

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 040819		1		111
② HWYS. 64, 96 & 252 STRS. & APPRS. (S)								

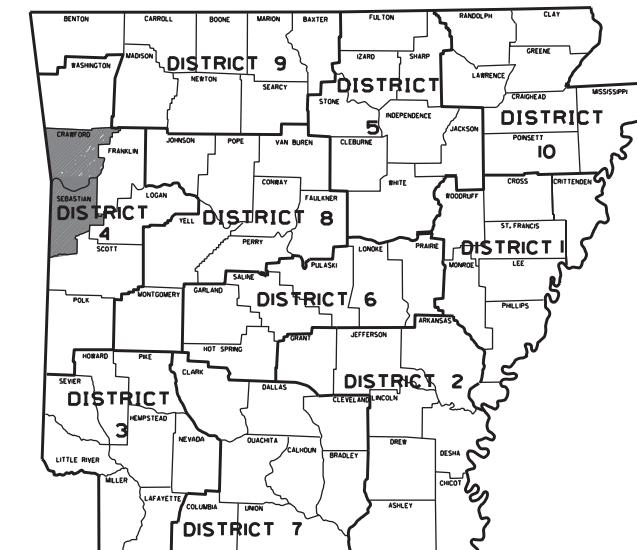
HWYS. 64, 96 & 252
STRS. & APPRS. (S)

CRAWFORD & SEBASTIAN COUNTIES

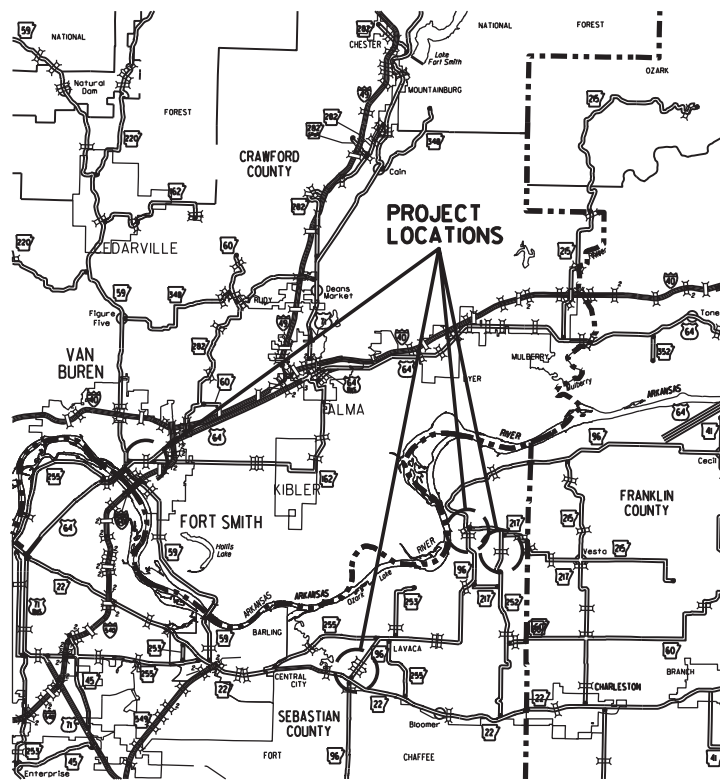
ROUTE 64 SECTION 2
ROUTE 96 SECTION 3
ROUTE 252 SECTION 4

FED. AID PROJ. NHPP-1765(7)

JOB 040819



ARK. HWY. DIST. NO. 4



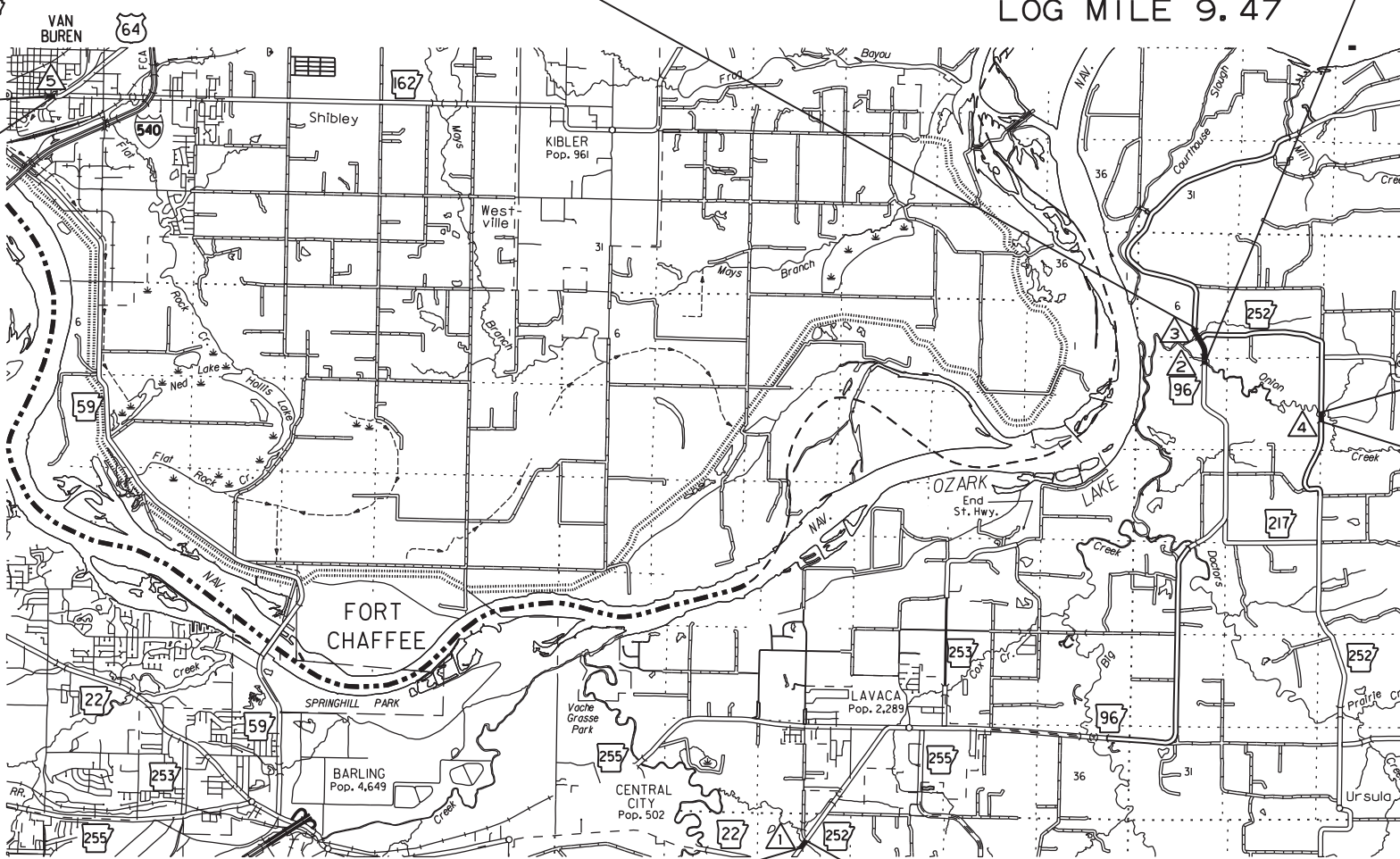
VICINITY MAP

STA. 111+69.00
BEGIN SITE 8
LOG MILE 0.94

STA. 112+49.00
END SITE 8
END JOB 040819

STRUCTURES OVER 20' -0" SPAN

- 1 STA. 104+22 CONSTRUCT QUAD. 10' X 6' X 90' R.C. BOX CULVERT 15' LT. FWD. SKEW WITH 3:1 WINGS LT. AND RT. Q25= 1140 CFS D.A. = 2.18 SQ. MI. SPAN= 43'-1"
- 2 STA. 489+10.50 CONSTRUCT QUINT. 12' X 14' X 82' R.C. BOX CULVERT WITH 3:1 WINGS LT. AND RT. Q25= 6930 CFS D.A. = 21.4 SQ. MI. SPAN= 66'-2"
- 3 STA. 502+06.00 CONSTRUCT QUAD. 12' X 12' X 82' R.C. BOX CULVERT WITH 3:1 WINGS LT. AND RT. Q25= 1240 CFS D.A. = 1.61 SQ. MI. SPAN= 51'-10"
- 4 STA. 109+00 CONSTRUCT QUAD. 12' X 10' X 60' R.C. BOX CULVERT WITH 3:1 WINGS LT. AND RT. Q25= 5440 CFS D.A. = 19.8 SQ. MI. SPAN = 50'-0"
- 5 STA. 112+09 CONSTRUCT TRI. 10' X 5' X 95' R.C. BOX CULVERT WITH 3:1 WINGS LT. & RT. Q50 = 2350 CFS D.A. = 1.06 SQ. MI. SPAN = 30'-0"



STA. 508+62.04
END SITE 6

NOT TO SCALE

STA. 485+00.00
BEGIN SITE 6
LOG MILE 9.47

STA. 113+00.00
END SITE 7

STA. 101+50.00
BEGIN SITE 7
LOG MILE 7.08

STA. 101+00.00
BEGIN JOB 040819
BEGIN SITE 5
LOG MILE 0.37

STA. 109+00.00
END SITE 5

SITE	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
5	N 35°19'03"	N 35°19'06"	N 35°19'09"
6	N 35°23'35"	N 35°23'47"	N 35°23'59"
7	N 35°23'00"	N 35°23'05"	N 35°23'09"
8	N 35°26'12"	N 35°26'11"	N 35°26'11"

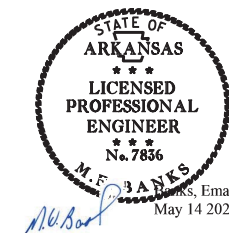
SITE	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
5	W 94°11'47"	W 94°11'44"	W 94°11'42"
6	W 94°07'06"	W 94°07'09"	W 94°07'12"
7	W 94°05'45"	W 94°05'45"	W 94°05'45"
8	W 94°20'22"	W 94°20'21"	W 94°20'20"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT	4392.04	FEET	OR	0.832	MILES
NET ROADWAY	4150.96			0.786	MILES
NET BRIDGES	241.08			0.046	MILES
NET PROJECT	4392.04			0.832	MILES



APPROVED

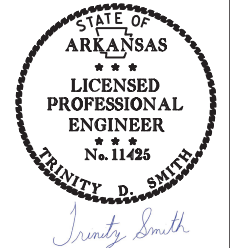


DEPUTY DIRECTOR
AND CHIEF ENGINEER

2/26/2020 R040819.DGN

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				6	ARK.			
						JOB NO. 040819	2	111

② INDEX OF SHEETS AND STANDARD DRAWINGS



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INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 10	TYPICAL SECTIONS OF IMPROVEMENT
11 - 30	SPECIAL DETAILS
31 - 40	TEMPORARY EROSION CONTROL DETAILS
41 - 53	MAINTENANCE OF TRAFFIC DETAILS
54 - 57	PERMANENT PAVEMENT MARKING DETAILS
58 - 68	QUANTITIES
69	SUMMARY OF QUANTITIES AND REVISIONS
70 - 76	SURVEY CONTROL DETAILS
77 - 83	PLAN AND PROFILE SHEETS
84 - 111	CROSS SECTIONS

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

ROADWAY STANDARD DRAWINGS

DRWG. NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
CG-1	CURBING DETAILS	11-29-07
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	11-07-19
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
MB-1	MAILBOX DETAILS	11-18-04
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1	PAVEMENT MARKING DETAILS	02-27-20
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-20
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-2	WIRE FENCE WATER GAPS	04-20-79
WF-4	WIRE FENCE TYPE C AND D	08-22-02

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2 GOVERNING SPECS. AND GENERAL NOTES

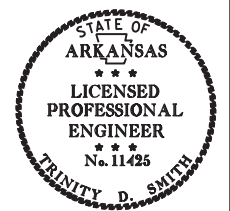
GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
100-4	DEPARTMENT NAME CHANGE
102-2	ISSUANCE OF PROPOSALS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
210-1	UNCLASSIFIED EXCAVATION
303-1	AGGREGATE BASE COURSE
306-1	QUALITY CONTROL AND ACCEPTANCE
400-1	TACK COATS
400-4	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6	LIQUID ANTI-STRIP ADDITIVE
404-3	DESIGN OF ASPHALT MIXTURES
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
600-2	INCIDENTAL CONSTRUCTION
603-1	LANE CLOSURE NOTIFICATION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
605-1	CONCRETE DITCH PAVING
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
621-1	FILTER SOCKS
633-1	CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING
634-1	CURBING
800-1	STRUCTURES
802-3	CONCRETE FOR STRUCTURES
804-2	REINFORCING STEEL FOR STRUCTURES
JOB 040819	ASSESSMENT OF WORKING DAYS - MAINTENANCE OF TRAFFIC
JOB 040819	BIDDING REQUIREMENTS AND CONDITIONS
JOB 040819	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 040819	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 040819	CARGO PREFERENCE ACT REQUIREMENTS
JOB 040819	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 040819	COORDINATION OF WORK
JOB 040819	DELAY IN RIGHT OF WAY OCCUPANCY
JOB 040819	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 040819	ESTABLISHING CONTRACT TIME - WORKING DAY CONTRACT
JOB 040819	FLEXIBLE BEGINNING OF WORK
JOB 040819	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 040819	MAINTENANCE OF TRAFFIC
JOB 040819	MANDATORY ELECTRONIC CONTRACT
JOB 040819	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 040819	NESTING SITES OF MIGRATORY BIRDS
JOB 040819	OFF-SITE RESTRAINING CONDITIONS FOR AMERICAN BURYING BEETLE
JOB 040819	OFF-SITE RESTRAINING CONDITIONS FOR NORTHERN LONG-EARED BATS
JOB 040819	PARTNERING REQUIREMENTS
JOB 040819	PLASTIC PIPE
JOB 040819	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 040819	RUMBLE STRIPS
JOB 040819	SEQUENCE OF CONSTRUCTION
JOB 040819	SHORING
JOB 040819	SHORING FOR CULVERTS
JOB 040819	SOIL STABILIZATION
JOB 040819	STORM WATER POLLUTION PREVENTION PLAN
JOB 040819	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 040819	UTILITY ADJUSTMENTS
JOB 040819	VALUE ENGINEERING
JOB 040819	WARM MIX ASPHALT
JOB 040819	WOVEN GEOTEXTILE FABRIC FOR SUBGRADE REINFORCEMENT

GENERAL NOTES

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



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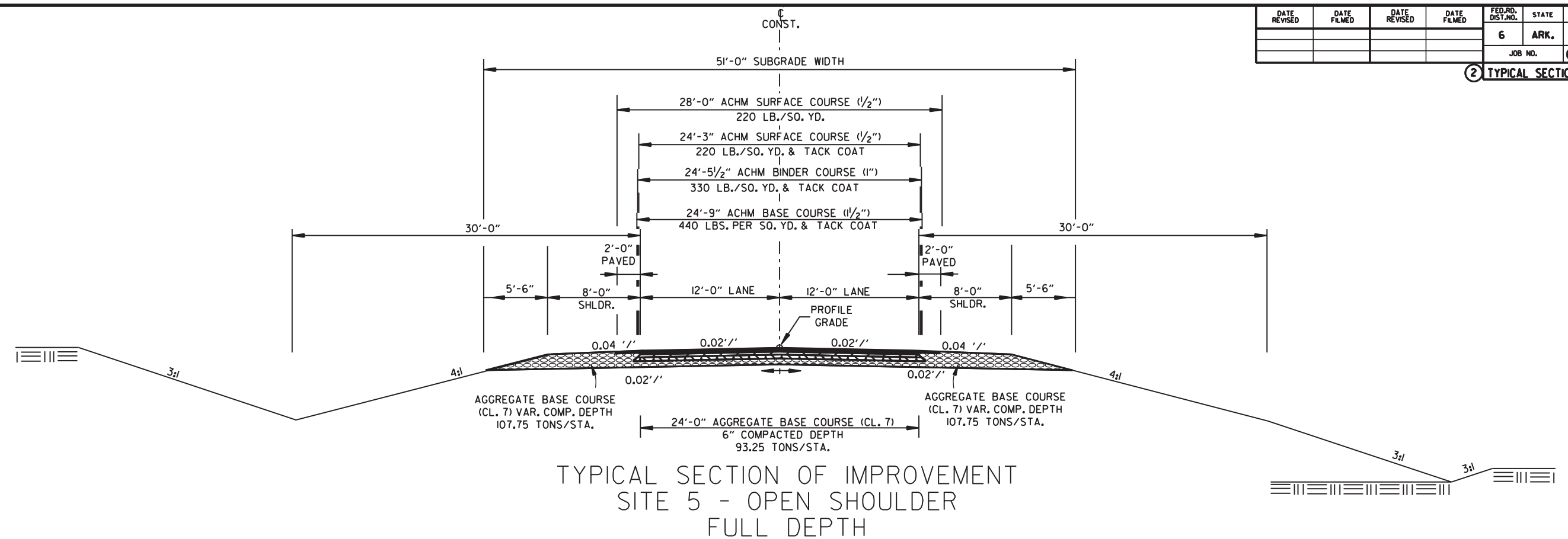
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2 TYPICAL SECTIONS OF IMPROVEMENT



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TYPICAL SECTION OF IMPROVEMENT
SITE 5 - OPEN SHOULDER
FULL DEPTH

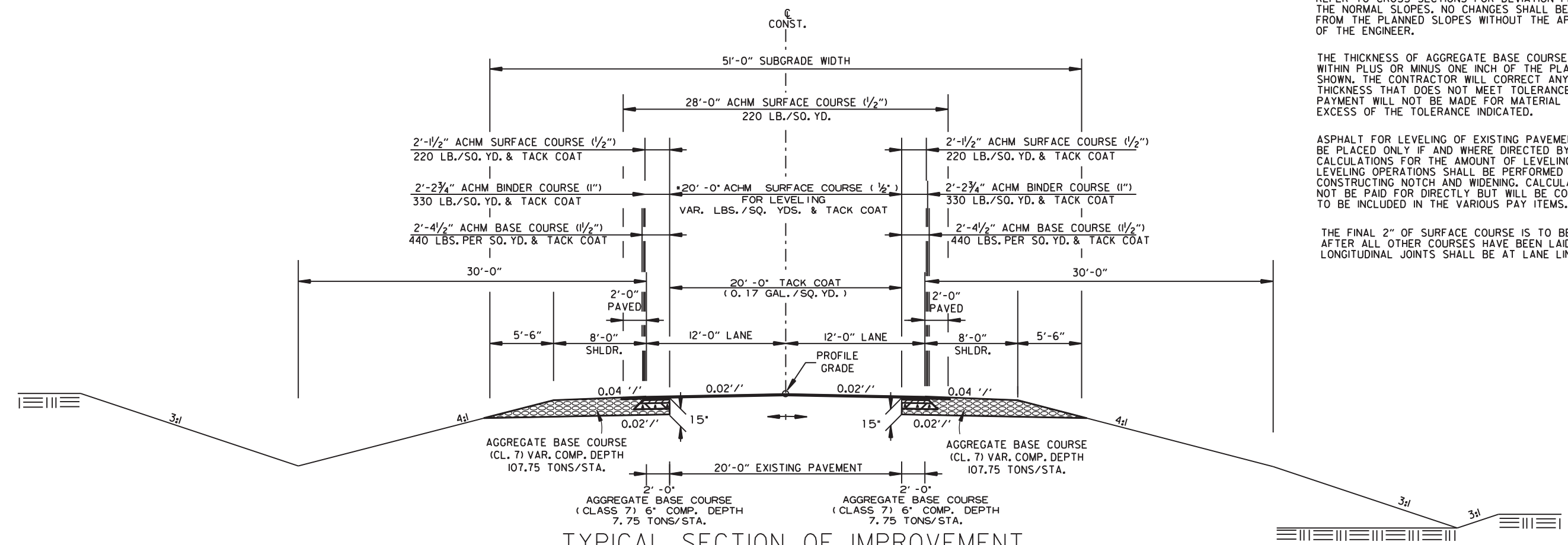
STA. 104+10.97 TO STA. 104+49.00 - SITE 5

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 WILL BE CONSIDERED TO BE 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.



TYPICAL SECTION OF IMPROVEMENT
SITE 5 - OPEN SHOULDER
NOTCH AND WIDENING

STA. 101+00.00 TO STA. 104+10.97 - SITE 5
STA. 104+49.00 TO STA. 109+00.00 - SITE 5

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

SITE 5
TYPICAL SECTIONS OF IMPROVEMENT

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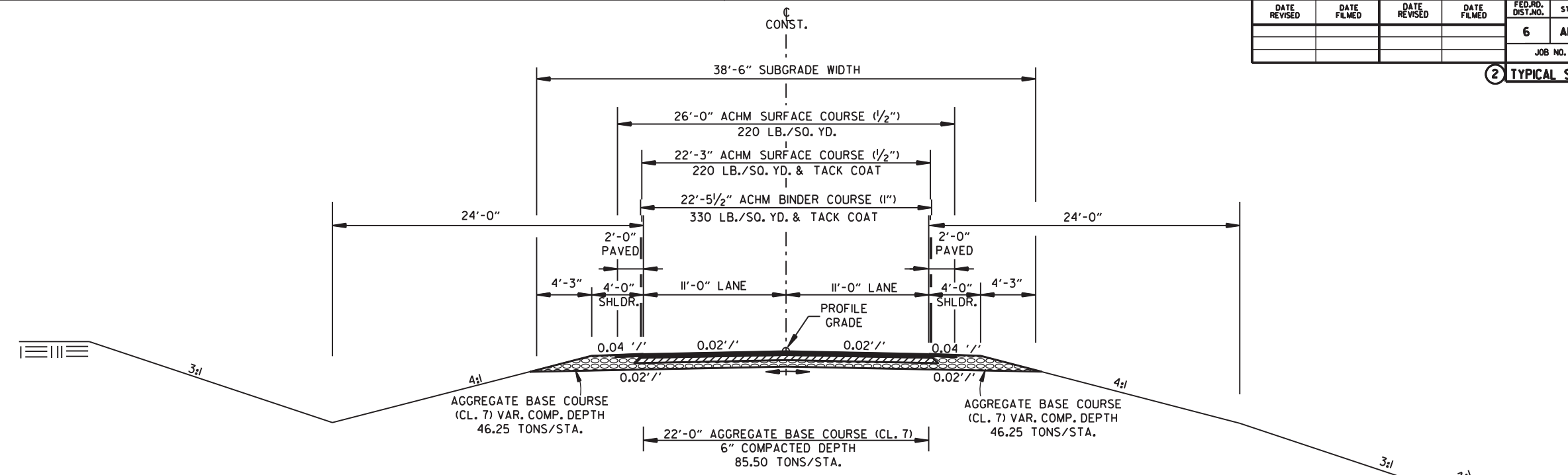
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2 TYPICAL SECTIONS OF IMPROVEMENT



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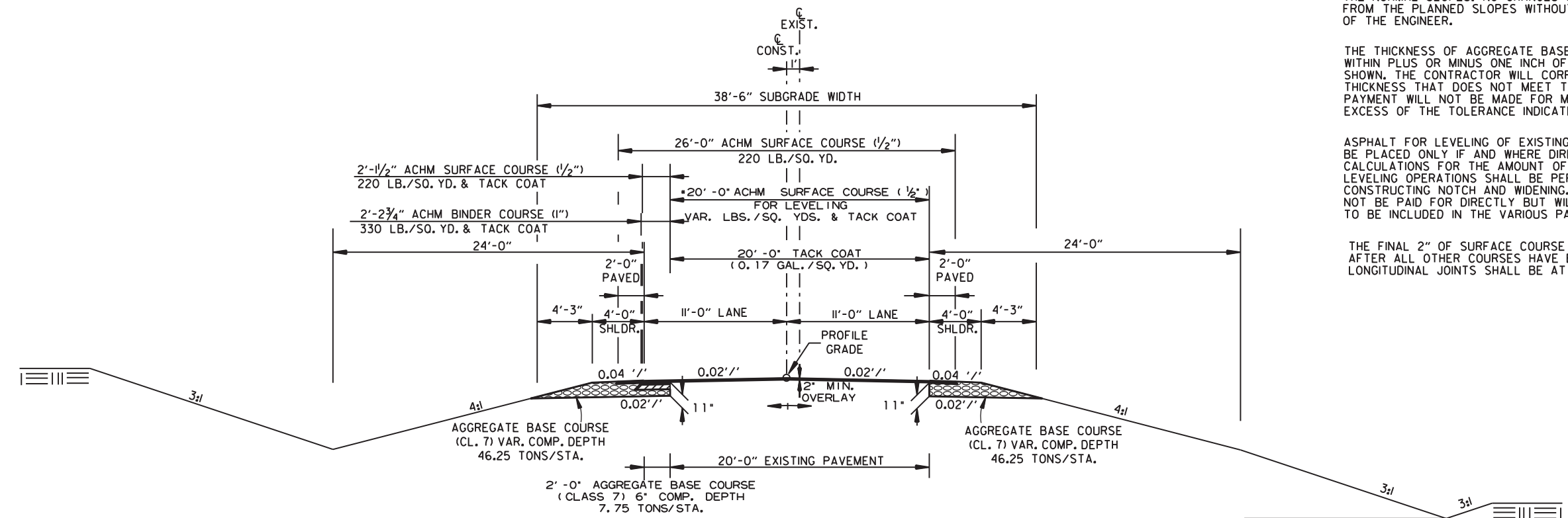
TYPICAL SECTION OF IMPROVEMENT
SITE 6 - OPEN SHOULDER
FULL DEPTH
STA. 488+00.00 TO STA. 506+00.00 - SITE 6

NOTES:
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TYPICAL SECTION OF IMPROVEMENT
SITE 6 - OPEN SHOULDER
NOTCH AND WIDENING
STA. 485+00.00 TO STA. 488+00.00 - SITE 6
STA. 506+00.00 TO STA. 508+62.04 - SITE 6

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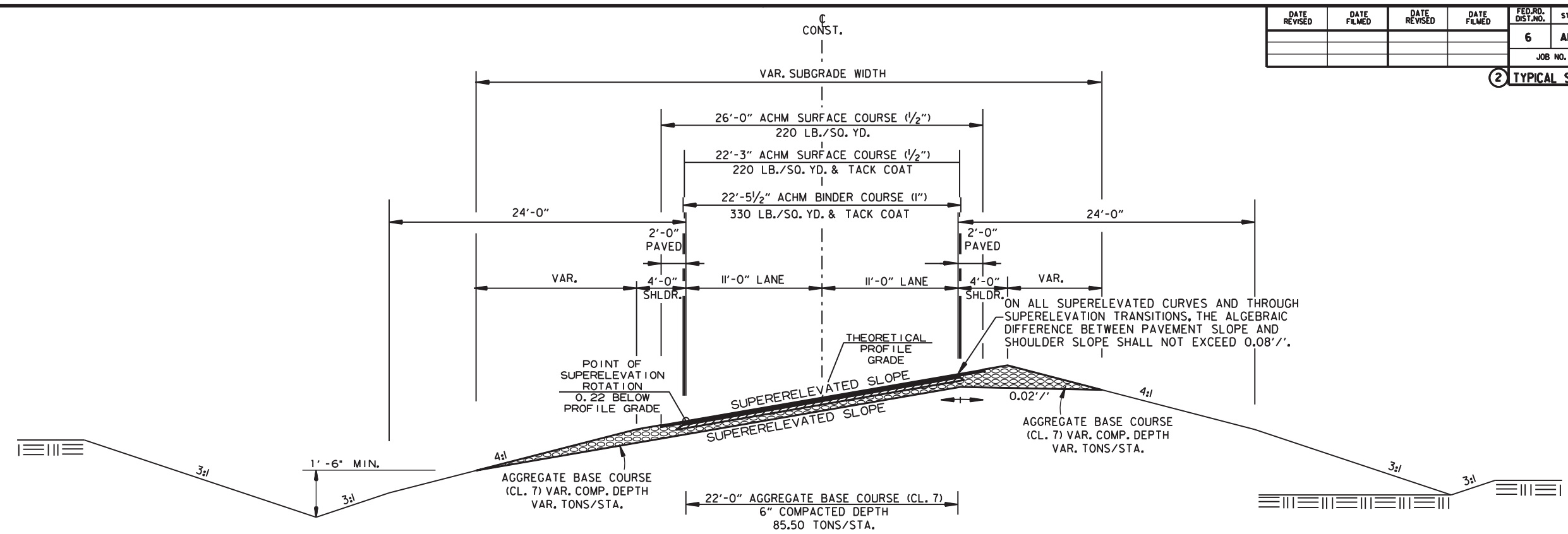
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2 TYPICAL SECTIONS OF IMPROVEMENT



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TYPICAL SECTION OF IMPROVEMENT
SITE 6 - OPEN SHOULDER
SUPERELEVATION

STA. 487+79.98 TO STA. 499+13.98 - SITE 6
STA. 499+38.80 TO STA. 511+24.54 - SITE 6

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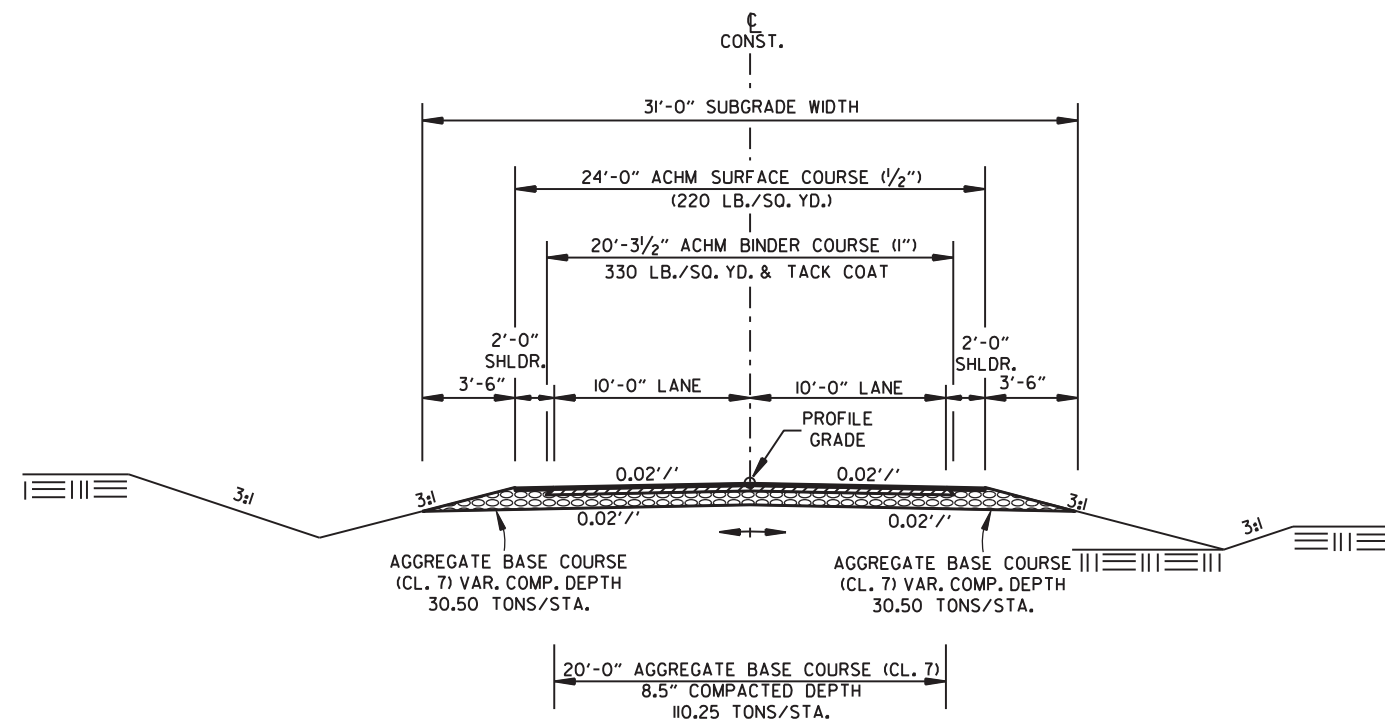
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② TYPICAL SECTIONS OF IMPROVEMENT



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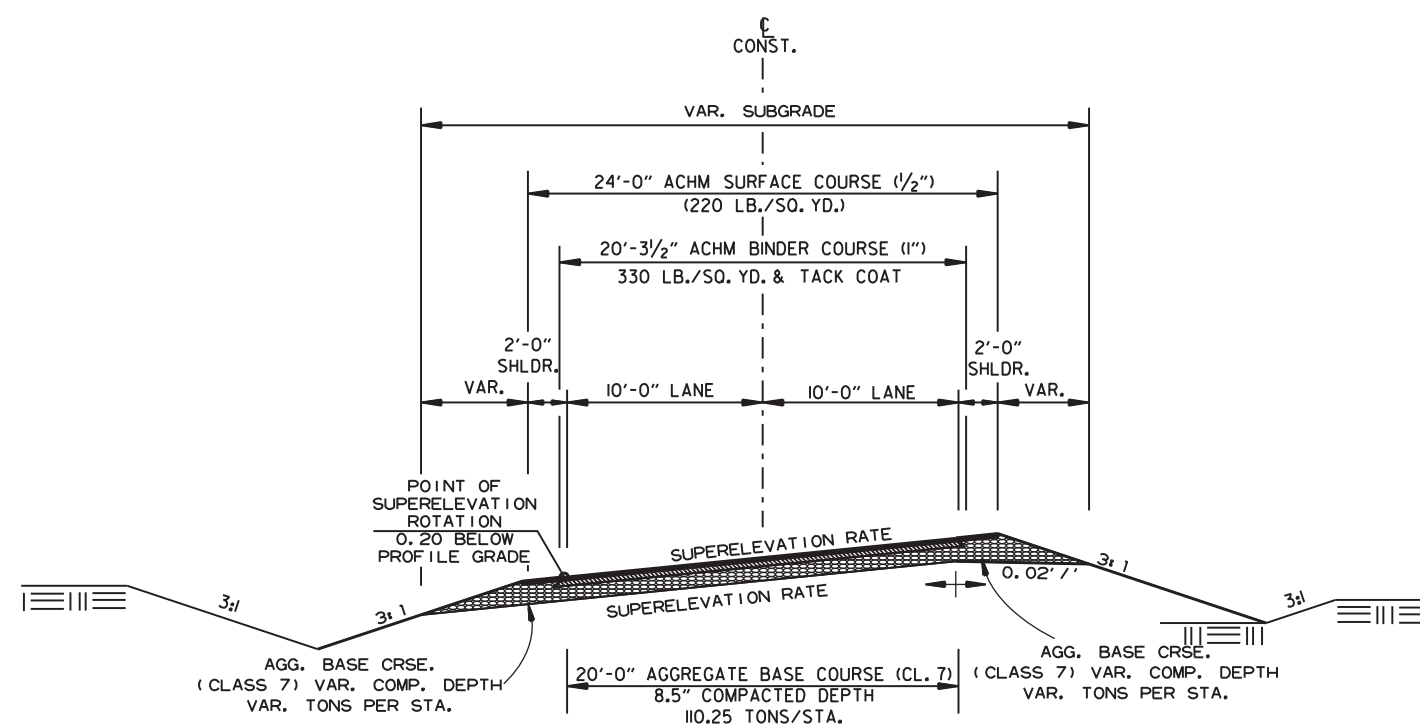


TYPICAL SECTION OF IMPROVEMENT
SITE 5 - DETOUR ROAD

STA. 1001+02.30 TO STA. 1002+92.76 - SITE 5
STA. 1006+73.65 TO STA. 1008+64.11 - SITE 5

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TYPICAL SECTION OF IMPROVEMENT
SITE 5 - DETOUR ROAD - SUPERELEVATION

STA. 1002+92.76 TO STA. 1006+73.65 - SITE 5

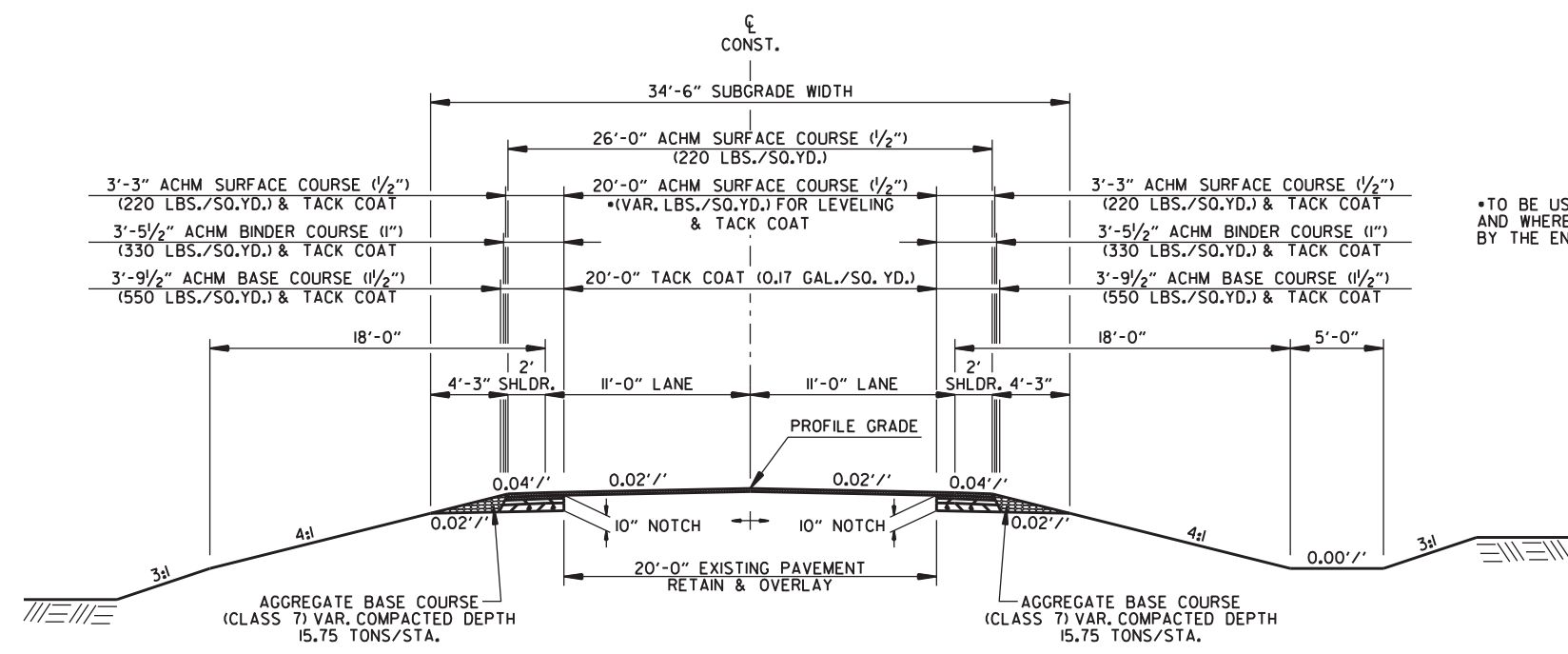
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2 TYPICAL SECTIONS OF IMPROVEMENT



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TYPICAL SECTION OF IMPROVEMENT
SITE 7 - NOTCH, WIDEN, & OVERLAY SECTION

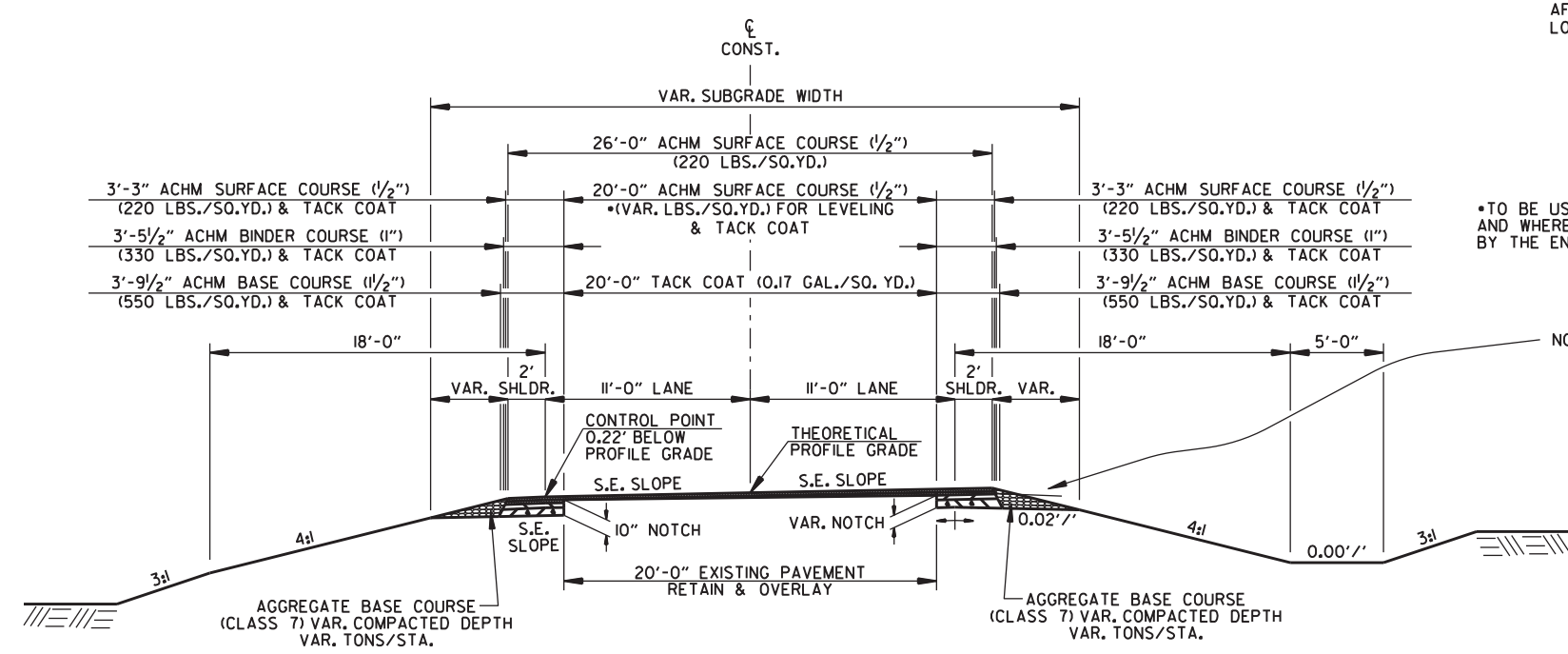
STA. 101+50.00 TO STA. 104+75.00
STA. 112+00.00 TO STA. 113+00.00

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



*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

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

TYPICAL SECTION OF IMPROVEMENT
SITE 7 - NOTCH, WIDEN, & OVERLAY SECTION
SUPERELEVATION

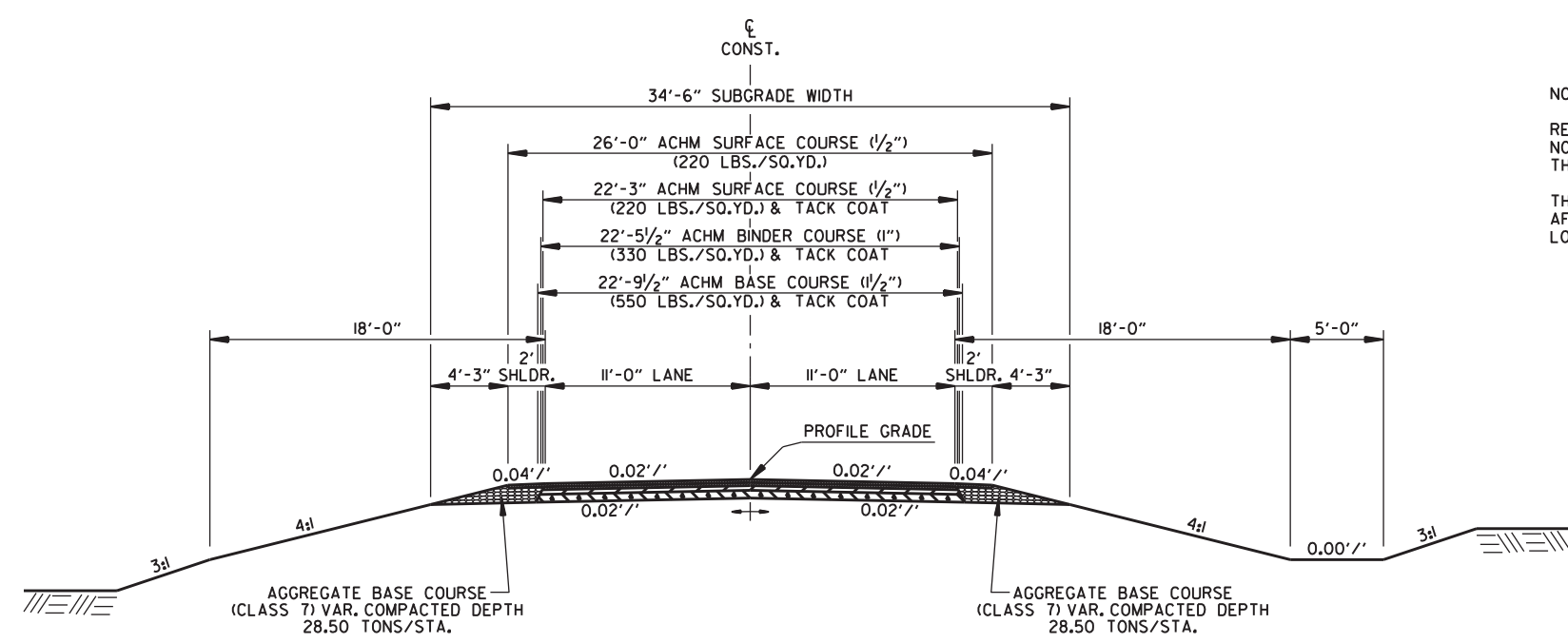
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				6	ARK.			
				JOB NO.	040819		9	111

② TYPICAL SECTIONS OF IMPROVEMENT



Trinity D. Smith

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

TYPICAL SECTION OF IMPROVEMENT
SITE 7 - FULL DEPTH SECTION

STA. 104+75.00 TO STA. 112+00.00

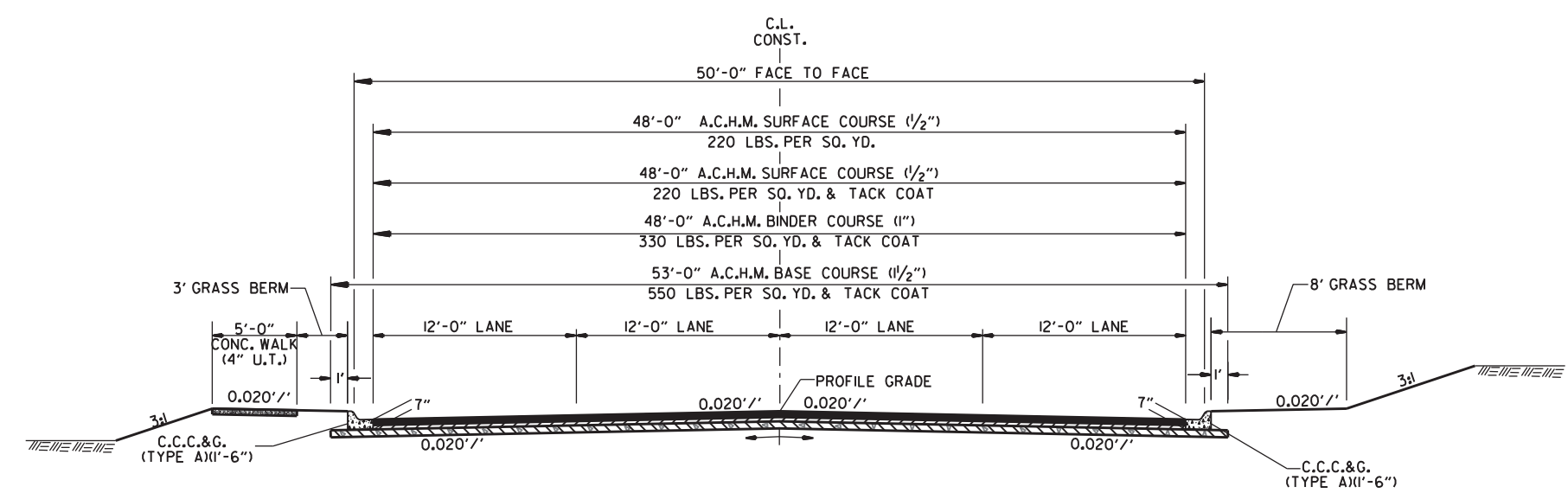
2/6/2020
R040819.DGN

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.	040819		10	111

② TYPICAL SECTIONS OF IMPROVEMENT



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TYPICAL SECTION OF IMPROVEMENT
HWY. 64 - FULL DEPTH
CURB & GUTTER

STA. 111+69.00 TO STA. 112+49.00

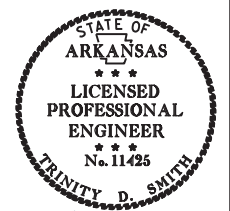
NOTES:

- 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.
- WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.
- THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
- PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIME. 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.

TW39665 1/23/2020
R040802.DGN

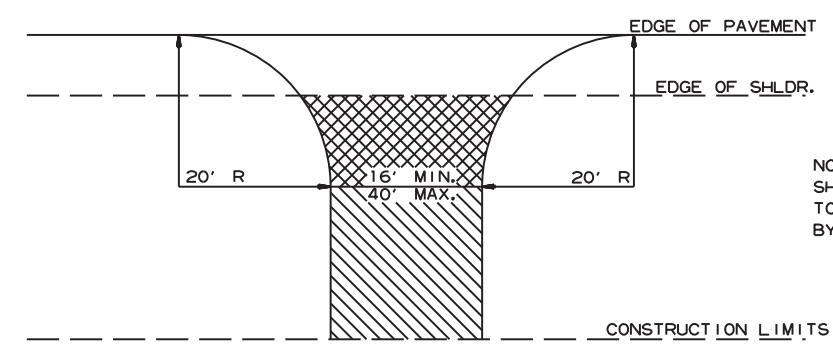
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				6	ARK.			
JOB NO. 040819							11	111

2 SPECIAL DETAILS



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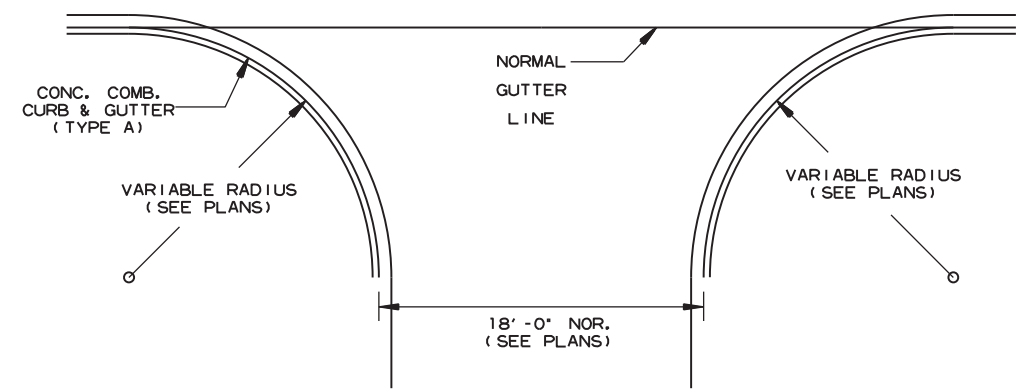
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NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

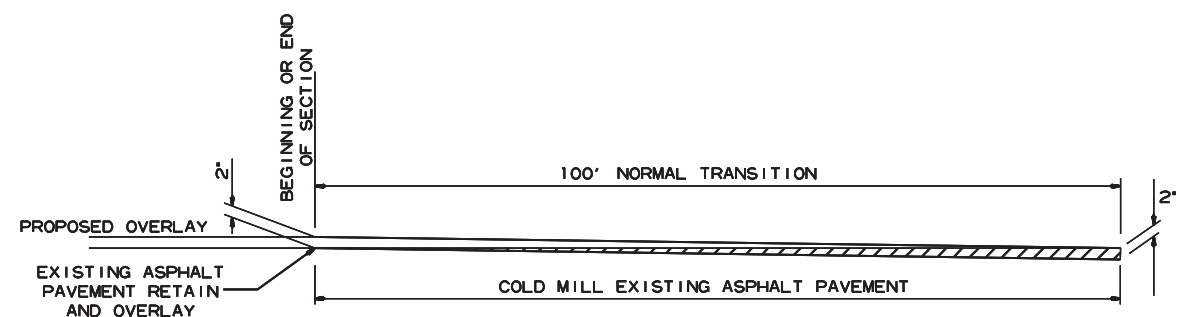
- ASPHALT CONCRETE HOT MIX SURFACE COURSE (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR
6" CONCRETE IF CONCRETE DRIVE EXIST.
- AGGREGATE BASE COURSE (CLASS 7)
9" COMP. DEPTH OR CONFORM
TO EXISTING DRIVEWAY

DETAIL FOR DRIVEWAY TURNOUTS
(COLLECTORS)

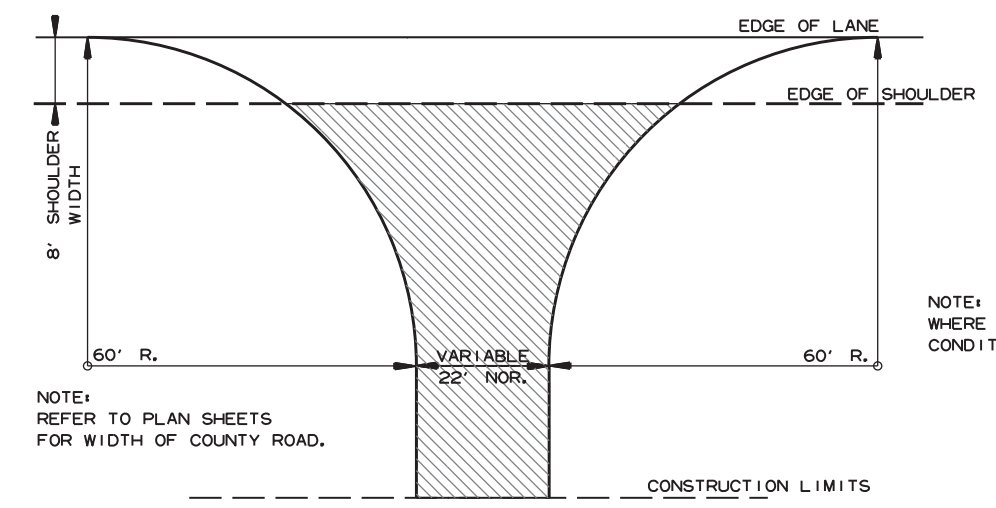


NOTE: PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS, & COUNTY ROADS TO BE SAME AS MAIN LANES.

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



DETAIL FOR TRANSITIONS



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

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

DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION

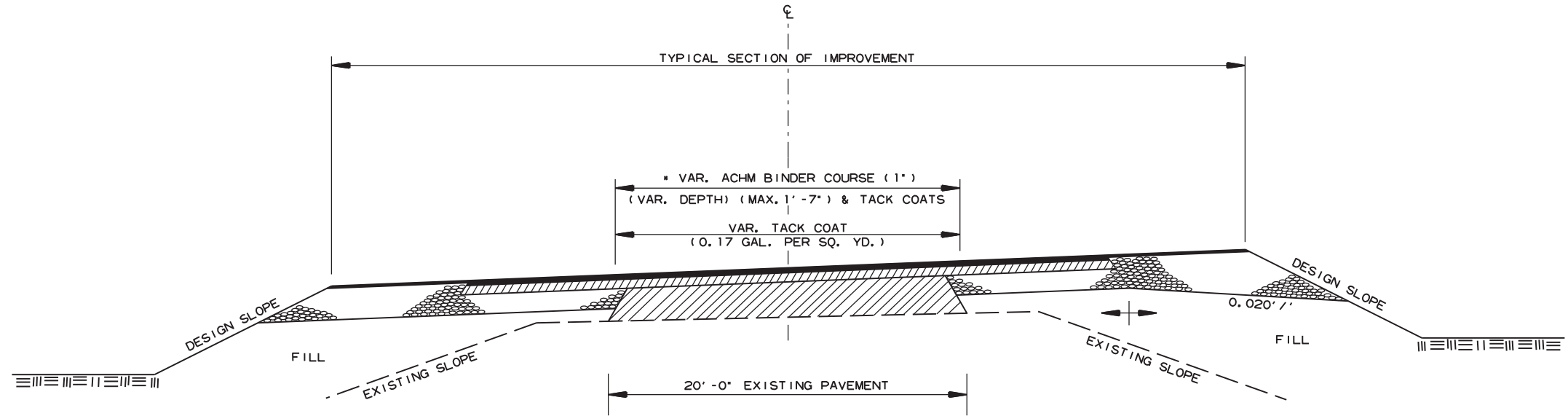
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				6	ARK.			
JOB NO. 040819							12	111

2 SPECIAL DETAILS



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

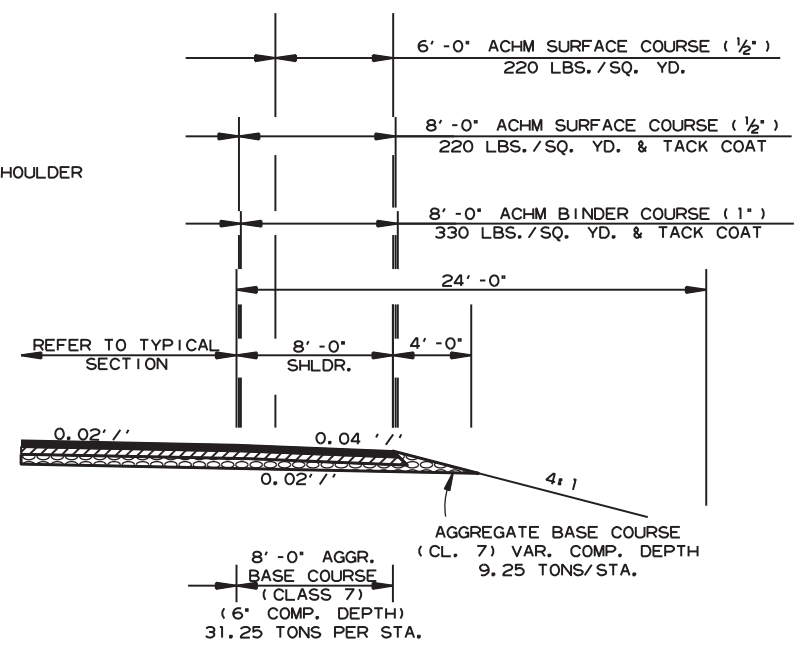
METHOD OF RAISING GRADE

STA. 102+00.00 TO STA. 104+00.00
STA. 486+50.00 TO STA. 487+50.00

NOTES:

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

TRANSITION FROM A 4' SHOULDER TO AN 8' SHOULDER
STA. 501+74.00 TO STA. 502+74.00



FULL DEPTH SHOULDER RIGHT

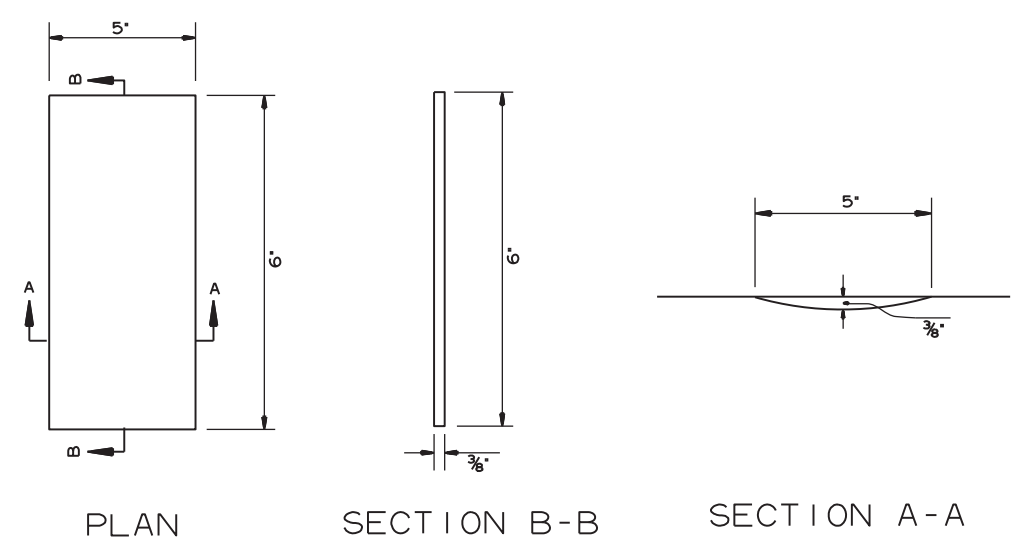
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				6	ARK.			
				JOB NO.	040819		13	111

2 SPECIAL DETAILS

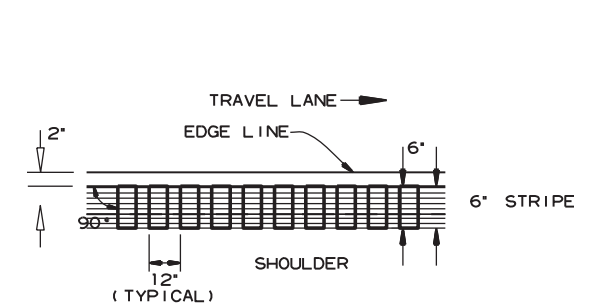


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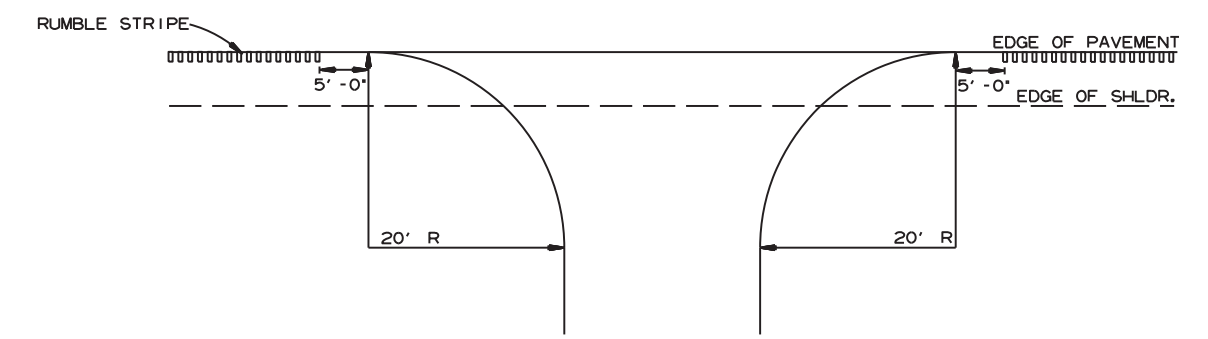
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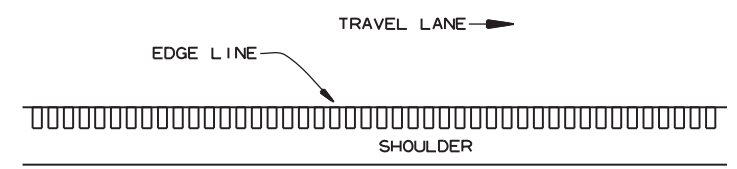
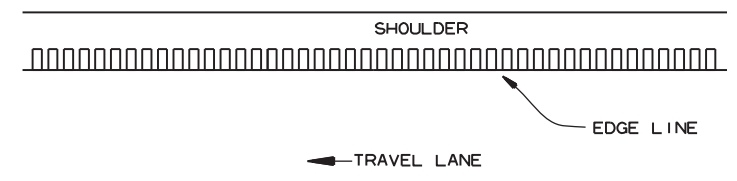
DETAILS OF RUMBLE STRIPE



LOCATION PLAN OF RUMBLE STRIPE
LEFT OR RIGHT SHOULDER



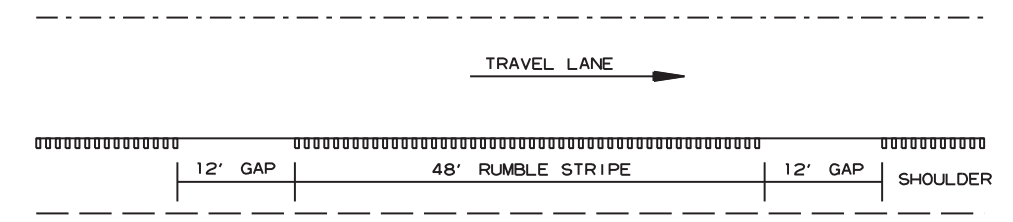
DETAIL FOR RUMBLE STRIPE GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPES SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. RUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPES HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPES HAVE NOT BEEN CONSTRUCTED.
4. THE 3/8\"/>



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

DETAIL FOR GAP PATTERN RUMBLE STRIPE

2/6/2020
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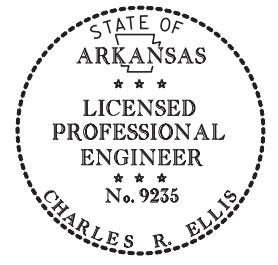
2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"

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

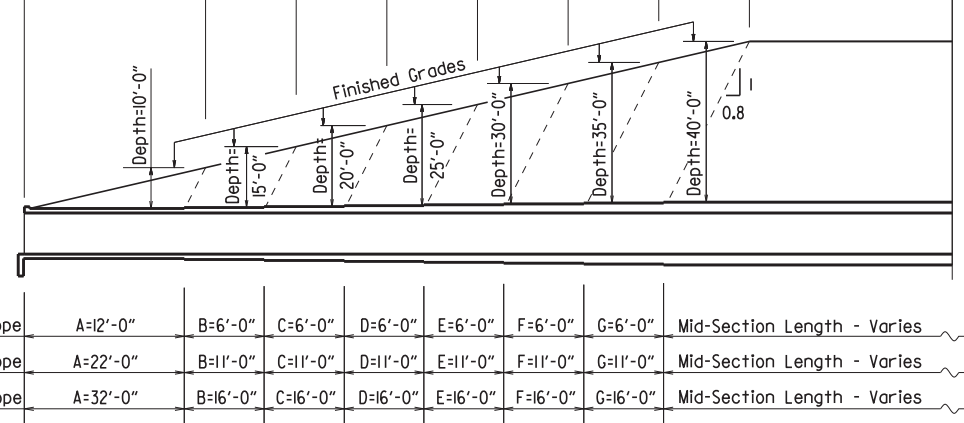
* LL = Skewed End Section Length - See "Skewed End Section Details"
Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		14	111
				JOB NO.	040819		14	111

SPECIAL DETAILS



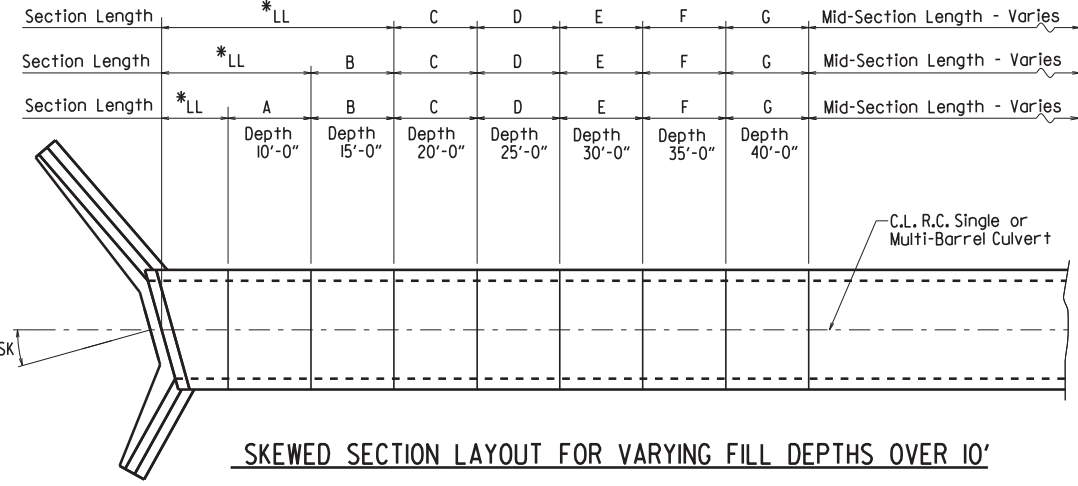
Ellis, Rick
Apr 23 2020 9:13 AM
Charles R. Ellis
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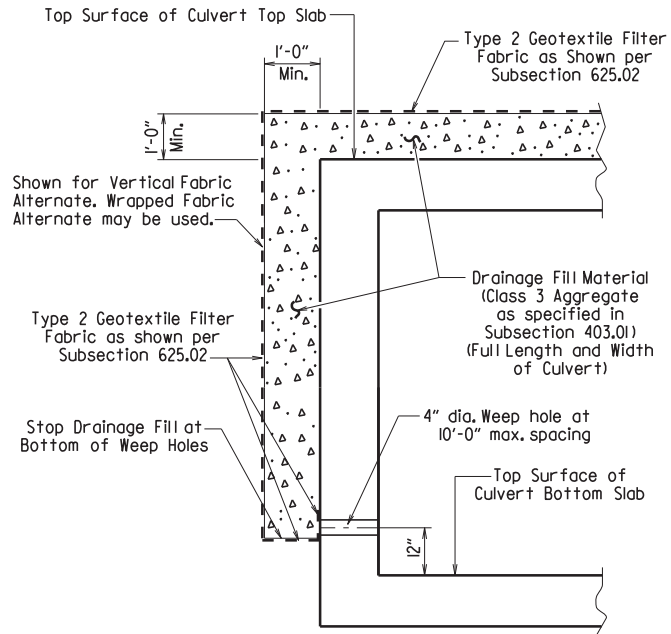
Slope Section Length @ 2:1 Slope	A=12'-0"	B=6'-0"	C=6'-0"	D=6'-0"	E=6'-0"	F=6'-0"	G=6'-0"	Mid-Section Length - Varies
Slope Section Length @ 3:1 Slope	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	G=11'-0"	Mid-Section Length - Varies
Slope Section Length @ 4:1 Slope	A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	G=16'-0"	Mid-Section Length - Varies

LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

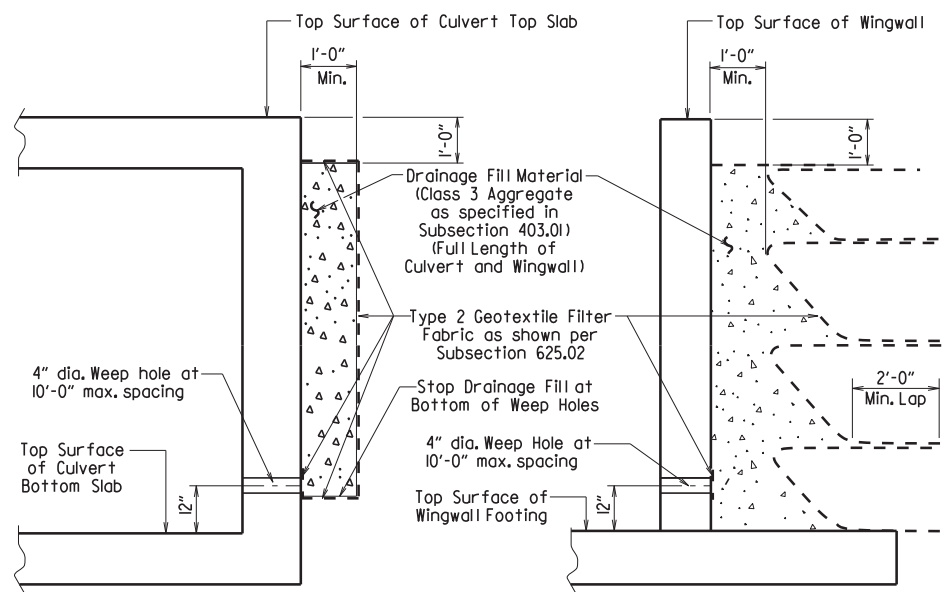


SKewed SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'



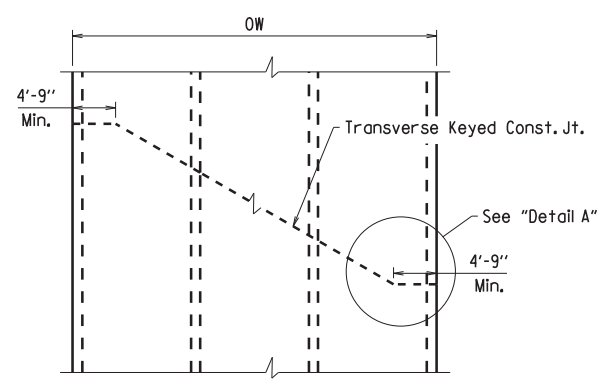
CULVERT DRAINAGE DETAIL FOR ROCK FILL

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



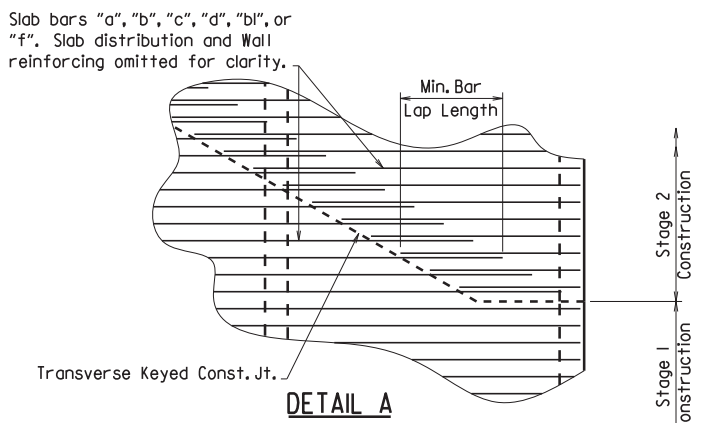
VERTICAL FABRIC ALTERNATE
WRAPPED FABRIC ALTERNATE
WINGWALL & CULVERT DRAINAGE DETAIL

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



SKewed TRANSVERSE JOINT DETAIL

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



DETAIL A

See Tabular Data Sheets for Minimum Bar Lap Lengths.
Shown for transverse reinforcing, longitudinal reinforcing similar.

GENERAL NOTES:

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

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

LIVE LOADING: HL-93

All concrete shall be Class 5 with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have 1/4" chamfers.

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

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

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

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

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

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

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

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage Fill Material will not be paid for directly but shall be considered subsidiary to Class 5 Concrete.

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

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

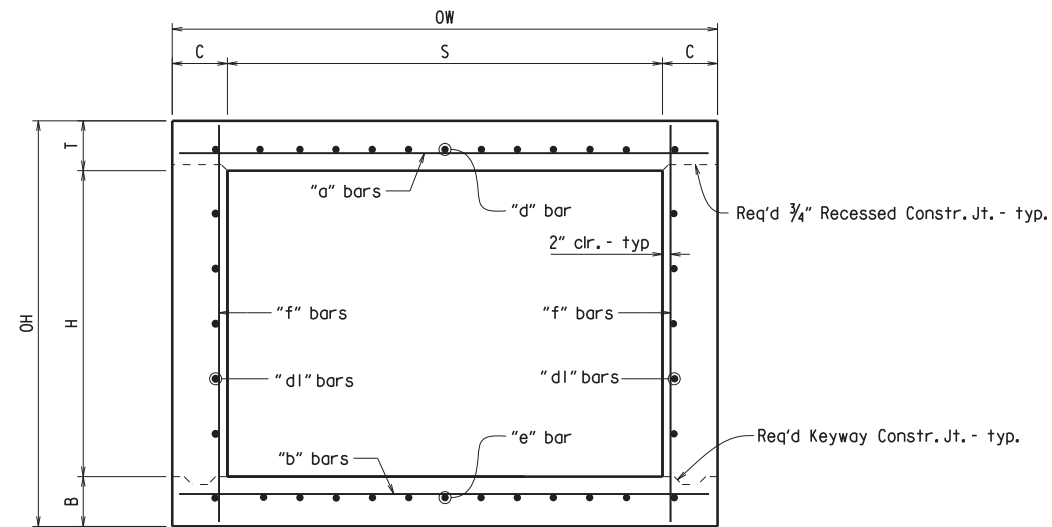
SHEET 1 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
GENERAL NOTES &
LONGITUDINAL SECTION LENGTH SCHEDULE
SPECIAL DETAILS



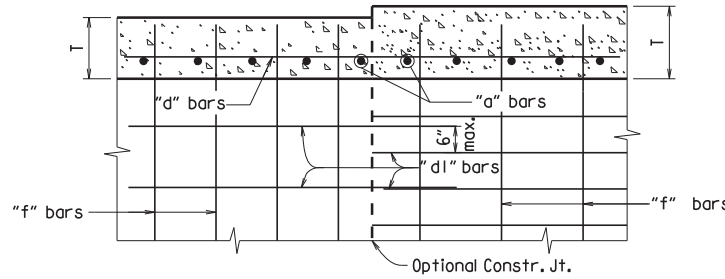
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040819	15	111

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



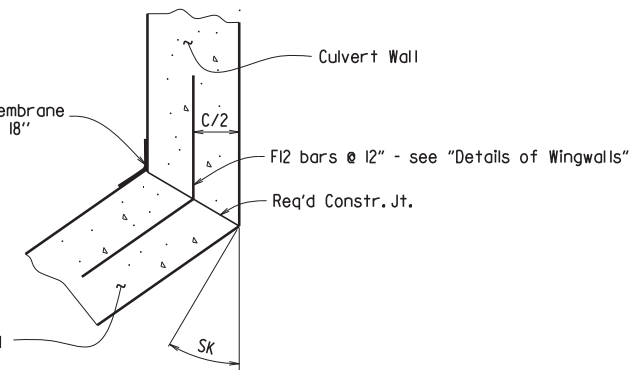
TYPICAL SECTION M-M



LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

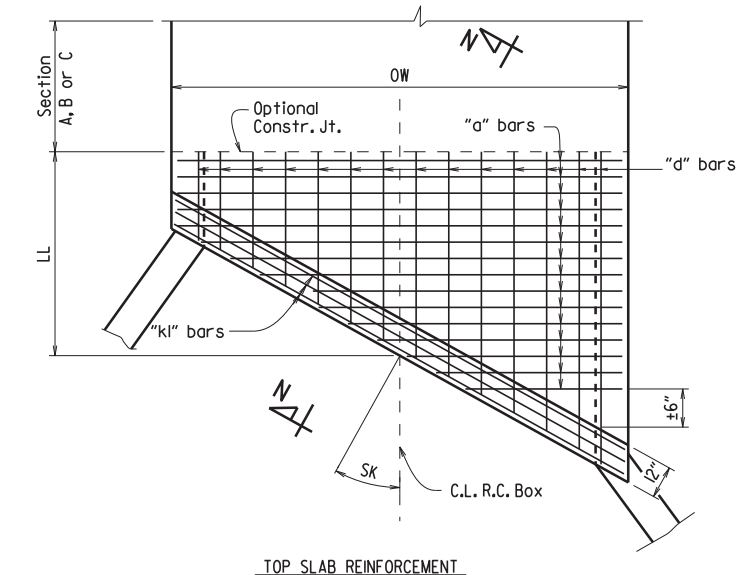
TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

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

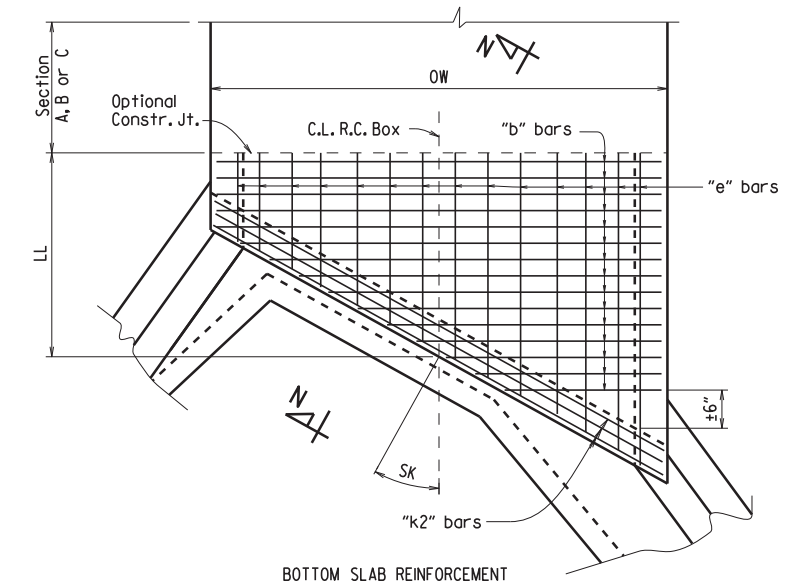


WINGWALL ATTACHMENT

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



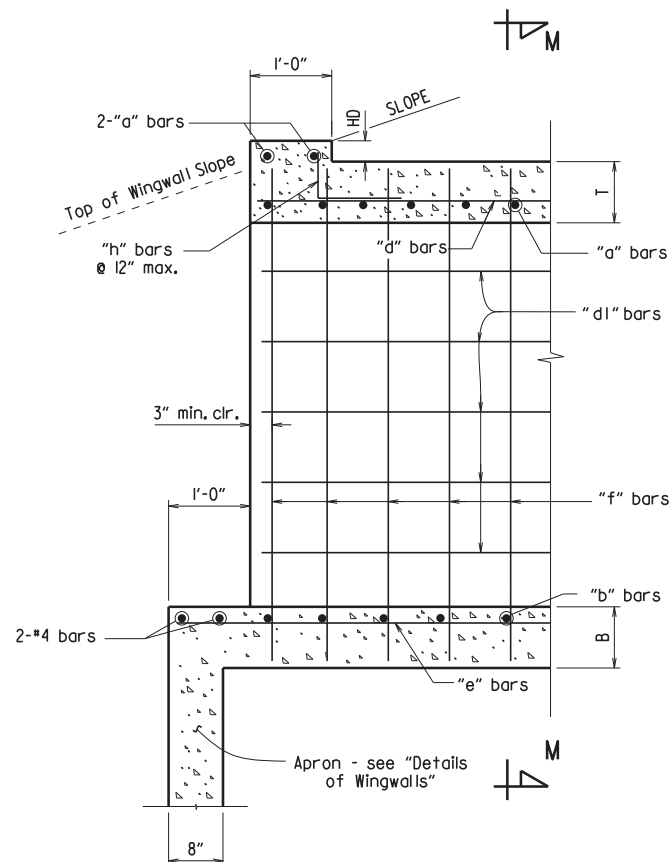
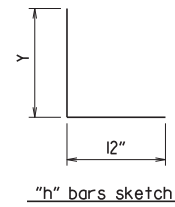
TOP SLAB REINFORCEMENT



SKewed END SECTION DETAILS

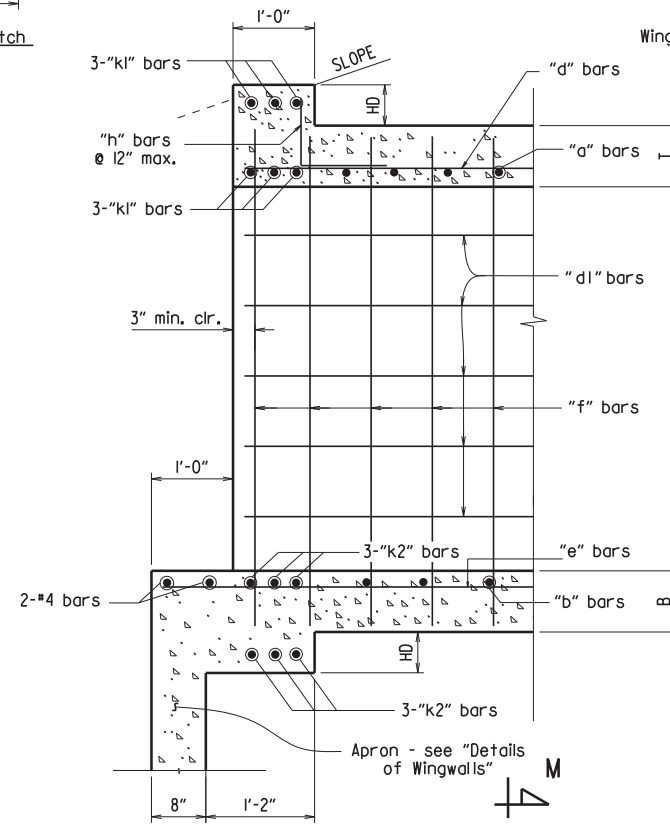
SHEET 2 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF SINGLE BARREL
R.C. BOX CULVERT

SPECIAL DETAILS



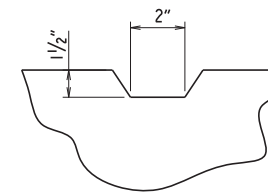
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

(Skewed Ends)



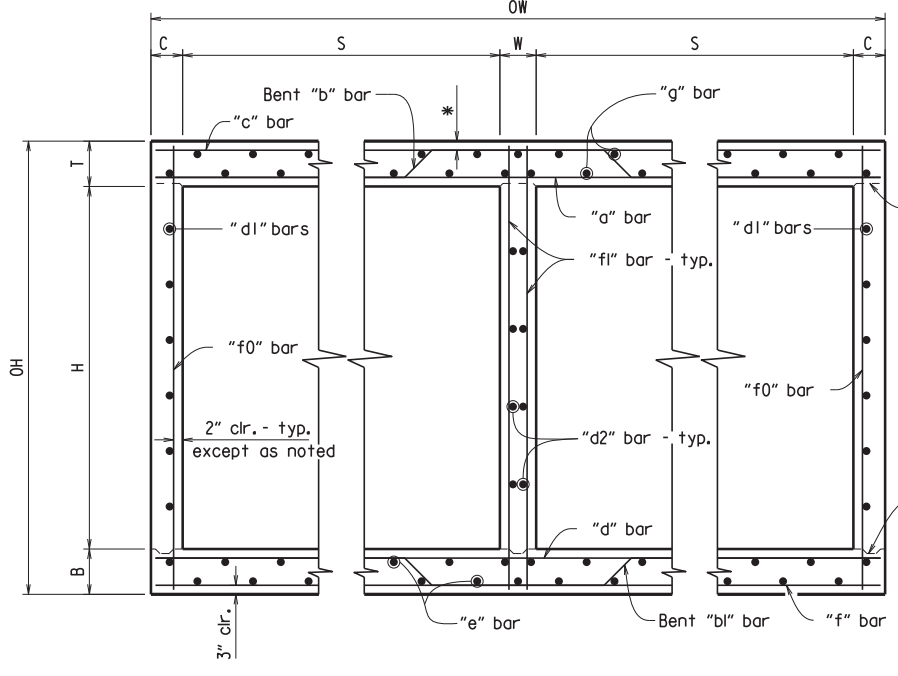
TYPICAL KEYWAY DETAIL

(All Construction Joints)

DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.	040819		16	111

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

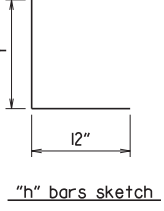
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



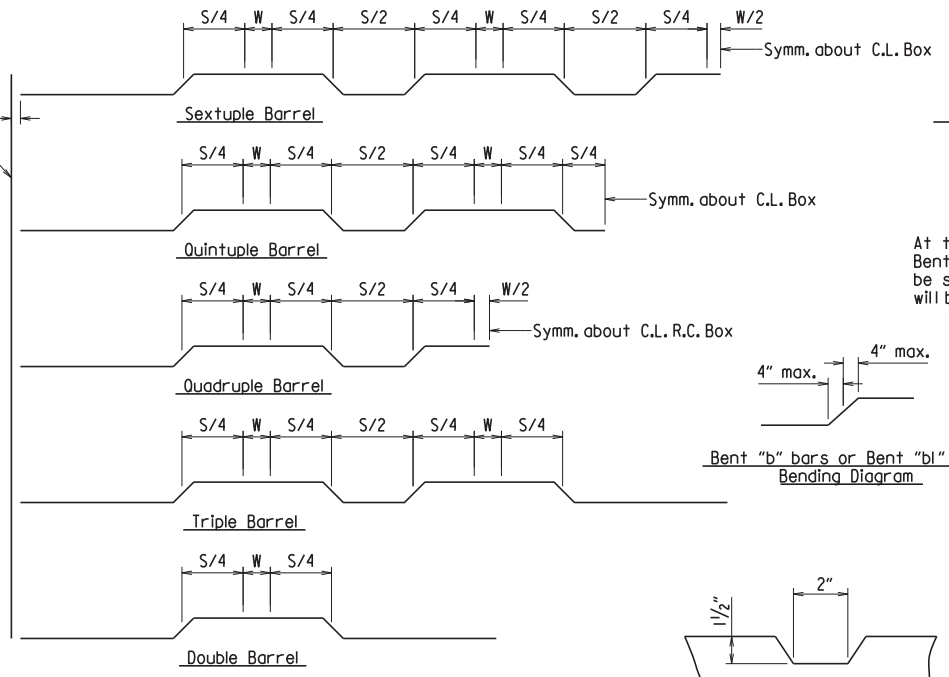
TYPICAL SECTION M-M

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

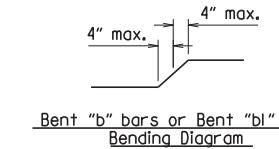
Bottom Slab
 Straight "d" bars shall alternate with Bent "bl" bars in top.
 Straight "f" bars shall alternate with Bent "bl" bars in bottom.



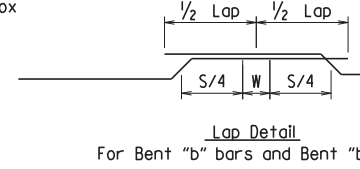
h bars sketch



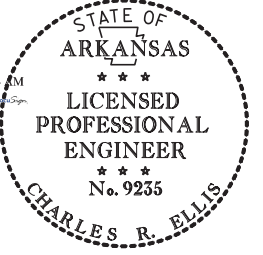
Bent "b" bars or Bent "bl" bars sketch



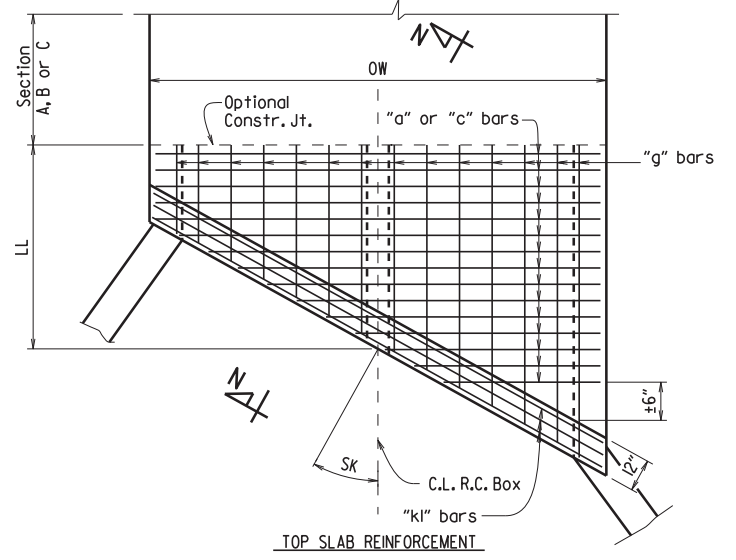
TYPICAL KEYWAY DETAIL
 (All Construction Joints)



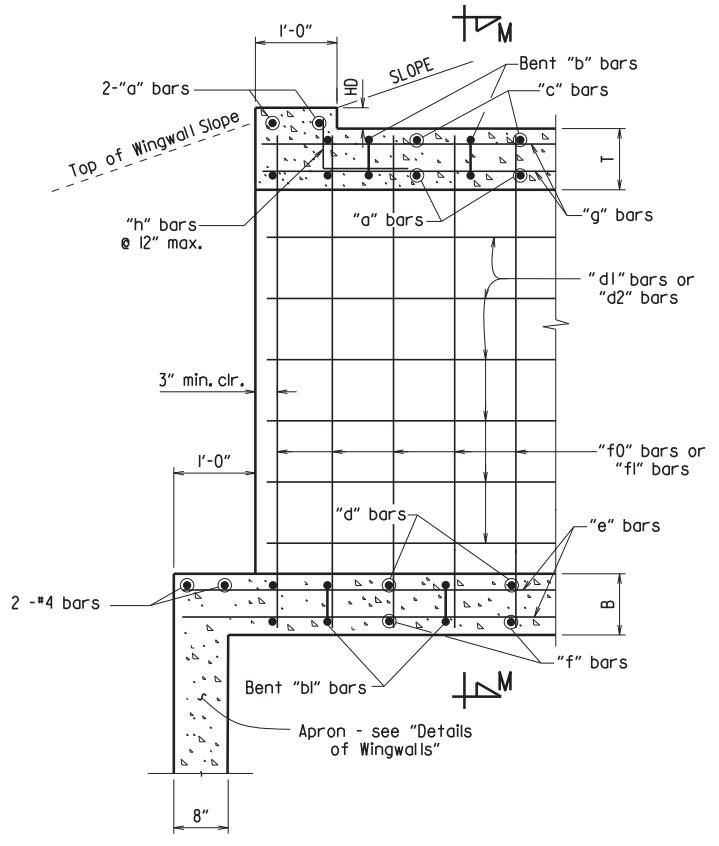
At the Contractor's option in lieu of providing Bent "b" or Bent "bl" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "bl" bar.



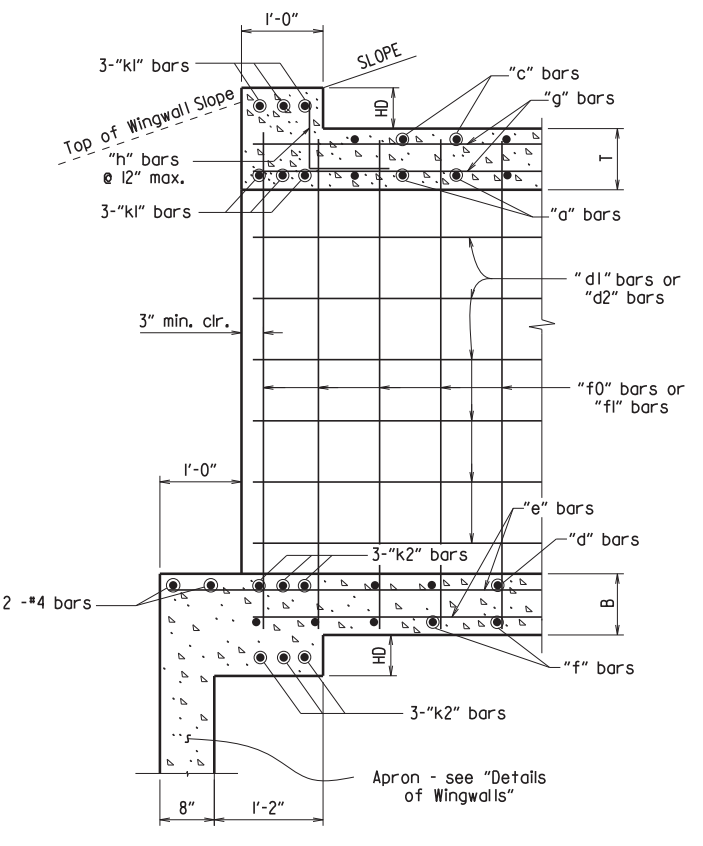
SPECIAL DETAILS



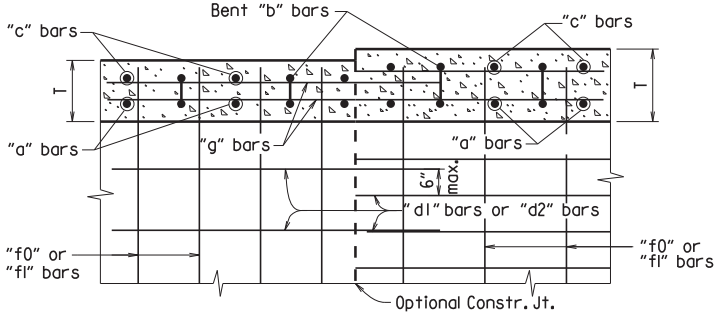
TOP SLAB REINFORCEMENT
 Straight "c" bars in top.
 Straight "a" bars in bottom.



