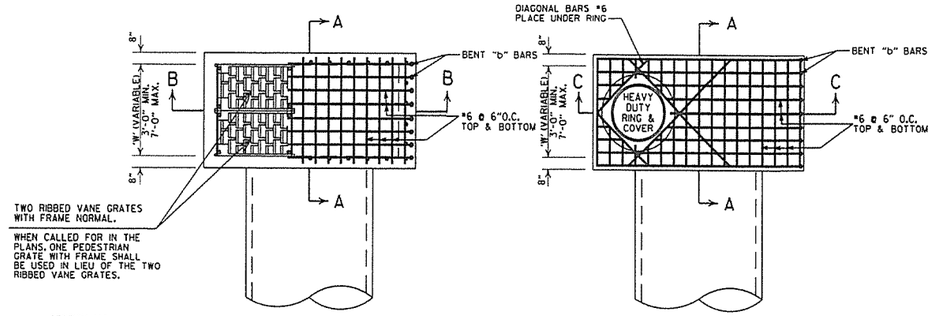
DETAILS OF RIBBED VANE GRATE AND FRAME

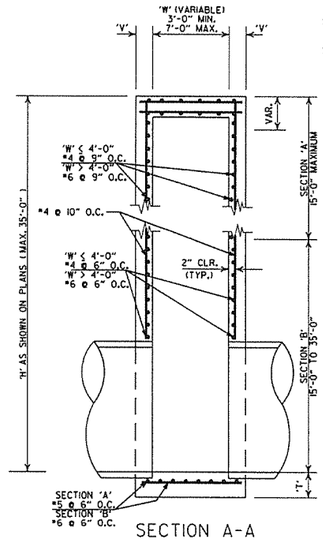
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

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.



DETAIL OF BENT "b" BAR

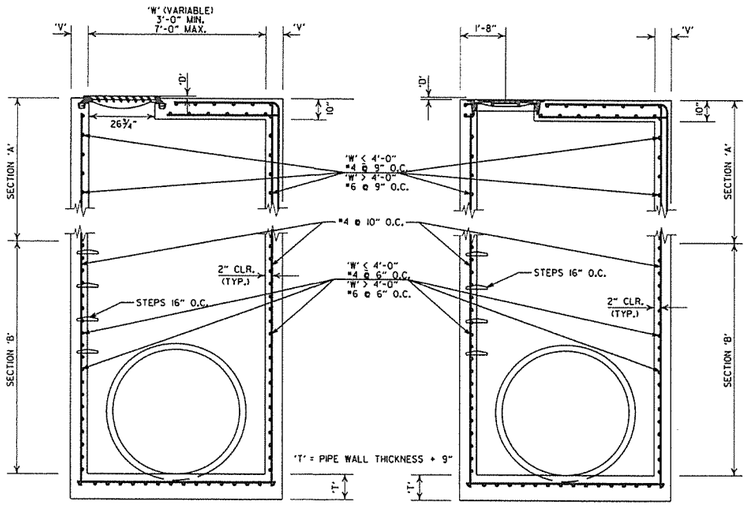




SECTION A-A

DETAILS OF DROP INLET (TYPE ST)

SECTION 'A' 'V' = 8"
SECTION 'B' (W≤4'-0") 'V' = 8"
SECTION 'B' (W>4'-0") 'V' = 10"



SECTION B-B

SECTION C-C

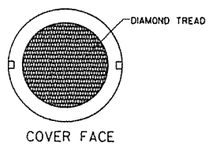
DETAILS OF JUNCTION BOX (TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

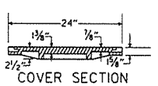
1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A 3/4" CHAMFER.

GENERAL NOTES (HEAVY DUTY RING & COVER):

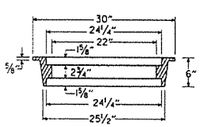
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. 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.



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

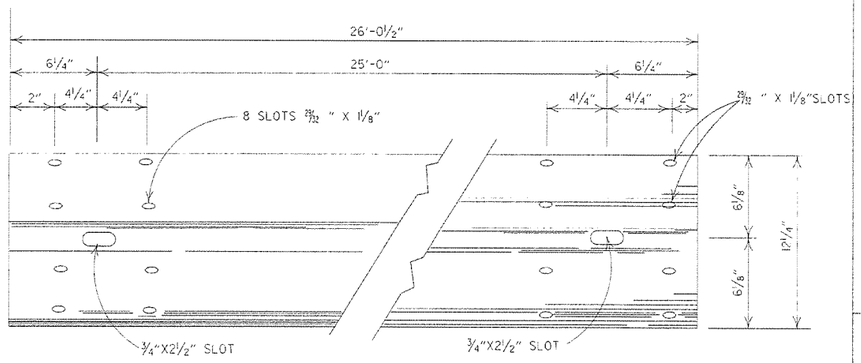
APPROXIMATE TOTAL WEIGHT = 333 LBS.

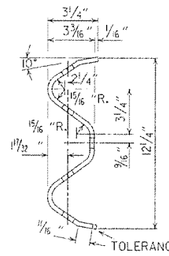
DATE REVISED	DATE FILMED	DESCRIPTION
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

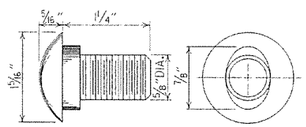
STANDARD DRAWING FPC-9S



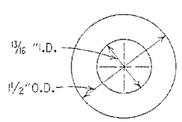


DETAILS OF
W-BEAM GUARD RAIL

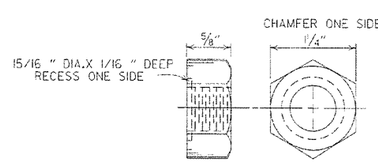
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



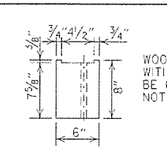
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

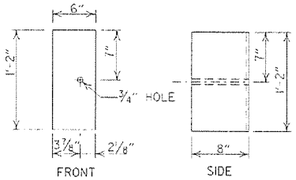


NUT

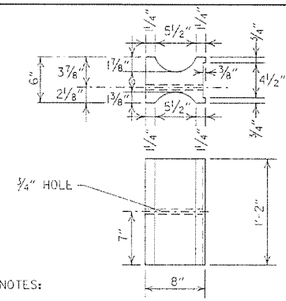


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



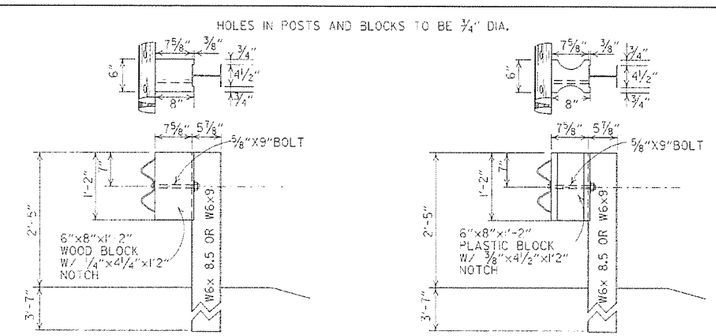
WOOD BLOCKOUT
(W-BEAM)



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

PLASTIC BLOCKOUT
(W-BEAM)

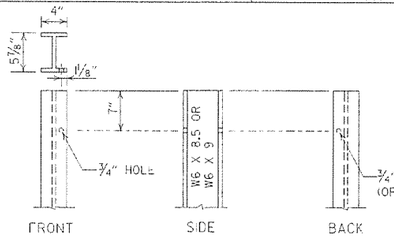
HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



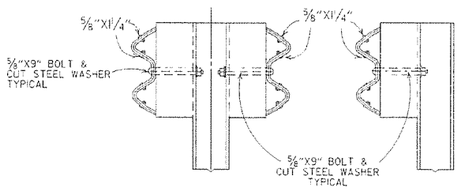
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)



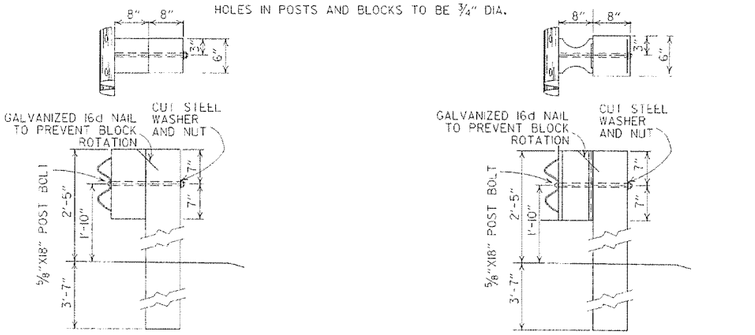
STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ½".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS
(W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 #) OR NO. 1 #1350 # SOUTHERN PINE.

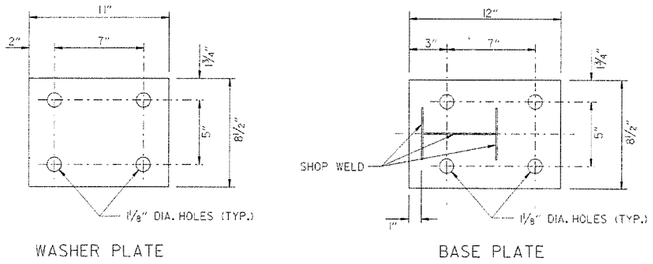
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-5-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES, POST IN ROCK	780:3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

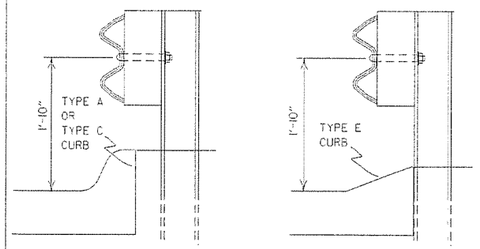
STANDARD DRAWING GR-8



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

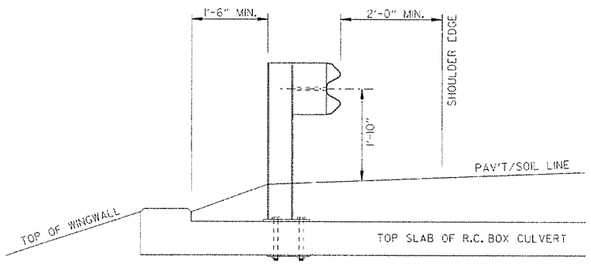
ALIGN FACE OF GUARD RAIL WITH FACE OF CURB.

FOR DESIGN SPEEDS OF 55 MPH OR MORE

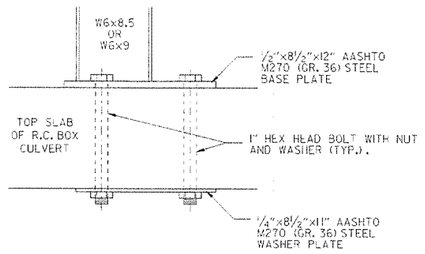
PLACE GUARD RAIL POSTS AGAINST BACK OF CURB.

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

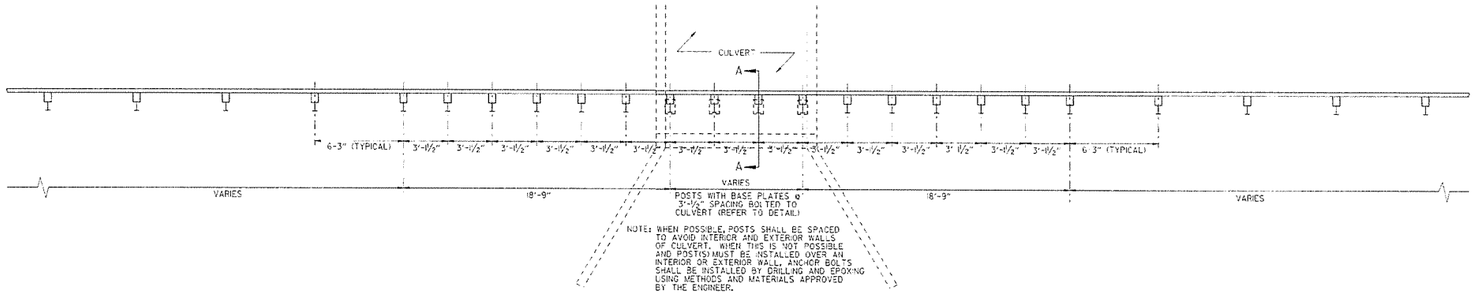
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



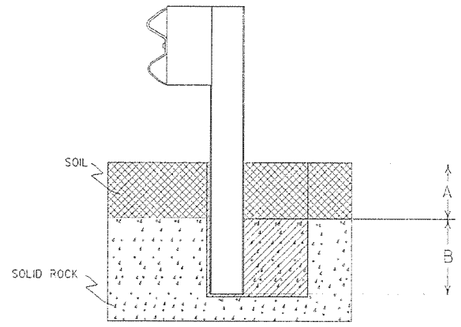
DETAIL OF CONNECTION



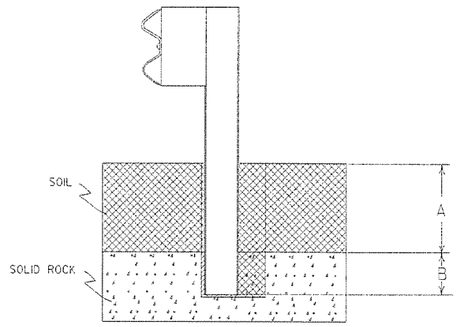
PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

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

Case 1

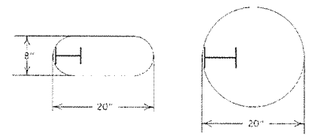


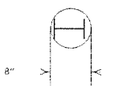
Case 2



Plan View Steel Posts

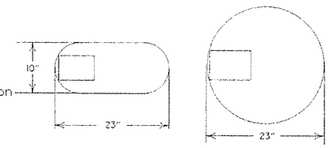
Either hole configuration acceptable

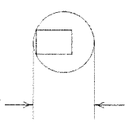




Plan View Wood Posts

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).

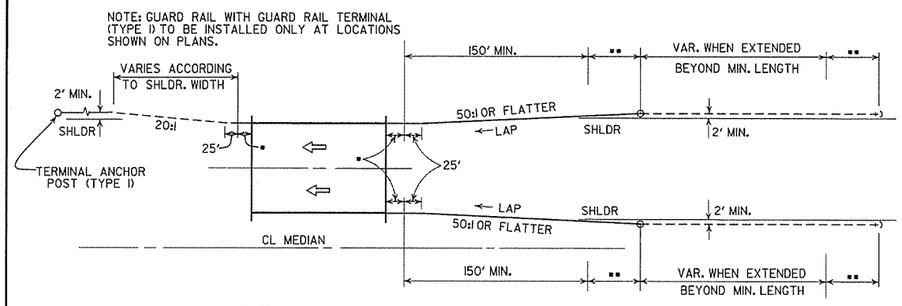
DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
1-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
1-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT. ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULVT. DELETED DET. OF STEEL LINE POST CONN.& ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-5-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
7-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87

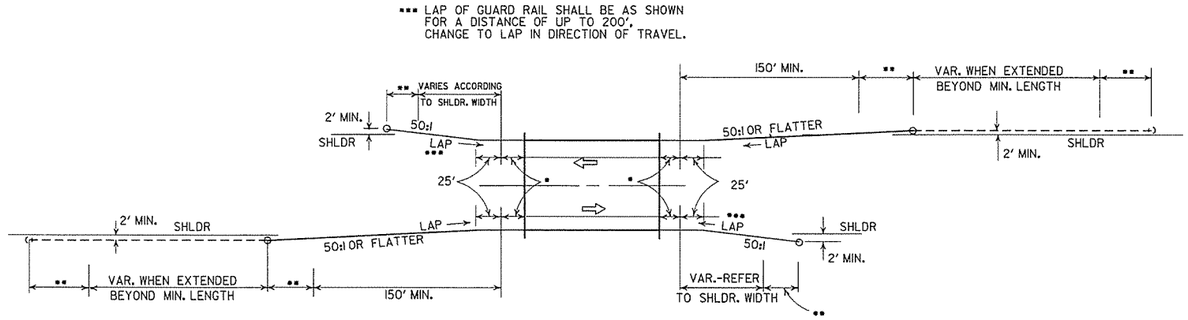
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8A



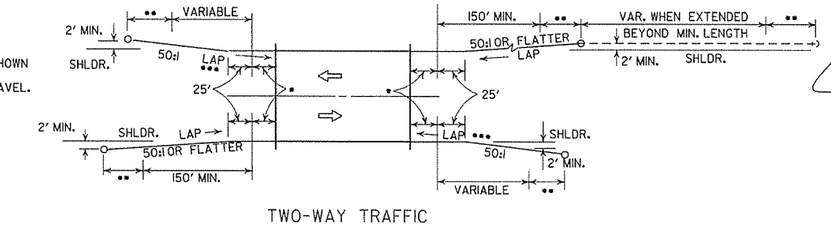
ONE-WAY TRAFFIC



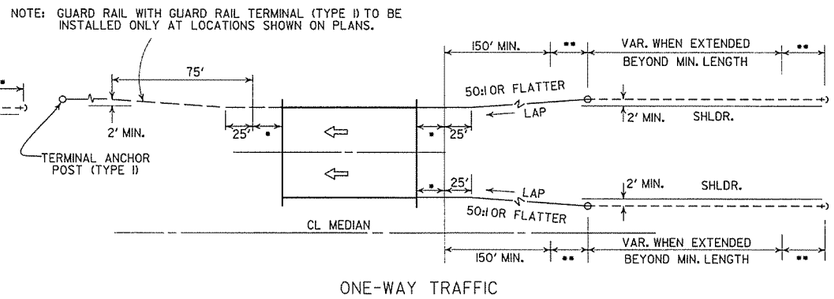
TWO-WAY TRAFFIC

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

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



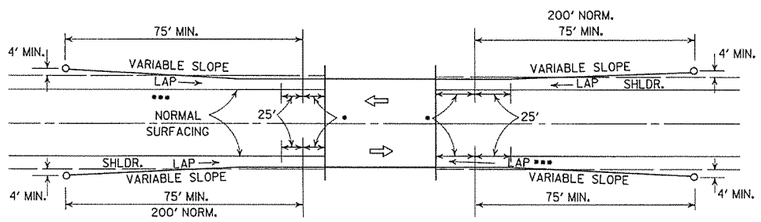
TWO-WAY TRAFFIC



ONE-WAY TRAFFIC

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

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



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

LEGEND

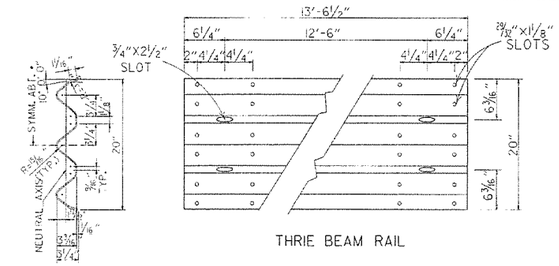
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

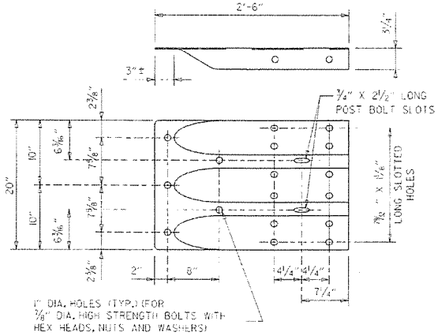
GUARD RAIL DETAILS

STANDARD DRAWING GR-9

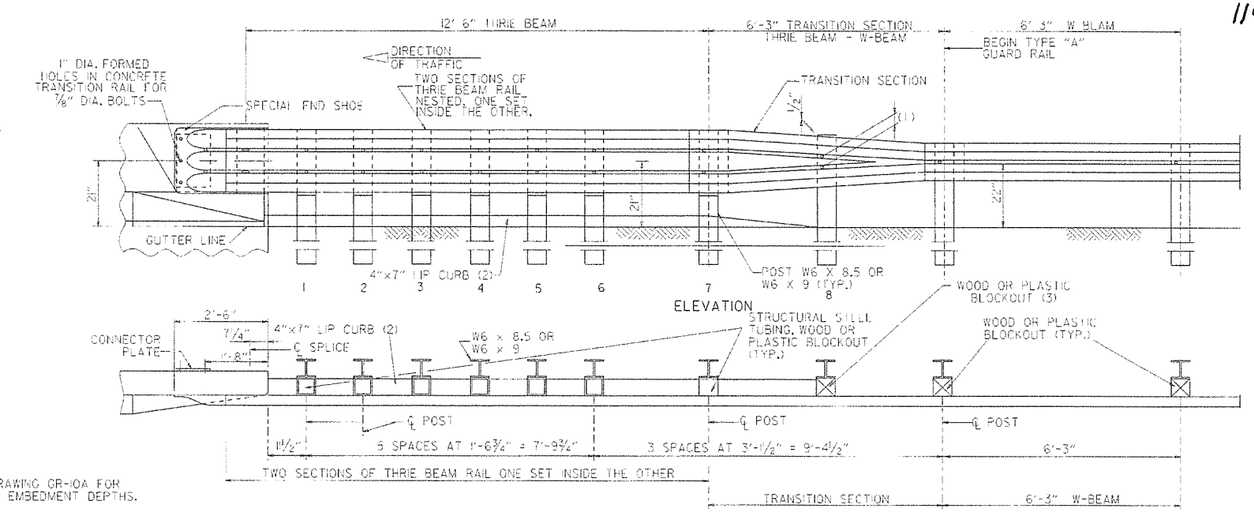


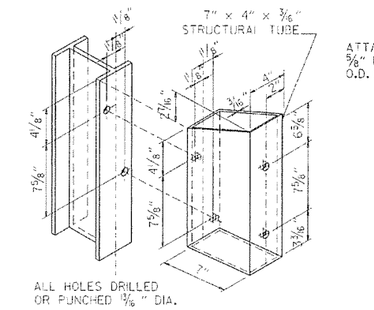
THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL



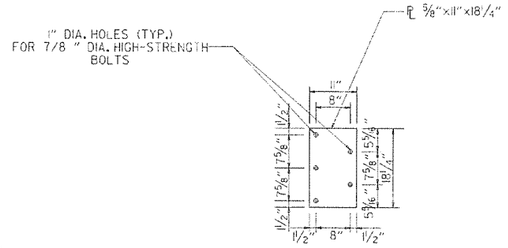
SPECIAL END SHOE





STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

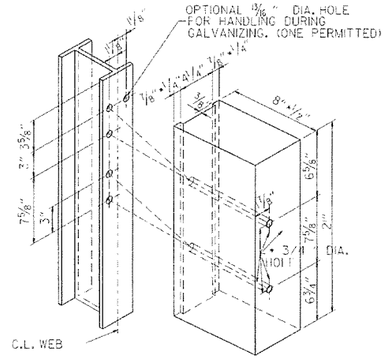
ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.



CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.9 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.

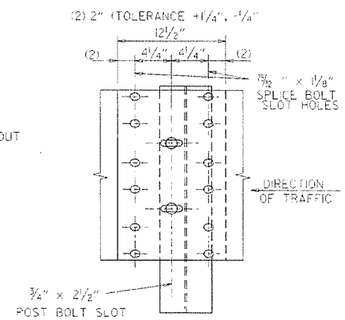
NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.



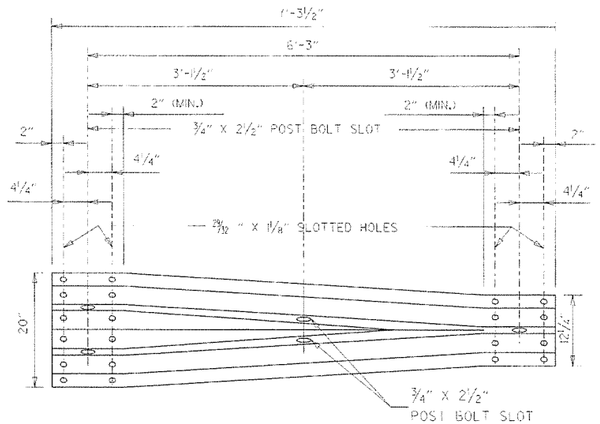
ALL HOLES ⅜" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

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



THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

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 II.

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 ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 #) OR NO. 1 1350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

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

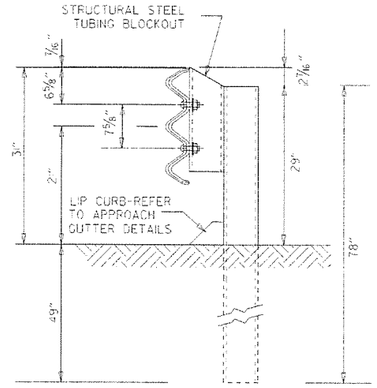
THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

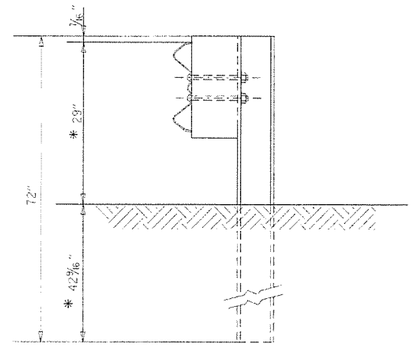
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

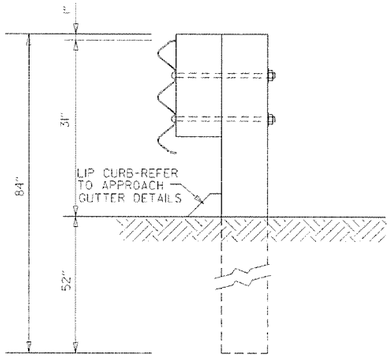


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

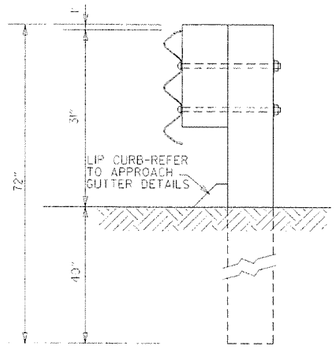


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

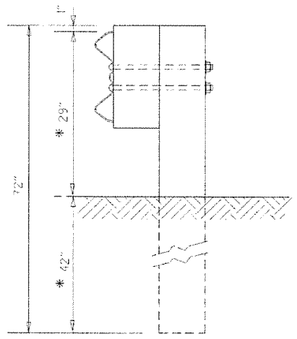
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



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

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 ft) OR NO. 1 1350 # SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

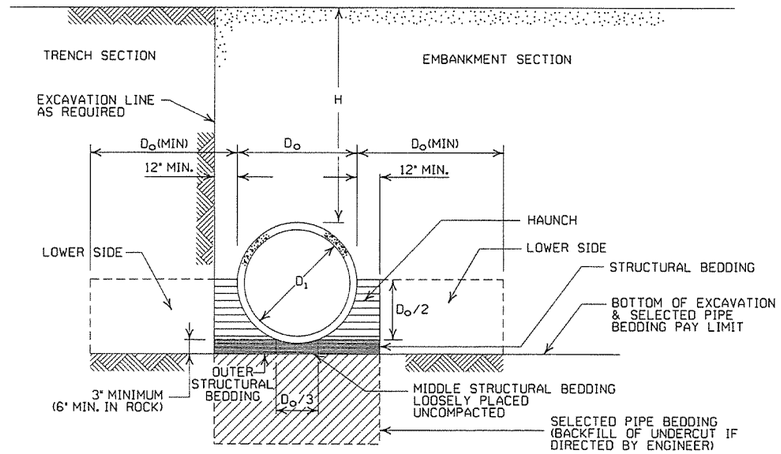
- LEGEND -

D_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 STATE HIGHWAY AND TRANSPORTATION DEPARTMENT 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 TYPE 1	INSTALLATION TYPE 1		INSTALLATION TYPE 1	INSTALLATION 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			

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			
			MIN. THICKNESS REQUIRED INCHES	INSTALLATION TYPE 2	INSTALLATION TYPE 1	INSTALLATION TYPE 2	INSTALLATION TYPE 1
36	40x31	5	0.079	3	2	12	15
42	46x36	6	0.079	3	2	13	15
48	53x41	7	0.079	3	2	13	15
54	60x46	8	0.079	3	2	13	15
60	66x51	9	0.079	3	2	13	15
66	73x55	12	0.079	3	2	15	15
72	81x59	14	0.079	3	2	15	15
78	87x63	14	0.079	3	2	15	15
84	95x67	16	0.109	3	2	15	15
90	103x71	16	0.109	3	2	15	15
96	112x75	18	0.109	3	2	15	15
102	117x79	18	0.109	3	2	15	15
108	128x83	18	0.138	3	2	15	15

CONSTRUCTION SEQUENCE

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

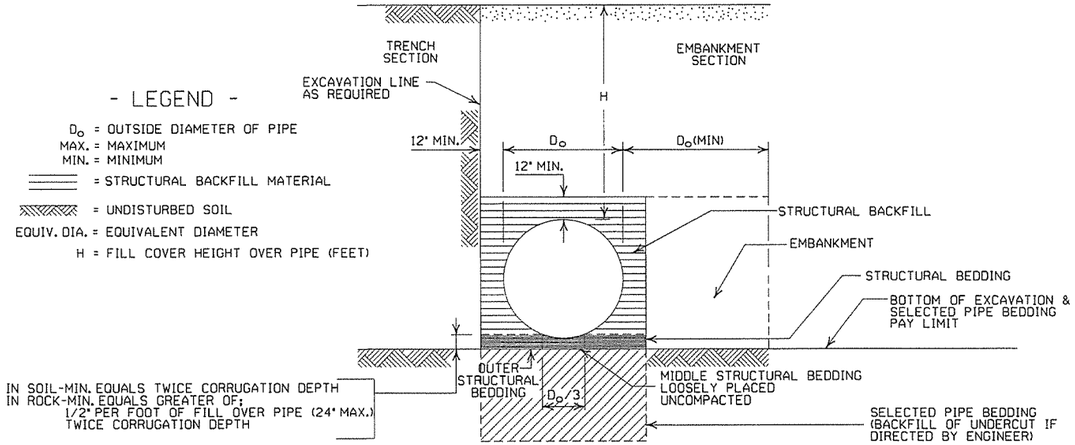
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

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

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

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



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (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

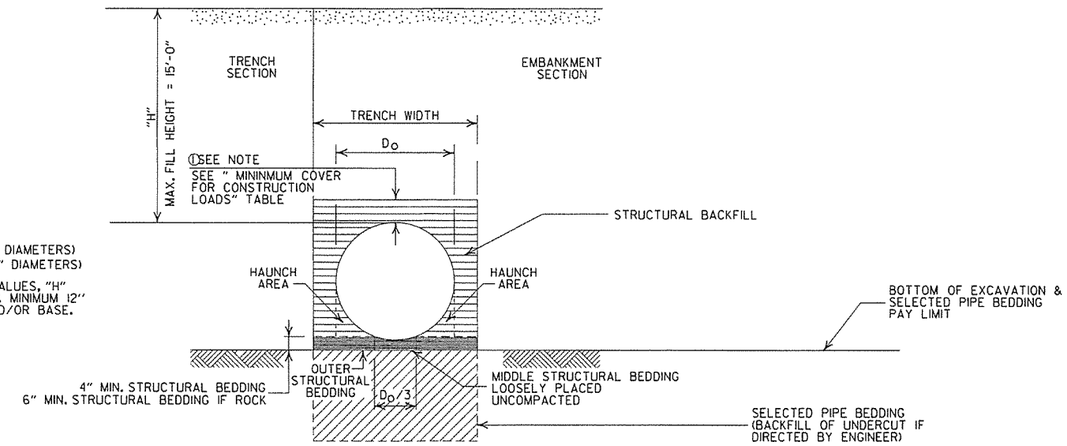
PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	TRENCH WIDTH (FEET) "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.



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.

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.

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 CONFROM 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.)
Ø = 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 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 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

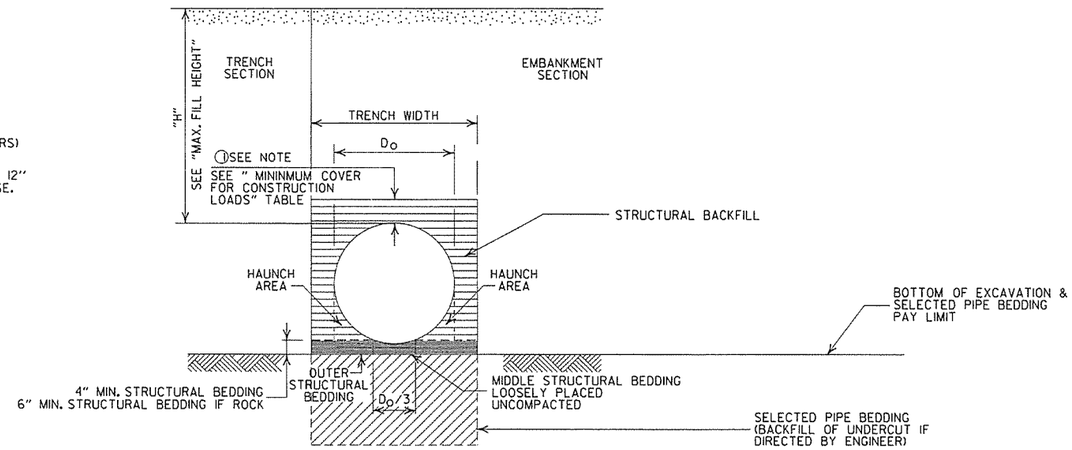
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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 CONFROM 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. 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

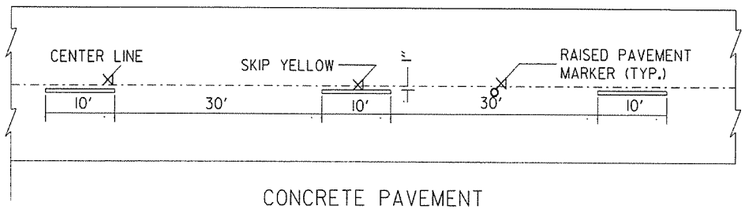
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

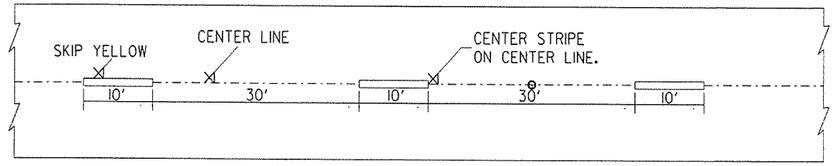
PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

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.

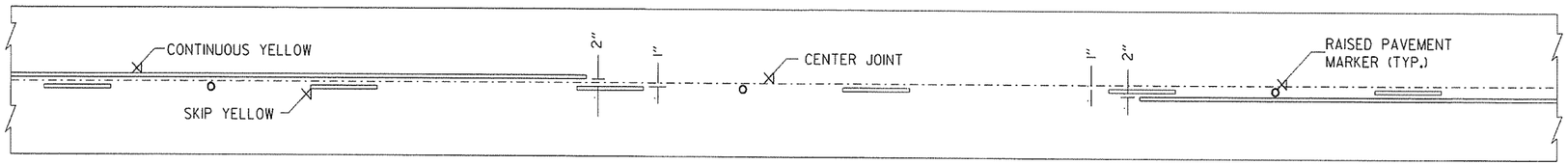


CONCRETE PAVEMENT

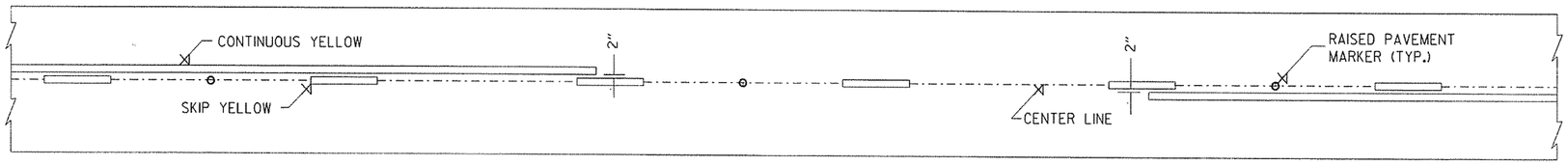


ASPHALT PAVEMENT

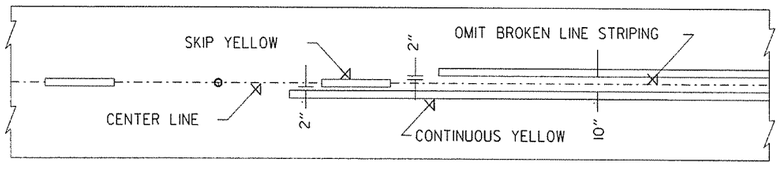
BROKEN LINE STRIPING



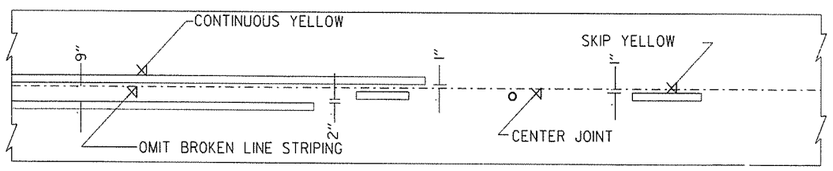
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

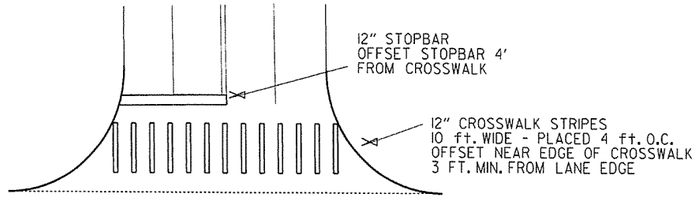


ASPHALT PAVEMENT



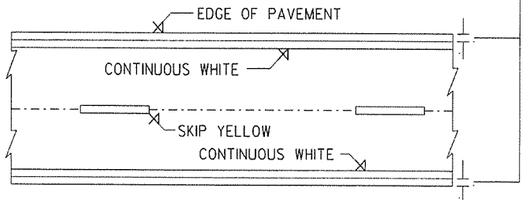
CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

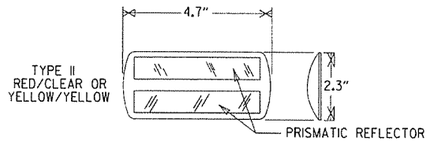


CROSSWALK AND STOPBAR DETAILS

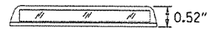
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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

DATE	REVISION	BY
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	I-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

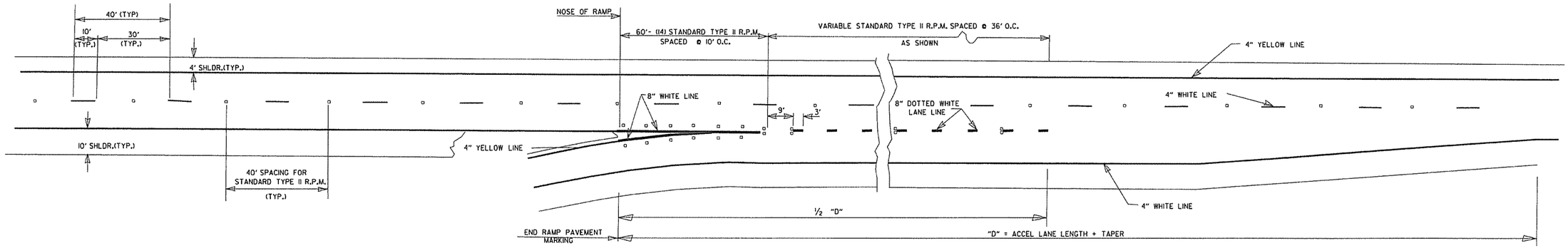
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

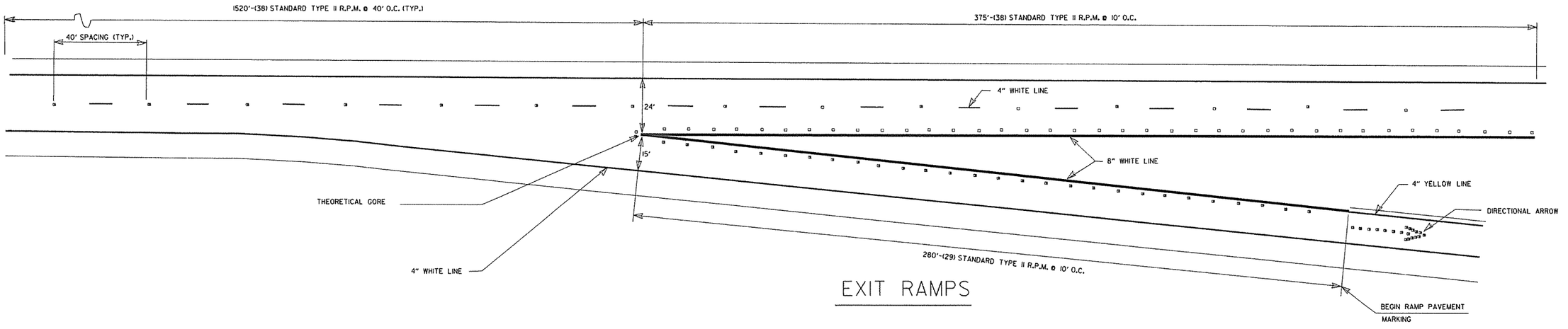
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

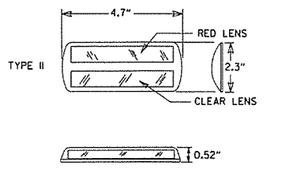
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

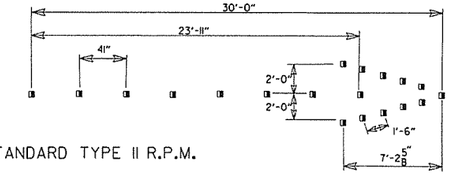


EXIT RAMPS



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 AHTD QUALIFIED PRODUCTS LIST.

DATE	REVISION	FILMED
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

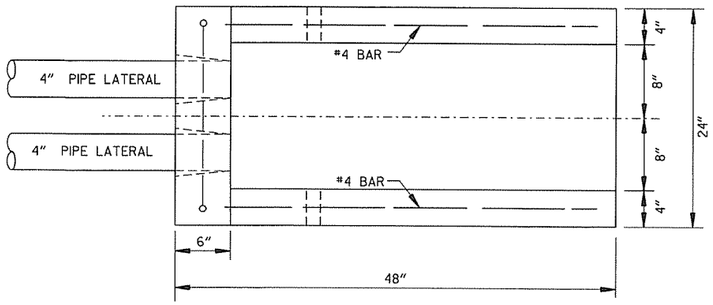
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

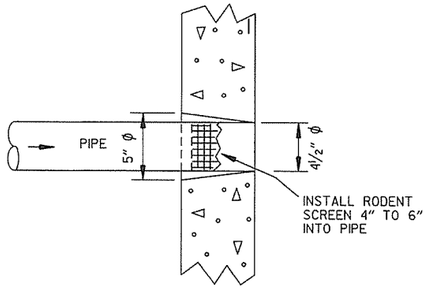
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

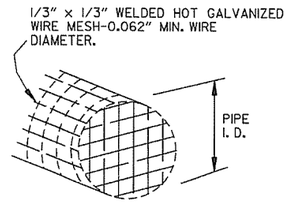
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



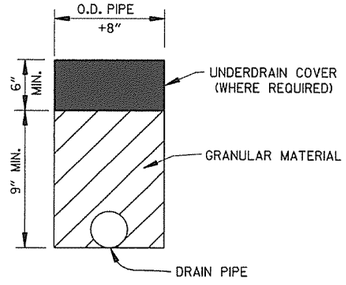
PLAN VIEW

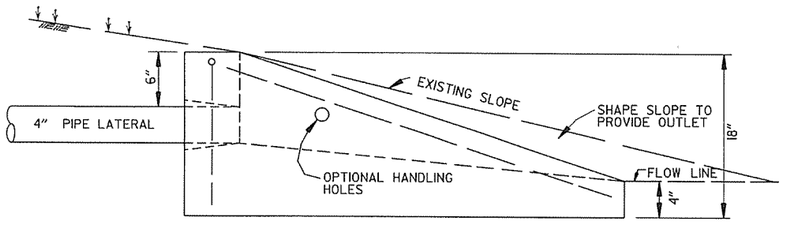


DETAIL OF HOLE FOR 4" PIPE

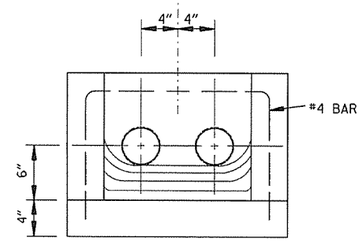


DETAIL OF RODENT SCREEN

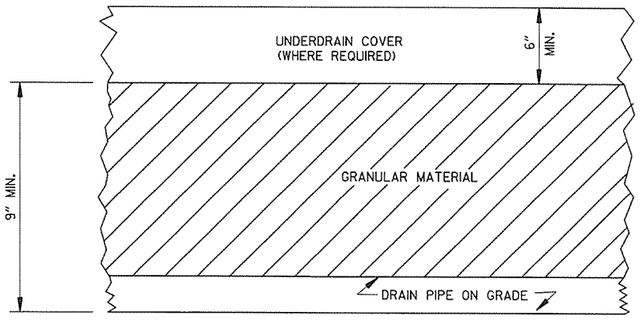




SIDE VIEW

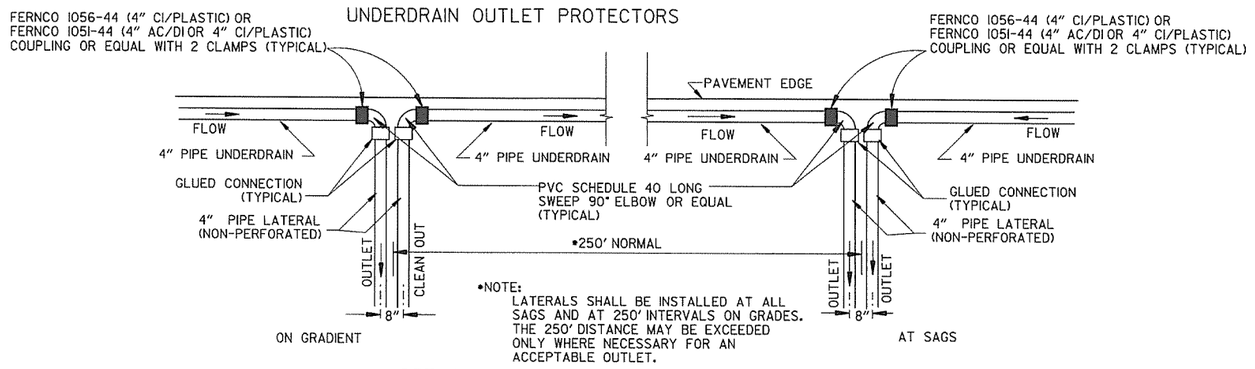


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS (2-4-2 CONFIGURATION) UNLESS OTHERWISE NOTED.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICE SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. DRAIN WIRE SHALL BE GROUNDED IN CABINET AND INSULATED AT LOOP TO FEEDER SPLICE.
3. THE LOOP TO FEEDER SPLICE, FEEDER JACKET AND JACKET OF LOOP WIRE IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. CONTRACTOR MAY MAKE CONNECTIONS TO SIGNAL CABLE AND LOOP TO FEEDER CONNECTION AT TERMINAL STRIPS MOUNTED TO POLE INSIDE HAND HOLD COVER AS SHOWN IN DETAIL. TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPARATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPARATE "FEEDER WIRE" UNLESS OTHERWISE NOTED. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE INCH (1"Ø) CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. WARRANTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE DETECTOR LOOP TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NOT MORE THAN 18" APART AND WEDGED INTO SLOT TO HOLD CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT BE ALLOWED WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED, CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MINIMUM OF TWO INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPARATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. 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 CONTROLLER. CONTROLLER CABINET SHALL BE WIRED SUCH POWER TO LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

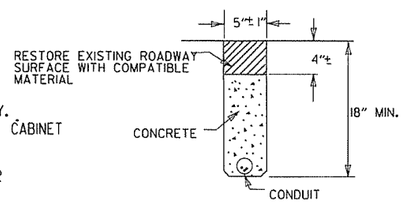
1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)

   IF TESTS 1& 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1& 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPLICE (DO NOT BREAK CONNECTION) REPEAT TEST 1& 2 IF TEST 3 IS BAD, GO TO TEST 4
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1& 2 SEPARATELY FOR FEEDER AND FOR LOOP

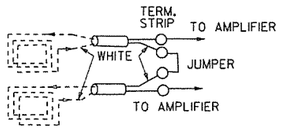
FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

TRENCHING DETAIL

(FOR SAW CUT TRENCH IN ROADWAY)

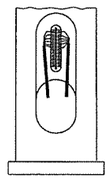


SERIES CONNECTED LOOPS

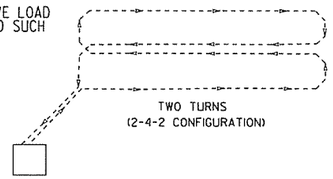


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

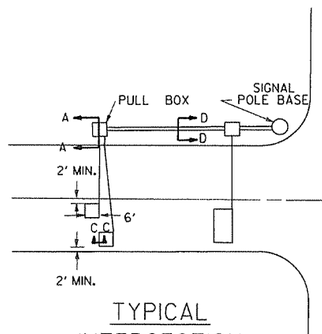
HANDHOLE TERMINAL



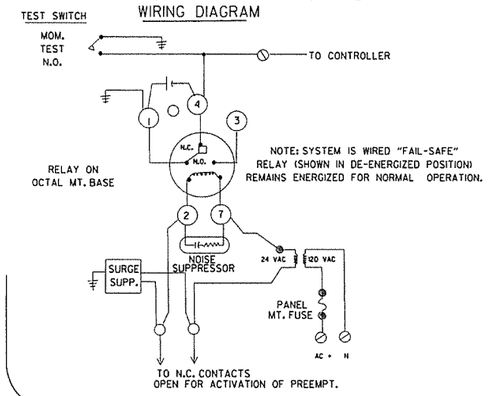
QUADRUPOLE LOOP

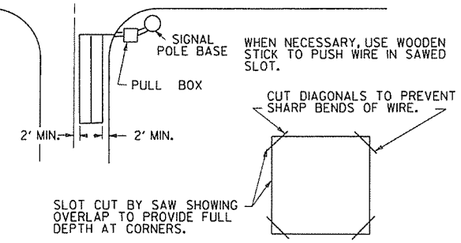


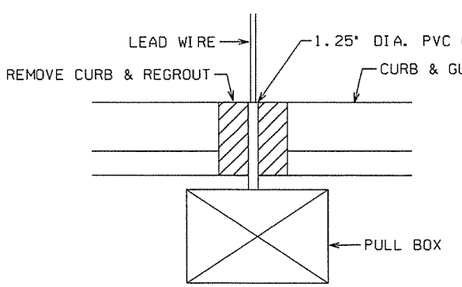
TYPICAL INTERSECTION

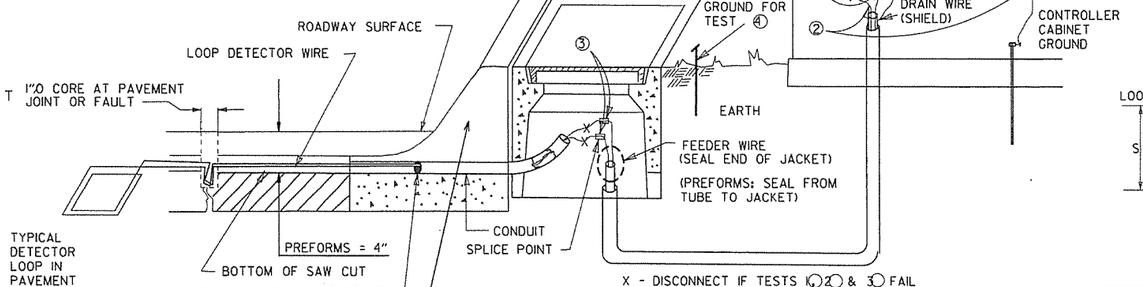


TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM







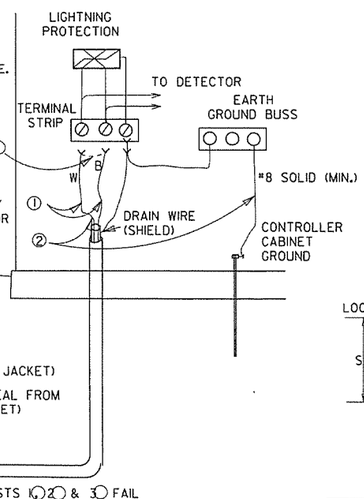


SECTION A-A

1'-6" CONCRETE COMBINATION CURB AND GUTTER

NOTE: CONDUIT SHALL BE INSTALLED IN CURB AS SHOWN OR AS DIRECTED BY THE ENGINEER. END OF CONDUIT SHALL BE WATER-TIGHT.

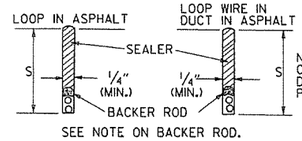
NOTE: PULL BOX COVERS SHALL BE NON-METALLIC AND NON-CONDUCTIVE.



SPECIAL NOTE

IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

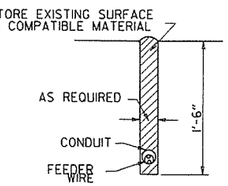
TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



SEE NOTE ON BACKER ROD.

SECTION C-C

S=2 1/2" IN ASPHALT
S=1 1/2" IN CONCRETE



SECTION D-D

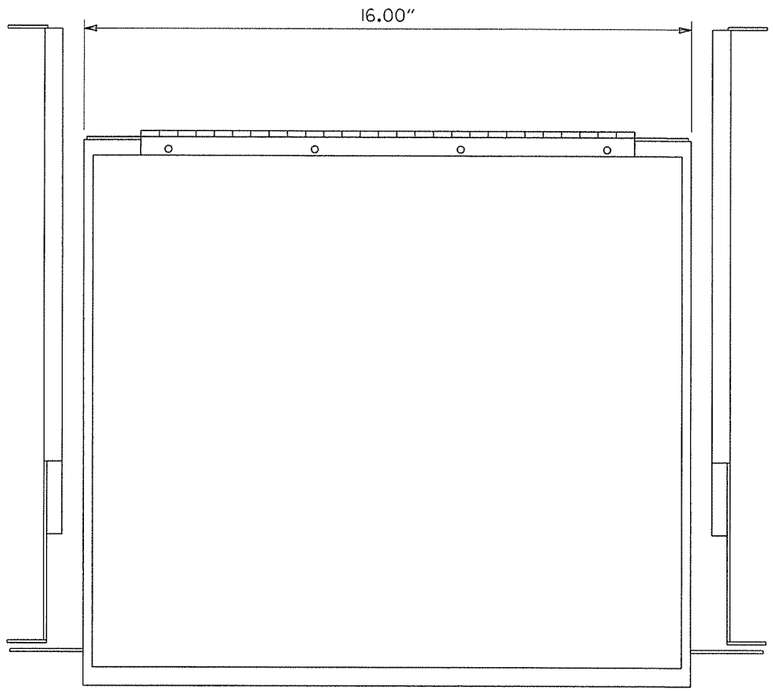
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
5-17-01	REVISED	
4-11-01	REVISED	
2-4-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

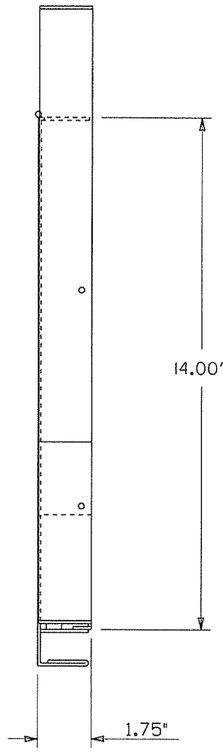
ARKANSAS STATE HIGHWAY COMMISSION

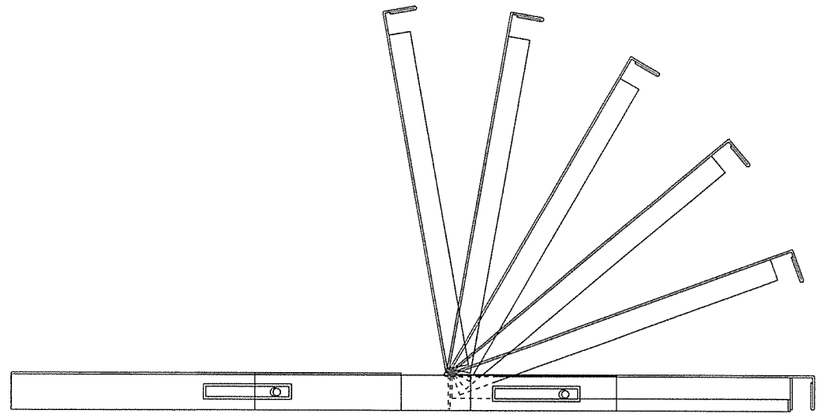
LOOP DETECTOR INSTALLATION

STANDARD DRAWING SD-4

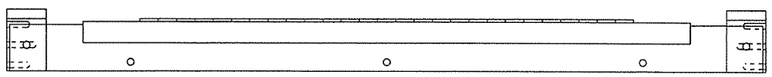
DRAWER PLAN VIEW



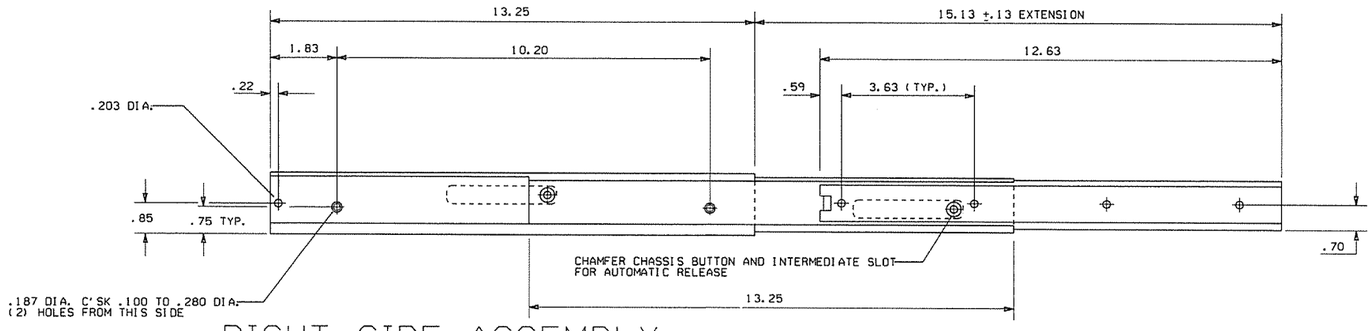




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

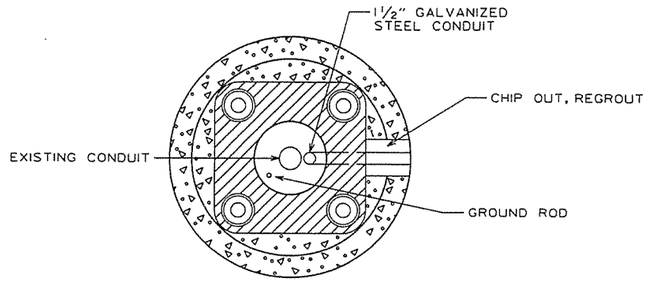
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

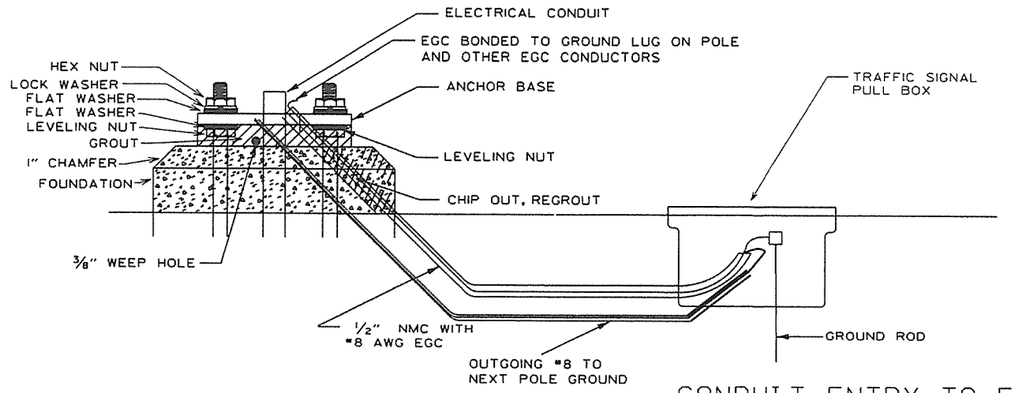
CONTROLLER CABINET
UTILITY DRAWER

STANDARD DRAWING SD-5

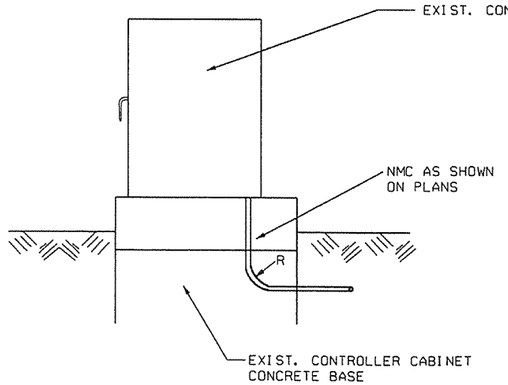
CONDUIT ENTRY TO EXISTING POLE BASE



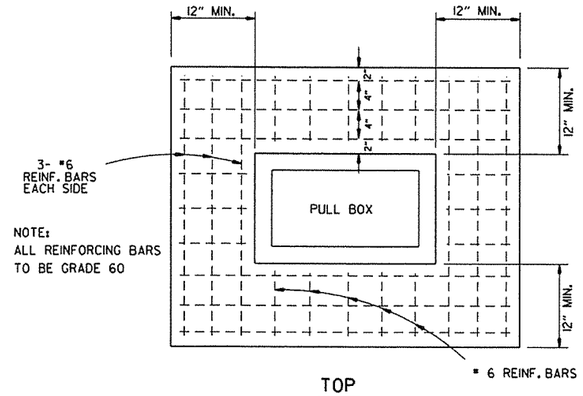
ANCHOR BASE



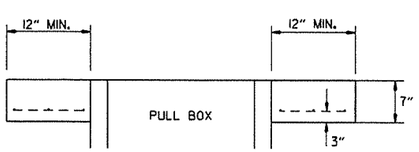
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

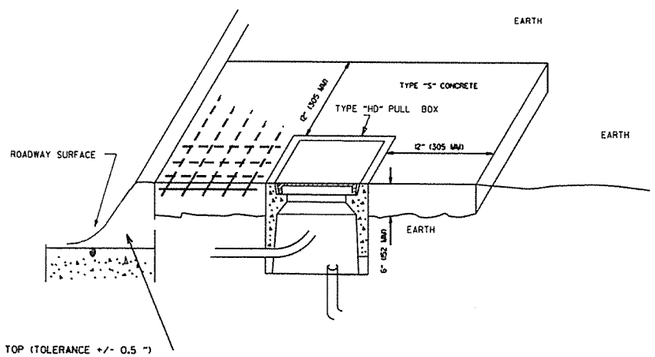


TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



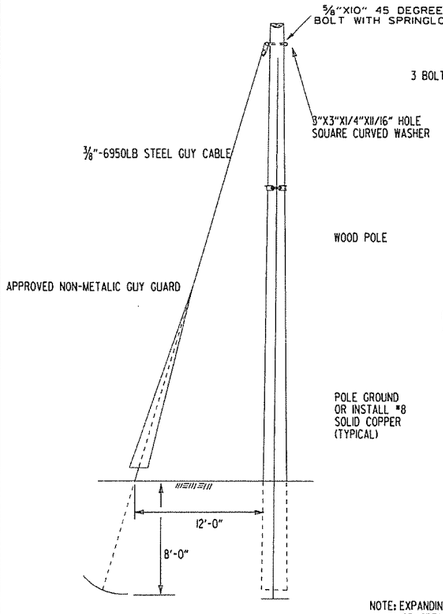
NOTE: ALL TYPE 1 AND TYPE 2 HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 7" (178 MM) IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD PULL BOX. PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S." THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE PULL BOX IS REQUIRED IN CONCRETE.

DATE	REVISION	DATE FILM
9-2-15	REVISED PULL BOX DEPTH	
9-12-13	ISSUED AS STANDARD DRAWING	
5-21-09	REVISED GROUNDING	
7-31-08	ADDED & REVISED CONDUIT ENTRY	
6-23-04	REVISED CLEARANCE AT CURB ENTRY	
1-4-02	ADDED REINFORCING TO BOX APRON	
7-2-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

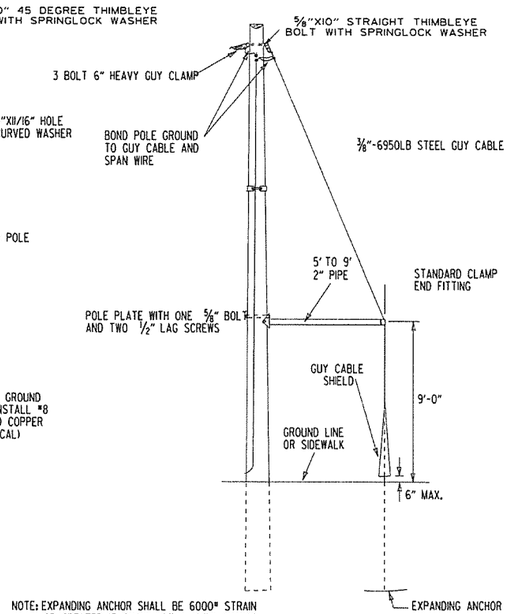
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



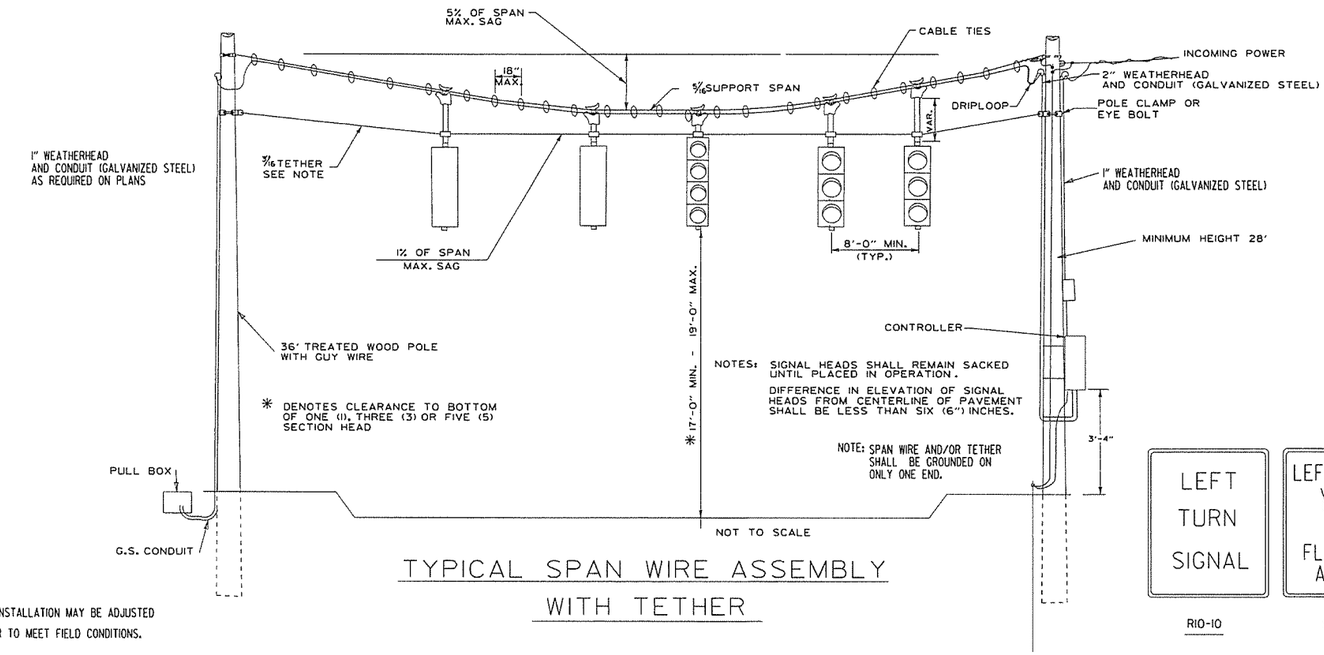
STANDARD GUY INSTALLATION



NOTE: EXPANDING ANCHOR SHALL BE 6000# STRAIN OR GREATER. IT SHALL BE A "NEW CHANCE 8-WAY EXPANDING ANCHOR", WITH A 5/8" MINIMUM GUY ROD.

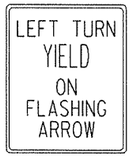
SIDEWALK GUY INSTALLATION

NOTE: CONDUIT INSTALLATION MAY BE ADJUSTED BY THE ENGINEER TO MEET FIELD CONDITIONS.



TYPICAL SPAN WIRE ASSEMBLY WITH TETHER

R10-10



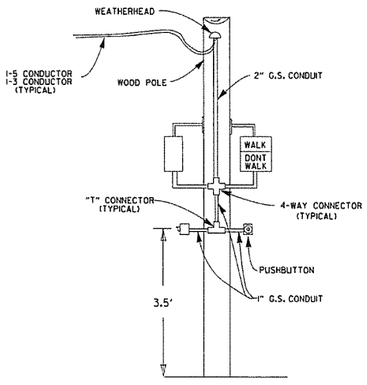
SPECIAL

R10-3E (SEE MUTCD)

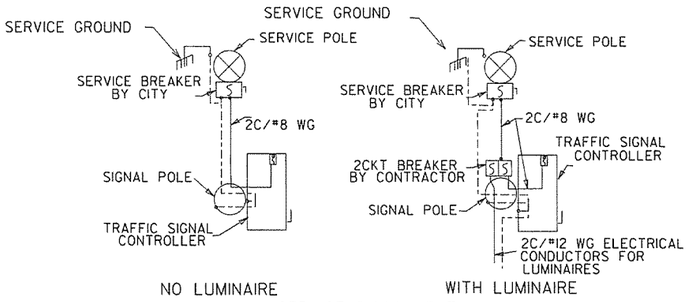
NOTES: SPAN WIRE POLES SHALL BE MOUNTED A MINIMUM OF 4' BEHIND CURB OR SHOULDER.

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 GROUND ROD WITH A #8 AWG SOLID COPPER WIRE. ON EXISTING INSTALLATIONS WITH NO GROUND ROD, CONTRACTOR SHALL INSTALL A 10' X 5/8" COPPERWELD GROUND ROD.



WOODEN POLE INSTALLATION OF PED HEADS



SERVICE DISCONNECT

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

NOTES:

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 SIGNAL PLAN NOTES.

SIGN BLANK SHALL BE CONSTRUCTED OF ALLUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH A THICKNESS OF 0.100 INCH.

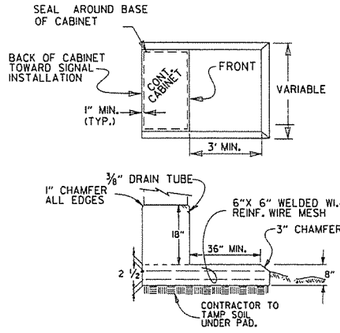
SIGN FACE SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

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.

SIGNAL OPERATION NOTES:

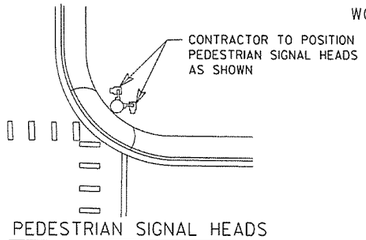
FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORKING DAYS. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

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

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.



PEDESTRIAN SIGNAL HEADS

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: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT 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 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

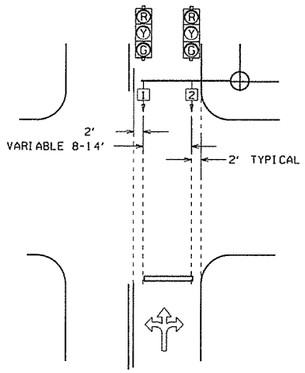
DATE	REVISION	DATE FILM
2-27-14	REVISED NOTES.	
9-12-13	ISSUED AS STANDARD DRAWING	
7-21-11	REVISED PED SIGN, CABINET GROUNDING	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REV. CABINET ORIENT. & SIGNAL OPER.	
5-22-02	REV. TYP. SPAN WIRE ASSEMBLY	
12-27-99	REVISED	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SPAN WIRE ASSEMBLY WOOD POLE

STANDARD DRAWING SD-7

(A)



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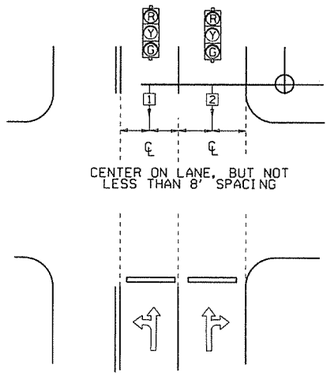

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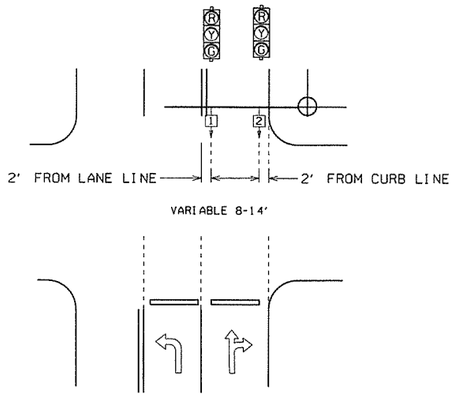

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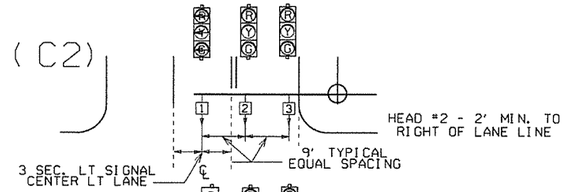
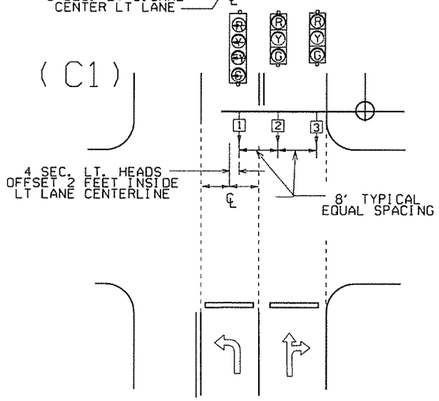


(C1)



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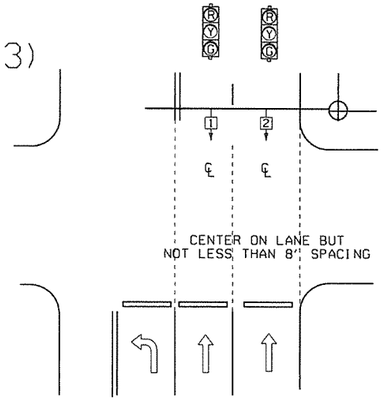

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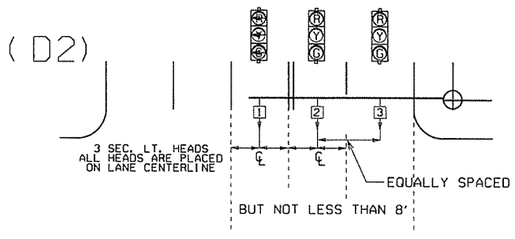

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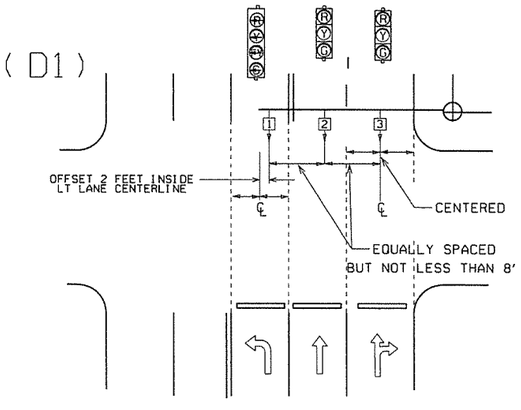
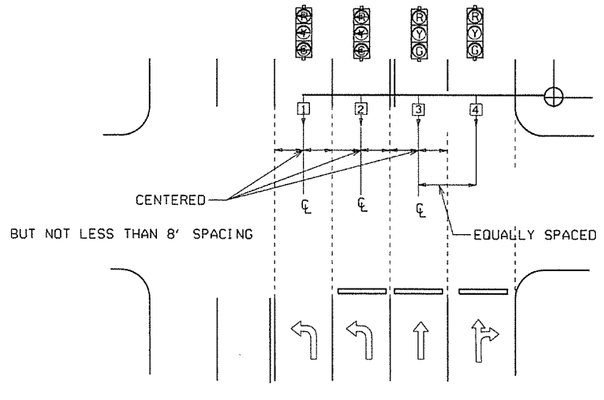


NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

(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-1 OF 2009 MUTCD.

