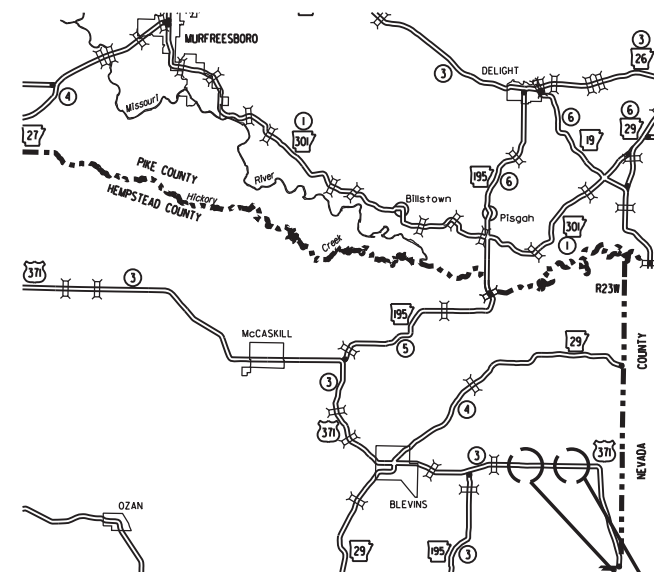


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	1	44
HWY. 371 FLOOD DAMAGE REPAIRS (HEMPSTEAD CO.) (S)						



VICINITY MAP

PROJECT LOCATIONS

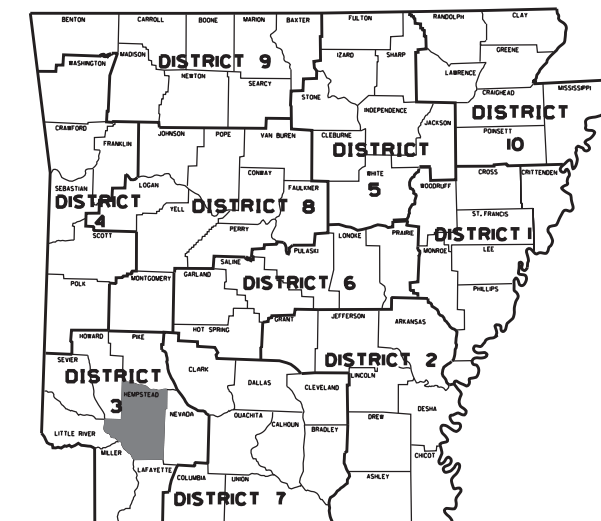
ARKANSAS DEPARTMENT OF TRANSPORTATION
 CONSTRUCTION PLANS FOR STATE HIGHWAY
HWY. 371 FLOOD DAMAGE REPAIRS (HEMPSTEAD CO.) (S)

HEMPSTEAD COUNTY
 ROUTE 371 SECTION 3

JOB 030596

FED. AID PROJ. ER-0029(38)

NOT TO SCALE



ARK. HWY. DIST. NO. 3

DESIGN TRAFFIC DATA

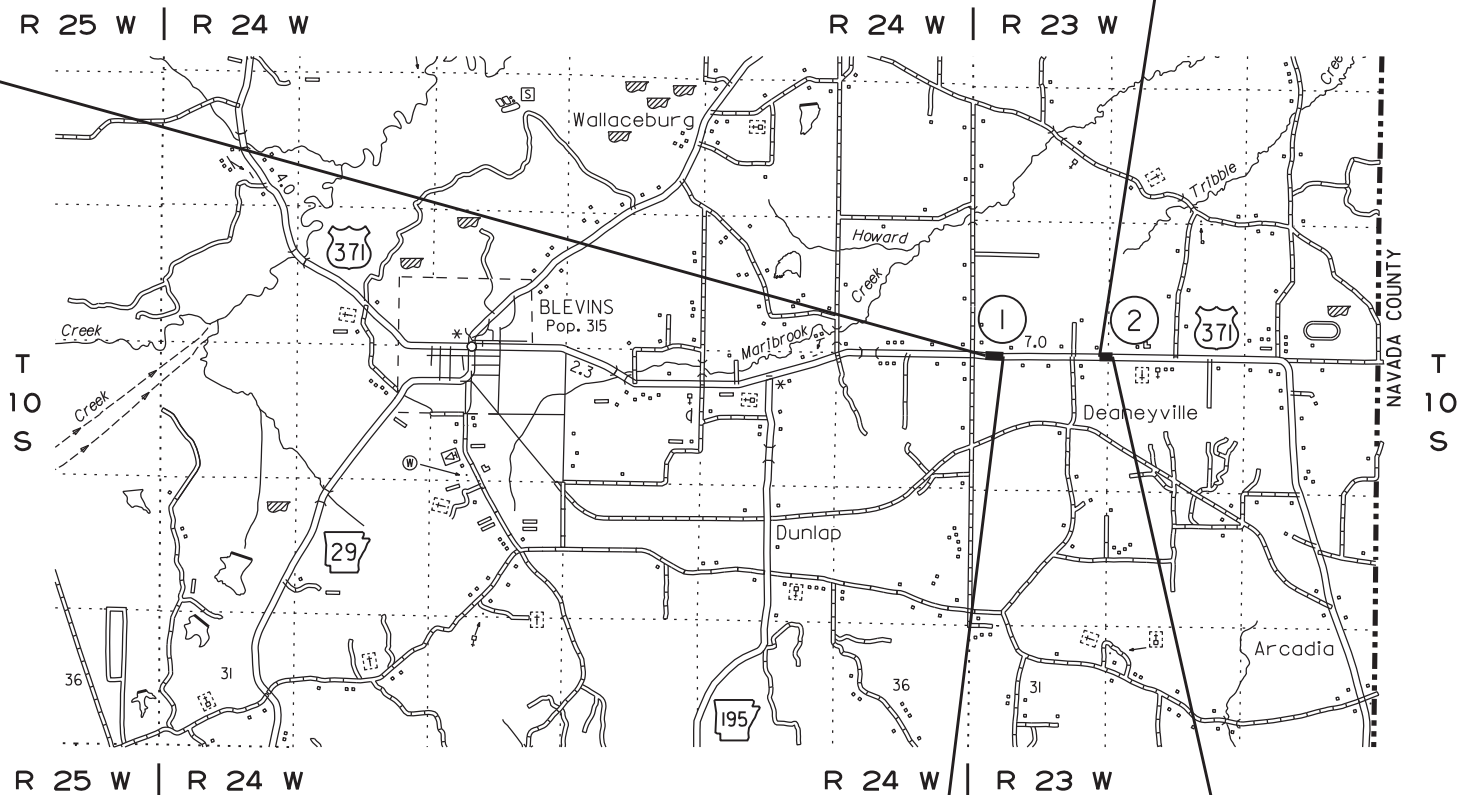
DESIGN YEAR	2044
2024 ADT	1500
2044 ADT	1700
2044 DHV	187
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	20%
AVG. RUNNING SPEED	55 MPH

STA. 506+50.00
 BEGIN JOB 030596
 BEGIN SITE 1
 LOG MILE 21.661

STA. 611+00.00
 BEGIN SITE 2
 LOG MILE 22.541

STRUCTURES OVER 20'-0" SPAN

- 1 STA. 507+00 - CONSTRUCT DBL. 11' x 7' x 70' R.C. BOX CULV. T. (SPAN = 23'-10") Q25 = 1120 cfs, DA = 1.81 SQ. MI.
- 2 STA. 611+70 - CONSTRUCT DBL. 11' x 6' x 85' R.C. BOX CULV. T. (30° RT. FWD. SKEW) (SPAN = 23'-9") Q25 = 890 cfs, DA = 1.31 SQ. MI.



STA. 507+50.00
 END SITE 1

STA. 615+00.00
 END SITE 2
 END JOB 030596

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT	500.00	FEET	OR	0.095	MILES
NET . . . ROADWAY	452.42			0.086	MILES
NET . . . BRIDGES	47.58			0.009	MILES
NET . . . PROJECT	500.00			0.095	MILES

BEGINNING OF SITE 1	MID POINT OF SITE 1	END OF SITE 1
LATITUDE = N 33°52'12"	LATITUDE = N 33°52'12"	LATITUDE = N 33°52'12"
LONGITUDE = W 93°30'38"	LONGITUDE = W 93°30'37"	LONGITUDE = W 93°30'36"
BEGINNING OF SITE 2	MID POINT OF SITE 2	END OF SITE 2
LATITUDE = N 33°52'10"	LATITUDE = N 33°52'10"	LATITUDE = N 33°52'10"
LONGITUDE = W 93°29'42"	LONGITUDE = W 93°29'40"	LONGITUDE = W 93°29'37"



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	2	44
INDEX OF SHEETS AND STANDARD DRAWINGS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 5	TYPICAL SECTIONS OF IMPROVEMENT
6 - 14	SPECIAL DETAILS
15 - 19	TEMPORARY EROSION CONTROL DETAILS
20 - 25	MAINTENANCE OF TRAFFIC DETAILS
26	PERMANENT PAVEMENT MARKING DETAILS
27 - 30	QUANTITIES
31	SUMMARY OF QUANTITIES AND REVISIONS
32 - 35	SURVEY CONTROL DETAILS
36 - 39	PLAN AND PROFILE SHEETS
40 - 44	CROSS SECTIONS

ROADWAY STANDARD DRAWINGS

CDP-1	CONCRETE DITCH PAVING	12-08-16
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
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
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
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

GOVERNING SPECIFICATIONS

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

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
09/04/24		6	ARK.	030596	3	44
GOVERNING SPECIFICATIONS AND GENERAL NOTES						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.09.04

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
102-3	PREQUALIFICATION OF BIDDERS
103-2	CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS
105-4	MAINTENANCE DURING CONSTRUCTION
107-2	RESTRAINING CONDITIONS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
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 ADJITIVE
400-7	TRACKLESS TACK
404-3	DESIGN OF ASPHALT MIXTURES
409-2	ASPHALT LABORATORY FACILITY
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
410-4	EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
416-1	RECYCLED ASPHALT PAVEMENT
501-3	PORTLAND CEMENT CONCRETE PAVEMENT
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
619-1	FENCES
620-1	MULCH COVER
800-1	STRUCTURES
802-5	CONCRETE FOR STRUCTURES
804-2	REINFORCING STEEL FOR STRUCTURES
JOB 030596	BIDDING REQUIREMENTS AND CONDITIONS
JOB 030596	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 030596	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 030596	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 030596	CARGO PREFERENCE ACT REQUIREMENTS
JOB 030596	COLD MILLING - COUNTY PROPERTY
JOB 030596	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 030596	DESIGN AND QUALITY CONTROL ASPHALT MIXTURES
JOB 030596	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 030596	FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT
JOB 030596	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 030596	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 030596	MANDATORY ELECTRONIC CONTRACT
JOB 030596	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 030596	NESTING SITES OF MIGRATORY BIRDS
JOB 030596	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 030596	PERCENT AIR Voids AND NDESIGN FOR ACHM SURFACE MIX DESIGNS
JOB 030596	PORTABLE TRAFFIC SIGNAL SYSTEM
JOB 030596	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 030596	PRICE ADJUSTMENT FOR FUEL
JOB 030596	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 030596	SHORING FOR CULVERTS
JOB 030596	SOIL STABILIZATION
JOB 030596	SPECIAL CLEARING REQUIREMENTS
JOB 030596	STORM WATER POLLUTION PREVENTION PLAN
JOB 030596	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 030596	TRENCHING AND SHOULDER PREPARATION FOR TEMPORARY WIDENING
JOB 030596	UTILITY ADJUSTMENTS
JOB 030596	WARM MIX ASPHALT

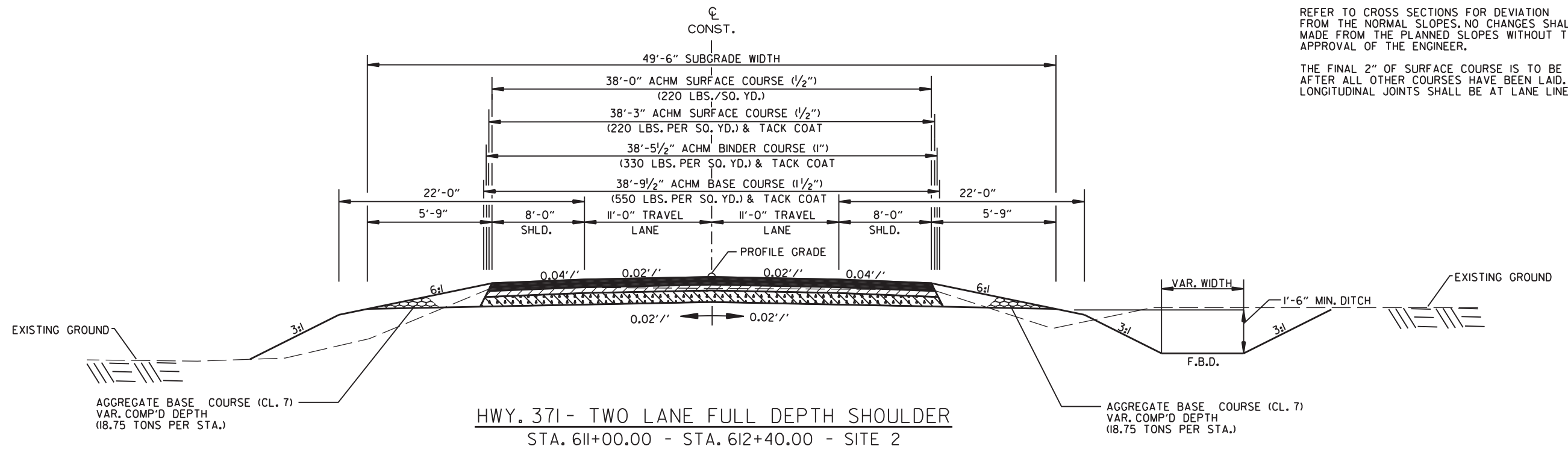
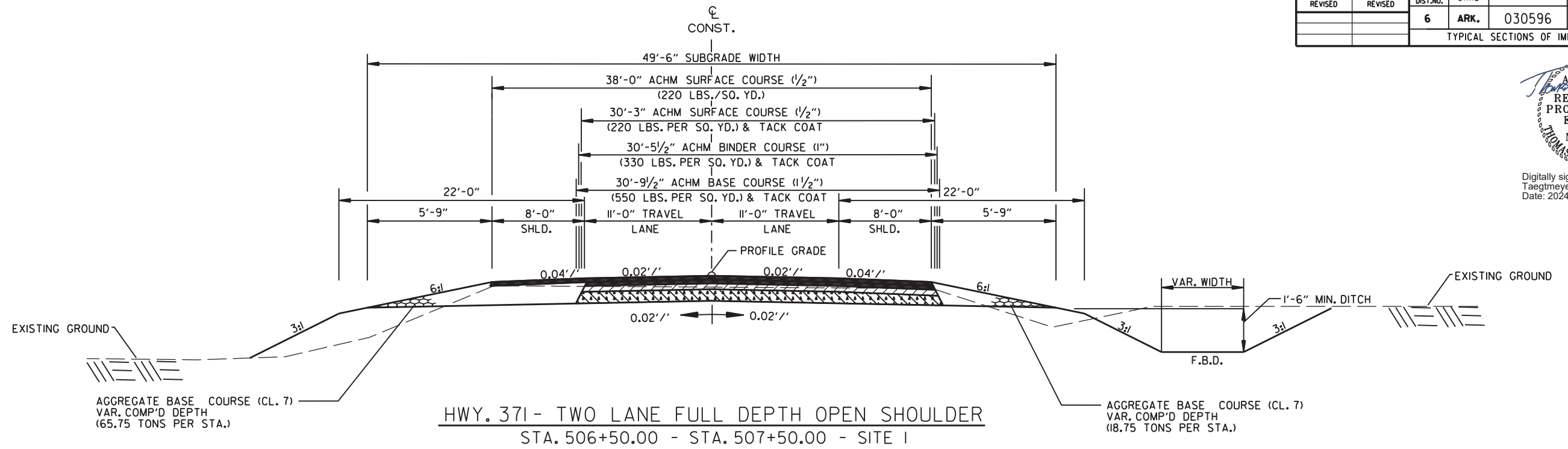
GENERAL NOTES

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

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	4	44
TYPICAL SECTIONS OF IMPROVEMENT						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



NOTES:

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.

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.

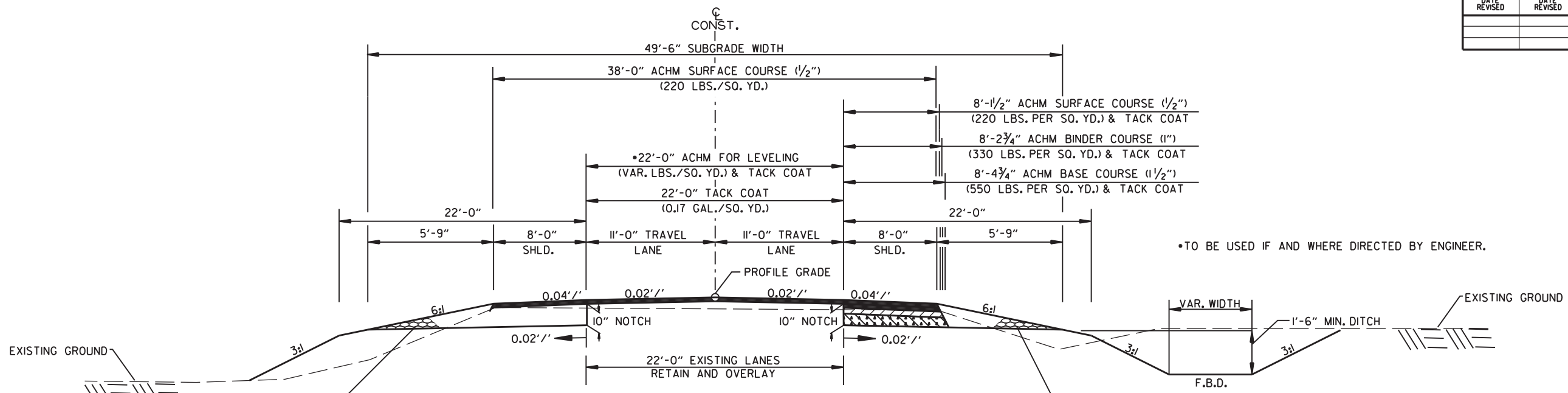
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

DATE & TIME: 7/31/2024 9:26:38 AM
FILE: J:\25846.20\030596.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	5	44
TYPICAL SECTIONS OF IMPROVEMENT						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



*TO BE USED IF AND WHERE DIRECTED BY ENGINEER.

HWY. 371 - TWO LANE NOTCH AND WIDEN FULL DEPTH SHOULDER
STA. 612+40.00 - STA. 615+00.00 - SITE 2

NOTES:
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.

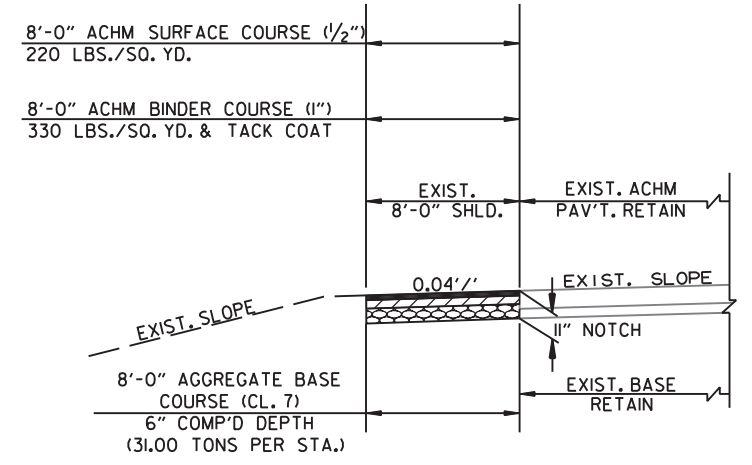
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

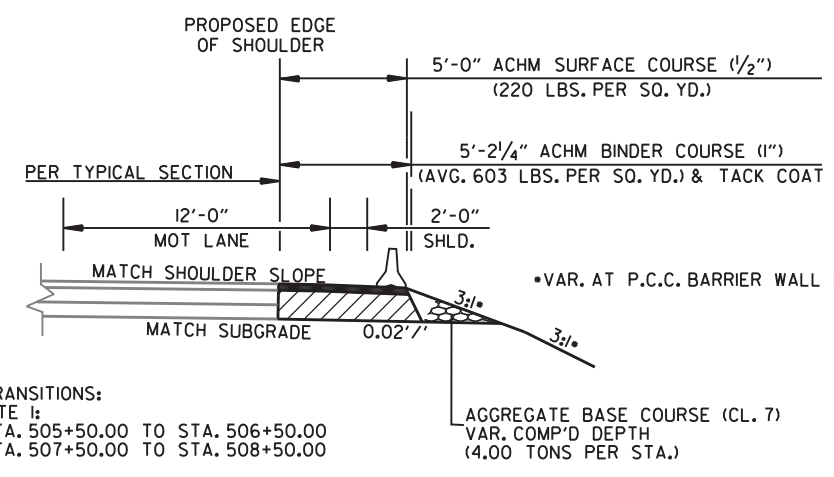
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

AGGREGATE BASE COURSE (CL. 7)
VAR. COMP'D DEPTH
(65.75 TONS PER STA.)

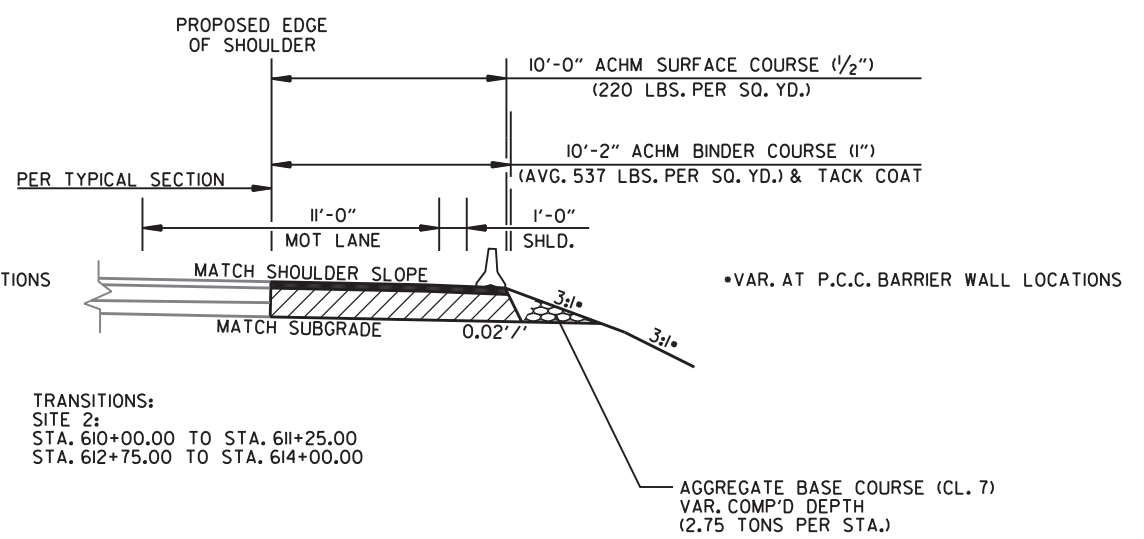
AGGREGATE BASE COURSE (CL. 7)
VAR. COMP'D DEPTH
(18.75 TONS PER STA.)



TYPICAL SECTION OF SHOULDER RECONSTRUCTION FOR MAINTENANCE OF TRAFFIC
SITE 1 - STA. 505+50.00 - STA. 508+50.00 LT. SHLD
SITE 2 - STA. 610+00.00 - STA. 614+00.00 RT. SHLD



SITE 1 - ADDITIONAL WIDENING FOR MAINTENANCE OF TRAFFIC
STA. 505+50.00 - STA. 508+50.00

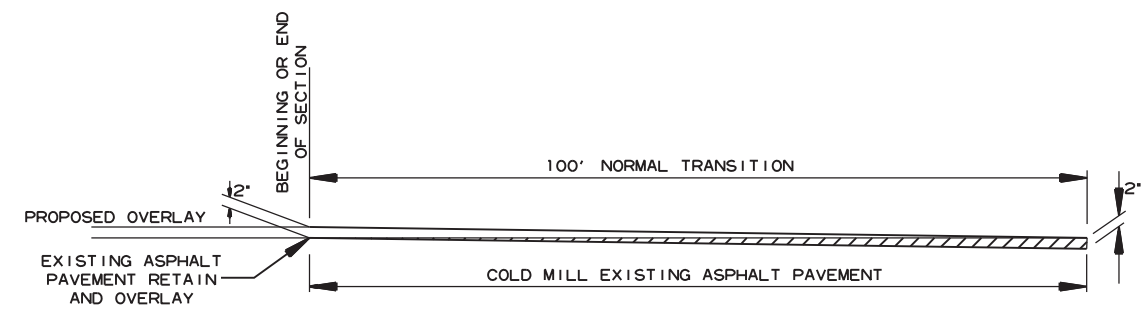


SITE 2 - ADDITIONAL WIDENING FOR MAINTENANCE OF TRAFFIC
STA. 610+00.00 - STA. 614+00.00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	6	44
SPECIAL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



DETAIL FOR TRANSITIONS

MID-SECTION

Table 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., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH), 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, REINFORCING STEEL (GR. 60).

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
DOUBLE BARREL BOX CULVERT
Sta. 507+00
SPECIAL DETAILS

Data shown for Mid-Section, Slope Sections, 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.

INLET SLOPE SECTION(S)

Table 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., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH), 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, REINFORCING STEEL (GR. 60).

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

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, REINFORCING STEEL (GR. 60).

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 (Grade 60)'.

INLET WINGWALL TABLE

Table with columns for 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 WALL END, WIDTH OF WING FOOTINGS AT HDWL, FOOTING DIMENSION PARALLEL WITH HDWL, LENGTH OF WINGWALLS, 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.

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

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

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.

Table with columns: DATE REVISED, DATE FILMED, FEDERAL AID PROJ. NO., SHEET NO., TOTAL SHEETS.



02/13/2024

TABULAR DATA BY: CZP DATE: 01/15/2024
CHECKED BY: RCF DATE: 01/15/2024

MID-SECTION

Table 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., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH), 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).

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
DOUBLE BARREL BOX CULVERT
Sta. 611+70
SPECIAL DETAILS

Data shown for Mid-Section, Slope Sections, 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.

INLET SLOPE SECTION(S)

Table 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., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH), 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).

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

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, REINFORCING STEEL (GR. 60).

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

INLET WINGWALL TABLE

Table with columns for OVER ALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT (AT HDWL, AT WING END), WING WALL 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, REINFORCING STEEL.

MID-SECTION BAR LAP TABLE

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

Table with columns: #, Bar Lap Length.

Table with columns: Bar Pin Dia., Table.



02/13/2024

TABULAR DATA BY: CZP DATE: 01/15/2024
CHECKED BY: RCF DATE: 01/15/2024

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.

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

OUTLET SLOPE SECTIONS

Table 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 REINF. STEEL, BOTTOM SLAB DISTRIBUTION REINF. STEEL, SIDE WALL DISTRIBUTION REINF. STEEL, INTERIOR WALL DISTRIBUTION REINF. STEEL, CLASS "S" CONCRETE, REINFORCING STEEL (GR. 60).

OUTLET 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., 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, REINFORCING STEEL (GR. 60).

OUTLET WINGWALL TABLE

Table with columns for OVER ALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT, WINGWALL ANGLE (DEGREE), WINGWALL 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, REINFORCING STEEL.

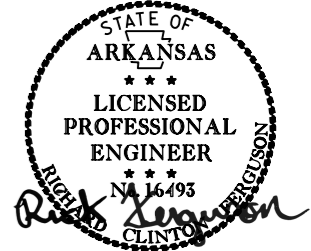
Min. Bar Lap Length table with columns for Bar Size and Lap Length.

Bar Pin Dia. Table with columns for Bar Size and Pin Diameter.

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

DATE REVISED, DATE FILMED, FEDERAL AID PROJ. NO., SHEET NO., TOTAL SHEETS.

JOB NO. 030596, SHEET NO. 10, TOTAL SHEETS 44.



02/13/2024

TABULAR DATA BY: CZP, CHECKED BY: RCF, DATE: 01/15/2024.

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

Unless otherwise noted, all dimensions are in inches.



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.

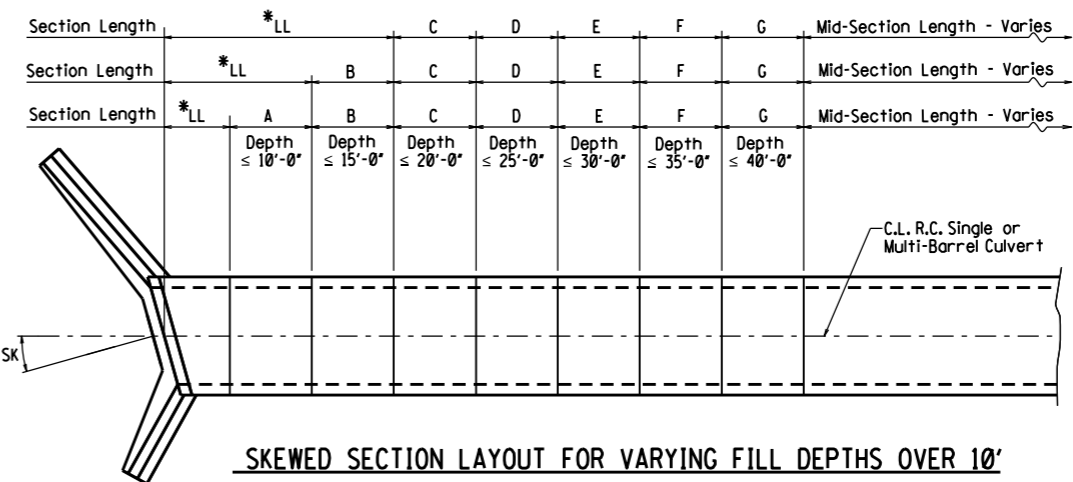
* LL = Skewed End Section Length - See "Skewed End Section Details" Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	030596		11	44



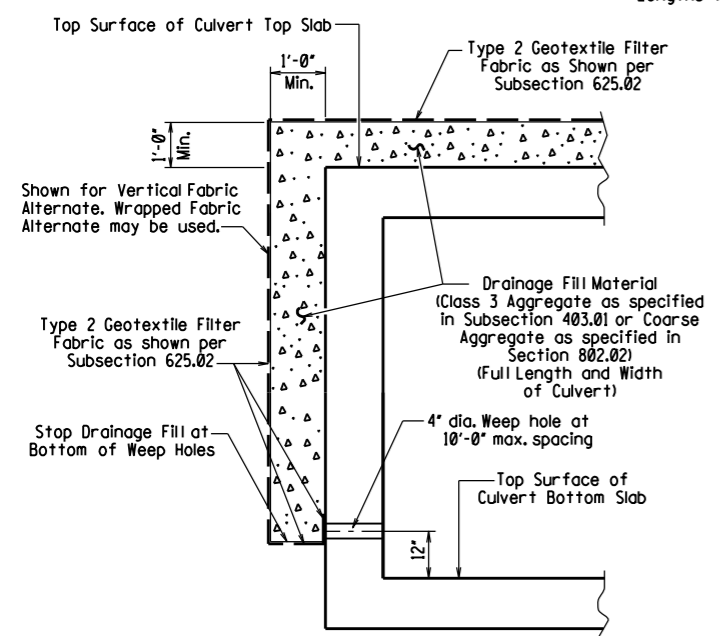
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

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



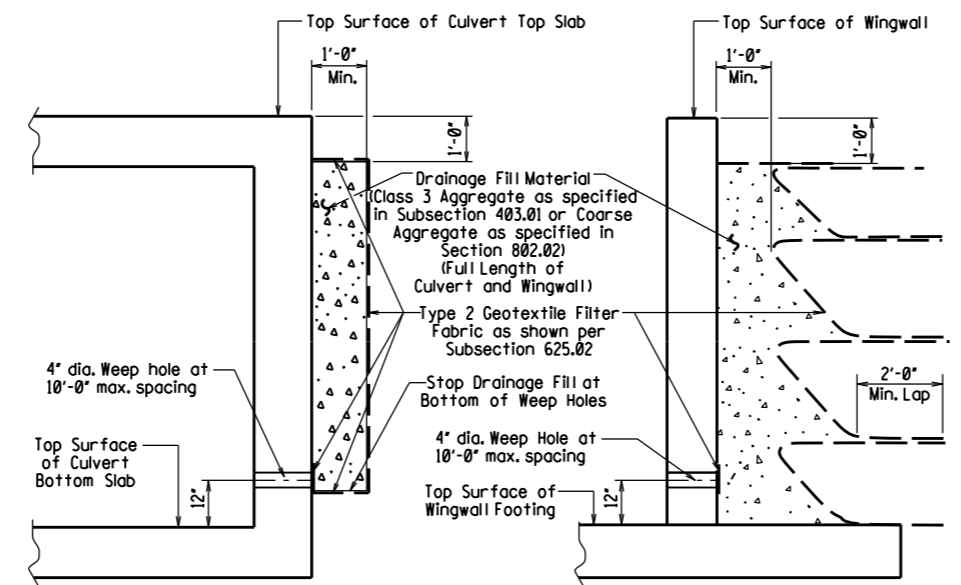
SKewed SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes



CULVERT DRAINAGE DETAIL FOR ROCK FILL

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



WINGWALL & CULVERT DRAINAGE DETAIL

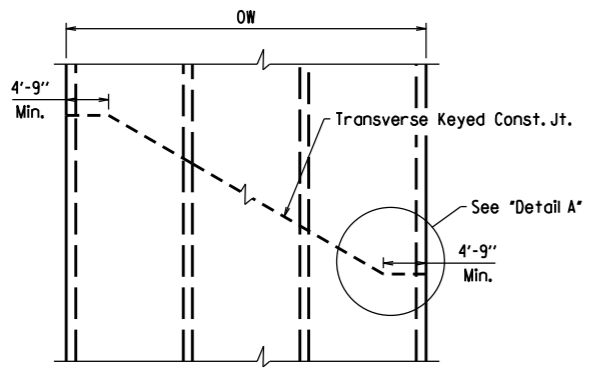
VERTICAL FABRIC ALTERNATE

(Shown for Culvert, Similar for Wingwall)

WRAPPED FABRIC ALTERNATE

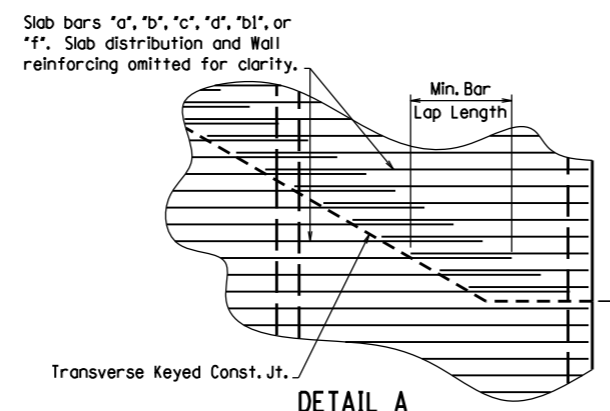
(Shown for Wingwall, Similar for Culvert)

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 S 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 S Concrete.