PART LONGITUDINAL SECTION
 (Non-Skewed Ends)

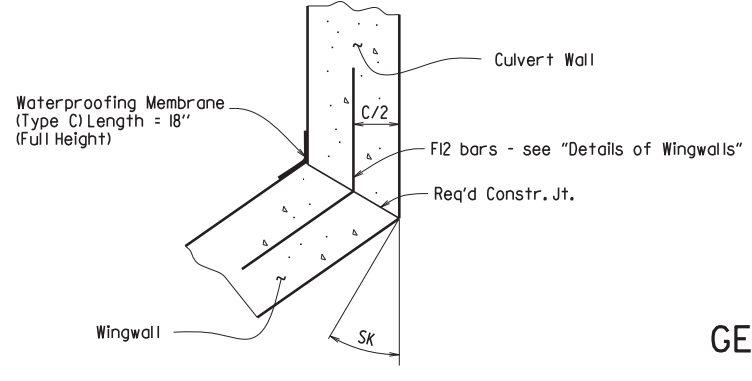


PART LONGITUDINAL SECTION N-N
 (Skewed Ends)

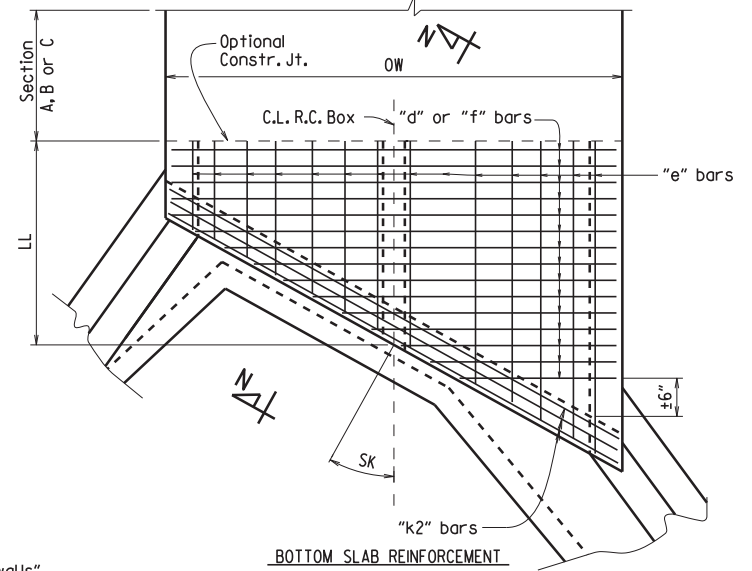


LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
 TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

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



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



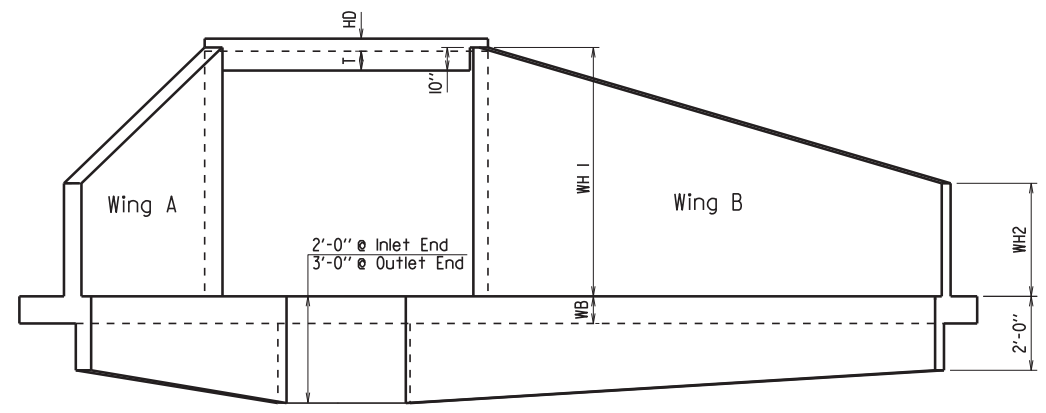
BOTTOM SLAB REINFORCEMENT
 Straight "d" bars in top.
 Straight "f" bars in bottom.

SKewed END SECTION DETAILS

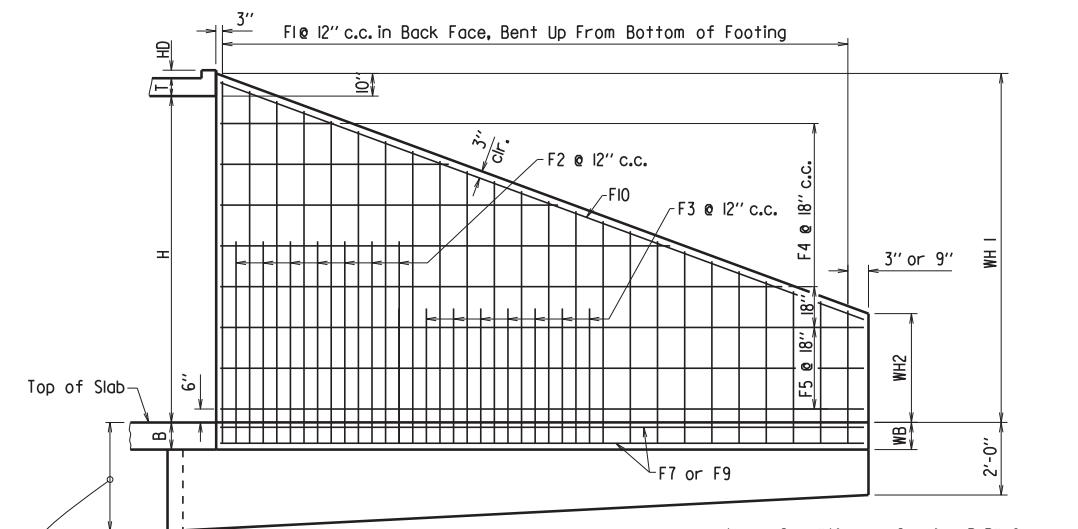
SHEET 3 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF MULTI-BARREL R.C. BOX CULVERT
SPECIAL DETAILS

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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.	O40819		17	111
SPECIAL DETAILS								

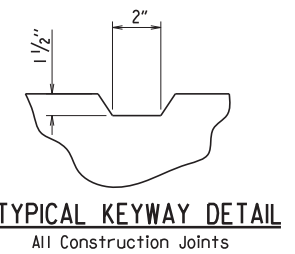


END ELEVATION
Flared Wingwalls Shown



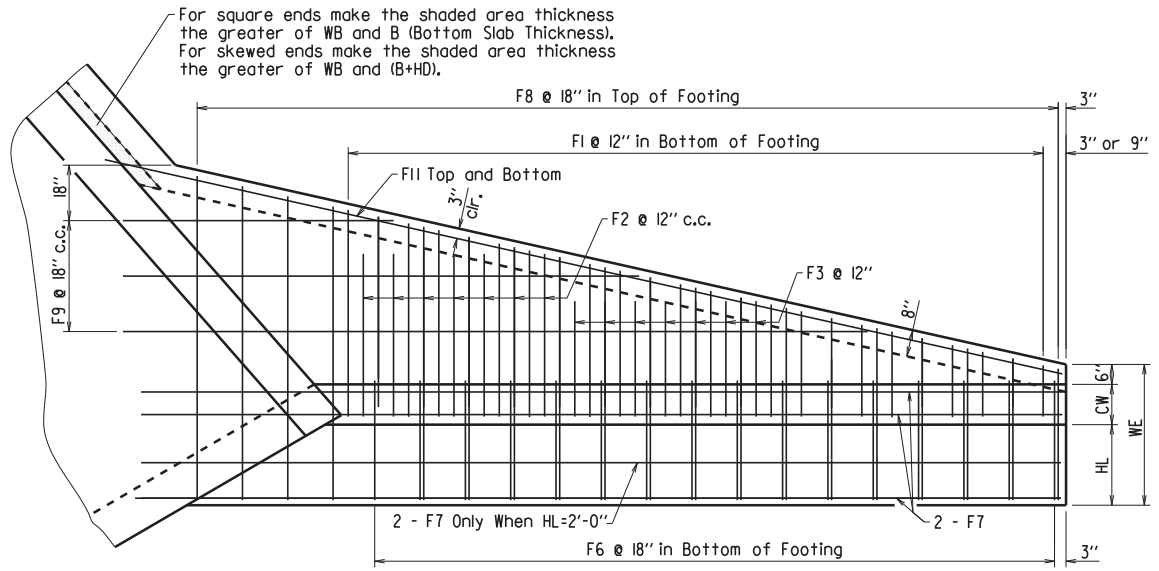
WINGWALL ELEVATION
Showing Back Face Reinforcement

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



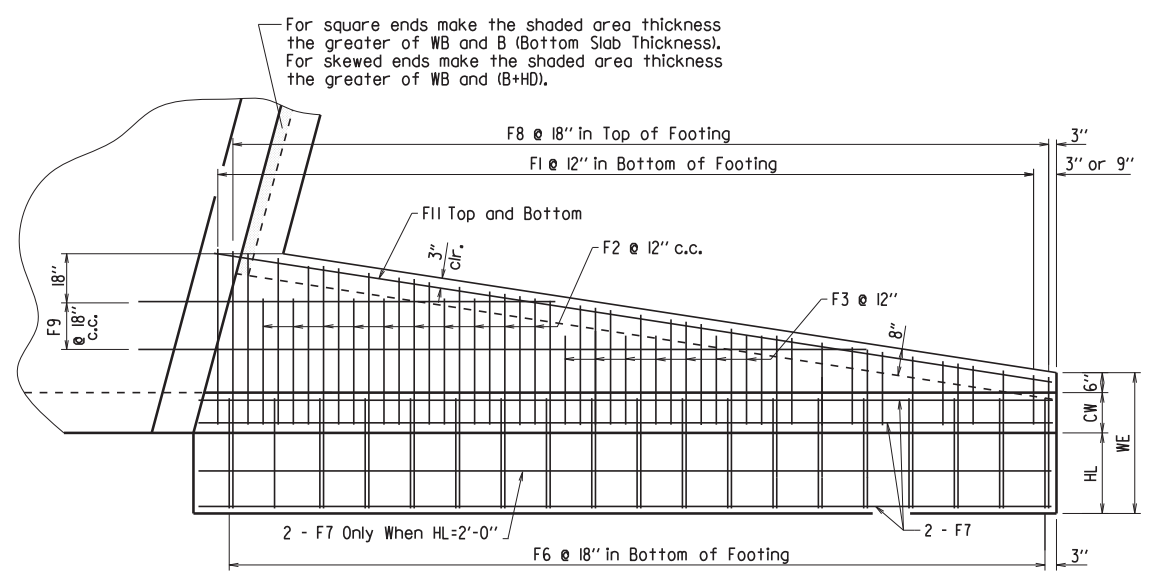
TYPICAL KEYWAY DETAIL
All Construction Joints

For square ends make the shaded area thickness the greater of WB and B (Bottom Slab Thickness).
For skewed ends make the shaded area thickness the greater of WB and (B+HD).

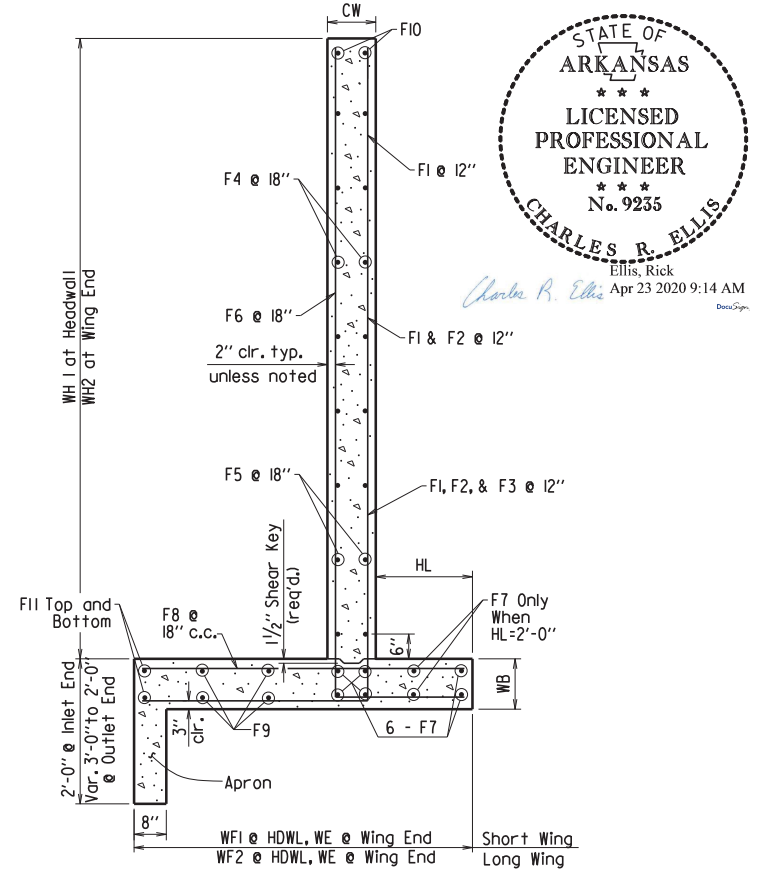


PLAN - FLARED WINGWALLS
Showing Footing Reinforcement

For square ends make the shaded area thickness the greater of WB and B (Bottom Slab Thickness).
For skewed ends make the shaded area thickness the greater of WB and (B+HD).



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement

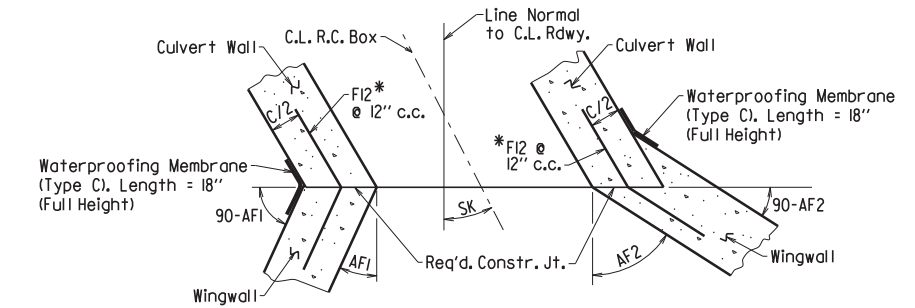


WINGWALL SECTION P-P

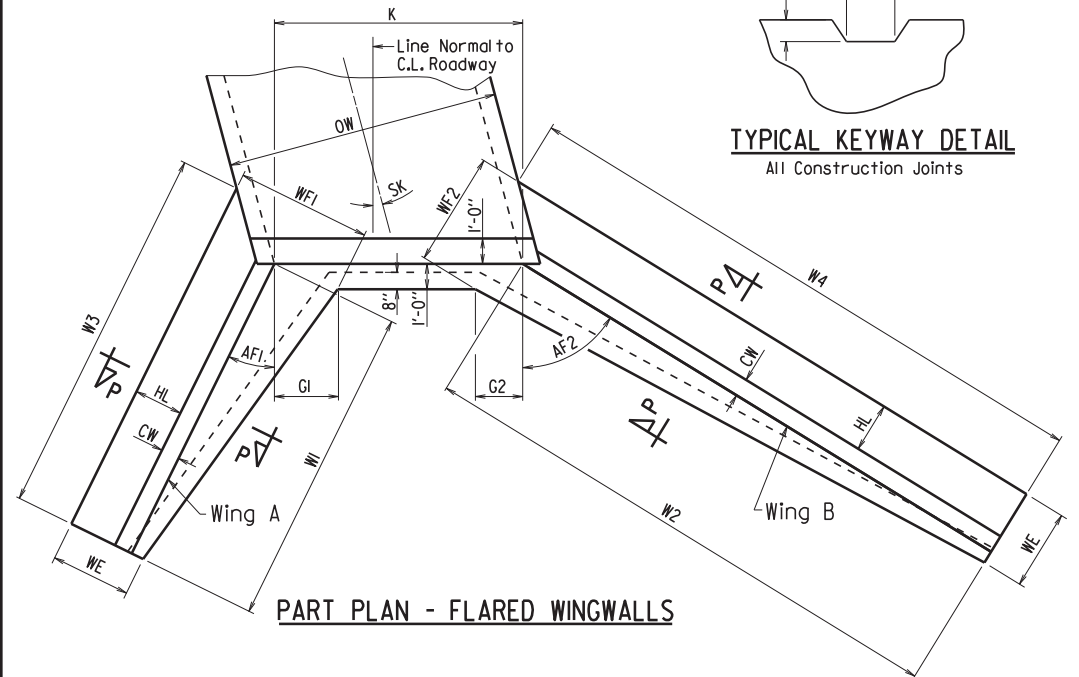
Short Wing = (AF1+SK)
Long Wing = (AF2-SK)

F1, F2, F3, & F6 BARS ***F12 BAR**

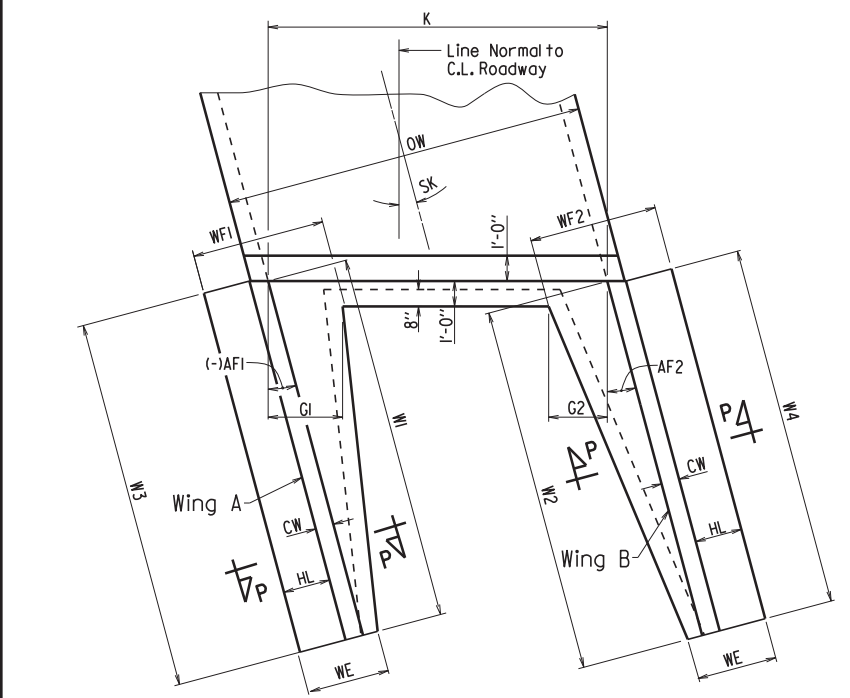
*F12 is a straight bar for parallel wingwalls



CONSTRUCTION JOINTS
Flared Wingwalls Shown



PART PLAN - FLARED WINGWALLS



PART PLAN - PARALLEL WINGWALLS

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



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MID-SECTION

Table with columns for R.C. BOX SECTION, TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINF. STEEL, BOTTOM SLAB DISTRIBUTION REINF. STEEL, SIDE WALL DISTRIBUTION REINF. STEEL, INTERIOR WALL DISTRIBUTION REINF. STEEL.

Table with columns: CLASS "S" CONCRETE, REINFORCING STEEL (GR. 60), CU. YDS., LBS.

INLET SLOPE SECTION(S)

Table with columns for R.C. BOX SECTION, TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINF. STEEL, BOTTOM SLAB DISTRIBUTION REINF. STEEL, SIDE WALL DISTRIBUTION REINF. STEEL, INTERIOR WALL DISTRIBUTION REINF. STEEL.

Table with columns: CLASS "S" CONCRETE, REINFORCING STEEL (GR. 60), CU. YDS., LBS.

INLET SKEWED END SECTION

Table with columns for SKEW (DEGREE), SLOPE, DESIGN FILL DEPTH (FT.), CLEAR SPAN (FT.), CLEAR HEIGHT (FT.), SECTION LENGTH, TOP SLAB THK., HDWL DEPTH, BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL.

Table with columns: CLASS "S" CONCRETE (includes HDWL), REINFORCING STEEL (GR 60) (includes HDWL), CU. YDS., LBS.

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

INLET WINGWALL TABLE

Table with columns for OVERALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT, WINGWALL ANGLE (DEGREE), FOOTING WIDTH AT WALL END, WIDTH OF WING FOOTINGS AT HDWL, FOOTING DIMENSION PARALLEL WITH HDWL, LENGTH OF WING WALLS, LENGTH OF FOOTING HEEL, CLASS "S" CONCRETE, REINFORCING STEEL.

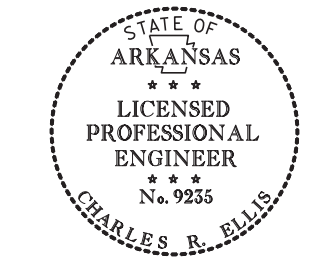
MID-SECTION BAR LAP TABLE

Table with columns: # of Long. Laps Req'd., SL = Section Length, REINFORCING STEEL QTY. PER WING (LBS).

Table with columns: Min. Bar Lap Length, #4, #5, #6, #7, #8.

Table with columns: Bar Pin Dia. Table, #4, #5, #6, #7, #8.

TABULAR DATA BY: LJB DATE: 12/18/18 CHECKED BY: WAC DATE: 2/24/2020



Ellis, Rick Apr 23 2020 9:14 AM DocuSign

This drawing to be used in conjunction with SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE", SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF MULTI-BARREL R.C. BOX CULVERT", SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF WING WALLS", and STANDARD DRAWING RCB-2. For additional information and outlet sections, see Sheet 2 of 2.

SHEET 1 OF 2 DETAILS OF R.C. BOX CULVERT QUADRUPLE BARREL BOX CULVERT Sta. 104+22.00 (Site No. 5) SPECIAL DETAILS

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

Table with columns: Design Fill Depth, Range of Actual Fill Depth.



OUTLET WINGWALL TABLE

OVERALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT		WINGWALL ANGLE (D:GREE)		FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL		FOOTING DIMENSION PARALLEL WITH HDWL		LENGTH OF WINGWALLS		LENGTH OF FOOTING HEEL		CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
								AT HDWL	AT WING END	WING A	WING B		WING A	WING B	WING A	WING B	WING A	WING B	WING A	WING B		
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
43'-1"	6'-0"	0'-9"	0'-8"	15	3:1	43'-5 3/4"	2'-0"	6'-10"	2'-0"	15	45	3'-2"	3'-3 7/8"	3'-6 7/8"	0'-5"	0'-3 3/8"	15'-0"	20'-6"	18'-6 3/8"	24'-0 3/8"	12.38	915

WING	BAR SIZE	MAX SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	REINF. STEEL QTY. PER WING (LBS)				
																																						F1	F2	F3	F4
WING A	4	12	15	X L Min 3'-2" Max 7'-10" Y Min 0'-9" Max 0'-11" Y Min 2'-6" Max 7'-0"	-	-	-	X L - Y -	-	-	-	X L - Y -	4	18	4	14'-8"	4	18	10	X L Min 4'-11" Max 9'-3" Y Min 2'-4" Max 2'-4" Y Min 2'-8" Max 7'-0"	4	8	19'-4"	5	18	10	2'-8"	-	-	-	4	2	15'-3"	4	2	16'-0"	6	12	6	X L 3'-4" Y 1'-8"	397
WING B	4	12	21	X L Min 3'-0" Max 8'-1" Y Min 0'-9" Max 1'-2" Y Min 2'-4" Max 7'-0"	-	-	-	X L - Y -	-	-	-	X L - Y -	4	18	4	20'-2"	4	18	14	X L Min 4'-8" Max 9'-3" Y Min 2'-4" Max 2'-4" Y Min 2'-5" Max 7'-0"	4	8	24'-10"	5	18	14	2'-8"	-	-	-	4	2	20'-7"	4	2	22'-3"	6	12	6	X L 3'-4" Y 1'-8"	518

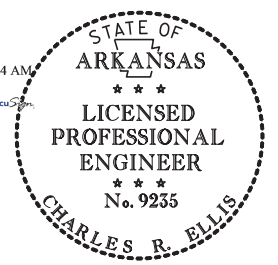
Min. Bar Lap Length

#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table

#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

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Apr 23 2020 9:14 AM
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TABULAR DATA BY: LJB DATE: 12/18/18
CHECKED BY: WAC DATE: 2/24/2020

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

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDEWALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	TOP SLAB REINFORCING STEEL				BOTTOM SLAB REINFORCING STEEL				SIDE WALL REINFORCING STEEL		INTERIOR WALL REINFORCING STEEL		TOP SLAB DISTRIBUTION REINFORCING STEEL		BOTTOM SLAB DISTRIBUTION REINFORCING STEEL		SIDE WALL DISTRIBUTION REINFORCING STEEL		INTERIOR WALL DISTRIBUTION REINFORCING STEEL		CLASS "S" CONCRETE (Includes HDWL)	REINFORCING STEEL (GR 60) (Includes HDWL)																			
													"a"		"c"		"d"		"f"		"f0"		"f1"		"g"		"e"		"d1"		"d2"																						
													SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D			SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D			
15	3:1	2	10	6	7'-9"	13	3	13	6.5	8	43'-1"	8'-2"	6	9	Max 42'-9" Min 5'-11" 42'-9"	14	7	4.5	Max 42'-9" Min 5'-11" 42'-9"	27	4	6	Max 42'-9" Min 5'-11" 42'-9"	4	8	Max 42'-9" Min 5'-11" 42'-9"	15	5	7	28	7'-10"	4	12	54	7'-10"	4	8.5	127	Max 13'-5" Min 1'-10" 13'-5"	4	8.5	127	Max 13'-5" Min 1'-10" 13'-5"	4	12	6	LONG 13'-3" SHORT 1'-11"	4	12	12	LONG 10'-6" MID 7'-7" SHORT 4'-9"	33.09	5819
				"k1" HDWL BARS				"k2" HDWL BARS				"h" HDWL BARS																																									
		SIZE	LENGTH	NO. REQ'D		SIZE		LENGTH		NO. REQ'D		SIZE		LENGTH		Y		NO. REQ'D																																			
		4	23'-0"	12		4		23'-0"		12		4		2'-0"		1'-0"		46																																			

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL				BOTTOM SLAB REINFORCING STEEL				SIDE WALL REINFORCING STEEL		INTERIOR WALL REINFORCING STEEL		TOP SLAB DISTRIBUTION REINF. STEEL		BOTTOM SLAB DISTRIBUTION REINF. STEEL		SIDE WALL DISTRIBUTION REINF. STEEL		INTERIOR WALL DISTRIBUTION REINF. STEEL		CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)		
											LENGTH = OW - 4" + BENDS				LENGTH = OW - 4" + BENDS				LENGTH = OH - 4"		LENGTH = OH - 4"		LENGTH = SL		LENGTH = SL		LENGTH = SL		LENGTH = SL					
											a"	Bent "b"	c"	SPACING	NO. REQ'D	d"	Bent "b1"	f"	SPACING	NO. REQ'D	f0"	f1"	SPACING	NO. REQ'D	LENGTH	f0"	f1"	SPACING	NO. REQ'D	LENGTH			g"	e"
HDWL DEPTH	ADDITIONAL REINF. FOR HDWL				"h" HDWL BARS																													
HD	LBS.				SIZE				Y		LENGTH		NO. REQ'D																					

SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT
QUADRUPLE BARREL BOX CULVERT
Sta. 104+22.00 (Site No. 5)
SPECIAL DETAILS



MID-SECTION

Table with columns for R.C. BOX SECTION (D, S, H, T, B, C, W, OW, OH), TOP SLAB REINFORCING STEEL (a, Bent b, c), BOTTOM SLAB REINFORCING STEEL (d, Bent b1, f), SIDE WALL REINFORCING STEEL (f0), INTERIOR WALL REINFORCING STEEL (f1), TOP SLAB DISTRIBUTION REINF. STEEL (g), BOTTOM SLAB DISTRIBUTION REINF. STEEL (e), SIDE WALL DISTRIBUTION REINF. STEEL (d1), INTERIOR WALL DISTRIBUTION REINF. STEEL (d2), CLASS "S" CONCRETE (CU YDS), REINFORCING STEEL (GR. 60) (LBS).

Table with columns: CLASS "S" CONCRETE (CU YDS), REINFORCING STEEL (GR. 60) (LBS). Values: 798.07, 114238.

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
Sta. 489+10.50 (Site No. 6)
SPECIAL DETAILS

Table with columns: Design Fill Depth, Range of Actual Fill Depth. Values: 2 (0.0 ft - 2.0 ft), 5 (>2.0 ft - 5.0 ft), 10 (>5.0 ft - 10.0 ft), 15 (>10.0 ft - 15.0 ft), 20 (>15.0 ft - 20.0 ft), 25 (>20.0 ft - 25.0 ft), 30 (>25.0 ft - 30.0 ft), 35 (>30.0 ft - 35.0 ft), 40 (>35.0 ft - 40.0 ft).

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

INLET SLOPE SECTION(S)

Table with columns for R.C. BOX SECTION (D, S, H, T, B, C, W, OW, OH), TOP SLAB REINFORCING STEEL (a, Bent b, c), BOTTOM SLAB REINFORCING STEEL (d, Bent b1, f), SIDE WALL REINFORCING STEEL (f0), INTERIOR WALL REINFORCING STEEL (f1), TOP SLAB DISTRIBUTION REINF. STEEL (g), BOTTOM SLAB DISTRIBUTION REINF. STEEL (e), SIDE WALL DISTRIBUTION REINF. STEEL (d1), INTERIOR WALL DISTRIBUTION REINF. STEEL (d2), CLASS "S" CONCRETE (CU YDS), REINFORCING STEEL (GR. 60) (LBS).

Table with columns: CLASS "S" CONCRETE (CU YDS), REINFORCING STEEL (GR. 60) (LBS). Values: 0.61, 187.

INLET SKEWED END SECTION

Table with columns for SKEW (DEGREE), SLOPE, DESIGN FILL DEPTH (FT.), CLEAR SPAN (FT.), CLEAR HEIGHT (FT.), SECTION LENGTH, TOP SLAB THK., HDWL DEPTH, BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVERALL WIDTH, OVERALL HEIGHT, TOP SLAB REINFORCING STEEL (a, c), BOTTOM SLAB REINFORCING STEEL (d, f), SIDE WALL REINFORCING STEEL (f0), INTERIOR WALL REINFORCING STEEL (f1), TOP SLAB DISTRIBUTION REINFORCING STEEL (g), BOTTOM SLAB DISTRIBUTION REINFORCING STEEL (e), SIDE WALL DISTRIBUTION REINFORCING STEEL (d1), INTERIOR WALL DISTRIBUTION REINFORCING STEEL (d2), CLASS "S" CONCRETE (CU YDS), REINFORCING STEEL (GR. 60) (LBS).

Table with columns: CLASS "S" CONCRETE (includes HDWL) (CU YDS), REINFORCING STEEL (includes HDWL) (LBS).

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

INLET WINGWALL TABLE

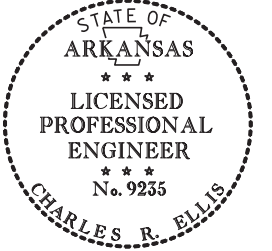
Large table with columns for OVERALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEC.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT (AT HDWL, AT WING END), WINGWALL ANGLE (DEGREE), FOOTING DIMENSION PARALLEL WITH HDWL, LENGTH OF WINGWALLS, LENGTH OF FOOTING HEEL, CLASS "S" CONCRETE, REINFORCING STEEL. Includes sub-tables for WING A and WING B details.

MID-SECTION BAR LAP TABLE

Table with columns: # of Long. Laps Req'd, SL = Section Length. Values: 1 (>40.0 ft - 78.0 ft), 2 (>78.0 ft - 116.0 ft), 3 (>116.0 ft - 154.0 ft), 4 (>154.0 ft - 192.0 ft), 5 (>192.0 ft - 230.0 ft), 6 (>230.0 ft - 268.0 ft), 7 (>268.0 ft - 306.0 ft), 8 (>306.0 ft - 344.0 ft).

Table with columns: Min. Bar Lap Length, #, Length. Values: #4 (1'-9"), #5 (2'-2"), #6 (2'-7"), #7 (3'-6"), #8 (4'-7").

Table with columns: Bar Fin Dia., #, Length. Values: #4 (3"), #5 (3 3/4"), #6 (4 1/2"), #7 (5 1/4"), #8 (6").



TABULAR DATA BY: LJB DATE: 12/28/18
CHECKED BY: DBS DATE: 1/28/2020

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Apr 23 2020 9:14 AM

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

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

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OUTLET SLOPE SECTION(S)

Table for Outlet Slope Section(S) containing columns for R.C. BOX SECTION, TOP SLAB REINFORCNG STEEL, BOTTOM SLAB REINFORCNG STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINF. STEEL, BOTTOM SLAB DISTRIBUTION REINF. STEEL, SIDE WALL DISTRIBUTION REINF. STEEL, INTERIOR WALL DISTRIBUTION REINF. STEEL, and totals for CLASS "S" CONCRETE and REINFORCING STEEL.

OUTLET SKEWED END SECTION

Table for Outlet Skewed End Section containing columns for SKEW (DEGREE), SLOPE, DESIGN FILL DEPTH (FT.), CLEAR SPAN (FT.), CLEAR HEIGHT (FT.), SECTION LENGTH, TOP SLAB THK., HDWL DEPTH, BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVERALL WIDTH, OVERALL HEIGHT, TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL, CLASS "S" CONCRETE, and REINFORCING STEEL.

OUTLET WINGWALL TABLE

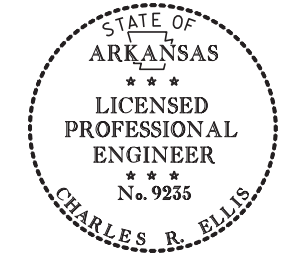
Main table for Outlet Wingwall Table containing columns for OVERALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT, WINGWALL ANGLE (DEGREE), FOOTING WIDTH AT WALL END, WIDTH OF WING FOOTINGS AT HDWL, FOOTING DIMENSION PARALLEL WITH HDWL, LENGTH OF WINGWALLS, LENGTH OF FOOTING HEEL, CLASS "S" CONCRETE, and REINFORCING STEEL.

Min. Bar Lap Length table with columns for bar size (#4-#8) and length (1'-9" to 4'-7").

Bar Pin Dia. Table with columns for bar size (#4-#8) and diameter (3" to 6").

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

DATE REVISED, DATE FILMED, and project information table including FED. ROAD DIST. NO., STATE, FED. AID PROJ. NO., SHEET NO., and TOTAL SHEETS.



TABULAR DATA BY: LJB DATE: 12/28/18 CHECKED BY: DBS DATE: 1/28/2020

Ellis, Rick Apr 23 2020 9:15 AM

SHEET 2 OF 2 DETAILS OF R.C. BOX CULVERT QUINTUPLE BARREL BOX CULVERT Sta. 489+10.50 (Site No. 6) SPECIAL DETAILS



MID-SECTION

Table with columns for R.C. BOX SECTION (DESIGN FILL DEPTH, CLEAR SPAN, etc.), TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL, CLASS 'S' CONCRETE, and REINFORCING STEEL.

Table with columns: CLASS 'S' CONCRETE (CU. YDS.), REINFORCING STEEL (GR. 60) (LBS.).

INLET SLOPE SECTIONS(S)

Table with columns for R.C. BOX SECTION (DESIGN FILL DEPTH, CLEAR SPAN, etc.), TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL, CLASS 'S' CONCRETE, and REINFORCING STEEL.

Table with columns: CLASS 'S' CONCRETE (CU. YDS.), REINFORCING STEEL (GR. 60) (LBS.).

Table with columns: Design Fill Depth, Range of Actual Fill Depth.

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

INLET SKEWED END SECTION

Table with columns for SKEW (DEGREE), SLOPE, DESIGN FILL DEPTH, CLEAR SPAN, CLEAR HEIGHT, SECTION LENGTH, TOP SLAB THK., HDWL DEPTH, BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL, CLASS 'S' CONCRETE, and REINFORCING STEEL.

Table with columns: CLASS 'S' CONCRETE (includes HDWL) (CU. YDS.), REINFORCING STEEL (GR. 60) (includes HDWL) (LBS.).

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

INLET WINGWALL TABLE

Table with columns for OVERALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT (AT HDWL, AT WING END), WINGWALL ANGLE (DEGREE), FOOTING WIDTH AT WALL END, WIDTH OF WING FOOTINGS AT HDWL, FOOTING DIMENSION PARALLEL WITH HDWL, LENGTH OF WING WALLS, LENGTH OF FOOTING HEEL, CLASS 'S' CONCRETE, and REINFORCING STEEL.

MID-SECTION BAR LAP TABLE

Table with columns: # of Long Laps Req'd., SL = Section Length, and length ranges.

Table with columns: Min. Bar Lap Length, #4, #5, #6, #7, #8.

Table with columns: Bar Pin Dia. Table, #4, #5, #6, #7, #8.

TABULAR DATA BY: EOR DATE: 08/15/2018 CHECKED BY: DBS DATE: 1/28/2020

Ellis, Rick Apr 23 2020 9:15 AM



Table with columns: DATE REVISED, DATE FILMED, FED. ROAD DIST. NO., STATE, FED. AID PROJ. NO., SHEET NO., TOTAL SHEETS.

JOB NO. 040819 22 111 SPECIAL DETAILS

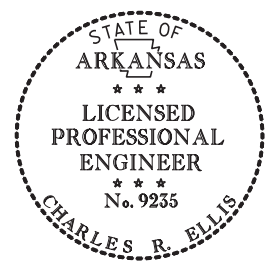
This drawing to be used in conjunction with SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE", SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF MULTI-BARREL R.C. BOX CULVERT", SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF WING WALLS", and STANDARD DRAWING RCB-2. For additional information and outlet sections, see Sheet 2 of 2.

OUTLET WINGWALL TABLE

Table with columns for overall width, clear height, footing thk, wing wall thk, box skew, slope, hdwl length, heel, wall height, wing wall angle, footing width, width of wing footings, footing dimension, length of wingwalls, length of footing heel, class 's' concrete, and reinforcing steel. Includes a summary table at the bottom with columns F1-F12 and REIN. STEEL QTY.

DATE REVISED, DATE FILMED, FED. ROAD DIST. NO., STATE, FED. AID PROJ. NO., SHEET NO., TOTAL SHEETS. Includes JOB NO. 040819, SHEET NO. 25, TOTAL SHEETS 111.

SPECIAL DETAILS



TABULAR DATA BY: WAC DATE: 2/13/2020 CHECKED BY: LJB DATE: 2/24/2020

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Min. Bar Lap Length table with columns #4-#8 and values 1'-9", 2'-2", 2'-7", 3'-6", 4'-7".

Bar Pin Dia. Table with columns #4-#8 and values 3", 3 3/4", 4 1/2", 5 1/4", 6".

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

OUTLET SKEWED END SECTION

Table for Skewed End Section with columns for skew, slope, design fill depth, clear span, clear height, section length, top slab thk, hdwl depth, bottom slab thk, side wall thk, interior wall thk, overall width, overall height, top slab reinforcing steel, bottom slab reinforcing steel, side wall reinforcing steel, interior wall reinforcing steel, top slab distribution, bottom slab distribution, side wall distribution, interior wall distribution, class 's' concrete, and reinforcing steel.

OUTLET SLOPE SECTION(S)

Table for Slope Section(s) with columns for R.C. box section, design fill depth, clear span, clear height, top slab thk, bottom slab thk, side wall thk, interior wall thk, overall width, overall height, section length, top slab reinforcing steel, bottom slab reinforcing steel, side wall reinforcing steel, interior wall reinforcing steel, top slab distribution, bottom slab distribution, side wall distribution, interior wall distribution, class 's' concrete, and reinforcing steel.

Summary table for Slope Section(s) showing CLASS 'S' CONCRETE (CU. YDS. 1.48) and REINFORCING STEEL (GR. 60) (LBS. 142).

SHEET 2 OF 2 DETAILS OF R.C. BOX CULVERT QUADRUPLE BARREL BOX CULVERT Sta. 109+00 (Site No. 7)

SPECIAL DETAILS



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

Unless otherwise noted, all dimensions are in inches.

MID-SECTION

Table with 15 columns: R.C. BOX SECTION (DESIGN FILL DEPTH, CLEAR SPAN, CLEAR HEIGHT, TOP SLAB THK., BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH), TOP SLAB REINFORCING STEEL (a, Bent b, c, SPACING, NO. REQ'D), BOTTOM SLAB REINFORCING STEEL (d, Bent b1, f, SPACING, NO. REQ'D), SIDE WALL REINFORCING STEEL (f0, LENGTH), INTERIOR WALL REINFORCING STEEL (f1, LENGTH), TOP SLAB DISTRIBUTION REINF. STEEL (g, LENGTH = SL), BOTTOM SLAB DISTRIBUTION REINF. STEEL (e, LENGTH = SL), SIDE WALL DISTRIBUTION REINF. STEEL (d1, LENGTH = SL), INTERIOR WALL DISTRIBUTION REINF. STEEL (d2, LENGTH = SL), CLASS "S" CONCRETE (CU. YDS.), REINFORCING STEEL (GR. 60) (LBS.).

Table with 2 columns: CLASS "S" CONCRETE (CU. YDS.), REINFORCING STEEL (GR. 60) (LBS.).

SHEET 1 OF 5
DETAILS OF R.C. BOX CULVERT
TRIPLE BARREL BOX CULVERT
Sta. 112+09 (Site No. 8)
SPECIAL DETAILS

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

INLET SLOPE SECTION(S)

Table with 15 columns: R.C. BOX SECTION (DESIGN FILL DEPTH, CLEAR SPAN, CLEAR HEIGHT, TOP SLAB THK., BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH), TOP SLAB REINFORCING STEEL (a, Bent b, c, SPACING, NO. REQ'D), BOTTOM SLAB REINFORCING STEEL (d, Bent b1, f, SPACING, NO. REQ'D), SIDE WALL REINFORCING STEEL (f0, LENGTH = OH - 4), INTERIOR WALL REINFORCING STEEL (f1, LENGTH = OH - 4), TOP SLAB DISTRIBUTION REINFORCING STEEL (g, LENGTH = SL), BOTTOM SLAB DISTRIBUTION REINFORCING STEEL (e, LENGTH = SL), SIDE WALL DISTRIBUTION REINFORCING STEEL (d1, LENGTH = SL), INTERIOR WALL DISTRIBUTION REINFORCING STEEL (d2, LENGTH = SL), CLASS "S" CONCRETE (CU. YDS.), REINFORCING STEEL (GR. 60) (LBS.).

Table with 2 columns: CLASS "S" CONCRETE (CU. YDS.), REINFORCING STEEL (GR. 60) (LBS.).

- 1 The number of bars, bar lengths, and dimensions shown are for estimating only. The actual number, length, and dimensions required shall be verified in the field and match to existing structures.
2 For information only, quantities subject to change with verification of dimension in field.

Table with 2 columns: Design Fill Depth, Range of Actual Fill Depth.

INLET SKEWED END SECTION

Table with 15 columns: SKEW (DEGREE), SLOPE, DESIGN FILL DEPTH, CLEAR SPAN, CLEAR HEIGHT, SECTION LENGTH, TOP SLAB THK., HDWL DEPTH, BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, TOP SLAB REINFORCING STEEL (a, SPACING, LENGTHS VARY, NO. REQ'D), BOTTOM SLAB REINFORCING STEEL (d, SPACING, LENGTHS VARY, NO. REQ'D), SIDE WALL REINFORCING STEEL (f0, SPACING, LENGTH), INTERIOR WALL REINFORCING STEEL (f1, SPACING, LENGTH), TOP SLAB DISTRIBUTION REINFORCING STEEL (g, SPACING, LENGTHS VARY), BOTTOM SLAB DISTRIBUTION REINFORCING STEEL (e, SPACING, LENGTHS VARY), SIDE WALL DISTRIBUTION REINFORCING STEEL (d1, SPACING, LENGTH), INTERIOR WALL DISTRIBUTION REINFORCING STEEL (d2, SPACING, LENGTH), CLASS "S" CONCRETE (Includes HDWL) (CU. YDS.), REINFORCING STEEL (GR. 60) (Includes HDWL) (LBS.).

INLET WINGWALL TABLE

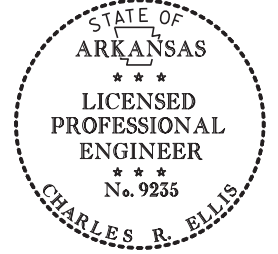
Table with 15 columns: OVER ALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT (AT HDWL, AT WING END), WINGWALL ANGLE (DEGREE), FOOTING WIDTH AT WING END, WIDTH OF WING FOOTINGS AT HDWL (WING A, WING B), FOOTING DIMENSION PARALLEL WITH HDWL (WING A, WING B), LENGTH OF WINGWALLS (WING A, WING B), LENGTH OF FOOTING HEEL (WING A, WING B), CLASS "S" CONCRETE, REINFORCING STEEL.

MID-SECTION BAR LAP TABLE

Table with 2 columns: # of Long. Laps Req'd., SL = Section Length.

Table with 2 columns: #, Bar Lap Length.

Table with 2 columns: Bar Pin Dia. Table, #, Pin Dia.



TABULAR DATA BY: DPT DATE: 1/13/2020
CHECKED BY: DHP DATE: 2/7/2020

Ellis, Rick
Apr 23 2020 9:16 AM

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

Quantities are included on SHEET 5 of 5 "TABLE OF QUANTITIES - BOX, WINGS, AND SIDEWALK".

OUTLET SLOPE SECTION(S)

Table for Outlet Slope Sections with columns for R.C. Box Section, Design Fill Depth, Clear Span, Clear Height, Top Slab Thk., Bottom Slab Thk., Side Wall Thk., Interior Wall Thk., Overall Width, Overall Height, Section Length, and Reinforcing Steel details for Bottom Slab, Side Wall, Interior Wall, Top Slab Distribution, Bottom Slab Distribution, Side Wall Distribution, and Interior Wall Distribution.

Summary table for Outlet Slope Sections showing Class 'S' Concrete and Reinforcing Steel (Gr. 60) quantities in CU. YDS. and LBS.

OUTLET SKEWED END SECTION

Table for Outlet Skewed End Section with columns for Skew (Degree), Slope, Design Fill Depth, Clear Span, Clear Height, Section Length, Top Slab Thk., HDWL Depth, Bottom Slab Thk., Side Wall Thk., Interior Wall Thk., Overall Width, Overall Height, and Reinforcing Steel details for Top Slab, Bottom Slab, Side Wall, Interior Wall, Top Slab Distribution, Bottom Slab Distribution, Side Wall Distribution, and Interior Wall Distribution.

OUTLET WINGWALL TABLE

Table for Outlet Wingwall with columns for Overall Width, Clear Height, Footing Thk., Wing Wall Thk., Box Skew, Slope, HDWL Length, Heel, Wall Height, Wing Wall Angle, Footing Width at Wall End, Width of Wing Footings, Footing Dimension, Length of Wingwalls, Length of Footing Heel, Class 'S' Concrete, and Reinforcing Steel.

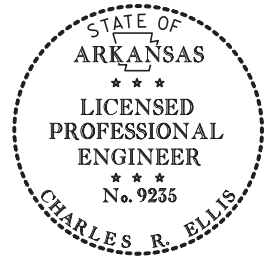
Table for Minimum Bar Lap Length showing values for bar sizes #4 through #8.

Table for Bar Pin Diameter showing values for bar sizes #4 through #8.

Revision table with columns for Date Revised, Date Filmed, Date Revised, Date Filmed, Fed. Road Dist. No., State, Fed. Aid Proj. No., Sheet No., and Total Sheets.

JOB NO. 040819 SHEET NO. 27 TOTAL SHEETS 111

SPECIAL DETAILS



TABULAR DATA BY: DPT DATE: 1/13/2020 CHECKED BY: DHP DATE: 2/7/2020

Ellis, Rick Apr 23 2020 9:16 AM

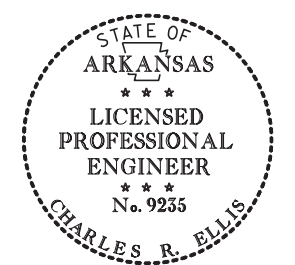
The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be verified in the field and match to existing structures.

Unless otherwise noted, all dimensions are in inches.

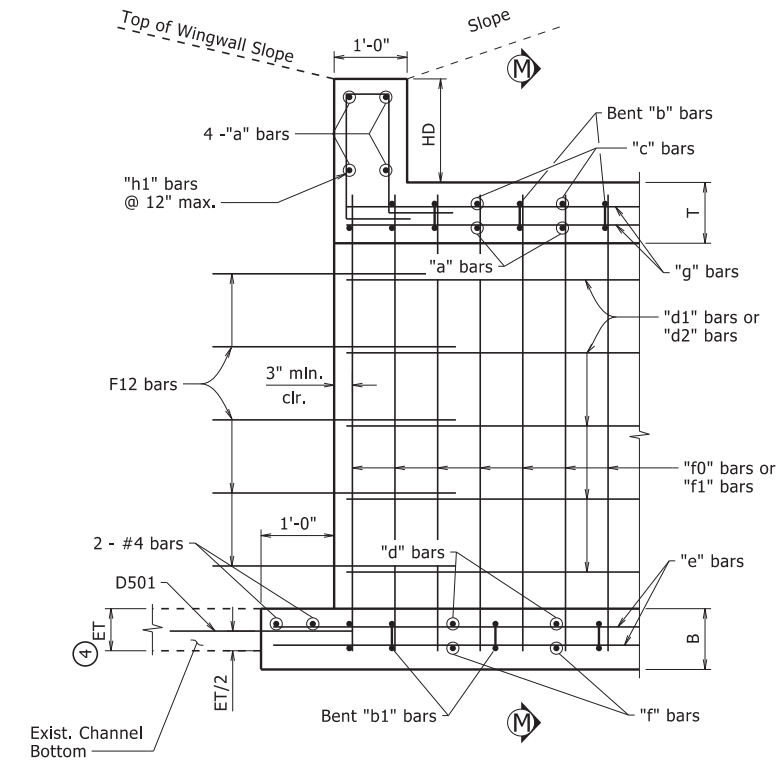


DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040819	28	111

1 SPECIAL DETAILS



DRAWN BY: DPT DATE: 1/13/2020
 CHECKED BY: DHP DATE: 4/22/2020
 Ellis, Rick
 Charles R. Ellis Apr 23 2020 9:16 AM

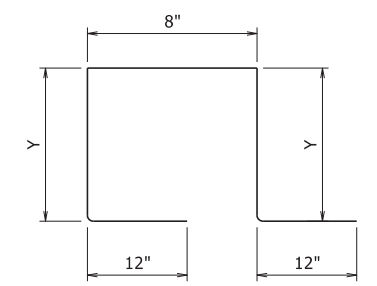


PART LONGITUDINAL SECTION
Inlet End
No Scale

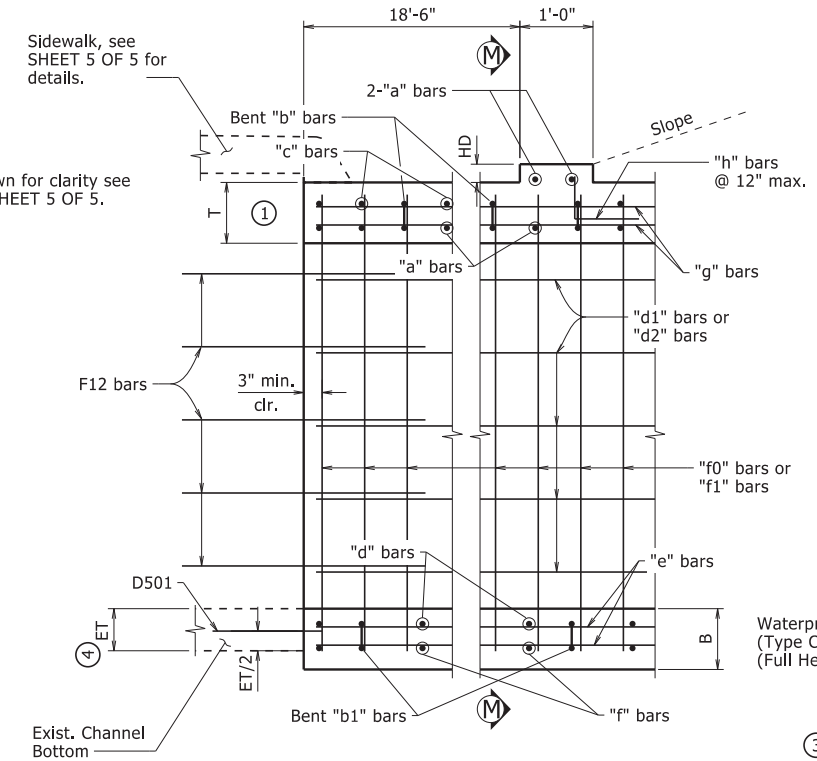
1 D401 bar is not shown for clarity see "SECTION A-A" on SHEET 5 OF 5.

For "TYPICAL SECTION M-M", sketches for bent bars "b", "b1", and "h", and "TYPICAL KEYWAY DETAIL", see SHEET 3 OF 4 on GENERAL DETAILS OF R.C. BOX CULVERT.

4 Existing Channel Thickness = "ET"

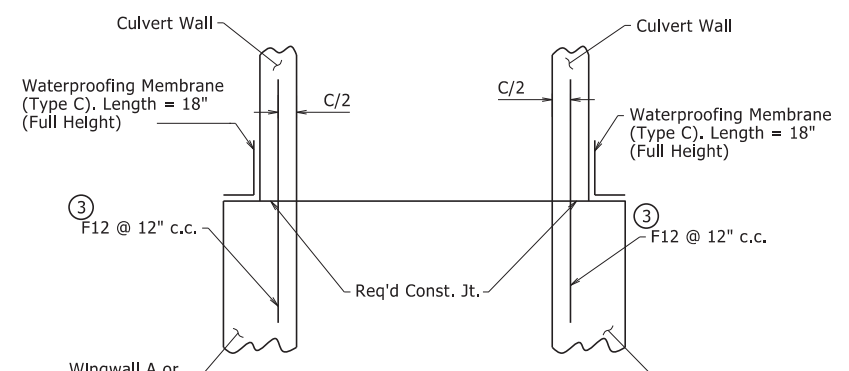


h1 BAR SKETCH

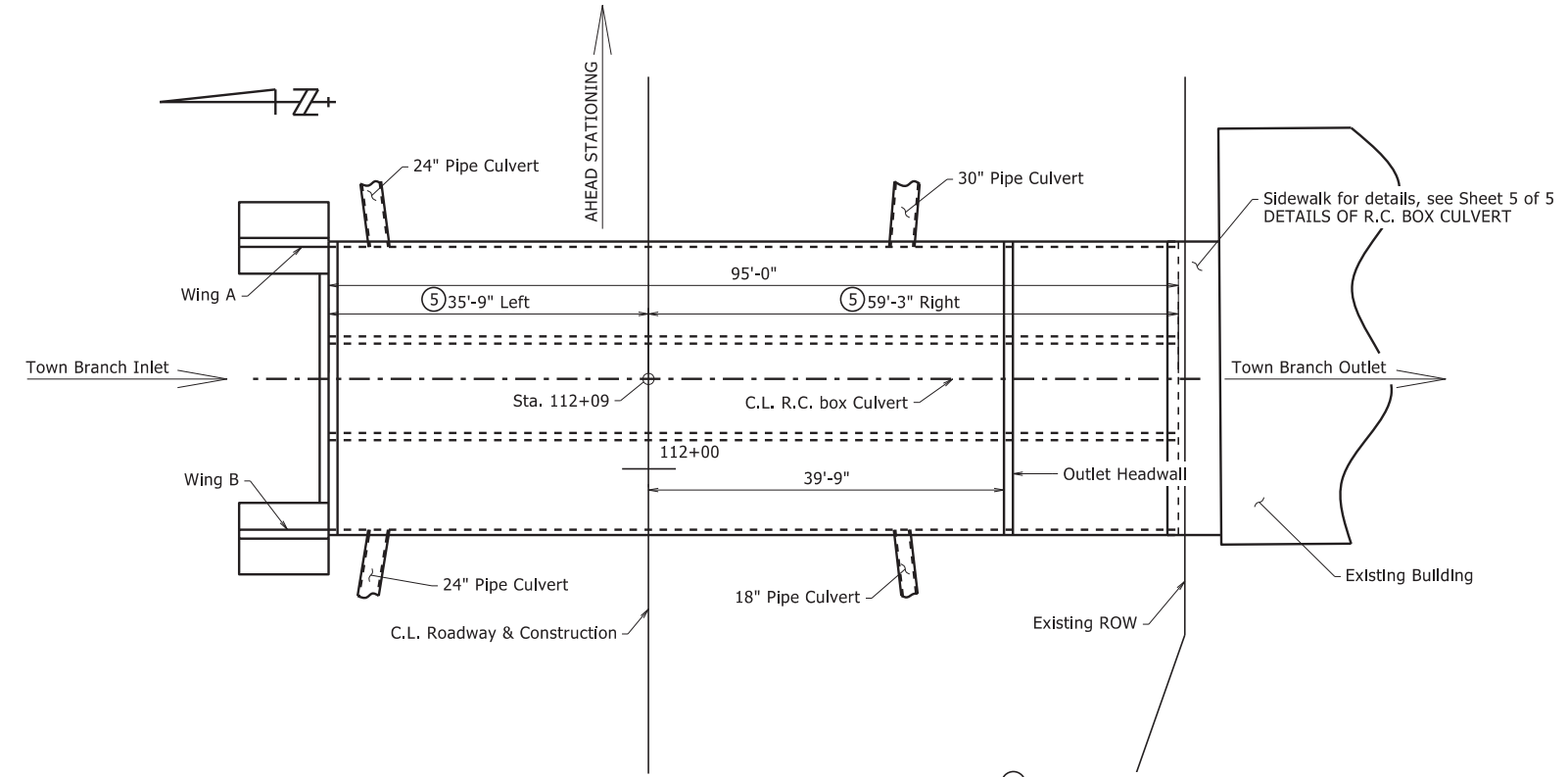


PART LONGITUDINAL SECTION
Outlet End
No Scale

3 Doweling into Existing Wall shall not be paid for directly, but shall be subsidiary to "Reinforcing Steel - Roadway (Grade 60)". For additional details see SHEET 4 OF 5.

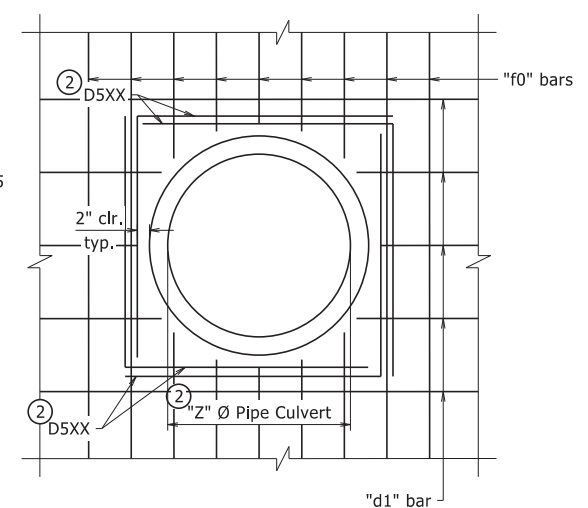


CONSTRUCTION JOINTS
No Scale



LAYOUT OF BOX CULVERT AT 112+09
No Scale

5 Dimensions shown are based on survey data. The Contractor shall verify the geometry of the existing concrete channel and its relationship to the proposed work, and make necessary adjustments to fit the proposed work to the existing concrete channel. This work will not be paid for directly but shall be considered subsidiary to other Contract items.



R.C. PIPE PROTRUSION DETAIL
No Scale

2 See "TABLE OF VARIABLES".

TABLE OF VARIABLES

D5XX	"Z"
D502	18"
D503	24"
D504	30"

Note: See Roadway Plans for locations and dimensions of Pipe Culverts.

SHEET 3 OF 5
 DETAILS OF R.C. BOX CULVERT
 TRIPLE BARREL BOX CULVERT
 Sta. 112+09 (Site No. 8)

SPECIAL DETAILS

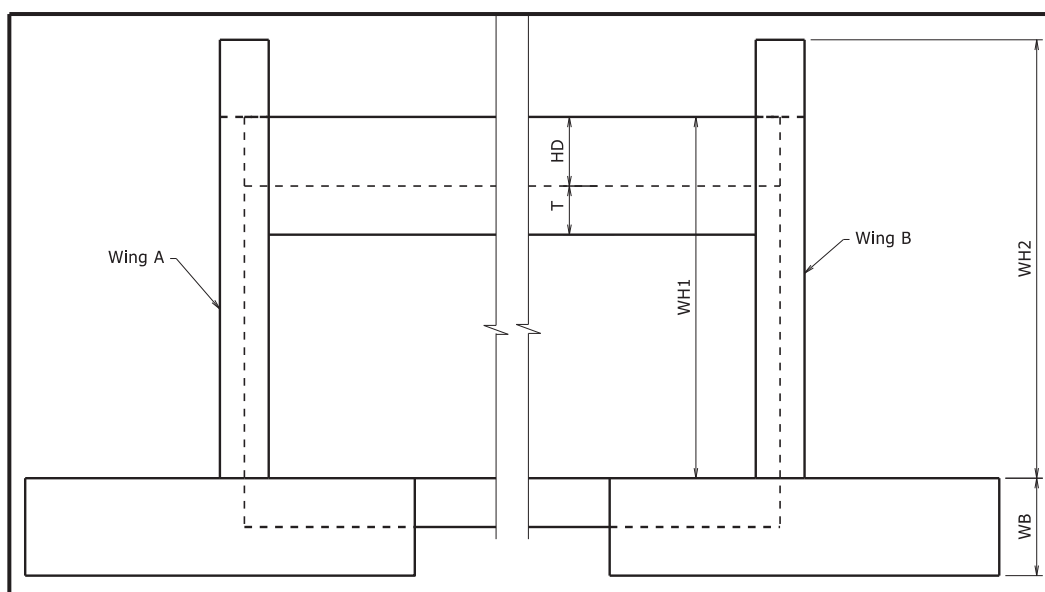


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040819	29	111

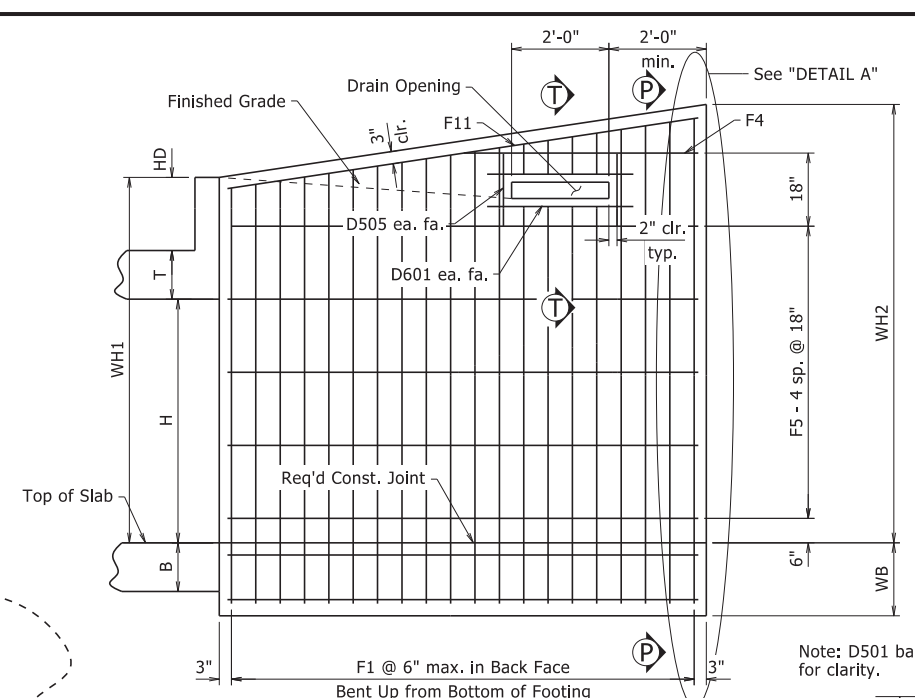
SPECIAL DETAILS



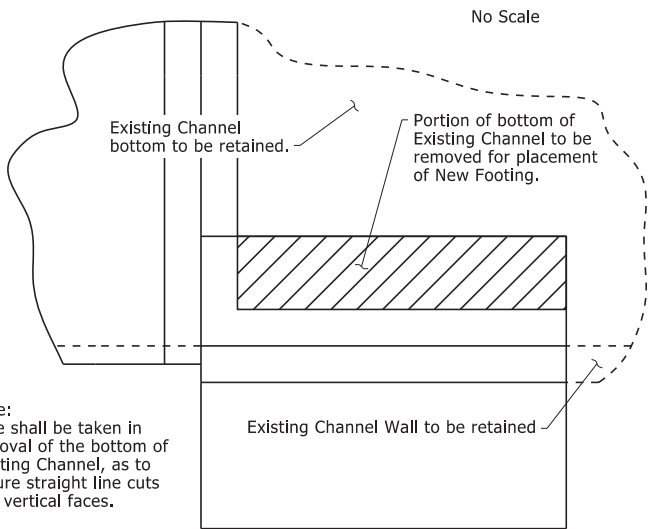
DRAWN BY: DPT DATE: 1/13/2020
 CHECKED BY: DHP DATE: 4/22/2020
 Ellis, Rick
 Apr 23 2020 9:17 AM



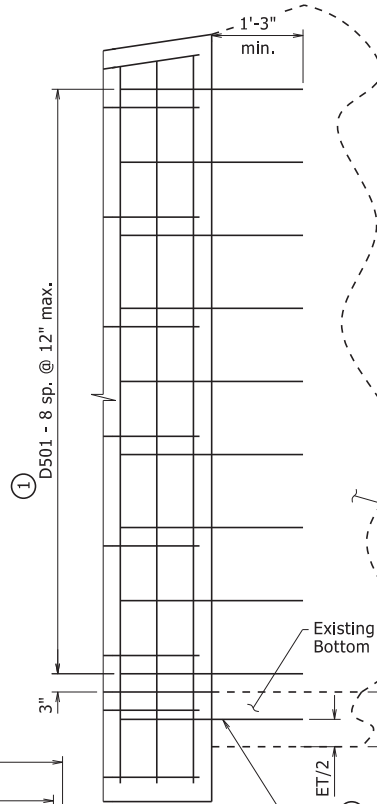
END ELEVATION
Inlet Wingwalls
No Scale



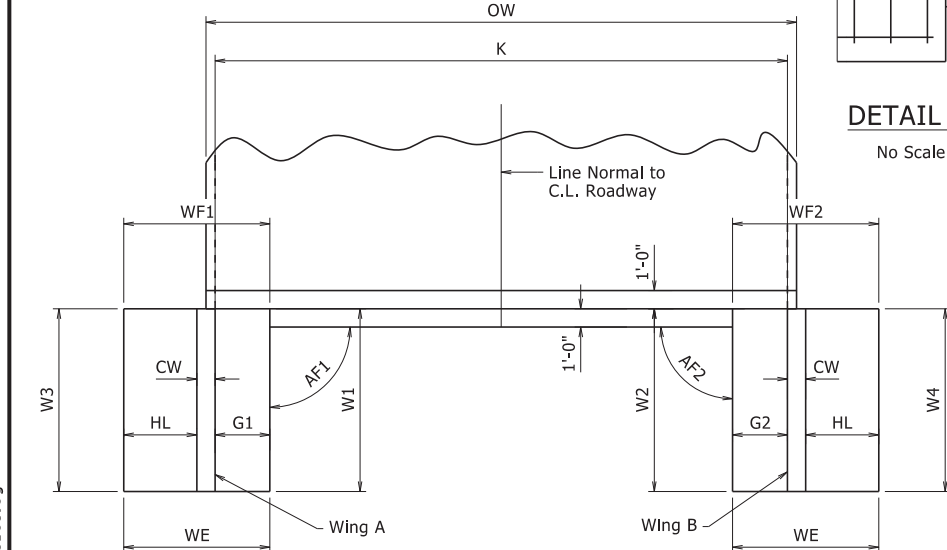
INLET WINGWALL ELEVATION
Showing Back of Reinforcement
Wing B Shown
Wing A Similar
No Scale



MODIFICATION OF EXISTING CHANNEL
Wing A Shown
Wing B Similar
No Scale



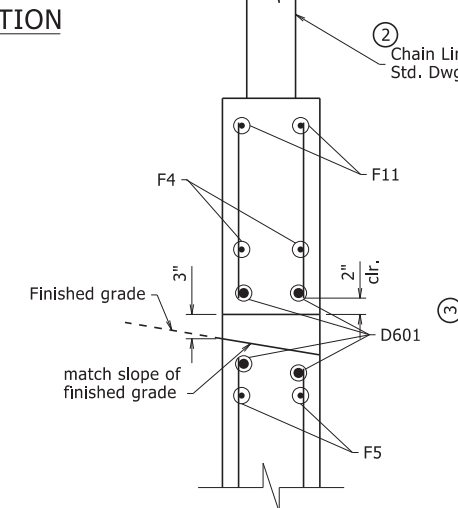
DETAIL A
No Scale



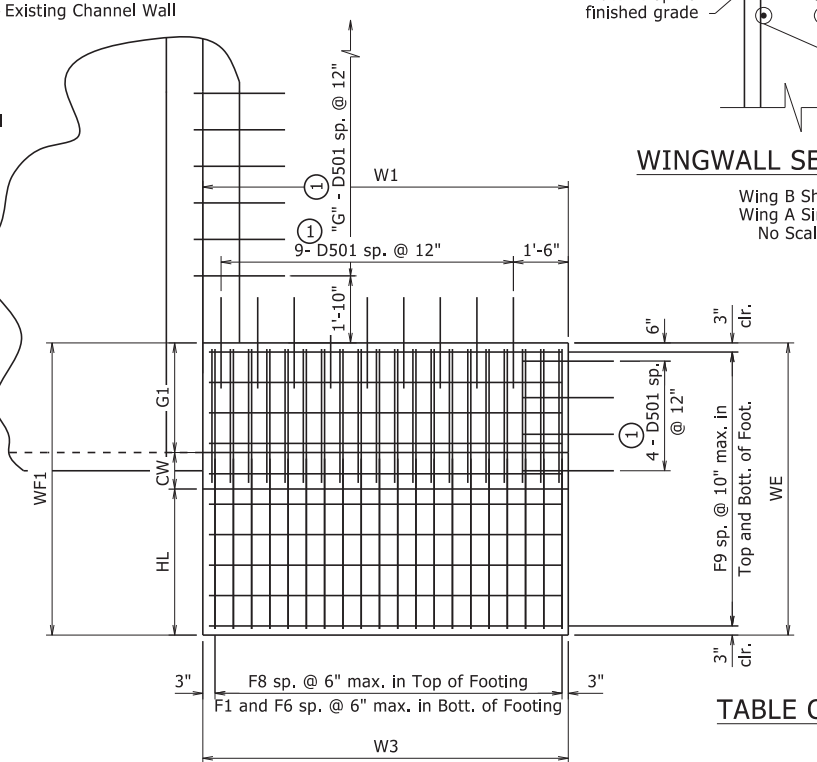
INLET WINGWALLS PART PLAN
No Scale

Note: Components of the existing channel are to be retained. Information and dimensions shown are based on survey data. The Contractor shall verify the geometry of the existing channel and its relationship to the proposed work, and make necessary adjustments to fit the proposed work to the existing channel. This work will not be paid for directly, but will be considered subsidiary to other Contract items.

① Dowel into Existing Concrete using a QPL approved non-shrink grout or a resin anchoring system. Doweling will not be paid for directly, but will be considered subsidiary to the Item "Reinforcing Steel - Roadway (Grade 60)". Modify the Embedment depth if required by the Manufacturer's recommendations. Embedment depth:
 1'-3" for #5 Bars
 1'-8" for #6 Bars
 Care shall be exercised not to damage existing reinforcing during drilling.



WINGWALL SECTION T-T
Wing B Shown
Wing A Similar
No Scale

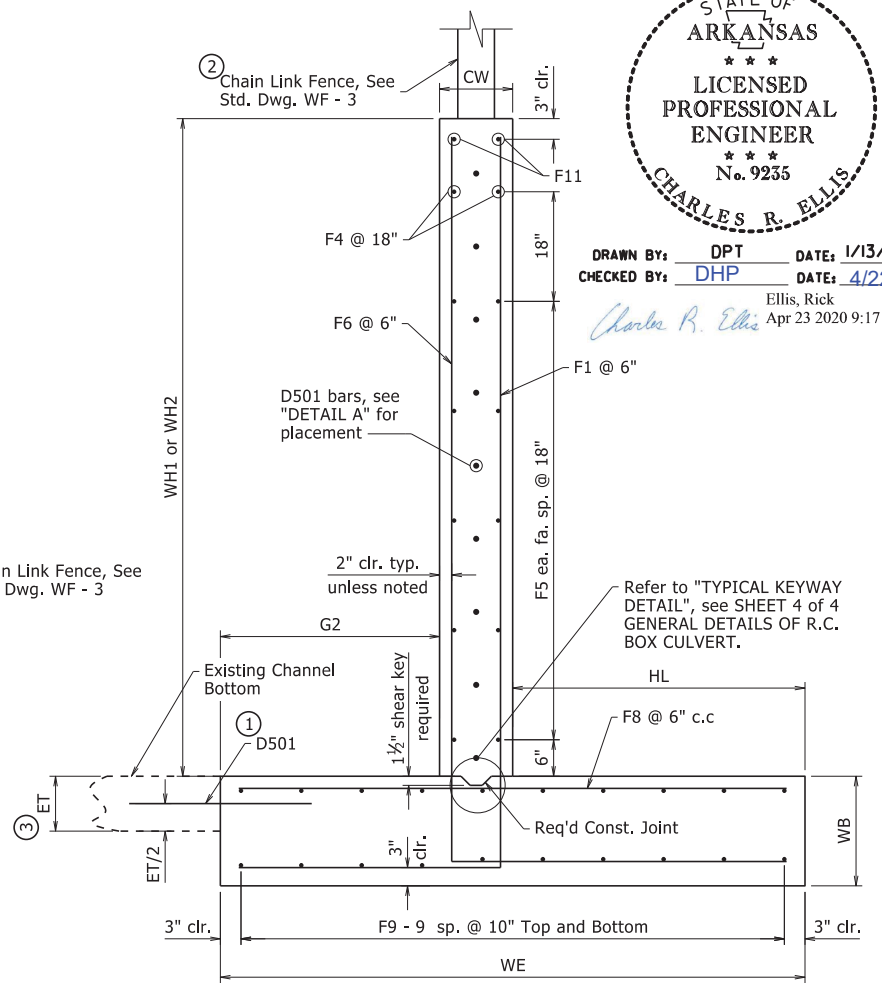


INLET PLAN FOOTING
Showing Footing Reinforcement
Wing A Shown
Wing B Similar
No Scale

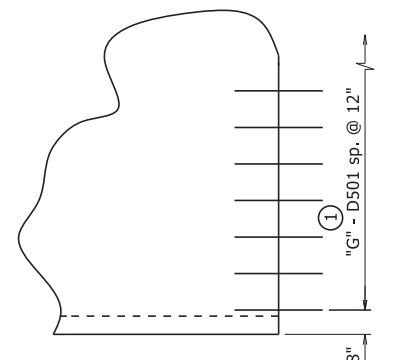
TABLE OF VARIABLES

	"G"
INLET	23
OUTLET	32

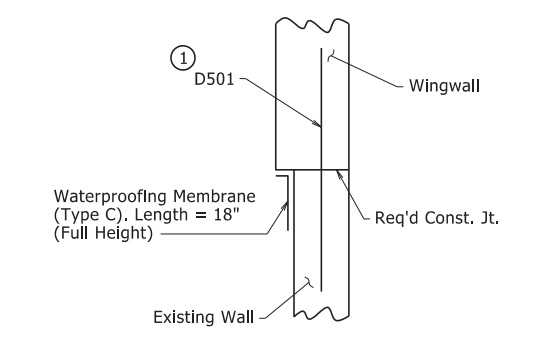
② Chain Link Fence shall have a Black Vinyl Coating to match existing Chain Link Fence.



WINGWALL SECTION P-P
Wing B shown
Wing A similar
No Scale



OUTLET PLAN
No Scale



WINGWALL CONSTRUCTION JOINTS
No Scale

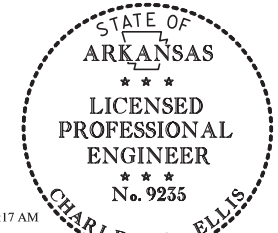
SHEET 4 OF 5
DETAILS OF R.C. BOX CULVERT
TRIPLE BARREL BOX CULVERT
Sta. 112+09 (Site No. 8)

SPECIAL DETAILS



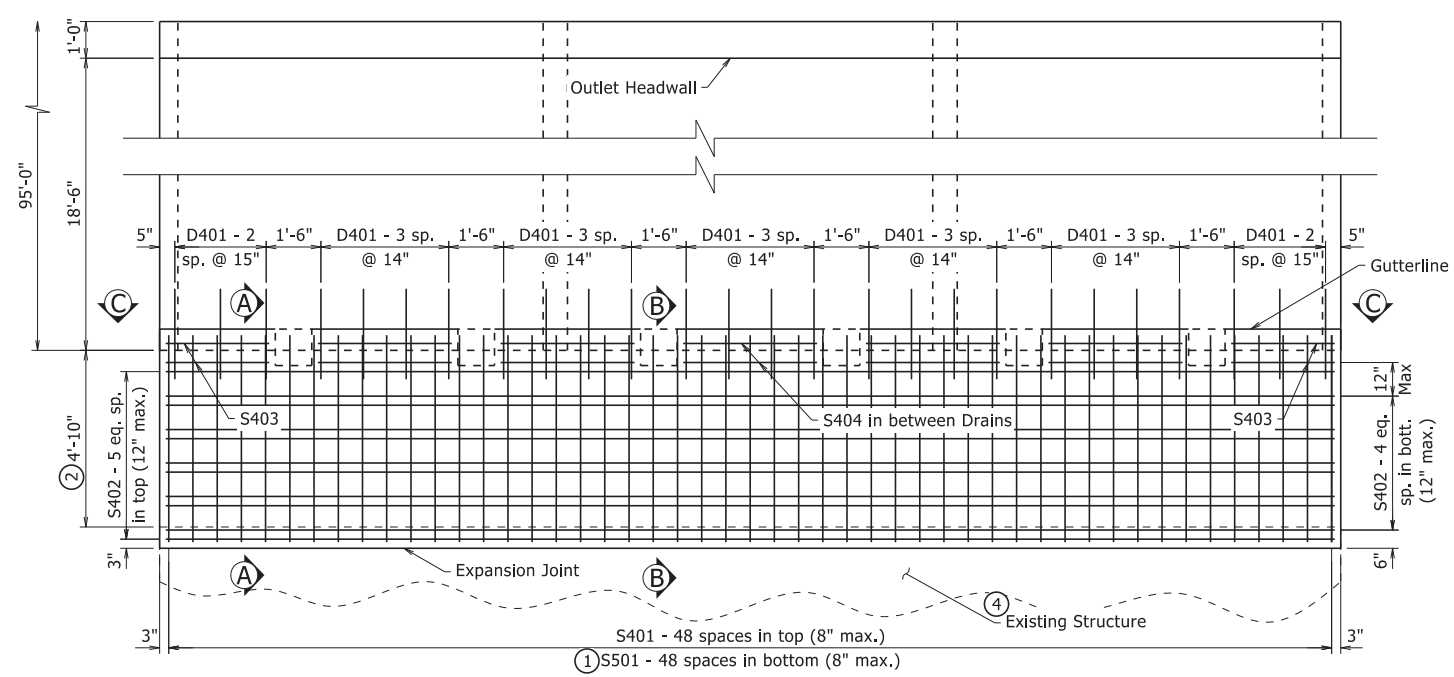
V 1.115 b040819x8_c5.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		040819	30	111



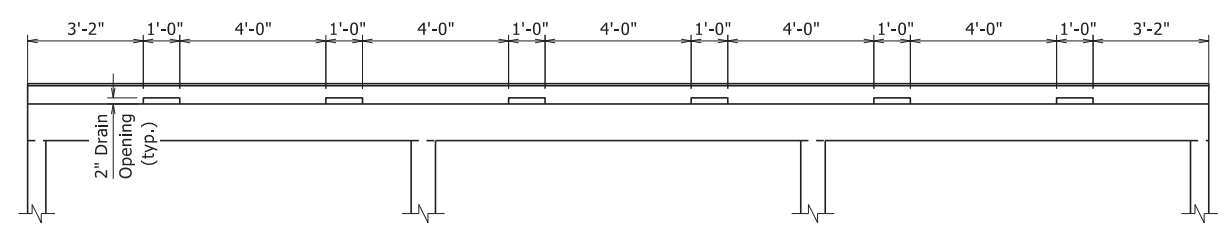
Ellis, Rick
Apr 23 2020 9:17 AM
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DRAWN BY: DPT DATE: 1/13/2020
CHECKED BY: DHP DATE: 4/22/2020



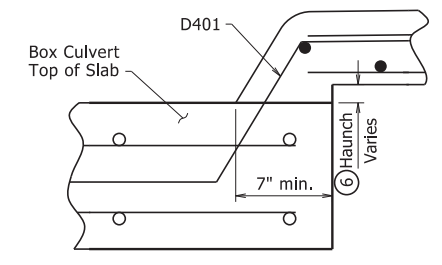
- ① Field trim bars to provide 2" concrete end cover at locations of drain openings. Cutting of reinforcing shall be performed by mechanical methods.
- ② Distance from Outlet End of Culvert to Existing Structure will need to be verified in field. Adjust reinforcing bar lengths as necessary to provide 2" concrete end cover.

SIDEWALK PLAN
No Scale

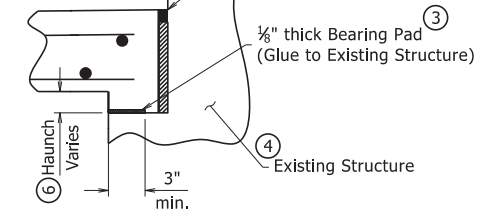


Bar positions or clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices sufficient in size and number to prevent displacement during construction, per Subsection 804.06. Placement of slab bolsters or hi-chairs with full-length lower runners directly on removable deck forms will not be allowed.

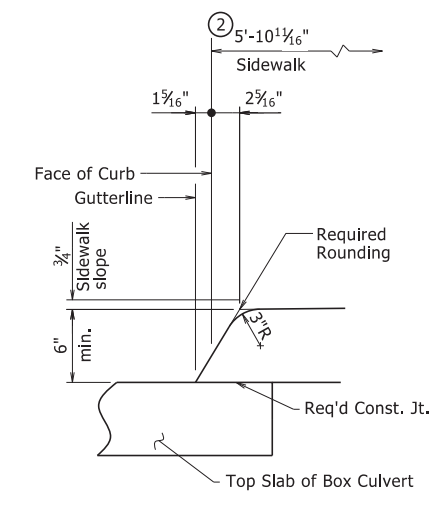
SECTION C-C
No Scale



HAUNCH DETAILS
No Scale



- ③ 1/8" thick Bearing Pad (Glue to Existing Structure)
- ④ Existing Structure
- ⑥ Haunch may be required on either end to maintain the 6" minimum thickness and the 1.04% cross slope of sidewalk. No adjustment to plan quantities will be made for this haunch adjustment.



SIDEWALK CURB DETAIL
No Scale

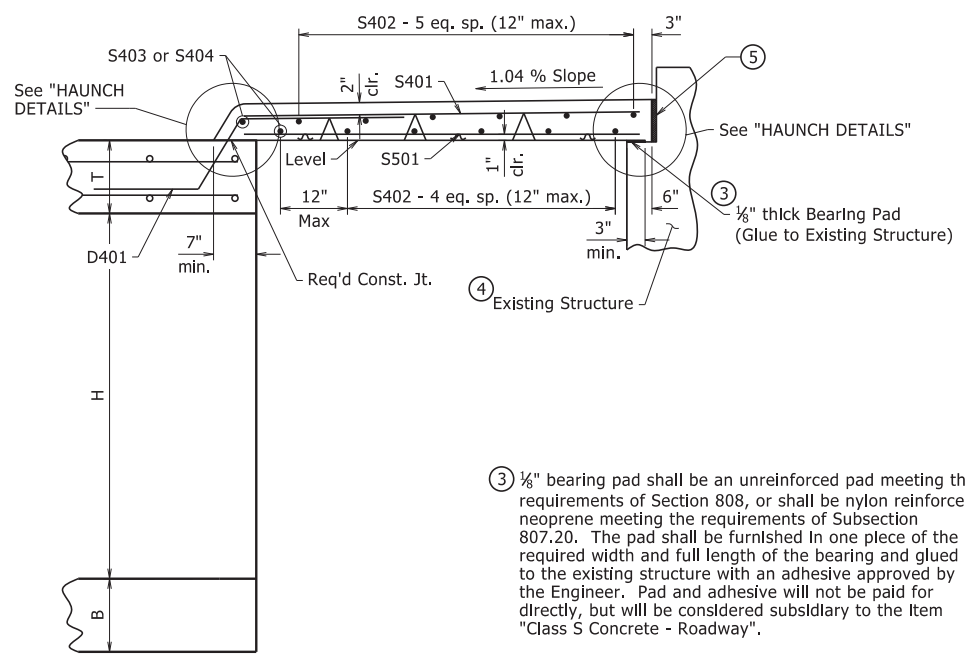
MARK	NO. REQ'D.	"X"	"Y"	LENGTH	P.D.	BENDING DIAGRAM
D401	26	-	-	4'-10"	2"	
D501	99	-	-	2'-6"	Str.	
D502	4	2'-5"	2'-2"	4'-6"	3 3/4"	
D503	8	2'-11"	2'-8"	5'-6"	3 3/4"	
D504	4	3'-7"	3'-4"	6'-10"	3 3/4"	
D505	8	-	-	1'-6"	Str.	
D601	8	-	-	3'-0"	Str.	
S401	49	-	-	5'-5"	Str.	
S402	11	-	-	32'-0"	Str.	
S403	4	-	-	2'-10"	Str.	
S404	10	-	-	3'-8"	Str.	
S501	49	-	-	5'-5"	Str.	

BAR LIST

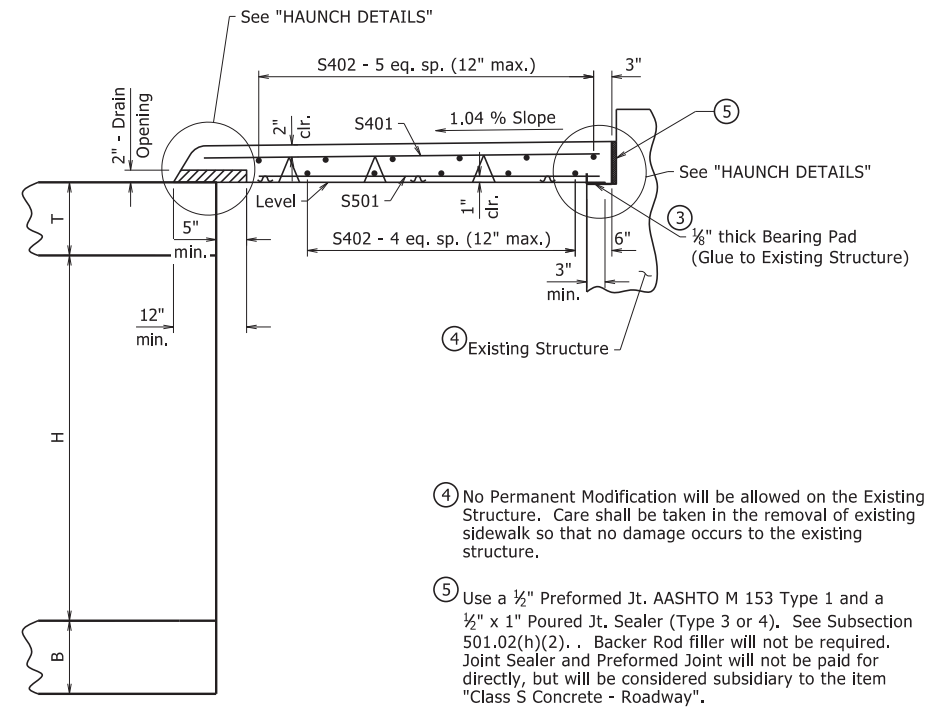
Note: Dimensions are out to out of bars.

TABLE OF QUANTITIES - BOX, WINGS, AND SIDEWALK
(FOR INFORMATION ONLY)

Reinforcing Steel - Roadway (Grade 60)	Class S Concrete - Roadway	5' Steel Chain Link Fence
40,081 lbs	289.70 Cu. Yd.	20 Lin. Ft.



SECTION A-A
No Scale



SECTION B-B
No Scale

- ④ No Permanent Modification will be allowed on the Existing Structure. Care shall be taken in the removal of existing sidewalk so that no damage occurs to the existing structure.
- ⑤ Use a 1/2" Preformed Jt. AASHTO M 153 Type 1 and a 1/2" x 1" Poured Jt. Sealer (Type 3 or 4). See Subsection 501.02(h)(2). Backer Rod filler will not be required. Joint Sealer and Preformed Joint will not be paid for directly, but will be considered subsidiary to the item "Class S Concrete - Roadway".

SHEET 5 OF 5
DETAILS OF R.C. BOX CULVERT
TRIPLE BARREL BOX CULVERT
Sta. 112+09 (Site No. 8)

SPECIAL DETAILS



V 1.115 b040819x8_c5.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		31	111
				JOB NO.	040819			

2 TEMPORARY EROSION CONTROL DETAILS

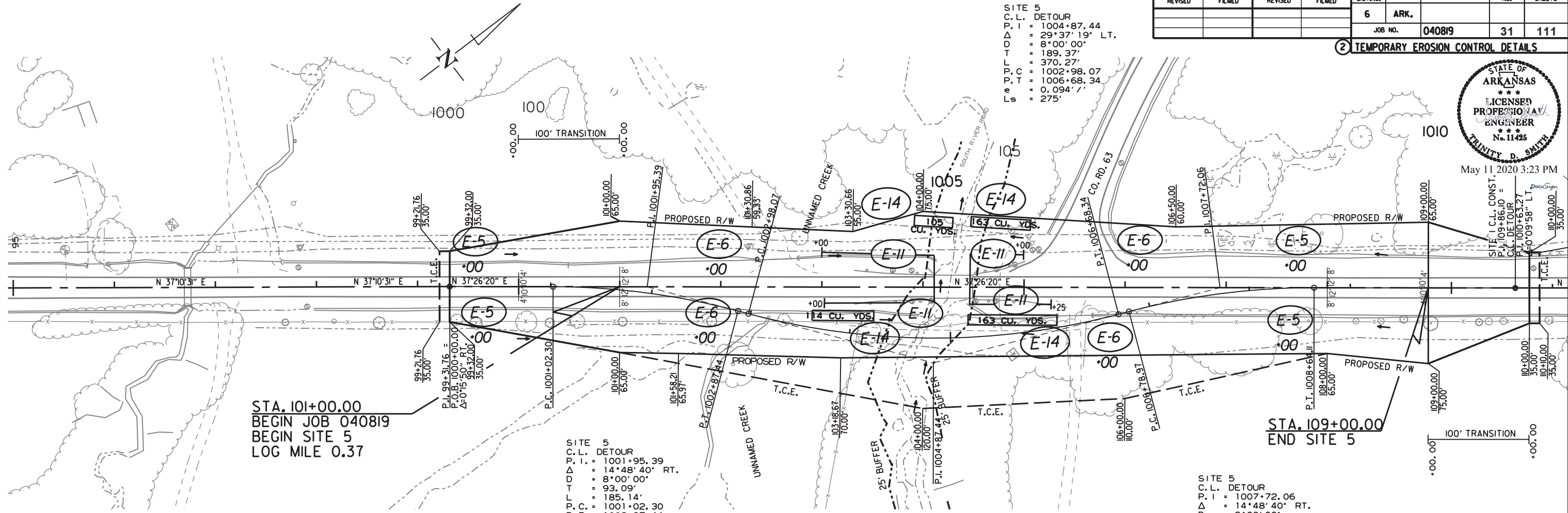


May 11 2020 3:23 PM

SITE 5
 C.L. DETOUR
 P.I. = 1004+87.44
 Δ = 29°37'19" LT.
 D = 8°00'00"
 T = 189.37'
 L = 370.27'
 P.C. = 1002+98.07
 P.T. = 1006+68.34
 e = 0.094' /'
 Ls = 275'

SITE 5
 C.L. DETOUR
 P.I. = 1001+95.39
 Δ = 14°48'40" RT.
 D = 8°00'00"
 T = 93.09'
 L = 185.14'
 P.C. = 1001+02.30
 P.T. = 1002+87.44
 NO SUPER

SITE 5
 C.L. DETOUR
 P.I. = 1007+72.06
 Δ = 14°48'40" RT.
 D = 8°00'00"
 T = 93.09'
 L = 185.14'
 P.C. = 1006+78.97
 P.T. = 1008+64.11
 NO SUPER



QUANTITIES:

CLEARING AND GRUBBING STAGE
 SITE 5:
 DITCH CHECKS E-5 SAND BAGS = 4 LOCATIONS (88 BAGS)
 DITCH CHECKS E-6 ROCK = 4 LOCATIONS (12 CU. YDS.)
 SILT FENCE E-11 = 450 LIN. FT.
 SEDIMENT BASINS E-14 = 545 CU. YDS.
 SITE 6:
 DITCH CHECKS E-5 SAND BAGS = 10 LOCATIONS (220 BAGS)
 DITCH CHECKS E-6 ROCK = 6 LOCATIONS (18 CU. YDS.)
 SILT FENCE E-11 = 1960 LIN. FT.
 SEDIMENT BASINS E-14 = 1940 CU. YDS.