9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

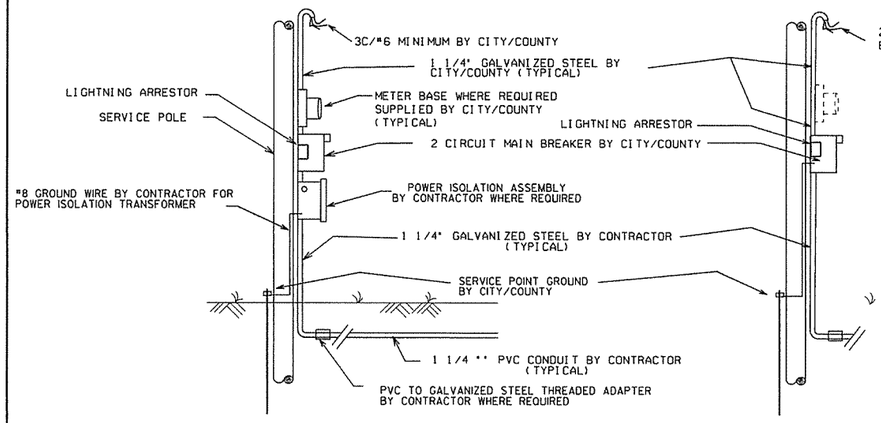
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

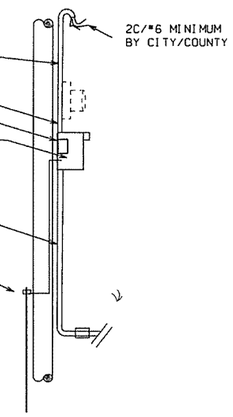
STANDARD DRAWING SD-8

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 OR COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

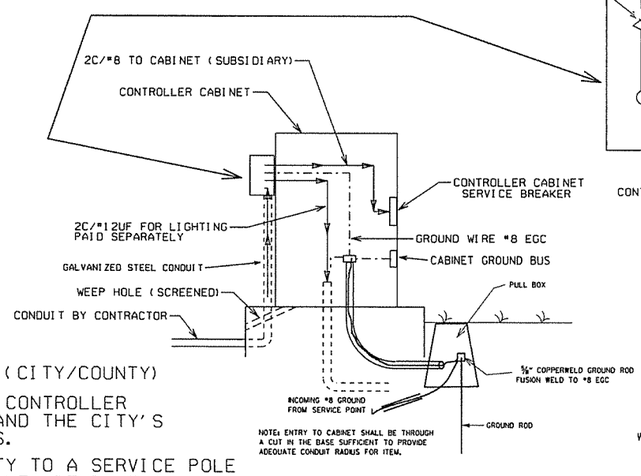
1. ALL SITUATIONS: ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2C/#12 AWG 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.

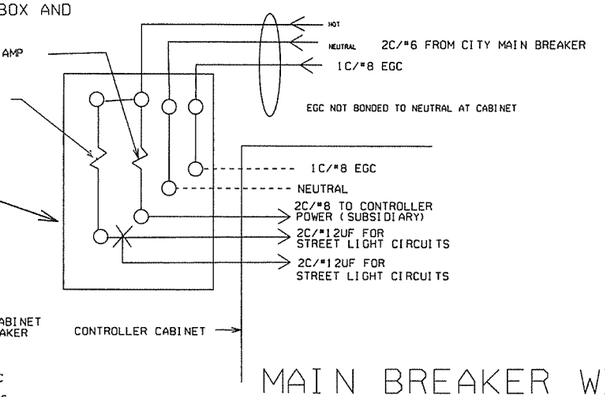
2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT, WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

3. 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 ⅝" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 701. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



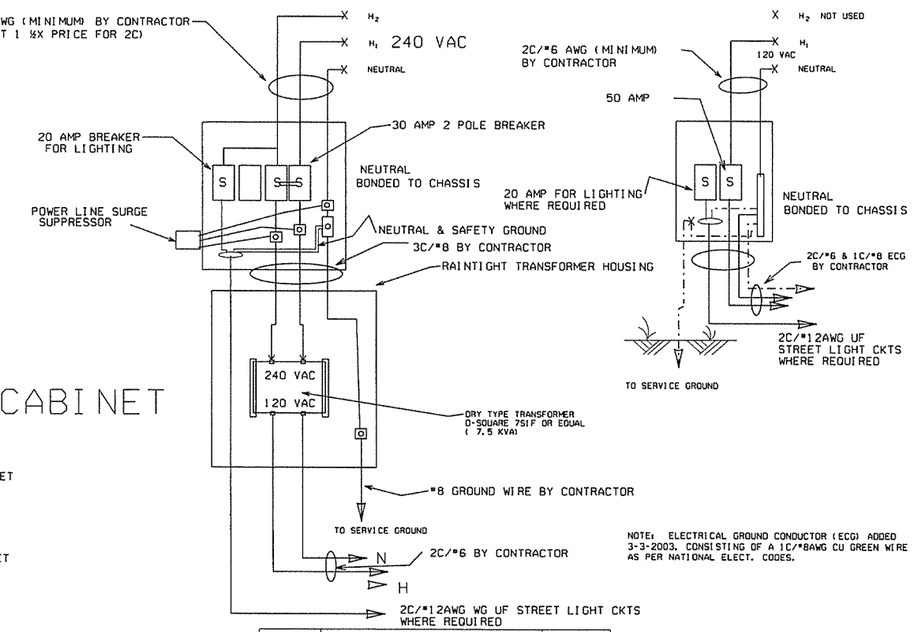


MAIN BREAKER WIRING (TYPICAL)

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.

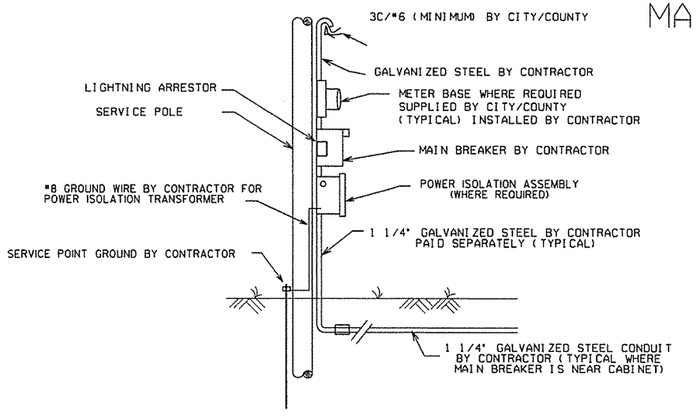
WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

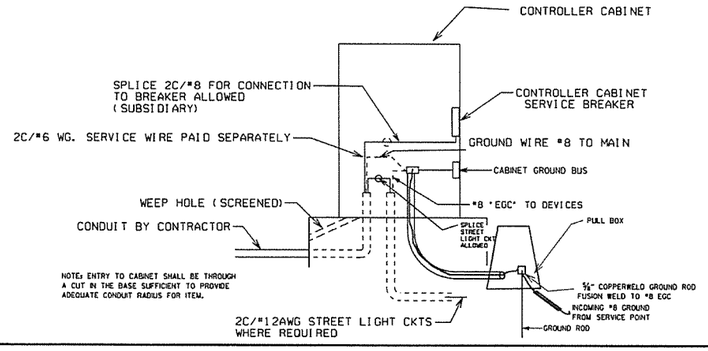
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (EGC) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
4-18-13	ADDED LIGHTNING ARRESTOR	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
3-3-03	ADDED EGC NOTE	
9-26-01	REVISED	
12-27-99	REVISED	
7-28-99	REVISED	
2-5-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES, PED 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 SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

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 4 FT. BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND 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 SPEED LIMIT IS GREATER THAN 45 MPH WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY II FOR STRUCTURES ON ROUTES WITH A SPEED LIMIT LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH ARMS LESS THAN 60' AND ROUTES WITH SPEED LIMITS OF 45 MPH AND LESS WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE SPEED LIMIT IS 45 MPH AND LESS AND ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT 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 1/2" 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, 12 INCH, AND HAVE 5 IN. BACK PLATES:

HEADS AT END OF ARM - ONE 4 SEC., 85 LB., 16.0 SQ. FT. ONE SIGN MOUNTED 3 FT. FROM SIGNAL * 2' X 0" X 2' * 6", 20 LB. REMAINING HEADS SPACED A 8 FT. * 3 SEC., 56 LB., TWO 5 SEC):
14.4 SQ. FT. DESIGN TO ACCOMMODATE (INCLUDING
2 HEADS FOR ARMS 10 TO 16 FT.
2 HEADS FOR ARMS 10 TO 16 FT.; INCLUDING LB.
3 HEADS FOR 18 TO 24 FT. ARMS;
4 HEADS FOR OVER 26 FT. ARMS.

STREET NAME SIGN -- 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 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.), 3.3 SQ. FT., 75 LB. PED SIGNALS -- TWO 2 SEC. 12 INCH MOUNTED 8 FT. FROM BASE OF POLE.
POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

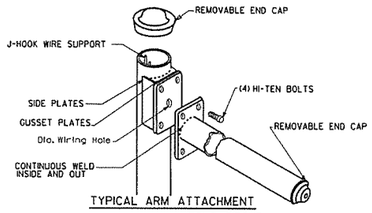
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED. FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE -- HAND HOLES SHALL BE 4 X 6 INCHES FOR STANDARD, AND 3 X 5 INCHES FOR PED POLES, MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLD WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

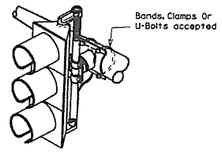
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

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 ARM SHALL MAINTAIN A POSITIVE AFTER IT IS PLACED UNDER LOAD.

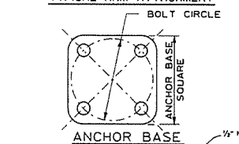
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



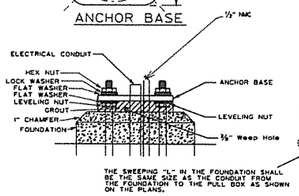
TYPICAL ARM ATTACHMENT

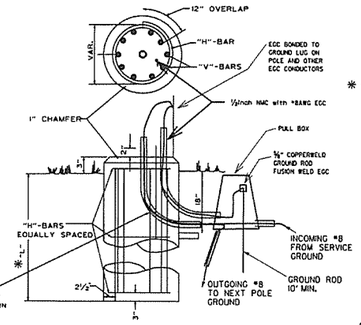


NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



ANCHOR BASE



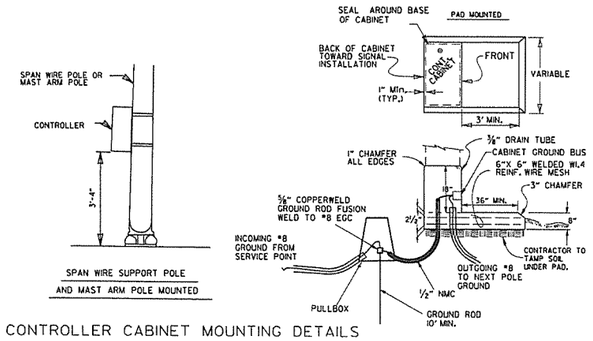


THE GROUND ROD SHALL BE FUSION WELDED TO A 10'/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FDN. DIAMETER	DEPTH "L" *	STEEL		
			VERT.	HORZ.	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

CONTROLLER CABINET MOUNTING DETAILS

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 5/8" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

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 1/4" 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 PED PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM PEDESTRIAN SIGNAL HEAD.

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.

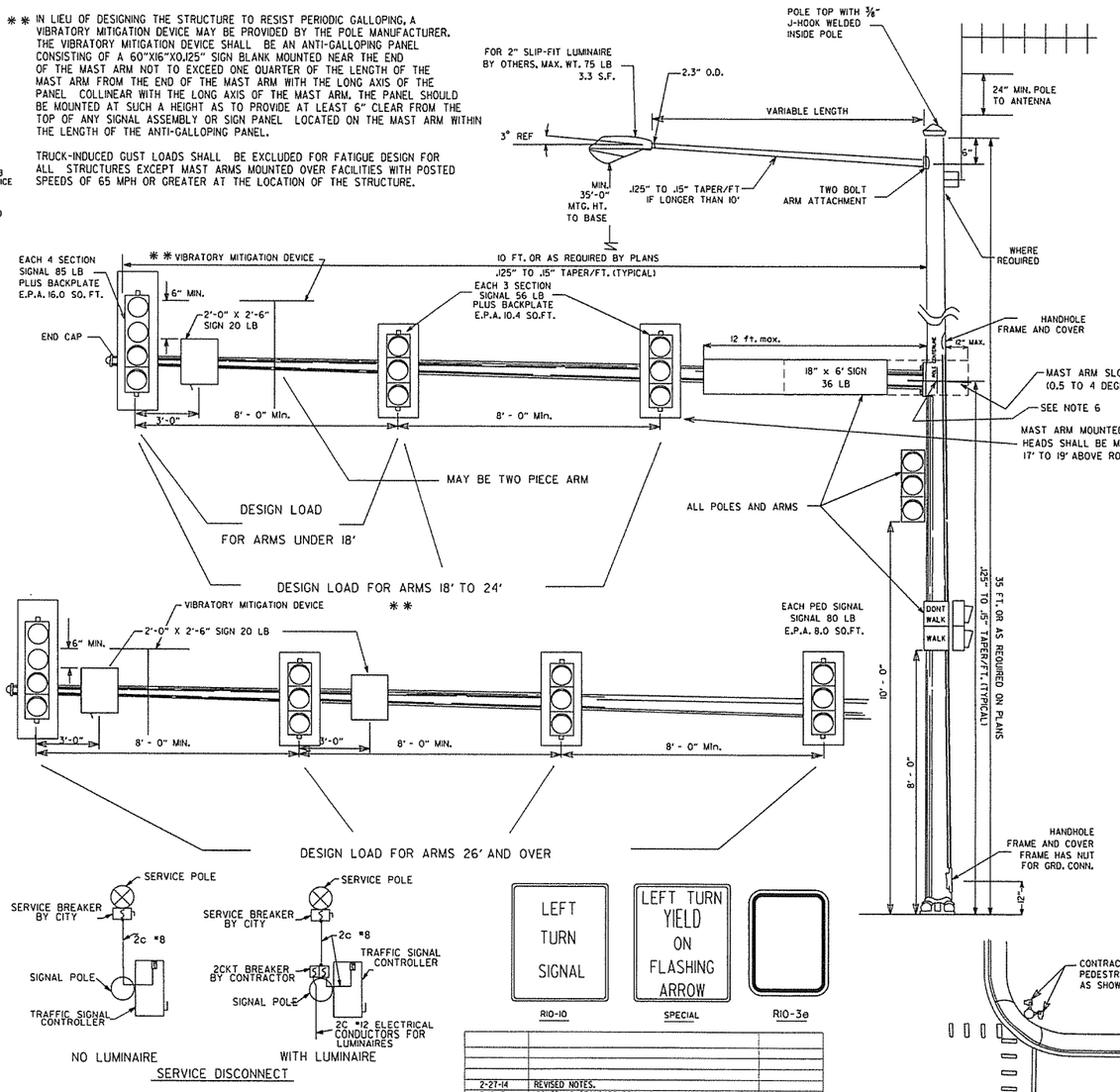
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

* 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 OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60"X16"X0.125" 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 A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR 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.



DATE	REVISION	DATE FILM
2-27-14	REVISED NOTES.	
9-12-13	ISSUED AS STANDARD DRAWING	
7-21-11	REVISED VMD, SIGNAL HEADS	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
4-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
6-23-04	REVISED	
5-8-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-8-01	REV. NOTES & POLE MAST ARM SLOPE	
4-11-01	REVISED POLE TAPERS	
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
8-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

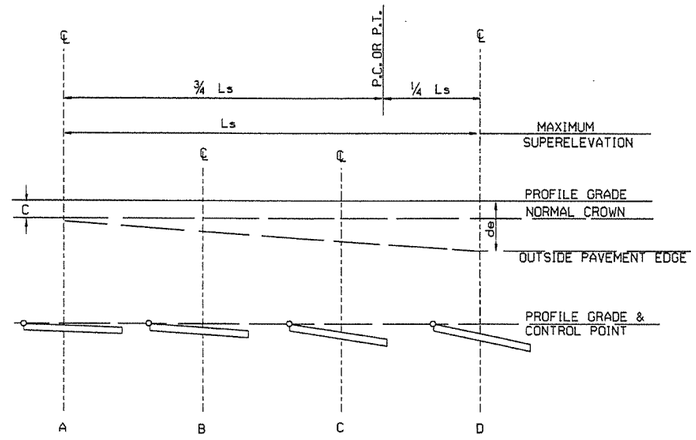
STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 30′	N. C.			N. C.			N. C.			N. C.			N. C.			N. C.			N. C.		
0° 45′	N. C.			N. C.			N. C.			0.022			0.023			0.025			0.028		
1° 00′	N. C.			N. C.			0.021			0.026			0.030			0.033	250		0.037	275	
1° 15′	N. C.			R. C.			0.026			0.032			0.037			0.041			0.046		
1° 30′	N. C.			0.021			0.031	200		0.037	225		0.043	250		0.048		350	0.054		350
1° 45′	N. C.			0.025	175		0.036			0.043		350	0.049		350	0.055			0.062		
2° 00′	R. C.			0.028			0.040			0.048			0.055			0.062			0.070		
2° 15′	R. C.			0.031			0.045			0.053			0.061			0.069	265		0.078	300	
2° 30′	0.021			0.034			0.049			0.058			0.067			0.075	280		0.085	315	400
2° 45′	0.023			0.037			0.053			0.063			0.072			0.081	300		0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.087	315		0.096	350	
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.090	325	400	0.098	360	450
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.095	340		0.100	360	
3° 45′	0.031			0.049			0.069	215		0.080	265		0.090	295	400	0.097	345				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305		0.099	350				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315							
5° 00′	0.040			0.061			0.083	250		0.091	295	400	0.098	320							
5° 30′	0.043			0.066	185		0.088	260		0.094	300										
6° 00′	0.046			0.070	190		0.092	270		0.096	305										
6° 30′	0.050			0.074	200		0.095	280	350	0.100	315										
7° 00′	0.053			0.078	210		0.098	285													
7° 30′	0.056			0.081	215		0.099	290													
8° 00′	0.058			0.084	220		0.100	290													
8° 30′	0.061			0.087	225	300															
9° 00′	0.063			0.089	230																
10° 00′	0.068	160		0.094	235																
11° 00′	0.072	170		0.097	250																
12° 00′	0.076	175		0.099	250																
13° 00′	0.080	180		0.100	250																
14° 00′	0.083	190																			
15° 00′	0.086	195																			
16° 00′	0.089	200																			
17° 00′	0.091	200																			
18° 00′	0.093	205																			
19° 00′	0.095	210																			
20° 00′	0.097	215	300																		
21° 00′	0.098	215																			
22° 00′	0.099	215																			
23° 00′	0.099	215																			
24° 00′	0.100	220																			

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 4° 15′ | D MAX = 3° 30′



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

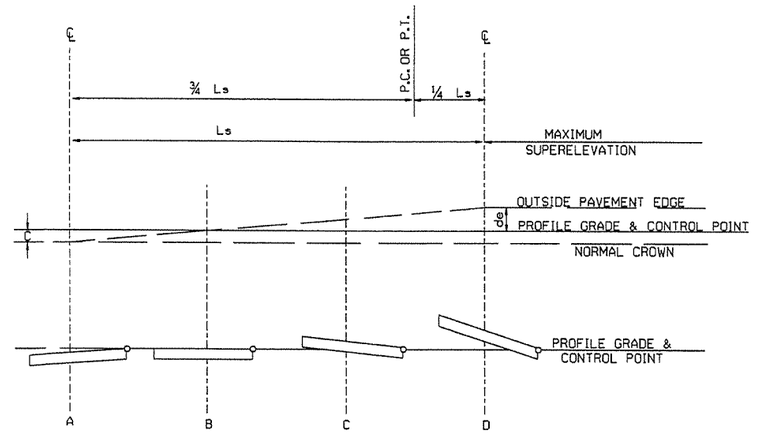
ABBREVIATIONS

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

GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

01-09-87	ISSUED	578-1-15-87
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

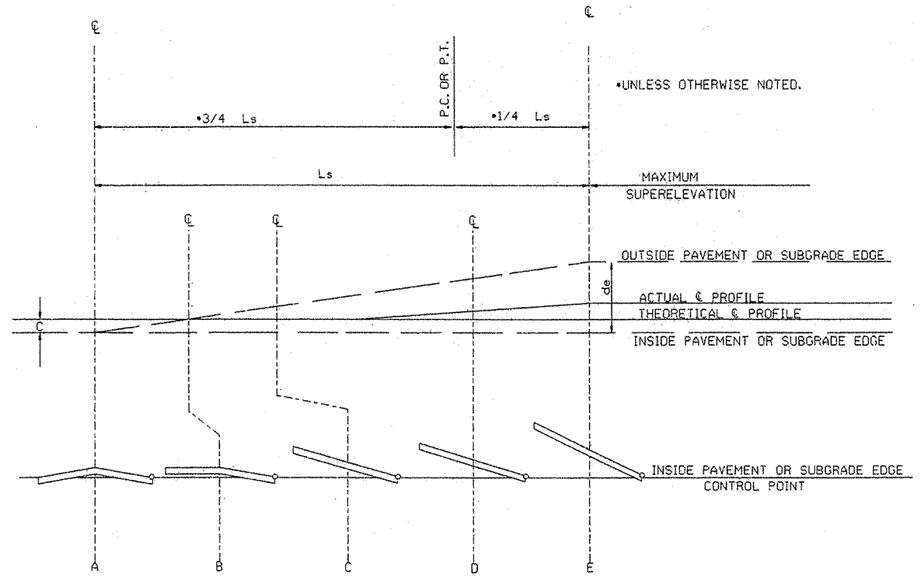
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30′	N.C.			0.021			0.031	200		0.037	225		0.043	250		0.054		
1° 45′	N.C.			0.025			0.036			0.043			0.049			0.062		
2° 00′	R.C.			0.028	175		0.040			0.048		300	0.055		300	0.070		
2° 15′	R.C.			0.031			0.045			0.053			0.061			0.078	300	350
2° 30′	0.021			0.034			0.049			0.058			0.067			0.085	315	
2° 45′	0.023			0.037			0.053			0.063			0.072			0.091	335	
3° 00′	0.025	150		0.040		200	0.057			0.067	230		0.077	260		0.096	350	400
3° 15′	0.027			0.043			0.061			0.072	245		0.082	275		0.098	360	
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031			0.049			0.069	215		0.080	265		0.090	295				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305	350			
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300	350						
6° 00′	0.046			0.070	190		0.092	270		0.096	305							
6° 30′	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00′	0.053			0.078	210		0.098	285										
7° 30′	0.056			0.081	215		0.099	290										
8° 00′	0.058			0.084	220	250	0.100	290										
8° 30′	0.061			0.087	225													
9° 00′	0.063			0.089	230													
10° 00′	0.068	160		0.094	235													
11° 00′	0.072	170		0.097	250													
12° 00′	0.076	175		0.099	250													
13° 00′	0.080	180		0.100	250													
14° 00′	0.083	190																
15° 00′	0.086	195																
16° 00′	0.089	200																
17° 00′	0.091	200																
18° 00′	0.093	205																
19° 00′	0.095	210																
20° 00′	0.097	215	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

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.

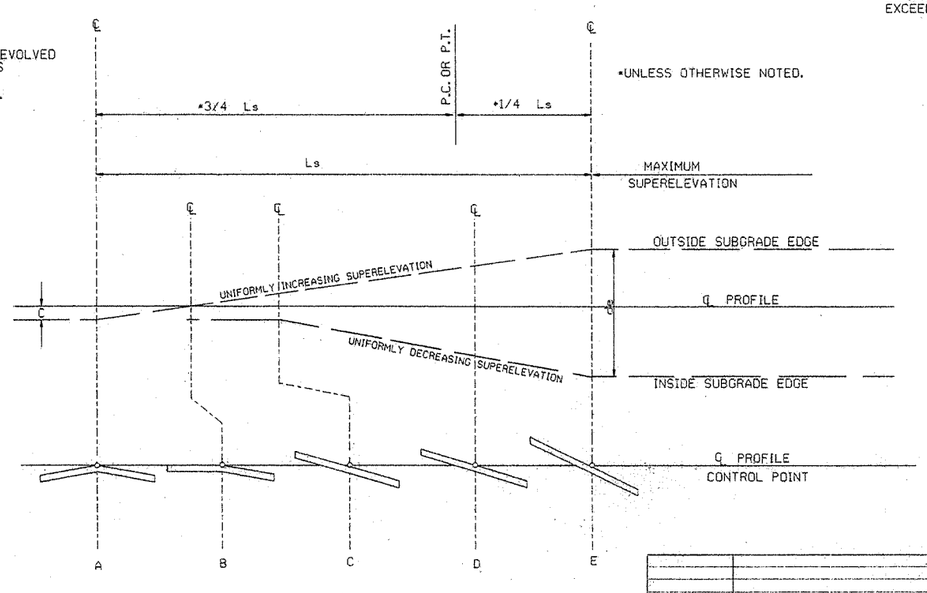
GENERAL NOTES

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

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

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

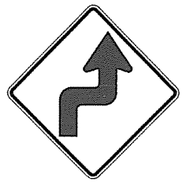
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

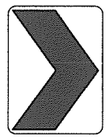
STANDARD DRAWING SE-2

FILE STDSE2.DGN

R1-1
30"X30"

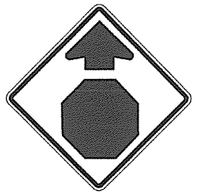


W1-3
30"X30"
(LT. OR RT.)



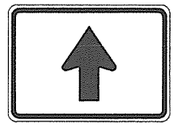
W1-8
18"X24"

W2-5
30"X30"



W3-1
36"X36"

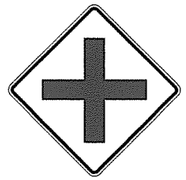
W5-1
36"X36"



M6-3
21"X15"

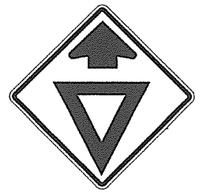
R1-2
36"X36"X36"

W1-4
30"X30"
(LT. or RT.)



W2-1
30"X30"

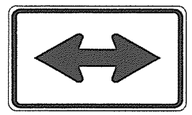
S1-1
36"X36"



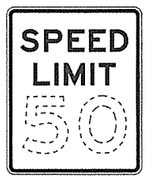
W3-2
36"X36"

County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.



M6-4
21"X15"



R2-1
24"X30"

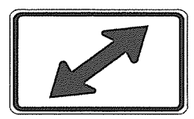
W1-5
30"X30"
(LT. or RT.)

W2-2
30"X30"

W5-2
36"X36"

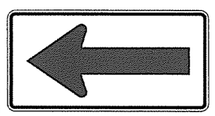
W8-3
36"X36"

R1-3P
18"X6"

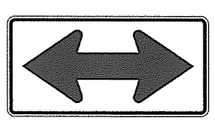


M6-5
21"X15"

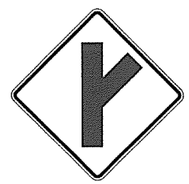
W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"

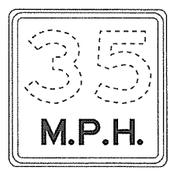


W1-7
48"X24"

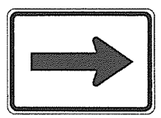


W2-3
30"X30"
(LT. or RT.)

W5-3
36"X36"

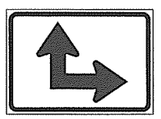


W13-1P
18"X18"

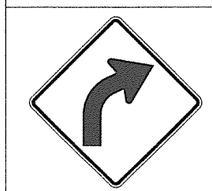


M6-1
21"X15"

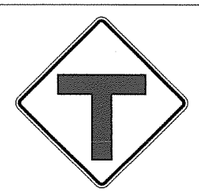
NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.



M6-6
21"X15"

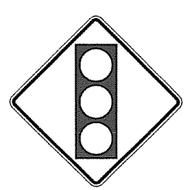


W1-2
30"X30"
(LT. or RT.)



W2-4
30"X30"

W10-1
36" DIAMETER

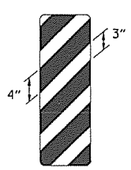


W3-3
36"X36"

M6-2
21"X15"

S4-3P
24"X8"

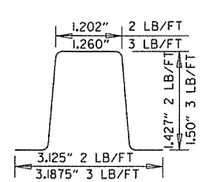
S4-2P
24"X10"



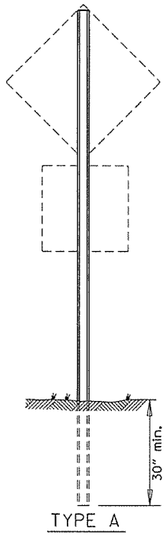
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

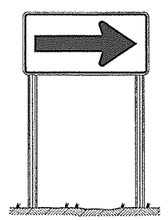


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES

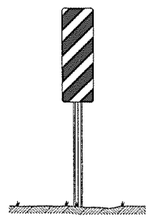


TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B



TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

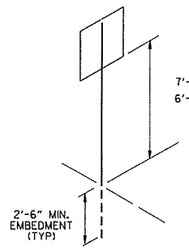
SUPPORT ASSEMBLIES

DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED W1-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED W14-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

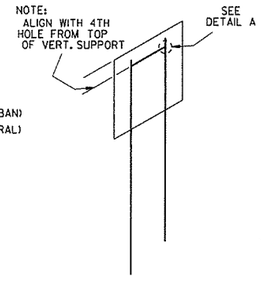
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES

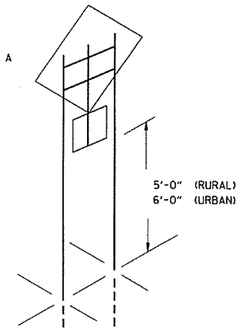
STANDARD DRAWING SHS-1



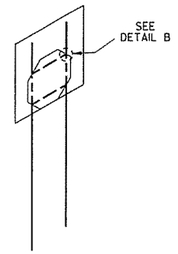
U-1



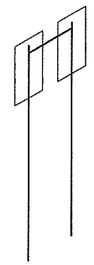
U-2



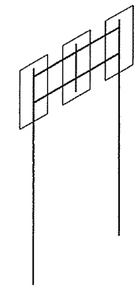
U-2 (A)



U-2 (B)



U-2 (1)



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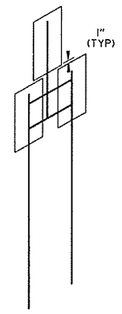

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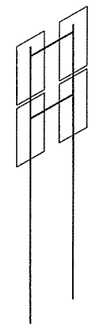

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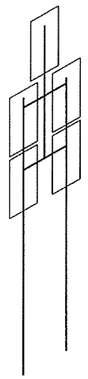

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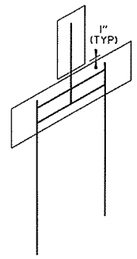

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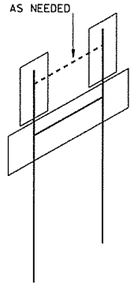

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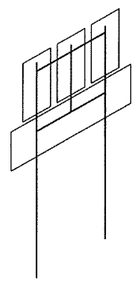

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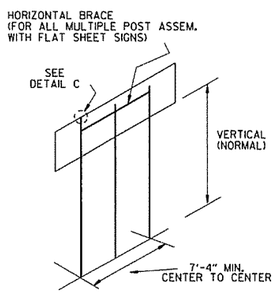
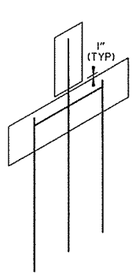
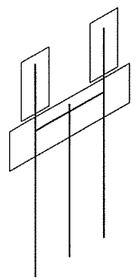


U-3



U-3 (1)



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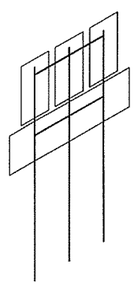

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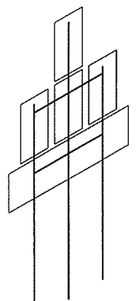

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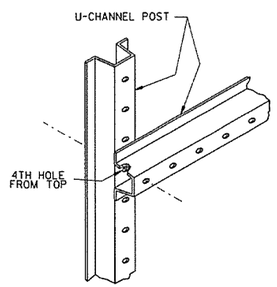
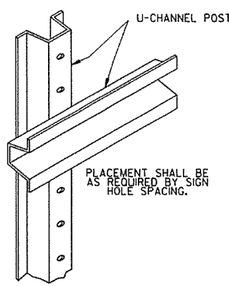


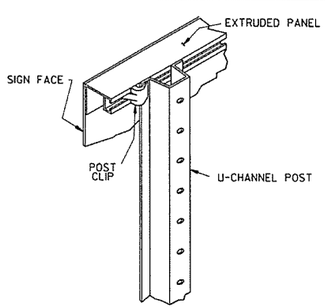
DETAIL A

SHOWING HORIZONTAL BRACE



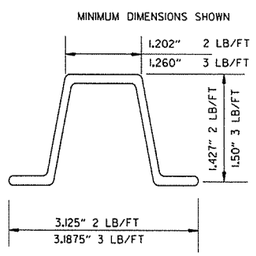
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



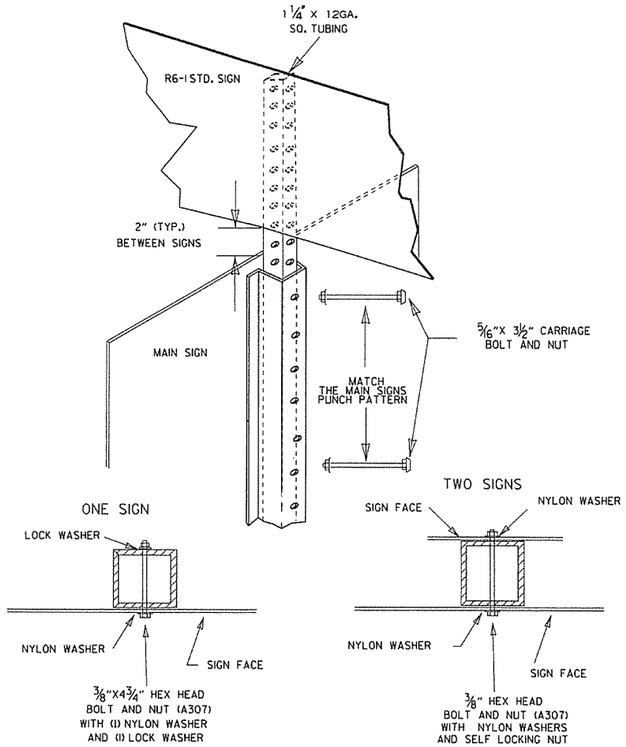
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



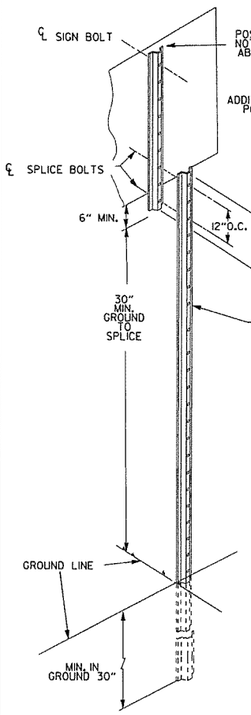
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

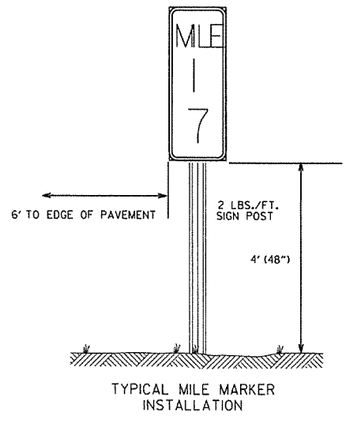
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

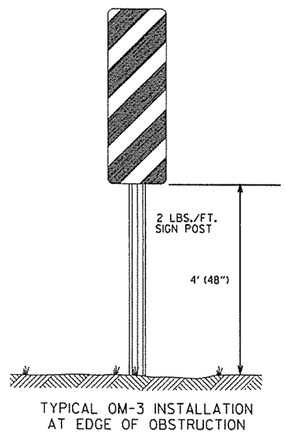
NORMAL INSTALLATIONS WILL REQUIRE $\frac{5}{16}$" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

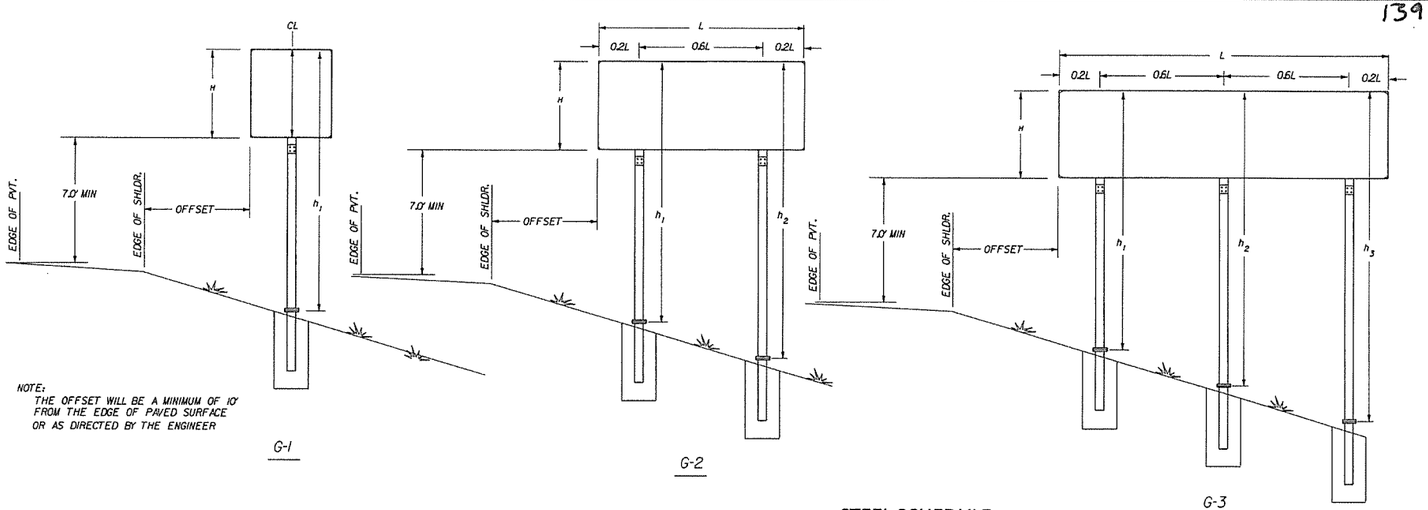
DATE	REVISION	FILMED
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

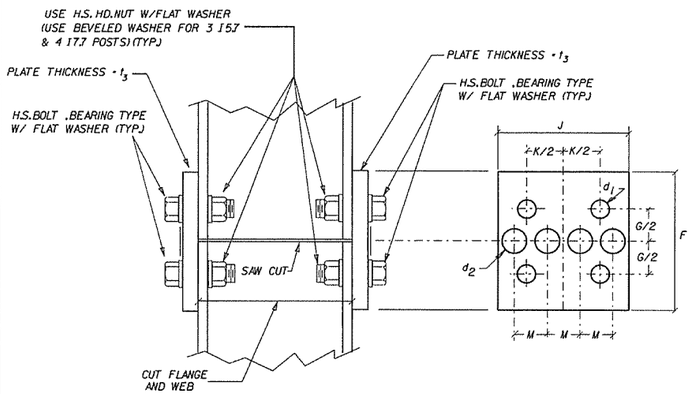
STANDARD DRAWING SHS-2

POST SIZE	BASE CONNECTION DATA											FUSE PLATE DATA									WT. OF EACH FUSE PLATE LBS.
	BOLT SIZE	BOLT TORQUE (INCH/LBS)	A	B	C	D	E	t_1	t_2	W	R	F	G		J	K	M	d_1	d_2	t_3	BOLT SIZE	
W 6X9	$\frac{5}{8}$" x 2¾"	450"-680"	5"	2"	1¼"	2¾"	1⅛"	¾"	½"	¼"	11/32"	4¼"	2"		4"	2¼"	1"	9/16"	¾"	¼"	½" x 1½"	1.01
W 6X12												5"	2½"		6"	3½"	1½"	11/16"	1¼"	⅜"	⅝" x 2¼"	2.51
W 6X15												5"	2½"		5¼"	2¾"	1¼"	13/16"	1¼"	⅜"	¾" x 2¼"	2.26
W 8X18												5½"	2½"		5¼"	2¾"	1¼"	13/16"	1"	½"	¾" x 2¼"	3.35
W 8X21	¾" x 3½"	750"-1050"	6"	2¼"	1⅞"	3½"	1¼"	r	¾"	5/16"	11/32"	6"	3"		5¾"	2¾"	1⅞"	13/16"	1⅛"	½"	¾" x 2¼"	4.03
W 10X22																						
W 10X26												6"	3"		6½"	3½"	1⅞"	13/16"	1⅝"	½"	¾" x 2¼"	4.47
W 12X26																						



NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER

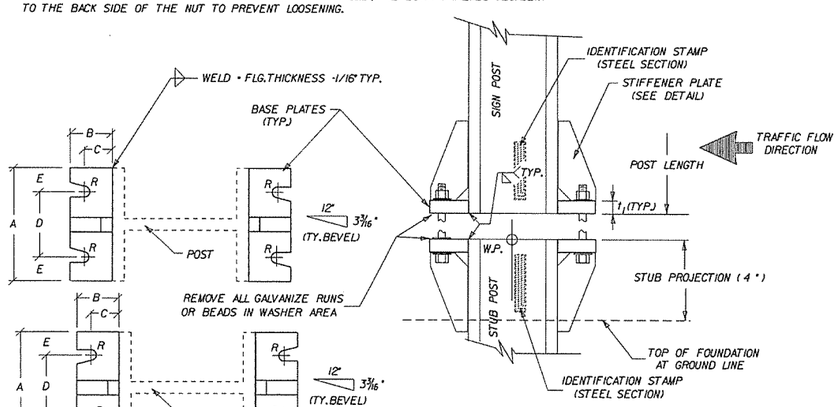
G-1 G-2 G-3



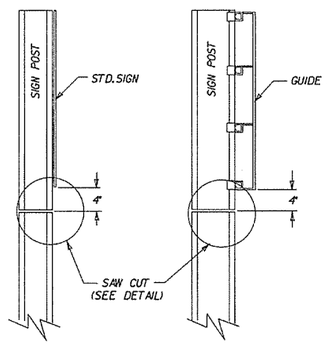
NOTE: USE H.S. HEX HEAD BOLTS, HEX HEAD NUTS AND BEVEL OR FLAT WASHERS (WHERE REQ.) UNDER NUTS. ALL HOLES SHALL BE DRILLED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS, HOWEVER FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM-A36, ASTM-A441, ASTM-572 GRADE 50, OR ASTM-A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.

NOTE: SECTIONS SHOWN ARE FOR INSTALLATION ON THE RIGHT SHOULDER AND IN THE GORE. BOLT HOLES IN BASE PLATE ARE SLOTTED AND BEVELED AS SHOWN. USE H.S. BOLTS WITH HEX HD., HEX NUT AND THREE FLAT WASHERS FOR EACH BOLT. SEE TABLE FOR BOLT DIA. AND TORQUE.

NOTE: ASSEMBLE SIGN POST TO STUB POST USING THE BOLTS SPEC. IN THE TABLE AND AS SHOWN IN THE ELEVATION DETAILS. THERE SHALL BE THREE FLAT WASHERS ON EACH BOLT LOCATED AS SHOWN IN THE ELEVATIONS. USE A SHIM TO PLUMB THE SIGN POST. THEN TIGHTEN THE BOLTS USING A 12" TO 15" WRENCH UNTIL THE WASHERS AND SHIMS ARE SEATED AND THE BOLT THREADS ARE CLEAR. THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE (SEE TABLE). THE BURR THREADS ADJACENT TO THE BACK SIDE OF THE NUT TO PREVENT LOOSENING.



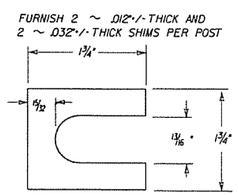
NOTE: BOLT HOLES, USED IN THE MOUNTING OF STANDARD SIGNS SHALL BE LOCATED IN THE FLANGE ADJACENT TO THE NEAR EDGE OF PAVEMENT FOR SINGLE POST ASSEMBLIES AND IN THE OUTSIDE FLANGES FOR MULTIPLE POST ASSEMBLIES.



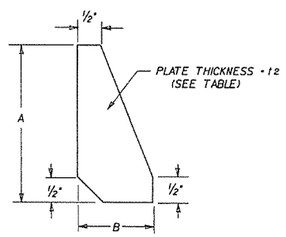
NOTE: POST SHALL BE SAW CUT AFTER GALVANIZING AND THE CUT SURFACE TREATED, AFTER PLATE IS INSTALLED AND ALL BOLTS FULLY TIGHTENED. WITH AN APPROVED ZINC SOLDER MEETING THE FEDERAL SPEC. O-G-93 (STICK ONLY).

STANDARD SIGNS GUIDE SIGNS

FUSE PLATE DETAILS



SHIM DETAIL



STIFFENER PLATE DETAIL

GENERAL NOTES

TIGHTEN THE HIGH STRENGTH BOLTS IN THE BASE CONNECTION ONLY TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

BASE PLATES AND STIFFENER PLATES SHALL BE OF THE SAME MATERIAL AS THE PRIMARY SUPPORT POST'S WHICH THEY ARE WELDED.

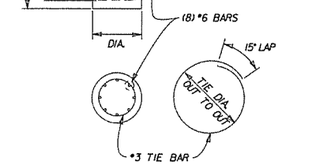
REFER TO THE PLANS FOR FOOTING DIMENSIONS.

EACH STUB POST AND SIGN POST SHALL HAVE A PERMANENT IDENTIFYING STAMP WHICH SPECIFIES THE STEEL SECTION USED. IF THE CONTRACTOR ELECTS TO SHIP THE STUB POST SEPARATE FROM THE SIGN POST A MATCH MARK SYSTEM WILL BE REQUIRED.

STEEL SCHEDULE

FOOTING DIAMETER	#3 TIE BARS		
	DIAMETER	BAR LENGTH	POUNDS
INCHES	INCHES	FEET	
18	12	4.39	1.65
24	18	5.96	2.24
30	24	7.53	2.83
36	30	9.1	3.42

FOOTING DEPTH	#6 STRAIGHT BARS		
	BAR LENGTH	NUMBER REQ'D.	POUNDS
FEET	FEET		
2.50	2.00	8	24.03
3.00	2.50	8	30.04
3.50	3.00	8	36.05
4.00	3.50	8	42.06
4.50	4.00	8	48.06
5.00	4.50	8	54.07
5.50	5.00	8	60.08
6.00	5.50	8	66.09
6.50	6.00	8	72.10
7.00	6.50	8	78.10
7.50	7.00	8	84.11
8.00	7.50	8	90.12



FOOTING QUANTITIES

FOOTING DEPTH	NUMBER TIE BARS REQ'D	18" DIAMETER		24" DIAMETER		30" DIAMETER		36" DIAMETER	
		CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL
FEET		CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)
2.50	4	0.16	31						
3.00	4	0.20	37						
3.50	5	0.23	44						
4.00	6	0.26	52	0.47	56				
4.50	6	0.29	58	0.52	62				
5.00	7	0.33	66	0.58	70	0.91	74		
5.50	8			0.64	78	1.00	83		
6.00	8			0.70	84	1.09	89	1.57	93
6.50	9					1.18	98	1.70	103
7.00	10					1.27	106	1.83	112
7.50	10							1.96	118
8.00	11							2.09	128

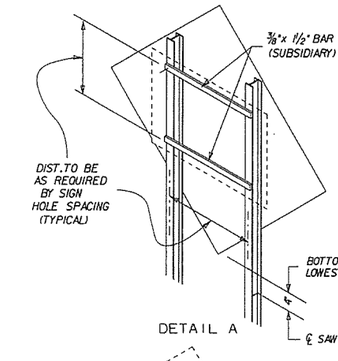
SIGN POST AND STUB POST

DATE	REVISION	FILMED
9-12-13	ISSUED	

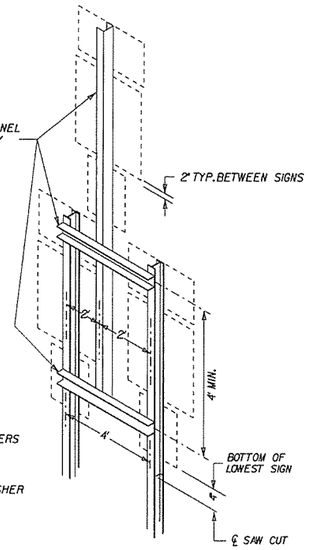
ARKANSAS STATE HIGHWAY COMMISSION

DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS

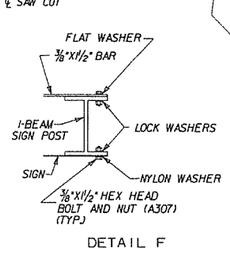
STANDARD DRAWING SHS-3



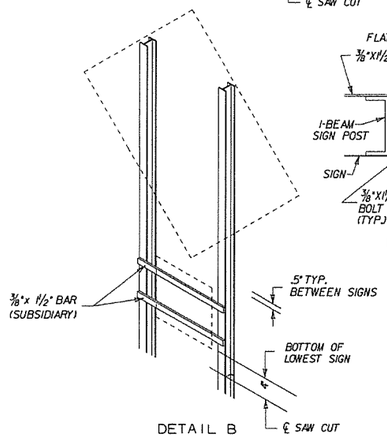
DETAIL A



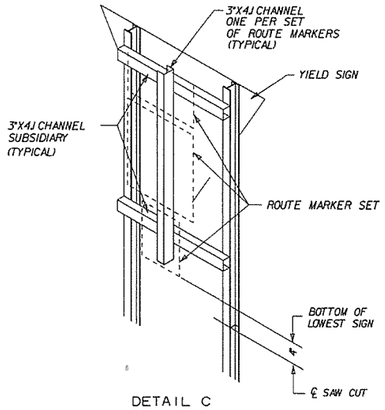
DETAIL D



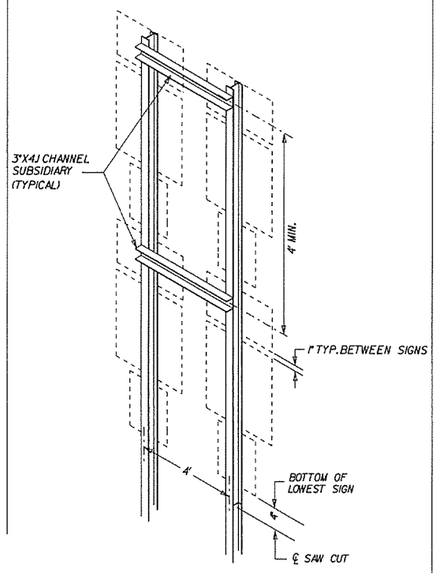
DETAIL F



DETAIL B



DETAIL C



DETAIL E

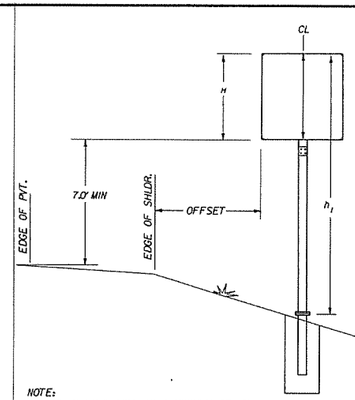
NOTE

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.

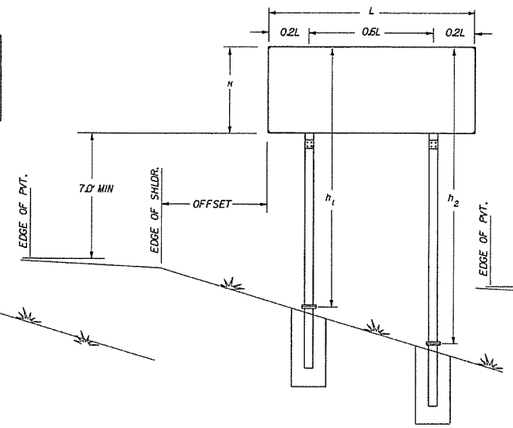
REFER TO THE P.C. RUTLEDGE FORMULA ON PAGE 58 OF THE AASHTO PUBLICATION "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

ALL BOLT HOLES SHALL BE 1/8" DIA. UNLESS OTHERWISE SHOWN.

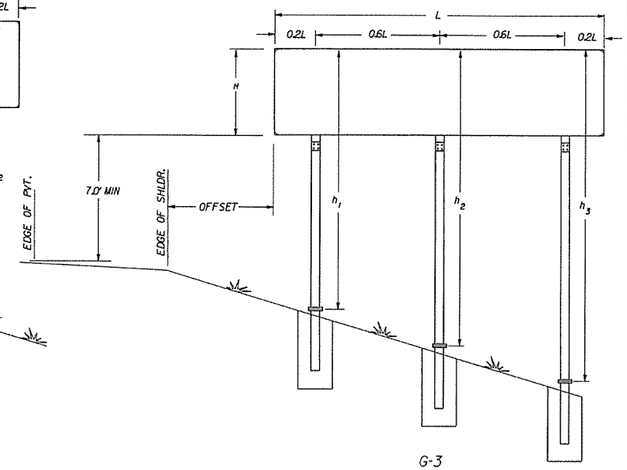


NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER.

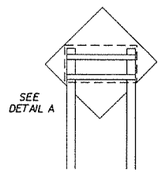
G-1



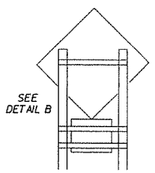
G-2



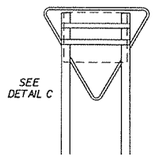
G-3



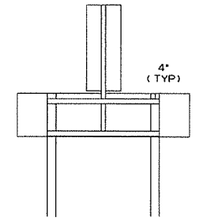
G2-1



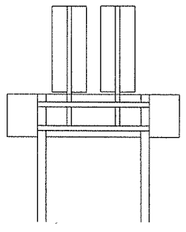
G2-2



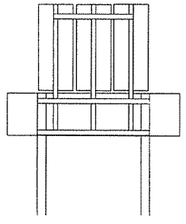
G2-3



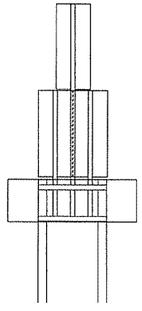
G2-4



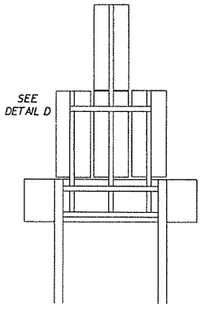
G2-5



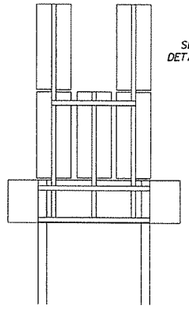
G2-6



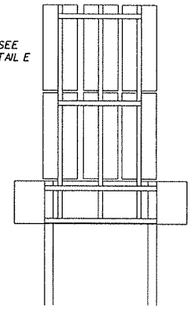
G2-7



G2-8

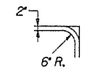


G2-9



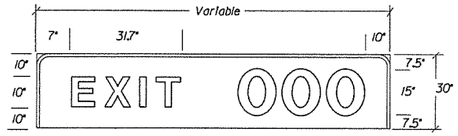
G2-10

			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS
9-12-13	ISSUED		STANDARD DRAWING SHS-4
DATE	REVISION	FILMED	



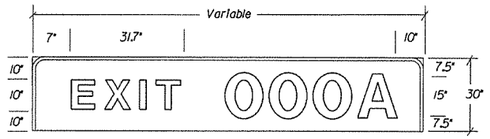
TYPICAL DETAIL

TYPE A



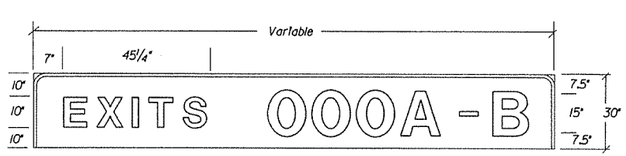
EXIT WITH 1 DIGIT 84"X30"=17.50 SF
EXIT WITH 2 DIGITS 96"X30"=20.0 SF
EXIT WITH 3 DIGITS 114"X30"=23.57 SF

TYPE B



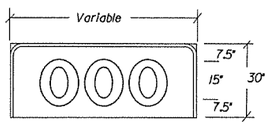
EXIT WITH 1 DIGIT PLUS "A"OR"B" 96"X30"=20.0 SF
EXIT WITH 2 DIGITS PLUS "A"OR"B" 114"X30"=23.57 SF
EXIT WITH 3 DIGITS PLUS "A"OR"B" 126"X30"=26.25 SF

TYPE C



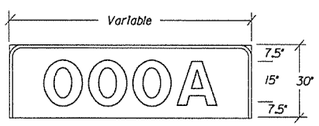
EXITS WITH 1 DIGIT PLUS "A"&"B" 132"X30"=27.50 SF
EXITS WITH 2 DIGITS PLUS "A"&"B" 150"X30"=31.25 SF
EXITS WITH 3 DIGITS PLUS "A"&"B" 168"X30"=35.00 SF

TYPE D



1 DIGIT 24"X30"=5.0 SF
2 DIGITS 42"X30"=8.75 SF
3 DIGITS 60"X30"=12.50 SF

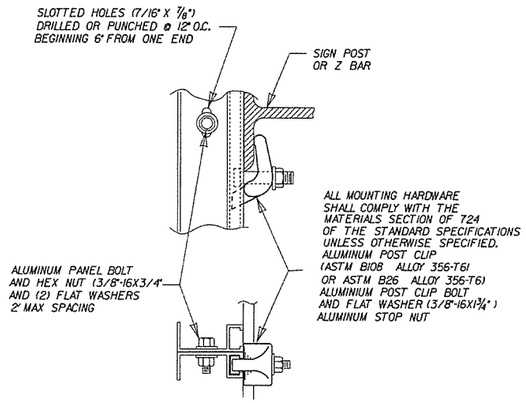
TYPE E

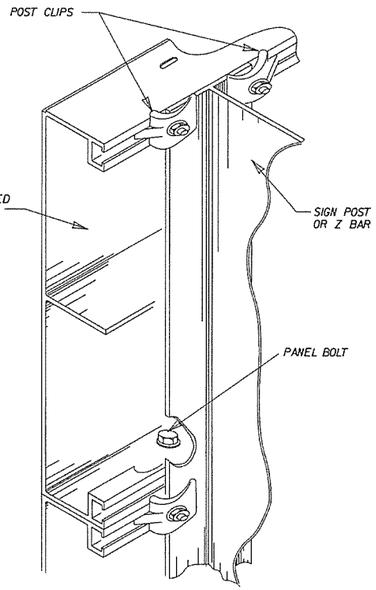


1 DIGIT PLUS "A"OR"B" 42"X30"=8.75 SF
2 DIGITS PLUS "A"OR"B" 60"X30"=12.50 SF
3 DIGITS PLUS "A"OR"B" 78"X30"=16.25 SF

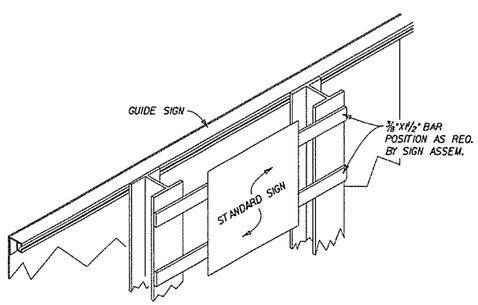
EXIT PANEL DETAILS

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".

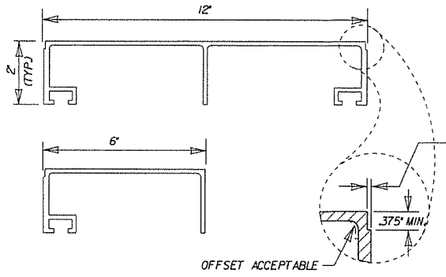




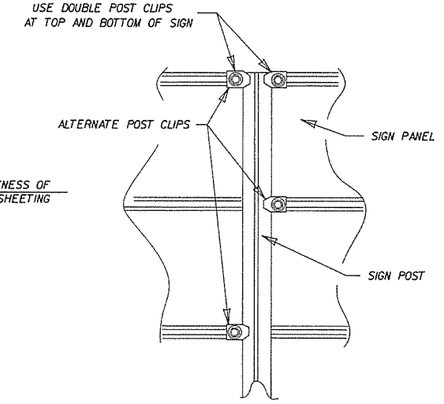
MOUNTING HARDWARE



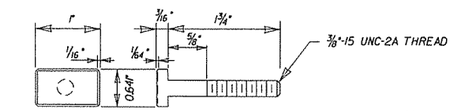
SECONDARY SIGN INSTALLATION ON BACKSIDE OF GUIDE SIGN



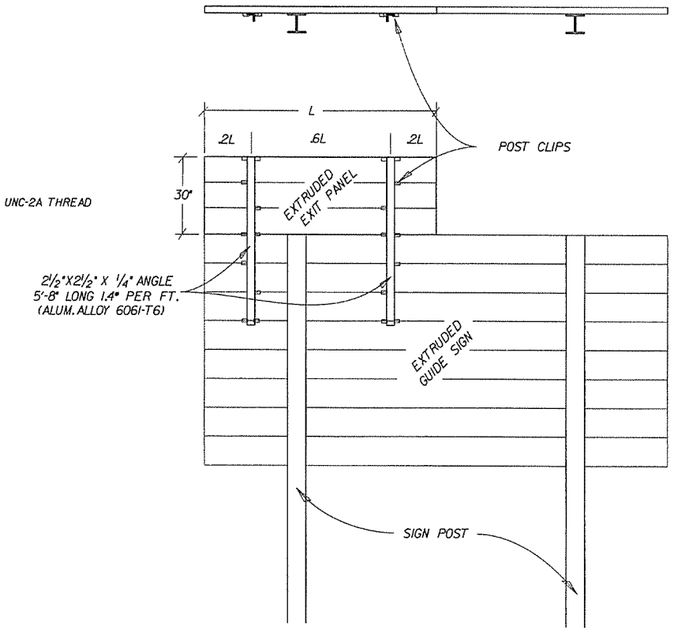
ONE PIECE EXTRUDED SIGN PANELS



POST CLIP PLACEMENT



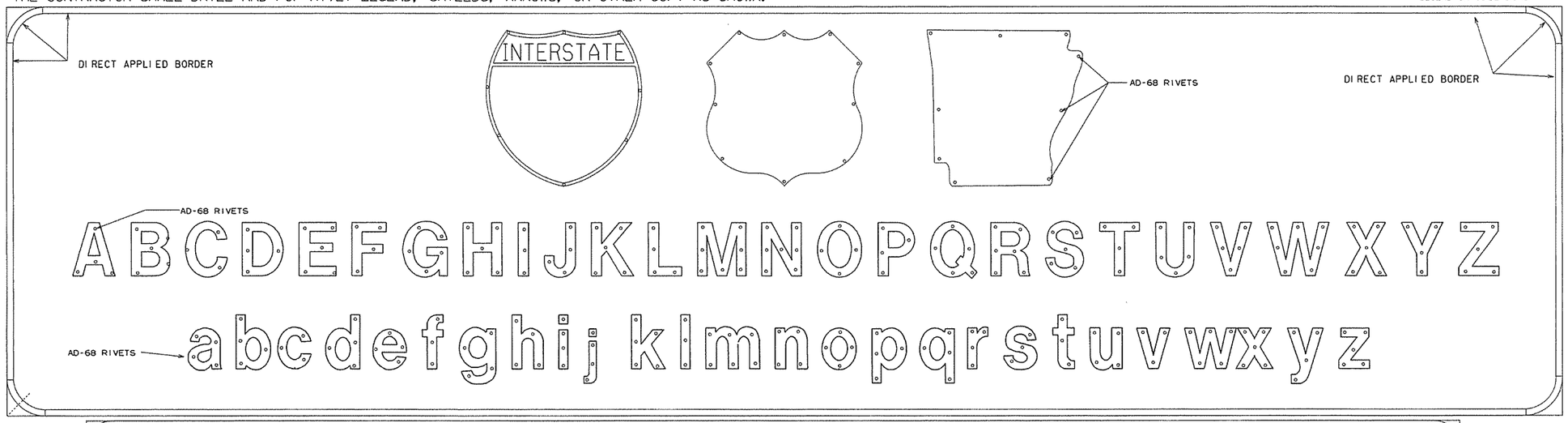
POST CLIP BOLT

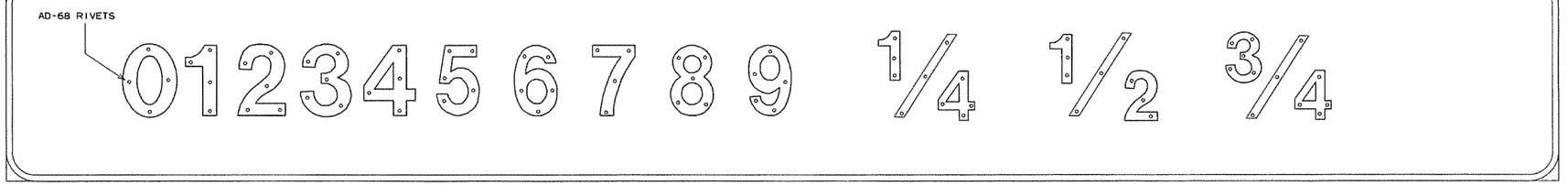


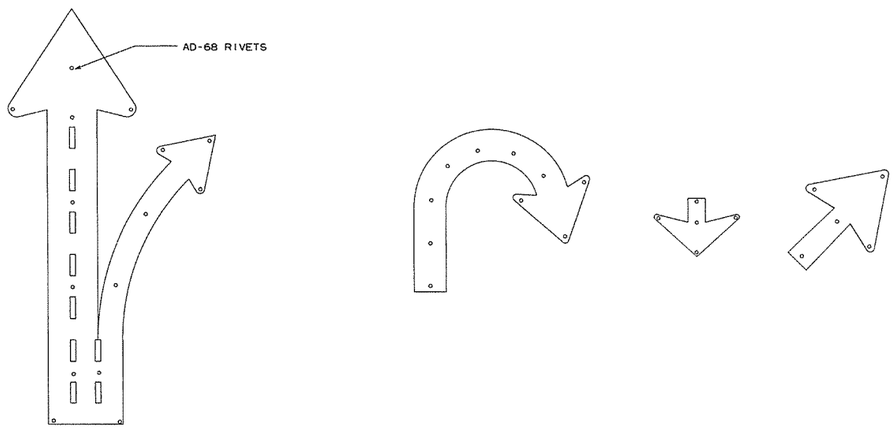
			ARKANSAS STATE HIGHWAY COMMISSION
			DETAILS OF GUIDE SIGN PANELS
9-12-13	ISSUED		STANDARD DRAWING SHS-5
DATE	REVISION	FILMED	

THE CONTRACTOR SHALL DRILL AND POP-RIVET LEGEND, SHIELDS, ARROWS, OR OTHER COPY AS SHOWN.

MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS







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.

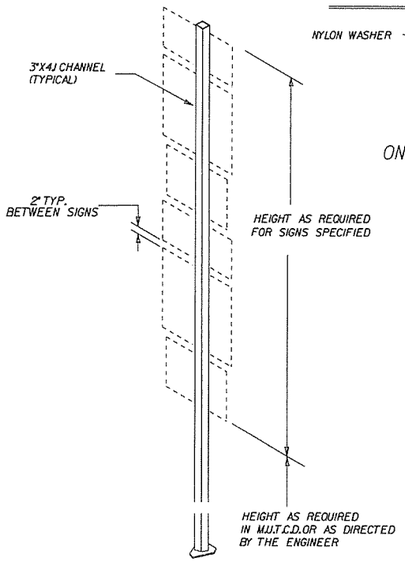
THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

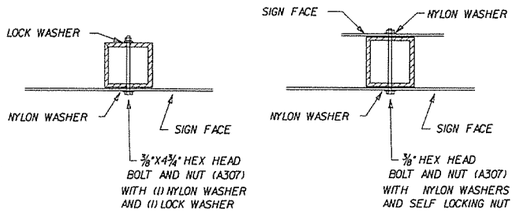
TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.

NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

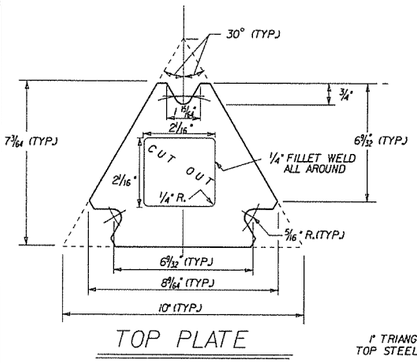
			ARKANSAS STATE HIGHWAY COMMISSION
			MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS
9-12-13 DATE	ISSUED REVISION	FILMED	STANDARD DRAWING SHS-6



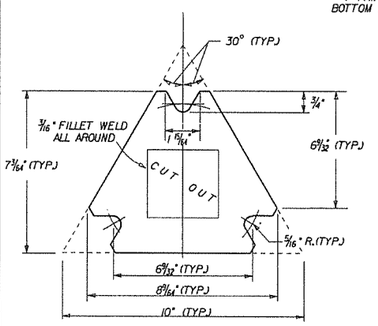


CHANNEL SHALL BE FULL LENGTH OF RECTANGULAR AND SQUARE SIGNS AND SHALL EXTEND 1½" BEYOND BOLT HOLES ON DIAMOND OR IRREGULAR SHAPED SIGNS.

MOUNTING HARDWARE



TOP PLATE



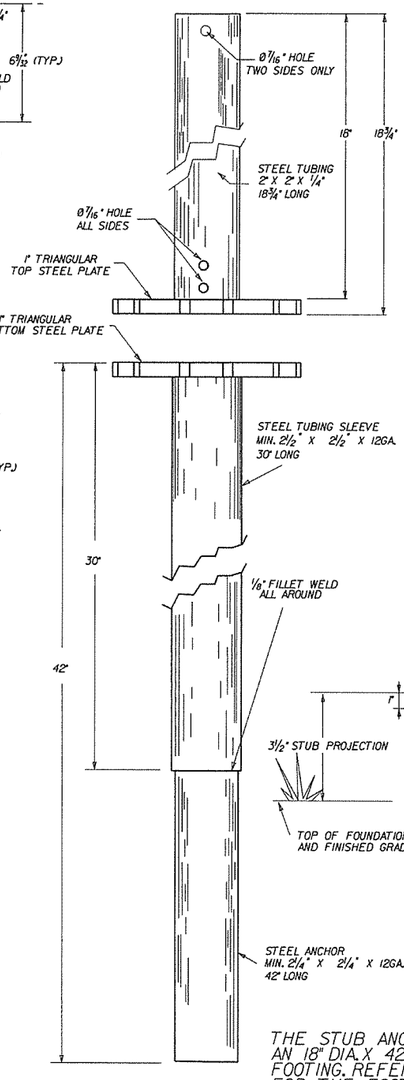
BOTTOM PLATE

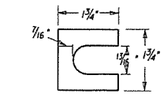
GENERAL NOTES:

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 .

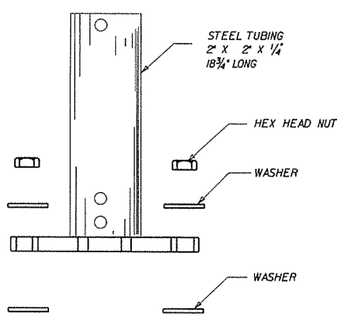
OTHER MASH COMPLIANT BREAKAWAY SIGN SUPPORTS THAT HAVE THE SAME TOP PLATE DIMENSIONS AND SUPPORT 2"A X 2"A SQUARE TUBE SIGN POSTS MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.

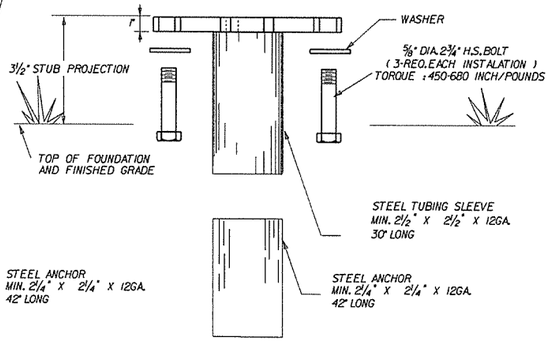




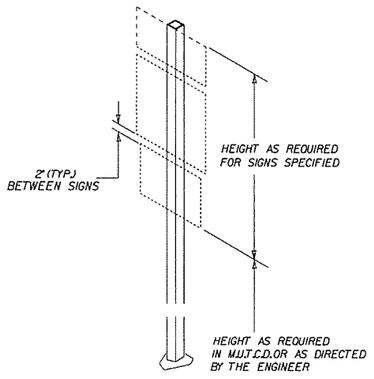
FURNISH (2) .012" THICK AND (2) .032" THICK SHIMS PER POST

SHIM DETAIL



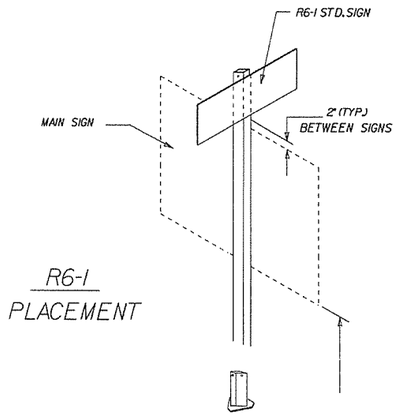


THE STUB ANCHOR SHALL BE SET IN AN 18" DIA. X 42" DEEP CONCRETE FOOTING. REFER TO STD. DRWG. SHS-3 FOR THE FOOTING DETAILS.