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

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

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

V 1.1 FILENAME



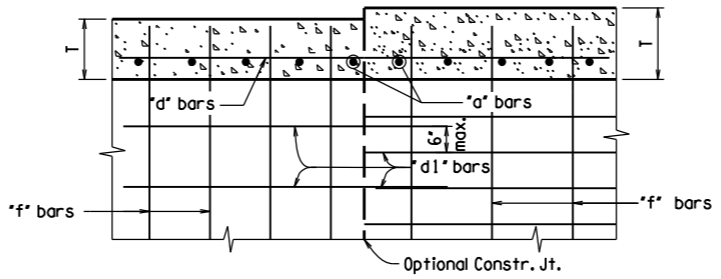
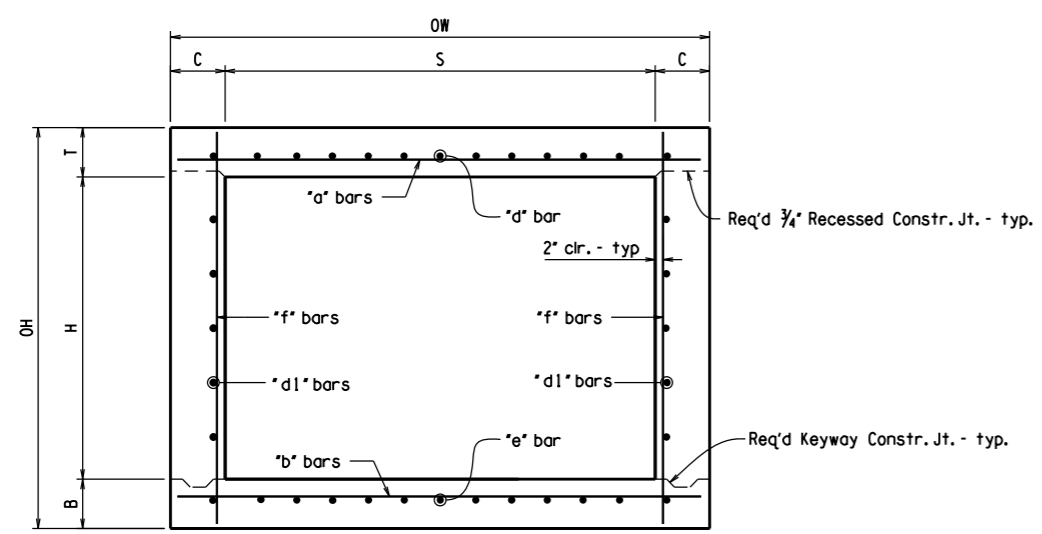
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030596	12	44

① SPECIAL DETAILS



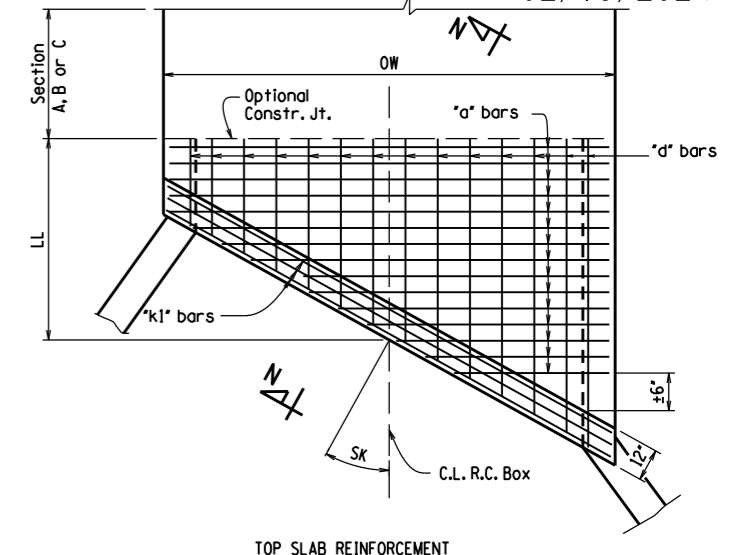
02/13/2024

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

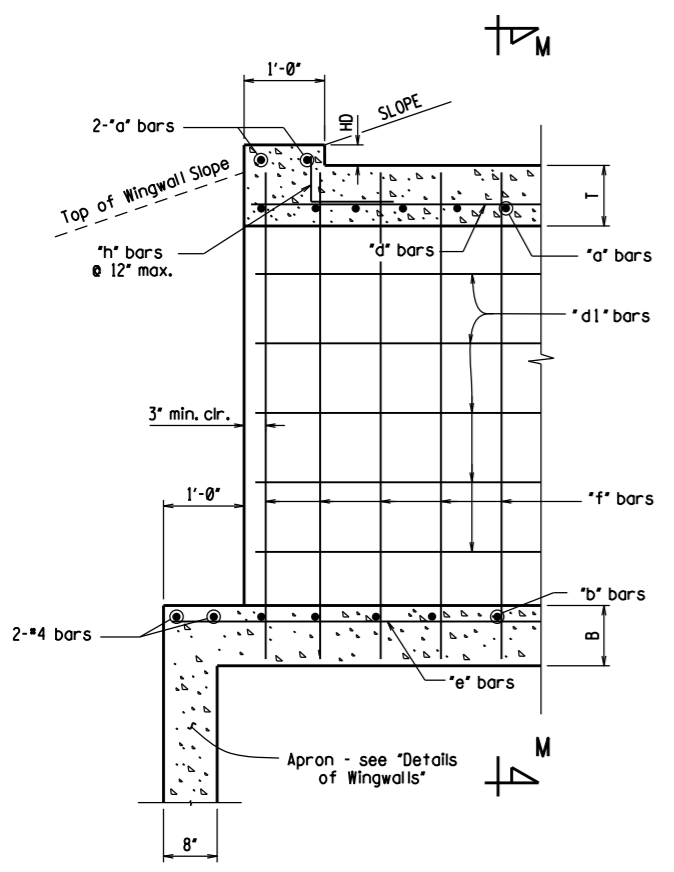


LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

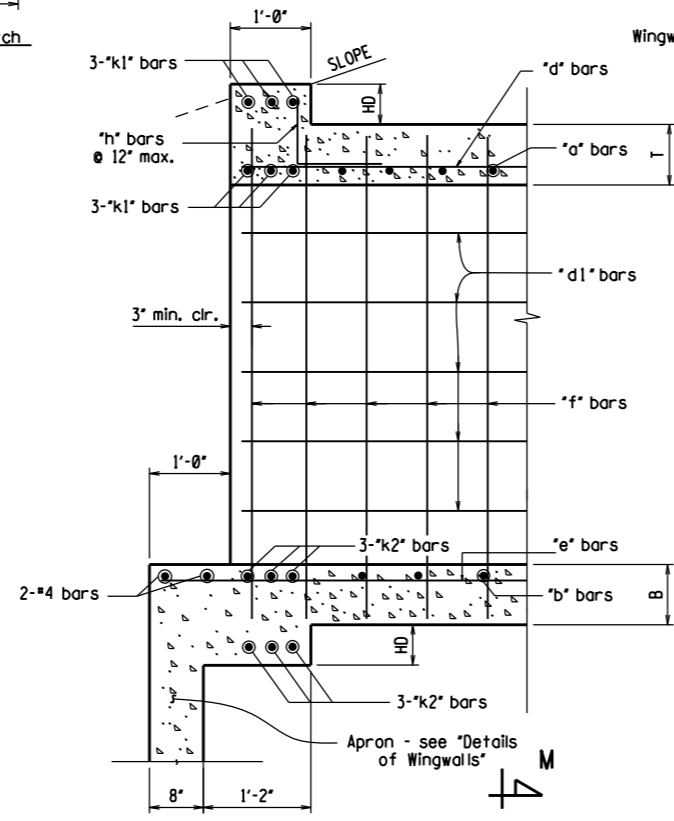
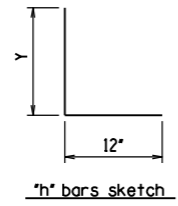
TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



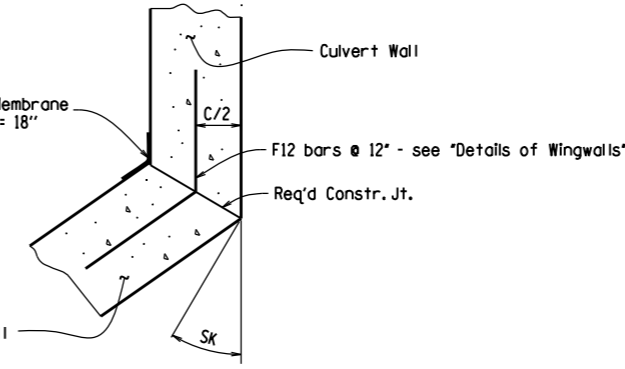
TYPICAL SECTION M-M



PART LONGITUDINAL SECTION
(Non-Skewed Ends)

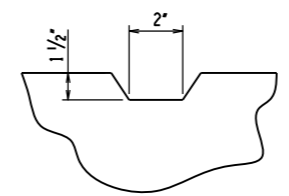


PART LONGITUDINAL SECTION N-N
(Skewed Ends)



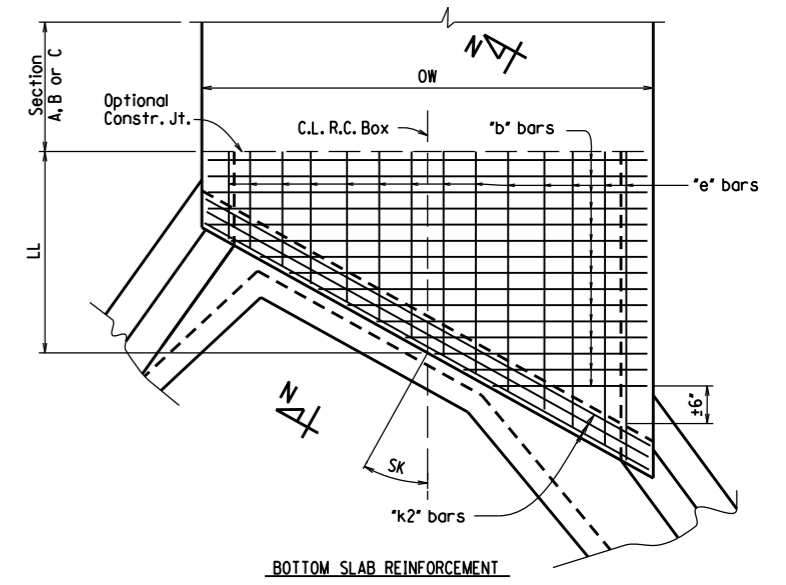
WINGWALL ATTACHMENT

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



TYPICAL KEYWAY DETAIL

(All Construction Joints)



SKewed END SECTION DETAILS

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

SPECIAL DETAILS

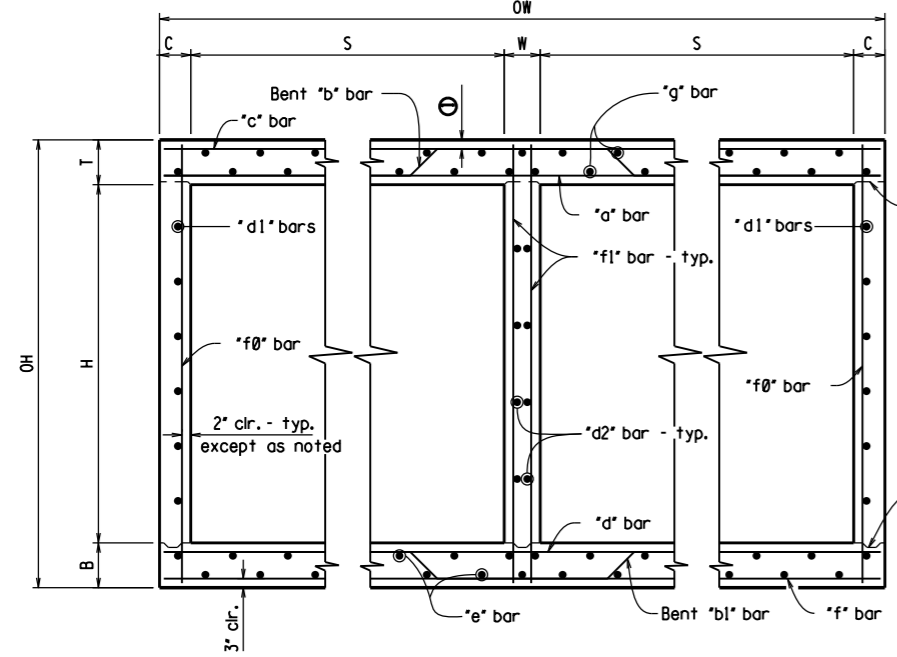
V 1.1 IFILENAME



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

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

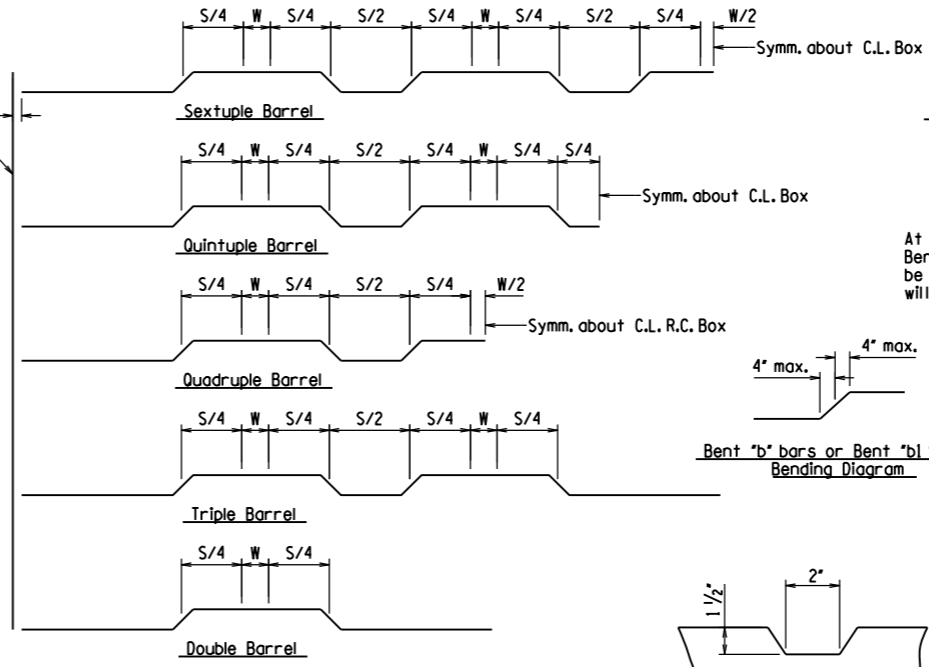
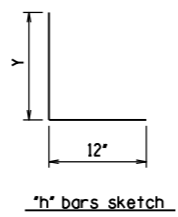
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		13	44
				JOB NO.		030596		



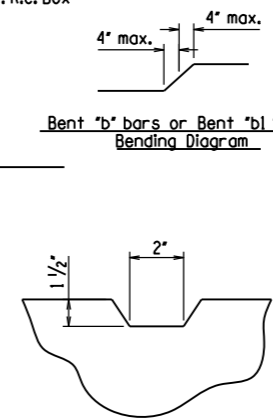
TYPICAL SECTION M-M

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

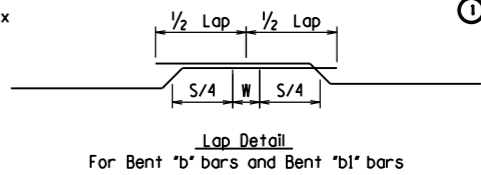
Bottom Slab
 Straight 'd' bars shall alternate with Bent 'bl' bars in top.
 Straight 'f' bars shall alternate with Bent 'bl' bars in bottom.



Bent 'b' bars or Bent 'bl' bars sketch



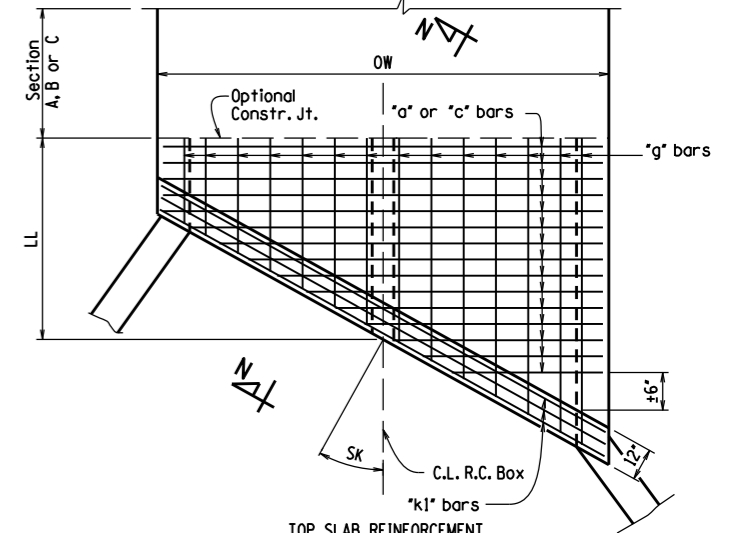
TYPICAL KEYWAY DETAIL
 (All Construction Joints)



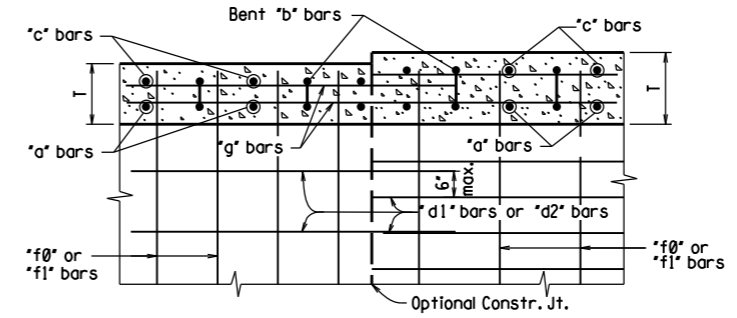
At the Contractor's option in lieu of providing Bent 'b' or Bent 'bl' bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the 'b' or 'bl' bar.



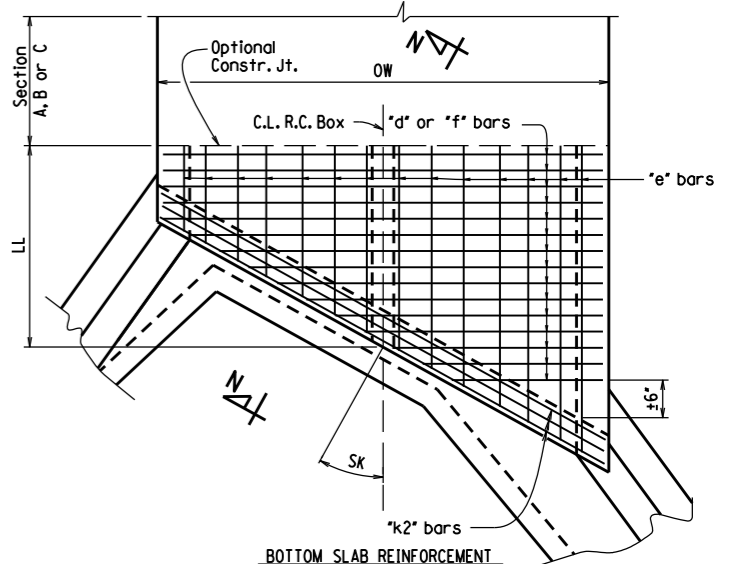
02/13/2024



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

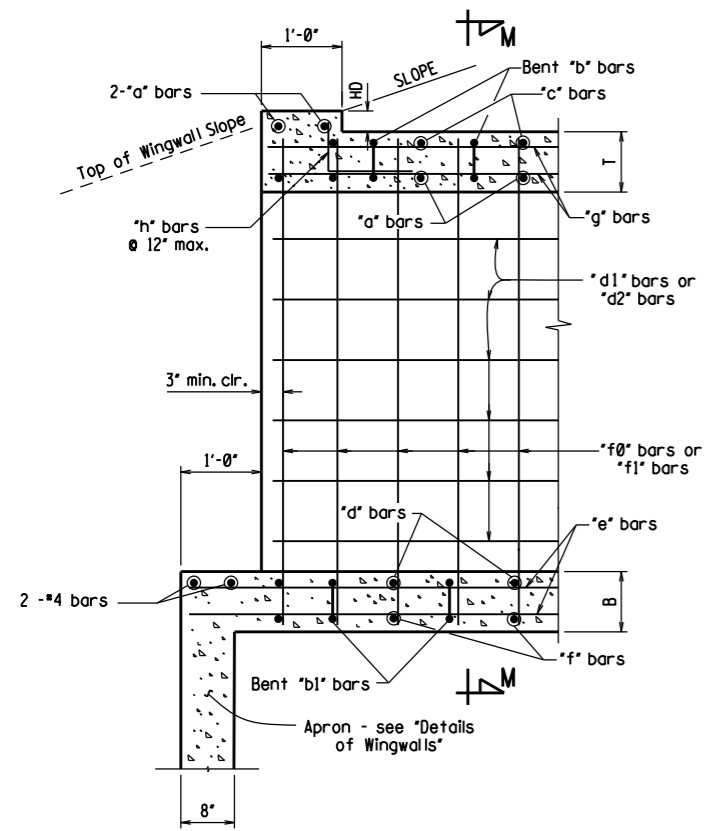


Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
 TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

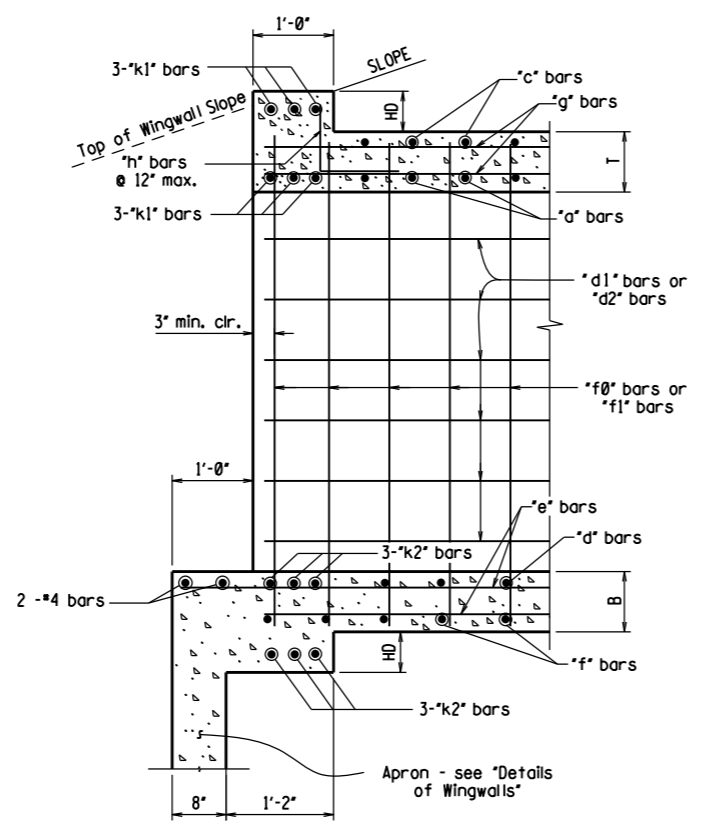


BOTTOM SLAB REINFORCEMENT
 Straight 'd' bars in top.
 Straight 'f' bars in bottom.

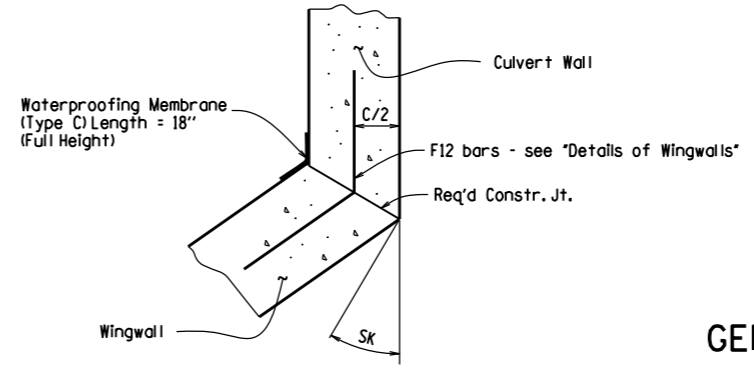
SKewed END SECTION DETAILS



PART LONGITUDINAL SECTION
 (Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N
 (Skewed Ends)



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

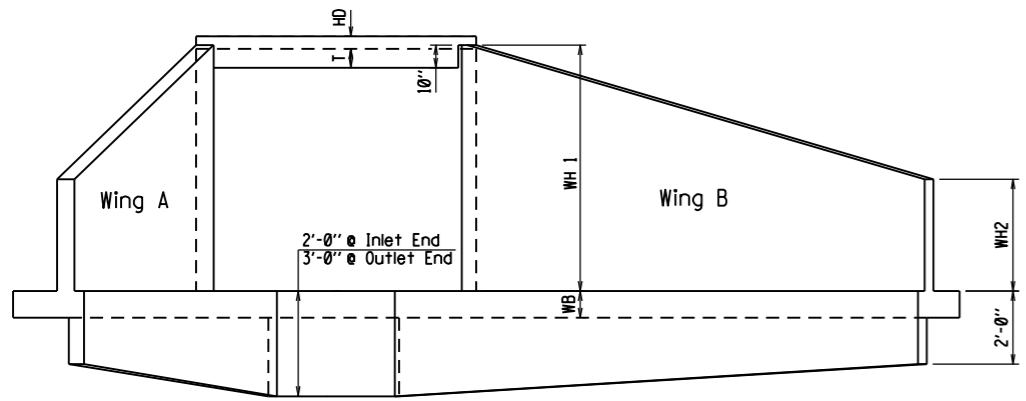
SHEET 3 OF 4
 GENERAL DETAILS OF R.C. BOX CULVERT
 DETAILS OF MULTI-BARREL
 R.C. BOX CULVERT
 SPECIAL DETAILS

V 1.1 FILENAME

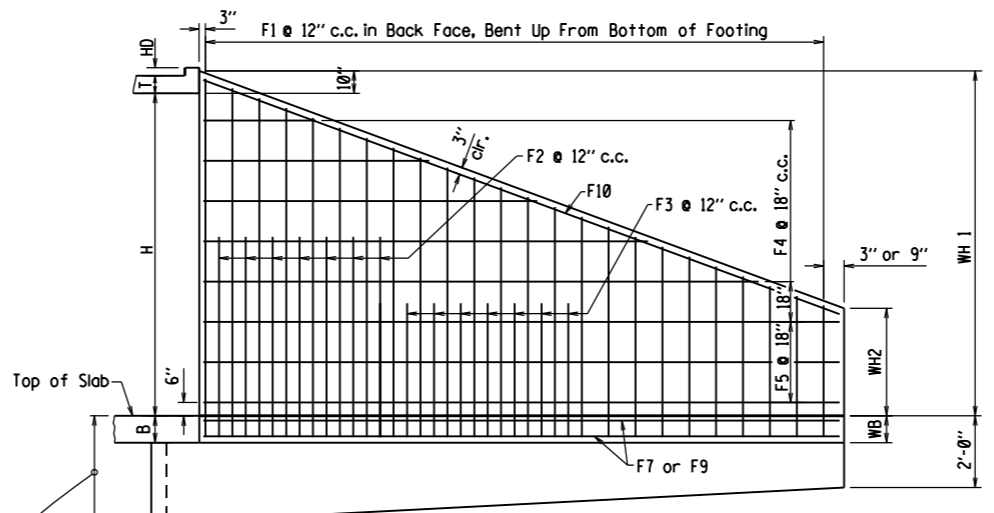


DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		030596	14	44

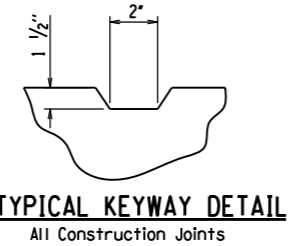
SPECIAL DETAILS



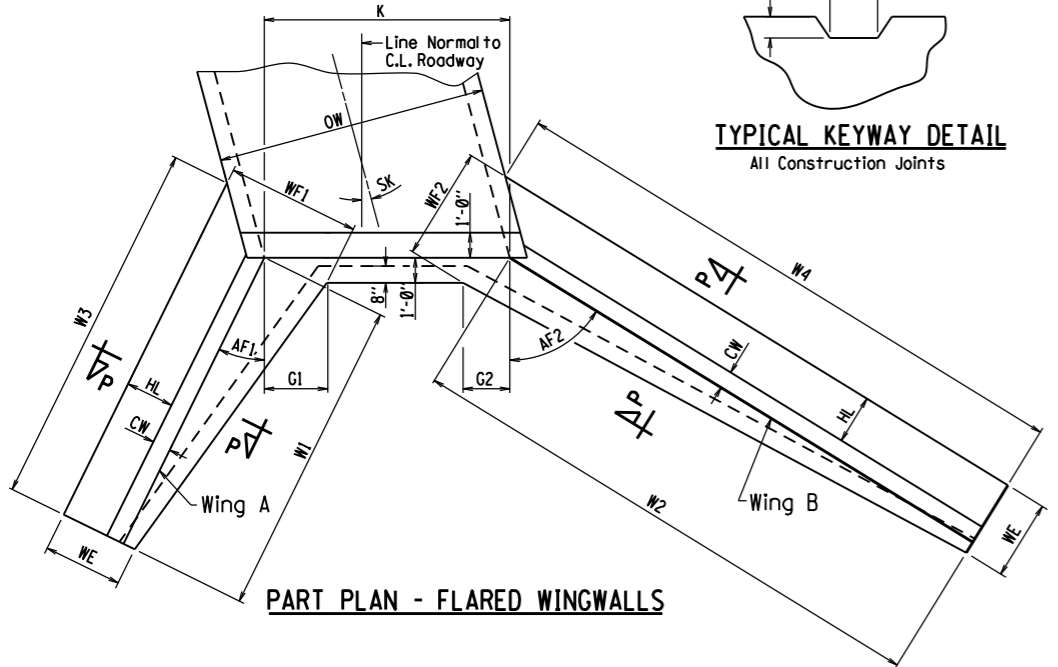
END ELEVATION
Flared Wingwalls Shown



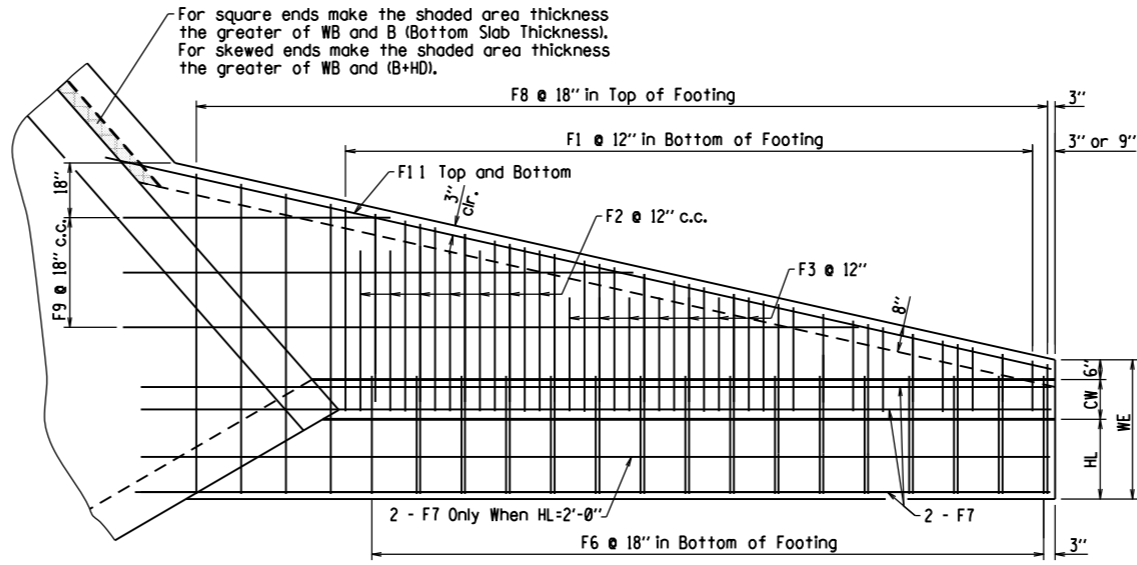
WINGWALL ELEVATION
Showing Back Face Reinforcement



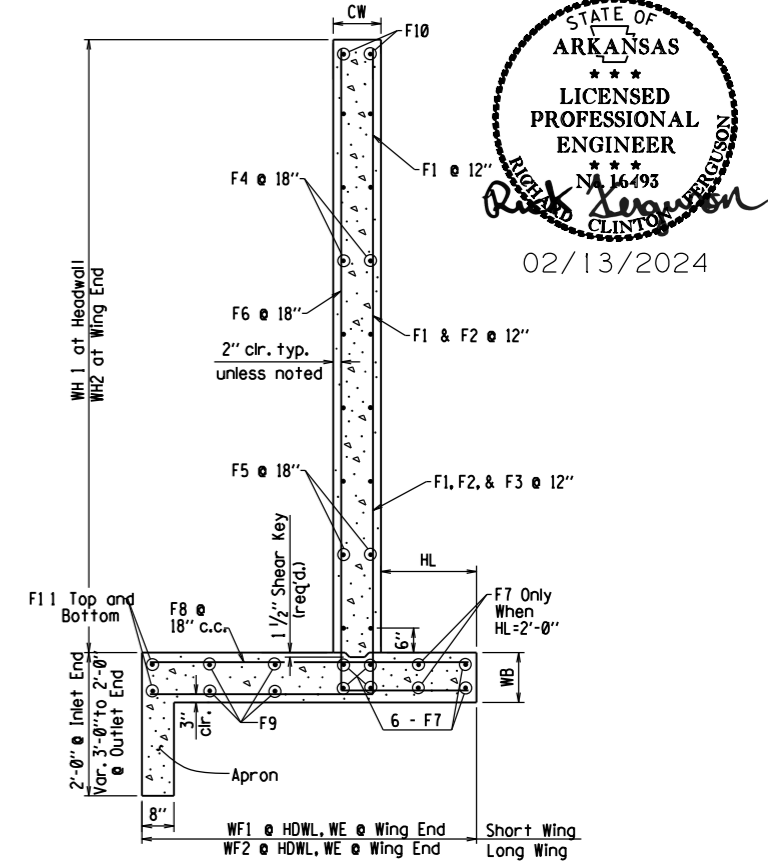
TYPICAL KEYWAY DETAIL
All Construction Joints



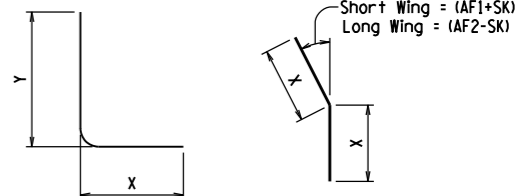
PART PLAN - FLARED WINGWALLS



PLAN - FLARED WINGWALLS
Showing Footing Reinforcement

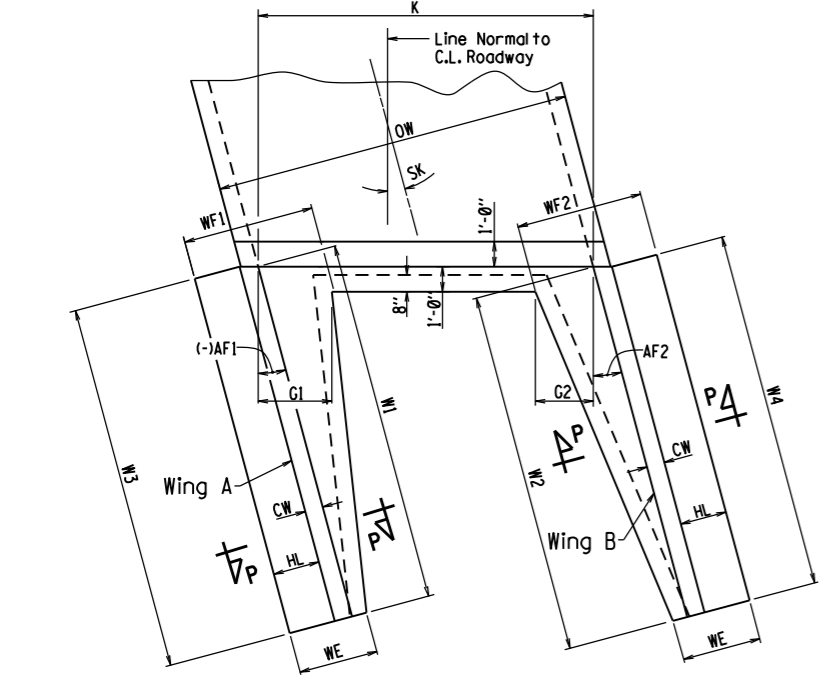


WINGWALL SECTION P-P

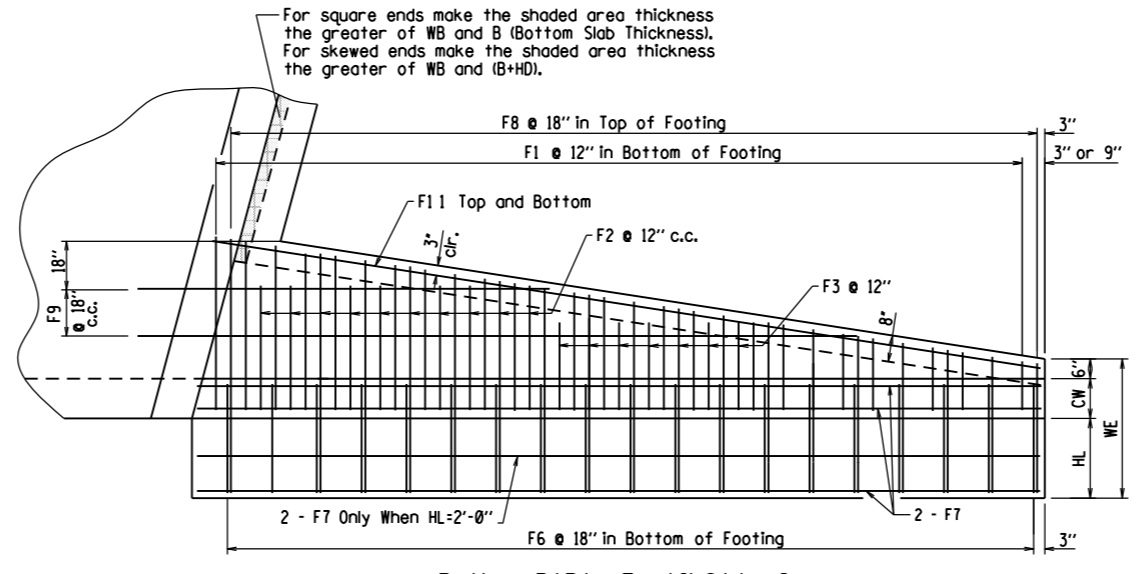


F1, F2, F3, & F6 BARS **F12 BAR**

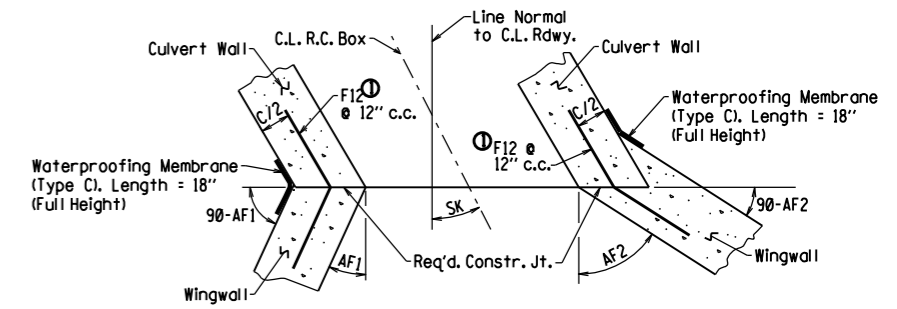
F12 is a straight bar for parallel wingwalls



PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement



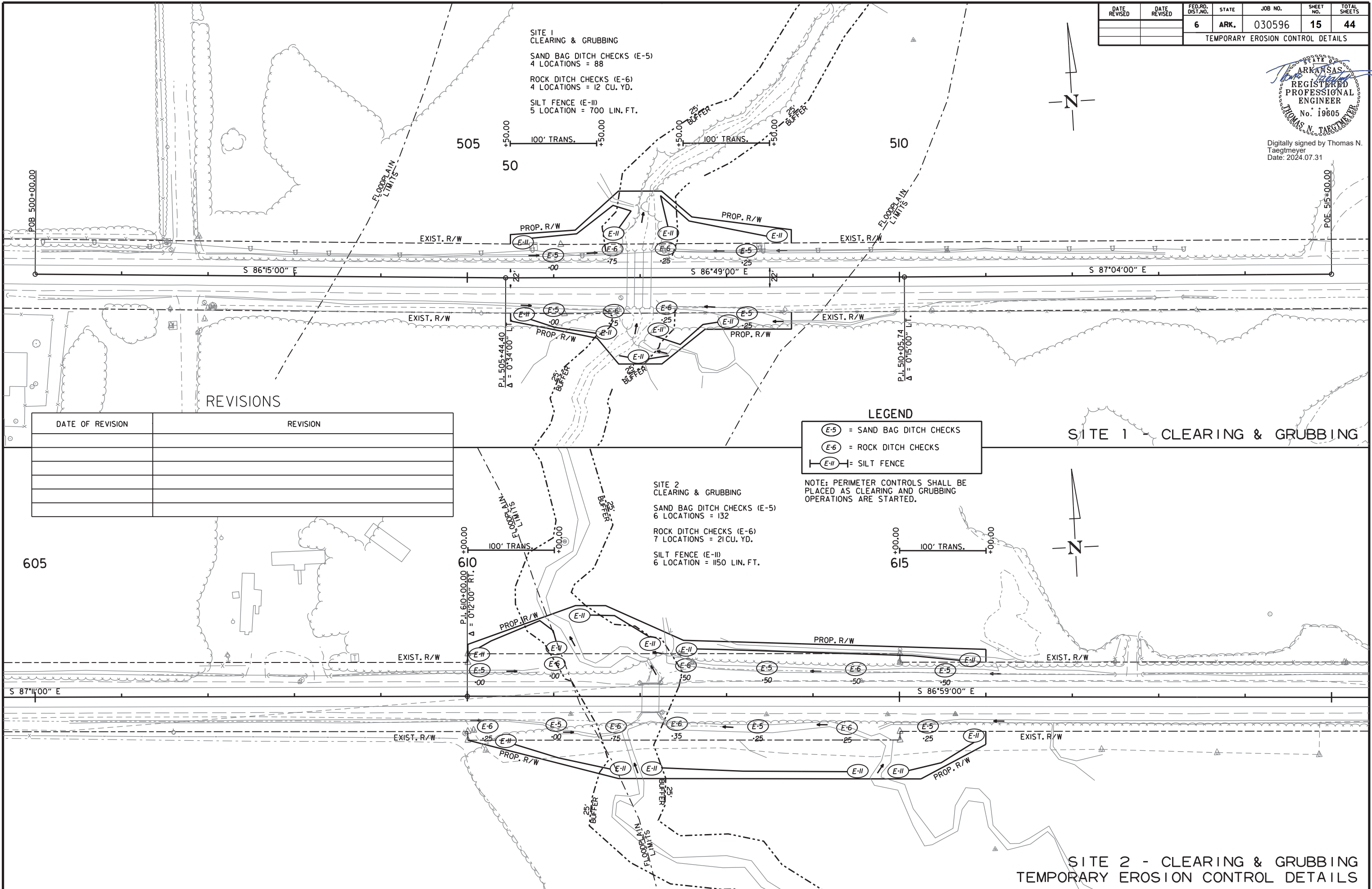
CONSTRUCTION JOINTS
Flared Wingwalls Shown

V 1.1 FILENAME

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	15	44
TEMPORARY EROSION CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-II) = SILT FENCE

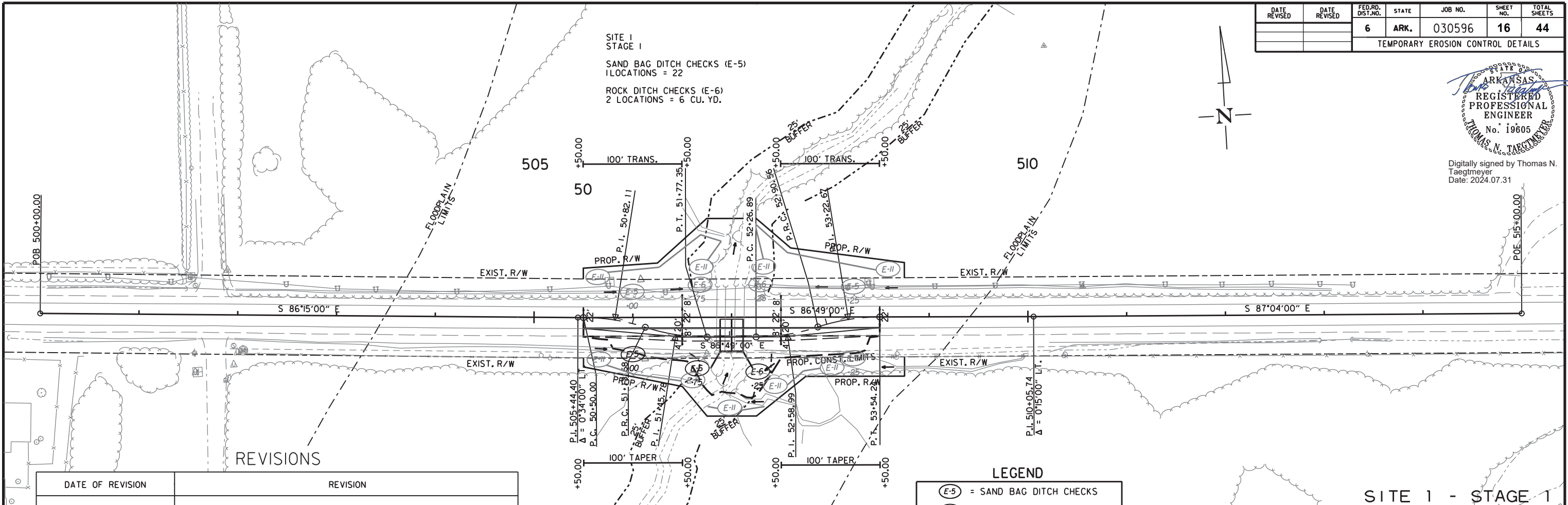
NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

SITE 2 - CLEARING & GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	16	44
TEMPORARY EROSION CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



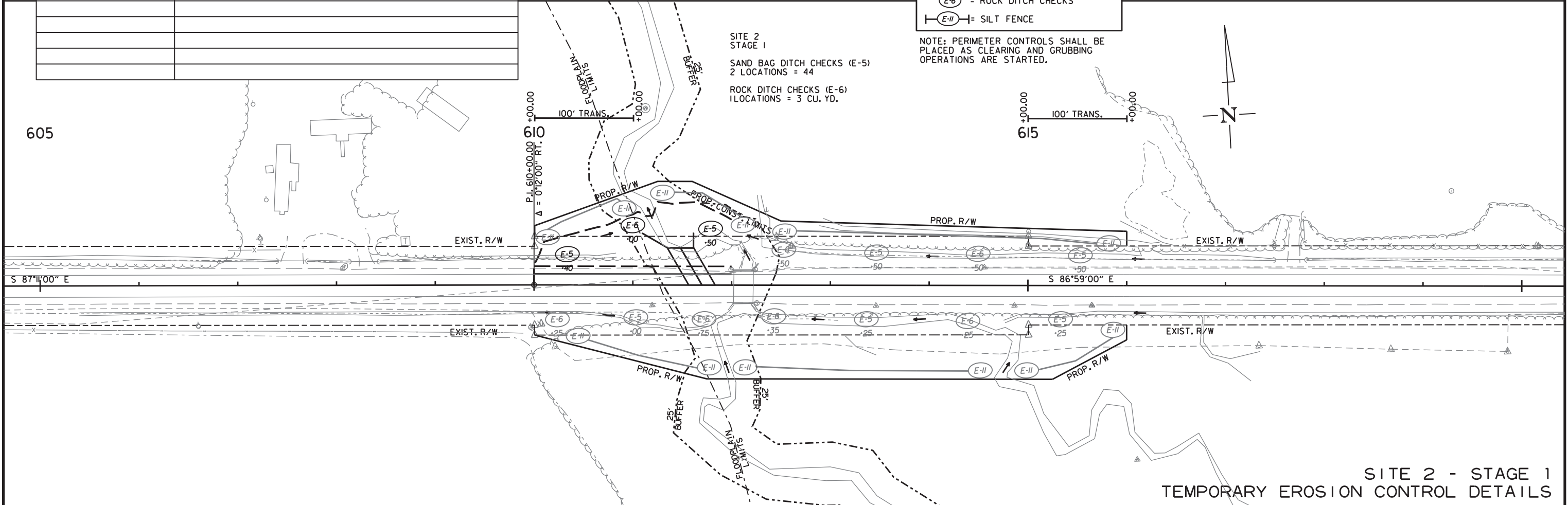
REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-II) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.