REVISIONS

DATE OF REVISION	REVISION

LEGEND

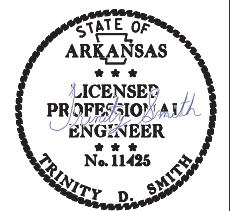
(E-5) = SAND BAG DITCH CHECKS
 (E-6) = ROCK DITCH CHECKS
 (E-11) = SILT FENCE
 (E-14) = SEDIMENT BASIN
 XX CU FT

TEMPORARY EROSION CONTROL DETAILS
 CLEARING AND GRUBBING
 SITE 5 - HWY. 96

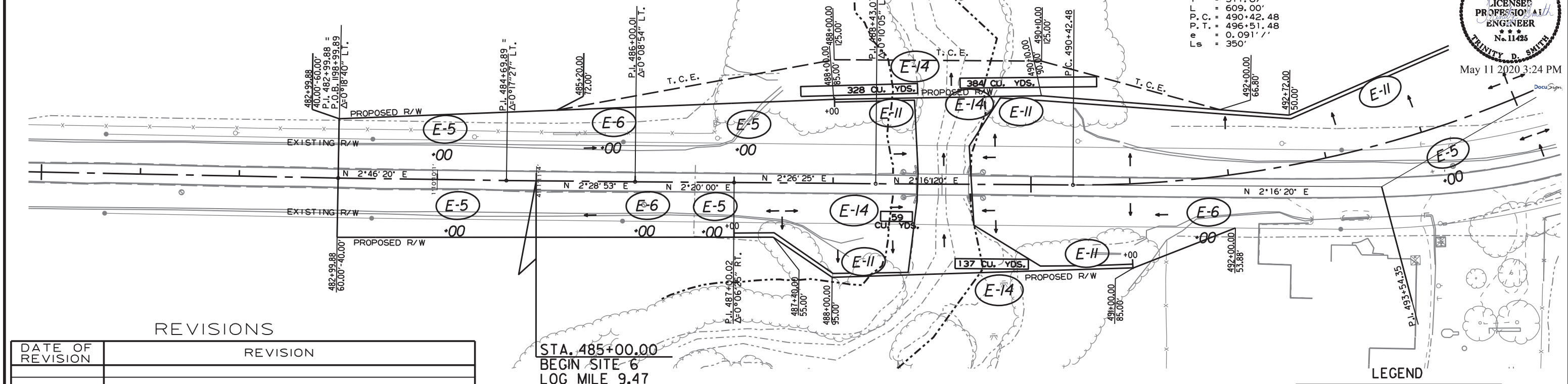
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				6	ARK.		32	111
				JOB NO. 040819				

2 TEMPORARY EROSION CONTROL DETAILS

SITE 6
 C.L. CONST.
 P.I. = 493+54.35
 Δ = 30°27'01" LT.
 D = 5'00'00"
 T = 311.87'
 P.C. = 490+42.48
 P.T. = 496+51.48
 e = 0.091' / '
 Ls = 350'



480



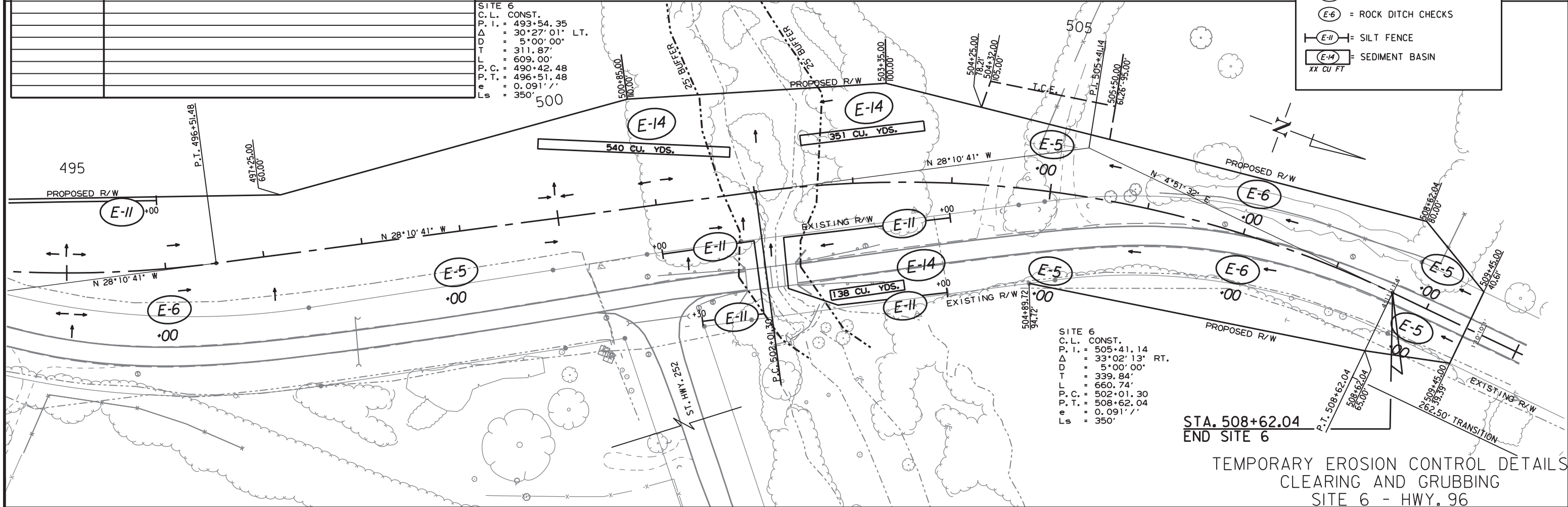
REVISIONS

DATE OF REVISION	REVISION

STA. 485+00.00
 BEGIN SITE 6
 LOG MILE 9.47

LEGEND

(E-5)	= SAND BAG DITCH CHECKS
(E-6)	= ROCK DITCH CHECKS
(E-11)	= SILT FENCE
(E-14)	= SEDIMENT BASIN
XX CU FT	



SITE 6
 C.L. CONST.
 P.I. = 505+41.14
 Δ = 33°02'13" RT.
 D = 5'00'00"
 T = 339.84'
 L = 660.74'
 P.C. = 502+01.30
 P.T. = 508+62.04
 e = 0.091' / '
 Ls = 350'

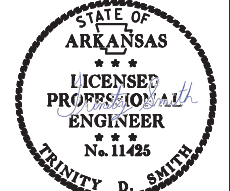
STA. 508+62.04
 END SITE 6

TEMPORARY EROSION CONTROL DETAILS
 CLEARING AND GRUBBING
 SITE 6 - HWY. 96

R040625.DGN 2/10/2020

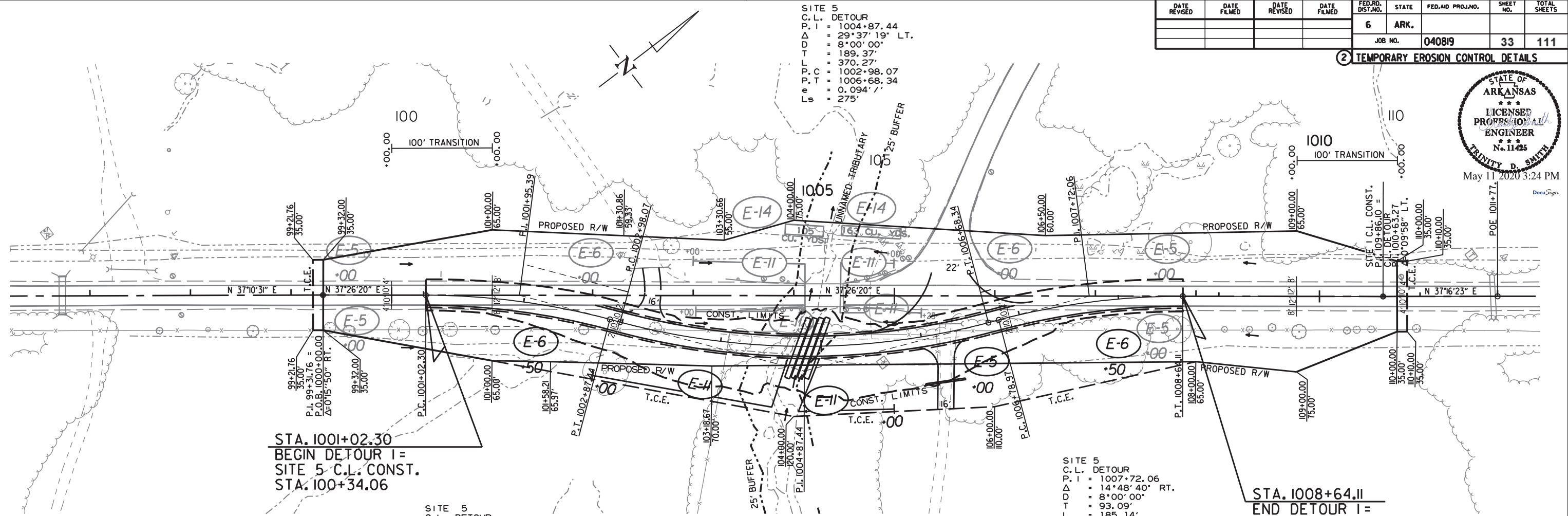
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				6	ARK.			
				JOB NO.	040819		33	111

TEMPORARY EROSION CONTROL DETAILS



May 11 2020 3:24 PM
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SITE 5
C.L. DETOUR
P.I. = 1004+87.44
Δ = 29°37'19" LT.
D = 8°00'00"
T = 189.37'
L = 370.27'
P.C. = 1002+98.07
P.T. = 1006+68.34
e = 0.094' /'
Ls = 275'



STA. 1001+02.30
BEGIN DETOUR 1 =
SITE 5 C.L. CONST.
STA. 100+34.06

STA. 1008+64.11
END DETOUR 1 =
SITE 5 C.L. CONST.
STA. 107+86.94

SITE 5
C.L. DETOUR
P.I. = 1001+95.39
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1001+02.30
P.T. = 1002+87.44
NO SUPER

SITE 5
C.L. DETOUR
P.I. = 1007+72.06
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1006+78.97
P.T. = 1008+64.11
NO SUPER

QUANTITIES:
STAGE 1
SITE 5:
DITCH CHECKS E-5 SAND BAGS = 1 LOCATIONS (22 BAGS)
DITCH CHECKS E-6 ROCK = 2 LOCATIONS (6 CU. YDS.)
SILT FENCE E-11 = 415 LIN. FT.
SITE 6:
DITCH CHECKS E-5 SAND BAGS = 4 LOCATIONS (88 BAGS)
DITCH CHECKS E-6 ROCK = 3 LOCATIONS (9 CU. YDS.)
SILT FENCE E-11 = 810 LIN. FT.

REVISIONS

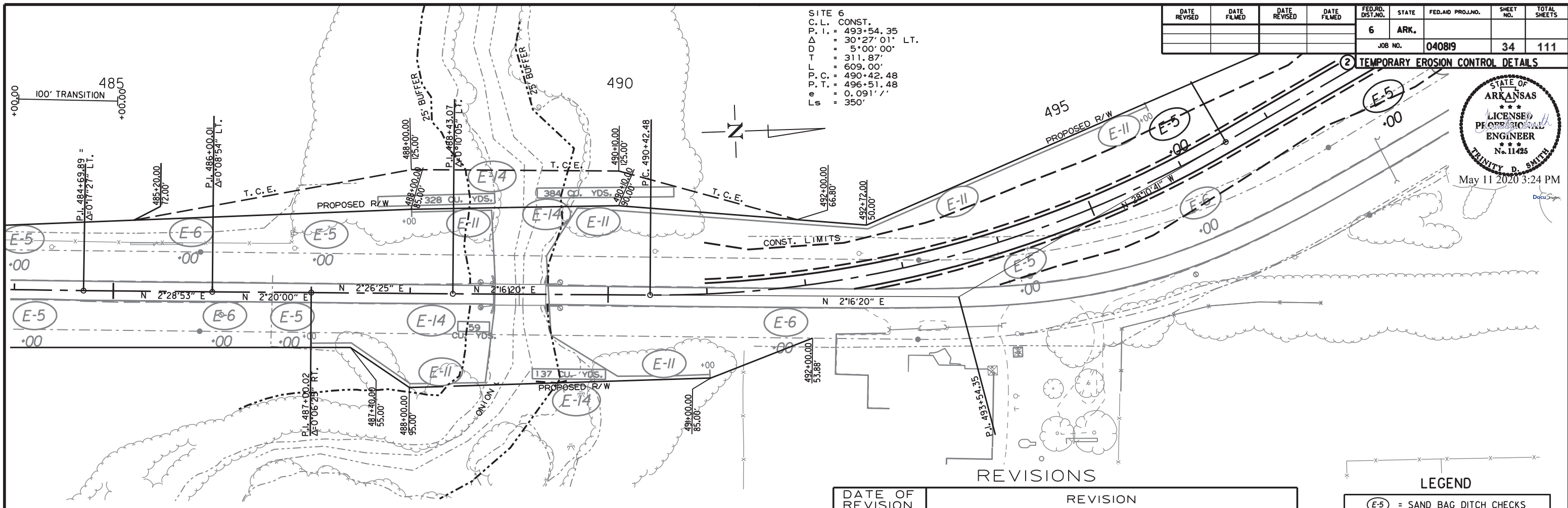
DATE OF REVISION	REVISION

LEGEND

(E-5) = SAND BAG DITCH CHECKS
 (E-6) = ROCK DITCH CHECKS
 (E-11) = SILT FENCE
 (E-14) = SEDIMENT BASIN
 XX CU FT

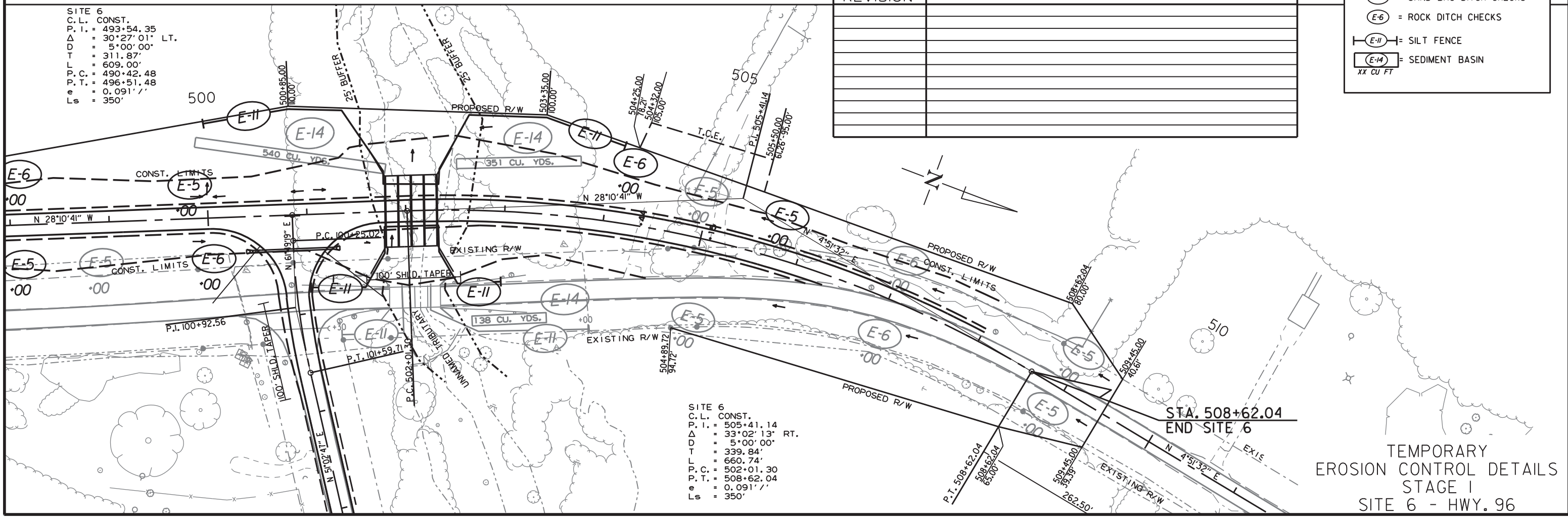
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				6	ARK.		34	111
				JOB NO.	040819			

② TEMPORARY EROSION CONTROL DETAILS



DATE OF REVISION	REVISION

LEGEND	
	= SAND BAG DITCH CHECKS
	= ROCK DITCH CHECKS
	= SILT FENCE
	= SEDIMENT BASIN



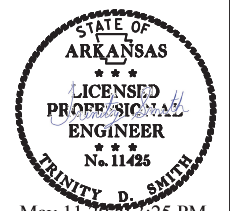
SITE 6
 C.L. CONST.
 P. I. = 505+41.14
 Δ = 33°02'13" RT.
 D = 5°00'00"
 T = 339.84'
 L = 660.74'
 P.C. = 502+01.30
 P.T. = 508+62.04
 e = 0.091' / '
 Ls = 350'

STA. 508+62.04
 END SITE 6

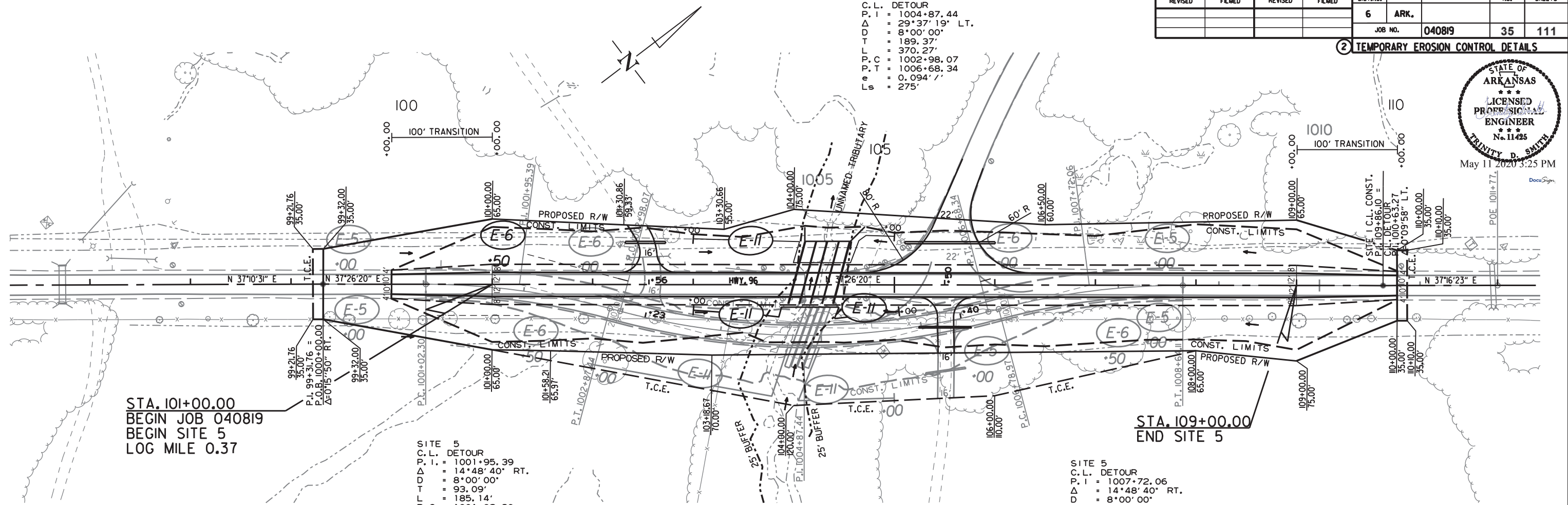
TEMPORARY
 EROSION CONTROL DETAILS
 STAGE I
 SITE 6 - HWY. 96

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		35	111

2 TEMPORARY EROSION CONTROL DETAILS



SITE 5
 C.L. DETOUR
 P.I. = 1004+87.44
 Δ = 29°37'19" LT.
 D = 8°00'00"
 T = 189.37'
 L = 370.27'
 P.C. = 1002+98.07
 P.T. = 1006+68.34
 e = 0.094' /'
 Ls = 275'



STA. 101+00.00
 BEGIN JOB 040819
 BEGIN SITE 5
 LOG MILE 0.37

SITE 5
 C.L. DETOUR
 P.I. = 1001+95.39
 Δ = 14°48'40" RT.
 D = 8°00'00"
 T = 93.09'
 L = 185.14'
 P.C. = 1001+02.30
 P.T. = 1002+87.44
 NO SUPER

SITE 5
 C.L. DETOUR
 P.I. = 1007+72.06
 Δ = 14°48'40" RT.
 D = 8°00'00"
 T = 93.09'
 L = 185.14'
 P.C. = 1006+78.97
 P.T. = 1008+64.11
 NO SUPER

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
XX CU FT

QUANTITIES:

- STAGE 2
- SITE 5:
- DITCH CHECKS E-6 ROCK = 1 LOCATIONS (3 CU. YDS.)
- SILT FENCE E-11 = 470 LIN. FT.
- SITE 6:
- DITCH CHECKS E-5 SAND BAGS = 3 LOCATIONS (66 BAGS)
- DITCH CHECKS E-6 ROCK = 3 LOCATIONS (9 CU. YDS.)
- SILT FENCE E-11 = 1360 LIN. FT.

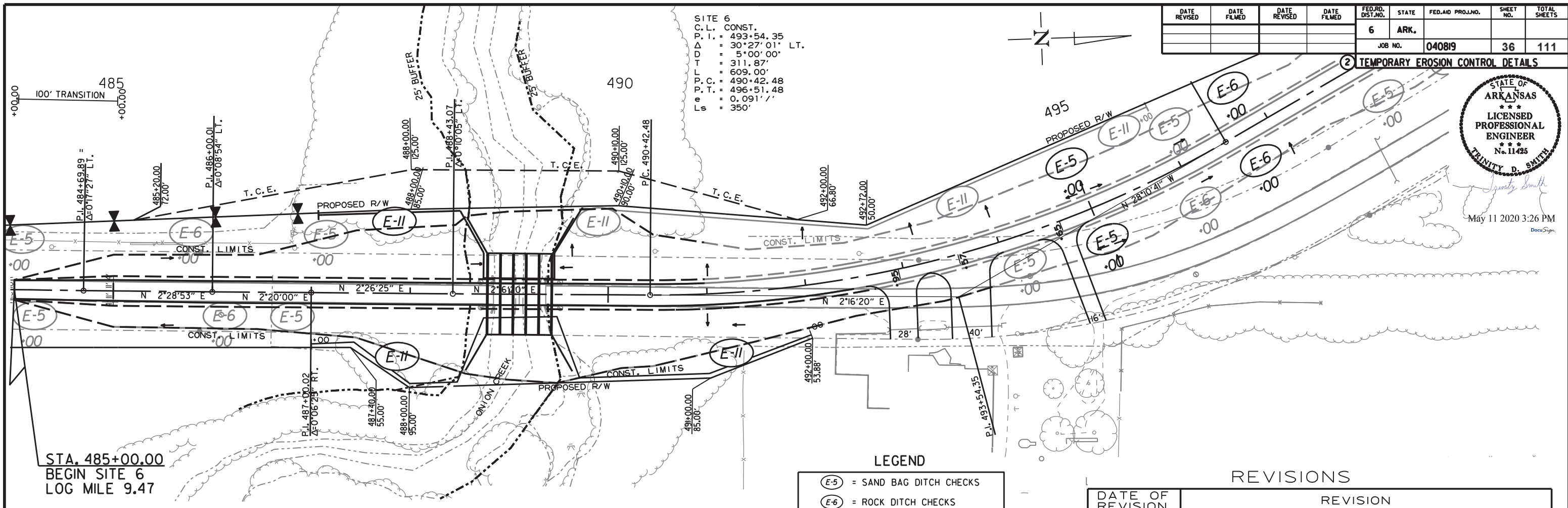
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				6	ARK.		36	111

2 TEMPORARY EROSION CONTROL DETAILS



May 11 2020 3:26 PM
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SITE 6
C.L. CONST.
P. I. = 493+54.35
Δ = 30°27'01" LT.
D = 5°00'00"
T = 311.87'
L = 609.00'
P.C. = 490+42.48
P.T. = 496+51.48
e = 0.091' /'
Ls = 350'



STA. 485+00.00
BEGIN SITE 6
LOG MILE 9.47

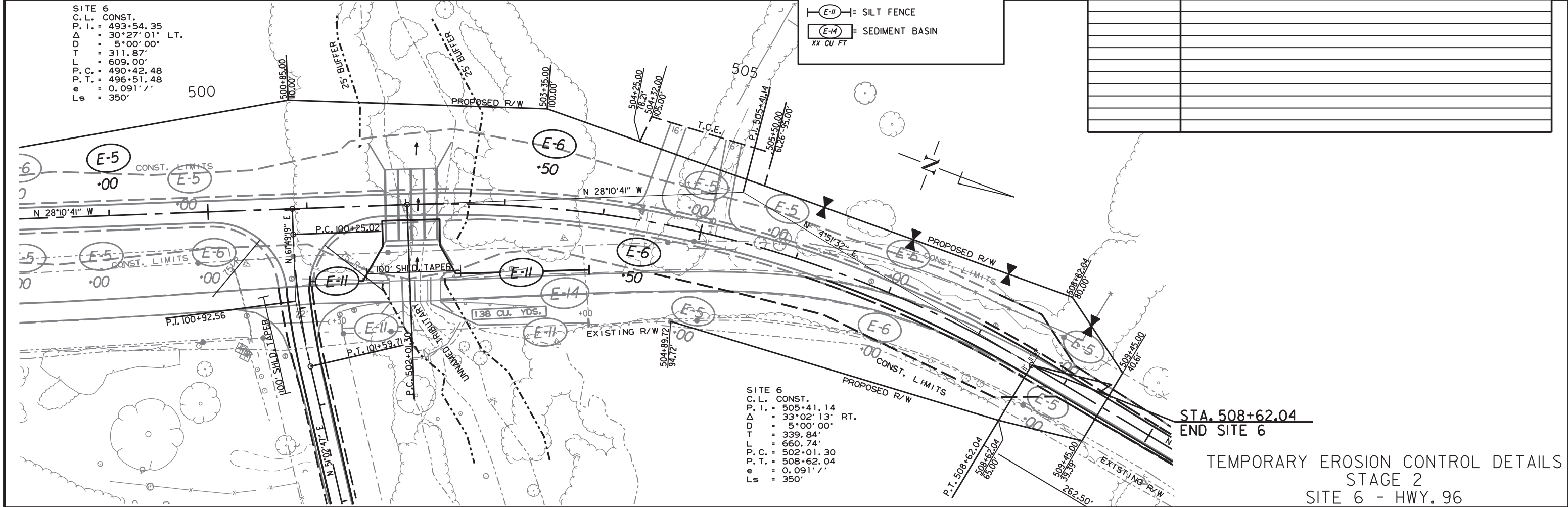
LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
- XX CU FT

REVISIONS

DATE OF REVISION	REVISION

SITE 6
C.L. CONST.
P. I. = 493+54.35
Δ = 30°27'01" LT.
D = 5°00'00"
T = 311.87'
L = 609.00'
P.C. = 490+42.48
P.T. = 496+51.48
e = 0.091' /'
Ls = 350'



SITE 6
C.L. CONST.
P. I. = 505+41.14
Δ = 33°02'13" RT.
D = 5°00'00"
T = 339.84'
L = 660.74'
P.C. = 502+01.30
P.T. = 508+62.04
e = 0.091' /'
Ls = 350'

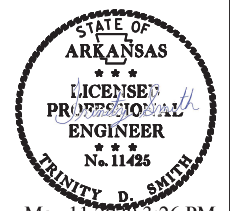
STA. 508+62.04
END SITE 6

TEMPORARY EROSION CONTROL DETAILS
STAGE 2
SITE 6 - HWY. 96

R040625.DCN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		37	111
				JOB NO.	040819			

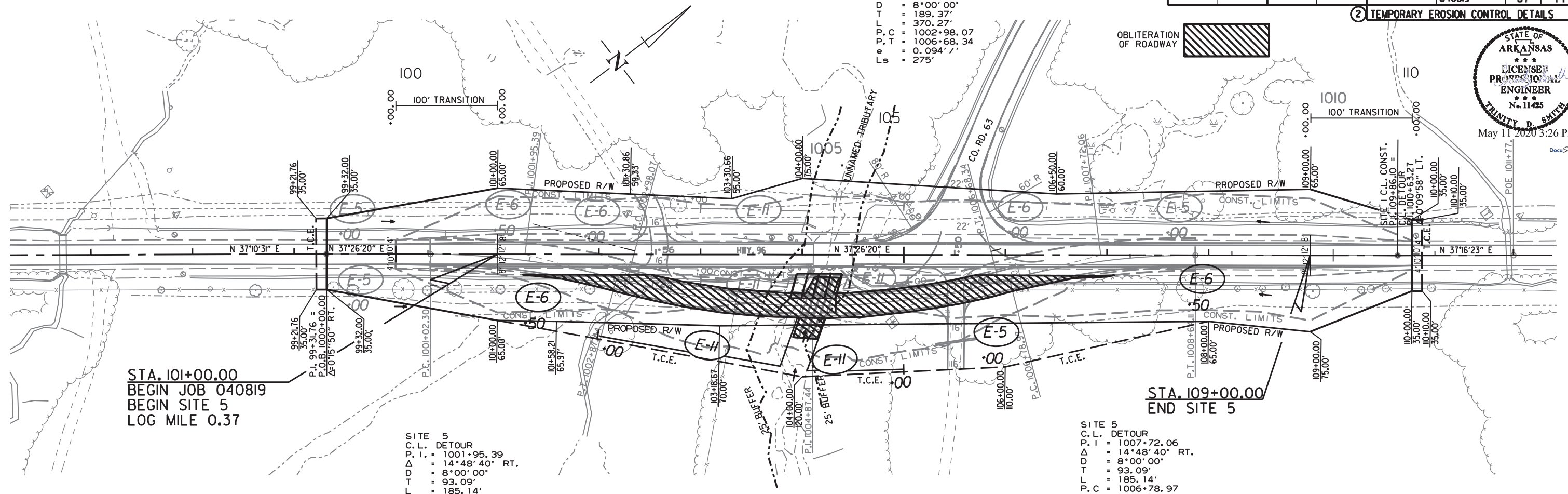
2 TEMPORARY EROSION CONTROL DETAILS



May 11 2020 3:26 PM
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SITE 5
C.L. DETOUR
P.I. = 1004+87.44
 Δ = 29°37'19" LT.
D = 8°00'00"
T = 189.37'
L = 370.27'
P.C. = 1002+98.07
P.T. = 1006+68.34
e = 0.094'
Ls = 275'

OBLITERATION OF ROADWAY



STA. 101+00.00
BEGIN JOB 040819
BEGIN SITE 5
LOG MILE 0.37

STA. 109+00.00
END SITE 5

SITE 5
C.L. DETOUR
P.I. = 1001+95.39
 Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1001+02.30
P.T. = 1002+87.44
NO SUPER

SITE 5
C.L. DETOUR
P.I. = 1007+72.06
 Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1006+78.97
P.T. = 1008+64.11
NO SUPER

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
XX CU FT

QUANTITIES:

- STAGE 3
SITE 5:
DITCH CHECKS E-5 SAND BAGS = 1 LOCATIONS (22 BAGS)
DITCH CHECKS E-6 ROCK = 2 LOCATIONS (6 CU. YDS.)
SILT FENCE E-11 = 410 LIN. FT.
- SITE 6:
DITCH CHECKS E-5 SAND BAGS = 8 LOCATIONS (176 BAGS)
DITCH CHECKS E-6 ROCK = 6 LOCATIONS (18 CU. YDS.)
SILT FENCE E-11 = 1235 LIN. FT.

TEMPORARY EROSION CONTROL DETAILS
STAGE 3
SITE 5 - HWY. 96

2/10/2020
R040625.DGN

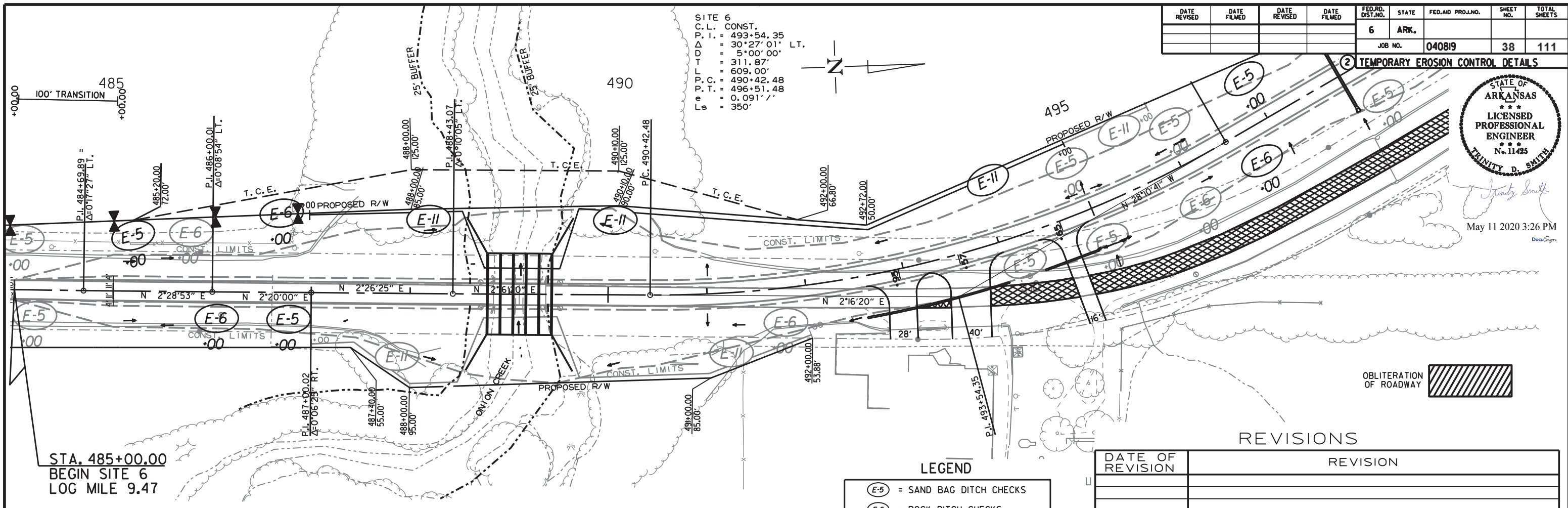
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				6	ARK.		38	111
				JOB NO.		040819		

SITE 6
 C.L. CONST.
 P.I. = 493+54.35
 Δ = 30°27'01" LT.
 D = 5'00'00"
 T = 311.87'
 L = 609.00'
 P.C. = 490+42.48
 P.T. = 496+51.48
 e = 0.091' /'
 Ls = 350'



Trinity D. Smith
 May 11 2020 3:26 PM
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TEMPORARY EROSION CONTROL DETAILS

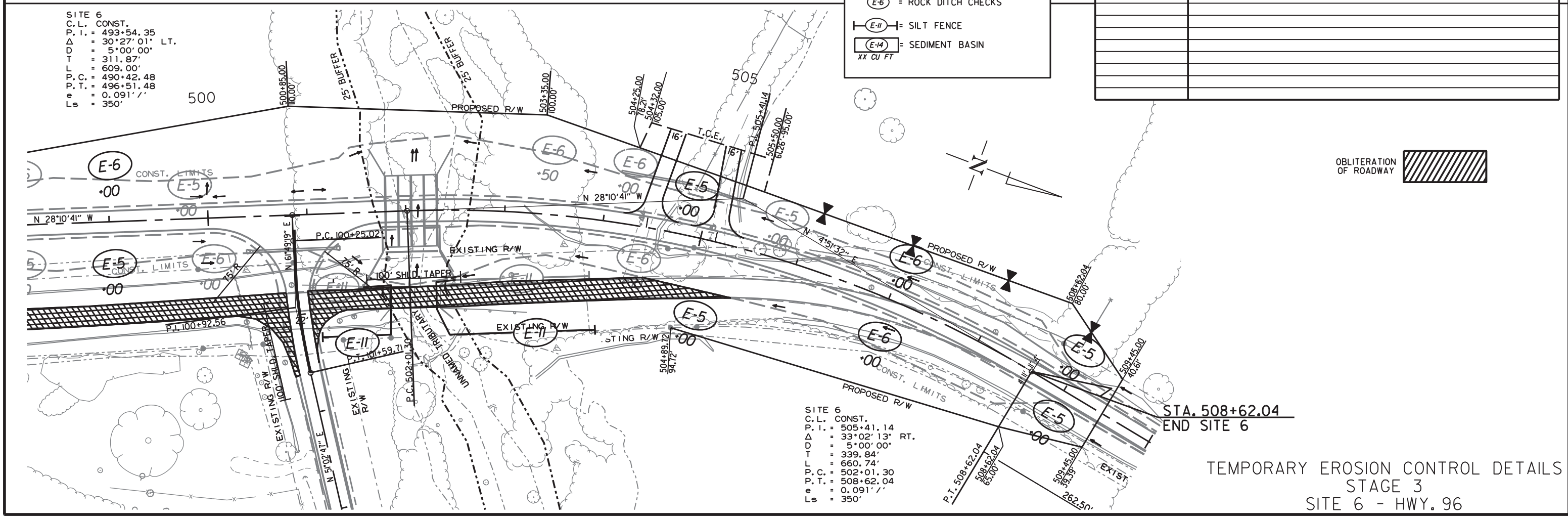


LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
XX CU FT

REVISIONS

DATE OF REVISION	REVISION



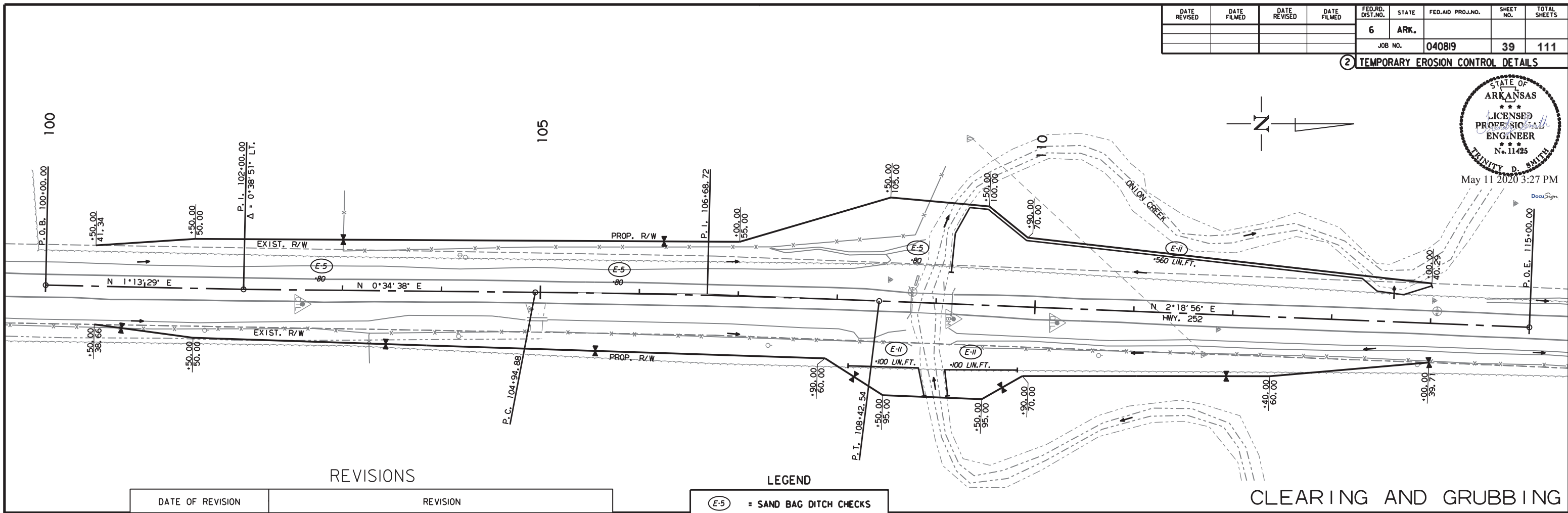
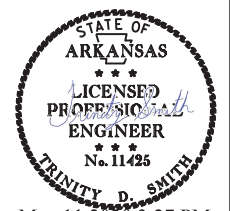
SITE 6
 C.L. CONST.
 P.I. = 505+41.14
 Δ = 33°02'13" RT.
 D = 5'00'00"
 T = 339.84'
 L = 660.74'
 P.C. = 502+01.30
 P.T. = 508+62.04
 e = 0.091' /'
 Ls = 350'

TEMPORARY EROSION CONTROL DETAILS
 STAGE 3
 SITE 6 - HWY. 96

R040625.DCN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		39	111
				JOB NO.		040819		

② TEMPORARY EROSION CONTROL DETAILS



REVISIONS

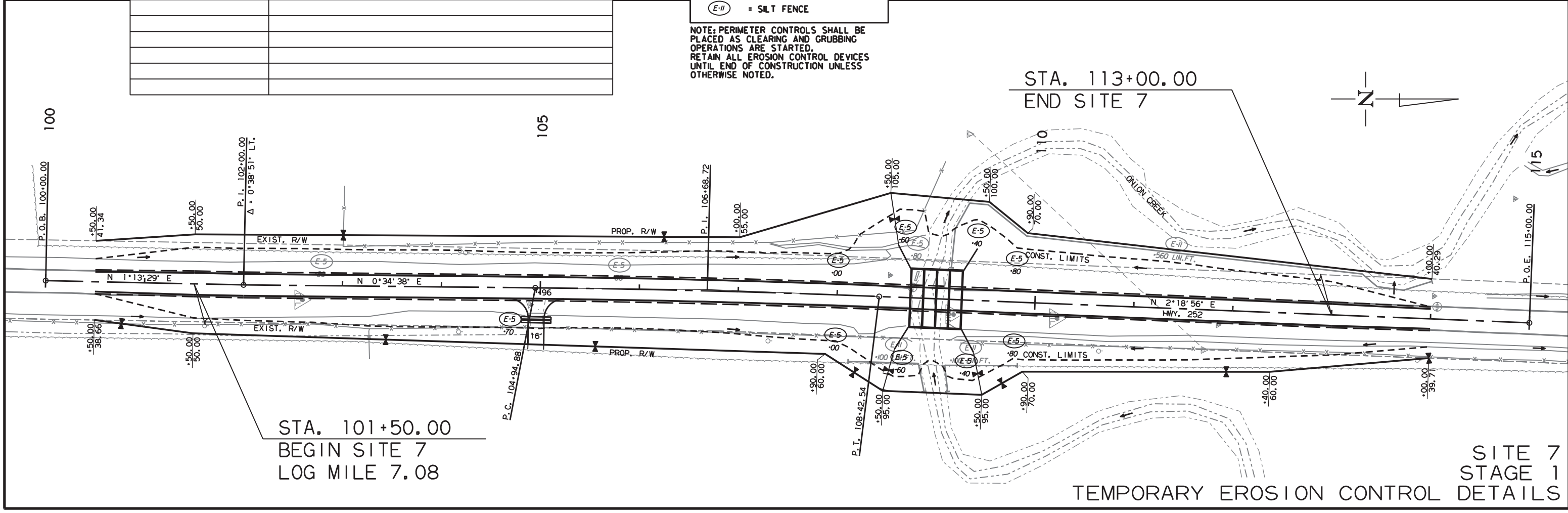
DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-II) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

CLEARING AND GRUBBING

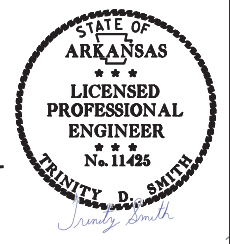


TEMPORARY EROSION CONTROL DETAILS

SITE 7
STAGE 1

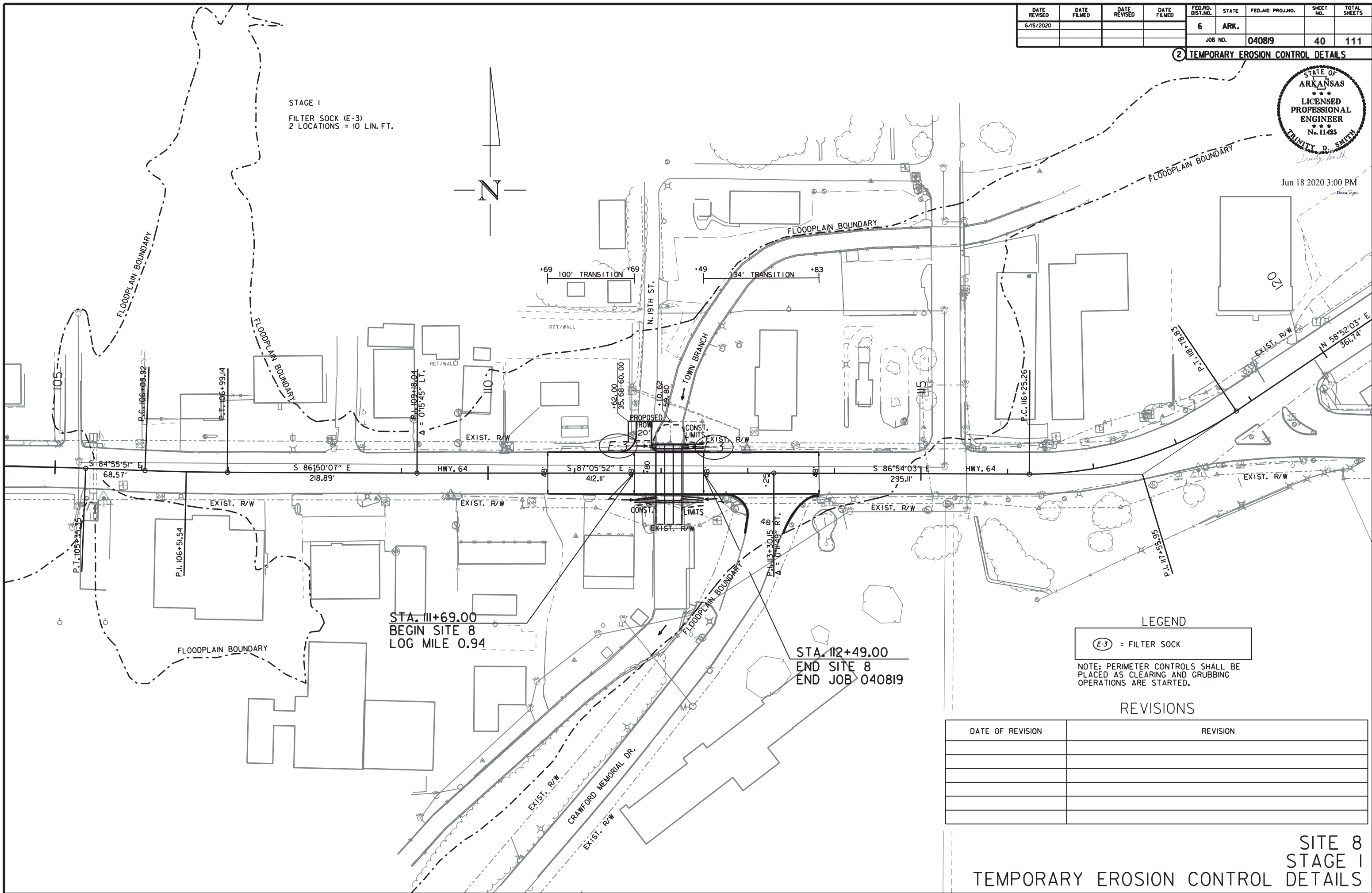
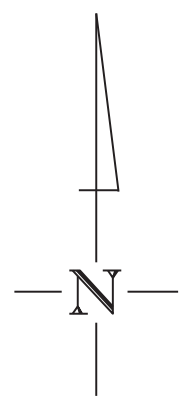
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6/15/2020				6	ARK.		40	111
				JOB NO.	040819			

② TEMPORARY EROSION CONTROL DETAILS



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STAGE I
FILTER SOCK (E-3)
2 LOCATIONS = 10 LIN. FT.



LEGEND
 (E-3) = FILTER SOCK
 NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

REVISIONS

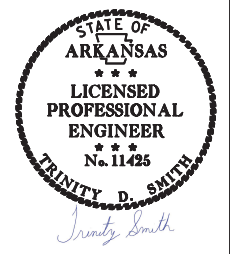
DATE OF REVISION	REVISION

SITE 8
STAGE I
TEMPORARY EROSION CONTROL DETAILS

TW39665 1/17/2020
R040802.DGN

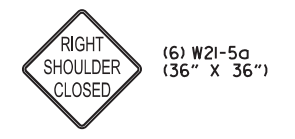
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				6	ARK.		41	111
				JOB NO.	040819			

② MAINTENANCE OF TRAFFIC DETAILS

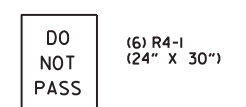


May 11 2020 3:27 PM
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NOTE:
ADVANCE SIGNS AT ALL LOCATIONS ARE TO BE RETAINED THROUGH ALL STAGES OF CONSTRUCTION.



IF AND WHERE DIRECTED BY THE ENGINEER, RETAIN THROUGH ALL STAGES.



AT SAME LOCATIONS AS G20-1 AND AT HALF-MILE INTERVALS THROUGH LENGTH OF JOB. RETAIN THROUGH ALL STAGES.

SEQUENCING:

STAGE 1:

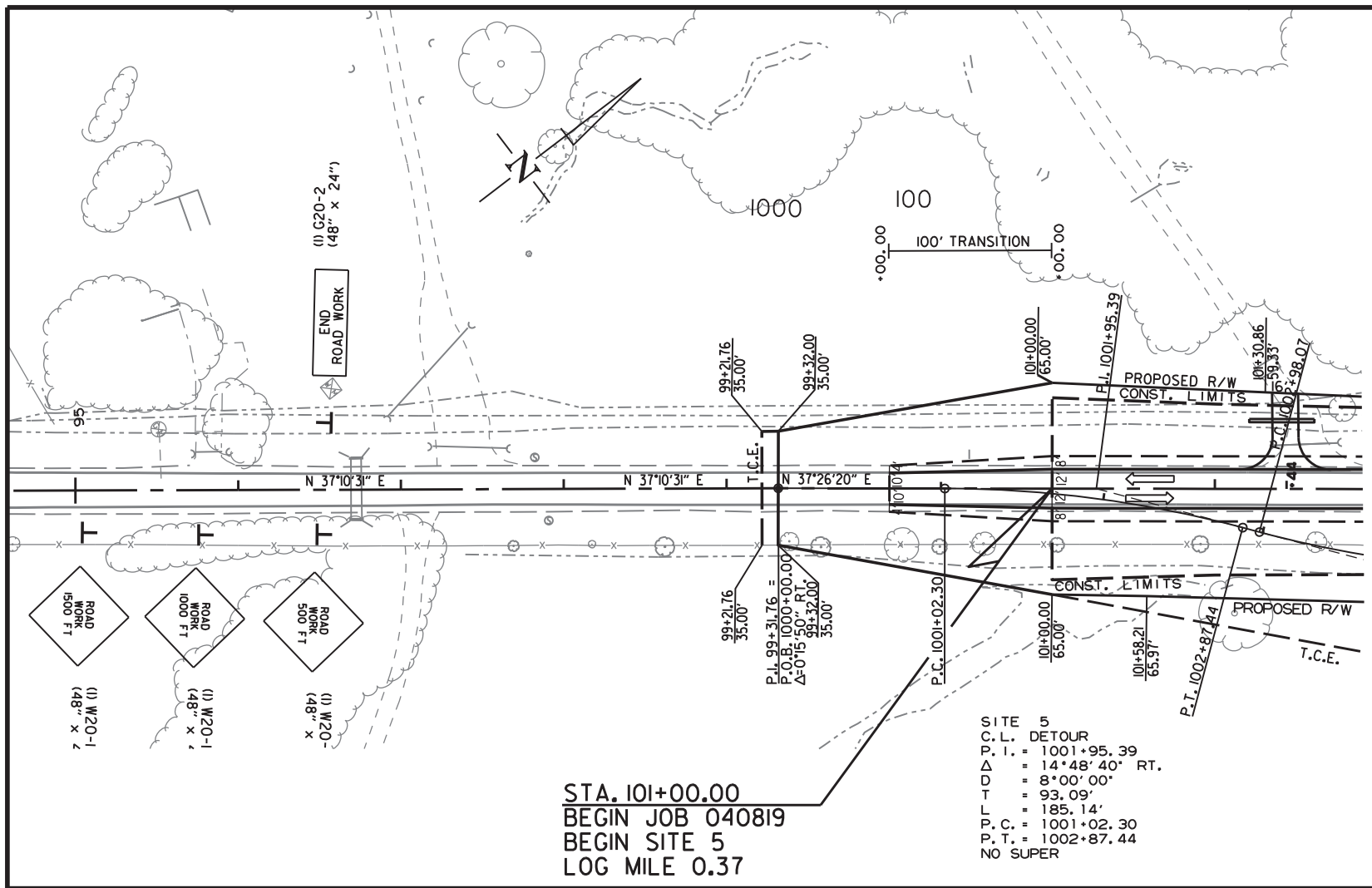
SITE 5
CONSTRUCT DETOUR.
CONSTRUCT TEMPORARY DRIVE ON RT.
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
INSTALL CONSTRUCTION PAVEMENT MARKINGS.
PERFORM LEVELING OPERATIONS, WHERE APPLICABLE.

STAGE 2:

SITE 5
SHIFT TRAFFIC ONTO DETOUR.
REMOVE EXISTING BRIDGE.
CONSTRUCT MOST OF R.C. BOX CULVERT AT STA. 104+32.00, LT. OF DETOUR.
NOTCH AND WIDEN LT. AND RT. OF EXISTING ROADWAY.
CONSTRUCT MINOR DRAINAGE STRUCTURES AND DRIVES, WHERE APPLICABLE.
INSTALL CONSTRUCTION PAVEMENT MARKINGS.

STAGE 3:

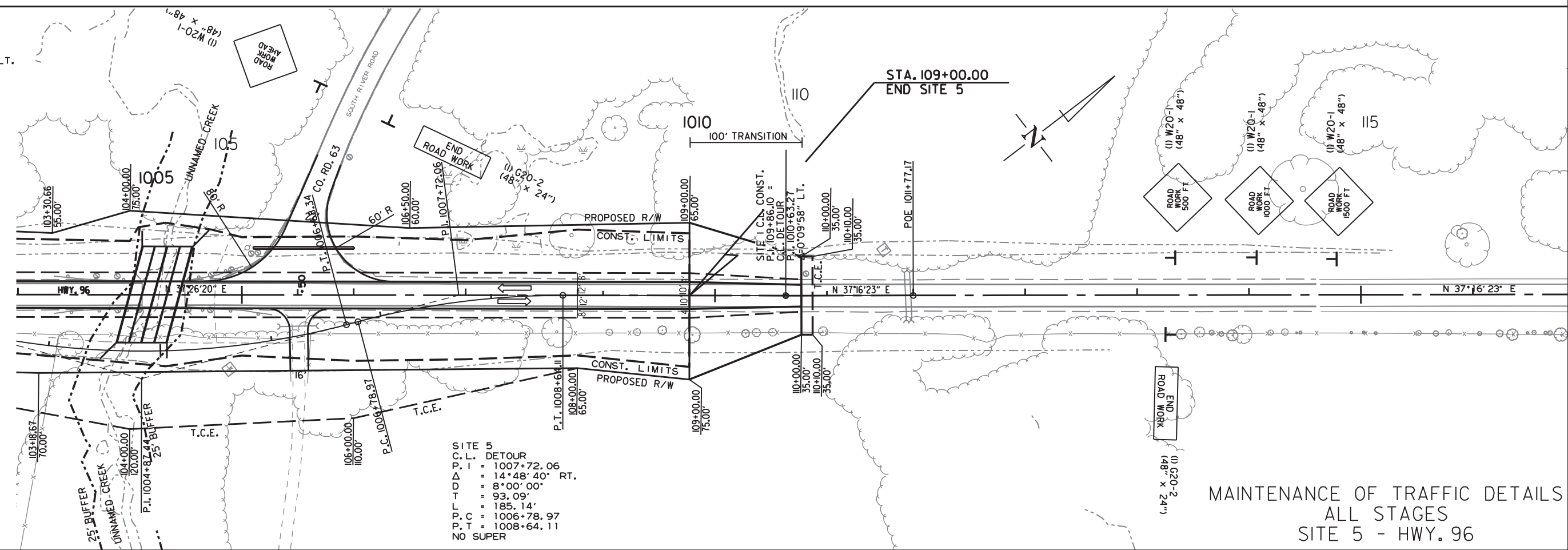
SITE 5
SHIFT TRAFFIC TO MAIN LANES.
INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.
OBLITERATE DETOUR.
COMPLETE CONSTRUCTION OF R.C. BOX CULVERT ON RT.



STA. 101+00.00
BEGIN JOB 040819
BEGIN SITE 5
LOG MILE 0.37

SITE 5
C.L. DETOUR
P. I. = 1001+95.39
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P. C. = 1001+02.30
P. T. = 1002+87.44
NO SUPER

SITE 5
C.L. DETOUR
P. I. = 1004+87.44
Δ = 29°37'19" LT.
D = 8°00'00"
T = 189.37'
L = 370.27'
P. C. = 1002+98.07
P. T. = 1006+68.34
e = 0.094'
Ls = 275'



STA. 109+00.00
END SITE 5

SITE 5
C.L. DETOUR
P. I. = 1007+72.06
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P. C. = 1006+78.97
P. T. = 1008+64.11
NO SUPER

MAINTENANCE OF TRAFFIC DETAILS
ALL STAGES
SITE 5 - HWY. 96

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		42	111

② MAINTENANCE OF TRAFFIC DETAILS



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SITE 5
C.L. DETOUR
P.I. = 1004+87.44
Δ = 29°37'19" LT.
D = 8°00'00"
T = 189.37'
L = 370.27'
P.C. = 1002+98.07
P.T. = 1006+68.34
e = 0.094' /'
Ls = 275'

14 VERTICAL PANELS
(55' O.C.)

STA. 1001+02.30
BEGIN DETOUR 1 =
SITE 5 C.L. CONST.
STA. 100+34.06

STA. 1008+64.11
END DETOUR 1 =
SITE 5 C.L. CONST.
STA. 107+86.94

SITE 5
C.L. DETOUR
P.I. = 1001+95.39
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1001+02.30
P.T. = 1002+87.44
NO SUPER

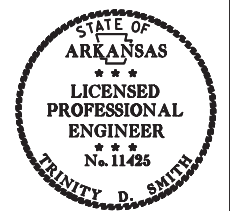
SITE 5
C.L. DETOUR
P.I. = 1007+72.06
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1006+78.97
P.T. = 1008+64.11
NO SUPER

- QUANTITIES:
STAGE 1
- VERTICAL PANELS @ 55' O.C. = 35 EACH
 - TRAFFIC DRUMS @ 10' O.C. = 75 EACH
 - TRAFFIC DRUMS @ 20' O.C. = 10 EACH
- CONSTRUCTION PAVEMENT MARKINGS
- 6" DBL. YELLOW = 6863 LIN. FT.
 - 6" WHITE = 6863 LIN. FT.
- TYPE III BARRICADE (8')
- LT. = 5 EACH
 - RT. = 5 EACH
- RAISED PAVEMENT MARKINGS (TYPE III) (80' O.C.)
- YELLOW/YELLOW = 86 EACH

R040625.DGN 2/10/2020

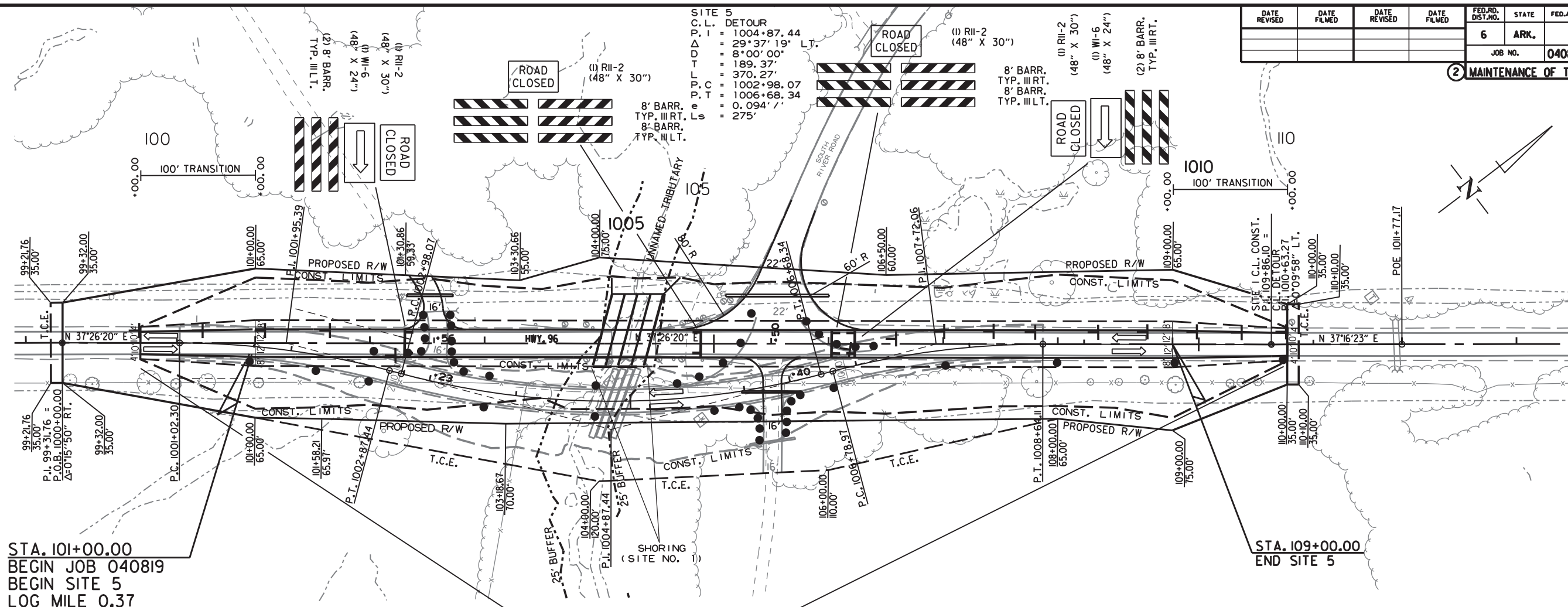
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				6	ARK.		43	111

② MAINTENANCE OF TRAFFIC DETAILS



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STA. 101+00.00
BEGIN JOB 040819
BEGIN SITE 5
LOG MILE 0.37

STA. 109+00.00
END SITE 5

SITE 5
C.L. DETOUR
P.I. = 1001+95.39
Δ = 14°48'40" RT.
D = 8'00'00"
T = 93.09'
L = 185.14'
P.C. = 1001+02.30
P.T. = 1002+87.44
NO SUPER

14 VERTICAL PANELS
(55' O.C.)

QUANTITIES:
STAGE 2

VERTICAL PANELS @ 55' O.C. = 24 EACH
TRAFFIC DRUMS @ 10' O.C. = 68 EACH
TRAFFIC DRUMS @ 20' O.C. = 30 EACH
TRAFFIC DRUMS @ 110' O.C. = 39 EACH

CONSTRUCTION PAVEMENT MARKINGS
6" DBL. YELLOW = 1820 LIN. FT.
6" WHITE = 1820 LIN. FT.

TYPE III BARRICADE (8')
LT. = 11 EACH
RT. = 11 EACH

REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 100+34.06 TO STA. 103+00.00 = 1063.76 LIN. FT.
STA. 106+00.00 TO STA. 107+86.94 = 747.76 LIN. FT.
STA. 504+00.00 TO STA. 507+00.00 = 1200 LIN. FT.

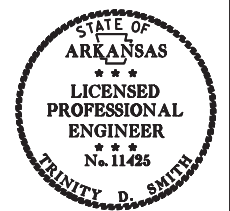
RAISED PAVEMENT MARKINGS (TYPE II) (80' O.C.)
YELLOW/YELLOW = 41 EACH

SITE 5
C.L. DETOUR
P.I. = 1007+72.06
Δ = 14°48'40" RT.
D = 8'00'00"
T = 93.09'
L = 185.14'
P.C. = 1006+78.97
P.T. = 1008+64.11
NO SUPER

R040625.DGN 2/10/2020

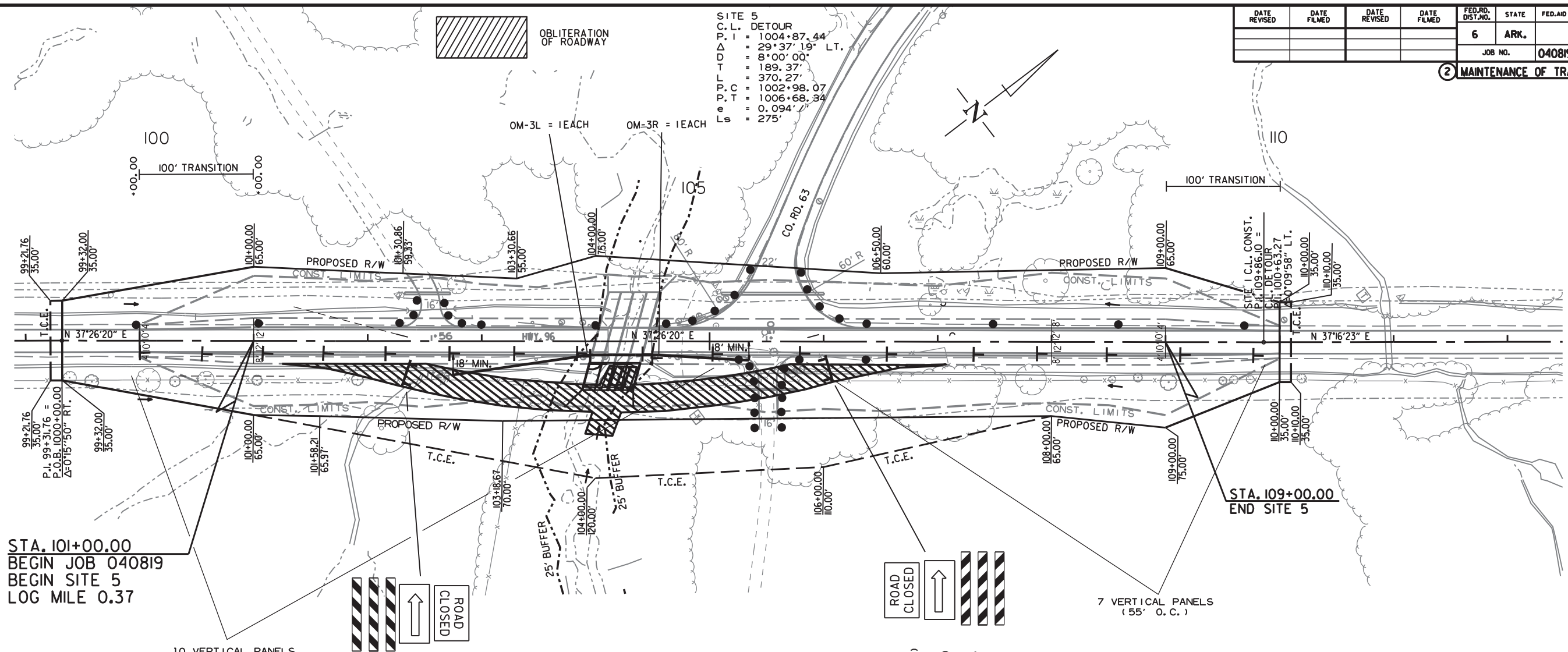
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				6	ARK.		44	111
				JOB NO.	040819			

② MAINTENANCE OF TRAFFIC DETAILS



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STA. 101+00.00
BEGIN JOB 040819
BEGIN SITE 5
LOG MILE 0.37

STA. 109+00.00
END SITE 5

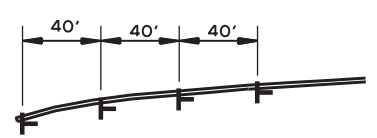
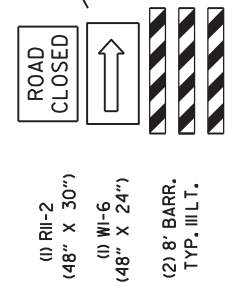
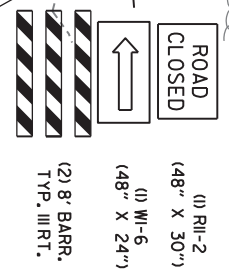
SITE 5
C.L. DETOUR
P.I. = 1001+95.39
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1001+02.30
P.T. = 1002+87.44
NO SUPER

SITE 5
C.L. DETOUR
P.I. = 1004+87.44
Δ = 29°37'19" LT.
D = 8°00'00"
T = 189.37'
L = 370.27'
P.C. = 1002+98.07
P.T. = 1006+68.34
e = 0.094'
Ls = 275'

SITE 5
C.L. DETOUR
P.I. = 1007+72.06
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1006+78.97
P.T. = 1008+64.11
NO SUPER

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER
RT. OF MAIN LANE TRAFFIC = 260 LIN. FT.
OM-3R = 4 EACH
OM-3L = 4 EACH

QUANTITIES:
STAGE 3
VERTICAL PANELS @ 55' O.C. = 17 EACH
TRAFFIC DRUMS @ 10' O.C. = 48 EACH
TRAFFIC DRUMS @ 20' O.C. = 30 EACH
TRAFFIC DRUMS @ 110' O.C. = 55 EACH
CONSTRUCTION PAVEMENT MARKINGS
STA. 100+00.00 TO STA. 103+00.00 = 1200 LIN. FT.
STA. 106+00.00 TO STA. 108+00.00 = 800 LIN. FT.
TYPE III BARRICADE (8')
LT. = 5 EACH
RT. = 7 EACH



DETAIL OF OM-3 AT ALL PCCB INSTALLATIONS
OM-3 RT ON ENTRANCE
OM-3 LT ON EXIT

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3
SITE 5 - HWY. 96

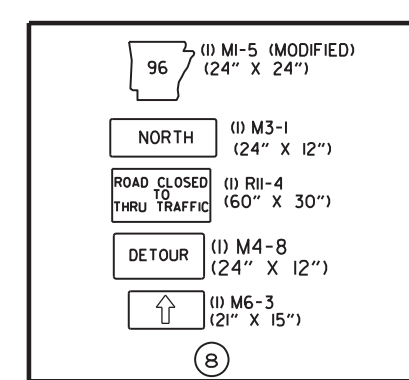
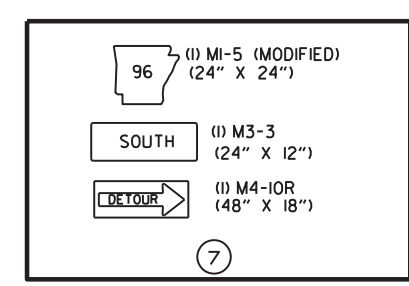
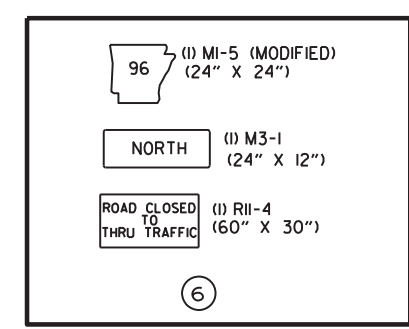
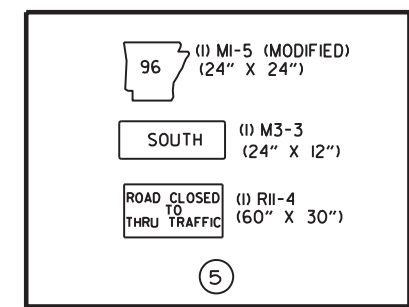
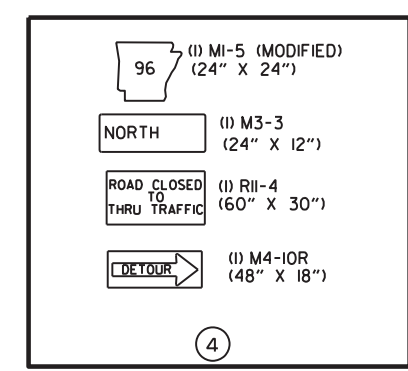
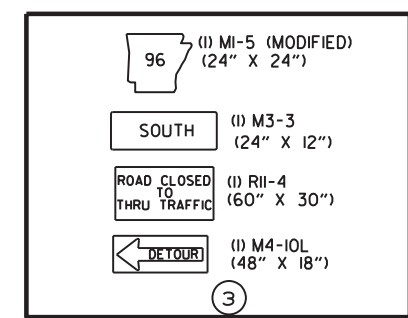
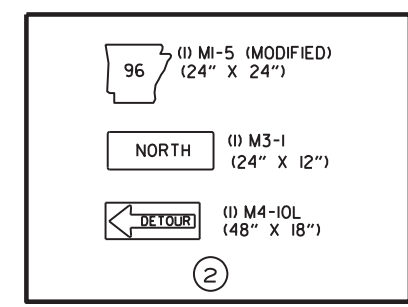
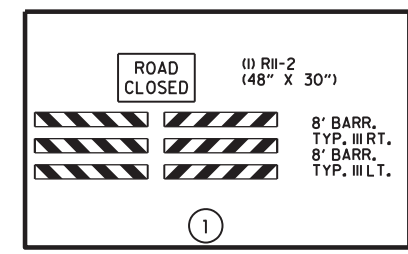
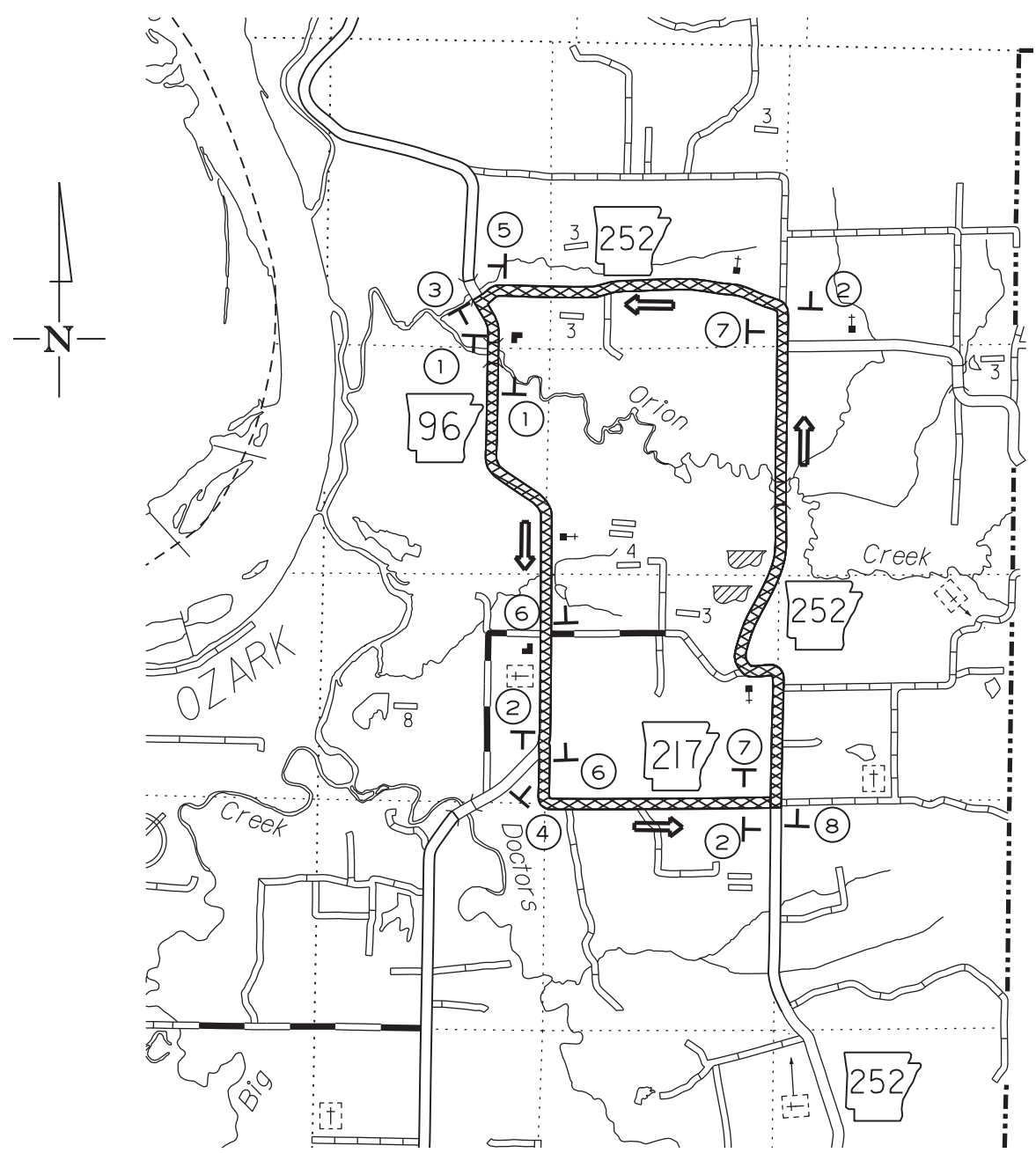
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		45	111

② MAINTENANCE OF TRAFFIC DETAILS



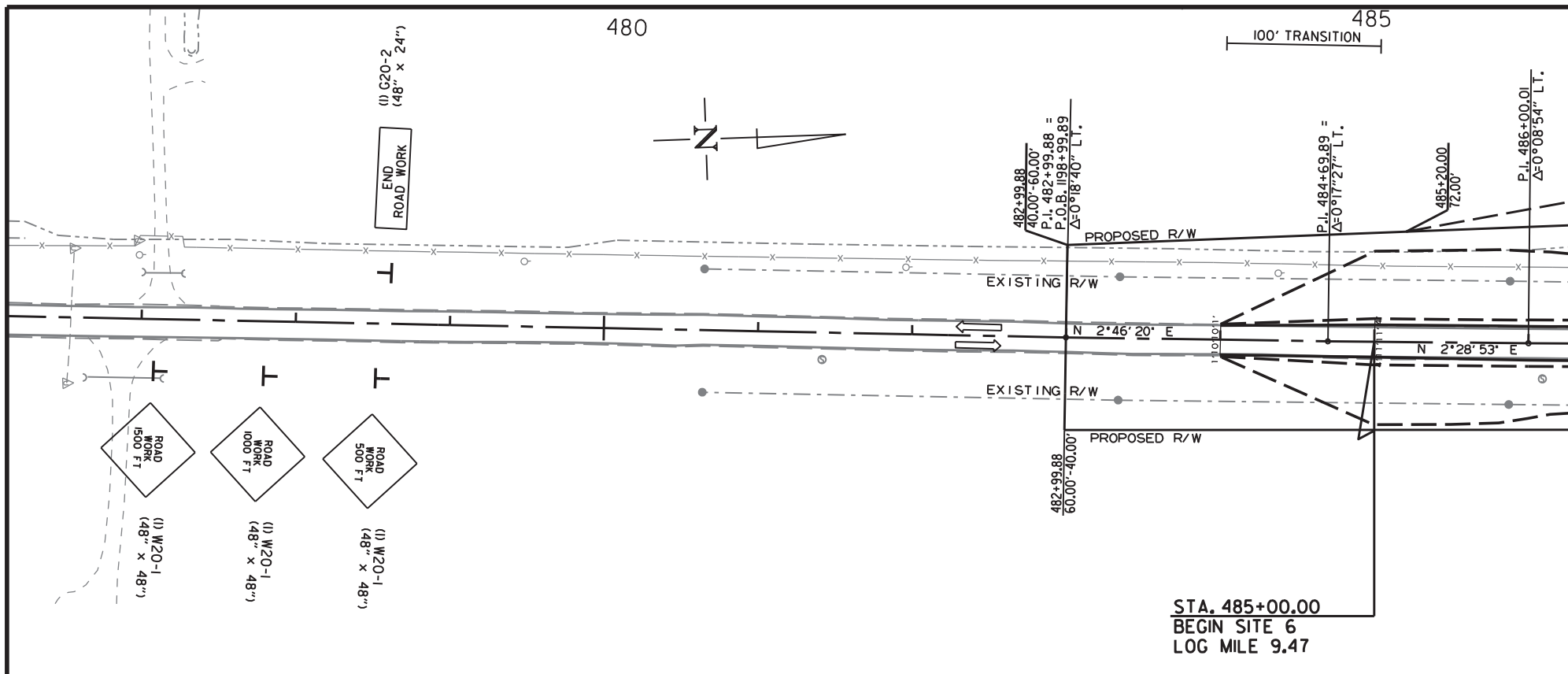
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MAINTENANCE OF TRAFFIC DETAILS
STAGE 2
SITE 6 - HWY. 96

R040625.DGN 2/10/2020



STA. 485+00.00
 BEGIN SITE 6
 LOG MILE 9.47

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		46	111
				JOB NO.	040819			

② MAINTENANCE OF TRAFFIC DETAILS

NOTE:
 ADVANCE SIGNS AT ALL LOCATIONS
 ARE TO BE RETAINED THROUGH
 ALL STAGES OF CONSTRUCTION.



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SEQUENCING:

STAGE 1:

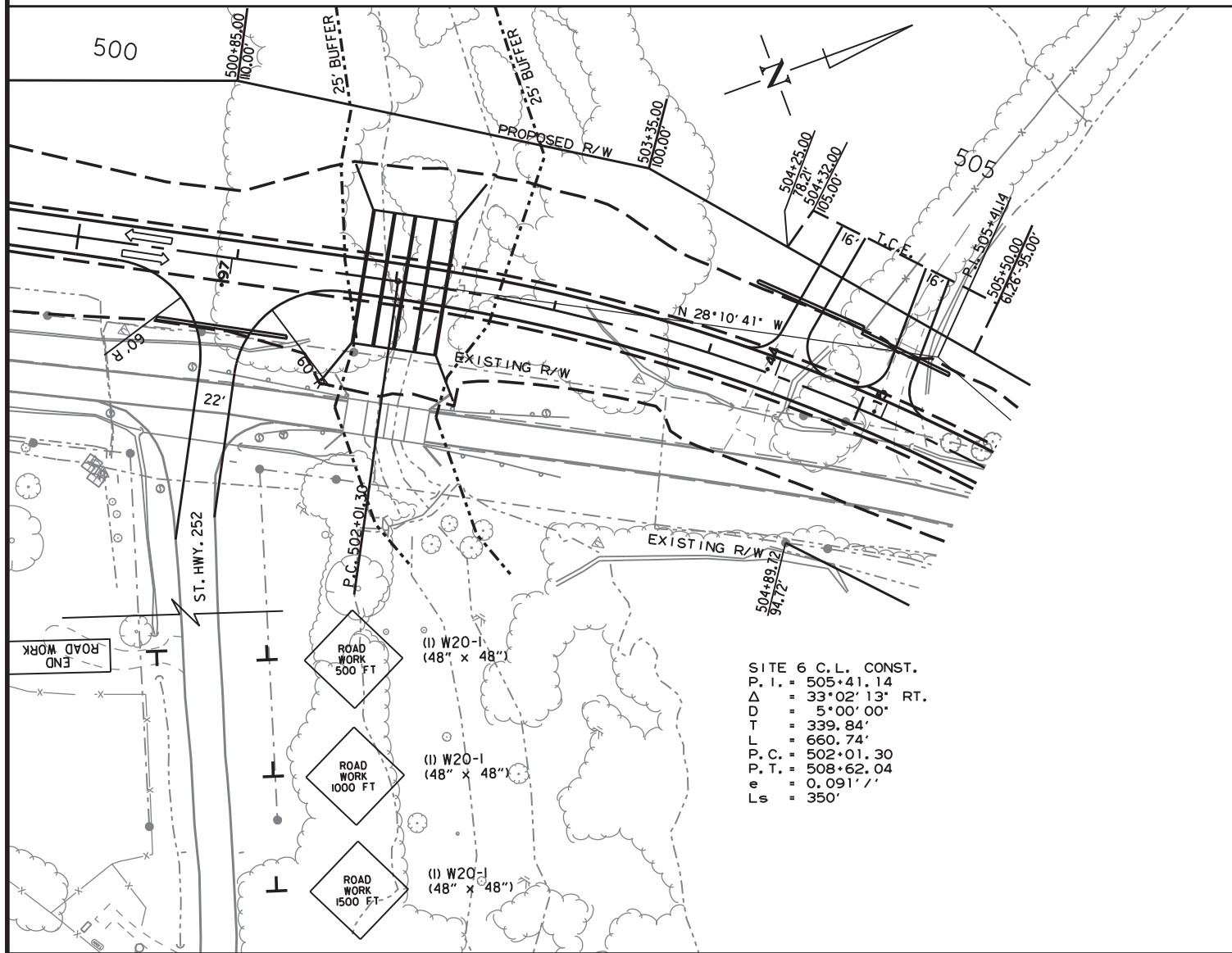
SITE 6
 MAINTAIN TRAFFIC ON EXISTING ROADWAY.
 CONSTRUCT R.C. BOX CULVERT AT STA. 502+06 ON LT.
 CONSTRUCT HWY. 96 ON NEW LOCATION.
 INSTALL CONSTRUCTION PAVEMENT MARKINGS.
 PERFORM LEVELING OPERATIONS, WHERE APPLICABLE.

STAGE 2:

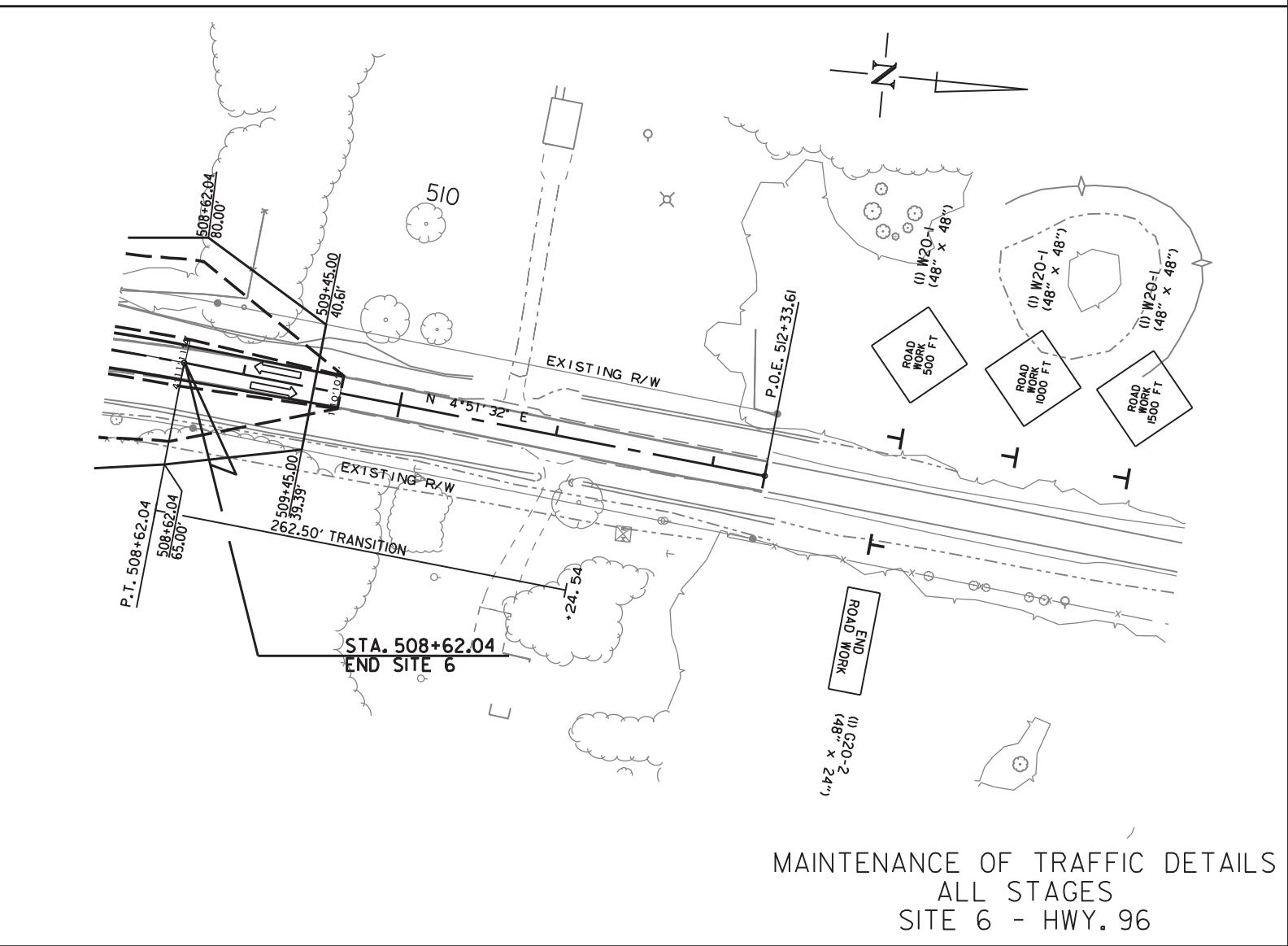
SITE 6
 SHIFT TRAFFIC ONTO NEW LOCATION.
 CLOSE HWY. 96 TO TRAFFIC FROM STA. 484+00.00 TO STA. 493+00.00.
 CONSTRUCT R.C. BOX CULVERT AT STA. 489+10.50.
 NOTCH AND WIDEN LT. & RT., AND CONSTRUCT CONNECTION TO NEW LOCATION.
 CONSTRUCT MINOR DRAINAGE STRUCTURES AND DRIVES, WHERE APPLICABLE.
 INSTALL CONSTRUCTION PAVEMENT MARKINGS.

STAGE 3:

SITE 6
 OPEN HWY. 96.
 REMOVE EXISTING BRIDGE AT STA. 502+00.00.
 OBLITERATE EXISTING PAVEMENT, AS SHOWN ON PLANS.
 CONSTRUCT HEADWALLS AND WINGWALLS AT STA. 502+06.00 ON RT.
 INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.