TYPE-I

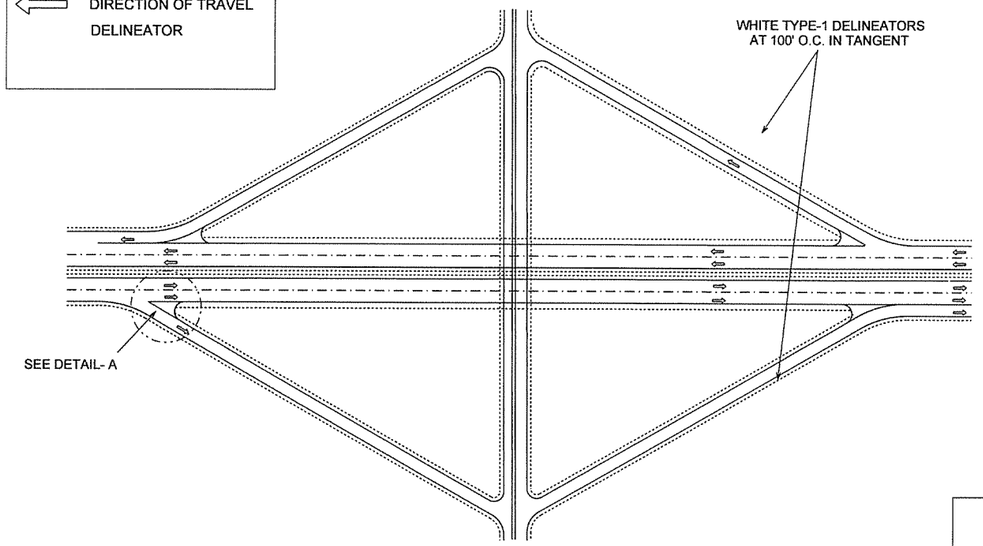
BASIS OF ESTIMATE
APPROX. 100 lbs STEEL



R6-1 PLACEMENT

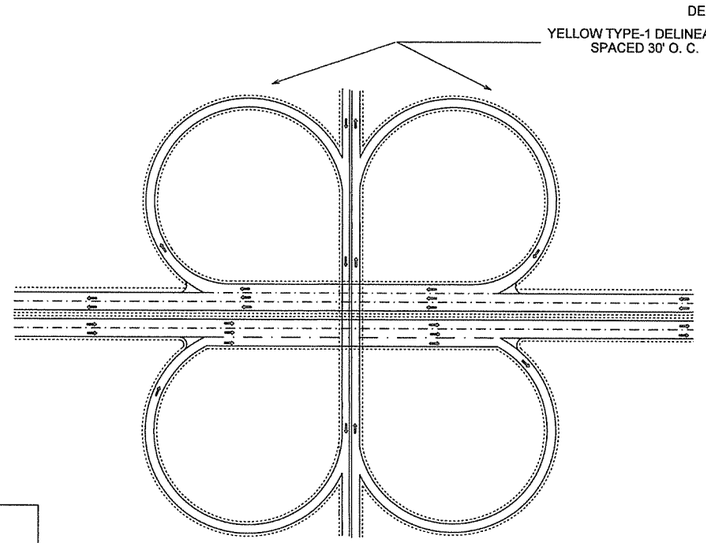
			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS
9-12-13	ISSUED		STANDARD DRAWING SHS-7
DATE	REVISION	FILMED	

LEGEND
DIRECTION OF TRAVEL
DELINEATOR

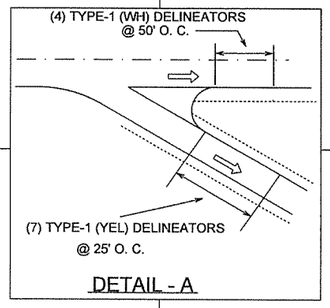


TYPICAL DIAMOND INTERCHANGE
(ALL RAMPS)

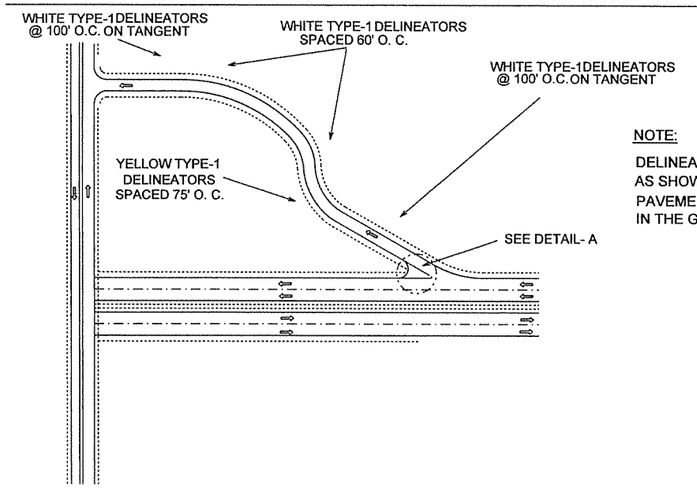
DELINEATORS PLACEMENT DETAIL



TYPICAL CLOVERLEAF INTERCHANGE
(ALL RAMPS)



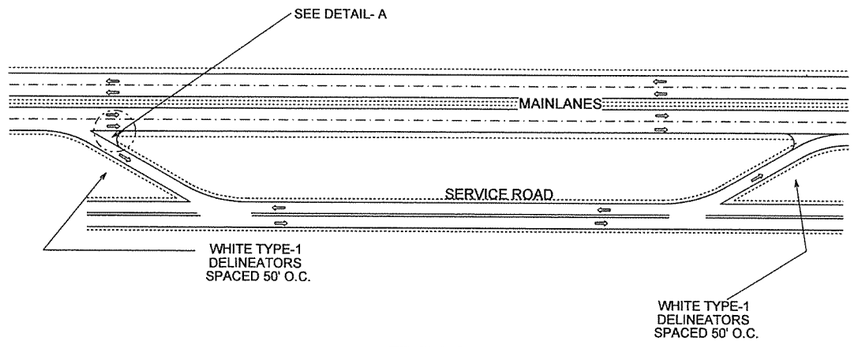
DETAIL - A



MODIFIED DIAMOND INTERCHANGE

NOTE:

DELINEATORS SHALL ONLY BE INSTALLED AS SHOWN IN DETAIL-A IF RAISED PAVEMENT MARKERS ARE NOT PRESENT IN THE GORE OF THE OFF RAMPS.

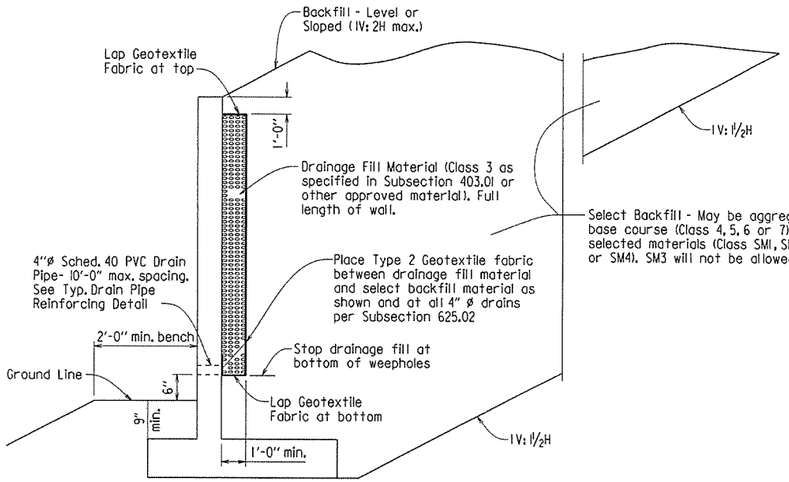


TYPICAL SLIP RAMP

GUIDANCE:

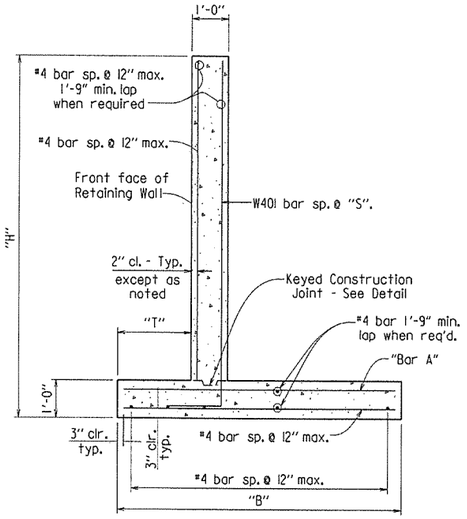
DELINEATORS SHOULD BE MOUNTED ON SUITABLE SUPPORTS SO THAT THE TOP OF THE HIGHEST RETROREFLECTOR IS 1.2 M (4 FT) ABOVE THE NEAR ROADWAY EDGE. THEY SHOULD BE PLACED 0.6 TO 2.4 M (2 TO 8 FT) OUTSIDE THE OUTER EDGE OF THE SHOULDER, OR IF APPROPRIATE, IN LINE WITH THE ROADSIDE BARRIER THAT IS 2.4 M (8 FT) OR LESS OUTSIDE THE OUTER EDGE OF THE SHOULDER.

			ARKANSAS STATE HIGHWAY COMMISSION
			TYPICAL DELINEATOR PLACEMENT ALONG THE INTERSTATE SYSTEM
9-12-13	ISSUED		STANDARD DRAWING SHS-8
DATE	REVISION	FILMED	



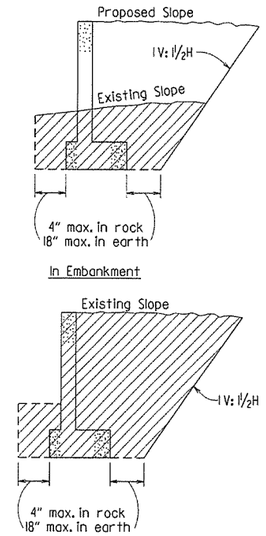
TYPICAL DRAINAGE & BACKFILL DETAILS

N.T.S



TYPICAL SECTION

N.T.S



NOTE: Hatched area denotes maximum limits of pay excavation.

DETAILS OF EXCAVATION

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas state Highway and Transportation Department 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.

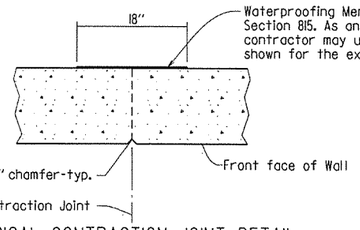
REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 orM53, Grade 60.

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.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

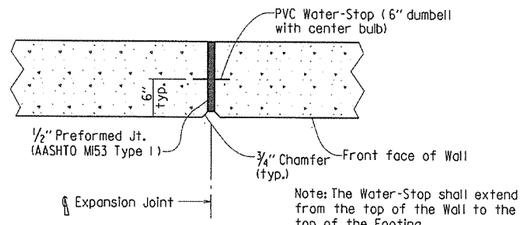
These details are not intended for use along streams or ditches without consideration for scour.



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

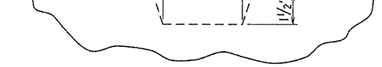
Note: 20'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction joints.



TYPICAL EXPANSION JOINT DETAIL

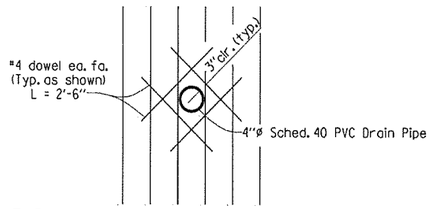
N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from ℄ Expansion Joint.



KEYED CONSTRUCTION JOINT DETAIL

N.T.S



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S

SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A℄):
Level Backfill - A℄ ≤ .40g
Sloped Backfill (1V: 2H max.) - A℄ ≤ .30g

TABLE OF RETAINING WALL VARIABLES

(LEVEL BACKFILL)

"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6½"

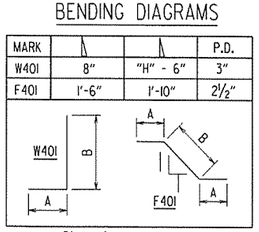
TABLE OF RETAINING WALL VARIABLES

(SLOPED BACKFILL) (1V: 2H MAX.)

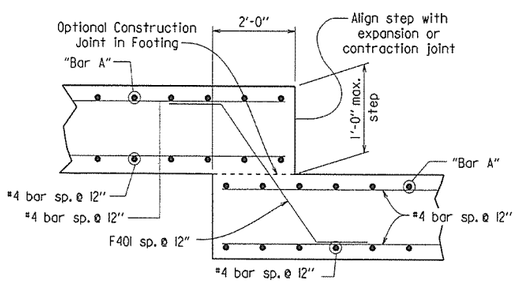
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6½"
8'-0"	1'-6"	8'-0"	7½"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"

BENDING DIAGRAMS

MARK			P.D.
W401	8"	"H" - 6"	3"
F401	1'-6"	1'-10"	2½"



Dimensions are out to out of bars.



FOOTING STEP DETAIL

N.T.S.

DATE	REVISION	DATE FILMED
5-12-16	REVISED SLOPES FOR SELECT BACKFILL	
2-27-14	REVISED GENERAL NOTES	
7-26-12	DRAWING ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

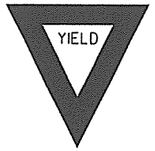
REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)

STANDARD DRAWING SI - 2

R1-1

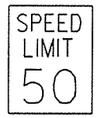
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

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"

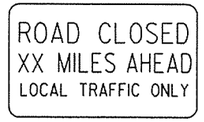
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2

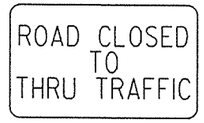
48"X30"

R11-3A



60"X30"

R11-4



60"X30"

RSP-1

48"X30"

W1-1

STD. 36"X36"
FWY. 48"X48"

W1-2

STD. 36"X36"
FWY. 48"X48"

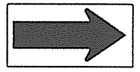
W1-3

STD. 48"X48"

W1-4

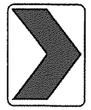
STD. 48"X48"

W1-6



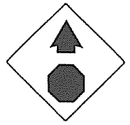
STD. 48"X24"
SPECIAL 60"X30"

W1-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1

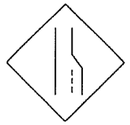


STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

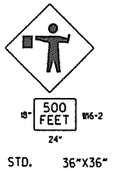
W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a



STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

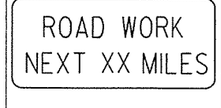
W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

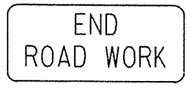
STD. 36"X36"
FWY. 48"X48"

G20-1



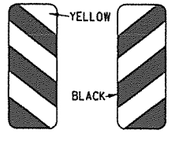
60"X24"

G20-2



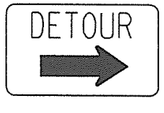
48"X24"

OM-3L OM-3R



12"X36"

M4-9

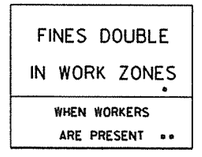


STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



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.

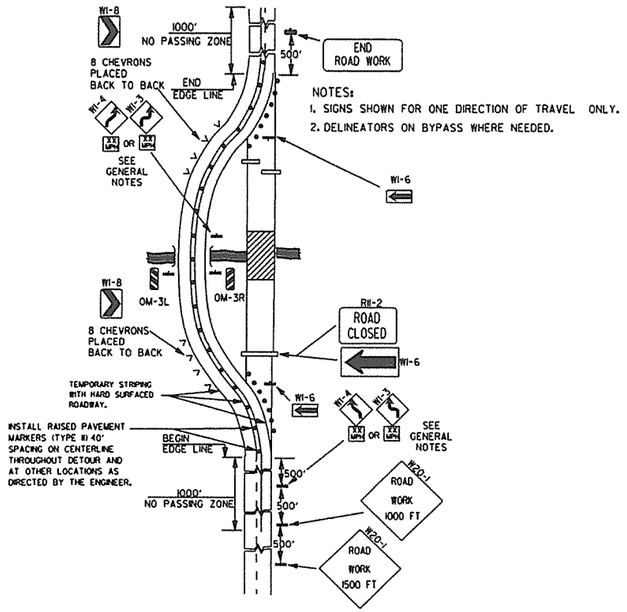
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
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

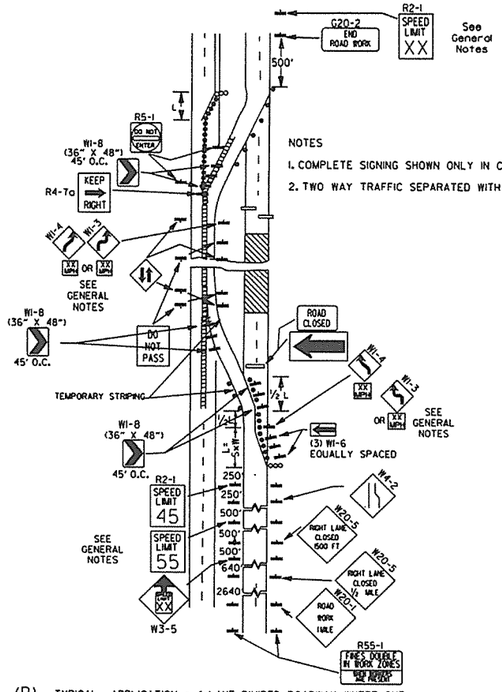
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



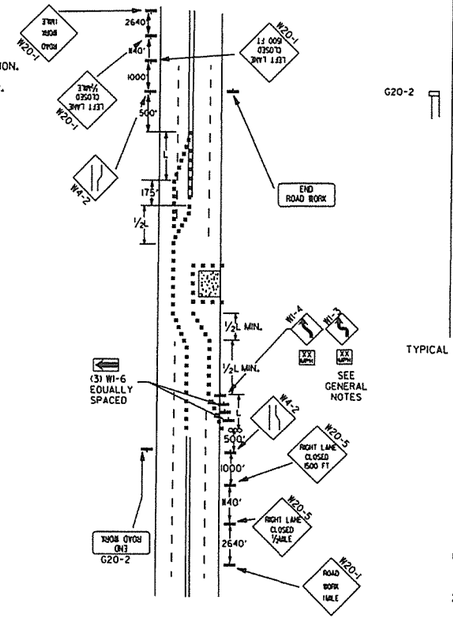
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

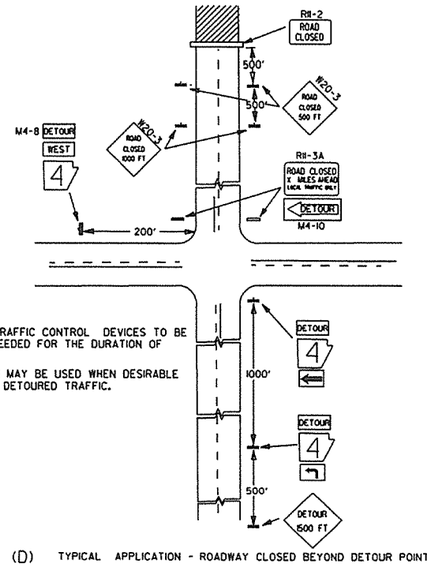


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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

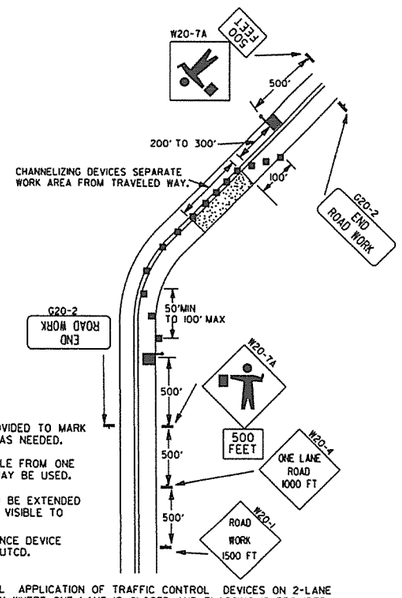


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



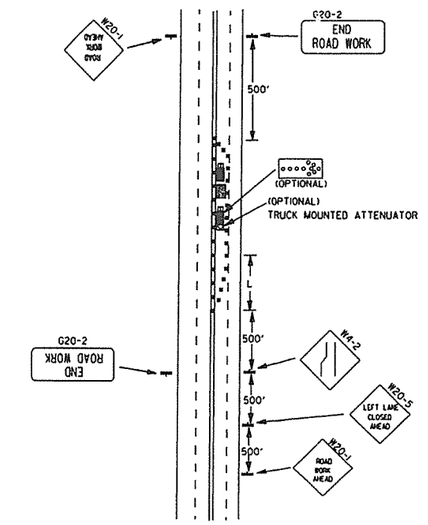
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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

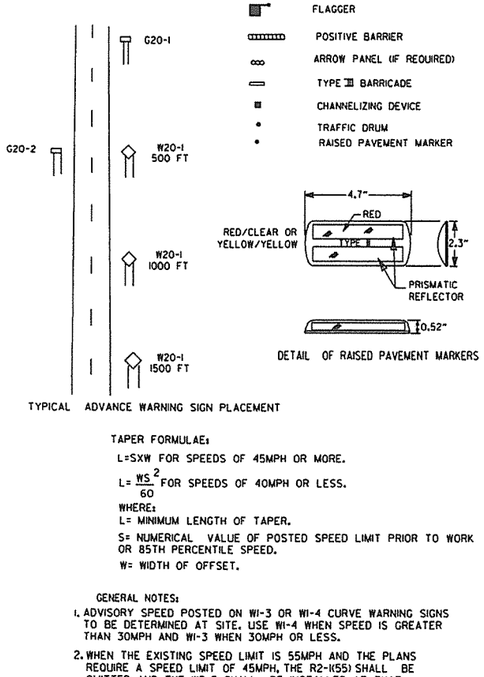


NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE 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.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

DETAIL OF RAISED PAVEMENT MARKERS

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:

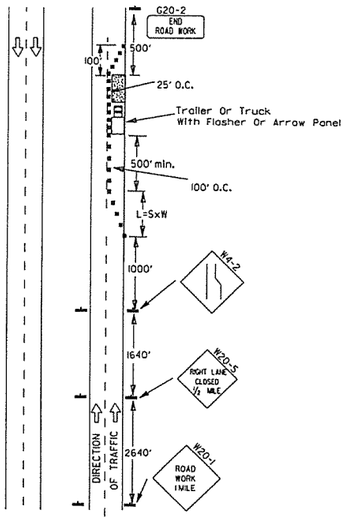
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED 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. 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 AHTO QUALIFIED PRODUCTS LIST.

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

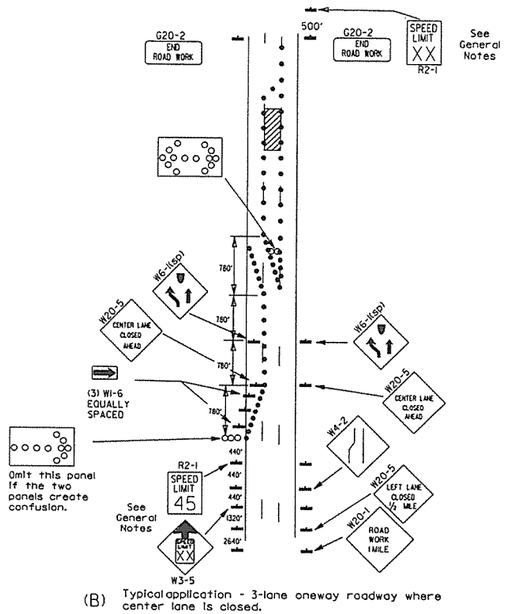
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

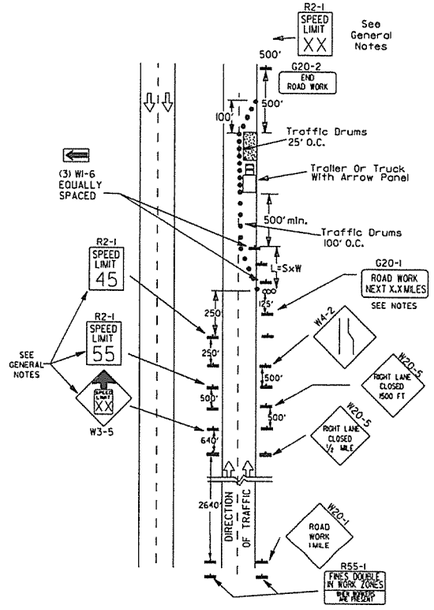
STANDARD DRAWING TC-2



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



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



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

KEY:

ooo Arrow Panel (if Required)

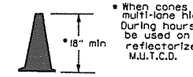
■ Channelizing Device

● Traffic drum

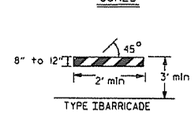
GENERAL NOTES:

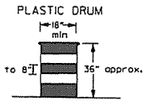
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

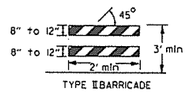
Channelizing devices

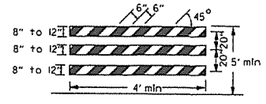


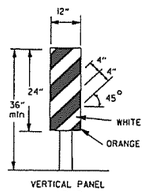
* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be reflectorized in accordance with the M.U.T.C.D.











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

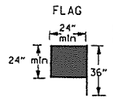
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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

* When shown on the plans concrete barrier will be used.

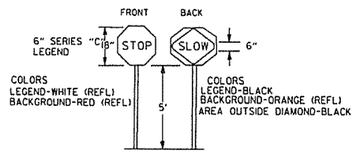
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

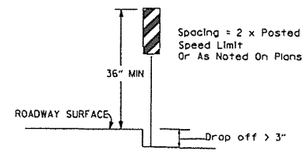


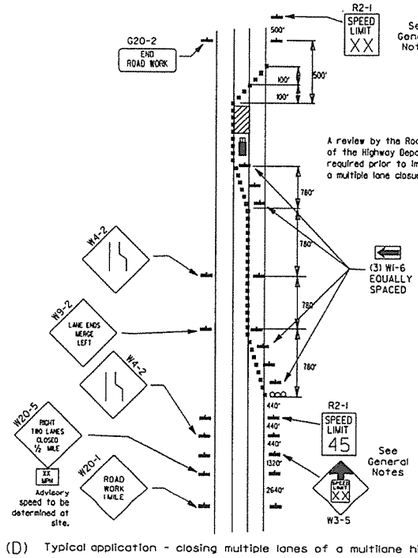
Flag shall be of good grade red material

STOP SLOW PADDLE



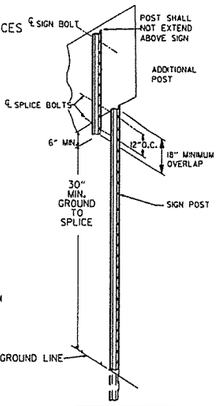
VERTICAL PANEL PLACEMENT





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

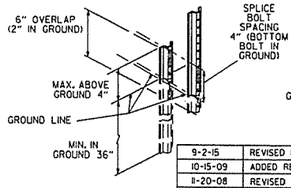
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DATE	REVISION	FILMED
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	

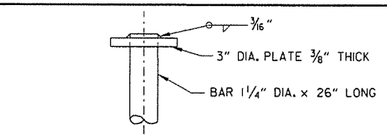
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

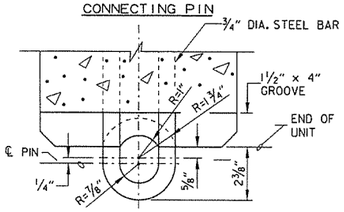
STANDARD DRAWING TC-3

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", 90°, 3 3/8" R, LIFTING HOLE
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"

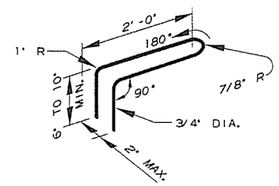


CONNECTING PIN

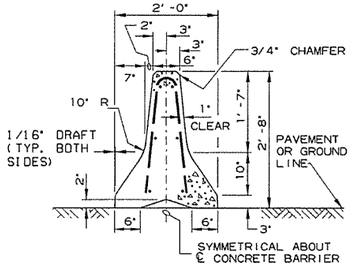


SECTION E-E

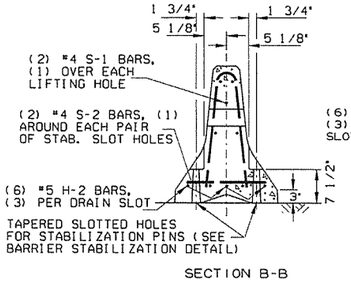
CONNECTION DETAILS



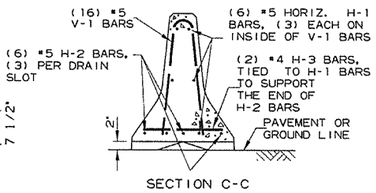
CONNECTION LOOP



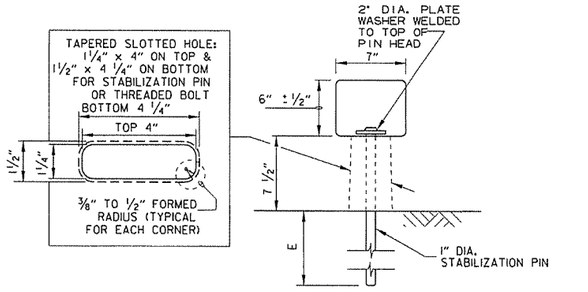
SECTION A-A



SECTION B-B



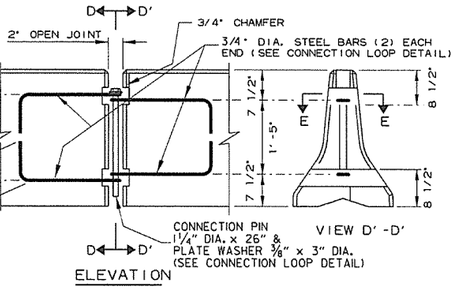
SECTION C-C

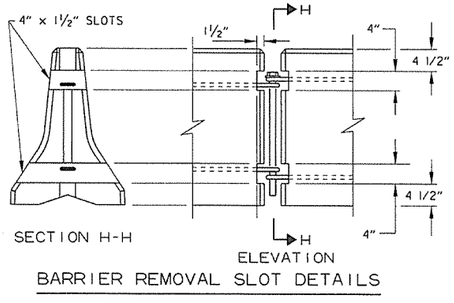


BARRIER STABILIZATION DETAIL

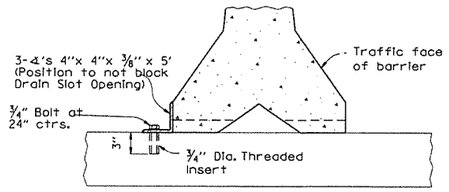
ROADWAY SECTION

(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas





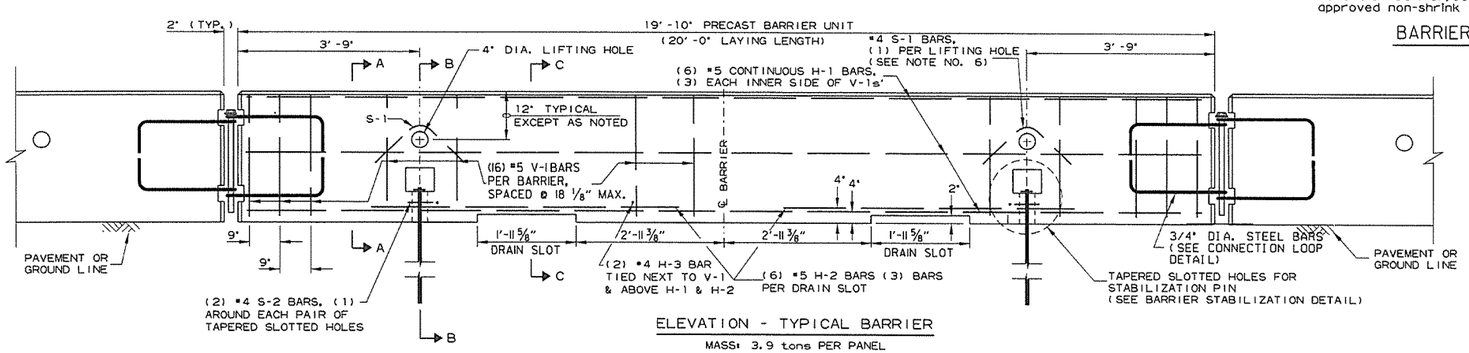
BARRIER REMOVAL SLOT DETAILS



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

BRIDGE DECKS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier".
The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

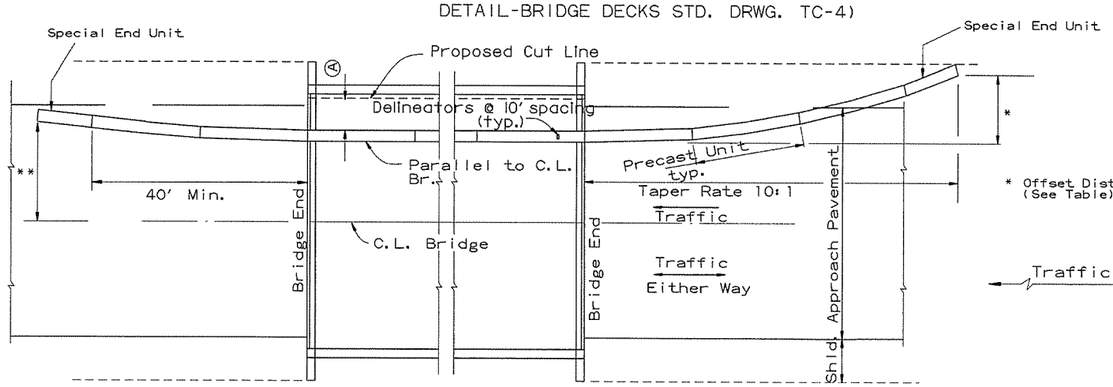
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	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)

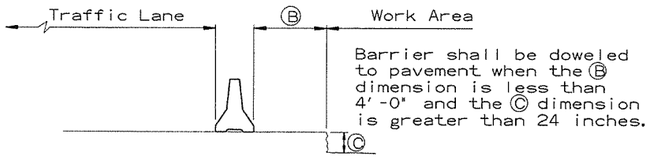


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

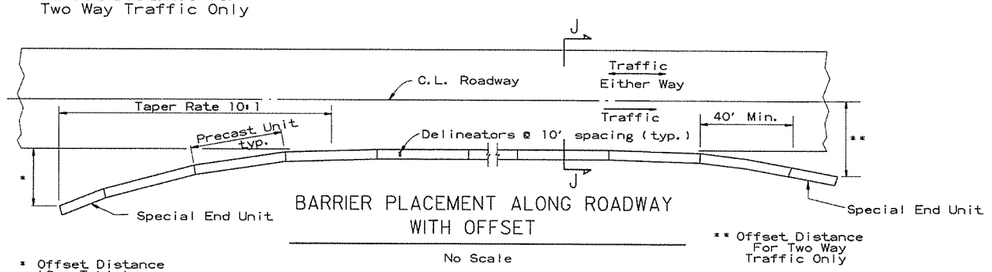
** Offset Distance for Two Way Traffic Only



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

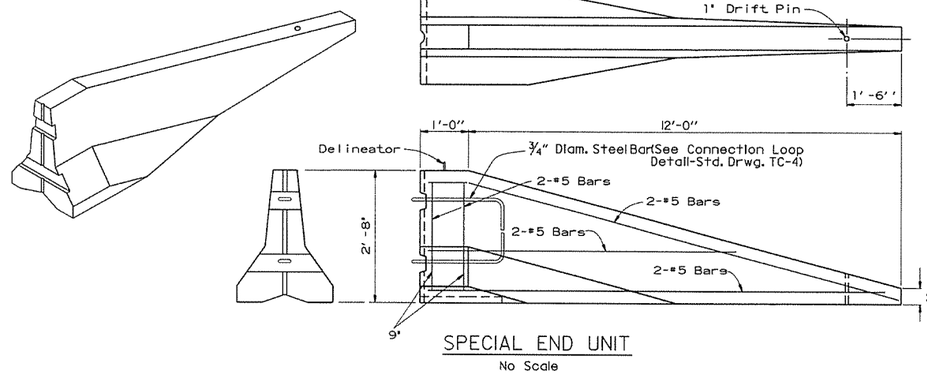
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

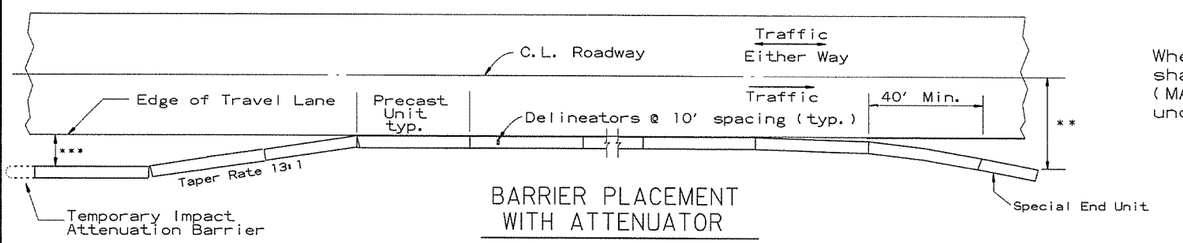
Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.



SPECIAL END UNIT

No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

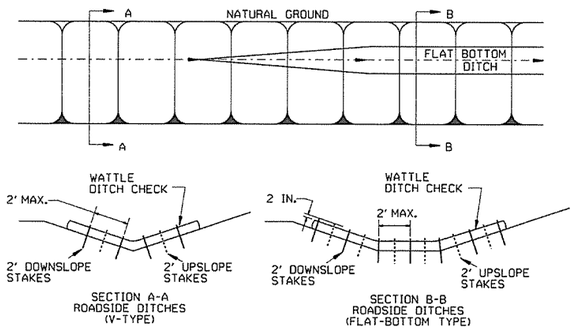
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

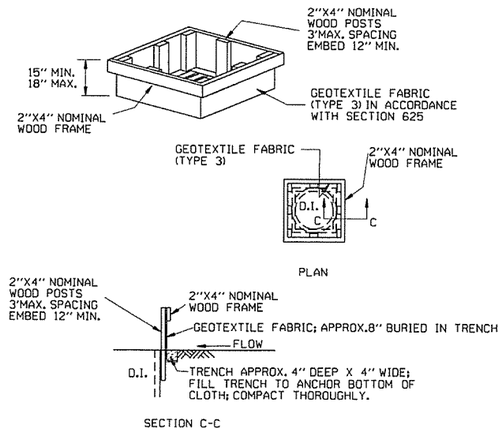
STANDARD DRAWING TC-5

GENERAL NOTES

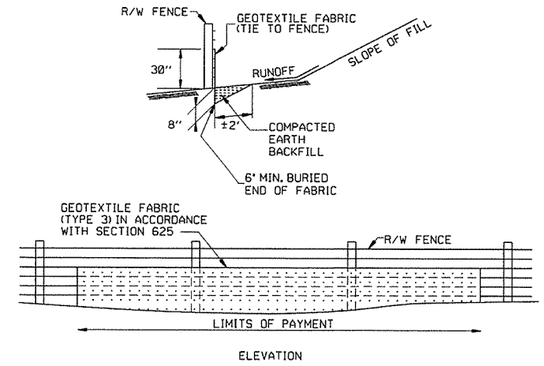
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



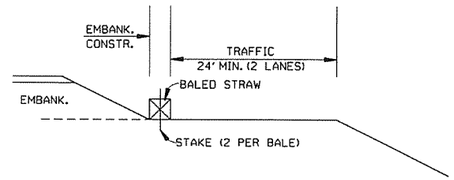
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

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

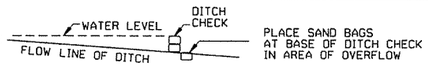
GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

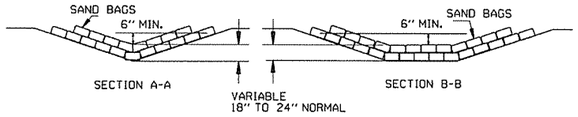


BALED STRAW FILTER BARRIER (E-2)

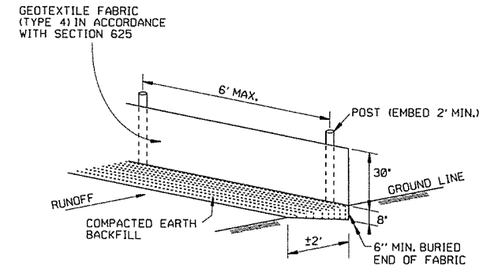
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.



PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



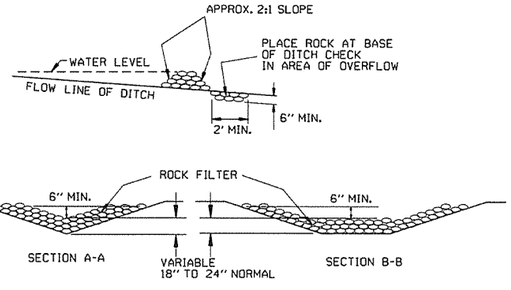
SAND BAG DITCH CHECK (E-5)



SILT FENCE (E-11)

GENERAL NOTES

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



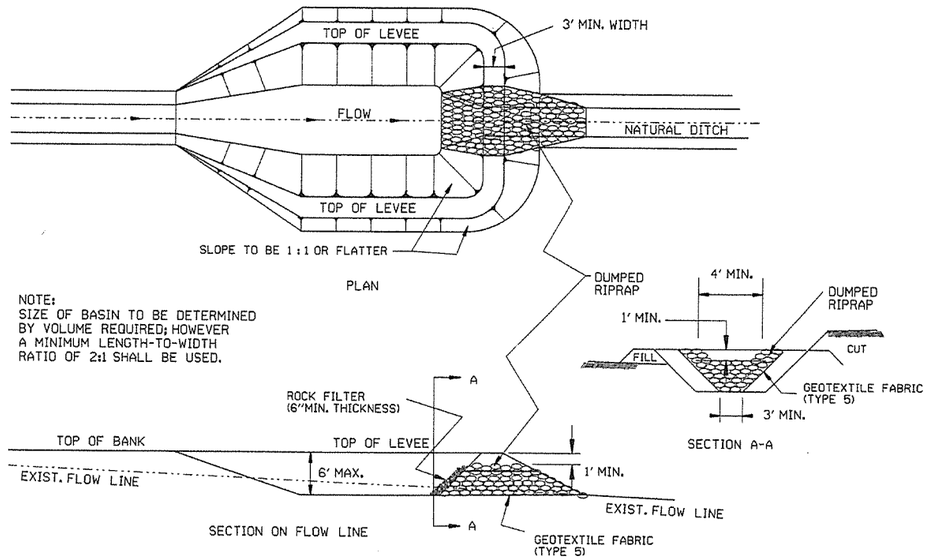
ROCK DITCH CHECK (E-6)

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

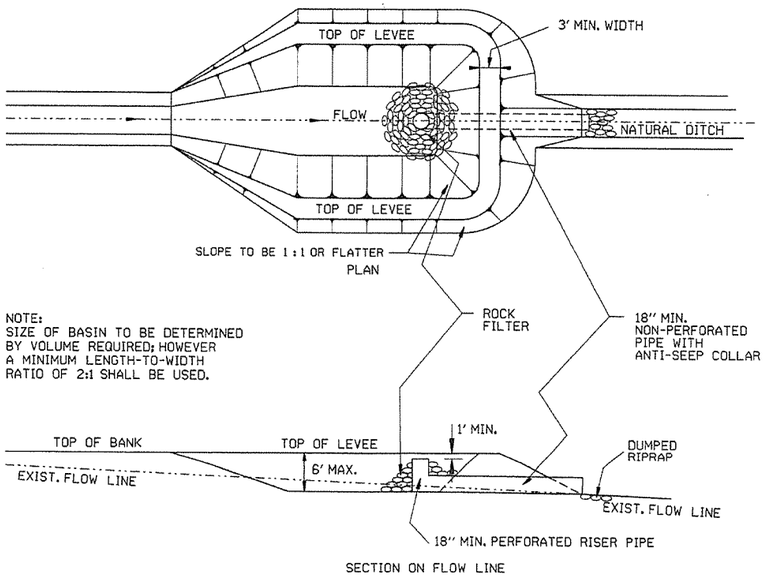
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

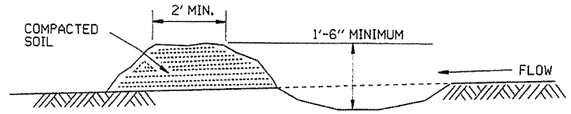
STANDARD DRAWING TEC-1



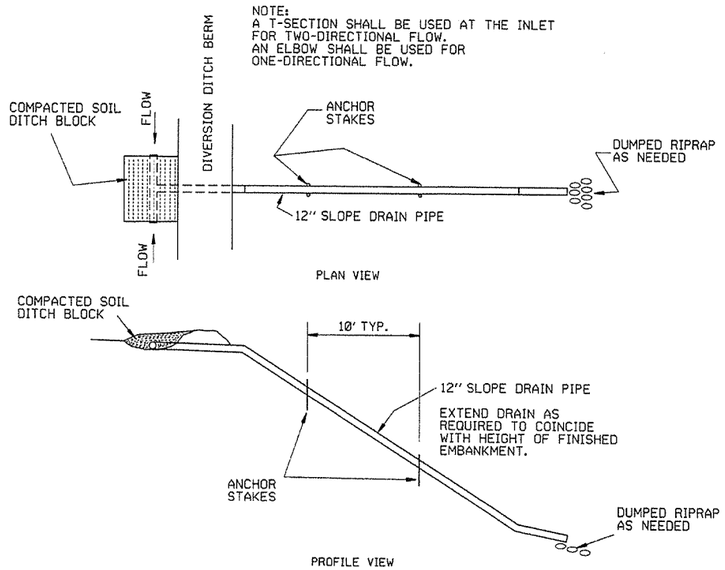
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



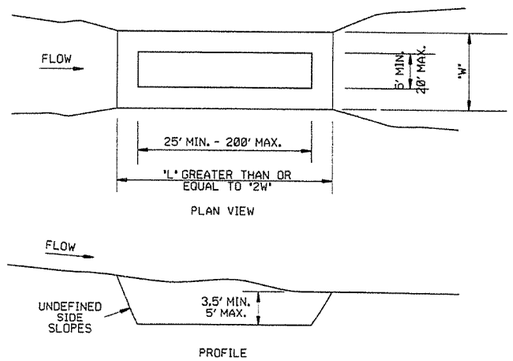
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

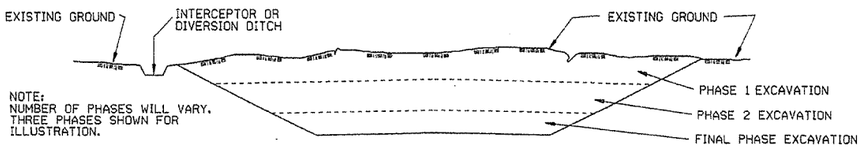
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



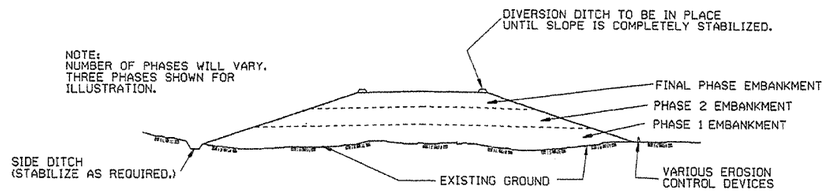
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

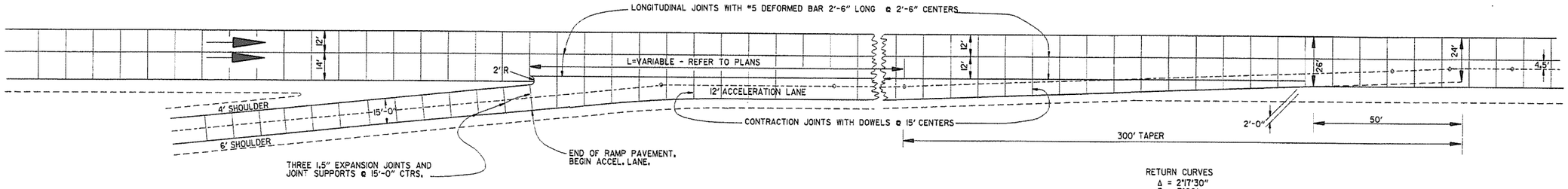
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

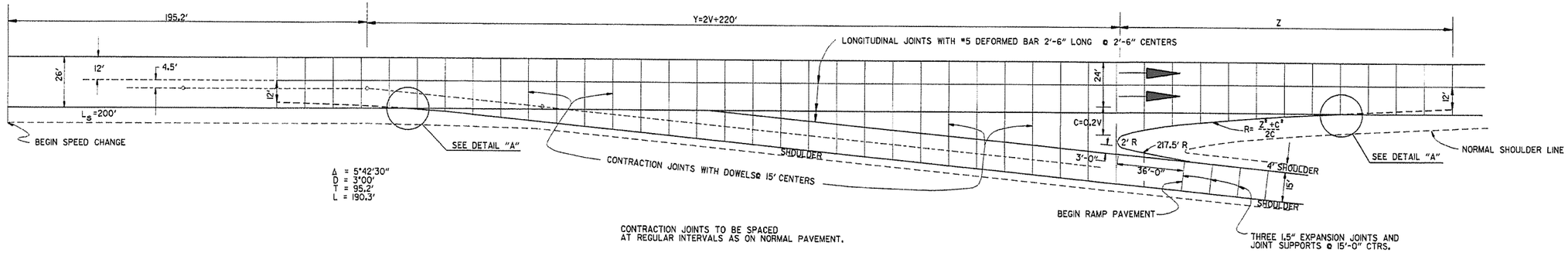
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



ENTRANCE RAMP

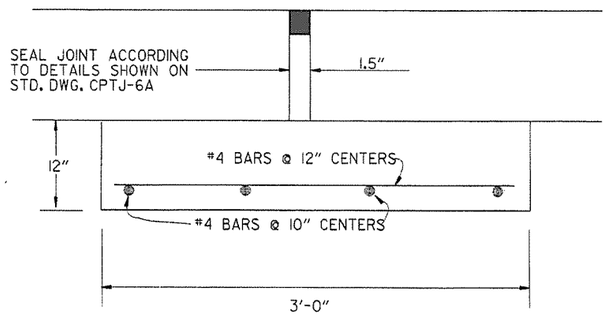
RETURN CURVES
Δ = 21°17'30"
D = 3°00'
T = 38.2'
L = 76.4'



Δ = 5°42'30"
D = 3°00'
T = 95.2'
L = 190.3'

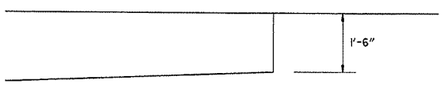
CONTRACTION JOINTS TO BE SPACED AT REGULAR INTERVALS AS ON NORMAL PAVEMENT.

EXIT RAMP



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS).
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 SUBSIDIARY TO THE ABOVE ITEMS.



DETAIL "A"

EXIT RAMP

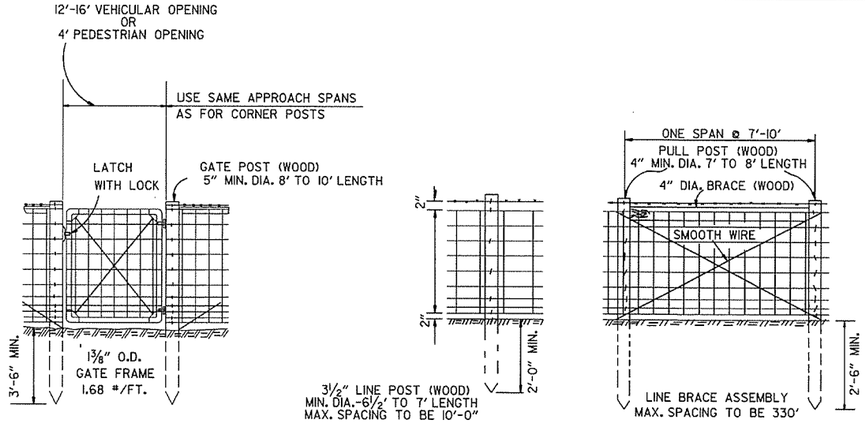
DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R
40	300.0	8.0	96.0	580.0
50	320.0	10.0	120.0	725.0
60	340.0	12.0	168.0	1182.0
70	360.0	14.0	210.0	1582.0

DATE	REVISION	DATE FILM'D
1-12-00	REDRAWN & REISSUED	1-12-00

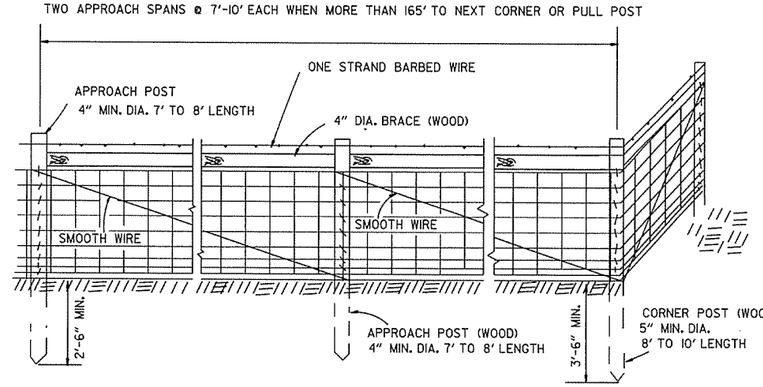
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS

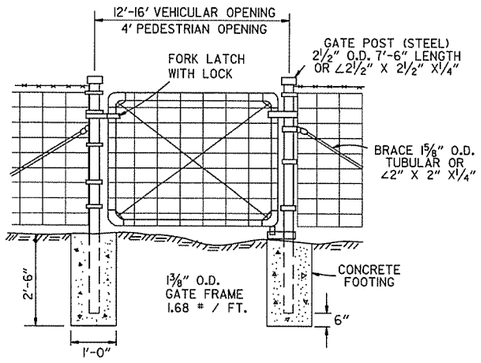
STANDARD DRAWING TR-1

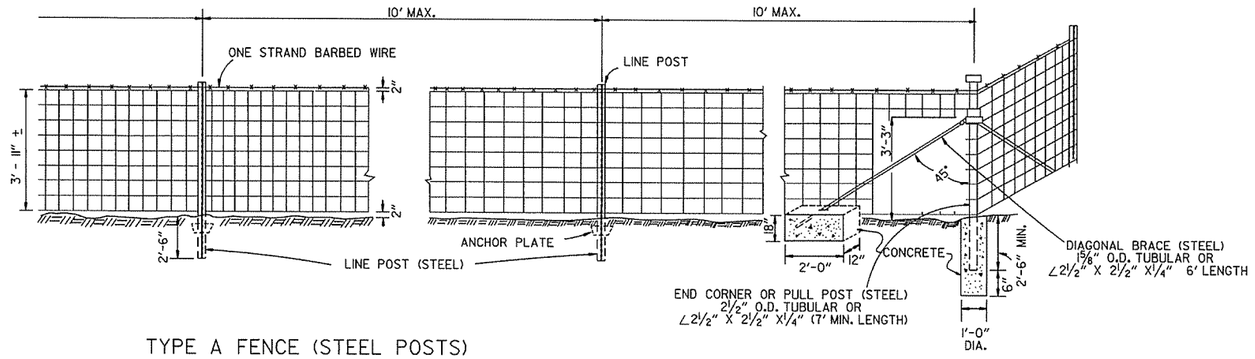


NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.



TYPE A FENCE (WOOD POSTS)





TYPE A FENCE (STEEL POSTS)

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).

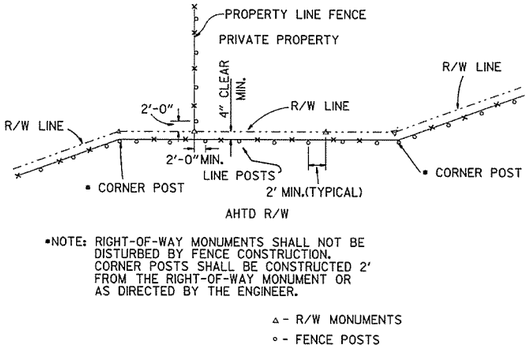
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF WOOD LINE POSTS OF 7' LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

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.

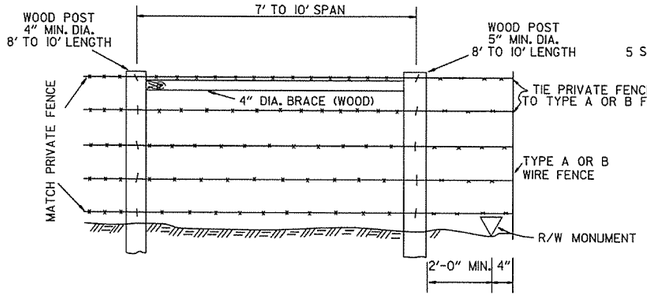
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD": AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF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



•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.

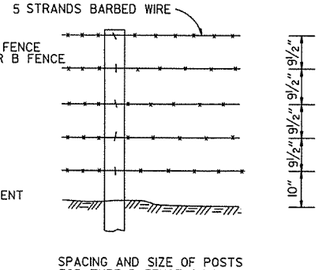
△ - R/W MONUMENTS
○ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



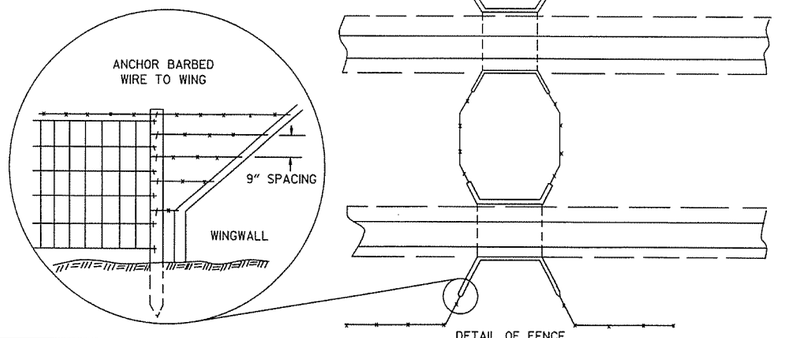
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

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)

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	

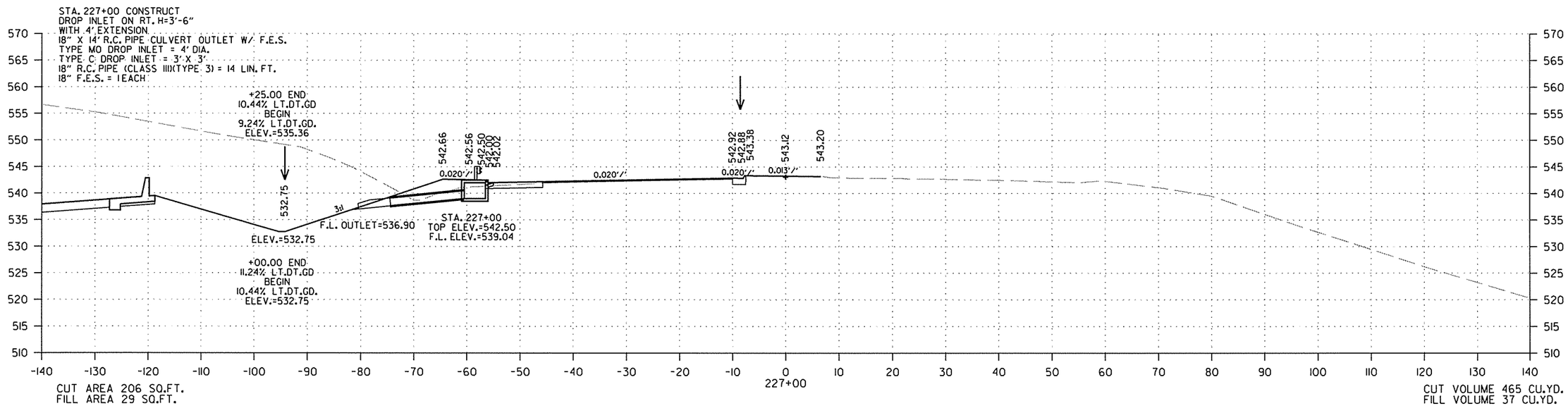
ARKANSAS STATE HIGHWAY COMMISSION

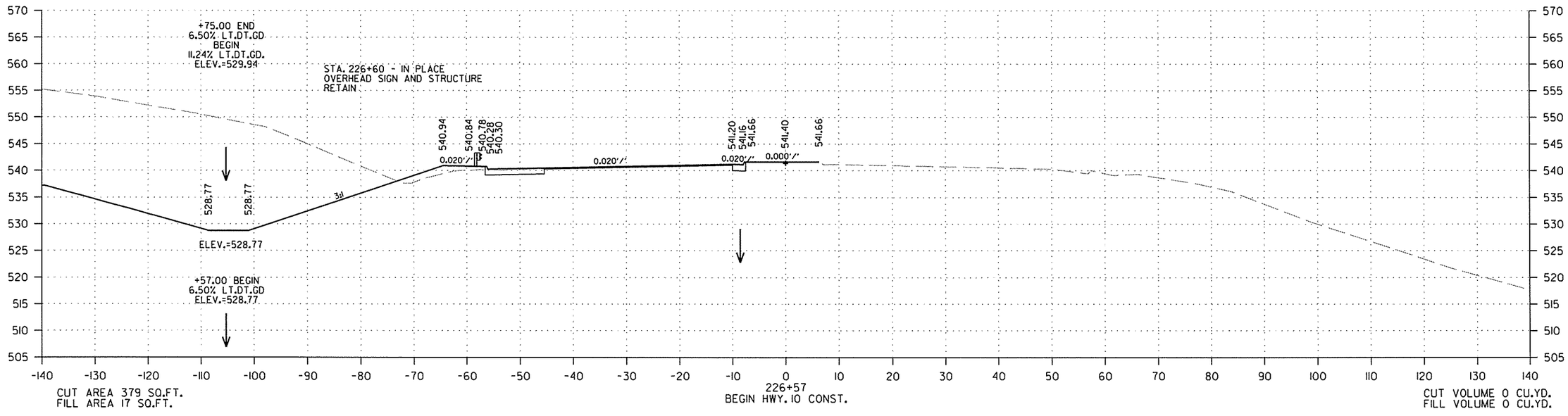
WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	156	272

(2) CROSS SECTIONS - HWY. 10





HWY. 10

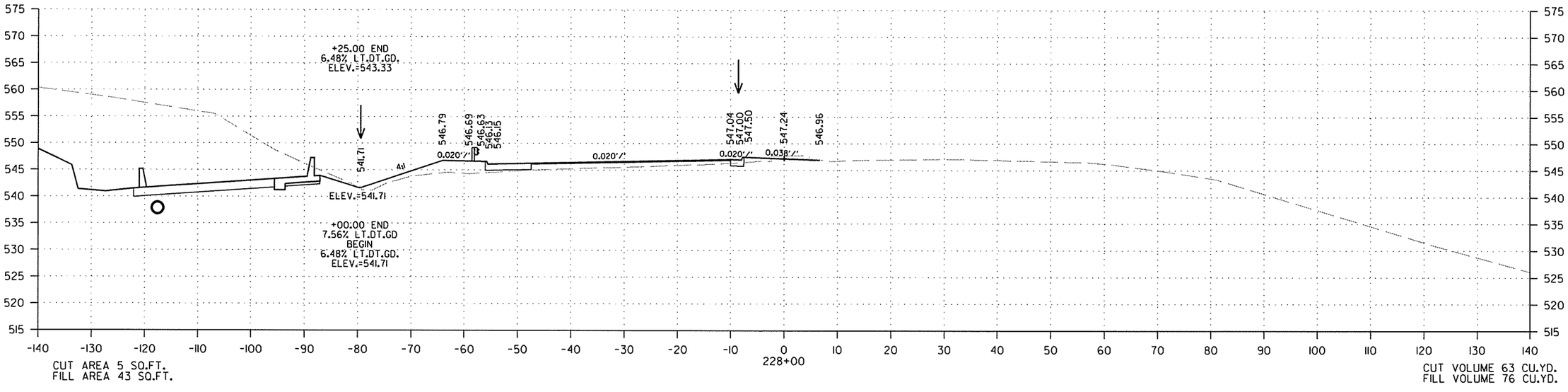
CROSS SECTION STA.226+57 TO STA. 227+00

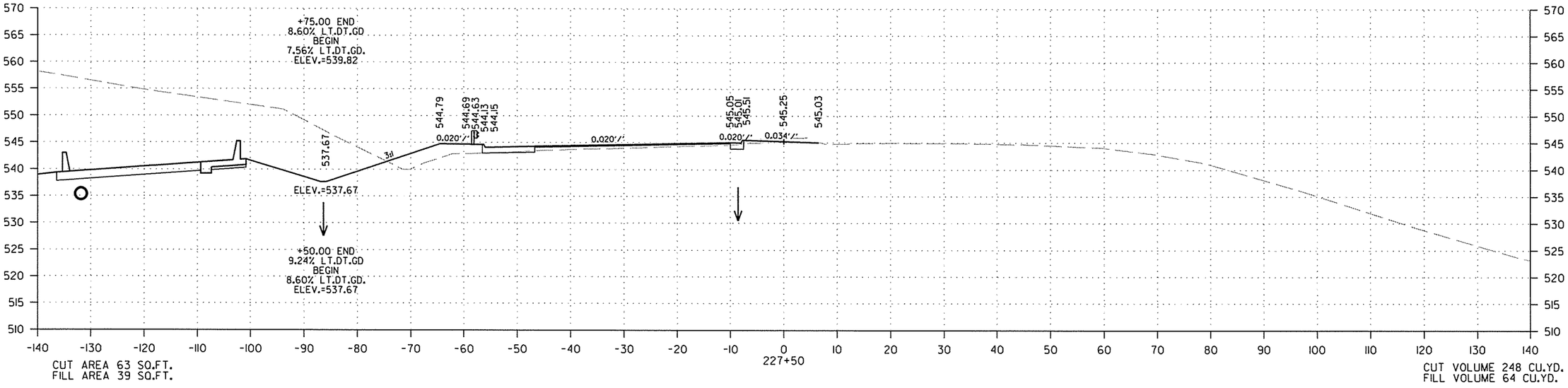
6/1/2015

R061333.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.		061333	157	272

(2) CROSS SECTIONS - HWY. 10





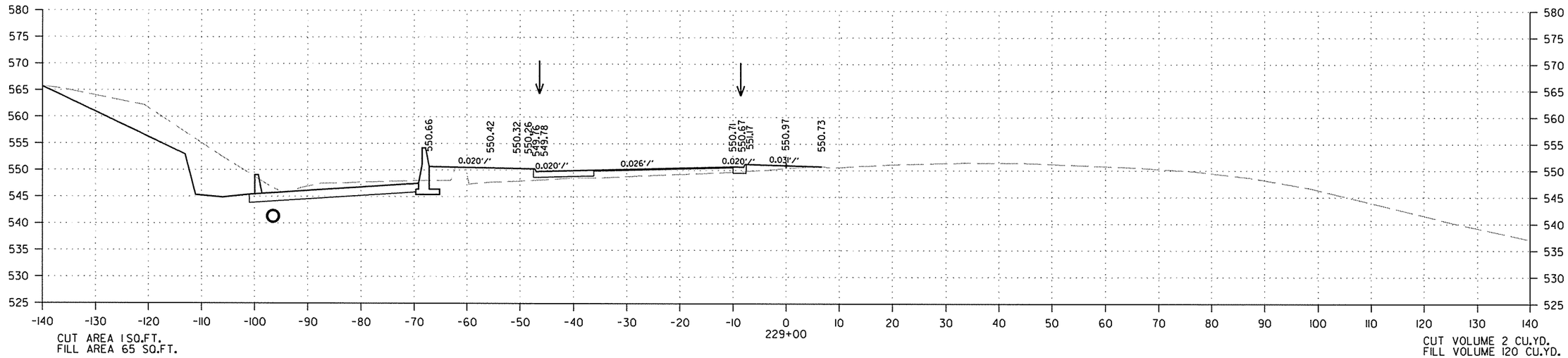
HWY. 10
CROSS SECTION STA.227+50 TO STA. 228+00

6/1/2015

R061333.DGN

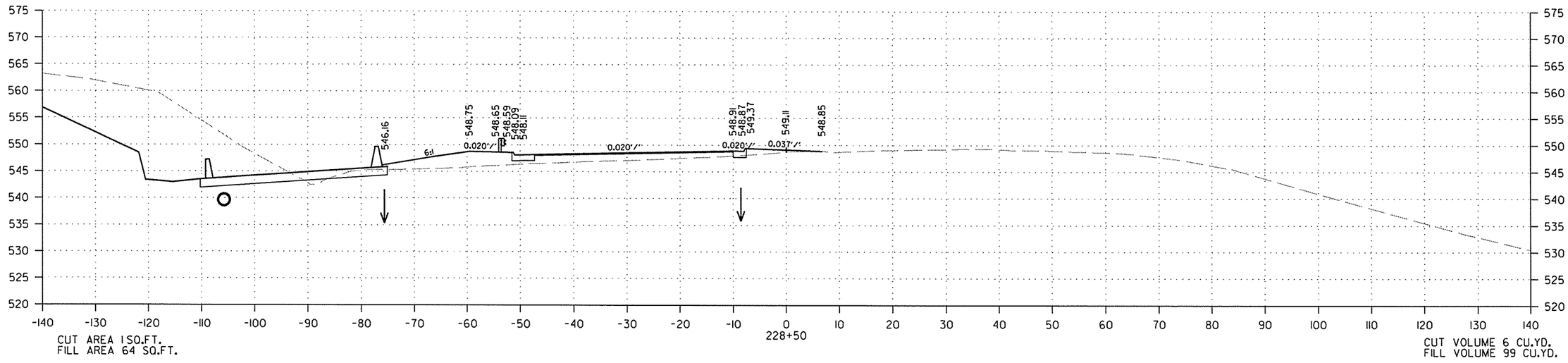
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	158	272

(2) CROSS SECTIONS - HWY. 10



CUT AREA 150 SQ.FT.
FILL AREA 65 SQ.FT.

CUT VOLUME 2 CU.YD.
FILL VOLUME 120 CU.YD.



CUT AREA 150 SQ.FT.
FILL AREA 64 SQ.FT.

CUT VOLUME 6 CU.YD.
FILL VOLUME 99 CU.YD.

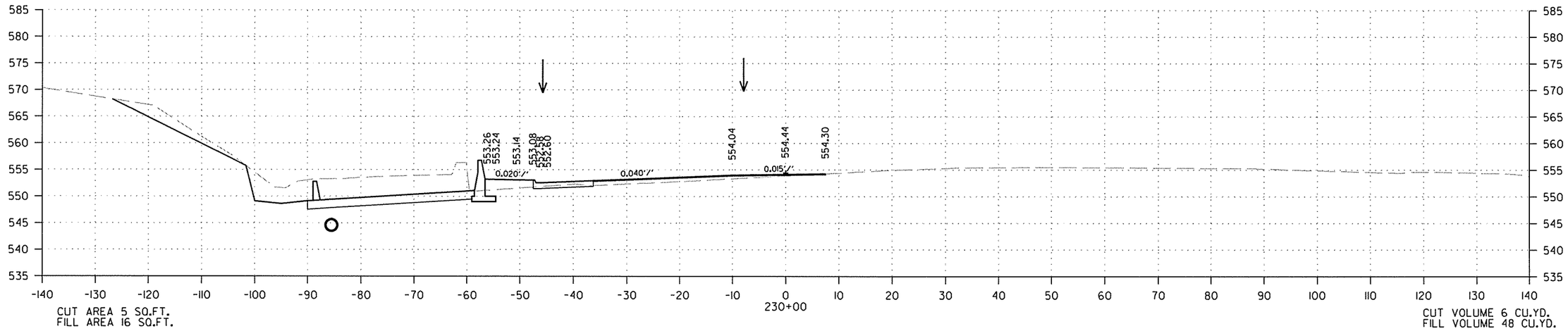
HWY. 10
CROSS SECTION STA.228+50 TO STA. 229+00

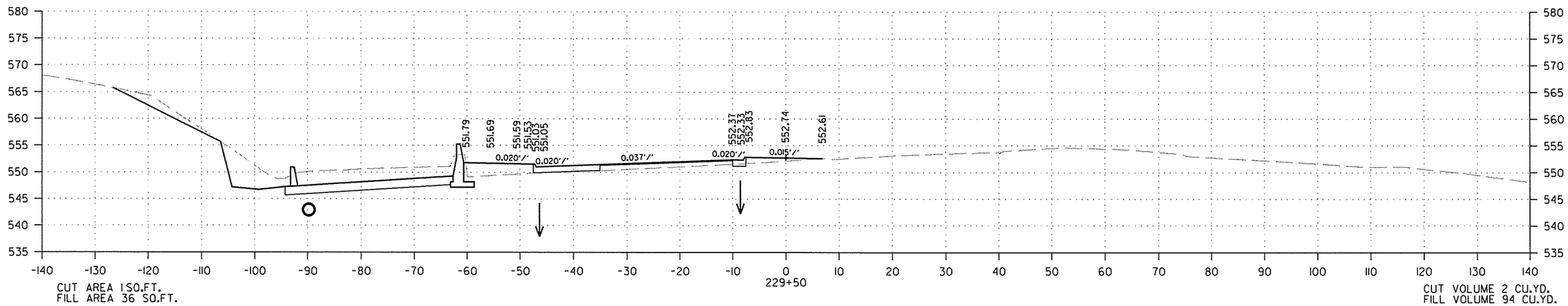
6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	159	272

(2) CROSS SECTIONS - HWY. 10





HWY. 10

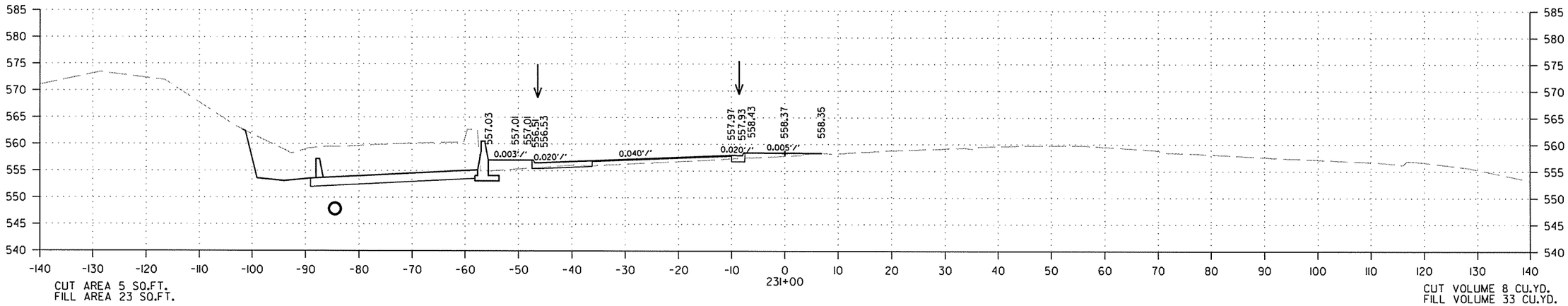
CROSS SECTION STA.229+50 TO STA. 230+00

6/1/2015

R061333.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.		061333	160	272

(2) CROSS SECTIONS - HWY. 10



CUT AREA 5 SQ.FT.
FILL AREA 23 SQ.FT.

CUT VOLUME 8 CU.YD.
FILL VOLUME 33 CU.YD.

CUT AREA 4 SQ.FT.
FILL AREA 13 SQ.FT.

CUT VOLUME 8 CU.YD.
FILL VOLUME 26 CU.YD.