SITE 2 - STAGE 1
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	17	44
TEMPORARY EROSION CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

**SITE 1
STAGE 2**
SAND BAG DITCH CHECKS (E-5)
2 LOCATIONS = 44
ROCK DITCH CHECKS (E-6)
2 LOCATIONS = 6 CU. YD.

**SITE 2
STAGE 2**
SAND BAG DITCH CHECKS (E-5)
3 LOCATIONS = 66
ROCK DITCH CHECKS (E-6)
3 LOCATIONS = 9 CU. YD.

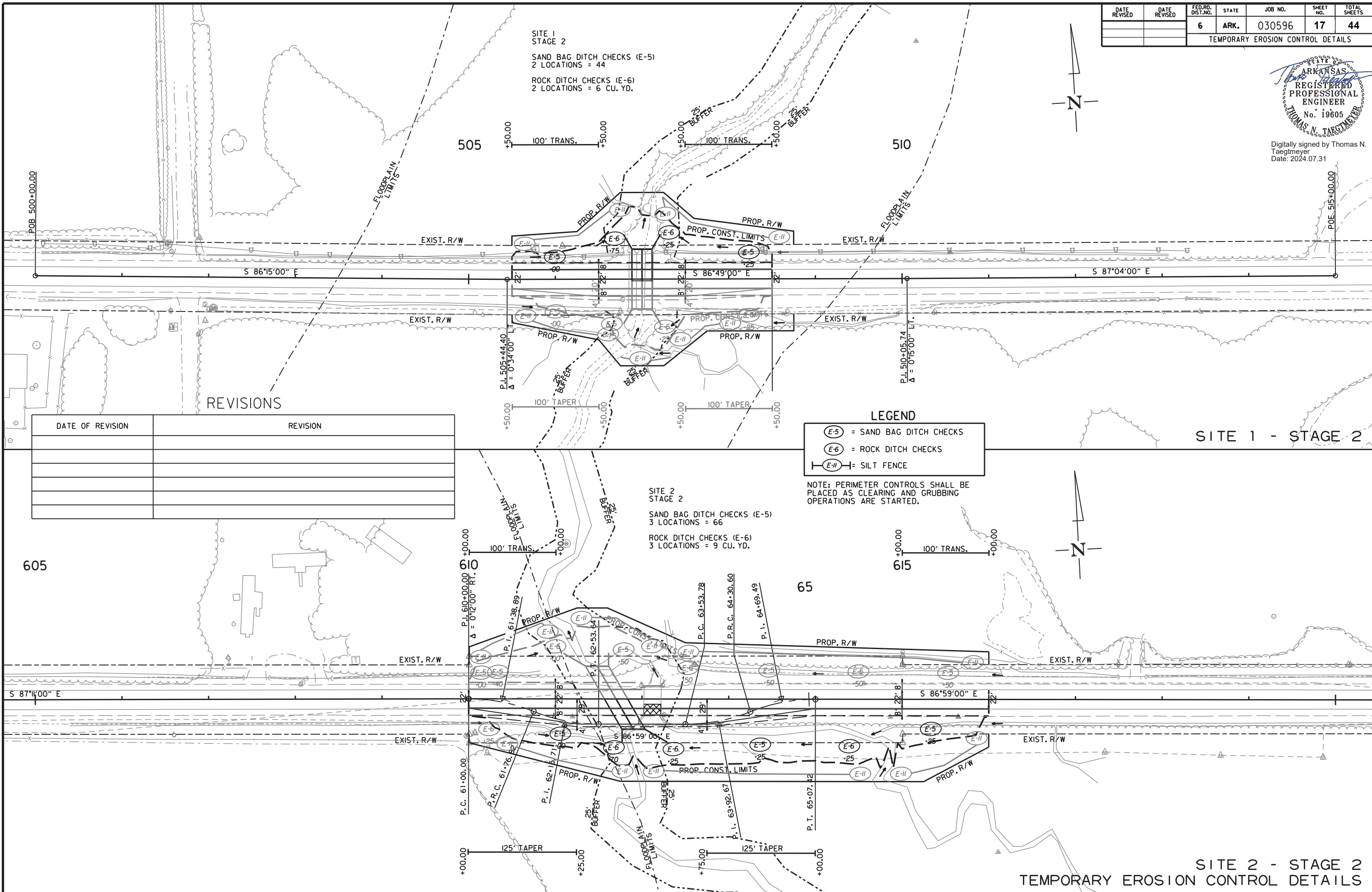
REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-II) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.



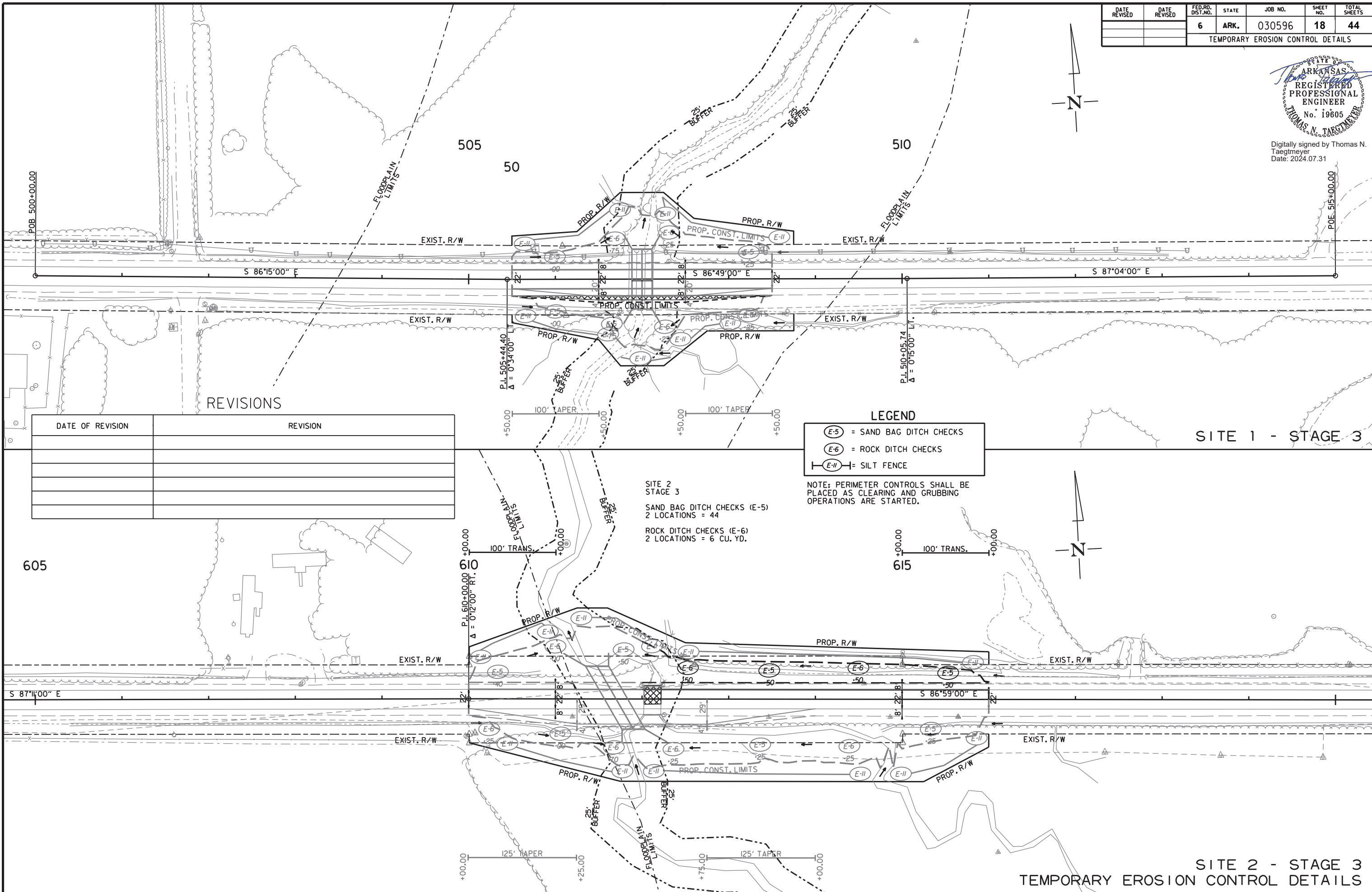
SITE 1 - STAGE 2

SITE 2 - STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	18	44
TEMPORARY EROSION CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-II) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

SITE 2
STAGE 3
SAND BAG DITCH CHECKS (E-5)
2 LOCATIONS = 44
ROCK DITCH CHECKS (E-6)
2 LOCATIONS = 6 CU. YD.

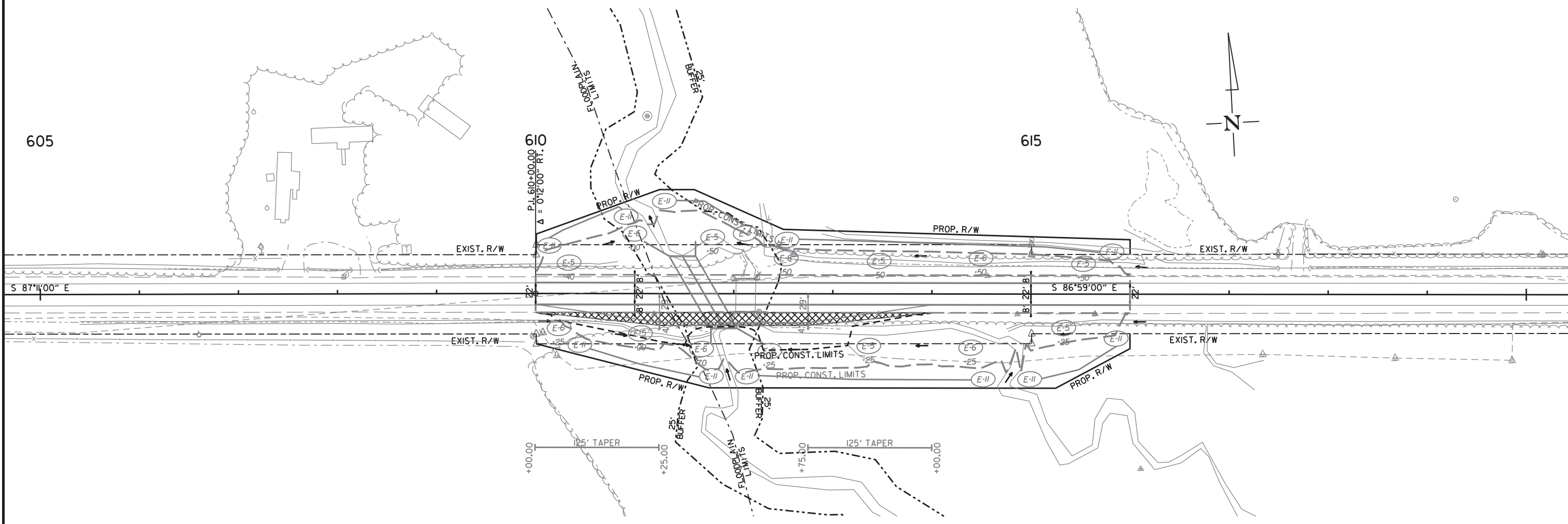
SITE 1 - STAGE 3

SITE 2 - STAGE 3
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	19	44
TEMPORARY EROSION CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECKS
- E-6 = ROCK DITCH CHECKS
- E-11 = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	20	44
MAINTENANCE OF TRAFFIC DETAILS						



Digitally signed by Thomas N. Taegtmeyer
Date: 2024.07.31

STAGE 1 CONSTRUCTION SEQUENCE:

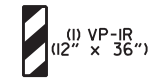
INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGINNING AND END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.

PERFORM SHOULDER RECONSTRUCTION FOR M.O.T. AS SHOWN IN THE TYPICAL SECTION.

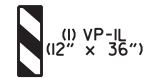
REMOVE CONFLICTING PAVEMENT MARKINGS, INSTALL CONSTRUCTION PAVEMENT MARKINGS AND SHIFT TRAFFIC AS SHOWN IN THE STAGE 1 MAINTENANCE OF TRAFFIC DETAILS.

SITE 1:
PARTIALLY REMOVE EXISTING STRUCTURE AS SHOWN AND CONSTRUCT PARTIAL ROADWAY INCLUDING DETOUR AND R.C. BOX CULVERT.

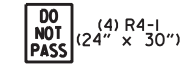
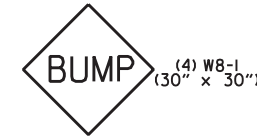
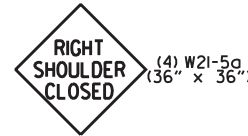
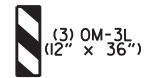
SITE 2:
CUT THE EXISTING ROADWAY AND CONSTRUCT PARTIAL ROADWAY AND R.C. BOX CULVERT ON LT. SIDE AS SHOWN. EXISTING STRUCTURE SHALL REMAIN IN PLACE TO BE USED IN STAGES 2 & 3.



TO BE PLACED DURING TRENCH AND SHOULDER PREPARATION



TO BE PLACED AT THE BARRIER WALL TRANSITION LOCATION EQUALLY SPACED.



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

STAGE 2 CONSTRUCTION SEQUENCE:

MAINTAIN ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGINNING AND END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

SHIFT TRAFFIC TO DETOUR AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

APPLY LEVELING COURSE TO EXISTING LANES IF AND WHERE DIRECTED BY THE ENGINEER.

SITE 1:
CONSTRUCT REMAINING R.C. BOX CULVERTS AND ROADWAY.

SITE 2:
PARTIALLY REMOVE EXISTING STRUCTURE AS SHOWN AND CONSTRUCT REMAINING R.C. BOX CULVERT, ROADWAY AND DETOUR ON RT. SIDE.

STAGE 3 CONSTRUCTION SEQUENCE:

MAINTAIN ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGINNING AND END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

SITE 1:
SHIFT TRAFFIC TO MAINLANES AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

OBLITERATE DETOUR AND SLOPE AT DETOUR CONNECTIONS.

APPLY FINAL 2" LIFT OF ACHM SURFACE COURSE AND PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

SITE 2:
SHIFT TRAFFIC TO DETOUR AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

REMOVE THE REMAINING EXISTING STRUCTURE AS SHOWN AND CONSTRUCT REMAINING ROADWAY ON LT. SIDE.

STAGE 4 CONSTRUCTION SEQUENCE:

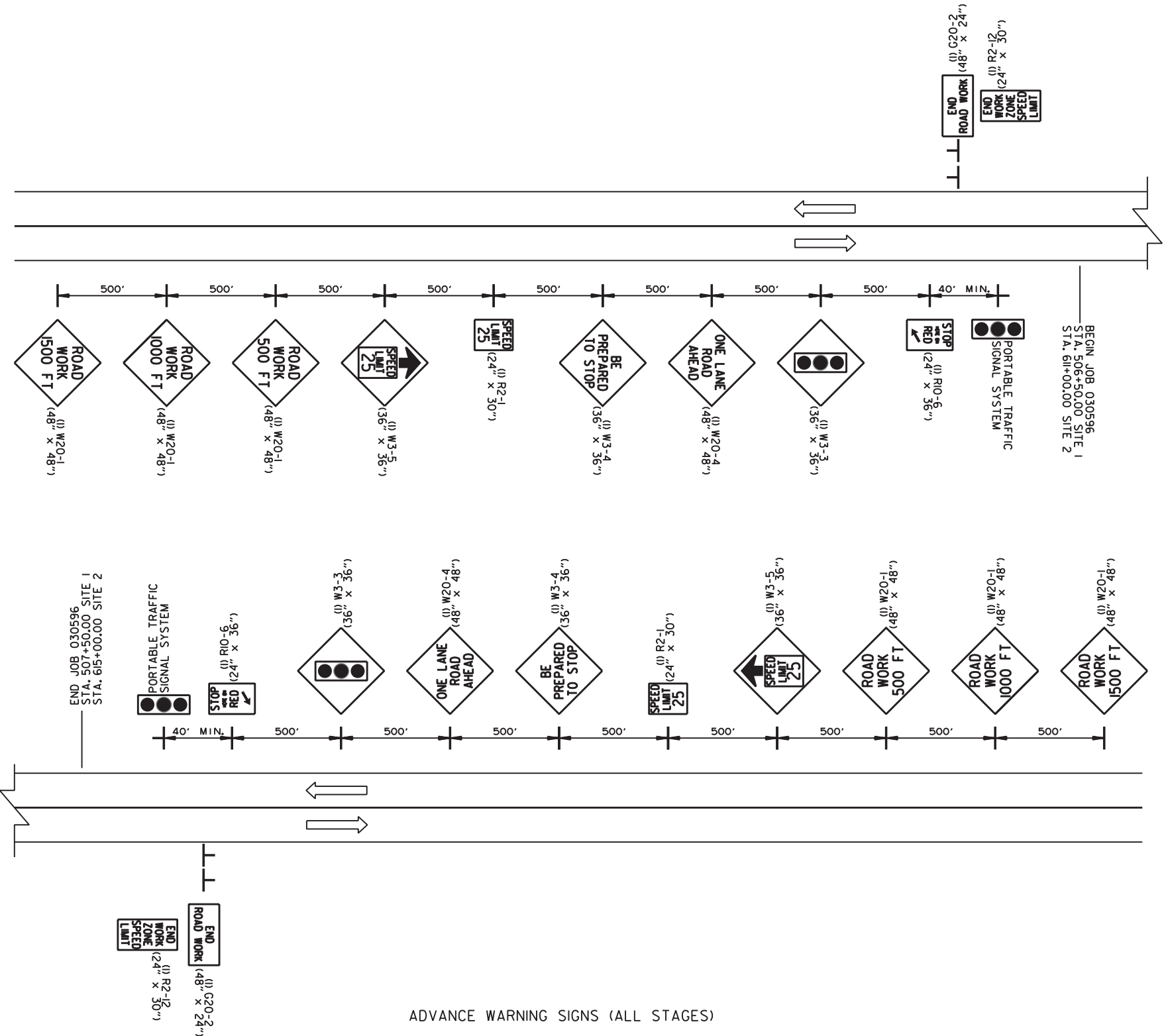
MAINTAIN ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGINNING AND END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 4 MAINTENANCE OF TRAFFIC DETAILS.

SITE 2:
SHIFT TRAFFIC TO MAINLANES AS SHOWN IN THE STAGE 4 MAINTENANCE OF TRAFFIC DETAILS.

OBLITERATE DETOUR AND SLOPE AT DETOUR CONNECTIONS.

APPLY FINAL 2" LIFT OF ACHM SURFACE COURSE AND PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.



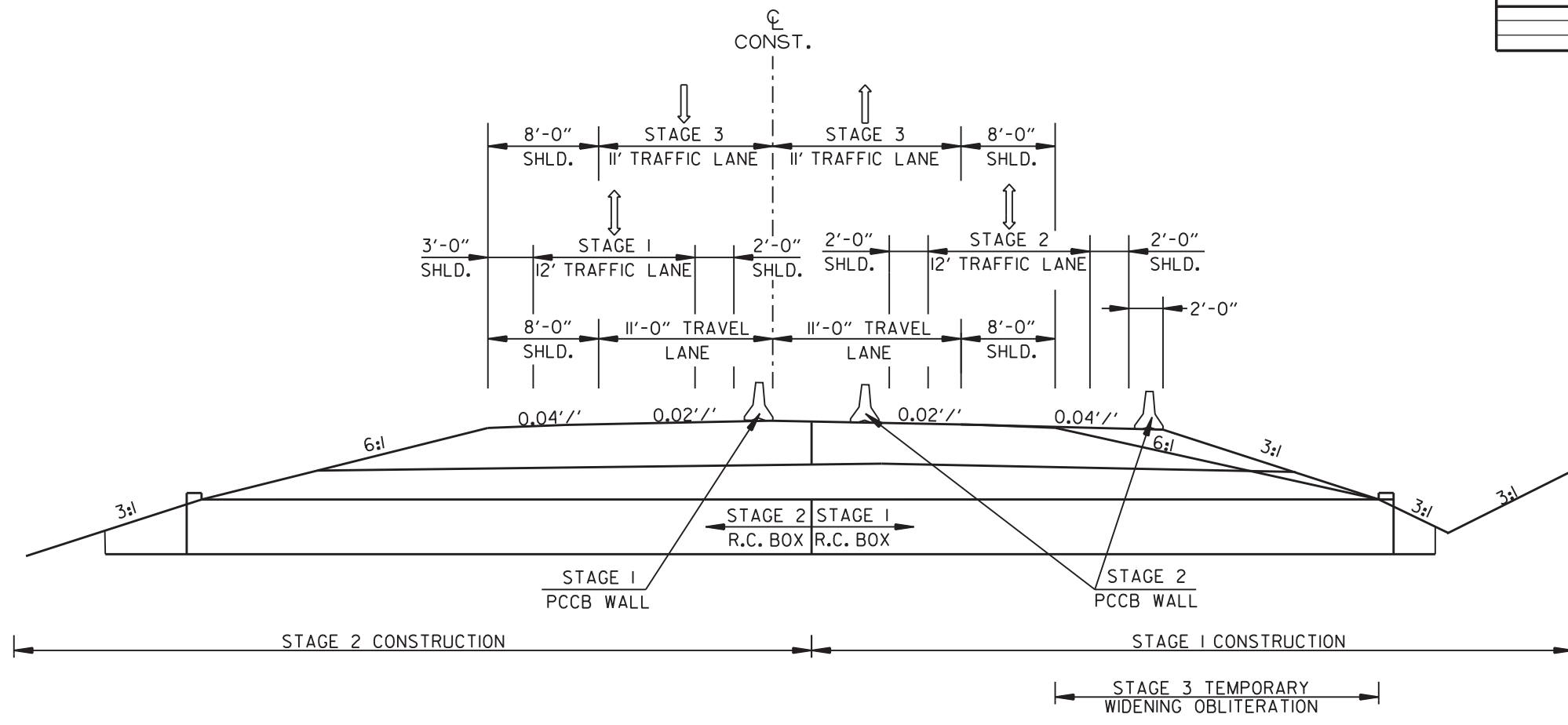
ADVANCE WARNING SIGNS (ALL STAGES)

MAINTENANCE OF TRAFFIC DETAILS

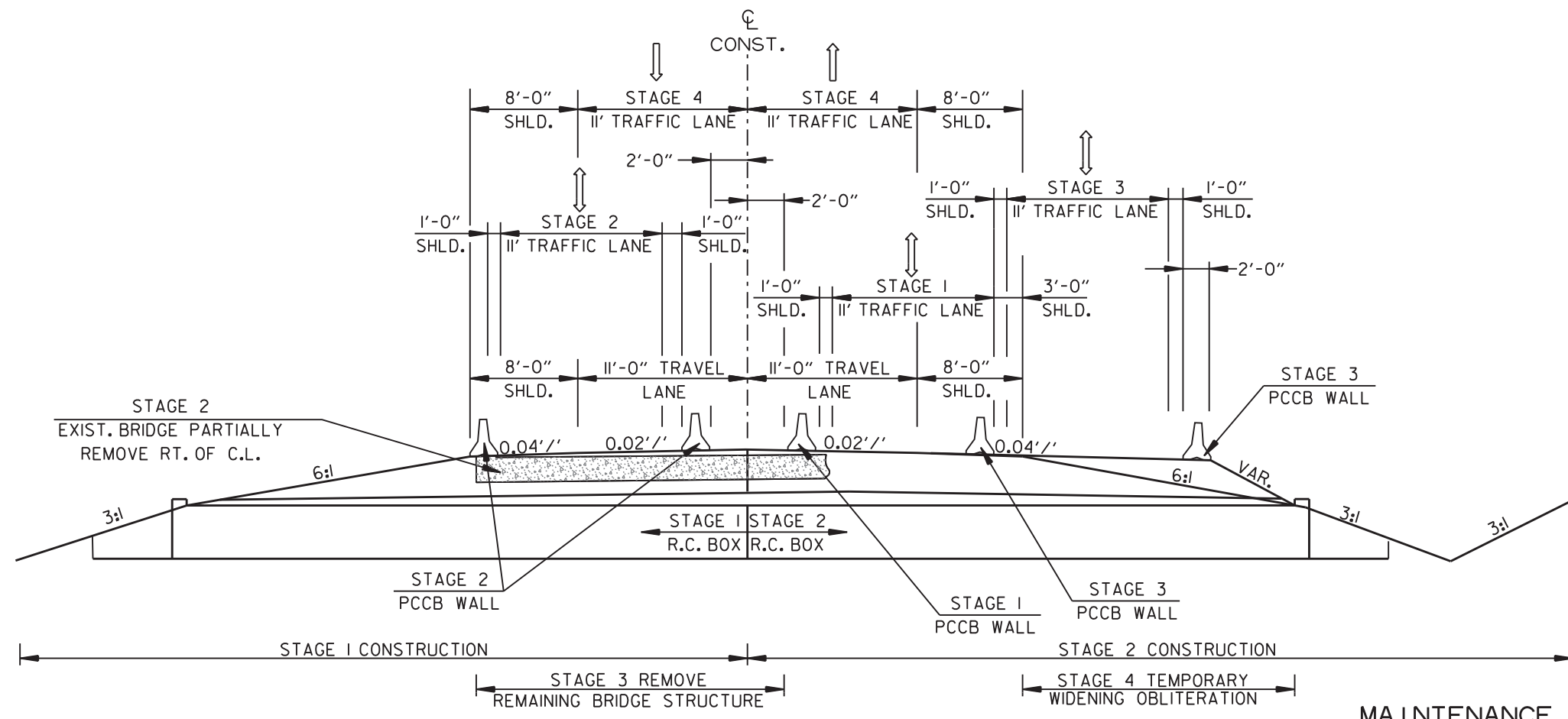
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	21	44
MAINTENANCE OF TRAFFIC DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



SITE 1



SITE 2

MAINTENANCE OF TRAFFIC DETAILS

DATE & TIME: 7/29/2024 3:57:19 PM
FILE: J:\25846.20\030596.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	22	44

MAINTENANCE OF TRAFFIC DETAILS



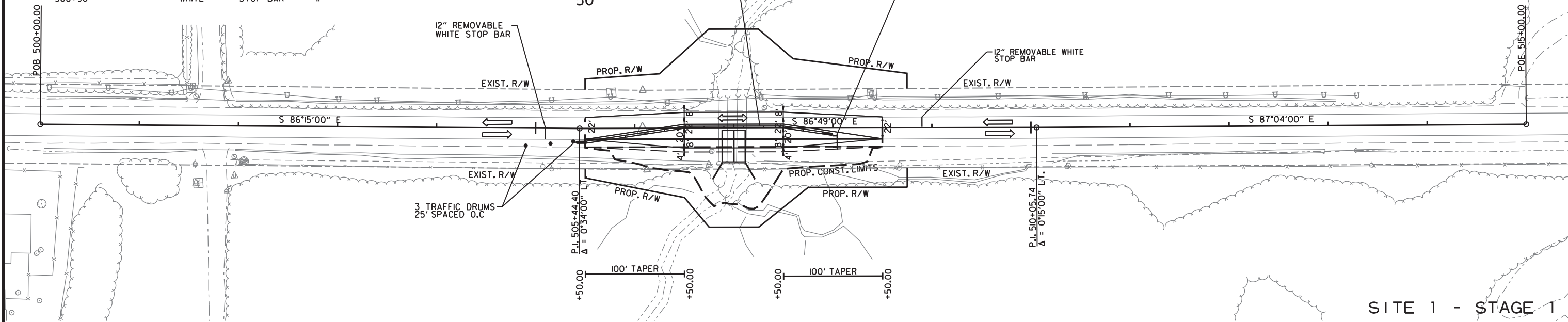
Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

HWY. 371- SITE 1

STA.	STA.	LOCATION	LIN. FT.
505+10	508+90	C.L.	760
505+50	508+50	L.T.	300

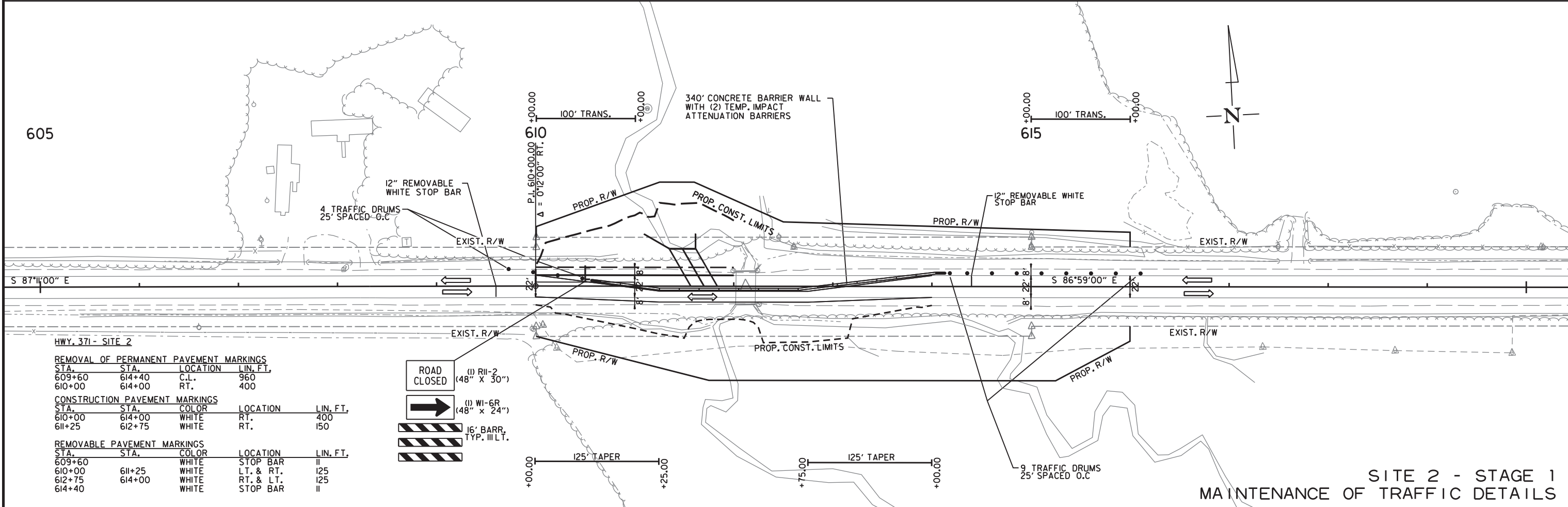
CONSTRUCTION PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	505+50	508+50	WHITE	L.T.	300
	506+50	507+50	WHITE	L.T.	100

REMOVABLE PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	505+10		WHITE	STOP BAR	11
	505+50	506+50	WHITE	RT. & LT.	100
	507+50	508+50	WHITE	LT. & RT.	100
	508+90		WHITE	STOP BAR	11



SITE 1 - STAGE 1

605



HWY. 371- SITE 2

STA.	STA.	LOCATION	LIN. FT.
609+60	614+40	C.L.	960
610+00	614+00	RT.	400

CONSTRUCTION PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	610+00	614+00	WHITE	RT.	400
	611+25	612+75	WHITE	RT.	150

REMOVABLE PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	609+60		WHITE	STOP BAR	11
	610+00	611+25	WHITE	LT. & RT.	125
	612+75	614+00	WHITE	RT. & LT.	125
	614+40		WHITE	STOP BAR	11

ROAD CLOSED (48" x 30")

(48" x 24")

16' BARR. TYP. III LT.

SITE 2 - STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

DATE & TIME: 7/29/2024 3:57:20 PM
FILE: J:\25846.20\030596.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	23	44
MAINTENANCE OF TRAFFIC DETAILS						

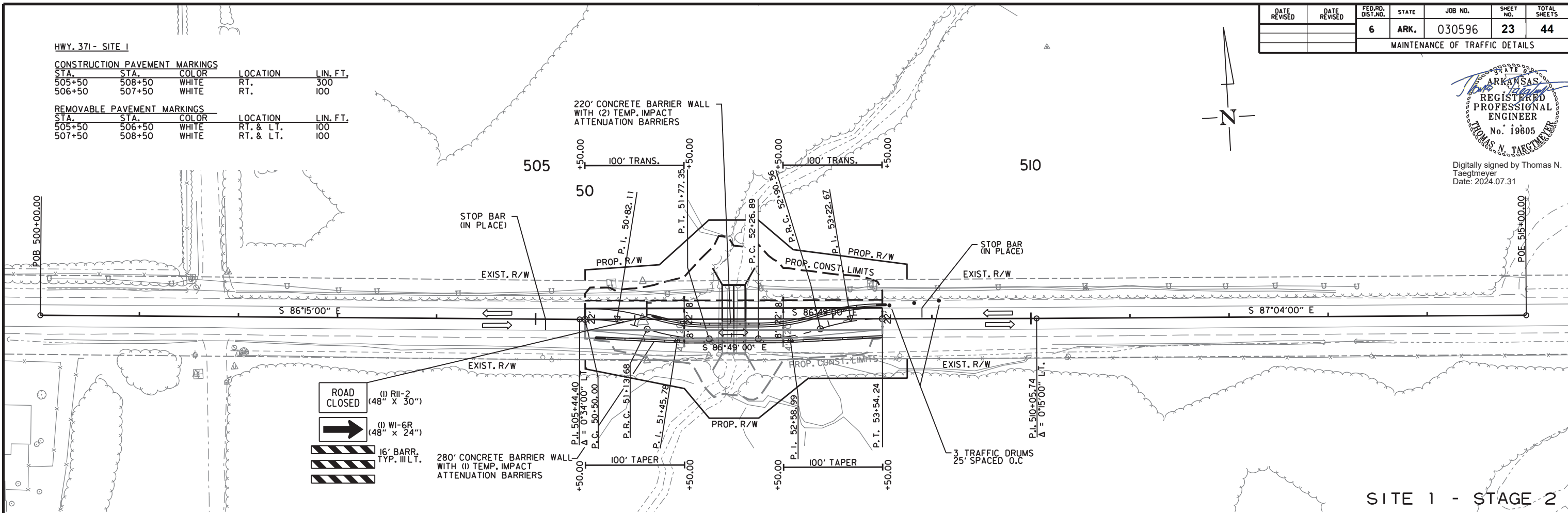


Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

HWY. 371- SITE 1

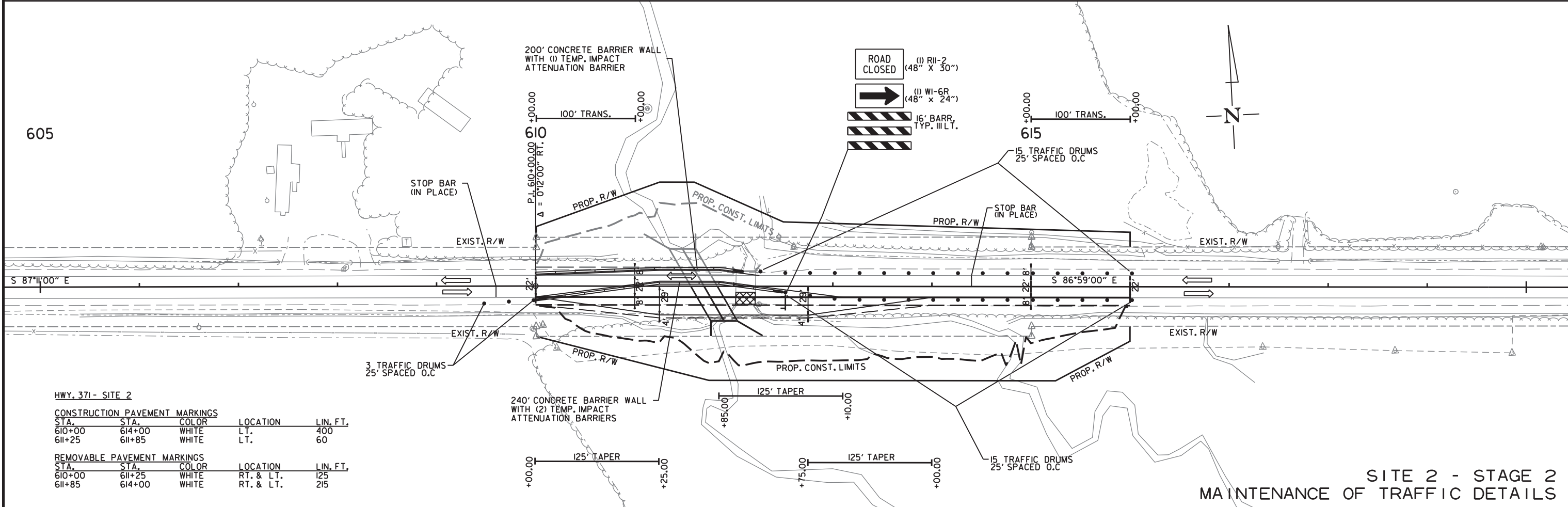
CONSTRUCTION PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	505+50	508+50	WHITE	RT.	300
	506+50	507+50	WHITE	RT.	100

REMOVABLE PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	505+50	506+50	WHITE	RT. & LT.	100
	507+50	508+50	WHITE	RT. & LT.	100



SITE 1 - STAGE 2

605



SITE 2 - STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

HWY. 371- SITE 2

CONSTRUCTION PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	610+00	614+00	WHITE	LT.	400
	611+25	611+85	WHITE	LT.	60

REMOVABLE PAVEMENT MARKINGS	STA.	STA.	COLOR	LOCATION	LIN. FT.
	610+00	611+25	WHITE	RT. & LT.	125
	611+85	614+00	WHITE	RT. & LT.	215