SITE 6 C.L. CONST.
 P.I. = 505+41.14
 Δ = 33°02'13" RT.
 D = 5°00'00"
 T = 339.84'
 L = 660.74'
 P.C. = 502+01.30
 P.T. = 508+62.04
 e = 0.091' /'
 Ls = 350'



STA. 508+62.04
 END SITE 6

MAINTENANCE OF TRAFFIC DETAILS
 ALL STAGES
 SITE 6 - HWY. 96

R040625.DCN 2/10/2020

SITE 6 C.L. DETOUR
 P.I. = 1200+69.90
 Δ = 10°05'46" LT.
 D = 8°00'00"
 T = 63.26'
 L = 126.20'
 P.C. = 1200+06.64
 P.T. = 1201+32.84
 NO SUPER

SITE 6 C.L. CONST.
 P.I. = 493+54.35
 Δ = 30°27'01" LT.
 D = 5°00'00"
 T = 311.87'
 L = 609.00'
 P.C. = 490+42.48
 P.T. = 496+51.48
 e = 0.091' /'
 Ls = 350'

SITE 6 C.L. DETOUR
 P.I. = 1210+01.61
 Δ = 32°55'52" LT.
 D = 8°00'00"
 T = 211.68'
 L = 411.64'
 P.C. = 1207+89.93
 P.T. = 1212+01.57
 e = 0.100' /'
 Ls = 300'

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		47	111

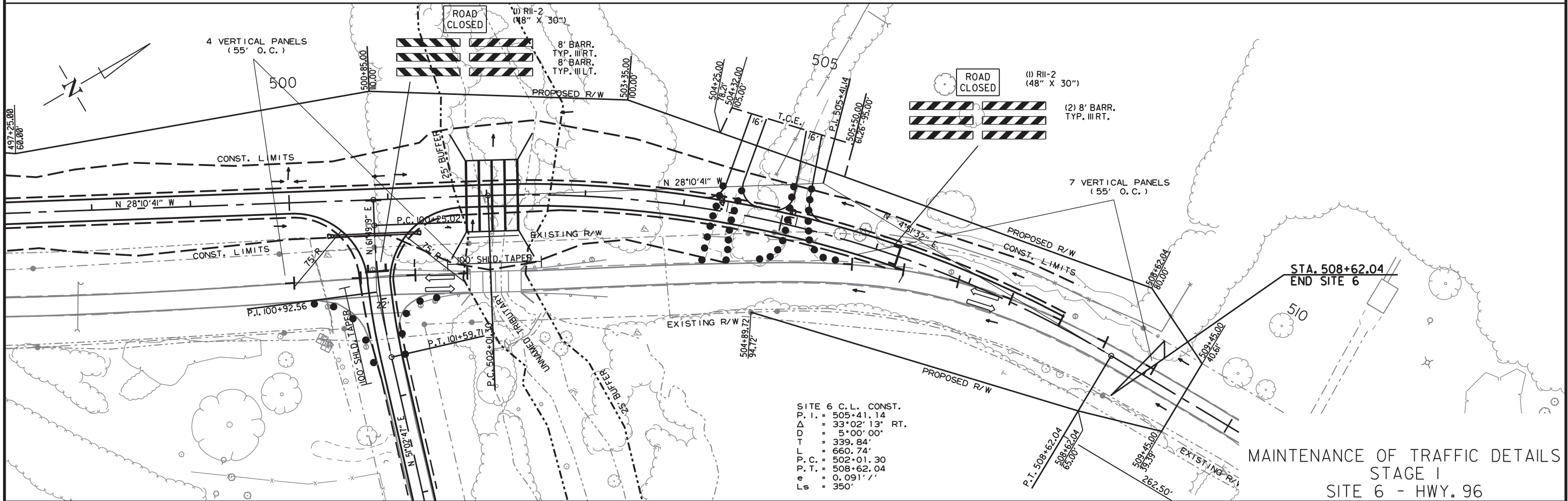
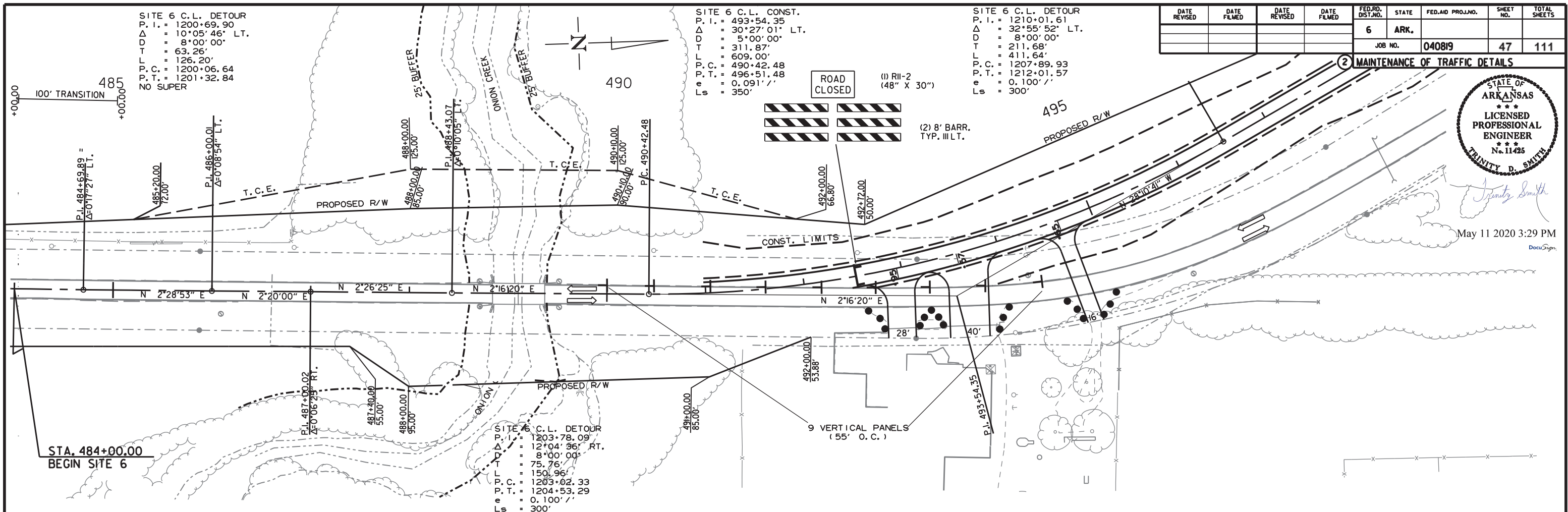
2 MAINTENANCE OF TRAFFIC DETAILS



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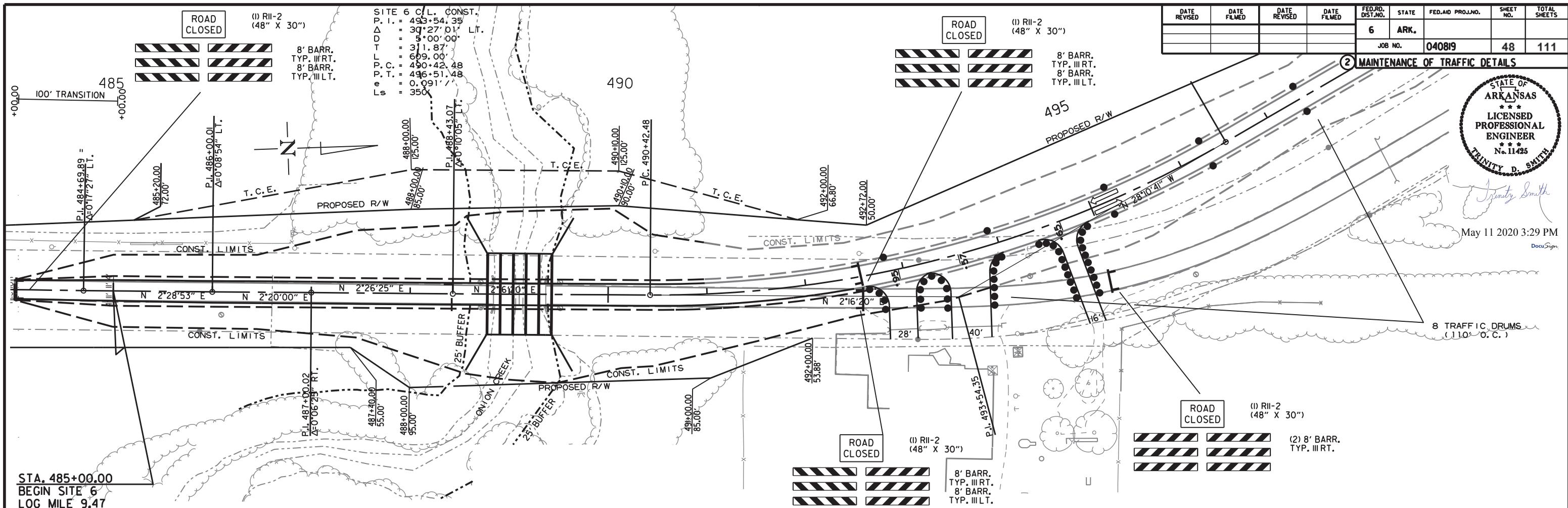
MAINTENANCE OF TRAFFIC DETAILS
 STAGE I
 SITE 6 - HWY. 96

R040625.DCN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		48	111
				JOB NO.		040819		



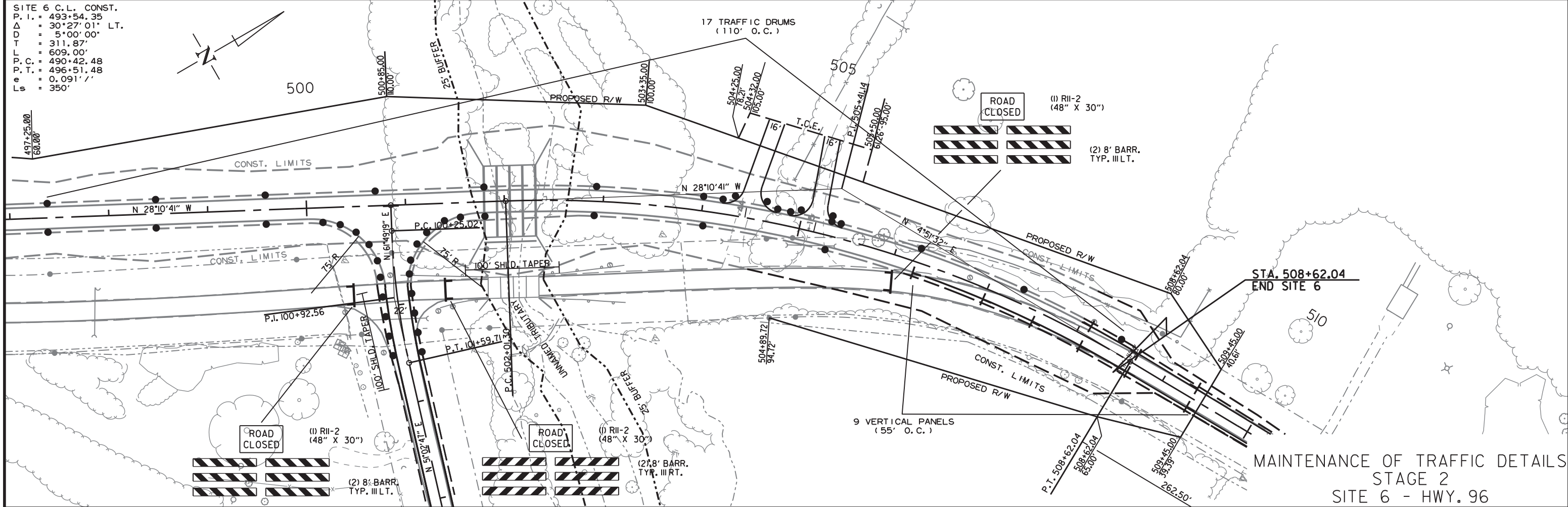
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② MAINTENANCE OF TRAFFIC DETAILS

8 TRAFFIC DRUMS (110' O.C.)

STA. 485+00.00
BEGIN SITE 6
LOG MILE 9.47



STA. 508+62.04
END SITE 6

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2
SITE 6 - HWY. 96

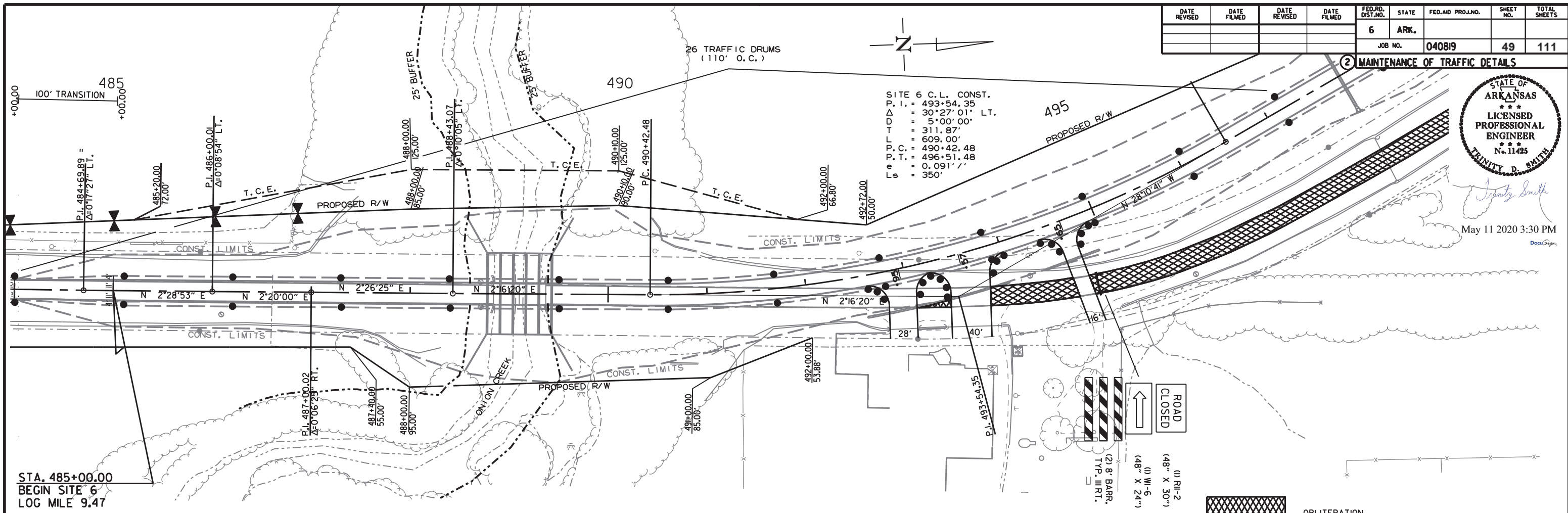
R040625.DCN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		49	111
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② MAINTENANCE OF TRAFFIC DETAILS

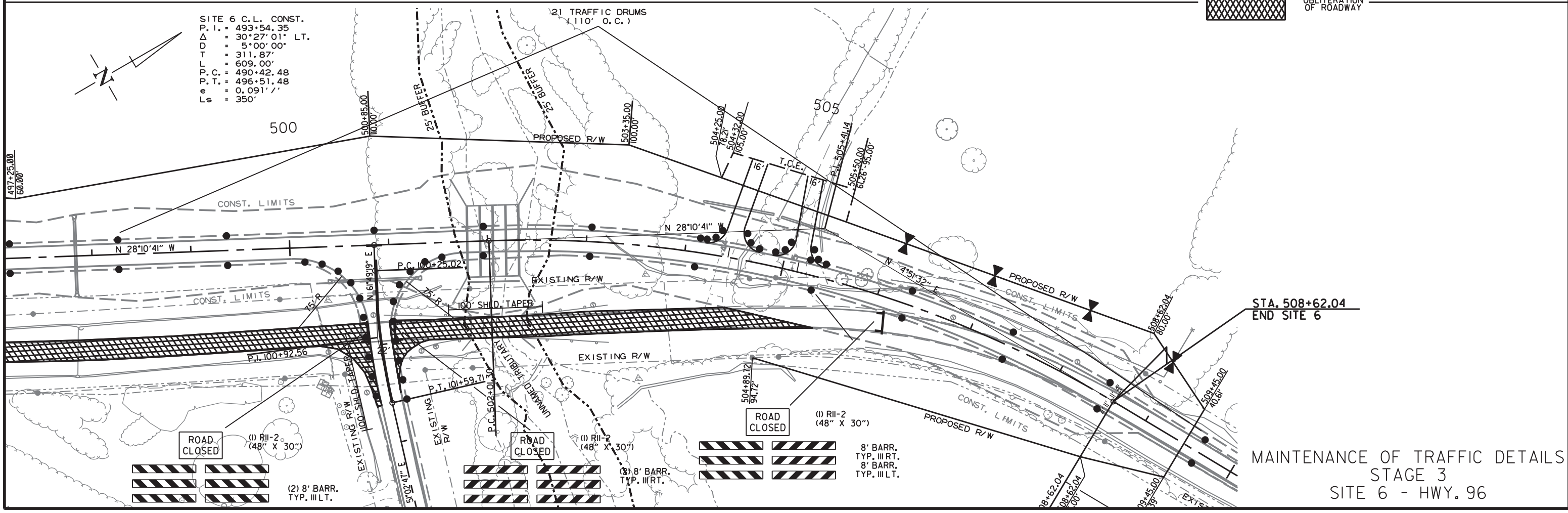


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STA. 485+00.00
 BEGIN SITE 6
 LOG MILE 9.47

SITE 6 C.L. CONST.
 P.I. = 493+54.35
 Δ = 30°27'01" LT.
 D = 5°00'00"
 T = 311.87'
 L = 609.00'
 P.C. = 490+42.48
 P.T. = 496+51.48
 e = 0.091' / '
 Ls = 350'



STA. 508+62.04
 END SITE 6

MAINTENANCE OF TRAFFIC DETAILS
 STAGE 3
 SITE 6 - HWY. 96

R040625.DCN 2/10/2020

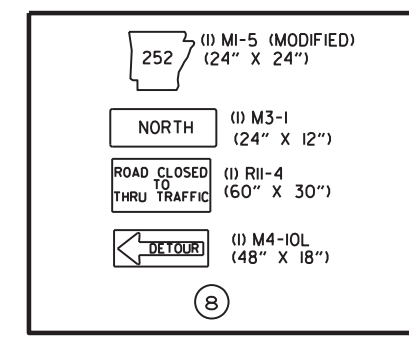
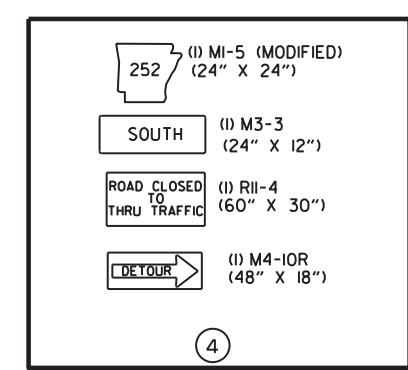
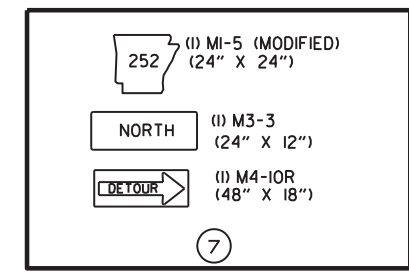
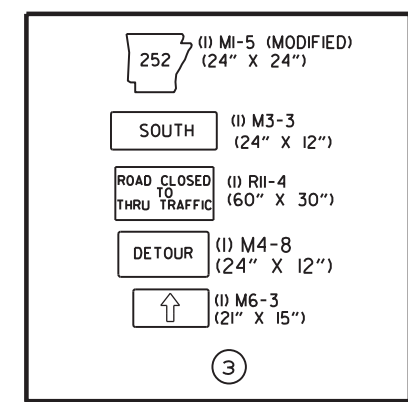
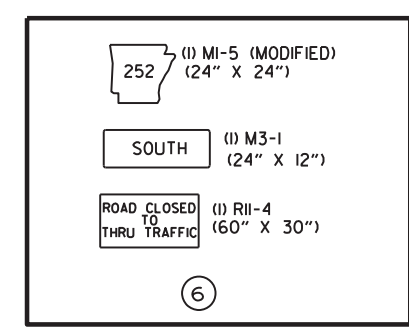
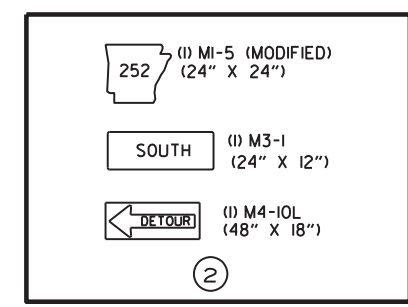
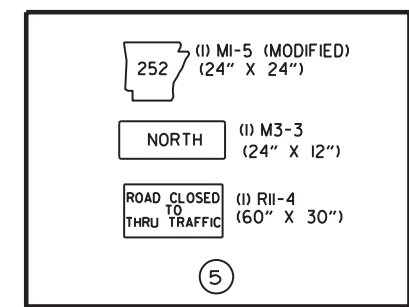
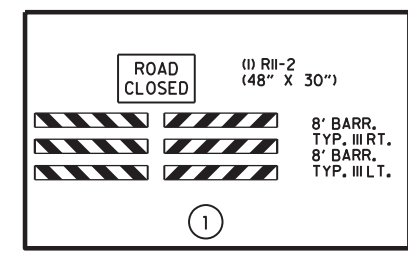
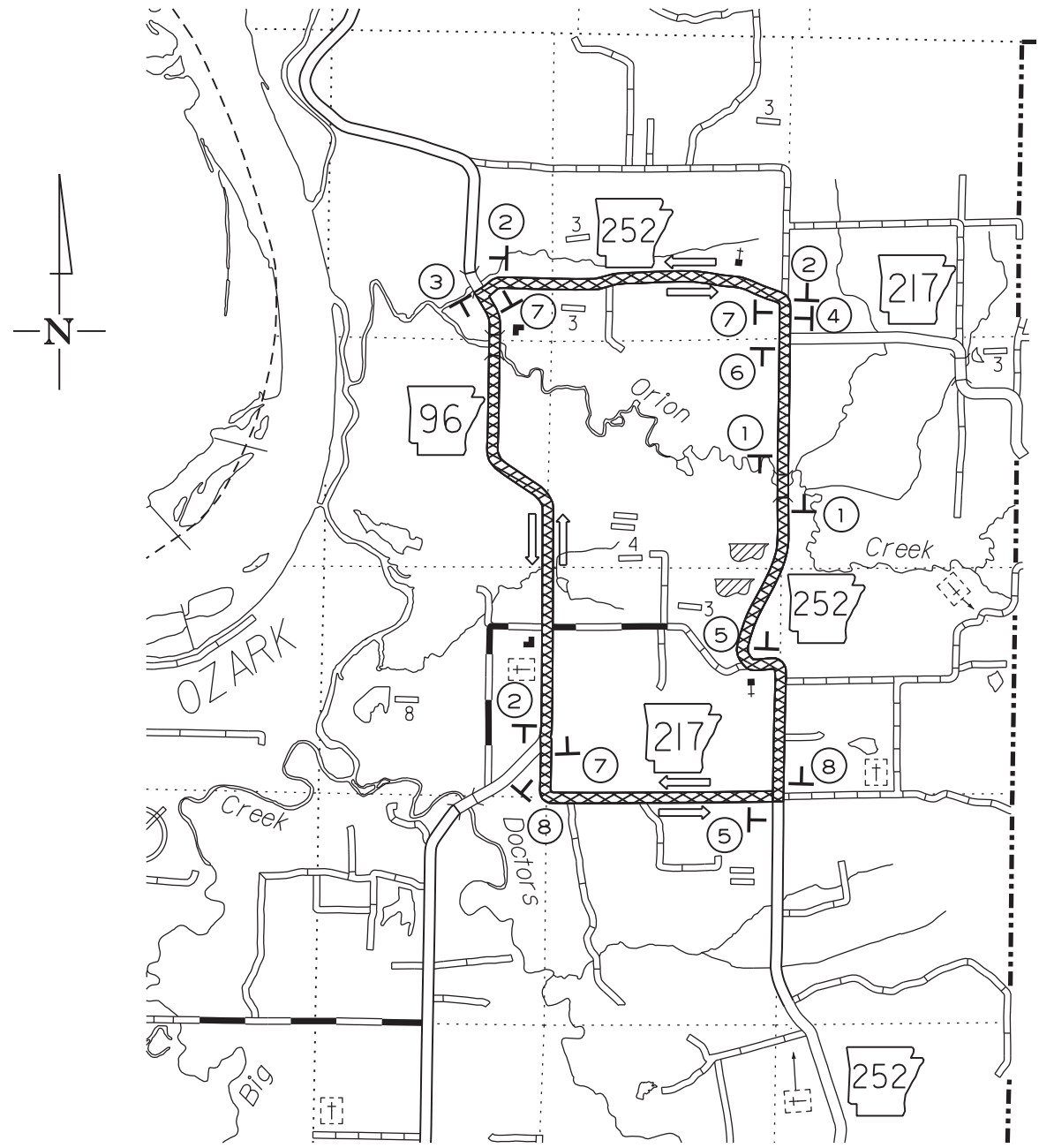
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		50	111

② MAINTENANCE OF TRAFFIC DETAILS



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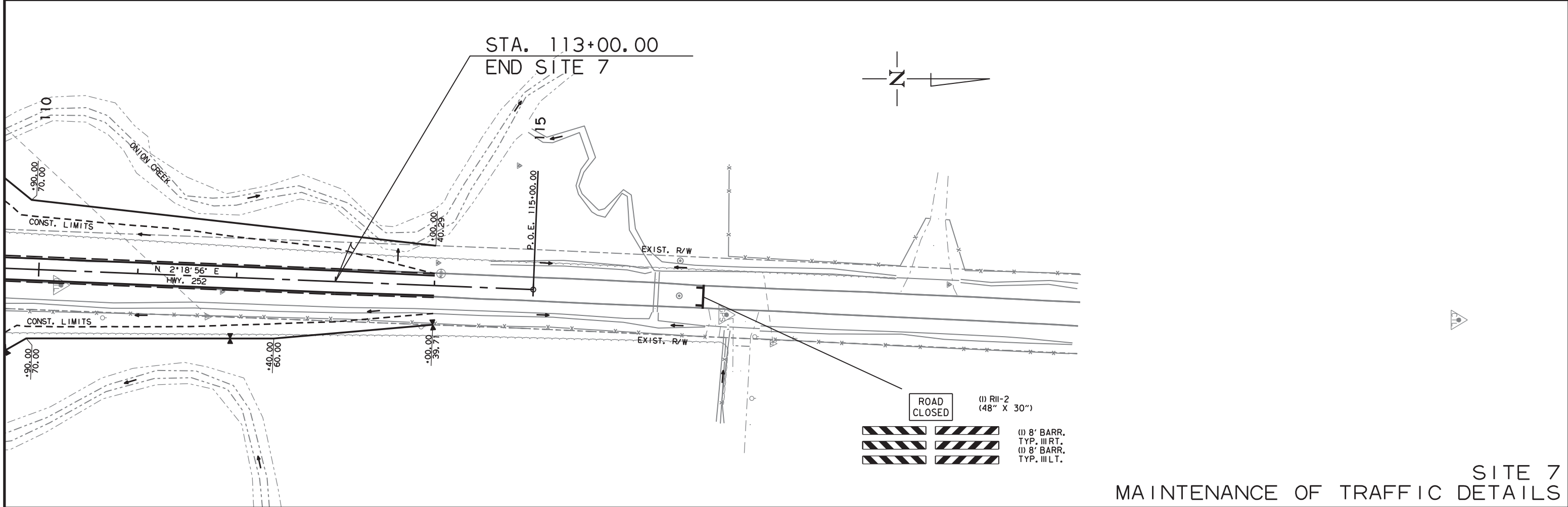
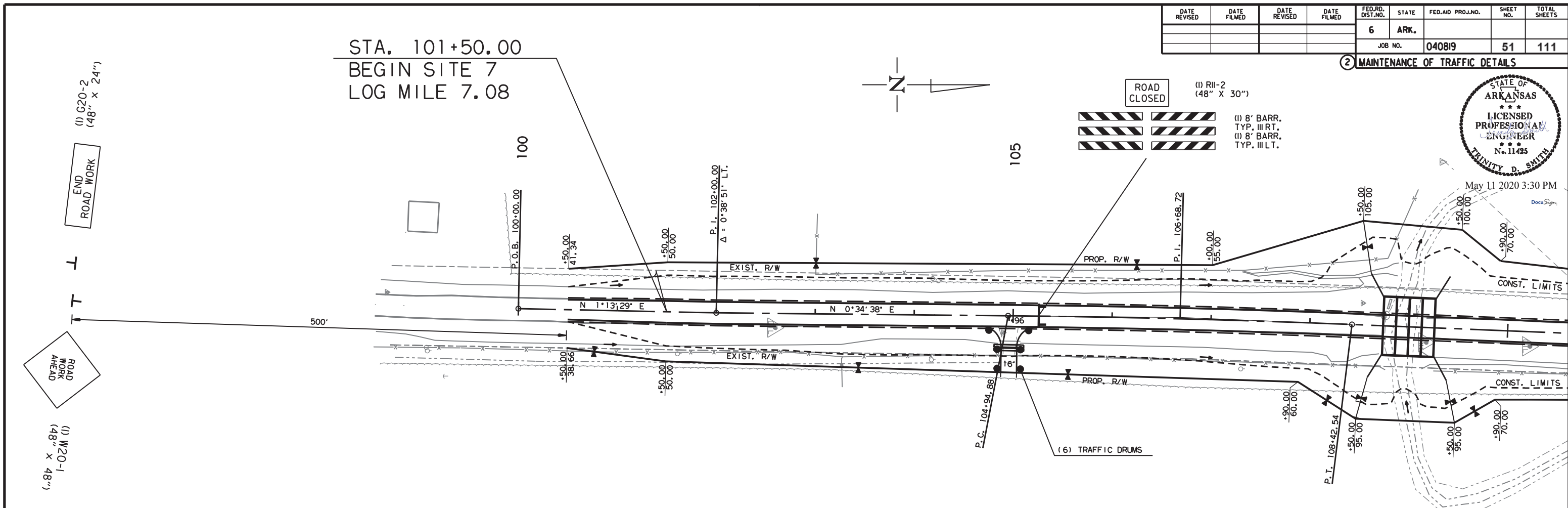
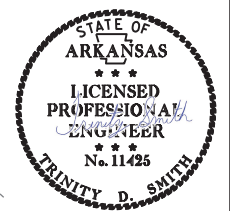


2/6/2020

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		51	111
				JOB NO.		040819		

② MAINTENANCE OF TRAFFIC DETAILS

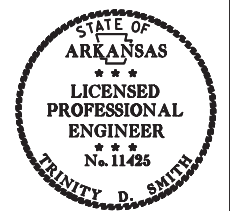


SITE 7
MAINTENANCE OF TRAFFIC DETAILS

2/6/2020
R040819.DGN

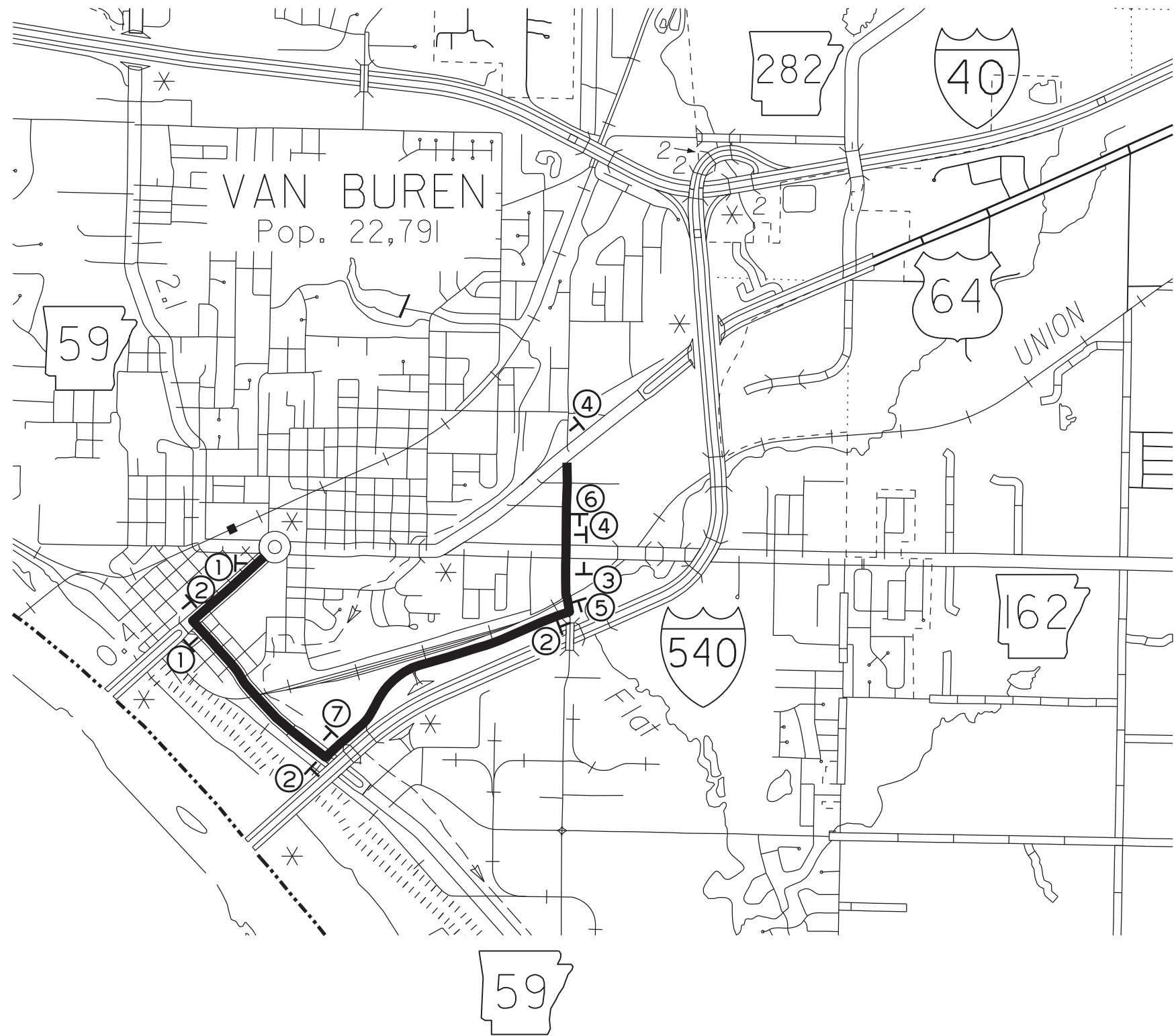
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		52	111

② MAINTENANCE OF TRAFFIC



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①

MI-5 (MODIFIED) (24" X 24")

ROAD CLOSED TO THRU TRAFFIC (I) R11-4 (60" X 30")

DETOUR (I) M4-IOR (48" X 18")

④

MI-5 (MODIFIED) (24" X 24")

ROAD CLOSED TO THRU TRAFFIC (I) R11-4 (60" X 30")

DETOUR (I) M4-IOL (48" X 18")

②

MI-5 (MODIFIED) (24" X 24")

MI-5 (MODIFIED) (24" X 24")

EAST (I) M3-2 (24" X 12")

DETOUR (I) M4-IOL (48" X 18")

⑤

MI-5 (MODIFIED) (24" X 24")

MI-5 (MODIFIED) (24" X 24")

WEST (I) M3-4 (24" X 12")

DETOUR (I) M4-IOR (48" X 18")

③

MI-5 (MODIFIED) (24" X 24")

EAST (I) M3-2 (24" X 12")

DETOUR (I) M4-8 (24" X 12")

(I) M6-3 (21" X 15")

⑥

MI-5 (MODIFIED) (24" X 24")

MI-5 (MODIFIED) (24" X 24")

WEST (I) M3-4 (24" X 12")

DETOUR (I) M4-8 (24" X 12")

(I) M6-3 (21" X 15")

⑦

MI-5 (MODIFIED) (24" X 24")

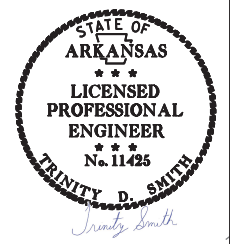
WEST (I) M3-4 (24" X 12")

DETOUR (I) M4-IOR (48" X 18")

4/8/2020
R040802.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6/15/2020				6	ARK.			
JOB NO. 040819							53	111

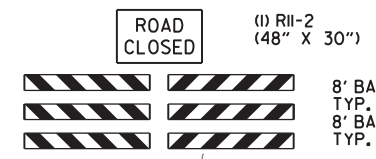
② MAINTENANCE OF TRAFFIC



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SEQUENCE OF CONSTRUCTION
 STAGE 1:
 CLOSE ROADWAY TO TRAFFIC
 REMOVAL OF EXISTING BOX CULVERT
 CONSTRUCT PROPOSED ROAD AND BOX CULVERT

STAGE 2:
 PLACE FINAL SURFACE COURSE & PERMANENT PAVEMENT MARKINGS
 OPEN ROADWAY TO TRAFFIC
 FINAL GRADING



STA. III+69.00
 BEGIN SITE 8
 LOG MILE 0.94

ROAD CLOSED (1) R11-2 (48" X 30")

(2) 8' BARR. TYP. III RT. (2) 8' BARR. TYP. III LT.

FURNISH AND INSTALL
 100' P.C.C.B.
 • (1) SPECIAL END UNIT
 • (1) T.I.A.B.

(3) TRAFFIC DRUMS
 DRIVEWAY

(6) TRAFFIC DRUMS
 DRIVEWAY

ROAD CLOSED (1) R11-2 (48" X 30")

(2) 8' BARR. TYP. III RT. (2) 8' BARR. TYP. III LT.

STA. II2+49.00
 END SITE 8
 END JOB 040819

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

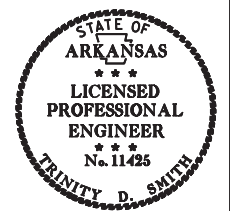
SITE 8
 ALL STAGES
 MAINTENANCE OF TRAFFIC DETAILS

3/4/2020 11/17/2020
 R040802.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.	040819		54	111

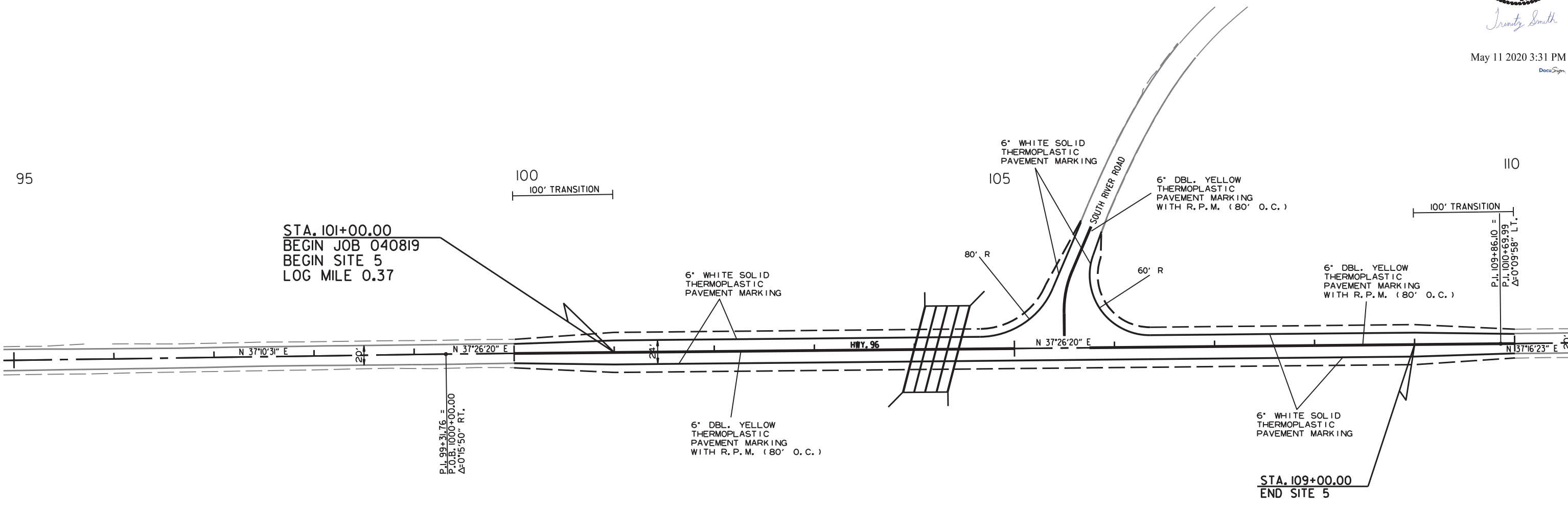
QUANTITIES
 SITE 5:
 THERMOPLASTIC PAVEMENT MARKINGS
 6" WHITE = 2120.57 LIN. FT.
 6" YELLOW = 1889.00 LIN. FT.
 RAISED PAVEMENT MARKINGS (TYPE 111)
 YELLOW /YELLOW = 13 EACH

② PERMANENT PAVEMENT MARKING DETAILS



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PERMANENT PAVEMENT MARKING DETAILS
 SITE 5

2/10/2020
 R040625.DGN

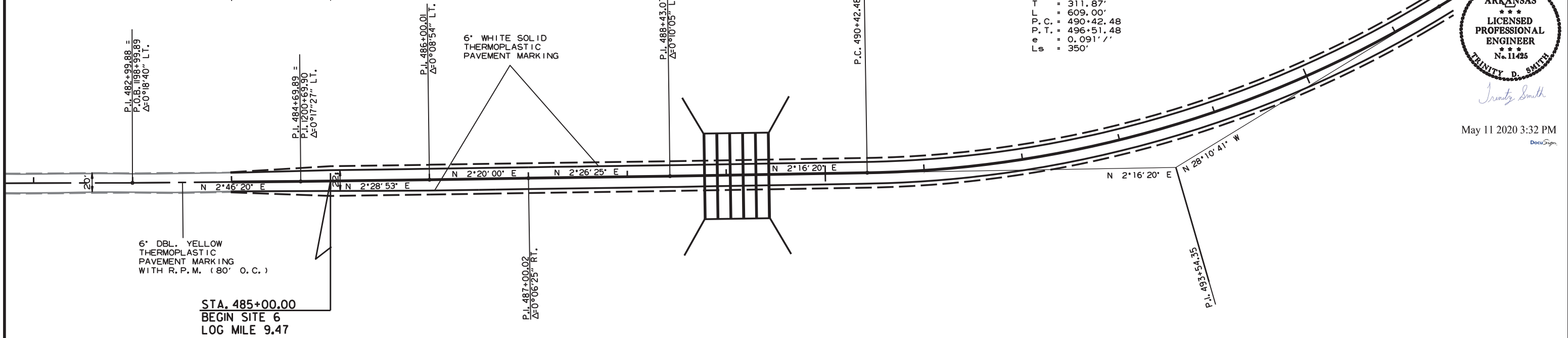
QUANTITIES

SITE 6:
THERMOPLASTIC PAVEMENT MARKINGS
6" WHITE = 5690 LIN. FT.
6" YELLOW = 5465 LIN. FT.

RAISED PAVEMENT MARKINGS (TYPE III)
YELLOW /YELLOW = 35 EACH

485

100' TRANSITION



490

SITE 6 C.L. CONST.
P. I. = 493+54.35
 Δ = 30°27'01" LT.
D = 5°00'00"
T = 311.87'
L = 609.00'
P. C. = 490+42.48
P. T. = 496+51.48
e = 0.091' /'
Ls = 350'

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		55	111

PERMANENT PAVEMENT MARKING DETAILS



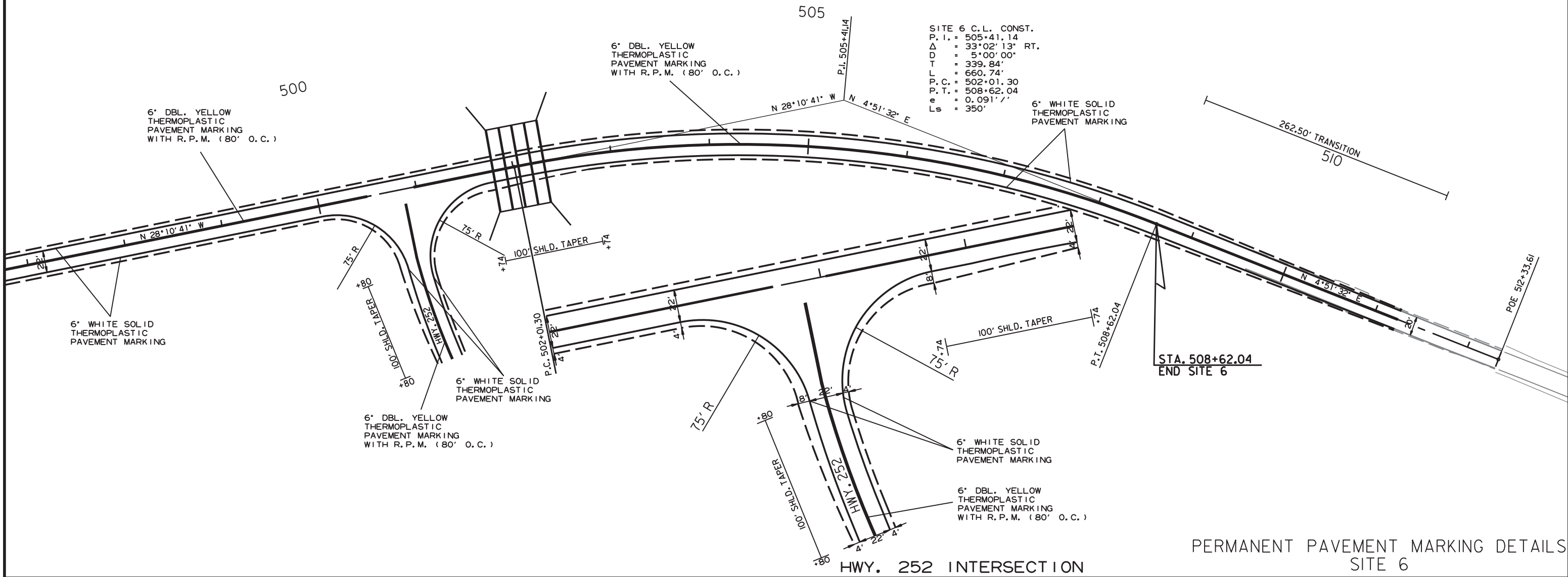
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STA. 485+00.00
BEGIN SITE 6
LOG MILE 9.47

505

SITE 6 C.L. CONST.
P. I. = 505+41.14
 Δ = 33°02'13" RT.
D = 5°00'00"
T = 339.84'
L = 660.74'
P. C. = 502+01.30
P. T. = 508+62.04
e = 0.091' /'
Ls = 350'



STA. 508+62.04
END SITE 6

HWY. 252 INTERSECTION

PERMANENT PAVEMENT MARKING DETAILS
SITE 6

2/10/2020
R040625.DGN

PERMANENT PAVEMENT MARKINGS (SITE 7)

REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6") = 2700 LIN. FT.
 REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6") = 2700 LIN. FT.
 RAISED PAVEMENT MARKERS TYPE II (YEL/YEL) = 17 EACH

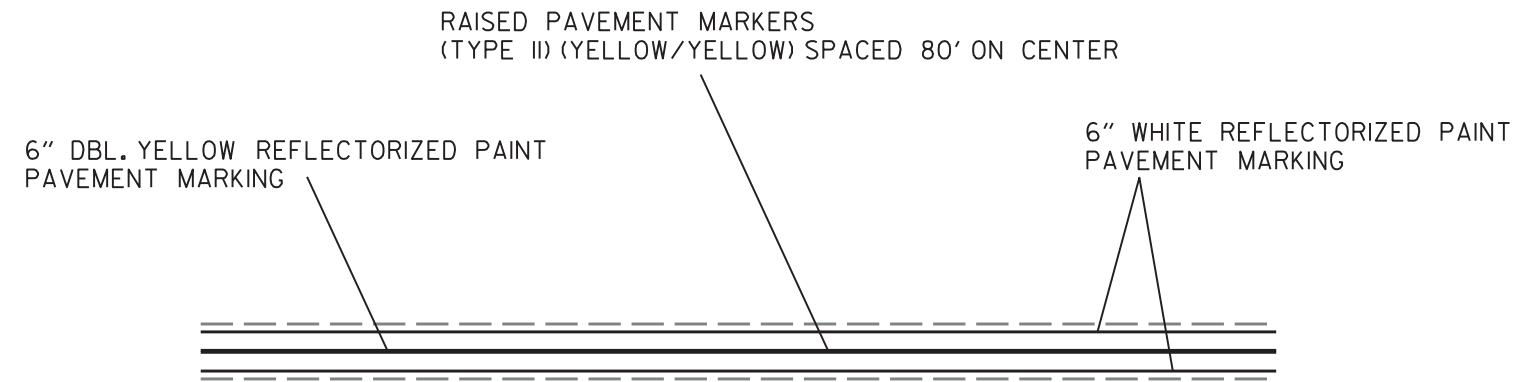
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		56	111

② PERMANENT PAVEMENT MARKING DETAILS



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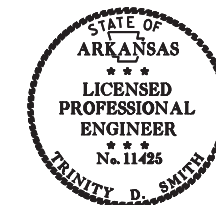
TYPICAL STRIPING DETAIL

2/6/2020

RO40819.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.	040819		57	111

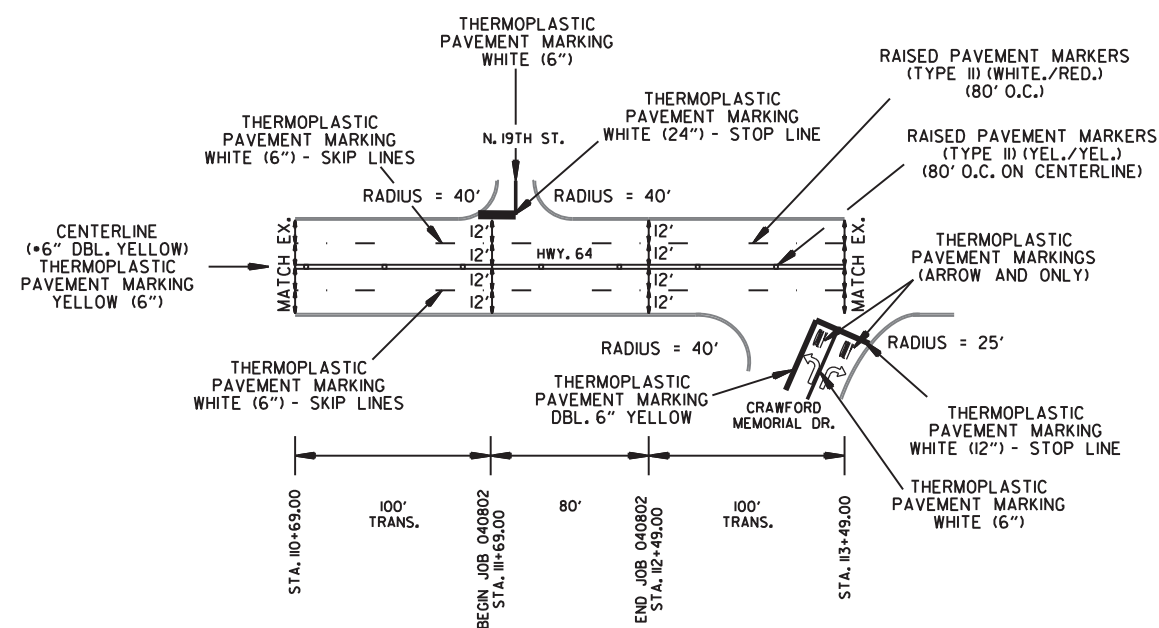
2 PERMANENT PAVEMENT MARKING DETAILS



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PERMANENT PAVEMENT MARKINGS (SITE 8):

THERMOPLASTIC PAVEMENT MARKING:
 6" WHITE LINES = 40 LIN. FT. WHITE
 6" WHITE SKIP LINES = 560 LIN. FT. WHITE
 DBL. CENTERLINE = 320 LIN. FT. YELLOW
 24" STOP LINE = 40 LIN. FT. WHITE

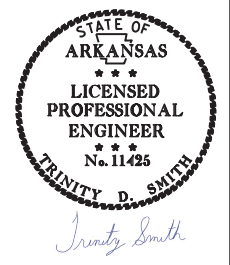
RAISED PAVEMENT MARKERS:
 TYPE II (WHITE/RED) 80' O.C. ON SKIPLINE = 8 EACH
 TYPE II (YEL./YEL.) 80' O.C. ON CENTERLINE = 4 EACH

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

HWY. 64 - PERMANENT PAVEMENT MARKING LAYOUT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		58	111

2 QUANTITIES



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CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS - SITES 5 & 6

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING		
							TYPE II		6"		
							(YELLOW/YELLOW)	EACH	WHITE	YELLOW	
					LIN. FT. - EACH		LIN. FT.		LIN. FT.		
REMOVAL OF PERMANENT PAVEMENT MARKINGS					3012						
CONSTRUCTION PAVEMENT MARKINGS	13726	3640	2000			19366					
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	86	41		48			175				
THERMOPLASTIC PAVEMENT MARKING WHITE (6")				7811					7811		
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")				7654						7654	
TOTALS:					3012	19366	175	7811	7654		

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

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

ADVANCE WARNING SIGNS AND DEVICES - ALL SITES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	SITE 5			SITE 6			SITE 7	SITE 8	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN. BARR. (REPAIR)
			STAGE 1	STAGE 2	STAGE 3	STAGE 1	STAGE 2	STAGE 3				NO.	SQ. FT.			RIGHT	LEFT			
			LIN. FT. - EACH									EACH				LIN. FT.				
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	3	3	3			5	5	80.0							
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	3	3	3			5	5	80.0							
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	3	3	3			5	5	80.0							
W20-1	ROAD WORK AHEAD	48"x48"	1	1	1				1	1	3	3	48.0							
G20-2	END ROAD WORK	48"x24"	3	3	3	3	3	3	1	1	8	8	64.0							
R11-2	ROAD CLOSED	48"x30"	2	4	2	3	8	4	2	3	17	17	170.0							
W1-6	LARGE ARROW	48"x24"		2	2			1			3	3	24.0							
R4-1	DO NOT PASS	24"x30"	2	2	2	4	4	4			6	6	30.0							
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2	2	4	4	4			6	6	54.0							
M3-1	NORTH	24"x12"						6	7		7	7	14.0							
M3-2	EAST	24"x12"							4		4	4	8.0							
M3-3	SOUTH	24"x12"						5	6		6	6	12.0							
M3-4	WEST	24"x12"							3		3	3	6.0							
M1-5	STATE HIGHWAY 59 (MODIFIED)	24"x24"							2		2	2	8.0							
M1-5	U.S. HIGHWAY 64 (MODIFIED)	24"x24"							11		11	11	44.0							
M1-5	STATE HIGHWAY 98 (MODIFIED)	24"x24"							11		11	11	44.0							
M1-5	STATE HIGHWAY 102 (MODIFIED)	24"x24"							3		3	3	12.0							
M1-5	STATE HIGHWAY 252 (MODIFIED)	24"x24"							13		13	13	52.0							
M4-10L	DETOUR WITH ARROW LEFT	48"x18"						4	5	5	5	5	30.0							
M4-10R	DETOUR WITH ARROW RIGHT	48"x18"						3	4	4	4	4	24.0							
M4-8	DETOUR	24"x12"						1	1	2	2	2	4.0							
M6-3	ARROW	21"x15"						1	1	2	2	2	4.4							
OM-3L	OBJECT MARKERS	12"x36"			4						4	4	12.0							
OM-3R	OBJECT MARKERS	12"x36"			4						4	4	12.0							
R11-4	ROAD CLOSED TO THRU TRAFFIC	60"x30"						6	7	4	7	7	87.5							
	VERTICAL PANELS		14	14	17	21	10				38		38							
	TRAFFIC DRUMS		18	45	36	67	92	97	6	9	157		157							
	TYPE III BARRICADE-RT. (8')		2	4	2	3	7	5	2	5	18					144				
	TYPE III BARRICADE-LT. (8')		2	4	2	3	7	3	2	5	18						144			
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER				260					113	373						373			
	TEMPORARY IMPACT ATTENUATION BARRIER									1	1							1		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)									1	1									1
TOTALS:												1003.9	38	157	144	144	373	1	1	

NOTE: SITES 5, 6, AND 8 ARE HIGH TRAFFIC VOLUME ROADS AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. SITE 7 IS A LOW TRAFFIC VOLUME ROAD.

2/6/2020

RO40819.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.	040819		59	111

PERMANENT PAVEMENT MARKINGS - SITE 7

DESCRIPTION	END OF JOB LIN. FT. - EACH	RAISED PAVEMENT MARKERS		REFLECTORIZED PAINT PAVEMENT MARKING	
		TYPE II (YELLOW/YELLOW)	6"	WHITE	YELLOW
		EACH	EACH	LIN. FT.	
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	17	17			
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	2700		2700		
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	2700			2700	
TOTALS:		17	2700	2700	

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

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

② QUANTITIES



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CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS - SITE 8

DESCRIPTION	END OF JOB LIN. FT. - EACH	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING				
		TYPE II (WHITE/RED)	TYPE II (YELLOW/YELLOW)	6"		12"	WORDS	ARROWS
		EACH	EACH	WHITE	YELLOW	WHITE		
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	8	8						
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	4		4					
THERMOPLASTIC PAVEMENT MARKING WHITE (6")	600			600				
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	600				600			
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	40					40		
THERMOPLASTIC PAVEMENT MARKING (WORDS)	2						2	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	2							2
TOTALS:		8	4	600	600	40	2	2

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

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

CLEARING AND GRUBBING - SITES 5 & 6

STATION	STATION	LOCATION	CLEARING STATION	GRUBBING STATION
101+00	109+00	SITE 5 - MAN LANES	8	8
485+00	491+00	SITE 6 - MAN LANES	6	6
494+00	496+00	SITE 6 - MAN LANES	2	2
500+00	509+00	SITE 6 - MAN LANES	9	9
TOTALS:			25	25

CLEARING AND GRUBBING - SITE 7

STATION	STATION	LOCATION	CLEARING STATION	GRUBBING STATION
101+50	113+00	SITE 7	12	12
TOTALS:			12	12

REMOVAL AND DISPOSAL OF ITEMS - SITE 8

STATION	STATION	LOCATION	CURB AND GUTTER	RETAINING WALLS	CONCRETE WALKS	SIGN FOUNDATIONS	SIGNS	HANDRAILS	PLANTERS	LIGHT POLES
			LIN. FT.	LIN. FT.	SQ. YD.	EACH	EACH	LIN. FT.	EACH	EACH
111+69	112+49	HWY. 64 - LT. & RT.	160							
111+77	111+94	HWY. 64 - RT.		55		1	1		1	1
111+90	112+49	HWY. 64 - LT.			6					
111+90	112+49	HWY. 64 - LT. & RT.								
111+90	112+24	HWY. 64 - BRIDGE NO. M1141						59		
111+90	112+49	HWY. 64 - LT.								
TOTALS:			160	55	6	1	1	59	1	1

FLOWABLE SELECT MATERIAL - SITE 8

STATION	LOCATION	CU. YD.
ENTIRE PROJECT	MAIN LANES	102
ENTIRE PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	398
TOTAL:		500

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

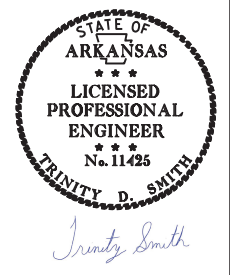
QUANTITIES

2/6/2020

RO40819.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.	040819		60	111

② QUANTITIES



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REMOVAL AND DISPOSAL OF ITEMS - SITES 5 & 6

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
101+00	109+00	SITE 5 - WIRE FENCE ON RT.	850	1
105+40		SITE 5 - WOOD FENCE ON RT.	30	
105+70		SITE 5 - WOOD FENCE ON RT.	30	
482+99	486+80	SITE 6 - WIRE FENCE ON LT.	425	
491+35		SITE 6 - WIRE FENCE ON RT.	20	
504+70		SITE 6 - WIRE FENCE ON LT.	25	
506+10	509+00	SITE 6 - BARBED WIRE FENCE ON LT.	320	
TOTALS:			1700	1

REMOVAL OF EXISTING BRIDGE STRUCTURE - SITES 5 & 6

STATION	STATION	LOCATION	LUMP SUM
104+10.97	104+49.00	SITE 5 - 38' X 22' STEEL MULTI-BEAM (SITE NO. 1)	1.00
488+84.13	489+36.95	SITE 6 - 53' X 22' STEEL MULTI-BEAM (SITE NO. 2)	1.00
501+83.05	502+34.29	SITE 6 - 52' X 22' STEEL MULTI-BEAM (SITE NO. 3)	1.00

REMOVAL OF EXISTING BRIDGE STRUCTURE - SITE 7

STATION	STATION	LOCATION	LUMP SUM
108+75	109+16	BR. NO. M2569 (SITE NO. 4)	1.00

REMOVAL OF EXISTING BRIDGE STRUCTURE - SITE 8

STATION	STATION	LOCATION	LUMP SUM
112+09	112+09	BR. NO. M1141 (SITE NO. 5)	1.00

REMOVAL AND DISPOSAL OF FENCE - SITE 7

STATION	STATION	LOCATION	FENCE
			LIN. FT.
100+77	108+77	SITE 7 RT.	810
103+00	108+90	SITE 7 LT.	628
109+27	114+00	SITE 7 RT.	474
TOTAL:			1912

REMOVAL AND DISPOSAL OF FENCE - SITE 8

STATION	STATION	LOCATION	FENCE
			LIN. FT.
111+90	112+49	HWY. 64 - LT.	40
111+90	112+25	HWY. 64 - RT.	35
TOTAL:			75

EARTHWORK - SITES 5 & 6

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SHORING (SITE NO. 1)	STONE BACKFILL	* SOIL STABILIZATION
			CU. YD.	CU. YD.	LUMP SUM	TON	TON
101+00.00	109+00.00	SITE 5 - STAGE 1 - MAIN LANES	1220	1036			
101+00.00	109+00.00	SITE 5 - STAGE 2 - MAIN LANES	1648	1653			
101+00.00	109+00.00	SITE 5 - STAGE 3 - MAIN LANES	3164	1523			
ENTIRE PROJECT		SITE 5 - APPROACHES		335			
1001+02.30	1008+64.11	SITE 5 - TEMPORARY APPROACHES		30			
		SITE 5 - DETOUR			1.00		
104+32.00		SITE 5 - CHANNEL CHANGE	242				
485+00.00	508+62.04	SITE 6 - STAGE 1 - MAIN LANES	1168	21569			
485+00.00	508+62.04	SITE 6 - STAGE 2 - MAIN LANES	223	12396			
485+00.00	508+62.04	SITE 6 - STAGE 3 - MAIN LANES	635	39			
493+00.00	505+00.00	SITE 6 - STAGE 3 - OBLITERATION OF ROADWAY	1334				
ENTIRE PROJECT		SITE 6 - APPROACHES		2720			
500+97.00		SITE 6 - ST. HWY. 252		495			
489+10.50		SITE 6 - CHANNEL CHANGE	91	56			
502+06.00		SITE 6 - CHANNEL CHANGE	141	1			
ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				200	300
TOTALS:			9866	41853	1.00	200	300

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

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

REMOVAL AND DISPOSAL OF CULVERTS - SITES 5 & 6

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
102+50	SITE 5 - 24" X 40' CMP - LT. SIDE DRAIN	1
105+50	SITE 5 - 18" X 40' RCP - RT. SIDE DRAIN	1
504+44	SITE 6 - 24" X 25' BPP - LT. SIDE DRAIN	1
505+15	SITE 6 - 24" X 49' CMP - LT. SIDE DRAIN	1
497+82	SITE 6 - 26" X 20" X 49' CMAP CULVERT	1
TOTAL:		5

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

EARTHWORK - SITE 8

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SHORING (SITE NO. 2)	STONE BACKFILL	* SOIL STABILIZATION
			CU. YD.	CU. YD.	LUMP SUM	TON	TON
ENTIRE PROJECT		STAGE 1-MAIN LANES	210		1.00		
ENTIRE PROJECT		APPROACHES		10			
ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				100	50
TOTALS:			210	10	1.00	100	50

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

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

REMOVAL AND DISPOSAL OF CULVERTS - SITE 7

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
104+96	DBL. 30" X 20' C.M. SIDE DRAIN	2
TOTAL:		2

QUANTITIES

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EARTHWORK - SITE 7

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED	COMPACTED	STONE	*SOIL
			EXCAVATION	EMBANKMENT	BACKFILL	STABILIZATION
			CU. YD.	TON		
ENTIRE PROJECT	SITE 7		1372	5055		
ENTIRE PROJECT	APPROACHES			65		
	CHANNEL CHANGE		1550			
ENTIRE PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				100	25
TOTALS:			2922	5120	100	25

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

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

SOIL LOG - SITES 5 & 6

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
		FEET				
100+00	06 RT	0-5	22	5	A-4 (2)	BROWN
100+00	17 RT	0-5	21	3	A-4 (0)	BROWN
100+00	18RT	0-5	22	4	A-4(1)	BR/RD
109+00	06 LT	0-5	24	7	A-4 (4)	GRAY
109+00	18 LT	0-5	21	7	A-4 (2)	BR/GR
487+00	06 RT	0-5	36	22	A-6 (14)	BROWN
487+00	12 RT	0-5	26	12	A-6 (3)	BROWN
495+00	06 LT	0-5	ND	NP	A-4 (0)	BR/RD
495+00	18 LT	0-5	50	34	A-7-6(29)	RD/BR
495+00	18 LT	0-5	42	26	A-7-6(17)	BR/RD
503+00	06 RT	0-5	34	16	A-6 (9)	BROWN
503+00	18 RT	0-5	26	10	A-4 (2)	BROWN
510+00	06 LT	0-4Z	32	19	A-6 (13)	BROWN
510+00	18' LT	0-2.5Z	31	15	A-6 (8)	BROWN

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

EROSION CONTROL - SITES 5 & 6

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	GEOTEXTILE FABRIC (TYPE SPECIAL)	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ. YD.	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-6) CU.YD.	(E-11) LIN. FT.	(E-14) CU.YD.	CU.YD.	CU. YD.
100+00.00	109+00.00	SITE 5 - CLEARING AND GRUBBING						2.88	2.88	58.8	88	12	450	545	570		
1001+02.30	1008+64.11	SITE 5 - STAGE 1	0.05	0.10	0.05	5.1	0.05				22	6	370		17		
101+00.00	109+00.00	SITE 5 - STAGE 2	0.07	0.14	0.07	7.1	0.07					3	495		19		
100+00.00	109+00.00	SITE 5 - STAGE 3	0.12	0.24	0.12	12.2	0.12				22	6	370		17		
484+06.63	508+62.04	SITE 6 - CLEARING AND GRUBBING						9.48	9.48	193.4	220	18	1960	1940	2013		
1200+06.64	1213+51.58	SITE 6 - STAGE 1	0.16	0.32	0.16	16.3	0.16				44	6	810		30		
485+00.00	508+62.04	SITE 6 - STAGE 2	0.18	0.36	0.18	18.4	0.18				66	9	1360		62		
485+00.00	508+62.04	SITE 6 - STAGE 3	0.12	0.24	0.12	12.2	0.12				176	18					
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			2.00	4.00	2.00	204.0	2.00	220	4.00	81.6	154	15	1000	1250	1299		
TOTALS:			2.70	5.40	2.70	275.3	2.70	220	16.36	333.8	792	93	6815	3735	4027		

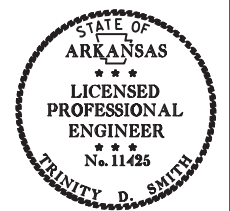
BASIS OF ESTIMATE:
LIME2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	040819
							61	111

2 QUANTITIES



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CONCRETE DITCH PAVING - SITES 5 & 6

STATION	STATION	LOCATION	LENGTH LIN. FT.	"W" FEET	"B" FEET	CONC. DITCH PAVING		SOLID SODDING SQ. YD.	WATER M. GAL.	
						(TYPE A) SQ. YD.	(TYPE B) SQ. YD.			
103+00.00	104+10.00	LT. OF MAIN LANES	110.00	7.00			85.56	48.89	0.62	
104+35.00	105+00.00	RT. OF MAIN LANES	65.00	7.00			50.56	28.89	0.36	
104+70.00	105+10.00	LT. OF MAIN LANES	40.00	7.00			31.11	17.78	0.22	
108+00.00	109+00.00	RT. OF MAIN LANES	100.00	7.00			77.78	44.44	0.56	
485+00.00	487+00.00	LT. OF MAIN LANES	200.00	7.00	5.00	155.56		88.89	1.12	
486+00.00	488+56.26	RT. OF MAIN LANES	256.26	7.00			199.31	113.89	1.44	
501+38.00	501+62.13	RT. OF MAIN LANES	24.13	7.00			18.77	10.72	0.14	
502+48.59	504+00.00	RT. OF MAIN LANES	151.41	7.00			117.76	67.29	0.85	
509+00.00	509+62.00	LT. OF MAIN LANES	62.00	7.00			48.22	27.56	0.35	
509+00.00	509+62.00	RT. OF MAIN LANES	62.00	7.00			48.22	27.56	0.35	
TOTALS:							155.56	677.29	475.91	6.01

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

CONCRETE DITCH PAVING - SITE 7

STATION	STATION	LOCATION	LENGTH LIN. FT.	"W" FEET	"B" FEET	CONC. DITCH PAVING		SOLID SODDING SQ. YD.	WATER M. GAL.	
						(TYPE A) SQ. YD.	(TYPE B) SQ. YD.			
108+00.00	108+60.00	SITE 7 LT.	60.00	6.32			42.13	26.67	0.34	
108+00.00	108+60.00	SITE 7 RT.	60.00	8.82	2.50	58.80		26.67	0.34	
109+40.00	109+80.00	SITE 7 LT.	40.00	6.32			28.09	17.78	0.22	
109+40.00	109+80.00	SITE 7 RT.	40.00	8.82	2.50	39.20		17.78	0.22	
TOTALS:							98.00	70.22	88.90	1.12

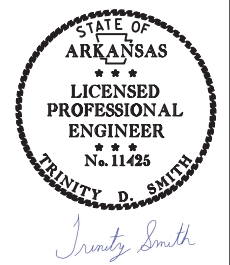
BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

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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.		040819	62	111

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EROSION CONTROL - SITE 7

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL						
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	GEOTEXTILE FABRIC (TYPE SPECIAL)	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	SILT FENCE	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-11) LIN. FT.	CU. YD.
ENTIRE PROJECT		CLEARING AND GRUBBING												
ENTIRE PROJECT		STAGE 1	1.90	3.80	1.90	193.8	1.90				66	760	31	
											198		9	
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.48	0.96	0.48	49.0	0.48	110			66	190	7	
TOTALS:			2.38	4.76	2.38	242.8	2.38	110	3.69	3.69	75.3	330	950	47

BASIS OF ESTIMATE:
 LIME2 TONS / ACRE OF SEEDING
 WATER.....102.0 M.G. / ACRE OF SEEDING
 WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
 SAND BAG DITCH CHECKS.....22 BAGS / LOCATION

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

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

EROSION CONTROL - SITE 8

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL					
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	GEOTEXTILE FABRIC (TYPE SPECIAL)	FILTER SOCK (12")	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	(E-3) LIN. FT.	(E-5) BAG	(E-6) CU.YD.	(E-11) LIN. FT.	CU. YD.
ENTIRE PROJECT		STAGE 1	0.10	0.20	0.10	10.2	0.10						
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.10	0.80	0.10	10.2	0.10	110	20	88	12	100	12
TOTALS:			0.20	1.00	0.20	20.4	0.20	110	30	88	12	100	12

BASIS OF ESTIMATE:
 LIME2 TONS / ACRE OF SEEDING
 WATER.....102.0 M.G. / ACRE OF SEEDING
 SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
 ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

BENCH MARKS - SITES 5 & 6

STATION	LOCATION	BENCH MARKS
		EACH
104+32.00	SITE 5 - RT. HEADWALL	1
489+10.50	SITE 6 - LT. HEADWALL	1
502+06.00	SITE 6 - RT. HEADWALL	1
TOTAL:		3

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

BENCH MARKS - SITE 7

STATION	LOCATION	BENCH MARKS
		EACH
109+00	HDWL. OF R.C. BOX CULVERT ON RT.	1
TOTAL:		1

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

BENCH MARKS - SITE 8

STATION	LOCATION	BENCH MARKS
		EACH
112+09	HWY. 64 - BOX CULVERT	1
TOTAL:		1

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

EROSION CONTROL MATTING - SITES 5 & 6

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
103+00.00	103+75.00	RT. OF MAIN LANES	75.00	66.67
107+00.00	109+00.00	LT. OF MAIN LANES	200.00	177.78
484+00.00	485+00.00	RT. OF MAIN LANES	100.00	88.89
487+00.00	488+56.73	LT. OF MAIN LANES	156.73	139.32
489+64.26	492+56.08	RT. OF MAIN LANES	291.82	259.40
489+64.73	492+00.00	LT. OF MAIN LANES	235.27	209.13
500+89.00	501+65.24	LT. OF MAIN LANES	76.24	67.77
502+45.24	504+14.89	LT. OF MAIN LANES	169.65	150.80
505+15.00	509+00.00	RT. OF MAIN LANES	385.00	342.22
506+00.00	509+00.00	LT. OF MAIN LANES	300.00	266.67
TOTAL:			1768.65	

NOTE: AVERAGE WIDTH = 8'-0"

DUMPED RIPRAP AND FILTER BLANKET - ALL SITES

STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
		CU. YD.	SQ. YD.
	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	500	1000
TOTALS:		500	1000

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

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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.	040819		63	111

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4" PIPE UNDERDRAIN - SITES 5 & 6

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			1000	8
TOTALS:			1000	8

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

4" PIPE UNDERDRAIN - SITE 7

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			500	2
TOTALS:			500	2

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

MAILBOXES - SITES 5 & 6

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			
	6	4	1
TOTALS:		6	1

CONCRETE WALKS & HAND RAILING - SITE 8

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS	HAND RAILING
			LIN. FT.	SQ. YD.	LIN. FT.
111+94	112+49	HWY. 64 - LT.	55	31	55
111+90	112+25	HWY. 64 - RT.	35		35
TOTALS:				31	90

CONCRETE COMBINATION CURB AND GUTTER - SITE 8

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
111+69	112+49	HWY. 64 - LT. & RT.	160
TOTAL:			160

WHEELCHAIR RAMPS - SITE 8

STATION	LOCATION	TYPE 3
		SQ. YD.
111+92	HWY. 64 - LT.	26.2
112+48	HWY. 64 - LT.	26.2
112+74	HWY. 64 - LT.	26.2
TOTAL:		78.6

FENCING - SITES 5 & 6

STATION	STATION	LOCATION	WIRE FENCE	
			(TYPE C)	(TYPE D)
			LIN. FT.	
482+99	486+80	SITE 6 - WIRE FENCE ON LT.	396	
506+10	509+00	SITE 6 - BARBED FENCE ON LT.		312
TOTALS:			396	312

FENCING - SITE 7

STATION	STATION	LOCATION	WIRE FENCE		* 16'-0" GATES
			(TYPE D)	(TYPE D-1)	
			LIN. FT.		
100+77	108+60	SITE 7 RT.	793		2
103+00	108+60	SITE 7 LT.		613	
109+40	114+00	SITE 7 RT.	502		
TOTALS:			1295	613	2

* DENOTES ALTERNATE BID ITEM.

FENCING - SITE 8

STATION	STATION	LOCATION	* 5' CHAIN LINK FENCE
			LIN. FT.
111+90	112+49	HWY. 64 - LT.	40
TOTAL:			40

* DENOTES ALTERNATE BID ITEM.

SELECTED PIPE BEDDING - SITES 5 & 6

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

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

SELECTED PIPE BEDDING - SITE 7

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

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

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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.	040819		64	111

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STRUCTURES - SITES 5 & 6

STATION	DESCRIPTION	PIPE CULVERT ALTERNATES		FLARED END SECTION ALTERNATES FOR PIPE CULVERT ALTERNATES	TEMPORARY CULVERTS		SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL. EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		ALT. 1 (CLASS III)	ALT. 2, 3, 4, 5, AND 6 (WITH CLASS III ALT. 1)		18"	60"									
		24"	24"	24"	18"	60"	LIN. FT.	LIN. FT.	CU. YD.	POUND	CU. YD.	SQ. YD.	M. GAL.		
1004+87	SITE 5 - INSTALL QUAD. TEMPORARY CULVERT 20" L.F.S. - ON DETOUR					256									PCC-1, PCM-1
1006+28	SITE 5 - INSTALL TEMPORARY CULVERT ON RT.					40									PCC-1, PCM-1
497+84	SITE 6 - CONSTRUCT R.C. PIPE CULVERT W/F.E.S.	66	70	2									24	0.30	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
500+97	SITE 6 - CONSTRUCT R.C. PIPE CULVERT W/F.E.S.	78	84	2									24	0.30	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
SUBTOTALS:		144	154	4	40	256							48	0.60	
STRUCTURES OVER 20' - 0" SPAN															
104+22.00	SITE 5 - CONSTRUCT QUAD. R.C. BOX CULVERT W/3:1 WINGWALLS 15" L.F.S.						10	6	90	398.08	63167	147	36	0.45	SPECIAL DETAILS, RCB-1, RCB-2
489+10.50	SITE 6 - CONSTRUCT QUINT. R.C. BOX CULVERT W/3:1 WINGWALLS						12	14	82	916.66	121868	184	61	0.77	SPECIAL DETAILS, RCB-1, RCB-2
502+06.00	SITE 6 - CONSTRUCT QUAD. R.C. BOX CULVERT W/3:1 WINGWALLS						12	12	82	581.38	68177	149	51	0.64	SPECIAL DETAILS, RCB-1, RCB-2
SUBTOTALS:										1896.12	253212	480	148	1.86	
TOTALS:		144	154	4	40	256				1896.12	253212	480	196	2.46	

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

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

STRUCTURES - SITE 7

STATION	DESCRIPTION	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL. EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
STRUCTURES OVER 20' - 0" SPAN										
109+00	QUAD. 12' X 10' X 60' R.C. BOX CULVERT	12	10	60	396.02	45824	165	48	0.60	SPECIAL DETAILS, RCB-1, RCB-2
TOTALS:					396.02	45824	165	48	0.60	

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

STRUCTURES - SITE 8

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE (CLASS III)			SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL. EXC. FOR STR.-ROADWAY	STD. DWG. NOS.
		18"	24"	30"							
		LIN. FT.	LIN. FT.	CU. YD.	POUND	CU. YD.					
111+94	24" PIPE CULVERT		10								PCC-1
111+94	18" PIPE CULVERT	26									PCC-1
112+24	30" PIPE CULVERT			26							PCC-1
112+32	24" PIPE CULVERT		10								PCC-1
SUBTOTALS:		26	20	26							
STRUCTURES OVER 20' - 0" SPAN											
112+09	TRI. R.C. BOX CULVERT				10	5	95	289.70	40081	224	SPECIAL DETAILS, RCB-1, RCB-2
SUBTOTALS:								289.70	40081	224	
TOTALS:		26	20	26				289.70	40081	224	

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

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

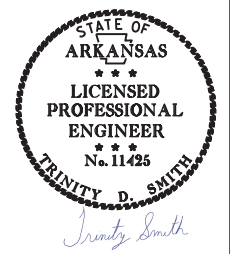
QUANTITIES

2/6/2020 RO40819.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.	040819	65	111	

DRIVEWAYS & TURNOUTS - SITES 5 & 6

② QUANTITIES



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STATION	SIDE	LOCATION	WIDTH		ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS		STANDARD DRAWINGS
			FEET	SQ. YD.	TON	TON	18"	24"		
								LIN. FT.		
102+56	LT.	SITE 5 - MAIN LANES	16	72.27	7.95	29.51		40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
105+50	LT.	SITE 5 - MAIN LANES - SOUTH RIVER ROAD	22	474.42	52.19	193.72				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
105+50	RT.	SITE 5 - MAIN LANES	16	89.71	9.87	36.63		52		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
492+95	RT.	SITE 6 - MAIN LANES	28	147.13	16.18	60.08				
493+27	RT.	SITE 6 - MAIN LANES						148		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
493+57	RT.	SITE 6 - MAIN LANES	40	349.75	38.47	142.81				
494+65	RT.	SITE 6 - MAIN LANES	16	161.87	17.81	66.10		58		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
504+44	LT.	SITE 6 - MAIN LANES	16	158.93	17.48	64.90		72		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
505+15	LT.	SITE 6 - MAIN LANES	16	140.89	15.50	57.53		60		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
* ENTIRE PROJECT TEMPORARY DRIVES							1400.00			
TOTALS:				1594.97	175.45	2051.28		258	172	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....93.9% MIN. AGGR.....6.1% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

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.

RUMBLE STRIPES IN ASPHALT SHOULDERS - SITES 5 & 6

STATION	STATION	LOCATION	* RUMBLE STRIPES IN ASPHALT SHOULDERS
			LIN. FT.
101+00	109+00	SITE 5 - LT. & RT. OF MAIN LANES	496
485+00	508+62	SITE 6 - LT. & RT. OF MAIN LANES	1834
TOTAL:			2330

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

DRIVEWAYS - SITE 7

STATION	SIDE	LOCATION	WIDTH		ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS	STANDARD DRAWINGS
			FEET	SQ. YD.	TON	TON	30"		
								LIN. FT.	
104+96	RT.	SITE 7	16	44.80	4.93	42.56		60	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
* ENTIRE PROJECT TEMPORARY DRIVES							50.00		
TOTALS:				44.80	4.93	92.56		60	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....93.9% MIN. AGGR.....6.1% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

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.

COLD MILLING ASPHALT PAVEMENT - SITES 5 & 6

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
100+00.00	101+00.00	SITE 5 - MAIN LANES	20.00	222.22
109+00.00	110+00.00	SITE 5 - MAIN LANES	20.00	222.22
484+00.00	485+00.00	SITE 6 - MAIN LANES	20.00	222.22
508+62.04	511+24.54	SITE 6 - MAIN LANES	20.00	583.33
103+00.00	104+00.00	SITE 6 - HWY. 252	22.00	244.44
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER		SITE 5	VAR.	100.00
		SITE 6	VAR.	100.00
TOTAL:				1694.43

NOTE: AVERAGE MILLING DEPTH 1".

DRIVEWAYS & TURNOUTS - SITE 8

STATION	SIDE	LOCATION	WIDTH		**MODIFIED CURB		ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)
			FEET	STATION	STATION	SQ. YD.	TON	TON	
111+80	LT.	HWY. 64	20	111+56	112+04	102.67	11.29	41.92	
113+25	RT.	HWY. 64	48	112+87	113+63	152.89	16.82	62.43	
TOTALS:							255.56	28.11	104.35

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....93.9% MIN. AGGR.....6.1% 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.

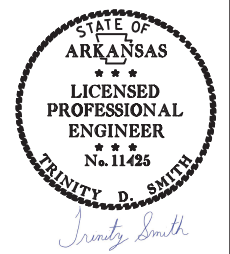
** FOR INFORMATION ONLY

QUANTITIES

2/6/2020
R040819.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.		040819	66	111

② QUANTITIES



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COLD MILLING ASPHALT PAVEMENT - SITE 7

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
100+50.00	101+50.00	SITE 7	20.00	222.22
113+00.00	114+00.00	SITE 7	20.00	222.22
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER		SITE 7	VAR.	100.00
TOTAL:				544.44

NOTE: AVERAGE MILLING DEPTH 1".

COLD MILLING ASPHALT PAVEMENT - SITE 8

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
110+69.00	111+69.00	MAIN LANES	48.00	533.33
112+49.00	113+49.00	MAIN LANES	48.00	533.33
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER		MAIN LANES	VAR.	100.00
TOTAL:				1166.66

NOTE: AVERAGE MILLING DEPTH 1".

ACHM PATCHING OF EXISTING ROADWAY - SITES 5 & 6

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

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

ACHM PATCHING OF EXISTING ROADWAY - SITE 8

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

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC - SITES 5 & 6

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

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

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC - SITE 8

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

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

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							040819	67	111

2 QUANTITIES



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BASE AND SURFACING - SITES 5 & 6

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")											
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	TOTAL PG 64-22 TON		
						TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON																				
MAIN LANES																															
100+00.00	101+00.00	TRANSITION - SITE 5	100.00	115.50	115.50	6.74	74.89	3.74	20.00	222.22	37.78	41.52	2.38	26.44	440.00	5.82	2.23	24.78	330.00	4.09	2.13	23.67	220.00	2.60	28.00	311.11	220.00	34.22	36.82		
101+00.00	104+10.97	NOTCH & WIDENING - SITE 5	310.97	231.00	718.34	13.46	465.07	23.25	20.00	691.04	117.48	140.73	4.75	164.12	440.00	36.11	4.46	154.10	330.00	25.43	4.25	146.85	220.00	16.15	28.00	967.46	220.00	106.42	122.57		
104+10.97	104+49.00	FULL DEPTH - SITE 5	38.03	308.75	117.42	73.46	310.41	15.52				15.52	24.75	104.58	440.00	23.01	24.46	103.36	330.00	17.05	24.25	102.47	220.00	11.27	28.00	118.32	220.00	13.02	24.29		
104+49.00	109+00.00	NOTCH & WIDENING - SITE 5	451.00	231.00	1041.81	13.46	674.50	33.73	20.00	1002.22	170.38	204.11	4.75	238.03	440.00	52.37	4.46	223.50	330.00	36.88	4.25	212.97	220.00	23.43	28.00	1403.11	220.00	154.34	177.77		
109+00.00	110+00.00	TRANSITION - SITE 5	100.00	115.50	115.50	6.74	74.89	3.74	20.00	222.22	37.78	41.52	2.38	26.44	440.00	5.82	2.23	24.78	330.00	4.09	2.13	23.67	220.00	2.60	28.00	311.11	220.00	34.22	36.82		
HWY. 252																															
100+10.08	100+81.56	SHOULDER TRANSITION ON HWY. 252	71.48	20.25	14.47	8.00	63.54	3.18				3.18						4.00	31.77	330.00	5.24	4.00	31.77	220.00	3.49	6.00	47.65	220.00	5.24	8.73	
100+10.08	100+81.56	STATE HWY. 252	150.00	VAR.	156.03	VAR.	891.52	44.58				44.58						VAR.	445.81	330.00	73.56	VAR.	445.81	220.00	49.04	VAR.	445.81	220.00	49.04	98.08	
100+10.08	100+81.56	SHOULDER TRANSITION ON HWY. 252	71.48	20.25	14.47	8.00	63.54	3.18				3.18						4.00	31.77	330.00	5.24	4.00	31.77	220.00	3.49	6.00	47.65	220.00	5.24	8.73	
100+81.56	103+00.00	STATE HWY. 252	218.44	178.00	388.82	44.71	1085.16	54.26				54.26						22.46	545.13	330.00	89.95	22.25	540.03	220.00	59.40	26.00	631.05	220.00	69.42	128.82	
ADDITIONAL FOR GRADE RAISE																															
102+00.00	104+10.97	MAIN LANES - SITE 5	210.97			VAR.	1406.47	70.32				70.32						VAR.	468.82	VAR.	283.64										
104+49.00	105+00.00	MAIN LANES - SITE 5	51.00			VAR.	340.00	17.00				17.00						VAR.	113.53	VAR.	68.56										
486+00.00	488+84.13	MAIN LANES - SITE 6	284.13			VAR.	1227.53	61.38				61.38						VAR.	409.18	VAR.	247.55										
489+36.95	490+00.00	MAIN LANES - SITE 6	63.05			VAR.	1087.00	54.35				54.35						VAR.	362.33	VAR.	219.21										
506+00.00	510+00.00	MAIN LANES - SITE 6	400.00			VAR.	888.89	44.44				44.44						VAR.	2422.22	VAR.	399.67										
ADDITIONAL FOR LEVELING																															
100+81.56	103+00.00	HWY. 252 - SITE 6	218.44			22.00	533.96	26.70				26.70										22.00	533.96	220.00	58.74					58.74	
101+00.00	103+00.00	MAIN LANES - SITE 5	200.00			20.00	444.44	22.22				22.22										20.00	444.44	220.00	48.89					48.89	
105+00.00	109+00.00	MAIN LANES - SITE 5	400.00			20.00	888.89	44.44				44.44										20.00	888.89	220.00	97.78					97.78	
485+00.00	488+00.00	MAIN LANES - SITE 6	300.00			20.00	666.67	33.33				33.33										20.00	666.67	220.00	73.33					73.33	
506+00.00	508+62.04	MAIN LANES - SITE 6	262.04			20.00	582.31	29.12				29.12										20.00	582.31	220.00	64.05					64.05	
DETOUR																															
1001+02.30	1002+74.80	DETOUR - SITE 5	172.50	VAR.	625.80	VAR.	341.62	17.08				17.08						VAR.	341.62	330.00	56.37					VAR.	375.18	220.00	41.27	41.27	
1002+74.80	1007+00.30	DETOUR - SITE 5	425.50	171.25	728.67	20.29	959.27	47.96				47.96						20.29	959.27	330.00	158.28				24.00	1134.67	220.00	124.81	124.81		
1007+00.30	1008+64.11	DETOUR - SITE 5	163.81	VAR.	571.35	VAR.	234.47	11.72				11.72						VAR.	234.47	330.00	38.69				VAR.	430.79	220.00	47.39	47.39		
ADDITIONAL FOR SUPERELEVATION																															
487+79.98	491+29.98	MAIN LANES - SITE 6	350.00	21.50	75.25																										
491+29.98	495+63.98	MAIN LANES - SITE 6	434.00	43.00	186.62																										
495+63.98	499+13.98	MAIN LANES - SITE 6	350.00	21.50	75.25																										
499+38.80	502+88.80	MAIN LANES - SITE 6	350.00	21.50	75.25																										
502+88.80	507+74.54	MAIN LANES - SITE 6	485.74	43.00	208.87																										
507+74.54	511+24.54	MAIN LANES - SITE 6	350.00	21.50	75.25																										
1002+92.76	1006+73.65	DETOUR - SITE 5	380.89	3.75	14.28																										
TOTALS:					9242.12		22696.01	1134.80		4192.23	712.69	1847.49		559.61	123.13		11616.85		2512.36		9345.83		1028.01		14058.70		1546.45	2574.46			

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....93.9% MIN. AGGR.....6.1% ASPHALT BINDER
 ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
 ACHM BASE COURSE (1 1/2").....96.3% MIN. AGGR.....3.7% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
 TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

2/6/2020 RO40819.DGN

BASE AND SURFACING (BOX 1 OF 2) - SITE 7

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						TOTAL GALLONS
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			
						TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON	
MAIN LANES												
100+50.00	101+50.00	SITE 7 - TRANSITION	100.00	31.50	31.50	10.50	116.67	5.83	20.00	222.22	37.78	43.61
101+50.00	104+75.00	SITE 7 - NOTCH, WIDEN, & OVERLAY SECTION	325.00	31.50	102.38	21.00	758.33	37.92				37.92
104+75.00	112+00.00	SITE 7 - FULL DEPTH SECTION	725.00	57.00	413.25	67.50	5437.50	271.88				271.88
112+00.00	113+00.00	SITE 7 - NOTCH, WIDEN, & OVERLAY SECTION	100.00	31.50	31.50	21.00	233.33	11.67				11.67
113+00.00	114+00.00	SITE 7 - TRANSITION	100.00	31.50	31.50	10.50	116.67	5.83	20.00	222.22	37.78	43.61
ADDITIONAL FOR LEVELING												
101+50.00	103+40.00	SITE 7 - LEVELING	190.00			20.00	422.22	21.11	20.00	422.22	71.78	92.89
103+40.00	104+00.00	SITE 7 - LEVELING	60.00			40.00	266.67	13.33	20.00	133.33	22.67	36.00
104+00.00	104+75.00	BASE, BINDER, SURFACE	75.00			60.00	500.00	25.00	20.00	166.67	28.33	53.33
104+75.00	108+47.00	SITE 7 - GRADE RAISE	372.00			20.00	826.67	41.33	20.00	826.67	140.53	181.86
109+53.00	112+00.00	SITE 7 - GRADE RAISE	247.00			40.00	1097.78	54.89	20.00	548.89	93.31	148.20
112+00.00	112+35.00	BASE, BINDER, SURFACE	35.00			60.00	233.33	11.67	20.00	77.78	13.22	24.89
112+35.00	112+65.00	SITE 7 - LEVELING	30.00			40.00	133.33	6.67	20.00	66.67	11.33	18.00
112+65.00	113+00.00	SITE 7 - LEVELING	35.00			20.00	77.78	3.89	20.00	77.78	13.22	17.11
ADDITIONAL FOR SUPERELEVATION												
101+50.00	104+12.50	SITE 7 - SUPERELEVATION TRANSITION	262.50	3.25	8.53							
TOTALS:					618.66		10220.28	511.02		2764.45	469.95	980.97

BASIS OF ESTIMATE:
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

BASE AND SURFACING (BOX 2 OF 2) - SITE 7

STATION	STATION	LOCATION	LENGTH FEET	ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	TOTAL PG 64-22 TON
MAIN LANES																				
100+50.00	101+50.00	SITE 7 - TRANSITION	100.00	3.79	42.11	550.00	11.58	3.46	38.44	330.00	6.34	3.25	36.11	220.00	3.97	25.00	277.78	220.00	30.56	34.53
101+50.00	104+75.00	SITE 7 - NOTCH, WIDEN, & OVERLAY SECTION	325.00	7.58	273.72	550.00	75.27	6.92	249.89	330.00	41.23	6.50	234.72	220.00	25.82	26.00	938.89	220.00	103.28	129.10
104+75.00	112+00.00	SITE 7 - FULL DEPTH SECTION	725.00	22.79	1835.86	550.00	504.86	22.46	1809.28	330.00	298.53	22.25	1792.36	220.00	197.16	26.00	2094.44	220.00	230.39	427.55
112+00.00	113+00.00	SITE 7 - NOTCH, WIDEN, & OVERLAY SECTION	100.00	7.58	84.22	550.00	23.16	6.92	76.89	330.00	12.69	6.50	72.22	220.00	7.94	26.00	288.89	220.00	31.78	39.72
113+00.00	114+00.00	SITE 7 - TRANSITION	100.00	3.79	42.11	550.00	11.58	3.46	38.44	330.00	6.34	3.25	36.11	220.00	3.97	25.00	277.78	220.00	30.56	34.53
ADDITIONAL FOR LEVELING																				
101+50.00	103+40.00	SITE 7 - LEVELING	190.00									20.00	422.22	VAR.	23.22					23.22
103+40.00	104+00.00	SITE 7 - LEVELING	60.00					20.00	133.33	VAR.	11.00	20.00	133.33	220.00	14.67					14.67
104+00.00	104+75.00	BASE, BINDER, SURFACE	75.00	20.00	166.67	VAR.	22.92	20.00	166.67	330.00	27.50	20.00	166.67	220.00	18.33					18.33
104+75.00	108+47.00	SITE 7 - GRADE RAISE	372.00	20.00	826.67	VAR.	206.40													
109+53.00	112+00.00	SITE 7 - GRADE RAISE	247.00	20.00	548.89	VAR.	184.82													
112+00.00	112+35.00	BASE, BINDER, SURFACE	35.00	20.00	77.78	VAR.	10.69	20.00	77.78	330.00	12.83	20.00	77.78	220.00	8.56					8.56
112+35.00	112+65.00	SITE 7 - LEVELING	30.00					20.00	66.67	VAR.	5.50	20.00	66.67	220.00	7.33					7.33
112+65.00	113+00.00	SITE 7 - LEVELING	35.00					20.00	77.78	VAR.	4.28									4.28
TOTALS:					3898.03		1051.28		2657.39		421.96		3115.97		315.25		3877.78		426.57	741.82

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....93.9% MIN. AGGR.....6.1% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.3% MIN. AGGR.....3.7% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

BASE AND SURFACING - SITE 8

STATION	STATION	LOCATION	LENGTH FEET	TACK COAT						ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")									
				(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	TOTAL PG 64-22 TON
				TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON																		
MAIN LANES																											
110+69.00	111+69.00	HWY. 64 - TRANSITION	100.00				48.00	533.33	90.67	90.67																	
111+69.00	112+49.00	HWY. 64	80.00	144.00	1280.00	64.00				53.00	471.11	550.00	129.56	48.00	426.67	330.00	70.40	48.00	426.67	220.00	46.93	48.00	533.33	220.00	58.67	58.67	
112+49.00	113+83.00	HWY. 64 - TRANSITION	134.00				48.00	714.67	121.49	121.49																	
TOTALS:					1280.00	64.00		1248.00	212.16	276.16		471.11		129.56		426.67		70.40		426.67		46.93		1674.67		184.21	231.14

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....93.9% MIN. AGGR.....6.1% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.3% MIN. AGGR.....3.7% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	040819
							SHEET NO.	68
							TOTAL SHEETS	111

2 QUANTITIES



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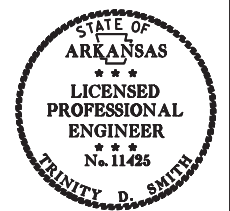
2/6/2020

RO40819.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO.							040819	70 111

2 SURVEY CONTROL DETAILS



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SURVEY CONTROL COORDINATES

Project Name: s040265
 Date: 2/11/2016
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL 650020 - 650020A, 650021 - 650021A
 PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	365704.9380	657260.9047	401.560	CTL	AHTD STD. MON STAMPED PN# 1
2	366057.8077	657538.6005	403.416	CTL	AHTD STD. MON STAMPED PN# 2
3	366594.4662	657952.7197	407.701	CTL	AHTD STD. MON STAMPED PN# 3
4	392687.5193	681132.0101	388.436	CTL	AHTD STD. MON STAMPED PN# 4
5	393139.0301	681158.6154	388.739	CTL	AHTD STD. MON STAMPED PN# 5
6	393445.0031	681084.5125	393.634	CTL	AHTD STD. MON STAMPED PN# 6
7	393903.3356	680858.1192	389.482	CTL	AHTD STD. MON STAMPED PN# 7
8	394455.6560	680591.4080	396.481	CTL	AHTD STD. MON STAMPED PN# 8
9	394888.1583	680602.9798	408.202	CTL	AHTD STD. MON STAMPED PN# 9
10	391597.9032	681047.0021	391.098	CTL	AHTD STD. MON STAMPED PN# 10
11	390926.5541	681013.2366	389.747	CTL	AHTD STD. MON STAMPED PN# 11
100	365401.0579	657083.7555	406.173	GPS	AHTD GPS #650020
101	367033.8279	658288.8543	413.124	GPS	AHTD GPS #650020A
102	392234.2351	681048.0079	387.607	GPS	AHTD GPS #650021
103	394157.2562	681350.8716	406.004	GPS	AHTD GPS #650021A
900	368236.7696	659250.3180	414.556	TBM	CUT SQ SQUARE S CORNER W SIDE OF BRIDGE
901	371318.9802	661639.4542	422.624	TBM	X CUT ON BOLT ON FIRE HYDRANT
903	394009.2276	680829.7859	388.626	TBM	CUT SQ S END OF E SIDE OF BRIDGE
906	395579.3845	680726.1597	404.502	TBM	2" ALUM CAP 5/8 RBR
997	373601.8336	663596.0863	408.700	BM	USGS BRASS CAP IN HEADWALL
998	397752.2557	678454.5183	406.610	BM	USGS BRASS CAP
999	398282.7660	677306.7881	389.400	BM	USGS BRASS CAP IN ROCK

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
 *(standard markings common to all caps), or as indicated
 (other markings indicated in the point description of the individual point).
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
 A PROJECT CAF OF 0.9999258340 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, s040625gi.CTL
 HORIZONTAL DATUM: NAD 83 (1997)
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
 AT A SPECIFIC POINT.