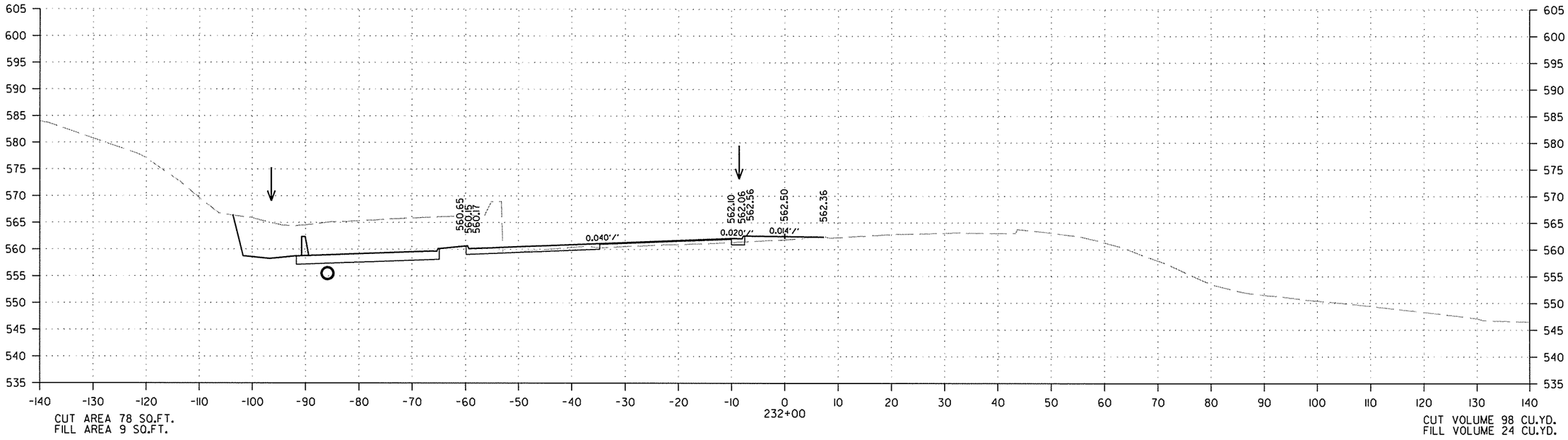
HWY. 10
CROSS SECTION STA.230+50 TO STA. 231+00

6/1/2015

R061333.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.		061333	161	272

(2) CROSS SECTIONS - HWY. 10



HWY. 10

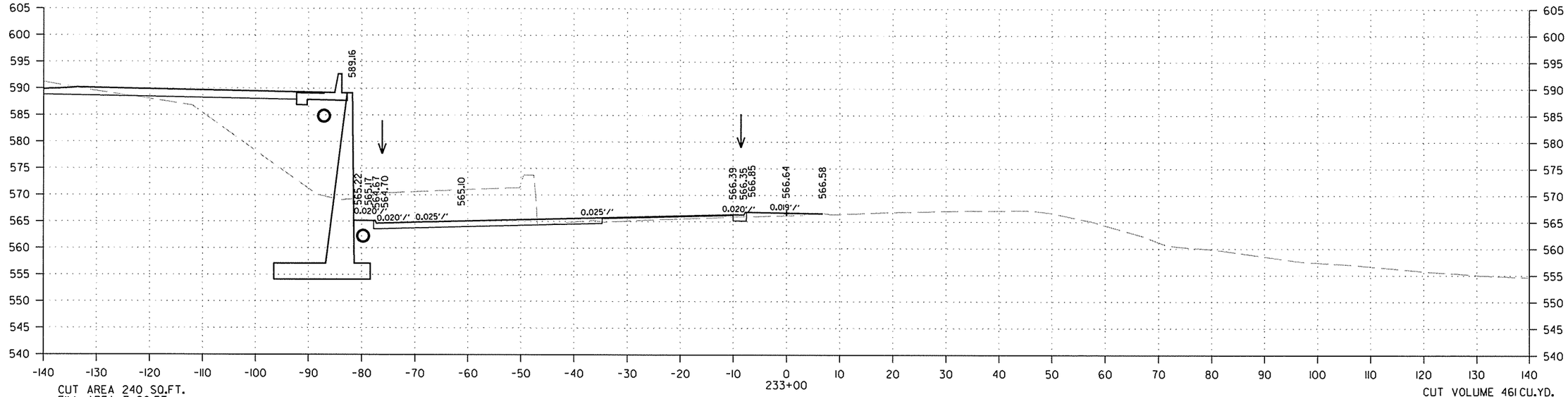
CROSS SECTION STA.231+50 TO STA. 232+00

6/1/2015

R061333.DGN

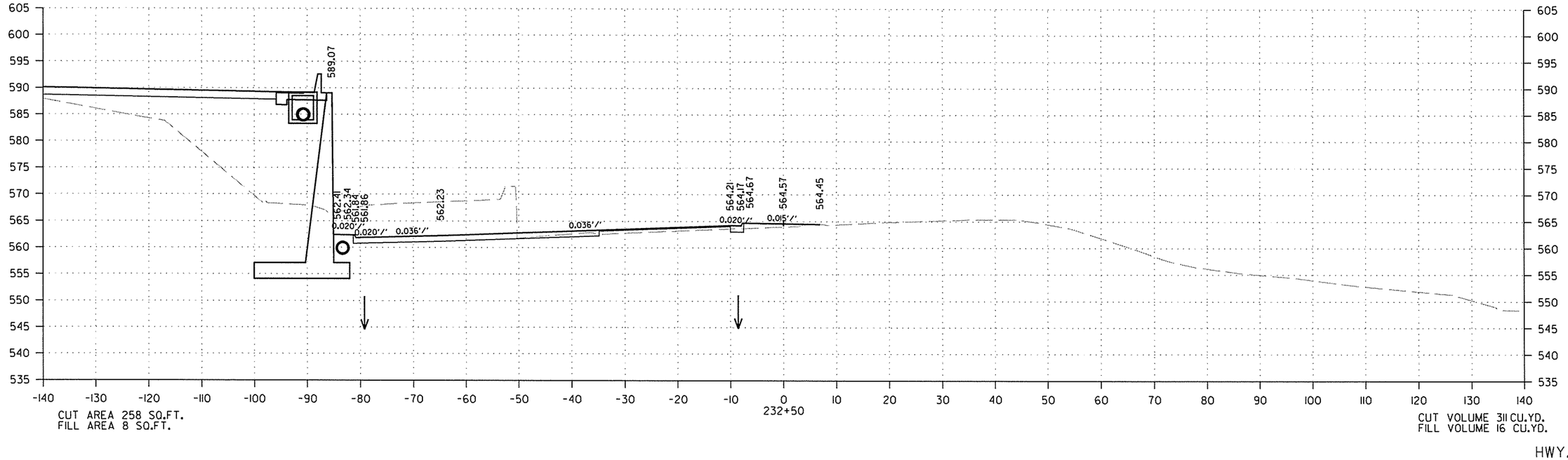
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	162	272

(2) CROSS SECTIONS - HWY. 10



CUT AREA 240 SQ.FT.
FILL AREA 7 SQ.FT.

CUT VOLUME 461 CU.YD.
FILL VOLUME 14 CU.YD.



CUT AREA 258 SQ.FT.
FILL AREA 8 SQ.FT.

CUT VOLUME 311 CU.YD.
FILL VOLUME 16 CU.YD.

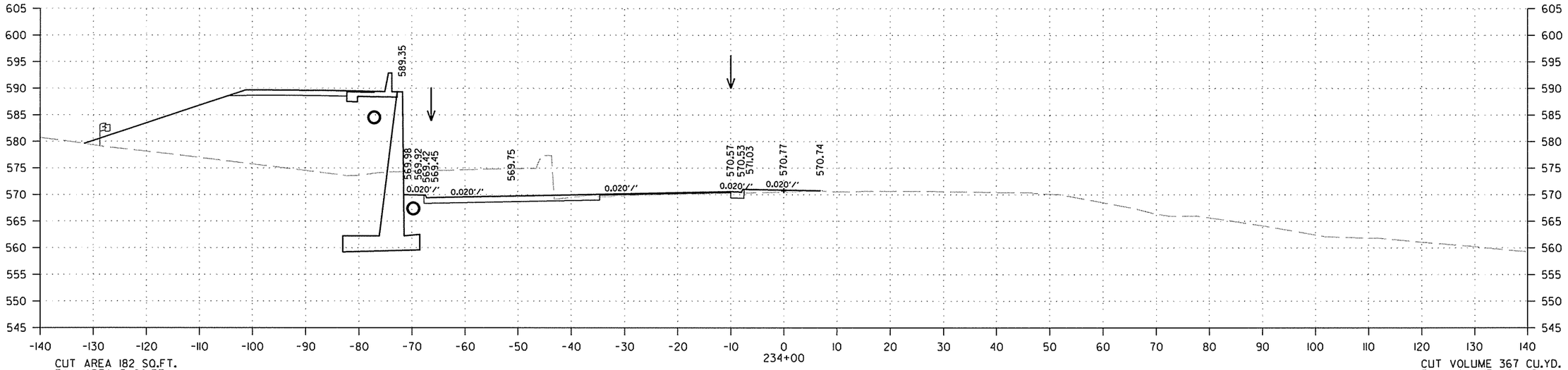
HWY. 10
CROSS SECTION STA.232+50 TO STA. 233+00

6/1/2015

R061333.DGN

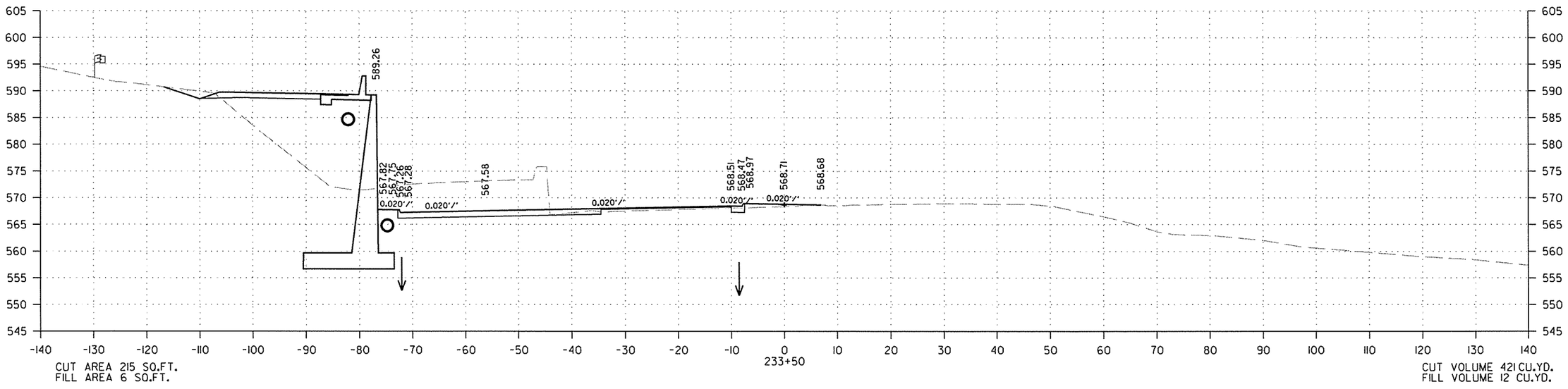
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	163	272

(2) CROSS SECTIONS - HWY. 10



CUT AREA 182 SQ.FT.
FILL AREA 5 SQ.FT.

CUT VOLUME 367 CU.YD.
FILL VOLUME 11 CU.YD.



CUT AREA 215 SQ.FT.
FILL AREA 6 SQ.FT.

CUT VOLUME 421 CU.YD.
FILL VOLUME 12 CU.YD.

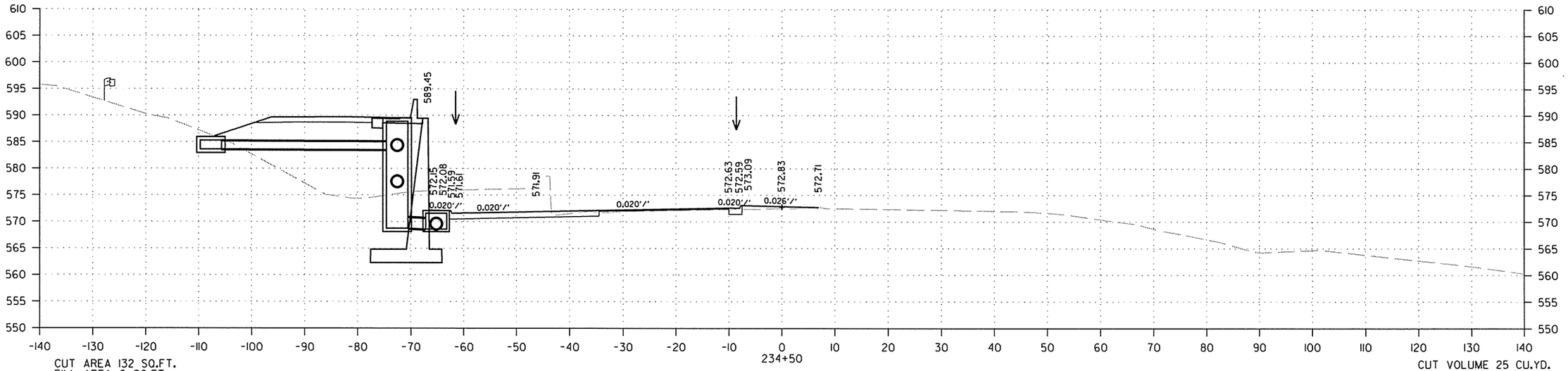
HWY. 10
CROSS SECTION STA.233+50 TO STA. 234+00

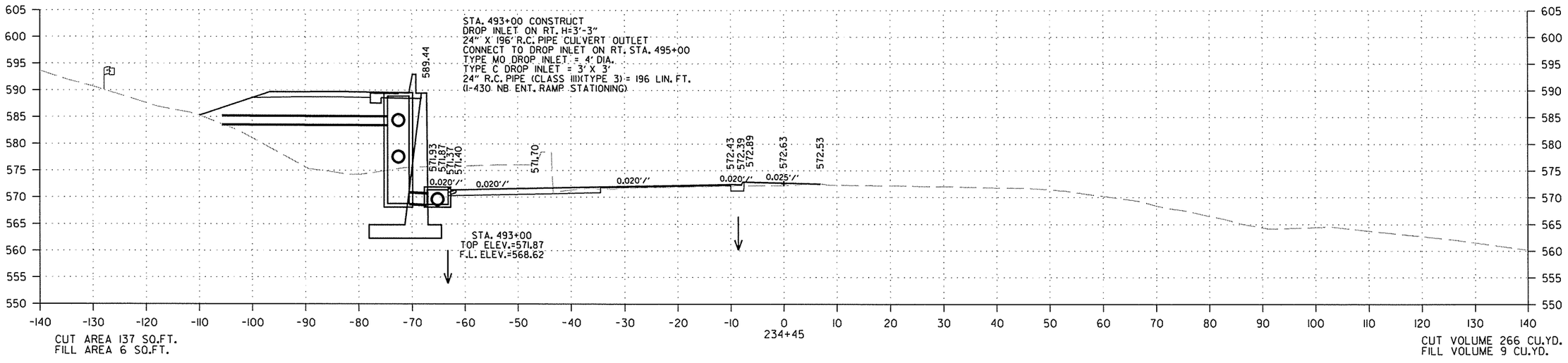
6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	164	272

(2) CROSS SECTIONS - HWY. 10





HWY. 10

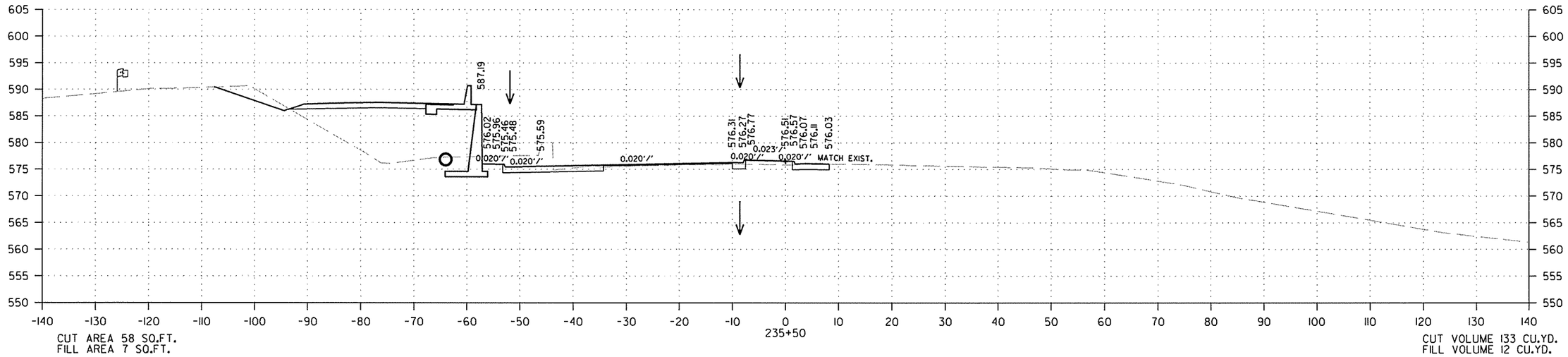
CROSS SECTION STA.234+45 TO STA. 234+50

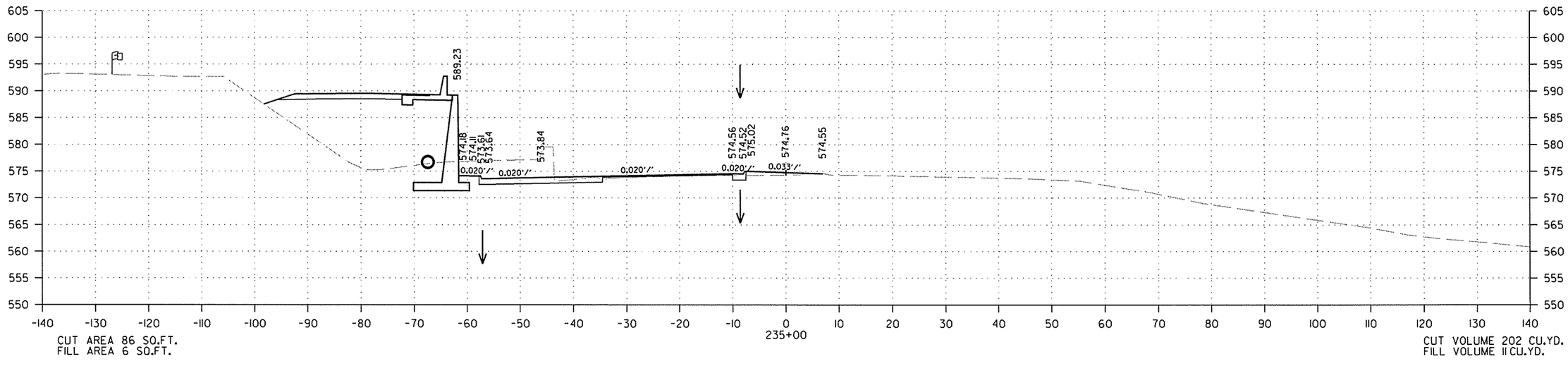
6/1/2015

R061333.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.		061333	165	272

(2) CROSS SECTIONS - HWY. 10





HWY. 10

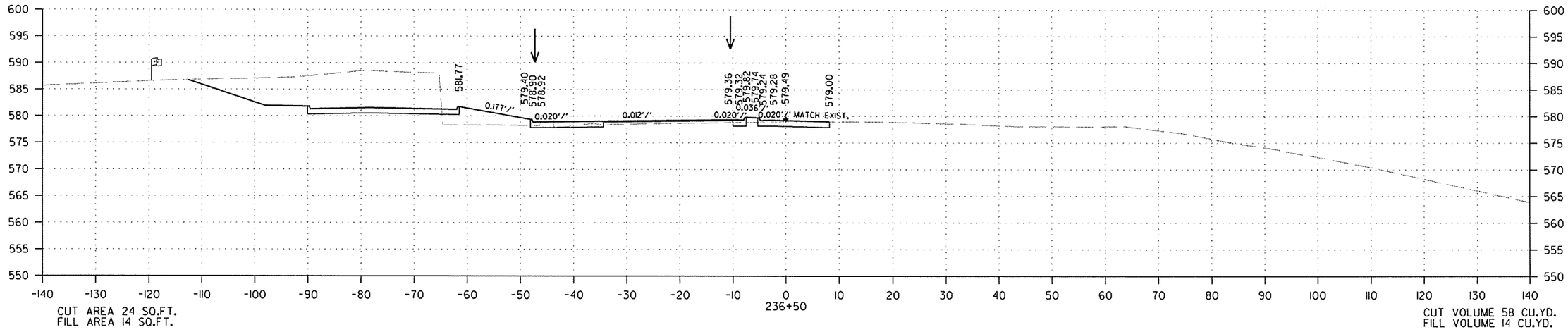
CROSS SECTION STA.235+00 TO STA. 235+50

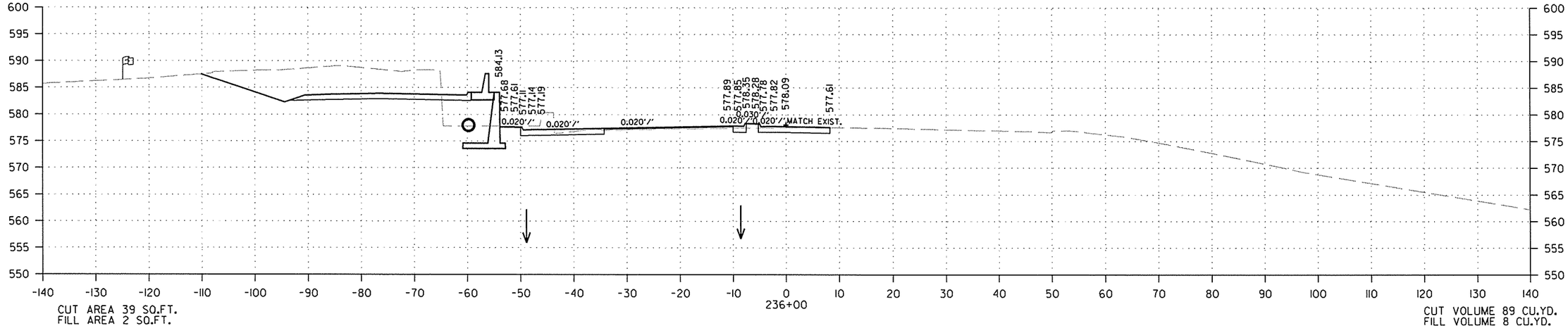
6/1/2015

R061333.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.		061333	166	272

(2) CROSS SECTIONS - HWY. 10





HWY. 10

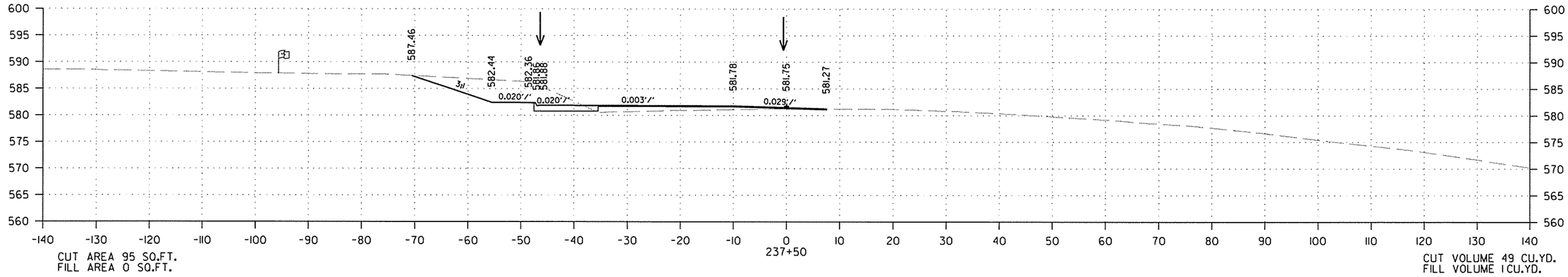
CROSS SECTION STA.236+00 TO STA. 236+50

6/1/2015

R061333.DGN

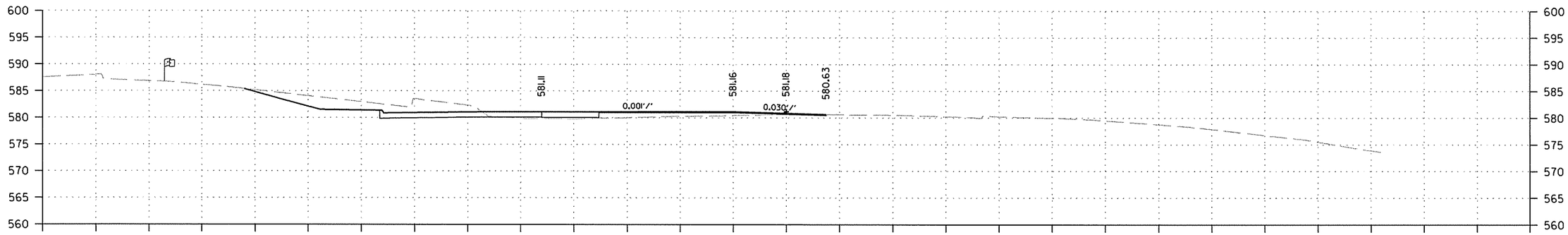
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	167	272

(2) CROSS SECTIONS - HWY. 10



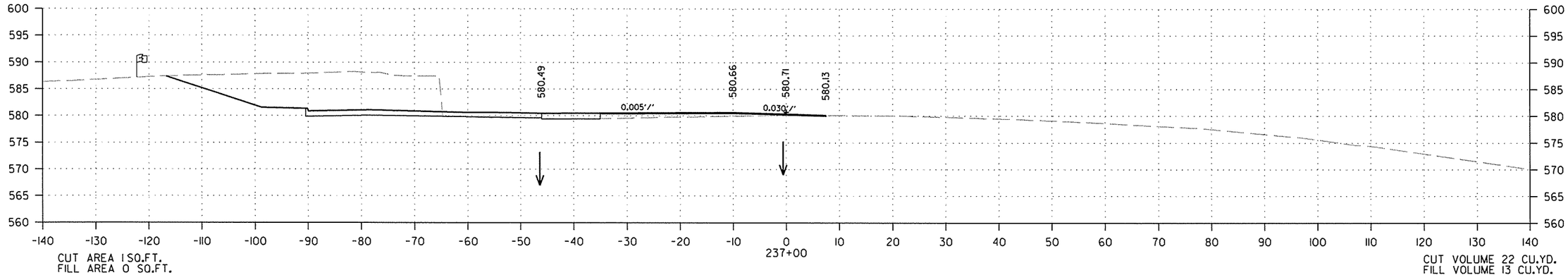
CUT AREA 95 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 49 CU.YD.
FILL VOLUME 1 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 2 SQ.FT.

CUT VOLUME 0 CU.YD.
FILL VOLUME 1 CU.YD.



CUT AREA 1 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 22 CU.YD.
FILL VOLUME 13 CU.YD.

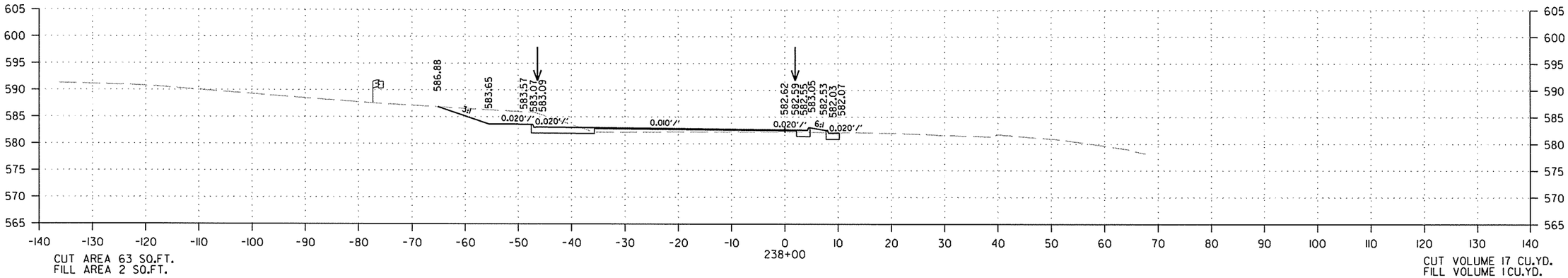
HWY. 10
CROSS SECTION STA.237+00 TO STA. 237+50

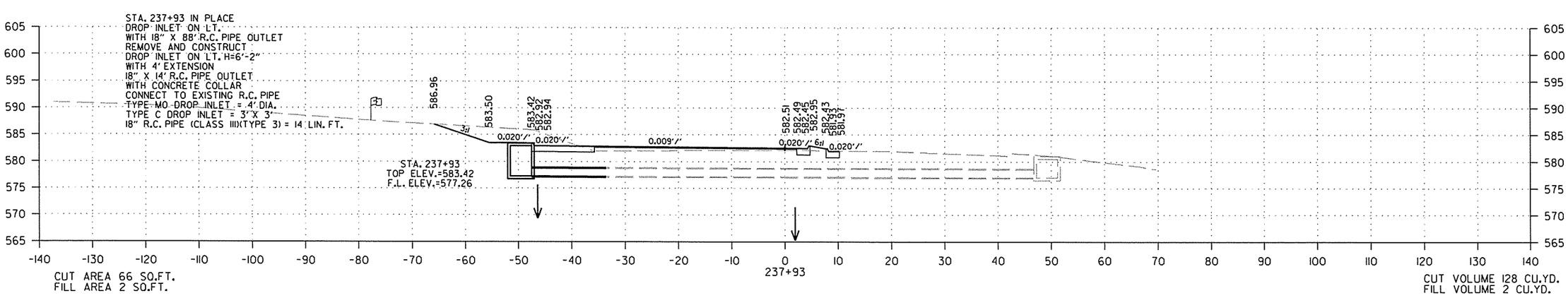
6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	168	272

(2) CROSS SECTIONS - HWY. 10





HWY. 10

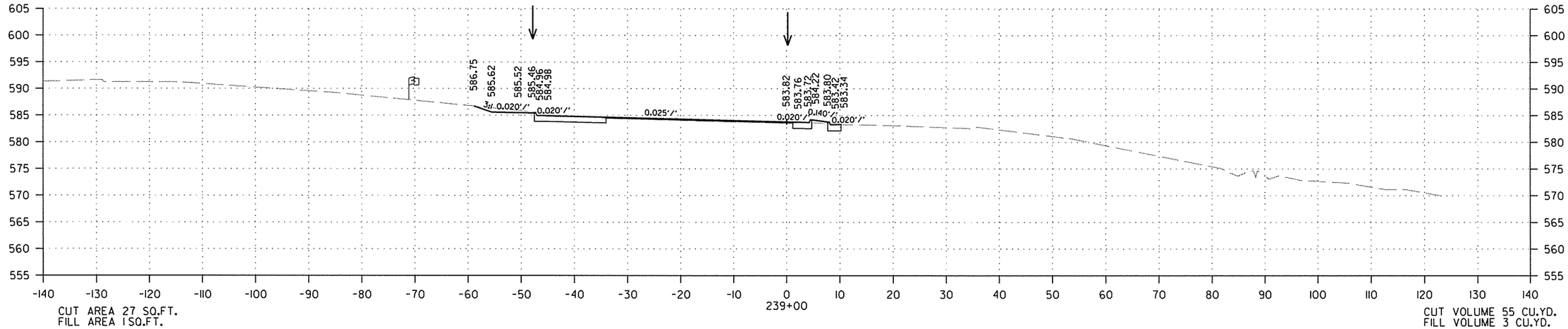
CROSS SECTION STA.237+93 TO STA. 238+00

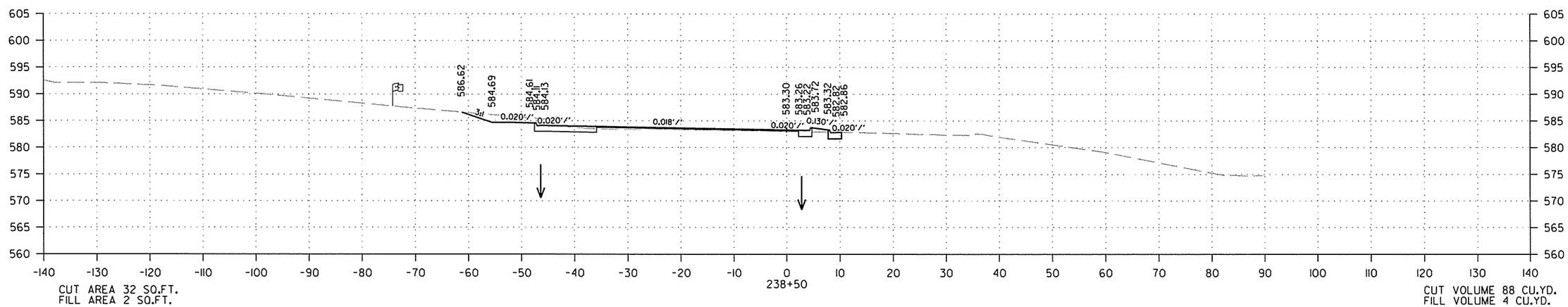
6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	169	272

(2) CROSS SECTIONS - HWY. 10





HWY. 10

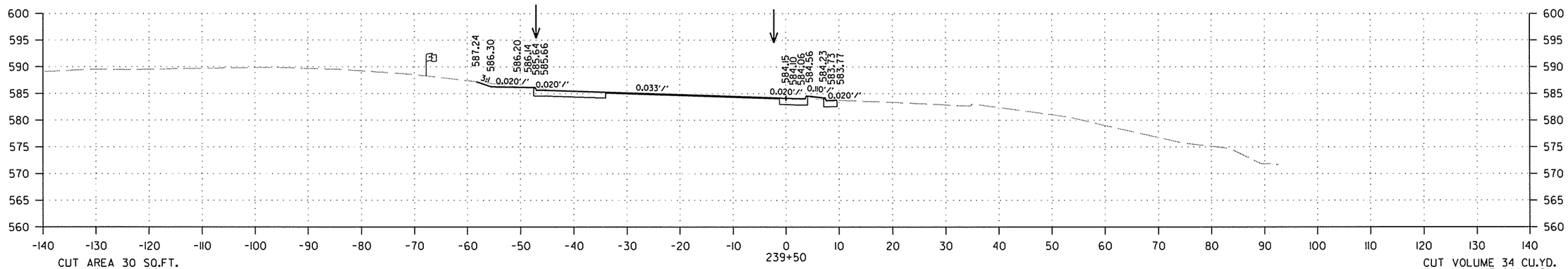
CROSS SECTION STA.238+50 TO STA. 239+00

6/1/2015

R061333.DGN

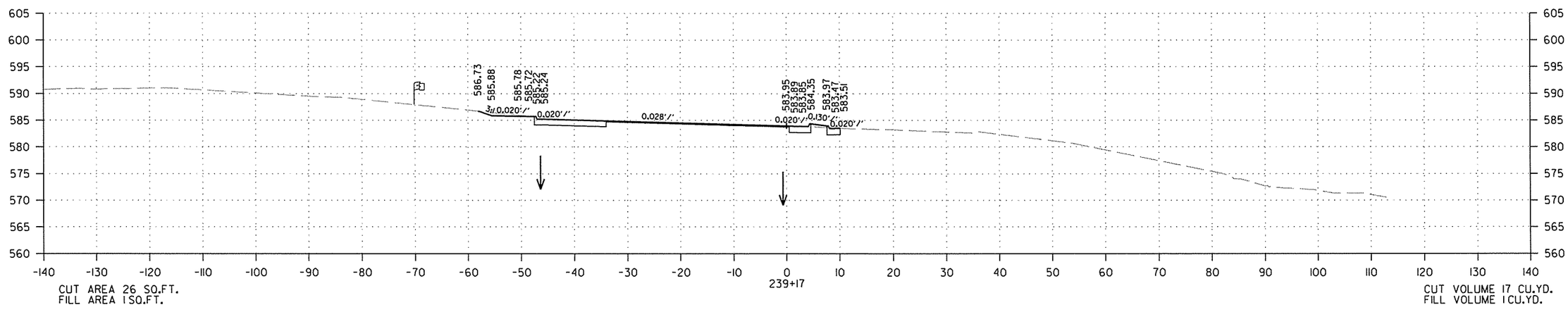
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	170	272

(2) CROSS SECTIONS - HWY. 10



CUT AREA 30 SQ.FT.
FILL AREA 1 SQ.FT.

CUT VOLUME 34 CU.YD.
FILL VOLUME 2 CU.YD.



CUT AREA 26 SQ.FT.
FILL AREA 1 SQ.FT.

CUT VOLUME 17 CU.YD.
FILL VOLUME 1 CU.YD.

HWY. 10
CROSS SECTION STA.239+17 TO STA. 239+50

6/1/2015

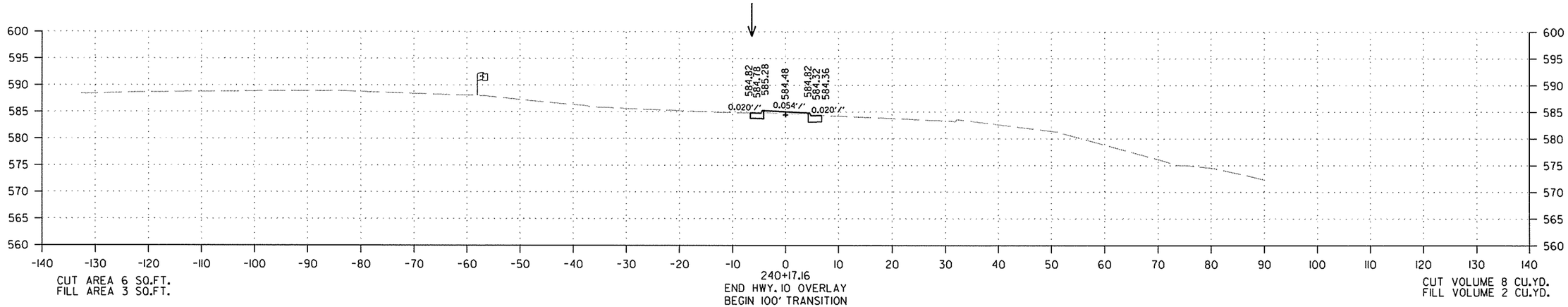
R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	171	272

(2) CROSS SECTIONS - HWY. 10

242+32.31
END HWY. 10 CONST.

241+17.16
END 100' TRANSITION



HWY. 10
CROSS SECTION STA.240+00 TO STA. 240+17

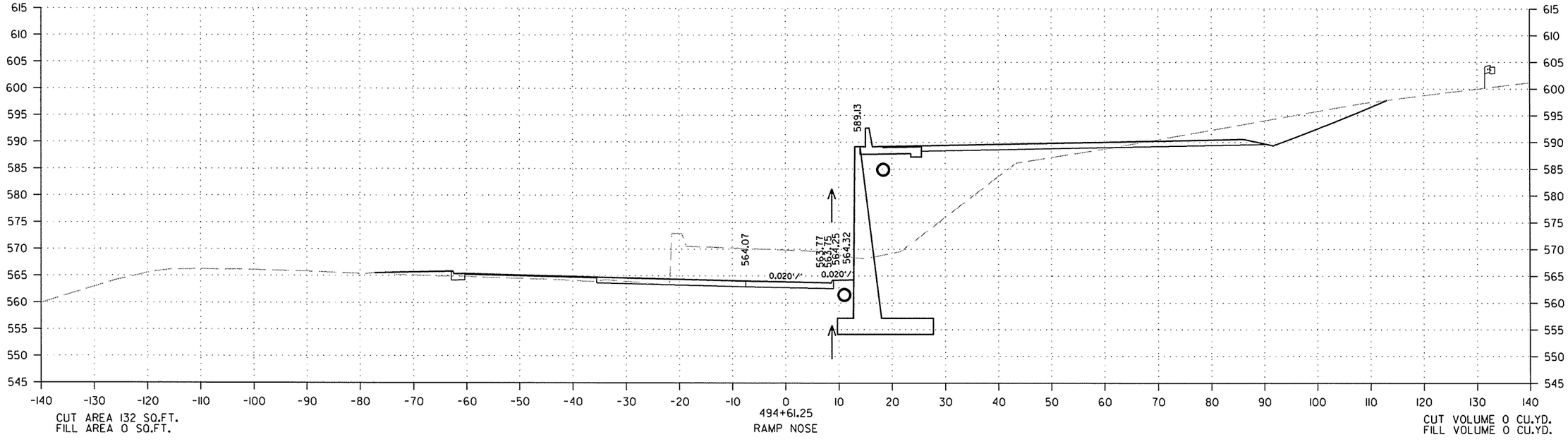
6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	172	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP

494+97.25
BEGIN CONCRETE PAVING



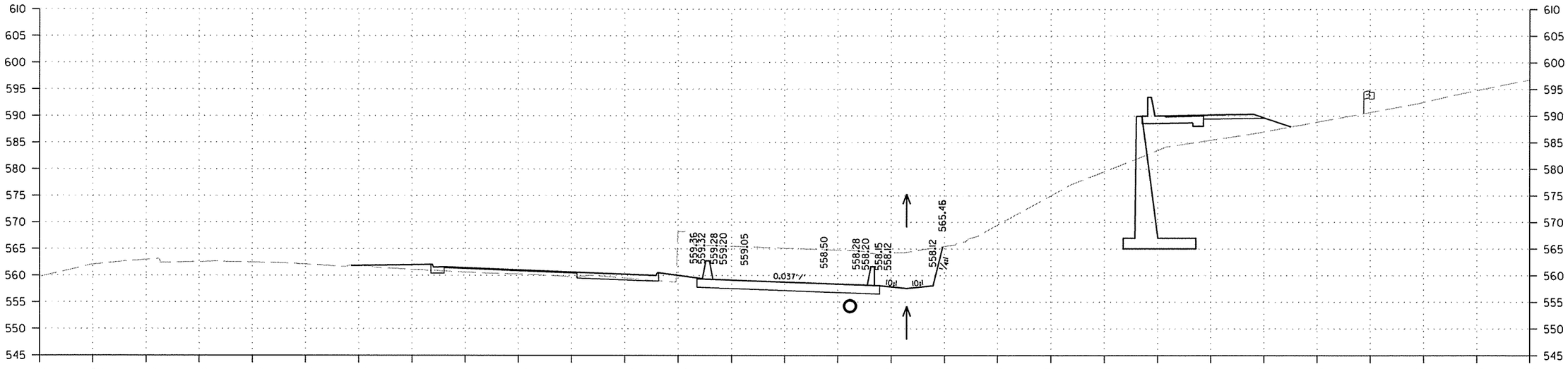
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.494+61.25 TO STA. 494+61.25

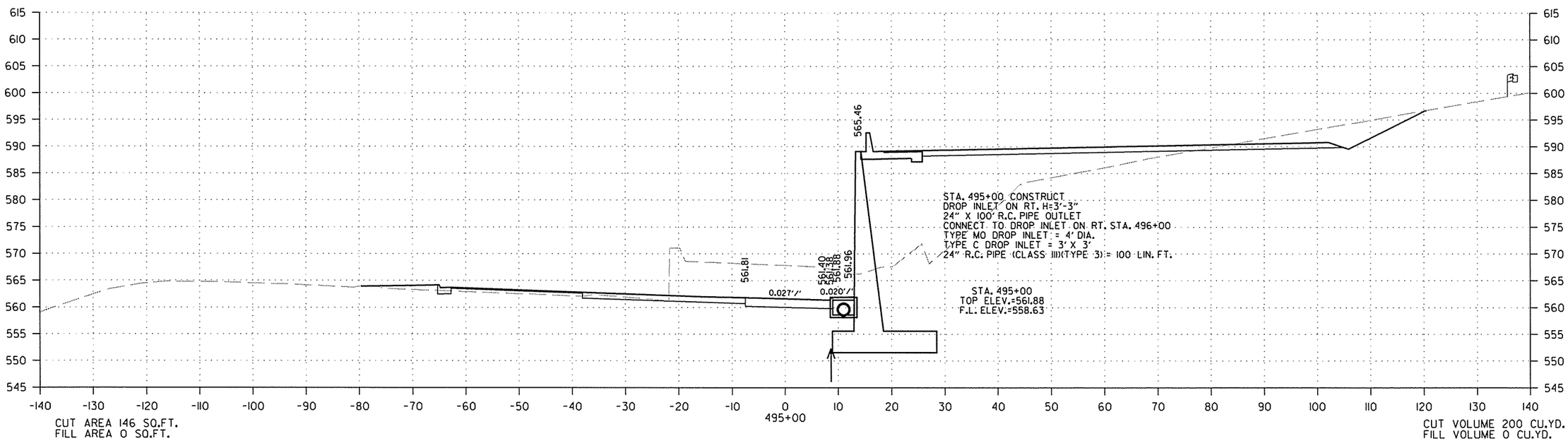
6/1/2015

R061333.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.		061333	173	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP





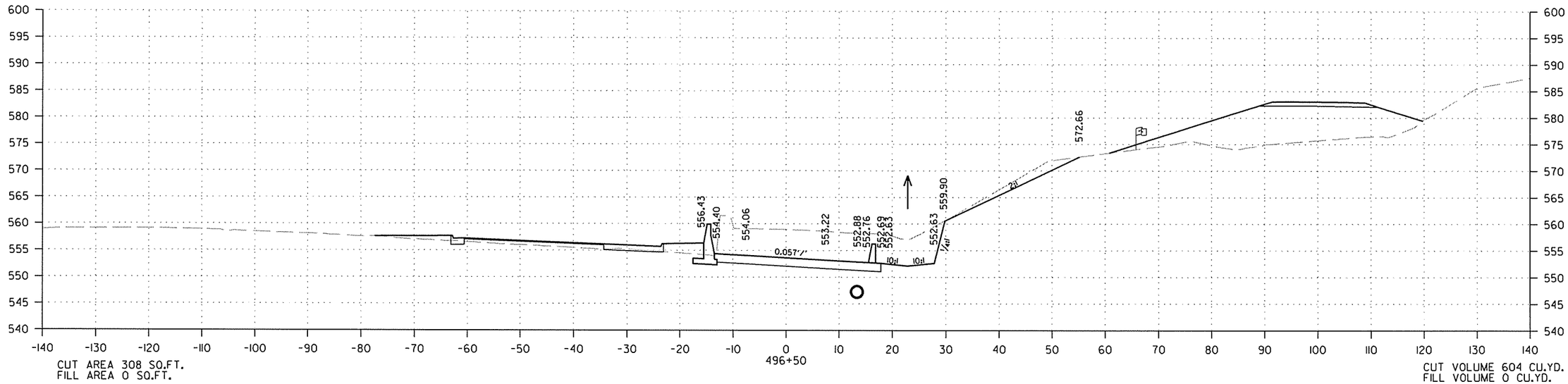
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.495+00 TO STA. 495+50

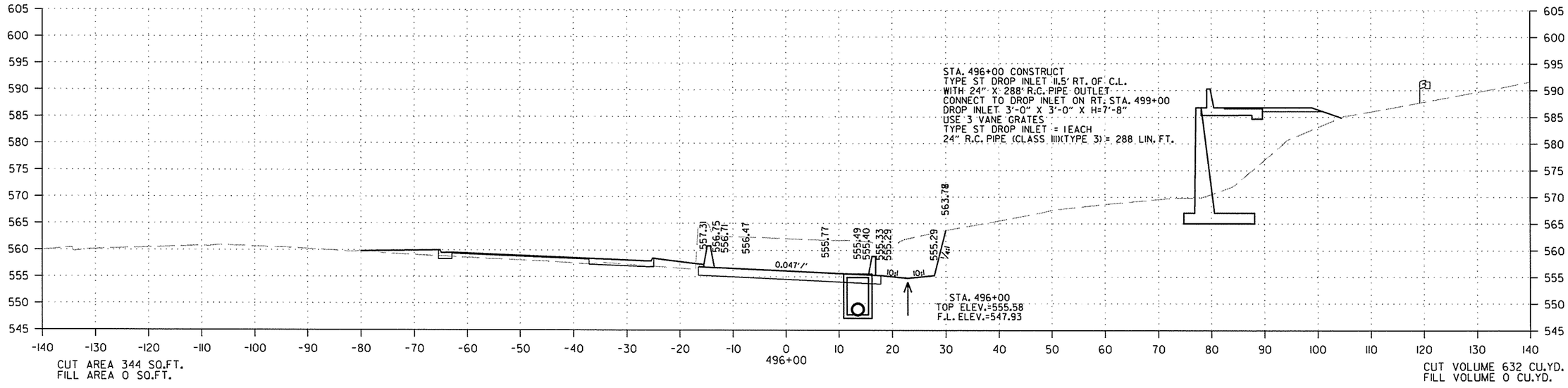
6/1/2015

R061333.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.		061333	174	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP





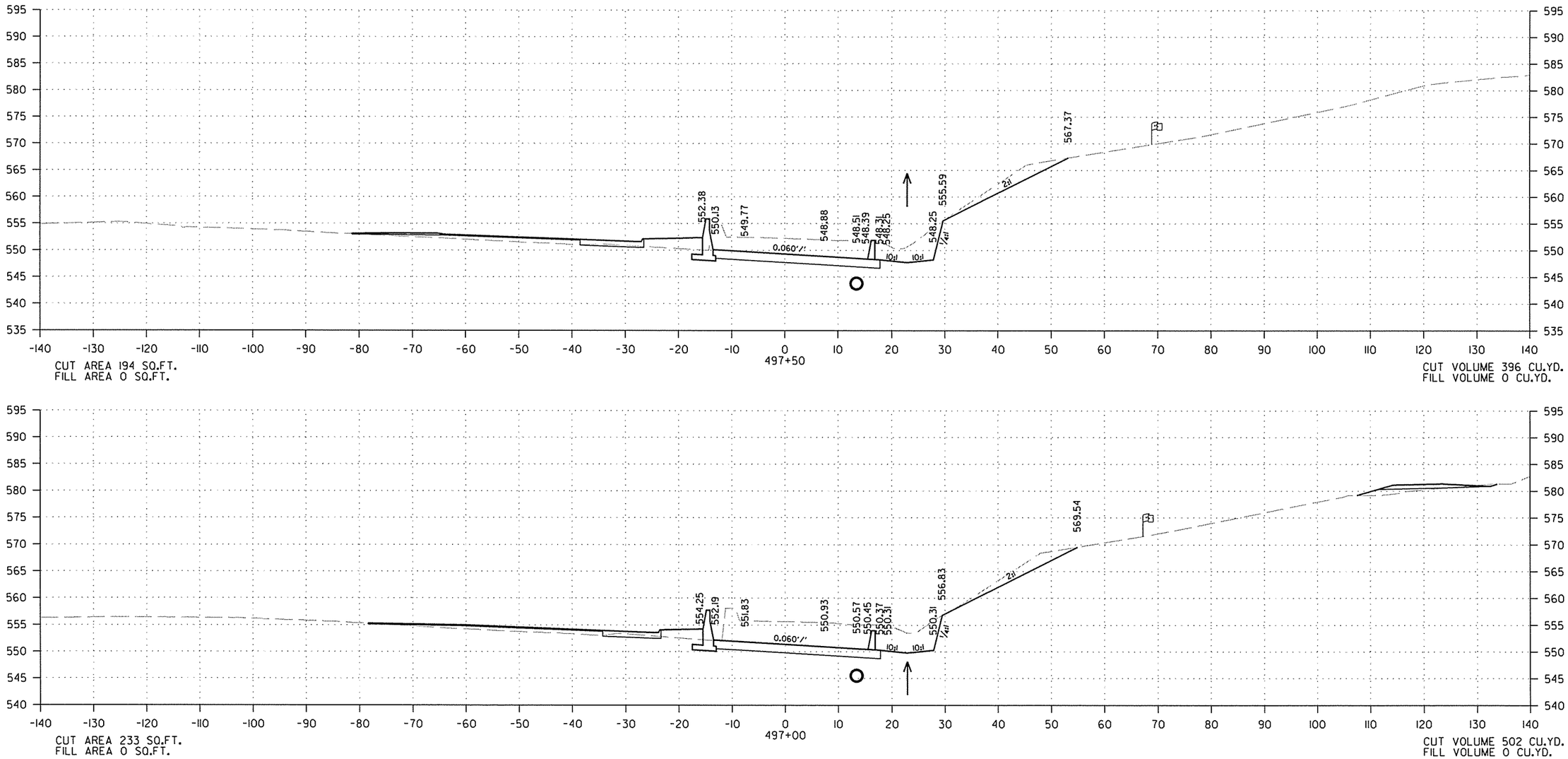
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.496+00 TO STA. 496+50

6/1/2015

R061333.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.		061333	175	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



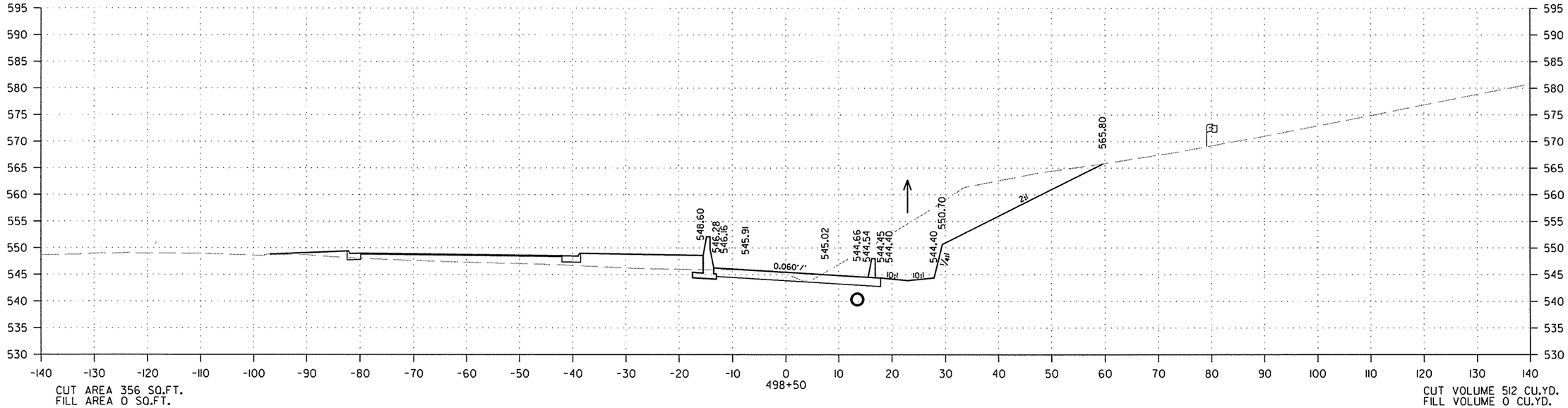
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.497+00 TO STA. 497+50

6/1/2015

R061333.DGN

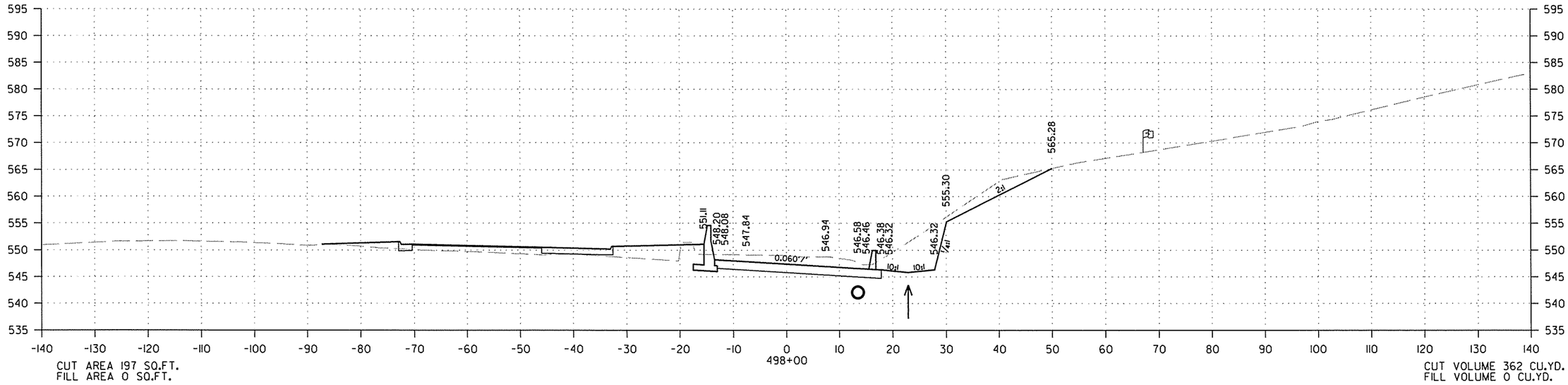
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	176	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 356 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 512 CU.YD.
FILL VOLUME 0 CU.YD.



CUT AREA 197 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 362 CU.YD.
FILL VOLUME 0 CU.YD.

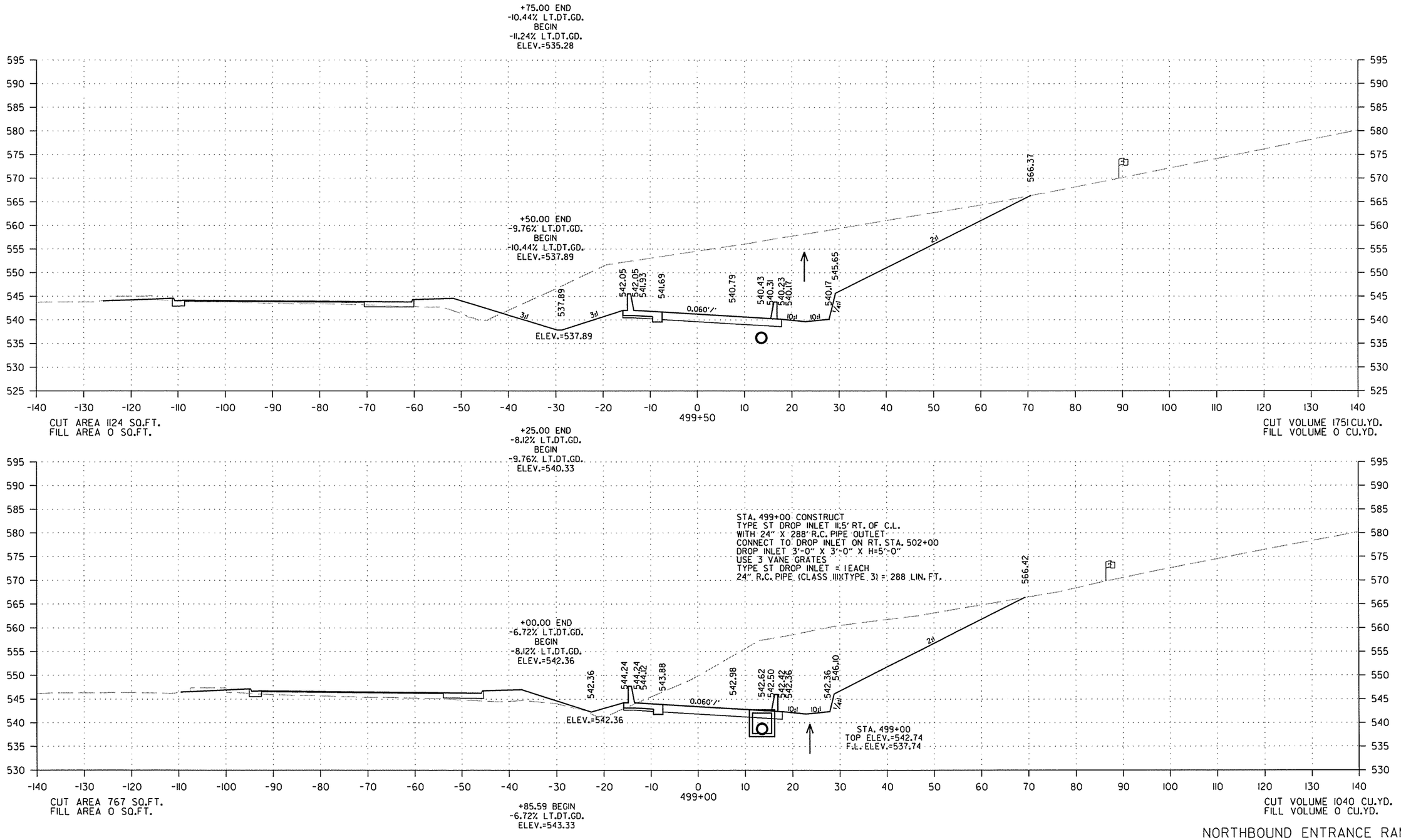
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.498+00 TO STA. 498+50

6/1/2015

R061333.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.		061333	177	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



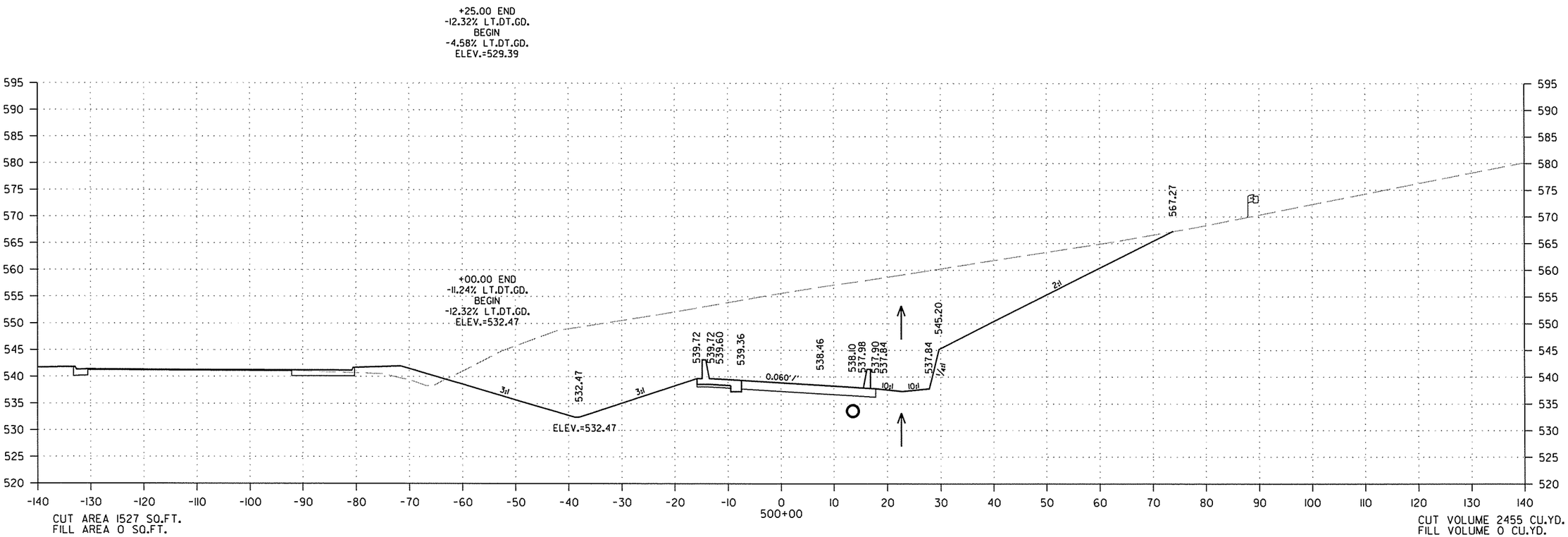
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.499+00 TO STA. 499+50

6/1/2015

R061333.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.		061333	178	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



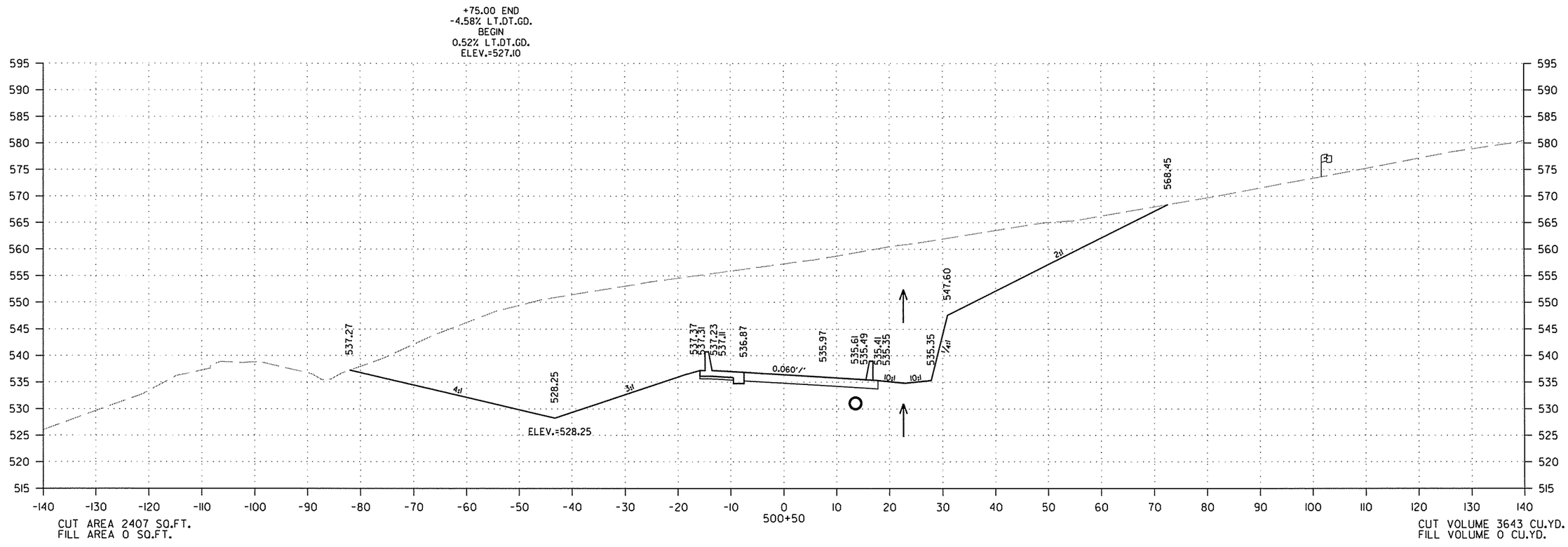
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.500+00 TO STA. 500+00

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	179	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



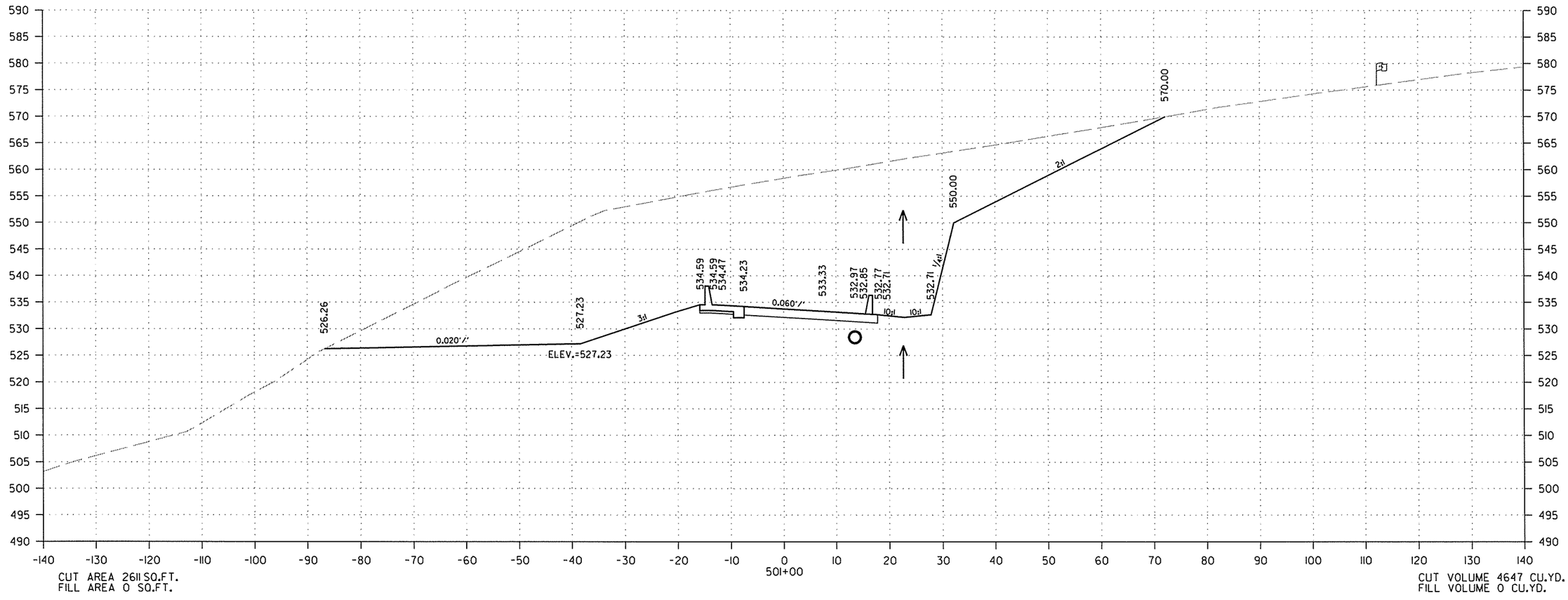
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.500+50 TO STA. 500+50

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	180	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



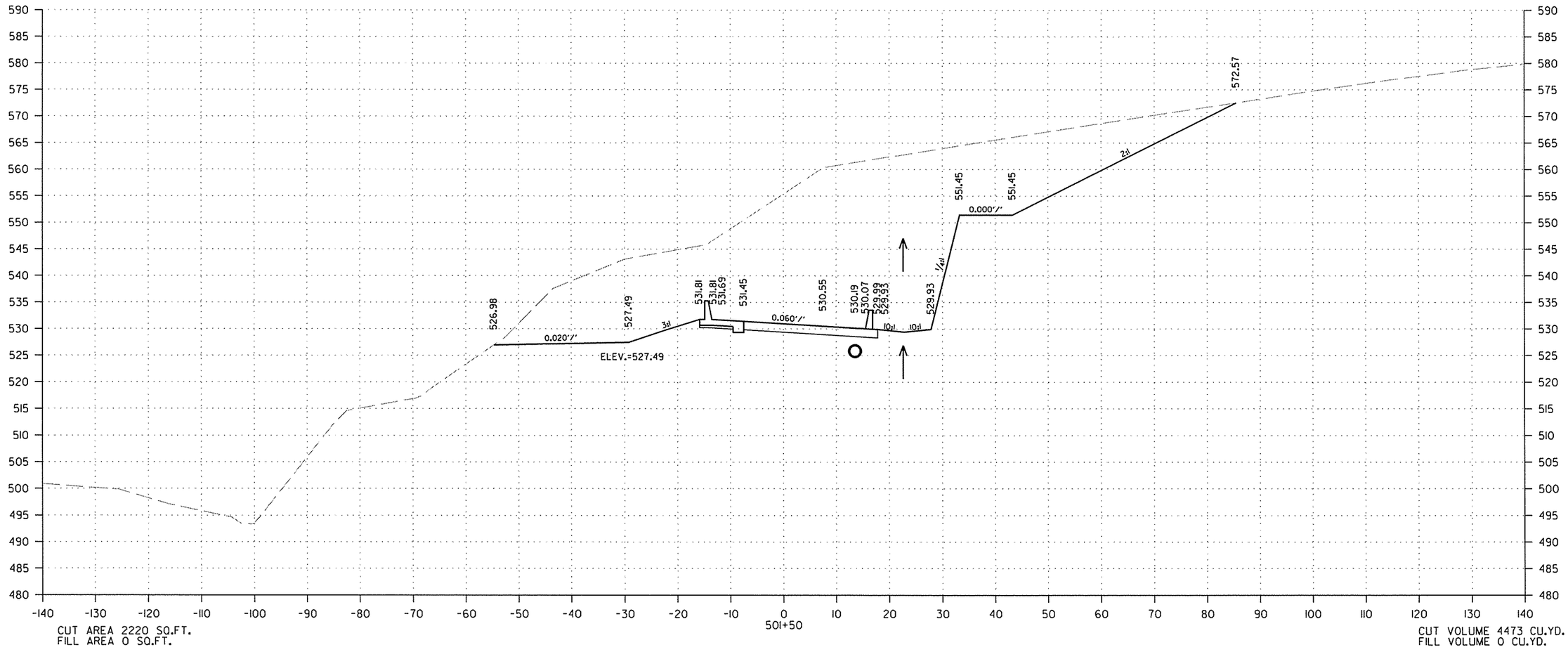
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.501+00 TO STA. 501+00

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	181	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 2220 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 4473 CU.YD.
FILL VOLUME 0 CU.YD.

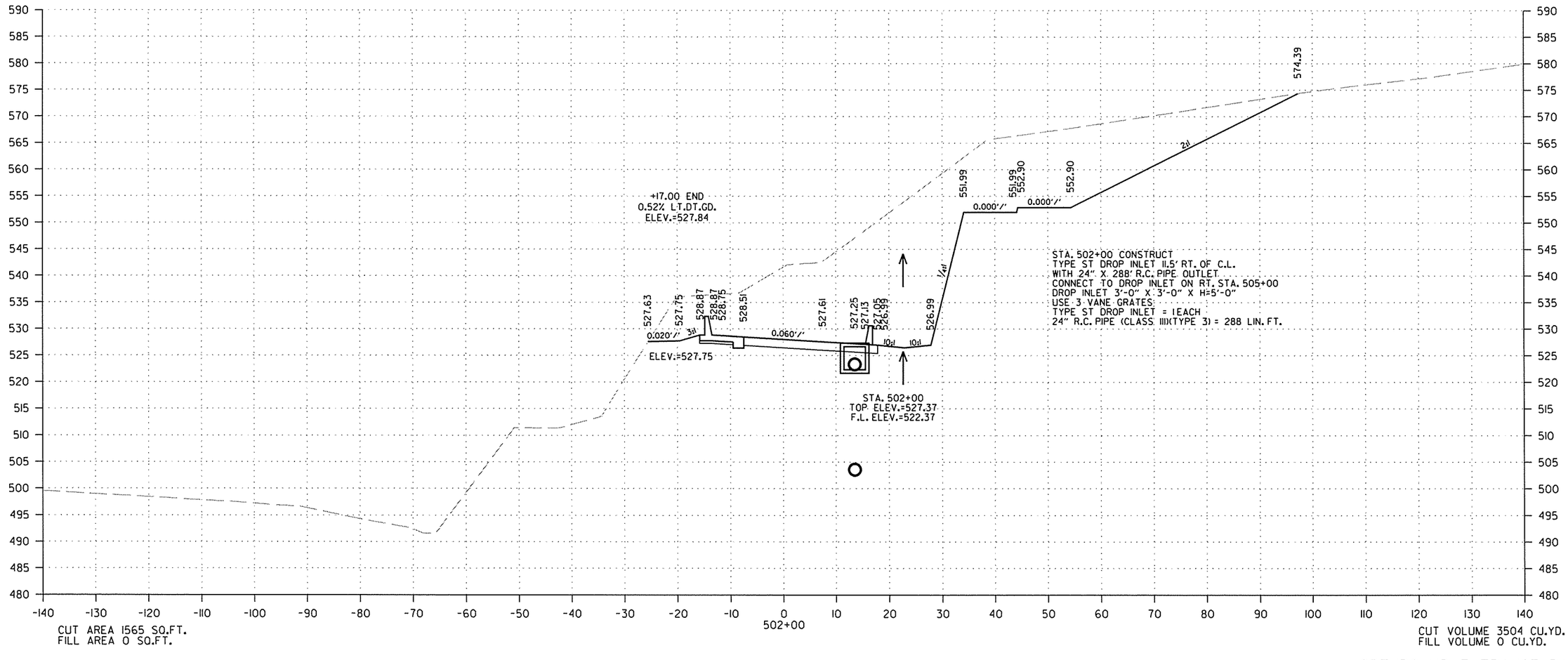
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.501+50 TO STA. 501+50

6/1/2015

R061333.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.		061333	182	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



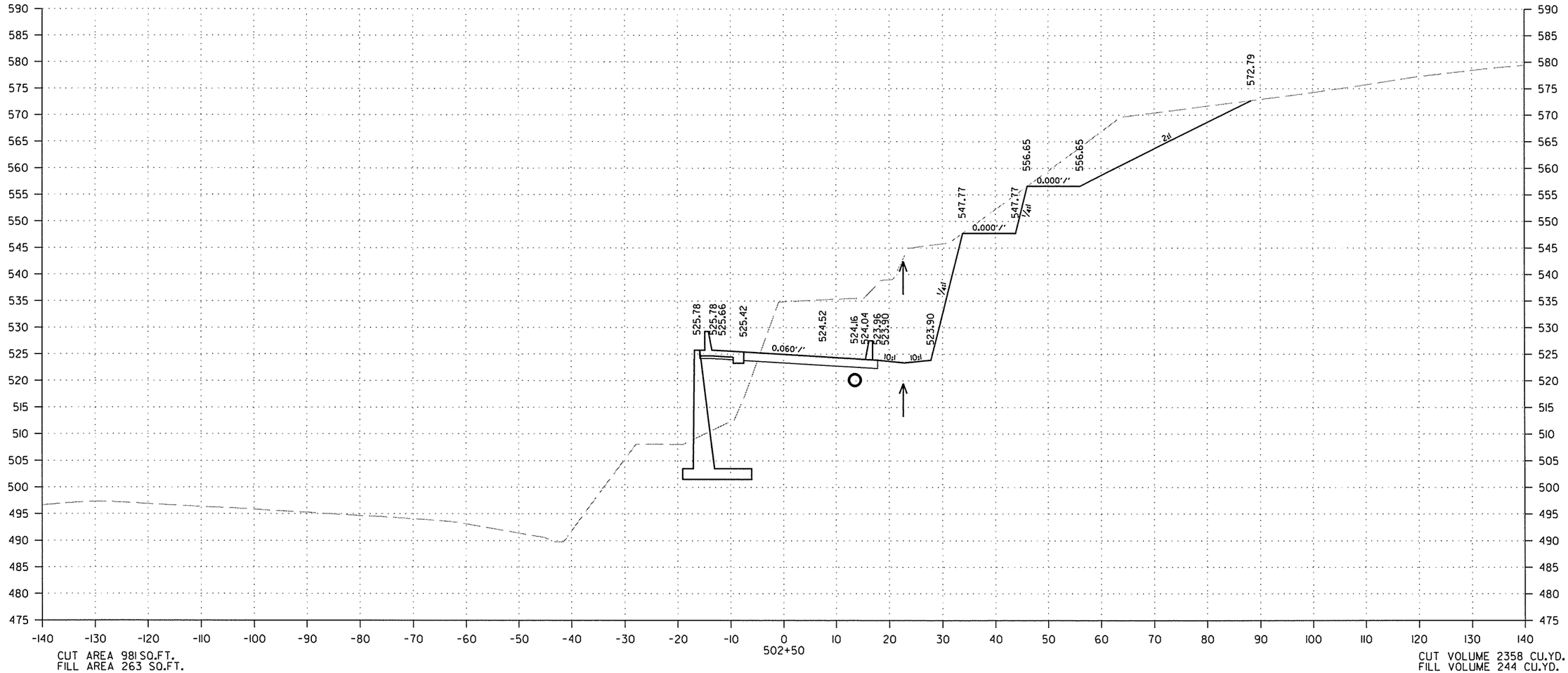
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.502+00 TO STA. 502+00

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	183	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 981 SQ.FT.
FILL AREA 263 SQ.FT.