DATE & TIME: 7/29/2024 3:57:22 PM
FILE: J:\25846.20\030596.dgn

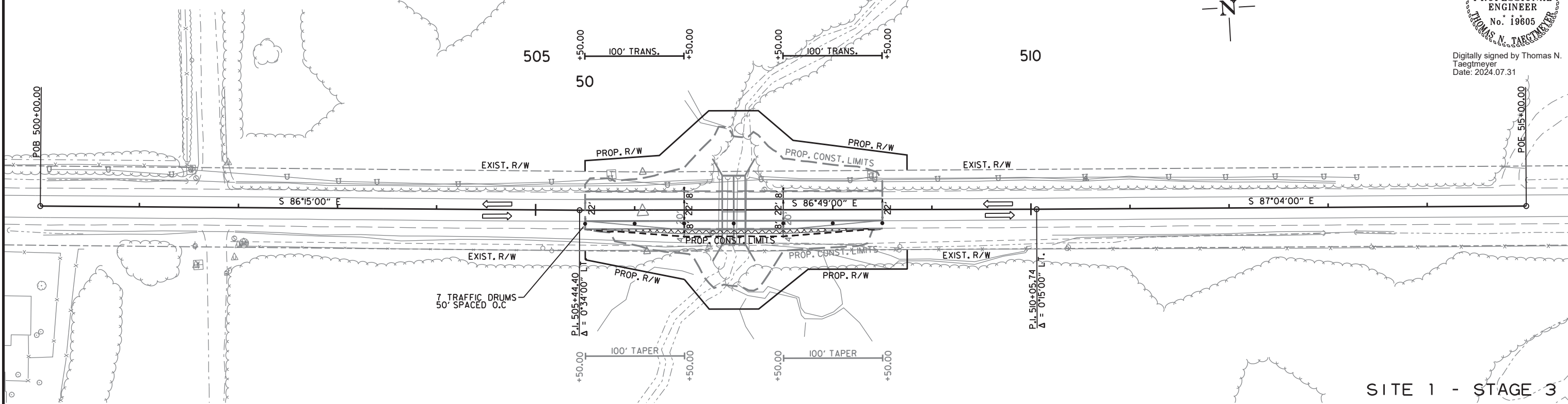
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	24	44
MAINTENANCE OF TRAFFIC DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

HWY. 371- SITE 1

CONSTRUCTION STA.	PAVEMENT STA.	MARKINGS COLOR	LOCATION	LIN. FT.
505+50	508+50	WHITE	RT. & LT.	600
505+10	508+90	YELLOW	C.L.	760

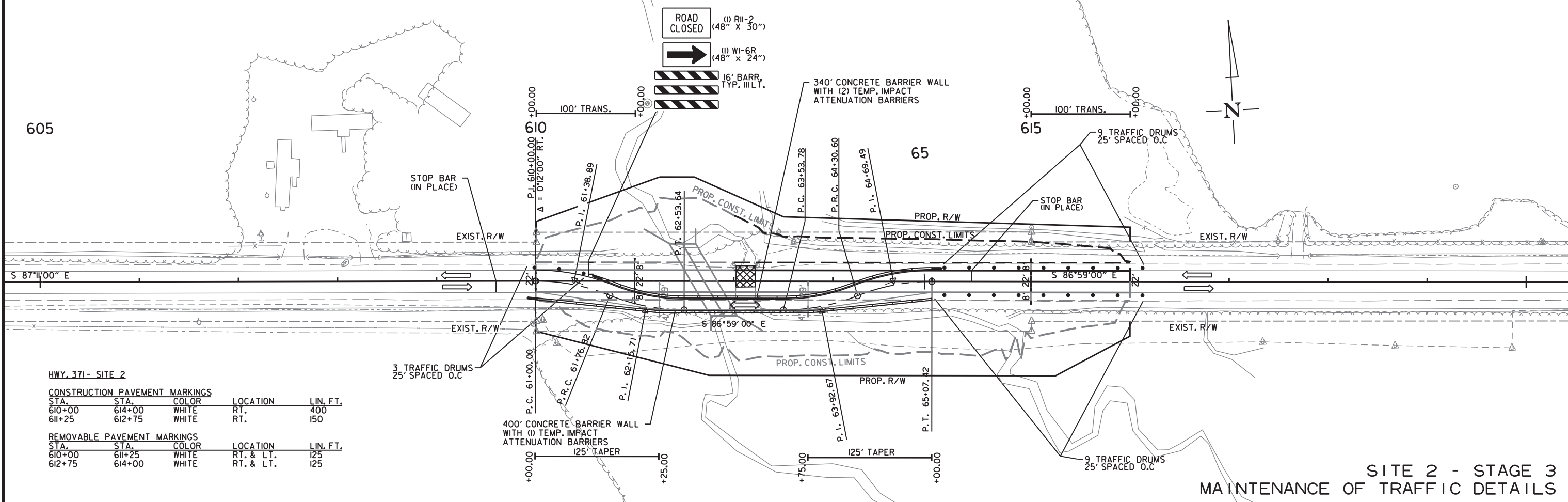


SITE 1 - STAGE 3

HWY. 371- SITE 2

CONSTRUCTION STA.	PAVEMENT STA.	MARKINGS COLOR	LOCATION	LIN. FT.
610+00	614+00	WHITE	RT.	400
611+25	612+75	WHITE	RT.	150

REMOVABLE PAVEMENT STA.	MARKINGS STA.	MARKINGS COLOR	LOCATION	LIN. FT.
610+00	611+25	WHITE	RT. & LT.	125
612+75	614+00	WHITE	RT. & LT.	125



SITE 2 - STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

DATE & TIME: 7/29/2024 3:57:24 PM
FILE: J:\25846.20\030596.dgn

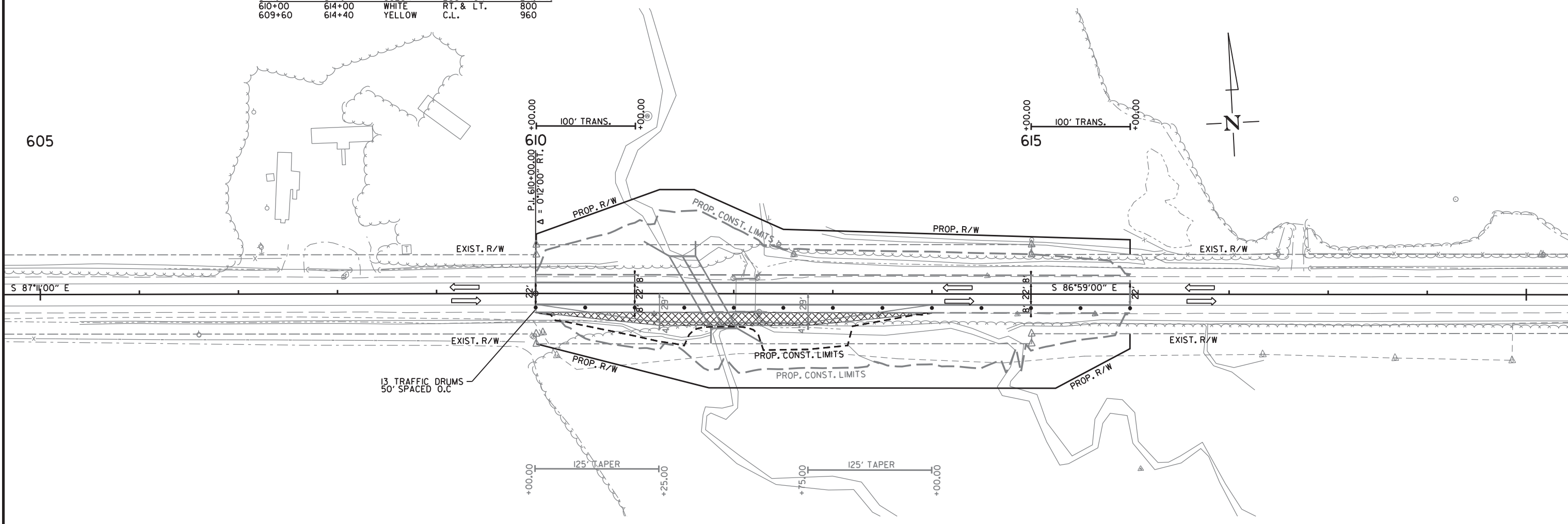
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	25	44
MAINTENANCE OF TRAFFIC DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

HWY. 371 - SITE 2

CONSTRUCTION STA.	PAVEMENT STA.	MARKINGS COLOR	LOCATION	LIN. FT.
610+00	614+00	WHITE	RT. & LT.	800
609+60	614+40	YELLOW	C.L.	960

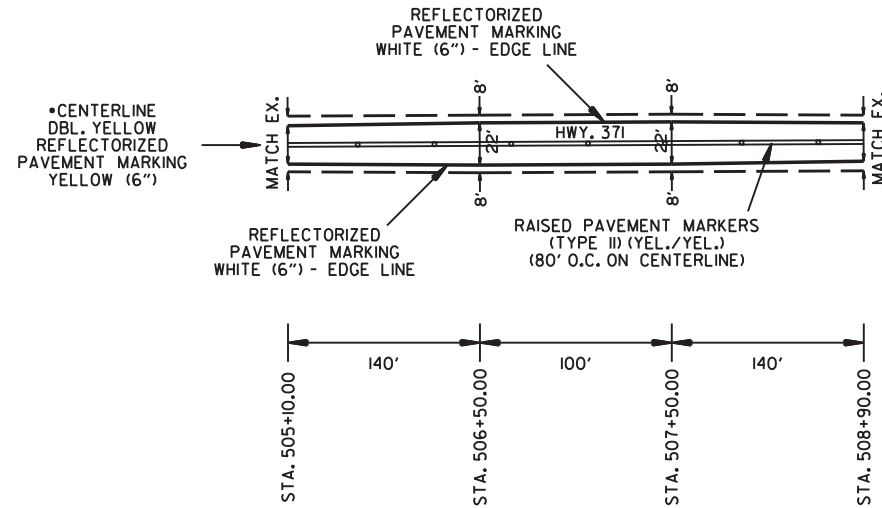


605

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	26	44
PERMANENT PAVEMENT MARKING DETAILS						



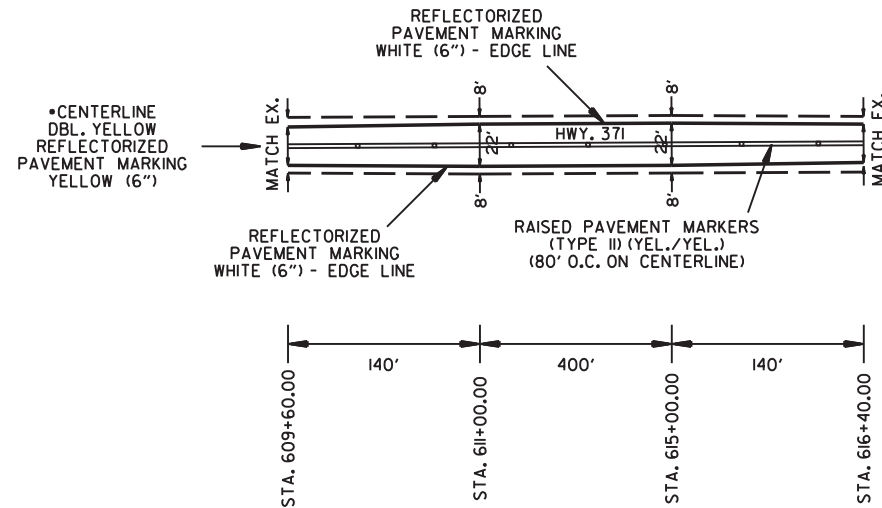
Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



PERMANENT PAVEMENT MARKINGS:
 6" REFLECTORIZED PAVEMENT MARKING:
 RT. AND LT. EDGE LINES = 760 LIN. FT. WHITE
 DBL. CENTERLINE = 760 LIN. FT. YELLOW
 RAISED PAVEMENT MARKERS:
 TYPE II (YEL./YEL.) 80' O.C. ON CENTERLINE = 5 EACH

SITE 1 - PERMANENT PAVEMENT MARKING LAYOUT

•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.



PERMANENT PAVEMENT MARKINGS:
 6" REFLECTORIZED PAVEMENT MARKING:
 RT. AND LT. EDGE LINES = 1360 LIN. FT. WHITE
 DBL. CENTERLINE = 1360 LIN. FT. YELLOW
 RAISED PAVEMENT MARKERS:
 TYPE II (YEL./YEL.) 80' O.C. ON CENTERLINE = 9 EACH

SITE 2 - PERMANENT PAVEMENT MARKING LAYOUT

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	27	44
QUANTITIES						



Digitally signed by Thomas N. Taegtmeyer
Date: 2024.07.31

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	STAGE 4	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)	FURNISHING & INSTALLING PRECAST CONC. BARRIER LIN. FT.	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	TEMP. IMPACT ATTEN.BARR. (RELOCATION)	* PORTABLE TRAFFIC SIGNAL SYSTEM	
								NO.	SQ. FT.										EACH
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	2	4	4	64.0										
W20-1	ROAD WORK 1000 FT.	48"x48"	4	4	4	2	4	4	64.0										
W20-1	ROAD WORK 500 FT.	48"x48"	4	4	4	2	4	4	64.0										
G20-2	END ROAD WORK	48"x24"	4	4	4	2	4	4	32.0										
R11-2	ROAD CLOSED	48"x30"	2	2	1		2	2	20.0										
OM-3L	OBJECT MARKER	12"x36"	6	12	6		12	12	36.0										
OM-3R	OBJECT MARKER	12"x36"	6	12	6		12	12	36.0										
W1-6	LARGE ARROW	48"x24"	2	2	1		2	2	16.0										
W3-3	SIGNAL AHEAD	36"x36"	4	4	2		4	4	36.0										
W3-4	BE PREPARED TO STOP	36"x36"	4	4	2		4	4	36.0										
W3-5	REDUCED SPEED LIMIT AHEAD	36"x36"	4	4	4	2	4	4	36.0										
R2-1	SPEED LIMIT	24"x30"	4	4	4	2	4	4	20.0										
R2-12	END WORK ZONE SPEED LIMIT	24"x30"	4	4	4	2	4	4	20.0										
R4-1	DO NOT PASS	24"x30"	4	4	4	4	4	4	20.0										
R10-6	STOP HERE ON RED	24"x36"	4	4	2		4	4	24.0										
W20-4	ONE LANE ROAD AHEAD	48"x48"	4	4	2		4	4	64.0										
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	4	4	4	4	4	4	36.0										
W8-1	BUMP	30"x30"	4	4	4	4	4	4	25.0										
	TRAFFIC DRUMS		16	36	28	13	36				36								
	VERTICAL PANELS		16				16			16									
	TYPE III BARRICADE-LT. (16')		2	2	1		2					32							
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		580	360	300		1240					1240							
	RELOCATING PRECAST CONCRETE BARRIER			580	440		1020						1020						
	TEMPORARY IMPACT ATTENUATION BARRIER		4	2			6							6					
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		4	2			6								6				
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)			4	3		7									7			
	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED		2	2	1		2												26
TOTALS:								649.0	16	36	32	1240	1020	6	6	7	26		

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

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	STAGE 4	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	REFLECTORIZED PAINT PAVEMENT MARKING	
									TYPE II (YELLOW/YELLOW)	6"	
										WHITE	YELLOW
						LIN. FT. - EACH		LIN. FT.	LIN. FT.	LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	2420					2420					
CONSTRUCTION PAVEMENT MARKINGS	950	860	1910	1760			5480				
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	494	540	250					1284			
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)					14				14		
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")					2120					2120	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")					2120						2120
TOTALS:						2420	5480	1284	14	2120	2120

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.

DATE & TIME: 7/30/2024 2:32:16 PM
FILE: J:\25846.20\030596.dgn

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
505+50	506+50	DEPTH TRANSITION - SITE 1	22.00	244.44
610+00	611+00	DEPTH TRANSITION - SITE 2	22.00	244.44
507+50	508+50	DEPTH TRANSITION - SITE 1	22.00	244.44
615+00	616+00	DEPTH TRANSITION - SITE 2	22.00	244.44
TOTAL:				977.76

NOTE: COORDINATE COLD MILLING STOCKPILE LOCATIONS WITH DISTRICT ENGINEER. STOCKPILE LOCATIONS SHALL BE NO FURTHER THAN FIVE MILES FROM EACH S.TE.

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
505+50	506+75	HWY. 371 - SITE 1 - RT.	125
507+09	508+75	HWY. 371 - SITE 1 - RT.	166
TOTAL:			291

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
507+00	QUAD. 72" X 65' C.M. PIPE - SITE NO. 1	4
TOTAL:		4

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

4" PIPE UNDERDRAIN

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

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

CONCRETE DITCH PAVING

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.		
506+50.00	506+80.00	HWY. 371 - SITE 1 - LT.	30.00	6.33			21.10	13.33	0.17
506+50.00	506+80.00	HWY. 371 - SITE 1 - RT.	30.00	13.83	7.50	46.10		13.33	0.17
507+20.00	507+50.00	HWY. 371 - SITE 1 - LT.	30.00	15.83	9.50	52.77		13.33	0.17
507+20.00	507+50.00	HWY. 371 - SITE 1 - RT.	30.00	13.83	7.50	46.10		13.33	0.17
610+10.00	611+00.00	HWY. 371 - SITE 2 - LT.	90.00	10.33	4.00	103.30		40.00	0.50
611+00.00	611+10.00	HWY. 371 - SITE 2 - LT.	10.00	13.33	7.00	14.81		4.44	0.06
610+30.00	611+40.00	HWY. 371 - SITE 2 - RT.	110.00	10.33	4.00	126.26		48.89	0.62
611+40.00	611+75.00	HWY. 371 - SITE 2 - RT.	35.00	12.33	6.00	47.95		15.56	0.20
611+65.00	612+00.00	HWY. 371 - SITE 2 - LT.	35.00	13.33	7.00	51.84		15.56	0.20
612+00.00	612+50.00	HWY. 371 - SITE 2 - LT.	50.00	10.33	4.00	57.39		22.22	0.28
614+50.00	614+95.00	HWY. 371 - SITE 2 - RT.	45.00	14.33	8.00	71.65		20.00	0.25
TOTALS:						618.17	21.10	219.99	2.79

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	CU. YD.
505+50	508+50	SITE 1 - STAGE 1	707	402
505+50	508+50	SITE 1 - STAGE 2	615	555
505+50	508+50	SITE 1 - STAGE 3	10	
610+00	616+00	SITE 2 - STAGE 1	798	471
610+00	616+00	SITE 2 - STAGE 2	1349	1219
610+00	616+00	SITE 2 - STAGE 3	117	554
610+00	616+00	SITE 2 - STAGE 4	165	
SITE 1		CHANNEL CHANGE	781	
SITE 2		CHANNEL CHANGE	1239	
TOTALS:			5781	3201

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	5	10
TOTALS:	5	10

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

REMOVAL OF EXISTING BRIDGE STRUCTURE

STATION	STATION	LOCATION	LUMP SUM
612+08	612+22	CONCRETE SLAB STRUCTURE - HWY. 371 - SITE NO. 1	1.00

SOIL STABILIZATION

STATION	STATION	LOCATION / DESCRIPTION	SOIL STABILIZATION TON
ENTIRE PROJECT		TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	50
TOTAL:			50

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
507+00	HWY. 371 - SITE 1 HEADWALL ON RT.	1
611+70	HWY. 371 - SITE 2 HEADWALL ON RT.	1
TOTAL:		2

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



Digitally signed by Thomas N. Taegtmeyer
Date: 2024.07.31

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	STATION
505+50	508+50	HWY. 371 SITE 1 - LT. & RT.	4	4
610+00	616+00	HWY. 371 SITE 2 - LT. & RT.	6	6
TOTALS:			10	10

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	25
TOTAL:	25

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

TRENCHING AND SHOULDER PREPARATION

STATION	STATION	LOCATION	LENGTH
			STATIONS
505+50	508+50	LT. SHLDR. FOR M.O.T. - SITE 1	3.00
610+00	614+00	RT. SHLDR. FOR M.O.T. - SITE 2	4.00
TOTAL:			7.00

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE D-1)	* 16'-0" GATES
			LIN. FT.	EACH
505+50	506+78	HWY. 371 - SITE 1 - RT.	164	
507+22	508+75	HWY. 371 - SITE 1 - RT.	188	1
TOTALS:			352	1

* DENOTES ALTERNATE BID ITEM.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	29	44
QUANTITIES						



Digitally signed by Thomas N. Taegtmeyer
Date: 2024.07.31

STRUCTURES

STATION	DESCRIPTION	SPAN	HEIGHT	LENGTH	CLASS S	REINF.	UNCL. EXC.	SOLID	WATER	STD. DWG. NOS.	
					CONCRETE-ROADWAY	STEEL-ROADWAY (GRADE 60)	FOR STR.-ROADWAY	SODDING	M.GAL.		
					LIN. FT.	CU. YD.	POUND	CU. YD.	SQ. YD.	M.GAL.	
STRUCTURES OVER 20' - 0" SPAN											
507+00	DBL. 11' x 7' R.C. BOX CULVERT	11	7	70	170.05	25606	90	28	0.35	PBC-1, RCB-1, RCB-2, SPECIAL DETAILS	
611+70	DBL. 11' x 6' R.C. BOX CULVERT ON A 30° RT. FWD. SKEW	11	6	85	196.06	30542	103	33	0.42	PBC-1, RCB-1, RCB-2, SPECIAL DETAILS	
TOTALS:					366.11	56148	193	61	0.77		

BASIS OF ESTIMATE:

WATER..... 12.6 GAL. / SQ. YD. OF SOLID SODDING

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL						
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-6) CU. YD.	(E-11) LIN. FT.	CU. YD.
SITE 1	SITE 1	CLEARING AND GRUBBING						0.26	0.26	5.3	88	12	700	34
SITE 2	SITE 2	CLEARING AND GRUBBING						0.79	0.79	16.1	132	21	1150	56
SITE 1	SITE 1	STAGE 1						0.16	0.16	3.3	22	6		3
SITE 2	SITE 2	STAGE 1						0.22	0.22	4.5	44	3		3
SITE 1	SITE 1	STAGE 2	0.21	0.42	0.21	21.4	0.21				44	6		4
SITE 2	SITE 2	STAGE 2					0.51	0.51	10.4	66	9		6	
SITE 1	SITE 1	STAGE 3	0.19	0.38	0.19	19.4	0.19				44	6		4
SITE 2	SITE 2	STAGE 3	0.43	0.86	0.43	43.9	0.43							4
SITE 2	SITE 2	STAGE 4	0.59	1.18	0.59	60.2	0.59							
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.50	1.00	0.50	51.0	0.50	0.50	0.50	10.2	110	18	463	28
TOTALS:			1.92	3.84	1.92	195.9	1.92	2.44	2.44	49.8	550	81	2313	138

BASIS OF ESTIMATE:

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

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

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

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	30	44
QUANTITIES						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

BASE AND SURFACING

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																															
505+50.00	506+50.00	HWY. 371 - TRANSITION - SITE 1	100.00	84.50	84.50	24.75	275.00	13.75	22.00	244.44	41.55	55.30	8.40	93.33	550.00	25.67	8.23	91.44	330.00	15.09	8.13	90.33	220.00	9.94	38.00	422.22	220.00	46.44	56.38		
506+50.00	507+50.00	HWY. 371 - FULL DEPTH - SITE 1	100.00	84.50	84.50	91.50	1016.67	50.83				50.83	30.79	342.11	550.00	94.08	30.46	338.44	330.00	55.84	30.25	336.11	220.00	36.97	38.00	422.22	220.00	46.44	83.41		
507+50.00	508+50.00	HWY. 371 - TRANSITION - SITE 1	100.00	84.50	84.50	24.75	275.00	13.75	22.00	244.44	41.55	55.30	8.40	93.33	550.00	25.67	8.23	91.44	330.00	15.09	8.13	90.33	220.00	9.94	38.00	422.22	220.00	46.44	56.38		
610+00.00	611+00.00	HWY. 371 - TRANSITION - SITE 2	100.00	37.50	37.50	49.50	550.00	27.50	22.00	244.44	41.55	69.05	16.79	186.56	550.00	51.30	16.46	182.89	330.00	30.18	16.25	180.56	220.00	19.86	38.00	422.22	220.00	46.44	66.30		
611+00.00	612+40.00	HWY. 371 - FULL DEPTH - SITE 2	140.00	37.50	52.50	115.50	1796.67	89.83				89.83	38.79	603.40	550.00	165.94	38.46	598.27	330.00	98.71	38.25	595.00	220.00	65.45	38.00	591.11	220.00	65.02	130.47		
612+40.00	615+00.00	HWY. 371 - NOTCH AND WIDEN - SITE 2	260.00	84.50	219.70	46.75	1350.56	67.53				67.53	8.40	242.67	550.00	66.73	8.23	237.76	330.00	39.23	8.13	234.87	220.00	25.84	38.00	1097.78	220.00	120.76	146.60		
615+00.00	616+00.00	HWY. 371 - TRANSITION - SITE 2	100.00	84.50	84.50	24.75	275.00	13.75	22.00	244.44	41.55	55.30	8.40	93.33	550.00	25.67	8.23	91.44	330.00	15.09	8.13	90.33	220.00	9.94	38.00	422.22	220.00	46.44	56.38		
505+50.00	508+50.00	RT. OF SITE 1 TRENCHING SHLD. & PREP.	300.00	31.00	93.00	8.00	266.67	13.33				13.33							330.00	44.00	8.00	266.67	220.00	29.33					29.33		
610+00.00	614+00.00	LT. OF SITE 2 TRENCHING SHLD. & PREP.	400.00	31.00	124.00	8.00	355.56	17.78				17.78							330.00	58.67	8.00	355.56	220.00	39.11					39.11		
DETOUR																															
505+50.00	506+50.00	HWY. 371 - DETOUR TRANSITION - SITE 1	100.00	4.00	4.00	5.19	57.67	2.88				2.88							603.00	8.68	2.50	27.78	220.00	3.06					3.06		
506+50.00	507+50.00	HWY. 371 - DETOUR - SITE 1	100.00	4.00	4.00	10.38	115.33	5.77				5.77							603.00	17.39	5.00	55.56	220.00	6.11					6.11		
507+50.00	508+50.00	HWY. 371 - DETOUR TRANSITION - SITE 1	100.00	4.00	4.00	5.19	57.67	2.88				2.88							603.00	8.68	2.50	27.78	220.00	3.06					3.06		
610+00.00	611+25.00	HWY. 371 - DETOUR TRANSITION - SITE 2	125.00	2.75	3.44	10.17	141.25	7.06				7.06							537.00	18.95	5.00	69.44	220.00	7.64					7.64		
611+25.00	612+75.00	HWY. 371 - DETOUR - SITE 2	150.00	2.75	4.13	20.33	338.83	16.94				16.94							537.00	45.51	10.00	166.67	220.00	18.33					18.33		
612+75.00	614+00.00	HWY. 371 - DETOUR TRANSITION - SITE 2	125.00	2.75	3.44	10.17	141.25	7.06				7.06							537.00	18.95	5.00	69.44	220.00	7.64					7.64		
ADDITIONAL FOR LEVELING																															
612+40.00	615+00.00	LEVELING - SITE 2	260.00						22.00	635.56	108.05	108.05										22.00	635.56	VAR.	31.91				31.91		
TOTALS:					887.71			7013.13	350.64			1613.32	274.25	624.89			1654.73		455.06		2679.76		490.06		3291.99		324.13		3799.99	417.98	742.11

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.3% MIN. AGGR.....5.7% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.2% MIN. AGGR.....3.8% ASPHALT BINDER
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

SUMMARY OF QUANTITIES

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
09/04/24		6	ARK.	030596	31	44
SUMMARY OF QUANTITIES AND REVISIONS						

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 201	CLEARING	10	STATION
201	GRUBBING	10	STATION
202	REMOVAL AND DISPOSAL OF FENCE	291	LIN. FT.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	4	EACH
SP, SS, & 210	UNCLASSIFIED EXCAVATION	5781	CU. YD.
SP & 210	COMPACTED EMBANKMENT	3201	CU. YD.
SP & 210	SOIL STABILIZATION	50	TON
SP & 215	TRENCHING AND SHOULDER PREPARATION	7	STATION
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)	888	TON
SS & 401	TACK COAT	635	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	438	TON
SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")	17	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	469	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	21	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	700	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	42	TON
SP & 412	COLD MILLING ASPHALT PAVEMENT	978	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	5	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	25	TON
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	649	SQ. FT.
SS & 604	BARRICADES	32	LIN. FT.
SS & 604	TRAFFIC DRUMS	36	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	1240	LIN. FT.
SS & 604	RELOCATING PRECAST CONCRETE BARRIER	1020	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	5480	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	1284	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	2420	LIN. FT.
SS & 604	VERTICAL PANELS	16	EACH
SP, SS, & 605	CONCRETE DITCH PAVING (TYPE A)	618	SQ. YD.
SP, SS, & 605	CONCRETE DITCH PAVING (TYPE B)	21	SQ. YD.
SS & 611	4" PIPE UNDERDRAINS	1000	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	8	EACH
SS & 619	WIRE FENCE (TYPE D-1)	352	LIN. FT.
* SS & 619	16' STEEL GATES	1	EACH
* SS & 619	16' ALUMINUM GATES	1	EACH
620	LIME	4	TON
620	SEEDING	1.92	ACRE
SS & 620	MULCH COVER	4.36	ACRE
620	WATER	249.3	M. GAL.
621	TEMPORARY SEEDING	2.44	ACRE
621	SILT FENCE	2313	LIN. FT.
621	SAND BAG DITCH CHECKS	550	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	138	CU. YD.
621	ROCK DITCH CHECKS	81	CU. YD.
623	SECOND SEEDING APPLICATION	1.92	ACRE
624	SOLID SODDING	281	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	2120	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	2120	LIN. FT.
SP	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED	26	WEEK
721	RAISED PAVEMENT MARKERS (TYPE II)	14	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	6	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	6	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	7	EACH
STRUCTURES OVER 20' SPAN			
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	193	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-ROADWAY	366.11	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	56148	POUND

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
9/4/2024	THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS WERE REMOVED: "501-2 CEMENT" AND "802-4 CEMENT"; THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS WERE ADDED: "501-3 PORTLAND CEMENT CONCRETE PAVEMENT" AND "802-5 CONCRETE FOR STRUCTURES".	3, 31



Digitally signed by Thomas N. Taegtmeier
Date: 2024.09.04

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	32	44
SURVEY CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

SURVEY CONTROL COORDINATES

Project Name: s030596
Date: 2/28/2023
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL

Units: U. S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1753748.1930	851613.4635	396.639	CTL	*STD ARDOT MON. STAMPED PN: 1
2	1753655.0790	852409.4760	396.092	CTL	*STD ARDOT MON. STAMPED PN: 2
3	1753591.5430	853136.7837	394.749	CTL	*STD ARDOT MON. STAMPED PN: 3
4	1753551.9300	853961.9819	368.941	CTL	*STD ARDOT MON. STAMPED PN: 4
5	1753505.9650	854529.2790	377.635	CTL	*STD ARDOT MON. STAMPED PN: 5
6	1753536.6420	855197.5109	397.274	CTL	*STD ARDOT MON. STAMPED PN: 6
7	1753503.6020	855963.5458	396.493	CTL	*STD ARDOT MON. STAMPED PN: 7
8	1753373.6190	857286.0086	375.546	CTL	*STD ARDOT MON. STAMPED PN: 8
9	1753326.5230	858006.9382	371.916	CTL	*STD ARDOT MON. STAMPED PN: 9
10	1753346.8420	858735.7848	355.979	CTL	*STD ARDOT MON. STAMPED PN: 10
11	1753310.8110	859445.9406	360.953	CTL	*STD ARDOT MON. STAMPED PN: 11
12	1753206.7420	860237.3489	383.477	CTL	*STD ARDOT MON. STAMPED PN: 12
900	1753551.0370	854750.3926	384.933	TBM	*STD ARDOT MON. STAMPED PN: 900
901	1753346.1930	858692.1169	356.571	TBM	*CHI SQU ON NE CONNER OF HW

*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
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME. s030596gi.ctb
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS -0302-SOUTH ZONE
DETERMINED FROM GPS STAIC OBESRVATIONS ON PN's 1, 7 & 8, 12.
CONVERGENCE ANGLE: 00 50 30 LEFT AT LAT 33 52 11.46 LAT 33 52 11.46
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY 371 - SITE 1

POINT NAME	TYPE	STATION	NORTHING	EASTING
8000	POB	500+00.00	1753619.3400	853220.3417
8001	P.I.	505+44.40	1753583.7343	853763.5800
8002	P.I.	510+05.74	1753558.1159	854224.2020
8003	POE	515+00.00	1753532.8225	854717.8166

SITE 1 - DETOUR

POINT NAME	TYPE	STATION	NORTHING	EASTING
8004	P.C.	50+50.00	1753583.4235	853769.1675
8006	P.R.C.	51+13.68	1753569.9618	853831.1315
8008	P.T.	51+77.35	1753556.5001	853893.0955
8009	P.C.	52+26.89	1753553.7493	853942.5553
8011	P.R.C.	52+90.56	1753560.2567	854005.6299
8013	P.T.	53+54.24	1753566.7642	854068.7046

HWY 371 - SITE 2

POINT NAME	TYPE	STATION	NORTHING	EASTING
8014	POB	600+00.00	1753391.8010	857469.9124
8015	P.I.	610+00.00	1753342.6607	858468.7043
8016	POE	622+00.00	1753279.5090	859667.0415

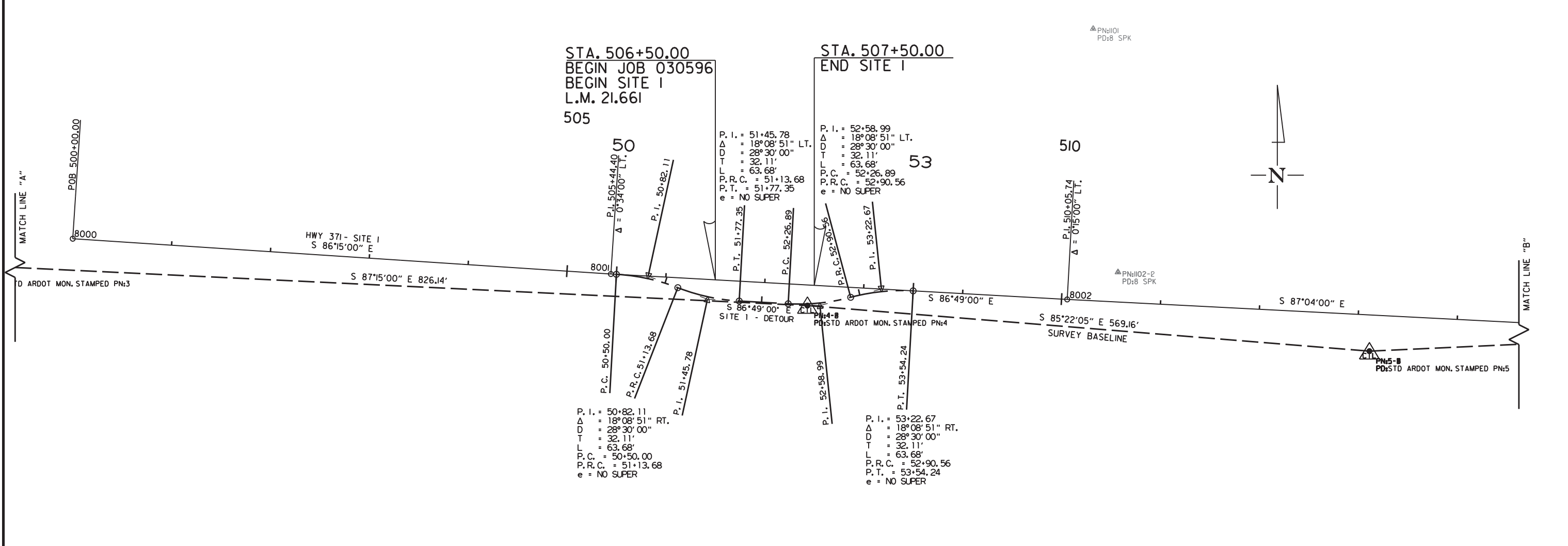
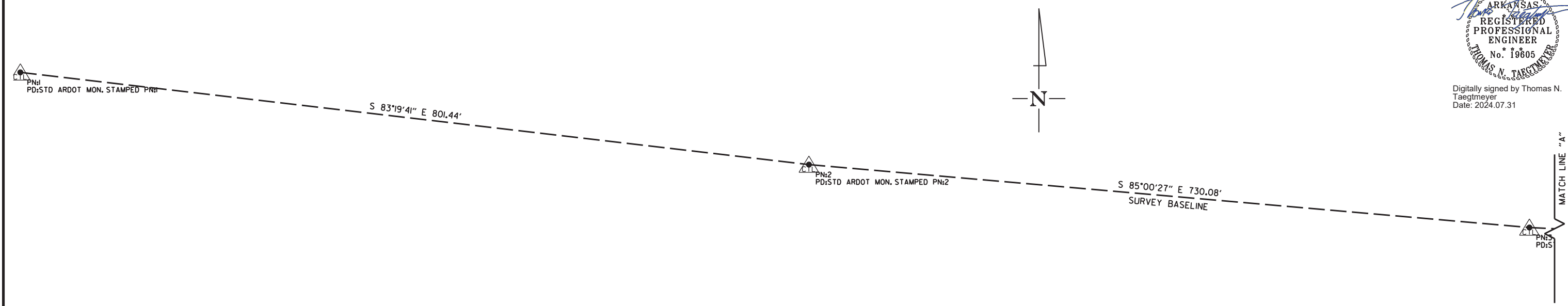
SITE 2 - DETOUR STAGE 3

POINT NAME	TYPE	STATION	NORTHING	EASTING
8015	P.C.	61+00.00	1753342.6607	858468.7043
8018	P.R.C.	61+76.82	1753324.2356	858542.8030
8020	P.T.	62+53.64	1753305.8105	858616.9017
8021	P.C.	63+53.78	1753300.5406	858716.9004
8023	P.R.C.	64+30.60	1753311.0754	858792.5252
8025	P.T.	65+07.42	1753321.6101	858868.1500

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	33	44
SURVEY CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

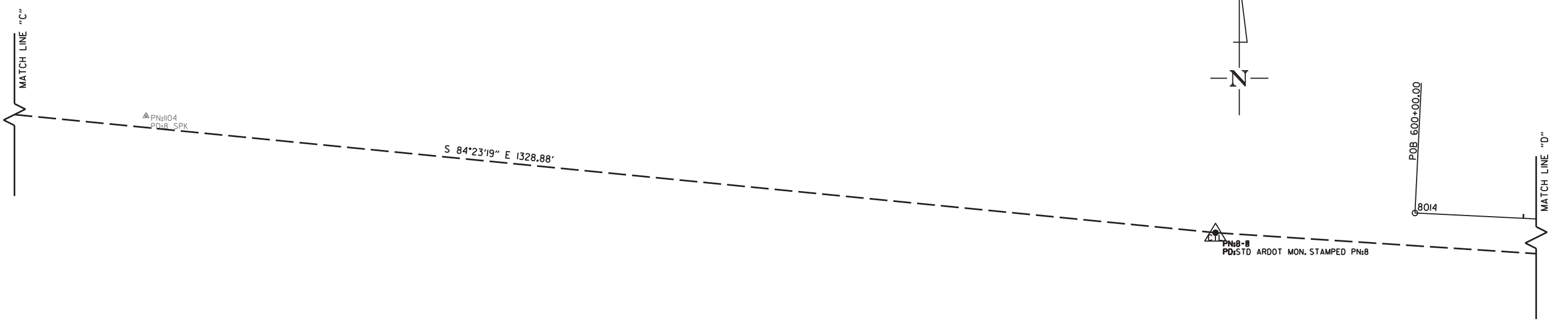
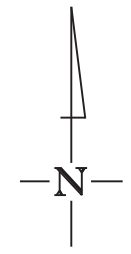
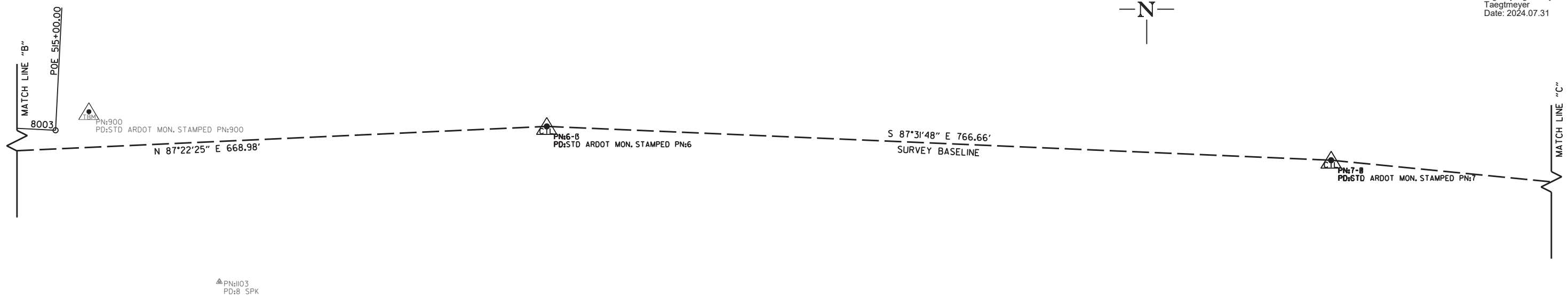
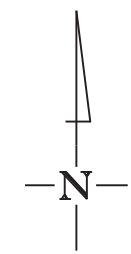