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

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: 650020 - 650020A, 650021 - 650021A
 CONVERGENCE ANGLE: 01 16 38.79 LEFT AT LT: 35-19-08 LG: 094-11-43 SOUTH BRIDGE
 01 13 57.06 LEFT AT LT: 35-23-40 LG: 094-07-05 NORTH BRIDGES
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

SITE 5

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	94+00.00	365063.0473	656807.6778
8001	PI	99+31.76	365486.7420	657128.9911
8002	PI	109+86.10	366323.8929	657769.9448
8003	POE	122+25.62	367310.2521	658520.6146

SITE 6

POINT NO.	TYPE	STATION	NORTHING	EASTING
8025	POB	465+00.00	390372.0147	680994.9336
8005	PI	482+99.88	392169.2875	681091.7482
8006	PI	484+69.89	392339.1000	681099.9712
8007	PI	486+00.01	392469.0978	681105.6049
8008	PI	487+00.02	392569.0211	681109.6764
8009	PI	488+43.07	392711.9470	681115.7671
8010	PC	490+42.48	392911.1964	681123.6727
8012	PT	496+51.48	393497.7429	680988.7650
8013	PC	502+01.30	393982.4027	680729.1319
8015	PT	508+62.04	394620.5818	680597.4414
8016	POE	512+33.61	394990.8151	680628.9146

DETOUR 1

POINT NO.	TYPE	STATION	NORTHING	EASTING
8001	POB	1000+00.00	365486.7420	657128.9911
8004	PC	1001+02.30	365567.9711	657191.1831
8018	PT	1002+87.44	365698.8727	657321.3761
8019	PC	1002+98.07	365705.3795	657329.7798
8021	PT	1006+68.34	365996.1148	657552.3775
8022	PC	1006+78.97	366005.9250	657556.4667
8024	PT	1008+64.11	366165.7587	657648.8714
8002	PI	1010+63.27	366323.8929	657769.9448
8026	POE	1011+77.17	366414.5294	657838.9238

HWY. 252

POINT NO.	TYPE	STATION	NORTHING	EASTING
8041	POB	99+99.08	393880.0547	680783.9599
8042	PC	100+25.02	393892.3024	680806.8228
8044	PT	101+59.71	393966.6640	680918.8912
8045	POE	104+04.55	394120.5909	681109.2907

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040819							71	111

2 SURVEY CONTROL DETAILS



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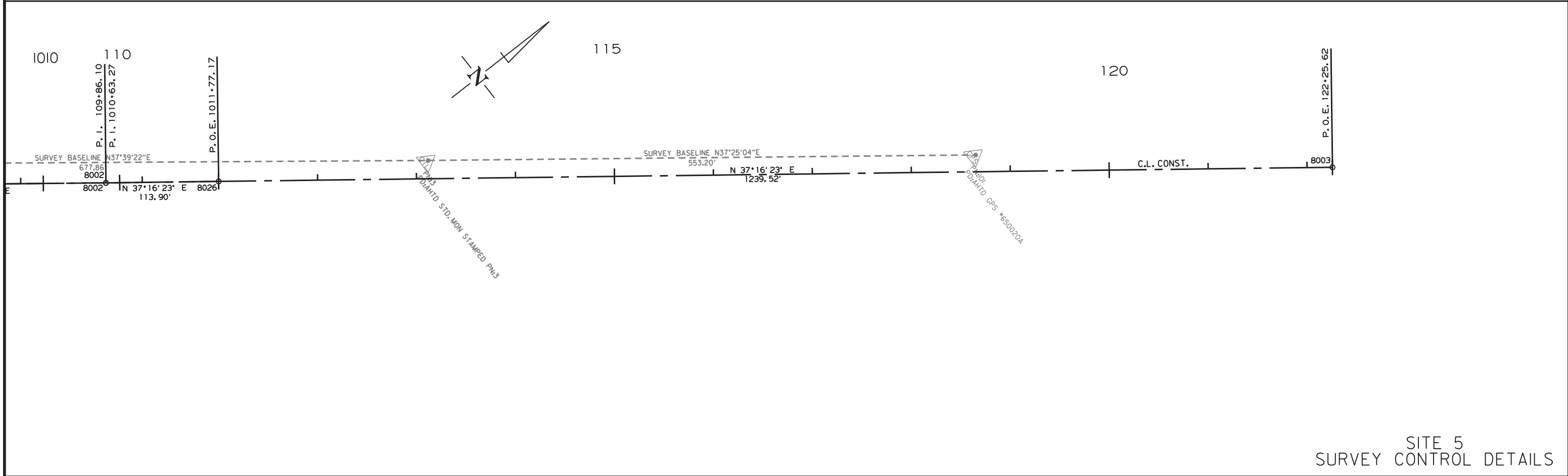
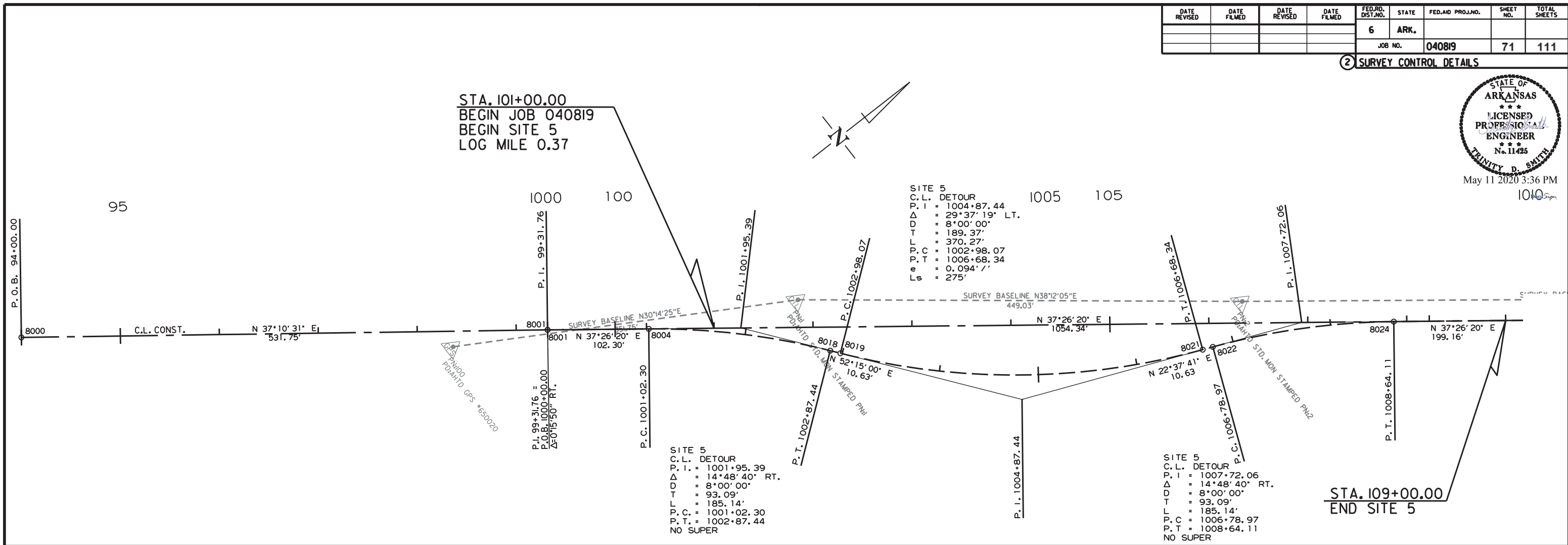
STA. 101+00.00
BEGIN JOB 040819
BEGIN SITE 5
LOG MILE 0.37

SITE 5
C.L. DETOUR
P. I. = 1004+87.44
 Δ = 29°37'19" LT.
D = 8'00'00"
T = 189.37'
L = 370.27'
P. C. = 1002+98.07
P. T. = 1006+68.34
e = 0.094' /'
Ls = 275'

SITE 5
C.L. DETOUR
P. I. = 1001+95.39
 Δ = 14°48'40" RT.
D = 8'00'00"
T = 93.09'
L = 185.14'
P. C. = 1001+02.30
P. T. = 1002+87.44
NO SUPER

SITE 5
C.L. DETOUR
P. I. = 1007+72.06
 Δ = 14°48'40" RT.
D = 8'00'00"
T = 93.09'
L = 185.14'
P. C. = 1006+78.97
P. T. = 1008+64.11
NO SUPER

STA. 109+00.00
END SITE 5



SITE 5
SURVEY CONTROL DETAILS

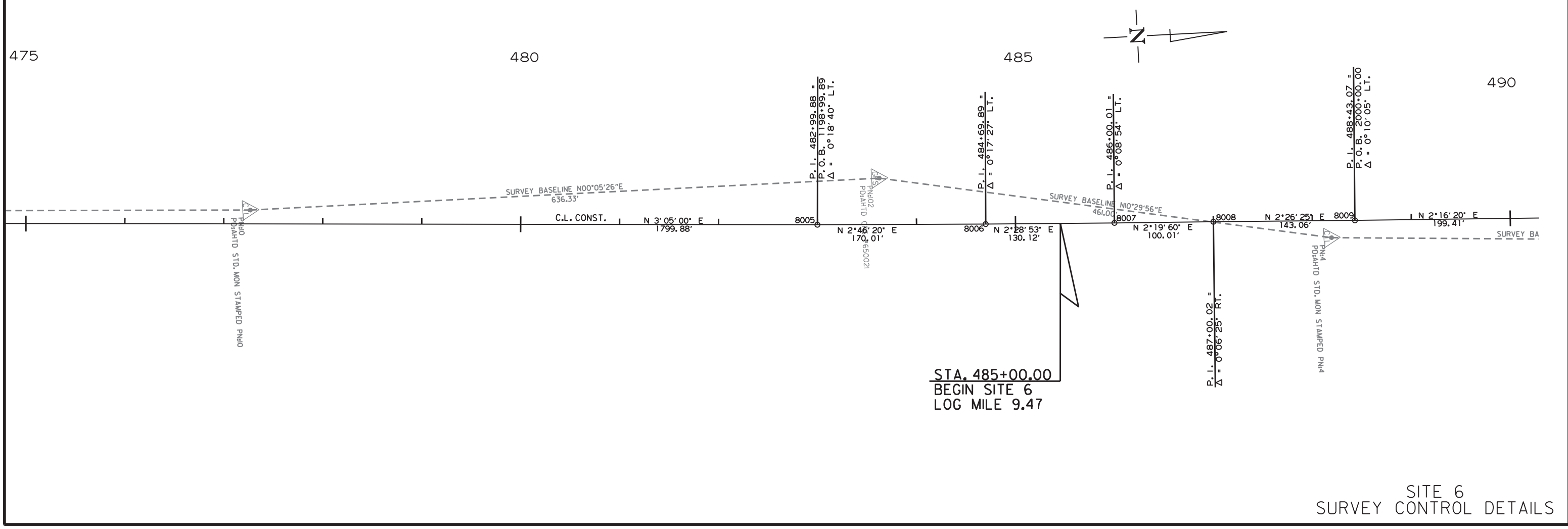
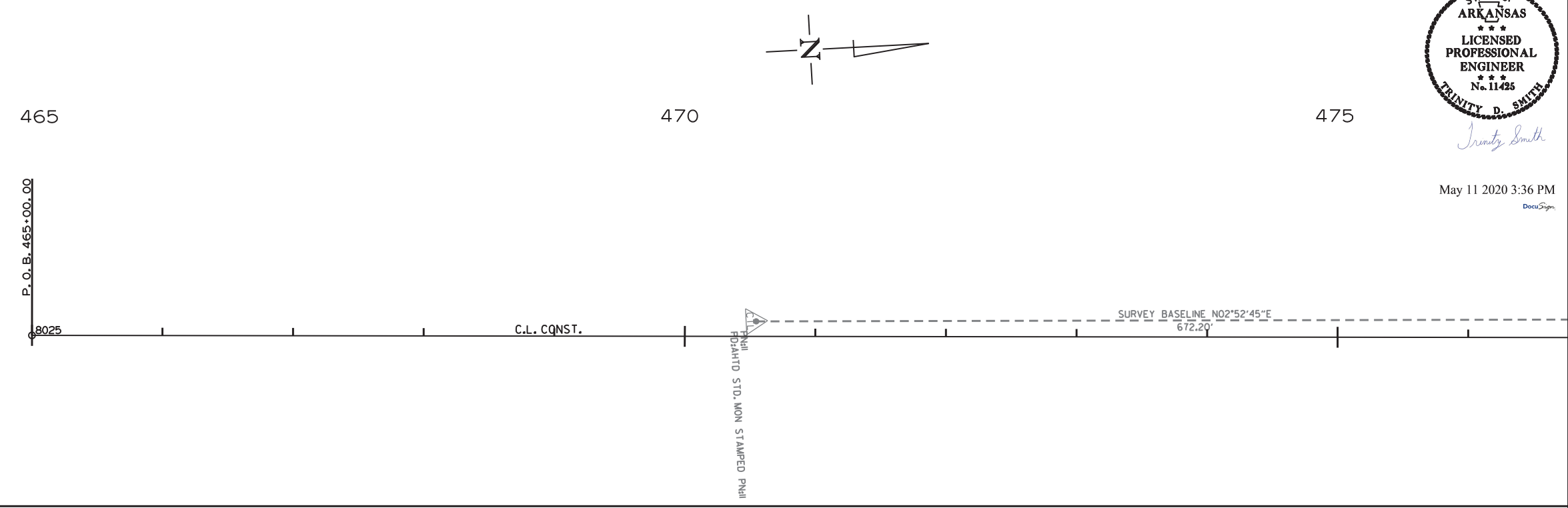
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				6	ARK.			
				JOB NO.	040819		72	111

② SURVEY CONTROL DETAILS



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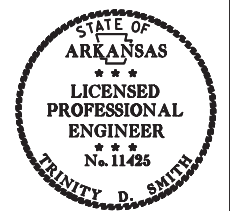
STA. 485+00.00
BEGIN SITE 6
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SITE 6
SURVEY CONTROL DETAILS

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	040819
							SHEET NO.	73
							TOTAL SHEETS	111

2 SURVEY CONTROL DETAILS



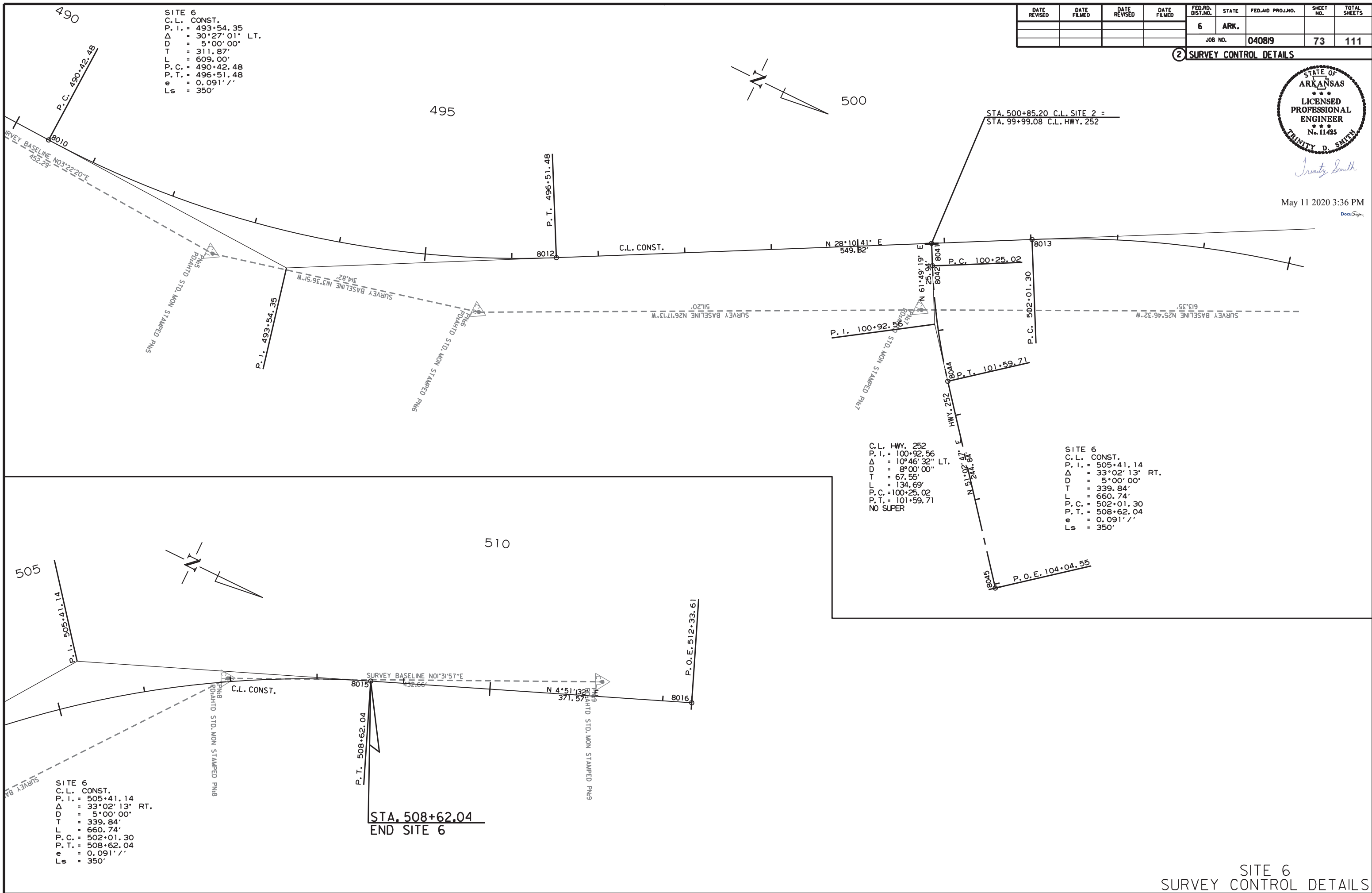
Trinity D. Smith

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SITE 6
C.L. CONST.
P. I. = 493+54.35
 Δ = 30°27'01" LT.
D = 5°00'00"
T = 311.87'
L = 609.00'
P.C. = 490+42.48
P.T. = 496+51.48
e = 0.091'/'
Ls = 350'

C.L. HWY. 252
P. I. = 100+92.56
 Δ = 10°46'32" LT.
D = 8°00'00"
T = 67.55'
L = 134.69'
P.C. = 100+25.02
P.T. = 101+59.71
NO SUPER

SITE 6
C.L. CONST.
P. I. = 505+41.14
 Δ = 33°02'13" RT.
D = 5°00'00"
T = 339.84'
L = 660.74'
P.C. = 502+01.30
P.T. = 508+62.04
e = 0.091'/'
Ls = 350'



R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							040819	74	111

② SURVEY CONTROL DETAILS



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SITE 7

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	388406.0364	687669.7239
8001	PI	102+00.00	388605.9907	687673.9985
8002	PC	104+94.88	388900.8534	687676.9692
8004	PT	108+42.54	389248.3960	687685.7445
8005	POE	115+00.00	389905.3148	687712.3077

SURVEY CONTROL COORDINATES

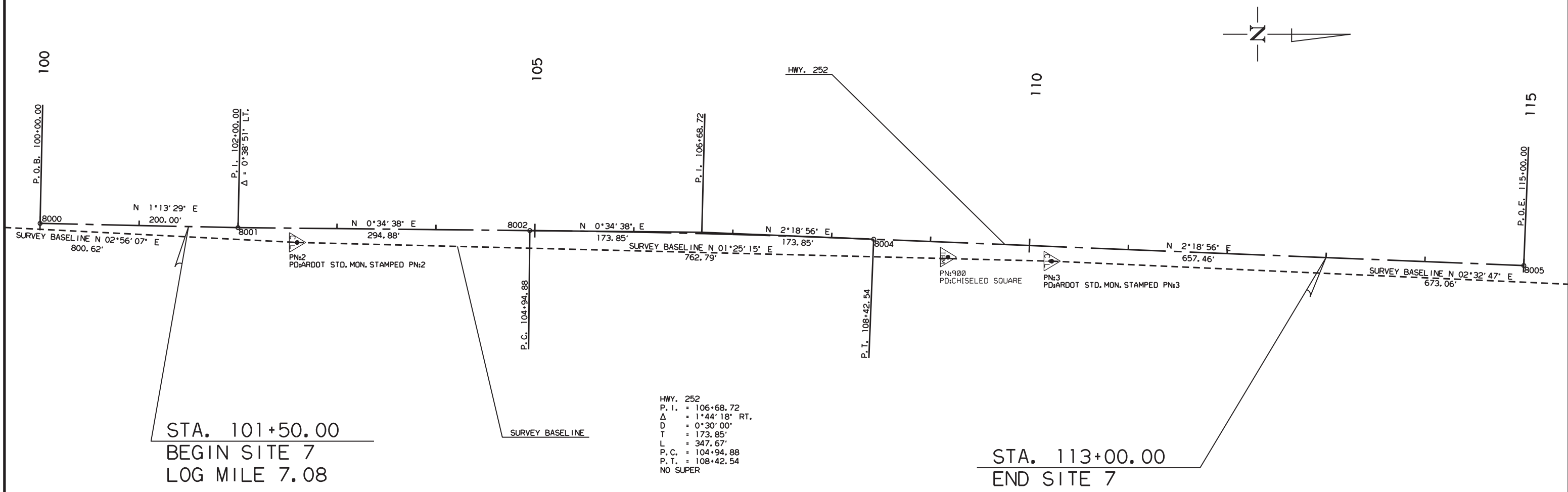
Project Name: s040778
 Date: 1/3/2019
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, 650029 - 650029A PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	387866.1514	687648.0052	407.21	CTL	ARDOT STD. MON. STAMPED PN:1
2	388665.7256	687689.0048	387.68	CTL	ARDOT STD. MON. STAMPED PN:2
3	389428.2835	687707.9170	387.67	CTL	ARDOT STD. MON. STAMPED PN:3
4	390840.7285	687743.0237	390.88	CTL	ARDOT STD. MON. STAMPED PN:4
100	390100.6810	687737.8185	385.71	GPS	ARDOT GPS #650029
101	391543.0053	687768.3567	397.19	GPS	ARDOT GPS #650029A
900	389323.4999	687703.8825	389.05	TBM	CHISELED SQUARE NE CNR OF BR

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
 *(standard markings common to all caps), or as indicated
 (other markings indicated in the point description of the individual point).
 ALL DISTANCES ARE GROUND.
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
 A PROJECT CAF OF 0.9999278456 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 s040778gi.CTL
 HORIZONTAL DATUM: NAD 83 (2011)
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: 650029 - 650029A
 CONVERGENCE ANGLE: 01 13 10.4801 LEFT AT PN:3 LT:35 23 05.67 LG:094 05 45.09
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.



2/6/2020
R040819.DGN

SURVEY CONTROL COORDINATES

Project Name: s040721_VB
 Date: 5/31/2017
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, 170007 - 170007A & 170016 - 170016A
 PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
8	409923.2727	614448.3549	433.858	CTL	AHTD STD. MON. STAMPED PN: 8
9	409860.7355	614984.6260	418.866	CTL	AHTD STD. MON. STAMPED PN: 9
10	409826.8520	615610.4937	417.327	CTL	AHTD STD. MON. STAMPED PN: 10
11	409817.2553	615821.6919	418.432	CTL	AHTD STD. MON. STAMPED PN: 11
12	409829.0212	616248.9819	435.653	CTL	AHTD STD. MON. STAMPED PN: 12
13	409879.6408	616558.8242	450.926	CTL	AHTD STD. MON. STAMPED PN: 13
14	410233.4383	616788.0270	437.005	CTL	AHTD STD. MON. STAMPED PN: 14
100	410126.4775	611667.9862	439.247	GPS	AHTD GPS #170027
101	410748.9926	613220.7996	444.400	GPS	AHTD GPS #170006A
999	410090.5042	612013.9647	443.336	BM	NGS 1ST ORDER BM R 28

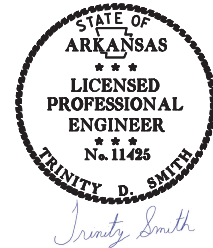
*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
 *(standard markings common to all caps), or as indicated
 (other markings indicated in the point description of the individual point).
 ALL DISTANCES ARE GROUND.
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
 A PROJECT CAF OF 0.9999189320 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 s040721_TOWN_BRANCHgi.CTL
 HORIZONTAL DATUM: NAD 83 (2011)
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
 DETERMINED FROM GPS CONTROL POINTS: 170007 - 170007A & 170016 - 170016A
 CONVERGENCE ANGLE: 01 21 40.44 LEFT AT PN: 10 LT: N 35-26-11.26 LG: W 094-20-21.45
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

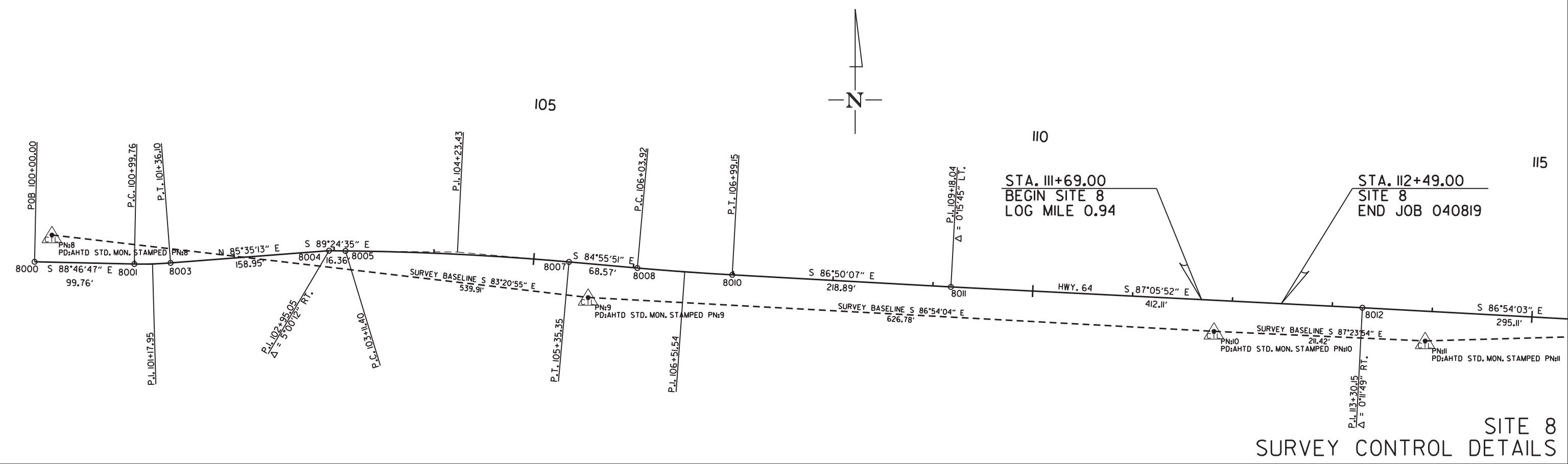
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS		
				6	ARK.					
							JOB NO.	040819	75	111

2 SURVEY CONTROL DETAILS



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HWY. 64				
POINT NAME	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	409896.3342	614431.0251
8001	P.C.	100+99.76	409894.2100	614530.7625
8003	P.T.	101+36.10	409895.2221	614567.0770
8004	P.I.	102+95.05	409907.4524	614725.5516
8005	P.C.	103+11.40	409907.2839	614741.9059
8007	P.T.	105+35.35	409896.2309	614965.5223
8008	P.C.	106+03.92	409890.1720	615033.8251
8010	P.T.	106+99.15	409883.3360	615128.7990
8011	P.I.	109+18.04	409871.2517	615347.3558
8012	P.I.	113+30.15	409850.3851	615758.9363
8013	P.C.	116+25.25	409834.4304	616053.6106
8015	P.T.	118+78.82	409894.9356	616295.9837
8016	POE	112+40.56	410081.9625	616605.6250



SITE 8
 SURVEY CONTROL DETAILS

TW39665 1/21/2020
 R040802.DGN

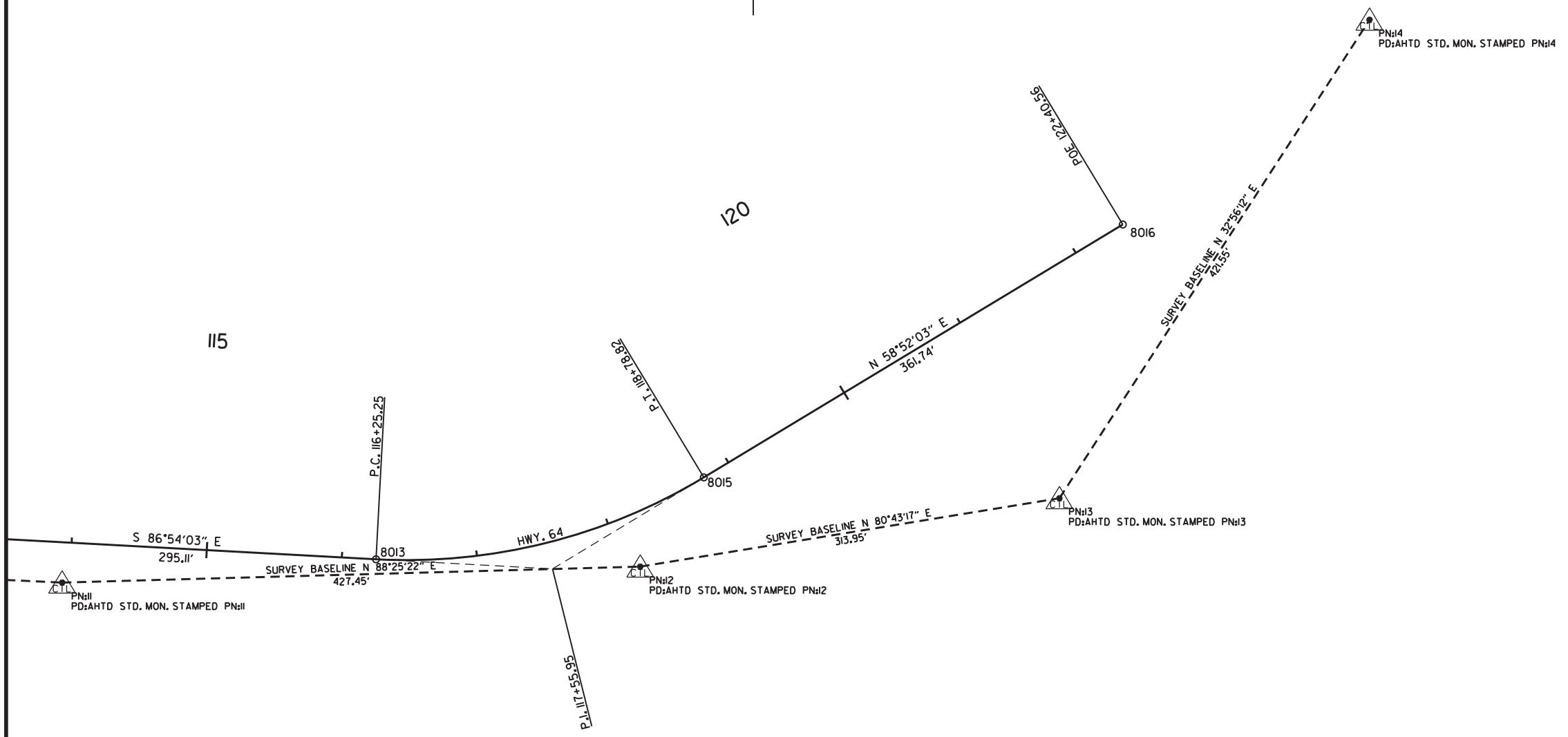
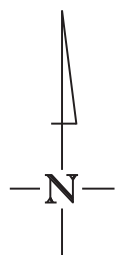
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 040819			76	111

② SURVEY CONTROL DETAILS



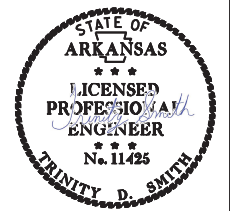
Trinity D. Smith

May 11 2020 3:37 PM
DocuSign

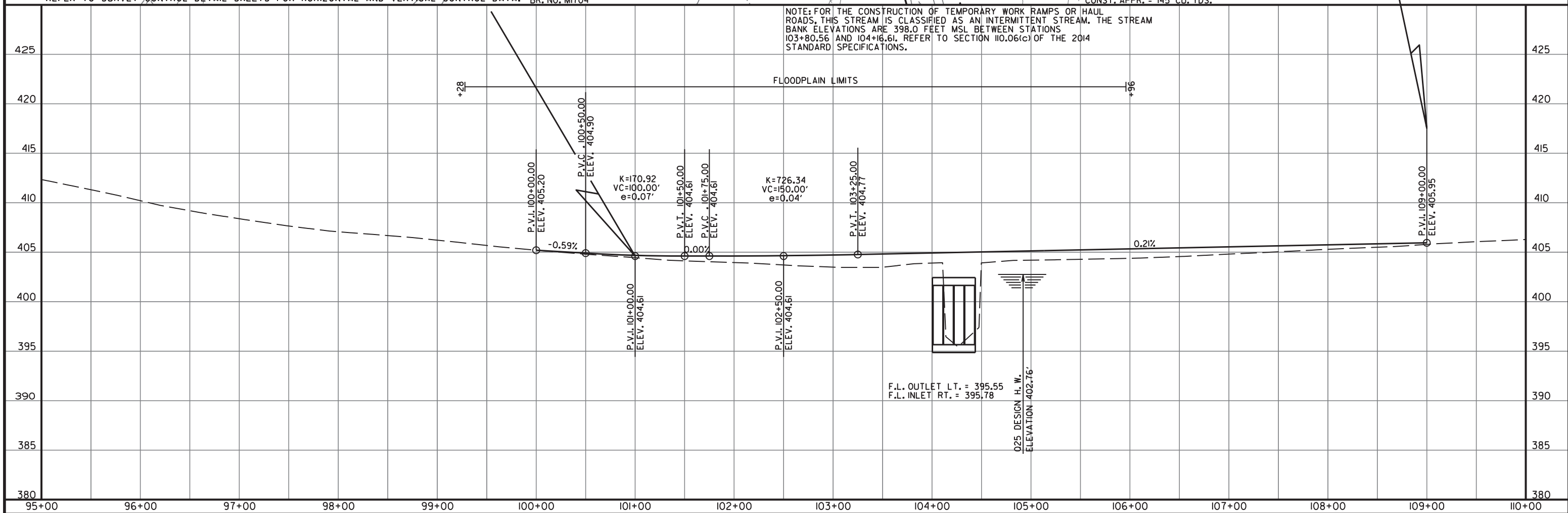
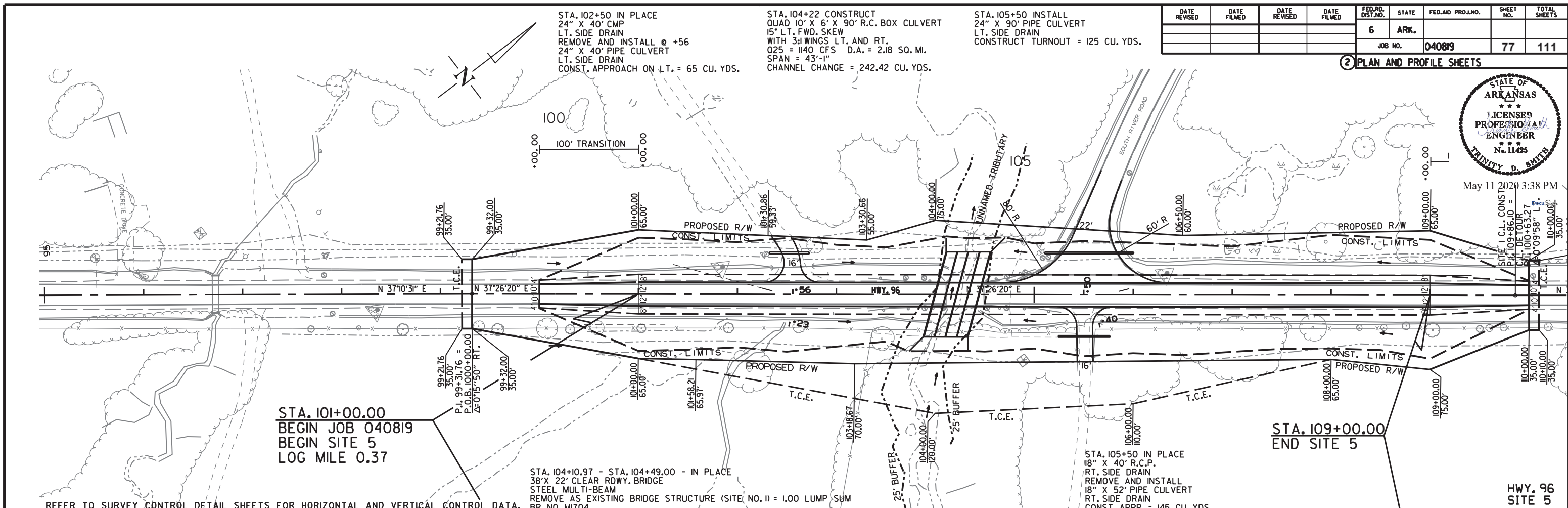


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		77	111
				JOB NO. 040819				

2 PLAN AND PROFILE SHEETS



May 11 2020 3:38 PM



R040625.DGN 2/10/2020

STA. 1003+23 CONSTRUCT
TEMPORARY APPROACH ON LT. = 10 CU. YDS.

SITE 5
C.L. DETOUR
P.I. = 1004+87.44
Δ = 29°37'19" LT.
D = 8°00'00"
T = 189.37'
L = 370.27'
P.C. = 1002+98.07
P.T. = 1006+68.34
e = 0.094' /'
Ls = 275'

STA. 1006+40 CONSTRUCT
TEMPORARY TURNOUT = 10 CU. YDS.

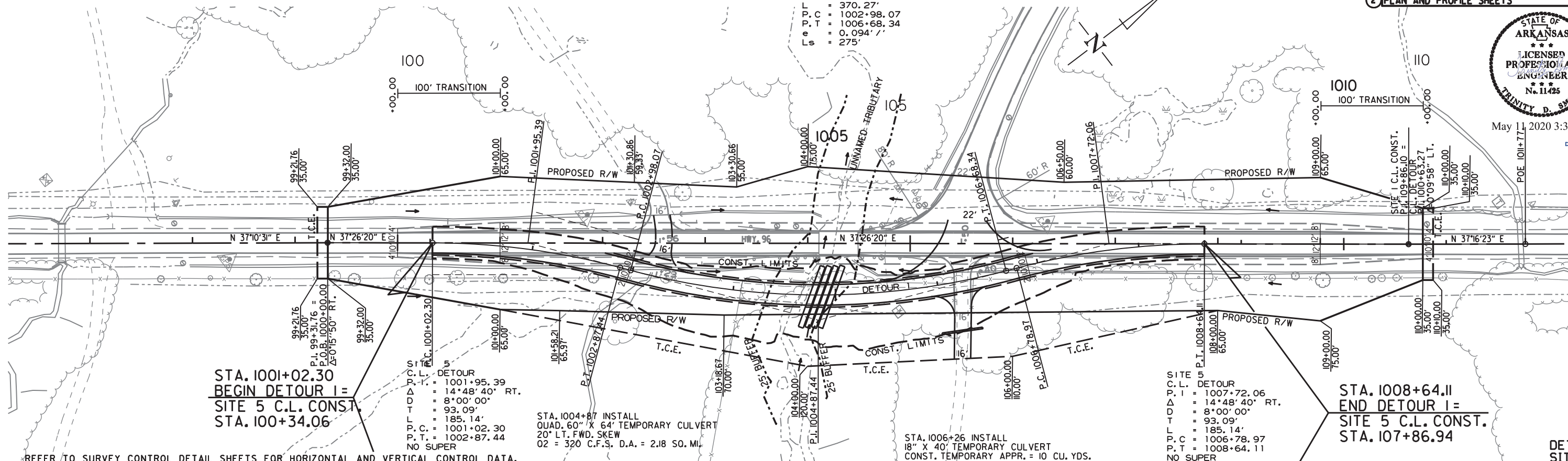
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		78	111
				JOB NO. 040819				

2 PLAN AND PROFILE SHEETS



May 11 2020 3:38 PM

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STA. 1001+02.30
BEGIN DETOUR I =
SITE 5 C.L. CONST.
STA. 100+34.06

DETOUR
P.I. = 1001+95.39
Δ = 14°48'40" RT.
D = 8°00'00"
T = 93.09'
L = 185.14'
P.C. = 1001+02.30
P.T. = 1002+87.44
NO SUPER

STA. 1004+87 INSTALL
QUAD. 60" X 64" TEMPORARY CULVERT
20° LT. FWD. SKEW
02 = 320 C.F.S. D.A. = 2.18 SO. MI.

STA. 1006+26 INSTALL
18" X 40" TEMPORARY CULVERT
CONST. TEMPORARY APPR. = 10 CU. YDS.

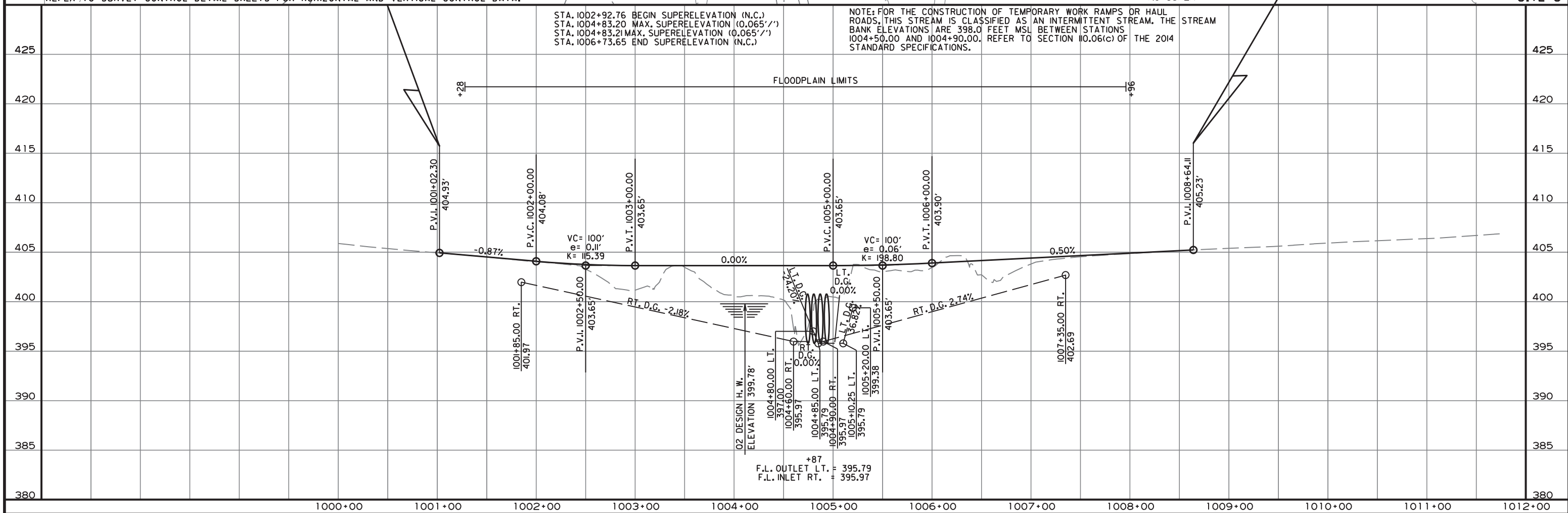
STA. 1008+64.11
END DETOUR I =
SITE 5 C.L. CONST.
STA. 107+86.94

DETOUR
SITE 5

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

STA. 1002+92.76 BEGIN SUPERELEVATION (N.C.)
STA. 1004+83.20 MAX. SUPERELEVATION (0.065' /')
STA. 1004+83.21 MAX. SUPERELEVATION (0.065' /')
STA. 1006+73.65 END SUPERELEVATION (N.C.)

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL
ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM
BANK ELEVATIONS ARE 398.0 FEET MSL BETWEEN STATIONS
1004+50.00 AND 1004+90.00, REFER TO SECTION 10.06(C) OF THE 2014
STANDARD SPECIFICATIONS.



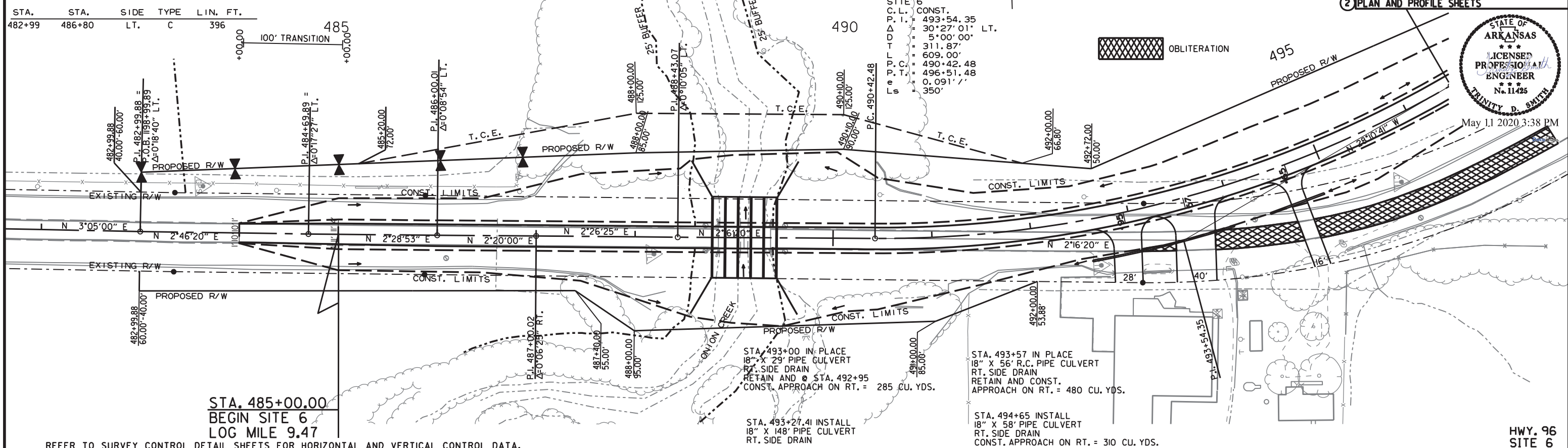
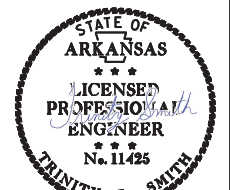
R040625.DGN 2/10/2020

STA. 488+84.13 - STA 489+36.95 - IN PLACE
 53' X 22' CLEAR RDWY. BRIDGE
 STEEL MULTI-BEAM
 REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 2) = 1.00 LUMP SUM
 BR. NO. M173

STA. 489+10.50 CONSTRUCT
 QUINT, 12' X 14' X 82' R.C. BOX CULVERT
 WITH 3 WINGS LT. AND RT.
 025 = 6930 CFS D.A. = 21.4 SO. M.
 SPAN = 66'-2"

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		79	111

2 PLAN AND PROFILE SHEETS

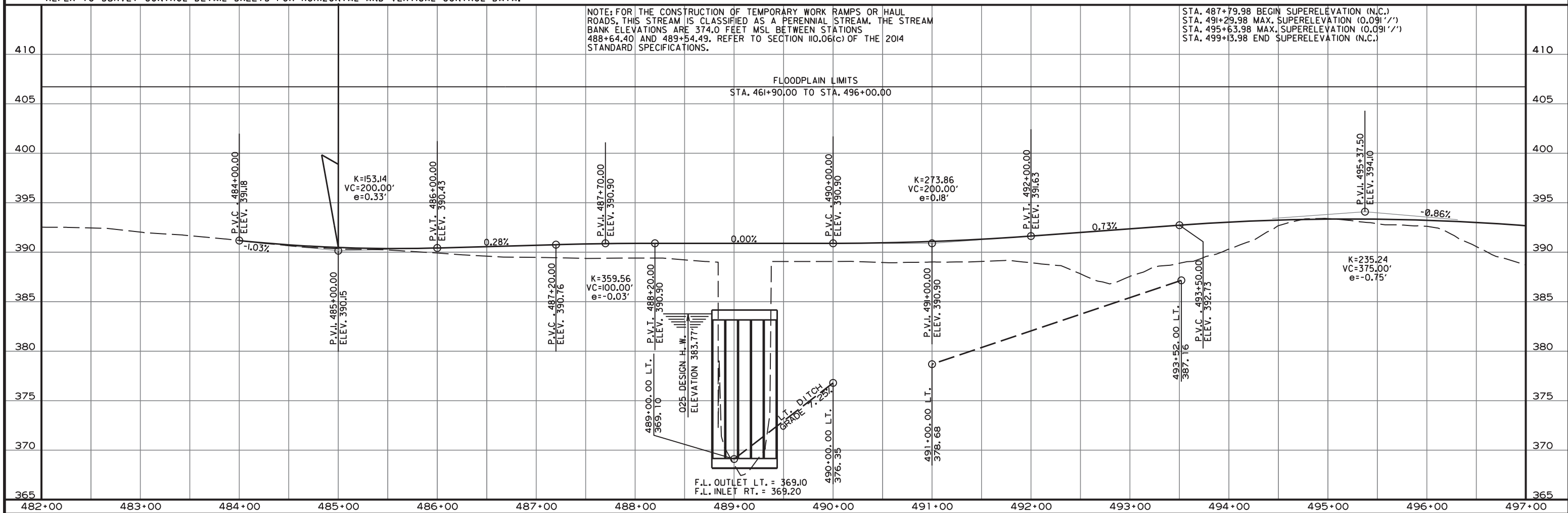


STA. 485+00.00
 BEGIN SITE 6
 LOG MILE 9.47

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

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATIONS ARE 374.0 FEET MSL BETWEEN STATIONS 488+64.40 AND 489+54.49. REFER TO SECTION 10.06(c) OF THE 2014 STANDARD SPECIFICATIONS.

STA. 487+79.98 BEGIN SUPERELEVATION (N.C.)
 STA. 491+29.98 MAX. SUPERELEVATION (0.091'/'')
 STA. 495+63.98 MAX. SUPERELEVATION (0.091'/'')
 STA. 499+13.98 END SUPERELEVATION (N.C.)

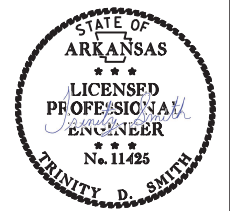


R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	040819		81	111

2 PLAN AND PROFILE SHEETS

STA. 100+00 TO STA. 115+00
SPECIAL FLOOD HAZARD AREA



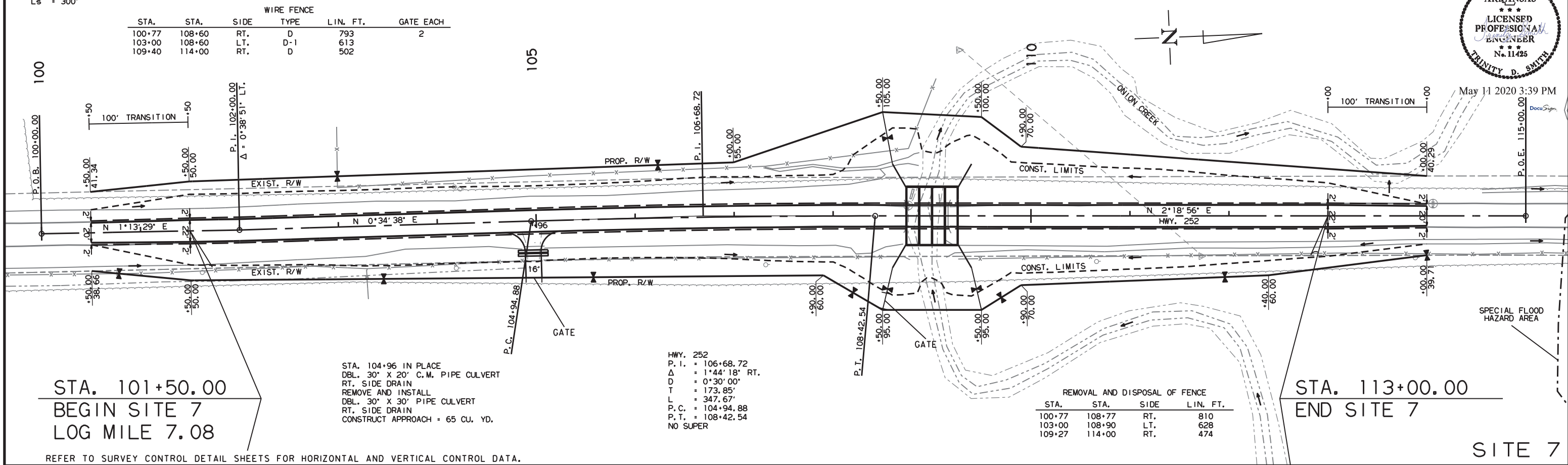
CURVE DATA BEFORE SITE 7
FOR INFORMATION ONLY

D = 1'15'00"
e = 0.032'/'
Ls = 300'

STA. 108+74.72 - STA. 109+16.20 IN PLACE
42' X 21' BRIDGE NO. M2569 CONSISTING OF
CONCRETE-CAST-IN-PLACE DECK AND STEEL GIRDERS
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 4) = 1.00 LUMP SUM

STA. 109+00 CONSTRUCT
QUAD. 12' X 10' X 60' R.C. BOX
WITH 3:1 WINGS LT. AND RT.
Q25 = 5440 CFS; D.A. = 19.8 SQ. MI.
SPAN = 50'-0"

STA.	STA.	SIDE	TYPE	LIN. FT.	GATE EACH
100+77	108+60	RT.	D	793	2
103+00	108+60	LT.	D-1	613	
109+40	114+00	RT.	D	502	



STA. 101+50.00
BEGIN SITE 7
LOG MILE 7.08

STA. 104+96 IN PLACE
DBL. 30' X 20' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
DBL. 30' X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 65 CU. YD.

HWY. 252
P. I. = 106+68.72
 Δ = 1'44'18" RT.
D = 0'30'00"
T = 173.85'
L = 347.67'
P. C. = 104+94.88
P. T. = 108+42.54
NO SUPER

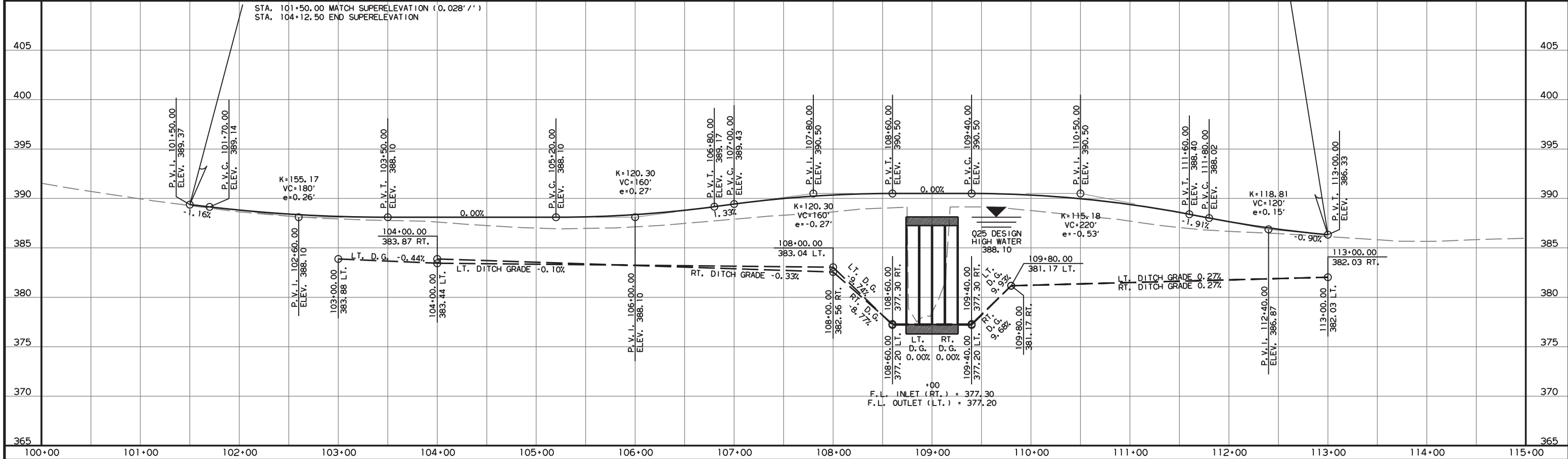
REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
100+77	108+77	RT.	810
103+00	108+90	LT.	628
109+27	114+00	RT.	474

STA. 113+00.00
END SITE 7

SITE 7

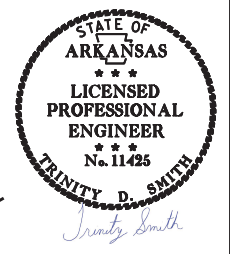
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



R040819.DGN 2/6/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6/15/2020				6	ARK.		82	111
				JOB NO.		040819		

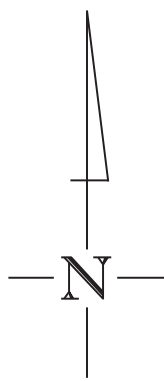
2 PLAN SHEET



Jun 18 2020 3:01 PM
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HWY. 64
P.I. = 106+51.54
Δ = 1°54'16" LT.
D = 2°00'00"
T = 47.62'
L = 95.22'
P.C. = 106+03.92
P.T. = 106+99.14
FOR INFORMATION ONLY

HWY. 64
P.I. = 117+55.95
Δ = 34°13'54" LT.
D = 13°30'00"
T = 130.69'
L = 253.57'
P.C. = 116+25.26
P.T. = 118+78.83
FOR INFORMATION ONLY



STA. 112+09 EXISTING BR. NO. M141
TRI. 10' x 5' x 95' R.C. BOX CULVERT
SPAN = 30'-0"
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 5) = 1.00 LUMP SUM

STA. 112+09 CONSTRUCT
TRI. 10' x 5' x 95' R.C. BOX CULVERT
W/ WINGS LT. & RT.
CSO = 2350 CFS, D.A. = 1.06 SQ. MI.
SPAN = 30'-0"

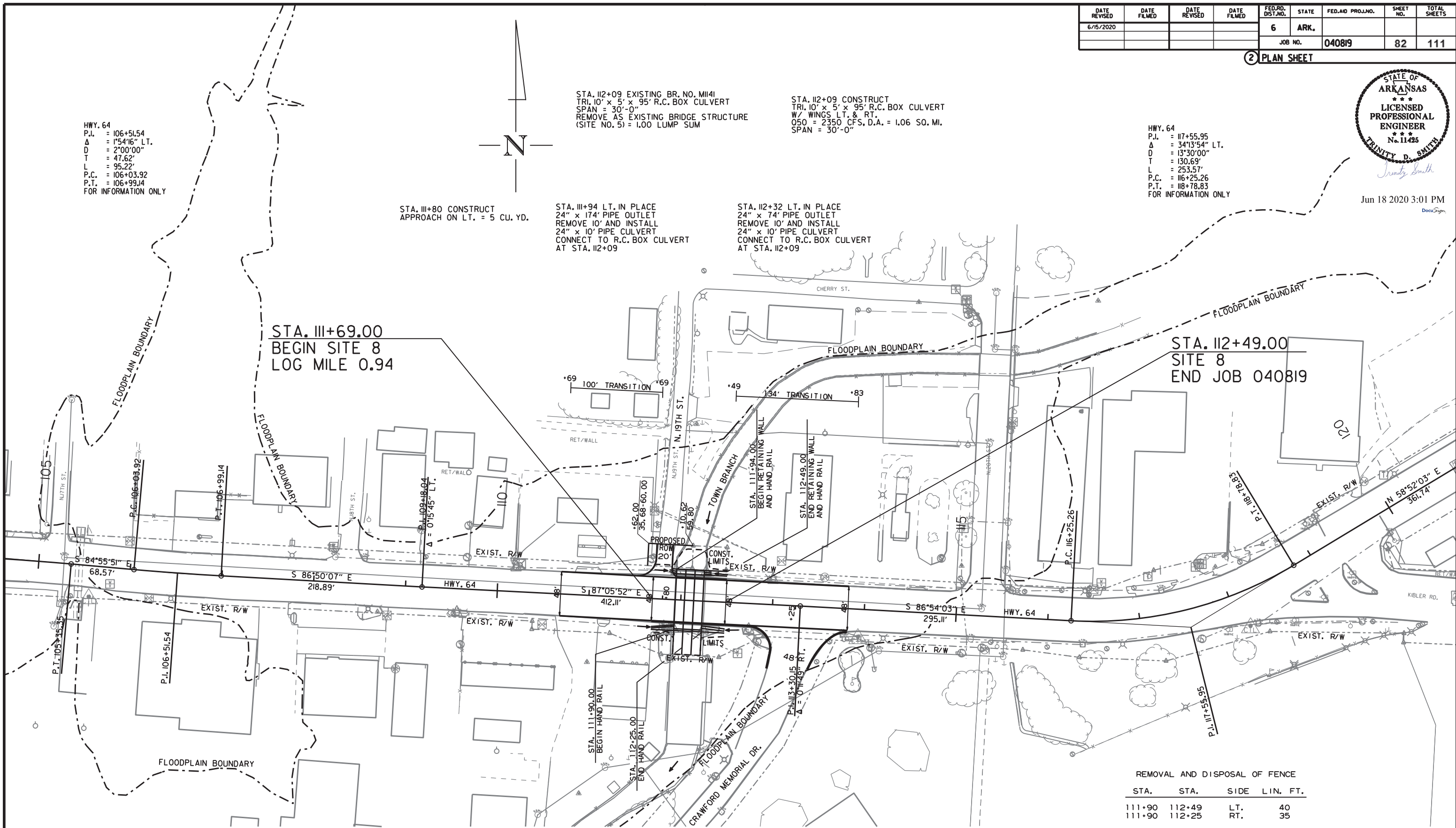
STA. 113+80 CONSTRUCT
APPROACH ON LT. = 5 CU. YD.

STA. 113+94 LT. IN PLACE
24" x 174' PIPE OUTLET
REMOVE 10' AND INSTALL
24" x 10' PIPE CULVERT
CONNECT TO R.C. BOX CULVERT
AT STA. 112+09

STA. 112+32 LT. IN PLACE
24" x 74' PIPE OUTLET
REMOVE 10' AND INSTALL
24" x 10' PIPE CULVERT
CONNECT TO R.C. BOX CULVERT
AT STA. 112+09

STA. 113+69.00
BEGIN SITE 8
LOG MILE 0.94

STA. 112+49.00
SITE 8
END JOB 040819



REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
111+90	112+49	LT.	40
111+90	112+25	RT.	35

CHAIN LINK FENCE

STA.	STA.	SIDE	LIN. FT.
111+90	112+49	LT.	40

STA. 113+94 RT. IN PLACE
18" x 236' PIPE OUTLET
REMOVE 26' AND INSTALL
18" x 26' PIPE CULVERT
CONNECT TO R.C. BOX CULVERT
AT STA. 112+09

STA. 112+24 RT. IN PLACE
30" x 50' PIPE OUTLET
REMOVE 26' AND INSTALL
30" x 26' PIPE CULVERT
CONNECT TO R.C. BOX CULVERT
AT STA. 112+09

STA. 113+25 CONSTRUCT
APPROACH ON RT. = 5 CU. YD.

SITE 8

3/4/2020 6/23/2020
 R040819.DWG



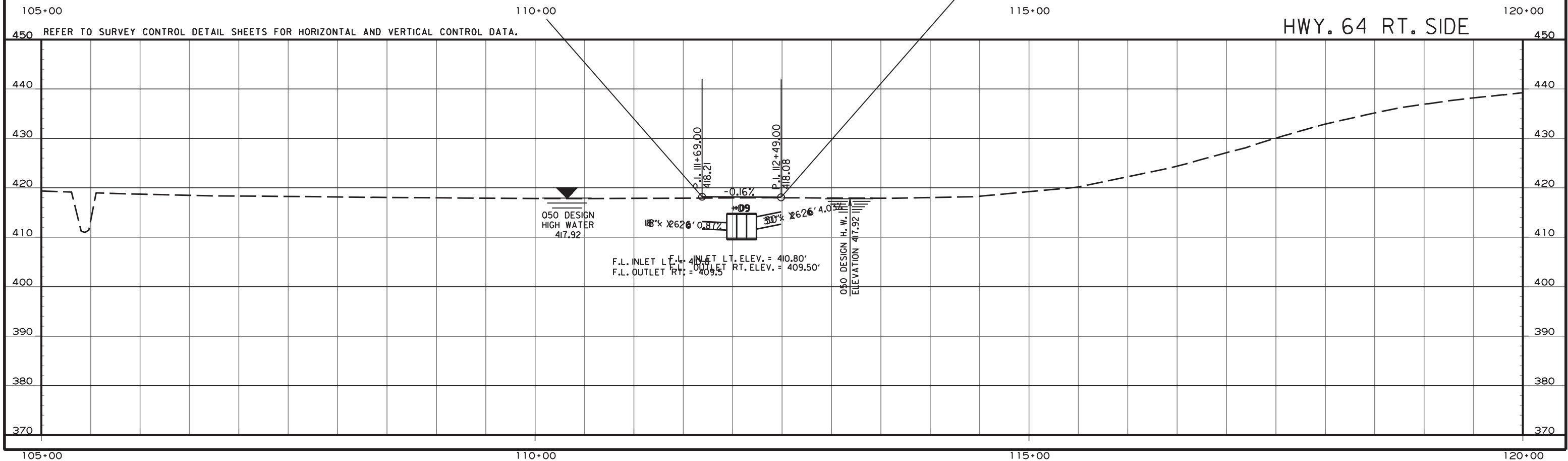
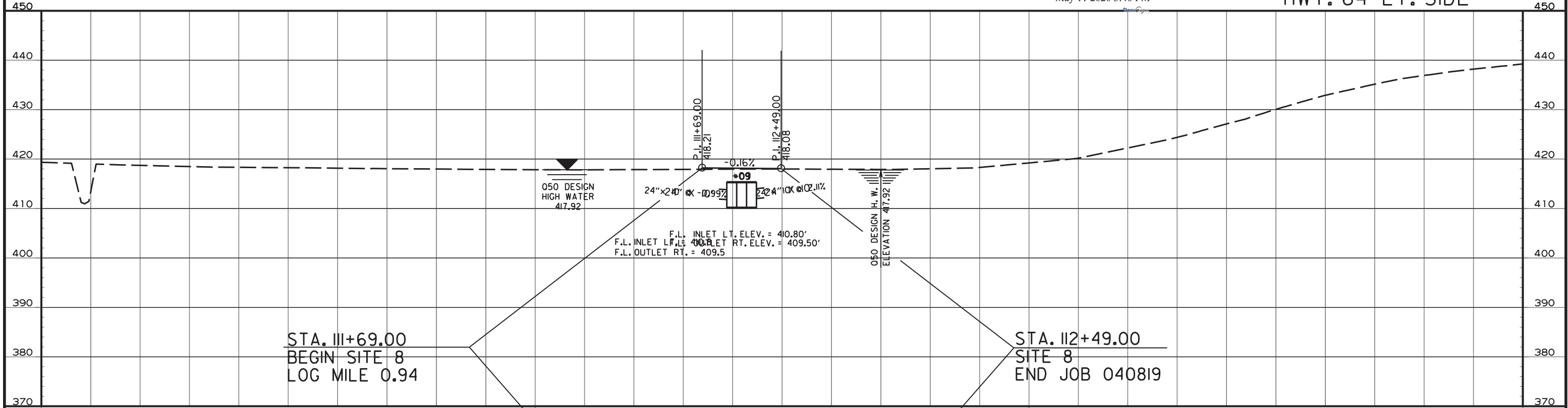
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				6	ARK.		83	111
				JOB NO.		040819		

2 PROFILE SHEET

SITE 8

May 11 2020 3:40 PM

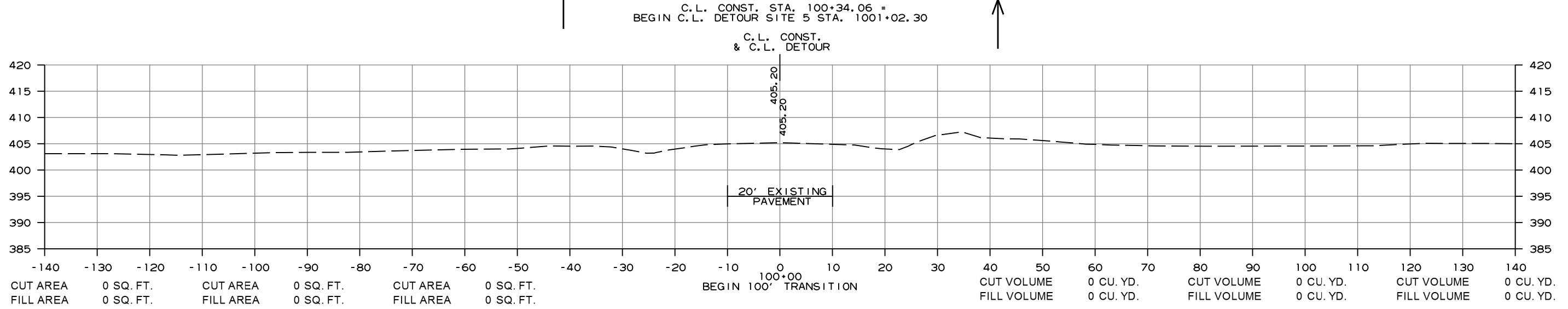
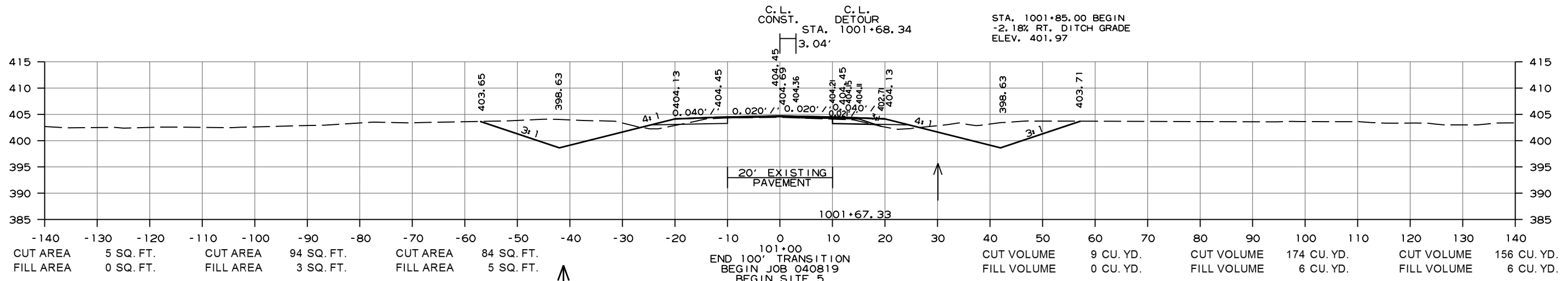
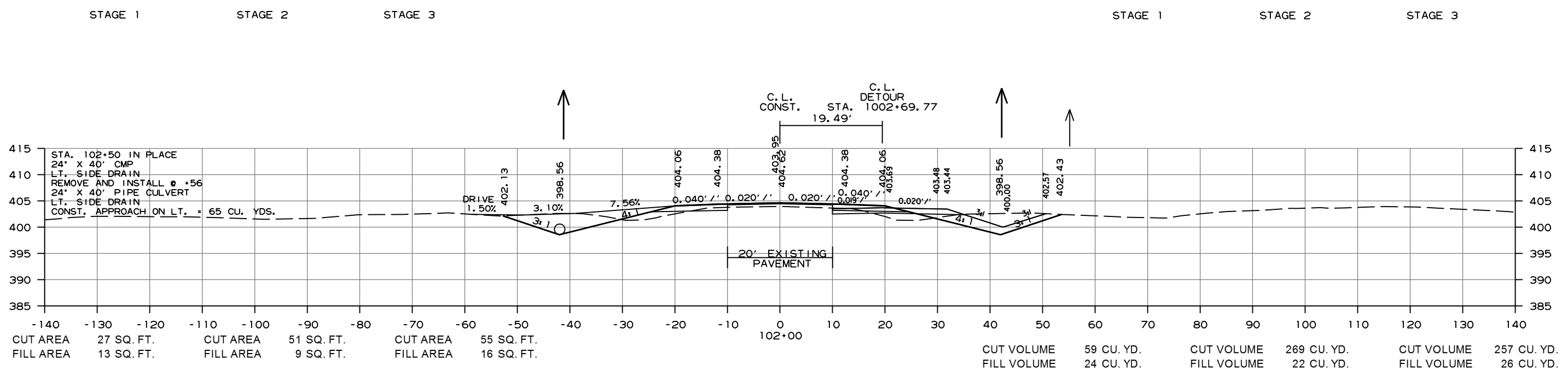
HWY. 64 LT. SIDE



1/23/2020
TW39665
R040802.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. 040819	84	111

② CROSS SECTIONS

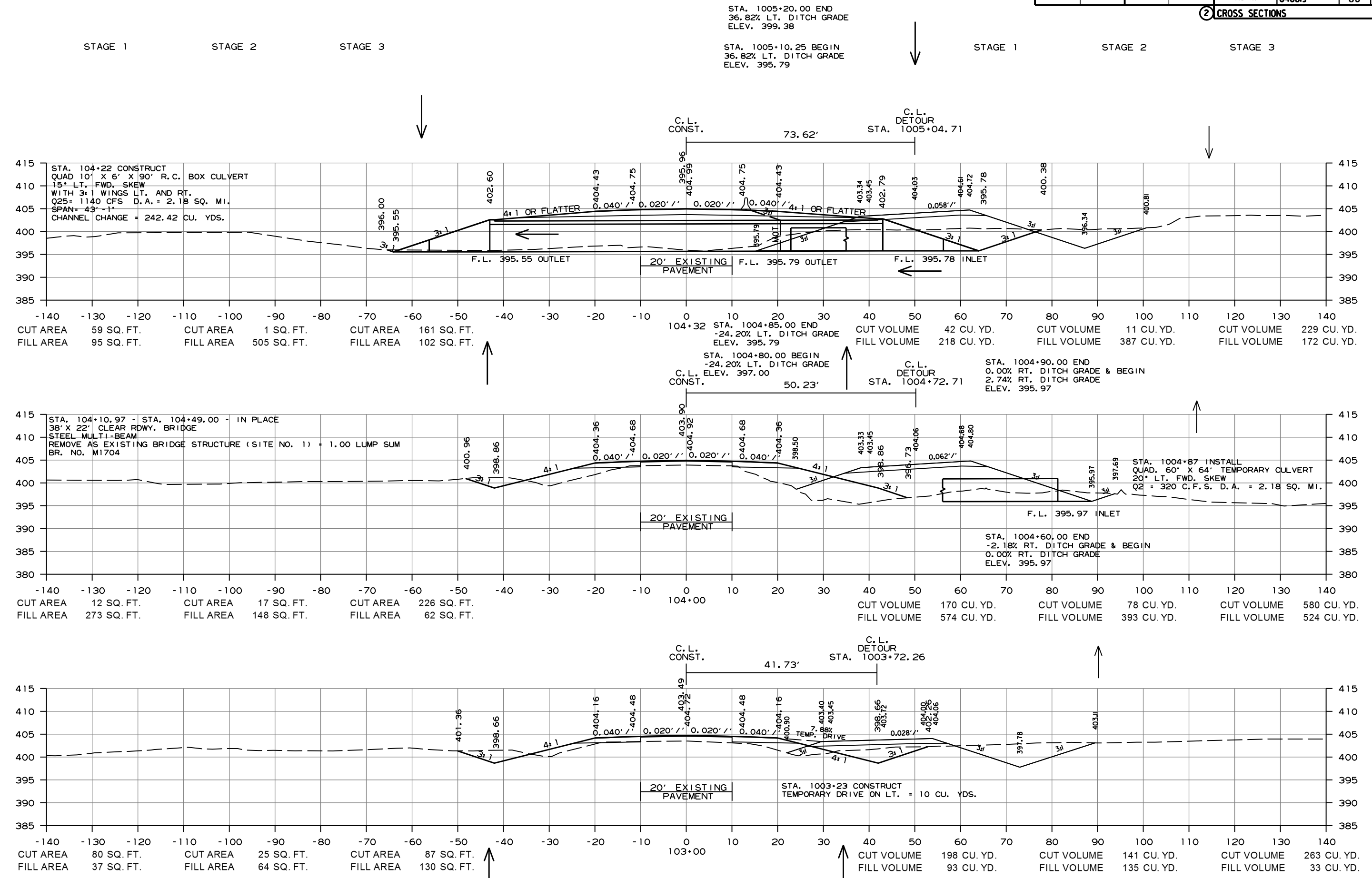


CROSS SECTION STA. 100+00 TO STA. 102+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 040819							85	111

2 CROSS SECTIONS



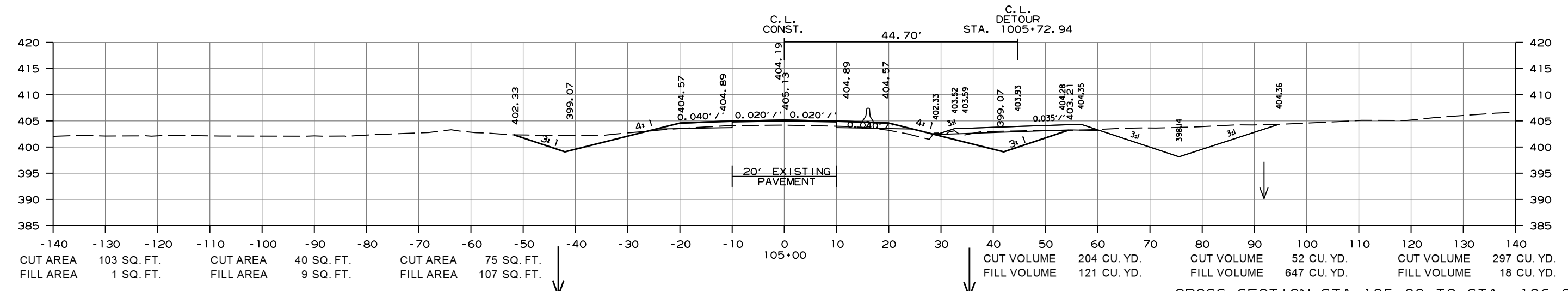
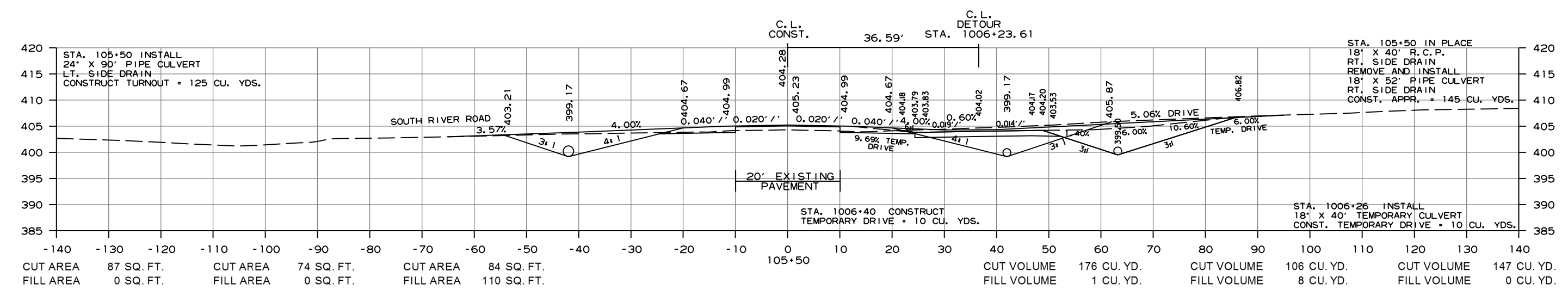
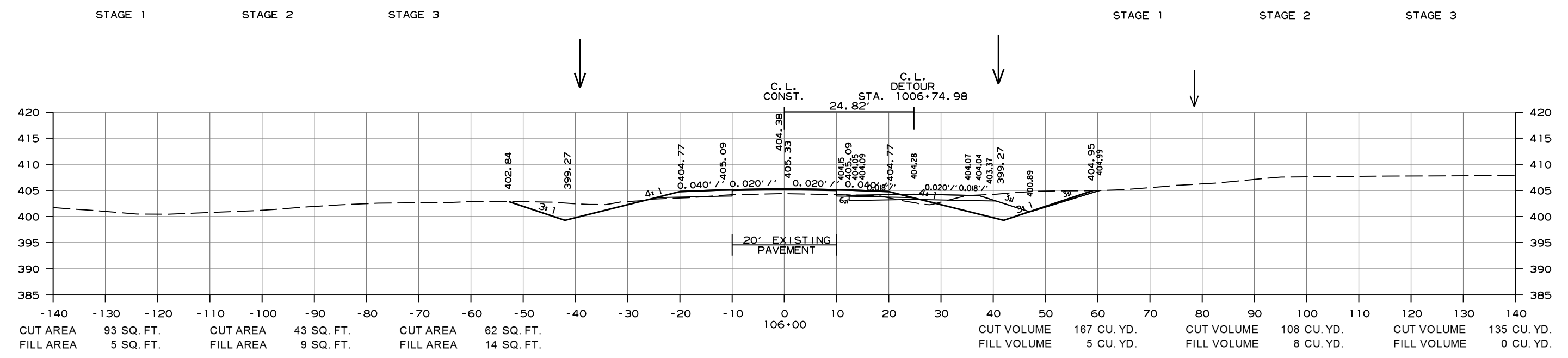
2/10/2020 R040625.DGN

CROSS SECTION STA. 103+00 TO STA. 104+32

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	86	111

STA. 1007+35.00 END
2.74% RT. DITCH GRADE
ELEV. 402.69

2 CROSS SECTIONS



CROSS SECTION STA. 105+00 TO STA. 106+00

2/10/2020 R040625.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. 040819	87	111

② CROSS SECTIONS

STAGE 1

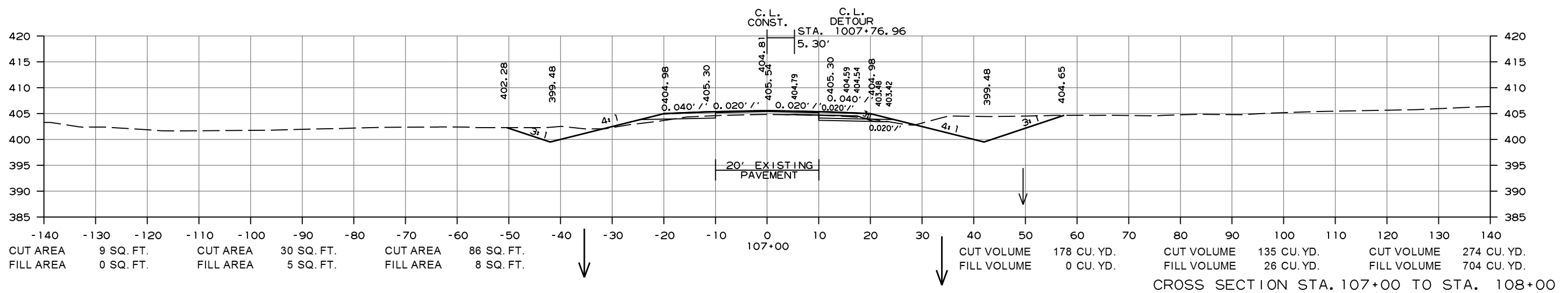
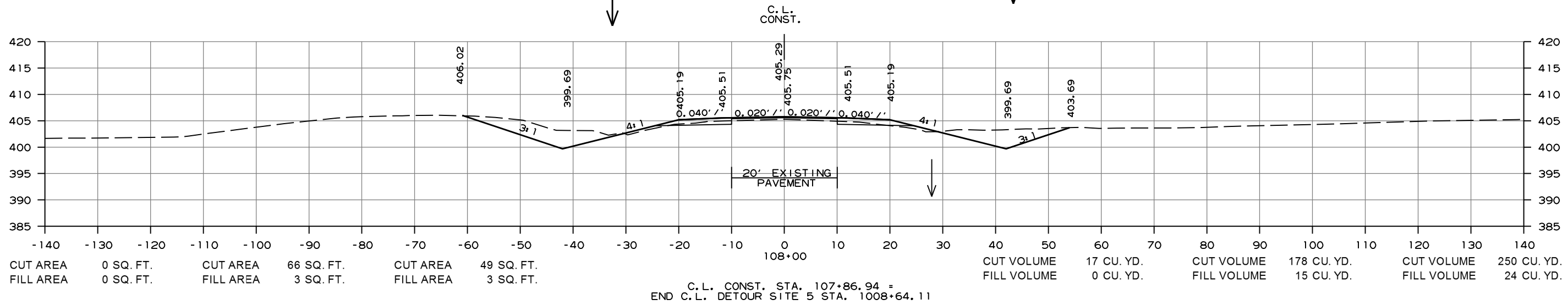
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



2/10/2020 R040625.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. 040819	88	111

② CROSS SECTIONS

STAGE 1

STAGE 2

STAGE 3

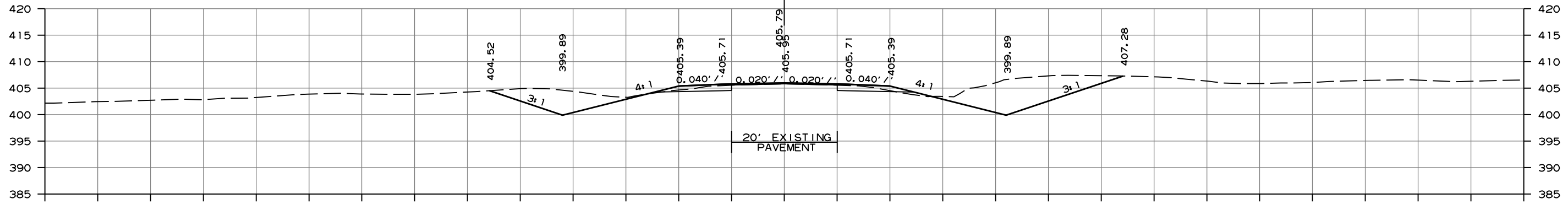
STAGE 1

STAGE 2

STAGE 3



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	137 CU. YD.	CUT VOLUME	243 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	0 SQ. FT.	CUT AREA	74 SQ. FT.	CUT AREA	131 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	259 CU. YD.	CUT VOLUME	333 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL AREA	2 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	6 CU. YD.	FILL VOLUME	17 CU. YD.