CUT VOLUME 2358 CU.YD.
FILL VOLUME 244 CU.YD.

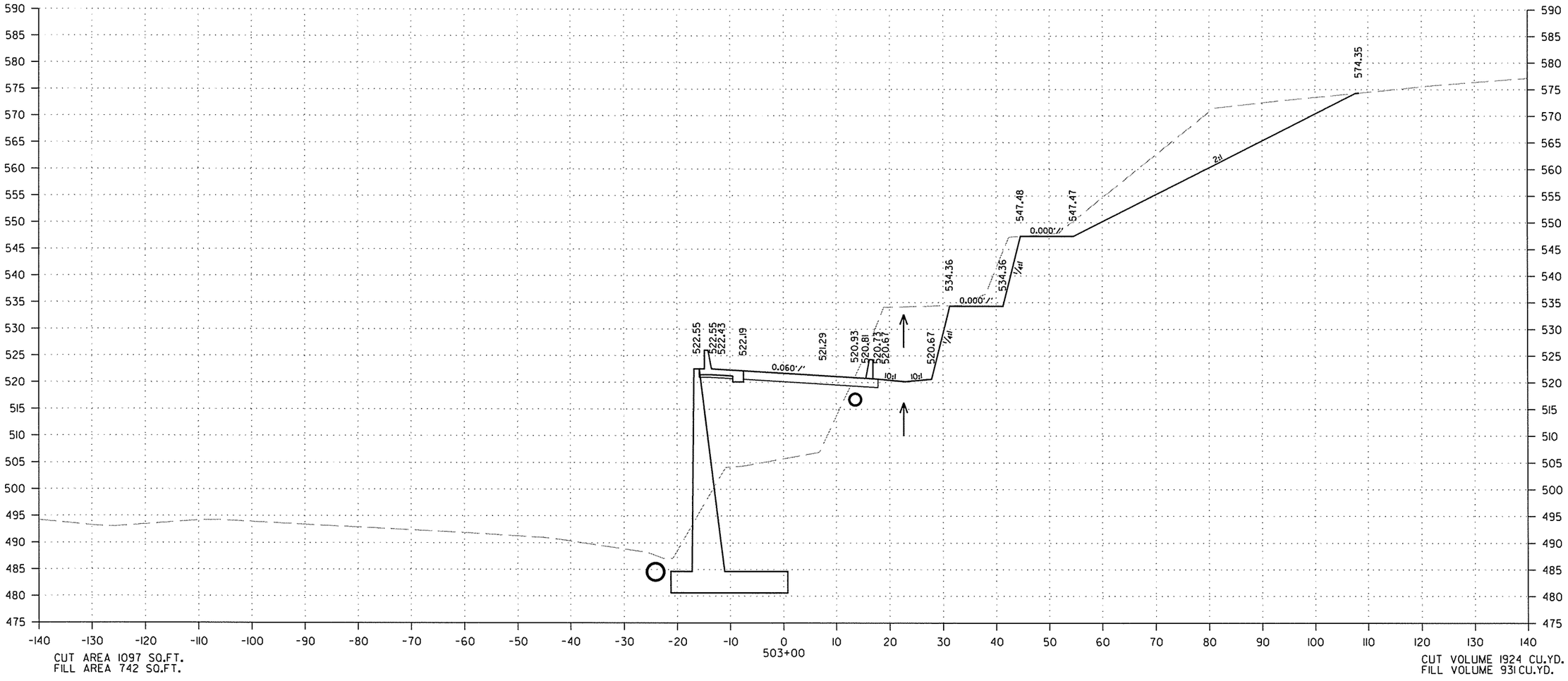
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.502+50 TO STA. 502+50

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	184	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



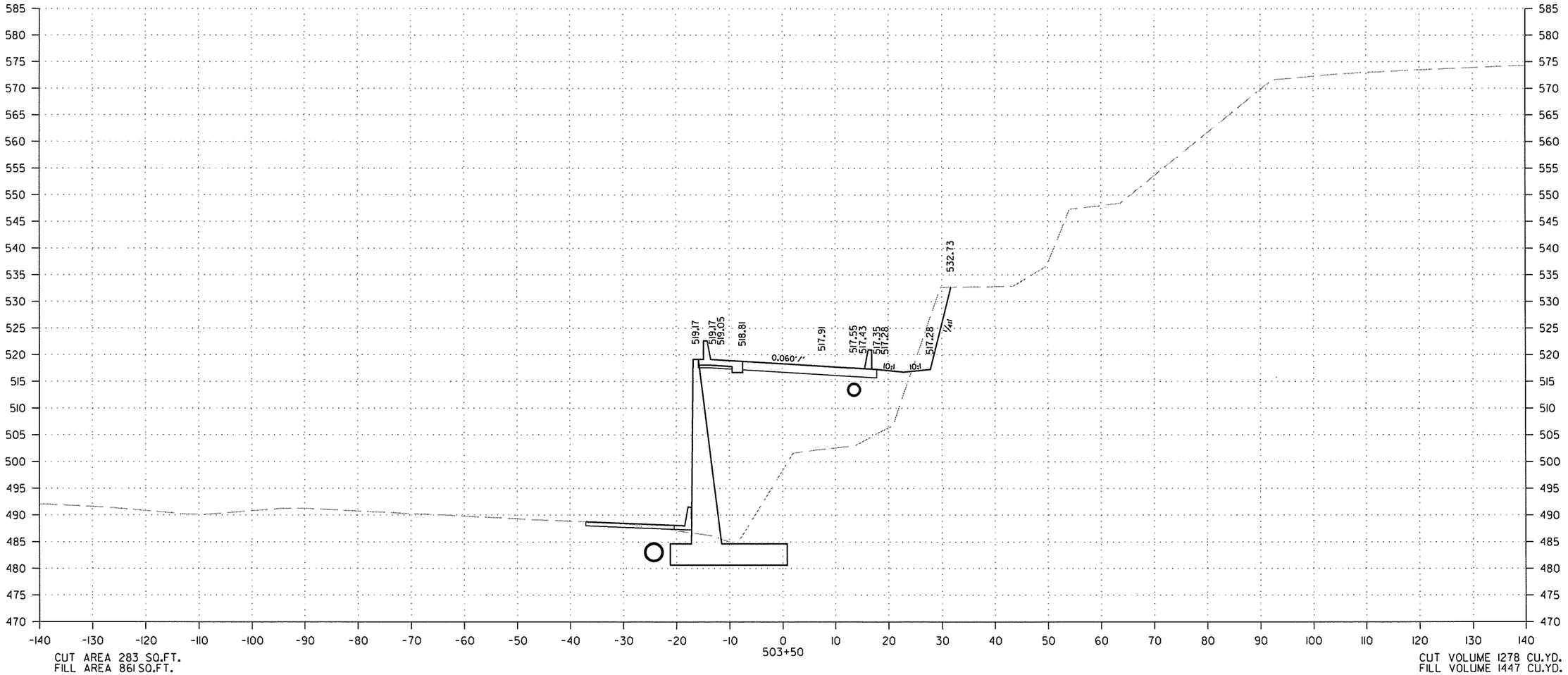
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.503+00 TO STA. 503+00

6/1/2015

R061333.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.		061333	185	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 283 SQ.FT.
FILL AREA 861 SQ.FT.

CUT VOLUME 1278 CU.YD.
FILL VOLUME 1447 CU.YD.

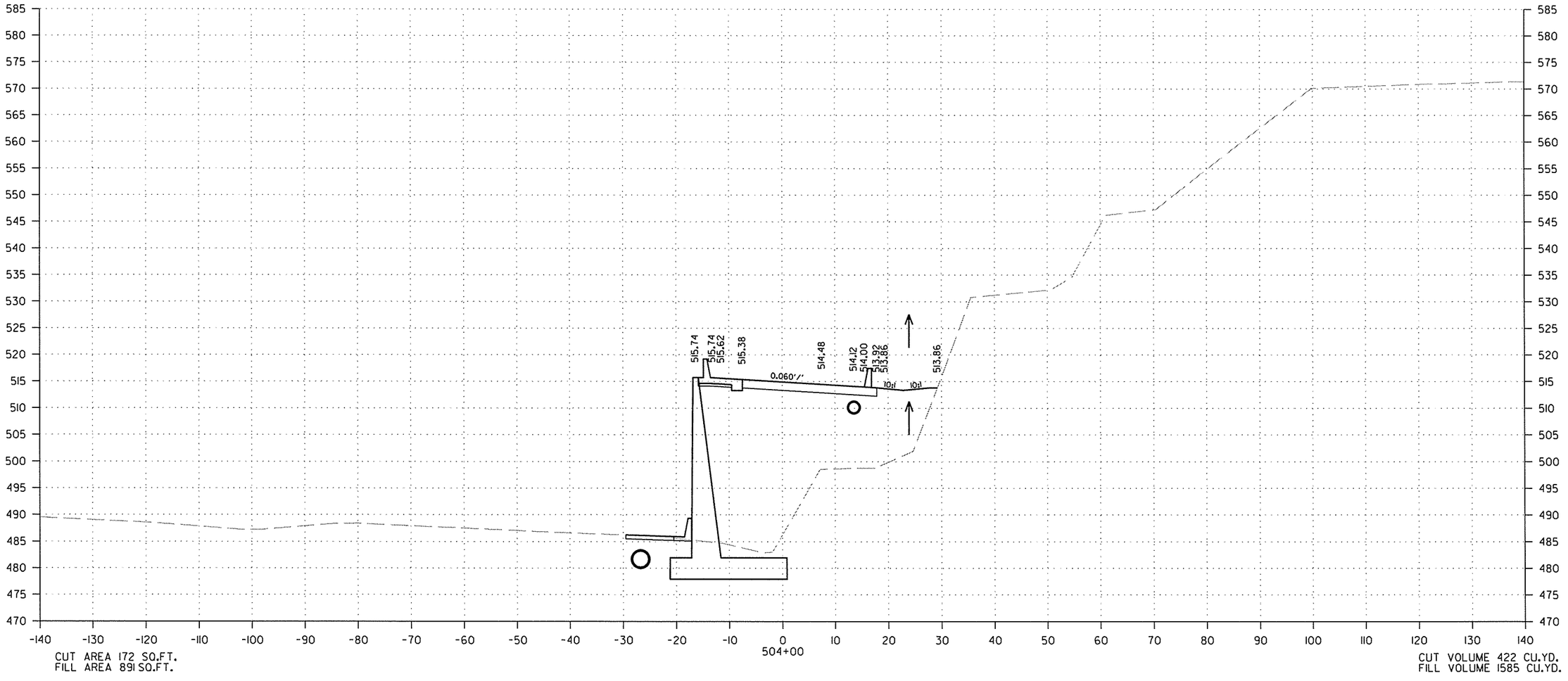
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.503+50 TO STA. 503+50

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	186	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



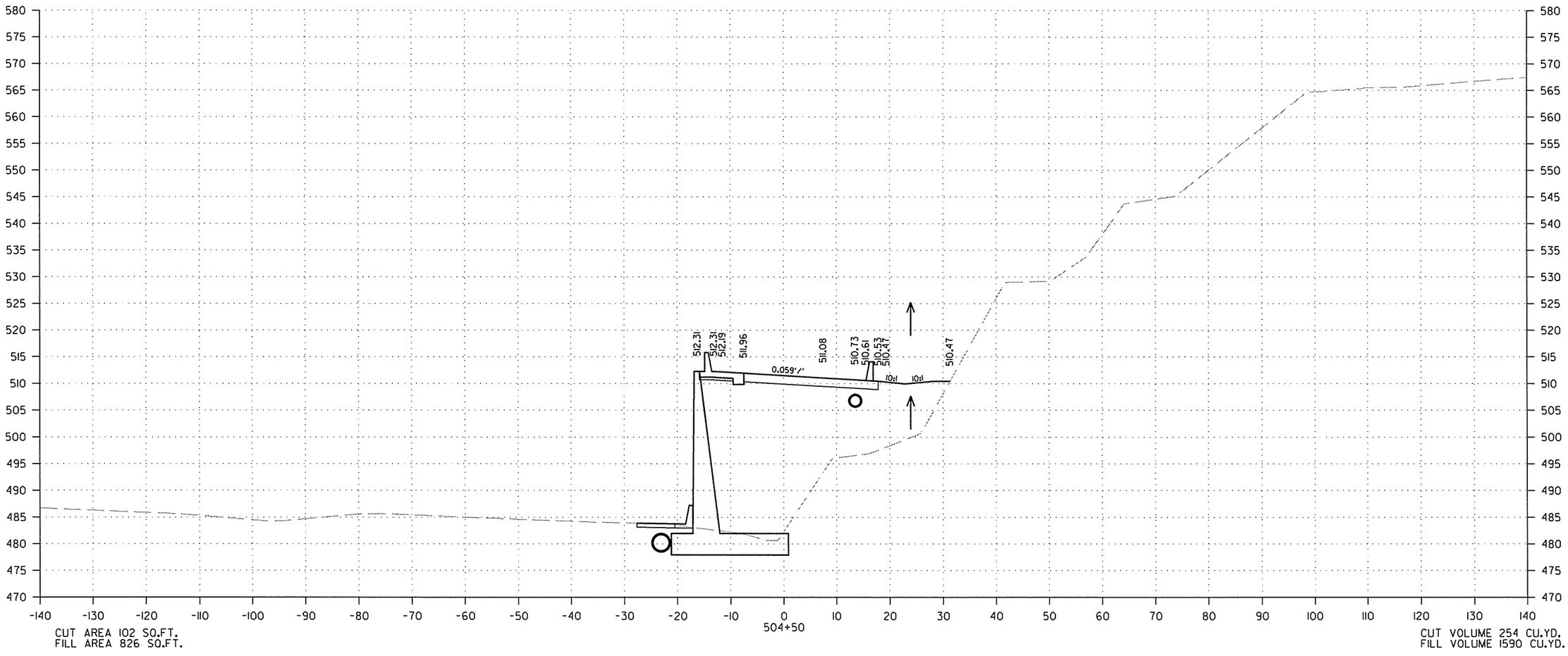
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.504+00 TO STA. 504+00

6/1/2015

R061333.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.		061333	187	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



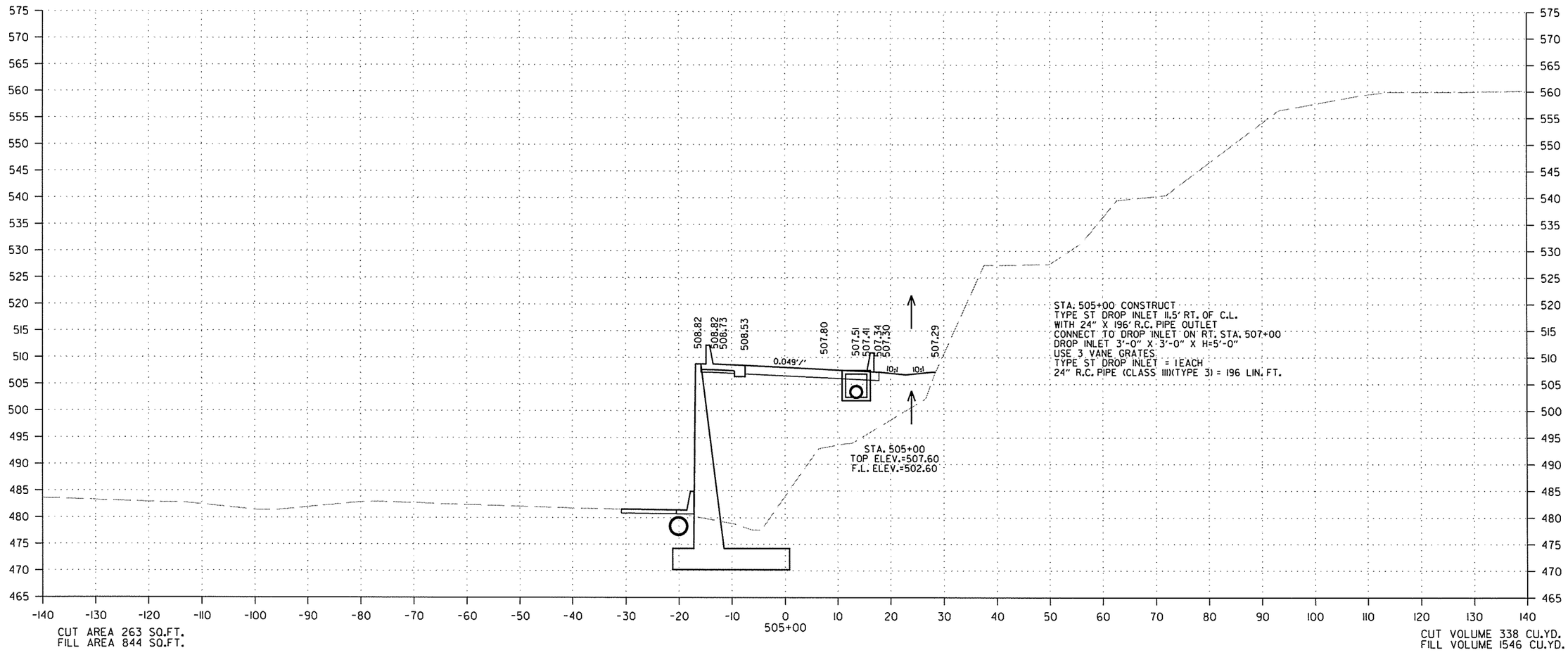
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.504+50 TO STA. 504+50

6/1/2015

R061333.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.		061333	188	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



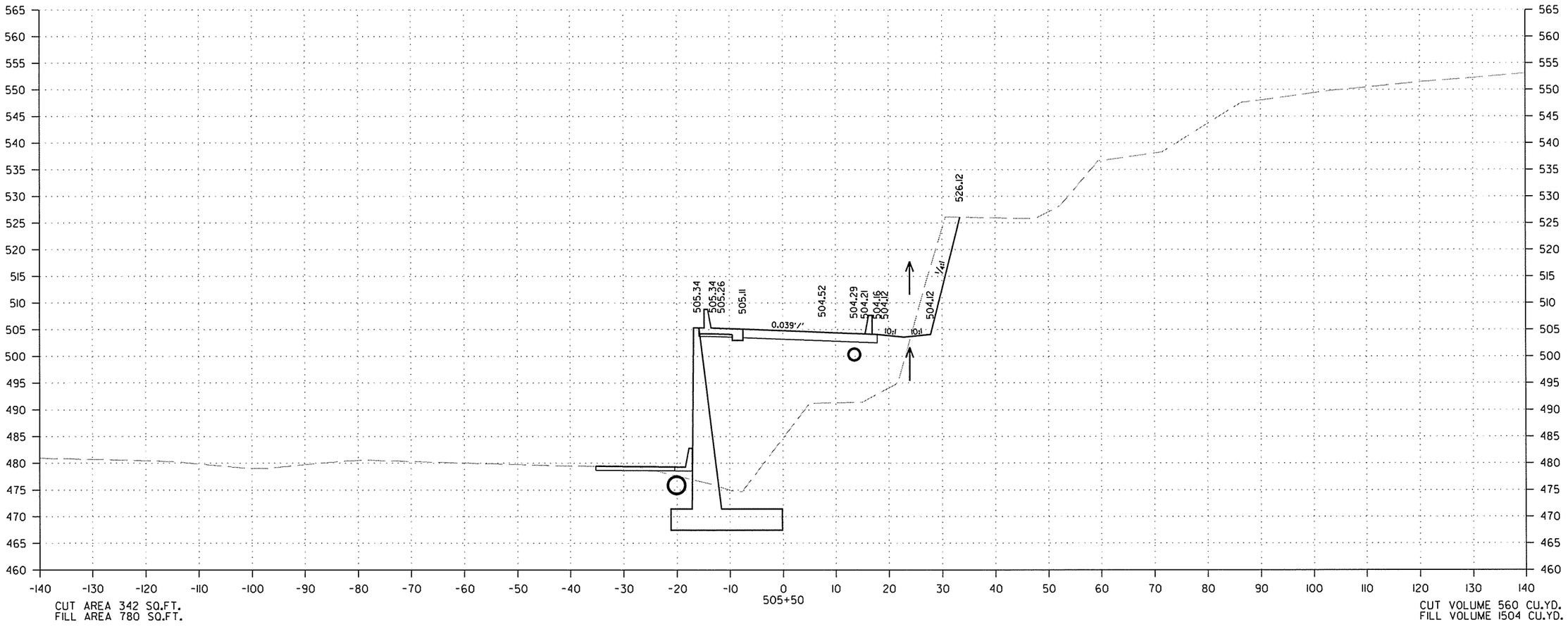
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.505+00 TO STA. 505+00

6/1/2015

R061333.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.		061333	189	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



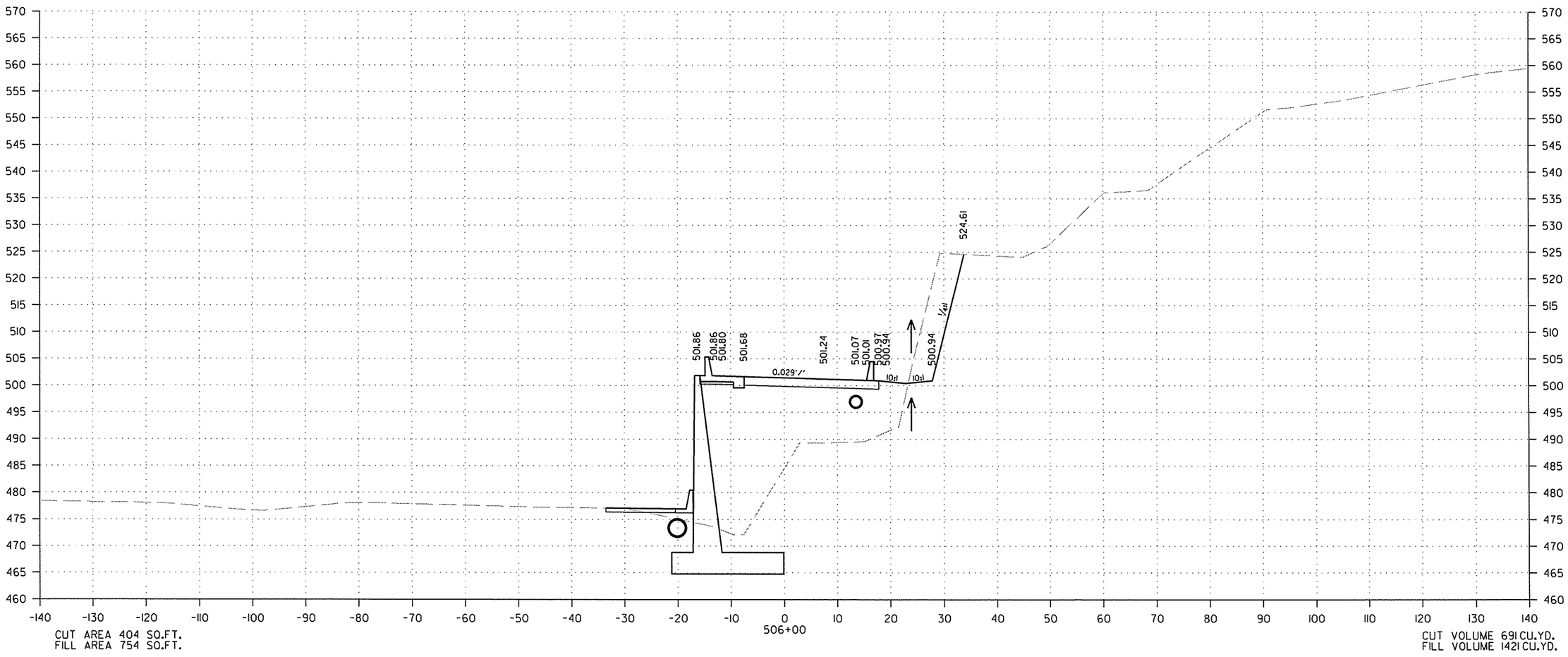
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.505+50 TO STA. 505+50

6/1/2015

R061333.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.		061333	190	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 404 SQ.FT.
FILL AREA 754 SQ.FT.

CUT VOLUME 691 CU.YD.
FILL VOLUME 1421 CU.YD.

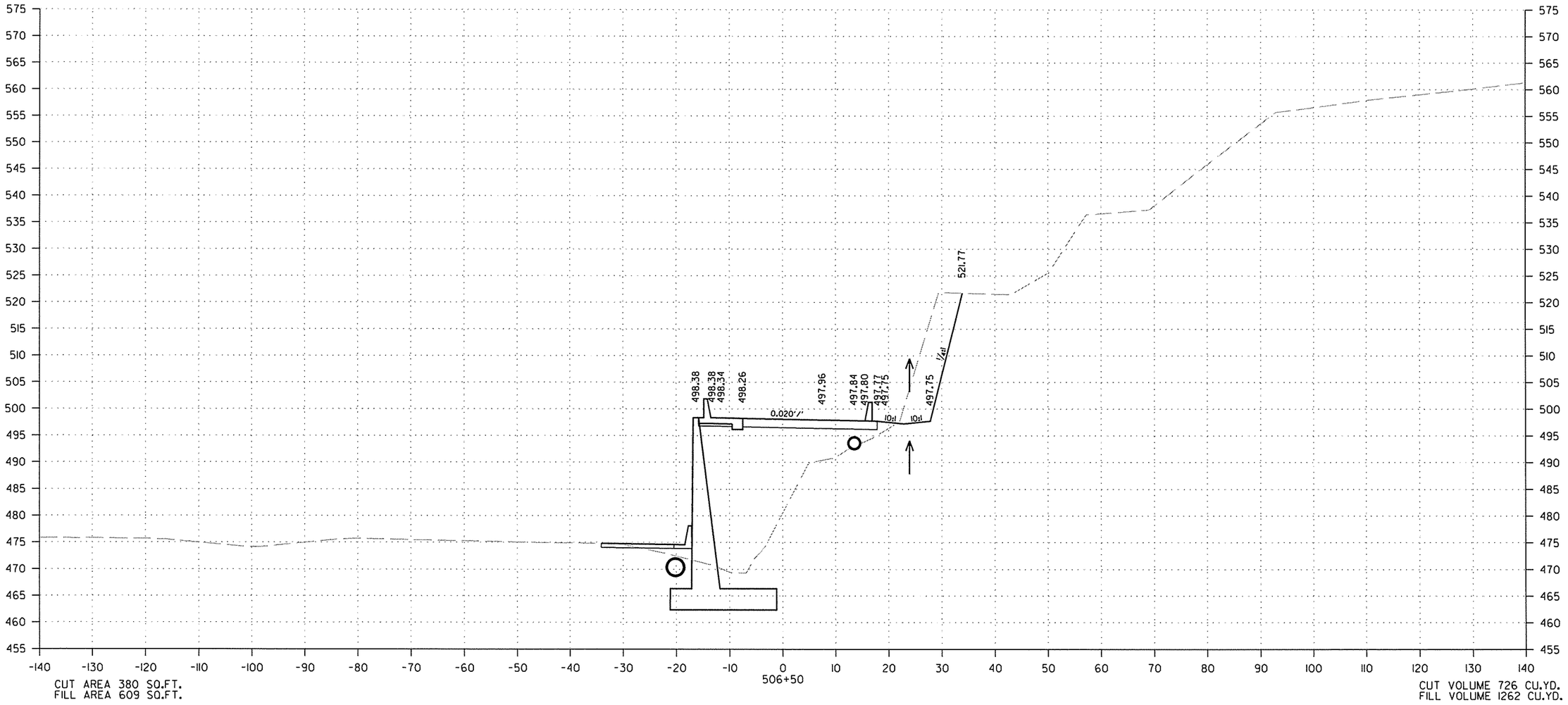
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.506+00 TO STA. 506+00

6/1/2015

R061333.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.		061333	191	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 380 SQ.FT.
FILL AREA 609 SQ.FT.

CUT VOLUME 726 CU.YD.
FILL VOLUME 1262 CU.YD.

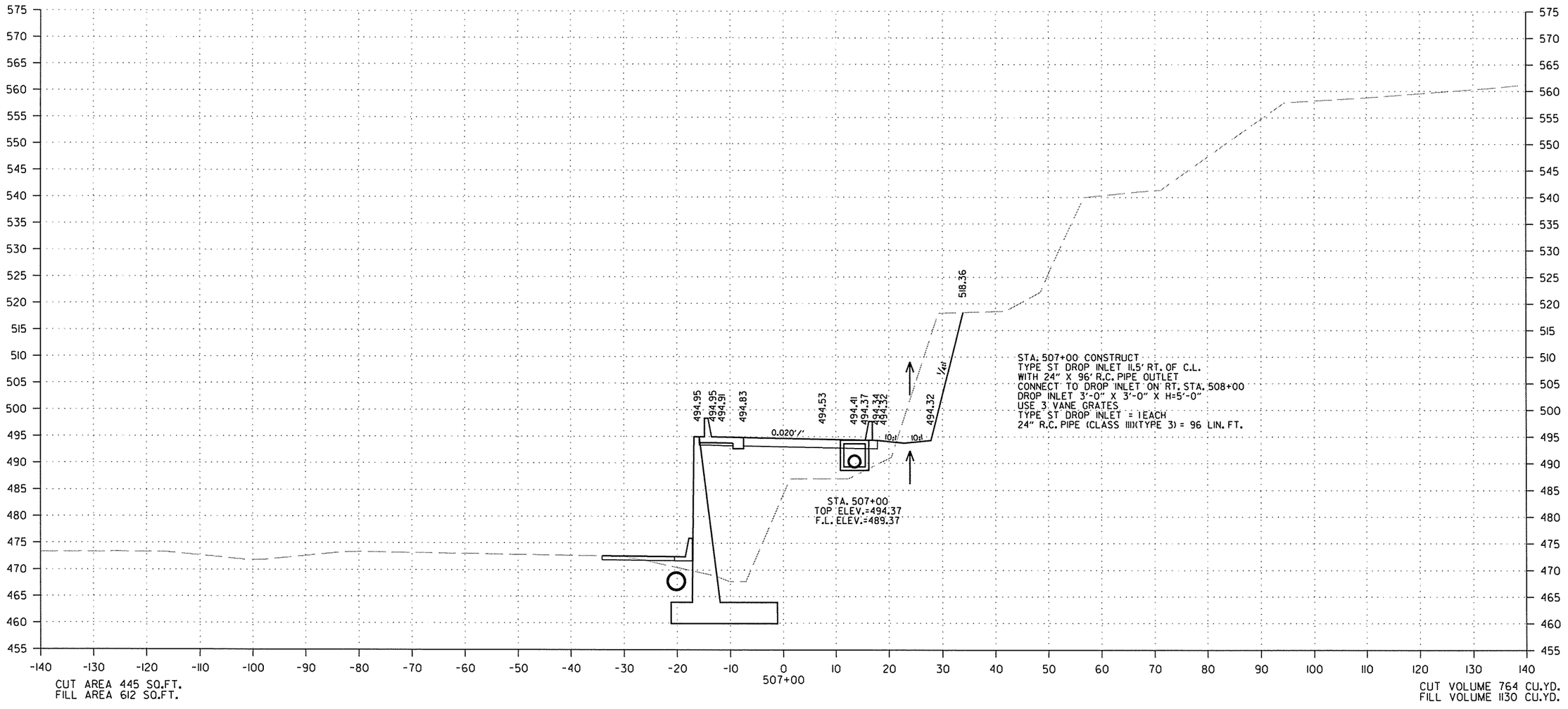
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.506+50 TO STA. 506+50

6/1/2015

R061333.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.		061333	192	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



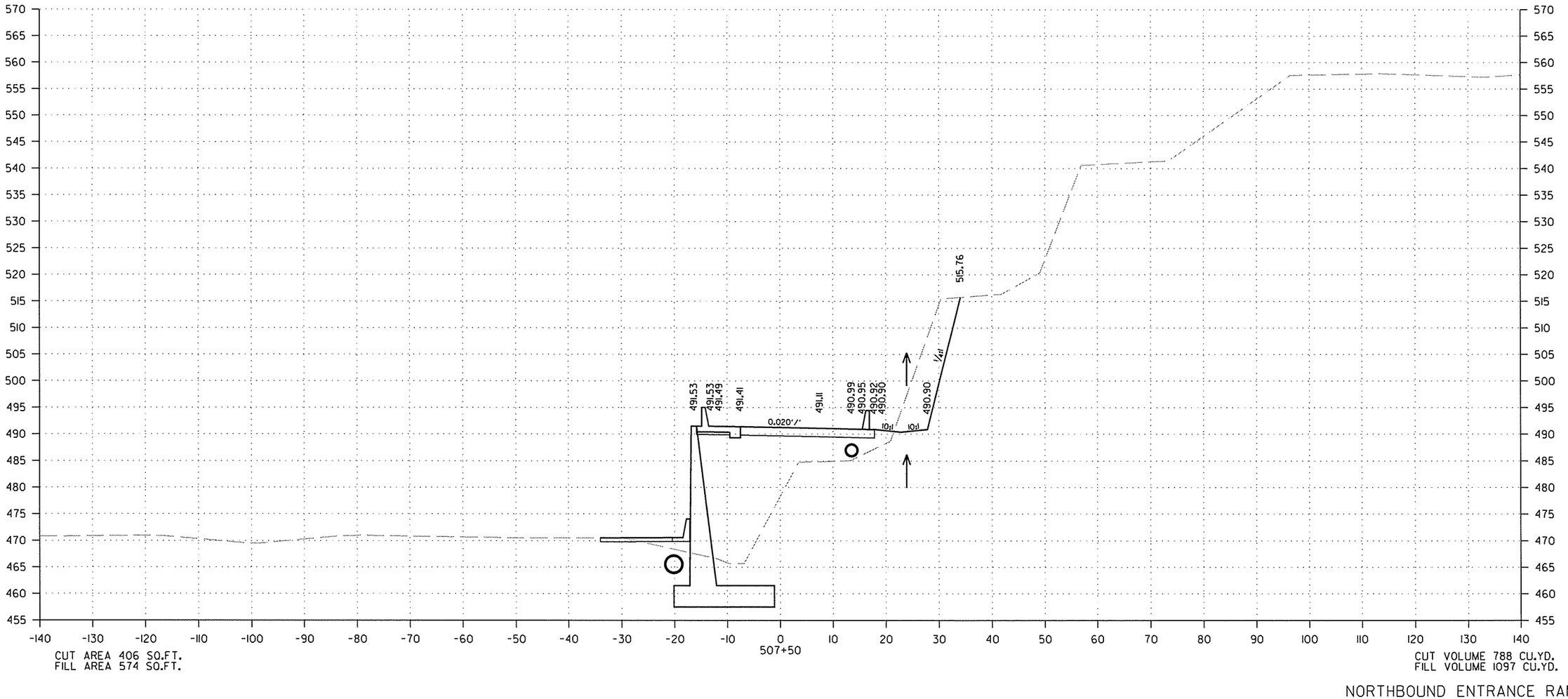
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.507+00 TO STA. 507+00

6/1/2015

R061333.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.		061333	193	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 406 SQ.FT.
FILL AREA 574 SQ.FT.

CUT VOLUME 788 CU.YD.
FILL VOLUME 1097 CU.YD.

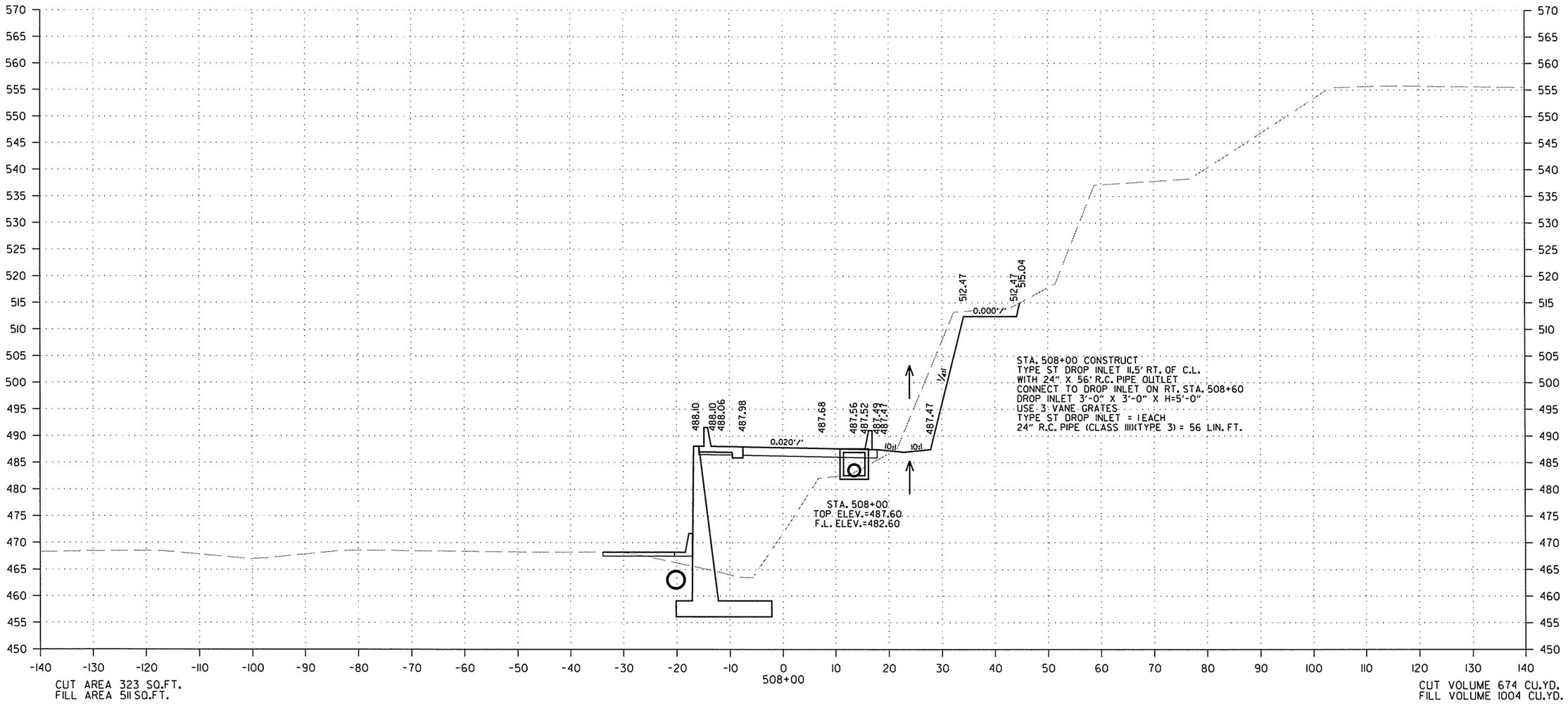
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.507+50 TO STA. 507+50

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	194	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



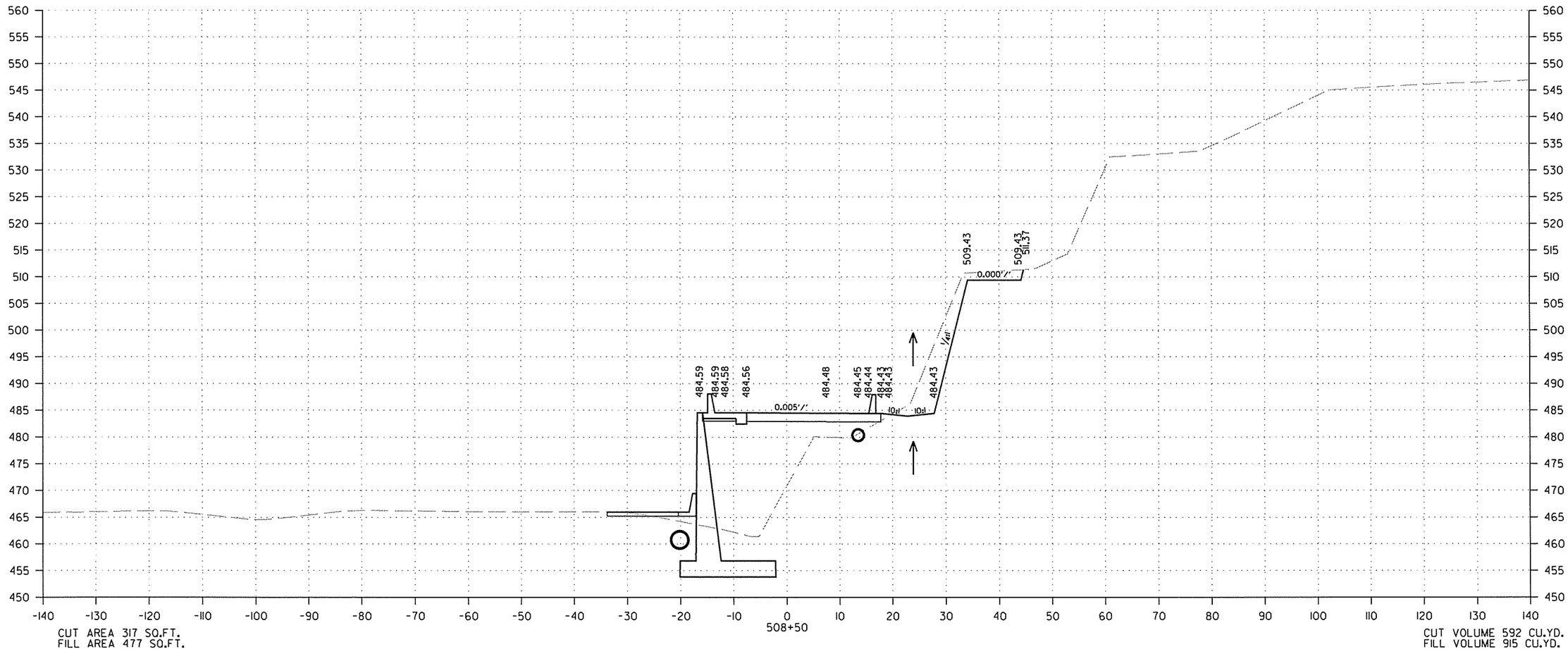
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.508+00 TO STA. 508+00

6/1/2015

R061333.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.		061333	195	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



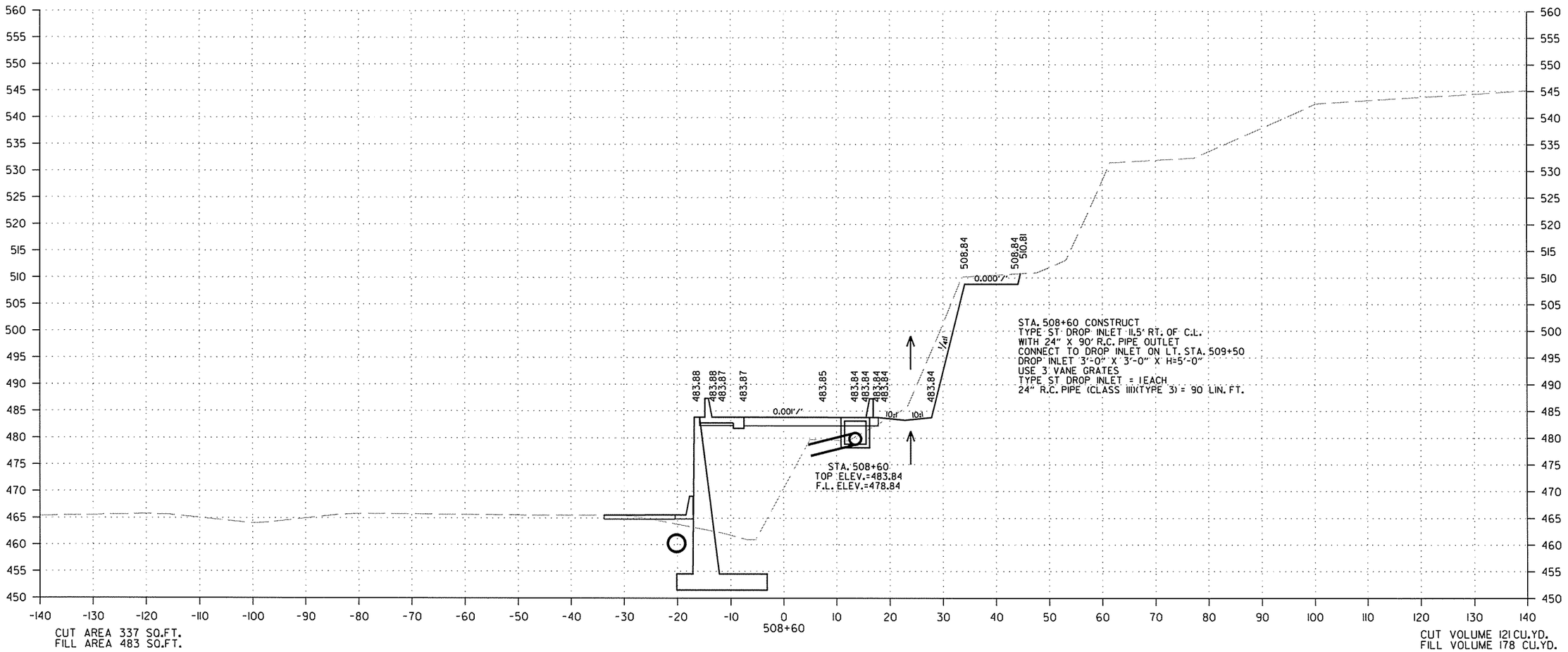
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.508+50 TO STA. 508+50

6/1/2015

R061333.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.		061333	196	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



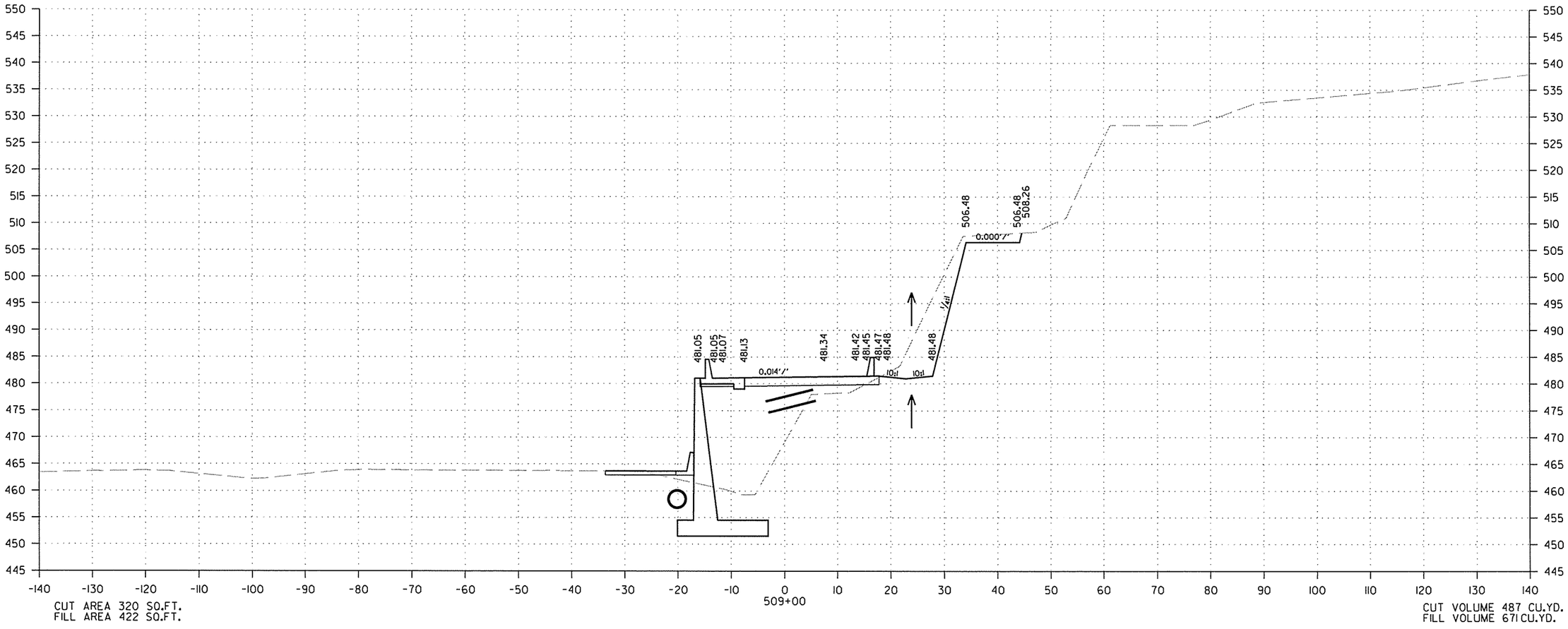
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.508+60 TO STA. 508+60

6/1/2015

R061333.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.		061333	197	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



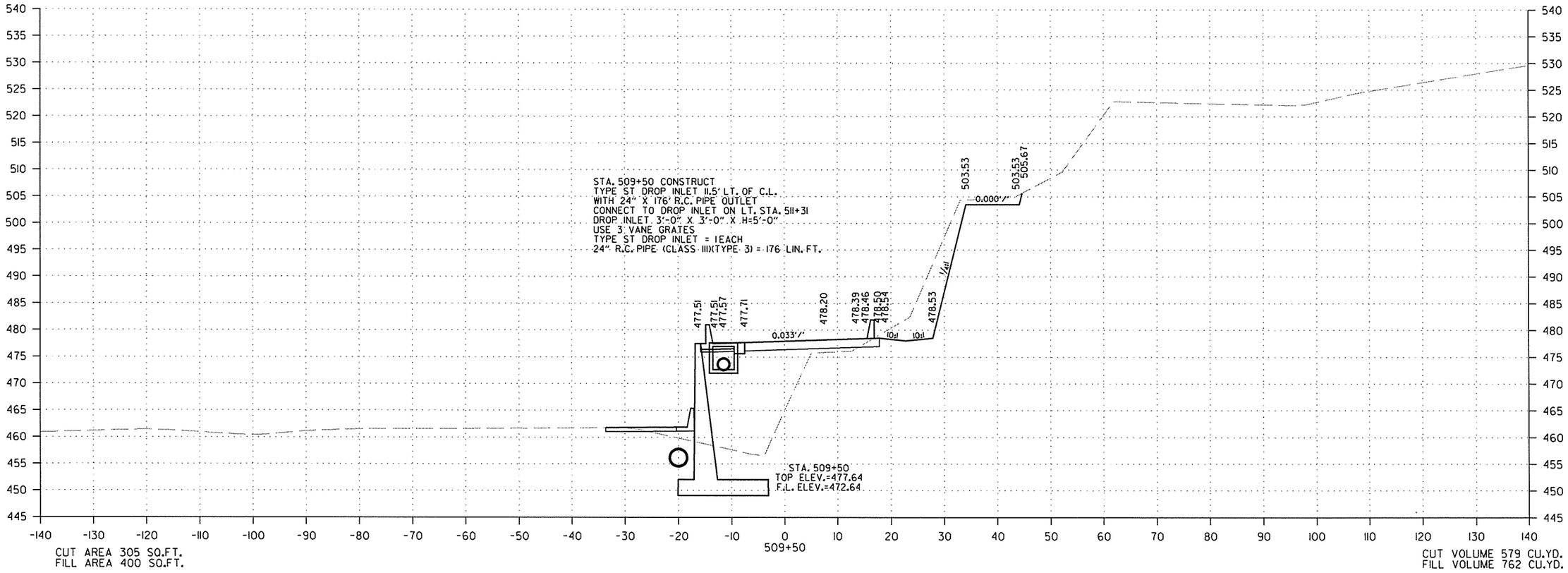
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.509+00 TO STA. 509+00

6/1/2015

R061333.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.		061333	198	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



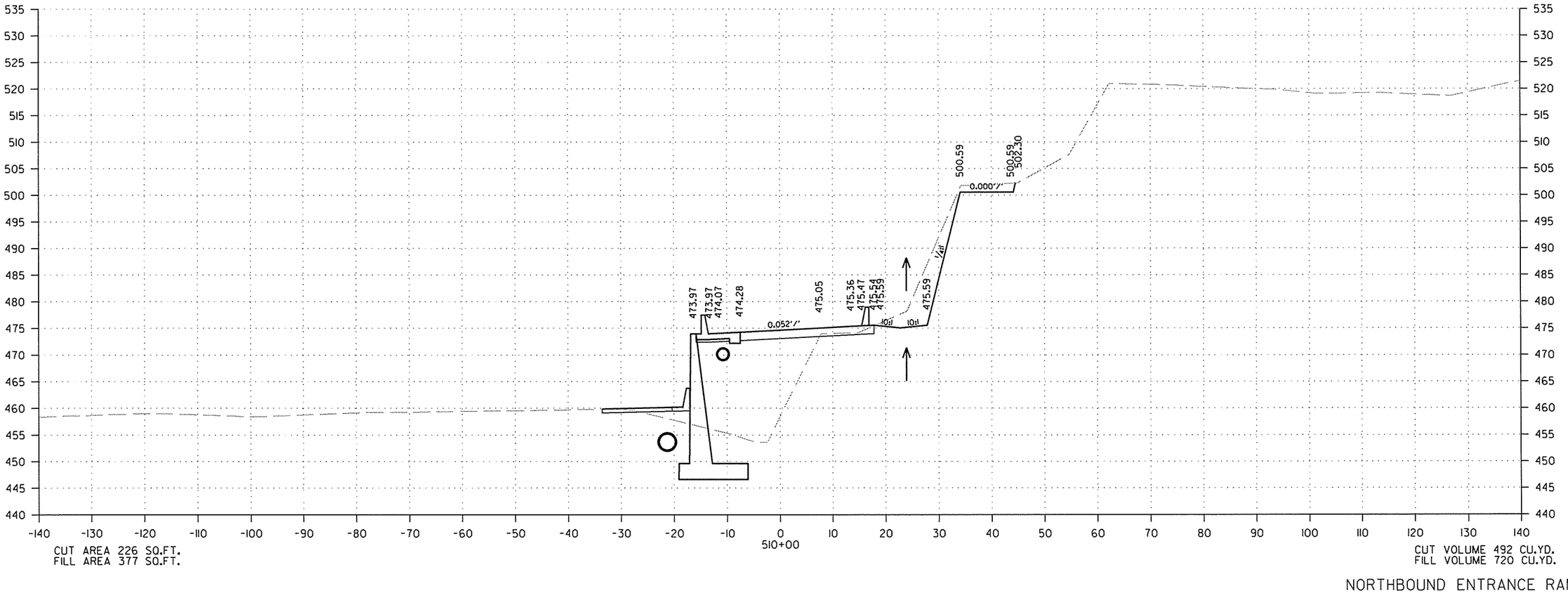
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.509+50 TO STA. 509+50

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	199	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 226 SQ.FT.
FILL AREA 377 SQ.FT.

CUT VOLUME 492 CU.YD.
FILL VOLUME 720 CU.YD.

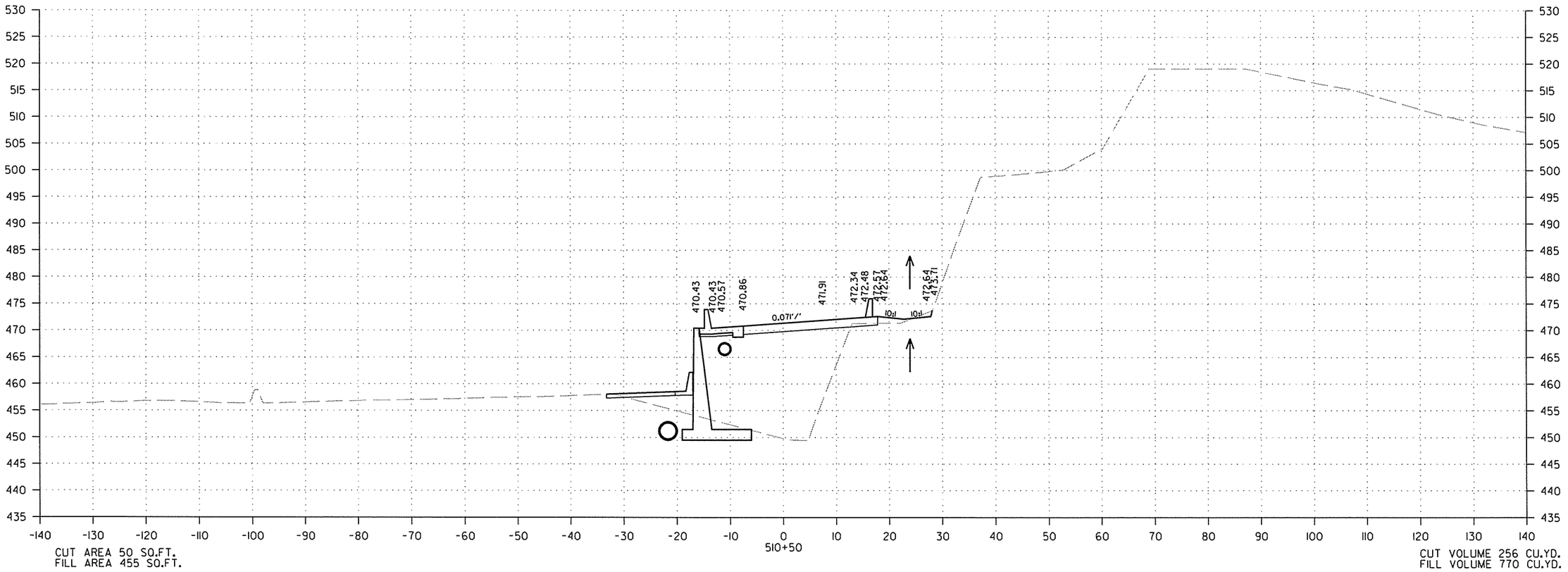
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.510+00 TO STA. 510+00

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	200	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



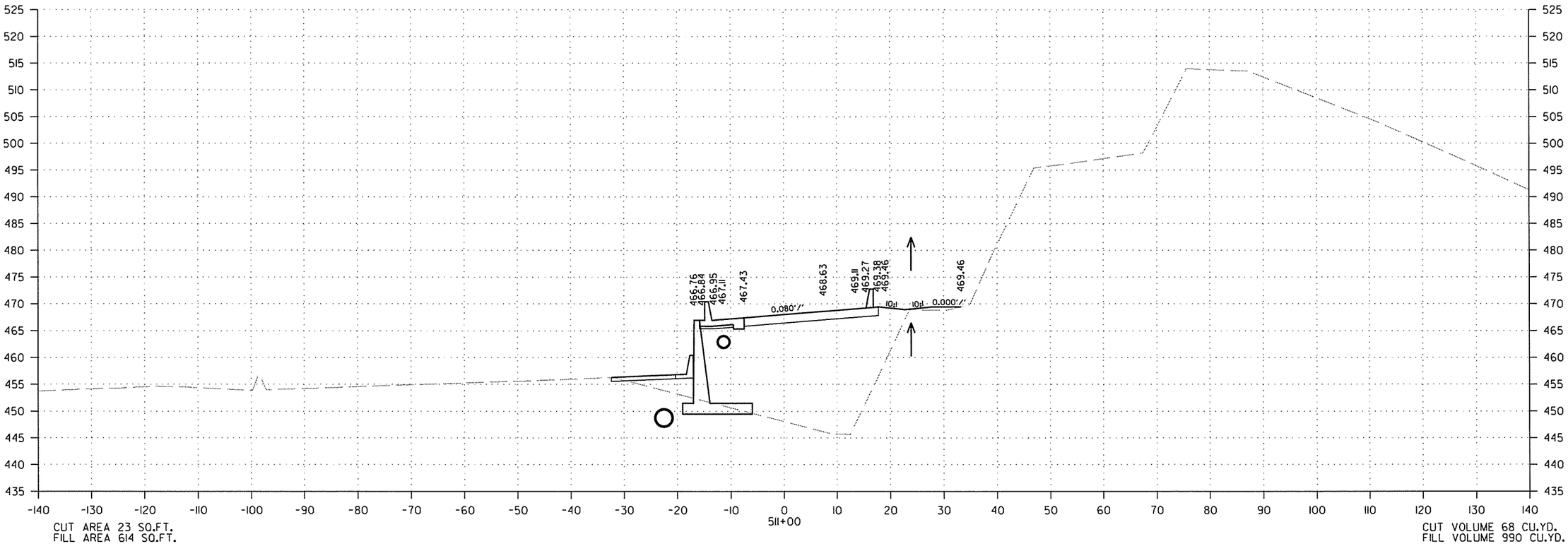
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.510+50 TO STA. 510+50

6/1/2015

R061333.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.		061333	201	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 23 SQ.FT.
FILL AREA 614 SQ.FT.

CUT VOLUME 68 CU.YD.
FILL VOLUME 990 CU.YD.

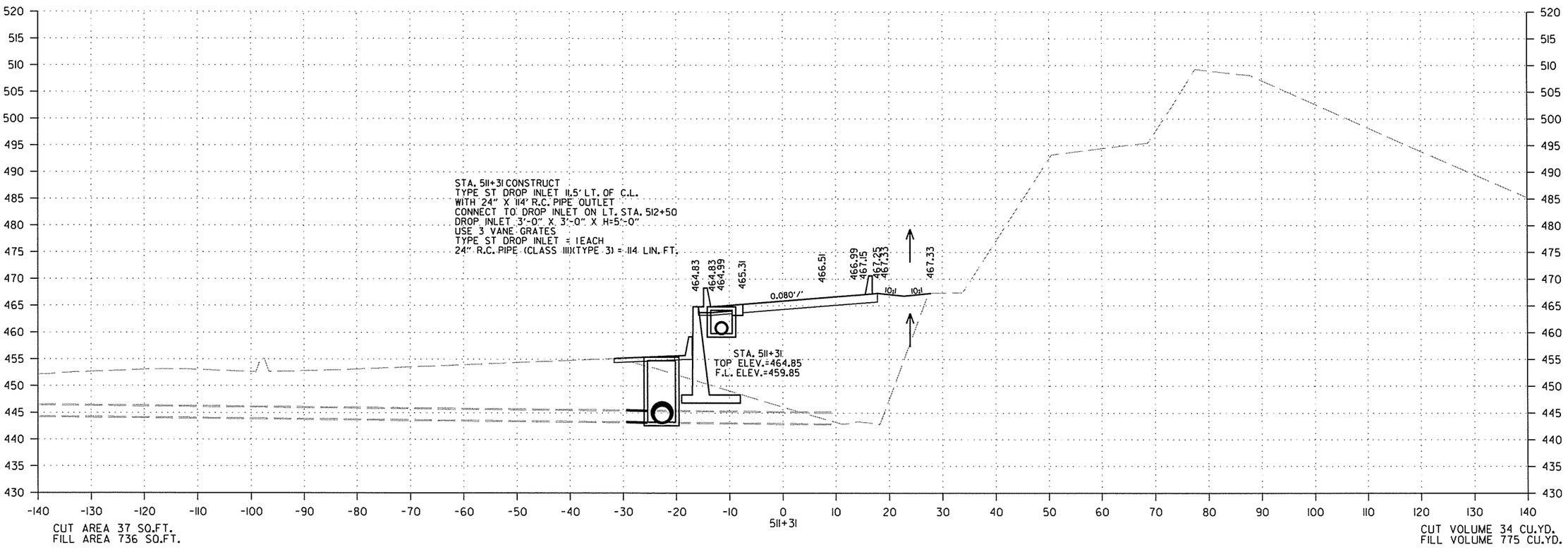
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.511+00 TO STA. 511+00

6/1/2015

R061333.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.		061333	202	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



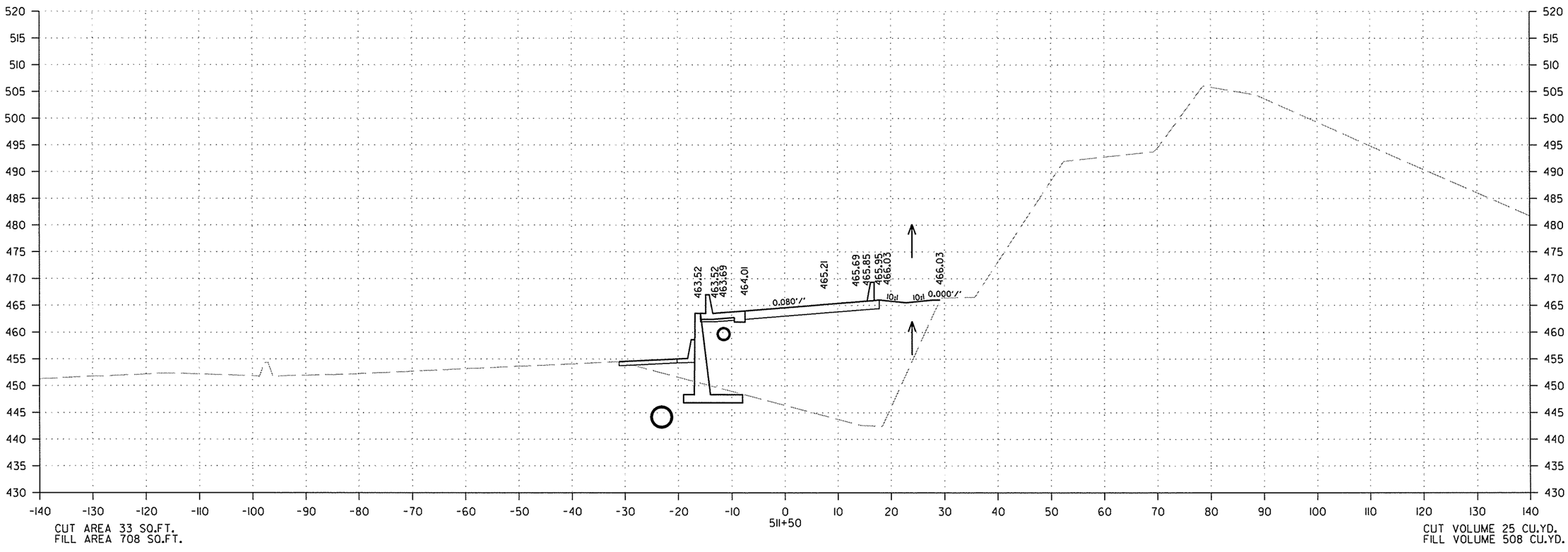
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.511+31 TO STA. 511+31

6/1/2015

R061333.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.		061333	203	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 33 SQ.FT.
FILL AREA 708 SQ.FT.

CUT VOLUME 25 CU.YD.
FILL VOLUME 508 CU.YD.

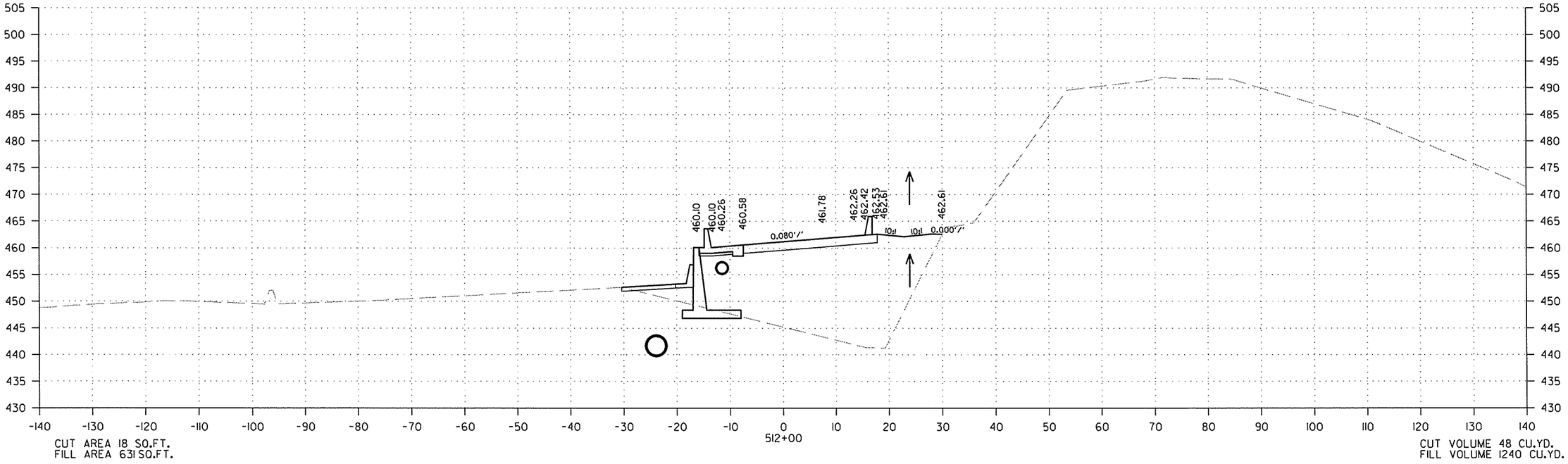
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.511+50 TO STA. 511+50

6/1/2015

R061333.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.		061333	204	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 18 SQ.FT.
FILL AREA 631 SQ.FT.

CUT VOLUME 48 CU.YD.
FILL VOLUME 1240 CU.YD.

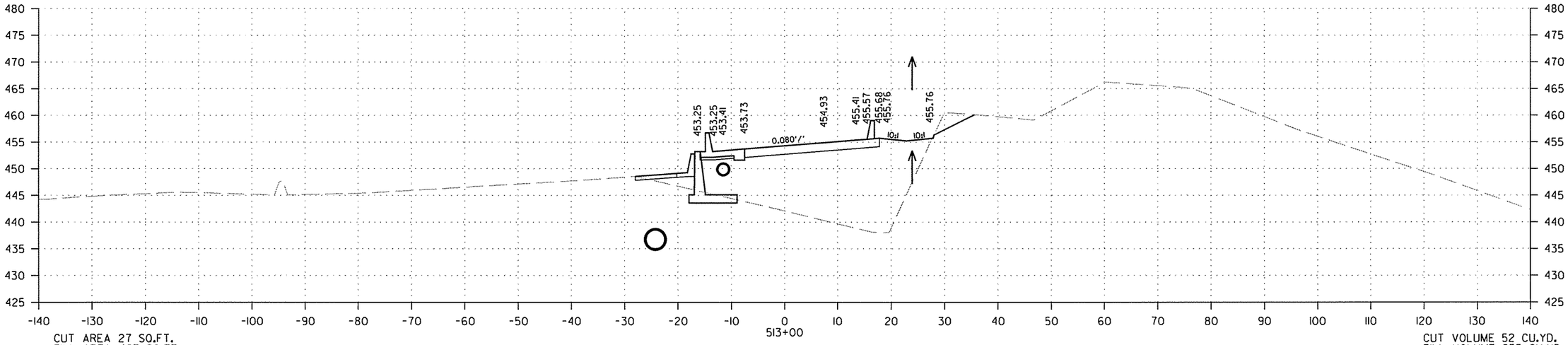
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.512+00 TO STA. 512+00

6/1/2015

R061333.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.		061333	205	272

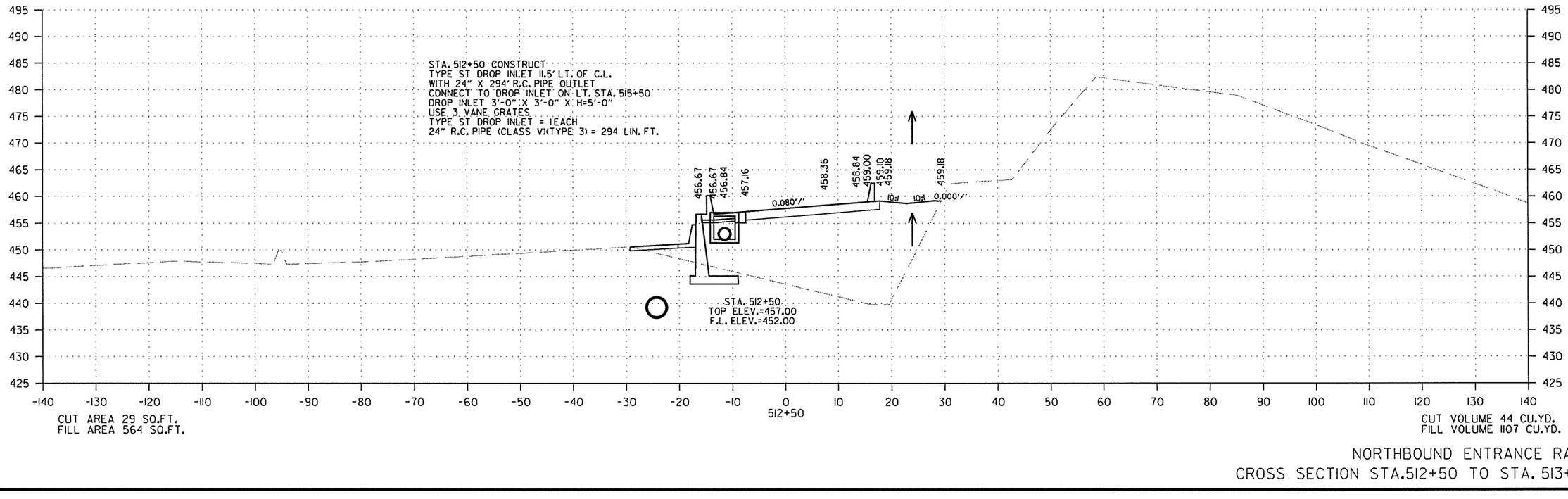
(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 27 SQ.FT.
FILL AREA 467 SQ.FT.

CUT VOLUME 52 CU.YD.
FILL VOLUME 955 CU.YD.

STA. 512+50 CONSTRUCT
TYPE ST DROP INLET 11.5' LT. OF C.L.
WITH 24" X 294' R.C. PIPE OUTLET
CONNECT TO DROP INLET ON LT. STA. 515+50
DROP INLET 3'-0" X 3'-0" X H=5'-0"
USE 3 VANE GRATES
TYPE ST DROP INLET = 1EACH
24" R.C. PIPE (CLASS V)(TYPE 3) = 294 LIN. FT.



STA. 512+50
TOP ELEV.=457.00
F.L. ELEV.=452.00

CUT AREA 29 SQ.FT.
FILL AREA 564 SQ.FT.

CUT VOLUME 44 CU.YD.
FILL VOLUME 1107 CU.YD.