DATE & TIME: 7/29/2024 3:58:32 PM
FILE: J:\25846.20\030596.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	34	44
SURVEY CONTROL DETAILS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

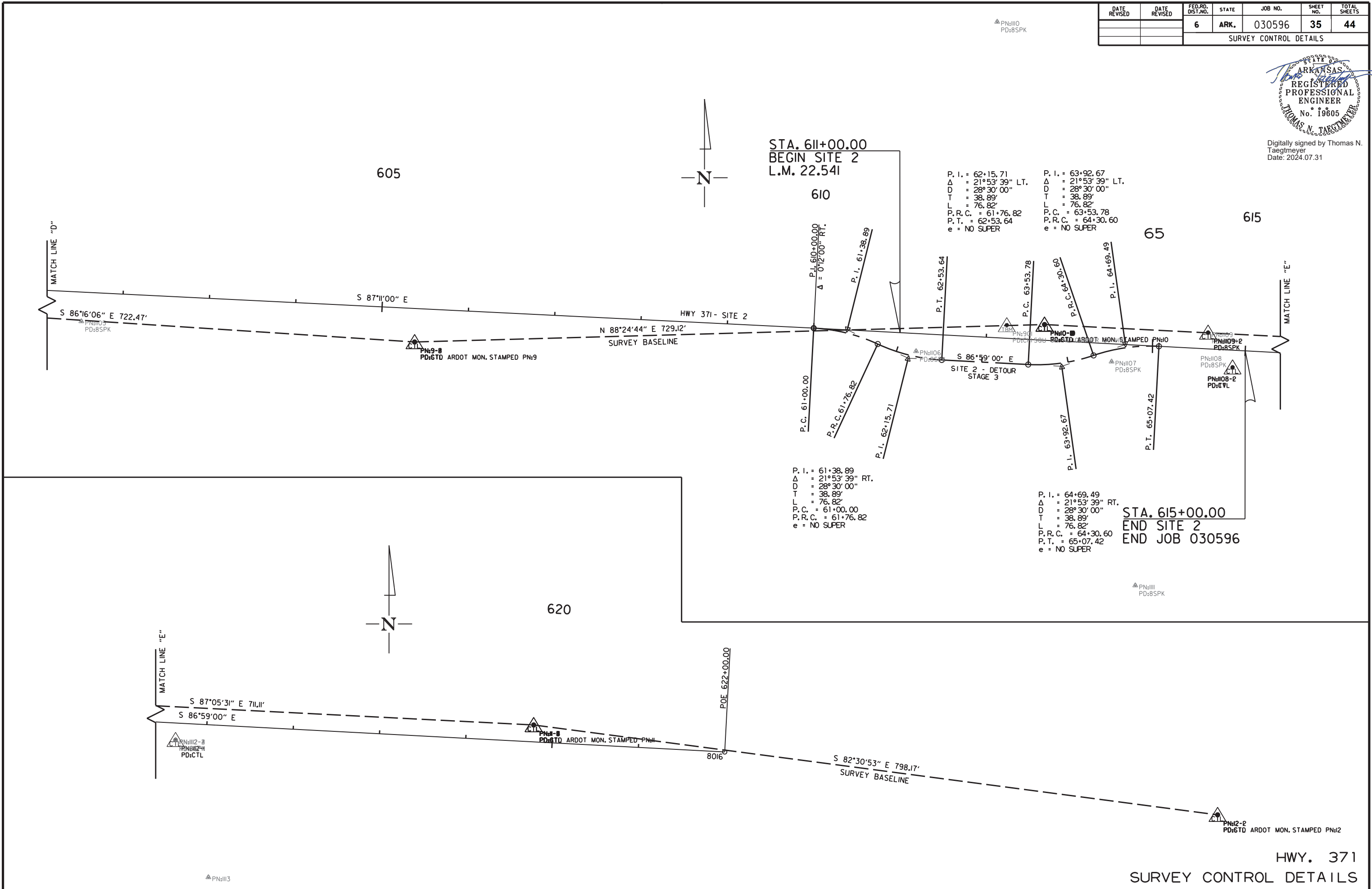


DATE & TIME: 7/29/2024 3:58:33 PM
FILE: J:\25846.20\030596.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	35	44
SURVEY CONTROL DETAILS						

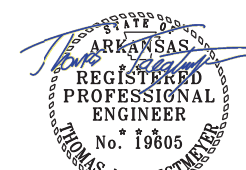


Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



DATE & TIME: 7/29/2024 3:58:35 PM
FILE: J:\25846.20\030596.dgn

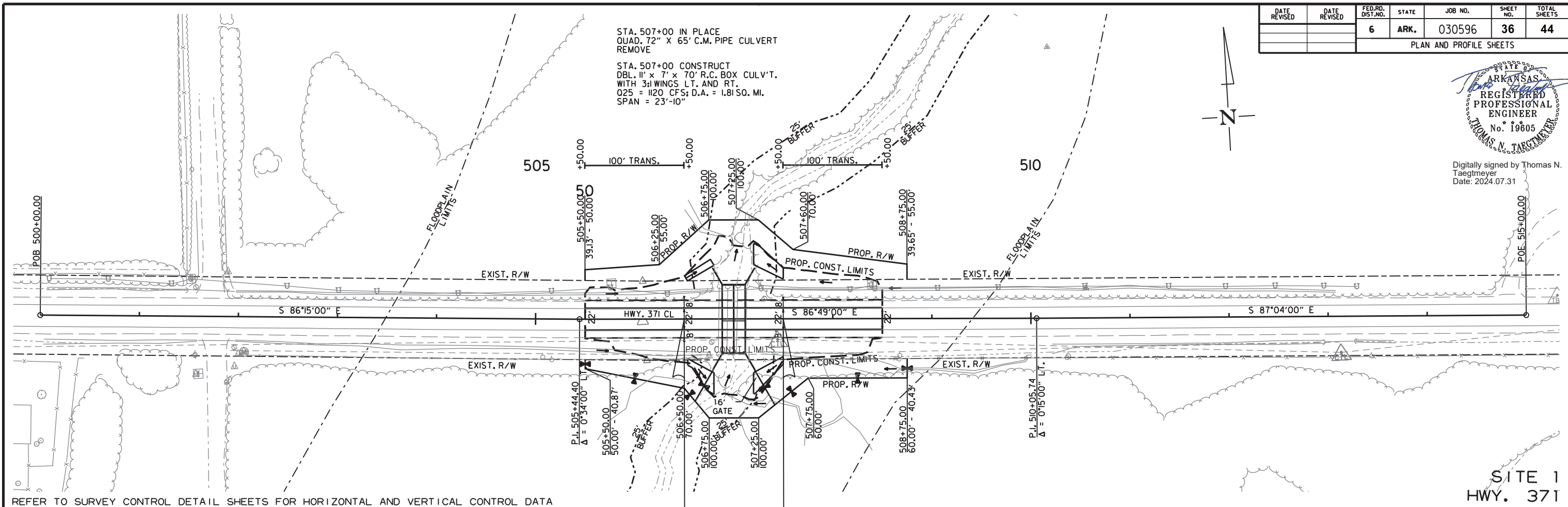
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	36	44
PLAN AND PROFILE SHEETS						



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31

STA. 507+00 IN PLACE
QUAD. 72" X 65' C.M. PIPE CULVERT
REMOVE

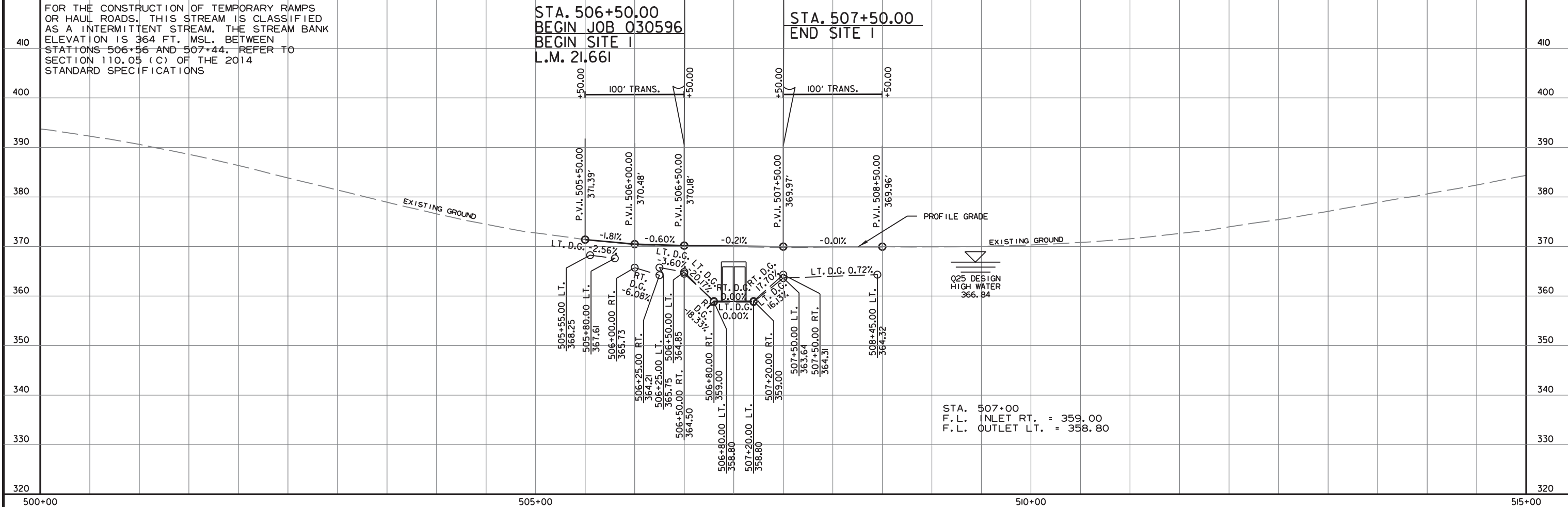
STA. 507+00 CONSTRUCT
DBL. 11' X 7' X 70' R.C. BOX CULV'T.
WITH 3:1 WINGS LT. AND RT.
Q25 = 1120 CFS; D.A. = 1.81 SQ. MI.
SPAN = 23'-10"



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

SITE 1
HWY. 371

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 364 FT. MSL. BETWEEN STATIONS 506+56 AND 507+44. REFER TO SECTION 110.05 (C) OF THE 2014 STANDARD SPECIFICATIONS



DATE & TIME: 7/29/2024 3:58:38 PM
FILE: J:\25846.20\030596.dgn

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	37	44

PLAN AND PROFILE SHEETS

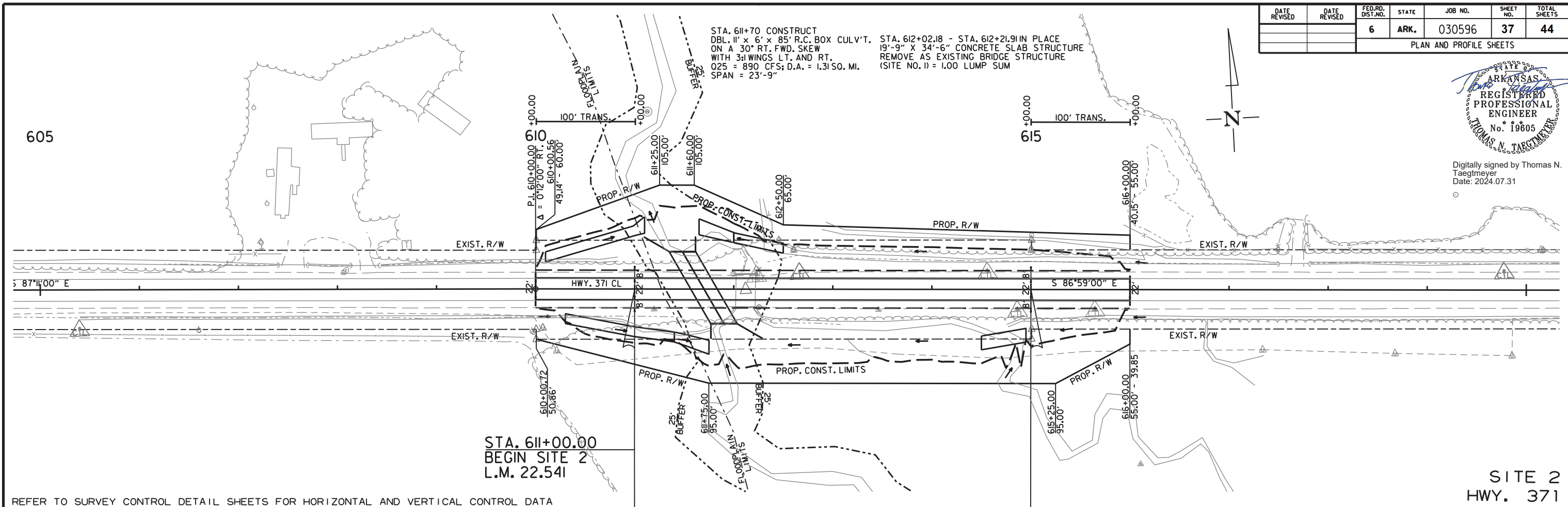


Digitally signed by Thomas N. Taegtmeyer
Date: 2024.07.31

STA. 611+70 CONSTRUCT DBL. 11' x 6' x 85' R.C. BOX CULV'T. ON A 30° RT. FWD. SKEW WITH 3/4 WINGS LT. AND RT. Q25 = 890 CFS; D.A. = 1.31 SO. MI. SPAN = 23'-9"

STA. 612+02.18 - STA. 612+21.91 IN PLACE 19'-9" x 34'-6" CONCRETE SLAB STRUCTURE REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 1) = 1.00 LUMP SUM

605



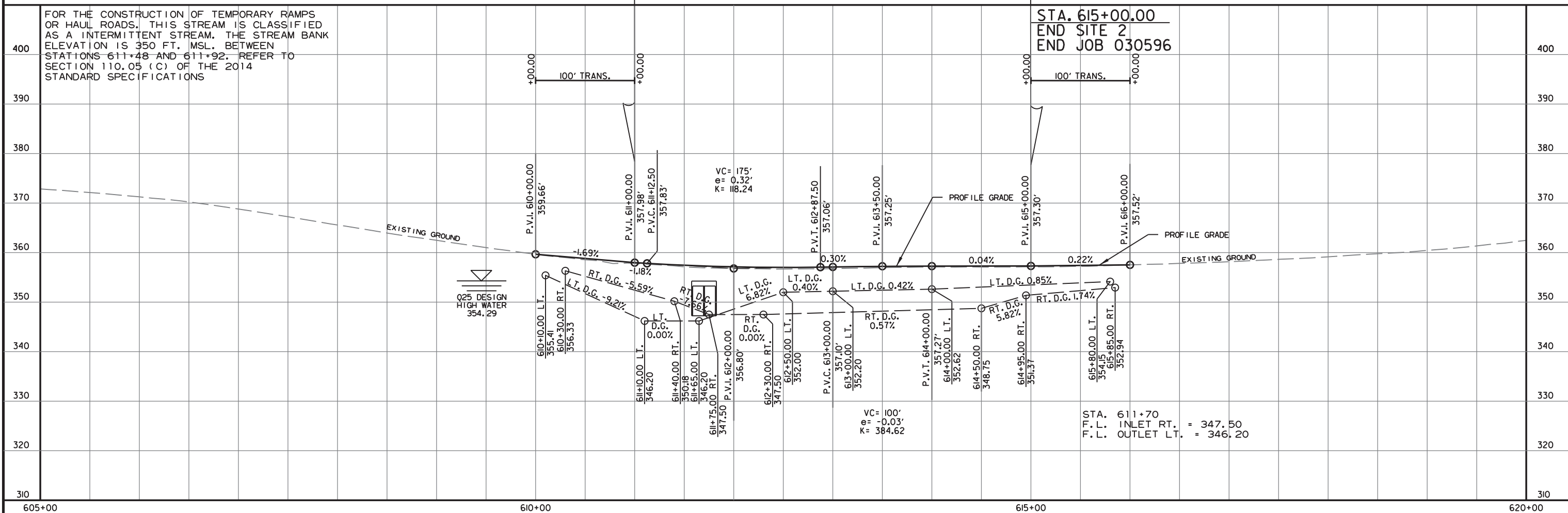
STA. 611+00.00
BEGIN SITE 2
L.M. 22.541

SITE 2
HWY. 371

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

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS, THIS STREAM IS CLASSIFIED AS A INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 350 FT. MSL. BETWEEN STATIONS 611+48 AND 611+92. REFER TO SECTION 110.05 (C) OF THE 2014 STANDARD SPECIFICATIONS

STA. 615+00.00
END SITE 2
END JOB 030596



STA. 611+70
F.L. INLET RT. = 347.50
F.L. OUTLET LT. = 346.20

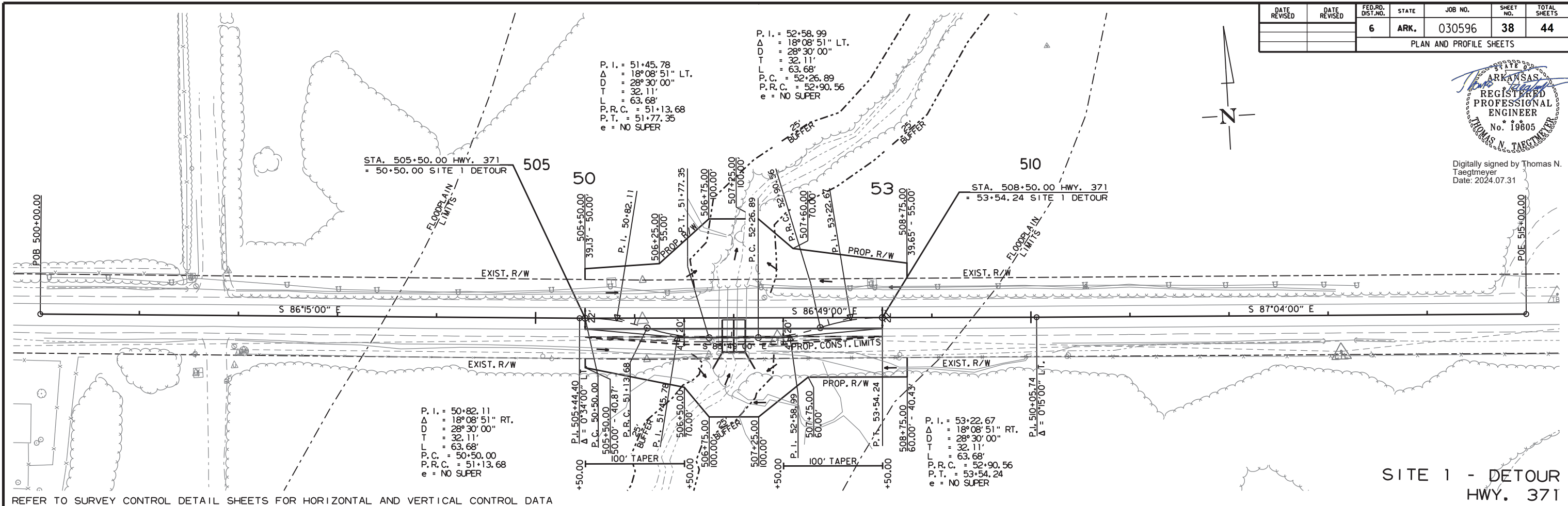
DATE & TIME: 7/29/2024 3:58:39 PM
FILE: J:\25846.20\030596.dgn

DATE REVISION	DATE REVISION	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	38	44

PLAN AND PROFILE SHEETS



Digitally signed by Thomas N. Taegtmeier
Date: 2024.07.31



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

SITE 1 - DETOUR
HWY. 371



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	39	44
PLAN AND PROFILE SHEETS						



Digitally signed by Thomas N. Taegtmeyer
Date: 2024.07.31

605

STA. 610+00.00 HWY. 371
= 61+00.00 SITE 2 DETOUR

SITE 2 - DETOUR
P. I. = 62+15.71
Δ = 21°53'39" LT.
D = 28°30'00"
T = 38.89'
L = 76.82'
P. R. C. = 61+76.82
P. T. = 62+53.64
e = NO SUPER

SITE 2 - DETOUR
P. I. = 63+92.67
Δ = 21°53'39" LT.
D = 28°30'00"
T = 38.89'
L = 76.82'
P. R. C. = 63+53.78
P. T. = 64+30.60
e = NO SUPER

STA. 614+00.00 HWY. 371
= 65+07.42 SITE 2 DETOUR

615

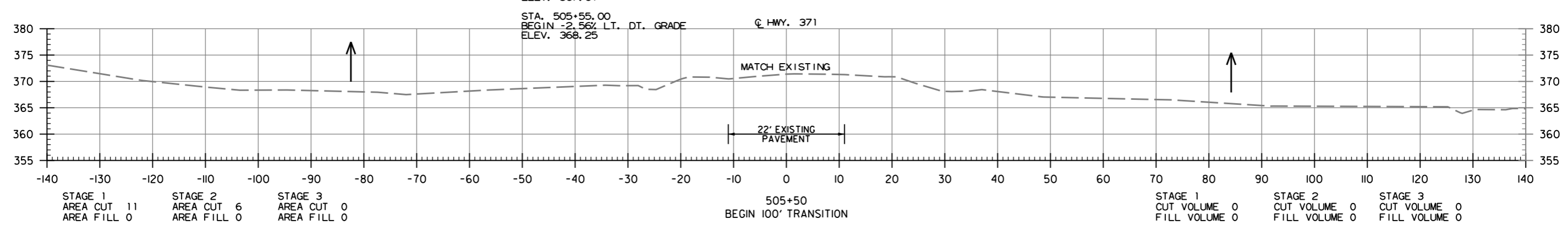
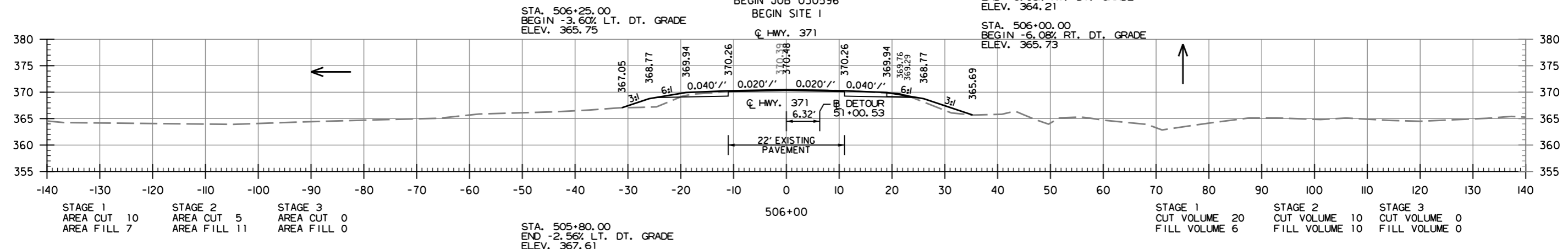
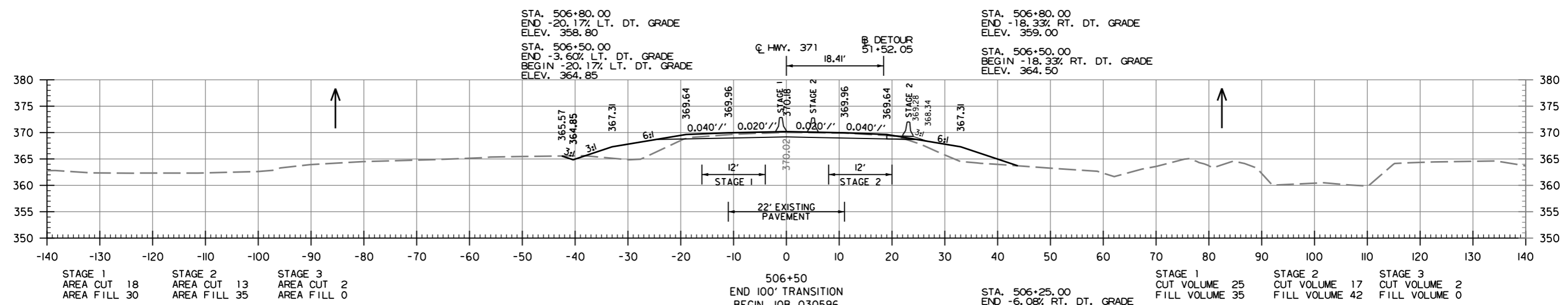
SITE 2 - DETOUR
P. I. = 61+38.89
Δ = 21°53'39" RT.
D = 28°30'00"
T = 38.89'
L = 76.82'
P. R. C. = 61+00.00
P. T. = 61+76.82
e = NO SUPER

SITE 2 - DETOUR
P. I. = 64+69.49
Δ = 21°53'39" RT.
D = 28°30'00"
T = 38.89'
L = 76.82'
P. R. C. = 64+30.60
P. T. = 65+07.42
e = NO SUPER

SITE 2 - DETOUR
HWY. 371

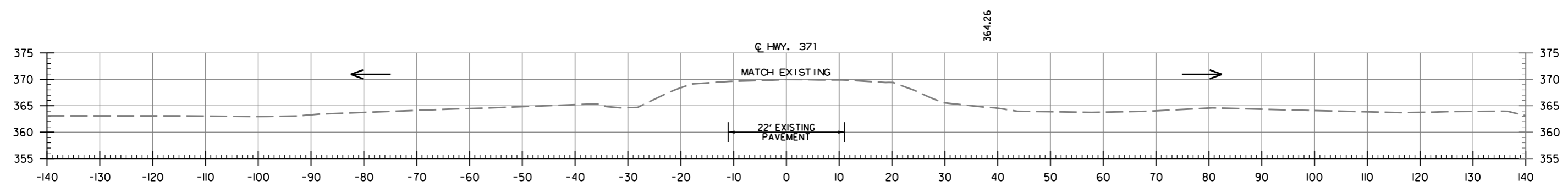
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	40	44
CROSS SECTIONS						

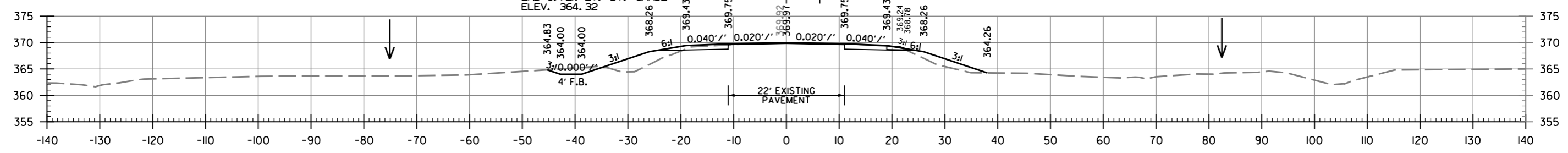


SITE 1
CROSS SECTION STA. 505+50 TO STA. 506+50

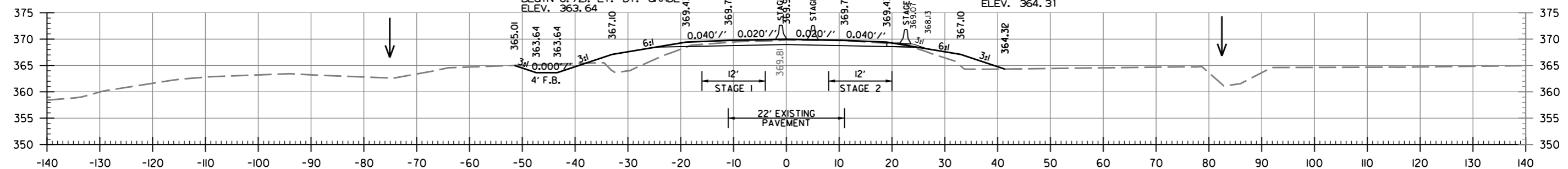
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	41	44
CROSS SECTIONS						



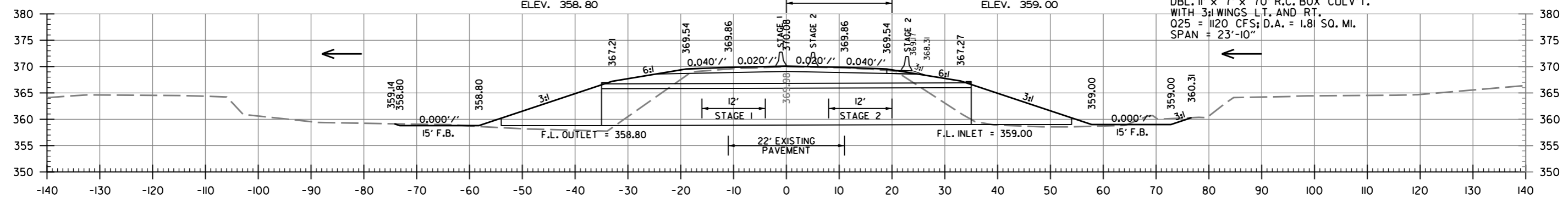
STAGE 1 AREA CUT 11 AREA FILL 0	STAGE 2 AREA CUT 6 AREA FILL 0	STAGE 3 AREA CUT 0 AREA FILL 0	508+50 END 100' TRANSITION Q. HWY. 147 6.32'	B DETOUR 53+03.71	STAGE 1 CUT VOLUME 19 FILL VOLUME 15	STAGE 2 CUT VOLUME 19 FILL VOLUME 23	STAGE 3 CUT VOLUME 1 FILL VOLUME 0
---------------------------------------	--------------------------------------	--------------------------------------	---	----------------------	--	--	--



STAGE 1 AREA CUT 9 AREA FILL 16	STAGE 2 AREA CUT 14 AREA FILL 25	STAGE 3 AREA CUT 0 AREA FILL 0	507+50 END 16.13% LT. DT. GRADE BEGIN 0.72% LT. DT. GRADE ELEV. 363.64	B DETOUR 52+52.18	STAGE 1 CUT VOLUME 26 FILL VOLUME 33	STAGE 2 CUT VOLUME 36 FILL VOLUME 58	STAGE 3 CUT VOLUME 2 FILL VOLUME 0
---------------------------------------	--	--------------------------------------	---	----------------------	--	--	--



STAGE 1 AREA CUT 19 AREA FILL 20	STAGE 2 AREA CUT 25 AREA FILL 38	STAGE 3 AREA CUT 2 AREA FILL 0	507+20 END 16.13% LT. DT. GRADE BEGIN 17.70% RT. DT. GRADE ELEV. 358.80	B DETOUR 52+02.12	STAGE 1 CUT VOLUME 309 FILL VOLUME 152	STAGE 2 CUT VOLUME 271 FILL VOLUME 213	STAGE 3 CUT VOLUME 3 FILL VOLUME 0
--	--	--------------------------------------	--	----------------------	--	--	--

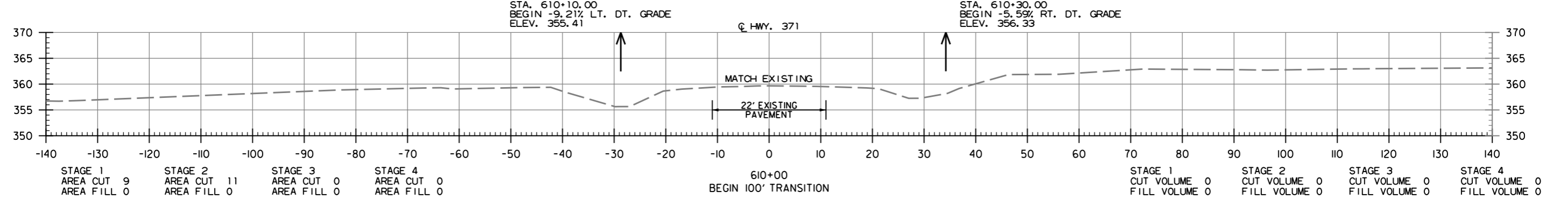
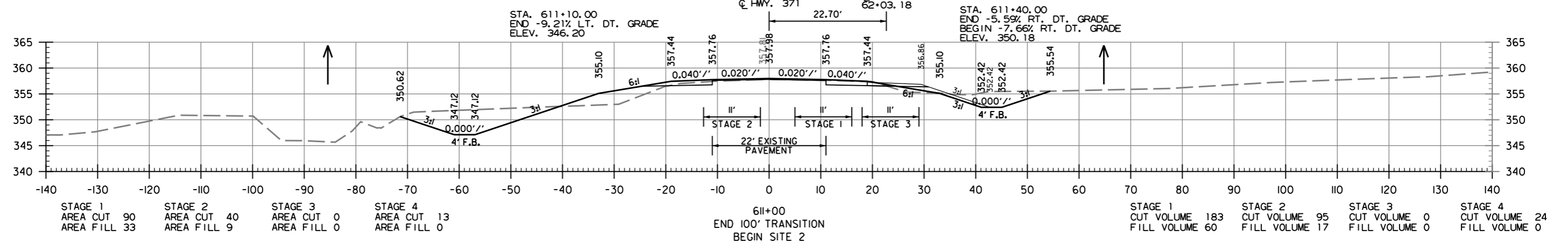
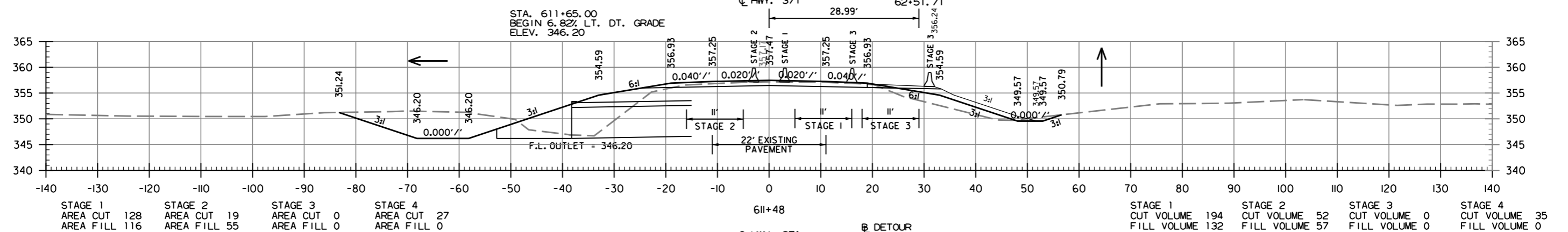
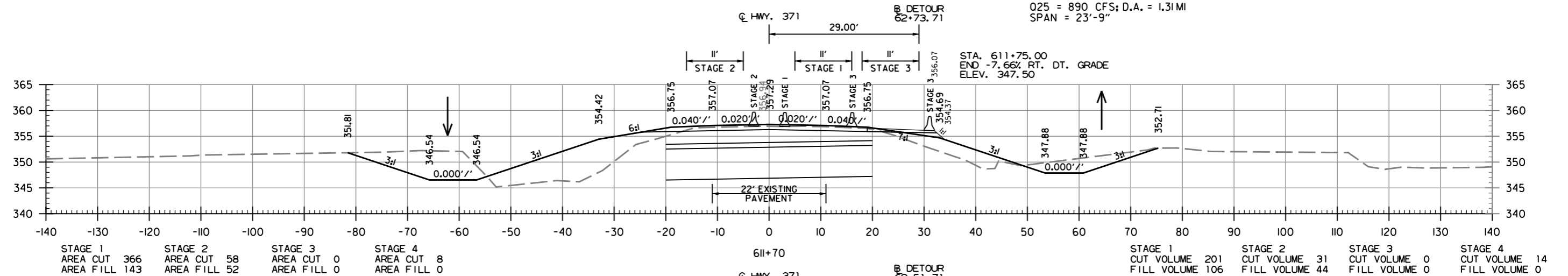


STAGE 1 AREA CUT 315 AREA FILL 144	STAGE 2 AREA CUT 268 AREA FILL 192	STAGE 3 AREA CUT 1 AREA FILL 0	507+00 END SITE I BEGIN 100' TRANSITION Q. HWY. 371 20.00'	B DETOUR 52+02.12	STAGE 1 CUT VOLUME 308 FILL VOLUME 161	STAGE 2 CUT VOLUME 260 FILL VOLUME 210	STAGE 3 CUT VOLUME 3 FILL VOLUME 0
--	--	--------------------------------------	--	----------------------	--	--	--

SITE 1
CROSS SECTION STA. 507+00 TO STA. 508+50

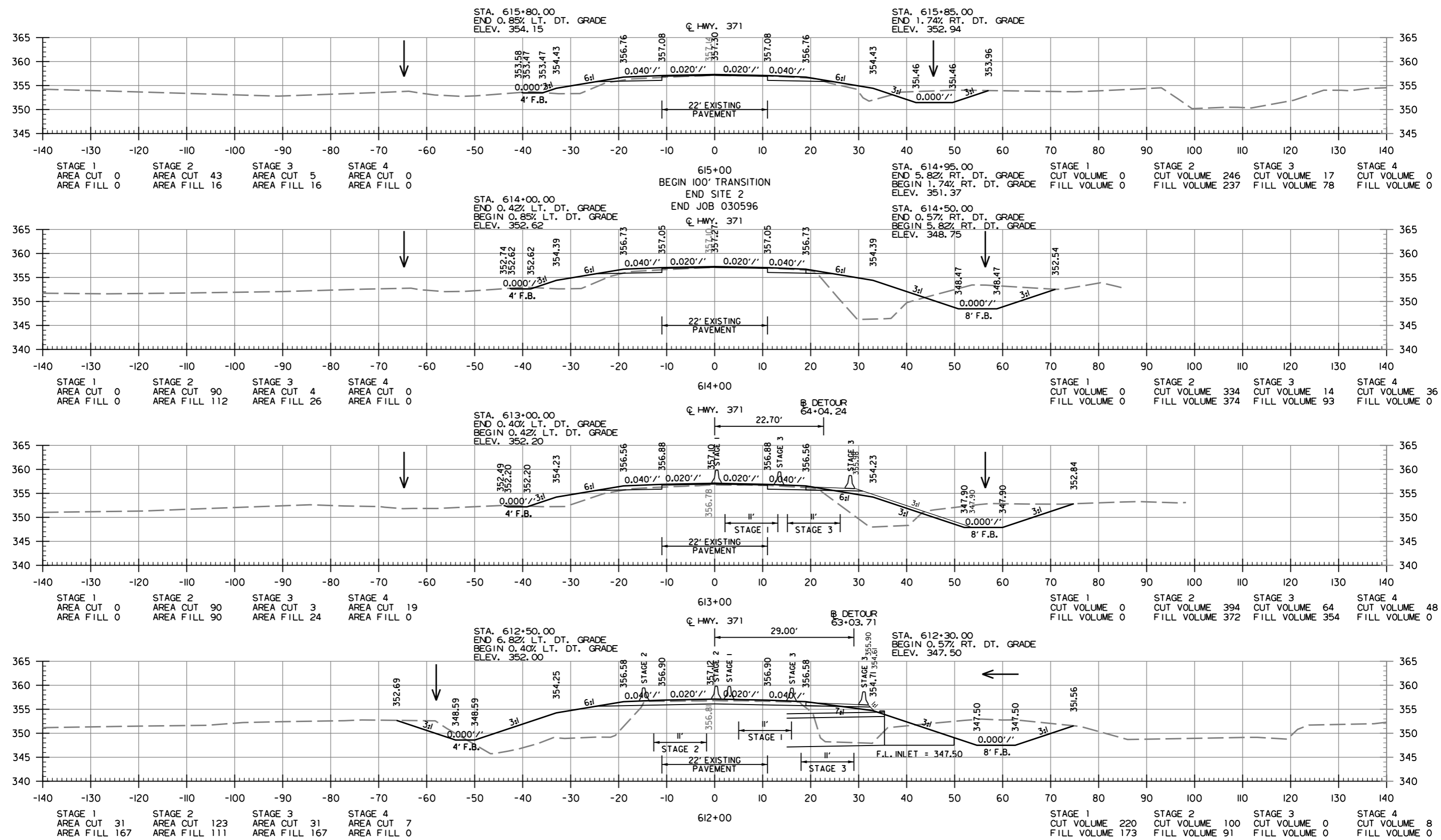
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	42	44
CROSS SECTIONS						

STA. 611+70 CONSTRUCT
 DBL. 11' x 6' x 85' R.C. BOX CULV'T.
 ON A 30° RT. FWD. SKEW
 WITH 3:1 WINGS LT. AND RT.
 Q25 = 890 CFS; D.A. = 1.31 MI
 SPAN = 23'-9"



CROSS SECTION STA. 610+00 TO STA. 611+70
 SITE 2

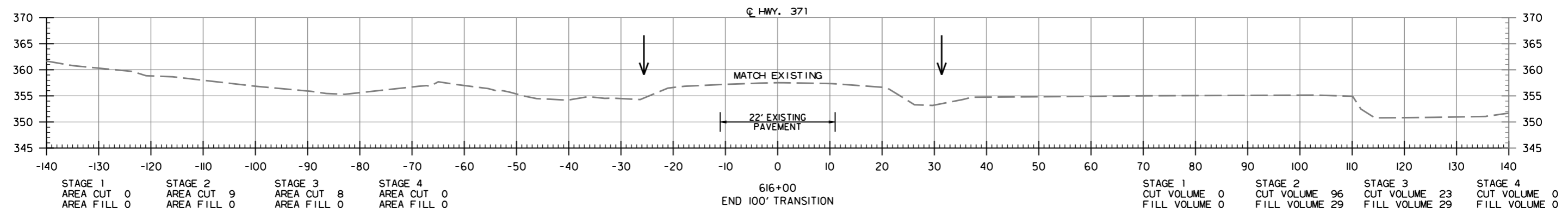
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	43	44
CROSS SECTIONS						



SITE 2
 CROSS SECTION STA. 612+00 TO STA. 615+00

DATE & TIME: 7/29/2024 3:58:52 PM
 FILE: J:\25846.20\030596.dgn

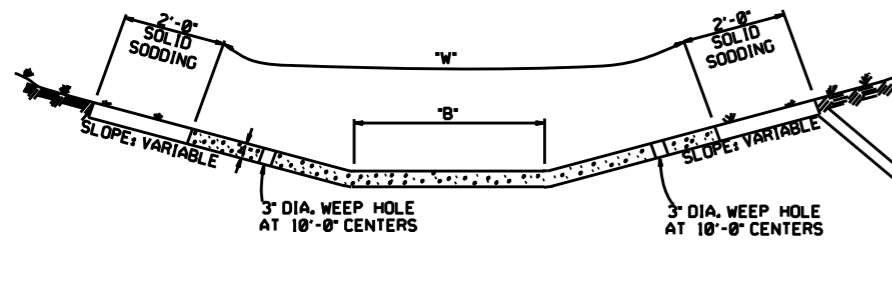
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	030596	44	44
CROSS SECTIONS						



CROSS SECTION STA. 616+00 TO STA. 616+00
SITE 2

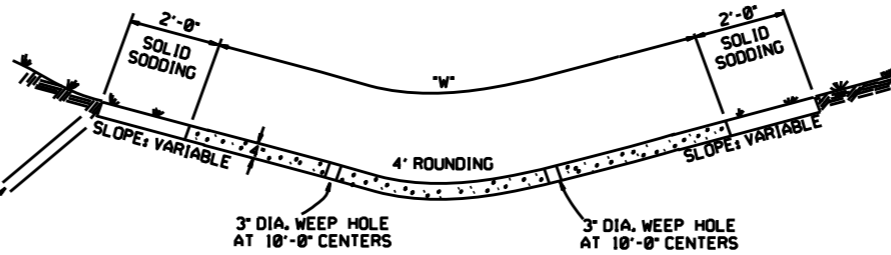
DATE & TIME: 7/29/2024 3:58:53 PM
FILE: J:\25846.20\030596.dgn

REFER TO TABULATION OF QUANTITIES FOR "W" & "B" DIMENSIONS



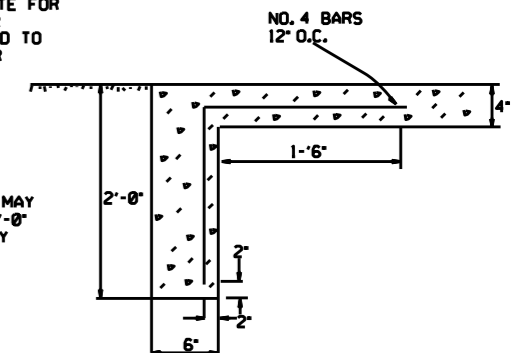
TYPE A

REFER TO TABULATION OF QUANTITIES FOR "W" DIMENSIONS



TYPE B

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



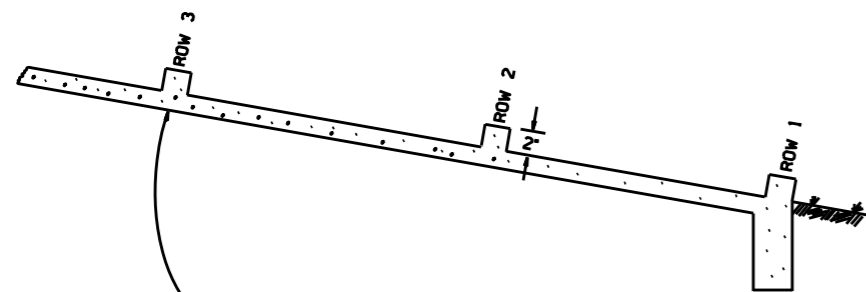
TOE WALL DETAIL FOR CONCRETE DITCH PAVING

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.