CROSS SECTION STA. 109+00 TO STA. 110+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	89	111

2 CROSS SECTIONS

STAGE 1

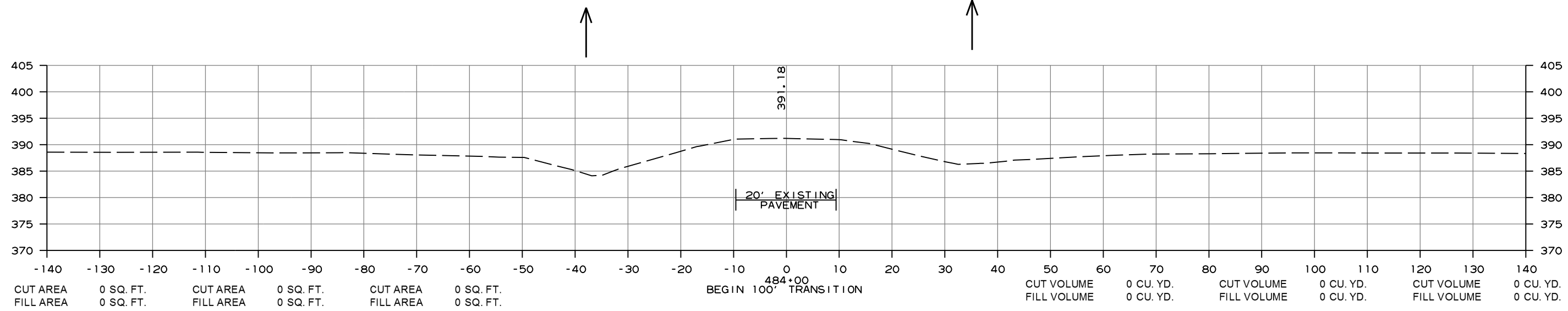
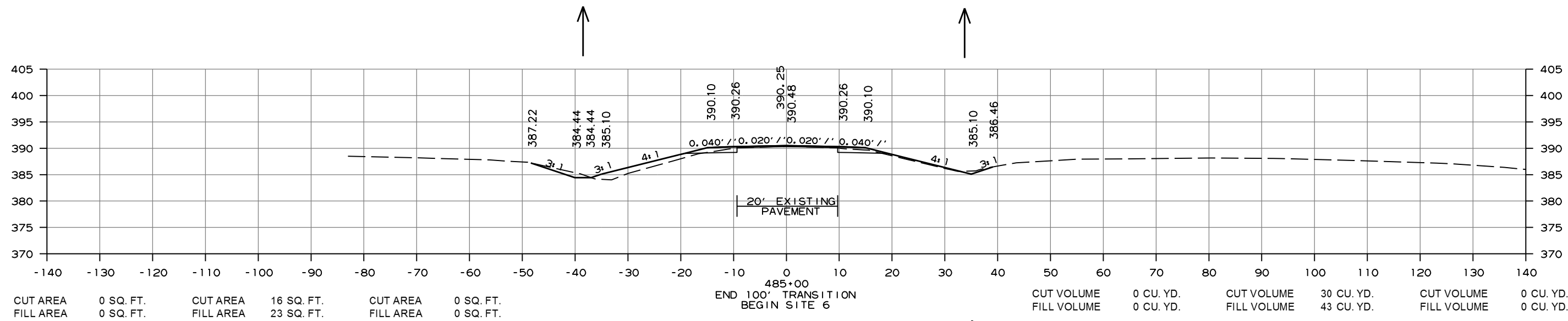
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 484+00 TO STA. 485+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	90	111

② CROSS SECTIONS

STAGE 1

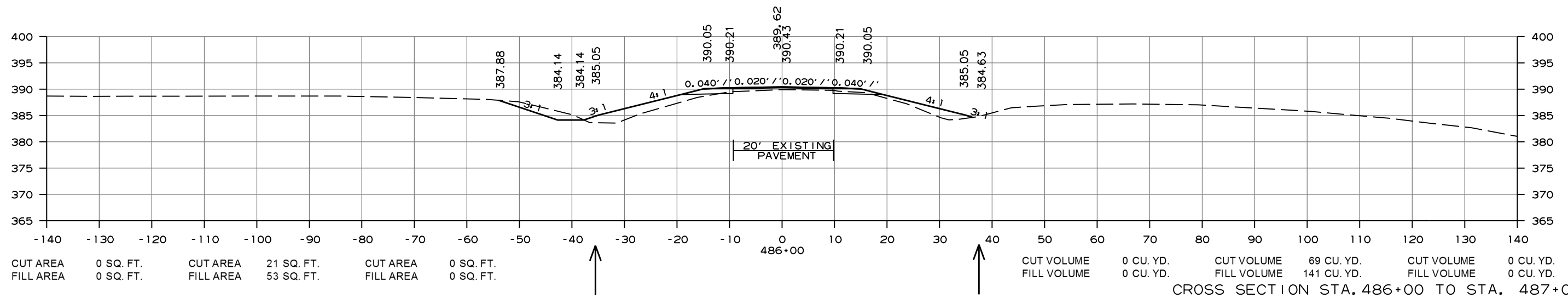
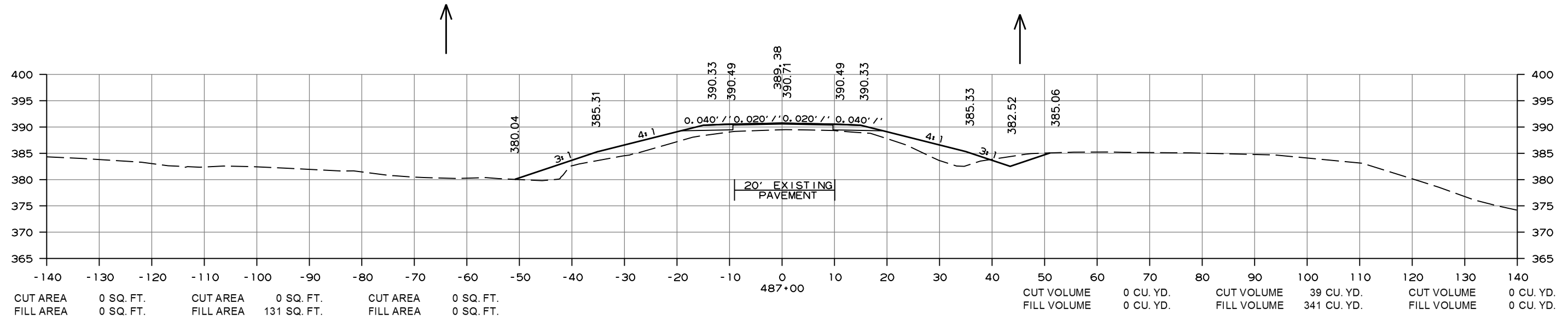
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 486+00 TO STA. 487+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	91	111

2 CROSS SECTIONS

STAGE 1

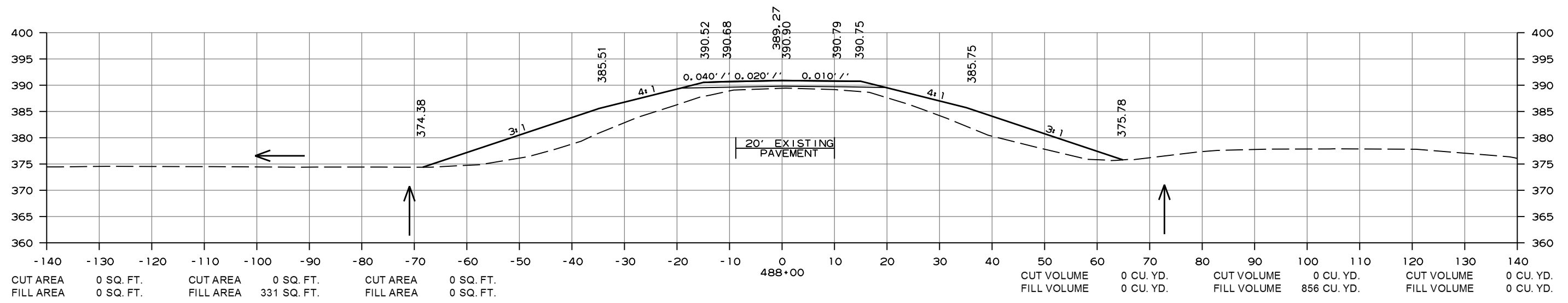
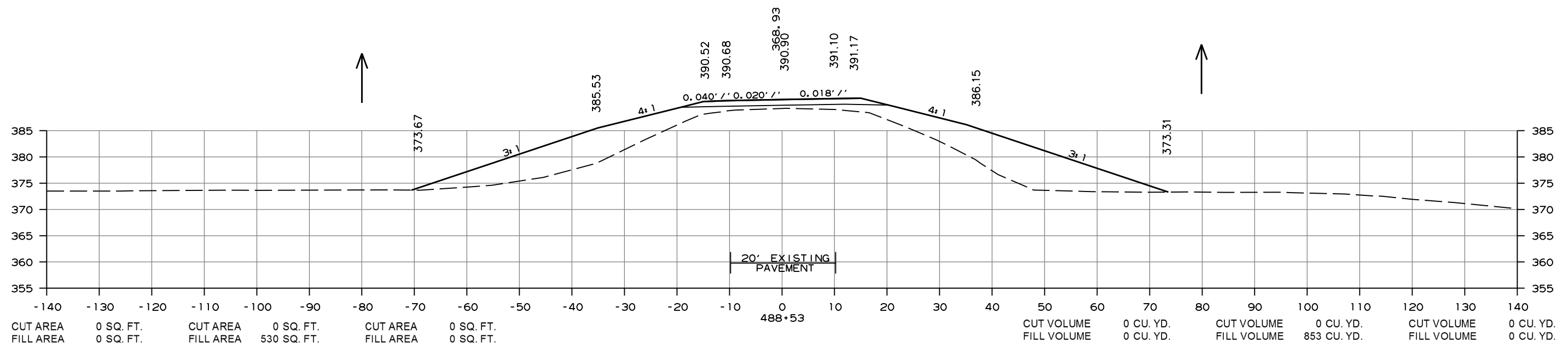
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 488+00 TO STA. 488+53

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	92	111

2 CROSS SECTIONS

STAGE 1

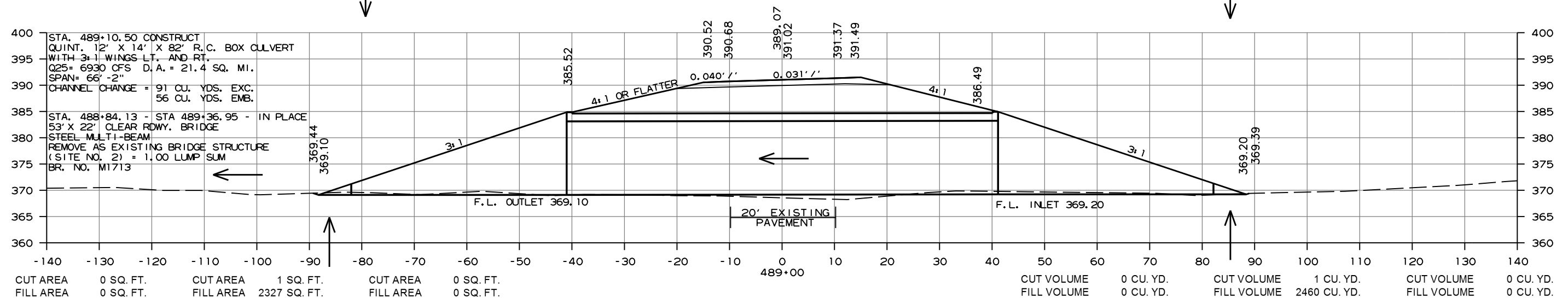
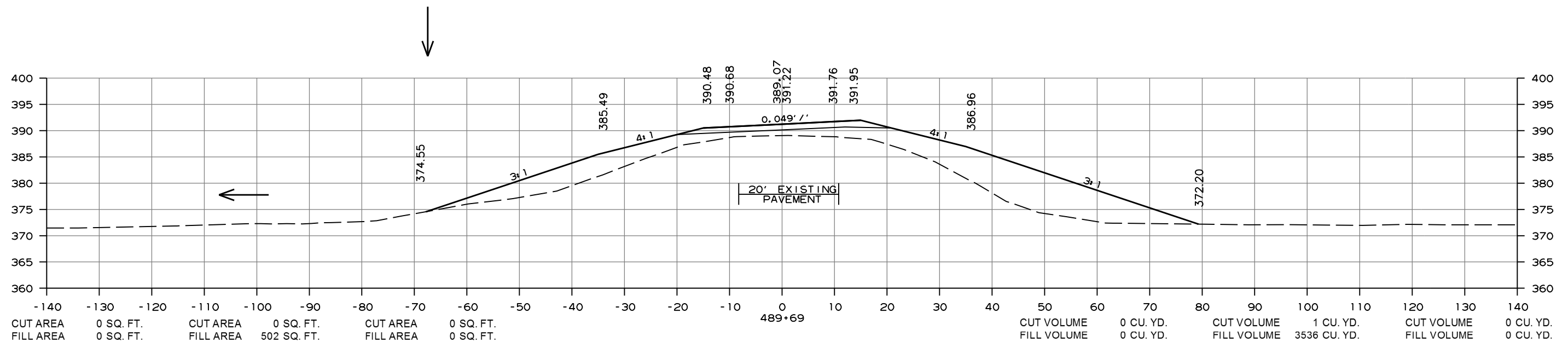
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 489+00 TO STA. 489+69

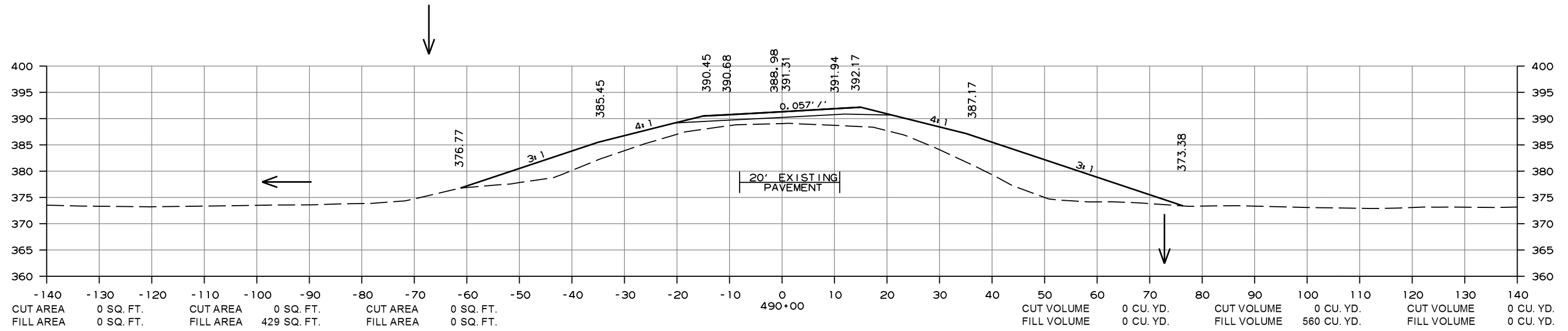
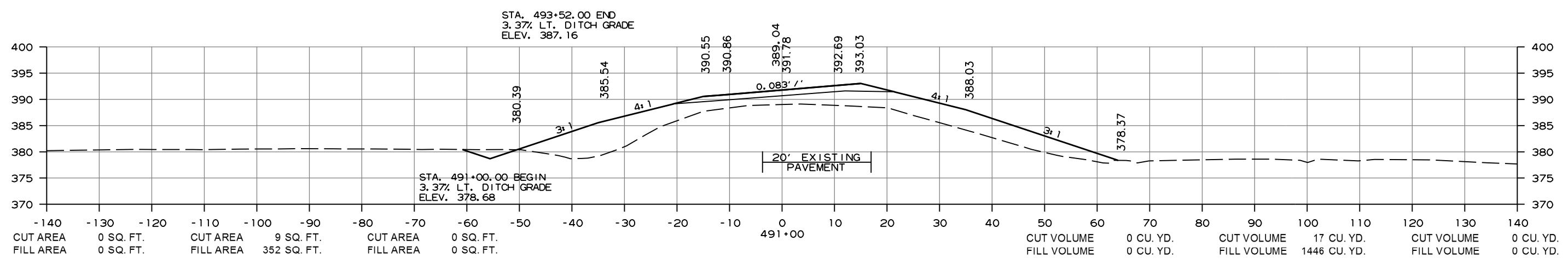
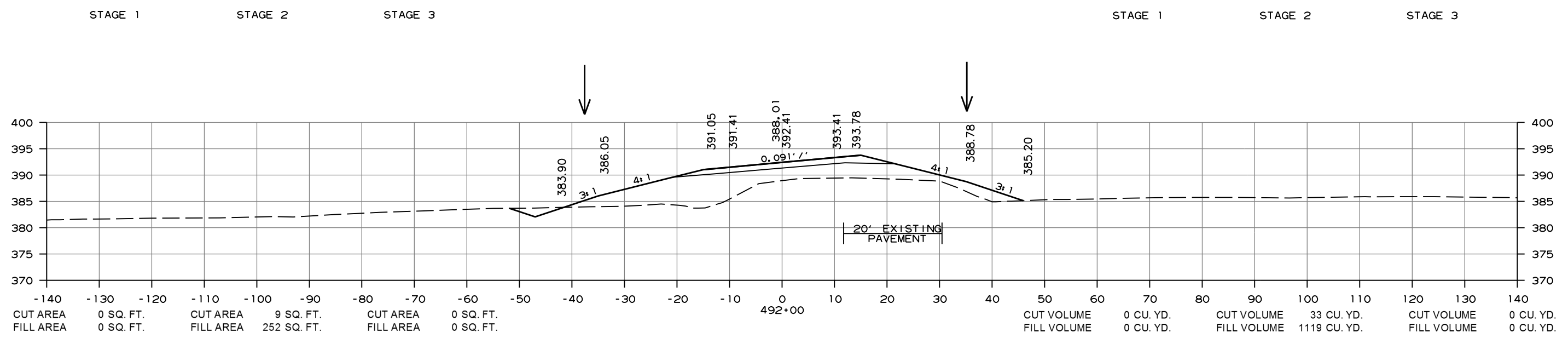
2/10/2020 R040625.DGN

STA. 489+10.50 CONSTRUCT
QUINT. 12' X 14' X 82' R.C. BOX CULVERT
WITH 3:1 WINGS LT. AND RT.
Q25 = 6930 CFS D.A. = 21.4 SQ. MI.
SPAN = 66'-2"
CHANNEL CHANGE = 91 CU. YDS. EXC.
56 CU. YDS. EMB.

STA. 488+84.13 - STA 489+36.95 - IN PLACE
53' X 22' CLEAR ROWY. BRIDGE
STEEL MULTI-BEAM
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 2) = 1.00 LUMP SUM
BR. NO. M1713

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	93	111

② CROSS SECTIONS



CROSS SECTION STA. 490+00 TO STA. 492+00

2/10/2020 R040625.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.	040819	94 111

② CROSS SECTIONS

STAGE 1

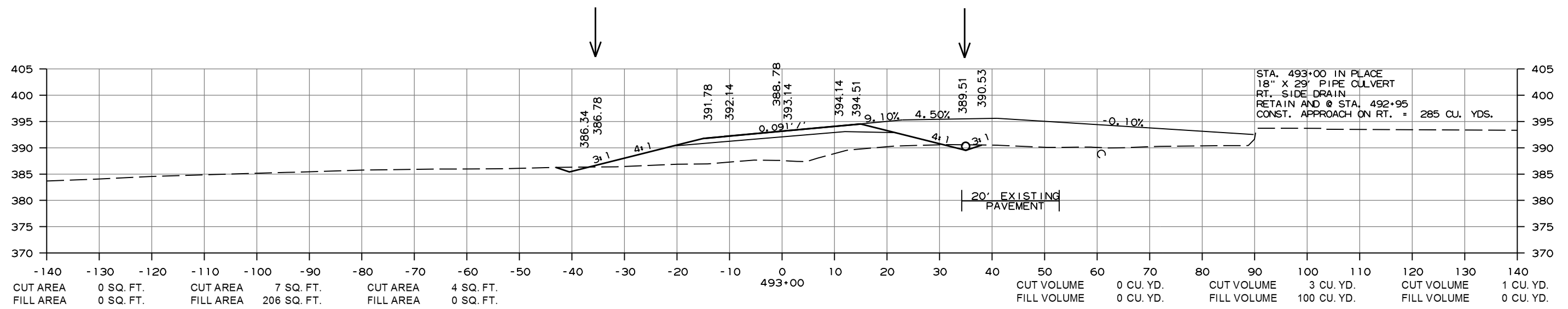
STAGE 2

STAGE 3

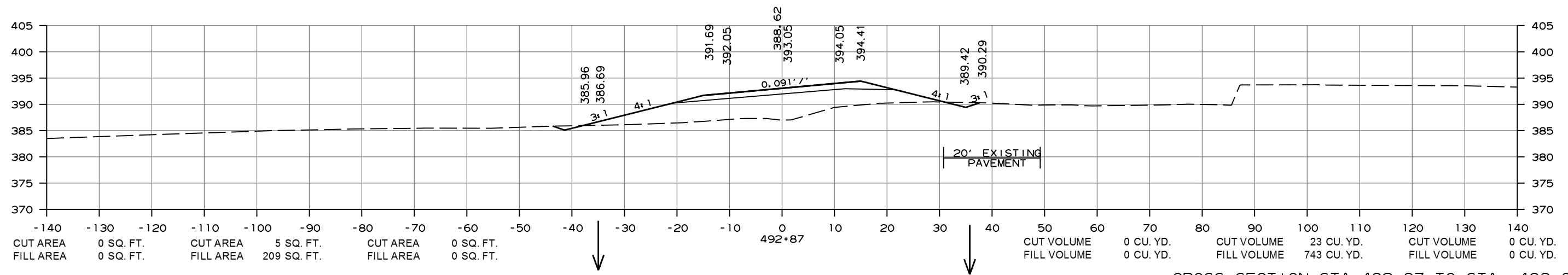
STAGE 1

STAGE 2

STAGE 3



STA. 493+00 IN PLACE
18" X 29' PIPE CULVERT
RT. SIDE DRAIN
RETAIN AND @ STA. 492+95
CONST. APPROACH ON RT. = 285 CU. YDS.



CROSS SECTION STA. 492+87 TO STA. 493+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	95	111

② CROSS SECTIONS

STAGE 1

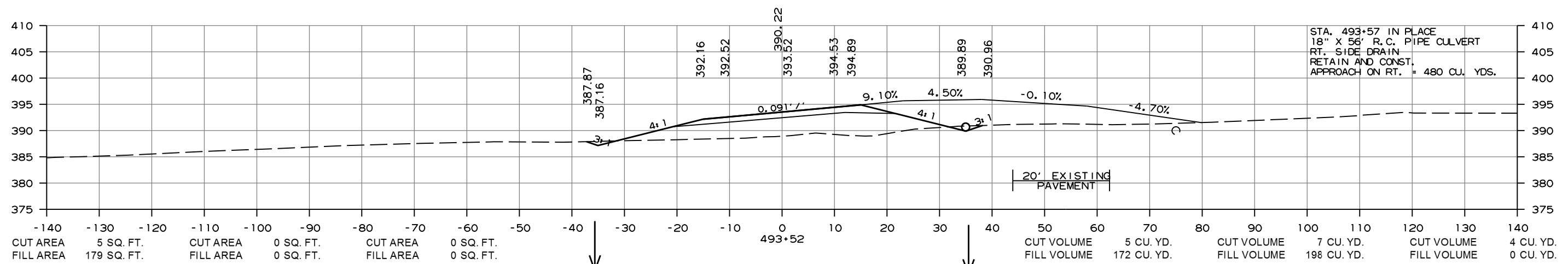
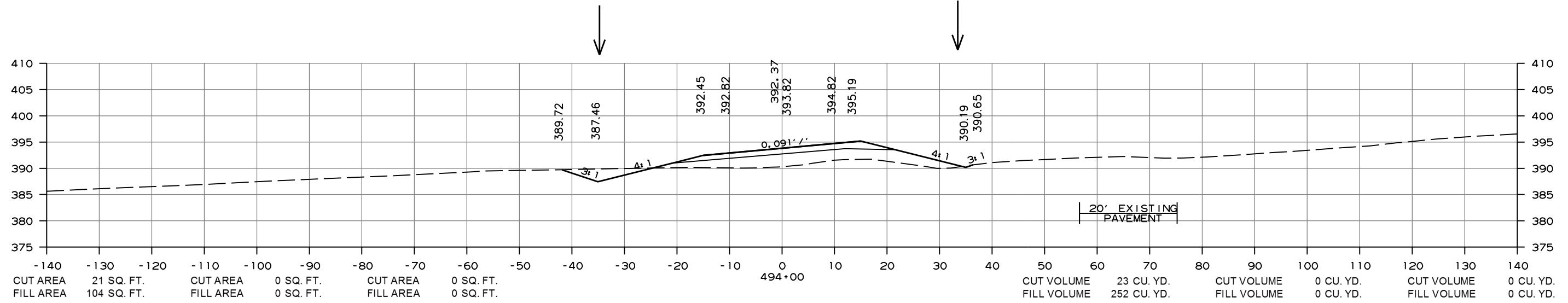
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3

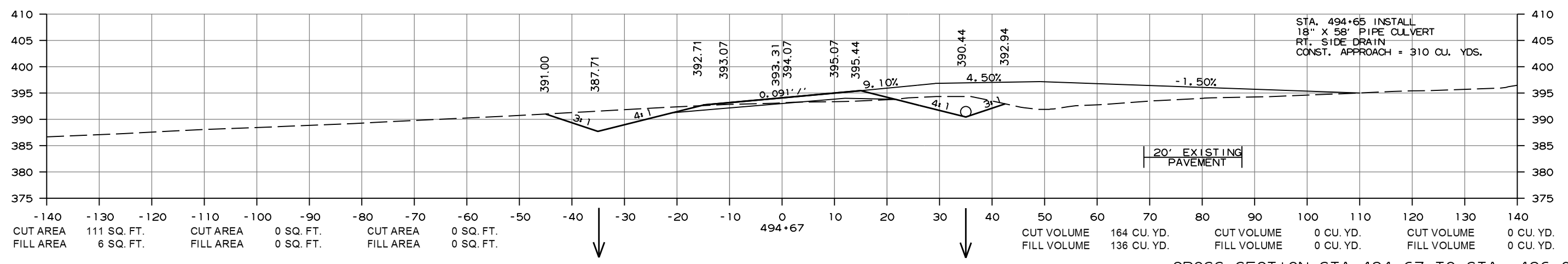
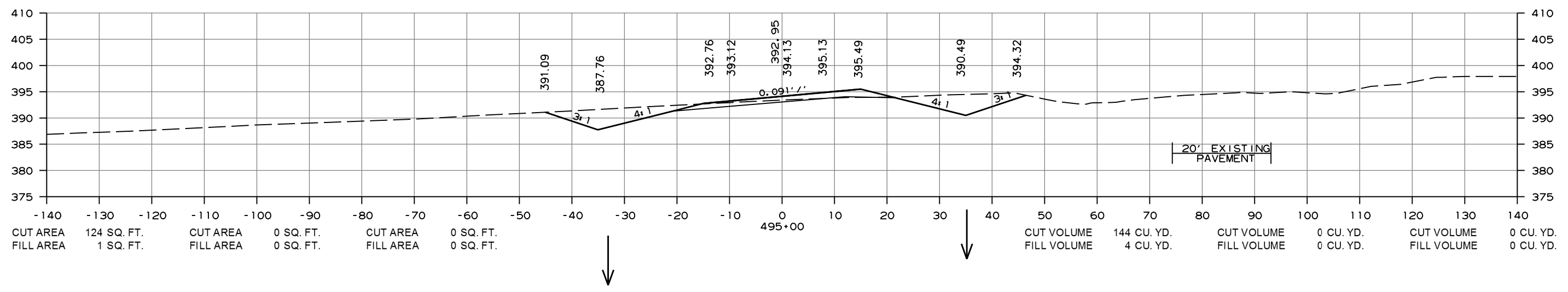
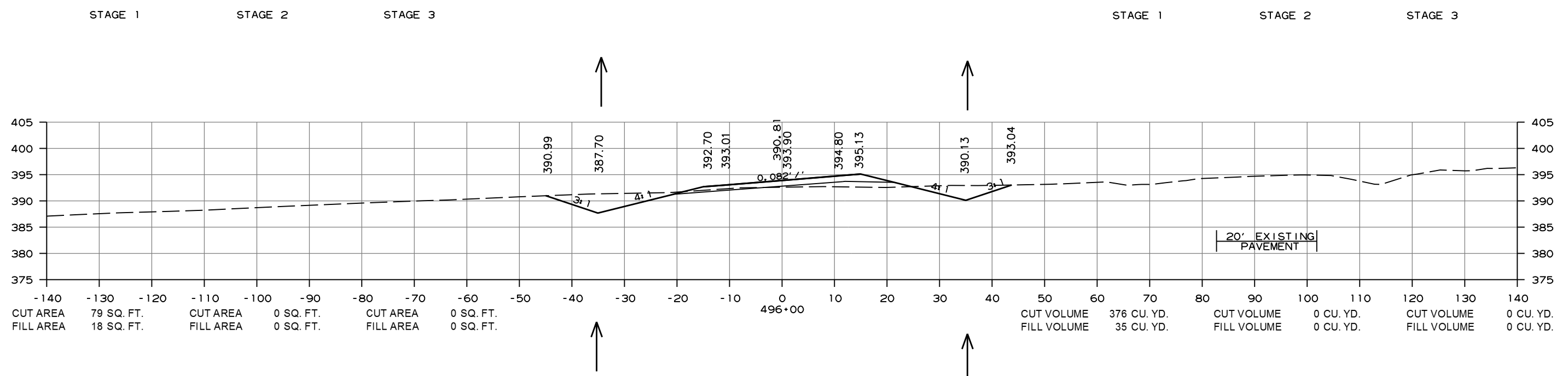


CROSS SECTION STA. 493+52 TO STA. 494+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	96	111

2 CROSS SECTIONS

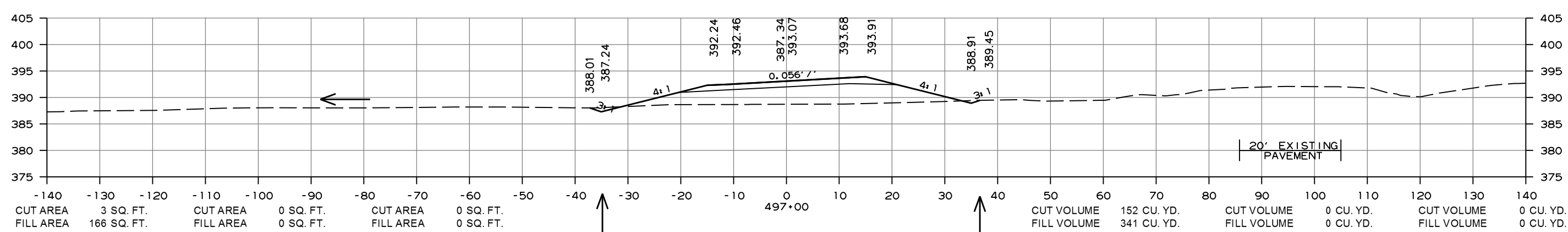
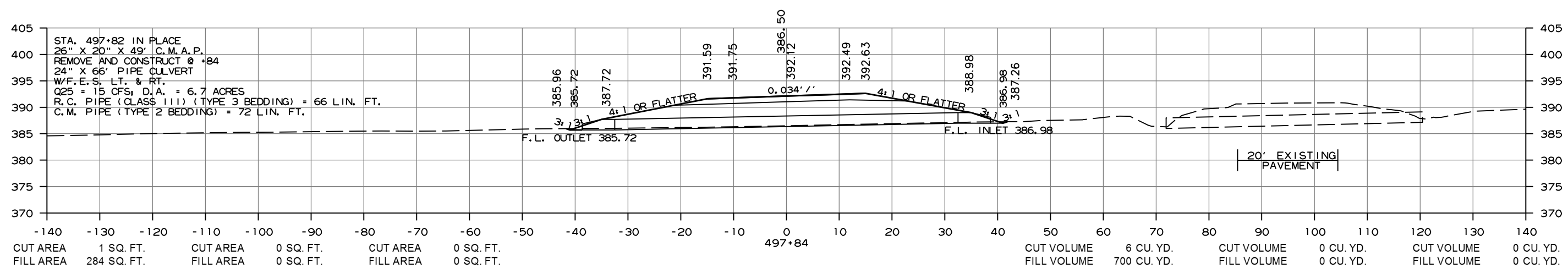
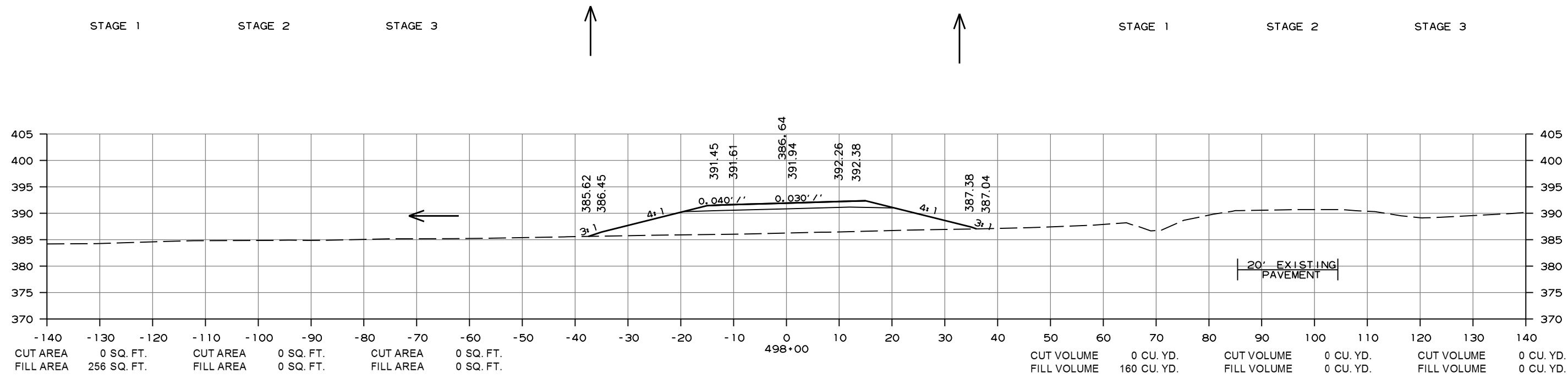


CROSS SECTION STA. 494+67 TO STA. 496+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	97	111

② CROSS SECTIONS

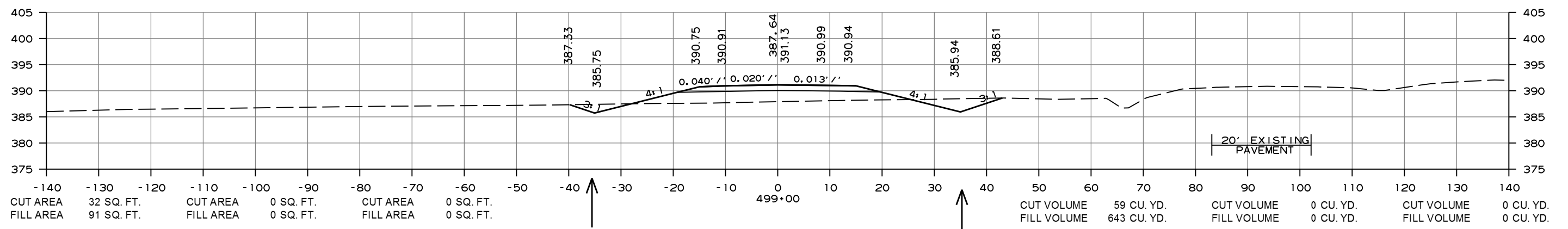
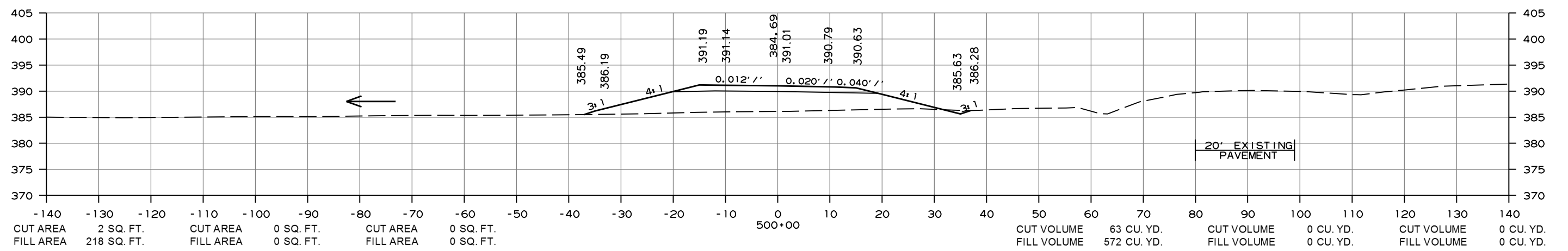
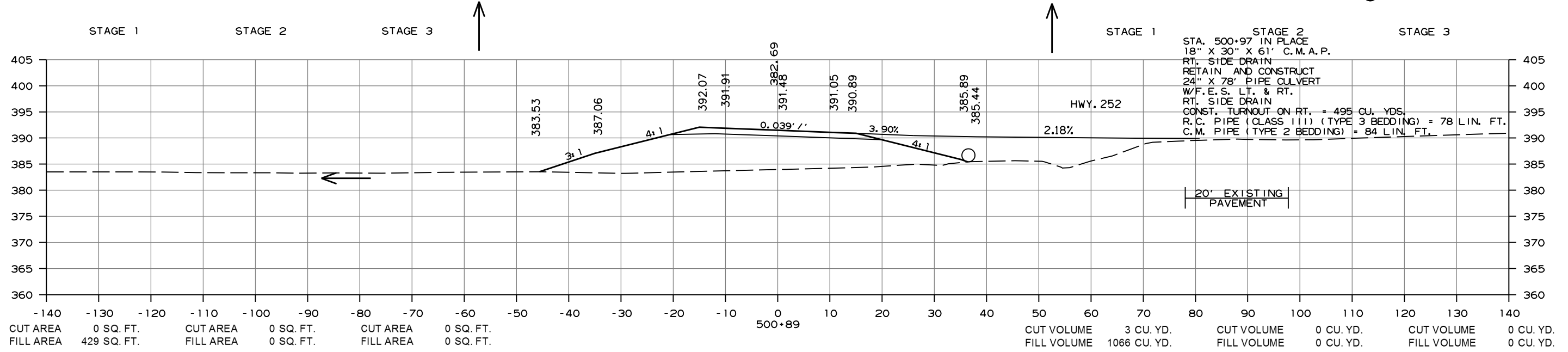


CROSS SECTION STA. 497+00 TO STA. 498+00

2/10/2020 R040625.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. 040819	98	111

② CROSS SECTIONS



CROSS SECTION STA. 499+00 TO STA. 500+89

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	99	111

2 CROSS SECTIONS

STAGE 1

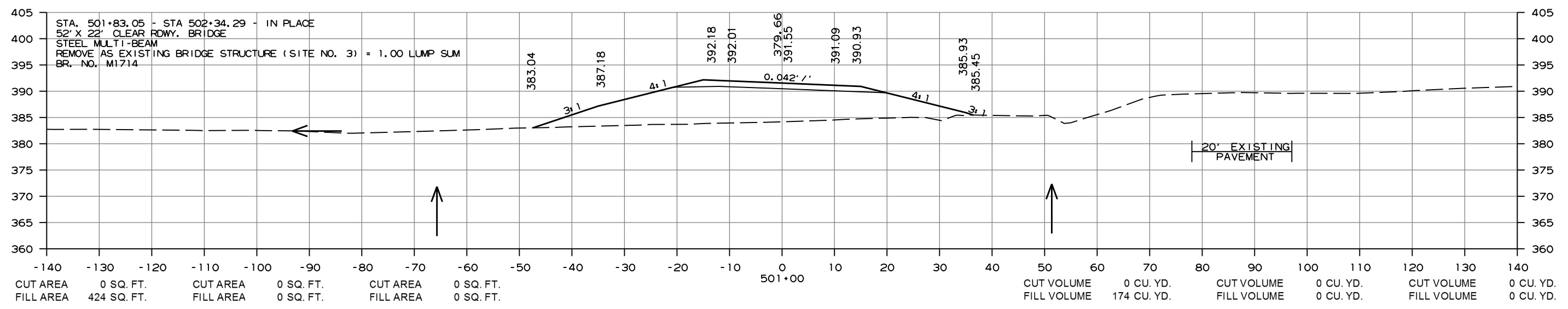
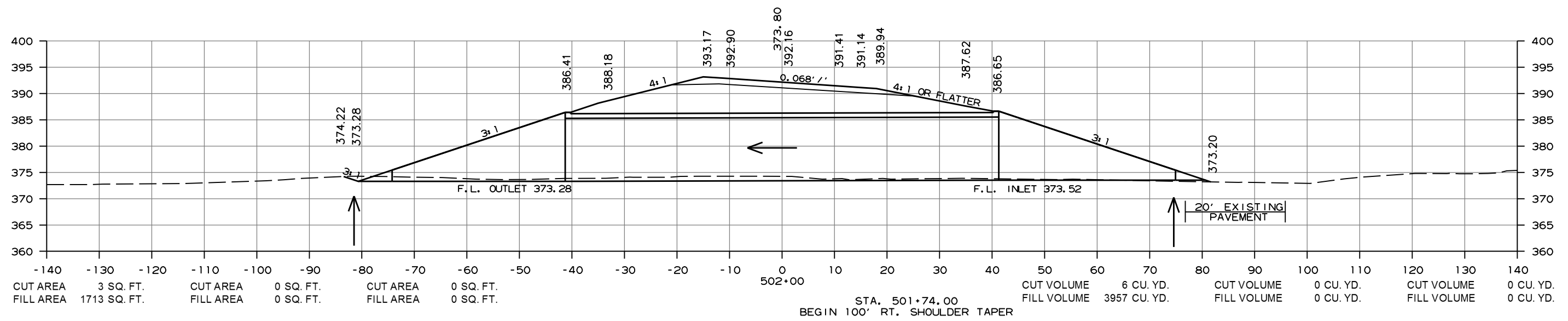
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 501+00 TO STA. 502+00

2/10/2020 R040625.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. 040819	100	111

2 CROSS SECTIONS

STAGE 1

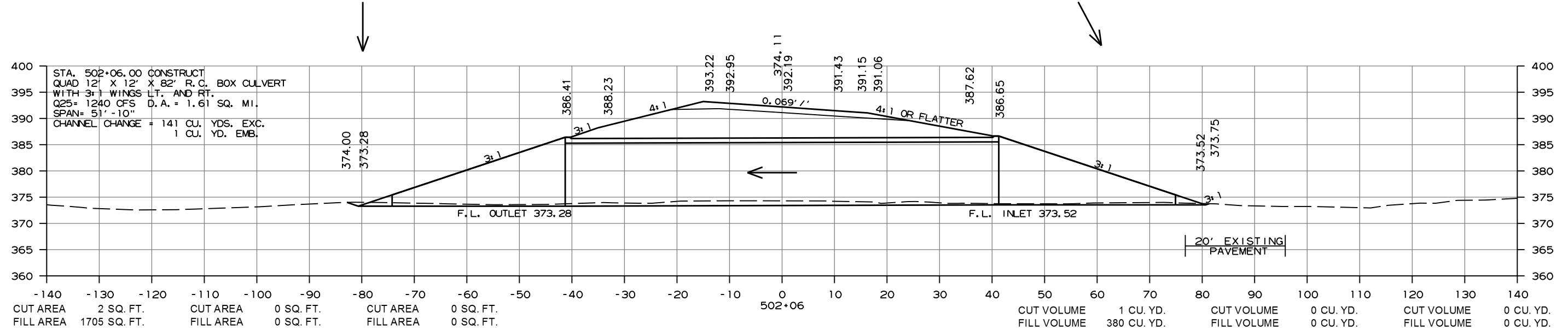
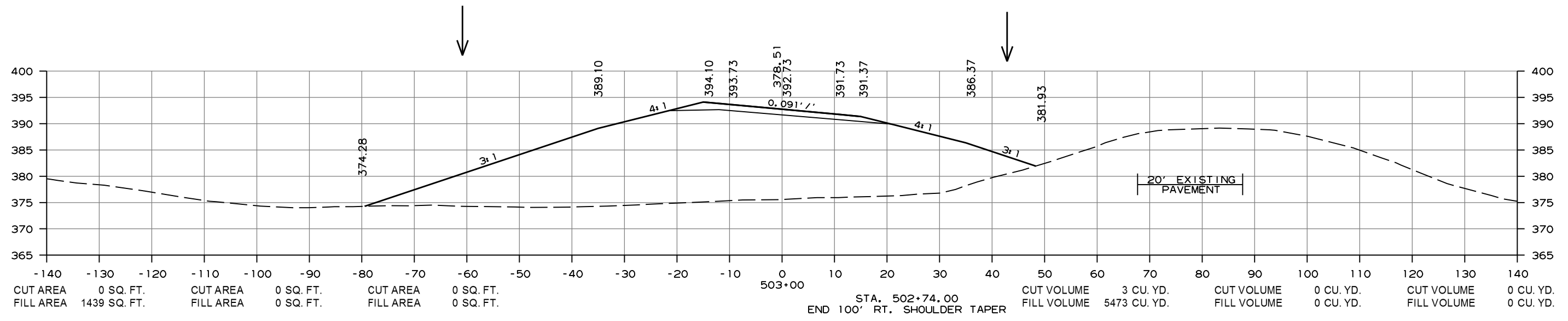
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 502+06 TO STA. 503+00

2/10/2020 R040625.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. 040819	101	111

② CROSS SECTIONS

STAGE 1

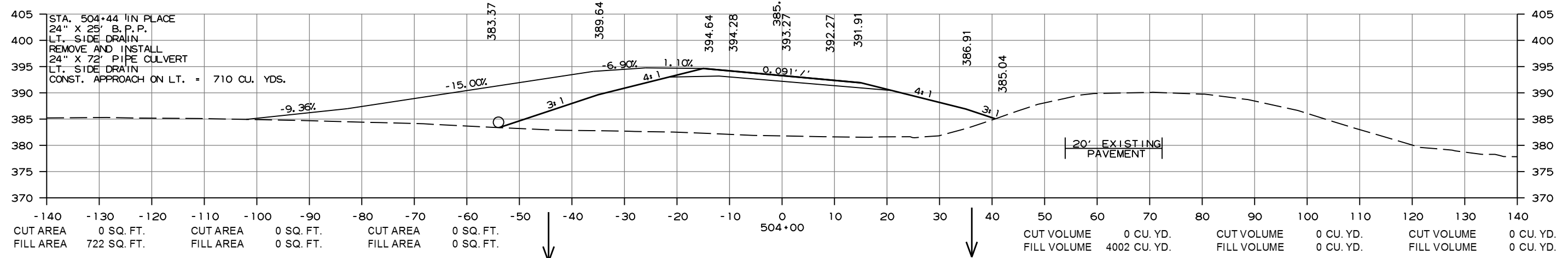
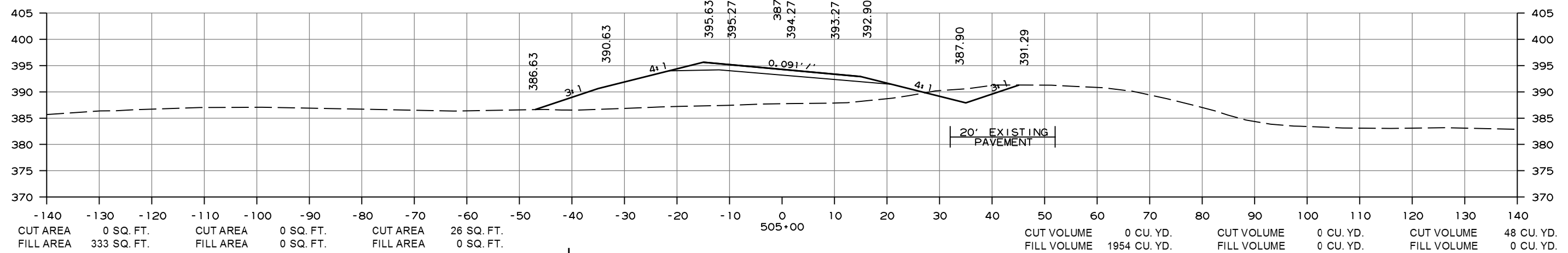
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 504+00 TO STA. 505+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	102	111

② CROSS SECTIONS

STAGE 1

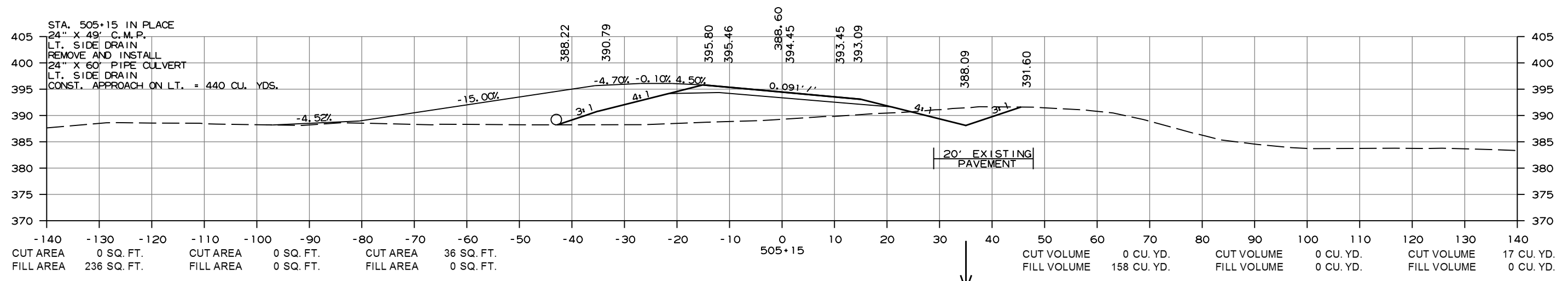
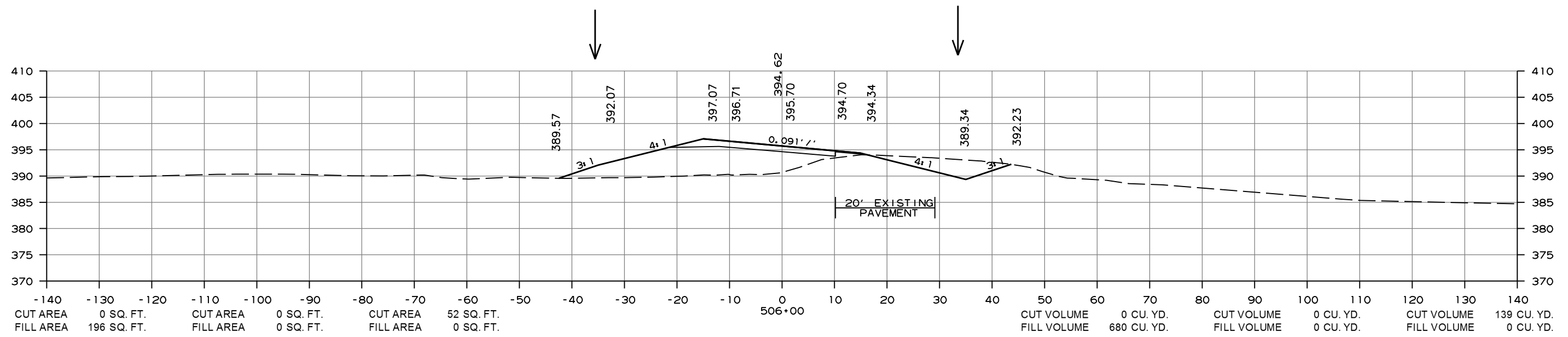
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3



CROSS SECTION STA. 505+15 TO STA. 506+00

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	103	111

② CROSS SECTIONS

STAGE 1

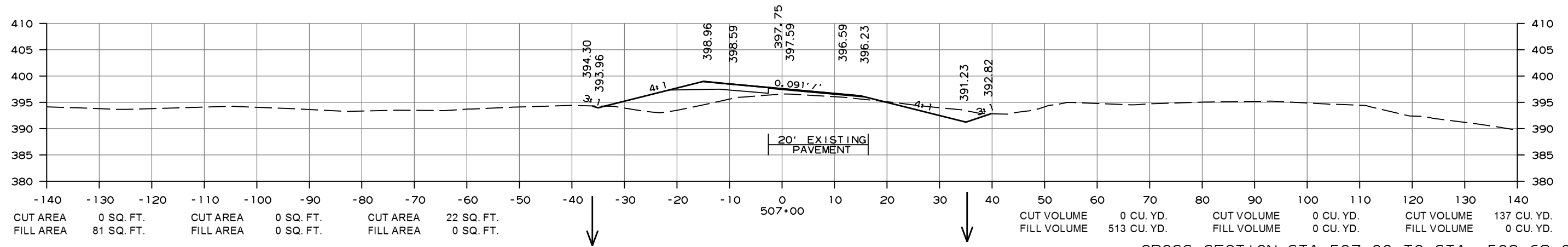
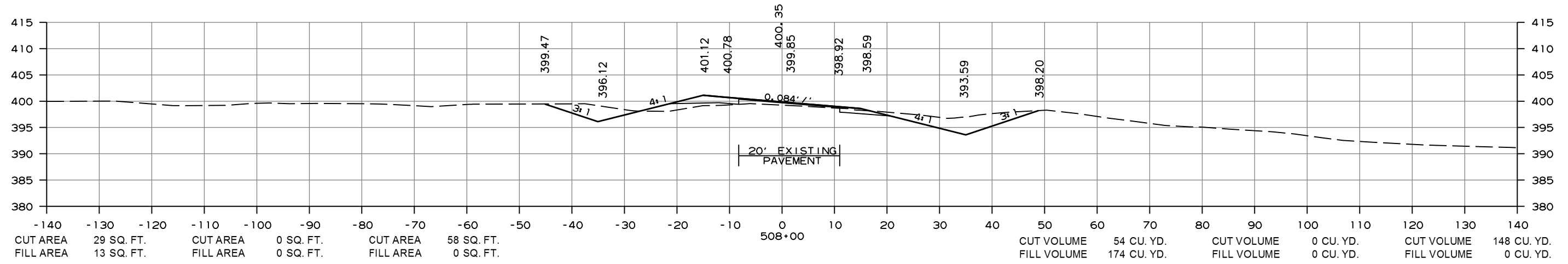
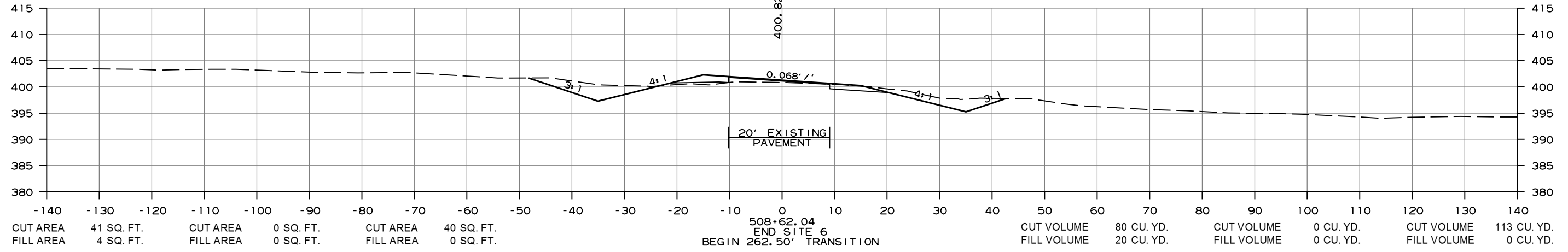
STAGE 2

STAGE 3

STAGE 1

STAGE 2

STAGE 3

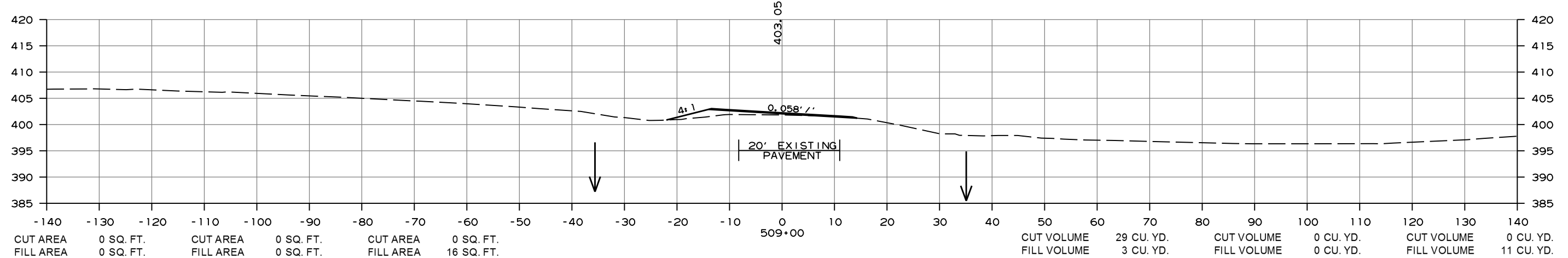
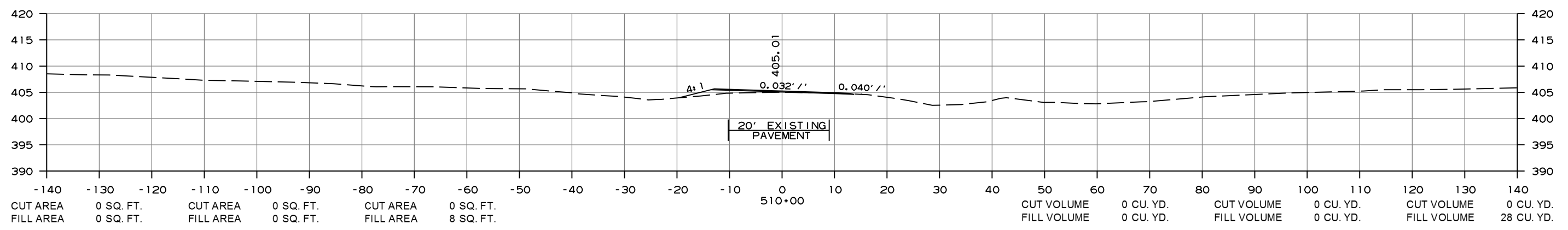
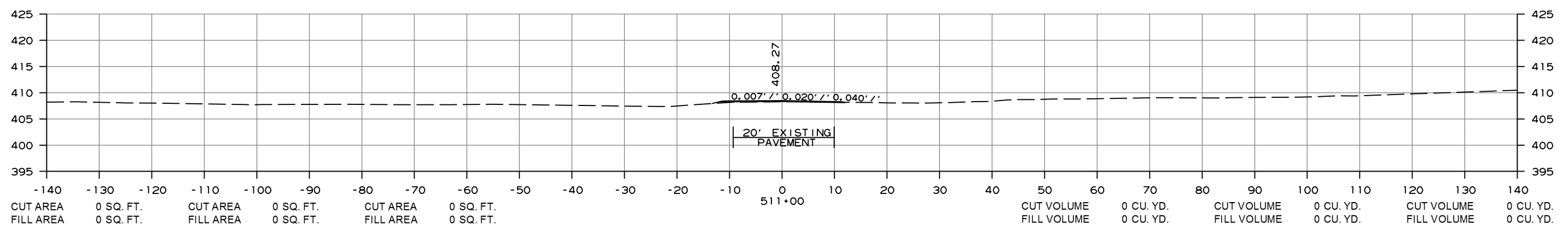
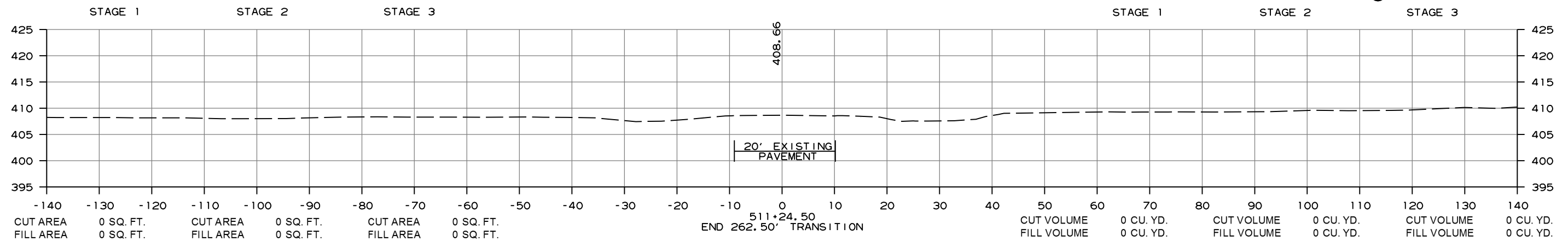


CROSS SECTION STA. 507+00 TO STA. 508+62.04

R040625.DGN 2/10/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	104	111

② CROSS SECTIONS

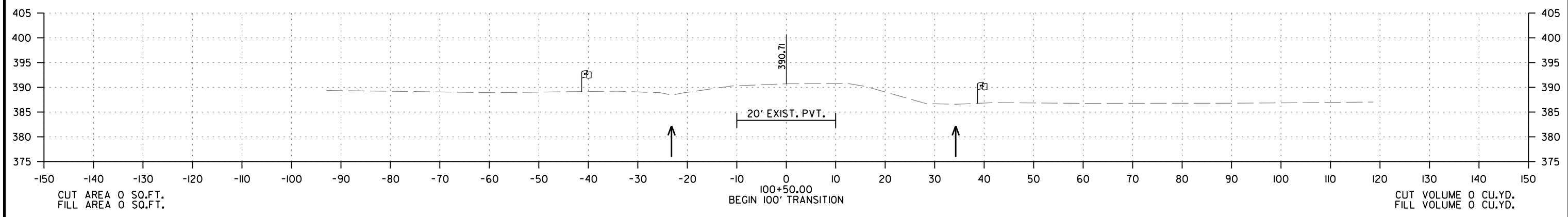
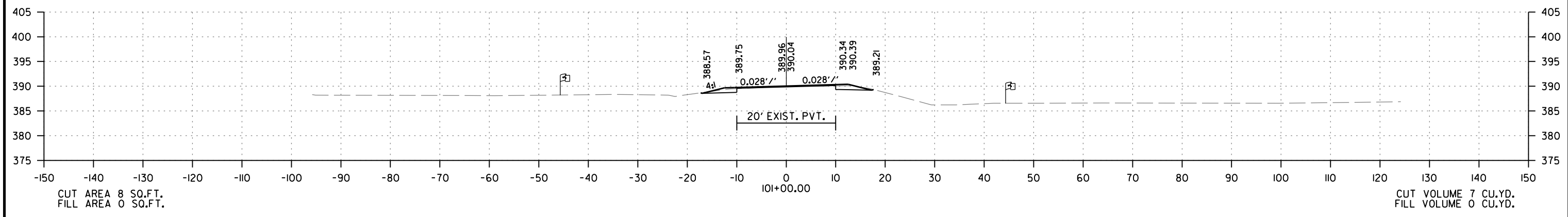
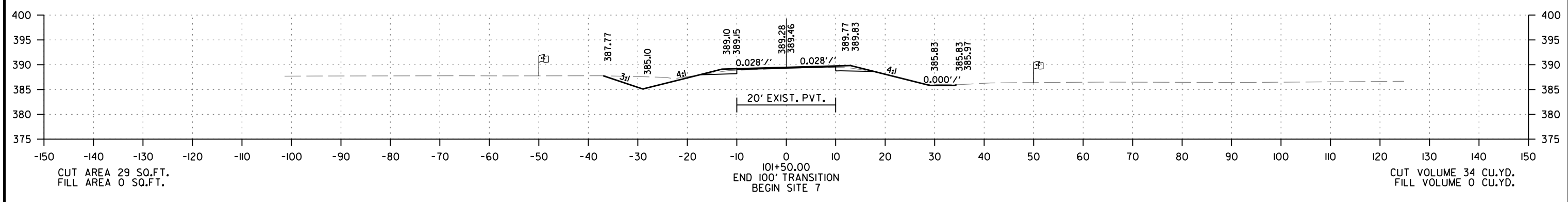
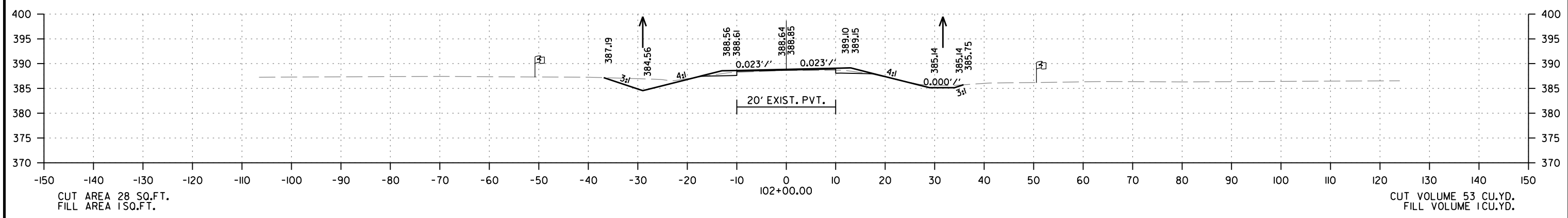


CROSS SECTION STA. 509+00 TO STA. 511+24.50

2/10/2020 R040625.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. 040819	105	111

② CROSS SECTIONS

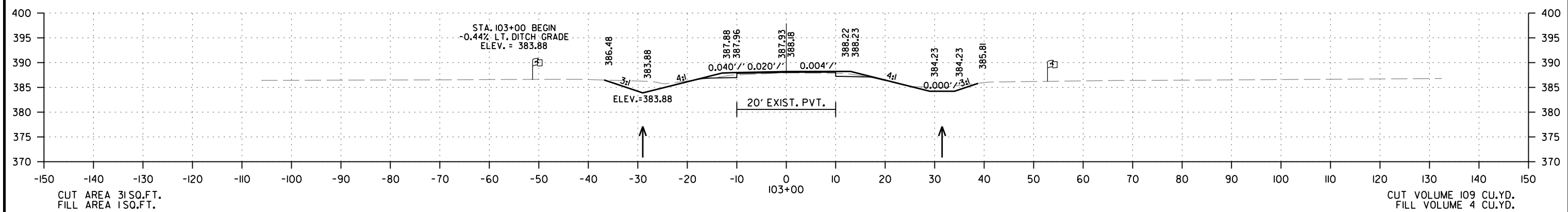
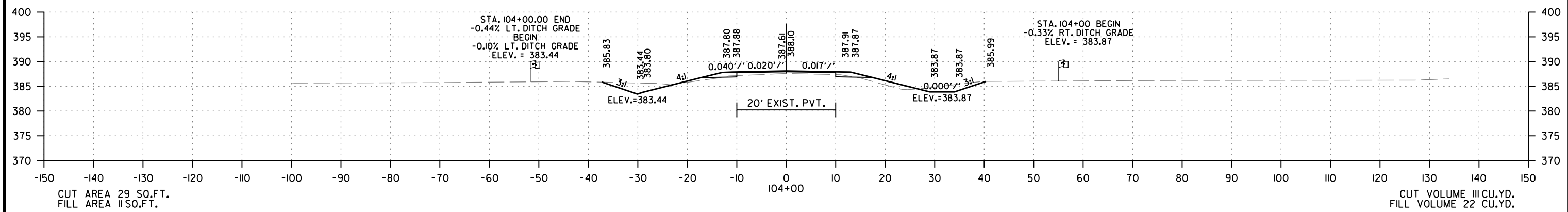
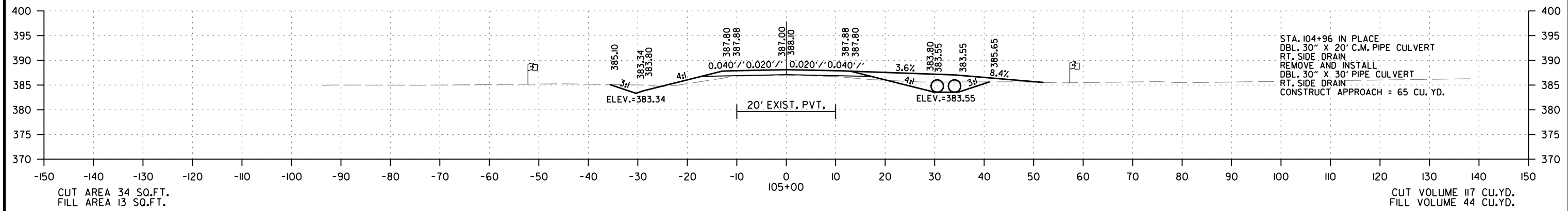
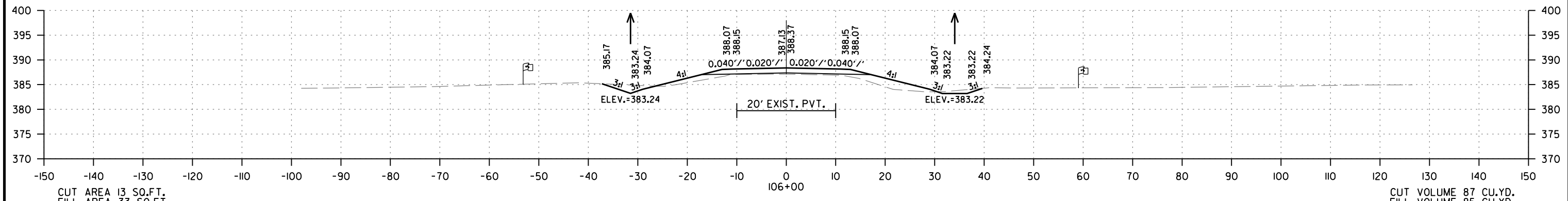


SITE 7
STA. 100+50.00 TO STA. 102+00.00

2/6/2020
R040819.DGN

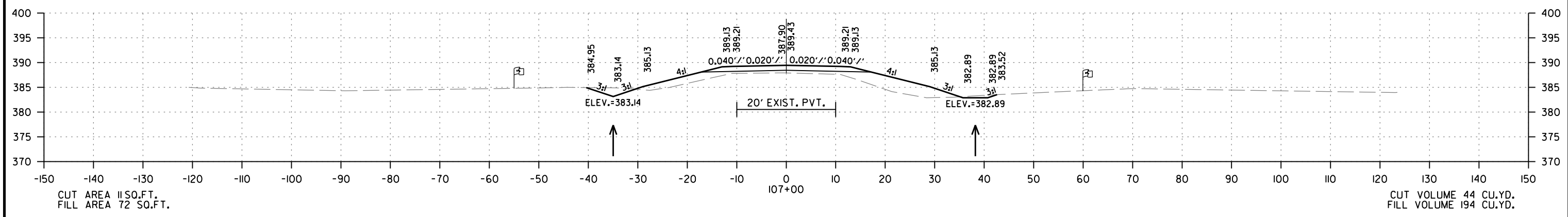
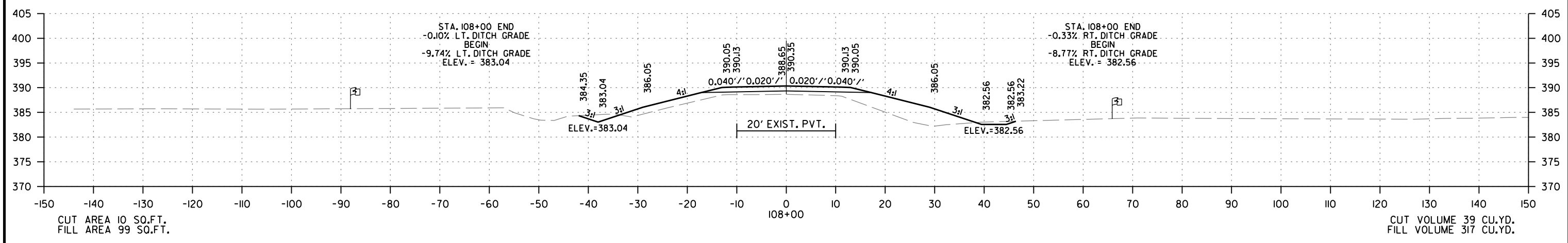
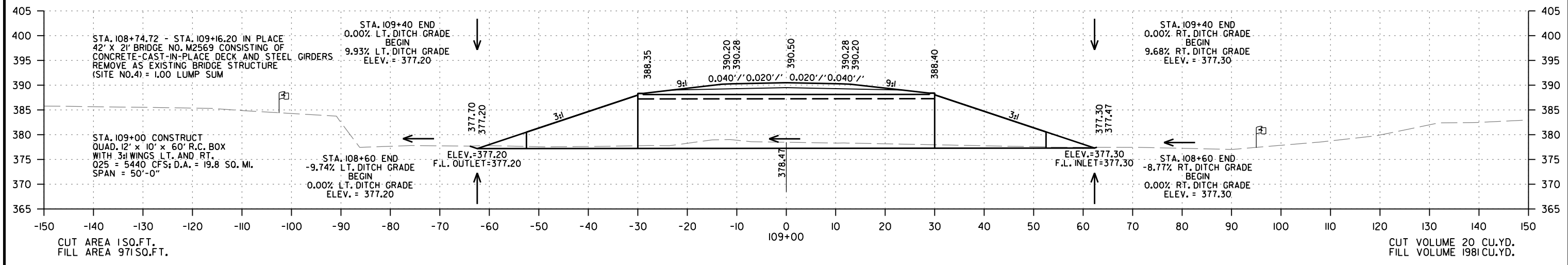
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	106	111

② CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	107	111

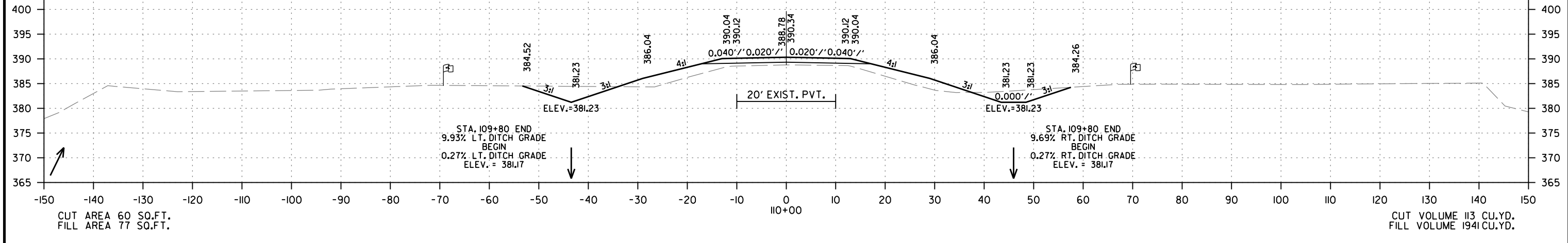
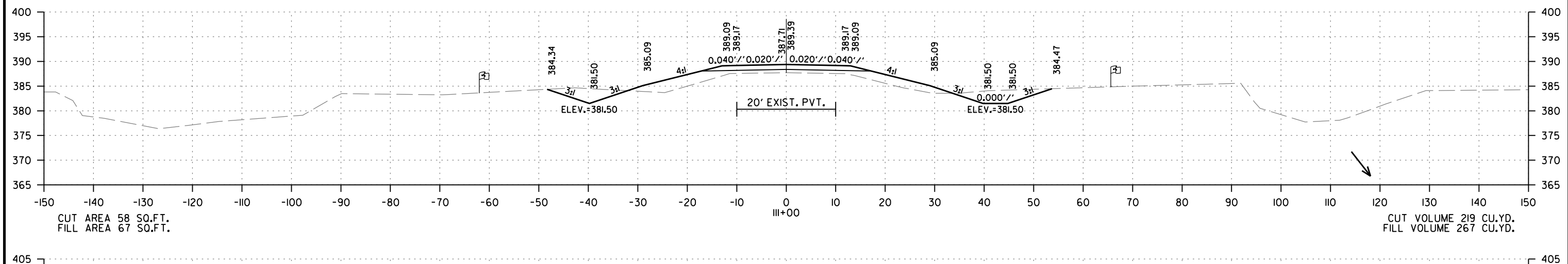
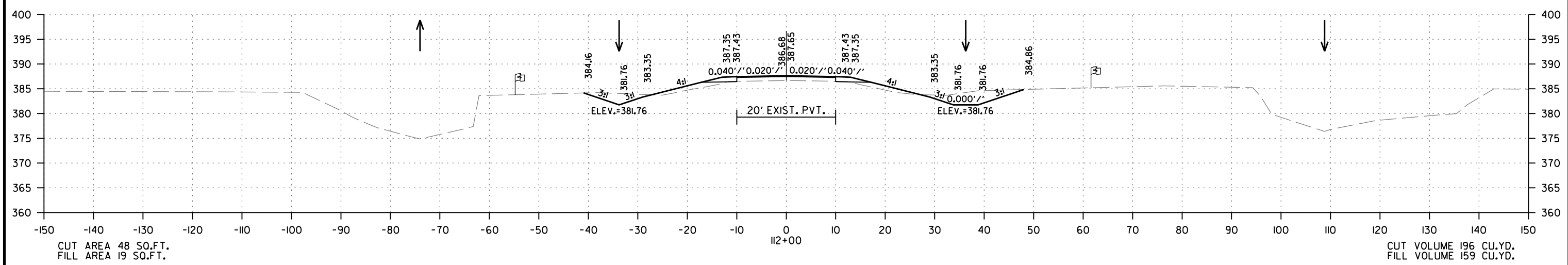
2 CROSS SECTIONS



2/6/2020
R040819.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. 040819	108	111

② CROSS SECTIONS

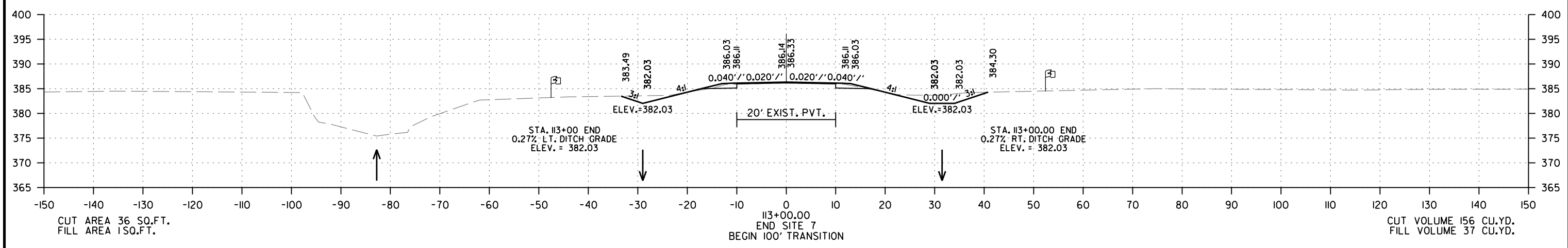
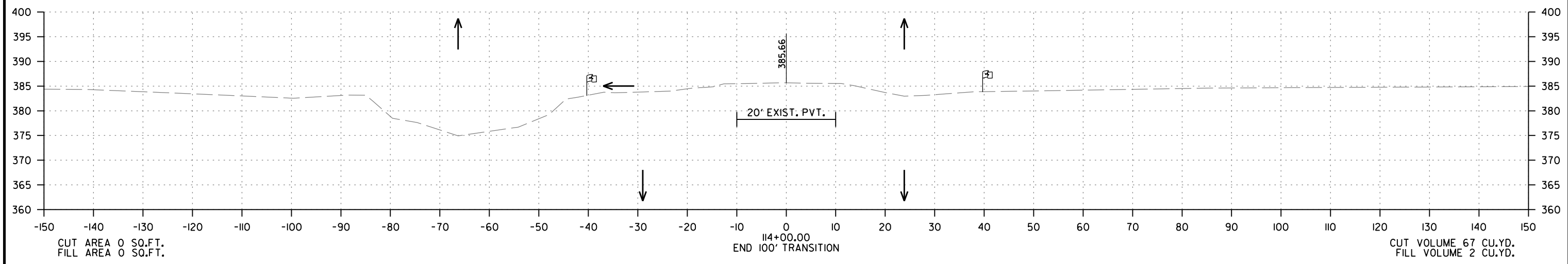


SITE 7
STA. 110+00 TO STA. 112+00

2/6/2020
R040819.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. 040819	109	111

② CROSS SECTIONS

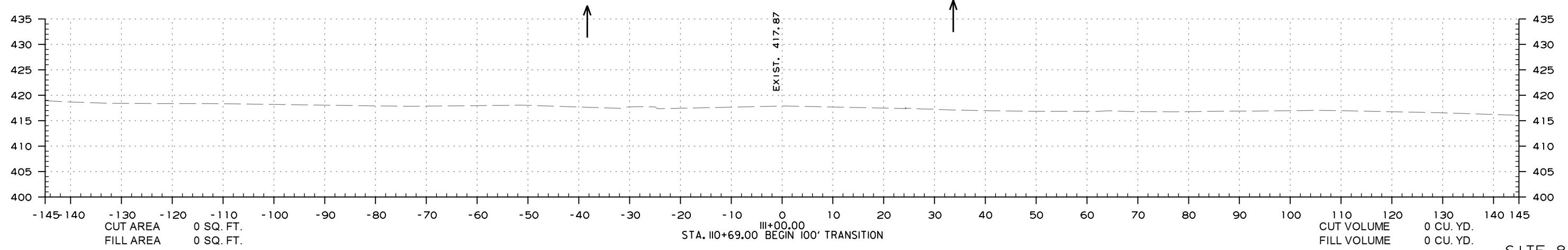
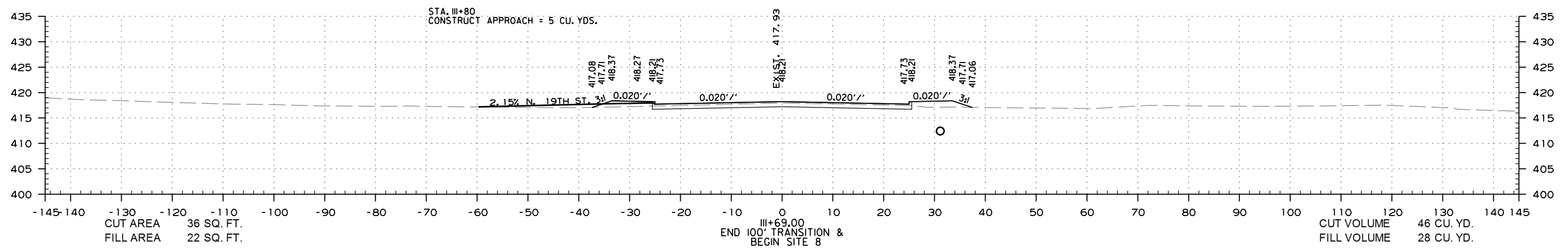
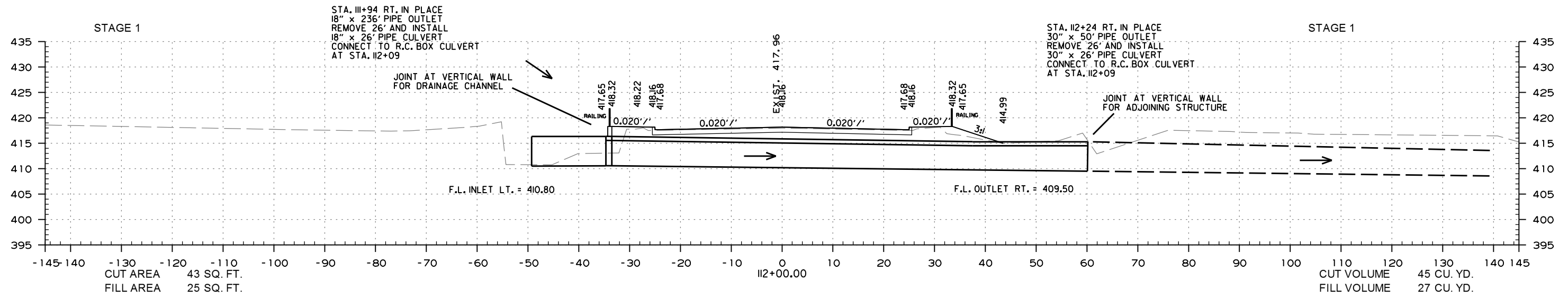


SITE 7
STA. 113+00.00 TO STA. 114+00.00

2/6/2020
R040819.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. 040819	110	111

② CROSS SECTIONS

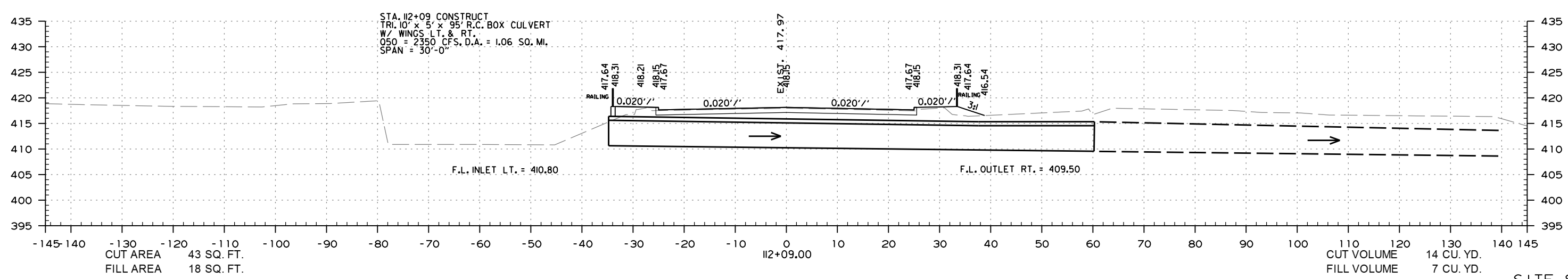
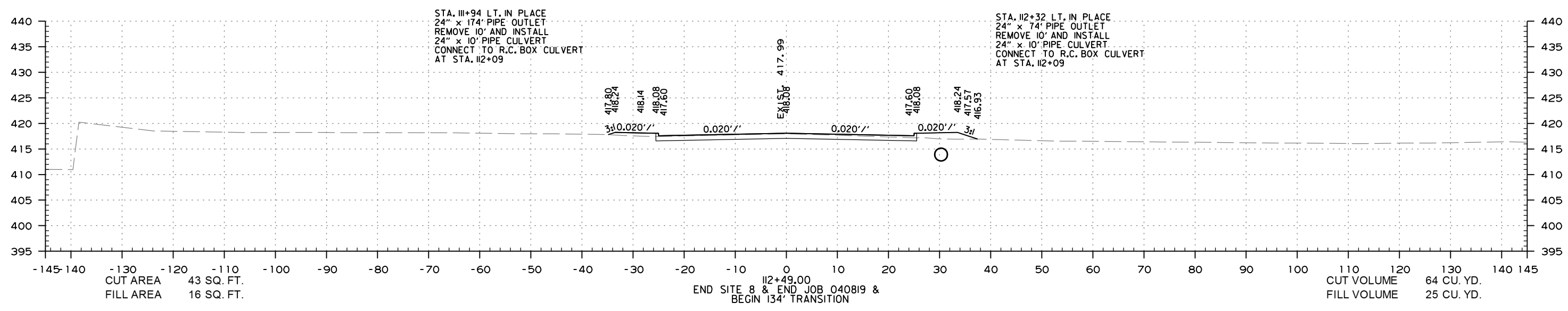
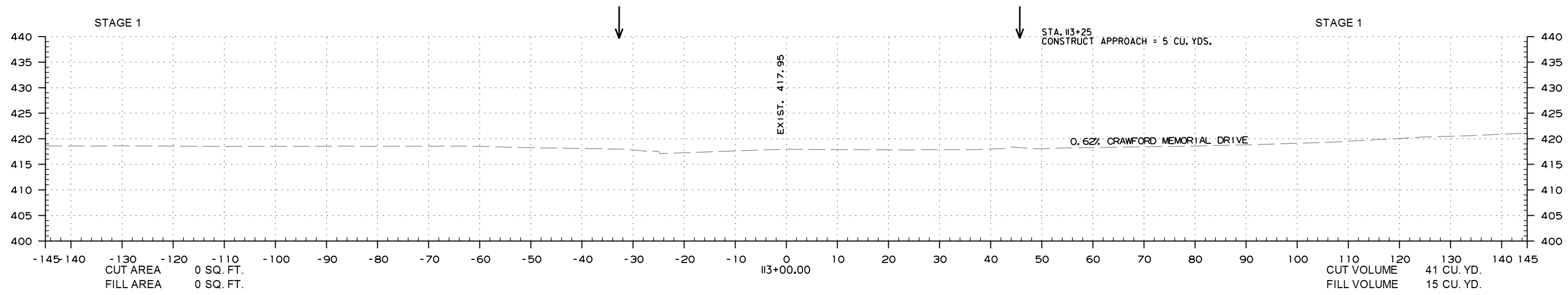


SITE 8
STA. 111+00.00 TO STA. 112+00.00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 040819	111	111

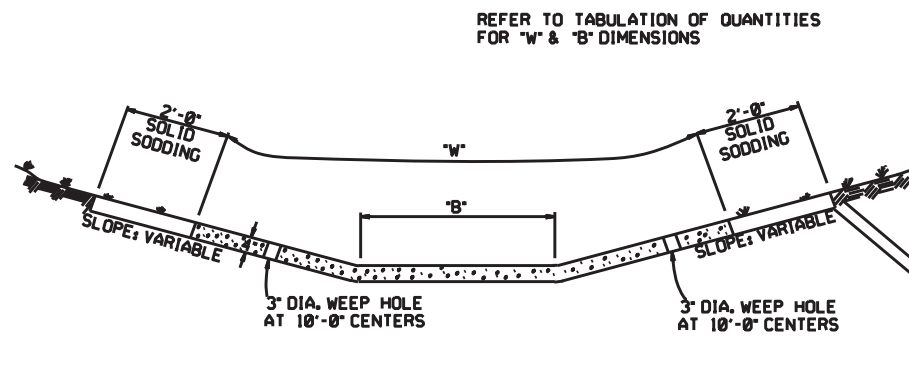
STA. 113+83.00
END 134' TRANSITION

② CROSS SECTIONS

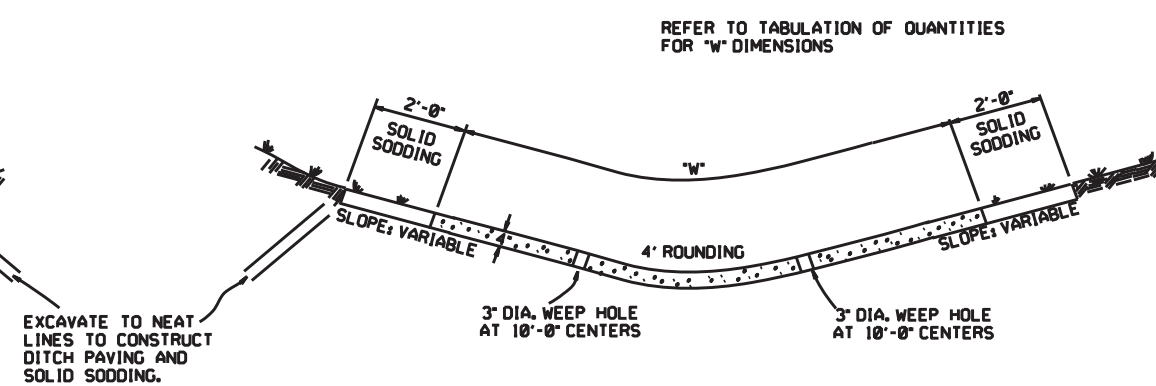


SITE 8
STA. 112+09.00 TO STA. 113+00.00

5/1/2019 R040802.DGN



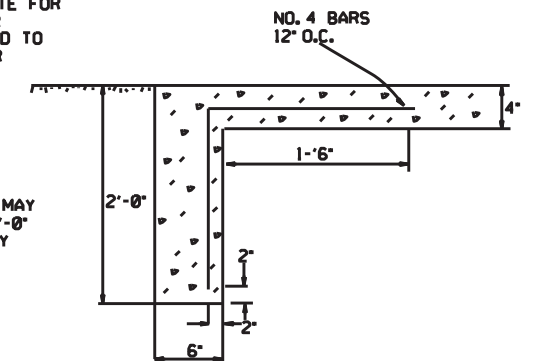
TYPE A



TYPE B

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

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



TOE WALL DETAIL FOR CONCRETE DITCH PAVING

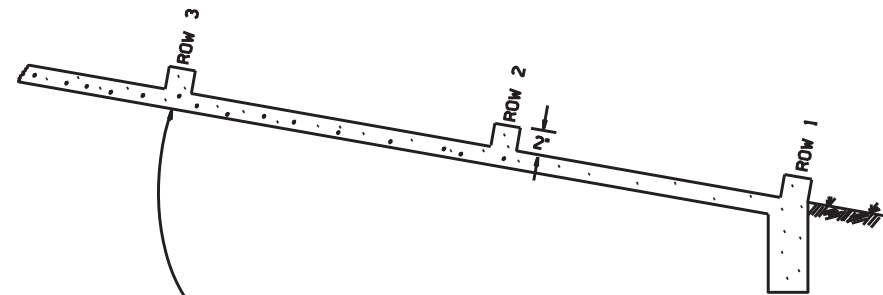
GENERAL NOTES:

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.

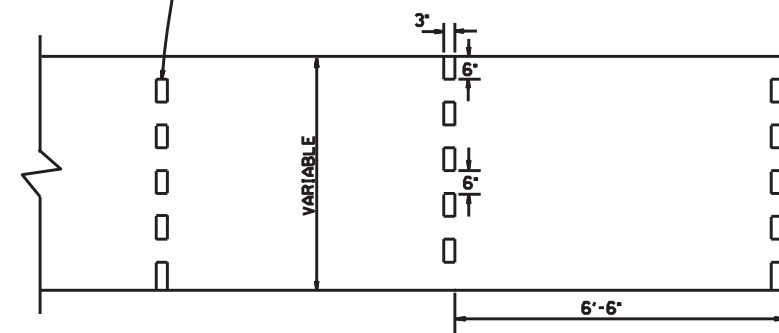
SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

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.