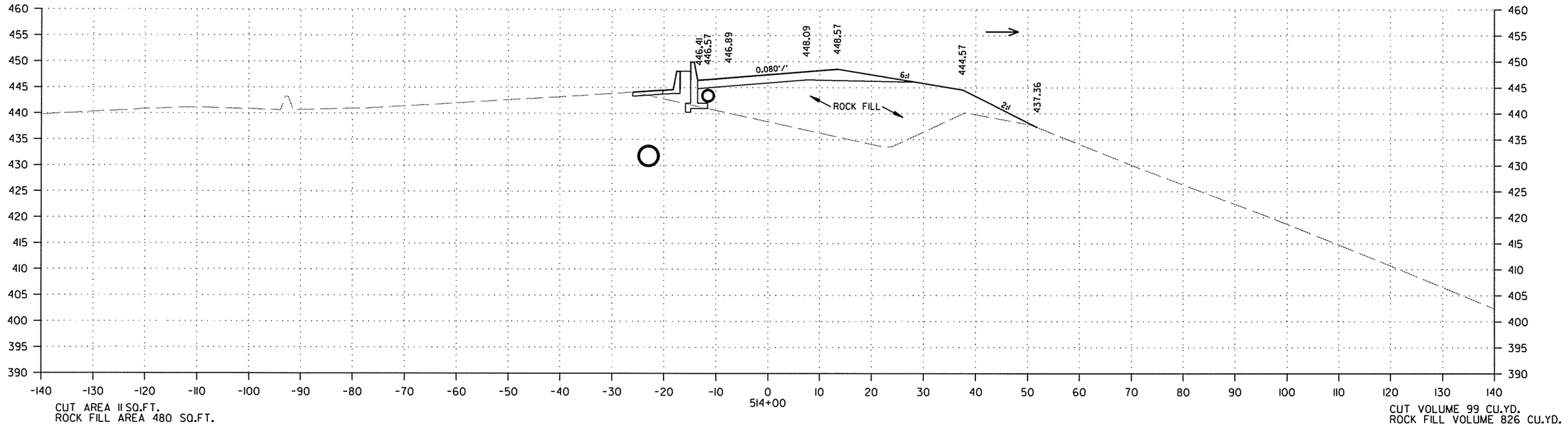
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.512+50 TO STA. 513+00

6/1/2015

R061333.DGN

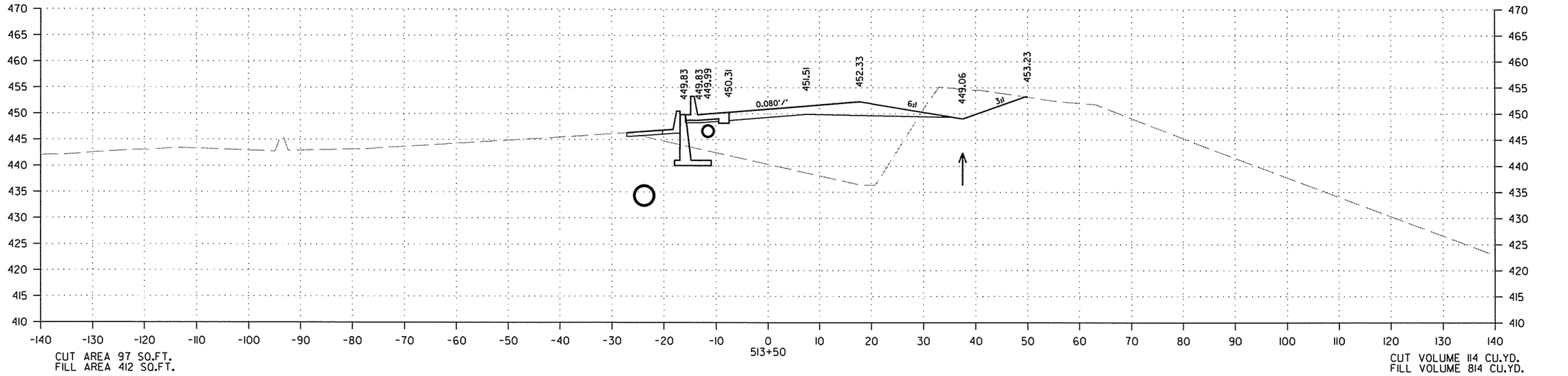
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	206	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 11 SQ.FT.
ROCK FILL AREA 480 SQ.FT.

CUT VOLUME 99 CU.YD.
ROCK FILL VOLUME 826 CU.YD.



CUT AREA 97 SQ.FT.
FILL AREA 412 SQ.FT.

CUT VOLUME 114 CU.YD.
FILL VOLUME 814 CU.YD.

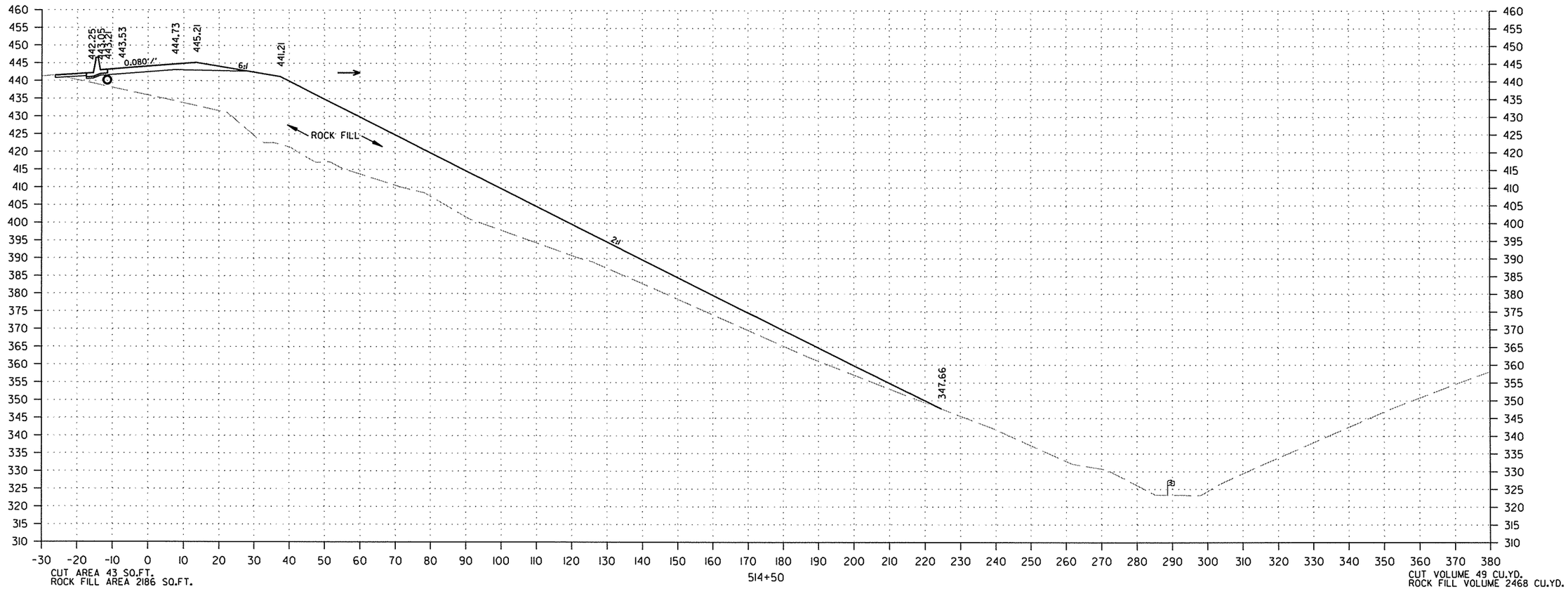
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.513+50 TO STA. 514+00

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	207	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



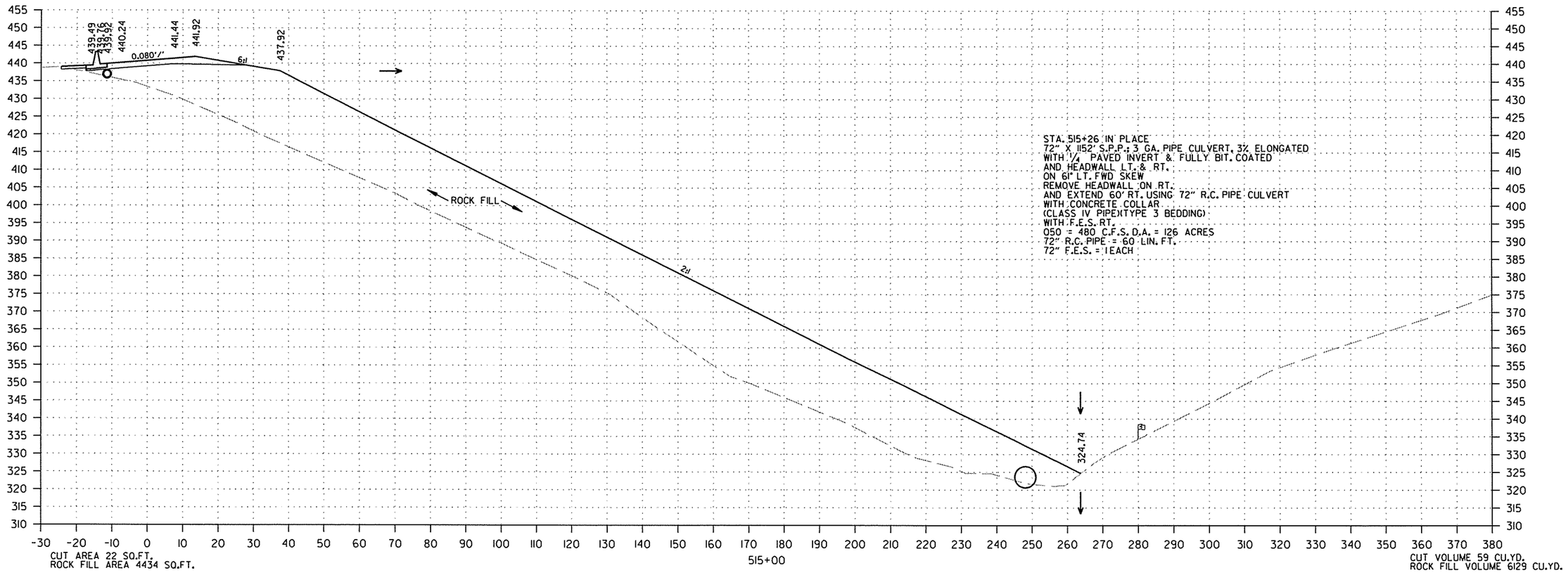
10/8/2015

R061333.DGN

NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.514+50 TO STA. 514+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	208	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



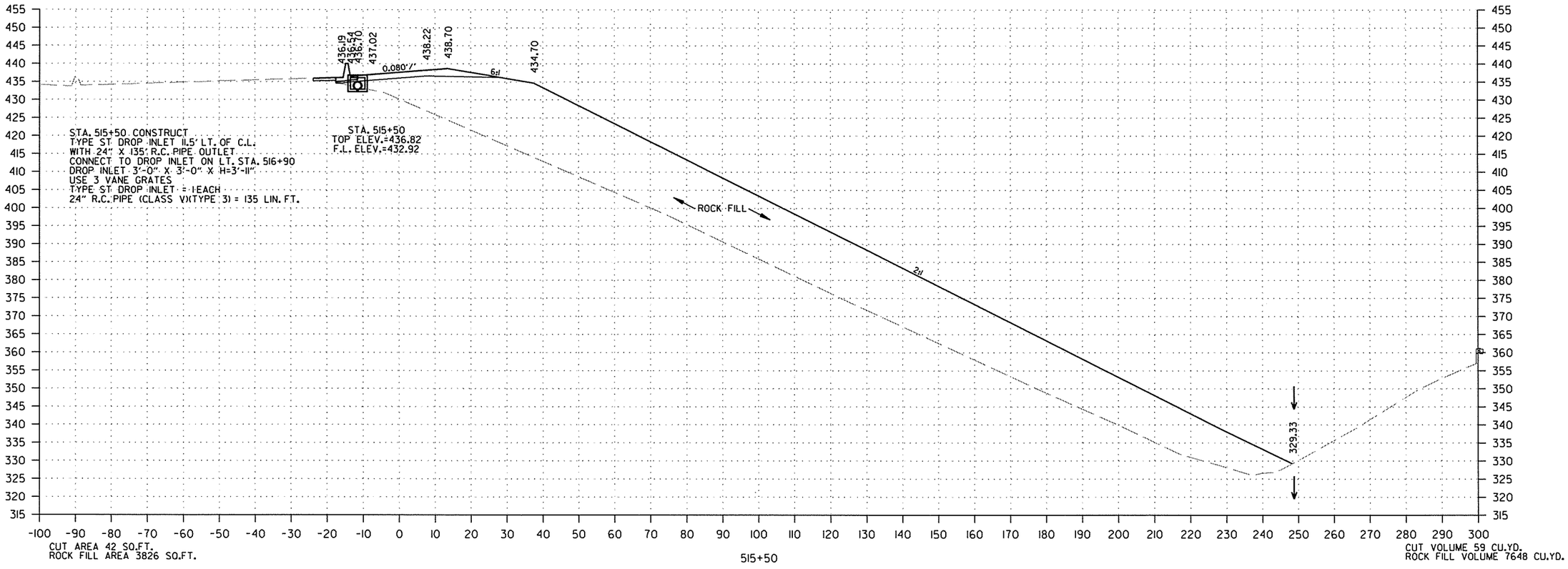
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.515+00 TO STA. 515+00

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	209	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



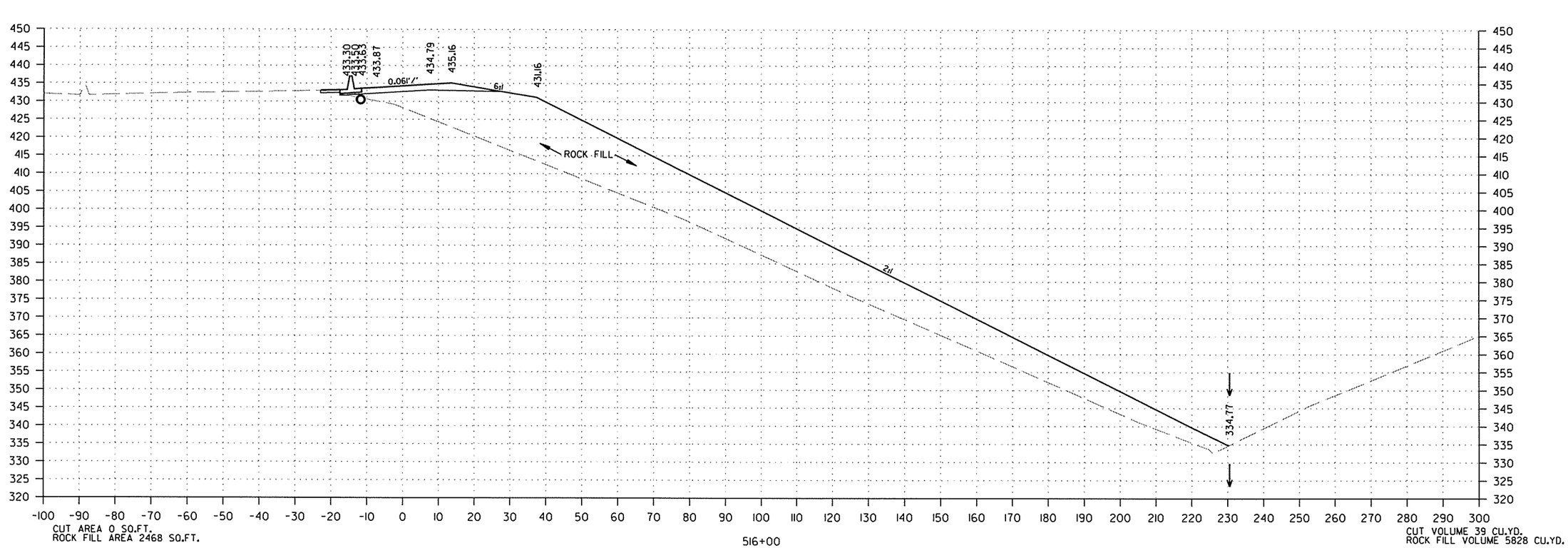
10/8/2015

R061333.DGN

NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.515+50 TO STA. 515+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	210	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



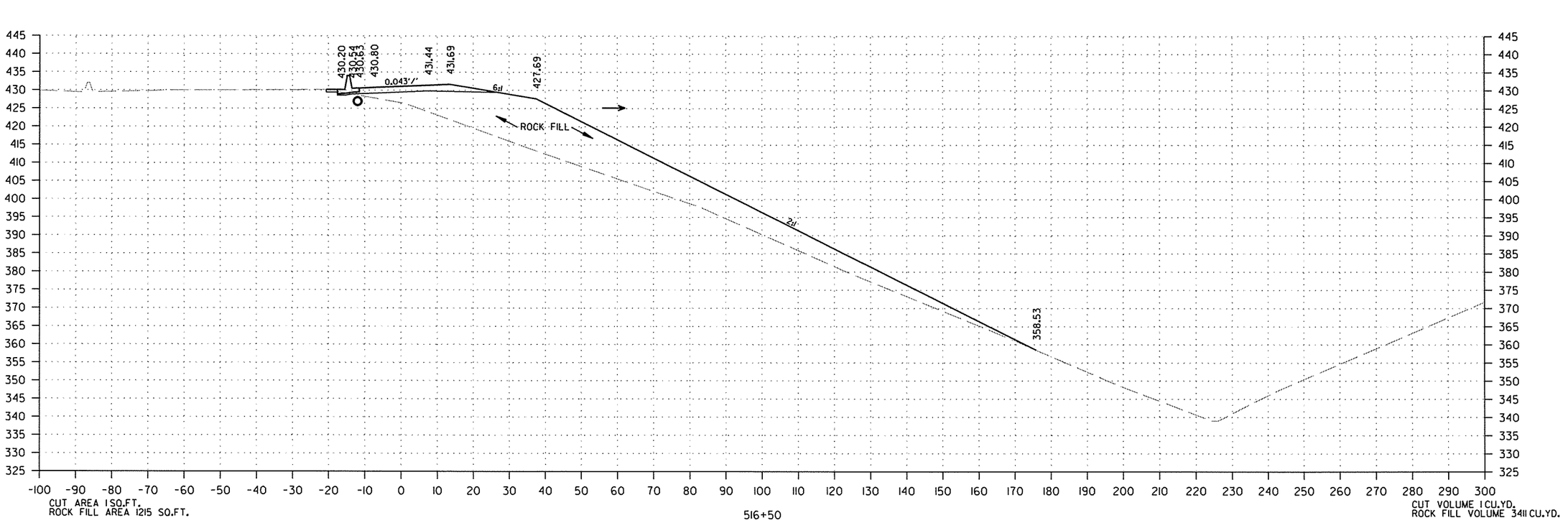
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.516+00 TO STA. 516+00

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	211	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



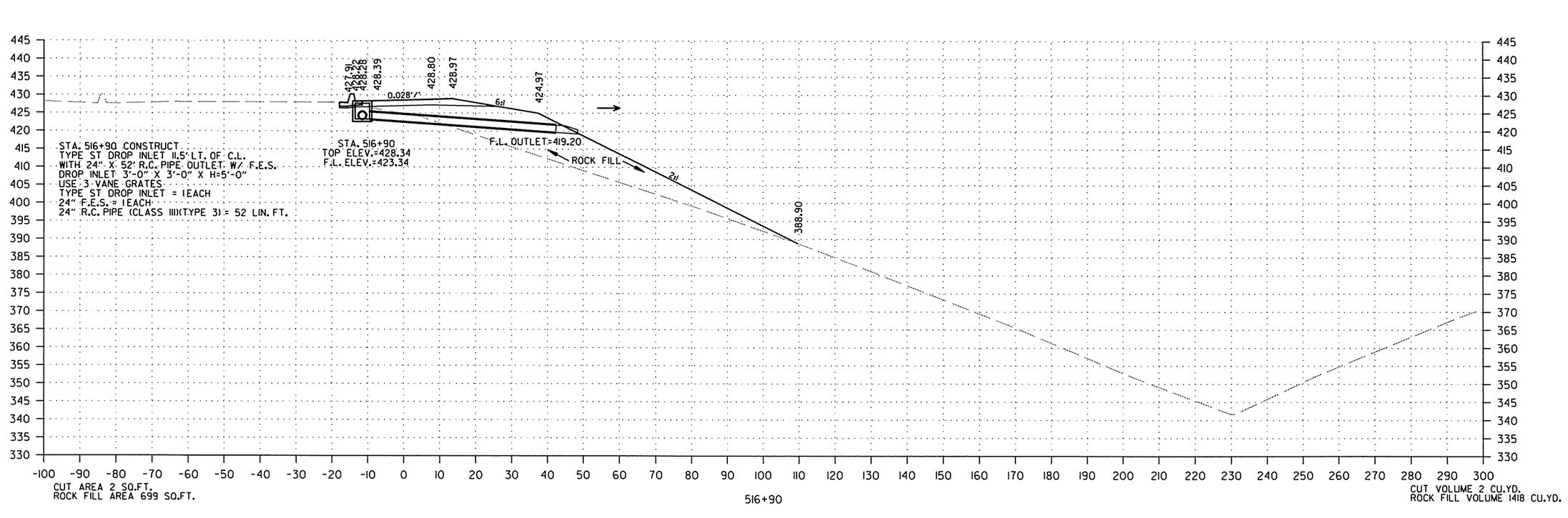
10/8/2015

R061333.DGN

NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.516+50 TO STA. 516+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	212	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



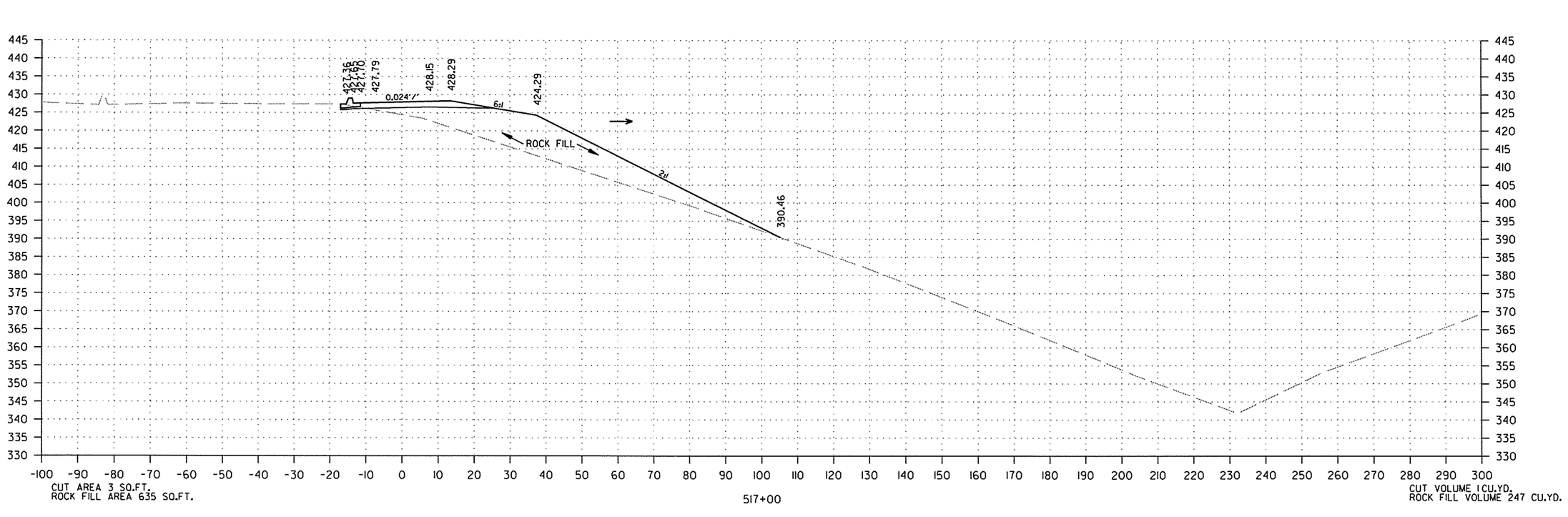
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.516+90 TO STA. 516+90

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	213	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



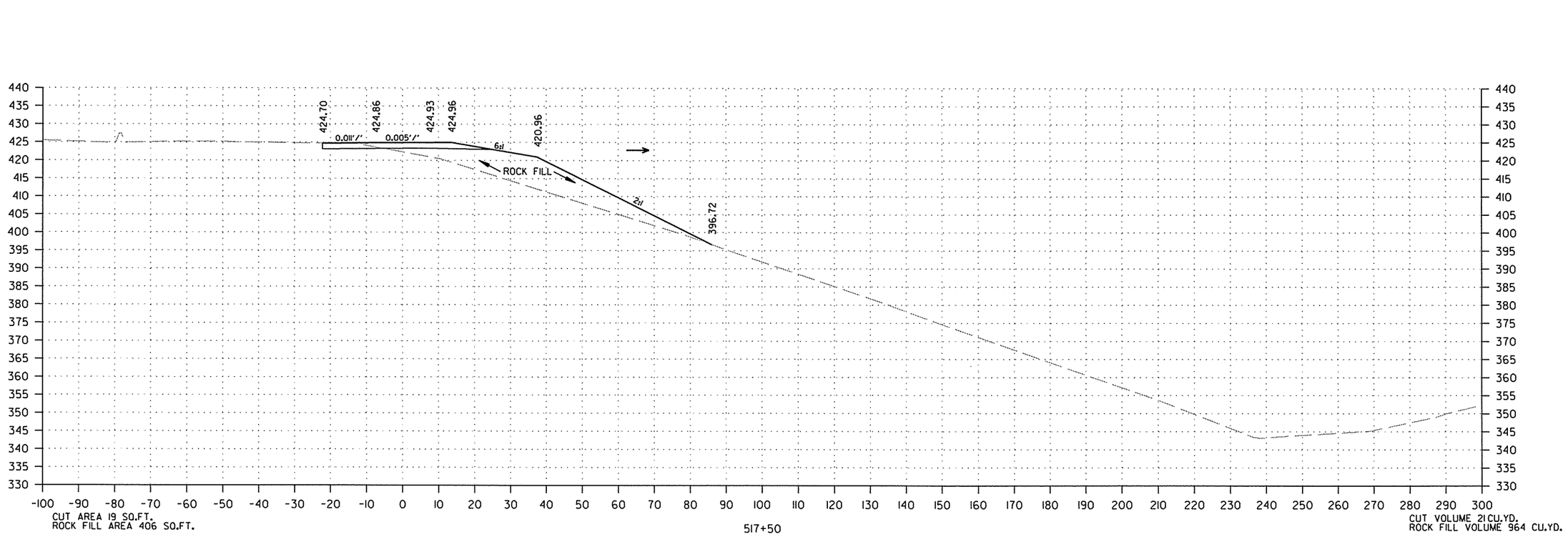
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.517+00 TO STA. 517+00

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	214	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



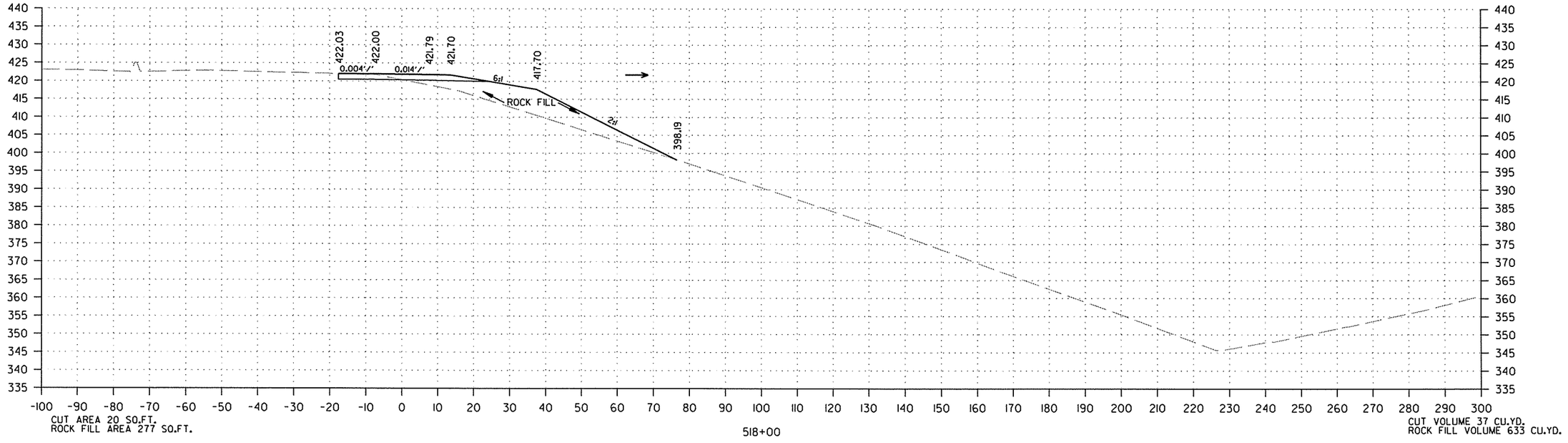
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.517+50 TO STA. 517+50

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	215	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.518+00 TO STA. 518+00

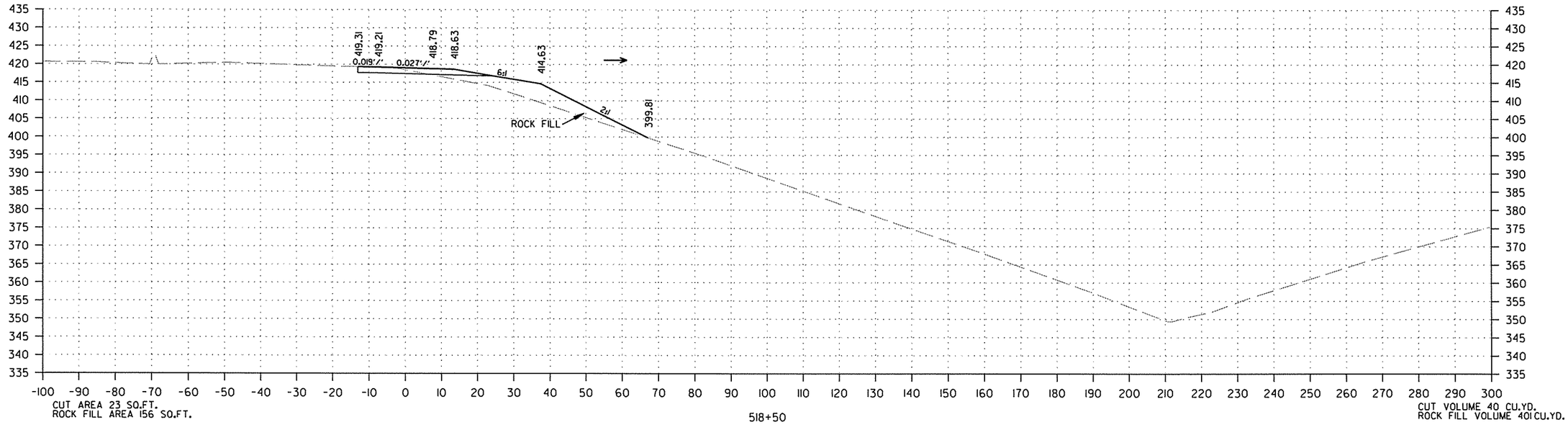
10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	216	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP

518+66.28
RAMP NOSE



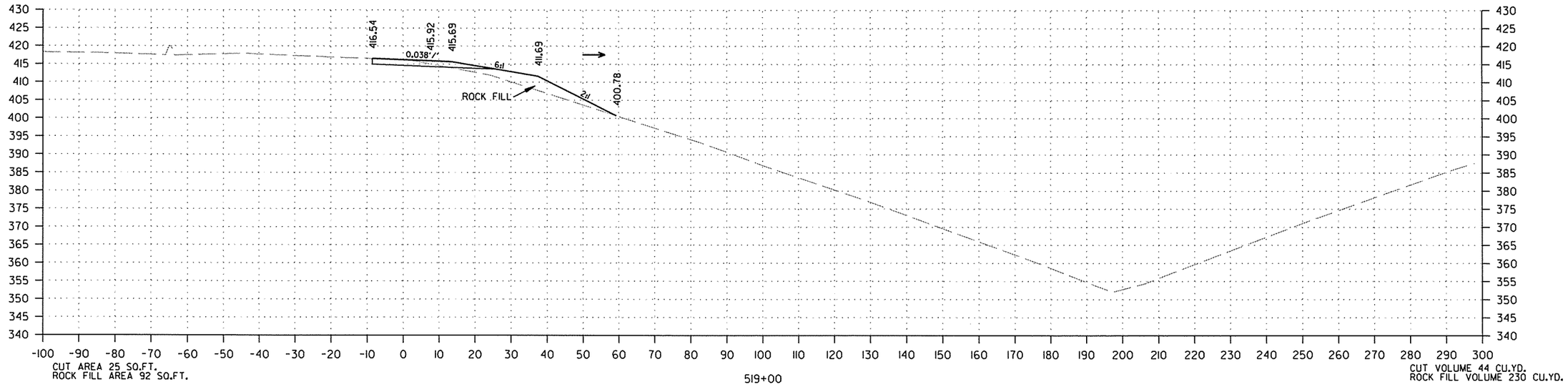
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.518+50 TO STA. 518+50

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	217	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



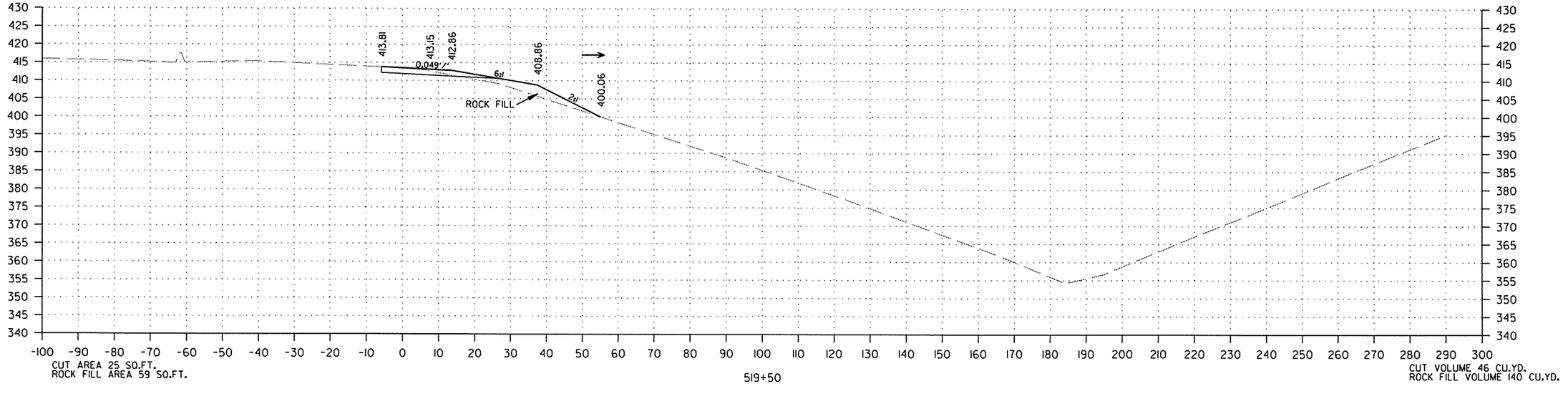
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.519+00 TO STA. 519+00

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	218	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



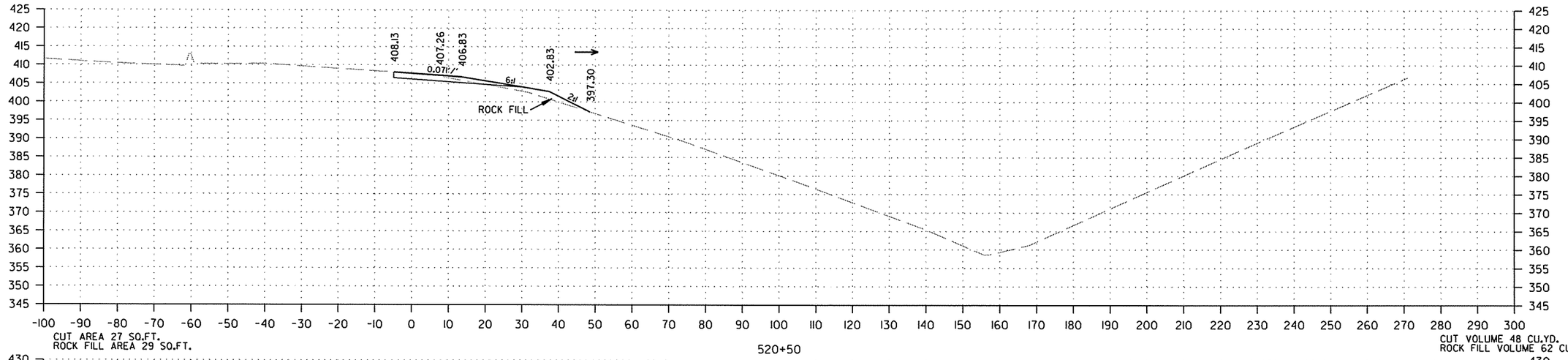
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.519+50 TO STA. 519+50

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	219	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



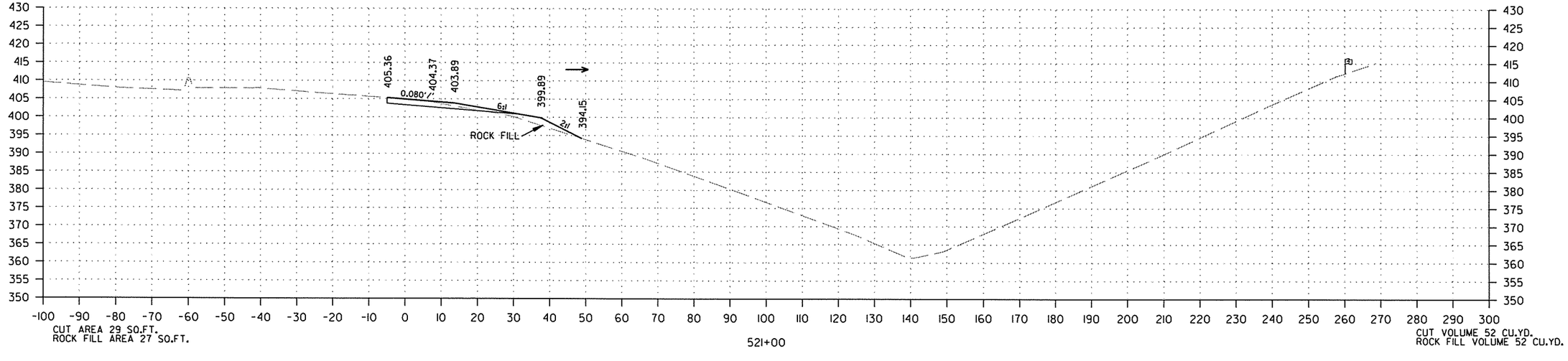
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.520+00 TO STA. 520+50

10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	220	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



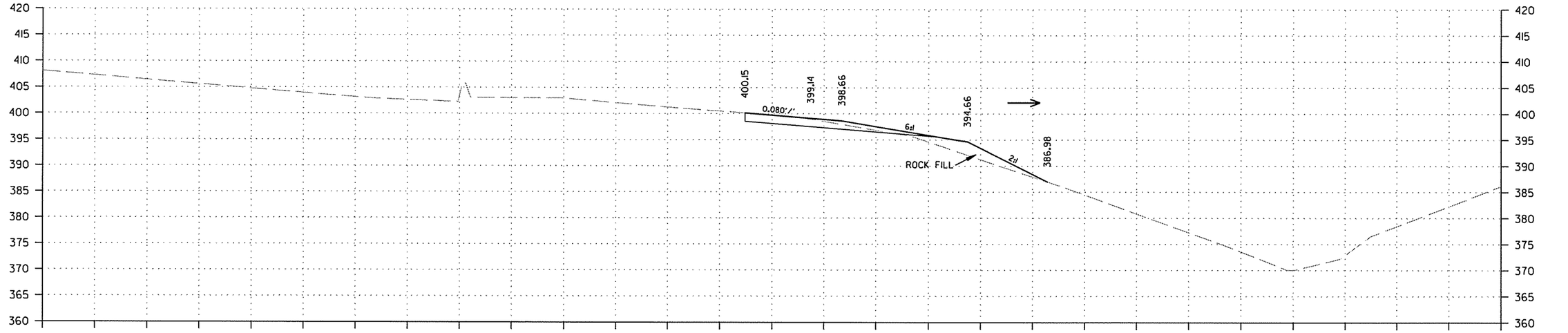
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.521+00 TO STA. 521+00

10/8/2015

R061333.DGN

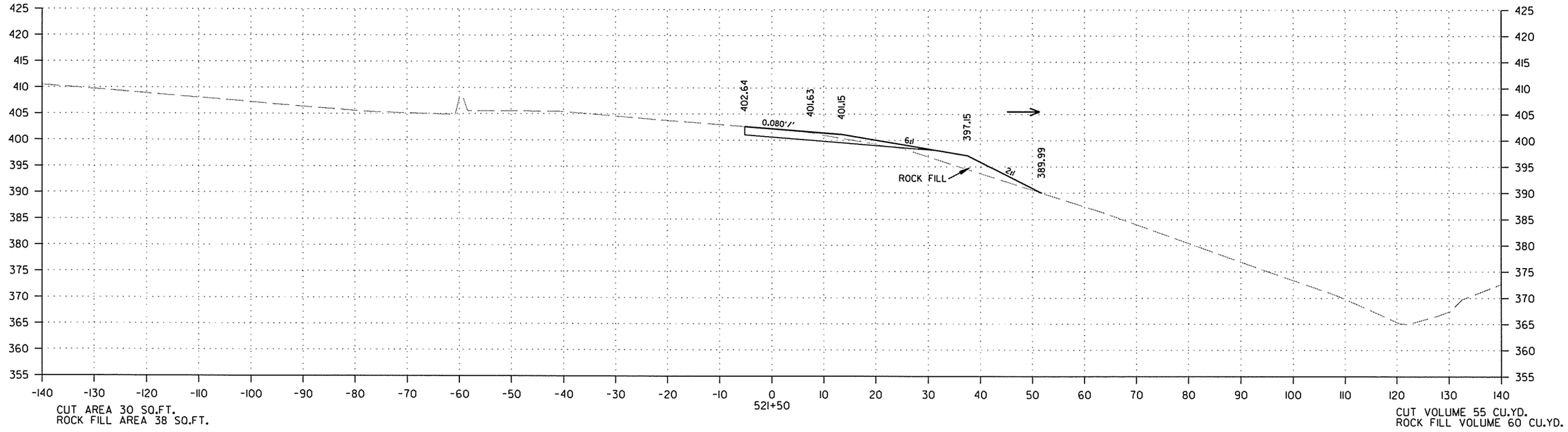
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	221	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 31 SQ.FT.
ROCK FILL AREA 37 SQ.FT.

CUT VOLUME 57 CU.YD.
ROCK FILL VOLUME 70 CU.YD.



CUT AREA 30 SQ.FT.
ROCK FILL AREA 38 SQ.FT.

CUT VOLUME 55 CU.YD.
ROCK FILL VOLUME 60 CU.YD.

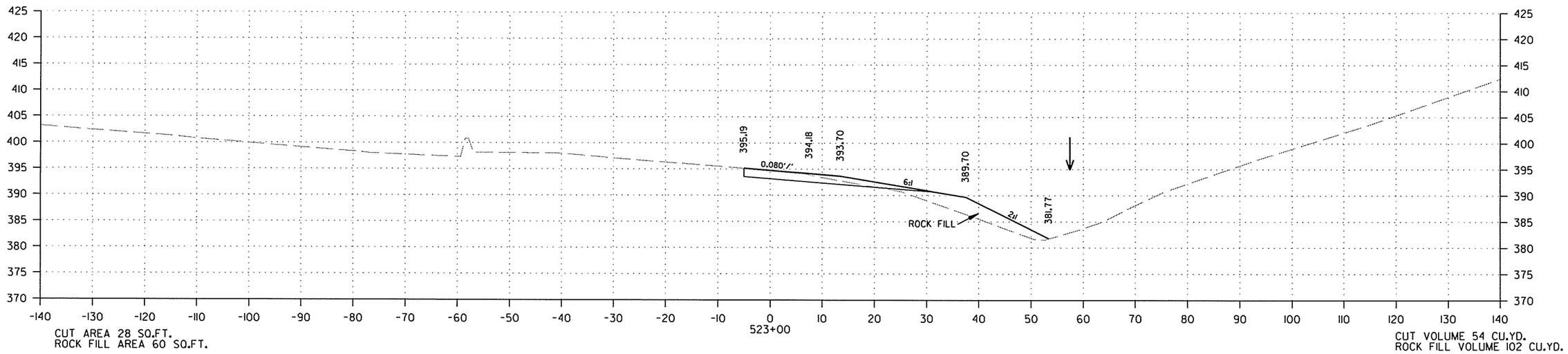
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.521+50 TO STA. 522+00

10/8/2015

R061333.DGN

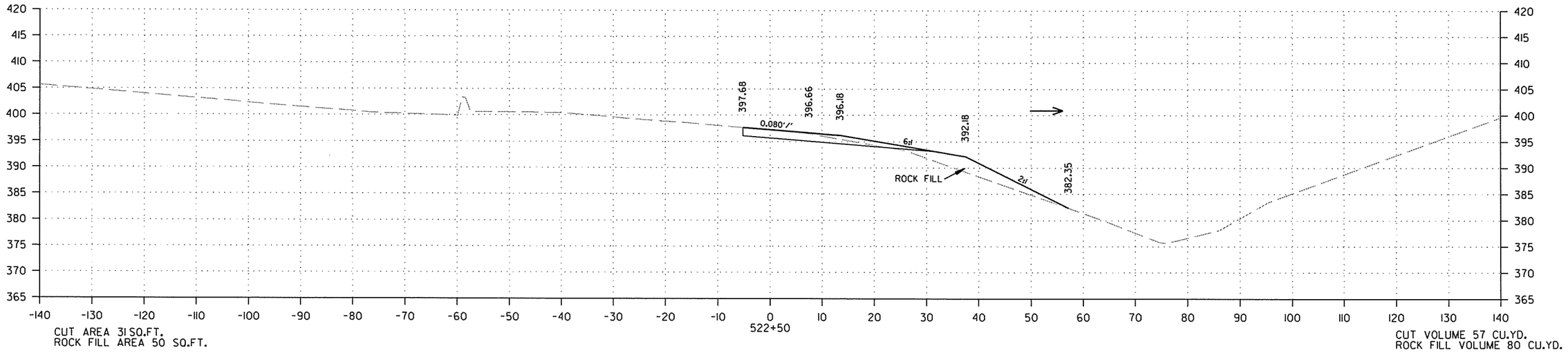
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	222	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 28 SQ.FT.
ROCK FILL AREA 60 SQ.FT.

CUT VOLUME 54 CU.YD.
ROCK FILL VOLUME 102 CU.YD.



CUT AREA 31 SQ.FT.
ROCK FILL AREA 50 SQ.FT.

CUT VOLUME 57 CU.YD.
ROCK FILL VOLUME 80 CU.YD.

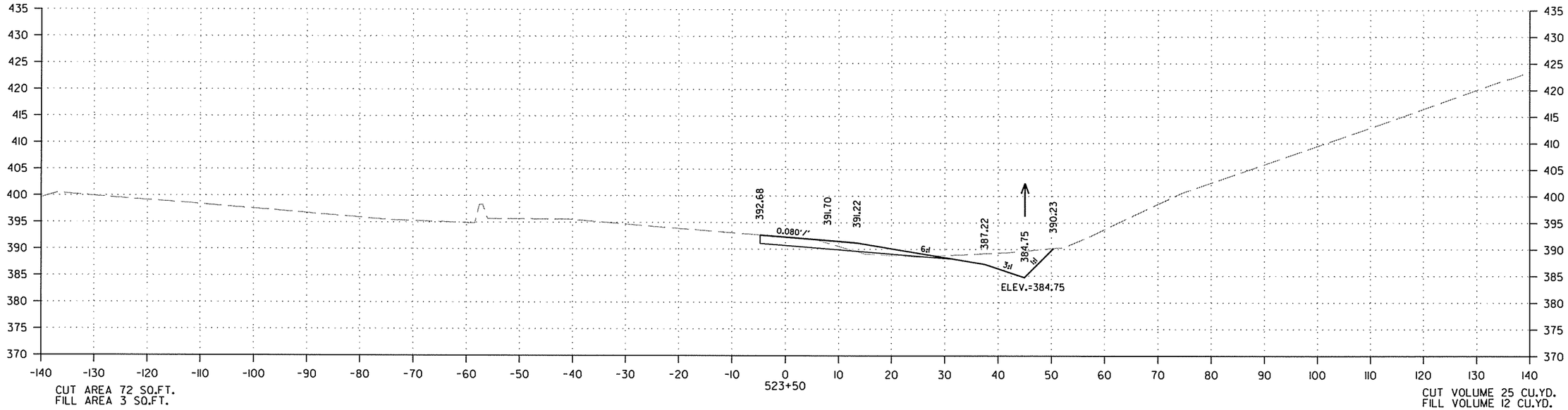
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.522+50 TO STA. 523+00

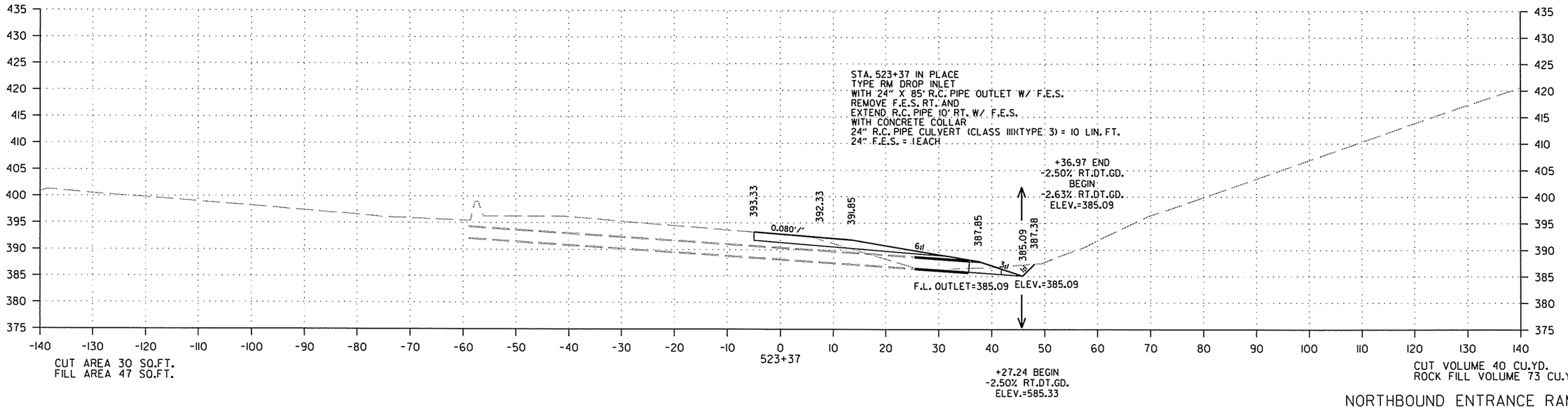
10/8/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-8-15				6	ARK.			
				JOB NO.		061333	223	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP





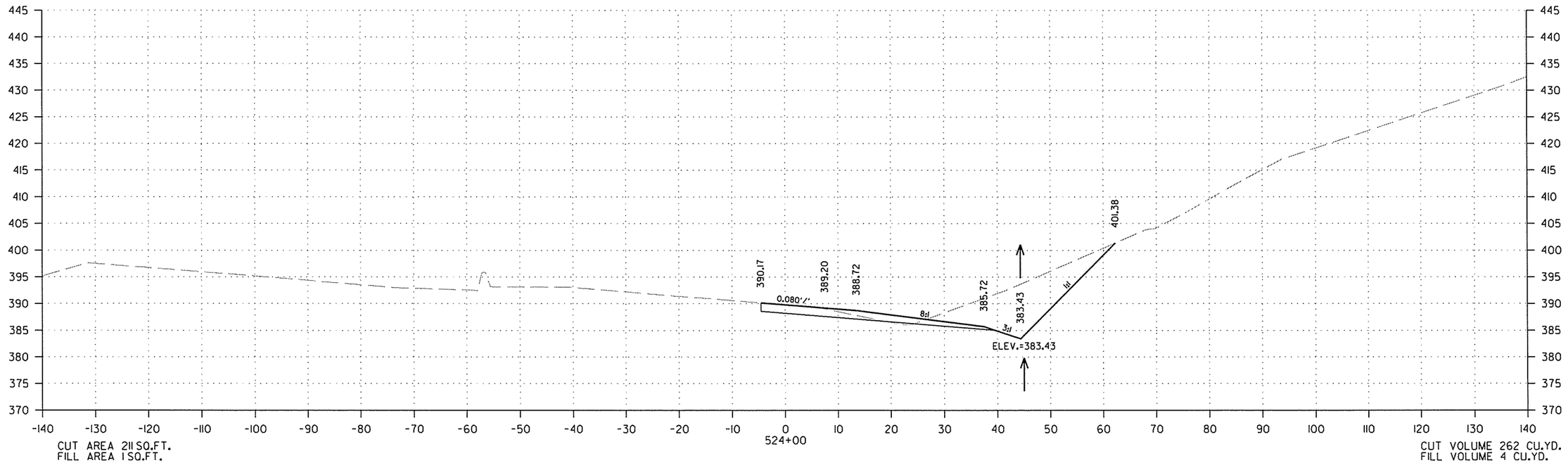
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.523+37 TO STA. 523+50

10/8/2015

R061333.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.		061333	224	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



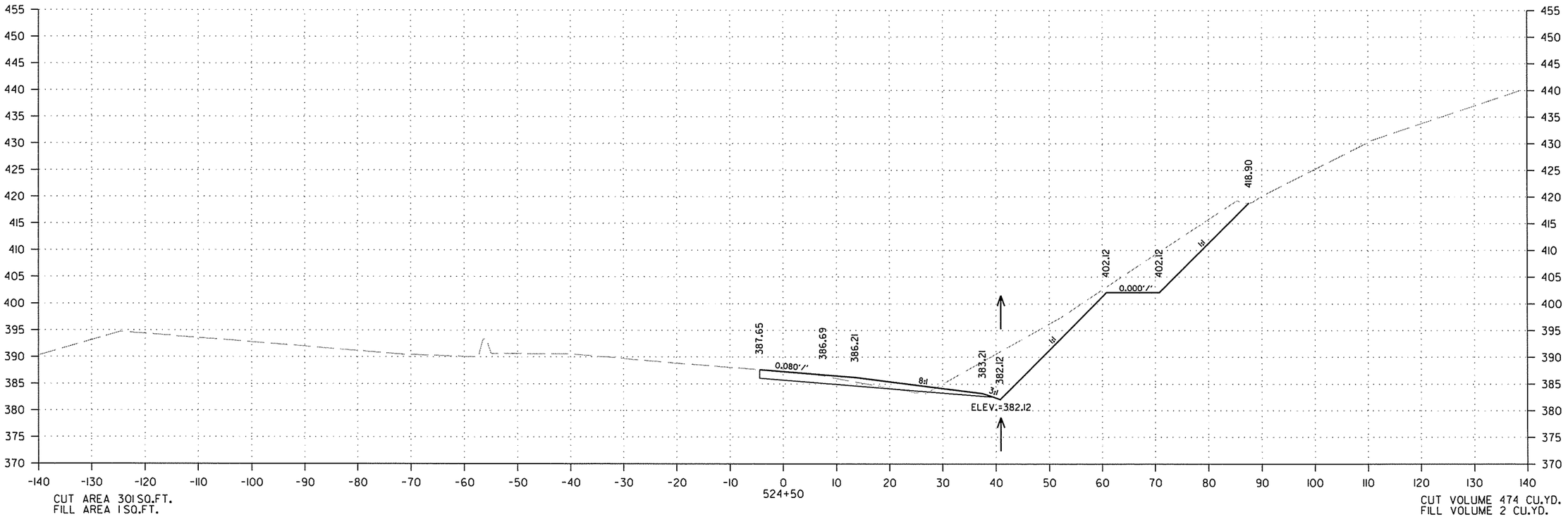
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.524+00 TO STA. 524+00

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	225	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



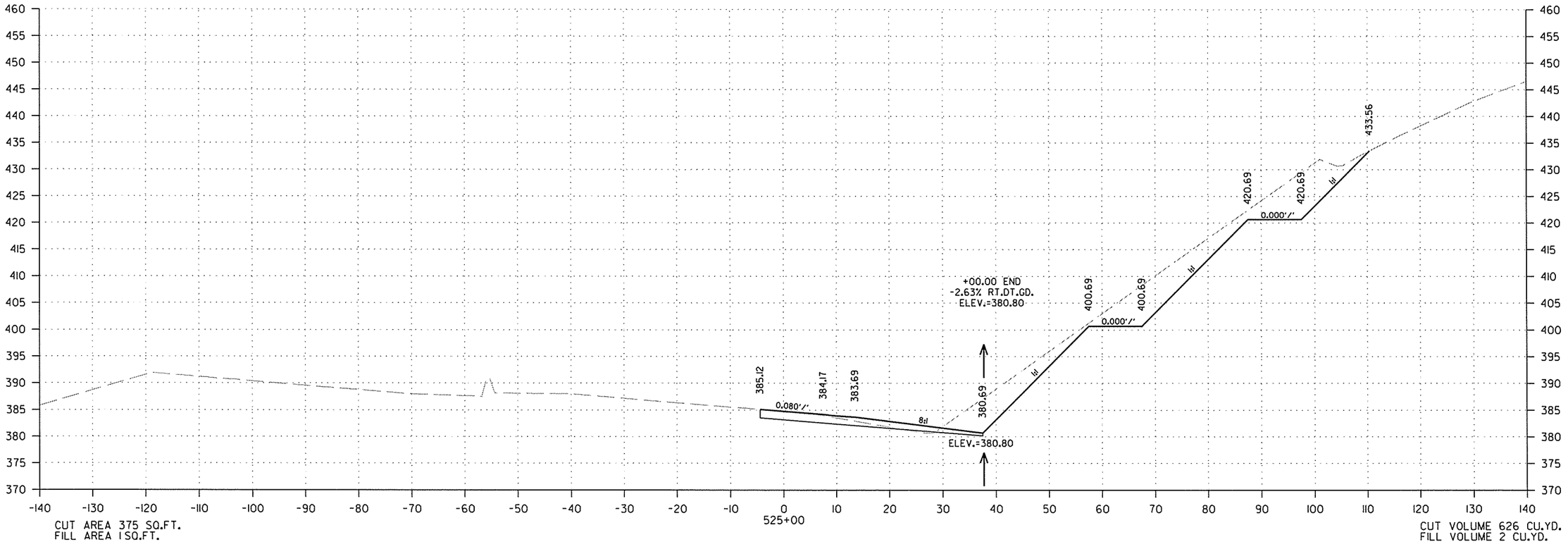
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.524+50 TO STA. 524+50

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	226	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



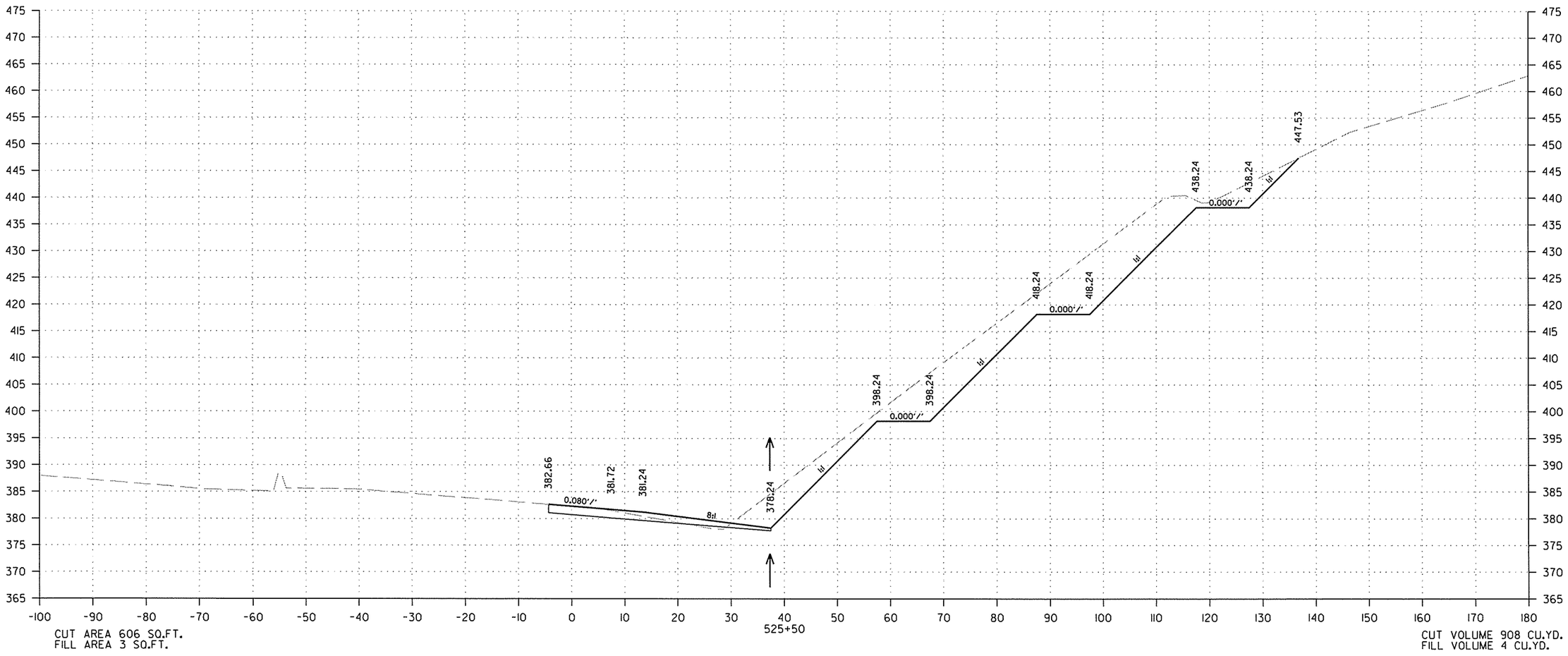
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.525+00 TO STA. 525+00

6/1/2015

R061333.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.		061333	227	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



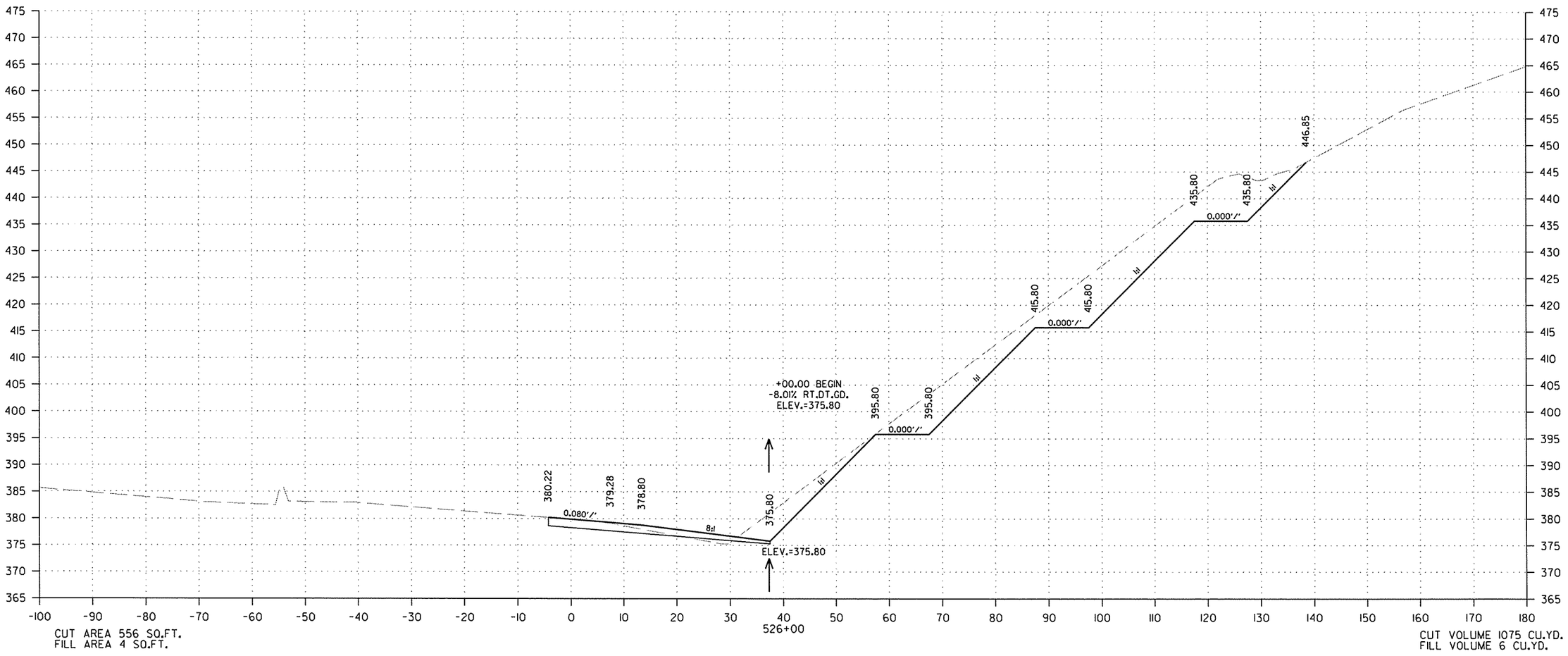
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.525+50 TO STA. 525+50

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	228	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



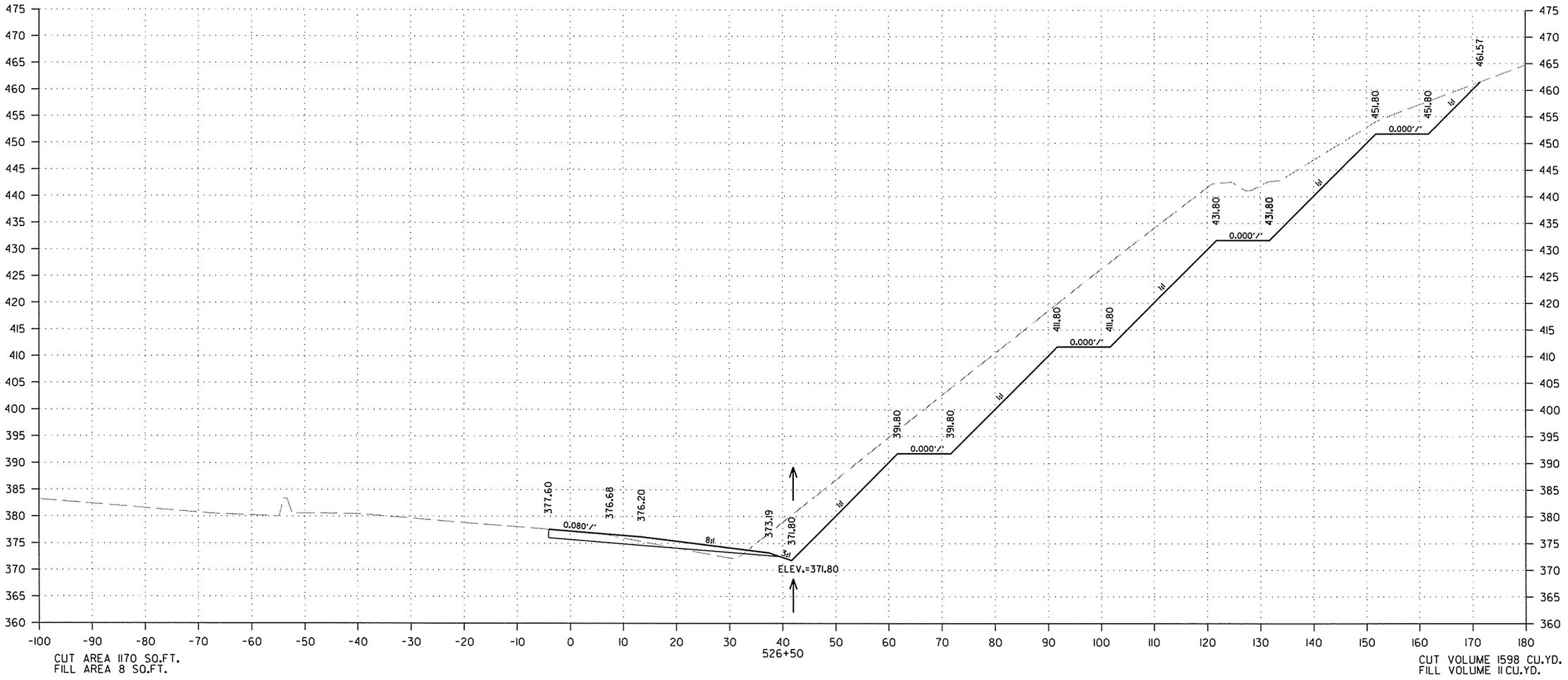
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.526+00 TO STA. 526+00

6/1/2015

R061333.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.		061333	229	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



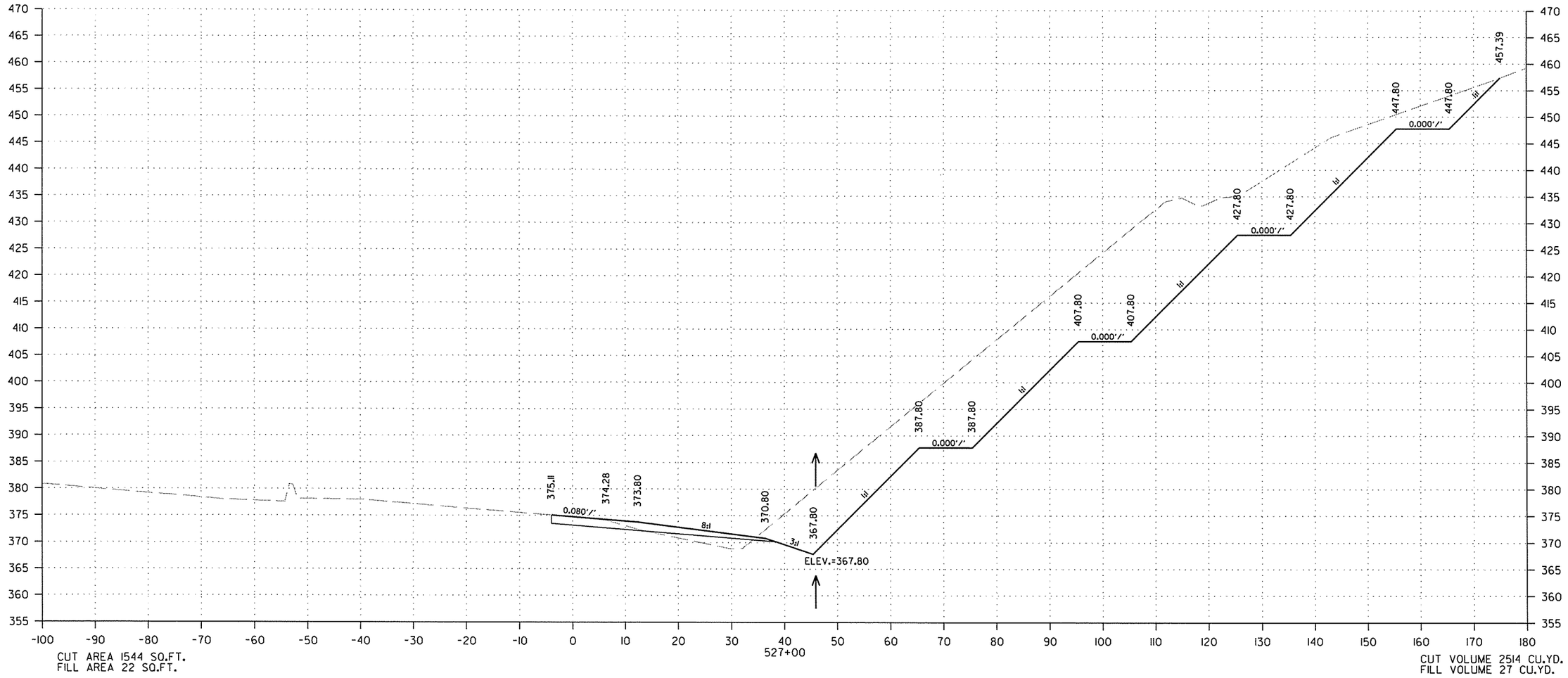
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.526+50 TO STA. 526+50

6/1/2015

R061333.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.		061333	230	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



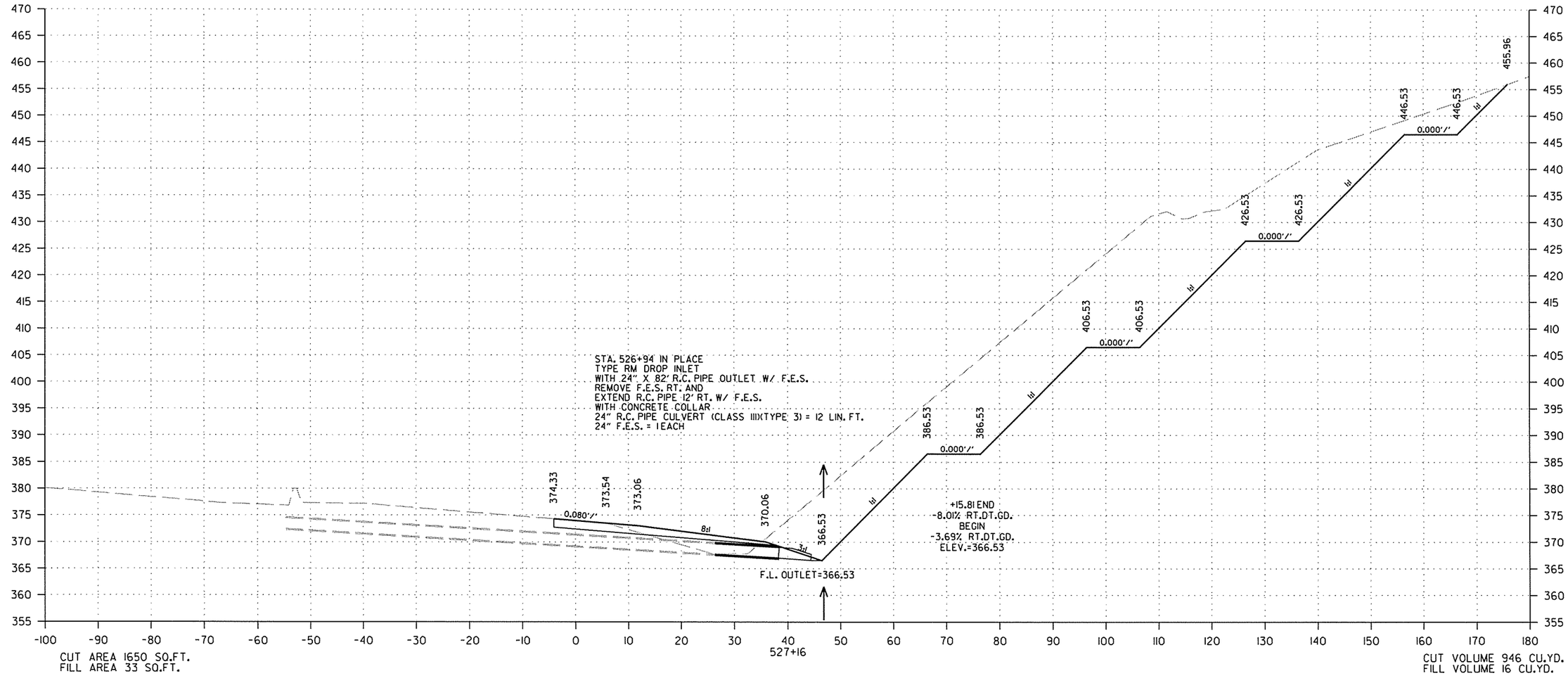
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.527+00 TO STA. 527+00

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	231	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



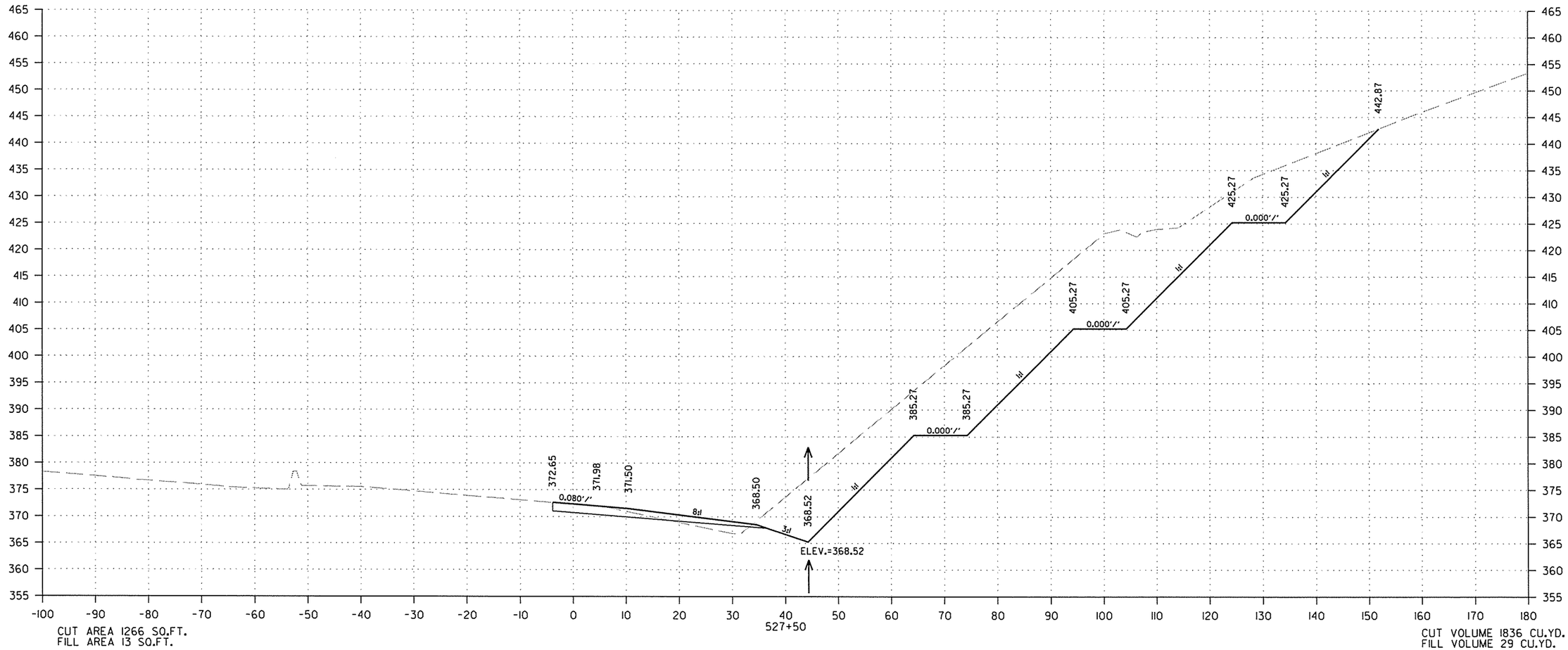
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.527+16 TO STA. 527+16

6/1/2015

R061333.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.		061333	232	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



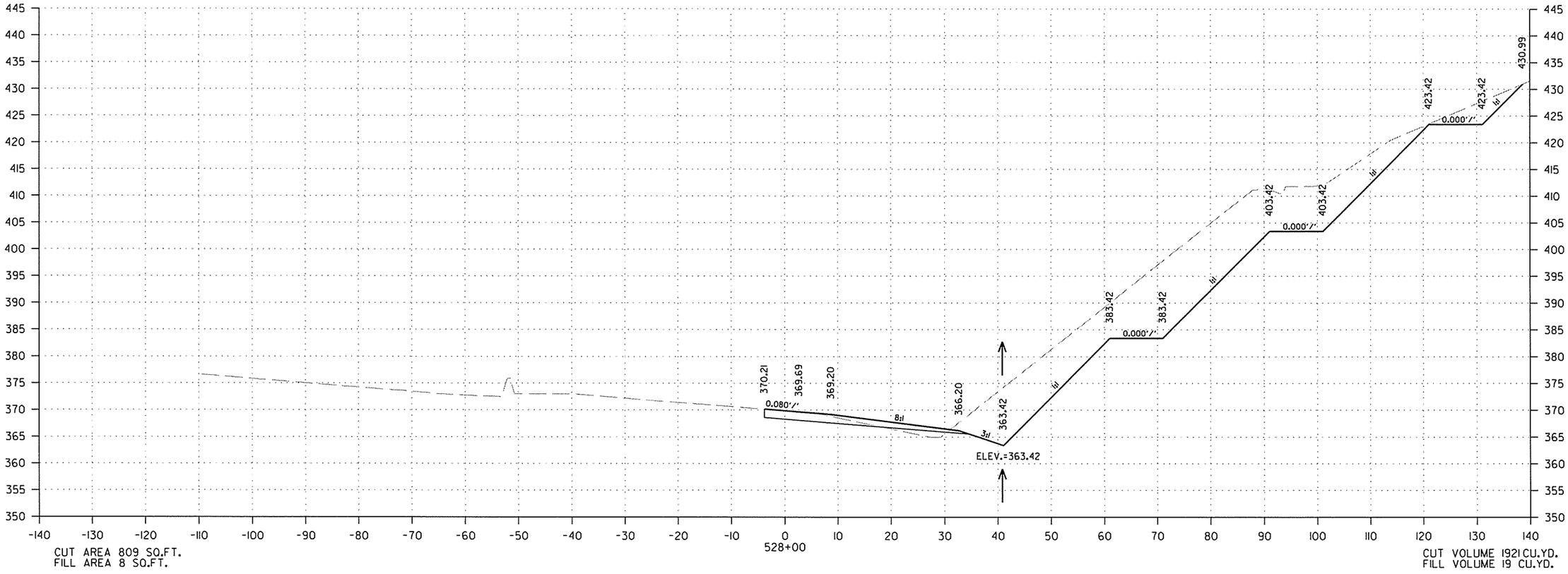
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.527+50 TO STA. 527+50

6/1/2015

R061333.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.		061333	233	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



CUT AREA 809 SQ.FT.
FILL AREA 8 SQ.FT.