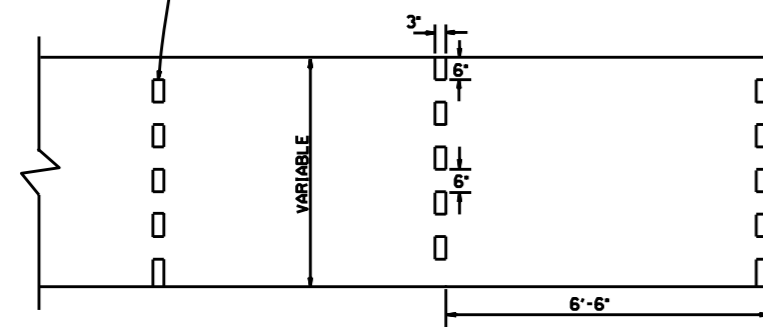
SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

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.



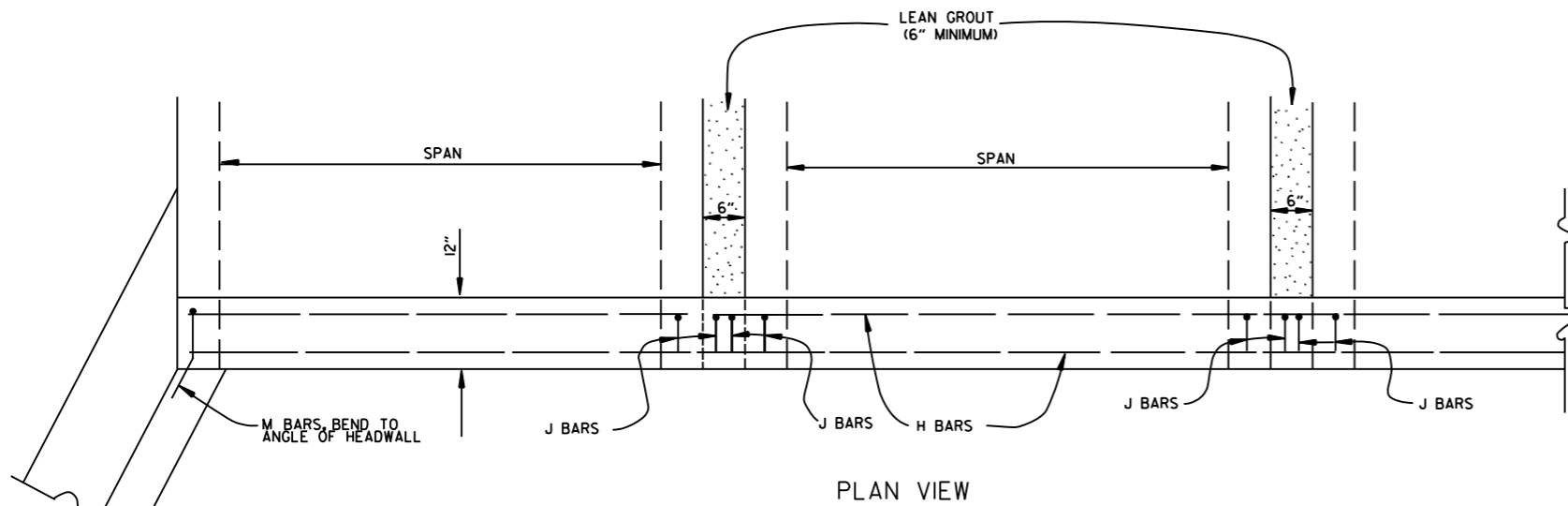
ENERGY DISSIPATORS (NO SCALE)

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	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	632-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	639-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED	
	TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72
	DATE	REVISION
		DATE FILM'D

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

STANDARD DRAWING CDP-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.

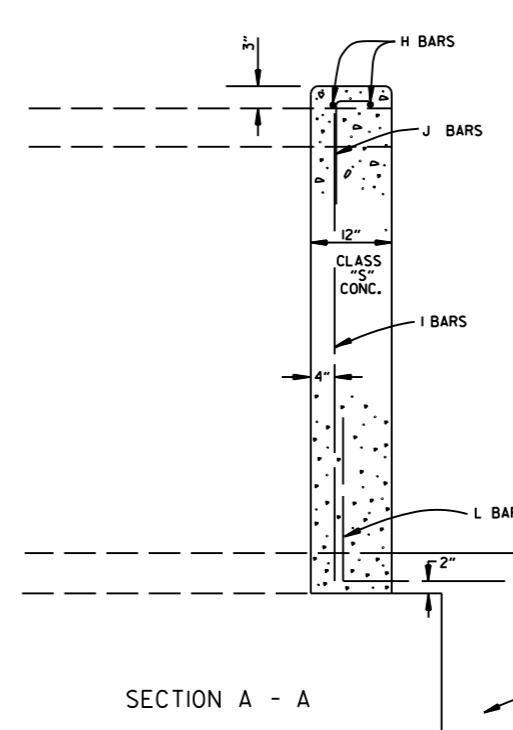
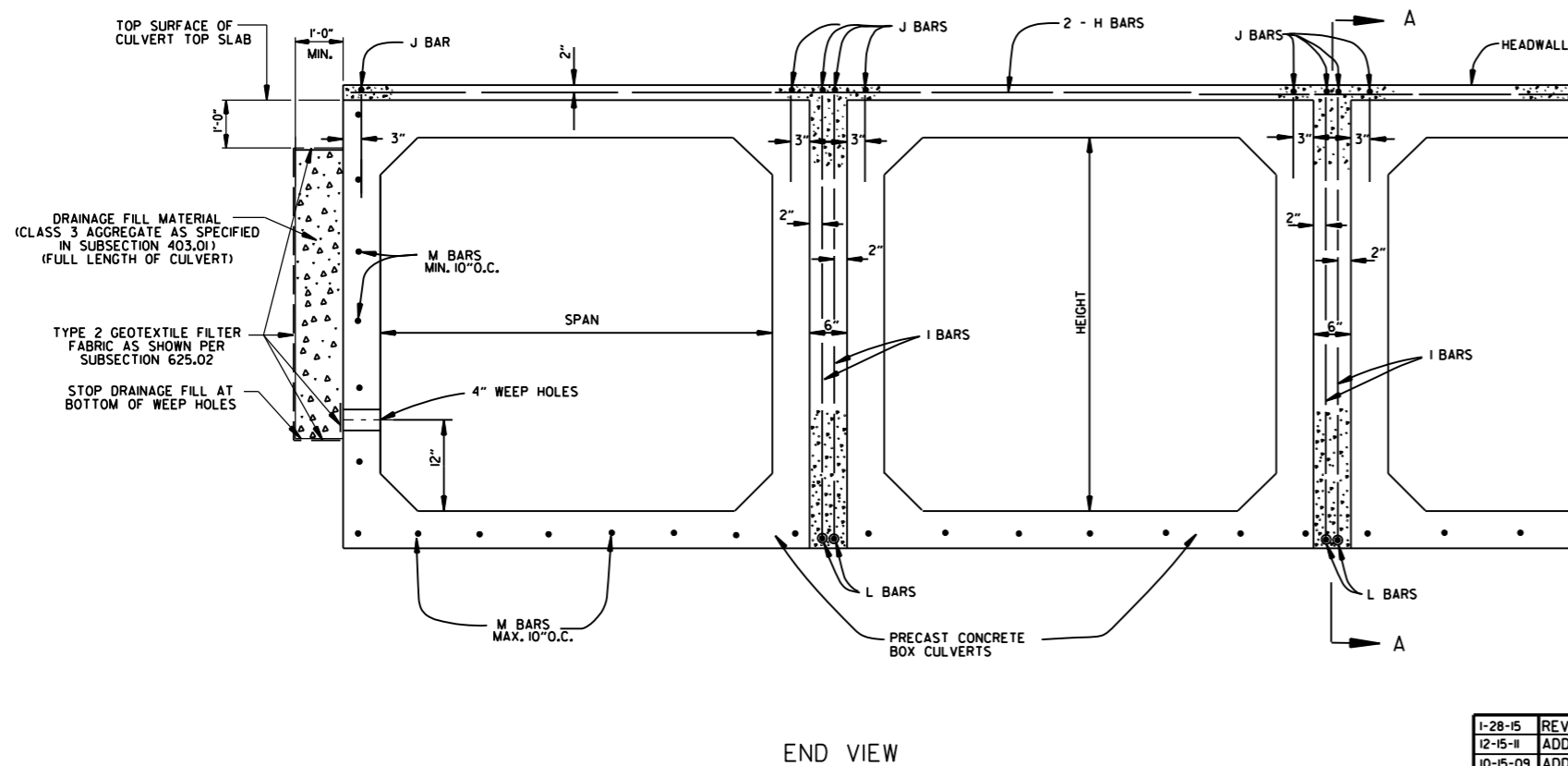
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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.

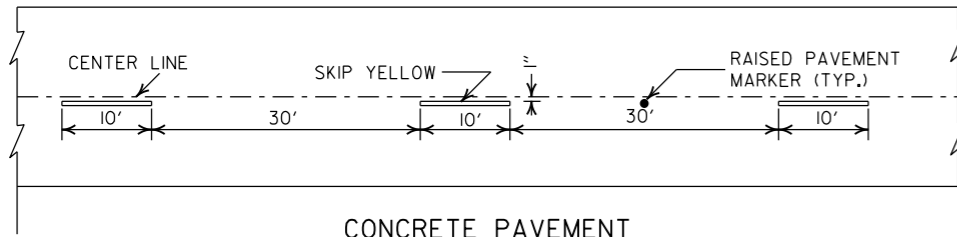


DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLs FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING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

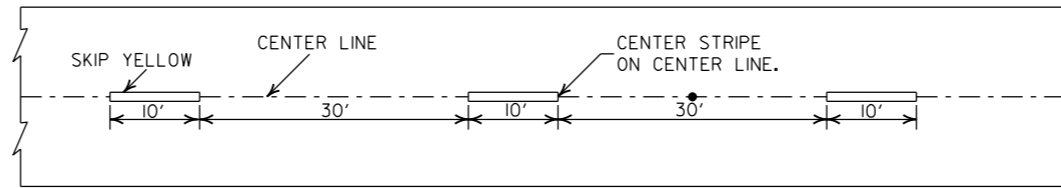
ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

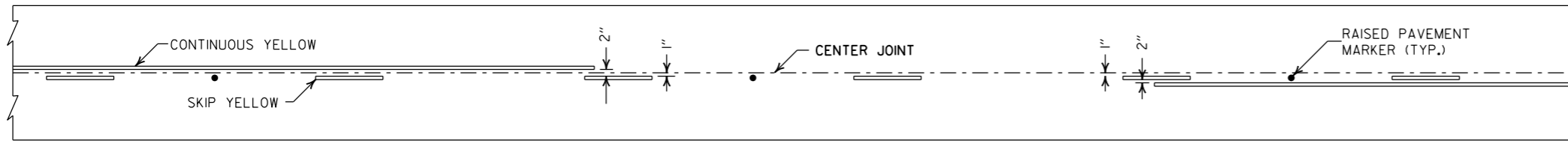


CONCRETE PAVEMENT

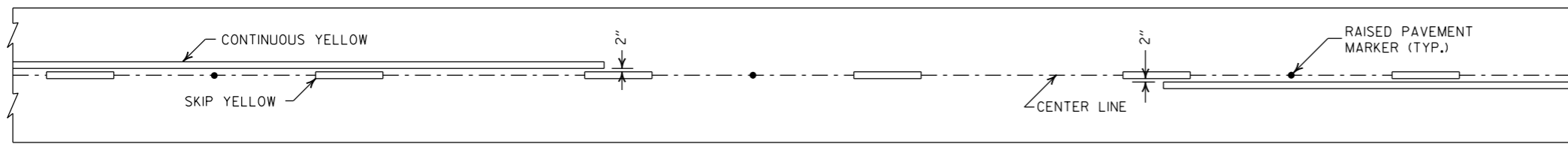


ASPHALT PAVEMENT

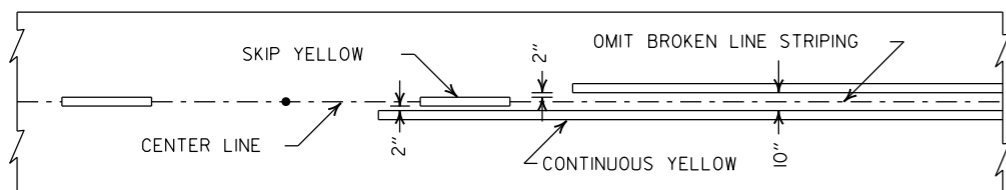
BROKEN LINE STRIPING



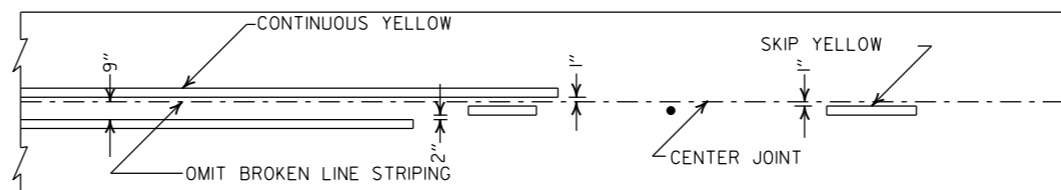
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

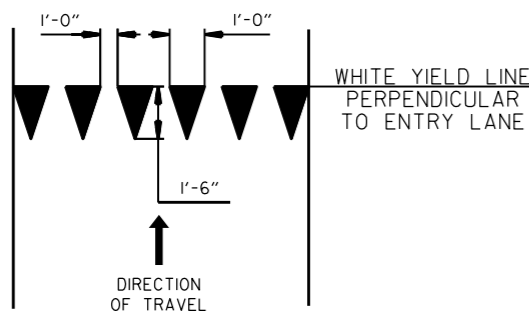


ASPHALT PAVEMENT

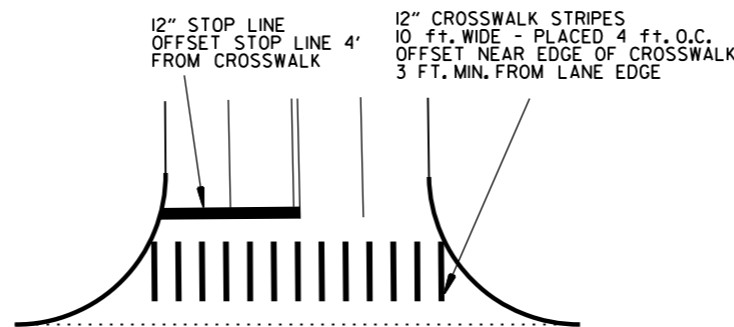


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

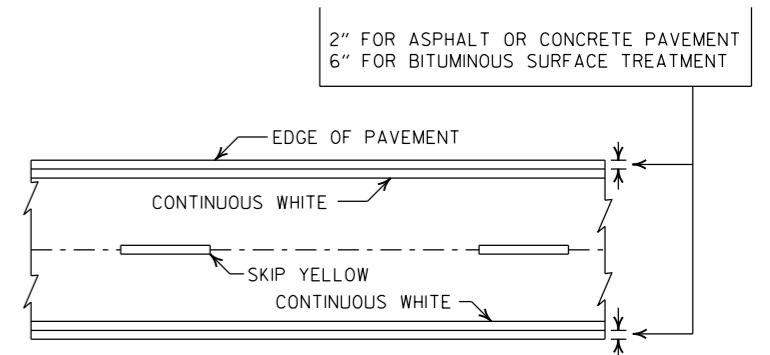


YIELD LINE DETAIL



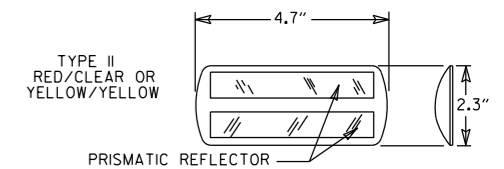
CROSSWALK AND STOP LINE DETAILS

- 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.

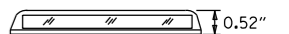


PAVEMENT EDGE LINE MARKING

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



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

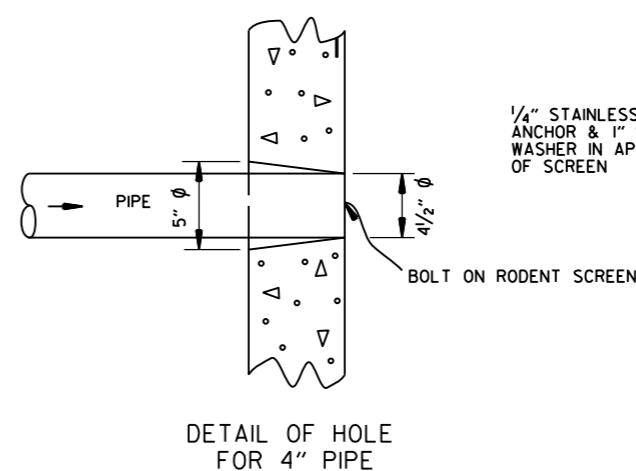
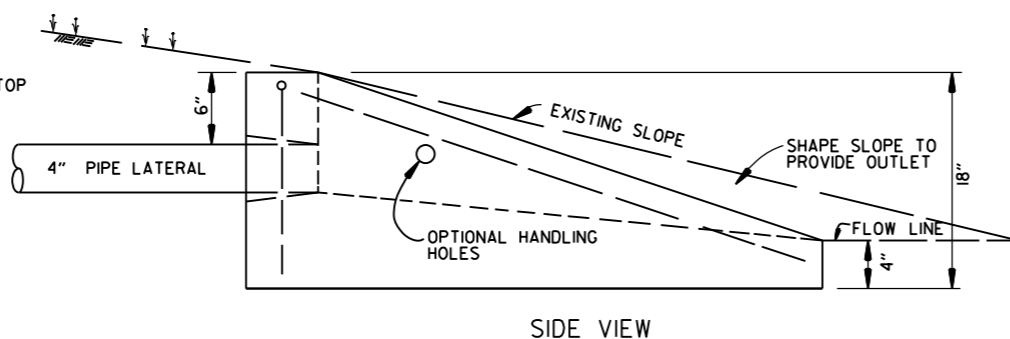
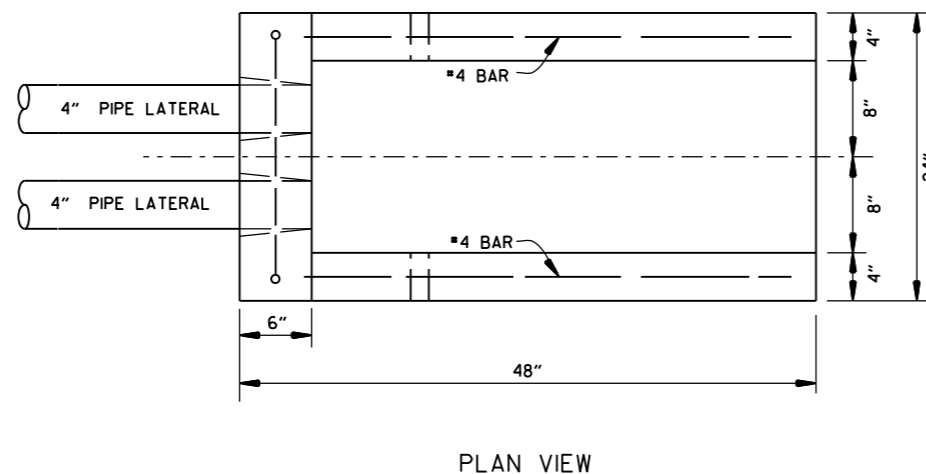
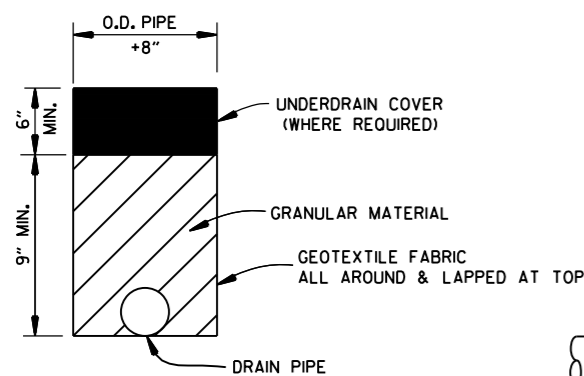
DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02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

ARKANSAS STATE HIGHWAY COMMISSION

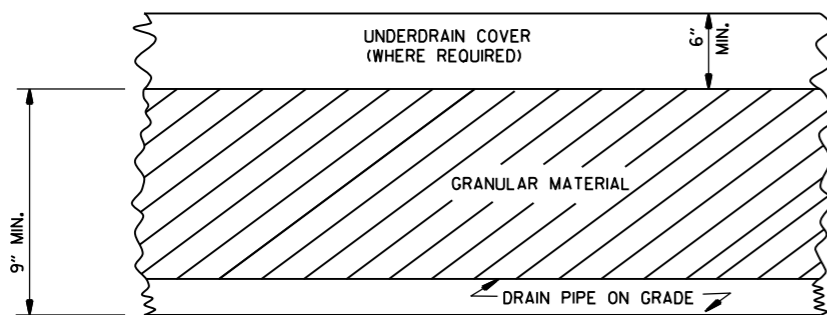
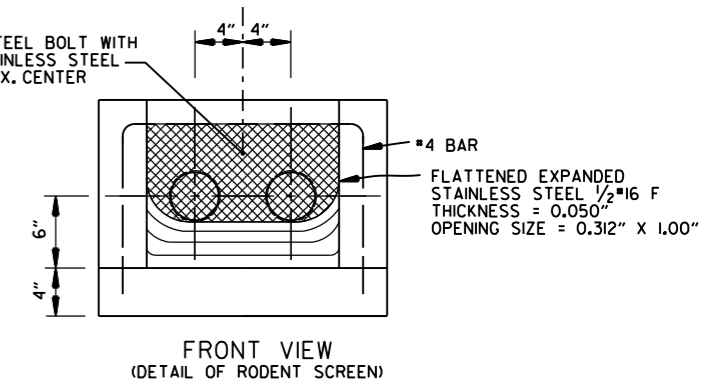
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

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.



1/4" STAINLESS STEEL BOLT WITH ANCHOR & 1" STAINLESS STEEL WASHER IN APPROX. CENTER OF SCREEN



DETAILS OF PIPE UNDERDRAIN

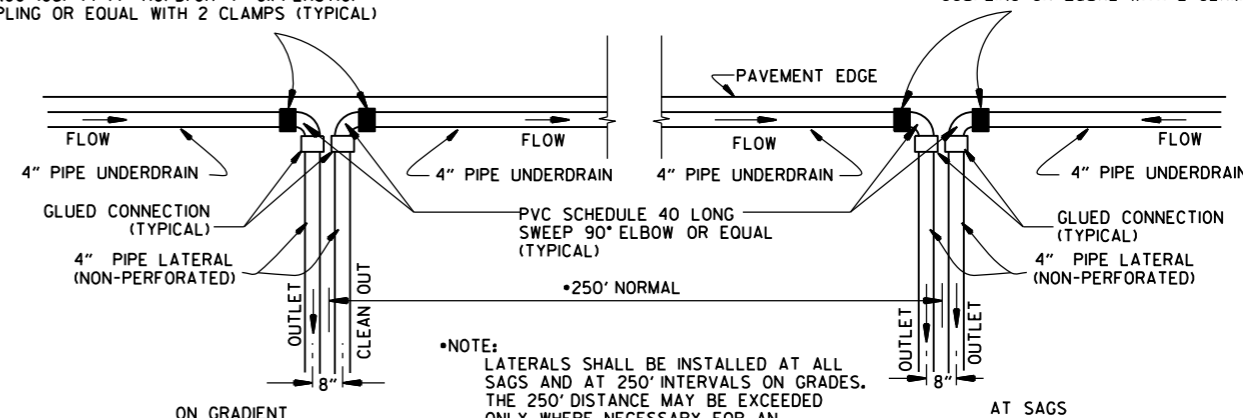
NOTES FOR PIPE UNDERDRAINS

- 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.
- 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.
- 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."
- 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.
- PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."
- 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."
- 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/DI OR 4" CI/PLASTIC) COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

UNDERDRAIN OUTLET PROTECTORS

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



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

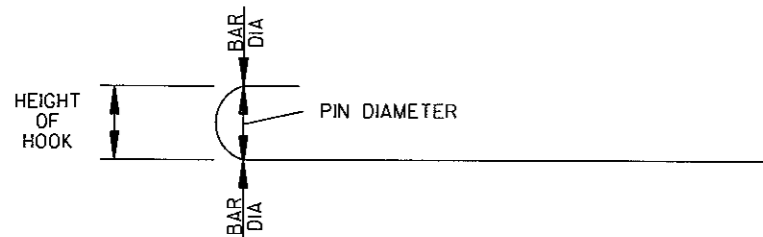
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

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

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

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



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

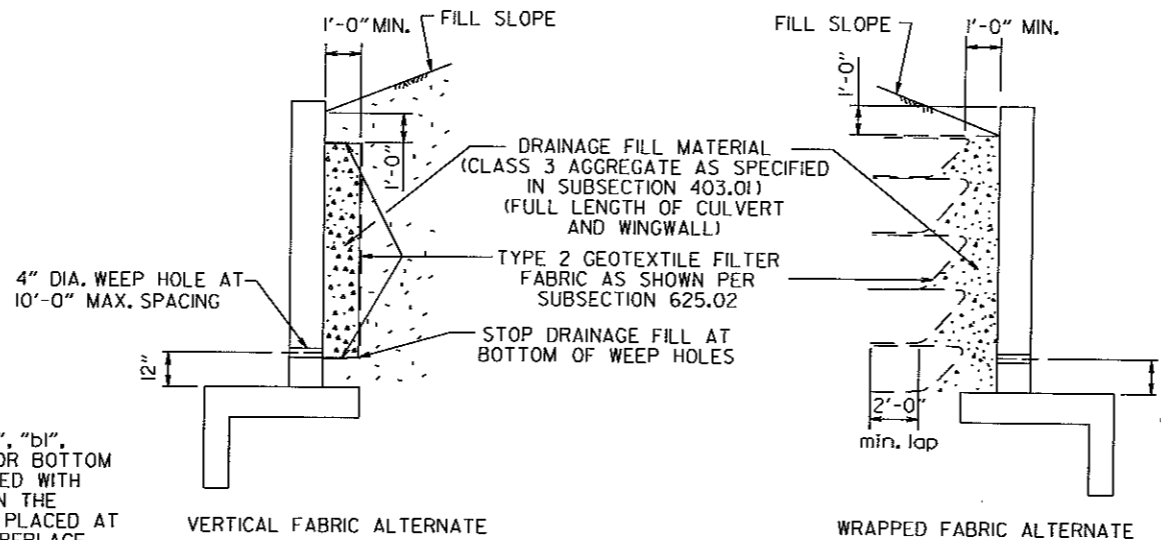
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE AASHTO M 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.

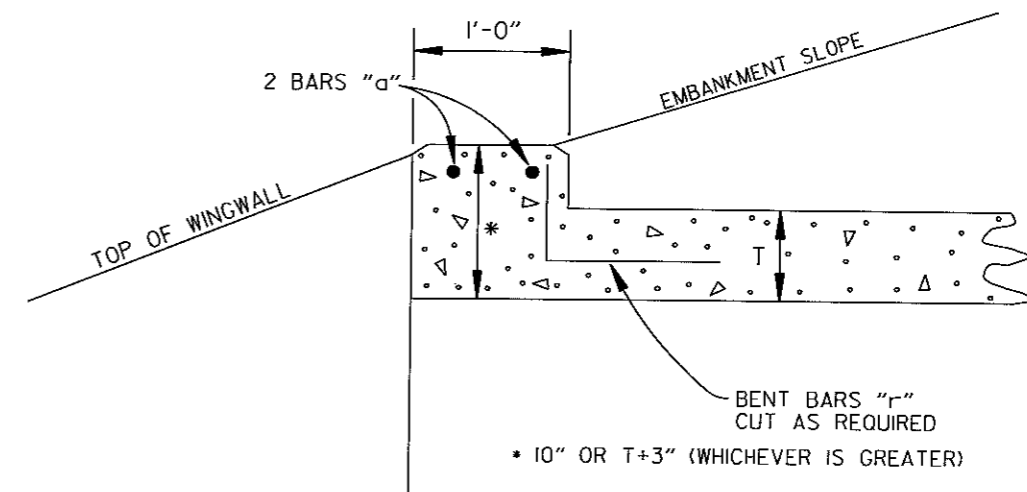
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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.

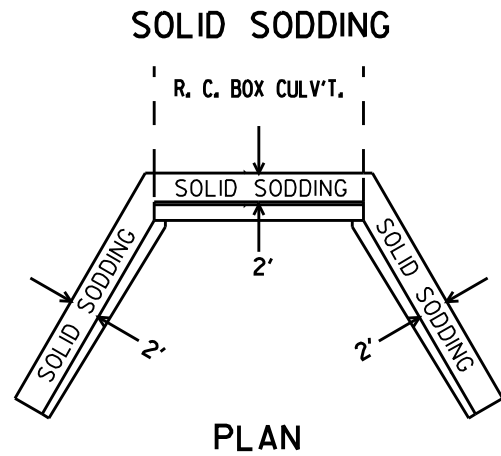
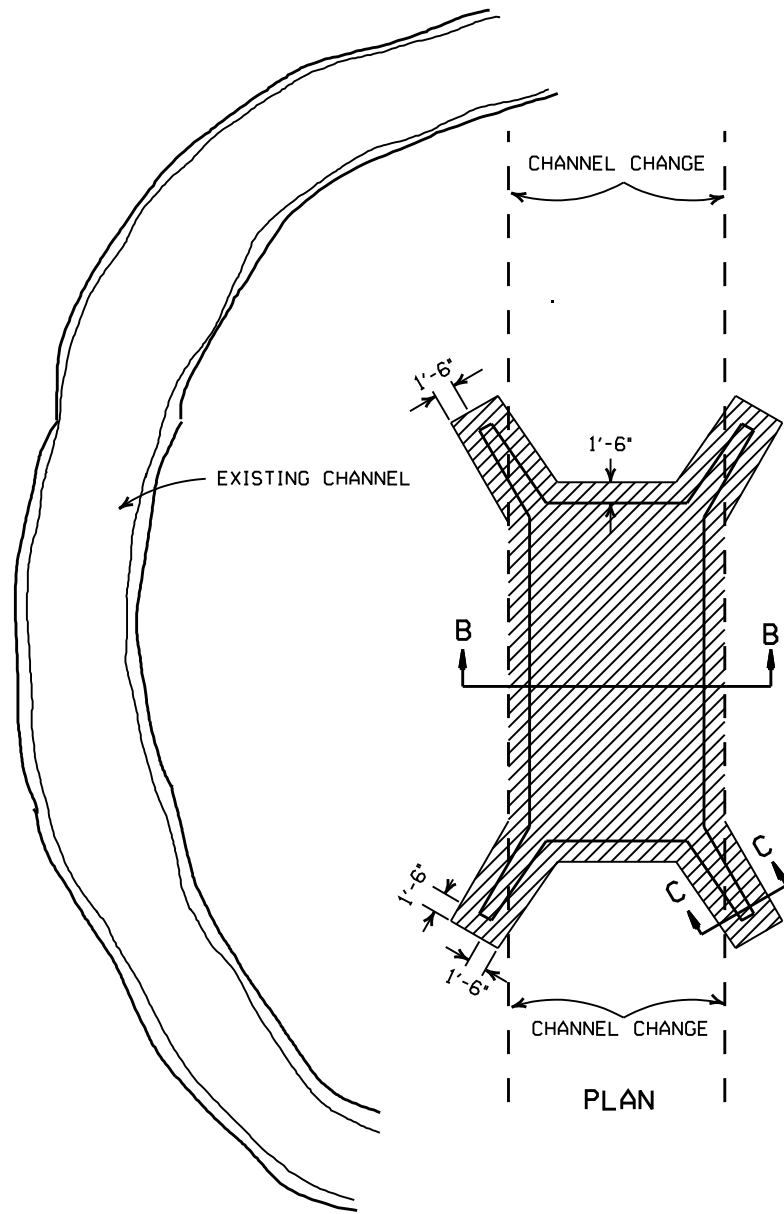
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

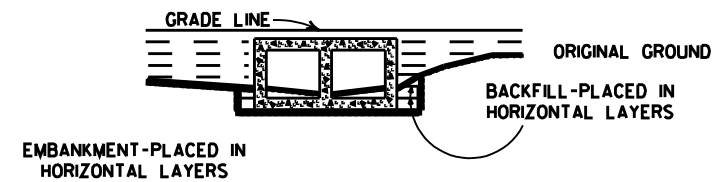
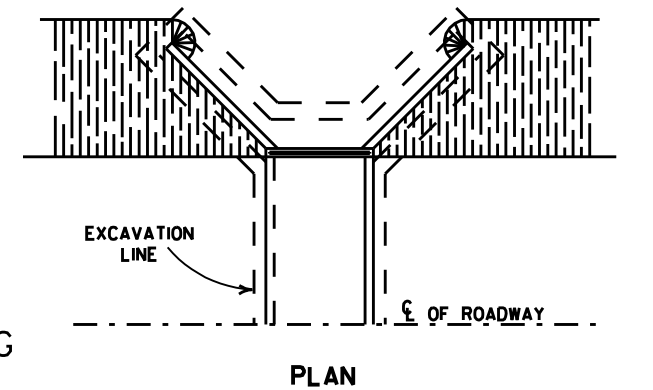
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1

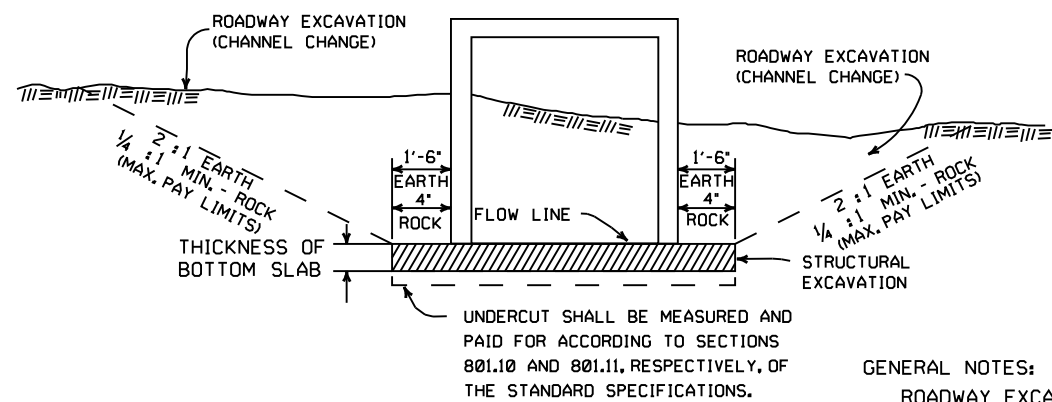
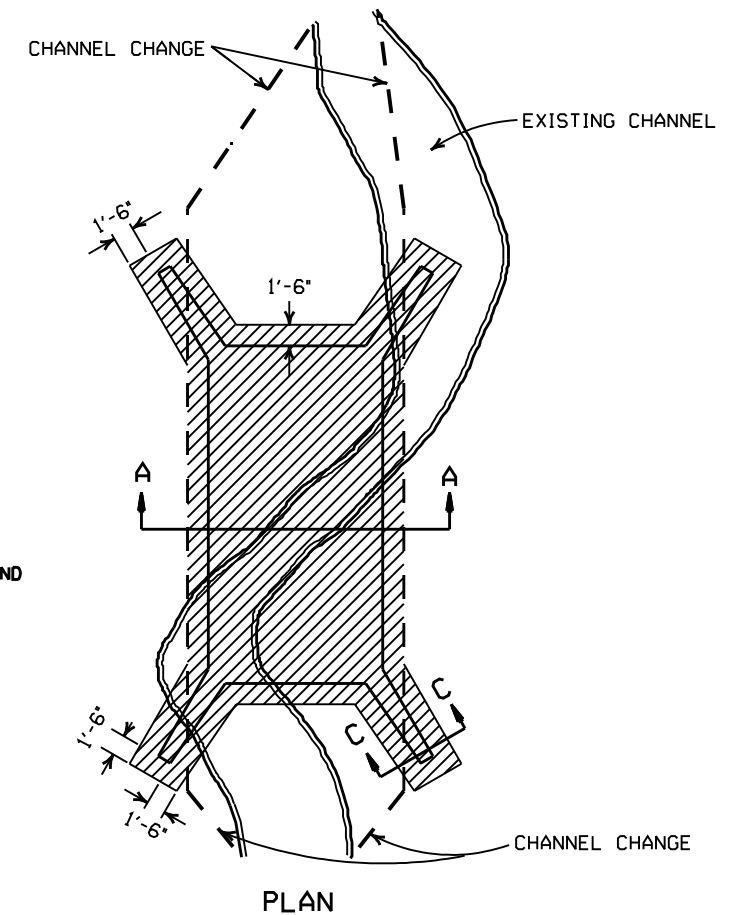


PLAN
PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

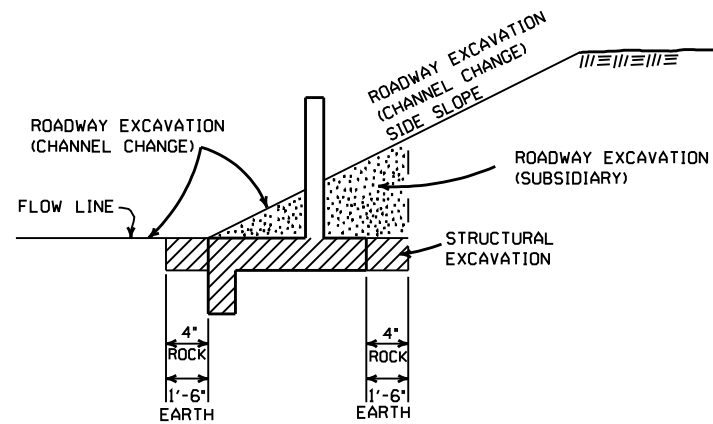
NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.