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

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



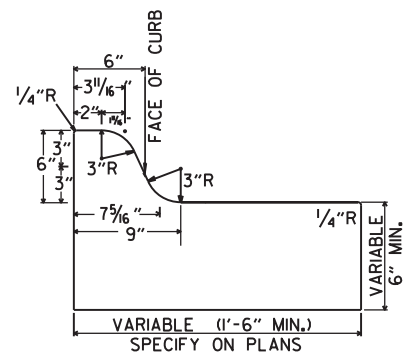
ENERGY DISSIPATORS
(NO SCALE)

DATE	REVISION	DATE	FILM D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE		
11-17-10	ADDED GENERAL NOTE		
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING		
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	1111-30-89	
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88	
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87	
1-9-87	MODIFIED NOTE ON ENERGY DISS.	632-1-9-87	
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86	
11-1-84	ENERGY DISSIPATOR DETAILS	508-11-1-84	
11-1-84	ADDED		
11-1-84	EXCAVATION DETAILS ADDED		
10-2-72	TYPED A & B		
	REVISED AND REDRAWN	508-10-2-72	
	DATE		
	REVISION		
	DATE		
	FILM D		

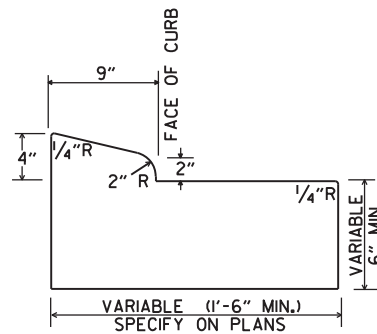
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

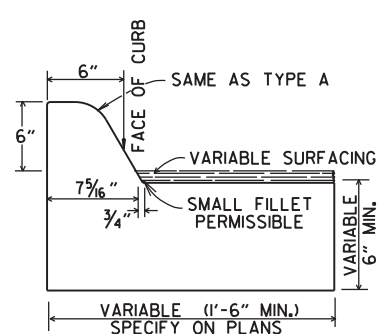
STANDARD DRAWING CDP-1



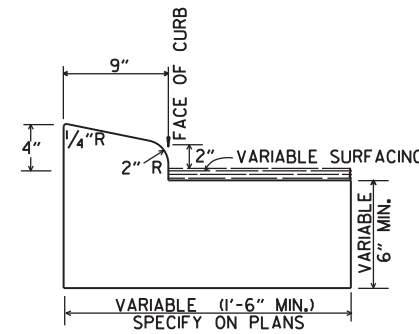
TYPE A



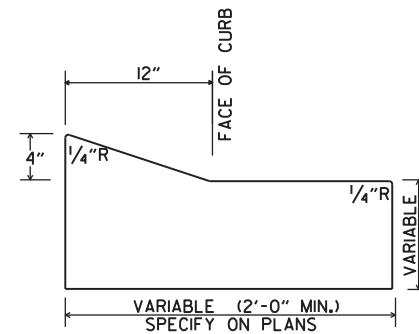
TYPE B-1



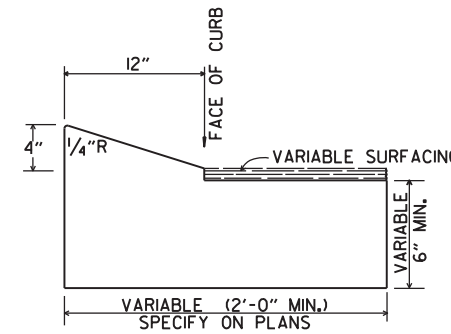
TYPE C



TYPE B-2

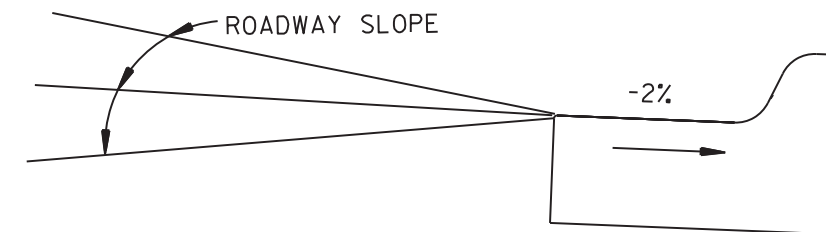


TYPE E-1

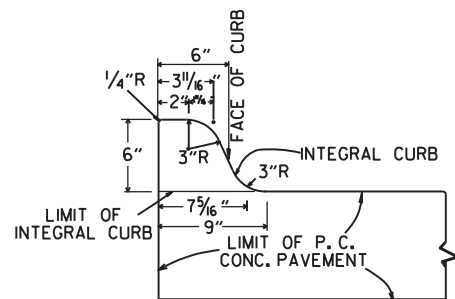


TYPE E-2

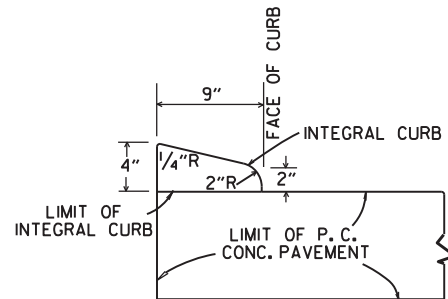
CONCRETE COMBINATION CURB AND GUTTER



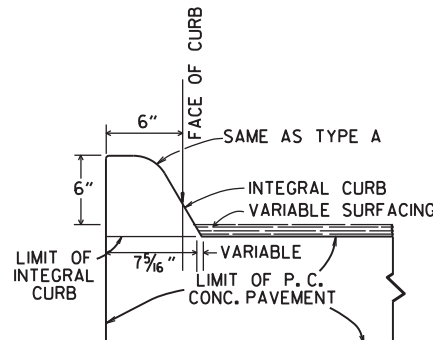
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

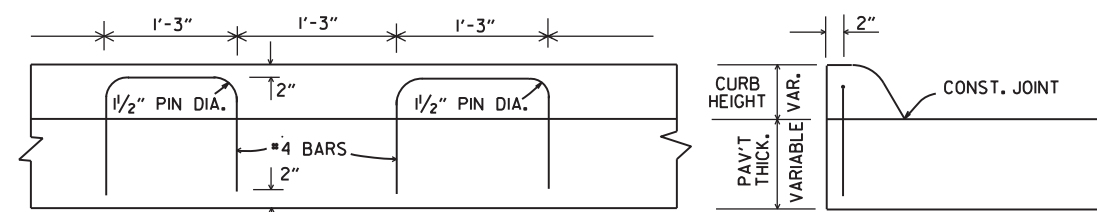


TYPE B



TYPE C

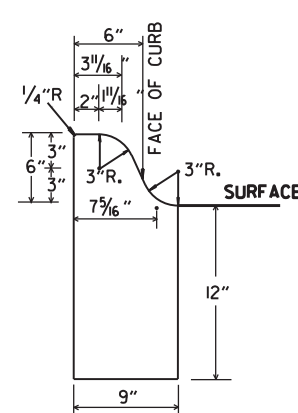
INTEGRAL CURB



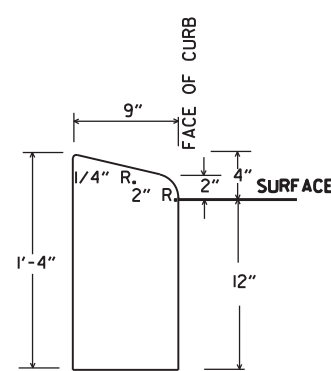
LONGITUDINAL SECTION

ELEVATION

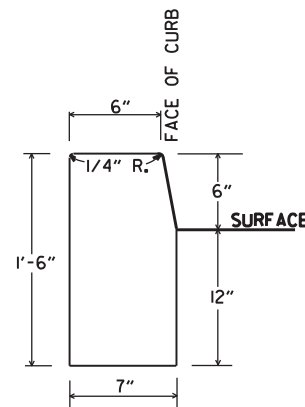
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



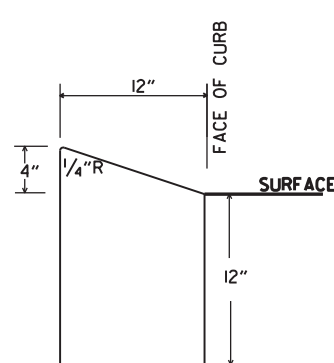
TYPE A



TYPE B

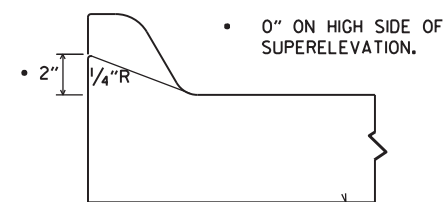


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

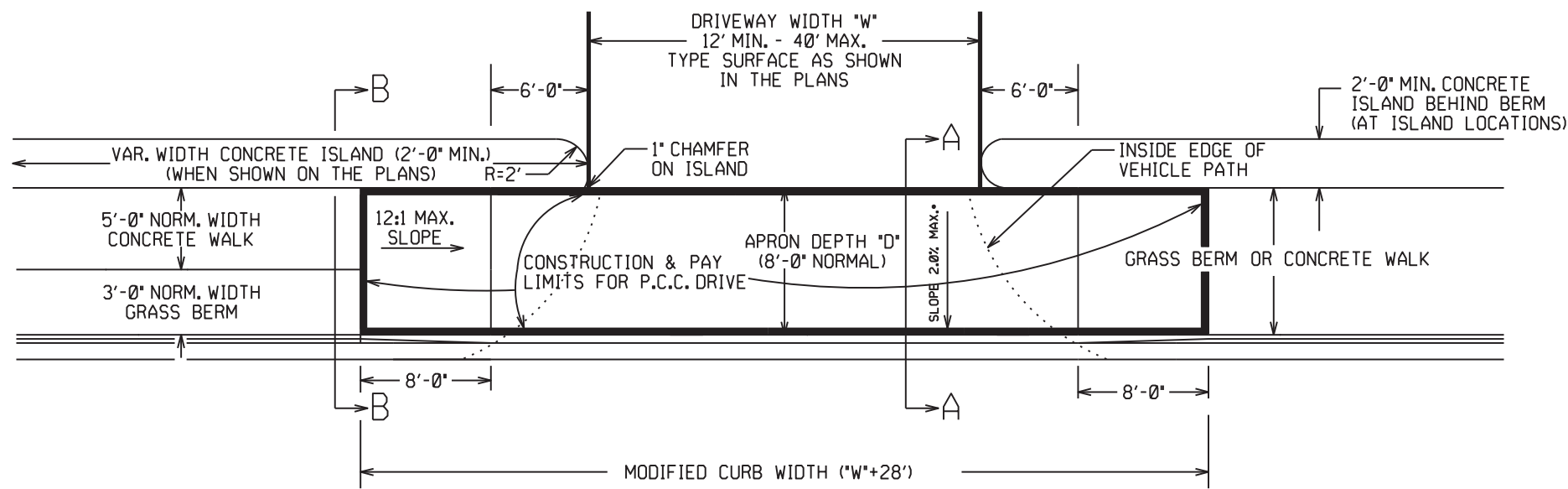
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIABLE DEPTH TYPE A & B 1	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

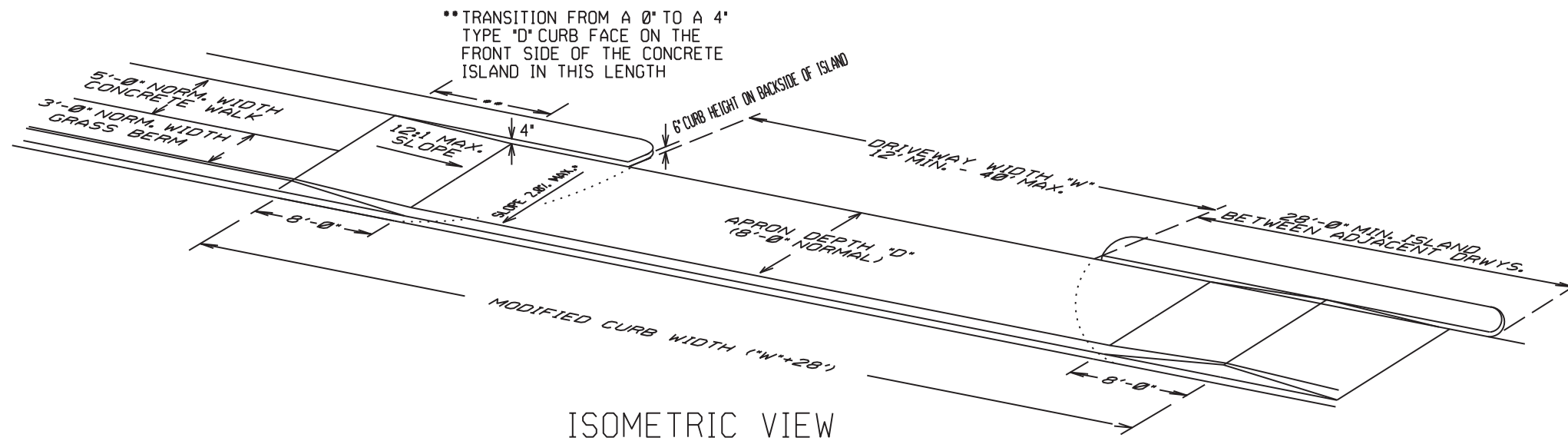
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

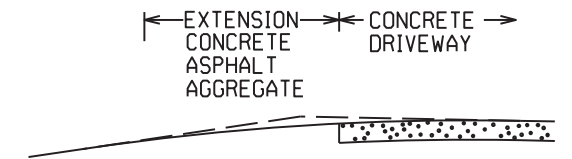
STANDARD DRAWING CG-1



PLAN VIEW



ISOMETRIC VIEW

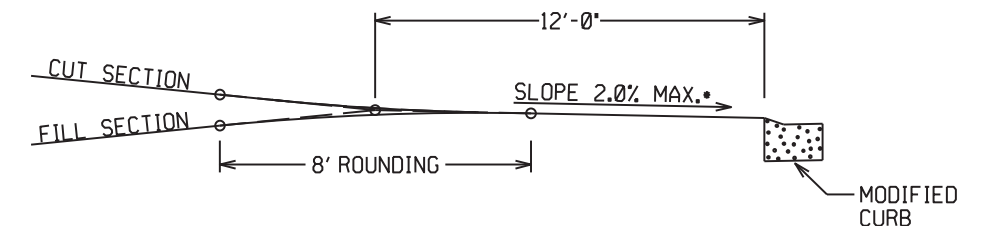


EXTENSION TYPICAL SECTIONS

- 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

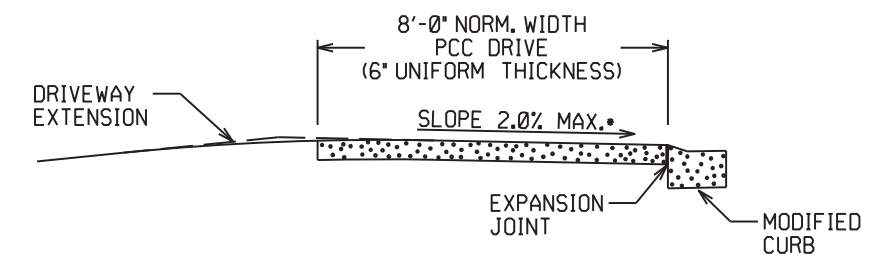
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

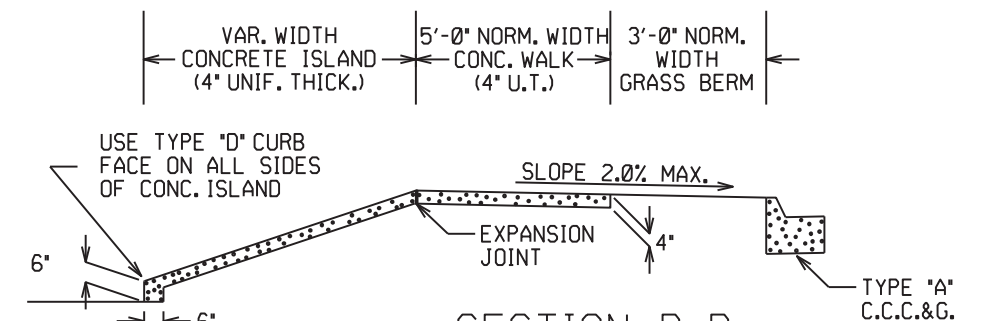


DRIVEWAY VERTICAL ALIGNMENT DETAILS

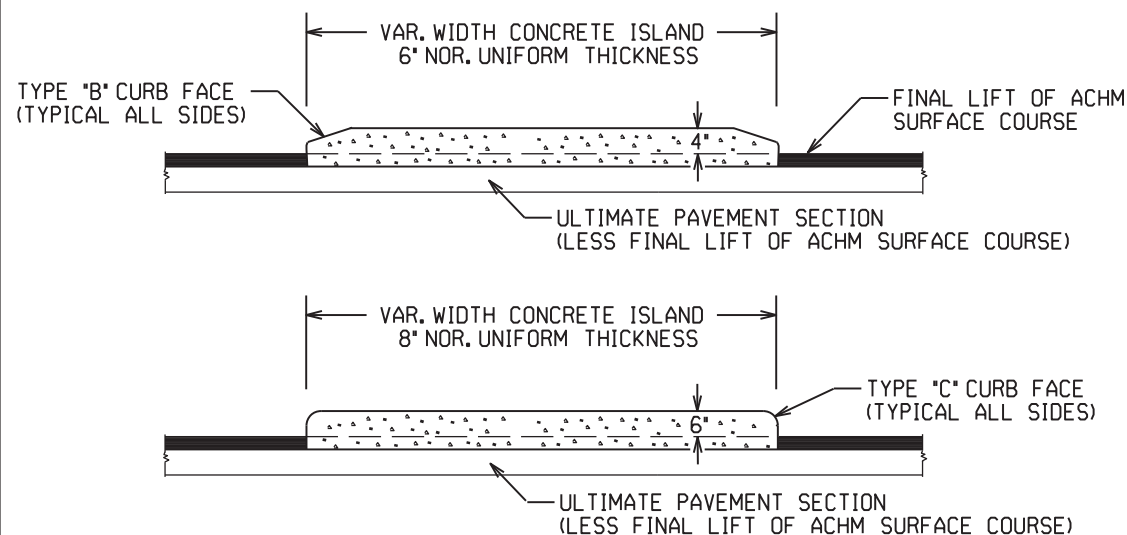
NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



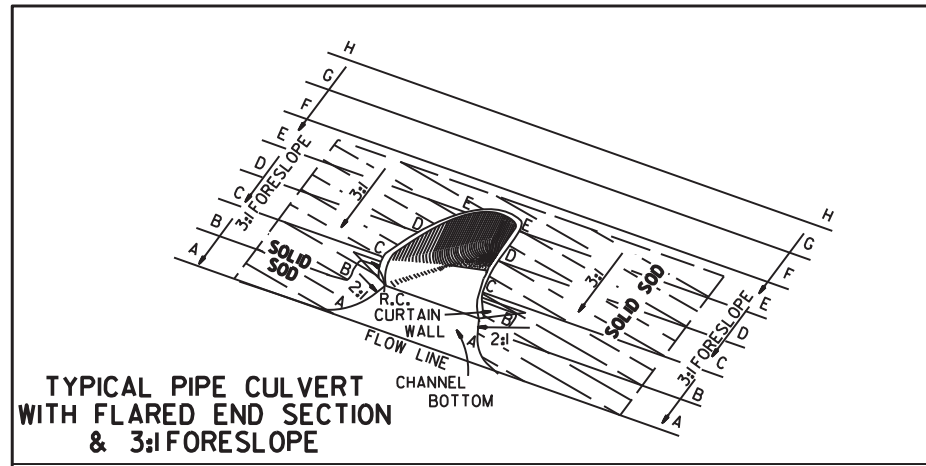
SECTION B-B
CURBED ISLAND BEHIND WALK



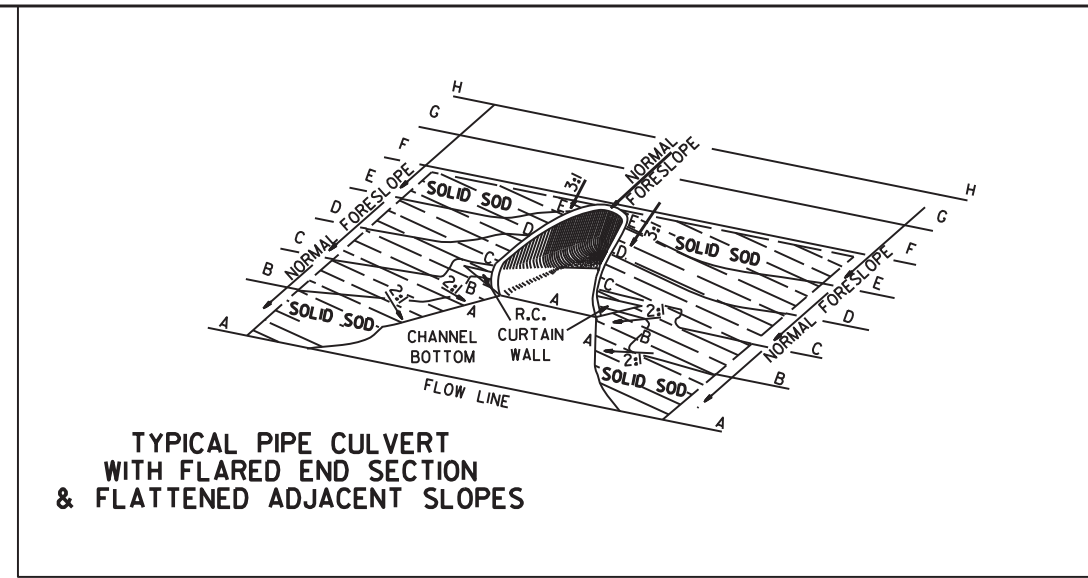
CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM 'CONCRETE ISLAND'.

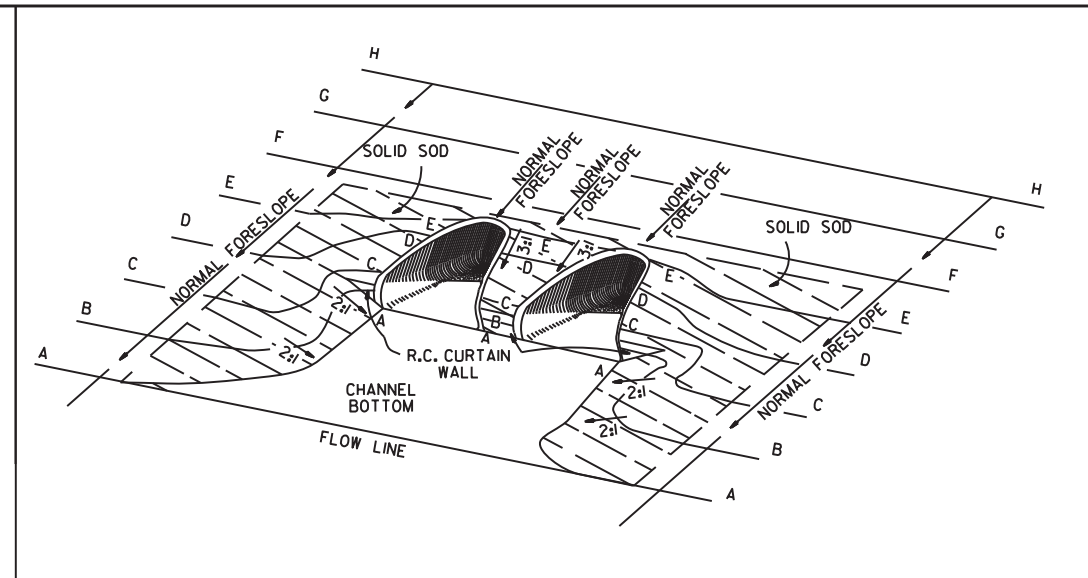
DATE	REV	DATE FILMED	DESCRIPTION
11-07-19			REVISED WALK DETAILS
2-27-14			REVISED PLAN & ISOMETRIC VIEW
11-29-07			ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05			REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02			ADDED ISLAND DETAILS & NOTES
3-30-00			REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98			REVISED NOTES
11-18-98			REDRAWN AND REISSUED



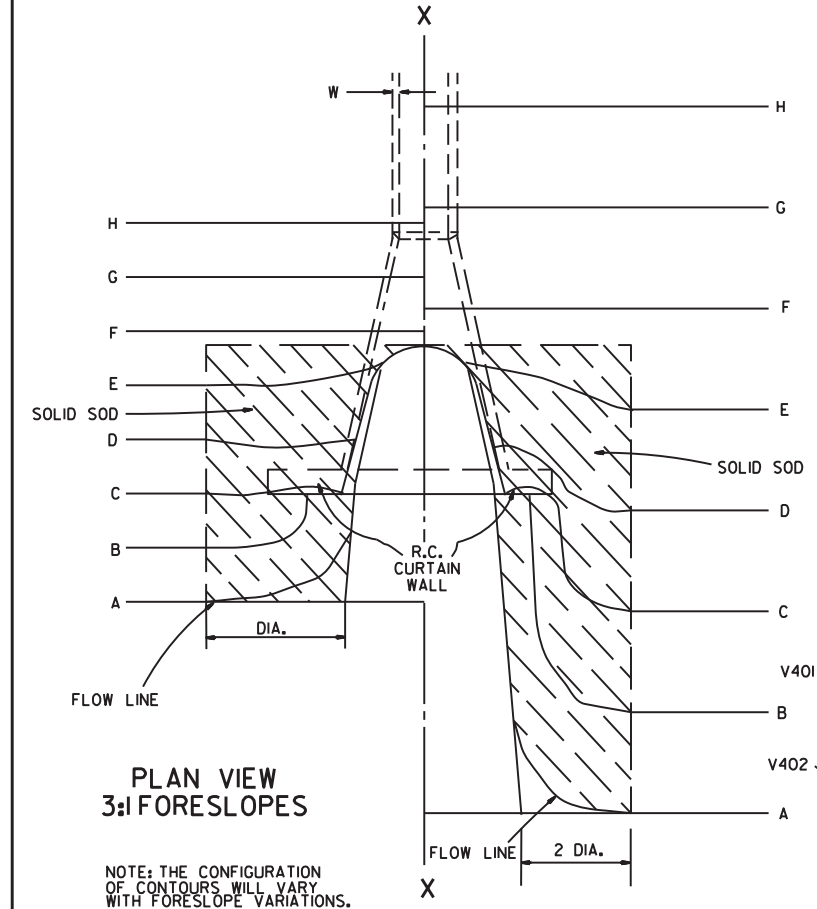
TYPICAL PIPE CULVERT WITH FLARED END SECTION & 3:1 FORESLOPE



TYPICAL PIPE CULVERT WITH FLARED END SECTION & FLATTENED ADJACENT SLOPES



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



PLAN VIEW 3:1 FORESLOPES

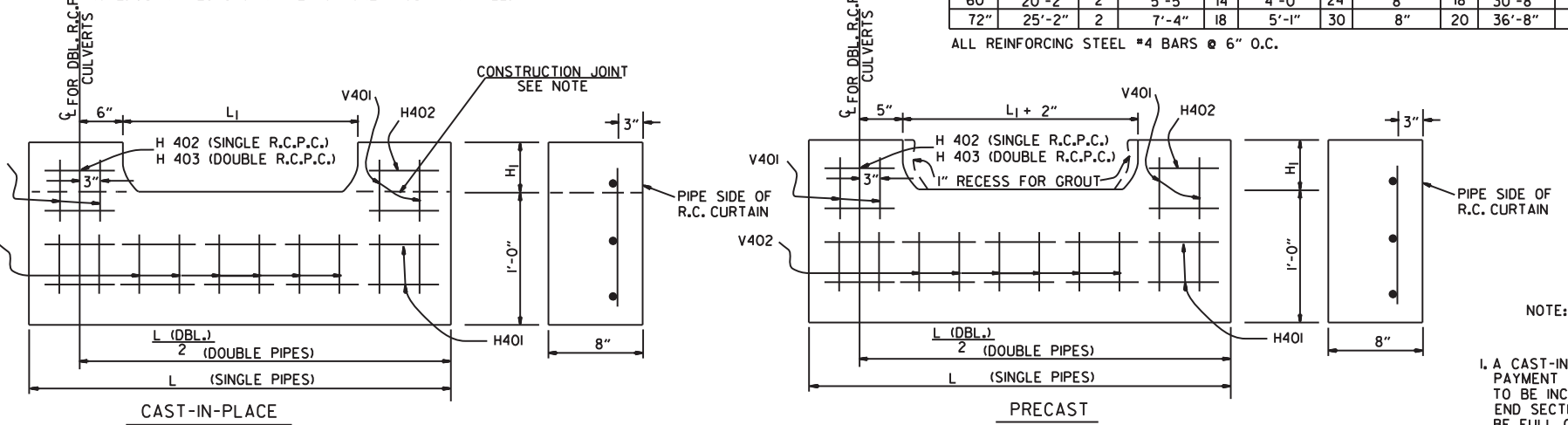
PLAN VIEW FLATTENED FORESLOPES

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

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

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

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



R.C. CURTAIN WALL DETAILS

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.

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

REINFORCING STEEL SCHEDULE

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

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

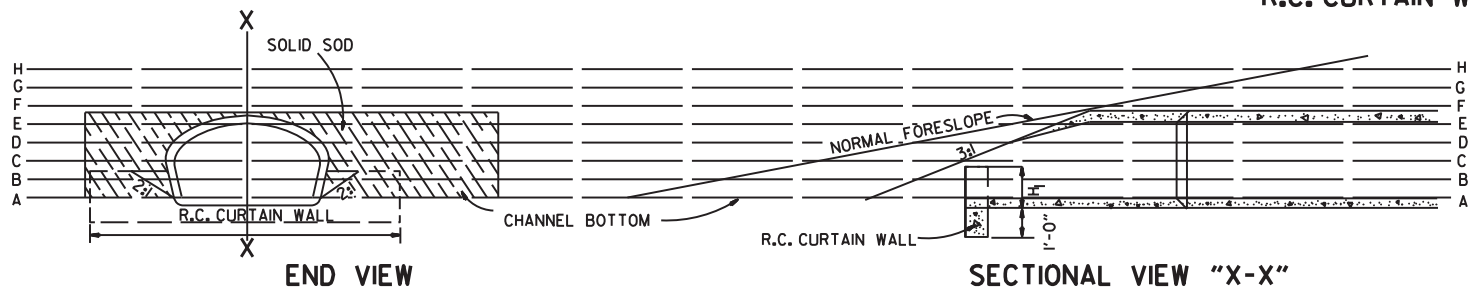
SOLID SODDING

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

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

GENERAL NOTES

- 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.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
- 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.
- WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.



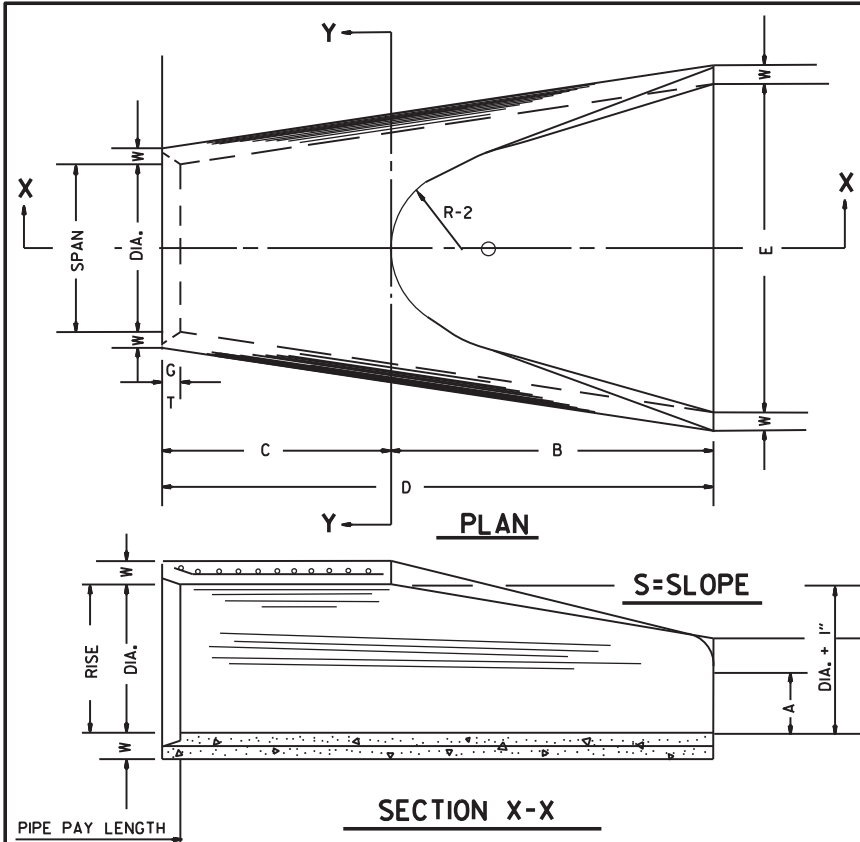
END VIEW

SECTIONAL VIEW "X-X"

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

FLARED END SECTION

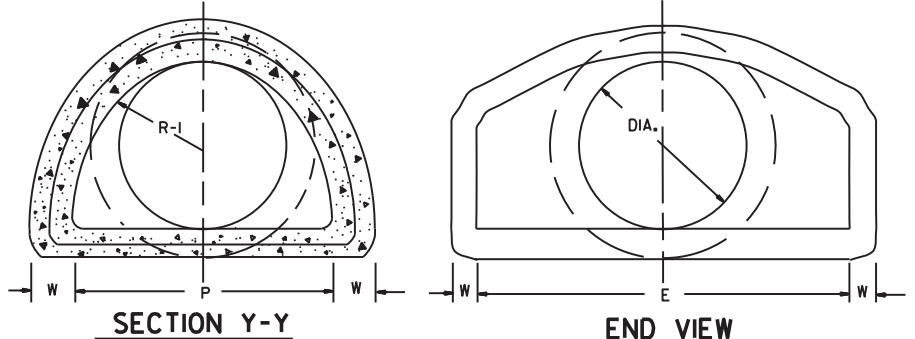
STANDARD DRAWING FES-1



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"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 3/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 3/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 1/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 3/8"	38 3/8"	24"	5"	13250	4'-6"

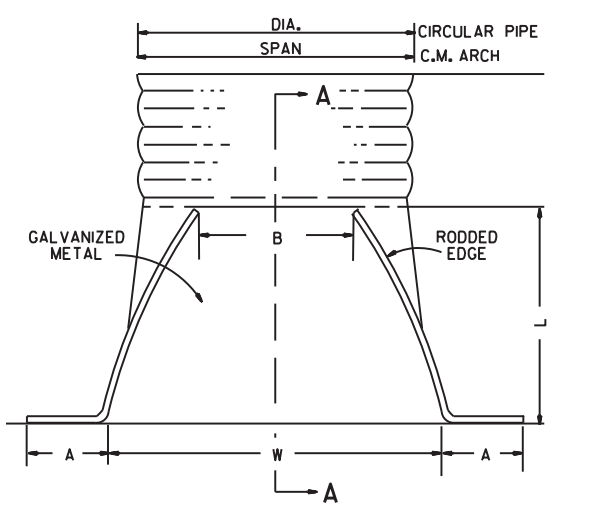


NOTE: TONGUE END ON UPSTREAM SECTION GROOVE END ON DOWNSTREAM SECTION

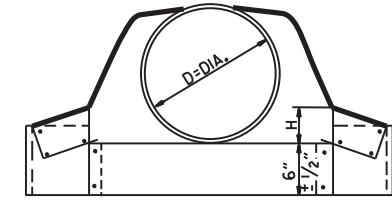
ARCH PIPE

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

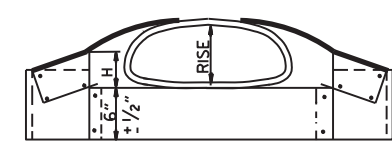
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



SECTION A-A



CIRCULAR PIPE



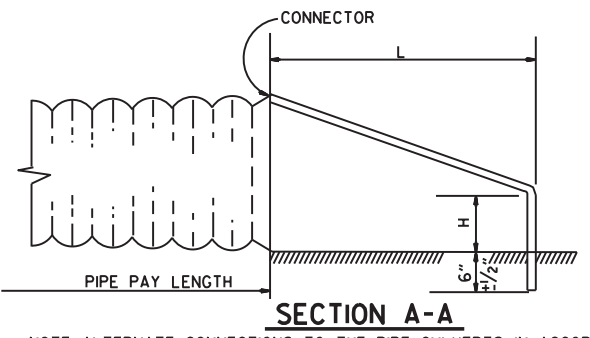
C.M. ARCH PIPE

CIRCULAR PIPE

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

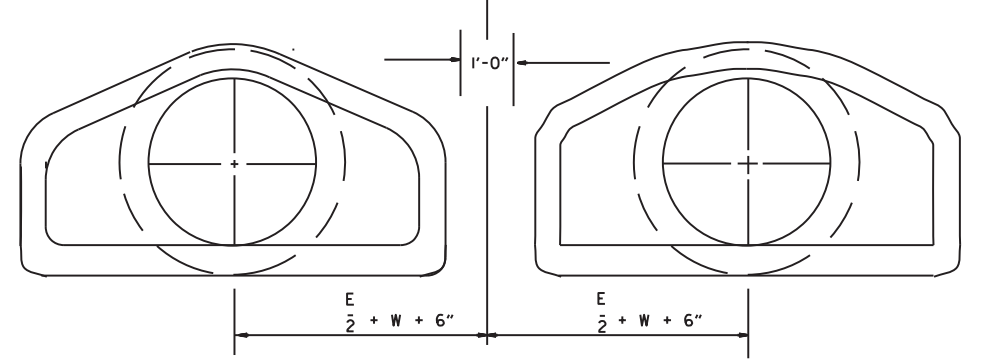
C.M. ARCH PIPE

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

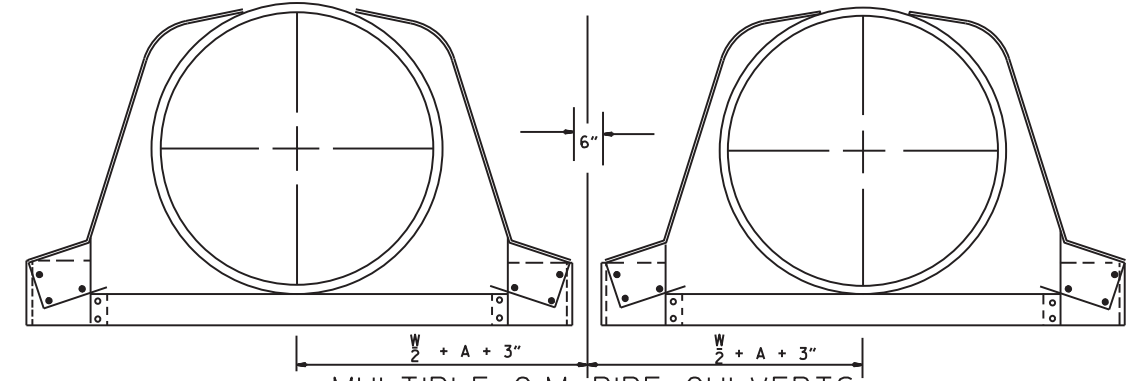


END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

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



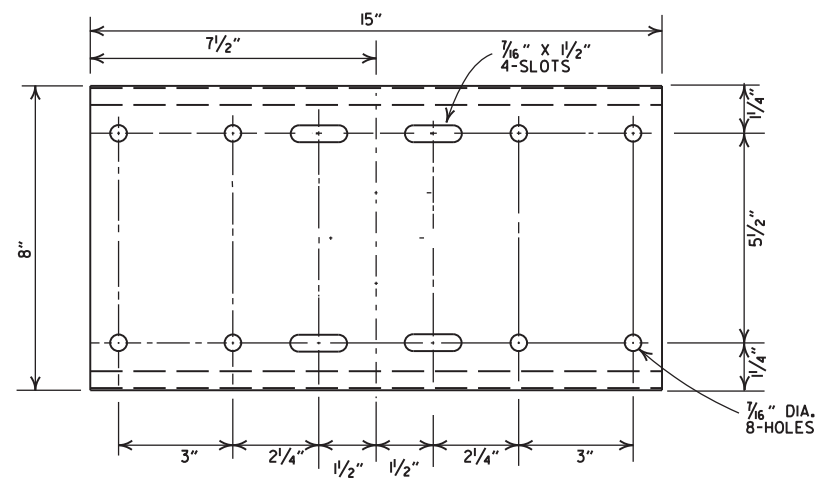
MULTIPLE R.C. PIPE CULVERTS



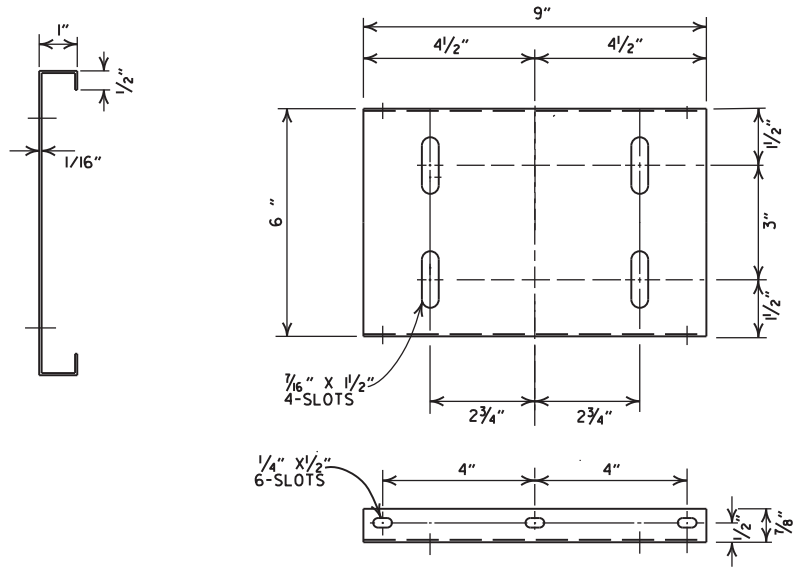
MULTIPLE C.M. PIPE CULVERTS

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

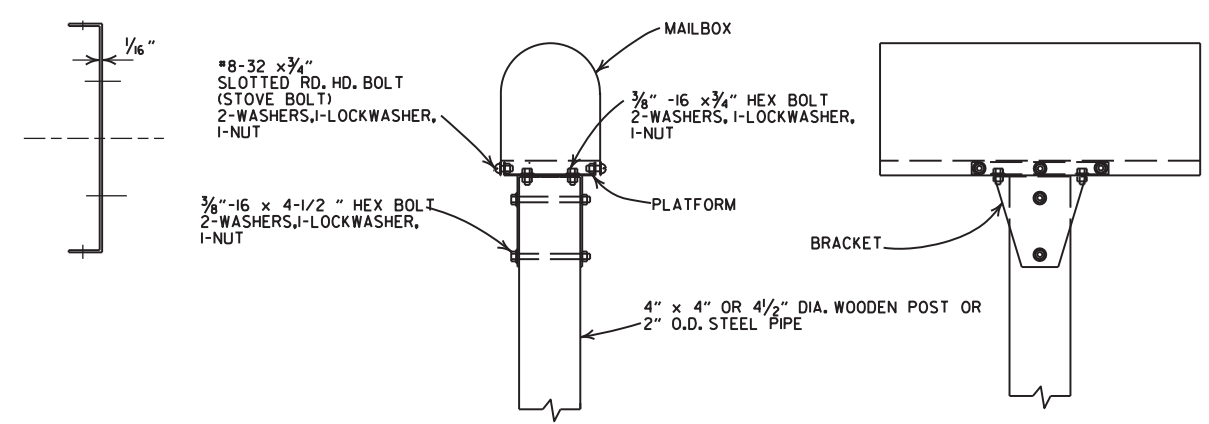
FLARED END SECTION
STANDARD DRAWING FES-2



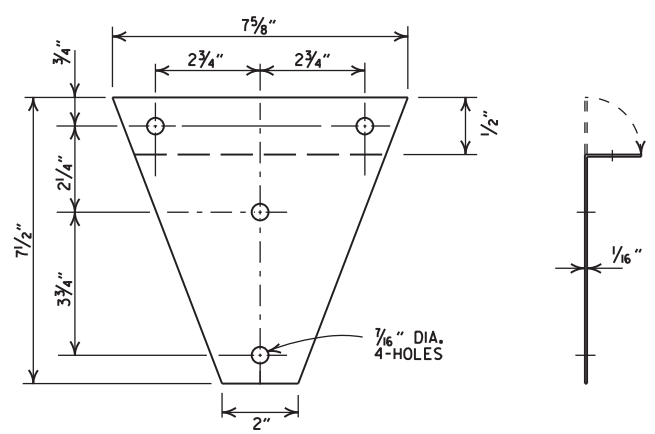
SHELF



PLATFORM

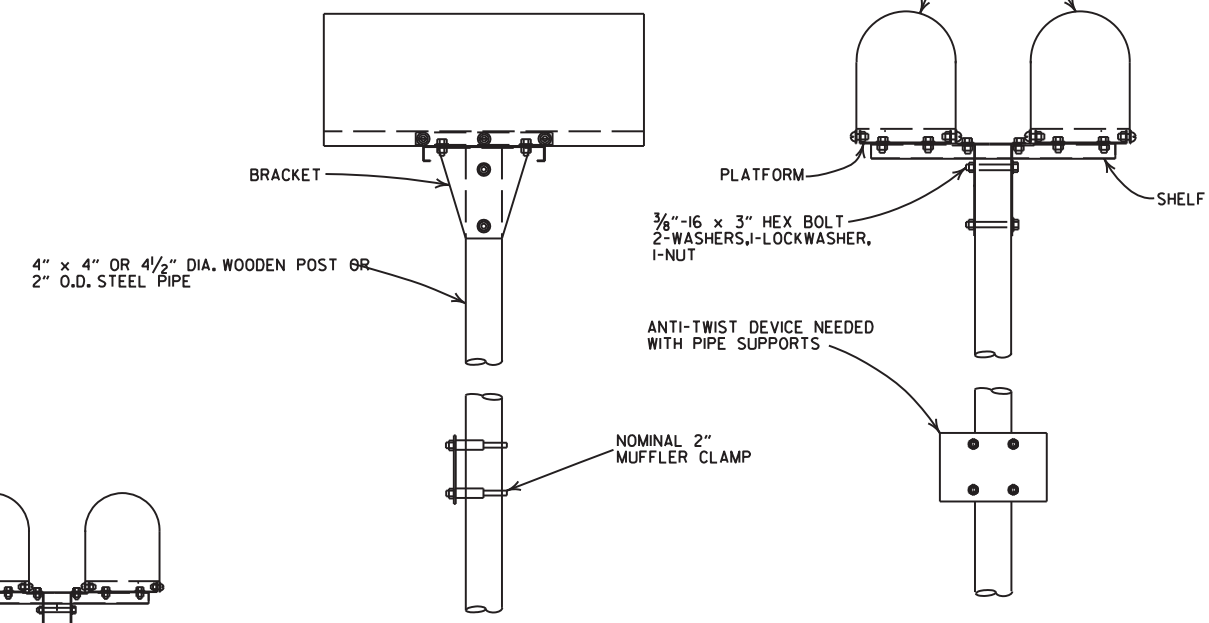


SINGLE INSTALLATION

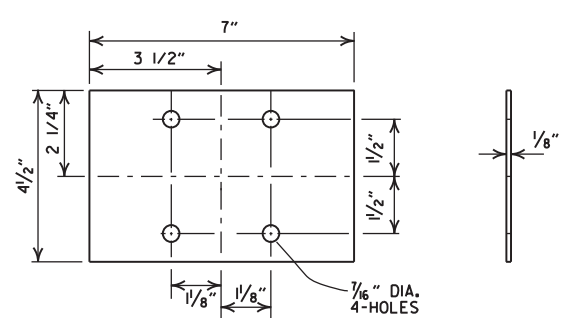


BRACKET

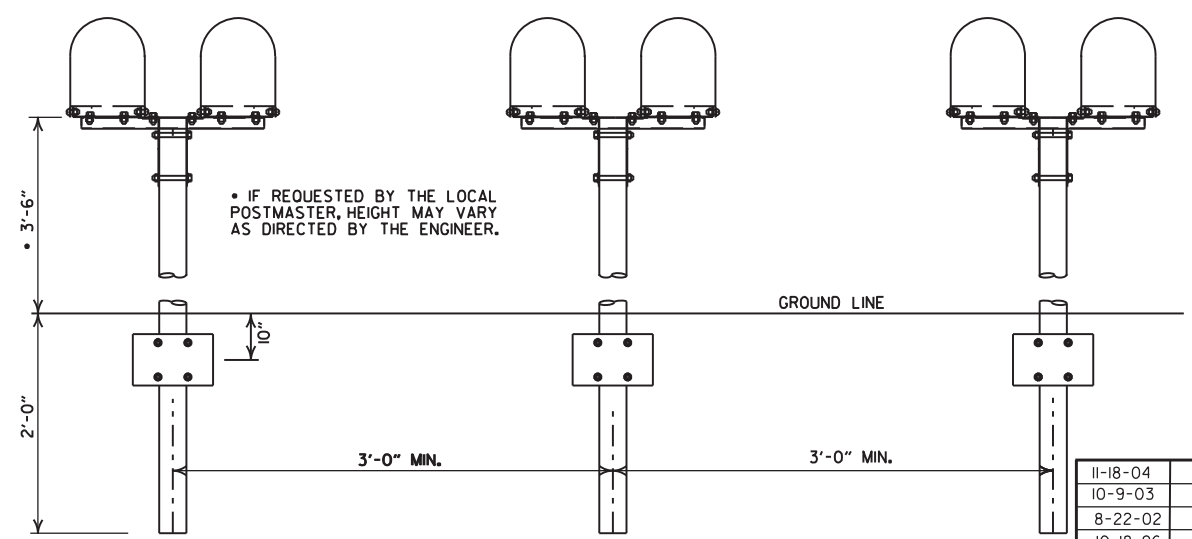
- GENERAL NOTES**
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
 2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
 3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED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



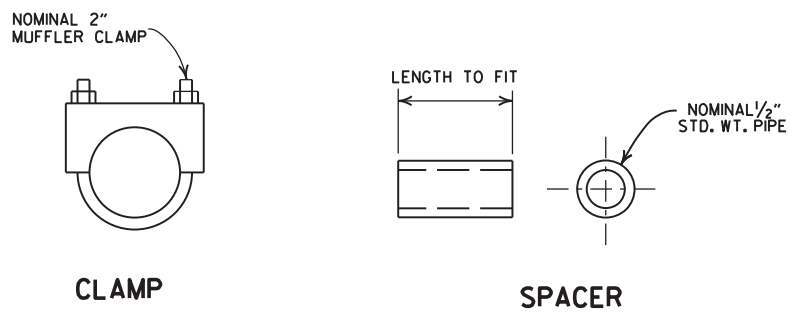
DOUBLE INSTALLATION



ANTI-TWIST PLATE



SPACING FOR MULTIPLE POST INSTALLATION



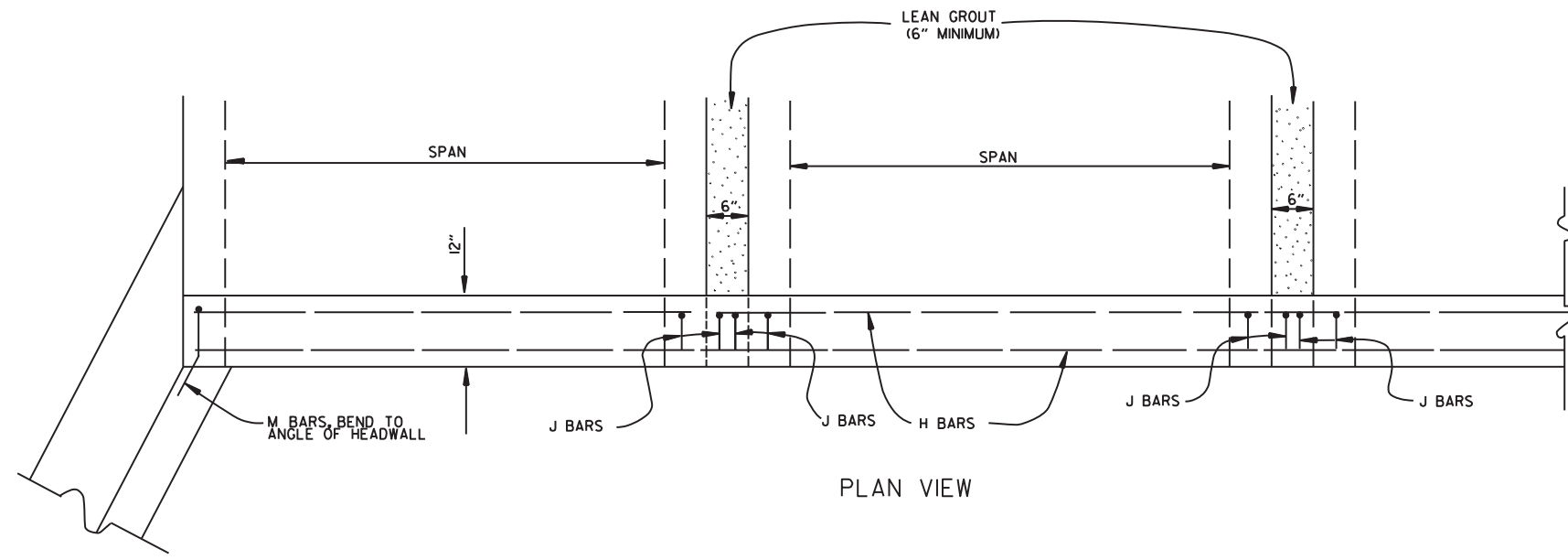
CLAMP

SPACER

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS
STANDARD DRAWING MB-1



BAR LIST

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

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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

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

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

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

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

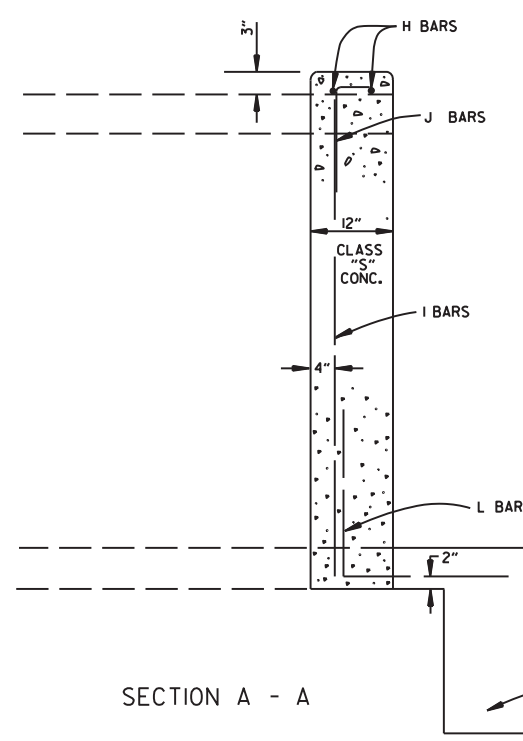
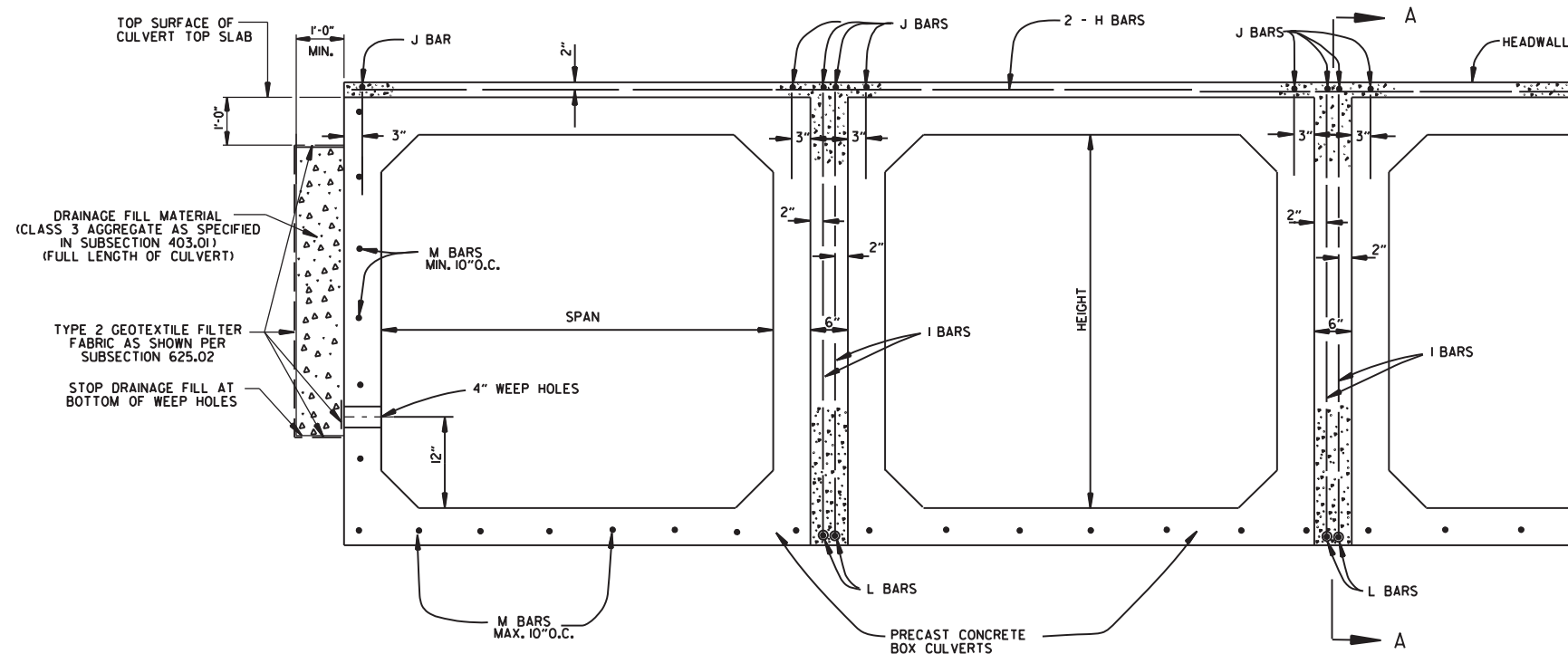
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

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

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

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



END VIEW

SECTION A - A

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

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA. INCHES	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43¾	44	26¾	27
42	51½	51	31½	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87½	87
120	154	154	96¾	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA. INCHES	AASHTO M 207	
	SPAN	RISE
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)(i).

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.

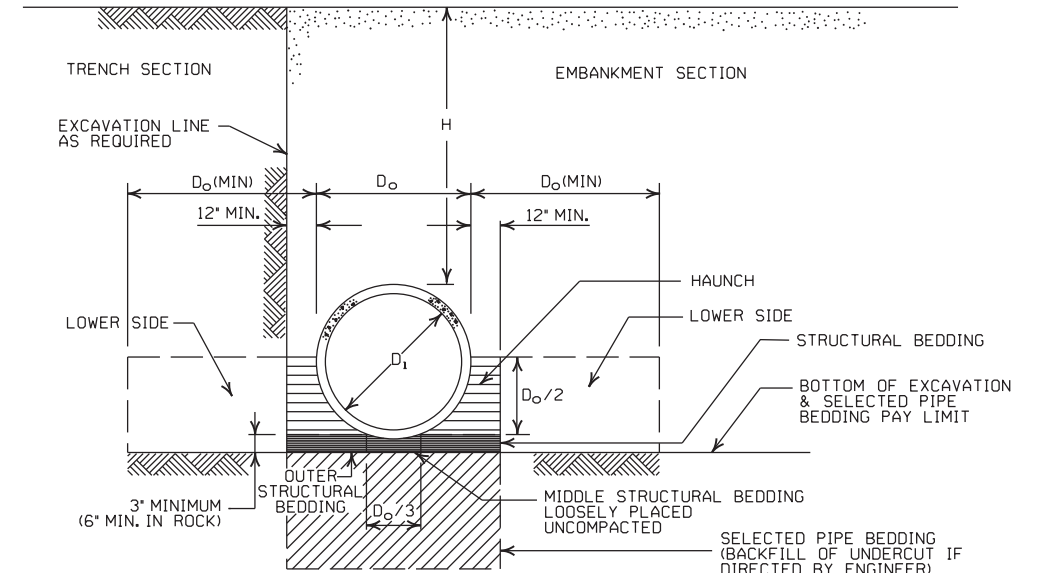
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBankMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

INSTALLATION TYPE	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
PIPE ID (IN.)	TYPE 1 OR 2	TYPE 3	ALL	ALL
	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 MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

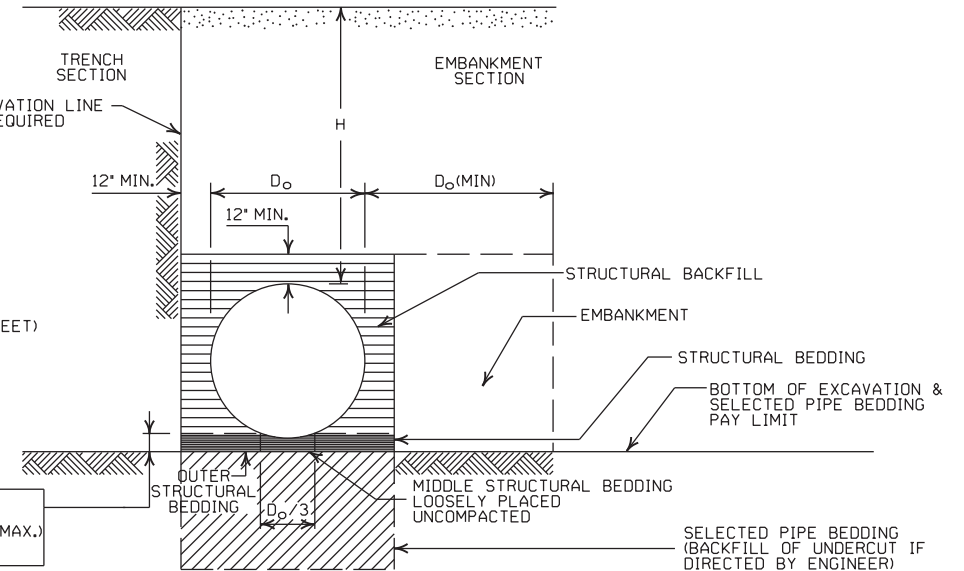
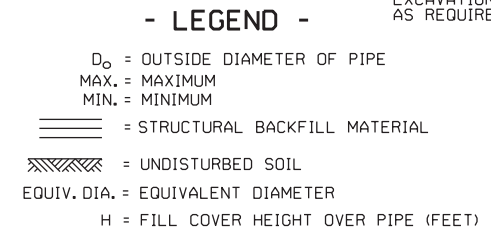
CONSTRUCTION SEQUENCE

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.



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/8" X 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

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

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM						
12	1	45	45			
18	2	30	30	52	41	
24	2	22	22	39		34
30	2		18	31	32	
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

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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)			
				INSTALLATION TYPE 1	INSTALLATION TYPE 1		INSTALLATION TYPE 1	INSTALLATION TYPE 1		
2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM										
15	17x13	3	0.064	2	15	0.060	2	15		
18	21x15	3	0.064	2	15	0.060	2	15		
21	24x18	3	0.064	2,25	15	0.060	2,25	15		
24	28x20	3	0.064	2,5	15	0.075	2,5	15		
30	35x24	3	0.079	3	12	0.075	3	12		
36	42x29	3/2	0.079	3	12	0.105	3	12		
42	49x33	4	0.079	3	12	0.105	3	12		
48	57x38	5	0.109	3	13	0.135	3	13		
54	64x43	6	0.109	3	14	0.135	3	14		
60	71x47	7	0.138	3	15	0.164	3	15		
66	77x52	8	0.168	3	15					
72	83x57	9	0.168	3	15					
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM										
			INSTALLATION				INSTALLATION			
			TYPE 2		TYPE 1		TYPE 2		TYPE 1	
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

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

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

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

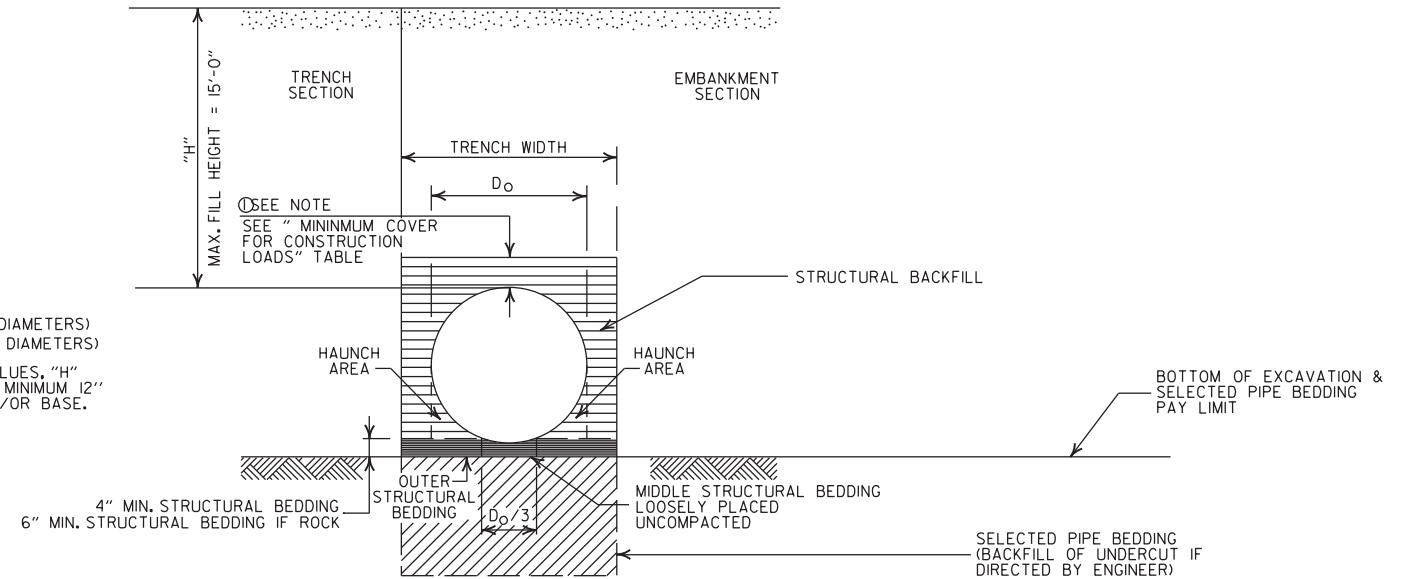
INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

- 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 1/2 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.
- STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >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"

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

- STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

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 COVER FOR CONSTRUCTION LOADS

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

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

- PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
- PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
- HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- 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	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 1/4 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

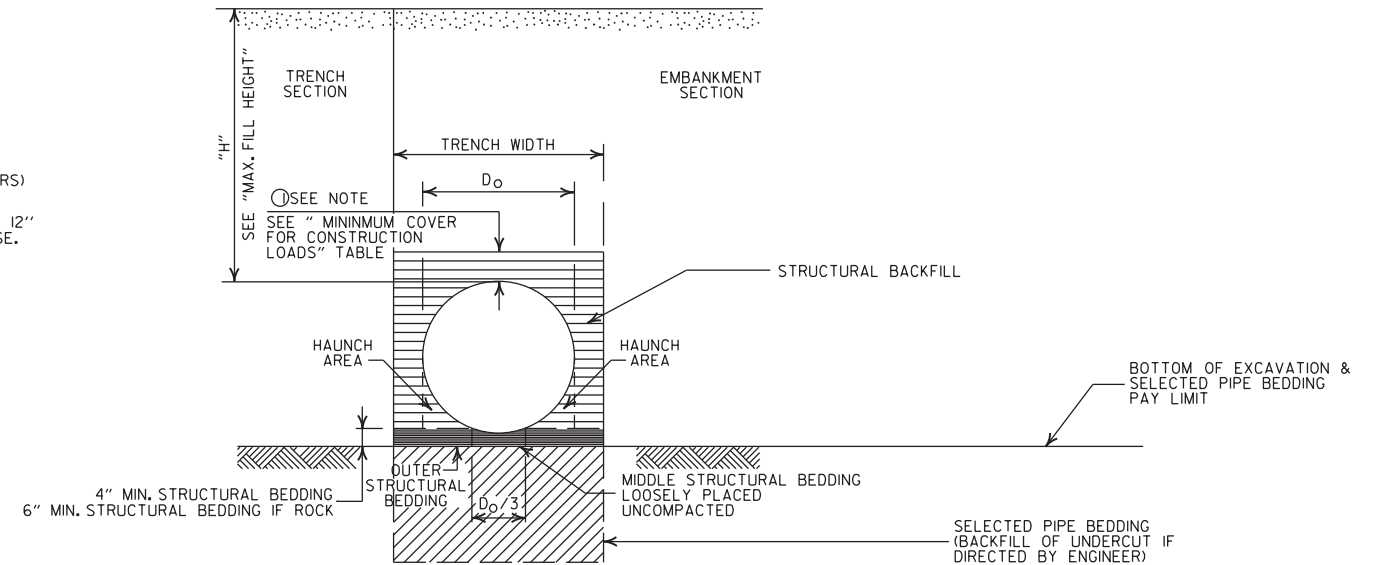
MULTIPLE INSTALLATION OF PVC PIPES

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.



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

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

- LEGEND -

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

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

GENERAL NOTES

- PIPE SHALL CONFORM TO ASTM F949, CELL CLASS I2454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
- PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
- THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
- PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- 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.

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT
(PVC F949)

STANDARD DRAWING PCP-2



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

* SM3 WILL NOT BE ALLOWED.

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

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

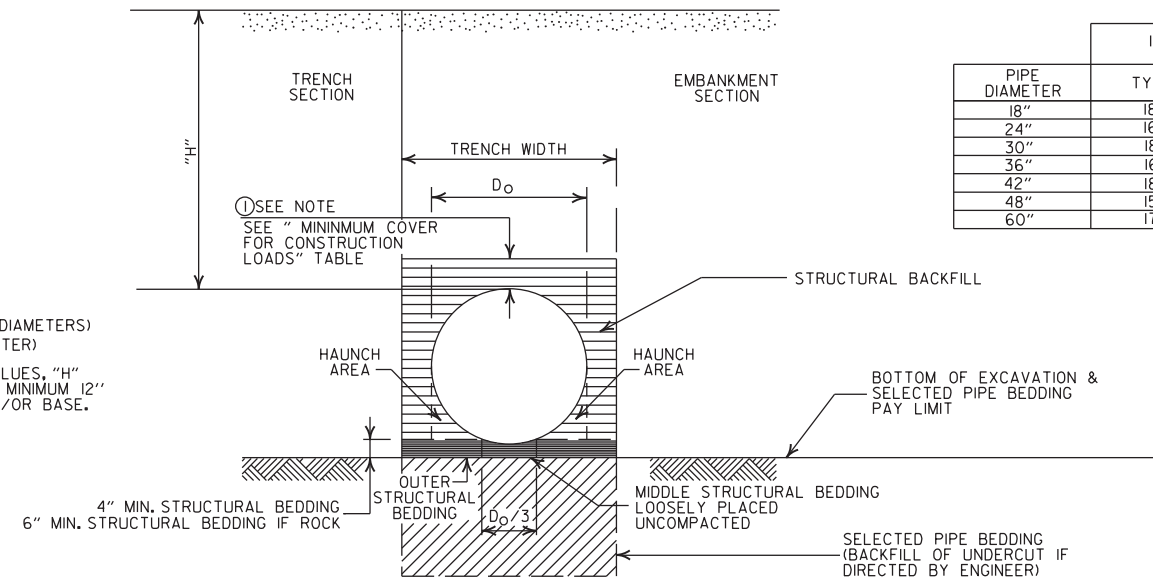
PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"
60"	5'-0"

GENERAL NOTES

- PIPE SHALL CONFORM TO AASHTO M330, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
- PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 INTERIMS.
- THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
- IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
- WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
- WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
- FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
- POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
- JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

MAXIMUM HEIGHT OF FILL "H"

PIPE DIAMETER	INSTALLATION TYPE	
	TYPE 1	TYPE 2
18"	18'	14'
24"	16'	12'
30"	18'	14'
36"	16'	12'
42"	18'	13'
48"	15'	11'
60"	17'	12'



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

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

- LEGEND -

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

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

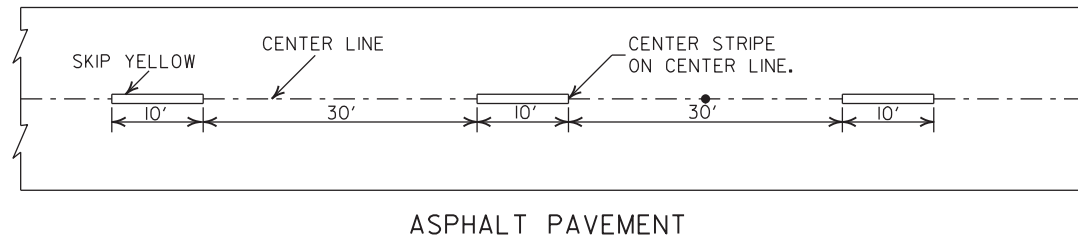
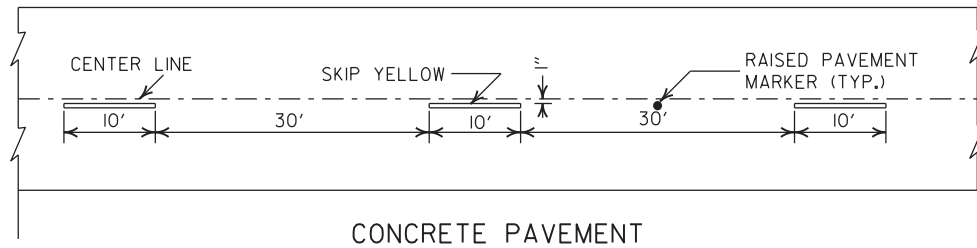
02-27-20	REVISED		
11-07-19	ISSUED		
DATE	REVISION	DATE FILMED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT
(POLYPROPYLENE)

STANDARD DRAWING PCP-3

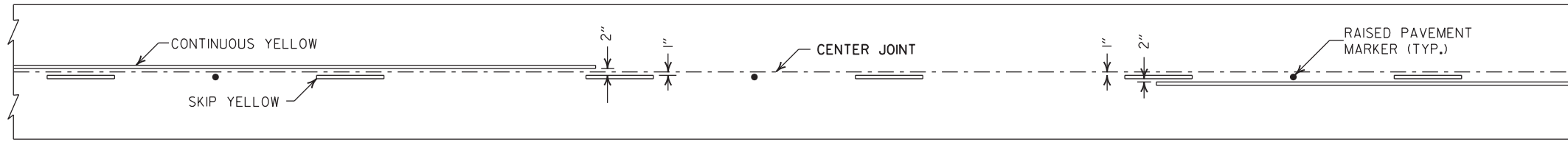




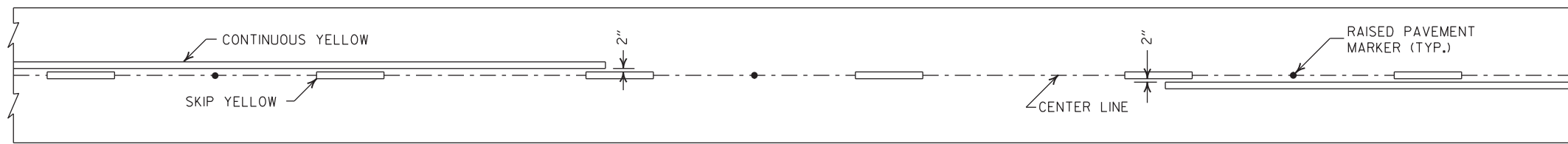
CONCRETE PAVEMENT

ASPHALT PAVEMENT

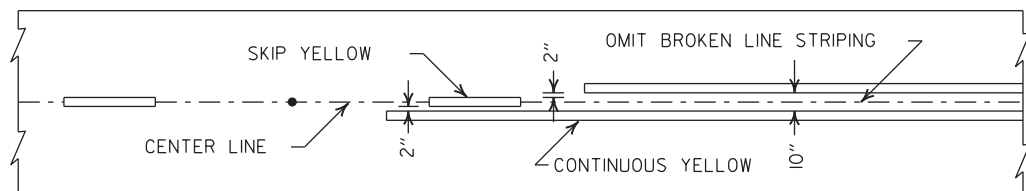
BROKEN LINE STRIPING



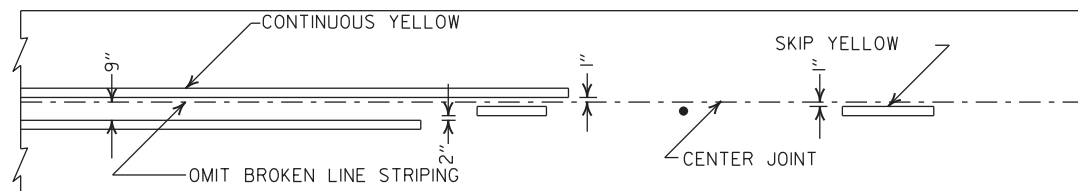
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

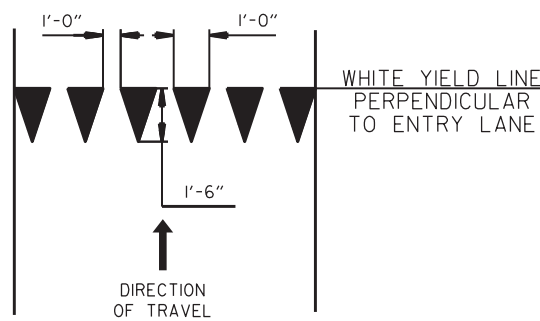


ASPHALT PAVEMENT

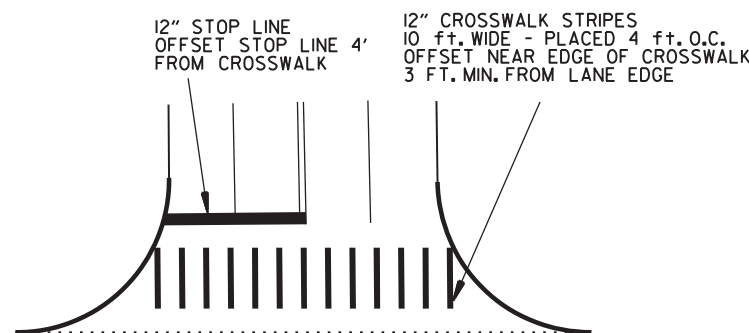


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

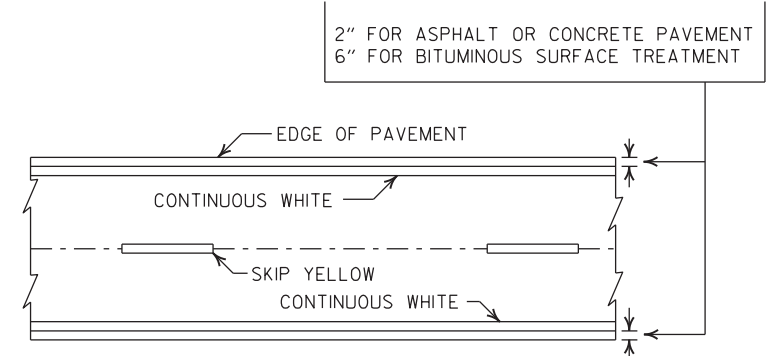


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

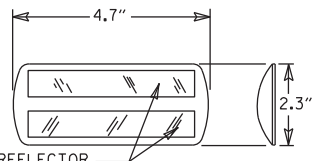
- NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
 2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
 3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE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



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



PRISMATIC REFLECTOR

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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

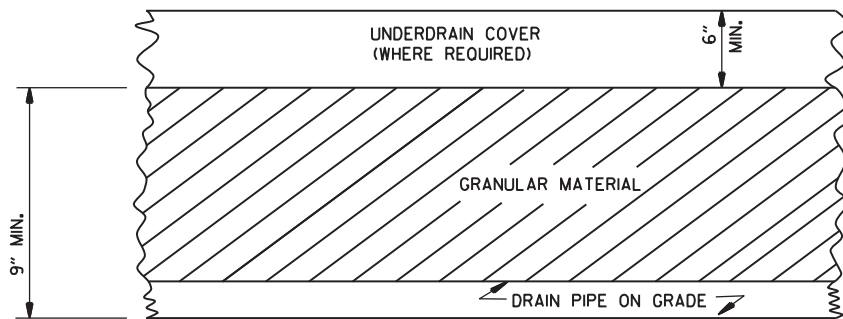
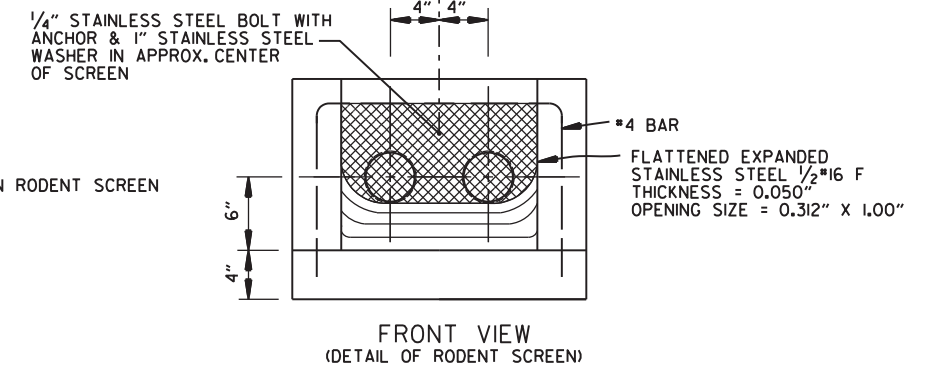
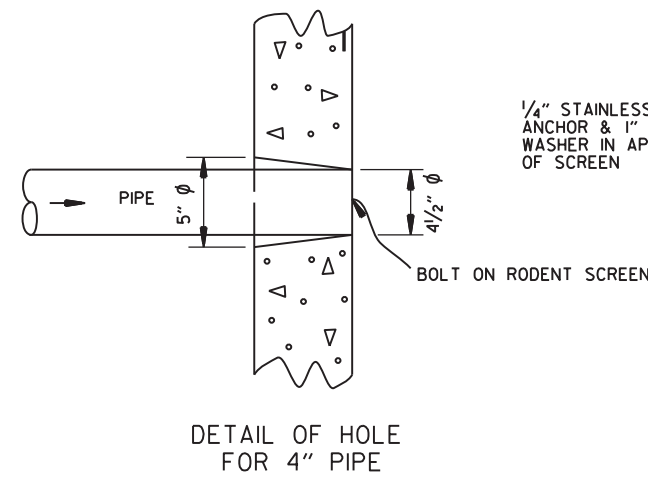
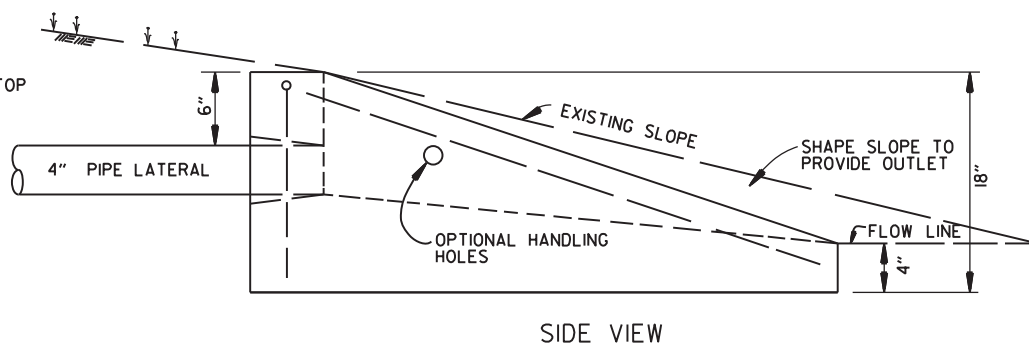
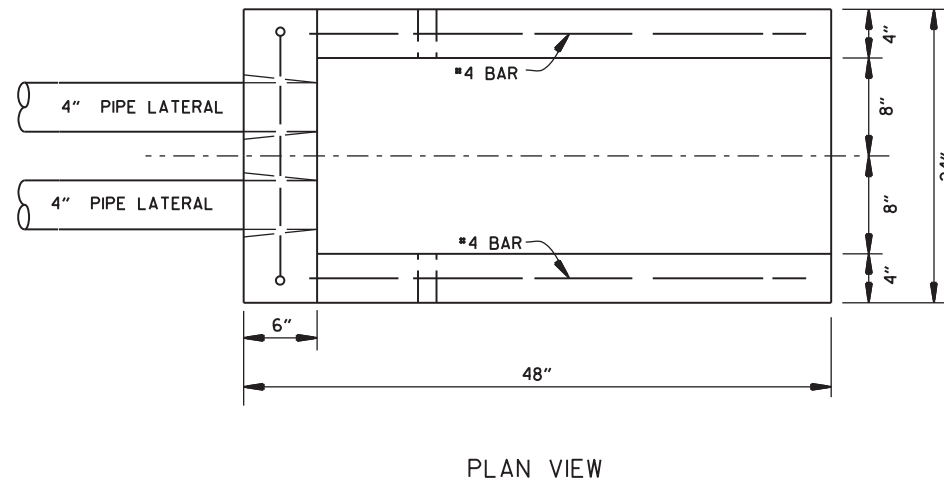
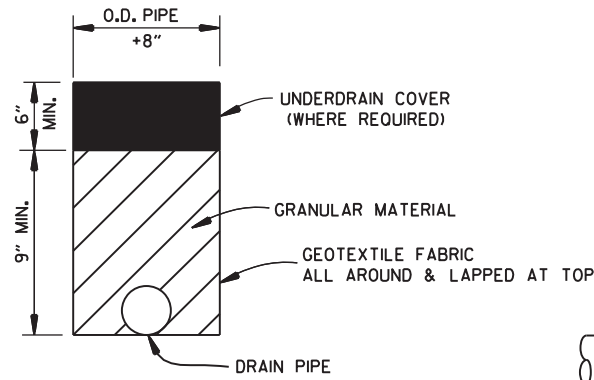
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

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



DETAILS OF PIPE UNDERDRAIN

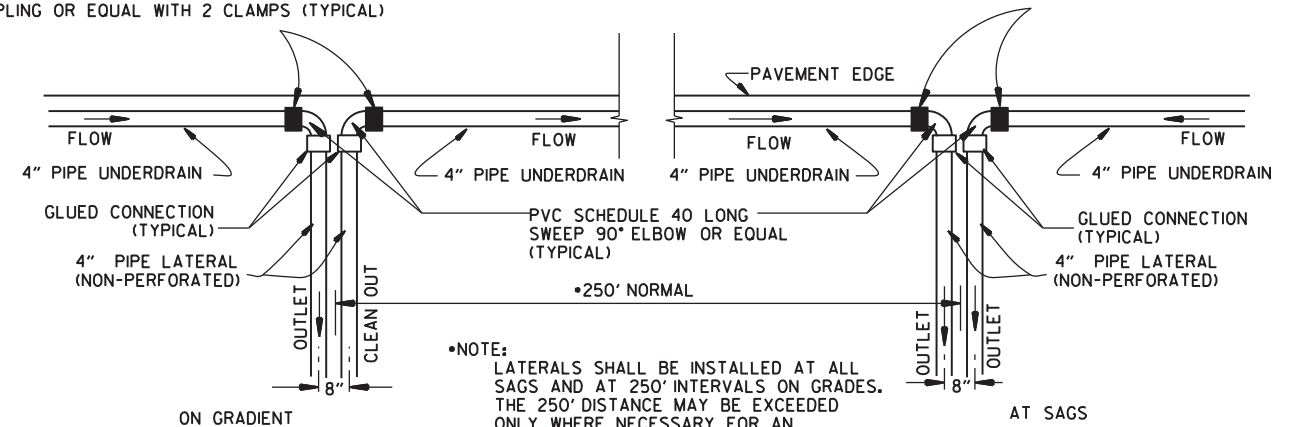
NOTES FOR PIPE UNDERDRAINS

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

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

UNDERDRAIN OUTLET PROTECTORS

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



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

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

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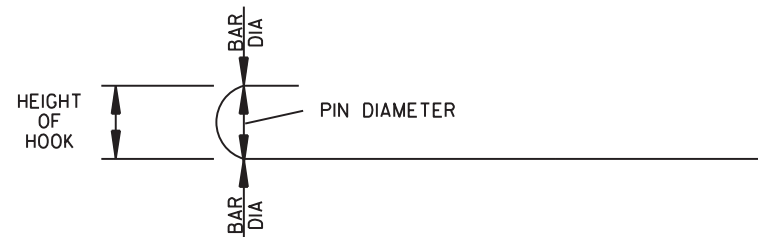
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

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

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

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



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

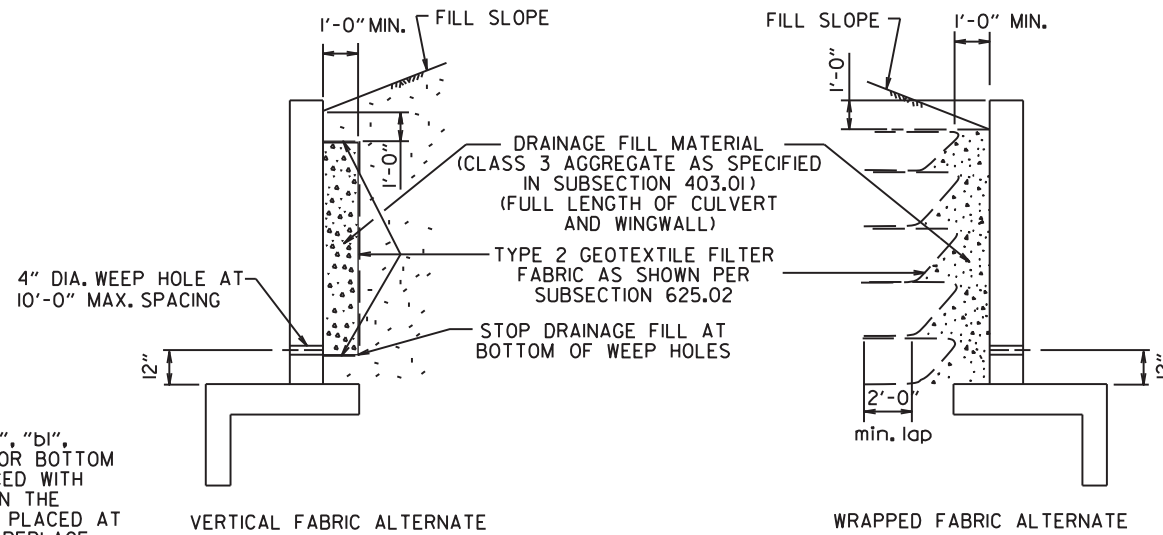
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

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

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

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

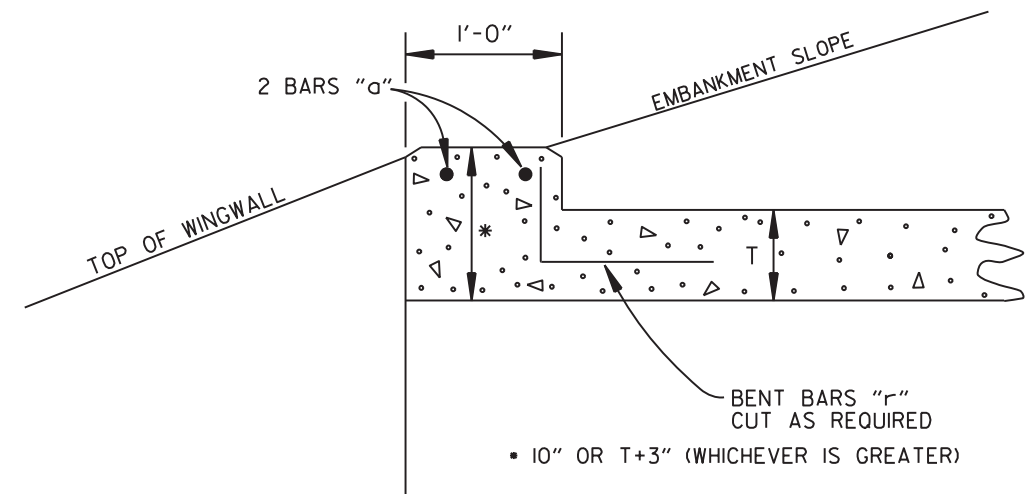
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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

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

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

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



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

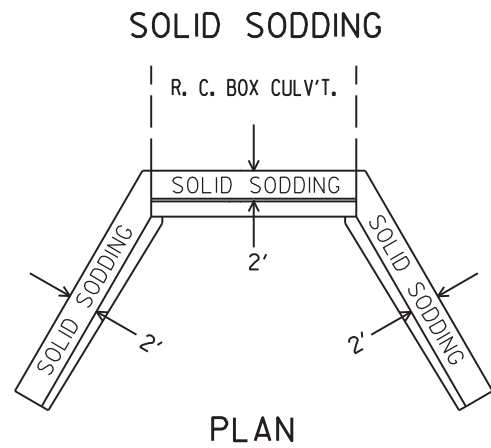
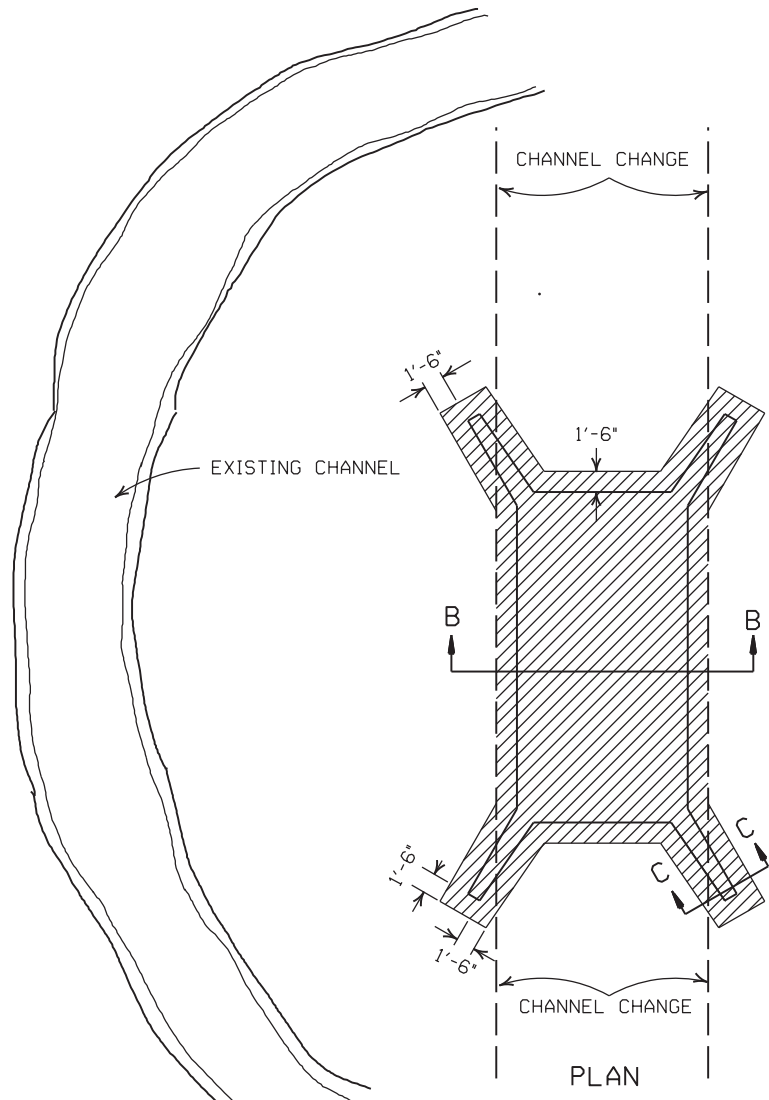
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

ARKANSAS STATE HIGHWAY COMMISSION

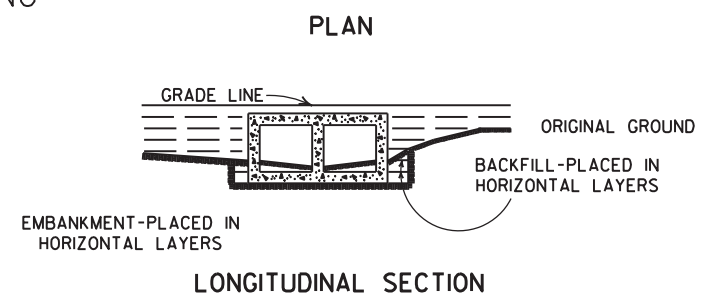
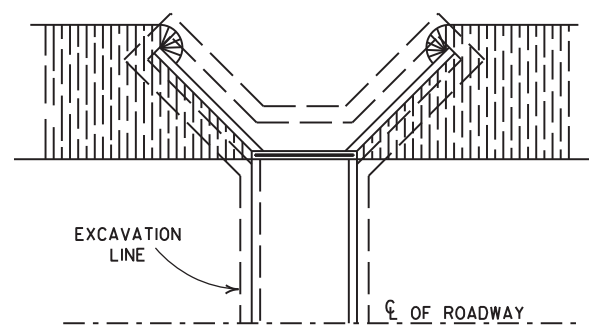
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1

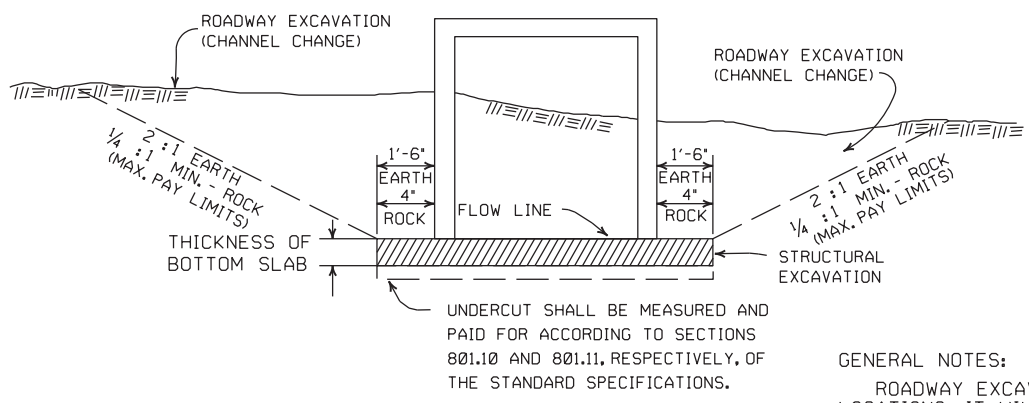
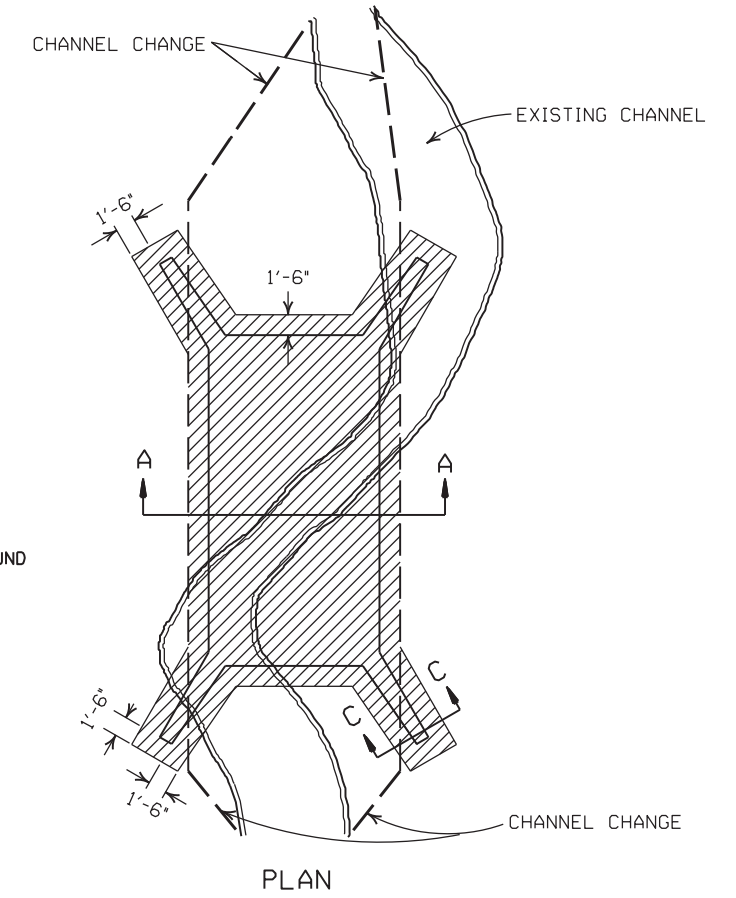


PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

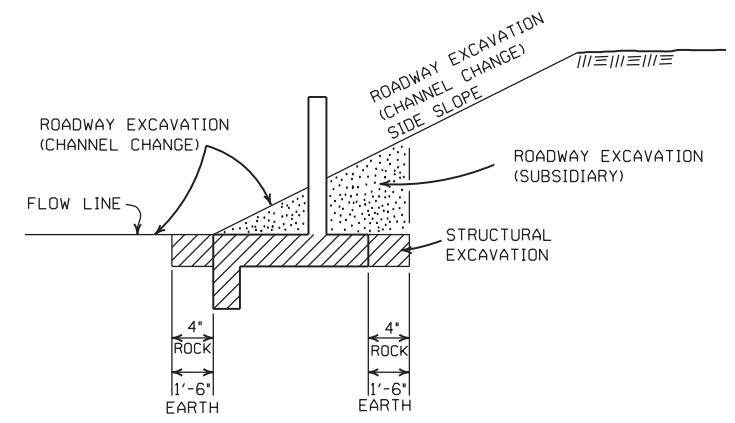
NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.