CUT VOLUME 1921 CU.YD.
FILL VOLUME 19 CU.YD.

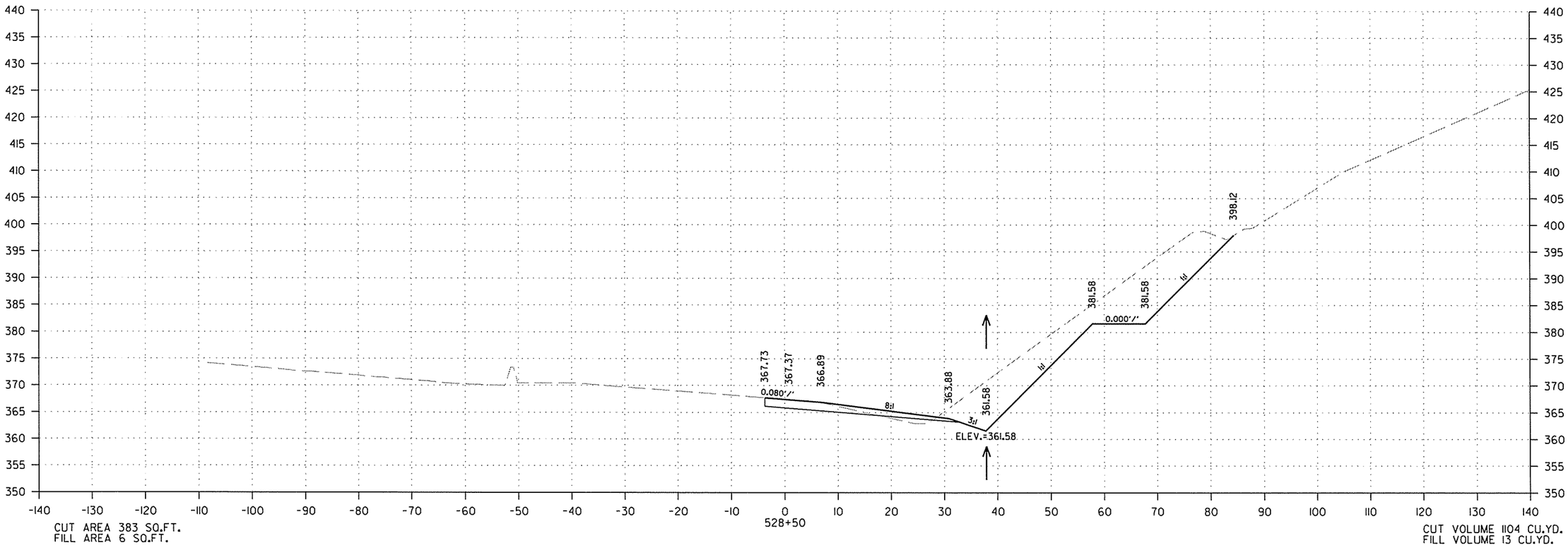
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.528+00 TO STA. 528+00

6/1/2015

R061333.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.		061333	234	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



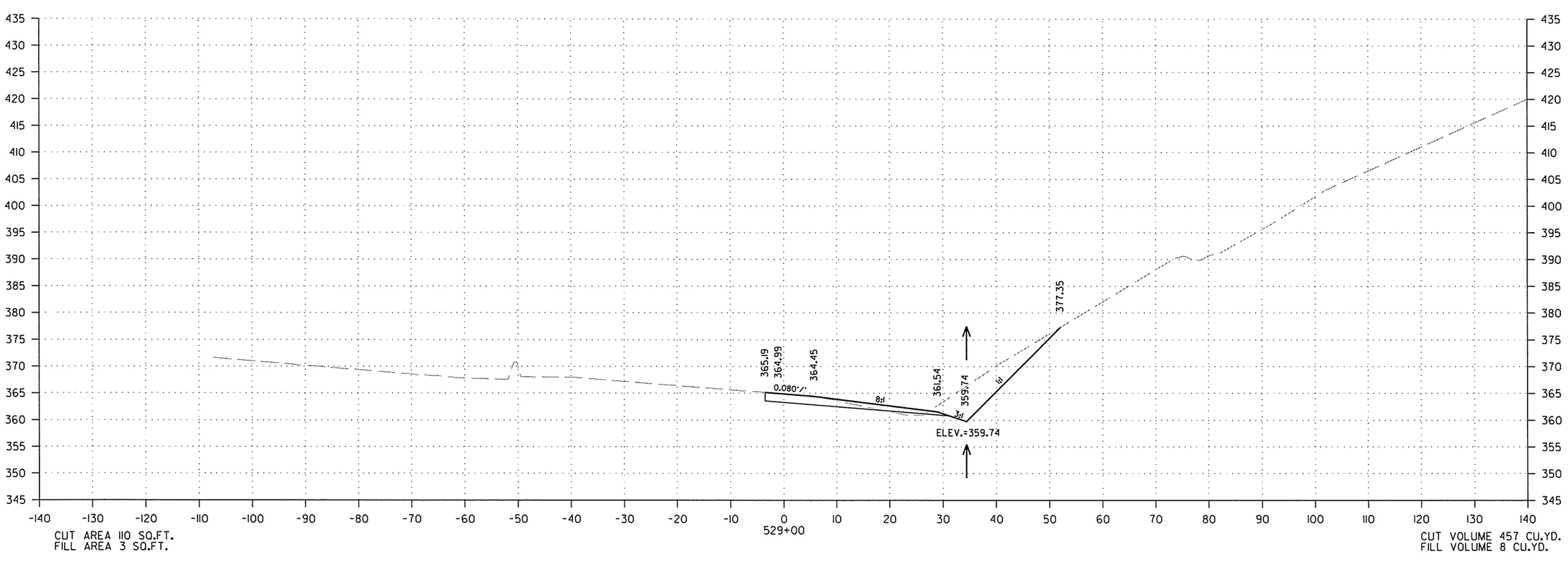
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.528+50 TO STA. 528+50

6/1/2015

R061333.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.		061333	235	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



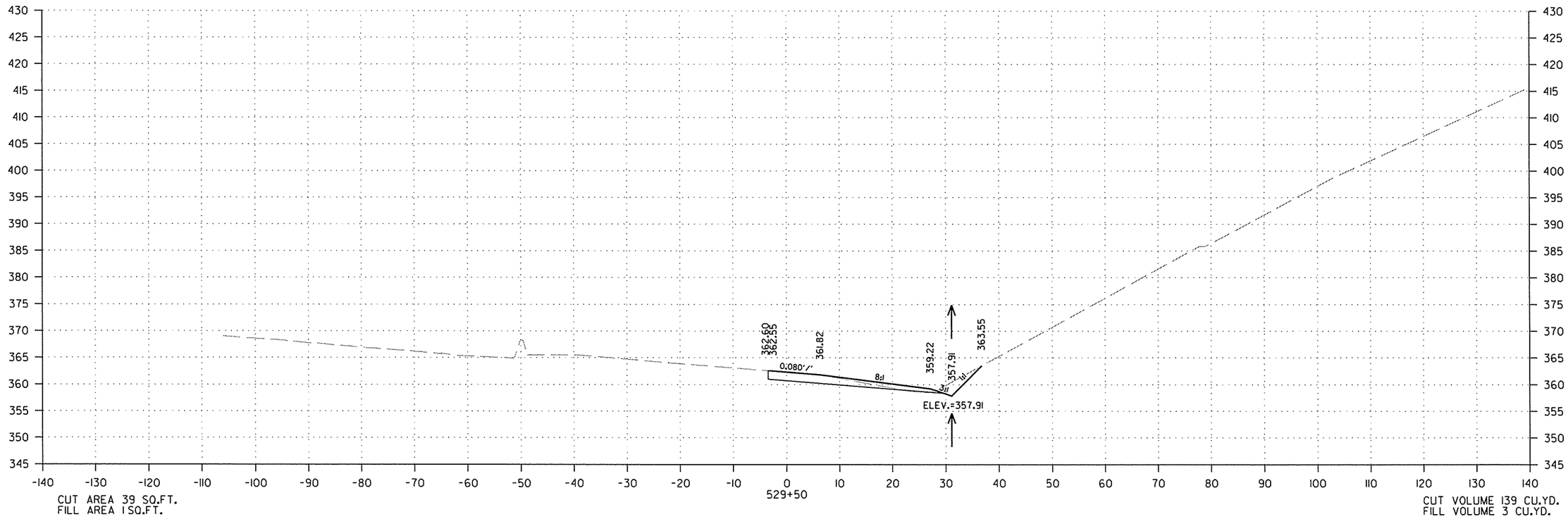
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.529+00 TO STA. 529+00

6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	236	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



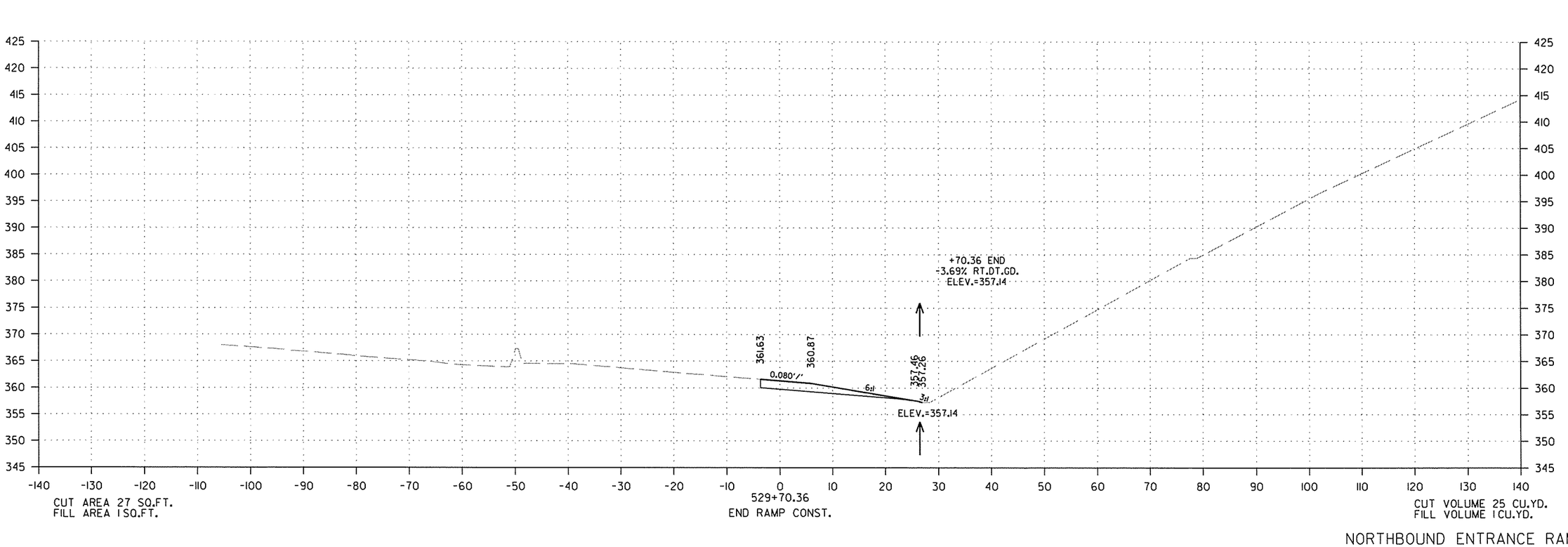
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.529+50 TO STA. 529+50

6/1/2015

R061333.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.		061333	237	272

(2) CROSS SECTIONS - I-430 NB ENT. RAMP



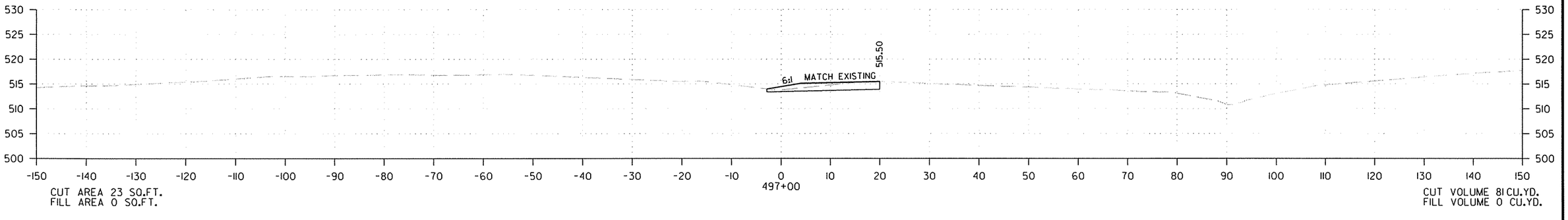
NORTHBOUND ENTRANCE RAMP
CROSS SECTION STA.529+70.36 TO STA. 529+70.36

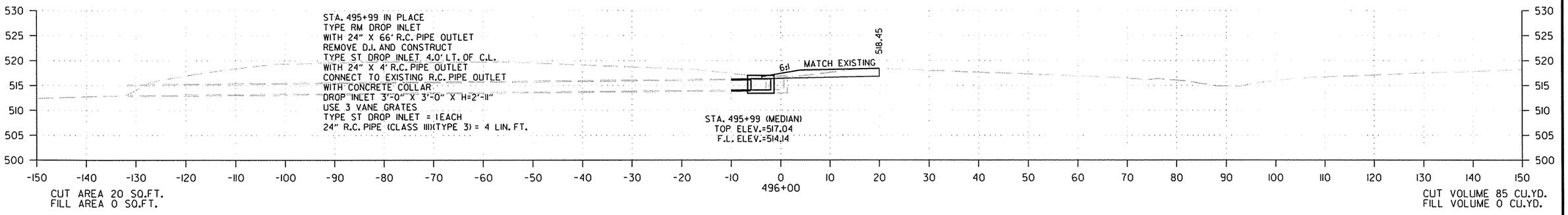
6/1/2015

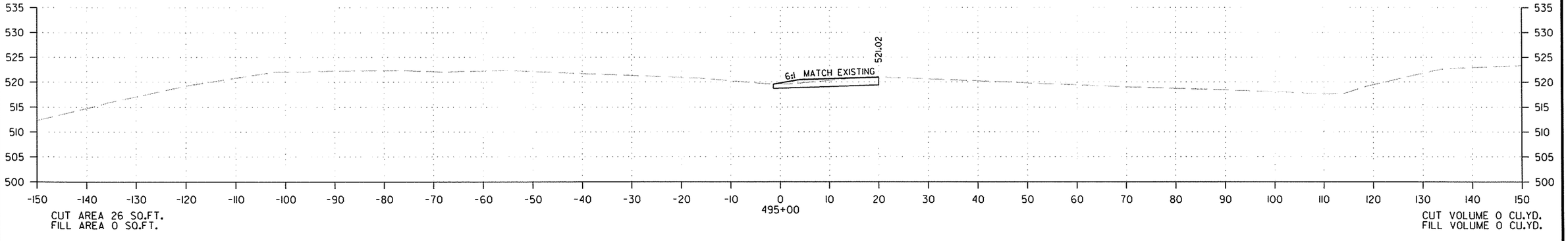
R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	238	272

(2) CROSS SECTIONS - I-430







10/20/2016

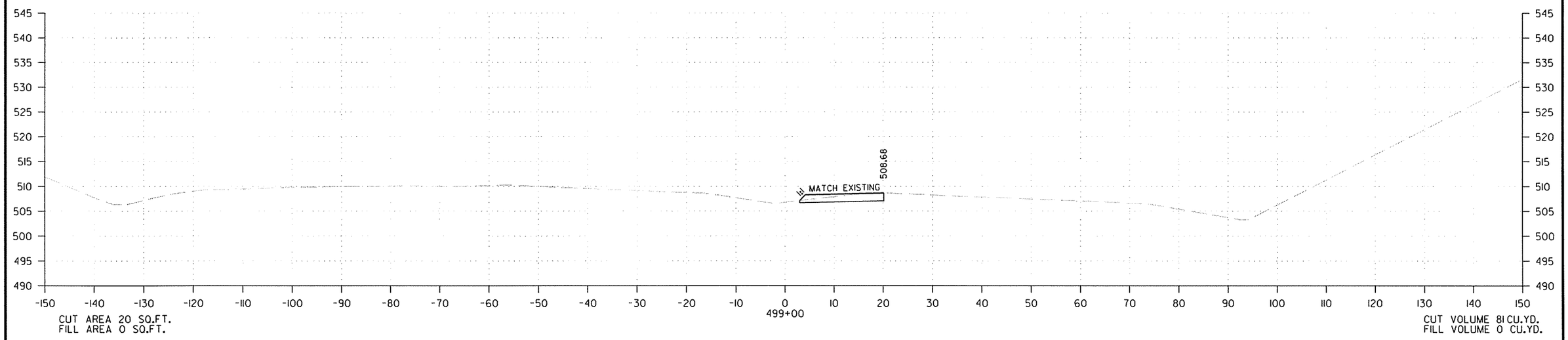
R061333.DGN

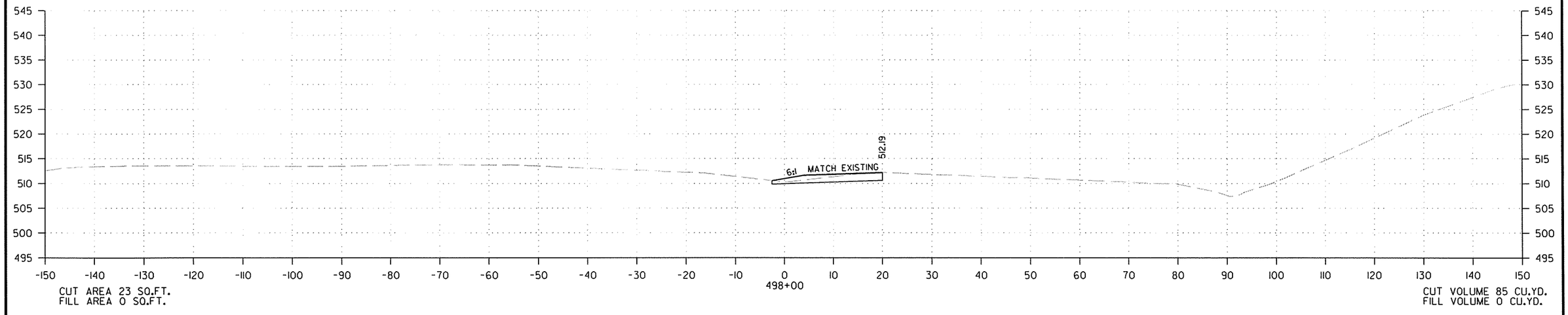
I-430

CROSS SECTION STA. 495+00 TO STA. 497+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	238A	272

(2) CROSS SECTIONS - I-430





I-430

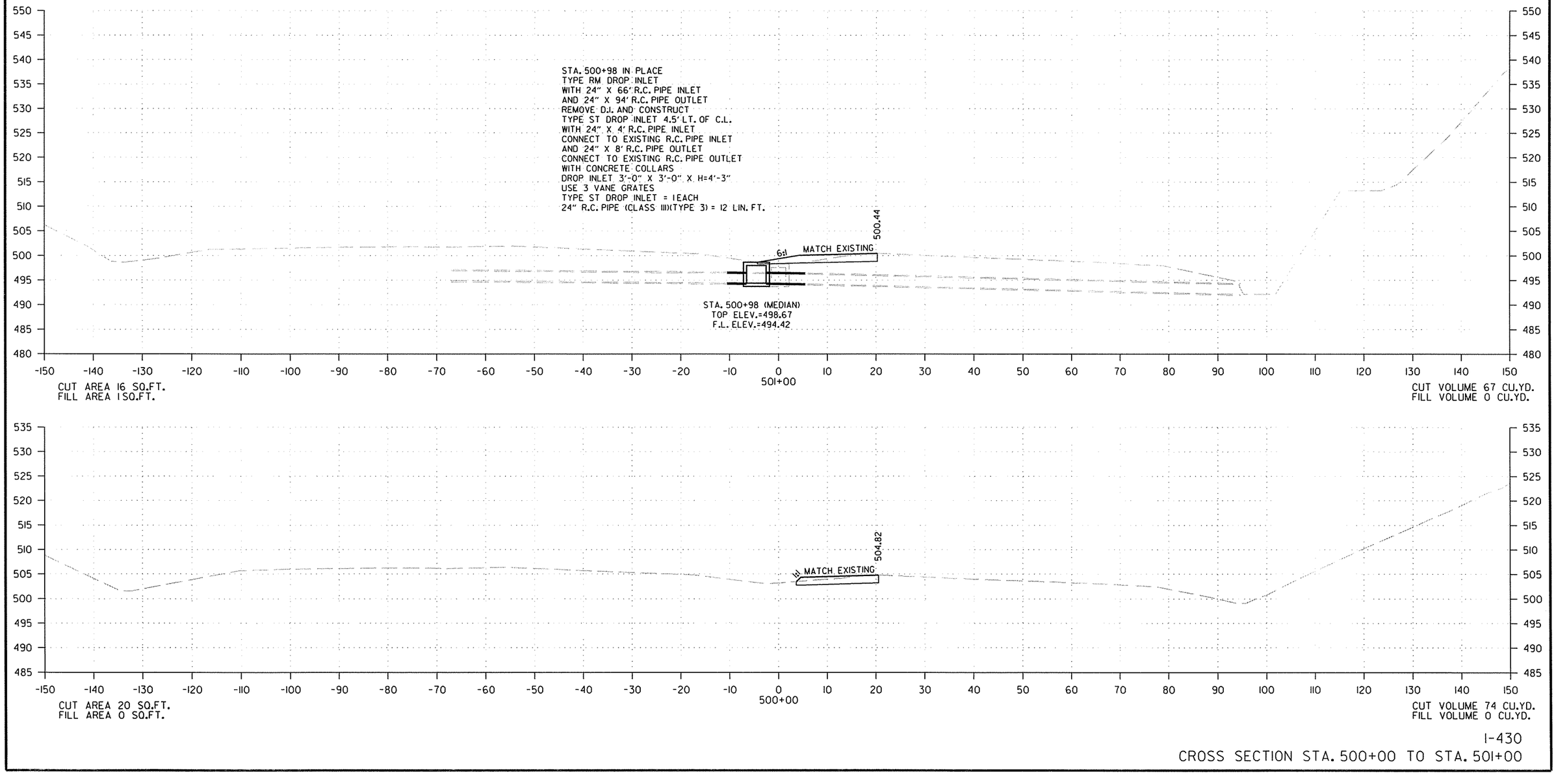
CROSS SECTION STA. 498+00 TO STA. 499+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	238B	272

(2) CROSS SECTIONS - I-430



I-430

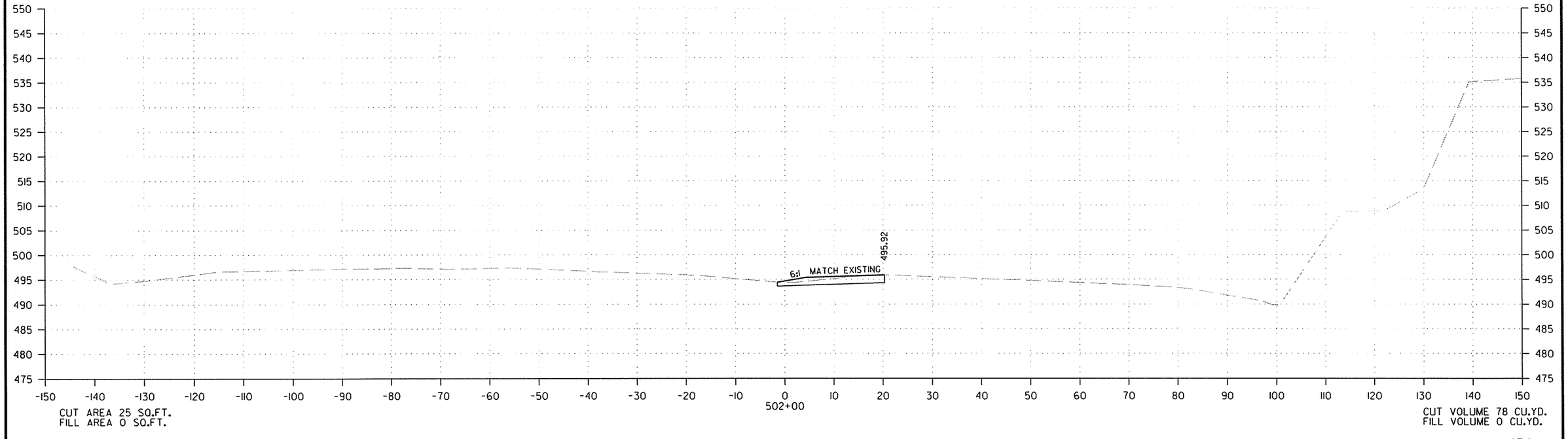
CROSS SECTION STA. 500+00 TO STA. 501+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	238C	272

(2) CROSS SECTIONS - I-430



I-430

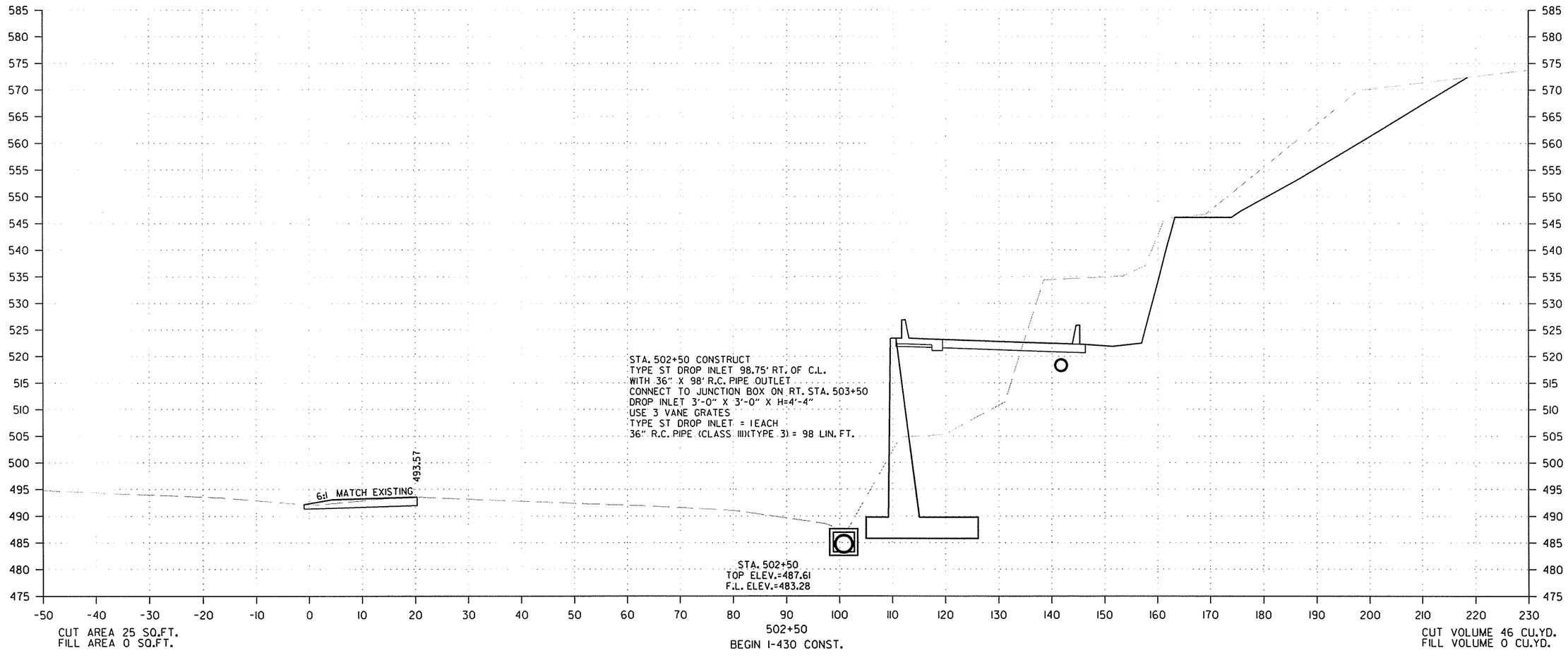
CROSS SECTION STA. 502+00 TO STA. 502+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	238D	272

(2) CROSS SECTIONS - I-430



I-430

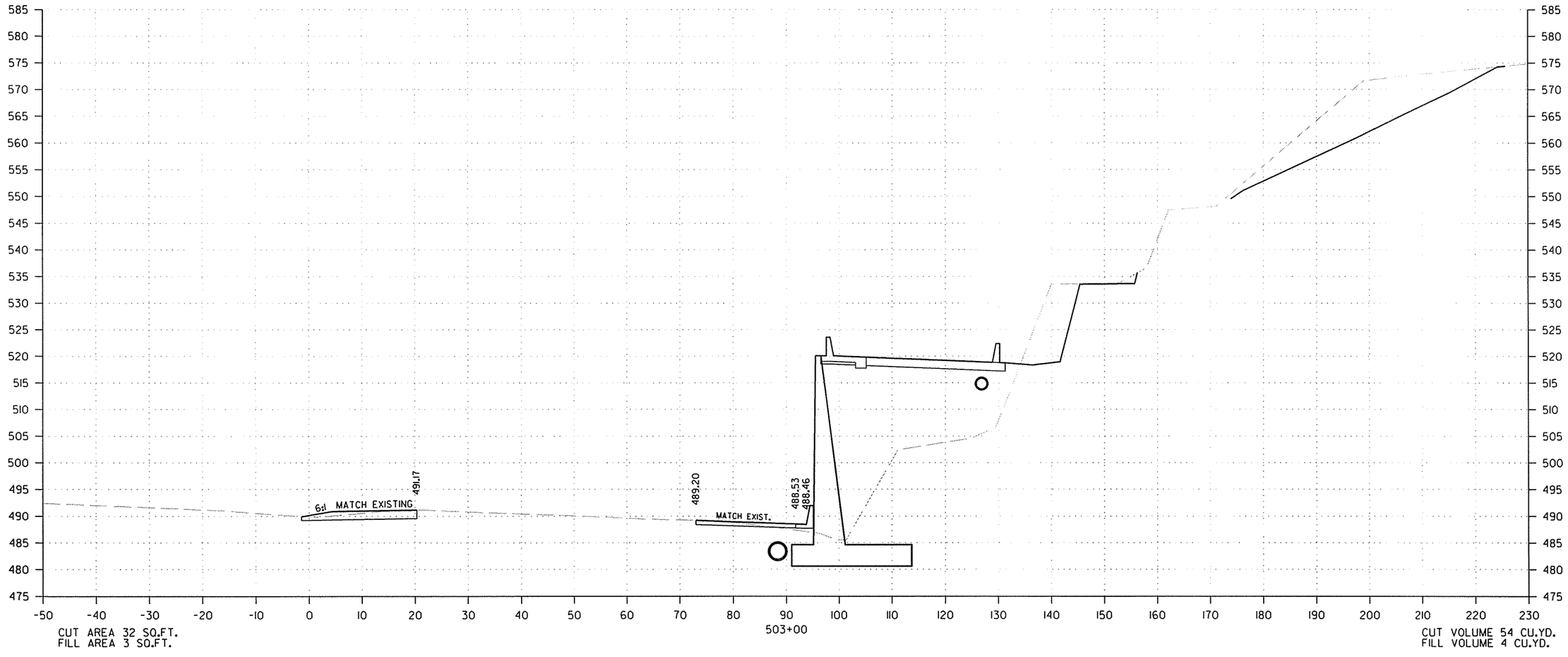
CROSS SECTION STA.502+50 TO STA. 502+50

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	239	272

(2) CROSS SECTIONS - I-430



I-430

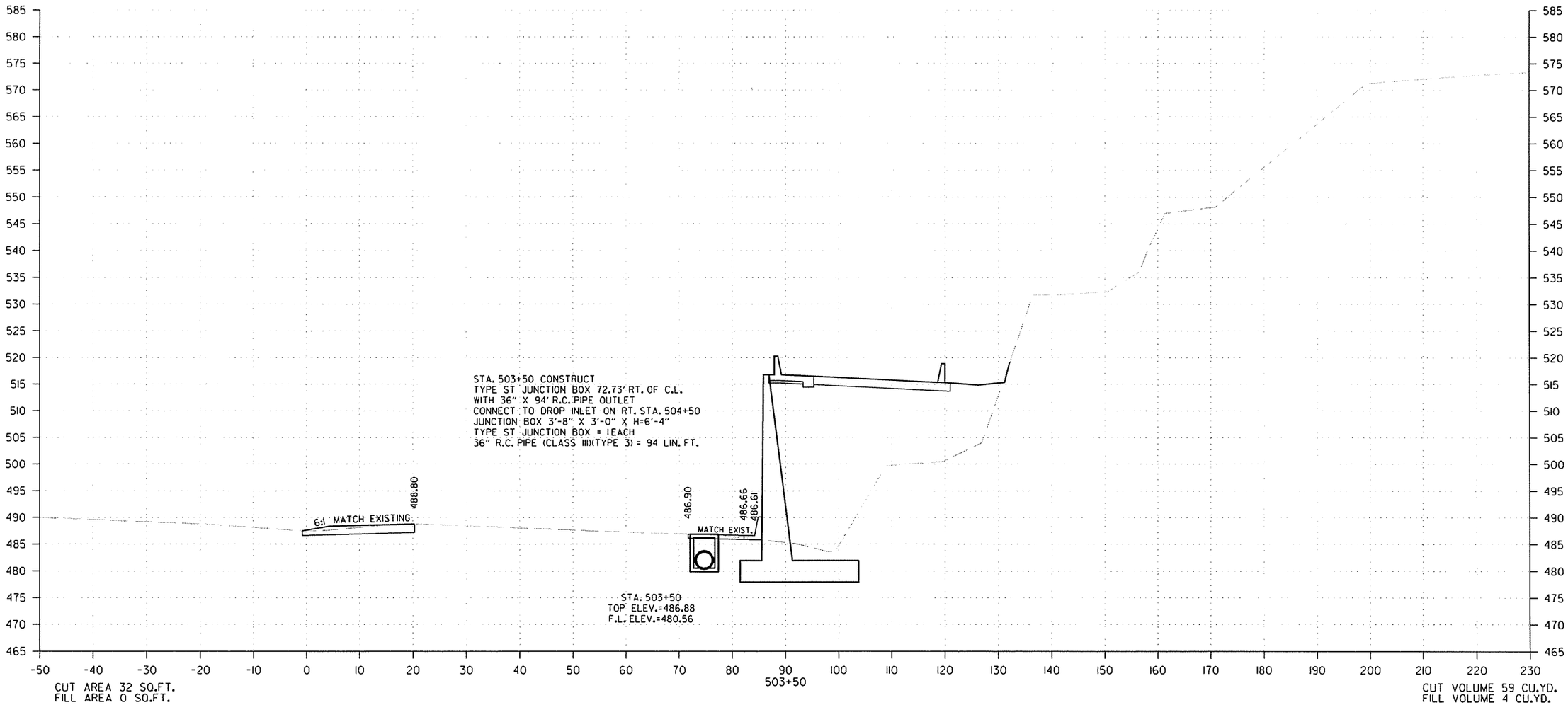
CROSS SECTION STA.503+00 TO STA. 503+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	240	272

(2) CROSS SECTIONS - I-430



10/20/2016

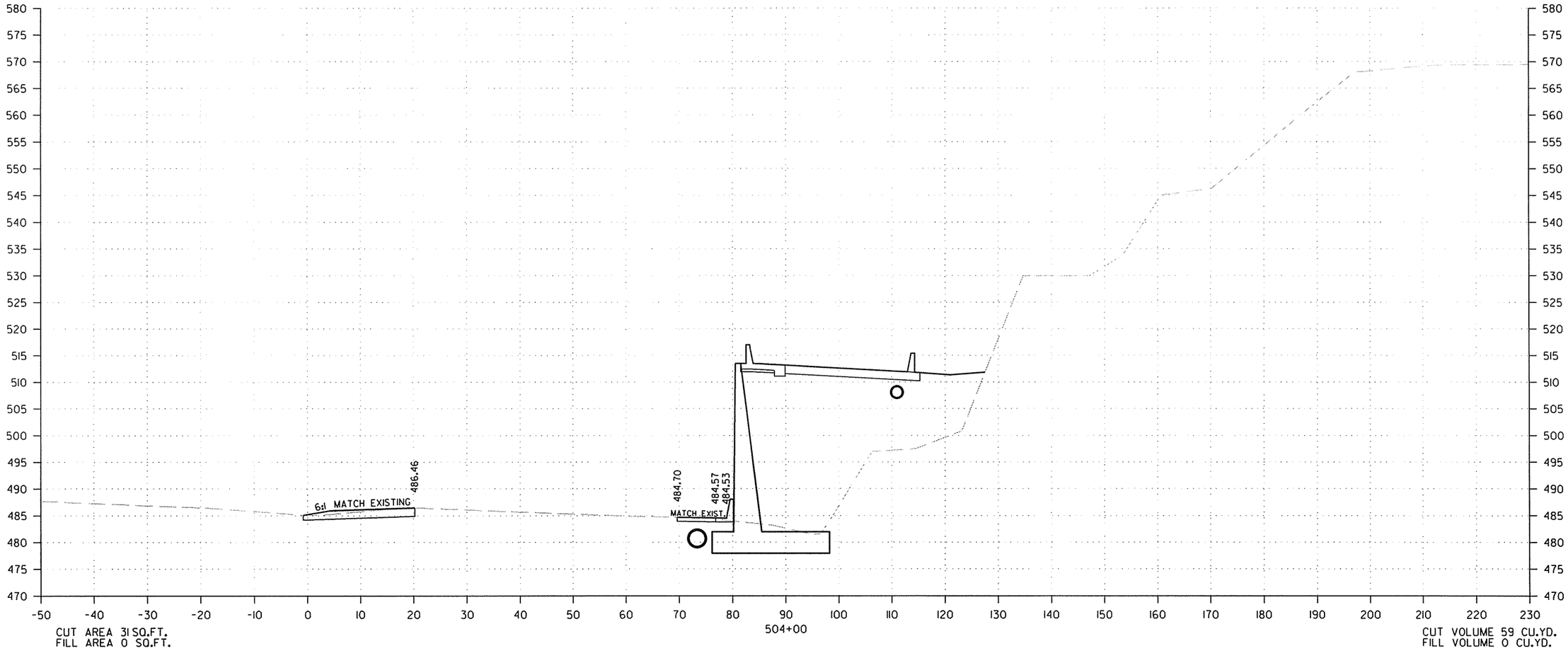
R061333.DGN

I-430

CROSS SECTION STA. 503+50 TO STA. 503+50

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	241	272

(2) CROSS SECTIONS - I-430



I-430

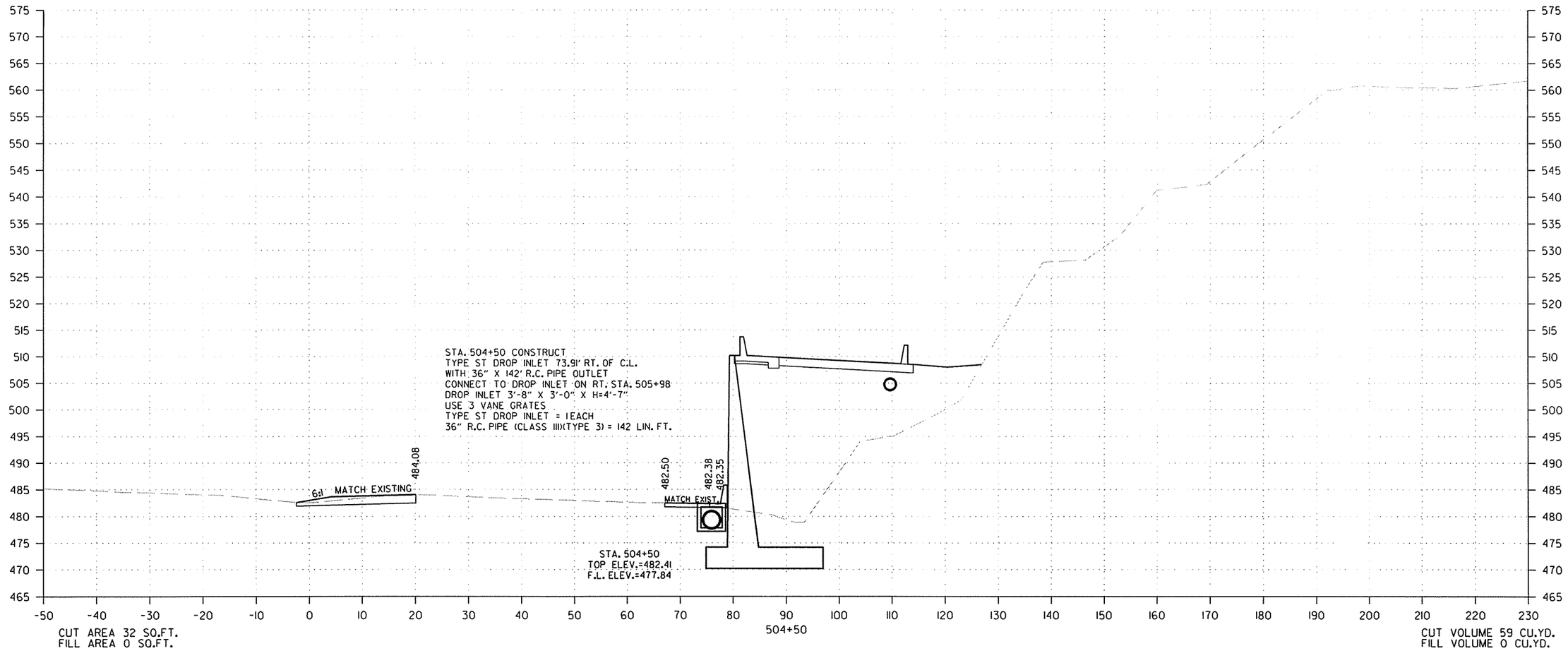
CROSS SECTION STA.504+00 TO STA. 504+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	242	272

(2) CROSS SECTIONS - I-430



I-430

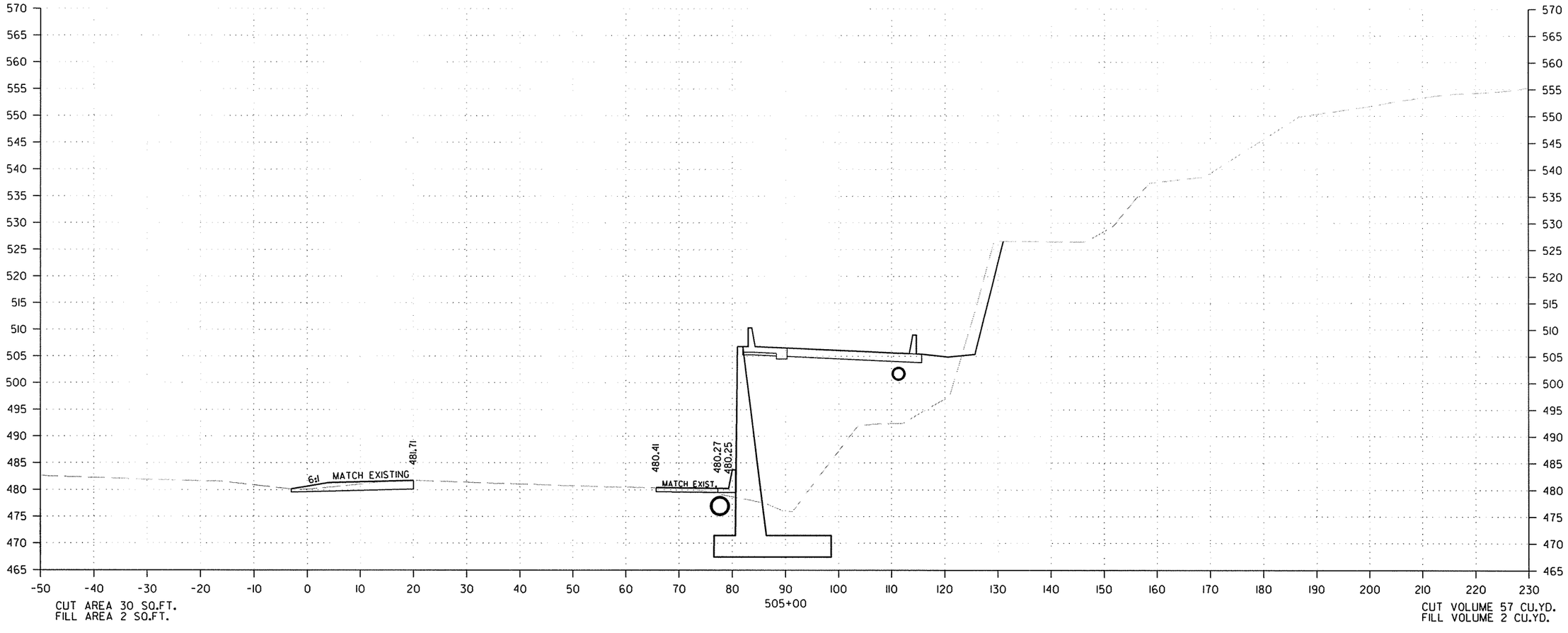
CROSS SECTION STA.504+50 TO STA. 504+50

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	243	272

(2) CROSS SECTIONS - I-430



I-430

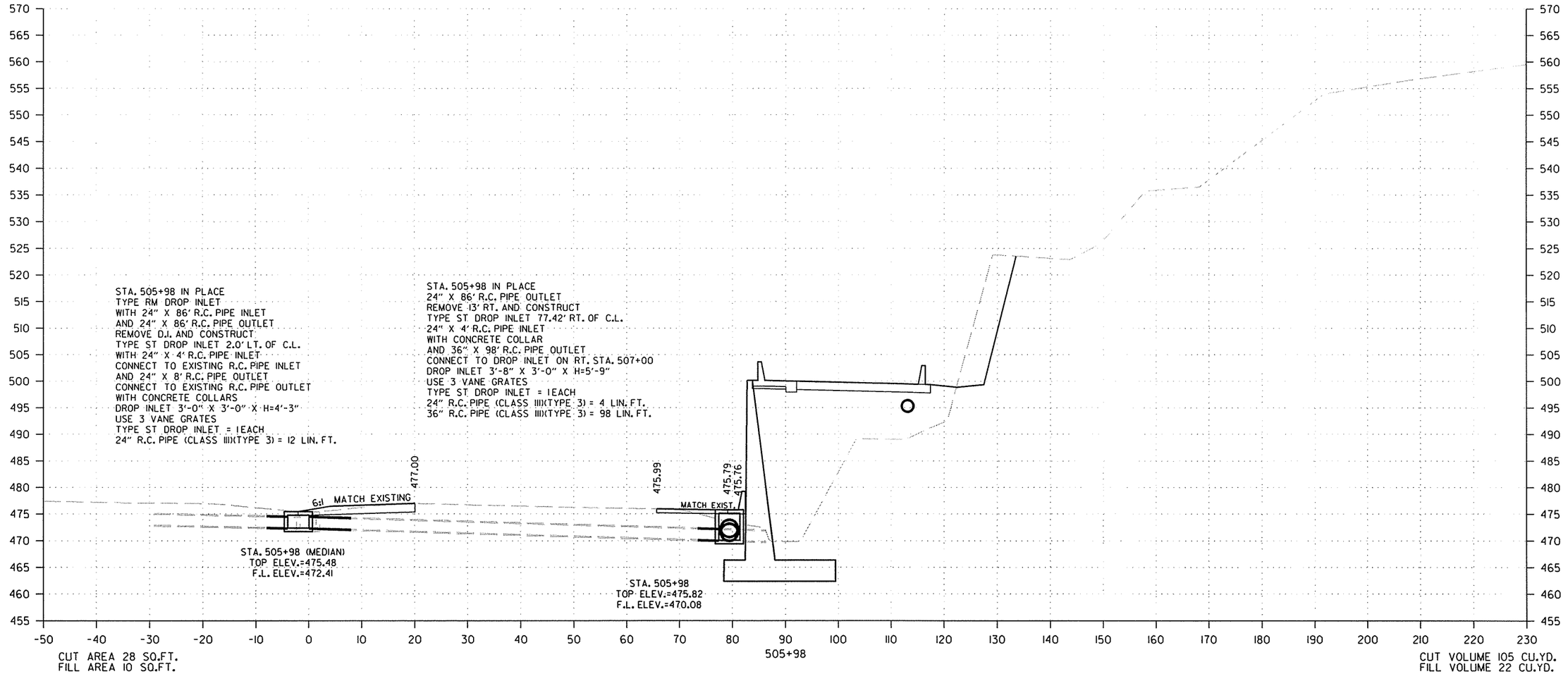
CROSS SECTION STA.505+00 TO STA. 505+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	244	272

(2) CROSS SECTIONS - I-430



I-430

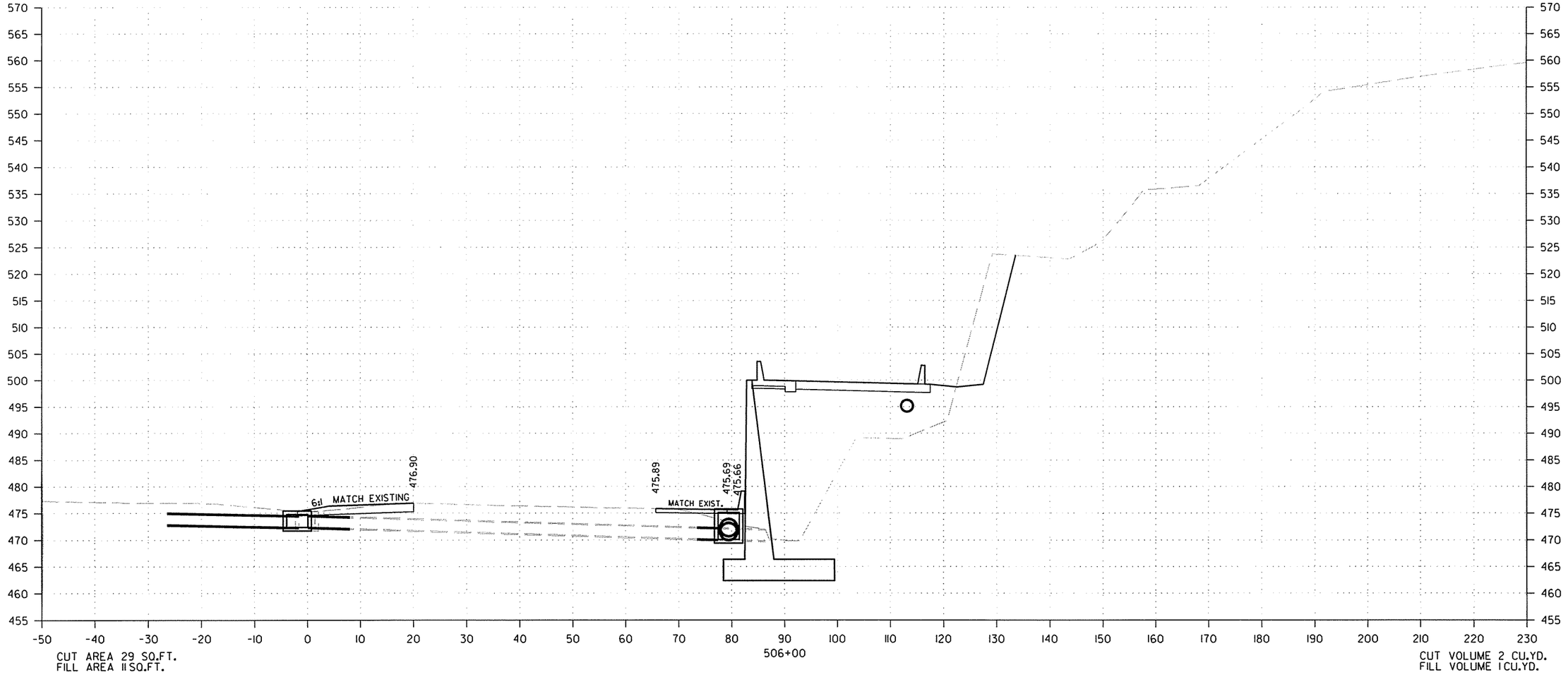
CROSS SECTION STA.505+98 TO STA. 505+98

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	245	272

(2) CROSS SECTIONS - I-430



I-430

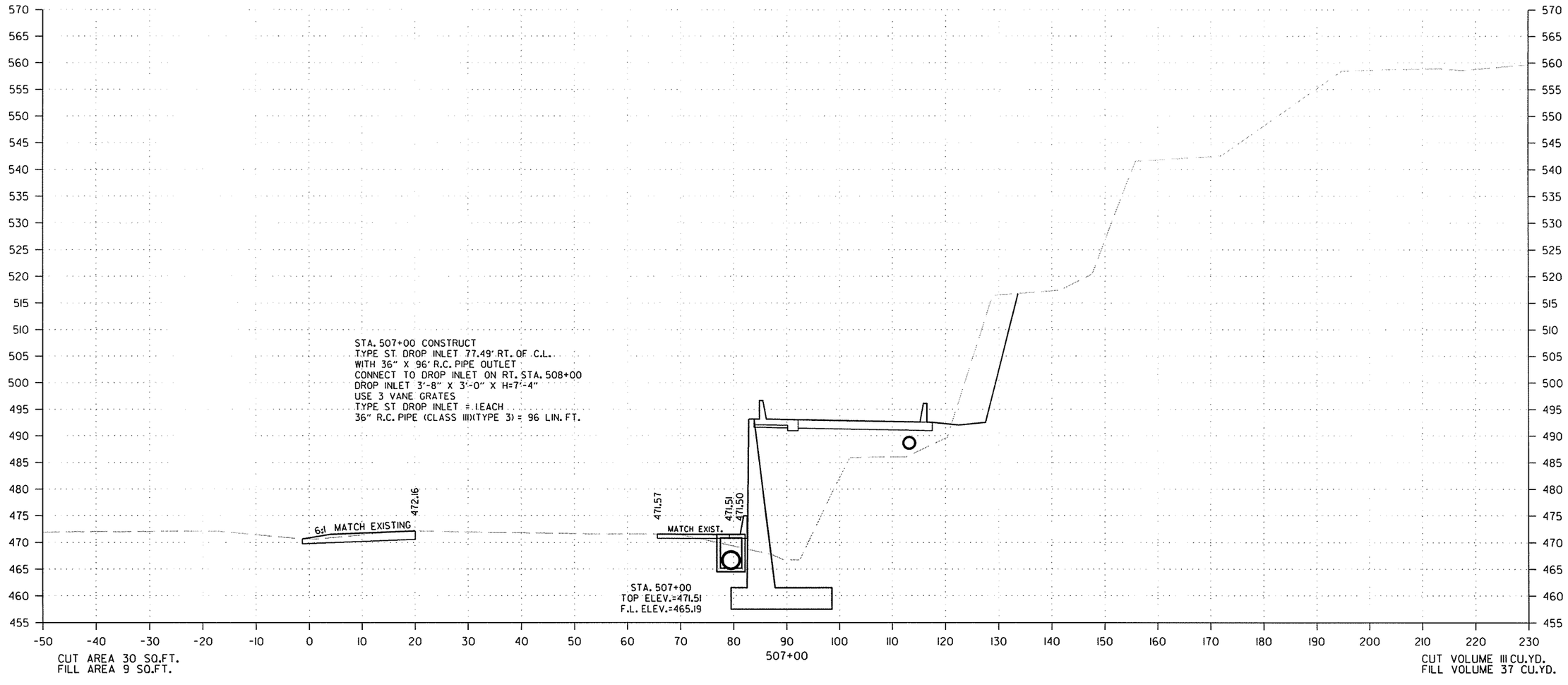
CROSS SECTION STA.506+00 TO STA. 506+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	246	272

(2) CROSS SECTIONS - I-430



I-430

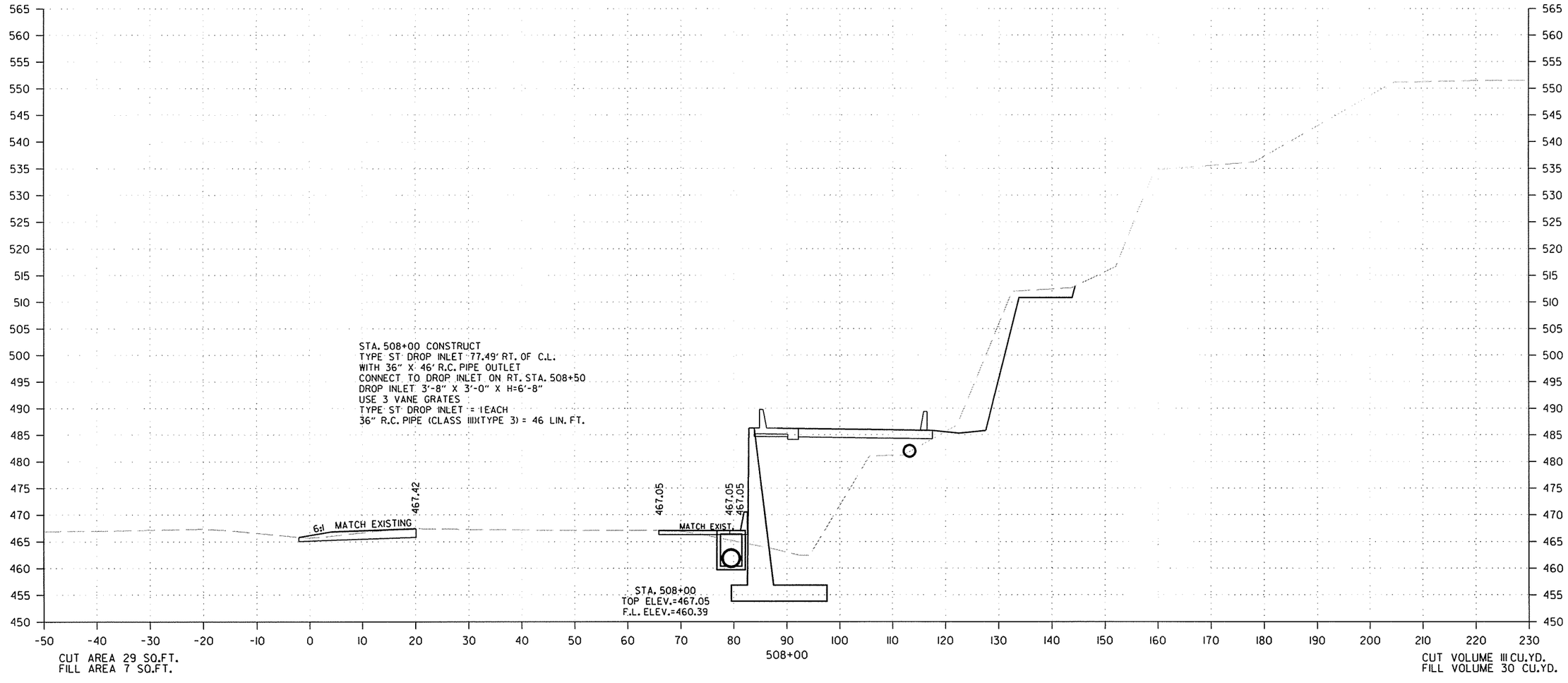
CROSS SECTION STA.507+00 TO STA. 507+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	247	272

(2) CROSS SECTIONS - I-430



I-430

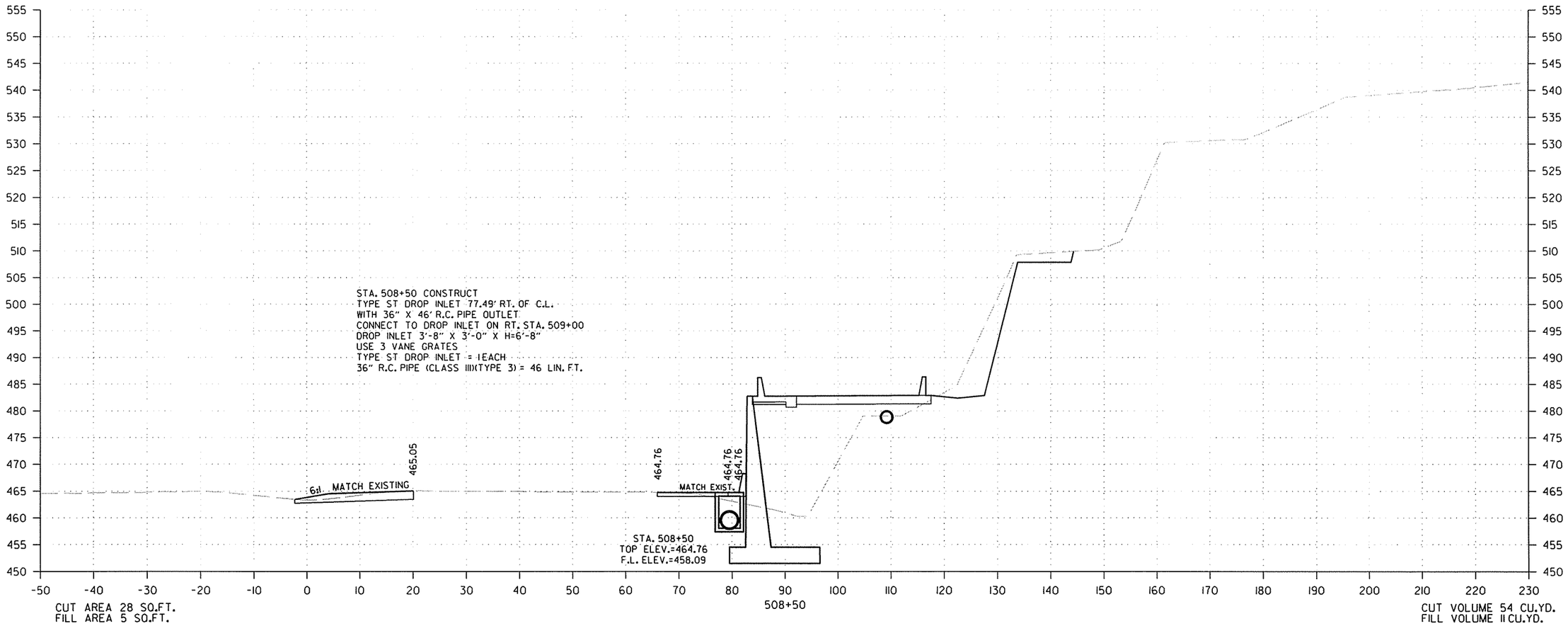
CROSS SECTION STA.508+00 TO STA. 508+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	248	272

(2) CROSS SECTIONS - I-430



I-430

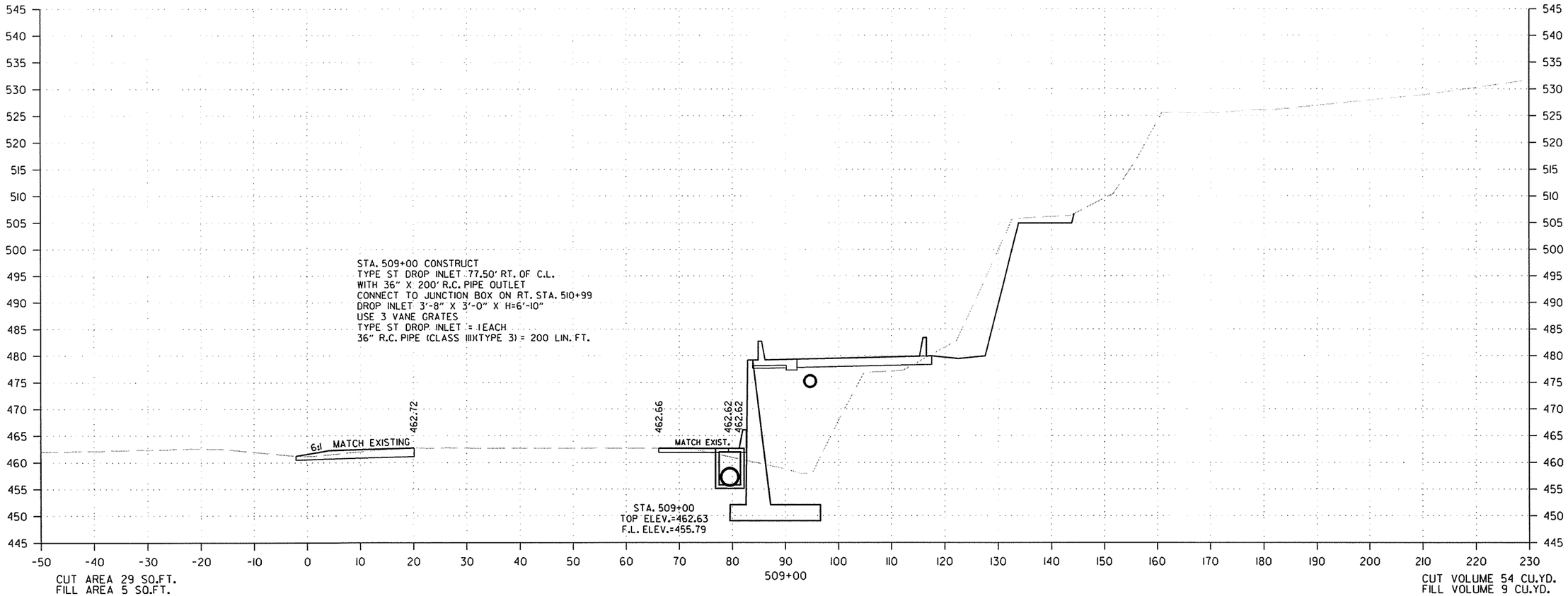
CROSS SECTION STA.508+50 TO STA. 508+50

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	249	272

(2) CROSS SECTIONS - I-430



I-430

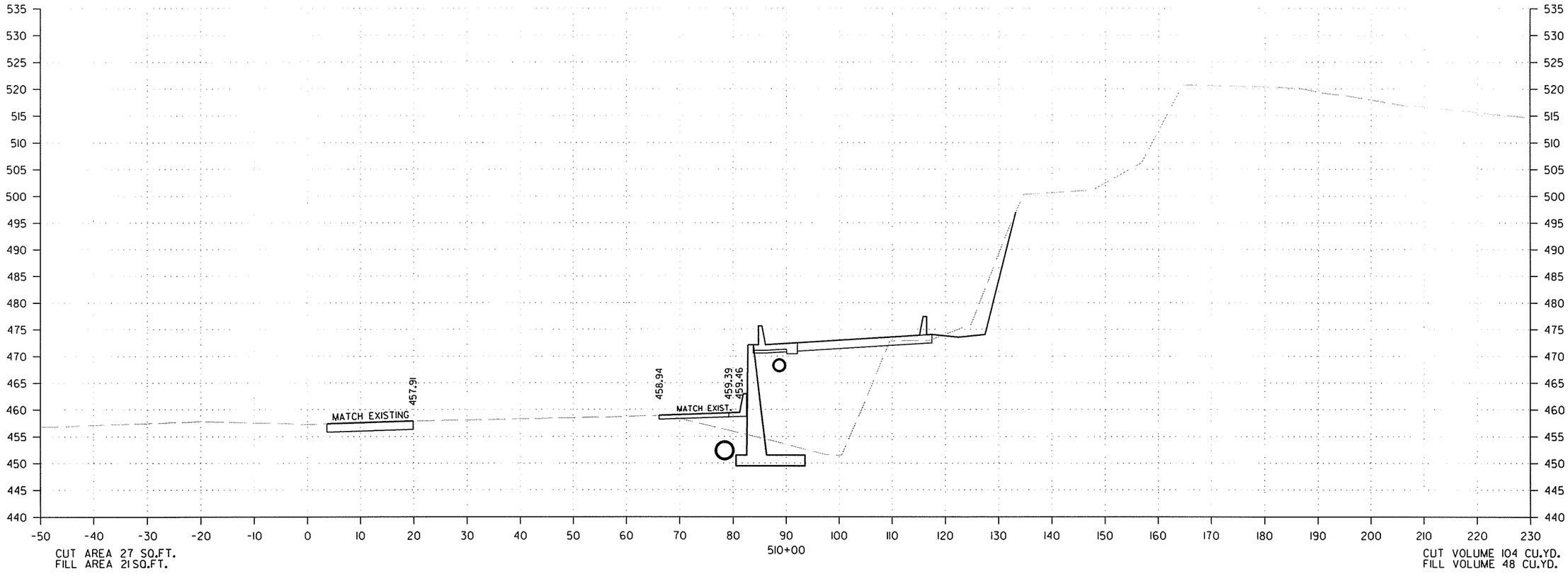
CROSS SECTION STA.509+00 TO STA. 509+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	250	272