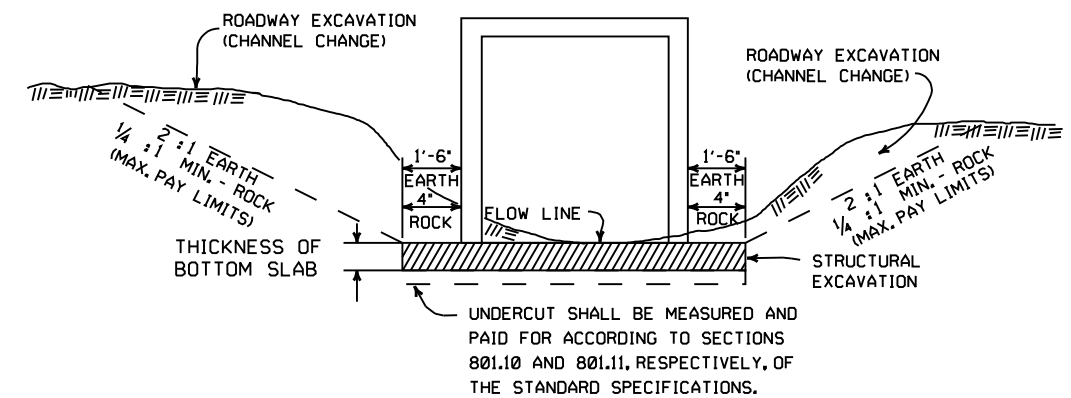
LONGITUDINAL SECTION
BACKFILL DETAILS FOR BOX CULVERT



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.


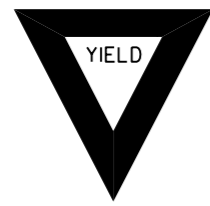







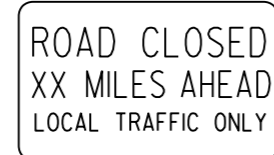
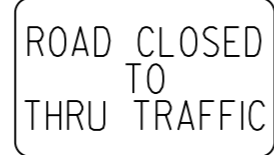

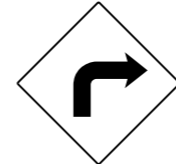



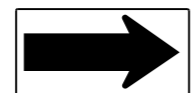

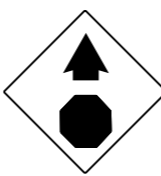
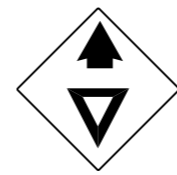
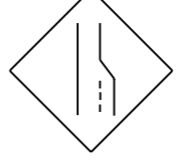

















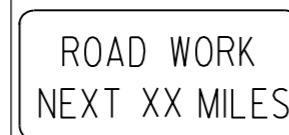
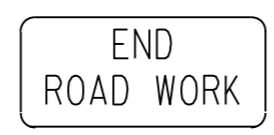
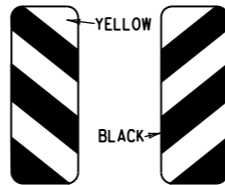


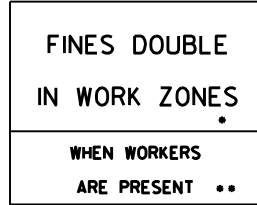
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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 AND ADDED MAXIMUM PAY LIMIT NOTES.	674-1-4-83
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING RCB-2

<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>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>WI-3</p>  <p>STD. 48"x48"</p>	<p>WI-4</p>  <p>STD. 48"x48"</p>	<p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>WI-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>18" 500 FEET 24" W16-2</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>WI-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

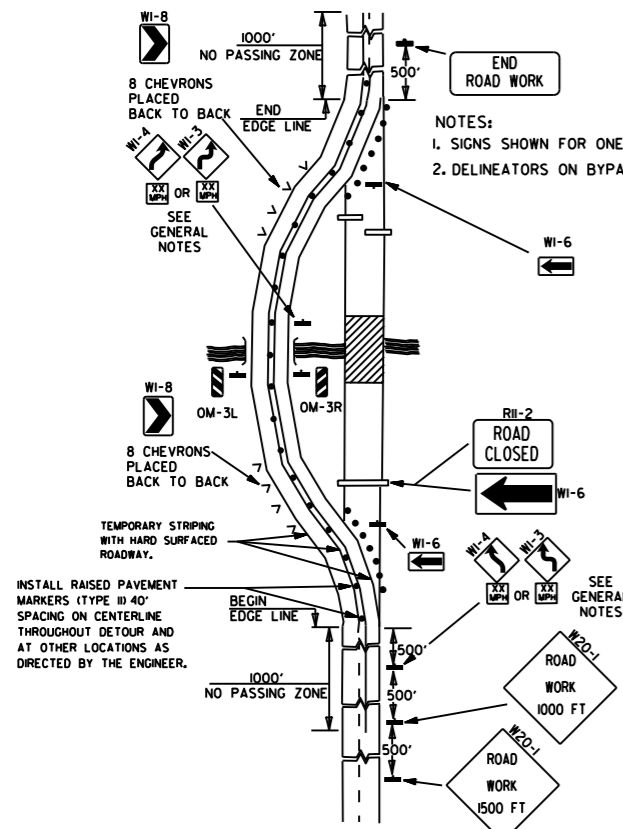
GENERAL NOTES:

- 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.

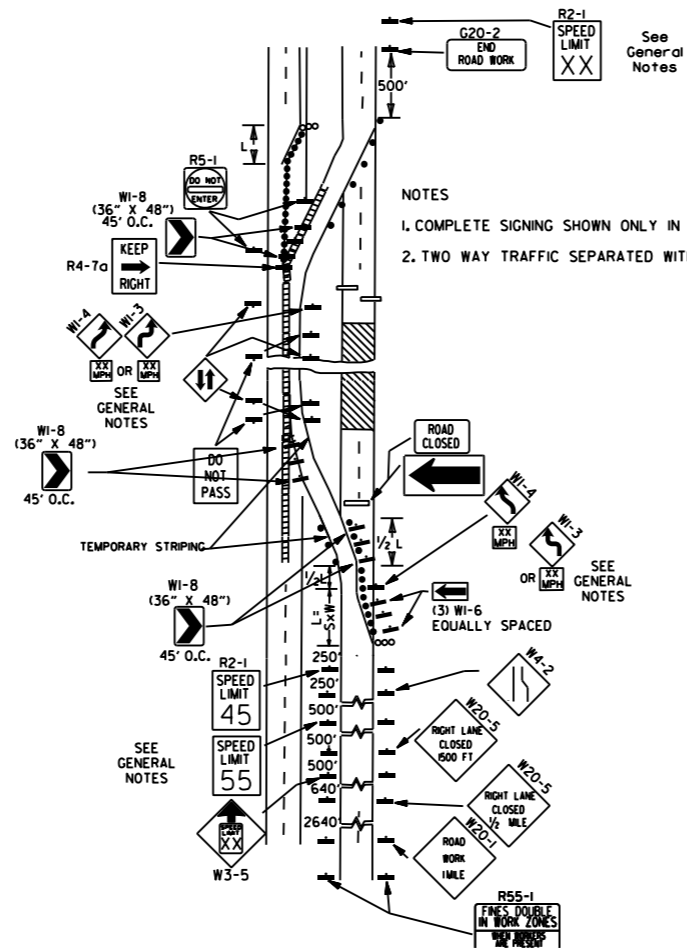
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

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

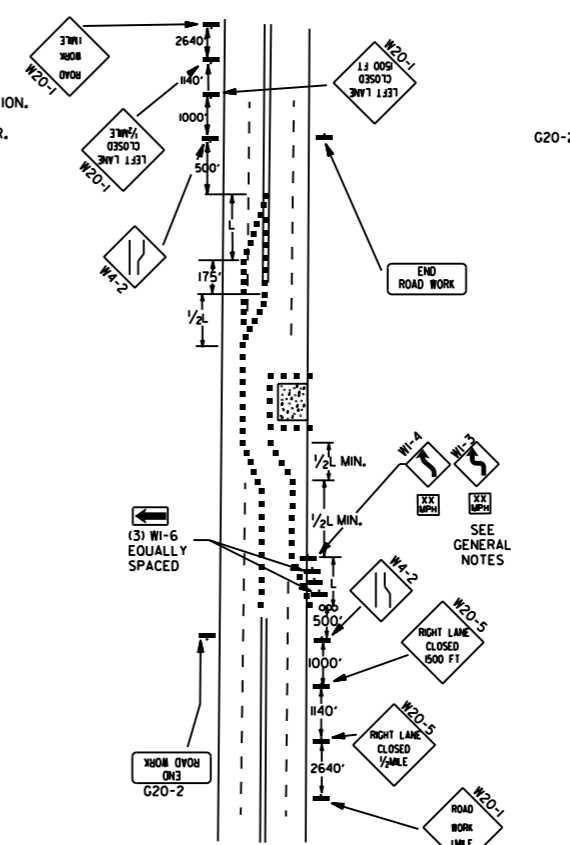
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



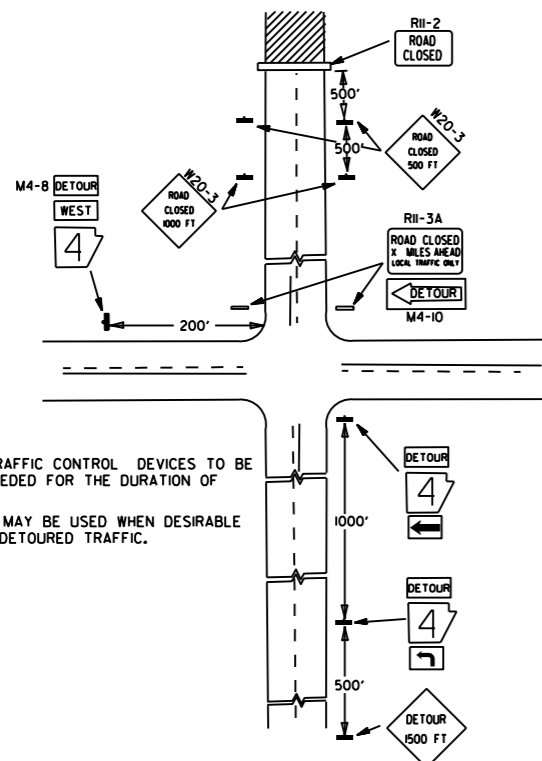
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



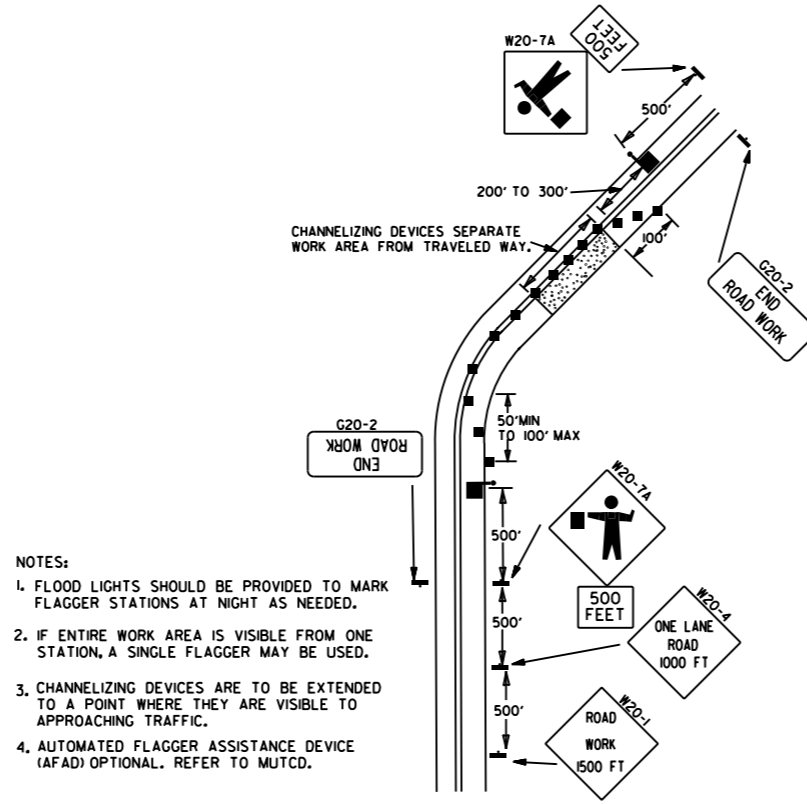
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



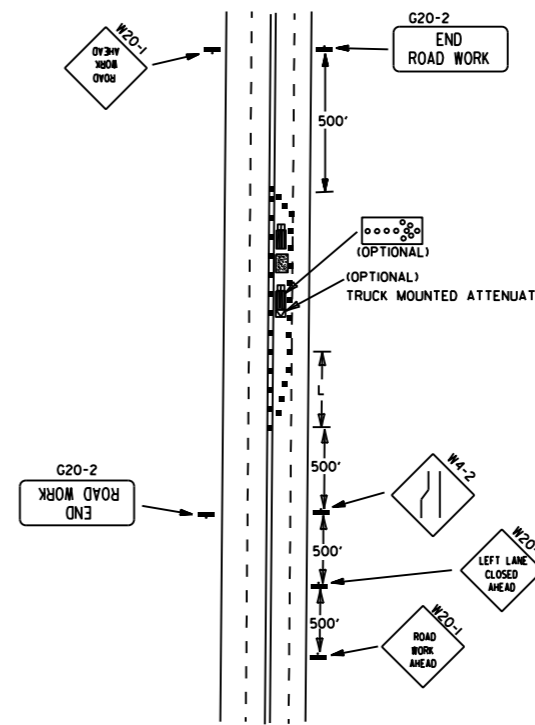
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



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

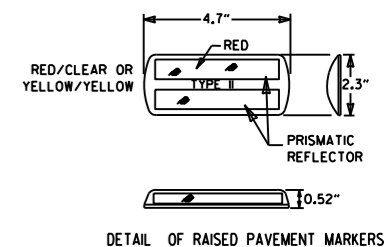


(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



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

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



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

$L = SXW$ FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:

L = MINIMUM LENGTH OF TAPER.

S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

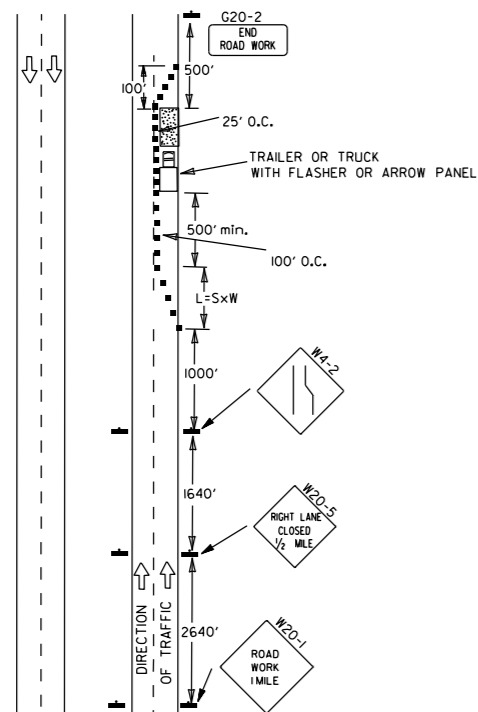
W = WIDTH OF OFFSET.

GENERAL NOTES:

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

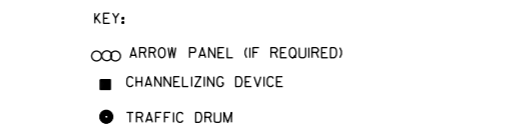
DATE	REVISION	FILED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION



(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.

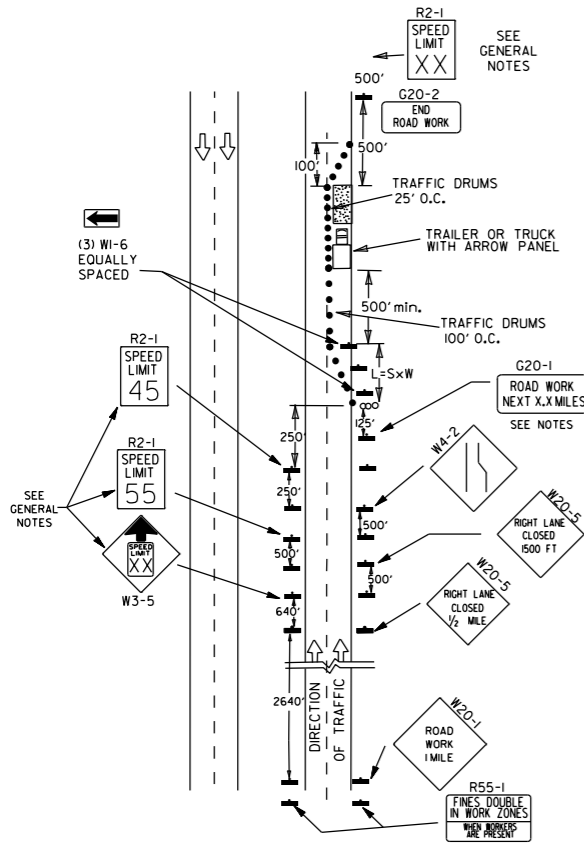


KEY:

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

GENERAL NOTES:

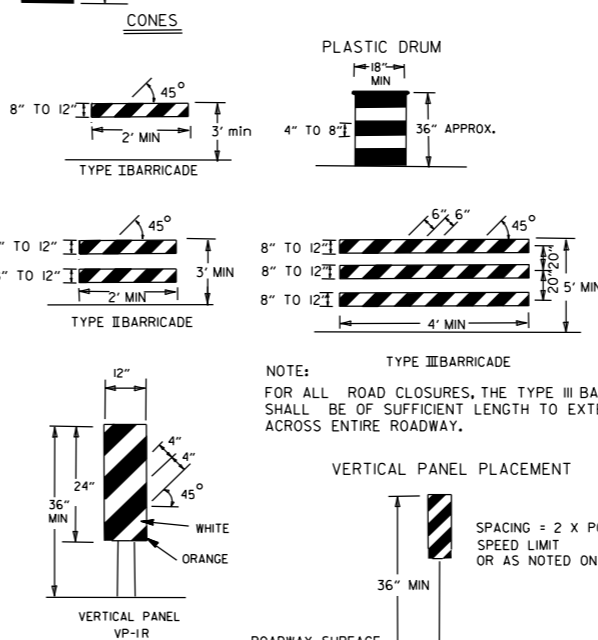
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL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



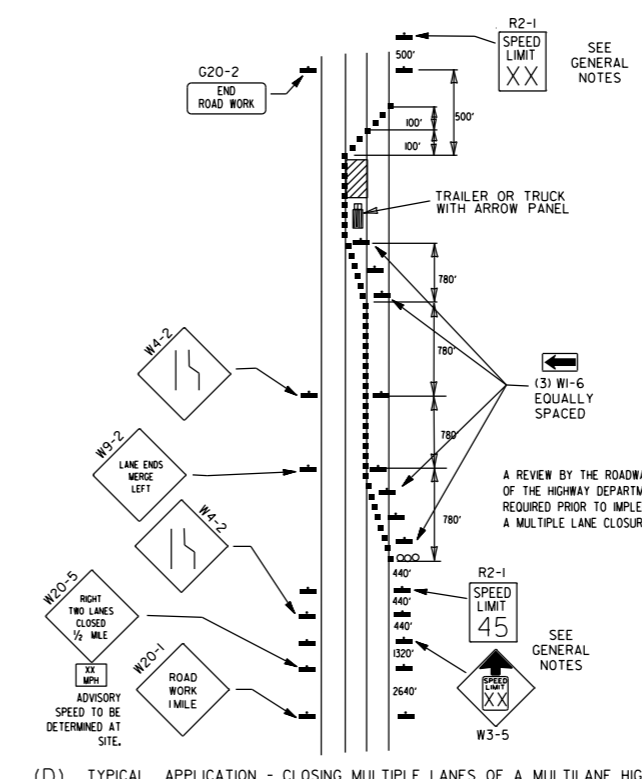
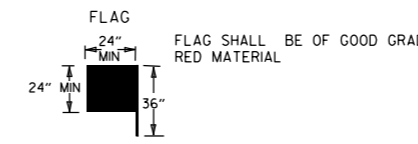
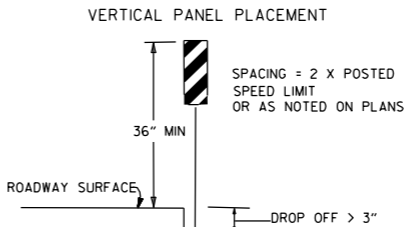
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES

WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.



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



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

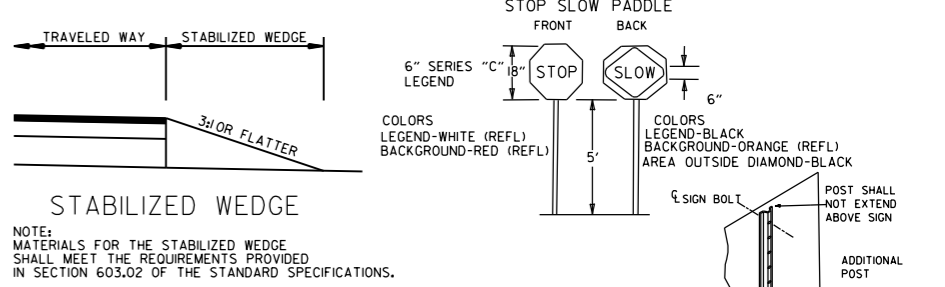
TRAFFIC CONTROL DEVICES

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE ⁽⁶⁾	STANDARD LANE CLOSURE ⁽⁶⁾
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS ⁽¹⁾	W8-9 AND TRAFFIC DRUMS ⁽¹⁾
> 3"	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 ⁽¹⁾
> 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⁾
> 18"	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 ⁽²⁾
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES

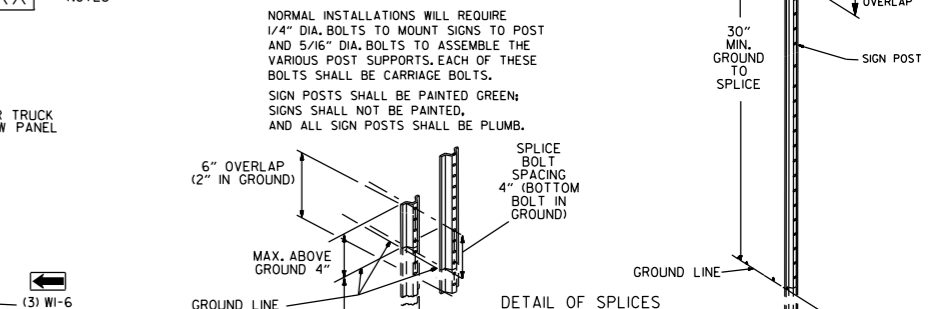
INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

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

- GENERAL NOTES:
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
 2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED. 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.
 3. 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.
 4. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

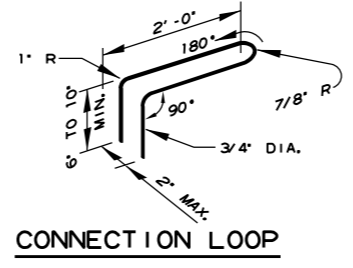
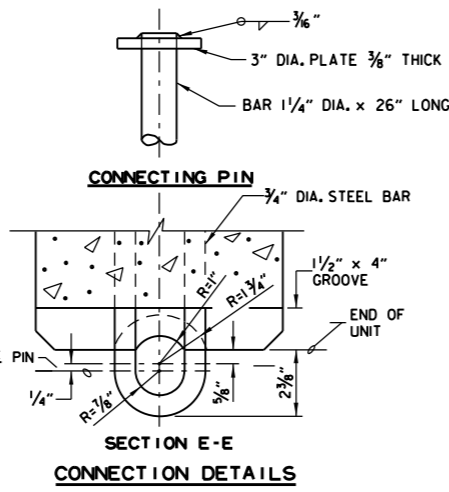


NOTE: MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

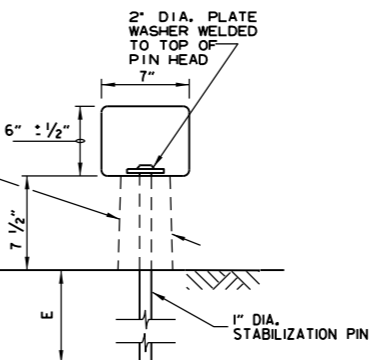
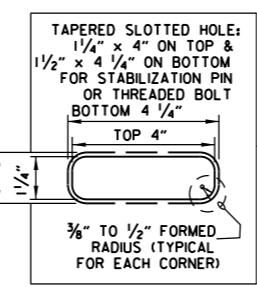
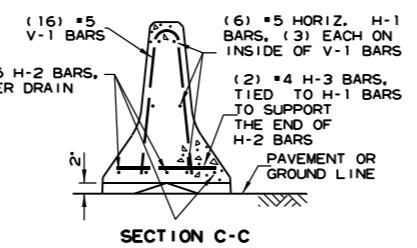
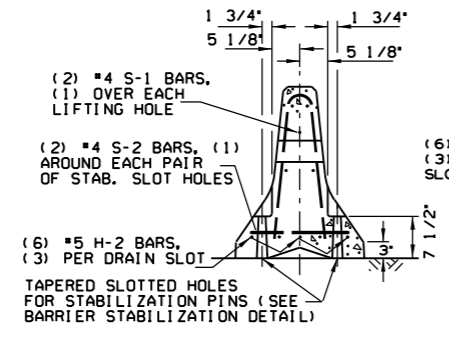
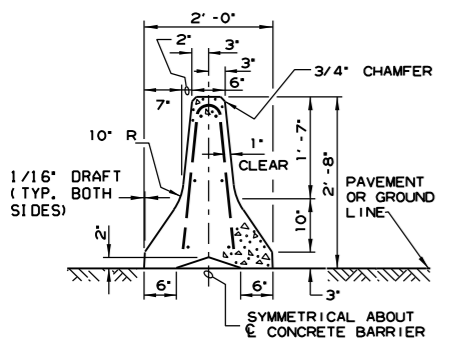


DATE	REVISION	FILED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE II	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

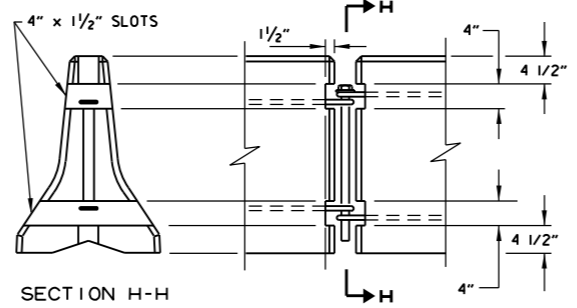
REINFORCING BAR TABLE PER BARRIER UNIT			
MARK	LOCATION	BAR SIZE (NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5 (6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5 (6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4 (2)	1'-6"
S-1	OVER LIFT HOLES	#4 (2)	2'-5" 3/8" R 90°
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4 (2)	1 1/2" R SLOTS 1" MIN. CLEAR TO BAR 5'-1" BAR W/ (4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5 (16)	TOTAL LENGTH 4'-9" 2 3/16" R 12° 4 3/8" 2'-1 3/8" 3/8"



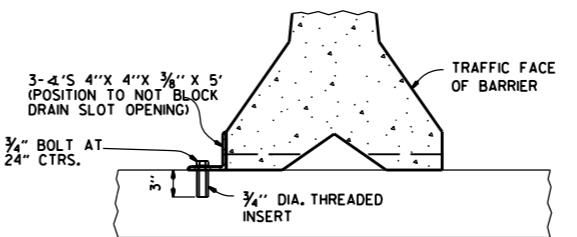
SECTION E-E
CONNECTION DETAILS



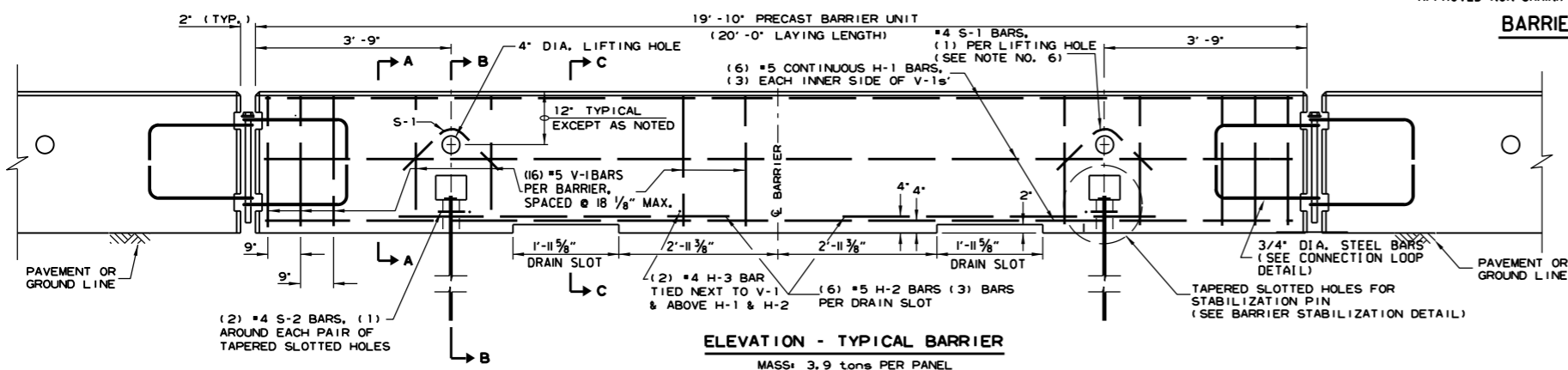
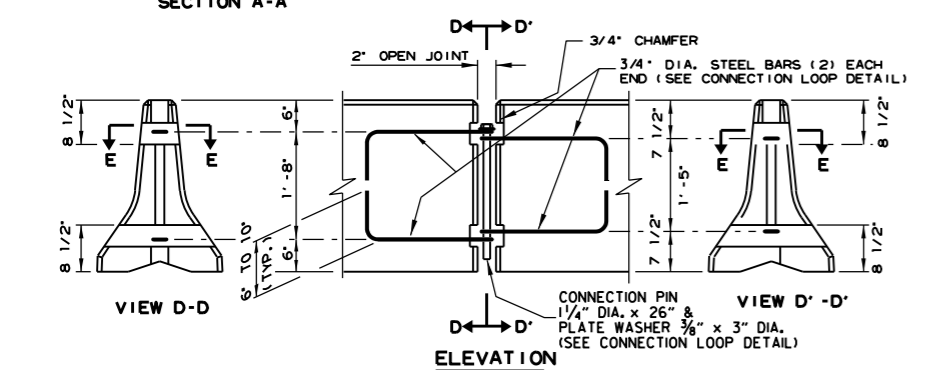
BARRIER STABILIZATION DETAIL
ROADWAY SECTION



BARRIER REMOVAL SLOT DETAILS



BARRIER STABILIZATION DETAIL
BRIDGE DECKS



ELEVATION - TYPICAL BARRIER
MASS: 3.9 TONS PER PANEL

- 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 ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS. DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.
 - 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.

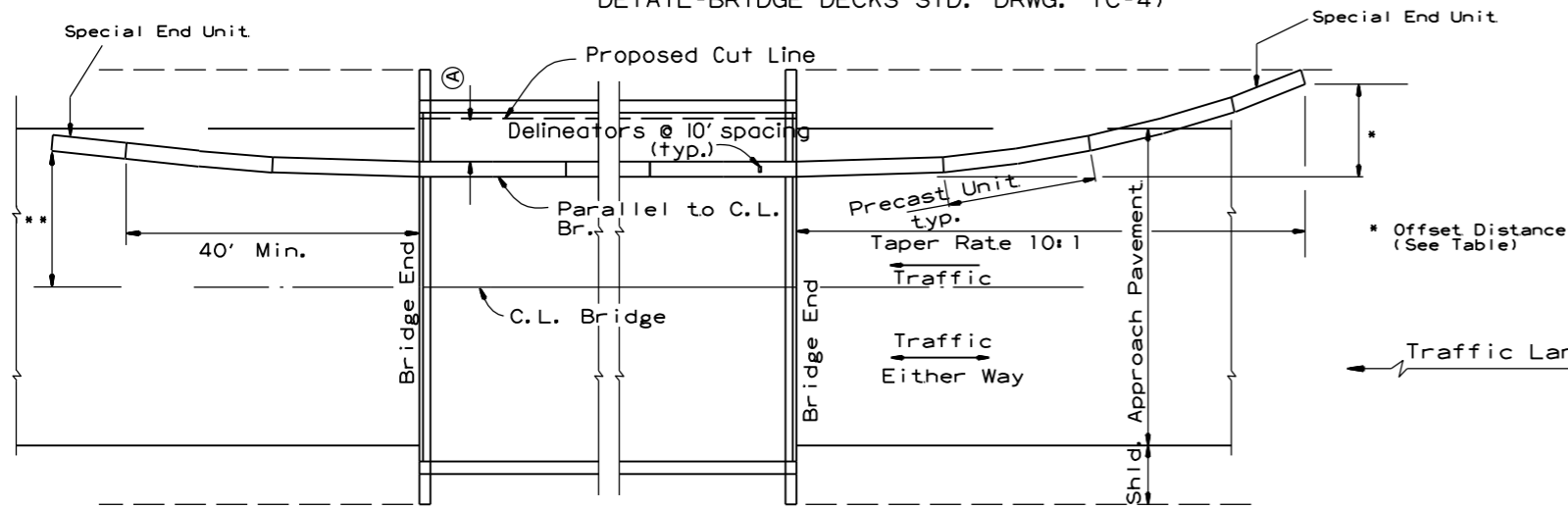
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION -
TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

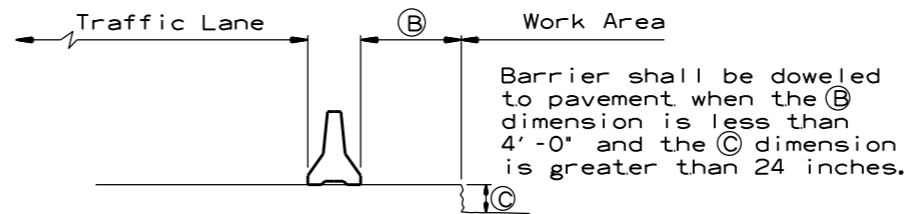
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

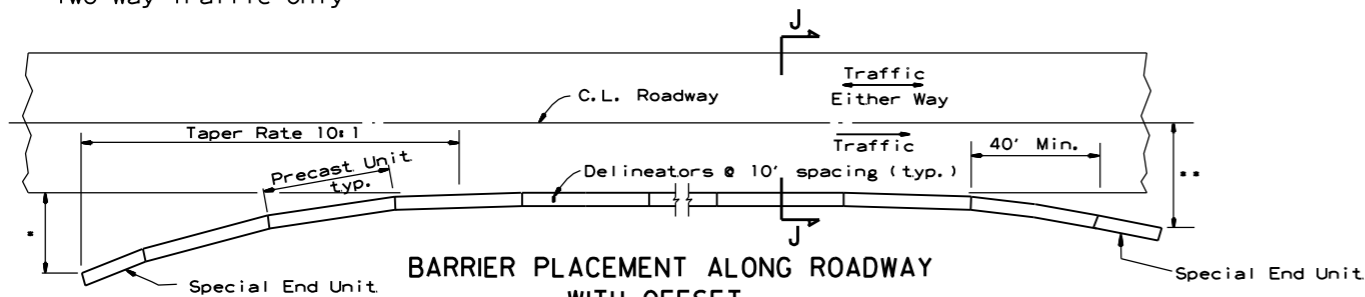
No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

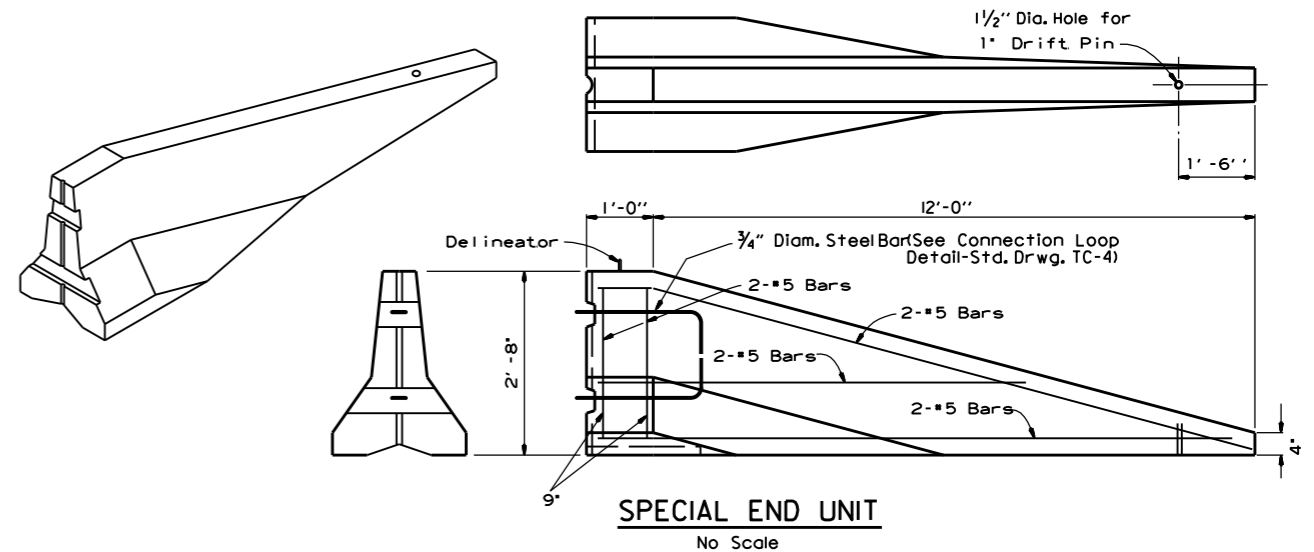
* Offset Distance (See Table)