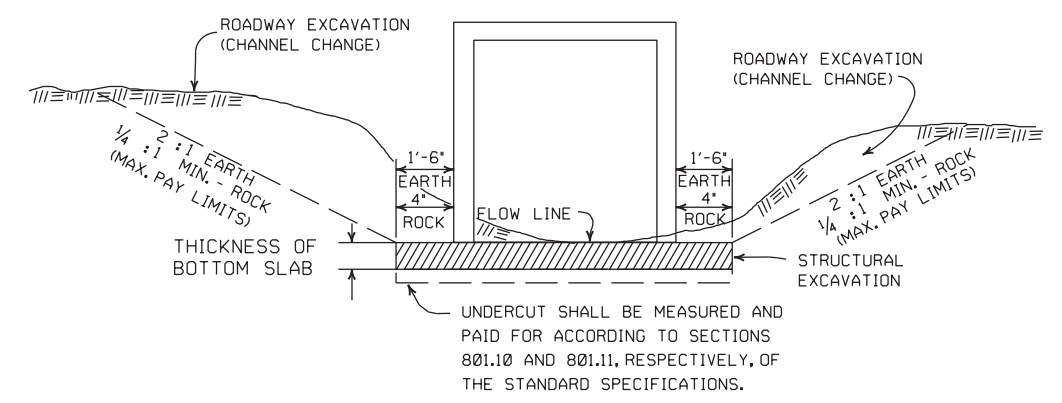
BACKFILL DETAILS FOR BOX CULVERT



SECTION B-B
DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A
DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING RCB-2

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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

ABBREVIATIONS

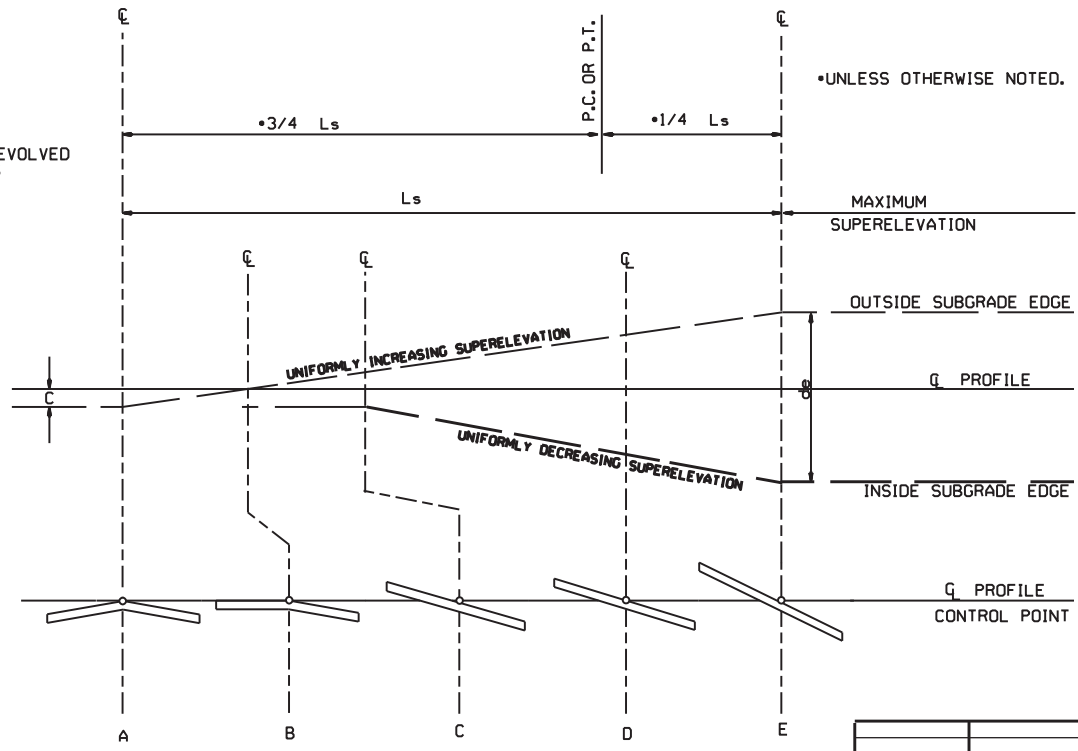
NC - NORMAL CROWN
 RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
 e - RATE OF SUPERELEVATION (FT. PER FT.)
 Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
 L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
 d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
 C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

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

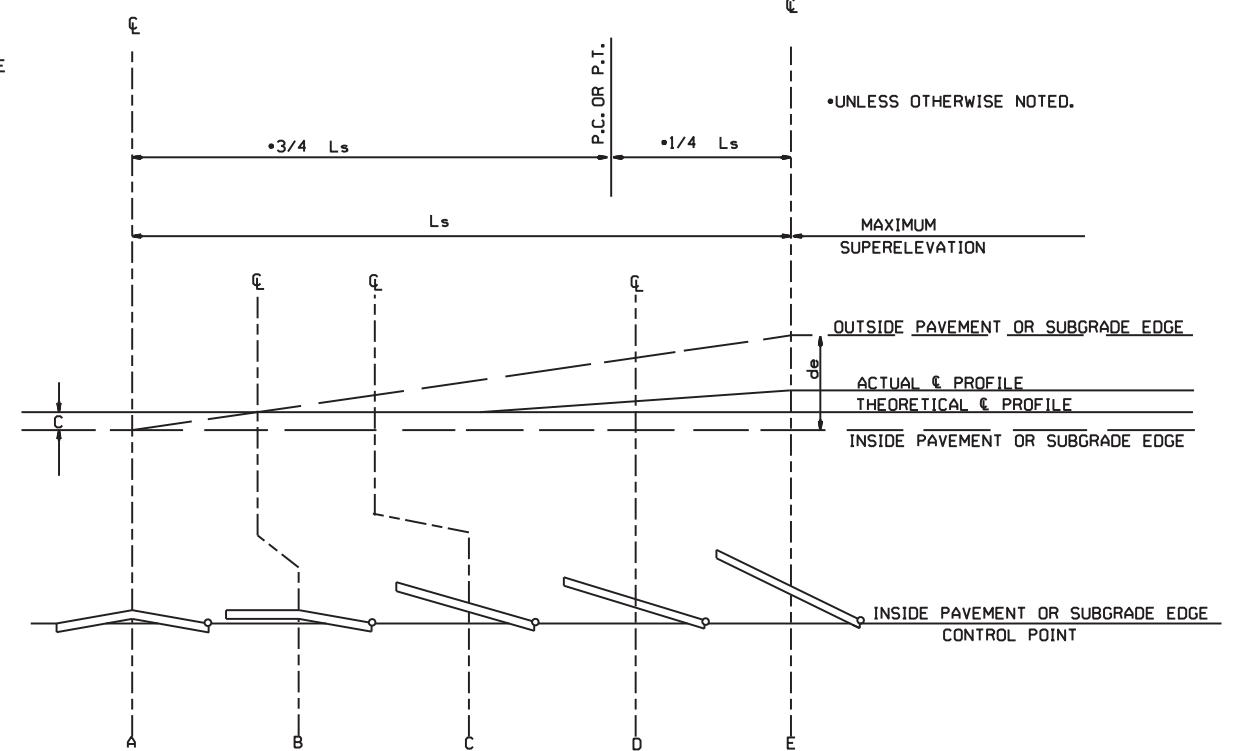
- 3 LANE UNDIVIDED - - - - +20%
- 4 LANE UNDIVIDED - - - - +50%
- 5 LANE UNDIVIDED - - - - +80%
- 6 LANE UNDIVIDED - - - - +100%

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

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



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

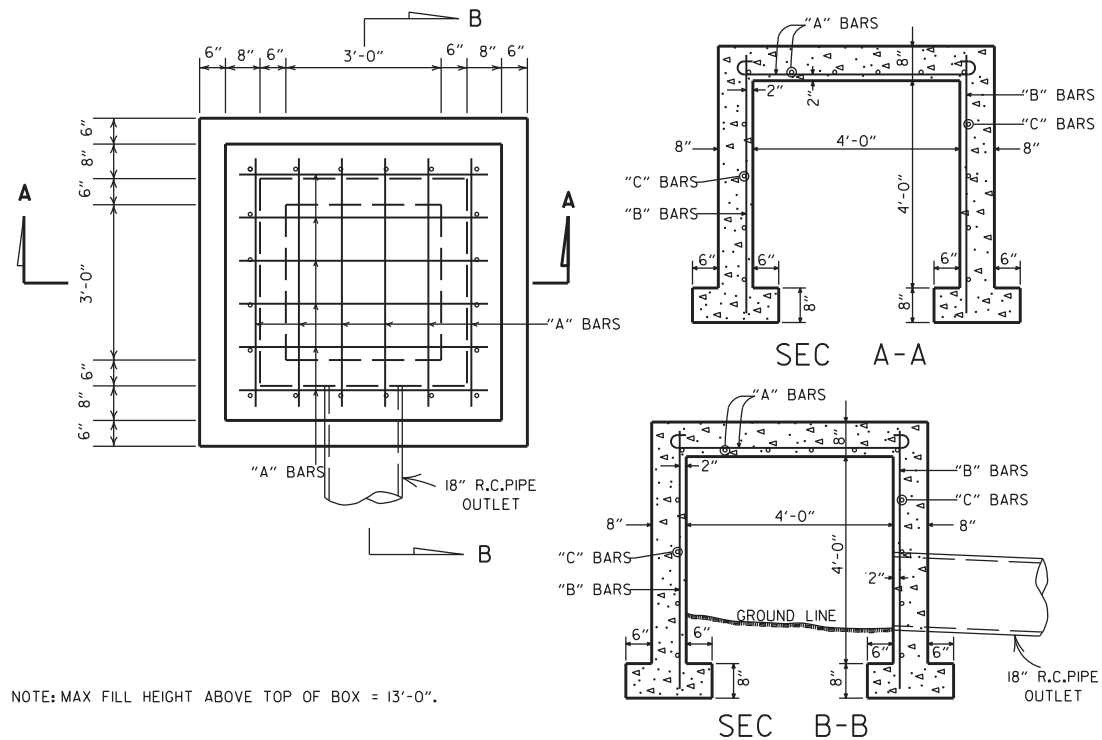
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILLED

ARKANSAS STATE HIGHWAY COMMISSION

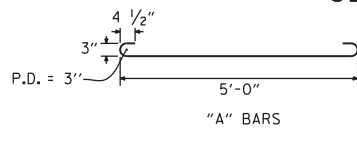
TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2



NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

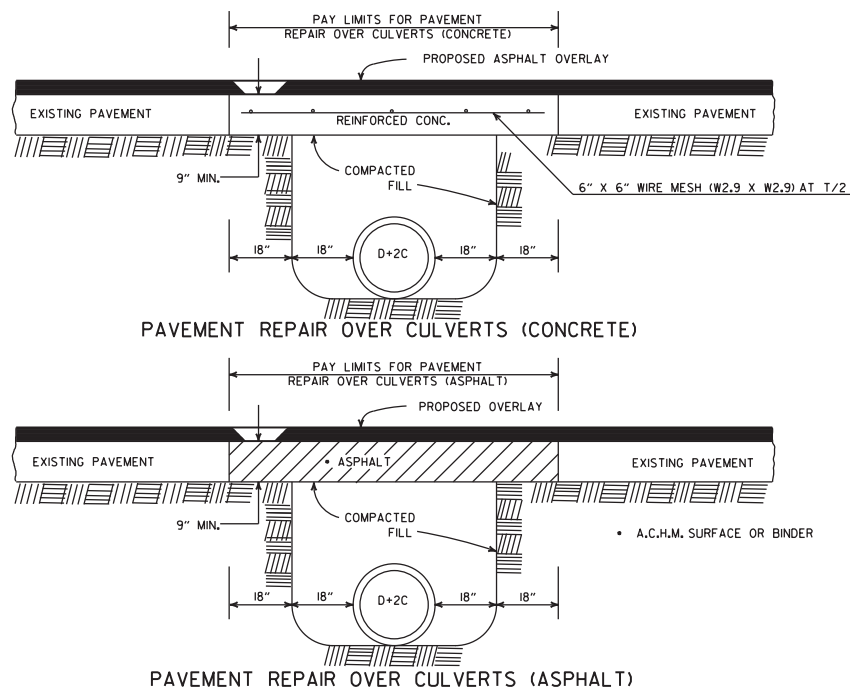
STEEL SCHEDULE			
BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 1/2"
"C"	16	5'-0"	12"



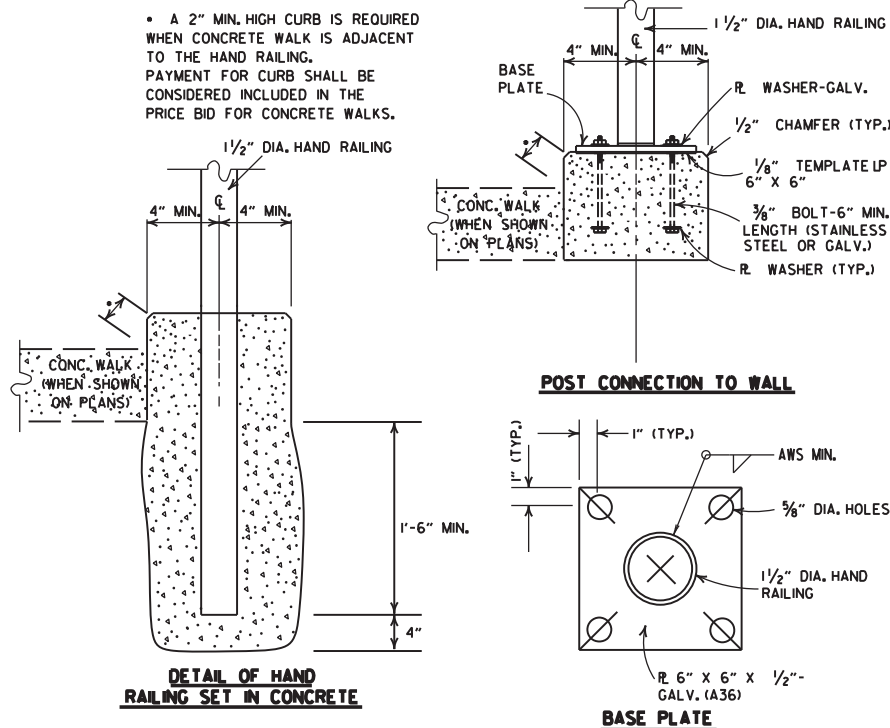
QUANTITIES
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

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

REINFORCED CONCRETE SPRING BOX



DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

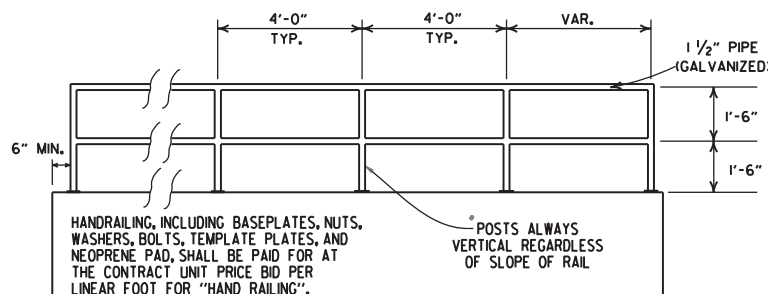


DETAIL OF HAND RAILING SET IN CONCRETE

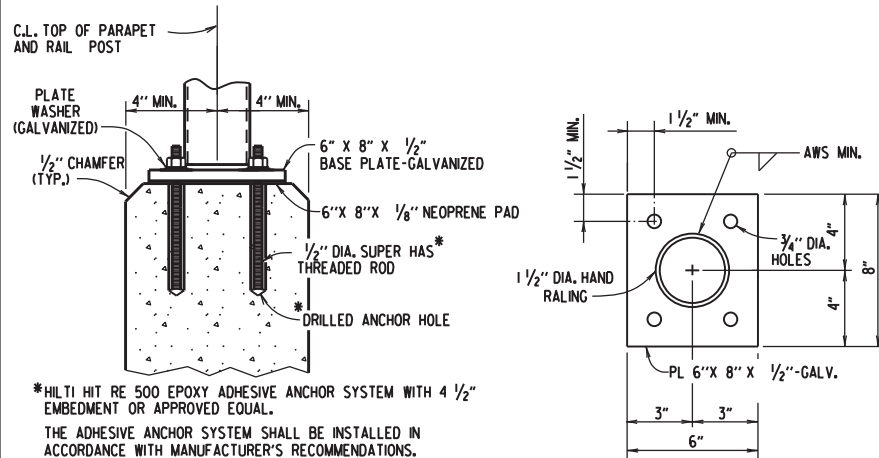
POST CONNECTION TO WALL

BASE PLATE

POST CONNECTION DETAILS



HAND RAILING SHALL CONFORM TO SECTION 633.

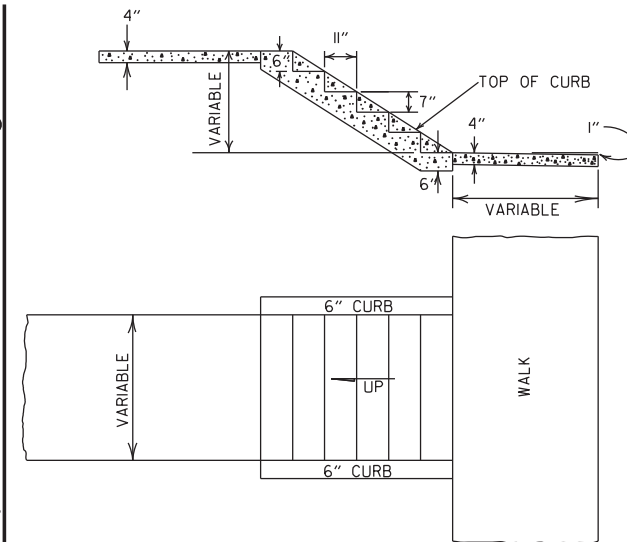


POST CONNECTION TO WALL

BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



DETAILS OF CONCRETE STEPS & WALKS


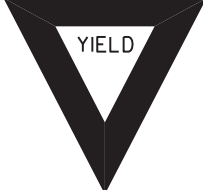







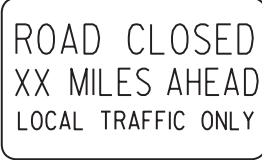










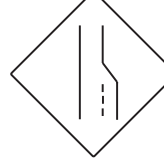



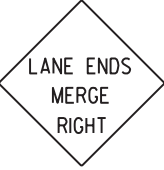













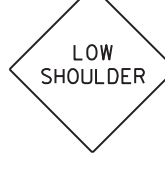

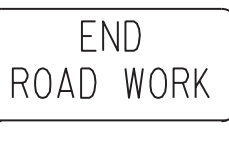
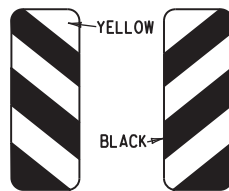


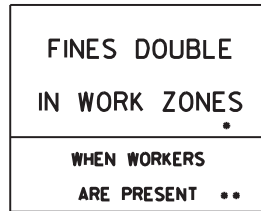
GENERAL NOTES
1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DATE	REVISION	DATE FILMED
10-25-18	REVISED DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS	
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	10-1-92
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	8-15-91
8-15-91	DELETED HDWL MODIFICATION DETAIL	11-8-90
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-30-89
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	665-11-17-88
11-17-88	V. BARS BEHIND ARROW	649-7-15-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET & PAVEMENT REPAIR	674-4-20-79
2-2-76	12" MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>W21-5a</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>W1-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>• USE 6" C LETTERS •• USE 4" D LETTERS</p>

ADVANCE DISTANCES (XXXX)

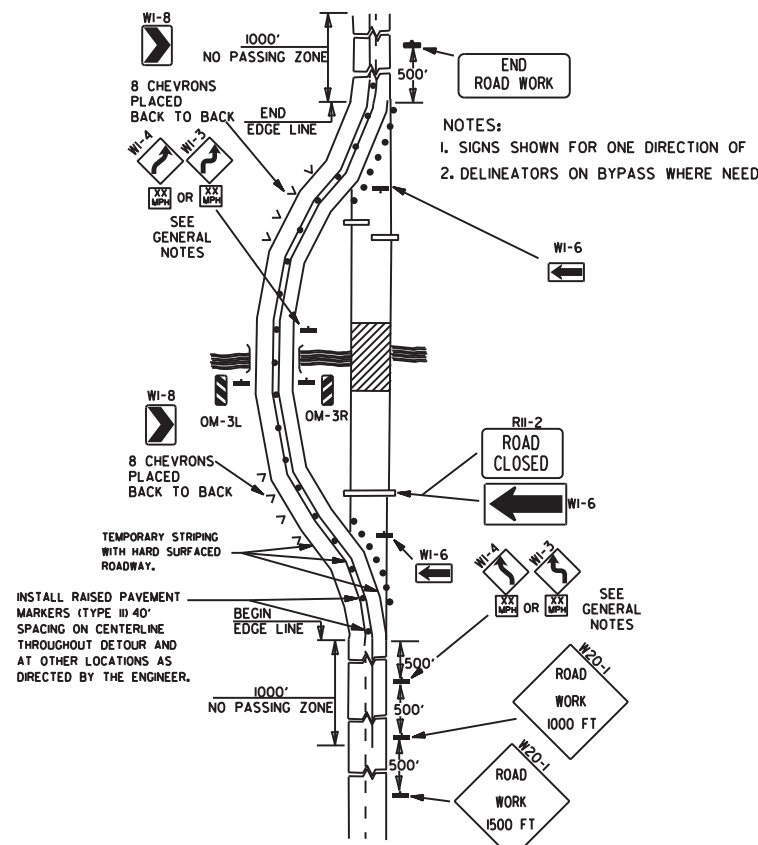
500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

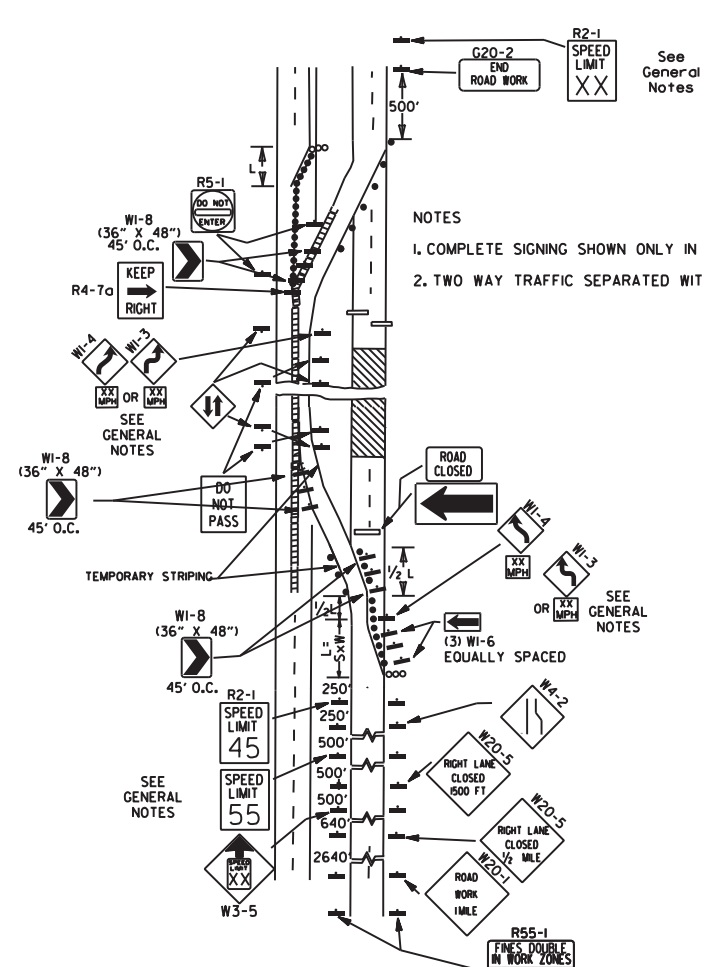
- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
- EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
- POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
- ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
- FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
- R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

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

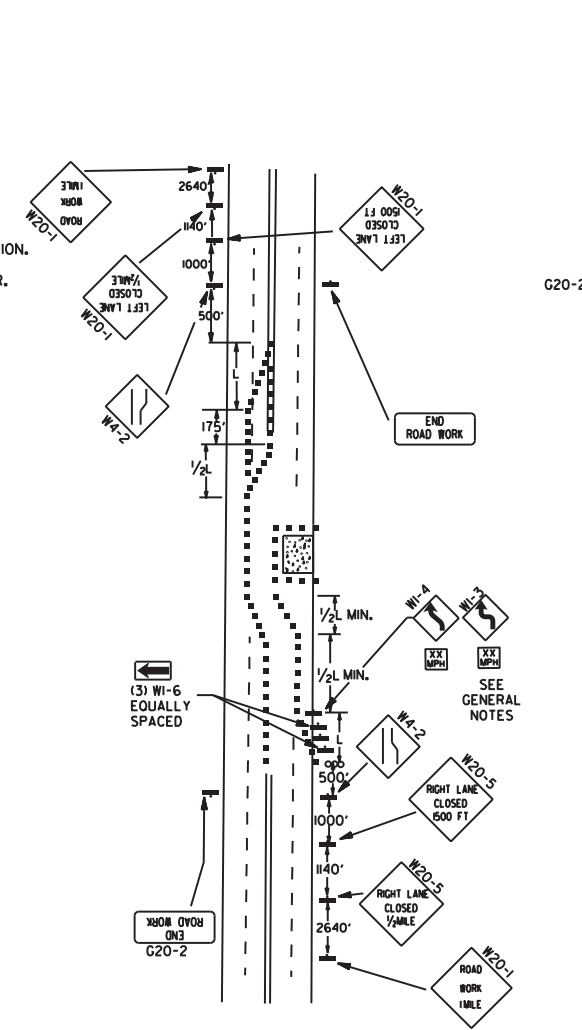
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED



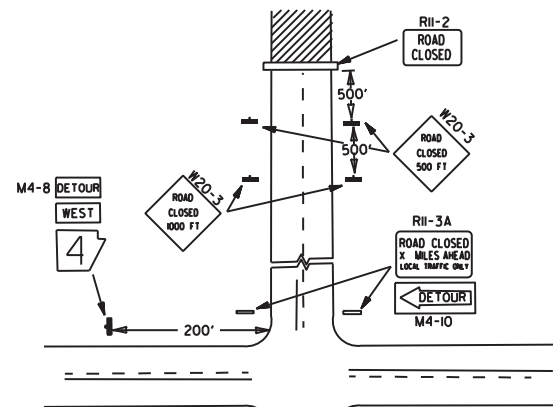
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



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

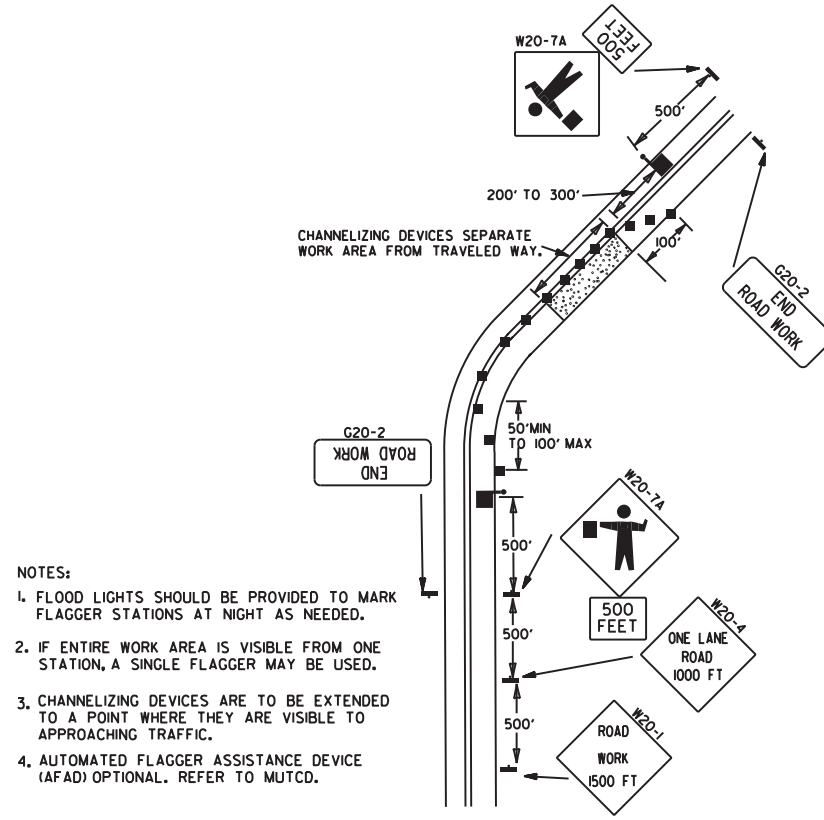


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

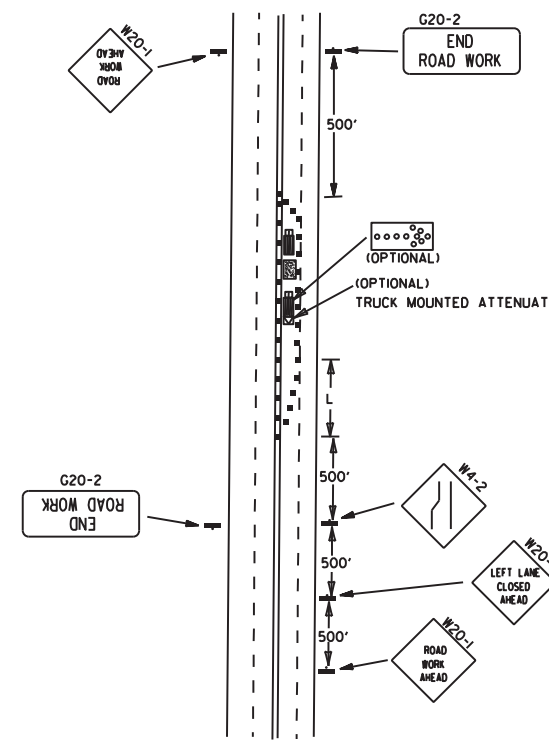


- NOTES:
- REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
 - STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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

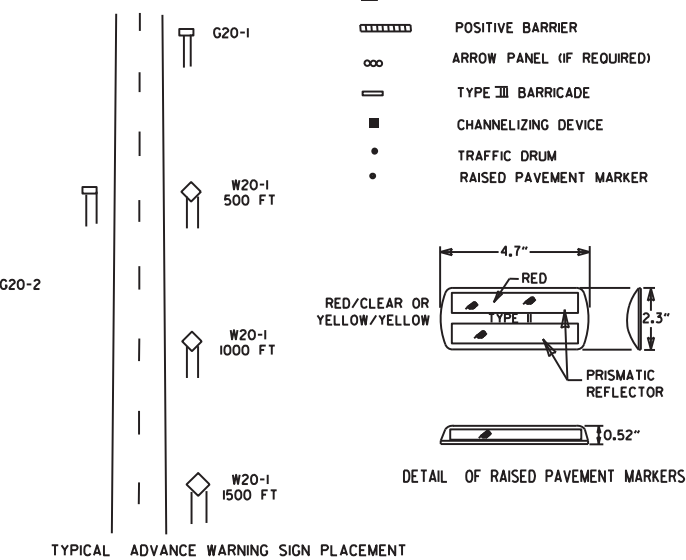


(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



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

- KEY:
- FLAGGER
 - POSITIVE BARRIER
 - ARROW PANEL (IF REQUIRED)
 - TYPE III BARRICADE
 - CHANNELIZING DEVICE
 - TRAFFIC DRUM
 - RAISED PAVEMENT MARKER



- 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:
- THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 - WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-(K5) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-(K45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 - TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
 - 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 ADOPTED QUALIFIED PRODUCTS LIST.
 - ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

DATE	REVISION	FILMED
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

TRAFFIC CONTROL DEVICES

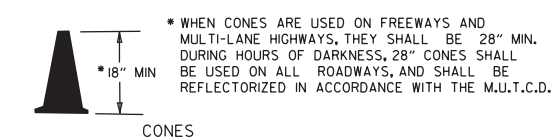
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS ⁽³⁾
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES

INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

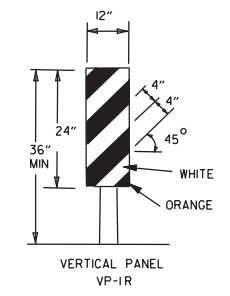
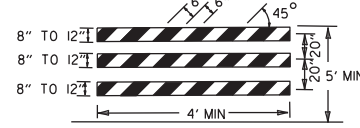
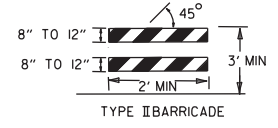
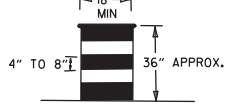
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

- GENERAL NOTES:
- WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
 - WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
 - PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
 - A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
 - W21-5, W21-5g, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.

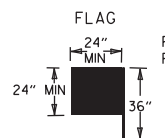
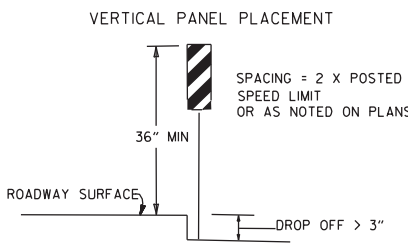
CHANNELIZING DEVICES



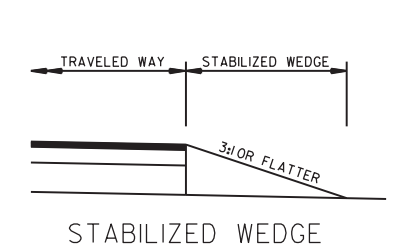
PLASTIC DRUM



NOTE: FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

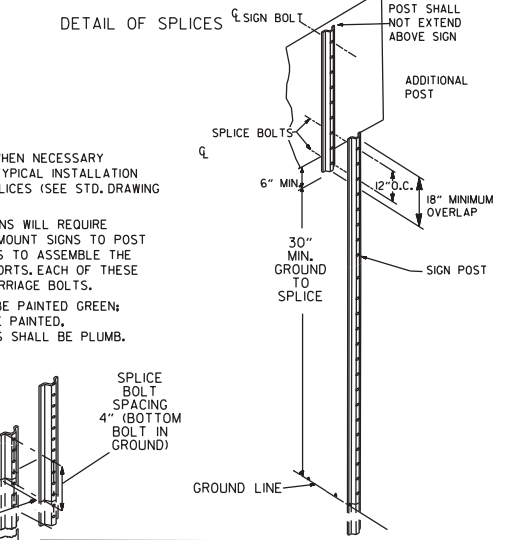
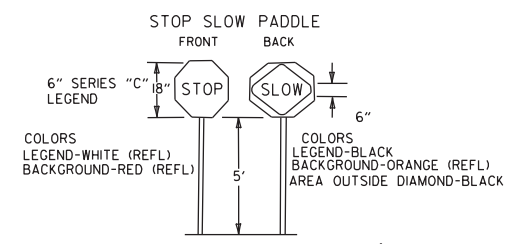


FLAG SHALL BE OF GOOD GRADE RED MATERIAL



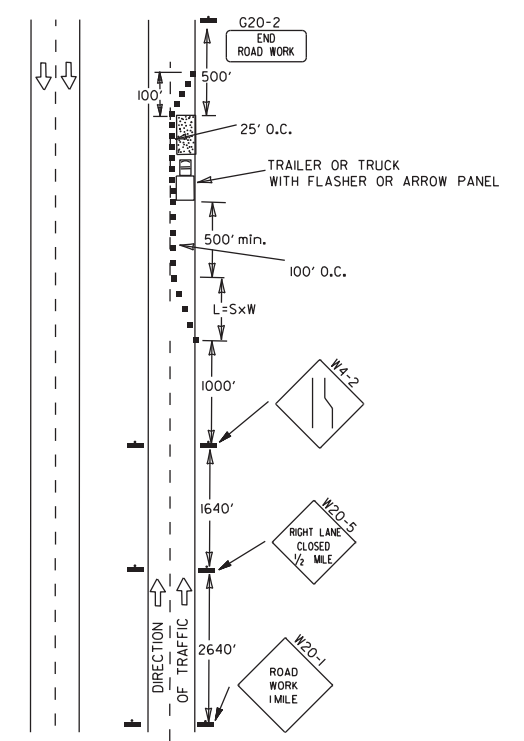
STABILIZED WEDGE

NOTE: MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

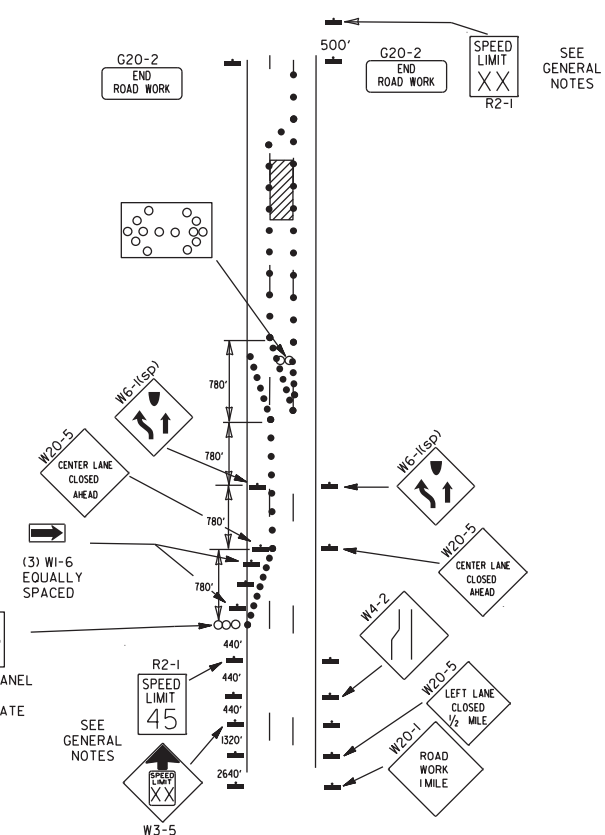


DATE	REVISION	FILMED
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE II	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SPI) 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



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

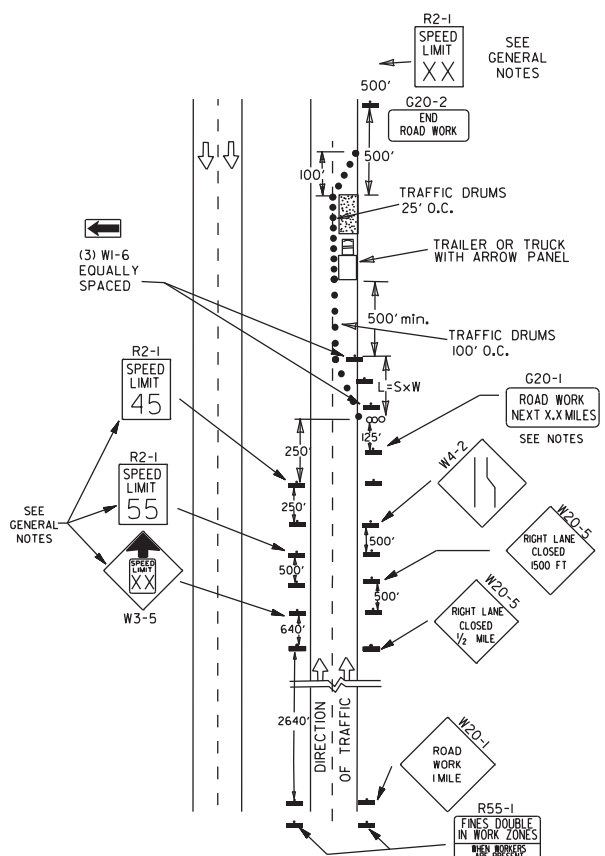


(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

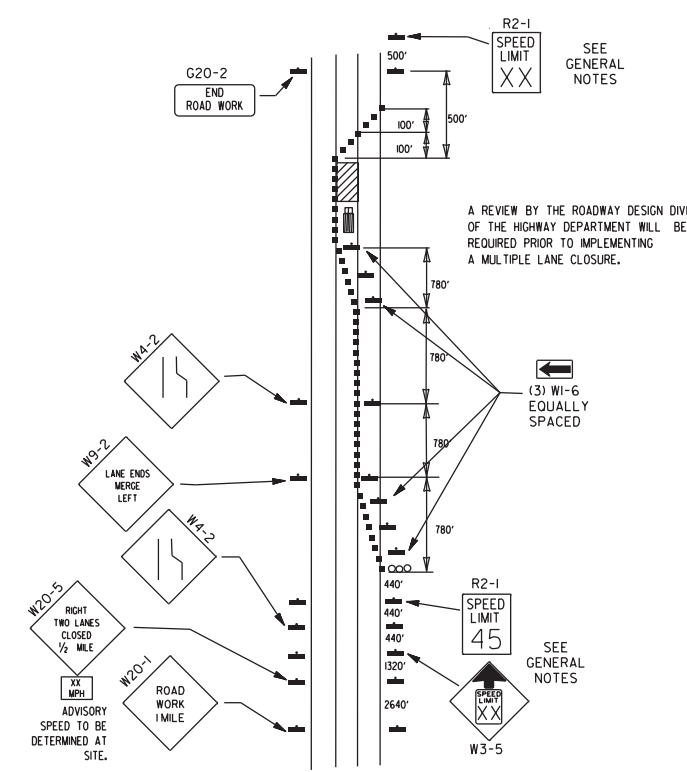
- KEY:
- ○ ○ ○ ARROW PANEL (IF REQUIRED)
 - CHANNELIZING DEVICE
 - TRAFFIC DRUM

GENERAL NOTES:

- A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
- WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(65) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
- WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
- PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
- THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERRECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1(1/2 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
- FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
- ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

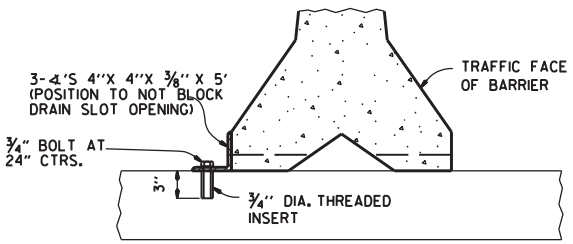
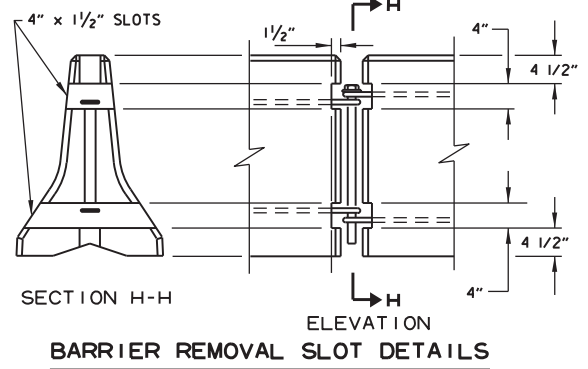
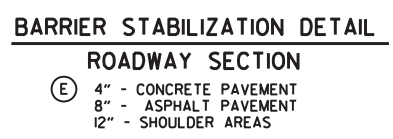
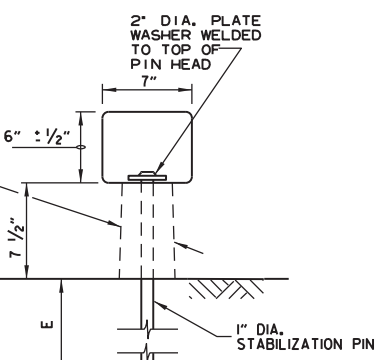
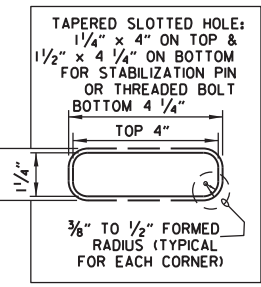
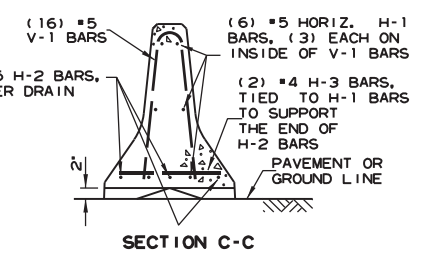
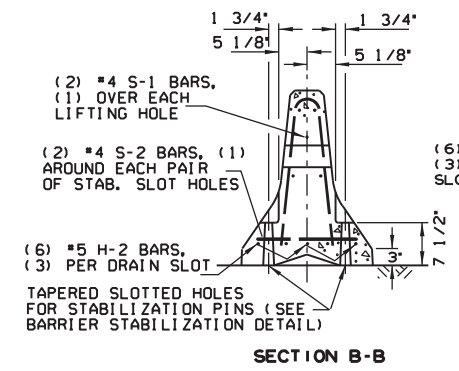
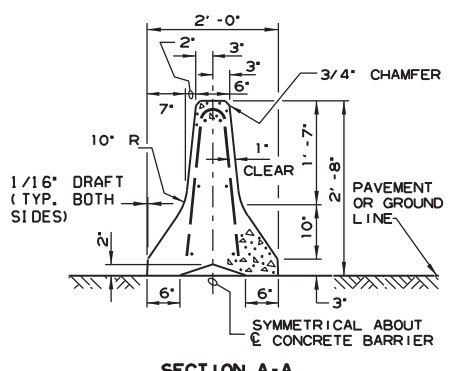
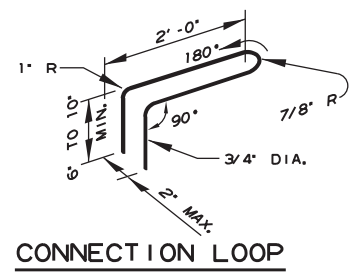
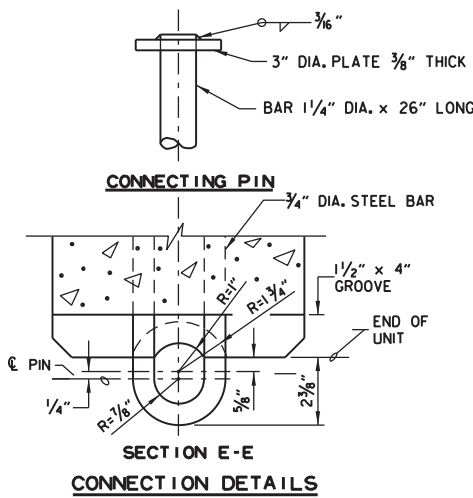


(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

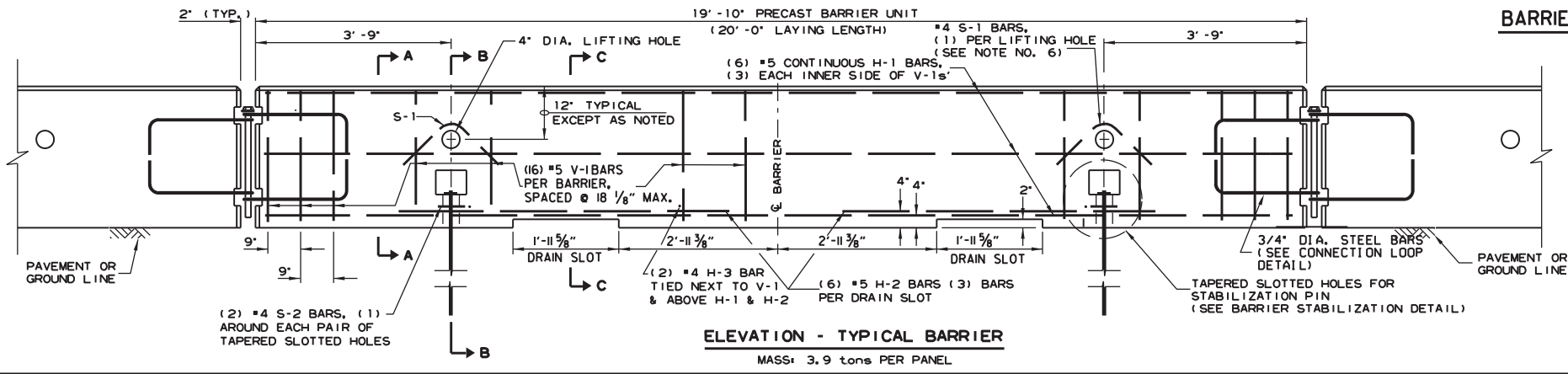
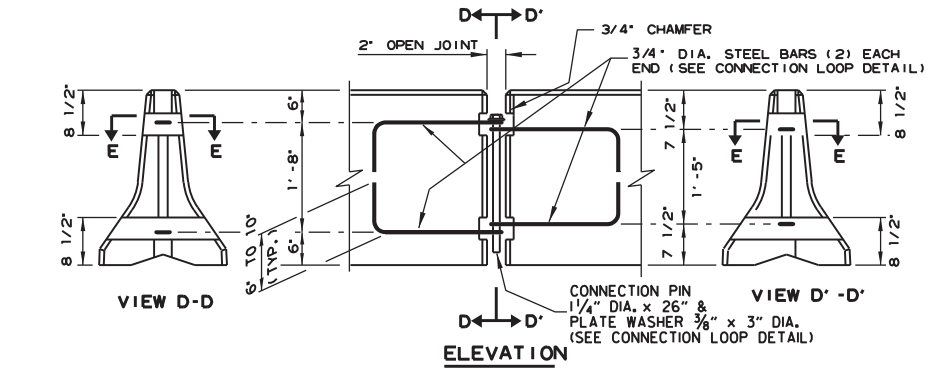


(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

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)	
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)	
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	



NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION, AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.



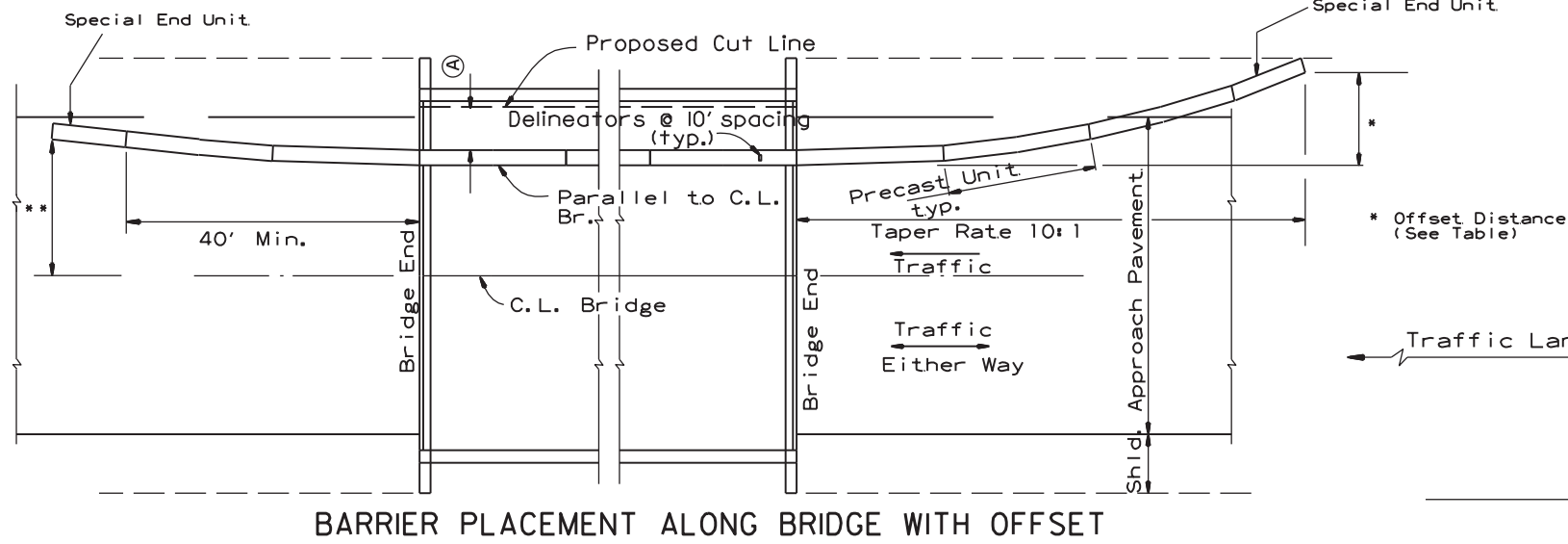
- GENERAL NOTES**
- THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.
 - MATERIALS SHALL MEET THE FOLLOWING 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 ADOT 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.
 - OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.
 - 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.
 - ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.
 - A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER
STANDARD DRAWING TC-4

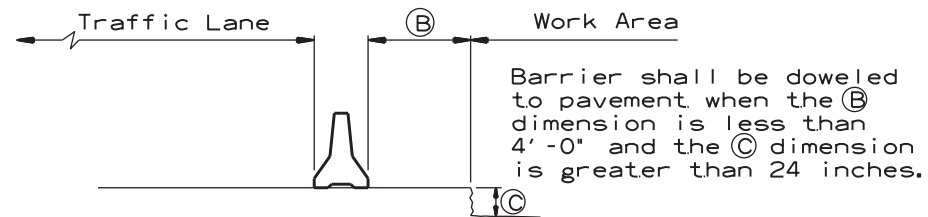
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

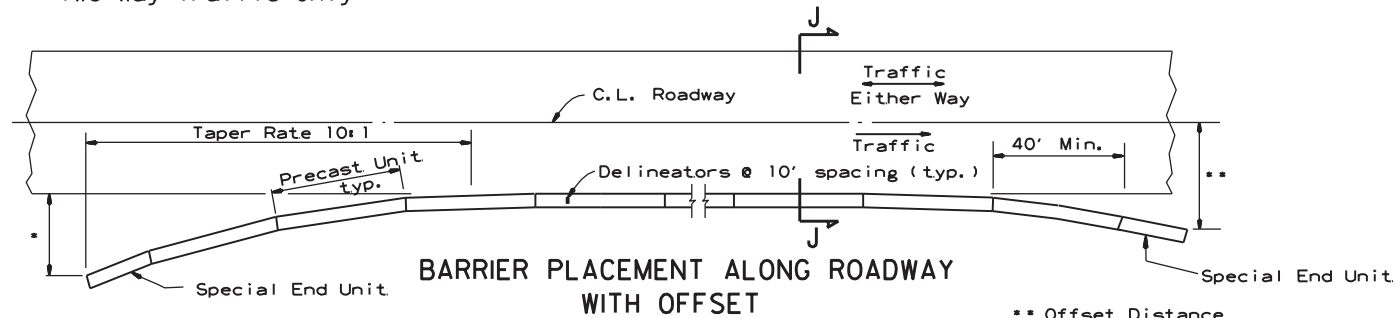
No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

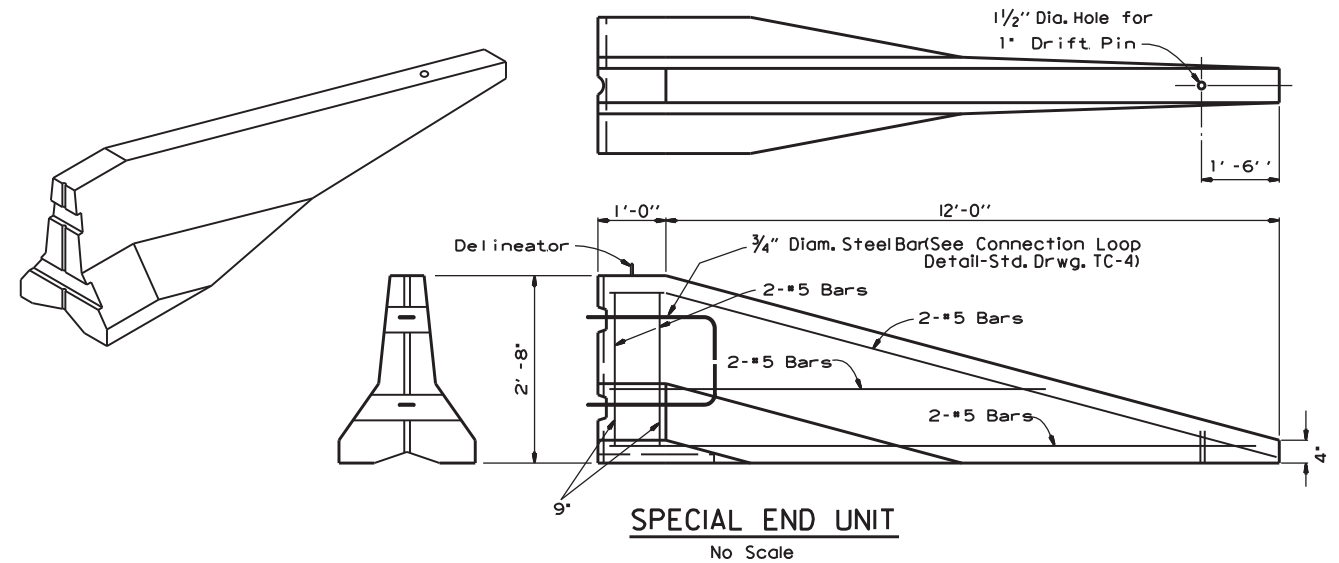
* Offset Distance (See Table)

** 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.

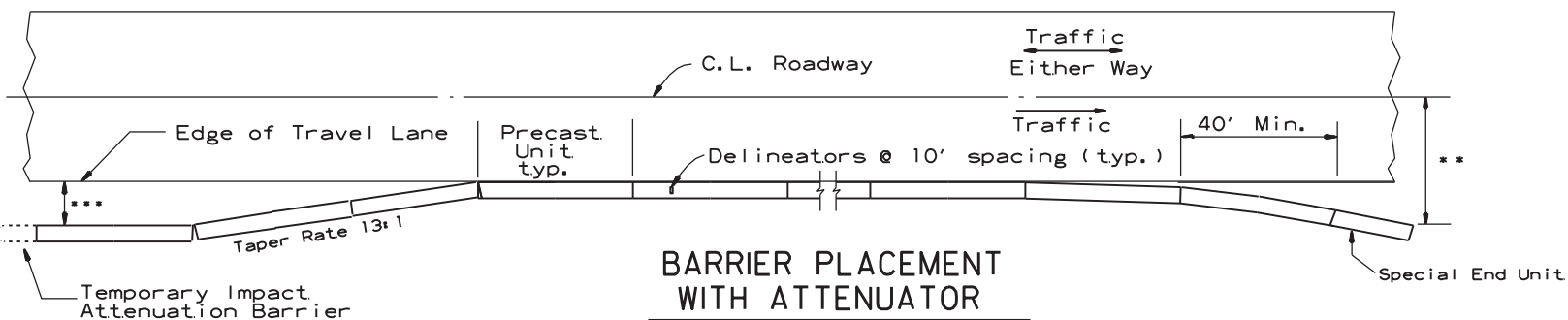


SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."



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

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

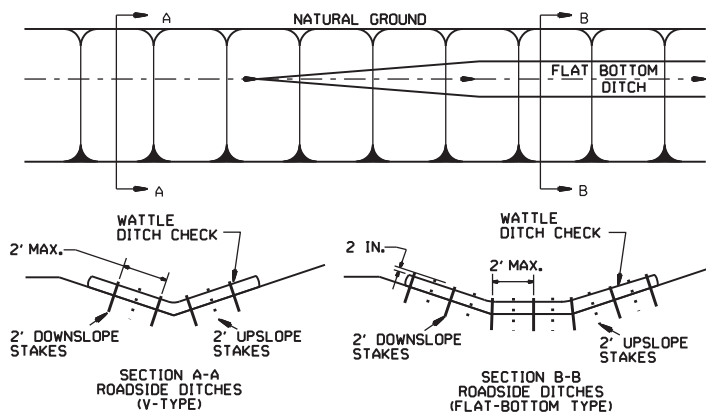
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-5

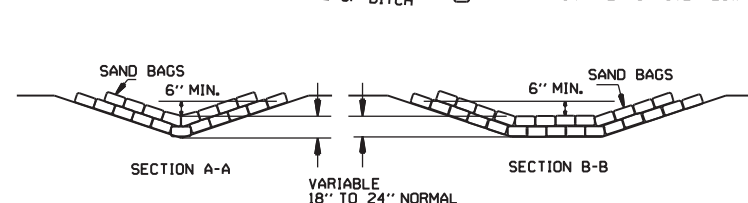
GENERAL NOTES

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

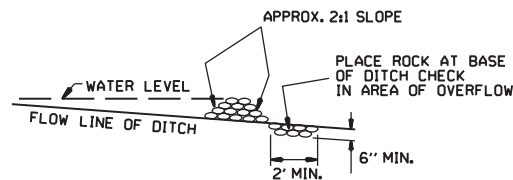


WATTLE DITCH CHECK (E-1)

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

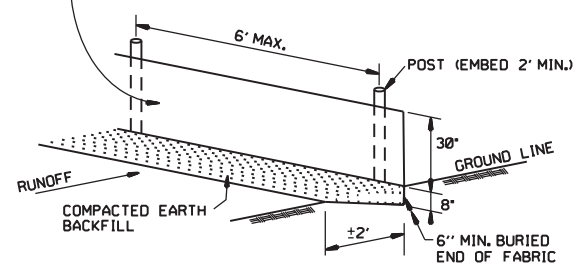


SAND BAG DITCH CHECK (E-5)

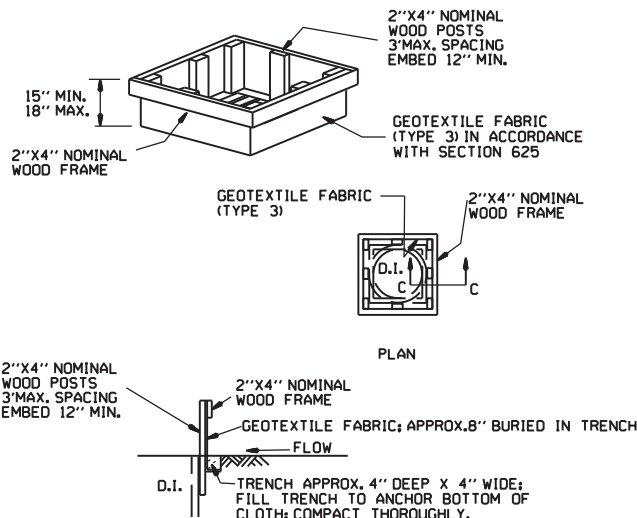


ROCK DITCH CHECK (E-6)

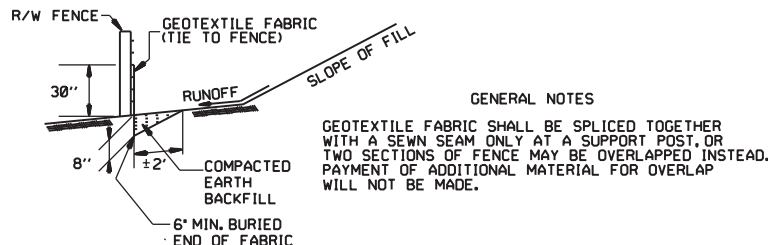
GENERAL NOTES
 GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625
 GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)

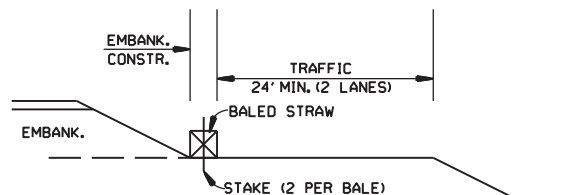


DROP INLET SILTS FENCE (E-7)

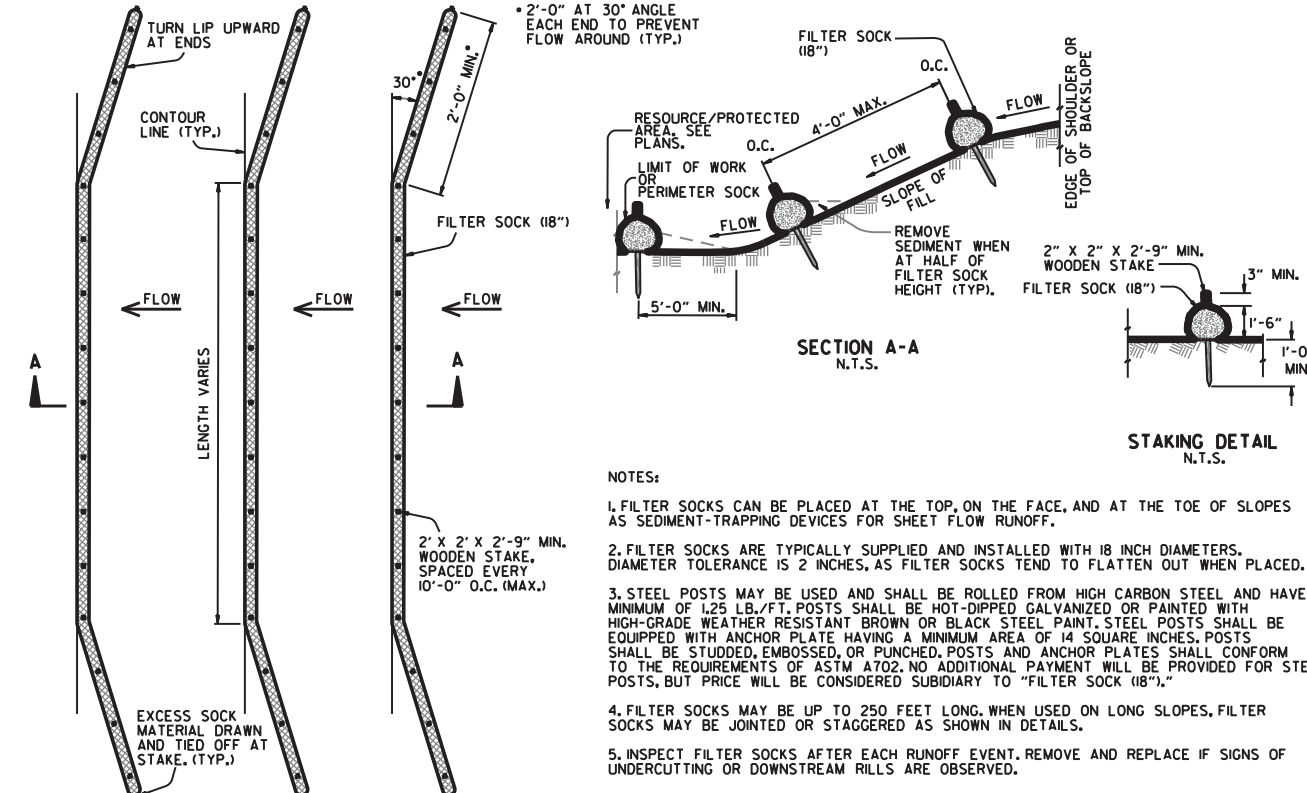


SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES
 1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
 2. NO GAPS SHALL BE LEFT BETWEEN BALES.
 3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

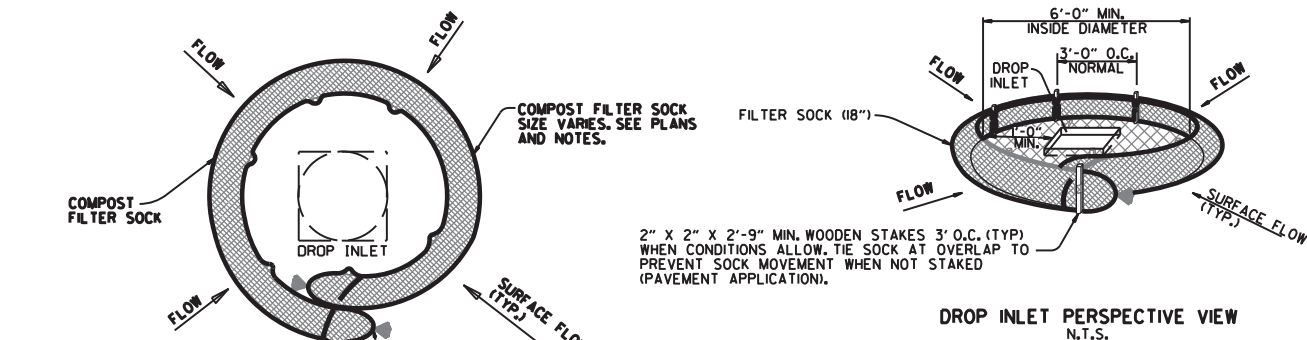


BALED STRAW FILTER BARRIER (E-2)



FILTER SOCK ALONG SLOPE (E-3)

- NOTES:**
1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.
 2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.
 3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18\"/>
 - 4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.
 - 5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

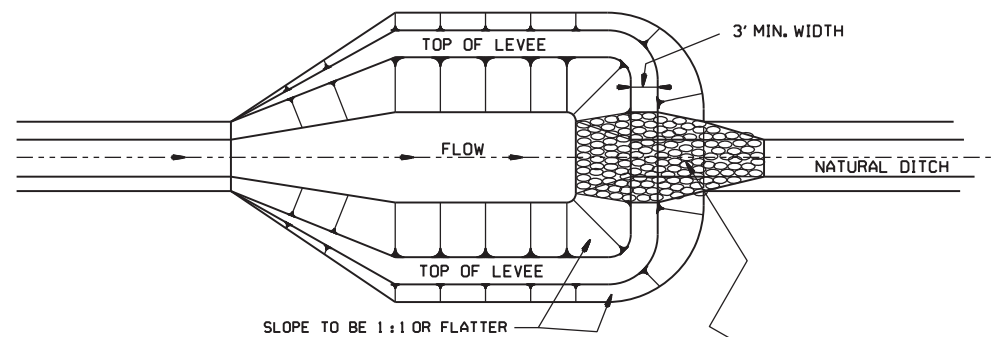


COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

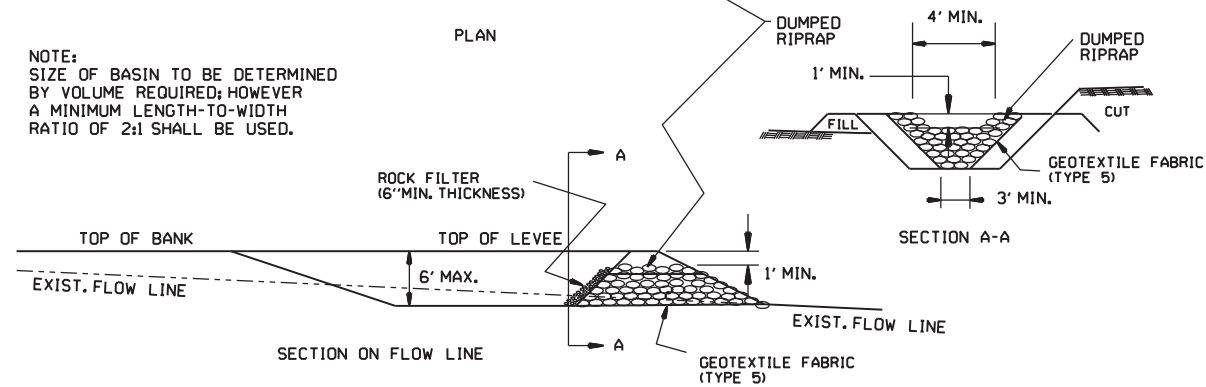
- NOTES:**
1. OVERLAP ENDS OF SOCK (1' MIN, 3' MAX.).
 2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76
DATE	REVISION	FILMED

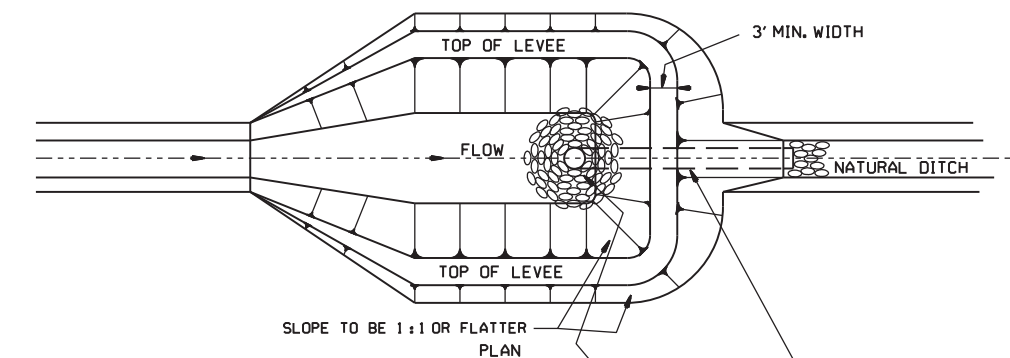
ARKANSAS STATE HIGHWAY COMMISSION
 TEMPORARY EROSION CONTROL DEVICES
 STANDARD DRAWING TEC-1



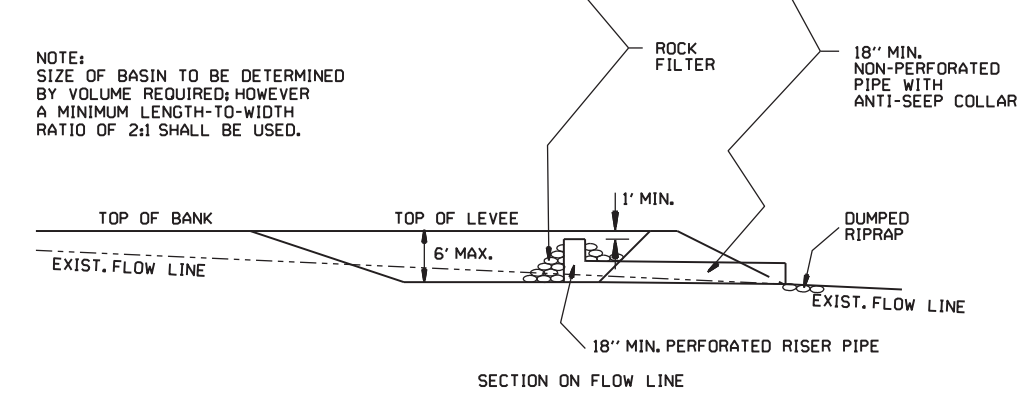
NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.



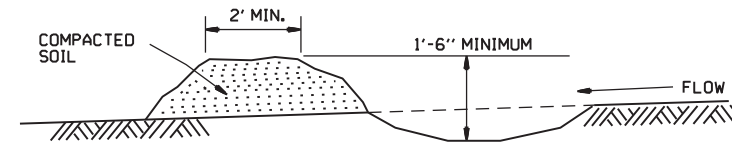
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



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

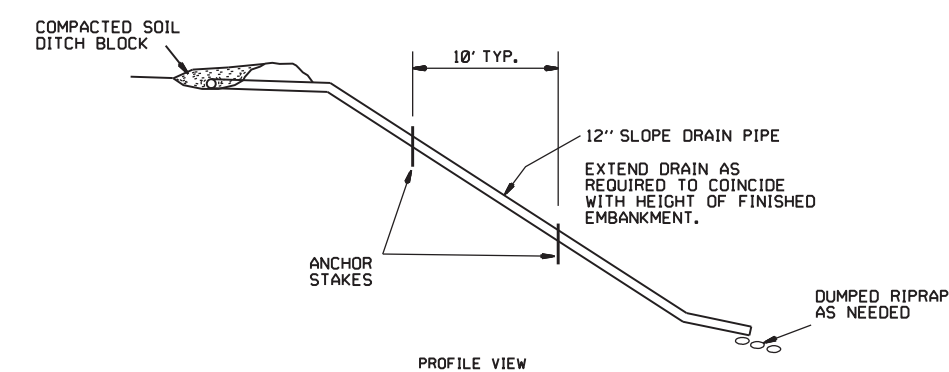
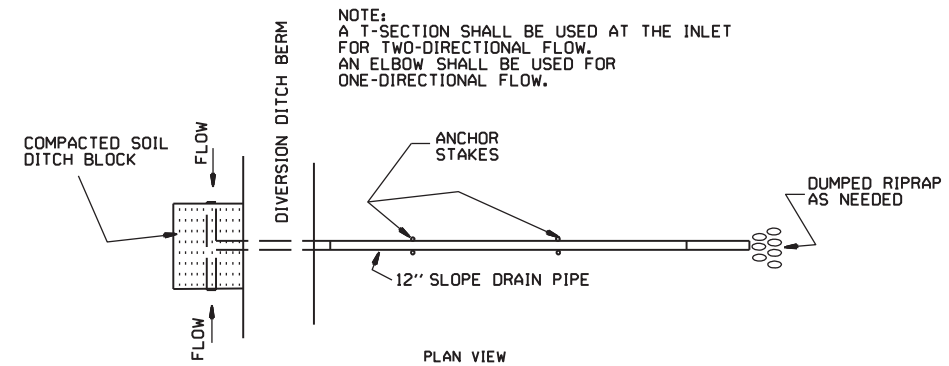


SEDIMENT BASIN WITH PIPE OUTLET (E-10)

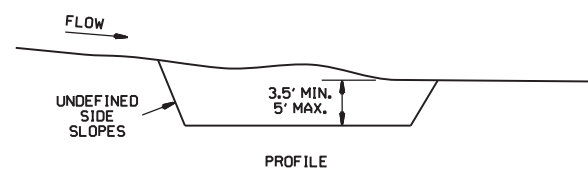
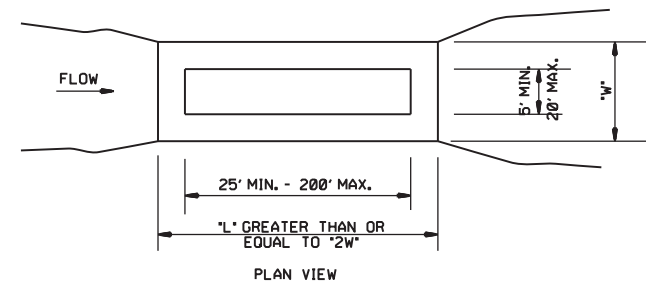


DIVERSION DITCH (E-8)

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



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

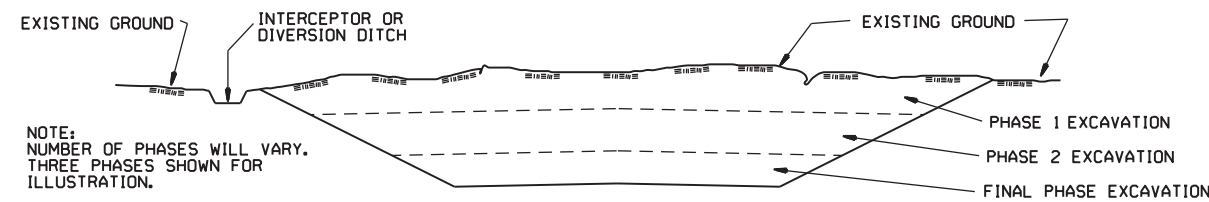
		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
		STANDARD DRAWING TEC-2	
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



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

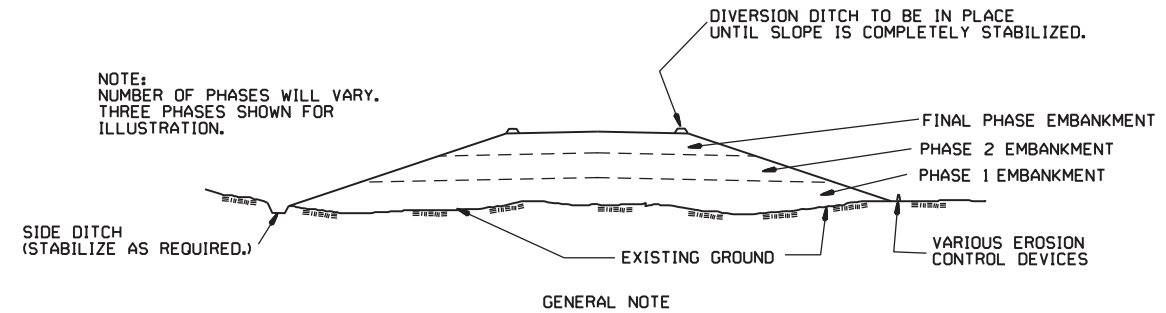
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



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

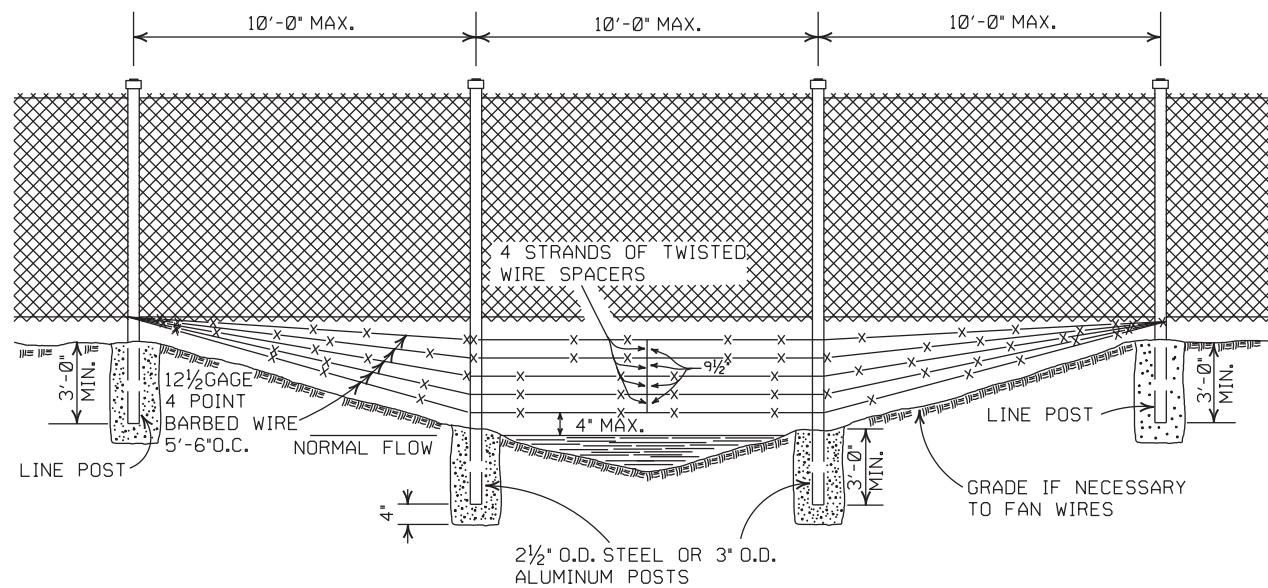
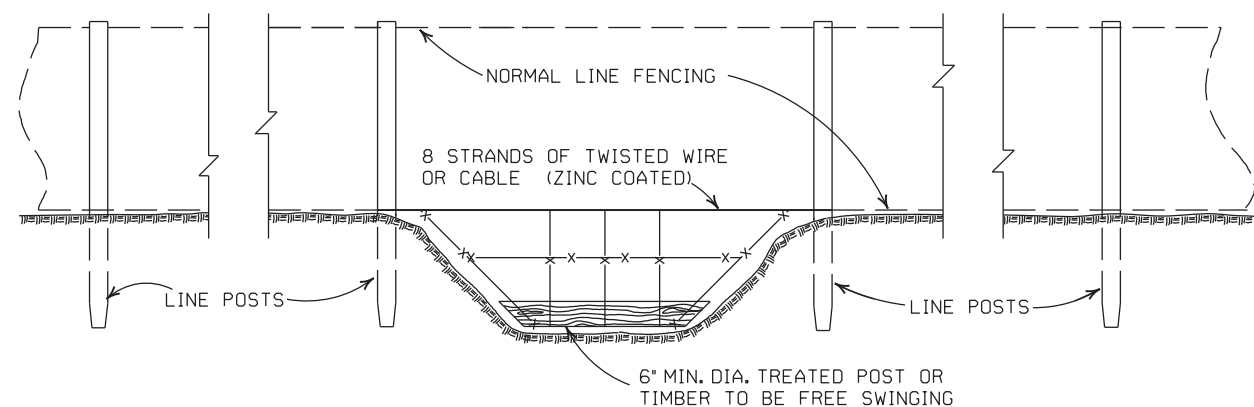
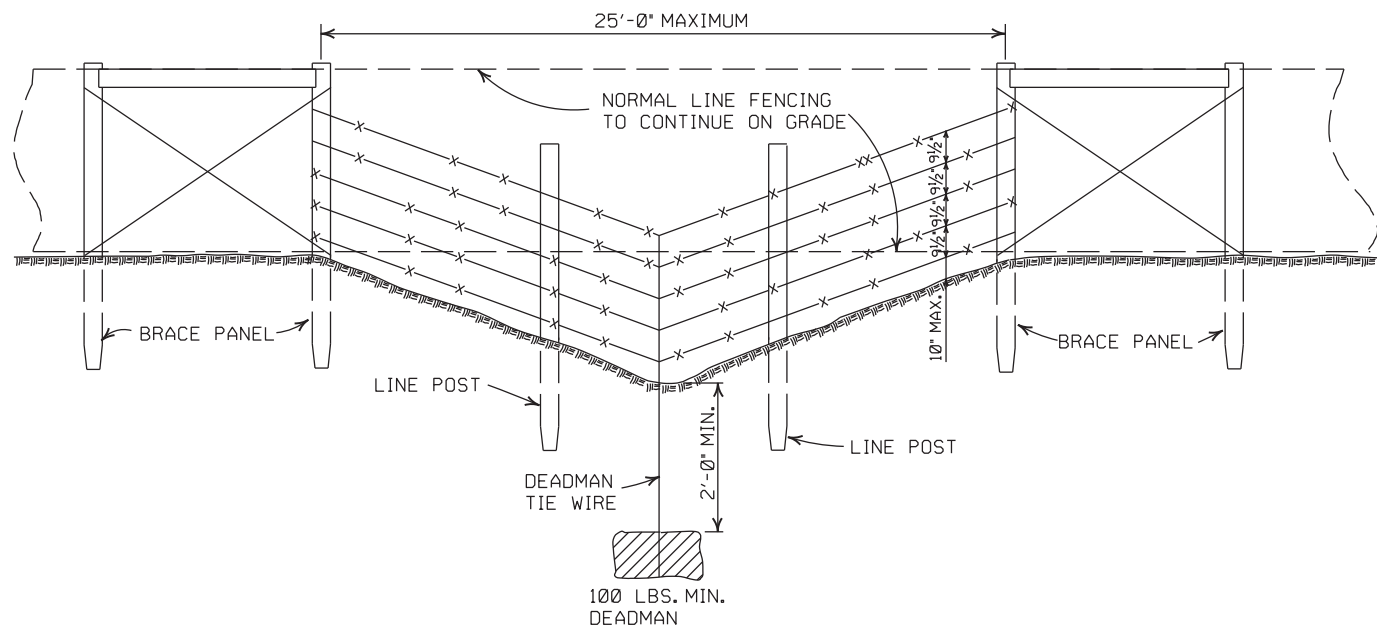
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

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



GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

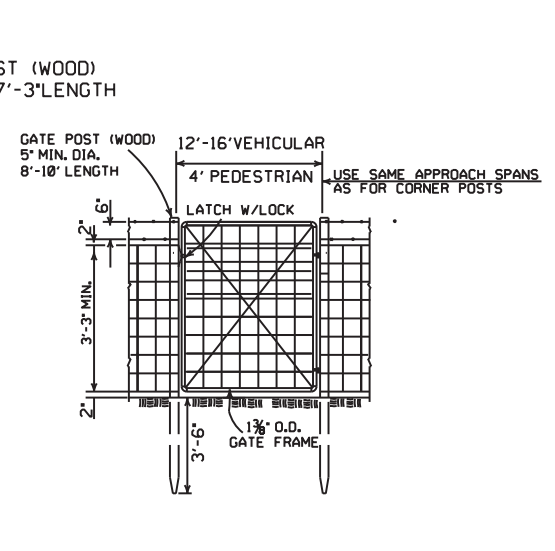
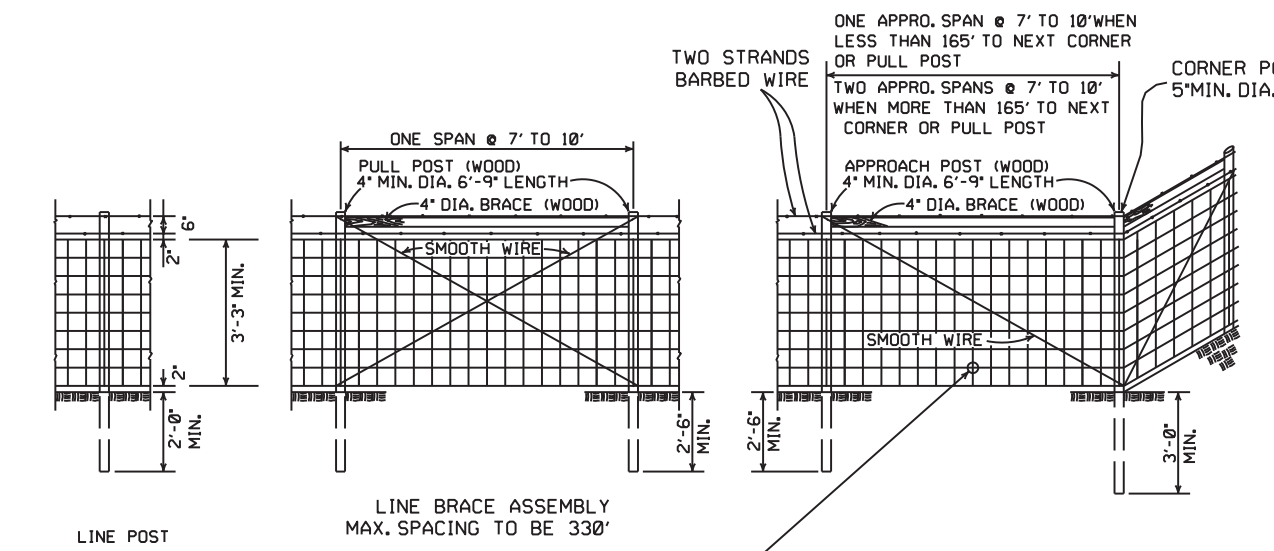
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED AND REDRAWN	529-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING WF-2



GENERAL NOTES:

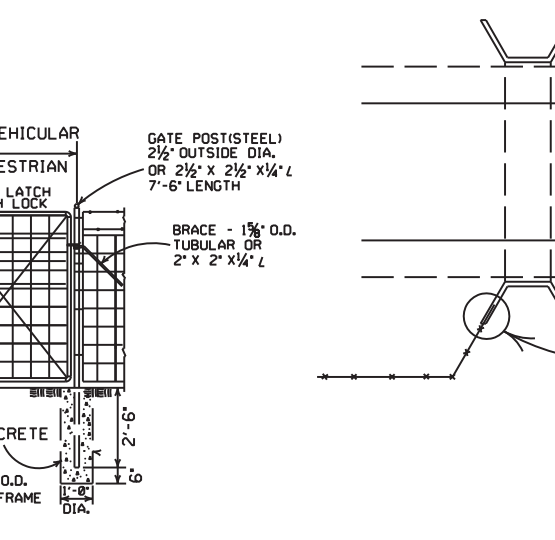
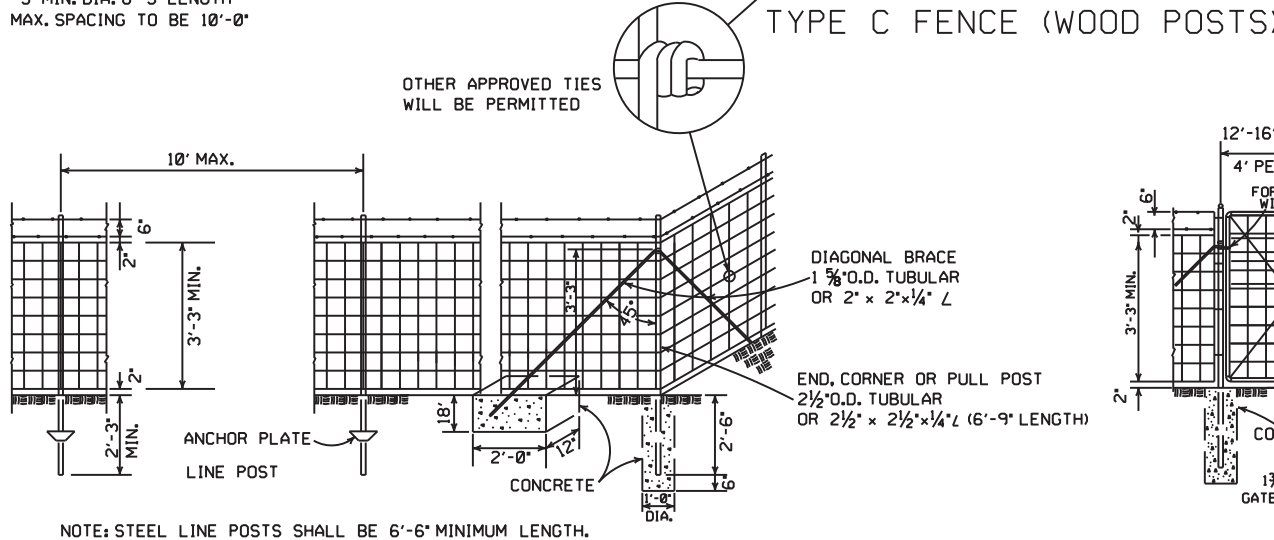
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.

AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE -1' TO +2'. TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

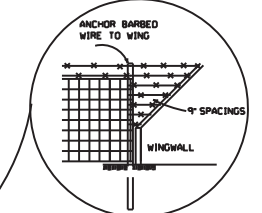
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

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

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



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

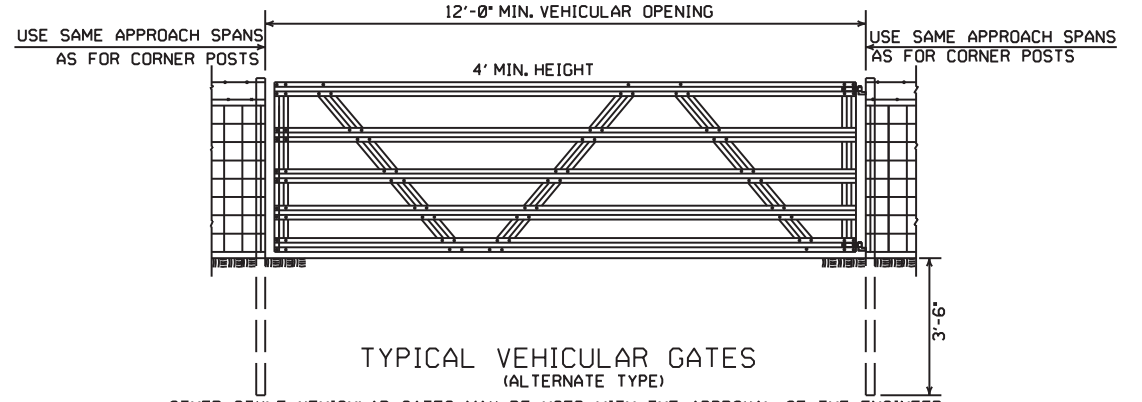
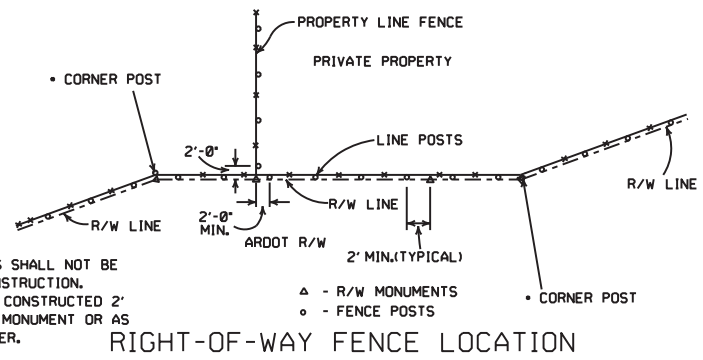


SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

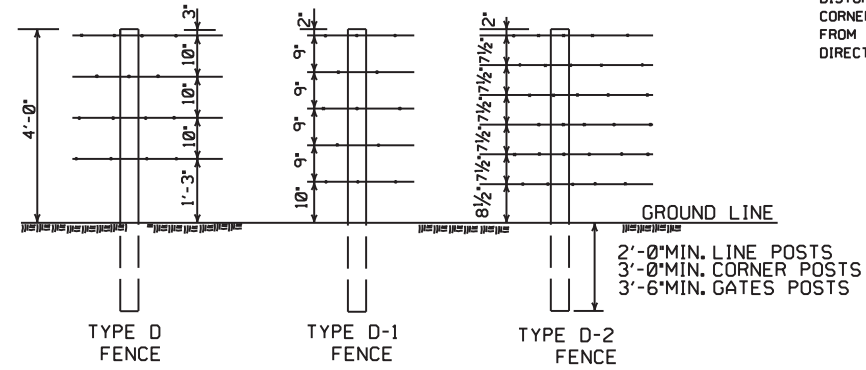
SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE 'WESTERN UNION METHOD' AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

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

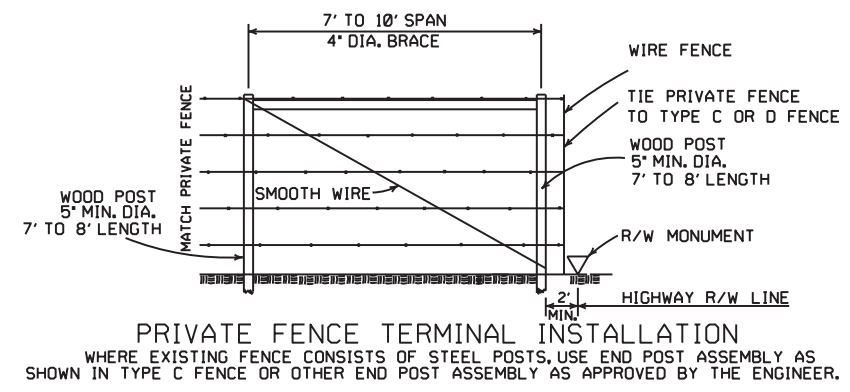
TYPE C FENCE (STEEL POSTS)



- 4 STRANDS BARBED WIRE (D)
- 5 STRANDS BARBED WIRE (D-1)
- 6 STRANDS BARBED WIRE (D-2)



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



DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE

TYPE C AND D

STANDARD DRAWING WF-4