(2) CROSS SECTIONS - I-430



I-430

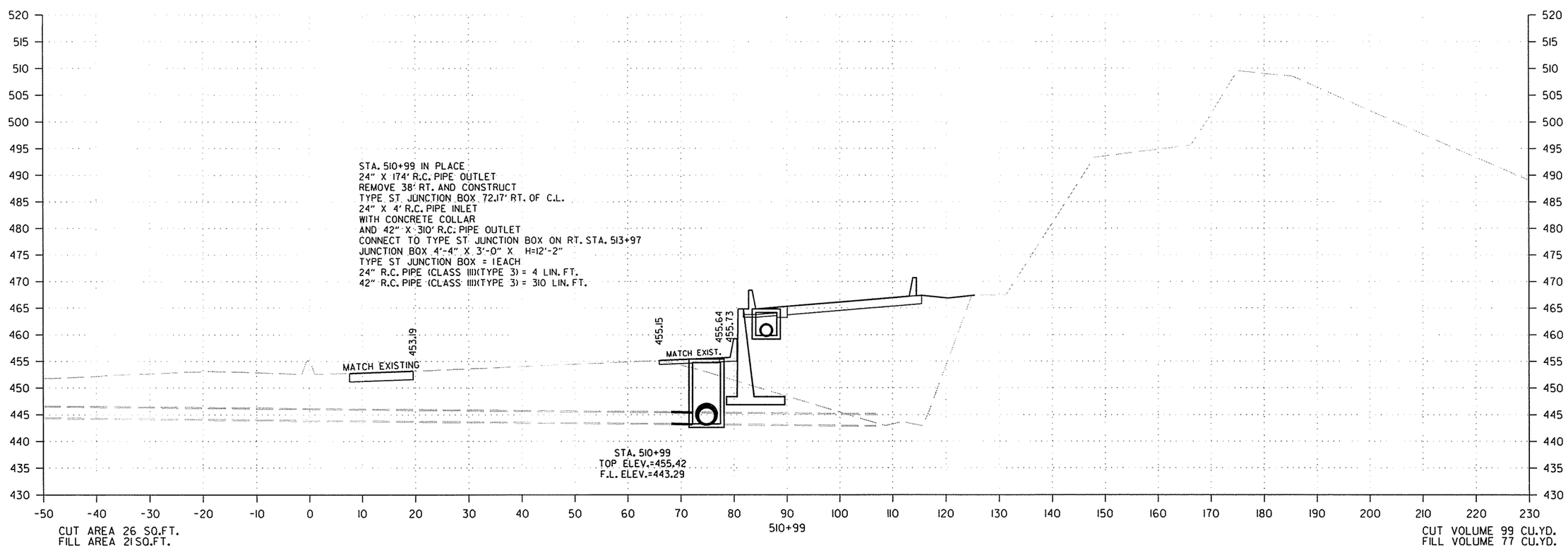
CROSS SECTION STA.510+00 TO STA. 510+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	251	272

(2) CROSS SECTIONS - I-430



10/20/2016

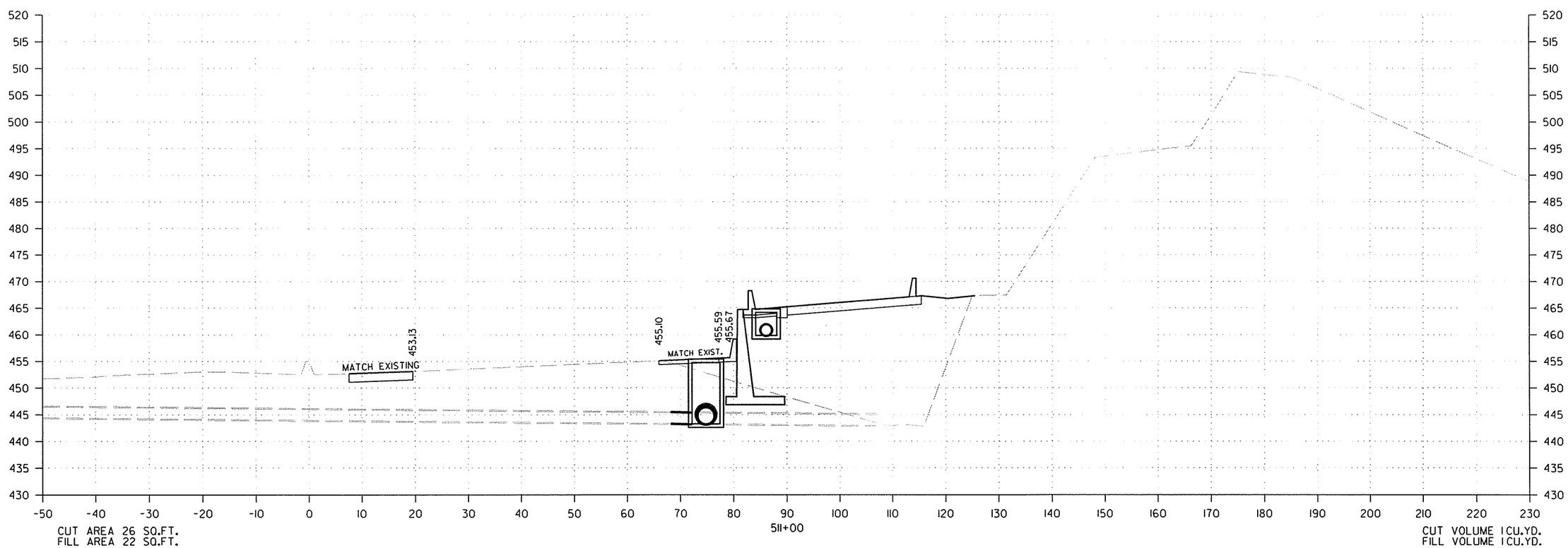
R061333.DGN

I-430

CROSS SECTION STA.510+99 TO STA. 510+99

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	252	272

(2) CROSS SECTIONS - I-430



I-430

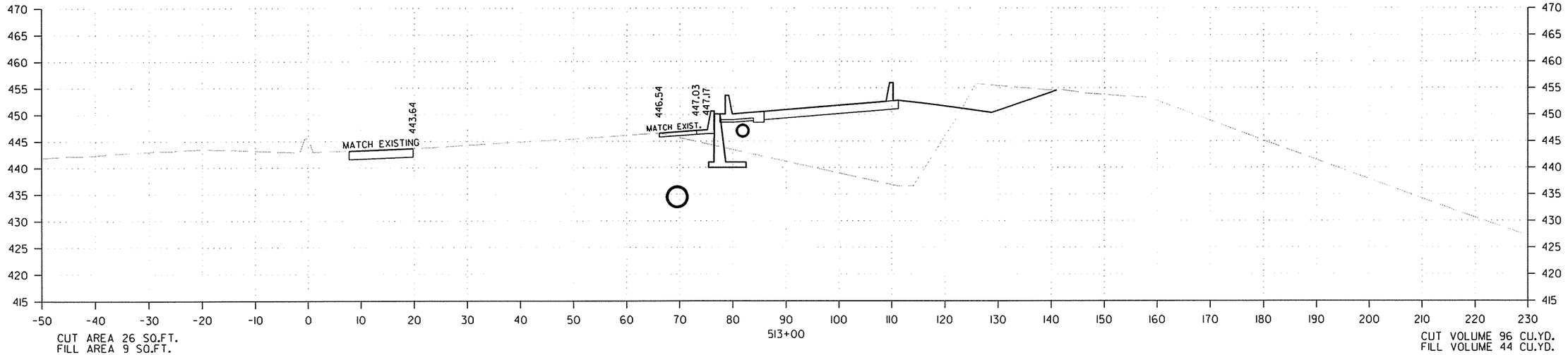
CROSS SECTION STA.511+00 TO STA. 511+00

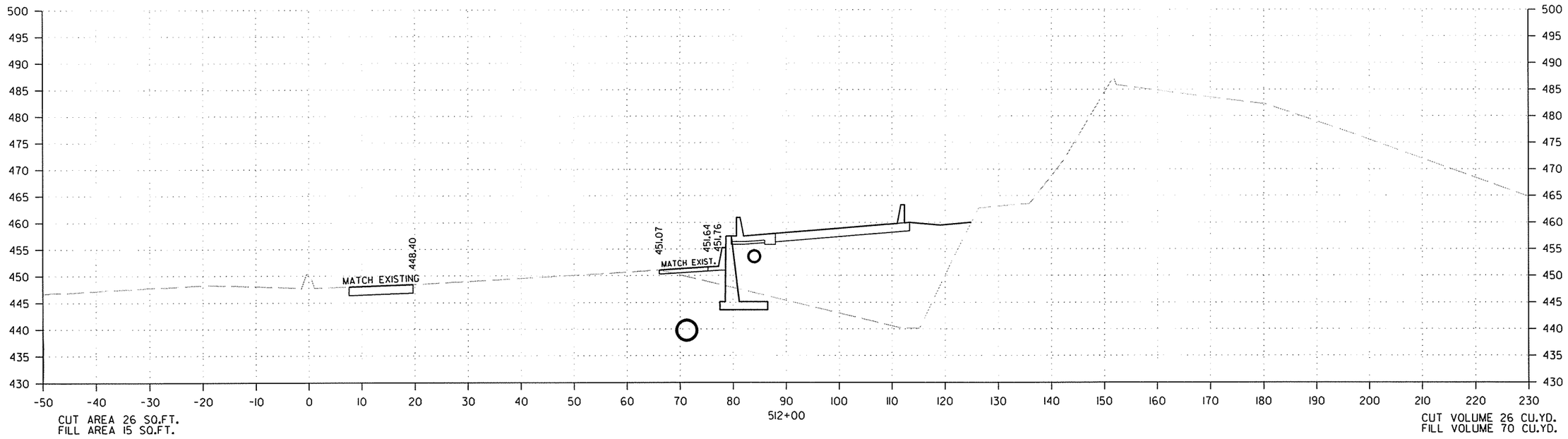
10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	253	272

(2) CROSS SECTIONS - I-430





I-430

CROSS SECTION STA.512+00 TO STA. 513+00

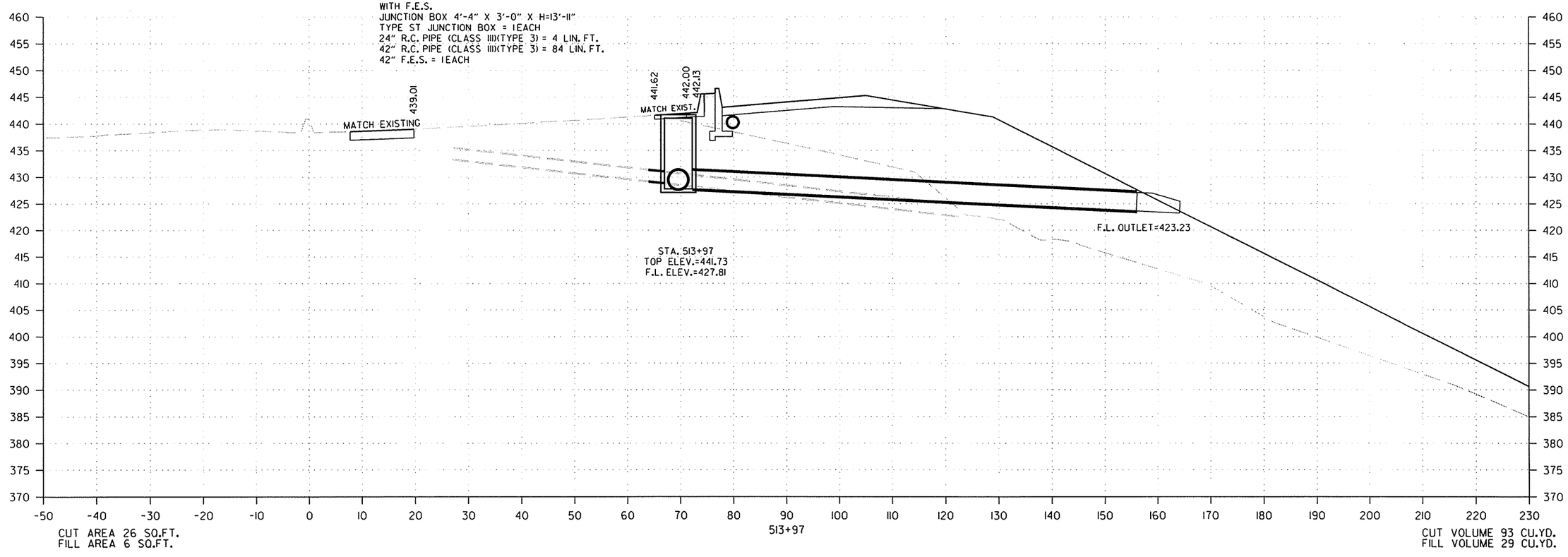
10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	254	272

(2) CROSS SECTIONS - I-430

STA. 513+97 IN PLACE
24" X 122' R.C. PIPE OUTLET
REMOVE 60' RT. AND CONSTRUCT
TYPE ST JUNCTION BOX 66.91' RT. OF C.L.
24" X 4' R.C. PIPE INLET
WITH CONCRETE COLLAR
AND 42" X 84' R.C. PIPE OUTLET
WITH F.E.S.
JUNCTION BOX 4'-4" X 3'-0" X H=13'-11"
TYPE ST JUNCTION BOX = 1EACH
24" R.C. PIPE (CLASS III)(TYPE 3) = 4 LIN. FT.
42" R.C. PIPE (CLASS III)(TYPE 3) = 84 LIN. FT.
42" F.E.S. = 1EACH



CUT AREA 26 SQ.FT.
FILL AREA 6 SQ.FT.

CUT VOLUME 93 CU.YD.
FILL VOLUME 29 CU.YD.

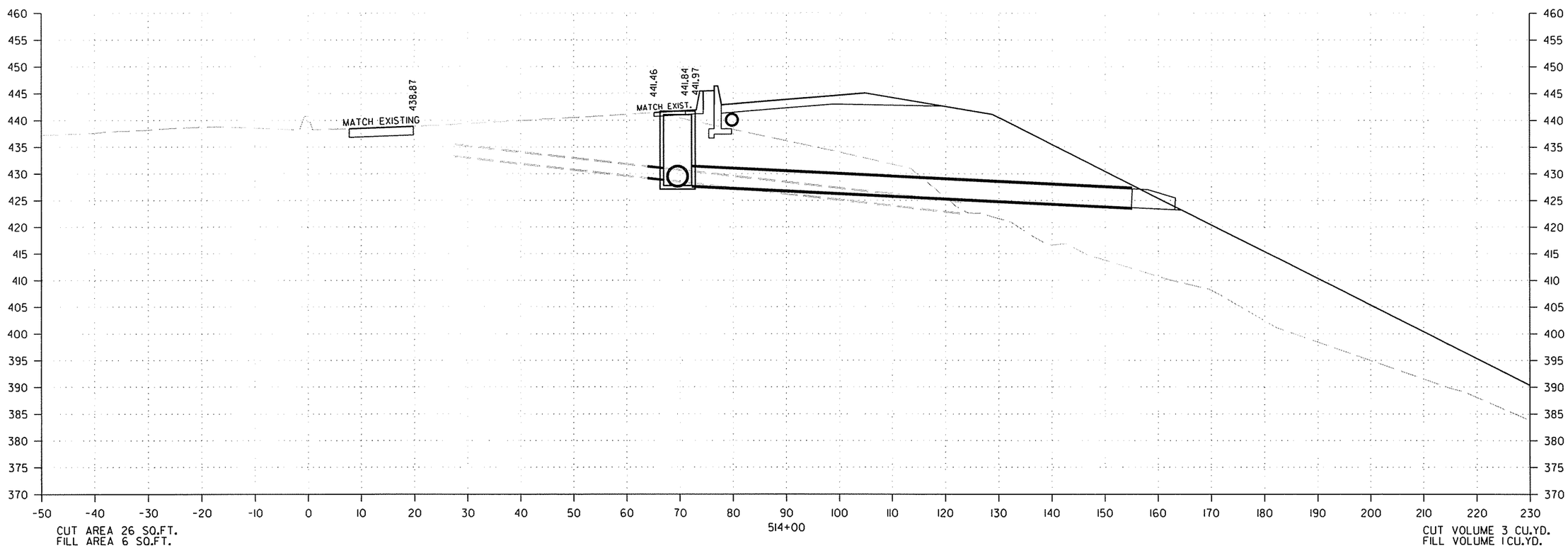
I-430
CROSS SECTION STA.513+97 TO STA. 513+97

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	255	272

(2) CROSS SECTIONS - I-430



I-430

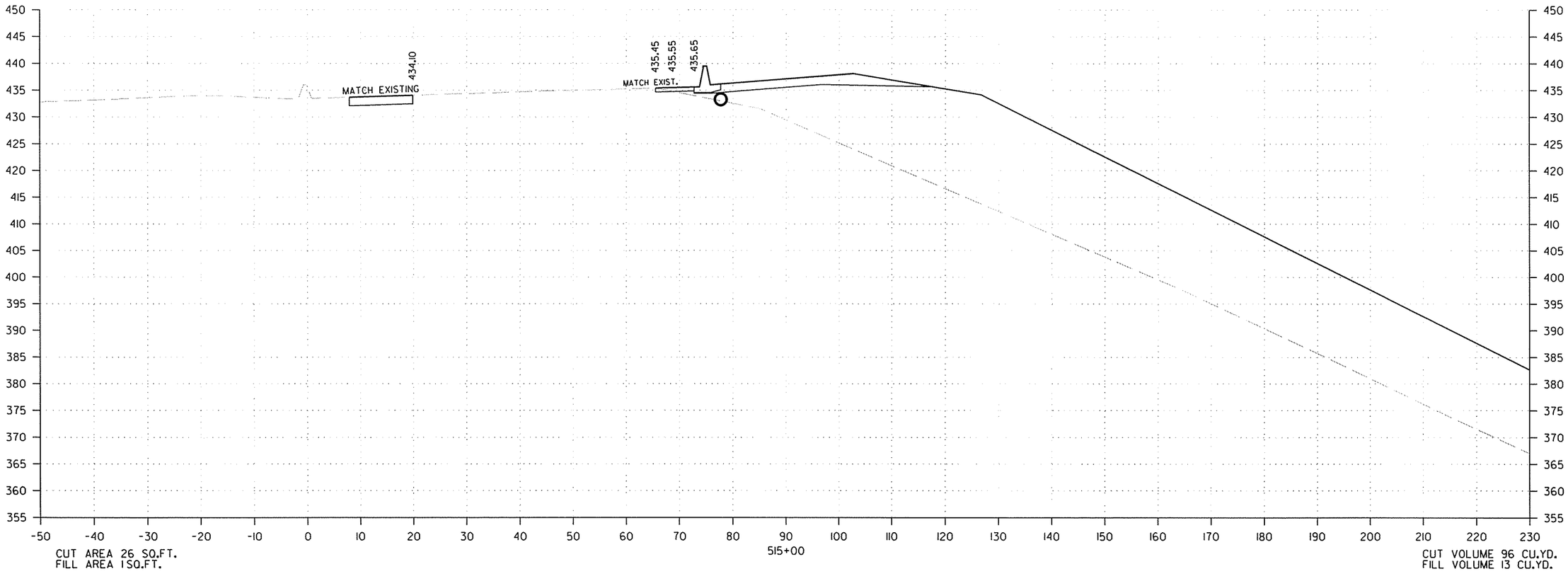
CROSS SECTION STA.514+00 TO STA. 514+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	256	272

(2) CROSS SECTIONS - I-430



I-430

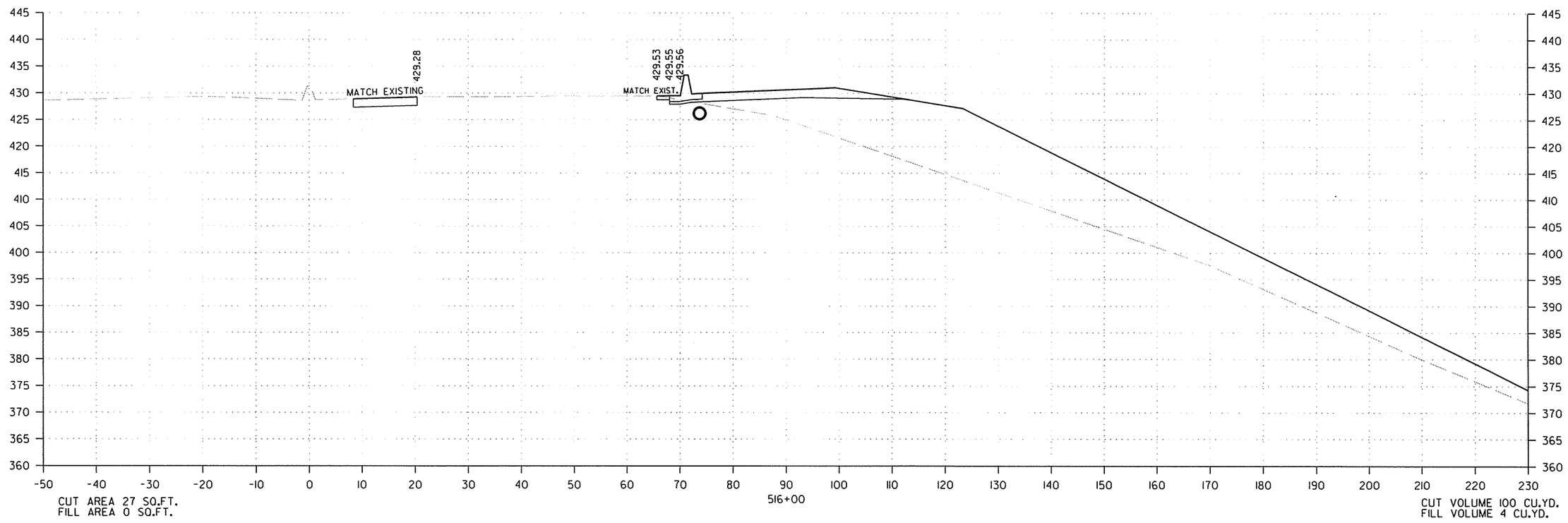
CROSS SECTION STA.515+00 TO STA. 515+00

10/20/2016

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	257	272

(2) CROSS SECTIONS - I-430



I-430

CROSS SECTION STA.516+00 TO STA. 516+00

10/20/2016

R061333.DGN

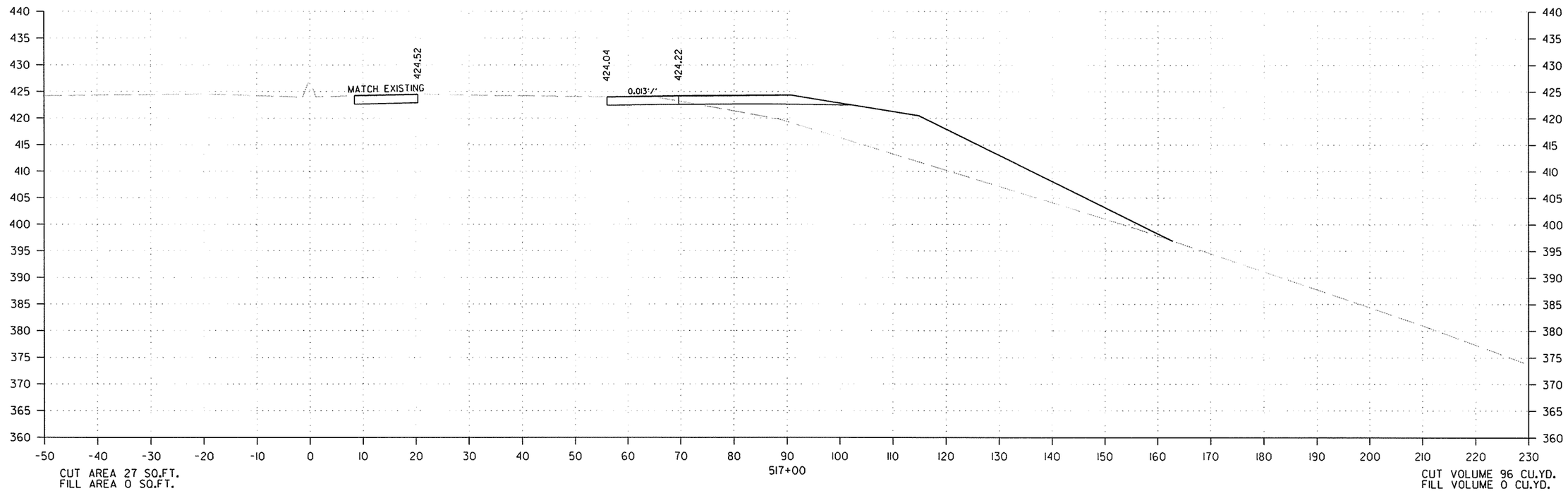
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10-21-16				6	ARK.			
				JOB NO.		061333	258	272

(2) CROSS SECTIONS - I-430

CUT AREA 27 SQ.FT.
FILL AREA 0 SQ.FT.

518+06.58
END I-430 CONST.
RAMP NOSE

CUT VOLUME 99 CU.YD.
FILL VOLUME 0 CU.YD.



CUT AREA 27 SQ.FT.
FILL AREA 0 SQ.FT.

CUT VOLUME 96 CU.YD.
FILL VOLUME 0 CU.YD.

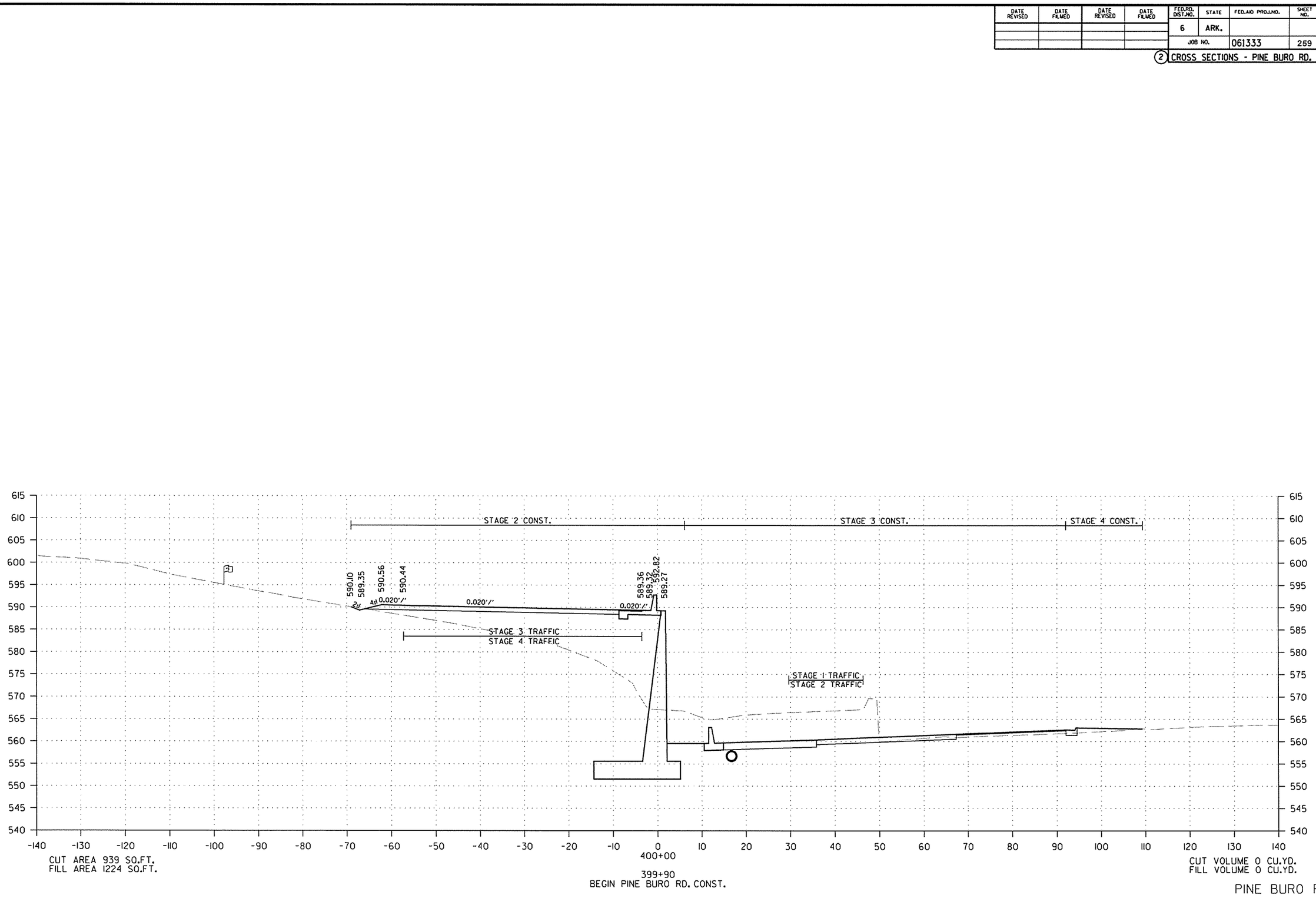
I-430
CROSS SECTION STA.517+00 TO STA. 517+00

10/20/2016

R061333.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.		061333	259	272

(2) CROSS SECTIONS - PINE BURO RD.



PINE BURO RD.
CROSS SECTION STA.400+00 TO STA. 400+00

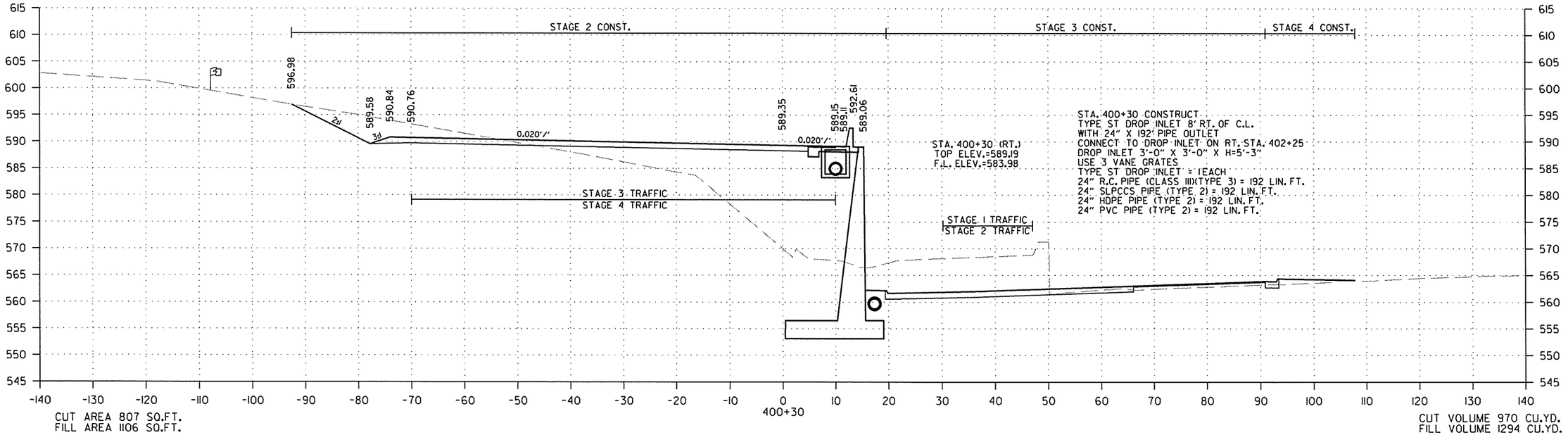
6/1/2015

R061333.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.		061333	260	272

(2) CROSS SECTIONS - PINE BURO RD.



CUT AREA 807 SQ.FT.
FILL AREA 1106 SQ.FT.

CUT VOLUME 970 CU.YD.
FILL VOLUME 1294 CU.YD.

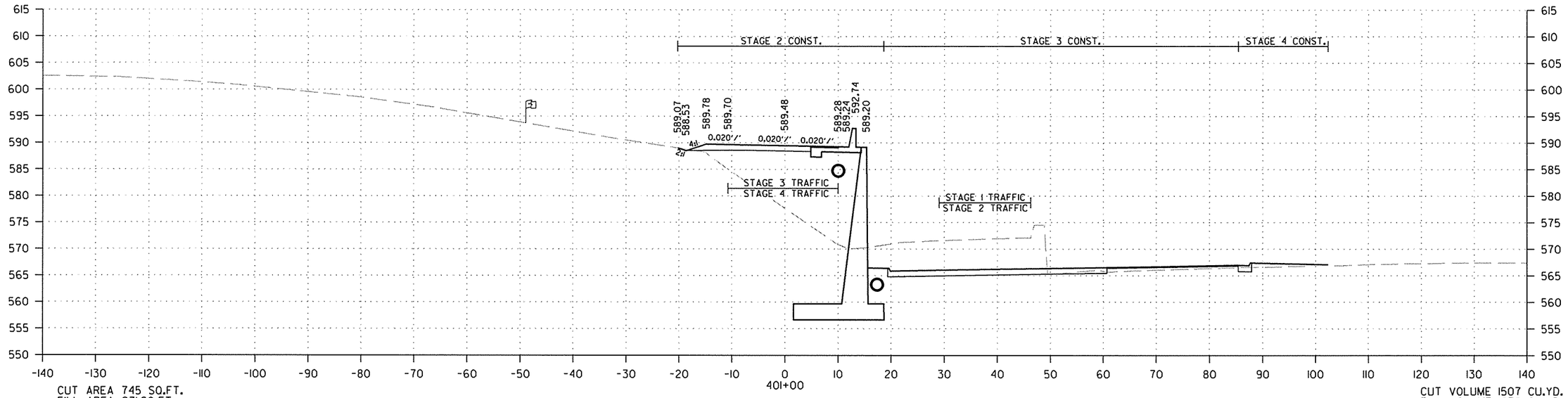
PINE BURO RD.
CROSS SECTION STA.400+30 TO STA. 400+30

6/1/2015

R061333.DGN

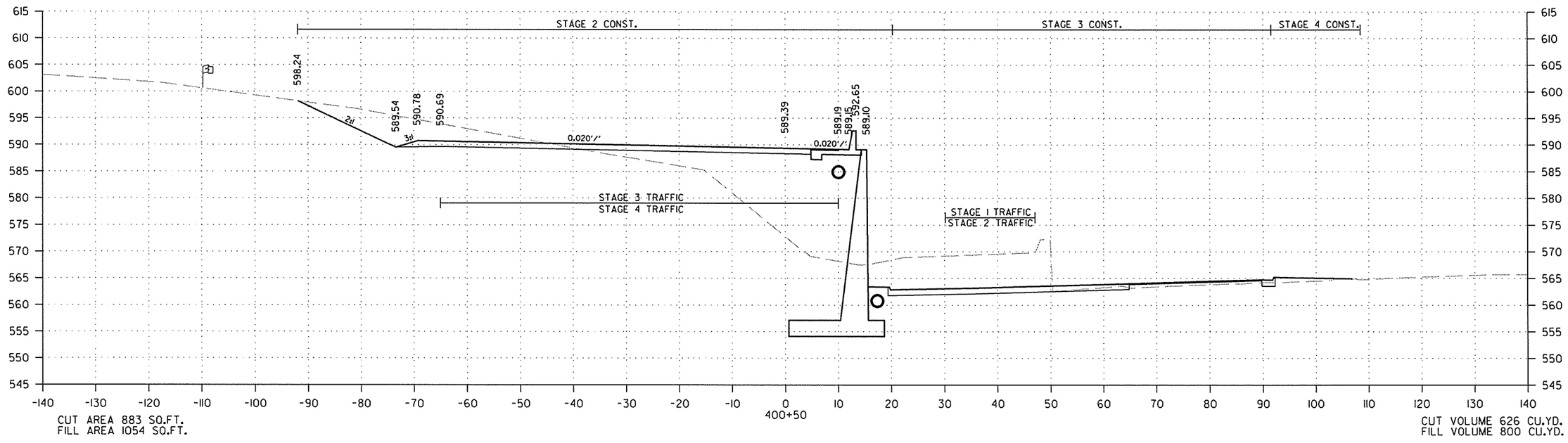
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	261	272

(2) CROSS SECTIONS - PINE BURO RD.



CUT AREA 745 SQ.FT.
FILL AREA 931 SQ.FT.

CUT VOLUME 1507 CU.YD.
FILL VOLUME 1838 CU.YD.



CUT AREA 883 SQ.FT.
FILL AREA 1054 SQ.FT.

CUT VOLUME 626 CU.YD.
FILL VOLUME 800 CU.YD.

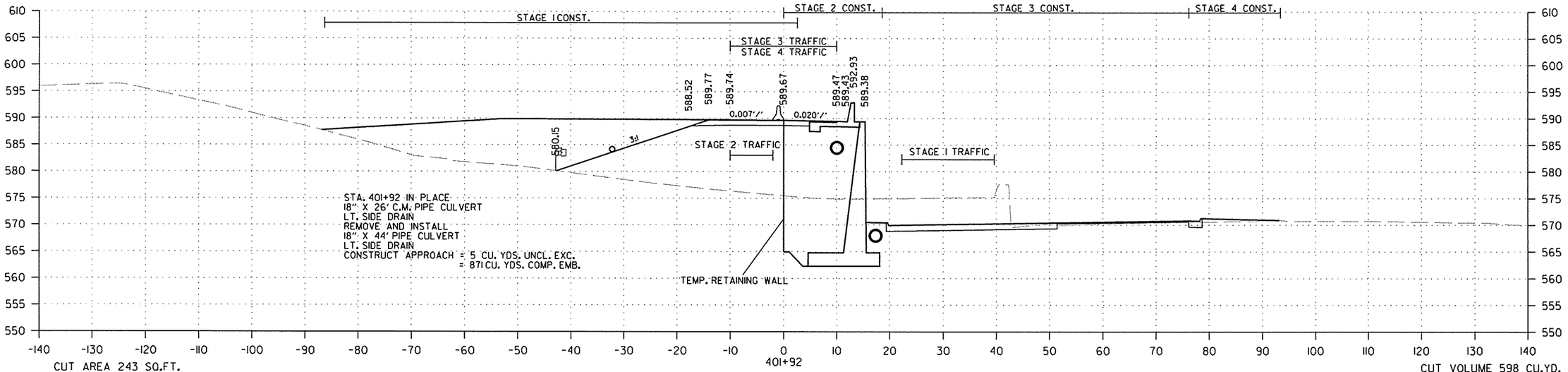
PINE BURO RD.
CROSS SECTION STA.400+50 TO STA. 401+00

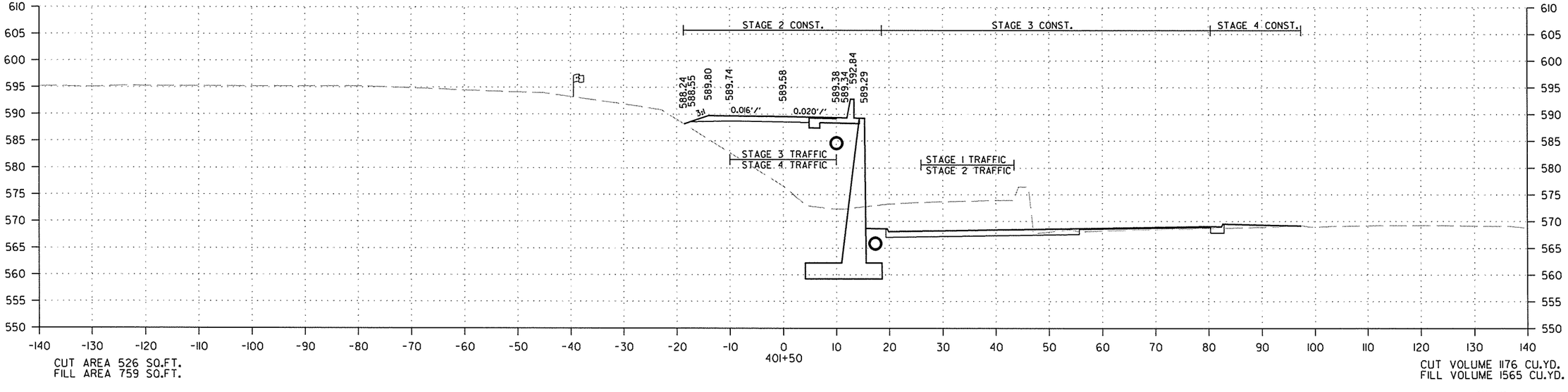
6/1/2015

R061333.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	262	272

(2) CROSS SECTIONS - PINE BURO RD.





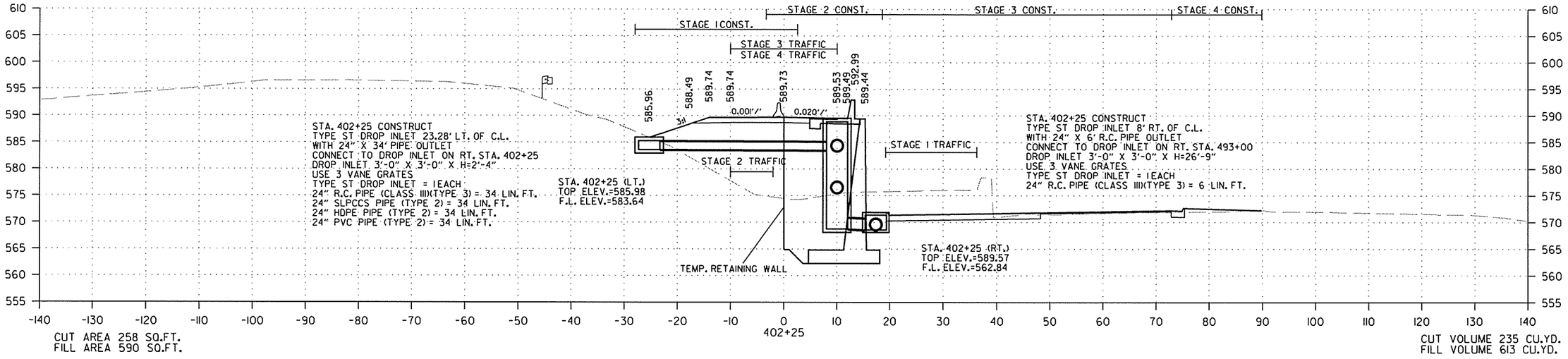
PINE BURO RD.
CROSS SECTION STA.401+50 TO STA. 401+92

6/1/2015

R061333.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.		061333	263	272

(2) CROSS SECTIONS - PINE BURO RD.



PINE BURO RD.

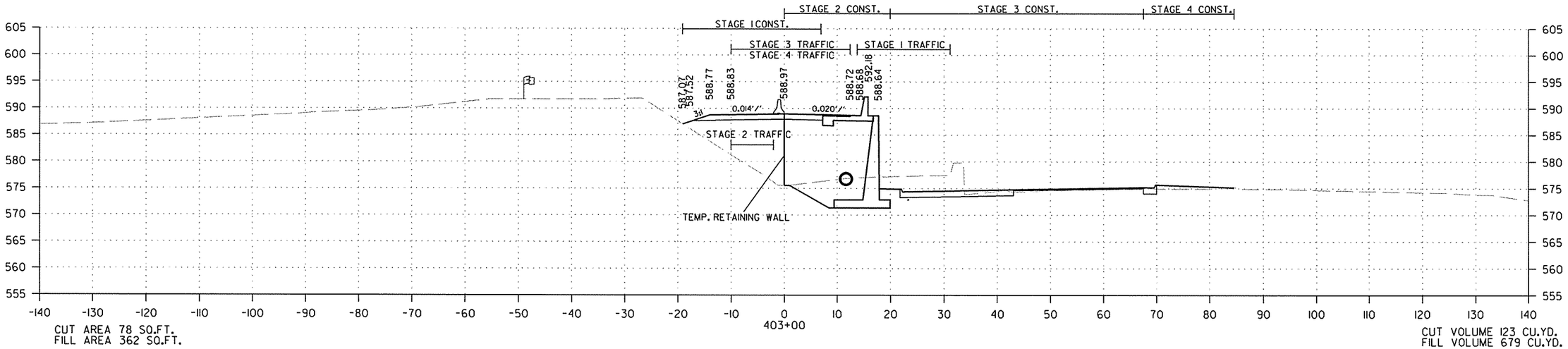
CROSS SECTION STA.402+00 TO STA. 402+25

6/1/2015

R061333.DGN

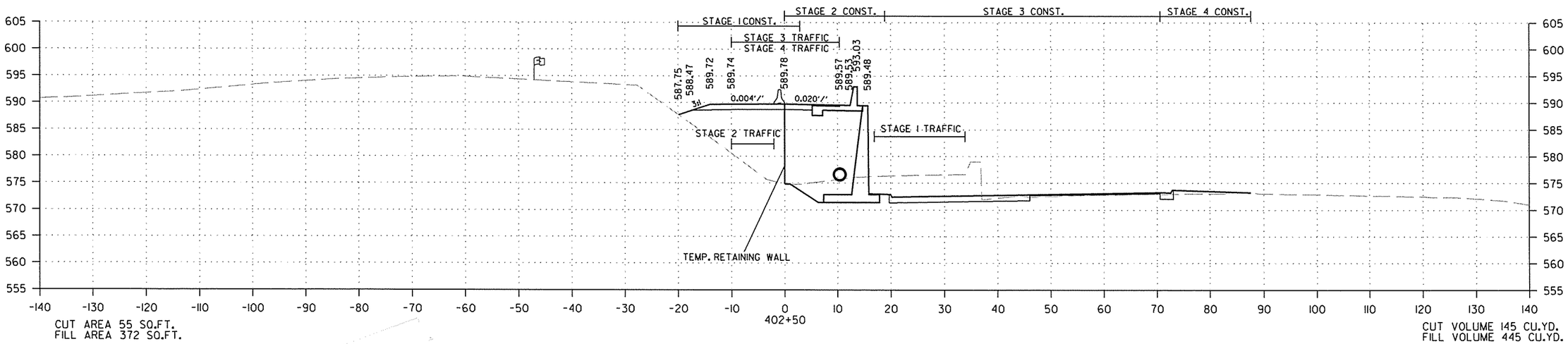
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	264	272

(2) CROSS SECTIONS - PINE BURO RD.



CUT AREA 78 SQ.FT.
FILL AREA 362 SQ.FT.

CUT VOLUME 123 CU.YD.
FILL VOLUME 679 CU.YD.



CUT AREA 55 SQ.FT.
FILL AREA 372 SQ.FT.

CUT VOLUME 145 CU.YD.
FILL VOLUME 445 CU.YD.

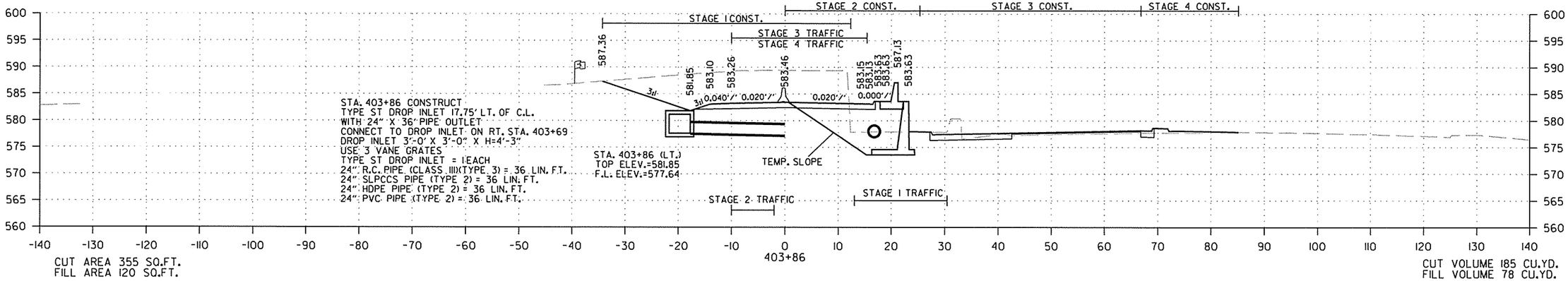
PINE BURO RD.
CROSS SECTION STA.402+50 TO STA. 403+00

6/1/2015

R061333.DGN

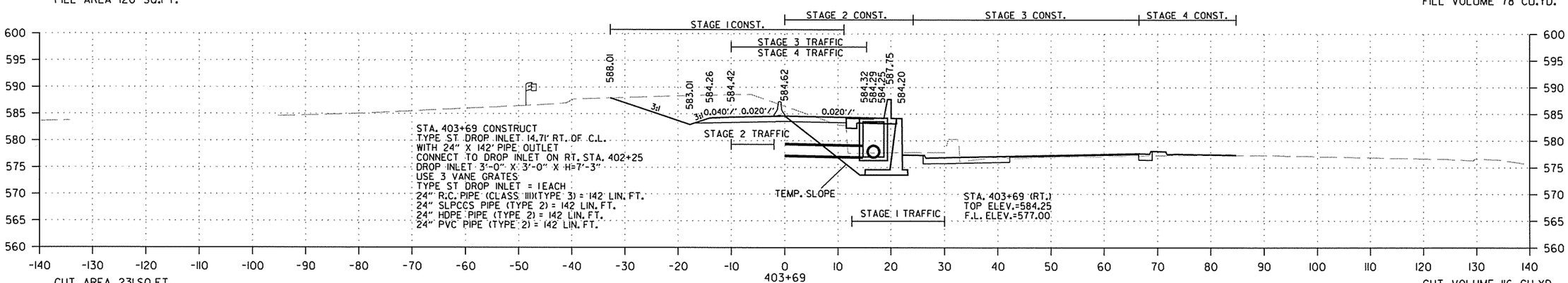
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	265	272

(2) CROSS SECTIONS - PINE BURO RD.



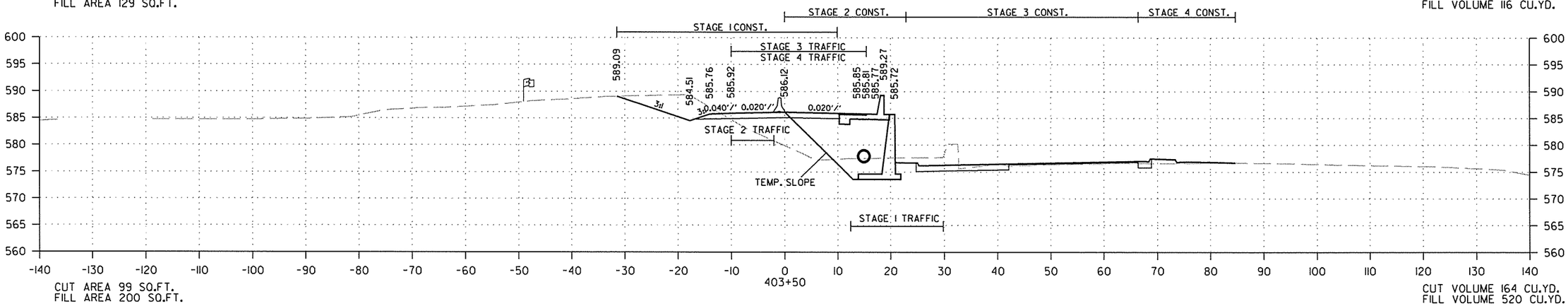
CUT AREA 355 SQ.FT.
FILL AREA 120 SQ.FT.

CUT VOLUME 185 CU.YD.
FILL VOLUME 78 CU.YD.



CUT AREA 231 SQ.FT.
FILL AREA 129 SQ.FT.

CUT VOLUME 116 CU.YD.
FILL VOLUME 116 CU.YD.



CUT AREA 99 SQ.FT.
FILL AREA 200 SQ.FT.

CUT VOLUME 164 CU.YD.
FILL VOLUME 520 CU.YD.

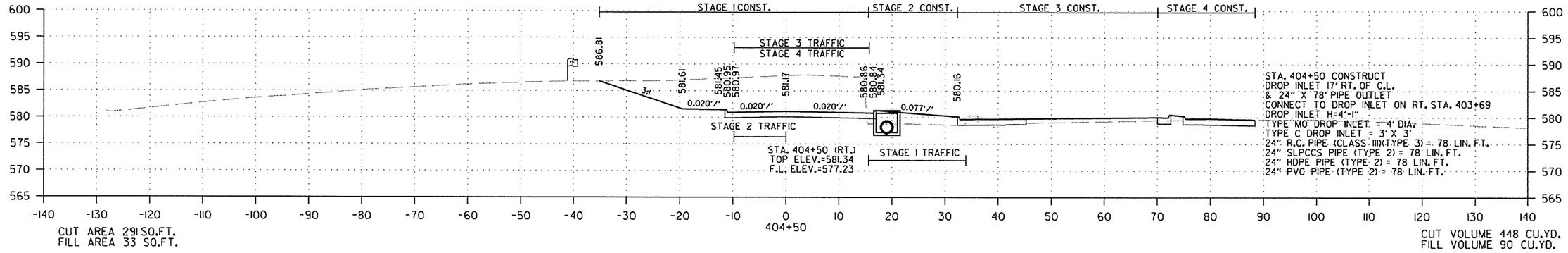
PINE BURO RD.
CROSS SECTION STA. 403+50 TO STA. 403+86

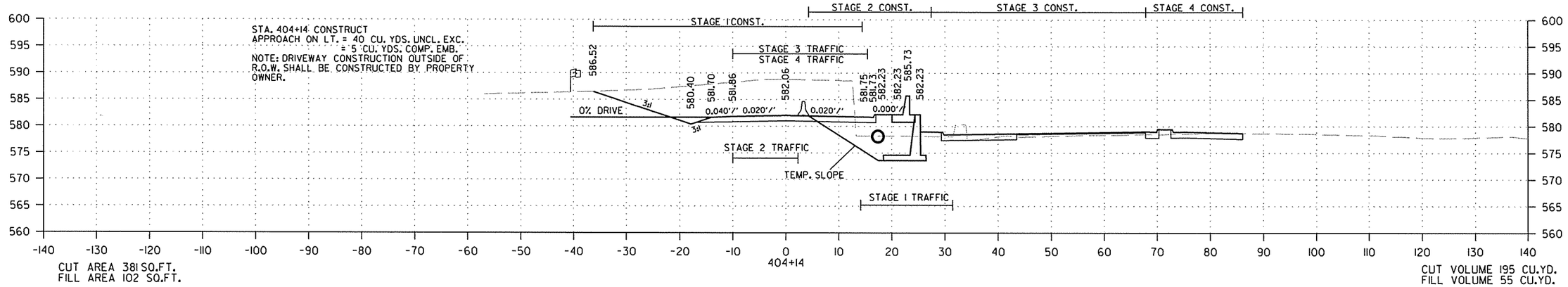
6/1/2015

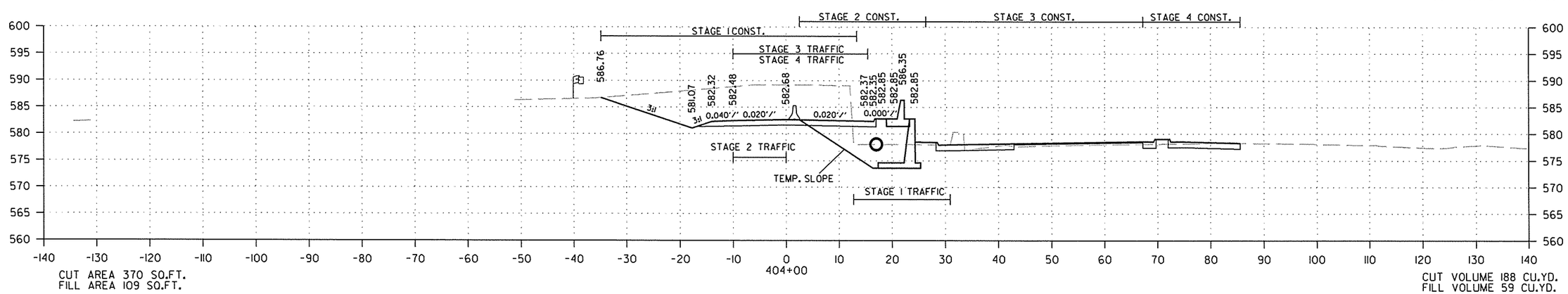
R061333.DGN

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.		061333	266	272

(2) CROSS SECTIONS - PINE BURO RD.







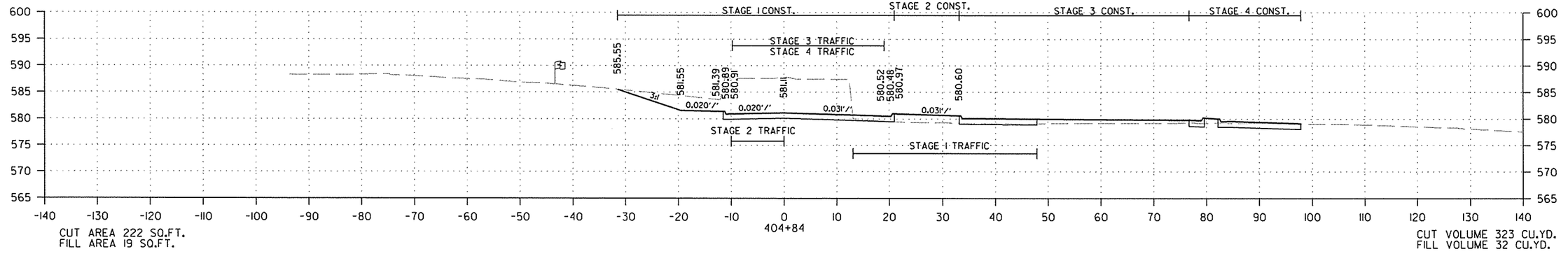
PINE BURO RD.
CROSS SECTION STA. 404+00 TO STA. 404+50

6/1/2015
R061333.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.		061333	267	272

(2) CROSS SECTIONS - PINE BURO RD.

STA. 237+21.55 ON HWY. 10 =
STA. 405+66.25 ON PINE BURO ROAD
∡ 90°00'00"



CUT AREA 222 SQ.FT.
FILL AREA 19 SQ.FT.

CUT VOLUME 323 CU.YD.
FILL VOLUME 32 CU.YD.

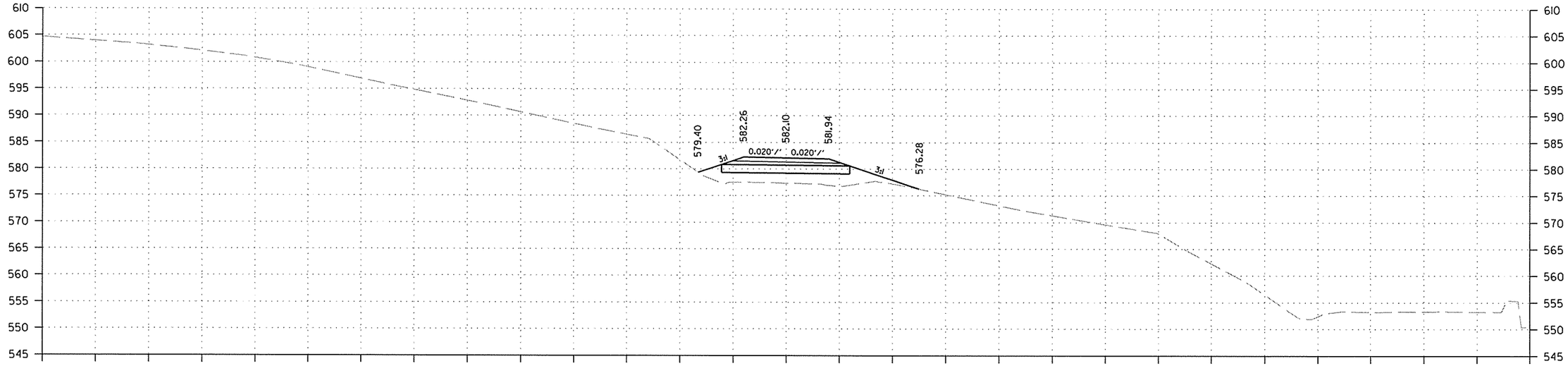
PINE BURO RD.
CROSS SECTION STA. 404+84 TO STA. 404+84

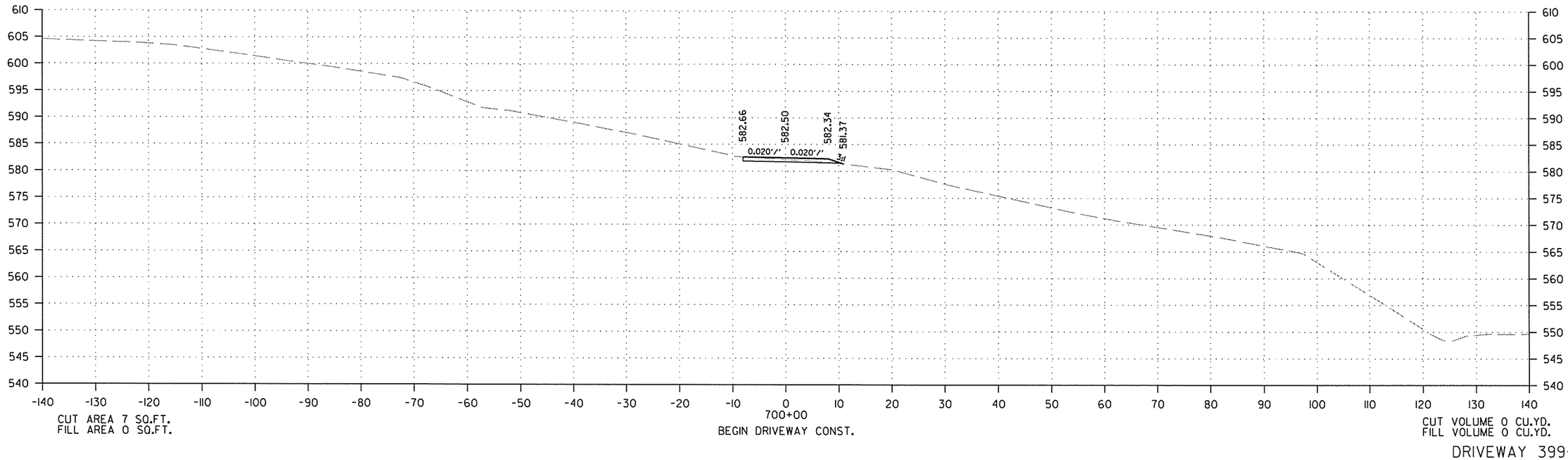
6/1/2015

R061333.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.		061333	268	272

(2) CROSS SECTIONS - DRIVEWAY 399+94





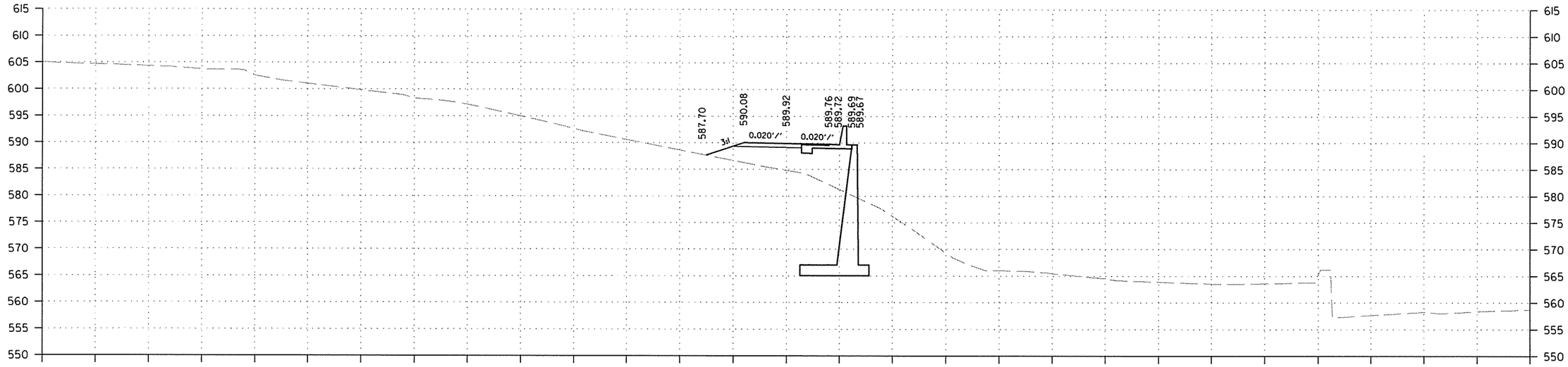
DRIVEWAY 399+94
CROSS SECTION STA.700+00 TO STA. 700+50

2/12/2015

R061333.DGN

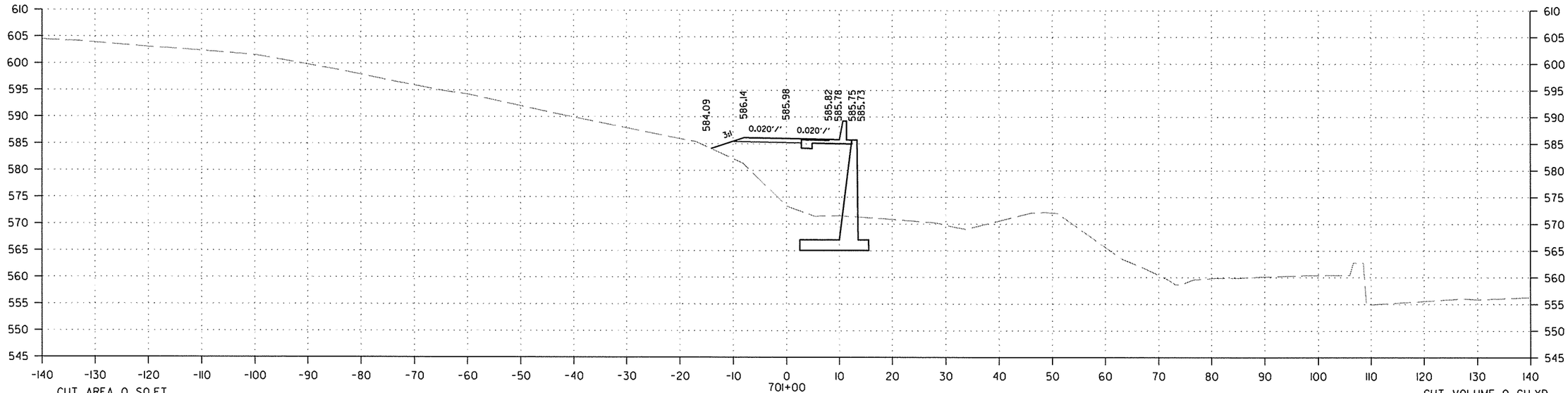
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061333	269	272

(2) CROSS SECTIONS - DRIVEWAY 399+94



CUT AREA 0 SQ.FT.
FILL AREA 125 SQ.FT.

CUT VOLUME 0 CU.YD.
FILL VOLUME 351 CU.YD.



CUT AREA 0 SQ.FT.
FILL AREA 254 SQ.FT.

CUT VOLUME 0 CU.YD.
FILL VOLUME 348 CU.YD.

DRIVEWAY 399+94
CROSS SECTION STA.701+00 TO STA. 701+50

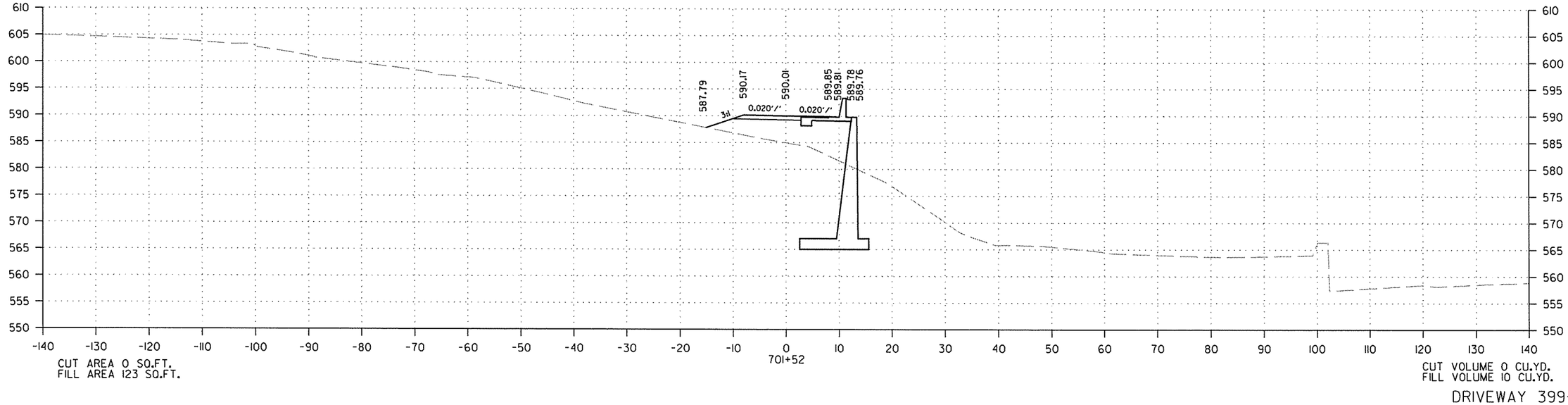
2/12/2015

R061333.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.		061333	270	272

(2) CROSS SECTIONS - DRIVEWAY 399+94

701+66.57
END DRIVEWAY CONST.



CUT AREA 0 SQ.FT.
FILL AREA 123 SQ.FT.

CUT VOLUME 0 CU.YD.
FILL VOLUME 10 CU.YD.

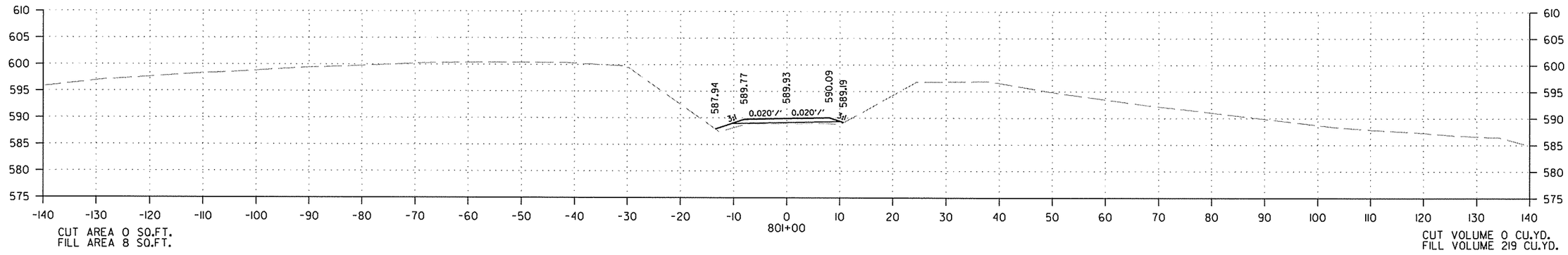
DRIVEWAY 399+94
CROSS SECTION STA.701+52 TO STA. 701+52

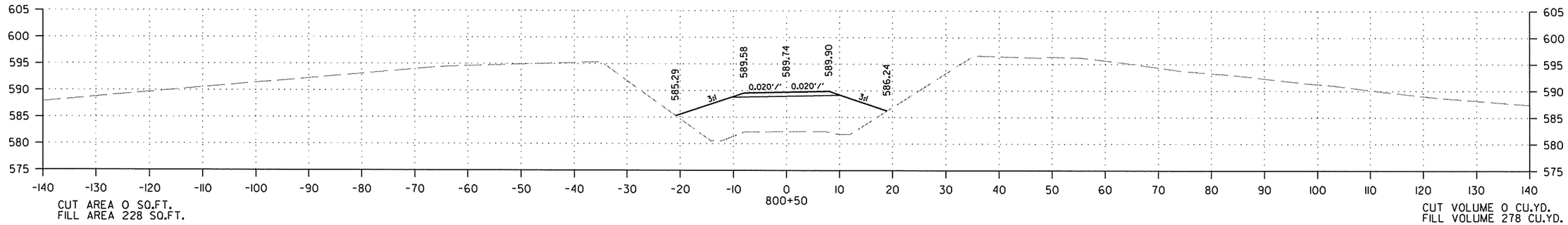
2/12/2015

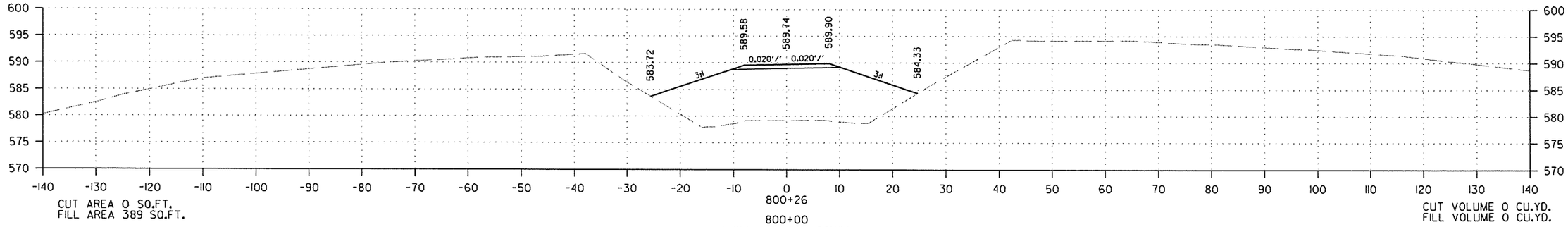
R061333.DGN

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.		061333	271	272

(2) CROSS SECTIONS - DRIVEWAY 401+92







800+00
BEGIN DRIVEWAY CONST.

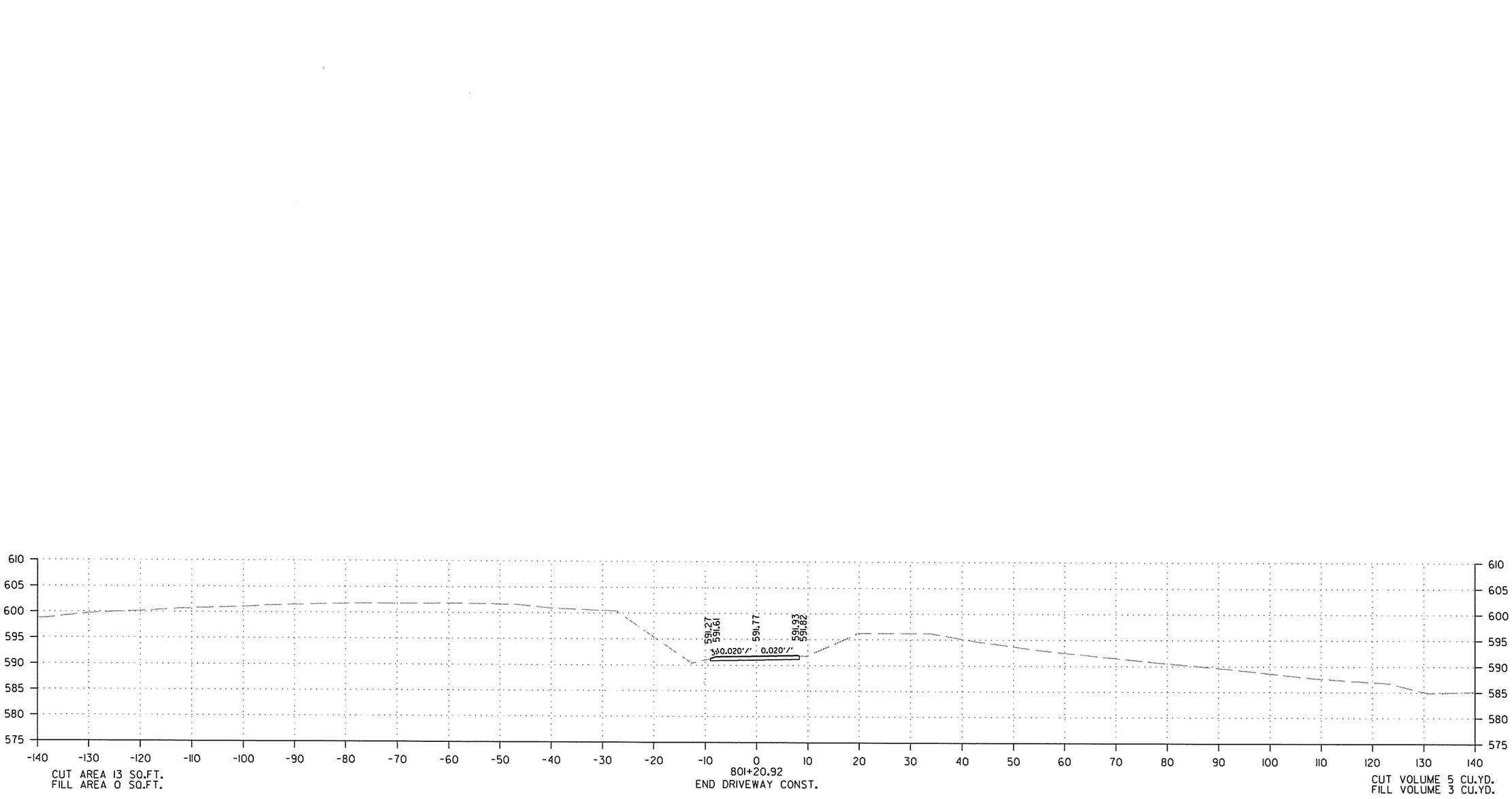
DRIVEWAY 401+92
CROSS SECTION STA.800+26 TO STA. 801+00

6/1/2015

R061333.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.		061333	272	272

(2) CROSS SECTIONS - DRIVEWAY 401+92



DRIVEWAY 401+92
CROSS SECTION STA.801+20.92 TO STA. 801+20.92

6/1/2015

R061333.DGN