** 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.

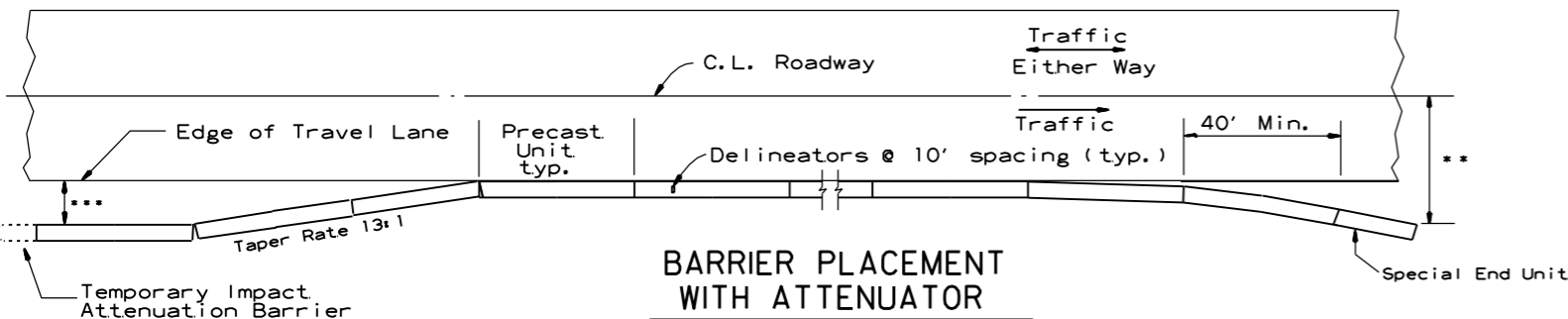


SPECIAL END UNIT

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	

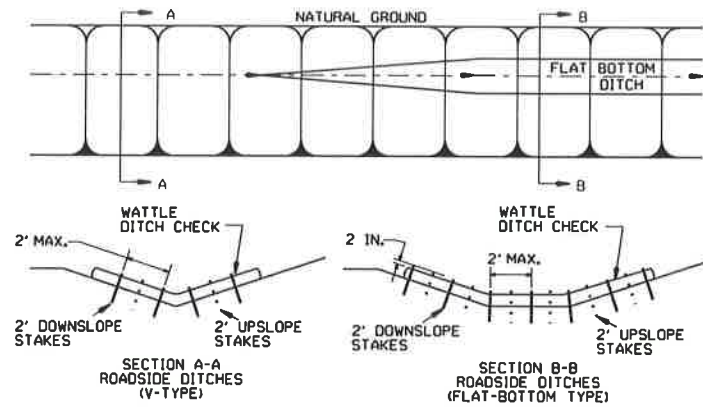
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-5

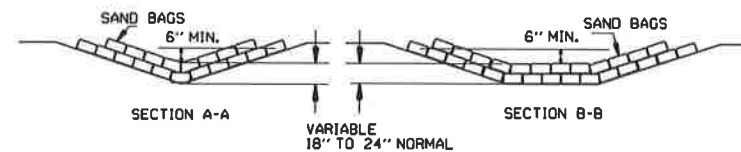
GENERAL NOTES

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

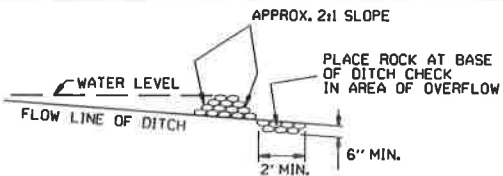


WATTLE DITCH CHECK (E-1)

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

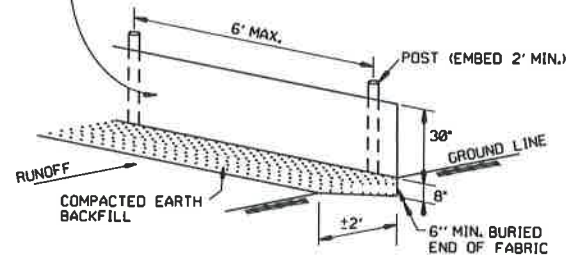


SAND BAG DITCH CHECK (E-5)

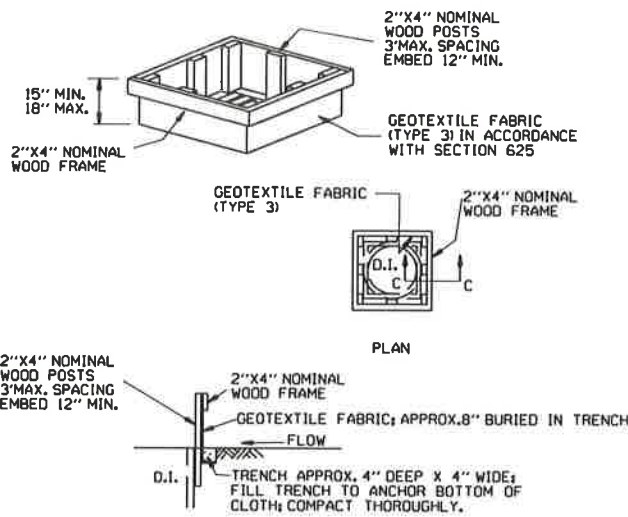


ROCK DITCH CHECK (E-6)

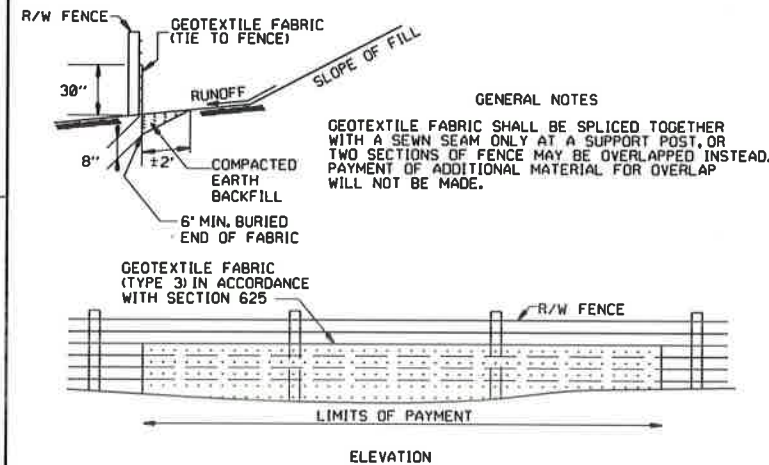
GENERAL NOTES
 GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625
 GEOTEXTILE FABRIC SHALL BE SPICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)

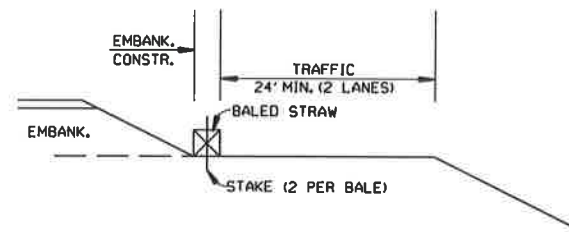


DROP INLET SILT FENCE (E-7)

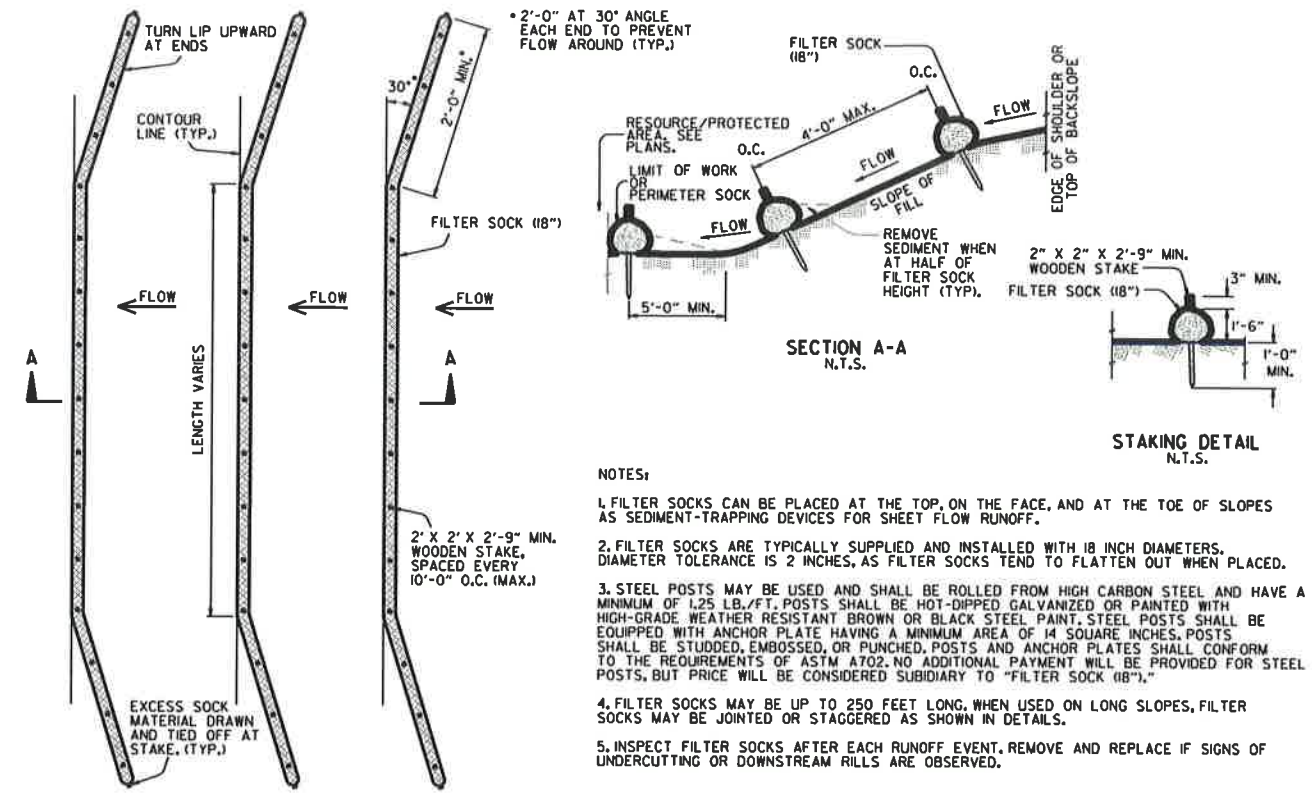


SILT FENCE ON R/W FENCE (E-4)

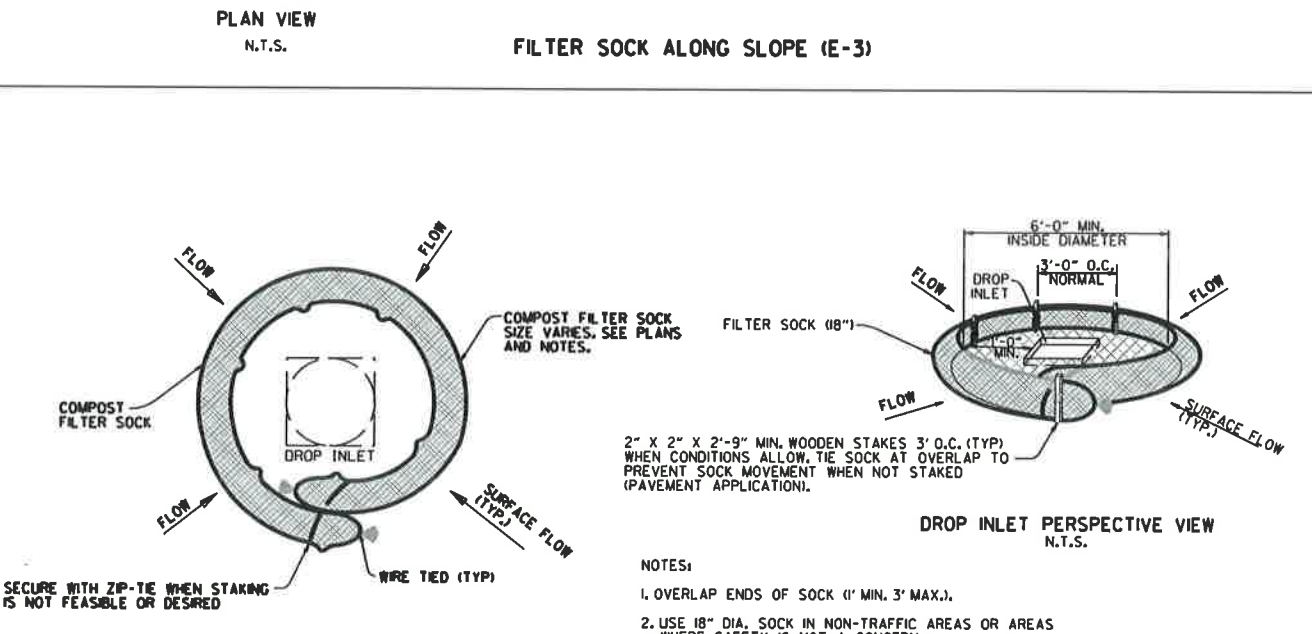
GENERAL NOTES
 1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
 2. NO GAPS SHALL BE LEFT BETWEEN BALES.
 3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



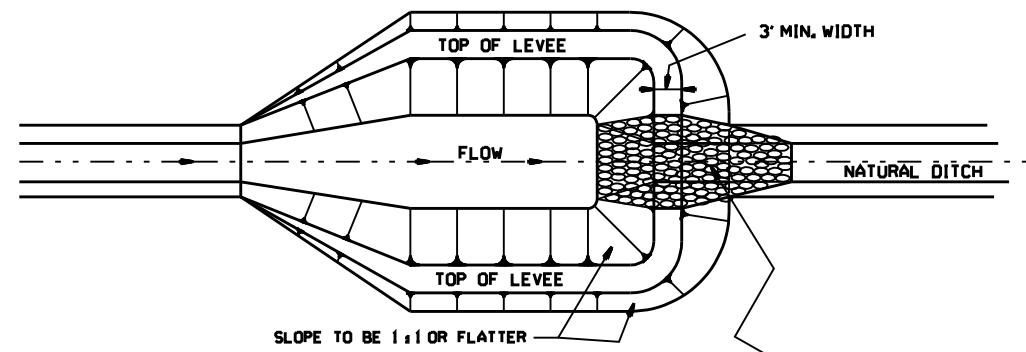
NOTES:
 1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.
 2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.
 3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18\"/>



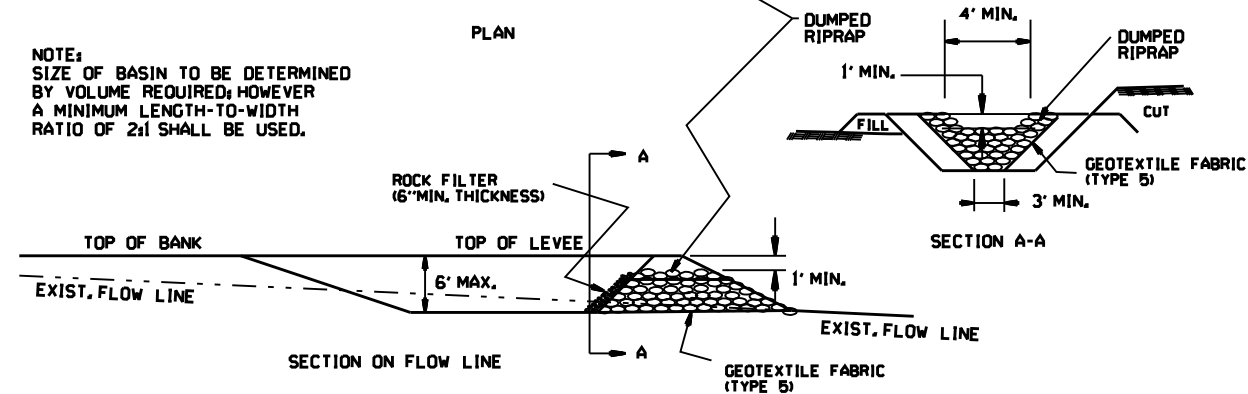
NOTES:
 1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).
 2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

DATE	REVISION	
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)	7-20-95
07-20-95	REVISED SILT FENCE E-4 AND E-11	
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
		FILMED

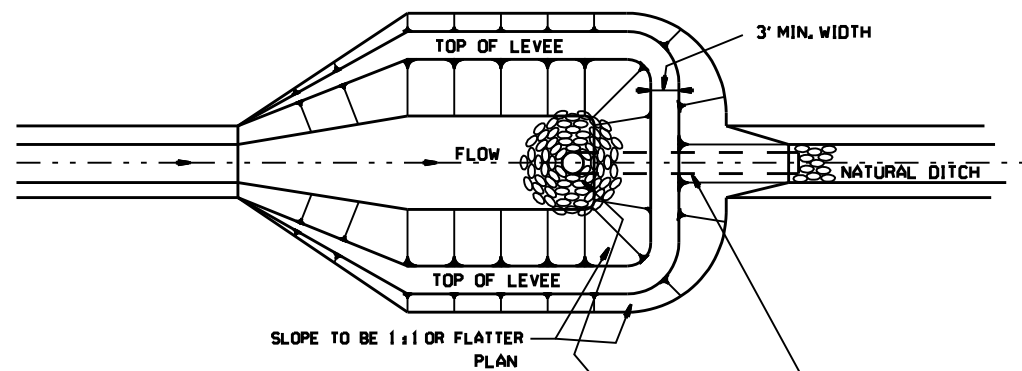
ARKANSAS STATE HIGHWAY COMMISSION
 TEMPORARY EROSION CONTROL DEVICES
 STANDARD DRAWING TEC-1



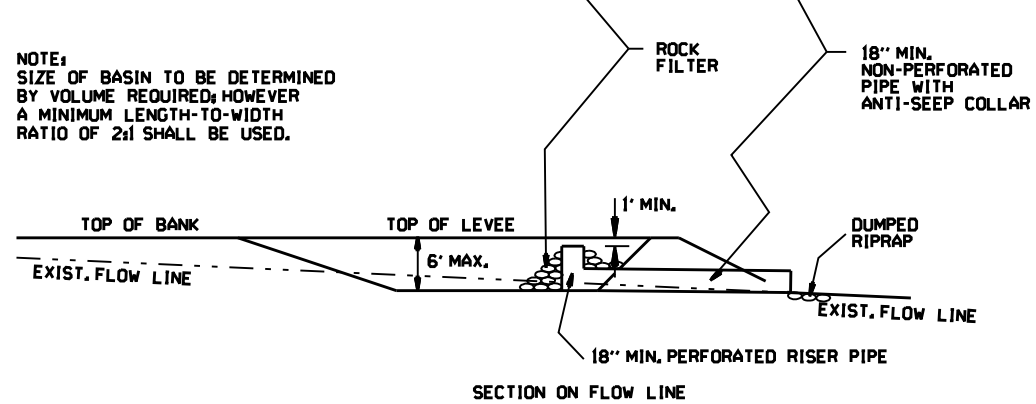
NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.



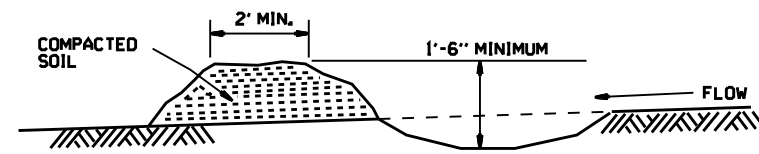
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



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

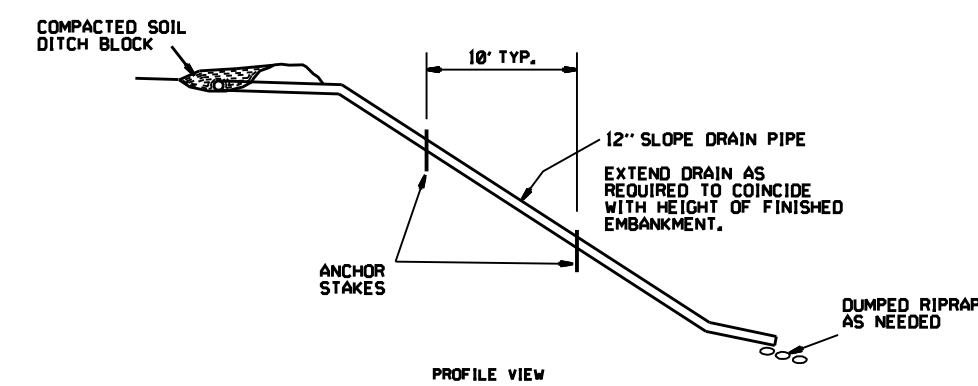
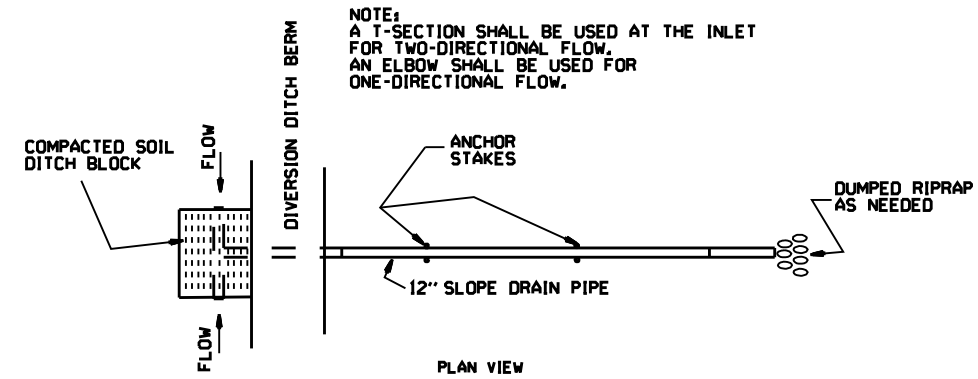


SEDIMENT BASIN WITH PIPE OUTLET (E-10)

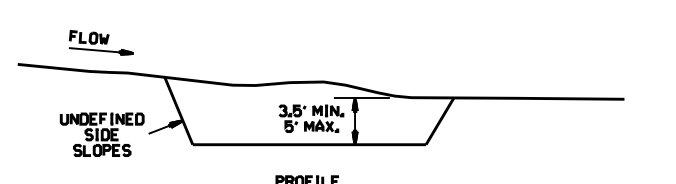
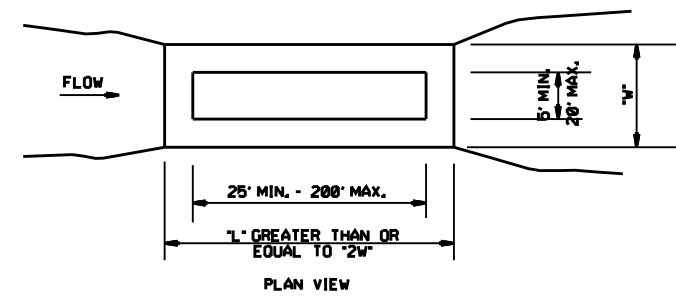


DIVERSION DITCH (E-8)

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)

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

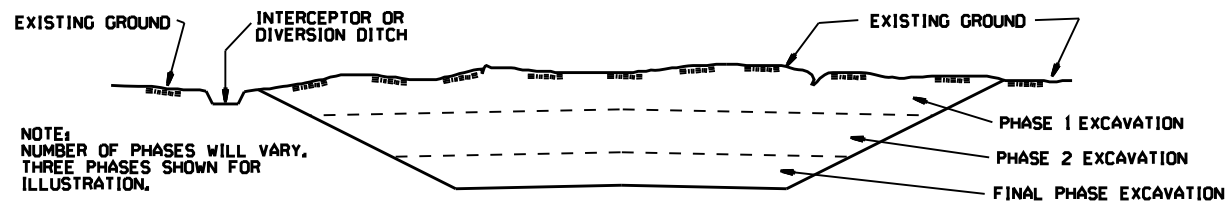
ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION
CONTROL DEVICES
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

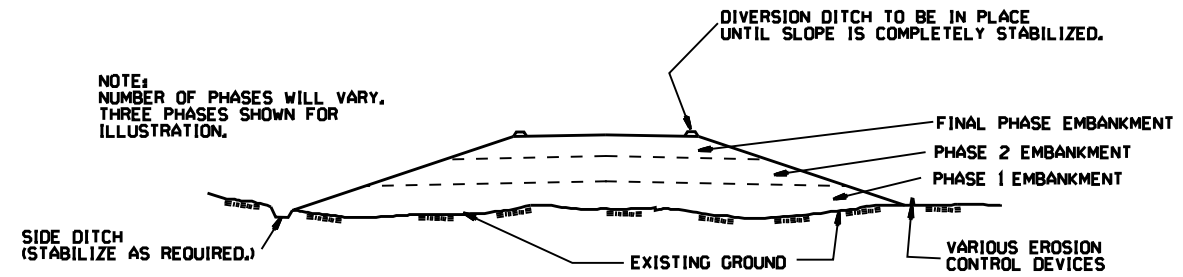
GENERAL NOTE

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.

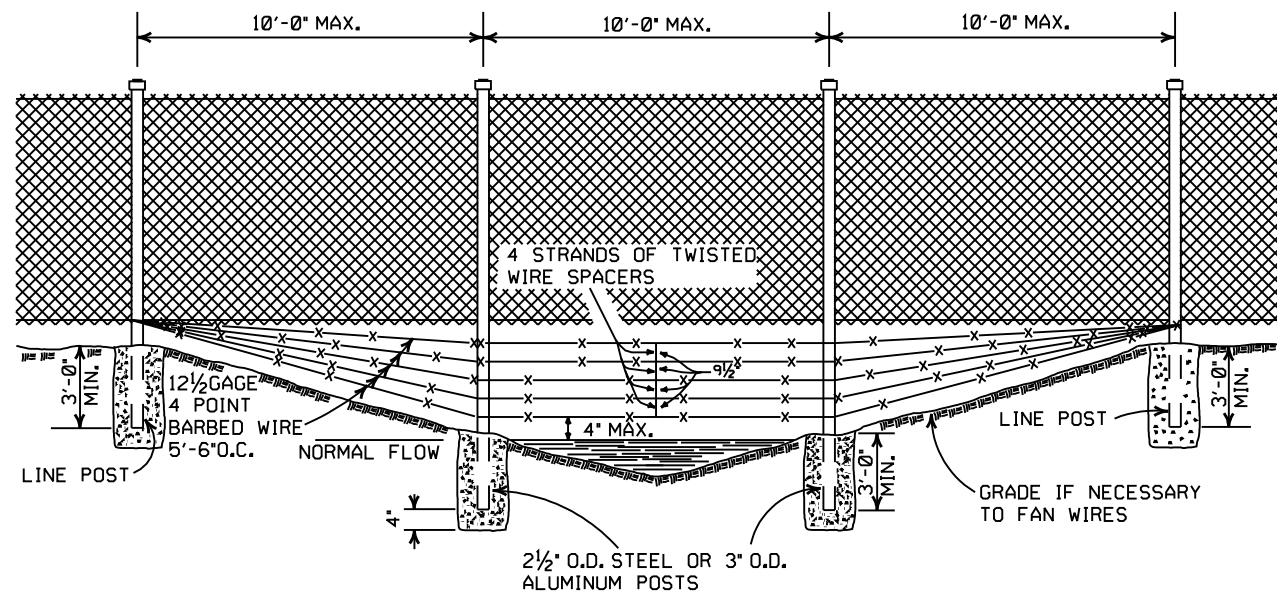
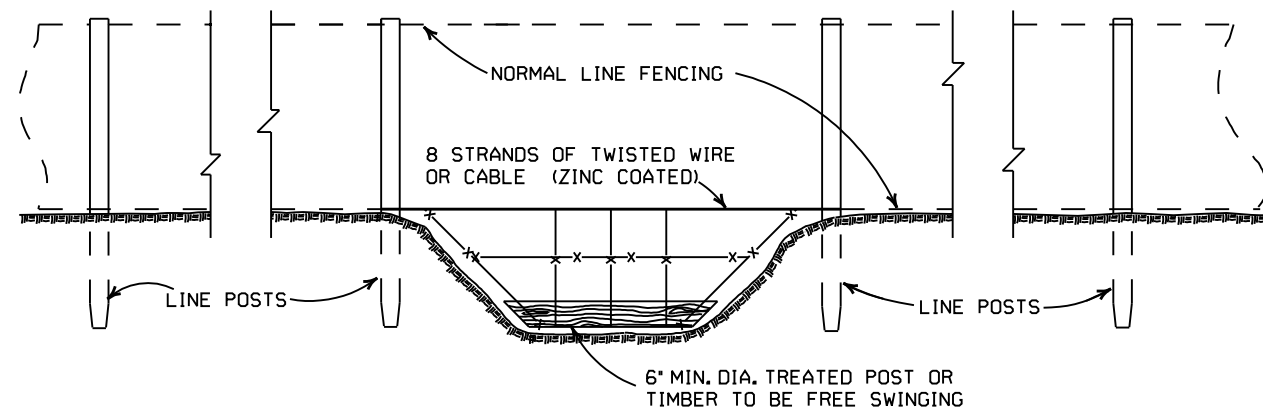
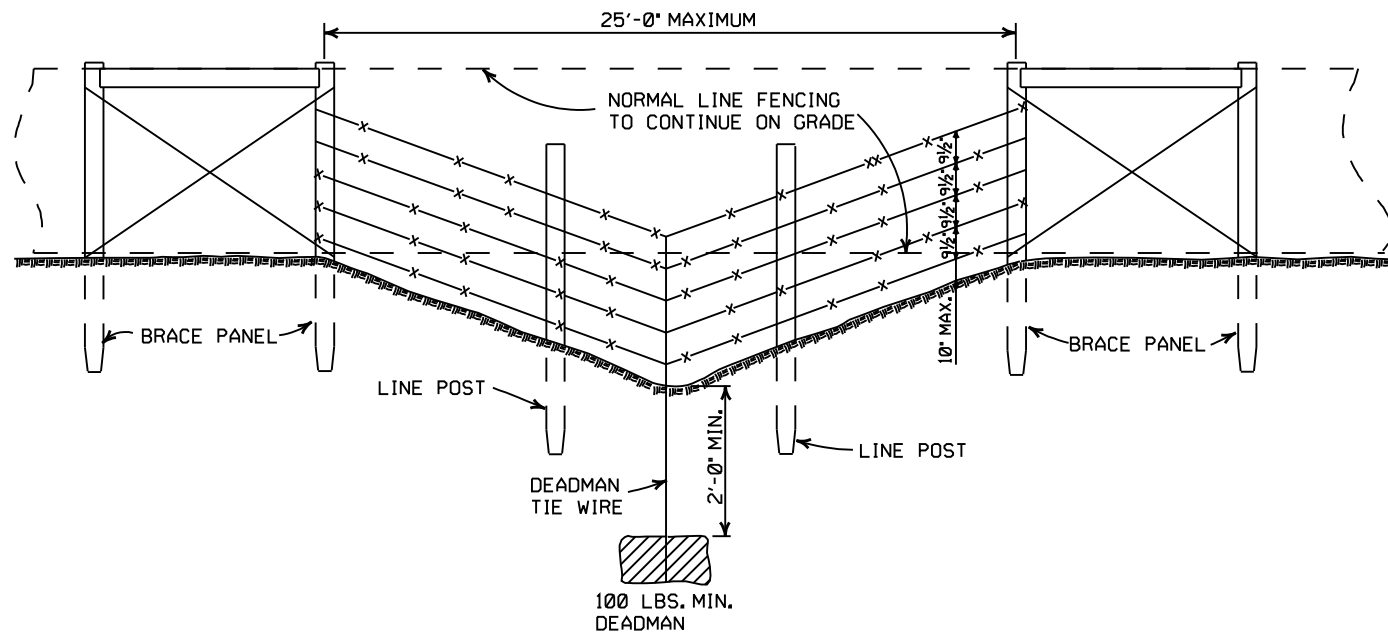
GENERAL NOTE

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	
		STANDARD DRAWING TEC-3	
11-03-94	CORRECTED SPELLING		
6-2-94	Drawn & Issued	6-2-94	FILMED
DATE	REVISION		



GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

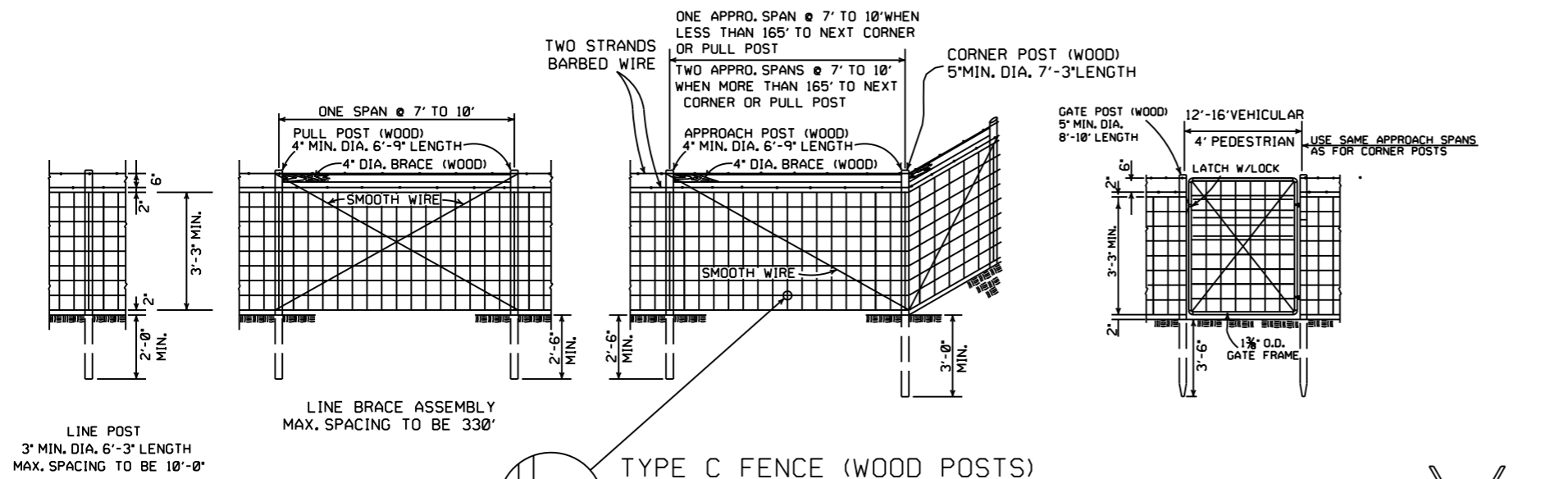
WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

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	

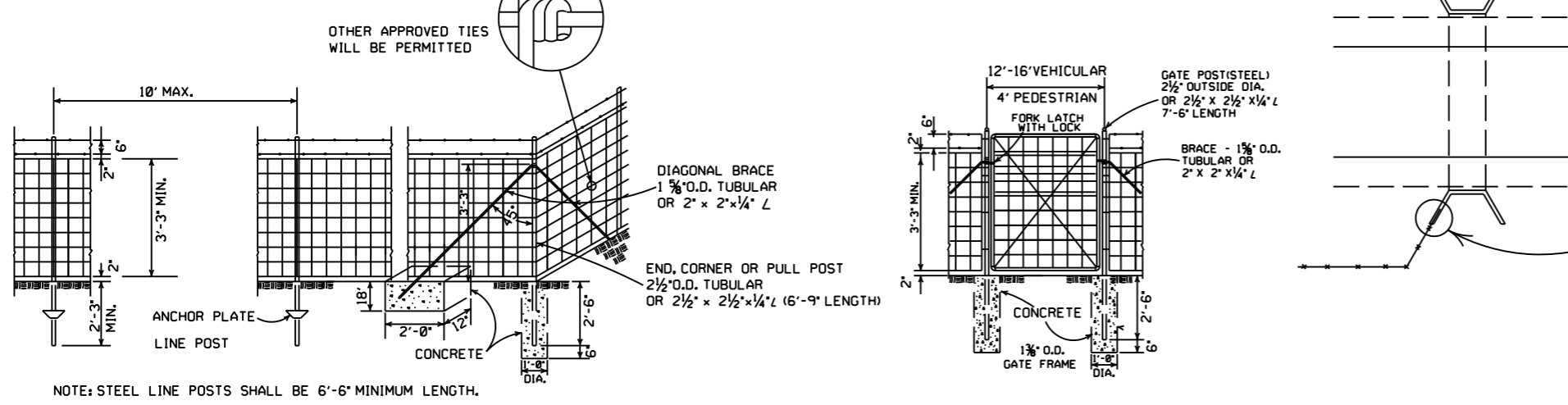


GENERAL NOTES:
 STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
 AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS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

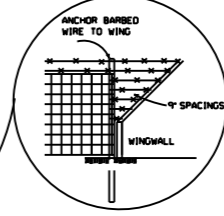
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

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\"/>



DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

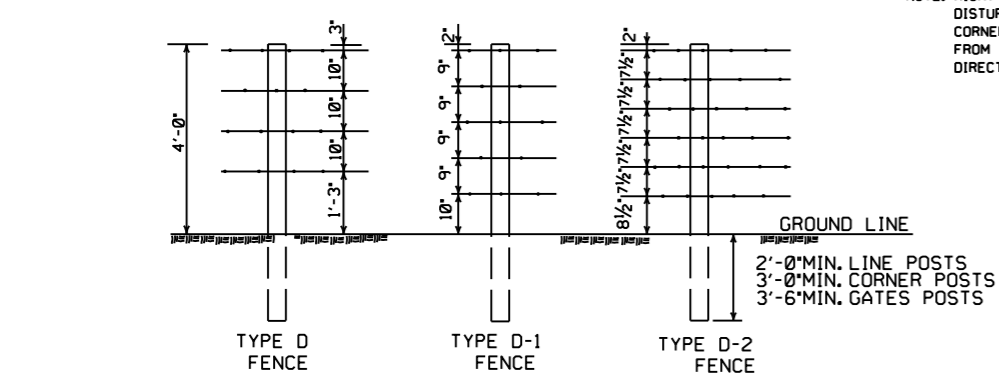
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

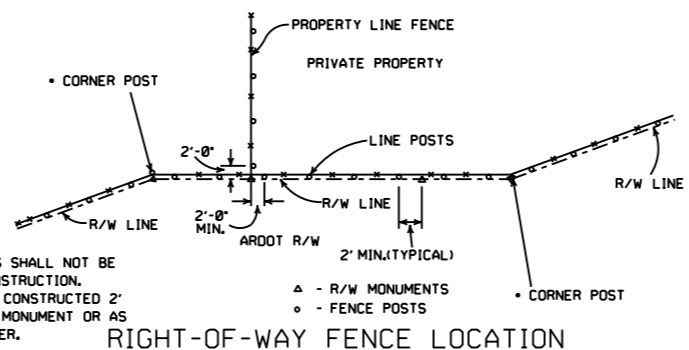
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

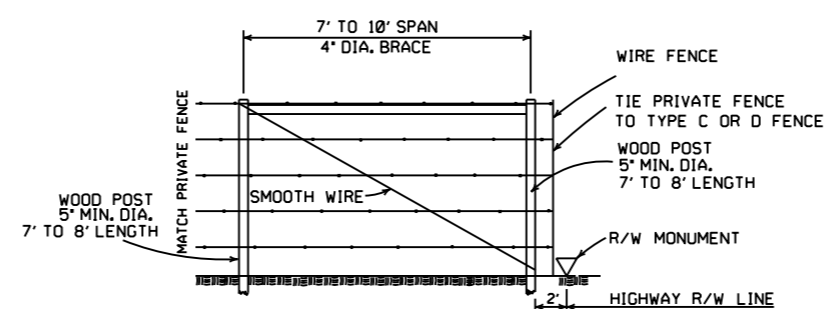
- 4 STRANDS BARBED WIRE (D)
- 5 STRANDS BARBED WIRE (D-1)
- 6 STRANDS BARBED WIRE (D-2)



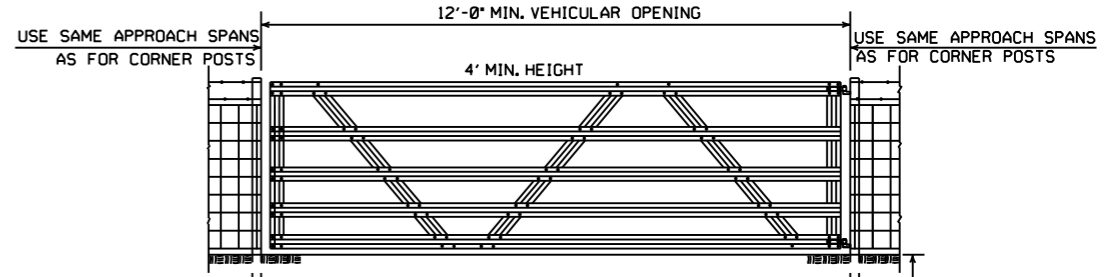
NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES (ALTERNATE TYPE)
 OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

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
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4